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

www.pacelabs.com

Report Prepared for:

Tod Noltemeyer
PASI Wisconsin
1241 Bellevue Street
Suite 9
Green Bay WI 54302

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10247062
Sample Receipt Date: 10/23/2013
Client Project #: 4085612
Client Sub PO #: N/A
State Cert #: SLD

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 Scott Unze, your Pace Project Manager.

This report has been reviewed by:

November 13, 2013

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
November 13, 2013

Report of Laboratory Analysis

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The results relate only to the samples included in this report.

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DISCUSSION

This report presents the results from the analyses performed on eight samples submitted by a representative of Pace Analytical Services, Inc. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using USEPA Method 1613B. The reporting limits 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 a change to the project number.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 57-101%. Except for five low values, which were flagged "R" on the results table, the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for recovery and accurate values were obtained.

In some cases, interfering substances impacted the determinations of PCDD or PCDF congeners; the affected values were flagged "I" where incorrect isotope ratios were obtained. Concentrations below the calibration range were flagged "J" and should be regarded as estimates.

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. Sample levels similar to the corresponding method blank levels were flagged "B" on the results tables and may be, at least partially, attributed to the background. It should be noted that levels less than ten times the background are not generally considered to be statistically different from the background.

Laboratory and matrix spike samples were also prepared using clean reference material or sample matrix that had been fortified with native standards. Recoveries of the native compounds ranged from 94-130% with relative percent differences of 1.3-8.4%. These results indicate high degrees of accuracy and precision for these determinations.

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Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Mississippi	MN00064
Alaska	MN00064	Montana	92
Arizona	AZ0014	Nebraska	
Arkansas	88-0680	Nevada	MN_00064_200
California	01155CA	New Jersey (NE	MN002
Colorado	MN00064	New Mexico	MN00064
Connecticut	PH-0256	New York (NEL	11647
EPA Region 5	WD-15J	North Carolina	27700
EPA Region 8	8TMS-Q	North Dakota	R-036
Florida (NELAP	E87605	Ohio	4150
Georgia (DNR)	959	Oklahoma	D9922
Guam	959	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN300001-001
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana	C-MN-01	South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	03086	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q

REPORT OF LABORATORY ANALYSIS

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Report No.....10247062

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Reporting Flags

A = Reporting Limit based on signal to noise

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

I = Interference present

J = Estimated value

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

* = See Discussion

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

WHO1998 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	0.000100
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	0.050000
2,3,4,7,8-PeCDF	0.500000
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	0.000100
Total TCDF	0.000000
Total PeCDF	0.000000
Total HxCDF	0.000000
Total HpCDF	0.000000

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Appendix A

Sample Management

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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
MAK001O	10247062001	10/23/2013	Tissue
MAK002O	10247062002	10/23/2013	Tissue
MAK003O	10247062003	10/23/2013	Tissue
MAK004O	10247062004	10/23/2013	Tissue
MAK005O	10247062005	10/23/2013	Tissue
MAK006O	10247062006	10/23/2013	Tissue
MAK006O-MS	10247062006-MS	10/23/2013	Tissue
MAK006O-MSD	10247062006-MSD	10/23/2013	Tissue
MAK007O	10247062007	10/23/2013	Tissue
MAK008O	10247062008	10/23/2013	Tissue

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1160
1138
10247062

ARDL, Inc

P.O. Box 1566, 400 Aviation Drive, Mount Vernon, Illinois 62864
Phone (618) 244-3235, Fax (618) 244-1149

CHAIN OF CUSTODY RECORD

Project
ARDL / Makau Military Reservation Oahu, Hawaii Project

SAMPLERS (Signature)

SAMPLE NUMBER	DATE	TIME	Comp	Grab	# of Containers	Dioxins/Furans (17 congeners of interest)	Container Sent	PACE Remarks or Sample Location	PRESERVATION ICE?	PRESERVATION Specify Chemicals added and final pH if known
MAK001O	9/9/2013	1104		x	1	x	1	Octopus	x	10247062-001
MAK002O	9/9/2013	1215		x	1	x	1	Octopus	x	002
MAK003O	9/9/2013	1505		x	1	x	1	Octopus	x	003
MAK004O	9/11/2013	1011		x	1	x	1	Octopus	x	004
MAK005O	9/11/2013	1035		x	1	x	1	Octopus	x	005
MAK006O	9/11/2013	1055		x	1	x	2	Octopus	x	006
MAK007O	9/11/2013	1125		x	1	x	2	Octopus	x	007
MAK008O	9/11/2013	1210		x	1	x	1	Octopus	x	008

Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
[signature]	10/22/13	1700	
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
Received for Laboratory by: (Signature) IH / PACE	Date 10/23/13	Time 10:15	Shipping Ticket No.

REMARKS / SPECIAL INSTRUCTIONS:

Project Samples. Please treat each matrix separately.

Please send level 4 hardcopy report and excel edd to: Dean Dickerson, c/o ARDL, Inc. 400 Aviation Drive, Mount Vernon, IL 62864. Email questons to ddickerson@ardlinc.com.

T=6.2

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: F-MN-L-213-rev.07	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: ARDL

Project #: WO#: 10247062

10247062

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Commercial ☐ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

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

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☑ B88A9132521491 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): -6.5 **Cooler Temp Corrected (°C):** -6.2 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** +0.3 **Date and Initials of Person Examining Contents:** IH 10-23-13

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11.
Sample Labels Match COC?	☑ Yes	☐ No	☐ N/A	12.
-Includes Date/Time/ID/Analysis Matrix: SL				
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☐ Yes	☐ No	☑ N/A	13. ☐ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☐ Yes	☐ No	☑ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	☐ Yes	☑ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank 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: Date: 10/30/13

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)

DIOXIN EXTRACTION WORKSHEET

Non Aqueous

Extraction Batch : EB-14065

Pace Analytical Services, Inc.

Method 8290 1613B TO9 M23

Matrix PUF XAD Solid Oil

Tissue Other_____

Spiked By _____

Spike Witness _____

Time of Spiking _____

Extraction On (Date/Time):
10/31/2013 9:00:00 PM

Extraction Off (Date/Time):
11/1/2013 1:00:00 PM

Standards:

Internal Std FS-I-9966-035
Native FS-N-9966-024
Cl-37 Std DWC-9966-036
Recovery Std FS-R-9966-032
Tridecane
Mineral Oil
Others

☐ **Silica:**
Date 11/2/2013
Initials TDP
Hexane Lot # 135511
Dispenser ID
Neutral Batch # 244N
Basic Batch # 327B
Acid Batch # 492A

☐ **Carbon:**
Date 11/4/2013
Initials MF
Toluene Lot # 131926
Dispenser ID
75% Batch # 318
Dispenser ID
50% Batch # 431
Dispenser ID
Hexane Lot # 135511
Dispenser ID

☐ **Alumina:**
Date 11/4/2013
Initials MF
Hexane Lot # 135511
Dispenser ID
60% Batch # 1551
Dispenser ID
Alumina Lot

Extract Solvents:
Toluene Lot #
Hexane Lot # 135511
MeCl Lot # 132700

☐ **Acid Base:**
H2SO4 Lot # 135863
Buffer Soln #

QC Matrix Lot/Batch# _____

EB-14065

	Sample #	Internal Stds	Native Stds	Extracted mL or g	#AcidRinse	Buffer Soln	Glassware Set	Location	Comments
1	BLANK-38270			21.10					
2	LCS-38271			20.30					
3	10247062006-MS			20.10				Rcving	1613,T-O, ** Epic MS **
4	10247062006-MSD			20.50				Rcving	1613,T-O ** Epic MSD **
5	10247058001			8.00				Rcving	1613,T-O,pick ms/msd
6	10247058002			20.20				Rcving	1613,T-O,pick ms/msd
7	10247058003			20.20				Rcving	1613,T-O,pick ms/msd
8	10247058004			20.00				Rcving	1613,T-O,pick ms/msd
9	10247058005			20.10				Rcving	1613,T-O,pick ms/msd
10	10247058006			20.20				Rcving	1613,T-O,pick ms/msd
11	10247058007			20.30				Rcving	1613,T-O,pick ms/msd
12	10247058008			20.10				Rcving	1613,T-O,pick ms/msd
13	10247062001			20.10				Rcving	1613,T-O
14	10247062002			20.40				Rcving	1613,T-O
15	10247062003			21.00				Rcving	1613,T-O
16	10247062004			20.20				Rcving	1613,T-O
17	10247062005			21.10				Rcving	1613,T-O
18	10247062006			20.80				Rcving	1613,T-O
19	10247062007			20.70				Rcving	1613,T-O
20	10247062008			20.50				Rcving	1613,T-O
21	10247058001-MS			7.70				Rcving	1613,T-O,pick ms/msd
22	10247058001-MSD			8.60				Rcving	1613,T-O,pick ms/msd

Extracts Relinquished By: _____ **Received By:** _____ **Date:** _____

FH025Rev.01, 05Jan2009

Extraction Notes

Add 2nd MS/MSD for WO 10247058 per Client. AEJ 10/31/13

ft/kh

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

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 4.1 SCN 881** 10MS1+2206 11/4/13

Sample List: C:\MassLynx\Default.pro\Sampledb\U131104A.SPL

Last Modified: Monday, November 04, 2013 15:35:25 Central Standard Time

Printed: Monday, November 04, 2013 15:35:27 Central Standard Time

Page Position (1, 1)

	File Name	File Text	Method	MS File	Inlet File	Vial	Inj
1	U131104A_01	CAL CS3/CPM-7604-286 - SMT TC	8290/1613B	dioxfur	dioxfur	Tray1:1	1.000000
2	U131104A_02	CAL CS2-7604-276 - SMT	8290/1613B	dioxfur	dioxfur	Tray1:4	1.000000
3	U131104A_03	CAL CS1-7604-273 - SMT recondition	8290/1613B	dioxfur	dioxfur	Tray1:5	1.000000
4	U131104A_04	CAL CS5-7604-278 - SMT	8290/1613B	dioxfur	dioxfur	Tray1:6	1.000000
5	U131104A_05	CAL CS4-7604-277 - SMT	8290/1613B	dioxfur	dioxfur	Tray1:7	1.000000
6	U131104A_06	CAL CS3-7604-275 - SMT	23	dioxfur	dioxfur	Tray1:9	1.000000
7	U131104A_07	CAL CS1-7604-273 - SMT recondition	8290/1613B	dioxfur	dioxfur	Tray1:10	1.000000
8	U131104A_08	CAL CS1-7604-273 - SMT	8290/1613B	dioxfur	dioxfur	Tray1:4	1.000000
9	U131104A_09	CAL LCS-37562 - SMT 2nd	8290/1613B	dioxfur	dioxfur	Tray1:5	1.000000
10	U131104A_10	LCS LCSD-38260 - SMT	23	dioxfur	dioxfur	Tray1:6	1.000000

Rwa 11/6/13

Sample List Report **MassLynx 4.1 SCN 881** 10MSHR06 11/5/13

Sample List: C:\MassLynx\Default.pro\Sampledb\U131105A.SPL

Last Modified: Tuesday, November 05, 2013 10:18:22 Central Standard Time

Printed: Tuesday, November 05, 2013 10:21:10 Central Standard Time

Page Position (1, 1)

	File Name	File Text	Method	MS File	Inlet File	Vial	Inj
1	U131105A_01	CAL CS3/CPM-7604-286 - SMT Ca	8290/1613B	dioxfur	dioxfur	Tray1:1	1.000000
2	U131105A_02	LCS LCS-38271 - SMT	1613B	dioxfur	dioxfur	Tray1:4	1.000000
3	U131105A_03	SAMP 10247062006-MS - SMT WI	1613B	dioxfur	dioxfur	Tray1:5	1.000000
4	U131105A_04	SAMP 10247062006-MSD - SMT WI	1613B	dioxfur	dioxfur	Tray1:6	1.000000
5	U131105A_05	BLANK NONANE - SMT	HOUSE	dioxfur	dioxfur	Tray1:2	1.000000
6	U131105A_06	BLANK BLANK-38129-10X - SMT	HOUSE	dioxfur	dioxfur	Tray1:3	1.000000
7	U131105A_07	BLANK BLANK-38270 - SMT	1613B	dioxfur	dioxfur	Tray1:7	1.000000
8	U131105A_08	SAMP 10247062001 - SMT WI	1613B	dioxfur	dioxfur	Tray1:8	1.000000
9	U131105A_09	SAMP 10247062002 - SMT WI	1613B	dioxfur	dioxfur	Tray1:9	1.000000
10	U131105A_10	SAMP 10247062003 - SMT WI	1613B	dioxfur	dioxfur	Tray1:10	1.000000
11	U131105A_11	SAMP 10247062004 - SMT WI	1613B	dioxfur	dioxfur	Tray1:11	1.000000
12	U131105A_12	SAMP 10247062005 - SMT WI	1613B	dioxfur	dioxfur	Tray1:12	1.000000
13	U131105A_13	SAMP 10247062006 - SMT WI	1613B	dioxfur	dioxfur	Tray1:13	1.000000
14	U131105A_14	SAMP 10247062007 - SMT WI	1613B	dioxfur	dioxfur	Tray1:14	1.000000
15	U131105A_15	SAMP 10247062008 - SMT WI	1613B	dioxfur	dioxfur	Tray1:15	1.000000

Jwa 11/7/13

Appendix B

Sample Analysis Summary

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

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

Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK001O		
Lab Sample ID	10247062001		
Filename	U131105A_08		
Injected By	SMT		
Total Amount Extracted	20.1 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/09/2013 11:04
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 14:48

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	-----	0.073	0.050	IJ	2,3,7,8-TCDF-13C	2.00	74
Total TCDF	0.064	-----	0.050	BJ	2,3,7,8-TCDD-13C	2.00	81
					1,2,3,7,8-PeCDF-13C	2.00	84
2,3,7,8-TCDD	ND	-----	0.079		2,3,4,7,8-PeCDF-13C	2.00	80
Total TCDD	0.580	-----	0.079	BJ	1,2,3,7,8-PeCDD-13C	2.00	88
					1,2,3,4,7,8-HxCDF-13C	2.00	79
1,2,3,7,8-PeCDF	ND	-----	0.066		1,2,3,6,7,8-HxCDF-13C	2.00	83
2,3,4,7,8-PeCDF	ND	-----	0.049		2,3,4,6,7,8-HxCDF-13C	2.00	84
Total PeCDF	ND	-----	0.058		1,2,3,7,8,9-HxCDF-13C	2.00	70
					1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	ND	-----	0.110		1,2,3,6,7,8-HxCDD-13C	2.00	70
Total PeCDD	ND	-----	0.110		1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	58
1,2,3,4,7,8-HxCDF	ND	-----	0.067		1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	-----	0.064		OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	ND	-----	0.056				
1,2,3,7,8,9-HxCDF	ND	-----	0.093		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.070		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.093		2,3,7,8-TCDD-37Cl4	0.20	79
1,2,3,6,7,8-HxCDD	ND	-----	0.110				
1,2,3,7,8,9-HxCDD	ND	-----	0.110				
Total HxCDD	ND	-----	0.100				
1,2,3,4,6,7,8-HpCDF	0.068	-----	0.065	J	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.120		Equivalence: 0.012 ng/Kg		
Total HpCDF	0.220	-----	0.093	J	(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	0.370	-----	0.110	J			
Total HpCDD	0.710	-----	0.110	BJ			
OCDF	ND	-----	0.350				
OCDD	-----	1.800	0.420	IJ			

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

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

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J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

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

Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK002O		
Lab Sample ID	10247062002		
Filename	U131105A_09		
Injected By	SMT		
Total Amount Extracted	20.4 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/09/2013 12:15
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 15:35

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.071		2,3,7,8-TCDF-13C	2.00	78
Total TCDF	ND	-----	0.071		2,3,7,8-TCDD-13C	2.00	86
					1,2,3,7,8-PeCDF-13C	2.00	91
2,3,7,8-TCDD	ND	-----	0.097		2,3,4,7,8-PeCDF-13C	2.00	86
Total TCDD	0.50	-----	0.097	BJ	1,2,3,7,8-PeCDD-13C	2.00	96
					1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	0.097		1,2,3,6,7,8-HxCDF-13C	2.00	85
2,3,4,7,8-PeCDF	ND	-----	0.087		2,3,4,6,7,8-HxCDF-13C	2.00	87
Total PeCDF	ND	-----	0.092		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	86
1,2,3,7,8-PeCDD	ND	-----	0.150		1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	ND	-----	0.150		1,2,3,4,6,7,8-HpCDF-13C	2.00	84
					1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	ND	-----	0.110		1,2,3,4,6,7,8-HpCDD-13C	2.00	73
1,2,3,6,7,8-HxCDF	ND	-----	0.130		OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	ND	-----	0.110				
1,2,3,7,8,9-HxCDF	ND	-----	0.140		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.120		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	-----	0.140				
1,2,3,7,8,9-HxCDD	ND	-----	0.140				
Total HxCDD	0.14	-----	0.140	J			
1,2,3,4,6,7,8-HpCDF	ND	-----	0.073		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.130		Equivalence: 0.0030 ng/Kg		
Total HpCDF	0.17	-----	0.100	J	(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	0.28	-----	0.170	J			
Total HpCDD	0.61	-----	0.170	BJ			
OCDF	ND	-----	0.710				
OCDD	-----	2.0	1.000	IJ			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK003O		
Lab Sample ID	10247062003		
Filename	U131105A_10		
Injected By	SMT		
Total Amount Extracted	21.0 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/09/2013 15:05
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 16:21

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.097	-----	0.081	BJ	2,3,7,8-TCDF-13C	2.00	76
Total TCDF	0.097	-----	0.081	BJ	2,3,7,8-TCDD-13C	2.00	85
					1,2,3,7,8-PeCDF-13C	2.00	86
2,3,7,8-TCDD	ND	-----	0.083		2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	0.350	-----	0.083	BJ	1,2,3,7,8-PeCDD-13C	2.00	90
					1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	-----	0.075		1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	ND	-----	0.050		2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	-----	0.062		1,2,3,7,8,9-HxCDF-13C	2.00	72
					1,2,3,4,7,8-HxCDD-13C	2.00	83
1,2,3,7,8-PeCDD	ND	-----	0.140		1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	-----	0.140		1,2,3,4,6,7,8-HpCDF-13C	2.00	78
					1,2,3,4,7,8,9-HpCDF-13C	2.00	68
1,2,3,4,7,8-HxCDF	ND	-----	0.120		1,2,3,4,6,7,8-HpCDD-13C	2.00	74
1,2,3,6,7,8-HxCDF	ND	-----	0.110		OCDD-13C	4.00	64
2,3,4,6,7,8-HxCDF	ND	-----	0.086				
1,2,3,7,8,9-HxCDF	ND	-----	0.160		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.120		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	-----	0.160				
1,2,3,7,8,9-HxCDD	ND	-----	0.150				
Total HxCDD	ND	-----	0.150				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.085		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.110		Equivalence: 0.013 ng/Kg		
Total HpCDF	ND	-----	0.098		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	-----	0.26	0.150	IJ			
Total HpCDD	ND	-----	0.150				
OCDF	ND	-----	0.640				
OCDD	2.100	-----	1.200	BJ			

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Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK004O		
Lab Sample ID	10247062004		
Filename	U131105A_11		
Injected By	SMT		
Total Amount Extracted	20.2 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/11/2013 10:11
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 17:07

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.079		2,3,7,8-TCDF-13C	2.00	78
Total TCDF	ND	-----	0.079		2,3,7,8-TCDD-13C	2.00	87
					1,2,3,7,8-PeCDF-13C	2.00	84
2,3,7,8-TCDD	ND	-----	0.095		2,3,4,7,8-PeCDF-13C	2.00	83
Total TCDD	0.49	-----	0.095	BJ	1,2,3,7,8-PeCDD-13C	2.00	93
					1,2,3,4,7,8-HxCDF-13C	2.00	80
1,2,3,7,8-PeCDF	ND	-----	0.120		1,2,3,6,7,8-HxCDF-13C	2.00	81
2,3,4,7,8-PeCDF	ND	-----	0.096		2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	ND	-----	0.110		1,2,3,7,8,9-HxCDF-13C	2.00	73
					1,2,3,4,7,8-HxCDD-13C	2.00	82
1,2,3,7,8-PeCDD	ND	-----	0.250		1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	1.40	-----	0.250	J	1,2,3,4,6,7,8-HpCDF-13C	2.00	79
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	-----	0.140		1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	-----	0.110		OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	ND	-----	0.120				
1,2,3,7,8,9-HxCDF	ND	-----	0.180		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.140		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.170		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	ND	-----	0.210				
1,2,3,7,8,9-HxCDD	ND	-----	0.170				
Total HxCDD	ND	-----	0.180				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.110		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.160		Equivalence: 0.0036 ng/Kg		
Total HpCDF	ND	-----	0.130		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	-----	0.34	0.180	IJ			
Total HpCDD	ND	-----	0.180				
OCDF	ND	-----	0.730				
OCDD	-----	2.00	1.200	IJ			

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Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK005O		
Lab Sample ID	10247062005		
Filename	U131105A_12		
Injected By	SMT		
Total Amount Extracted	21.1 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/11/2013 10:35
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 17:53

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.085	-----	0.057	BJ	2,3,7,8-TCDF-13C	2.00	76
Total TCDF	0.170	-----	0.057	BJ	2,3,7,8-TCDD-13C	2.00	84
					1,2,3,7,8-PeCDF-13C	2.00	88
2,3,7,8-TCDD	ND	-----	0.080		2,3,4,7,8-PeCDF-13C	2.00	85
Total TCDD	0.440	-----	0.080	BJ	1,2,3,7,8-PeCDD-13C	2.00	96
					1,2,3,4,7,8-HxCDF-13C	2.00	83
1,2,3,7,8-PeCDF	ND	-----	0.062		1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	ND	-----	0.051		2,3,4,6,7,8-HxCDF-13C	2.00	85
Total PeCDF	ND	-----	0.057		1,2,3,7,8,9-HxCDF-13C	2.00	74
					1,2,3,4,7,8-HxCDD-13C	2.00	84
1,2,3,7,8-PeCDD	ND	-----	0.140		1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	-----	0.140		1,2,3,4,6,7,8-HpCDF-13C	2.00	77
					1,2,3,4,7,8,9-HpCDF-13C	2.00	64
1,2,3,4,7,8-HxCDF	ND	-----	0.096		1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	-----	0.089		OCDD-13C	4.00	61
2,3,4,6,7,8-HxCDF	ND	-----	0.075				
1,2,3,7,8,9-HxCDF	ND	-----	0.120		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.095		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.140		2,3,7,8-TCDD-37Cl4	0.20	81
1,2,3,6,7,8-HxCDD	ND	-----	0.140				
1,2,3,7,8,9-HxCDD	ND	-----	0.110				
Total HxCDD	ND	-----	0.130				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.075		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.130		Equivalence: 0.012 ng/Kg		
Total HpCDF	0.120	-----	0.100	J	(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	0.300	-----	0.110	J			
Total HpCDD	0.300	-----	0.110	BJ			
OCDF	ND	-----	0.570				
OCDD	2.900	-----	1.000	BJ			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK006O		
Lab Sample ID	10247062006		
Filename	U131105A_13		
Injected By	SMT		
Total Amount Extracted	20.8 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/11/2013 10:55
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 18:39

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.078		2,3,7,8-TCDF-13C	2.00	77
Total TCDF	ND	-----	0.078		2,3,7,8-TCDD-13C	2.00	85
					1,2,3,7,8-PeCDF-13C	2.00	86
2,3,7,8-TCDD	ND	-----	0.110		2,3,4,7,8-PeCDF-13C	2.00	85
Total TCDD	0.42	-----	0.110	BJ	1,2,3,7,8-PeCDD-13C	2.00	93
					1,2,3,4,7,8-HxCDF-13C	2.00	85
1,2,3,7,8-PeCDF	ND	-----	0.067		1,2,3,6,7,8-HxCDF-13C	2.00	86
2,3,4,7,8-PeCDF	ND	-----	0.041		2,3,4,6,7,8-HxCDF-13C	2.00	88
Total PeCDF	ND	-----	0.054		1,2,3,7,8,9-HxCDF-13C	2.00	78
					1,2,3,4,7,8-HxCDD-13C	2.00	86
1,2,3,7,8-PeCDD	ND	-----	0.150		1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	-----	0.150		1,2,3,4,6,7,8-HpCDF-13C	2.00	76
					1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	ND	-----	0.080		1,2,3,4,6,7,8-HpCDD-13C	2.00	71
1,2,3,6,7,8-HxCDF	ND	-----	0.080		OCDD-13C	4.00	60
2,3,4,6,7,8-HxCDF	ND	-----	0.082				
1,2,3,7,8,9-HxCDF	ND	-----	0.130		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.092		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.120		2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	-----	0.150				
1,2,3,7,8,9-HxCDD	ND	-----	0.150				
Total HxCDD	ND	-----	0.140				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.100		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.120		Equivalence: 0.00018 ng/Kg		
Total HpCDF	ND	-----	0.110		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.130				
Total HpCDD	0.17	-----	0.130	BJ			
OCDF	ND	-----	0.640				
OCDD	1.80	-----	0.960	BJ			

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B = Less than 10x higher than method blank level

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Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK007O		
Lab Sample ID	10247062007		
Filename	U131105A_14		
Injected By	SMT		
Total Amount Extracted	20.7 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/11/2013 11:25
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 19:26

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.091	-----	0.061	BJ	2,3,7,8-TCDF-13C	2.00	84
Total TCDF	0.160	-----	0.061	BJ	2,3,7,8-TCDD-13C	2.00	95
					1,2,3,7,8-PeCDF-13C	2.00	96
2,3,7,8-TCDD	ND	-----	0.080		2,3,4,7,8-PeCDF-13C	2.00	95
Total TCDD	ND	-----	0.080		1,2,3,7,8-PeCDD-13C	2.00	101
					1,2,3,4,7,8-HxCDF-13C	2.00	90
1,2,3,7,8-PeCDF	ND	-----	0.075		1,2,3,6,7,8-HxCDF-13C	2.00	91
2,3,4,7,8-PeCDF	ND	-----	0.051		2,3,4,6,7,8-HxCDF-13C	2.00	94
Total PeCDF	ND	-----	0.063		1,2,3,7,8,9-HxCDF-13C	2.00	83
					1,2,3,4,7,8-HxCDD-13C	2.00	91
1,2,3,7,8-PeCDD	ND	-----	0.140		1,2,3,6,7,8-HxCDD-13C	2.00	74
Total PeCDD	ND	-----	0.140		1,2,3,4,6,7,8-HpCDF-13C	2.00	78
					1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	ND	-----	0.092		1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	ND	-----	0.077		OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	ND	-----	0.085				
1,2,3,7,8,9-HxCDF	ND	-----	0.094		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.087		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.130		2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	ND	-----	0.099				
1,2,3,7,8,9-HxCDD	ND	-----	0.110				
Total HxCDD	ND	-----	0.110				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.060		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.080		Equivalence: 0.012 ng/Kg		
Total HpCDF	ND	-----	0.070		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	-----	0.26	0.110	IJ			
Total HpCDD	0.310	-----	0.110	BJ			
OCDF	ND	-----	0.420				
OCDD	-----	1.90	0.660	IJ			

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

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

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Estimated value
B = Less than 10x higher than method blank level
I = Interference present

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Minneapolis, MN 55414

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

Method 1613B Sample Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK008O		
Lab Sample ID	10247062008		
Filename	U131105A_15		
Injected By	SMT		
Total Amount Extracted	20.5 g	Matrix	Tissue
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	09/11/2013 12:10
ICAL ID	U131104	Received	10/23/2013 10:15
CCal Filename(s)	U131105A_01	Extracted	10/31/2013 21:00
Method Blank ID	BLANK-38270	Analyzed	11/05/2013 20:12

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.084		2,3,7,8-TCDF-13C	2.00	80
Total TCDF	ND	-----	0.084		2,3,7,8-TCDD-13C	2.00	87
					1,2,3,7,8-PeCDF-13C	2.00	92
2,3,7,8-TCDD	ND	-----	0.100		2,3,4,7,8-PeCDF-13C	2.00	90
Total TCDD	ND	-----	0.100		1,2,3,7,8-PeCDD-13C	2.00	96
					1,2,3,4,7,8-HxCDF-13C	2.00	87
1,2,3,7,8-PeCDF	ND	-----	0.097		1,2,3,6,7,8-HxCDF-13C	2.00	89
2,3,4,7,8-PeCDF	ND	-----	0.064		2,3,4,6,7,8-HxCDF-13C	2.00	87
Total PeCDF	ND	-----	0.080		1,2,3,7,8,9-HxCDF-13C	2.00	77
					1,2,3,4,7,8-HxCDD-13C	2.00	86
1,2,3,7,8-PeCDD	ND	-----	0.130		1,2,3,6,7,8-HxCDD-13C	2.00	73
Total PeCDD	ND	-----	0.130		1,2,3,4,6,7,8-HpCDF-13C	2.00	74
					1,2,3,4,7,8,9-HpCDF-13C	2.00	62
1,2,3,4,7,8-HxCDF	ND	-----	0.140		1,2,3,4,6,7,8-HpCDD-13C	2.00	69
1,2,3,6,7,8-HxCDF	ND	-----	0.120		OCDD-13C	4.00	59
2,3,4,6,7,8-HxCDF	ND	-----	0.120				
1,2,3,7,8,9-HxCDF	ND	-----	0.180		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.140		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.170		2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	ND	-----	0.180				
1,2,3,7,8,9-HxCDD	ND	-----	0.190				
Total HxCDD	ND	-----	0.180				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.100		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.160		Equivalence: 0.0020 ng/Kg		
Total HpCDF	ND	-----	0.130		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	-----	0.20	0.160	IJ			
Total HpCDD	0.24	-----	0.160	BJ			
OCDF	ND	-----	0.970				
OCDD	ND	-----	1.700				

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

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

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J = Estimated value
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Appendix C

QC and Calibration Results Summary

Pace Analytical Services, Inc.
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Minneapolis, MN 55414

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Method 1613B Blank Analysis Results

Lab Sample ID	BLANK-38270	Matrix	Tissue
Filename	U131105A_07	Dilution	NA
Total Amount Extracted	21.1 g	Extracted	10/31/2013 21:00
ICAL ID	U131104	Analyzed	11/05/2013 14:02
CCal Filename(s)	U131105A_01	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.092	-----	0.040	J	2,3,7,8-TCDF-13C	2.00	74
Total TCDF	0.092	-----	0.040	J	2,3,7,8-TCDD-13C	2.00	81
					1,2,3,7,8-PeCDF-13C	2.00	81
2,3,7,8-TCDD	ND	-----	0.064		2,3,4,7,8-PeCDF-13C	2.00	89
Total TCDD	0.420	-----	0.064	J	1,2,3,7,8-PeCDD-13C	2.00	90
					1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	ND	-----	0.060		1,2,3,6,7,8-HxCDF-13C	2.00	82
2,3,4,7,8-PeCDF	ND	-----	0.037		2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	ND	-----	0.049		1,2,3,7,8,9-HxCDF-13C	2.00	75
					1,2,3,4,7,8-HxCDD-13C	2.00	81
1,2,3,7,8-PeCDD	ND	-----	0.053		1,2,3,6,7,8-HxCDD-13C	2.00	71
Total PeCDD	ND	-----	0.053		1,2,3,4,6,7,8-HpCDF-13C	2.00	72
					1,2,3,4,7,8,9-HpCDF-13C	2.00	71
1,2,3,4,7,8-HxCDF	ND	-----	0.045		1,2,3,4,6,7,8-HpCDD-13C	2.00	72
1,2,3,6,7,8-HxCDF	ND	-----	0.045		OCDD-13C	4.00	63
2,3,4,6,7,8-HxCDF	ND	-----	0.039				
1,2,3,7,8,9-HxCDF	ND	-----	0.067		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.049		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.089		2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	ND	-----	0.110				
1,2,3,7,8,9-HxCDD	ND	-----	0.091				
Total HxCDD	ND	-----	0.095				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.063		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.099		Equivalence: 0.0094 ng/Kg		
Total HpCDF	ND	-----	0.081		(Using 1998 WHO Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.130				
Total HpCDD	0.220	-----	0.130	J			
OCDF	0.480	-----	0.130	J			
OCDD	1.400	-----	0.260	J			

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

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J = Estimated value

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Minneapolis, MN 55414

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

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-38271		
Filename	U131105A_02	Matrix	Tissue
Total Amount Extracted	20.3 g	Dilution	NA
ICAL ID	U131104	Extracted	10/31/2013 21:00
CCal Filename	U131105A_01	Analyzed	11/05/2013 10:12
Method Blank ID	BLANK-38270	Injected By	SMT

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDF	10	11	7.5	15.8	109
2,3,7,8-TCDD	10	9.6	6.7	15.8	96
1,2,3,7,8-PeCDF	50	53	40.0	67.0	106
2,3,4,7,8-PeCDF	50	52	34.0	80.0	103
1,2,3,7,8-PeCDD	50	47	35.0	71.0	94
1,2,3,4,7,8-HxCDF	50	54	36.0	67.0	109
1,2,3,6,7,8-HxCDF	50	54	42.0	65.0	109
2,3,4,6,7,8-HxCDF	50	50	35.0	78.0	101
1,2,3,7,8,9-HxCDF	50	54	39.0	65.0	108
1,2,3,4,7,8-HxCDD	50	52	35.0	82.0	105
1,2,3,6,7,8-HxCDD	50	59	38.0	67.0	118
1,2,3,7,8,9-HxCDD	50	57	32.0	81.0	113
1,2,3,4,6,7,8-HpCDF	50	55	41.0	61.0	111
1,2,3,4,7,8,9-HpCDF	50	52	39.0	69.0	103
1,2,3,4,6,7,8-HpCDD	50	51	35.0	70.0	101
OCDF	100	110	63.0	170.0	112
OCDD	100	110	78.0	144.0	112
2,3,7,8-TCDD-37Cl4	10	8.7	3.1	19.1	87
2,3,7,8-TCDF-13C	100	66	22.0	152.0	66
2,3,7,8-TCDD-13C	100	73	20.0	175.0	73
1,2,3,7,8-PeCDF-13C	100	72	21.0	192.0	72
2,3,4,7,8-PeCDF-13C	100	70	13.0	328.0	70
1,2,3,7,8-PeCDD-13C	100	77	21.0	227.0	77
1,2,3,4,7,8-HxCDF-13C	100	73	19.0	202.0	73
1,2,3,6,7,8-HxCDF-13C	100	73	21.0	159.0	73
2,3,4,6,7,8-HxCDF-13C	100	77	22.0	176.0	77
1,2,3,7,8,9-HxCDF-13C	100	69	17.0	205.0	69
1,2,3,4,7,8-HxCDD-13C	100	73	21.0	193.0	73
1,2,3,6,7,8-HxCDD-13C	100	62	25.0	163.0	62
1,2,3,4,6,7,8-HpCDF-13C	100	66	21.0	158.0	66
1,2,3,4,7,8,9-HpCDF-13C	100	67	20.0	186.0	67
1,2,3,4,6,7,8-HpCDD-13C	100	67	26.0	166.0	67
OCDD-13C	200	120	26.0	397.0	59

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414

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

Method 1613B Blank Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK006O-MS		
Lab Sample ID	10247062006-MS		
Filename	U131105A_03	Matrix	Tissue
Total Amount Extracted	20.1 g	Dilution	NA
ICAL ID	U131104	Extracted	10/31/2013 21:00
CCal Filename(s)	U131105A_01	Analyzed	11/05/2013 10:57
Method Blank ID	BLANK-38270	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.25	124	2,3,7,8-TCDF-13C	2.00	25
Total TCDF				2,3,7,8-TCDD-13C	2.00	27
				1,2,3,7,8-PeCDF-13C	2.00	27
2,3,7,8-TCDD	0.20	0.22	111	2,3,4,7,8-PeCDF-13C	2.00	26
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	29
				1,2,3,4,7,8-HxCDF-13C	2.00	27
1,2,3,7,8-PeCDF	1.00	1.19	119	1,2,3,6,7,8-HxCDF-13C	2.00	28
2,3,4,7,8-PeCDF	1.00	1.17	117	2,3,4,6,7,8-HxCDF-13C	2.00	29
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	25 R
				1,2,3,4,7,8-HxCDD-13C	2.00	28 R
1,2,3,7,8-PeCDD	1.00	1.06	106	1,2,3,6,7,8-HxCDD-13C	2.00	24 R
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	24 R
				1,2,3,4,7,8,9-HpCDF-13C	2.00	24 R
1,2,3,4,7,8-HxCDF	1.00	1.26	126	1,2,3,4,6,7,8-HpCDD-13C	2.00	25
1,2,3,6,7,8-HxCDF	1.00	1.20	120	OCDD-13C	4.00	22
2,3,4,6,7,8-HxCDF	1.00	1.12	112			
1,2,3,7,8,9-HxCDF	1.00	1.20	120	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.13	113	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	1.00	1.30	130			
1,2,3,7,8,9-HxCDD	1.00	1.25	125			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.27	127			
1,2,3,4,7,8,9-HpCDF	1.00	1.17	117			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	1.15	115			
Total HpCDD						
OCDF	2.00	2.29	115			
OCDD	2.00	2.47	124			

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

Results reported on a total weight basis and are valid to no more than 2 significant figures.
J = Estimated value

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Method 1613B Blank Analysis Results

Client - PASI Wisconsin

Client's Sample ID	MAK006O-MSD		
Lab Sample ID	10247062006-MSD		
Filename	U131105A_04	Matrix	Tissue
Total Amount Extracted	20.5 g	Dilution	NA
ICAL ID	U131104	Extracted	10/31/2013 21:00
CCal Filename(s)	U131105A_01	Analyzed	11/05/2013 11:43
Method Blank ID	BLANK-38270	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.23	117	2,3,7,8-TCDF-13C	2.00	61
Total TCDF				2,3,7,8-TCDD-13C	2.00	68
				1,2,3,7,8-PeCDF-13C	2.00	69
2,3,7,8-TCDD	0.20	0.21	104	2,3,4,7,8-PeCDF-13C	2.00	67
Total TCDD				1,2,3,7,8-PeCDD-13C	2.00	73
				1,2,3,4,7,8-HxCDF-13C	2.00	66
1,2,3,7,8-PeCDF	1.00	1.13	113	1,2,3,6,7,8-HxCDF-13C	2.00	67
2,3,4,7,8-PeCDF	1.00	1.08	108	2,3,4,6,7,8-HxCDF-13C	2.00	69
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.00	62
				1,2,3,4,7,8-HxCDD-13C	2.00	68
1,2,3,7,8-PeCDD	1.00	1.02	102	1,2,3,6,7,8-HxCDD-13C	2.00	57
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.00	59
				1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	1.00	1.19	119	1,2,3,4,6,7,8-HpCDD-13C	2.00	60
1,2,3,6,7,8-HxCDF	1.00	1.12	112	OCDD-13C	4.00	51
2,3,4,6,7,8-HxCDF	1.00	1.05	105			
1,2,3,7,8,9-HxCDF	1.00	1.15	115	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	1.12	112	2,3,7,8-TCDD-37Cl4	0.20	87
1,2,3,6,7,8-HxCDD	1.00	1.25	125			
1,2,3,7,8,9-HxCDD	1.00	1.20	120			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.00	1.20	120			
1,2,3,4,7,8,9-HpCDF	1.00	1.11	111			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.00	1.06	106			
Total HpCDD						
OCDF	2.00	2.32	116			
OCDD	2.00	2.43	121			

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

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J = Estimated value

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Method 1613 Spike Sample Results

Client - PASI Wisconsin

Client Sample ID	MAK006O			Dry Weights	
Lab Sample ID	10247062006	Sample Filename	U131105A_13	Sample Amount	NA
MS ID	10247062006-MS	MS Filename	U131105A_03	MS Amount	NA
MSD ID	10247062006-MSD	MSD Filename	U131105A_04	MSD Amount	NA

Analyte	Sample Conc. ng/Kg	MS/MSD Qs (ng)	MS Qm (ng)	MSD Qm (ng)	RPD	Background Subtracted MS % Rec.	MSD % Rec.	RPD
2,3,7,8-TCDF	0.000	0.20	0.25	0.23	5.5	124	117	5.5
2,3,7,8-TCDD	0.000	0.20	0.22	0.21	6.8	111	104	6.8
1,2,3,7,8-PeCDF	0.000	1.00	1.19	1.13	5.3	119	113	5.3
2,3,4,7,8-PeCDF	0.000	1.00	1.17	1.08	7.4	117	108	7.4
1,2,3,7,8-PeCDD	0.000	1.00	1.06	1.02	4.6	106	102	4.6
1,2,3,4,7,8-HxCDF	0.000	1.00	1.26	1.19	5.8	126	119	5.8
1,2,3,6,7,8-HxCDF	0.000	1.00	1.20	1.12	7.4	120	112	7.4
2,3,4,6,7,8-HxCDF	0.000	1.00	1.12	1.05	7.1	112	105	7.1
1,2,3,7,8,9-HxCDF	0.000	1.00	1.20	1.15	3.8	120	115	3.8
1,2,3,4,7,8-HxCDD	0.000	1.00	1.13	1.12	1.3	113	112	1.3
1,2,3,6,7,8-HxCDD	0.000	1.00	1.30	1.25	4.0	130	125	4.0
1,2,3,7,8,9-HxCDD	0.000	1.00	1.25	1.20	4.8	125	120	4.8
1,2,3,4,6,7,8-HpCDF	0.000	1.00	1.27	1.20	5.7	127	120	5.7
1,2,3,4,7,8,9-HpCDF	0.000	1.00	1.17	1.11	5.8	117	111	5.8
1,2,3,4,6,7,8-HpCDD	0.000	1.00	1.15	1.06	8.4	115	106	8.4
OCDF	0.000	2.00	2.29	2.32	1.3	115	116	1.3
OCDD	1.845	2.00	2.47	2.43	1.8	122	119	1.9

Definitions

MS = Matrix Spike
MSD = Matrix Spike Duplicate
Qm = Quantity Measured
Qs = Quantity Spiked
% Rec. = Percent Recovery
RPD = Relative Percent Difference
NA = Not Applicable
NC = Not Calculated

CDD = Chlorinated dibenzo-p-dioxin
CDF = Chlorinated dibenzo-p-furan
T = Tetra
Pe = Penta
Hx = Hexa
Hp = Hepta
O = Octa

Method 8290/1613
Initial Calibration (ICAL) - Response Factor Summary

ICAL ID	**U131104**	Data Files:		Time	Injected
Calibration Date	11/04/2013	CS-1	U131104A_08	14:45	SMT
Instrument	10MSHR06 (U)	CS-2	U131104A_02	10:24	SMT
Column Phase	DB-5MS 0.25mm	CS-3	U131104A_01	09:19	SMT
Column ID No.	USD227224H	CS-4	U131104A_05	13:13	SMT
		CS-5	U131104A_04	12:28	SMT

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Ave RF	%RSD
2,3,7,8-TCDF	0.8577	0.8868	0.8729	0.9088	0.8668	0.8786	2.27
2,3,7,8-TCDD	1.0403	1.0632	1.0458	1.0943	1.0332	1.0554	2.32
1,2,3,7,8-PeCDF	0.8481	0.8902	0.8633	0.9254	0.8744	0.8802	3.36
2,3,4,7,8-PeCDF	0.9614	0.8996	0.8684	0.9472	0.8959	0.9145	4.22
1,2,3,7,8-PeCDD	1.0328	1.0131	0.9420	1.0361	0.9777	1.0004	4.00
1,2,3,4,7,8-HxCDF	1.0447	1.0322	1.0035	1.0782	1.0003	1.0318	3.11
1,2,3,6,7,8-HxCDF	0.9357	0.9576	0.9687	1.0632	0.9975	0.9845	5.01
2,3,4,6,7,8-HxCDF	1.0314	1.0577	1.0501	1.1391	1.1046	1.0766	4.10
1,2,3,7,8,9-HxCDF	0.9471	0.8928	0.9088	1.0289	0.9415	0.9438	5.58
1,2,3,4,7,8-HxCDD	1.0976	0.9413	0.9779	1.0584	0.9740	1.0099	6.47
1,2,3,6,7,8-HxCDD	0.9128	0.9286	0.8854	0.9736	0.8977	0.9196	3.72
1,2,3,7,8,9-HxCDD	0.9407	0.9148	0.9480	1.0011	0.9366	0.9482	3.38
1,2,3,4,6,7,8-HpCDF	1.3540	1.3027	1.3130	1.4421	1.3184	1.3460	4.24
1,2,3,4,7,8,9-HpCDF	1.3154	1.2684	1.2881	1.4365	1.2960	1.3209	5.06
1,2,3,4,6,7,8-HpCDD	1.0790	1.0691	1.0755	1.1277	1.0504	1.0803	2.65
OCDF	1.1981	1.1401	1.1584	1.3763	1.2482	1.2242	7.73
OCDD	1.0597	1.0244	0.9585	1.1201	0.9905	1.0306	6.08
Total PeCDF	0.9048	0.8949	0.8658	0.9363	0.8852	0.8974	2.91
Total HxCDF	0.9897	0.9851	0.9828	1.0774	1.0110	1.0092	3.94
Total HxCDD	0.9837	0.9282	0.9371	1.0110	0.9361	0.9592	3.78
Total HpCDF	1.3347	1.2856	1.3006	1.4393	1.3072	1.3335	4.63
2,3,7,8-TCDF-13C	1.5131	1.4653	1.4398	1.4818	1.4819	1.4764	1.81
2,3,7,8-TCDD-13C	0.9686	0.9533	0.9797	0.9843	1.0275	0.9827	2.83
2,3,7,8-TCDD-37Cl4	1.1876	1.1145	1.0758	1.1580	1.1709	1.1414	3.99
1,2,3,7,8-PeCDF-13C	0.9847	0.9073	0.9820	1.0387	1.1280	1.0082	8.11
2,3,4,7,8-PeCDF-13C	0.9917	0.9437	1.0254	1.0573	1.1555	1.0347	7.69
1,2,3,7,8-PeCDD-13C	0.6206	0.5955	0.6626	0.6835	0.7728	0.6670	10.27
1,2,3,4,7,8-HxCDF-13C	1.0763	1.0531	1.0374	1.0482	1.0188	1.0468	2.02
1,2,3,6,7,8-HxCDF-13C	1.3318	1.3301	1.3133	1.2911	1.3049	1.3142	1.31
2,3,4,6,7,8-HxCDF-13C	1.2284	1.1549	1.1531	1.1226	1.0892	1.1496	4.48
1,2,3,7,8,9-HxCDF-13C	1.0342	1.0522	1.0441	1.0253	1.0444	1.0400	1.00
1,2,3,4,7,8-HxCDD-13C	0.8591	0.8837	0.8522	0.8691	0.8648	0.8658	1.37
1,2,3,6,7,8-HxCDD-13C	1.1264	1.1173	1.1946	1.1343	1.1701	1.1486	2.84
1,2,3,4,6,7,8-HpCDF-13C	1.0275	1.0592	1.1059	1.0066	1.0304	1.0459	3.67
1,2,3,4,7,8,9-HpCDF-13C	0.7602	0.8077	0.8601	0.7770	0.8212	0.8052	4.85
1,2,3,4,6,7,8-HpCDD-13C	0.7306	0.7894	0.8252	0.7621	0.7873	0.7789	4.51
OCDD-13C	0.5742	0.6745	0.7525	0.6362	0.7234	0.6722	10.51

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Method 8290/1613
Initial Calibration (ICAL) - Isotope Ratio Summary

ICAL ID	**U131104**	Data Files:		Time	Injected
Calibration Date	11/04/2013	CS-1	U131104A_08	14:45	SMT
Instrument	10MSHR06 (U)	CS-2	U131104A_02	10:24	SMT
Column Phase	DB-5MS 0.25mm	CS-3	U131104A_01	09:19	SMT
Column ID No.	USD227224H	CS-4	U131104A_05	13:13	SMT
		CS-5	U131104A_04	12:28	SMT

Isomer	CS-1	CS-2	CS-3	CS-4	CS-5	Limits
2,3,7,8-TCDF	0.70	0.79	0.78	0.75	0.76	0.65 - 0.89
2,3,7,8-TCDD	0.71	0.74	0.81	0.78	0.77	0.65 - 0.89
1,2,3,7,8-PeCDF	1.58	1.43	1.49	1.52	1.53	1.32 - 1.78
2,3,4,7,8-PeCDF	1.43	1.52	1.50	1.52	1.52	1.32 - 1.78
1,2,3,7,8-PeCDD	0.53	0.63	0.61	0.61	0.61	0.52 - 0.70
1,2,3,4,7,8-HxCDF	1.19	1.24	1.20	1.21	1.21	1.05 - 1.43
1,2,3,6,7,8-HxCDF	1.23	1.16	1.20	1.19	1.22	1.05 - 1.43
2,3,4,6,7,8-HxCDF	1.12	1.22	1.21	1.17	1.22	1.05 - 1.43
1,2,3,7,8,9-HxCDF	1.15	1.24	1.19	1.20	1.24	1.05 - 1.43
1,2,3,4,7,8-HxCDD	1.33	1.32	1.30	1.22	1.23	1.05 - 1.43
1,2,3,6,7,8-HxCDD	1.07	1.13	1.20	1.21	1.23	1.05 - 1.43
1,2,3,7,8,9-HxCDD	1.28	1.16	1.27	1.25	1.23	1.05 - 1.43
1,2,3,4,6,7,8-HpCDF	1.12	1.05	1.02	1.03	1.04	0.88 - 1.20
1,2,3,4,7,8,9-HpCDF	1.04	1.05	1.03	1.04	1.04	0.88 - 1.20
1,2,3,4,6,7,8-HpCDD	1.05	1.08	1.02	1.02	1.03	0.88 - 1.20
OCDF	0.91	0.92	0.89	0.88	0.90	0.76 - 1.02
OCDD	0.86	0.89	0.88	0.91	0.88	0.76 - 1.02
1,2,3,4-TCDD-13C	0.80	0.77	0.78	0.79	0.79	0.65 - 0.89
1,2,3,7,8,9-HxCDD-13C	1.25	1.23	1.19	1.23	1.24	1.05 - 1.43
2,3,7,8-TCDF-13C	0.78	0.78	0.77	0.77	0.79	0.65 - 0.89
2,3,7,8-TCDD-13C	0.80	0.79	0.79	0.79	0.78	0.65 - 0.89
1,2,3,7,8-PeCDF-13C	1.53	1.53	1.56	1.55	1.54	1.32 - 1.78
2,3,4,7,8-PeCDF-13C	1.55	1.56	1.56	1.55	1.54	1.32 - 1.78
1,2,3,7,8-PeCDD-13C	1.54	1.58	1.58	1.57	1.54	1.32 - 1.78
1,2,3,4,7,8-HxCDF-13C	0.52	0.52	0.51	0.51	0.50	0.43 - 0.59
1,2,3,6,7,8-HxCDF-13C	0.51	0.51	0.51	0.53	0.51	0.43 - 0.59
2,3,4,6,7,8-HxCDF-13C	0.50	0.50	0.52	0.51	0.53	0.43 - 0.59
1,2,3,7,8,9-HxCDF-13C	0.51	0.52	0.49	0.52	0.52	0.43 - 0.59
1,2,3,4,7,8-HxCDD-13C	1.26	1.27	1.23	1.27	1.24	1.05 - 1.43
1,2,3,6,7,8-HxCDD-13C	1.26	1.25	1.26	1.25	1.24	1.05 - 1.43
1,2,3,4,6,7,8-HpCDF-13C	0.45	0.43	0.46	0.45	0.45	0.37 - 0.51
1,2,3,4,7,8,9-HpCDF-13C	0.46	0.47	0.47	0.45	0.45	0.37 - 0.51
1,2,3,4,6,7,8-HpCDD-13C	1.09	1.05	1.05	1.06	1.08	0.88 - 1.20
OCDD-13C	0.90	0.91	0.87	0.90	0.89	0.76 - 1.02

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Pace Analytical Services, Inc.
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Method 1613B Analysis Results
PCDD/PCDF Calibration Verification
Labeled Analytes

Lab Name	CS3/CPM-7604-286		
Filename	U131105A_01	Instrument ID	10MSHR06 (U)
Injected By	SMT	GC Column ID	USD227224H
Analyzed	11/05/2013 09:21	ICAL ID	U131104

Native Isomers	m/z's Forming Ratio (1)	Ion Abund. Ratio	QC Limits (2)	Conc Found	Conc. Range (ng/ml) (3)
Labeled Compounds					
1,2,3,4-TCDD-13C	M/M+2	0.80	0.65 - 0.89	-----	-----
2,3,7,8-TCDD-13C	M/M+2	0.79	0.65 - 0.89	98.0	82 - 121
1,2,3,7,8-PeCDD-13C	M+2/M+4	1.59	1.32 - 1.78	101.6	62 - 160
1,2,3,4,7,8-HxCDD-13C	M+2/M+4	1.34	1.05 - 1.43	102.8	85 - 117
1,2,3,6,7,8-HxCDD-13C	M+2/M+4	1.22	1.05 - 1.43	100.9	85 - 118
1,2,3,7,8,9-HxCDD-13C	M+2/M+4	1.21	1.05 - 1.43	-----	-----
1,2,3,4,6,7,8-HpCDD-13C	M+2/M+4	1.08	0.88 - 1.20	97.2	72 - 138
OCDD-13C	M+2/M+4	0.90	0.76 - 1.02	188.7	96 - 415
2,3,7,8-TCDF-13C	M/M+2	0.79	0.65 - 0.89	99.1	71 - 140
1,2,3,7,8-PeCDF-13C	M+2/M+4	1.56	1.32 - 1.78	103.2	76 - 130
2,3,4,7,8-PeCDF-13C	M+2/M+4	1.55	1.32 - 1.78	104.5	77 - 130
1,2,3,4,7,8-HxCDF-13C	M/M+2	0.51	0.43 - 0.59	105.6	76 - 131
1,2,3,6,7,8-HxCDF-13C	M/M+2	0.52	0.43 - 0.59	103.8	70 - 143
2,3,4,6,7,8-HxCDF-13C	M/M+2	0.51	0.43 - 0.59	103.5	73 - 137
1,2,3,7,8,9-HxCDF-13C	M/M+2	0.52	0.43 - 0.59	102.2	74 - 135
1,2,3,4,6,7,8-HpCDF-13C	M/M+2	0.46	0.37 - 0.51	102.4	78 - 129
1,2,3,4,7,8,9-HpCDF-13C	M/M+2	0.46	0.37 - 0.51	98.7	77 - 129
Cleanup Standard					
2,3,7,8-TCDD-37Cl4	M+2/M+4	(4)		9.4	7.9 - 12.7

1. See Table 8, Method 1613, for m/z specifications.

2. Ion Abundance Ratio Control Limits from Table 9, Method 1613.

3. Contract-required concentration range as specified in Table 6, Method 1613, under VER (10/94 Revision).

4. No ion abundance ratio; report concentration found.

REPORT OF LABORATORY ANALYSIS

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Method 1613B Analysis Results
PCDD/PCDF Calibration Verification
Native Analytes

Lab Name	CS3/CPM-7604-286		
Filename	U131105A_01	Instrument ID	10MSHR06 (U)
Injected By	SMT	GC Column ID	USD227224H
Analyzed	11/05/2013 09:21	ICAL ID	U131104

Native Isomers	m/z's Forming Ratio (1)	Ion Abund. Ratio	QC Limits (2)	Conc Found	Conc. Range (ng/ml) (3)
2,3,7,8-TCDD	M/M+2	0.77	0.65 - 0.89	10.7	7.8 - 12.9
1,2,3,7,8-PeCDD	M+2/M+4	0.61	0.52 - 0.70	49.4	39 - 65
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05 - 1.43	49.8	39 - 64
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05 - 1.43	49.9	39 - 64
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05 - 1.43	50.3	41 - 61
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88 - 1.20	49.5	43 - 58
OCDD	M+2/M+4	0.88	0.76 - 1.02	98.0	79 - 126
2,3,7,8-TCDF	M/M+2	0.80	0.65 - 0.89	9.9	8.4 - 12.0
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32 - 1.78	50.5	41 - 60
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32 - 1.78	49.3	41 - 61
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05 - 1.43	49.6	45 - 56
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05 - 1.43	50.6	44 - 57
2,3,4,6,7,8-HxCDF	M+2/M+4	1.19	1.05 - 1.43	49.4	44 - 57
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05 - 1.43	49.5	45 - 56
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88 - 1.20	50.1	45 - 55
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88 - 1.20	50.0	43 - 58
OCDF	M+2/M+4	0.89	0.76 - 1.02	102.9	63 - 159

1. See Table 8, Method 1613, for m/z specifications.

2. Ion Abundance Ratio Control Limits from Table 9, Method 1613.

3. Contract-required concentration range as specified in Table 6, Method 1613, under VER (10/94 Revision).

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Appendix D

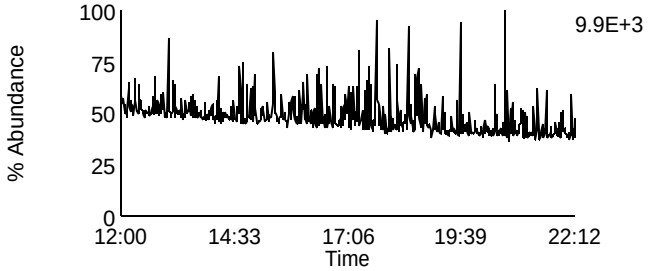
Sample Raw Data

Homologue Group: Tetras

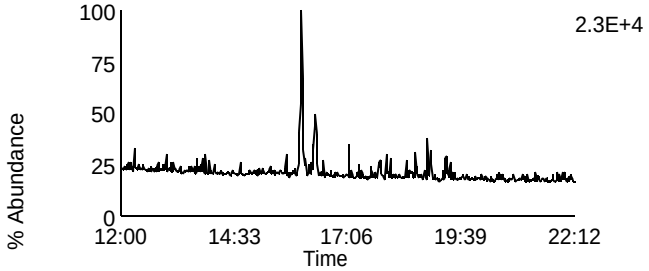
Data File Name: U131105A_08
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062001 - SMT WI

Lab Sample ID: 10247062001
Client Sample ID: MAK001O
Instrument: 10MSHR06 (U)

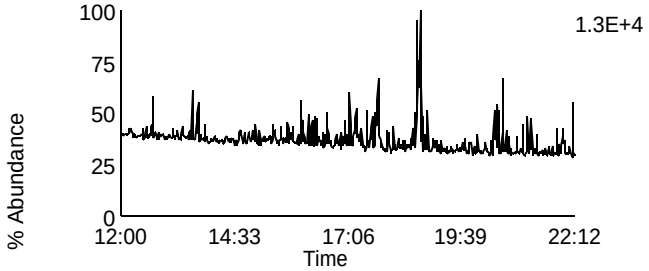
Data File: U131105A_08 G1 C1 - 303.9016
SAMP 10247062001 - SMT WI



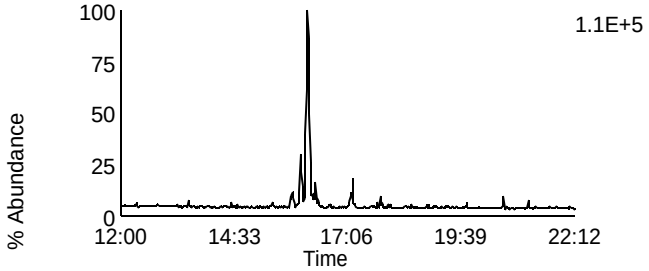
Data File: U131105A_08 G1 C7 - 319.8965
SAMP 10247062001 - SMT WI



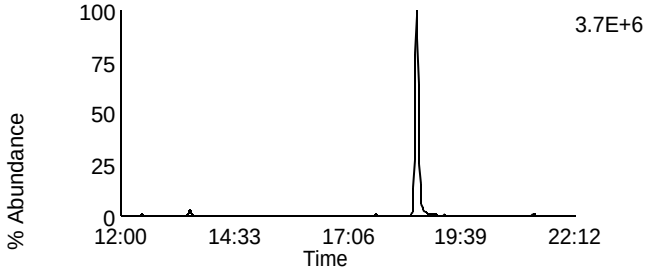
Data File: U131105A_08 G1 C2 - 305.8987
SAMP 10247062001 - SMT WI



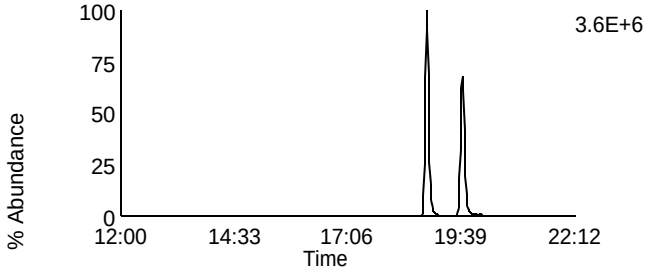
Data File: U131105A_08 G1 C8 - 321.8936
SAMP 10247062001 - SMT WI



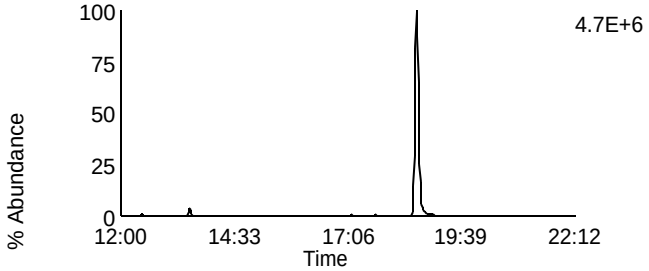
Data File: U131105A_08 G1 C3 - 315.9418
SAMP 10247062001 - SMT WI



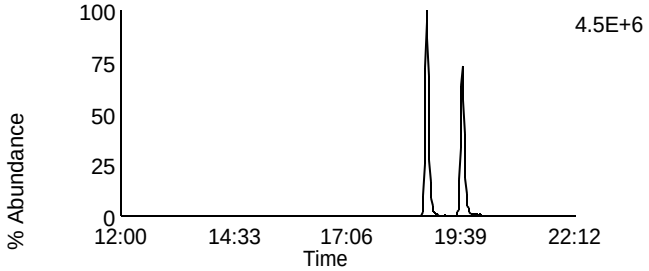
Data File: U131105A_08 G1 C10 - 331.9367
SAMP 10247062001 - SMT WI



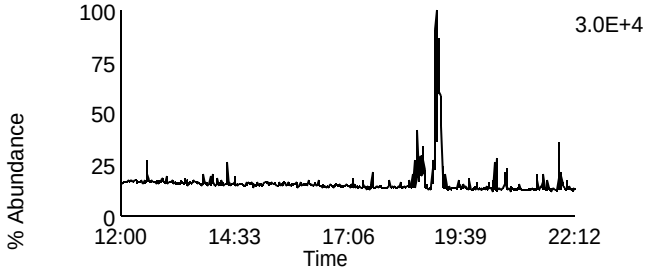
Data File: U131105A_08 G1 C4 - 317.9389
SAMP 10247062001 - SMT WI



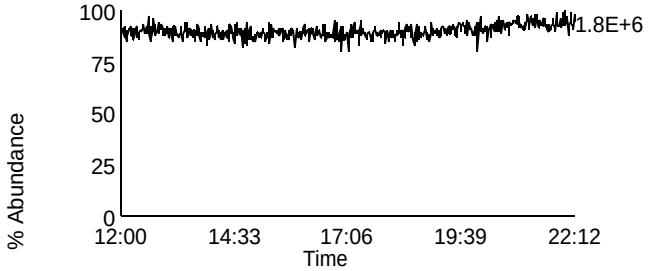
Data File: U131105A_08 G1 C11 - 333.9338
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G1 C14 - 375.8364
SAMP 10247062001 - SMT WI



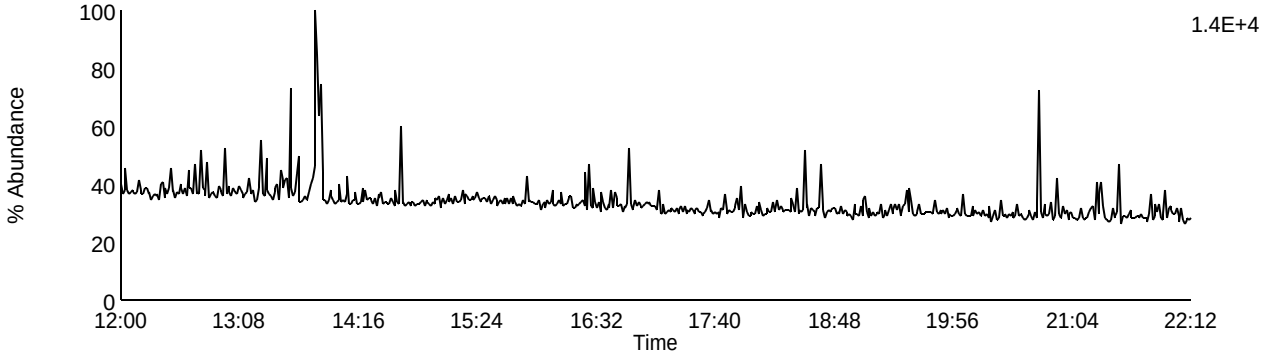
Data File: U131105A_08 G1 C5 - 318.9792
SAMP 10247062001 - SMT WI



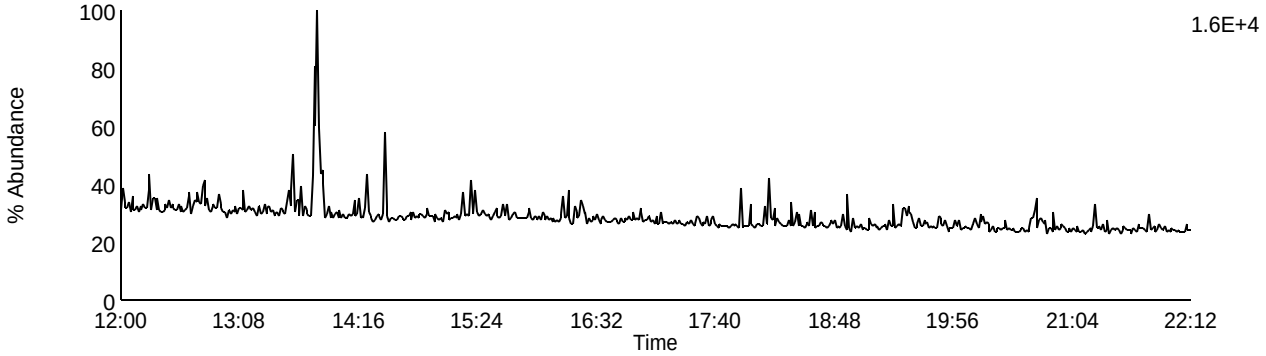
Homologue Group: Penta & Cleanup

Data File Name: U131105A_08	Lab Sample ID: 10247062001
Date Acquired: 11/5/2013	Client Sample ID: MAK001O
Sample Description: SAMP 10247062001 - SMT WI	Instrument: 10MSHR06 (U)

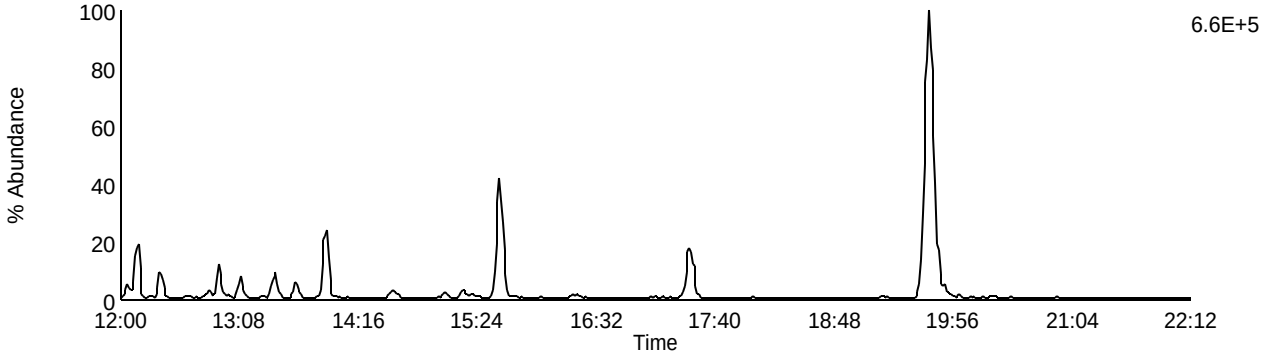
Data File: U131105A_08 G1 C12 - 339.8597
SAMP 10247062001 - SMT WI



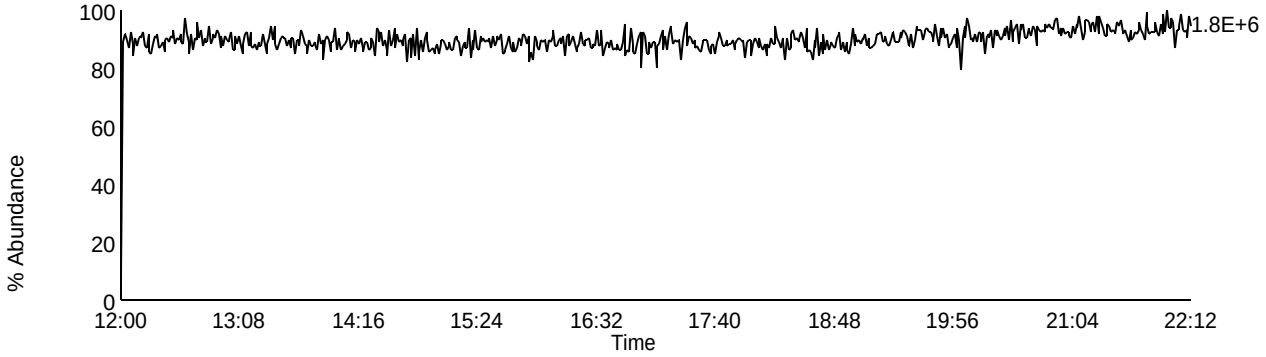
Data File: U131105A_08 G1 C13 - 341.8567
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G1 C9 - 327.8847
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G1 C5 - 318.9792
SAMP 10247062001 - SMT WI

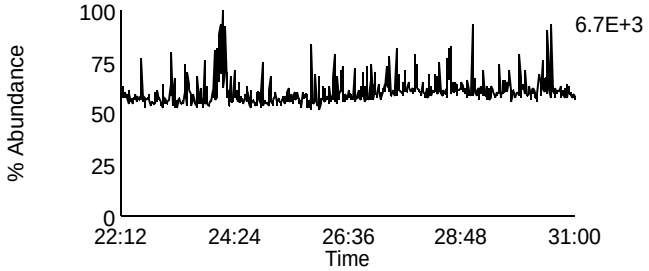


Homologue Group: Pentas

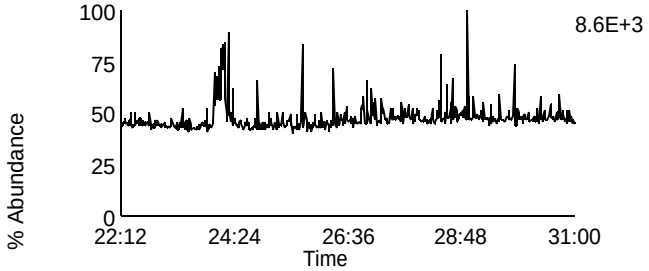
Data File Name: U131105A_08
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062001 - SMT WI

Lab Sample ID: 10247062001
Client Sample ID: MAK001O
Instrument: 10MSHR06 (U)

Data File: U131105A_08 G2 C1 - 339.8597
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G2 C2 - 341.8567
SAMP 10247062001 - SMT WI



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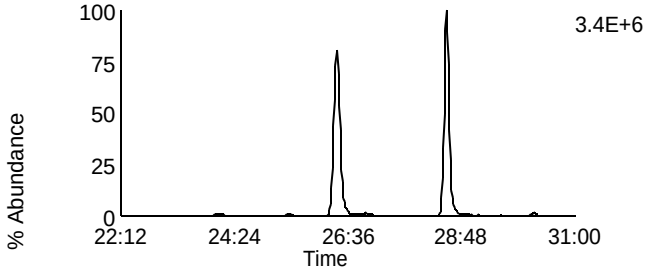
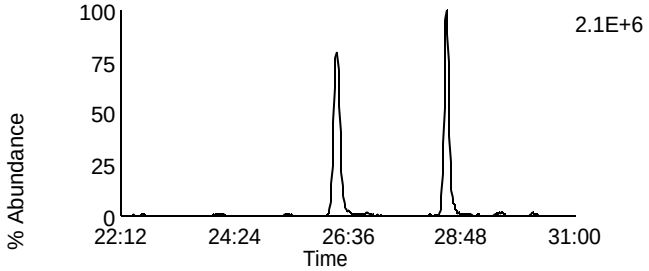
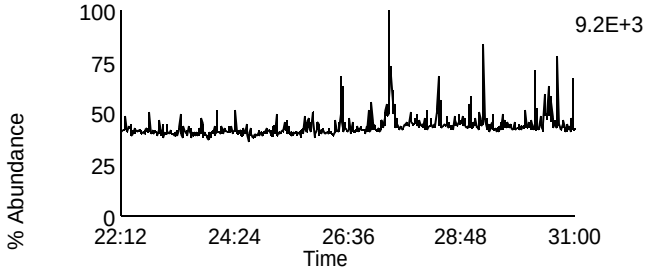
SAMP 10247062001 - SMT WI



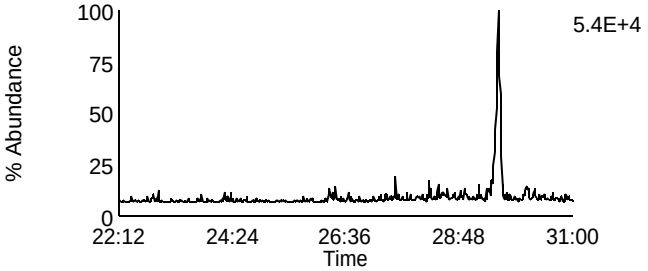
Data File: U131105A_08 G2 C5 - 353.8969
SAMP 10247062001 - SMT WI



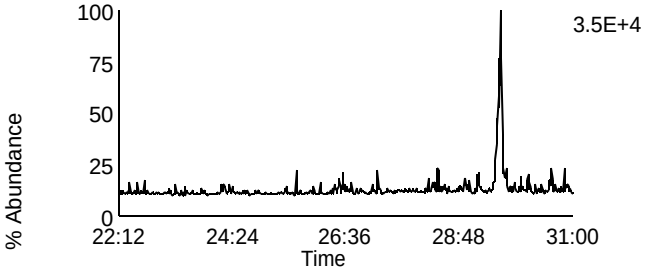
Data File: U131105A_08 G2 C12 - 409.7974
SAMP 10247062001 - SMT WI



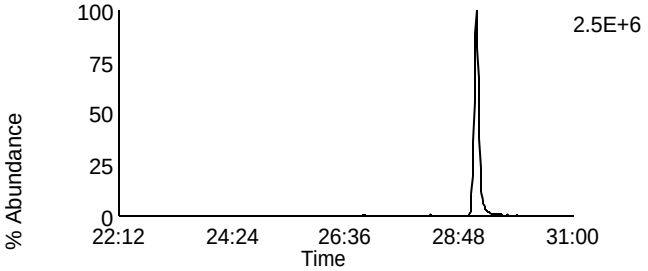
Data File: U131105A_08 G2 C4 - 353.8576
SAMP 10247062001 - SMT WI



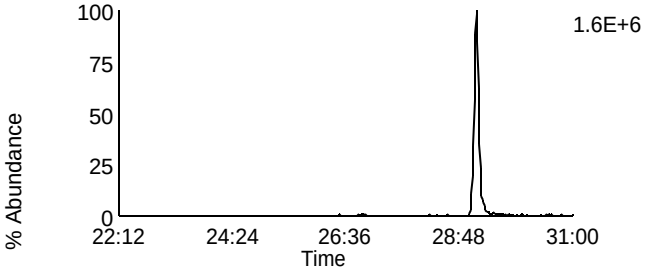
Data File: U131105A_08 G2 C8 - 355.8546
SAMP 10247062001 - SMT WI



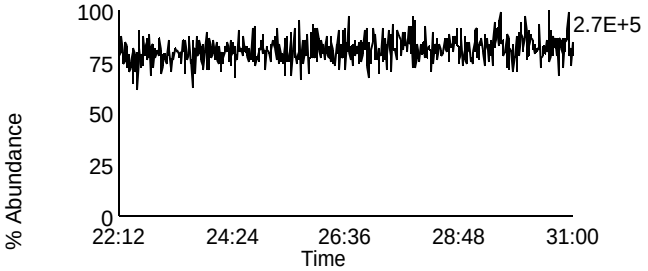
Data File: U131105A_08 G2 C10 - 367.8948
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G2 C11 - 369.8918
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G2 C6 - 354.9792
SAMP 10247062001 - SMT WI

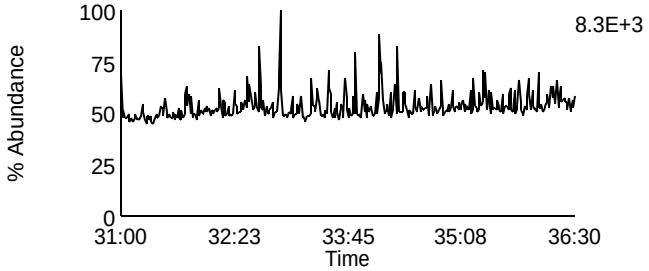


Homologue Group: Hexas

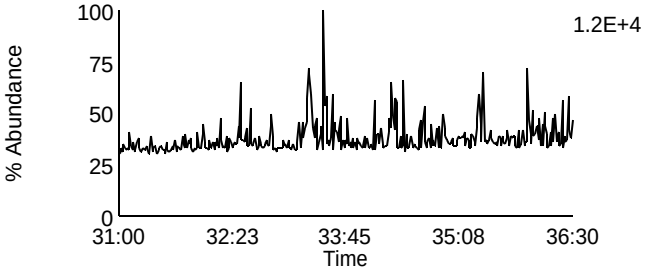
Data File Name: U131105A_08
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062001 - SMT WI

Lab Sample ID: 10247062001
Client Sample ID: MAK001O
Instrument: 10MSHR06 (U)

Data File: U131105A_08 G3 C1 - 373.8207
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C7 - 389.8156
SAMP 10247062001 - SMT WI



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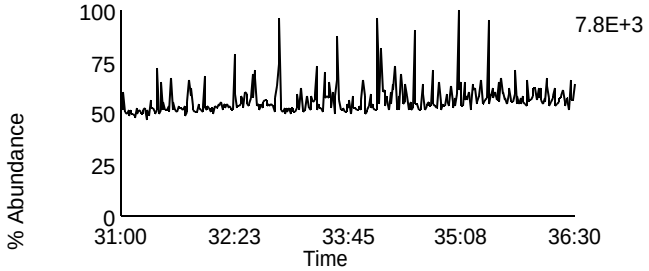
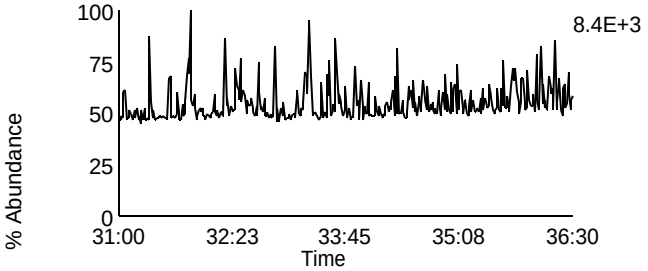
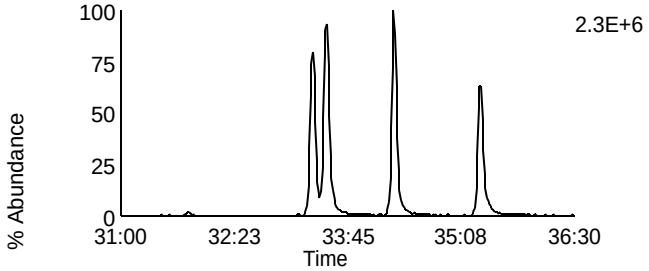
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C8 - 391.8127
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C5 - 383.8639
SAMP 10247062001 - SMT WI



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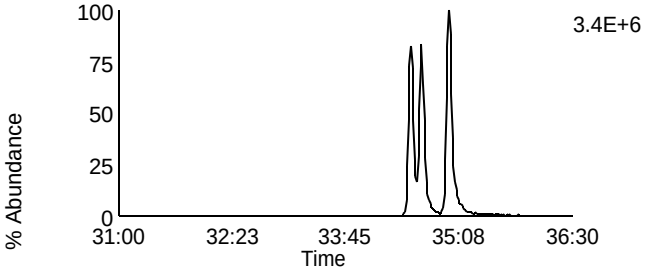
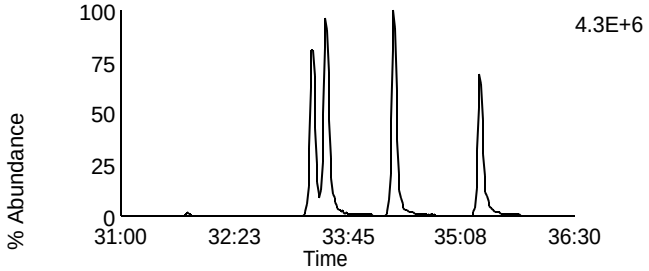
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C6 - 385.861
SAMP 10247062001 - SMT WI



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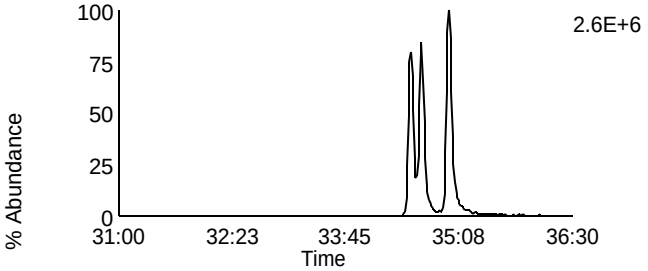
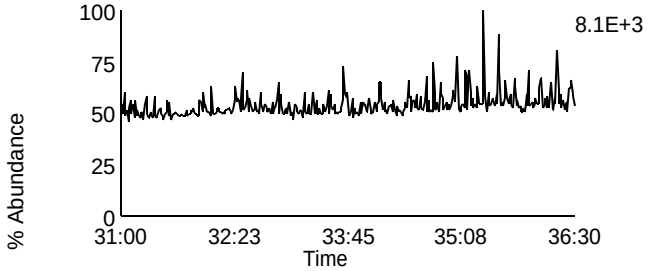
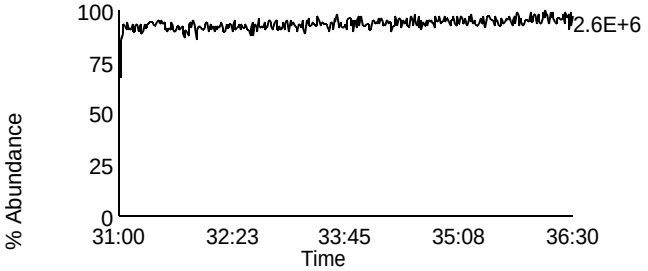
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C11 - 445.7555
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G3 C3 - 380.976
SAMP 10247062001 - SMT WI

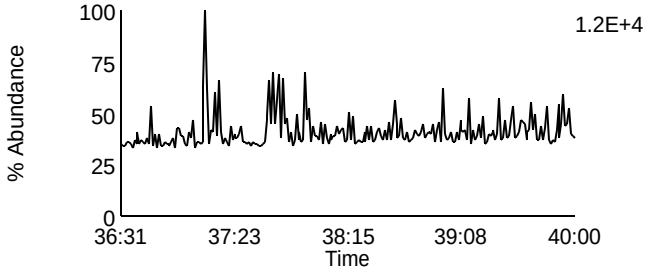


Homologue Group: Heptas

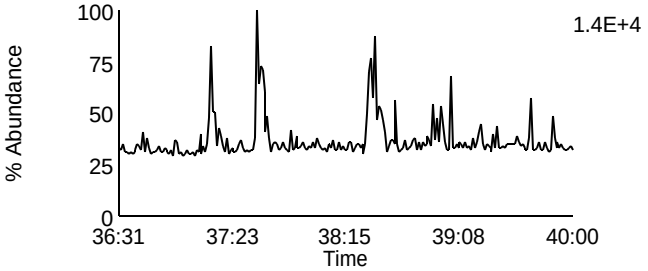
Data File Name: U131105A_08
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062001 - SMT WI

Lab Sample ID: 10247062001
Client Sample ID: MAK001O
Instrument: 10MSHR06 (U)

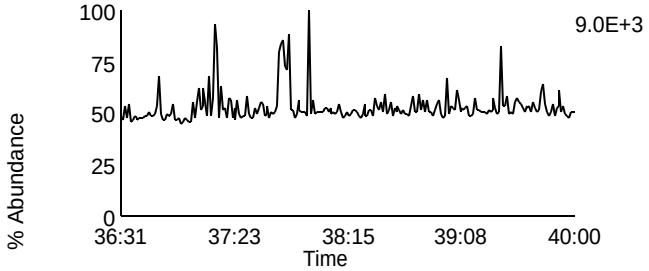
Data File: U131105A_08 G4 C3 - 407.7818
SAMP 10247062001 - SMT WI



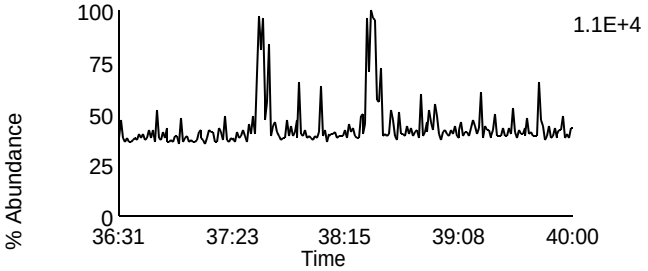
Data File: U131105A_08 G4 C8 - 423.7767
SAMP 10247062001 - SMT WI



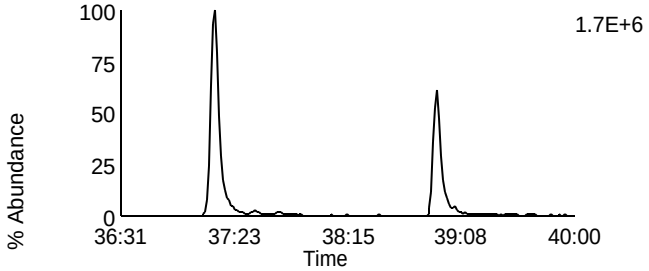
Data File: U131105A_08 G4 C4 - 409.7788
SAMP 10247062001 - SMT WI



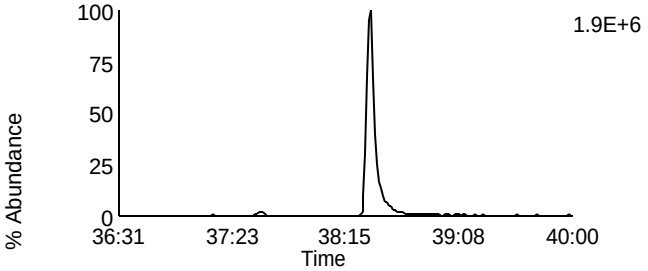
Data File: U131105A_08 G4 C9 - 425.7737
SAMP 10247062001 - SMT WI



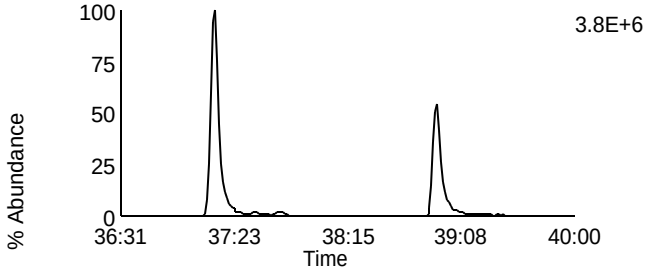
Data File: U131105A_08 G4 C6 - 417.825
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G4 C11 - 435.8169
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G4 C7 - 419.822
SAMP 10247062001 - SMT WI



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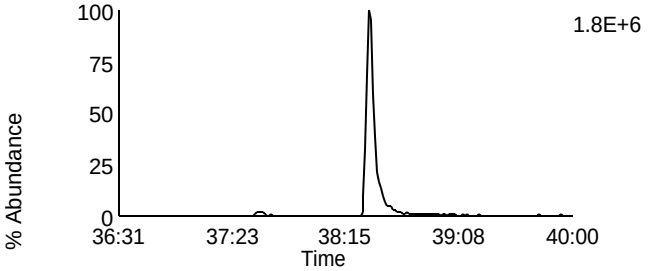
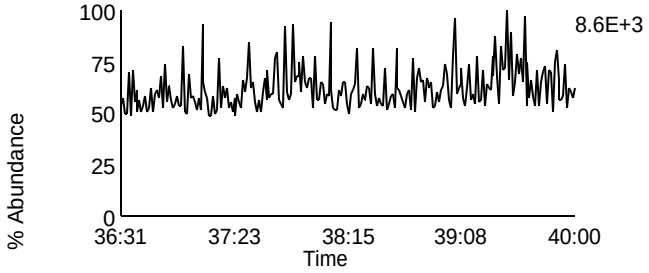
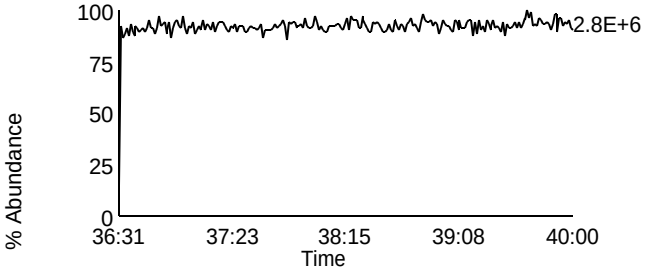
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G4 C13 - 479.7165
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G4 C1 - 380.976
SAMP 10247062001 - SMT WI

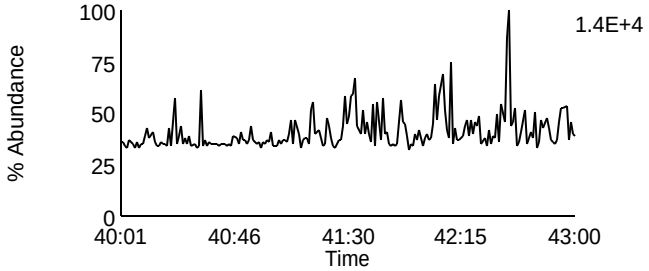


Homologue Group: Octas

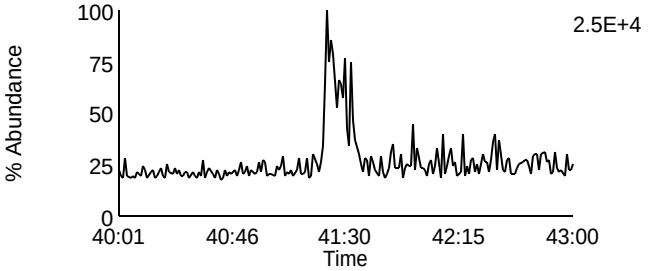
Data File Name: U131105A_08
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062001 - SMT WI

Lab Sample ID: 10247062001
Client Sample ID: MAK001O
Instrument: 10MSHR06 (U)

Data File: U131105A_08 G5 C4 - 441.7428
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G5 C8 - 457.7377
SAMP 10247062001 - SMT WI



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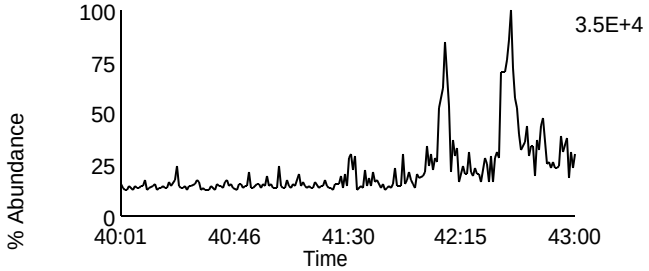
SAMP 10247062001 - SMT WI



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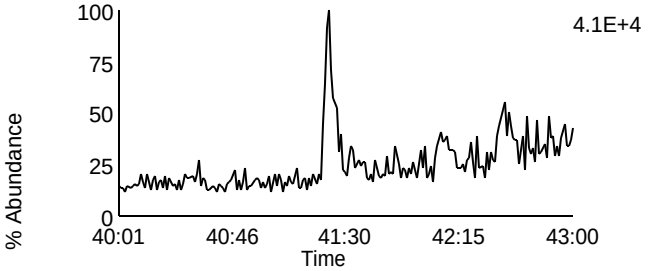
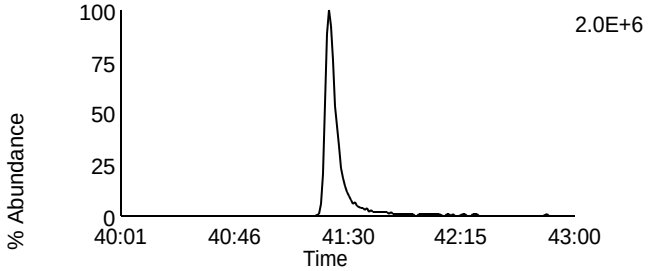
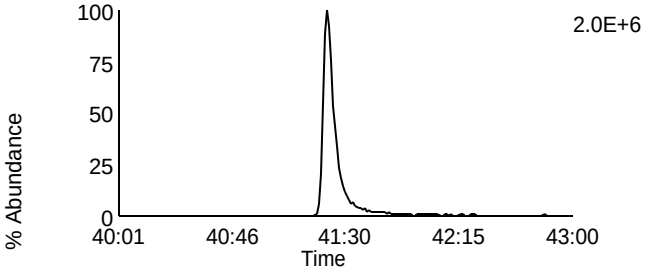
SAMP 10247062001 - SMT WI



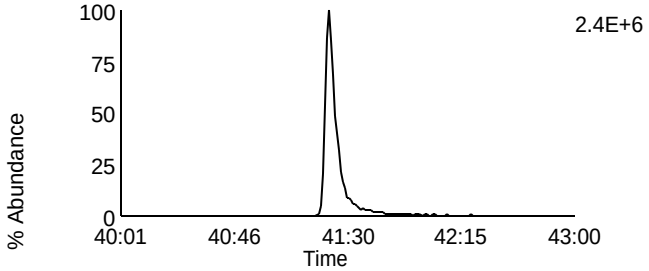
Data File: U131105A_08 G5 C11 - 469.7779
SAMP 10247062001 - SMT WI



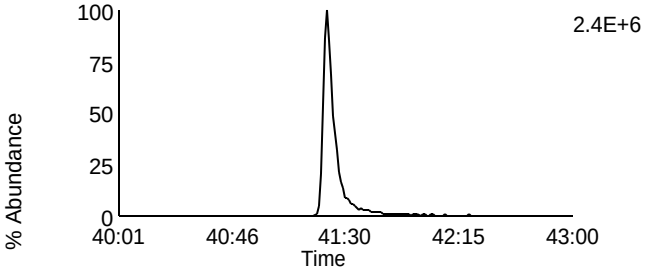
Data File: U131105A_08 G5 C11 - 469.7779
SAMP 10247062001 - SMT WI



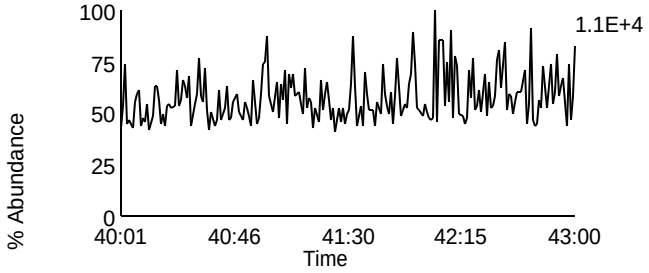
Data File: U131105A_08 G5 C12 - 471.7749
SAMP 10247062001 - SMT WI



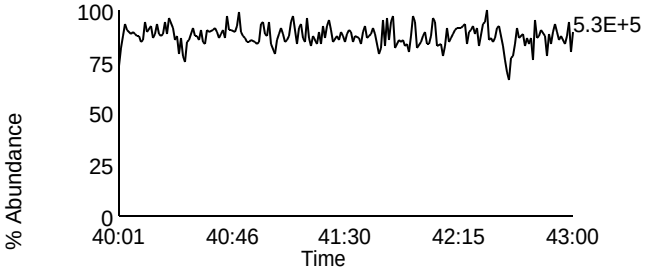
Data File: U131105A_08 G5 C12 - 471.7749
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G5 C13 - 513.6775
SAMP 10247062001 - SMT WI



Data File: U131105A_08 G5 C2 - 430.9728
SAMP 10247062001 - SMT WI

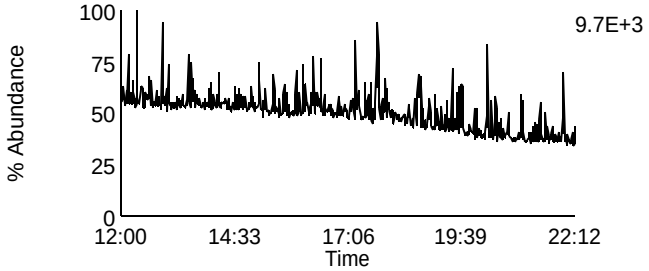


Homologue Group: Tetras

Data File Name: U131105A_09
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062002 - SMT WI

Lab Sample ID: 10247062002
Client Sample ID: MAK002O
Instrument: 10MSHR06 (U)

Data File: U131105A_09 G1 C1 - 303.9016
SAMP 10247062002 - SMT WI



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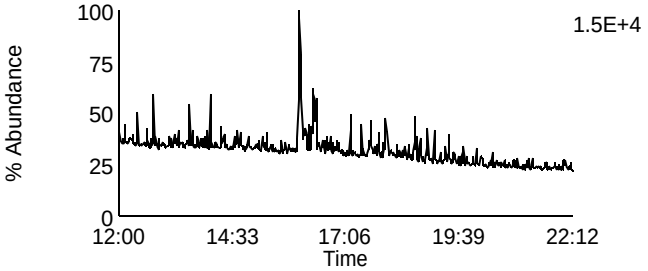
SAMP 10247062002 - SMT WI



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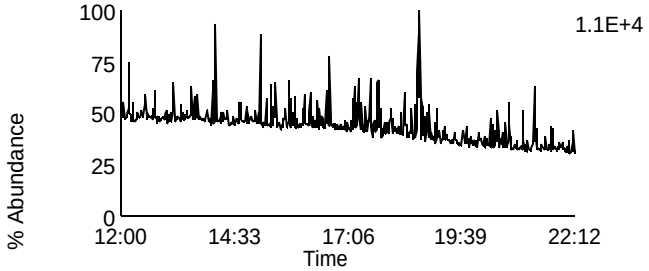
SAMP 10247062002 - SMT WI



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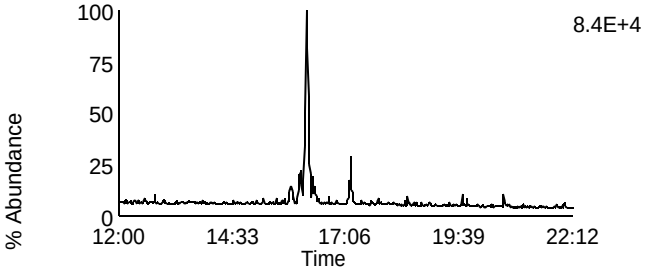
SAMP 10247062002 - SMT WI



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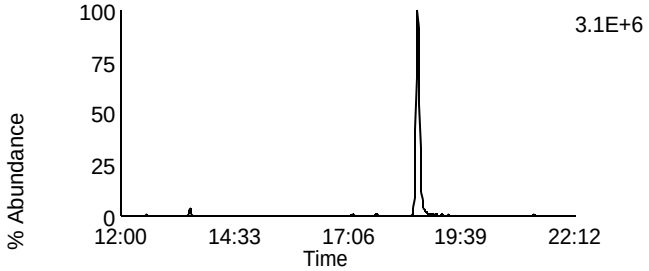
SAMP 10247062002 - SMT WI



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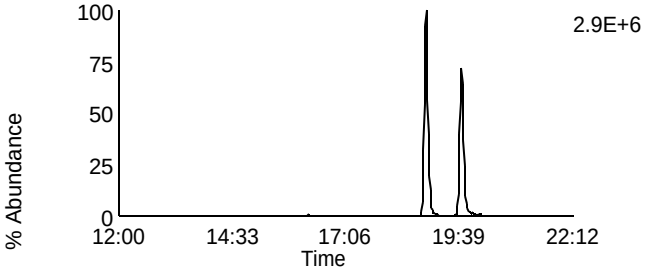
SAMP 10247062002 - SMT WI



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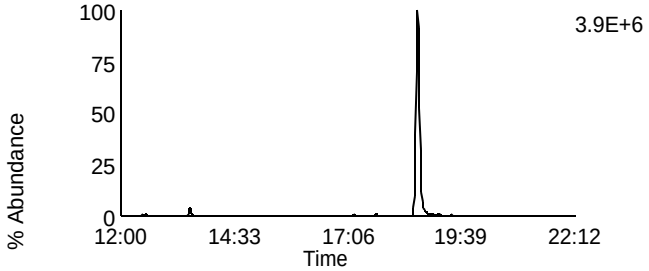
SAMP 10247062002 - SMT WI



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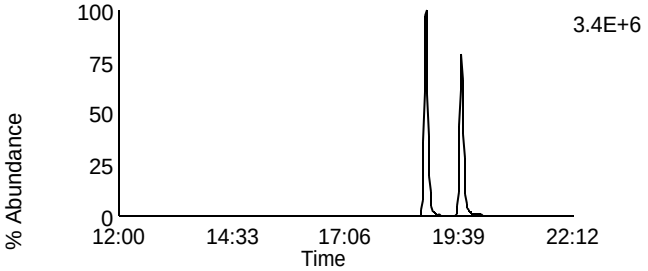
SAMP 10247062002 - SMT WI



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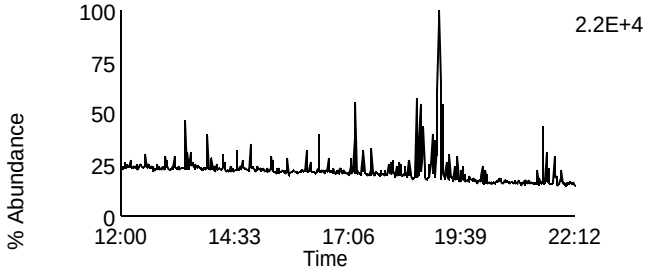
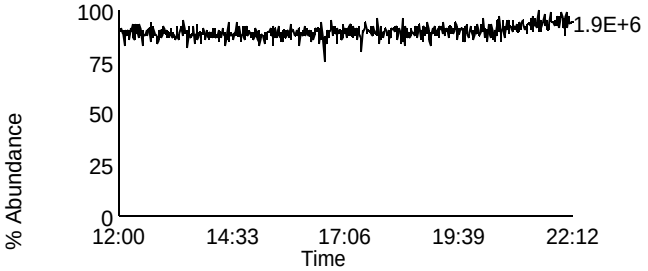
SAMP 10247062002 - SMT WI



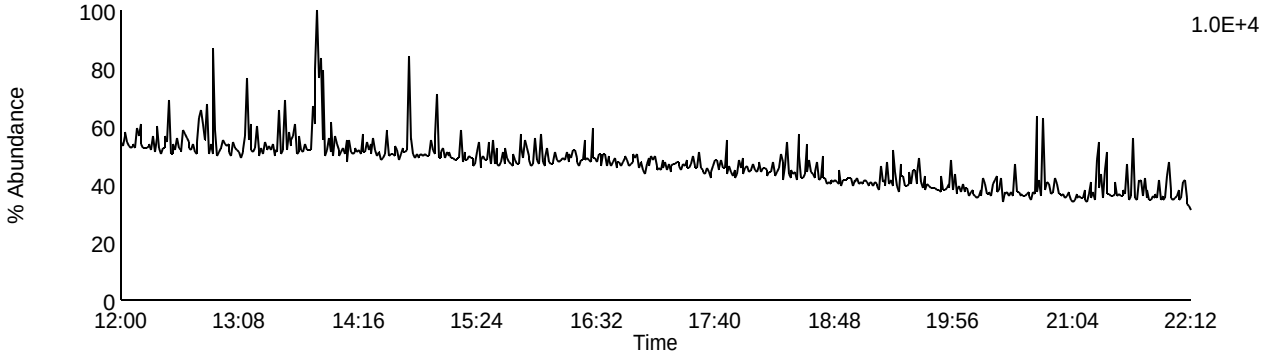
Data File: U131105A_09 G1 C5 - 318.9792
SAMP 10247062002 - SMT WI



Homologue Group: Penta & Cleanup

Data File Name: U131105A_09	Lab Sample ID: 10247062002
Date Acquired: 11/5/2013	Client Sample ID: MAK002O
Sample Description: SAMP 10247062002 - SMT WI	Instrument: 10MSHR06 (U)

Data File: U131105A_09 G1 C12 - 339.8597
SAMP 10247062002 - SMT WI



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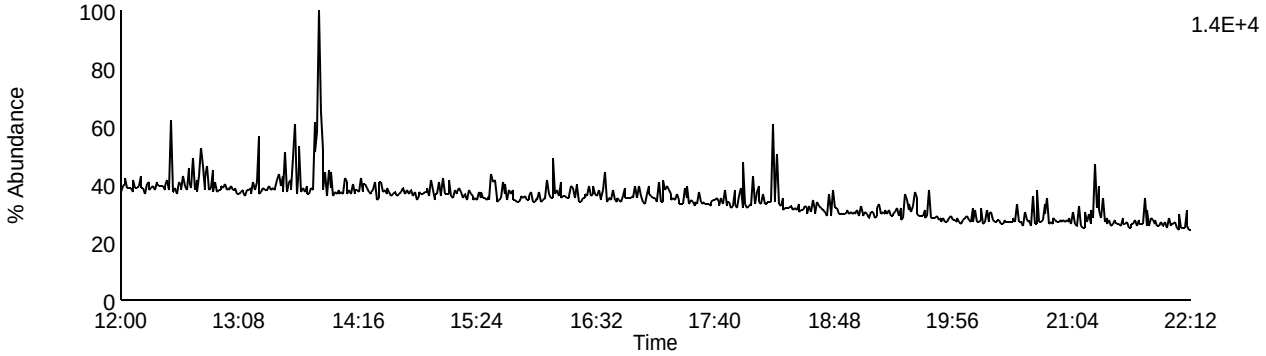
SAMP 10247062002 - SMT WI



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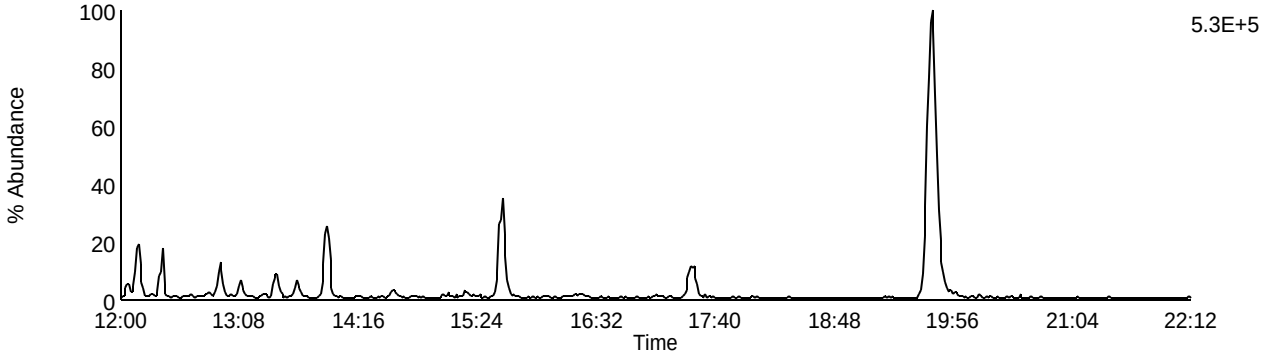
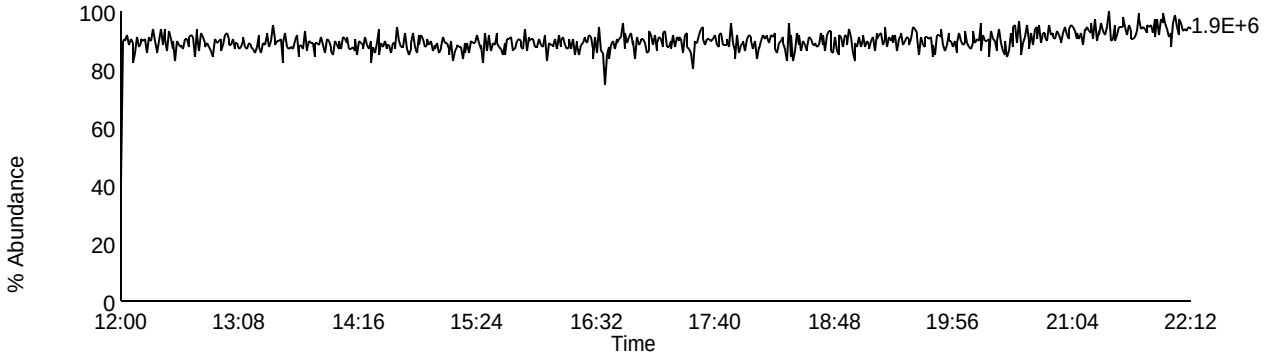
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G1 C5 - 318.9792
SAMP 10247062002 - SMT WI

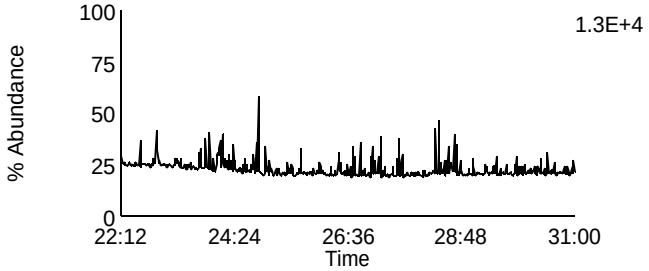


Homologue Group: Pentas

Data File Name: U131105A_09
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062002 - SMT WI

Lab Sample ID: 10247062002
Client Sample ID: MAK002O
Instrument: 10MSHR06 (U)

Data File: U131105A_09 G2 C1 - 339.8597
SAMP 10247062002 - SMT WI



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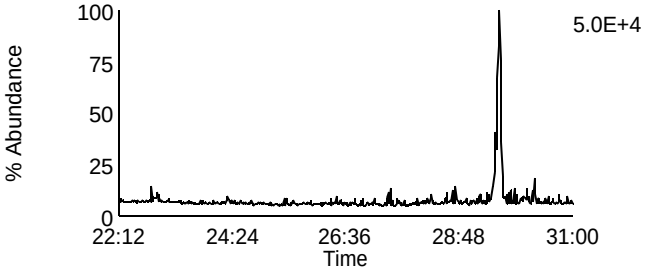
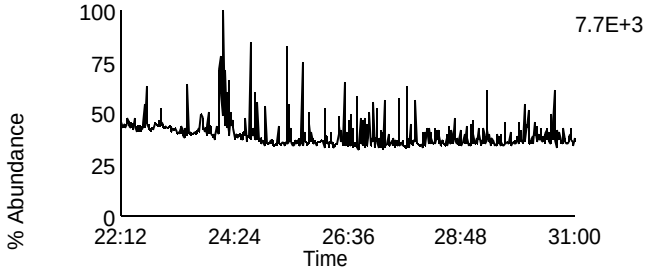
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G2 C2 - 341.8567
SAMP 10247062002 - SMT WI



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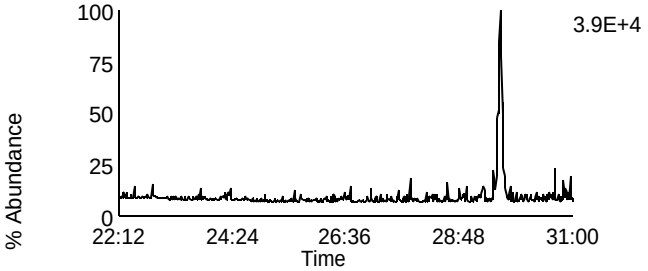
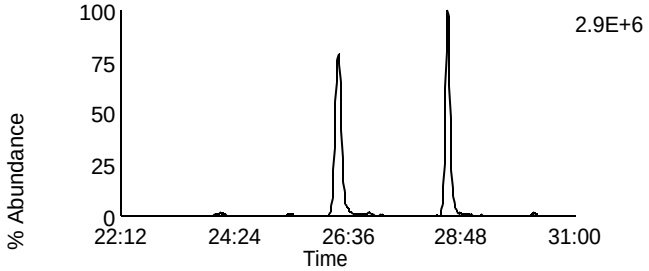
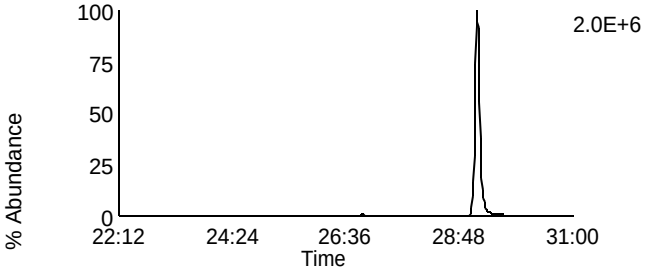
SAMP 10247062002 - SMT WI



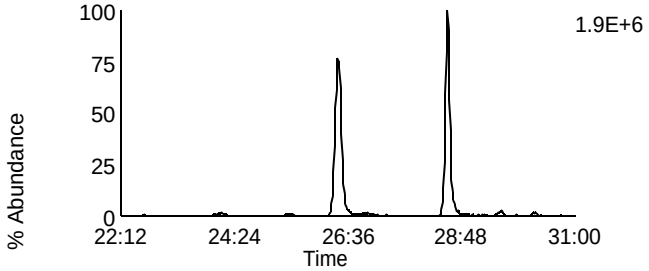
Data File: U131105A_09 G2 C3 - 351.8999
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G2 C10 - 367.8948
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G2 C5 - 353.8969
SAMP 10247062002 - SMT WI



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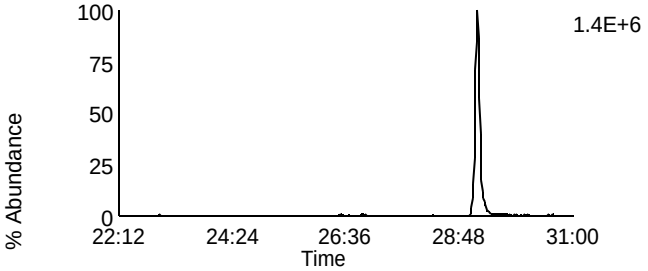
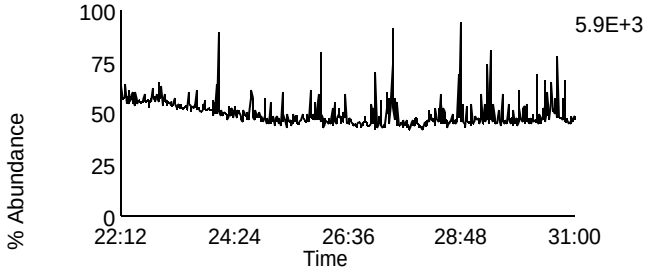
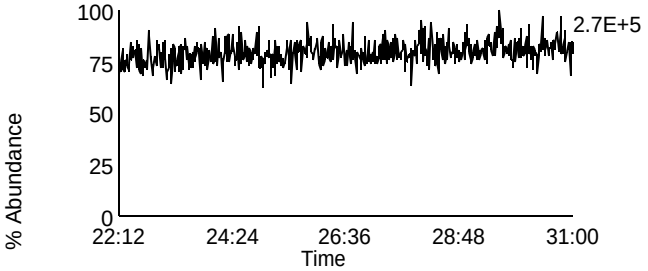


Data File: U131105A_09 G2 C12 - 409.7974
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G2 C6 - 354.9792
SAMP 10247062002 - SMT WI

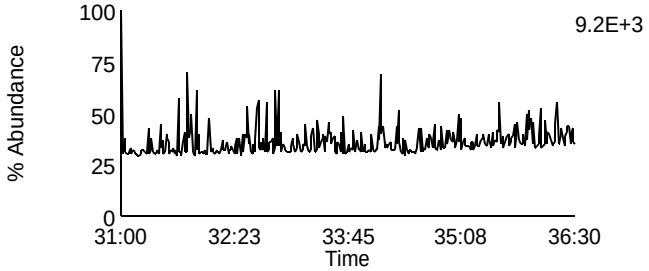


Homologue Group: Hexas

Data File Name: U131105A_09
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062002 - SMT WI

Lab Sample ID: 10247062002
Client Sample ID: MAK002O
Instrument: 10MSHR06 (U)

Data File: U131105A_09 G3 C1 - 373.8207
SAMP 10247062002 - SMT WI



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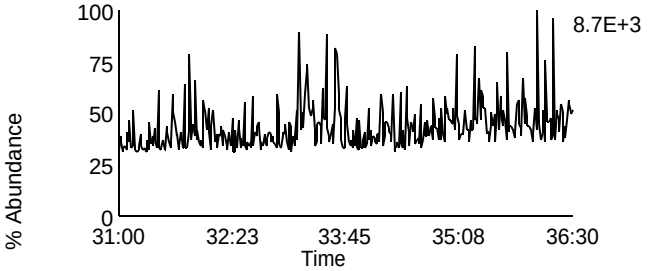
SAMP 10247062002 - SMT WI



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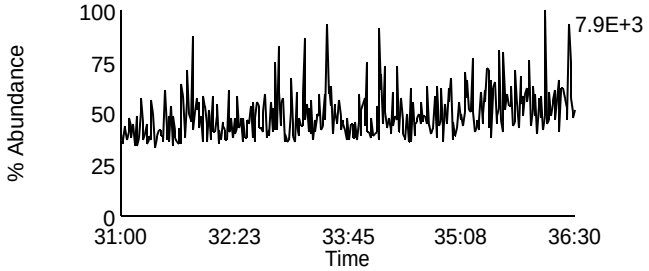
SAMP 10247062002 - SMT WI



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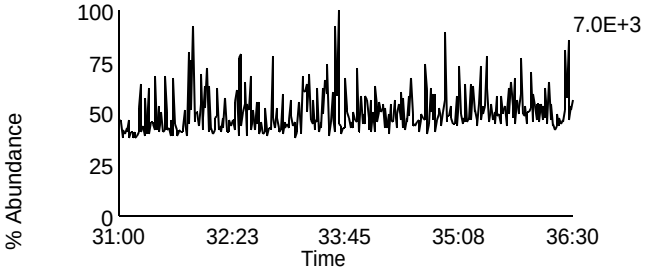
SAMP 10247062002 - SMT WI



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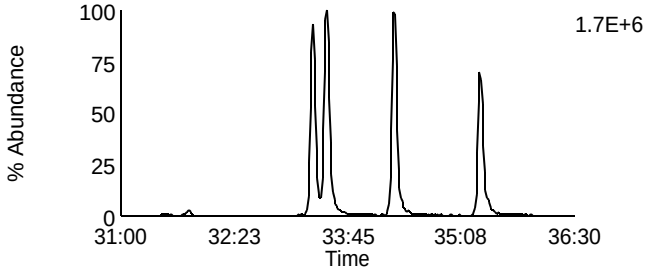
SAMP 10247062002 - SMT WI



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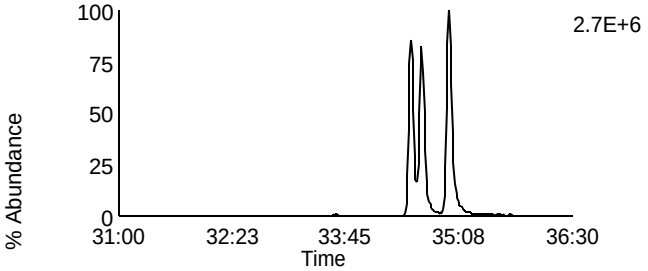
SAMP 10247062002 - SMT WI



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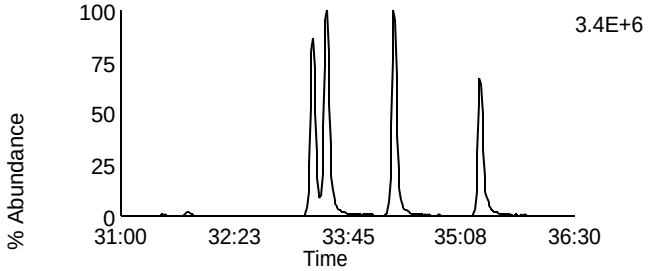
SAMP 10247062002 - SMT WI



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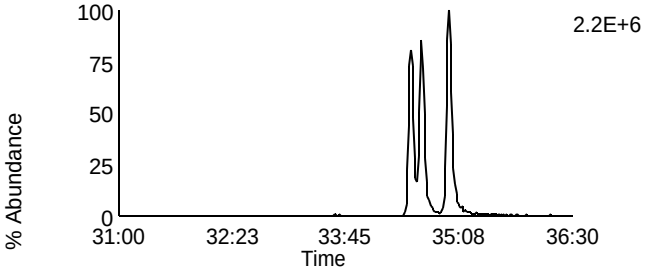

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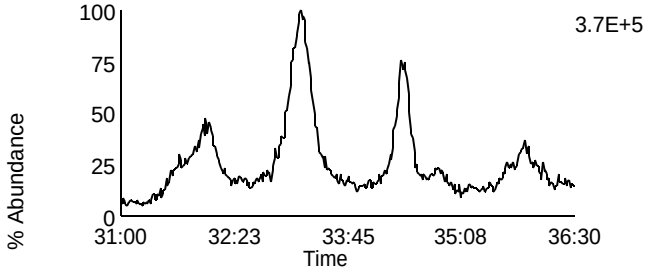
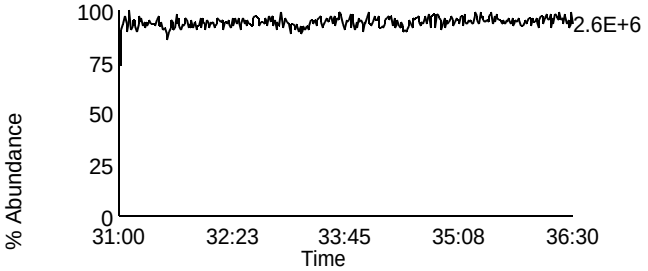
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G3 C3 - 380.976
SAMP 10247062002 - SMT WI

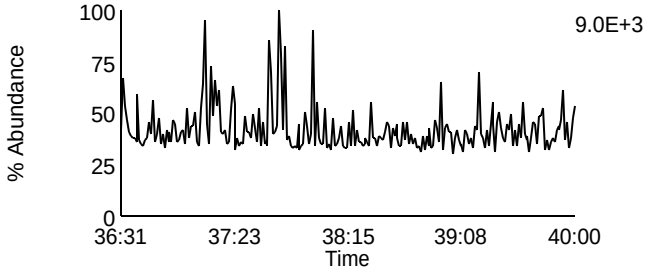


Homologue Group: Heptas

Data File Name: U131105A_09
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062002 - SMT WI

Lab Sample ID: 10247062002
Client Sample ID: MAK002O
Instrument: 10MSHR06 (U)

Data File: U131105A_09 G4 C3 - 407.7818
SAMP 10247062002 - SMT WI



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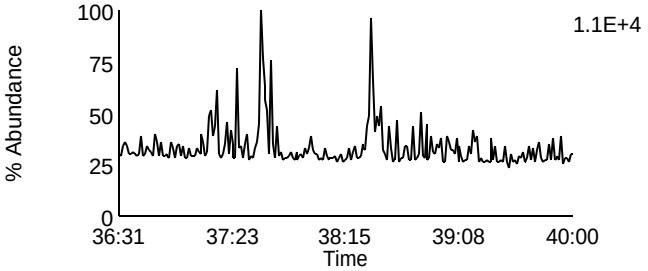
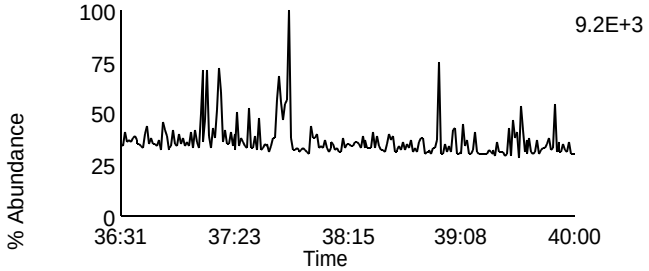
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G4 C4 - 409.7788
SAMP 10247062002 - SMT WI



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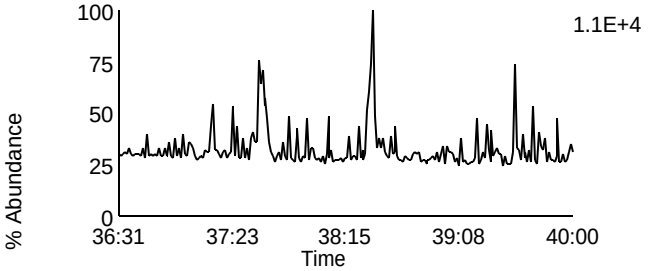
SAMP 10247062002 - SMT WI



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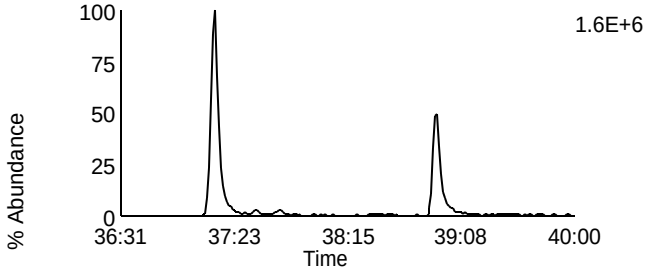
SAMP 10247062002 - SMT WI



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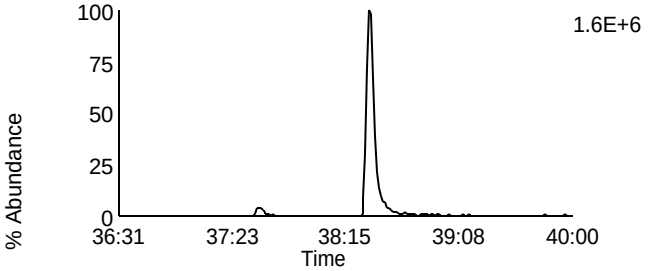
SAMP 10247062002 - SMT WI



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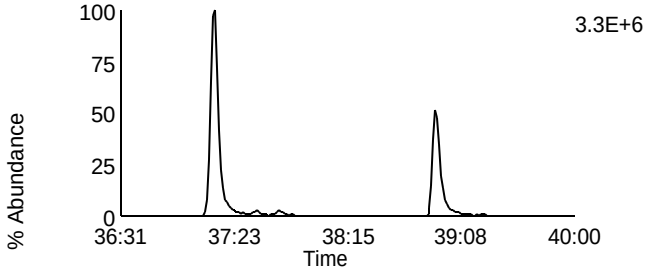
SAMP 10247062002 - SMT WI



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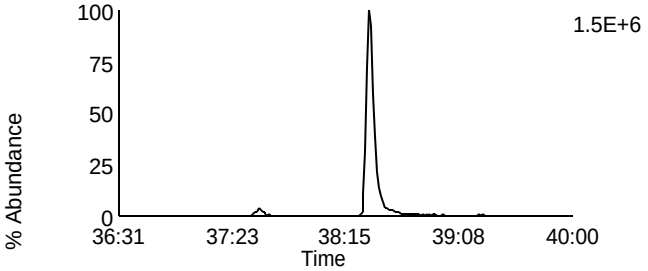
SAMP 10247062002 - SMT WI



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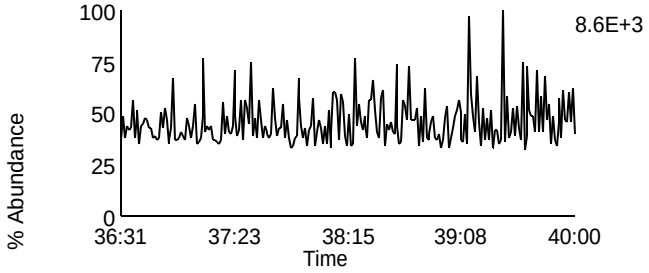
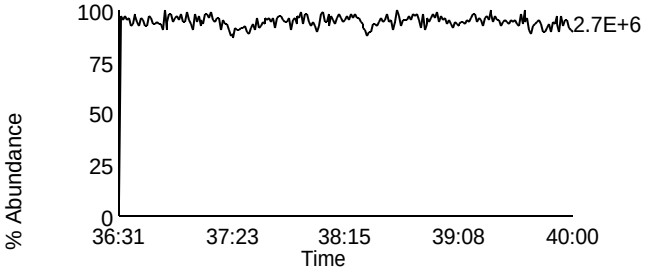
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G4 C1 - 380.976
SAMP 10247062002 - SMT WI

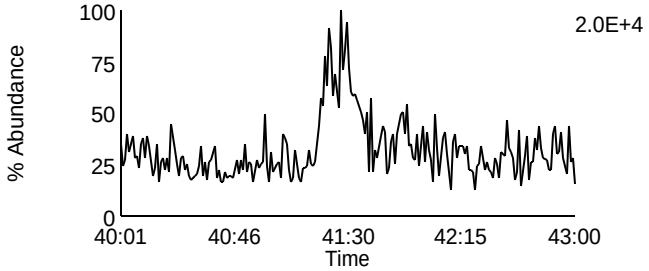


Homologue Group: Octas

Data File Name: U131105A_09
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062002 - SMT WI

Lab Sample ID: 10247062002
Client Sample ID: MAK002O
Instrument: 10MSHR06 (U)

Data File: U131105A_09 G5 C4 - 441.7428
SAMP 10247062002 - SMT WI



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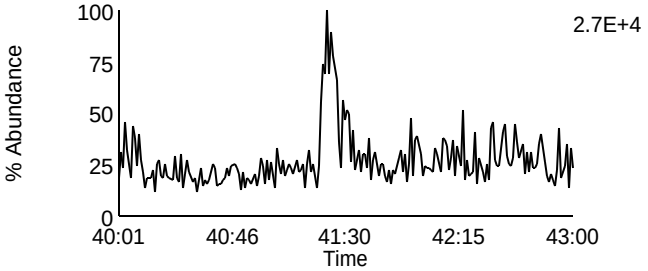
SAMP 10247062002 - SMT WI



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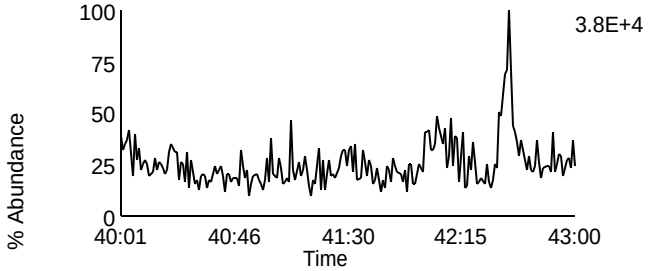
SAMP 10247062002 - SMT WI



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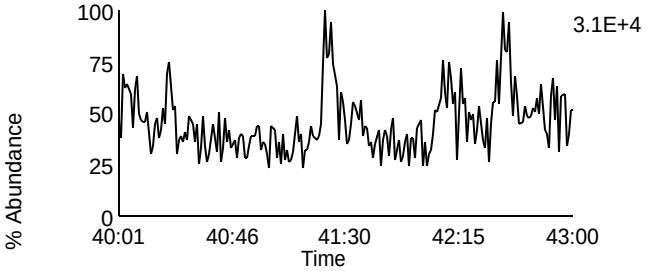
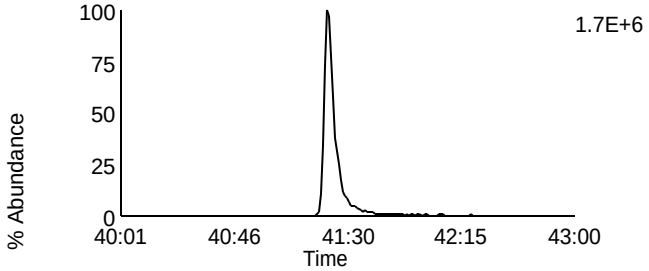
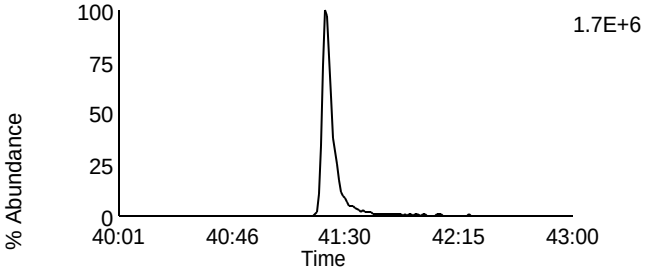
SAMP 10247062002 - SMT WI



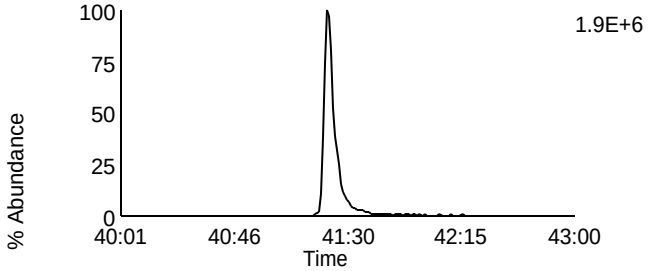
Data File: U131105A_09 G5 C11 - 469.7779
SAMP 10247062002 - SMT WI



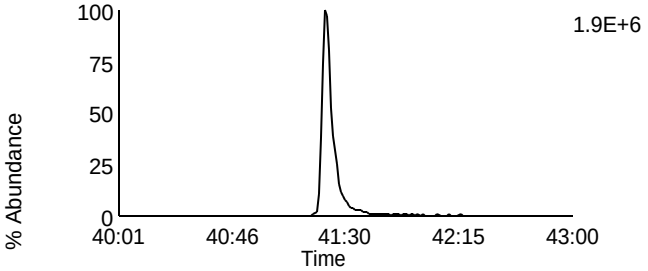
Data File: U131105A_09 G5 C11 - 469.7779
SAMP 10247062002 - SMT WI



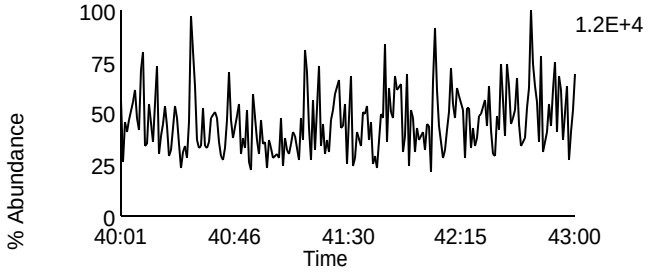
Data File: U131105A_09 G5 C12 - 471.7749
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G5 C12 - 471.7749
SAMP 10247062002 - SMT WI



Data File: U131105A_09 G5 C13 - 513.6775
SAMP 10247062002 - SMT WI



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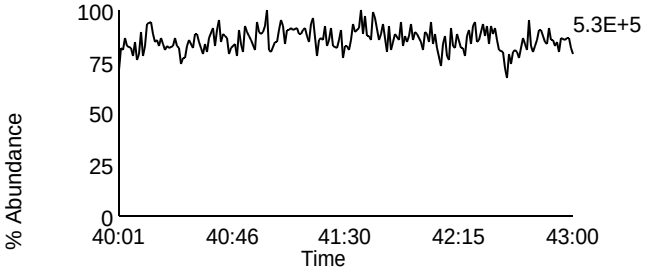
SAMP 10247062002 - SMT WI

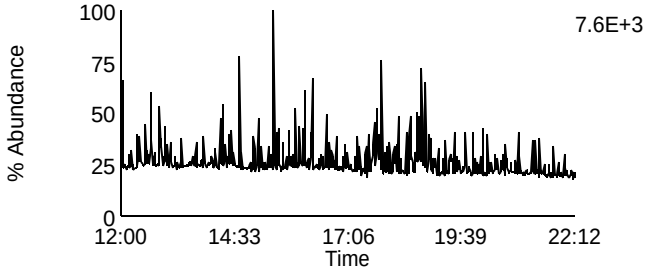


Homologue Group: Tetras

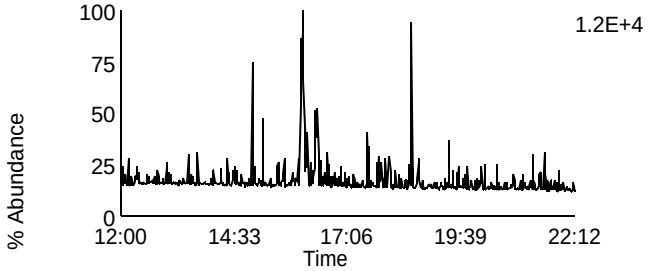
Data File Name: U131105A_10
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062003 - SMT WI

Lab Sample ID: 10247062003
Client Sample ID: MAK003O
Instrument: 10MSHR06 (U)

Data File: U131105A_10 G1 C1 - 303.9016
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C7 - 319.8965
SAMP 10247062003 - SMT WI



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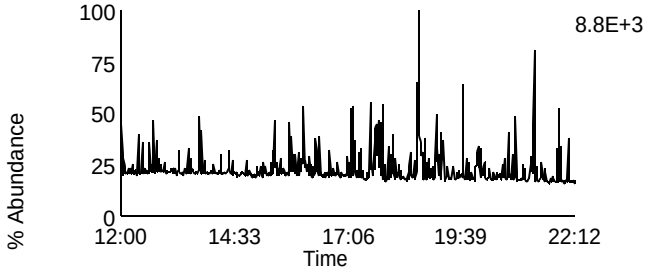
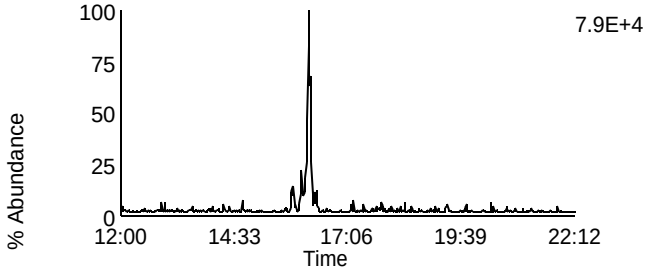
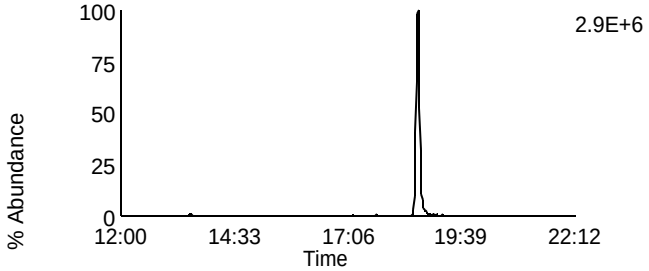
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C8 - 321.8936
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C3 - 315.9418
SAMP 10247062003 - SMT WI



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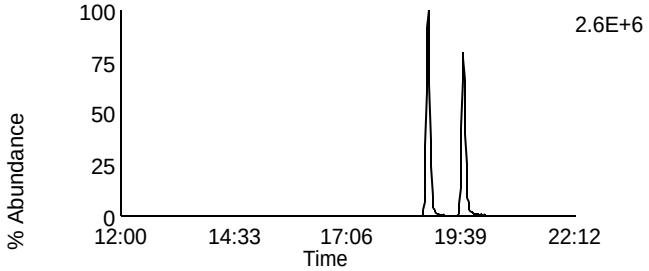
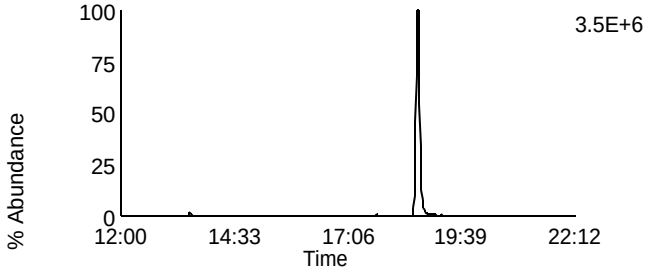
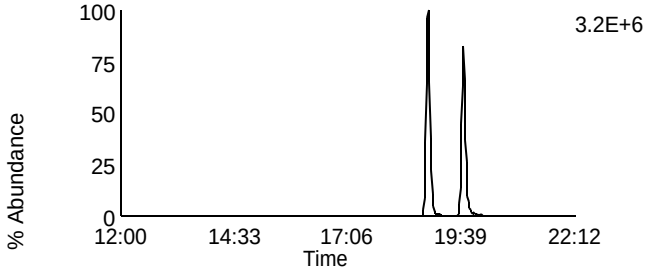
SAMP 10247062003 - SMT WI



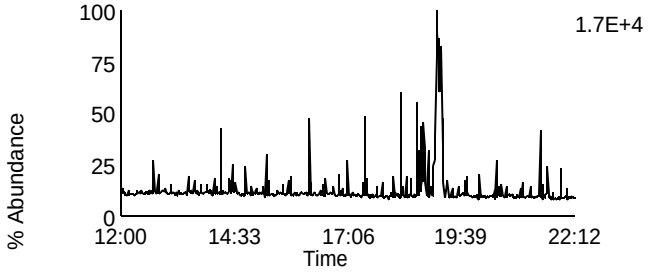
Data File: U131105A_10 G1 C4 - 317.9389
SAMP 10247062003 - SMT WI



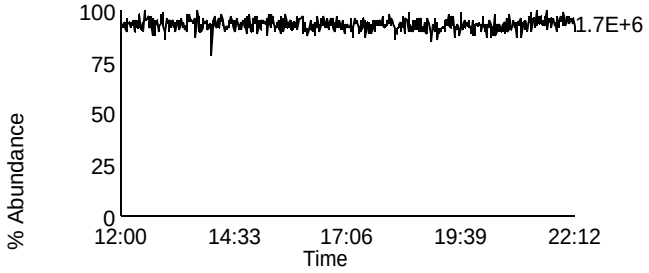
Data File: U131105A_10 G1 C11 - 333.9338
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C14 - 375.8364
SAMP 10247062003 - SMT WI



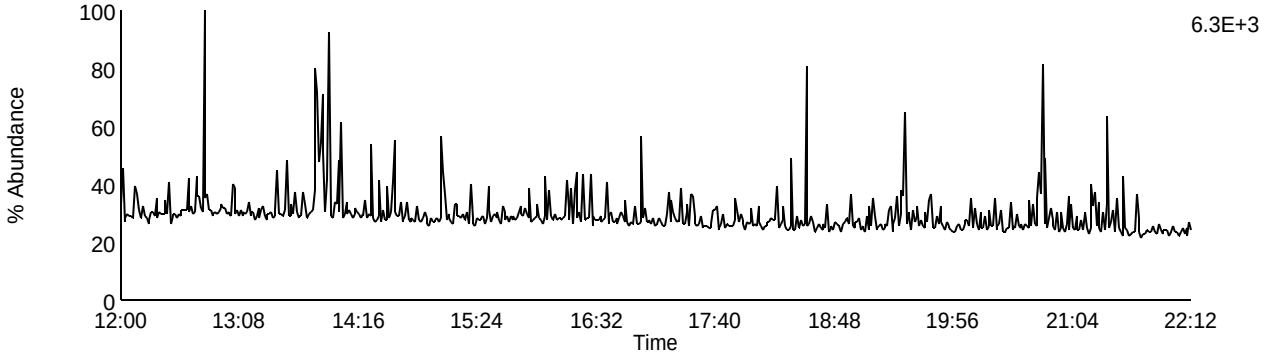
Data File: U131105A_10 G1 C5 - 318.9792
SAMP 10247062003 - SMT WI



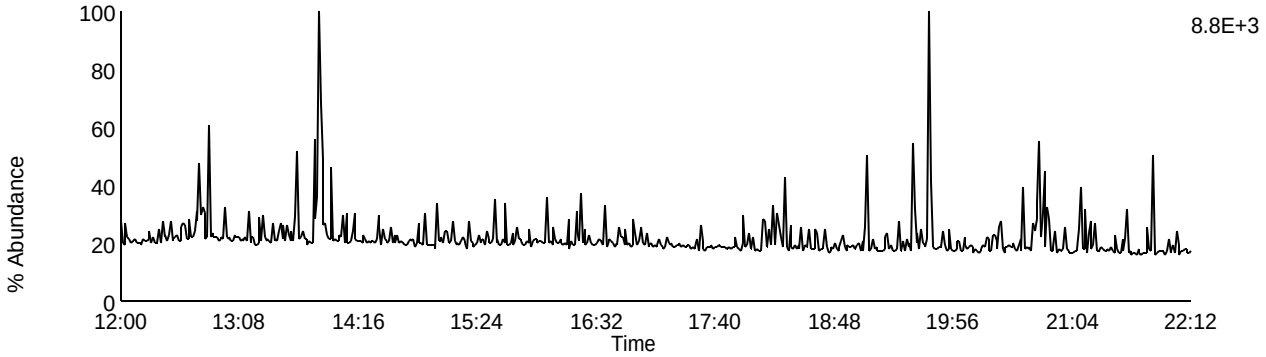
Homologue Group: Penta & Cleanup

Data File Name: U131105A_10	Lab Sample ID: 10247062003
Date Acquired: 11/5/2013	Client Sample ID: MAK003O
Sample Description: SAMP 10247062003 - SMT WI	Instrument: 10MSHR06 (U)

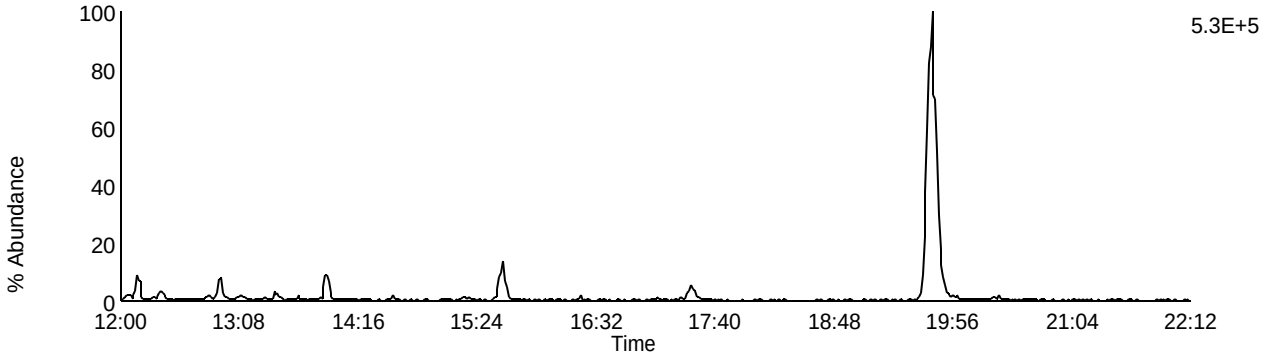
Data File: U131105A_10 G1 C12 - 339.8597
SAMP 10247062003 - SMT WI



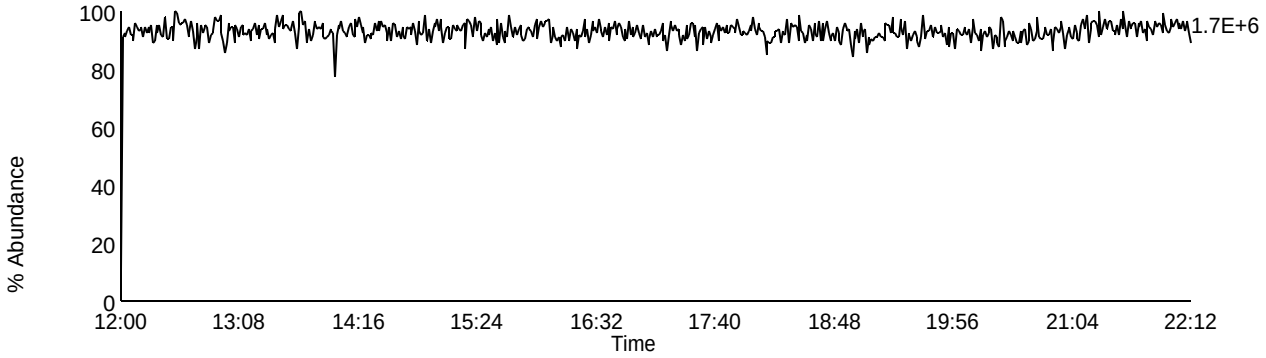
Data File: U131105A_10 G1 C13 - 341.8567
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C9 - 327.8847
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G1 C5 - 318.9792
SAMP 10247062003 - SMT WI

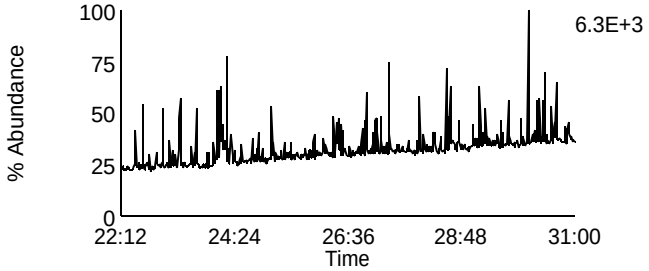


Homologue Group: Pentas

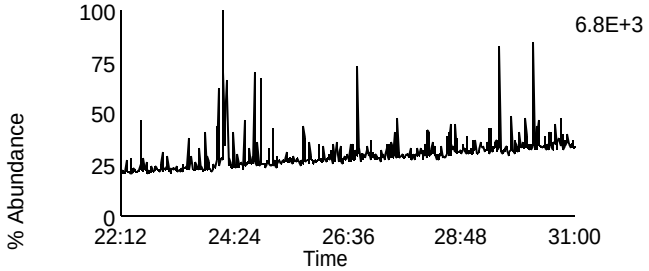
Data File Name: U131105A_10
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062003 - SMT WI

Lab Sample ID: 10247062003
Client Sample ID: MAK003O
Instrument: 10MSHR06 (U)

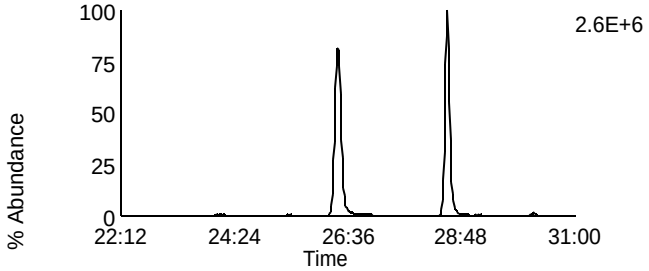
Data File: U131105A_10 G2 C1 - 339.8597
SAMP 10247062003 - SMT WI



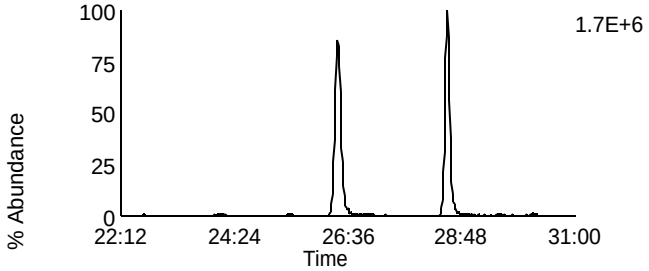
Data File: U131105A_10 G2 C2 - 341.8567
SAMP 10247062003 - SMT WI



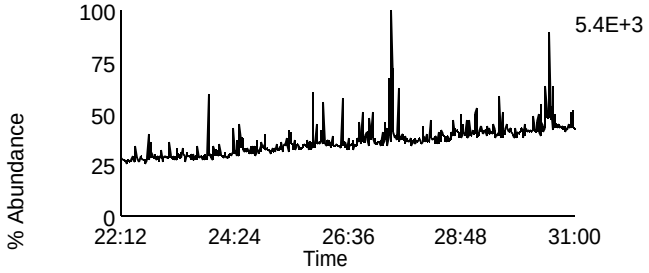
Data File: U131105A_10 G2 C3 - 351.8999
SAMP 10247062003 - SMT WI



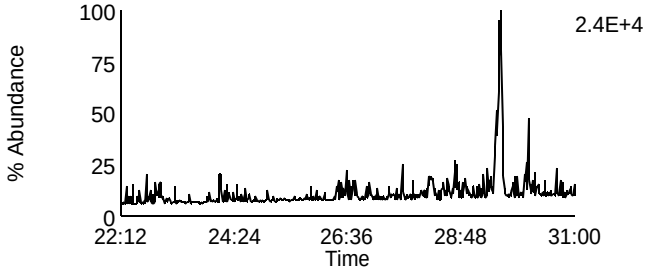
Data File: U131105A_10 G2 C5 - 353.8969
SAMP 10247062003 - SMT WI



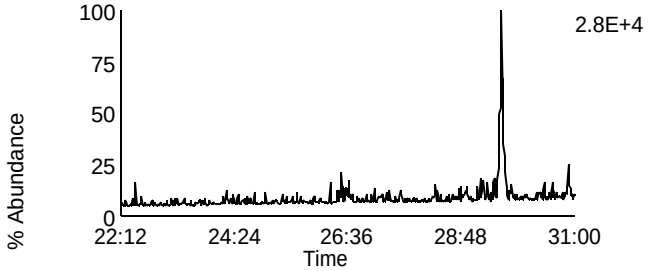
Data File: U131105A_10 G2 C12 - 409.7974
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G2 C4 - 353.8576
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G2 C8 - 355.8546
SAMP 10247062003 - SMT WI



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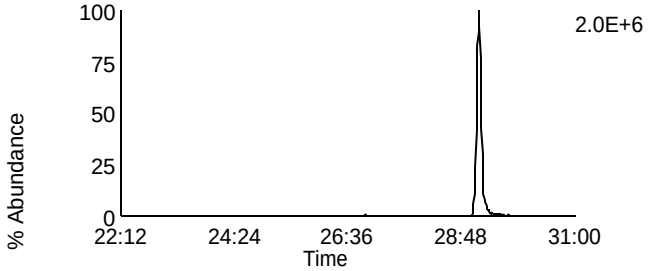
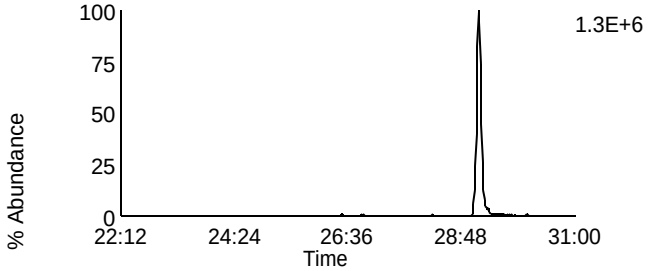
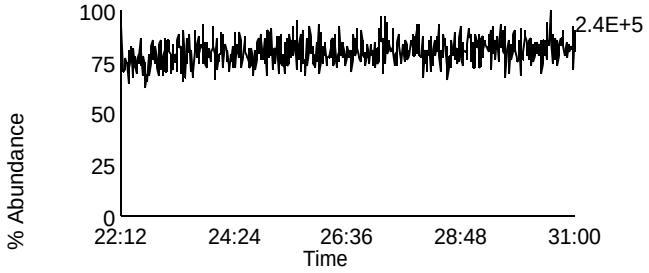
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G2 C11 - 369.8918
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G2 C6 - 354.9792
SAMP 10247062003 - SMT WI

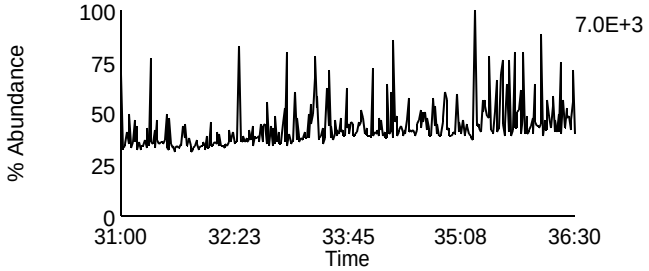


Homologue Group: Hexas

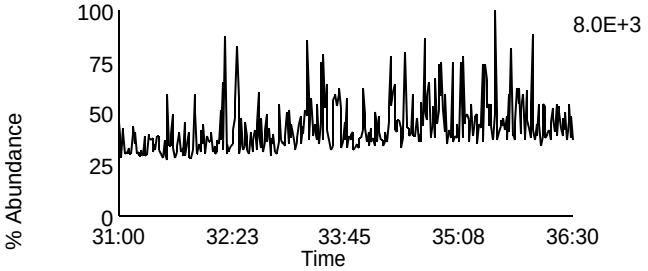
Data File Name: U131105A_10
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062003 - SMT WI

Lab Sample ID: 10247062003
Client Sample ID: MAK003O
Instrument: 10MSHR06 (U)

Data File: U131105A_10 G3 C1 - 373.8207
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G3 C7 - 389.8156
SAMP 10247062003 - SMT WI



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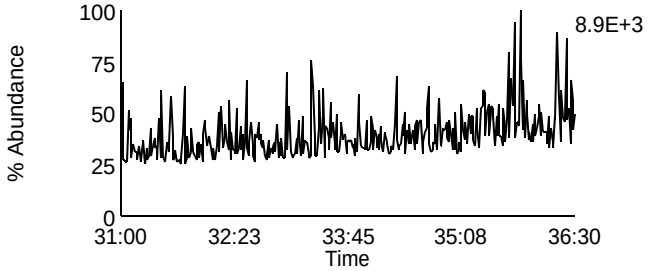
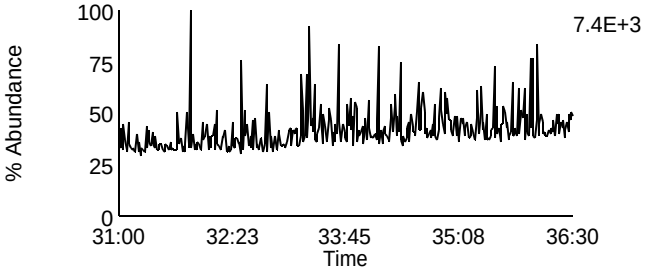
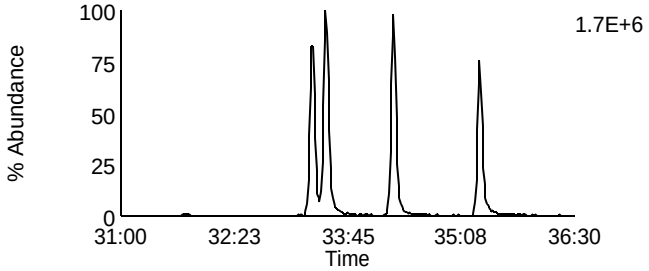
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G3 C8 - 391.8127
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G3 C5 - 383.8639
SAMP 10247062003 - SMT WI



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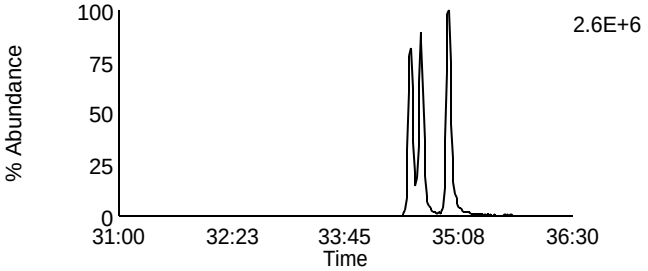
SAMP 10247062003 - SMT WI



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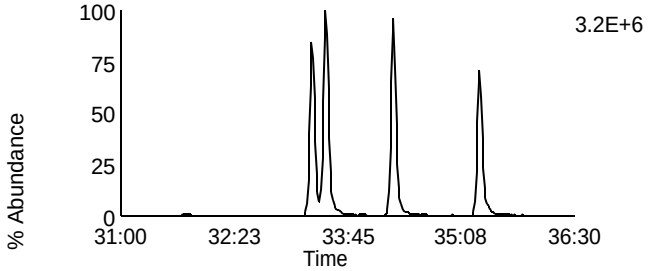
SAMP 10247062003 - SMT WI



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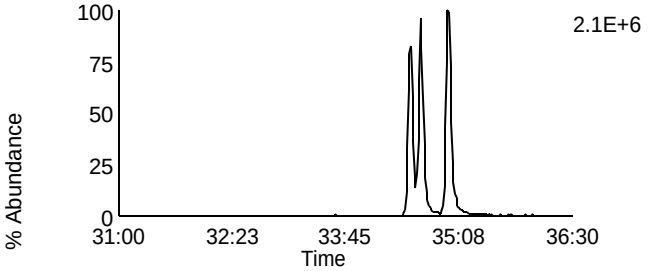
SAMP 10247062003 - SMT WI



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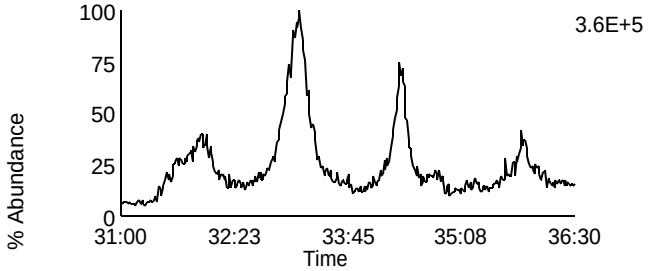
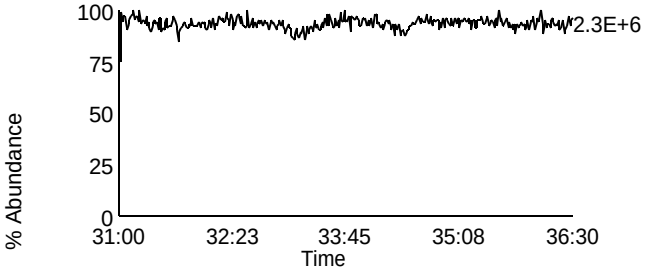
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G3 C3 - 380.976
SAMP 10247062003 - SMT WI

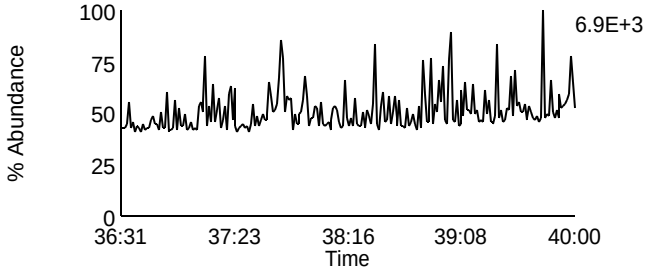


Homologue Group: Heptas

Data File Name: U131105A_10
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062003 - SMT WI

Lab Sample ID: 10247062003
Client Sample ID: MAK003O
Instrument: 10MSHR06 (U)

Data File: U131105A_10 G4 C3 - 407.7818
SAMP 10247062003 - SMT WI



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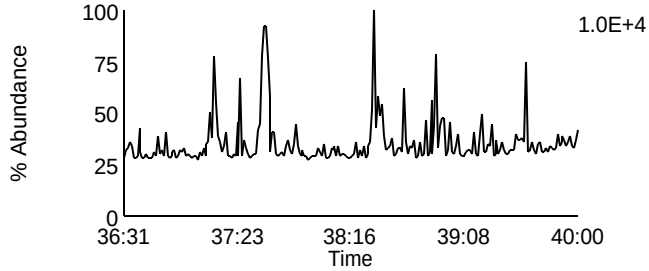
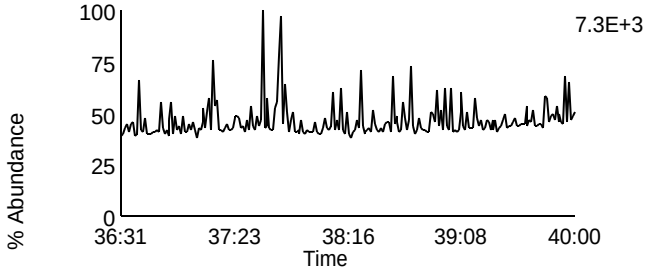
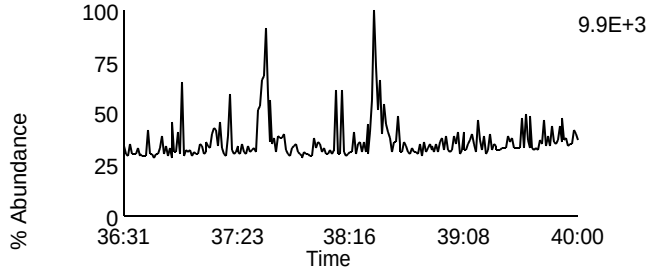
SAMP 10247062003 - SMT WI



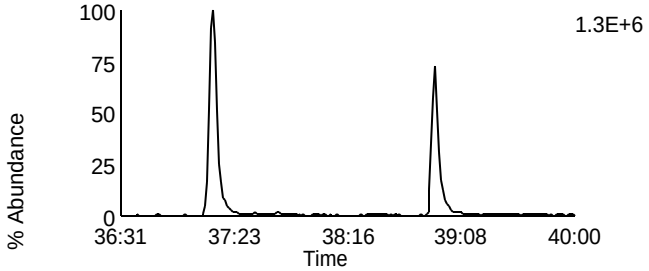
Data File: U131105A_10 G4 C4 - 409.7788
SAMP 10247062003 - SMT WI



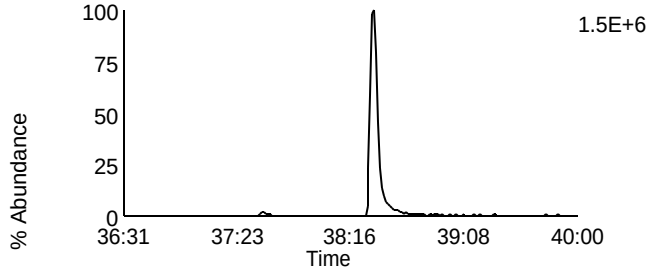
Data File: U131105A_10 G4 C9 - 425.7737
SAMP 10247062003 - SMT WI



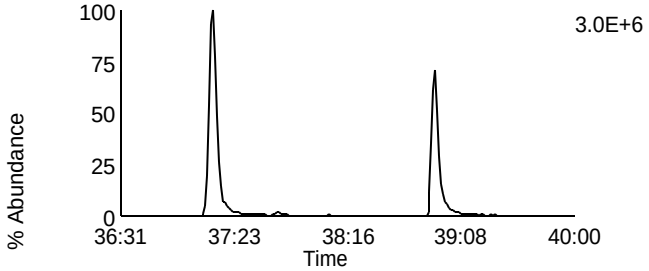
Data File: U131105A_10 G4 C6 - 417.825
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G4 C11 - 435.8169
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G4 C7 - 419.822
SAMP 10247062003 - SMT WI



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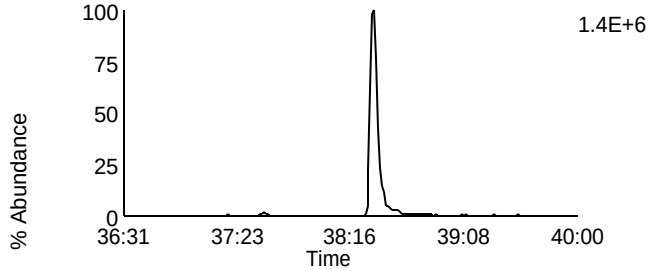
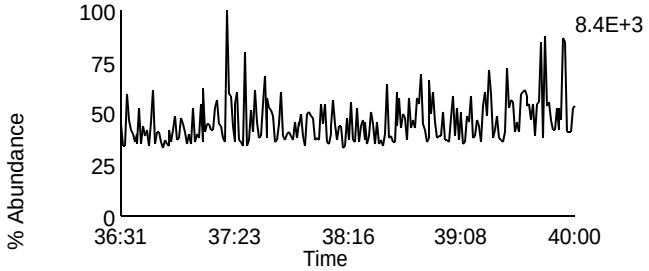
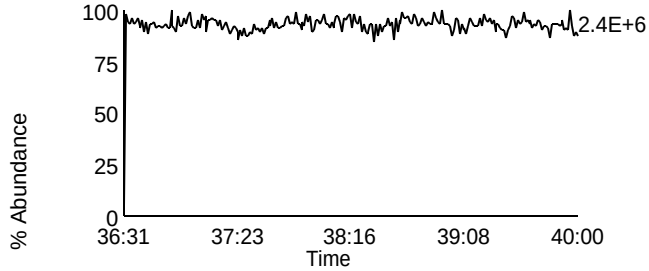
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G4 C13 - 479.7165
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G4 C1 - 380.976
SAMP 10247062003 - SMT WI

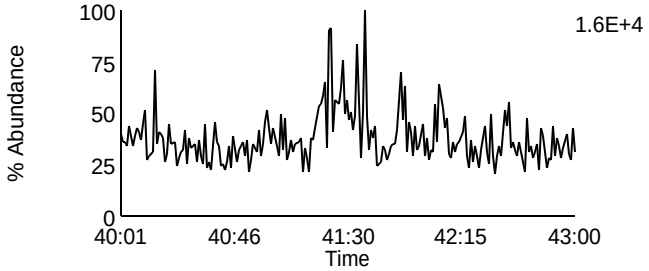


Homologue Group: Octas

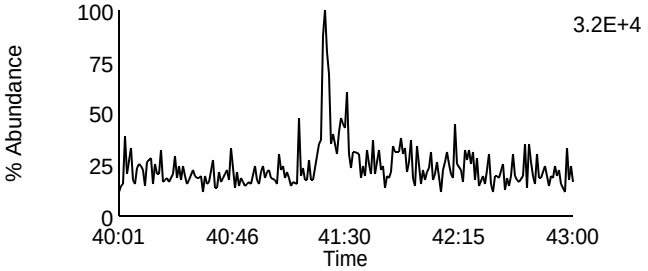
Data File Name: U131105A_10
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062003 - SMT WI

Lab Sample ID: 10247062003
Client Sample ID: MAK003O
Instrument: 10MSHR06 (U)

Data File: U131105A_10 G5 C4 - 441.7428
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G5 C8 - 457.7377
SAMP 10247062003 - SMT WI



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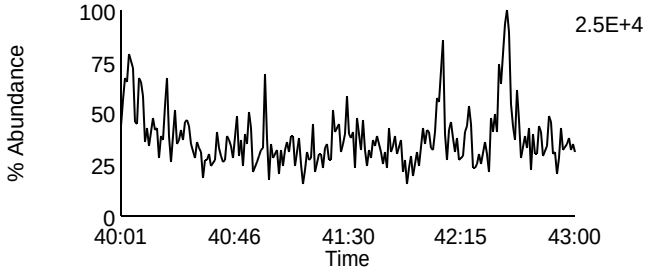
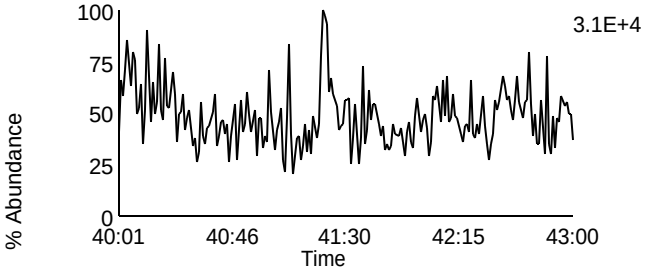
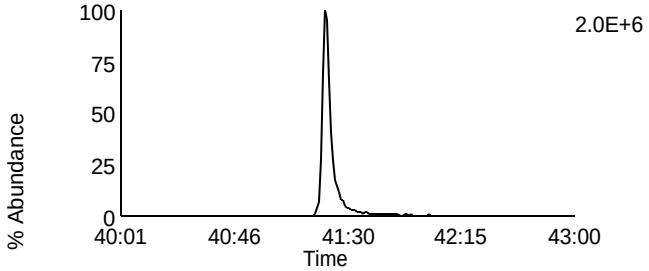
SAMP 10247062003 - SMT WI



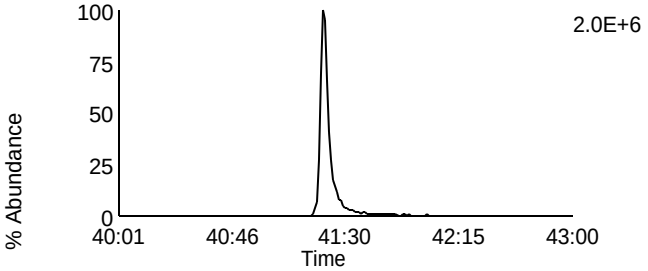
Data File: U131105A_10 G5 C9 - 459.7347
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G5 C11 - 469.7779
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G5 C11 - 469.7779
SAMP 10247062003 - SMT WI



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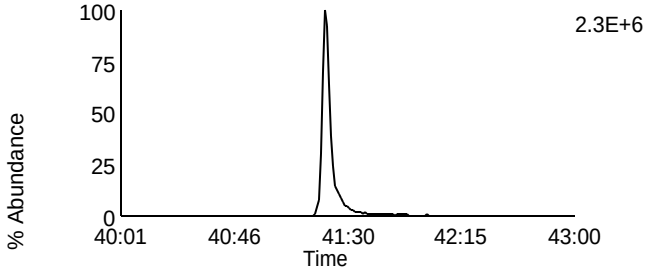
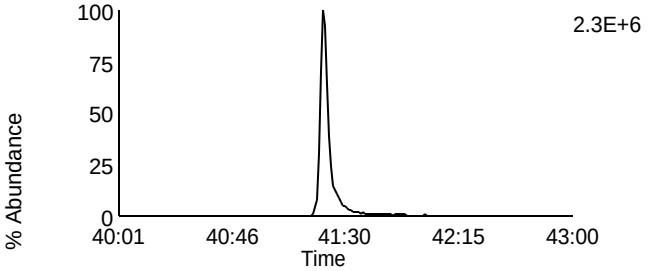
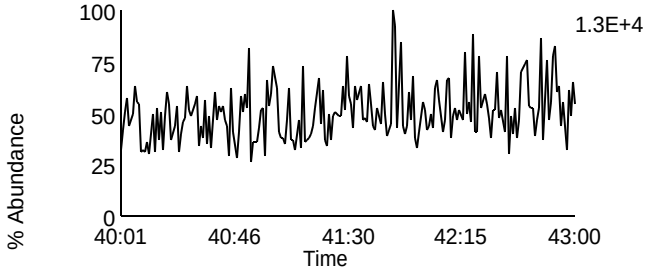
SAMP 10247062003 - SMT WI



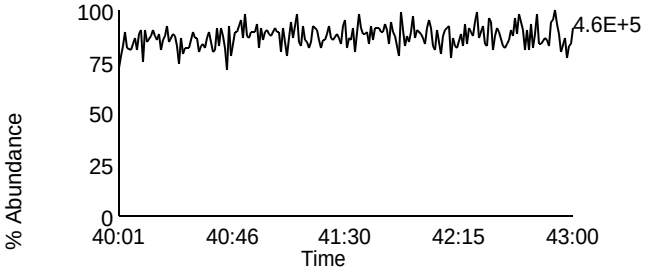
Data File: U131105A_10 G5 C12 - 471.7749
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G5 C13 - 513.6775
SAMP 10247062003 - SMT WI



Data File: U131105A_10 G5 C2 - 430.9728
SAMP 10247062003 - SMT WI

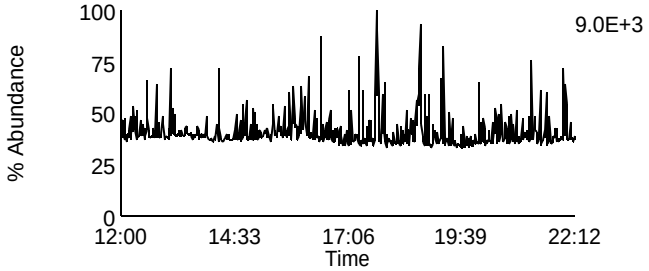


Homologue Group: Tetras

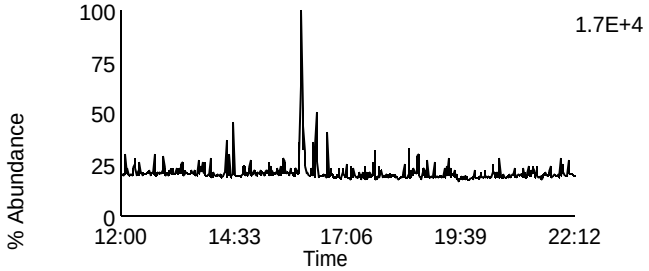
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

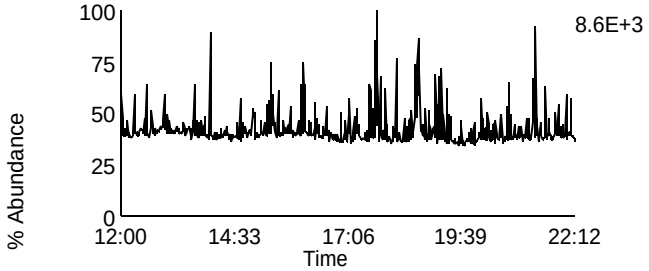
Data File: U131105A_11 G1 C1 - 303.9016
SAMP 10247062004 - SMT WI



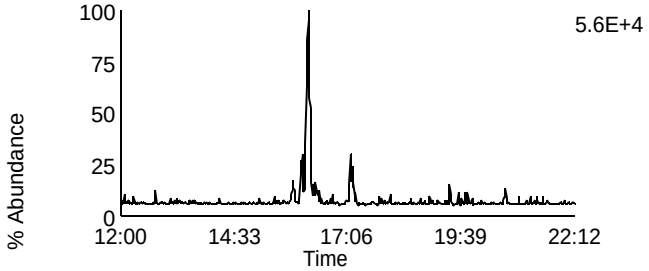
Data File: U131105A_11 G1 C7 - 319.8965
SAMP 10247062004 - SMT WI



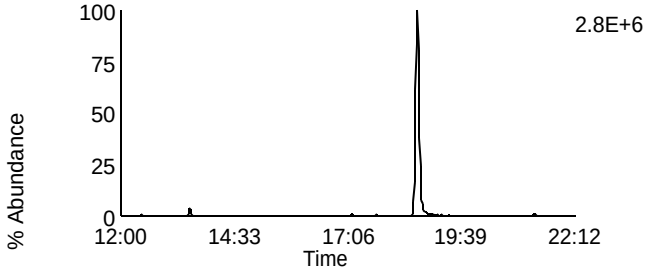
Data File: U131105A_11 G1 C2 - 305.8987
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C8 - 321.8936
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C3 - 315.9418
SAMP 10247062004 - SMT WI



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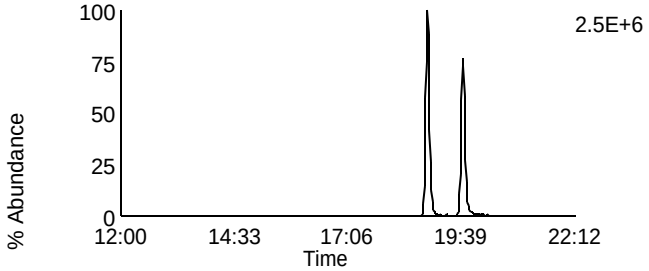
SAMP 10247062004 - SMT WI



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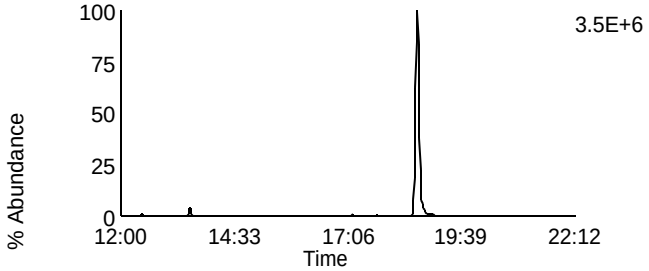
SAMP 10247062004 - SMT WI



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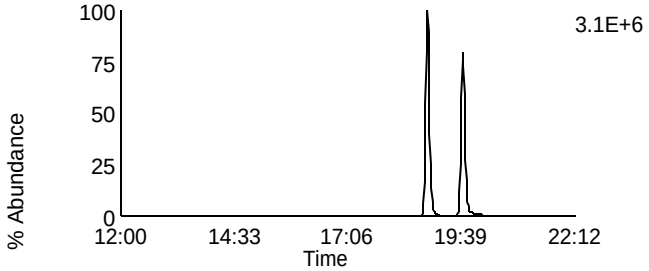
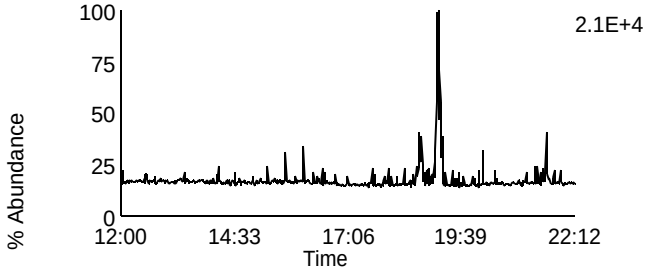
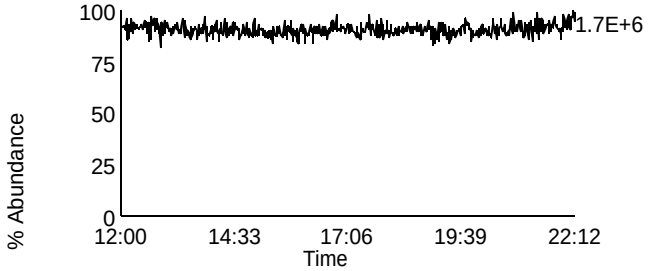
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C14 - 375.8364
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C5 - 318.9792
SAMP 10247062004 - SMT WI

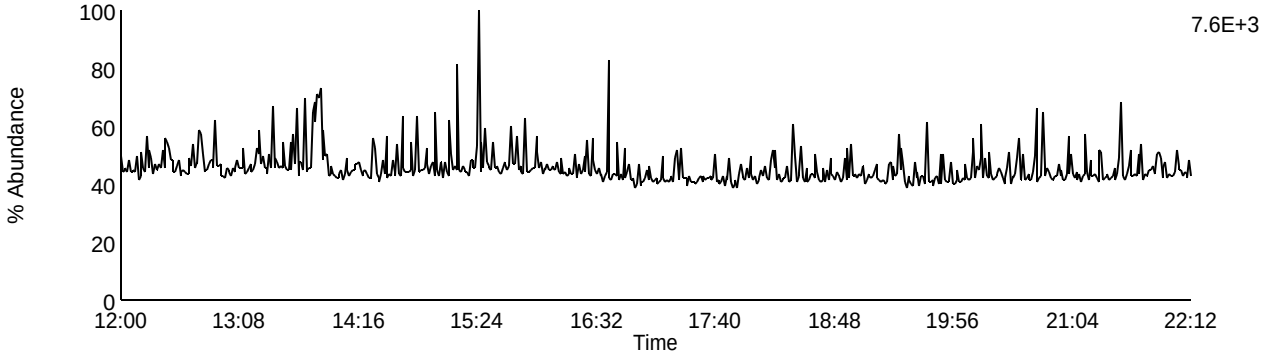


Homologue Group: Penta & Cleanup

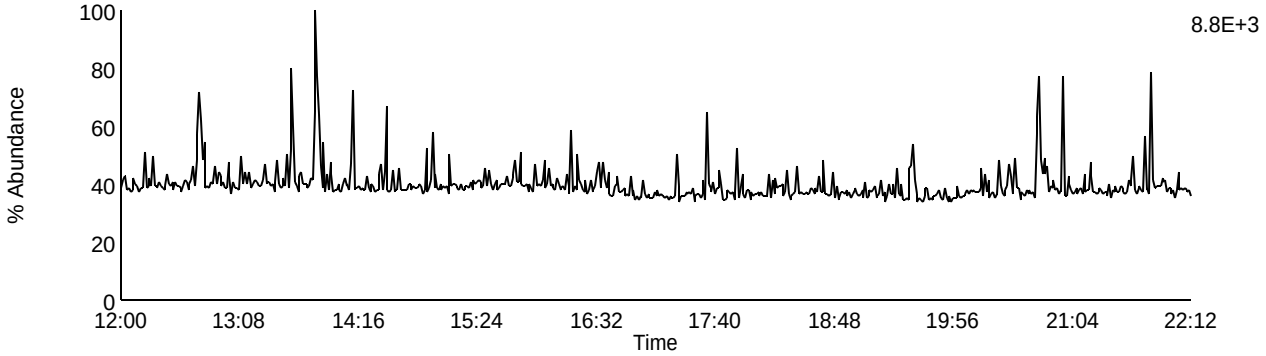
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

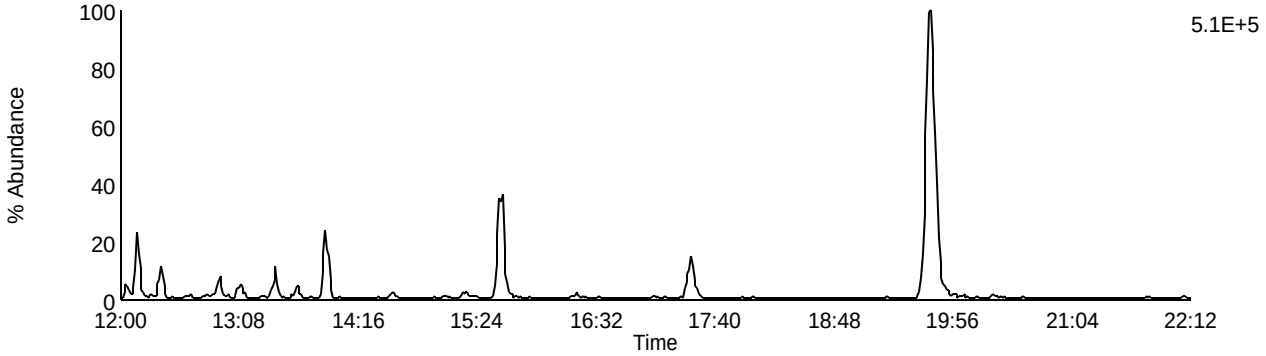
Data File: U131105A_11 G1 C12 - 339.8597
SAMP 10247062004 - SMT WI



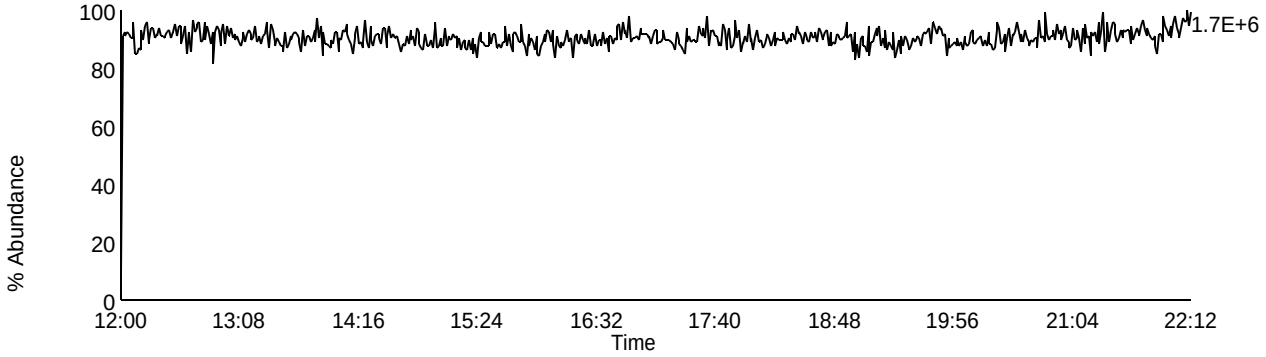
Data File: U131105A_11 G1 C13 - 341.8567
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C9 - 327.8847
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G1 C5 - 318.9792
SAMP 10247062004 - SMT WI

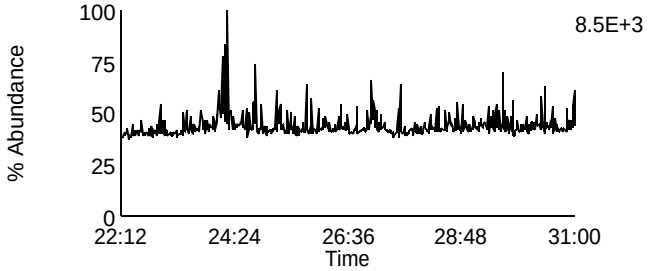


Homologue Group: Pentas

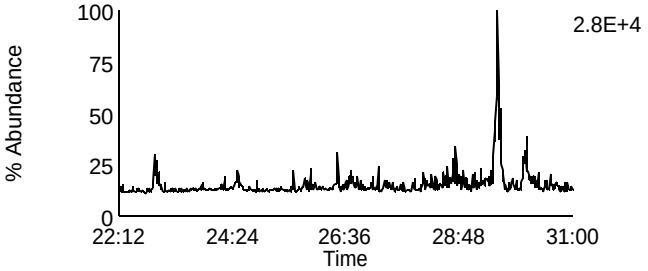
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

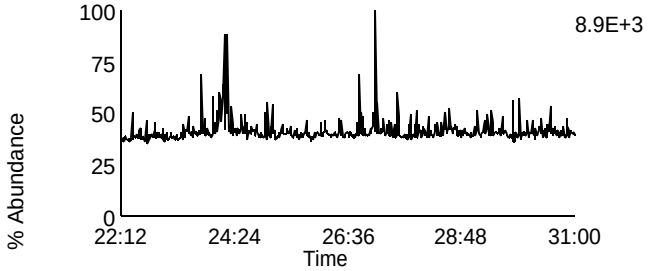
Data File: U131105A_11 G2 C1 - 339.8597
SAMP 10247062004 - SMT WI



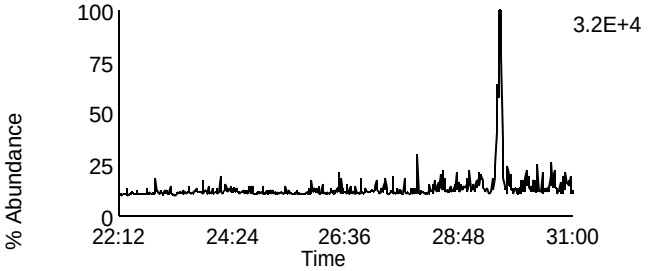
Data File: U131105A_11 G2 C4 - 353.8576
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G2 C2 - 341.8567
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G2 C8 - 355.8546
SAMP 10247062004 - SMT WI



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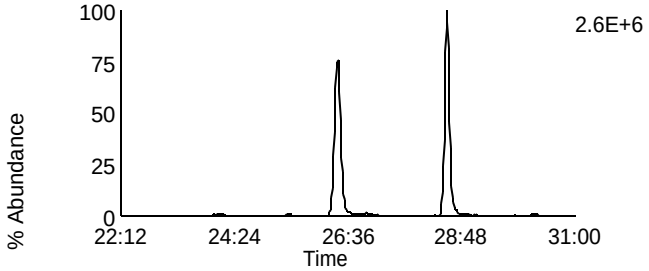
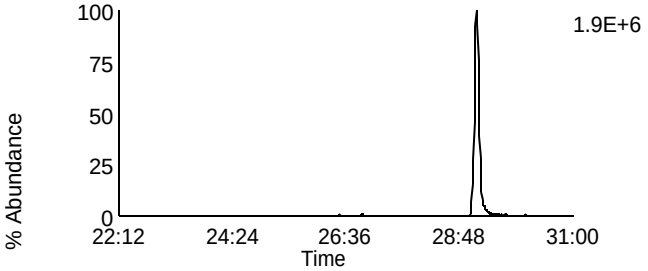
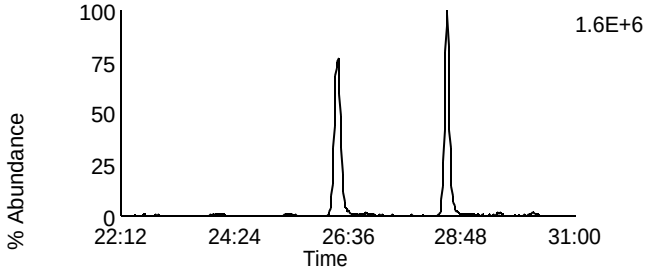
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G2 C10 - 367.8948
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G2 C5 - 353.8969
SAMP 10247062004 - SMT WI



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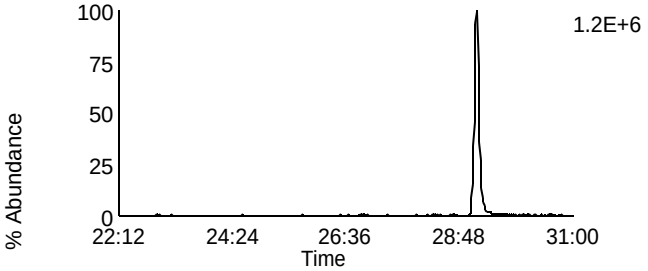
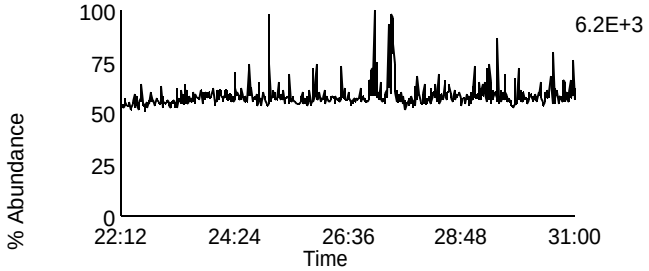
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G2 C12 - 409.7974
SAMP 10247062004 - SMT WI



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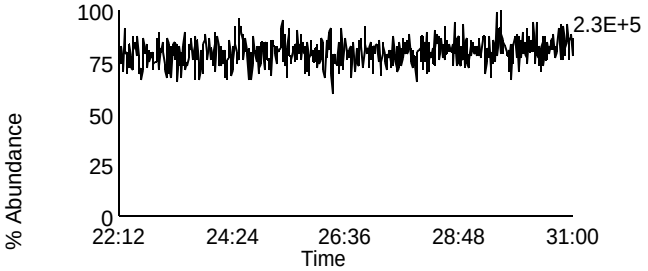
SAMP 10247062004 - SMT WI

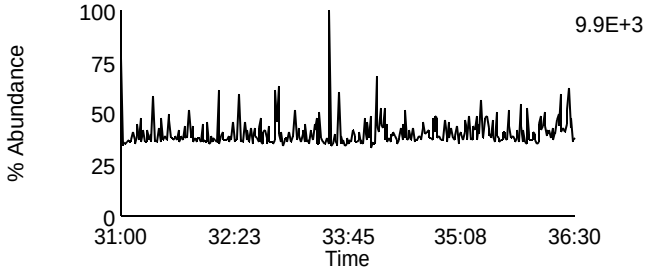


Homologue Group: Hexas

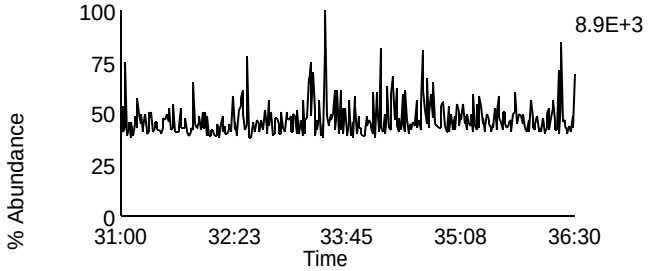
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

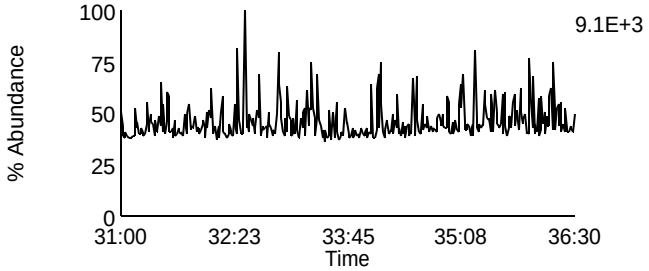
Data File: U131105A_11 G3 C1 - 373.8207
SAMP 10247062004 - SMT WI



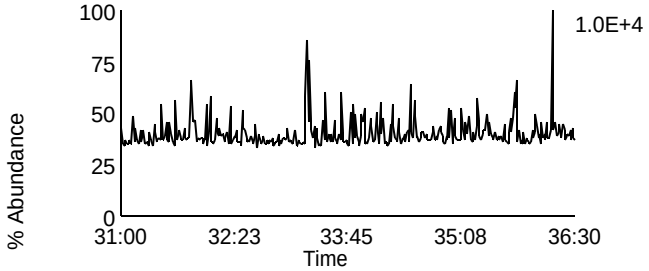
Data File: U131105A_11 G3 C7 - 389.8156
SAMP 10247062004 - SMT WI



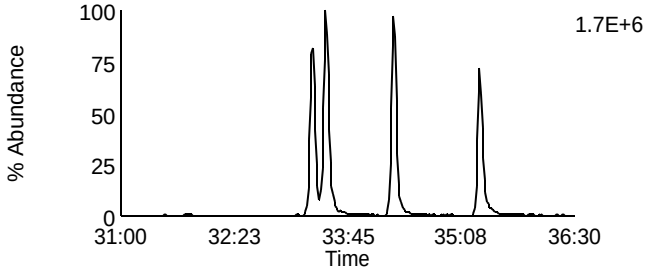
Data File: U131105A_11 G3 C2 - 375.8178
SAMP 10247062004 - SMT WI



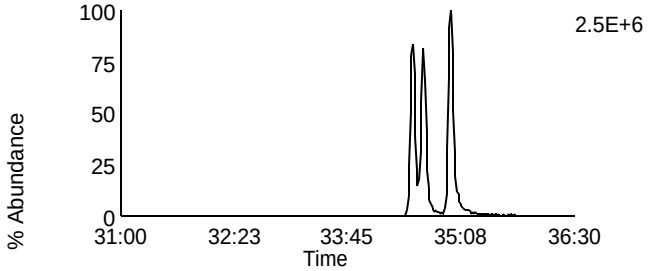
Data File: U131105A_11 G3 C8 - 391.8127
SAMP 10247062004 - SMT WI



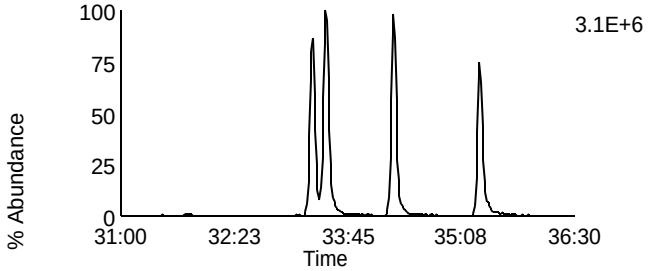
Data File: U131105A_11 G3 C5 - 383.8639
SAMP 10247062004 - SMT WI



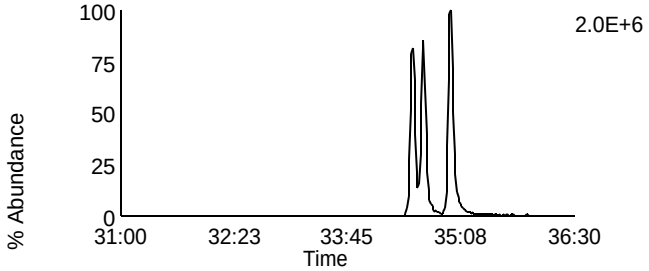
Data File: U131105A_11 G3 C9 - 401.8559
SAMP 10247062004 - SMT WI



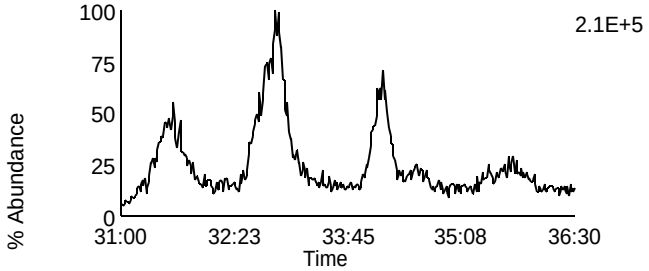
Data File: U131105A_11 G3 C6 - 385.861
SAMP 10247062004 - SMT WI



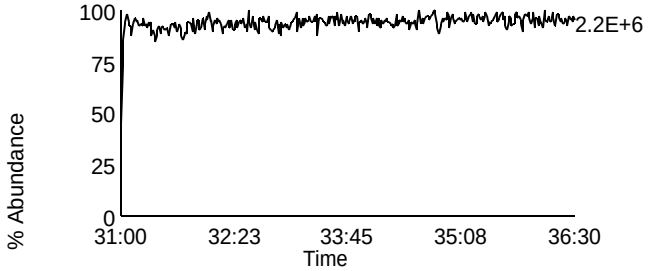
Data File: U131105A_11 G3 C10 - 403.8529
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G3 C11 - 445.7555
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G3 C3 - 380.976
SAMP 10247062004 - SMT WI

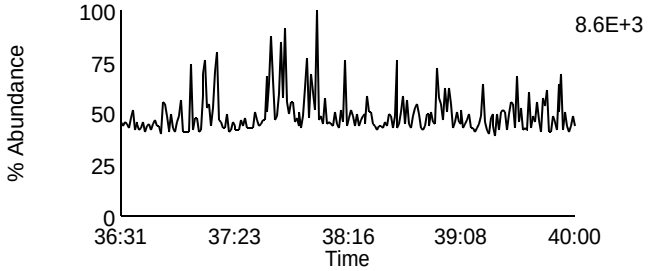


Homologue Group: Heptas

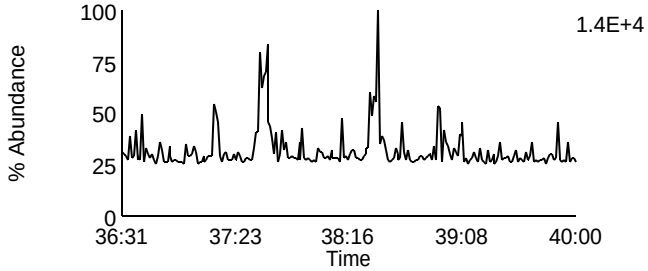
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

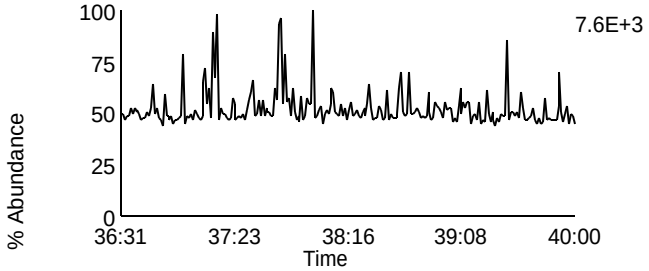
Data File: U131105A_11 G4 C3 - 407.7818
SAMP 10247062004 - SMT WI



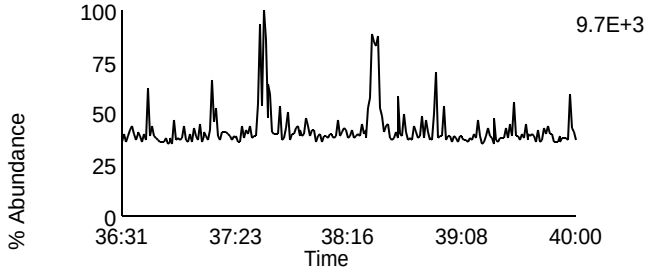
Data File: U131105A_11 G4 C8 - 423.7767
SAMP 10247062004 - SMT WI



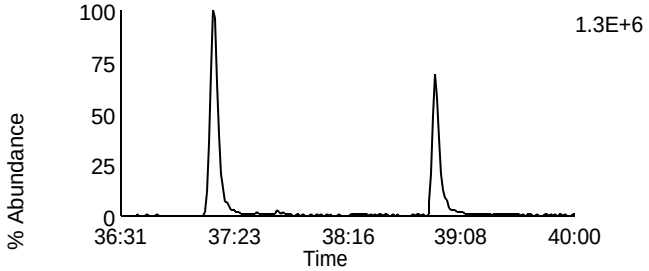
Data File: U131105A_11 G4 C4 - 409.7788
SAMP 10247062004 - SMT WI



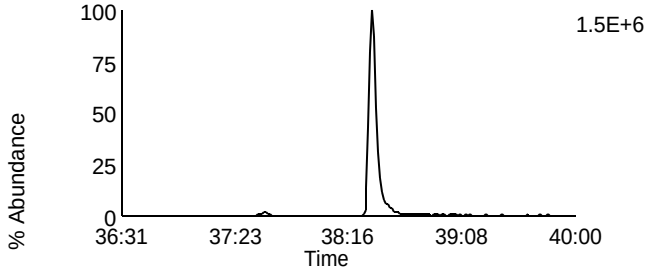
Data File: U131105A_11 G4 C9 - 425.7737
SAMP 10247062004 - SMT WI



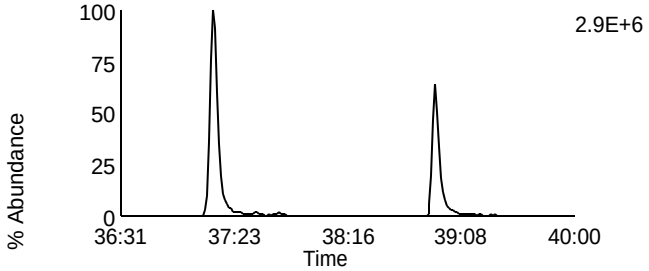
Data File: U131105A_11 G4 C6 - 417.825
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G4 C11 - 435.8169
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G4 C7 - 419.822
SAMP 10247062004 - SMT WI



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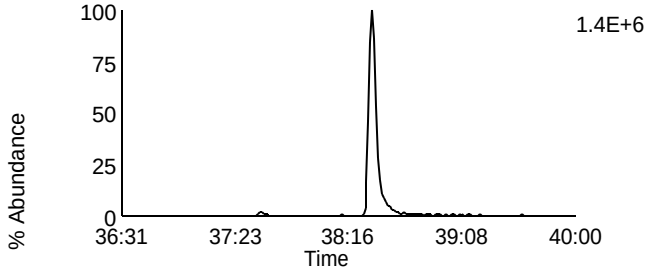
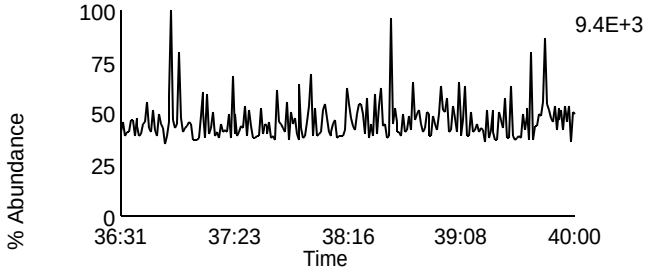
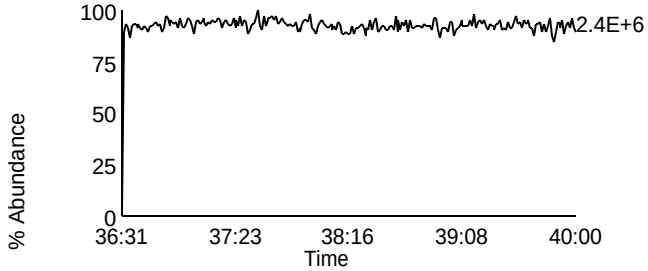
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G4 C13 - 479.7165
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G4 C1 - 380.976
SAMP 10247062004 - SMT WI

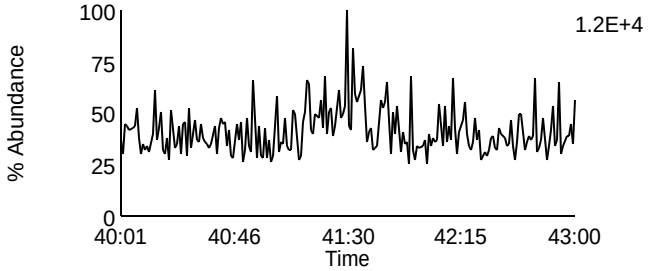


Homologue Group: Octas

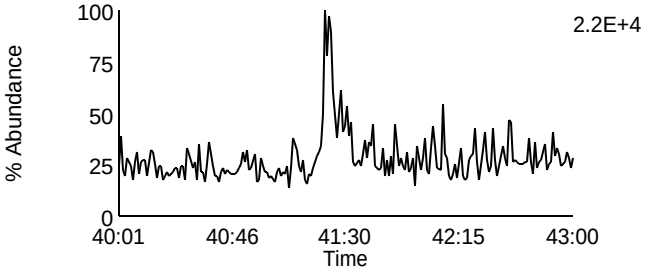
Data File Name: U131105A_11
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062004 - SMT WI

Lab Sample ID: 10247062004
Client Sample ID: MAK004O
Instrument: 10MSHR06 (U)

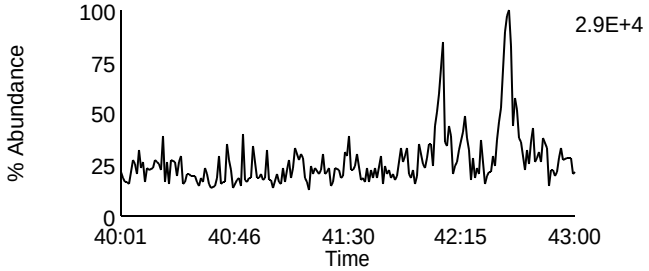
Data File: U131105A_11 G5 C4 - 441.7428
SAMP 10247062004 - SMT WI



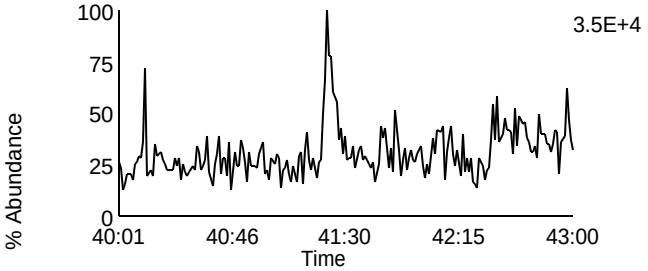
Data File: U131105A_11 G5 C8 - 457.7377
SAMP 10247062004 - SMT WI



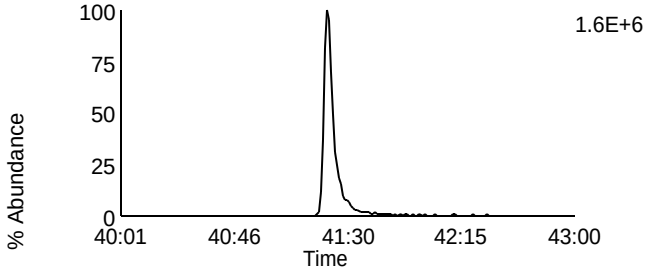
Data File: U131105A_11 G5 C5 - 443.7398
SAMP 10247062004 - SMT WI



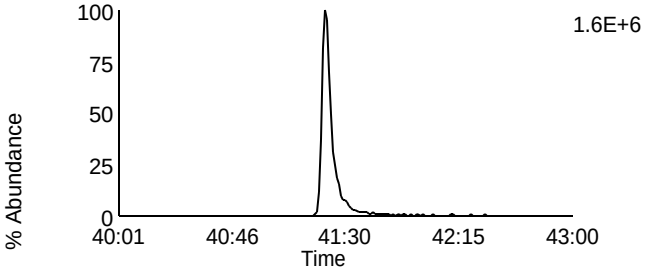
Data File: U131105A_11 G5 C9 - 459.7347
SAMP 10247062004 - SMT WI



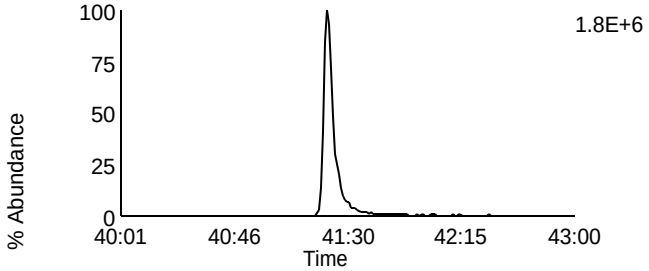
Data File: U131105A_11 G5 C11 - 469.7779
SAMP 10247062004 - SMT WI



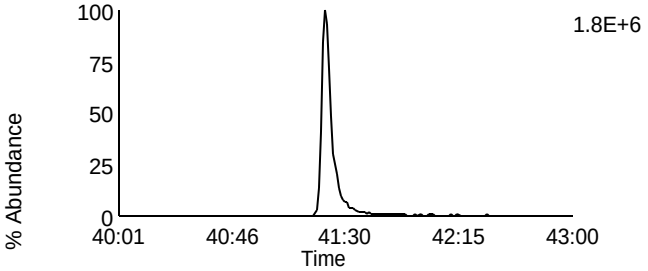
Data File: U131105A_11 G5 C11 - 469.7779
SAMP 10247062004 - SMT WI



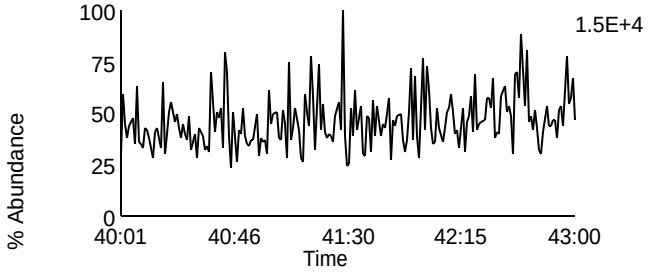
Data File: U131105A_11 G5 C12 - 471.7749
SAMP 10247062004 - SMT WI



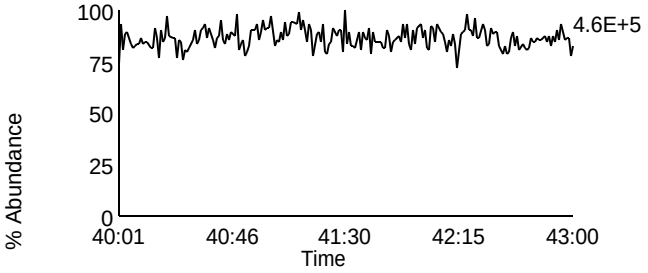
Data File: U131105A_11 G5 C12 - 471.7749
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G5 C13 - 513.6775
SAMP 10247062004 - SMT WI



Data File: U131105A_11 G5 C2 - 430.9728
SAMP 10247062004 - SMT WI

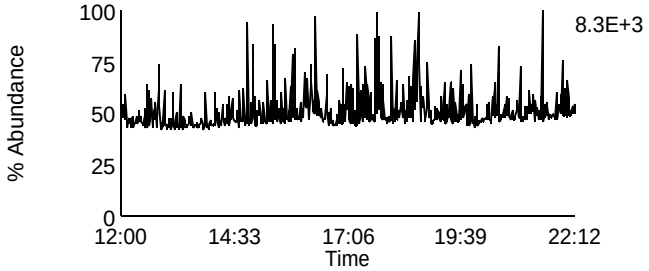


Homologue Group: Tetras

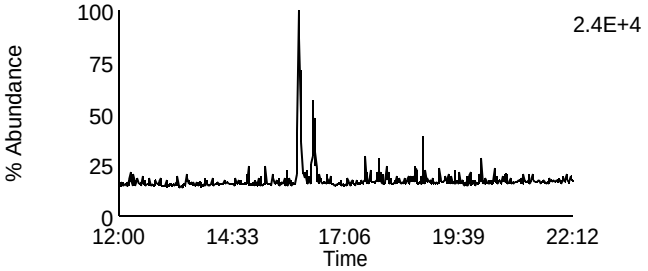
Data File Name: U131105A_12
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062005 - SMT WI

Lab Sample ID: 10247062005
Client Sample ID: MAK005O
Instrument: 10MSHR06 (U)

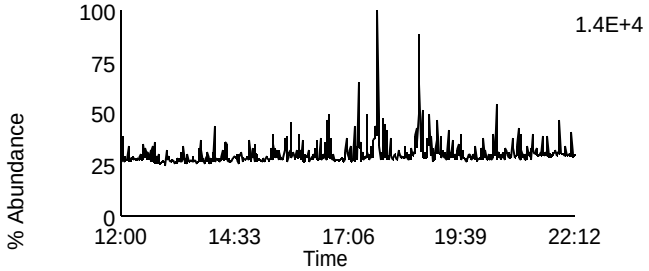
Data File: U131105A_12 G1 C1 - 303.9016
SAMP 10247062005 - SMT WI



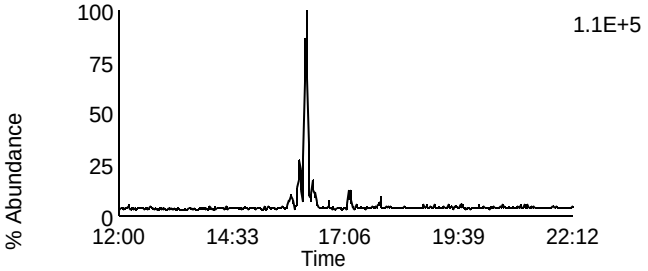
Data File: U131105A_12 G1 C7 - 319.8965
SAMP 10247062005 - SMT WI



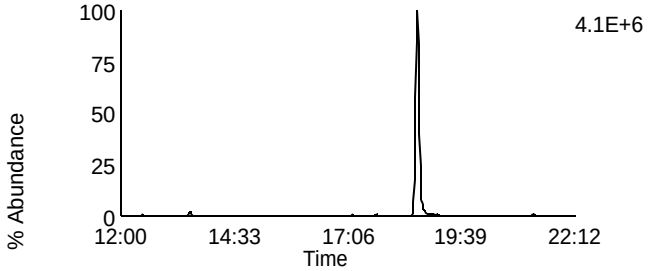
Data File: U131105A_12 G1 C2 - 305.8987
SAMP 10247062005 - SMT WI



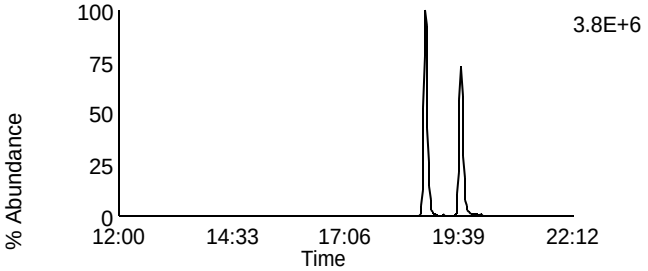
Data File: U131105A_12 G1 C8 - 321.8936
SAMP 10247062005 - SMT WI



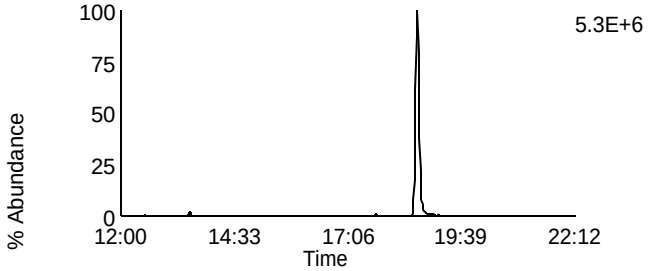
Data File: U131105A_12 G1 C3 - 315.9418
SAMP 10247062005 - SMT WI



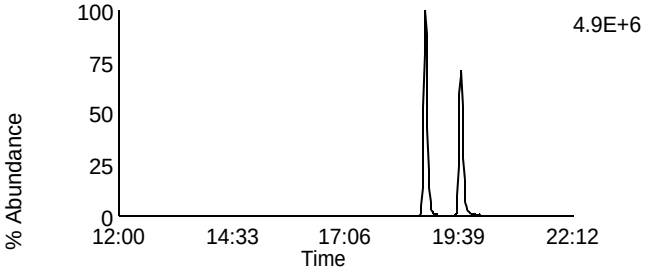
Data File: U131105A_12 G1 C10 - 331.9367
SAMP 10247062005 - SMT WI



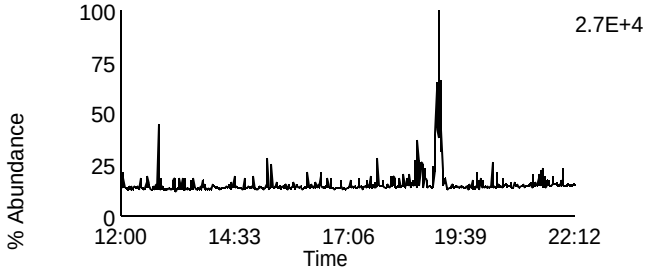
Data File: U131105A_12 G1 C4 - 317.9389
SAMP 10247062005 - SMT WI



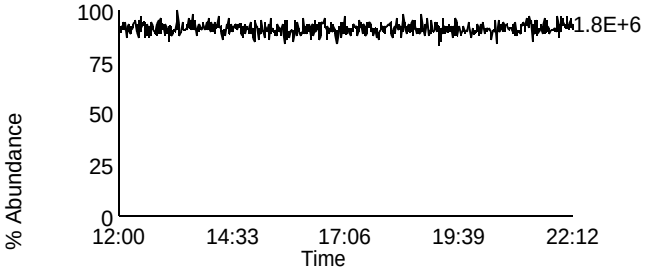
Data File: U131105A_12 G1 C11 - 333.9338
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G1 C14 - 375.8364
SAMP 10247062005 - SMT WI



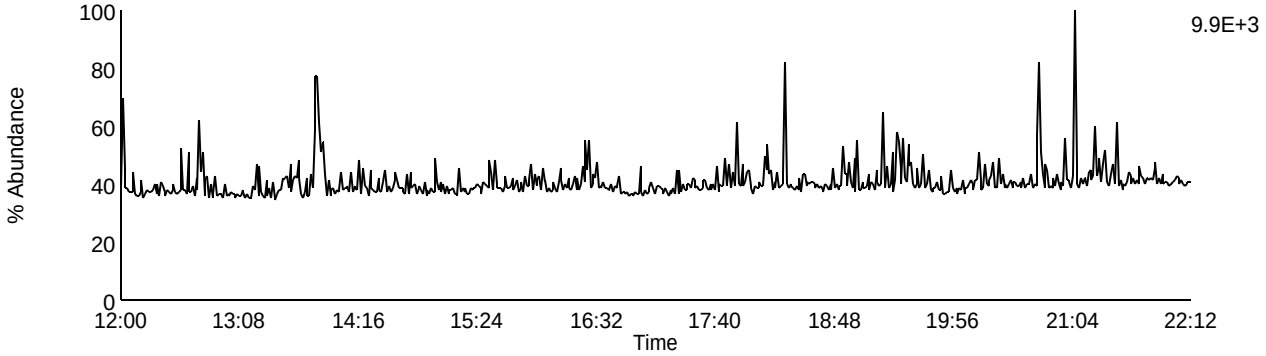
Data File: U131105A_12 G1 C5 - 318.9792
SAMP 10247062005 - SMT WI



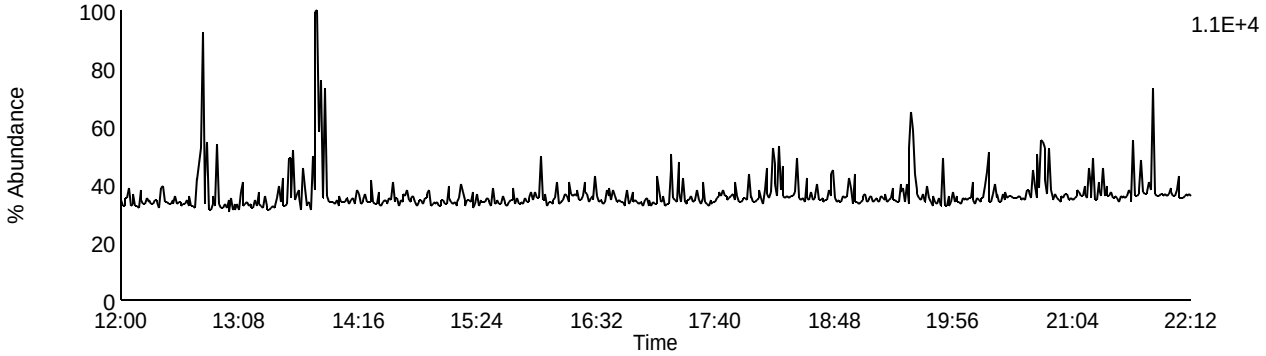
Homologue Group: Penta & Cleanup

Data File Name: U131105A_12	Lab Sample ID: 10247062005
Date Acquired: 11/5/2013	Client Sample ID: MAK005O
Sample Description: SAMP 10247062005 - SMT WI	Instrument: 10MSHR06 (U)

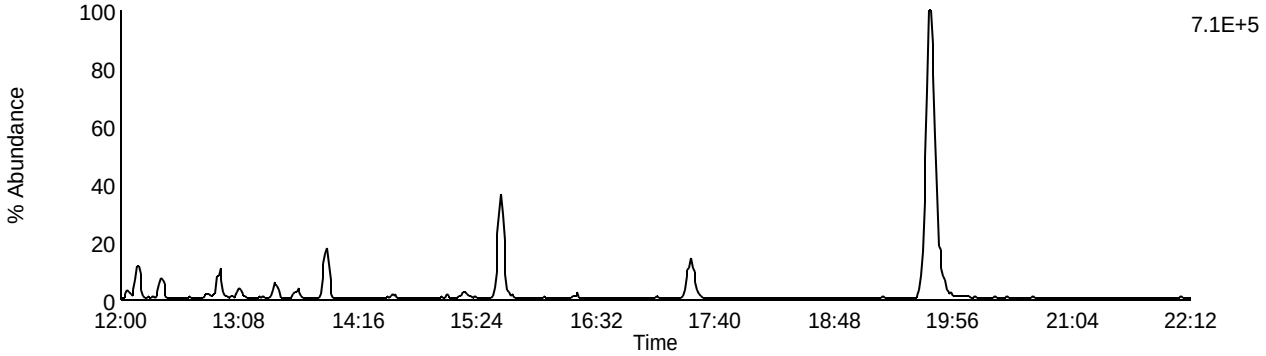
Data File: U131105A_12 G1 C12 - 339.8597
SAMP 10247062005 - SMT WI



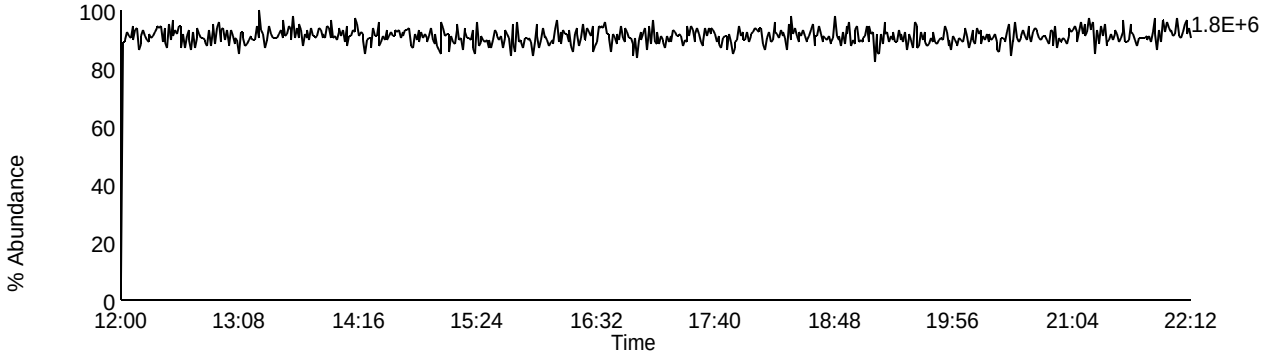
Data File: U131105A_12 G1 C13 - 341.8567
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G1 C9 - 327.8847
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G1 C5 - 318.9792
SAMP 10247062005 - SMT WI

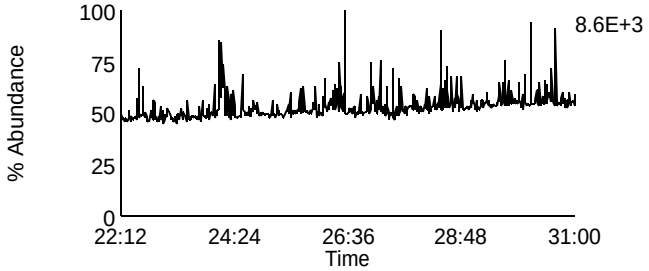


Homologue Group: Pentas

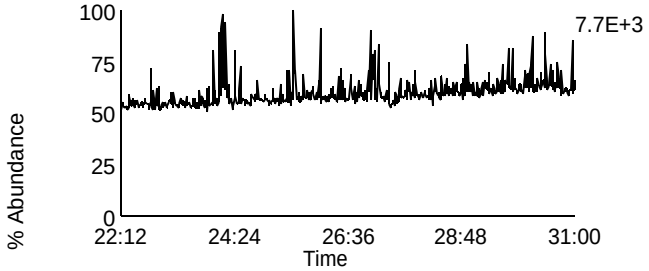
Data File Name: U131105A_12
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062005 - SMT WI

Lab Sample ID: 10247062005
Client Sample ID: MAK005O
Instrument: 10MSHR06 (U)

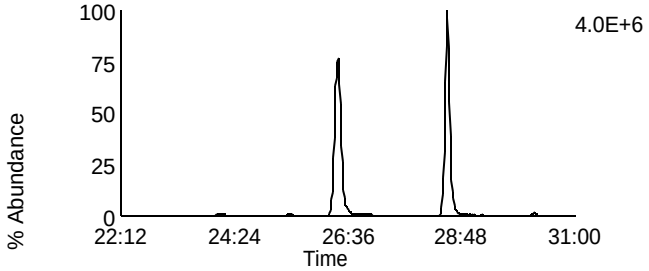
Data File: U131105A_12 G2 C1 - 339.8597
SAMP 10247062005 - SMT WI



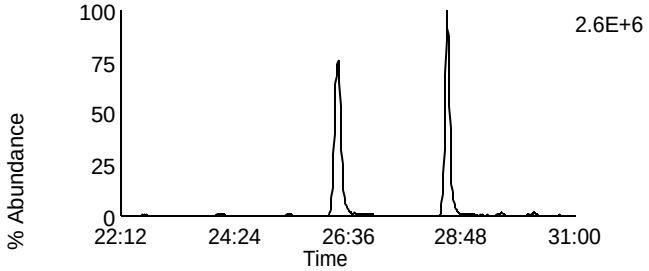
Data File: U131105A_12 G2 C2 - 341.8567
SAMP 10247062005 - SMT WI



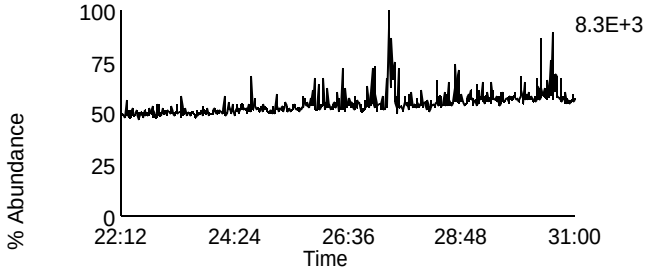
Data File: U131105A_12 G2 C3 - 351.8999
SAMP 10247062005 - SMT WI



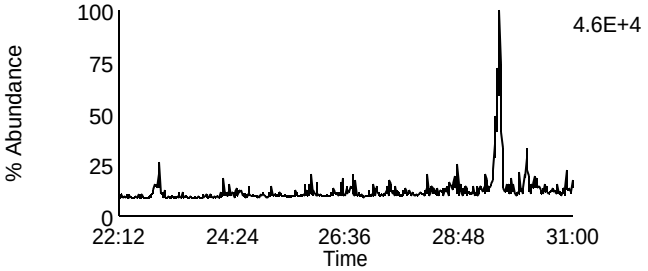
Data File: U131105A_12 G2 C5 - 353.8969
SAMP 10247062005 - SMT WI



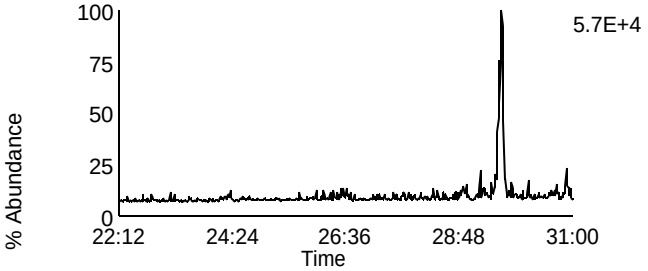
Data File: U131105A_12 G2 C12 - 409.7974
SAMP 10247062005 - SMT WI



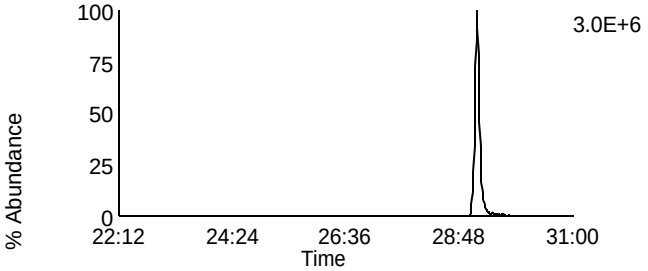
Data File: U131105A_12 G2 C4 - 353.8576
SAMP 10247062005 - SMT WI



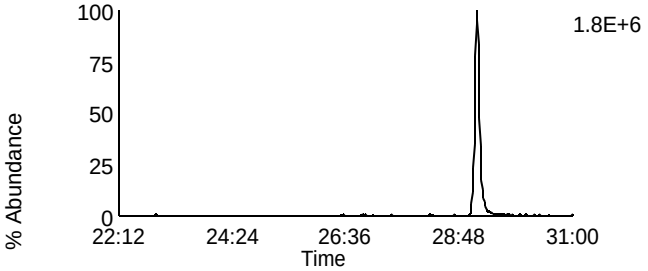
Data File: U131105A_12 G2 C8 - 355.8546
SAMP 10247062005 - SMT WI



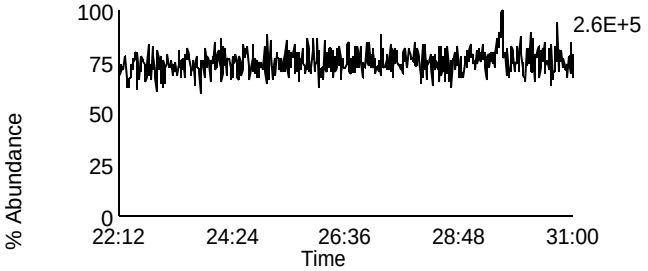
Data File: U131105A_12 G2 C10 - 367.8948
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G2 C11 - 369.8918
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G2 C6 - 354.9792
SAMP 10247062005 - SMT WI

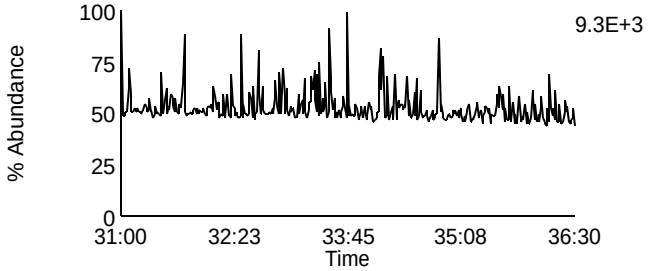


Homologue Group: Hexas

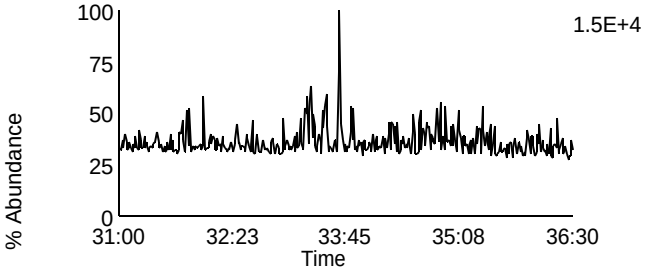
Data File Name: U131105A_12
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062005 - SMT WI

Lab Sample ID: 10247062005
Client Sample ID: MAK005O
Instrument: 10MSHR06 (U)

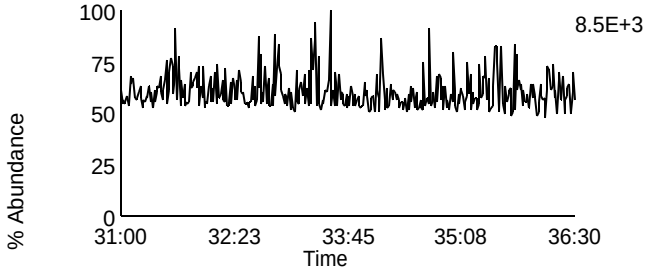
Data File: U131105A_12 G3 C1 - 373.8207
SAMP 10247062005 - SMT WI



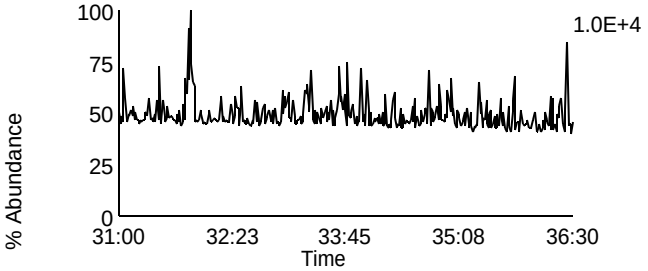
Data File: U131105A_12 G3 C7 - 389.8156
SAMP 10247062005 - SMT WI



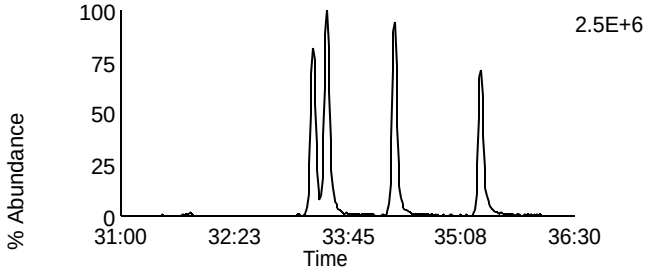
Data File: U131105A_12 G3 C2 - 375.8178
SAMP 10247062005 - SMT WI



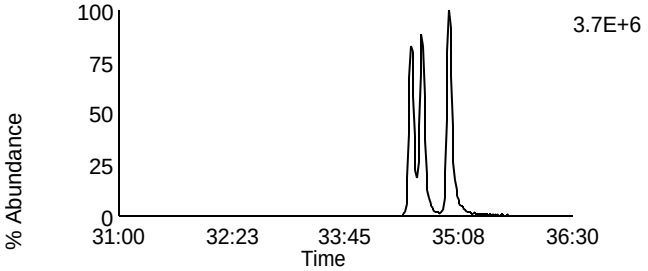
Data File: U131105A_12 G3 C8 - 391.8127
SAMP 10247062005 - SMT WI



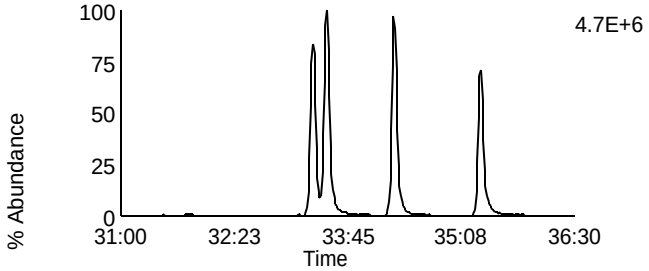
Data File: U131105A_12 G3 C5 - 383.8639
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G3 C9 - 401.8559
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G3 C6 - 385.861
SAMP 10247062005 - SMT WI



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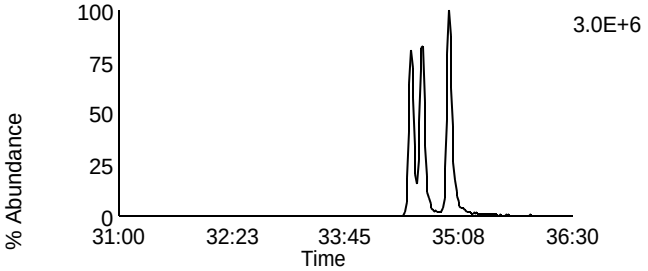
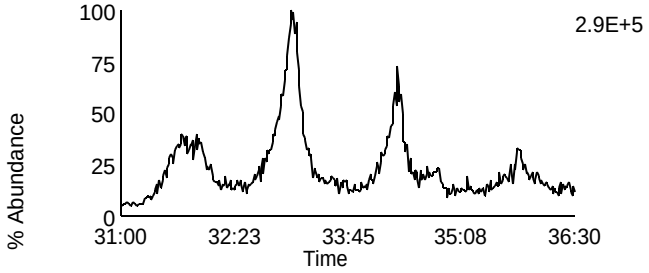
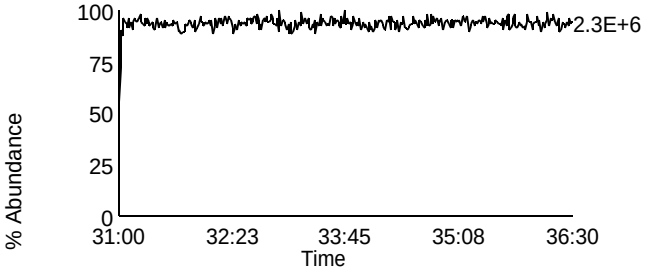
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G3 C11 - 445.7555
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G3 C3 - 380.976
SAMP 10247062005 - SMT WI

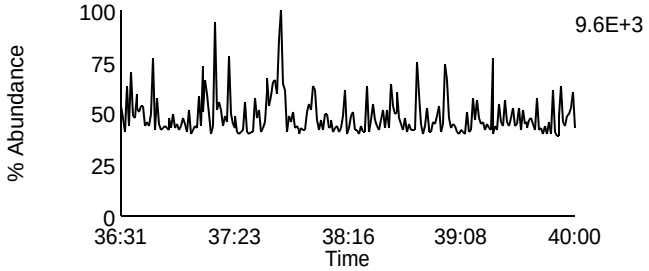


Homologue Group: Heptas

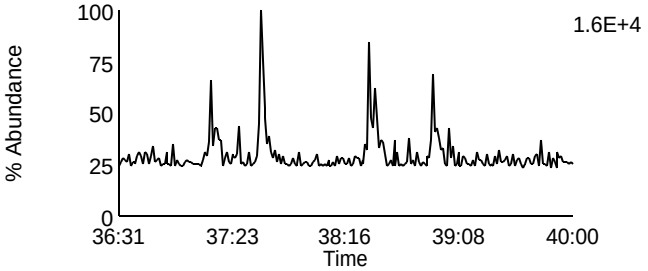
Data File Name: U131105A_12
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062005 - SMT WI

Lab Sample ID: 10247062005
Client Sample ID: MAK005O
Instrument: 10MSHR06 (U)

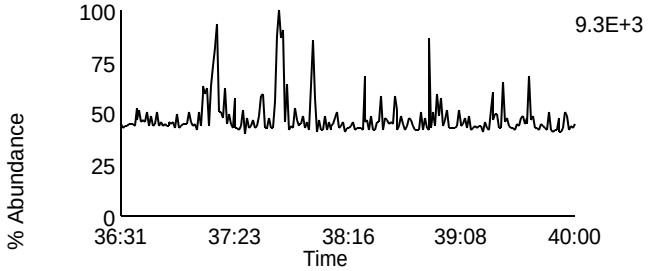
Data File: U131105A_12 G4 C3 - 407.7818
SAMP 10247062005 - SMT WI



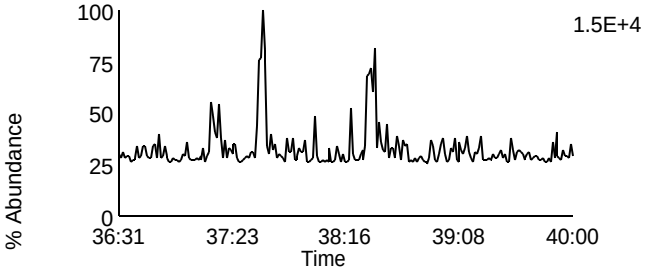
Data File: U131105A_12 G4 C8 - 423.7767
SAMP 10247062005 - SMT WI



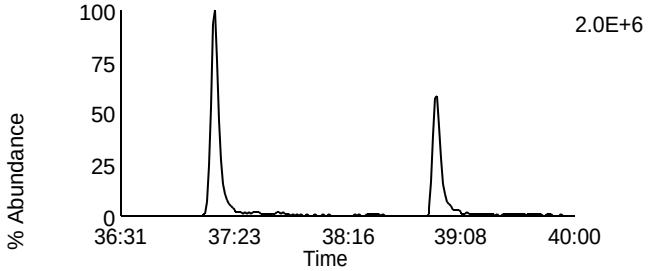
Data File: U131105A_12 G4 C4 - 409.7788
SAMP 10247062005 - SMT WI



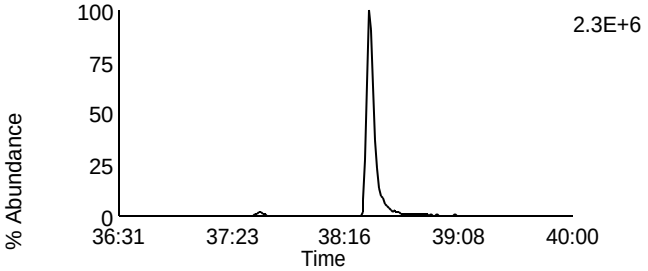
Data File: U131105A_12 G4 C9 - 425.7737
SAMP 10247062005 - SMT WI



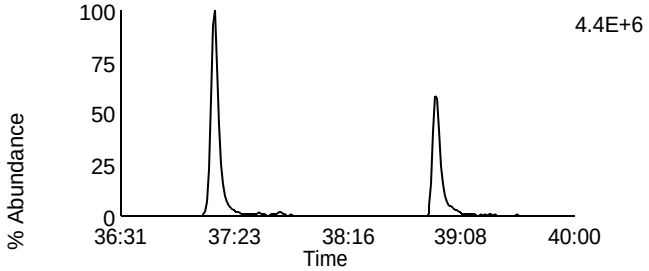
Data File: U131105A_12 G4 C6 - 417.825
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G4 C11 - 435.8169
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G4 C7 - 419.822
SAMP 10247062005 - SMT WI



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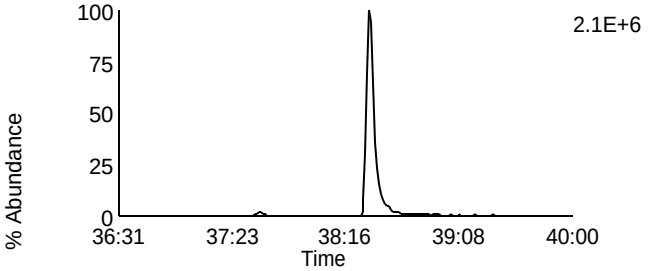
SAMP 10247062005 - SMT WI



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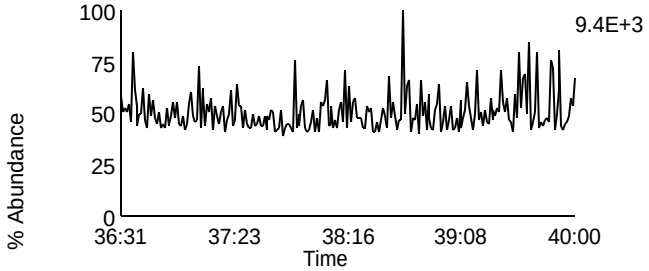
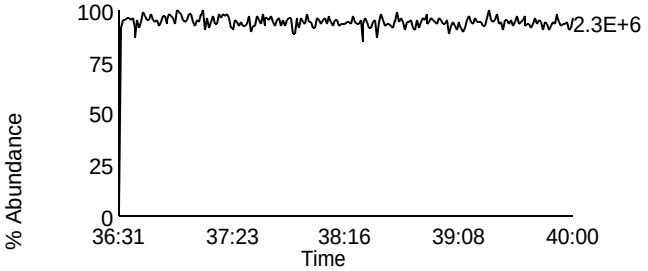
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G4 C1 - 380.976
SAMP 10247062005 - SMT WI

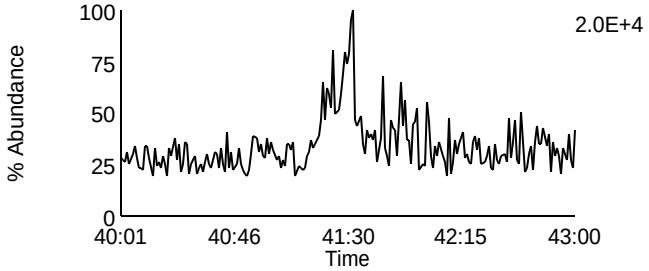


Homologue Group: Octas

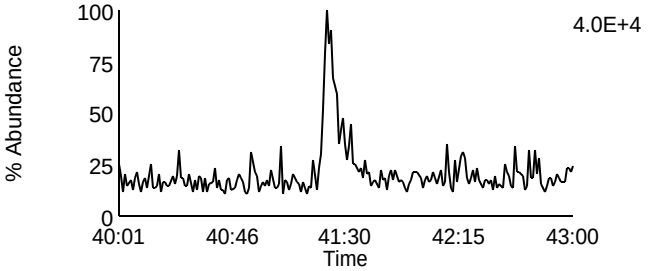
Data File Name: U131105A_12
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062005 - SMT WI

Lab Sample ID: 10247062005
Client Sample ID: MAK005O
Instrument: 10MSHR06 (U)

Data File: U131105A_12 G5 C4 - 441.7428
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G5 C8 - 457.7377
SAMP 10247062005 - SMT WI



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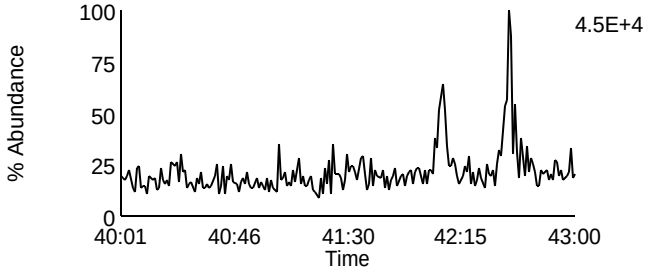
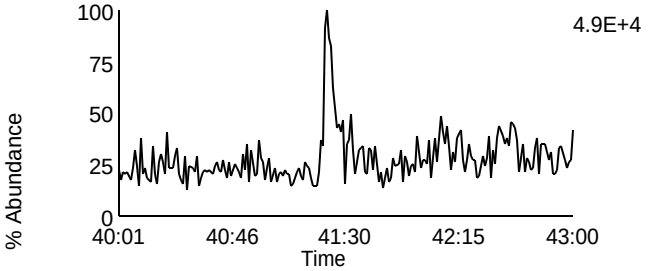
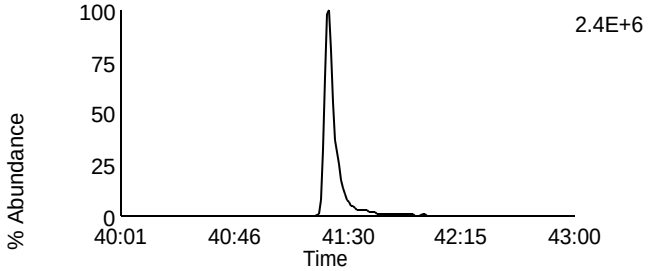
SAMP 10247062005 - SMT WI



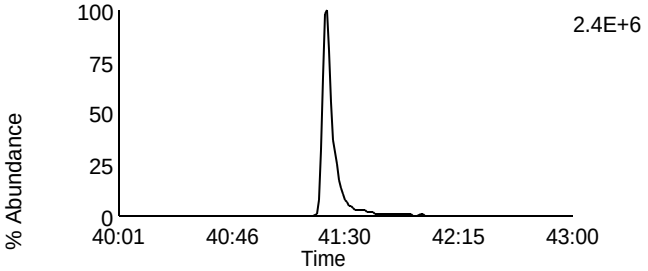
Data File: U131105A_12 G5 C9 - 459.7347
SAMP 10247062005 - SMT WI



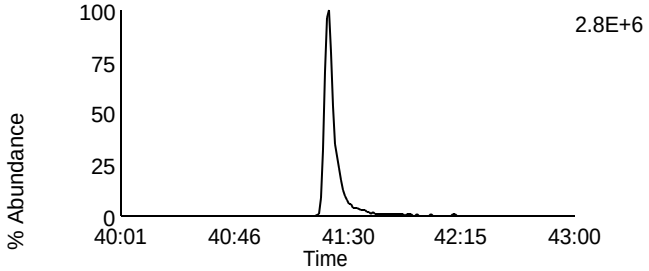
Data File: U131105A_12 G5 C11 - 469.7779
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G5 C11 - 469.7779
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G5 C12 - 471.7749
SAMP 10247062005 - SMT WI



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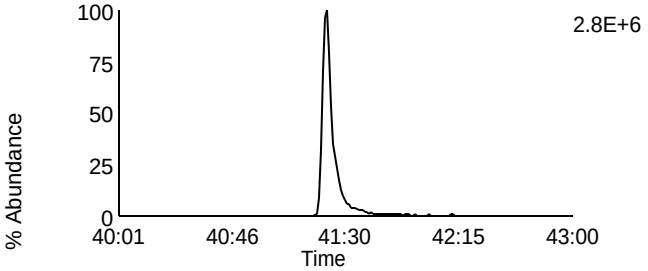
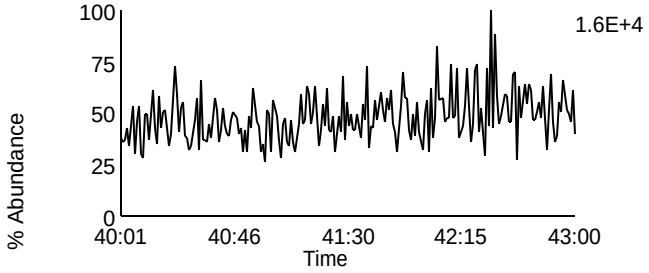
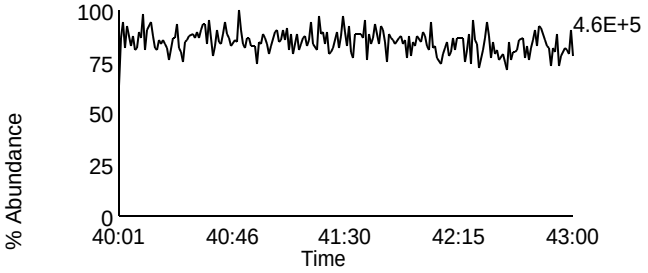
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G5 C13 - 513.6775
SAMP 10247062005 - SMT WI



Data File: U131105A_12 G5 C2 - 430.9728
SAMP 10247062005 - SMT WI

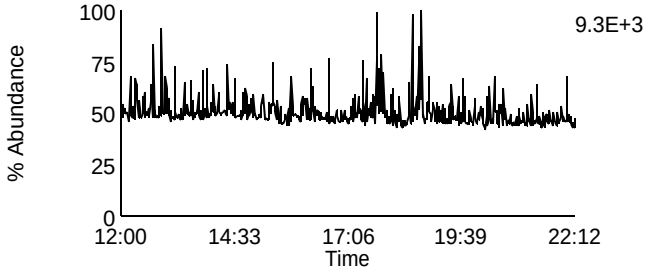


Homologue Group: Tetras

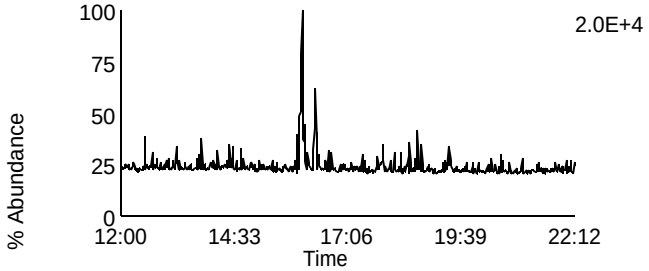
Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

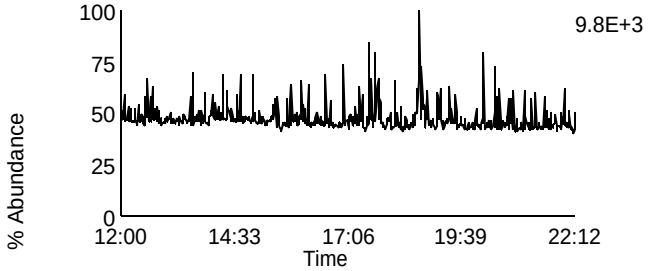
Data File: U131105A_13 G1 C1 - 303.9016
SAMP 10247062006 - SMT WI



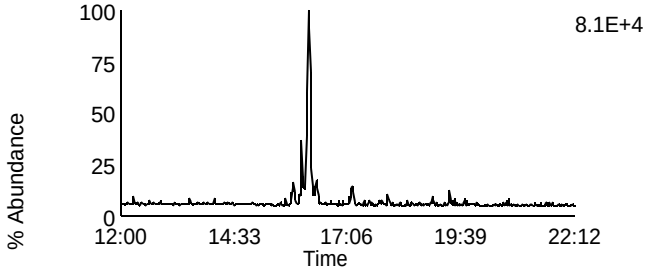
Data File: U131105A_13 G1 C7 - 319.8965
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C2 - 305.8987
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C8 - 321.8936
SAMP 10247062006 - SMT WI



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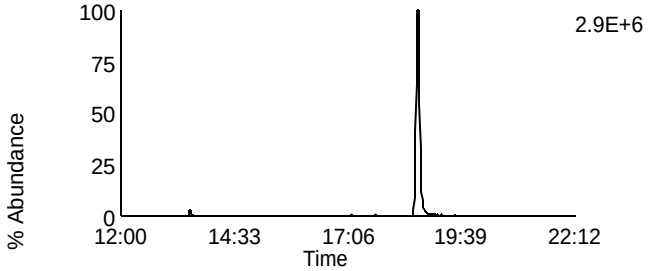
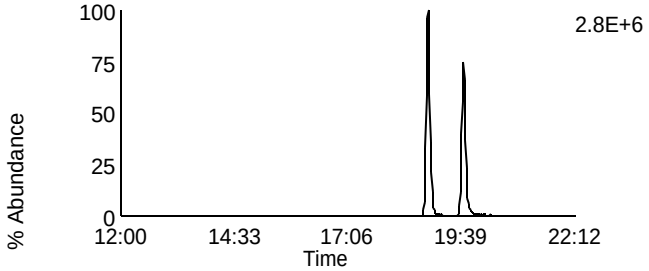
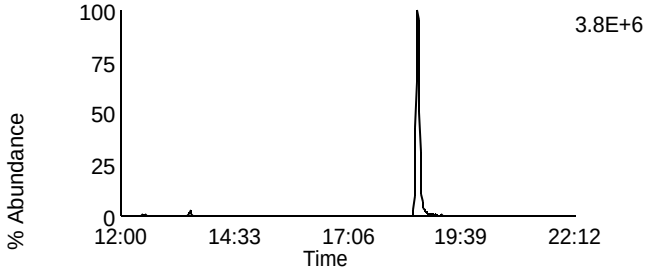
SAMP 10247062006 - SMT WI



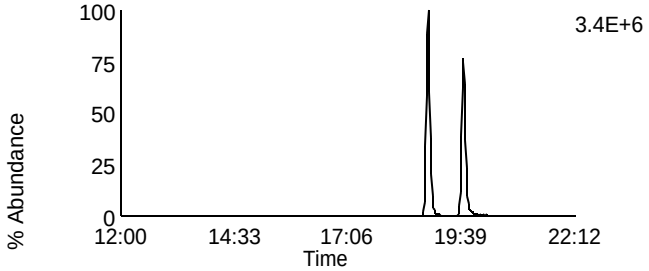
Data File: U131105A_13 G1 C10 - 331.9367
SAMP 10247062006 - SMT WI



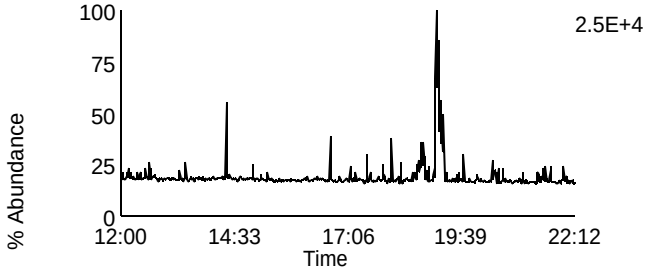
Data File: U131105A_13 G1 C4 - 317.9389
SAMP 10247062006 - SMT WI



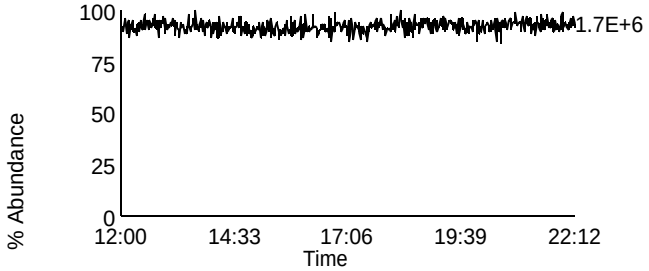
Data File: U131105A_13 G1 C11 - 333.9338
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C14 - 375.8364
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C5 - 318.9792
SAMP 10247062006 - SMT WI

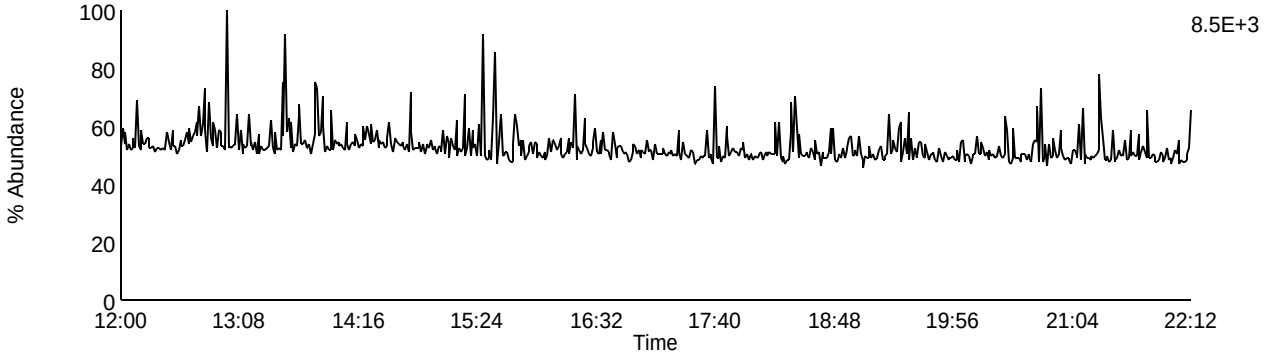


Homologue Group: Penta & Cleanup

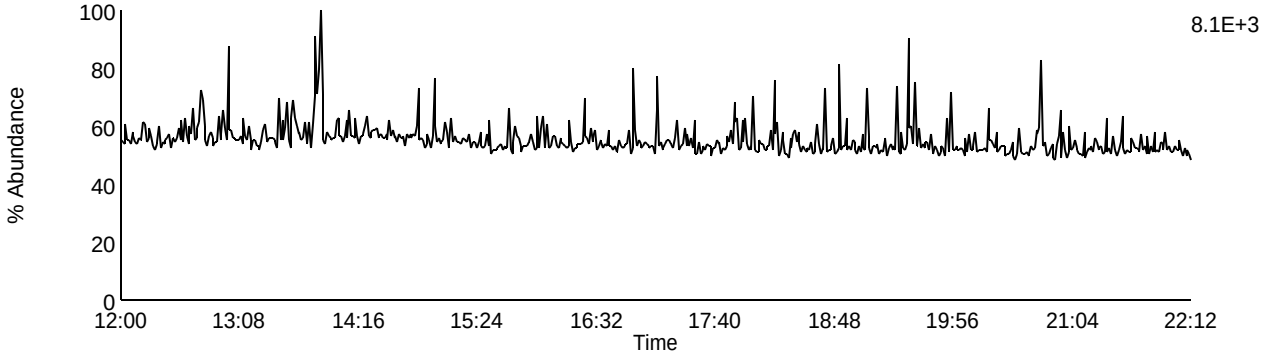
Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

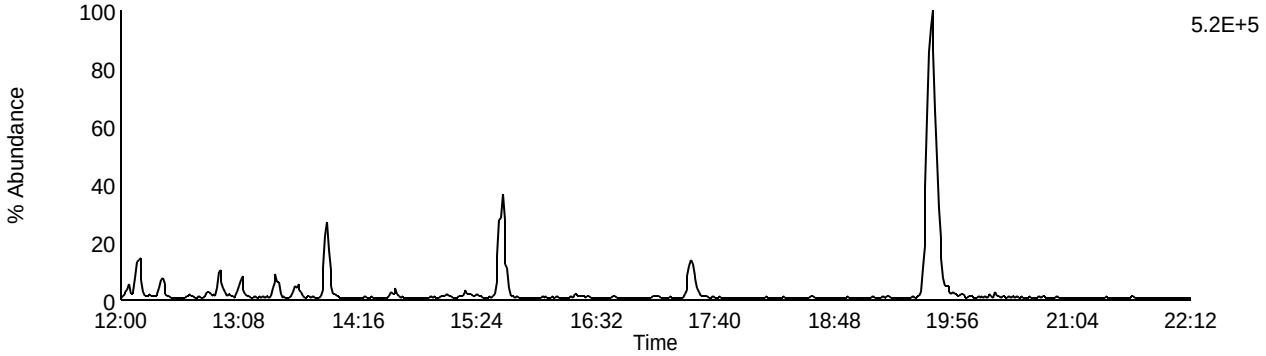
Data File: U131105A_13 G1 C12 - 339.8597
SAMP 10247062006 - SMT WI



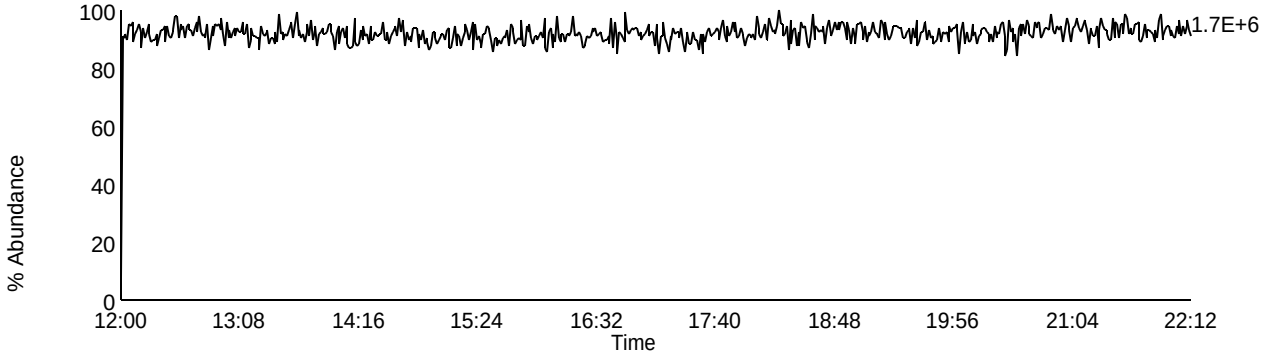
Data File: U131105A_13 G1 C13 - 341.8567
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C9 - 327.8847
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G1 C5 - 318.9792
SAMP 10247062006 - SMT WI

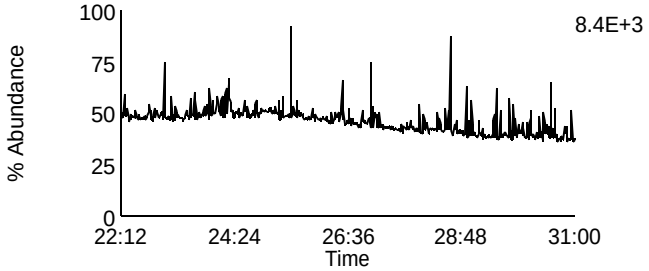


Homologue Group: Pentas

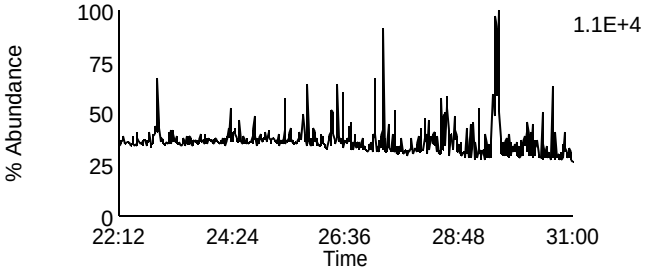
Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

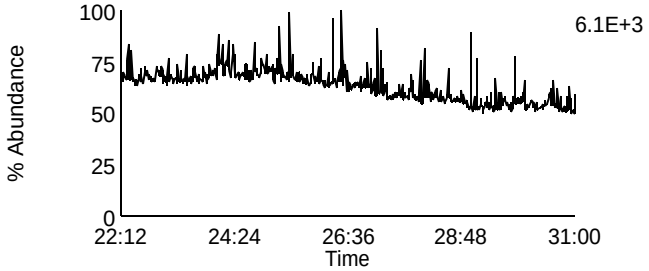
Data File: U131105A_13 G2 C1 - 339.8597
SAMP 10247062006 - SMT WI



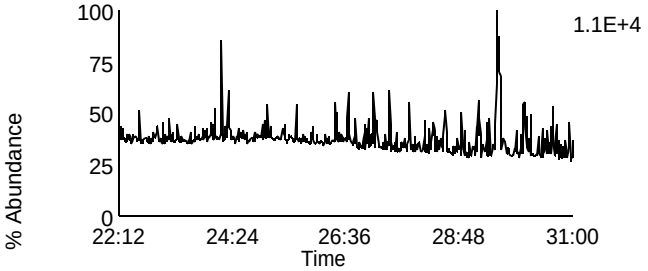
Data File: U131105A_13 G2 C4 - 353.8576
SAMP 10247062006 - SMT WI



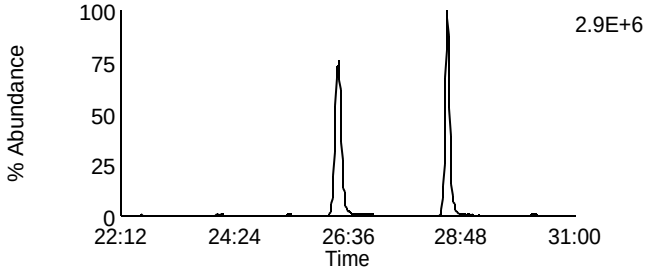
Data File: U131105A_13 G2 C2 - 341.8567
SAMP 10247062006 - SMT WI



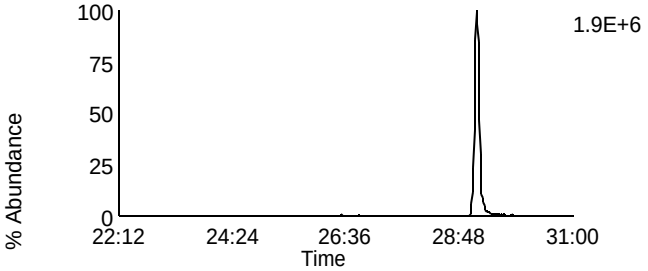
Data File: U131105A_13 G2 C8 - 355.8546
SAMP 10247062006 - SMT WI



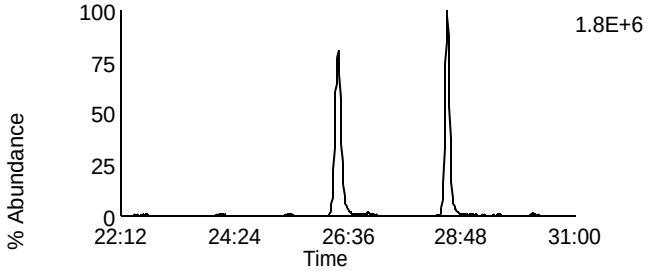
Data File: U131105A_13 G2 C3 - 351.8999
SAMP 10247062006 - SMT WI



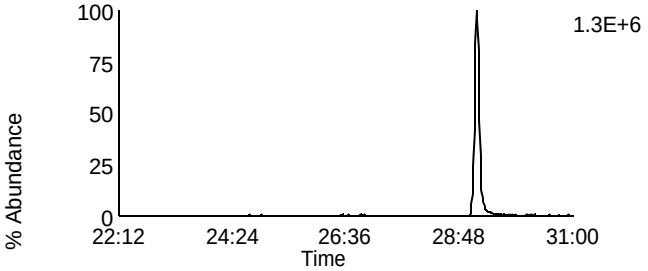
Data File: U131105A_13 G2 C10 - 367.8948
SAMP 10247062006 - SMT WI



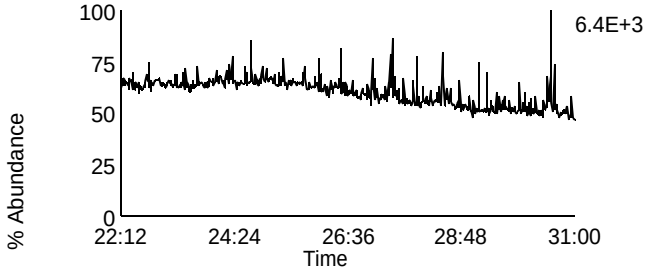
Data File: U131105A_13 G2 C5 - 353.8969
SAMP 10247062006 - SMT WI



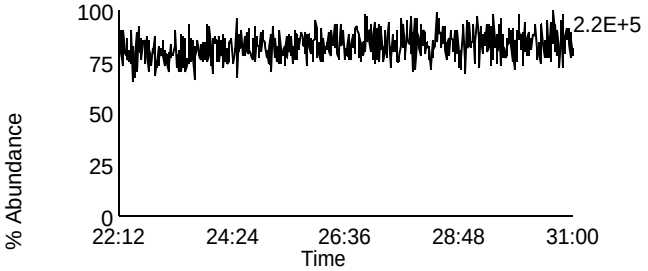
Data File: U131105A_13 G2 C11 - 369.8918
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G2 C12 - 409.7974
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G2 C6 - 354.9792
SAMP 10247062006 - SMT WI

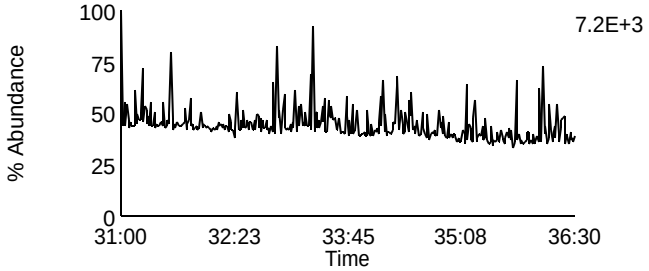


Homologue Group: Hexas

Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

Data File: U131105A_13 G3 C1 - 373.8207
SAMP 10247062006 - SMT WI



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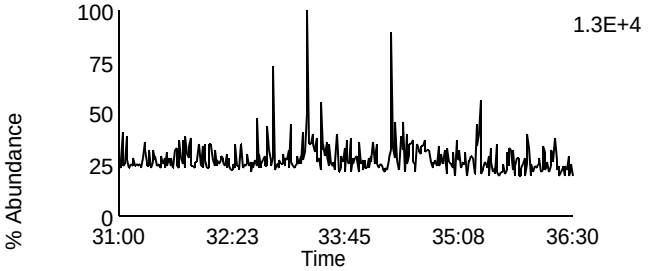
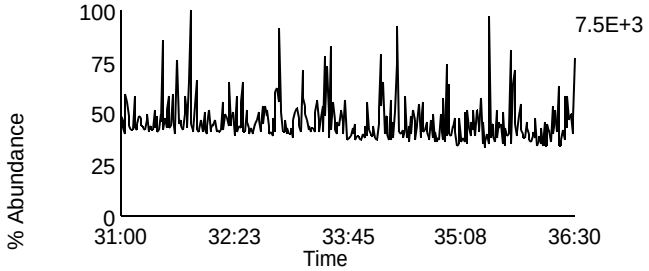
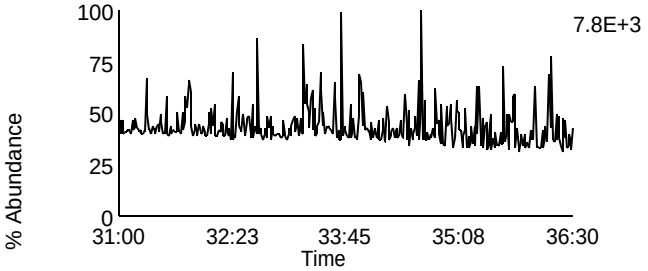
SAMP 10247062006 - SMT WI



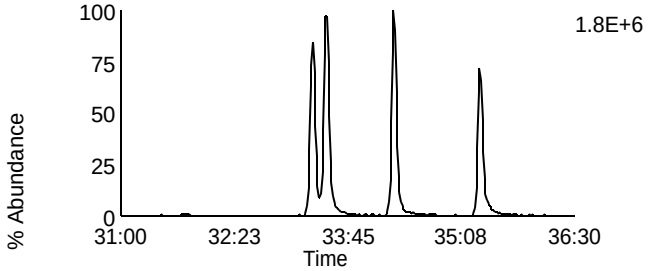
Data File: U131105A_13 G3 C2 - 375.8178
SAMP 10247062006 - SMT WI



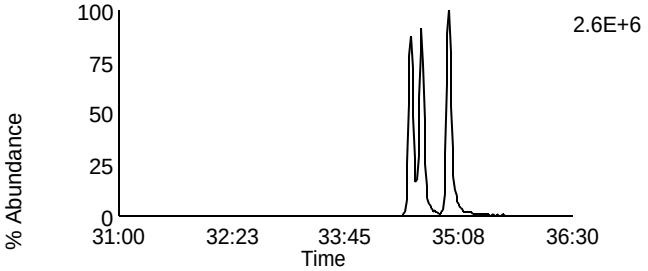
Data File: U131105A_13 G3 C8 - 391.8127
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G3 C5 - 383.8639
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G3 C9 - 401.8559
SAMP 10247062006 - SMT WI



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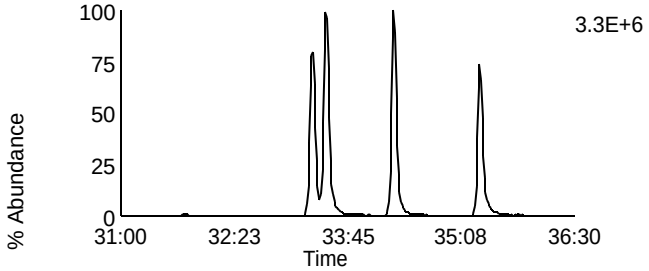
SAMP 10247062006 - SMT WI



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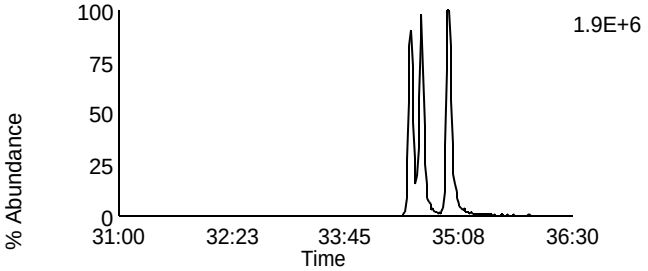
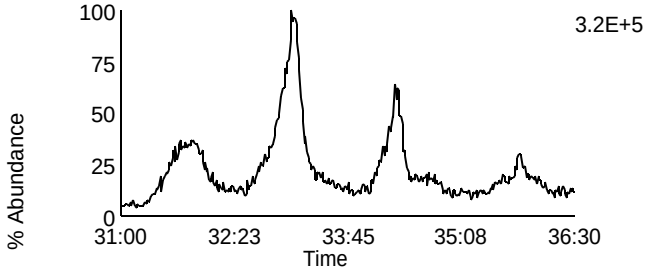
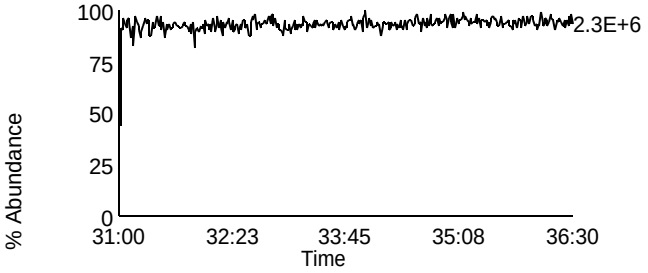
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G3 C11 - 445.7555
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G3 C3 - 380.976
SAMP 10247062006 - SMT WI

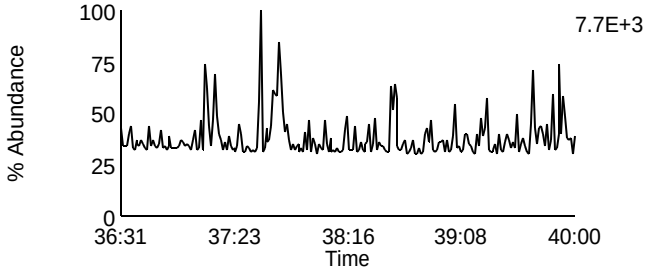


Homologue Group: Heptas

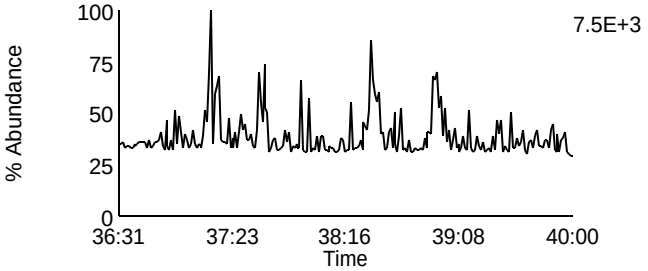
Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

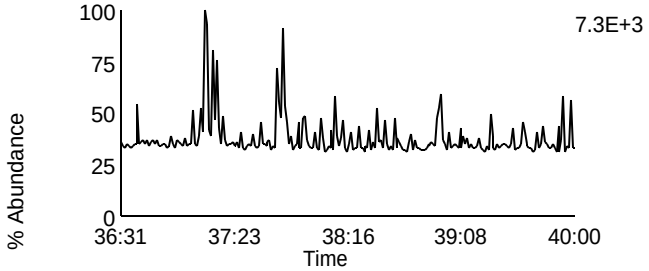
Data File: U131105A_13 G4 C3 - 407.7818
SAMP 10247062006 - SMT WI



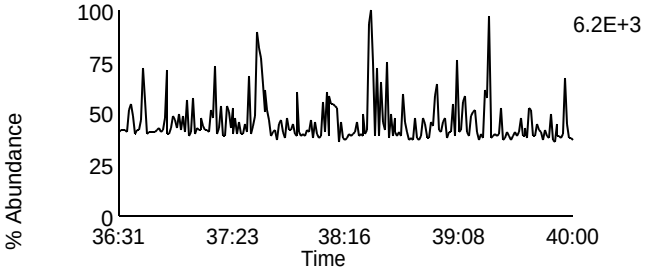
Data File: U131105A_13 G4 C8 - 423.7767
SAMP 10247062006 - SMT WI



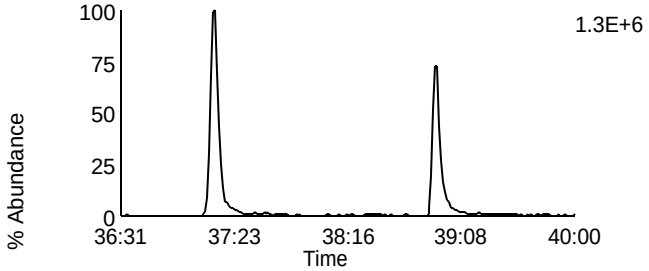
Data File: U131105A_13 G4 C4 - 409.7788
SAMP 10247062006 - SMT WI



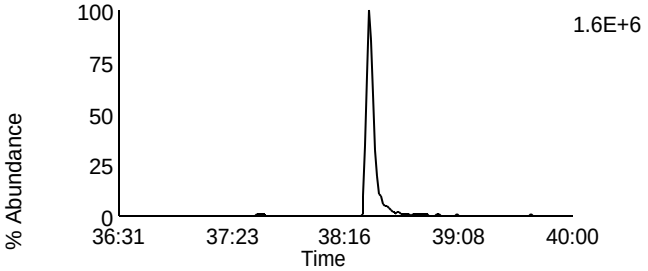
Data File: U131105A_13 G4 C9 - 425.7737
SAMP 10247062006 - SMT WI



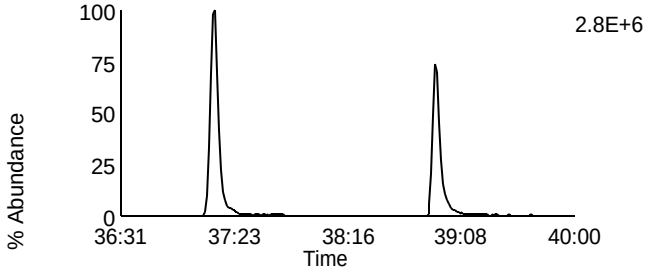
Data File: U131105A_13 G4 C6 - 417.825
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G4 C11 - 435.8169
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G4 C7 - 419.822
SAMP 10247062006 - SMT WI



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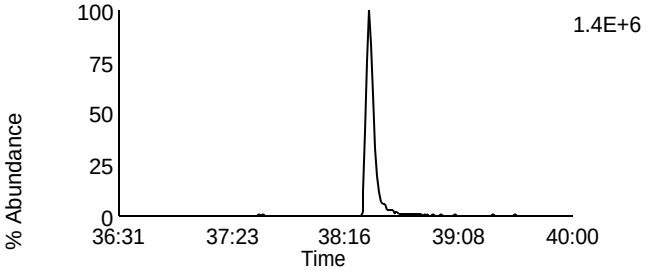
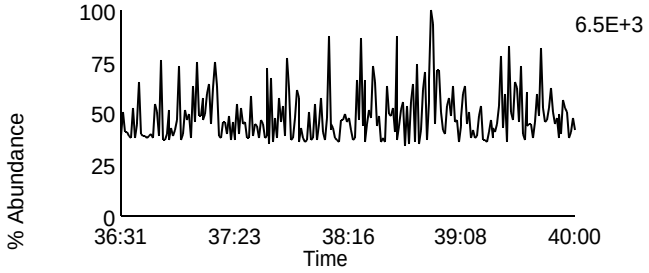
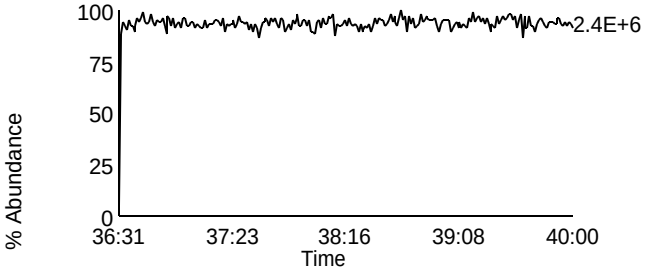
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G4 C13 - 479.7165
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G4 C1 - 380.976
SAMP 10247062006 - SMT WI

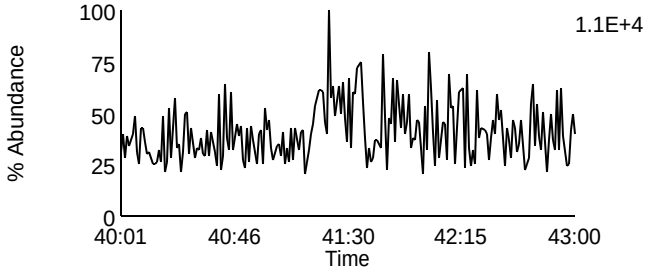


Homologue Group: Octas

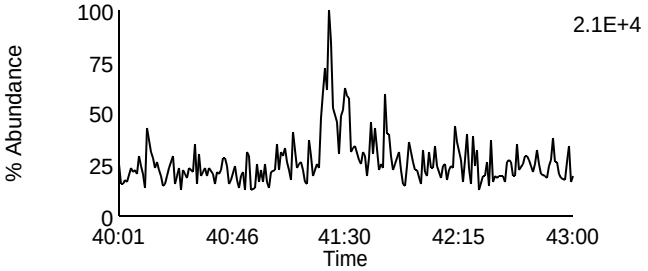
Data File Name: U131105A_13
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006 - SMT WI

Lab Sample ID: 10247062006
Client Sample ID: MAK006O
Instrument: 10MSHR06 (U)

Data File: U131105A_13 G5 C4 - 441.7428
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G5 C8 - 457.7377
SAMP 10247062006 - SMT WI



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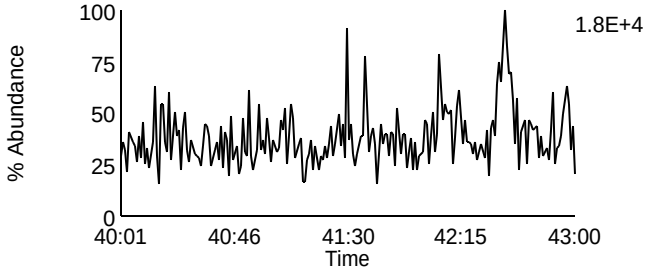
SAMP 10247062006 - SMT WI



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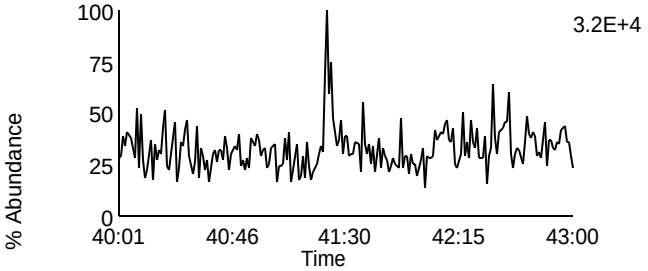
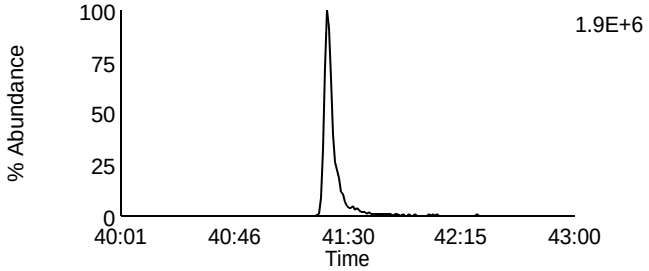
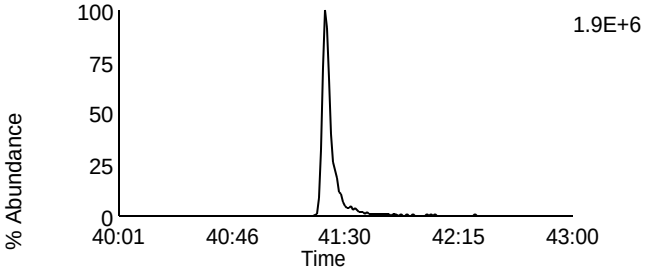
SAMP 10247062006 - SMT WI



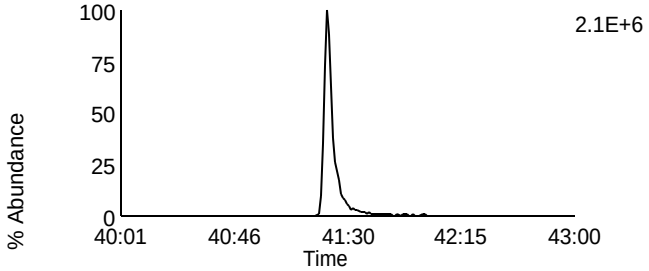
Data File: U131105A_13 G5 C11 - 469.7779
SAMP 10247062006 - SMT WI



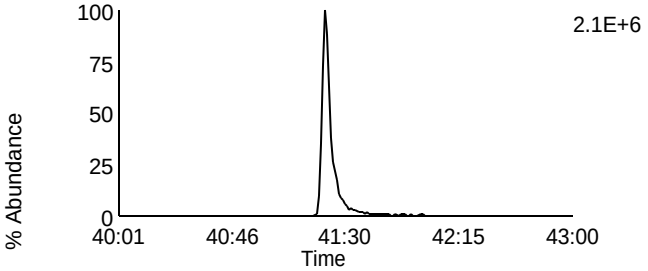
Data File: U131105A_13 G5 C11 - 469.7779
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G5 C12 - 471.7749
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G5 C12 - 471.7749
SAMP 10247062006 - SMT WI



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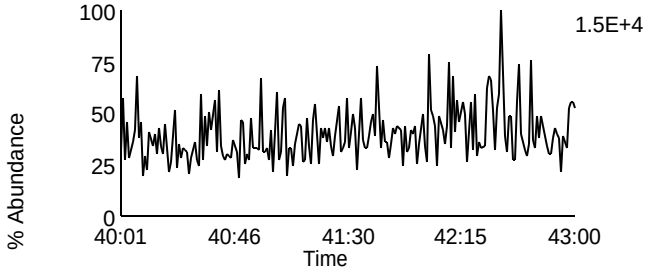
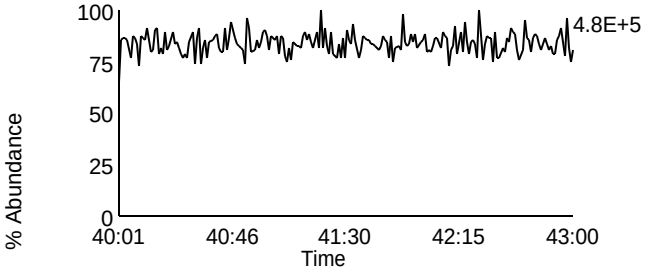
SAMP 10247062006 - SMT WI



Data File: U131105A_13 G5 C2 - 430.9728
SAMP 10247062006 - SMT WI

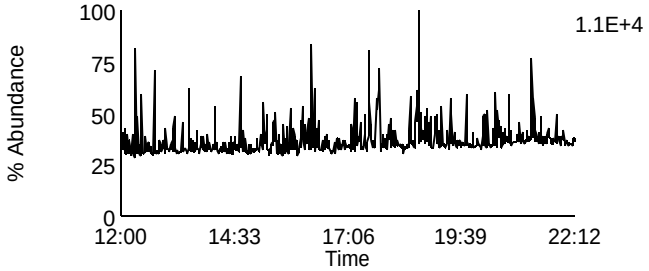


Homologue Group: Tetras

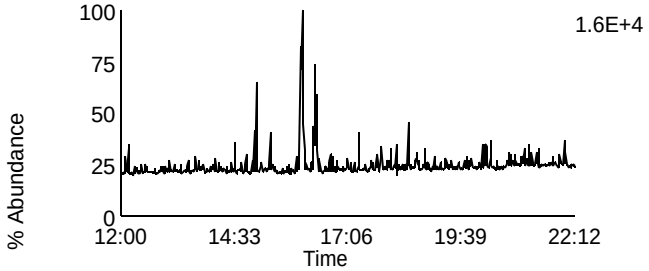
Data File Name: U131105A_14
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062007 - SMT WI

Lab Sample ID: 10247062007
Client Sample ID: MAK007O
Instrument: 10MSHR06 (U)

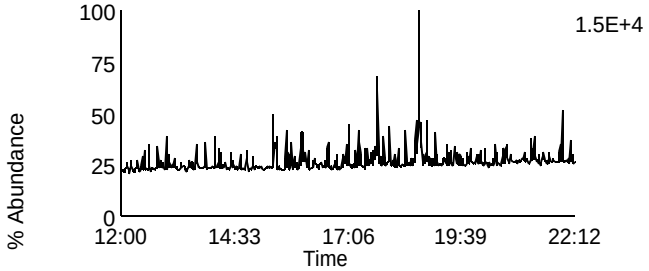
Data File: U131105A_14 G1 C1 - 303.9016
SAMP 10247062007 - SMT WI



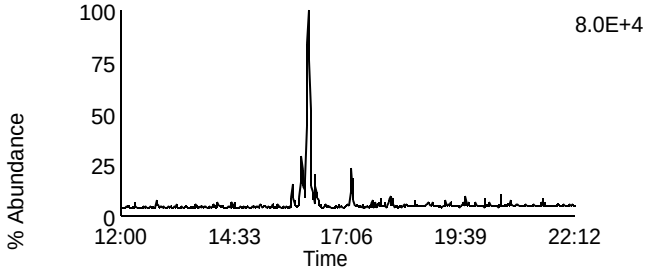
Data File: U131105A_14 G1 C7 - 319.8965
SAMP 10247062007 - SMT WI



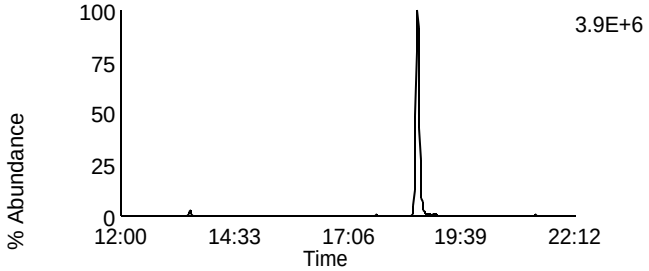
Data File: U131105A_14 G1 C2 - 305.8987
SAMP 10247062007 - SMT WI



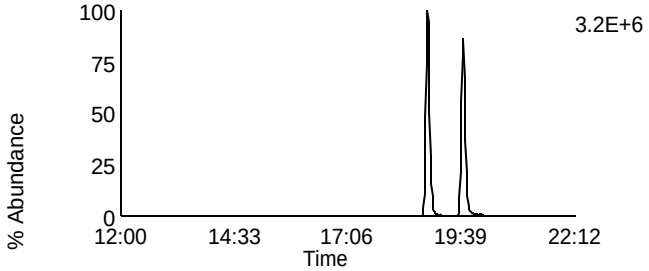
Data File: U131105A_14 G1 C8 - 321.8936
SAMP 10247062007 - SMT WI



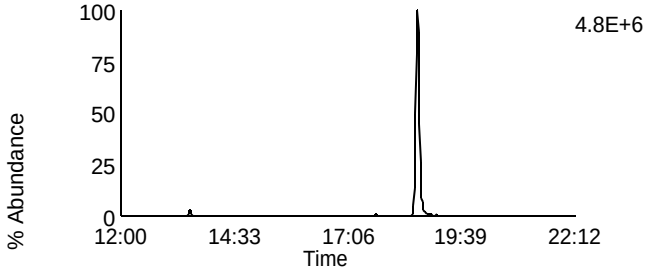
Data File: U131105A_14 G1 C3 - 315.9418
SAMP 10247062007 - SMT WI



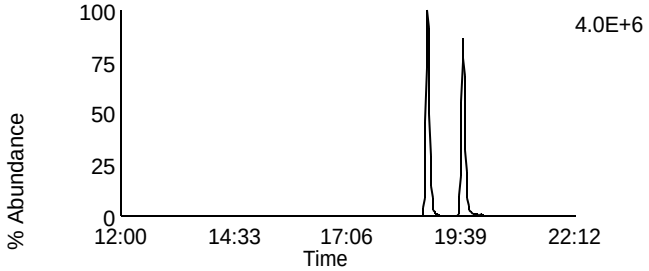
Data File: U131105A_14 G1 C10 - 331.9367
SAMP 10247062007 - SMT WI



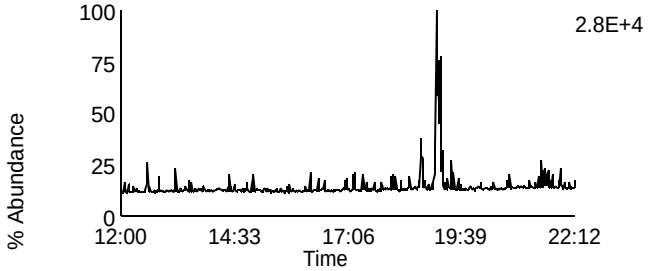
Data File: U131105A_14 G1 C4 - 317.9389
SAMP 10247062007 - SMT WI



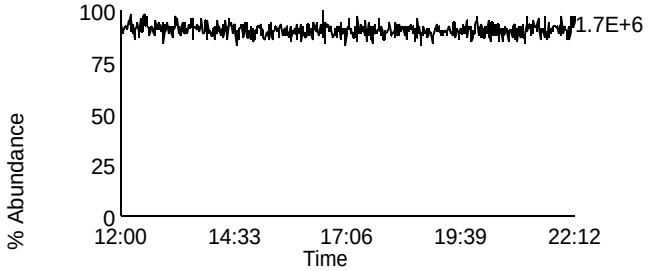
Data File: U131105A_14 G1 C11 - 333.9338
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G1 C14 - 375.8364
SAMP 10247062007 - SMT WI



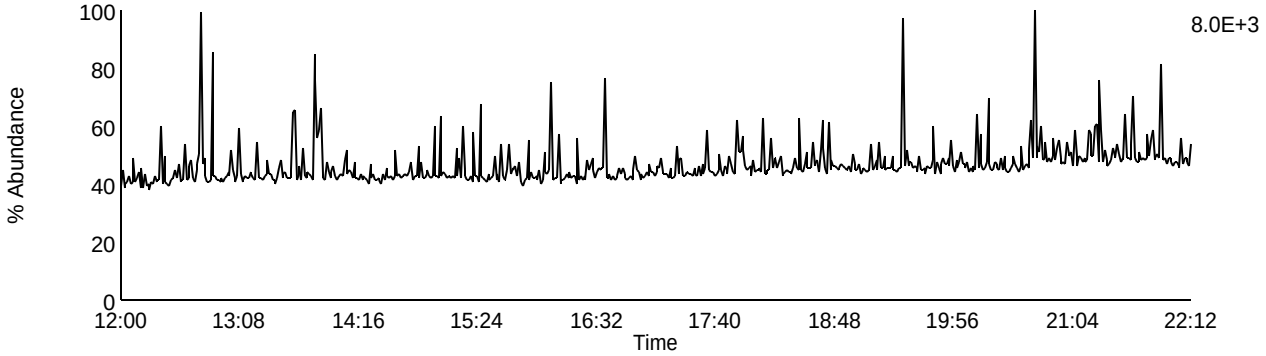
Data File: U131105A_14 G1 C5 - 318.9792
SAMP 10247062007 - SMT WI



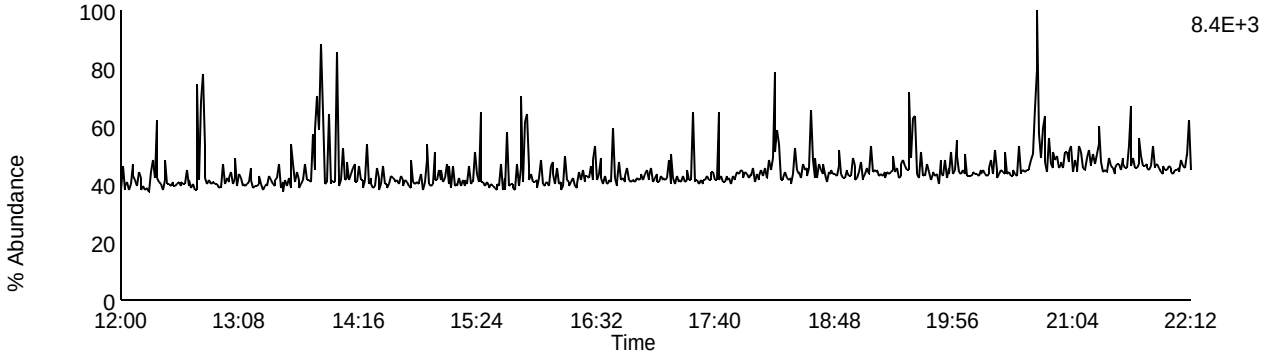
Homologue Group: Penta & Cleanup

Data File Name: U131105A_14	Lab Sample ID: 10247062007
Date Acquired: 11/5/2013	Client Sample ID: MAK007O
Sample Description: SAMP 10247062007 - SMT WI	Instrument: 10MSHR06 (U)

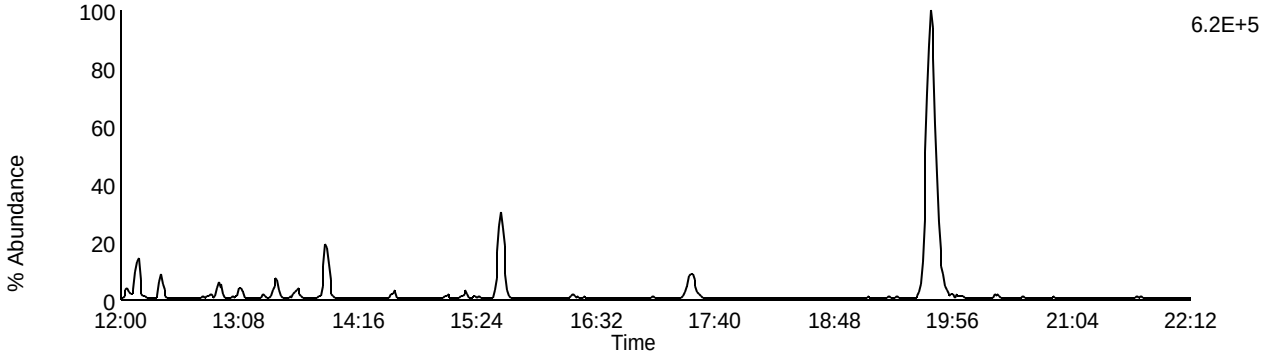
Data File: U131105A_14 G1 C12 - 339.8597
SAMP 10247062007 - SMT WI



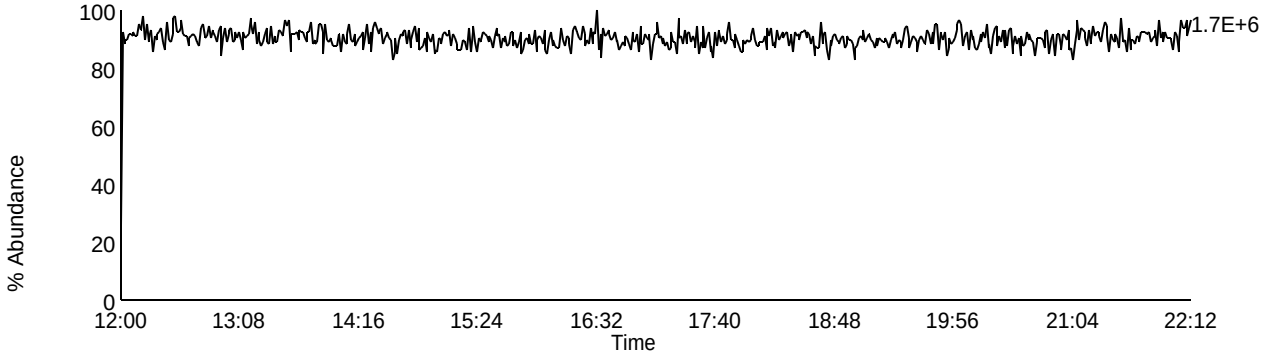
Data File: U131105A_14 G1 C13 - 341.8567
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G1 C9 - 327.8847
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G1 C5 - 318.9792
SAMP 10247062007 - SMT WI

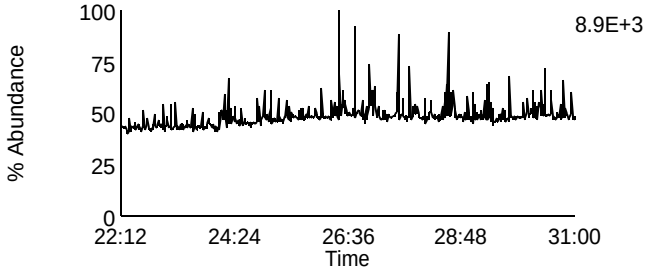


Homologue Group: Pentas

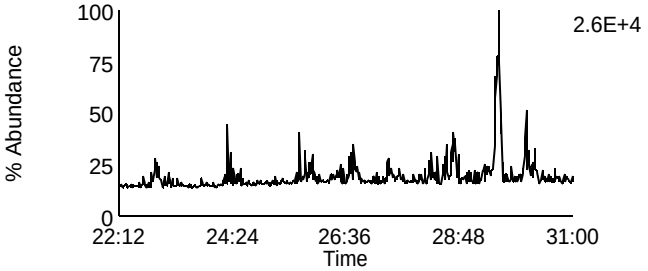
Data File Name: U131105A_14
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062007 - SMT WI

Lab Sample ID: 10247062007
Client Sample ID: MAK007O
Instrument: 10MSHR06 (U)

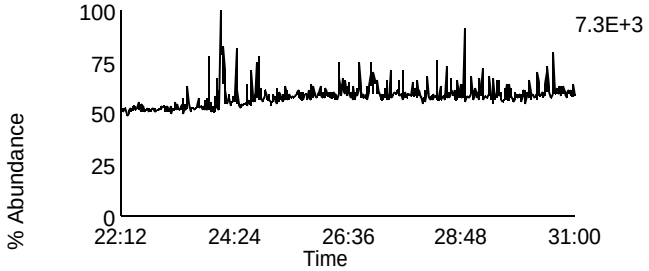
Data File: U131105A_14 G2 C1 - 339.8597
SAMP 10247062007 - SMT WI



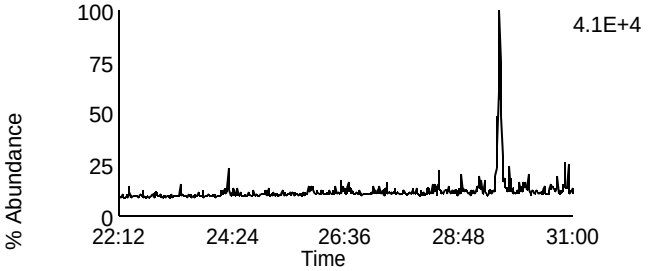
Data File: U131105A_14 G2 C4 - 353.8576
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G2 C2 - 341.8567
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G2 C8 - 355.8546
SAMP 10247062007 - SMT WI



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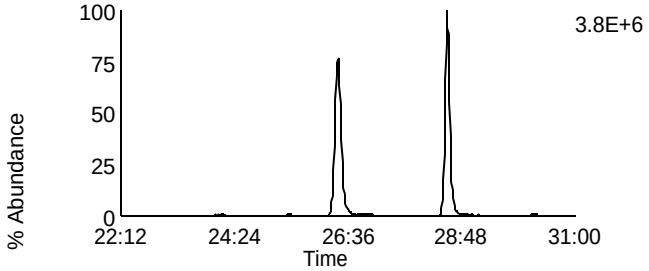
SAMP 10247062007 - SMT WI



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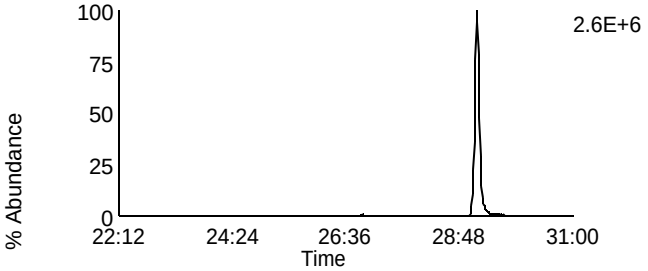
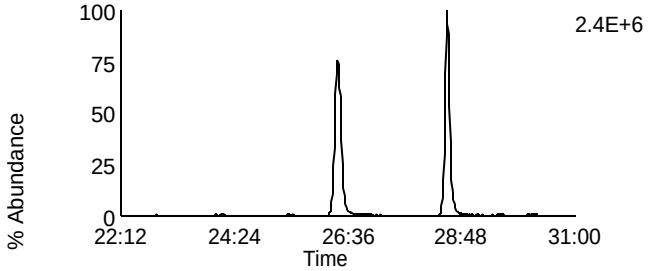
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G2 C5 - 353.8969
SAMP 10247062007 - SMT WI



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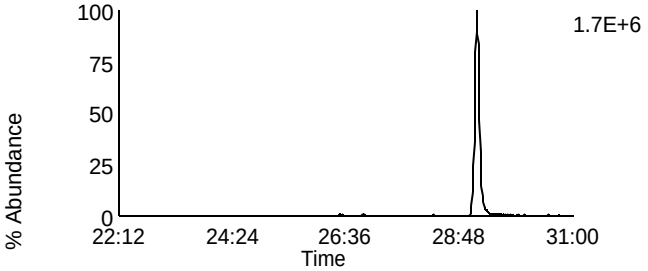
SAMP 10247062007 - SMT WI



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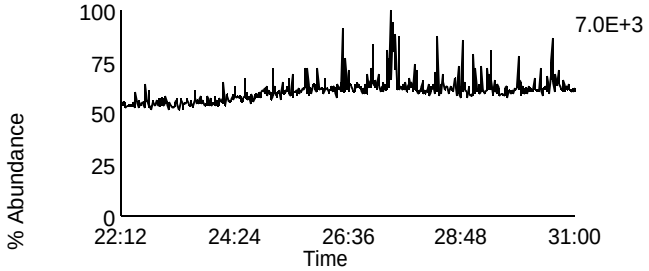
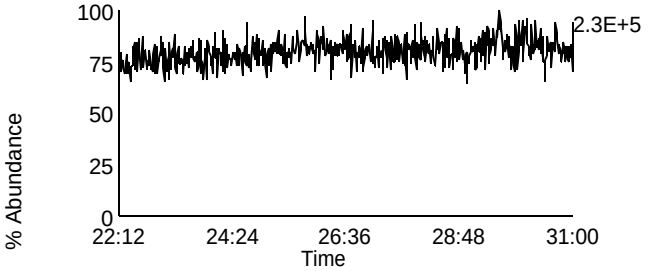
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G2 C6 - 354.9792
SAMP 10247062007 - SMT WI

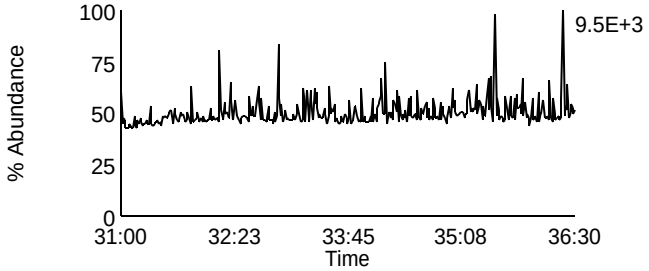


Homologue Group: Hexas

Data File Name: U131105A_14
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062007 - SMT WI

Lab Sample ID: 10247062007
Client Sample ID: MAK007O
Instrument: 10MSHR06 (U)

Data File: U131105A_14 G3 C1 - 373.8207
SAMP 10247062007 - SMT WI



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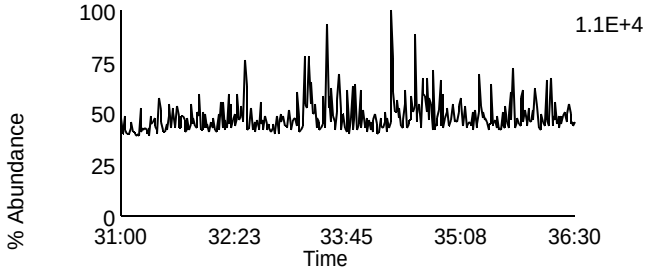
SAMP 10247062007 - SMT WI



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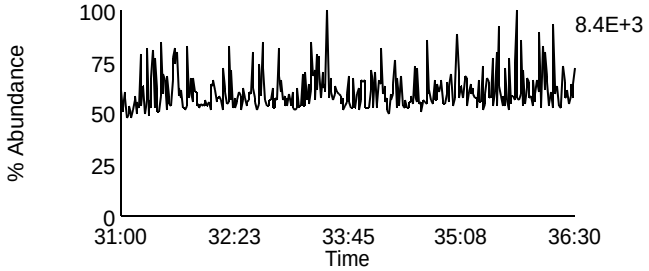
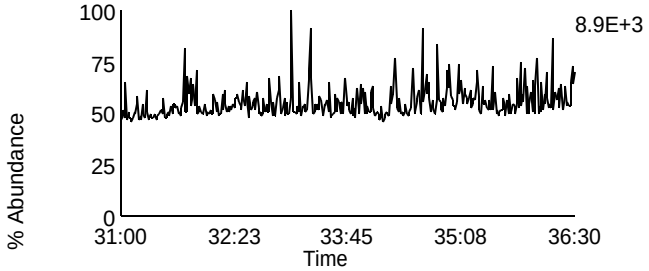
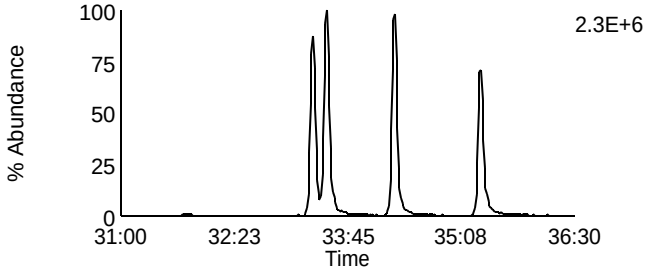
SAMP 10247062007 - SMT WI



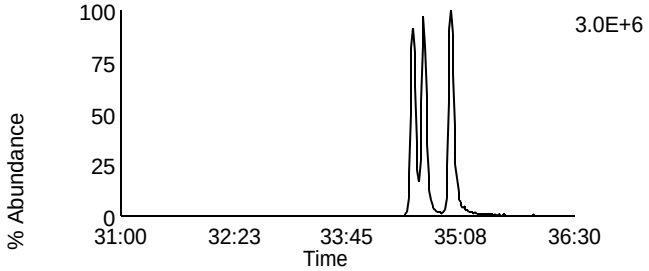
Data File: U131105A_14 G3 C8 - 391.8127
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G3 C5 - 383.8639
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G3 C9 - 401.8559
SAMP 10247062007 - SMT WI



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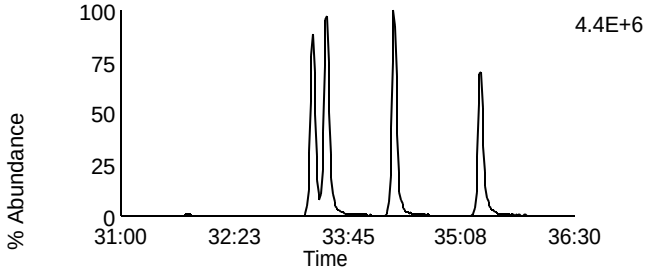
SAMP 10247062007 - SMT WI



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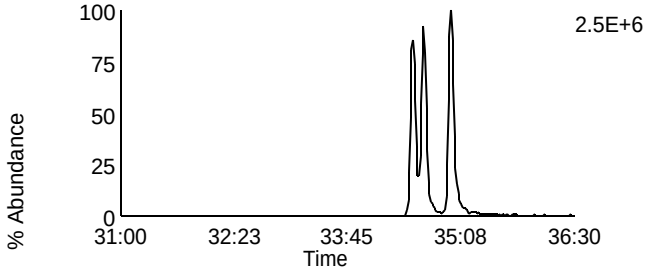
SAMP 10247062007 - SMT WI



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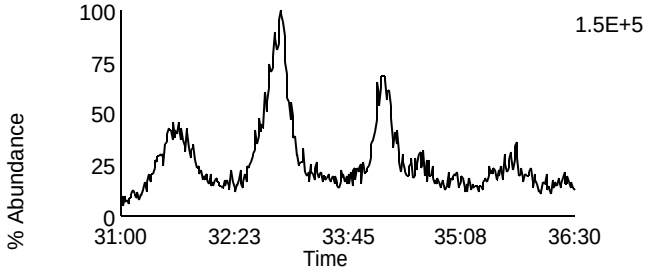
SAMP 10247062007 - SMT WI



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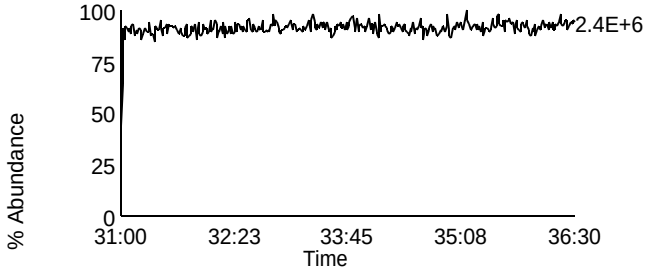
SAMP 10247062007 - SMT WI

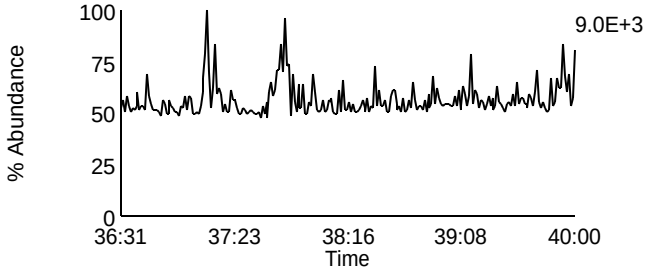


Homologue Group: Heptas

Data File Name: U131105A_14
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062007 - SMT WI

Lab Sample ID: 10247062007
Client Sample ID: MAK007O
Instrument: 10MSHR06 (U)

Data File: U131105A_14 G4 C3 - 407.7818
SAMP 10247062007 - SMT WI



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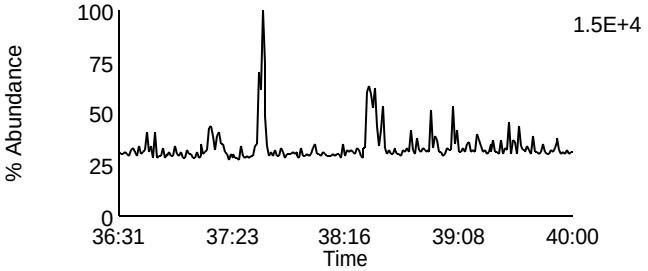
SAMP 10247062007 - SMT WI



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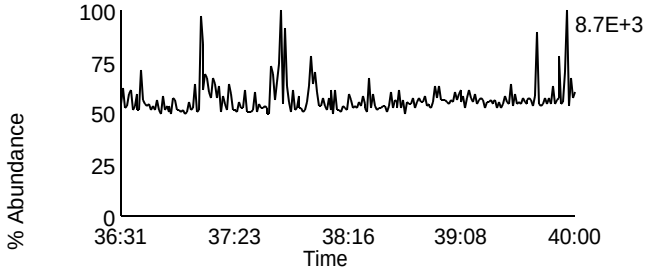
SAMP 10247062007 - SMT WI



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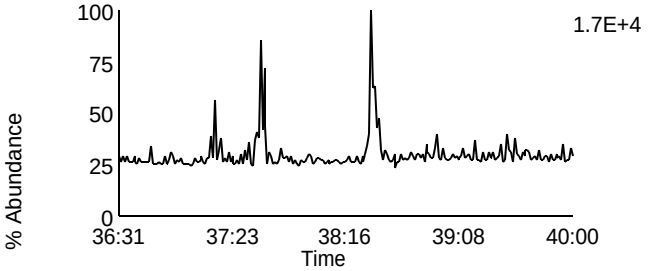
SAMP 10247062007 - SMT WI



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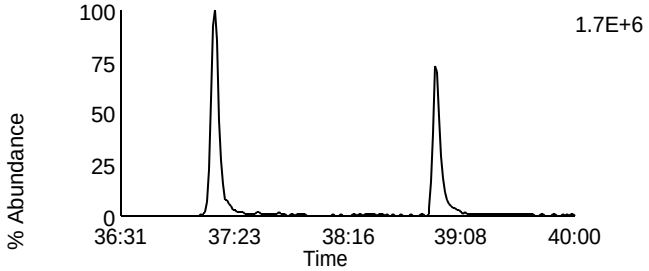
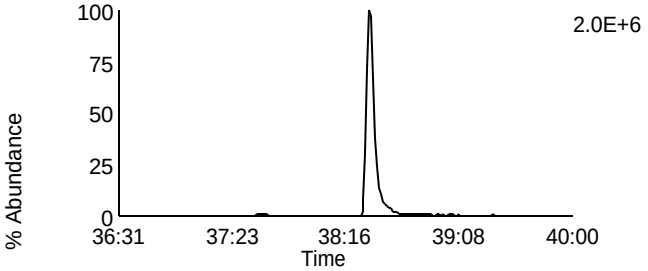
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G4 C11 - 435.8169
SAMP 10247062007 - SMT WI



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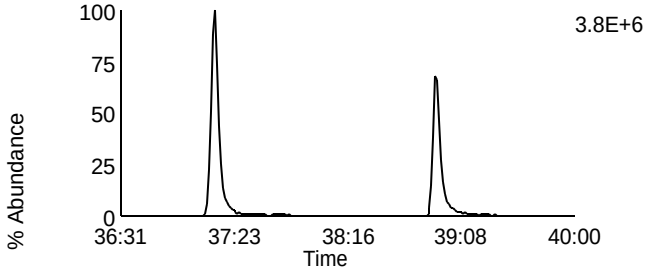
SAMP 10247062007 - SMT WI



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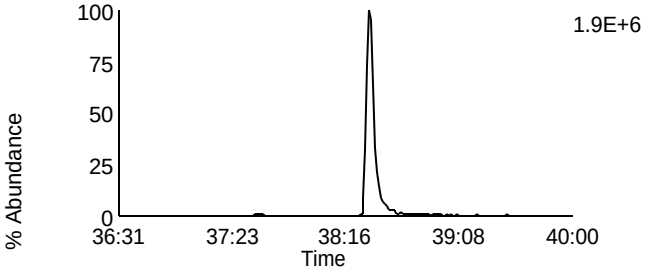
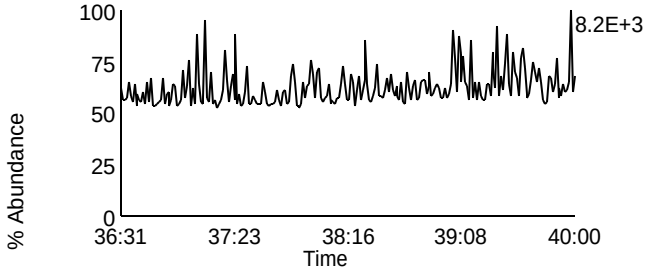
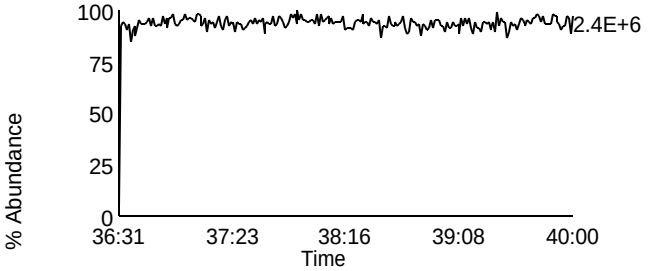
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G4 C13 - 479.7165
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G4 C1 - 380.976
SAMP 10247062007 - SMT WI

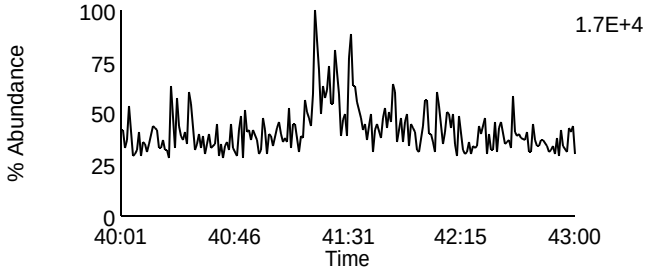


Homologue Group: Octas

Data File Name: U131105A_14
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062007 - SMT WI

Lab Sample ID: 10247062007
Client Sample ID: MAK007O
Instrument: 10MSHR06 (U)

Data File: U131105A_14 G5 C4 - 441.7428
SAMP 10247062007 - SMT WI



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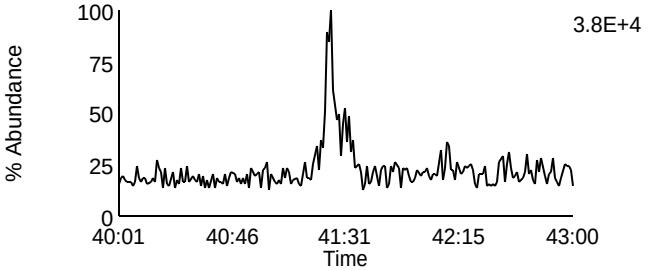
SAMP 10247062007 - SMT WI



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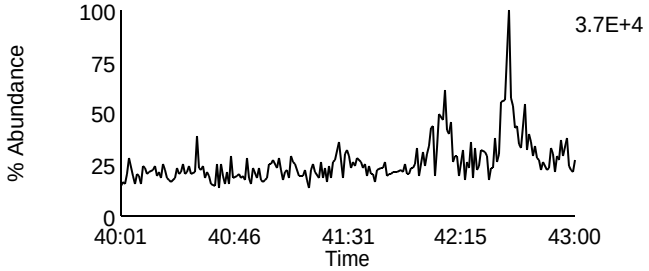
SAMP 10247062007 - SMT WI



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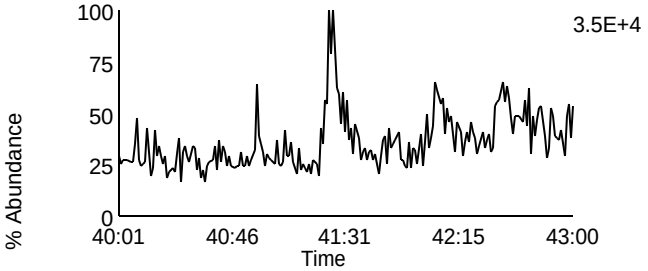
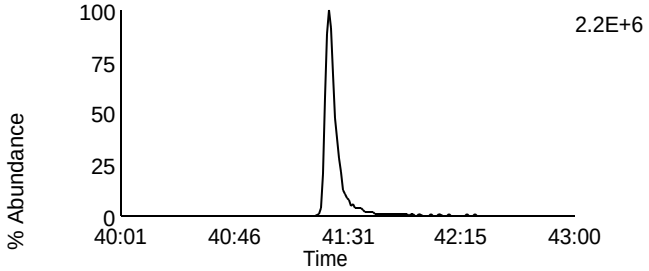
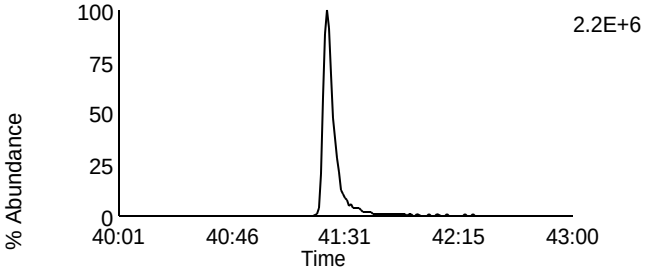
SAMP 10247062007 - SMT WI



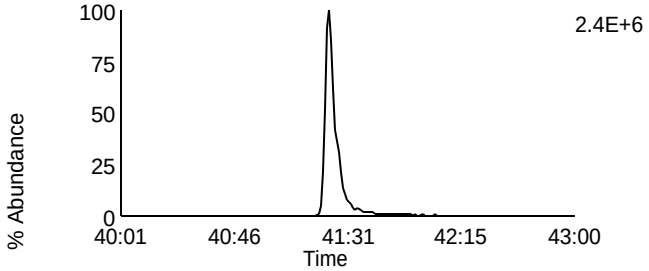
Data File: U131105A_14 G5 C11 - 469.7779
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G5 C11 - 469.7779
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G5 C12 - 471.7749
SAMP 10247062007 - SMT WI



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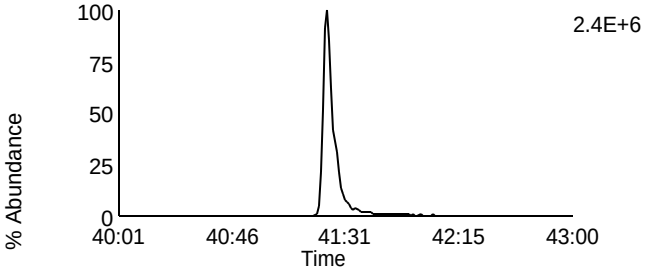
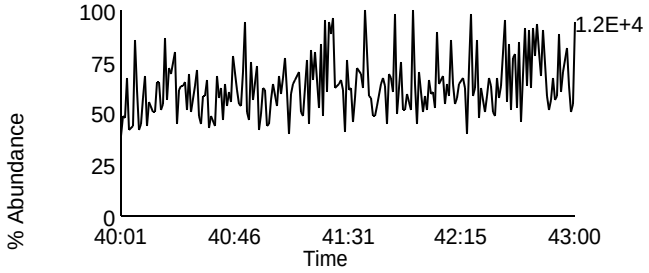
SAMP 10247062007 - SMT WI



Data File: U131105A_14 G5 C13 - 513.6775
SAMP 10247062007 - SMT WI



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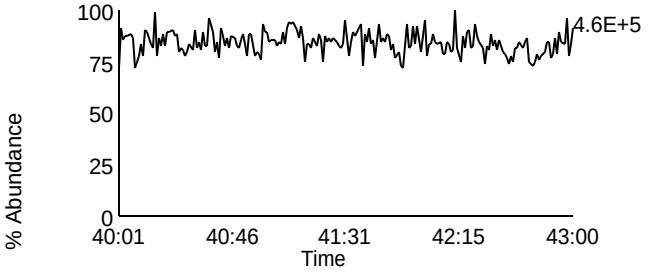
SAMP 10247062007 - SMT WI

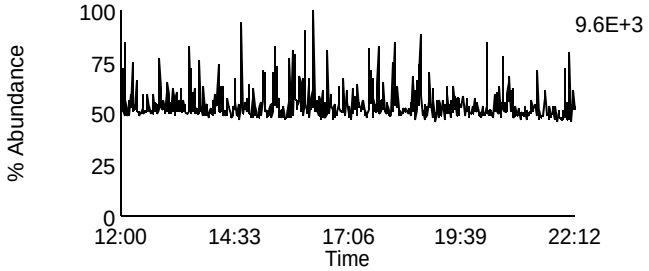


Homologue Group: Tetras

Data File Name: U131105A_15
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062008 - SMT WI

Lab Sample ID: 10247062008
Client Sample ID: MAK008O
Instrument: 10MSHR06 (U)

Data File: U131105A_15 G1 C1 - 303.9016
SAMP 10247062008 - SMT WI



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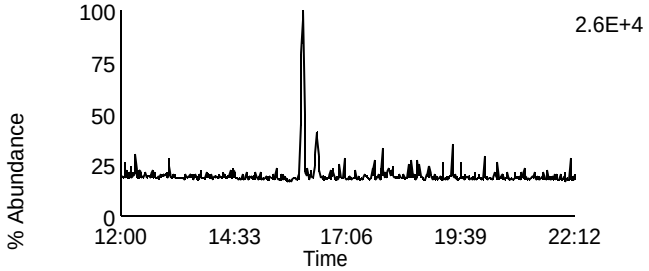
SAMP 10247062008 - SMT WI



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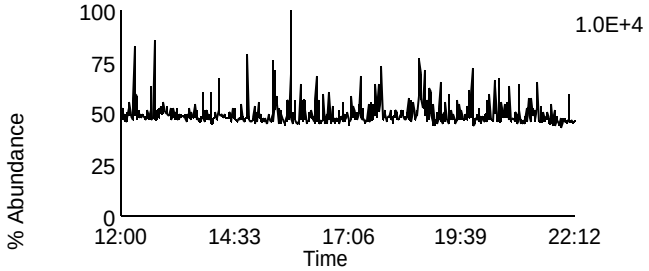
SAMP 10247062008 - SMT WI



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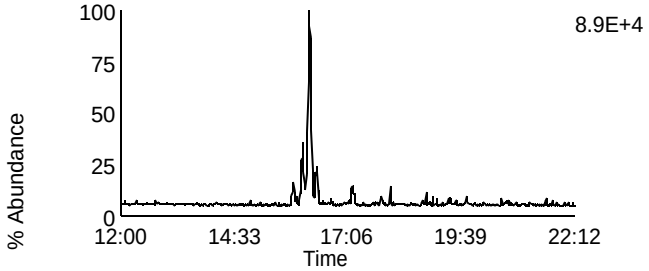
SAMP 10247062008 - SMT WI



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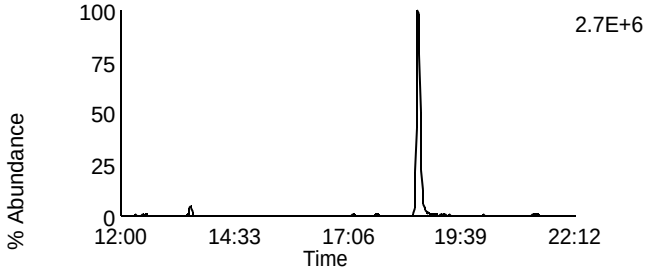
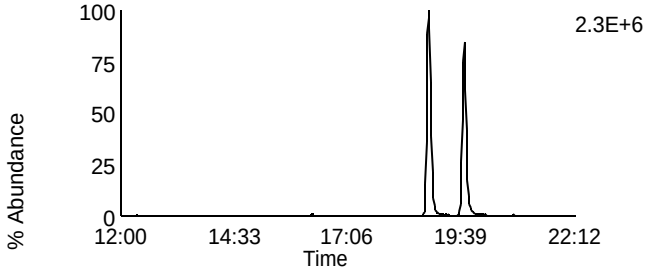
SAMP 10247062008 - SMT WI



Data File: U131105A_15 G1 C10 - 331.9367
SAMP 10247062008 - SMT WI



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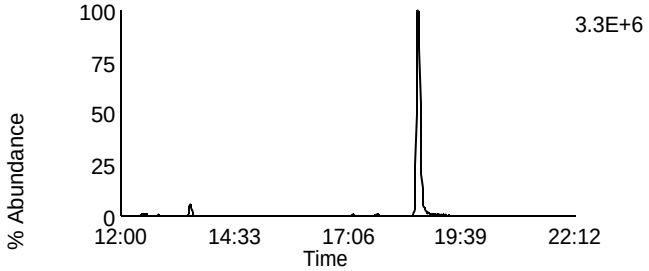
SAMP 10247062008 - SMT WI



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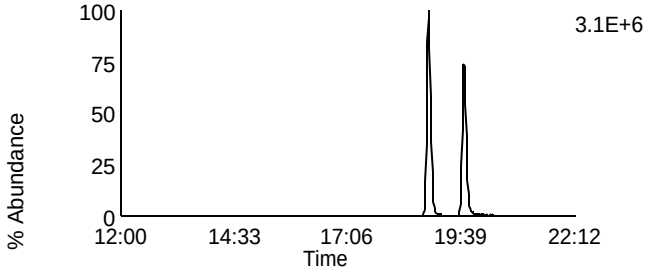
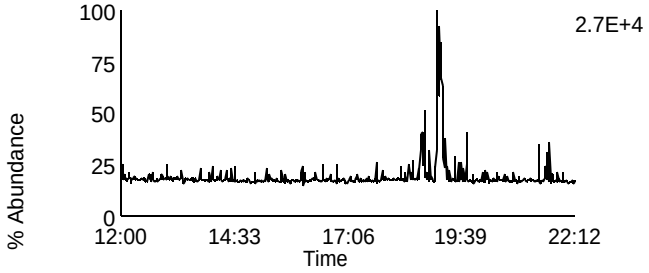
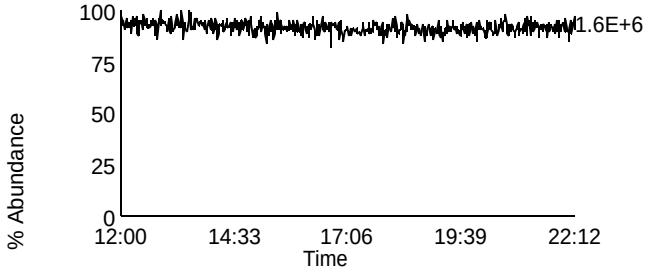
SAMP 10247062008 - SMT WI



Data File: U131105A_15 G1 C14 - 375.8364
SAMP 10247062008 - SMT WI



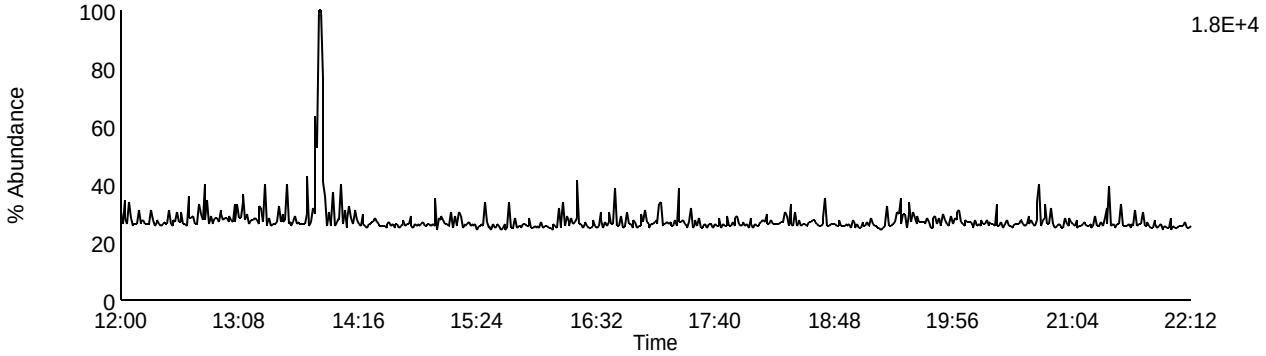
Data File: U131105A_15 G1 C5 - 318.9792
SAMP 10247062008 - SMT WI



Homologue Group: Penta & Cleanup

Data File Name: U131105A_15	Lab Sample ID: 10247062008
Date Acquired: 11/5/2013	Client Sample ID: MAK008O
Sample Description: SAMP 10247062008 - SMT WI	Instrument: 10MSHR06 (U)

Data File: U131105A_15 G1 C12 - 339.8597
SAMP 10247062008 - SMT WI



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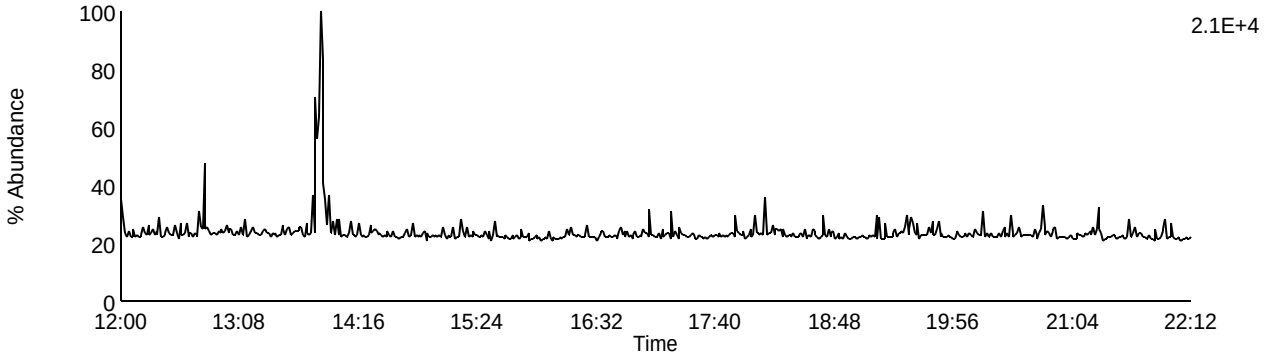
SAMP 10247062008 - SMT WI



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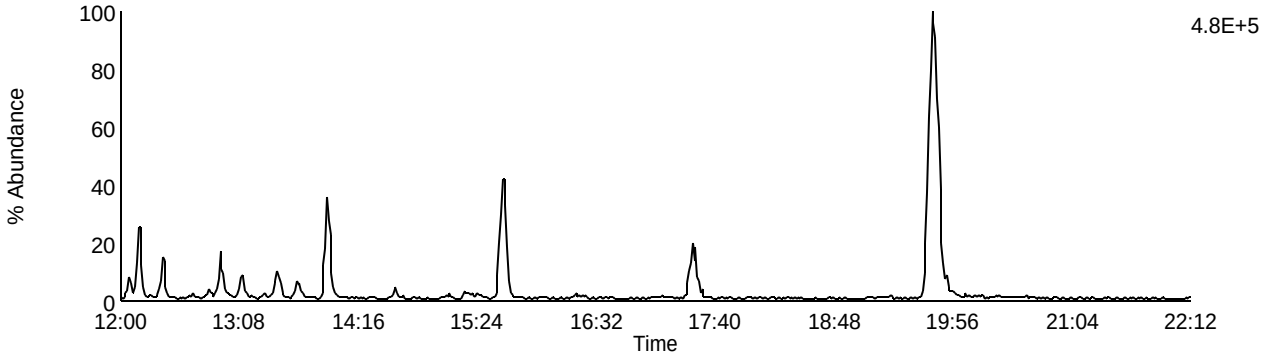
SAMP 10247062008 - SMT WI



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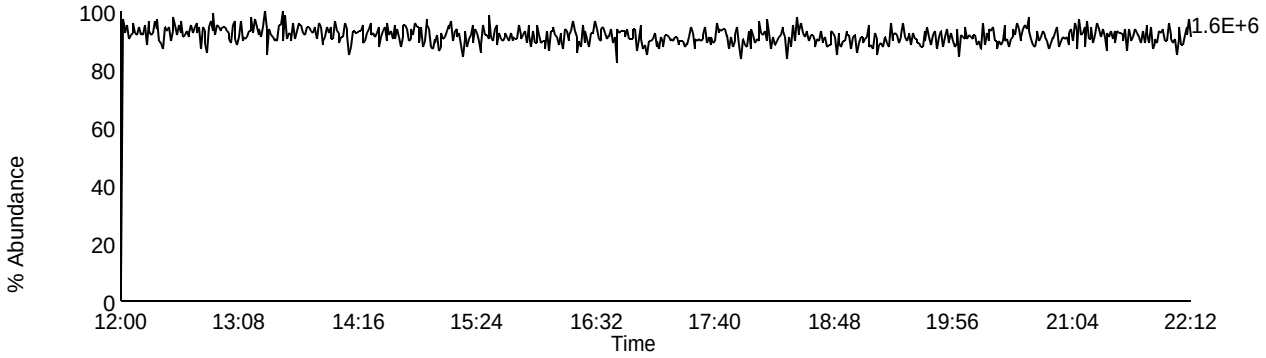
SAMP 10247062008 - SMT WI

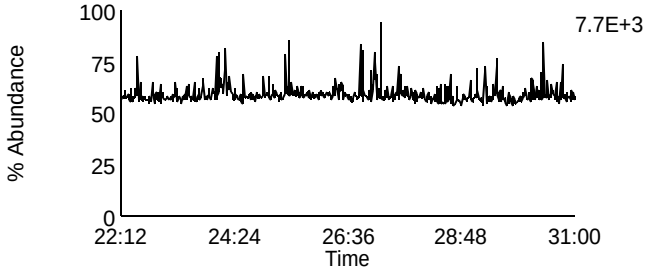


Homologue Group: Pentas

Data File Name: U131105A_15
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062008 - SMT WI

Lab Sample ID: 10247062008
Client Sample ID: MAK008O
Instrument: 10MSHR06 (U)

Data File: U131105A_15 G2 C1 - 339.8597
SAMP 10247062008 - SMT WI



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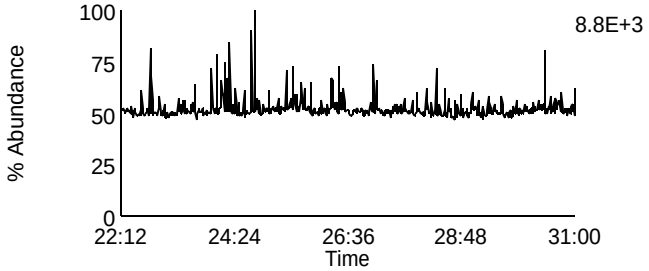
SAMP 10247062008 - SMT WI



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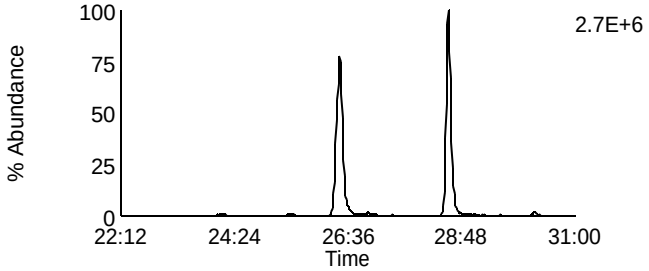
SAMP 10247062008 - SMT WI



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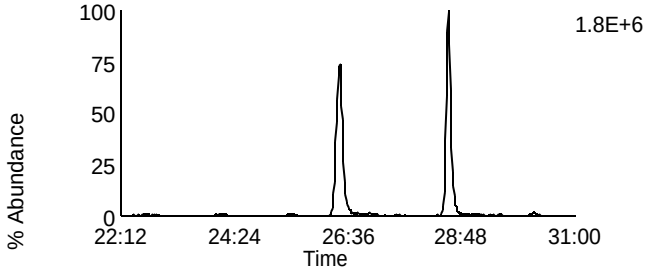

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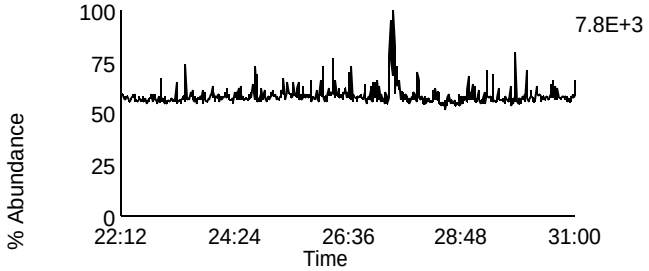
SAMP 10247062008 - SMT WI



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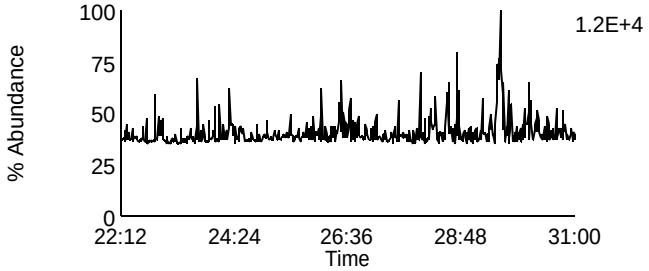
SAMP 10247062008 - SMT WI



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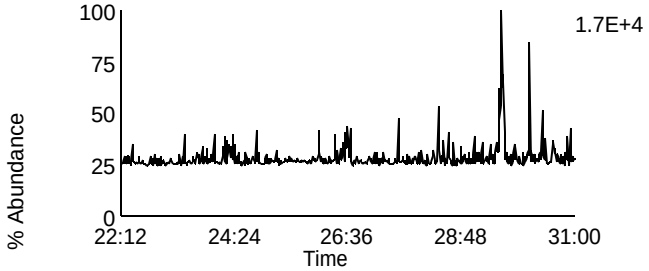
SAMP 10247062008 - SMT WI



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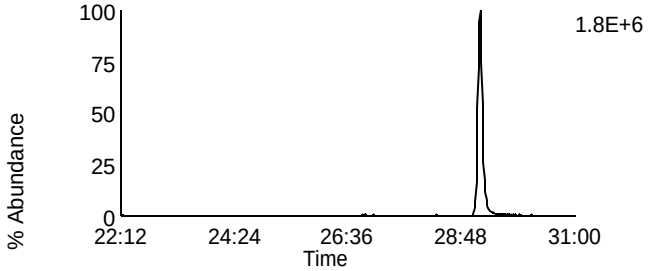

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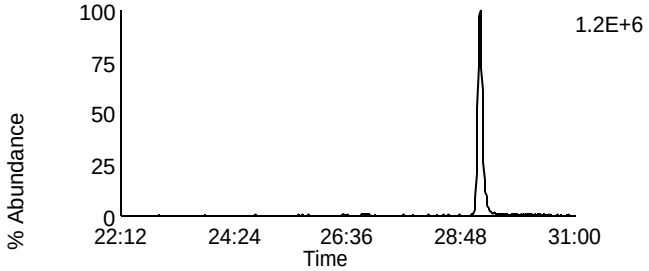
SAMP 10247062008 - SMT WI



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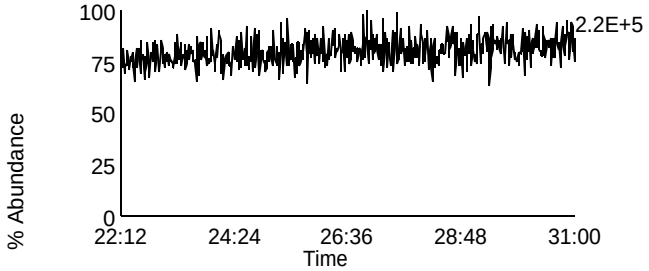
SAMP 10247062008 - SMT WI

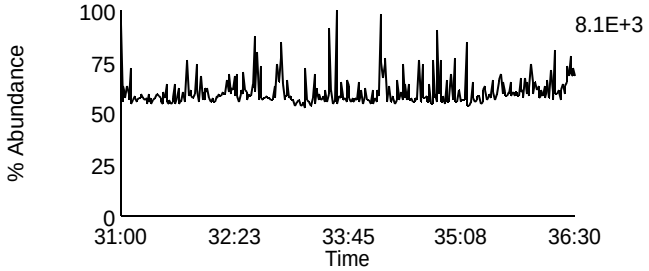


Homologue Group: Hexas

Data File Name: U131105A_15
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062008 - SMT WI

Lab Sample ID: 10247062008
Client Sample ID: MAK008O
Instrument: 10MSHR06 (U)

Data File: U131105A_15 G3 C1 - 373.8207
SAMP 10247062008 - SMT WI



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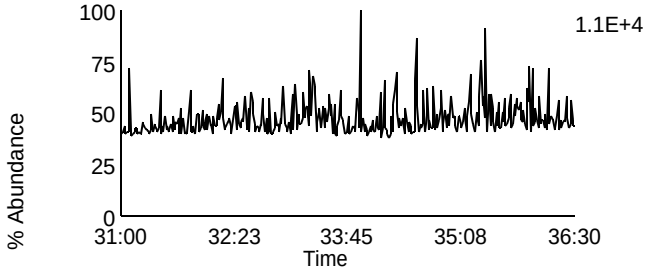
SAMP 10247062008 - SMT WI



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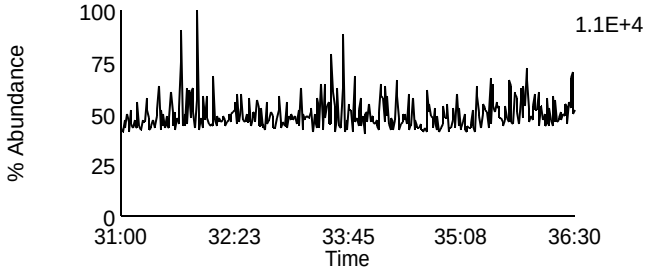

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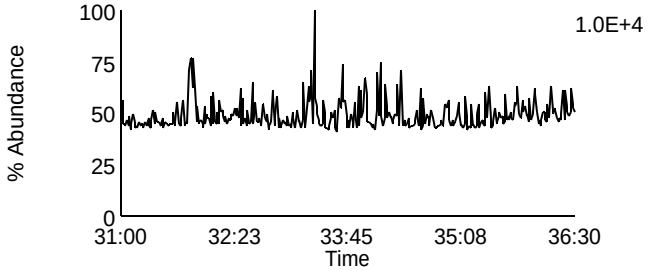

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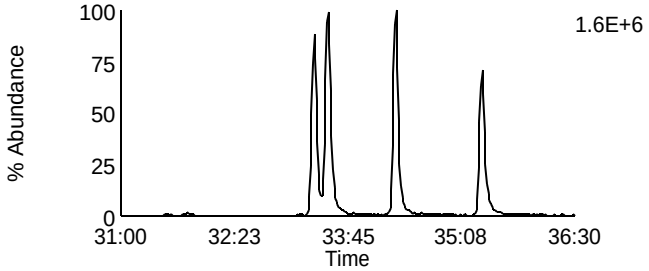
SAMP 10247062008 - SMT WI



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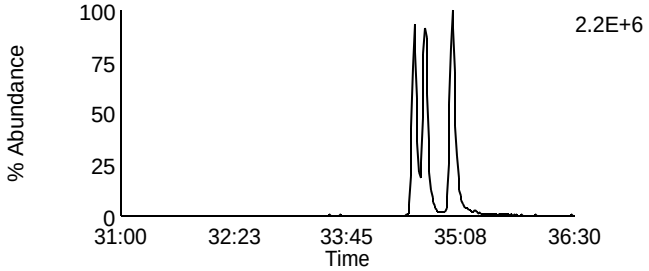

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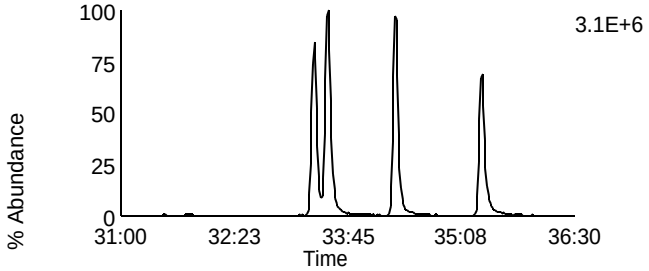

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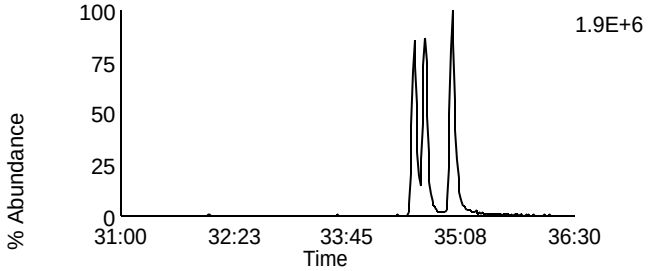

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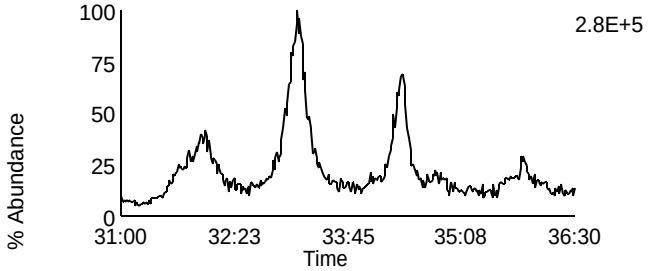

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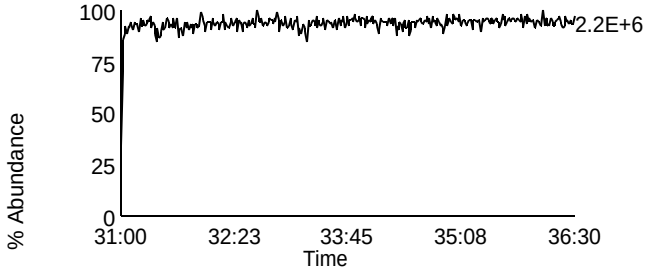
SAMP 10247062008 - SMT WI

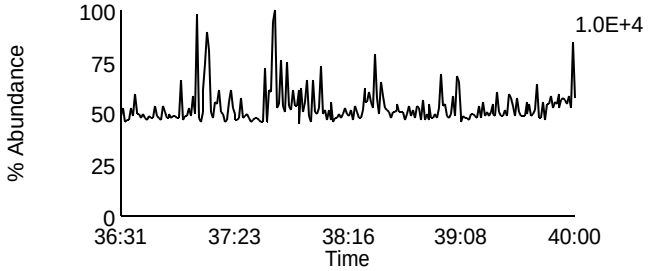


Homologue Group: Heptas

Data File Name: U131105A_15
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062008 - SMT WI

Lab Sample ID: 10247062008
Client Sample ID: MAK008O
Instrument: 10MSHR06 (U)

Data File: U131105A_15 G4 C3 - 407.7818
SAMP 10247062008 - SMT WI



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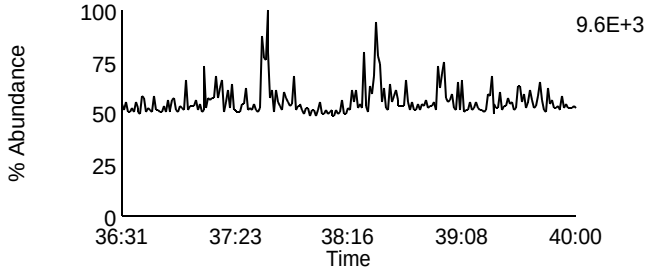

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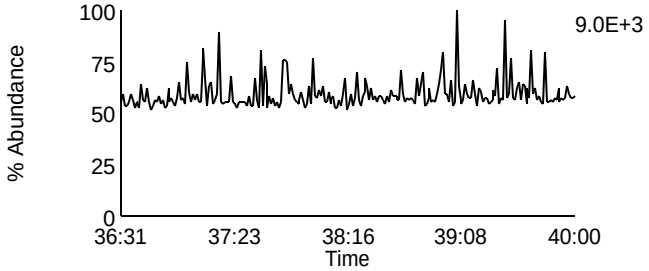

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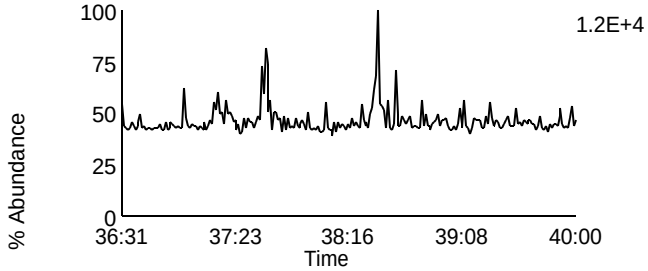

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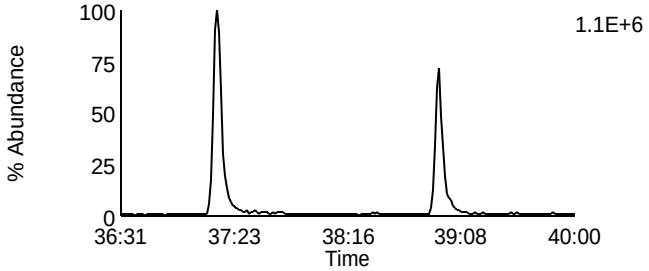

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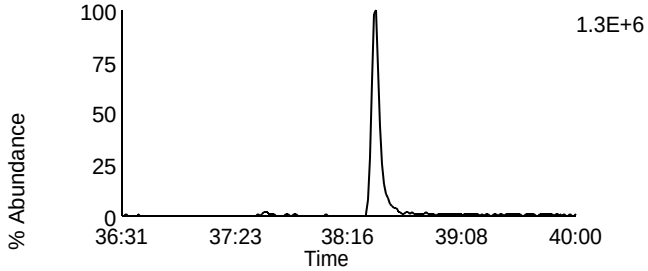
SAMP 10247062008 - SMT WI



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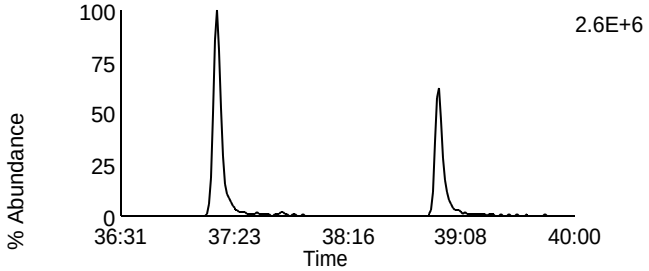
SAMP 10247062008 - SMT WI



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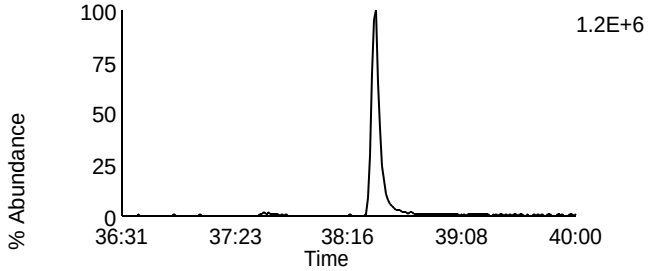

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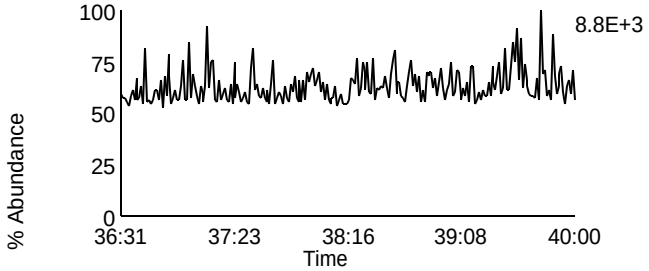
SAMP 10247062008 - SMT WI



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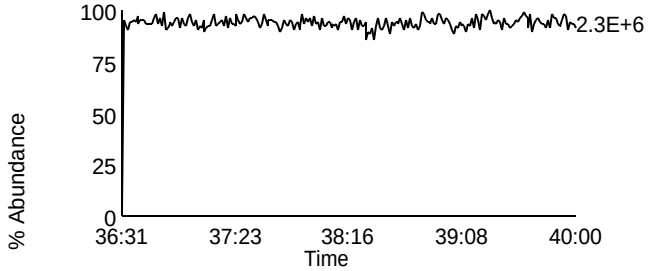
SAMP 10247062008 - SMT WI

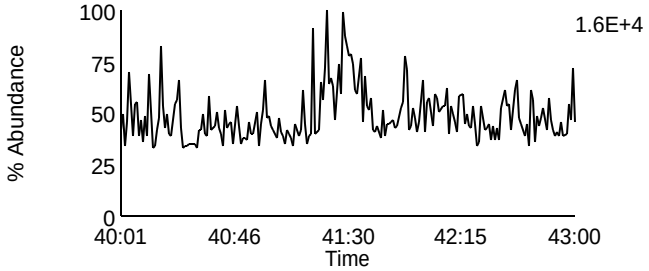


Homologue Group: Octas

Data File Name: U131105A_15
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062008 - SMT WI

Lab Sample ID: 10247062008
Client Sample ID: MAK008O
Instrument: 10MSHR06 (U)

Data File: U131105A_15 G5 C4 - 441.7428
SAMP 10247062008 - SMT WI



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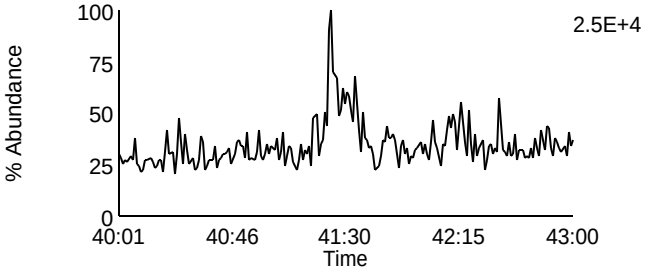

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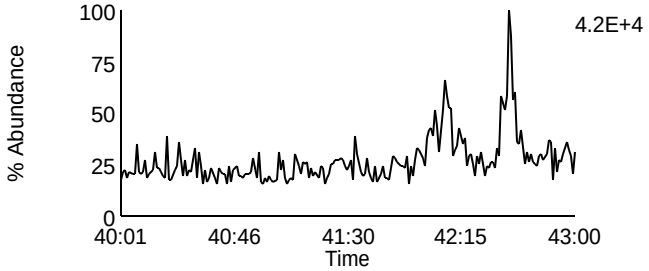

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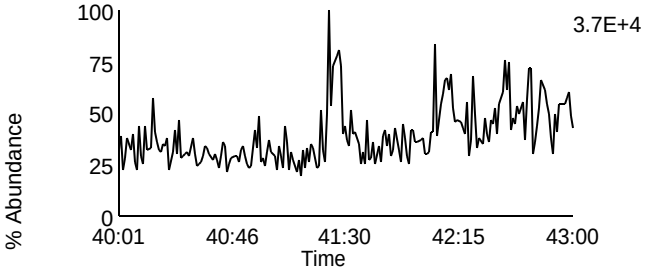

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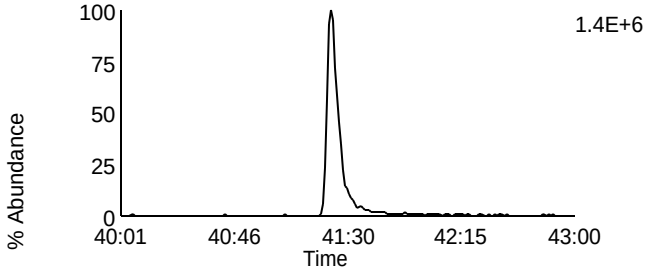

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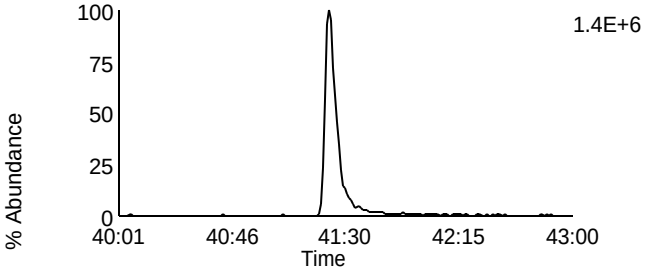

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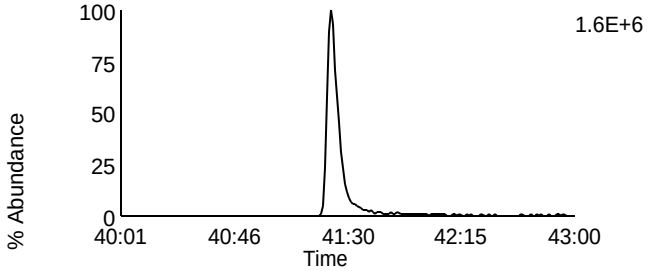

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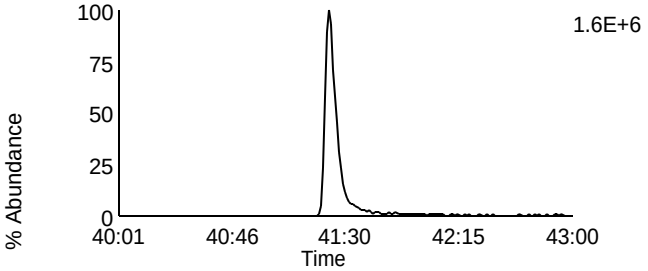
SAMP 10247062008 - SMT WI



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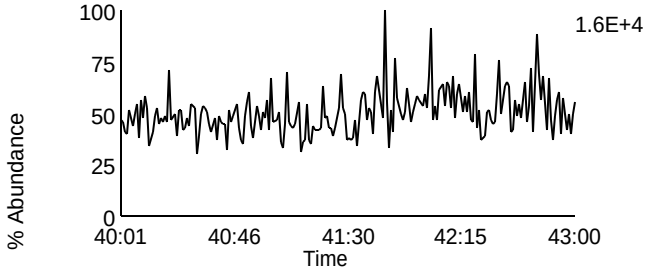
SAMP 10247062008 - SMT WI



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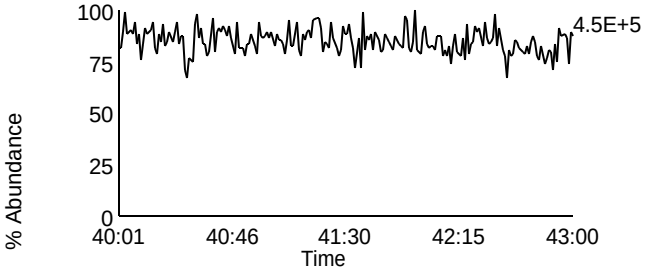
SAMP 10247062008 - SMT WI



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

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

PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK001O	Injected By	SMT
Lab ID	10247062001	Instrument ID	10MSHR06 (U)
Filename	U131105A_08	GC Column ID	USD227224H
Analyzed	11/05/2013 14:48	ICAL ID	U131104

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		18:40	2.19e7	2.78e7	3.72e6	4.67e6	2.737e3	3.816e3	0.79	
2,3,7,8-TCDF		18:41	1.40e4	3.80e4	2.94e3	8.54e3	7.074e2	7.609e2	0.37	I
Other TCDF	1	17:45	1.28e4	1.53e4					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		18:53	2.01e7	2.57e7	3.59e6	4.50e6	1.634e3	9.419e2	0.78	
2,3,7,8-TCDD-13C		19:41	1.63e7	2.03e7	2.45e6	3.26e6	2.593e3	1.009e3	0.80	
2,3,7,8-TCDD-37Cl4		19:43	4.15e6		6.58e5		6.616e2	-----		
2,3,7,8-TCDD		19:42	ND	ND	ND	ND	7.886e2	1.122e3		
Other TCDD	1	16:04	6.48e4	9.11e4					0.71	
	2	16:23	3.07e4	3.94e4					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	26:24	2.35e7	1.54e7	2.72e6	1.70e6	2.743e4	3.124e3	1.53	
2,3,4,7,8-PeCDF-13C	28:30	2.30e7	1.48e7	3.38e6	2.13e6	6.343e3	1.578e3	1.56	
1,2,3,7,8-PeCDF	26:25	ND	ND	ND	ND	4.658e2	5.721e2		
2,3,4,7,8-PeCDF	28:31	ND	ND	ND	ND	4.379e2	5.596e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:08	1.65e7	1.05e7	2.48e6	1.57e6	2.339e3	9.115e2	1.58	
1,2,3,7,8-PeCDD	29:11	1.19e4	1.27e4	1.04e4	3.31e3	1.079e3	7.339e2	0.94	I

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	33:20	8.41e6	1.63e7	1.78e6	3.44e6	3.191e4	2.335e2	0.52	
1,2,3,6,7,8-HxCDF-13C	33:31	1.10e7	2.12e7	2.09e6	4.08e6	1.128e4	2.717e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:19	9.63e6	1.91e7	2.25e6	4.25e6	5.745e2	3.039e2	0.50	
1,2,3,7,8,9-HxCDF-13C	35:21	7.46e6	1.42e7	1.41e6	2.89e6	1.469e4	2.951e3	0.53	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	6.398e2	8.189e2		
1,2,3,6,7,8-HxCDF	33:31	ND	ND	ND	ND	7.267e2	8.284e2		

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Client Name	PASI Wisconsin		
Client ID	MAK001O	Injected By	SMT
Lab ID	10247062001	Instrument ID	10MSHR06 (U)
Filename	U131105A_08	GC Column ID	USD227224H
Analyzed	11/05/2013 14:48	ICAL ID	U131104

2,3,4,6,7,8-HxCDF		34:20	ND	ND	ND	ND	8.433e2	7.189e2		
1,2,3,7,8,9-HxCDF		35:23	ND	ND	ND	ND	6.736e2	8.514e2		
Other HxCDF	1	32:56	7.43e3	6.11e3					1.21	

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	34:33	1.21e7	8.83e6	2.80e6	2.08e6	3.917e3	1.389e3	1.37	
1,2,3,6,7,8-HxCDD-13C	34:41	1.31e7	1.07e7	2.82e6	2.19e6	8.595e3	3.559e2	1.23	
1,2,3,7,8,9-HxCDD-13C	35:01	1.65e7	1.32e7	3.39e6	2.60e6	9.937e2	2.869e2	1.26	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	8.940e2	9.428e2		
1,2,3,6,7,8-HxCDD	34:42	ND	ND	ND	ND	1.184e3	9.428e2		
1,2,3,7,8,9-HxCDD	35:01	ND	ND	ND	ND	1.126e3	8.641e2		

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	37:15	7.63e6	1.63e7	1.66e6	3.82e6	2.621e3	2.417e3	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:57	4.31e6	9.62e6	1.02e6	2.07e6	2.436e3	2.086e3	0.45	
1,2,3,4,6,7,8-HpCDF	37:15	1.09e4	1.11e4	7.00e3	3.63e3	1.133e3	7.939e2	0.99	
1,2,3,4,7,8,9-HpCDF	38:58	ND	ND	ND	ND	1.278e3	7.146e2		
Other HpCDF 1	37:43	2.03e4	1.75e4					1.16	

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	38:28	8.75e6	7.89e6	1.94e6	1.81e6	1.150e3	8.739e2	1.11	
1,2,3,4,6,7,8-HpCDD	38:29	3.33e4	3.43e4	7.31e3	6.97e3	9.508e2	7.687e2	0.97	
Other HpCDD 1	37:35	3.01e4	3.06e4					0.98	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:32	1.29e4	2.06e4	3.91e3	5.16e3	1.216e3	2.546e3	0.63	I

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	1.12e7	1.29e7	1.99e6	2.36e6	2.583e2	6.299e2	0.87	
OCDD	41:23	1.05e5	1.52e5	1.89e4	3.44e4	1.246e3	2.521e3	0.69	I

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Client Name	PASI Wisconsin		
Client ID	MAK001O	Injected By	SMT
Lab ID	10247062001	Instrument ID	10MSHR06 (U)
Filename	U131105A_08	GC Column ID	USD227224H
Analyzed	11/05/2013 14:48	ICAL ID	U131104

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK002O	Injected By	SMT
Lab ID	10247062002	Instrument ID	10MSHR06 (U)
Filename	U131105A_09	GC Column ID	USD227224H
Analyzed	11/05/2013 15:35	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	1.84e7	2.30e7	3.06e6	3.86e6	3.216e3	2.624e3	0.80	
2,3,7,8-TCDF	18:41	1.00e4	2.26e4	2.33e3	7.04e3	9.610e2	7.910e2	0.44	I

Tetra-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C		18:55	1.60e7	1.99e7	2.90e6	3.40e6	2.203e3	8.520e2	0.80	
2,3,7,8-TCDD-13C		19:43	1.31e7	1.72e7	2.09e6	2.68e6	1.253e3	7.301e2	0.77	
2,3,7,8-TCDD-37Cl4		19:44	3.37e6		5.27e5		1.196e3	-----		
2,3,7,8-TCDD		19:43	ND	ND	ND	ND	6.417e2	1.347e3		
Other TCDD	1	16:22	2.37e4	3.42e4					0.69	
	2	16:04	4.30e4	6.25e4					0.69	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:25	2.01e7	1.27e7	2.27e6	1.48e6	3.342e4	1.630e3	1.58	
2,3,4,7,8-PeCDF-13C	28:32	1.96e7	1.23e7	2.89e6	1.93e6	4.202e3	1.799e3	1.59	
1,2,3,7,8-PeCDF	26:26	ND	ND	ND	ND	7.923e2	5.065e2		
2,3,4,7,8-PeCDF	28:33	ND	ND	ND	ND	7.268e2	8.349e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:08	1.38e7	9.05e6	2.04e6	1.36e6	2.036e3	1.247e3	1.53	
1,2,3,7,8-PeCDD	29:11	ND	ND	ND	ND	9.078e2	1.121e3		

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	33:20	6.89e6	1.30e7	1.63e6	2.96e6	1.992e3	1.518e3	0.53	
1,2,3,6,7,8-HxCDF-13C	33:31	8.87e6	1.72e7	1.74e6	3.42e6	1.551e3	9.530e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:19	7.94e6	1.54e7	1.73e6	3.41e6	1.863e1	5.967e2	0.52	
1,2,3,7,8,9-HxCDF-13C	35:21	6.01e6	1.15e7	1.22e6	2.28e6	4.825e3	1.927e3	0.52	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	9.035e2	1.238e3		
1,2,3,6,7,8-HxCDF	33:31	ND	ND	ND	ND	1.213e3	1.555e3		
2,3,4,6,7,8-HxCDF	34:20	ND	ND	ND	ND	9.775e2	1.400e3		

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Client Name	PASI Wisconsin		
Client ID	MAK002O	Injected By	SMT
Lab ID	10247062002	Instrument ID	10MSHR06 (U)
Filename	U131105A_09	GC Column ID	USD227224H
Analyzed	11/05/2013 15:35	ICAL ID	U131104

1,2,3,7,8,9-HxCDF		35:23	ND	ND	ND	ND	8.794e2	1.064e3		

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		34:33	9.65e6	7.66e6	2.31e6	1.77e6	1.528e4	1.717e3	1.26	
1,2,3,6,7,8-HxCDD-13C		34:41	1.05e7	8.56e6	2.22e6	1.87e6	1.513e4	3.463e2	1.22	
1,2,3,7,8,9-HxCDD-13C		35:01	1.31e7	1.02e7	2.71e6	2.19e6	1.209e3	9.292e2	1.28	
1,2,3,4,7,8-HxCDD		34:34	ND	ND	ND	ND	1.259e3	1.032e3		
1,2,3,6,7,8-HxCDD		34:42	ND	ND	ND	ND	1.128e3	1.006e3		
1,2,3,7,8,9-HxCDD		35:01	ND	ND	ND	ND	1.104e3	1.045e3		
Other HxCDD	1	33:38	1.34e4	1.10e4					1.22	

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		37:15	6.49e6	1.39e7	1.61e6	3.34e6	5.376e3	7.798e2	0.47	
1,2,3,4,7,8,9-HpCDF-13C		38:57	3.44e6	7.33e6	7.86e5	1.73e6	4.491e3	6.840e2	0.47	
1,2,3,4,6,7,8-HpCDF		37:14	9.78e3	7.91e3	5.17e3	3.39e3	1.203e3	7.825e2	1.24	I
1,2,3,4,7,8,9-HpCDF		38:58	ND	ND	ND	ND	1.062e3	7.450e2		
Other HpCDF	1	37:44	1.77e4	1.76e4					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		38:27	6.86e6	6.38e6	1.60e6	1.52e6	6.272e2	1.929e3	1.08	
1,2,3,4,6,7,8-HpCDD		38:28	2.05e4	2.08e4	6.92e3	7.45e3	9.812e2	1.345e3	0.99	
Other HpCDD	1	37:36	2.43e4	2.35e4					1.03	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:30	ND	ND	ND	ND	3.201e3	3.119e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	8.68e6	9.77e6	1.67e6	1.87e6	6.760e3	9.643e2	0.89	
OCDD	41:23	1.21e5	1.03e5	2.11e4	1.97e4	3.058e3	4.710e3	1.17	I

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Client Name	PASI Wisconsin		
Client ID	MAK002O	Injected By	SMT
Lab ID	10247062002	Instrument ID	10MSHR06 (U)
Filename	U131105A_09	GC Column ID	USD227224H
Analyzed	11/05/2013 15:35	ICAL ID	U131104

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK003O	Injected By	SMT
Lab ID	10247062003	Instrument ID	10MSHR06 (U)
Filename	U131105A_10	GC Column ID	USD227224H
Analyzed	11/05/2013 16:21	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:41	1.75e7	2.16e7	2.89e6	3.50e6	4.084e3	1.305e3	0.81	
2,3,7,8-TCDF	18:42	1.46e4	2.04e4	1.97e3	5.10e3	9.695e2	9.406e2	0.71	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:55	1.53e7	1.95e7	2.57e6	3.24e6	2.307e3	1.228e3	0.78	
2,3,7,8-TCDD-13C	19:42	1.27e7	1.63e7	2.05e6	2.67e6	2.288e3	5.674e2	0.78	
2,3,7,8-TCDD-37Cl4	19:44	3.27e6		5.31e5		1.298e3	-----		
2,3,7,8-TCDD	19:43	ND	ND	ND	ND	9.349e2	8.134e2		
Other TCDD 1	16:06	5.22e4	6.16e4					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	26:24	1.84e7	1.17e7	2.13e6	1.42e6	1.914e4	1.692e4	1.58	
2,3,4,7,8-PeCDF-13C	28:32	1.72e7	1.11e7	2.62e6	1.67e6	6.754e3	8.706e2	1.55	
1,2,3,7,8-PeCDF	26:25	ND	ND	ND	ND	4.719e2	5.101e2		
2,3,4,7,8-PeCDF	28:33	ND	ND	ND	ND	4.480e2	3.696e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:09	1.26e7	8.18e6	1.96e6	1.26e6	3.556e3	5.112e2	1.54	
1,2,3,7,8-PeCDD	29:11	ND	ND	ND	ND	1.010e3	8.892e2		

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	33:20	6.29e6	1.19e7	1.38e6	2.73e6	1.226e3	5.101e2	0.53	
1,2,3,6,7,8-HxCDF-13C	33:30	7.89e6	1.50e7	1.68e6	3.24e6	2.673e3	8.698e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:19	7.08e6	1.34e7	1.64e6	3.10e6	6.239e2	5.498e1	0.53	
1,2,3,7,8,9-HxCDF-13C	35:21	5.50e6	1.07e7	1.26e6	2.30e6	5.257e3	4.497e3	0.51	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	7.728e2	1.374e3		
1,2,3,6,7,8-HxCDF	33:31	ND	ND	ND	ND	8.349e2	1.343e3		
2,3,4,6,7,8-HxCDF	34:20	ND	ND	ND	ND	7.367e2	1.109e3		
1,2,3,7,8,9-HxCDF	35:23	ND	ND	ND	ND	9.419e2	1.281e3		

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Client Name	PASI Wisconsin		
Client ID	MAK003O	Injected By	SMT
Lab ID	10247062003	Instrument ID	10MSHR06 (U)
Filename	U131105A_10	GC Column ID	USD227224H
Analyzed	11/05/2013 16:21	ICAL ID	U131104

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	34:33	8.66e6	6.87e6	2.09e6	1.69e6	5.539e3	5.827e3	1.26	
1,2,3,6,7,8-HxCDD-13C	34:40	1.00e7	8.16e6	2.30e6	1.98e6	5.776e3	6.432e2	1.23	
1,2,3,7,8,9-HxCDD-13C	35:01	1.19e7	9.77e6	2.58e6	2.06e6	8.319e2	1.109e3	1.22	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	9.964e2	1.209e3		
1,2,3,6,7,8-HxCDD	34:41	ND	ND	ND	ND	1.357e3	1.231e3		
1,2,3,7,8,9-HxCDD	35:01	ND	ND	ND	ND	1.235e3	1.190e3		

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	37:14	5.52e6	1.20e7	1.32e6	2.95e6	4.761e3	5.430e3	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:56	3.75e6	8.07e6	9.57e5	2.09e6	5.133e3	2.605e3	0.47	
1,2,3,4,6,7,8-HpCDF	37:15	ND	ND	ND	ND	1.040e3	1.006e3		
1,2,3,4,7,8,9-HpCDF	38:57	ND	ND	ND	ND	1.025e3	8.590e2		
Other HpCDF 1	37:45	8.91e3	9.88e3					0.90	

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	38:27	6.52e6	6.02e6	1.51e6	1.43e6	2.157e4	5.759e2	1.08	
1,2,3,4,6,7,8-HpCDD	38:27	1.90e4	2.17e4	6.54e3	6.27e3	1.303e3	6.947e2	0.87	I

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:30	ND	ND	ND	ND	3.270e3	3.756e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:22	8.75e6	9.82e6	1.99e6	2.25e6	1.460e3	5.143e2	0.89	
OCDD	41:23	1.01e5	1.11e5	2.37e4	1.78e4	4.700e3	6.141e3	0.91	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK004O	Injected By	SMT
Lab ID	10247062004	Instrument ID	10MSHR06 (U)
Filename	U131105A_11	GC Column ID	USD227224H
Analyzed	11/05/2013 17:07	ICAL ID	U131104

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		18:40	1.64e7	2.14e7	2.77e6	3.54e6	3.813e3	2.504e3	0.77	
2,3,7,8-TCDF		18:40	8.17e3	1.30e4	4.64e3	3.99e3	9.707e2	8.049e2	0.63	I

Tetra-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C		18:54	1.46e7	1.82e7	2.51e6	3.11e6	1.418e3	1.193e3	0.80	
2,3,7,8-TCDD-13C		19:42	1.23e7	1.56e7	1.93e6	2.47e6	3.869e3	7.356e2	0.79	
2,3,7,8-TCDD-37Cl4		19:43	3.27e6		5.10e5		8.715e2	-----		
2,3,7,8-TCDD		19:43	ND	ND	ND	ND	6.591e2	1.112e3		
Other TCDD	1	16:04	4.78e4	5.66e4					0.84	
	2	16:22	1.65e4	2.56e4					0.65	

Penta-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C		26:25	1.69e7	1.08e7	1.95e6	1.24e6	1.360e4	1.605e3	1.55	
2,3,4,7,8-PeCDF-13C		28:31	1.71e7	1.10e7	2.57e6	1.62e6	6.112e3	1.603e3	1.56	
1,2,3,7,8-PeCDF		26:26	ND	ND	ND	ND	7.526e2	6.249e2		
2,3,4,7,8-PeCDF		28:32	ND	ND	ND	ND	7.084e2	7.751e2		

Penta-Dioxins:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C		29:08	1.25e7	7.93e6	1.86e6	1.17e6	1.002e3	1.805e3	1.57	
1,2,3,7,8-PeCDD		29:10	ND	ND	ND	ND	1.616e3	1.451e3		
Other PeCDD	1	29:32	1.13e5	1.72e5					0.66	

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	33:20	6.21e6	1.18e7	1.35e6	2.65e6	8.939e2	3.013e2	0.53	
1,2,3,6,7,8-HxCDF-13C	33:30	7.86e6	1.50e7	1.67e6	3.05e6	8.939e2	4.839e2	0.53	
2,3,4,6,7,8-HxCDF-13C	34:19	7.04e6	1.34e7	1.61e6	2.98e6	4.458e2	1.152e3	0.53	
1,2,3,7,8,9-HxCDF-13C	35:21	5.49e6	1.08e7	1.19e6	2.28e6	1.957e3	3.033e3	0.51	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	1.060e3	1.223e3		
1,2,3,6,7,8-HxCDF	33:31	ND	ND	ND	ND	1.098e3	1.035e3		

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Client Name	PASI Wisconsin		
Client ID	MAK004O	Injected By	SMT
Lab ID	10247062004	Instrument ID	10MSHR06 (U)
Filename	U131105A_11	GC Column ID	USD227224H
Analyzed	11/05/2013 17:07	ICAL ID	U131104

2,3,4,6,7,8-HxCDF	34:20	ND	ND	ND	ND	1.123e3	1.196e3		
1,2,3,7,8,9-HxCDF	35:23	ND	ND	ND	ND	1.261e3	1.112e3		

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	34:33	8.54e6	6.73e6	2.12e6	1.64e6	6.086e3	2.300e3	1.27	
1,2,3,6,7,8-HxCDD-13C	34:41	9.85e6	7.68e6	2.06e6	1.70e6	7.008e3	8.154e2	1.28	
1,2,3,7,8,9-HxCDD-13C	35:01	1.20e7	9.49e6	2.54e6	2.00e6	1.271e3	3.169e2	1.26	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	1.284e3	1.346e3		
1,2,3,6,7,8-HxCDD	34:42	ND	ND	ND	ND	1.389e3	1.488e3		
1,2,3,7,8,9-HxCDD	35:01	ND	ND	ND	ND	1.264e3	1.216e3		

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	37:14	5.39e6	1.23e7	1.26e6	2.93e6	1.231e3	2.206e2	0.44	
1,2,3,4,7,8,9-HpCDF-13C	38:56	3.43e6	7.27e6	8.63e5	1.86e6	2.946e3	9.476e2	0.47	
1,2,3,4,6,7,8-HpCDF	37:15	5.86e3	7.49e3	2.43e3	3.42e3	1.185e3	1.271e3	0.78	I
1,2,3,4,7,8,9-HpCDF	38:57	ND	ND	ND	ND	1.212e3	1.103e3		
Other HpCDF 1	37:47	9.70e3	1.07e4					0.91	

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	38:27	6.23e6	5.81e6	1.49e6	1.39e6	1.734e4	3.647e2	1.07	
1,2,3,4,6,7,8-HpCDD	38:29	2.80e4	2.18e4	9.65e3	4.80e3	1.209e3	1.071e3	1.28	I

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	ND	ND	ND	ND	1.934e3	4.287e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	8.04e6	9.10e6	1.64e6	1.81e6	1.024e3	1.212e3	0.88	
OCDD	41:23	8.37e4	1.30e5	1.68e4	2.58e4	2.930e3	5.541e3	0.64	I

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Client Name	PASI Wisconsin		
Client ID	MAK004O	Injected By	SMT
Lab ID	10247062004	Instrument ID	10MSHR06 (U)
Filename	U131105A_11	GC Column ID	USD227224H
Analyzed	11/05/2013 17:07	ICAL ID	U131104

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK005O	Injected By	SMT
Lab ID	10247062005	Instrument ID	10MSHR06 (U)
Filename	U131105A_12	GC Column ID	USD227224H
Analyzed	11/05/2013 17:53	ICAL ID	U131104

Tetra-Furans:		RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C		18:40	2.46e7	3.15e7	4.12e6	5.30e6	5.085e3	2.284e3	0.78	
2,3,7,8-TCDF		18:42	1.75e4	2.70e4	1.30e2	4.10e3	1.020e3	9.765e2	0.65	
Other TCDF	1	17:46	1.83e4	2.33e4					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		18:54	2.21e7	2.79e7	3.80e6	4.86e6	7.997e3	7.283e2	0.79	
2,3,7,8-TCDD-13C		19:42	1.85e7	2.30e7	2.77e6	3.45e6	2.777e3	2.085e3	0.80	
2,3,7,8-TCDD-37Cl4		19:43	4.60e6		7.09e5		1.415e3	-----		
2,3,7,8-TCDD		19:43	ND	ND	ND	ND	1.225e3	9.811e2		
Other TCDD	1	16:03	8.57e4	1.18e5					0.72	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:25	2.69e7	1.74e7	3.07e6	1.95e6	2.883e4	4.030e3	1.55	
2,3,4,7,8-PeCDF-13C	28:31	2.66e7	1.73e7	4.04e6	2.57e6	2.920e3	1.635e3	1.54	
1,2,3,7,8-PeCDF	26:26	ND	ND	ND	ND	6.159e2	5.437e2		
2,3,4,7,8-PeCDF	28:32	ND	ND	ND	ND	6.458e2	6.508e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:08	1.95e7	1.24e7	2.99e6	1.82e6	1.923e3	4.716e3	1.57	
1,2,3,7,8-PeCDD	29:11	ND	ND	ND	ND	1.475e3	1.379e3		

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	33:20	9.57e6	1.87e7	2.04e6	3.97e6	1.008e3	9.452e2	0.51	
1,2,3,6,7,8-HxCDF-13C	33:31	1.23e7	2.36e7	2.48e6	4.74e6	2.863e4	8.252e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:20	1.09e7	2.10e7	2.34e6	4.58e6	2.564e2	6.979e2	0.52	
1,2,3,7,8,9-HxCDF-13C	35:22	8.69e6	1.63e7	1.76e6	3.33e6	1.074e4	4.672e3	0.53	
1,2,3,4,7,8-HxCDF	33:19	5.62e3	9.24e3	1.92e3	2.81e3	1.197e3	1.307e3	0.61	I
1,2,3,6,7,8-HxCDF	33:32	6.41e3	6.47e3	3.57e3	3.26e3	1.243e3	1.427e3	0.99	I
2,3,4,6,7,8-HxCDF	34:21	ND	ND	ND	ND	1.131e3	1.225e3		

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Client Name	PASI Wisconsin		
Client ID	MAK005O	Injected By	SMT
Lab ID	10247062005	Instrument ID	10MSHR06 (U)
Filename	U131105A_12	GC Column ID	USD227224H
Analyzed	11/05/2013 17:53	ICAL ID	U131104

1,2,3,7,8,9-HxCDF		35:24	ND	ND	ND	ND	1.357e3	1.057e3		
Other HxCDF	1	34:09	7.30e3	6.41e3					1.14	

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	34:33	1.34e7	1.04e7	3.03e6	2.41e6	5.941e3	3.240e3	1.29	
1,2,3,6,7,8-HxCDD-13C	34:41	1.52e7	1.20e7	3.25e6	2.47e6	8.682e3	4.298e3	1.26	
1,2,3,7,8,9-HxCDD-13C	35:01	1.82e7	1.44e7	3.67e6	3.00e6	5.605e3	1.857e3	1.26	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	1.824e3	1.421e3		
1,2,3,6,7,8-HxCDD	34:42	ND	ND	ND	ND	1.796e3	1.213e3		
1,2,3,7,8,9-HxCDD	35:01	ND	ND	ND	ND	1.514e3	1.012e3		

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	37:15	8.46e6	1.79e7	1.99e6	4.36e6	3.137e3	9.107e2	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:57	5.20e6	1.16e7	1.16e6	2.52e6	5.010e3	6.555e2	0.45	
1,2,3,4,6,7,8-HpCDF	37:15	8.05e3	1.21e4	4.77e3	4.12e3	1.525e3	1.170e3	0.66	I
1,2,3,4,7,8,9-HpCDF	38:58	ND	ND	ND	ND	1.435e3	1.269e3		
Other HpCDF	1	37:45	2.05e4	1.73e4				1.18	

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	38:27	9.31e6	8.87e6	2.28e6	2.08e6	1.743e3	1.136e3	1.05	
1,2,3,4,6,7,8-HpCDD	38:27	3.01e4	3.24e4	9.27e3	7.45e3	1.081e3	1.021e3	0.93	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	ND	ND	ND	ND	2.305e3	5.385e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:24	1.27e7	1.39e7	2.44e6	2.76e6	6.635e2	2.190e3	0.91	
OCDD	41:24	2.03e5	2.21e5	3.31e4	3.60e4	5.757e3	5.732e3	0.92	

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Client Name	PASI Wisconsin		
Client ID	MAK005O	Injected By	SMT
Lab ID	10247062005	Instrument ID	10MSHR06 (U)
Filename	U131105A_12	GC Column ID	USD227224H
Analyzed	11/05/2013 17:53	ICAL ID	U131104

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK006O	Injected By	SMT
Lab ID	10247062006	Instrument ID	10MSHR06 (U)
Filename	U131105A_13	GC Column ID	USD227224H
Analyzed	11/05/2013 18:39	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	1.77e7	2.21e7	2.93e6	3.78e6	3.592e3	2.464e3	0.80	
2,3,7,8-TCDF	18:43	1.66e4	1.58e4	4.66e3	5.12e3	8.548e2	1.063e3	1.05	I

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:55	1.57e7	1.92e7	2.77e6	3.40e6	1.261e3	1.199e3	0.81	
2,3,7,8-TCDD-13C	19:43	1.30e7	1.60e7	2.06e6	2.60e6	2.696e3	3.509e2	0.81	
2,3,7,8-TCDD-37Cl4	19:44	3.34e6		5.18e5		1.354e3	-----		
2,3,7,8-TCDD	19:43	ND	ND	ND	ND	9.452e2	1.214e3		
Other TCDD 1	16:05	5.66e4	7.76e4					0.73	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:26	1.83e7	1.21e7	2.18e6	1.46e6	1.356e4	1.888e3	1.52	
2,3,4,7,8-PeCDF-13C	28:31	1.86e7	1.20e7	2.89e6	1.82e6	3.219e3	2.147e3	1.56	
1,2,3,7,8-PeCDF	26:27	ND	ND	ND	ND	4.489e2	4.478e2		
2,3,4,7,8-PeCDF	28:32	ND	ND	ND	ND	3.994e2	3.302e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:09	1.32e7	8.47e6	1.94e6	1.26e6	1.899e3	1.124e2	1.56	
1,2,3,7,8-PeCDD	29:11	ND	ND	ND	ND	1.058e3	9.709e2		

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	33:20	6.77e6	1.27e7	1.50e6	2.67e6	3.494e2	6.216e2	0.53	
1,2,3,6,7,8-HxCDF-13C	33:30	8.43e6	1.62e7	1.73e6	3.32e6	3.494e2	6.790e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:19	7.55e6	1.46e7	1.78e6	3.34e6	1.125e3	4.179e2	0.52	
1,2,3,7,8,9-HxCDF-13C	35:21	6.05e6	1.16e7	1.27e6	2.45e6	5.543e3	6.373e2	0.52	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	7.027e2	7.362e2		
1,2,3,6,7,8-HxCDF	33:31	ND	ND	ND	ND	7.928e2	8.604e2		
2,3,4,6,7,8-HxCDF	34:21	4.50e3	7.01e3	1.92e3	3.37e3	9.028e2	9.655e2	0.64	I
1,2,3,7,8,9-HxCDF	35:23	ND	ND	ND	ND	8.979e2	9.732e2		

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Client Name	PASI Wisconsin		
Client ID	MAK006O	Injected By	SMT
Lab ID	10247062006	Instrument ID	10MSHR06 (U)
Filename	U131105A_13	GC Column ID	USD227224H
Analyzed	11/05/2013 18:39	ICAL ID	U131104

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	34:33	9.21e6	7.13e6	2.25e6	1.76e6	4.282e3	1.669e3	1.29	
1,2,3,6,7,8-HxCDD-13C	34:41	1.07e7	8.37e6	2.36e6	1.90e6	3.964e3	1.735e3	1.28	
1,2,3,7,8,9-HxCDD-13C	35:01	1.22e7	9.71e6	2.58e6	1.94e6	1.333e3	1.310e3	1.26	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	1.207e3	8.380e2		
1,2,3,6,7,8-HxCDD	34:42	ND	ND	ND	ND	1.547e3	8.380e2		
1,2,3,7,8,9-HxCDD	35:01	ND	ND	ND	ND	1.435e3	1.089e3		

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	37:15	5.50e6	1.19e7	1.26e6	2.78e6	1.600e3	1.840e3	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:56	3.91e6	8.44e6	9.15e5	2.05e6	9.211e3	2.622e3	0.46	
1,2,3,4,6,7,8-HpCDF	37:11	1.16e4	1.43e4	2.75e3	4.49e3	1.159e3	1.115e3	0.81	I
1,2,3,4,7,8,9-HpCDF	37:15	5.19e3	6.57e3		7.33e2	1.063e3	8.884e2	0.79	I

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	38:27	6.31e6	5.87e6	1.59e6	1.43e6	6.684e3	1.467e3	1.08	
1,2,3,4,6,7,8-HpCDD	38:28	1.16e4	8.89e3	3.75e3	3.29e3	8.495e2	9.666e2	1.30	I
Other HpCDD 1	37:38	1.07e4	1.21e4					0.89	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	ND	ND	ND	ND	2.390e3	4.173e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	8.34e6	9.40e6	1.90e6	2.12e6	1.457e3	1.037e3	0.89	
OCDD	41:24	7.79e4	9.75e4	1.63e4	2.22e4	2.724e3	5.558e3	0.80	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK007O	Injected By	SMT
Lab ID	10247062007	Instrument ID	10MSHR06 (U)
Filename	U131105A_14	GC Column ID	USD227224H
Analyzed	11/05/2013 19:26	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	2.30e7	2.85e7	3.86e6	4.79e6	3.662e3	2.429e3	0.81	
2,3,7,8-TCDF	18:42	1.79e4	2.45e4	6.48e3	1.06e4	9.617e2	9.738e2	0.73	
Other TCDF 1	17:47	1.43e4	1.72e4					0.83	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:54	1.84e7	2.29e7	3.16e6	4.00e6	1.858e3	3.578e2	0.80	
2,3,7,8-TCDD-13C	19:42	1.74e7	2.10e7	2.75e6	3.46e6	1.727e3	1.097e3	0.83	
2,3,7,8-TCDD-37Cl4	19:43	4.02e6		6.19e5		1.294e3	-----		
2,3,7,8-TCDD	19:43	ND	ND	ND	ND	8.592e2	1.320e3		

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:25	2.45e7	1.54e7	2.86e6	1.80e6	2.392e4	1.713e3	1.59	
2,3,4,7,8-PeCDF-13C	28:31	2.47e7	1.57e7	3.76e6	2.38e6	4.228e3	2.088e3	1.57	
1,2,3,7,8-PeCDF	26:26	ND	ND	ND	ND	7.688e2	5.110e2		
2,3,4,7,8-PeCDF	28:32	ND	ND	ND	ND	6.641e2	5.328e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:09	1.69e7	1.09e7	2.62e6	1.68e6	1.473e3	1.395e3	1.55	
1,2,3,7,8-PeCDD	29:11	ND	ND	ND	ND	1.459e3	1.079e3		

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	33:20	8.90e6	1.71e7	1.99e6	3.90e6	2.023e4	8.845e2	0.52	
1,2,3,6,7,8-HxCDF-13C	33:31	1.12e7	2.16e7	2.28e6	4.31e6	2.023e4	7.216e2	0.52	
2,3,4,6,7,8-HxCDF-13C	34:20	1.03e7	1.96e7	2.25e6	4.44e6	5.469e2	1.358e3	0.53	
1,2,3,7,8,9-HxCDF-13C	35:22	8.08e6	1.57e7	1.61e6	3.09e6	4.263e3	4.428e3	0.51	
1,2,3,4,7,8-HxCDF	33:21	ND	ND	ND	ND	8.421e2	1.466e3		
1,2,3,6,7,8-HxCDF	33:32	ND	ND	ND	ND	7.242e2	1.353e3		
2,3,4,6,7,8-HxCDF	34:21	ND	ND	ND	ND	1.166e3	1.364e3		
1,2,3,7,8,9-HxCDF	35:24	ND	ND	ND	ND	7.488e2	9.775e2		

REPORT OF LABORATORY ANALYSIS

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Client Name	PASI Wisconsin		
Client ID	MAK007O	Injected By	SMT
Lab ID	10247062007	Instrument ID	10MSHR06 (U)
Filename	U131105A_14	GC Column ID	USD227224H
Analyzed	11/05/2013 19:26	ICAL ID	U131104

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	34:33	1.21e7	9.49e6	2.75e6	2.12e6	4.354e3	1.406e3	1.28	
1,2,3,6,7,8-HxCDD-13C	34:41	1.32e7	1.04e7	2.91e6	2.29e6	2.457e3	1.665e3	1.27	
1,2,3,7,8,9-HxCDD-13C	35:01	1.55e7	1.21e7	3.01e6	2.48e6	5.557e2	6.382e2	1.28	
1,2,3,4,7,8-HxCDD	34:34	ND	ND	ND	ND	1.571e3	1.163e3		
1,2,3,6,7,8-HxCDD	34:43	1.06e4	9.53e3	2.86e3	3.24e3	9.154e2	1.041e3	1.11	
1,2,3,7,8,9-HxCDD	35:02	ND	ND	ND	ND	9.154e2	1.197e3		
Other HxCDD 1	33:18	1.02e4	7.53e3					1.36	

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	37:15	7.14e6	1.54e7	1.67e6	3.81e6	2.816e2	3.147e3	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:56	5.04e6	1.08e7	1.21e6	2.58e6	4.531e3	2.068e3	0.47	
1,2,3,4,6,7,8-HpCDF	37:15	6.45e3	4.68e3	3.53e3	1.04e3	1.126e3	7.201e2	1.38	I
1,2,3,4,7,8,9-HpCDF	38:57	ND	ND	ND	ND	8.873e2	7.724e2		

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	38:27	8.45e6	7.86e6	1.97e6	1.85e6	7.412e2	1.834e4	1.07	
1,2,3,4,6,7,8-HpCDD	38:27	2.41e4	3.15e4	5.08e3	1.28e4	8.283e2	1.122e3	0.77	I
Other HpCDD 1	37:38	2.94e4	2.74e4					1.07	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:32	ND	ND	ND	ND	2.112e3	2.799e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:24	1.14e7	1.21e7	2.17e6	2.44e6	3.970e2	1.298e3	0.94	
OCDD	41:25	1.33e5	1.29e5	3.13e4	2.44e4	2.400e3	4.087e3	1.03	I

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK008O	Injected By	SMT
Lab ID	10247062008	Instrument ID	10MSHR06 (U)
Filename	U131105A_15	GC Column ID	USD227224H
Analyzed	11/05/2013 20:12	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	1.65e7	2.11e7	2.69e6	3.30e6	3.262e3	2.725e3	0.78	
2,3,7,8-TCDF	18:44	1.48e4	1.19e4	3.30e3	2.78e3	1.015e3	7.982e2	1.24	I

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:56	1.40e7	1.77e7	2.30e6	3.07e6	1.132e4	3.366e3	0.79	
2,3,7,8-TCDD-13C	19:43	1.21e7	1.49e7	1.94e6	2.26e6	2.510e3	3.803e2	0.81	
2,3,7,8-TCDD-37Cl4	19:44	3.16e6		4.77e5		1.039e3	-----		
2,3,7,8-TCDD	19:44	ND	ND	ND	ND	8.770e2	9.992e2		

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:27	1.81e7	1.14e7	2.08e6	1.29e6	1.834e4	2.266e3	1.58	
2,3,4,7,8-PeCDF-13C	28:34	1.81e7	1.15e7	2.68e6	1.76e6	1.879e3	3.018e3	1.58	
1,2,3,7,8-PeCDF	26:27	ND	ND	ND	ND	6.594e2	5.164e2		
2,3,4,7,8-PeCDF	28:35	ND	ND	ND	ND	5.171e2	5.518e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:10	1.24e7	7.99e6	1.83e6	1.16e6	1.513e3	2.098e3	1.55	
1,2,3,7,8-PeCDD	29:13	ND	ND	ND	ND	8.436e2	8.122e2		

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	33:21	6.35e6	1.22e7	1.42e6	2.66e6	1.132e3	1.057e3	0.52	
1,2,3,6,7,8-HxCDF-13C	33:31	8.18e6	1.56e7	1.60e6	3.14e6	1.188e3	1.554e3	0.52	
2,3,4,6,7,8-HxCDF-13C	34:21	7.07e6	1.34e7	1.61e6	3.04e6	2.026e2	2.664e2	0.53	
1,2,3,7,8,9-HxCDF-13C	35:23	5.55e6	1.07e7	1.12e6	2.16e6	1.167e4	6.504e3	0.52	
1,2,3,4,7,8-HxCDF	33:22	ND	ND	ND	ND	8.841e2	1.504e3		
1,2,3,6,7,8-HxCDF	33:32	ND	ND	ND	ND	8.327e2	1.448e3		
2,3,4,6,7,8-HxCDF	34:22	ND	ND	ND	ND	9.078e2	1.599e3		
1,2,3,7,8,9-HxCDF	35:25	ND	ND	ND	ND	8.586e2	1.372e3		

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Client Name	PASI Wisconsin		
Client ID	MAK008O	Injected By	SMT
Lab ID	10247062008	Instrument ID	10MSHR06 (U)
Filename	U131105A_15	GC Column ID	USD227224H
Analyzed	11/05/2013 20:12	ICAL ID	U131104

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	34:34	8.43e6	6.75e6	2.07e6	1.61e6	4.932e3	2.527e3	1.25	
1,2,3,6,7,8-HxCDD-13C	34:42	9.65e6	7.49e6	2.03e6	1.63e6	6.172e3	1.118e3	1.29	
1,2,3,7,8,9-HxCDD-13C	35:01	1.13e7	9.10e6	2.22e6	1.89e6	1.414e3	5.808e2	1.24	
1,2,3,4,7,8-HxCDD	34:35	ND	ND	ND	ND	1.363e3	1.291e3		
1,2,3,6,7,8-HxCDD	34:42	ND	ND	ND	ND	1.361e3	1.068e3		
1,2,3,7,8,9-HxCDD	35:02	ND	ND	ND	ND	1.467e3	1.212e3		

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	37:16	4.91e6	1.09e7	1.09e6	2.59e6	3.917e3	3.469e3	0.45	
1,2,3,4,7,8,9-HpCDF-13C	38:58	3.15e6	6.98e6	7.86e5	1.61e6	2.360e3	8.183e2	0.45	
1,2,3,4,6,7,8-HpCDF	37:17	ND	ND	ND	ND	1.164e3	9.012e2		
1,2,3,4,7,8,9-HpCDF	38:59	ND	ND	ND	ND	1.115e3	9.964e2		

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	38:29	5.68e6	5.34e6	1.29e6	1.24e6	2.172e4	2.203e3	1.06	
1,2,3,4,6,7,8-HpCDD	38:29	1.22e4	1.53e4	3.62e3	6.40e3	8.217e2	9.163e2	0.80	I
Other HpCDD 1	37:38	1.48e4	1.44e4					1.03	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:32	ND	ND	ND	ND	2.593e3	4.650e3		

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:24	7.80e6	8.28e6	1.40e6	1.57e6	5.170e2	5.790e1	0.94	
OCDD	41:25	6.53e4	1.08e5	1.77e4	2.49e4	3.381e3	7.426e3	0.60	I

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Appendix E

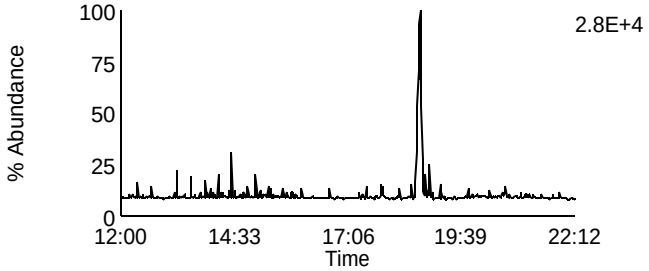
Calibration Raw Data

Homologue Group: Tetras

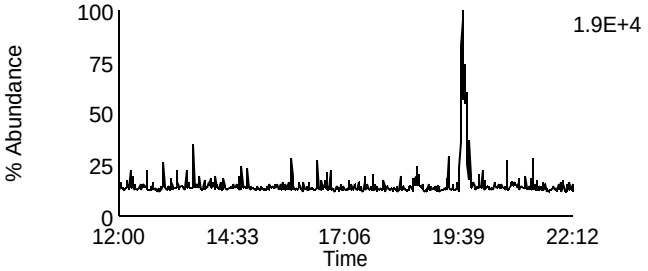
Data File Name: U131104A_08
Date Acquired: 11/4/2013
Sample Description: CAL CS1-7604-273 - SMT

Lab Sample ID: CS1-7604-273
Client Sample ID:
Instrument: 10MSHR06 (U)

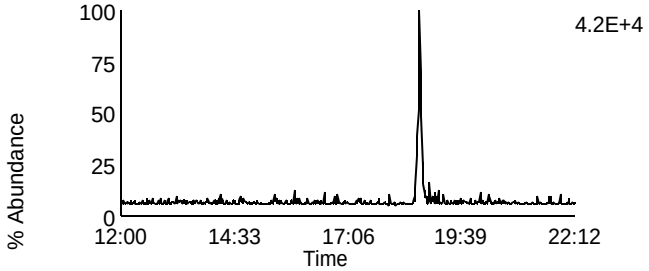
Data File: U131104A_08 G1 C1 - 303.9016
CAL CS1-7604-273 - SMT



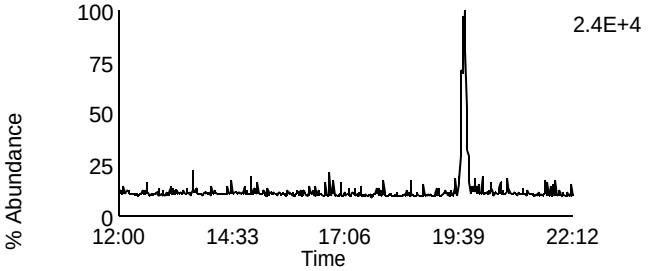
Data File: U131104A_08 G1 C7 - 319.8965
CAL CS1-7604-273 - SMT



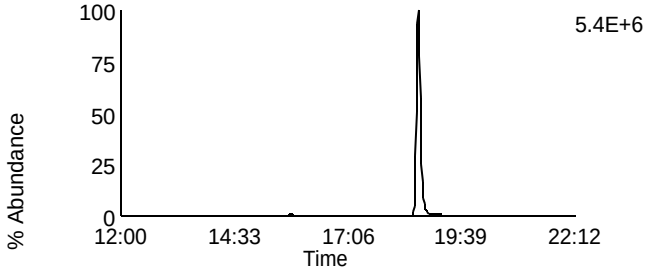
Data File: U131104A_08 G1 C2 - 305.8987
CAL CS1-7604-273 - SMT



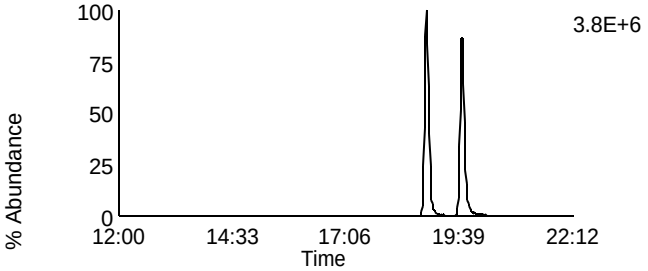
Data File: U131104A_08 G1 C8 - 321.8936
CAL CS1-7604-273 - SMT



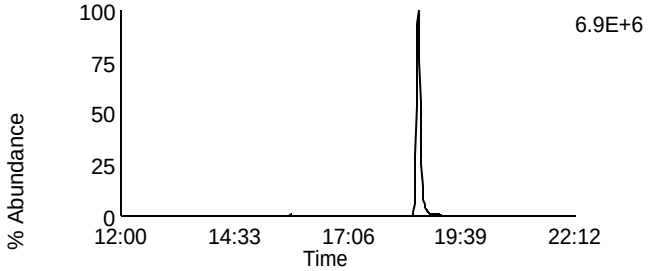
Data File: U131104A_08 G1 C3 - 315.9418
CAL CS1-7604-273 - SMT



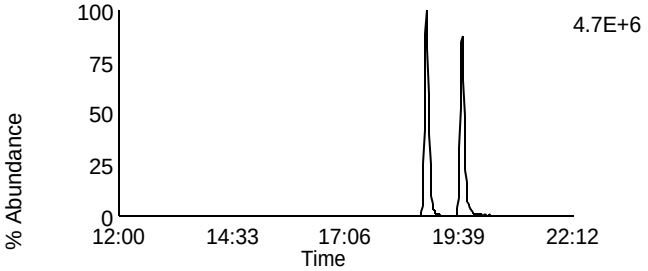
Data File: U131104A_08 G1 C10 - 331.9367
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G1 C4 - 317.9389
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G1 C11 - 333.9338
CAL CS1-7604-273 - SMT



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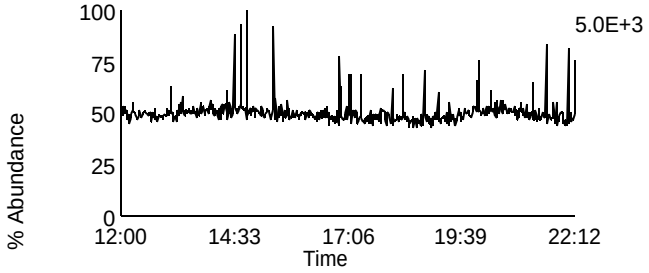
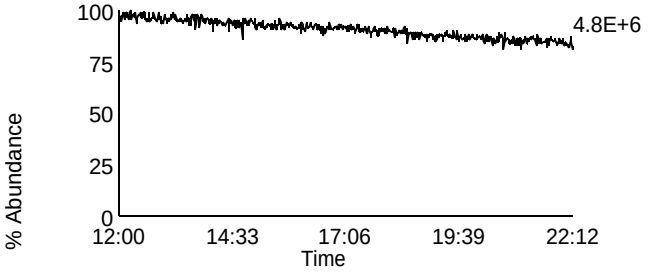
CAL CS1-7604-273 - SMT



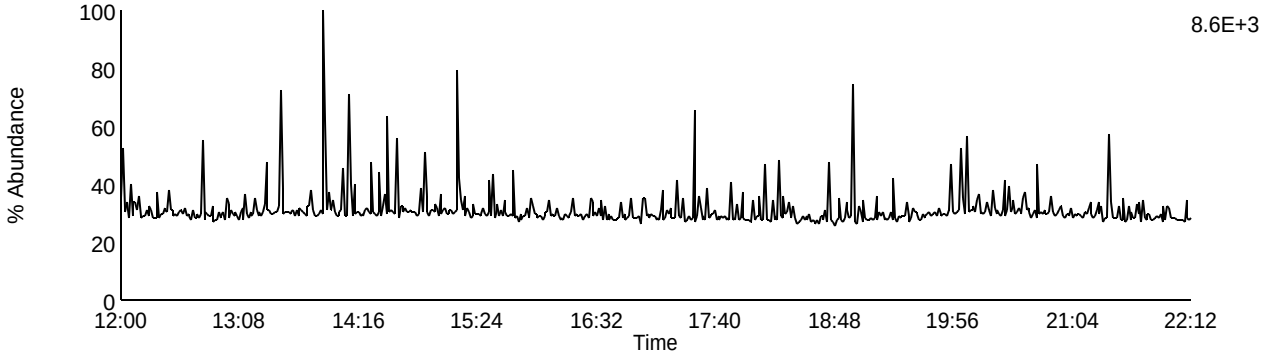
Data File: U131104A_08 G1 C5 - 318.9792
CAL CS1-7604-273 - SMT



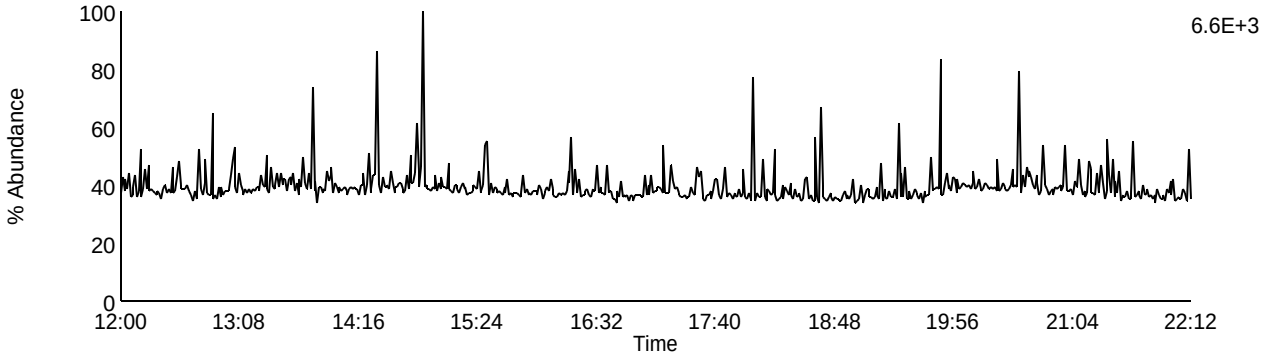
Homologue Group: Penta & Cleanup

Data File Name: U131104A_08	Lab Sample ID: CS1-7604-273
Date Acquired: 11/4/2013	Client Sample ID:
Sample Description: CAL CS1-7604-273 - SMT	Instrument: 10MSHR06 (U)

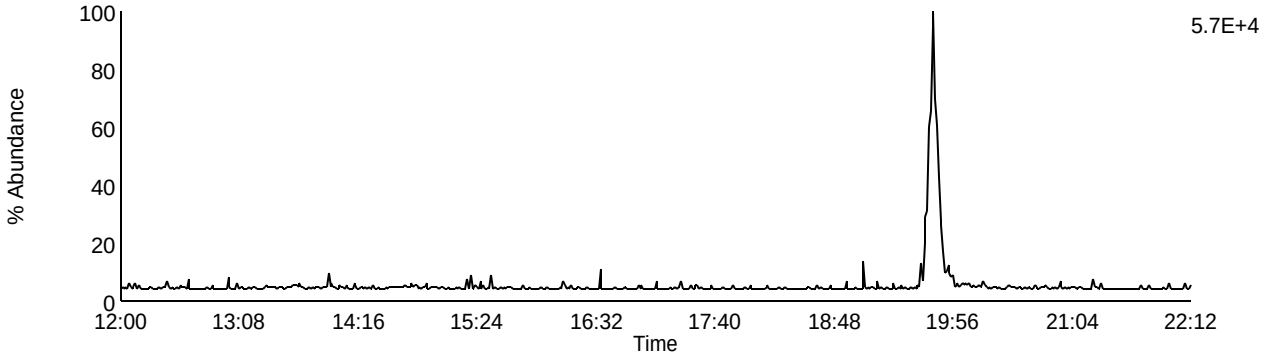
Data File: U131104A_08 G1 C12 - 339.8597
CAL CS1-7604-273 - SMT



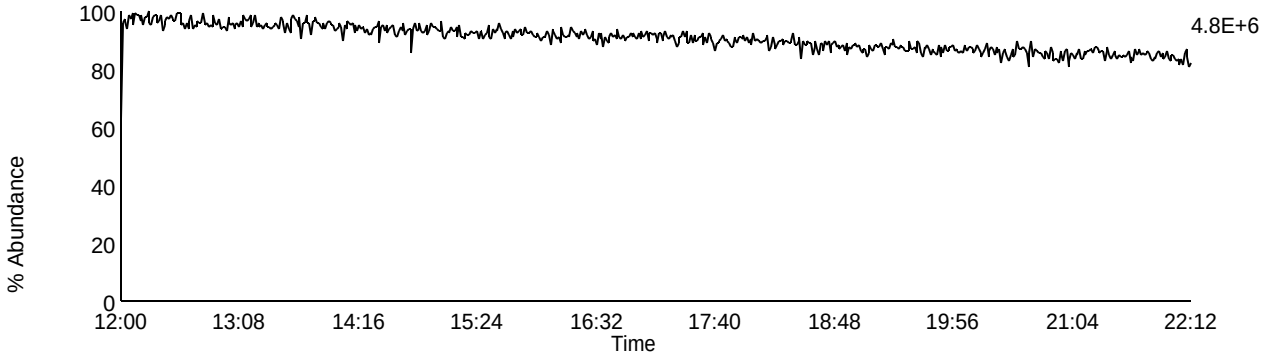
Data File: U131104A_08 G1 C13 - 341.8567
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G1 C9 - 327.8847
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G1 C5 - 318.9792
CAL CS1-7604-273 - SMT

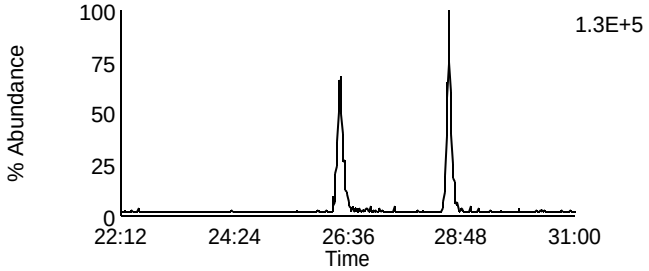


Homologue Group: Pentas

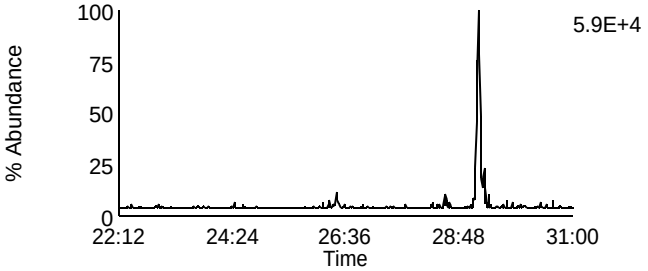
Data File Name: U131104A_08
Date Acquired: 11/4/2013
Sample Description: CAL CS1-7604-273 - SMT

Lab Sample ID: CS1-7604-273
Client Sample ID:
Instrument: 10MSHR06 (U)

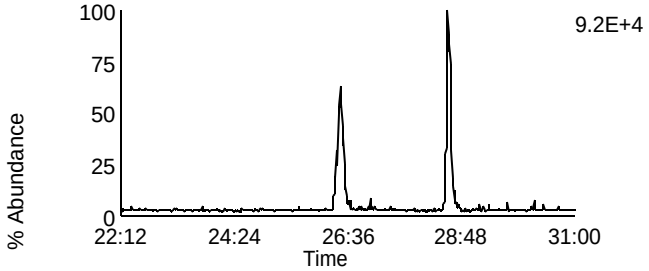
Data File: U131104A_08 G2 C1 - 339.8597
CAL CS1-7604-273 - SMT



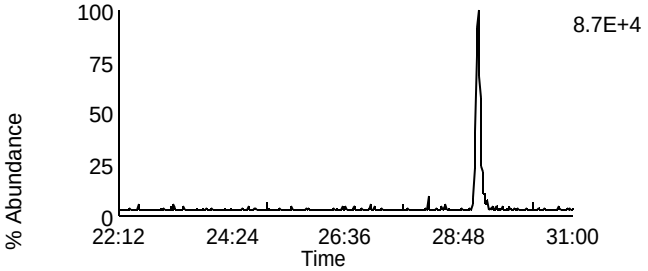
Data File: U131104A_08 G2 C4 - 353.8576
CAL CS1-7604-273 - SMT



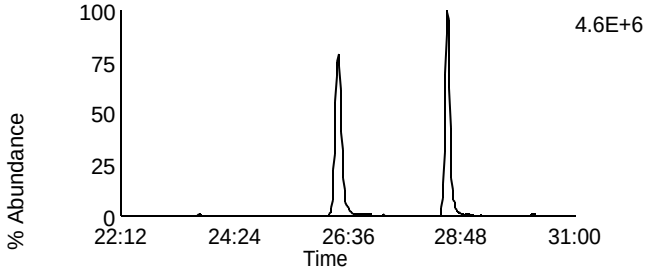
Data File: U131104A_08 G2 C2 - 341.8567
CAL CS1-7604-273 - SMT



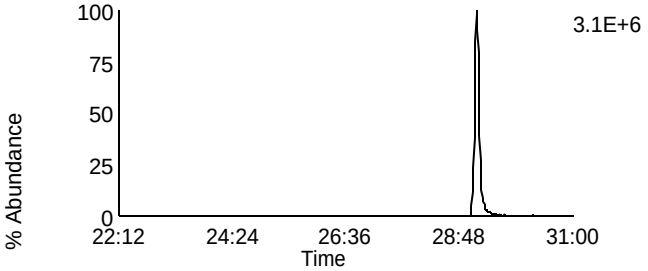
Data File: U131104A_08 G2 C8 - 355.8546
CAL CS1-7604-273 - SMT



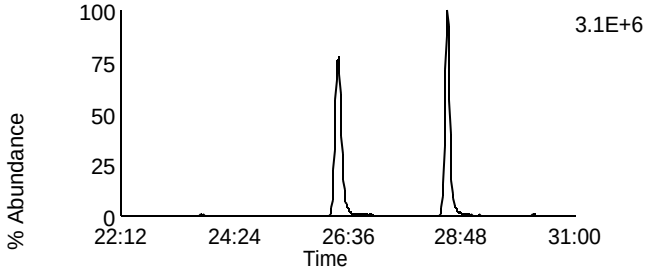
Data File: U131104A_08 G2 C3 - 351.8999
CAL CS1-7604-273 - SMT



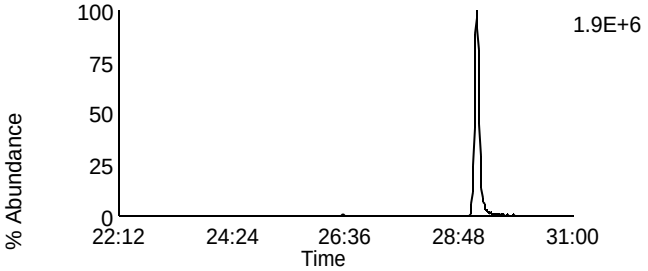
Data File: U131104A_08 G2 C10 - 367.8948
CAL CS1-7604-273 - SMT



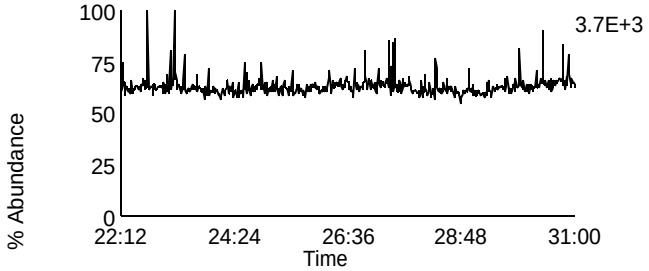
Data File: U131104A_08 G2 C5 - 353.8969
CAL CS1-7604-273 - SMT



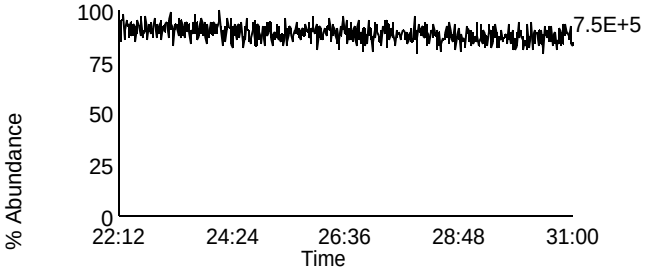
Data File: U131104A_08 G2 C11 - 369.8918
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G2 C12 - 409.7974
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G2 C6 - 354.9792
CAL CS1-7604-273 - SMT

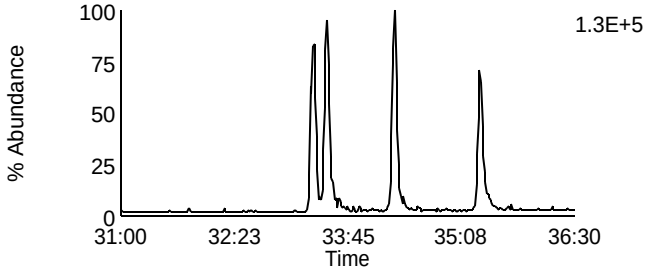


Homologue Group: Hexas

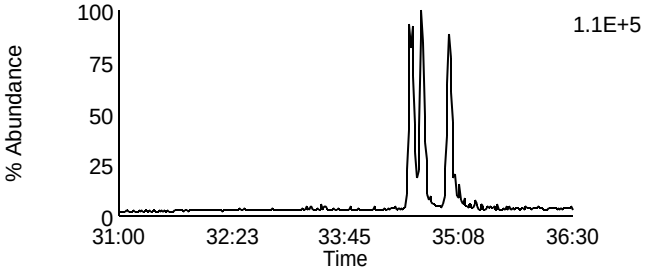
Data File Name: U131104A_08
Date Acquired: 11/4/2013
Sample Description: CAL CS1-7604-273 - SMT

Lab Sample ID: CS1-7604-273
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131104A_08 G3 C1 - 373.8207
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G3 C7 - 389.8156
CAL CS1-7604-273 - SMT



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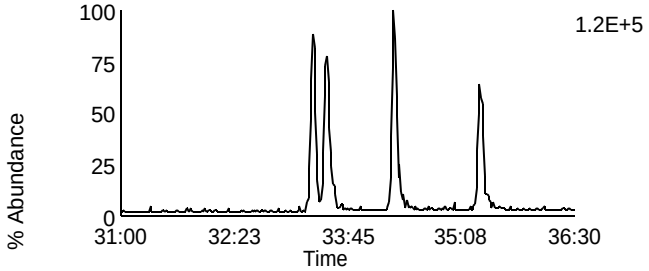
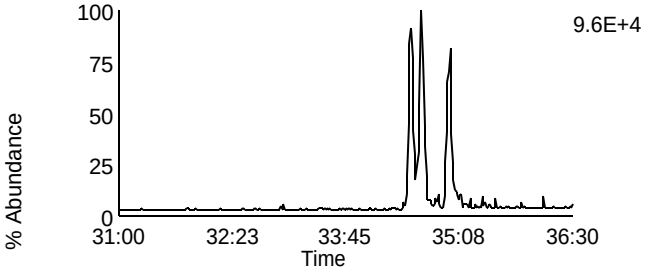
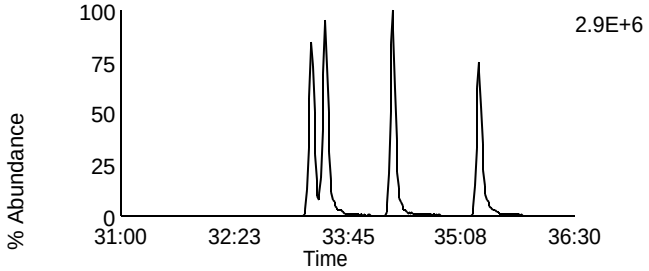
CAL CS1-7604-273 - SMT



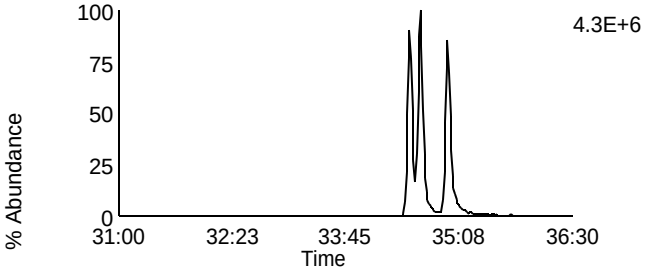
Data File: U131104A_08 G3 C8 - 391.8127
CAL CS1-7604-273 - SMT



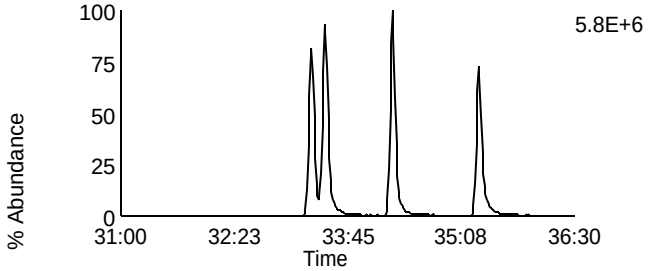
Data File: U131104A_08 G3 C5 - 383.8639
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G3 C9 - 401.8559
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G3 C6 - 385.861
CAL CS1-7604-273 - SMT



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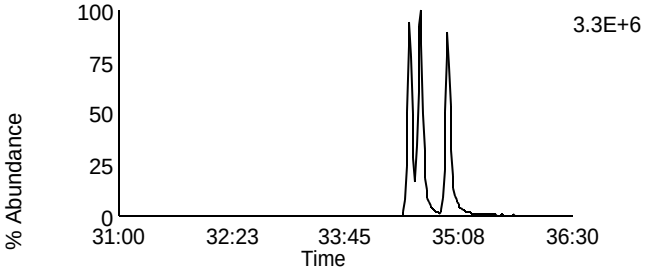
CAL CS1-7604-273 - SMT



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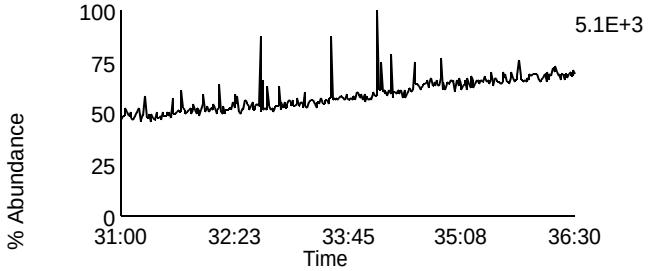
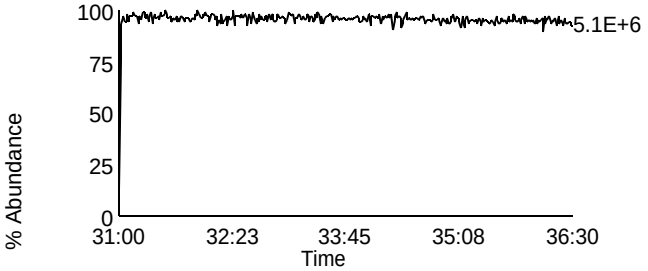
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G3 C3 - 380.976
CAL CS1-7604-273 - SMT

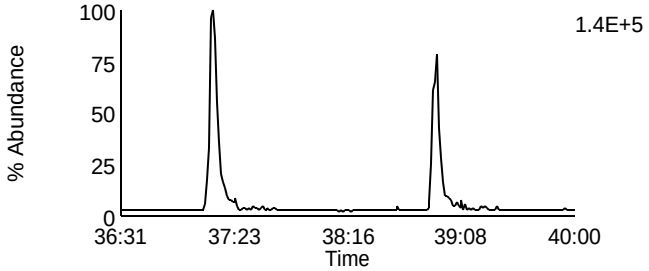


Homologue Group: Heptas

Data File Name: U131104A_08
Date Acquired: 11/4/2013
Sample Description: CAL CS1-7604-273 - SMT

Lab Sample ID: CS1-7604-273
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131104A_08 G4 C3 - 407.7818
CAL CS1-7604-273 - SMT



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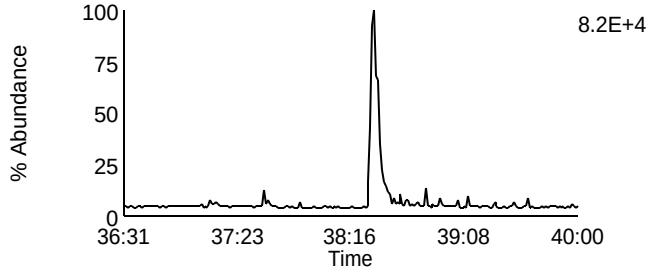
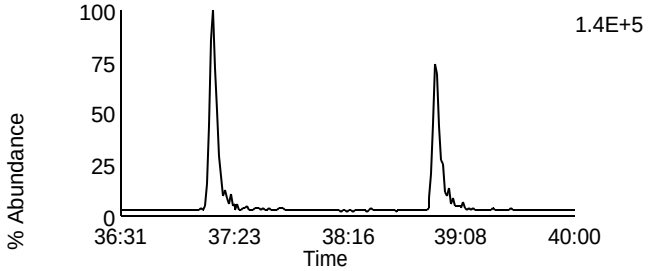
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G4 C4 - 409.7788
CAL CS1-7604-273 - SMT



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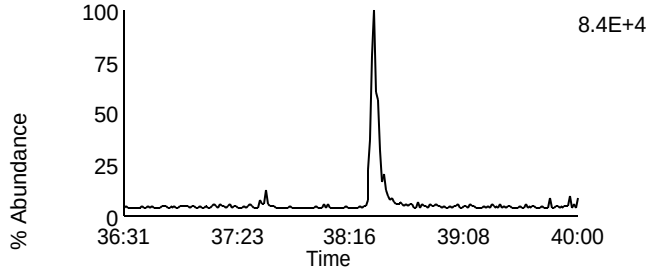
CAL CS1-7604-273 - SMT



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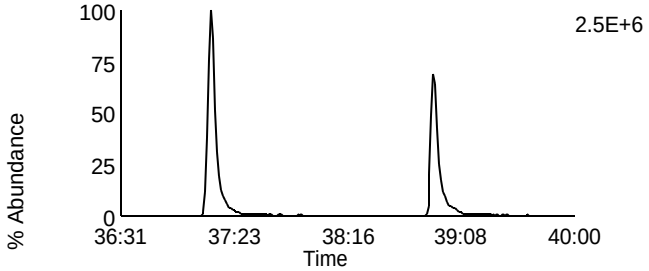
CAL CS1-7604-273 - SMT



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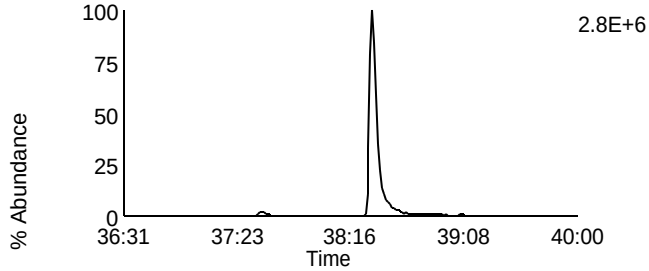
CAL CS1-7604-273 - SMT



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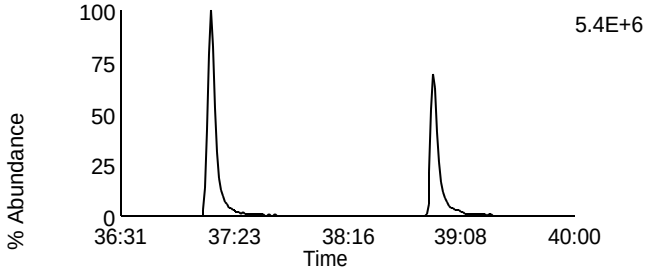
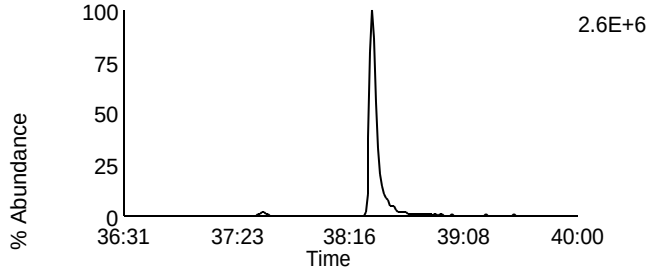
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G4 C12 - 437.814
CAL CS1-7604-273 - SMT



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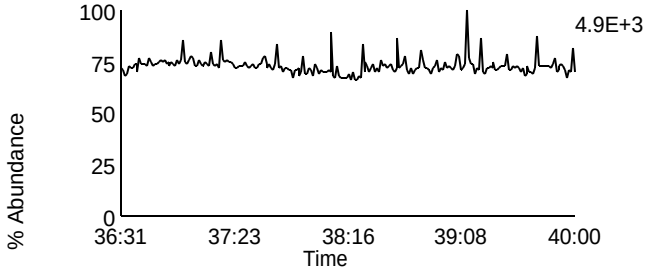
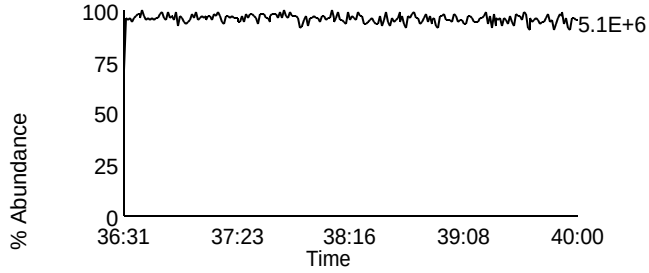
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G4 C1 - 380.976
CAL CS1-7604-273 - SMT

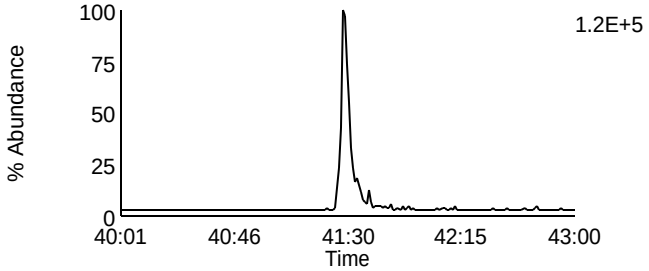


Homologue Group: Octas

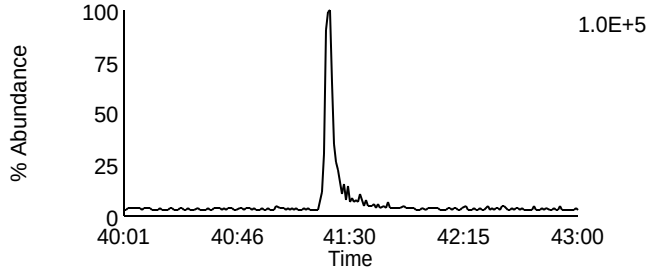
Data File Name: U131104A_08
Date Acquired: 11/4/2013
Sample Description: CAL CS1-7604-273 - SMT

Lab Sample ID: CS1-7604-273
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131104A_08 G5 C4 - 441.7428
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G5 C8 - 457.7377
CAL CS1-7604-273 - SMT



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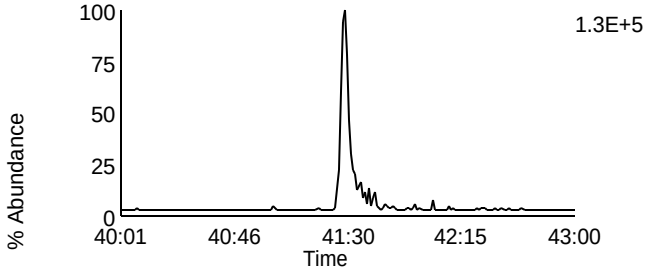
CAL CS1-7604-273 - SMT



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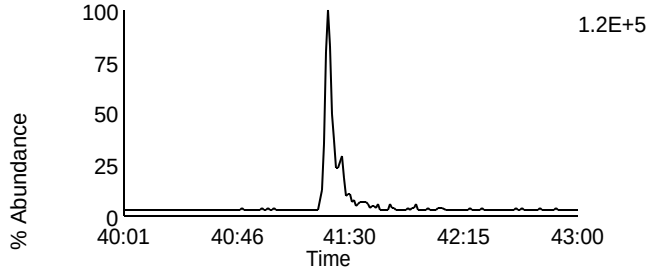
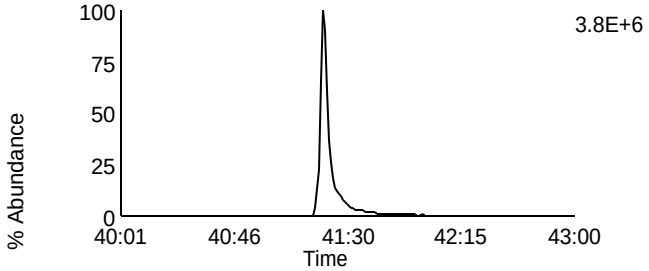
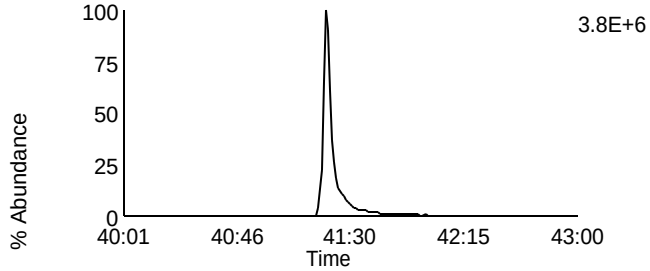
CAL CS1-7604-273 - SMT



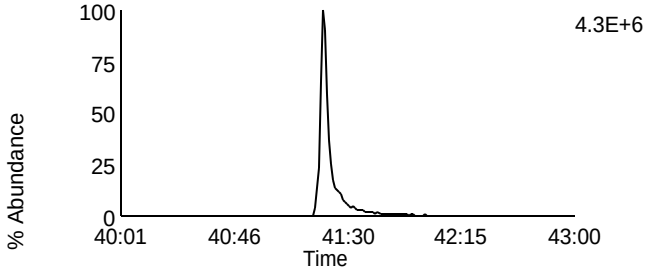
Data File: U131104A_08 G5 C11 - 469.7779
CAL CS1-7604-273 - SMT



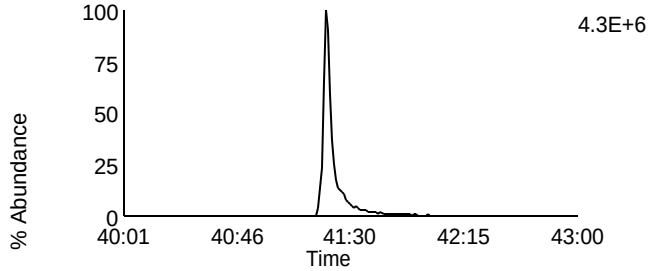
Data File: U131104A_08 G5 C11 - 469.7779
CAL CS1-7604-273 - SMT



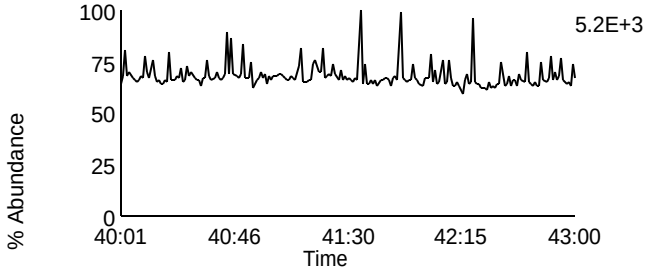
Data File: U131104A_08 G5 C12 - 471.7749
CAL CS1-7604-273 - SMT



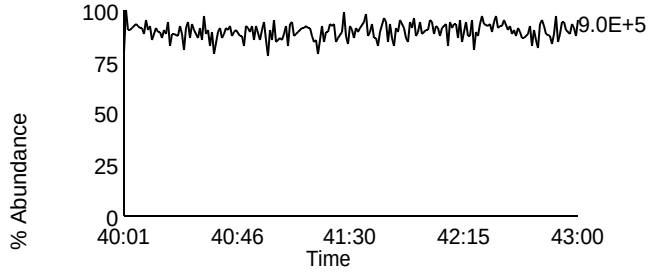
Data File: U131104A_08 G5 C12 - 471.7749
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G5 C13 - 513.6775
CAL CS1-7604-273 - SMT



Data File: U131104A_08 G5 C2 - 430.9728
CAL CS1-7604-273 - SMT

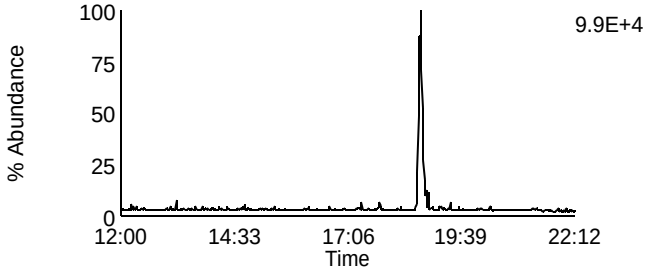


Homologue Group: Tetras

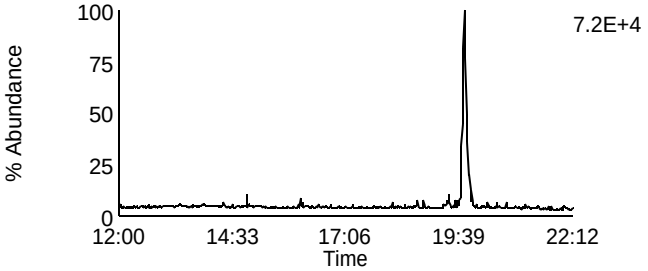
Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

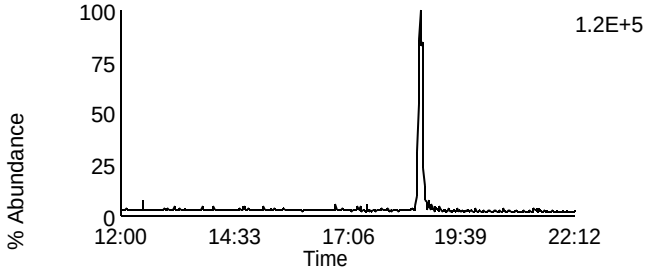
Data File: U131104A_02 G1 C1 - 303.9016
CAL CS2-7604-276 - SMT



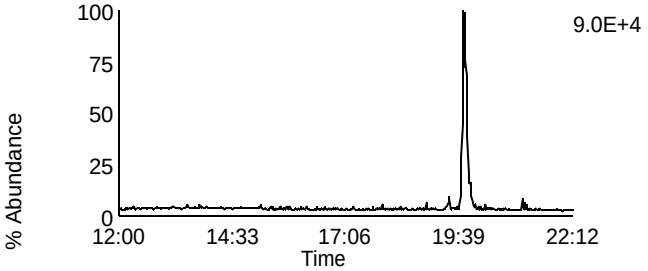
Data File: U131104A_02 G1 C7 - 319.8965
CAL CS2-7604-276 - SMT



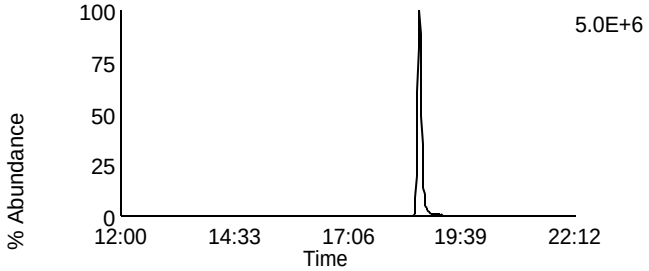
Data File: U131104A_02 G1 C2 - 305.8987
CAL CS2-7604-276 - SMT



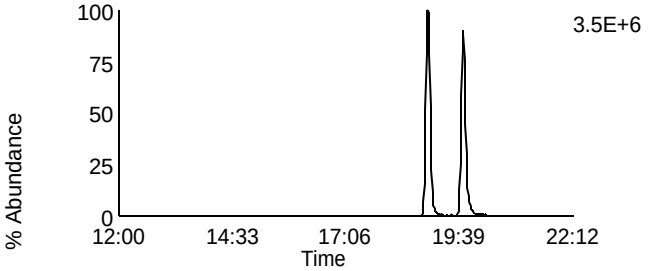
Data File: U131104A_02 G1 C8 - 321.8936
CAL CS2-7604-276 - SMT



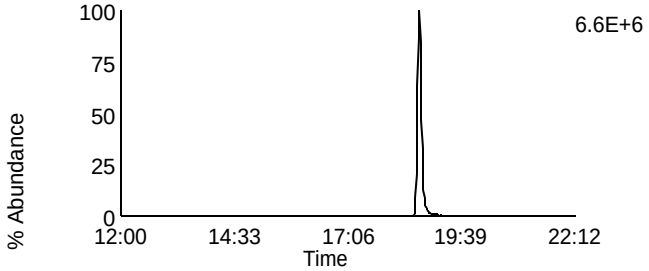
Data File: U131104A_02 G1 C3 - 315.9418
CAL CS2-7604-276 - SMT



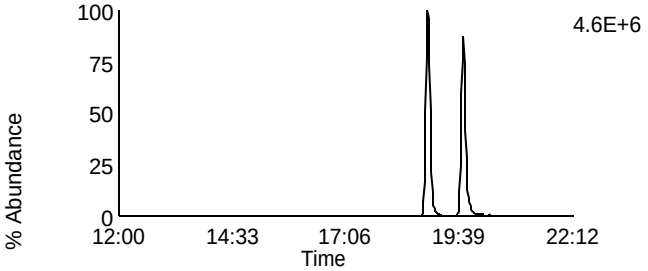
Data File: U131104A_02 G1 C10 - 331.9367
CAL CS2-7604-276 - SMT



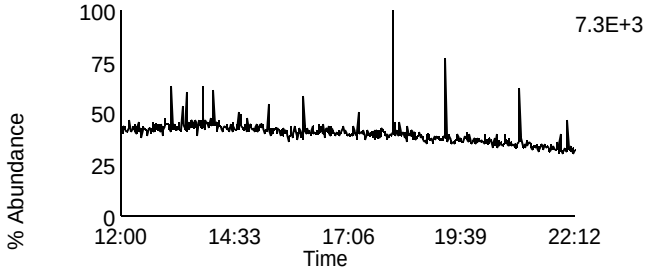
Data File: U131104A_02 G1 C4 - 317.9389
CAL CS2-7604-276 - SMT



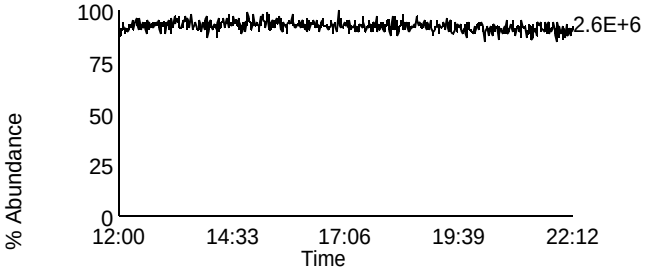
Data File: U131104A_02 G1 C11 - 333.9338
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G1 C14 - 375.8364
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G1 C5 - 318.9792
CAL CS2-7604-276 - SMT

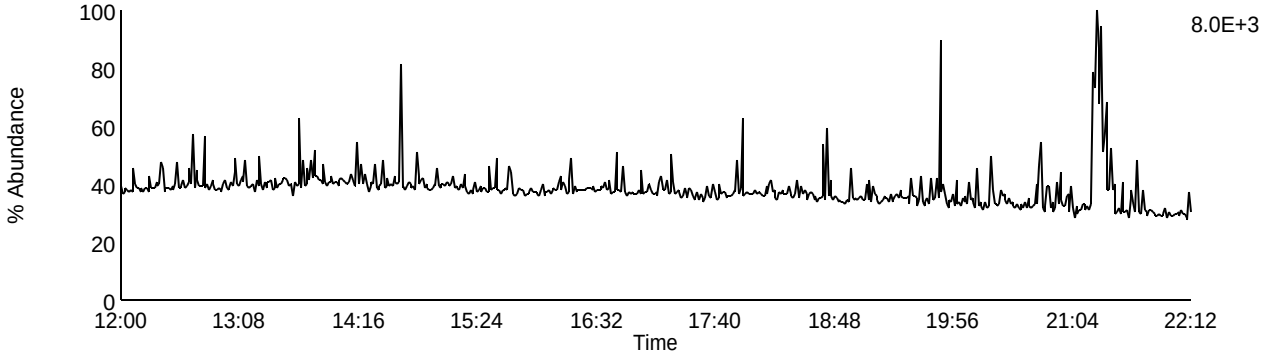


Homologue Group: Penta & Cleanup

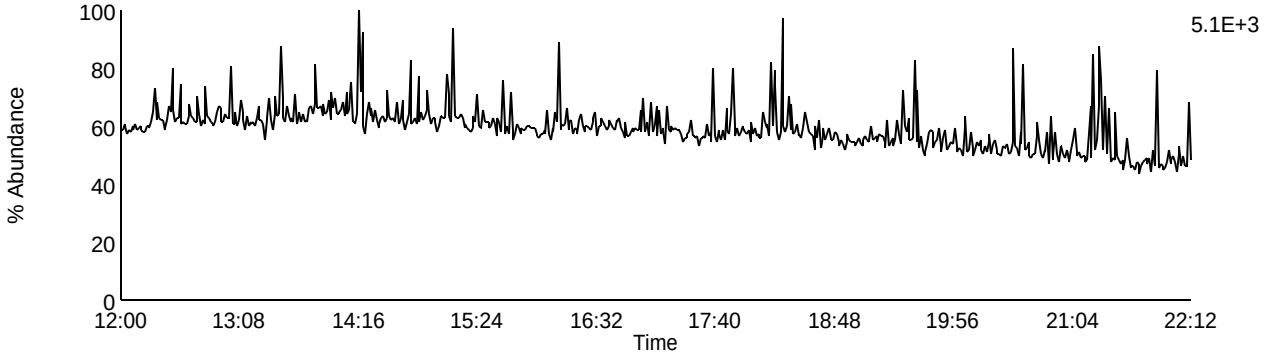
Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

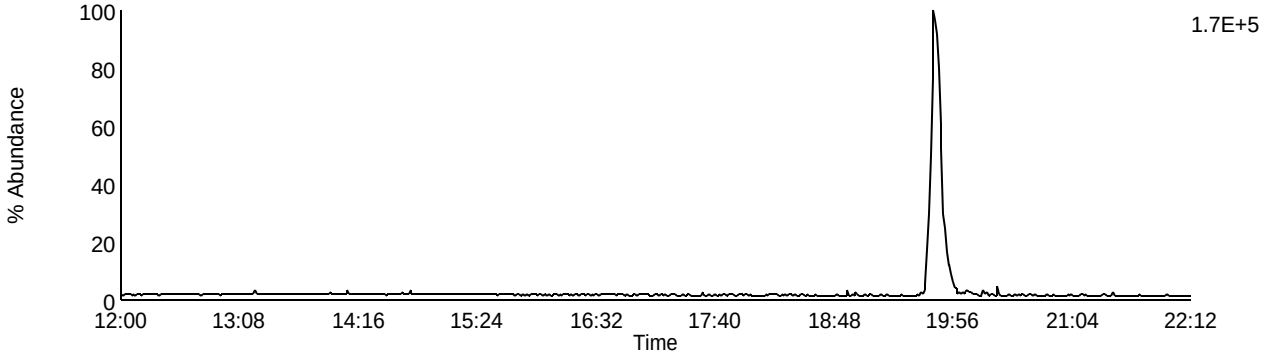
Data File: U131104A_02 G1 C12 - 339.8597
CAL CS2-7604-276 - SMT



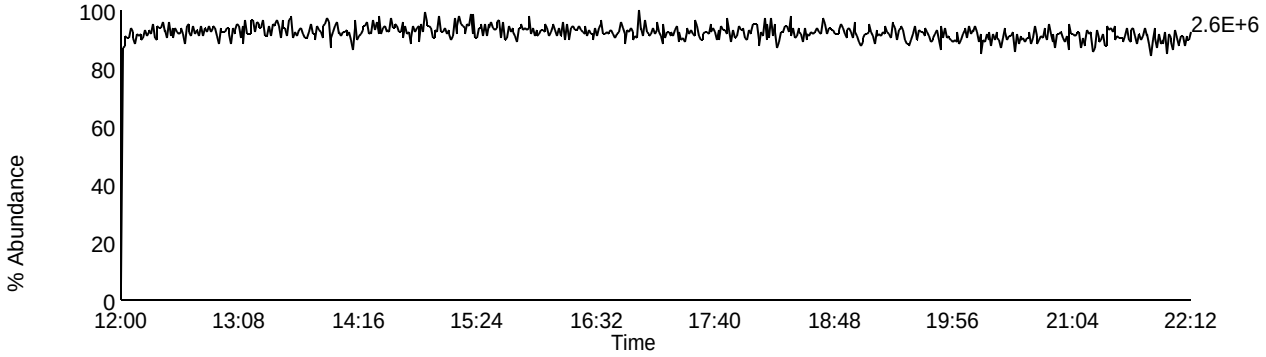
Data File: U131104A_02 G1 C13 - 341.8567
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G1 C9 - 327.8847
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G1 C5 - 318.9792
CAL CS2-7604-276 - SMT

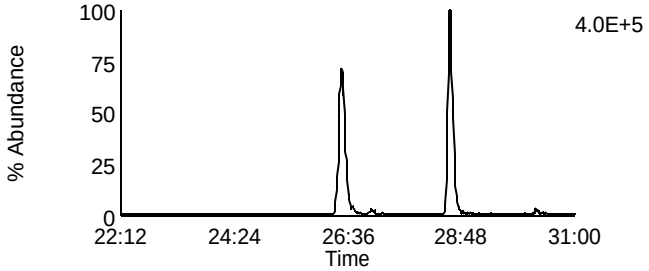


Homologue Group: Pentas

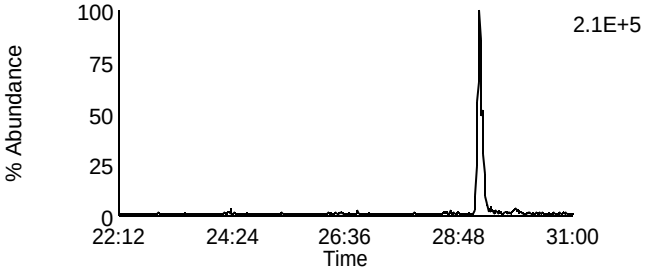
Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

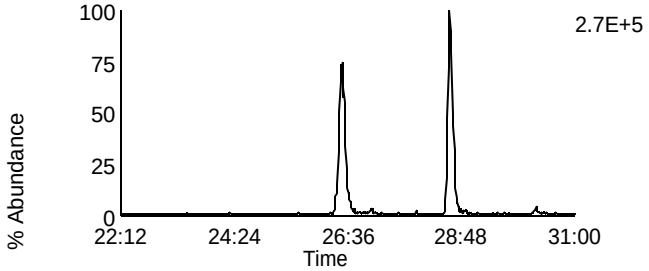
Data File: U131104A_02 G2 C1 - 339.8597
CAL CS2-7604-276 - SMT



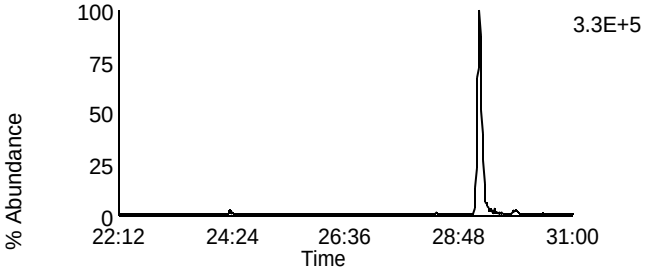
Data File: U131104A_02 G2 C4 - 353.8576
CAL CS2-7604-276 - SMT



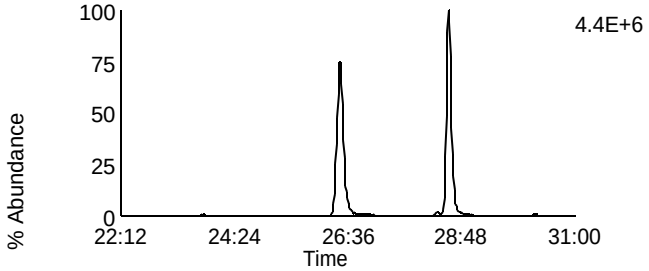
Data File: U131104A_02 G2 C2 - 341.8567
CAL CS2-7604-276 - SMT



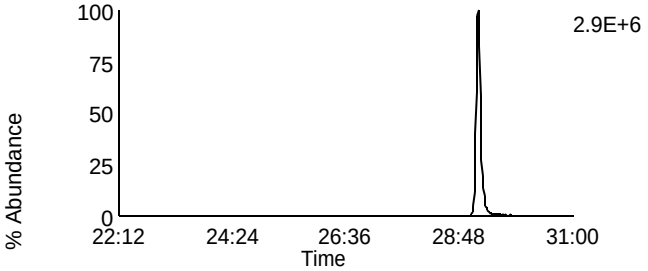
Data File: U131104A_02 G2 C8 - 355.8546
CAL CS2-7604-276 - SMT



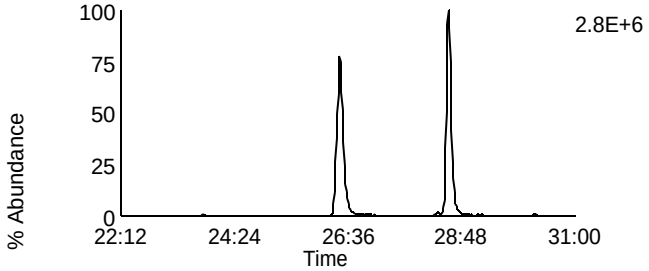
Data File: U131104A_02 G2 C3 - 351.8999
CAL CS2-7604-276 - SMT



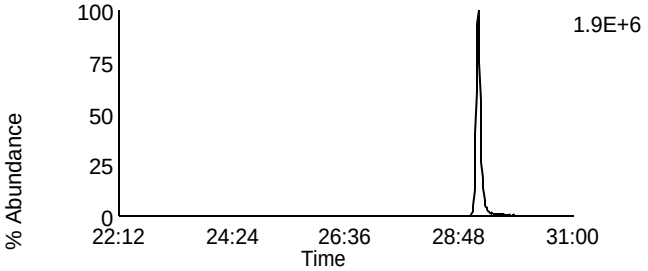
Data File: U131104A_02 G2 C10 - 367.8948
CAL CS2-7604-276 - SMT



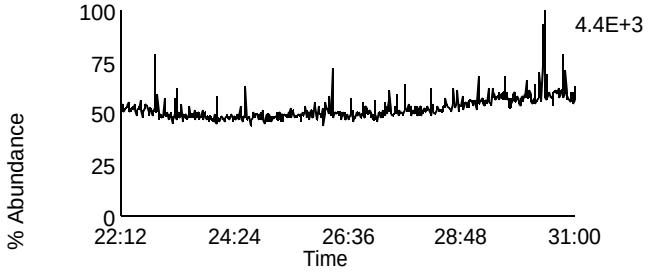
Data File: U131104A_02 G2 C5 - 353.8969
CAL CS2-7604-276 - SMT



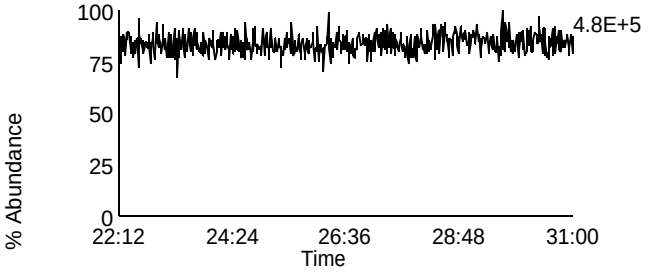
Data File: U131104A_02 G2 C11 - 369.8918
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G2 C12 - 409.7974
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G2 C6 - 354.9792
CAL CS2-7604-276 - SMT

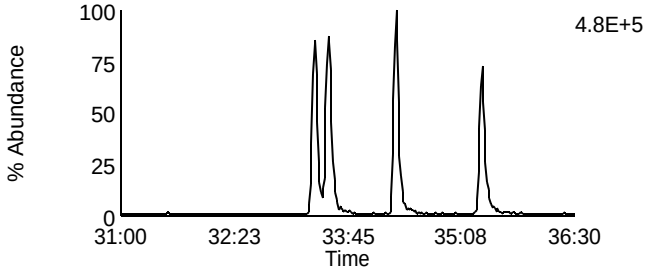


Homologue Group: Hexas

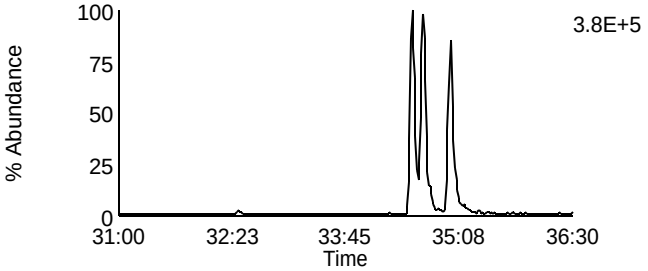
Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

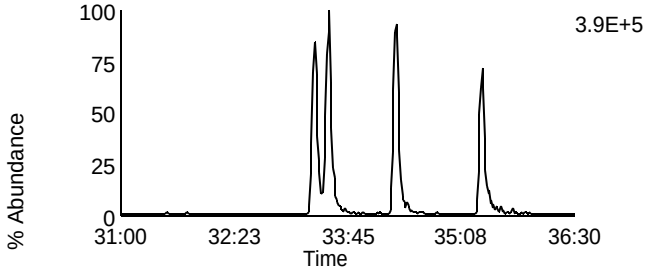
Data File: U131104A_02 G3 C1 - 373.8207
CAL CS2-7604-276 - SMT



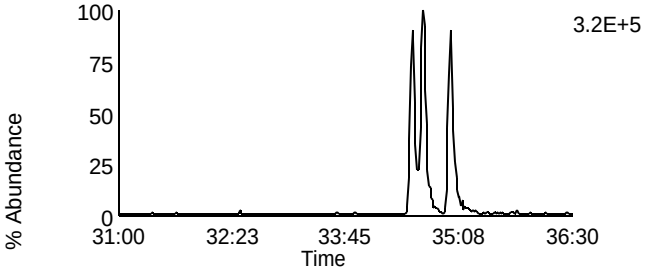
Data File: U131104A_02 G3 C7 - 389.8156
CAL CS2-7604-276 - SMT



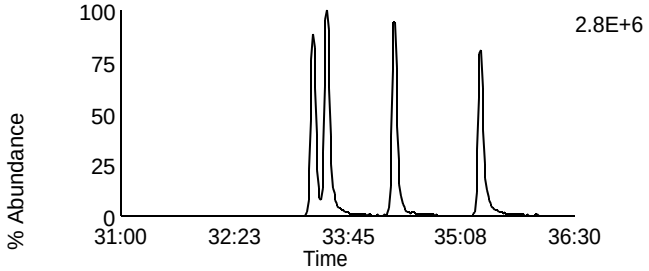
Data File: U131104A_02 G3 C2 - 375.8178
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G3 C8 - 391.8127
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G3 C5 - 383.8639
CAL CS2-7604-276 - SMT



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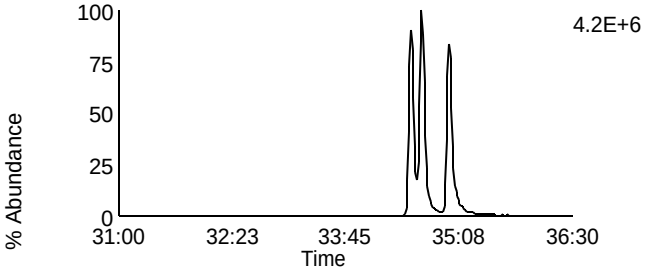
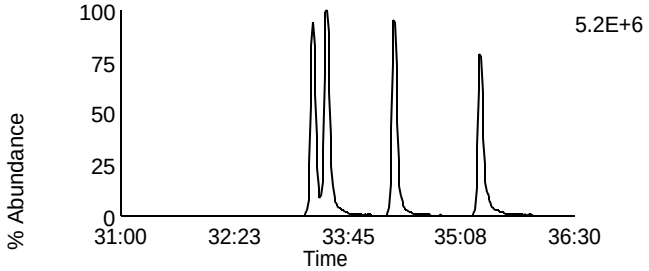
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G3 C6 - 385.861
CAL CS2-7604-276 - SMT



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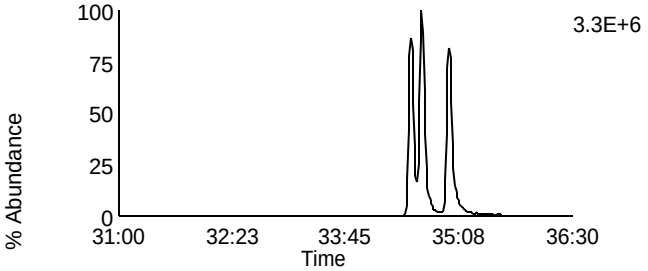
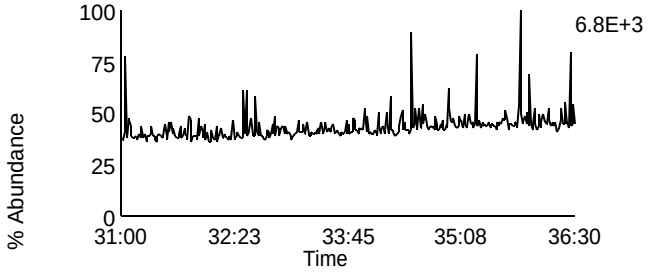
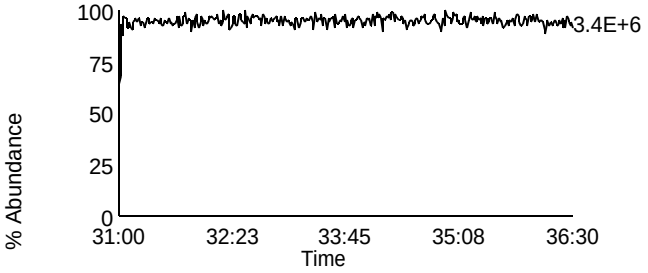
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G3 C11 - 445.7555
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G3 C3 - 380.976
CAL CS2-7604-276 - SMT

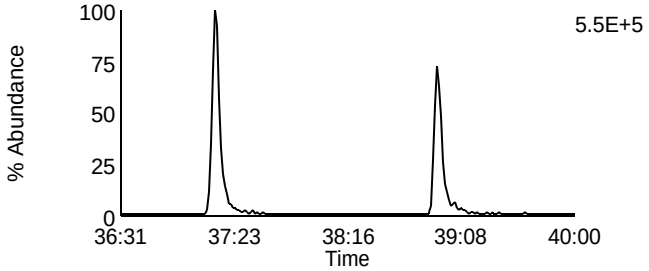


Homologue Group: Heptas

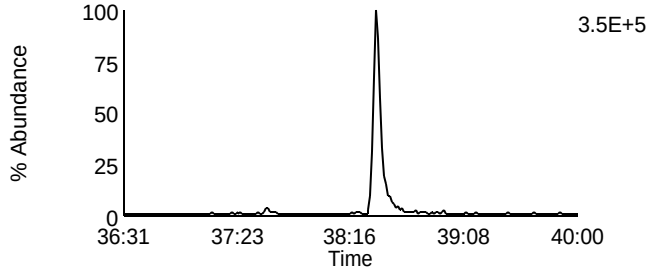
Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

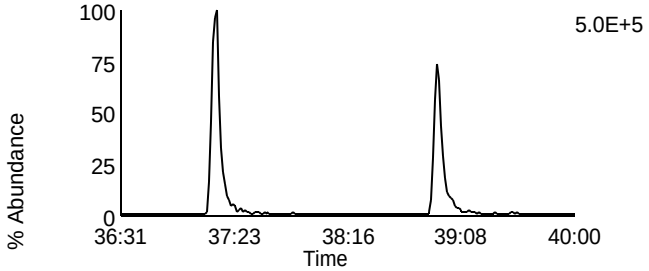
Data File: U131104A_02 G4 C3 - 407.7818
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C8 - 423.7767
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C4 - 409.7788
CAL CS2-7604-276 - SMT



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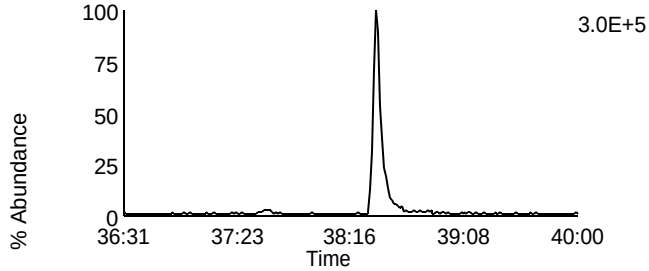
CAL CS2-7604-276 - SMT



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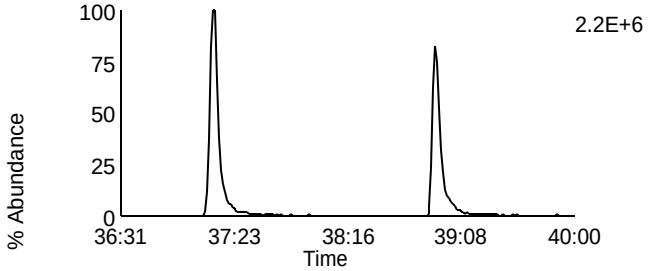
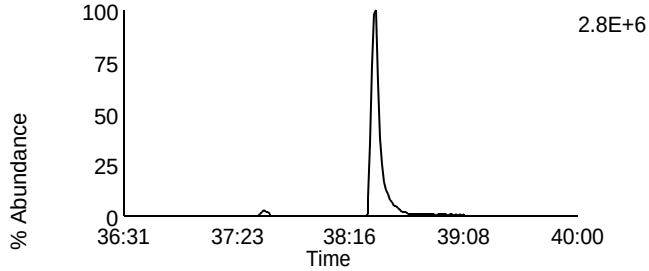
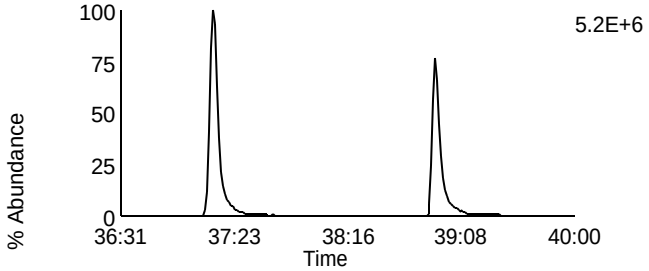
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C11 - 435.8169
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C7 - 419.822
CAL CS2-7604-276 - SMT



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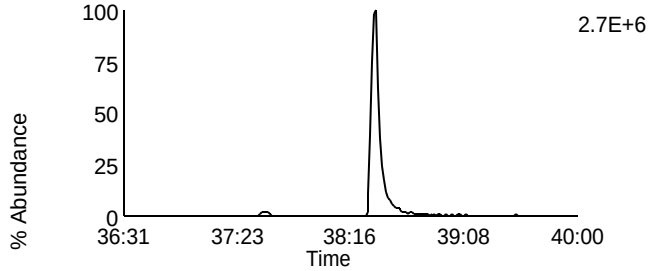
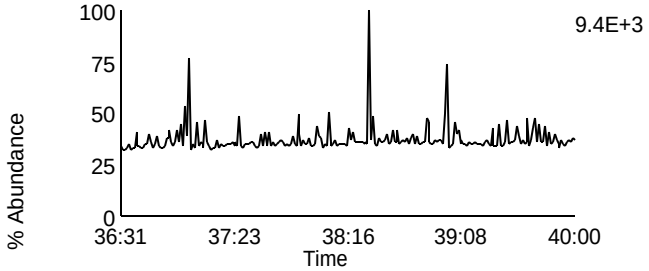
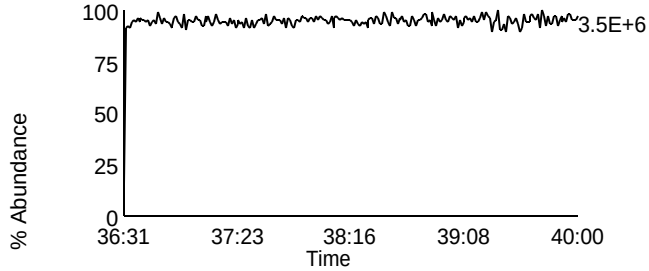
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C13 - 479.7165
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G4 C1 - 380.976
CAL CS2-7604-276 - SMT

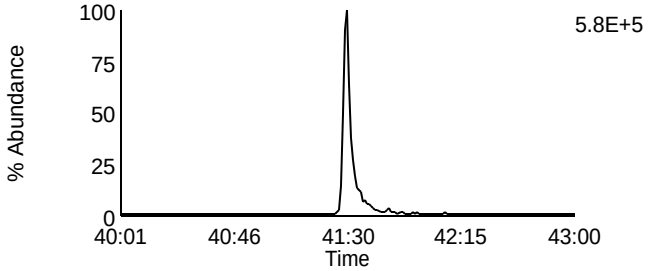


Homologue Group: Octas

Data File Name: U131104A_02
Date Acquired: 11/4/2013
Sample Description: CAL CS2-7604-276 - SMT

Lab Sample ID: CS2-7604-276
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131104A_02 G5 C4 - 441.7428
CAL CS2-7604-276 - SMT



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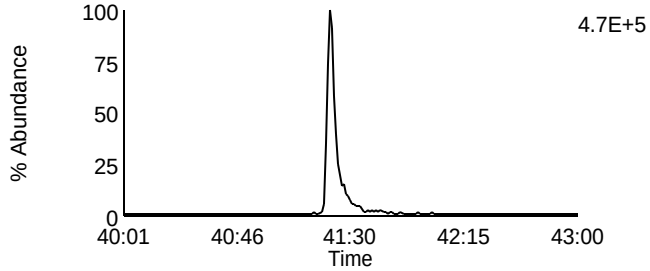
CAL CS2-7604-276 - SMT



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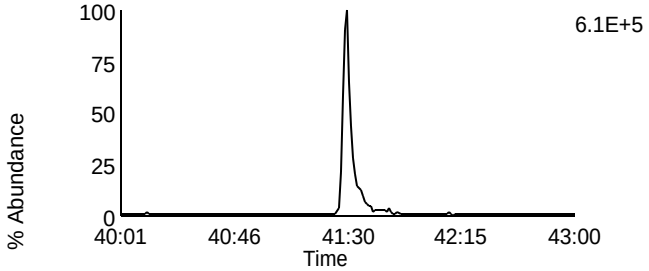
CAL CS2-7604-276 - SMT



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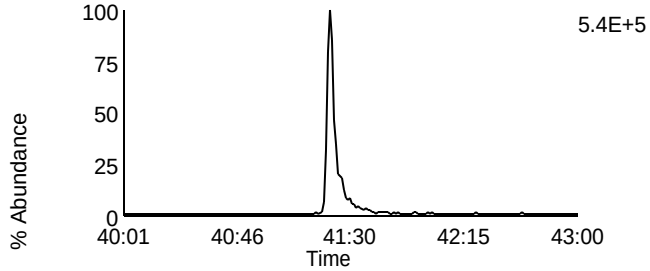
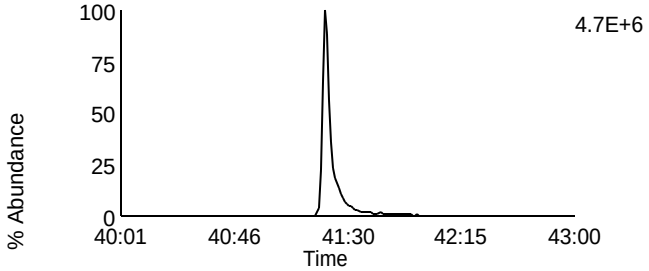
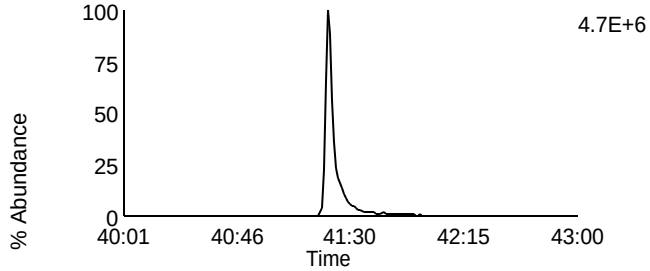
CAL CS2-7604-276 - SMT



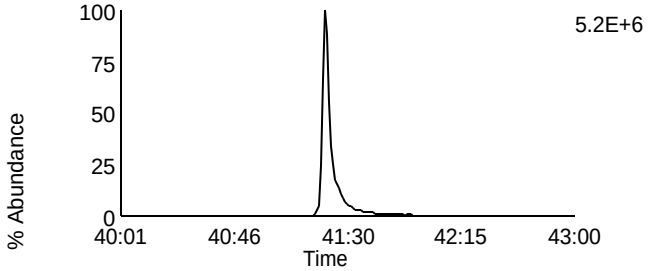
Data File: U131104A_02 G5 C11 - 469.7779
CAL CS2-7604-276 - SMT



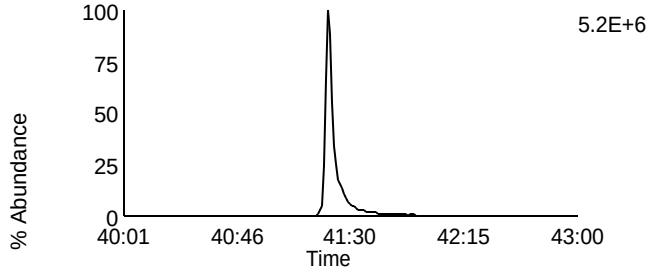
Data File: U131104A_02 G5 C11 - 469.7779
CAL CS2-7604-276 - SMT



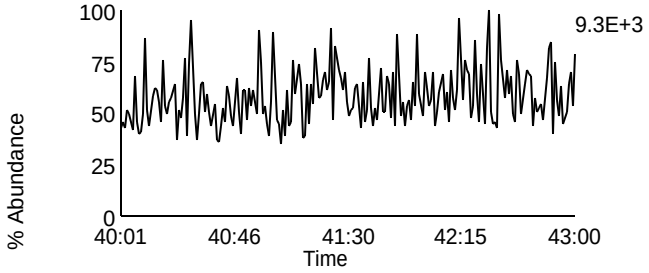
Data File: U131104A_02 G5 C12 - 471.7749
CAL CS2-7604-276 - SMT



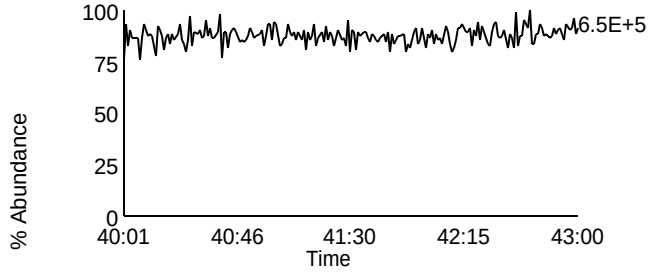
Data File: U131104A_02 G5 C12 - 471.7749
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G5 C13 - 513.6775
CAL CS2-7604-276 - SMT



Data File: U131104A_02 G5 C2 - 430.9728
CAL CS2-7604-276 - SMT

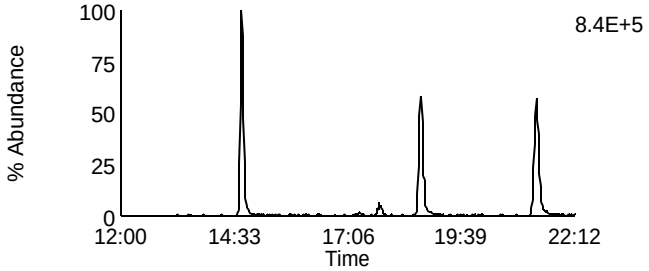


Homologue Group: Tetras

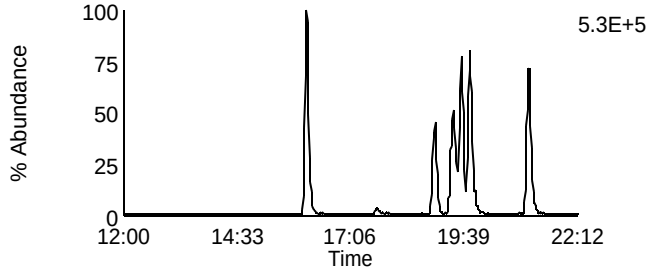
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

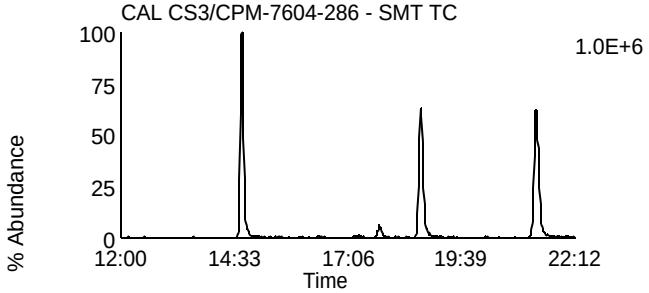
Data File: U131104A_01 G1 C1 - 303.9016
CAL CS3/CPM-7604-286 - SMT TC



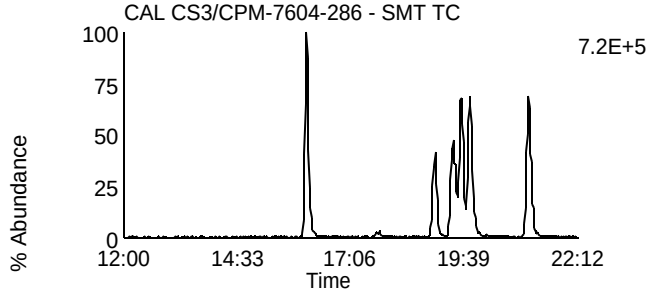
Data File: U131104A_01 G1 C7 - 319.8965
CAL CS3/CPM-7604-286 - SMT TC



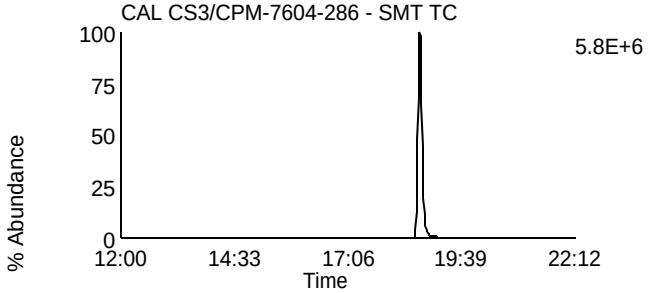
Data File: U131104A_01 G1 C2 - 305.8987
CAL CS3/CPM-7604-286 - SMT TC



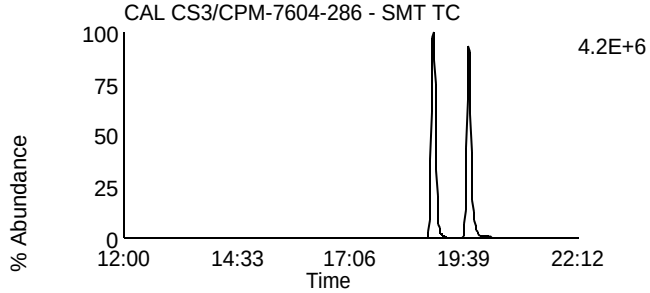
Data File: U131104A_01 G1 C8 - 321.8936
CAL CS3/CPM-7604-286 - SMT TC



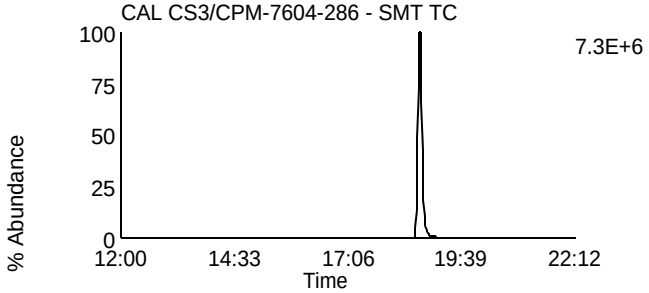
Data File: U131104A_01 G1 C3 - 315.9418
CAL CS3/CPM-7604-286 - SMT TC



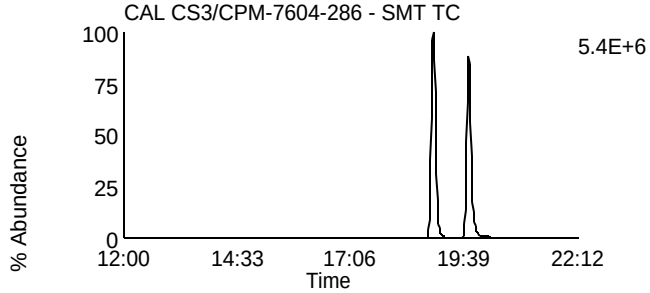
Data File: U131104A_01 G1 C10 - 331.9367
CAL CS3/CPM-7604-286 - SMT TC



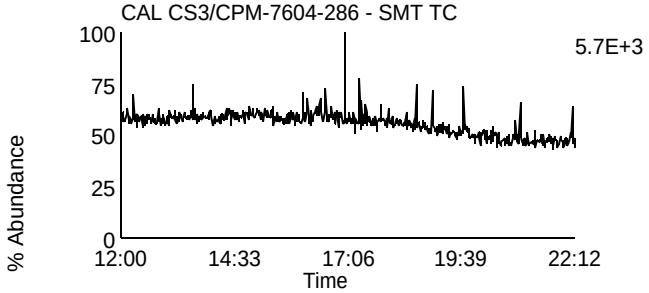
Data File: U131104A_01 G1 C4 - 317.9389
CAL CS3/CPM-7604-286 - SMT TC



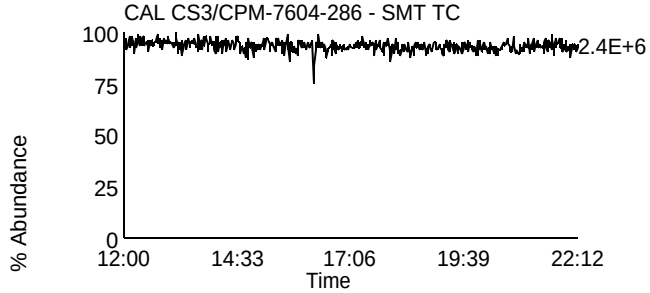
Data File: U131104A_01 G1 C11 - 333.9338
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C14 - 375.8364
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT TC

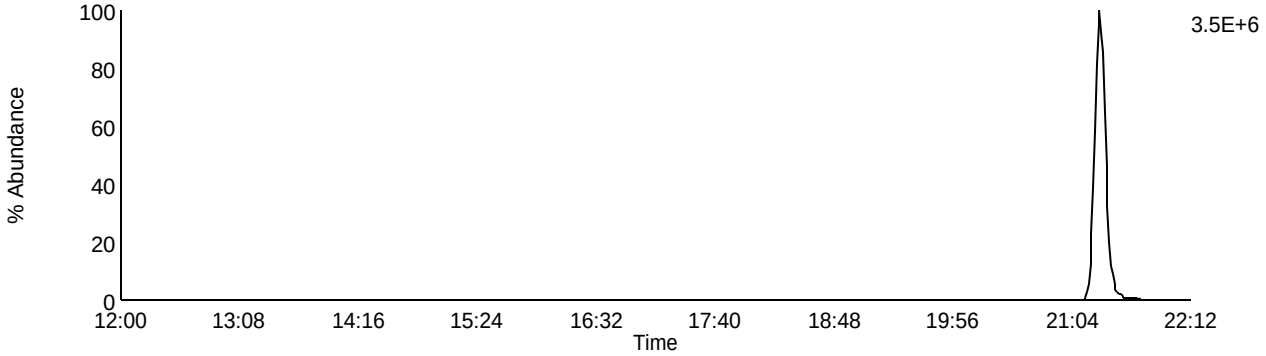


Homologue Group: Penta & Cleanup

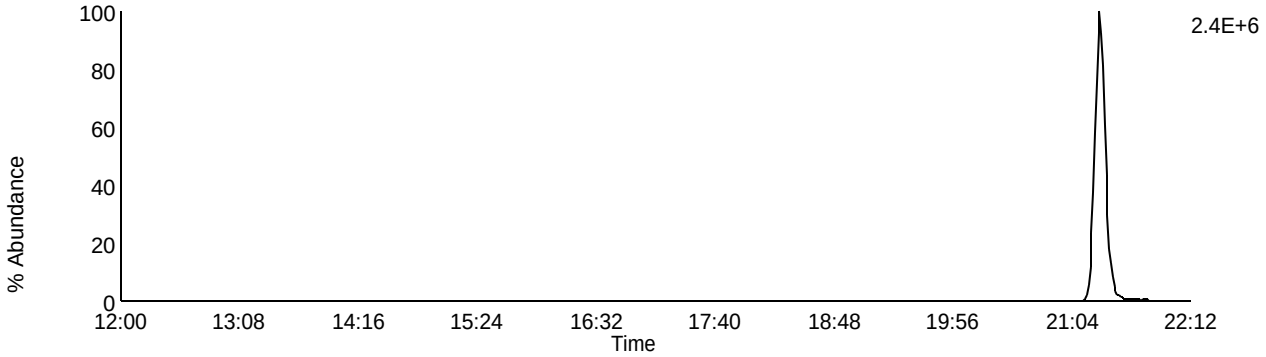
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

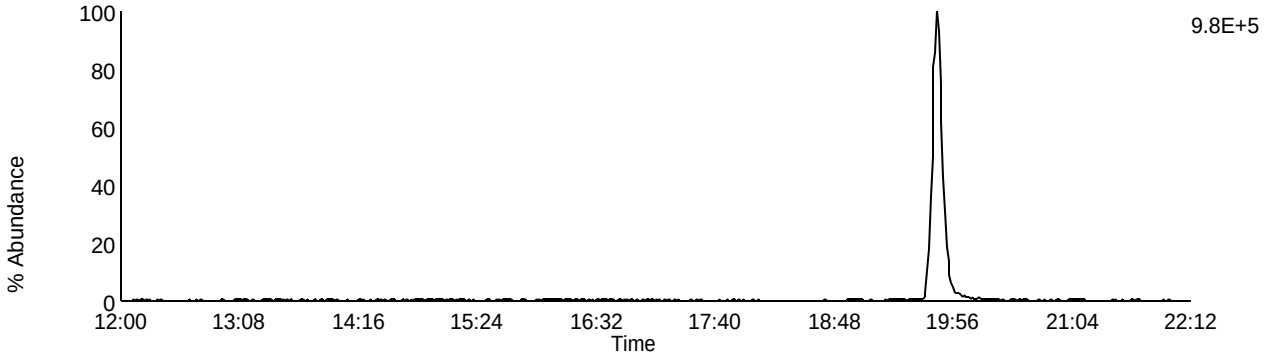
Data File: U131104A_01 G1 C12 - 339.8597
CAL CS3/CPM-7604-286 - SMT TC



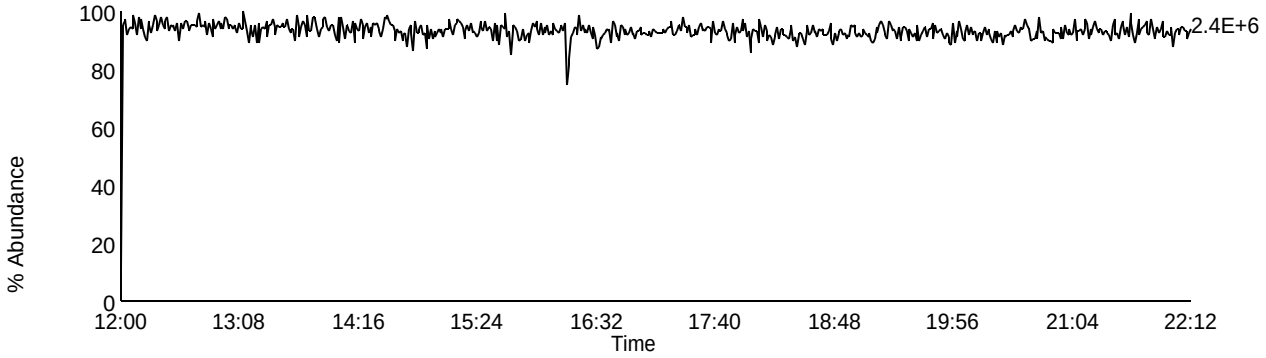
Data File: U131104A_01 G1 C13 - 341.8567
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C9 - 327.8847
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT TC

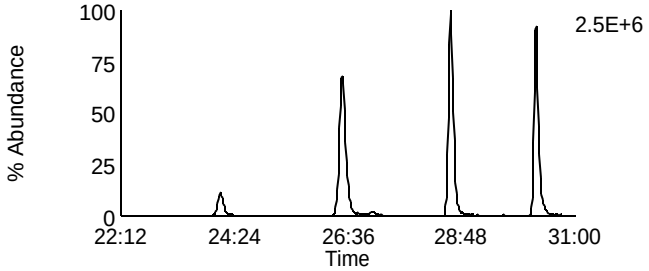


Homologue Group: Pentas

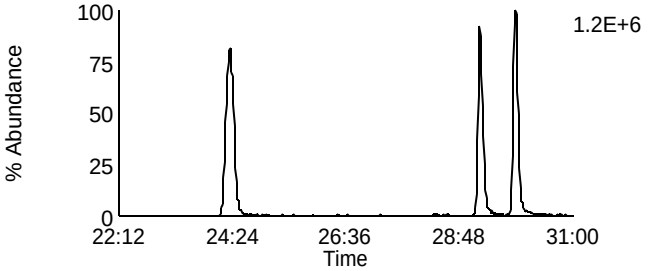
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

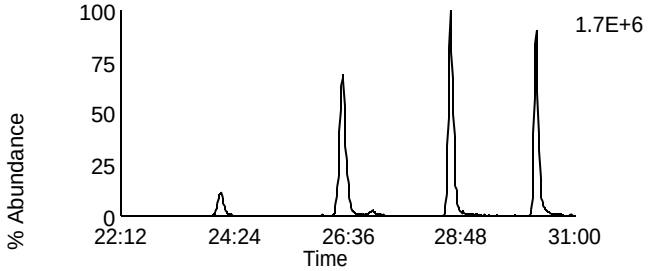
Data File: U131104A_01 G2 C1 - 339.8597
CAL CS3/CPM-7604-286 - SMT TC



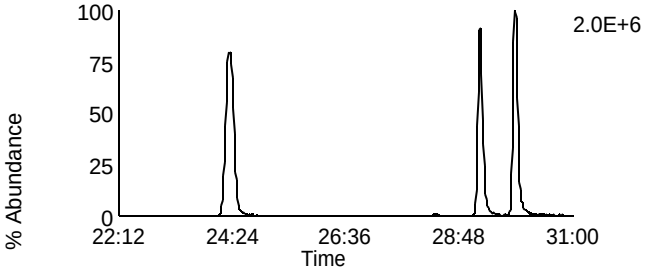
Data File: U131104A_01 G2 C4 - 353.8576
CAL CS3/CPM-7604-286 - SMT TC



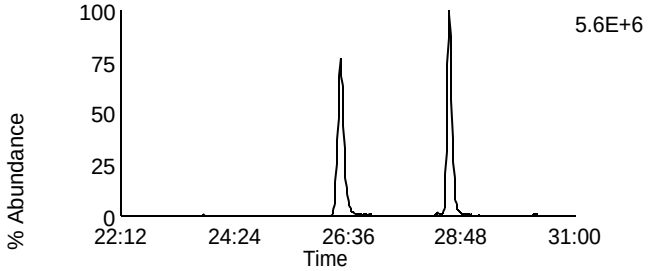
Data File: U131104A_01 G2 C2 - 341.8567
CAL CS3/CPM-7604-286 - SMT TC



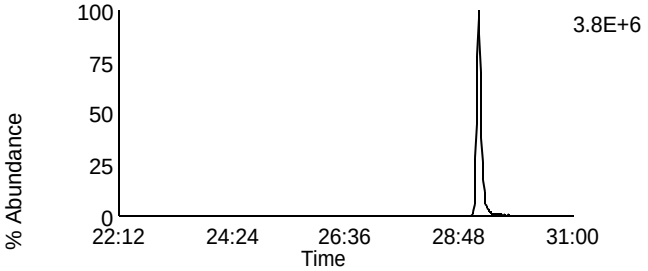
Data File: U131104A_01 G2 C8 - 355.8546
CAL CS3/CPM-7604-286 - SMT TC



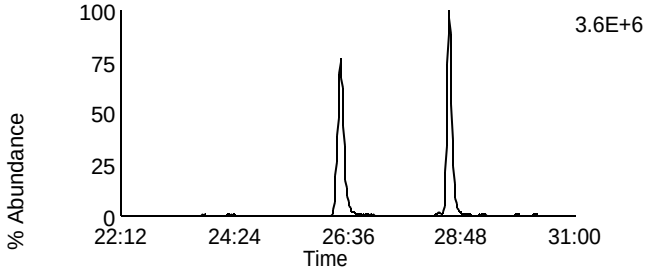
Data File: U131104A_01 G2 C3 - 351.8999
CAL CS3/CPM-7604-286 - SMT TC



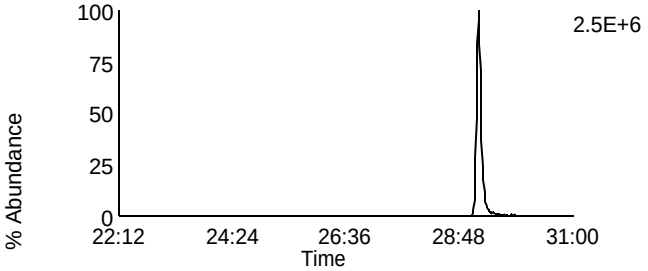
Data File: U131104A_01 G2 C10 - 367.8948
CAL CS3/CPM-7604-286 - SMT TC



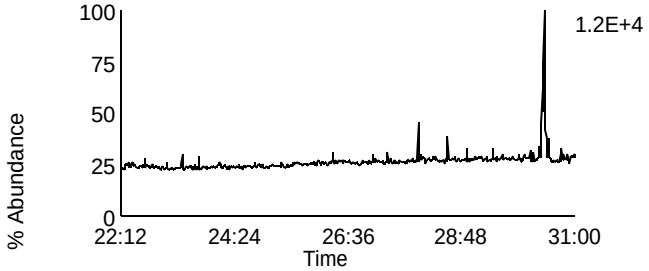
Data File: U131104A_01 G2 C5 - 353.8969
CAL CS3/CPM-7604-286 - SMT TC



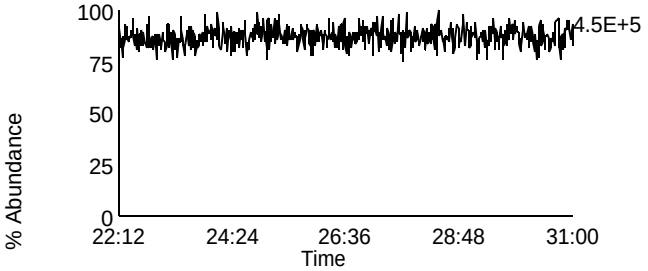
Data File: U131104A_01 G2 C11 - 369.8918
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G2 C12 - 409.7974
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G2 C6 - 354.9792
CAL CS3/CPM-7604-286 - SMT TC

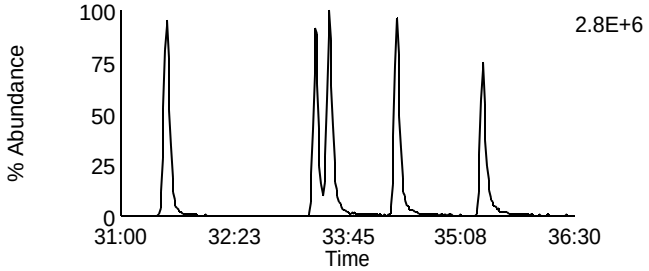


Homologue Group: Hexas

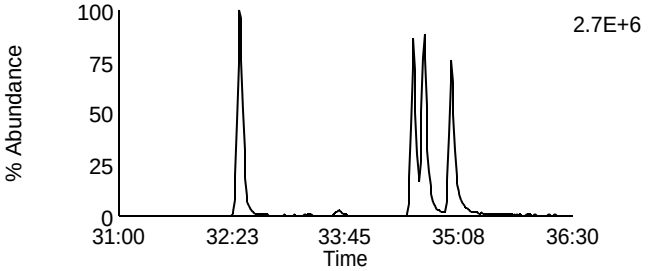
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

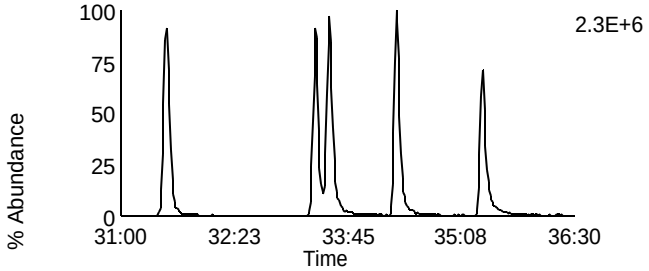
Data File: U131104A_01 G3 C1 - 373.8207
CAL CS3/CPM-7604-286 - SMT TC



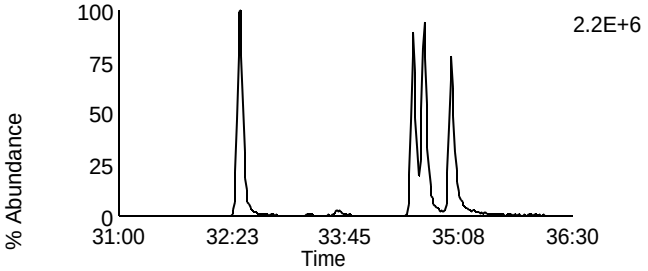
Data File: U131104A_01 G3 C7 - 389.8156
CAL CS3/CPM-7604-286 - SMT TC



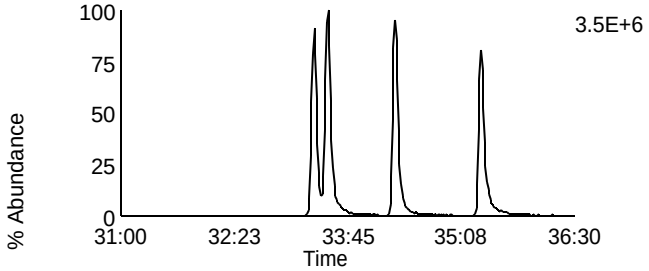
Data File: U131104A_01 G3 C2 - 375.8178
CAL CS3/CPM-7604-286 - SMT TC



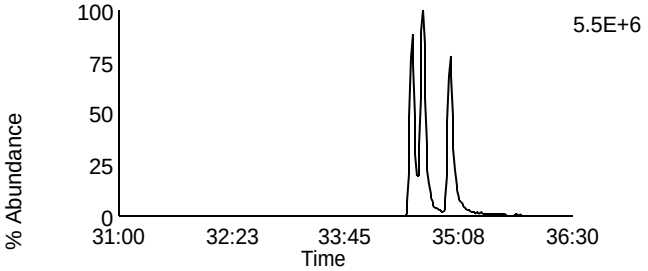
Data File: U131104A_01 G3 C8 - 391.8127
CAL CS3/CPM-7604-286 - SMT TC



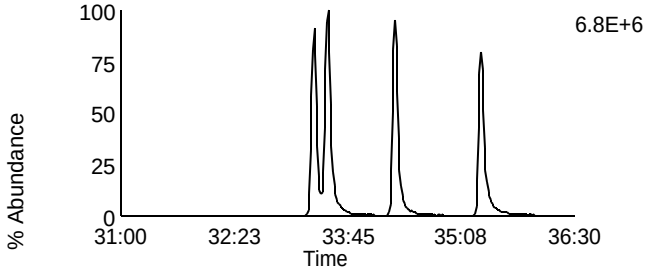
Data File: U131104A_01 G3 C5 - 383.8639
CAL CS3/CPM-7604-286 - SMT TC



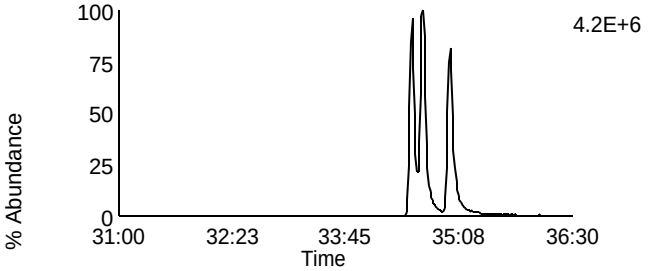
Data File: U131104A_01 G3 C9 - 401.8559
CAL CS3/CPM-7604-286 - SMT TC



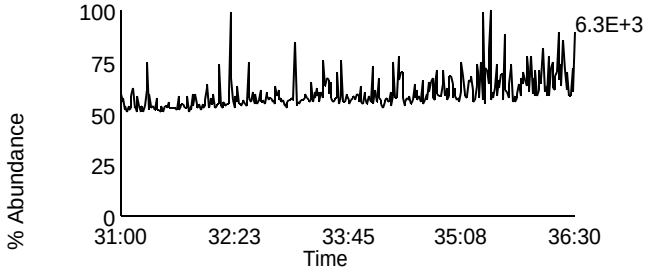
Data File: U131104A_01 G3 C6 - 385.861
CAL CS3/CPM-7604-286 - SMT TC



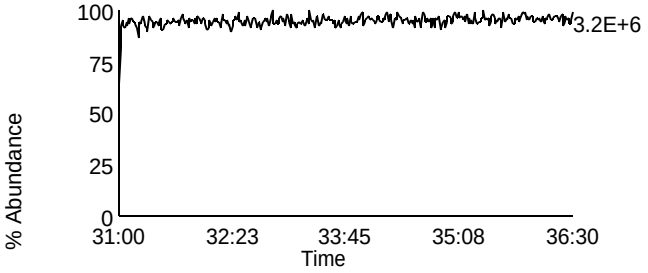
Data File: U131104A_01 G3 C10 - 403.8529
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G3 C11 - 445.7555
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G3 C3 - 380.976
CAL CS3/CPM-7604-286 - SMT TC

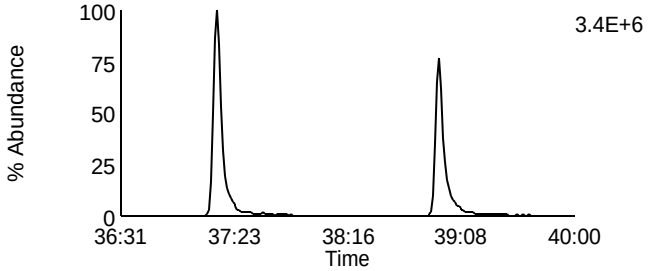


Homologue Group: Heptas

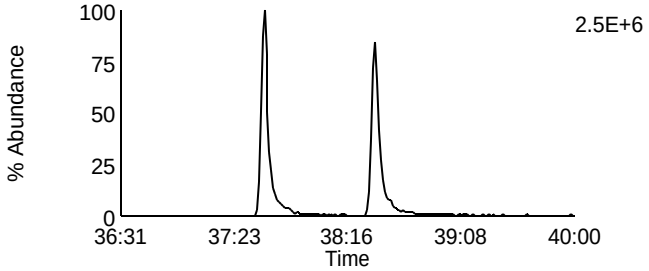
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

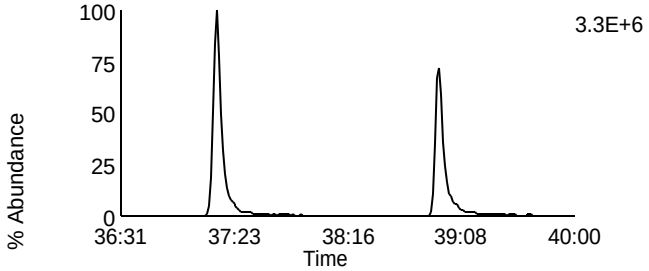
Data File: U131104A_01 G4 C3 - 407.7818
CAL CS3/CPM-7604-286 - SMT TC



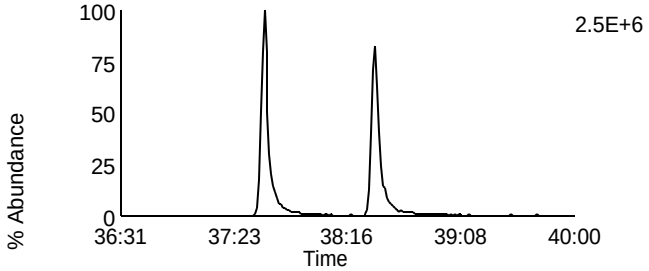
Data File: U131104A_01 G4 C8 - 423.7767
CAL CS3/CPM-7604-286 - SMT TC



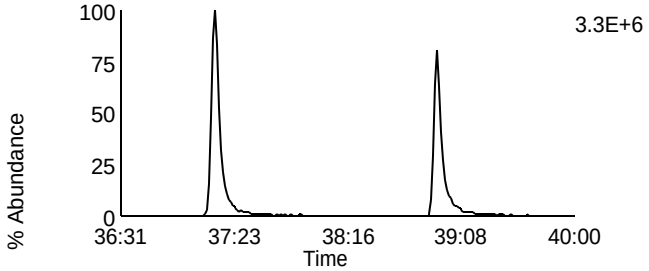
Data File: U131104A_01 G4 C4 - 409.7788
CAL CS3/CPM-7604-286 - SMT TC



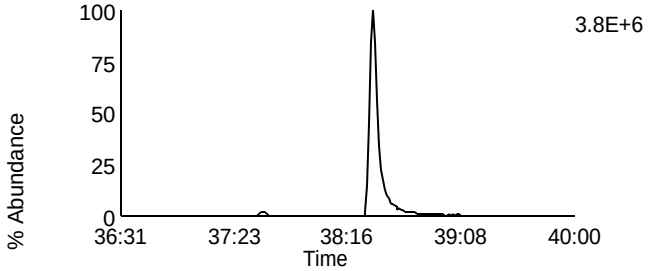
Data File: U131104A_01 G4 C9 - 425.7737
CAL CS3/CPM-7604-286 - SMT TC



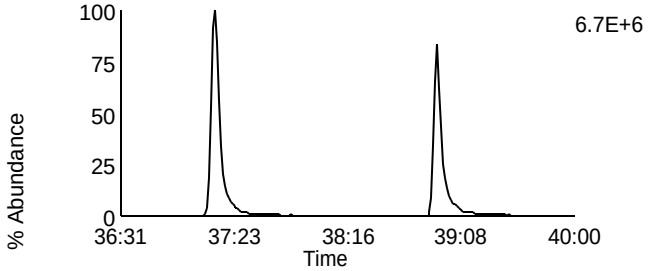
Data File: U131104A_01 G4 C6 - 417.825
CAL CS3/CPM-7604-286 - SMT TC



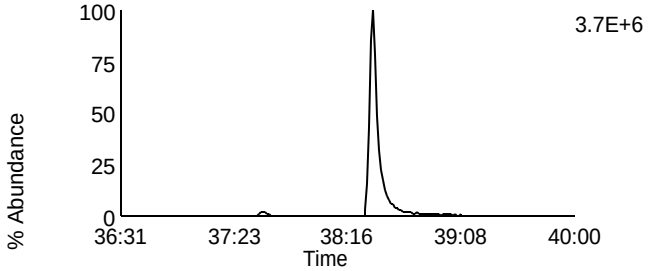
Data File: U131104A_01 G4 C11 - 435.8169
CAL CS3/CPM-7604-286 - SMT TC



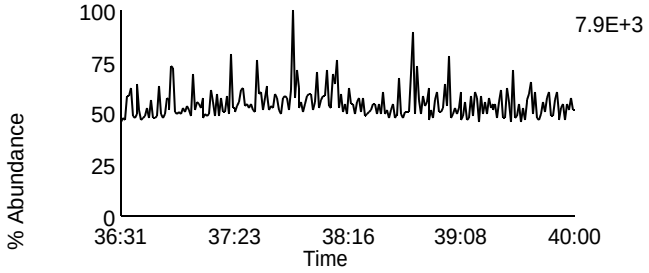
Data File: U131104A_01 G4 C7 - 419.822
CAL CS3/CPM-7604-286 - SMT TC



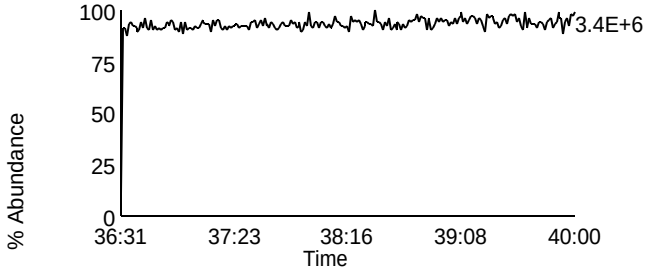
Data File: U131104A_01 G4 C12 - 437.814
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G4 C13 - 479.7165
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G4 C1 - 380.976
CAL CS3/CPM-7604-286 - SMT TC

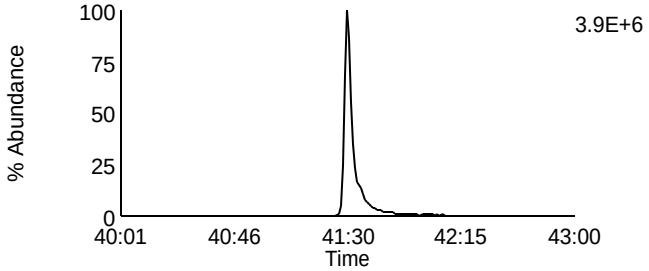


Homologue Group: Octas

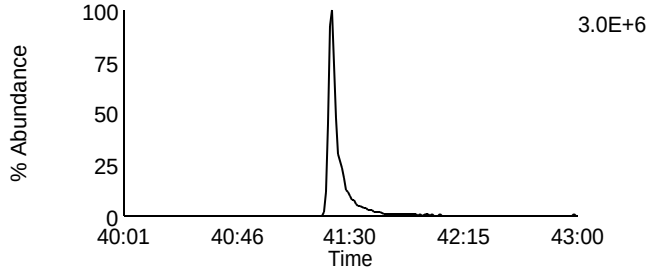
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131104A_01 G5 C4 - 441.7428
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G5 C8 - 457.7377
CAL CS3/CPM-7604-286 - SMT TC



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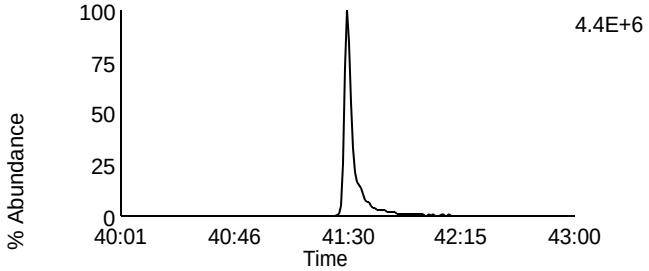
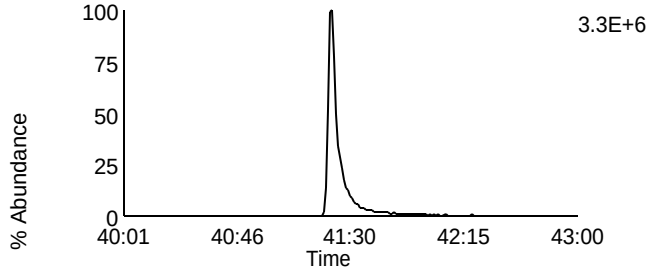
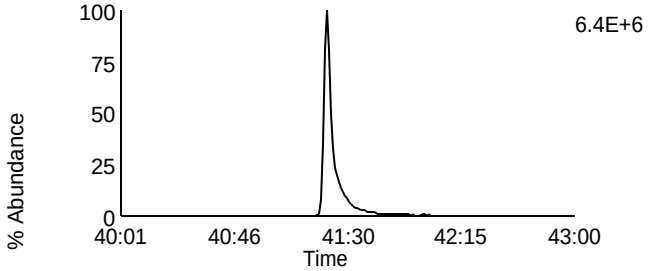
CAL CS3/CPM-7604-286 - SMT TC



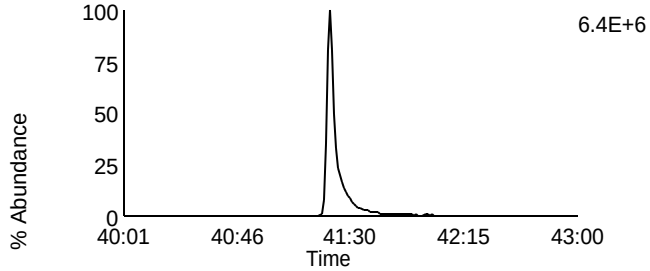
Data File: U131104A_01 G5 C9 - 459.7347
CAL CS3/CPM-7604-286 - SMT TC



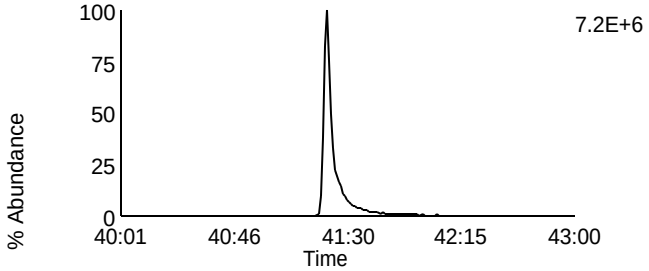
Data File: U131104A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT TC



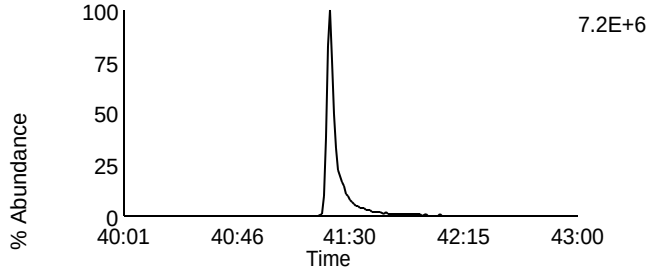
Data File: U131104A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT TC



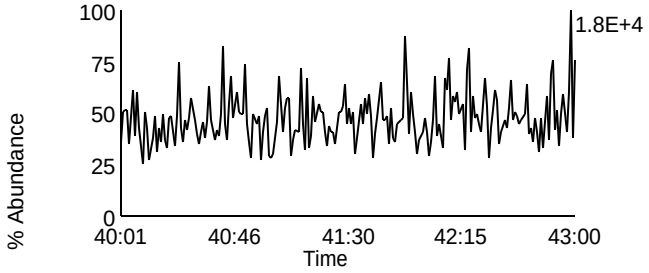
Data File: U131104A_01 G5 C12 - 471.7749
CAL CS3/CPM-7604-286 - SMT TC



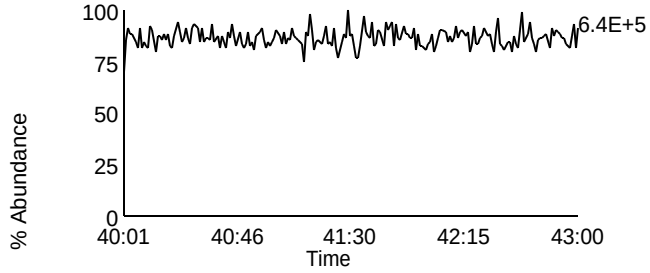
Data File: U131104A_01 G5 C12 - 471.7749
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G5 C13 - 513.6775
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G5 C2 - 430.9728
CAL CS3/CPM-7604-286 - SMT TC

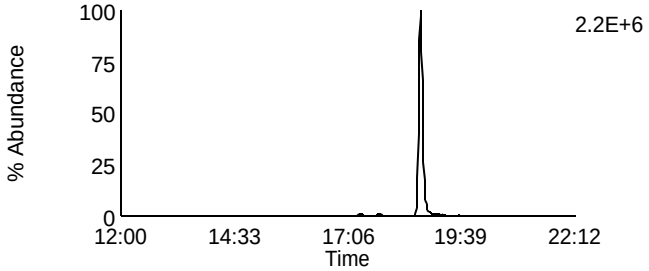


Homologue Group: Tetras

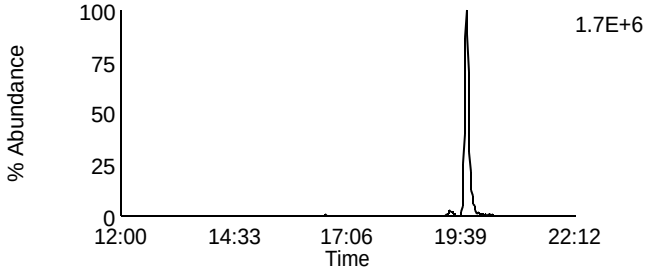
Data File Name: U131104A_05
Date Acquired: 11/4/2013
Sample Description: CAL CS4-7604-277 - SMT

Lab Sample ID: CS4-7604-277
Client Sample ID:
Instrument: 10MSHR06 (U)

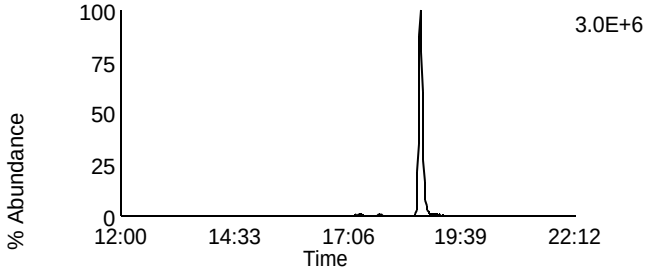
Data File: U131104A_05 G1 C1 - 303.9016
CAL CS4-7604-277 - SMT



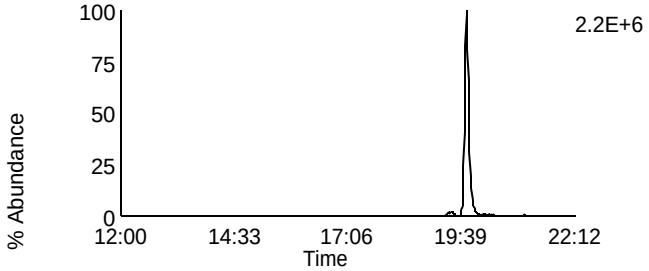
Data File: U131104A_05 G1 C7 - 319.8965
CAL CS4-7604-277 - SMT



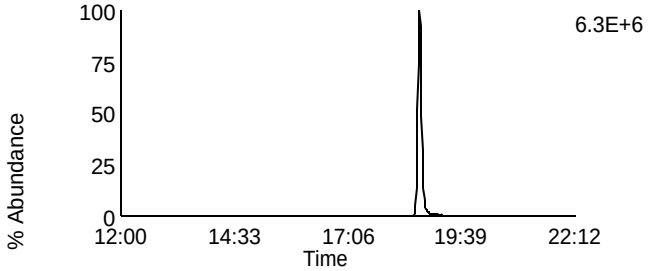
Data File: U131104A_05 G1 C2 - 305.8987
CAL CS4-7604-277 - SMT



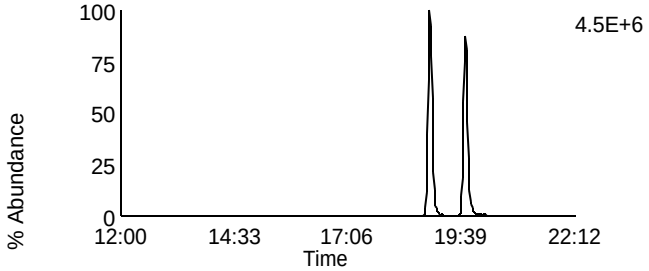
Data File: U131104A_05 G1 C8 - 321.8936
CAL CS4-7604-277 - SMT



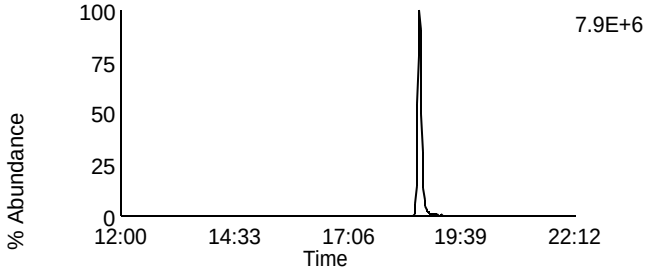
Data File: U131104A_05 G1 C3 - 315.9418
CAL CS4-7604-277 - SMT



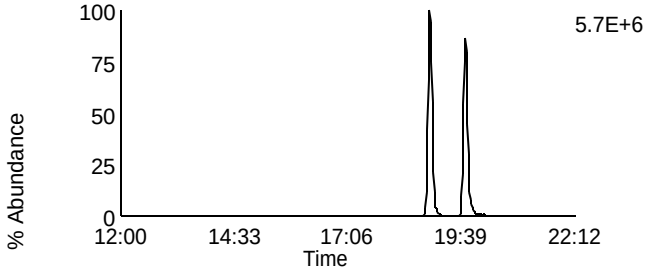
Data File: U131104A_05 G1 C10 - 331.9367
CAL CS4-7604-277 - SMT



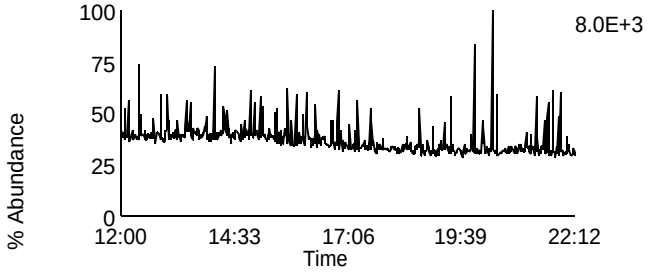
Data File: U131104A_05 G1 C4 - 317.9389
CAL CS4-7604-277 - SMT



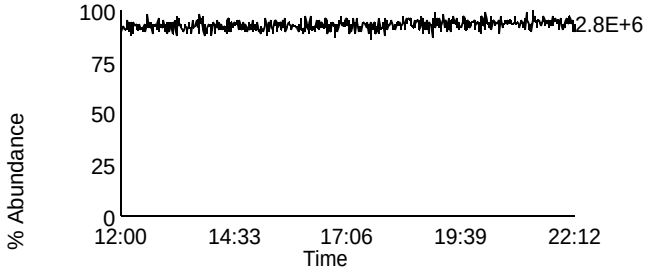
Data File: U131104A_05 G1 C11 - 333.9338
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G1 C14 - 375.8364
CAL CS4-7604-277 - SMT



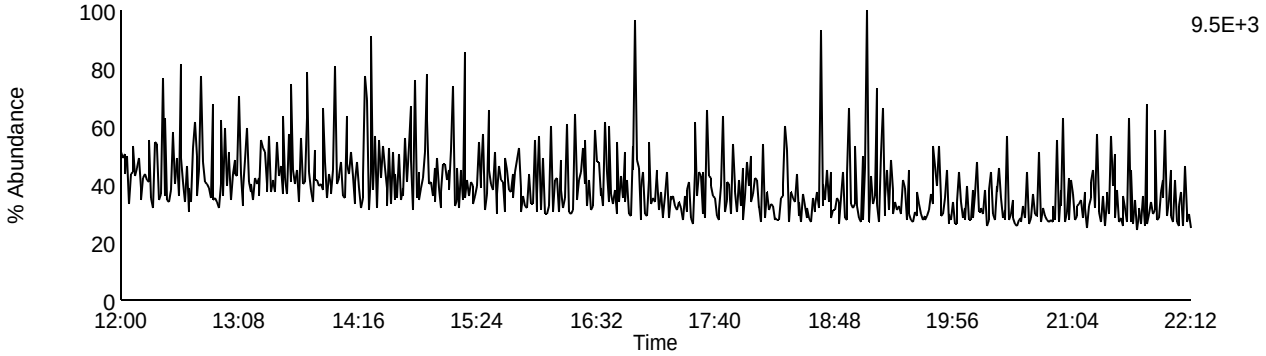
Data File: U131104A_05 G1 C5 - 318.9792
CAL CS4-7604-277 - SMT



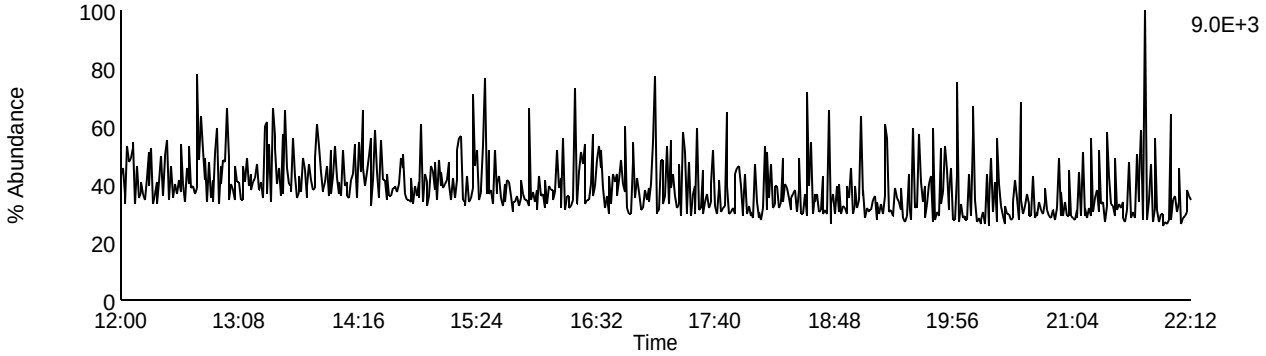
Homologue Group: Penta & Cleanup

Data File Name: U131104A_05	Lab Sample ID: CS4-7604-277
Date Acquired: 11/4/2013	Client Sample ID:
Sample Description: CAL CS4-7604-277 - SMT	Instrument: 10MSHR06 (U)

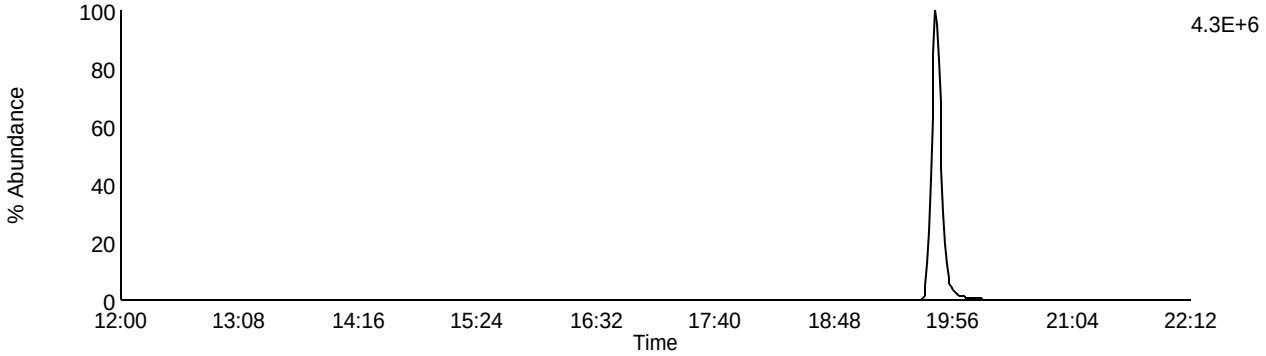
Data File: U131104A_05 G1 C12 - 339.8597
CAL CS4-7604-277 - SMT



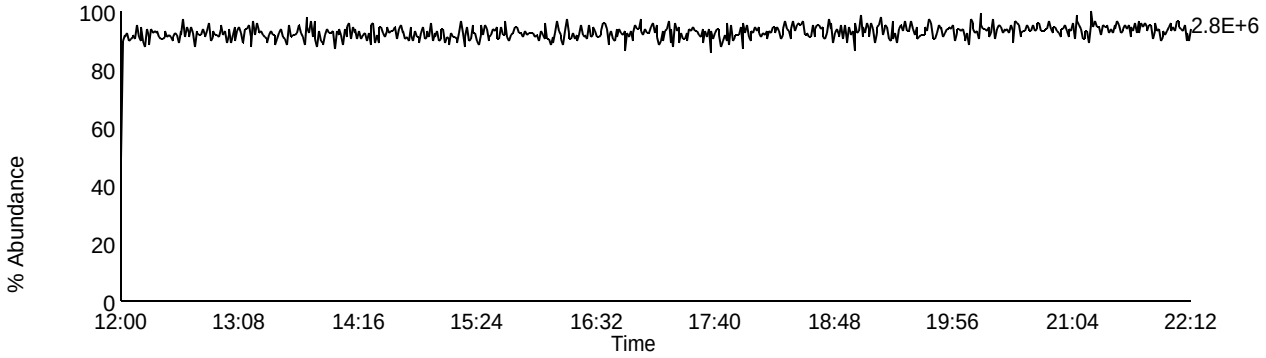
Data File: U131104A_05 G1 C13 - 341.8567
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G1 C9 - 327.8847
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G1 C5 - 318.9792
CAL CS4-7604-277 - SMT

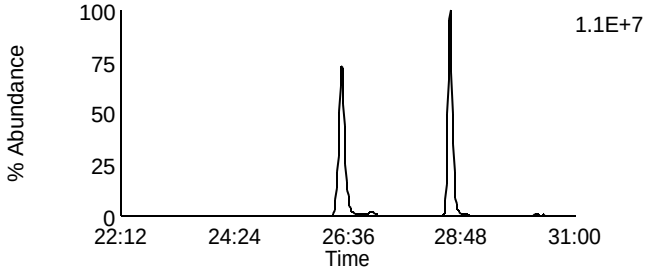


Homologue Group: Pentas

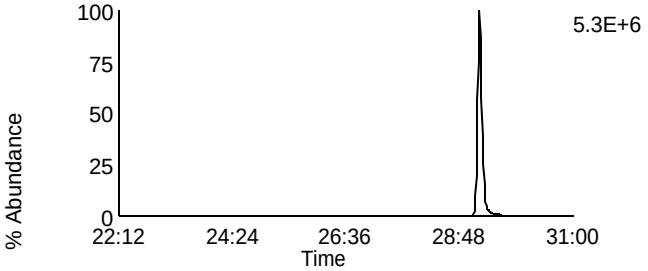
Data File Name: U131104A_05
Date Acquired: 11/4/2013
Sample Description: CAL CS4-7604-277 - SMT

Lab Sample ID: CS4-7604-277
Client Sample ID:
Instrument: 10MSHR06 (U)

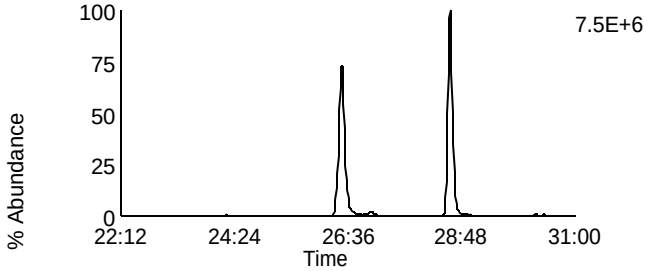
Data File: U131104A_05 G2 C1 - 339.8597
CAL CS4-7604-277 - SMT



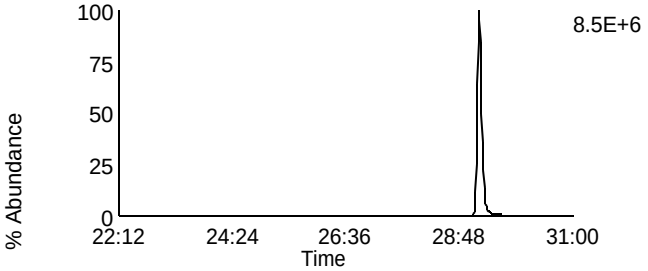
Data File: U131104A_05 G2 C4 - 353.8576
CAL CS4-7604-277 - SMT



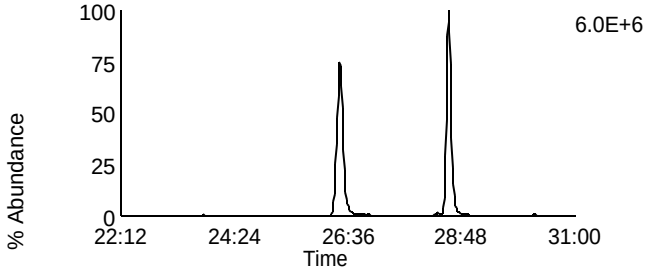
Data File: U131104A_05 G2 C2 - 341.8567
CAL CS4-7604-277 - SMT



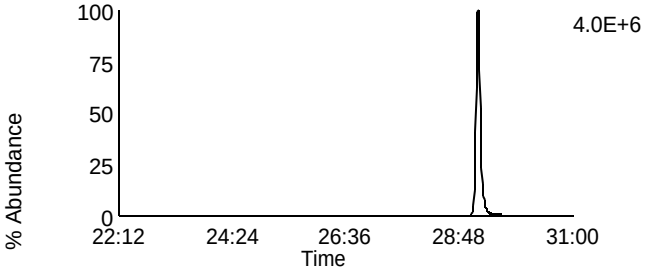
Data File: U131104A_05 G2 C8 - 355.8546
CAL CS4-7604-277 - SMT



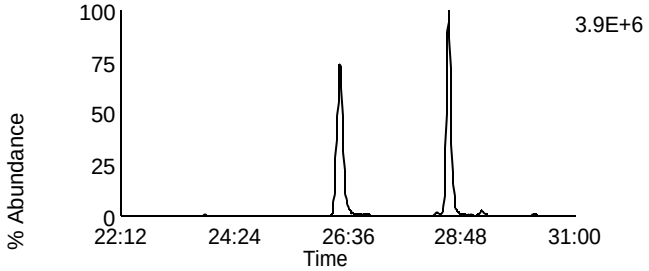
Data File: U131104A_05 G2 C3 - 351.8999
CAL CS4-7604-277 - SMT



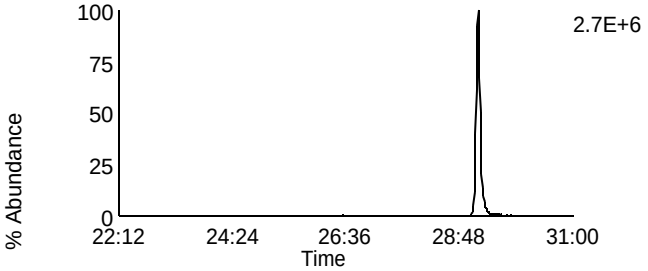
Data File: U131104A_05 G2 C10 - 367.8948
CAL CS4-7604-277 - SMT



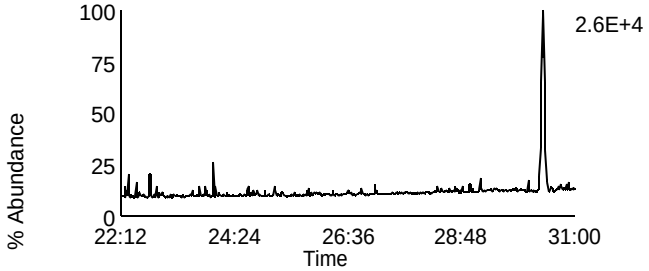
Data File: U131104A_05 G2 C5 - 353.8969
CAL CS4-7604-277 - SMT



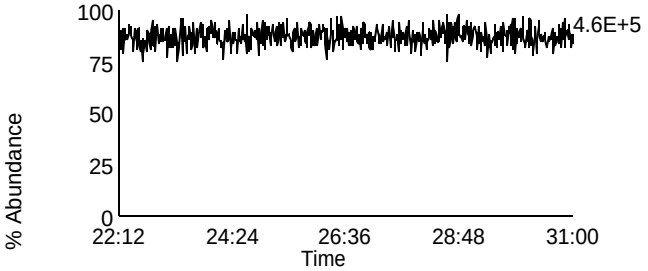
Data File: U131104A_05 G2 C11 - 369.8918
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G2 C12 - 409.7974
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G2 C6 - 354.9792
CAL CS4-7604-277 - SMT

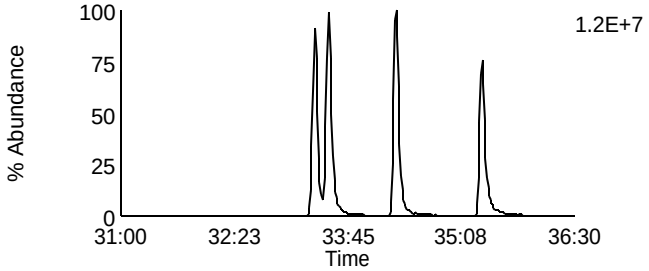


Homologue Group: Hexas

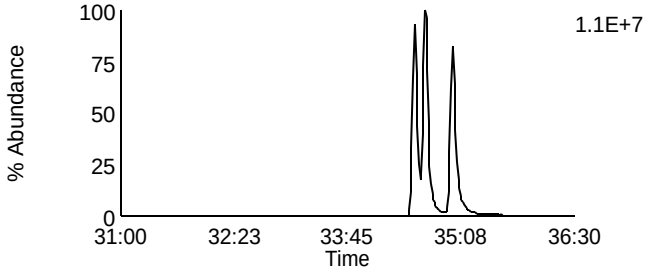
Data File Name: U131104A_05
Date Acquired: 11/4/2013
Sample Description: CAL CS4-7604-277 - SMT

Lab Sample ID: CS4-7604-277
Client Sample ID:
Instrument: 10MSHR06 (U)

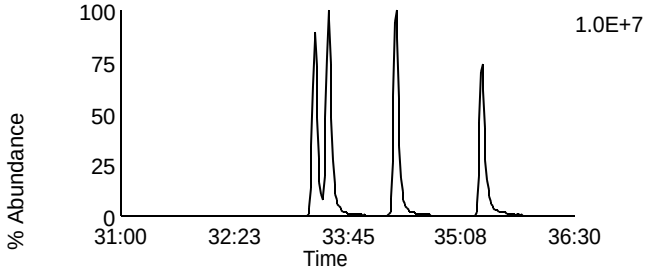
Data File: U131104A_05 G3 C1 - 373.8207
CAL CS4-7604-277 - SMT



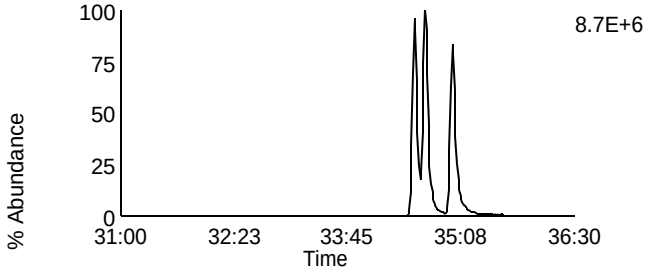
Data File: U131104A_05 G3 C7 - 389.8156
CAL CS4-7604-277 - SMT



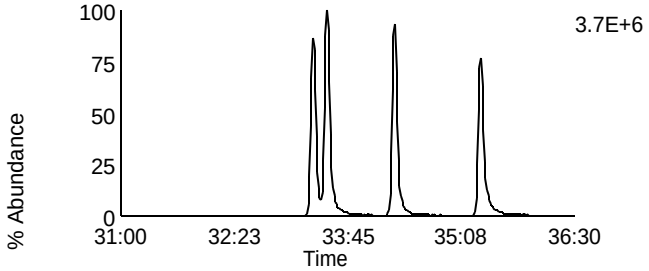
Data File: U131104A_05 G3 C2 - 375.8178
CAL CS4-7604-277 - SMT



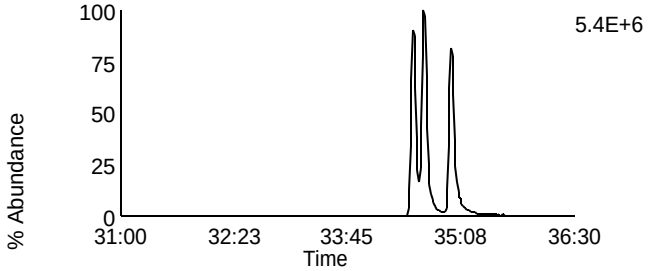
Data File: U131104A_05 G3 C8 - 391.8127
CAL CS4-7604-277 - SMT



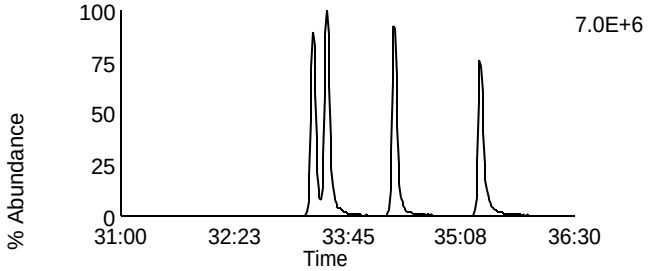
Data File: U131104A_05 G3 C5 - 383.8639
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G3 C9 - 401.8559
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G3 C6 - 385.861
CAL CS4-7604-277 - SMT



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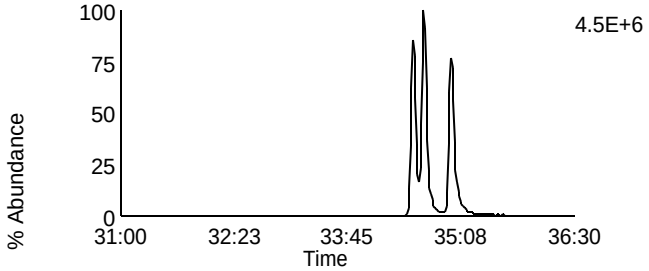
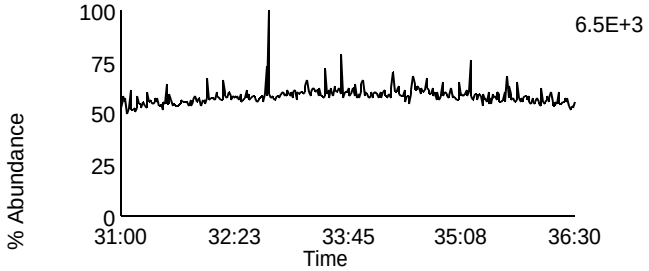
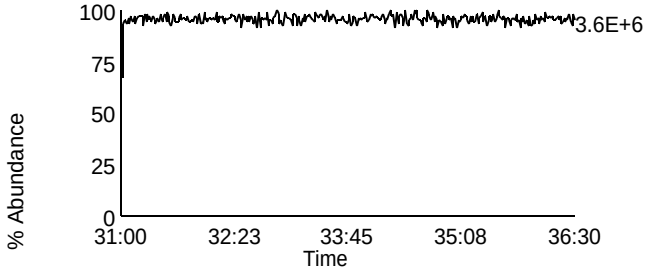
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G3 C11 - 445.7555
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G3 C3 - 380.976
CAL CS4-7604-277 - SMT

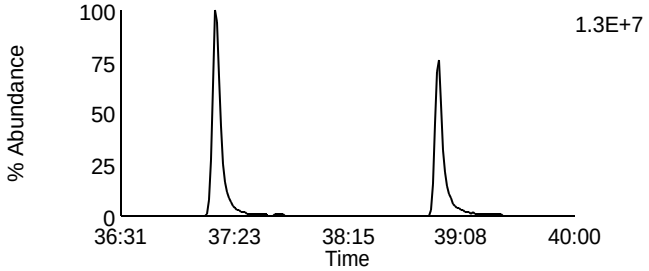


Homologue Group: Heptas

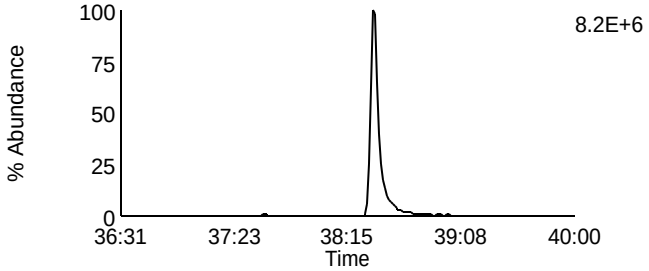
Data File Name: U131104A_05
Date Acquired: 11/4/2013
Sample Description: CAL CS4-7604-277 - SMT

Lab Sample ID: CS4-7604-277
Client Sample ID:
Instrument: 10MSHR06 (U)

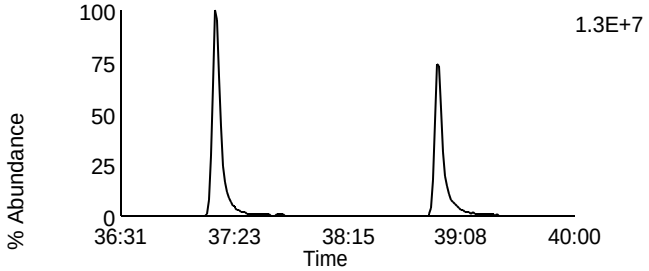
Data File: U131104A_05 G4 C3 - 407.7818
CAL CS4-7604-277 - SMT



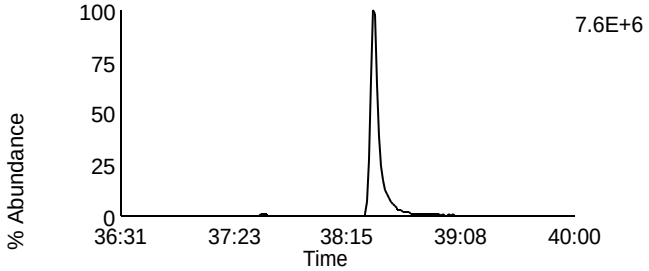
Data File: U131104A_05 G4 C8 - 423.7767
CAL CS4-7604-277 - SMT



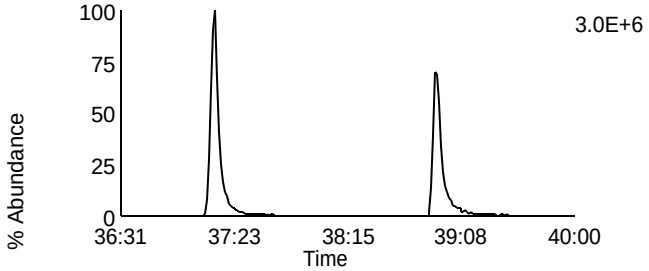
Data File: U131104A_05 G4 C4 - 409.7788
CAL CS4-7604-277 - SMT



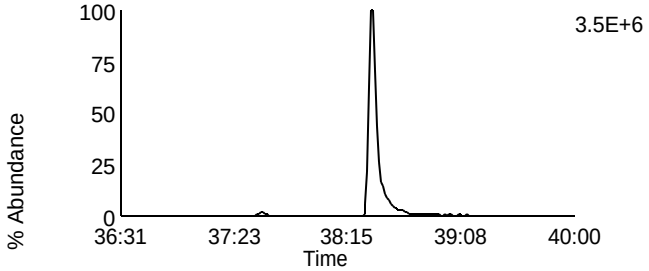
Data File: U131104A_05 G4 C9 - 425.7737
CAL CS4-7604-277 - SMT



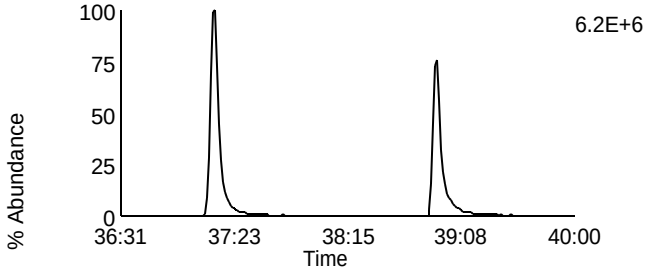
Data File: U131104A_05 G4 C6 - 417.825
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G4 C11 - 435.8169
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G4 C7 - 419.822
CAL CS4-7604-277 - SMT



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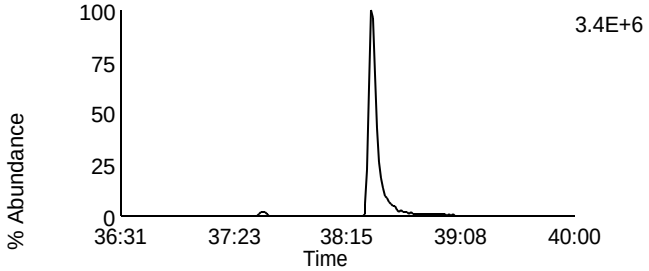
CAL CS4-7604-277 - SMT



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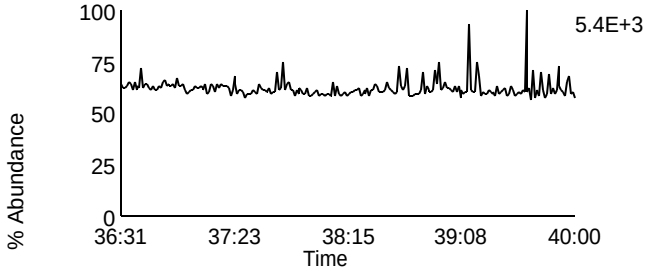
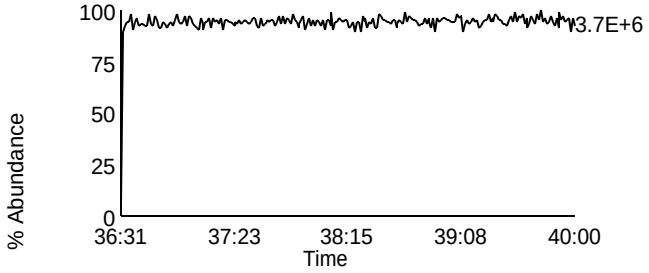
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G4 C1 - 380.976
CAL CS4-7604-277 - SMT

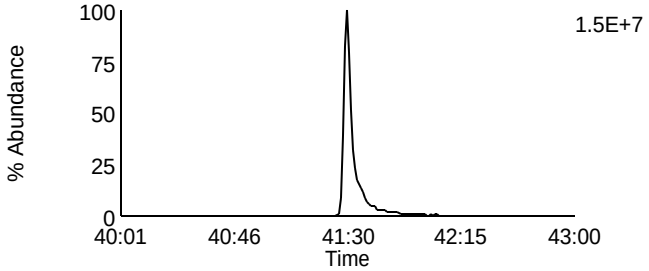


Homologue Group: Octas

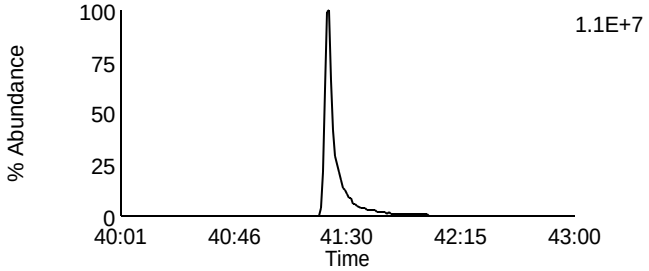
Data File Name: U131104A_05
Date Acquired: 11/4/2013
Sample Description: CAL CS4-7604-277 - SMT

Lab Sample ID: CS4-7604-277
Client Sample ID:
Instrument: 10MSHR06 (U)

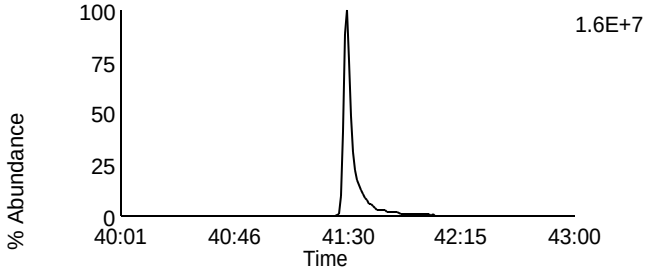
Data File: U131104A_05 G5 C4 - 441.7428
CAL CS4-7604-277 - SMT



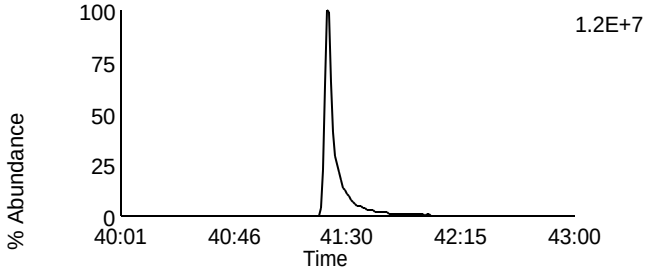
Data File: U131104A_05 G5 C8 - 457.7377
CAL CS4-7604-277 - SMT



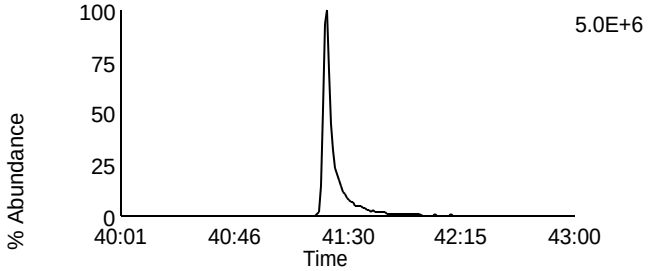
Data File: U131104A_05 G5 C5 - 443.7398
CAL CS4-7604-277 - SMT



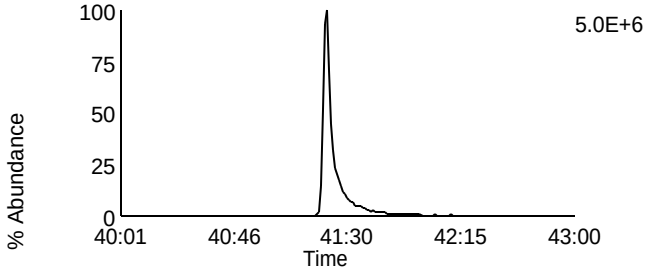
Data File: U131104A_05 G5 C9 - 459.7347
CAL CS4-7604-277 - SMT



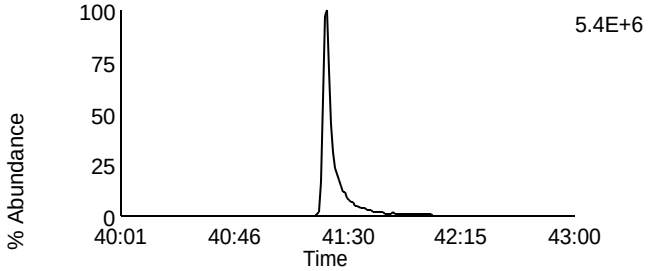
Data File: U131104A_05 G5 C11 - 469.7779
CAL CS4-7604-277 - SMT



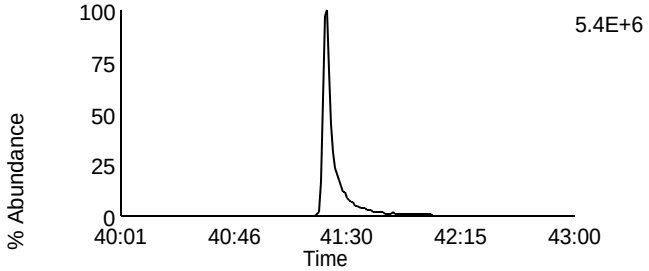
Data File: U131104A_05 G5 C11 - 469.7779
CAL CS4-7604-277 - SMT



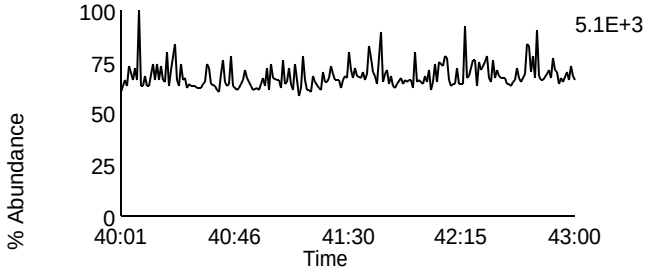
Data File: U131104A_05 G5 C12 - 471.7749
CAL CS4-7604-277 - SMT



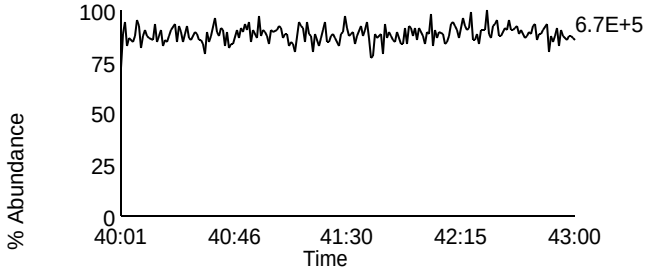
Data File: U131104A_05 G5 C12 - 471.7749
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G5 C13 - 513.6775
CAL CS4-7604-277 - SMT



Data File: U131104A_05 G5 C2 - 430.9728
CAL CS4-7604-277 - SMT

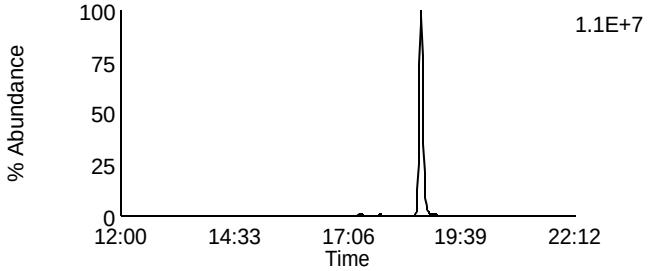


Homologue Group: Tetras

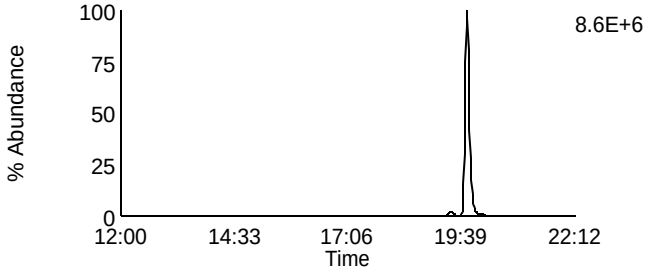
Data File Name: U131104A_04
Date Acquired: 11/4/2013
Sample Description: CAL CS5-7604-278 - SMT

Lab Sample ID: CS5-7604-278
Client Sample ID:
Instrument: 10MSHR06 (U)

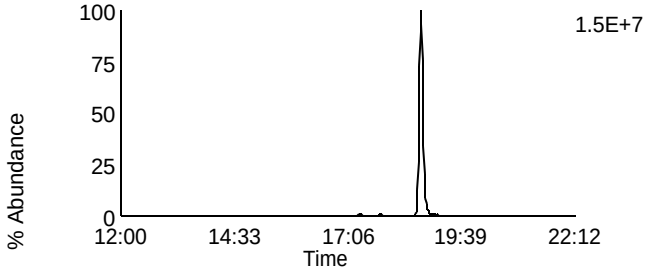
Data File: U131104A_04 G1 C1 - 303.9016
CAL CS5-7604-278 - SMT



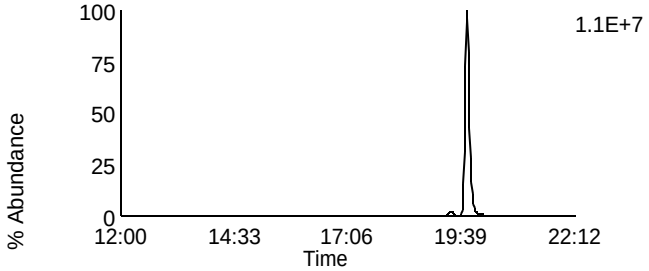
Data File: U131104A_04 G1 C7 - 319.8965
CAL CS5-7604-278 - SMT



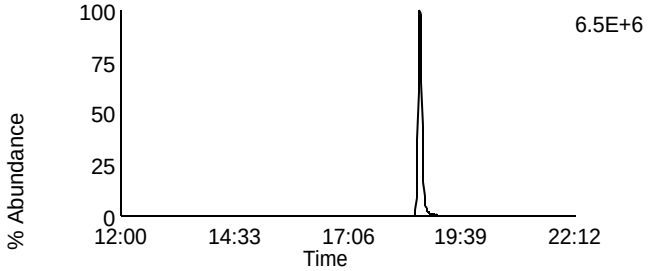
Data File: U131104A_04 G1 C2 - 305.8987
CAL CS5-7604-278 - SMT



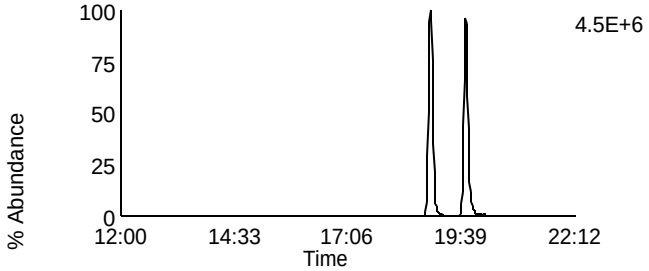
Data File: U131104A_04 G1 C8 - 321.8936
CAL CS5-7604-278 - SMT



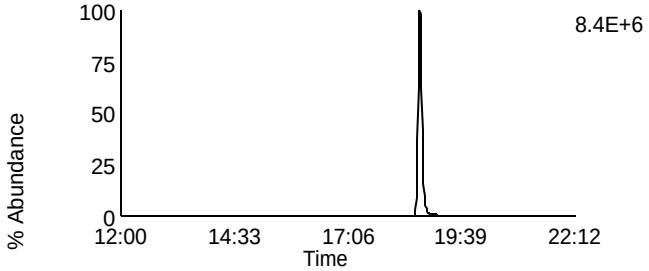
Data File: U131104A_04 G1 C3 - 315.9418
CAL CS5-7604-278 - SMT



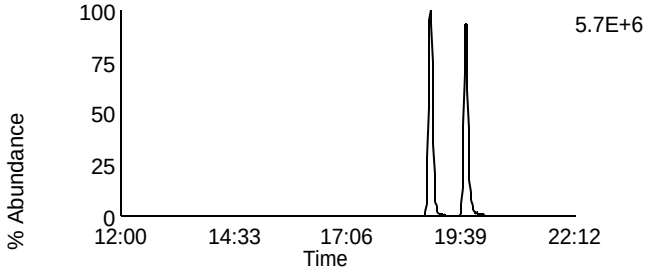
Data File: U131104A_04 G1 C10 - 331.9367
CAL CS5-7604-278 - SMT



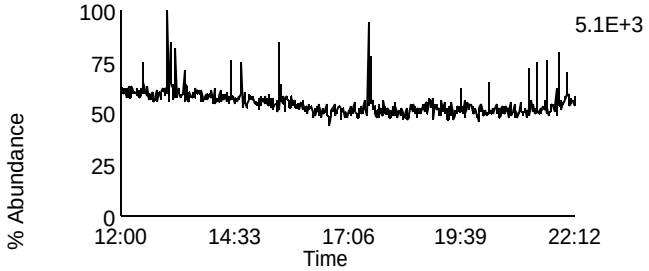
Data File: U131104A_04 G1 C4 - 317.9389
CAL CS5-7604-278 - SMT



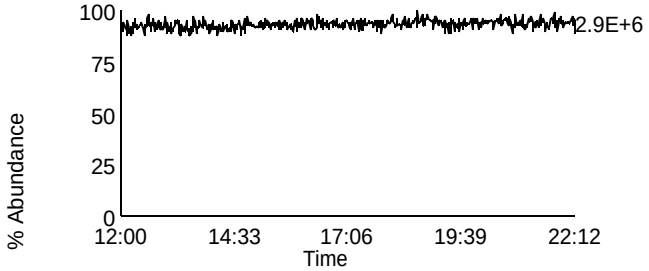
Data File: U131104A_04 G1 C11 - 333.9338
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G1 C14 - 375.8364
CAL CS5-7604-278 - SMT



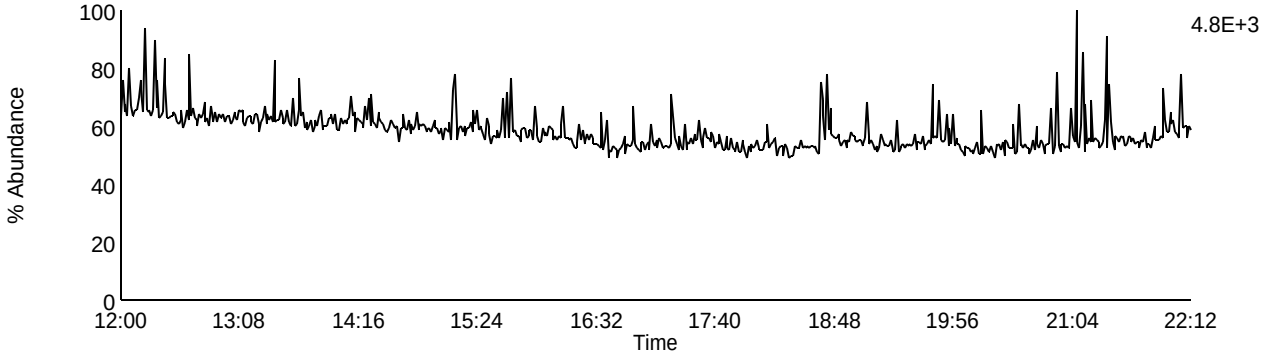
Data File: U131104A_04 G1 C5 - 318.9792
CAL CS5-7604-278 - SMT



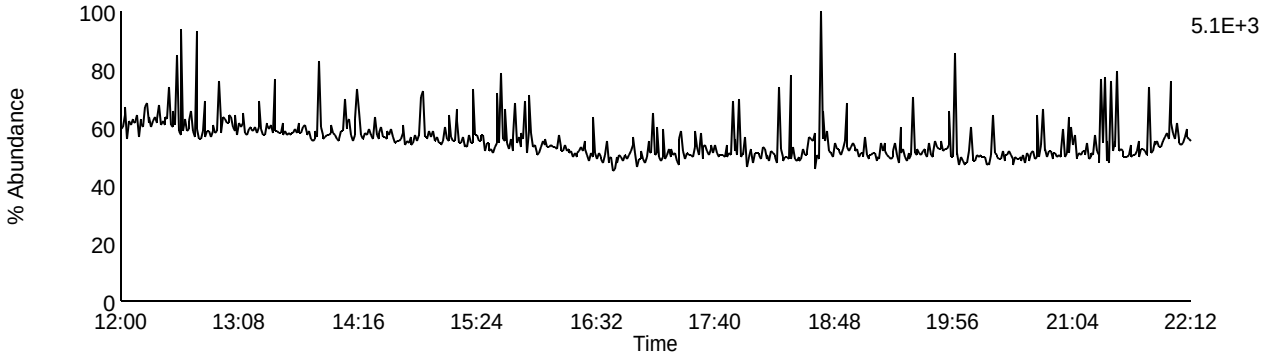
Homologue Group: Penta & Cleanup

Data File Name: U131104A_04	Lab Sample ID: CS5-7604-278
Date Acquired: 11/4/2013	Client Sample ID:
Sample Description: CAL CS5-7604-278 - SMT	Instrument: 10MSHR06 (U)

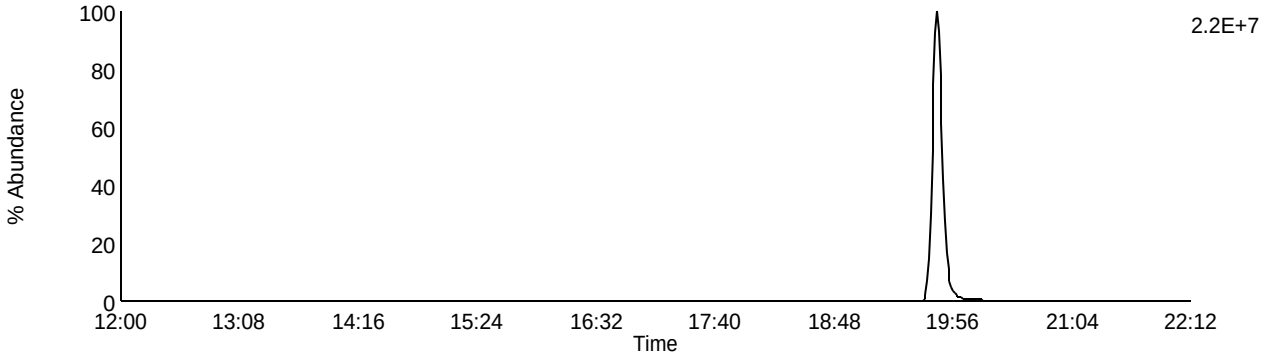
Data File: U131104A_04 G1 C12 - 339.8597
CAL CS5-7604-278 - SMT



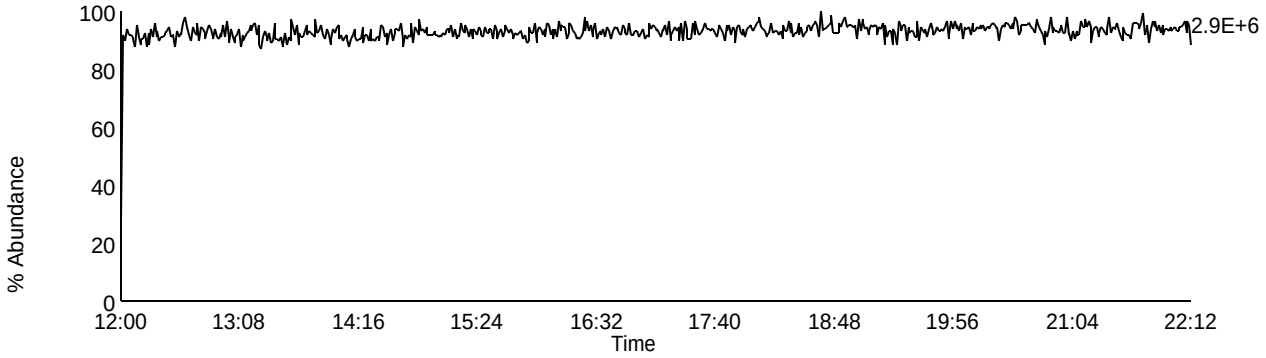
Data File: U131104A_04 G1 C13 - 341.8567
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G1 C9 - 327.8847
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G1 C5 - 318.9792
CAL CS5-7604-278 - SMT

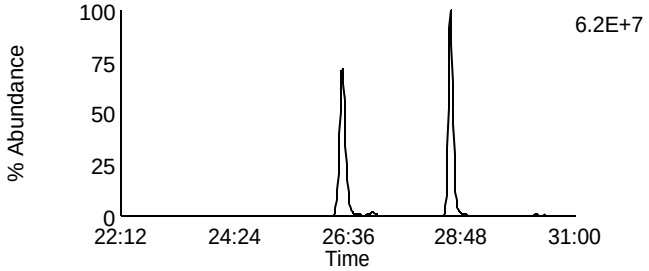


Homologue Group: Pentas

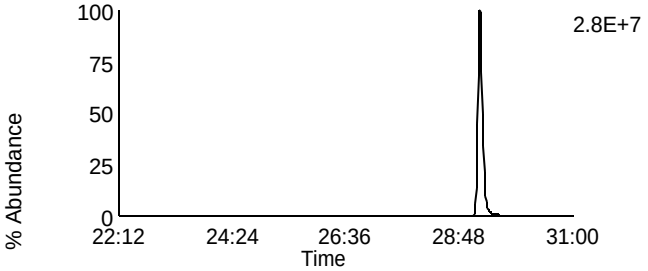
Data File Name: U131104A_04
Date Acquired: 11/4/2013
Sample Description: CAL CS5-7604-278 - SMT

Lab Sample ID: CS5-7604-278
Client Sample ID:
Instrument: 10MSHR06 (U)

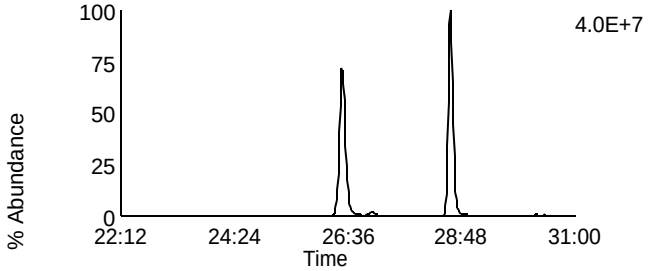
Data File: U131104A_04 G2 C1 - 339.8597
CAL CS5-7604-278 - SMT



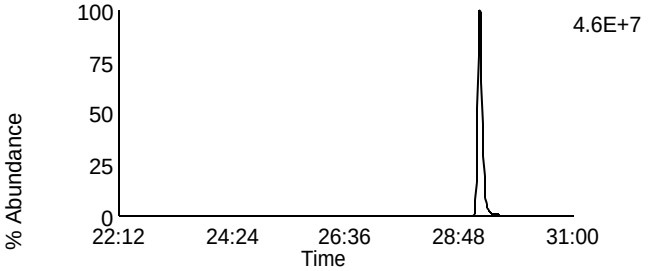
Data File: U131104A_04 G2 C4 - 353.8576
CAL CS5-7604-278 - SMT



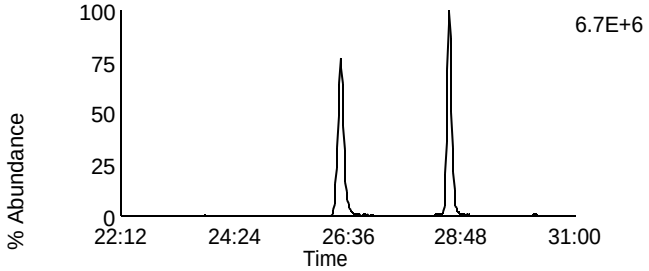
Data File: U131104A_04 G2 C2 - 341.8567
CAL CS5-7604-278 - SMT



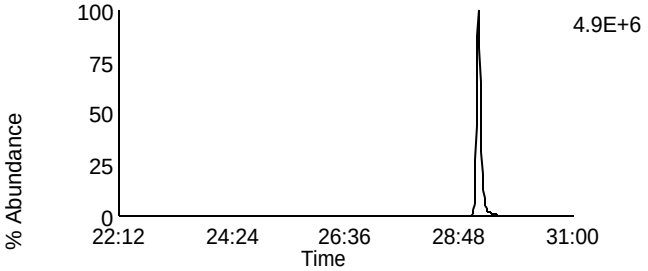
Data File: U131104A_04 G2 C8 - 355.8546
CAL CS5-7604-278 - SMT



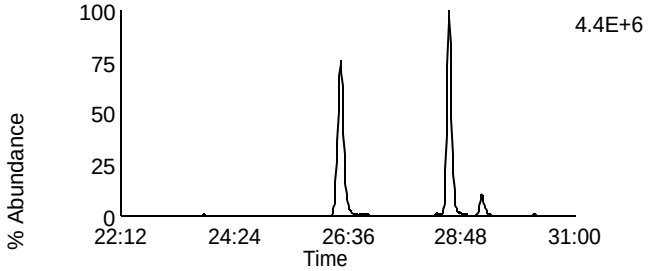
Data File: U131104A_04 G2 C3 - 351.8999
CAL CS5-7604-278 - SMT



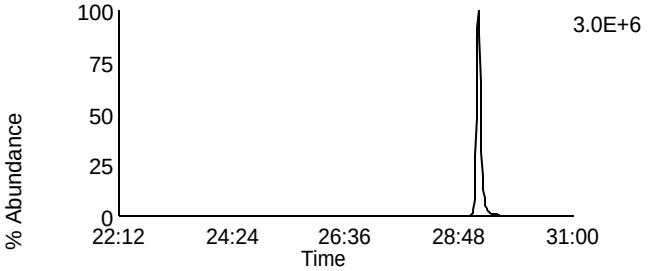
Data File: U131104A_04 G2 C10 - 367.8948
CAL CS5-7604-278 - SMT



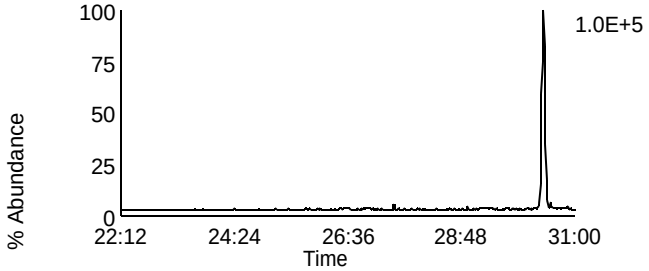
Data File: U131104A_04 G2 C5 - 353.8969
CAL CS5-7604-278 - SMT



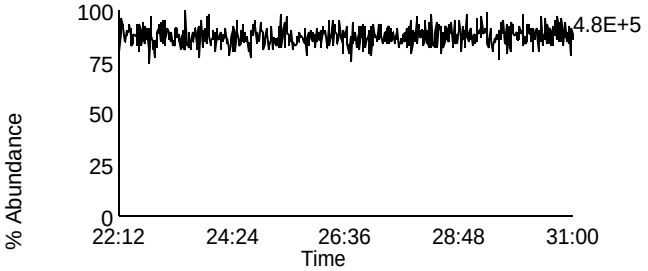
Data File: U131104A_04 G2 C11 - 369.8918
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G2 C12 - 409.7974
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G2 C6 - 354.9792
CAL CS5-7604-278 - SMT

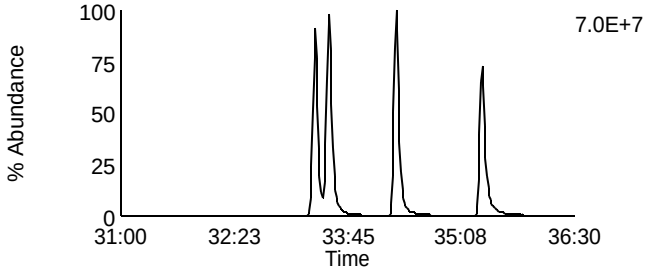


Homologue Group: Hexas

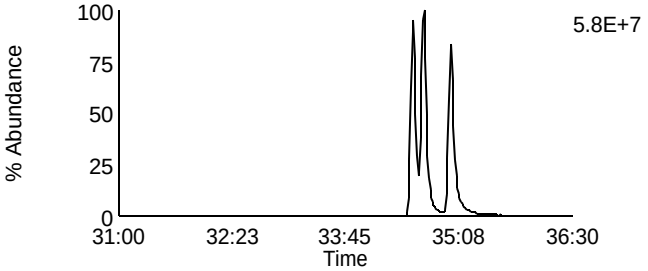
Data File Name: U131104A_04
Date Acquired: 11/4/2013
Sample Description: CAL CS5-7604-278 - SMT

Lab Sample ID: CS5-7604-278
Client Sample ID:
Instrument: 10MSHR06 (U)

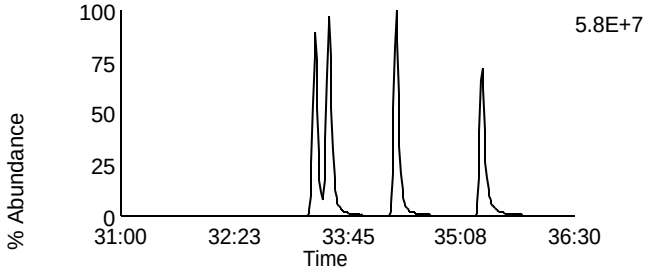
Data File: U131104A_04 G3 C1 - 373.8207
CAL CS5-7604-278 - SMT



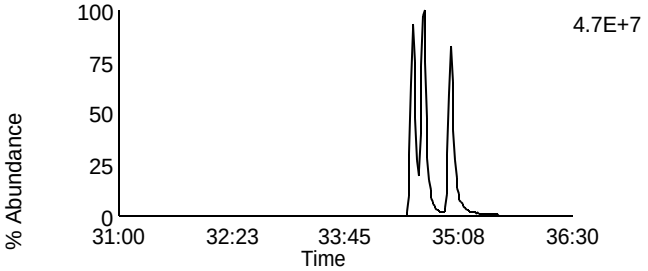
Data File: U131104A_04 G3 C7 - 389.8156
CAL CS5-7604-278 - SMT



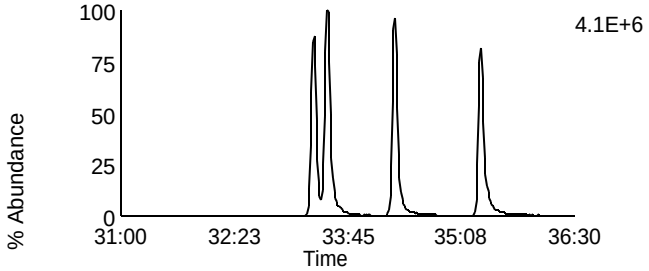
Data File: U131104A_04 G3 C2 - 375.8178
CAL CS5-7604-278 - SMT



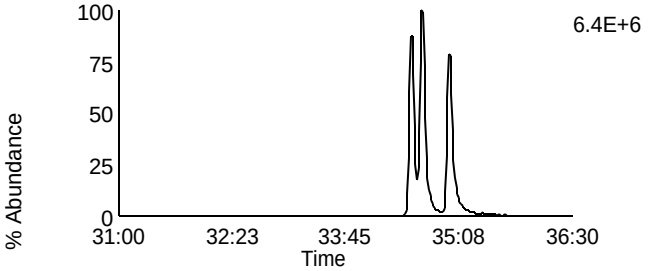
Data File: U131104A_04 G3 C8 - 391.8127
CAL CS5-7604-278 - SMT



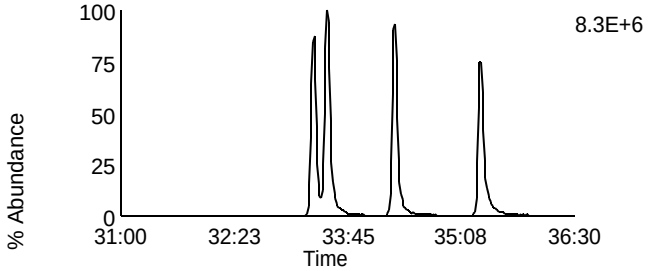
Data File: U131104A_04 G3 C5 - 383.8639
CAL CS5-7604-278 - SMT



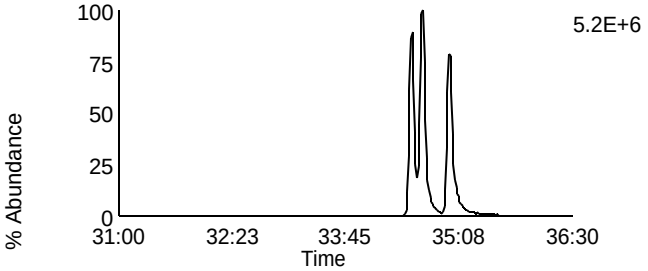
Data File: U131104A_04 G3 C9 - 401.8559
CAL CS5-7604-278 - SMT



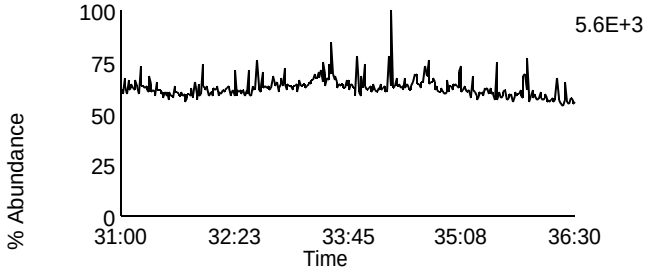
Data File: U131104A_04 G3 C6 - 385.861
CAL CS5-7604-278 - SMT



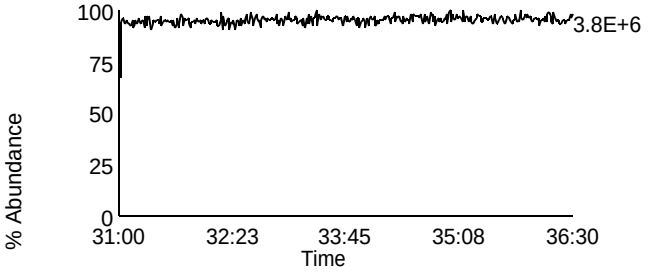
Data File: U131104A_04 G3 C10 - 403.8529
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G3 C11 - 445.7555
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G3 C3 - 380.976
CAL CS5-7604-278 - SMT

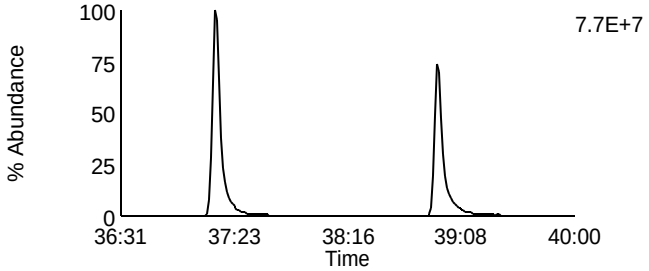


Homologue Group: Heptas

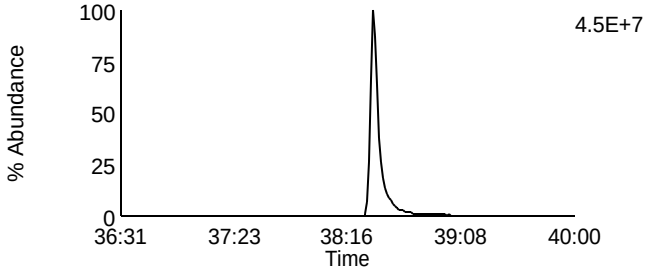
Data File Name: U131104A_04
Date Acquired: 11/4/2013
Sample Description: CAL CS5-7604-278 - SMT

Lab Sample ID: CS5-7604-278
Client Sample ID:
Instrument: 10MSHR06 (U)

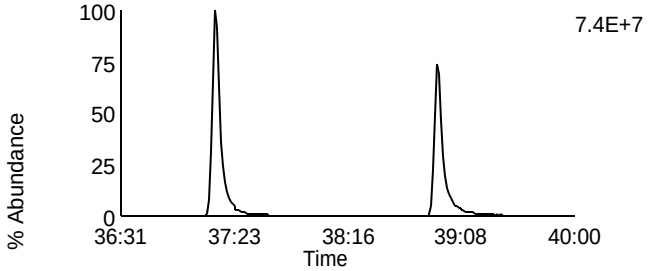
Data File: U131104A_04 G4 C3 - 407.7818
CAL CS5-7604-278 - SMT



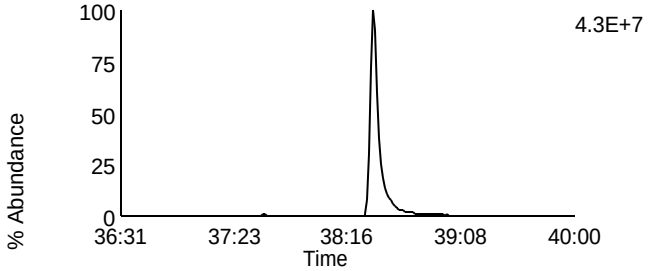
Data File: U131104A_04 G4 C8 - 423.7767
CAL CS5-7604-278 - SMT



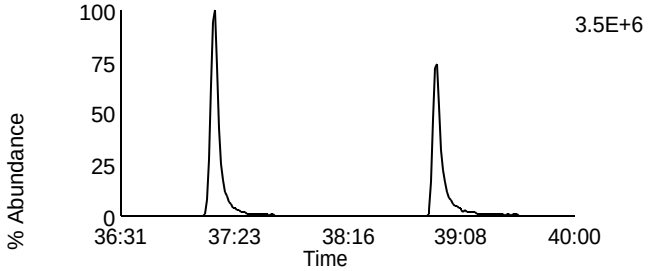
Data File: U131104A_04 G4 C4 - 409.7788
CAL CS5-7604-278 - SMT



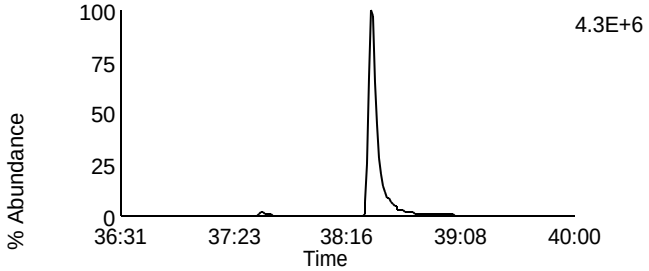
Data File: U131104A_04 G4 C9 - 425.7737
CAL CS5-7604-278 - SMT



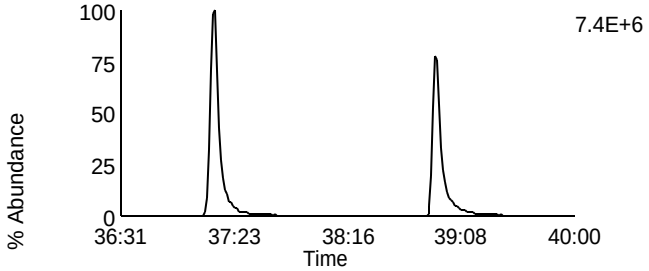
Data File: U131104A_04 G4 C6 - 417.825
CAL CS5-7604-278 - SMT



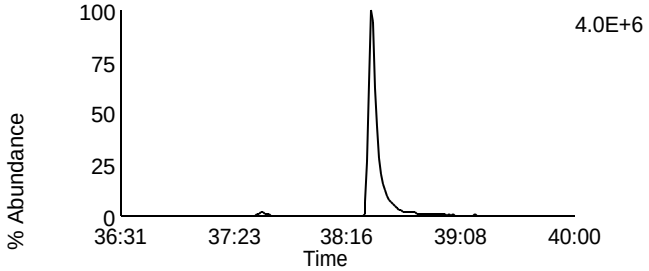
Data File: U131104A_04 G4 C11 - 435.8169
CAL CS5-7604-278 - SMT



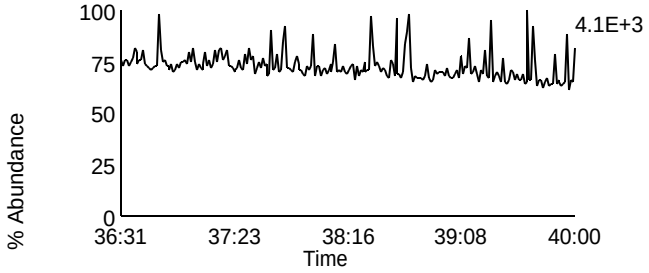
Data File: U131104A_04 G4 C7 - 419.822
CAL CS5-7604-278 - SMT



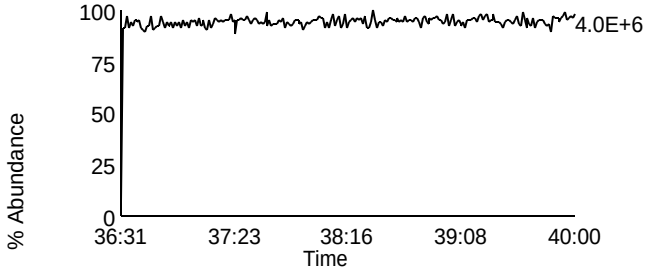
Data File: U131104A_04 G4 C12 - 437.814
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G4 C13 - 479.7165
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G4 C1 - 380.976
CAL CS5-7604-278 - SMT

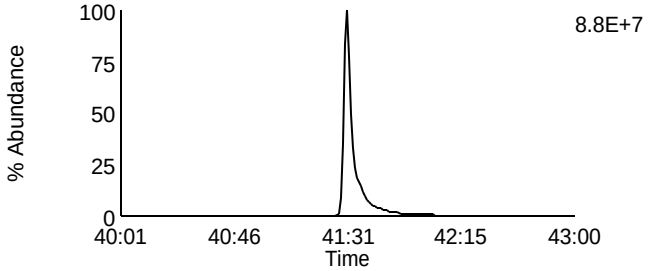


Homologue Group: Octas

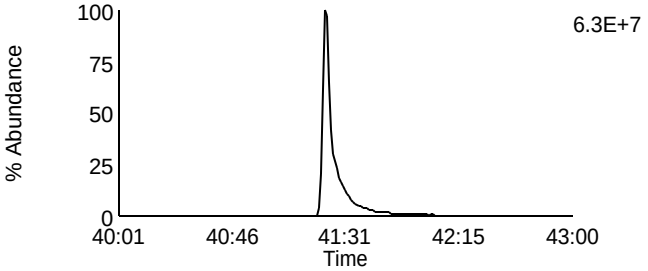
Data File Name: U131104A_04
Date Acquired: 11/4/2013
Sample Description: CAL CS5-7604-278 - SMT

Lab Sample ID: CS5-7604-278
Client Sample ID:
Instrument: 10MSHR06 (U)

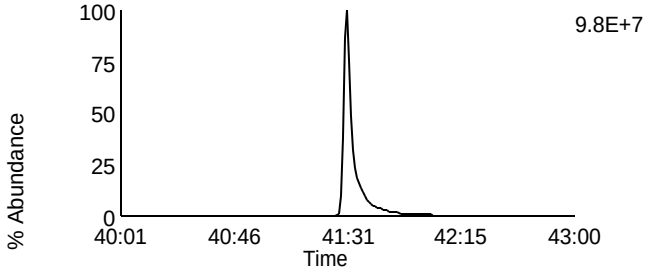
Data File: U131104A_04 G5 C4 - 441.7428
CAL CS5-7604-278 - SMT



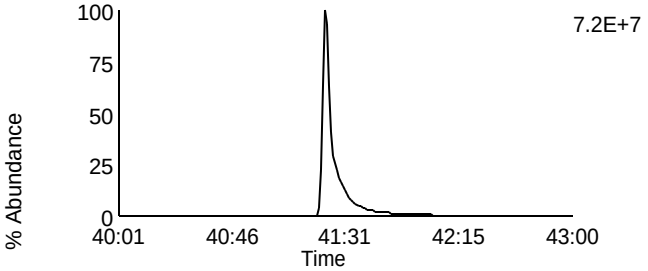
Data File: U131104A_04 G5 C8 - 457.7377
CAL CS5-7604-278 - SMT



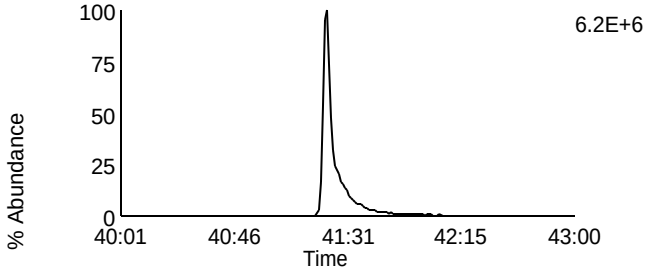
Data File: U131104A_04 G5 C5 - 443.7398
CAL CS5-7604-278 - SMT



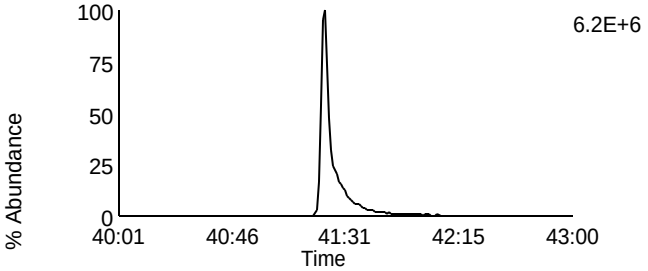
Data File: U131104A_04 G5 C9 - 459.7347
CAL CS5-7604-278 - SMT



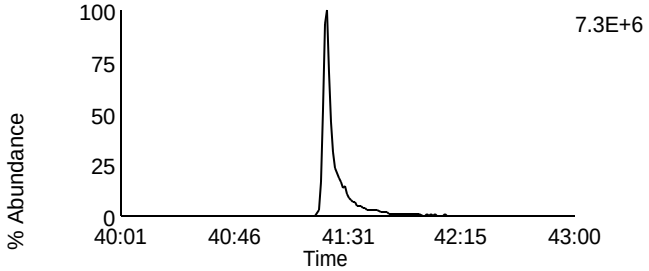
Data File: U131104A_04 G5 C11 - 469.7779
CAL CS5-7604-278 - SMT



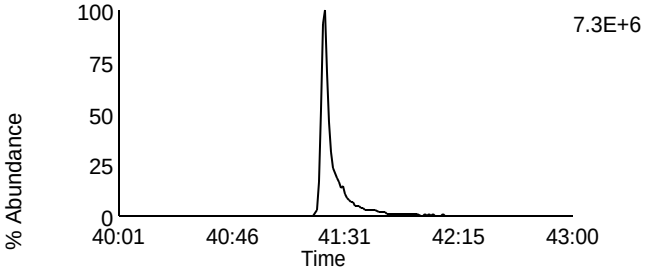
Data File: U131104A_04 G5 C11 - 469.7779
CAL CS5-7604-278 - SMT



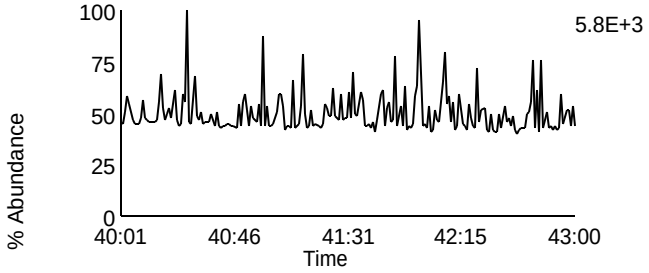
Data File: U131104A_04 G5 C12 - 471.7749
CAL CS5-7604-278 - SMT



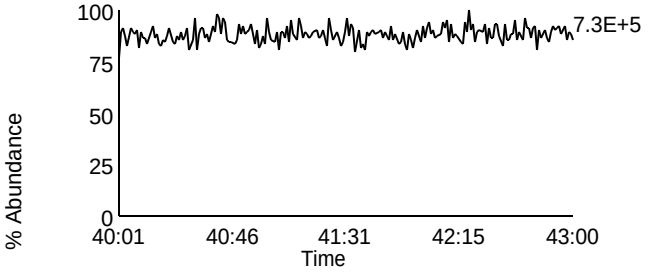
Data File: U131104A_04 G5 C12 - 471.7749
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G5 C13 - 513.6775
CAL CS5-7604-278 - SMT



Data File: U131104A_04 G5 C2 - 430.9728
CAL CS5-7604-278 - SMT

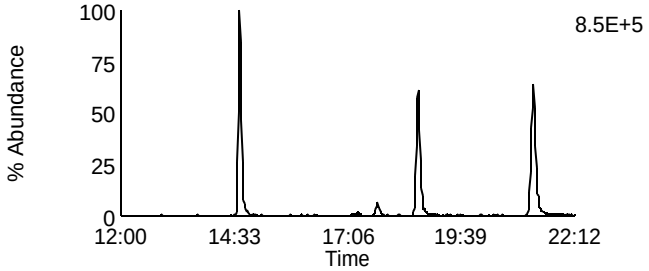


Homologue Group: Tetras

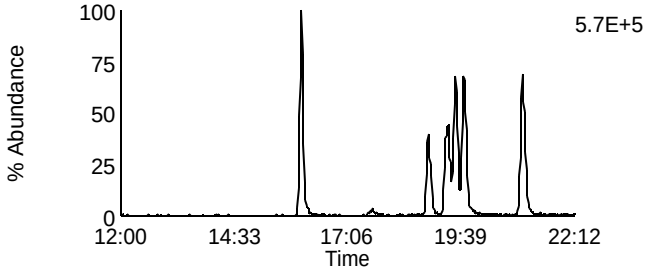
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

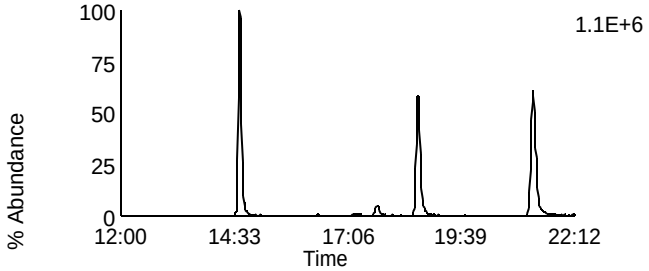
Data File: U131105A_01 G1 C1 - 303.9016
CAL CS3/CPM-7604-286 - SMT Ca



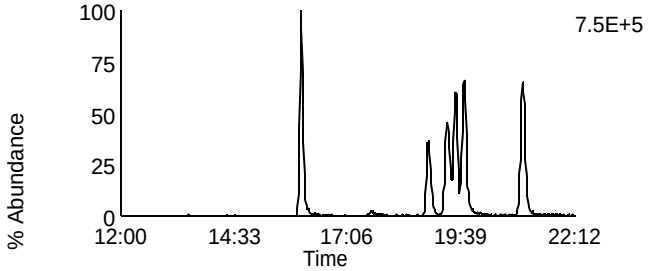
Data File: U131105A_01 G1 C7 - 319.8965
CAL CS3/CPM-7604-286 - SMT Ca



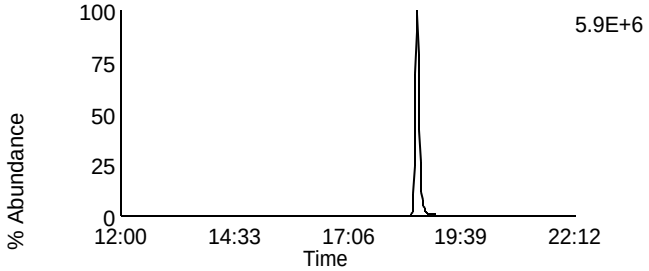
Data File: U131105A_01 G1 C2 - 305.8987
CAL CS3/CPM-7604-286 - SMT Ca



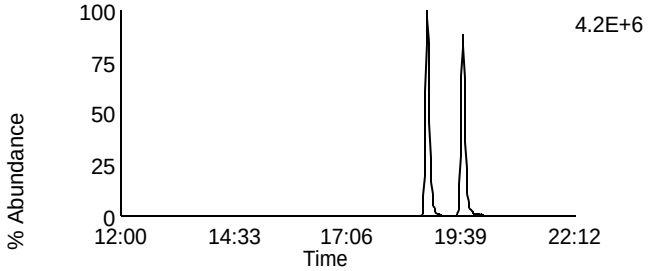
Data File: U131105A_01 G1 C8 - 321.8936
CAL CS3/CPM-7604-286 - SMT Ca



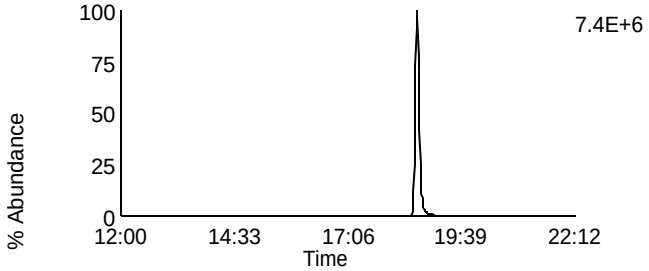
Data File: U131105A_01 G1 C3 - 315.9418
CAL CS3/CPM-7604-286 - SMT Ca



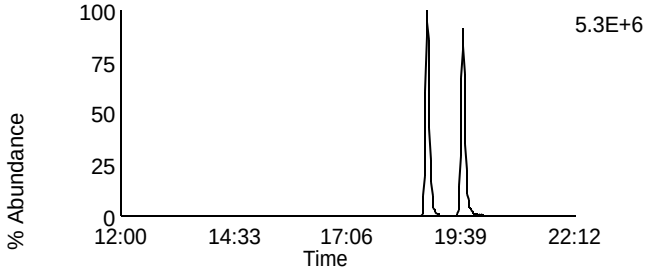
Data File: U131105A_01 G1 C10 - 331.9367
CAL CS3/CPM-7604-286 - SMT Ca



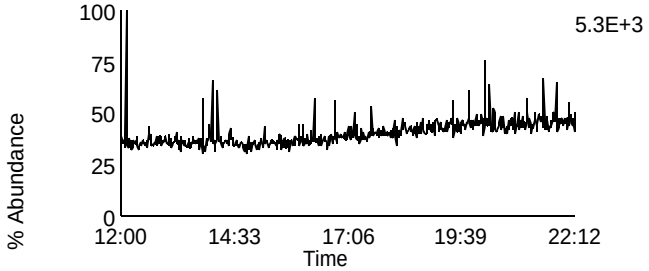
Data File: U131105A_01 G1 C4 - 317.9389
CAL CS3/CPM-7604-286 - SMT Ca



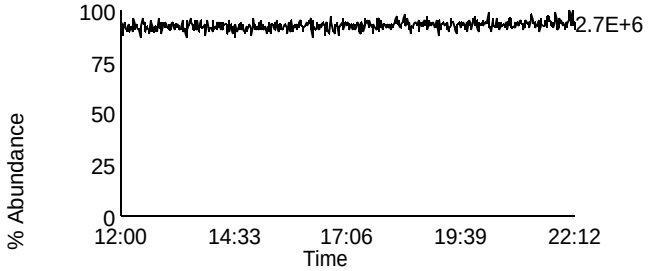
Data File: U131105A_01 G1 C11 - 333.9338
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C14 - 375.8364
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT Ca

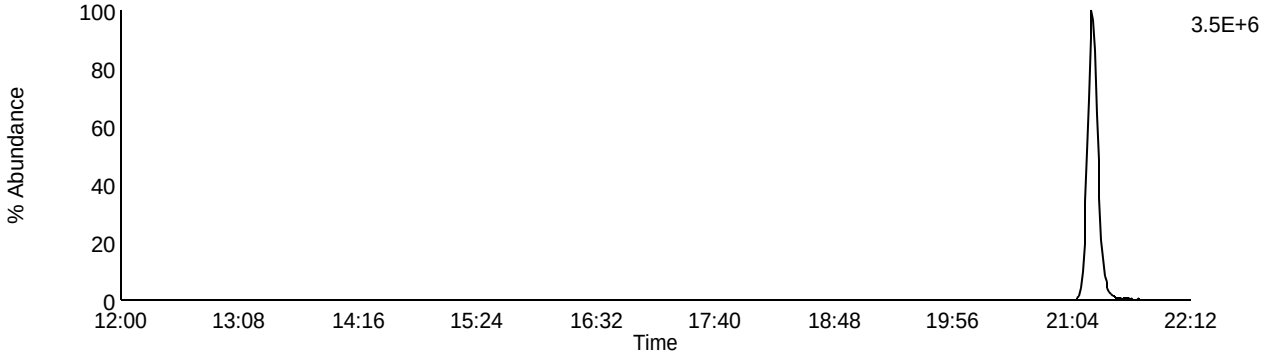


Homologue Group: Penta & Cleanup

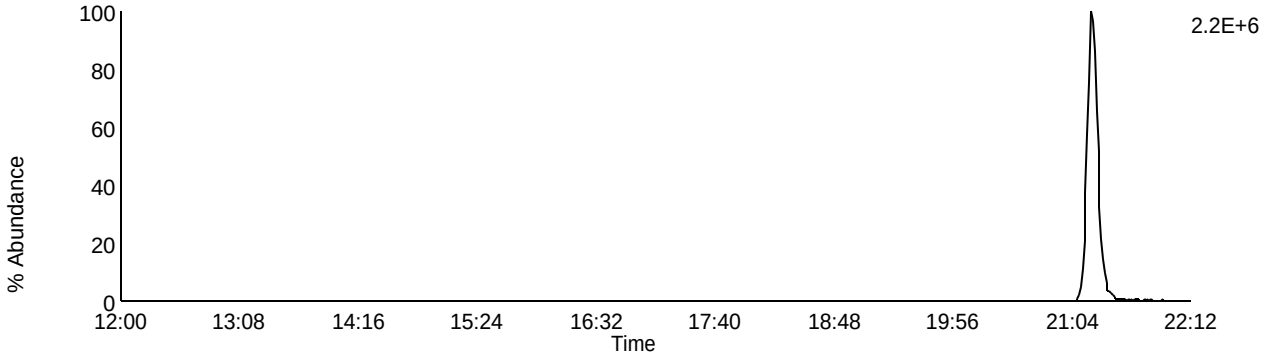
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

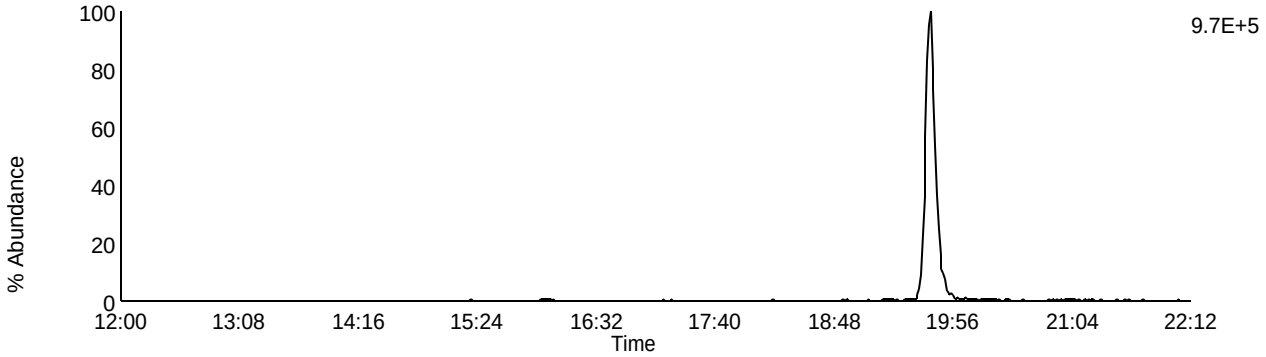
Data File: U131105A_01 G1 C12 - 339.8597
CAL CS3/CPM-7604-286 - SMT Ca



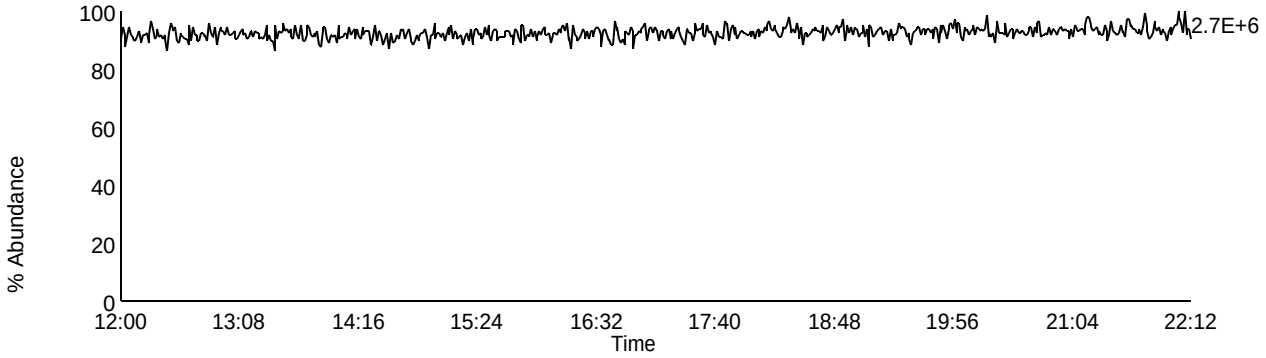
Data File: U131105A_01 G1 C13 - 341.8567
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C9 - 327.8847
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT Ca

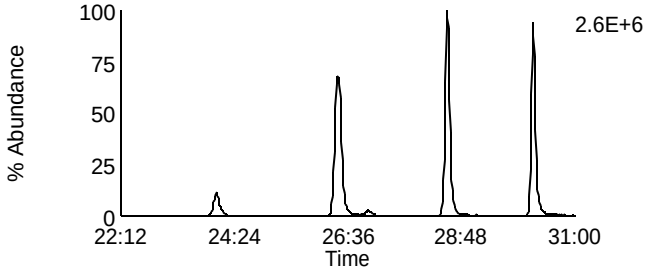


Homologue Group: Pentas

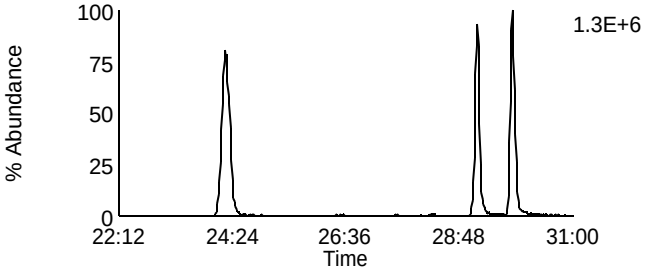
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

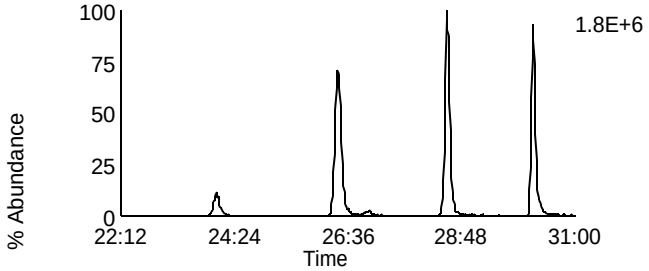
Data File: U131105A_01 G2 C1 - 339.8597
CAL CS3/CPM-7604-286 - SMT Ca



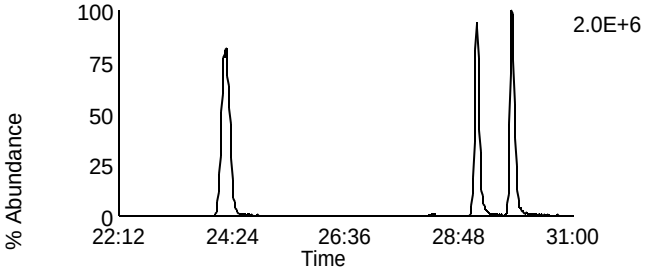
Data File: U131105A_01 G2 C4 - 353.8576
CAL CS3/CPM-7604-286 - SMT Ca



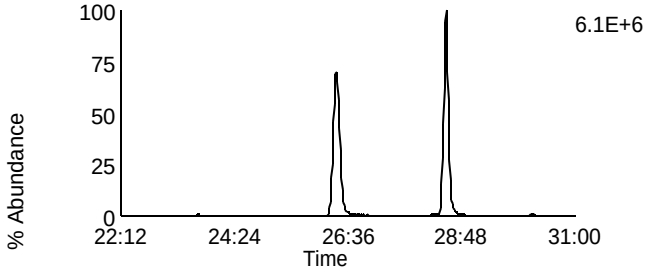
Data File: U131105A_01 G2 C2 - 341.8567
CAL CS3/CPM-7604-286 - SMT Ca



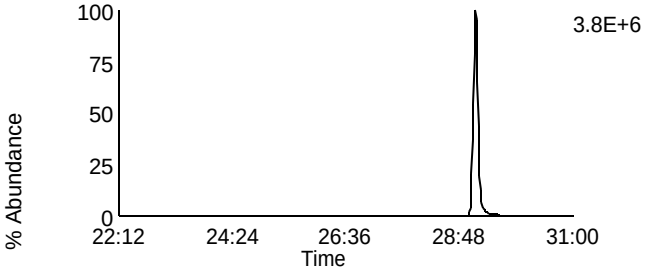
Data File: U131105A_01 G2 C8 - 355.8546
CAL CS3/CPM-7604-286 - SMT Ca



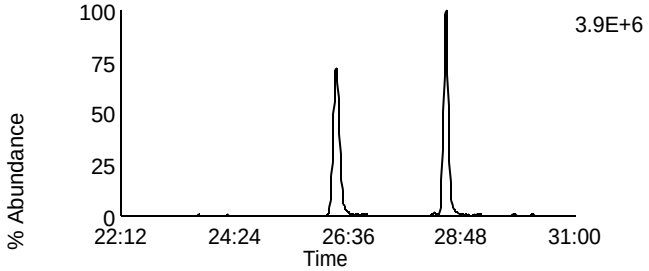
Data File: U131105A_01 G2 C3 - 351.8999
CAL CS3/CPM-7604-286 - SMT Ca



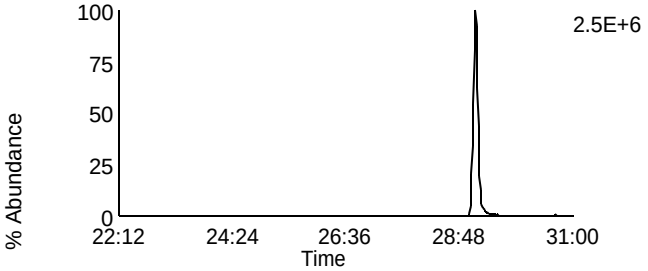
Data File: U131105A_01 G2 C10 - 367.8948
CAL CS3/CPM-7604-286 - SMT Ca



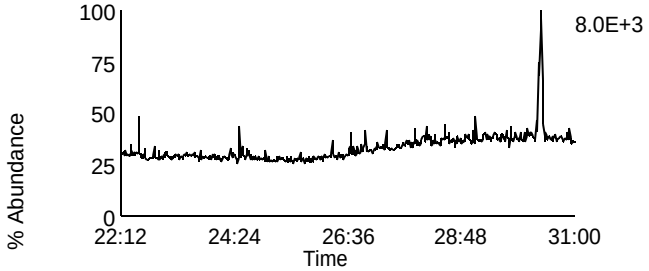
Data File: U131105A_01 G2 C5 - 353.8969
CAL CS3/CPM-7604-286 - SMT Ca



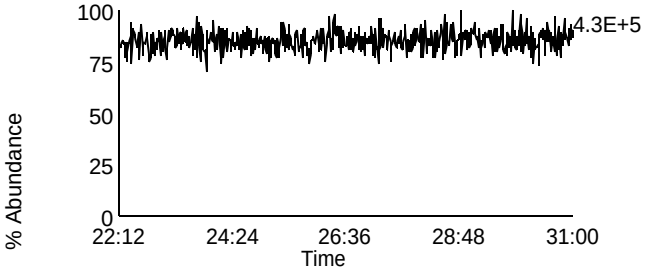
Data File: U131105A_01 G2 C11 - 369.8918
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G2 C12 - 409.7974
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G2 C6 - 354.9792
CAL CS3/CPM-7604-286 - SMT Ca

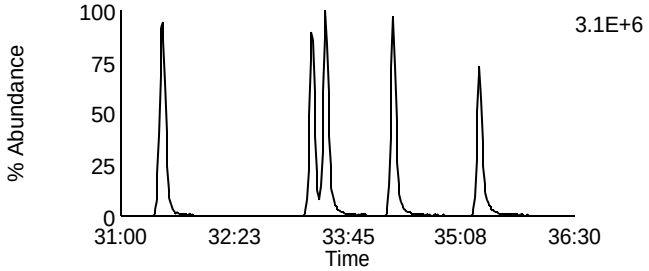


Homologue Group: Hexas

Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_01 G3 C1 - 373.8207
CAL CS3/CPM-7604-286 - SMT Ca



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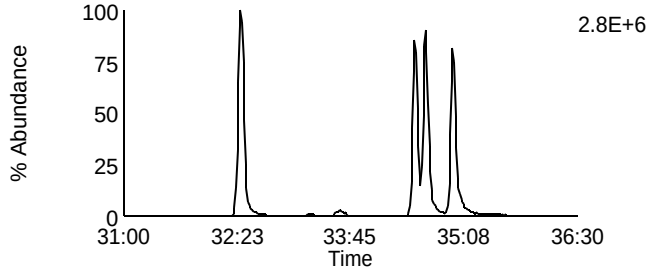
CAL CS3/CPM-7604-286 - SMT Ca



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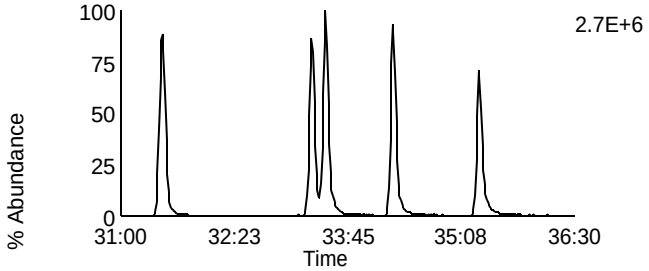
CAL CS3/CPM-7604-286 - SMT Ca



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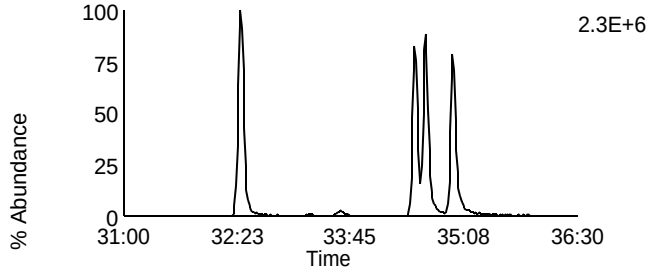
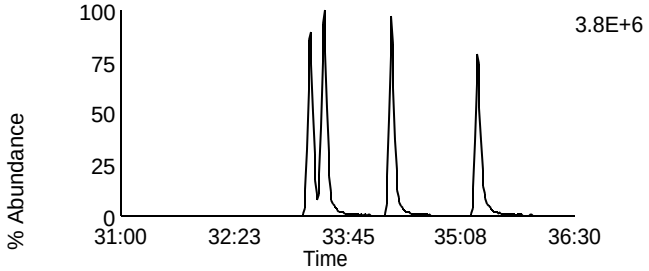
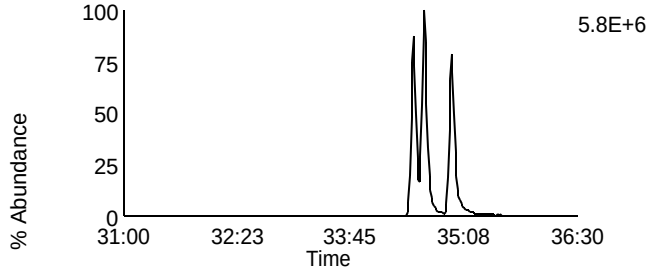
CAL CS3/CPM-7604-286 - SMT Ca



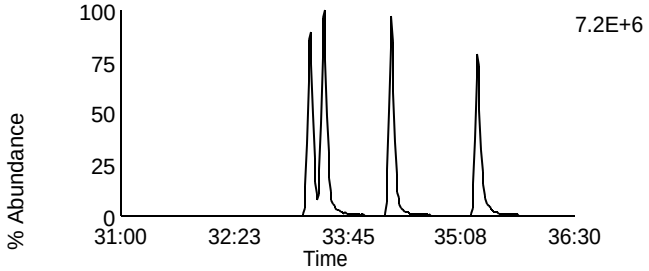
Data File: U131105A_01 G3 C5 - 383.8639
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C9 - 401.8559
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C6 - 385.861
CAL CS3/CPM-7604-286 - SMT Ca



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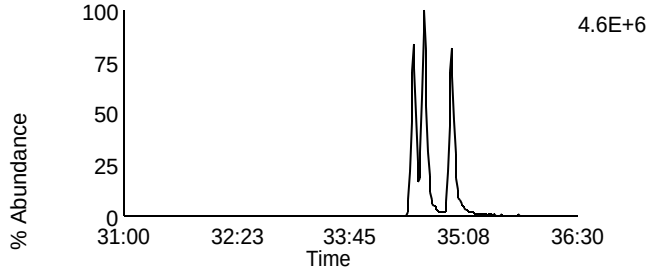
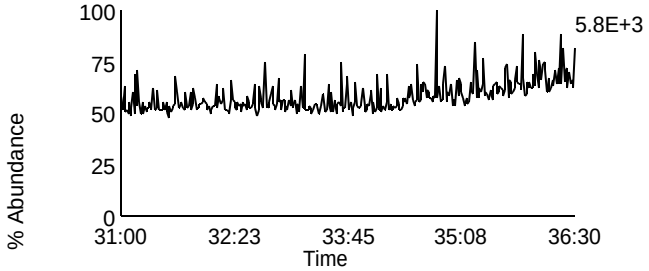
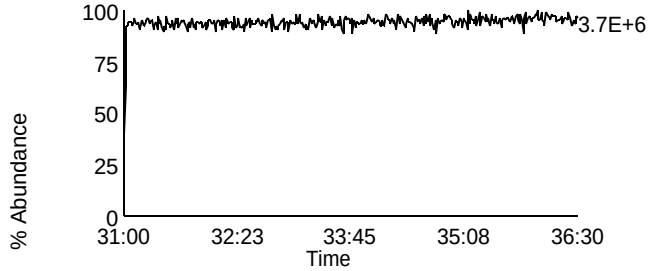
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C11 - 445.7555
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C3 - 380.976
CAL CS3/CPM-7604-286 - SMT Ca

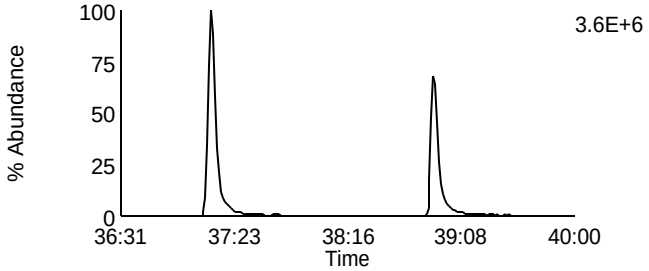


Homologue Group: Heptas

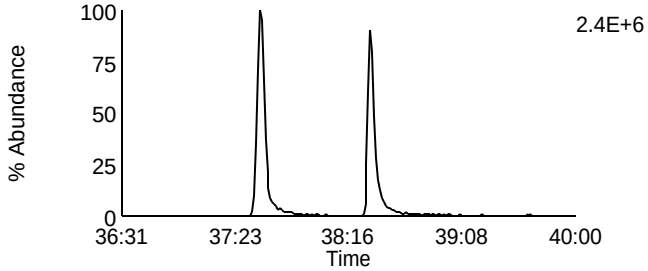
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

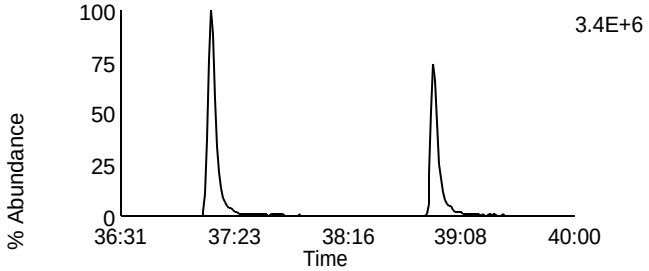
Data File: U131105A_01 G4 C3 - 407.7818
CAL CS3/CPM-7604-286 - SMT Ca



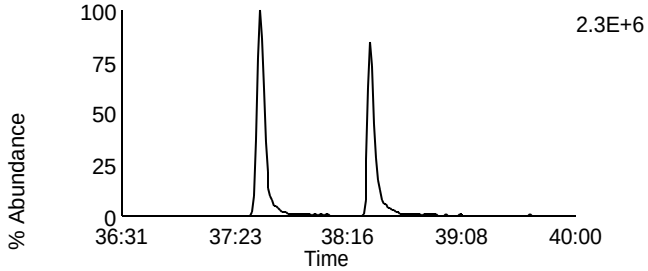
Data File: U131105A_01 G4 C8 - 423.7767
CAL CS3/CPM-7604-286 - SMT Ca



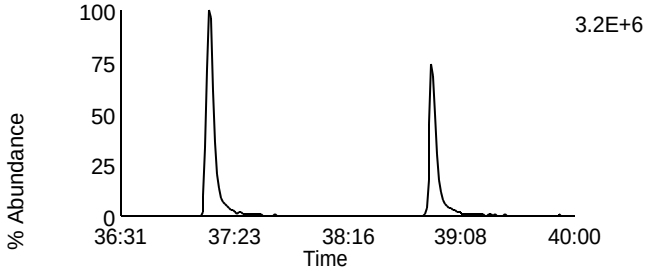
Data File: U131105A_01 G4 C4 - 409.7788
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C9 - 425.7737
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C6 - 417.825
CAL CS3/CPM-7604-286 - SMT Ca



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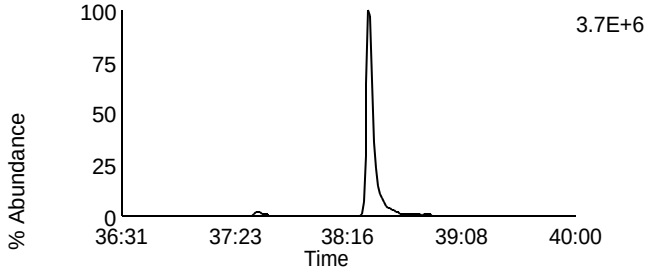
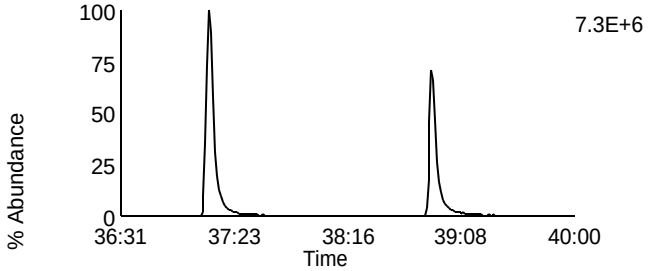
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C7 - 419.822
CAL CS3/CPM-7604-286 - SMT Ca



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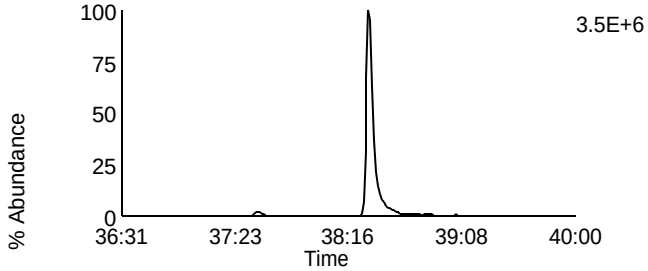
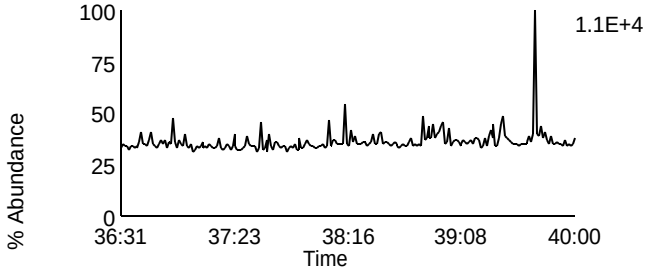
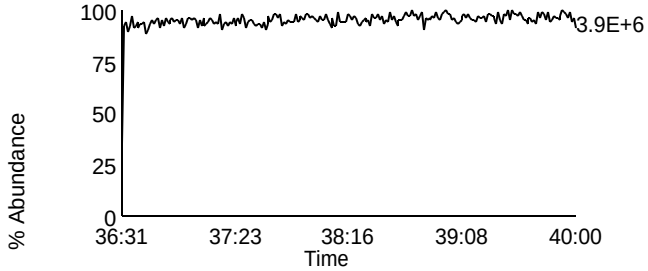
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C13 - 479.7165
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C1 - 380.976
CAL CS3/CPM-7604-286 - SMT Ca

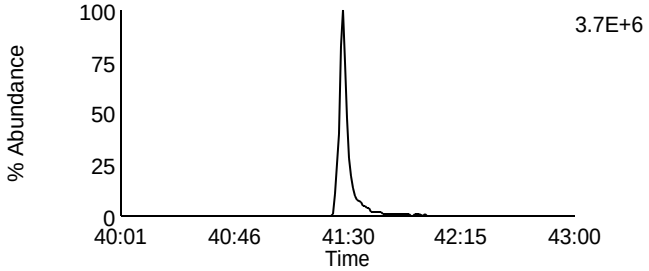


Homologue Group: Octas

Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_01 G5 C4 - 441.7428
CAL CS3/CPM-7604-286 - SMT Ca



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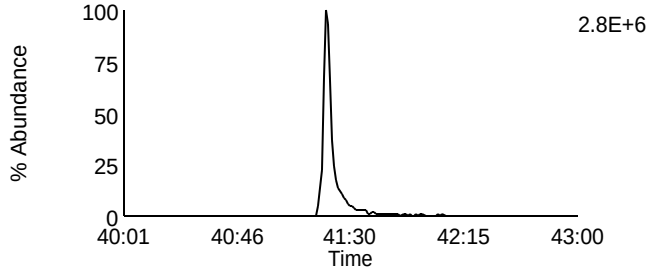

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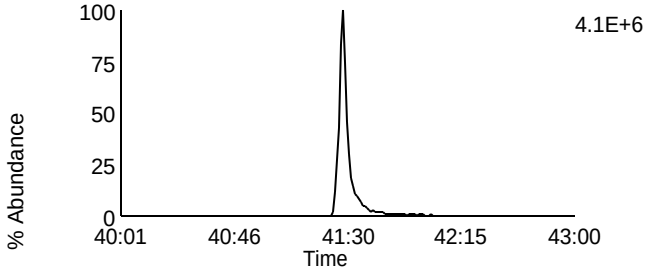
CAL CS3/CPM-7604-286 - SMT Ca



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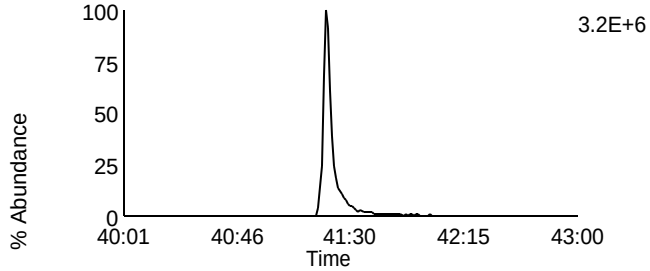
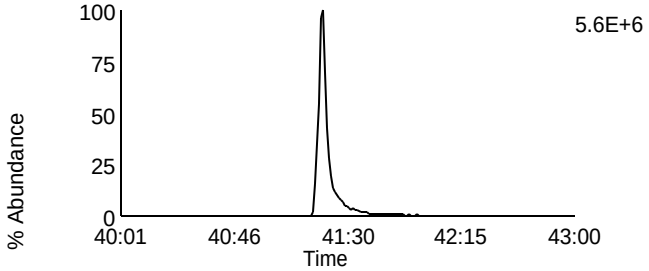
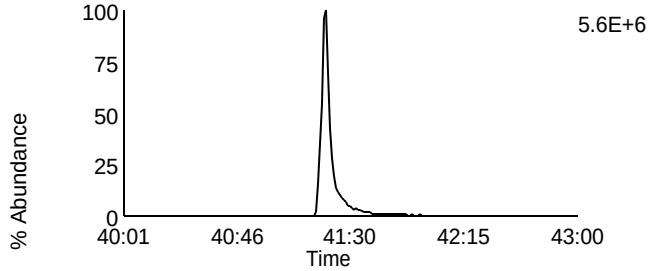
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT Ca



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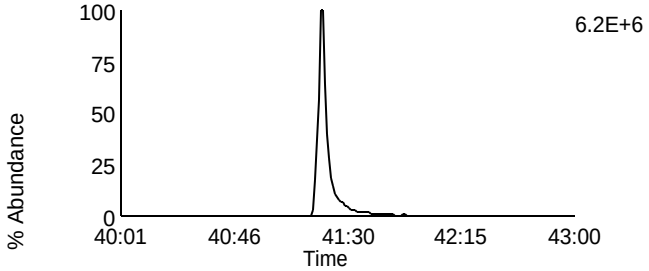
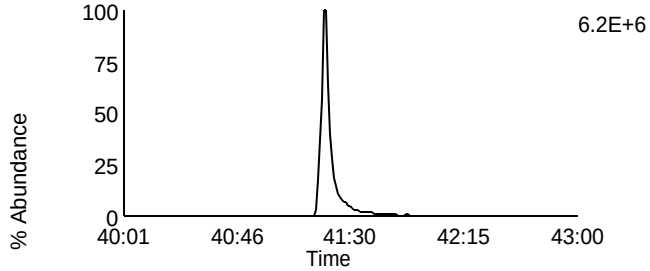
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C12 - 471.7749
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C13 - 513.6775
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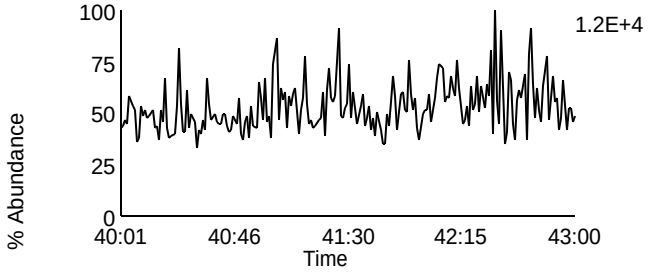

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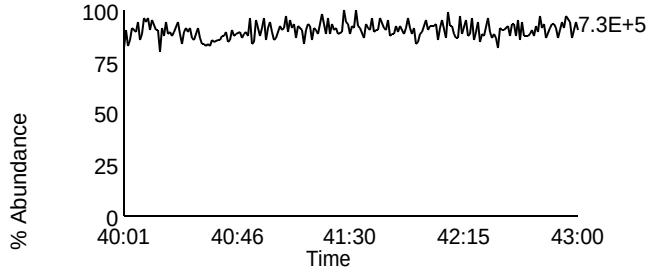
CAL CS3/CPM-7604-286 - SMT Ca



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

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

PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS1-7604-273	Instrument ID	10MSHR06 (U)
Filename	U131104A_08	GC Column ID	USD227224H
Analyzed	11/04/2013 15:37	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:41	3.56e7	4.54e7	5.40e6	6.91e6	-----	-----	0.78	
2,3,7,8-TCDF	18:44	1.43e5	2.05e5	2.55e4	3.89e4	9.112e2	5.955e2	0.70	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:55	2.39e7	2.97e7	3.76e6	4.69e6	-----	-----	0.80	
2,3,7,8-TCDD-13C	19:43	2.30e7	2.88e7	3.26e6	4.11e6	-----	-----	0.80	
2,3,7,8-TCDD-37Cl4	19:45	3.18e5		5.50e4		-----	-----		
2,3,7,8-TCDD	19:44	1.12e5	1.58e5	1.67e4	2.15e4	8.770e2	5.349e2	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	26:25	3.19e7	2.08e7	3.62e6	2.36e6	-----	-----	1.53	
2,3,4,7,8-PeCDF-13C	28:31	3.23e7	2.08e7	4.60e6	3.06e6	-----	-----	1.55	
1,2,3,7,8-PeCDF	26:28	6.85e5	4.33e5	8.67e4	5.51e4	1.378e3	8.285e2	1.58	
2,3,4,7,8-PeCDF	28:34	7.51e5	5.25e5	1.29e5	8.89e4	2.368e3	9.009e2	1.43	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:08	2.02e7	1.31e7	3.11e6	1.93e6	-----	-----	1.54	
1,2,3,7,8-PeCDD	29:10	2.99e5	5.59e5	4.78e4	8.40e4	1.661e3	6.540e2	0.53	

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	33:19	1.16e7	2.25e7	2.46e6	4.74e6	-----	-----	0.52	
1,2,3,6,7,8-HxCDF-13C	33:30	1.43e7	2.79e7	2.78e6	5.46e6	-----	-----	0.51	
2,3,4,6,7,8-HxCDF-13C	34:18	1.29e7	2.60e7	2.93e6	5.84e6	-----	-----	0.50	
1,2,3,7,8,9-HxCDF-13C	35:20	1.11e7	2.16e7	2.19e6	4.27e6	-----	-----	0.51	
1,2,3,4,7,8-HxCDF	33:21	4.85e5	4.06e5	1.06e5	9.87e4	1.757e3	1.180e3	1.19	
1,2,3,6,7,8-HxCDF	33:31	5.45e5	4.42e5	1.21e5	8.61e4	2.550e3	1.153e3	1.23	
2,3,4,6,7,8-HxCDF	34:20	5.31e5	4.73e5	1.28e5	1.13e5	1.731e3	1.153e3	1.12	
1,2,3,7,8,9-HxCDF	35:21	4.14e5	3.62e5	8.95e4	7.04e4	1.548e3	1.153e3	1.15	

REPORT OF LABORATORY ANALYSIS

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

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

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS1-7604-273	Instrument ID	10MSHR06 (U)
Filename	U131104A_08	GC Column ID	USD227224H
Analyzed	11/04/2013 15:37	ICAL ID	U131104

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	34:32	1.52e7	1.20e7	3.88e6	3.09e6	-----	-----	1.26	
1,2,3,6,7,8-HxCDD-13C	34:40	1.99e7	1.58e7	4.29e6	3.30e6	-----	-----	1.26	
1,2,3,7,8,9-HxCDD-13C	34:60	1.76e7	1.41e7	3.68e6	2.94e6	-----	-----	1.25	
1,2,3,4,7,8-HxCDD	34:32	4.26e5	3.21e5	9.41e4	8.28e4	1.096e3	3.243e3	1.33	
1,2,3,6,7,8-HxCDD	34:41	4.21e5	3.93e5	1.01e5	9.15e4	9.009e2	1.615e3	1.07	
1,2,3,7,8,9-HxCDD	35:01	4.15e5	3.25e5	8.87e4	7.33e4	8.716e2	1.443e3	1.28	

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	37:13	1.01e7	2.25e7	2.46e6	5.40e6	-----	-----	0.45	
1,2,3,4,7,8,9-HpCDF-13C	38:56	7.60e6	1.65e7	1.71e6	3.74e6	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:14	5.82e5	5.21e5	1.33e5	1.36e5	6.046e2	3.215e2	1.12	
1,2,3,4,7,8,9-HpCDF	38:57	4.04e5	3.88e5	1.04e5	9.94e4	1.522e3	1.038e3	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	38:26	1.21e7	1.11e7	2.78e6	2.60e6	-----	-----	1.09	
1,2,3,4,6,7,8-HpCDD	38:27	3.20e5	3.05e5	7.65e4	8.09e4	4.038e3	5.648e2	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:29	5.20e5	5.70e5	1.18e5	1.26e5	2.592e2	1.367e3	0.91	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:21	1.72e7	1.92e7	3.80e6	4.28e6	-----	-----	0.90	
OCDD	41:23	4.46e5	5.18e5	10.00e4	1.19e5	4.148e2	8.427e2	0.86	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS2-7604-276	Instrument ID	10MSHR06 (U)
Filename	U131104A_02	GC Column ID	USD227224H
Analyzed	11/04/2013 10:24	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:43	3.37e7	4.34e7	5.04e6	6.57e6	-----	-----	0.78	
2,3,7,8-TCDF	18:45	6.03e5	7.64e5	9.66e4	1.14e5	-----	-----	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	18:57	2.30e7	2.97e7	3.54e6	4.62e6	-----	-----	0.77	
2,3,7,8-TCDD-13C	19:44	2.22e7	2.80e7	3.21e6	4.02e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	19:45	1.17e6		1.69e5		-----	-----		
2,3,7,8-TCDD	19:46	4.54e5	6.12e5	6.94e4	8.80e4	-----	-----	0.74	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:27	2.89e7	1.88e7	3.26e6	2.21e6	-----	-----	1.53	
2,3,4,7,8-PeCDF-13C	28:34	3.03e7	1.94e7	4.36e6	2.84e6	-----	-----	1.56	
1,2,3,7,8-PeCDF	26:29	2.50e6	1.75e6	2.87e5	2.01e5	-----	-----	1.43	
2,3,4,7,8-PeCDF	28:35	2.70e6	1.77e6	4.02e5	2.67e5	-----	-----	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	29:10	1.92e7	1.21e7	2.89e6	1.90e6	-----	-----	1.58	
1,2,3,7,8-PeCDD	29:12	1.22e6	1.95e6	2.04e5	3.27e5	-----	-----	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	33:20	1.15e7	2.20e7	2.45e6	4.92e6	-----	-----	0.52	
1,2,3,6,7,8-HxCDF-13C	33:31	1.43e7	2.79e7	2.78e6	5.24e6	-----	-----	0.51	
2,3,4,6,7,8-HxCDF-13C	34:20	1.22e7	2.45e7	2.63e6	5.00e6	-----	-----	0.50	
1,2,3,7,8,9-HxCDF-13C	35:22	1.15e7	2.19e7	2.23e6	4.13e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:22	1.91e6	1.54e6	4.09e5	3.28e5	-----	-----	1.24	
1,2,3,6,7,8-HxCDF	33:31	2.17e6	1.87e6	4.19e5	3.86e5	-----	-----	1.16	
2,3,4,6,7,8-HxCDF	34:21	2.13e6	1.75e6	4.81e5	3.59e5	-----	-----	1.22	
1,2,3,7,8,9-HxCDF	35:23	1.65e6	1.33e6	3.49e5	2.77e5	-----	-----	1.24	

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Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS2-7604-276	Instrument ID	10MSHR06 (U)
Filename	U131104A_02	GC Column ID	USD227224H
Analyzed	11/04/2013 10:24	ICAL ID	U131104

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	34:33	1.57e7	1.24e7	3.80e6	2.88e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD-13C	34:41	1.97e7	1.58e7	4.21e6	3.33e6	-----	-----	1.25	
1,2,3,7,8,9-HxCDD-13C	35:01	1.75e7	1.42e7	3.50e6	2.72e6	-----	-----	1.23	
1,2,3,4,7,8-HxCDD	34:34	1.50e6	1.14e6	3.79e5	2.89e5	-----	-----	1.32	
1,2,3,6,7,8-HxCDD	34:42	1.75e6	1.54e6	3.73e5	3.21e5	-----	-----	1.13	
1,2,3,7,8,9-HxCDD	35:02	1.56e6	1.34e6	3.24e5	2.90e5	-----	-----	1.16	

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	37:14	1.02e7	2.35e7	2.22e6	5.16e6	-----	-----	0.43	
1,2,3,4,7,8,9-HpCDF-13C	38:56	8.15e6	1.75e7	1.83e6	3.97e6	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:15	2.24e6	2.14e6	5.52e5	4.94e5	-----	-----	1.05	
1,2,3,4,7,8,9-HpCDF	38:57	1.67e6	1.59e6	4.00e5	3.65e5	-----	-----	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	38:28	1.28e7	1.22e7	2.78e6	2.67e6	-----	-----	1.05	
1,2,3,4,6,7,8-HpCDD	38:28	1.39e6	1.29e6	3.47e5	3.01e5	-----	-----	1.08	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	2.33e6	2.55e6	5.73e5	6.02e5	-----	-----	0.92	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:22	2.04e7	2.24e7	4.73e6	5.20e6	-----	-----	0.91	
OCDD	41:23	2.06e6	2.32e6	4.63e5	5.39e5	-----	-----	0.89	

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PCDD/PCDF Detected Peak List

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Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS3/CPM-7604-286	Instrument ID	10MSHR06 (U)
Filename	U131104A_01	GC Column ID	USD227224H
Analyzed	11/04/2013 09:19	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:43	3.84e7	5.00e7	5.77e6	7.35e6	-----	-----	0.77	
2,3,7,8-TCDF	18:44	3.38e6	4.33e6	4.90e5	6.44e5	-----	-----	0.78	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:58	2.70e7	3.44e7	4.15e6	5.43e6	-----	-----	0.78	
2,3,7,8-TCDD-13C	19:45	2.65e7	3.36e7	3.87e6	4.78e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	19:47	6.60e6		9.77e5		-----	-----		
2,3,7,8-TCDD	19:47	2.81e6	3.48e6	4.20e5	4.96e5	-----	-----	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	26:27	3.67e7	2.36e7	4.28e6	2.78e6	-----	-----	1.56	
2,3,4,7,8-PeCDF-13C	28:34	3.83e7	2.46e7	5.58e6	3.63e6	-----	-----	1.56	
1,2,3,7,8-PeCDF	26:30	1.56e7	1.05e7	1.72e6	1.18e6	-----	-----	1.49	
2,3,4,7,8-PeCDF	28:36	1.64e7	1.09e7	2.51e6	1.70e6	-----	-----	1.50	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:11	2.49e7	1.58e7	3.81e6	2.47e6	-----	-----	1.58	
1,2,3,7,8-PeCDD	29:12	7.26e6	1.19e7	1.13e6	1.79e6	-----	-----	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	33:21	1.44e7	2.82e7	3.19e6	6.23e6	-----	-----	0.51	
1,2,3,6,7,8-HxCDF-13C	33:31	1.83e7	3.56e7	3.51e6	6.81e6	-----	-----	0.51	
2,3,4,6,7,8-HxCDF-13C	34:20	1.61e7	3.12e7	3.32e6	6.49e6	-----	-----	0.52	
1,2,3,7,8,9-HxCDF-13C	35:22	1.41e7	2.87e7	2.83e6	5.42e6	-----	-----	0.49	
1,2,3,4,7,8-HxCDF	33:22	1.16e7	9.72e6	2.58e6	2.14e6	-----	-----	1.20	
1,2,3,6,7,8-HxCDF	33:32	1.43e7	1.18e7	2.83e6	2.28e6	-----	-----	1.20	
2,3,4,6,7,8-HxCDF	34:21	1.36e7	1.12e7	2.73e6	2.34e6	-----	-----	1.21	
1,2,3,7,8,9-HxCDF	35:24	1.06e7	8.91e6	2.10e6	1.66e6	-----	-----	1.19	

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Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS3/CPM-7604-286	Instrument ID	10MSHR06 (U)
Filename	U131104A_01	GC Column ID	USD227224H
Analyzed	11/04/2013 09:19	ICAL ID	U131104

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	34:34	1.93e7	1.57e7	4.83e6	4.03e6	-----	-----	1.23	
1,2,3,6,7,8-HxCDD-13C	34:42	2.74e7	2.16e7	5.48e6	4.19e6	-----	-----	1.26	
1,2,3,7,8,9-HxCDD-13C	35:01	2.23e7	1.87e7	4.25e6	3.41e6	-----	-----	1.19	
1,2,3,4,7,8-HxCDD	34:35	9.67e6	7.43e6	2.37e6	1.93e6	-----	-----	1.30	
1,2,3,6,7,8-HxCDD	34:42	1.18e7	9.88e6	2.42e6	2.02e6	-----	-----	1.20	
1,2,3,7,8,9-HxCDD	35:02	1.11e7	8.76e6	2.07e6	1.68e6	-----	-----	1.27	

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	37:15	1.43e7	3.11e7	3.28e6	6.66e6	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:57	1.12e7	2.41e7	2.63e6	5.58e6	-----	-----	0.47	
1,2,3,4,6,7,8-HpCDF	37:16	1.51e7	1.47e7	3.39e6	3.34e6	-----	-----	1.02	
1,2,3,4,7,8,9-HpCDF	38:58	1.15e7	1.12e7	2.60e6	2.39e6	-----	-----	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	38:28	1.74e7	1.65e7	3.82e6	3.69e6	-----	-----	1.05	
1,2,3,4,6,7,8-HpCDD	38:29	9.18e6	9.04e6	2.09e6	2.05e6	-----	-----	1.02	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	1.68e7	1.89e7	3.91e6	4.38e6	-----	-----	0.89	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	2.87e7	3.31e7	6.38e6	7.17e6	-----	-----	0.87	
OCDD	41:24	1.39e7	1.57e7	3.01e6	3.25e6	-----	-----	0.88	

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Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS4-7604-277	Instrument ID	10MSHR06 (U)
Filename	U131104A_05	GC Column ID	USD227224H
Analyzed	11/04/2013 13:13	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:43	3.92e7	5.08e7	6.27e6	7.90e6	-----	-----	0.77	
2,3,7,8-TCDF	18:45	1.40e7	1.87e7	2.23e6	2.96e6	-----	-----	0.75	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:57	2.67e7	3.40e7	4.48e6	5.68e6	-----	-----	0.79	
2,3,7,8-TCDD-13C	19:45	2.64e7	3.34e7	3.90e6	4.91e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	19:46	2.81e7		4.29e6		-----	-----		
2,3,7,8-TCDD	19:46	1.14e7	1.47e7	1.70e6	2.22e6	-----	-----	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	26:27	3.84e7	2.47e7	4.51e6	2.84e6	-----	-----	1.55	
2,3,4,7,8-PeCDF-13C	28:34	3.91e7	2.51e7	6.03e6	3.86e6	-----	-----	1.55	
1,2,3,7,8-PeCDF	26:29	7.05e7	4.63e7	8.34e6	5.46e6	-----	-----	1.52	
2,3,4,7,8-PeCDF	28:35	7.34e7	4.82e7	1.15e7	7.49e6	-----	-----	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	29:10	2.54e7	1.61e7	3.97e6	2.68e6	-----	-----	1.57	
1,2,3,7,8-PeCDD	29:12	3.27e7	5.33e7	5.32e6	8.54e6	-----	-----	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	33:20	1.44e7	2.81e7	3.16e6	6.24e6	-----	-----	0.51	
1,2,3,6,7,8-HxCDF-13C	33:31	1.80e7	3.43e7	3.66e6	6.98e6	-----	-----	0.53	
2,3,4,6,7,8-HxCDF-13C	34:20	1.54e7	3.01e7	3.40e6	6.44e6	-----	-----	0.51	
1,2,3,7,8,9-HxCDF-13C	35:22	1.42e7	2.73e7	2.81e6	5.26e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:22	5.01e7	4.15e7	1.12e7	9.15e6	-----	-----	1.21	
1,2,3,6,7,8-HxCDF	33:31	6.05e7	5.07e7	1.21e7	1.03e7	-----	-----	1.19	
2,3,4,6,7,8-HxCDF	34:21	5.58e7	4.78e7	1.22e7	1.03e7	-----	-----	1.17	
1,2,3,7,8,9-HxCDF	35:23	4.66e7	3.89e7	9.24e6	7.59e6	-----	-----	1.20	

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Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS4-7604-277	Instrument ID	10MSHR06 (U)
Filename	U131104A_05	GC Column ID	USD227224H
Analyzed	11/04/2013 13:13	ICAL ID	U131104

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	34:33	1.97e7	1.55e7	4.84e6	3.87e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD-13C	34:41	2.55e7	2.04e7	5.38e6	4.54e6	-----	-----	1.25	
1,2,3,7,8,9-HxCDD-13C	35:01	2.24e7	1.81e7	4.36e6	3.46e6	-----	-----	1.23	
1,2,3,4,7,8-HxCDD	34:34	4.09e7	3.36e7	9.81e6	8.32e6	-----	-----	1.22	
1,2,3,6,7,8-HxCDD	34:42	4.90e7	4.05e7	1.05e7	8.70e6	-----	-----	1.21	
1,2,3,7,8,9-HxCDD	35:01	4.50e7	3.62e7	8.65e6	7.24e6	-----	-----	1.25	

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	37:15	1.27e7	2.80e7	2.98e6	6.19e6	-----	-----	0.45	
1,2,3,4,7,8,9-HpCDF-13C	38:56	9.69e6	2.18e7	2.07e6	4.66e6	-----	-----	0.45	
1,2,3,4,6,7,8-HpCDF	37:15	5.97e7	5.78e7	1.35e7	1.30e7	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:58	4.61e7	4.43e7	1.02e7	9.54e6	-----	-----	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	38:27	1.59e7	1.50e7	3.45e6	3.39e6	-----	-----	1.06	
1,2,3,4,6,7,8-HpCDD	38:28	3.52e7	3.44e7	8.17e6	7.56e6	-----	-----	1.02	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:30	6.65e7	7.53e7	1.46e7	1.64e7	-----	-----	0.88	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	2.44e7	2.72e7	4.99e6	5.43e6	-----	-----	0.90	
OCDD	41:23	5.48e7	6.06e7	1.11e7	1.23e7	-----	-----	0.91	

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PCDD/PCDF Detected Peak List

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Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS5-7604-278	Instrument ID	10MSHR06 (U)
Filename	U131104A_04	GC Column ID	USD227224H
Analyzed	11/04/2013 12:28	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:43	4.14e7	5.23e7	6.52e6	8.40e6	-----	-----	0.79	
2,3,7,8-TCDF	18:45	7.01e7	9.24e7	1.12e7	1.50e7	-----	-----	0.76	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:58	2.79e7	3.54e7	4.48e6	5.69e6	-----	-----	0.79	
2,3,7,8-TCDD-13C	19:45	2.84e7	3.66e7	4.28e6	5.31e6	-----	-----	0.78	
2,3,7,8-TCDD-37Cl4	19:47	1.48e8		2.20e7		-----	-----		
2,3,7,8-TCDD	19:47	5.83e7	7.60e7	8.57e6	1.11e7	-----	-----	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	26:27	4.33e7	2.81e7	5.13e6	3.32e6	-----	-----	1.54	
2,3,4,7,8-PeCDF-13C	28:34	4.43e7	2.88e7	6.72e6	4.40e6	-----	-----	1.54	
1,2,3,7,8-PeCDF	26:31	3.78e8	2.46e8	4.39e7	2.92e7	-----	-----	1.53	
2,3,4,7,8-PeCDF	28:36	3.95e8	2.60e8	6.15e7	4.04e7	-----	-----	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	29:10	2.96e7	1.92e7	4.87e6	3.03e6	-----	-----	1.54	
1,2,3,7,8-PeCDD	29:12	1.81e8	2.97e8	2.83e7	4.60e7	-----	-----	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	33:21	1.66e7	3.32e7	3.61e6	7.22e6	-----	-----	0.50	
1,2,3,6,7,8-HxCDF-13C	33:31	2.14e7	4.24e7	4.14e6	8.28e6	-----	-----	0.51	
2,3,4,6,7,8-HxCDF-13C	34:20	1.84e7	3.49e7	3.97e6	7.74e6	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:22	1.74e7	3.37e7	3.37e6	6.18e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:22	2.73e8	2.25e8	6.39e7	5.21e7	-----	-----	1.21	
1,2,3,6,7,8-HxCDF	33:32	3.50e8	2.87e8	6.87e7	5.63e7	-----	-----	1.22	
2,3,4,6,7,8-HxCDF	34:21	3.23e8	2.65e8	7.00e7	5.80e7	-----	-----	1.22	
1,2,3,7,8,9-HxCDF	35:23	2.66e8	2.15e8	5.09e7	4.19e7	-----	-----	1.24	

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

Client Name	PASI Wisconsin		
Client ID		Injected By	SMT
Lab ID	CS5-7604-278	Instrument ID	10MSHR06 (U)
Filename	U131104A_04	GC Column ID	USD227224H
Analyzed	11/04/2013 12:28	ICAL ID	U131104

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	34:33	2.35e7	1.88e7	5.62e6	4.64e6	-----	-----	1.24	
1,2,3,6,7,8-HxCDD-13C	34:41	3.16e7	2.56e7	6.44e6	5.17e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDD-13C	35:01	2.71e7	2.18e7	5.06e6	4.06e6	-----	-----	1.24	
1,2,3,4,7,8-HxCDD	34:35	2.28e8	1.84e8	5.53e7	4.42e7	-----	-----	1.23	
1,2,3,6,7,8-HxCDD	34:43	2.83e8	2.31e8	5.80e7	4.72e7	-----	-----	1.23	
1,2,3,7,8,9-HxCDD	35:02	2.58e8	2.09e8	4.83e7	3.89e7	-----	-----	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	37:15	1.57e7	3.47e7	3.53e6	7.39e6	-----	-----	0.45	
1,2,3,4,7,8,9-HpCDF-13C	38:57	1.25e7	2.76e7	2.62e6	5.74e6	-----	-----	0.45	
1,2,3,4,6,7,8-HpCDF	37:15	3.40e8	3.25e8	7.73e7	7.42e7	-----	-----	1.04	
1,2,3,4,7,8,9-HpCDF	38:57	2.65e8	2.56e8	5.73e7	5.46e7	-----	-----	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	38:27	2.00e7	1.85e7	4.26e6	4.03e6	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:28	2.05e8	2.00e8	4.52e7	4.31e7	-----	-----	1.03	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	4.18e8	4.65e8	8.81e7	9.83e7	-----	-----	0.90	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	3.34e7	3.74e7	6.25e6	7.29e6	-----	-----	0.89	
OCDD	41:23	3.29e8	3.72e8	6.32e7	7.24e7	-----	-----	0.88	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client ID		Injected By	SMT
Lab ID	CS3/CPM-7604-286	Instrument ID	10MSHR06 (U)
Filename	U131105A_01	GC Column ID	USD227224H
Analyzed	11/05/2013 09:21	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	3.84e7	4.86e7	5.87e6	7.44e6	-----	-----	0.79	
2,3,7,8-TCDF	18:41	3.38e6	4.22e6	5.19e5	6.32e5	-----	-----	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	18:53	2.65e7	3.30e7	4.21e6	5.33e6	-----	-----	0.80	
2,3,7,8-TCDD-13C	19:42	2.53e7	3.20e7	3.71e6	4.84e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	19:43	6.38e6		9.64e5		-----	-----		
2,3,7,8-TCDD	19:43	2.82e6	3.66e6	3.84e5	4.97e5	-----	-----	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	26:23	3.77e7	2.42e7	4.26e6	2.75e6	-----	-----	1.56	
2,3,4,7,8-PeCDF-13C	28:30	3.91e7	2.52e7	6.06e6	3.85e6	-----	-----	1.55	
1,2,3,7,8-PeCDF	26:24	1.66e7	1.09e7	1.80e6	1.25e6	-----	-----	1.52	
2,3,4,7,8-PeCDF	28:31	1.74e7	1.16e7	2.64e6	1.75e6	-----	-----	1.50	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:07	2.48e7	1.55e7	3.78e6	2.47e6	-----	-----	1.59	
1,2,3,7,8-PeCDD	29:09	7.58e6	1.24e7	1.19e6	1.87e6	-----	-----	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	33:18	1.52e7	2.98e7	3.35e6	6.48e6	-----	-----	0.51	
1,2,3,6,7,8-HxCDF-13C	33:29	1.90e7	3.65e7	3.76e6	7.25e6	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	34:17	1.64e7	3.20e7	3.64e6	7.07e6	-----	-----	0.51	
1,2,3,7,8,9-HxCDF-13C	35:20	1.47e7	2.85e7	2.96e6	5.73e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:19	1.26e7	1.04e7	2.76e6	2.32e6	-----	-----	1.22	
1,2,3,6,7,8-HxCDF	33:30	1.51e7	1.26e7	3.09e6	2.67e6	-----	-----	1.20	
2,3,4,6,7,8-HxCDF	34:18	1.40e7	1.18e7	3.02e6	2.47e6	-----	-----	1.19	
1,2,3,7,8,9-HxCDF	35:21	1.12e7	9.05e6	2.26e6	1.89e6	-----	-----	1.23	

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Client ID		Injected By	SMT
Lab ID	CS3/CPM-7604-286	Instrument ID	10MSHR06 (U)
Filename	U131105A_01	GC Column ID	USD227224H
Analyzed	11/05/2013 09:21	ICAL ID	U131104

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	34:31	2.08e7	1.55e7	5.02e6	3.88e6	-----	-----	1.34	
1,2,3,6,7,8-HxCDD-13C	34:39	2.59e7	2.13e7	5.77e6	4.62e6	-----	-----	1.22	
1,2,3,7,8,9-HxCDD-13C	34:59	2.23e7	1.84e7	4.56e6	3.75e6	-----	-----	1.21	
1,2,3,4,7,8-HxCDD	34:32	1.00e7	8.16e6	2.41e6	1.90e6	-----	-----	1.23	
1,2,3,6,7,8-HxCDD	34:40	1.20e7	9.60e6	2.54e6	2.03e6	-----	-----	1.25	
1,2,3,7,8,9-HxCDD	34:60	1.10e7	8.86e6	2.29e6	1.80e6	-----	-----	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	37:12	1.37e7	2.99e7	3.20e6	7.27e6	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:55	1.01e7	2.22e7	2.35e6	5.17e6	-----	-----	0.46	
1,2,3,4,6,7,8-HpCDF	37:13	1.51e7	1.43e7	3.61e6	3.40e6	-----	-----	1.06	
1,2,3,4,7,8,9-HpCDF	38:55	1.07e7	1.07e7	2.45e6	2.52e6	-----	-----	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	38:25	1.60e7	1.48e7	3.72e6	3.50e6	-----	-----	1.08	
1,2,3,4,6,7,8-HpCDD	38:26	8.46e6	8.01e6	2.14e6	1.96e6	-----	-----	1.06	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:29	1.53e7	1.72e7	3.71e6	4.09e6	-----	-----	0.89	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:21	2.44e7	2.72e7	5.61e6	6.22e6	-----	-----	0.90	
OCDD	41:21	1.22e7	1.39e7	2.78e6	3.17e6	-----	-----	0.88	

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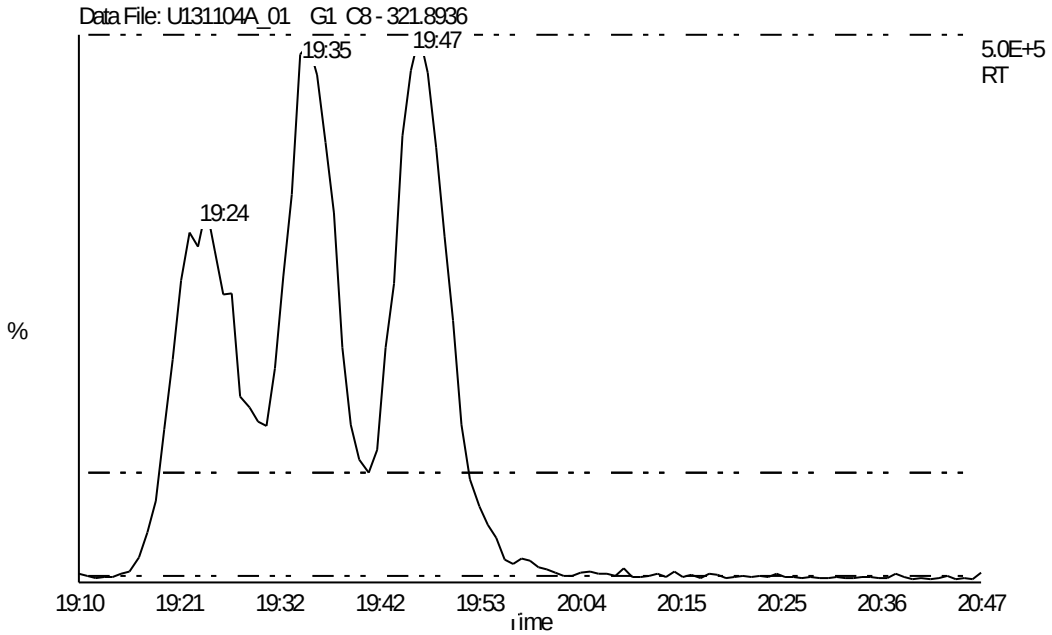
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID	CS3/CPM-7604-286	Injected By	SMT	
Raw Data File	U131104A_01	Instrument ID	10MSHR06 (U)	
Date Analyzed	11/4/2013	GC Column Type	DB-5MS	0.25 uM
Time Analyzed	09:19	GC Column S/N	USD227224H	
Resolution	**19.0%**			



Group	Mass	First Eluter	Last Eluter
TCDF	305.8987	14:42	21:20
PeCDF	341.8567	21:19	30:15
HxCDF	373.8207	31:34	35:23
HpCDF	407.7818	37:15	38:58
OCDF	441.7428	41:30	0:00
TCDD	321.8936	16:06	21:05
PeCDD	357.8517	24:21	29:52
HxCDD	391.8127	32:28	35:02
HpCDD	425.7737	37:37	38:28
OCDD	459.7347	41:23	0:00
1234-TCDD-13C(RS)	331.9367	18:56	0:00
123789-HxCDD-13C(RS)	401.8559	35:01	0:00

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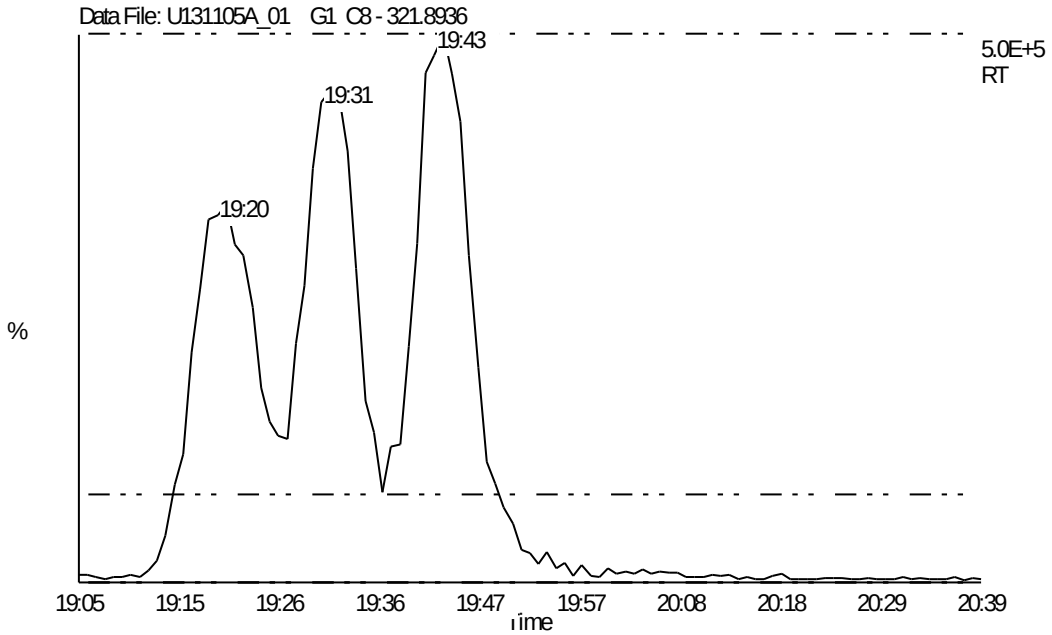
Column Performance Mix (CPM) / Window Defining Mix (WDM)

Lab Sample ID	CS3/CPM-7604-286	Injected By	SMT	
Raw Data File	U131105A_01	Instrument ID	10MSHR06 (U)	
Date Analyzed	11/5/2013	GC Column Type	DB-5MS	0.25 uM
Time Analyzed	09:21	GC Column S/N	USD227224H	
Resolution	**16.1%**			



Group	Mass	First Eluter	Last Eluter
TCDF	305.8987	14:41	21:15
PeCDF	341.8567	21:15	30:11
HxCDF	373.8207	31:31	35:21
HpCDF	407.7818	37:13	38:55
OCDF	441.7428	41:28	0:00
TCDD	321.8936	16:03	21:00
PeCDD	357.8517	24:16	29:49
HxCDD	391.8127	32:25	34:59
HpCDD	425.7737	37:34	38:25
OCDD	459.7347	41:20	0:00
1234-TCDD-13C(RS)	331.9367	18:53	0:00
123789-HxCDD-13C(RS)	401.8559	34:58	0:00

REPORT OF LABORATORY ANALYSIS

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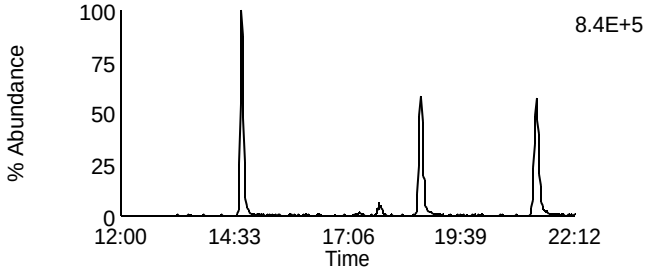
Homologue Group: Tetras

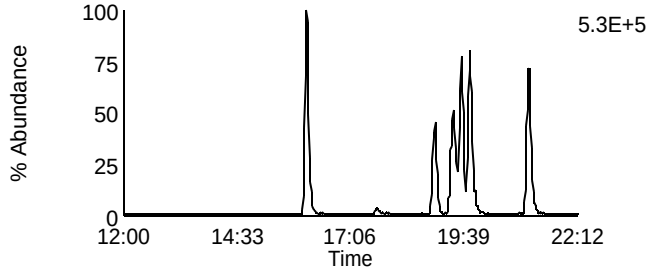
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

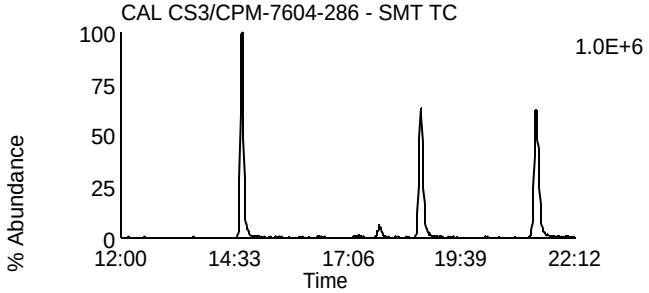
Data File: U131104A_01 G1 C1 - 303.9016
CAL CS3/CPM-7604-286 - SMT TC



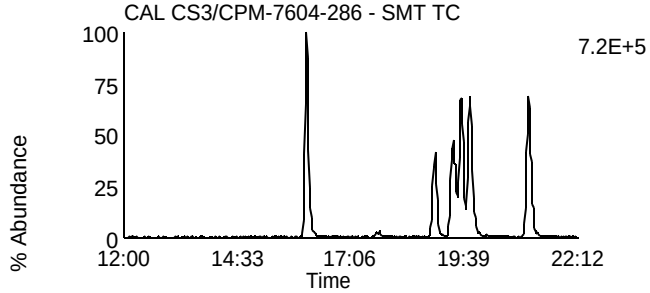
Data File: U131104A_01 G1 C7 - 319.8965
CAL CS3/CPM-7604-286 - SMT TC



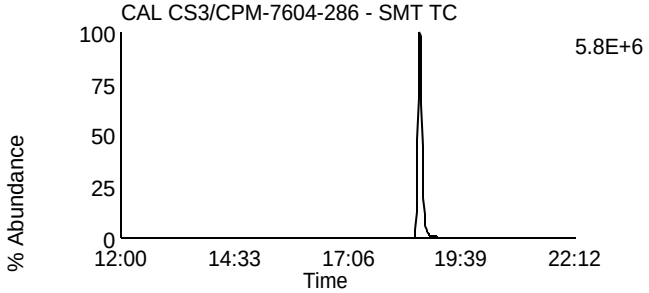
Data File: U131104A_01 G1 C2 - 305.8987
CAL CS3/CPM-7604-286 - SMT TC



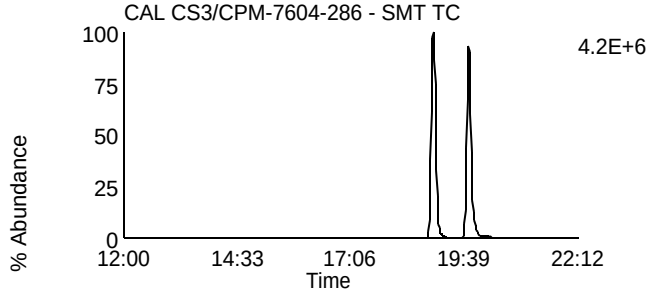
Data File: U131104A_01 G1 C8 - 321.8936
CAL CS3/CPM-7604-286 - SMT TC



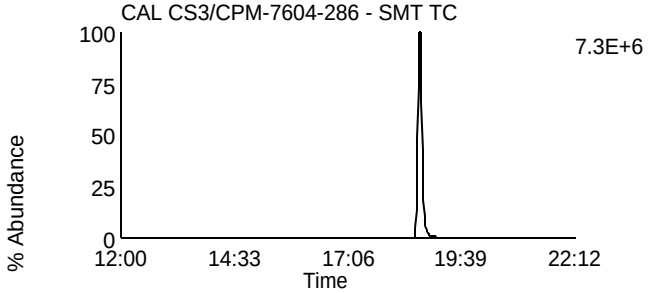
Data File: U131104A_01 G1 C3 - 315.9418
CAL CS3/CPM-7604-286 - SMT TC



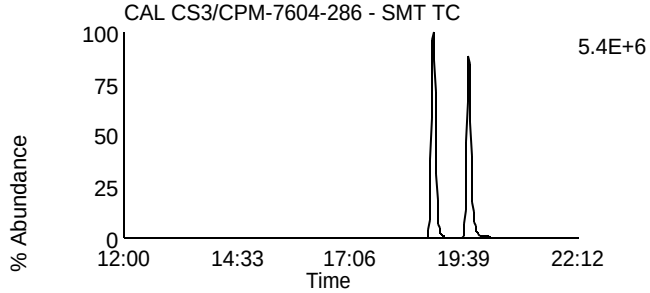
Data File: U131104A_01 G1 C10 - 331.9367
CAL CS3/CPM-7604-286 - SMT TC



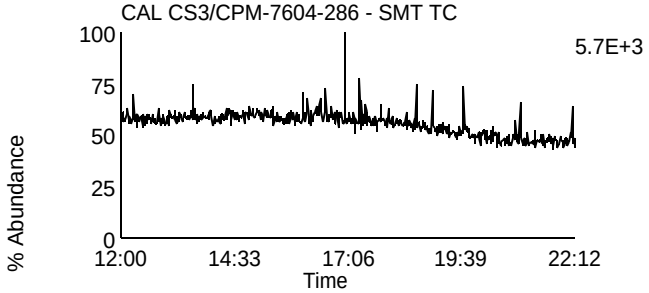
Data File: U131104A_01 G1 C4 - 317.9389
CAL CS3/CPM-7604-286 - SMT TC



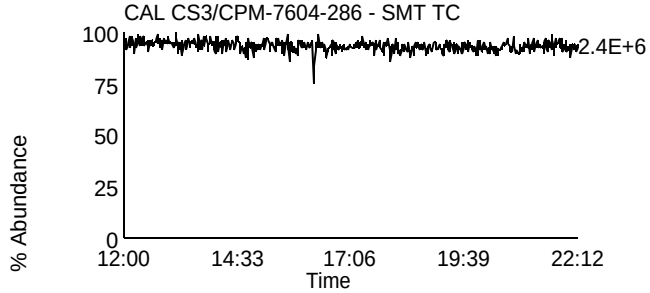
Data File: U131104A_01 G1 C11 - 333.9338
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C14 - 375.8364
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT TC

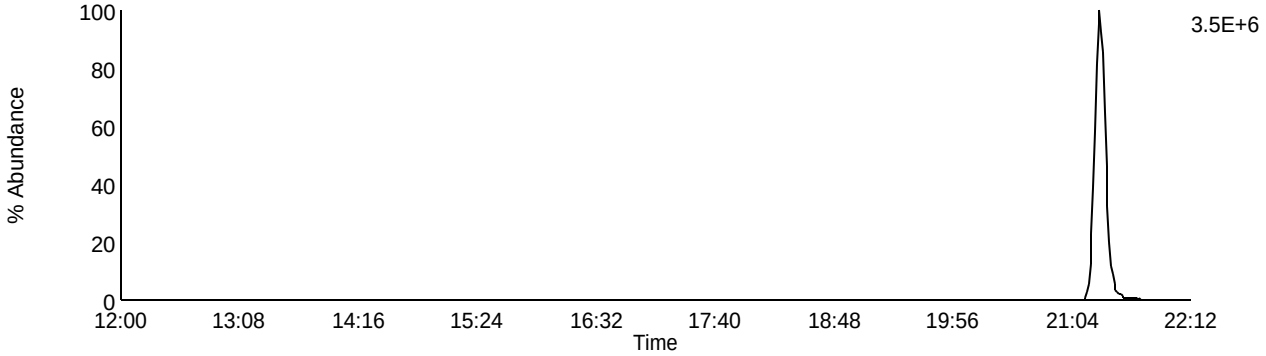


Homologue Group: Penta & Cleanup

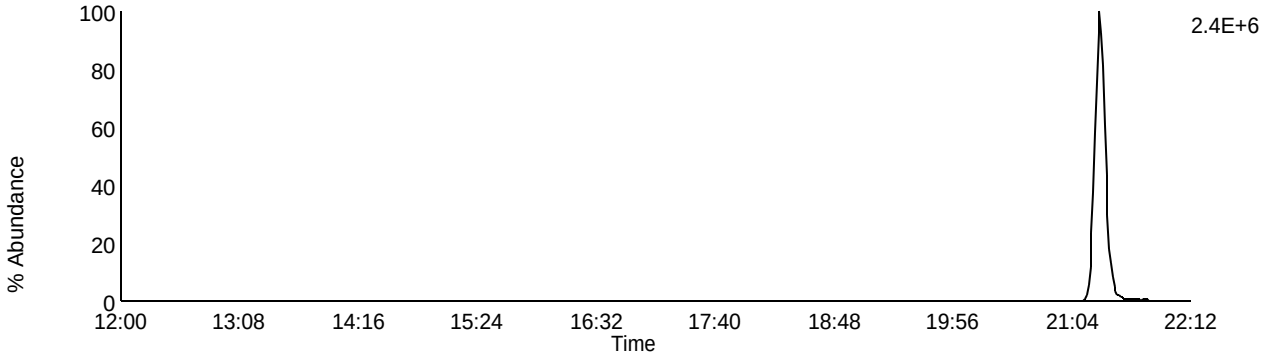
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

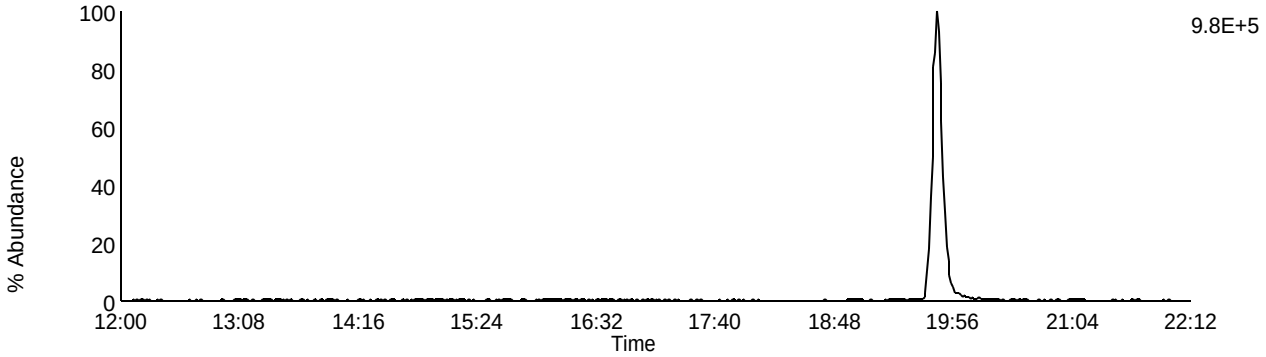
Data File: U131104A_01 G1 C12 - 339.8597
CAL CS3/CPM-7604-286 - SMT TC



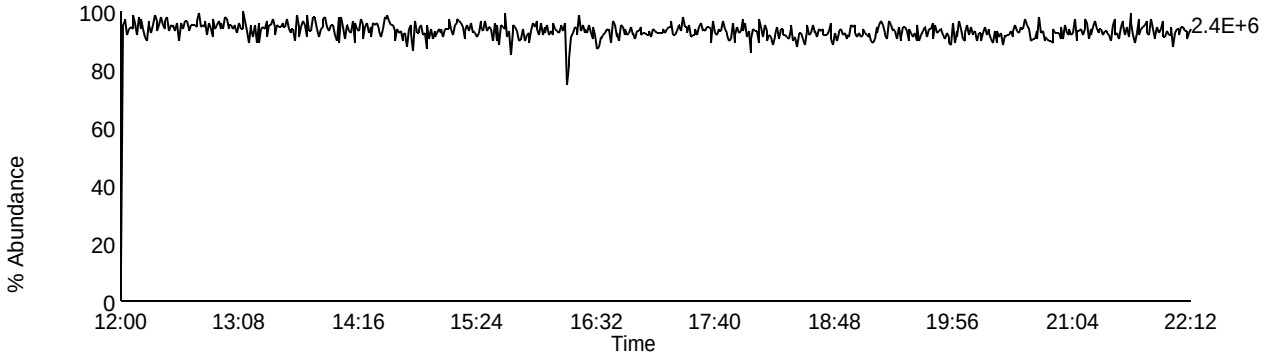
Data File: U131104A_01 G1 C13 - 341.8567
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C9 - 327.8847
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT TC

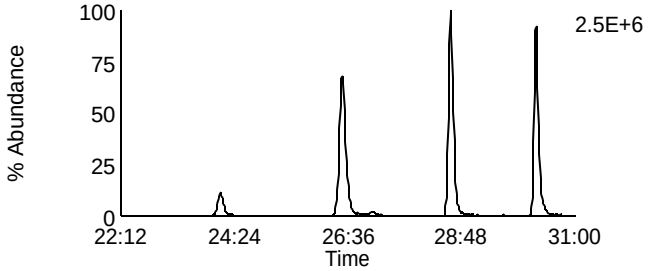


Homologue Group: Pentas

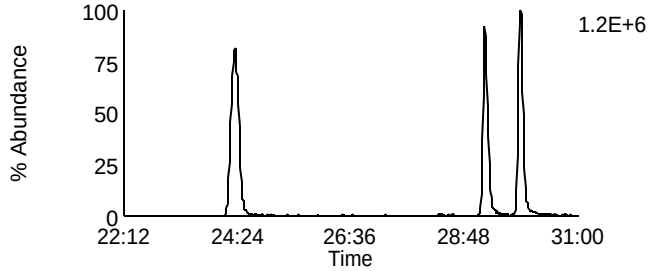
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

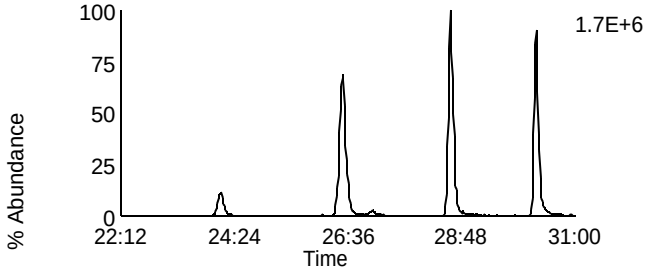
Data File: U131104A_01 G2 C1 - 339.8597
CAL CS3/CPM-7604-286 - SMT TC



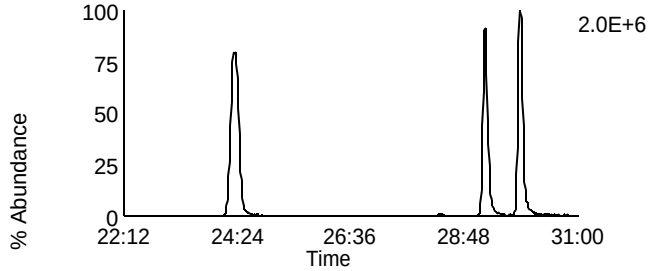
Data File: U131104A_01 G2 C4 - 353.8576
CAL CS3/CPM-7604-286 - SMT TC



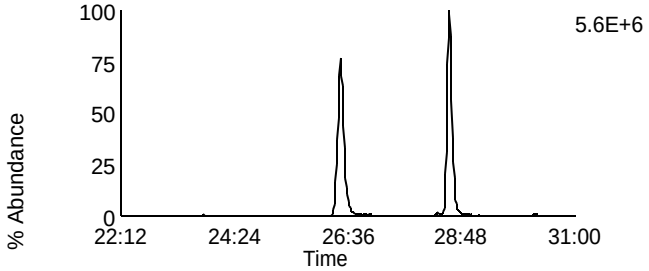
Data File: U131104A_01 G2 C2 - 341.8567
CAL CS3/CPM-7604-286 - SMT TC



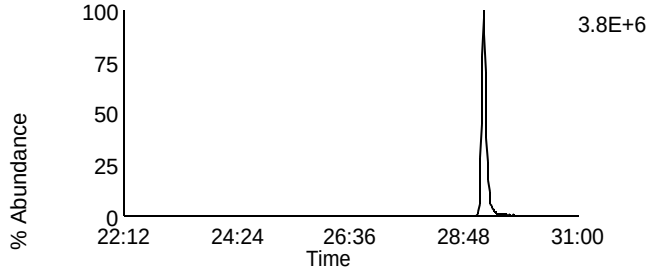
Data File: U131104A_01 G2 C8 - 355.8546
CAL CS3/CPM-7604-286 - SMT TC



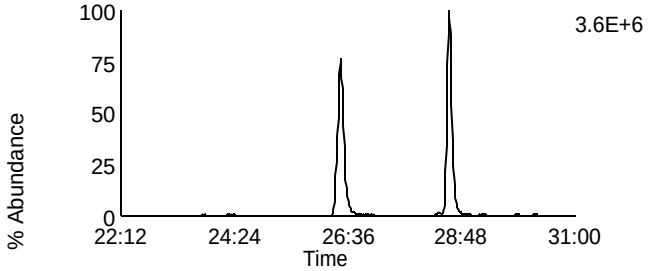
Data File: U131104A_01 G2 C3 - 351.8999
CAL CS3/CPM-7604-286 - SMT TC



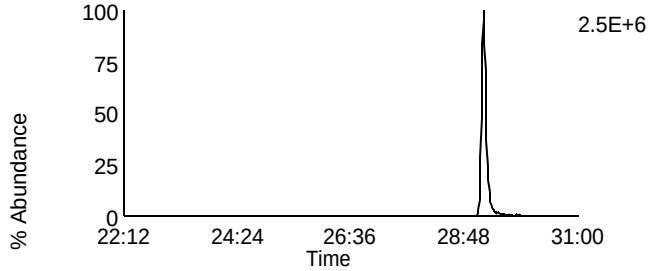
Data File: U131104A_01 G2 C10 - 367.8948
CAL CS3/CPM-7604-286 - SMT TC



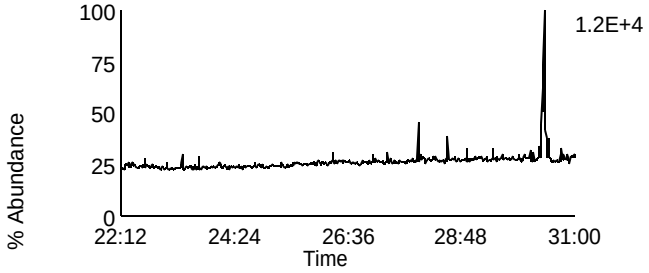
Data File: U131104A_01 G2 C5 - 353.8969
CAL CS3/CPM-7604-286 - SMT TC



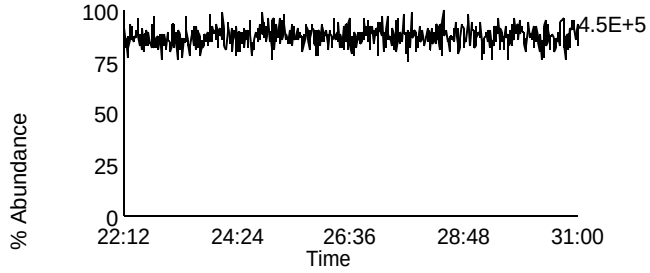
Data File: U131104A_01 G2 C11 - 369.8918
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G2 C12 - 409.7974
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G2 C6 - 354.9792
CAL CS3/CPM-7604-286 - SMT TC

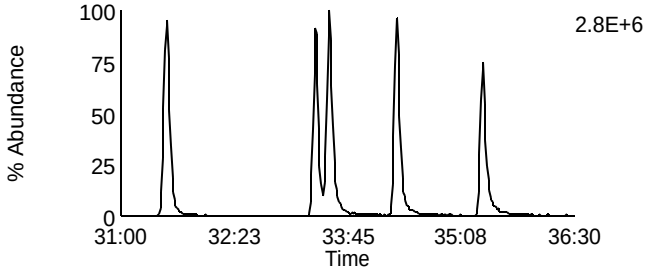


Homologue Group: Hexas

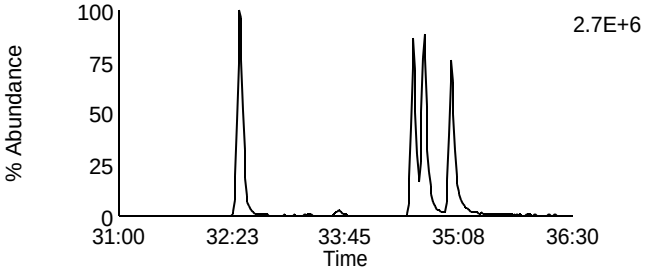
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

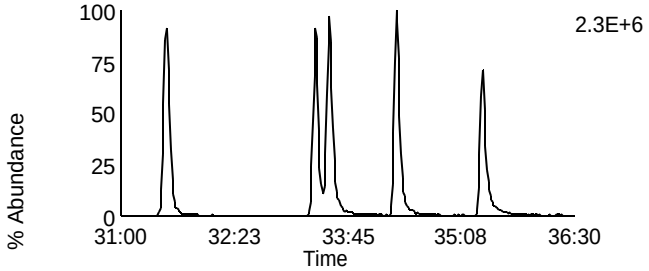
Data File: U131104A_01 G3 C1 - 373.8207
CAL CS3/CPM-7604-286 - SMT TC



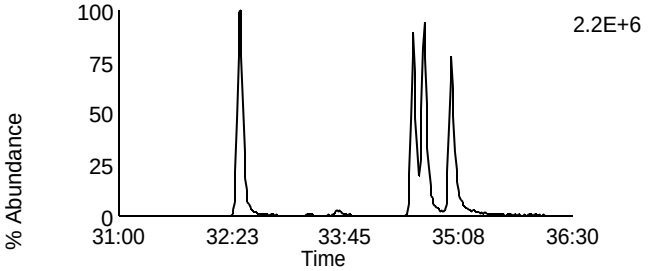
Data File: U131104A_01 G3 C7 - 389.8156
CAL CS3/CPM-7604-286 - SMT TC



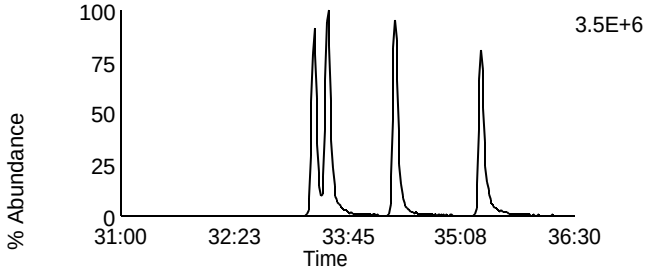
Data File: U131104A_01 G3 C2 - 375.8178
CAL CS3/CPM-7604-286 - SMT TC



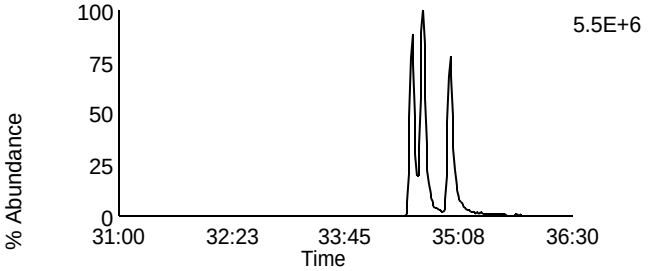
Data File: U131104A_01 G3 C8 - 391.8127
CAL CS3/CPM-7604-286 - SMT TC



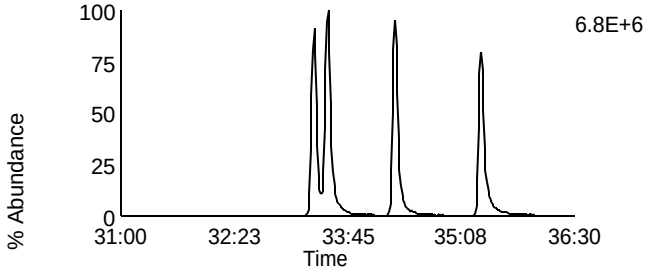
Data File: U131104A_01 G3 C5 - 383.8639
CAL CS3/CPM-7604-286 - SMT TC



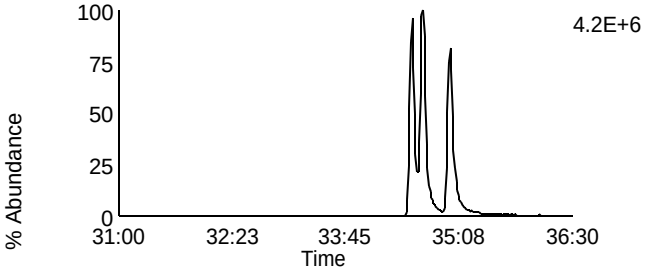
Data File: U131104A_01 G3 C9 - 401.8559
CAL CS3/CPM-7604-286 - SMT TC



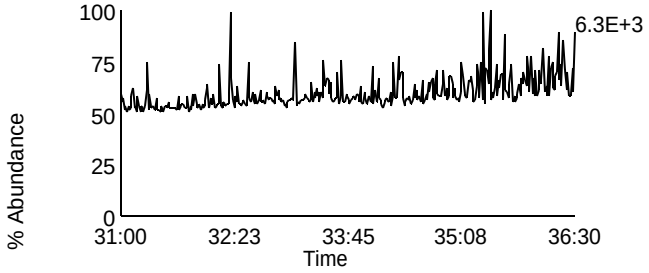
Data File: U131104A_01 G3 C6 - 385.861
CAL CS3/CPM-7604-286 - SMT TC



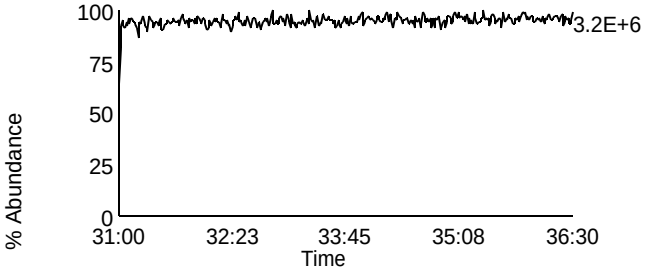
Data File: U131104A_01 G3 C10 - 403.8529
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G3 C11 - 445.7555
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G3 C3 - 380.976
CAL CS3/CPM-7604-286 - SMT TC

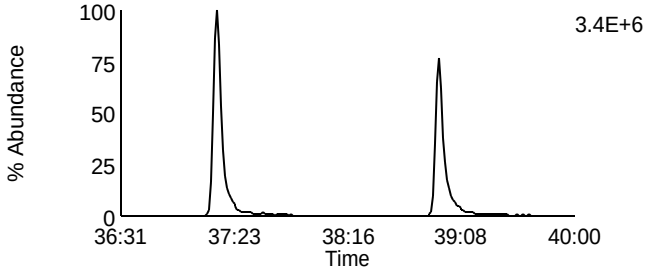


Homologue Group: Heptas

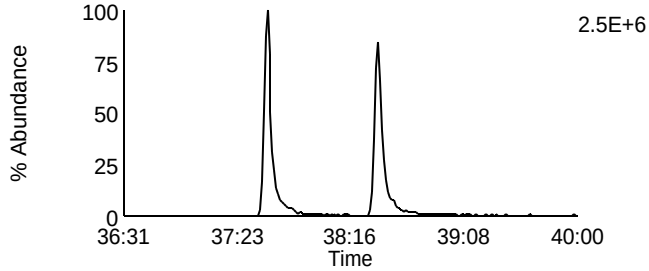
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

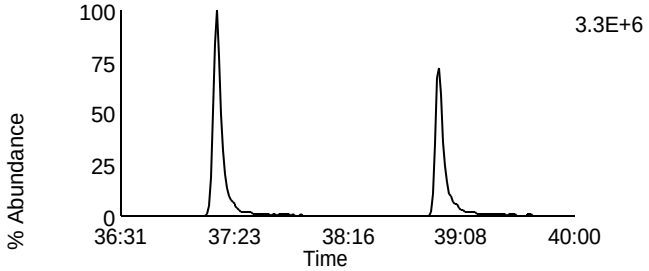
Data File: U131104A_01 G4 C3 - 407.7818
CAL CS3/CPM-7604-286 - SMT TC



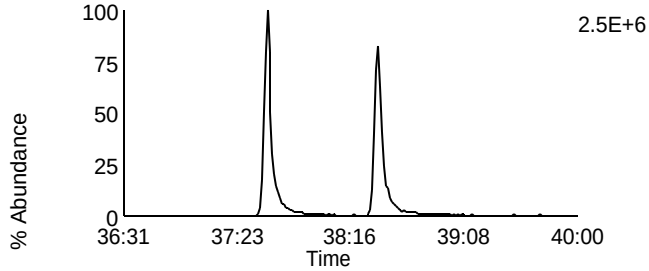
Data File: U131104A_01 G4 C8 - 423.7767
CAL CS3/CPM-7604-286 - SMT TC



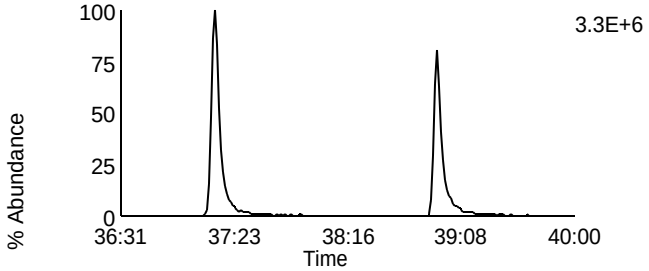
Data File: U131104A_01 G4 C4 - 409.7788
CAL CS3/CPM-7604-286 - SMT TC



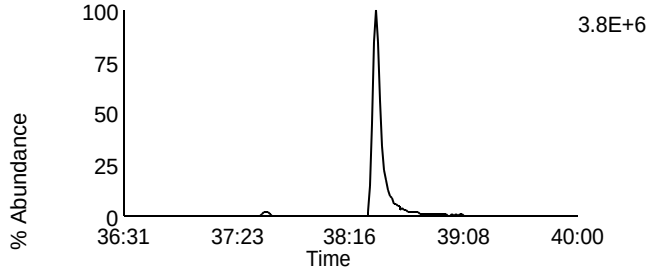
Data File: U131104A_01 G4 C9 - 425.7737
CAL CS3/CPM-7604-286 - SMT TC



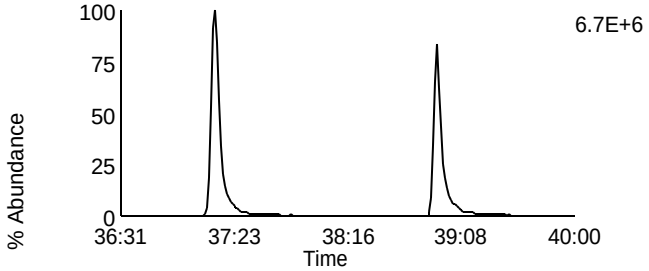
Data File: U131104A_01 G4 C6 - 417.825
CAL CS3/CPM-7604-286 - SMT TC



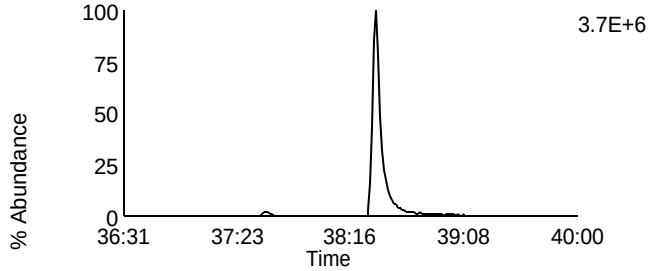
Data File: U131104A_01 G4 C11 - 435.8169
CAL CS3/CPM-7604-286 - SMT TC



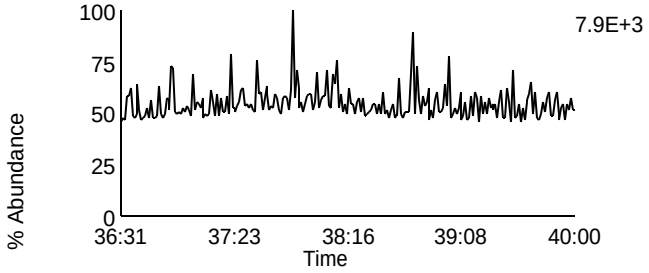
Data File: U131104A_01 G4 C7 - 419.822
CAL CS3/CPM-7604-286 - SMT TC



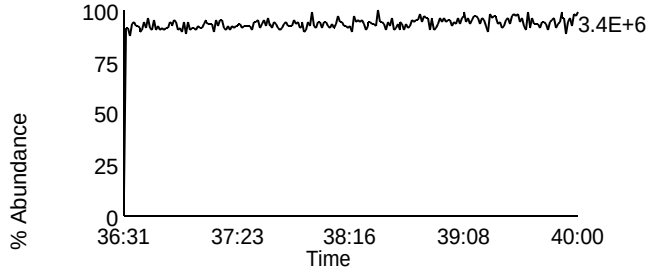
Data File: U131104A_01 G4 C12 - 437.814
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G4 C13 - 479.7165
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G4 C1 - 380.976
CAL CS3/CPM-7604-286 - SMT TC

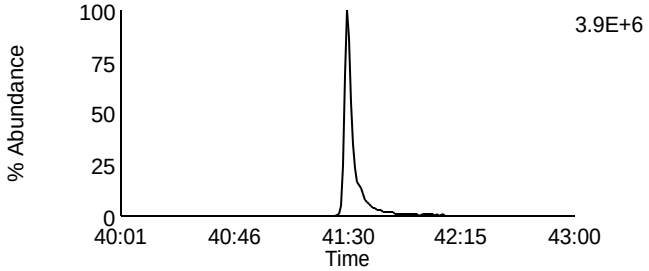


Homologue Group: Octas

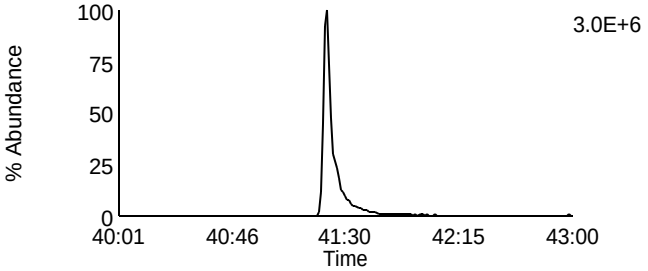
Data File Name: U131104A_01
Date Acquired: 11/4/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT TC

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

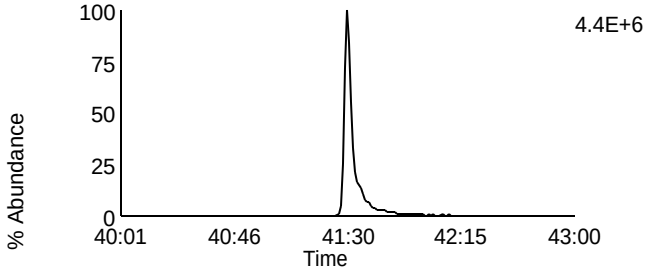
Data File: U131104A_01 G5 C4 - 441.7428
CAL CS3/CPM-7604-286 - SMT TC



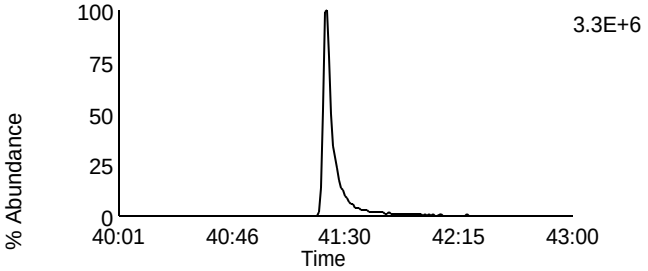
Data File: U131104A_01 G5 C8 - 457.7377
CAL CS3/CPM-7604-286 - SMT TC



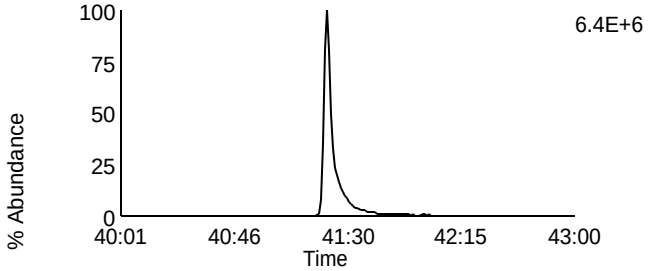
Data File: U131104A_01 G5 C5 - 443.7398
CAL CS3/CPM-7604-286 - SMT TC



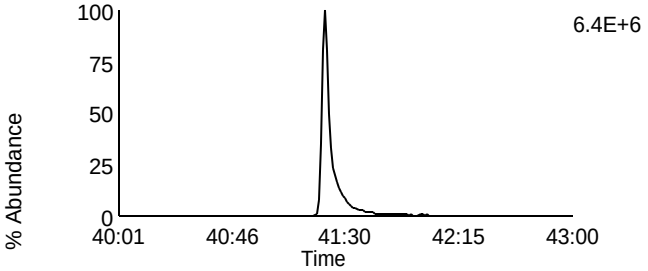
Data File: U131104A_01 G5 C9 - 459.7347
CAL CS3/CPM-7604-286 - SMT TC



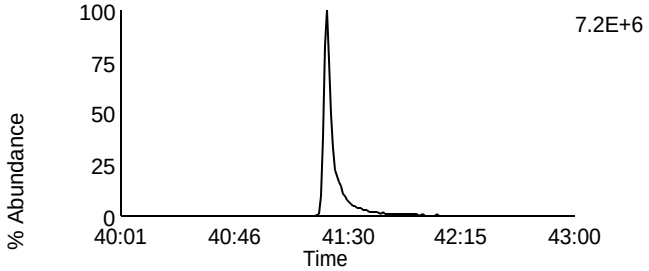
Data File: U131104A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT TC



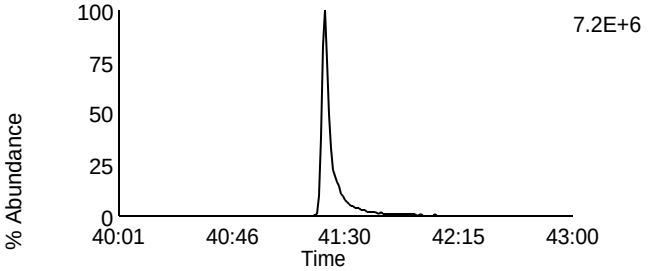
Data File: U131104A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT TC



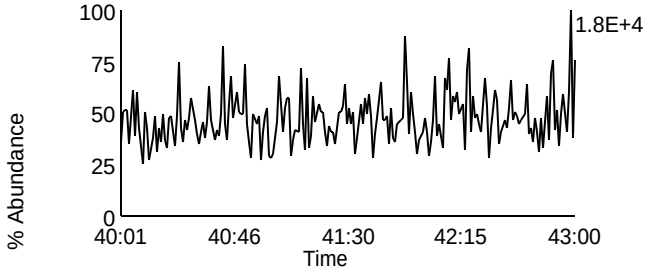
Data File: U131104A_01 G5 C12 - 471.7749
CAL CS3/CPM-7604-286 - SMT TC



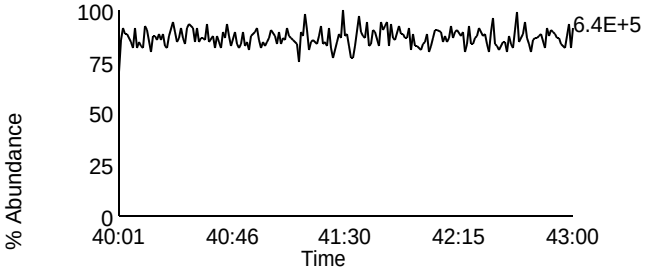
Data File: U131104A_01 G5 C12 - 471.7749
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G5 C13 - 513.6775
CAL CS3/CPM-7604-286 - SMT TC



Data File: U131104A_01 G5 C2 - 430.9728
CAL CS3/CPM-7604-286 - SMT TC

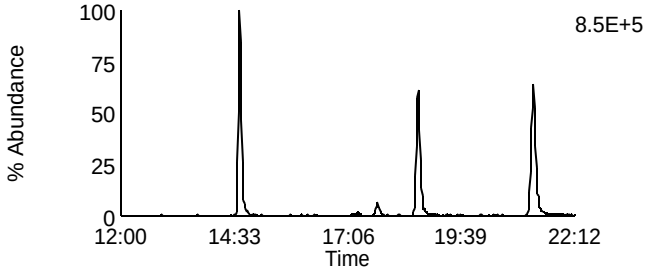


Homologue Group: Tetras

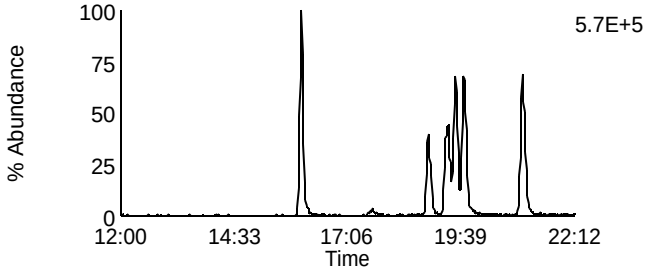
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

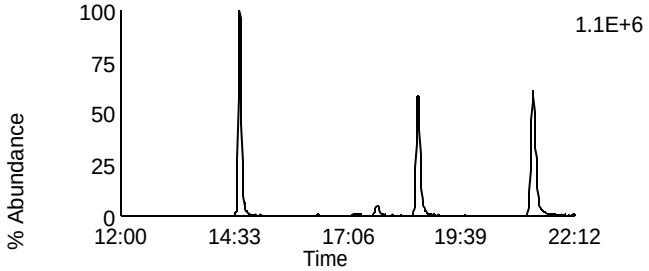
Data File: U131105A_01 G1 C1 - 303.9016
CAL CS3/CPM-7604-286 - SMT Ca



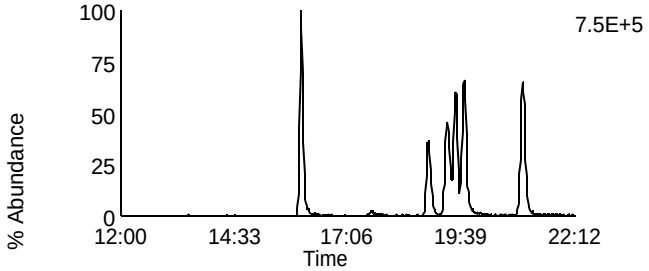
Data File: U131105A_01 G1 C7 - 319.8965
CAL CS3/CPM-7604-286 - SMT Ca



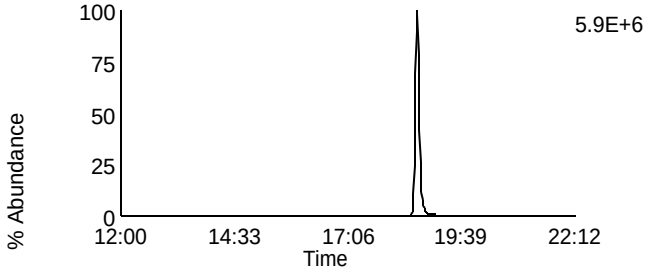
Data File: U131105A_01 G1 C2 - 305.8987
CAL CS3/CPM-7604-286 - SMT Ca



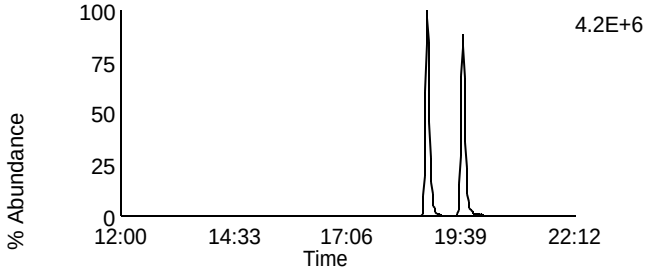
Data File: U131105A_01 G1 C8 - 321.8936
CAL CS3/CPM-7604-286 - SMT Ca



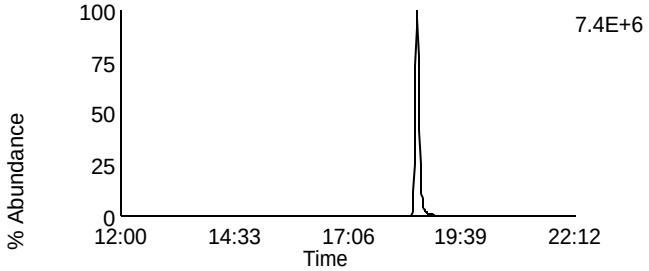
Data File: U131105A_01 G1 C3 - 315.9418
CAL CS3/CPM-7604-286 - SMT Ca



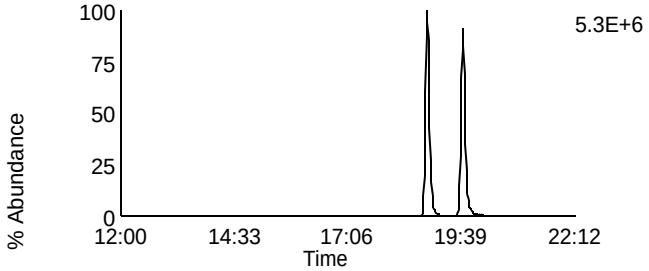
Data File: U131105A_01 G1 C10 - 331.9367
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C4 - 317.9389
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C11 - 333.9338
CAL CS3/CPM-7604-286 - SMT Ca



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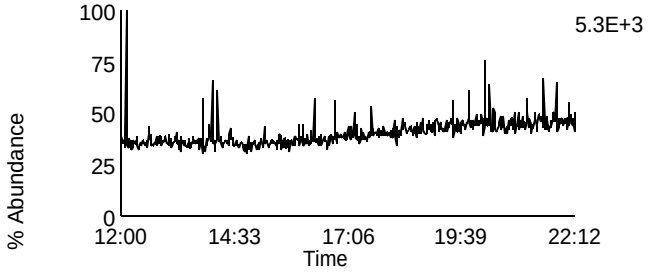
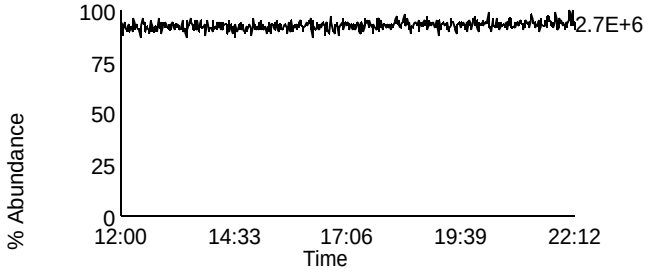
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT Ca

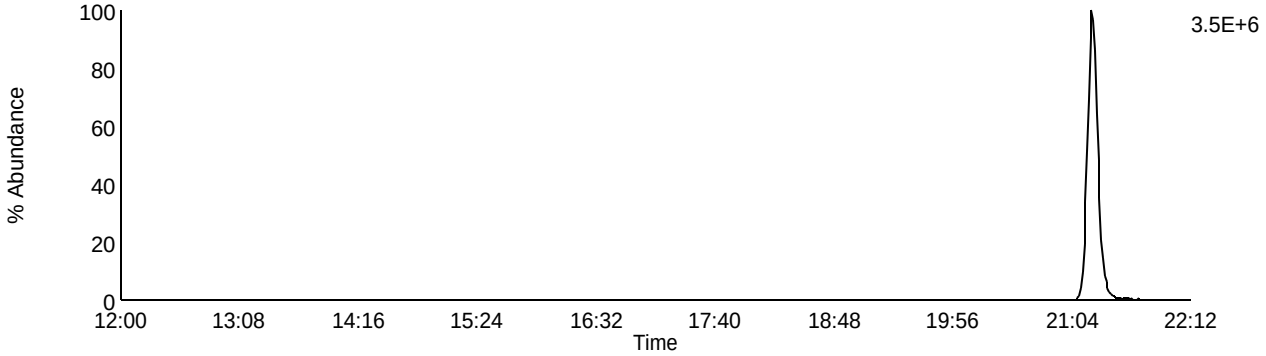


Homologue Group: Penta & Cleanup

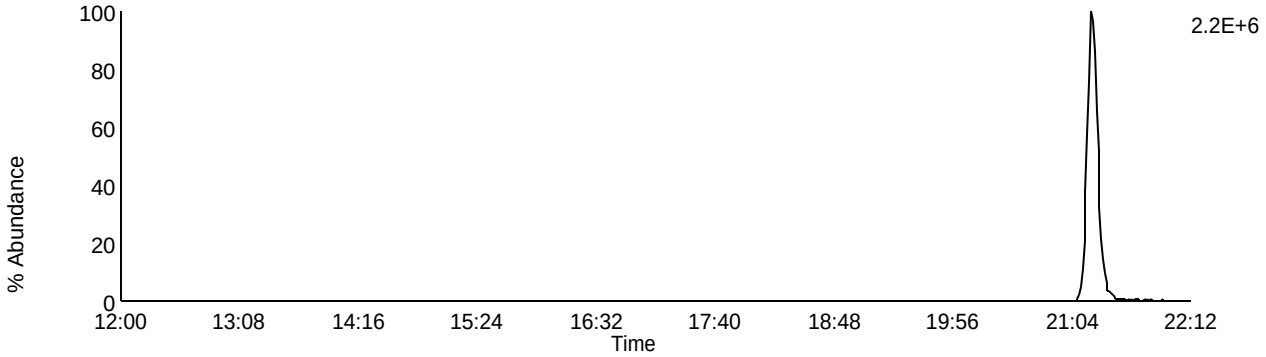
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

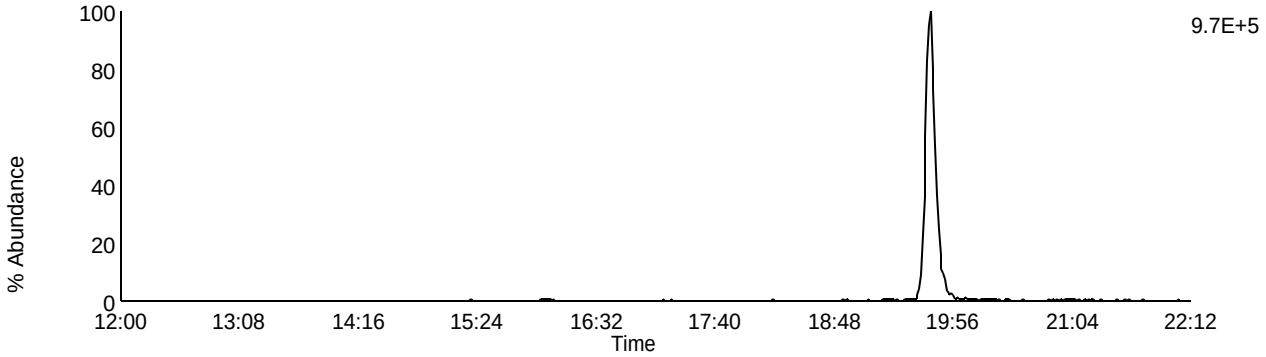
Data File: U131105A_01 G1 C12 - 339.8597
CAL CS3/CPM-7604-286 - SMT Ca



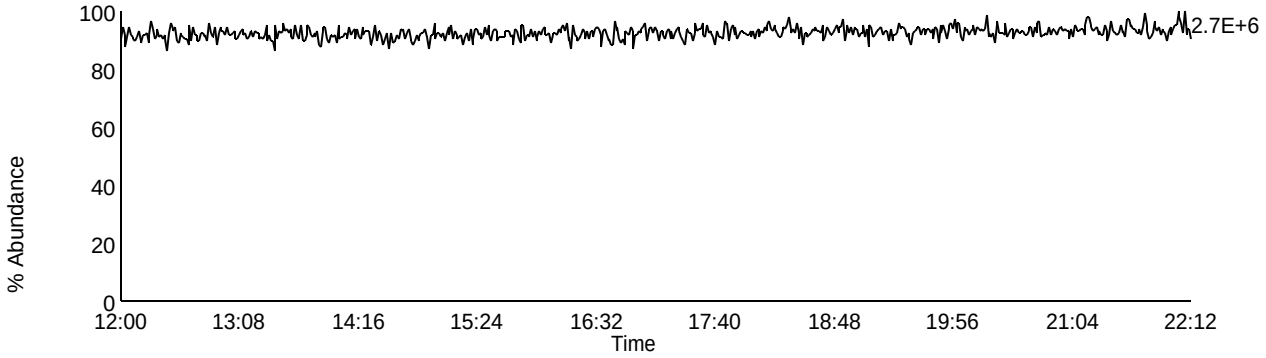
Data File: U131105A_01 G1 C13 - 341.8567
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C9 - 327.8847
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G1 C5 - 318.9792
CAL CS3/CPM-7604-286 - SMT Ca

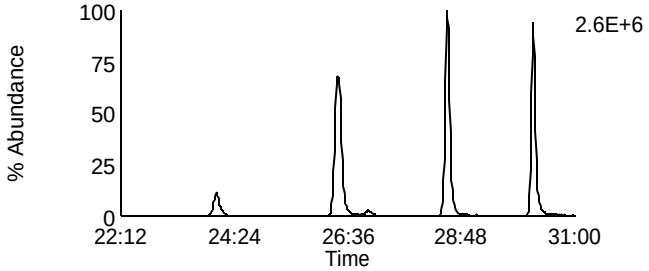


Homologue Group: Pentas

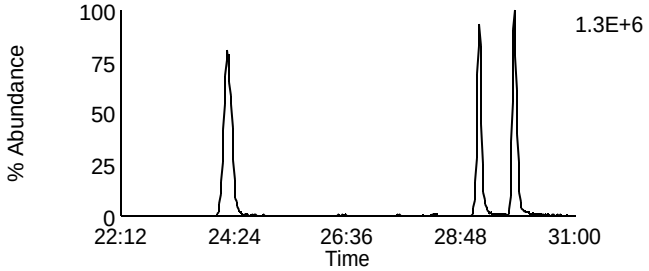
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

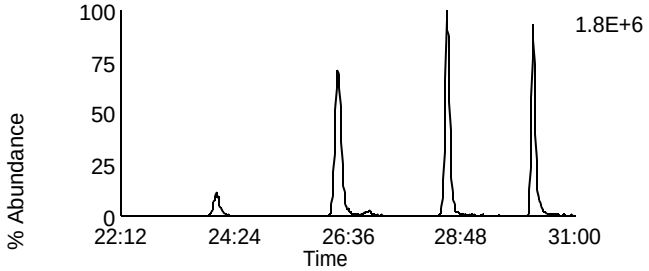
Data File: U131105A_01 G2 C1 - 339.8597
CAL CS3/CPM-7604-286 - SMT Ca



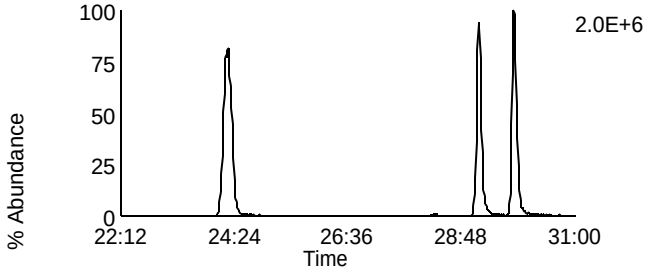
Data File: U131105A_01 G2 C4 - 353.8576
CAL CS3/CPM-7604-286 - SMT Ca



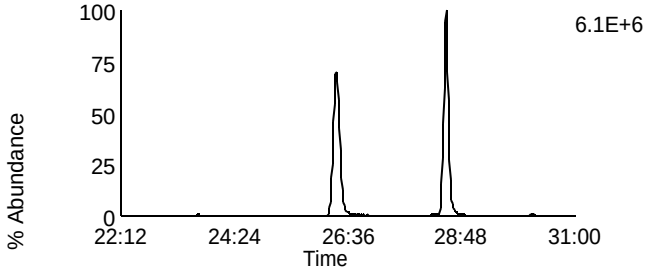
Data File: U131105A_01 G2 C2 - 341.8567
CAL CS3/CPM-7604-286 - SMT Ca



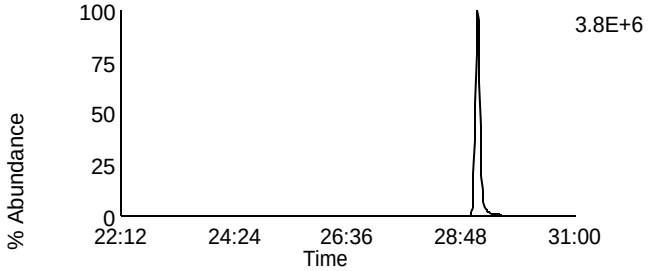
Data File: U131105A_01 G2 C8 - 355.8546
CAL CS3/CPM-7604-286 - SMT Ca



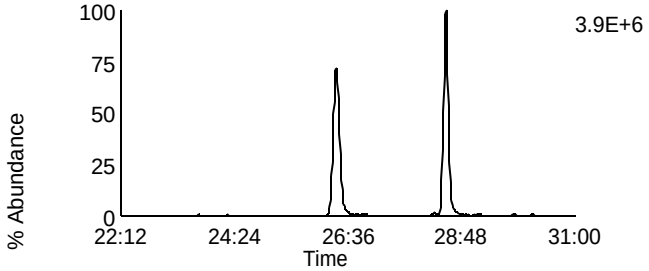
Data File: U131105A_01 G2 C3 - 351.8999
CAL CS3/CPM-7604-286 - SMT Ca



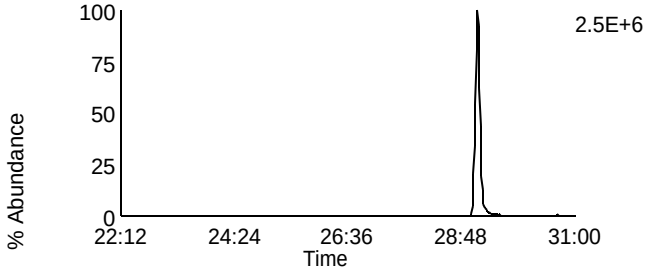
Data File: U131105A_01 G2 C10 - 367.8948
CAL CS3/CPM-7604-286 - SMT Ca



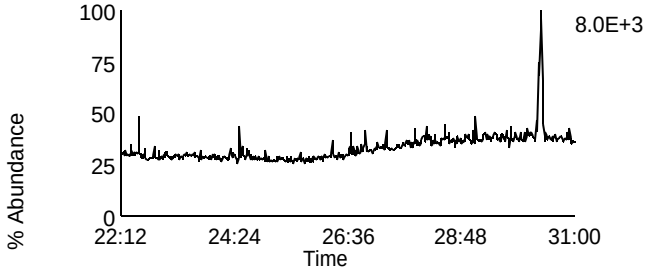
Data File: U131105A_01 G2 C5 - 353.8969
CAL CS3/CPM-7604-286 - SMT Ca



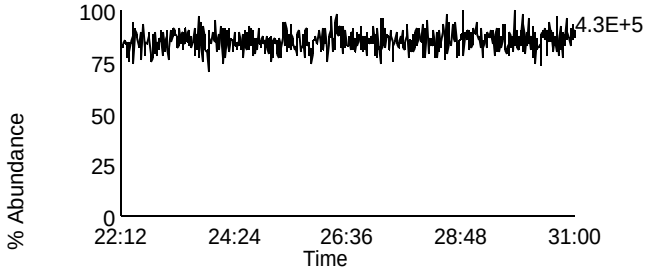
Data File: U131105A_01 G2 C11 - 369.8918
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G2 C12 - 409.7974
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G2 C6 - 354.9792
CAL CS3/CPM-7604-286 - SMT Ca

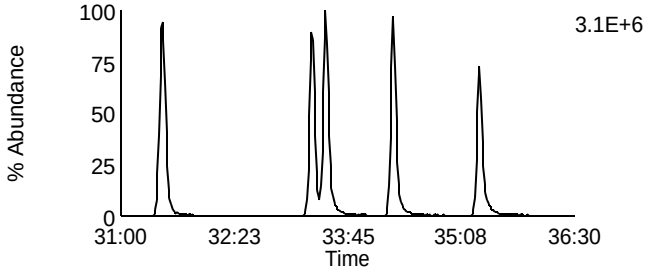


Homologue Group: Hexas

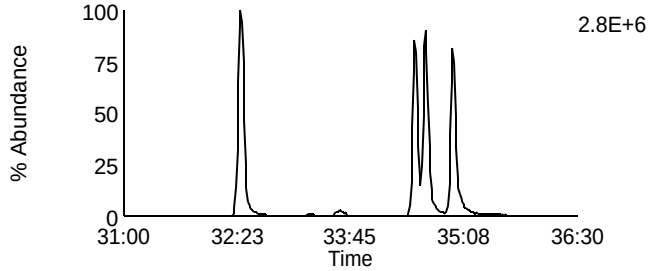
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

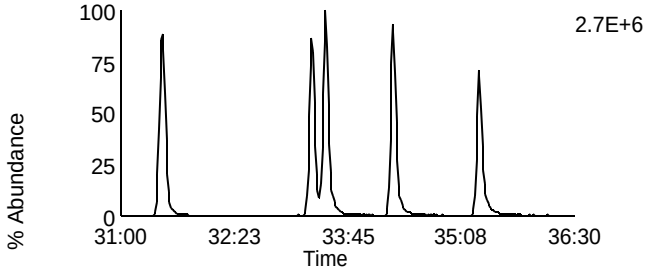
Data File: U131105A_01 G3 C1 - 373.8207
CAL CS3/CPM-7604-286 - SMT Ca



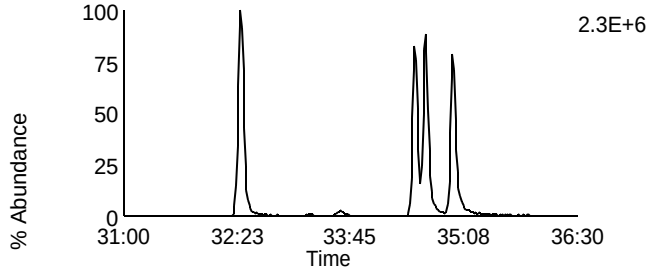
Data File: U131105A_01 G3 C7 - 389.8156
CAL CS3/CPM-7604-286 - SMT Ca



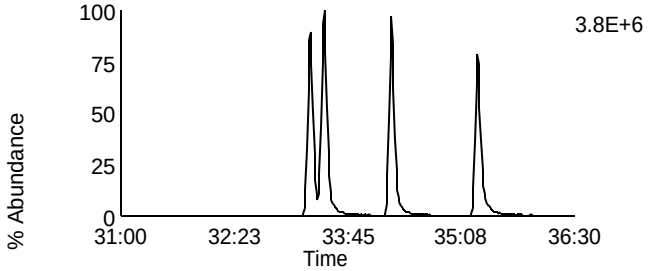
Data File: U131105A_01 G3 C2 - 375.8178
CAL CS3/CPM-7604-286 - SMT Ca



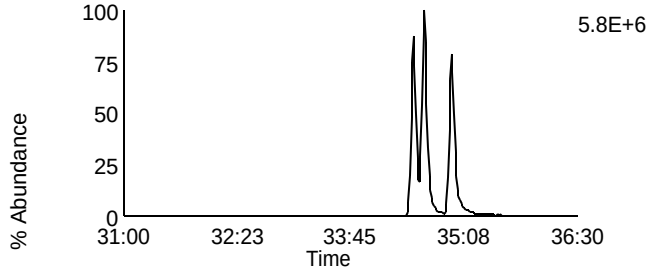
Data File: U131105A_01 G3 C8 - 391.8127
CAL CS3/CPM-7604-286 - SMT Ca



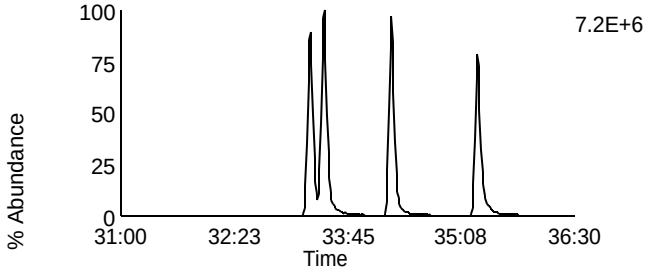
Data File: U131105A_01 G3 C5 - 383.8639
CAL CS3/CPM-7604-286 - SMT Ca



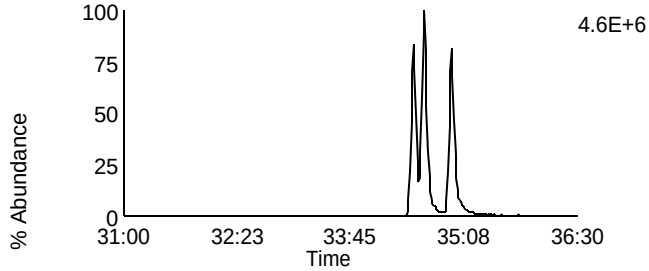
Data File: U131105A_01 G3 C9 - 401.8559
CAL CS3/CPM-7604-286 - SMT Ca



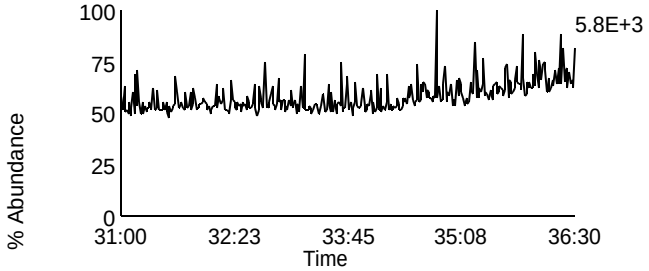
Data File: U131105A_01 G3 C6 - 385.861
CAL CS3/CPM-7604-286 - SMT Ca



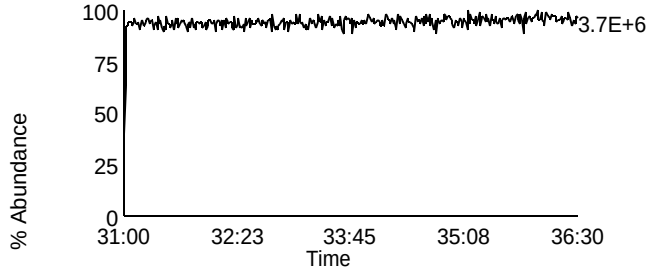
Data File: U131105A_01 G3 C10 - 403.8529
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C11 - 445.7555
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G3 C3 - 380.976
CAL CS3/CPM-7604-286 - SMT Ca

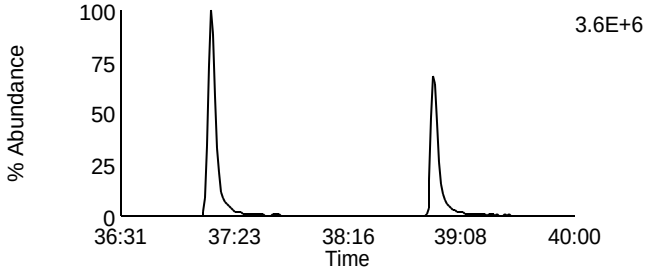


Homologue Group: Heptas

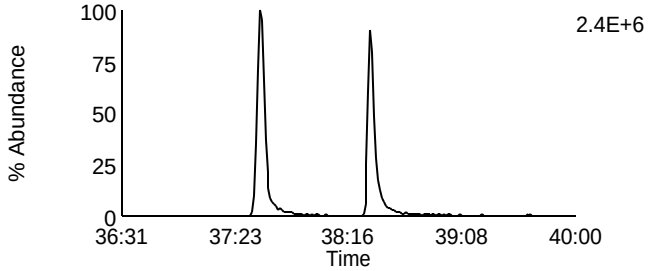
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

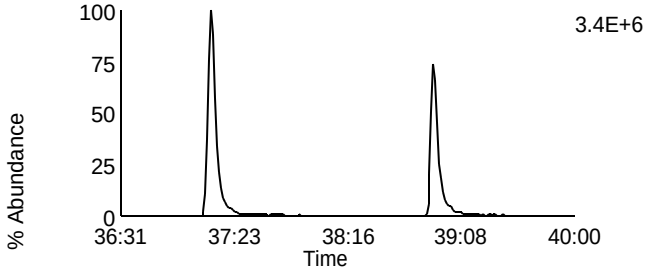
Data File: U131105A_01 G4 C3 - 407.7818
CAL CS3/CPM-7604-286 - SMT Ca



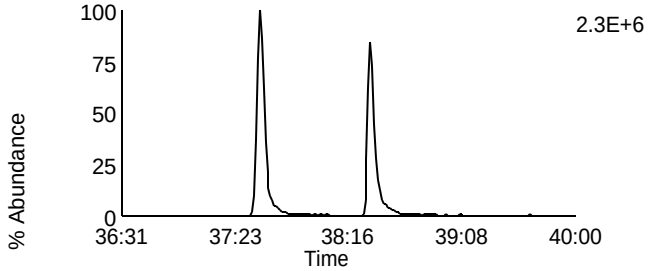
Data File: U131105A_01 G4 C8 - 423.7767
CAL CS3/CPM-7604-286 - SMT Ca



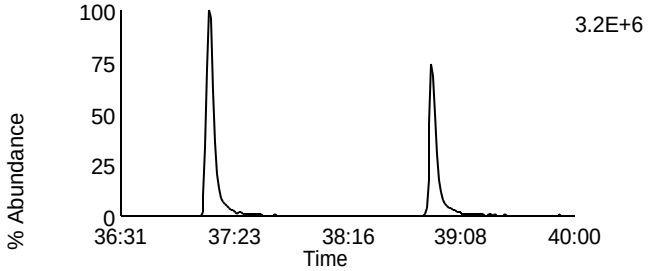
Data File: U131105A_01 G4 C4 - 409.7788
CAL CS3/CPM-7604-286 - SMT Ca



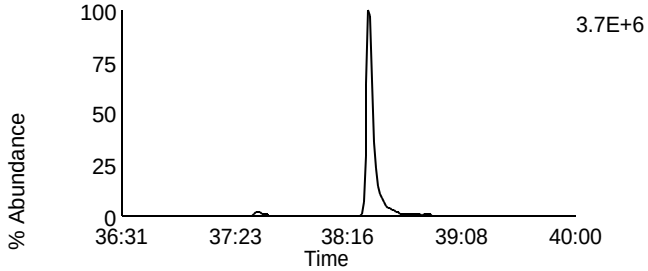
Data File: U131105A_01 G4 C9 - 425.7737
CAL CS3/CPM-7604-286 - SMT Ca



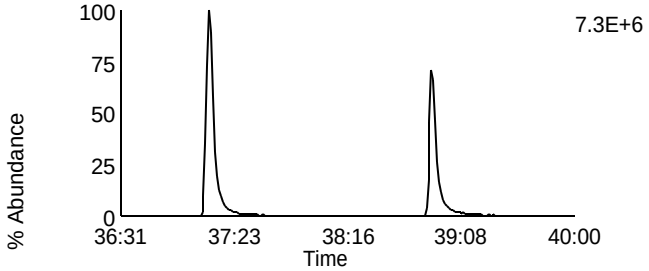
Data File: U131105A_01 G4 C6 - 417.825
CAL CS3/CPM-7604-286 - SMT Ca



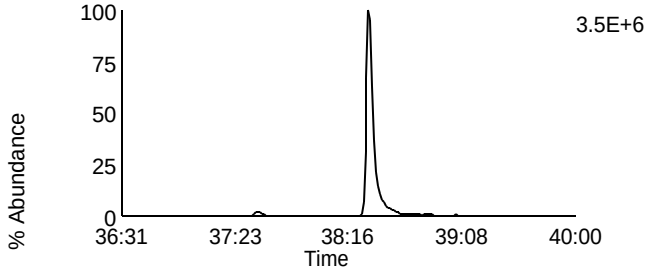
Data File: U131105A_01 G4 C11 - 435.8169
CAL CS3/CPM-7604-286 - SMT Ca



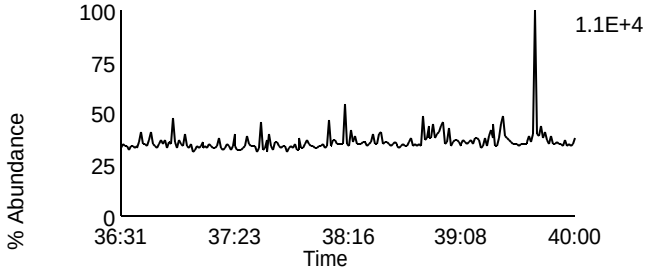
Data File: U131105A_01 G4 C7 - 419.822
CAL CS3/CPM-7604-286 - SMT Ca



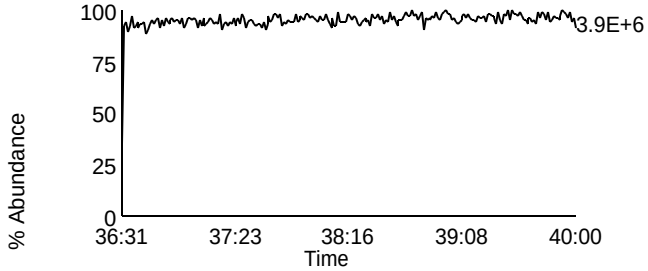
Data File: U131105A_01 G4 C12 - 437.814
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C13 - 479.7165
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G4 C1 - 380.976
CAL CS3/CPM-7604-286 - SMT Ca

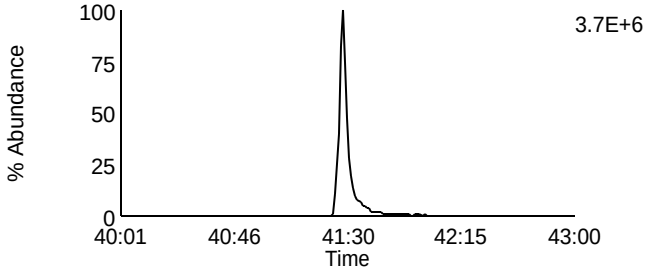


Homologue Group: Octas

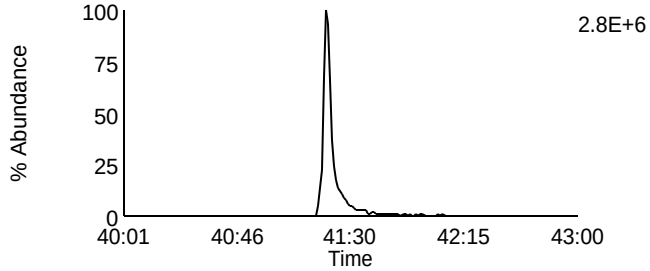
Data File Name: U131105A_01
Date Acquired: 11/5/2013
Sample Description: CAL CS3/CPM-7604-286 - SMT Ca

Lab Sample ID: CS3/CPM-7604-286
Client Sample ID: CPM/WDM
Instrument: 10MSHR06 (U)

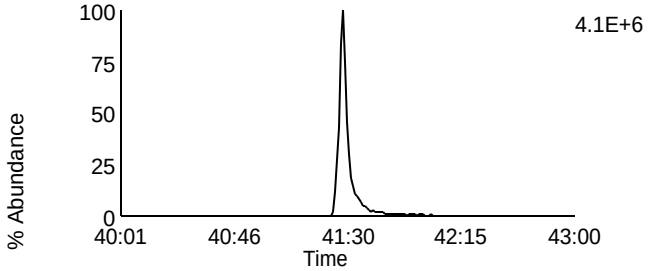
Data File: U131105A_01 G5 C4 - 441.7428
CAL CS3/CPM-7604-286 - SMT Ca



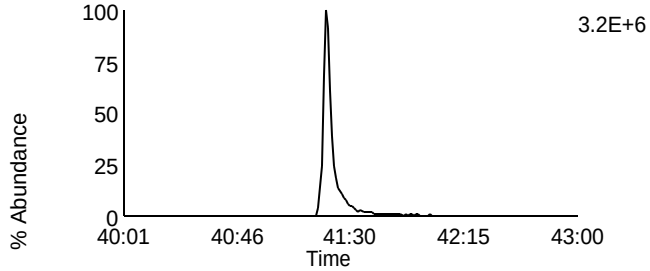
Data File: U131105A_01 G5 C8 - 457.7377
CAL CS3/CPM-7604-286 - SMT Ca



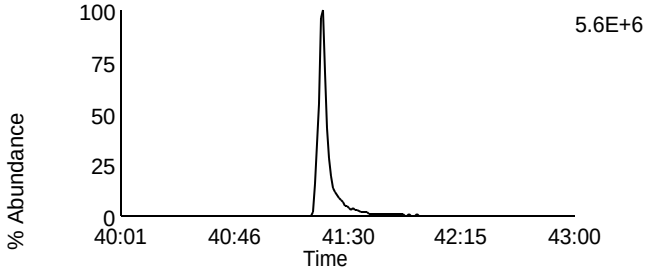
Data File: U131105A_01 G5 C5 - 443.7398
CAL CS3/CPM-7604-286 - SMT Ca



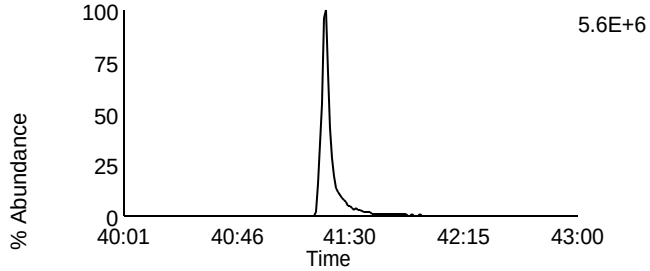
Data File: U131105A_01 G5 C9 - 459.7347
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT Ca



Data File: U131105A_01 G5 C11 - 469.7779
CAL CS3/CPM-7604-286 - SMT Ca



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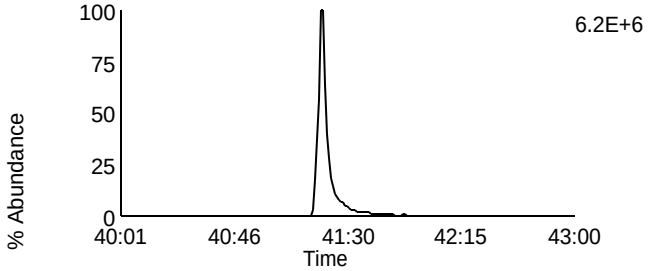
CAL CS3/CPM-7604-286 - SMT Ca



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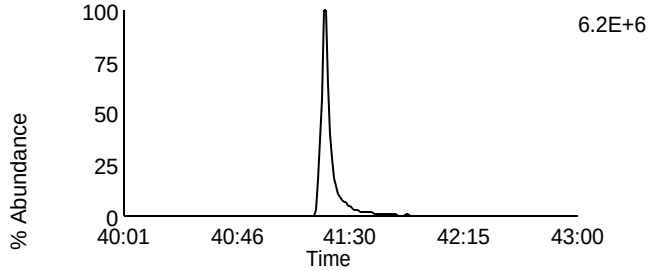

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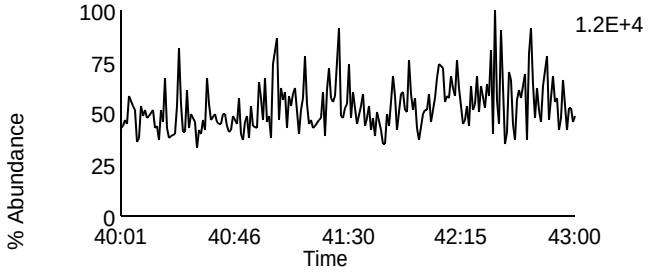

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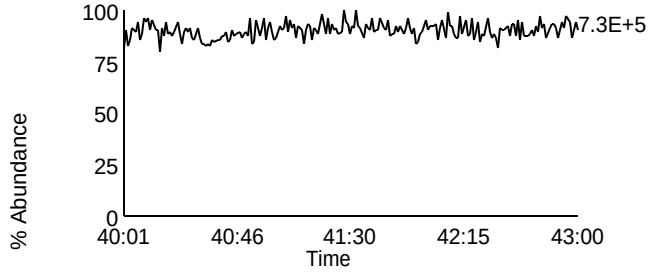

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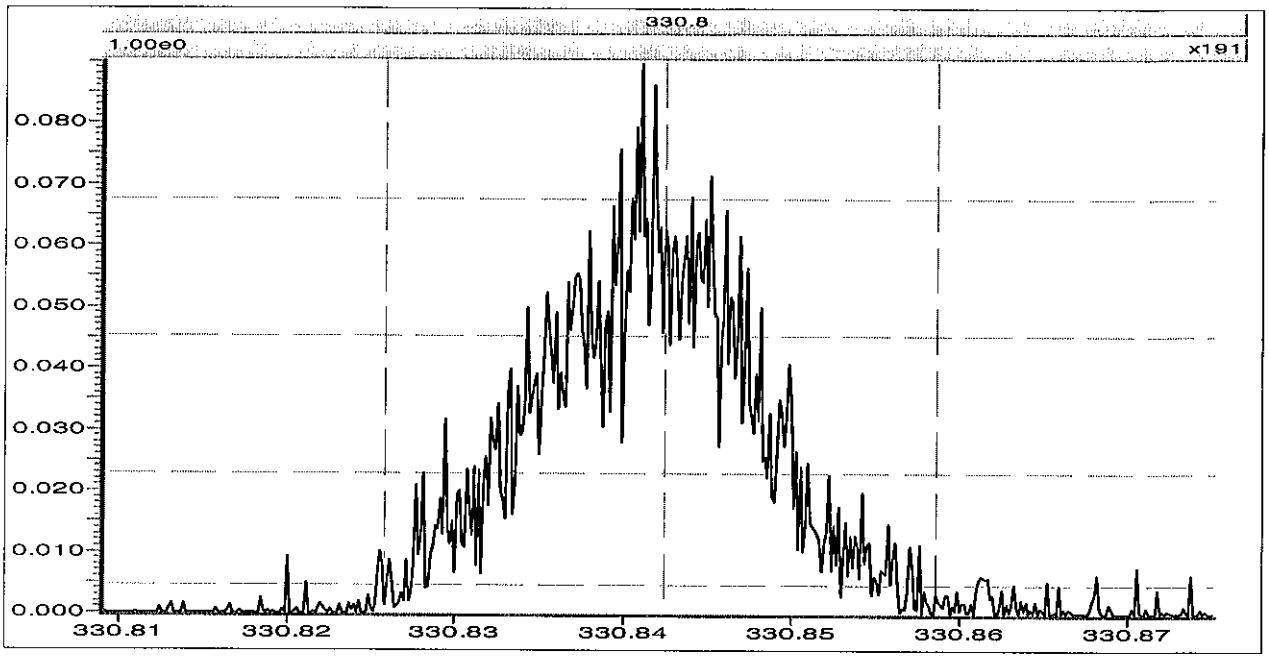

Source (EI+)

Ion Repeller (V)	-5.14
Focus 1	784
Beam Centre	53.8
Focus 2	4067
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-90.0
Z Deflect 1	-65.4
Z Deflect 2	-49.5
Z Focus 2	2266
Z Focus 3	0
Z Deflect 3	-25.6
Y Focus	3808
Rotate 2	-21.5
Curve 2	-5.0
Curve 3	-3.8
Rotate 3	-5.1
Rotate 4	25.0
V Acc (V)	7991.59
Magnet Mass	330.8
Source Slit	19.72
Collector Slit	35.20
MIKES Slit	100.00
Alpha	70.00
Detector Voltage	350
Ion Energy	-5.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser
No information

Engineer
No information

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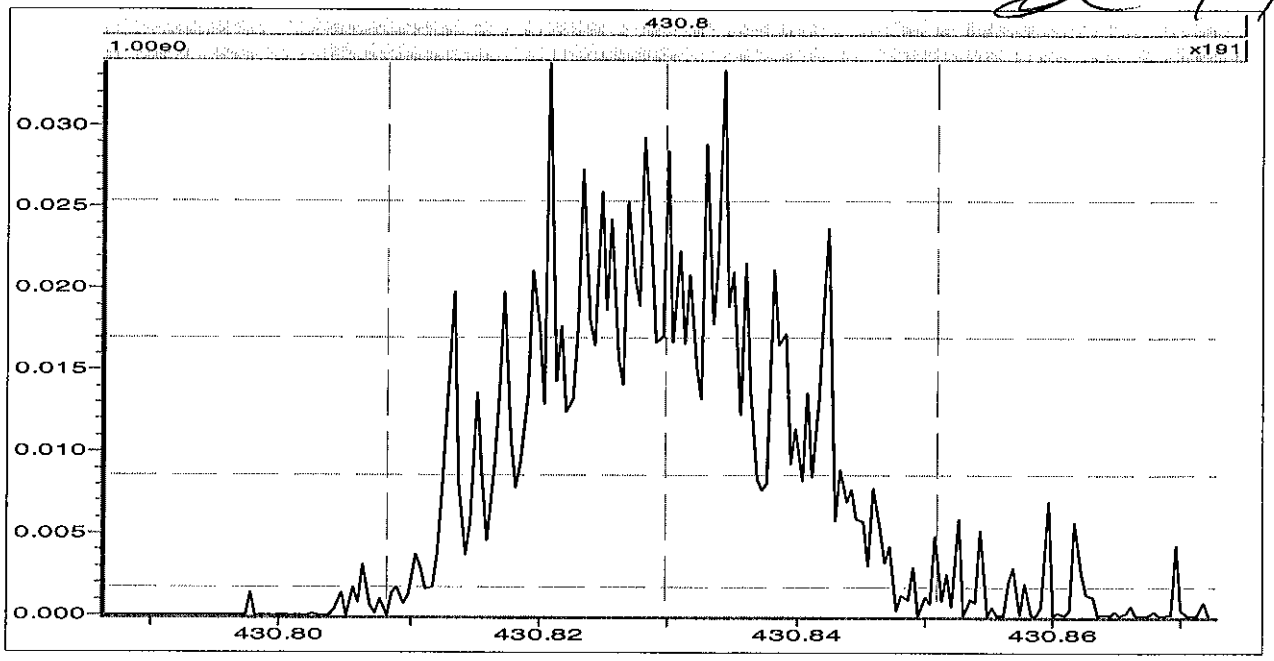
Printed: Tuesday, November 05, 2013 06:43:49 Central Standard Time

11/05/13



11/5/13

Source (EI+)

Ion Repeller (V)	-5.14
Focus 1	784
Beam Centre	53.8
Focus 2	4067
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-90.0
Z Deflect 1	-65.4
Z Deflect 2	-49.5
Z Focus 2	2266
Z Focus 3	0
Z Deflect 3	-25.6
Y Focus	3808
Rotate 2	-21.5
Curve 2	-5.0
Curve 3	-3.8
Rotate 3	-5.1
Rotate 4	25.0
V Acc (V)	7991.59
Magnet Mass	330.8
Source Slit	19.72
Collector Slit	35.20
MIKES Slit	100.00
Alpha	70.00
Detector Voltage	350
Ion Energy	-5.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser
No information

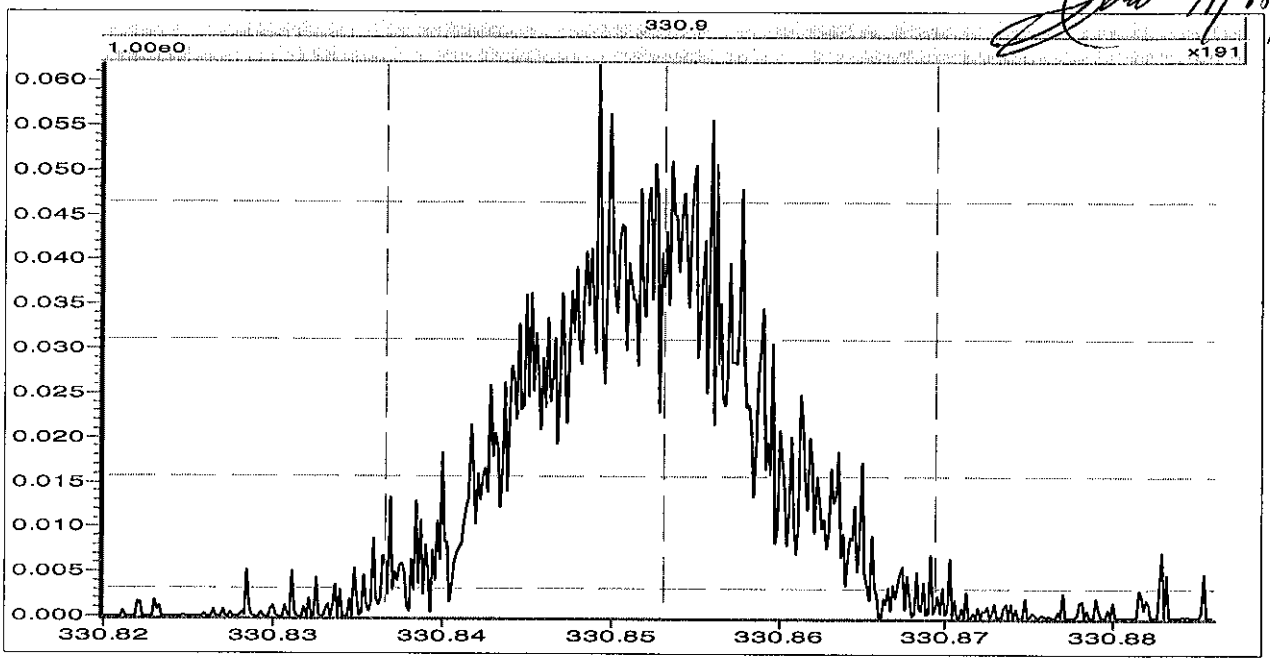
Engineer
No information

File: C:\MassLynx\Default.PRO\ACQUDB\U10MSHR06.IPR

Printed: Tuesday, November 05, 2013 09:21:22 Central Standard Time

11/05/13

11/5/13



Source (EI+)

Ion Repeller (V)	-5.14
Focus 1	784
Beam Centre	53.8
Focus 2	4067
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-90.0
Z Deflect 1	-65.4
Z Deflect 2	-49.5
Z Focus 2	2266
Z Focus 3	0
Z Deflect 3	-25.6
Y Focus	3808
Rotate 2	-21.5
Curve 2	-5.0
Curve 3	-3.8
Rotate 3	-5.1
Rotate 4	25.0
V Acc (V)	7991.33
Magnet Mass	330.9
Source Slit	19.72
Collector Slit	35.20
MIKES Slit	100.00
Alpha	70.00
Detector Voltage	350
Ion Energy	-5.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser
No information

Engineer
No information

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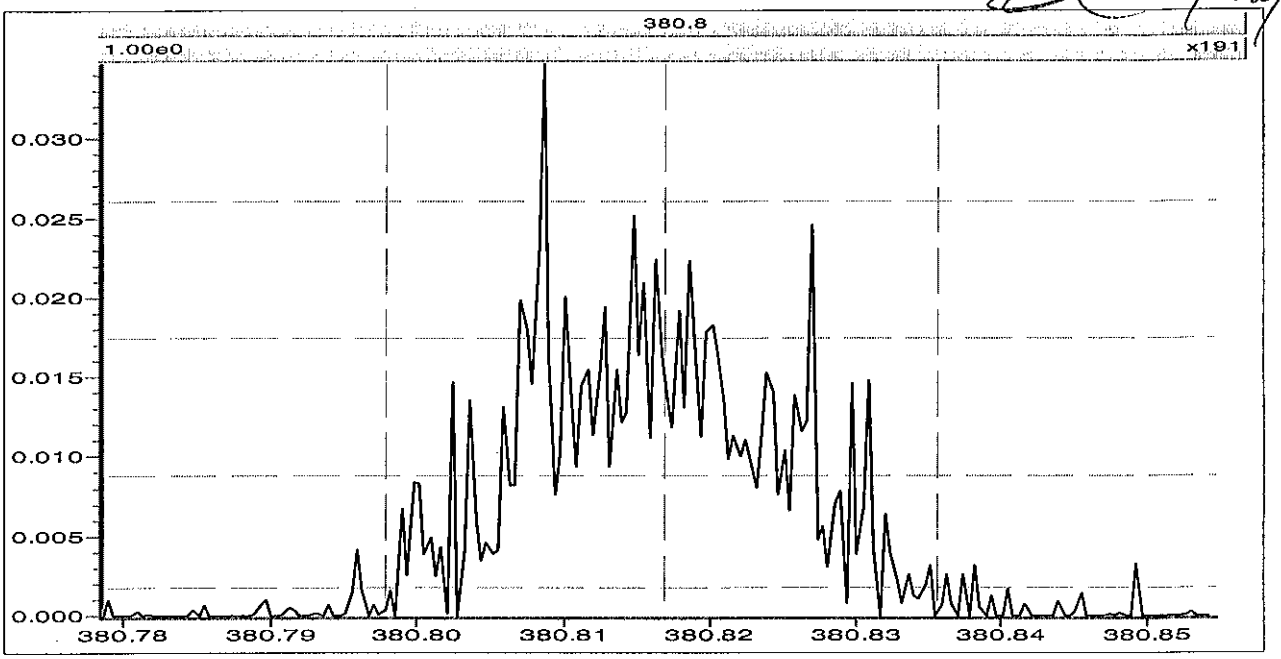


Source (EI+)

Ion Repeller (V)	-5.14
Focus 1	784
Beam Centre	53.8
Focus 2	4067
Temperature (C)	280
Elec Energy (eV)	35.0
Trap Current (uA)	500.0
Y Deflect 1	-90.0
Z Deflect 1	-65.4
Z Deflect 2	-49.5
Z Focus 2	2266
Z Focus 3	0
Z Deflect 3	-25.6
Y Focus	3808
Rotate 2	-21.5
Curve 2	-5.0
Curve 3	-3.8
Rotate 3	-5.1
Rotate 4	25.0
V Acc (V)	7991.33
Magnet Mass	330.9
Source Slit	19.72
Collector Slit	35.20
MIKES Slit	100.00
Alpha	70.00
Detector Voltage	350
Ion Energy	-5.00
Z4 Restrictor	Off
Vacc Limit	8000

Analyser
No information

Engineer
No information

Appendix F

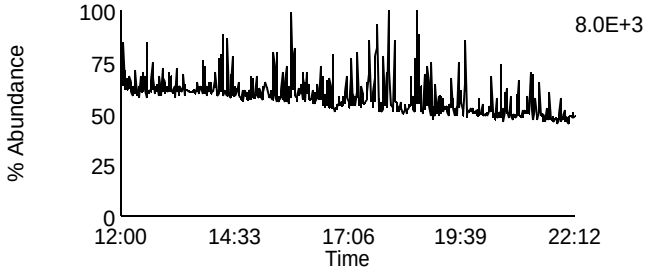
QC Raw Data

Homologue Group: Tetras

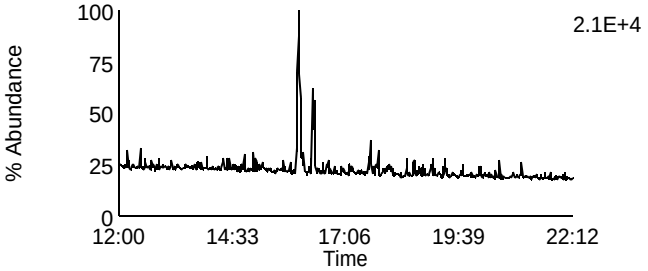
Data File Name: U131105A_07
Date Acquired: 11/5/2013
Sample Description: BLANK BLANK-38270 - SMT

Lab Sample ID: BLANK-38270
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_07 G1 C1 - 303.9016
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G1 C7 - 319.8965
BLANK BLANK-38270 - SMT



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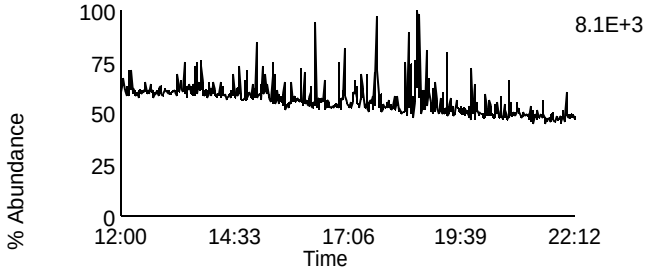
BLANK BLANK-38270 - SMT



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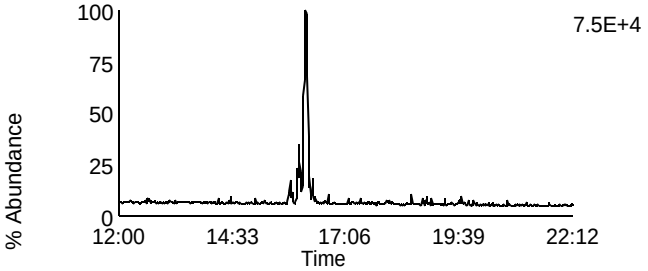

Data File: U131105A_07 G1 C3 - 315.9418
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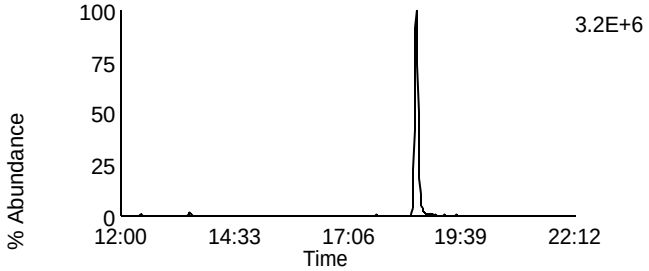

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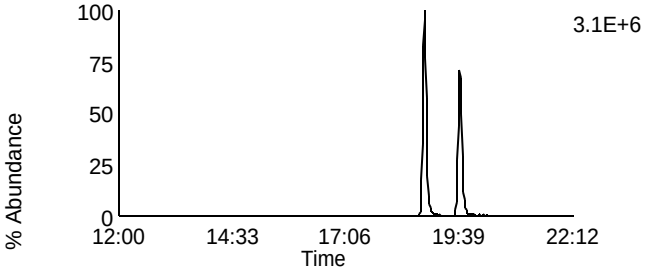

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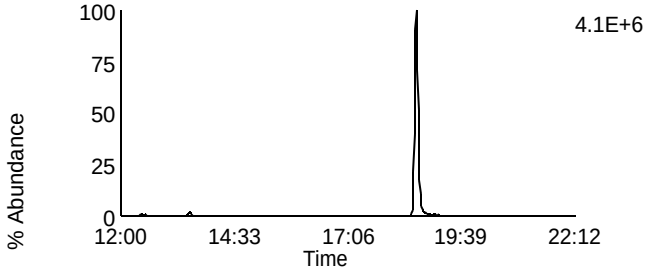

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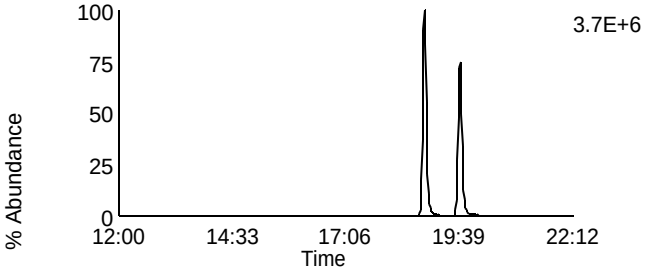

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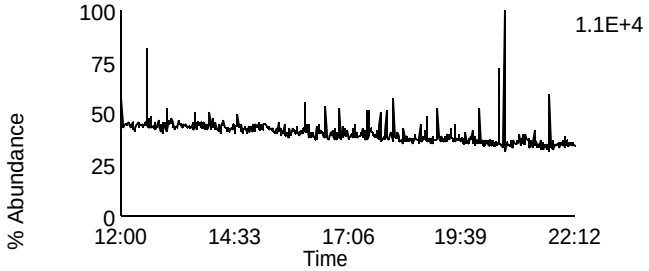
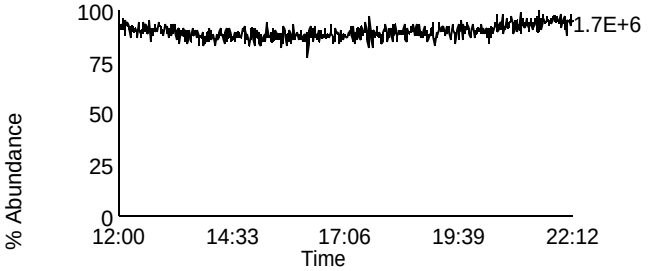


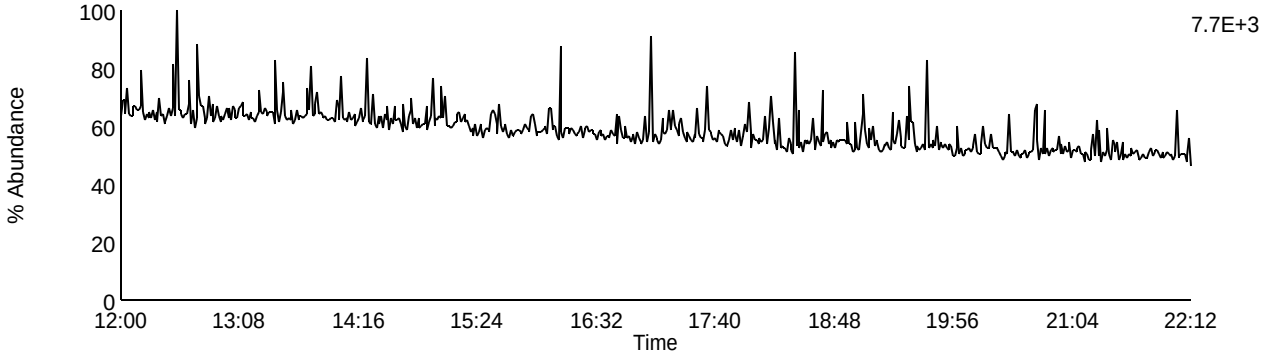
Data File: U131105A_07 G1 C5 - 318.9792
BLANK BLANK-38270 - SMT



Homologue Group: Penta & Cleanup

Data File Name: U131105A_07	Lab Sample ID: BLANK-38270
Date Acquired: 11/5/2013	Client Sample ID:
Sample Description: BLANK BLANK-38270 - SMT	Instrument: 10MSHR06 (U)

Data File: U131105A_07 G1 C12 - 339.8597
BLANK BLANK-38270 - SMT



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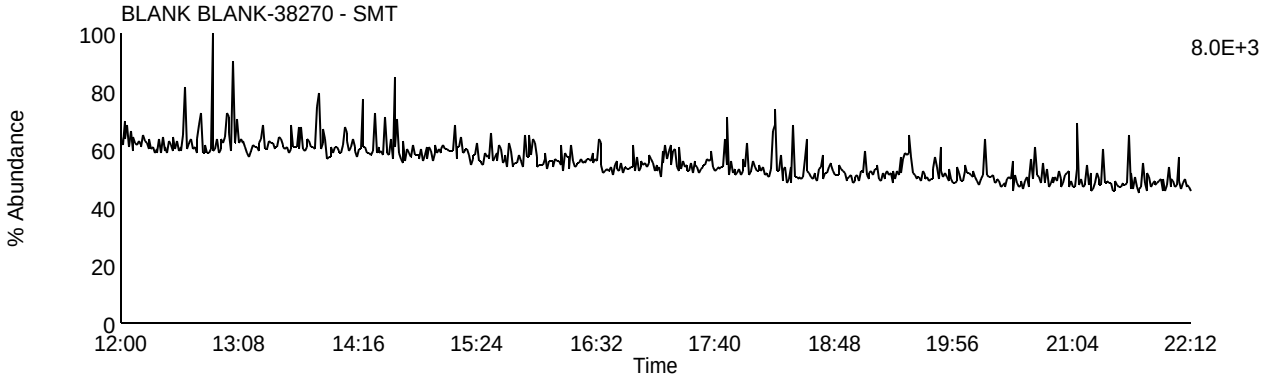

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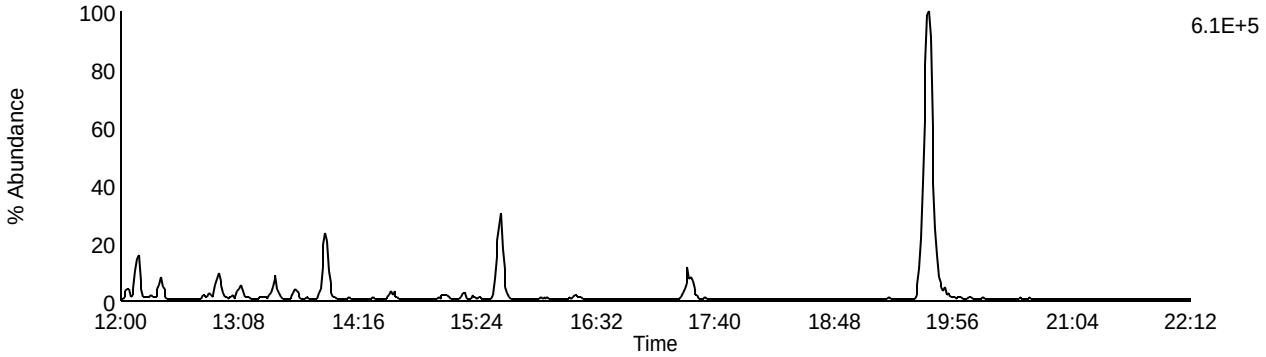

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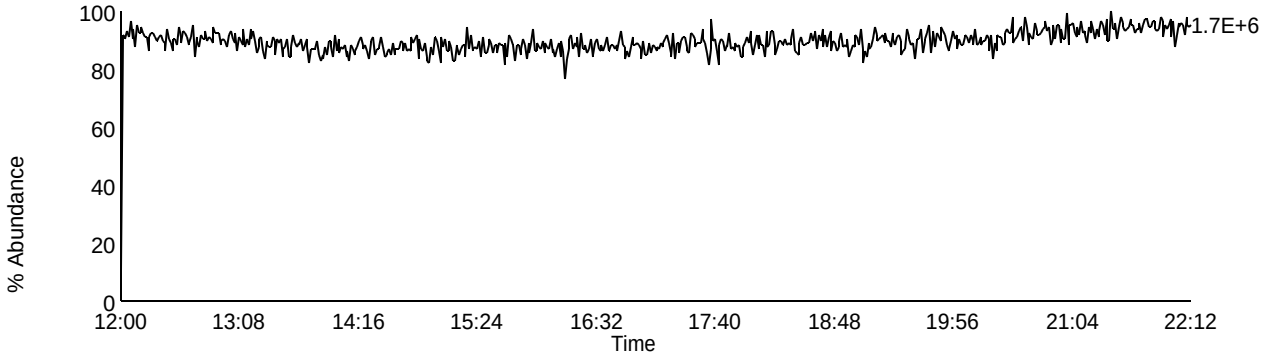
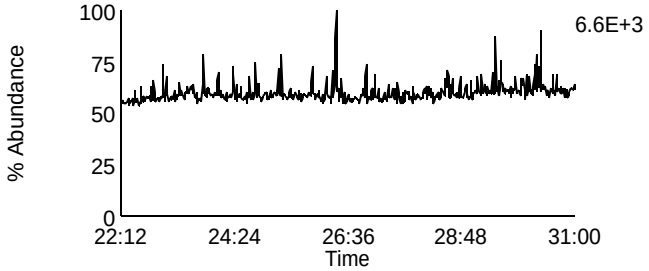


Homologue Group: Pentas

Data File Name: U131105A_07
Date Acquired: 11/5/2013
Sample Description: BLANK BLANK-38270 - SMT

Lab Sample ID: BLANK-38270
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_07 G2 C1 - 339.8597
BLANK BLANK-38270 - SMT



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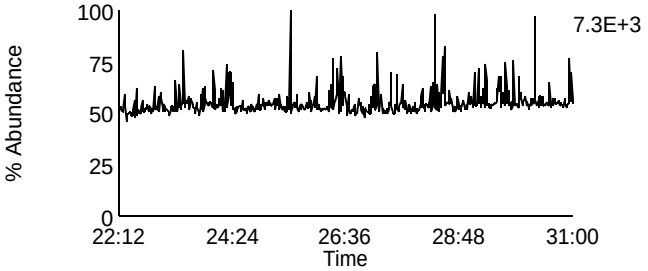
BLANK BLANK-38270 - SMT



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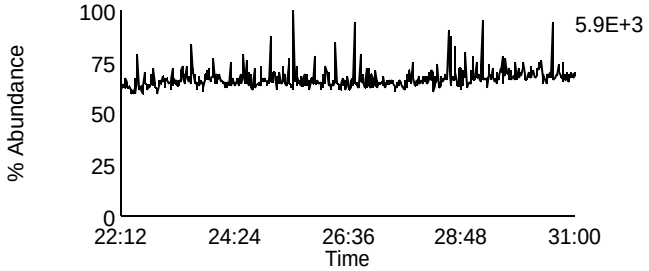

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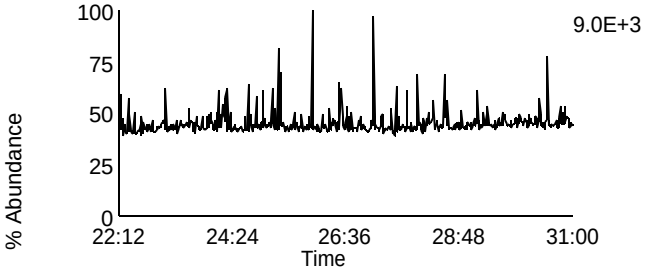

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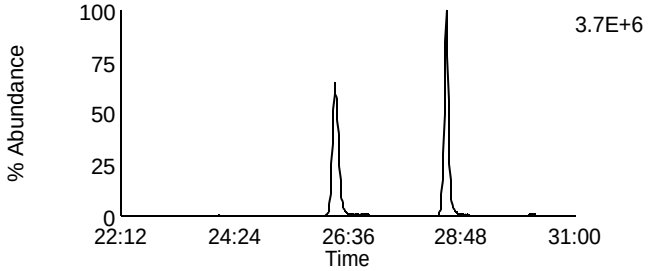

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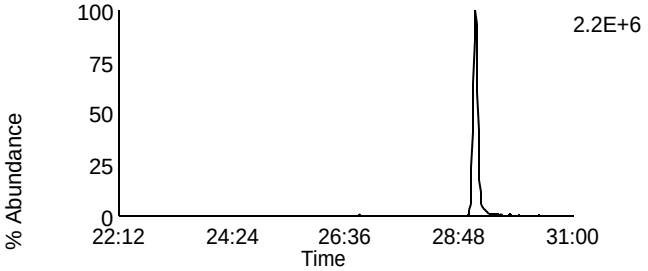
BLANK BLANK-38270 - SMT



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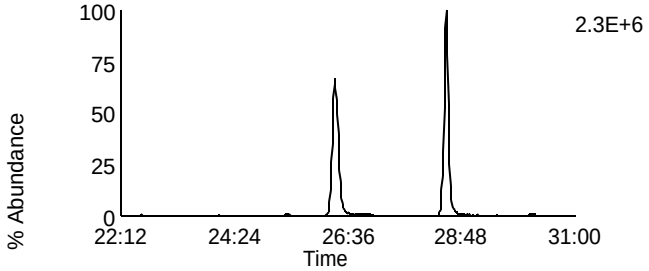

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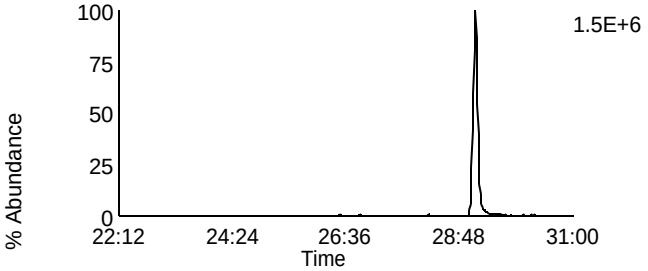

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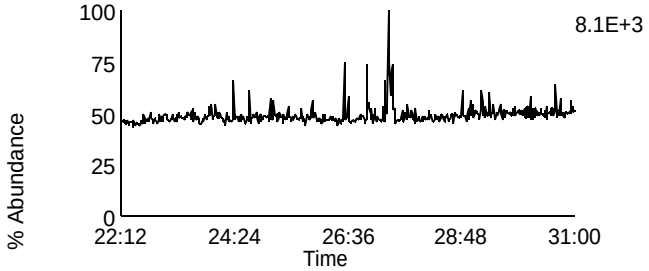

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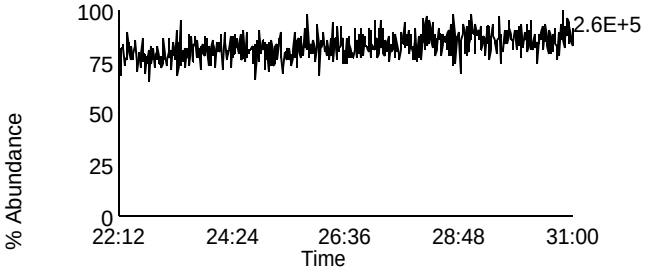

Homologue Group: Hexas

Data File Name: U131105A_07
Date Acquired: 11/5/2013
Sample Description: BLANK BLANK-38270 - SMT

Lab Sample ID: BLANK-38270
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_07 G3 C1 - 373.8207
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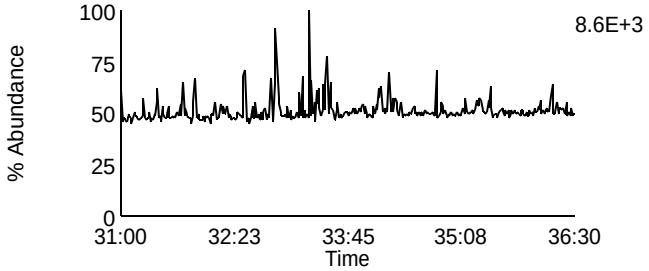

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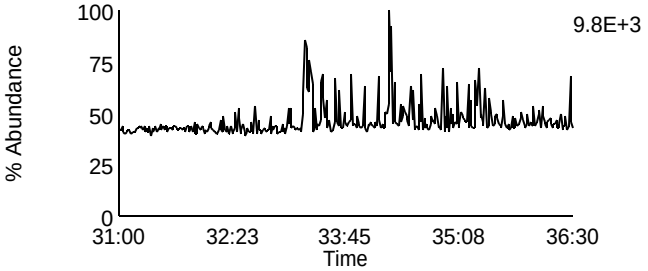

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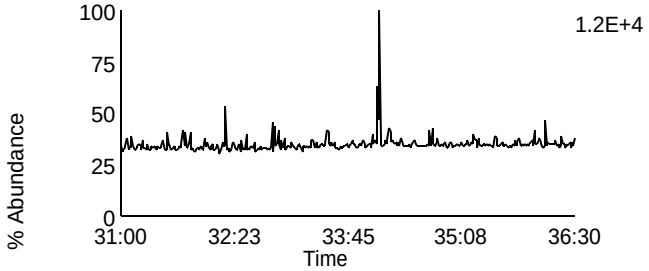

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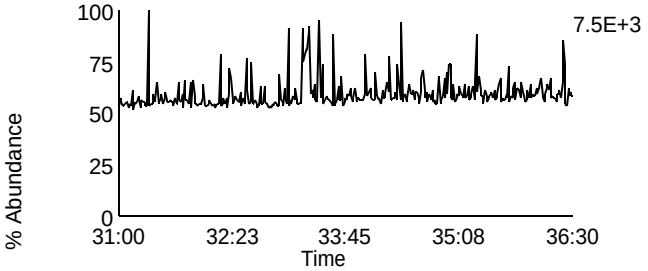

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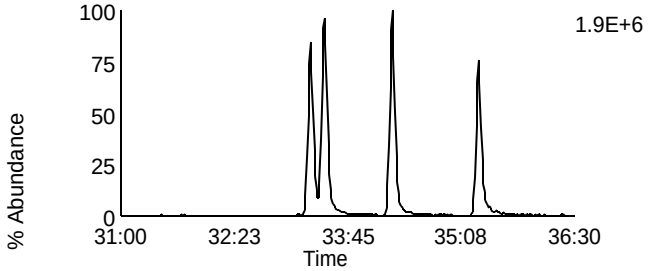

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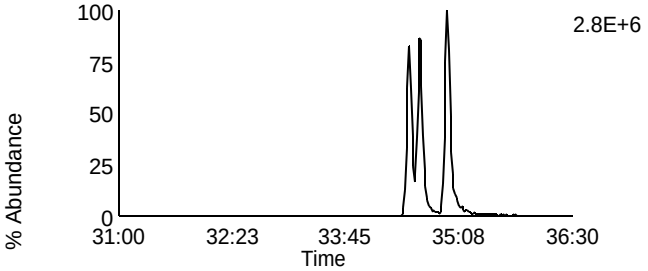
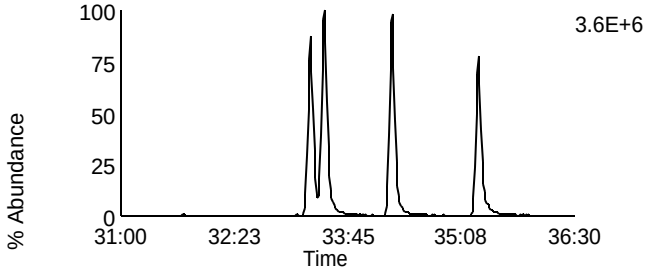


Data File: U131105A_07 G3 C6 - 385.861
BLANK BLANK-38270 - SMT



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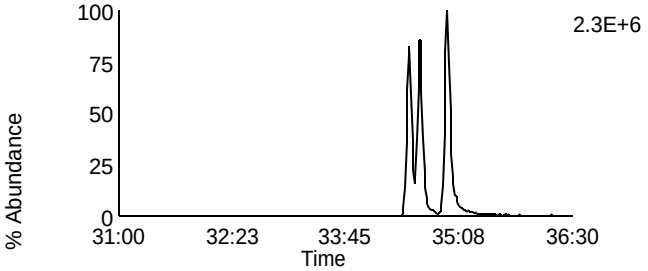

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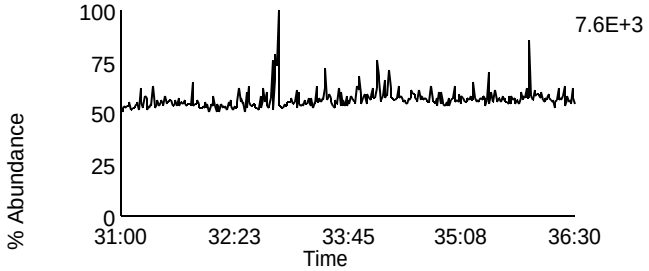
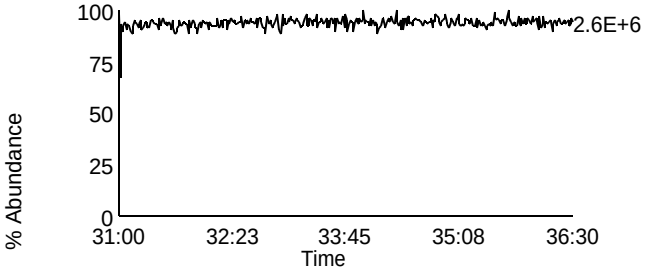


Data File: U131105A_07 G3 C3 - 380.976
BLANK BLANK-38270 - SMT

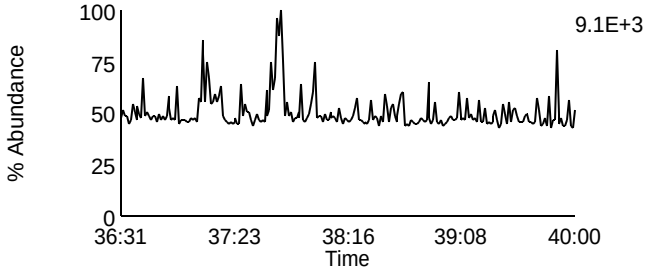


Homologue Group: Heptas

Data File Name: U131105A_07
Date Acquired: 11/5/2013
Sample Description: BLANK BLANK-38270 - SMT

Lab Sample ID: BLANK-38270
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_07 G4 C3 - 407.7818
BLANK BLANK-38270 - SMT



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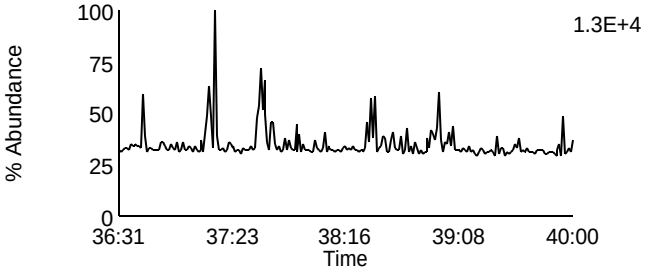
BLANK BLANK-38270 - SMT



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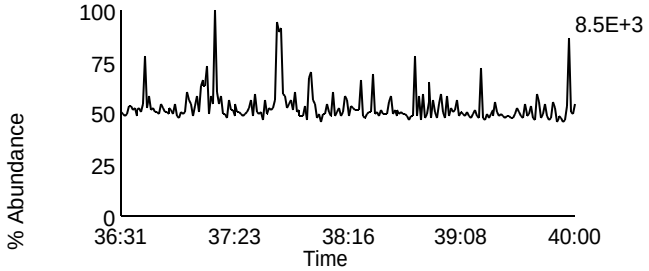
BLANK BLANK-38270 - SMT



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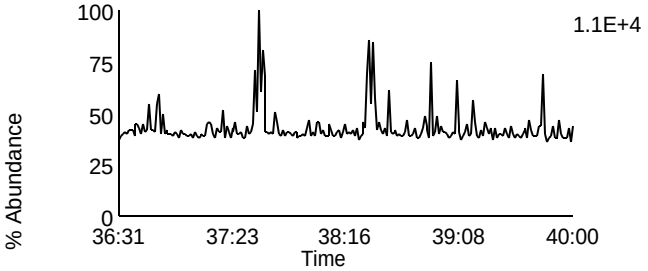
BLANK BLANK-38270 - SMT



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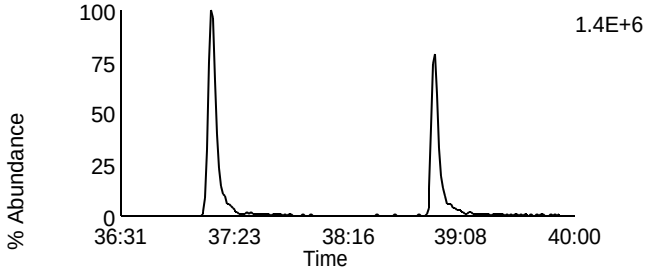
BLANK BLANK-38270 - SMT



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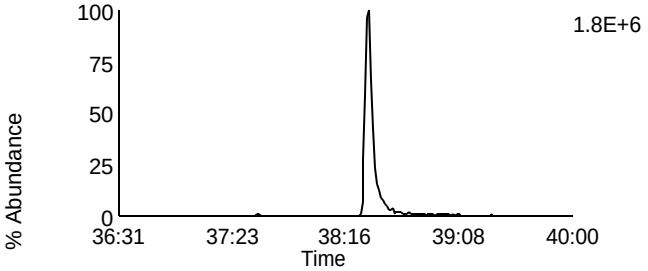
BLANK BLANK-38270 - SMT



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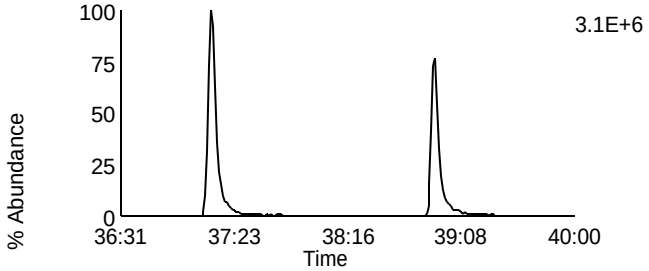
BLANK BLANK-38270 - SMT



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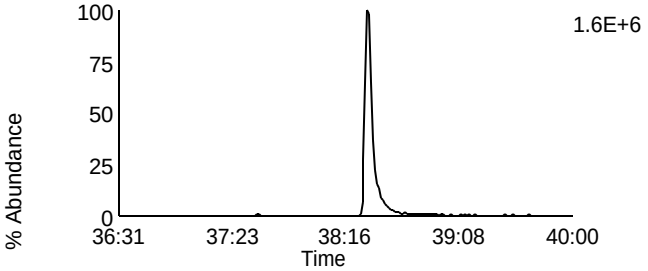
BLANK BLANK-38270 - SMT



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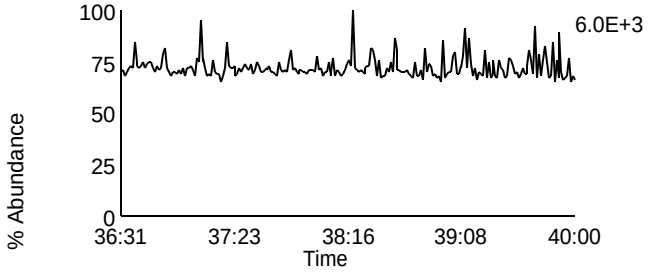
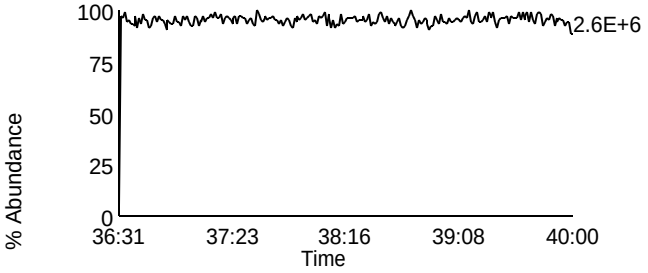
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G4 C1 - 380.976
BLANK BLANK-38270 - SMT

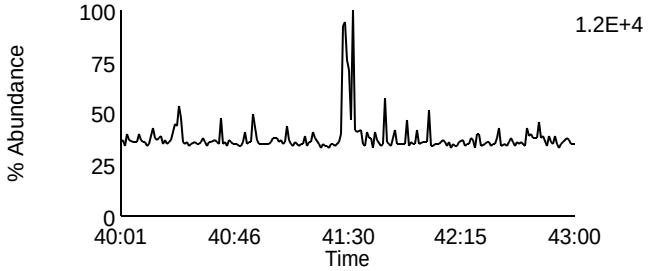


Homologue Group: Octas

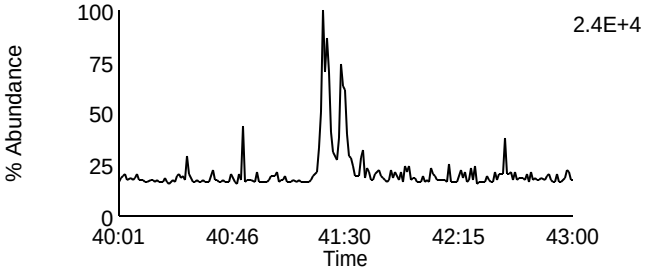
Data File Name: U131105A_07
Date Acquired: 11/5/2013
Sample Description: BLANK BLANK-38270 - SMT

Lab Sample ID: BLANK-38270
Client Sample ID:
Instrument: 10MSHR06 (U)

Data File: U131105A_07 G5 C4 - 441.7428
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G5 C8 - 457.7377
BLANK BLANK-38270 - SMT



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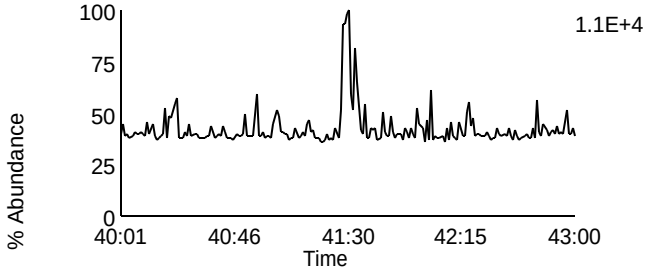
BLANK BLANK-38270 - SMT



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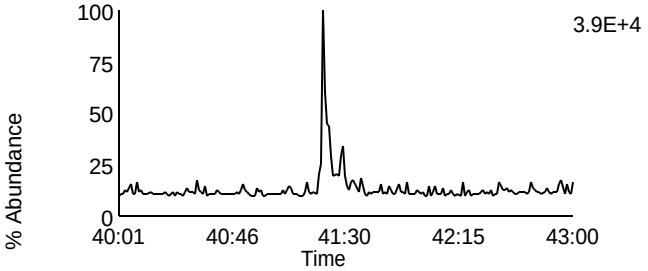
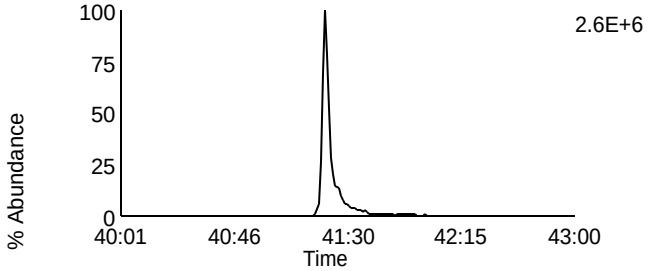
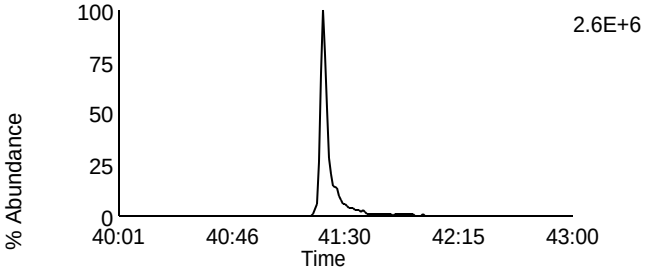
BLANK BLANK-38270 - SMT



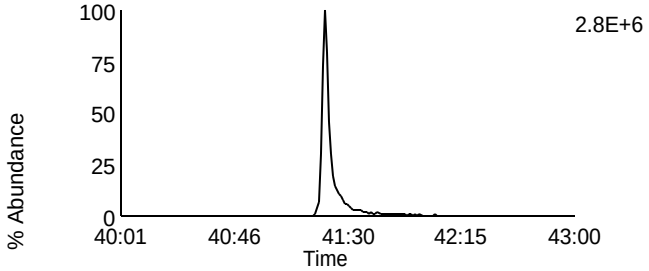
Data File: U131105A_07 G5 C11 - 469.7779
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G5 C11 - 469.7779
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G5 C12 - 471.7749
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G5 C12 - 471.7749
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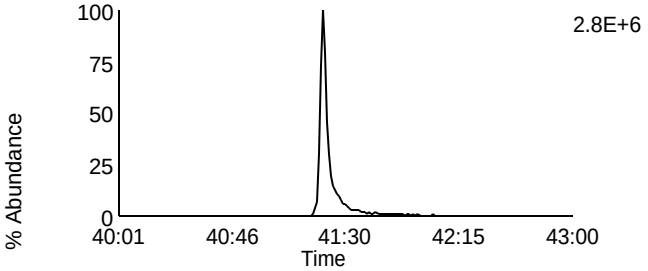
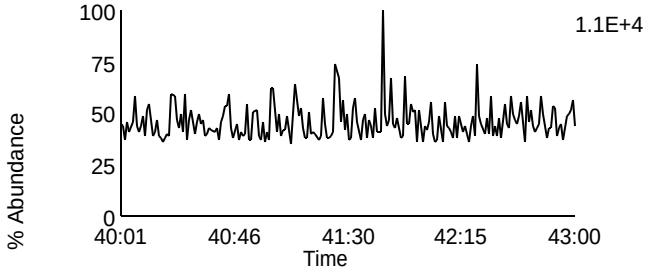
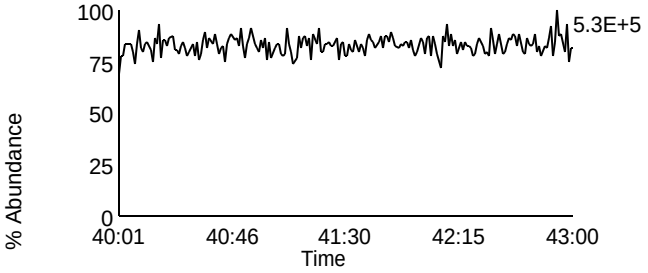


Data File: U131105A_07 G5 C13 - 513.6775
BLANK BLANK-38270 - SMT



Data File: U131105A_07 G5 C2 - 430.9728
BLANK BLANK-38270 - SMT

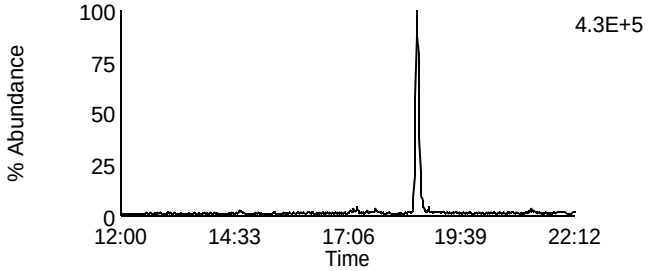


Homologue Group: Tetras

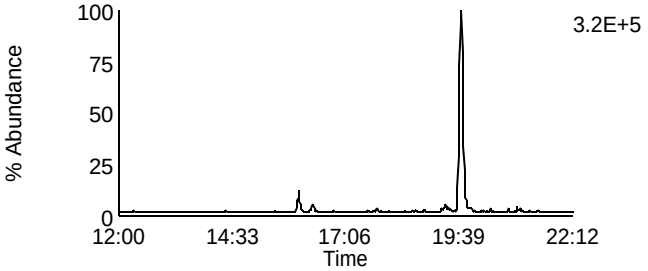
Data File Name: U131105A_02
Date Acquired: 11/5/2013
Sample Description: LCS LCS-38271 - SMT

Lab Sample ID: LCS-38271
Client Sample ID: LCSRZ
Instrument: 10MSHR06 (U)

Data File: U131105A_02 G1 C1 - 303.9016
LCS LCS-38271 - SMT



Data File: U131105A_02 G1 C7 - 319.8965
LCS LCS-38271 - SMT



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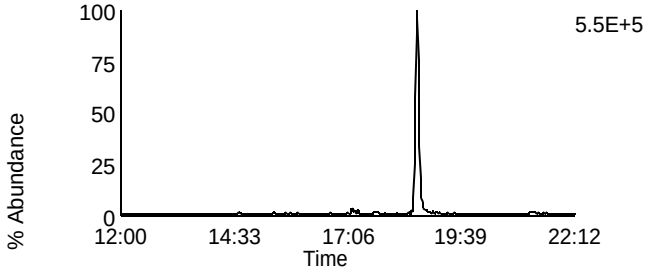
LCS LCS-38271 - SMT



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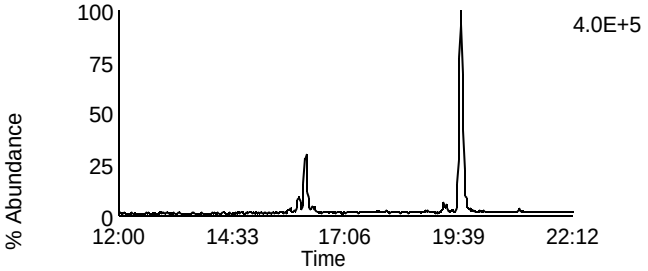
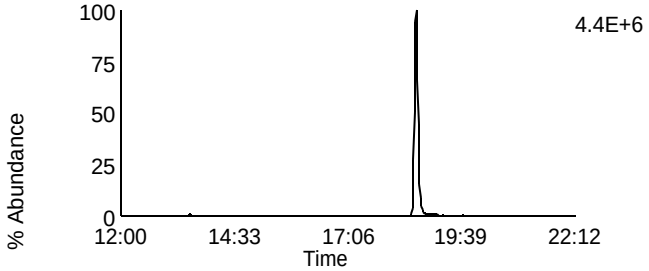
LCS LCS-38271 - SMT



Data File: U131105A_02 G1 C3 - 315.9418
LCS LCS-38271 - SMT



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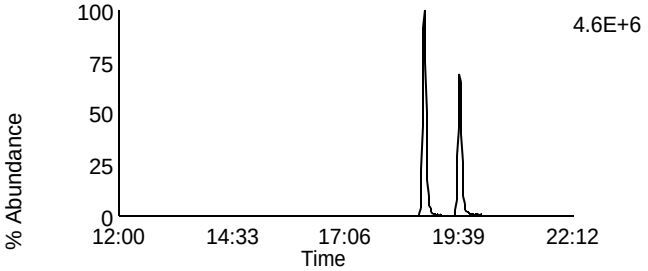
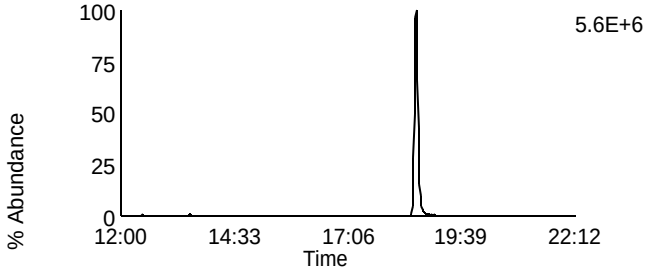
LCS LCS-38271 - SMT



Data File: U131105A_02 G1 C4 - 317.9389
LCS LCS-38271 - SMT



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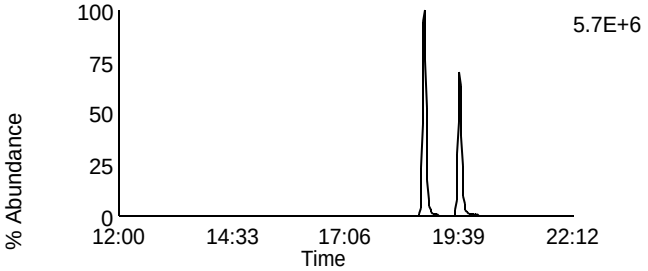
LCS LCS-38271 - SMT



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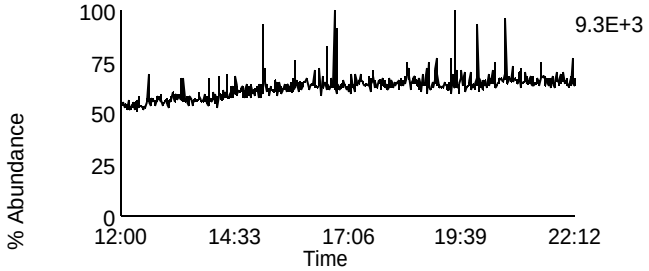
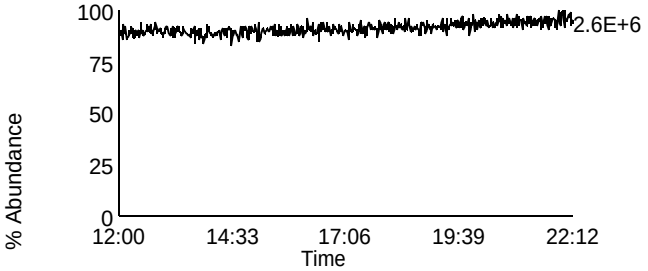
LCS LCS-38271 - SMT



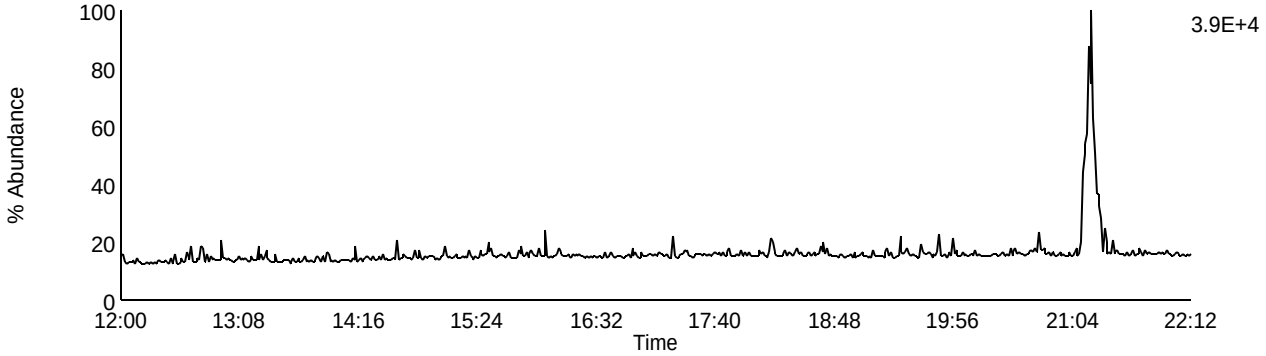
Data File: U131105A_02 G1 C5 - 318.9792
LCS LCS-38271 - SMT



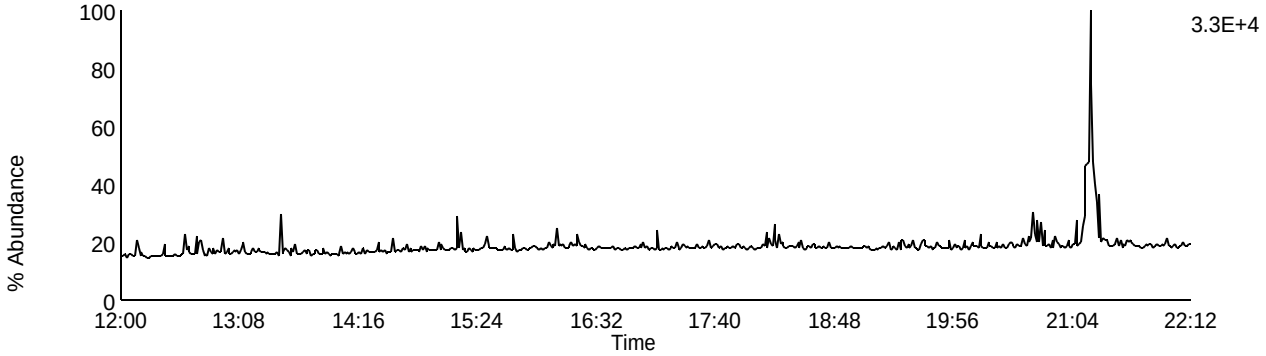
Homologue Group: Penta & Cleanup

Data File Name: U131105A_02	Lab Sample ID: LCS-38271
Date Acquired: 11/5/2013	Client Sample ID: LCSRZ
Sample Description: LCS LCS-38271 - SMT	Instrument: 10MSHR06 (U)

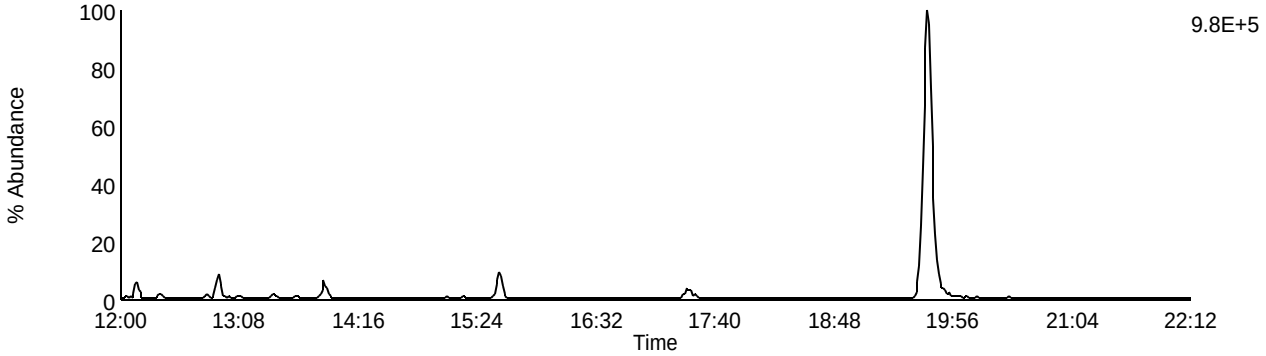
Data File: U131105A_02 G1 C12 - 339.8597
LCS LCS-38271 - SMT



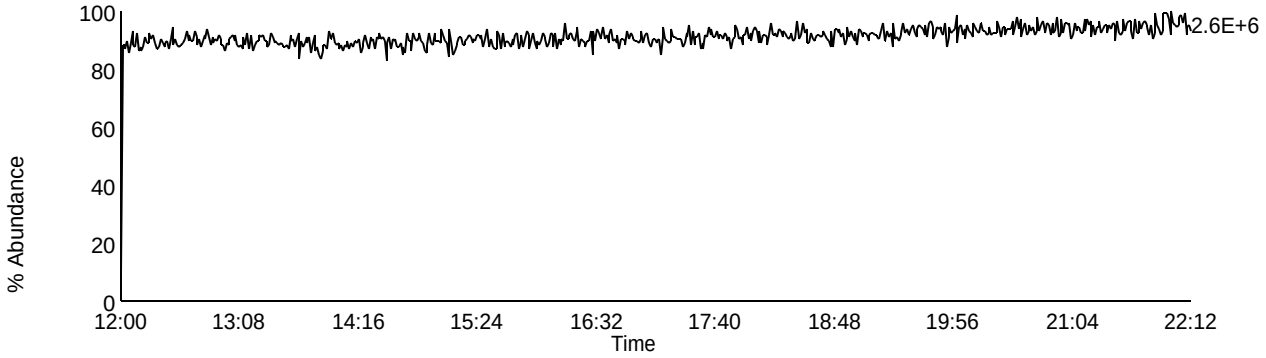
Data File: U131105A_02 G1 C13 - 341.8567
LCS LCS-38271 - SMT



Data File: U131105A_02 G1 C9 - 327.8847
LCS LCS-38271 - SMT



Data File: U131105A_02 G1 C5 - 318.9792
LCS LCS-38271 - SMT

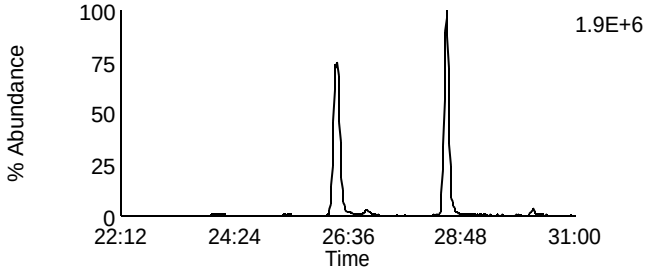


Homologue Group: Pentas

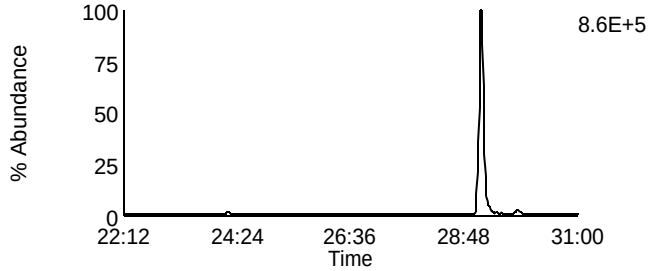
Data File Name: U131105A_02
Date Acquired: 11/5/2013
Sample Description: LCS LCS-38271 - SMT

Lab Sample ID: LCS-38271
Client Sample ID: LCSRZ
Instrument: 10MSHR06 (U)

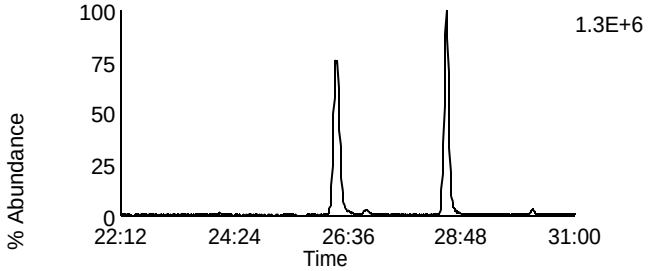
Data File: U131105A_02 G2 C1 - 339.8597
LCS LCS-38271 - SMT



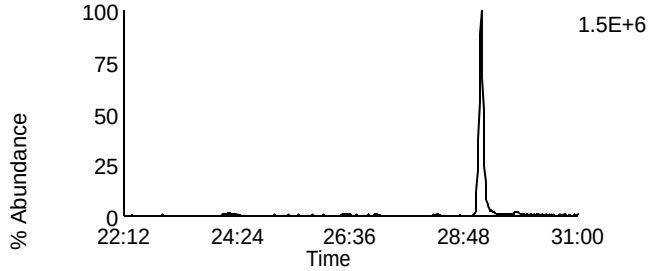
Data File: U131105A_02 G2 C4 - 353.8576
LCS LCS-38271 - SMT



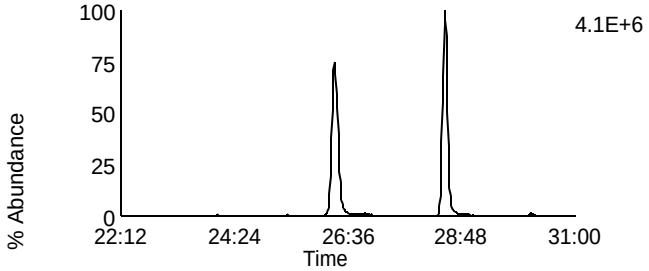
Data File: U131105A_02 G2 C2 - 341.8567
LCS LCS-38271 - SMT



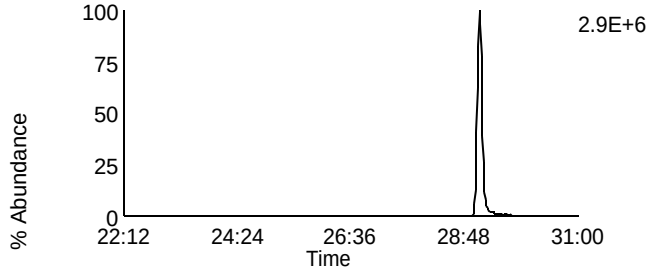
Data File: U131105A_02 G2 C8 - 355.8546
LCS LCS-38271 - SMT



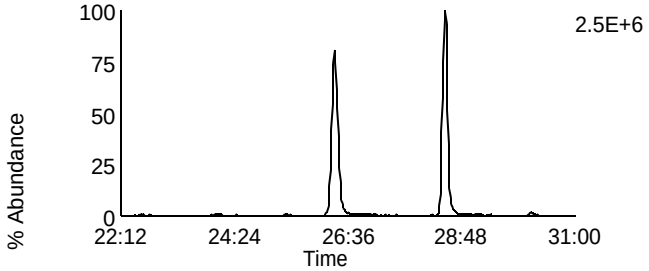
Data File: U131105A_02 G2 C3 - 351.8999
LCS LCS-38271 - SMT



Data File: U131105A_02 G2 C10 - 367.8948
LCS LCS-38271 - SMT



Data File: U131105A_02 G2 C5 - 353.8969
LCS LCS-38271 - SMT



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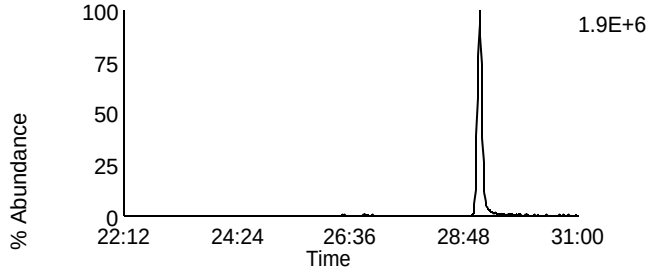
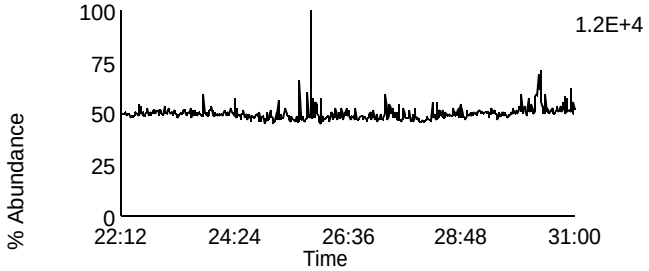
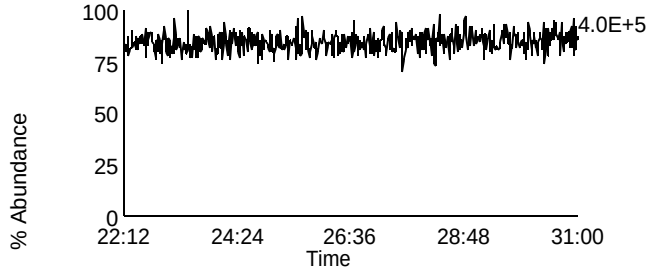
LCS LCS-38271 - SMT



Data File: U131105A_02 G2 C12 - 409.7974
LCS LCS-38271 - SMT



Data File: U131105A_02 G2 C6 - 354.9792
LCS LCS-38271 - SMT

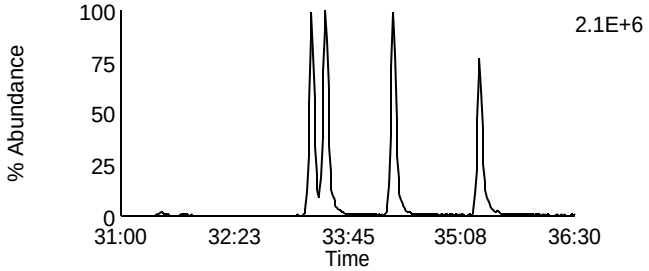


Homologue Group: Hexas

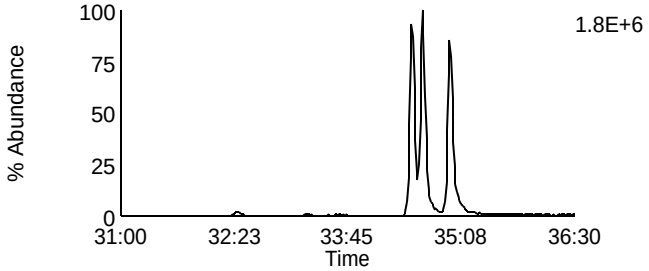
Data File Name: U131105A_02
Date Acquired: 11/5/2013
Sample Description: LCS LCS-38271 - SMT

Lab Sample ID: LCS-38271
Client Sample ID: LCSRZ
Instrument: 10MSHR06 (U)

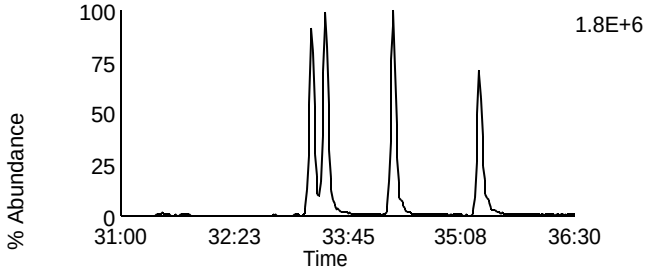
Data File: U131105A_02 G3 C1 - 373.8207
LCS LCS-38271 - SMT



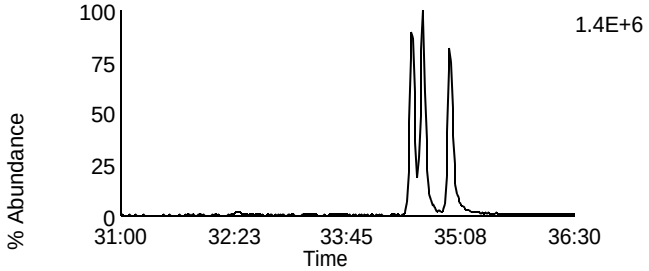
Data File: U131105A_02 G3 C7 - 389.8156
LCS LCS-38271 - SMT



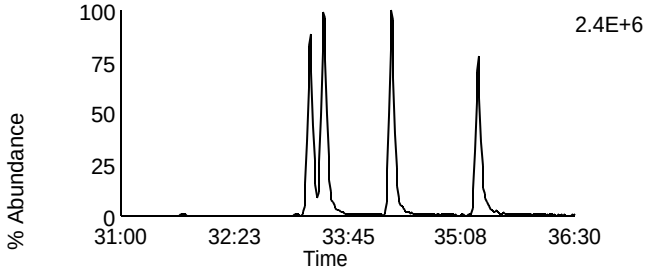
Data File: U131105A_02 G3 C2 - 375.8178
LCS LCS-38271 - SMT



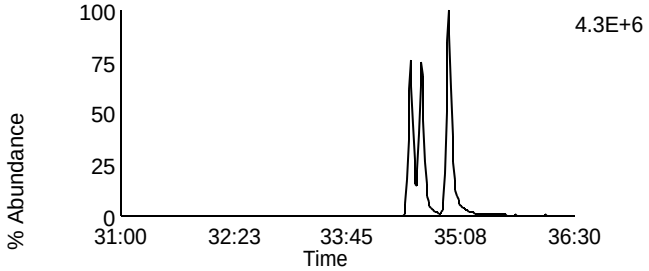
Data File: U131105A_02 G3 C8 - 391.8127
LCS LCS-38271 - SMT



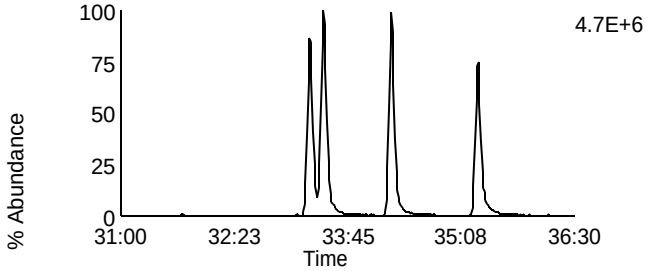
Data File: U131105A_02 G3 C5 - 383.8639
LCS LCS-38271 - SMT



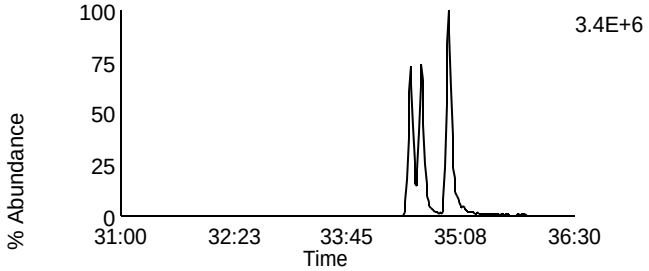
Data File: U131105A_02 G3 C9 - 401.8559
LCS LCS-38271 - SMT



Data File: U131105A_02 G3 C6 - 385.861
LCS LCS-38271 - SMT



Data File: U131105A_02 G3 C10 - 403.8529
LCS LCS-38271 - SMT



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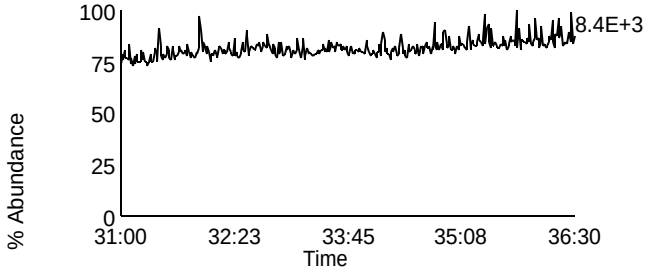
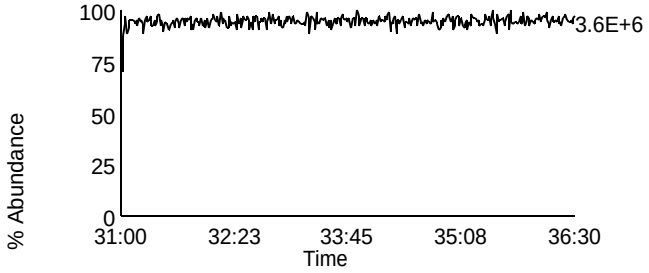
LCS LCS-38271 - SMT



Data File: U131105A_02 G3 C3 - 380.976
LCS LCS-38271 - SMT

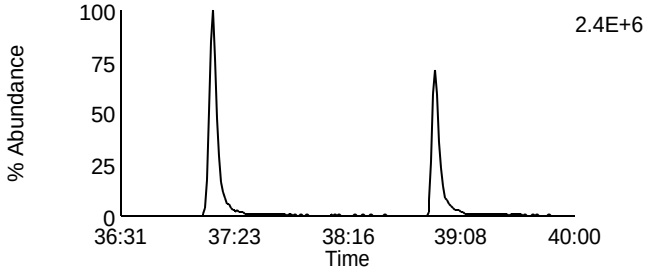


Homologue Group: Heptas

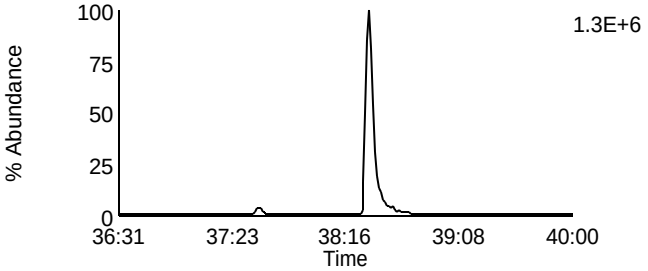
Data File Name: U131105A_02
Date Acquired: 11/5/2013
Sample Description: LCS LCS-38271 - SMT

Lab Sample ID: LCS-38271
Client Sample ID: LCSRZ
Instrument: 10MSHR06 (U)

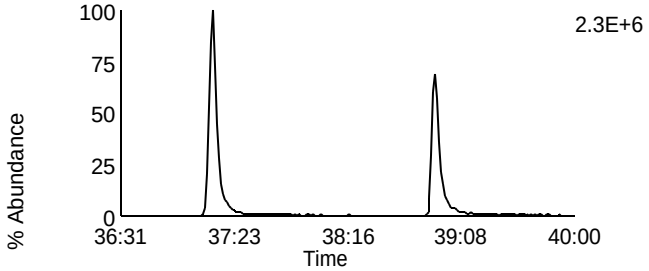
Data File: U131105A_02 G4 C3 - 407.7818
LCS LCS-38271 - SMT



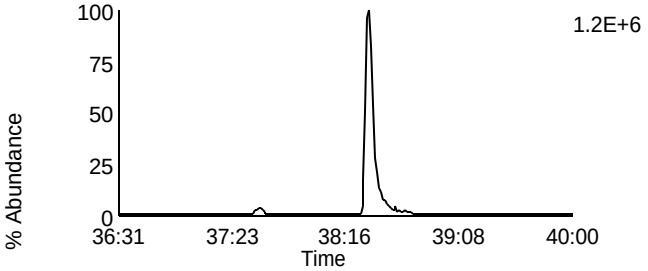
Data File: U131105A_02 G4 C8 - 423.7767
LCS LCS-38271 - SMT



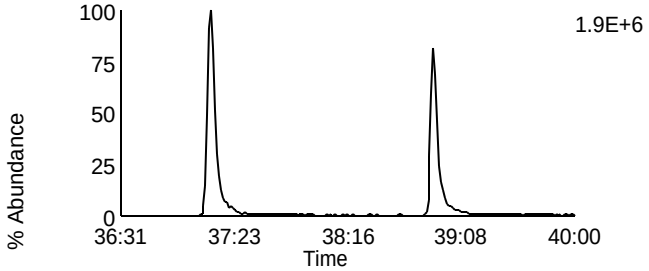
Data File: U131105A_02 G4 C4 - 409.7788
LCS LCS-38271 - SMT



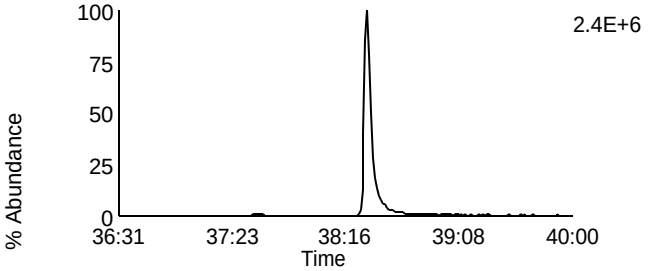
Data File: U131105A_02 G4 C9 - 425.7737
LCS LCS-38271 - SMT



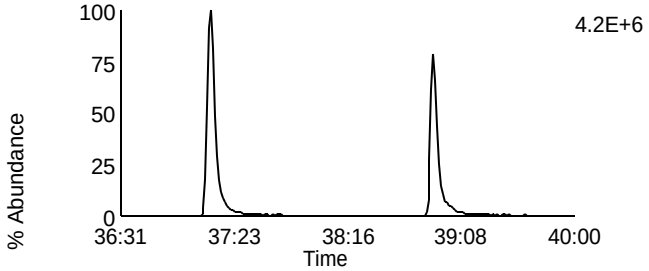
Data File: U131105A_02 G4 C6 - 417.825
LCS LCS-38271 - SMT



Data File: U131105A_02 G4 C11 - 435.8169
LCS LCS-38271 - SMT



Data File: U131105A_02 G4 C7 - 419.822
LCS LCS-38271 - SMT



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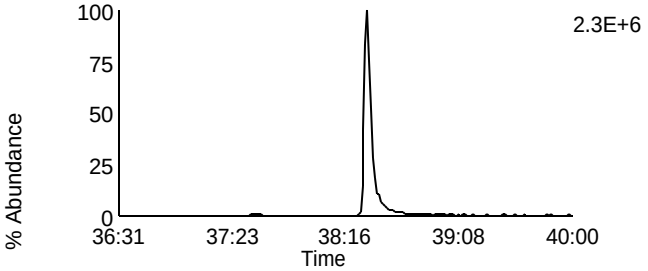
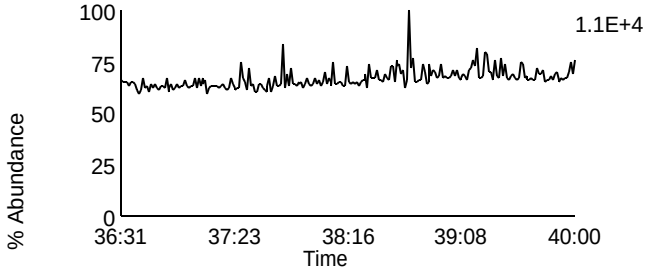
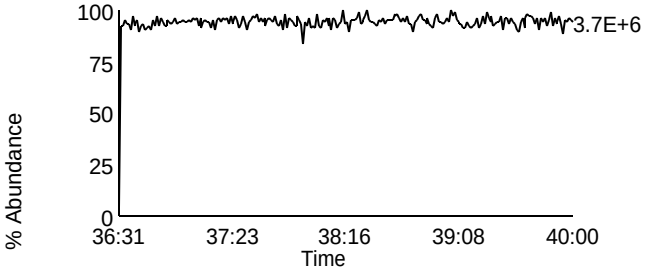
LCS LCS-38271 - SMT



Data File: U131105A_02 G4 C13 - 479.7165
LCS LCS-38271 - SMT



Data File: U131105A_02 G4 C1 - 380.976
LCS LCS-38271 - SMT

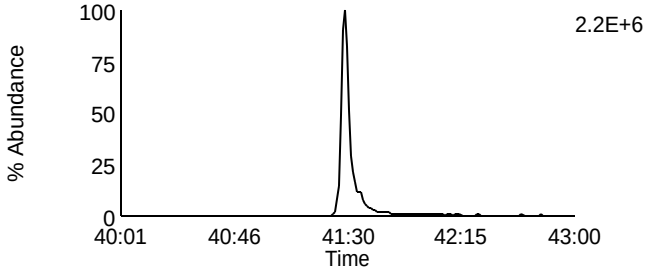


Homologue Group: Octas

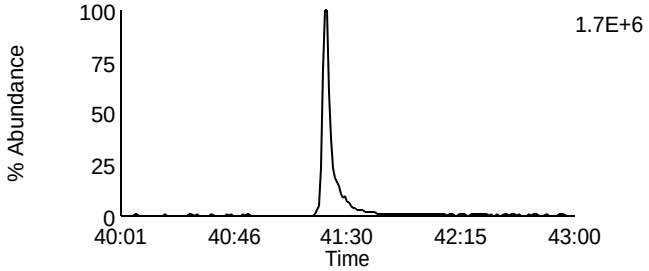
Data File Name: U131105A_02
Date Acquired: 11/5/2013
Sample Description: LCS LCS-38271 - SMT

Lab Sample ID: LCS-38271
Client Sample ID: LCSRZ
Instrument: 10MSHR06 (U)

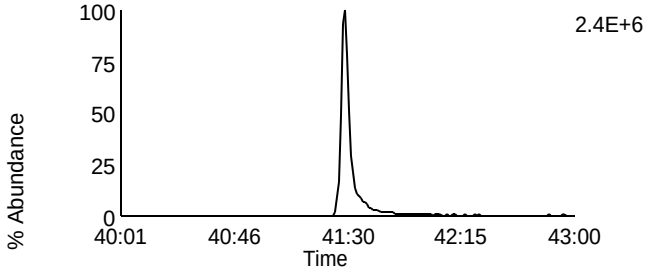
Data File: U131105A_02 G5 C4 - 441.7428
LCS LCS-38271 - SMT



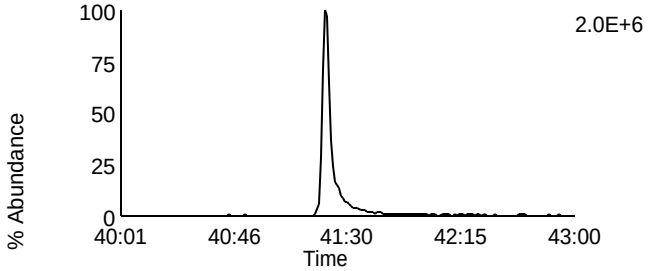
Data File: U131105A_02 G5 C8 - 457.7377
LCS LCS-38271 - SMT



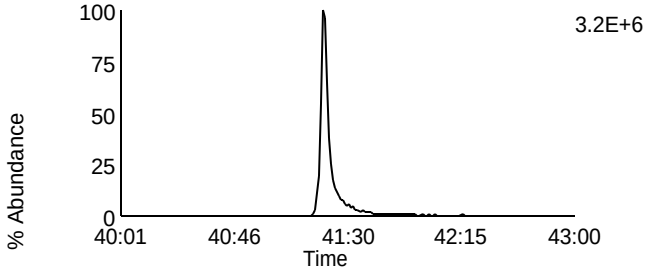
Data File: U131105A_02 G5 C5 - 443.7398
LCS LCS-38271 - SMT



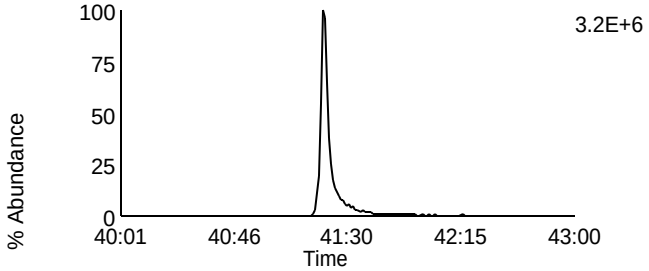
Data File: U131105A_02 G5 C9 - 459.7347
LCS LCS-38271 - SMT



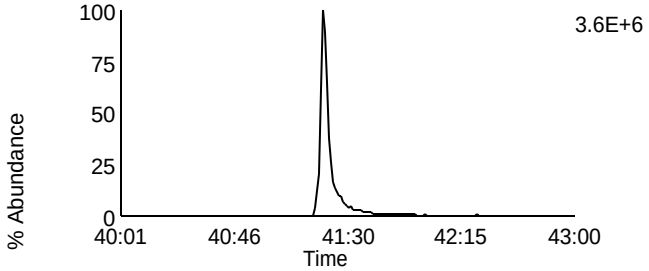
Data File: U131105A_02 G5 C11 - 469.7779
LCS LCS-38271 - SMT



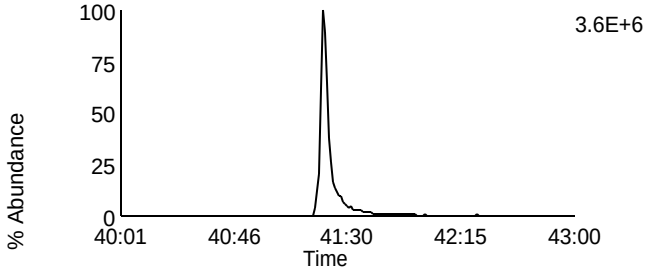
Data File: U131105A_02 G5 C11 - 469.7779
LCS LCS-38271 - SMT



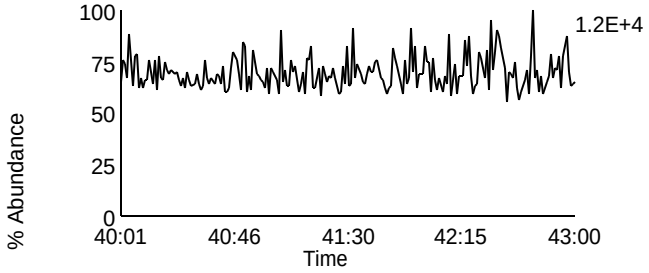
Data File: U131105A_02 G5 C12 - 471.7749
LCS LCS-38271 - SMT



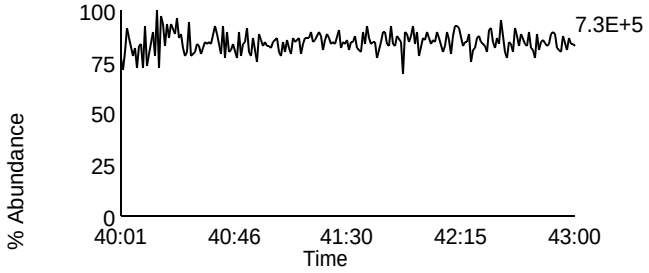
Data File: U131105A_02 G5 C12 - 471.7749
LCS LCS-38271 - SMT



Data File: U131105A_02 G5 C13 - 513.6775
LCS LCS-38271 - SMT



Data File: U131105A_02 G5 C2 - 430.9728
LCS LCS-38271 - SMT

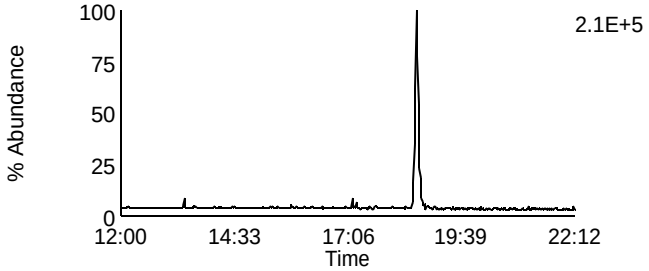


Homologue Group: Tetras

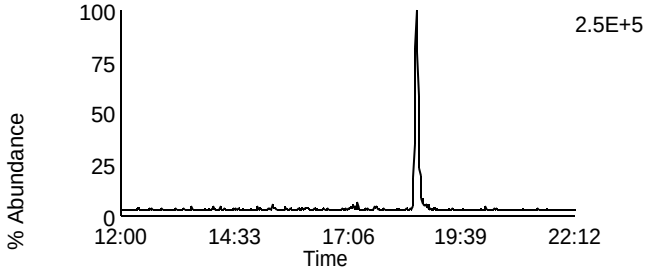
Data File Name: U131105A_03
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MS - SMT WI

Lab Sample ID: 10247062006-MS
Client Sample ID: MAK006O-MS
Instrument: 10MSHR06 (U)

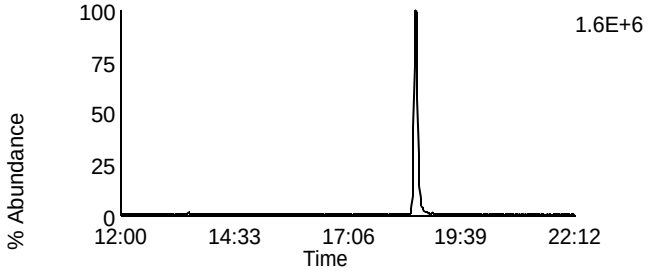
Data File: U131105A_03 G1 C1 - 303.9016
SAMP 10247062006-MS - SMT WI



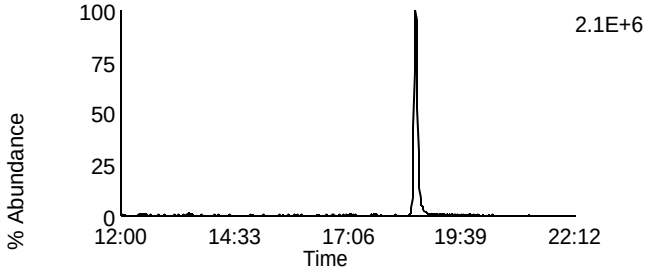
Data File: U131105A_03 G1 C2 - 305.8987
SAMP 10247062006-MS - SMT WI



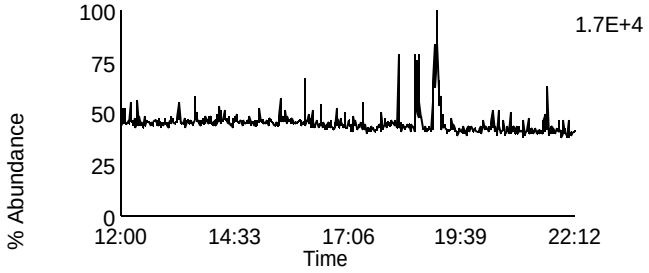
Data File: U131105A_03 G1 C3 - 315.9418
SAMP 10247062006-MS - SMT WI



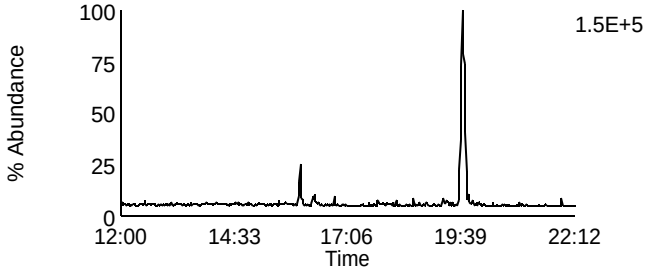
Data File: U131105A_03 G1 C4 - 317.9389
SAMP 10247062006-MS - SMT WI



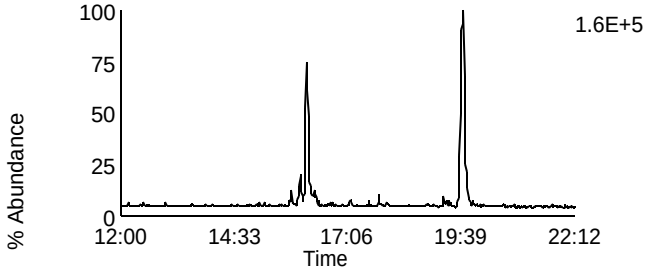
Data File: U131105A_03 G1 C14 - 375.8364
SAMP 10247062006-MS - SMT WI



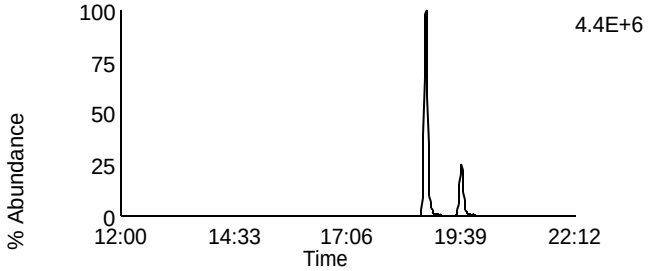
Data File: U131105A_03 G1 C7 - 319.8965
SAMP 10247062006-MS - SMT WI



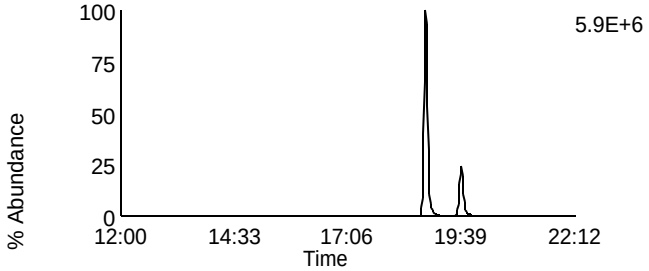
Data File: U131105A_03 G1 C8 - 321.8936
SAMP 10247062006-MS - SMT WI



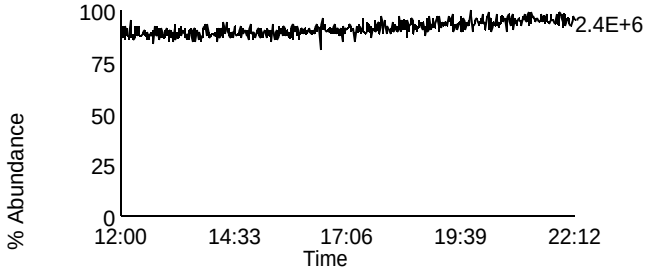
Data File: U131105A_03 G1 C10 - 331.9367
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G1 C11 - 333.9338
SAMP 10247062006-MS - SMT WI



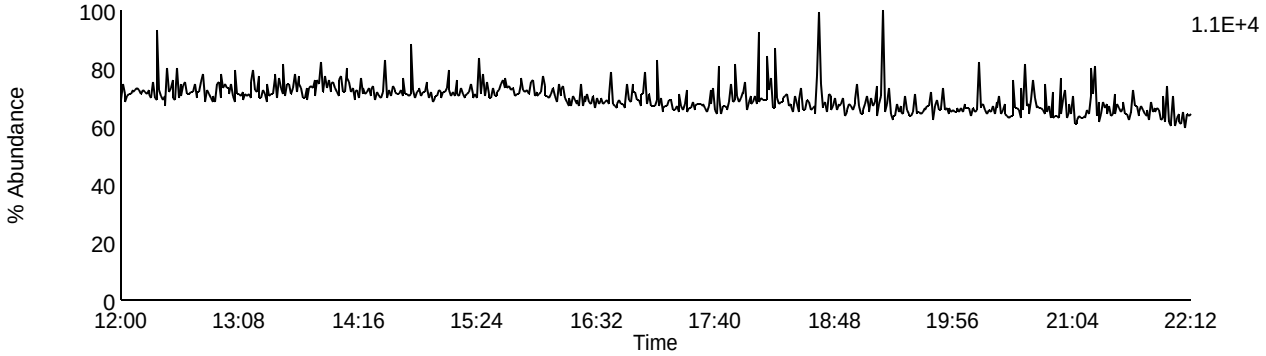
Data File: U131105A_03 G1 C5 - 318.9792
SAMP 10247062006-MS - SMT WI



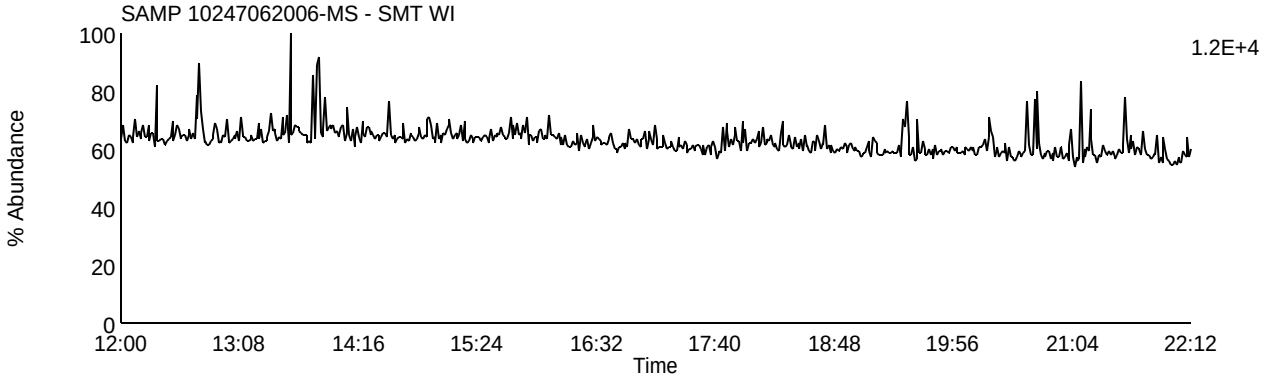
Homologue Group: Penta & Cleanup

Data File Name: U131105A_03	Lab Sample ID: 10247062006-MS
Date Acquired: 11/5/2013	Client Sample ID: MAK006O-MS
Sample Description: SAMP 10247062006-MS - SMT WI	Instrument: 10MSHR06 (U)

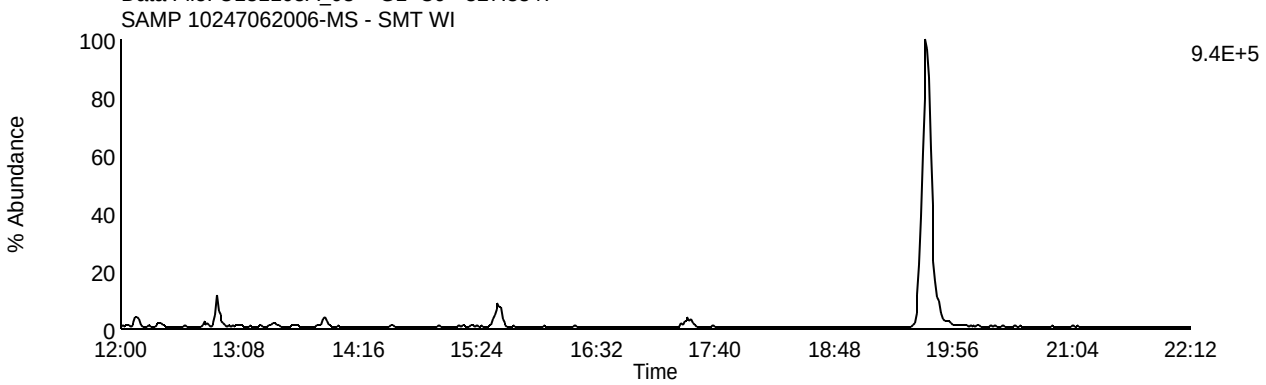
Data File: U131105A_03 G1 C12 - 339.8597
SAMP 10247062006-MS - SMT WI



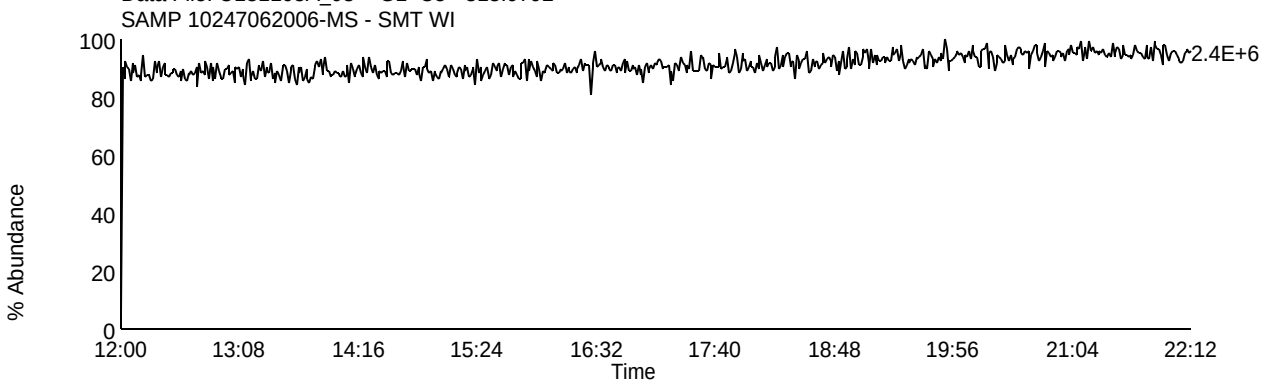
Data File: U131105A_03 G1 C13 - 341.8567
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G1 C9 - 327.8847
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G1 C5 - 318.9792
SAMP 10247062006-MS - SMT WI

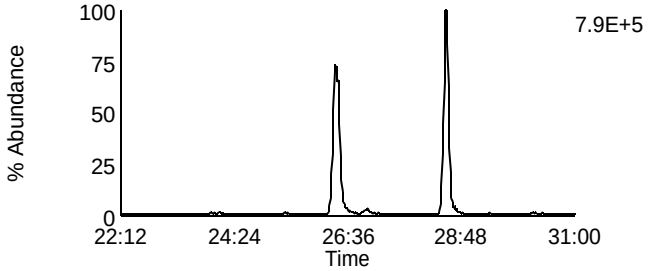


Homologue Group: Pentas

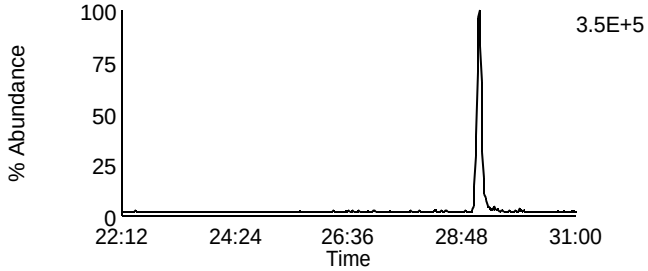
Data File Name: U131105A_03
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MS - SMT WI

Lab Sample ID: 10247062006-MS
Client Sample ID: MAK006O-MS
Instrument: 10MSHR06 (U)

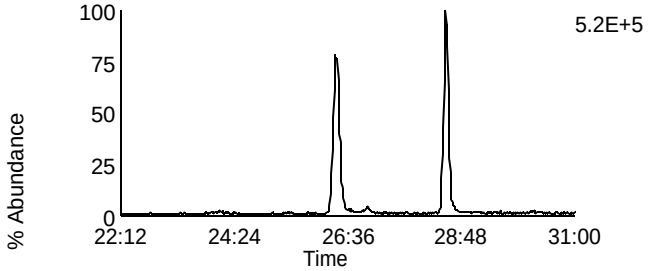
Data File: U131105A_03 G2 C1 - 339.8597
SAMP 10247062006-MS - SMT WI



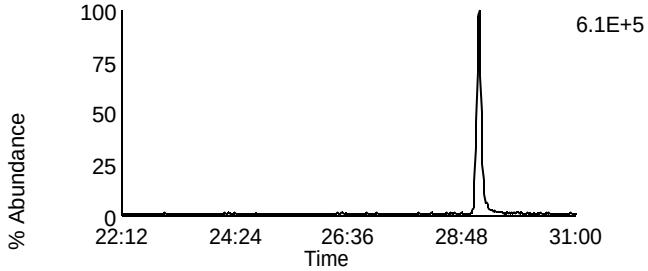
Data File: U131105A_03 G2 C4 - 353.8576
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G2 C2 - 341.8567
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G2 C8 - 355.8546
SAMP 10247062006-MS - SMT WI



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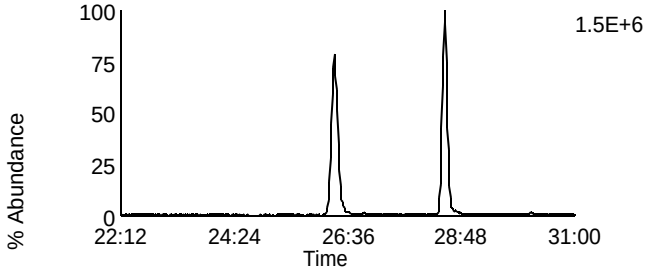
SAMP 10247062006-MS - SMT WI



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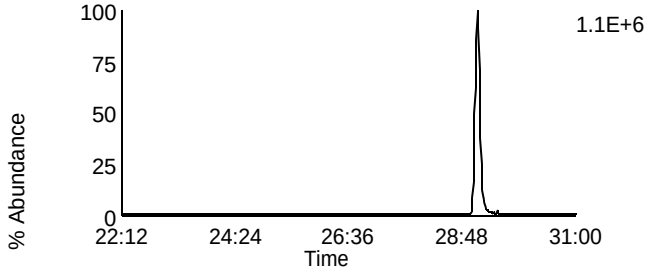
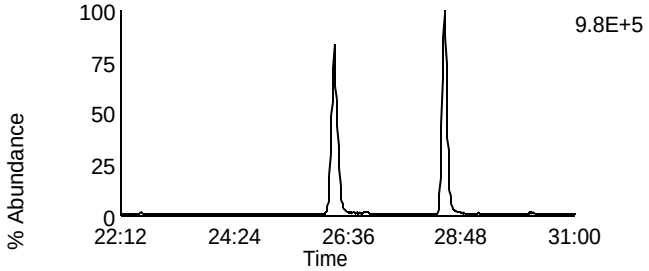
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G2 C5 - 353.8969
SAMP 10247062006-MS - SMT WI



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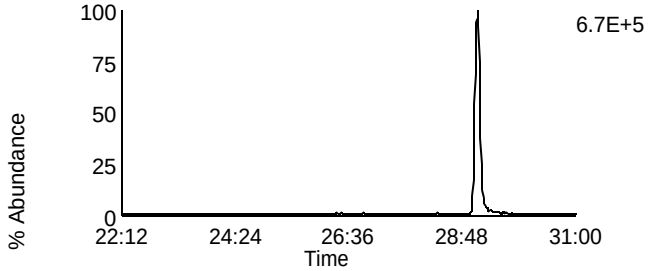
SAMP 10247062006-MS - SMT WI



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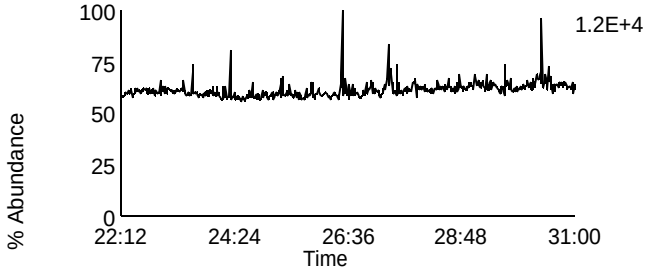
SAMP 10247062006-MS - SMT WI



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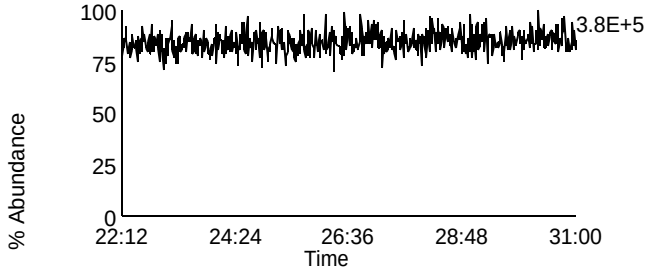
SAMP 10247062006-MS - SMT WI

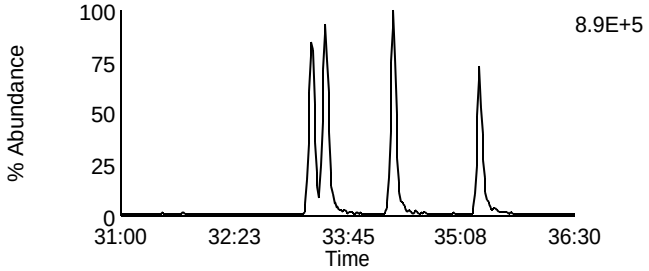


Homologue Group: Hexas

Data File Name: U131105A_03
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MS - SMT WI

Lab Sample ID: 10247062006-MS
Client Sample ID: MAK006O-MS
Instrument: 10MSHR06 (U)

Data File: U131105A_03 G3 C1 - 373.8207
SAMP 10247062006-MS - SMT WI



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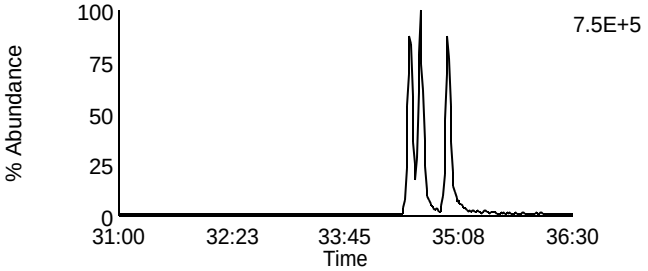
SAMP 10247062006-MS - SMT WI



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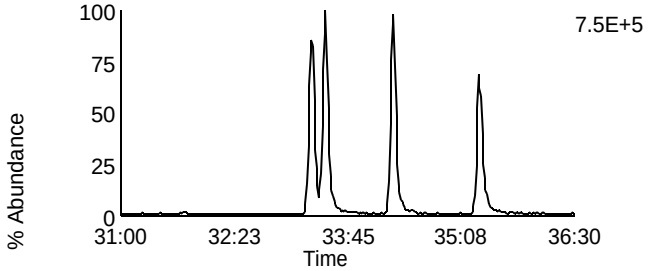
SAMP 10247062006-MS - SMT WI



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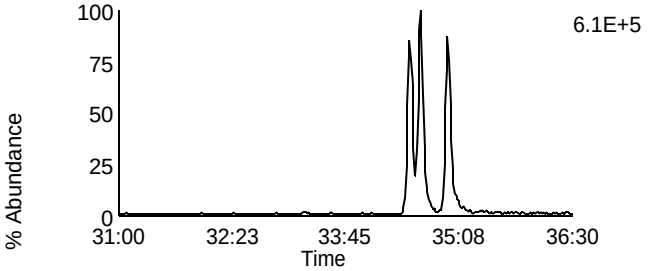
SAMP 10247062006-MS - SMT WI



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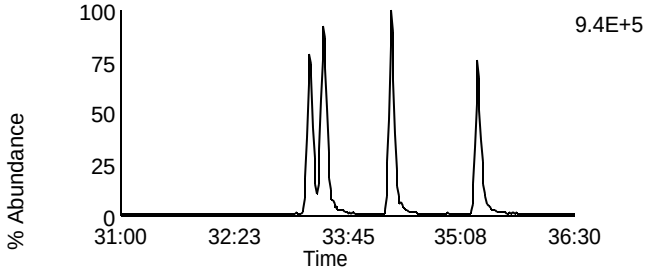
SAMP 10247062006-MS - SMT WI



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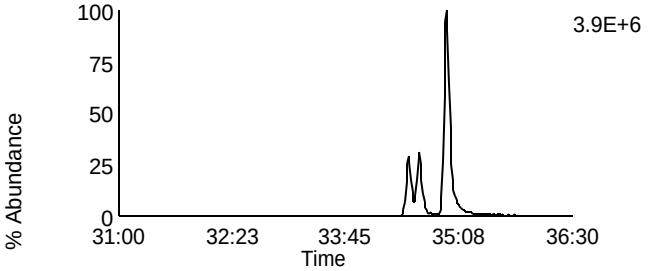
SAMP 10247062006-MS - SMT WI



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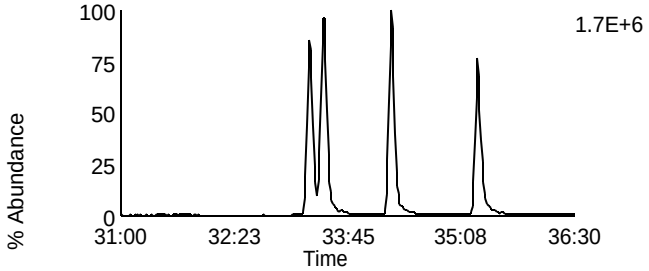
SAMP 10247062006-MS - SMT WI



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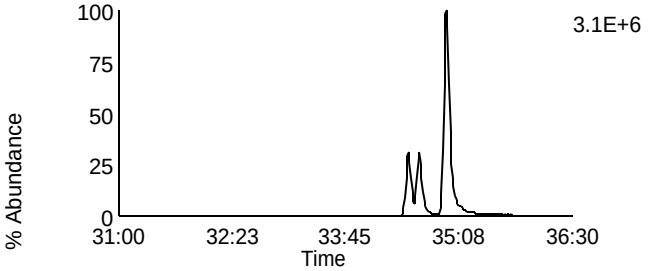
SAMP 10247062006-MS - SMT WI



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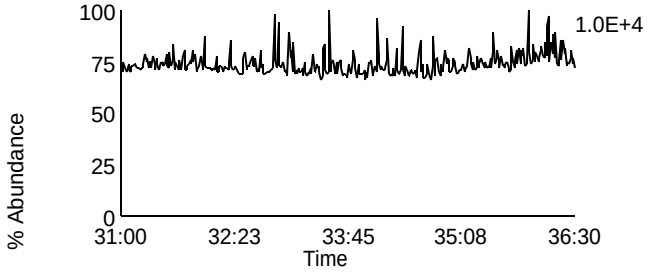
SAMP 10247062006-MS - SMT WI



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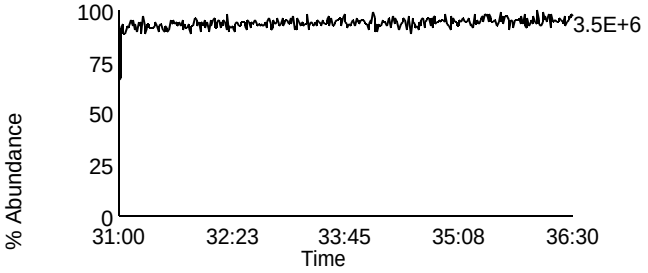
SAMP 10247062006-MS - SMT WI

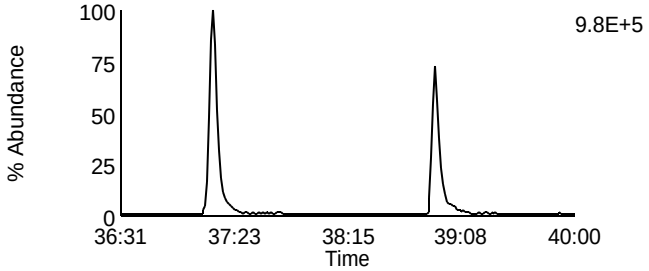


Homologue Group: Heptas

Data File Name: U131105A_03
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MS - SMT WI

Lab Sample ID: 10247062006-MS
Client Sample ID: MAK006O-MS
Instrument: 10MSHR06 (U)

Data File: U131105A_03 G4 C3 - 407.7818
SAMP 10247062006-MS - SMT WI



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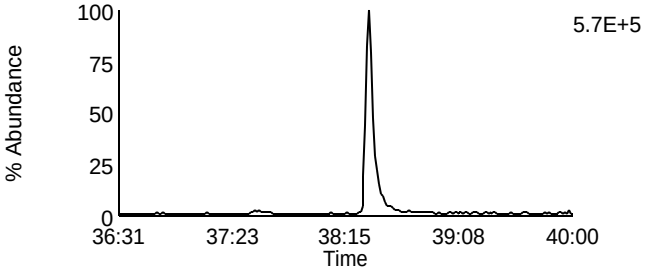
SAMP 10247062006-MS - SMT WI



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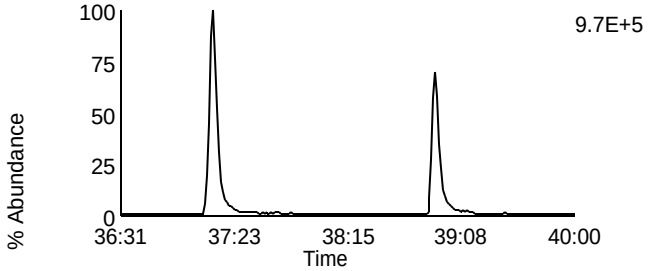
SAMP 10247062006-MS - SMT WI



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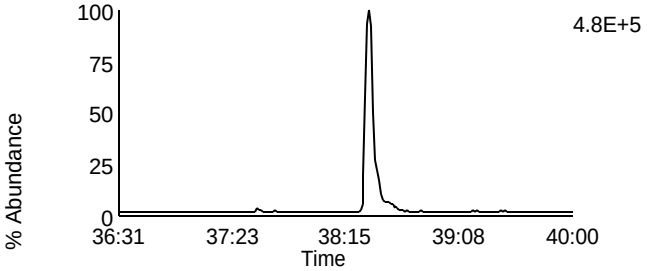
SAMP 10247062006-MS - SMT WI



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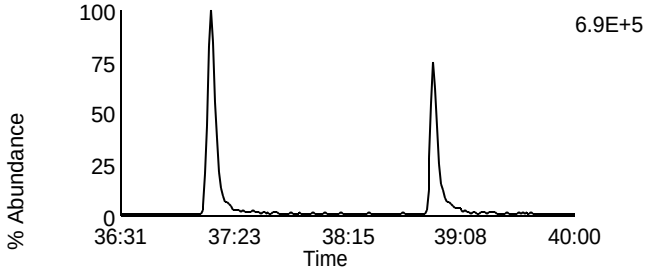
SAMP 10247062006-MS - SMT WI



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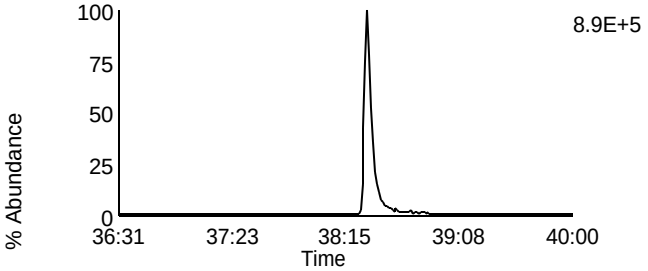
SAMP 10247062006-MS - SMT WI



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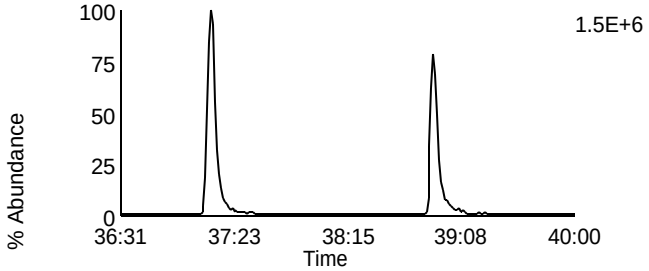
SAMP 10247062006-MS - SMT WI



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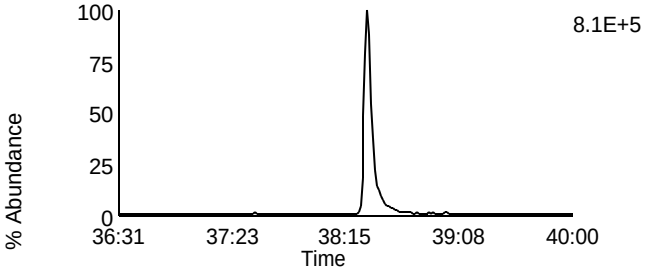
SAMP 10247062006-MS - SMT WI



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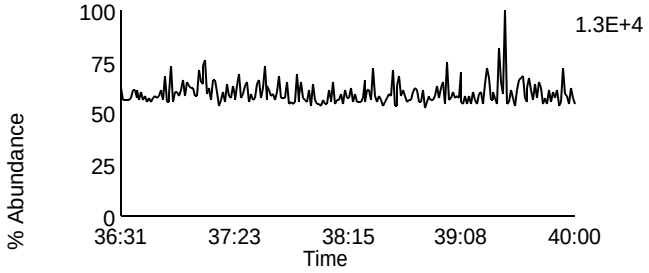
SAMP 10247062006-MS - SMT WI



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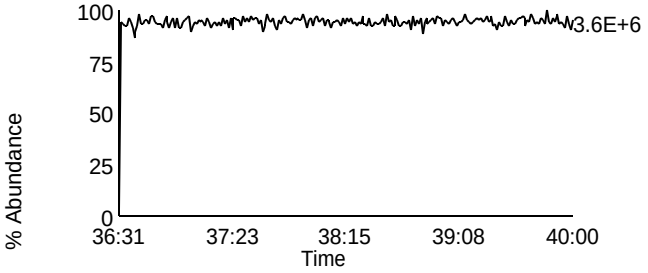
SAMP 10247062006-MS - SMT WI

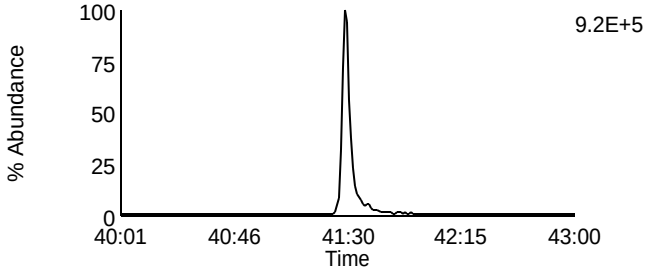


Homologue Group: Octas

Data File Name: U131105A_03
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MS - SMT WI

Lab Sample ID: 10247062006-MS
Client Sample ID: MAK006O-MS
Instrument: 10MSHR06 (U)

Data File: U131105A_03 G5 C4 - 441.7428
SAMP 10247062006-MS - SMT WI



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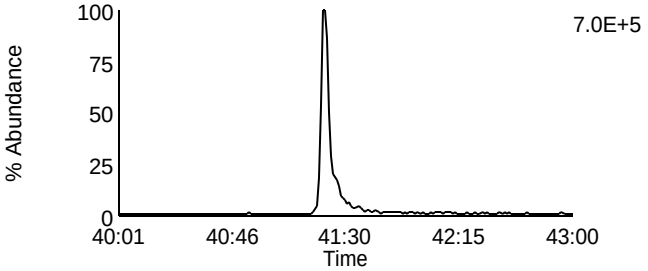
SAMP 10247062006-MS - SMT WI



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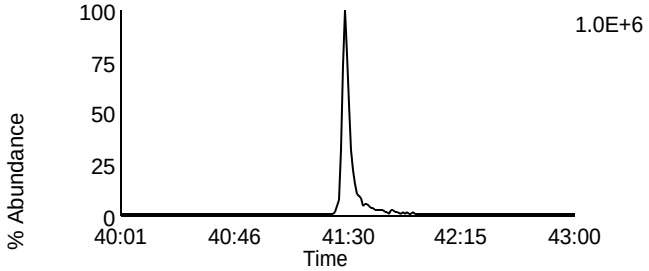
SAMP 10247062006-MS - SMT WI



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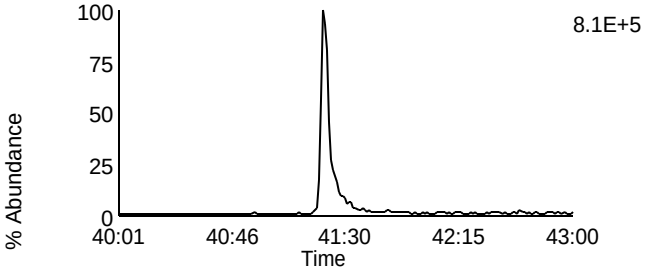
SAMP 10247062006-MS - SMT WI



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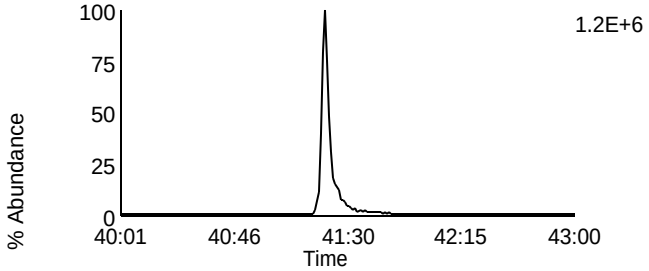
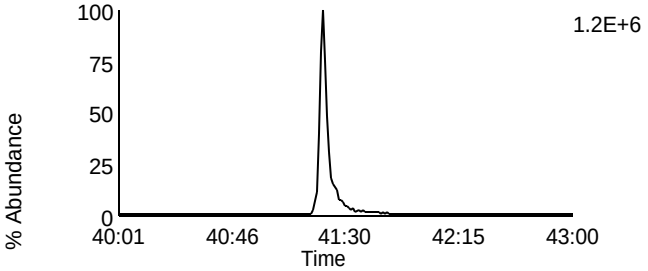
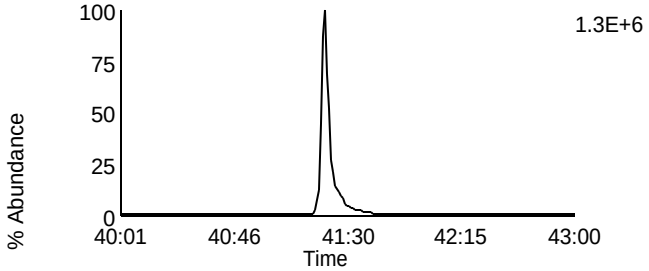
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G5 C11 - 469.7779
SAMP 10247062006-MS - SMT WI



Data File: U131105A_03 G5 C12 - 471.7749
SAMP 10247062006-MS - SMT WI



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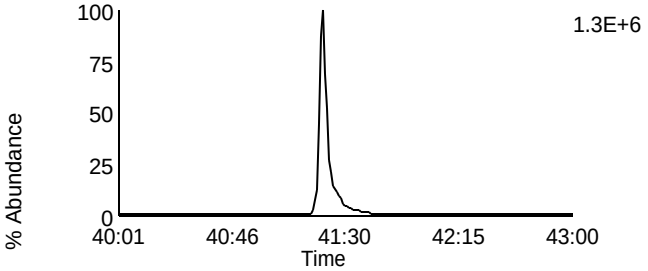
SAMP 10247062006-MS - SMT WI



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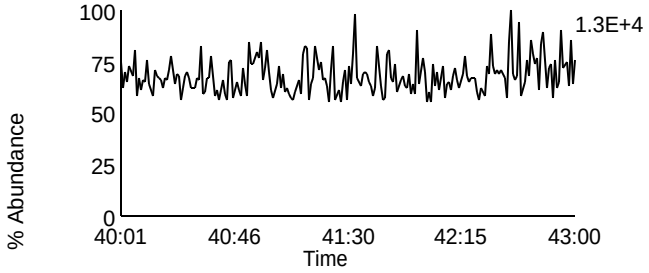
SAMP 10247062006-MS - SMT WI



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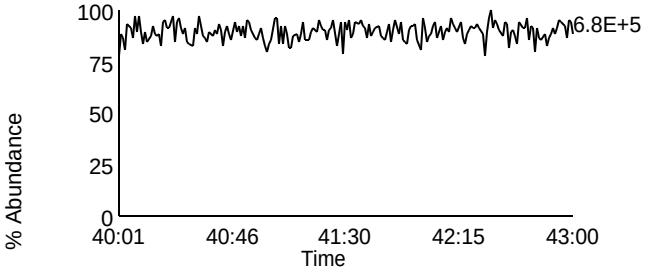
SAMP 10247062006-MS - SMT WI

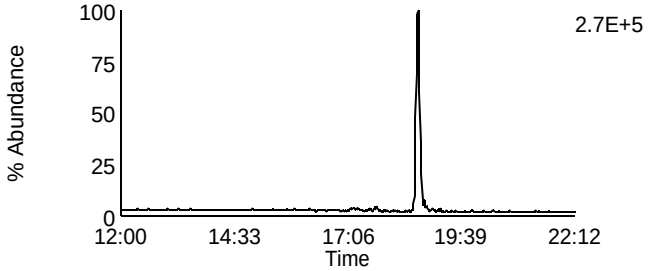


Homologue Group: Tetras

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G1 C1 - 303.9016
SAMP 10247062006-MSD - SMT WI



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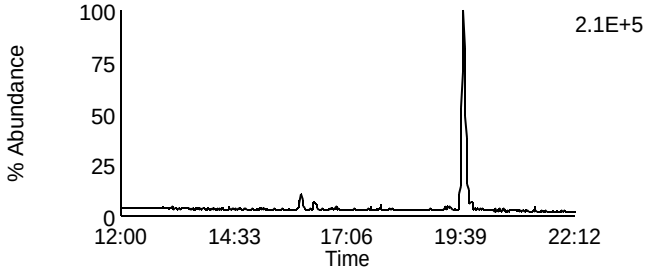
SAMP 10247062006-MSD - SMT WI



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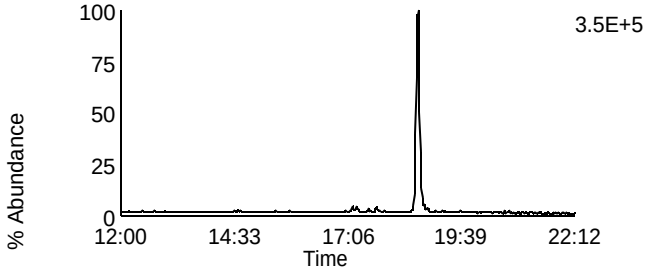
SAMP 10247062006-MSD - SMT WI



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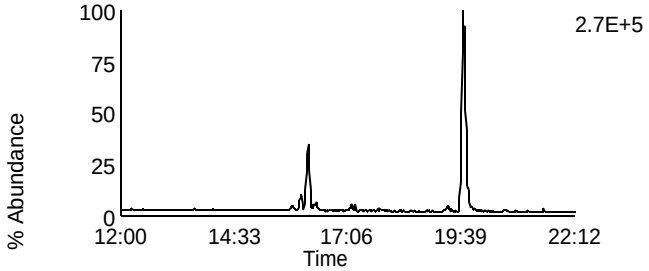
SAMP 10247062006-MSD - SMT WI



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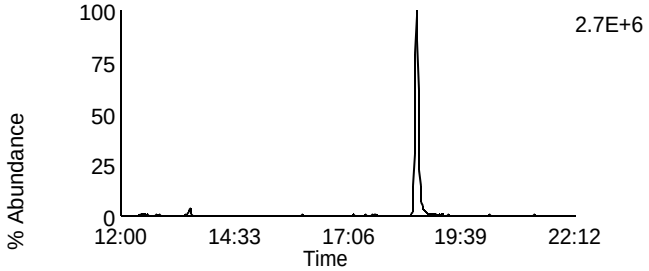
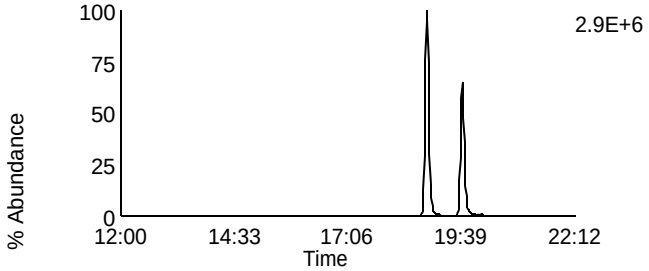
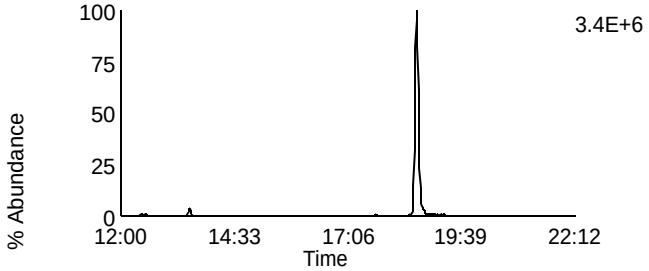
SAMP 10247062006-MSD - SMT WI



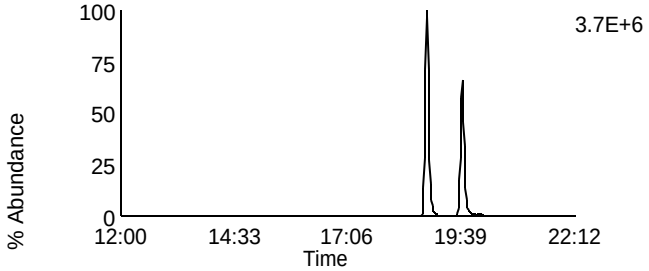
Data File: U131105A_04 G1 C10 - 331.9367
SAMP 10247062006-MSD - SMT WI



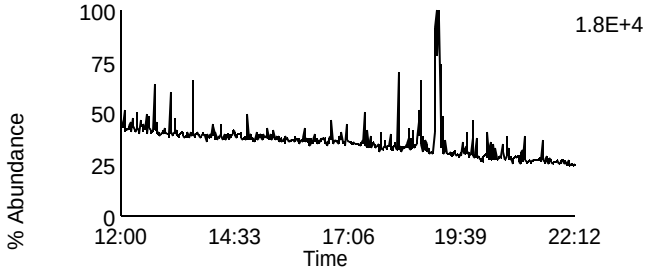
Data File: U131105A_04 G1 C4 - 317.9389
SAMP 10247062006-MSD - SMT WI



Data File: U131105A_04 G1 C11 - 333.9338
SAMP 10247062006-MSD - SMT WI



Data File: U131105A_04 G1 C14 - 375.8364
SAMP 10247062006-MSD - SMT WI



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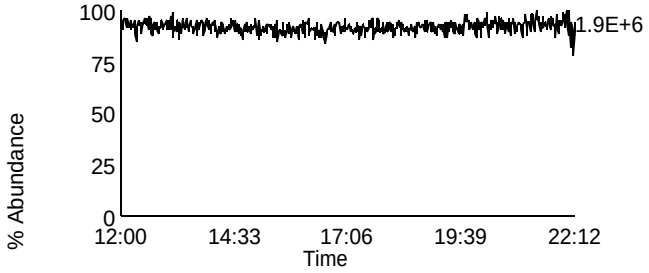
SAMP 10247062006-MSD - SMT WI

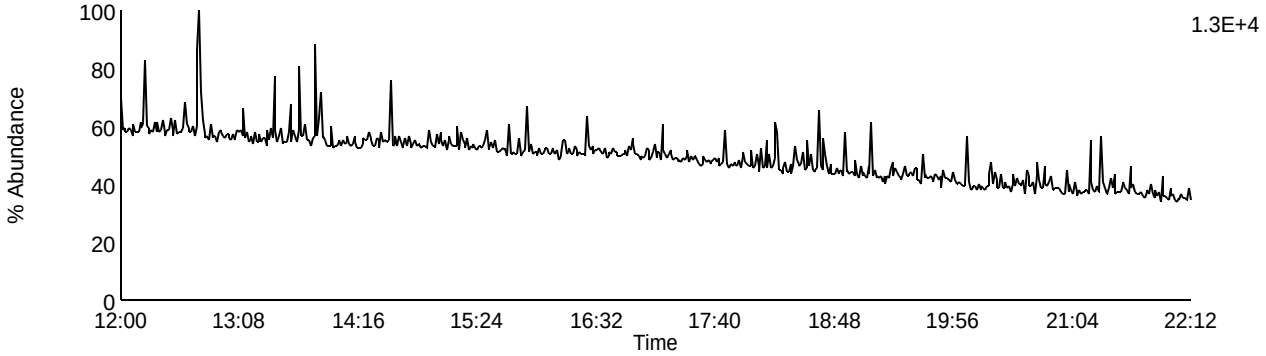


Homologue Group: Penta & Cleanup

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G1 C12 - 339.8597
SAMP 10247062006-MSD - SMT WI



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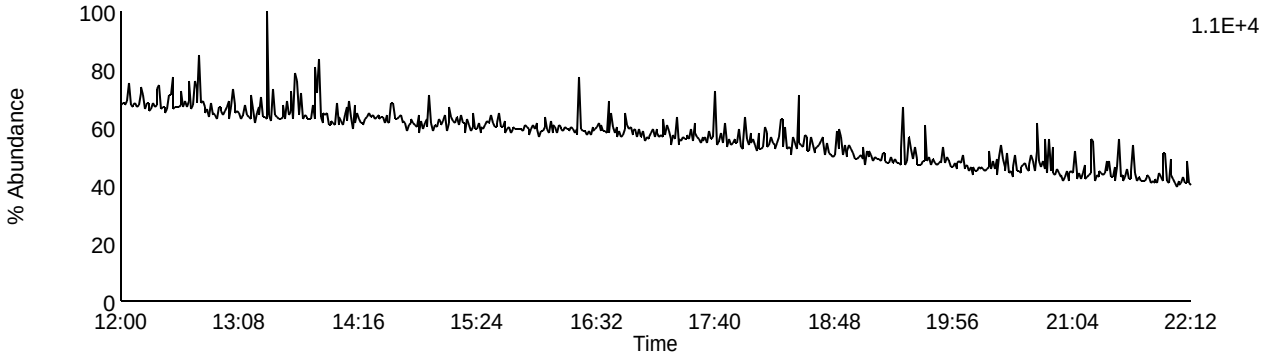
SAMP 10247062006-MSD - SMT WI



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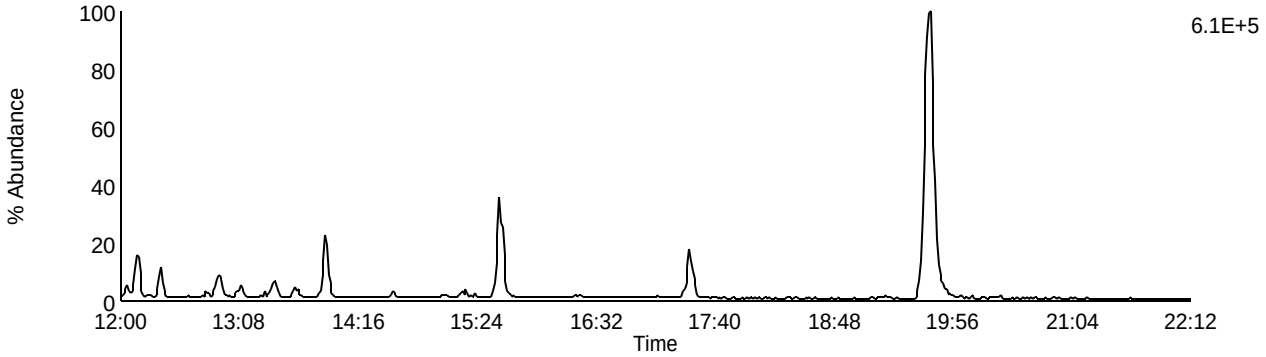
SAMP 10247062006-MSD - SMT WI



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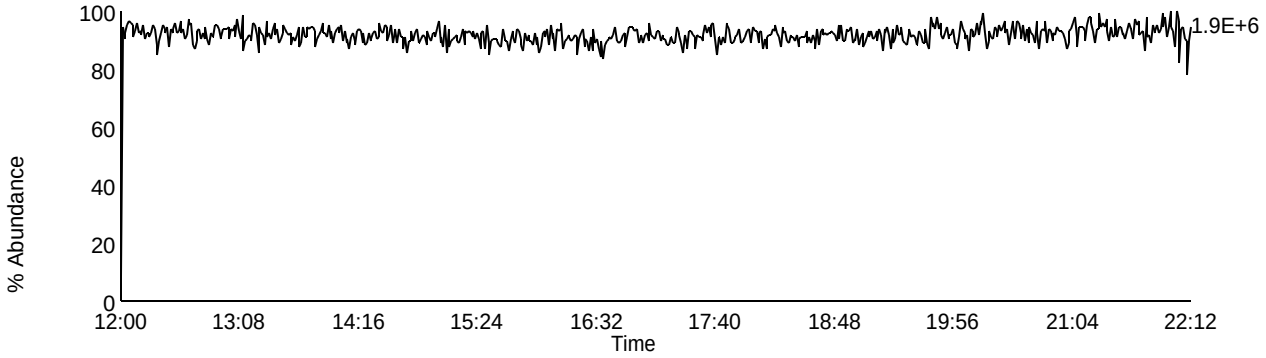
SAMP 10247062006-MSD - SMT WI

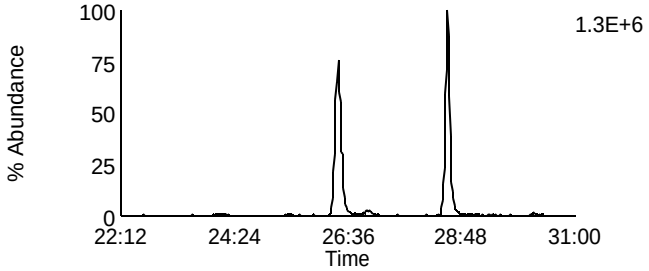


Homologue Group: Pentas

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G2 C1 - 339.8597
SAMP 10247062006-MSD - SMT WI



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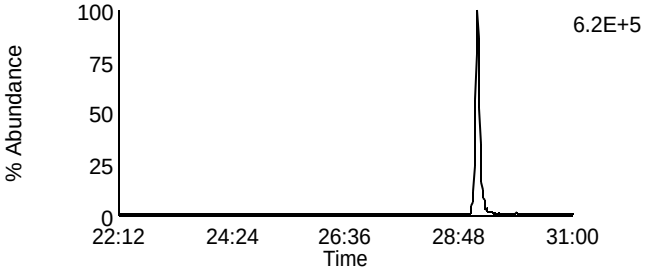
SAMP 10247062006-MSD - SMT WI



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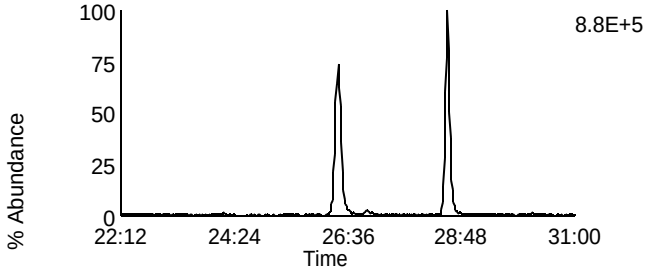
SAMP 10247062006-MSD - SMT WI



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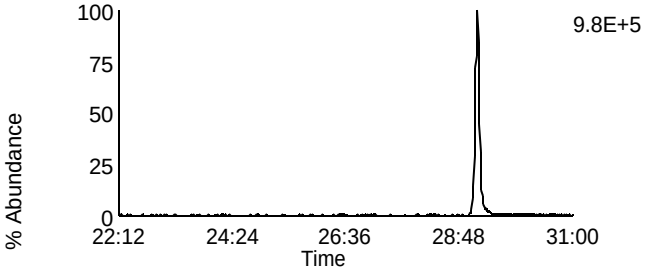

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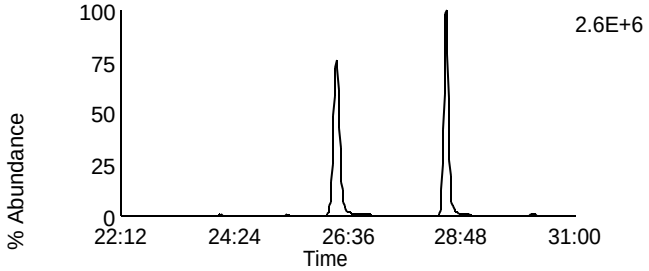
SAMP 10247062006-MSD - SMT WI



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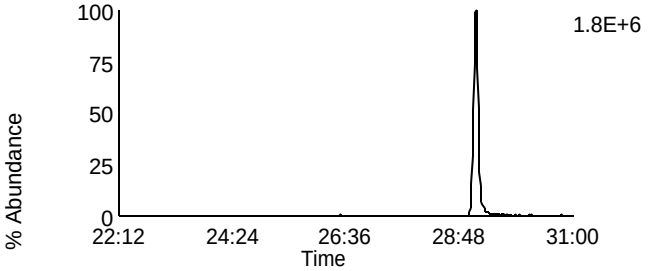
SAMP 10247062006-MSD - SMT WI



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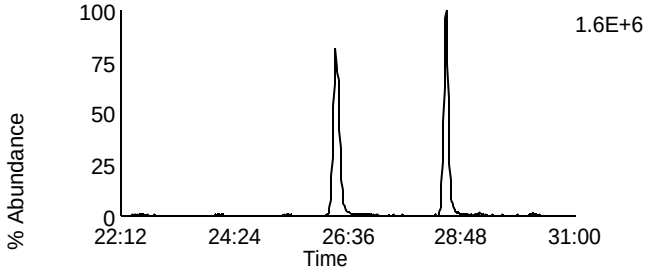
SAMP 10247062006-MSD - SMT WI



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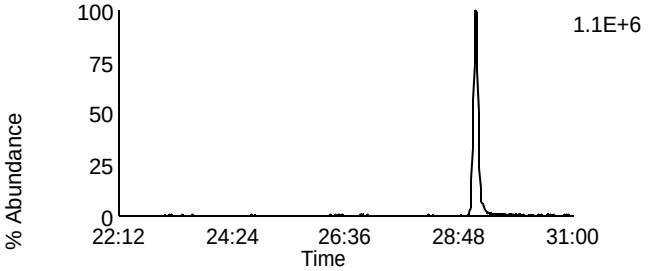
SAMP 10247062006-MSD - SMT WI



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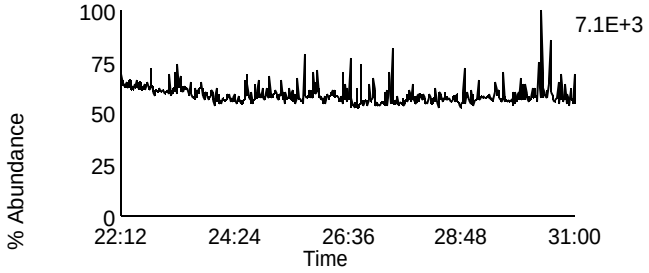
SAMP 10247062006-MSD - SMT WI



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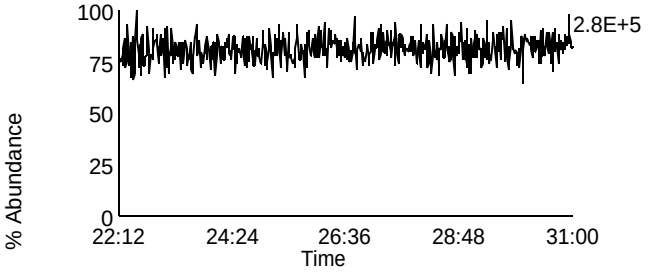
SAMP 10247062006-MSD - SMT WI

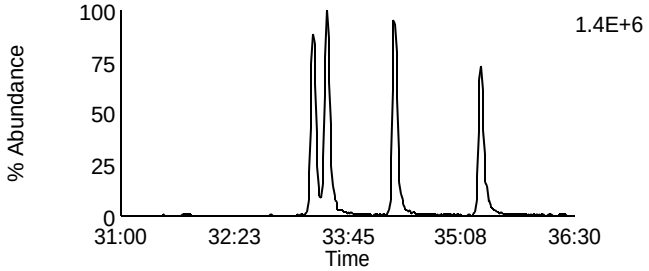


Homologue Group: Hexas

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G3 C1 - 373.8207
SAMP 10247062006-MSD - SMT WI



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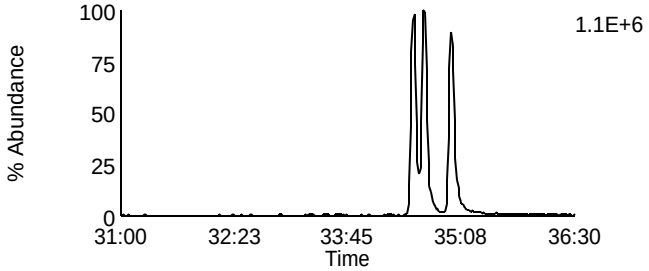
SAMP 10247062006-MSD - SMT WI



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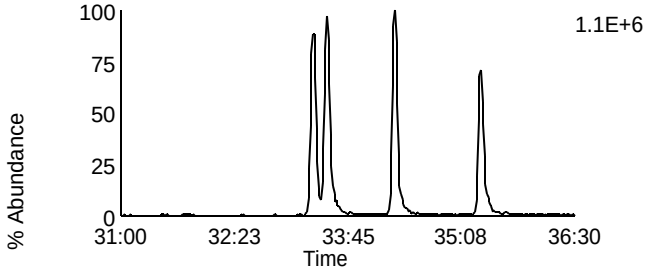

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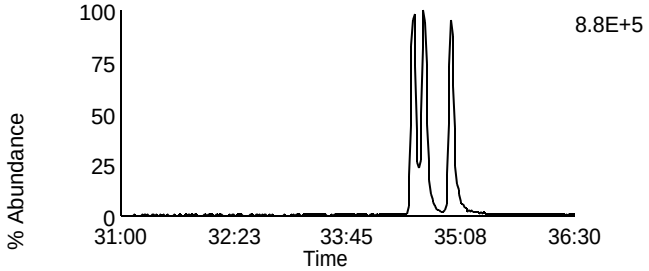

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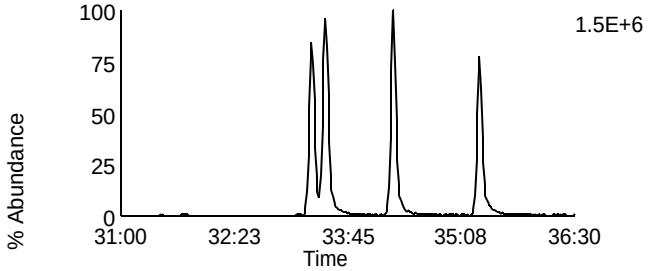

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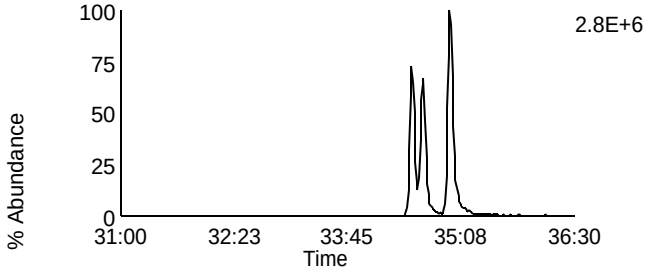
SAMP 10247062006-MSD - SMT WI



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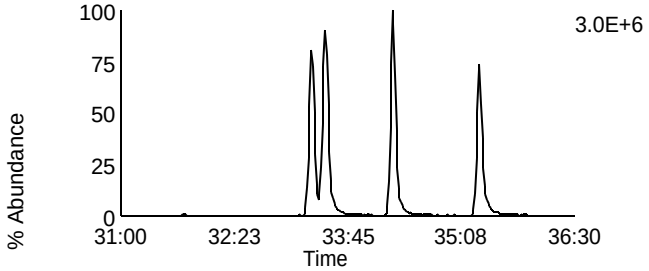
SAMP 10247062006-MSD - SMT WI



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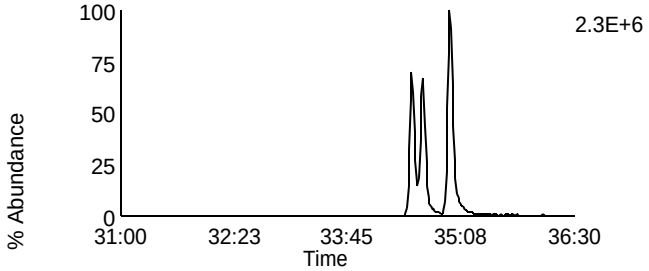

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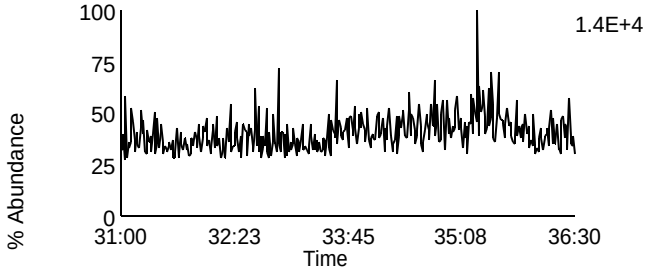
SAMP 10247062006-MSD - SMT WI



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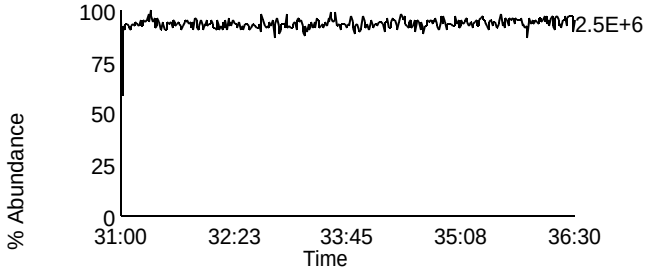
SAMP 10247062006-MSD - SMT WI

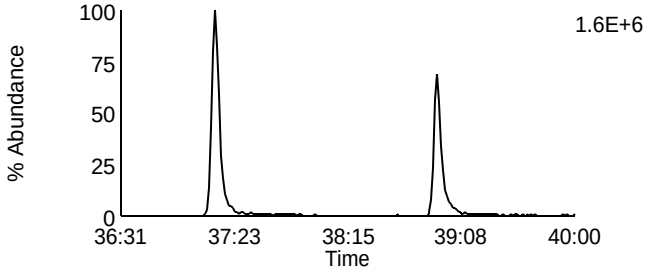


Homologue Group: Heptas

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G4 C3 - 407.7818
SAMP 10247062006-MSD - SMT WI



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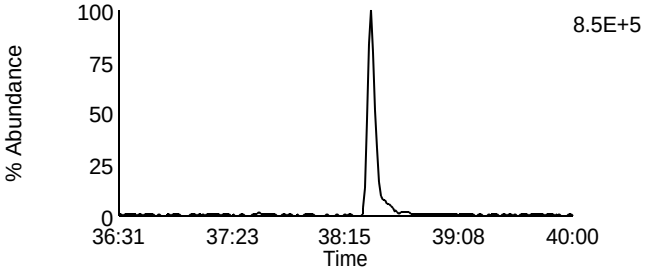

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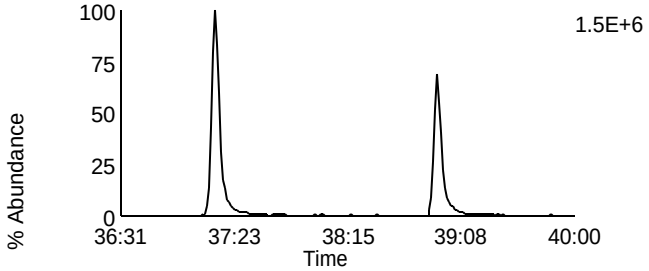
SAMP 10247062006-MSD - SMT WI



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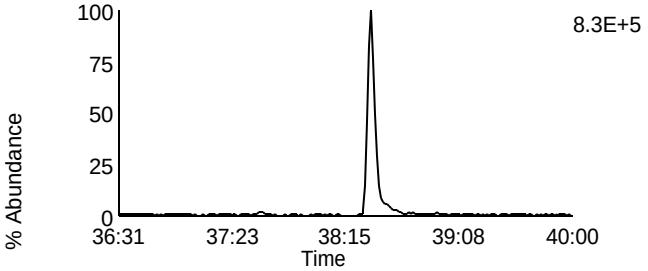

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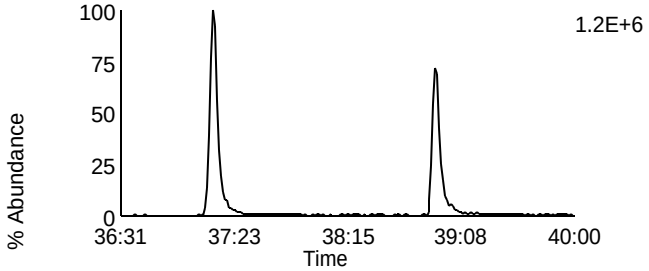
SAMP 10247062006-MSD - SMT WI



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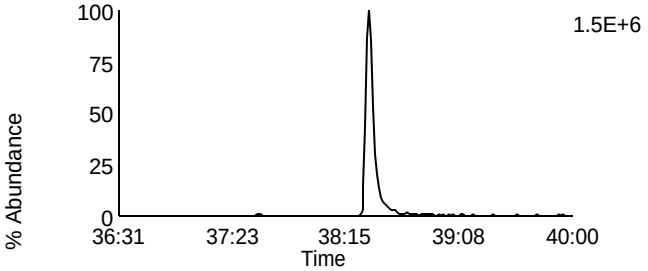
SAMP 10247062006-MSD - SMT WI



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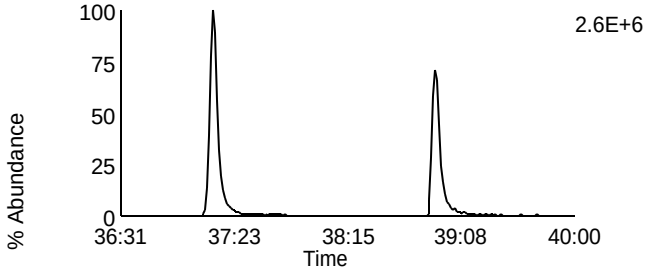
SAMP 10247062006-MSD - SMT WI



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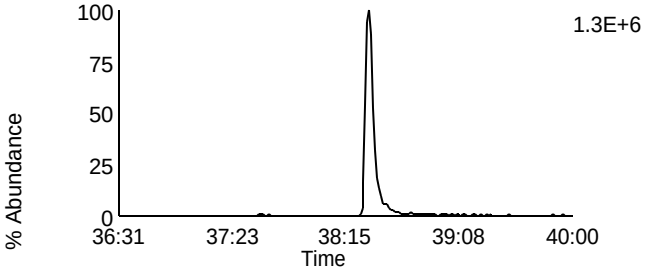

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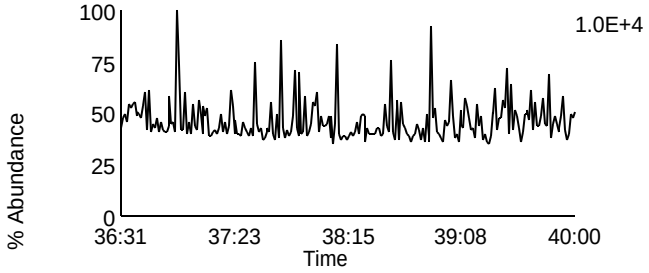
SAMP 10247062006-MSD - SMT WI



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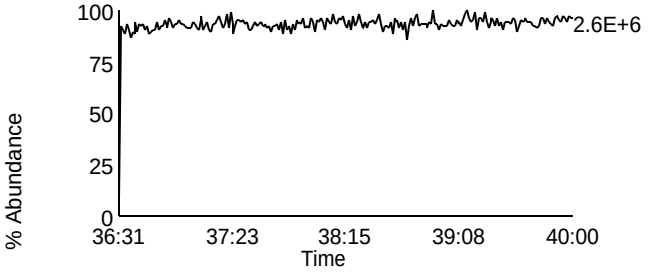
SAMP 10247062006-MSD - SMT WI

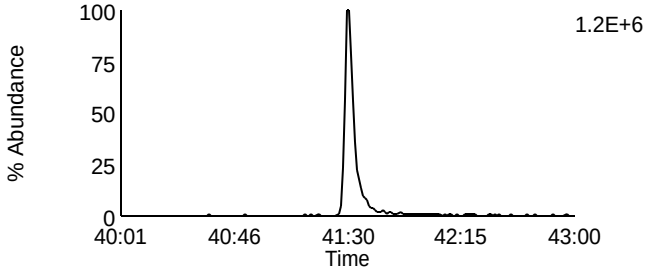


Homologue Group: Octas

Data File Name: U131105A_04
Date Acquired: 11/5/2013
Sample Description: SAMP 10247062006-MSD - SMT WI

Lab Sample ID: 10247062006-MSD
Client Sample ID: MAK006O-MSD
Instrument: 10MSHR06 (U)

Data File: U131105A_04 G5 C4 - 441.7428
SAMP 10247062006-MSD - SMT WI



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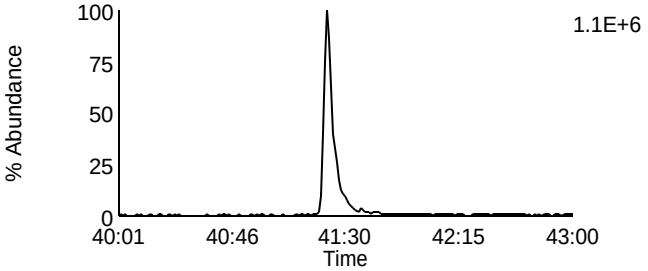

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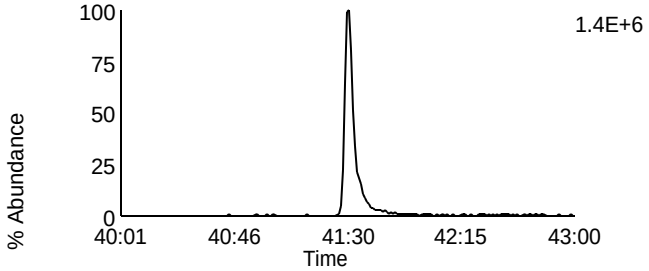

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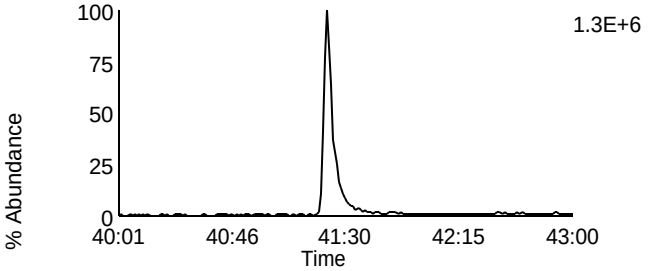

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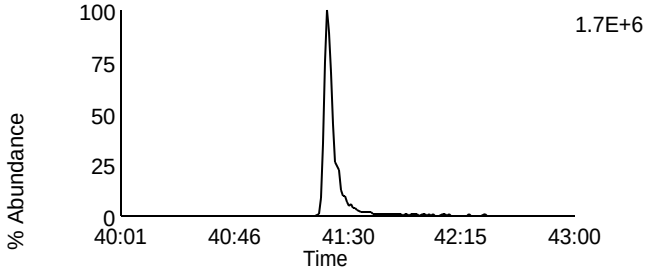

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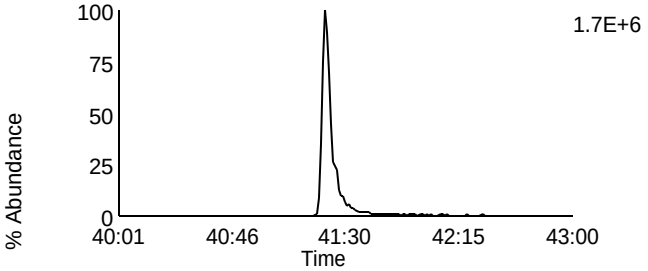
SAMP 10247062006-MSD - SMT WI



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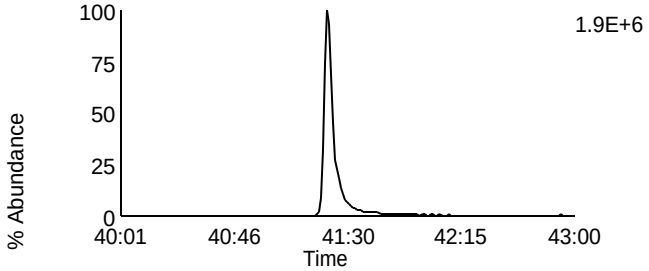

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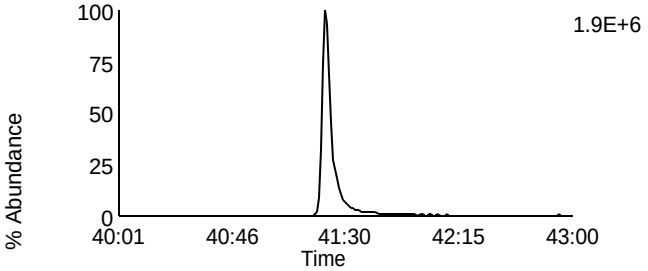
SAMP 10247062006-MSD - SMT WI



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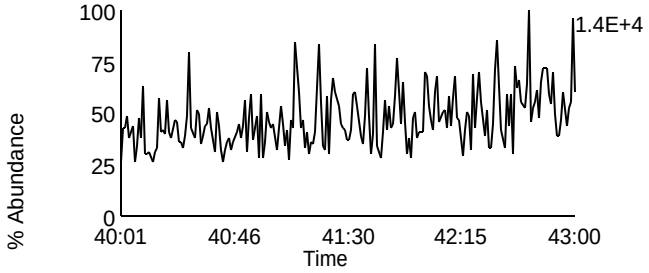
SAMP 10247062006-MSD - SMT WI



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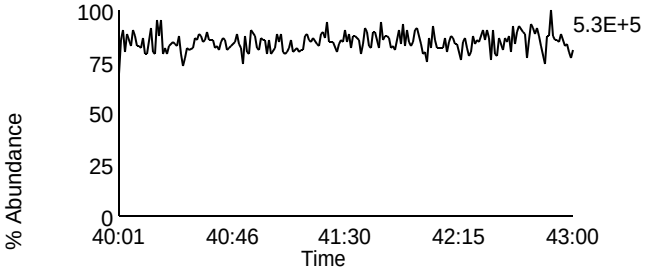
SAMP 10247062006-MSD - SMT WI



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

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

PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client ID		Injected By	SMT
Lab ID	BLANK-38270	Instrument ID	10MSHR06 (U)
Filename	U131105A_07	GC Column ID	USD227224H
Analyzed	11/05/2013 14:02	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:39	1.90e7	2.36e7	3.22e6	4.14e6	3.293e3	1.251e3	0.80	
2,3,7,8-TCDF	18:40	1.46e4	2.18e4	3.77e3	4.10e3	5.258e2	5.683e2	0.67	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:53	1.73e7	2.14e7	3.09e6	3.66e6	2.630e3	2.809e2	0.81	
2,3,7,8-TCDD-13C	19:40	1.37e7	1.72e7	2.18e6	2.73e6	3.448e3	1.054e3	0.80	
2,3,7,8-TCDD-37Cl4	19:43	3.76e6		6.05e5		6.609e2	-----		
2,3,7,8-TCDD	19:41	ND	ND	ND	ND	6.146e2	7.860e2		
Other TCDD 1	16:04	6.59e4	7.98e4					0.83	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:22	1.93e7	1.25e7	2.36e6	1.53e6	1.786e3	1.718e3	1.54	
2,3,4,7,8-PeCDF-13C	28:30	2.19e7	1.39e7	3.65e6	2.30e6	5.944e3	2.393e2	1.58	
1,2,3,7,8-PeCDF	26:22	ND	ND	ND	ND	4.638e2	4.055e2		
2,3,4,7,8-PeCDF	28:31	ND	ND	ND	ND	4.717e2	3.773e2		

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:07	1.42e7	9.11e6	2.16e6	1.46e6	8.115e2	1.560e2	1.55	
1,2,3,7,8-PeCDD	29:09	ND	ND	ND	ND	3.428e2	4.695e2		
Other PeCDD 1	26:32	4.81e3	7.02e3					0.69	

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	33:18	6.98e6	1.36e7	1.57e6	3.11e6	2.499e3	2.456e2	0.51	
1,2,3,6,7,8-HxCDF-13C	33:29	9.11e6	1.82e7	1.79e6	3.55e6	6.495e2	4.585e1	0.50	
2,3,4,6,7,8-HxCDF-13C	34:18	8.27e6	1.58e7	1.86e6	3.47e6	4.015e3	1.354e4	0.52	
1,2,3,7,8,9-HxCDF-13C	35:20	6.47e6	1.33e7	1.40e6	2.73e6	6.370e3	1.052e3	0.49	
1,2,3,4,7,8-HxCDF	33:19	ND	ND	ND	ND	4.156e2	4.966e2		
1,2,3,6,7,8-HxCDF	33:30	ND	ND	ND	ND	4.156e2	5.722e2		
2,3,4,6,7,8-HxCDF	34:19	ND	ND	ND	ND	4.285e2	5.135e2		

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Client ID		Injected By	SMT
Lab ID	BLANK-38270	Instrument ID	10MSHR06 (U)
Filename	U131105A_07	GC Column ID	USD227224H
Analyzed	11/05/2013 14:02	ICAL ID	U131104

1,2,3,7,8,9-HxCDF	35:22	ND	ND	ND	ND	4.385e2	6.679e2		

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	34:32	9.93e6	7.87e6	2.31e6	1.86e6	1.962e3	1.576e3	1.26	
1,2,3,6,7,8-HxCDD-13C	34:39	1.14e7	9.13e6	2.41e6	1.93e6	2.292e3	3.399e2	1.25	
1,2,3,7,8,9-HxCDD-13C	34:59	1.39e7	1.14e7	2.80e6	2.26e6	4.669e2	1.462e2	1.22	
1,2,3,4,7,8-HxCDD	34:33	ND	ND	ND	ND	9.407e2	6.481e2		
1,2,3,6,7,8-HxCDD	34:40	ND	ND	ND	ND	9.589e2	8.107e2		
1,2,3,7,8,9-HxCDD	34:60	ND	ND	ND	ND	9.070e2	6.481e2		

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	37:13	6.07e6	1.30e7	1.38e6	3.05e6	2.160e3	9.507e2	0.47	
1,2,3,4,7,8,9-HpCDF-13C	38:56	4.60e6	9.93e6	1.09e6	2.34e6	2.597e3	1.858e3	0.46	
1,2,3,4,6,7,8-HpCDF	37:17	5.66e3	6.75e3	2.35e3	4.13e3	9.244e2	6.632e2	0.84	I
1,2,3,4,7,8,9-HpCDF	38:57	ND	ND	ND	ND	1.053e3	8.425e2		

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	38:27	7.36e6	6.83e6	1.75e6	1.60e6	1.549e3	6.478e2	1.08	
1,2,3,4,6,7,8-HpCDD	38:28	9.65e3	1.53e4	3.44e3	4.77e3	1.209e3	7.979e2	0.63	I
Other HpCDD 1	37:37	1.77e4	1.83e4					0.97	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:33	3.21e4	3.41e4	7.42e3	6.46e3	9.754e2	7.622e2	0.94	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:22	1.02e7	1.12e7	2.57e6	2.75e6	4.490e2	1.784e2	0.91	
OCDD	41:22	7.41e4	8.73e4	1.95e4	3.45e4	1.430e3	1.632e3	0.85	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client ID	LCSRZ	Injected By	SMT
Lab ID	LCS-38271	Instrument ID	10MSHR06 (U)
Filename	U131105A_02	GC Column ID	USD227224H
Analyzed	11/05/2013 10:12	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:39	2.61e7	3.27e7	4.43e6	5.61e6	-----	-----	0.80	
2,3,7,8-TCDF	18:40	2.43e6	3.18e6	4.24e5	5.41e5	-----	-----	0.76	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:52	2.64e7	3.36e7	4.57e6	5.70e6	-----	-----	0.78	
2,3,7,8-TCDD-13C	19:40	1.91e7	2.41e7	3.13e6	3.98e6	-----	-----	0.79	
2,3,7,8-TCDD-37Cl4	19:42	5.95e6		9.75e5		-----	-----		
2,3,7,8-TCDD	19:43	1.93e6	2.44e6	3.09e5	3.93e5	-----	-----	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	26:21	2.65e7	1.72e7	3.07e6	2.02e6	-----	-----	1.54	
2,3,4,7,8-PeCDF-13C	28:29	2.65e7	1.71e7	4.11e6	2.50e6	-----	-----	1.55	
1,2,3,7,8-PeCDF	26:24	1.22e7	8.14e6	1.40e6	9.56e5	-----	-----	1.50	
2,3,4,7,8-PeCDF	28:31	1.24e7	8.18e6	1.88e6	1.26e6	-----	-----	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	29:06	1.86e7	1.21e7	2.90e6	1.94e6	-----	-----	1.53	
1,2,3,7,8-PeCDD	29:07	5.74e6	8.74e6	8.58e5	1.51e6	-----	-----	0.66	

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	33:19	9.71e6	1.87e7	2.16e6	4.05e6	-----	-----	0.52	
1,2,3,6,7,8-HxCDF-13C	33:28	1.23e7	2.37e7	2.41e6	4.69e6	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	34:17	1.14e7	2.15e7	2.43e6	4.66e6	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:21	9.17e6	1.78e7	1.89e6	3.51e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:19	8.80e6	7.16e6	2.07e6	1.60e6	-----	-----	1.23	
1,2,3,6,7,8-HxCDF	33:30	1.08e7	8.48e6	2.09e6	1.74e6	-----	-----	1.27	
2,3,4,6,7,8-HxCDF	34:19	9.90e6	7.98e6	2.07e6	1.76e6	-----	-----	1.24	
1,2,3,7,8,9-HxCDF	35:21	7.60e6	6.21e6	1.60e6	1.25e6	-----	-----	1.22	

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Client ID	LCSRZ	Injected By	SMT
Lab ID	LCS-38271	Instrument ID	10MSHR06 (U)
Filename	U131105A_02	GC Column ID	USD227224H
Analyzed	11/05/2013 10:12	ICAL ID	U131104

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	34:31	1.31e7	1.05e7	3.21e6	2.50e6	-----	-----	1.24	
1,2,3,6,7,8-HxCDD-13C	34:39	1.49e7	1.19e7	3.18e6	2.52e6	-----	-----	1.25	
1,2,3,7,8,9-HxCDD-13C	34:59	2.09e7	1.64e7	4.25e6	3.42e6	-----	-----	1.27	
1,2,3,4,7,8-HxCDD	34:32	7.00e6	5.53e6	1.65e6	1.26e6	-----	-----	1.27	
1,2,3,6,7,8-HxCDD	34:40	7.92e6	6.56e6	1.77e6	1.41e6	-----	-----	1.21	
1,2,3,7,8,9-HxCDD	34:60	7.60e6	5.92e6	1.51e6	1.15e6	-----	-----	1.28	

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	37:13	7.93e6	1.79e7	1.86e6	4.16e6	-----	-----	0.44	
1,2,3,4,7,8,9-HpCDF-13C	38:56	6.24e6	1.39e7	1.50e6	3.27e6	-----	-----	0.45	
1,2,3,4,6,7,8-HpCDF	37:14	9.90e6	9.42e6	2.38e6	2.28e6	-----	-----	1.05	
1,2,3,4,7,8,9-HpCDF	38:56	7.14e6	6.57e6	1.70e6	1.56e6	-----	-----	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	38:26	1.01e7	9.48e6	2.43e6	2.33e6	-----	-----	1.07	
1,2,3,4,6,7,8-HpCDD	38:27	5.67e6	5.06e6	1.28e6	1.14e6	-----	-----	1.12	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:30	9.57e6	1.07e7	2.16e6	2.41e6	-----	-----	0.90	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:21	1.40e7	1.55e7	3.20e6	3.60e6	-----	-----	0.90	
OCDD	41:22	7.85e6	9.20e6	1.73e6	1.97e6	-----	-----	0.85	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK006O-MS	Injected By	SMT
Lab ID	10247062006-MS	Instrument ID	10MSHR06 (U)
Filename	U131105A_03	GC Column ID	USD227224H
Analyzed	11/05/2013 10:57	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:38	9.84e6	1.25e7	1.57e6	2.08e6	-----	-----	0.79	
2,3,7,8-TCDF	18:39	1.08e6	1.35e6	2.06e5	2.39e5	-----	-----	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	18:52	2.63e7	3.35e7	4.43e6	5.86e6	-----	-----	0.78	
2,3,7,8-TCDD-13C	19:40	7.09e6	9.07e6	1.12e6	1.41e6	-----	-----	0.78	
2,3,7,8-TCDD-37Cl4	19:41	5.76e6		9.35e5		-----	-----		
2,3,7,8-TCDD	19:41	8.48e5	1.04e6	1.39e5	1.54e5	-----	-----	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	26:21	1.00e7	6.39e6	1.16e6	8.15e5	-----	-----	1.57	
2,3,4,7,8-PeCDF-13C	28:29	9.84e6	6.53e6	1.47e6	9.71e5	-----	-----	1.51	
1,2,3,7,8-PeCDF	26:22	5.16e6	3.44e6	5.71e5	4.04e5	-----	-----	1.50	
2,3,4,7,8-PeCDF	28:30	5.32e6	3.43e6	7.80e5	5.15e5	-----	-----	1.55	

Penta-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDD-13C	29:06	7.08e6	4.55e6	1.07e6	6.60e5	-----	-----	1.56	
1,2,3,7,8-PeCDD	29:08	2.32e6	3.87e6	3.46e5	6.03e5	-----	-----	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	33:18	3.63e6	6.84e6	7.25e5	1.46e6	-----	-----	0.53	
1,2,3,6,7,8-HxCDF-13C	33:28	4.65e6	8.90e6	8.54e5	1.64e6	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	34:17	4.30e6	8.11e6	9.28e5	1.70e6	-----	-----	0.53	
1,2,3,7,8,9-HxCDF-13C	35:20	3.37e6	6.55e6	7.04e5	1.30e6	-----	-----	0.52	
1,2,3,4,7,8-HxCDF	33:19	3.69e6	3.14e6	7.44e5	6.35e5	-----	-----	1.18	
1,2,3,6,7,8-HxCDF	33:30	4.44e6	3.57e6	8.22e5	7.41e5	-----	-----	1.25	
2,3,4,6,7,8-HxCDF	34:19	4.14e6	3.37e6	8.80e5	7.24e5	-----	-----	1.23	
1,2,3,7,8,9-HxCDF	35:21	2.99e6	2.62e6	6.39e5	5.06e5	-----	-----	1.14	

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Client Name	PASI Wisconsin		
Client ID	MAK006O-MS	Injected By	SMT
Lab ID	10247062006-MS	Instrument ID	10MSHR06 (U)
Filename	U131105A_03	GC Column ID	USD227224H
Analyzed	11/05/2013 10:57	ICAL ID	U131104

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	34:31	4.76e6	4.19e6	1.15e6	9.67e5	-----	-----	1.14	
1,2,3,6,7,8-HxCDD-13C	34:39	5.86e6	4.50e6	1.22e6	9.46e5	-----	-----	1.30	
1,2,3,7,8,9-HxCDD-13C	34:59	2.07e7	1.67e7	3.93e6	3.09e6	-----	-----	1.24	
1,2,3,4,7,8-HxCDD	34:32	2.91e6	2.22e6	6.45e5	5.08e5	-----	-----	1.31	
1,2,3,6,7,8-HxCDD	34:40	3.31e6	2.89e6	7.41e5	5.99e5	-----	-----	1.15	
1,2,3,7,8,9-HxCDD	34:60	3.15e6	2.59e6	6.47e5	5.20e5	-----	-----	1.22	

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	37:13	2.99e6	6.45e6	6.87e5	1.46e6	-----	-----	0.46	
1,2,3,4,7,8,9-HpCDF-13C	38:55	2.16e6	5.10e6	5.11e5	1.14e6	-----	-----	0.42	
1,2,3,4,6,7,8-HpCDF	37:14	4.07e6	3.97e6	9.70e5	9.58e5	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:56	2.92e6	2.69e6	7.07e5	6.71e5	-----	-----	1.08	

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	38:26	3.70e6	3.56e6	8.82e5	8.03e5	-----	-----	1.04	
1,2,3,4,6,7,8-HpCDD	38:27	2.33e6	2.20e6	5.64e5	4.76e5	-----	-----	1.06	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:30	3.65e6	3.97e6	9.09e5	1.02e6	-----	-----	0.92	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:22	5.13e6	5.71e6	1.20e6	1.33e6	-----	-----	0.90	
OCDD	41:23	3.28e6	3.63e6	6.88e5	7.98e5	-----	-----	0.90	

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PCDD/PCDF Detected Peak List

Prepared By _____ Date _____

Reviewed By_____ Date _____

Client Name	PASI Wisconsin		
Client ID	MAK006O-MSD	Injected By	SMT
Lab ID	10247062006-MSD	Instrument ID	10MSHR06 (U)
Filename	U131105A_04	GC Column ID	USD227224H
Analyzed	11/05/2013 11:43	ICAL ID	U131104

Tetra-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
2,3,7,8-TCDF-13C	18:40	1.58e7	1.98e7	2.69e6	3.40e6	-----	-----	0.80	
2,3,7,8-TCDF	18:41	1.61e6	2.07e6	2.61e5	3.47e5	-----	-----	0.78	

Tetra-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,4-TCDD-13C	18:53	1.76e7	2.18e7	2.93e6	3.74e6	-----	-----	0.81	
2,3,7,8-TCDD-13C	19:41	1.17e7	1.46e7	1.91e6	2.48e6	-----	-----	0.81	
2,3,7,8-TCDD-37Cl4	19:43	3.91e6		6.03e5		-----	-----		
2,3,7,8-TCDD	19:43	1.21e6	1.67e6	2.08e5	2.65e5	-----	-----	0.72	

Penta-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
1,2,3,7,8-PeCDF-13C	26:23	1.65e7	1.08e7	1.94e6	1.31e6	-----	-----	1.54	
2,3,4,7,8-PeCDF-13C	28:30	1.67e7	1.05e7	2.54e6	1.61e6	-----	-----	1.58	
1,2,3,7,8-PeCDF	26:25	8.12e6	5.42e6	9.88e5	6.50e5	-----	-----	1.50	
2,3,4,7,8-PeCDF	28:32	8.18e6	5.30e6	1.30e6	8.78e5	-----	-----	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	29:08	1.16e7	7.47e6	1.79e6	1.12e6	-----	-----	1.56	
1,2,3,7,8-PeCDD	29:09	3.74e6	5.97e6	6.13e5	9.73e5	-----	-----	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	33:19	5.99e6	1.15e7	1.27e6	2.41e6	-----	-----	0.52	
1,2,3,6,7,8-HxCDF-13C	33:30	7.70e6	1.48e7	1.46e6	2.73e6	-----	-----	0.52	
2,3,4,6,7,8-HxCDF-13C	34:19	6.88e6	1.34e7	1.52e6	3.01e6	-----	-----	0.51	
1,2,3,7,8,9-HxCDF-13C	35:21	5.65e6	1.07e7	1.18e6	2.22e6	-----	-----	0.53	
1,2,3,4,7,8-HxCDF	33:20	5.88e6	4.89e6	1.26e6	1.01e6	-----	-----	1.20	
1,2,3,6,7,8-HxCDF	33:31	6.80e6	5.55e6	1.42e6	1.10e6	-----	-----	1.23	
2,3,4,6,7,8-HxCDF	34:19	6.30e6	5.12e6	1.35e6	1.14e6	-----	-----	1.23	
1,2,3,7,8,9-HxCDF	35:22	4.95e6	3.96e6	1.04e6	8.04e5	-----	-----	1.25	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
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Client Name	PASI Wisconsin		
Client ID	MAK006O-MSD	Injected By	SMT
Lab ID	10247062006-MSD	Instrument ID	10MSHR06 (U)
Filename	U131105A_04	GC Column ID	USD227224H
Analyzed	11/05/2013 11:43	ICAL ID	U131104

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	34:32	8.40e6	6.54e6	2.05e6	1.62e6	-----	-----	1.28	
1,2,3,6,7,8-HxCDD-13C	34:41	9.34e6	7.38e6	1.90e6	1.55e6	-----	-----	1.27	
1,2,3,7,8,9-HxCDD-13C	34:60	1.42e7	1.12e7	2.83e6	2.31e6	-----	-----	1.27	
1,2,3,4,7,8-HxCDD	34:34	4.66e6	3.77e6	1.07e6	8.60e5	-----	-----	1.24	
1,2,3,6,7,8-HxCDD	34:41	5.29e6	4.32e6	1.09e6	8.74e5	-----	-----	1.22	
1,2,3,7,8,9-HxCDD	35:01	4.99e6	3.99e6	9.73e5	8.28e5	-----	-----	1.25	

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	37:14	4.85e6	1.07e7	1.17e6	2.61e6	-----	-----	0.45	
1,2,3,4,7,8,9-HpCDF-13C	38:56	3.55e6	8.06e6	8.31e5	1.86e6	-----	-----	0.44	
1,2,3,4,6,7,8-HpCDF	37:15	6.36e6	6.15e6	1.56e6	1.47e6	-----	-----	1.03	
1,2,3,4,7,8,9-HpCDF	38:57	4.27e6	4.21e6	1.07e6	1.02e6	-----	-----	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	38:27	6.20e6	5.56e6	1.45e6	1.25e6	-----	-----	1.11	
1,2,3,4,6,7,8-HpCDD	38:28	3.45e6	3.28e6	8.50e5	8.27e5	-----	-----	1.05	

Octa-Furans:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDF	41:31	5.89e6	6.38e6	1.24e6	1.36e6	-----	-----	0.92	

Octa-Dioxins:	RT	Area 1	Area 2	Height 1	Height 2	Noise 1	Noise 2	Ratio	Code
OCDD-13C	41:23	8.09e6	9.17e6	1.71e6	1.91e6	-----	-----	0.88	
OCDD	41:24	4.98e6	5.81e6	1.08e6	1.25e6	-----	-----	0.86	

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