September 27, 2017 Service Request No:E1700974

Craig Hutchings
Integral Consulting, Inc.
1205 West Bay Drive NW
Olympia, WA 98502-4670

Laboratory Results for: San Jacinto Waste Pits

Dear Craig,

Enclosed are the results of the sample(s) submitted to our laboratory September 16, 2017
For your reference, these analyses have been assigned our service request number **E1700974.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and except as noted in the laboratory case narrative provided. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2146. You may also contact me via email at Corey.Grandits@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

ADDRESS 10450 Stancliff Rd., Suite 210, Houston, TX 77099
PHONE +1 281 530 5656 | FAX +1 281 561 6125
ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	Integral Consulting, Inc.	**Service Request No.:**	E1700974
Project:	San Jacinto Waste Pits	**Date Received:**	09/18/17
Sample Matrix:	Sediment		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Fourteen sediment samples were received for analysis at ALS Environmental in Houston on 09/18/17.

The samples were received in the dioxin SMO at 2.9°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ1700418: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/DMS for this extraction batch. The LCS and DLCS spike recoveries are within control limits.

Method Blanks

The Method Blank EQ1700418-01 contained low levels of OCDD above the EDL however below the Method Reporting Limit (MRL). The associated compounds in the samples are not flagged with 'B' flags as the sample results are greater than ten times the level detected in the method blank.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Y flags – Labeled Standards

Sample SJWP-091517-030 (E1700974-011) had various labeled standard recoveries below control limits.

Quantification of the native 2,3,7,8-substituted congeners is based on isotopic dilution, which automatically corrects for variation in extraction efficiency and provides accurate values even with poor recovery. Samples that had recoveries of labeled standards outside the acceptance limits are qualified with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1 and detection limits were below the Method Reporting Limits.

Dilutions

The sample SJWP-091517-030 (E1700974-011) had elevated levels of target analytes and required a dilution. The undiluted and diluted results were combined into one Total TEQ summary report for each sample. This reports a 'Total' result that includes the most appropriate concentration found for the associated target analyte.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions where sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

Manual Integrations

For this type of instrumentation and software, manual integration may be required frequently to correct inaccurate integrations performed by the processing software. These manual integrations are indicated in the raw data with a before and after chromatogram and are stamped with the reason for integration.

The TEQ Summary results for each sample have been calculated by ALS/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- 2378-TCDF from the DB-225 column, when confirmation required
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E1700974-001	SJWP-091517-020	9/15/2017	1030
E1700974-002	SJWP-091517-021	9/15/2017	1050
E1700974-003	SJWP-091517-022	9/15/2017	1105
E1700974-004	SJWP-091517-023	9/15/2017	1115
E1700974-005	SJWP-091517-024	9/15/2017	1125
E1700974-006	SJWP-091517-025	9/15/2017	1145
E1700974-007	SJWP-091517-026	9/15/2017	1420
E1700974-008	SJWP-091517-027	9/15/2017	1430
E1700974-009	SJWP-091517-028	9/15/2017	1445
E1700974-010	SJWP-091517-029	9/15/2017	1500
E1700974-011	SJWP-091517-030	9/15/2017	1600
E1700974-012	SJWP-091517-031	9/15/2017	1615
E1700974-013	SJWP-091517-032	9/15/2017	1710
E1700974-014	SJWP-091517-033	9/15/2017	1725

Service Request Summary

Folder #: **E1700974**
Client Name: Integral Consulting, Incorporated
Project Name: San Jacinto Waste Pits
Project Number: C6430901

Report To: Craig Hutchings
Integral Consulting, Inc.
1205 West Bay Drive NW
Olympia, WA 98502-4670
USA
Phone Number: 360-705-3534
Cell Number:
Fax Number:
E-mail: chutchings@integral-corp.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/16/17
Internal Due Date: 9/27/2017
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: Integral-UCR

14 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: SMO, EHRMS-WIC 10B, In Lab
Pressure Gas:
Rush

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1700974-001	SJWP-091517-020	Sediment	09/15/17 1030	**IV**	**IV**
E1700974-002	SJWP-091517-021	Sediment	09/15/17 1050	**IV**	**IV**
E1700974-003	SJWP-091517-022	Sediment	09/15/17 1105	**IV**	**IV**
E1700974-004	SJWP-091517-023	Sediment	09/15/17 1115	**IV**	**IV**
E1700974-005	SJWP-091517-024	Sediment	09/15/17 1125	**IV**	**IV**
E1700974-006	SJWP-091517-025	Sediment	09/15/17 1145	**IV**	**IV**
E1700974-007	SJWP-091517-026	Sediment	09/15/17 1420	**IV**	**IV**
E1700974-008	SJWP-091517-027	Sediment	09/15/17 1430	**IV**	**IV**
E1700974-009	SJWP-091517-028	Sediment	09/15/17 1445	**IV**	**IV**
E1700974-010	SJWP-091517-029	Sediment	09/15/17 1500	**IV**	**IV**
E1700974-011	SJWP-091517-030	Sediment	09/15/17 1600	**IV**	**IV**
E1700974-012	SJWP-091517-031	Sediment	09/15/17 1615	**IV**	**IV**
E1700974-013	SJWP-091517-032	Sediment	09/15/17 1710	**IV**	**IV**
E1700974-014	SJWP-091517-033	Sediment	09/15/17 1725	**IV**	**IV**

Service Request Summary

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Project Name: San Jacinto Waste Pits
Project Number: C6430901

Report To: Craig Hutchings
Integral Consulting, Inc.
1205 West Bay Drive NW
Olympia, WA 98502-4670
USA
Phone Number: 360-705-3534
Cell Number:
Fax Number:
E-mail: chutchings@integral-corp.com

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: ALOPEZ
Date Received: 09/16/17
Internal Due Date: 9/27/2017
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: Integral-UCR

14 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: SMO, EHRMS-WIC 10B, In Lab
Pressure Gas:
Rush

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1700974-001	SJWP-091517-020	Sediment	09/15/17 1030	**IV**	**IV**
E1700974-002	SJWP-091517-021	Sediment	09/15/17 1050	**IV**	**IV**
E1700974-003	SJWP-091517-022	Sediment	09/15/17 1105	**IV**	**IV**
E1700974-004	SJWP-091517-023	Sediment	09/15/17 1115	**IV**	**IV**
E1700974-005	SJWP-091517-024	Sediment	09/15/17 1125	**IV**	**IV**
E1700974-006	SJWP-091517-025	Sediment	09/15/17 1145	**IV**	**IV**
E1700974-007	SJWP-091517-026	Sediment	09/15/17 1420	**IV**	**IV**
E1700974-008	SJWP-091517-027	Sediment	09/15/17 1430	**IV**	**IV**
E1700974-009	SJWP-091517-028	Sediment	09/15/17 1445	**IV**	**IV**
E1700974-010	SJWP-091517-029	Sediment	09/15/17 1500	**IV**	**IV**
E1700974-011	SJWP-091517-030	Sediment	09/15/17 1600	**IV**	**IV**
E1700974-012	SJWP-091517-031	Sediment	09/15/17 1615	**IV**	**IV**
E1700974-013	SJWP-091517-032	Sediment	09/15/17 1710	**IV**	**IV**
E1700974-014	SJWP-091517-033	Sediment	09/15/17 1725	**IV**	**IV**

Service Request Summary

Folder #:	**E1700974**
Client Name:	Integral Consulting, Incorporated
Project Name:	San Jacinto Waste Pits
Project Number:	C6430901
Report To:	Craig Hutchings Integral Consulting, Inc. 1205 West Bay Drive NW Olympia, WA 98502-4670 USA
Phone Number:	360-705-3534
Cell Number:	
Fax Number:	
E-mail:	chutchings@integral-corp.com

Project Chemist:	Corey Grandits
Originating Lab:	HOUSTON
Logged By:	ALOPEZ
Date Received:	09/16/17
Internal Due Date:	9/27/2017
QAP:	LAB QAP
Qualifier Set:	HRMS Qualifier Set
Formset:	Lab Standard
Merged?:	N
Report to MDL?:	Y
P.O. Number:	
EDD:	Integral-UCR

14 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: SMO, EHRMS-WIC 10B, In Lab

Pressure Gas:

Rush

Superset Summary

Service Request: E1700974 **SuperSet Reference:** 17-0000438335 rev 00

Analytical Method: **1613B**

Calibrations: 05/16/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P609257	P609248	P511539	E1700974-010
P609258	P609248	P511539	E1700974-011.R01
P609260	P609248	P511539	E1700974-013
P609261	P609248	P511539	E1700974-014

Calibrations: 07/26/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P511540	P511536	P511539	E1700974-001
P511541	P511536	P511539	E1700974-002
P511542	P511536	P511539	E1700974-003
P511543	P511536	P511539	E1700974-004
P511544	P511536	P511539	E1700974-005
P511545	P511536	P511539	E1700974-006
P511546	P511536	P511539	E1700974-007
P511547	P511536	P511539	E1700974-008
P511548	P511536	P511539	E1700974-009
P511591	P511586	P511539	E1700974-011
P511592	P511586	P511539	E1700974-012
P511539	P511536	P511539	EQ1700418-01
P511549	P511536	P511539	EQ1700418-02
P511550	P511536	P511539	EQ1700418-03

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.
E Estimated value. The reported concentration is above the calibration range of the instrument.
H Sample extracted and/or analyzed out of suggested holding time.
J Estimated value. The reported concentration is below the MRL.
K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits.The concentration of this analyte should be considered as an estimate.
P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.
Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.
S Signal saturated detector. Result reported from dilution.
U Compound was analyzed for, but was not detected (ND).
X See Case Narrative.
Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.
i The MDL/MRL have been elevated due to a matrix interference.

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2017
Arizona Department of Health Services	AZ0793	5/27/2018
Arkansas Department of Environmental Quality	17-027-0	3/27/2018
California Department of Health Services	2452	2/28/2018
Florida Department of Health	E87611	7/31/2018
Hawaii Department of Health	TX02694	4/30/2018
Illinois Environmental Protection Agency	004112	5/9/2018
Kansas Department of Health and Environment	E-10406	9/30/2017
Louisiana Department of Environmental Quality	03048	6/30/2018
Louisiana Department of Health and Hospitals	LA150026	12/31/2017
Maine Center for Disease Control and Prevention	2014019	6/5/2018
Maryland Department of the Environment	343	6/30/2018
Michigan Depratment of Environmental Quality	9971	6/5/2018
Minnesota Department of Health	840911	12/31/2017
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2018
Nevada Department of Concervation and Natural Resources	TX014112013-2	7/31/2018
New Mexico Environment Department	TX02694	4/30/2018
New York Department of Health	11707	3/31/2018
Oklahoma Department of Environmental Quality	2014 124	8/31/2018
Oregon Environmental Laboratory Accreditation Program	TX200002-009	3/24/2018
Pennsylvania Department of Environmental Protection	68-03441	6/30/2018
Tennessee Department of Environment and Concervation	04016	6/30/2018
Texas Commision on Environmental Quality	TX104704231-17-18	4/30/2018
United States Department of Agriculture	P330-14-00067	6/19/2018
Utah Department of Health Environmental Laboratory Certification	TX02694	7/31/2018
Washington Department of Health	c819	11/14/2017
West Virginia Department of Environmental Protection	347	6/30/2018

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID E1700974 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
09/25/17	LKL	001_009

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
09/26/17	KN	001-009

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID E1700974 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date:	Analyst:	Samples:
09/26/17	LKL	010, 011, 013, 014

Second Level - Data Review – to be filled by person doing peer review

Date:	Analyst:	Samples:
09/26/17	KW	010, 011, 013, 014

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID E1700974 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 09/27/17	Analyst: JC	Samples: 011DL, 012

Second Level - Data Review – to be filled by person doing peer review

Date: 09/27/17	Analyst: KW	Samples: 011DL, 012

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS

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Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 156712

Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	San Jacinto Waste Pits	A	Dioxin / Furans / EPA 1613B
Work Order		Project Number	C643	B	
Company Name	Integral Consulting	Bill To Company	same	C	
Send Report To	Craig Hutchings	Invoice Attn	same	D	
Address	1205 W. Bay Drive NW, Olympia, WA 98501	Address	same	E	
				F	
City/State/Zip		City/State/Zip		G	
Phone	360-485-3679	Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SJWP-091517-020	09/15/17	10:30	sed	8	1	X										
2	SJWP-091517-021		10:50				X										
3	SJWP-091517-022		11:05				X										
4	SJWP-091517-023		11:15				X										
5	SJWP-091517-024		11:25				X										
6	SJWP-091517-025		11:45				X										
7	SJWP-091517-026		14:20				X										
8	SJWP-091517-027		14:30				X										
9	SJWP-091517-028		14:45				X										
10	SJWP-091517-029		15:00				X										

E1700974 5
Integral Consulting, Inc.
San Jacinto Waste Pits

Sampler(s) Please Print & Sign	Shipment Method	Required Turnaround Time: (Check Box)	Results Due Date:
Kevin Kichline	Delivered	Soon as possible	soon as possible

Relinquished by:	Date:	Time:	Received by:	Notes:
Kevin Kichline	09/16/17	10:00	—	
Relinquished by: —	Date: 9/16/17	Time: 10:00	Received by (Laboratory): J. Makian	
Logged by (Laboratory):	Date: 9/18/17	Time:	Checked by (Laboratory): [signature]	

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
4317	1.6	
	1R20	
	CFO.S	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 156711

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	San Jacinto Waste Pits	A	Dioxins/Furans EPA 1613B
Work Order		Project Number	~~same~~ C643	B	
Company Name	Integral Consulting	Bill To Company	Same	C	
Send Report To	Craig Hutchings	Invoice Attn	Same	D	
Address	1205 W. Bay Drive NW, Olympia, WA 98501	Address	Same	E	
				F	
City/State/Zip		City/State/Zip		G	
Phone	360-485-3679	Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	SJWP-091517-030	09/15/17	16:00	Sed	8	1	X										
2	SJWP-091517-031		16:15				X										
3	SJWP-091517-032		17:10				X										
4	SJWP-091517-033		17:25				X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign	Shipment Method	Required Turnaround Time: (Check Box)	Results Due Date:
Kevin Kichline	Delivered	Soon as Possible	Soon as possible

Relinquished by:	Date:	Time:	Received by:	Notes:
Kevin Kichline	09/16/17	10:00	—	
Relinquished by: —	Date: 9/16/17	Time: 10:00	Received by (Laboratory): J. Marian	
Logged by (Laboratory):	Date: 9/18/17	Time:	Checked by (Laboratory): [signature]	

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
4317	1.6	
	1K20	
	CF0.5	

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Copyright 2011 by ALS Environmental.

Cooler Receipt Form

ALS Environmental

Project Chemist: CG

Client/Project: Integral

Thermometer ID: SMOY

Date/Time Received: 9/18/17 Initials: AL Date/Time Logged in: 9/18/17 Initials: AL

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ○ Courier ✓ Client
2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other
3. Were custody seals on coolers? ○ Yes ✓ No
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
   If yes, how many and where? No Seals
4. Packing Material: ○ Inserts ○ Baggies ✓ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
N/A		9/18/17	18:20	AL	2.4/2.9	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No
7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No
8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No
9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No
10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: E1700974 5
Integral Consulting, Inc.
San Jacinto Waste Pits

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 298395 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/19/17 04:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1700974-001	SJWP-091517-020	.01	1613B/Dioxins Furans			Sediment	10.333g	Wet Grey Soil
2	E1700974-002	SJWP-091517-021	.01	1613B/Dioxins Furans			Sediment	10.413g	Wet Grey Soil
3	E1700974-003	SJWP-091517-022	.01	1613B/Dioxins Furans			Sediment	10.965g	Wet Grey Soil
4	E1700974-004	SJWP-091517-023	.01	1613B/Dioxins Furans			Sediment	10.079g	Wet Grey Soil
5	E1700974-005	SJWP-091517-024	.01	1613B/Dioxins Furans			Sediment	10.321g	Wet Grey Soil
6	E1700974-006	SJWP-091517-025	.01	1613B/Dioxins Furans			Sediment	10.676g	Wet Grey Soil
7	E1700974-007	SJWP-091517-026	.01	1613B/Dioxins Furans			Sediment	10.904g	Wet Grey Soil
8	E1700974-008	SJWP-091517-027	.01	1613B/Dioxins Furans			Sediment	10.255g	Wet Grey Soil
9	E1700974-009	SJWP-091517-028	.01	1613B/Dioxins Furans			Sediment	10.394g	Wet Grey Soil
10	E1700974-010	SJWP-091517-029	.01	1613B/Dioxins Furans			Sediment	10.834g	Wet Grey Soil
11	E1700974-011	SJWP-091517-030	.01	1613B/Dioxins Furans			Sediment	10.188g	Wet Grey Soil
12	E1700974-012	SJWP-091517-031	.01	1613B/Dioxins Furans			Sediment	10.651g	Tan Sand
13	E1700974-013	SJWP-091517-032	.01	1613B/Dioxins Furans			Sediment	10.919g	Wet Grey Soil
14	E1700974-014	SJWP-091517-033	.01	1613B/Dioxins Furans			Sediment	10.184g	Wet Grey Soil
15	EQ1700418-01	MB		1613B/Dioxins Furans			Solid	10.327g	
16	EQ1700418-02	LCS		1613B/Dioxins Furans			Solid	10.108g	
17	EQ1700418-03	DLCS		1613B/Dioxins Furans			Solid	10.251g	

Spiking Solutions

Name: 1613B Matrix Working Standard Inventory ID 183440 Logbook Ref: 183440 JG 8/17/17 2-20 ng/mL Expires On: 02/13/2018

EQ1700418-02	100.00µL	EQ1700418-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 184060 Logbook Ref: 184060 JG 9/15/17 8 ng/mL Expires On: 10/29/2017

E1700974-001	100.00µL	E1700974-002	100.00µL	E1700974-003	100.00µL	E1700974-004	100.00µL	E1700974-005	100.00µL	E1700974-006	100.00µL
E1700974-007	100.00µL	E1700974-008	100.00µL	E1700974-009	100.00µL	E1700974-010	100.00µL	E1700974-011	100.00µL	E1700974-011.R01	100.00µL
E1700974-012	100.00µL	E1700974-013	100.00µL	E1700974-014	100.00µL	EQ1700418-01	100.00µL	EQ1700418-02	100.00µL	EQ1700418-03	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 184131 Logbook Ref: 184131 JR 9/19/17 2-4ng/ml Expires On: 10/31/2017

E1700974-001	1,000.00µL	E1700974-002	1,000.00µL	E1700974-003	1,000.00µL	E1700974-004	1,000.00µL	E1700974-005	1,000.00µL	E1700974-006	1,000.00µL
E1700974-007	1,000.00µL	E1700974-008	1,000.00µL	E1700974-009	1,000.00µL	E1700974-010	1,000.00µL	E1700974-011	1,000.00µL	E1700974-011.R01	1,000.00µL
E1700974-012	1,000.00µL	E1700974-013	1,000.00µL	E1700974-014	1,000.00µL	EQ1700418-01	1,000.00µL	EQ1700418-02	1,000.00µL	EQ1700418-03	1,000.00µL

Preparation Information Benchsheet

Prep Run#: 298395 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/19/17 04:00 PM

Preparation Materials

Carbon, High Purity	AL 7/10/17 (182508)	Ethyl Acetate 99.9% Minimum EtOAc	AL 3/3/17 (179750)	Glass Wool	JG 07/06/2017 (182496)
Hexanes 95%	AL 9/22/17 (184204)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	JG 7/17/2017 (182665)	Sodium Hydroxide 1N NaOH	sodium hydroxide (180303)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 6/8/17 (181861)	Tridecane (n-Tridecane)	JG 7/18/17 (182731)	Silica Gel	JG 9/21/17 (184159)
sulfuric acid	JG 7/20/17 (182760)	Toluene 99.9% Minimum	AL 9/6/17 (183870)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	9/19/17 16:00	Started:	9/21/17 09:00	Started:	9/21/17 11:00	Started:	9/22/17 13:00
Finished:	9/20/17 12:00	Finished:	9/21/17 10:00	Finished:	9/21/17 14:00	Finished:	9/22/17 15:00
By:	JRAMIREZ	By:	TWOODS	By:	TWOODS	By:	TWOODS
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: JG Date: 9/26/17

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-020	**Units:**	ng/Kg
Lab Code:	E1700974-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 14:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511540	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.722	0.723			1
1,2,3,7,8-PeCDD	ND	U	0.405	3.62			1
1,2,3,4,7,8-HxCDD	ND	U	0.465	3.62			1
1,2,3,6,7,8-HxCDD	ND	U	0.513	3.62			1
1,2,3,7,8,9-HxCDD	0.767**JK**		0.466	3.62	1.01	1.007	1
1,2,3,4,6,7,8-HpCDD	15.2		0.673	3.62	1.06	1.000	1
OCDD	465		0.486	7.23	0.91	1.000	1
2,3,7,8-TCDF	1.79		0.665	0.723	0.65	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.456	3.62			1
2,3,4,7,8-PeCDF	ND	U	0.497	3.62			1
1,2,3,4,7,8-HxCDF	ND	U	0.350	3.62			1
1,2,3,6,7,8-HxCDF	ND	U	0.363	3.62			1
1,2,3,7,8,9-HxCDF	ND	U	0.428	3.62			1
2,3,4,6,7,8-HxCDF	ND	U	0.397	3.62			1
1,2,3,4,6,7,8-HpCDF	0.220**J**		0.143	3.62	1.13	1.001	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.184	3.62			1
OCDF	ND	U	1.17	7.23			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-020	**Units:**	ng/Kg
Lab Code:	E1700974-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 14:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511540	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.722	0.723			1
Total Penta-Dioxins	ND	U	0.405	3.62			1
Total Hexa-Dioxins	8.85		0.490	3.62	1.32		1
Total Hepta-Dioxins	64.9		0.673	3.62	1.09		1
Total Tetra-Furans	ND	U	0.665	0.723			1
Total Penta-Furans	ND	U	0.475	3.62			1
Total Hexa-Furans	ND	U	0.383	3.62			1
Total Hepta-Furans	0.220**J**		0.158	3.62	1.13		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-020	**Units:**	Percent
Lab Code:	E1700974-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 14:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511540	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	989.678	49		25-164	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	916.173	46		25-181	1.63	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1007.155	50		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	975.703	49		28-130	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	875.078	44		23-140	1.04	1.066
13C-OCDD	4000	1375.271	34		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	927.513	46		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	967.576	48		24-185	1.56	1.136
13C-2,3,4,7,8-PeCDF	2000	906.960	45		21-178	1.59	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1068.691	53		26-152	0.48	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1029.661	51		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1066.388	53		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	995.603	50		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	941.954	47		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1008.238	50		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	397.394	50		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-020	**Units:**	ng/Kg
Lab Code:	E1700974-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.722	0.723	1	1	
1,2,3,7,8-PeCDD	ND	0.405	3.62	1	1	
1,2,3,4,7,8-HxCDD	ND	0.465	3.62	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.513	3.62	1	0.1	
1,2,3,7,8,9-HxCDD	**0.767**	0.466	3.62	1	0.1	0.0767
1,2,3,4,6,7,8-HpCDD	**15.2**	0.673	3.62	1	0.01	0.152
OCDD	**465**	0.486	7.23	1	0.0003	0.140
2,3,7,8-TCDF	**1.79**	0.665	0.723	1	0.1	0.179
1,2,3,7,8-PeCDF	ND	0.456	3.62	1	0.03	
2,3,4,7,8-PeCDF	ND	0.497	3.62	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.350	3.62	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.363	3.62	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.428	3.62	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.397	3.62	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.220**	0.143	3.62	1	0.01	0.00220
1,2,3,4,7,8,9-HpCDF	ND	0.184	3.62	1	0.01	
OCDF	ND	1.17	7.23	1	0.0003	
		Total TEQ				0.550

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-020	**Units:**	Percent
Lab Code:	E1700974-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	8.274g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	66.9		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-021	**Units:**	ng/Kg
Lab Code:	E1700974-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.413g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511541	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.629	0.762			1
1,2,3,7,8-PeCDD	ND	U	0.641	3.81			1
1,2,3,4,7,8-HxCDD	ND	U	0.579	3.81			1
1,2,3,6,7,8-HxCDD	ND	U	0.646	3.81			1
1,2,3,7,8,9-HxCDD	1.44**JK**		0.583	3.81	1.04	1.007	1
1,2,3,4,6,7,8-HpCDD	46.4		0.936	3.81	1.04	1.000	1
OCDD	2330		0.576	7.62	0.87	1.000	1
2,3,7,8-TCDF	3.22**K**		0.883	0.883	0.90	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.537	3.81			1
2,3,4,7,8-PeCDF	ND	U	0.577	3.81			1
1,2,3,4,7,8-HxCDF	ND	U	0.418	3.81			1
1,2,3,6,7,8-HxCDF	ND	U	0.399	3.81			1
1,2,3,7,8,9-HxCDF	ND	U	0.500	3.81			1
2,3,4,6,7,8-HxCDF	ND	U	0.467	3.81			1
1,2,3,4,6,7,8-HpCDF	1.80**JK**		0.300	3.81	0.76	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.352	3.81			1
OCDF	23.8		1.56	7.62	0.79	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-021	**Units:**	ng/Kg
Lab Code:	E1700974-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.413g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511541	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.629	0.762			1
Total Penta-Dioxins	0.764**J**		0.641	3.81	1.34		1
Total Hexa-Dioxins	21.9		0.613	3.81	1.21		1
Total Hepta-Dioxins	159		0.936	3.81	1.03		1
Total Tetra-Furans	ND	U	0.883	0.883			1
Total Penta-Furans	ND	U	0.556	3.81			1
Total Hexa-Furans	1.02**J**		0.443	3.81	1.16		1
Total Hepta-Furans	0.982**J**		0.317	3.81	1.14		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-021	**Units:**	Percent
Lab Code:	E1700974-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.413g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511541	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1065.274	53		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	942.543	47		25-181	1.61	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1092.694	55		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1041.564	52		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	851.915	43		23-140	1.05	1.066
13C-OCDD	4000	1294.633	32		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	996.509	50		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	981.576	49		24-185	1.56	1.136
13C-2,3,4,7,8-PeCDF	2000	930.938	47		21-178	1.57	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1145.551	57		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1166.572	58		26-123	0.48	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1162.758	58		29-147	0.48	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1032.018	52		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	919.030	46		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1069.698	53		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	422.560	53		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-021	**Units:**	ng/Kg
Lab Code:	E1700974-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.629	0.762	1	1	
1,2,3,7,8-PeCDD	ND	0.641	3.81	1	1	
1,2,3,4,7,8-HxCDD	ND	0.579	3.81	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.646	3.81	1	0.1	
1,2,3,7,8,9-HxCDD	**1.44**	0.583	3.81	1	0.1	0.144
1,2,3,4,6,7,8-HpCDD	**46.4**	0.936	3.81	1	0.01	0.464
OCDD	**2330**	0.576	7.62	1	0.0003	0.699
2,3,7,8-TCDF	**3.22**	0.883	0.883	1	0.1	0.322
1,2,3,7,8-PeCDF	ND	0.537	3.81	1	0.03	
2,3,4,7,8-PeCDF	ND	0.577	3.81	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.418	3.81	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.399	3.81	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.500	3.81	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.467	3.81	1	0.1	
1,2,3,4,6,7,8-HpCDF	**1.80**	0.300	3.81	1	0.01	0.0180
1,2,3,4,7,8,9-HpCDF	ND	0.352	3.81	1	0.01	
OCDF	**23.8**	1.56	7.62	1	0.0003	0.00714
		Total TEQ				1.65

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-021	**Units:**	Percent
Lab Code:	E1700974-002	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	9.101g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	63.0		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-022	**Units:**	ng/Kg
Lab Code:	E1700974-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:52
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.965g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511542	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.85		1.44	1.44	0.76	1.000	1
1,2,3,7,8-PeCDD	ND	U	0.643	4.41			1
1,2,3,4,7,8-HxCDD	ND	U	0.474	4.41			1
1,2,3,6,7,8-HxCDD	1.21**J**		0.546	4.41	1.22	1.000	1
1,2,3,7,8,9-HxCDD	1.33**J**		0.485	4.41	1.32	1.007	1
1,2,3,4,6,7,8-HpCDD	45.5		1.51	4.41	1.03	1.000	1
OCDD	1720		0.957	8.82	0.89	1.000	1
2,3,7,8-TCDF	16.3		1.90	1.90	0.78	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.986	4.41			1
2,3,4,7,8-PeCDF	ND	U	1.02	4.41			1
1,2,3,4,7,8-HxCDF	0.739**J**		0.640	4.41	1.13	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	0.642	4.41			1
1,2,3,7,8,9-HxCDF	ND	U	0.799	4.41			1
2,3,4,6,7,8-HxCDF	ND	U	0.692	4.41			1
1,2,3,4,6,7,8-HpCDF	2.02**JK**		0.357	4.41	1.44	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.435	4.41			1
OCDF	10.1**K**		2.44	8.82	0.73	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-022	**Units:**	ng/Kg
Lab Code:	E1700974-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:52
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.965g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511542	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	2.85		1.44	1.44	0.76		1
Total Penta-Dioxins	3.39**J**		0.643	4.41	1.55		1
Total Hexa-Dioxins	27.0		0.510	4.41	1.14		1
Total Hepta-Dioxins	144		1.51	4.41	0.99		1
Total Tetra-Furans	26.6		1.90	1.90	0.77		1
Total Penta-Furans	ND	U	0.999	4.41			1
Total Hexa-Furans	0.739**J**		0.690	4.41	1.13		1
Total Hepta-Furans	3.56**J**		0.385	4.41	1.06		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-022	**Units:**	Percent
Lab Code:	E1700974-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 15:52
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.965g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511542	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	751.938	38		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	786.908	39		25-181	1.62	1.176
13C-1,2,3,4,7,8-HxCDD	2000	852.403	43		32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	790.419	40		28-130	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	696.912	35		23-140	1.03	1.066
13C-OCDD	4000	1016.966	25		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	685.176	34		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	801.102	40		24-185	1.60	1.135
13C-2,3,4,7,8-PeCDF	2000	795.489	40		21-178	1.58	1.166
13C-1,2,3,4,7,8-HxCDF	2000	844.494	42		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	846.861	42		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	855.268	43		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	805.838	40		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	734.462	37		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	837.878	42		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	446.955	56		35-197	NA	1.019

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-022	**Units:**	ng/Kg
Lab Code:	E1700974-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**2.85**	1.44	1.44	1	1	2.85
1,2,3,7,8-PeCDD	ND	0.643	4.41	1	1	
1,2,3,4,7,8-HxCDD	ND	0.474	4.41	1	0.1	
1,2,3,6,7,8-HxCDD	**1.21**	0.546	4.41	1	0.1	0.121
1,2,3,7,8,9-HxCDD	**1.33**	0.485	4.41	1	0.1	0.133
1,2,3,4,6,7,8-HpCDD	**45.5**	1.51	4.41	1	0.01	0.455
OCDD	**1720**	0.957	8.82	1	0.0003	0.516
2,3,7,8-TCDF	**16.3**	1.90	1.90	1	0.1	1.63
1,2,3,7,8-PeCDF	ND	0.986	4.41	1	0.03	
2,3,4,7,8-PeCDF	ND	1.02	4.41	1	0.3	
1,2,3,4,7,8-HxCDF	**0.739**	0.640	4.41	1	0.1	0.0739
1,2,3,6,7,8-HxCDF	ND	0.642	4.41	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.799	4.41	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.692	4.41	1	0.1	
1,2,3,4,6,7,8-HpCDF	**2.02**	0.357	4.41	1	0.01	0.0202
1,2,3,4,7,8,9-HpCDF	ND	0.435	4.41	1	0.01	
OCDF	**10.1**	2.44	8.82	1	0.0003	0.00303
		Total TEQ				5.80

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-022	**Units:**	Percent
Lab Code:	E1700974-003	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.039g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	51.7		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-023	**Units:**	ng/Kg
Lab Code:	E1700974-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 16:41
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.079g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511543	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	61.5		1.15	1.26	0.74	1.001	1
1,2,3,7,8-PeCDD	ND	U	1.20	6.28			1
1,2,3,4,7,8-HxCDD	1.14**J**		0.840	6.28	1.28	1.000	1
1,2,3,6,7,8-HxCDD	2.71**J**		0.965	6.28	1.32	1.000	1
1,2,3,7,8,9-HxCDD	2.10**JK**		0.858	6.28	2.07	1.006	1
1,2,3,4,6,7,8-HpCDD	91.6		2.10	6.28	1.07	1.000	1
OCDD	3080		1.23	12.6	0.88	1.000	1
2,3,7,8-TCDF	288		1.79	1.79	0.71	1.001	1
1,2,3,7,8-PeCDF	5.54**JK**		1.20	6.28	1.01	1.001	1
2,3,4,7,8-PeCDF	5.28**JK**		1.29	6.28	1.00	1.000	1
1,2,3,4,7,8-HxCDF	10.3		0.478	6.28	1.23	1.000	1
1,2,3,6,7,8-HxCDF	2.05**JK**		0.466	6.28	0.80	1.000	1
1,2,3,7,8,9-HxCDF	1.02**JK**		0.578	6.28	1.63	1.001	1
2,3,4,6,7,8-HxCDF	0.953**J**		0.517	6.28	1.23	1.000	1
1,2,3,4,6,7,8-HpCDF	11.5		0.718	6.28	1.08	1.000	1
1,2,3,4,7,8,9-HpCDF	1.96**JK**		0.878	6.28	1.38	1.000	1
OCDF	120		2.83	12.6	0.85	1.005	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-023	**Units:**	ng/Kg
Lab Code:	E1700974-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 16:41
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.079g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511543	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	61.5		1.15	1.26	0.74		1
Total Penta-Dioxins	2.05**J**		1.20	6.28	1.71		1
Total Hexa-Dioxins	64.7		0.902	6.28	1.35		1
Total Hepta-Dioxins	343		2.10	6.28	1.04		1
Total Tetra-Furans	491		1.79	1.79	0.80		1
Total Penta-Furans	ND	U	1.25	6.28			1
Total Hexa-Furans	19.3		0.507	6.28	1.13		1
Total Hepta-Furans	24.1		0.774	6.28	1.08		1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-023	**Units:**	Percent
Lab Code:	E1700974-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 16:41
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.079g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511543	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	944.459	47		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	842.018	42		25-181	1.58	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1002.970	50		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	892.265	45		28-130	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	806.815	40		23-140	1.08	1.066
13C-OCDD	4000	1186.587	30		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	875.839	44		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	875.017	44		24-185	1.61	1.136
13C-2,3,4,7,8-PeCDF	2000	852.358	43		21-178	1.58	1.167
13C-1,2,3,4,7,8-HxCDF	2000	993.566	50		26-152	0.53	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1003.262	50		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1010.778	51		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	944.005	47		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	843.878	42		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	917.937	46		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	433.732	54		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-023	**Units:**	ng/Kg
Lab Code:	E1700974-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**61.5**	1.15	1.26	1	1	61.5
1,2,3,7,8-PeCDD	ND	1.20	6.28	1	1	
1,2,3,4,7,8-HxCDD	**1.14**	0.840	6.28	1	0.1	0.114
1,2,3,6,7,8-HxCDD	**2.71**	0.965	6.28	1	0.1	0.271
1,2,3,7,8,9-HxCDD	**2.10**	0.858	6.28	1	0.1	0.210
1,2,3,4,6,7,8-HpCDD	**91.6**	2.10	6.28	1	0.01	0.916
OCDD	**3080**	1.23	12.6	1	0.0003	0.924
2,3,7,8-TCDF	**288**	1.79	1.79	1	0.1	28.8
1,2,3,7,8-PeCDF	**5.54**	1.20	6.28	1	0.03	0.166
2,3,4,7,8-PeCDF	**5.28**	1.29	6.28	1	0.3	1.58
1,2,3,4,7,8-HxCDF	**10.3**	0.478	6.28	1	0.1	1.03
1,2,3,6,7,8-HxCDF	**2.05**	0.466	6.28	1	0.1	0.205
1,2,3,7,8,9-HxCDF	**1.02**	0.578	6.28	1	0.1	0.102
2,3,4,6,7,8-HxCDF	**0.953**	0.517	6.28	1	0.1	0.0953
1,2,3,4,6,7,8-HpCDF	**11.5**	0.718	6.28	1	0.01	0.115
1,2,3,4,7,8,9-HpCDF	**1.96**	0.878	6.28	1	0.01	0.0196
OCDF	**120**	2.83	12.6	1	0.0003	0.0360
		Total TEQ				96.1

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-023	**Units:**	Percent
Lab Code:	E1700974-004	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.146g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	39.5		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-024	**Units:**	ng/Kg
Lab Code:	E1700974-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 17:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.321g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511544	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	35.1		1.78	1.78	0.77	1.001	1
1,2,3,7,8-PeCDD	ND	U	1.11	7.71			1
1,2,3,4,7,8-HxCDD	1.33**JK**		1.05	7.71	0.83	1.000	1
1,2,3,6,7,8-HxCDD	3.02**JK**		1.17	7.71	0.95	1.000	1
1,2,3,7,8,9-HxCDD	3.54**J**		1.06	7.71	1.20	1.007	1
1,2,3,4,6,7,8-HpCDD	106		2.04	7.71	1.02	1.000	1
OCDD	3300		2.43	15.4	0.90	1.000	1
2,3,7,8-TCDF	140		2.38	2.38	0.74	1.001	1
1,2,3,7,8-PeCDF	3.78**J**		1.37	7.71	1.45	1.001	1
2,3,4,7,8-PeCDF	3.79**J**		1.42	7.71	1.32	1.000	1
1,2,3,4,7,8-HxCDF	5.28**JK**		0.903	7.71	1.55	1.000	1
1,2,3,6,7,8-HxCDF	2.43**J**		0.914	7.71	1.19	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	1.09	7.71			1
2,3,4,6,7,8-HxCDF	1.09**JK**		1.01	7.71	0.75	1.000	1
1,2,3,4,6,7,8-HpCDF	12.7		0.732	7.71	0.91	1.000	1
1,2,3,4,7,8,9-HpCDF	1.89**JK**		0.900	7.71	1.21	1.000	1
OCDF	145		4.11	15.4	0.83	1.005	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-024	**Units:**	ng/Kg
Lab Code:	E1700974-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 17:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.321g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511544	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	35.1		1.78	1.78	0.77		1
Total Penta-Dioxins	1.62	**J**	1.11	7.71	1.78		1
Total Hexa-Dioxins	72.9		1.11	7.71	1.15		1
Total Hepta-Dioxins	402		2.04	7.71	1.05		1
Total Tetra-Furans	230		2.38	2.38	0.72		1
Total Penta-Furans	10.0		0.194	7.71	1.45		1
Total Hexa-Furans	13.1		0.973	7.71	1.28		1
Total Hepta-Furans	12.7		0.792	7.71	0.91		1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-024	**Units:**	Percent
Lab Code:	E1700974-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 17:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.321g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511544	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	882.991	44		25-164	0.81	1.019
13C-1,2,3,7,8-PeCDD	2000	820.719	41		25-181	1.57	1.176
13C-1,2,3,4,7,8-HxCDD	2000	942.658	47		32-141	1.33	0.991
13C-1,2,3,6,7,8-HxCDD	2000	882.362	44		28-130	1.19	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	719.125	36		23-140	1.07	1.066
13C-OCDD	4000	1021.112	26		17-157	0.88	1.141
13C-2,3,7,8-TCDF	2000	809.227	40		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	834.865	42		24-185	1.51	1.136
13C-2,3,4,7,8-PeCDF	2000	807.840	40		21-178	1.60	1.167
13C-1,2,3,4,7,8-HxCDF	2000	938.050	47		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	931.239	47		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	956.552	48		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	884.514	44		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	781.332	39		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	866.469	43		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	455.400	57		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-024	**Units:**	ng/Kg
Lab Code:	E1700974-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**35.1**	1.78	1.78	1	1	35.1
1,2,3,7,8-PeCDD	ND	1.11	7.71	1	1	
1,2,3,4,7,8-HxCDD	**1.33**	1.05	7.71	1	0.1	0.133
1,2,3,6,7,8-HxCDD	**3.02**	1.17	7.71	1	0.1	0.302
1,2,3,7,8,9-HxCDD	**3.54**	1.06	7.71	1	0.1	0.354
1,2,3,4,6,7,8-HpCDD	**106**	2.04	7.71	1	0.01	1.06
OCDD	**3300**	2.43	15.4	1	0.0003	0.990
2,3,7,8-TCDF	**140**	2.38	2.38	1	0.1	14.0
1,2,3,7,8-PeCDF	**3.78**	1.37	7.71	1	0.03	0.113
2,3,4,7,8-PeCDF	**3.79**	1.42	7.71	1	0.3	1.14
1,2,3,4,7,8-HxCDF	**5.28**	0.903	7.71	1	0.1	0.528
1,2,3,6,7,8-HxCDF	**2.43**	0.914	7.71	1	0.1	0.243
1,2,3,7,8,9-HxCDF	ND	1.09	7.71	1	0.1	
2,3,4,6,7,8-HxCDF	**1.09**	1.01	7.71	1	0.1	0.109
1,2,3,4,6,7,8-HpCDF	**12.7**	0.732	7.71	1	0.01	0.127
1,2,3,4,7,8,9-HpCDF	**1.89**	0.900	7.71	1	0.01	0.0189
OCDF	**145**	4.11	15.4	1	0.0003	0.0435
		Total TEQ				54.3

2005 WHO TEFs, ND = 0

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-024	**Units:**	Percent
Lab Code:	E1700974-005	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.083g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	31.4		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-025	**Units:**	ng/Kg
Lab Code:	E1700974-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 18:18
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.676g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511545	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	11.4		2.17	2.17	0.89	1.001	1
1,2,3,7,8-PeCDD	ND	U	1.80	7.32			1
1,2,3,4,7,8-HxCDD	1.73**J**		0.743	7.32	1.15	1.000	1
1,2,3,6,7,8-HxCDD	1.45**JK**		0.817	7.32	0.96	1.000	1
1,2,3,7,8,9-HxCDD	1.38**JK**		0.743	7.32	1.59	1.006	1
1,2,3,4,6,7,8-HpCDD	46.1		2.82	7.32	1.20	1.000	1
OCDD	1900		3.07	14.6	0.89	1.000	1
2,3,7,8-TCDF	47.2		3.30	3.30	0.73	1.001	1
1,2,3,7,8-PeCDF	ND	U	2.20	7.32			1
2,3,4,7,8-PeCDF	ND	U	2.33	7.32			1
1,2,3,4,7,8-HxCDF	3.28**J**		1.33	7.32	1.20	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	1.33	7.32			1
1,2,3,7,8,9-HxCDF	ND	U	1.60	7.32			1
2,3,4,6,7,8-HxCDF	ND	U	1.39	7.32			1
1,2,3,4,6,7,8-HpCDF	10.1**K**		0.768	7.32	0.82	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.976	7.32			1
OCDF	68.0		5.89	14.6	0.97	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-025	**Units:**	ng/Kg
Lab Code:	E1700974-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 18:18
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.676g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511545	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	2.17	2.17			1
Total Penta-Dioxins	ND	U	1.80	7.32			1
Total Hexa-Dioxins	31.3		0.781	7.32	1.30		1
Total Hepta-Dioxins	130		2.82	7.32	1.00		1
Total Tetra-Furans	47.2		3.30	3.30	0.73		1
Total Penta-Furans	ND	U	2.26	7.32			1
Total Hexa-Furans	6.28**J**		1.41	7.32	1.19		1
Total Hepta-Furans	10.6		0.846	7.32	0.95		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-025	**Units:**	Percent
Lab Code:	E1700974-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 18:18
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.676g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511545	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	637.874	32		25-164	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	573.682	29		25-181	1.56	1.176
13C-1,2,3,4,7,8-HxCDD	2000	663.651	33		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	668.032	33		28-130	1.32	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	545.540	27		23-140	1.05	1.066
13C-OCDD	4000	757.905	19		17-157	0.94	1.141
13C-2,3,7,8-TCDF	2000	593.802	30		24-169	0.74	0.992
13C-1,2,3,7,8-PeCDF	2000	601.020	30		24-185	1.54	1.136
13C-2,3,4,7,8-PeCDF	2000	580.716	29		21-178	1.54	1.167
13C-1,2,3,4,7,8-HxCDF	2000	651.710	33		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	671.570	34		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	661.755	33		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	661.753	33		28-136	0.49	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	567.268	28		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	632.054	32		26-138	0.42	1.079
37Cl-2,3,7,8-TCDD	800	436.354	55		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-025	**Units:**	ng/Kg
Lab Code:	E1700974-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**11.4**	2.17	2.17	1	1	11.4
1,2,3,7,8-PeCDD	ND	1.80	7.32	1	1	
1,2,3,4,7,8-HxCDD	**1.73**	0.743	7.32	1	0.1	0.173
1,2,3,6,7,8-HxCDD	**1.45**	0.817	7.32	1	0.1	0.145
1,2,3,7,8,9-HxCDD	**1.38**	0.743	7.32	1	0.1	0.138
1,2,3,4,6,7,8-HpCDD	**46.1**	2.82	7.32	1	0.01	0.461
OCDD	**1900**	3.07	14.6	1	0.0003	0.570
2,3,7,8-TCDF	**47.2**	3.30	3.30	1	0.1	4.72
1,2,3,7,8-PeCDF	ND	2.20	7.32	1	0.03	
2,3,4,7,8-PeCDF	ND	2.33	7.32	1	0.3	
1,2,3,4,7,8-HxCDF	**3.28**	1.33	7.32	1	0.1	0.328
1,2,3,6,7,8-HxCDF	ND	1.33	7.32	1	0.1	
1,2,3,7,8,9-HxCDF	ND	1.60	7.32	1	0.1	
2,3,4,6,7,8-HxCDF	ND	1.39	7.32	1	0.1	
1,2,3,4,6,7,8-HpCDF	**10.1**	0.768	7.32	1	0.01	0.101
1,2,3,4,7,8,9-HpCDF	ND	0.976	7.32	1	0.01	
OCDF	**68.0**	5.89	14.6	1	0.0003	0.0204
		Total TEQ				18.1

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-025	**Units:**	Percent
Lab Code:	E1700974-006	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	4.683g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	32.0		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-026	**Units:**	ng/Kg
Lab Code:	E1700974-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:07
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.904g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511546	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.4		0.934	0.934	0.79	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.644	3.87			1
1,2,3,4,7,8-HxCDD	ND	U	0.650	3.87			1
1,2,3,6,7,8-HxCDD	ND	U	0.684	3.87			1
1,2,3,7,8,9-HxCDD	ND	U	0.635	3.87			1
1,2,3,4,6,7,8-HpCDD	18.5		0.867	3.87	0.94	1.000	1
OCDD	547		0.859	7.73	0.87	1.000	1
2,3,7,8-TCDF	95.7		0.803	0.803	0.74	1.001	1
1,2,3,7,8-PeCDF	2.43**J**		0.658	3.87	1.41	1.001	1
2,3,4,7,8-PeCDF	2.07**J**		0.682	3.87	1.45	1.000	1
1,2,3,4,7,8-HxCDF	3.93		0.442	3.87	1.12	1.000	1
1,2,3,6,7,8-HxCDF	1.17**J**		0.460	3.87	1.31	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.517	3.87			1
2,3,4,6,7,8-HxCDF	ND	U	0.472	3.87			1
1,2,3,4,6,7,8-HpCDF	3.18**J**		0.295	3.87	0.97	1.001	1
1,2,3,4,7,8,9-HpCDF	0.438**JK**		0.363	3.87	1.28	1.000	1
OCDF	43.6		1.53	7.73	0.88	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-026	**Units:**	ng/Kg
Lab Code:	E1700974-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:07
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.904g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511546	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.4		0.934	0.934	0.79		1
Total Penta-Dioxins	ND	U	0.644	3.87			1
Total Hexa-Dioxins	12.0		0.668	3.87	1.09		1
Total Hepta-Dioxins	70.4		0.867	3.87	0.94		1
Total Tetra-Furans	170		0.803	0.803	0.75		1
Total Penta-Furans	5.41		0.0969	3.87	1.41		1
Total Hexa-Furans	5.10		0.472	3.87	1.12		1
Total Hepta-Furans	5.93		0.319	3.87	0.97		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-026	**Units:**	Percent
Lab Code:	E1700974-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:07
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.904g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511546	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	733.805	37		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	727.513	36		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	735.579	37		32-141	1.31	0.991
13C-1,2,3,6,7,8-HxCDD	2000	723.092	36		28-130	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	561.938	28		23-140	1.03	1.066
13C-OCDD	4000	741.940	19		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	671.964	34		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	715.952	36		24-185	1.55	1.136
13C-2,3,4,7,8-PeCDF	2000	709.503	35		21-178	1.58	1.167
13C-1,2,3,4,7,8-HxCDF	2000	745.628	37		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	723.580	36		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	761.502	38		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	706.664	35		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	608.102	30		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	668.937	33		26-138	0.45	1.078
37Cl-2,3,7,8-TCDD	800	464.259	58		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-026	**Units:**	ng/Kg
Lab Code:	E1700974-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**18.4**	0.934	0.934	1	1	18.4
1,2,3,7,8-PeCDD	ND	0.644	3.87	1	1	
1,2,3,4,7,8-HxCDD	ND	0.650	3.87	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.684	3.87	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.635	3.87	1	0.1	
1,2,3,4,6,7,8-HpCDD	**18.5**	0.867	3.87	1	0.01	0.185
OCDD	**547**	0.859	7.73	1	0.0003	0.164
2,3,7,8-TCDF	**95.7**	0.803	0.803	1	0.1	9.57
1,2,3,7,8-PeCDF	**2.43**	0.658	3.87	1	0.03	0.0729
2,3,4,7,8-PeCDF	**2.07**	0.682	3.87	1	0.3	0.621
1,2,3,4,7,8-HxCDF	**3.93**	0.442	3.87	1	0.1	0.393
1,2,3,6,7,8-HxCDF	**1.17**	0.460	3.87	1	0.1	0.117
1,2,3,7,8,9-HxCDF	ND	0.517	3.87	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.472	3.87	1	0.1	
1,2,3,4,6,7,8-HpCDF	**3.18**	0.295	3.87	1	0.01	0.0318
1,2,3,4,7,8,9-HpCDF	**0.438**	0.363	3.87	1	0.01	0.00438
OCDF	**43.6**	1.53	7.73	1	0.0003	0.0131
		Total TEQ				29.6

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-026	**Units:**	Percent
Lab Code:	E1700974-007	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	7.682g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	59.3		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-027	**Units:**	ng/Kg
Lab Code:	E1700974-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.255g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511547	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	11.9		1.40	1.40	0.82	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.821	5.50			1
1,2,3,4,7,8-HxCDD	ND	U	0.702	5.50			1
1,2,3,6,7,8-HxCDD	1.32**JK**		0.780	5.50	0.70	1.000	1
1,2,3,7,8,9-HxCDD	1.56**J**		0.705	5.50	1.32	1.006	1
1,2,3,4,6,7,8-HpCDD	49.9		1.42	5.50	0.97	1.000	1
OCDD	1100		0.878	11.0	0.90	1.000	1
2,3,7,8-TCDF	26.8		1.49	1.49	0.73	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.984	5.50			1
2,3,4,7,8-PeCDF	ND	U	0.966	5.50			1
1,2,3,4,7,8-HxCDF	2.31**J**		0.586	5.50	1.16	1.000	1
1,2,3,6,7,8-HxCDF	0.956**J**		0.591	5.50	1.22	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.691	5.50			1
2,3,4,6,7,8-HxCDF	ND	U	0.619	5.50			1
1,2,3,4,6,7,8-HpCDF	9.03**K**		0.336	5.50	0.87	1.000	1
1,2,3,4,7,8,9-HpCDF	0.963**J**		0.397	5.50	0.96	1.000	1
OCDF	47.8		2.15	11.0	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-027	**Units:**	ng/Kg
Lab Code:	E1700974-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.255g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511547	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	11.9		1.40	1.40	0.82		1
Total Penta-Dioxins	1.71**J**		0.821	5.50	1.35		1
Total Hexa-Dioxins	25.5		0.741	5.50	1.07		1
Total Hepta-Dioxins	161		1.42	5.50	1.01		1
Total Tetra-Furans	42.4		1.49	1.49	0.68		1
Total Penta-Furans	1.82**J**		0.138	5.50			1
Total Hexa-Furans	5.88		0.619	5.50	1.06		1
Total Hepta-Furans	12.3		0.357	5.50	0.96		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-027	**Units:**	Percent
Lab Code:	E1700974-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.255g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511547	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	701.411	35		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	717.364	36		25-181	1.54	1.176
13C-1,2,3,4,7,8-HxCDD	2000	756.021	38		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	708.593	35		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	586.481	29		23-140	1.03	1.066
13C-OCDD	4000	839.386	21		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	641.471	32		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	722.160	36		24-185	1.56	1.135
13C-2,3,4,7,8-PeCDF	2000	716.832	36		21-178	1.54	1.167
13C-1,2,3,4,7,8-HxCDF	2000	743.800	37		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	719.291	36		26-123	0.49	0.975
13C-1,2,3,7,8,9-HxCDF	2000	742.614	37		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	721.041	36		28-136	0.49	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	596.003	30		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	709.372	35		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	498.024	62		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-027	**Units:**	ng/Kg
Lab Code:	E1700974-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**11.9**	1.40	1.40	1	1	11.9
1,2,3,7,8-PeCDD	ND	0.821	5.50	1	1	
1,2,3,4,7,8-HxCDD	ND	0.702	5.50	1	0.1	
1,2,3,6,7,8-HxCDD	**1.32**	0.780	5.50	1	0.1	0.132
1,2,3,7,8,9-HxCDD	**1.56**	0.705	5.50	1	0.1	0.156
1,2,3,4,6,7,8-HpCDD	**49.9**	1.42	5.50	1	0.01	0.499
OCDD	**1100**	0.878	11.0	1	0.0003	0.330
2,3,7,8-TCDF	**26.8**	1.49	1.49	1	0.1	2.68
1,2,3,7,8-PeCDF	ND	0.984	5.50	1	0.03	
2,3,4,7,8-PeCDF	ND	0.966	5.50	1	0.3	
1,2,3,4,7,8-HxCDF	**2.31**	0.586	5.50	1	0.1	0.231
1,2,3,6,7,8-HxCDF	**0.956**	0.591	5.50	1	0.1	0.0956
1,2,3,7,8,9-HxCDF	ND	0.691	5.50	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.619	5.50	1	0.1	
1,2,3,4,6,7,8-HpCDF	**9.03**	0.336	5.50	1	0.01	0.0903
1,2,3,4,7,8,9-HpCDF	**0.963**	0.397	5.50	1	0.01	0.00963
OCDF	**47.8**	2.15	11.0	1	0.0003	0.0143
		Total TEQ				16.1

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-027	**Units:**	Percent
Lab Code:	E1700974-008	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.037g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	44.3		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-028	**Units:**	ng/Kg
Lab Code:	E1700974-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 20:44
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.394g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511548	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	27.9		0.816	1.42	0.75	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.831	7.12			1
1,2,3,4,7,8-HxCDD	0.995**JK**		0.470	7.12	1.03	1.000	1
1,2,3,6,7,8-HxCDD	2.10**JK**		0.525	7.12	1.45	1.000	1
1,2,3,7,8,9-HxCDD	2.48**JK**		0.474	7.12	1.69	1.007	1
1,2,3,4,6,7,8-HpCDD	105		1.85	7.12	0.97	1.000	1
OCDD	4230		0.862	14.2	0.89	1.000	1
2,3,7,8-TCDF	121		0.957	1.42	0.68	1.001	1
1,2,3,7,8-PeCDF	2.66**J**		0.774	7.12	1.60	1.001	1
2,3,4,7,8-PeCDF	2.18**JK**		0.807	7.12	0.97	1.001	1
1,2,3,4,7,8-HxCDF	3.96**J**		0.608	7.12	1.31	1.000	1
1,2,3,6,7,8-HxCDF	1.18**JK**		0.620	7.12	0.94	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.675	7.12			1
2,3,4,6,7,8-HxCDF	ND	U	0.666	7.12			1
1,2,3,4,6,7,8-HpCDF	10.4		0.336	7.12	1.12	1.000	1
1,2,3,4,7,8,9-HpCDF	0.930**J**		0.380	7.12	0.93	1.000	1
OCDF	117		1.18	14.2	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-028	**Units:**	ng/Kg
Lab Code:	E1700974-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 20:44
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.394g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511548	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	27.9		0.816	1.42	0.75		1
Total Penta-Dioxins	3.08**J**		0.831	7.12	1.67		1
Total Hexa-Dioxins	54.5		0.498	7.12	1.23		1
Total Hepta-Dioxins	384		1.85	7.12	1.03		1
Total Tetra-Furans	198		0.957	1.42	0.85		1
Total Penta-Furans	2.66**J**		0.179	7.12	1.60		1
Total Hexa-Furans	6.91**J**		0.641	7.12	1.39		1
Total Hepta-Furans	25.0		0.349	7.12	1.12		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-028	**Units:**	Percent
Lab Code:	E1700974-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 20:44
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.394g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511548	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1538.288	77		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1458.146	73		25-181	1.59	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1491.139	75		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1412.275	71		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1197.971	60		23-140	1.05	1.066
13C-OCDD	4000	1789.289	45		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1396.284	70		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1484.777	74		24-185	1.56	1.136
13C-2,3,4,7,8-PeCDF	2000	1455.797	73		21-178	1.54	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1484.458	74		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1419.407	71		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1608.011	80		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1409.064	70		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1240.665	62		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1506.245	75		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	611.757	76		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-028	**Units:**	ng/Kg
Lab Code:	E1700974-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**27.9**	0.816	1.42	1	1	27.9
1,2,3,7,8-PeCDD	ND	0.831	7.12	1	1	
1,2,3,4,7,8-HxCDD	**0.995**	0.470	7.12	1	0.1	0.0995
1,2,3,6,7,8-HxCDD	**2.10**	0.525	7.12	1	0.1	0.210
1,2,3,7,8,9-HxCDD	**2.48**	0.474	7.12	1	0.1	0.248
1,2,3,4,6,7,8-HpCDD	**105**	1.85	7.12	1	0.01	1.05
OCDD	**4230**	0.862	14.2	1	0.0003	1.27
2,3,7,8-TCDF	**121**	0.957	1.42	1	0.1	12.1
1,2,3,7,8-PeCDF	**2.66**	0.774	7.12	1	0.03	0.0798
2,3,4,7,8-PeCDF	**2.18**	0.807	7.12	1	0.3	0.654
1,2,3,4,7,8-HxCDF	**3.96**	0.608	7.12	1	0.1	0.396
1,2,3,6,7,8-HxCDF	**1.18**	0.620	7.12	1	0.1	0.118
1,2,3,7,8,9-HxCDF	ND	0.675	7.12	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.666	7.12	1	0.1	
1,2,3,4,6,7,8-HpCDF	**10.4**	0.336	7.12	1	0.01	0.104
1,2,3,4,7,8,9-HpCDF	**0.930**	0.380	7.12	1	0.01	0.00930
OCDF	**117**	1.18	14.2	1	0.0003	0.0351
		Total TEQ				44.3

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:45
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-028	**Units:**	Percent
Lab Code:	E1700974-009	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	7.122g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	33.8		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-029	**Units:**	ng/Kg
Lab Code:	E1700974-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 08:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.834g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609257	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	58.5		0.428	1.39	0.78	1.001	1
1,2,3,7,8-PeCDD	1.22	**JK**	0.247	6.93	1.13	1.001	1
1,2,3,4,7,8-HxCDD	0.947	**J**	0.195	6.93	1.41	1.000	1
1,2,3,6,7,8-HxCDD	1.94	**J**	0.224	6.93	1.36	1.001	1
1,2,3,7,8,9-HxCDD	1.18	**JK**	0.192	6.93	0.54	1.007	1
1,2,3,4,6,7,8-HpCDD	76.5		0.929	6.93	1.12	1.000	1
OCDD	2520		0.422	13.9	0.90	1.000	1
2,3,7,8-TCDF	217		0.760	1.39	0.82	1.001	1
1,2,3,7,8-PeCDF	5.42	**J**	0.459	6.93	1.68	1.001	1
2,3,4,7,8-PeCDF	4.77	**JK**	0.488	6.93	2.02	1.001	1
1,2,3,4,7,8-HxCDF	7.04	**K**	0.151	6.93	0.97	1.001	1
1,2,3,6,7,8-HxCDF	2.70	**JK**	0.149	6.93	1.02	1.000	1
1,2,3,7,8,9-HxCDF	0.608	**JK**	0.172	6.93	2.42	1.001	1
2,3,4,6,7,8-HxCDF	0.578	**JK**	0.158	6.93	0.45	1.000	1
1,2,3,4,6,7,8-HpCDF	10.5		0.219	6.93	0.91	1.000	1
1,2,3,4,7,8,9-HpCDF	0.576	**JK**	0.247	6.93	0.40	1.001	1
OCDF	94.3		0.367	13.9	0.80	1.005	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-029	**Units:**	ng/Kg
Lab Code:	E1700974-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 08:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.834g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609257	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	58.5		0.428	1.39	0.78		1
Total Penta-Dioxins	ND	U	0.247	6.93			1
Total Hexa-Dioxins	46.4		0.203	6.93	1.20		1
Total Hepta-Dioxins	313		0.929	6.93	1.01		1
Total Tetra-Furans	388		0.760	1.39	0.68		1
Total Penta-Furans	5.42**J**		0.174	6.93	1.68		1
Total Hexa-Furans	1.08**J**		0.157	6.93	1.22		1
Total Hepta-Furans	20.8		0.233	6.93	0.91		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-029	**Units:**	Percent
Lab Code:	E1700974-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 08:15
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.834g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609257	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	722.274	36		25-164	0.78	1.027
13C-1,2,3,7,8-PeCDD	2000	918.713	46		25-181	1.60	1.226
13C-1,2,3,4,7,8-HxCDD	2000	791.580	40		32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	802.899	40		28-130	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	798.352	40		23-140	1.09	1.072
13C-OCDD	4000	1527.237	38		17-157	0.93	1.147
13C-2,3,7,8-TCDF	2000	719.972	36		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	969.620	48		24-185	1.61	1.176
13C-2,3,4,7,8-PeCDF	2000	924.843	46		21-178	1.60	1.215
13C-1,2,3,4,7,8-HxCDF	2000	867.731	43		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	842.880	42		26-123	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	844.859	42		29-147	0.55	1.008
13C-2,3,4,6,7,8-HxCDF	2000	820.665	41		28-136	0.57	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	816.115	41		28-143	0.46	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	967.180	48		26-138	0.43	1.084
37Cl-2,3,7,8-TCDD	800	466.744	58		35-197	NA	1.029

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-029	**Units:**	ng/Kg
Lab Code:	E1700974-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**58.5**	0.428	1.39	1	1	58.5
1,2,3,7,8-PeCDD	**1.22**	0.247	6.93	1	1	1.22
1,2,3,4,7,8-HxCDD	**0.947**	0.195	6.93	1	0.1	0.0947
1,2,3,6,7,8-HxCDD	**1.94**	0.224	6.93	1	0.1	0.194
1,2,3,7,8,9-HxCDD	**1.18**	0.192	6.93	1	0.1	0.118
1,2,3,4,6,7,8-HpCDD	**76.5**	0.929	6.93	1	0.01	0.765
OCDD	**2520**	0.422	13.9	1	0.0003	0.756
2,3,7,8-TCDF	**217**	0.760	1.39	1	0.1	21.7
1,2,3,7,8-PeCDF	**5.42**	0.459	6.93	1	0.03	0.163
2,3,4,7,8-PeCDF	**4.77**	0.488	6.93	1	0.3	1.43
1,2,3,4,7,8-HxCDF	**7.04**	0.151	6.93	1	0.1	0.704
1,2,3,6,7,8-HxCDF	**2.70**	0.149	6.93	1	0.1	0.270
1,2,3,7,8,9-HxCDF	**0.608**	0.172	6.93	1	0.1	0.0608
2,3,4,6,7,8-HxCDF	**0.578**	0.158	6.93	1	0.1	0.0578
1,2,3,4,6,7,8-HpCDF	**10.5**	0.219	6.93	1	0.01	0.105
1,2,3,4,7,8,9-HpCDF	**0.576**	0.247	6.93	1	0.01	0.00576
OCDF	**94.3**	0.367	13.9	1	0.0003	0.0283
		Total TEQ				86.2

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-029	**Units:**	Percent
Lab Code:	E1700974-010	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.709g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	33.3		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-030	**Units:**	ng/Kg
Lab Code:	E1700974-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 15:41
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511591	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511586

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	33400**K**		887	887	0.92	1.001	100
1,2,3,7,8-PeCDD	153		0.360	7.39	1.71	1.001	1
1,2,3,4,7,8-HxCDD	1.84**JK**		0.152	7.39	1.68	1.000	1
1,2,3,6,7,8-HxCDD	11.6**K**		0.160	7.39	1.04	1.000	1
1,2,3,7,8,9-HxCDD	3.17**JK**		0.144	7.39	0.97	1.007	1
1,2,3,4,6,7,8-HpCDD	182		0.879	7.39	1.13	1.000	1
OCDD	3050		0.602	14.8	0.92	1.000	1
2,3,7,8-TCDF	77300		541	541	0.77	1.000	100
1,2,3,7,8-PeCDF	1280		7.74	7.74	1.52	1.001	1
2,3,4,7,8-PeCDF	1170		7.84	7.84	1.54	1.000	1
1,2,3,4,7,8-HxCDF	1740		2.32	7.39	1.22	1.000	1
1,2,3,6,7,8-HxCDF	437		2.29	7.39	1.28	1.000	1
1,2,3,7,8,9-HxCDF	129		2.43	7.39	1.21	1.001	1
2,3,4,6,7,8-HxCDF	78.0		2.31	7.39	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	649		2.56	7.39	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	232		2.80	7.39	1.09	1.000	1
OCDF	798		0.560	14.8	0.89	1.005	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-030	**Units:**	ng/Kg
Lab Code:	E1700974-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 15:41
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511591	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511586

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	17900		1.22	1.48	0.79		1
Total Penta-Dioxins	167		0.360	7.39	1.36		1
Total Hexa-Dioxins	50.4		0.152	7.39	1.13		1
Total Hepta-Dioxins	450		0.879	7.39	1.13		1
Total Tetra-Furans	101000		1.20	1.48	0.77		1
Total Penta-Furans	3830		0.186	7.39	1.59		1
Total Hexa-Furans	2600		2.34	7.39	1.35		1
Total Hepta-Furans	1110		2.68	7.39	1.05		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-030	**Units:**	Percent
Lab Code:	E1700974-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 09:04
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609258	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	528.858	26		25-164	0.81	1.027
13C-1,2,3,7,8-PeCDD	2000	578.174	29		25-181	1.59	1.222
13C-1,2,3,4,7,8-HxCDD	2000	499.117	25	**Y**	32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	508.241	25	**Y**	28-130	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	368.311	18	**Y**	23-140	1.06	1.071
13C-OCDD	4000	512.011	13	**Y**	17-157	0.96	1.146
13C-2,3,7,8-TCDF	2000	674.894	34		24-169	0.81	0.991
13C-1,2,3,7,8-PeCDF	2000	605.851	30		24-185	1.59	1.173
13C-2,3,4,7,8-PeCDF	2000	597.238	30		21-178	1.60	1.212
13C-1,2,3,4,7,8-HxCDF	2000	531.967	27		26-152	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	494.063	25	**Y**	26-123	0.54	0.972
13C-1,2,3,7,8,9-HxCDF	2000	571.997	29		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	514.867	26	**Y**	28-136	0.54	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	388.387	19	**Y**	28-143	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	460.320	23	**Y**	26-138	0.42	1.083
37Cl-2,3,7,8-TCDD	800	595.989	74		35-197	NA	1.028

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-030	**Units:**	ng/Kg
Lab Code:	E1700974-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**33400**	887	887	100	1	33400
1,2,3,7,8-PeCDD	**153**	0.360	7.39	1	1	153
1,2,3,4,7,8-HxCDD	**1.84**	0.152	7.39	1	0.1	0.184
1,2,3,6,7,8-HxCDD	**11.6**	0.160	7.39	1	0.1	1.16
1,2,3,7,8,9-HxCDD	**3.17**	0.144	7.39	1	0.1	0.317
1,2,3,4,6,7,8-HpCDD	**182**	0.879	7.39	1	0.01	1.82
OCDD	**3050**	0.602	14.8	1	0.0003	0.915
2,3,7,8-TCDF	**77300**	541	541	100	0.1	7730
1,2,3,7,8-PeCDF	**1280**	7.74	7.74	1	0.03	38.4
2,3,4,7,8-PeCDF	**1170**	7.84	7.84	1	0.3	351
1,2,3,4,7,8-HxCDF	**1740**	2.32	7.39	1	0.1	174
1,2,3,6,7,8-HxCDF	**437**	2.29	7.39	1	0.1	43.7
1,2,3,7,8,9-HxCDF	**129**	2.43	7.39	1	0.1	12.9
2,3,4,6,7,8-HxCDF	**78.0**	2.31	7.39	1	0.1	7.80
1,2,3,4,6,7,8-HpCDF	**649**	2.56	7.39	1	0.01	6.49
1,2,3,4,7,8,9-HpCDF	**232**	2.80	7.39	1	0.01	2.32
OCDF	**798**	0.560	14.8	1	0.0003	0.239
		Total TEQ				41900

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-030	**Units:**	Percent
Lab Code:	E1700974-011	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.601g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	33.2		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-031	**Units:**	ng/Kg
Lab Code:	E1700974-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 16:30
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.651g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511592	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511586

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.770**K**		0.418	0.624	1.00	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.512	3.12			1
1,2,3,4,7,8-HxCDD	ND	U	0.696	3.12			1
1,2,3,6,7,8-HxCDD	ND	U	0.769	3.12			1
1,2,3,7,8,9-HxCDD	ND	U	0.698	3.12			1
1,2,3,4,6,7,8-HpCDD	2.81**J**		0.757	3.12	0.88	1.000	1
OCDD	51.3		0.931	6.24	0.81	1.000	1
2,3,7,8-TCDF	1.18		0.411	0.624	0.89	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.324	3.12			1
2,3,4,7,8-PeCDF	ND	U	0.325	3.12			1
1,2,3,4,7,8-HxCDF	ND	U	0.325	3.12			1
1,2,3,6,7,8-HxCDF	ND	U	0.339	3.12			1
1,2,3,7,8,9-HxCDF	ND	U	0.332	3.12			1
2,3,4,6,7,8-HxCDF	ND	U	0.348	3.12			1
1,2,3,4,6,7,8-HpCDF	0.519**JK**		0.337	3.12	1.28	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.401	3.12			1
OCDF	1.84**JK**		0.689	6.24	0.73	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-031	**Units:**	ng/Kg
Lab Code:	E1700974-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 16:30
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.651g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511592	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511586

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.418	0.624			1
Total Penta-Dioxins	ND	U	0.512	3.12			1
Total Hexa-Dioxins	ND	U	0.733	3.12			1
Total Hepta-Dioxins	4.10		0.757	3.12	0.92		1
Total Tetra-Furans	ND	U	0.411	0.624			1
Total Penta-Furans	ND	U	0.324	3.12			1
Total Hexa-Furans	ND	U	0.336	3.12			1
Total Hepta-Furans	ND	U	0.359	3.12			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-031	**Units:**	Percent
Lab Code:	E1700974-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 16:30
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.651g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511592	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511586

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1043.044	52		25-164	0.79	1.021
13C-1,2,3,7,8-PeCDD	2000	942.932	47		25-181	1.60	1.184
13C-1,2,3,4,7,8-HxCDD	2000	962.844	48		32-141	1.32	0.991
13C-1,2,3,6,7,8-HxCDD	2000	908.709	45		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	723.970	36		23-140	1.05	1.066
13C-OCDD	4000	1122.365	28		17-157	0.95	1.140
13C-2,3,7,8-TCDF	2000	1100.467	55		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1033.949	52		24-185	1.60	1.141
13C-2,3,4,7,8-PeCDF	2000	1024.750	51		21-178	1.59	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1059.996	53		26-152	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1001.700	50		26-123	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1140.808	57		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1028.567	51		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	821.893	41		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	917.175	46		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	548.830	69		35-197	NA	1.021

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-031	**Units:**	ng/Kg
Lab Code:	E1700974-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.770**	0.418	0.624	1	1	0.770
1,2,3,7,8-PeCDD	ND	0.512	3.12	1	1	
1,2,3,4,7,8-HxCDD	ND	0.696	3.12	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.769	3.12	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.698	3.12	1	0.1	
1,2,3,4,6,7,8-HpCDD	**2.81**	0.757	3.12	1	0.01	0.0281
OCDD	**51.3**	0.931	6.24	1	0.0003	0.0154
2,3,7,8-TCDF	**1.18**	0.411	0.624	1	0.1	0.118
1,2,3,7,8-PeCDF	ND	0.324	3.12	1	0.03	
2,3,4,7,8-PeCDF	ND	0.325	3.12	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.325	3.12	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.339	3.12	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.332	3.12	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.348	3.12	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.519**	0.337	3.12	1	0.01	0.00519
1,2,3,4,7,8,9-HpCDF	ND	0.401	3.12	1	0.01	
OCDF	**1.84**	0.689	6.24	1	0.0003	0.000552
		Total TEQ				0.937

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-031	**Units:**	Percent
Lab Code:	E1700974-012	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	8.085g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	75.2		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-032	**Units:**	ng/Kg
Lab Code:	E1700974-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 10:42
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.919g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609260	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.9		0.274	1.47	0.85	1.001	1
1,2,3,7,8-PeCDD	0.695	**J**	0.218	7.34	1.64	1.001	1
1,2,3,4,7,8-HxCDD	0.648	**J**	0.188	7.34	1.15	1.000	1
1,2,3,6,7,8-HxCDD	1.58	**JK**	0.203	7.34	1.74	1.000	1
1,2,3,7,8,9-HxCDD	1.57	**J**	0.180	7.34	1.06	1.007	1
1,2,3,4,6,7,8-HpCDD	58.7		0.612	7.34	1.08	1.000	1
OCDD	1960		0.490	14.7	0.88	1.000	1
2,3,7,8-TCDF	62.8		0.571	1.47	0.84	1.001	1
1,2,3,7,8-PeCDF	1.69	**J**	0.150	7.34	1.46	1.001	1
2,3,4,7,8-PeCDF	1.42	**JK**	0.152	7.34	2.21	1.001	1
1,2,3,4,7,8-HxCDF	2.74	**J**	0.141	7.34	1.21	1.000	1
1,2,3,6,7,8-HxCDF	0.648	**JK**	0.142	7.34	2.54	1.001	1
1,2,3,7,8,9-HxCDF	0.310	**JK**	0.170	7.34	0.83	1.000	1
2,3,4,6,7,8-HxCDF	0.542	**JK**	0.146	7.34	0.81	1.000	1
1,2,3,4,6,7,8-HpCDF	5.98	**JK**	0.153	7.34	0.83	1.000	1
1,2,3,4,7,8,9-HpCDF	0.310	**JK**	0.181	7.34	0.23	1.000	1
OCDF	62.0		0.414	14.7	0.88	1.004	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-032	**Units:**	ng/Kg
Lab Code:	E1700974-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 10:42
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.919g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609260	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	20.8		0.274	1.47	0.85		1
Total Penta-Dioxins	2.76**J**		0.218	7.34	1.71		1
Total Hexa-Dioxins	26.1		0.190	7.34	1.27		1
Total Hepta-Dioxins	231		0.612	7.34	1.08		1
Total Tetra-Furans	109		0.571	1.47	0.83		1
Total Penta-Furans	1.69**J**		0.184	7.34	1.46		1
Total Hexa-Furans	6.90**J**		0.149	7.34	1.35		1
Total Hepta-Furans	7.83		0.166	7.34	1.16		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-032	**Units:**	Percent
Lab Code:	E1700974-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 10:42
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.919g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609260	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	546.697	27		25-164	0.75	1.027
13C-1,2,3,7,8-PeCDD	2000	629.517	31		25-181	1.52	1.227
13C-1,2,3,4,7,8-HxCDD	2000	630.974	32		32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	656.233	33		28-130	1.31	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	597.438	30		23-140	1.08	1.072
13C-OCDD	4000	1063.370	27		17-157	0.90	1.148
13C-2,3,7,8-TCDF	2000	541.194	27		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	657.062	33		24-185	1.61	1.176
13C-2,3,4,7,8-PeCDF	2000	629.543	31		21-178	1.60	1.215
13C-1,2,3,4,7,8-HxCDF	2000	700.060	35		26-152	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	672.502	34		26-123	0.54	0.971
13C-1,2,3,7,8,9-HxCDF	2000	682.854	34		29-147	0.53	1.009
13C-2,3,4,6,7,8-HxCDF	2000	663.490	33		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	632.450	32		28-143	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	684.196	34		26-138	0.46	1.085
37Cl-2,3,7,8-TCDD	800	498.842	62		35-197	NA	1.029

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-032	**Units:**	ng/Kg
Lab Code:	E1700974-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**18.9**	0.274	1.47	1	1	18.9
1,2,3,7,8-PeCDD	**0.695**	0.218	7.34	1	1	0.695
1,2,3,4,7,8-HxCDD	**0.648**	0.188	7.34	1	0.1	0.0648
1,2,3,6,7,8-HxCDD	**1.58**	0.203	7.34	1	0.1	0.158
1,2,3,7,8,9-HxCDD	**1.57**	0.180	7.34	1	0.1	0.157
1,2,3,4,6,7,8-HpCDD	**58.7**	0.612	7.34	1	0.01	0.587
OCDD	**1960**	0.490	14.7	1	0.0003	0.588
2,3,7,8-TCDF	**62.8**	0.571	1.47	1	0.1	6.28
1,2,3,7,8-PeCDF	**1.69**	0.150	7.34	1	0.03	0.0507
2,3,4,7,8-PeCDF	**1.42**	0.152	7.34	1	0.3	0.426
1,2,3,4,7,8-HxCDF	**2.74**	0.141	7.34	1	0.1	0.274
1,2,3,6,7,8-HxCDF	**0.648**	0.142	7.34	1	0.1	0.0648
1,2,3,7,8,9-HxCDF	**0.310**	0.170	7.34	1	0.1	0.0310
2,3,4,6,7,8-HxCDF	**0.542**	0.146	7.34	1	0.1	0.0542
1,2,3,4,6,7,8-HpCDF	**5.98**	0.153	7.34	1	0.01	0.0598
1,2,3,4,7,8,9-HpCDF	**0.310**	0.181	7.34	1	0.01	0.00310
OCDF	**62.0**	0.414	14.7	1	0.0003	0.0186
		Total TEQ				28.4

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-032	**Units:**	Percent
Lab Code:	E1700974-013	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.164g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	31.2		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-033	**Units:**	ng/Kg
Lab Code:	E1700974-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 11:31
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.184g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609261	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	57.2		0.439	1.39	0.79	1.001	1
1,2,3,7,8-PeCDD	1.12	**JK**	0.149	6.93	1.10	1.001	1
1,2,3,4,7,8-HxCDD	1.37	**J**	0.177	6.93	1.16	1.001	1
1,2,3,6,7,8-HxCDD	3.03	**JK**	0.204	6.93	0.97	1.000	1
1,2,3,7,8,9-HxCDD	2.42	**JK**	0.175	6.93	1.00	1.007	1
1,2,3,4,6,7,8-HpCDD	113	**K**	0.199	6.93	1.21	1.000	1
OCDD	4100		0.372	13.9	0.89	1.000	1
2,3,7,8-TCDF	189		0.452	1.39	0.76	1.001	1
1,2,3,7,8-PeCDF	5.18	**J**	0.529	6.93	1.57	1.001	1
2,3,4,7,8-PeCDF	5.40	**J**	0.551	6.93	1.59	1.000	1
1,2,3,4,7,8-HxCDF	9.75		0.218	6.93	1.16	1.000	1
1,2,3,6,7,8-HxCDF	2.92	**J**	0.216	6.93	1.36	1.000	1
1,2,3,7,8,9-HxCDF	1.04	**JK**	0.256	6.93	0.87	1.001	1
2,3,4,6,7,8-HxCDF	1.54	**JK**	0.229	6.93	1.03	1.000	1
1,2,3,4,6,7,8-HpCDF	13.2		0.129	6.93	0.88	1.000	1
1,2,3,4,7,8,9-HpCDF	1.49	**JK**	0.142	6.93	1.59	1.000	1
OCDF	117		0.254	13.9	0.87	1.005	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-033	**Units:**	ng/Kg
Lab Code:	E1700974-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 11:31
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.184g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609261	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	57.2		0.439	1.39	0.79		1
Total Penta-Dioxins	2.24	**J**	0.149	6.93	1.37		1
Total Hexa-Dioxins	69.4		0.185	6.93	1.32		1
Total Hepta-Dioxins	333		0.199	6.93	1.01		1
Total Tetra-Furans	332		0.452	1.39	0.73		1
Total Penta-Furans	18.3		0.174	6.93	1.40		1
Total Hexa-Furans	23.1		0.229	6.93	1.40		1
Total Hepta-Furans	22.4		0.135	6.93	0.91		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-033	**Units:**	Percent
Lab Code:	E1700974-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 11:31
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.184g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609261	**Blank File Name:**	P511539
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609248

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	690.749	35		25-164	0.82	1.027
13C-1,2,3,7,8-PeCDD	2000	783.897	39		25-181	1.56	1.226
13C-1,2,3,4,7,8-HxCDD	2000	785.104	39		32-141	1.36	0.990
13C-1,2,3,6,7,8-HxCDD	2000	793.094	40		28-130	1.21	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	667.112	33		23-140	1.09	1.071
13C-OCDD	4000	1042.855	26		17-157	0.90	1.146
13C-2,3,7,8-TCDF	2000	700.207	35		24-169	0.82	0.992
13C-1,2,3,7,8-PeCDF	2000	833.564	42		24-185	1.55	1.176
13C-2,3,4,7,8-PeCDF	2000	796.703	40		21-178	1.58	1.215
13C-1,2,3,4,7,8-HxCDF	2000	860.977	43		26-152	0.54	0.968
13C-1,2,3,6,7,8-HxCDF	2000	849.266	42		26-123	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	859.078	43		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	823.738	41		28-136	0.54	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	675.856	34		28-143	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	792.855	40		26-138	0.43	1.084
37Cl-2,3,7,8-TCDD	800	435.161	54		35-197	NA	1.029

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-033	**Units:**	ng/Kg
Lab Code:	E1700974-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**57.2**	0.439	1.39	1	1	57.2
1,2,3,7,8-PeCDD	**1.12**	0.149	6.93	1	1	1.12
1,2,3,4,7,8-HxCDD	**1.37**	0.177	6.93	1	0.1	0.137
1,2,3,6,7,8-HxCDD	**3.03**	0.204	6.93	1	0.1	0.303
1,2,3,7,8,9-HxCDD	**2.42**	0.175	6.93	1	0.1	0.242
1,2,3,4,6,7,8-HpCDD	**113**	0.199	6.93	1	0.01	1.13
OCDD	**4100**	0.372	13.9	1	0.0003	1.23
2,3,7,8-TCDF	**189**	0.452	1.39	1	0.1	18.9
1,2,3,7,8-PeCDF	**5.18**	0.529	6.93	1	0.03	0.155
2,3,4,7,8-PeCDF	**5.40**	0.551	6.93	1	0.3	1.62
1,2,3,4,7,8-HxCDF	**9.75**	0.218	6.93	1	0.1	0.975
1,2,3,6,7,8-HxCDF	**2.92**	0.216	6.93	1	0.1	0.292
1,2,3,7,8,9-HxCDF	**1.04**	0.256	6.93	1	0.1	0.104
2,3,4,6,7,8-HxCDF	**1.54**	0.229	6.93	1	0.1	0.154
1,2,3,4,6,7,8-HpCDF	**13.2**	0.129	6.93	1	0.01	0.132
1,2,3,4,7,8,9-HpCDF	**1.49**	0.142	6.93	1	0.01	0.0149
OCDF	**117**	0.254	13.9	1	0.0003	0.0351
		Total TEQ				83.7

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 10:00
Sample Name:	SJWP-091517-033	**Units:**	Percent
Lab Code:	E1700974-014	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.238g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	35.4		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700418-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 13:26
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.327g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511539	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.358	0.484			1
1,2,3,7,8-PeCDD	ND	U	0.169	2.42			1
1,2,3,4,7,8-HxCDD	ND	U	0.188	2.42			1
1,2,3,6,7,8-HxCDD	ND	U	0.207	2.42			1
1,2,3,7,8,9-HxCDD	ND	U	0.188	2.42			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.203	2.42			1
OCDD	1.29	**JK**	0.281	4.84	1.30	1.000	1
2,3,7,8-TCDF	ND	U	0.411	0.484			1
1,2,3,7,8-PeCDF	ND	U	0.248	2.42			1
2,3,4,7,8-PeCDF	ND	U	0.264	2.42			1
1,2,3,4,7,8-HxCDF	ND	U	0.197	2.42			1
1,2,3,6,7,8-HxCDF	ND	U	0.195	2.42			1
1,2,3,7,8,9-HxCDF	ND	U	0.229	2.42			1
2,3,4,6,7,8-HxCDF	ND	U	0.208	2.42			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.0927	2.42			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.126	2.42			1
OCDF	ND	U	0.586	4.84			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700418-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 13:26
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.327g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511539	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.358	0.484			1
Total Penta-Dioxins	ND	U	0.169	2.42			1
Total Hexa-Dioxins	ND	U	0.198	2.42			1
Total Hepta-Dioxins	ND	U	0.203	2.42			1
Total Tetra-Furans	ND	U	0.411	0.497			1
Total Penta-Furans	ND	U	0.256	2.42			1
Total Hexa-Furans	ND	U	0.207	2.42			1
Total Hepta-Furans	ND	U	0.106	2.42			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1700418-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 13:26
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.327g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511539	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1132.657	57		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1090.036	55		25-181	1.57	1.177
13C-1,2,3,4,7,8-HxCDD	2000	1197.644	60		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1168.214	58		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1000.202	50		23-140	1.02	1.066
13C-OCDD	4000	1475.410	37		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1059.304	53		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	1120.150	56		24-185	1.57	1.136
13C-2,3,4,7,8-PeCDF	2000	1067.758	53		21-178	1.59	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1195.607	60		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1202.574	60		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1248.077	62		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1173.910	59		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1087.708	54		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1135.490	57		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	438.033	55		35-197	NA	1.020

Accuracy & Precision

ALS Environmental - Houston HRMS
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www.alsglobal.com

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Analyzed:**	09/24/17
Sample Matrix:	Sediment	**Date Extracted:**	09/19/17

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Units:**	ng/Kg
Prep Method:	Method Soxhlet	**Basis:**	Dry
		Analysis Lot:	563187

	Lab Control Sample EQ1700418-02			Duplicate Lab Control Sample EQ1700418-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	99.2	98.9	100	98.6	97.6	101	70-140	<1	50
1,2,3,4,7,8-HxCDD	91.7	98.9	93	88.6	97.6	91	70-164	3	50
1,2,3,6,7,8-HxCDD	100	98.9	101	98.9	97.6	101	76-134	1	50
1,2,3,7,8,9-HxCDD	97.2	98.9	98	93.9	97.6	96	64-162	3	50
1,2,3,7,8-PeCDD	98.2	98.9	99	97.5	97.6	100	70-142	<1	50
2,3,7,8-TCDD	18.0	19.8	91	17.4	19.5	89	67-158	4	50
OCDD	219	198	111	193	195	99	78-144	13	50
1,2,3,4,6,7,8-HpCDF	94.4	98.9	95	89.7	97.6	92	82-122	5	50
1,2,3,4,7,8,9-HpCDF	92.5	98.9	94	92.7	97.6	95	78-138	<1	50
1,2,3,4,7,8-HxCDF	96.4	98.9	97	96.2	97.6	99	72-134	<1	50
1,2,3,6,7,8-HxCDF	99.5	98.9	101	95.9	97.6	98	84-130	4	50
1,2,3,7,8,9-HxCDF	92.7	98.9	94	89.6	97.6	92	78-130	3	50
1,2,3,7,8-PeCDF	90.8	98.9	92	90.9	97.6	93	80-134	<1	50
2,3,4,6,7,8-HxCDF	97.8	98.9	99	96.5	97.6	99	70-156	1	50
2,3,4,7,8-PeCDF	96.0	98.9	97	95.0	97.6	97	68-160	1	50
2,3,7,8-TCDF	19.7	19.8	100	20.2	19.5	104	75-158	2	50
OCDF	219	198	111	213	195	109	63-170	3	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700418-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 21:33
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.108g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511549	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.0		0.702	0.702	0.82	1.001	1
1,2,3,7,8-PeCDD	98.2		0.274	2.47	1.60	1.000	1
1,2,3,4,7,8-HxCDD	91.7		0.281	2.47	1.26	1.000	1
1,2,3,6,7,8-HxCDD	100		0.315	2.47	1.22	1.000	1
1,2,3,7,8,9-HxCDD	97.2		0.284	2.47	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	99.2		0.279	2.47	1.15	1.000	1
OCDD	219		0.473	4.95	0.90	1.000	1
2,3,7,8-TCDF	19.7		0.927	0.927	0.74	1.001	1
1,2,3,7,8-PeCDF	90.8		0.549	2.47	1.48	1.001	1
2,3,4,7,8-PeCDF	96.0		0.561	2.47	1.53	1.000	1
1,2,3,4,7,8-HxCDF	96.4		0.294	2.47	1.15	1.000	1
1,2,3,6,7,8-HxCDF	99.5		0.290	2.47	1.08	1.000	1
1,2,3,7,8,9-HxCDF	92.7		0.336	2.47	1.14	1.000	1
2,3,4,6,7,8-HxCDF	97.8		0.316	2.47	1.12	1.000	1
1,2,3,4,6,7,8-HpCDF	94.4		0.354	2.47	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	92.5		0.445	2.47	1.00	1.000	1
OCDF	219		0.864	4.95	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700418-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 21:33
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.108g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511549	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.0		0.702	0.702	0.82		1
Total Penta-Dioxins	98.2		0.274	2.47	1.60		1
Total Hexa-Dioxins	289		0.298	2.47	1.26		1
Total Hepta-Dioxins	102		0.279	2.47	1.12		1
Total Tetra-Furans	19.7		0.927	0.927	0.74		1
Total Penta-Furans	187		0.555	2.47	1.48		1
Total Hexa-Furans	386		0.308	2.47	1.15		1
Total Hepta-Furans	189		0.388	2.47	0.96		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700418-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 21:33
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.108g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511549	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1338.002	67		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1389.099	69		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1341.871	67		32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1320.622	66		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1246.726	62		23-140	1.04	1.066
13C-OCDD	4000	1979.738	49		17-157	0.93	1.141
13C-2,3,7,8-TCDF	2000	1185.168	59		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1381.491	69		24-185	1.62	1.135
13C-2,3,4,7,8-PeCDF	2000	1375.851	69		21-178	1.57	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1280.133	64		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1283.897	64		26-123	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1365.737	68		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1265.624	63		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1275.254	64		28-143	0.42	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1442.701	72		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	506.456	63		35-197	NA	1.019

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700418-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 22:22
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.251g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511550	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	17.4		0.328	0.488	0.82	1.001	1
1,2,3,7,8-PeCDD	97.5		0.229	2.44	1.56	1.000	1
1,2,3,4,7,8-HxCDD	88.6		0.184	2.44	1.26	1.000	1
1,2,3,6,7,8-HxCDD	98.9		0.205	2.44	1.28	1.000	1
1,2,3,7,8,9-HxCDD	93.9		0.185	2.44	1.25	1.006	1
1,2,3,4,6,7,8-HpCDD	98.6		0.216	2.44	1.06	1.000	1
OCDD	193		0.381	4.88	0.88	1.000	1
2,3,7,8-TCDF	20.2		0.421	0.488	0.71	1.001	1
1,2,3,7,8-PeCDF	90.9		0.176	2.44	1.48	1.001	1
2,3,4,7,8-PeCDF	95.0		0.188	2.44	1.40	1.000	1
1,2,3,4,7,8-HxCDF	96.2		0.146	2.44	1.11	1.000	1
1,2,3,6,7,8-HxCDF	95.9		0.146	2.44	1.19	1.000	1
1,2,3,7,8,9-HxCDF	89.6		0.161	2.44	1.12	1.000	1
2,3,4,6,7,8-HxCDF	96.5		0.153	2.44	1.18	1.001	1
1,2,3,4,6,7,8-HpCDF	89.7		0.232	2.44	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	92.7		0.294	2.44	0.98	1.000	1
OCDF	213		0.415	4.88	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700418-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 22:22
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.251g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511550	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	17.4		0.328	0.488	0.82		1
Total Penta-Dioxins	97.5		0.229	2.44	1.56		1
Total Hexa-Dioxins	281		0.194	2.44	1.26		1
Total Hepta-Dioxins	98.6		0.216	2.44	1.06		1
Total Tetra-Furans	20.2		0.421	0.488	0.71		1
Total Penta-Furans	186		0.182	2.44	1.48		1
Total Hexa-Furans	378		0.151	2.44	1.11		1
Total Hepta-Furans	182		0.255	2.44	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700974
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700418-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/24/17 22:22
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.251g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511550	**Blank File Name:**	P511539
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511536

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1185.100	59		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1182.069	59		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1238.742	62		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1180.503	59		28-130	1.24	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1089.777	54		23-140	1.04	1.065
13C-OCDD	4000	1663.775	42		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1074.879	54		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	1190.401	60		24-185	1.55	1.135
13C-2,3,4,7,8-PeCDF	2000	1160.281	58		21-178	1.57	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1182.861	59		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1163.265	58		26-123	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1295.292	65		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1182.944	59		28-136	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1166.391	58		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1258.562	63		26-138	0.43	1.078
37Cl-2,3,7,8-TCDD	800	461.084	58		35-197	NA	1.020

Chromatograms and Selected Ion Monitoring

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 320, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #10 Filename P511540 Samp: 1 Inj: 1 Acquired: 24-SEP-17 14:15:07
Processed: 25-SEP-17 13:09:26 Sample ID: E1700974-001

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	7.692e+01	1.192e+02	0.65	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:44	1.062e+01	9.373e+00	1.13	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.191
10	Unk	OCDF	NotFnd	*	*	*	no	yes	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	3.566e+01	3.518e+01	1.01	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	5.242e+02	4.951e+02	1.06	yes	no	0.942
17	Unk	OCDD	42:24	1.034e+04	1.133e+04	0.91	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.508e+04	1.965e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	2.469e+04	1.587e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	2.288e+04	1.443e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	9.113e+03	1.881e+04	0.48	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.043e+04	2.062e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	9.452e+03	1.848e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	8.844e+03	1.742e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	6.390e+03	1.461e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	5.975e+03	1.352e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.149e+04	1.467e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	1.771e+04	1.085e+04	1.63	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.342e+04	1.054e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.410e+04	1.090e+04	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.049e+04	1.004e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:24	1.218e+04	1.348e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.399e+04	3.139e+04	0.76	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.927e+04	2.398e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.137e+04				no	1.033

$$\text{OCDD} = \frac{(1.034e+04 + 1.133e+04) \times 4000 \text{ pg} \times 1}{(1.218e+04 + 1.348e+04) \times 10.333 \text{ g} \times 60.9 / 100 \times 1.051} = 464.5 \text{ ng/kg}$$

KW 9/26/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-020

Run #10 Filename P511540 Samp: 1 Inj: 1 Acquired: 24-SEP-17 14:15:07
Processed: 25-SEP-17 13:09:26 LAB. ID: E1700974-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.29e+04	1.09e+03	1.2e+01	2.14e+04	3.56e+03	6.0e+00
2	1,2,3,7,8-PeCDF	*	8.36e+02	*	*	3.30e+03	*
3	2,3,4,7,8-PeCDF	*	8.36e+02	*	*	3.30e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.48e+03	*	*	1.49e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.48e+03	*	*	1.49e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.48e+03	*	*	1.49e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.48e+03	*	*	1.49e+03	*
8	1,2,3,4,6,7,8-HpCDF	2.15e+03	4.36e+02	4.9e+00	2.57e+03	6.08e+02	4.2e+00
9	1,2,3,4,7,8,9-HpCDF	*	4.36e+02	*	*	6.08e+02	*
10	OCDF	*	1.06e+03	*	*	2.49e+03	*
11	2,3,7,8-TCDD	*	2.91e+03	*	*	2.18e+03	*
12	1,2,3,7,8-PeCDD	*	2.27e+03	*	*	5.04e+02	*
13	1,2,3,4,7,8-HxCDD	*	9.60e+02	*	*	2.31e+03	*
14	1,2,3,6,7,8-HxCDD	*	9.60e+02	*	*	2.31e+03	*
15	1,2,3,7,8,9-HxCDD	8.08e+03	9.60e+02	8.4e+00	9.11e+03	2.31e+03	3.9e+00
16	1,2,3,4,6,7,8-HpCDD	9.50e+04	1.61e+03	5.9e+01	8.47e+04	1.72e+03	4.9e+01
17	OCDD	1.60e+06	3.40e+02	4.7e+03	1.78e+06	1.06e+03	1.7e+03
18	13C-2,3,7,8-TCDF	2.67e+06	1.73e+04	1.5e+02	3.45e+06	1.03e+04	3.3e+02
19	13C-1,2,3,7,8-PeCDF	4.54e+06	2.94e+03	1.5e+03	2.92e+06	1.56e+03	1.9e+03
20	13C-2,3,4,7,8-PeCDF	4.36e+06	2.94e+03	1.5e+03	2.75e+06	1.56e+03	1.8e+03
21	13C-1,2,3,4,7,8-HxCDF	1.89e+06	9.40e+02	2.0e+03	3.84e+06	2.46e+03	1.6e+03
22	13C-1,2,3,6,7,8-HxCDF	1.99e+06	9.40e+02	2.1e+03	3.97e+06	2.46e+03	1.6e+03
23	13C-2,3,4,6,7,8-HxCDF	1.89e+06	9.40e+02	2.0e+03	3.63e+06	2.46e+03	1.5e+03
24	13C-1,2,3,7,8,9-HxCDF	1.69e+06	9.40e+02	1.8e+03	3.28e+06	2.46e+03	1.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.27e+06	2.04e+03	6.2e+02	2.95e+06	3.15e+03	9.4e+02
26	13C-1,2,3,4,7,8,9-HpCDF	1.05e+06	2.04e+03	5.1e+02	2.40e+06	3.15e+03	7.6e+02
27	13C-2,3,7,8-TCDD	2.07e+06	7.84e+03	2.6e+02	2.71e+06	5.17e+03	5.2e+02
28	13C-1,2,3,7,8-PeCDD	3.37e+06	1.72e+03	2.0e+03	2.07e+06	1.63e+03	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	2.95e+06	2.34e+03	1.3e+03	2.32e+06	1.94e+03	1.2e+03
30	13C-1,2,3,6,7,8-HxCDD	2.79e+06	2.34e+03	1.2e+03	2.16e+06	1.94e+03	1.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.93e+06	1.79e+03	1.1e+03	1.86e+06	1.07e+03	1.7e+03
32	13C-OCDD	1.87e+06	1.49e+03	1.3e+03	2.09e+06	1.03e+03	2.0e+03
33	13C-1,2,3,4-TCDD	4.39e+06	7.84e+03	5.6e+02	5.83e+06	5.17e+03	1.1e+03
34	13C-1,2,3,7,8,9-HxCDD	5.78e+06	2.34e+03	2.5e+03	4.70e+06	1.94e+03	2.4e+03
35	37Cl-2,3,7,8-TCDD	2.16e+06	2.42e+03	8.9e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.912e+03 + 2.180e+03\ ) \times 2000}{(2.072e+06 + 2.711e+06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.065} =$$

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office:(281)530-5656. Fax:(281)530-5887

ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-020

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 10 File: P511540 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 14:15:07 Processed: 25-SEP-17 13:09:26

Mass: 389.8160 391.8130 Tot Response: 7.08e+02 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	4.03e+02	3.05e+02	1.32	yes	7.08e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-020

Entry: 43 Totals Name: Total Hepta-Furans

Run: 10 File: P511540 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 14:15:07 Processed: 25-SEP-17 13:09:26

Mass: 407.7820 409.7790 Tot Response: 2.00e+01 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:44	1.06e+01	9.37e+00	1.13	yes	2.00e+01	1,2,3,4,6,7,8-HpCDF	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-020

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 10 File: P511540 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 14:15:07 Processed: 25-SEP-17 13:09:26

Mass: 423.7770 425.7740 Tot Response: 4.34e+03 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.73e+03	1.59e+03	1.09	yes	3.32e+03		n	n
2	39:38	5.24e+02	4.95e+02	1.06	yes	1.02e+03	1,2,3,4,6,7,8-HpCDD	n	n

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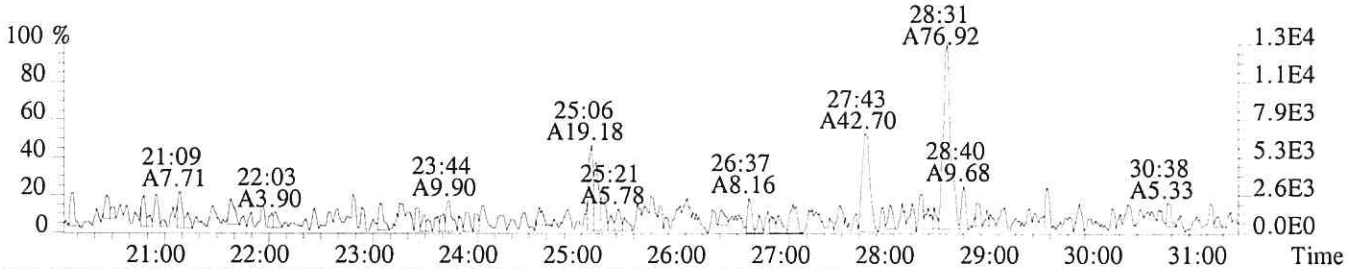
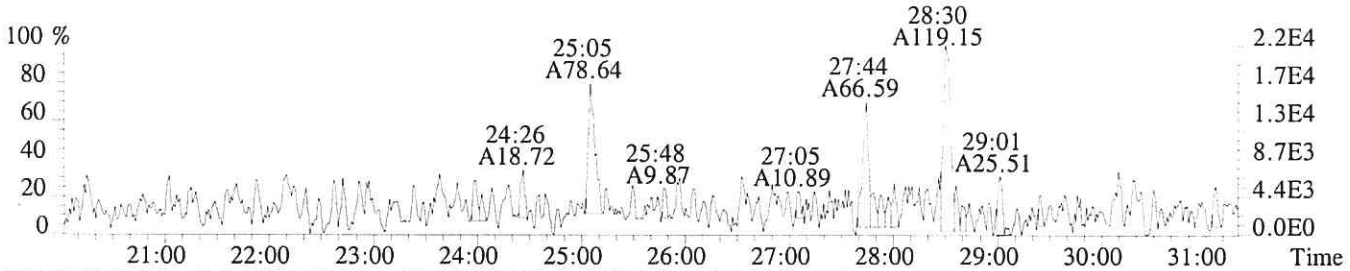
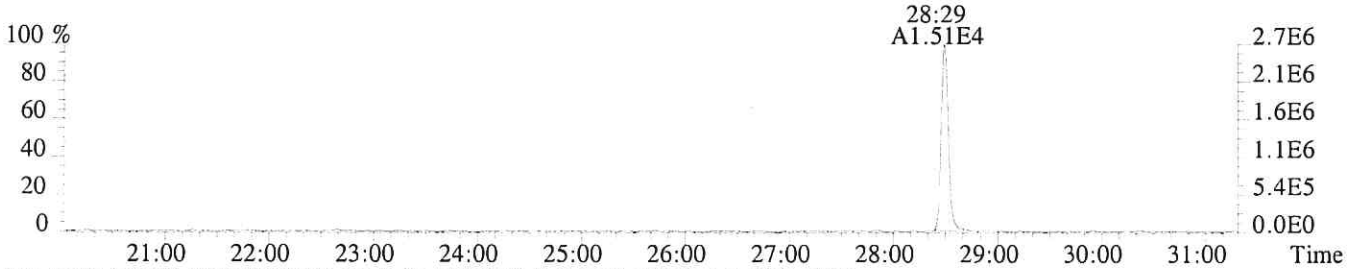
File:P511540 #1-800 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1088.0,1.00%,F,T)



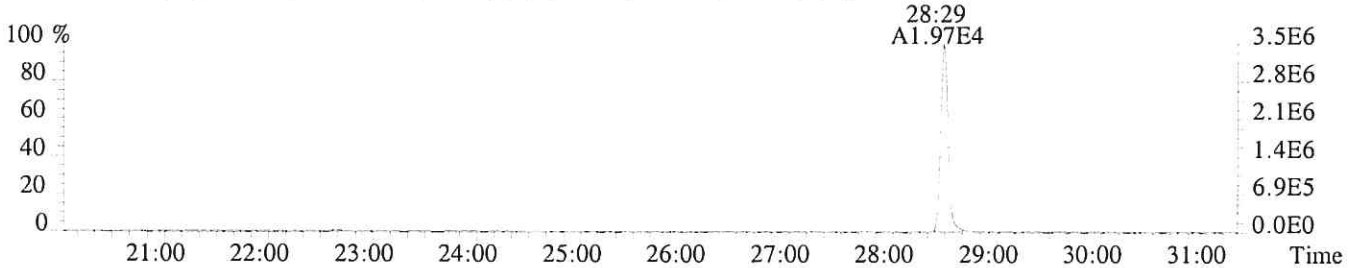
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3564.0,1.00%,F,T)



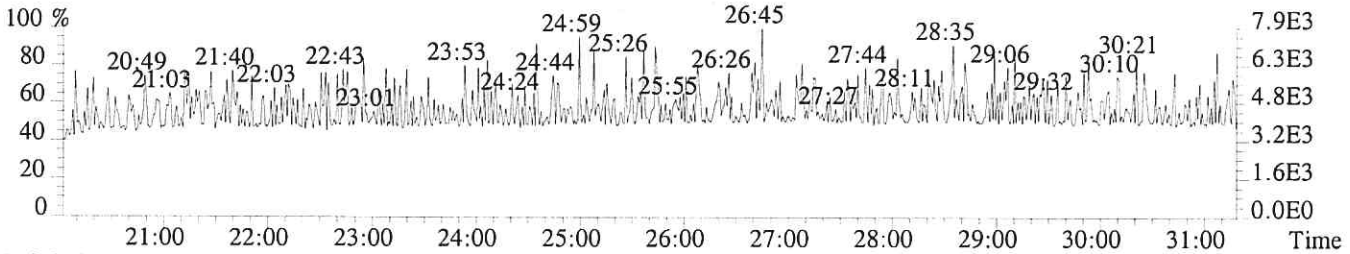
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17348.0,1.00%,F,T)



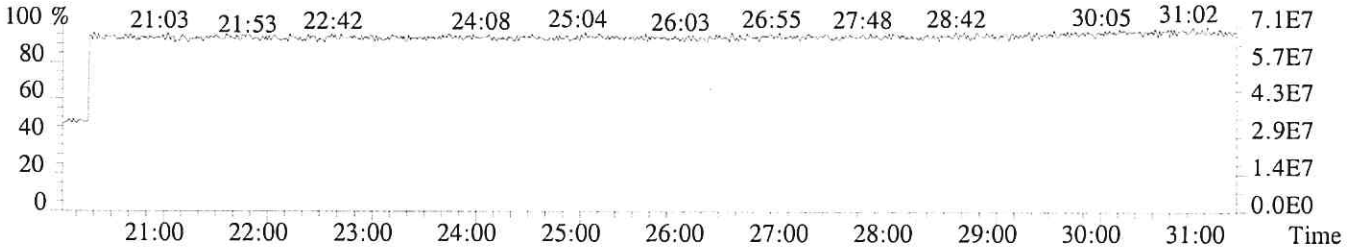
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10340.0,1.00%,F,T)



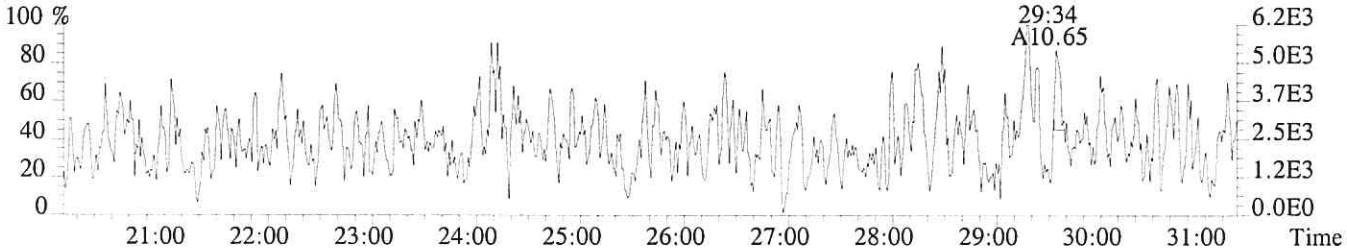
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



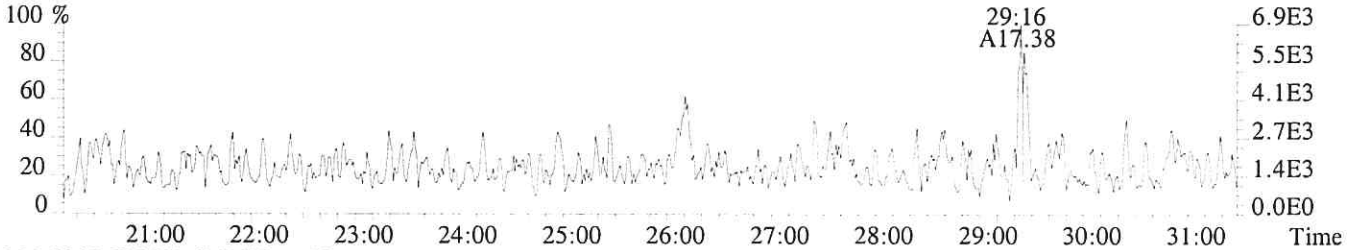
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



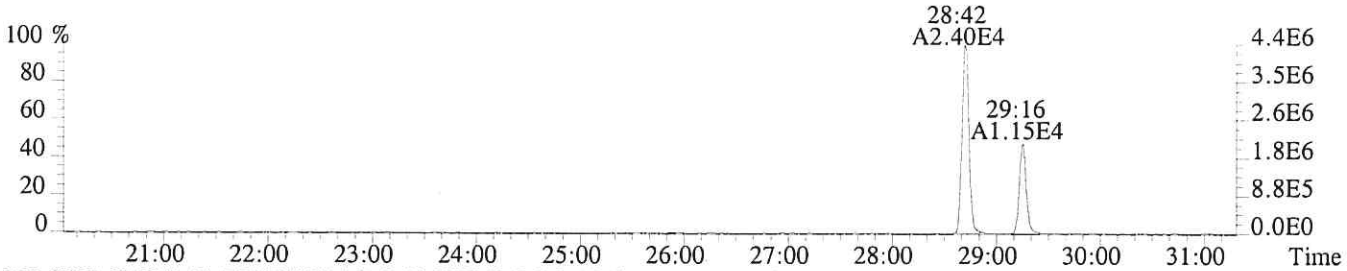
File:P511540 #1-800 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2912.0,1.00%,F,T)



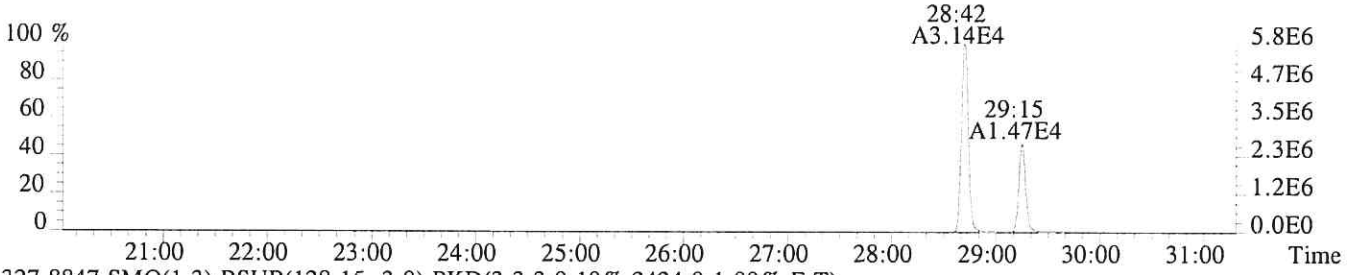
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2180.0,1.00%,F,T)



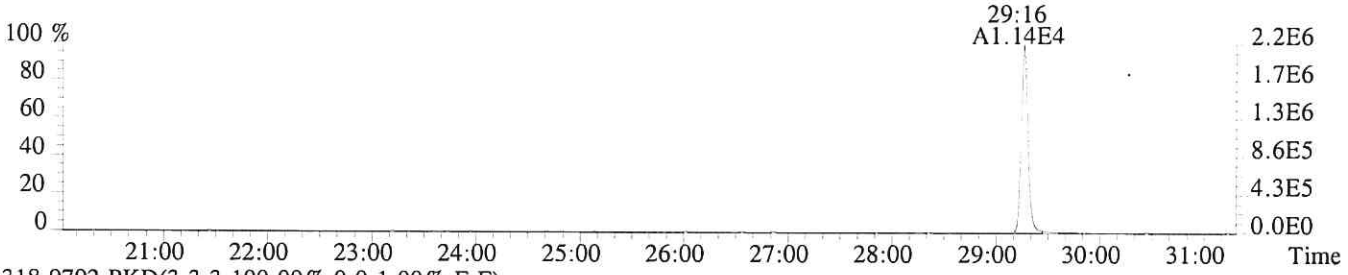
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7836.0,1.00%,F,T)



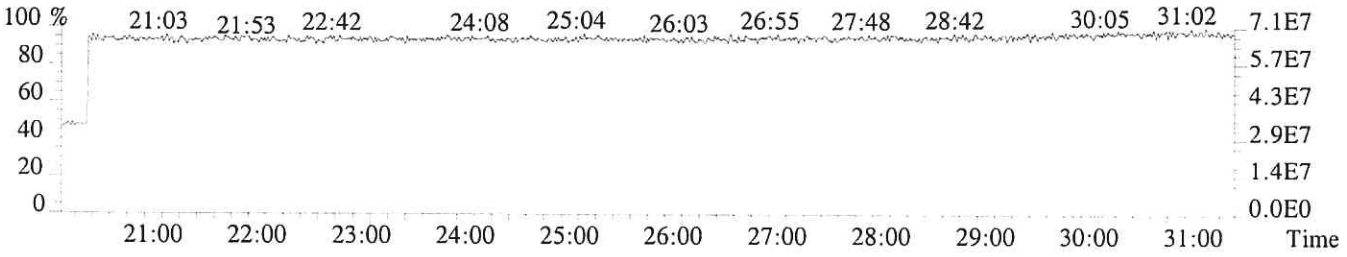
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5172.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2424.0,1.00%,F,T)

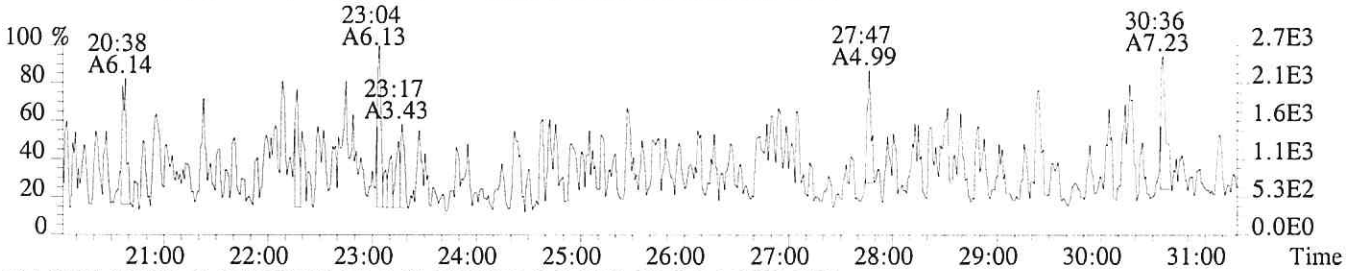


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

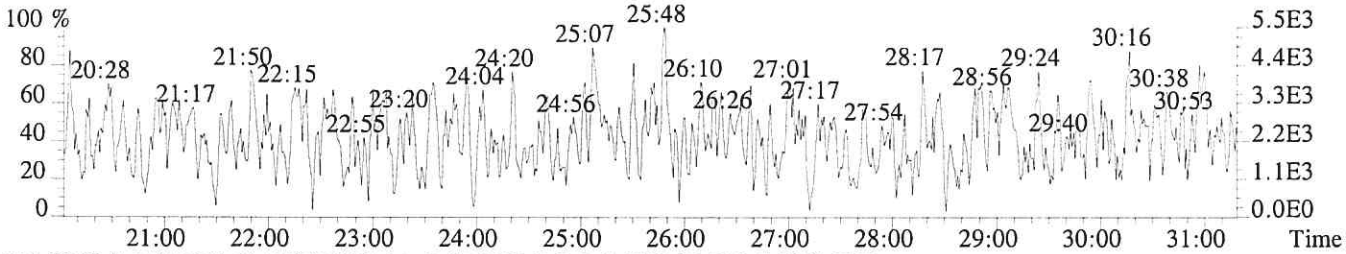


File:P511540 #1-800 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

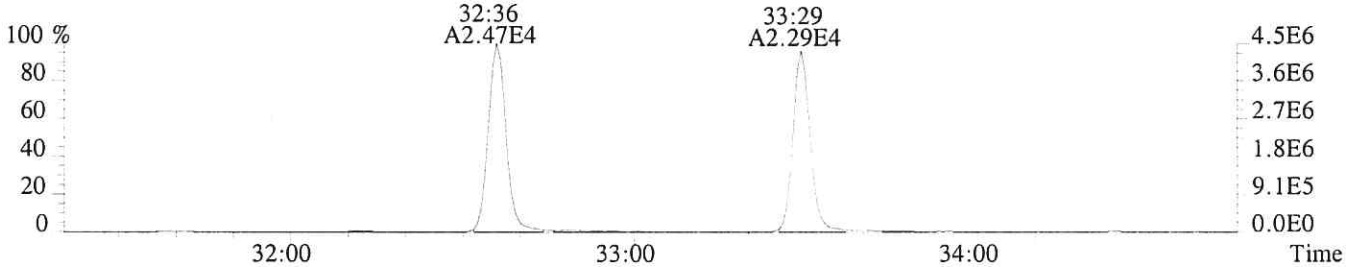
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,T)



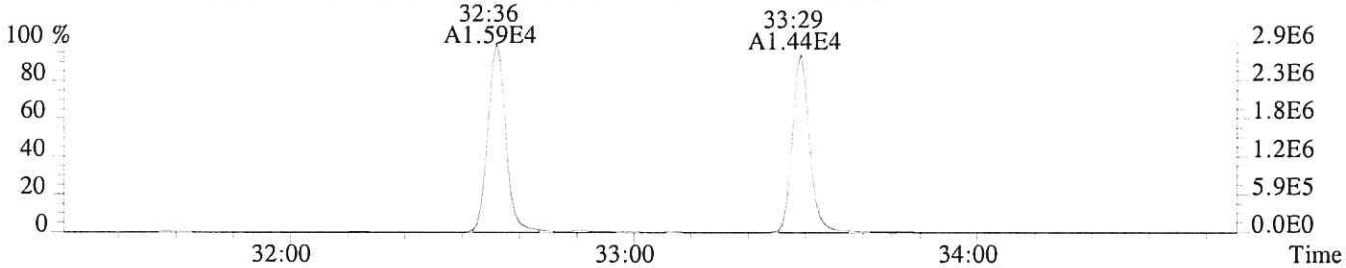
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3072.0,1.00%,F,T)



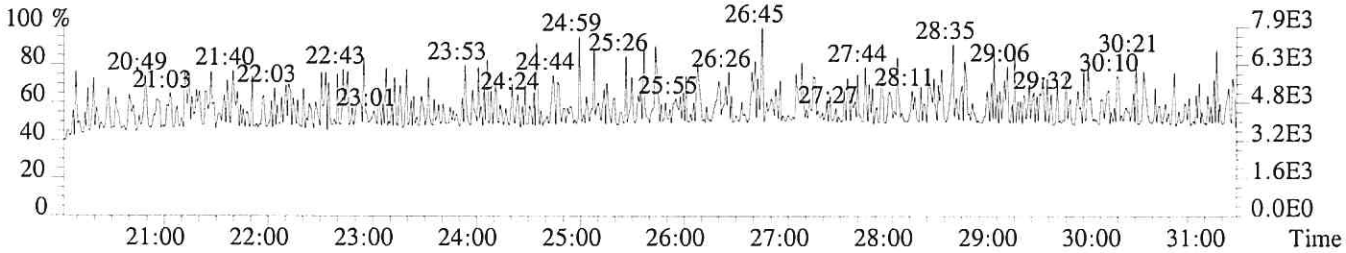
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2940.0,1.00%,F,T)



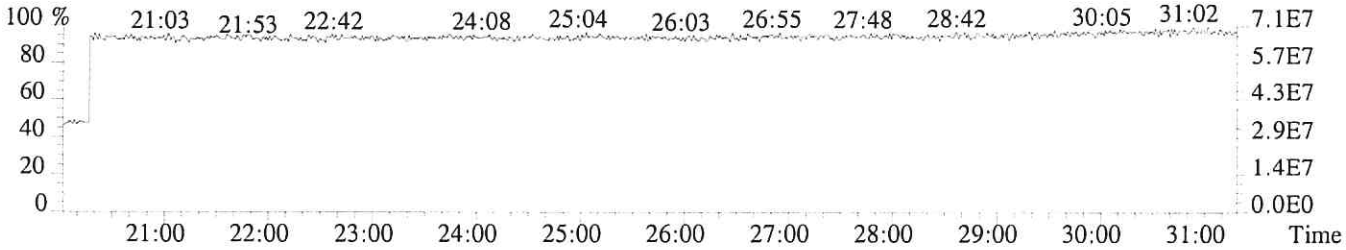
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1560.0,1.00%,F,T)



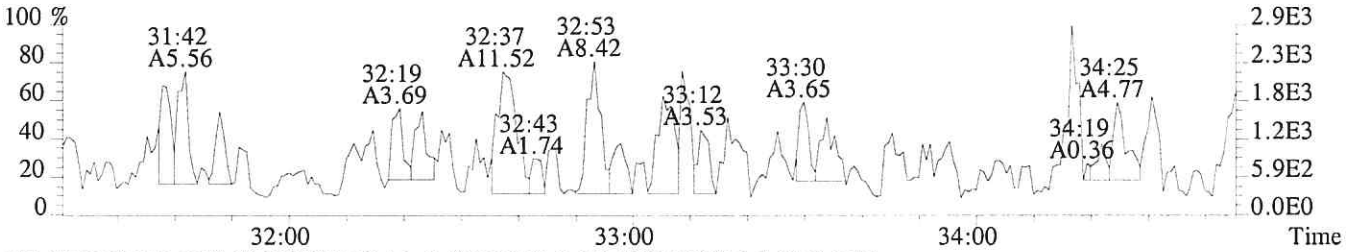
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



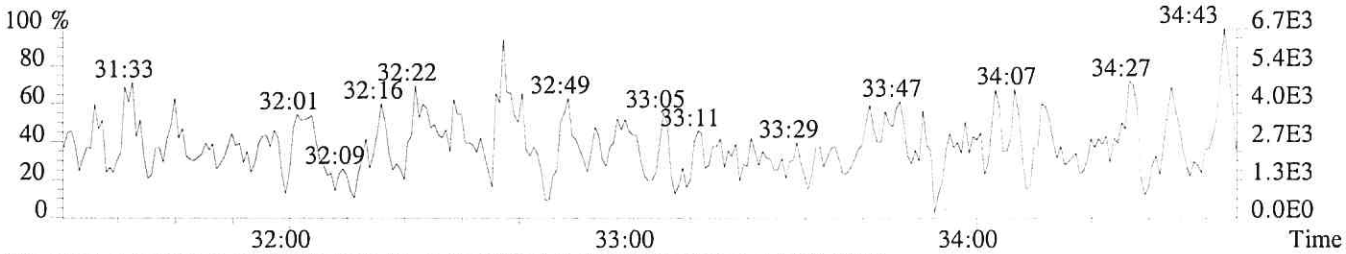
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



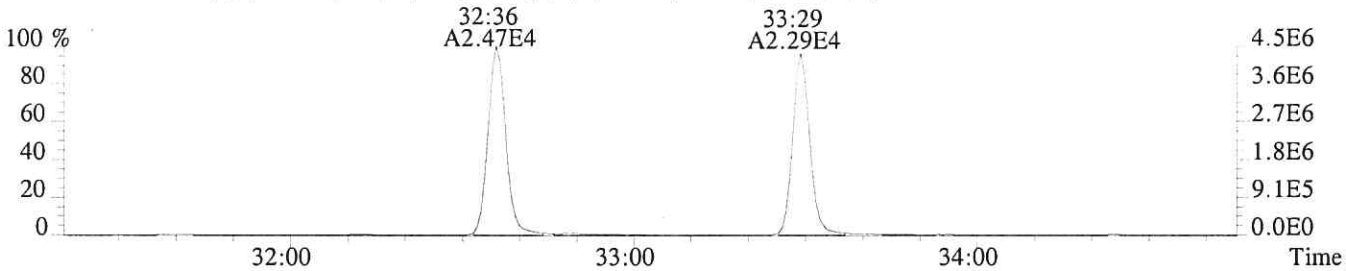
File:P511540 #1-308 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,T)



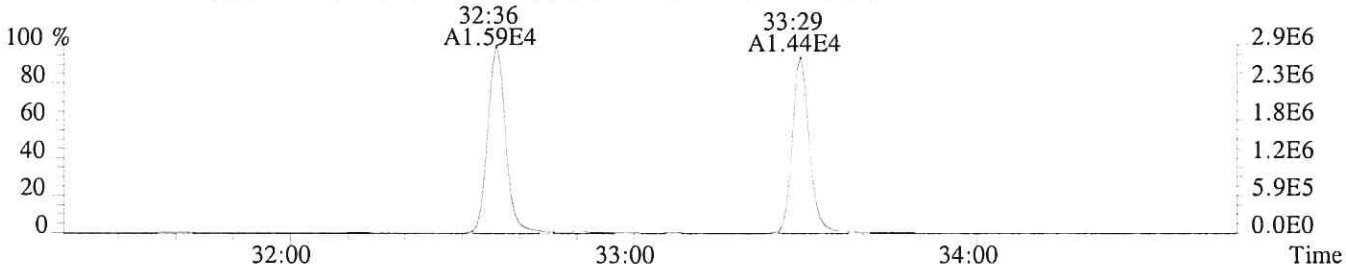
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3300.0,1.00%,F,T)



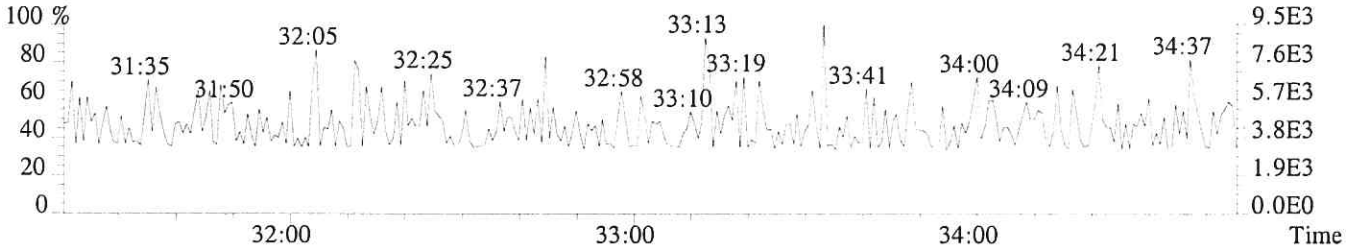
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2940.0,1.00%,F,T)



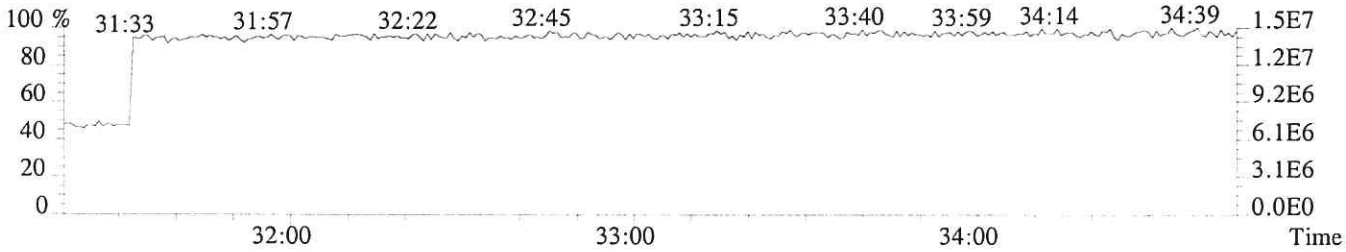
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1560.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

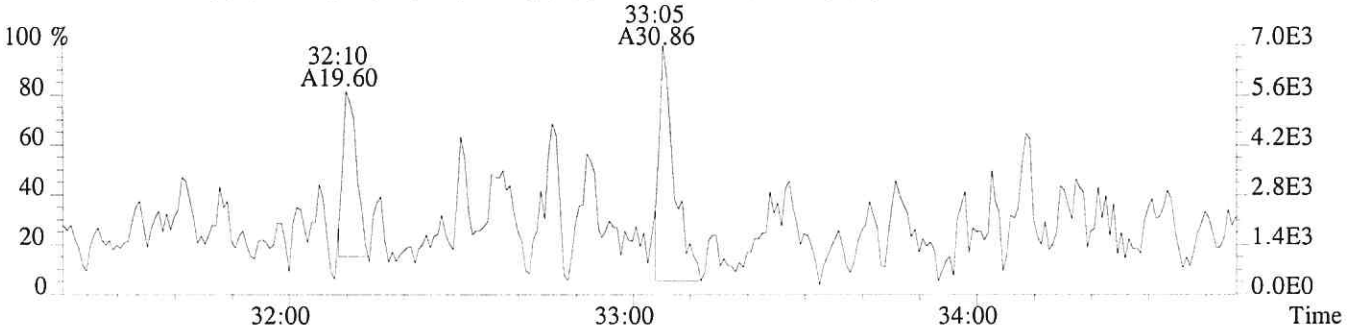


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

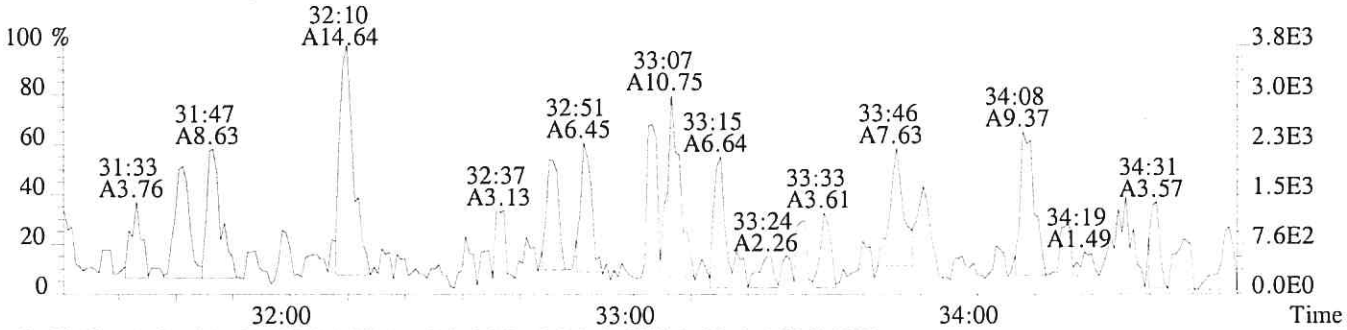


File:P511540 #1-308 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

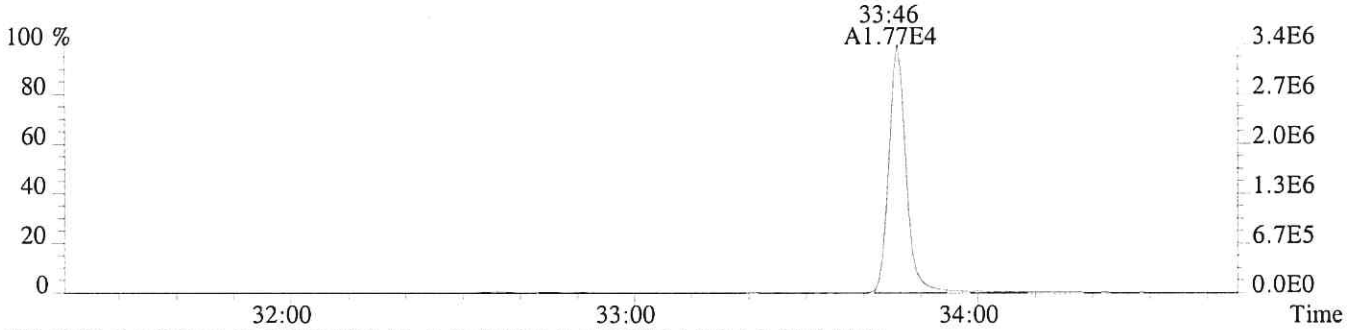
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2268.0,1.00%,F,T)



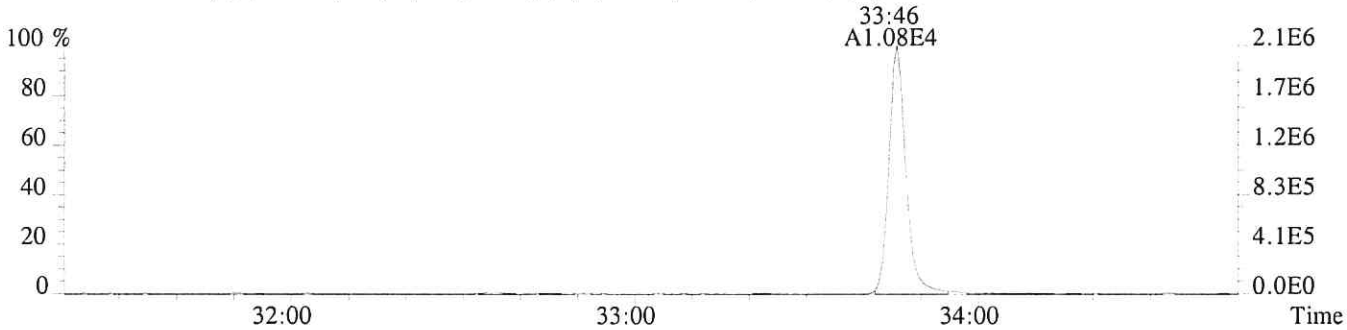
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



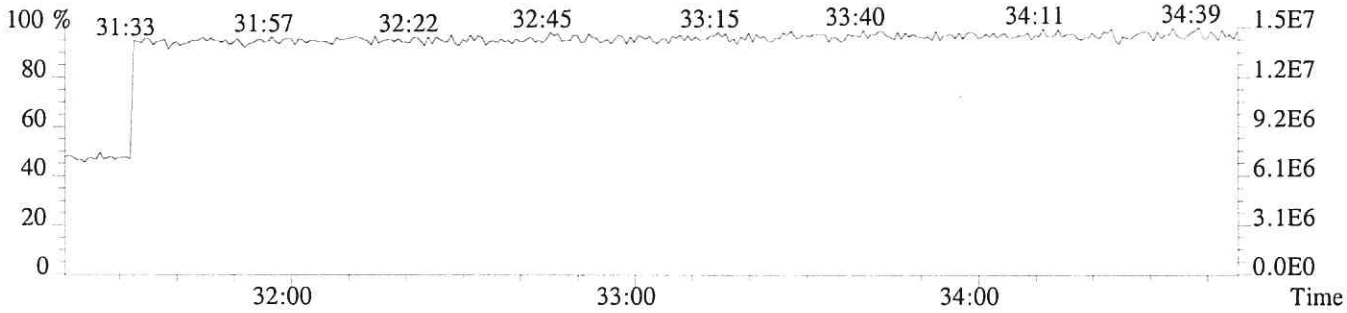
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)

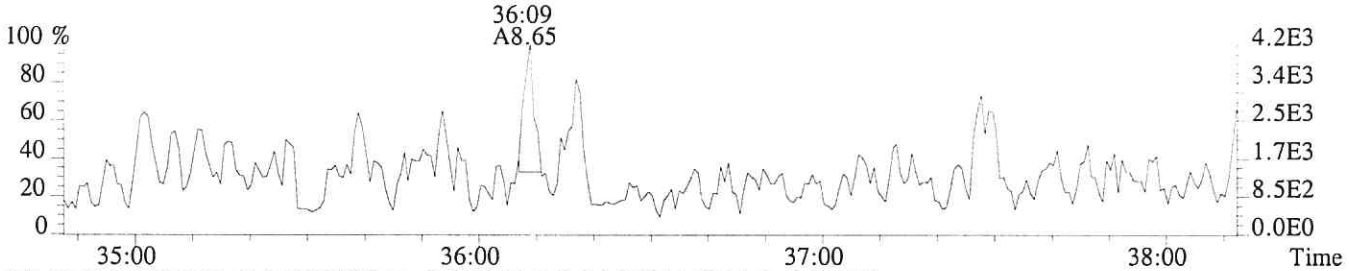


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

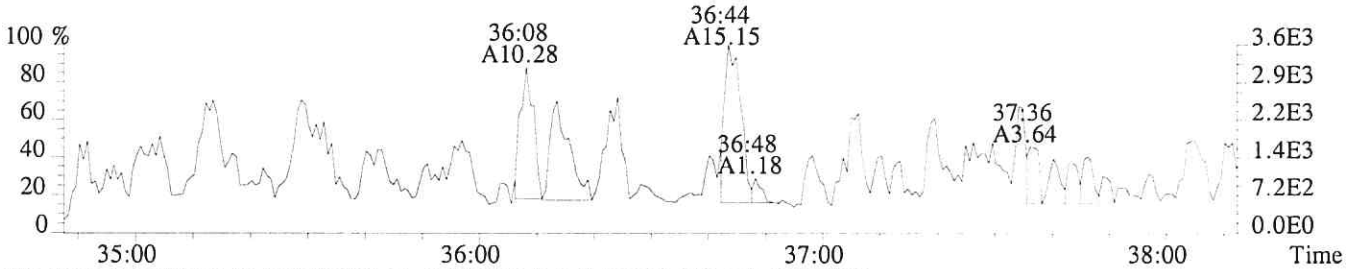


File:P511540 #1-308 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

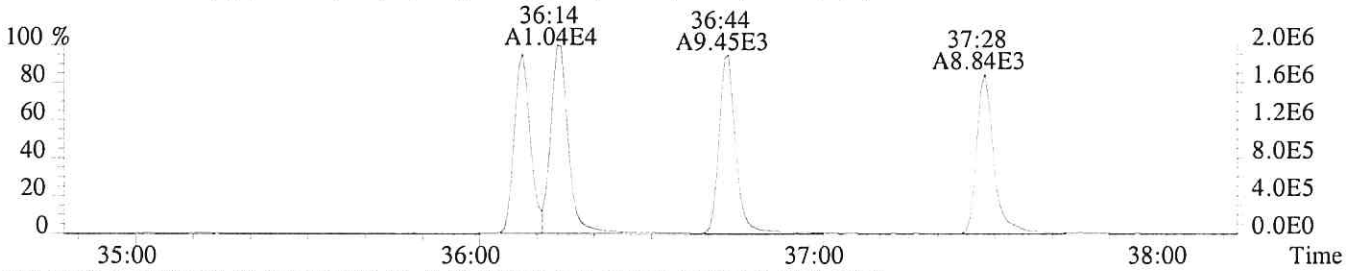
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)



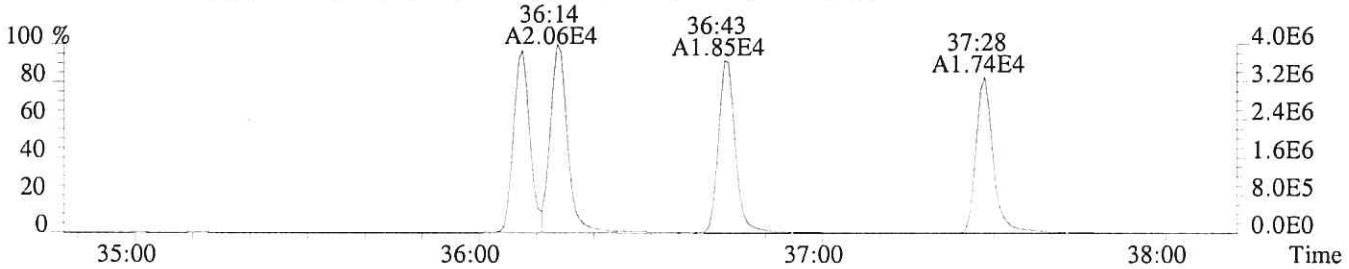
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1488.0,0.40%,F,T)



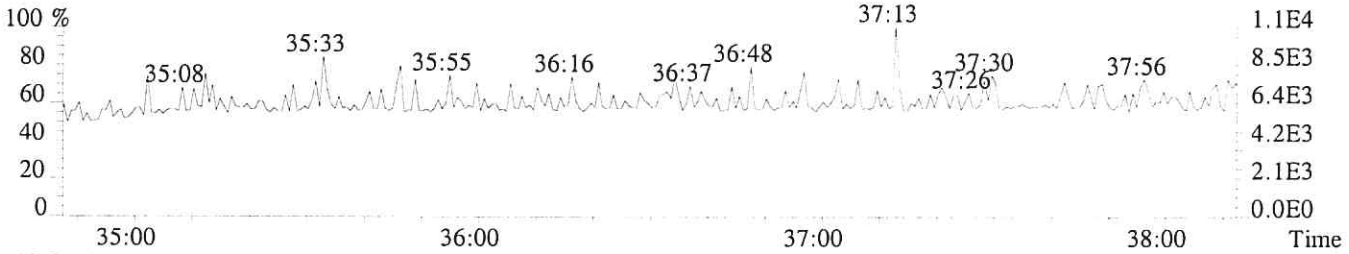
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,940.0,0.40%,F,T)



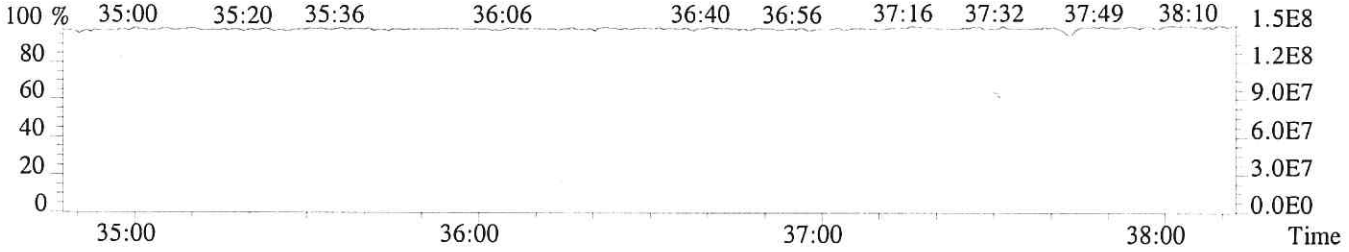
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2460.0,0.40%,F,T)



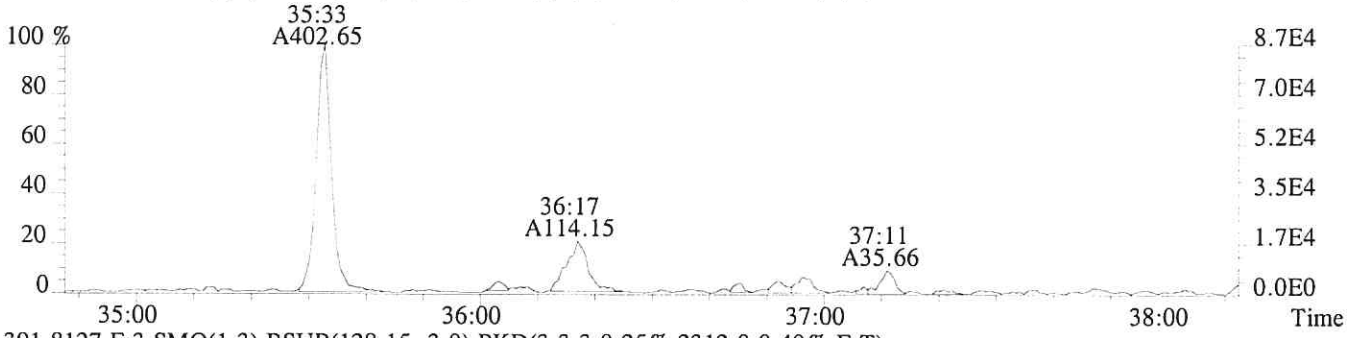
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



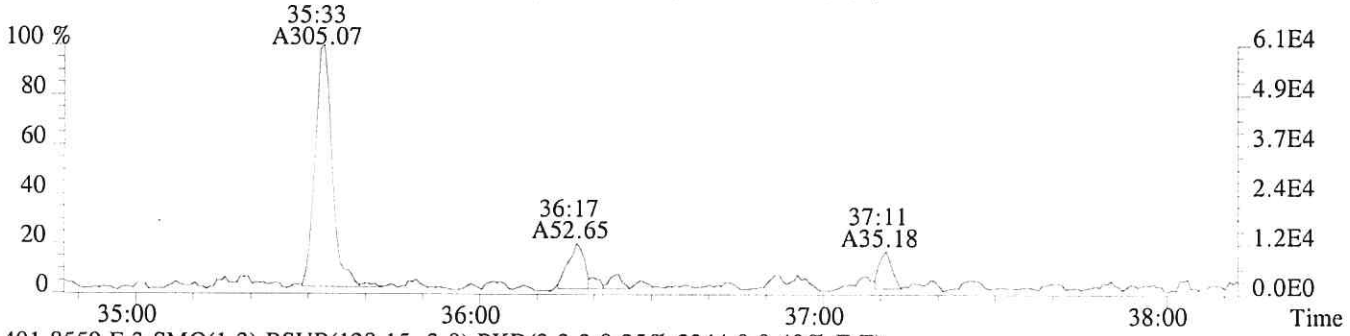
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



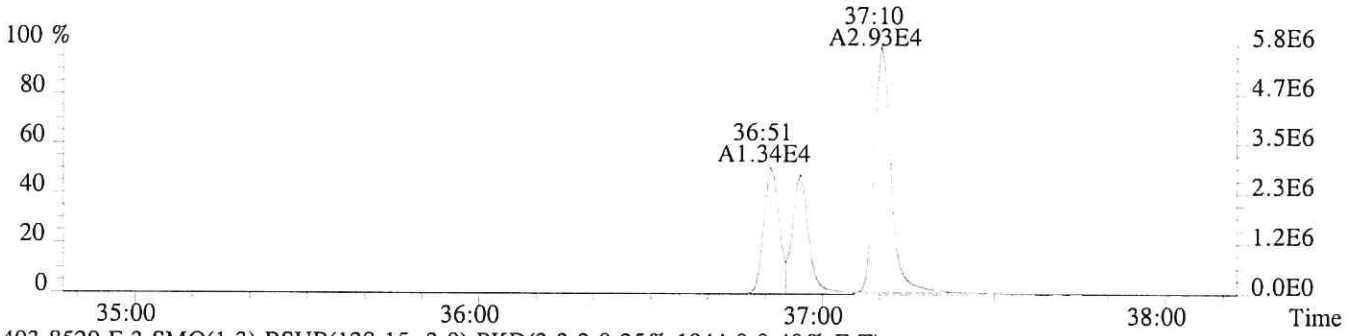
File:P511540 #1-308 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,960.0,0.40%,F,T)



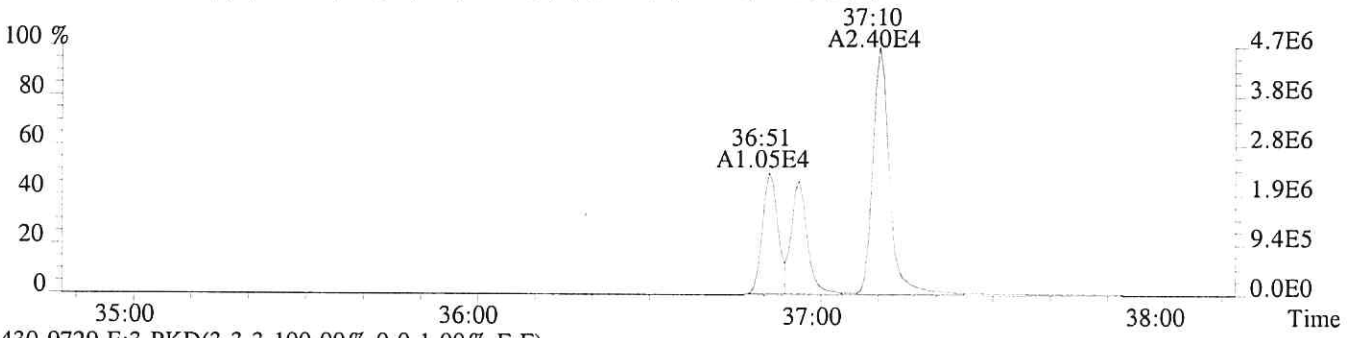
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2312.0,0.40%,F,T)



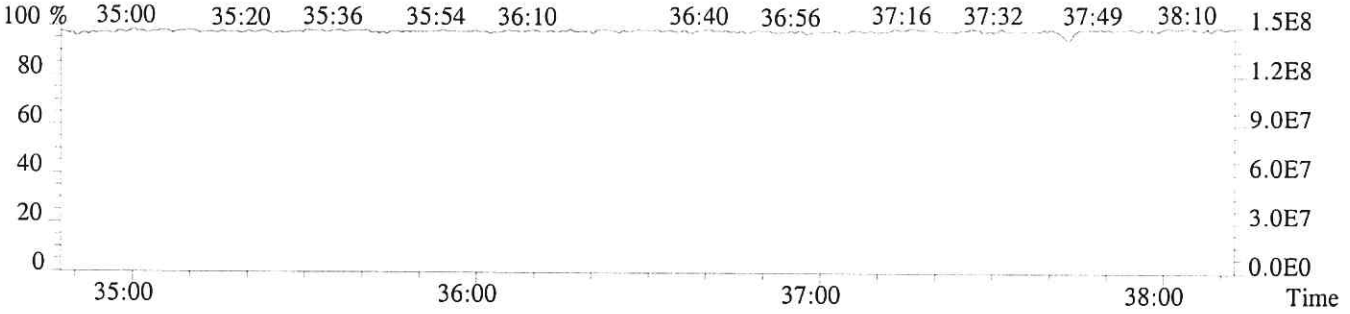
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2344.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1944.0,0.40%,F,T)

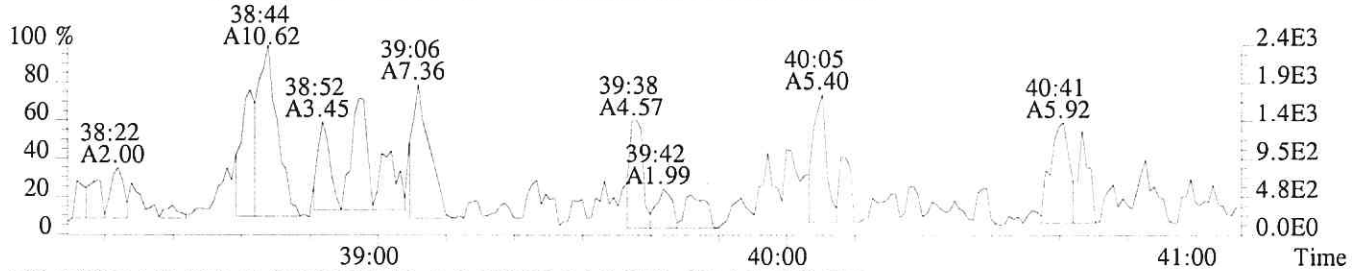


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

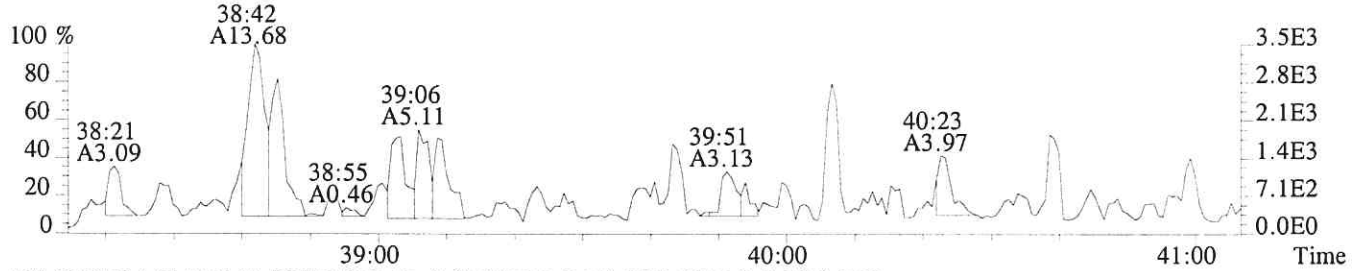


File:P511540 #1-259 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

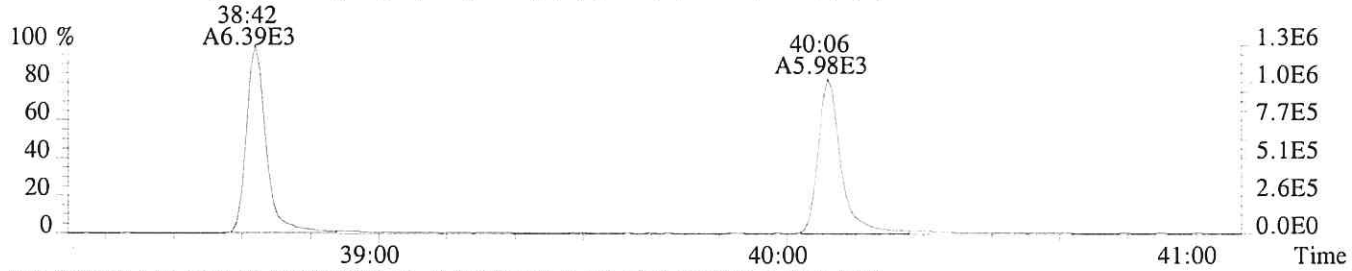
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.50%,F,T)



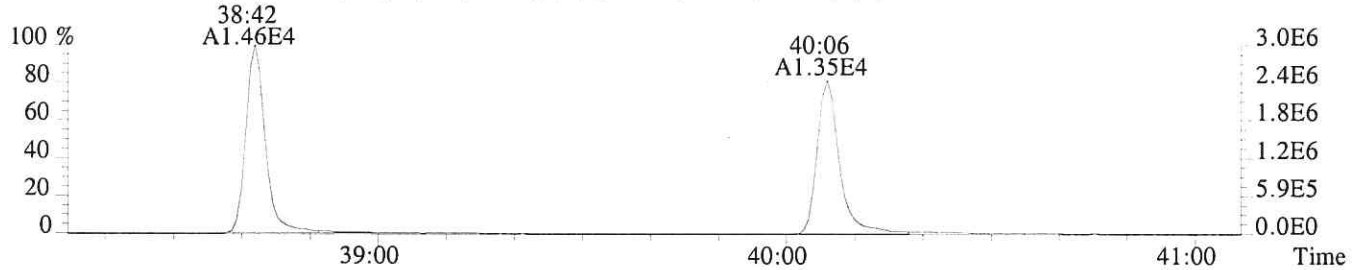
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,608.0,0.50%,F,T)



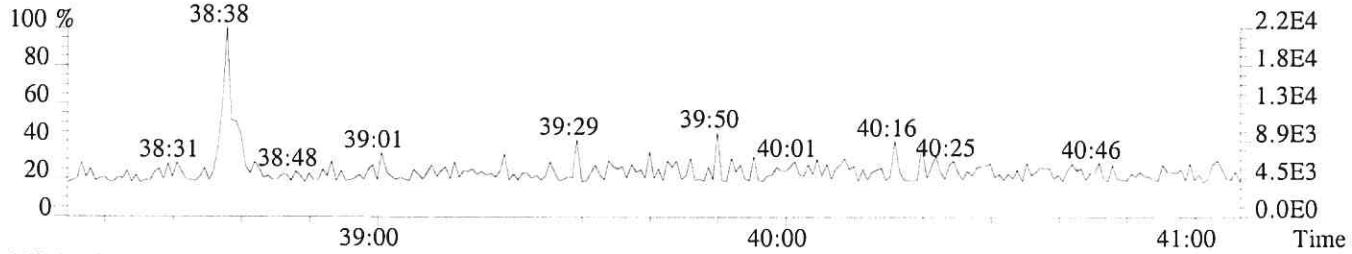
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2044.0,0.50%,F,T)



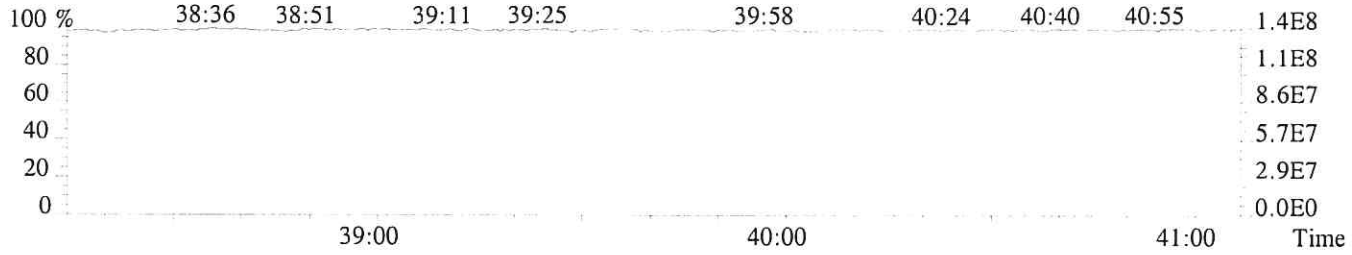
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3148.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

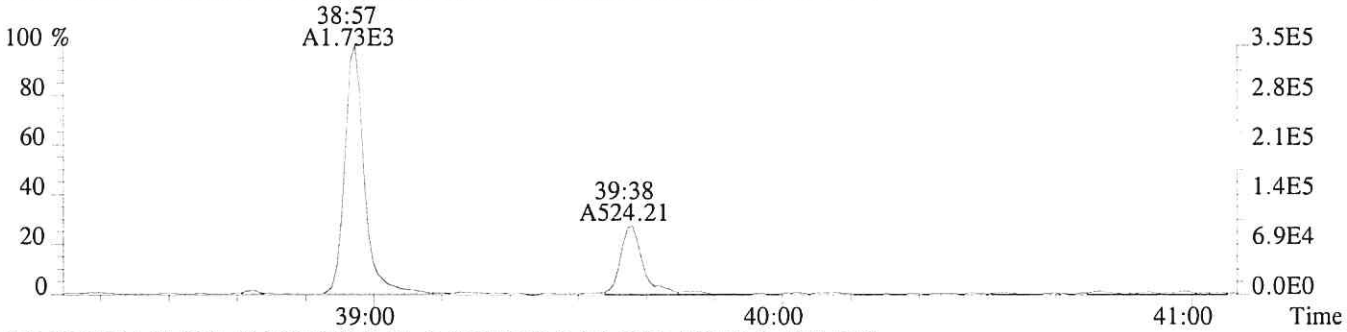


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

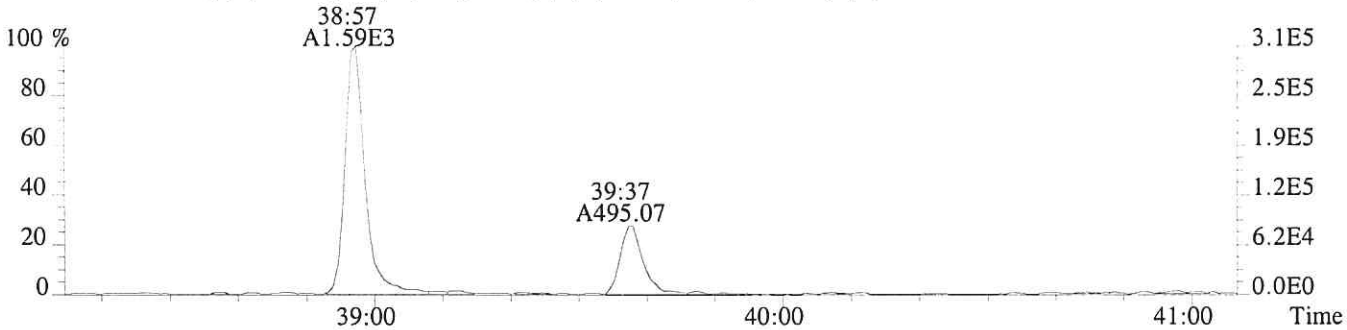


File:P511540 #1-259 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

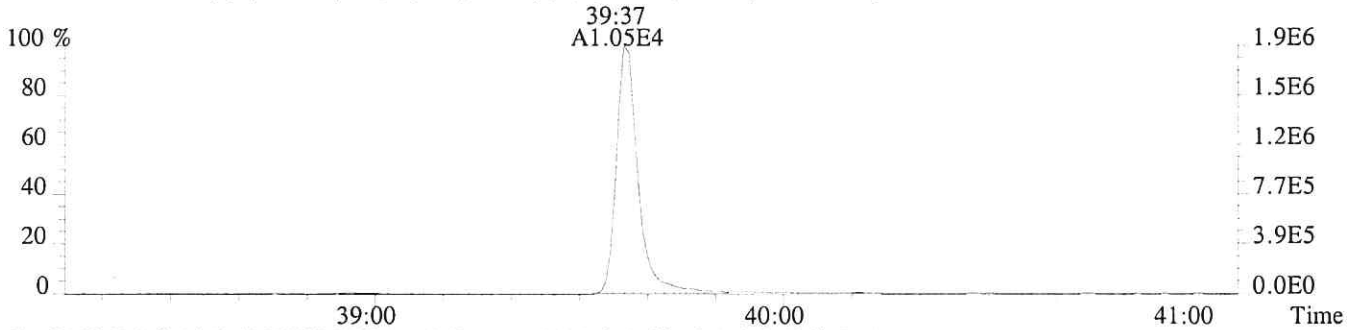
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1608.0,0.40%,F,T)



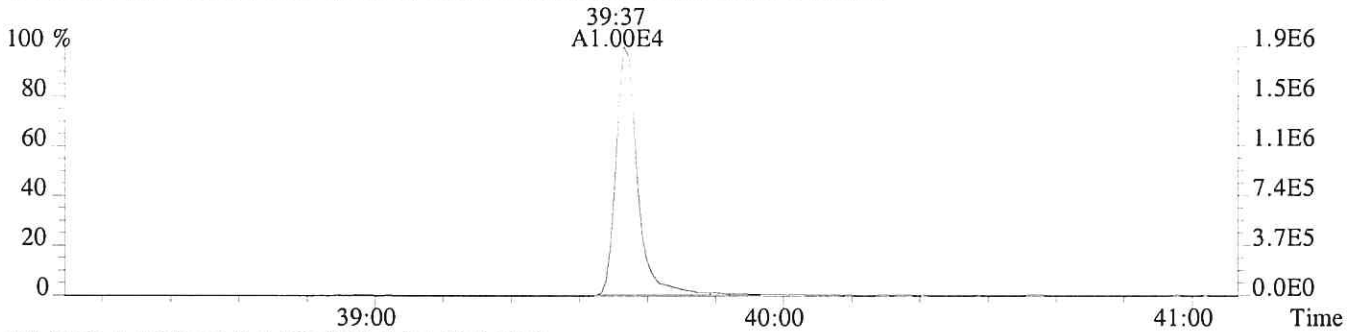
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1720.0,0.40%,F,T)



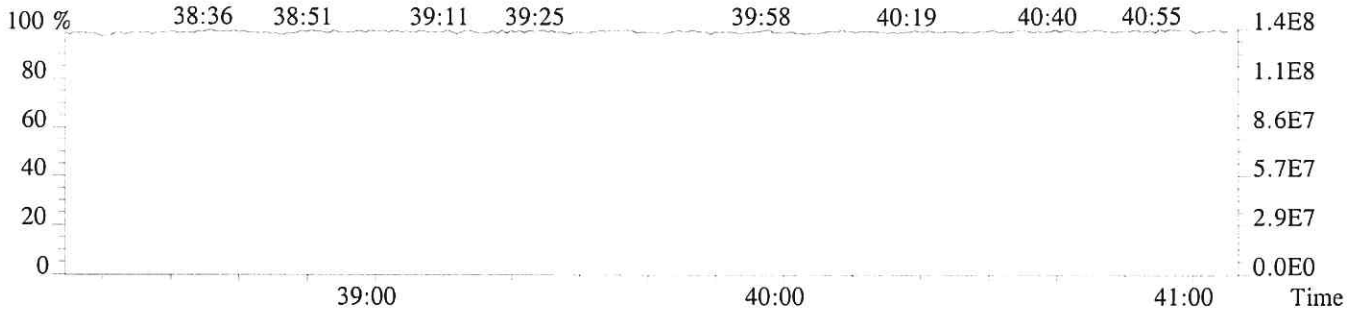
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)

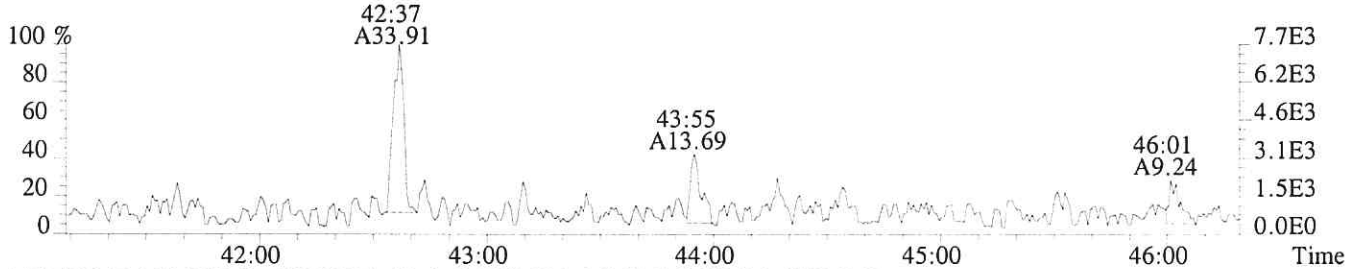


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

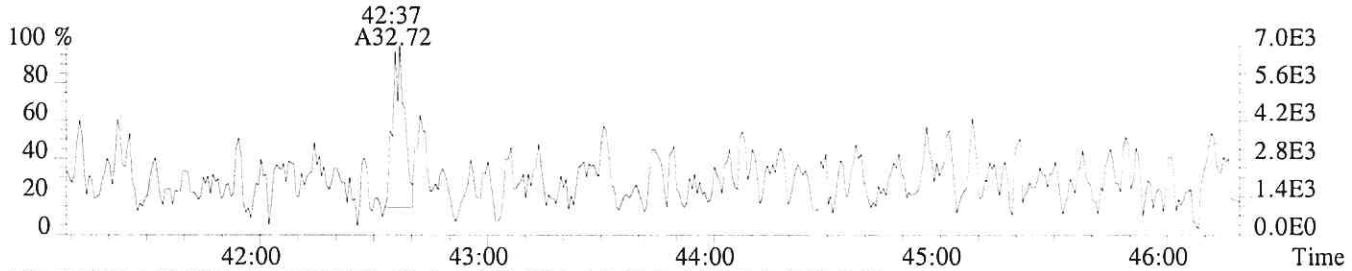


File:P511540 #1-466 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

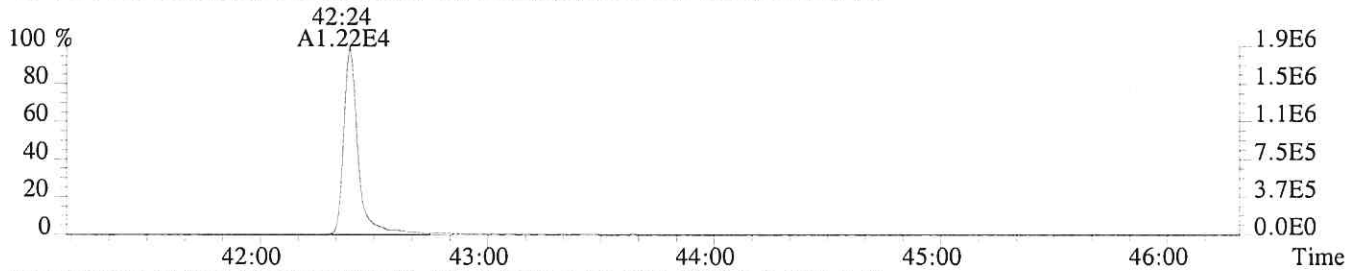
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)



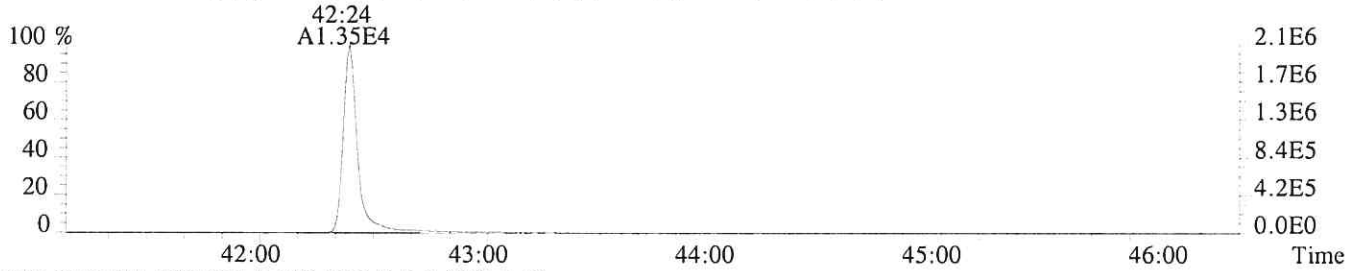
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2488.0,0.40%,F,T)



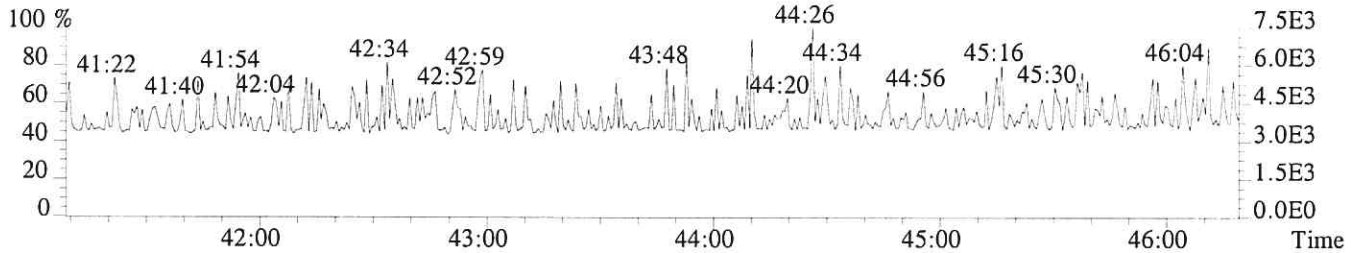
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1488.0,0.40%,F,T)



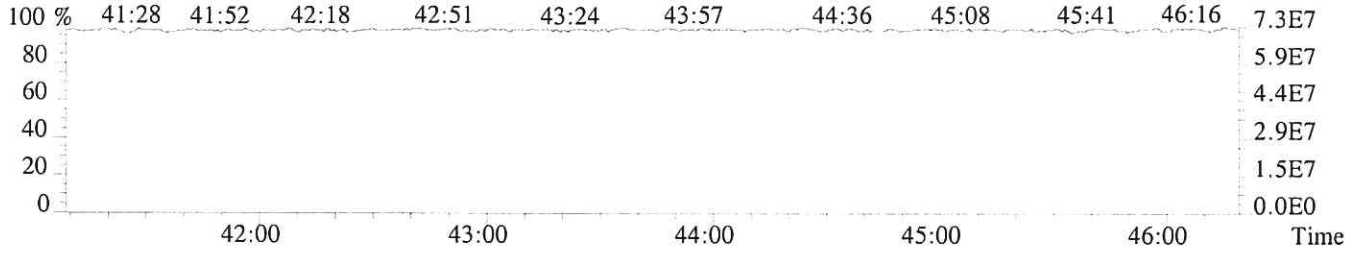
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



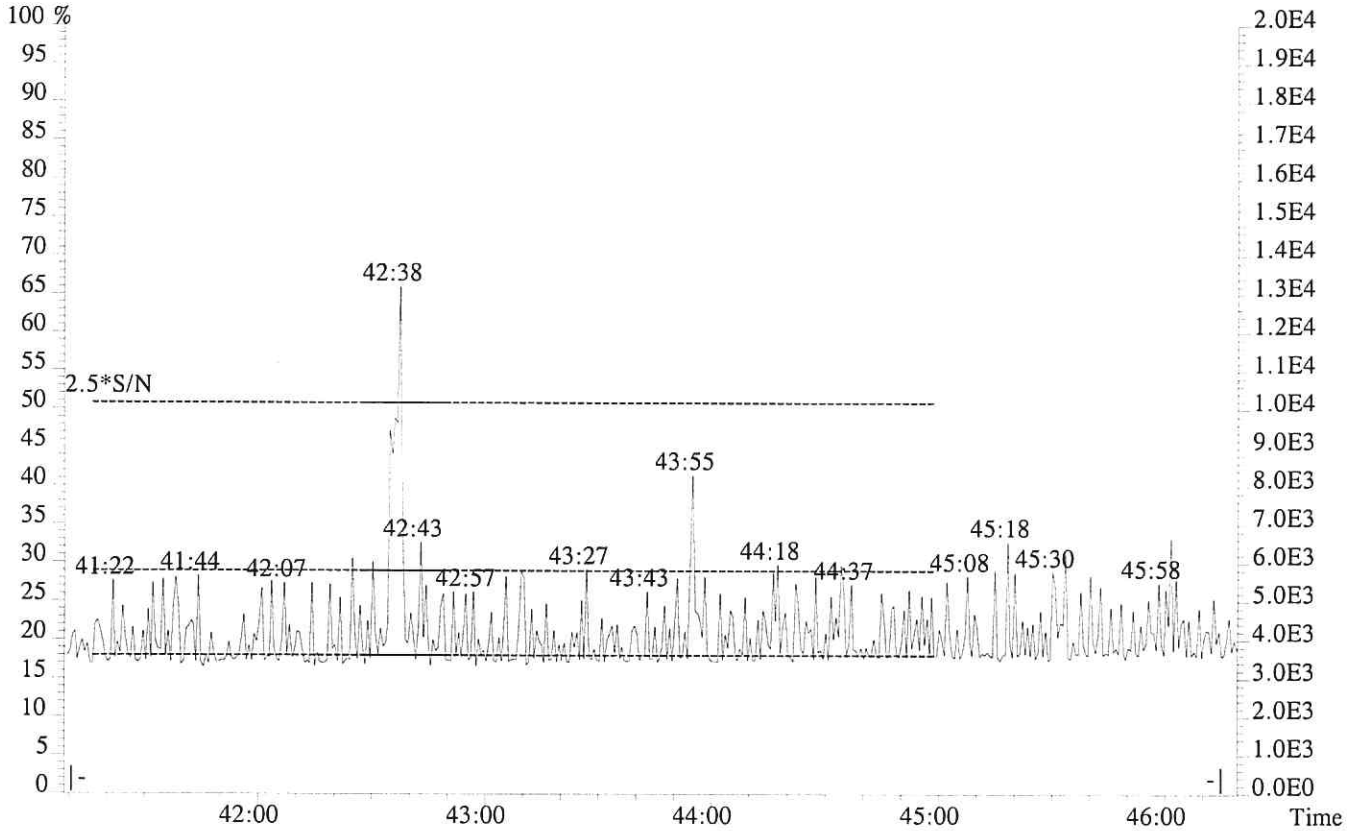
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



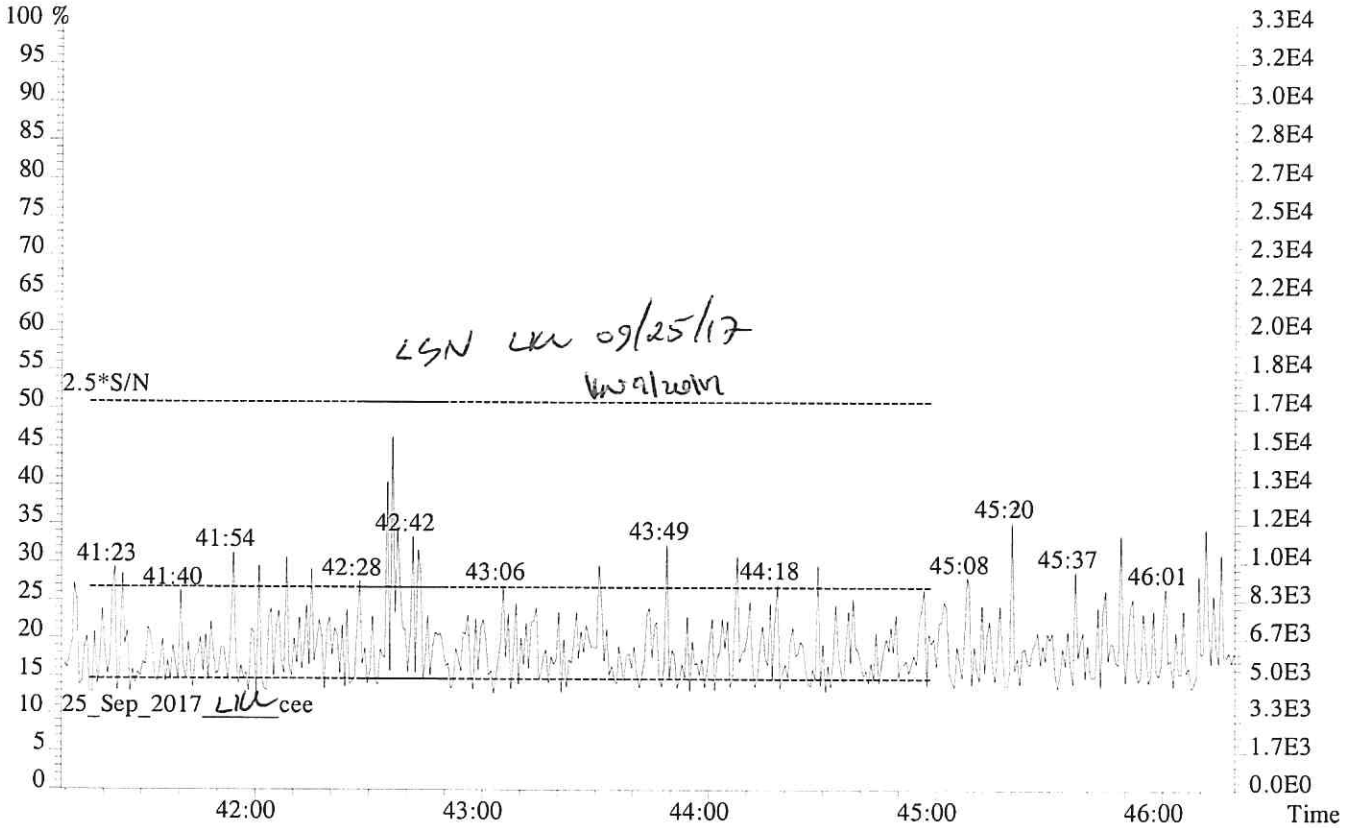
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P511540 #1-466 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001
441.7428 F:5

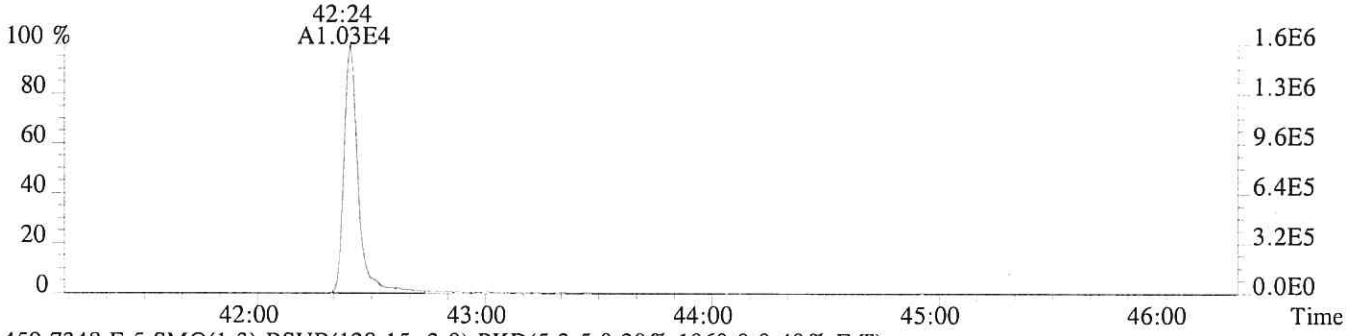


443.7399 F:5

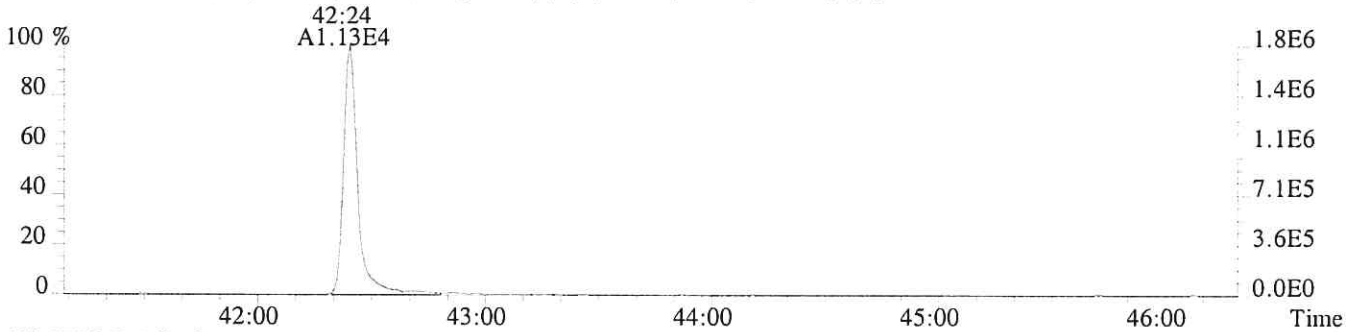


File:P511540 #1-466 Acq:24-SEP-2017 14:15:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-001

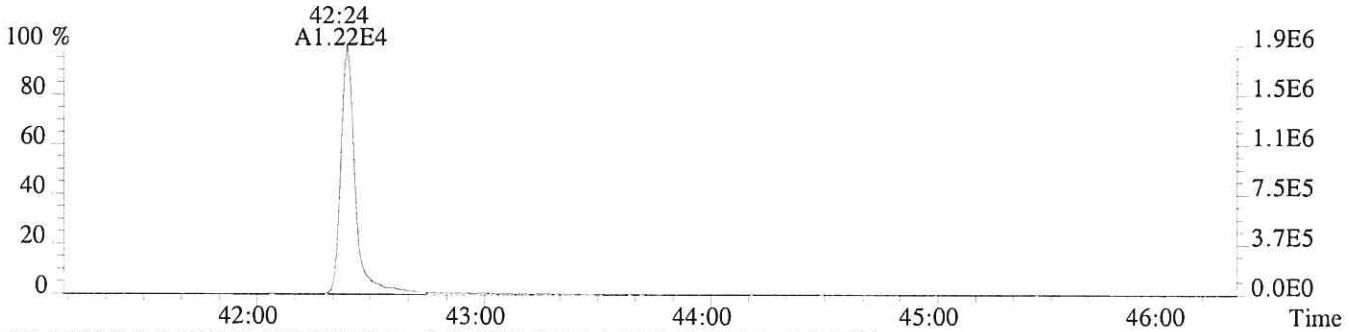
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,340.0,0.40%,F,T)



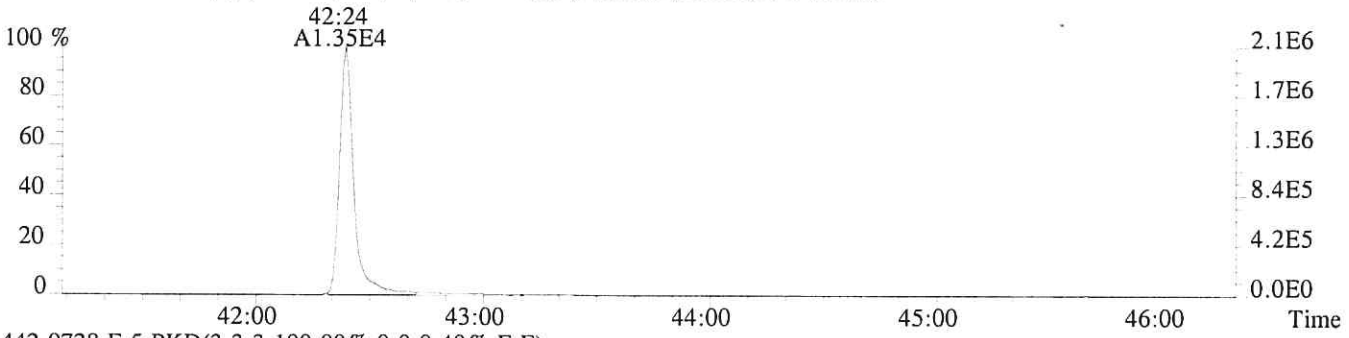
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



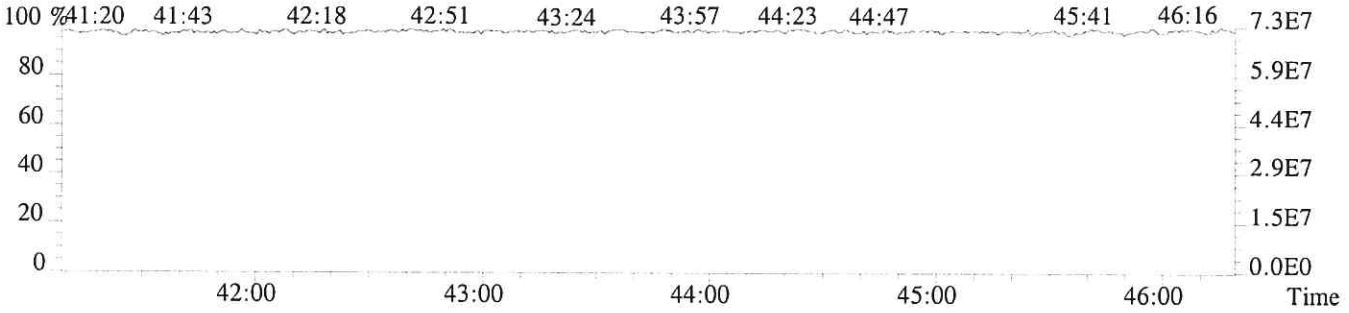
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1488.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #11 Filename P511541 Samp: 1 Inj: 1 Acquired: 24-SEP-17 15:03:47
Processed: 25-SEP-17 13:10:34 Sample ID: E1700974-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	1.491e+02	1.653e+02	0.90	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	6.548e+01	8.635e+01	0.76	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:36	3.873e+02	4.927e+02	0.79	yes	no	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	yes	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	5.782e+01	5.539e+01	1.04	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	1.240e+03	1.190e+03	1.04	yes	no	0.942
17	Unk	OCDD	42:24	3.837e+04	4.390e+04	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.468e+04	1.889e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	2.256e+04	1.446e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	2.106e+04	1.339e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	8.715e+03	1.664e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	9.702e+03	2.010e+04	0.48	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	8.346e+03	1.618e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	7.920e+03	1.634e+04	0.48	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	5.275e+03	1.208e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	5.341e+03	1.219e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	1.121e+04	1.412e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	1.629e+04	1.014e+04	1.61	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.229e+04	9.742e+03	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.263e+04	9.980e+03	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	8.657e+03	8.275e+03	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	9.629e+03	1.084e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.199e+04	2.782e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.484e+04	2.028e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.087e+04				no	1.033

$$\text{OCDD} = \frac{(3.837e{+}04 + 4.390e{+}04) \times 4000 \text{ pg} \times 1}{(9.629e{+}03 + 1.084e{+}04) \times 10.413 \text{ g} \times 63.0 / 100 \times 1.051} = 2331 \text{ ng/kg}$$

9/26/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-021

Run #11 Filename P511541 Samp: 1 Inj: 1 Acquired: 24-SEP-17 15:03:47
Processed: 25-SEP-17 13:10:34 LAB. ID: E1700974-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.74e+04	8.52e+02	3.2e+01	3.03e+04	4.95e+03	6.1e+00
2	1,2,3,7,8-PeCDF	*	9.76e+02	*	*	3.17e+03	*
3	2,3,4,7,8-PeCDF	*	9.76e+02	*	*	3.17e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.78e+03	*	*	1.26e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.78e+03	*	*	1.26e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.78e+03	*	*	1.26e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.78e+03	*	*	1.26e+03	*
8	1,2,3,4,6,7,8-HpCDF	1.38e+04	9.20e+02	1.5e+01	1.78e+04	7.88e+02	2.3e+01
9	1,2,3,4,7,8,9-HpCDF	*	9.20e+02	*	*	7.88e+02	*
10	OCDF	6.24e+04	1.25e+03	5.0e+01	7.52e+04	2.42e+03	3.1e+01
11	2,3,7,8-TCDD	*	2.60e+03	*	*	1.61e+03	*
12	1,2,3,7,8-PeCDD	*	2.81e+03	*	*	1.06e+03	*
13	1,2,3,4,7,8-HxCDD	*	1.57e+03	*	*	1.93e+03	*
14	1,2,3,6,7,8-HxCDD	*	1.57e+03	*	*	1.93e+03	*
15	1,2,3,7,8,9-HxCDD	1.06e+04	1.57e+03	6.8e+00	1.01e+04	1.93e+03	5.2e+00
16	1,2,3,4,6,7,8-HpCDD	2.39e+05	1.79e+03	1.3e+02	2.24e+05	1.91e+03	1.2e+02
17	OCDD	6.07e+06	2.92e+02	2.1e+04	6.94e+06	1.00e+03	6.9e+03
18	13C-2,3,7,8-TCDF	2.66e+06	2.19e+04	1.2e+02	3.38e+06	8.38e+03	4.0e+02
19	13C-1,2,3,7,8-PeCDF	4.06e+06	2.15e+03	1.9e+03	2.63e+06	2.16e+03	1.2e+03
20	13C-2,3,4,7,8-PeCDF	3.95e+06	2.15e+03	1.8e+03	2.52e+06	2.16e+03	1.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.77e+06	1.38e+03	1.3e+03	3.44e+06	2.39e+03	1.4e+03
22	13C-1,2,3,6,7,8-HxCDF	1.95e+06	1.38e+03	1.4e+03	3.87e+06	2.39e+03	1.6e+03
23	13C-2,3,4,6,7,8-HxCDF	1.70e+06	1.38e+03	1.2e+03	3.41e+06	2.39e+03	1.4e+03
24	13C-1,2,3,7,8,9-HxCDF	1.52e+06	1.38e+03	1.1e+03	3.07e+06	2.39e+03	1.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.04e+06	2.17e+03	4.8e+02	2.43e+06	1.20e+03	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	9.51e+05	2.17e+03	4.4e+02	2.14e+06	1.20e+03	1.8e+03
27	13C-2,3,7,8-TCDD	2.10e+06	7.87e+03	2.7e+02	2.67e+06	4.11e+03	6.5e+02
28	13C-1,2,3,7,8-PeCDD	3.12e+06	2.49e+03	1.3e+03	1.93e+06	1.98e+03	9.8e+02
29	13C-1,2,3,4,7,8-HxCDD	2.67e+06	2.33e+03	1.1e+03	2.11e+06	1.77e+03	1.2e+03
30	13C-1,2,3,6,7,8-HxCDD	2.47e+06	2.33e+03	1.1e+03	1.96e+06	1.77e+03	1.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.63e+06	1.67e+03	9.8e+02	1.56e+06	1.06e+03	1.5e+03
32	13C-OCDD	1.53e+06	1.48e+03	1.0e+03	1.72e+06	1.09e+03	1.6e+03
33	13C-1,2,3,4-TCDD	4.14e+06	7.87e+03	5.3e+02	5.28e+06	4.11e+03	1.3e+03
34	13C-1,2,3,7,8,9-HxCDD	5.02e+06	2.33e+03	2.2e+03	3.94e+06	1.77e+03	2.2e+03
35	37Cl-2,3,7,8-TCDD	1.95e+06	2.67e+03	7.3e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.596e{+}03 + 1.608e{+}03\ ) \times 2000}{(2.098e{+}06 + 2.673e{+}06\ ) \times (\qquad\qquad) \times 1.065} =$$

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
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Peak List Summary

CLIENT ID.
SJWP-091517-021

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: P511541 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 15:03:47 Processed: 25-SEP-17 13:10:34

Mass: 355.8550 357.8520 Tot Response: 6.01e+01 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:44	3.44e+01	2.57e+01	1.34	yes	6.01e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-021

Entry: 41 Totals Name: Total Hexa-Furans

Run: 11 File: P511541 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 15:03:47 Processed: 25-SEP-17 13:10:34

Mass: 373.8210 375.8180 Tot Response: 8.80e+01 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	4.72e+01	4.07e+01	1.16	yes	8.80e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-021

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: P511541 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 15:03:47 Processed: 25-SEP-17 13:10:34

Mass: 389.8160 391.8130 Tot Response: 1.51e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	5.94e+02	4.90e+02	1.21	yes	1.08e+03		n	n
2	36:18	2.33e+02	1.95e+02	1.19	yes	4.28e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-021

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: P511541 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 15:03:47 Processed: 25-SEP-17 13:10:34

Mass: 407.7820 409.7790 Tot Response: 7.04e+01 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:07	3.75e+01	3.29e+01	1.14	yes	7.04e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-021

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P511541 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 15:03:47 Processed: 25-SEP-17 13:10:34

Mass: 423.7770 425.7740 Tot Response: 8.33e+03 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	2.99e+03	2.91e+03	1.03	yes	5.90e+03	n	n
2	39:37	1.24e+03	1.19e+03	1.04	yes	2.43e+03	1,2,3,4,6,7,8-HpCDD	n	n

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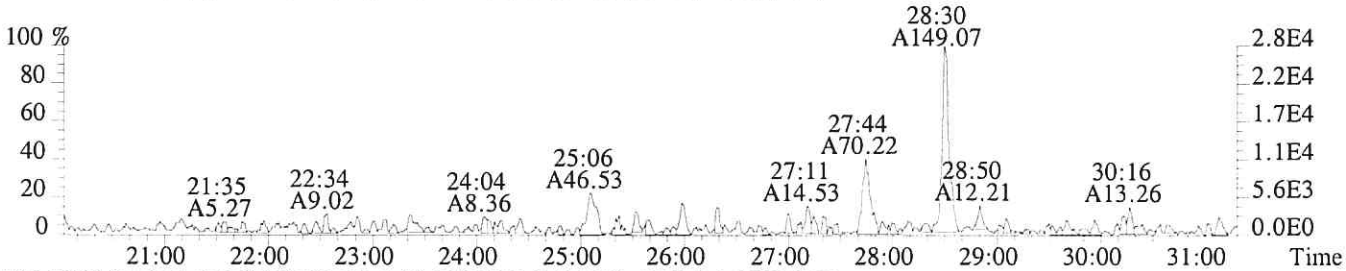
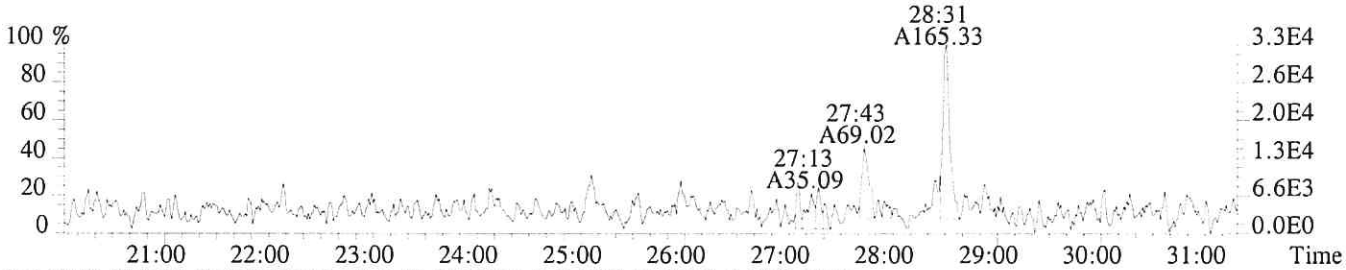
File:P511541 #1-800 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

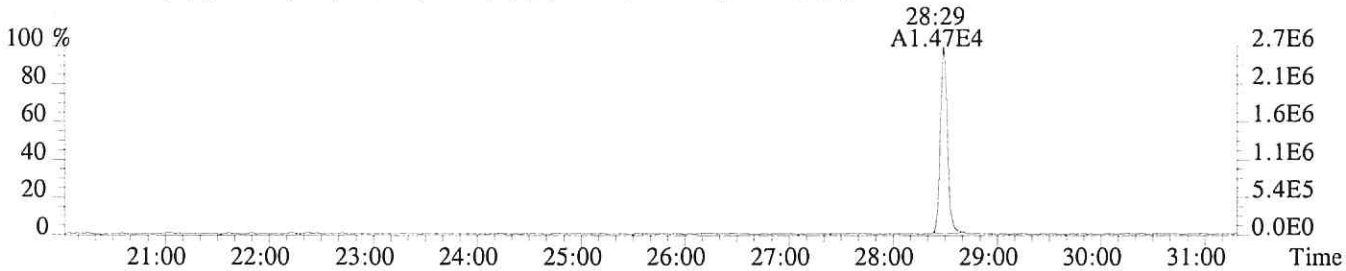
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



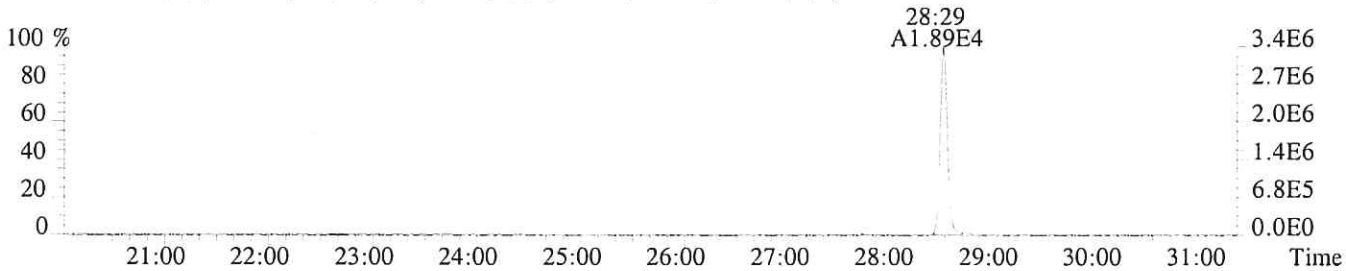
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4948.0,1.00%,F,T)



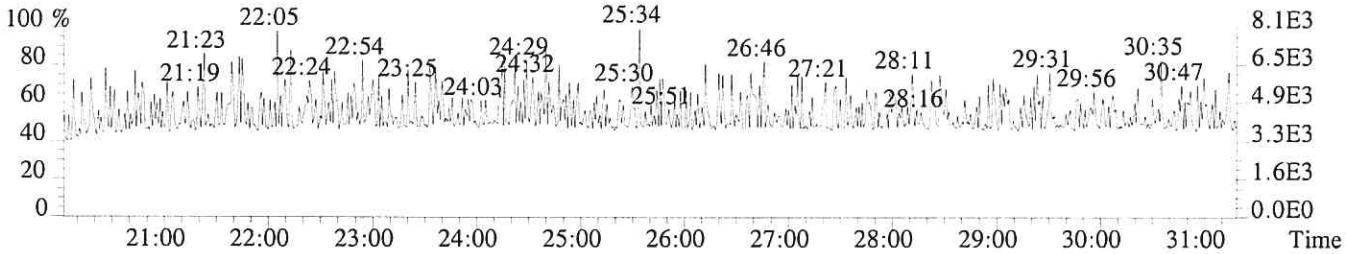
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,21856.0,1.00%,F,T)



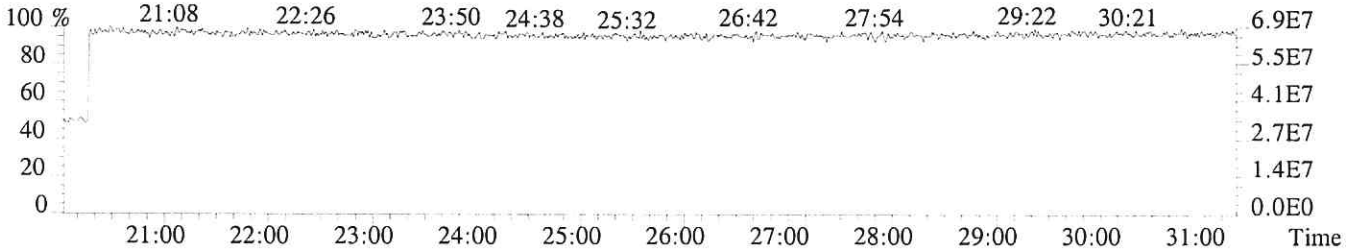
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8380.0,1.00%,F,T)



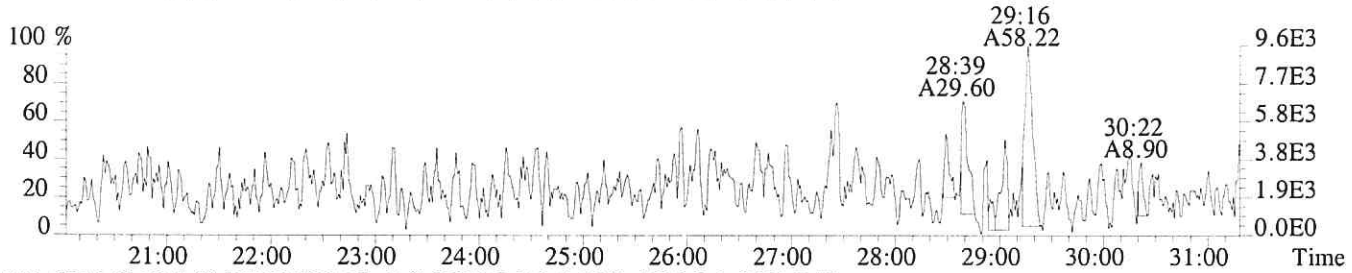
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



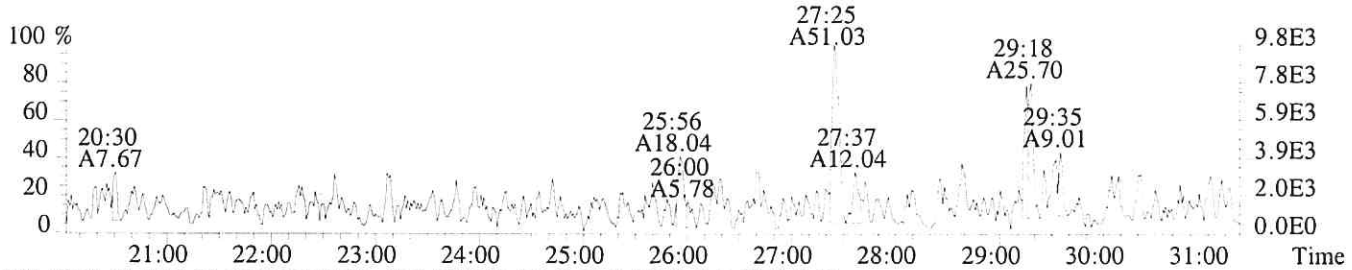
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



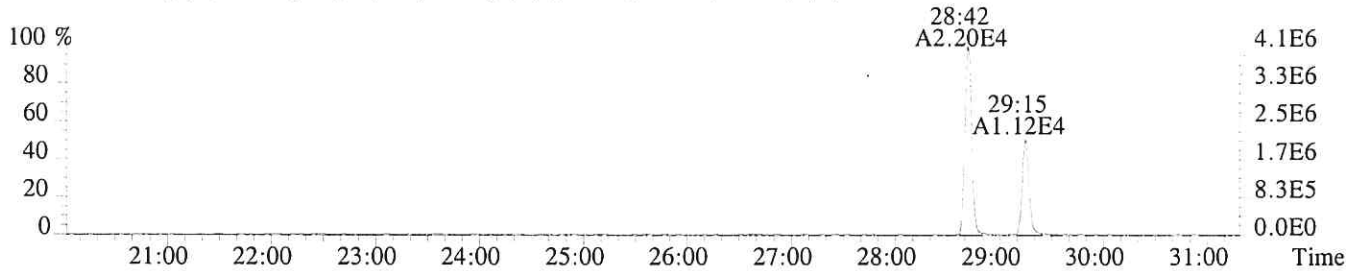
File:P511541 #1-800 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2596.0,1.00%,F,T)



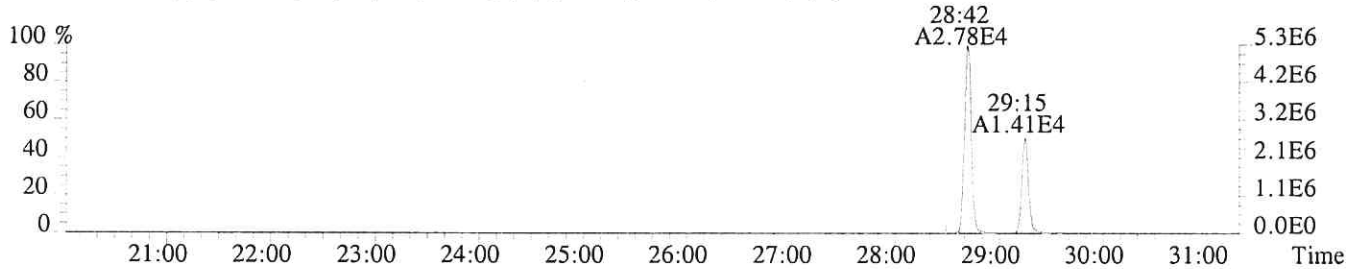
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



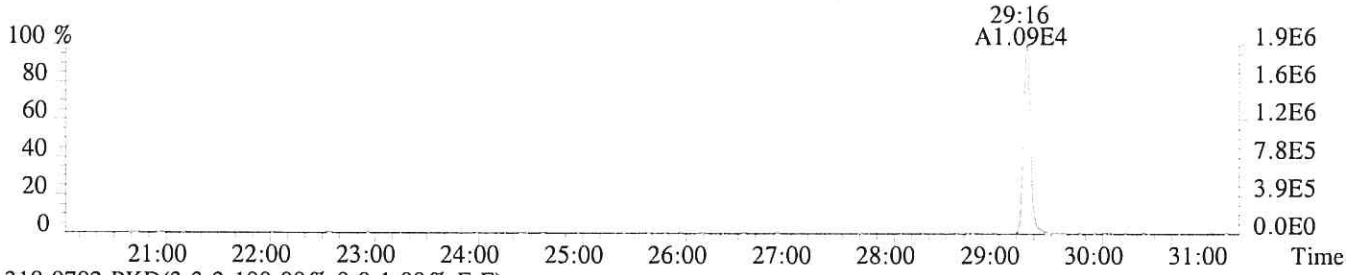
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7868.0,1.00%,F,T)



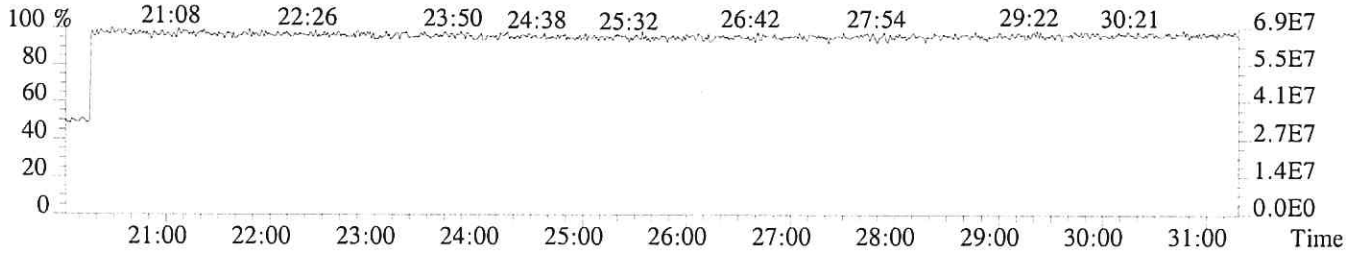
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4112.0,1.00%,F,T)



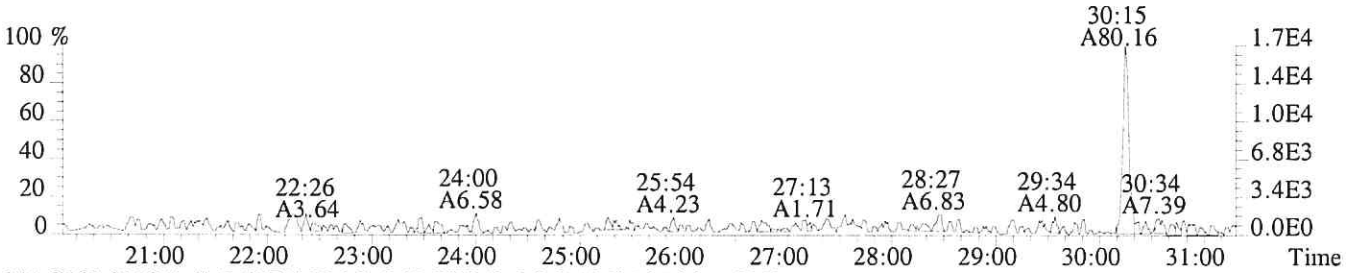
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2668.0,1.00%,F,T)



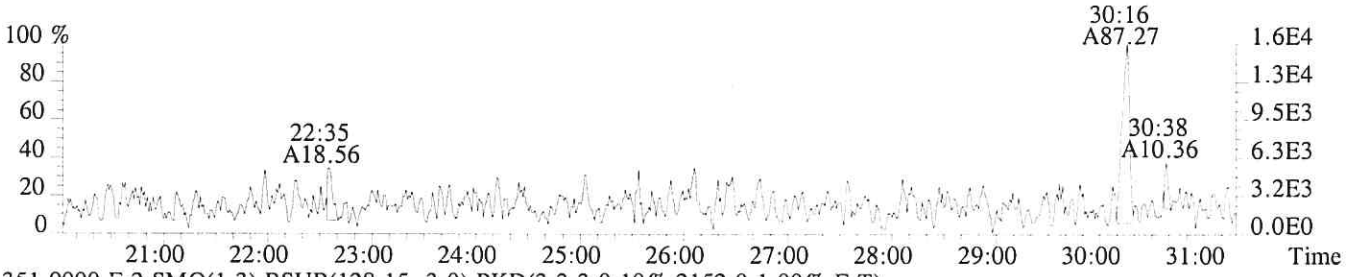
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



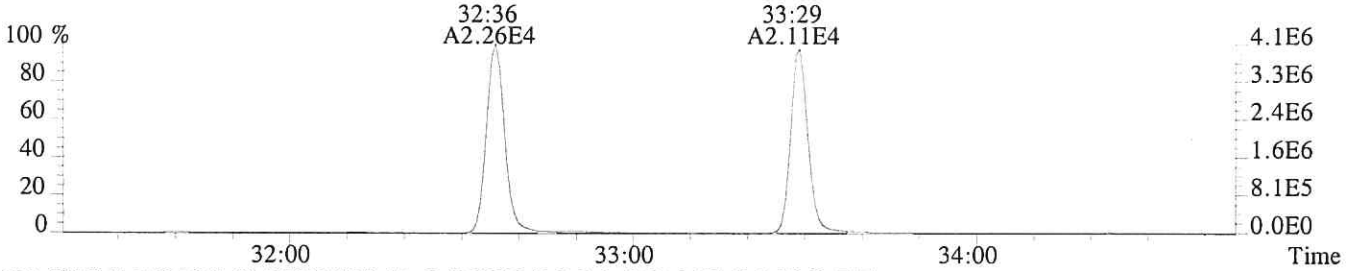
File:P511541 #1-800 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,T)



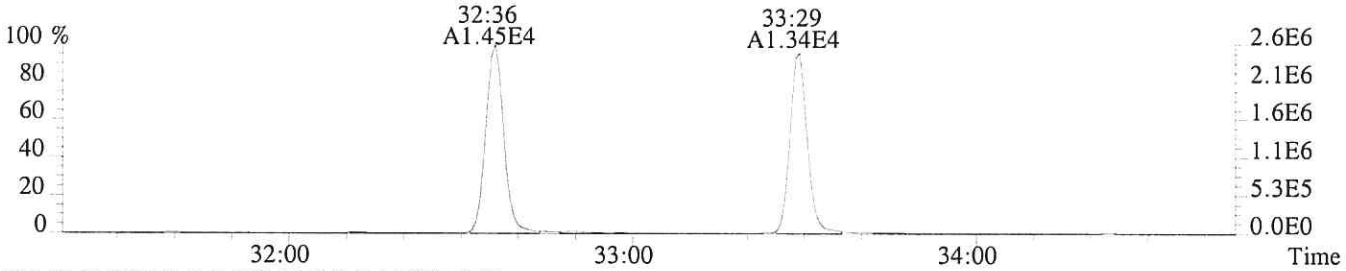
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2916.0,1.00%,F,T)



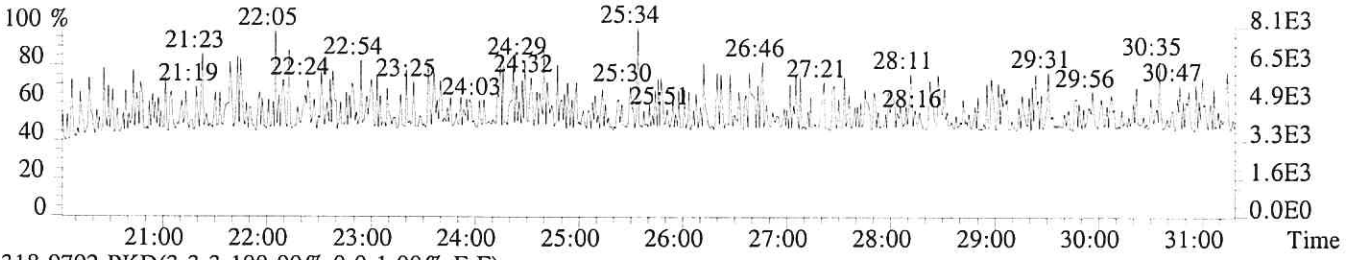
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



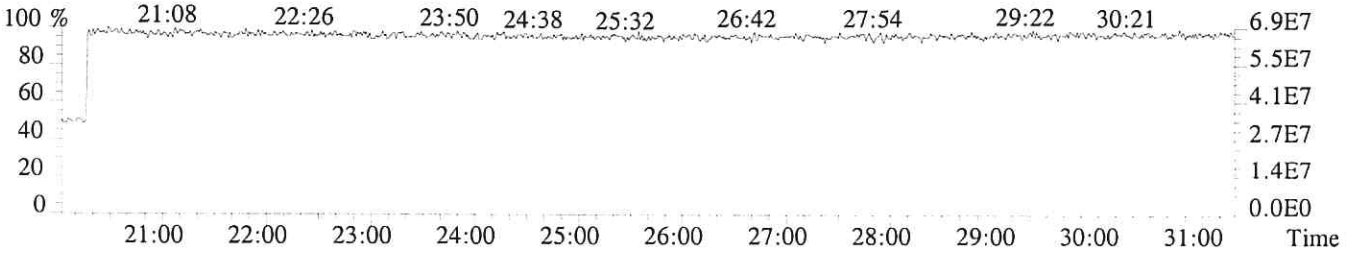
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2164.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

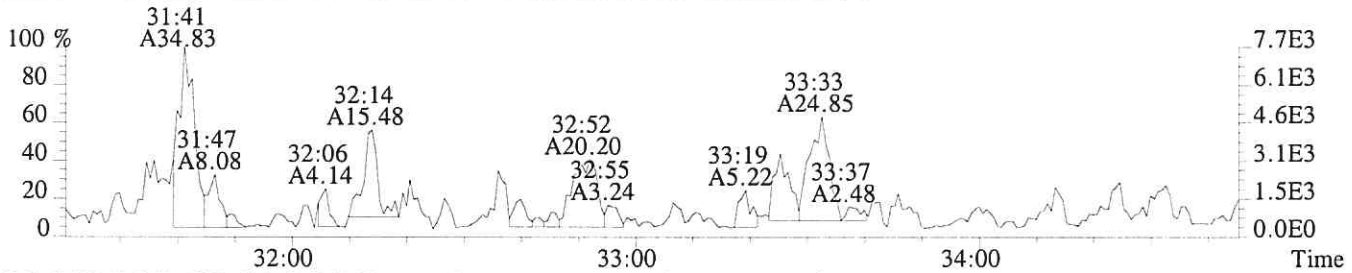


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

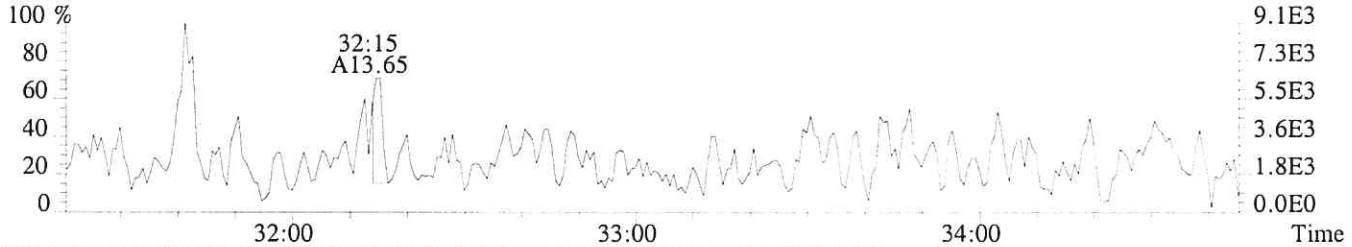


File:P511541 #1-308 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

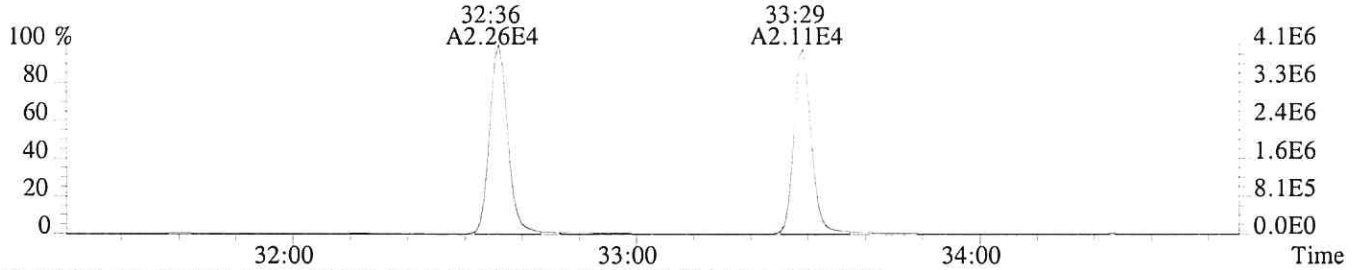
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



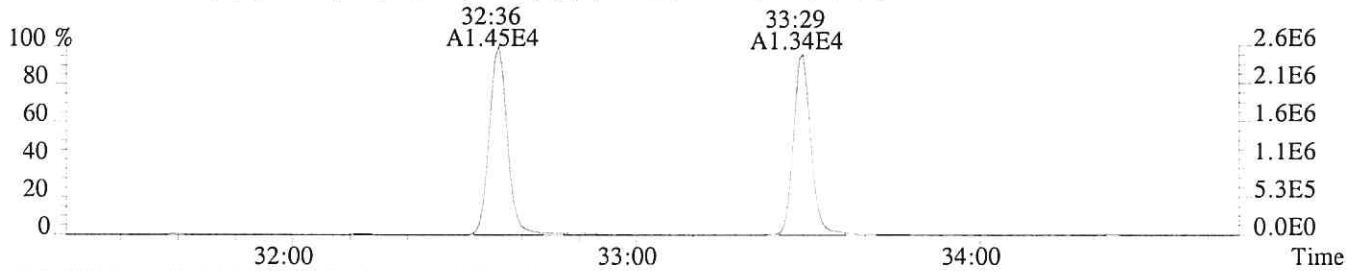
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3172.0,1.00%,F,T)



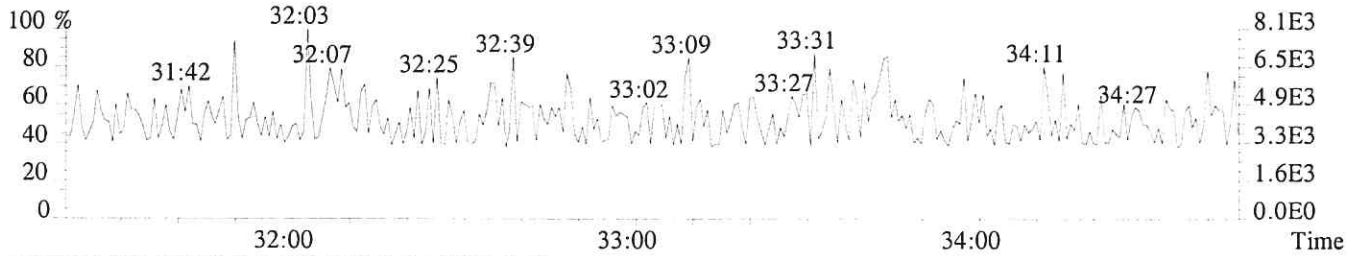
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



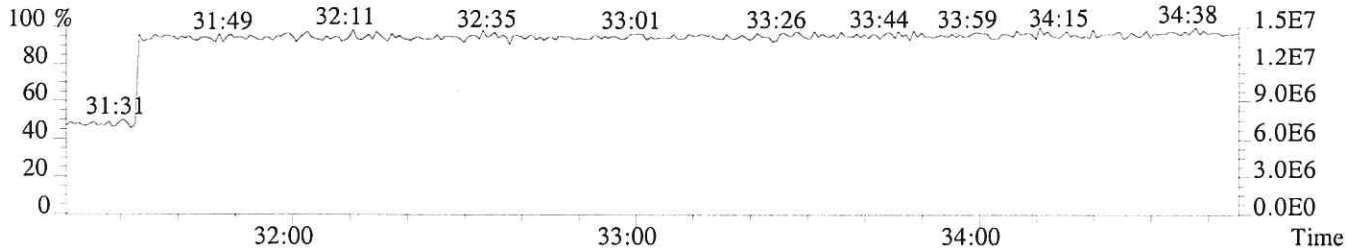
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2164.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

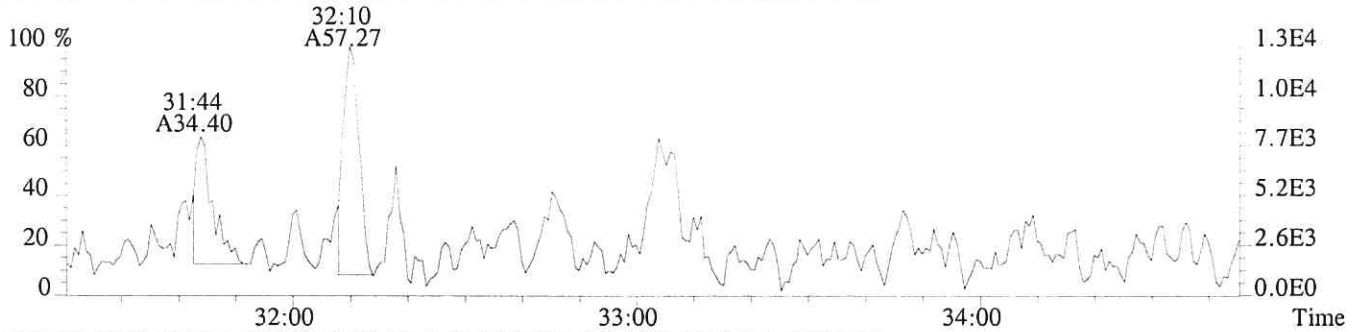


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

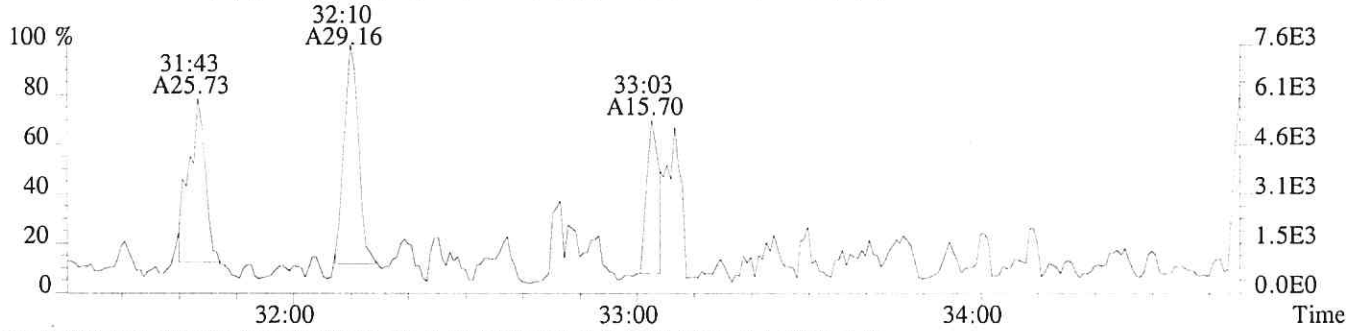


File:P511541 #1-308 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

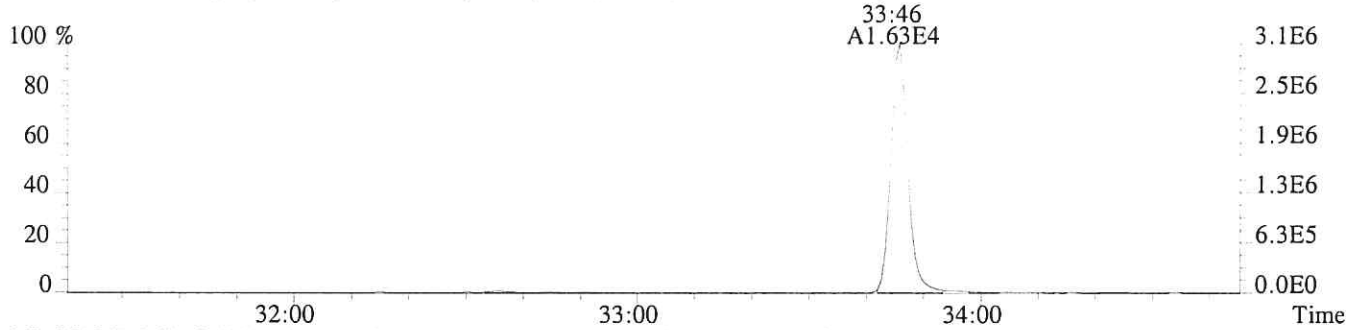
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2808.0,1.00%,F,T)



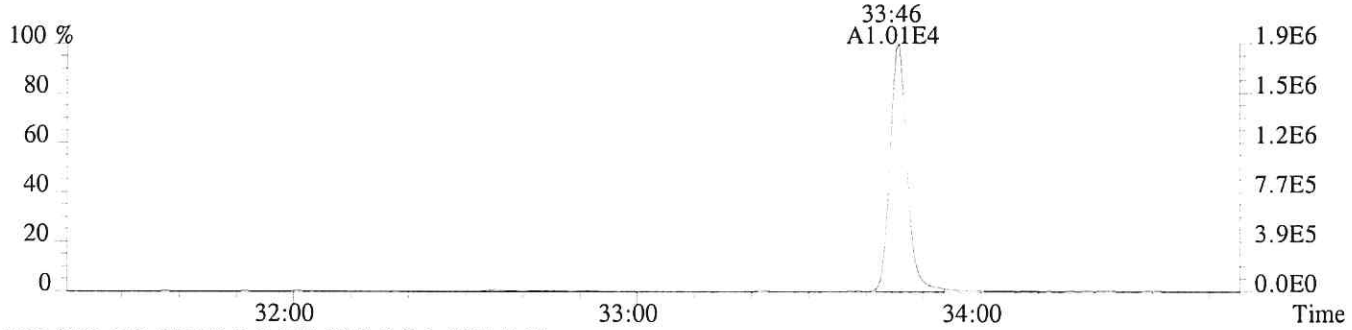
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



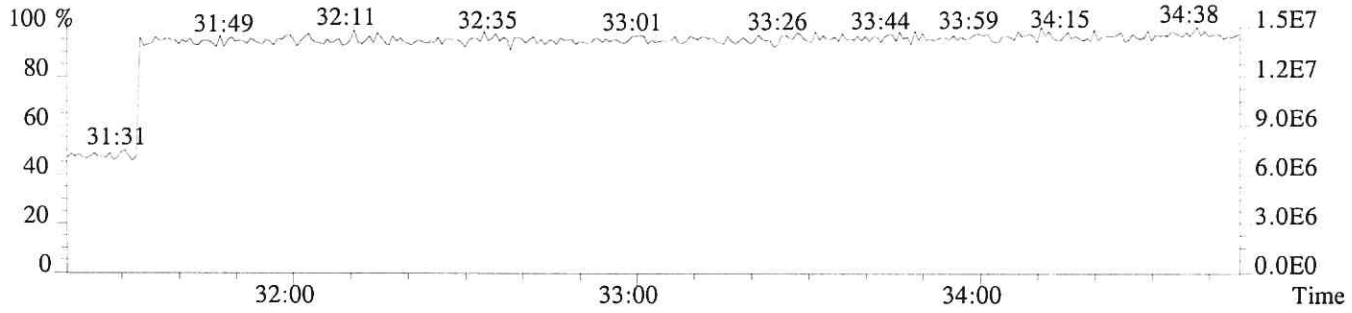
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2492.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1976.0,1.00%,F,T)

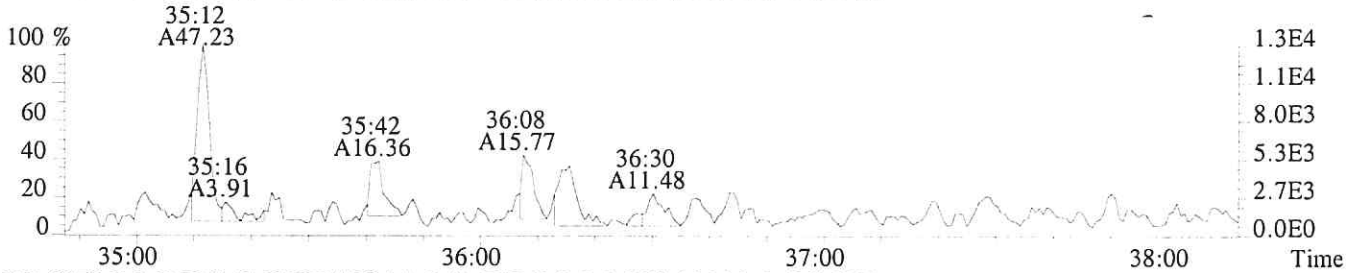


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

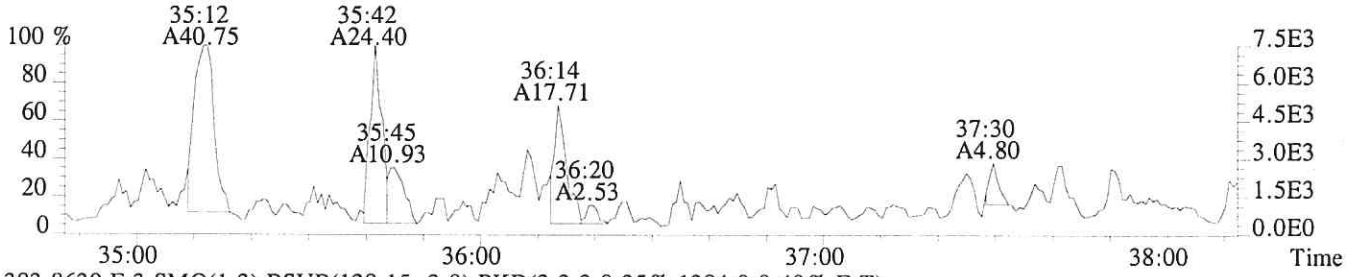


File:P511541 #1-308 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

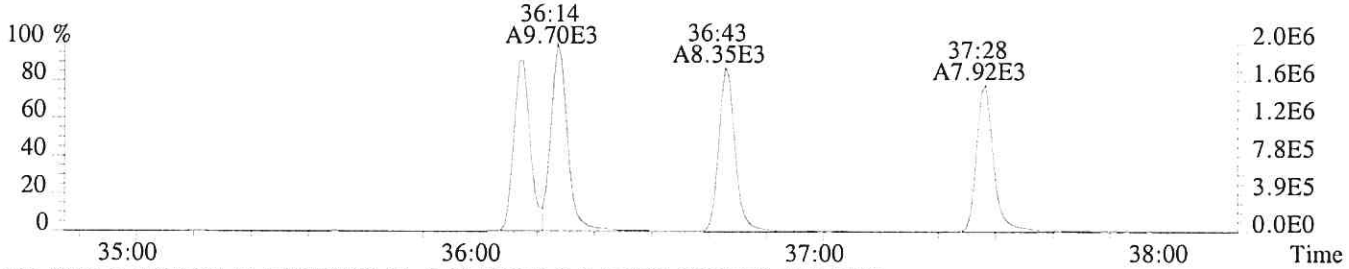
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1776.0,0.40%,F,T)



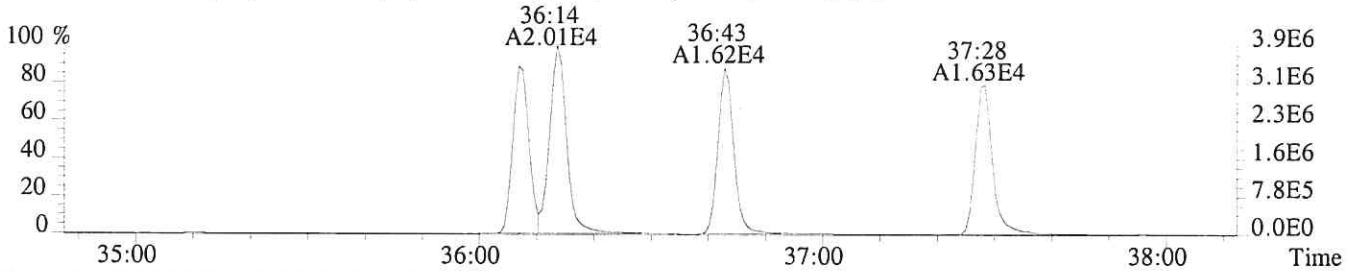
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,T)

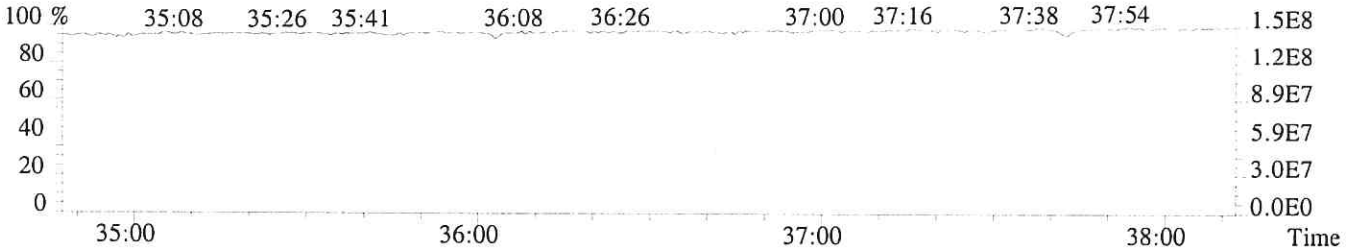


385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2388.0,0.40%,F,T)

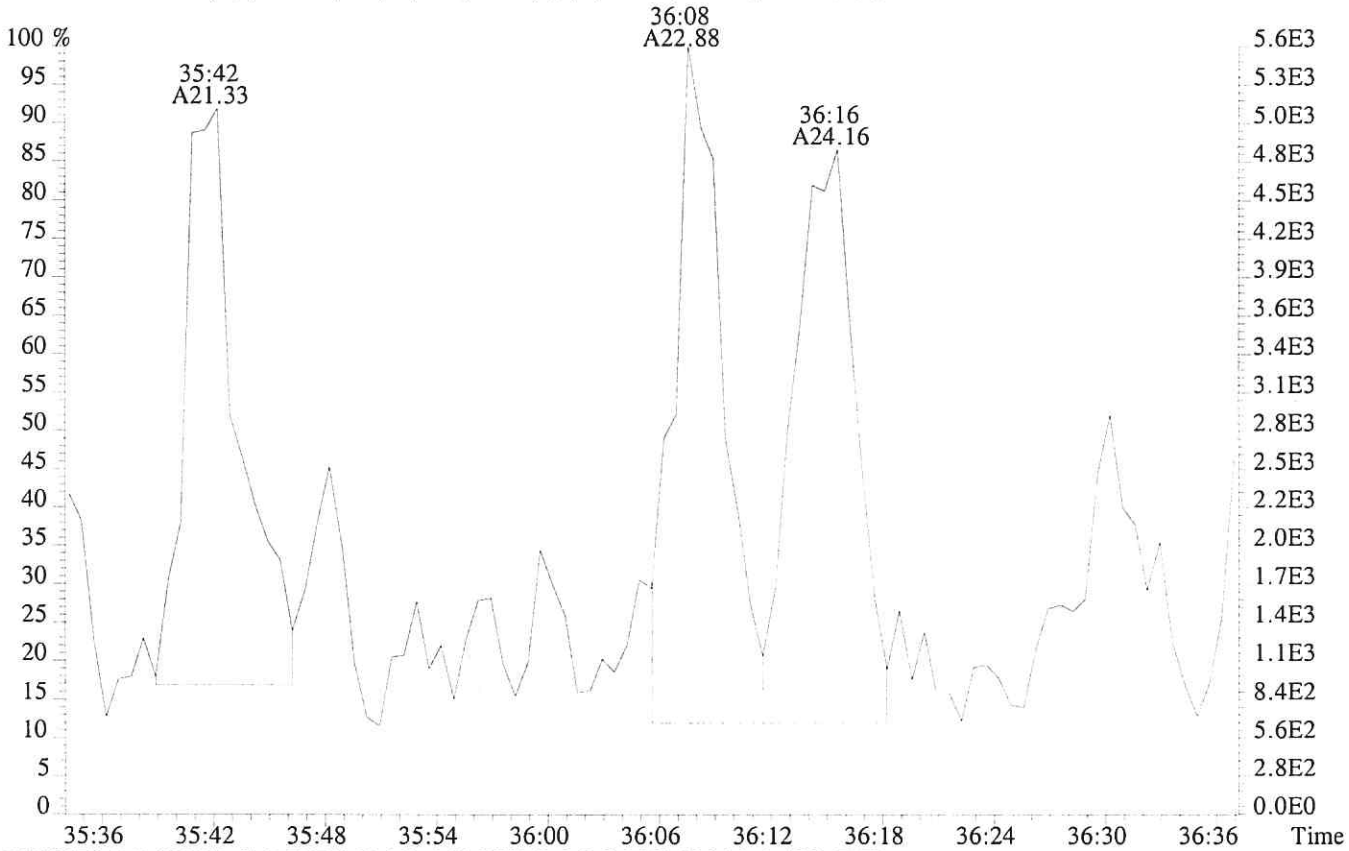


445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

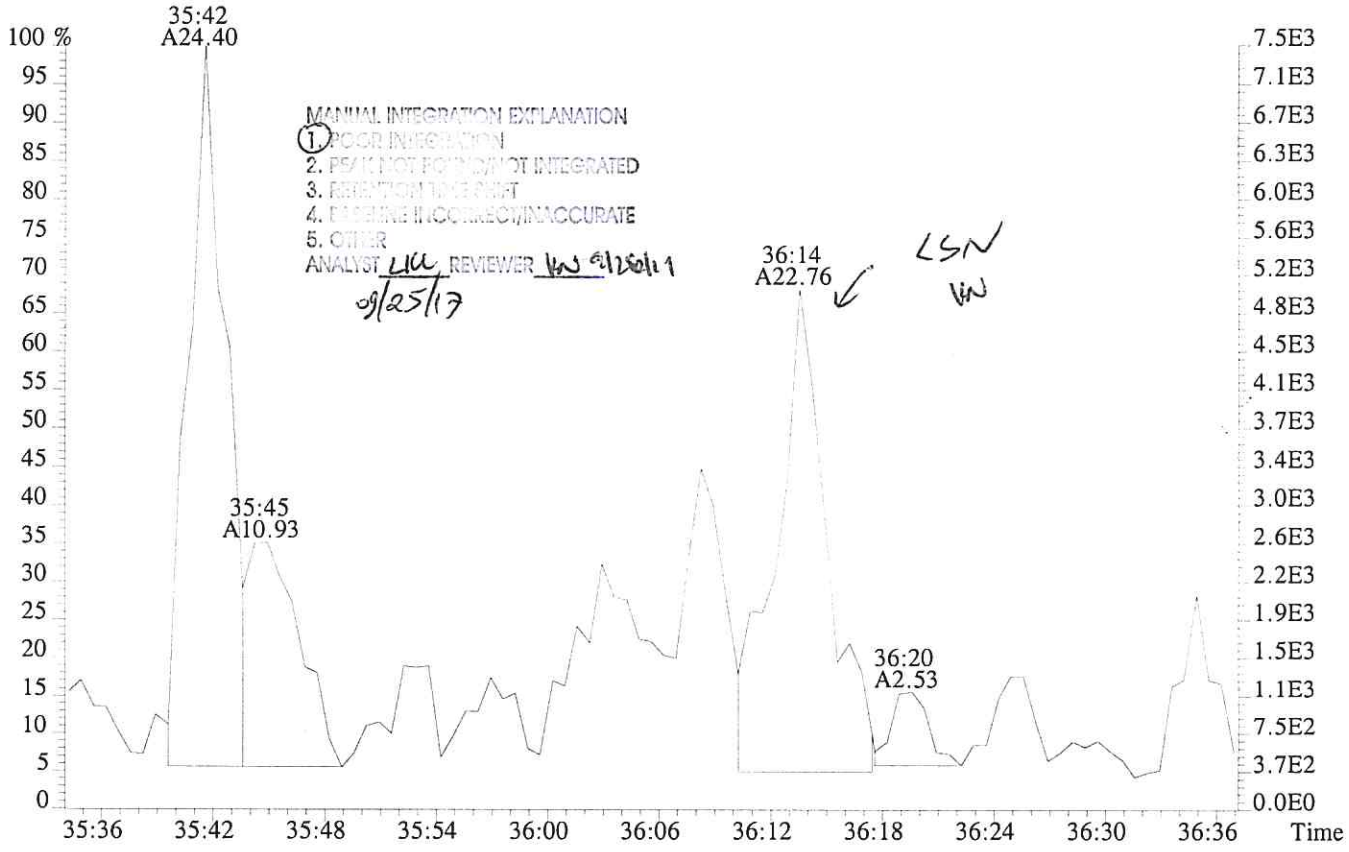
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



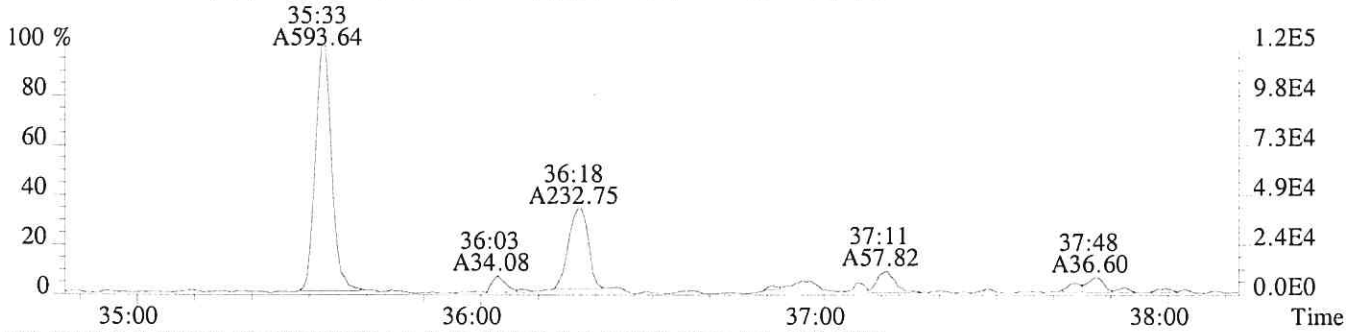
File:P511541 #1-308 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1776.0,0.40%,F,T)



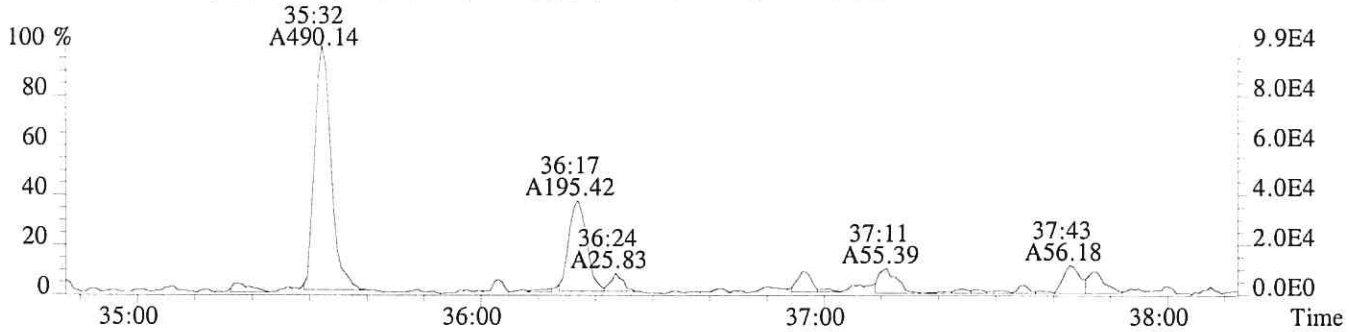
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



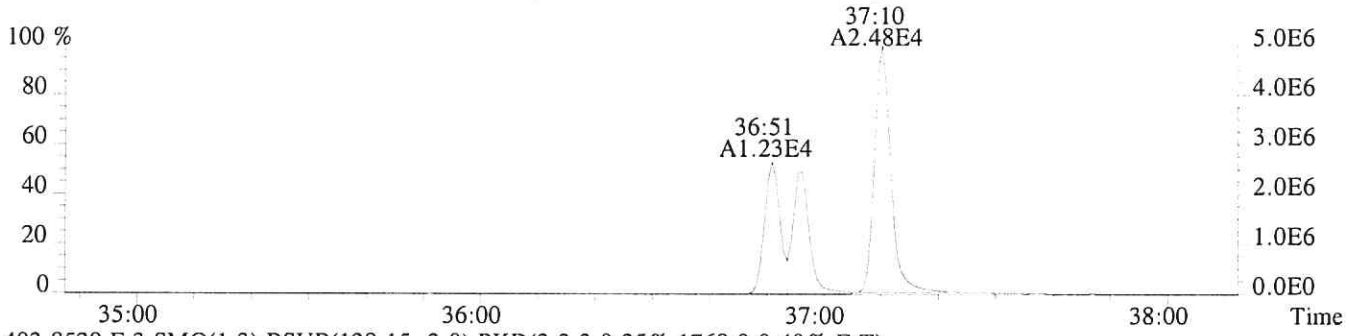
File:P511541 #1-308 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1572.0,0.40%,F,T)



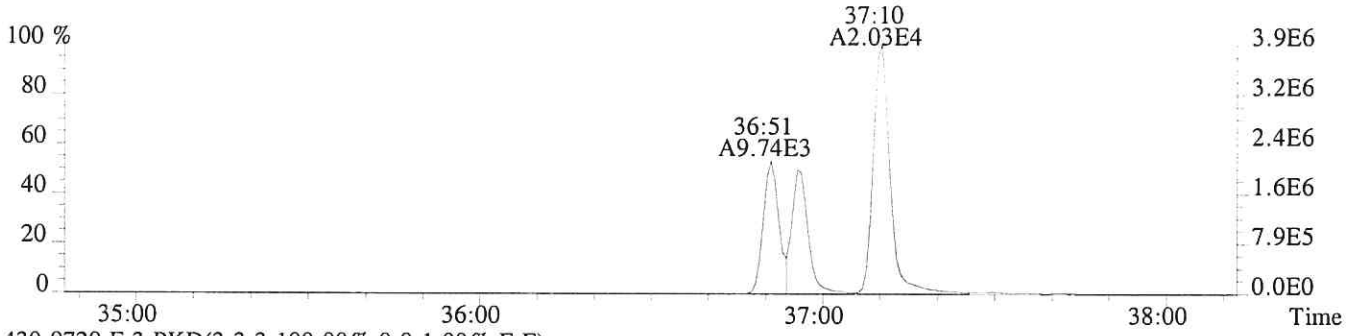
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1932.0,0.40%,F,T)



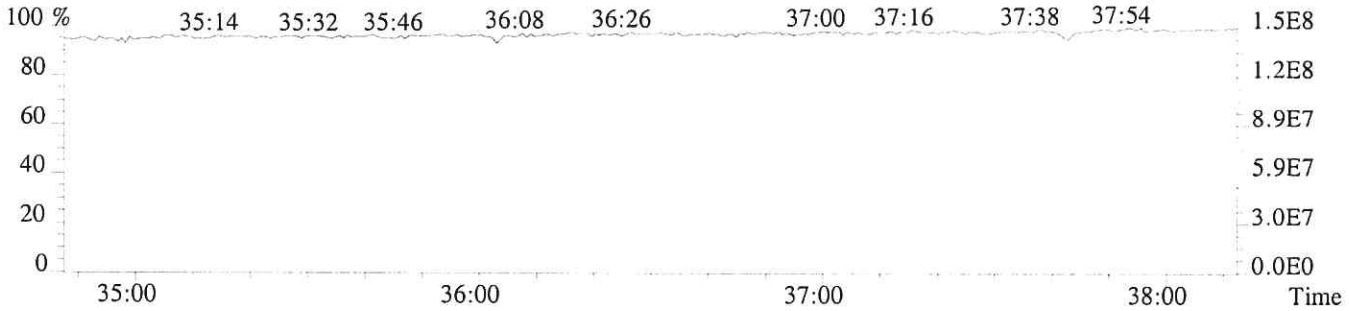
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2328.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1768.0,0.40%,F,T)

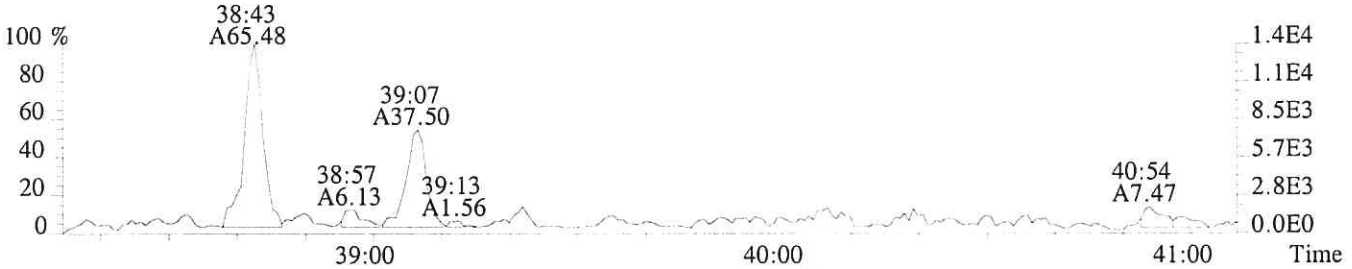


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

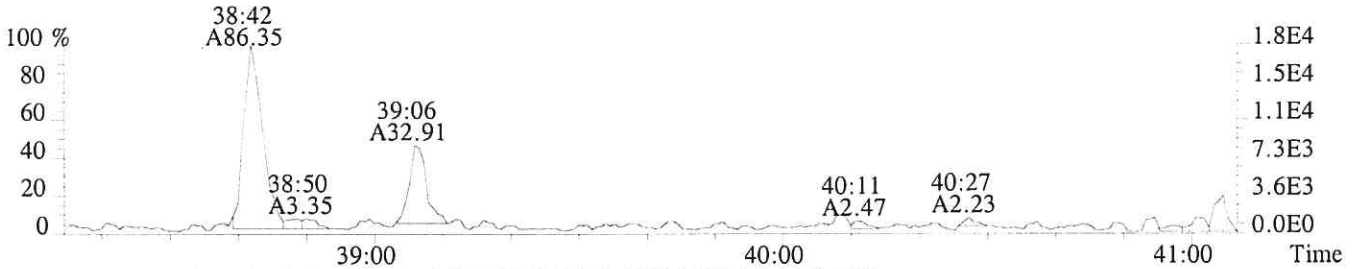


File:P511541 #1-259 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

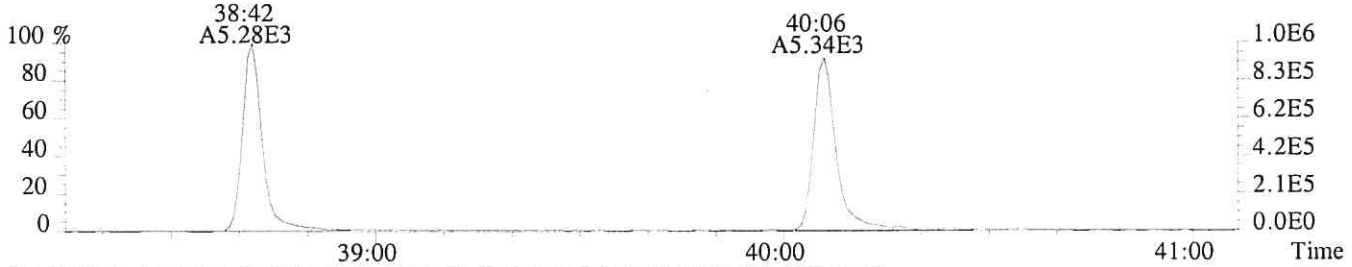
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,920.0,0.50%,F,T)



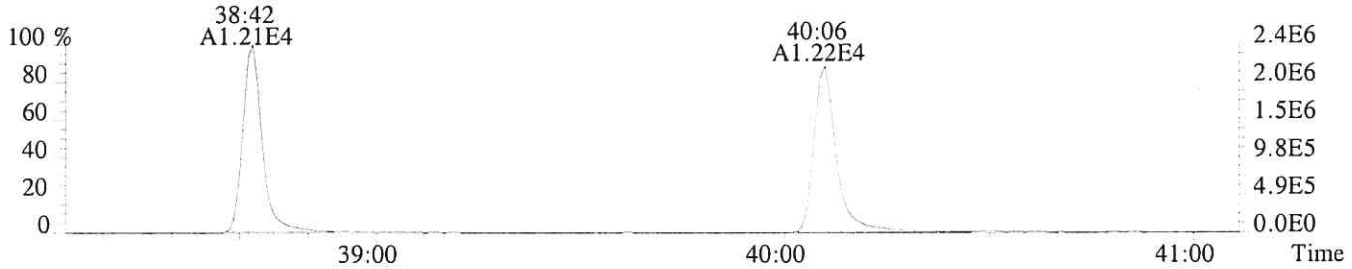
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,788.0,0.50%,F,T)



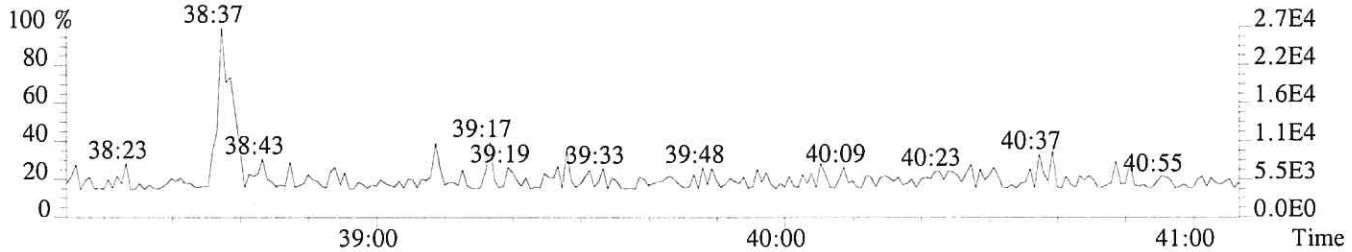
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2172.0,0.50%,F,T)



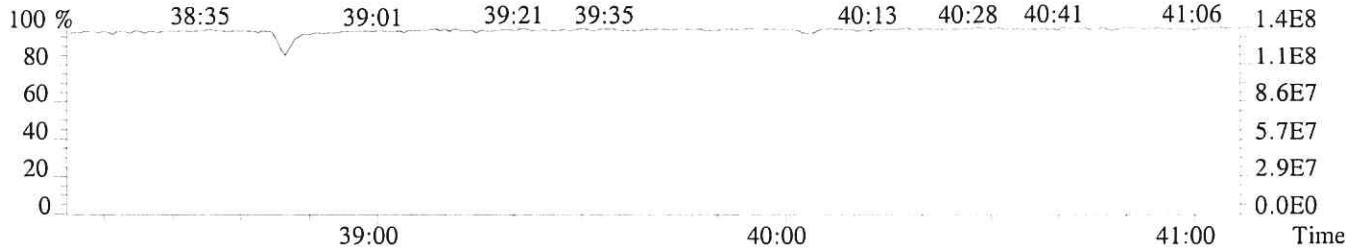
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1204.0,0.50%,F,T)



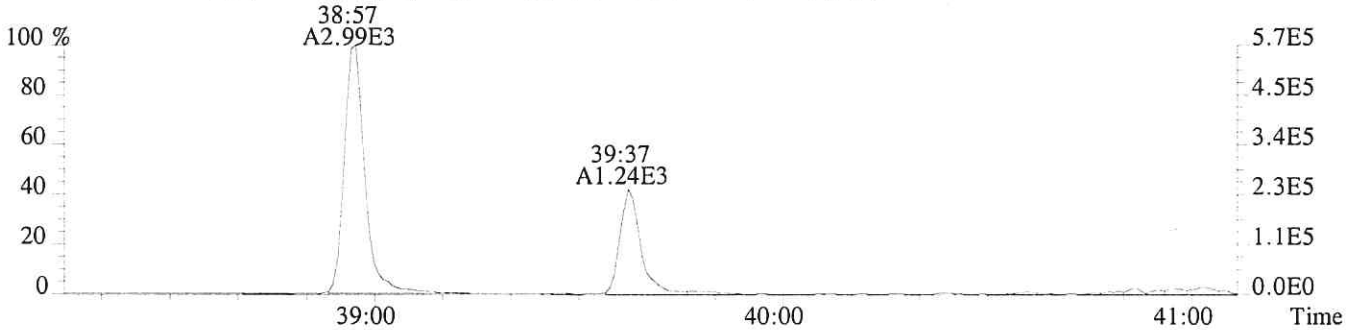
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



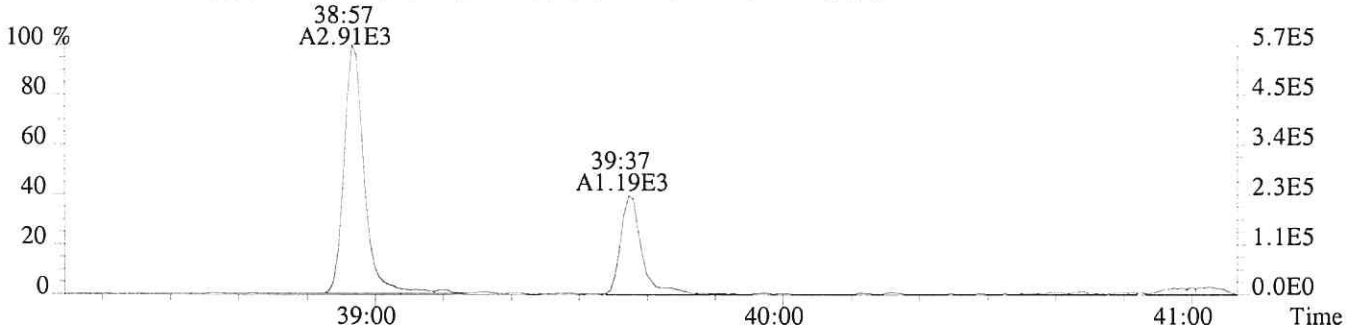
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



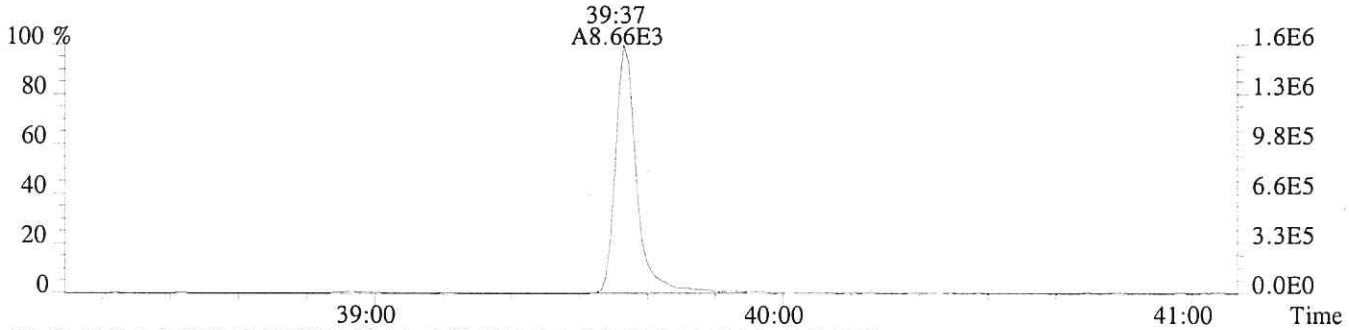
File:P511541 #1-259 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



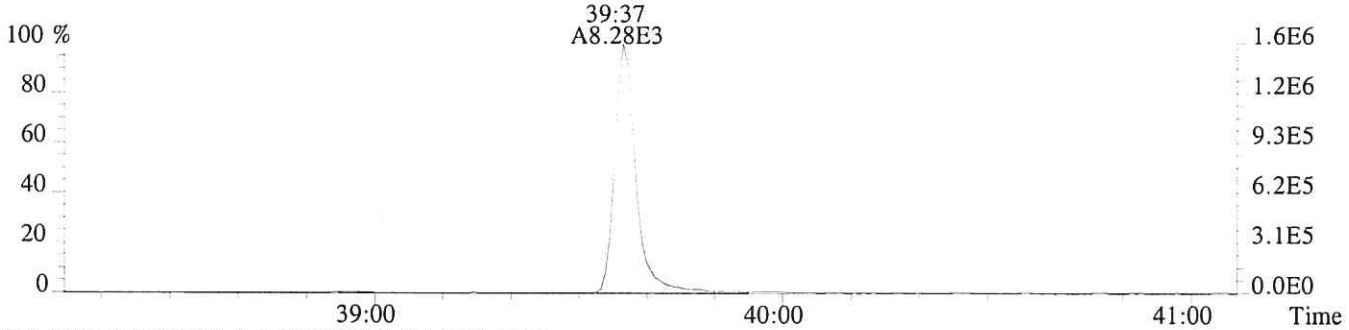
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1912.0,0.40%,F,T)



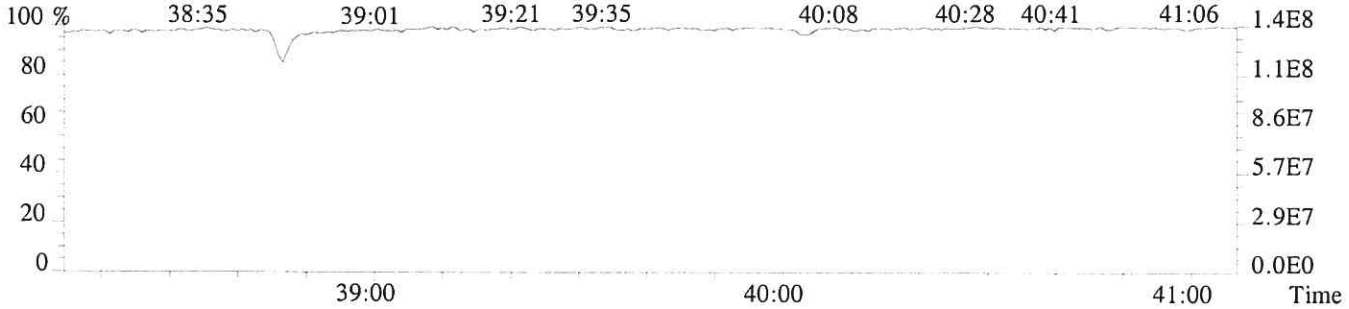
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)

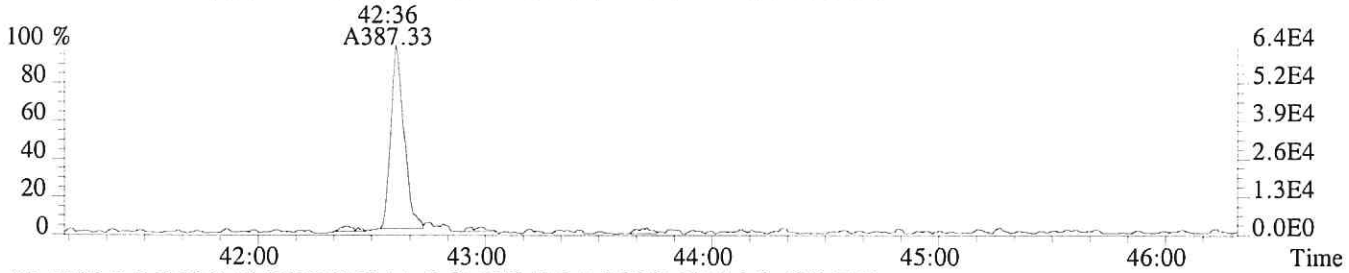


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

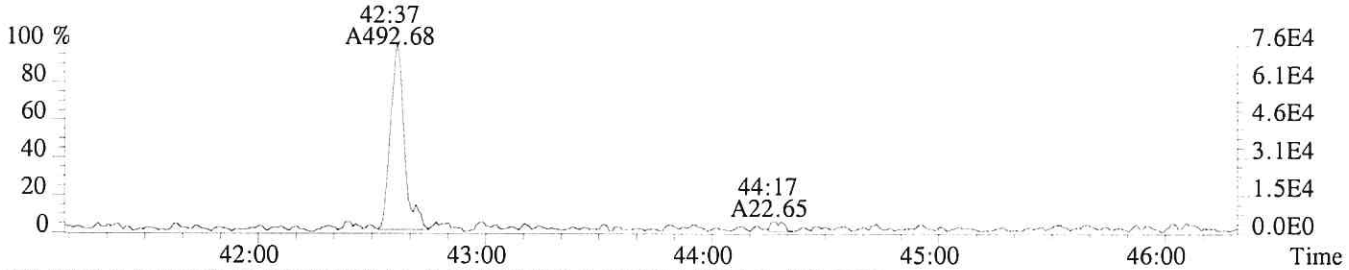


File:P511541 #1-466 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

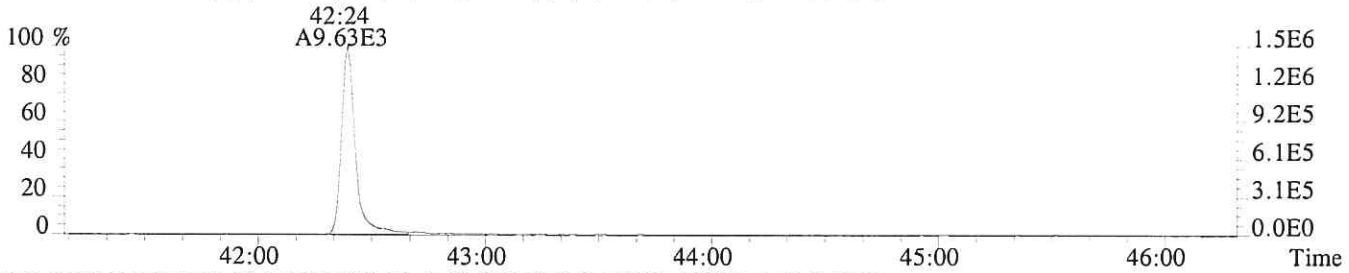
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,T)



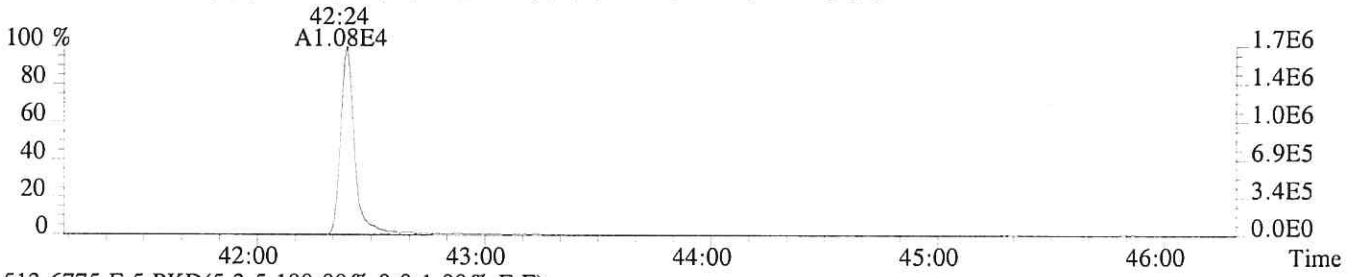
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2424.0,0.40%,F,T)



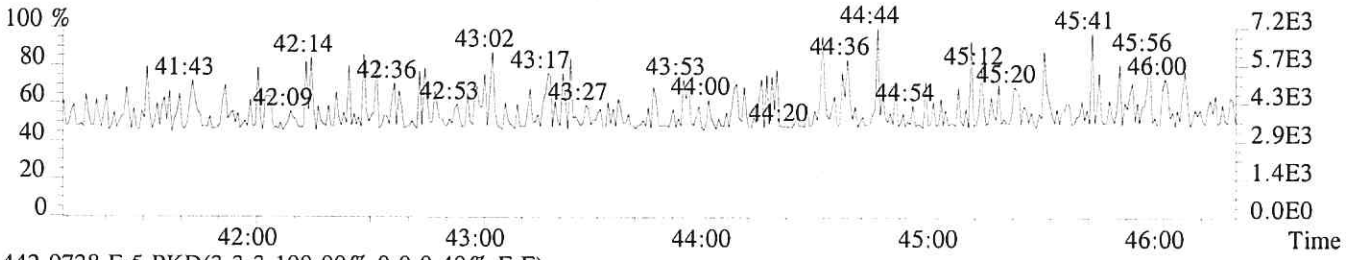
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1476.0,0.40%,F,T)



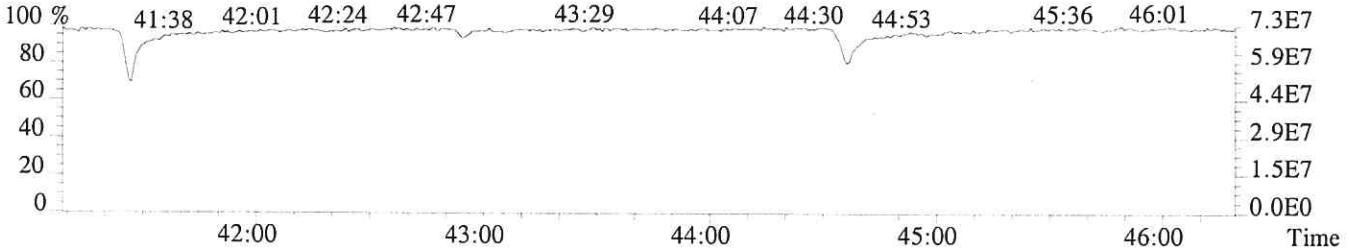
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

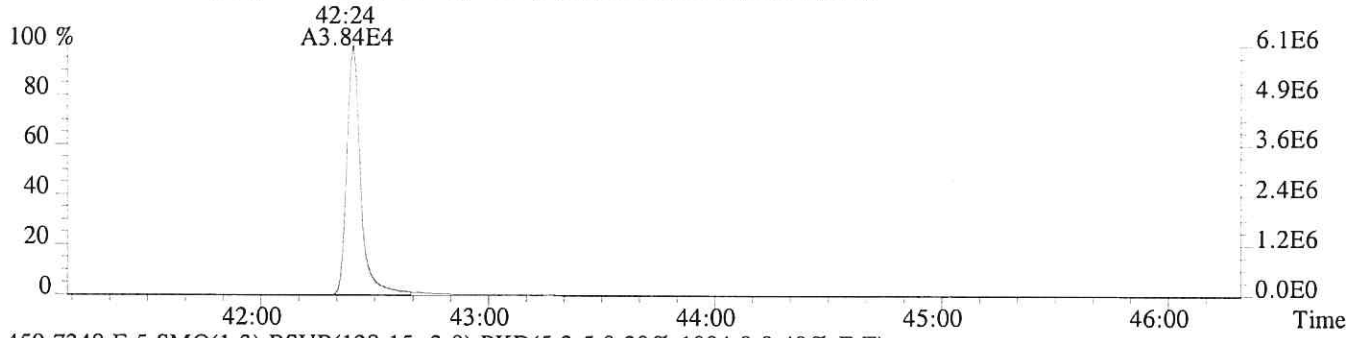


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

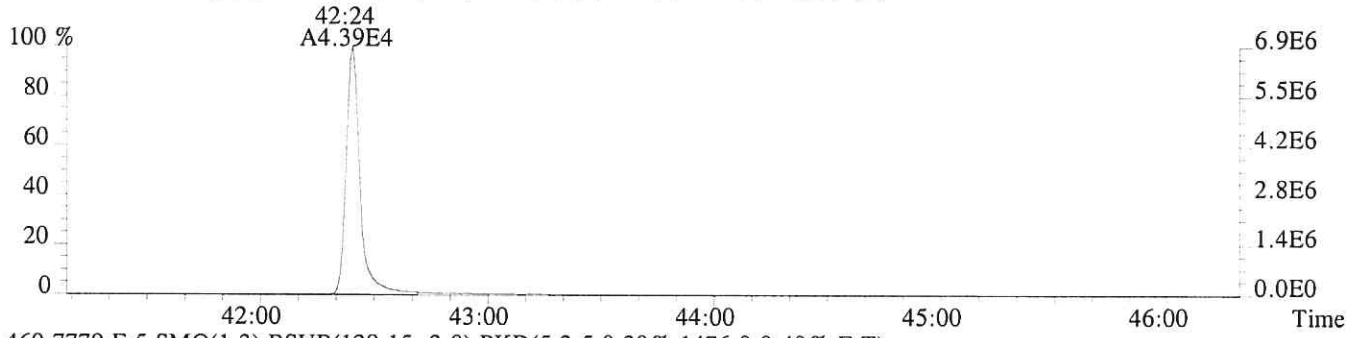


File:P511541 #1-466 Acq:24-SEP-2017 15:03:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-002

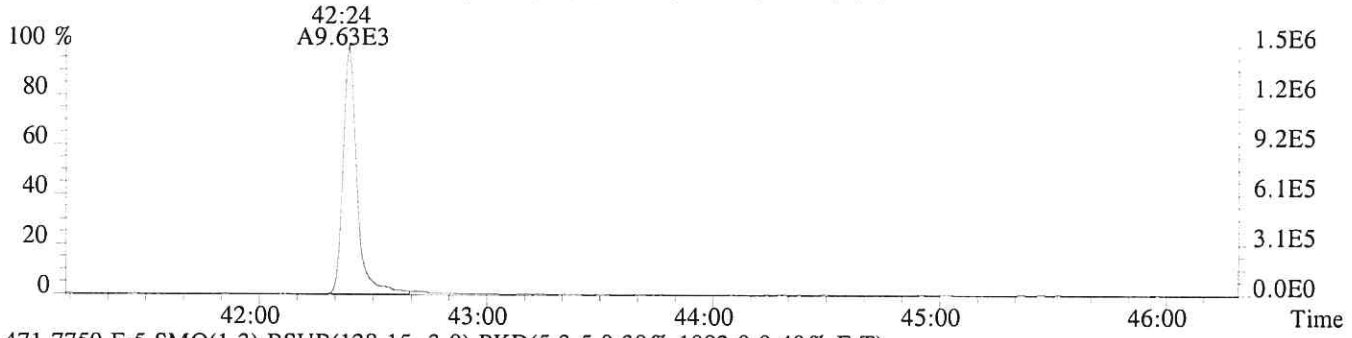
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,292.0,0.40%,F,T)



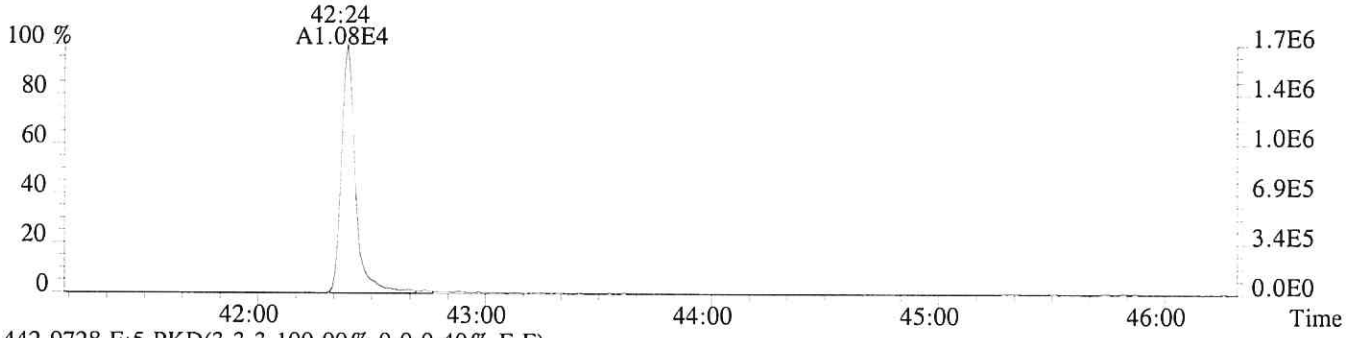
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1004.0,0.40%,F,T)



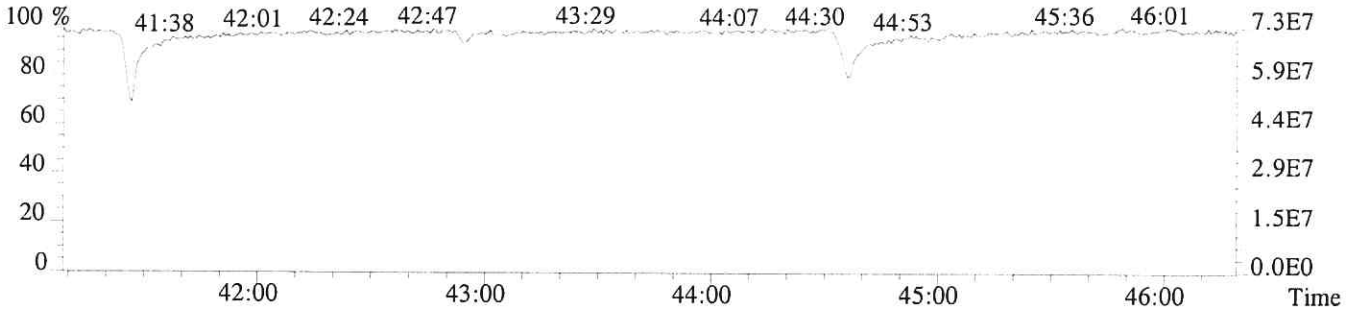
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1476.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #12 Filename P511542 Samp: 1 Inj: 1 Acquired: 24-SEP-17 15:52:27
Processed: 25-SEP-17 13:11:15 Sample ID: E1700974-003

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	3.154e+02	4.051e+02	0.78	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	2.288e+01	2.030e+01	1.13	yes	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	7.298e+01	5.071e+01	1.44	no	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:37	1.240e+02	1.690e+02	0.73	no	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	5.434e+01	7.173e+01	0.76	yes	yes	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	3.126e+01	2.558e+01	1.22	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	3.778e+01	2.868e+01	1.32	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	8.847e+02	8.613e+02	1.03	yes	no	0.942
17	Unk	OCDD	42:24	2.007e+04	2.255e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	8.169e+03	1.076e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	1.524e+04	9.540e+03	1.60	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.477e+04	9.377e+03	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	6.500e+03	1.288e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	7.583e+03	1.484e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	6.661e+03	1.319e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	6.044e+03	1.245e+04	0.49	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	4.301e+03	1.008e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	4.264e+03	9.965e+03	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	6.465e+03	8.199e+03	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	1.120e+04	6.897e+03	1.62	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	9.865e+03	7.946e+03	1.24	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	9.870e+03	7.916e+03	1.25	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	7.296e+03	7.060e+03	1.03	yes	no	0.881
32	IS	13C-OCDD	42:24	7.832e+03	8.833e+03	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	1.817e+04	2.269e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.645e+04	2.032e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	9.436e+03				no	1.033

$$\text{OCDD} = \frac{(2.007e+04 + 2.255e+04) \times 4000 \text{ pg} \times 1}{(7.832e+03 + 8.833e+03) \times 10.965 \text{ g} \times 51.7 / 100 \times 1.051} = 1760.98 \text{ ng/kg}$$

KW 9/20/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-022

Run #12 Filename P511542 Samp: 1 Inj: 1 Acquired: 24-SEP-17 15:52:27
Processed: 25-SEP-17 13:11:15 LAB. ID: E1700974-003

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.00e+04	1.80e+03	3.3e+01	7.70e+04	4.08e+03	1.9e+01
2	1,2,3,7,8-PeCDF	*	1.06e+03	*	*	3.47e+03	*
3	2,3,4,7,8-PeCDF	*	1.06e+03	*	*	3.47e+03	*
4	1,2,3,4,7,8-HxCDF	5.42e+03	1.58e+03	3.4e+00	4.60e+03	1.56e+03	2.9e+00
5	1,2,3,6,7,8-HxCDF	*	1.58e+03	*	*	1.56e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.58e+03	*	*	1.56e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.58e+03	*	*	1.56e+03	*
8	1,2,3,4,6,7,8-HpCDF	1.26e+04	4.72e+02	2.7e+01	8.42e+03	9.96e+02	8.5e+00
9	1,2,3,4,7,8,9-HpCDF	*	4.72e+02	*	*	9.96e+02	*
10	OCDF	1.98e+04	1.19e+03	1.7e+01	2.77e+04	2.73e+03	1.0e+01
11	2,3,7,8-TCDD	1.17e+04	2.74e+03	4.3e+00	1.62e+04	1.96e+03	8.3e+00
12	1,2,3,7,8-PeCDD	*	2.11e+03	*	*	1.52e+02	*
13	1,2,3,4,7,8-HxCDD	*	4.84e+02	*	*	1.56e+03	*
14	1,2,3,6,7,8-HxCDD	5.07e+03	4.84e+02	1.0e+01	6.51e+03	1.56e+03	4.2e+00
15	1,2,3,7,8,9-HxCDD	5.18e+03	4.84e+02	1.1e+01	4.88e+03	1.56e+03	3.1e+00
16	1,2,3,4,6,7,8-HpCDD	1.73e+05	2.88e+03	6.0e+01	1.58e+05	1.47e+03	1.1e+02
17	OCDD	3.14e+06	8.84e+02	3.5e+03	3.48e+06	5.84e+02	6.0e+03
18	13C-2,3,7,8-TCDF	1.44e+06	2.13e+04	6.8e+01	1.85e+06	6.76e+03	2.7e+02
19	13C-1,2,3,7,8-PeCDF	2.85e+06	1.10e+03	2.6e+03	1.77e+06	1.79e+03	9.9e+02
20	13C-2,3,4,7,8-PeCDF	2.83e+06	1.10e+03	2.6e+03	1.82e+06	1.79e+03	1.0e+03
21	13C-1,2,3,4,7,8-HxCDF	1.36e+06	1.07e+03	1.3e+03	2.69e+06	2.76e+03	9.7e+02
22	13C-1,2,3,6,7,8-HxCDF	1.44e+06	1.07e+03	1.3e+03	2.94e+06	2.76e+03	1.1e+03
23	13C-2,3,4,6,7,8-HxCDF	1.38e+06	1.07e+03	1.3e+03	2.72e+06	2.76e+03	9.9e+02
24	13C-1,2,3,7,8,9-HxCDF	1.13e+06	1.07e+03	1.1e+03	2.30e+06	2.76e+03	8.3e+02
25	13C-1,2,3,4,6,7,8-HpCDF	8.58e+05	2.39e+03	3.6e+02	2.04e+06	2.27e+03	9.0e+02
26	13C-1,2,3,4,7,8,9-HpCDF	7.53e+05	2.39e+03	3.2e+02	1.73e+06	2.27e+03	7.6e+02
27	13C-2,3,7,8-TCDD	1.18e+06	8.03e+03	1.5e+02	1.51e+06	3.66e+03	4.1e+02
28	13C-1,2,3,7,8-PeCDD	2.14e+06	2.20e+03	9.7e+02	1.28e+06	1.82e+03	7.0e+02
29	13C-1,2,3,4,7,8-HxCDD	2.19e+06	2.58e+03	8.5e+02	1.76e+06	2.65e+03	6.7e+02
30	13C-1,2,3,6,7,8-HxCDD	1.97e+06	2.58e+03	7.6e+02	1.58e+06	2.65e+03	6.0e+02
31	13C-1,2,3,4,6,7,8-HpCDD	1.36e+06	1.64e+03	8.3e+02	1.33e+06	1.42e+03	9.4e+02
32	13C-OCDD	1.21e+06	1.59e+03	7.6e+02	1.36e+06	5.68e+02	2.4e+03
33	13C-1,2,3,4-TCDD	3.43e+06	8.03e+03	4.3e+02	4.25e+06	3.66e+03	1.2e+03
34	13C-1,2,3,7,8,9-HxCDD	5.18e+06	2.58e+03	2.0e+03	4.12e+06	2.65e+03	1.6e+03
35	37Cl-2,3,7,8-TCDD	1.77e+06	2.15e+03	8.2e+02			

---Sample Calculation---

$$D/L\ TCDD = \frac{2.5 \times (2.736e+03 + 1.960e+03\ ) \times 2000}{(1.183e+06 + 1.513e+06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.065} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 36 Totals Name: Total Tetra-Furans

Run: 12 File: P511542 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 303.9020 305.8990 Tot Response: 1.18e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:45	1.71e+02	2.22e+02	0.77	yes	3.92e+02		n	n
2	28:25	2.87e+01	3.72e+01	0.77	yes	6.58e+01		n	n
3	28:31	3.15e+02	4.05e+02	0.78	yes	7.20e+02	2,3,7,8-TCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 12 File: P511542 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 319.8970 321.8940 Tot Response: 1.26e+02 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	5.43e+01	7.17e+01	0.76	yes	1.26e+02	2,3,7,8-TCDD	y	n

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Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 12 File: P511542 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 355.8550 357.8520 Tot Response: 1.58e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:44	4.31e+01	2.78e+01	1.55	yes	7.08e+01	n	n
2	32:10	5.30e+01	3.42e+01	1.55	yes	8.73e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 41 Totals Name: Total Hexa-Furans

Run: 12 File: P511542 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 373.8210 375.8180 Tot Response: 4.32e+01 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:08	2.29e+01	2.03e+01	1.13	yes	4.32e+01	1,2,3,4,7,8-HxCDF	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: P511542 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 389.8160 391.8130 Tot Response: 1.29e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	4.36e+02	3.81e+02	1.14	yes	8.17e+02		n	n
2	36:16	1.65e+02	1.47e+02	1.12	yes	3.12e+02		n	n
3	36:56	3.13e+01	2.56e+01	1.22	yes	5.68e+01	1,2,3,6,7,8-HxCDD	n	n
4	37:06	1.95e+01	1.57e+01	1.24	yes	3.51e+01		n	n
5	37:11	3.78e+01	2.87e+01	1.32	yes	6.65e+01	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 43 Totals Name: Total Hepta-Furans

Run: 12 File: P511542 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 407.7820 409.7790 Tot Response: 1.81e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	9.33e+01	8.78e+01	1.06	yes	1.81e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P511542 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 15:52:27 Processed: 25-SEP-17 13:11:15

Mass: 423.7770 425.7740 Tot Response: 5.54e+03 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.88e+03	1.91e+03	0.99	yes	3.79e+03		n	n
2	39:37	8.85e+02	8.61e+02	1.03	yes	1.75e+03	1,2,3,4,6,7,8-HpCDD	n	n

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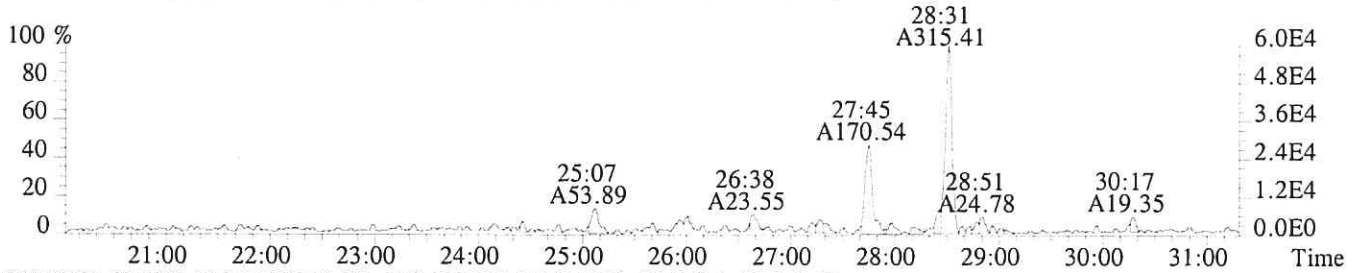
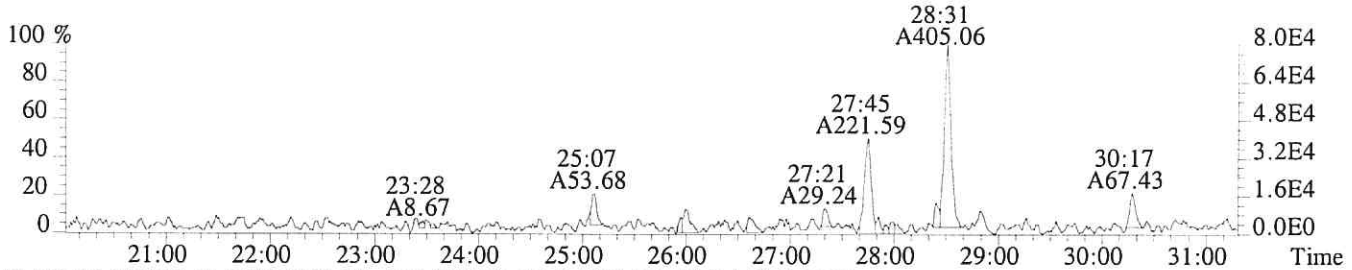
File:P511542 #1-800 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

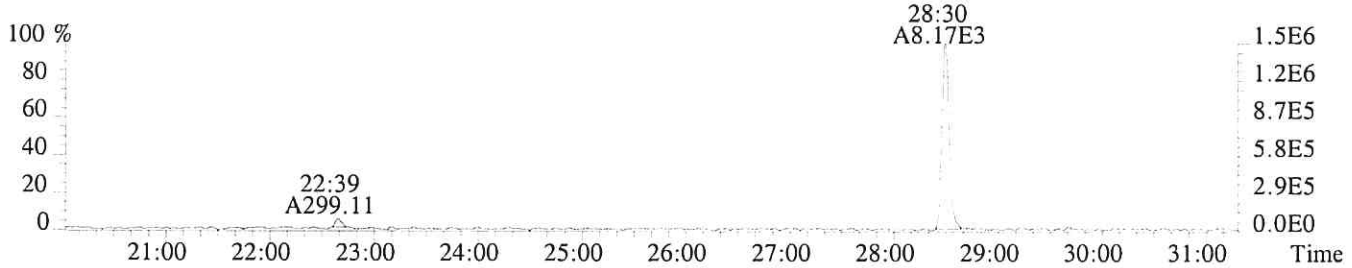
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1796.0,1.00%,F,T)



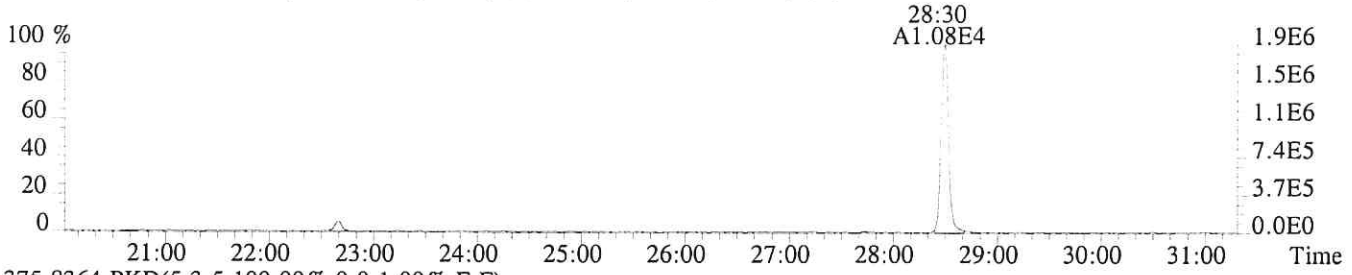
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4076.0,1.00%,F,T)



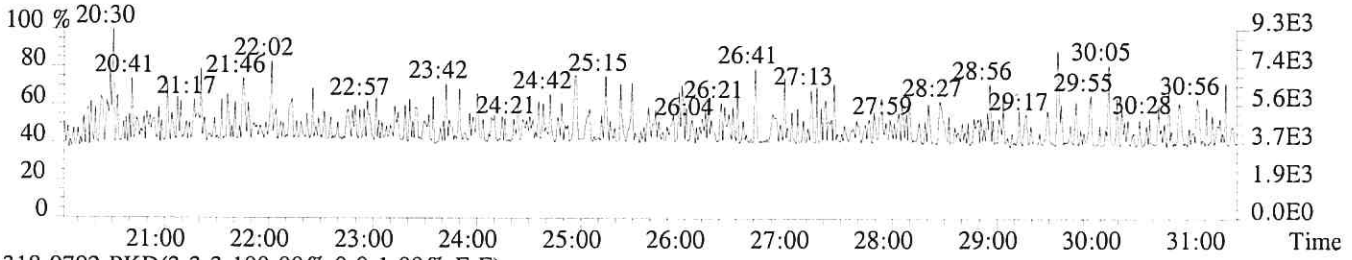
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,21344.0,1.00%,F,T)



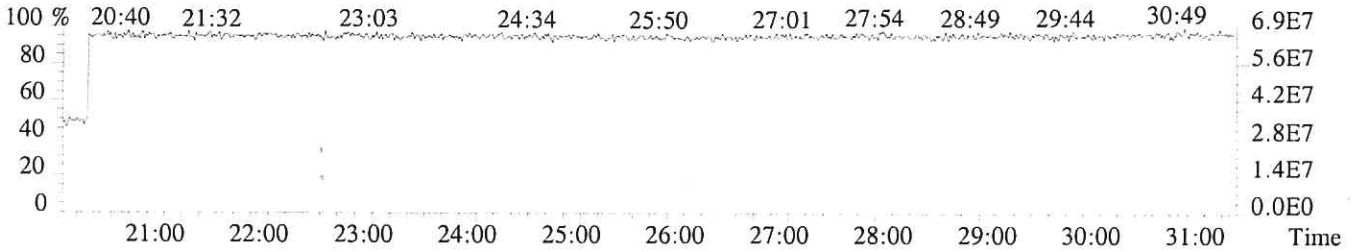
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6760.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

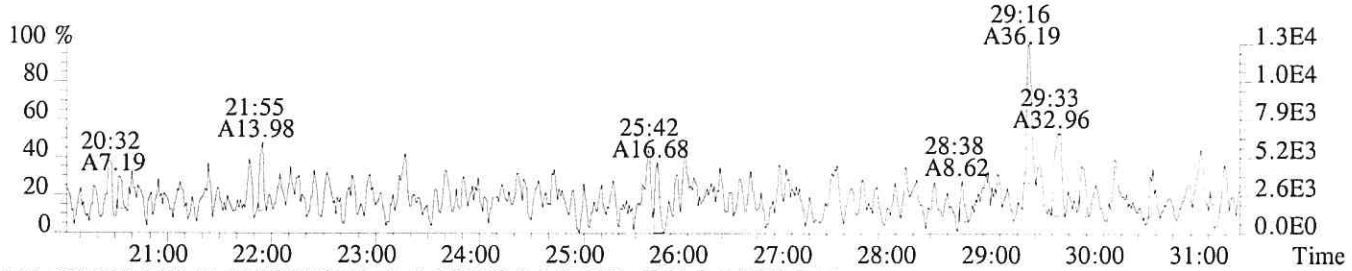


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

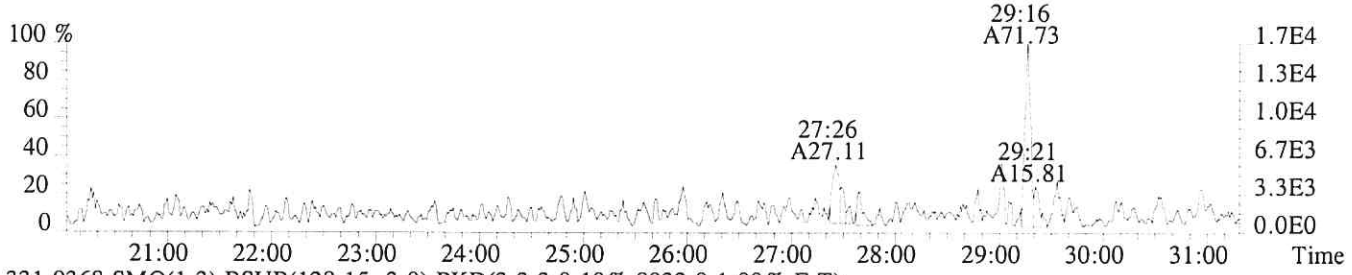


File:P511542 #1-800 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

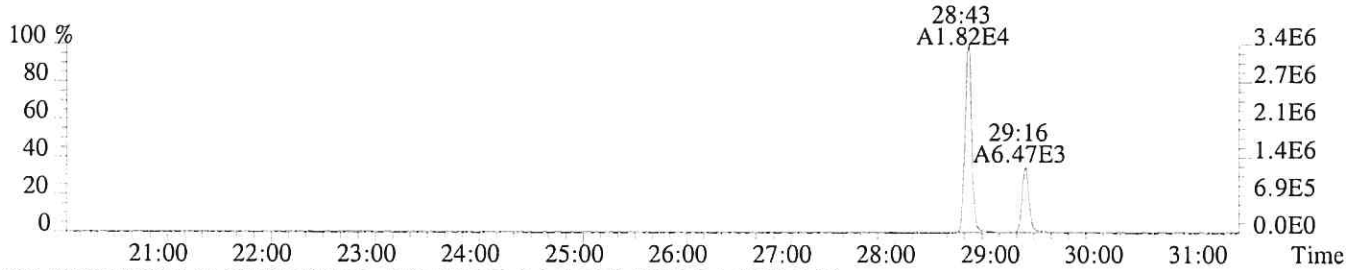
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2736.0,1.00%,F,T)



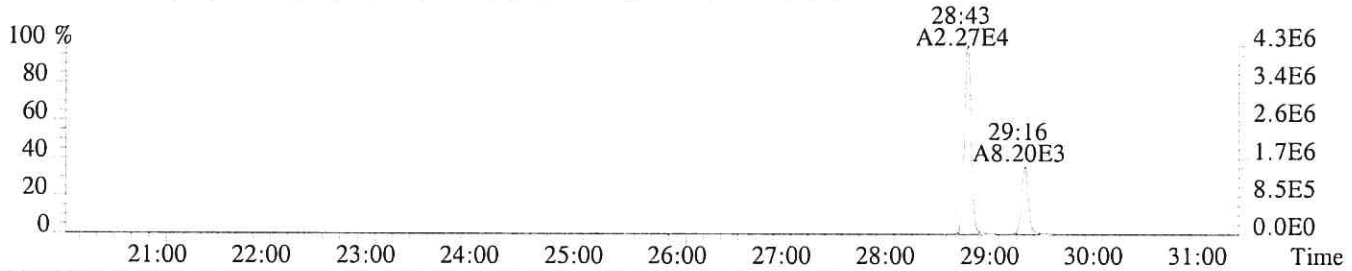
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1960.0,1.00%,F,T)



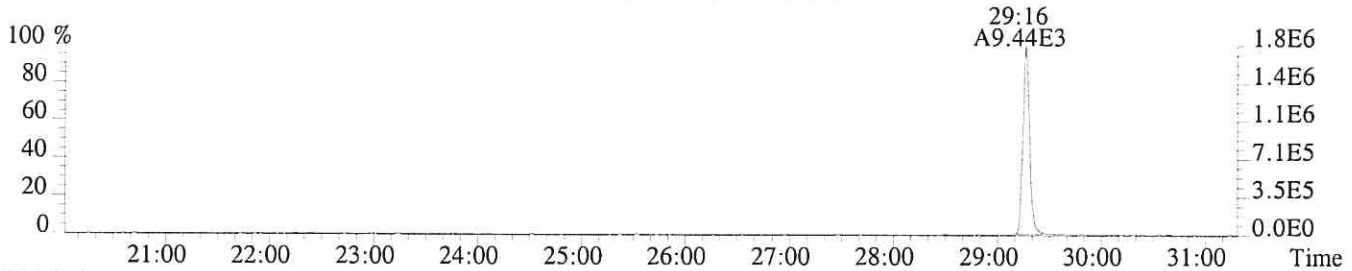
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8032.0,1.00%,F,T)



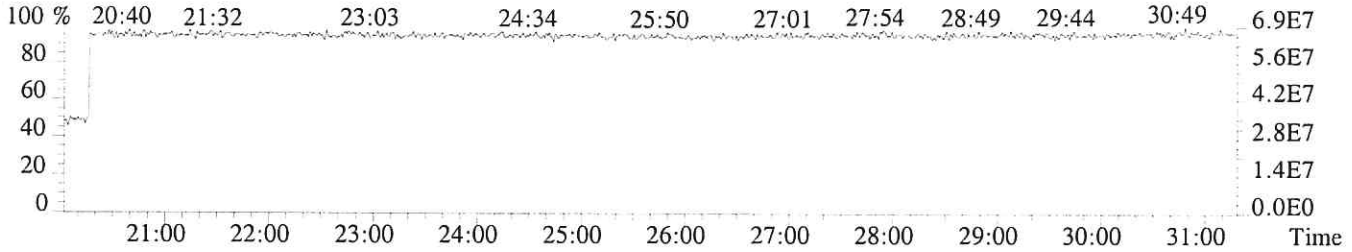
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3656.0,1.00%,F,T)



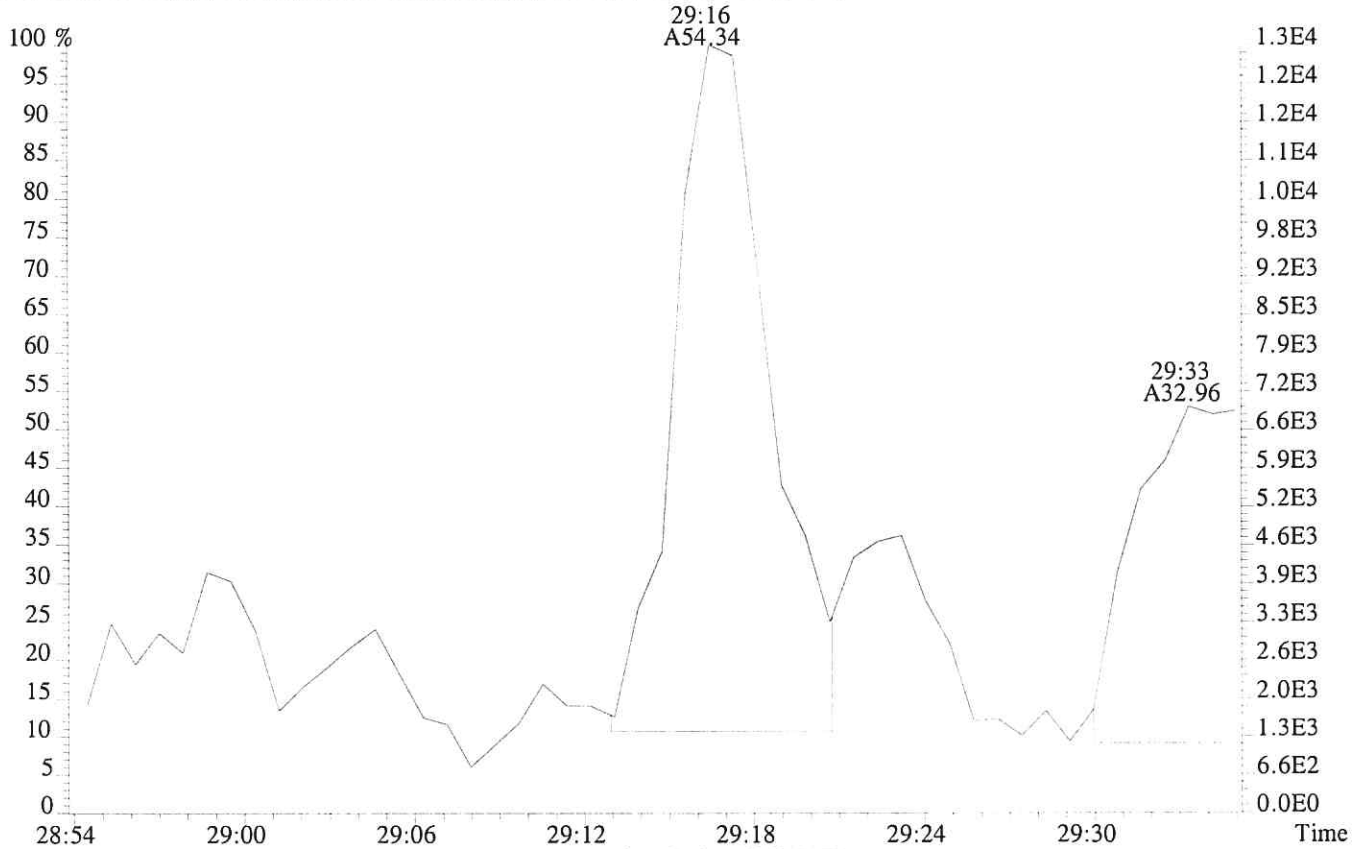
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



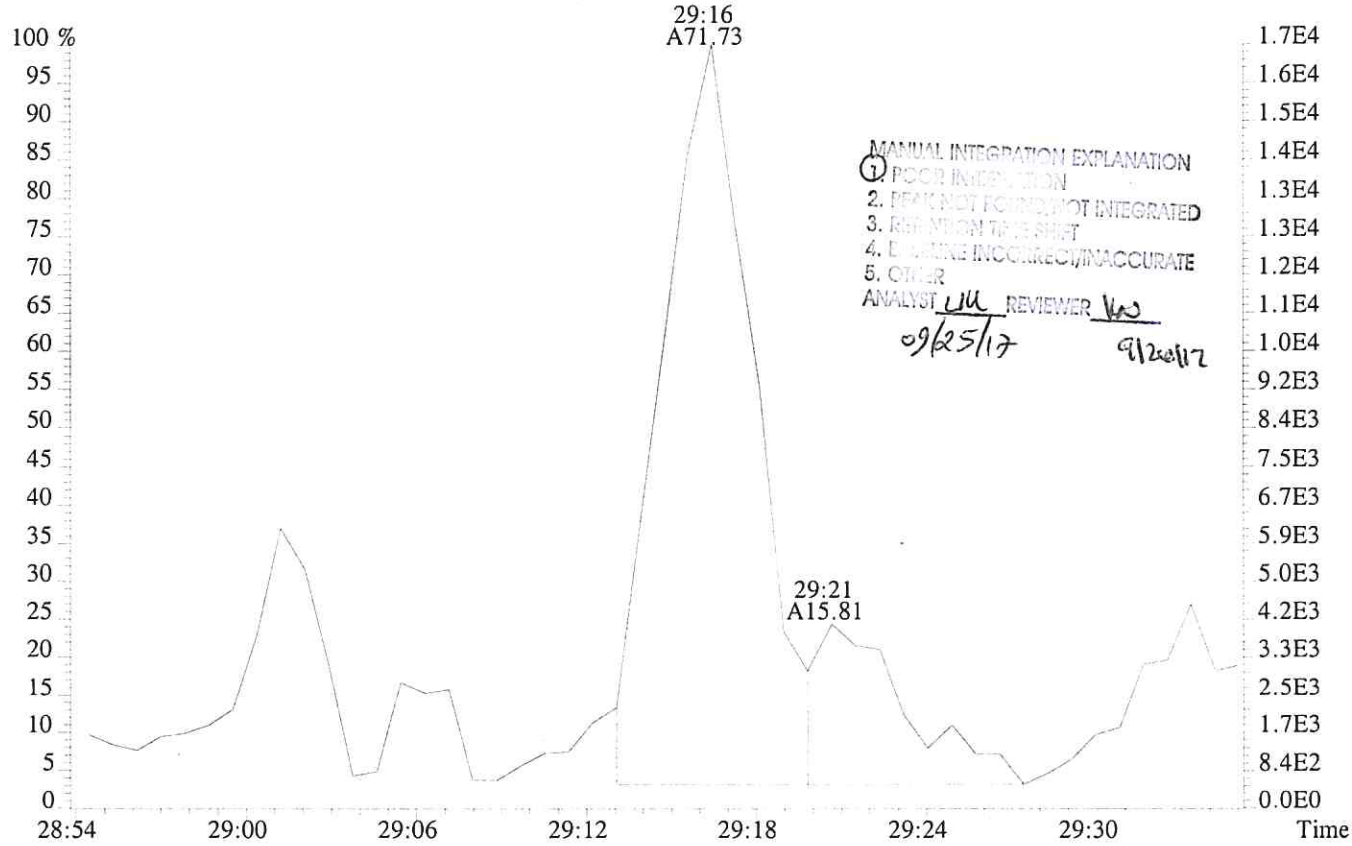
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511542 #1-800 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2736.0,1.00%,F,T)

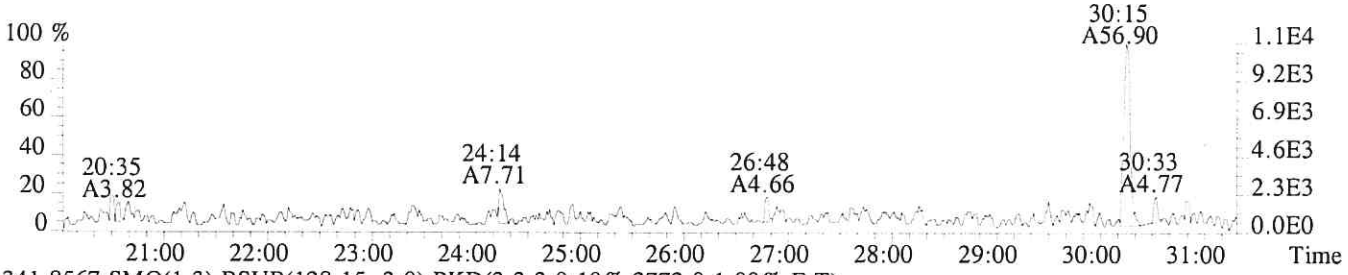


321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1960.0,1.00%,F,T)

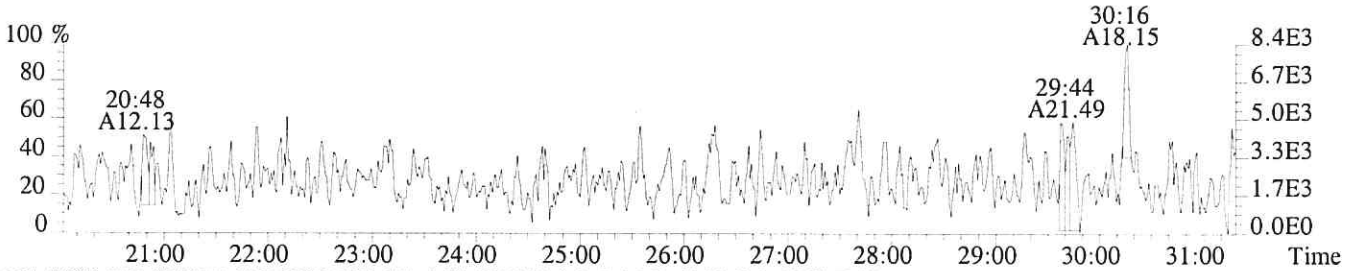


File:P511542 #1-800 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

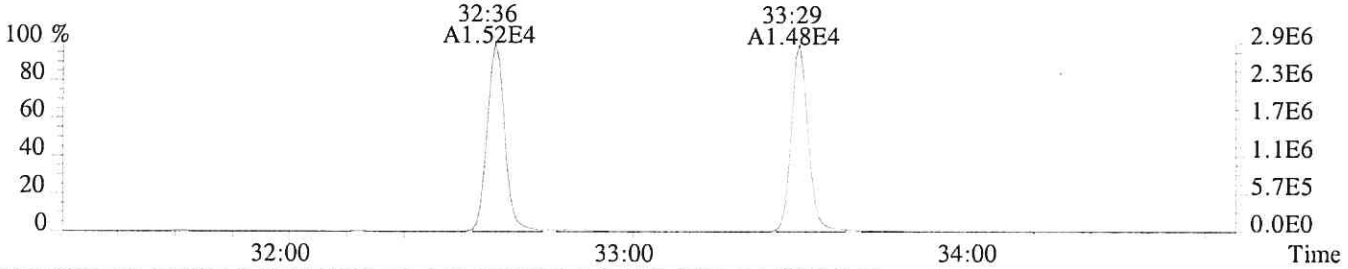
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



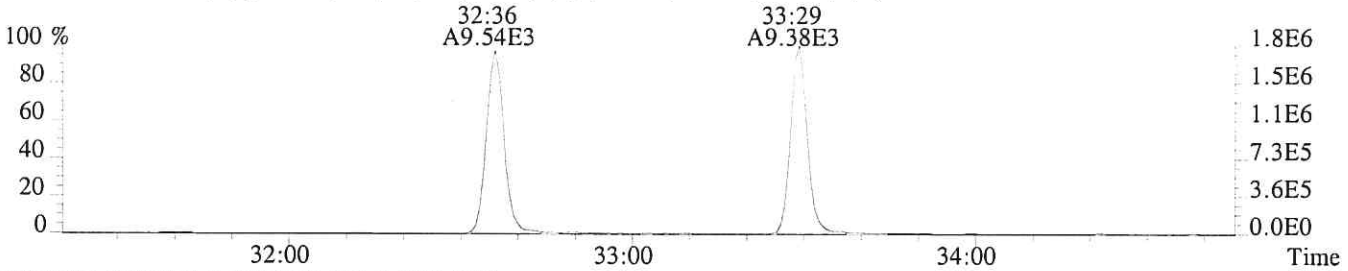
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2772.0,1.00%,F,T)



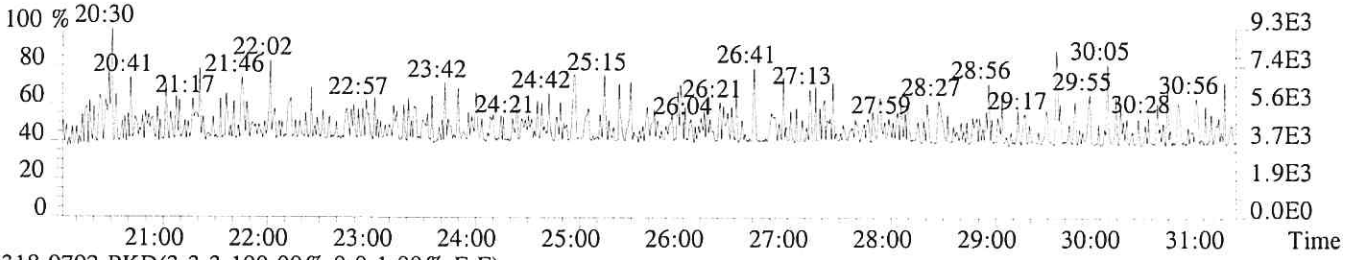
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



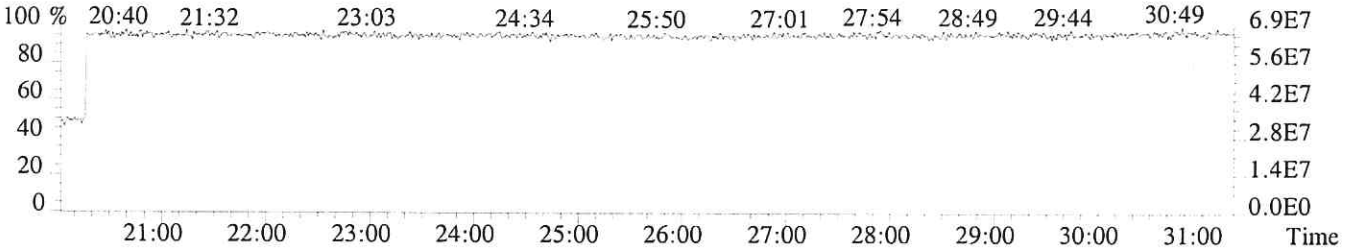
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1792.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

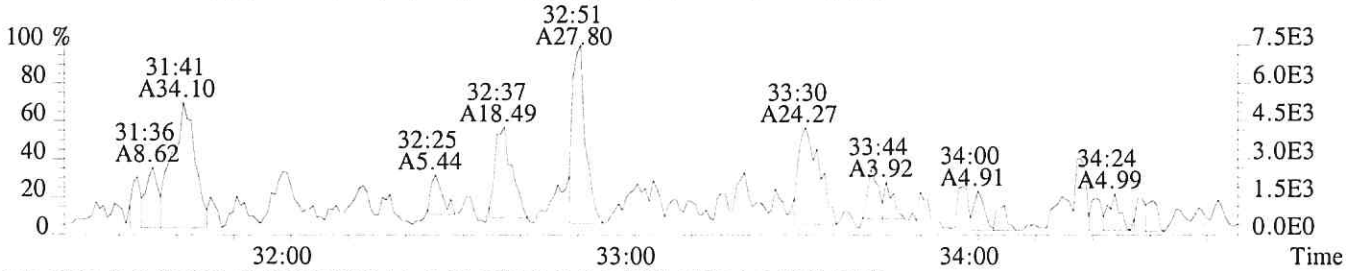


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

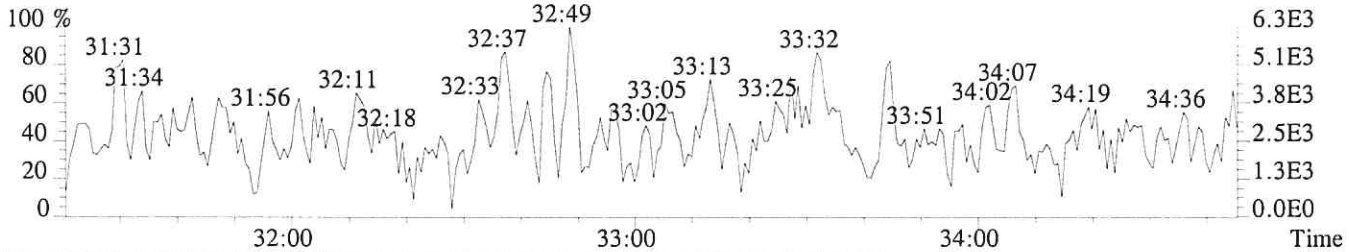


File:P511542 #1-308 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

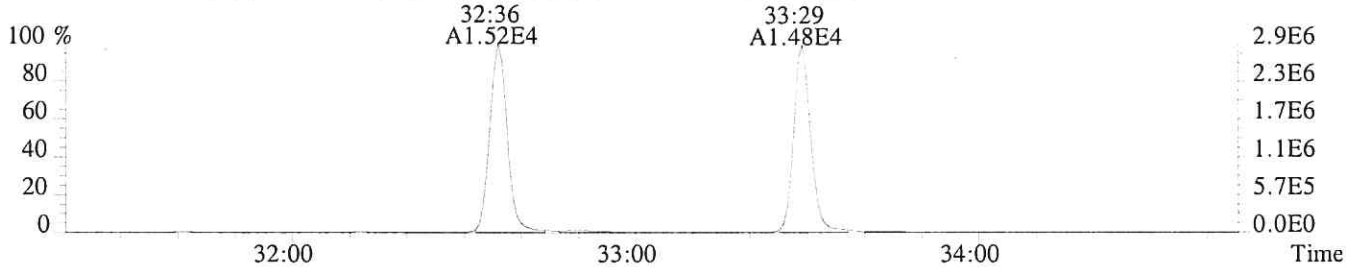
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



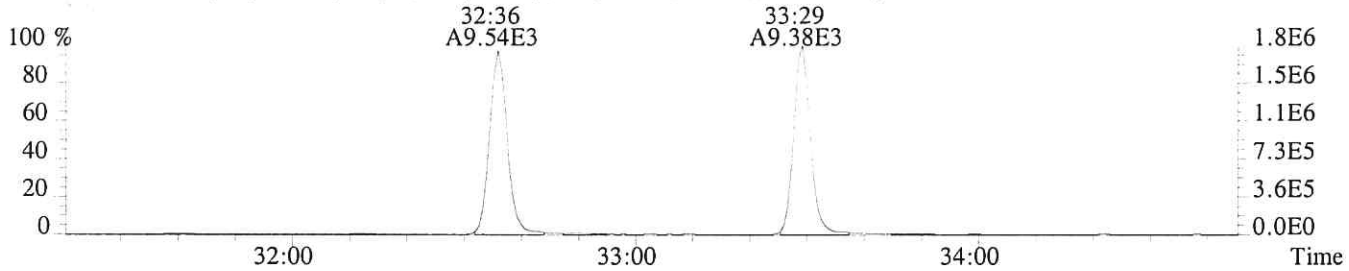
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3472.0,1.00%,F,T)



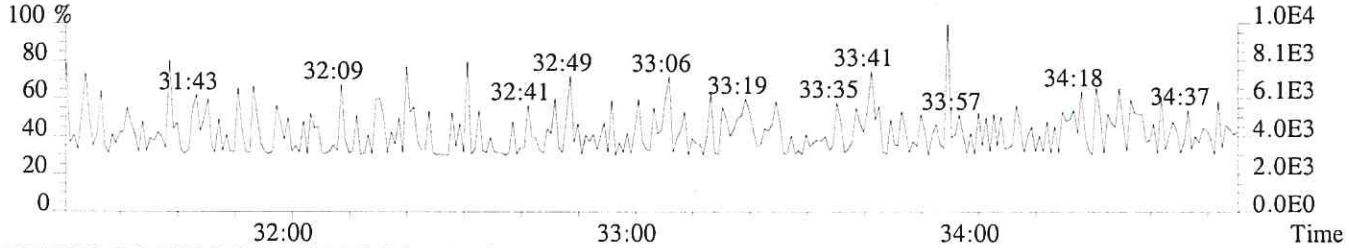
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



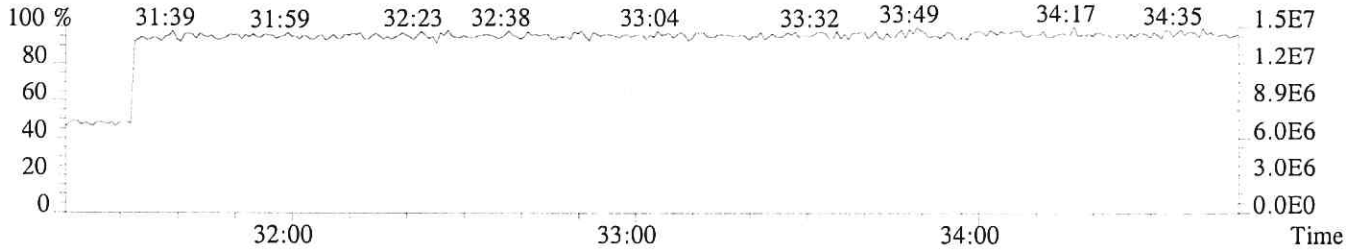
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1792.0,1.00%,F,T)



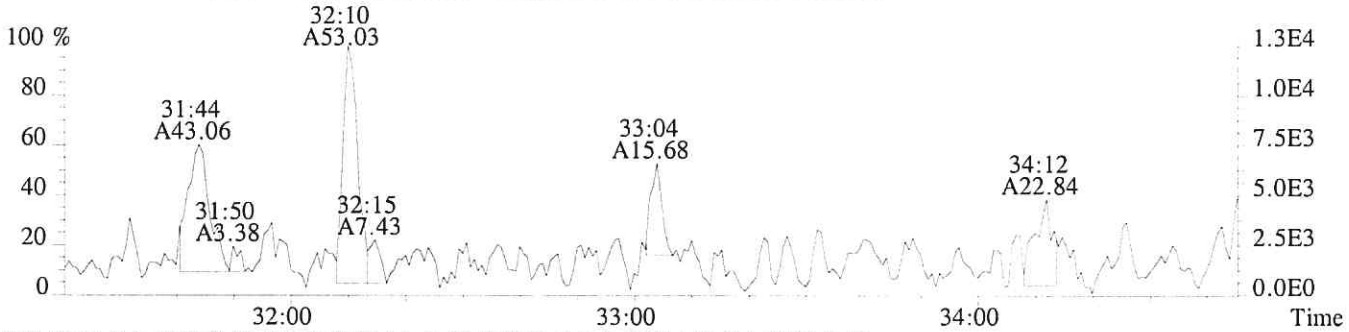
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



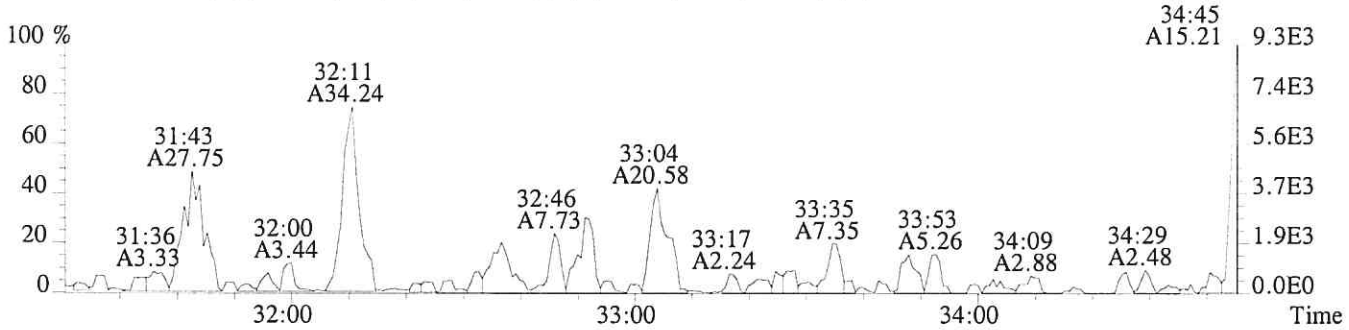
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



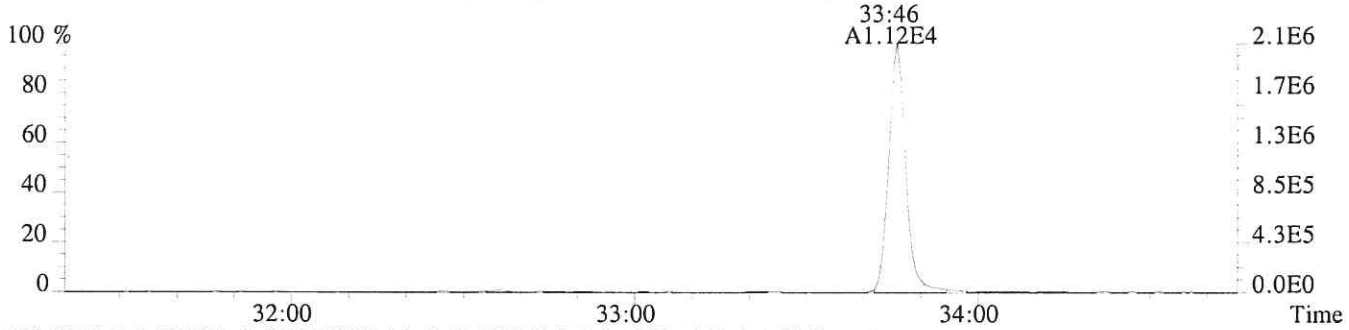
File:P511542 #1-308 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



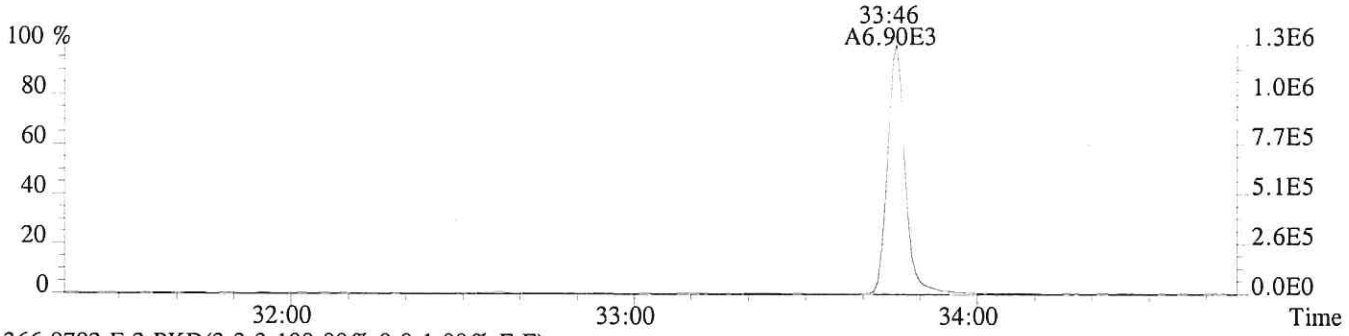
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,T)



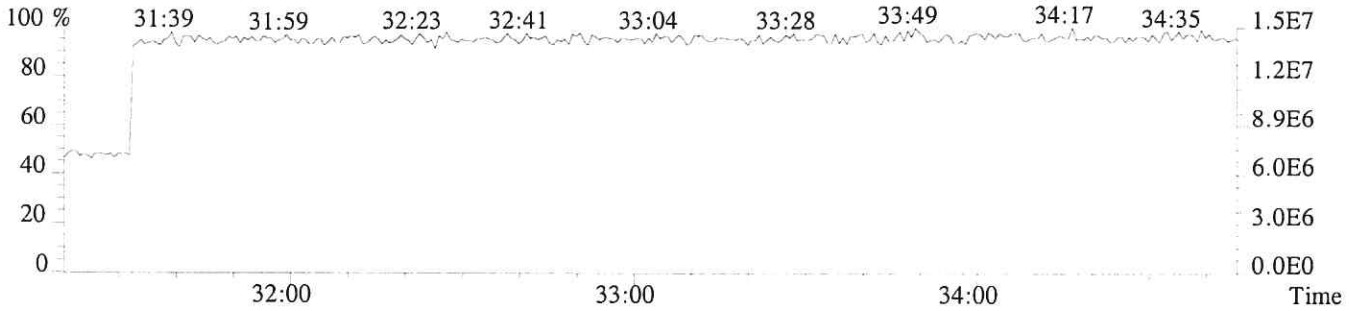
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1820.0,1.00%,F,T)

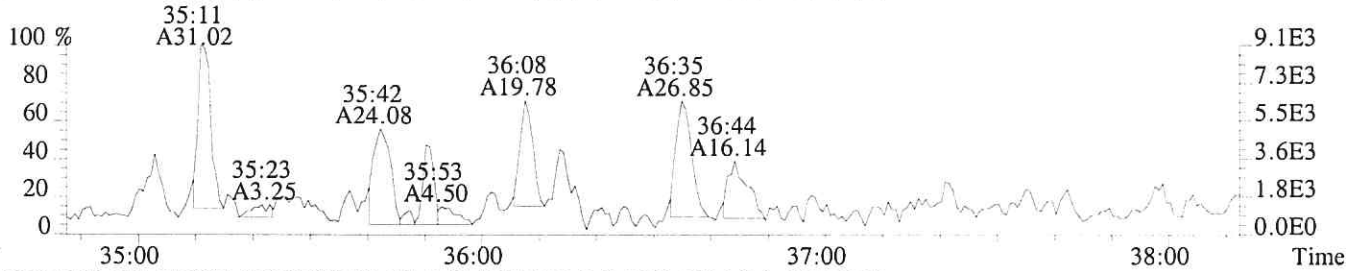


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

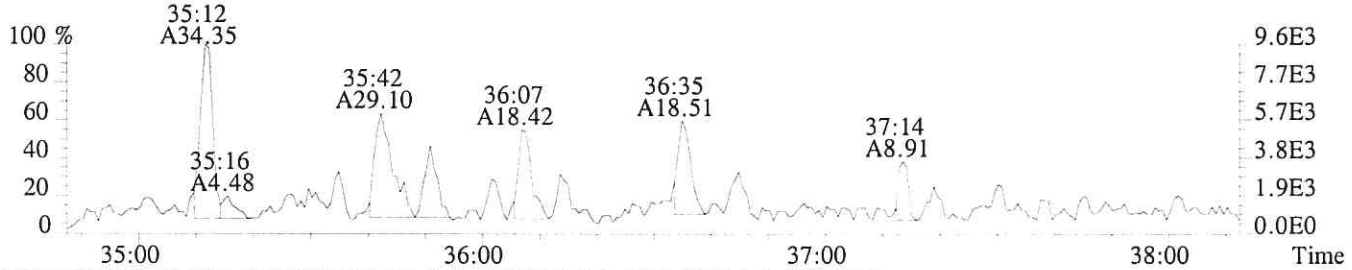


File:P511542 #1-308 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

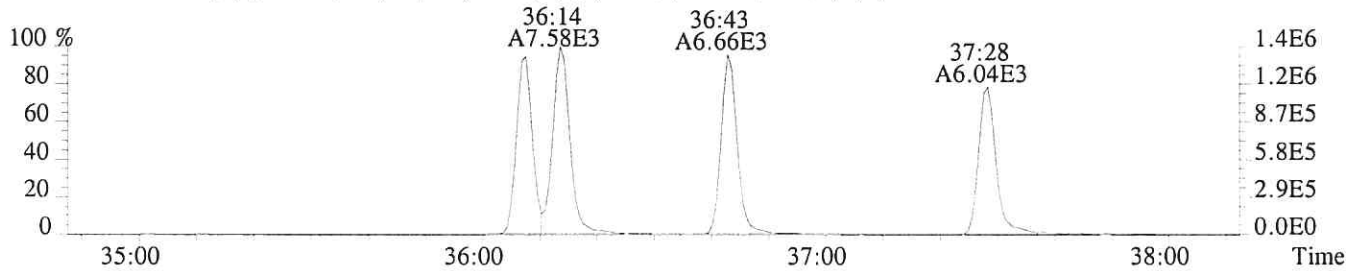
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1576.0,0.40%,F,T)



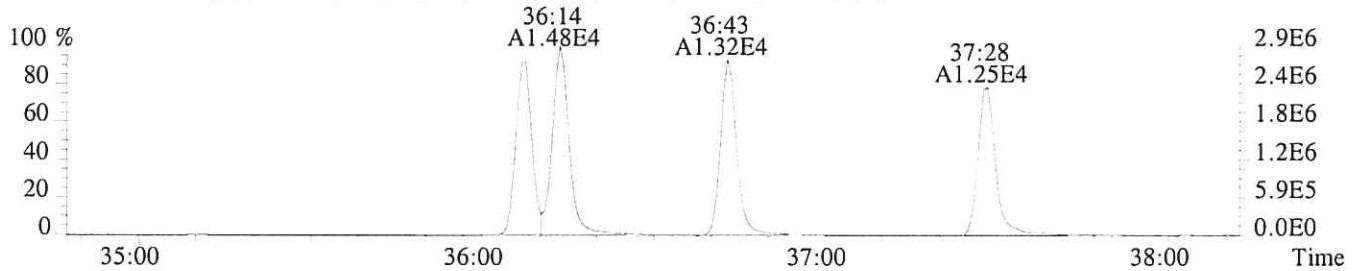
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1564.0,0.40%,F,T)



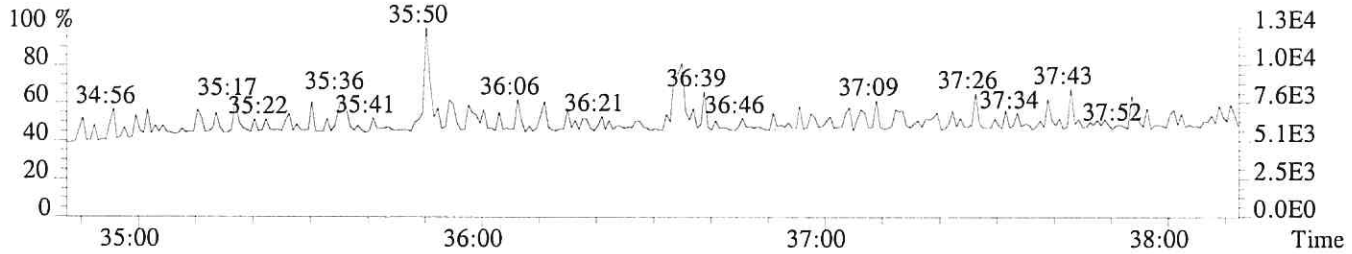
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,T)



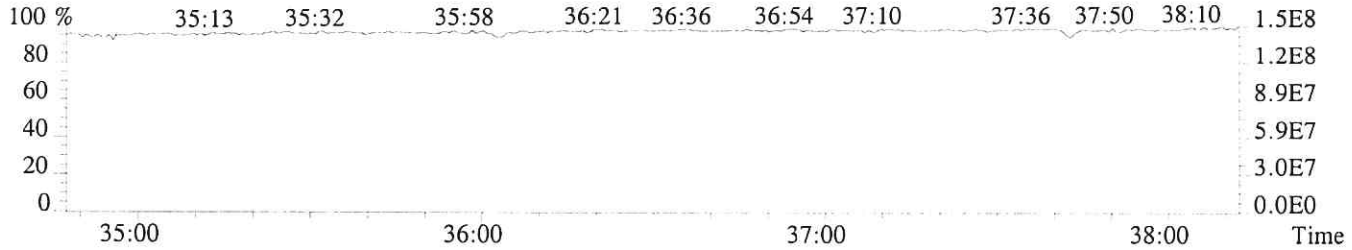
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2760.0,0.40%,F,T)



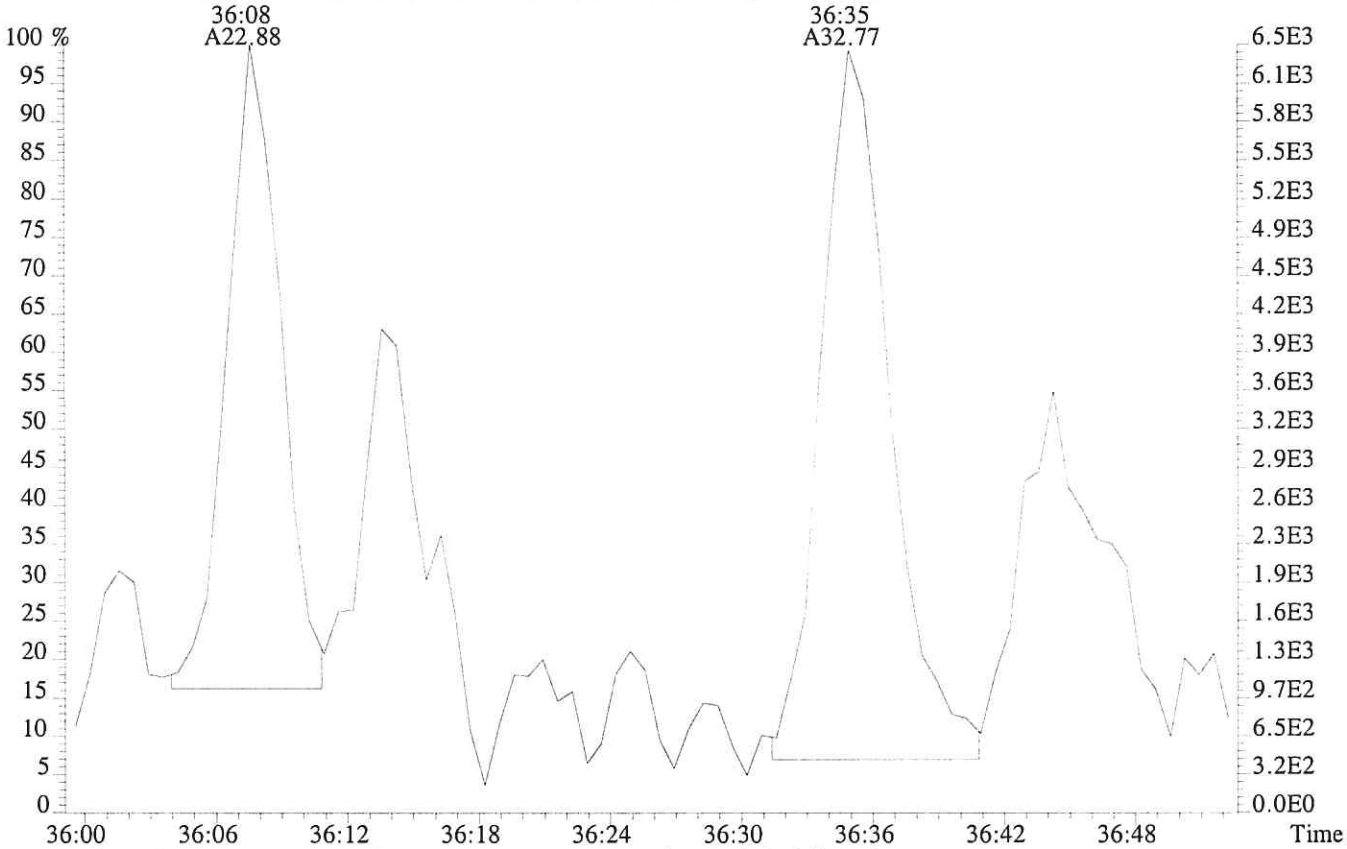
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



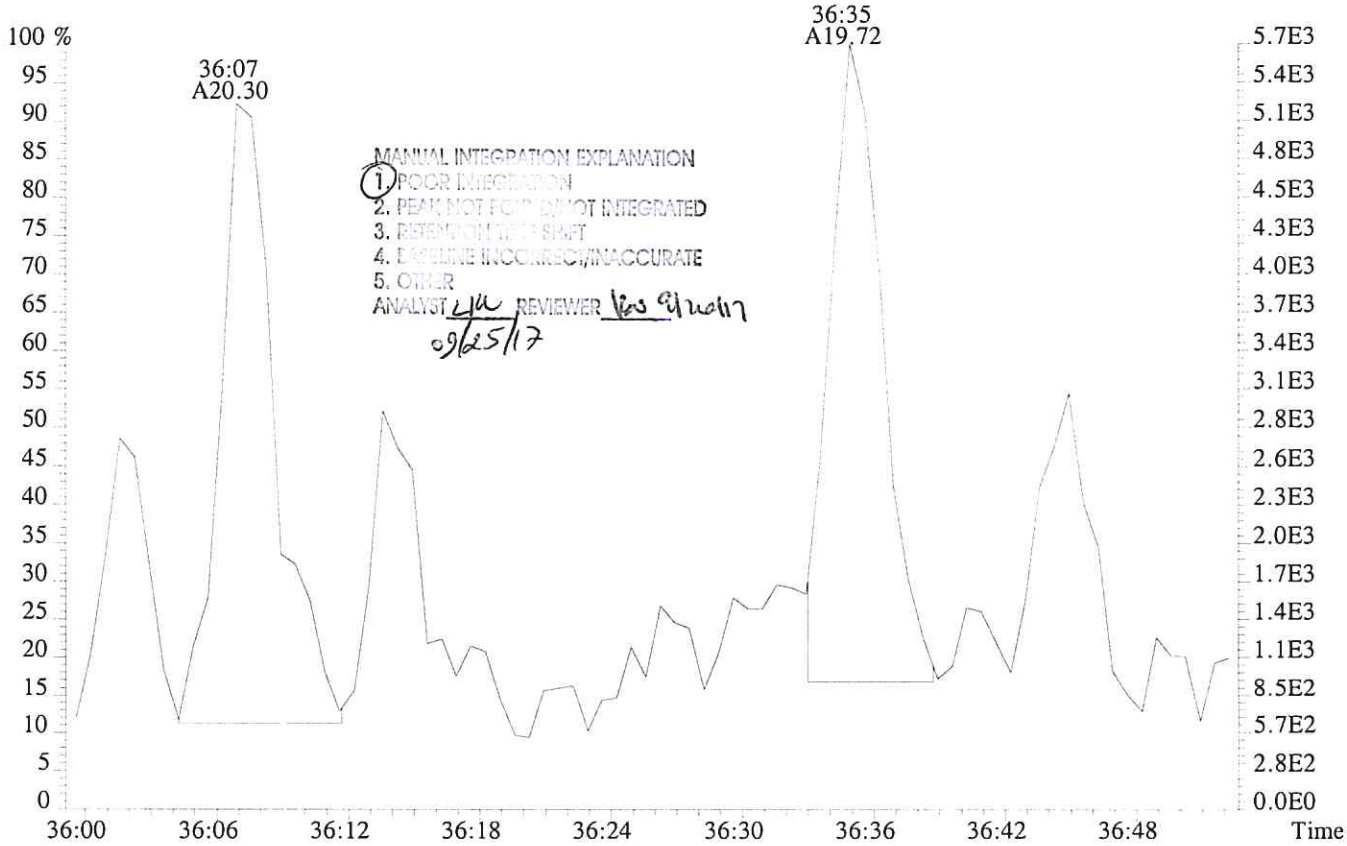
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511542 #1-308 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1576.0,0.40%,F,T)



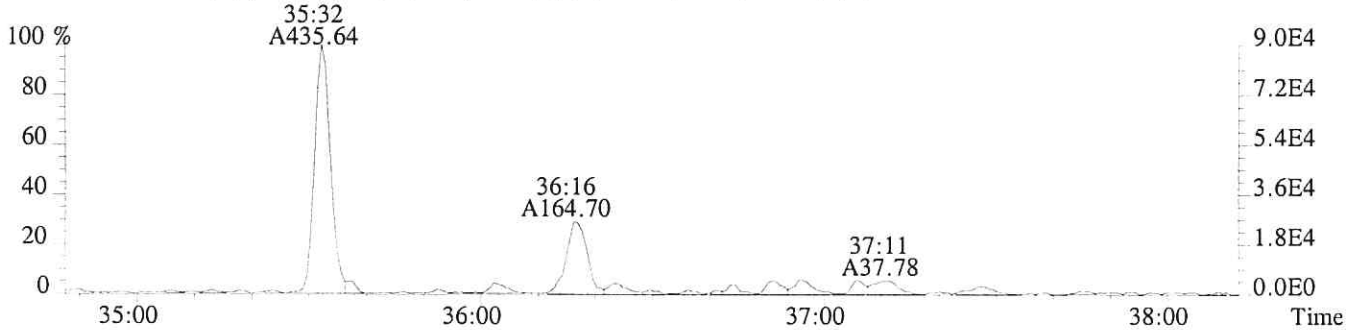
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1564.0,0.40%,F,T)



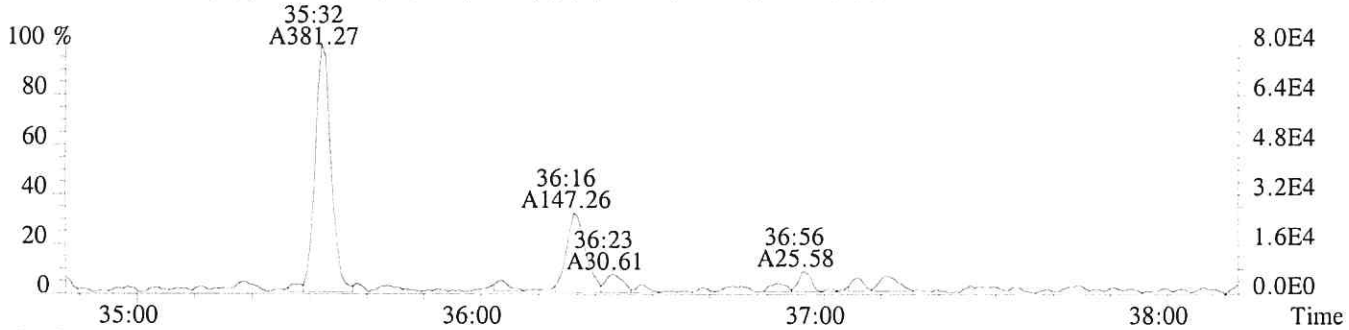
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LW REVIEWER [illegible] 9/26/17
09/25/17

File:P511542 #1-308 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

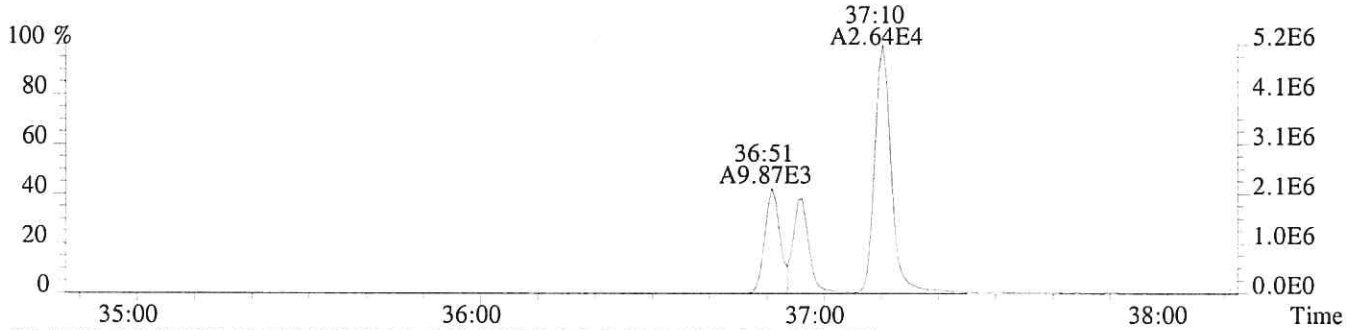
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,484.0,0.40%,F,T)



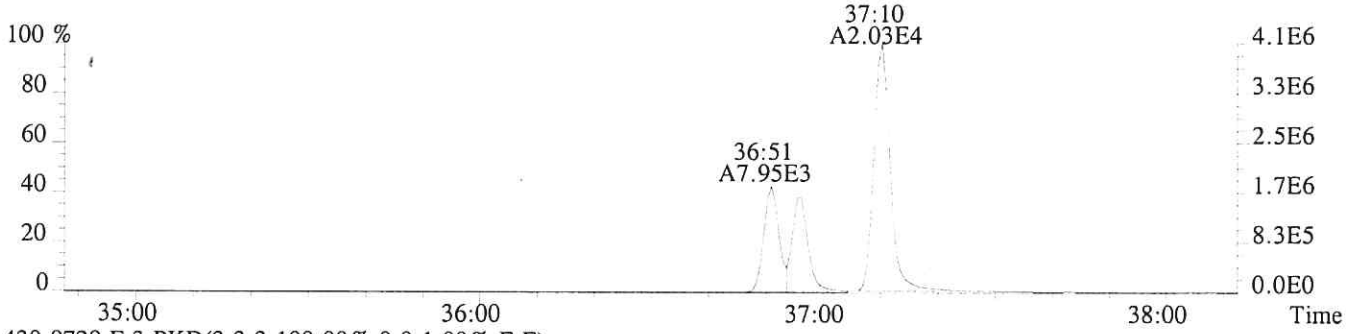
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1564.0,0.40%,F,T)



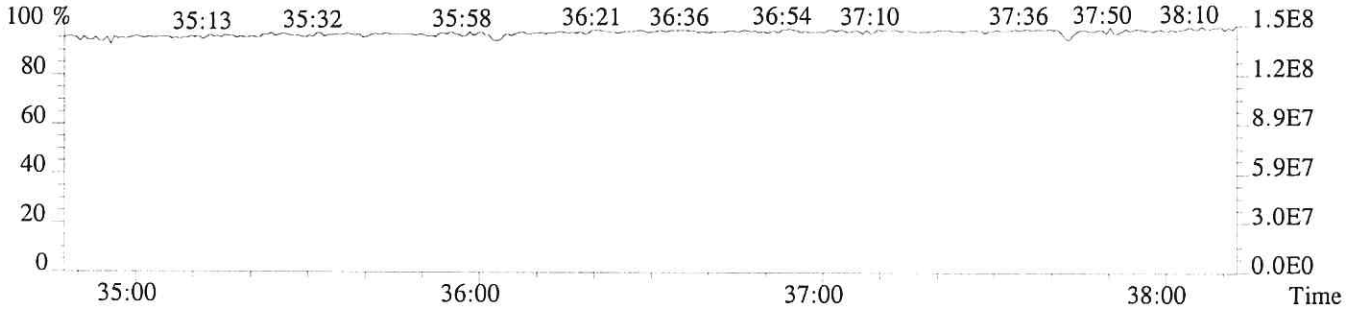
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2580.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2648.0,0.40%,F,T)

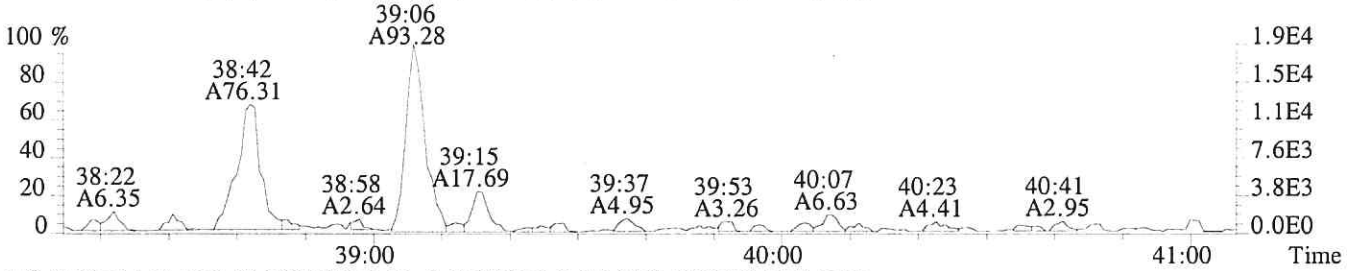


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

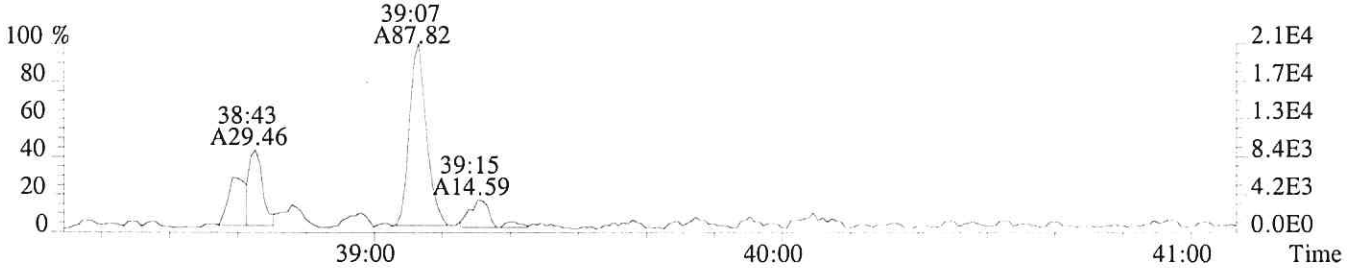


File:P511542 #1-259 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

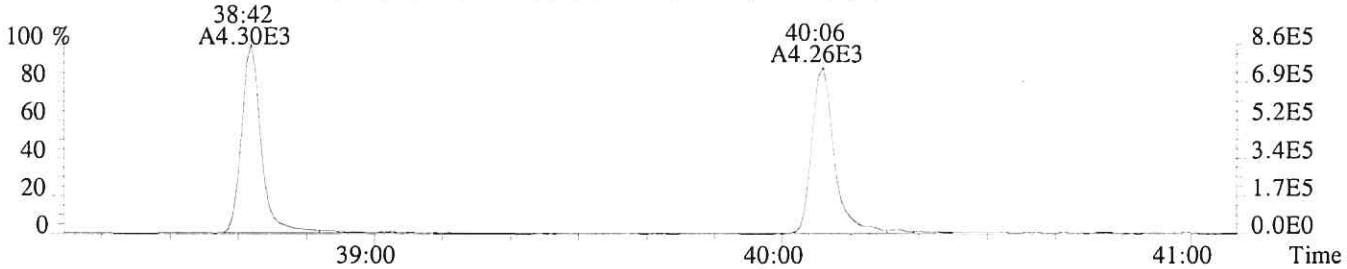
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.50%,F,T)



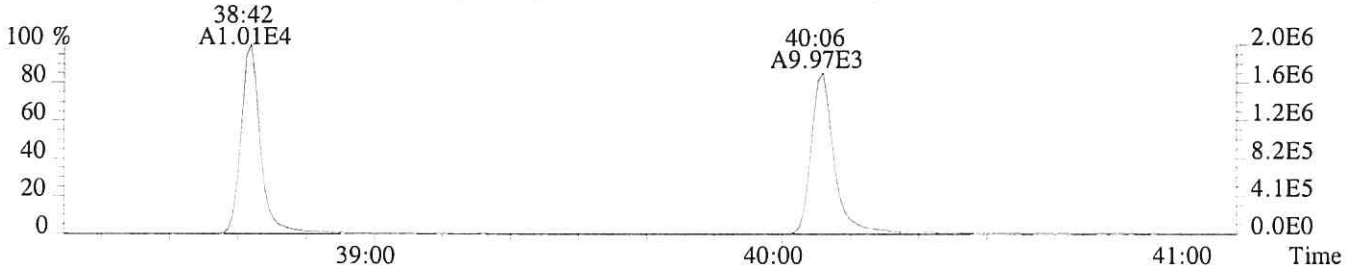
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,T)



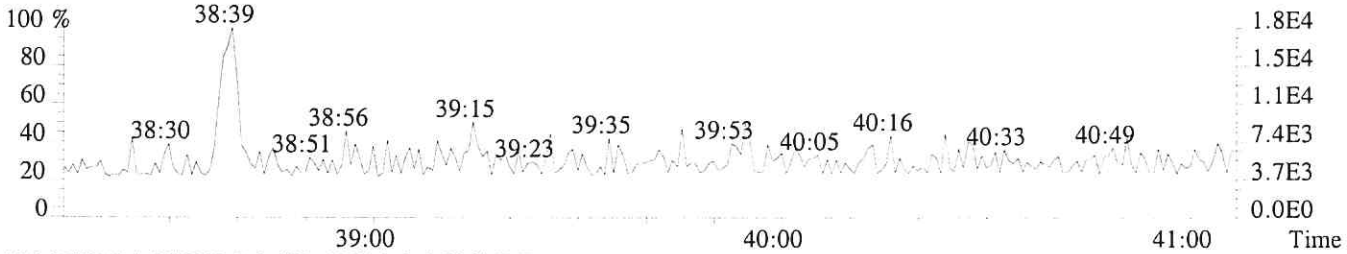
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2388.0,0.50%,F,T)



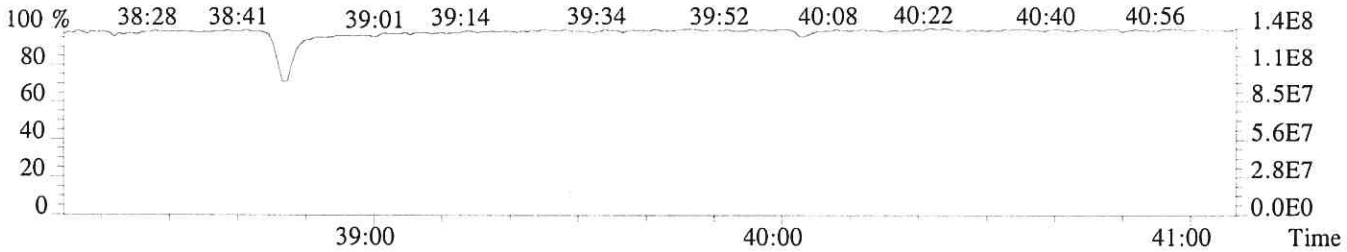
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2272.0,0.50%,F,T)



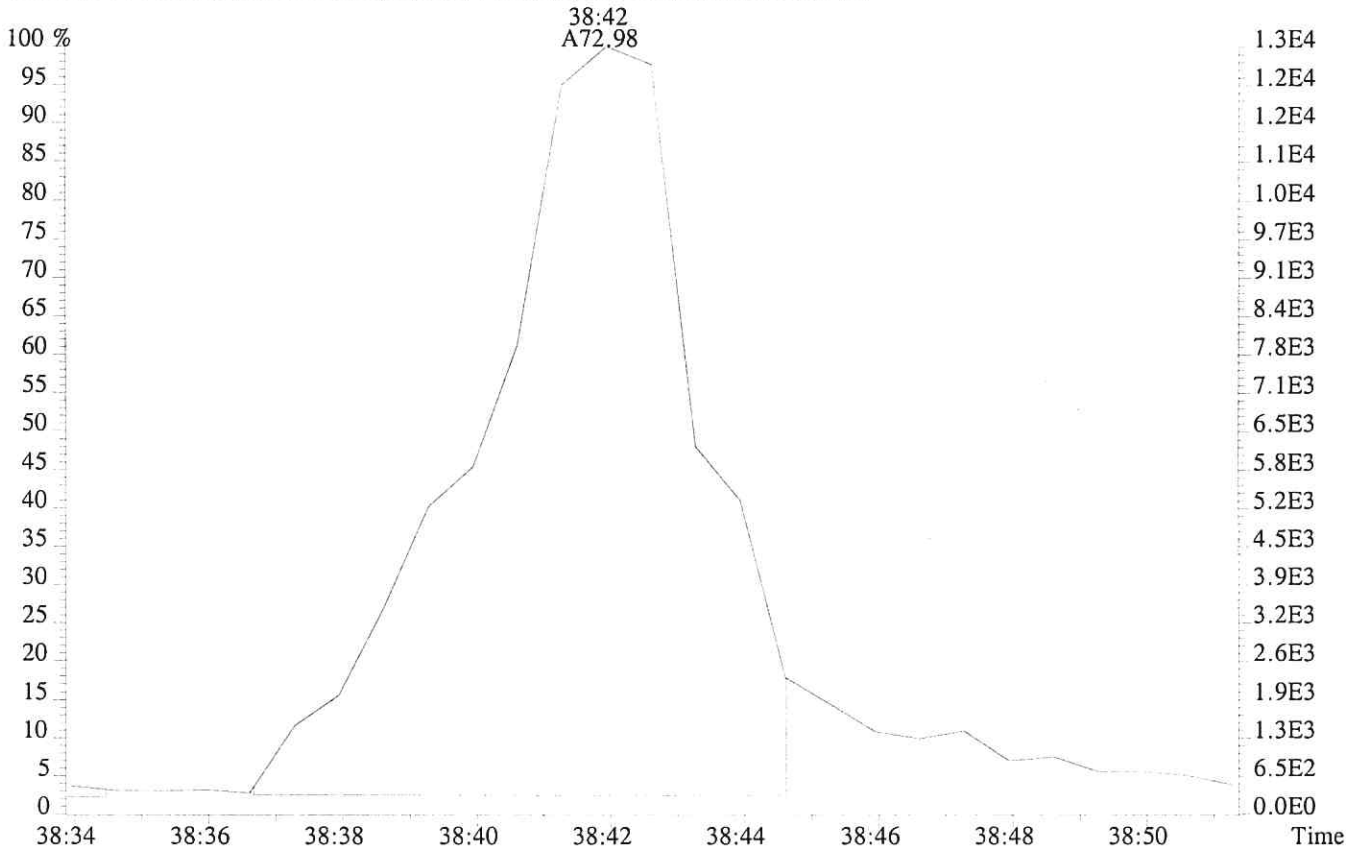
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



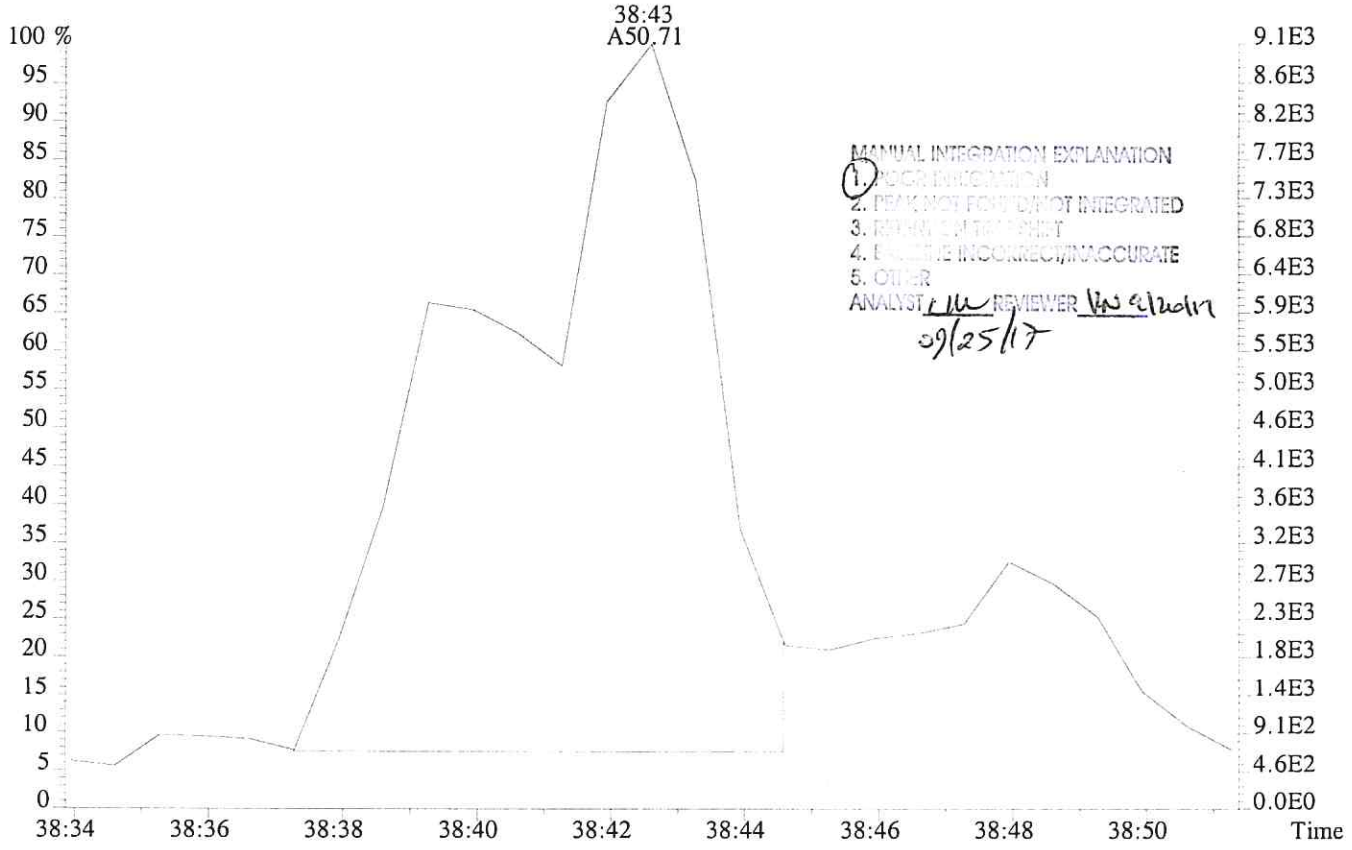
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



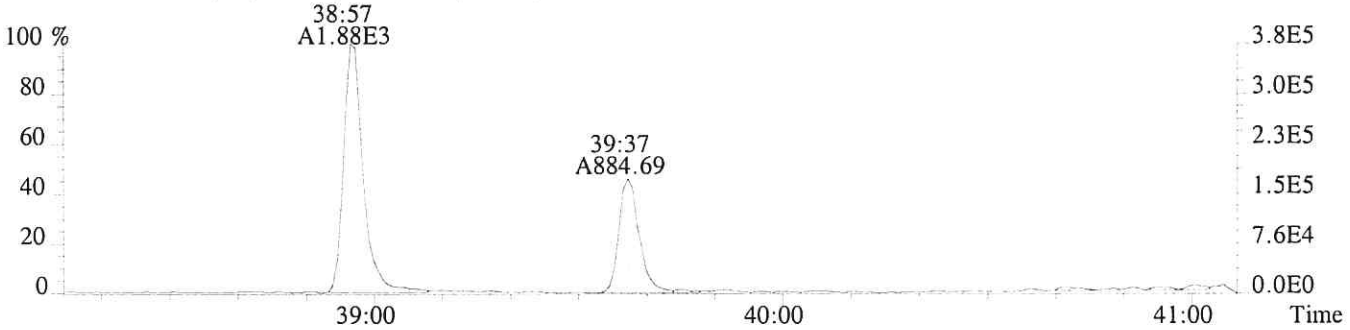
File:P511542 #1-259 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.50%,F,T)



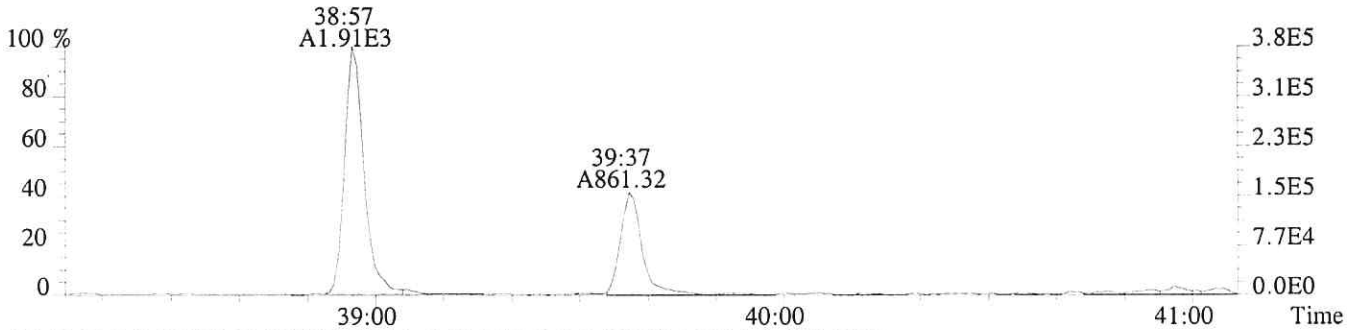
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,T)



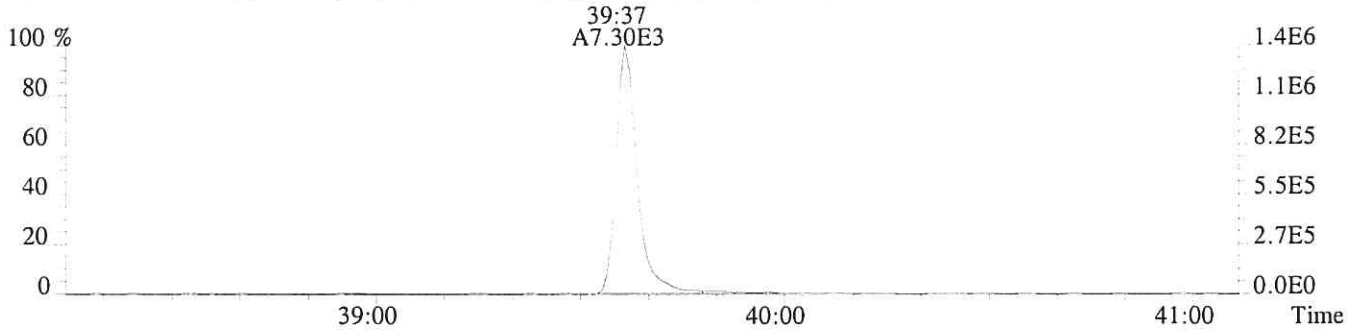
File:P511542 #1-259 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2880.0,0.40%,F,T)



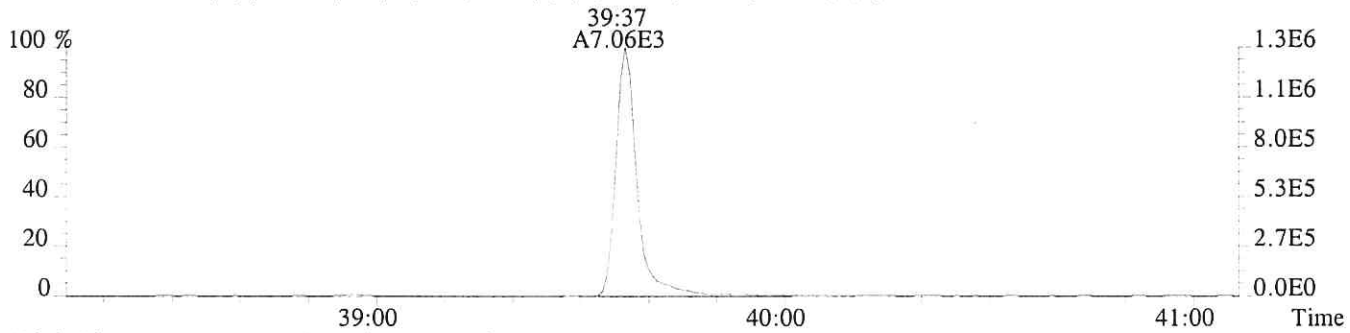
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1468.0,0.40%,F,T)



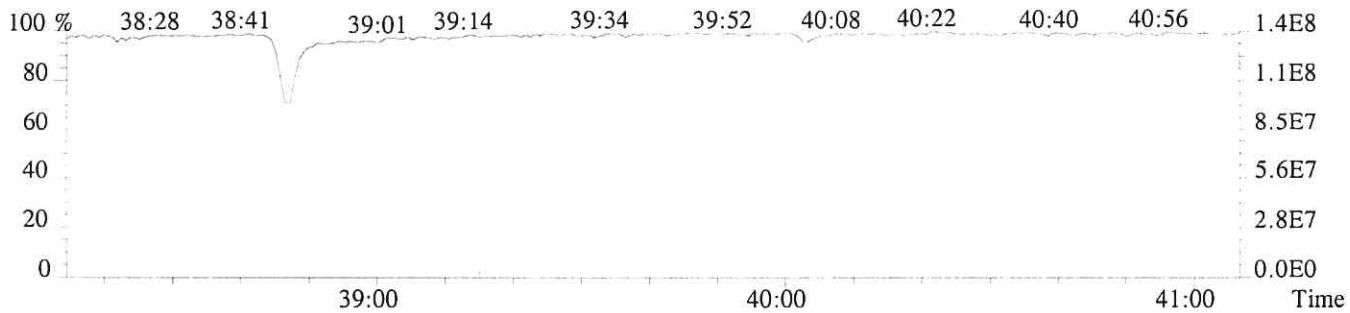
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,T)

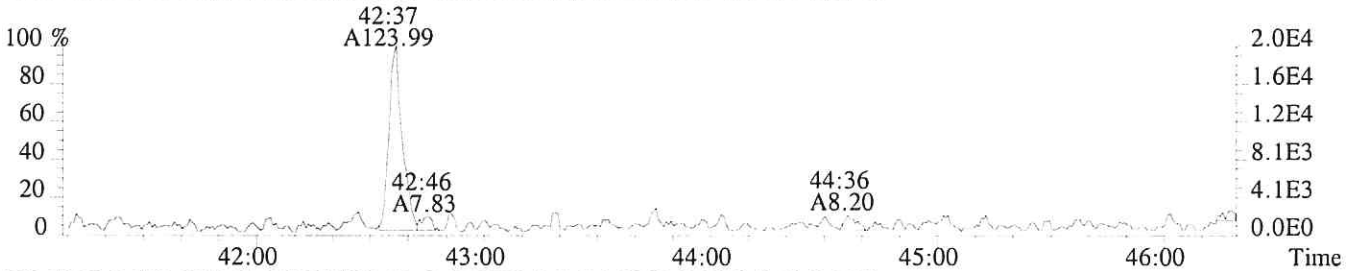


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

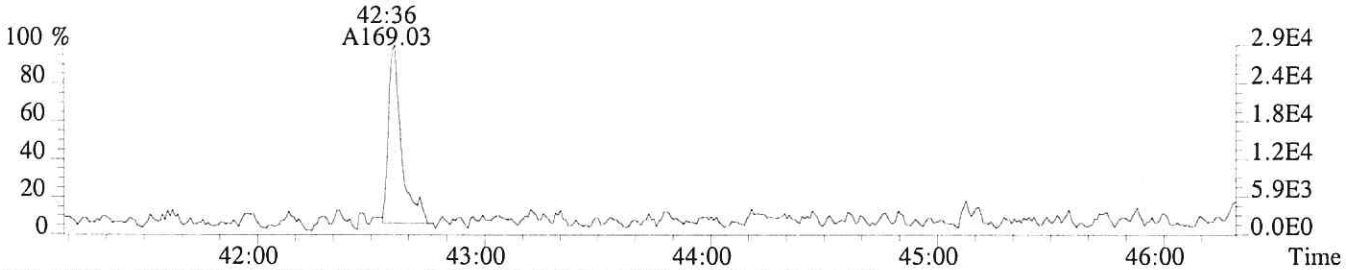


File:P511542 #1-466 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

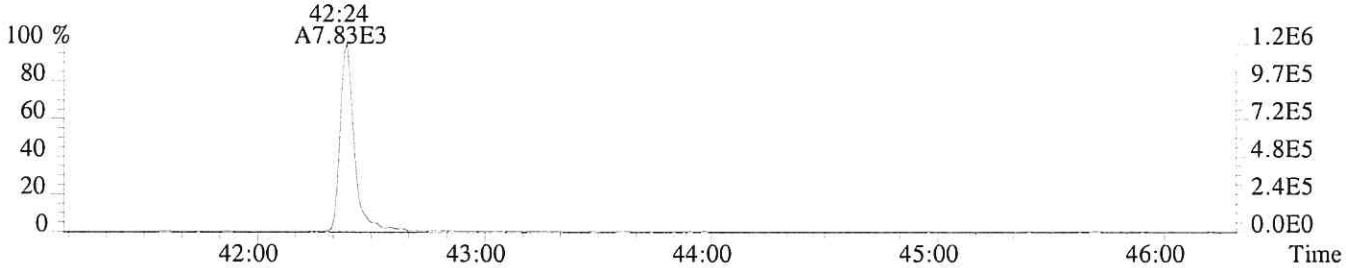
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1192.0,0.40%,F,T)



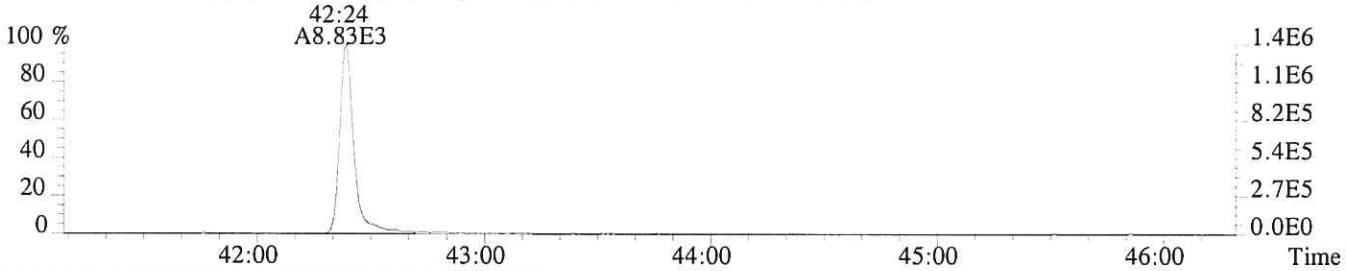
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2728.0,0.40%,F,T)



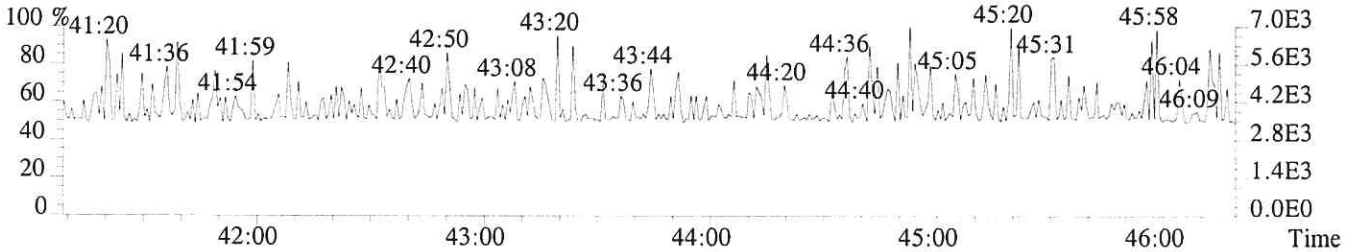
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1588.0,0.40%,F,T)



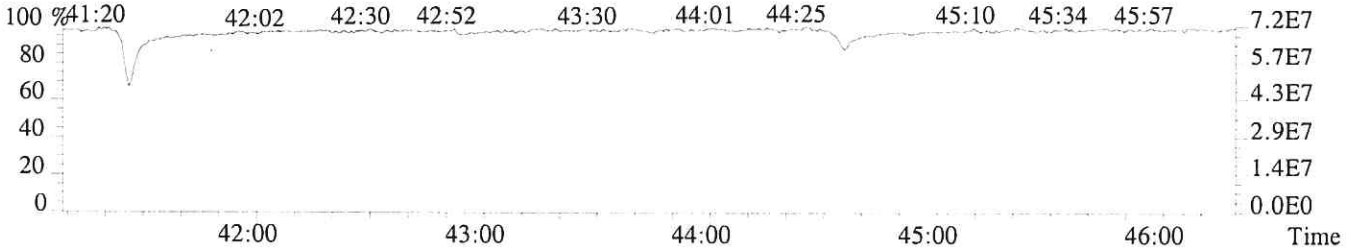
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

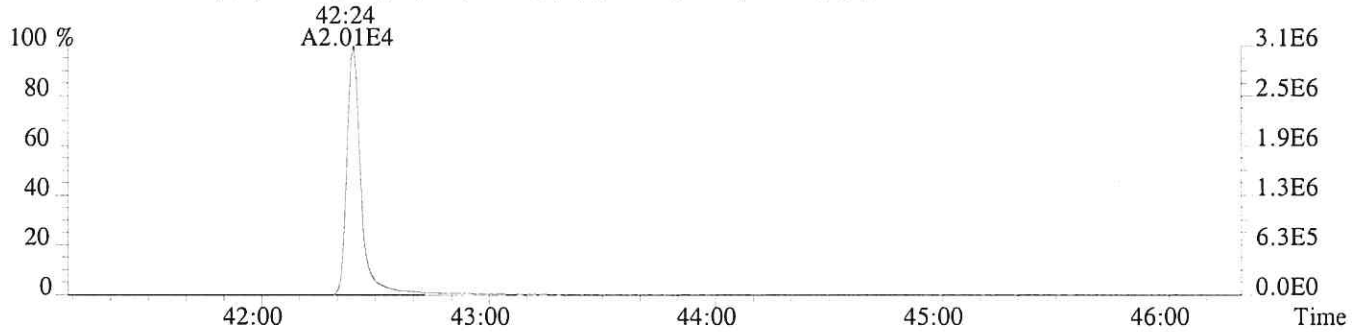


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

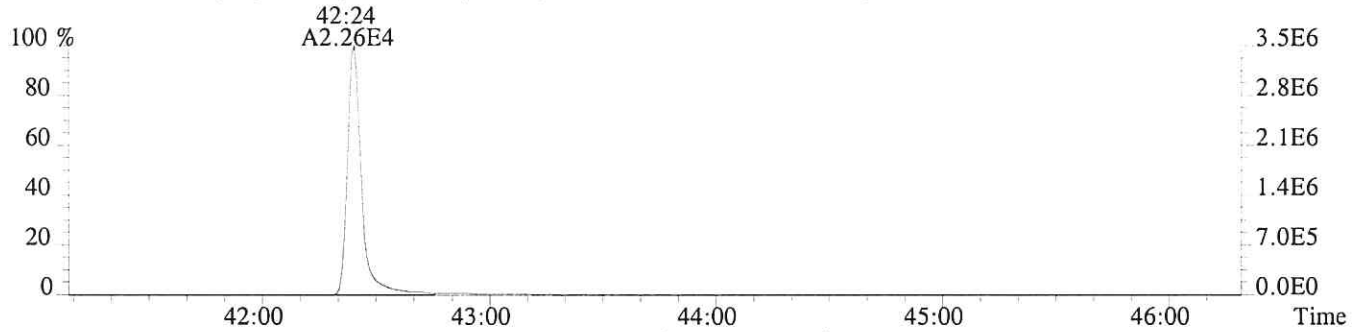


File:P511542 #1-466 Acq:24-SEP-2017 15:52:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-003

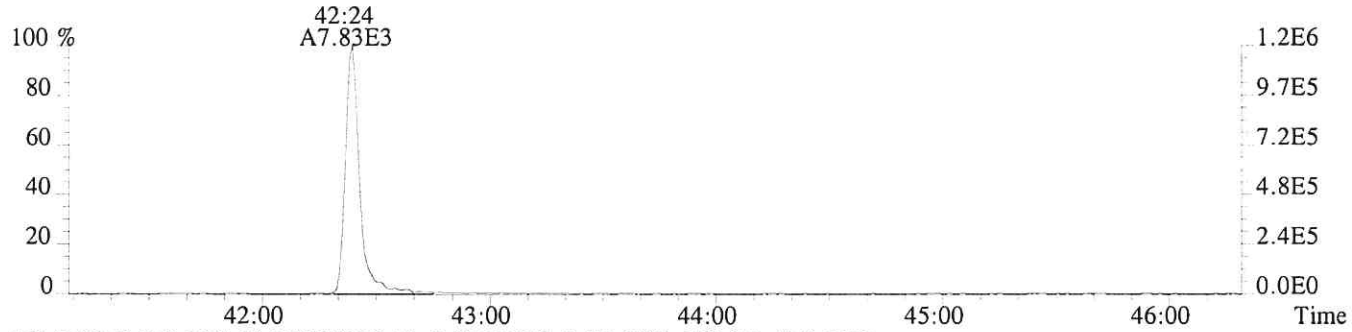
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,884.0,0.40%,F,T)



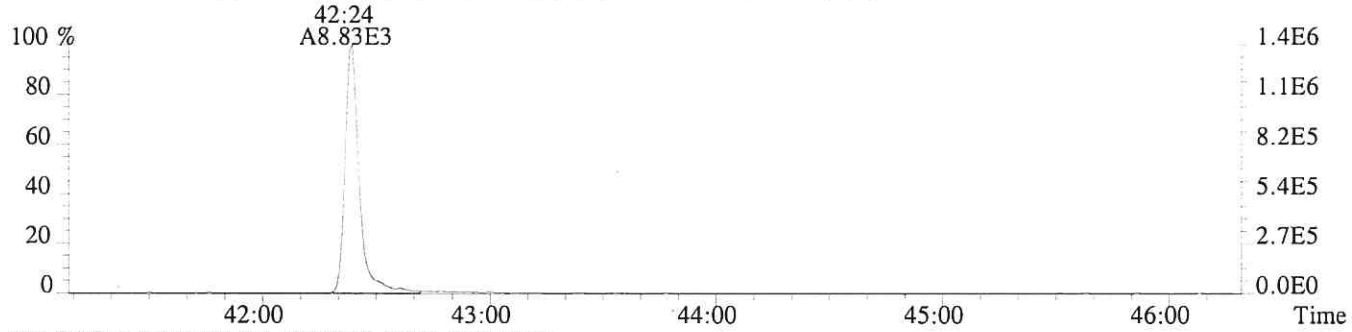
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,584.0,0.40%,F,T)



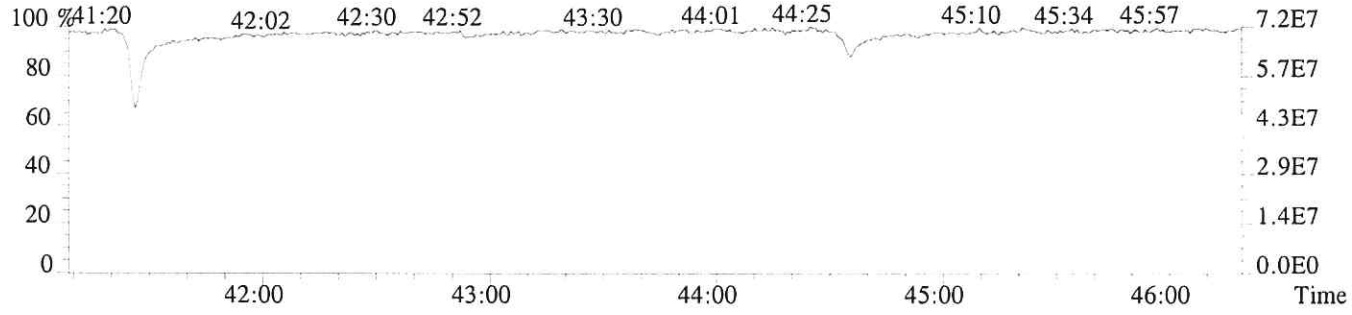
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1588.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,568.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #13 Filename P511543 Samp: 1 Inj: 1 Acquired: 24-SEP-17 16:41:07
Processed: 25-SEP-17 13:12:11 Sample ID: E1700974-004

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	5.521e+03	7.733e+03	0.71	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.840e+02	1.816e+02	1.01	no	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:30	1.619e+02	1.619e+02	1.00	no	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	2.517e+02	2.046e+02	1.23	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	5.438e+01	6.838e+01	0.80	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.170e+01	1.767e+01	1.23	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	2.973e+01	1.825e+01	1.63	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	2.253e+02	2.081e+02	1.08	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	4.493e+01	3.253e+01	1.38	no	no	1.191
10	Unk	OCDF	42:36	1.077e+03	1.273e+03	0.85	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	1.179e+03	1.602e+03	0.74	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	2.357e+01	1.837e+01	1.28	yes	yes	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	5.249e+01	3.986e+01	1.32	yes	yes	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:10	7.209e+01	3.486e+01	2.07	no	yes	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	1.352e+03	1.267e+03	1.07	yes	no	0.942
17	Unk	OCDD	42:24	2.691e+04	3.058e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.231e+04	1.575e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	1.937e+04	1.201e+04	1.61	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.836e+04	1.163e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	7.199e+03	1.371e+04	0.53	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	8.185e+03	1.618e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	7.092e+03	1.424e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	6.588e+03	1.346e+04	0.49	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	4.592e+03	1.056e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	4.352e+03	9.947e+03	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	9.332e+03	1.202e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	1.376e+04	8.694e+03	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.081e+04	8.413e+03	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.037e+04	8.050e+03	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	7.909e+03	7.334e+03	1.08	yes	no	0.881
32	IS	13C-OCDD	42:24	8.408e+03	9.426e+03	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.073e+04	2.664e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.387e+04	1.903e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.062e+04				no	1.033

$$\text{OCDD} = \frac{(2.691e+04 + 3.058e+04) \times 4000 \text{ pg} \times 1}{(8.408e+03 + 9.426e+03) \times 10.09 \text{ g} \times 39.5 / 100 \times 1.051} = 3081 \text{ ng/kg}$$

KW 9/20/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-023

Run #13 Filename P511543 Samp: 1 Inj: 1 Acquired: 24-SEP-17 16:41:07
Processed: 25-SEP-17 13:12:11 LAB. ID: E1700974-004

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.05e+05	1.44e+03	6.3e+02	1.30e+06	4.56e+03	2.9e+02
2	1,2,3,7,8-PeCDF	3.51e+04	1.41e+03	2.5e+01	3.00e+04	3.41e+03	8.8e+00
3	2,3,4,7,8-PeCDF	2.66e+04	1.41e+03	1.9e+01	1.89e+04	3.41e+03	5.5e+00
4	1,2,3,4,7,8-HxCDF	4.68e+04	6.28e+02	7.5e+01	4.20e+04	1.14e+03	3.7e+01
5	1,2,3,6,7,8-HxCDF	9.12e+03	6.28e+02	1.5e+01	1.12e+04	1.14e+03	9.9e+00
6	2,3,4,6,7,8-HxCDF	3.42e+03	6.28e+02	5.4e+00	3.49e+03	1.14e+03	3.1e+00
7	1,2,3,7,8,9-HxCDF	6.02e+03	6.28e+02	9.6e+00	3.17e+03	1.14e+03	2.8e+00
8	1,2,3,4,6,7,8-HpCDF	4.91e+04	1.16e+03	4.2e+01	4.15e+04	9.64e+02	4.3e+01
9	1,2,3,4,7,8,9-HpCDF	8.86e+03	1.16e+03	7.6e+00	7.67e+03	9.64e+02	8.0e+00
10	OCDF	1.70e+05	8.48e+02	2.0e+02	2.02e+05	2.52e+03	8.0e+01
11	2,3,7,8-TCDD	2.31e+05	2.74e+03	8.4e+01	3.03e+05	1.20e+03	2.5e+02
12	1,2,3,7,8-PeCDD	*	3.08e+03	*	*	5.40e+02	*
13	1,2,3,4,7,8-HxCDD	3.98e+03	1.28e+03	3.1e+00	4.11e+03	1.41e+03	2.9e+00
14	1,2,3,6,7,8-HxCDD	9.91e+03	1.28e+03	7.8e+00	6.66e+03	1.41e+03	4.7e+00
15	1,2,3,7,8,9-HxCDD	1.20e+04	1.28e+03	9.4e+00	7.76e+03	1.41e+03	5.5e+00
16	1,2,3,4,6,7,8-HpCDD	2.41e+05	1.95e+03	1.2e+02	2.36e+05	2.42e+03	9.8e+01
17	OCDD	4.03e+06	4.36e+02	9.2e+03	4.61e+06	9.52e+02	4.8e+03
18	13C-2,3,7,8-TCDF	2.24e+06	1.71e+04	1.3e+02	2.85e+06	8.88e+03	3.2e+02
19	13C-1,2,3,7,8-PeCDF	3.53e+06	7.04e+02	5.0e+03	2.21e+06	2.64e+03	8.4e+02
20	13C-2,3,4,7,8-PeCDF	3.43e+06	7.04e+02	4.9e+03	2.13e+06	2.64e+03	8.1e+02
21	13C-1,2,3,4,7,8-HxCDF	1.48e+06	1.51e+03	9.8e+02	2.88e+06	2.54e+03	1.1e+03
22	13C-1,2,3,6,7,8-HxCDF	1.64e+06	1.51e+03	1.1e+03	3.12e+06	2.54e+03	1.2e+03
23	13C-2,3,4,6,7,8-HxCDF	1.47e+06	1.51e+03	9.7e+02	2.92e+06	2.54e+03	1.1e+03
24	13C-1,2,3,7,8,9-HxCDF	1.25e+06	1.51e+03	8.3e+02	2.56e+06	2.54e+03	1.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	8.93e+05	2.75e+03	3.2e+02	2.07e+06	2.63e+03	7.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	7.71e+05	2.75e+03	2.8e+02	1.78e+06	2.63e+03	6.7e+02
27	13C-2,3,7,8-TCDD	1.77e+06	7.52e+03	2.4e+02	2.29e+06	4.27e+03	5.3e+02
28	13C-1,2,3,7,8-PeCDD	2.56e+06	2.08e+03	1.2e+03	1.62e+06	2.56e+03	6.3e+02
29	13C-1,2,3,4,7,8-HxCDD	2.34e+06	2.65e+03	8.8e+02	1.82e+06	2.00e+03	9.1e+02
30	13C-1,2,3,6,7,8-HxCDD	2.13e+06	2.65e+03	8.1e+02	1.62e+06	2.00e+03	8.1e+02
31	13C-1,2,3,4,6,7,8-HpCDD	1.44e+06	1.29e+03	1.1e+03	1.33e+06	1.07e+03	1.2e+03
32	13C-OCDD	1.26e+06	1.11e+03	1.1e+03	1.45e+06	1.02e+03	1.4e+03
33	13C-1,2,3,4-TCDD	4.00e+06	7.52e+03	5.3e+02	5.16e+06	4.27e+03	1.2e+03
34	13C-1,2,3,7,8,9-HxCDD	4.62e+06	2.65e+03	1.7e+03	3.58e+06	2.00e+03	1.8e+03
35	37Cl-2,3,7,8-TCDD	2.02e+06	2.14e+03	9.4e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.740e{+}03 + 1.196e{+}03\ ) \times 2000}{(1.771e{+}06 + 2.285e{+}06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.065} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-023

Entry: 36 Totals Name: Total Tetra-Furans

Run: 13 File: P511543 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 303.9020 305.8990 Tot Response: 2.26e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:21	8.67e+01	1.09e+02	0.80	yes	1.95e+02		n	n
2	26:37	2.57e+02	3.79e+02	0.68	yes	6.36e+02		n	n
3	27:12	1.30e+02	1.76e+02	0.74	yes	3.05e+02		n	n
4	27:44	2.63e+03	3.66e+03	0.72	yes	6.29e+03		n	n
5	28:31	5.52e+03	7.73e+03	0.71	yes	1.33e+04	2,3,7,8-TCDF	n	n
6	28:49	4.27e+02	5.32e+02	0.80	yes	9.58e+02		n	n
7	30:17	4.09e+02	5.54e+02	0.74	yes	9.62e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-023

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 13 File: P511543 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 319.8970 321.8940 Tot Response: 2.78e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	1.18e+03	1.60e+03	0.74	yes	2.78e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-023

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 13 File: P511543 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 355.8550 357.8520 Tot Response: 8.31e+01 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:03	2.48e+01	1.45e+01	1.71	yes	3.93e+01	n	n
2	33:05	2.79e+01	1.59e+01	1.76	yes	4.38e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-023

Entry: 41 Totals Name: Total Hexa-Furans

Run: 13 File: P511543 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 373.8210 375.8180 Tot Response: 8.45e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	1.10e+02	9.72e+01	1.13	yes	2.07e+02		n	n
2	35:43	8.05e+01	6.24e+01	1.29	yes	1.43e+02		n	n
3	36:08	2.52e+02	2.05e+02	1.23	yes	4.56e+02	1,2,3,4,7,8-HxCDF	n	n
4	36:44	2.17e+01	1.77e+01	1.23	yes	3.94e+01	2,3,4,6,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-023

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 13 File: P511543 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 389.8160 391.8130 Tot Response: 2.29e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	9.09e+02	6.74e+02	1.35	yes	1.58e+03		n	n
2	36:17	2.90e+02	2.08e+02	1.39	yes	4.98e+02		n	n
3	36:23	3.91e+01	3.26e+01	1.20	yes	7.17e+01		n	n
4	36:52	2.36e+01	1.84e+01	1.28	yes	4.19e+01	1,2,3,4,7,8-HxCDD	y	y
5	36:57	5.25e+01	3.99e+01	1.32	yes	9.23e+01	1,2,3,6,7,8-HxCDD	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-023

Entry: 43 Totals Name: Total Hepta-Furans

Run: 13 File: P511543 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

Mass: 407.7820 409.7790 Tot Response: 8.96e+02 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:42	2.25e+02	2.08e+02	1.08	yes	4.33e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:06	2.18e+02	2.45e+02	0.89	yes	4.63e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-023

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 13 File: P511543 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 16:41:07 Processed: 25-SEP-17 13:12:11

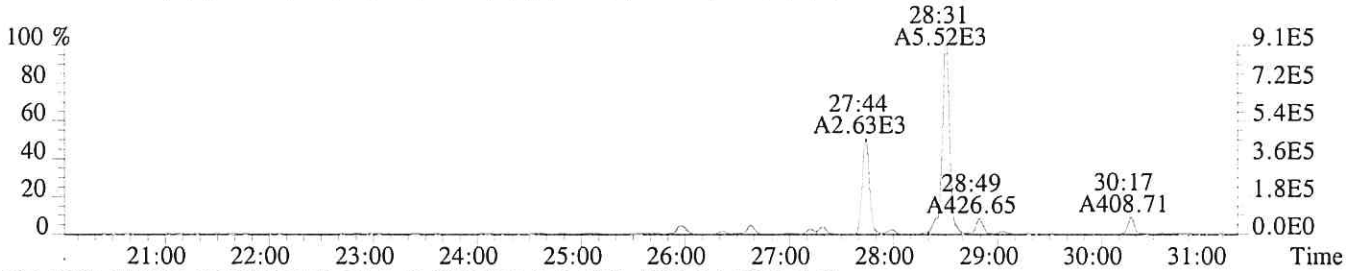
Mass: 423.7770 425.7740 Tot Response: 9.81e+03 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	3.66e+03	3.53e+03	1.04	yes	7.19e+03		n	n
2	39:37	1.35e+03	1.27e+03	1.07	yes	2.62e+03	1,2,3,4,6,7,8-HpCDD	n	n

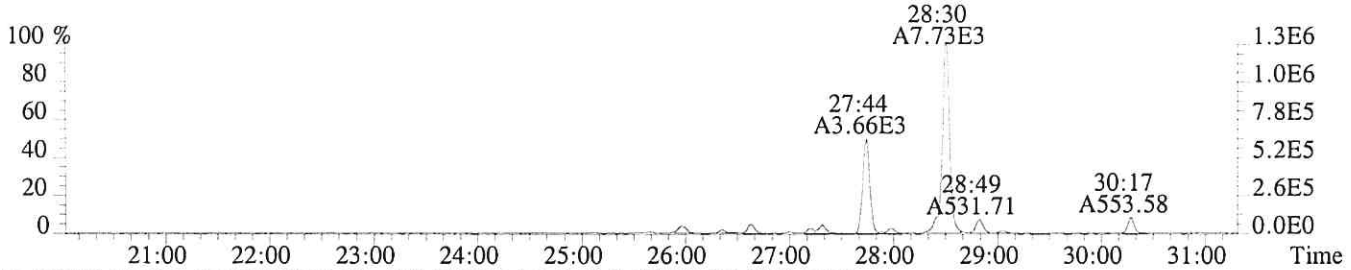
ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

File:P511543 #1-800 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

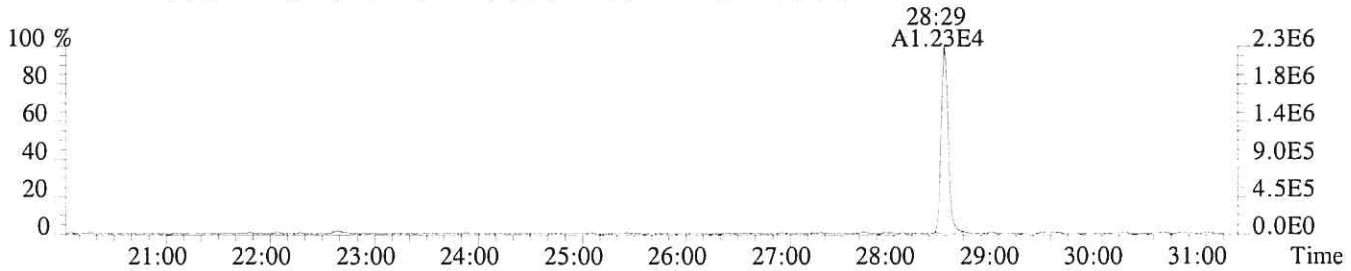
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1440.0,1.00%,F,T)



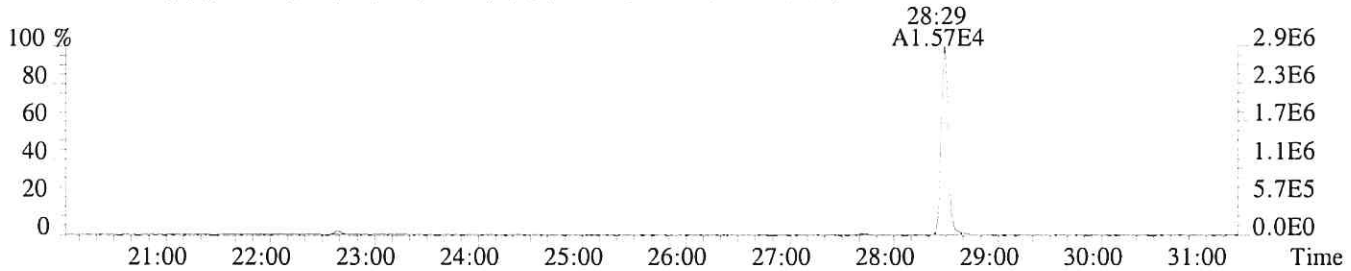
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4560.0,1.00%,F,T)



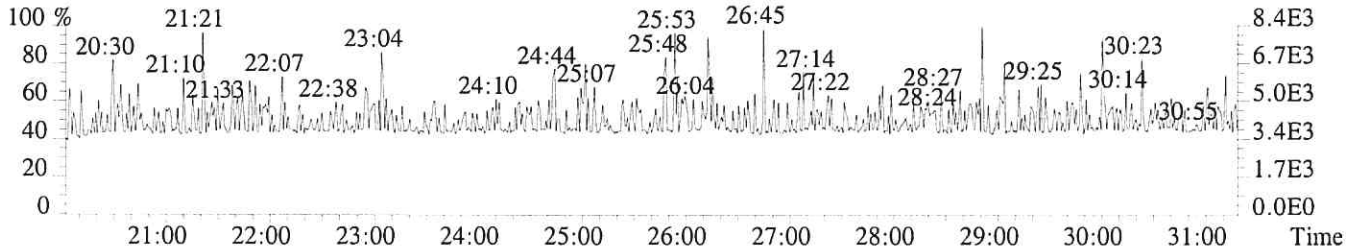
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17112.0,1.00%,F,T)



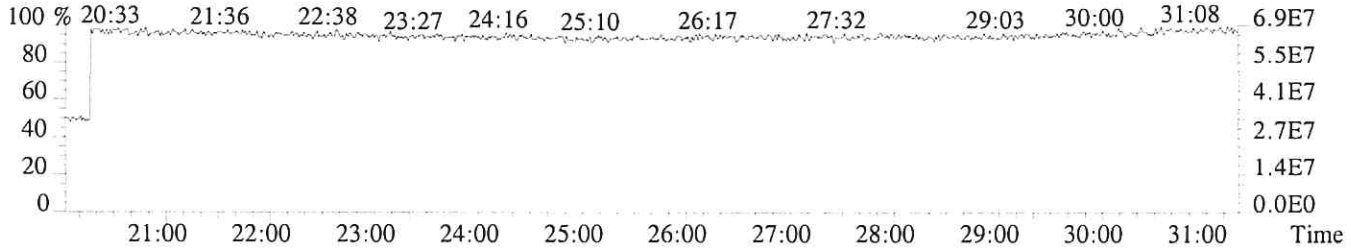
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8880.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

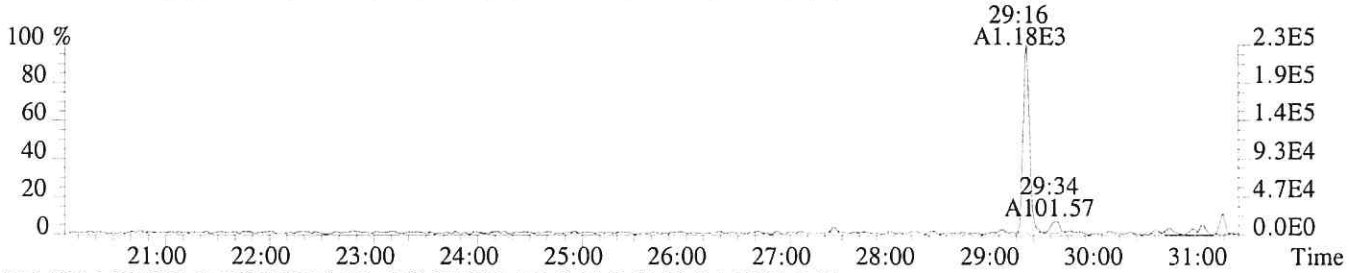


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

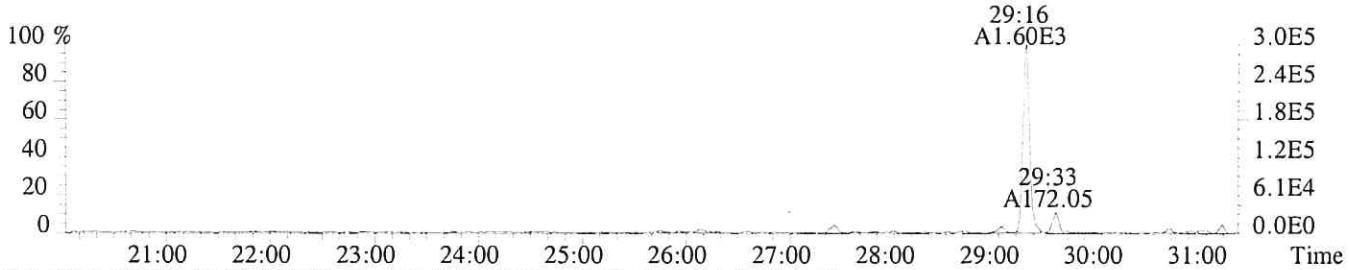


File:P511543 #1-800 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

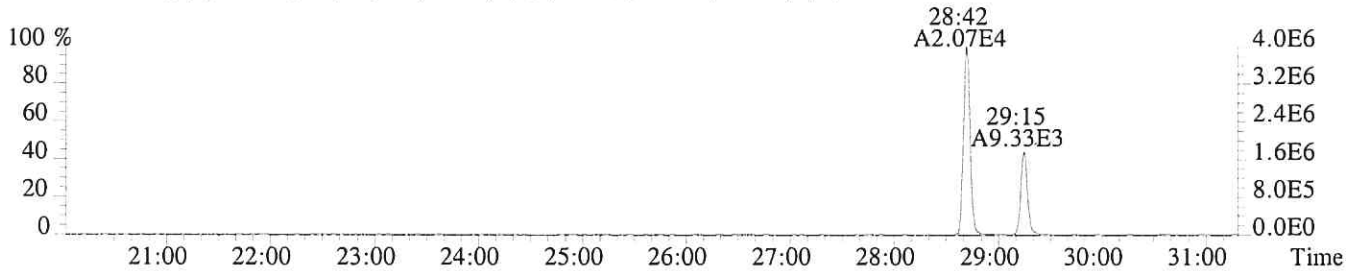
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2740.0,1.00%,F,T)



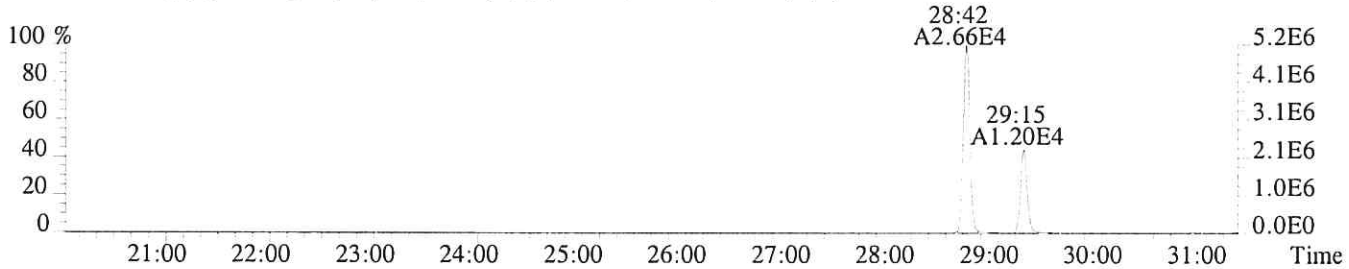
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,T)



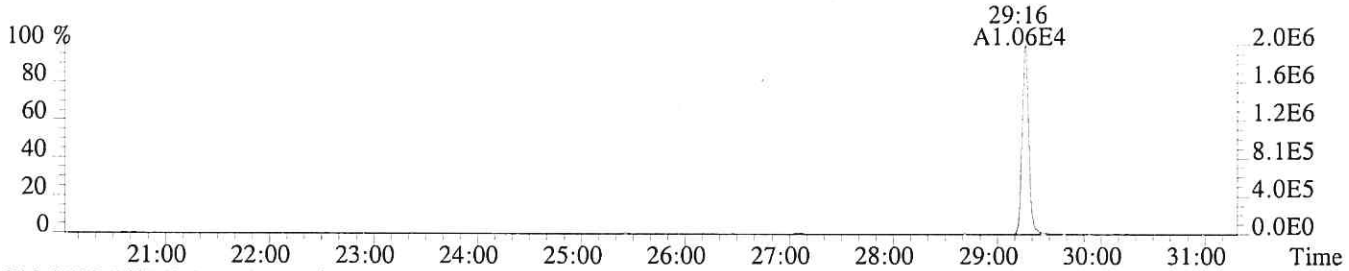
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7520.0,1.00%,F,T)



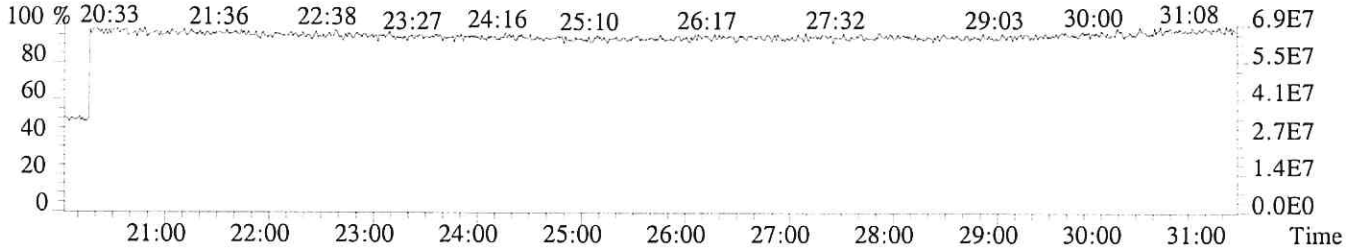
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4272.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,T)

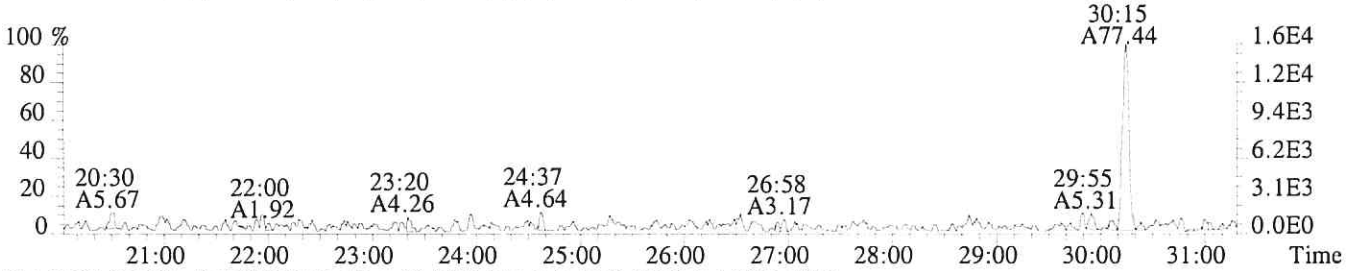


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

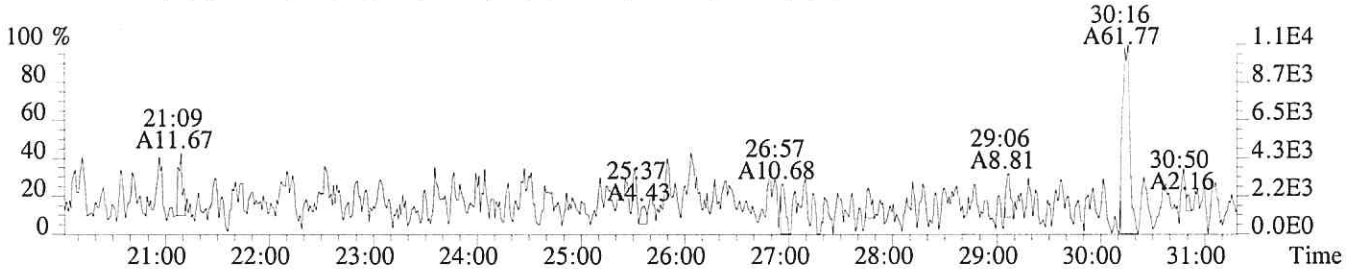


File:P511543 #1-800 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

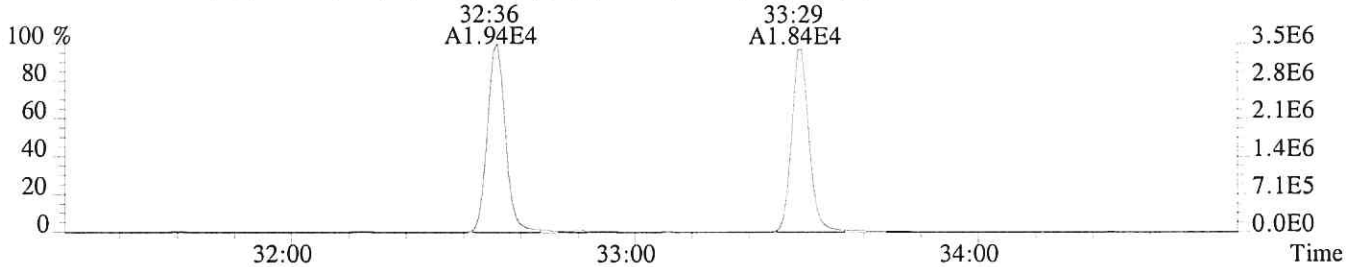
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



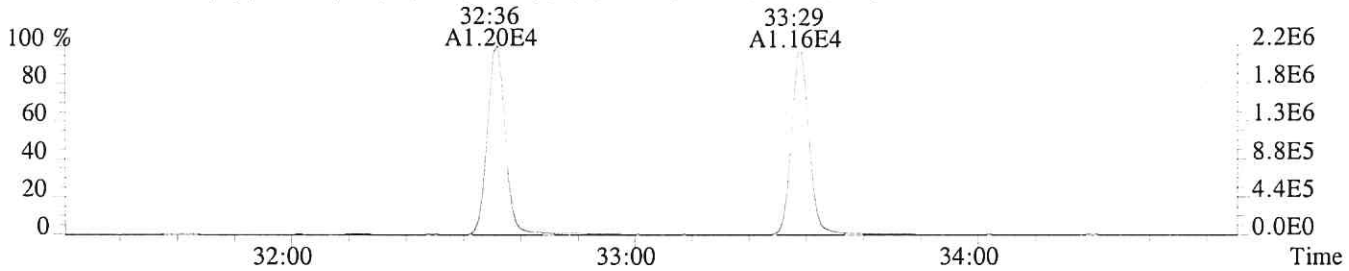
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2120.0,1.00%,F,T)



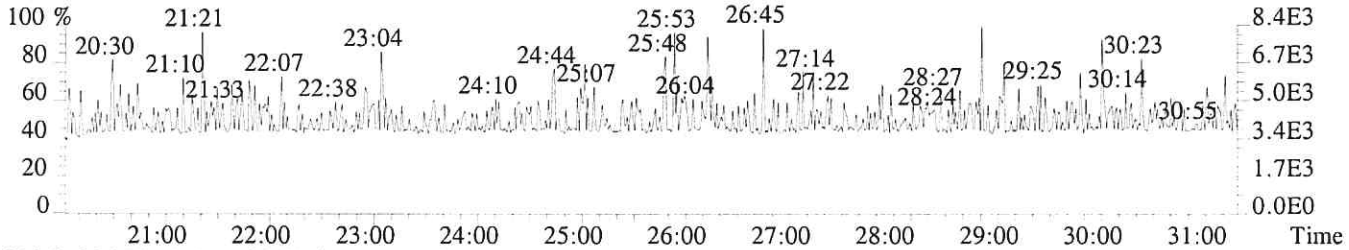
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



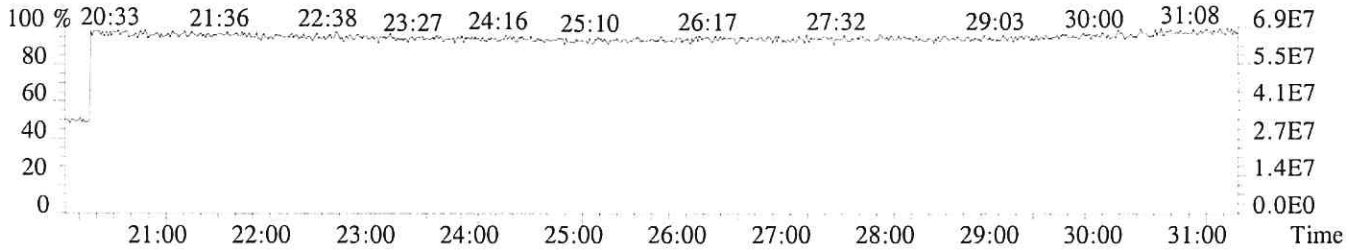
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2636.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

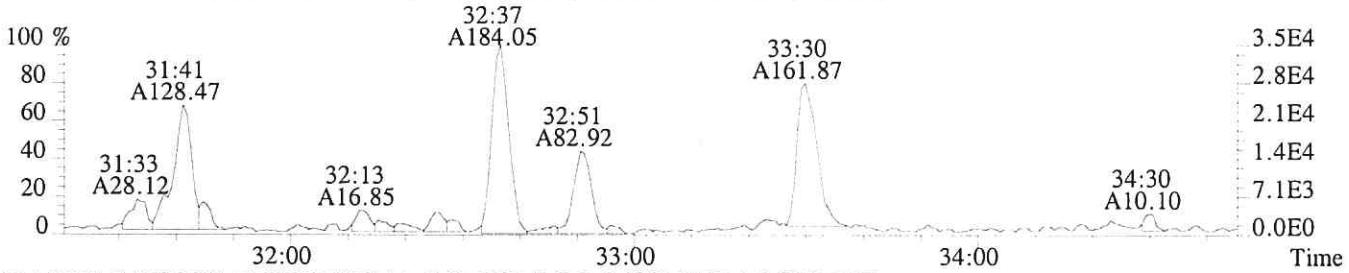


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

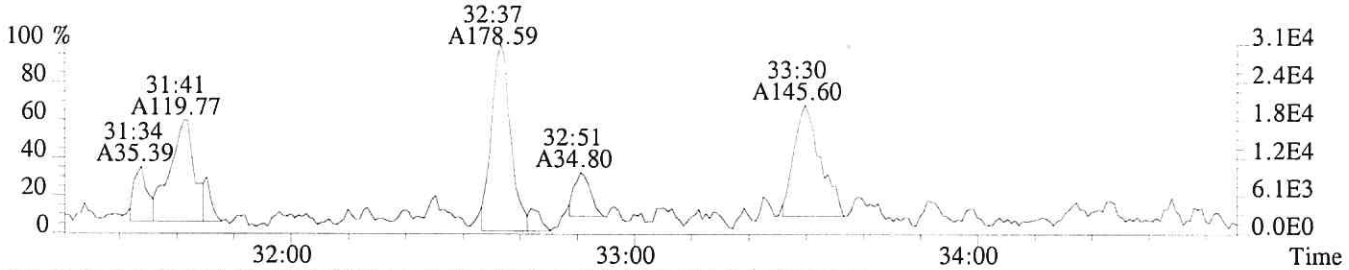


File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

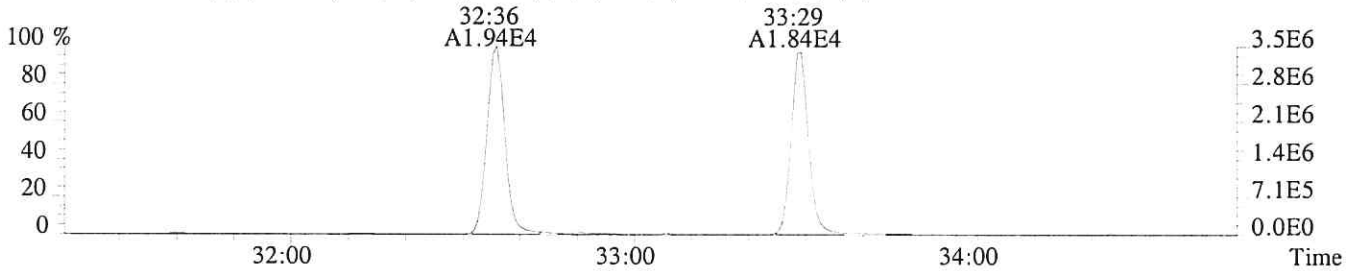
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



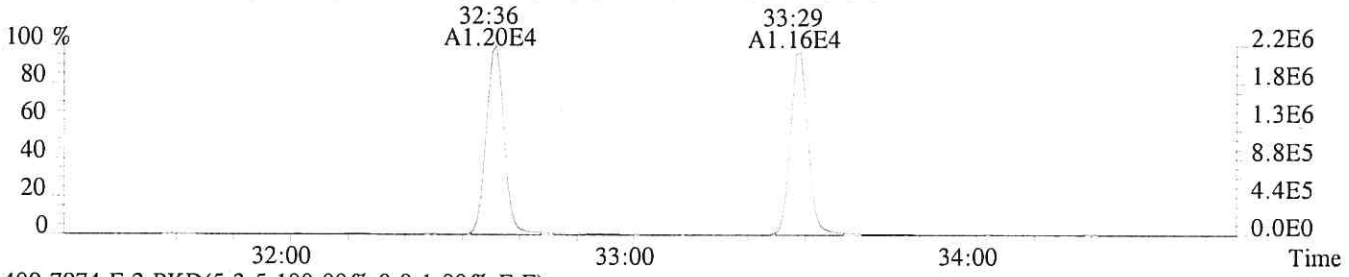
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3412.0,1.00%,F,T)



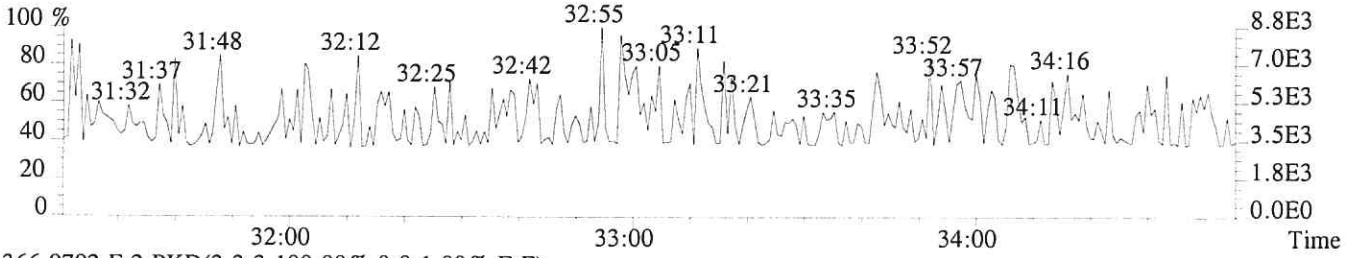
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



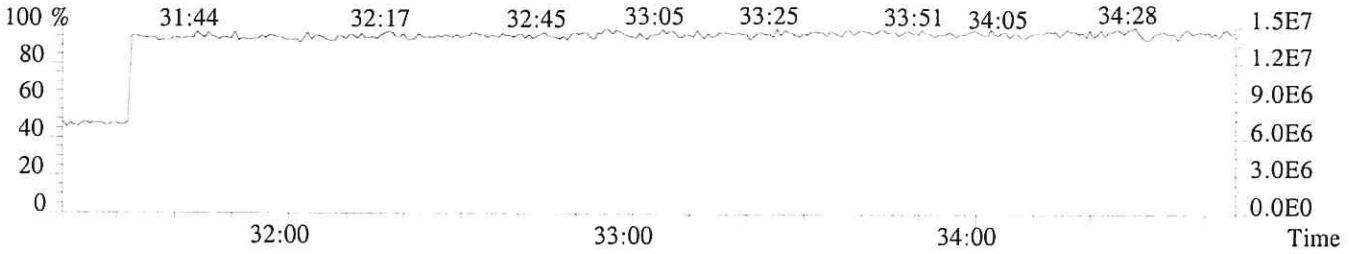
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2636.0,1.00%,F,T)



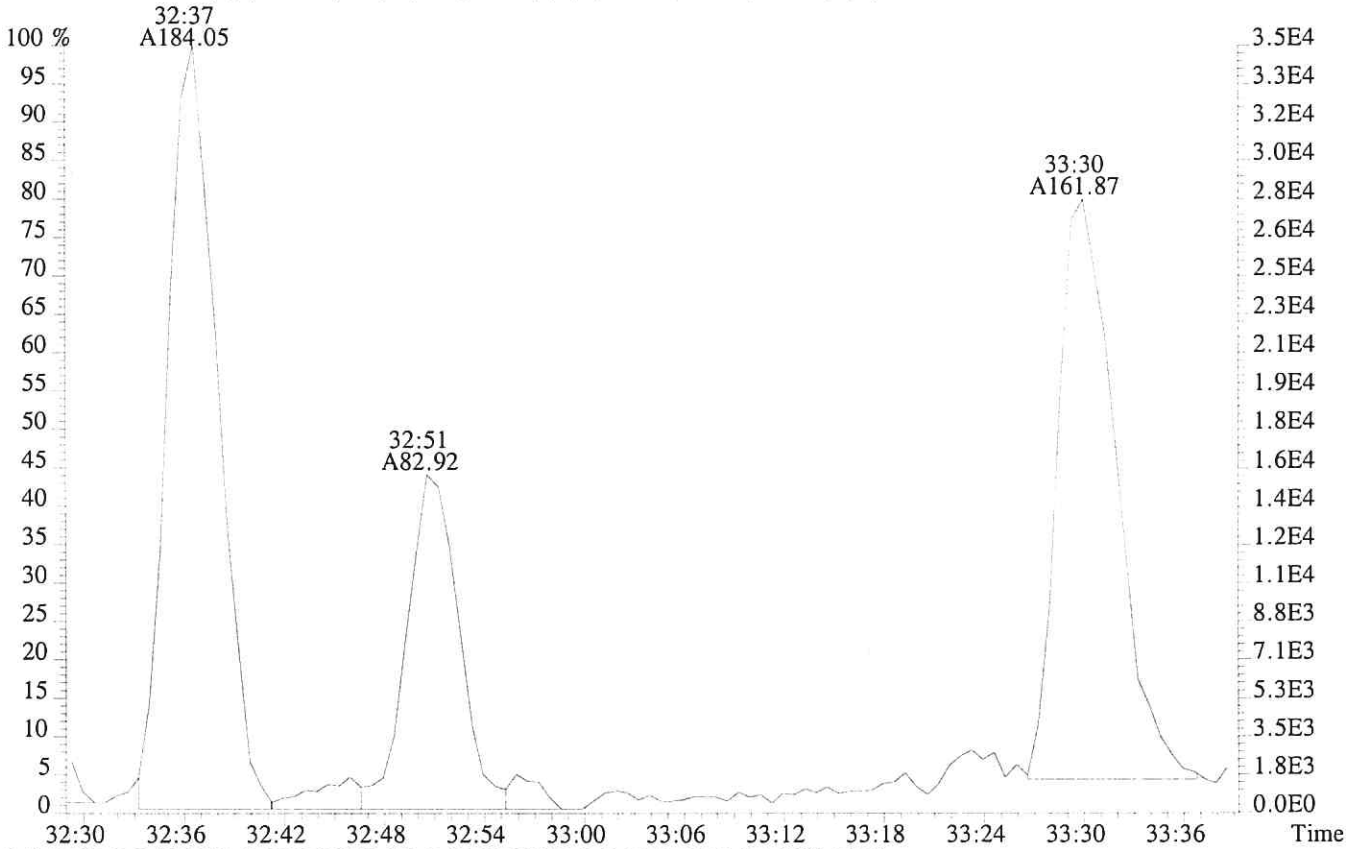
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



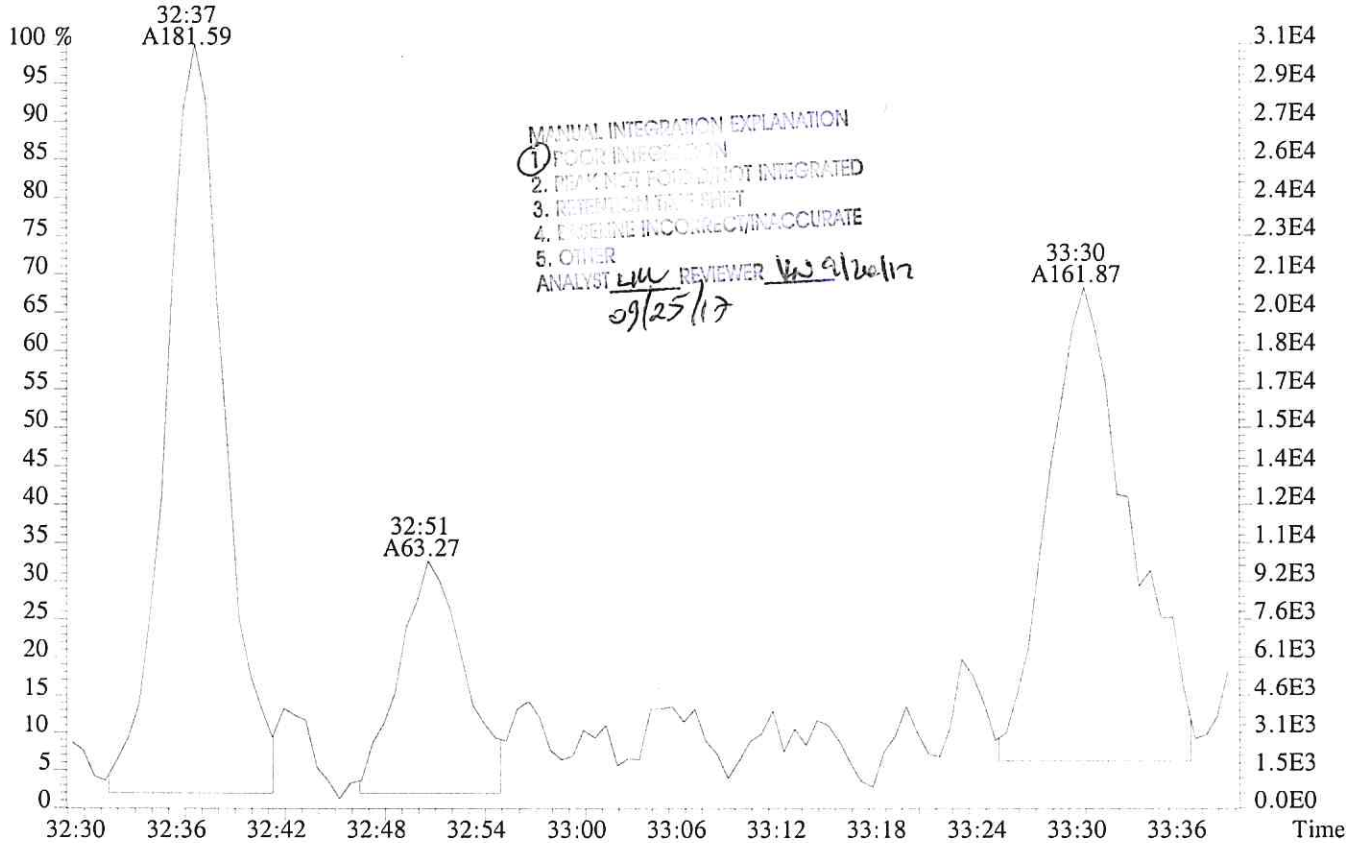
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



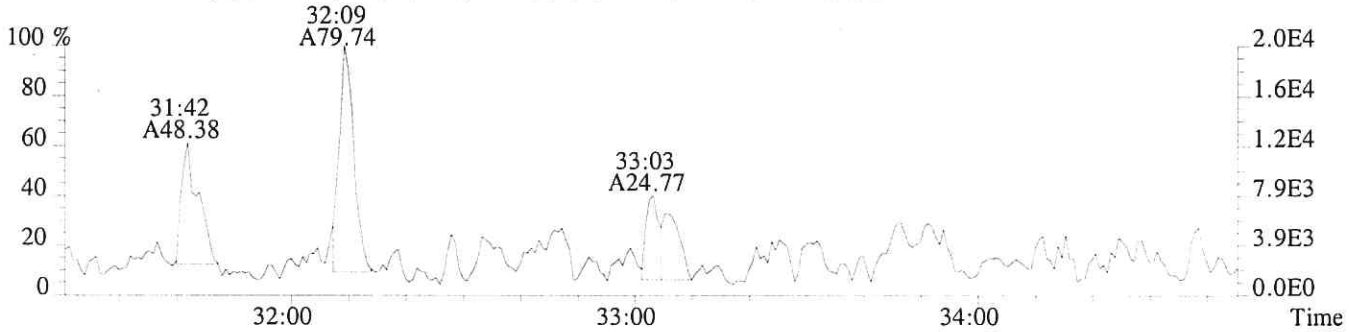
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3412.0,1.00%,F,T)



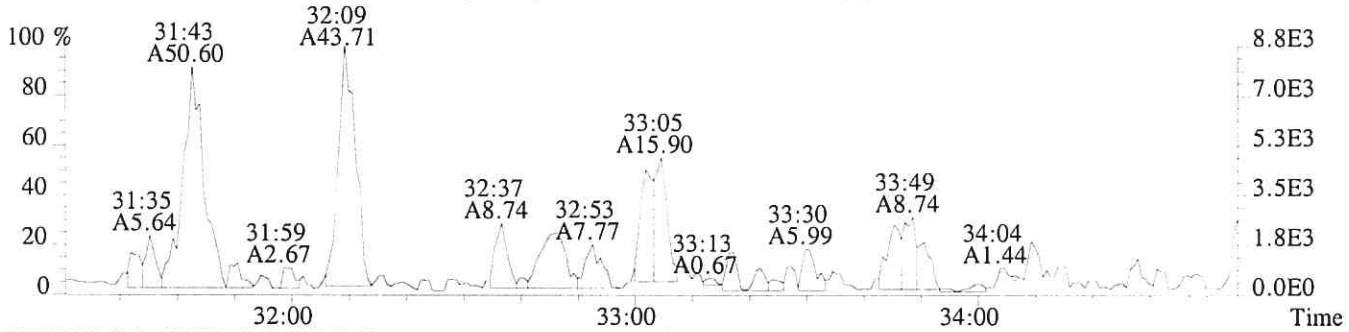
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. REFERENCE TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LW 09/25/17 REVIEWER LW 9/26/17

File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

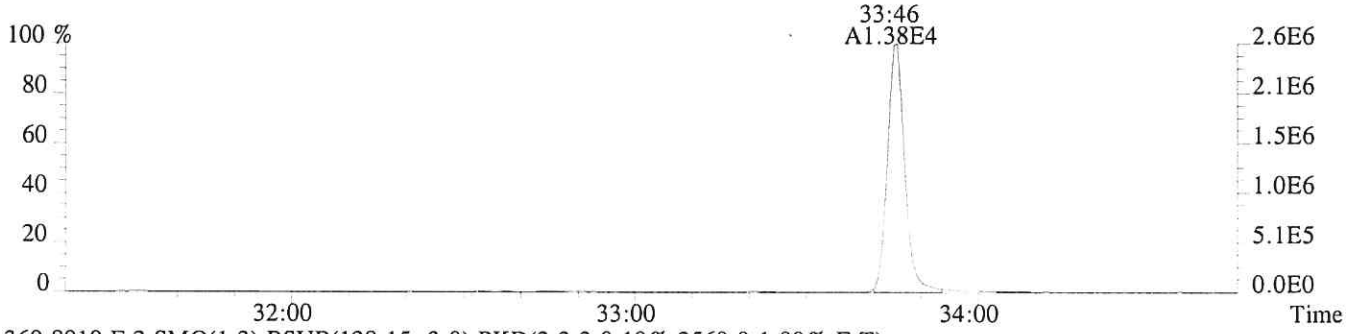
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3080.0,1.00%,F,T)



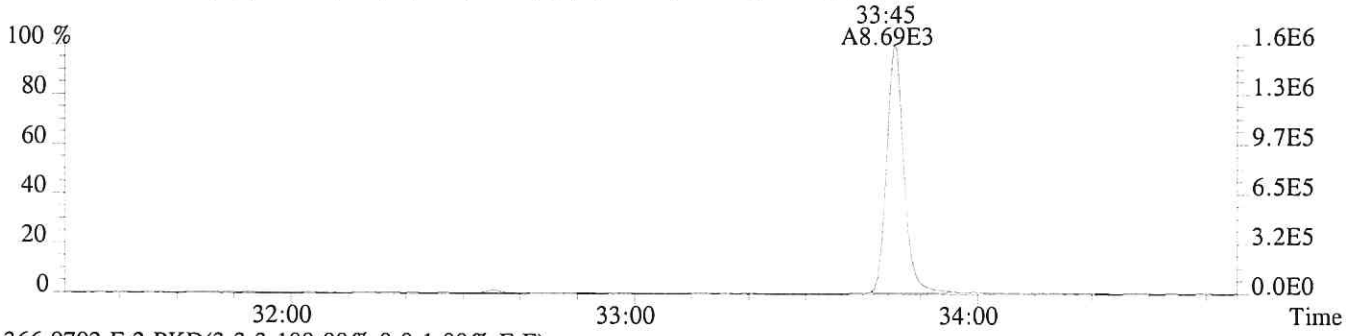
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,T)



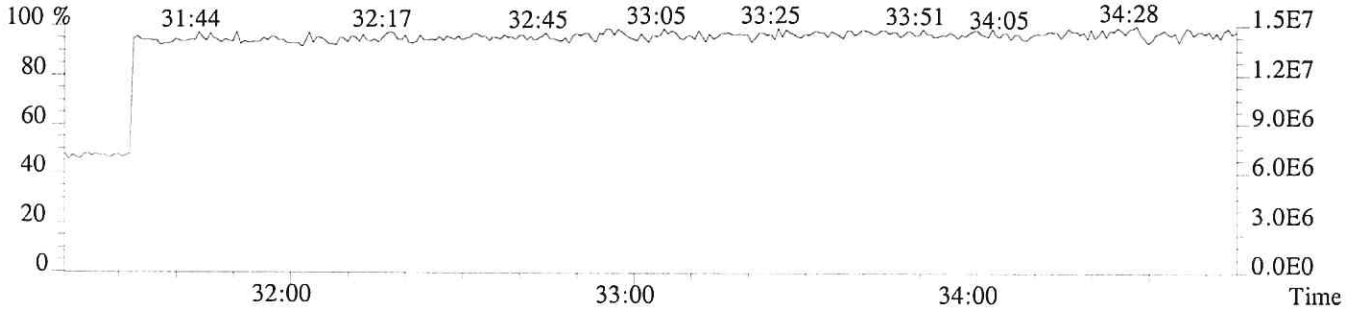
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2076.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2560.0,1.00%,F,T)

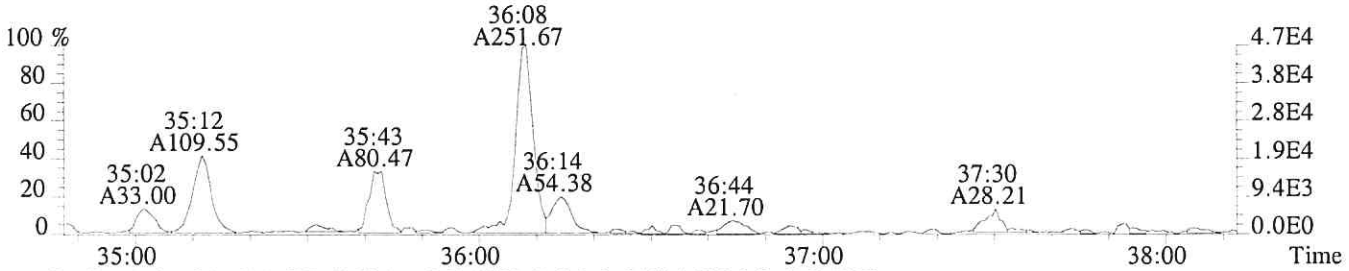


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

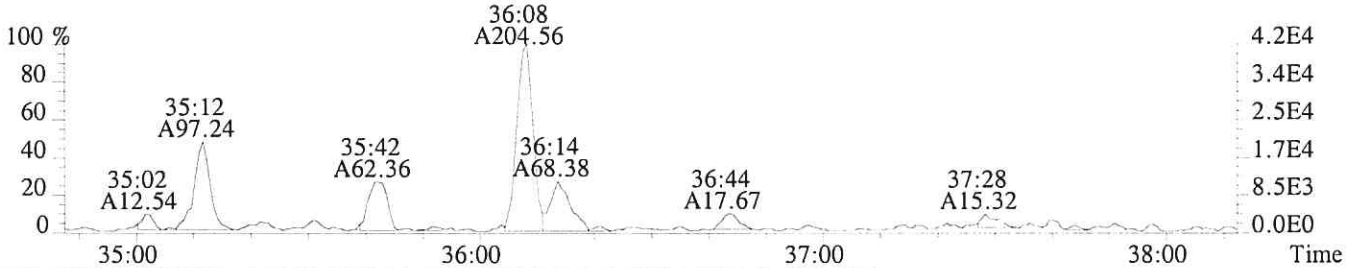


File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

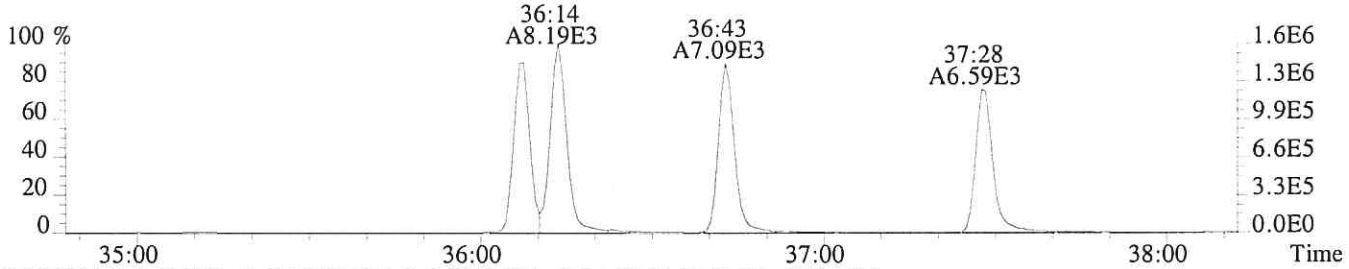
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,T)



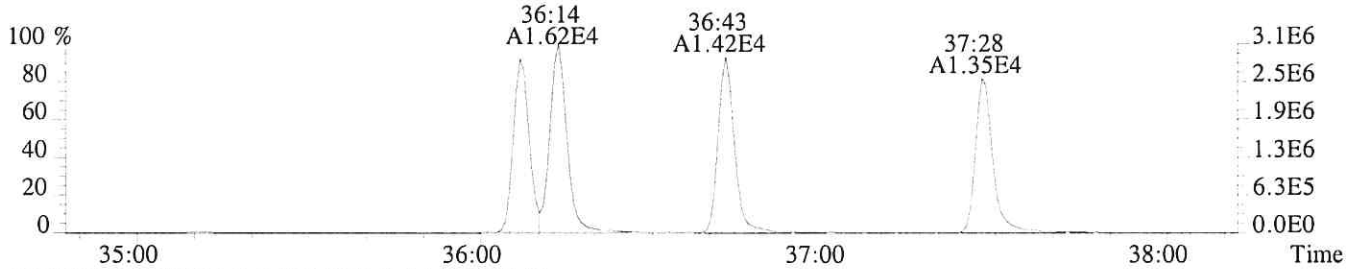
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)



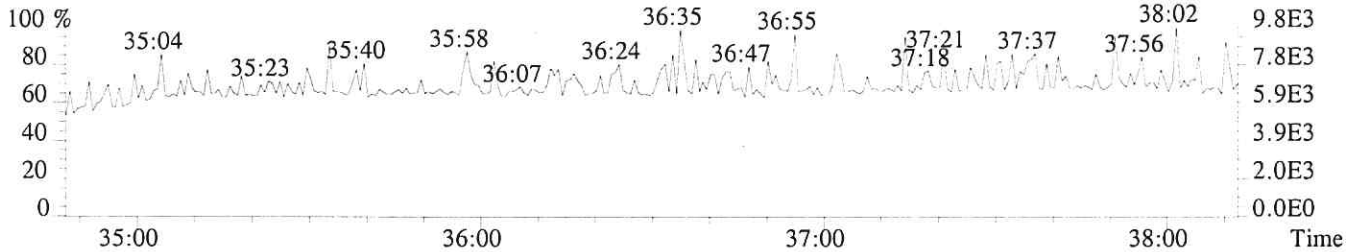
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



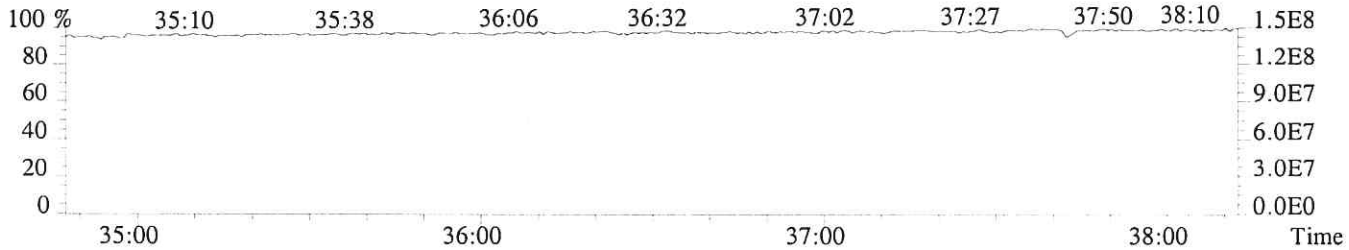
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2540.0,0.40%,F,T)



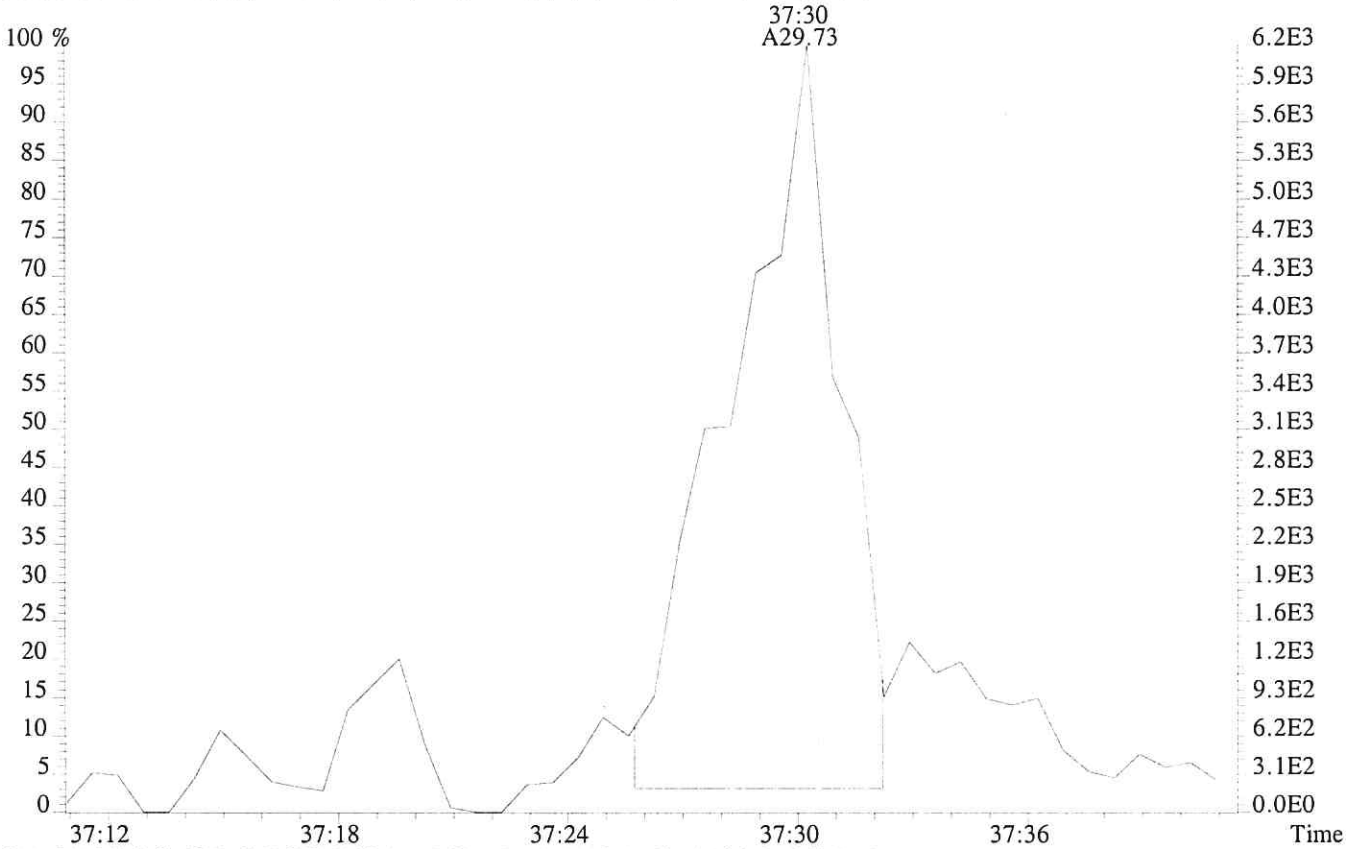
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



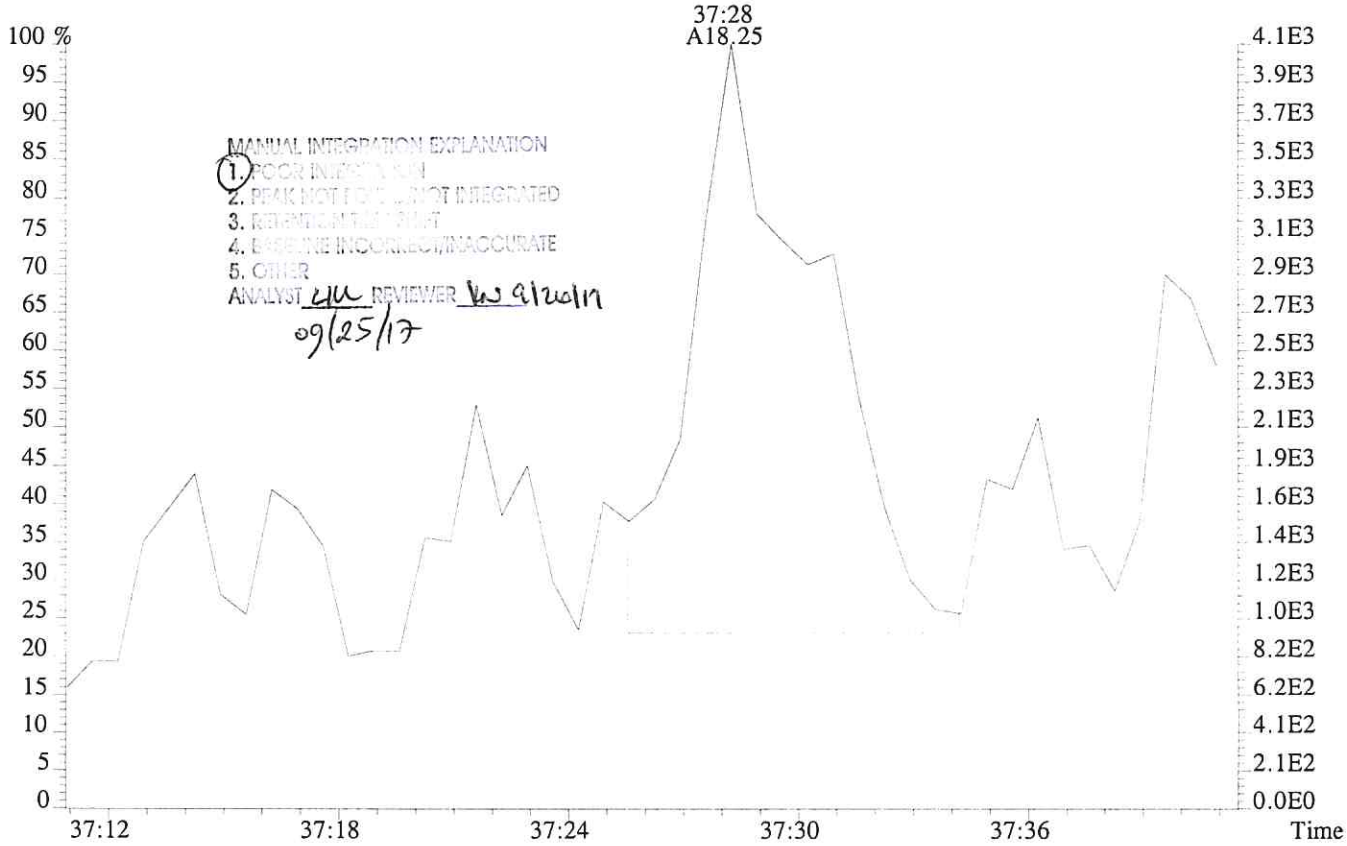
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,T)

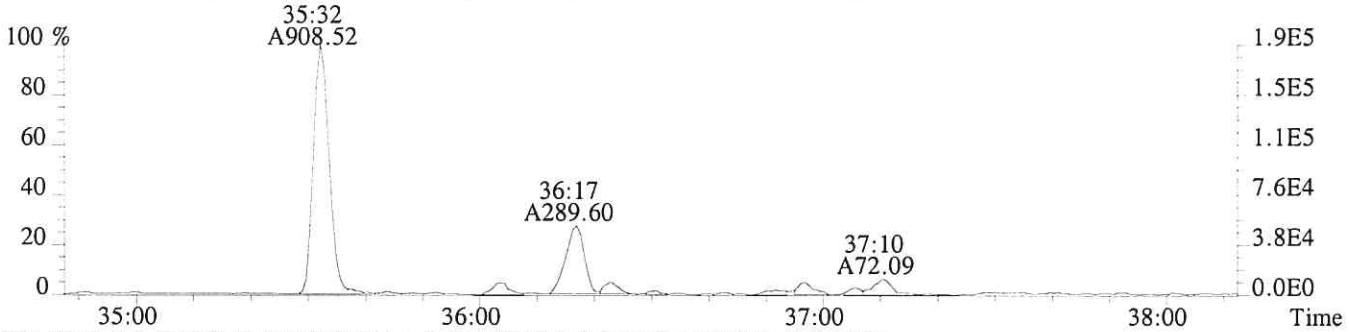


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)

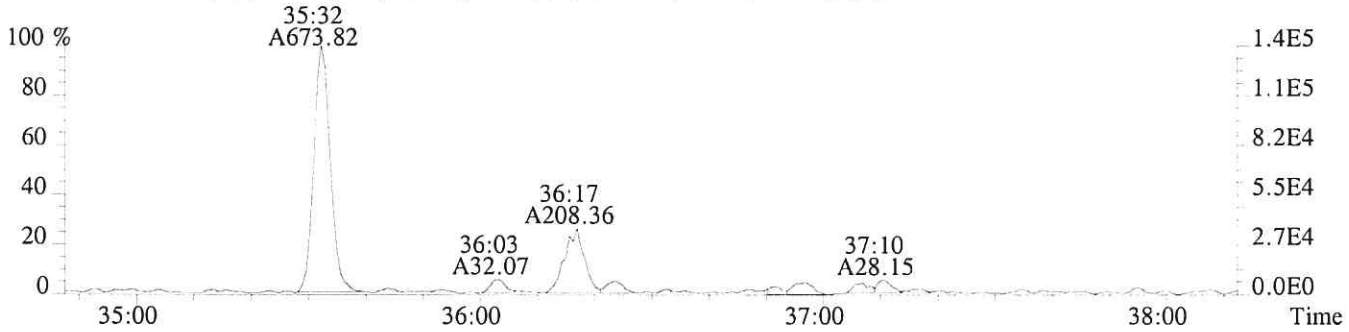


File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

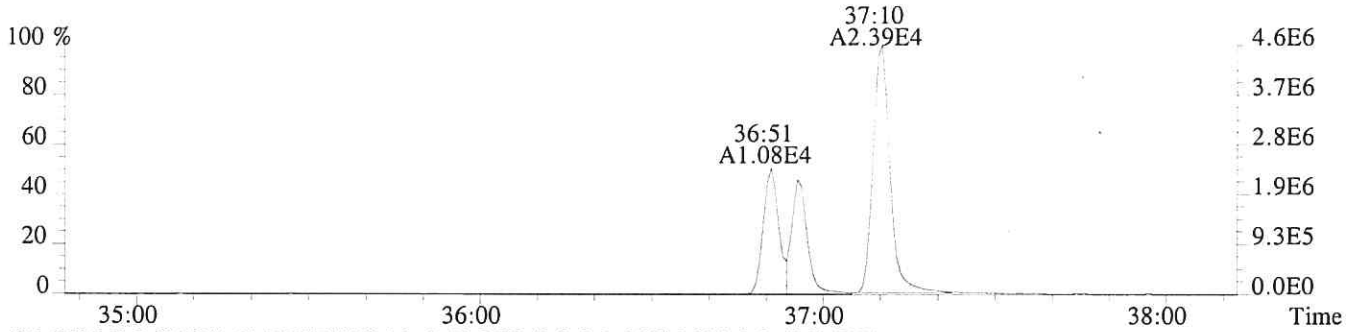
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1276.0,0.40%,F,T)



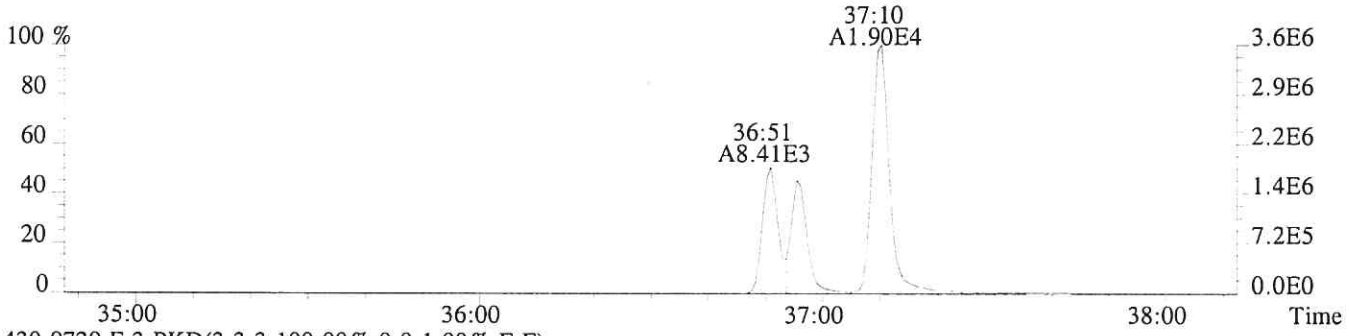
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.40%,F,T)



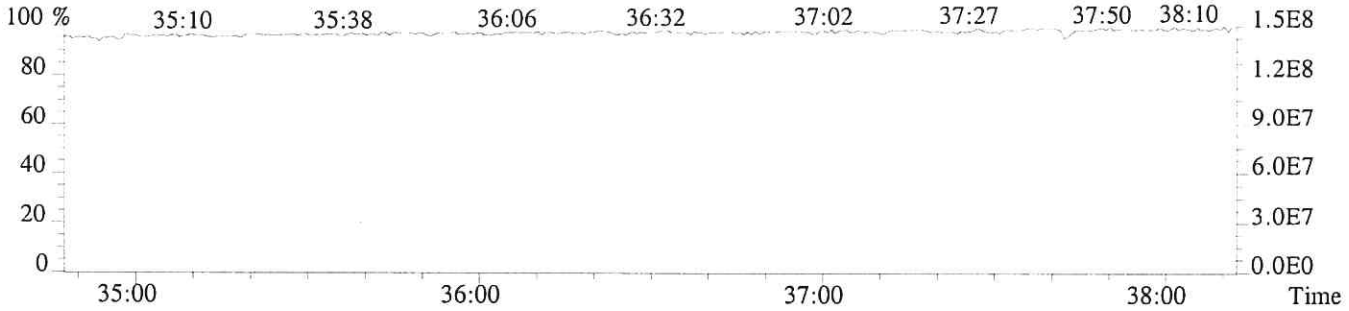
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2648.0,0.40%,F,T)



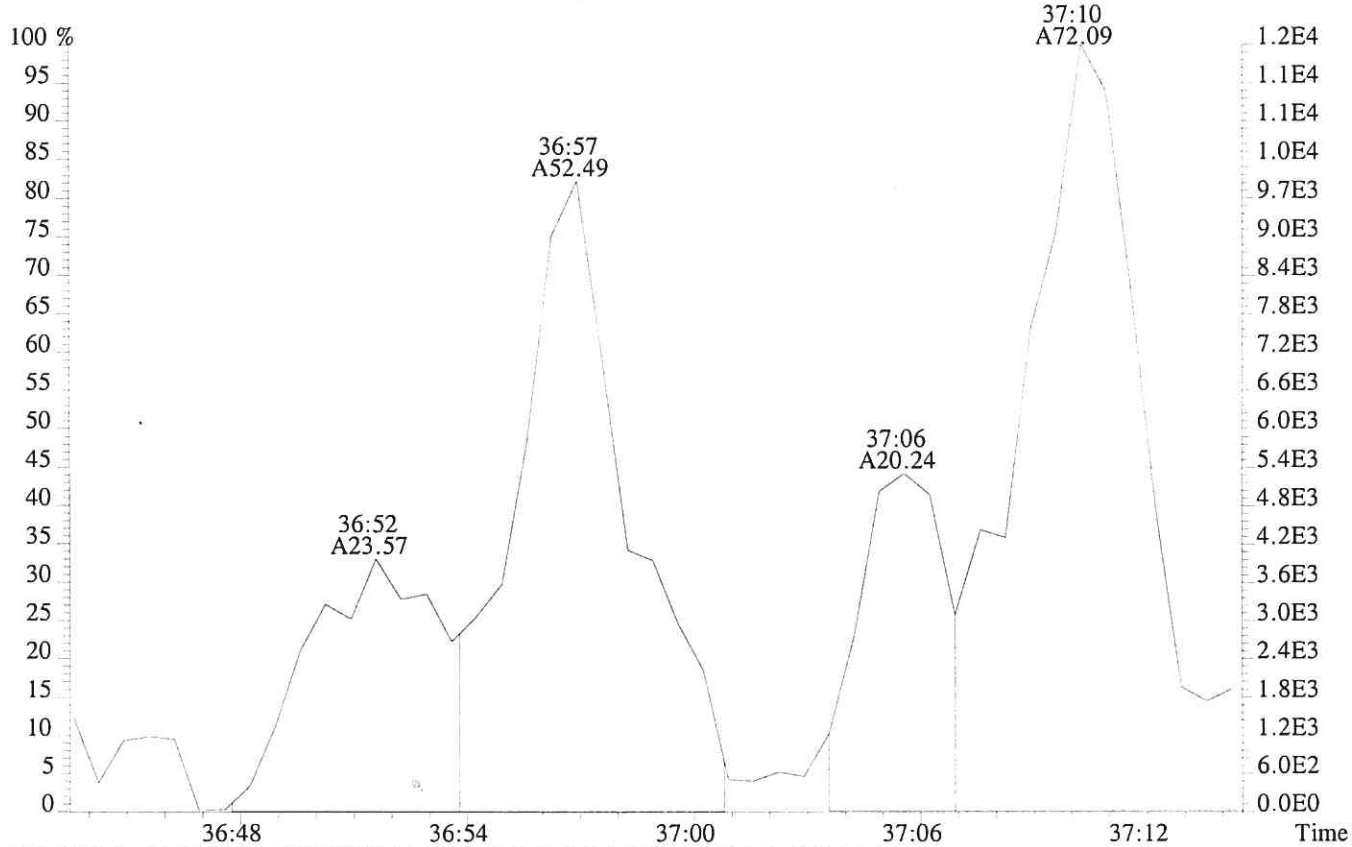
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2004.0,0.40%,F,T)



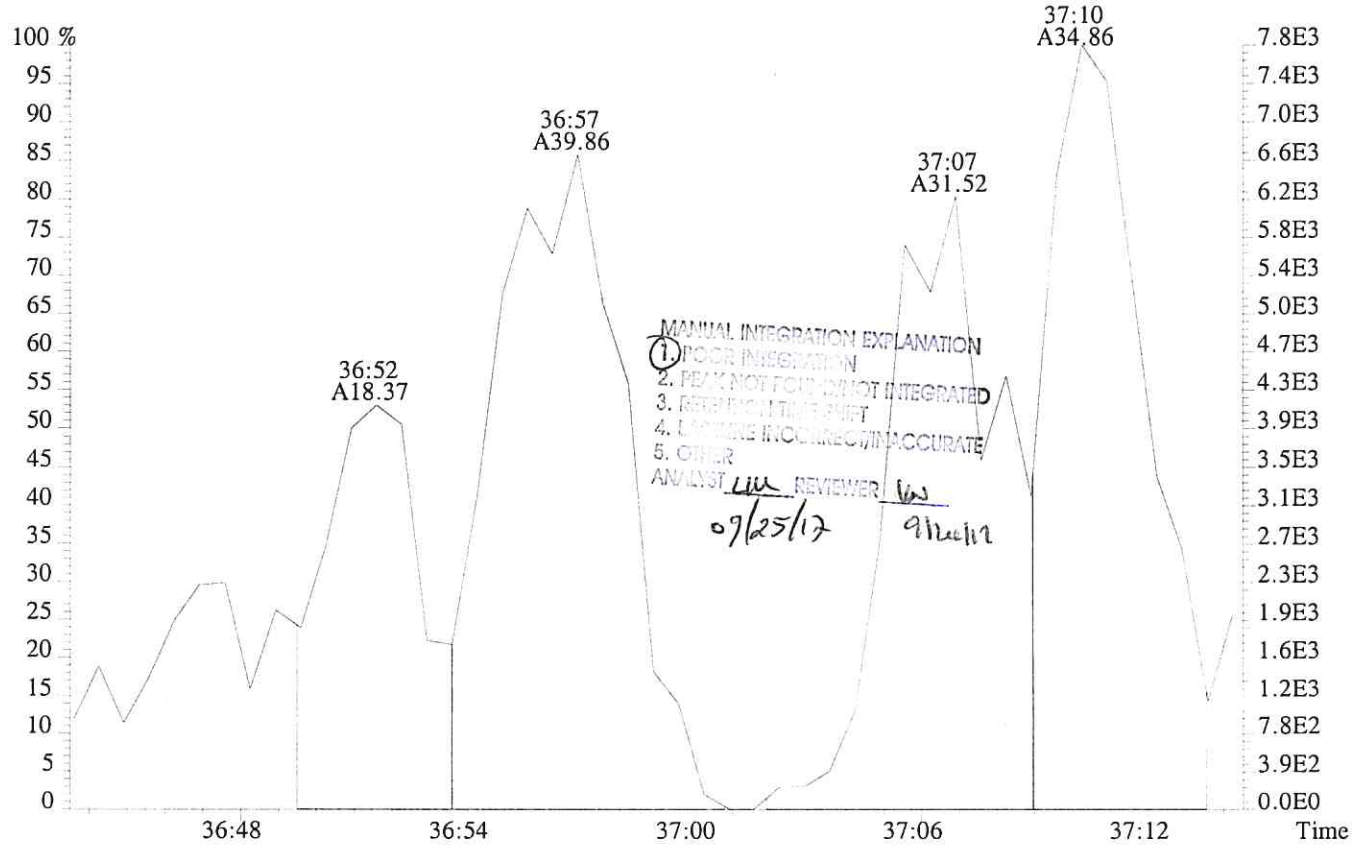
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511543 #1-308 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1276.0,0.40%,F,T)



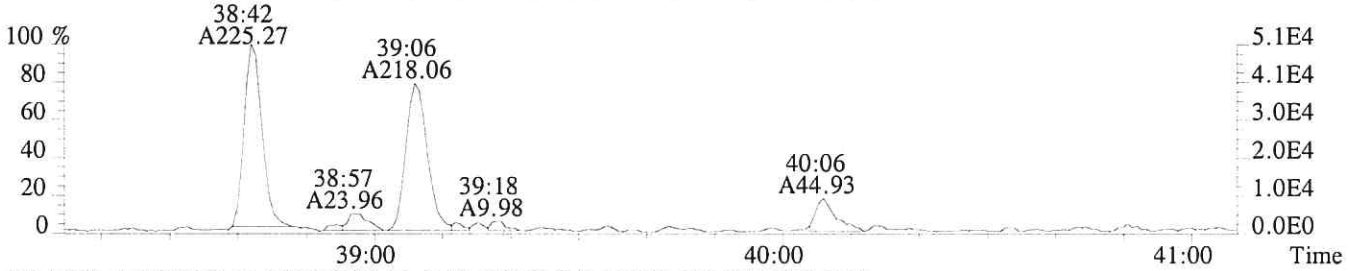
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.40%,F,T)



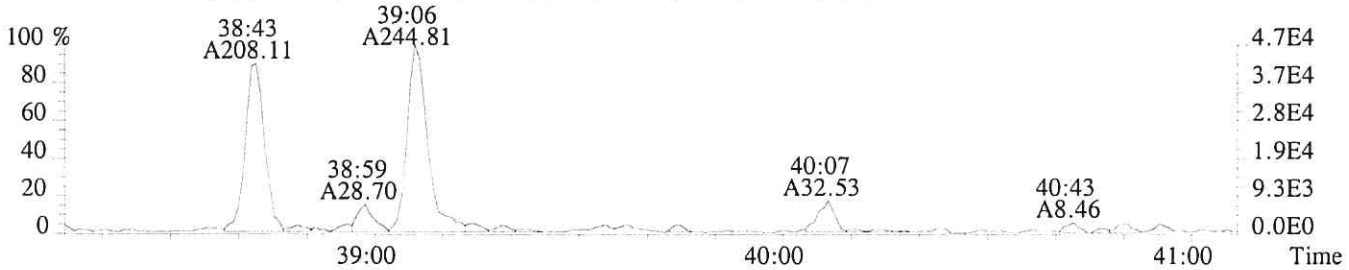
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. LABELING INCORRECT/INACCURATE
5. OTHER
ANALYST LW REVIEWER LW
07/25/17 9/26/17

File:P511543 #1-259 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

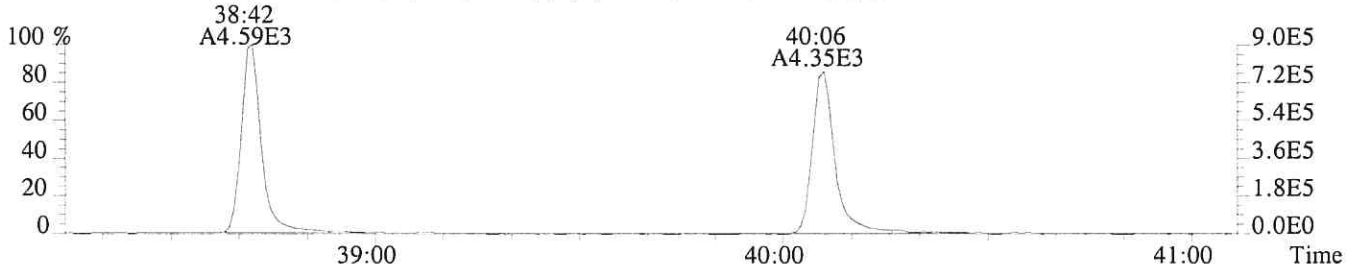
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1160.0,0.50%,F,T)



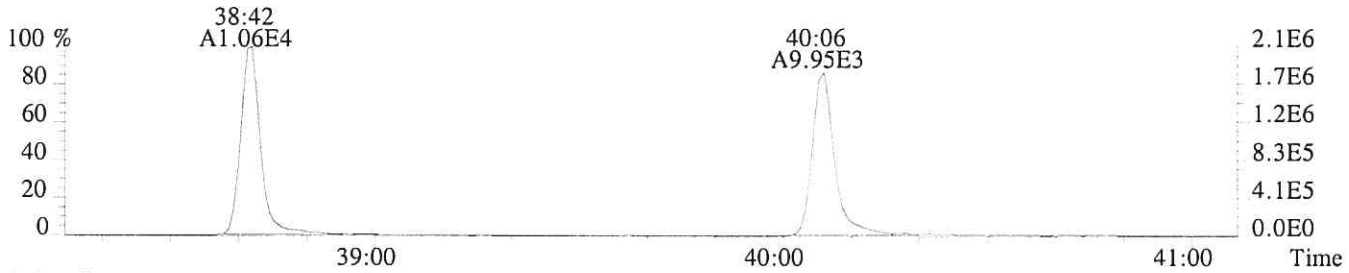
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,964.0,0.50%,F,T)



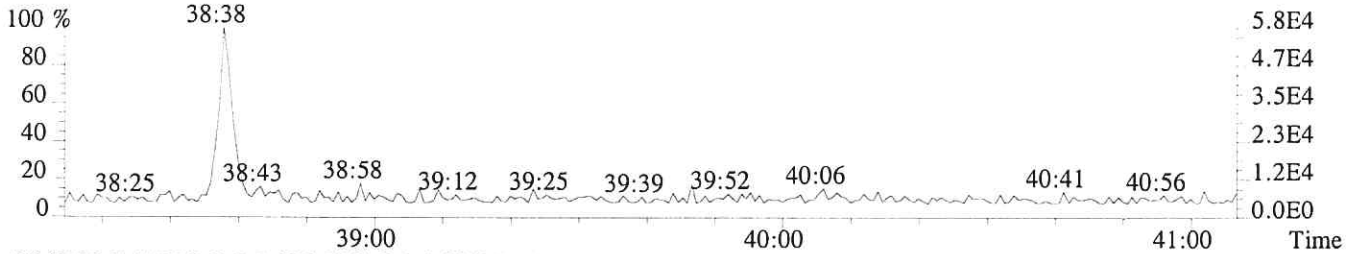
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2748.0,0.50%,F,T)



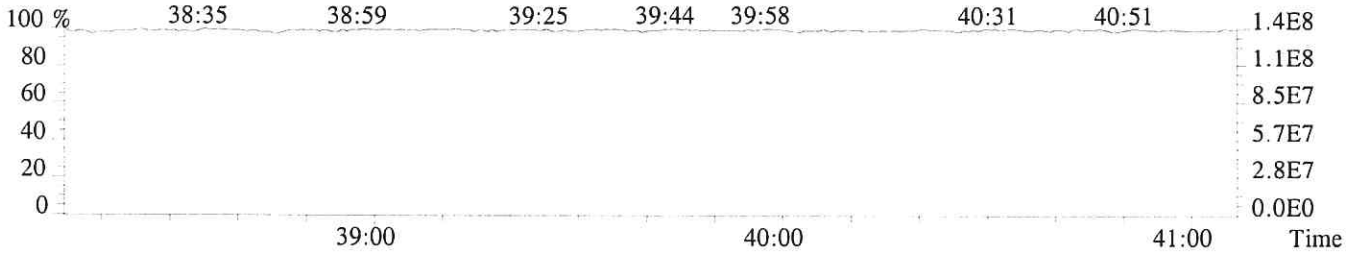
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2632.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

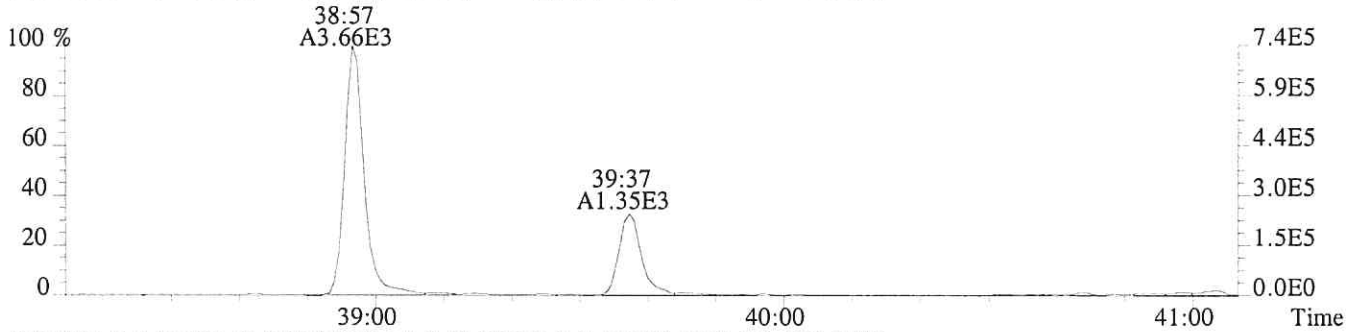


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

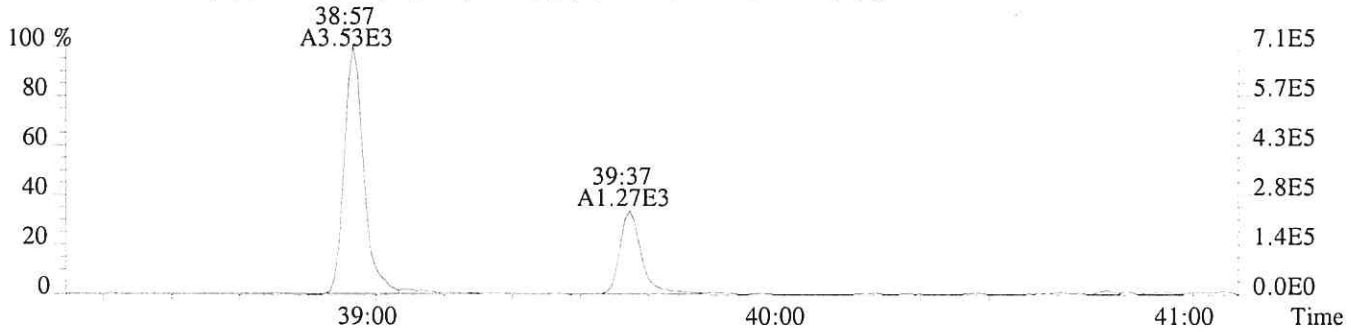


File:P511543 #1-259 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

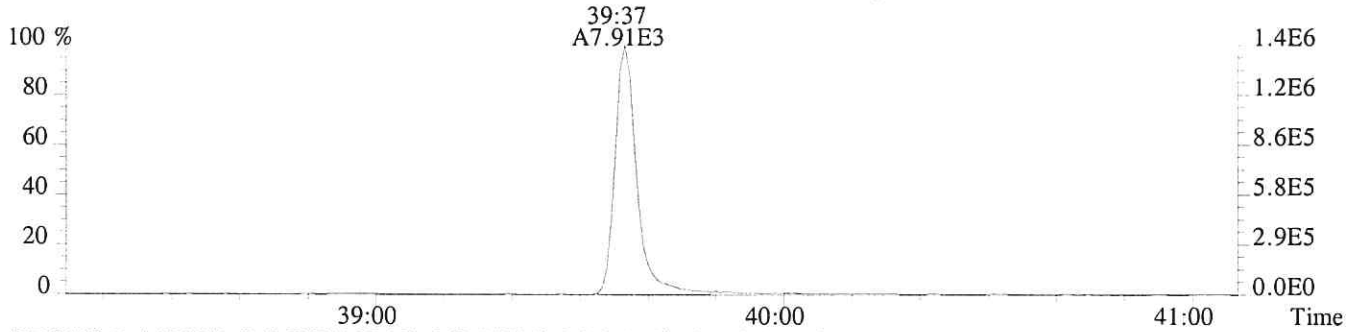
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1952.0,0.40%,F,T)



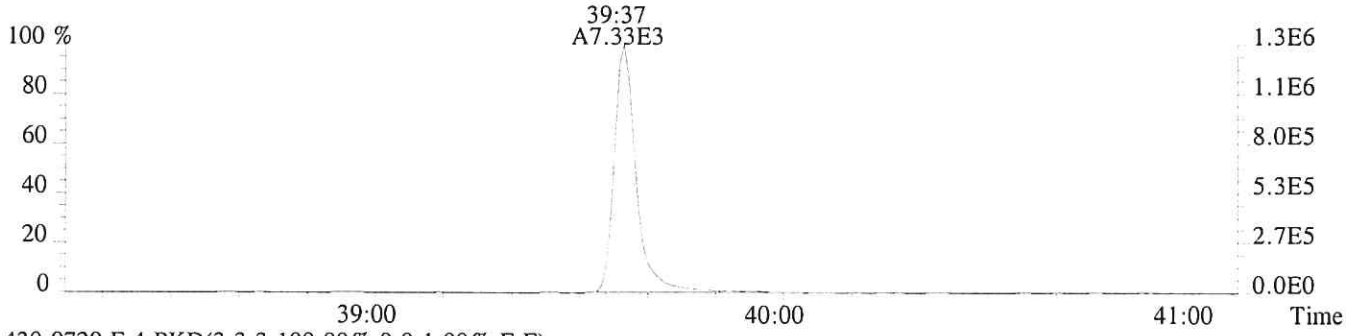
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2420.0,0.40%,F,T)



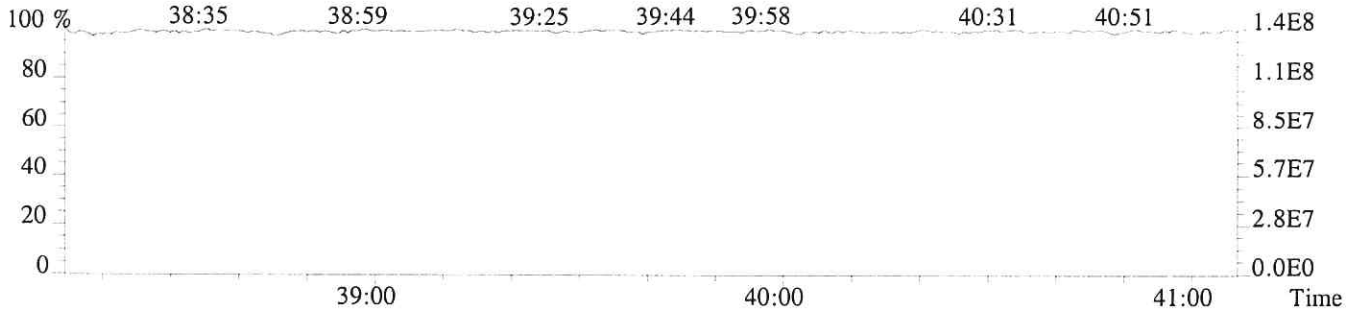
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)

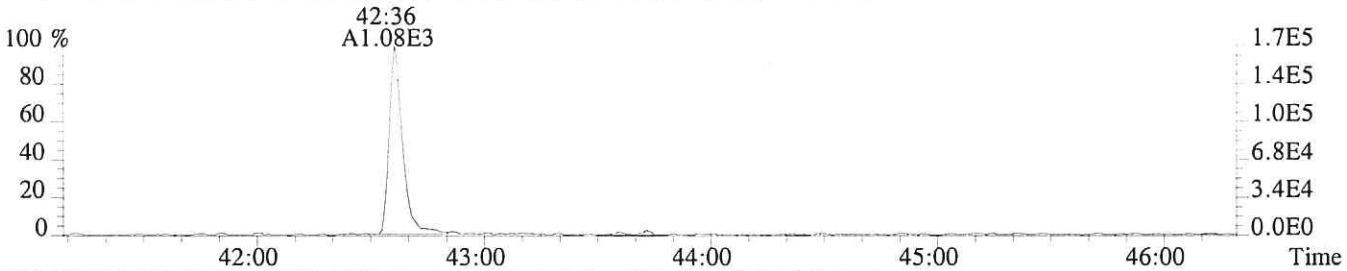


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

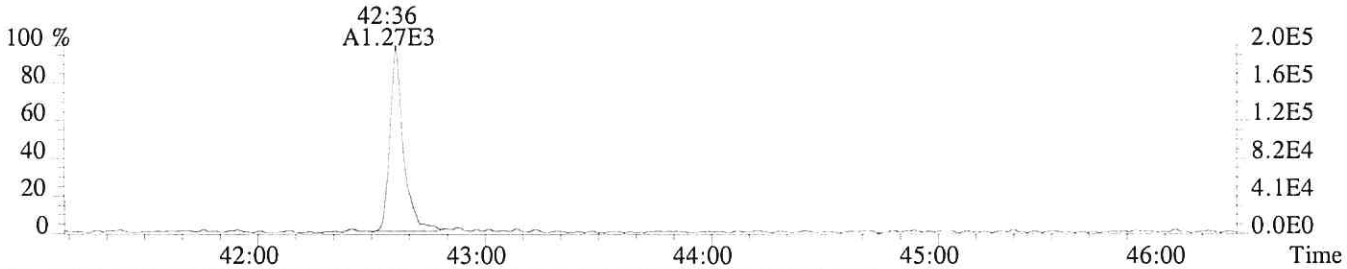


File:P511543 #1-466 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

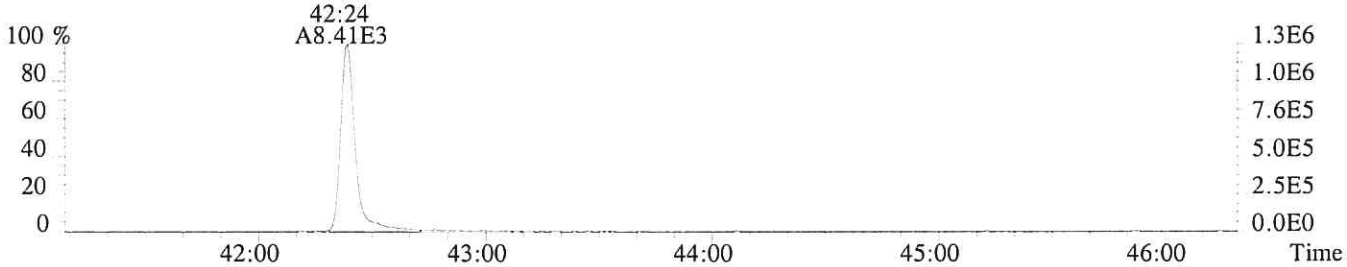
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,848.0,0.40%,F,T)



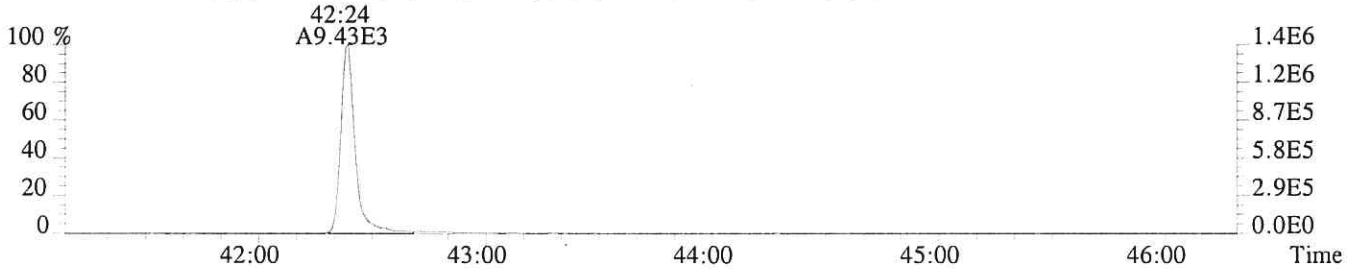
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2516.0,0.40%,F,T)



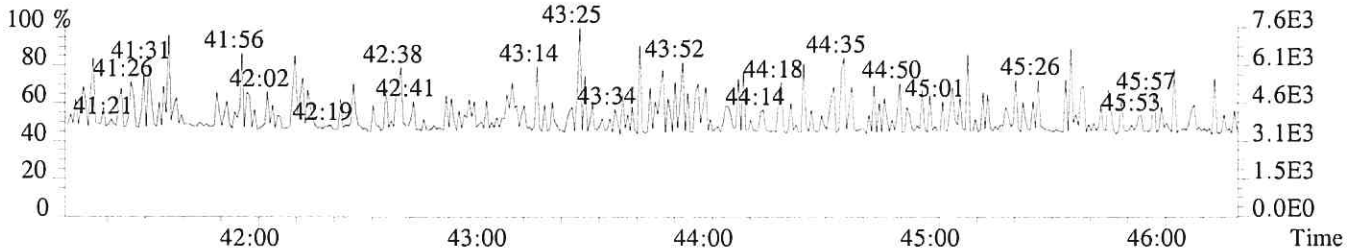
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1108.0,0.40%,F,T)



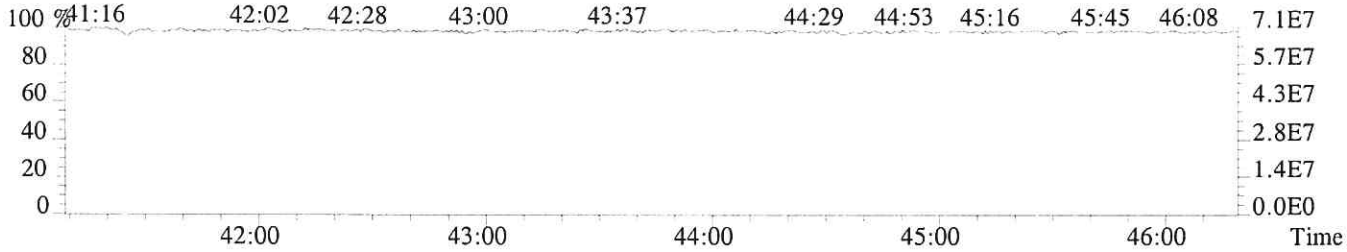
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

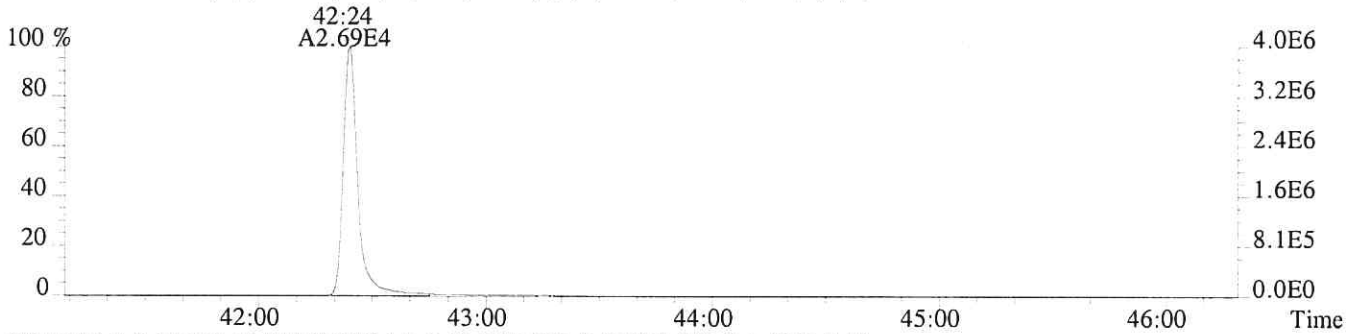


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

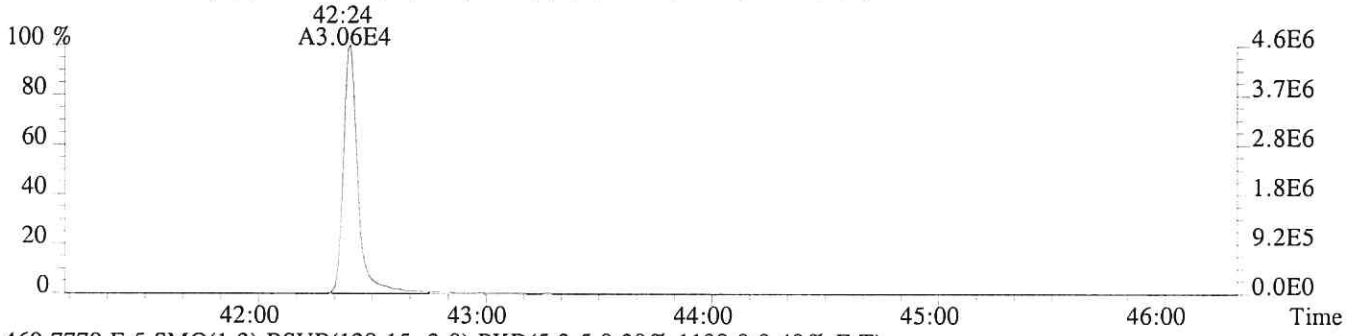


File:P511543 #1-466 Acq:24-SEP-2017 16:41:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-004

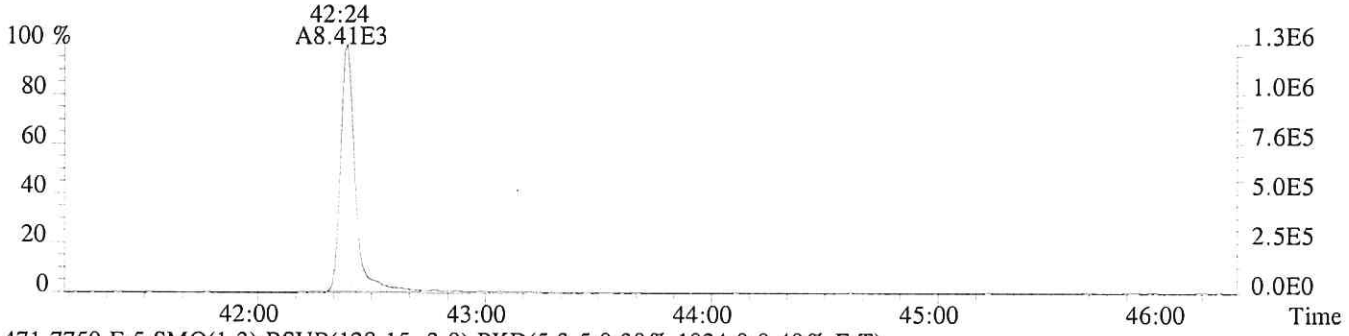
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,436.0,0.40%,F,T)



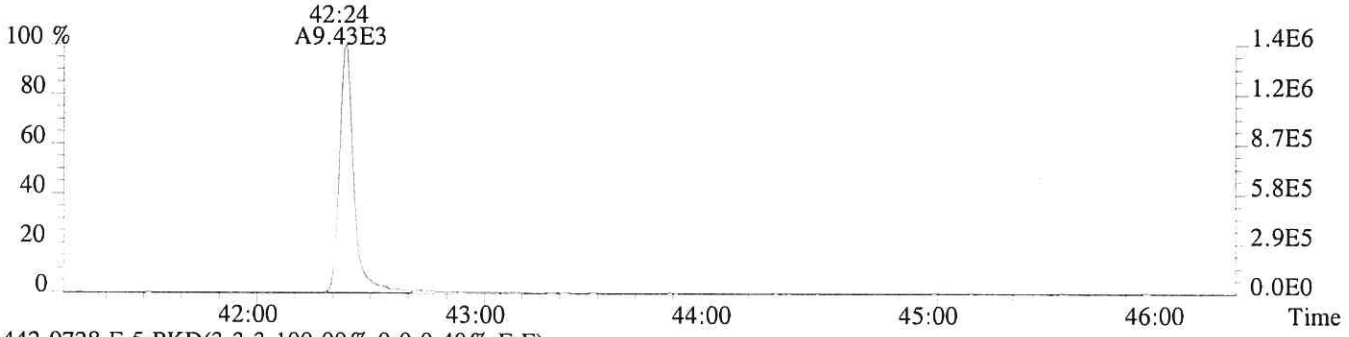
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,952.0,0.40%,F,T)



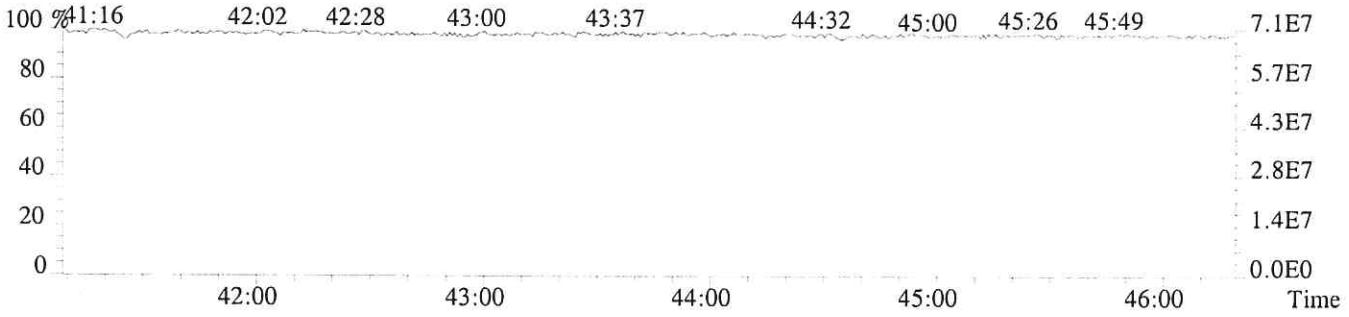
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1108.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #14 Filename P511544 Samp: 1 Inj: 1 Acquired: 24-SEP-17 17:29:49
Processed: 25-SEP-17 13:16:54 Sample ID: E1700974-005

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	2.195e+03	2.978e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.016e+02	6.991e+01	1.45	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:29	8.970e+01	6.780e+01	1.32	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	1.326e+02	8.534e+01	1.55	no	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	5.082e+01	4.270e+01	1.19	yes	yes	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.031e+01	2.708e+01	0.75	no	yes	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	1.846e+02	2.019e+02	0.91	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	3.098e+01	2.569e+01	1.21	no	no	1.191
10	Unk	OCDF	42:37	9.634e+02	1.158e+03	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	5.616e+02	7.274e+02	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	2.213e+01	2.666e+01	0.83	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	4.872e+01	5.142e+01	0.95	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	5.976e+01	4.995e+01	1.20	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	1.177e+03	1.154e+03	1.02	yes	no	0.942
17	Unk	OCDD	42:24	2.167e+04	2.414e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.197e+04	1.569e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	1.920e+04	1.275e+04	1.51	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.869e+04	1.166e+04	1.60	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	7.098e+03	1.390e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	8.357e+03	1.570e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	7.336e+03	1.392e+04	0.53	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	6.792e+03	1.339e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	4.546e+03	1.037e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	4.338e+03	1.002e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	9.513e+03	1.179e+04	0.81	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:45	1.428e+04	9.076e+03	1.57	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.098e+04	8.235e+03	1.33	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.052e+04	8.845e+03	1.19	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	7.475e+03	6.974e+03	1.07	yes	no	0.881
32	IS	13C-OCDD	42:24	7.631e+03	8.690e+03	0.88	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.227e+04	2.829e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.532e+04	2.029e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.190e+04				no	1.033

$$\text{OCDD} = \frac{(2.167e{+}04 + 2.414e{+}04)\ \times\ 4000\ \text{pg}\ \times\ 1}{(7.631e{+}03 + 8.690e{+}03)\ \times\ 10.321\ \text{g}\ \times\ 31.4\ /\ 100\ \times\ 1.051} = 3296\ \text{ng/kg}$$

WS 9/26/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-024

Run #14 Filename P511544 Samp: 1 Inj: 1 Acquired: 24-SEP-17 17:29:49
Processed: 25-SEP-17 13:16:54 LAB. ID: E1700974-005

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.58e+05	1.27e+03	2.8e+02	5.03e+05	5.14e+03	9.8e+01
2	1,2,3,7,8-PeCDF	1.80e+04	1.15e+03	1.6e+01	1.28e+04	3.44e+03	3.7e+00
3	2,3,4,7,8-PeCDF	1.30e+04	1.15e+03	1.1e+01	1.12e+04	3.44e+03	3.3e+00
4	1,2,3,4,7,8-HxCDF	2.51e+04	1.60e+03	1.6e+01	1.91e+04	1.21e+03	1.6e+01
5	1,2,3,6,7,8-HxCDF	8.62e+03	1.60e+03	5.4e+00	9.54e+03	1.21e+03	7.9e+00
6	2,3,4,6,7,8-HxCDF	5.68e+03	1.60e+03	3.6e+00	5.68e+03	1.21e+03	4.7e+00
7	1,2,3,7,8,9-HxCDF	*	1.60e+03	*	*	1.21e+03	*
8	1,2,3,4,6,7,8-HpCDF	3.73e+04	9.16e+02	4.1e+01	3.75e+04	8.48e+02	4.4e+01
9	1,2,3,4,7,8,9-HpCDF	5.82e+03	9.16e+02	6.4e+00	7.18e+03	8.48e+02	8.5e+00
10	OCDF	1.43e+05	1.03e+03	1.4e+02	1.72e+05	2.79e+03	6.2e+01
11	2,3,7,8-TCDD	1.09e+05	3.68e+03	3.0e+01	1.38e+05	1.44e+03	9.6e+01
12	1,2,3,7,8-PeCDD	*	1.88e+03	*	*	1.06e+03	*
13	1,2,3,4,7,8-HxCDD	4.12e+03	1.35e+03	3.1e+00	7.45e+03	1.41e+03	5.3e+00
14	1,2,3,6,7,8-HxCDD	1.08e+04	1.35e+03	8.0e+00	9.70e+03	1.41e+03	6.9e+00
15	1,2,3,7,8,9-HxCDD	1.13e+04	1.35e+03	8.4e+00	9.49e+03	1.41e+03	6.7e+00
16	1,2,3,4,6,7,8-HpCDD	2.19e+05	1.84e+03	1.2e+02	2.28e+05	1.62e+03	1.4e+02
17	OCDD	3.40e+06	1.01e+03	3.4e+03	3.79e+06	1.14e+03	3.3e+03
18	13C-2,3,7,8-TCDF	2.17e+06	1.98e+04	1.1e+02	2.85e+06	8.78e+03	3.2e+02
19	13C-1,2,3,7,8-PeCDF	3.56e+06	1.85e+03	1.9e+03	2.35e+06	1.37e+03	1.7e+03
20	13C-2,3,4,7,8-PeCDF	3.56e+06	1.85e+03	1.9e+03	2.30e+06	1.37e+03	1.7e+03
21	13C-1,2,3,4,7,8-HxCDF	1.51e+06	1.50e+03	1.0e+03	2.98e+06	2.74e+03	1.1e+03
22	13C-1,2,3,6,7,8-HxCDF	1.67e+06	1.50e+03	1.1e+03	3.10e+06	2.74e+03	1.1e+03
23	13C-2,3,4,6,7,8-HxCDF	1.51e+06	1.50e+03	1.0e+03	2.91e+06	2.74e+03	1.1e+03
24	13C-1,2,3,7,8,9-HxCDF	1.32e+06	1.50e+03	8.8e+02	2.66e+06	2.74e+03	9.7e+02
25	13C-1,2,3,4,6,7,8-HpCDF	8.90e+05	2.89e+03	3.1e+02	2.08e+06	2.65e+03	7.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	7.65e+05	2.89e+03	2.7e+02	1.77e+06	2.65e+03	6.7e+02
27	13C-2,3,7,8-TCDD	1.81e+06	1.00e+04	1.8e+02	2.36e+06	3.30e+03	7.2e+02
28	13C-1,2,3,7,8-PeCDD	2.73e+06	2.25e+03	1.2e+03	1.75e+06	1.97e+03	8.9e+02
29	13C-1,2,3,4,7,8-HxCDD	2.34e+06	2.92e+03	8.0e+02	1.86e+06	1.43e+03	1.3e+03
30	13C-1,2,3,6,7,8-HxCDD	2.15e+06	2.92e+03	7.4e+02	1.77e+06	1.43e+03	1.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.44e+06	2.01e+03	7.2e+02	1.33e+06	8.16e+02	1.6e+03
32	13C-OCDD	1.22e+06	1.45e+03	8.4e+02	1.37e+06	7.52e+02	1.8e+03
33	13C-1,2,3,4-TCDD	4.32e+06	1.00e+04	4.3e+02	5.45e+06	3.30e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	5.03e+06	2.92e+03	1.7e+03	4.00e+06	1.43e+03	2.8e+03
35	37Cl-2,3,7,8-TCDD	2.25e+06	2.04e+03	1.1e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (3.684e{+}03 + 1.436e{+}03) \times 2000}{(1.809e{+}06 + 2.363e{+}06) \times (\qquad\qquad) \times 1.065} =$$

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Peak List Summary

CLIENT ID.

SJWP-091517-024

Entry: 36 Totals Name: Total Tetra-Furans

Run: 14 File: P511544 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 303.9020 305.8990 Tot Response: 8.52e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:38	8.11e+01	1.12e+02	0.72	yes	1.93e+02		n	n
2	27:19	9.61e+01	1.39e+02	0.69	yes	2.35e+02		n	n
3	27:44	9.57e+02	1.41e+03	0.68	yes	2.36e+03		n	n
4	27:59	5.92e+01	7.01e+01	0.84	yes	1.29e+02		n	n
5	28:30	2.19e+03	2.98e+03	0.74	yes	5.17e+03	2,3,7,8-TCDF	n	n
6	28:49	1.84e+02	2.40e+02	0.77	yes	4.25e+02		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-024

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 14 File: P511544 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 319.8970 321.8940 Tot Response: 1.29e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	5.62e+02	7.27e+02	0.77	yes	1.29e+03	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-024

Entry: 38 Totals Name: Total Penta-Furans1

Run: 14 File: P511544 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 339.8600 341.8570 Tot Response: 1.07e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:15	6.78e+01	3.92e+01	1.73	yes	1.07e+02	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-024

Entry: 39 Totals Name: Total Penta-Furans2

Run: 14 File: P511544 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 339.8600 341.8570 Tot Response: 3.29e+02 RRF: 0.8606

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:37	1.02e+02	6.99e+01	1.45	yes	1.71e+02	1,2,3,7,8-PeCDF	y	y
2	33:29	8.97e+01	6.78e+01	1.32	yes	1.58e+02	2,3,4,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.
SJWP-091517-024

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 14 File: P511544 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 355.8550 357.8520 Tot Response: 5.55e+01 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:05	3.56e+01	2.00e+01	1.78	yes	5.55e+01	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-024

Entry: 41 Totals Name: Total Hexa-Furans

Run: 14 File: P511544 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 373.8210 375.8180 Tot Response: 4.70e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:02	2.57e+01	2.01e+01	1.28	yes	4.57e+01		y	n
2	35:11	1.01e+02	7.96e+01	1.27	yes	1.81e+02		n	n
3	35:42	7.90e+01	7.05e+01	1.12	yes	1.49e+02		y	n
4	36:14	5.08e+01	4.27e+01	1.19	yes	9.35e+01	1,2,3,6,7,8-HxCDF	y	n

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Peak List Summary

CLIENT ID.
SJWP-091517-024

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 14 File: P511544 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 389.8160 391.8130 Tot Response: 2.16e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	7.84e+02	6.80e+02	1.15	yes	1.46e+03		n	n
2	36:16	2.76e+02	2.30e+02	1.20	yes	5.06e+02		n	n
3	36:24	4.28e+01	3.56e+01	1.20	yes	7.84e+01		n	n
4	37:11	5.98e+01	5.00e+01	1.20	yes	1.10e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-024

Entry: 43 Totals Name: Total Hepta-Furans

Run: 14 File: P511544 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 407.7820 409.7790 Tot Response: 3.86e+02 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	1.85e+02	2.02e+02	0.91	yes	3.86e+02	1,2,3,4,6,7,8-HpCDF	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-024

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 14 File: P511544 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 17:29:49 Processed: 25-SEP-17 13:16:54

Mass: 423.7770 425.7740 Tot Response: 8.86e+03 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	3.35e+03	3.18e+03	1.05	yes	6.53e+03		n	n
2	39:37	1.18e+03	1.15e+03	1.02	yes	2.33e+03	1,2,3,4,6,7,8-HpCDD	n	n

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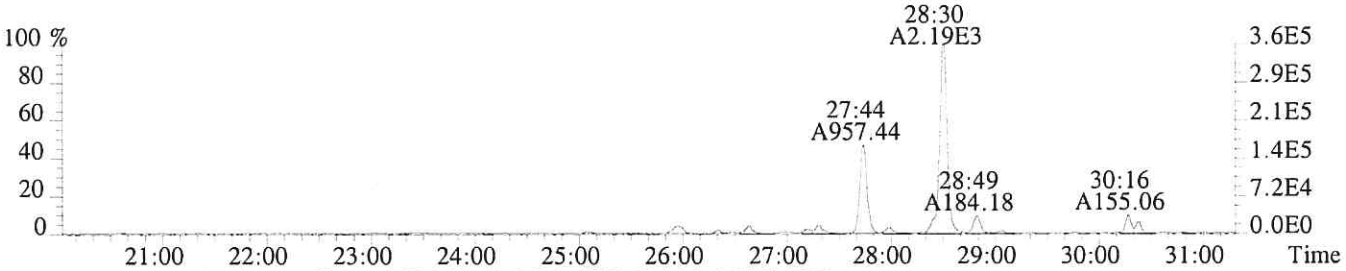
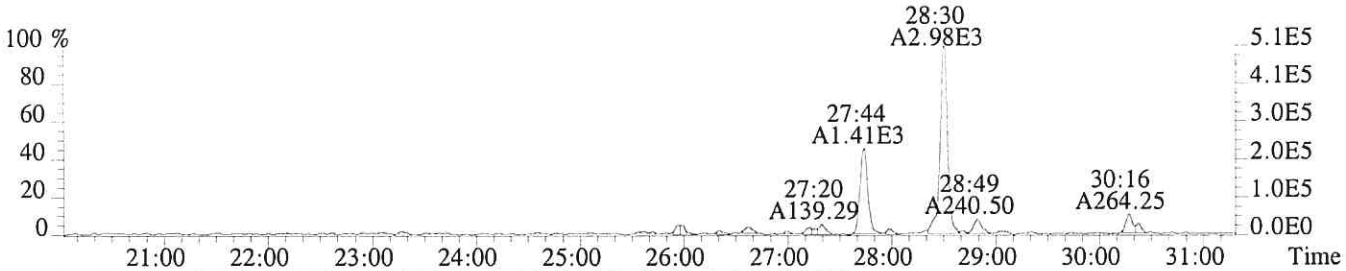
File:P511544 #1-800 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

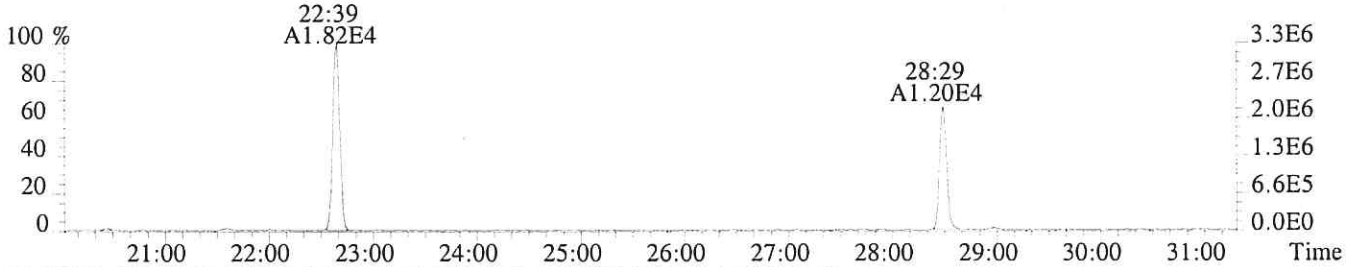
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1272.0,1.00%,F,T)



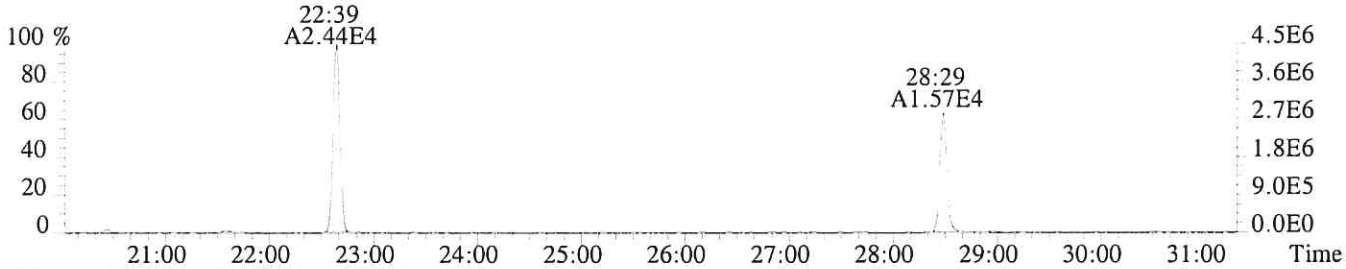
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5144.0,1.00%,F,T)



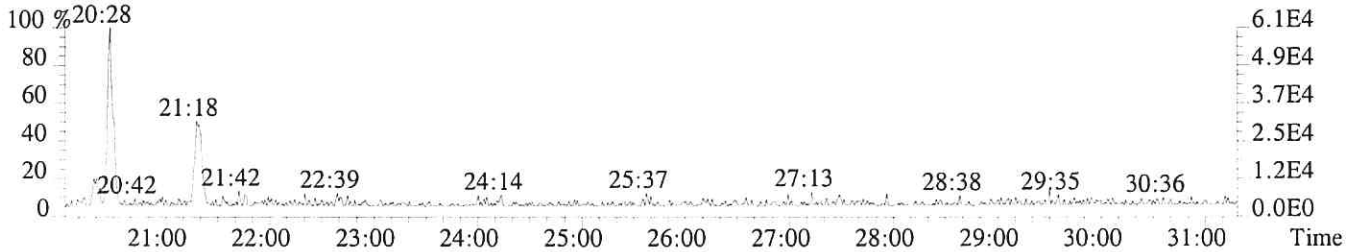
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,19780.0,1.00%,F,T)



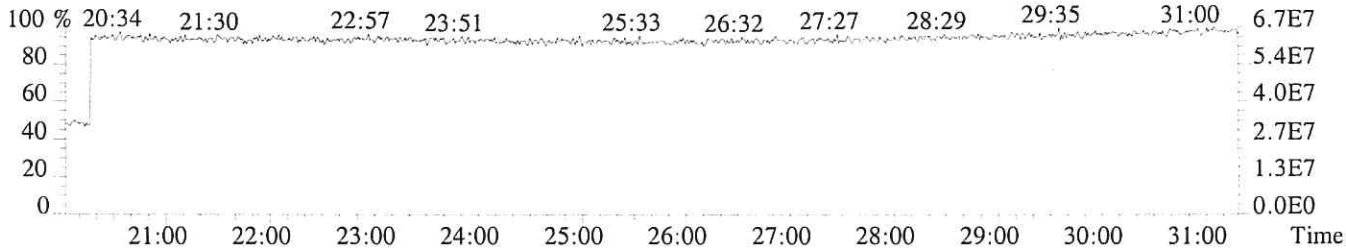
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8776.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

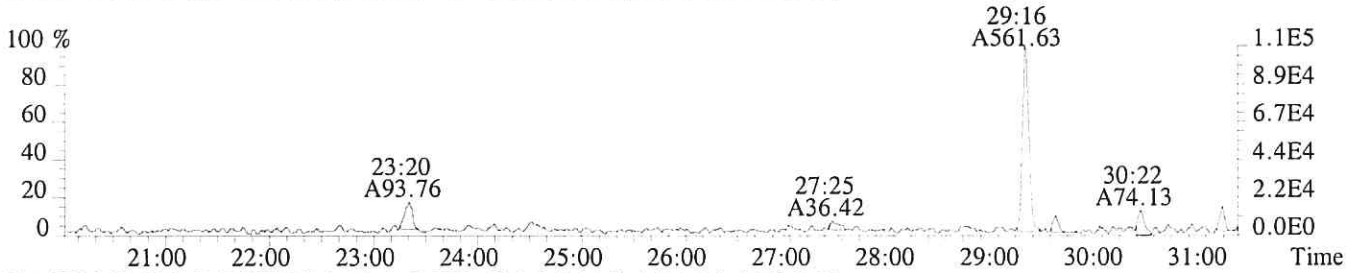


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

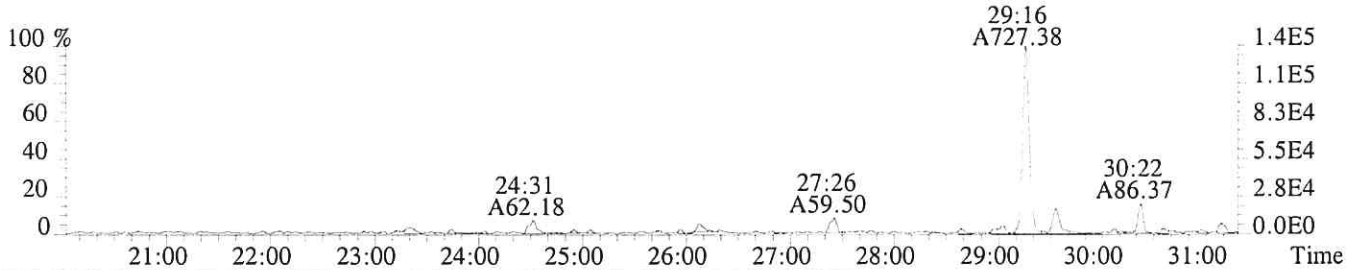


File:P511544 #1-800 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

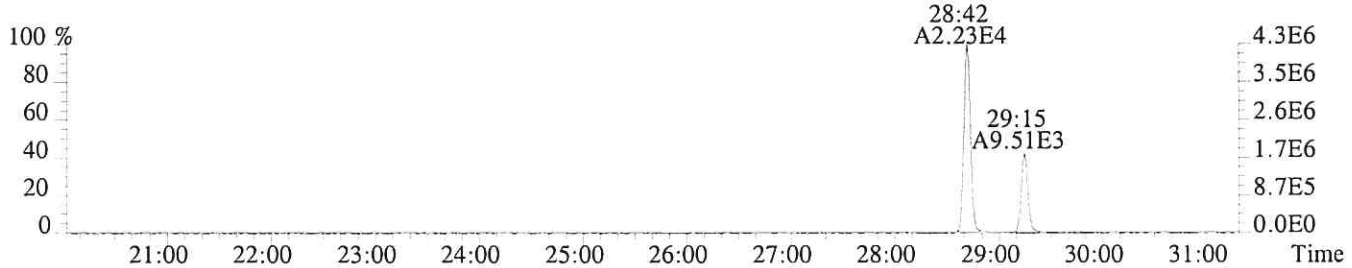
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3684.0,1.00%,F,T)



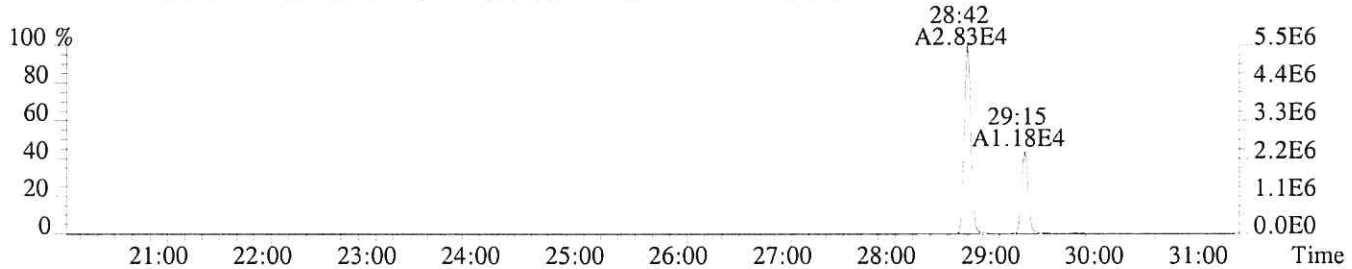
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



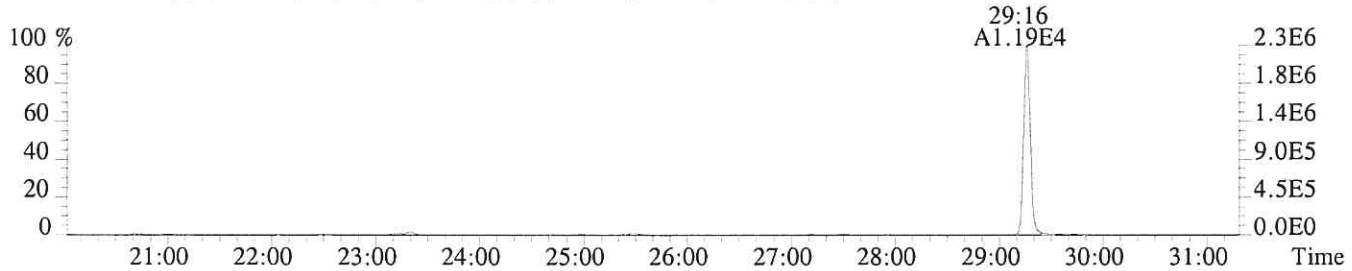
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10008.0,1.00%,F,T)



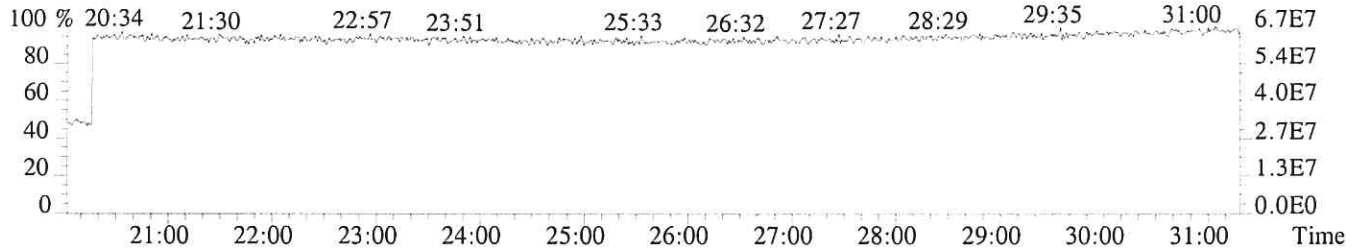
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3296.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2036.0,1.00%,F,T)

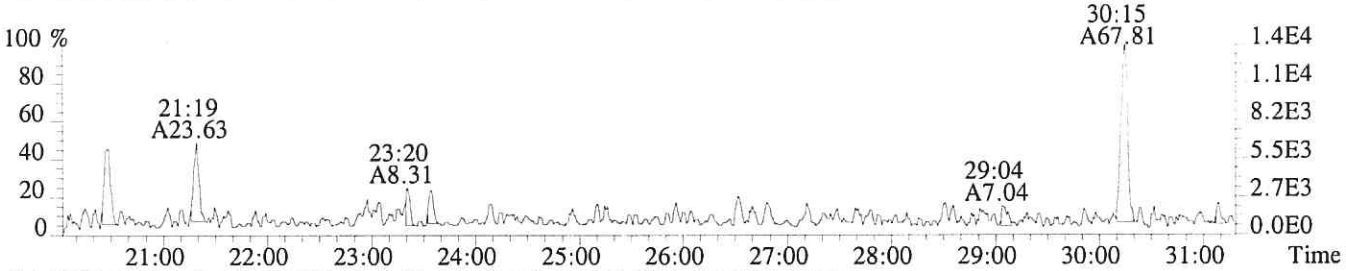


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

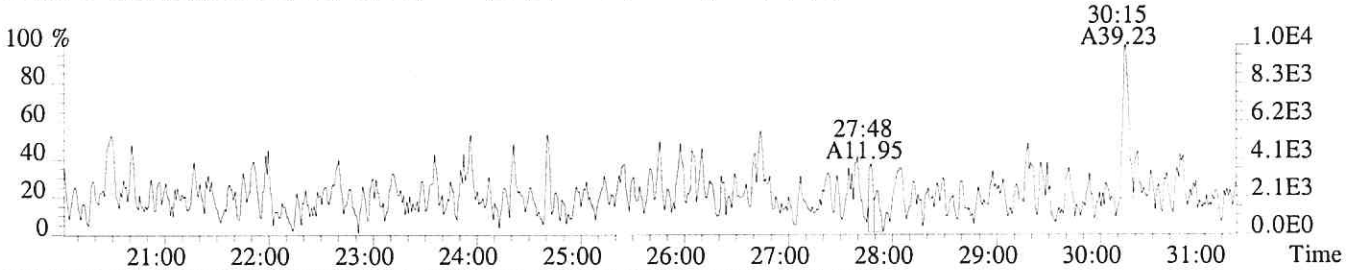


File:P511544 #1-800 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

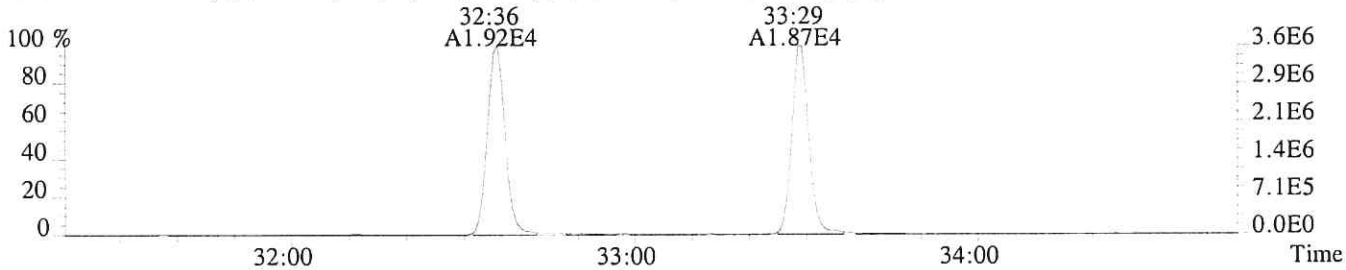
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



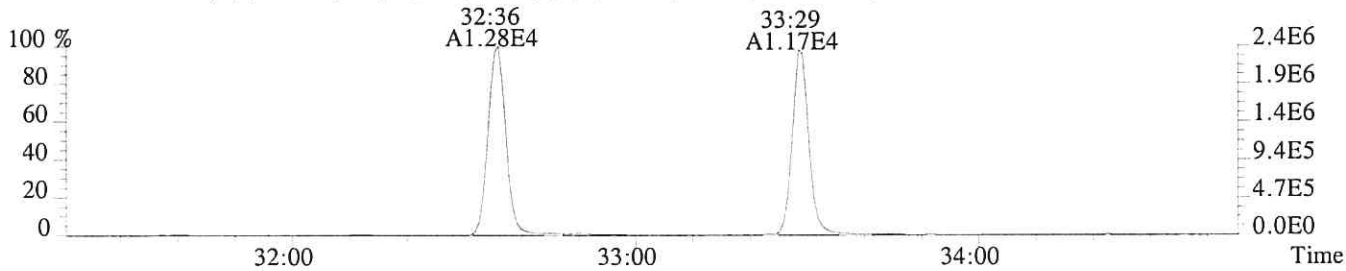
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2564.0,1.00%,F,T)



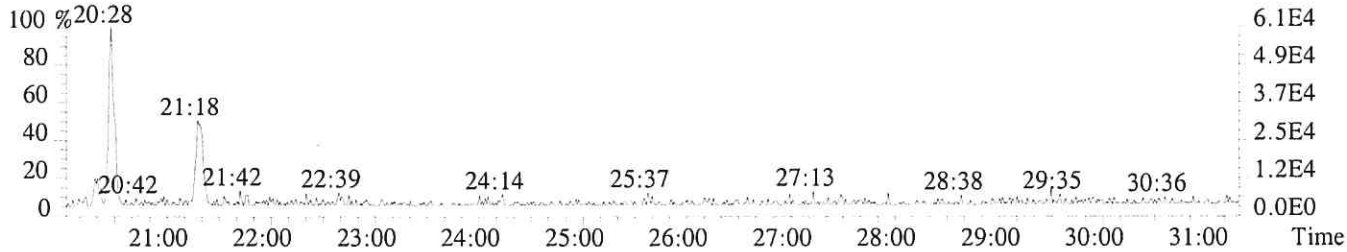
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1848.0,1.00%,F,T)



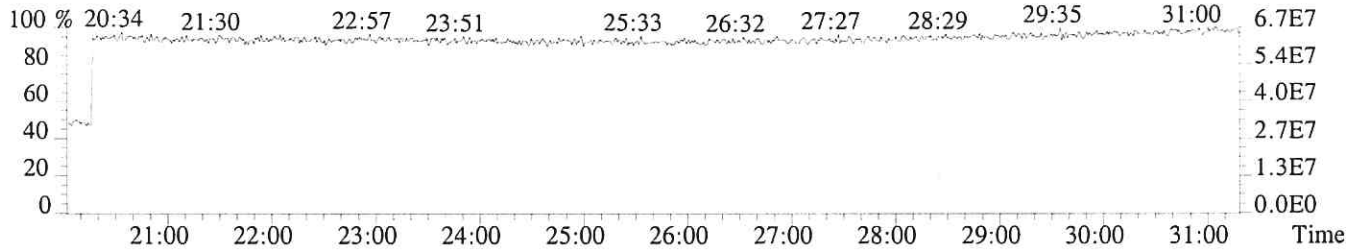
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

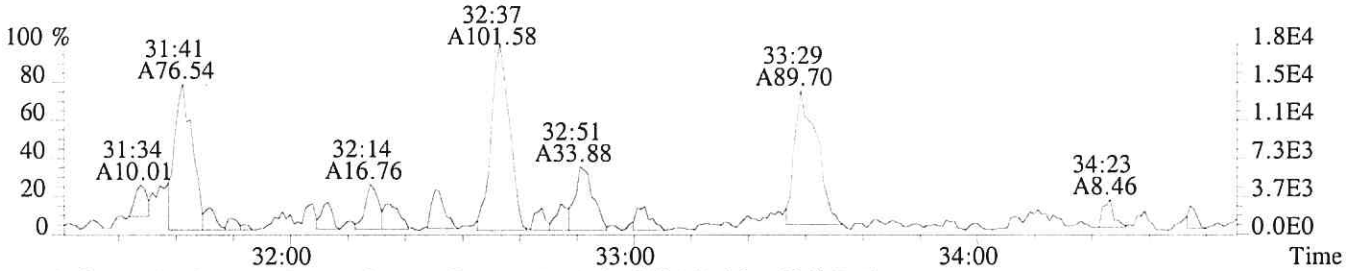


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

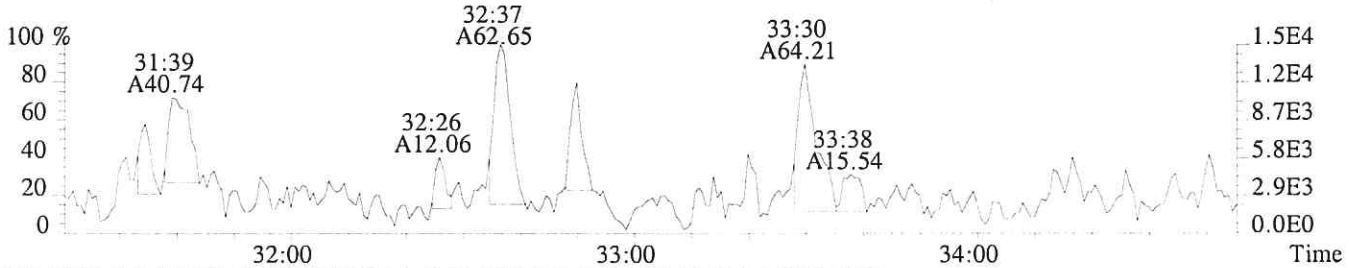


File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

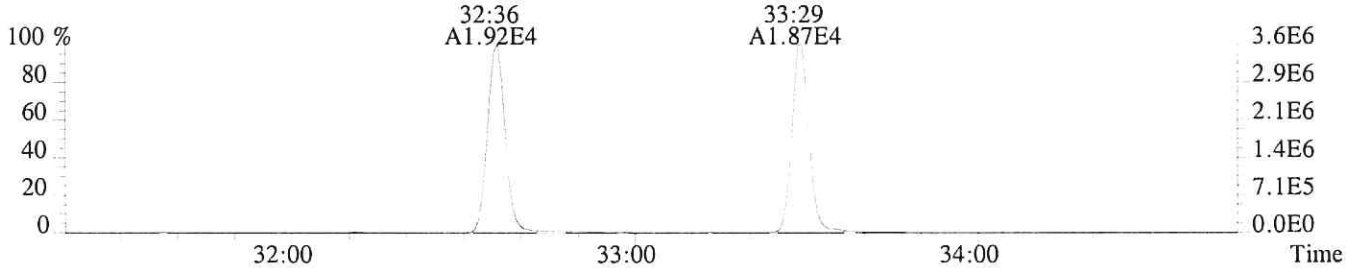
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1152.0,1.00%,F,T)



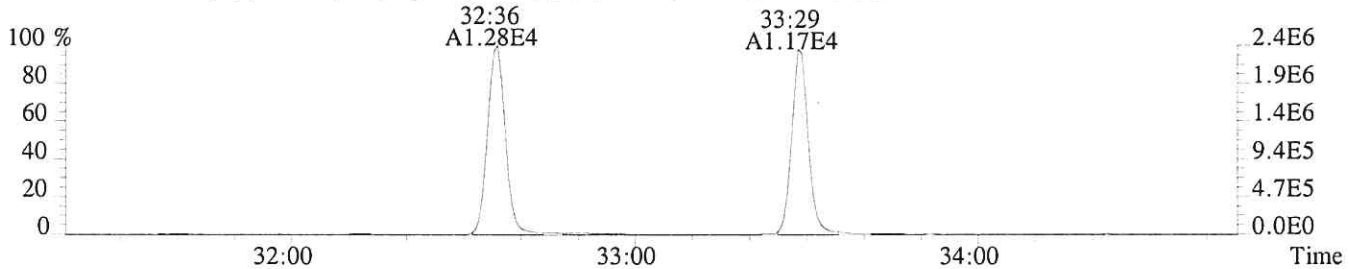
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3436.0,1.00%,F,T)



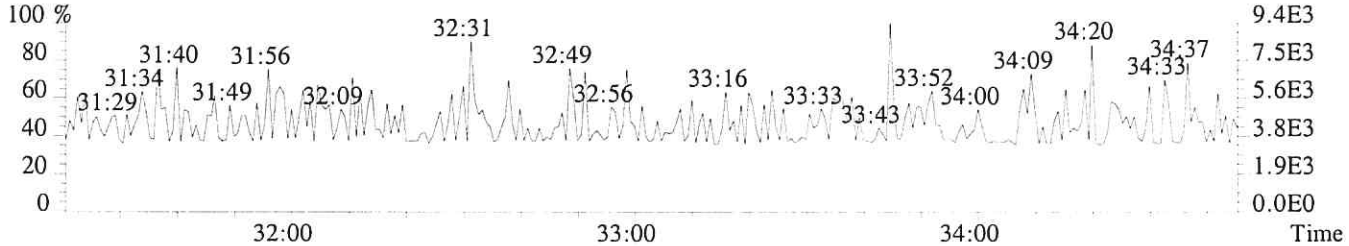
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1848.0,1.00%,F,T)



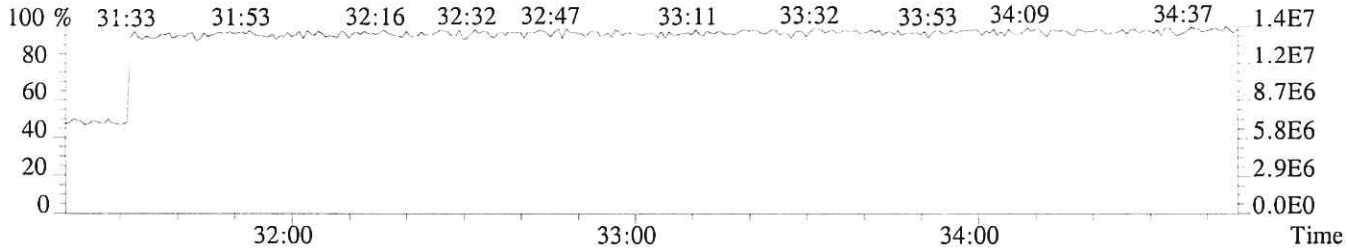
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,T)



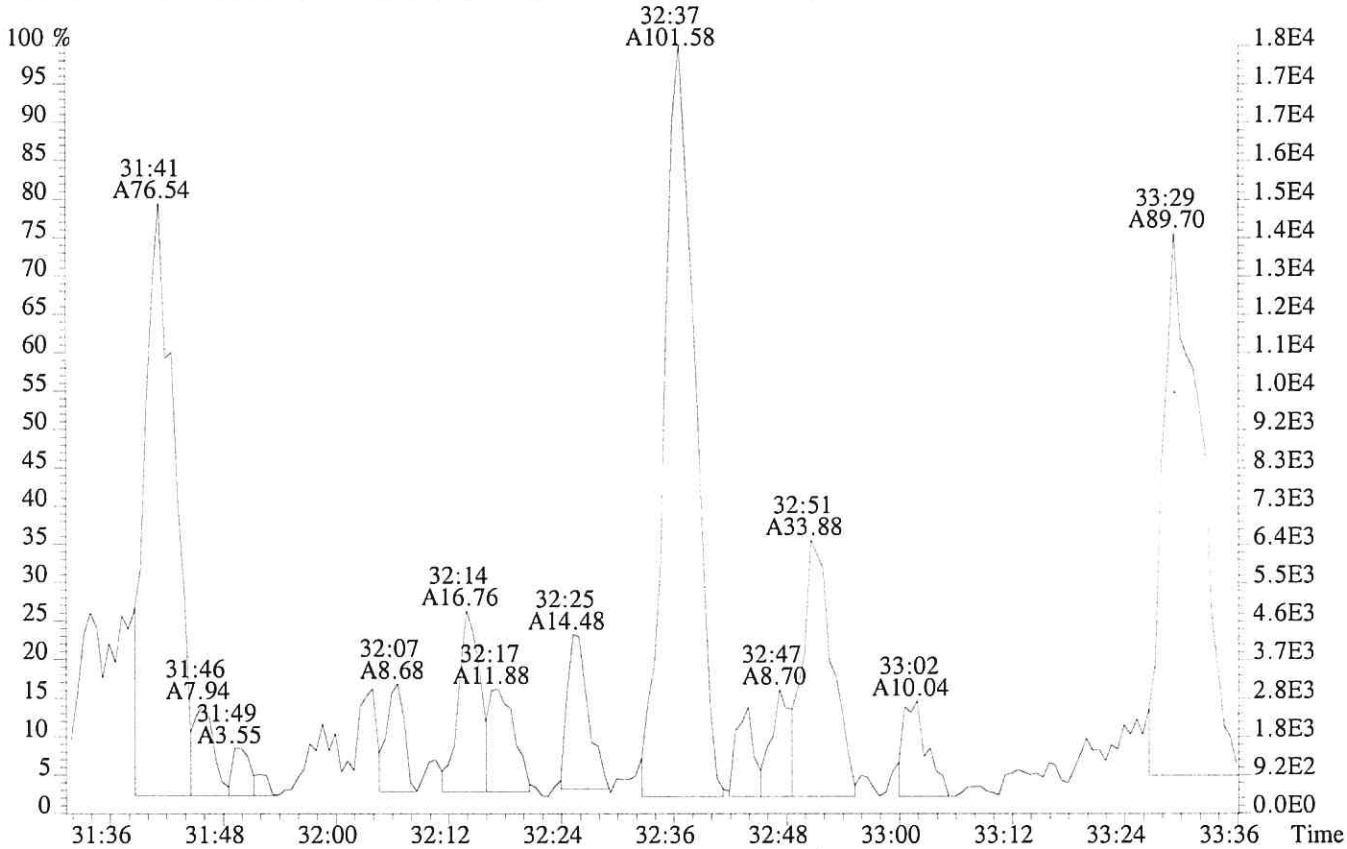
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



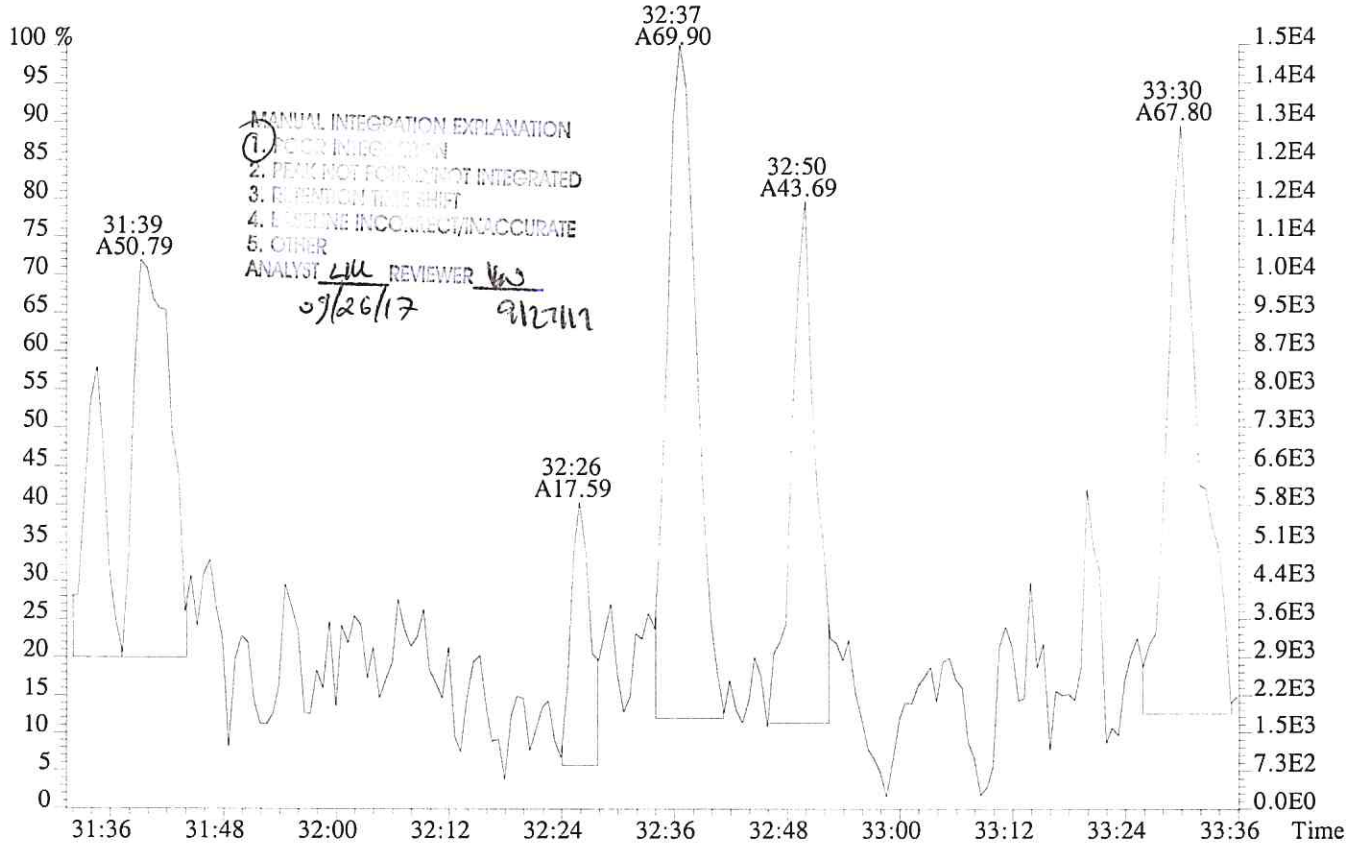
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1152.0,1.00%,F,T)

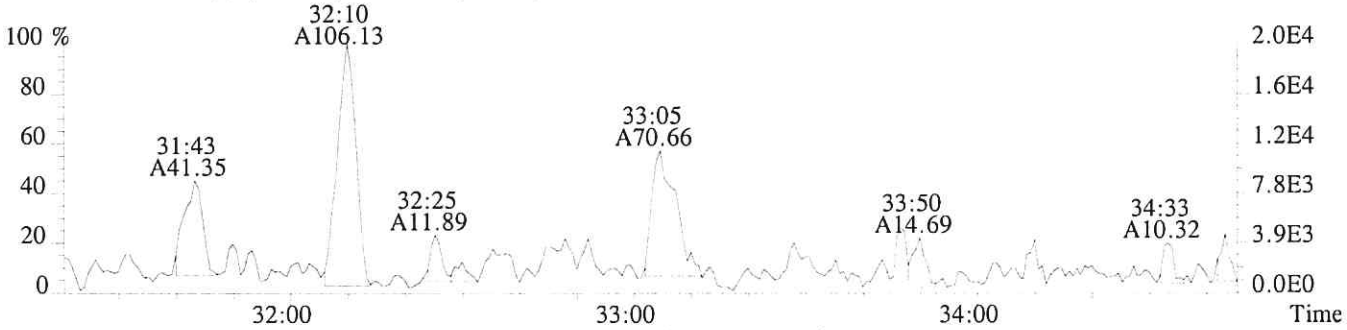


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3436.0,1.00%,F,T)

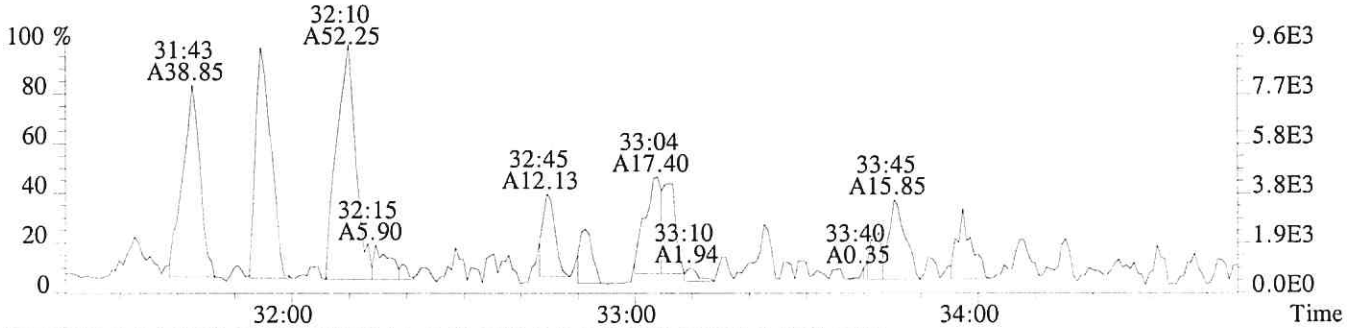


File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

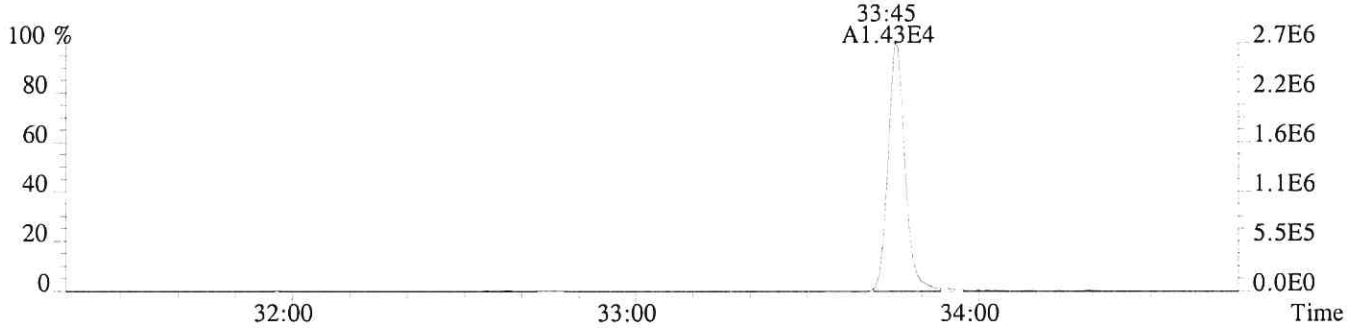
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1876.0,1.00%,F,T)



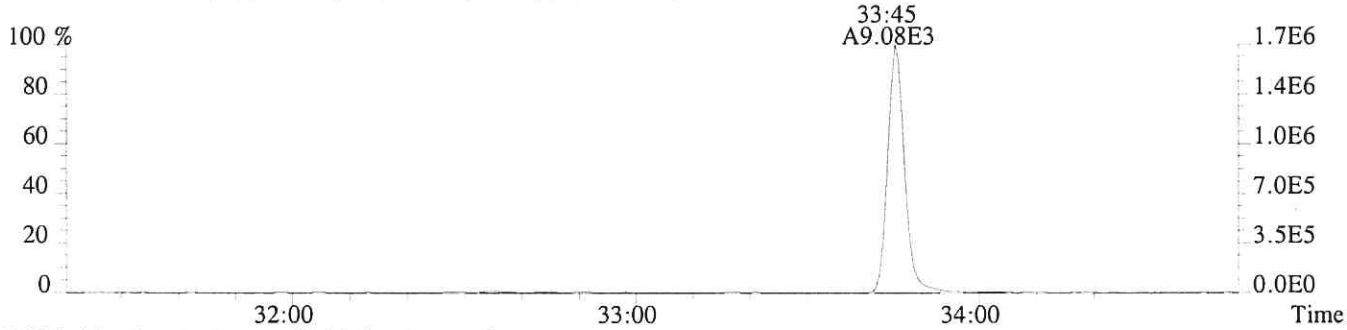
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



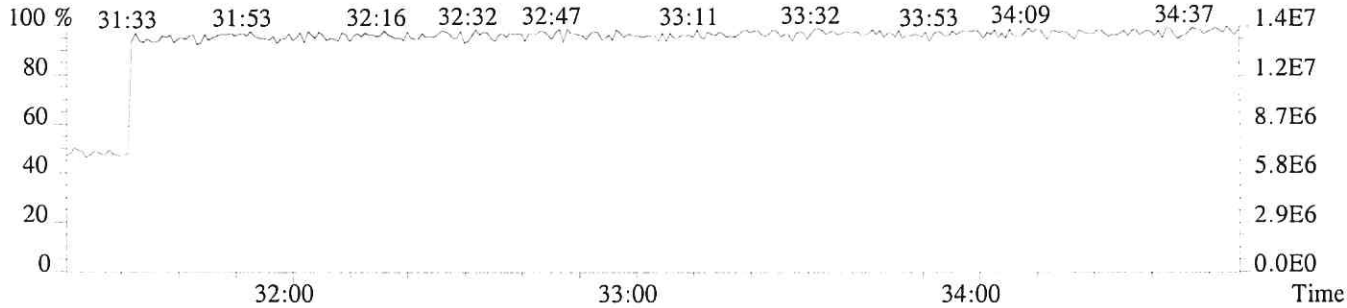
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2252.0,1.00%,F,T)



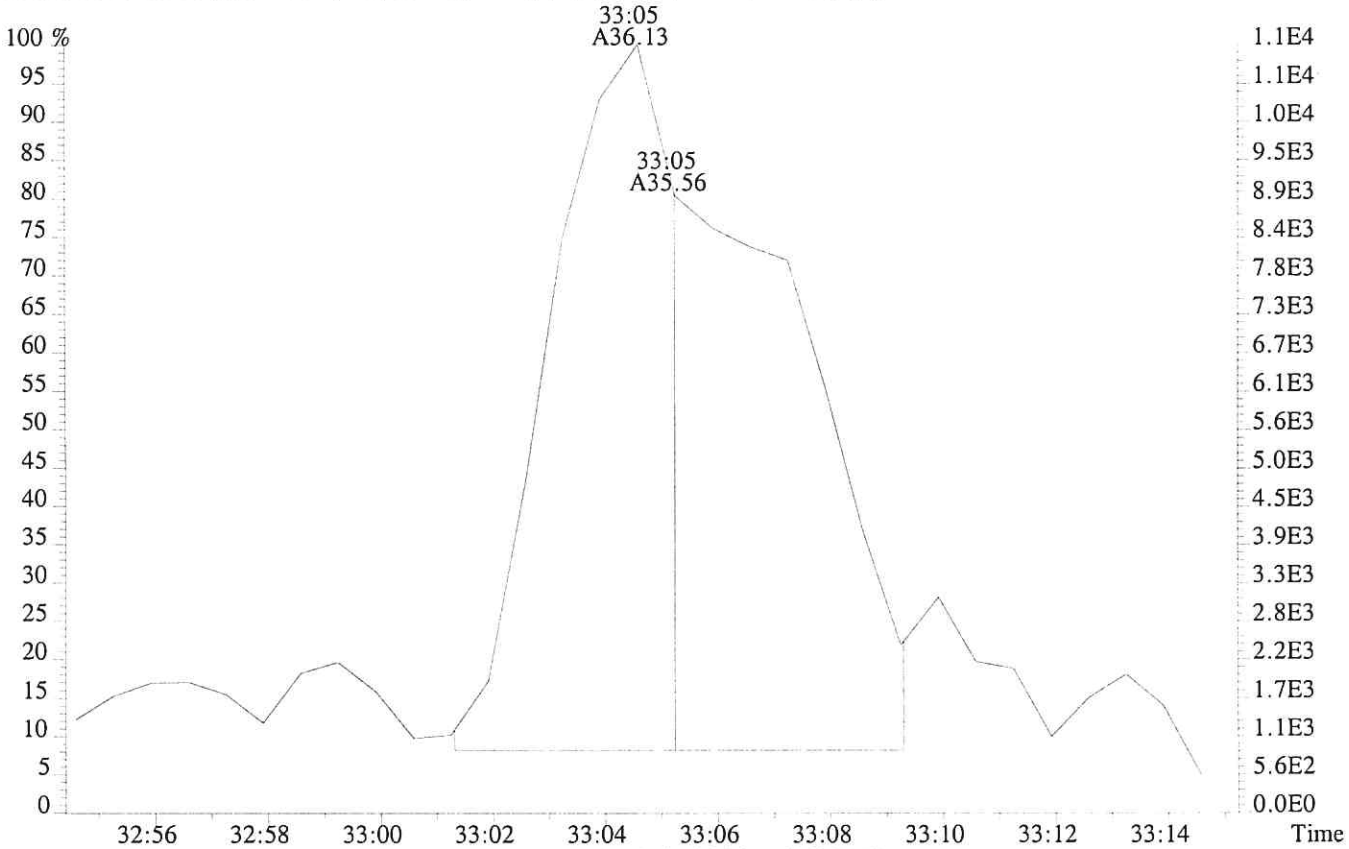
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1968.0,1.00%,F,T)



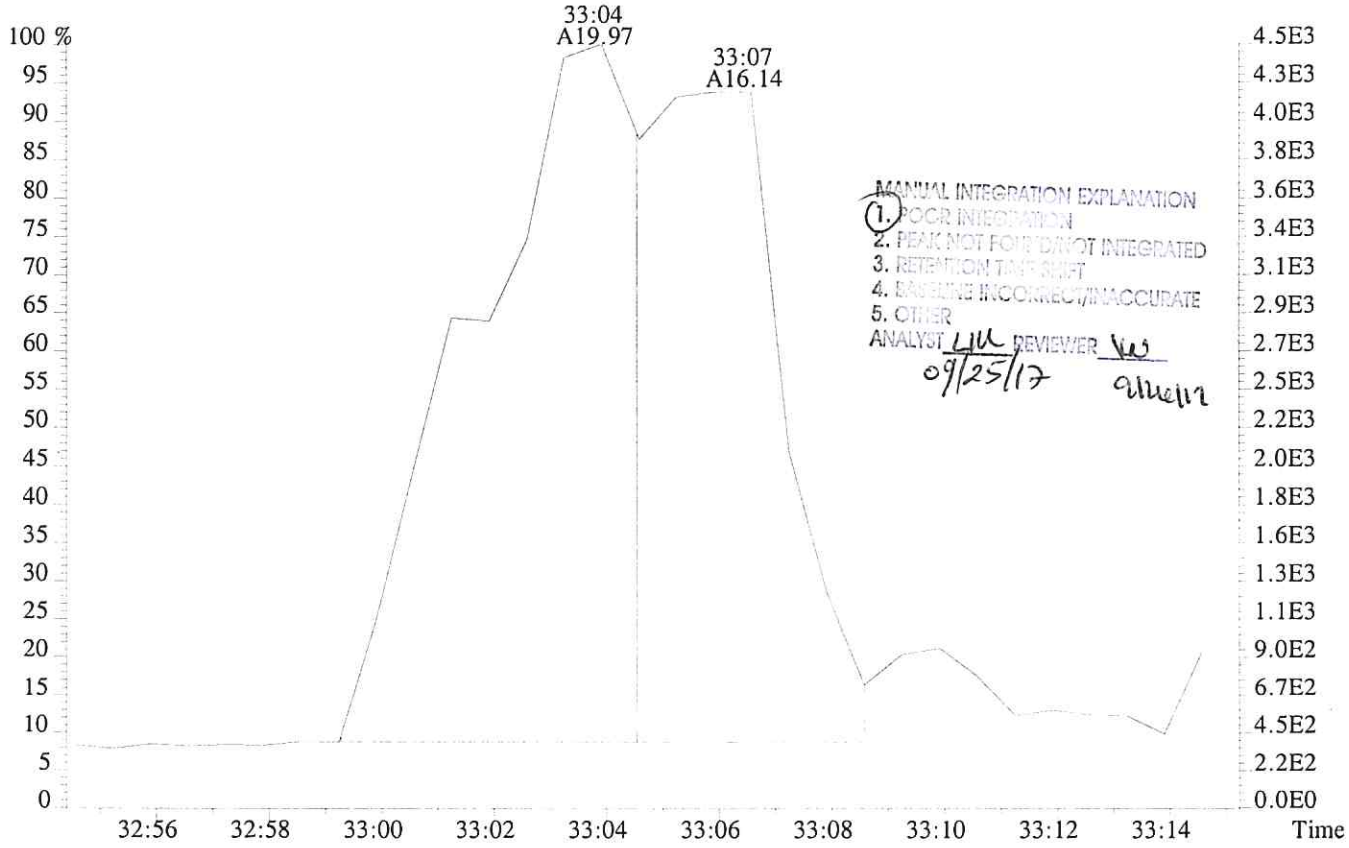
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1876.0,1.00%,F,T)

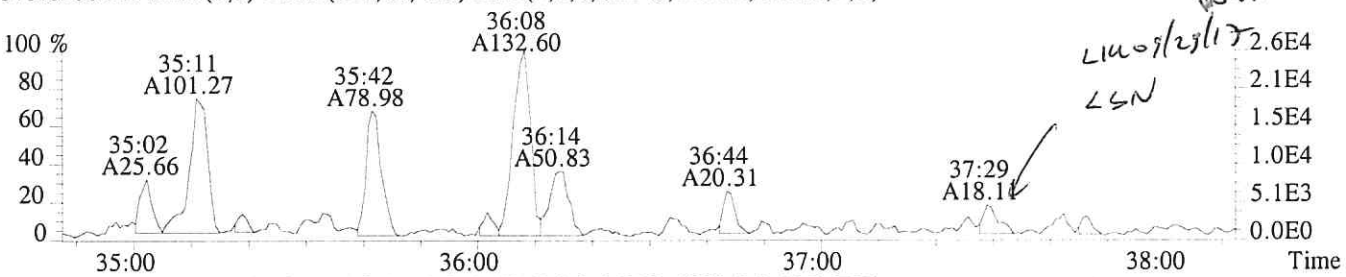


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)

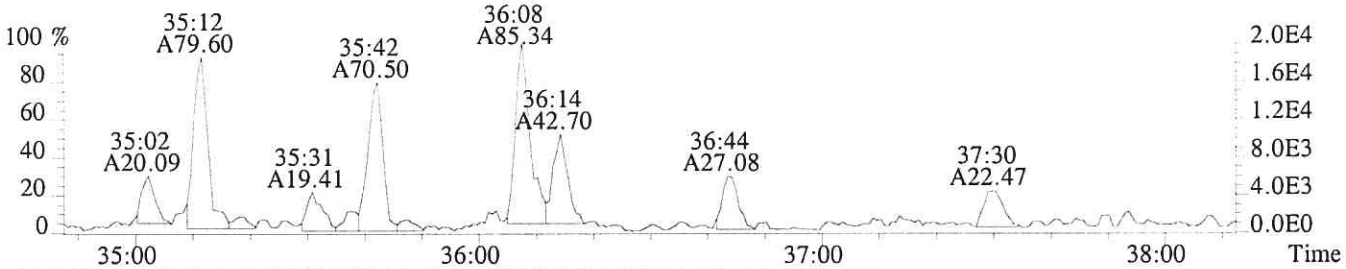


File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

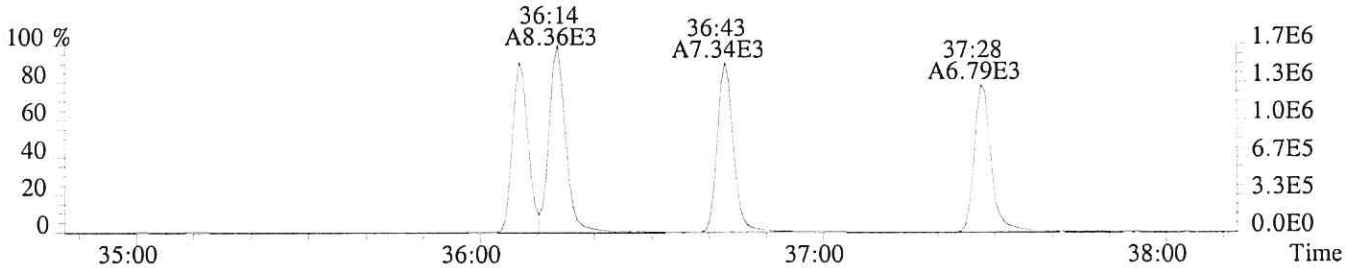
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,T)



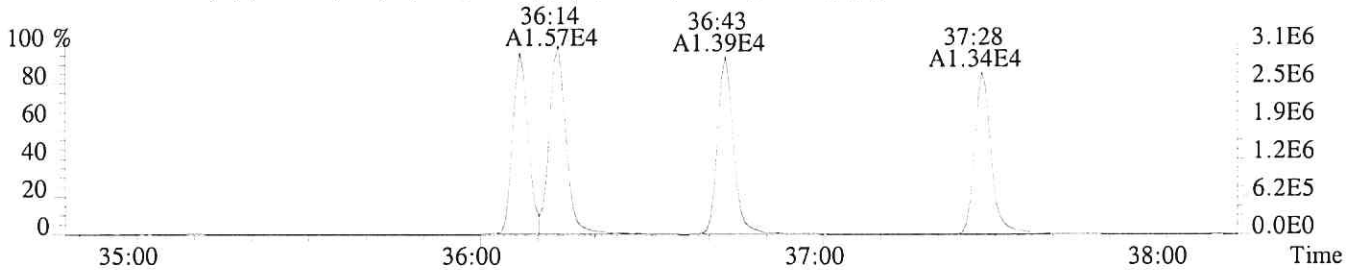
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.40%,F,T)



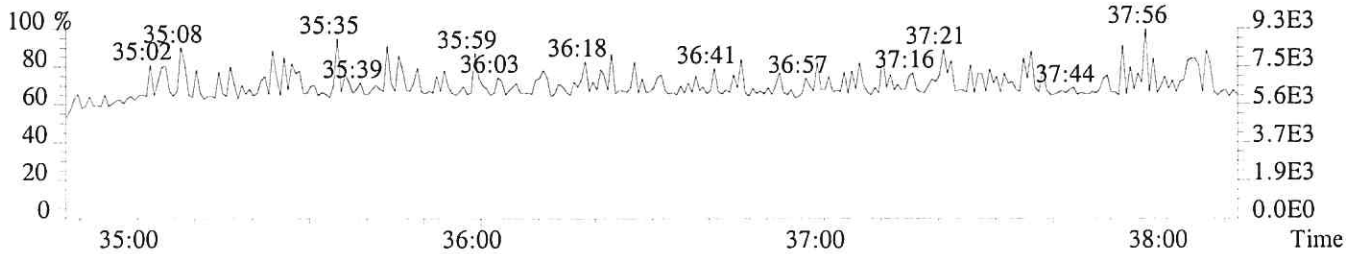
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1504.0,0.40%,F,T)



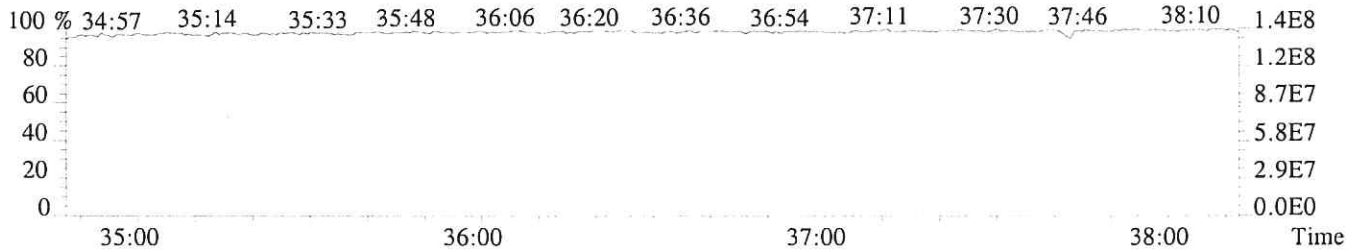
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2744.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

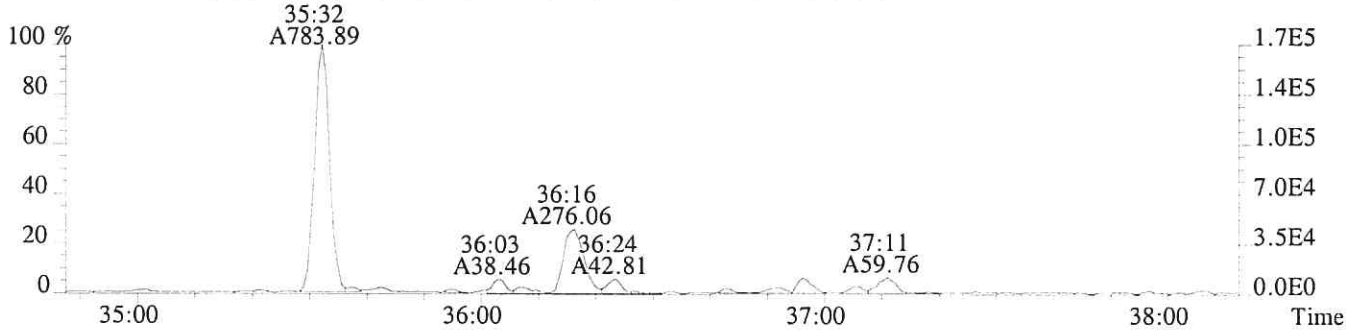


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

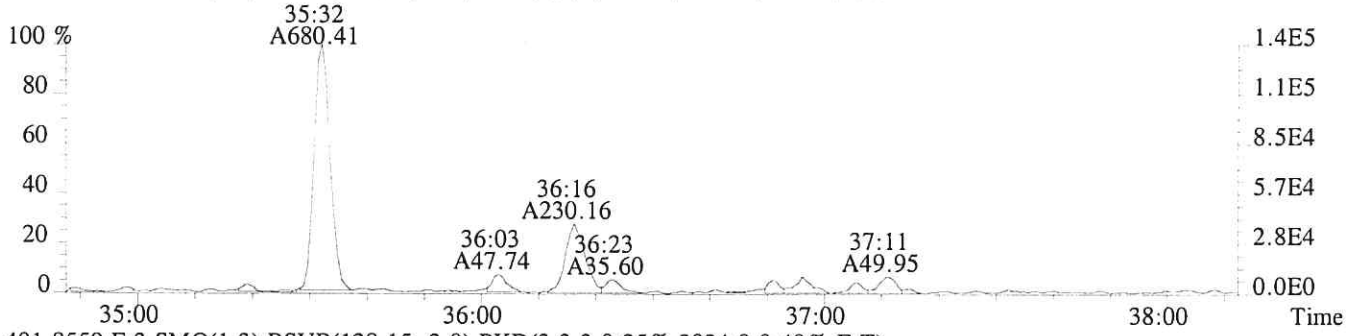


File:P511544 #1-308 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

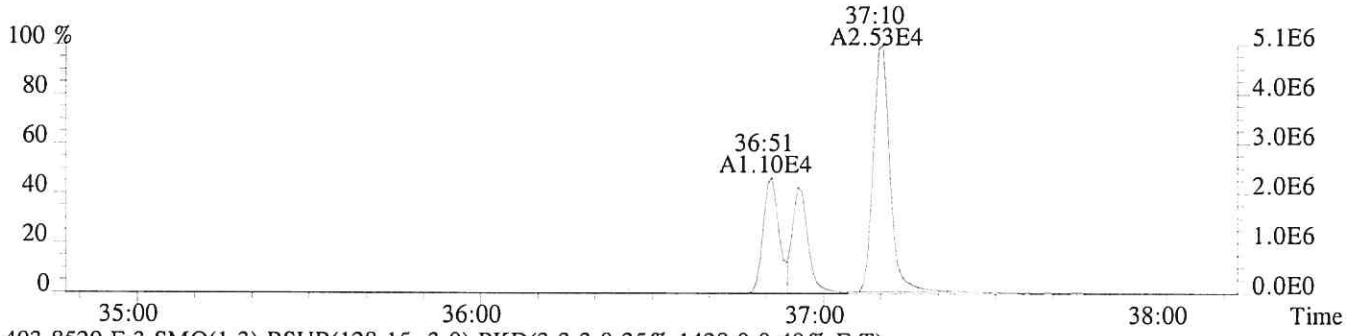
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



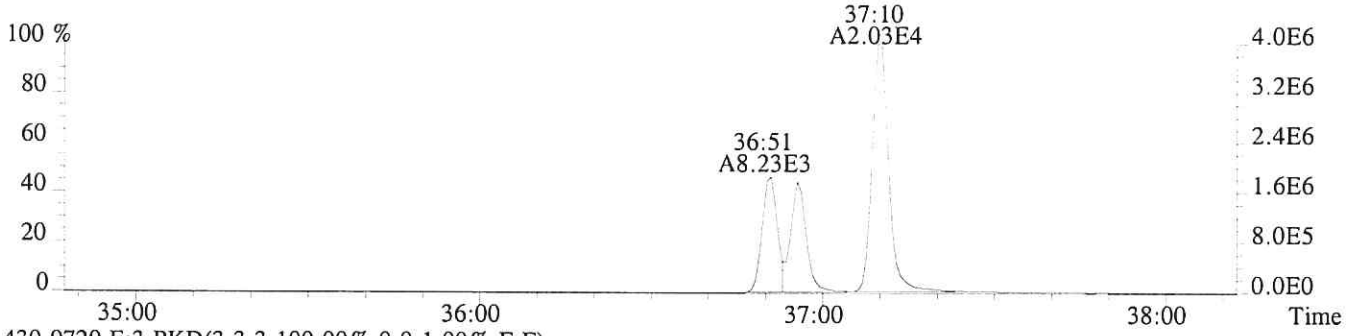
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.40%,F,T)



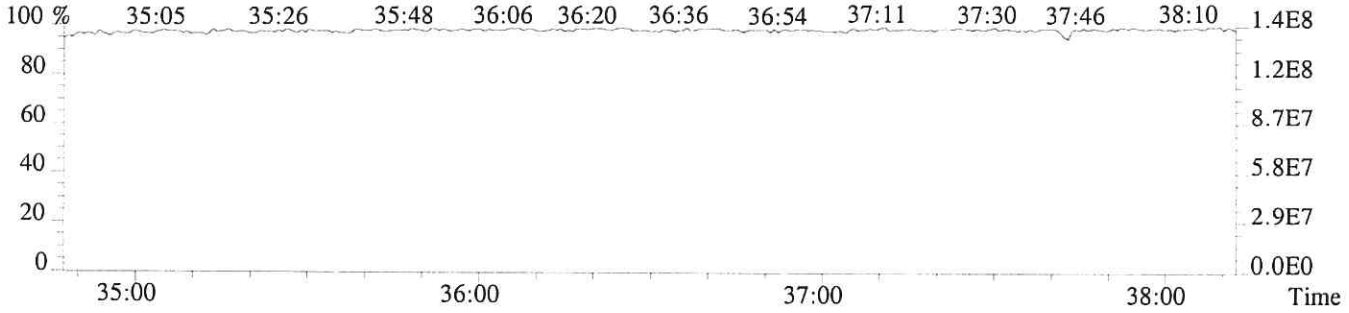
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2924.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)

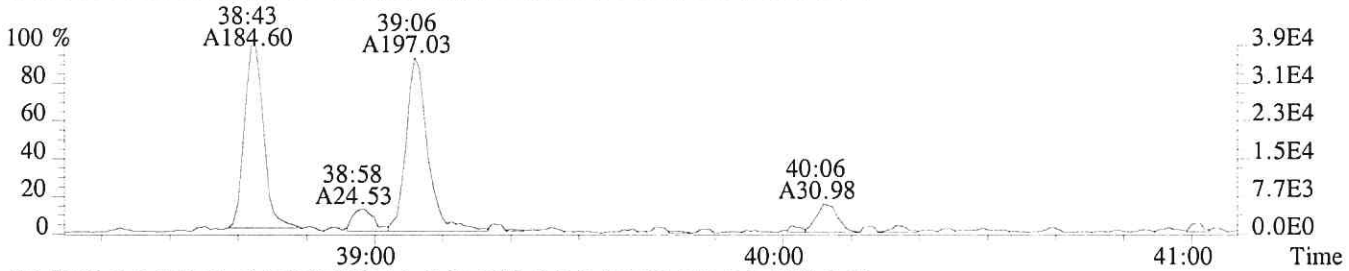


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

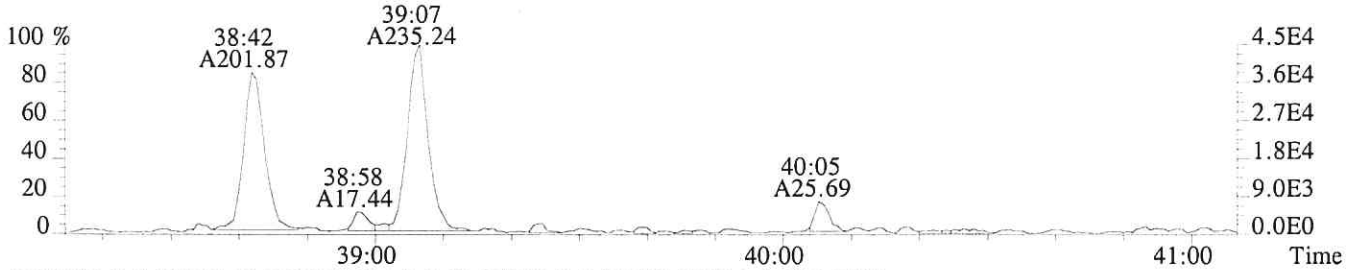


File:P511544 #1-259 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

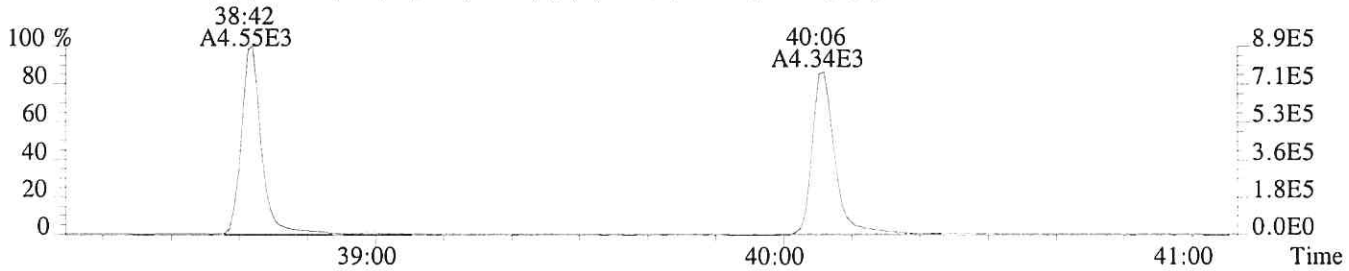
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.50%,F,T)



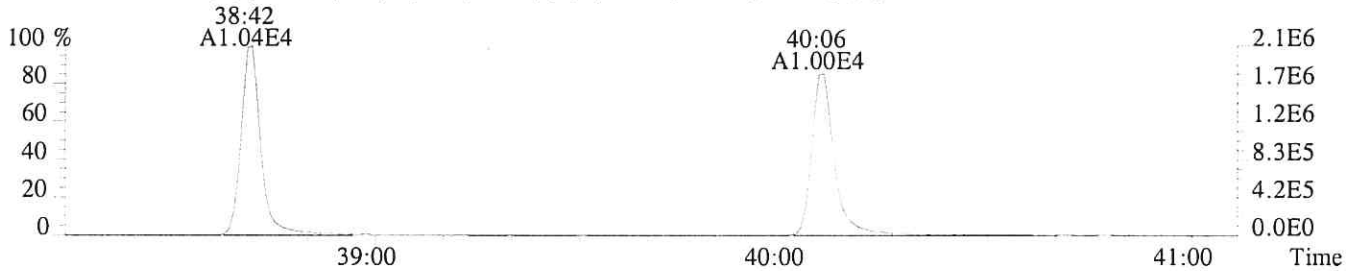
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.50%,F,T)



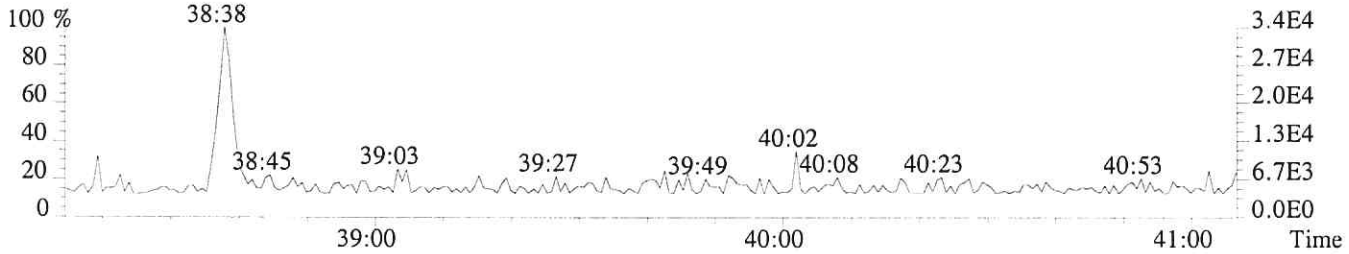
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2888.0,0.50%,F,T)



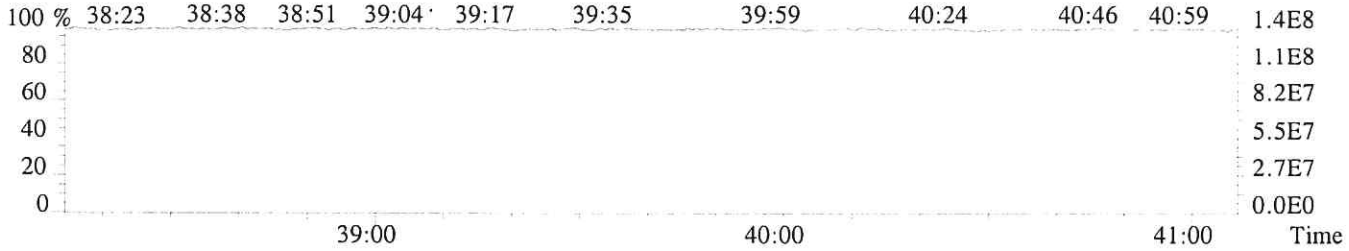
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2652.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

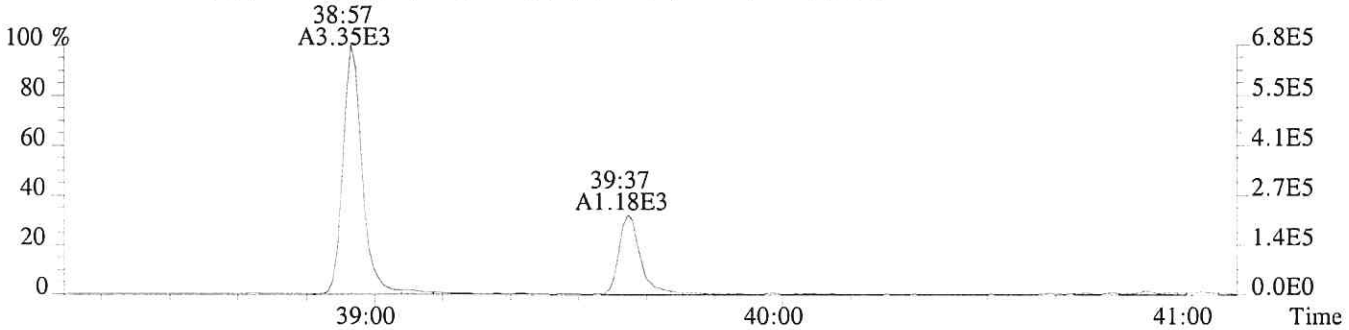


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

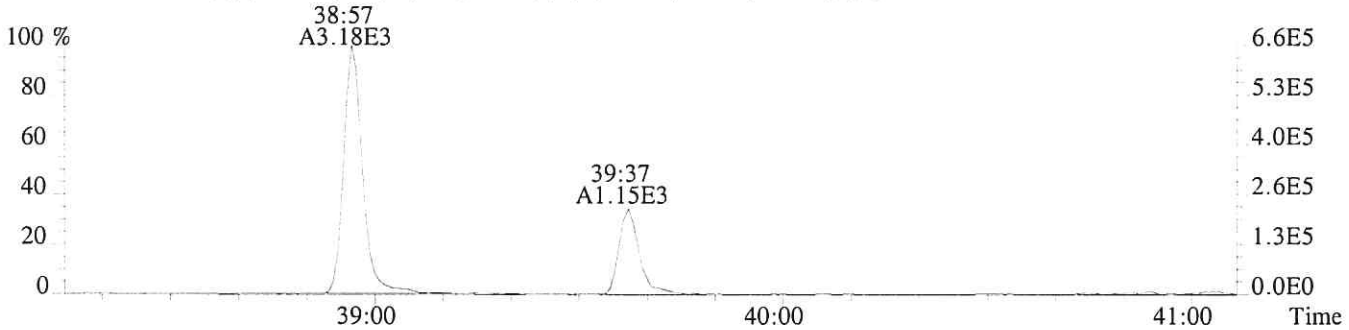


File:P511544 #1-259 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

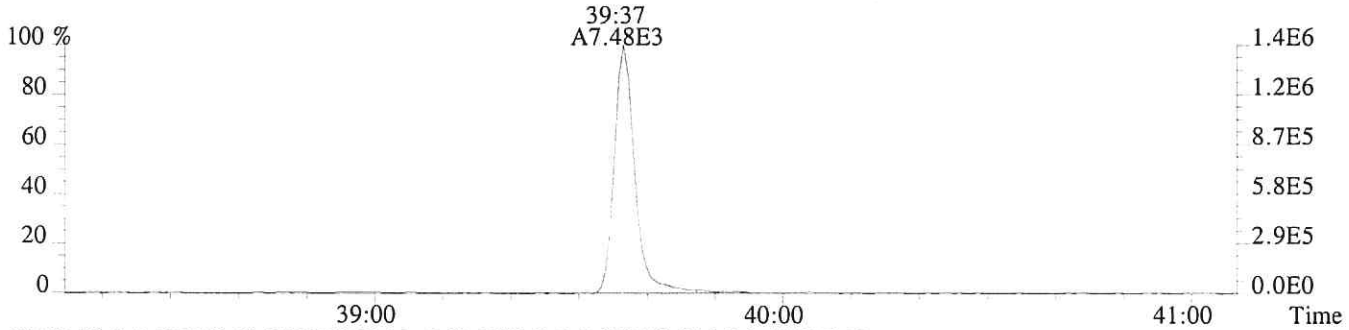
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1844.0,0.40%,F,T)



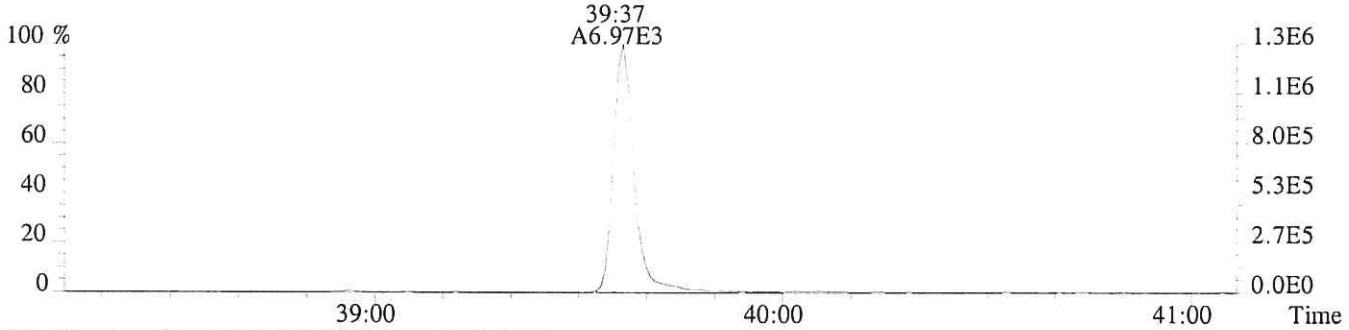
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,T)



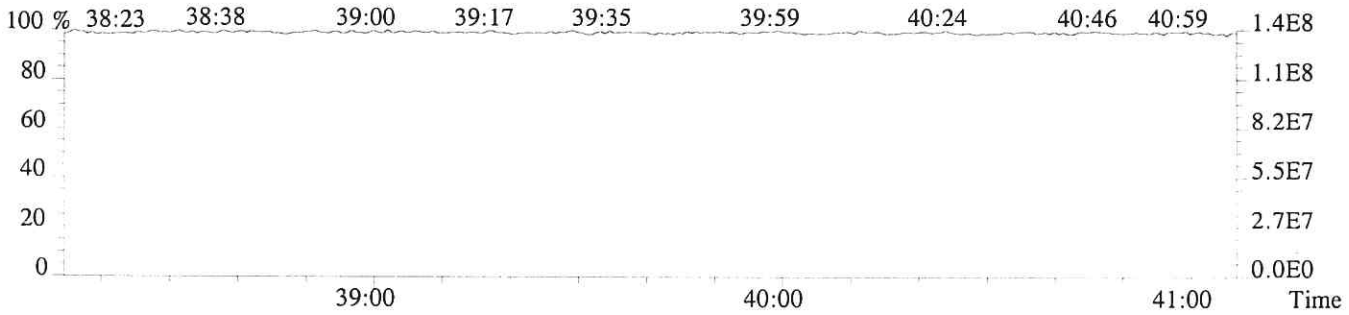
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.40%,F,T)

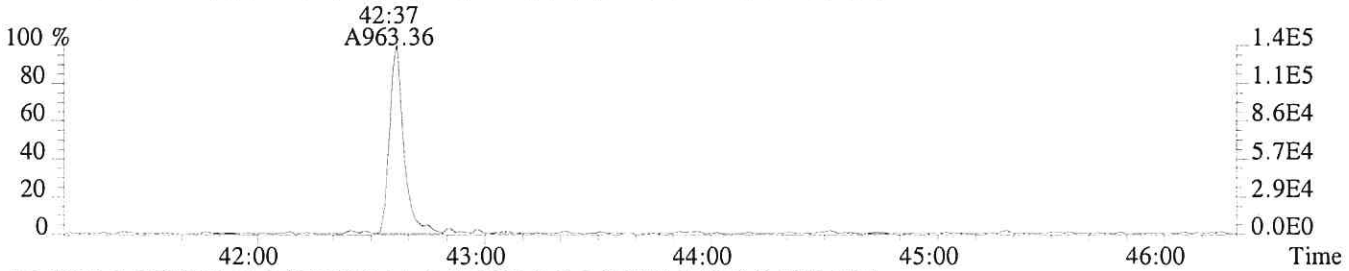


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

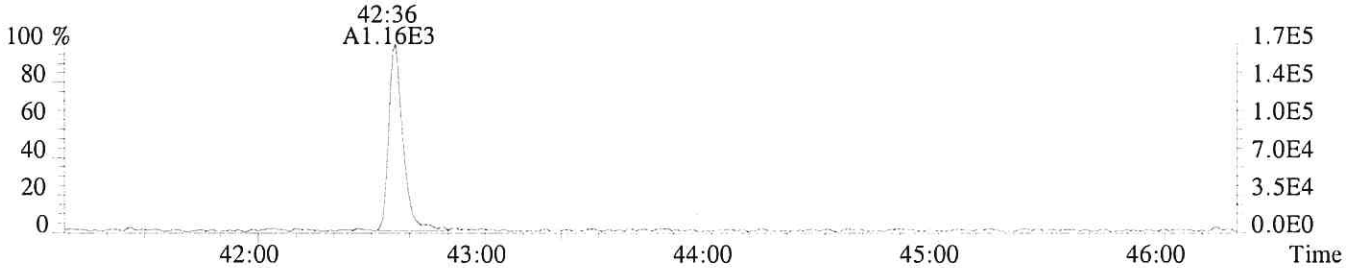


File:P511544 #1-466 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

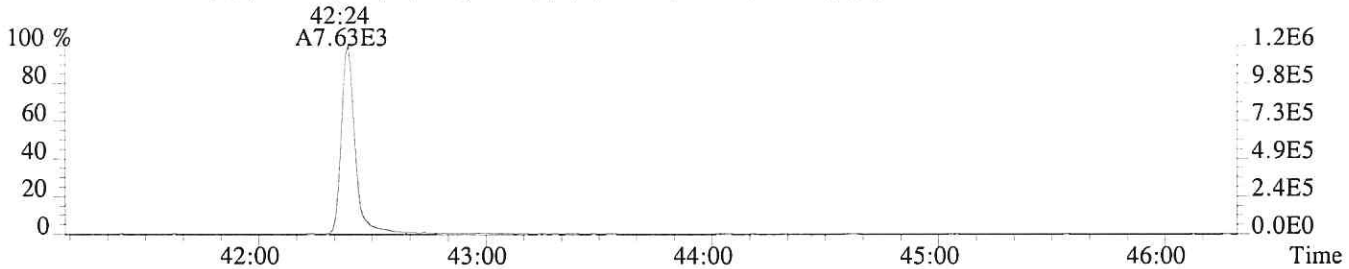
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



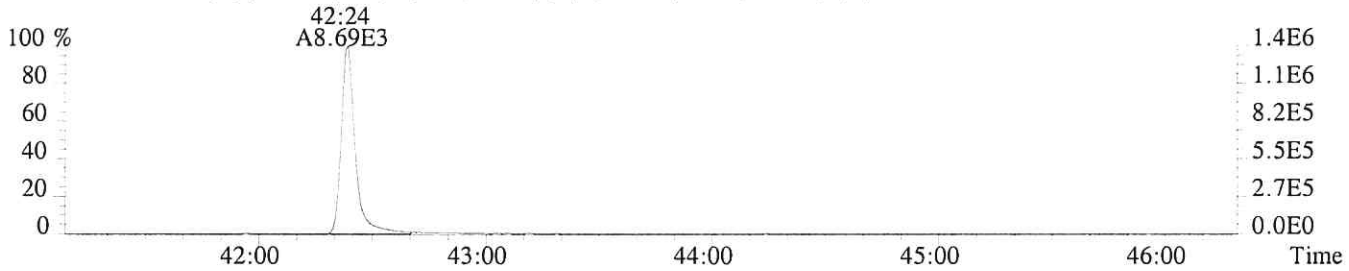
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2788.0,0.40%,F,T)



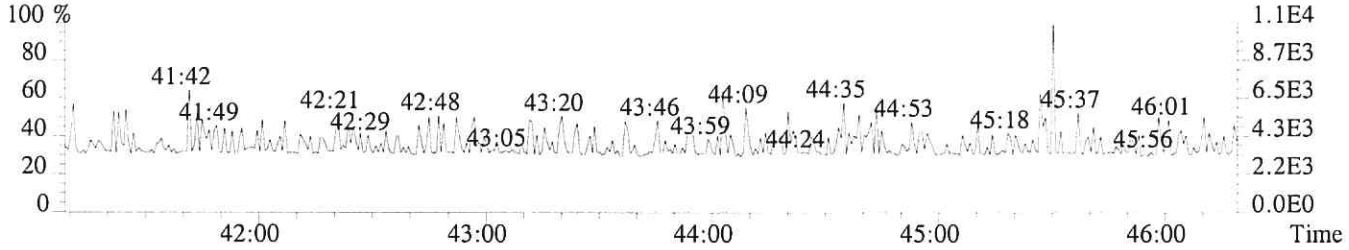
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1452.0,0.40%,F,T)



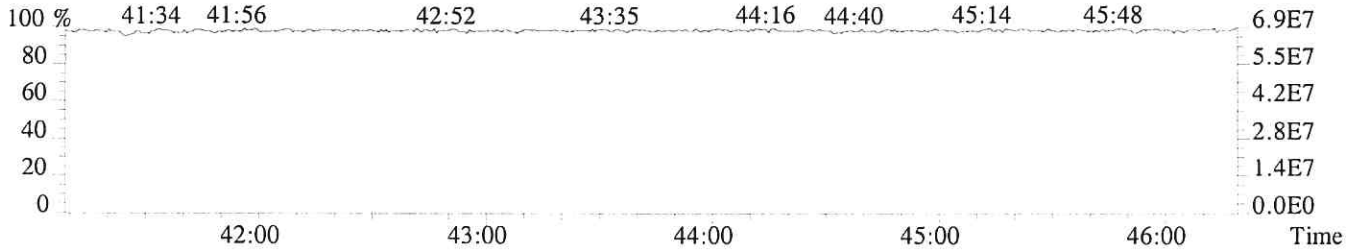
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,752.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

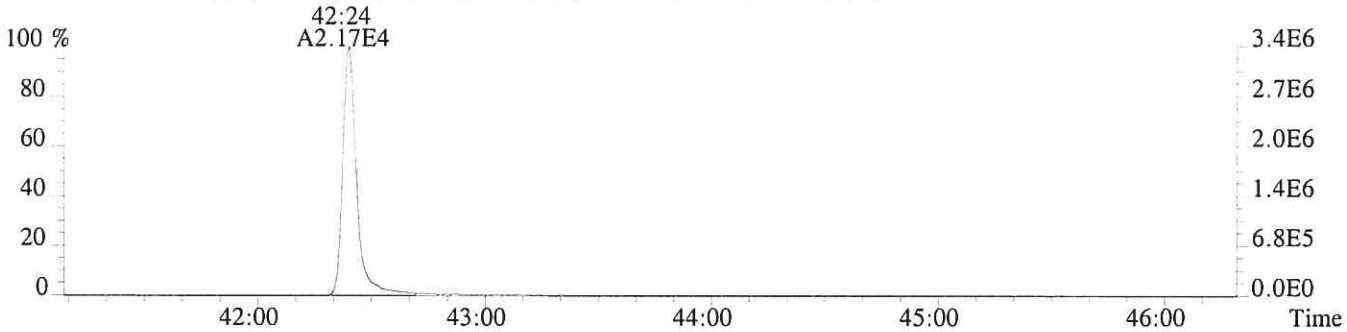


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

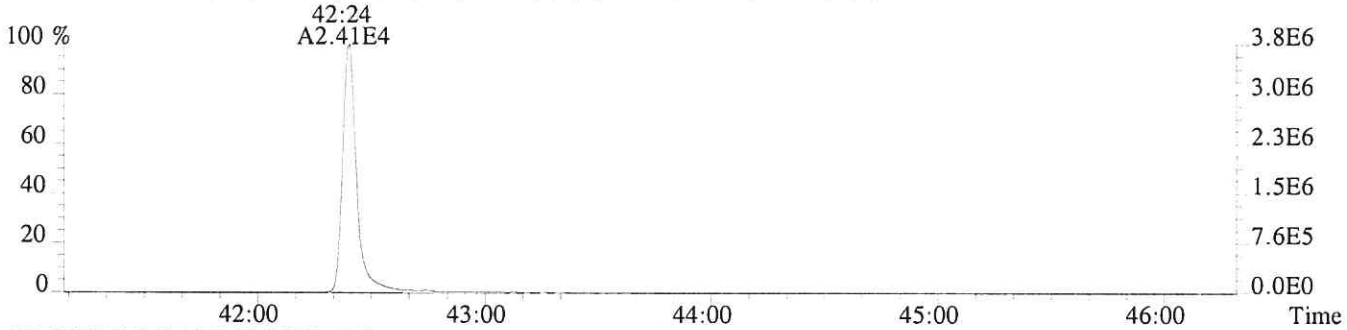


File:P511544 #1-466 Acq:24-SEP-2017 17:29:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-005

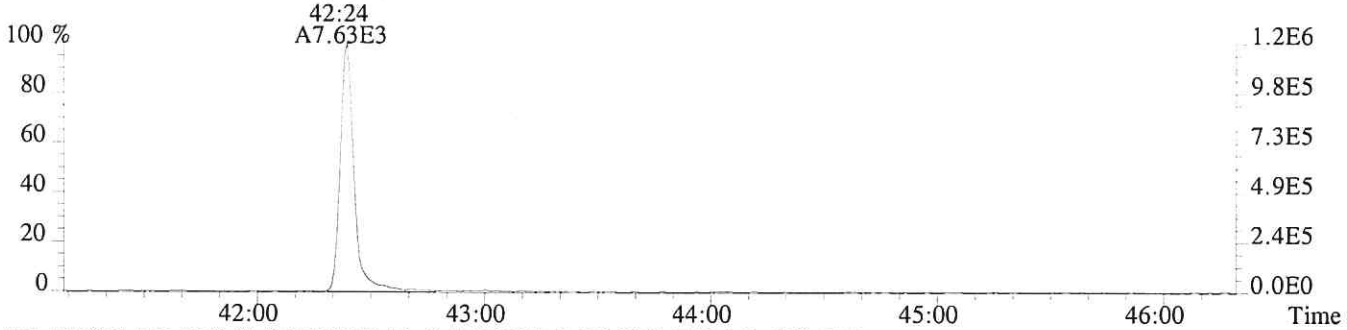
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1012.0,0.40%,F,T)



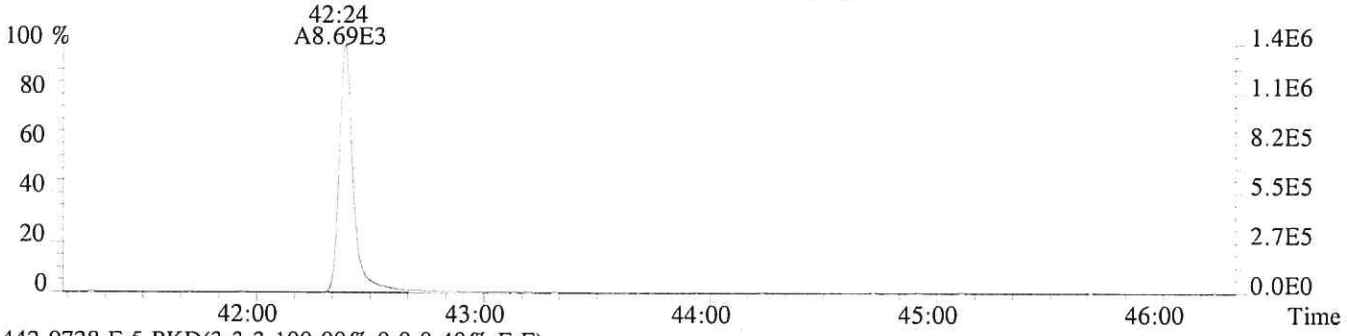
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1136.0,0.40%,F,T)



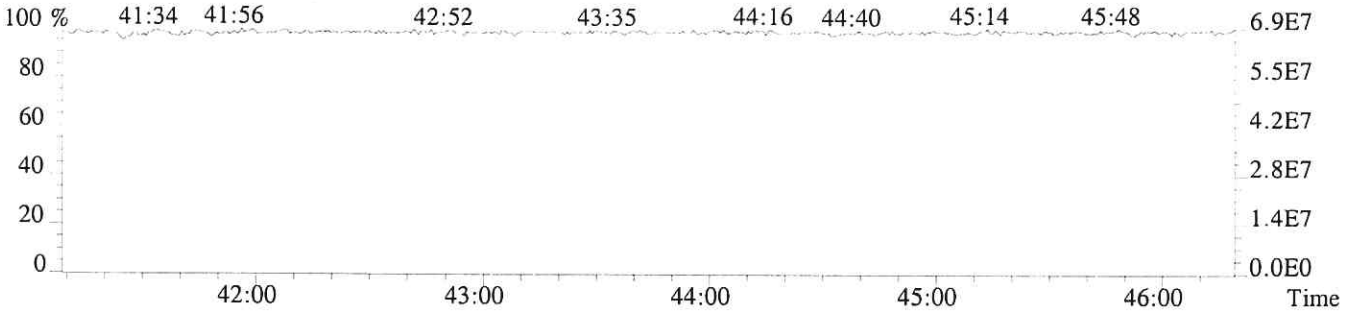
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1452.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,752.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #15 Filename P511545 Samp: 1 Inj: 1 Acquired: 24-SEP-17 18:18:26
Processed: 25-SEP-17 13:17:36 Sample ID: E1700974-006

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	5.157e+02	7.074e+02	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	4.265e+01	3.546e+01	1.20	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	1.067e+02	1.308e+02	0.82	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:37	3.423e+02	3.538e+02	0.97	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	1.461e+02	1.635e+02	0.89	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:51	1.849e+01	1.607e+01	1.15	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	1.680e+01	1.755e+01	0.96	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:10	2.102e+01	1.325e+01	1.59	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	4.298e+02	3.576e+02	1.20	no	no	0.942
17	Unk	OCDD	42:24	8.708e+03	9.834e+03	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	7.804e+03	1.057e+04	0.74	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	1.261e+04	8.205e+03	1.54	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.196e+04	7.775e+03	1.54	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	4.477e+03	8.604e+03	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	5.252e+03	1.031e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	4.707e+03	9.554e+03	0.49	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	4.256e+03	8.264e+03	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:41	2.908e+03	6.807e+03	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	2.792e+03	6.599e+03	0.42	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	6.035e+03	7.894e+03	0.76	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:45	9.011e+03	5.763e+03	1.56	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	6.803e+03	5.328e+03	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	7.474e+03	5.676e+03	1.32	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	5.036e+03	4.796e+03	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	5.271e+03	5.594e+03	0.94	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.023e+04	2.552e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.285e+04	1.807e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.032e+04				no	1.033

$$\text{OCDD} = \frac{(8.708e+03 + 9.834e+03) \times 4000 \text{ pg} \times 1}{(5.271e+03 + 5.594e+03) \times 10.076 \text{ g} \times 32.0 / 100 \times 1.051} = 1901 \text{ ng/kg}$$

KW 9/26/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-025

Run #15 Filename P511545 Samp: 1 Inj: 1 Acquired: 24-SEP-17 18:18:26
Processed: 25-SEP-17 13:17:36 LAB. ID: E1700974-006

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	8.49e+04	1.94e+03	4.4e+01	1.06e+05	4.18e+03	2.5e+01
2	1,2,3,7,8-PeCDF	*	1.32e+03	*	*	3.63e+03	*
3	2,3,4,7,8-PeCDF	*	1.32e+03	*	*	3.63e+03	*
4	1,2,3,4,7,8-HxCDF	8.54e+03	1.19e+03	7.2e+00	9.82e+03	1.46e+03	6.7e+00
5	1,2,3,6,7,8-HxCDF	*	1.19e+03	*	*	1.46e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.19e+03	*	*	1.46e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.19e+03	*	*	1.46e+03	*
8	1,2,3,4,6,7,8-HpCDF	2.11e+04	5.44e+02	3.9e+01	2.44e+04	7.48e+02	3.3e+01
9	1,2,3,4,7,8,9-HpCDF	*	5.44e+02	*	*	7.48e+02	*
10	OCDF	5.13e+04	1.37e+03	3.7e+01	5.23e+04	2.31e+03	2.3e+01
11	2,3,7,8-TCDD	2.52e+04	2.54e+03	9.9e+00	2.85e+04	1.52e+03	1.9e+01
12	1,2,3,7,8-PeCDD	*	2.59e+03	*	*	4.80e+02	*
13	1,2,3,4,7,8-HxCDD	3.92e+03	5.36e+02	7.3e+00	3.46e+03	7.84e+02	4.4e+00
14	1,2,3,6,7,8-HxCDD	3.03e+03	5.36e+02	5.6e+00	2.57e+03	7.84e+02	3.3e+00
15	1,2,3,7,8,9-HxCDD	2.84e+03	5.36e+02	5.3e+00	3.37e+03	7.84e+02	4.3e+00
16	1,2,3,4,6,7,8-HpCDD	8.60e+04	1.74e+03	4.9e+01	6.76e+04	1.48e+03	4.6e+01
17	OCDD	1.34e+06	1.13e+03	1.2e+03	1.51e+06	6.96e+02	2.2e+03
18	13C-2,3,7,8-TCDF	1.42e+06	2.29e+04	6.2e+01	1.86e+06	9.20e+03	2.0e+02
19	13C-1,2,3,7,8-PeCDF	2.30e+06	1.01e+03	2.3e+03	1.47e+06	1.52e+03	9.7e+02
20	13C-2,3,4,7,8-PeCDF	2.21e+06	1.01e+03	2.2e+03	1.46e+06	1.52e+03	9.7e+02
21	13C-1,2,3,4,7,8-HxCDF	9.23e+05	1.27e+03	7.3e+02	1.83e+06	2.17e+03	8.4e+02
22	13C-1,2,3,6,7,8-HxCDF	9.95e+05	1.27e+03	7.8e+02	1.94e+06	2.17e+03	8.9e+02
23	13C-2,3,4,6,7,8-HxCDF	9.70e+05	1.27e+03	7.6e+02	1.88e+06	2.17e+03	8.7e+02
24	13C-1,2,3,7,8,9-HxCDF	8.30e+05	1.27e+03	6.5e+02	1.57e+06	2.17e+03	7.2e+02
25	13C-1,2,3,4,6,7,8-HpCDF	5.92e+05	2.52e+03	2.3e+02	1.36e+06	3.67e+03	3.7e+02
26	13C-1,2,3,4,7,8,9-HpCDF	4.82e+05	2.52e+03	1.9e+02	1.14e+06	3.67e+03	3.1e+02
27	13C-2,3,7,8-TCDD	1.10e+06	8.77e+03	1.2e+02	1.48e+06	3.98e+03	3.7e+02
28	13C-1,2,3,7,8-PeCDD	1.67e+06	2.90e+03	5.8e+02	1.08e+06	1.83e+03	5.9e+02
29	13C-1,2,3,4,7,8-HxCDD	1.54e+06	2.35e+03	6.6e+02	1.16e+06	2.06e+03	5.6e+02
30	13C-1,2,3,6,7,8-HxCDD	1.40e+06	2.35e+03	6.0e+02	1.12e+06	2.06e+03	5.5e+02
31	13C-1,2,3,4,6,7,8-HpCDD	9.26e+05	1.54e+03	6.0e+02	8.47e+05	9.68e+02	8.8e+02
32	13C-OCDD	8.09e+05	1.28e+03	6.3e+02	8.44e+05	8.80e+02	9.6e+02
33	13C-1,2,3,4-TCDD	3.85e+06	8.77e+03	4.4e+02	4.87e+06	3.98e+03	1.2e+03
34	13C-1,2,3,7,8,9-HxCDD	4.39e+06	2.35e+03	1.9e+03	3.50e+06	2.06e+03	1.7e+03
35	37Cl-2,3,7,8-TCDD	1.87e+06	2.70e+03	6.9e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.544e{+}03 + 1.524e{+}03) \times 2000}{(1.096e{+}06 + 1.483e{+}06) \times (\qquad\qquad) \times 1.065} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-025

Entry: 36 Totals Name: Total Tetra-Furans

Run: 15 File: P511545 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 18:18:26 Processed: 25-SEP-17 13:17:36

Mass: 303.9020 305.8990 Tot Response: 1.22e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:30	5.16e+02	7.07e+02	0.73	yes	1.22e+03	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-025

Entry: 41 Totals Name: Total Hexa-Furans

Run: 15 File: P511545 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 18:18:26 Processed: 25-SEP-17 13:17:36

Mass: 373.8210 375.8180 Tot Response: 1.50e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:41	3.89e+01	3.26e+01	1.19	yes	7.15e+01	1,2,3,4,7,8-HxCDF	y	y
2	36:08	4.26e+01	3.55e+01	1.20	yes	7.81e+01	1,2,3,4,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-025

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 15 File: P511545 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 18:18:26 Processed: 25-SEP-17 13:17:36

Mass: 389.8160 391.8130 Tot Response: 6.38e+02 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	2.16e+02	1.67e+02	1.30	yes	3.83e+02		n	n
2	36:03	1.42e+01	1.25e+01	1.14	yes	2.67e+01		n	n
3	36:16	8.81e+01	7.62e+01	1.16	yes	1.64e+02		n	n
4	36:22	1.55e+01	1.40e+01	1.11	yes	2.95e+01		n	n
5	36:51	1.85e+01	1.61e+01	1.15	yes	3.46e+01	1,2,3,4,7,8-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-025

Entry: 43 Totals Name: Total Hepta-Furans

Run: 15 File: P511545 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 18:18:26 Processed: 25-SEP-17 13:17:36

Mass: 407.7820 409.7790 Tot Response: 2.16e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	1.06e+02	1.11e+02	0.95	yes	2.16e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-025

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P511545 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 18:18:26 Processed: 25-SEP-17 13:17:36

Mass: 423.7770 425.7740 Tot Response: 2.05e+03 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.03e+03	1.03e+03 1.00	yes	2.05e+03		n	n

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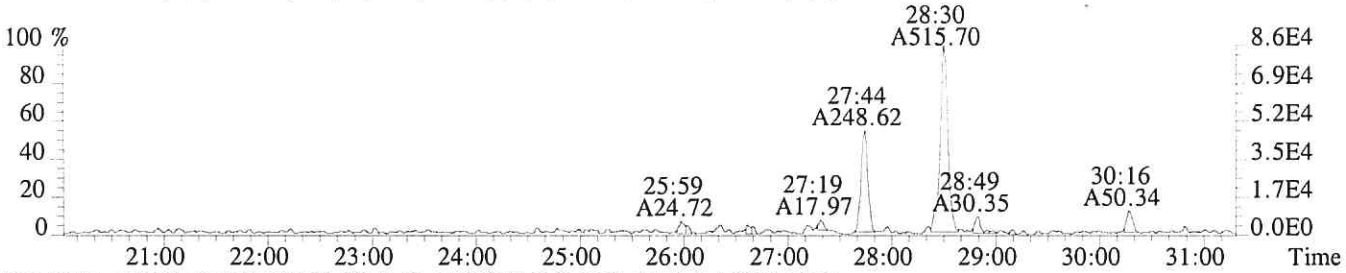
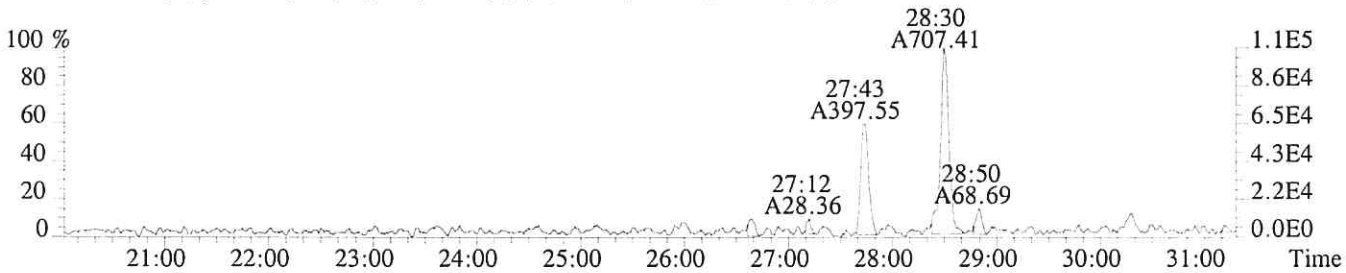
File:P511545 #1-800 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

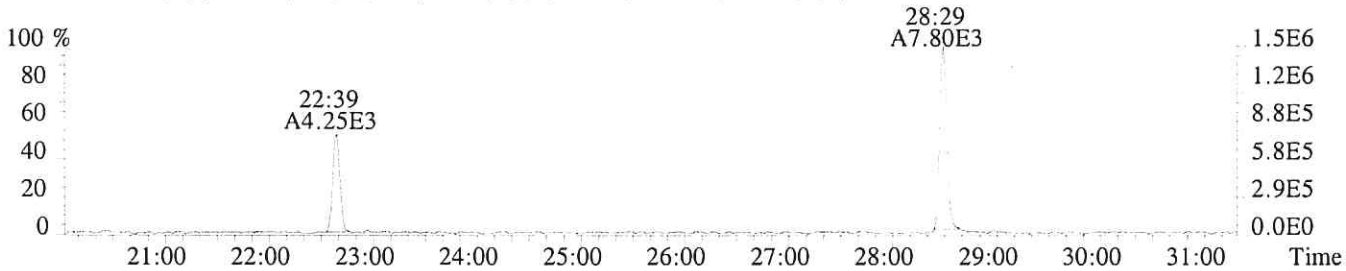
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,T)



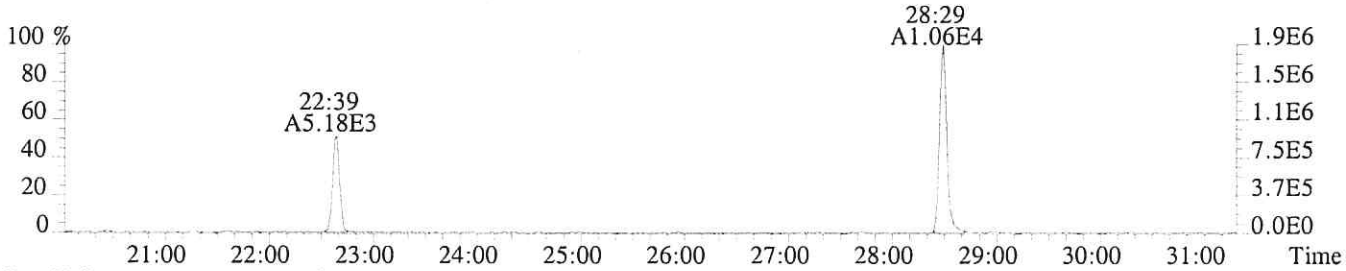
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4176.0,1.00%,F,T)



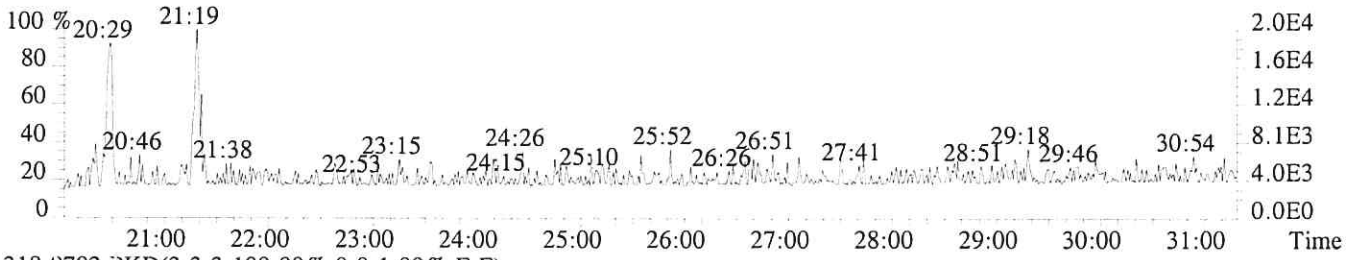
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,22924.0,1.00%,F,T)



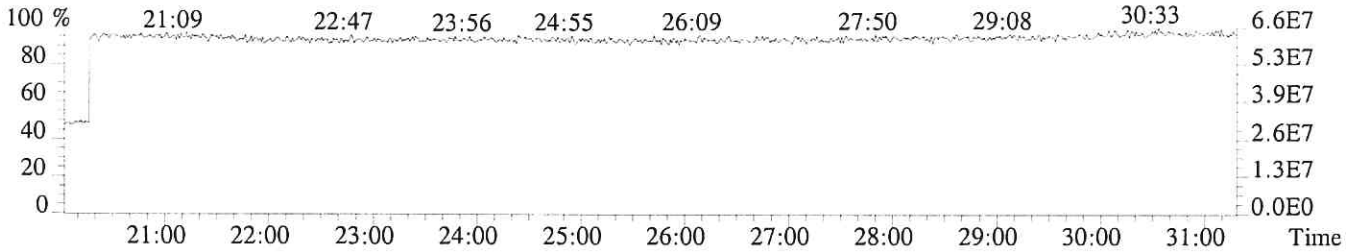
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9204.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

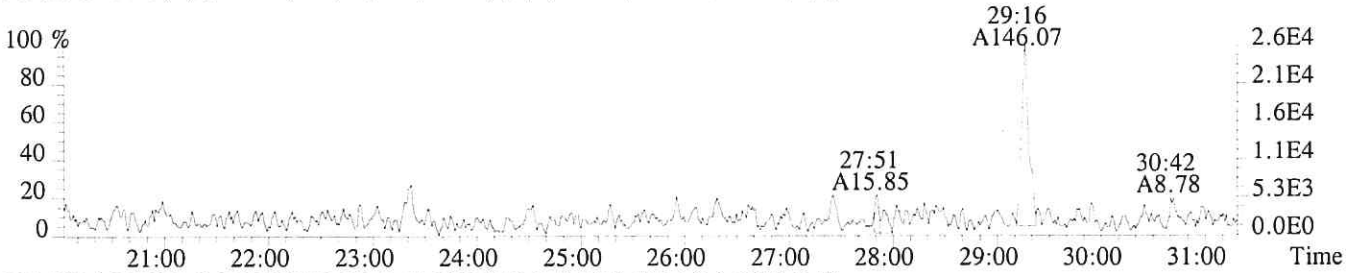


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

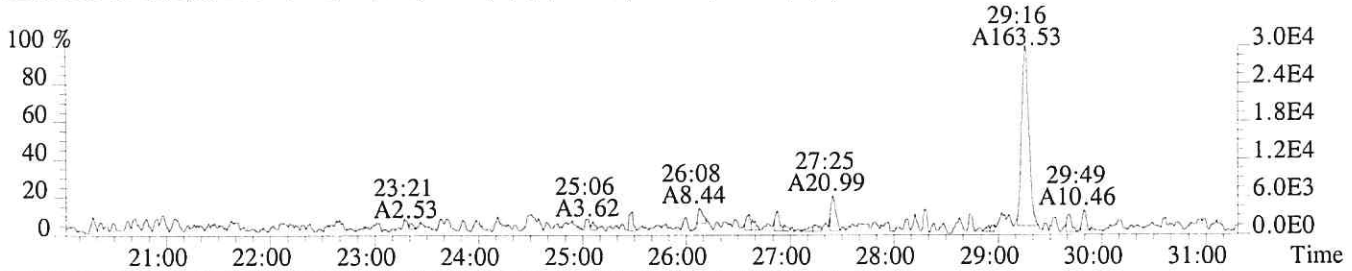


File:P511545 #1-800 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

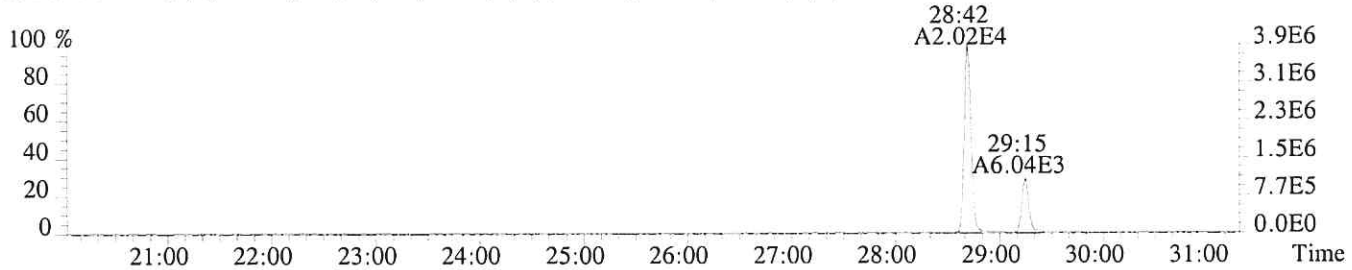
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2544.0,1.00%,F,T)



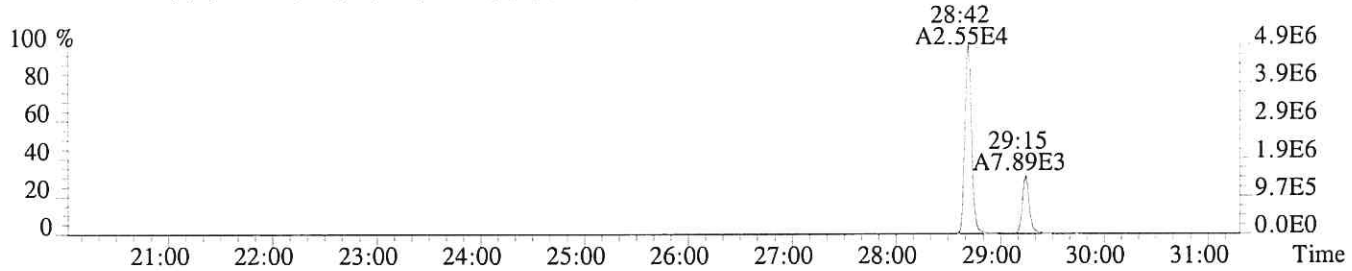
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1524.0,1.00%,F,T)



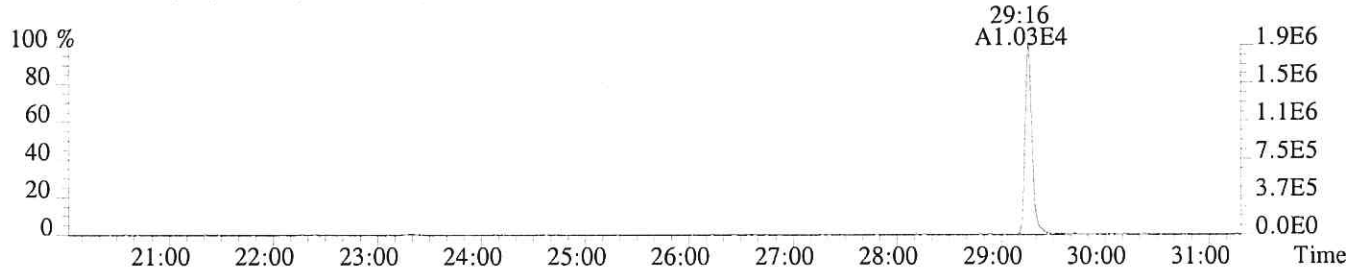
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8772.0,1.00%,F,T)



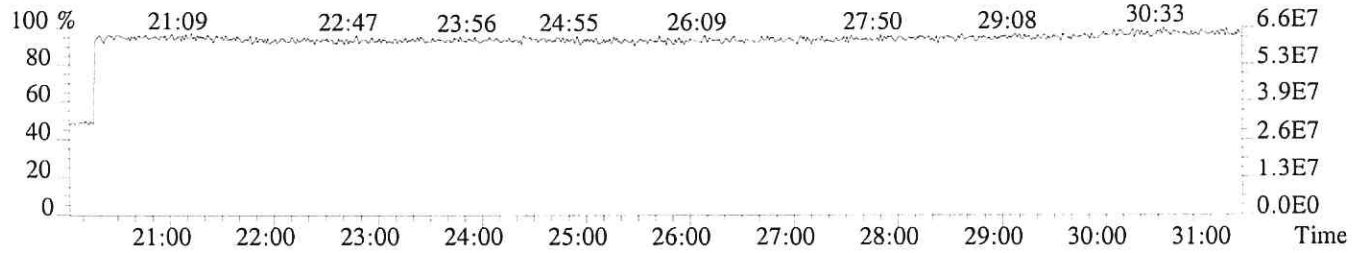
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3984.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2704.0,1.00%,F,T)

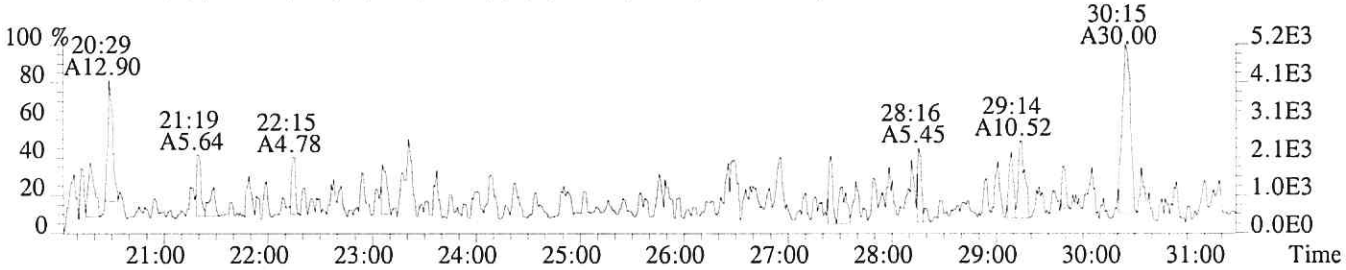


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

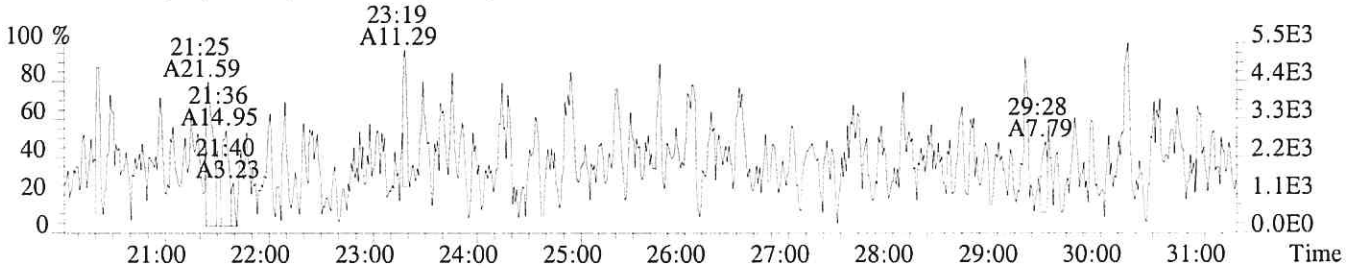


File:P511545 #1-800 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

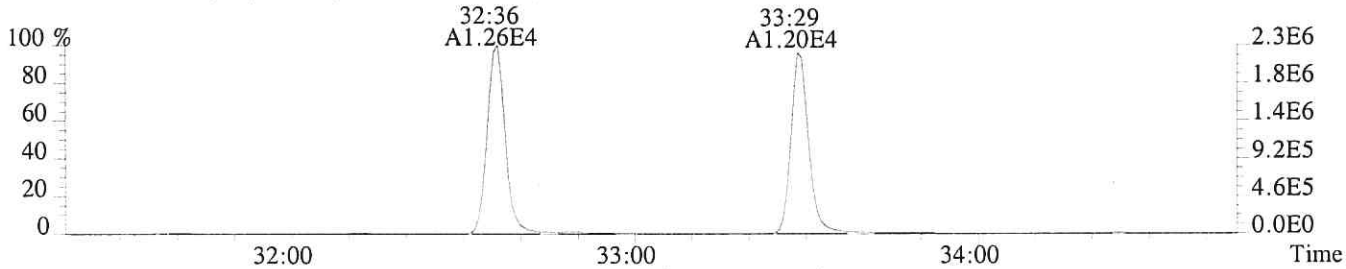
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,T)



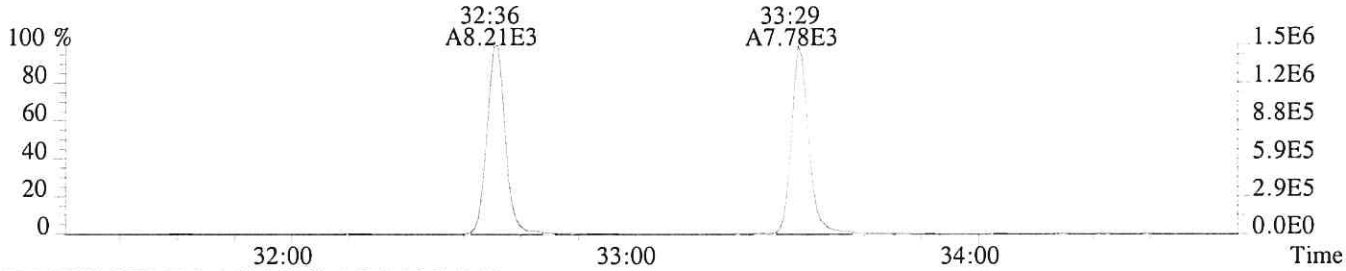
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



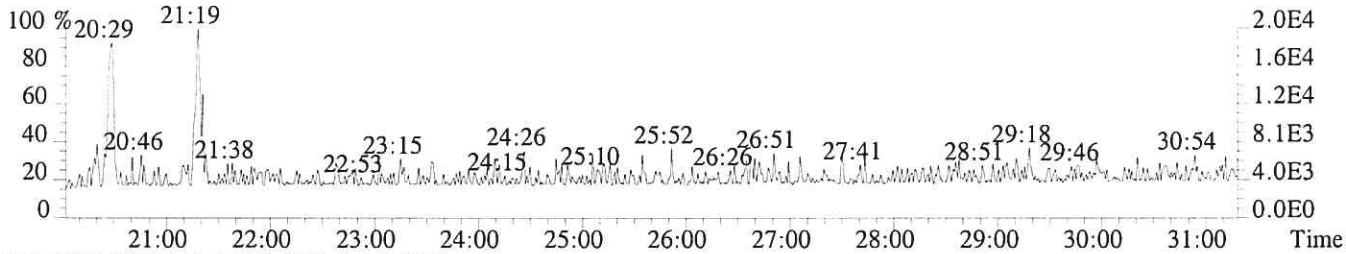
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,T)



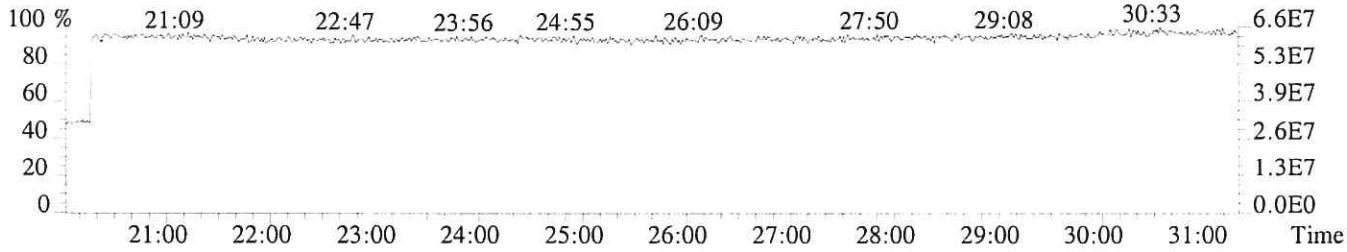
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

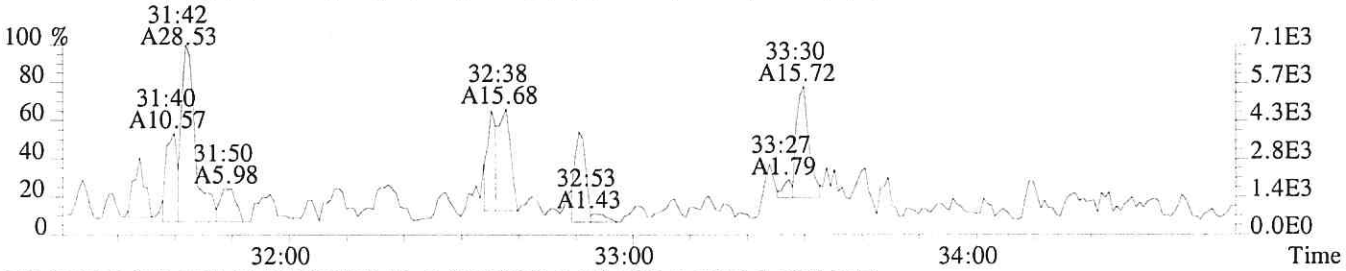


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

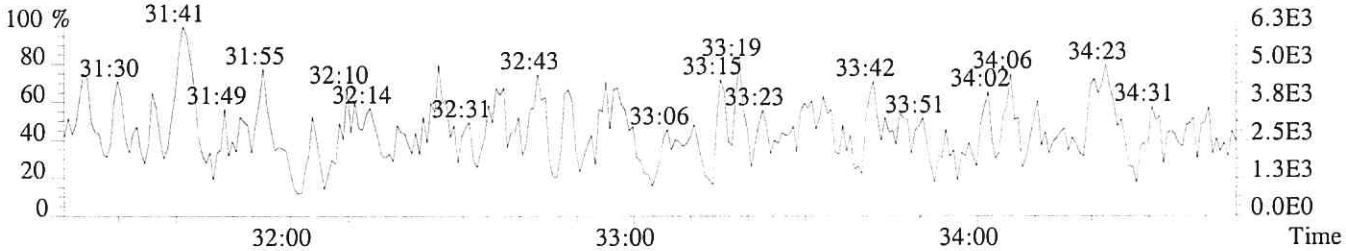


File:P511545 #1-308 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

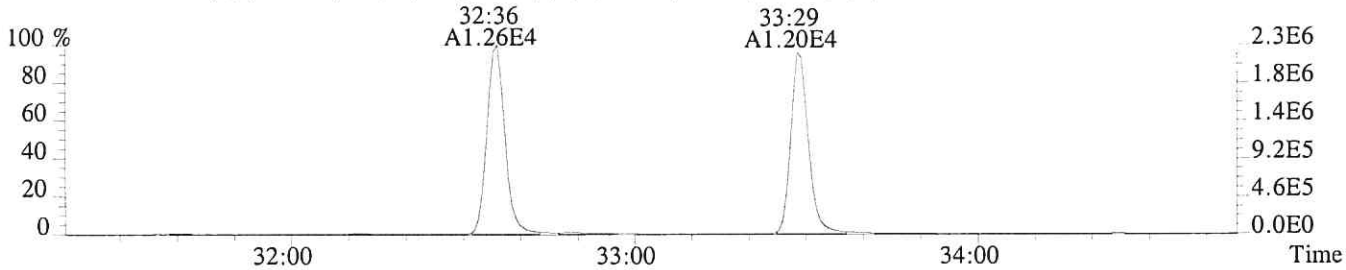
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



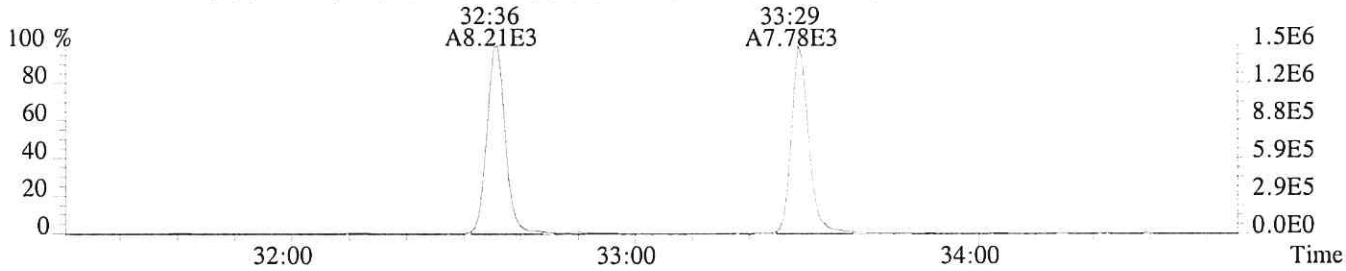
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3632.0,1.00%,F,T)



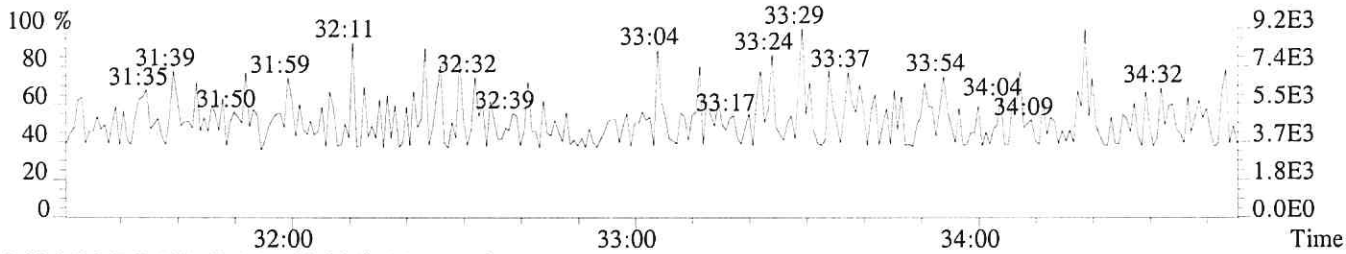
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,T)



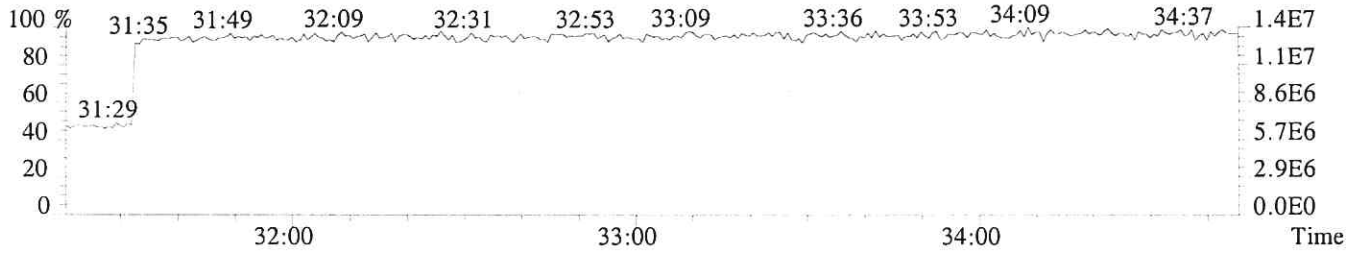
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)



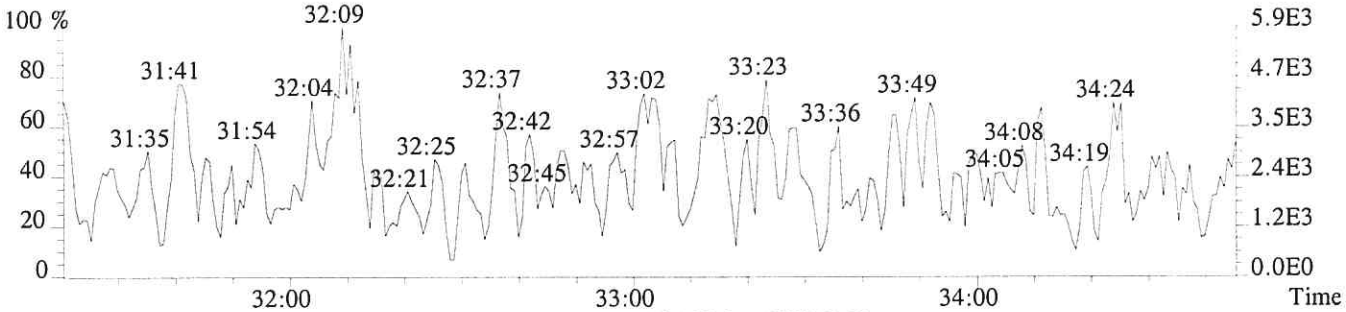
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



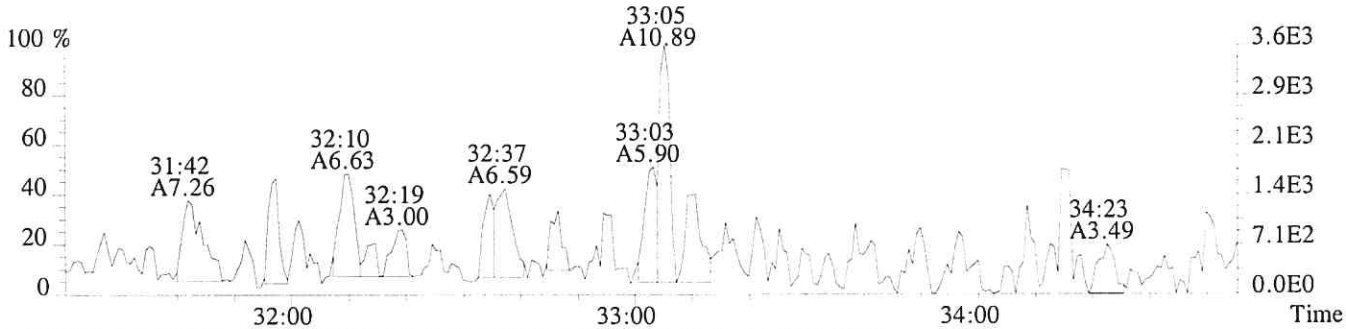
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



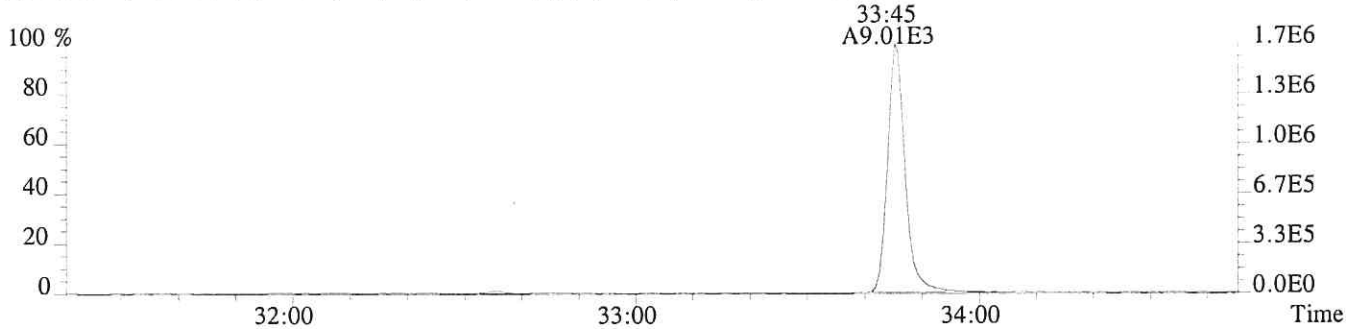
File:P511545 #1-308 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2588.0,1.00%,F,T)



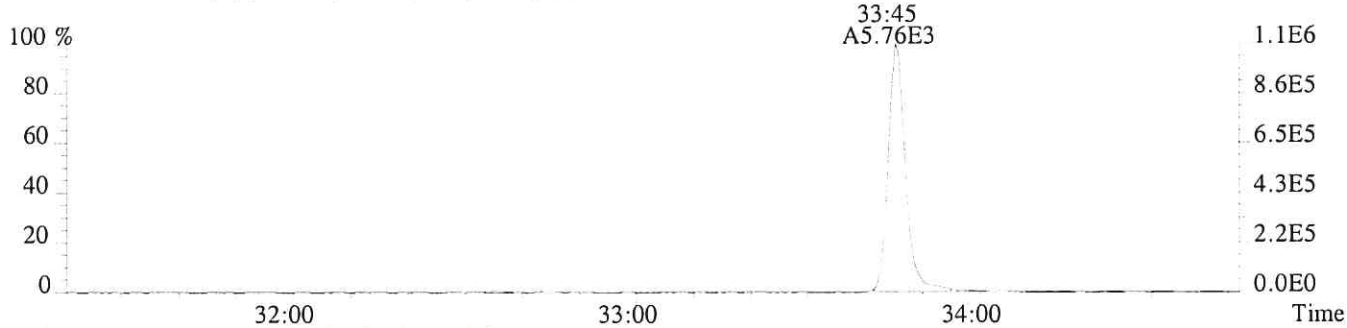
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



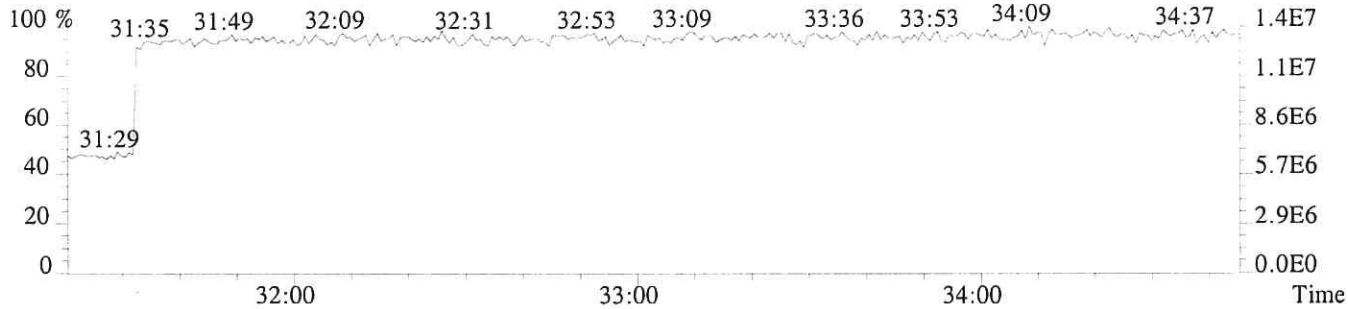
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2900.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)

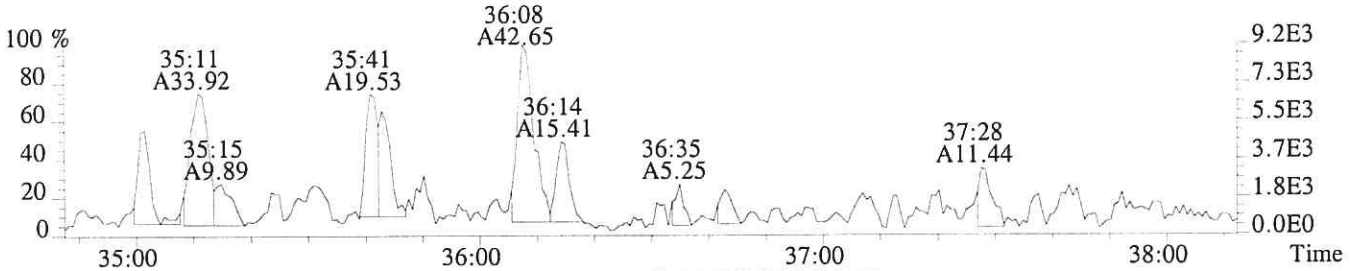


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

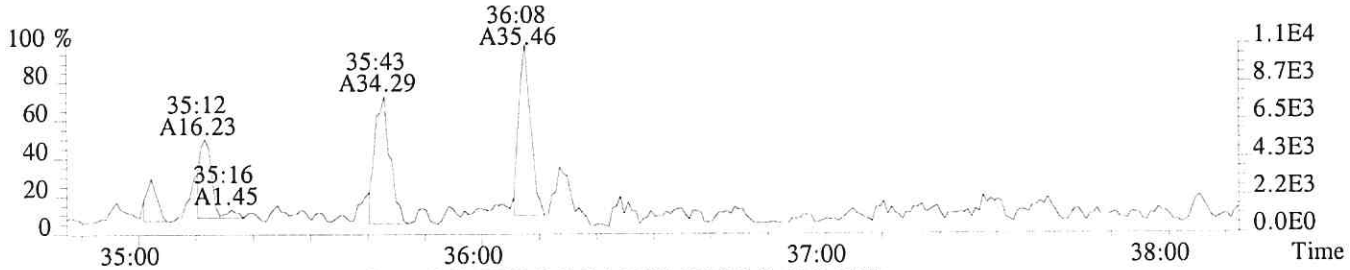


File:P511545 #1-308 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

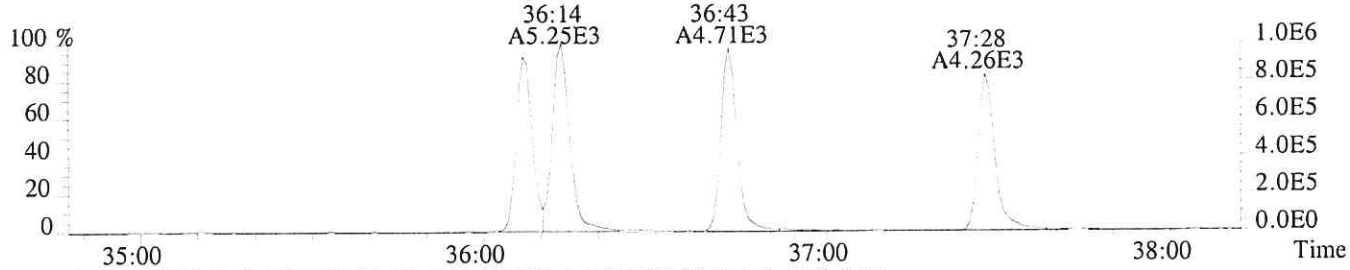
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1192.0,0.40%,F,T)



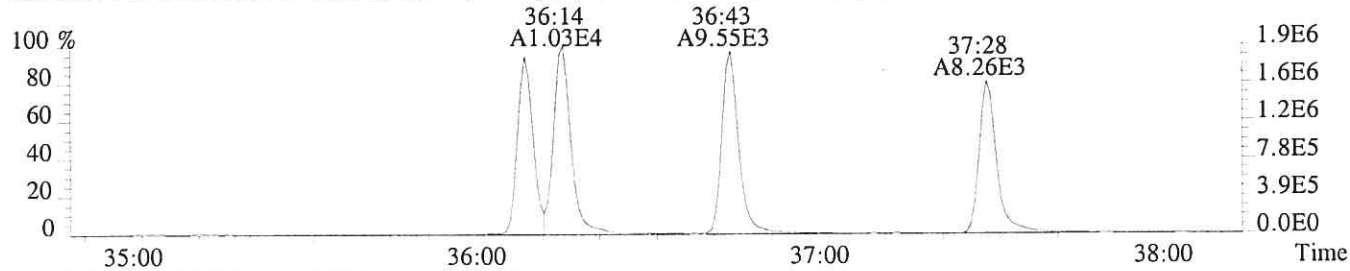
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



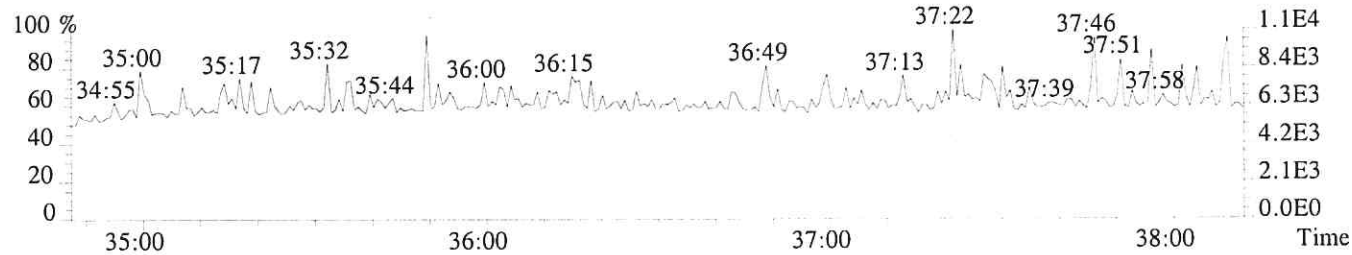
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1272.0,0.40%,F,T)



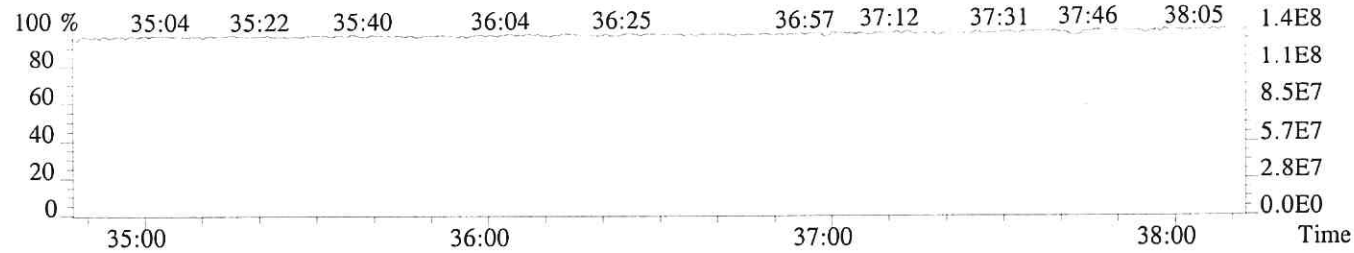
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2172.0,0.40%,F,T)



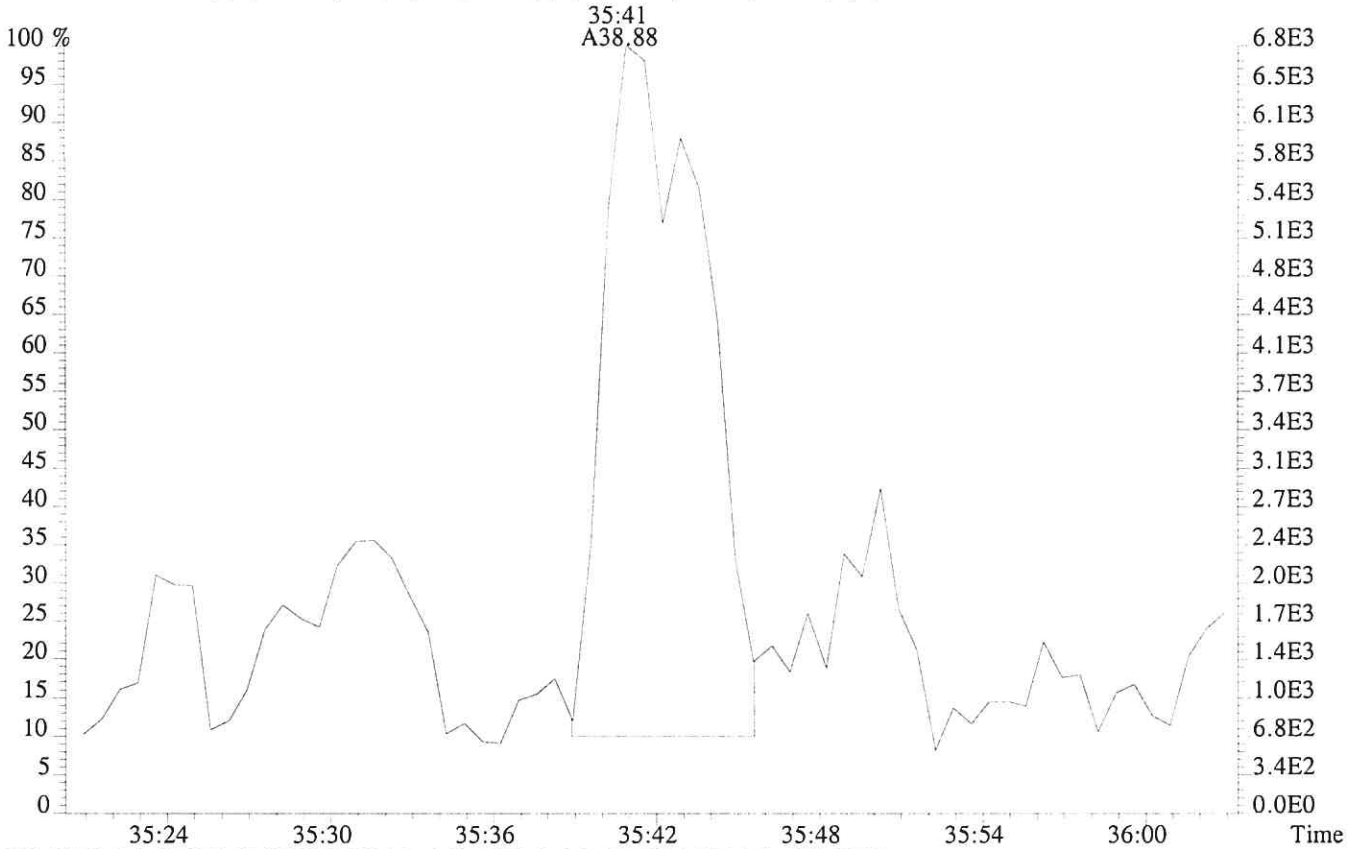
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



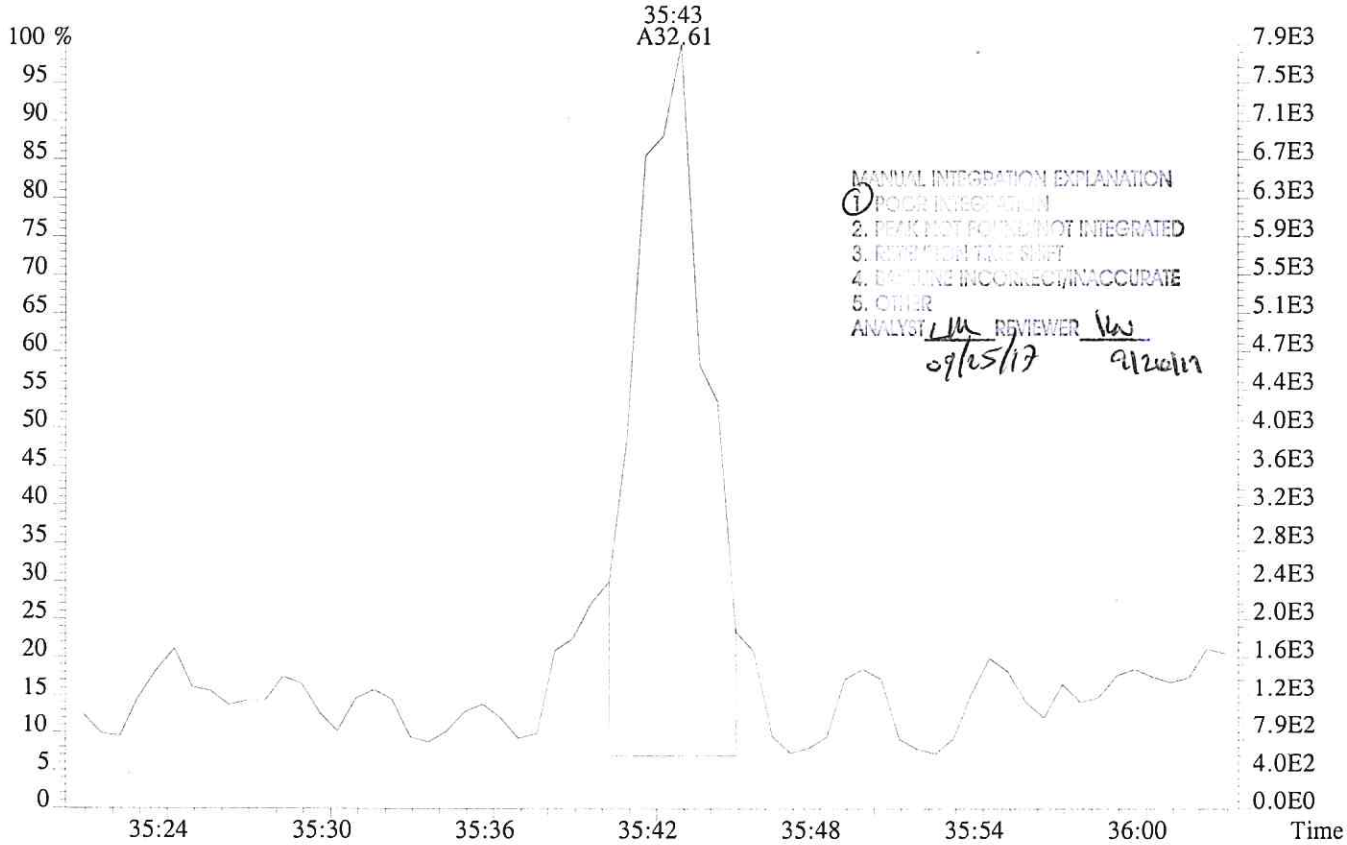
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511545 #1-308 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1192.0,0.40%,F,T)

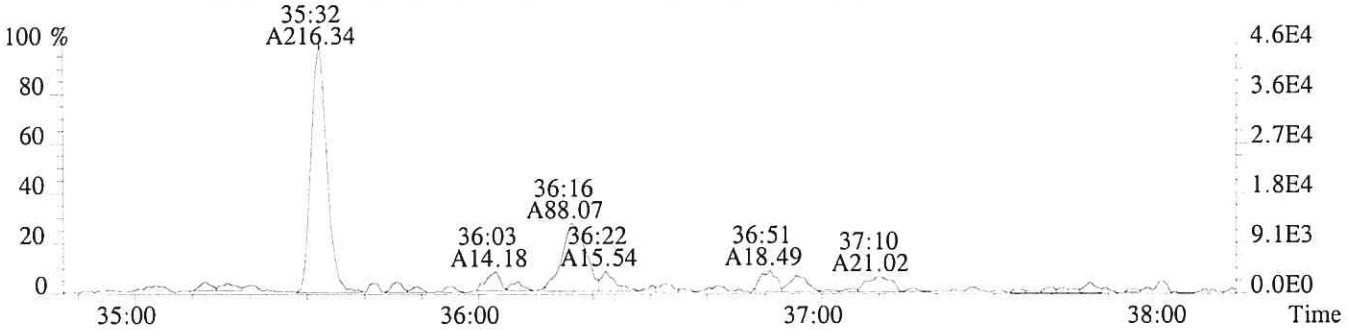


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)

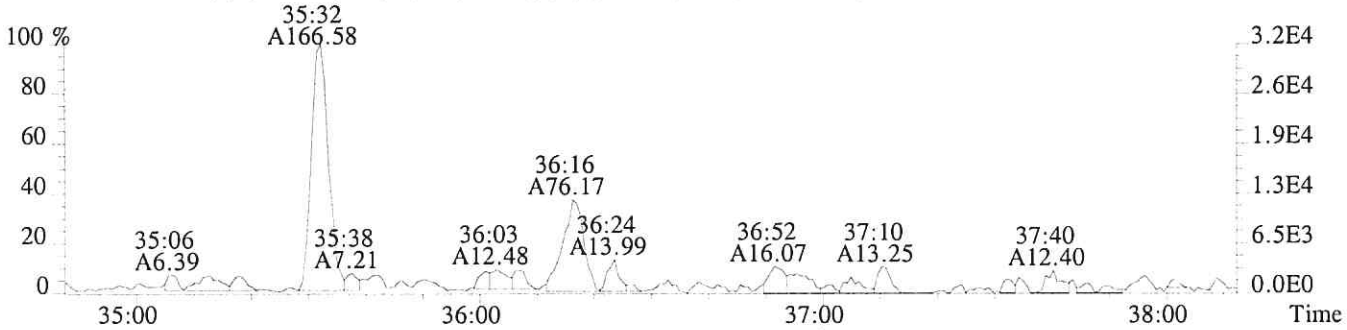


File:P511545 #1-308 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

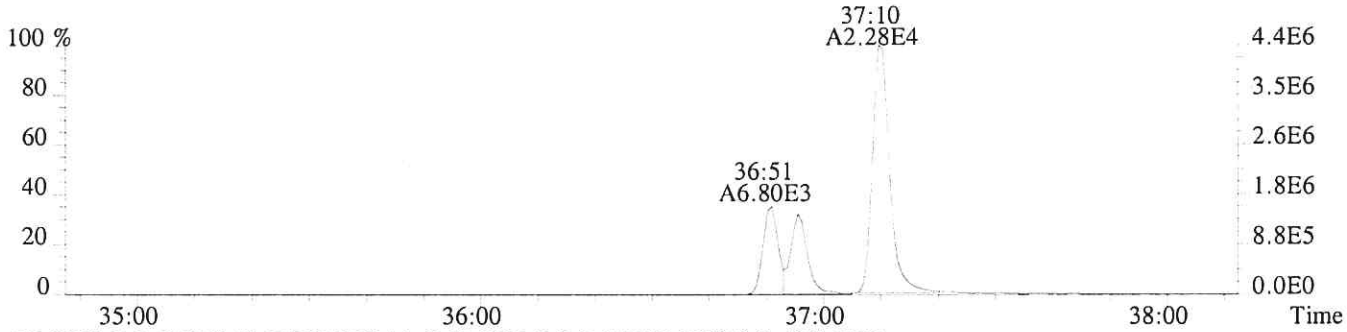
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,536.0,0.40%,F,T)



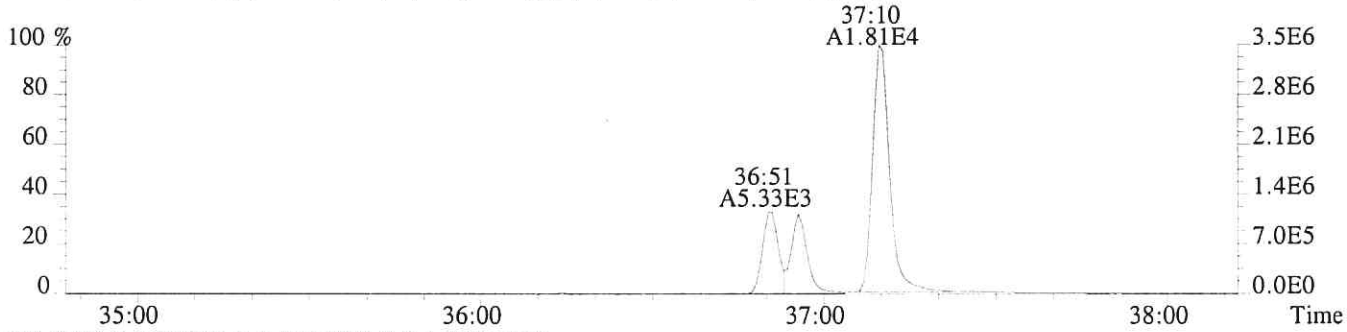
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.40%,F,T)



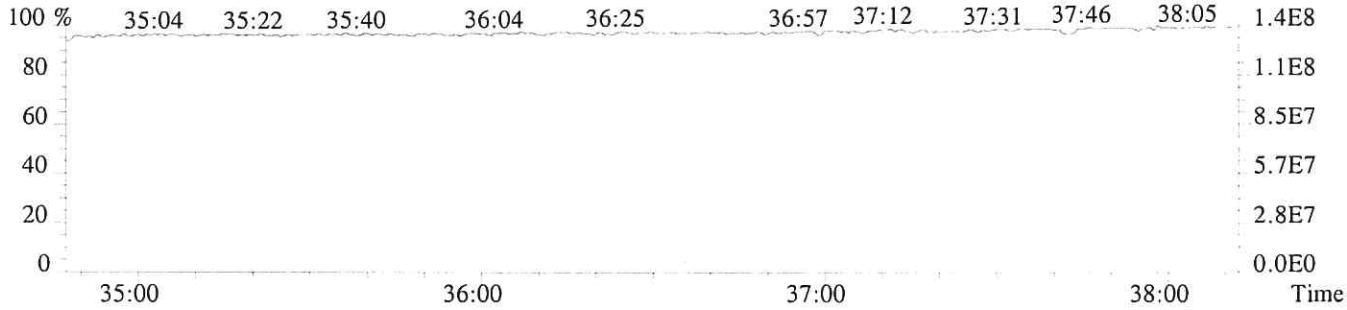
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2352.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2060.0,0.40%,F,T)

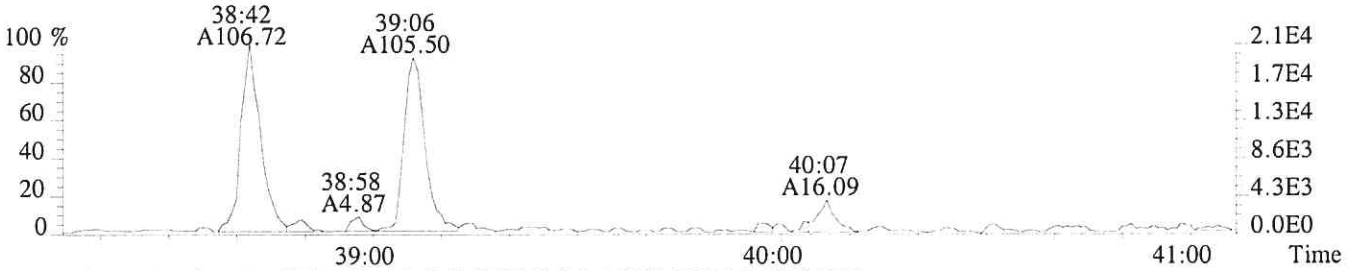


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

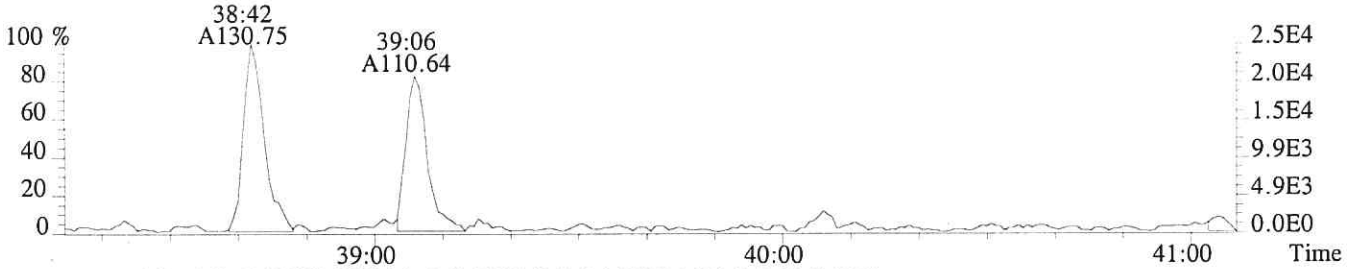


File:P511545 #1-259 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

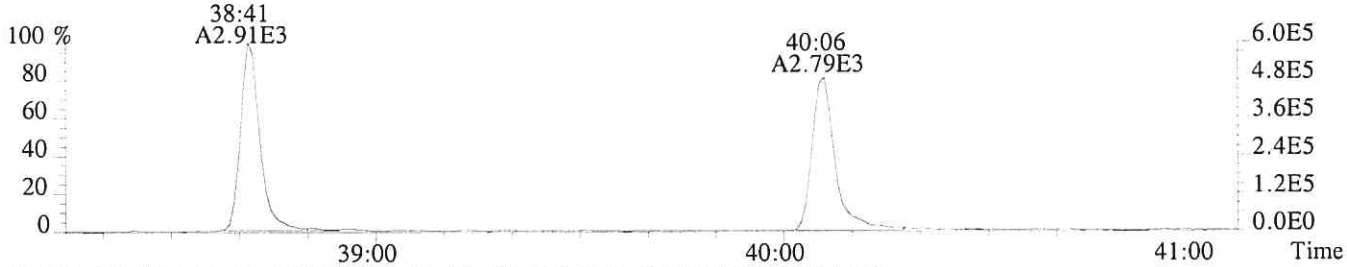
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,544.0,0.50%,F,T)



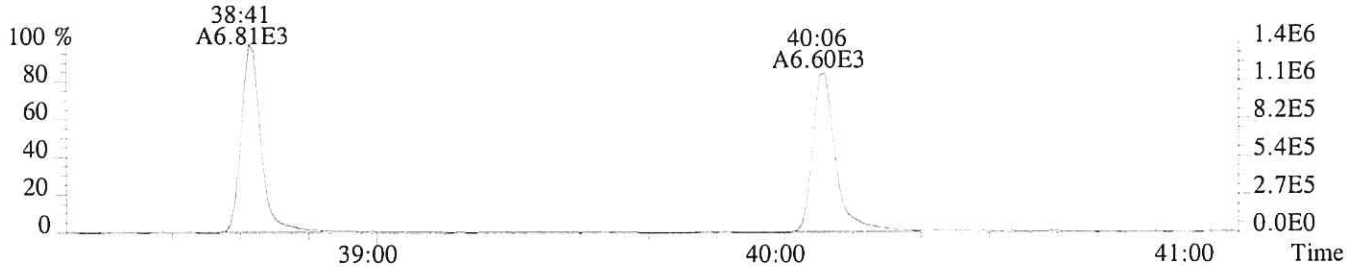
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,748.0,0.50%,F,T)



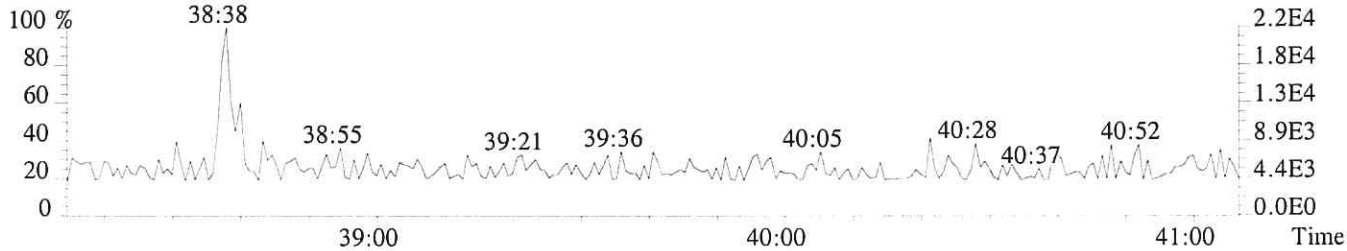
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2520.0,0.50%,F,T)



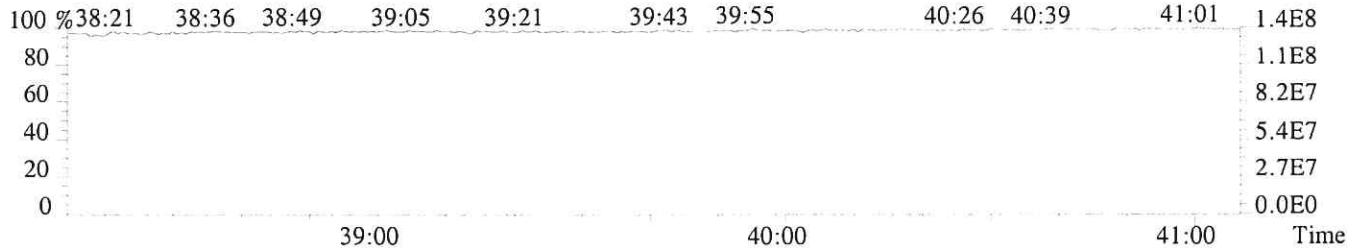
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3672.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

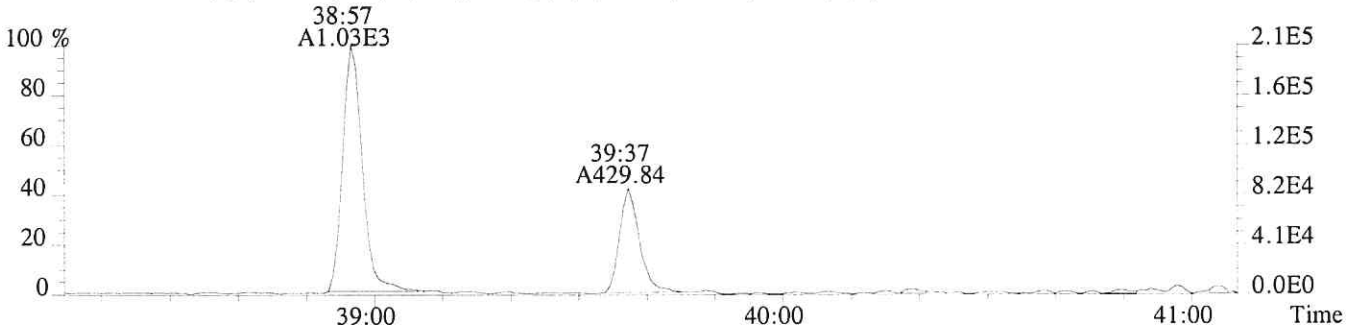


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

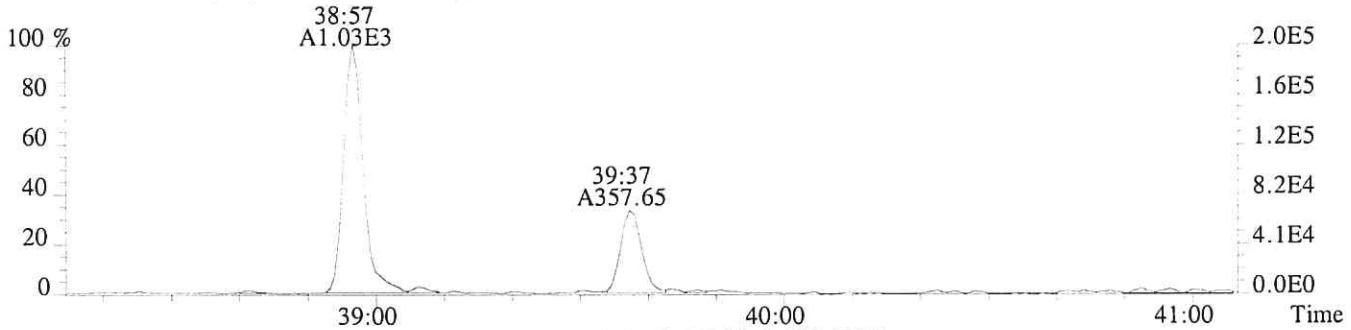


File:P511545 #1-259 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

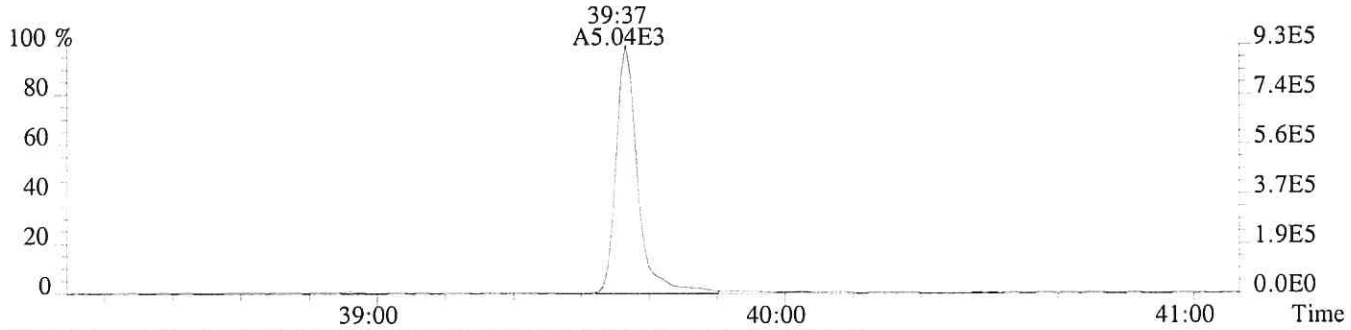
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1744.0,0.40%,F,T)



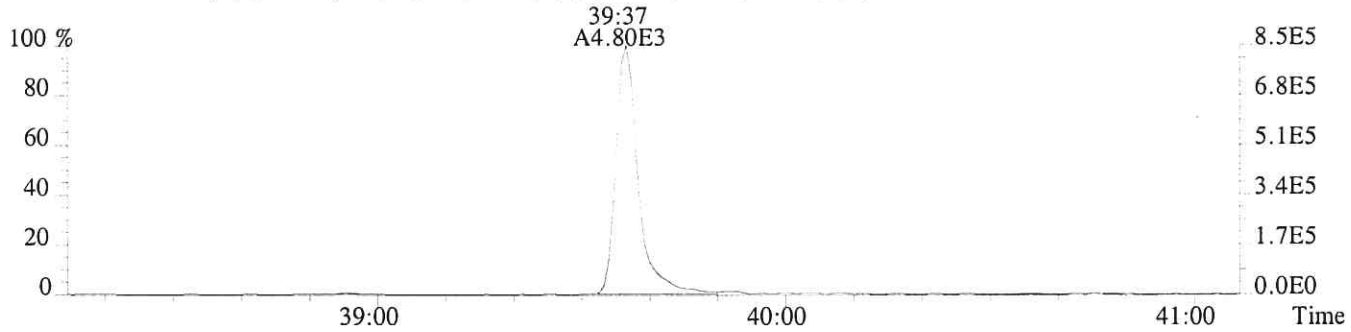
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,T)



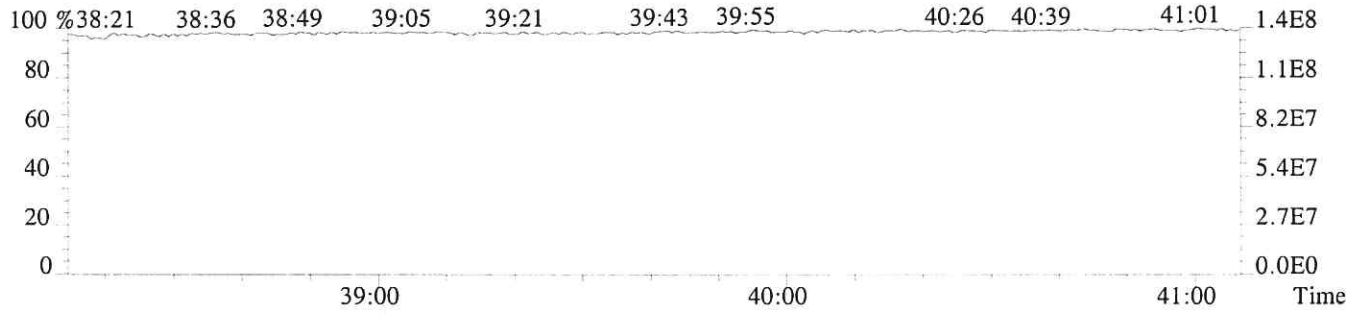
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1536.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,968.0,0.40%,F,T)

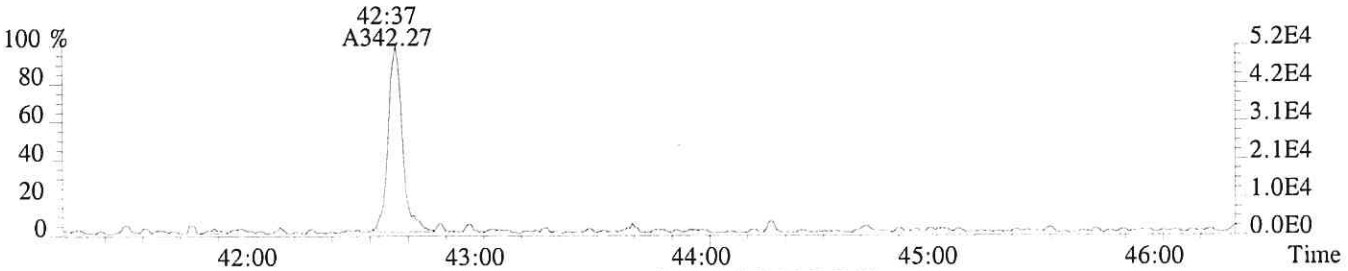


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

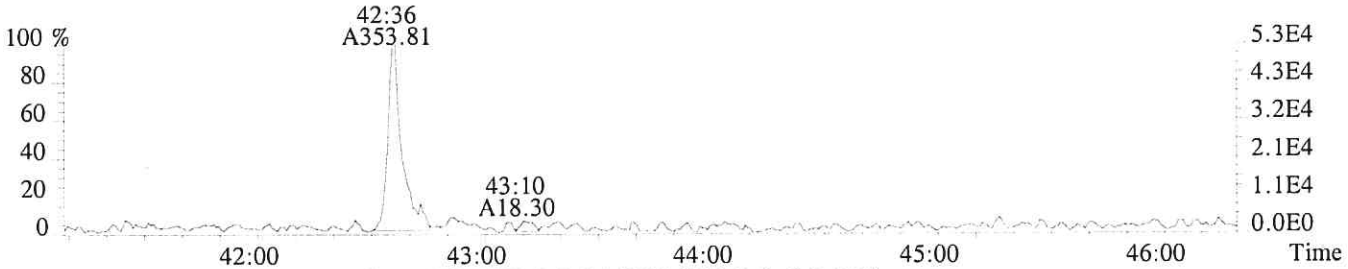


File:P511545 #1-466 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

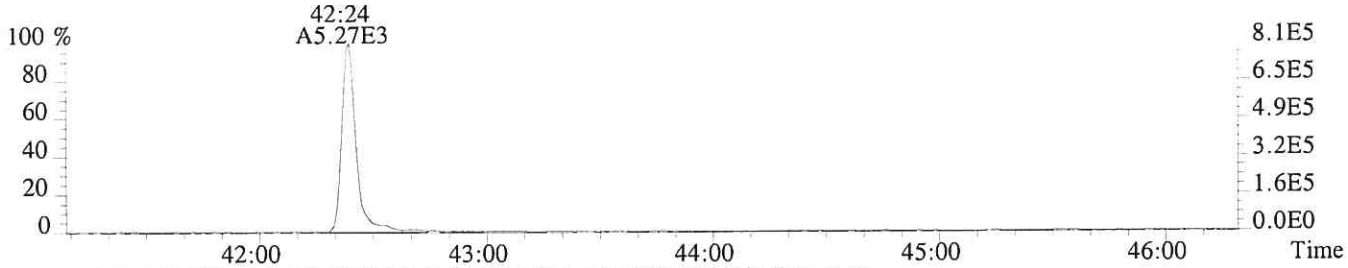
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1372.0,0.40%,F,T)



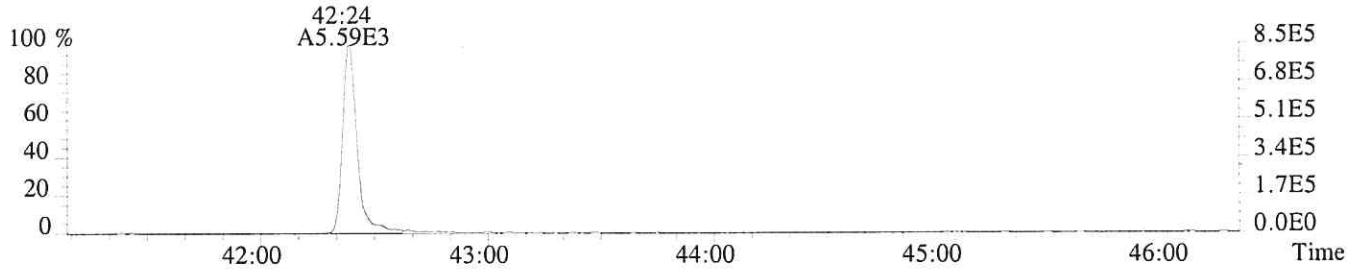
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2312.0,0.40%,F,T)



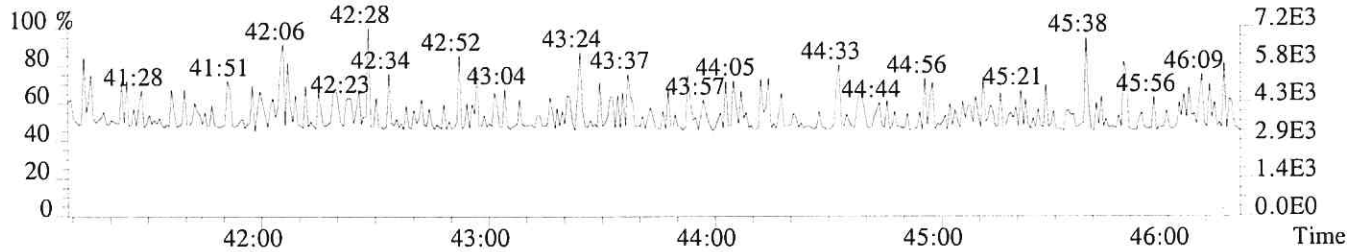
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1280.0,0.40%,F,T)



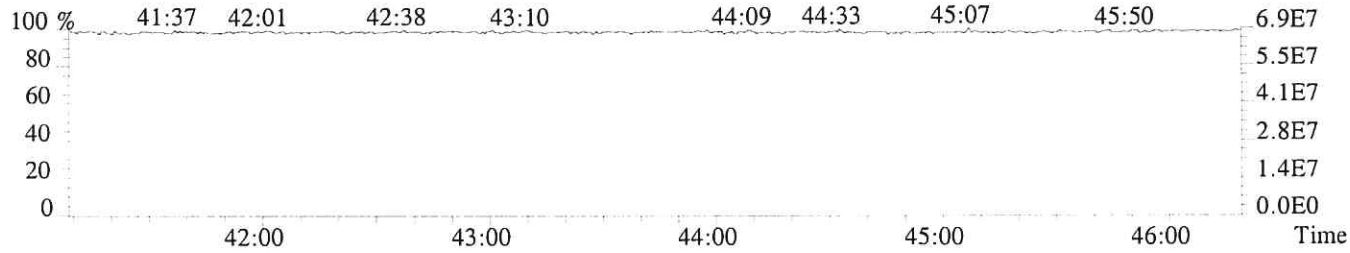
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

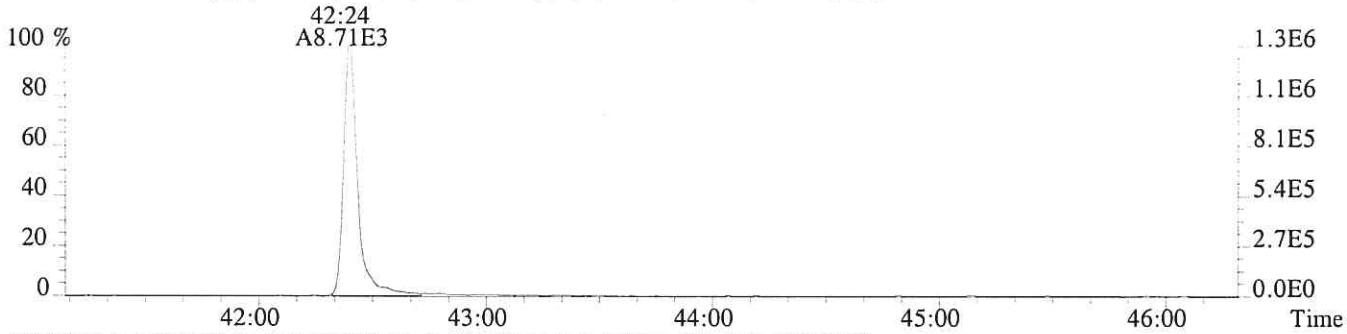


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

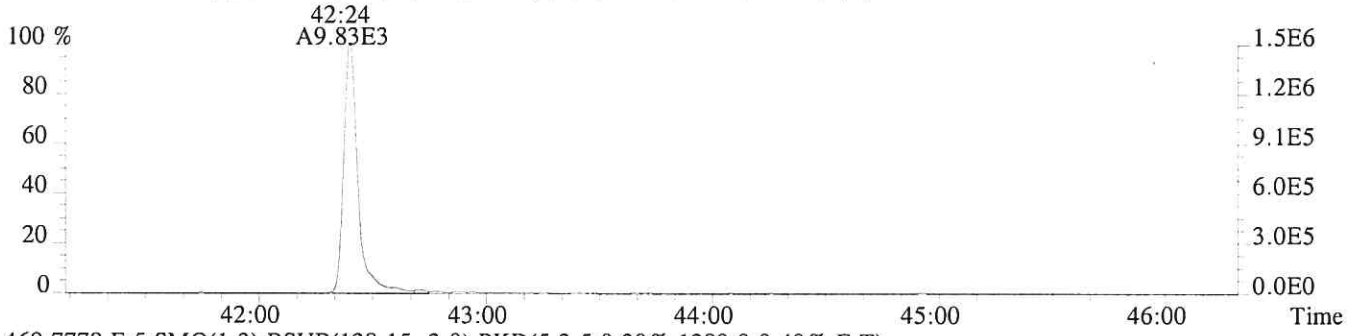


File:P511545 #1-466 Acq:24-SEP-2017 18:18:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-006

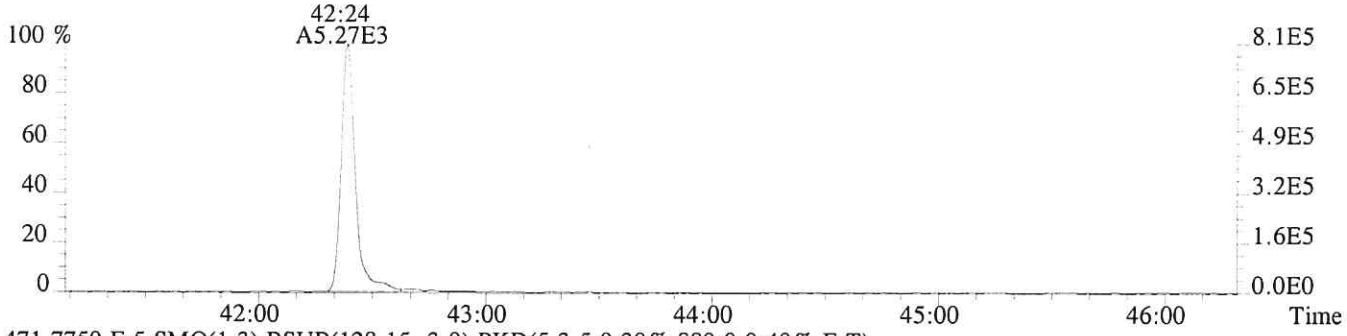
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



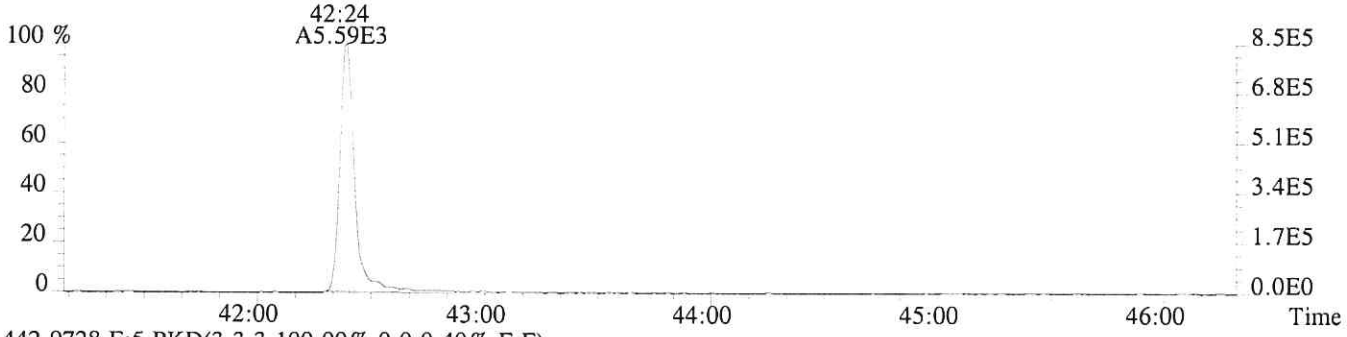
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,696.0,0.40%,F,T)



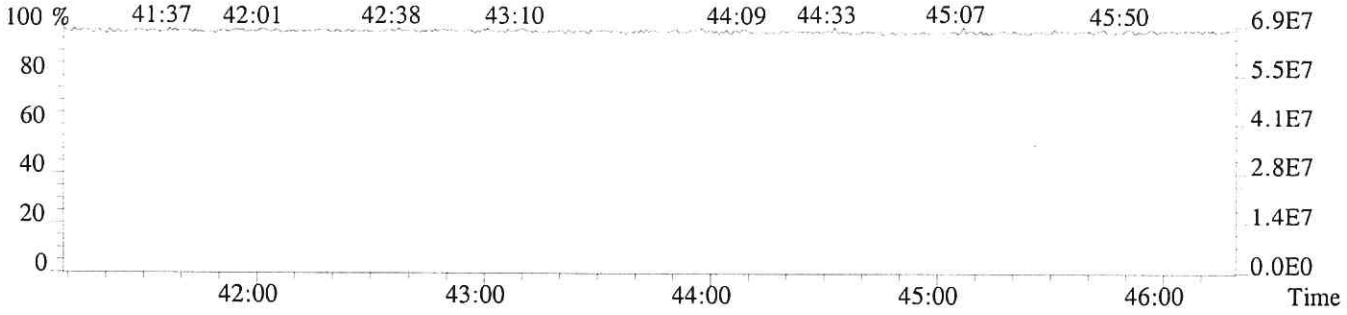
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1280.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #16 Filename P511546 Samp: 1 Inj: 1 Acquired: 24-SEP-17 19:07:12
Processed: 25-SEP-17 13:18:22 Sample ID: E1700974-007

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	3.064e+03	4.139e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.352e+02	9.620e+01	1.41	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:29	1.100e+02	7.564e+01	1.45	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	1.601e+02	1.425e+02	1.12	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	5.308e+01	4.065e+01	1.31	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	9.890e+01	1.017e+02	0.97	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:05	1.578e+01	1.230e+01	1.28	no	no	1.191
10	Unk	OCDF	42:36	5.778e+02	6.601e+02	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	6.068e+02	7.687e+02	0.79	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	4.127e+02	4.409e+02	0.94	yes	no	0.942
17	Unk	OCDD	42:24	6.898e+03	7.900e+03	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.217e+04	1.607e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	2.049e+04	1.320e+04	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	2.005e+04	1.270e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	7.495e+03	1.490e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	8.633e+03	1.645e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	7.590e+03	1.520e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	7.418e+03	1.414e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:41	4.722e+03	1.086e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:05	4.614e+03	1.026e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	9.662e+03	1.210e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:45	1.560e+04	9.847e+03	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.142e+04	8.703e+03	1.31	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.201e+04	9.296e+03	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	7.681e+03	7.474e+03	1.03	yes	no	0.881
32	IS	13C-OCDD	42:24	7.592e+03	8.325e+03	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.737e+04	3.477e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	3.424e+04	2.698e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.491e+04				no	1.033

$$\text{OCDD} = \frac{(6.898e+03 + 7.900e+03) \times 4000 \text{ pg} \times 1}{(7.592e+03 + 8.325e+03) \times 10.904 \text{ g} \times 59.3 / 100 \times 1.051} = 547 \text{ ng/kg}$$

KW 9/20/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-026

Run #16 Filename P511546 Samp: 1 Inj: 1 Acquired: 24-SEP-17 19:07:12
Processed: 25-SEP-17 13:18:22 LAB. ID: E1700974-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.91e+05	1.02e+03	4.8e+02	6.99e+05	3.49e+03	2.0e+02
2	1,2,3,7,8-PeCDF	2.21e+04	1.67e+03	1.3e+01	1.78e+04	3.07e+03	5.8e+00
3	2,3,4,7,8-PeCDF	1.56e+04	1.67e+03	9.3e+00	1.39e+04	3.07e+03	4.5e+00
4	1,2,3,4,7,8-HxCDF	3.77e+04	1.80e+03	2.1e+01	3.01e+04	1.17e+03	2.6e+01
5	1,2,3,6,7,8-HxCDF	8.63e+03	1.80e+03	4.8e+00	9.59e+03	1.17e+03	8.2e+00
6	2,3,4,6,7,8-HxCDF	*	1.80e+03	*	*	1.17e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.80e+03	*	*	1.17e+03	*
8	1,2,3,4,6,7,8-HpCDF	2.06e+04	7.32e+02	2.8e+01	2.50e+04	8.00e+02	3.1e+01
9	1,2,3,4,7,8,9-HpCDF	2.72e+03	7.32e+02	3.7e+00	2.16e+03	8.00e+02	2.7e+00
10	OCDF	1.08e+05	7.72e+02	1.4e+02	1.02e+05	2.12e+03	4.8e+01
11	2,3,7,8-TCDD	1.11e+05	4.06e+03	2.7e+01	1.45e+05	1.34e+03	1.1e+02
12	1,2,3,7,8-PeCDD	*	2.92e+03	*	*	8.32e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.21e+03	*	*	2.42e+03	*
14	1,2,3,6,7,8-HxCDD	*	1.21e+03	*	*	2.42e+03	*
15	1,2,3,7,8,9-HxCDD	*	1.21e+03	*	*	2.42e+03	*
16	1,2,3,4,6,7,8-HpCDD	7.77e+04	1.34e+03	5.8e+01	8.85e+04	1.75e+03	5.1e+01
17	OCDD	1.13e+06	5.24e+02	2.2e+03	1.29e+06	1.03e+03	1.3e+03
18	13C-2,3,7,8-TCDF	2.26e+06	2.04e+04	1.1e+02	2.98e+06	1.00e+04	3.0e+02
19	13C-1,2,3,7,8-PeCDF	3.87e+06	2.24e+03	1.7e+03	2.49e+06	2.77e+03	9.0e+02
20	13C-2,3,4,7,8-PeCDF	3.89e+06	2.24e+03	1.7e+03	2.45e+06	2.77e+03	8.9e+02
21	13C-1,2,3,4,7,8-HxCDF	1.63e+06	1.04e+03	1.6e+03	3.24e+06	2.61e+03	1.2e+03
22	13C-1,2,3,6,7,8-HxCDF	1.74e+06	1.04e+03	1.7e+03	3.29e+06	2.61e+03	1.3e+03
23	13C-2,3,4,6,7,8-HxCDF	1.67e+06	1.04e+03	1.6e+03	3.30e+06	2.61e+03	1.3e+03
24	13C-1,2,3,7,8,9-HxCDF	1.53e+06	1.04e+03	1.5e+03	2.88e+06	2.61e+03	1.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.55e+05	2.14e+03	4.5e+02	2.26e+06	2.40e+03	9.4e+02
26	13C-1,2,3,4,7,8,9-HpCDF	8.40e+05	2.14e+03	3.9e+02	1.91e+06	2.40e+03	7.9e+02
27	13C-2,3,7,8-TCDD	1.88e+06	7.82e+03	2.4e+02	2.30e+06	4.12e+03	5.6e+02
28	13C-1,2,3,7,8-PeCDD	3.00e+06	2.15e+03	1.4e+03	1.94e+06	2.33e+03	8.3e+02
29	13C-1,2,3,4,7,8-HxCDD	2.54e+06	2.36e+03	1.1e+03	1.94e+06	1.47e+03	1.3e+03
30	13C-1,2,3,6,7,8-HxCDD	2.50e+06	2.36e+03	1.1e+03	1.91e+06	1.47e+03	1.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.49e+06	1.76e+03	8.5e+02	1.42e+06	1.06e+03	1.3e+03
32	13C-OCDD	1.26e+06	1.14e+03	1.1e+03	1.39e+06	1.25e+03	1.1e+03
33	13C-1,2,3,4-TCDD	5.31e+06	7.82e+03	6.8e+02	6.84e+06	4.12e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	7.10e+06	2.36e+03	3.0e+03	5.67e+06	1.47e+03	3.9e+03
35	37Cl-2,3,7,8-TCDD	2.87e+06	1.95e+03	1.5e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (4.064e{+}03 + 1.340e{+}03) \times 2000}{(1.885e{+}06 + 2.295e{+}06) \times (\qquad\qquad) \times 1.065} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026

Entry: 36 Totals Name: Total Tetra-Furans

Run: 16 File: P511546 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 303.9020 305.8990 Tot Response: 1.28e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:58	1.73e+02	2.30e+02	0.75	yes	4.02e+02		n	n
2	26:38	1.35e+02	2.06e+02	0.65	yes	3.41e+02		n	n
3	27:00	2.16e+01	2.73e+01	0.79	yes	4.88e+01		n	n
4	27:19	1.56e+02	1.84e+02	0.85	yes	3.41e+02		n	n
5	27:44	1.36e+03	1.86e+03	0.73	yes	3.22e+03		n	n
6	28:30	3.06e+03	4.14e+03	0.74	yes	7.20e+03	2,3,7,8-TCDF	n	n
7	28:49	2.70e+02	3.40e+02	0.79	yes	6.10e+02		n	n
8	30:16	2.83e+02	3.79e+02	0.75	yes	6.62e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-026

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 16 File: P511546 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 319.8970 321.8940 Tot Response: 1.38e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	6.07e+02	7.69e+02	0.79	yes	1.38e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026

Entry: 38 Totals Name: Total Penta-Furans1

Run: 16 File: P511546 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 339.8600 341.8570 Tot Response: 8.44e+01 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:15	5.07e+01	3.37e+01	1.51	yes	8.44e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-026

Entry: 39 Totals Name: Total Penta-Furans2

Run: 16 File: P511546 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 339.8600 341.8570 Tot Response: 4.17e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:37	1.35e+02	9.62e+01	1.41	yes	2.31e+02	1,2,3,7,8-PeCDF	n	y
2	33:29	1.10e+02	7.56e+01	1.45	yes	1.86e+02	2,3,4,7,8-PeCDF	n	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026

Entry: 41 Totals Name: Total Hexa-Furans

Run: 16 File: P511546 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 373.8210 375.8180 Tot Response: 3.96e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:08	1.60e+02	1.43e+02	1.12	yes	3.03e+02	1,2,3,4,7,8-HxCDF	n	n
2	36:14	5.31e+01	4.07e+01	1.31	yes	9.37e+01	1,2,3,6,7,8-HxCDF	n	n

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-026

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 16 File: P511546 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 389.8160 391.8130 Tot Response: 7.59e+02 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	3.03e+02	2.78e+02	1.09	yes	5.81e+02	n	n
2	36:17	9.27e+01	8.62e+01	1.08	yes	1.79e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-026

Entry: 43 Totals Name: Total Hepta-Furans

Run: 16 File: P511546 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 407.7820 409.7790 Tot Response: 3.71e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	9.89e+01	1.02e+02	0.97	yes	2.01e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:06	8.72e+01	8.26e+01	1.06	yes	1.70e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-026

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 16 File: P511546 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 19:07:12 Processed: 25-SEP-17 13:18:22

Mass: 423.7770 425.7740 Tot Response: 3.25e+03 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.16e+03	1.24e+03	0.94	yes	2.40e+03		n	n
2	39:37	4.13e+02	4.41e+02	0.94	yes	8.54e+02	1,2,3,4,6,7,8-HpCDD	n	n

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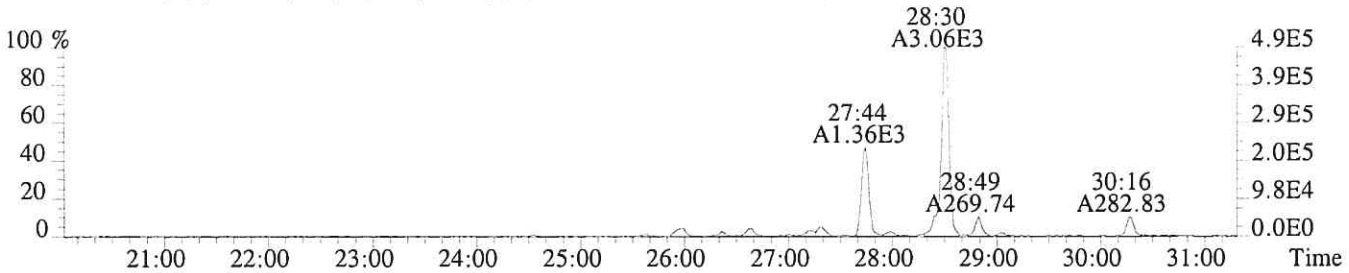
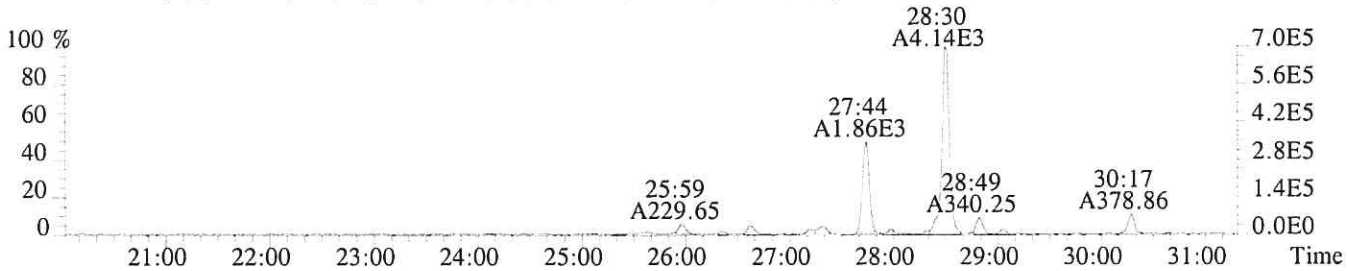
File:P511546 #1-800 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

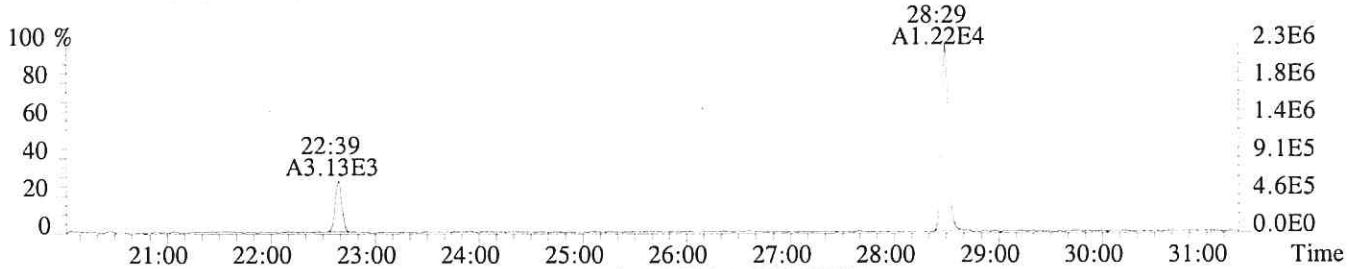
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



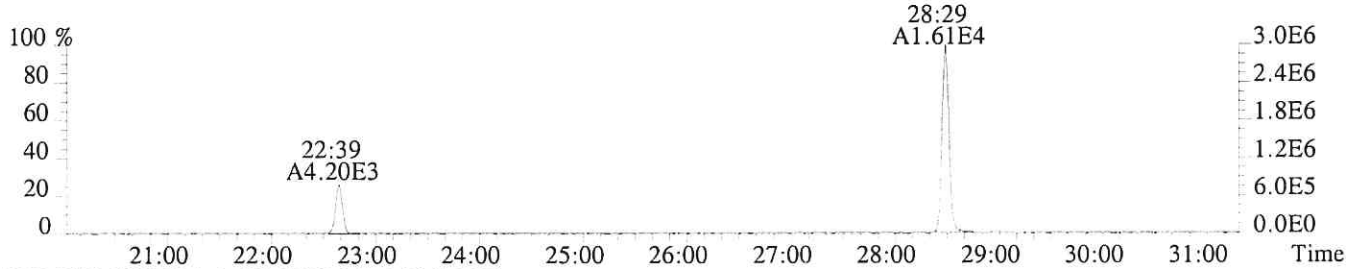
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3488.0,1.00%,F,T)



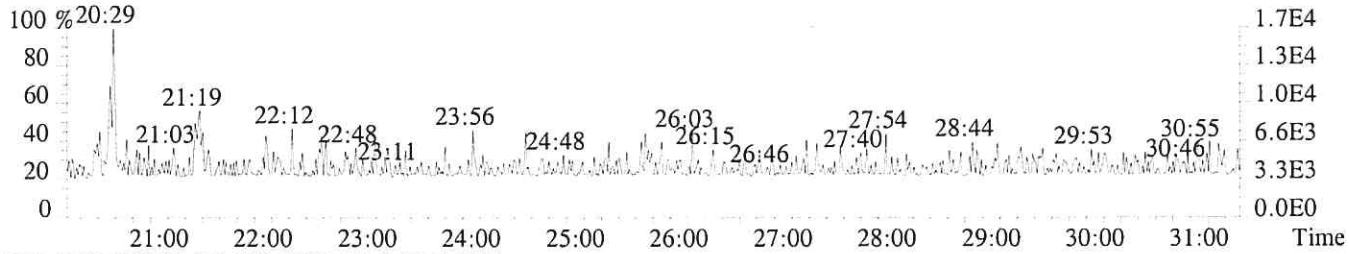
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,20444.0,1.00%,F,T)



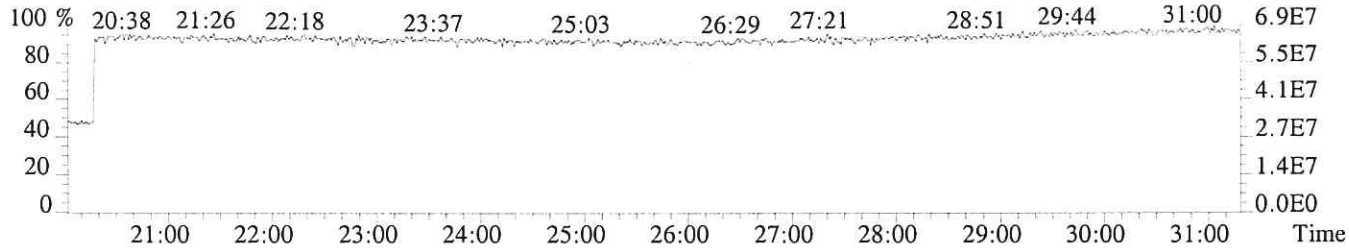
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10000.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

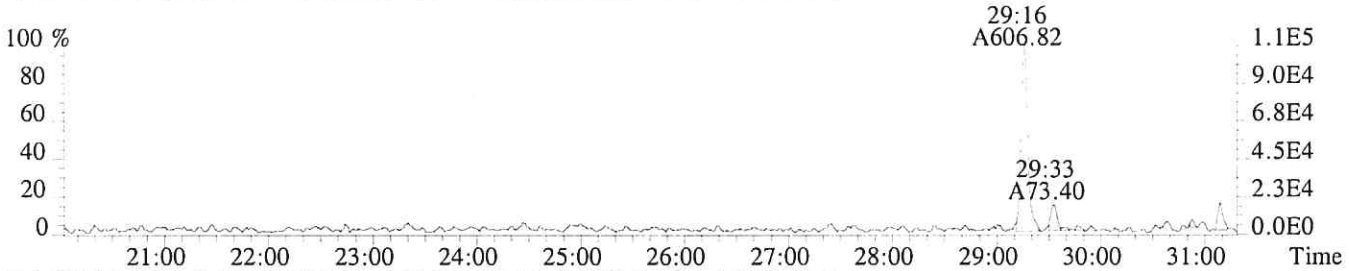


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

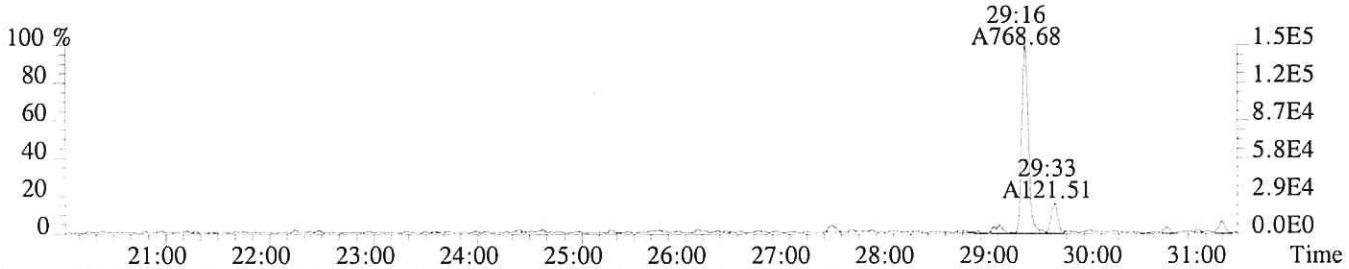


File:P511546 #1-800 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

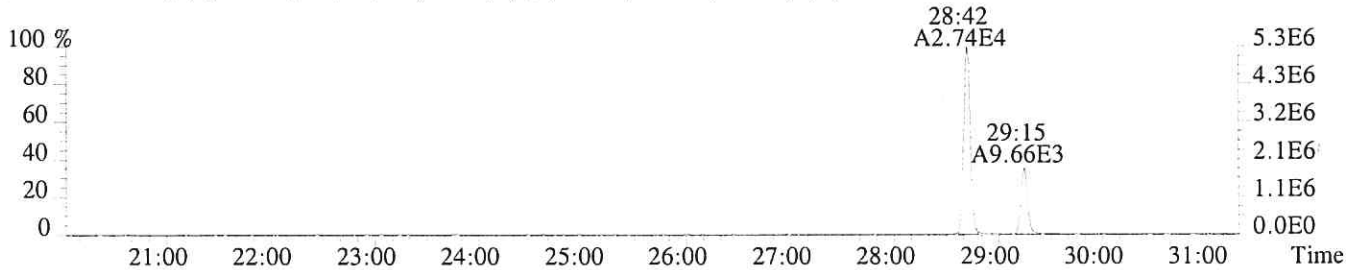
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4064.0,1.00%,F,T)



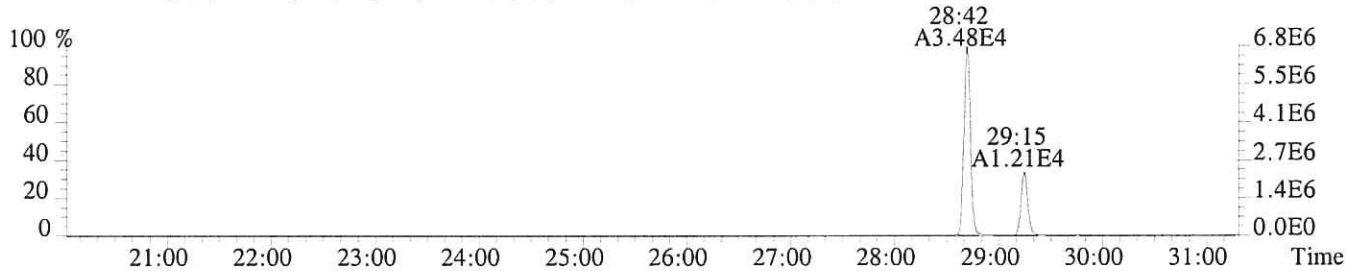
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



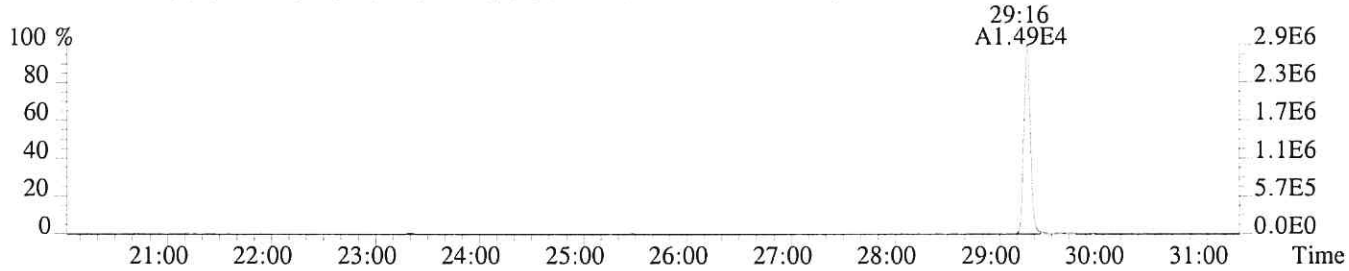
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7816.0,1.00%,F,T)



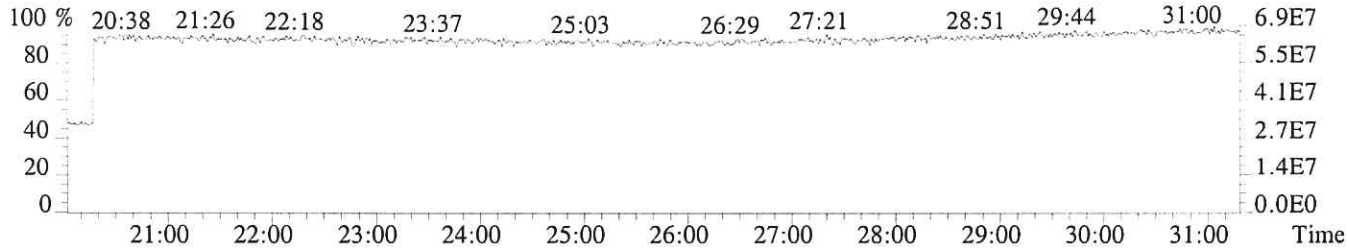
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4116.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1952.0,1.00%,F,T)

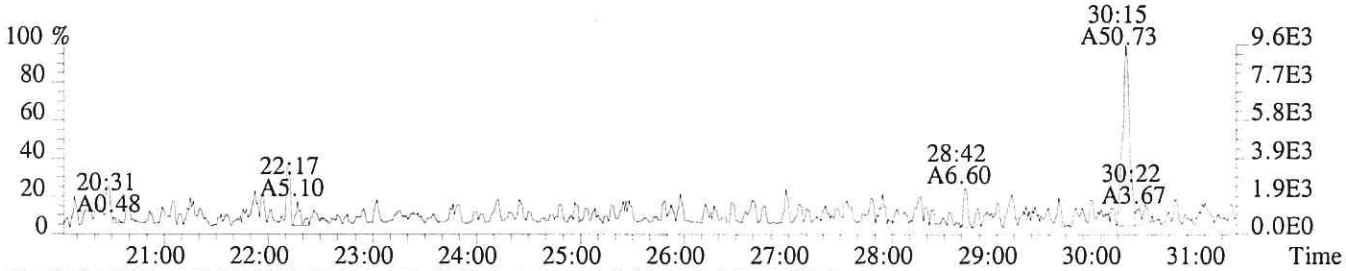


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

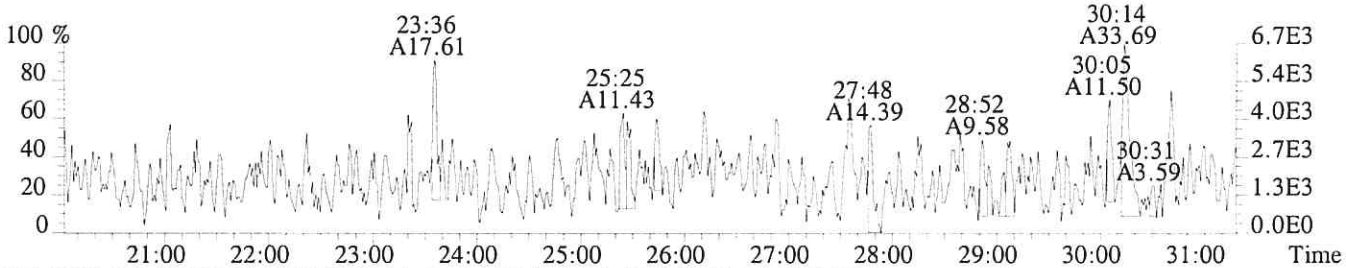


File:P511546 #1-800 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

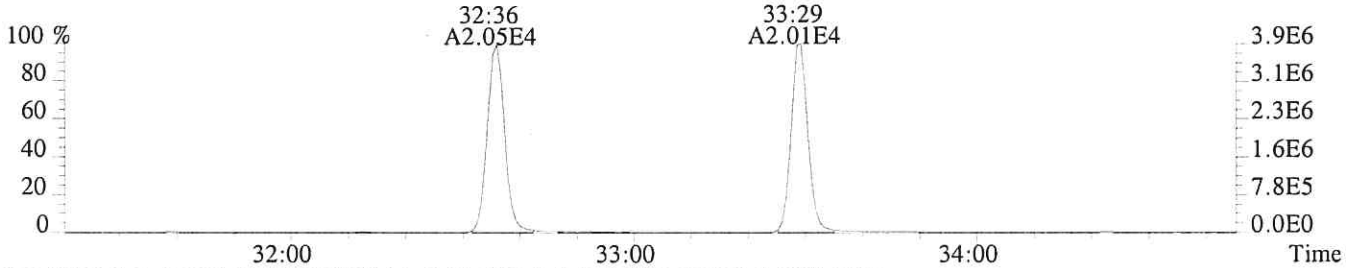
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



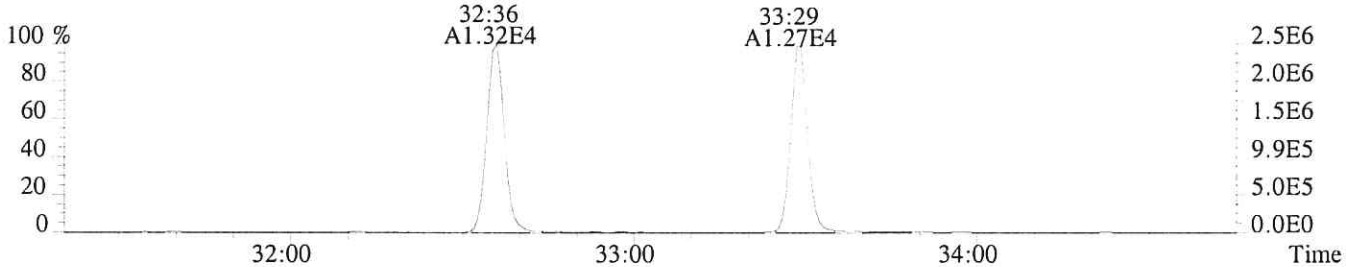
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2360.0,1.00%,F,T)



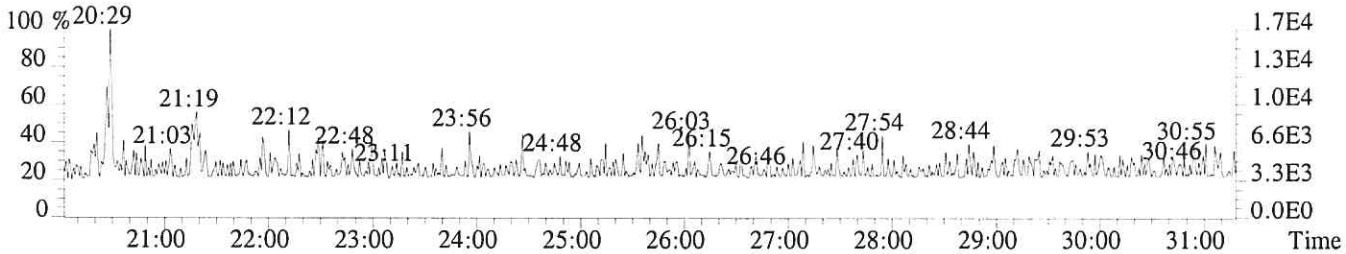
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2244.0,1.00%,F,T)



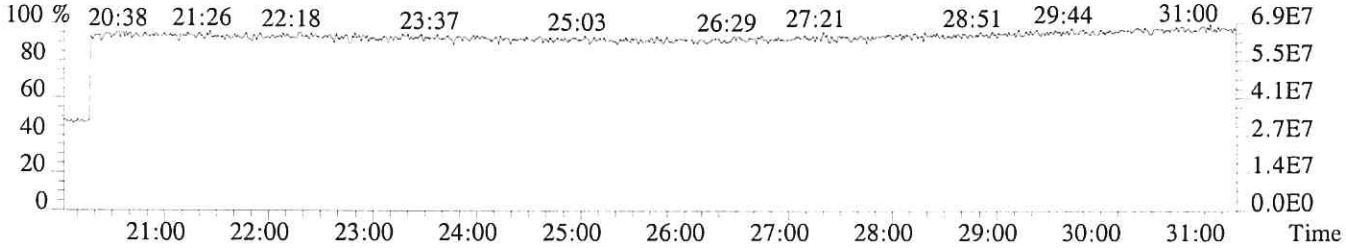
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2772.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

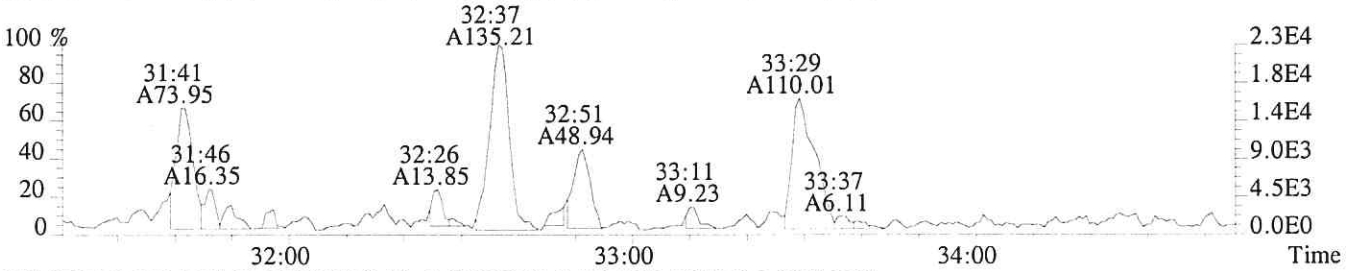


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

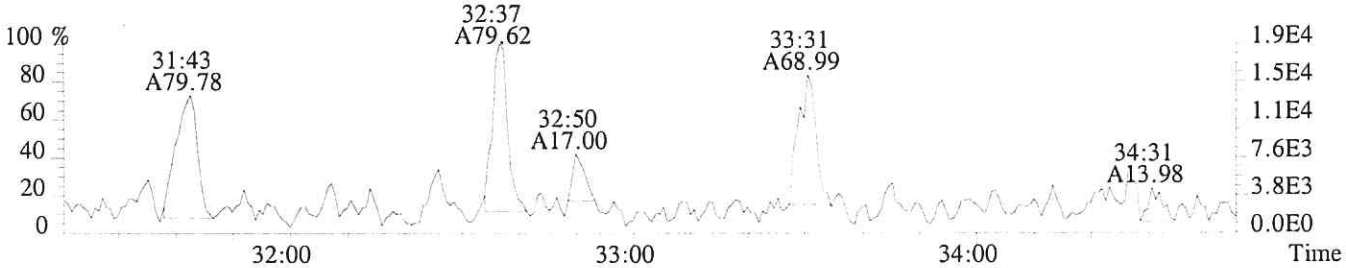


File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

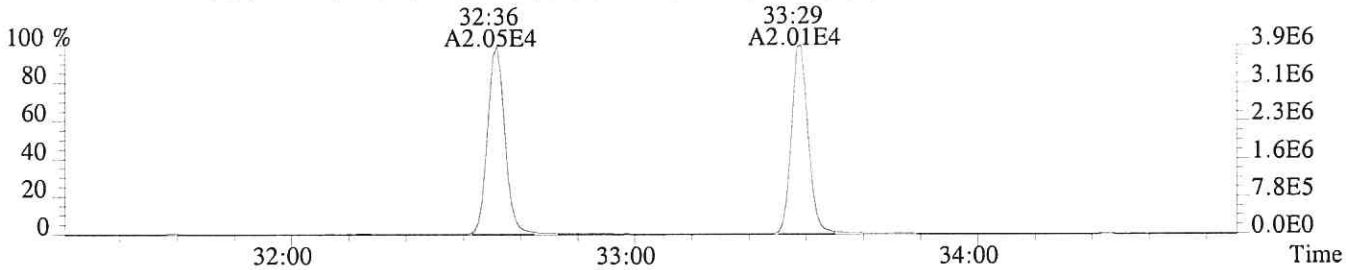
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1672.0,1.00%,F,T)



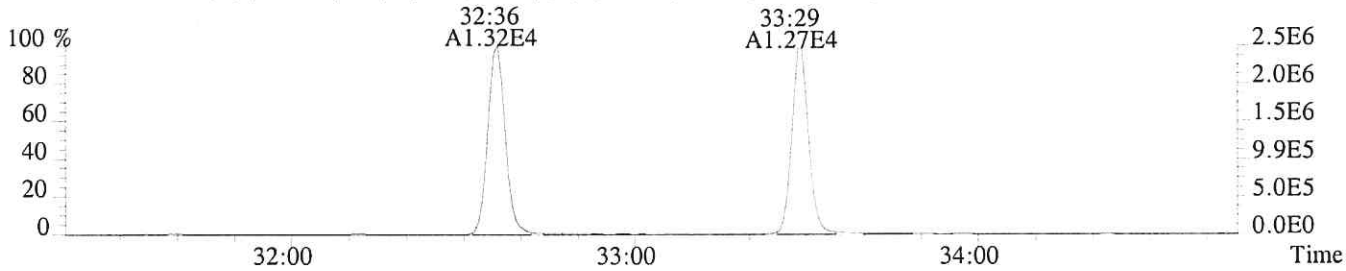
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3072.0,1.00%,F,T)



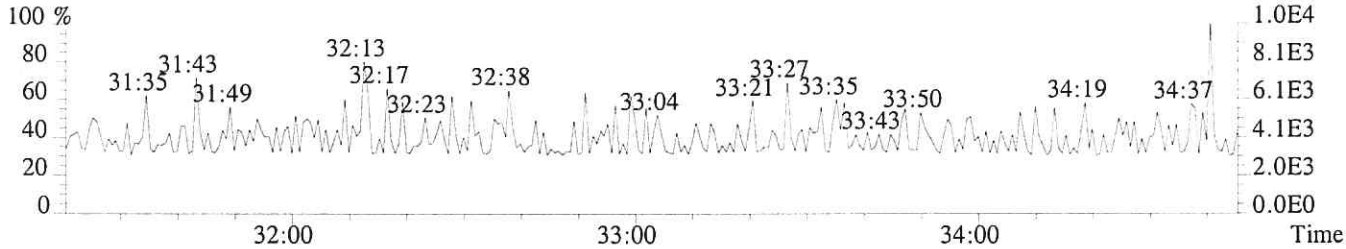
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2244.0,1.00%,F,T)



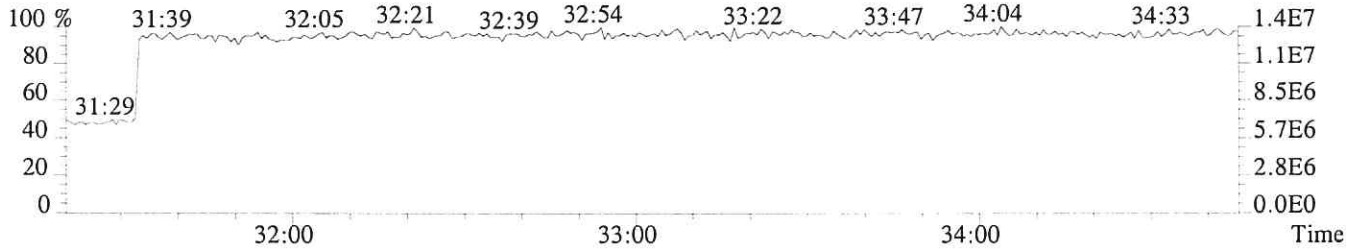
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2772.0,1.00%,F,T)



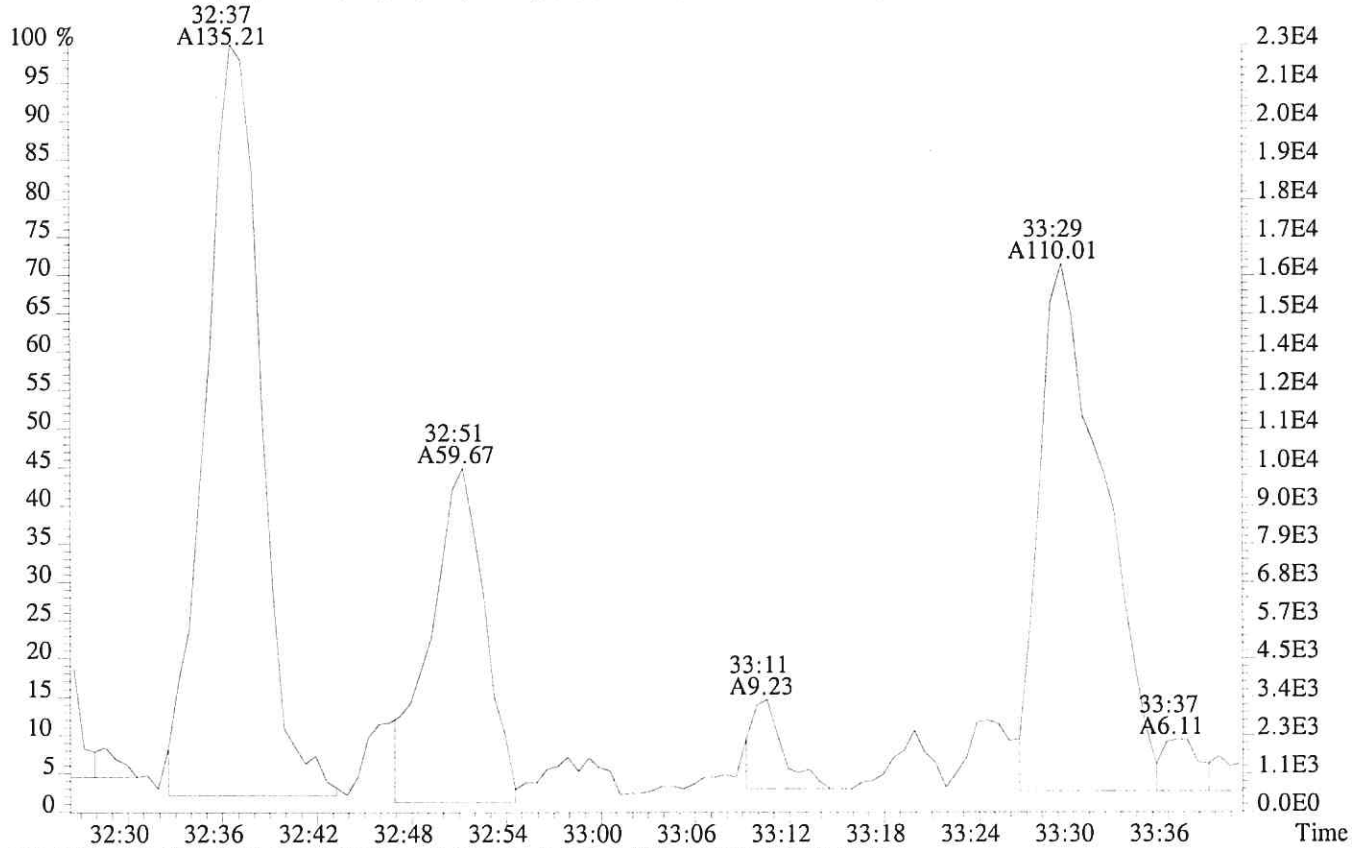
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



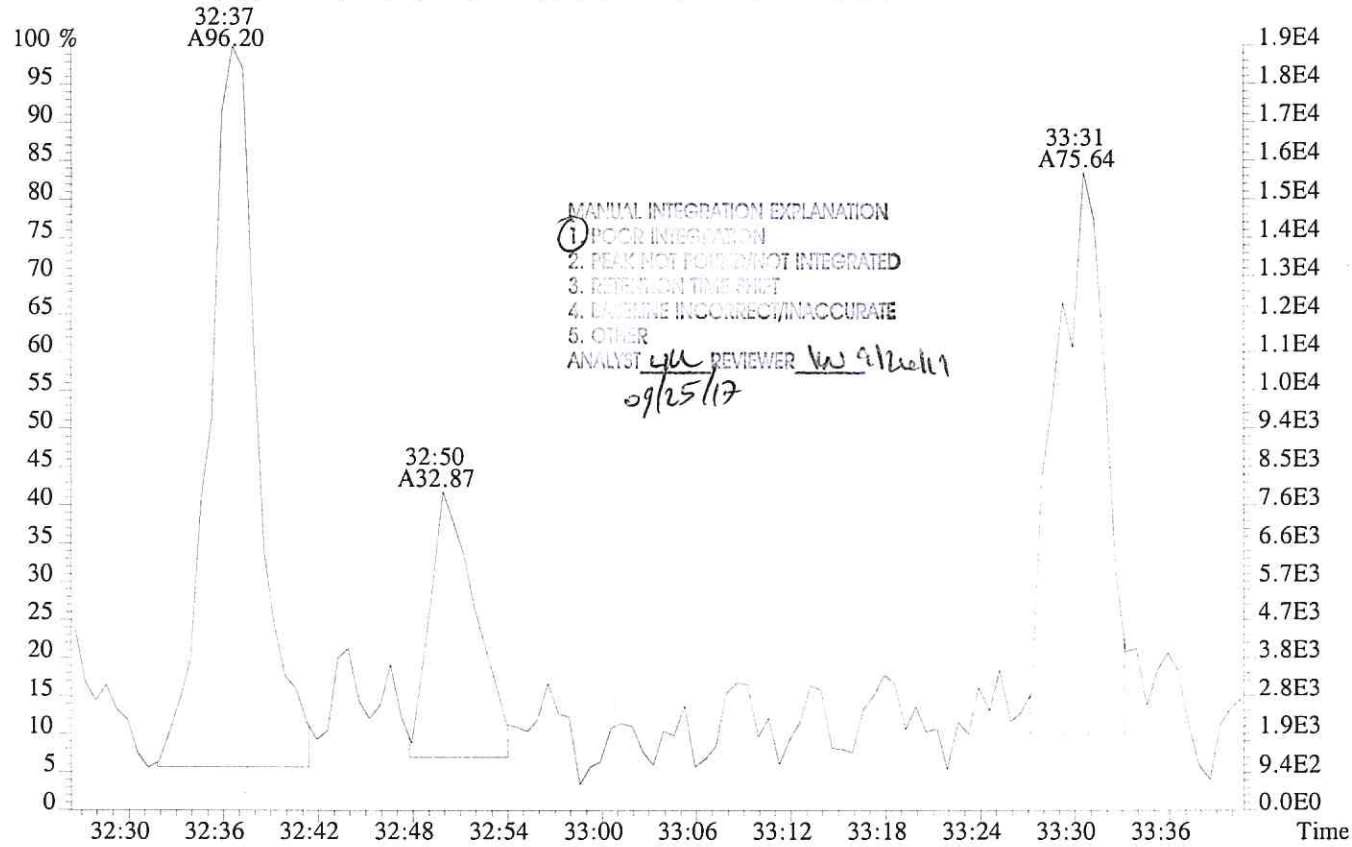
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1672.0,1.00%,F,T)



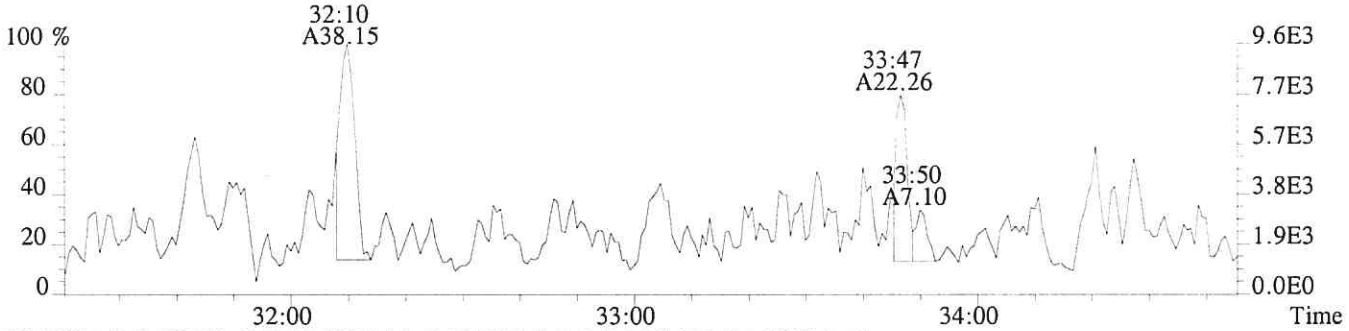
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3072.0,1.00%,F,T)



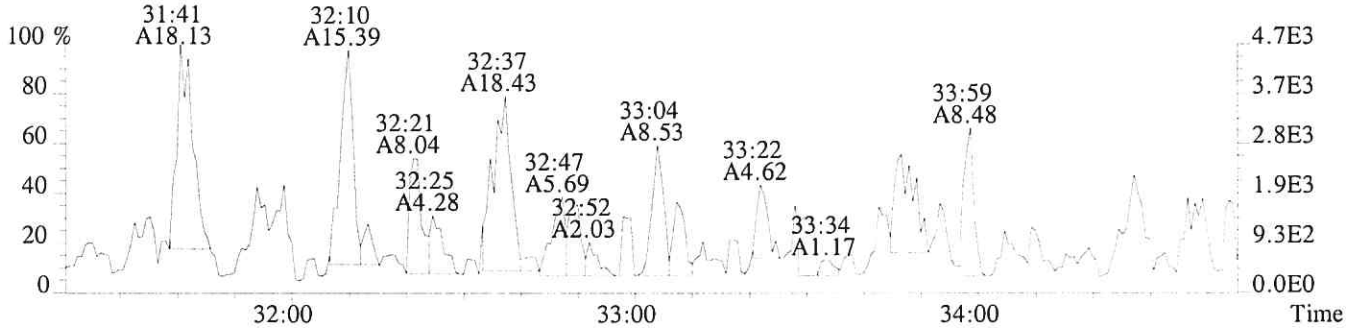
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST YU REVIEWER NW 9/26/17
09/25/17

File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

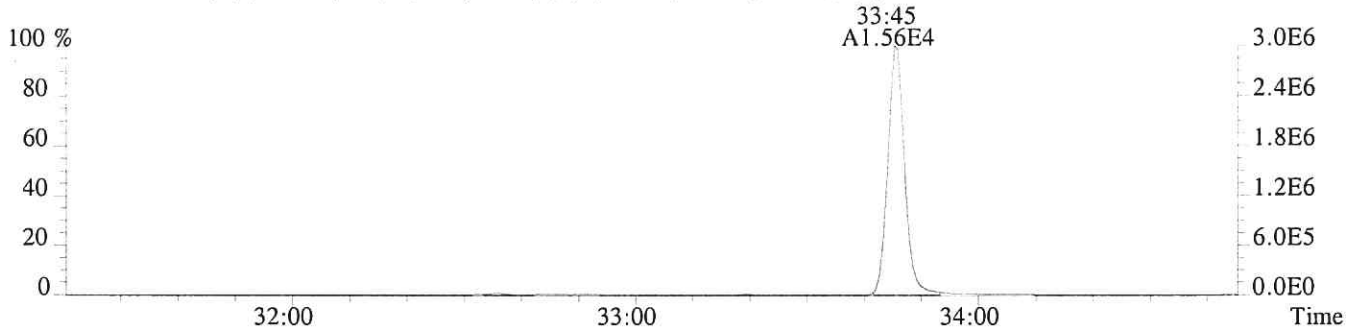
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2924.0,1.00%,F,T)



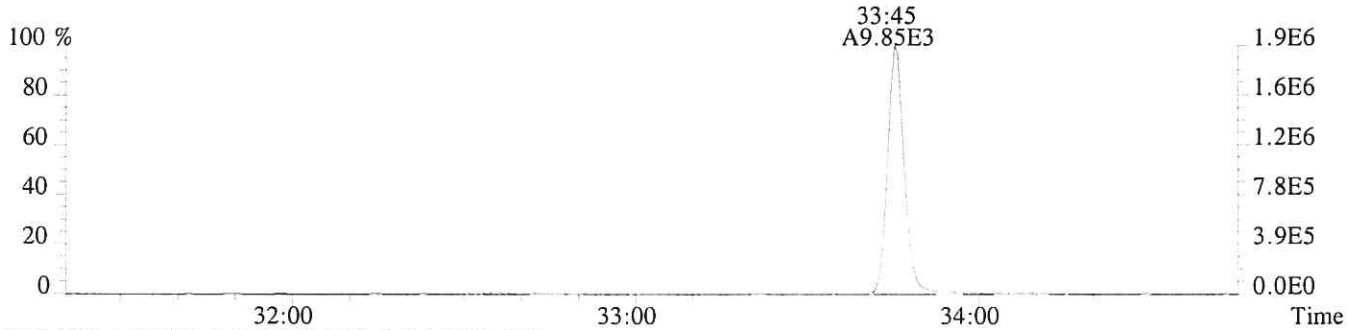
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



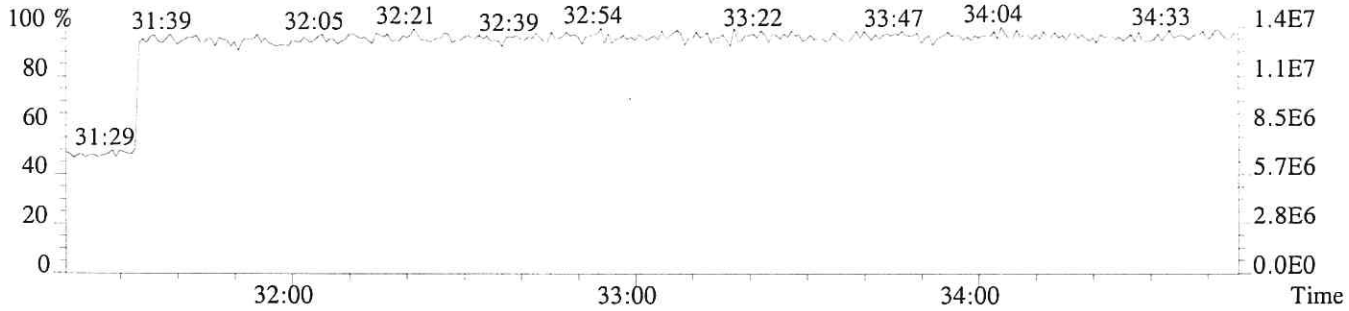
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



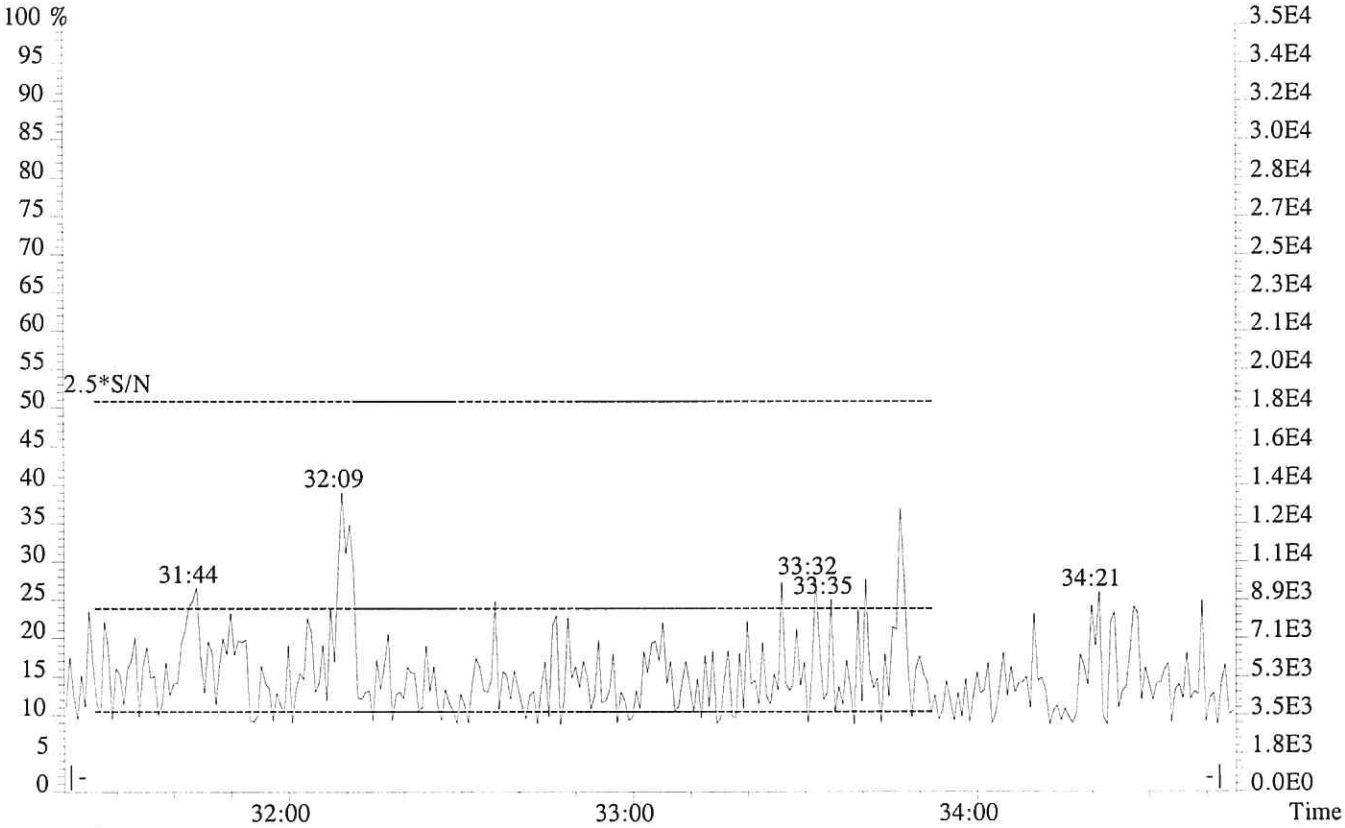
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2328.0,1.00%,F,T)



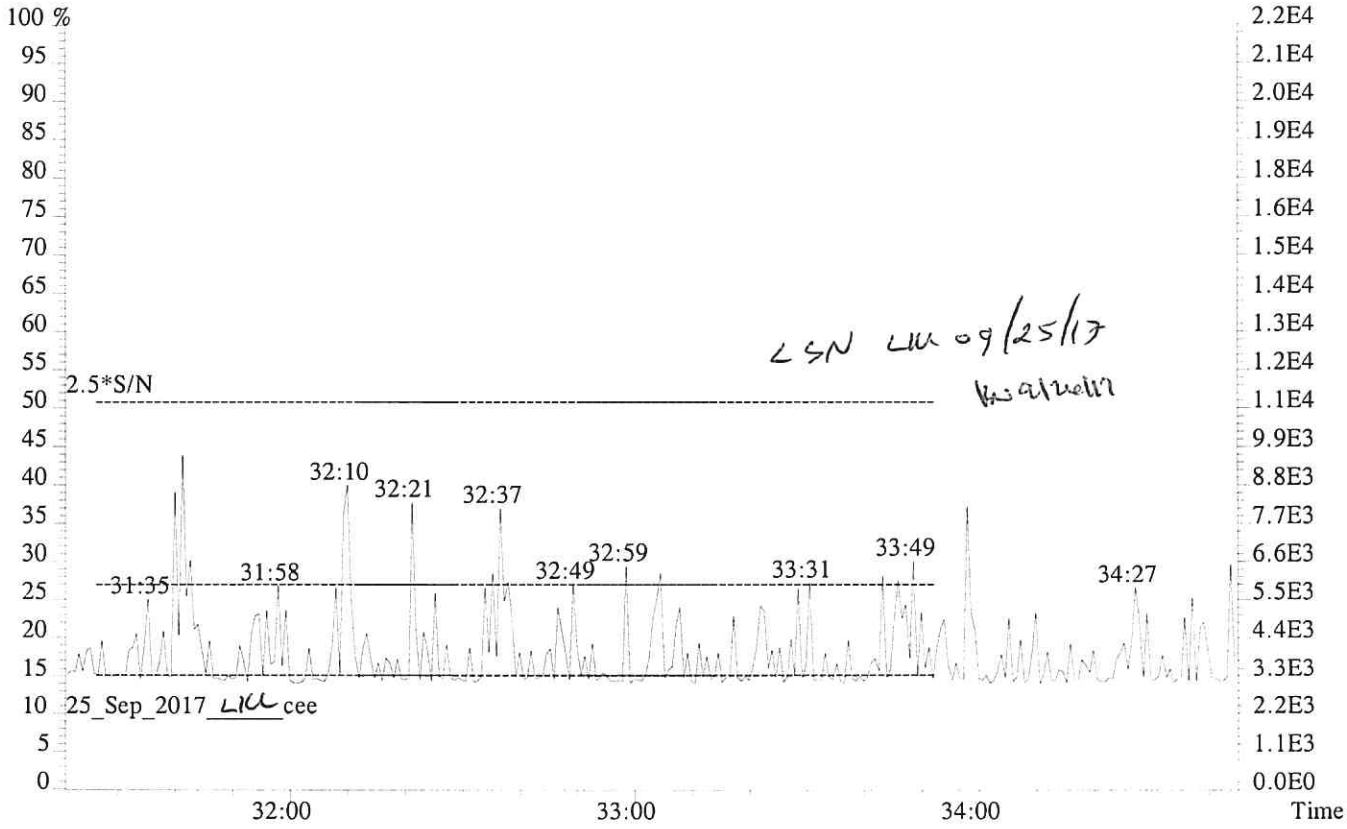
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007
355.8546 F:2

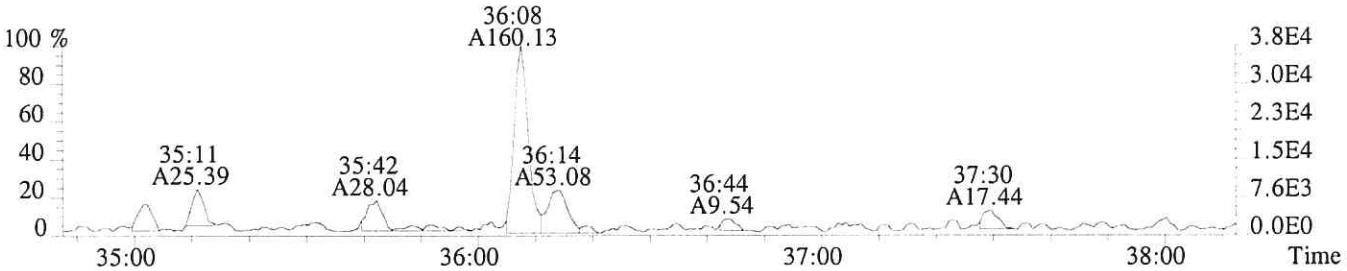


357.8516 F:2

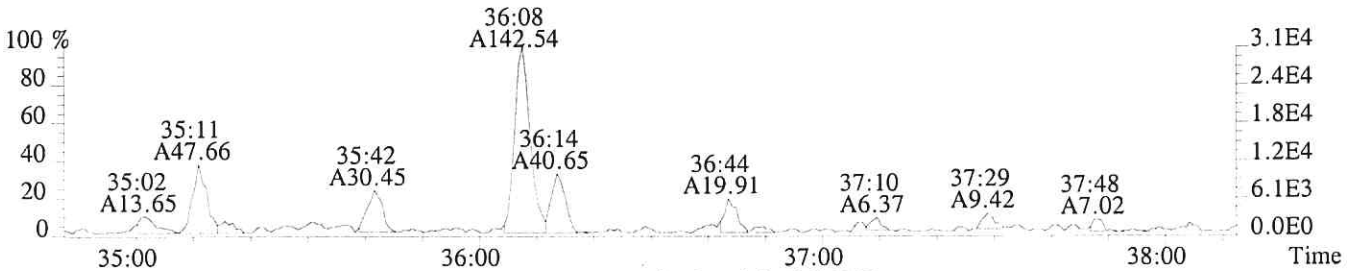


File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

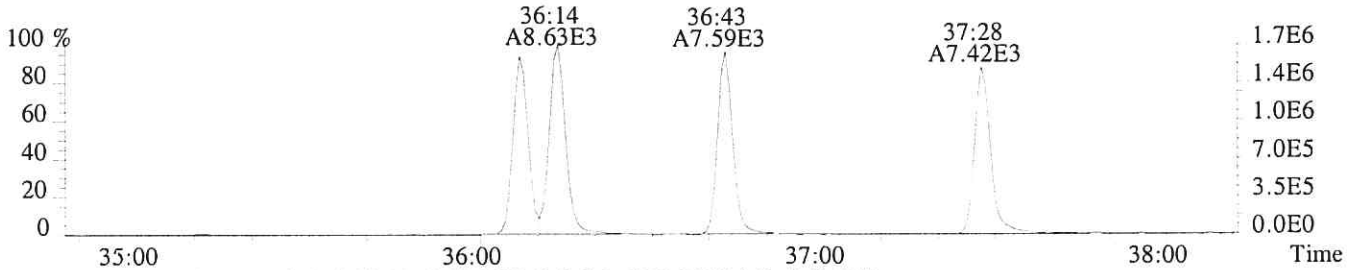
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1804.0,0.40%,F,T)



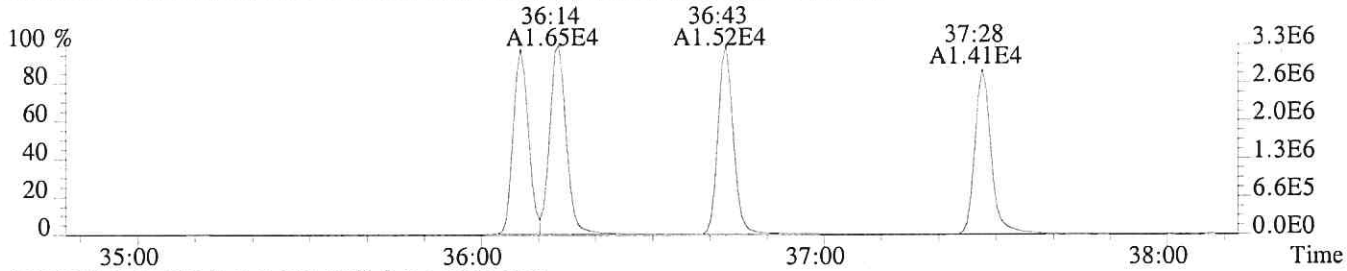
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1168.0,0.40%,F,T)



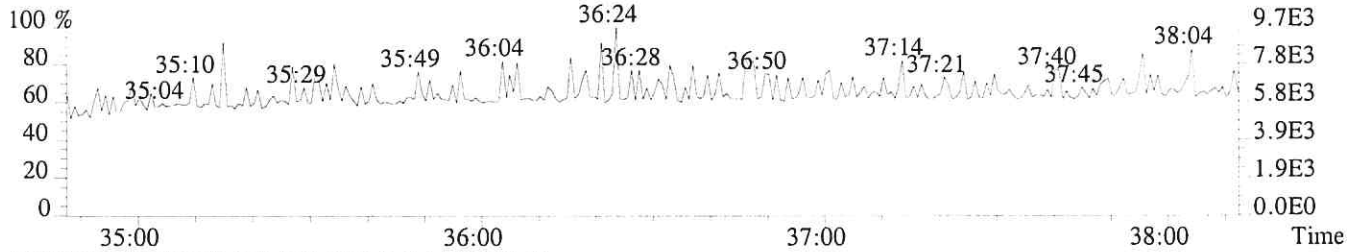
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,T)



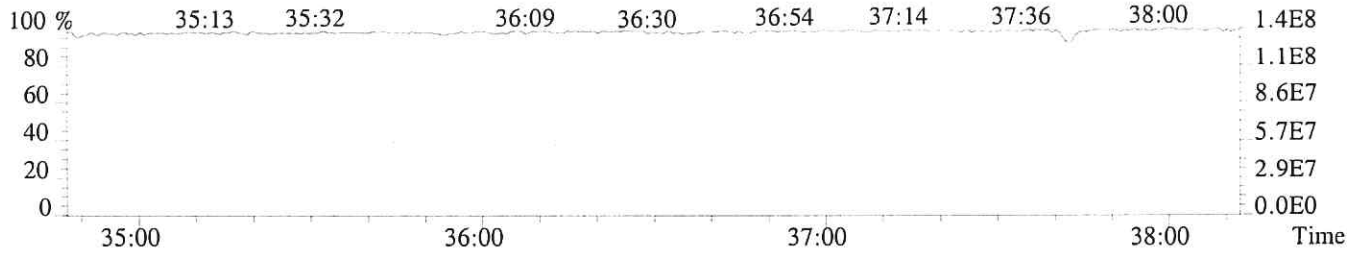
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2608.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

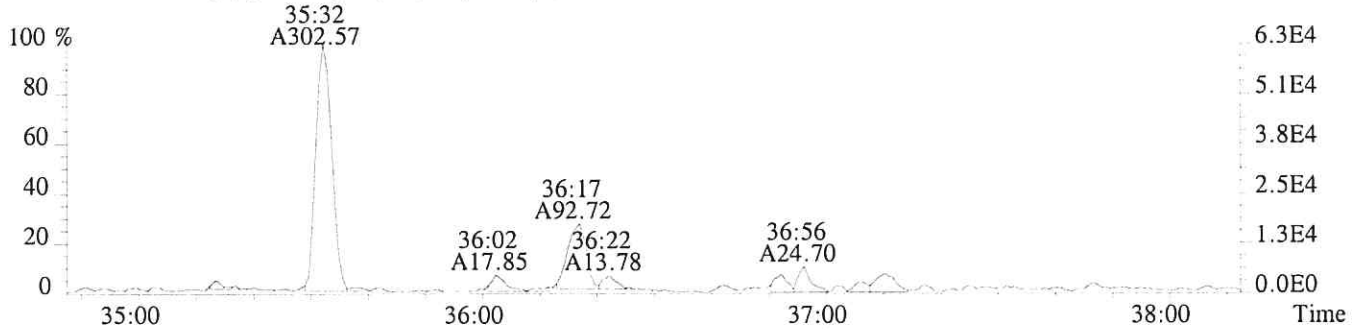


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

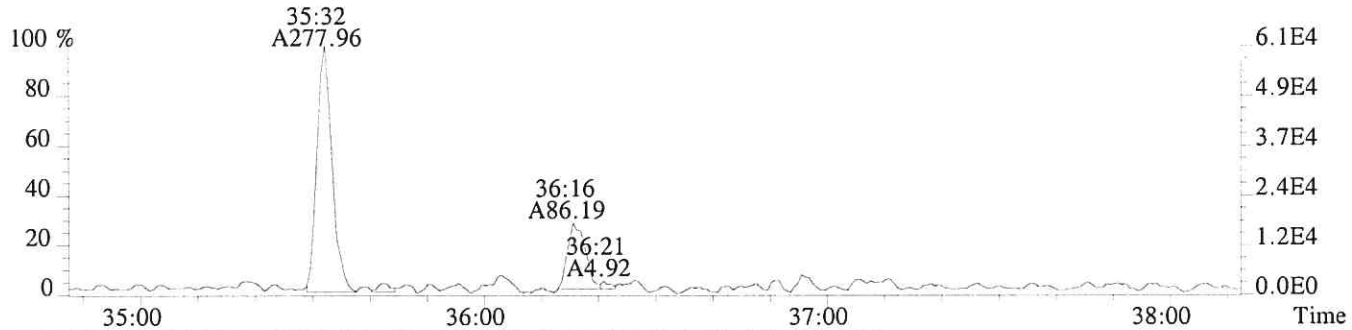


File:P511546 #1-308 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

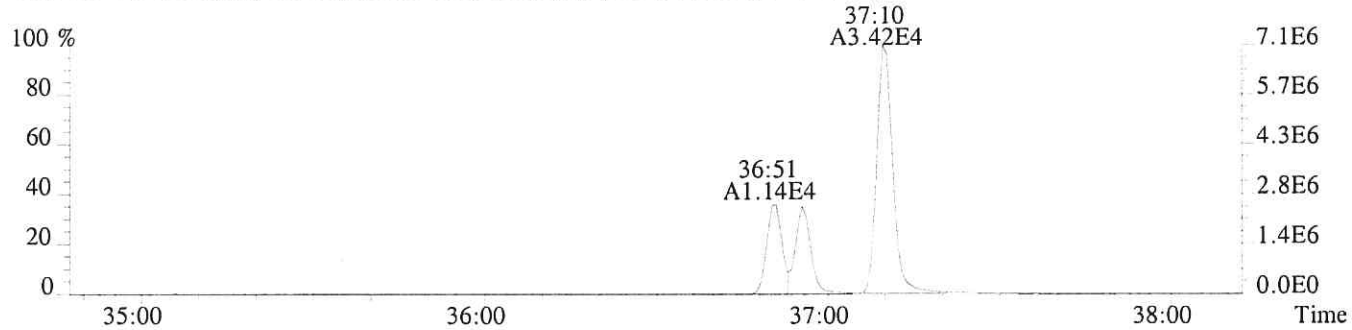
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



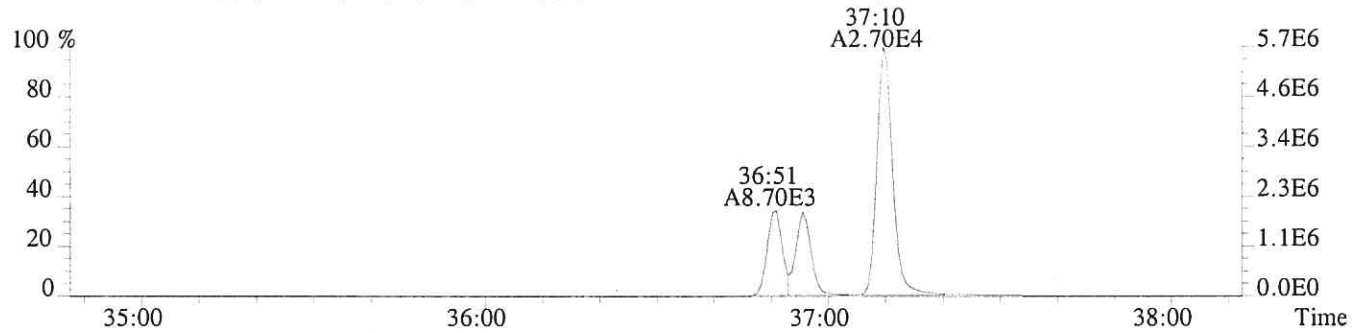
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2424.0,0.40%,F,T)



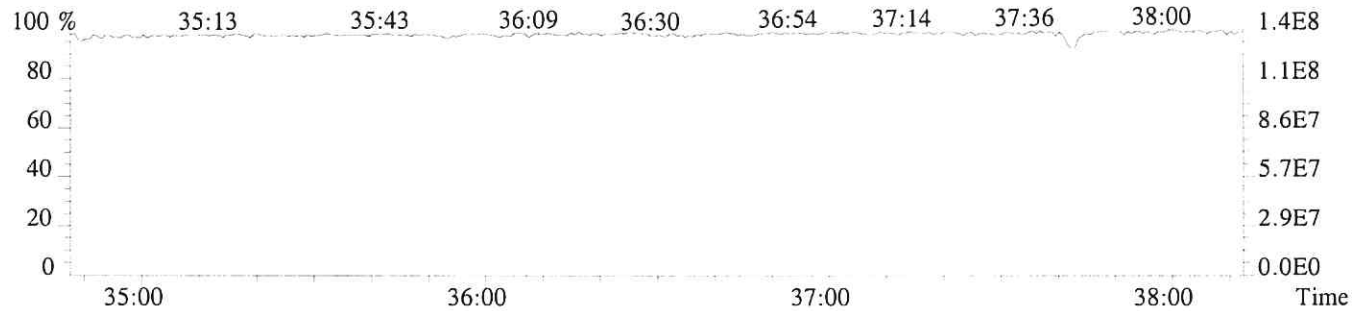
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2360.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1468.0,0.40%,F,T)

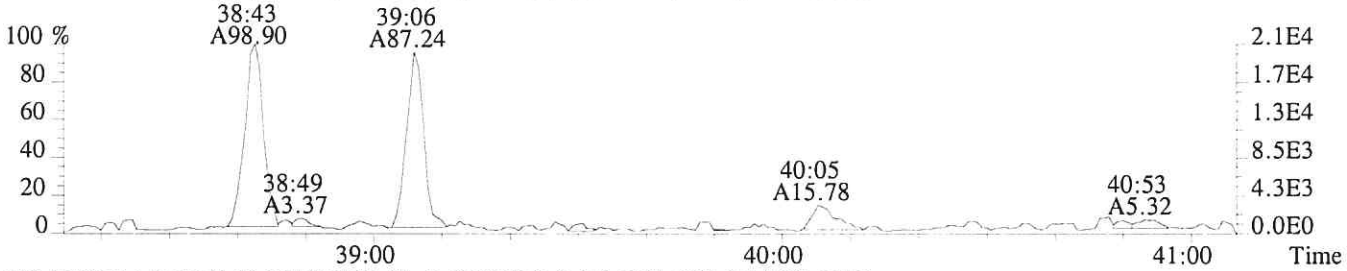


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

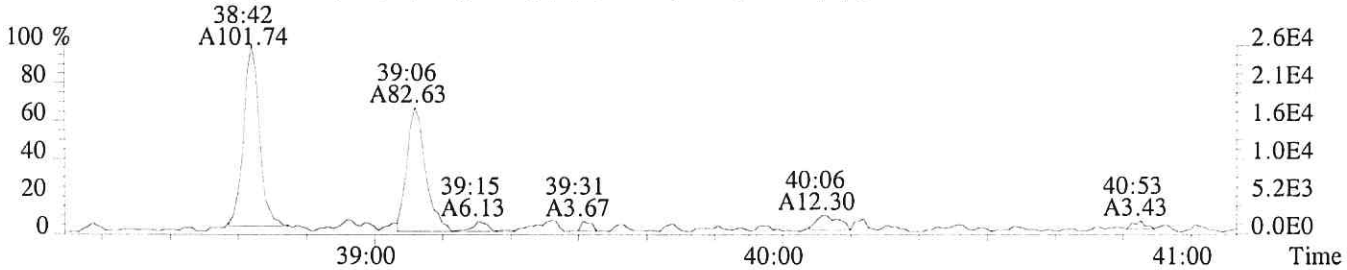


File:P511546 #1-259 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

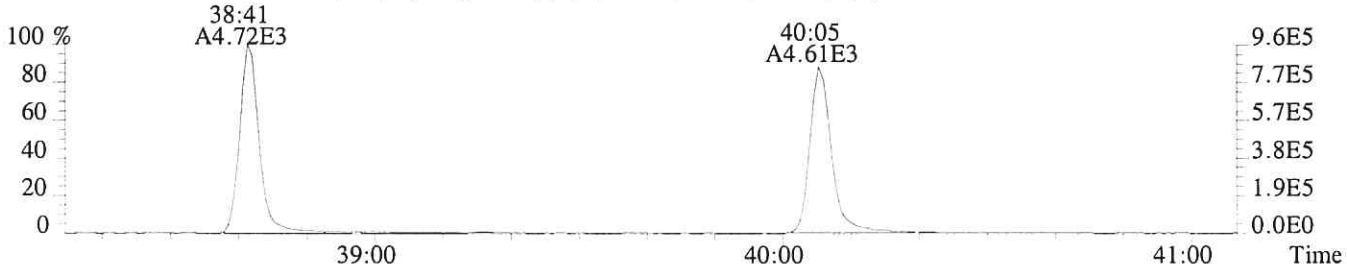
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.50%,F,T)



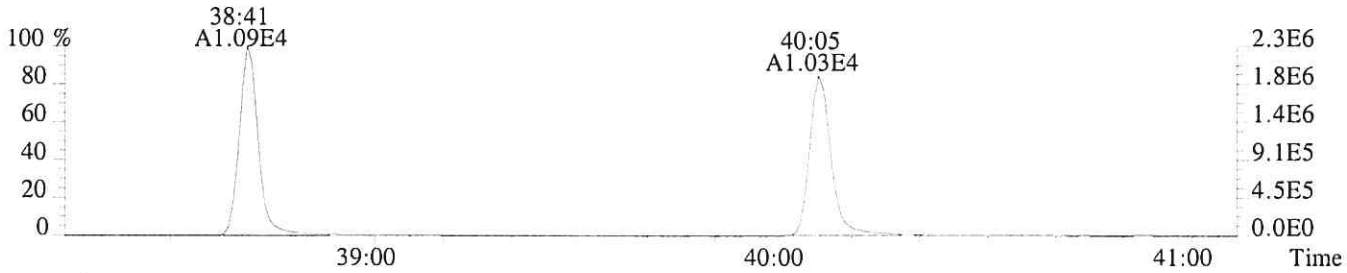
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.50%,F,T)



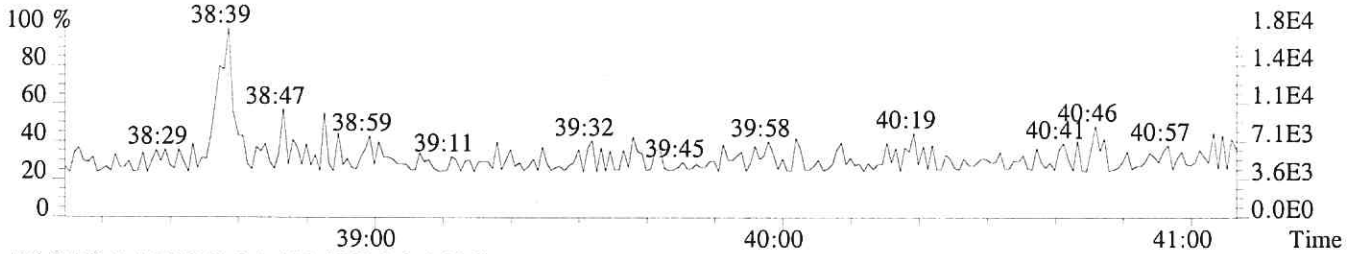
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2140.0,0.50%,F,T)



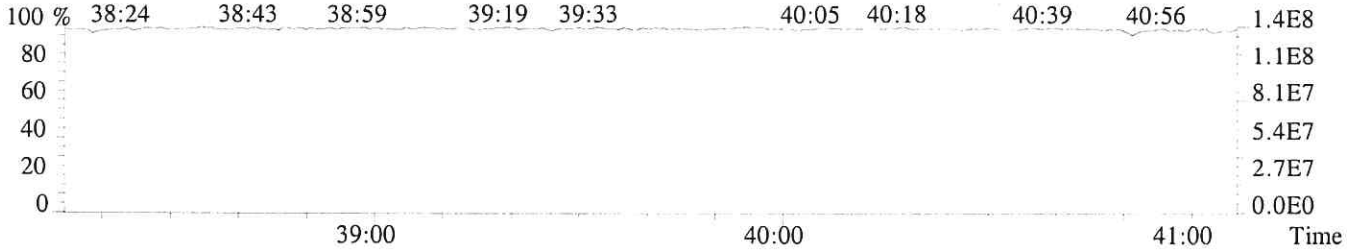
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2404.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

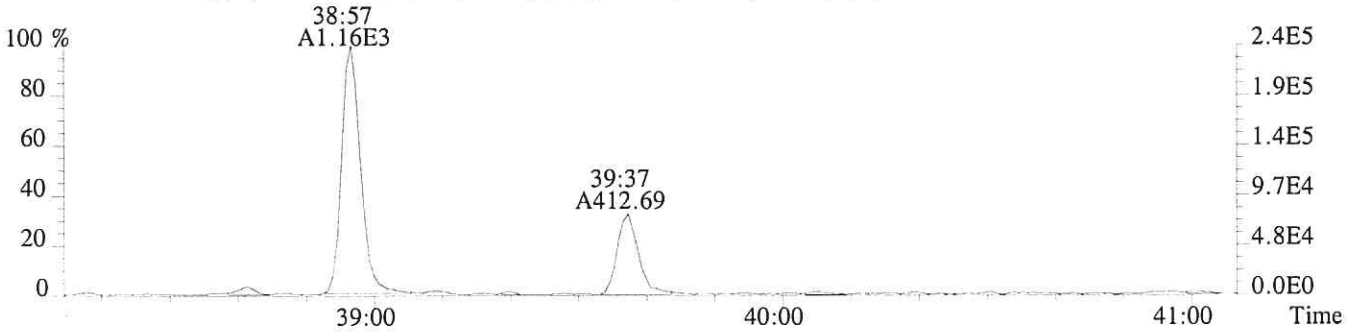


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

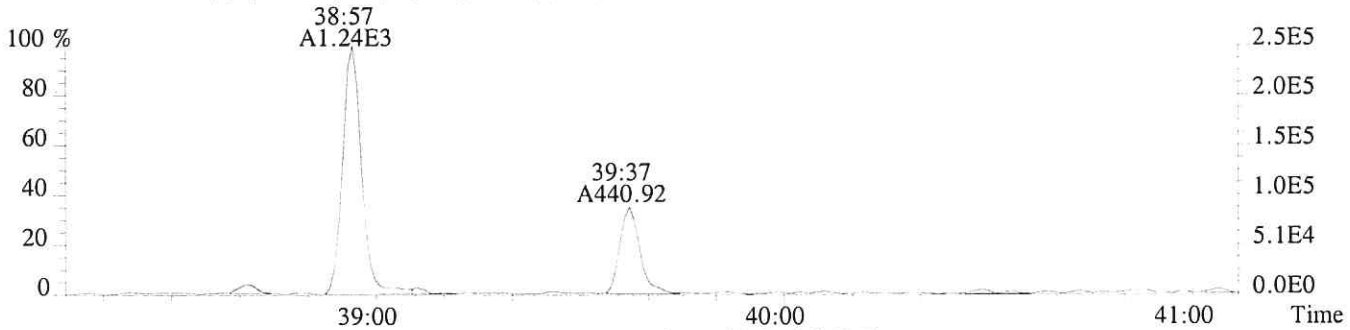


File:P511546 #1-259 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

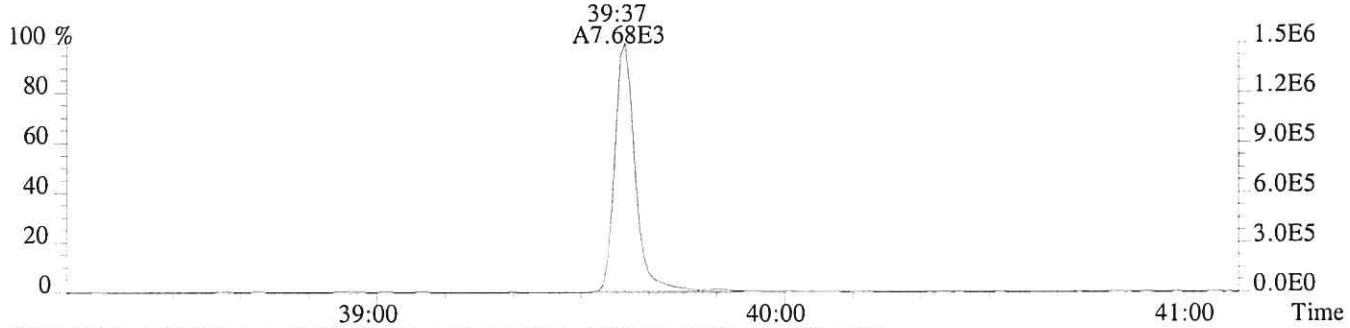
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1340.0,0.40%,F,T)



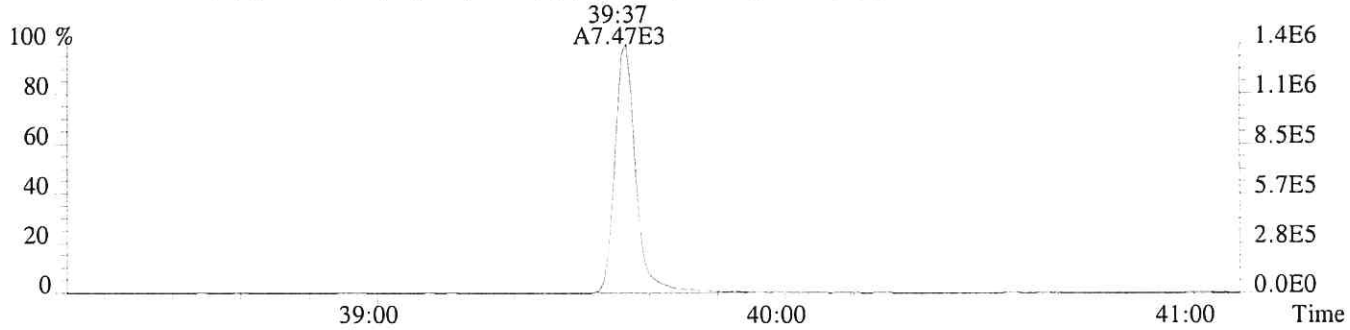
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1748.0,0.40%,F,T)



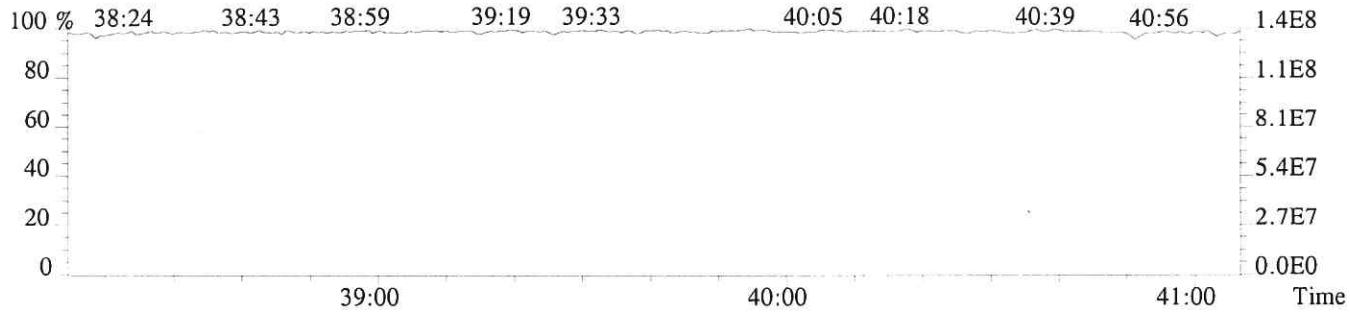
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1756.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)

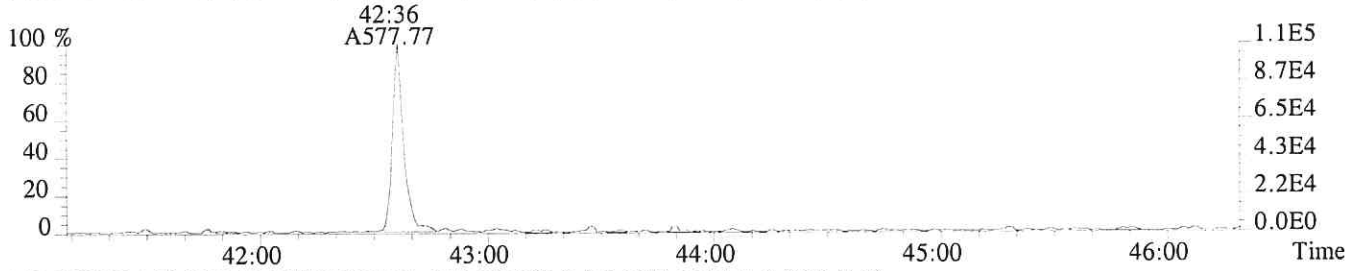


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

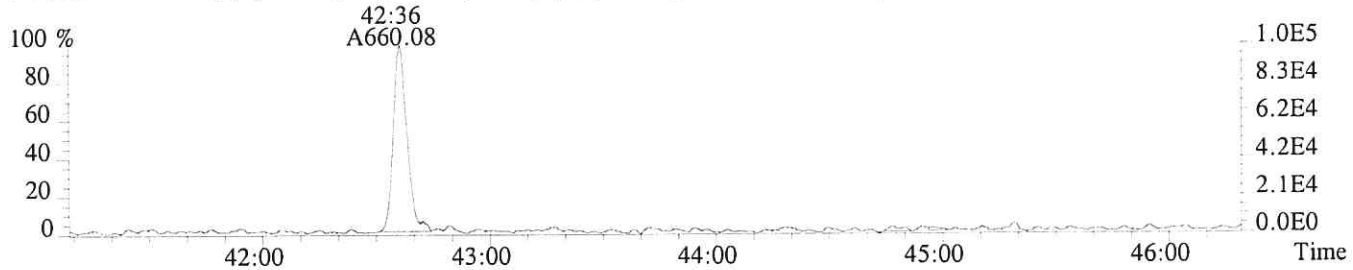


File:P511546 #1-466 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

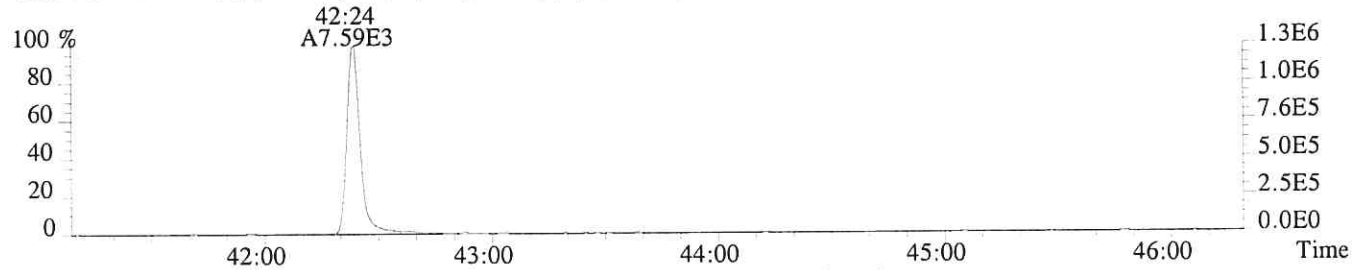
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,772.0,0.40%,F,T)



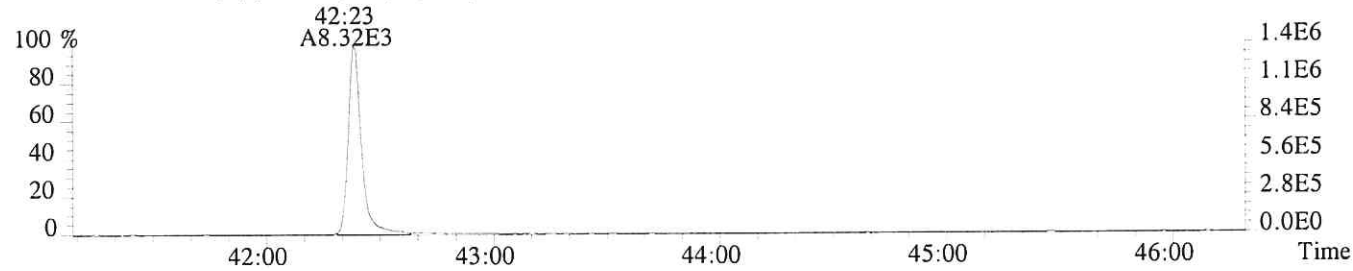
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2124.0,0.40%,F,T)



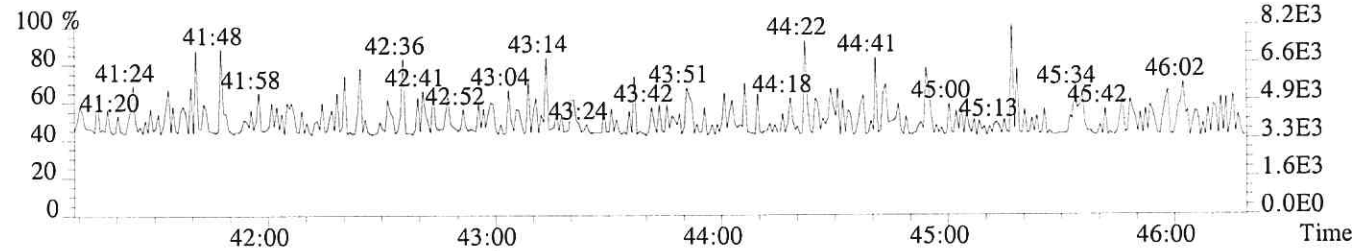
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1144.0,0.40%,F,T)



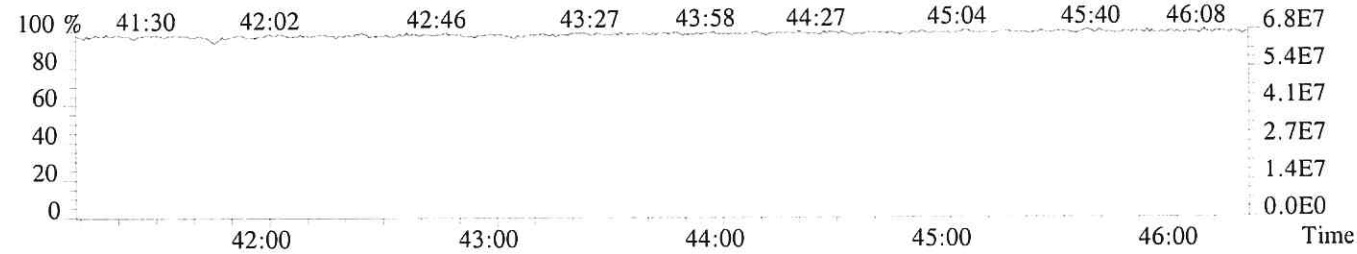
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1248.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

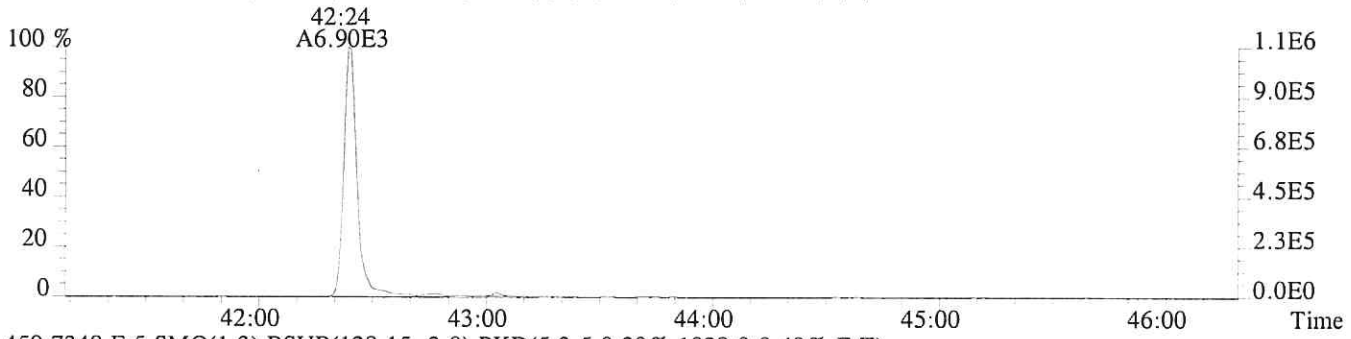


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

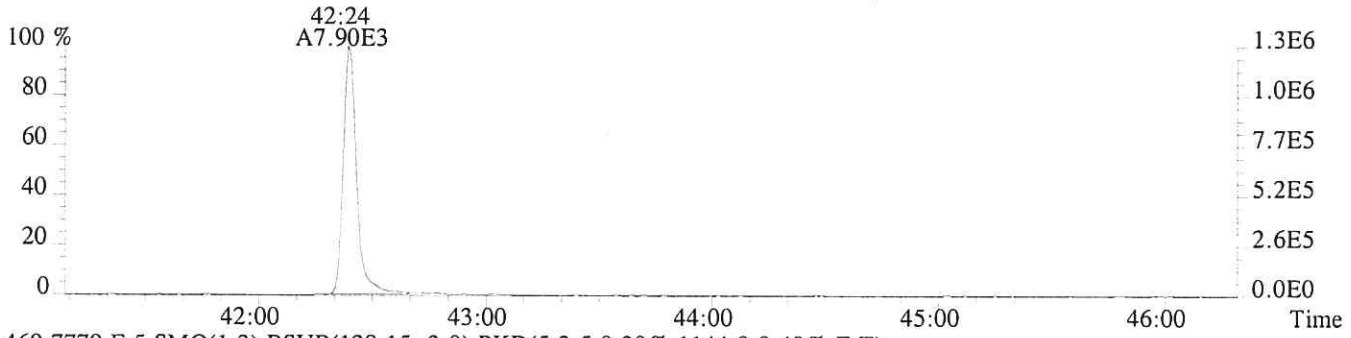


File:P511546 #1-466 Acq:24-SEP-2017 19:07:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-007

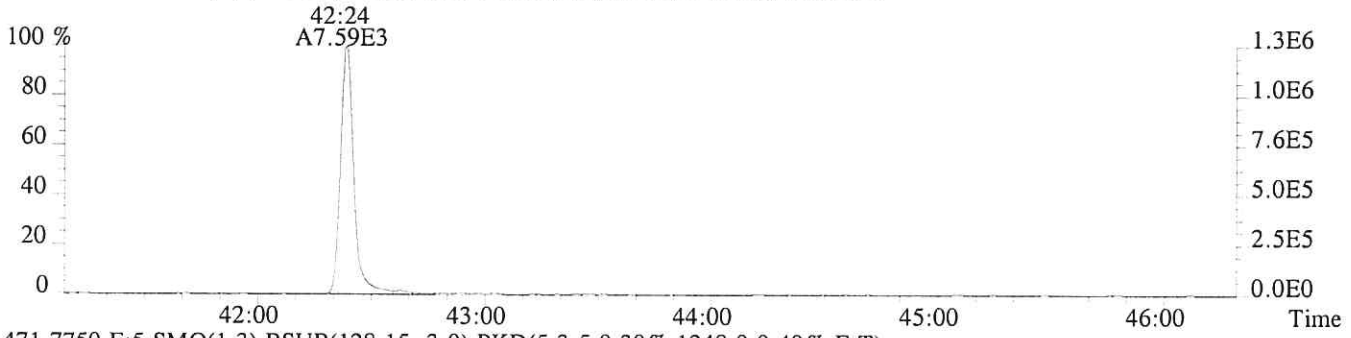
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,524.0,0.40%,F,T)



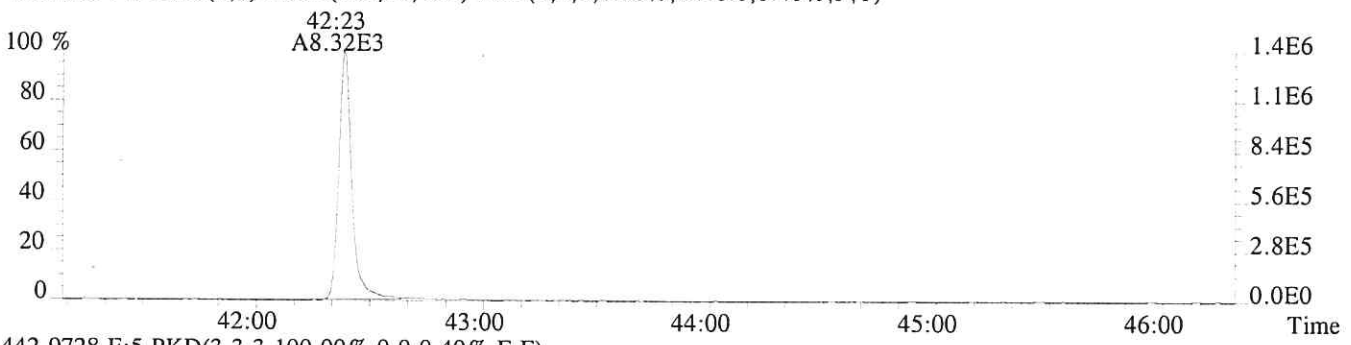
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



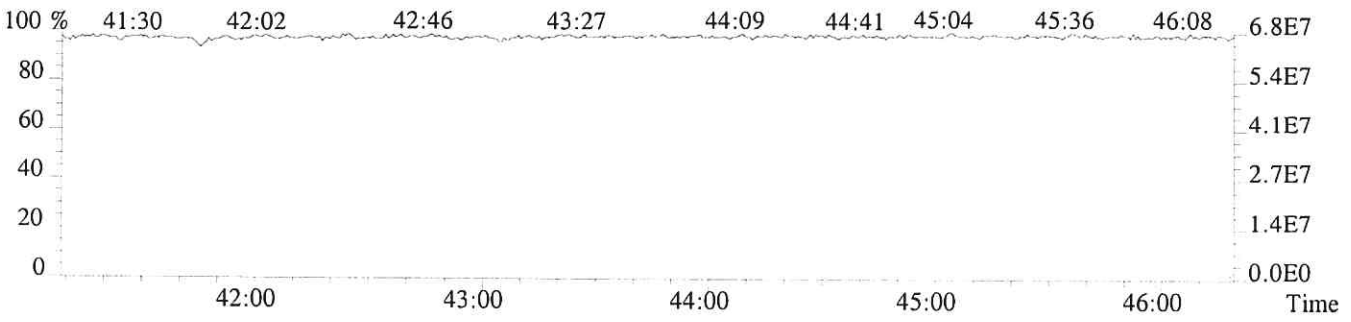
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1144.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1248.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #17 Filename P511547 Samp: 1 Inj: 1 Acquired: 24-SEP-17 19:55:57
Processed: 25-SEP-17 13:19:05 Sample ID: E1700974-008

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	5.404e+02	7.373e+02	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	6.646e+01	5.715e+01	1.16	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:13	2.918e+01	2.387e+01	1.22	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	1.984e+02	2.280e+02	0.87	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	1.991e+01	2.077e+01	0.96	yes	no	1.191
10	Unk	OCDF	42:37	4.853e+02	5.826e+02	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	2.548e+02	3.092e+02	0.82	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	3.196e+01	4.568e+01	0.70	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:10	4.125e+01	3.130e+01	1.32	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	8.221e+02	8.504e+02	0.97	yes	no	0.942
17	Unk	OCDD	42:24	1.111e+04	1.241e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.097e+04	1.444e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:35	1.954e+04	1.249e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.893e+04	1.228e+04	1.54	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	7.343e+03	1.479e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	8.161e+03	1.654e+04	0.49	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	7.559e+03	1.547e+04	0.49	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	6.936e+03	1.389e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:41	4.721e+03	1.041e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	4.743e+03	1.088e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	8.653e+03	1.096e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:45	1.433e+04	9.326e+03	1.54	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.152e+04	8.967e+03	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.151e+04	9.168e+03	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	7.940e+03	7.727e+03	1.03	yes	no	0.881
32	IS	13C-OCDD	42:24	8.512e+03	9.324e+03	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.588e+04	3.271e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	3.413e+04	2.651e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.508e+04				no	1.033

$$\text{OCDD} = \frac{(1.111e+04 + 1.241e+04) \times 4000 \text{ pg} \times 1}{(8.512e+03 + 9.324e+03) \times 10.255 \text{ g} \times 44.3 / 100 \times 1.051} = 1104 \text{ ng/kg}$$

KW 9/26/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-027

Run #17 Filename P511547 Samp: 1 Inj: 1 Acquired: 24-SEP-17 19:55:57
Processed: 25-SEP-17 13:19:05 LAB. ID: E1700974-008

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.73e+04	1.24e+03	7.8e+01	1.28e+05	3.96e+03	3.2e+01
2	1,2,3,7,8-PeCDF	*	1.28e+03	*	*	3.35e+03	*
3	2,3,4,7,8-PeCDF	*	1.28e+03	*	*	3.35e+03	*
4	1,2,3,4,7,8-HxCDF	1.14e+04	1.23e+03	9.3e+00	1.33e+04	1.46e+03	9.1e+00
5	1,2,3,6,7,8-HxCDF	4.57e+03	1.23e+03	3.7e+00	5.17e+03	1.46e+03	3.5e+00
6	2,3,4,6,7,8-HxCDF	*	1.23e+03	*	*	1.46e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.23e+03	*	*	1.46e+03	*
8	1,2,3,4,6,7,8-HpCDF	3.90e+04	2.64e+02	1.5e+02	4.62e+04	9.40e+02	4.9e+01
9	1,2,3,4,7,8,9-HpCDF	5.36e+03	2.64e+02	2.0e+01	3.81e+03	9.40e+02	4.1e+00
10	OCDF	8.59e+04	7.52e+02	1.1e+02	1.00e+05	2.36e+03	4.2e+01
11	2,3,7,8-TCDD	3.73e+04	3.70e+03	1.0e+01	5.90e+04	1.49e+03	4.0e+01
12	1,2,3,7,8-PeCDD	*	2.72e+03	*	*	4.12e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.36e+03	*	*	1.47e+03	*
14	1,2,3,6,7,8-HxCDD	7.94e+03	1.36e+03	5.8e+00	7.63e+03	1.47e+03	5.2e+00
15	1,2,3,7,8,9-HxCDD	7.50e+03	1.36e+03	5.5e+00	7.96e+03	1.47e+03	5.4e+00
16	1,2,3,4,6,7,8-HpCDD	1.54e+05	1.68e+03	9.2e+01	1.75e+05	2.02e+03	8.7e+01
17	OCDD	1.78e+06	3.08e+02	5.8e+03	1.99e+06	9.04e+02	2.2e+03
18	13C-2,3,7,8-TCDF	2.01e+06	1.62e+04	1.2e+02	2.63e+06	8.89e+03	3.0e+02
19	13C-1,2,3,7,8-PeCDF	3.59e+06	7.84e+02	4.6e+03	2.30e+06	1.60e+03	1.4e+03
20	13C-2,3,4,7,8-PeCDF	3.75e+06	7.84e+02	4.8e+03	2.46e+06	1.60e+03	1.5e+03
21	13C-1,2,3,4,7,8-HxCDF	1.57e+06	1.02e+03	1.5e+03	3.17e+06	1.93e+03	1.6e+03
22	13C-1,2,3,6,7,8-HxCDF	1.69e+06	1.02e+03	1.6e+03	3.35e+06	1.93e+03	1.7e+03
23	13C-2,3,4,6,7,8-HxCDF	1.64e+06	1.02e+03	1.6e+03	3.24e+06	1.93e+03	1.7e+03
24	13C-1,2,3,7,8,9-HxCDF	1.42e+06	1.02e+03	1.4e+03	2.84e+06	1.93e+03	1.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.67e+05	2.40e+03	4.0e+02	2.18e+06	2.18e+03	1.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.41e+05	2.40e+03	3.5e+02	1.96e+06	2.18e+03	9.0e+02
27	13C-2,3,7,8-TCDD	1.71e+06	6.67e+03	2.6e+02	2.11e+06	4.75e+03	4.4e+02
28	13C-1,2,3,7,8-PeCDD	2.81e+06	2.74e+03	1.0e+03	1.80e+06	2.37e+03	7.6e+02
29	13C-1,2,3,4,7,8-HxCDD	2.58e+06	2.10e+03	1.2e+03	2.02e+06	1.42e+03	1.4e+03
30	13C-1,2,3,6,7,8-HxCDD	2.40e+06	2.10e+03	1.1e+03	1.89e+06	1.42e+03	1.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.52e+06	1.33e+03	1.1e+03	1.50e+06	8.64e+02	1.7e+03
32	13C-OCDD	1.36e+06	1.25e+03	1.1e+03	1.52e+06	1.18e+03	1.3e+03
33	13C-1,2,3,4-TCDD	4.94e+06	6.67e+03	7.4e+02	6.26e+06	4.75e+03	1.3e+03
34	13C-1,2,3,7,8,9-HxCDD	6.98e+06	2.10e+03	3.3e+03	5.49e+06	1.42e+03	3.9e+03
35	37Cl-2,3,7,8-TCDD	2.83e+06	1.46e+03	1.9e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (3.704e{+}03 + 1.488e{+}03) \times 2000}{(1.707e{+}06 + 2.107e{+}06) \times (\qquad\qquad) \times 1.065} =$$

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Peak List Summary

CLIENT ID.
SJWP-091517-027

Entry: 36 Totals Name: Total Tetra-Furans

Run: 17 File: P511547 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 303.9020 305.8990 Tot Response: 2.02e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:44	2.28e+02	3.38e+02	0.68	yes	5.67e+02		n	n
2	28:30	5.40e+02	7.37e+02	0.73	yes	1.28e+03	2,3,7,8-TCDF	n	n
3	28:49	4.21e+01	5.15e+01	0.82	yes	9.36e+01		n	n
4	30:16	3.27e+01	4.63e+01	0.70	yes	7.90e+01		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 17 File: P511547 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 319.8970 321.8940 Tot Response: 5.64e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	2.55e+02	3.09e+02	0.82	yes	5.64e+02	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 38 Totals Name: Total Penta-Furans1

Run: 17 File: P511547 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 339.8600 341.8570 Tot Response: 1.12e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:14	6.43e+01	4.79e+01	1.34	yes	1.12e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 17 File: P511547 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 355.8550 357.8520 Tot Response: 8.37e+01 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:44	4.81e+01	3.56e+01	1.35	yes	8.37e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 41 Totals Name: Total Hexa-Furans

Run: 17 File: P511547 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 373.8210 375.8180 Tot Response: 3.12e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:42	6.98e+01	6.58e+01	1.06	yes	1.36e+02		n	n
2	36:08	6.65e+01	5.72e+01	1.16	yes	1.24e+02	1,2,3,4,7,8-HxCDF	n	n
3	36:13	2.92e+01	2.39e+01	1.22	yes	5.31e+01	1,2,3,6,7,8-HxCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 17 File: P511547 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 389.8160 391.8130 Tot Response: 1.13e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	3.74e+02	3.49e+02	1.07	yes	7.23e+02		n	n
2	36:16	1.93e+02	1.42e+02	1.36	yes	3.36e+02		n	n
3	37:10	4.12e+01	3.13e+01	1.32	yes	7.26e+01	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-027

Entry: 43 Totals Name: Total Hepta-Furans

Run: 17 File: P511547 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 407.7820 409.7790 Tot Response: 5.35e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:06	2.42e+02	2.53e+02	0.96	yes	4.94e+02	n	n
2	40:07	1.99e+01	2.08e+01	0.96	yes	4.07e+01 1,2,3,4,7,8,9-HpCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-027

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 17 File: P511547 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 19:55:57 Processed: 25-SEP-17 13:19:05

Mass: 423.7770 425.7740 Tot Response: 5.39e+03 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.87e+03	1.85e+03	1.01	yes	3.72e+03		n	n
2	39:37	8.22e+02	8.50e+02	0.97	yes	1.67e+03	1,2,3,4,6,7,8-HpCDD	n	n

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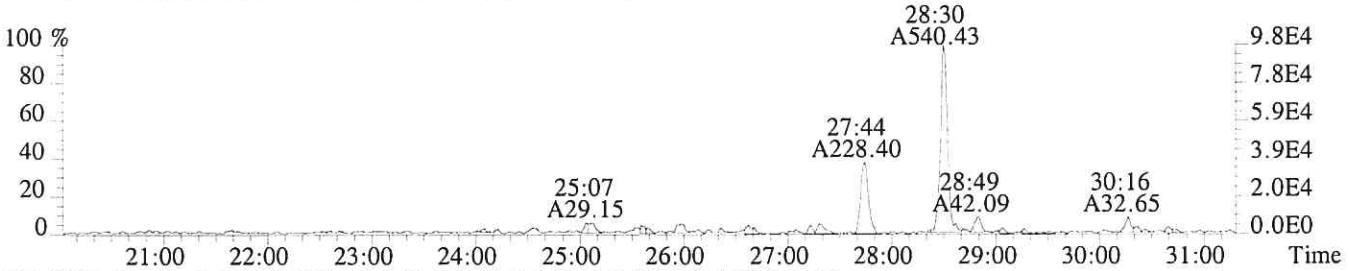
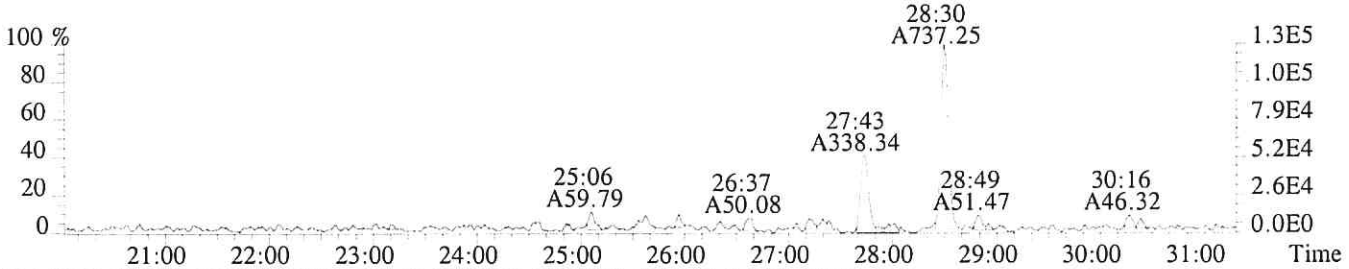
File:P511547 #1-800 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

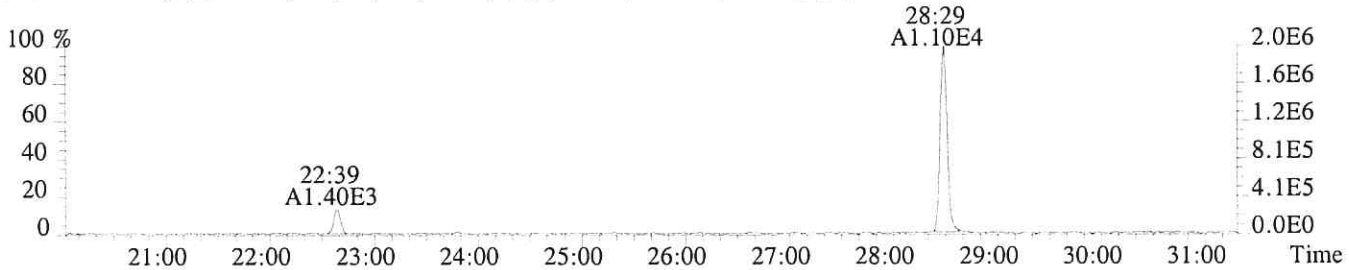
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



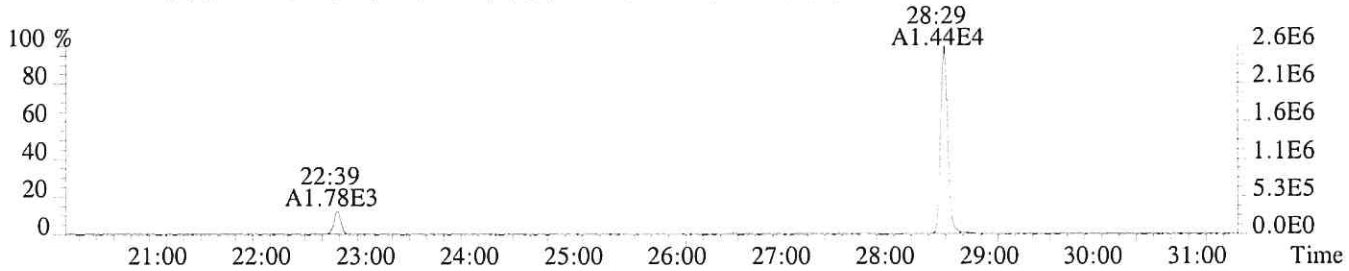
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3956.0,1.00%,F,T)



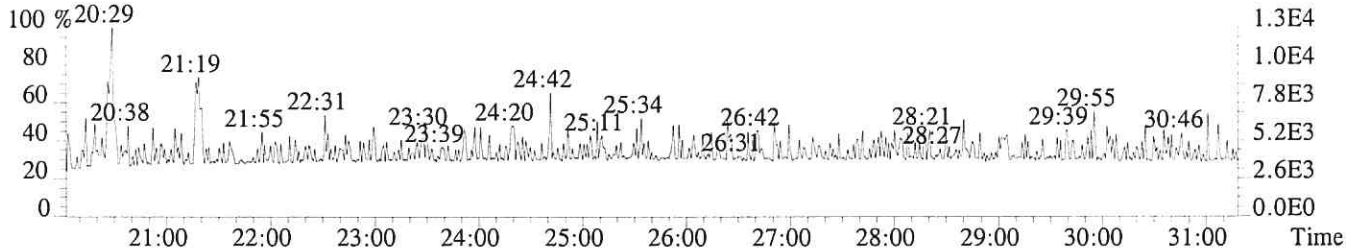
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16216.0,1.00%,F,T)



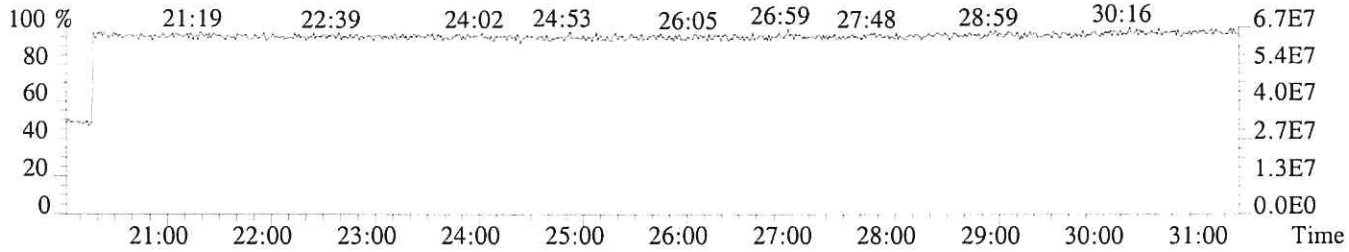
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8888.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

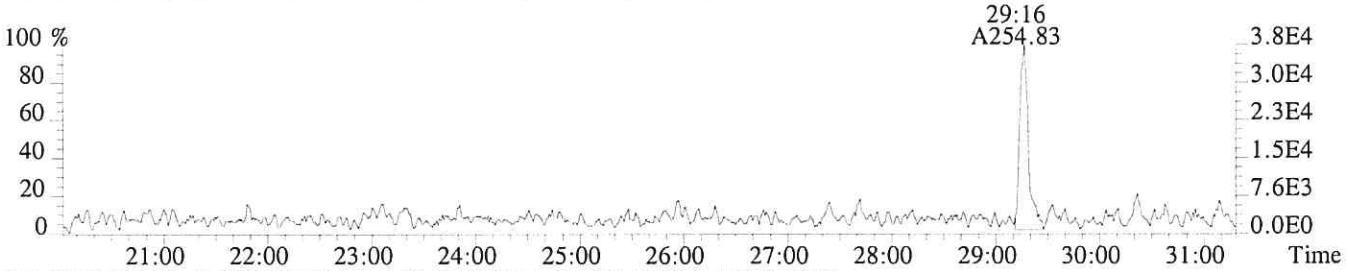


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

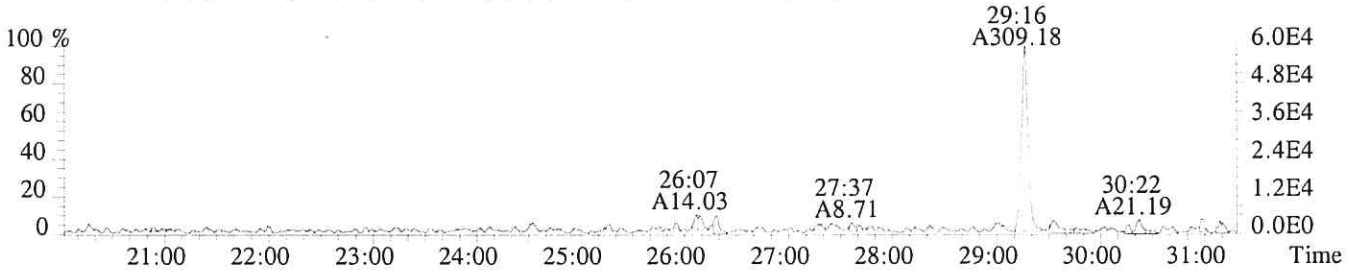


File:P511547 #1-800 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

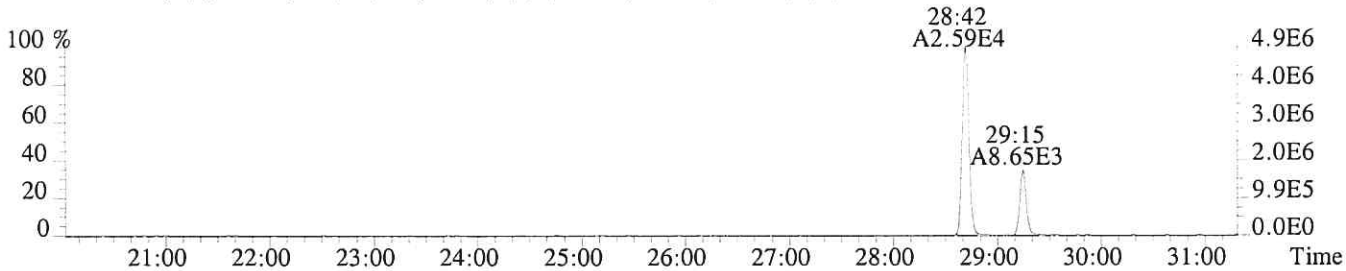
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3704.0,1.00%,F,T)



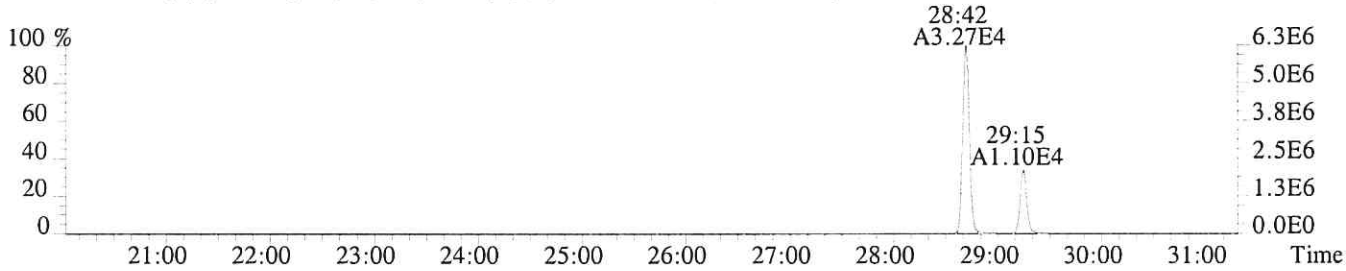
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



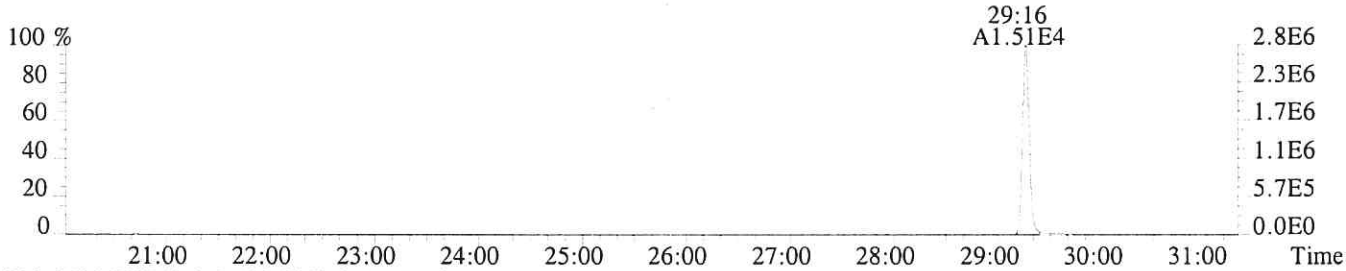
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6672.0,1.00%,F,T)



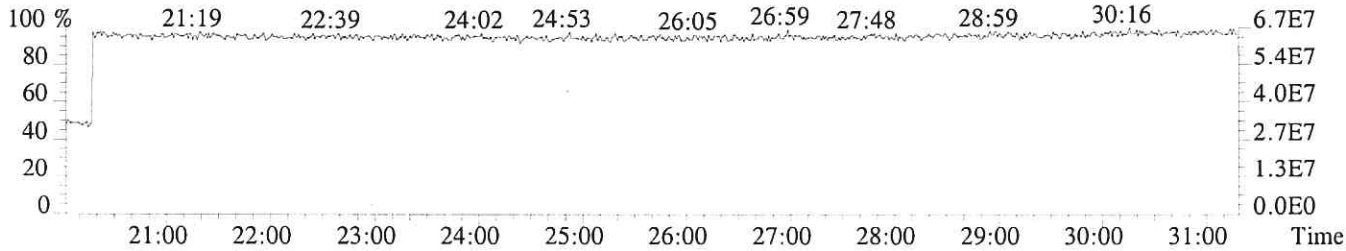
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4748.0,1.00%,F,T)



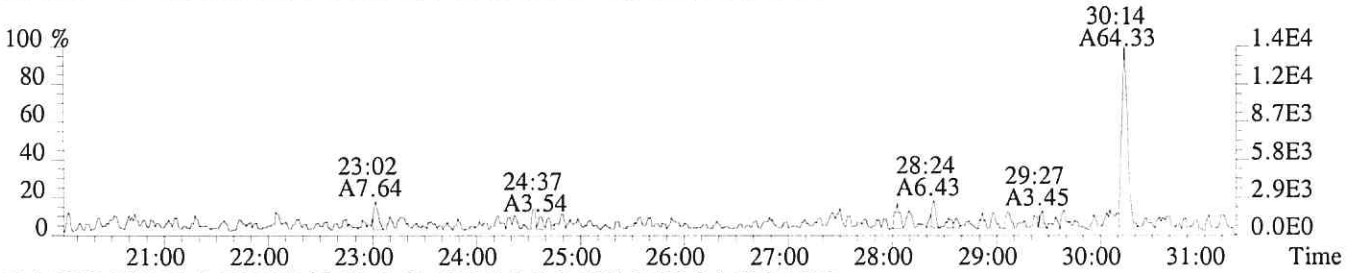
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



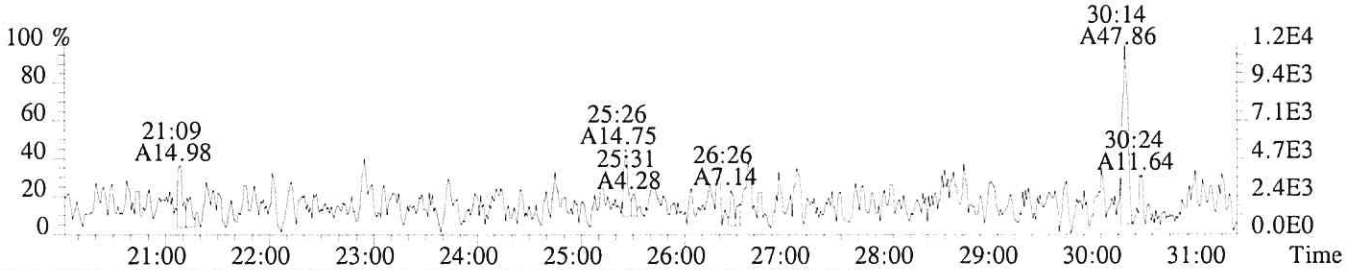
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



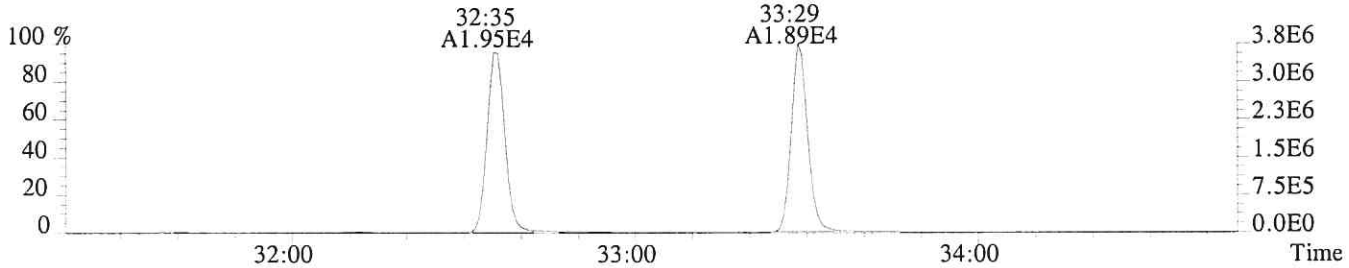
File:P511547 #1-800 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



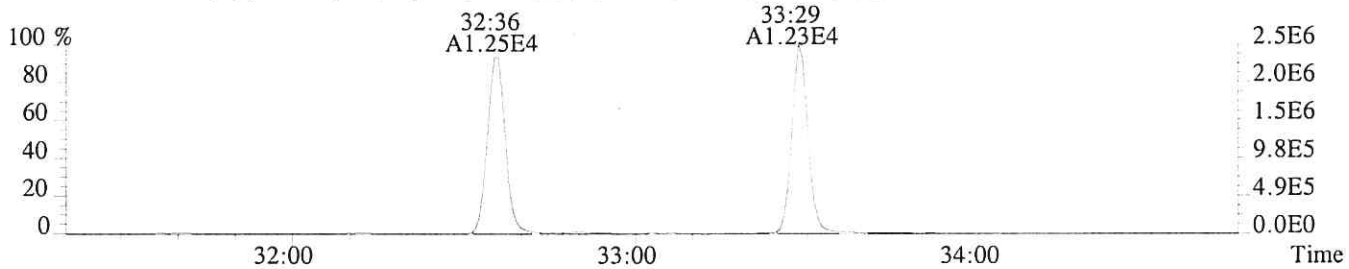
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2196.0,1.00%,F,T)



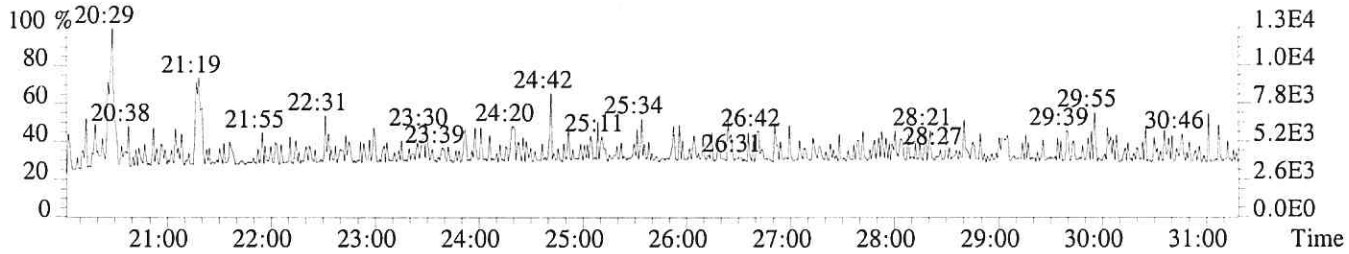
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,T)



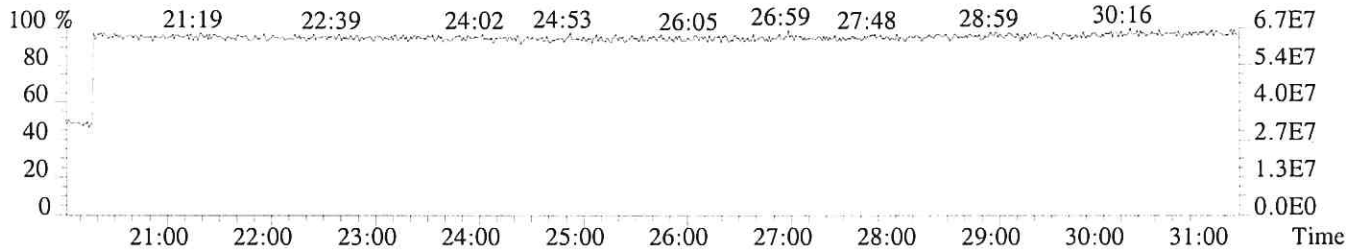
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

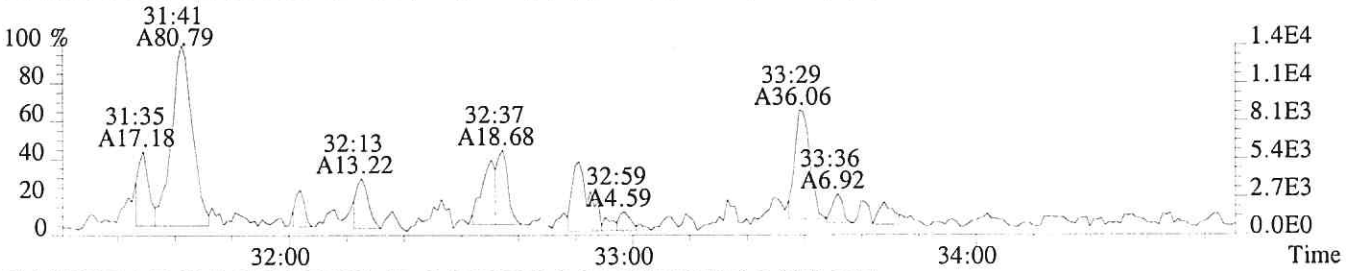


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

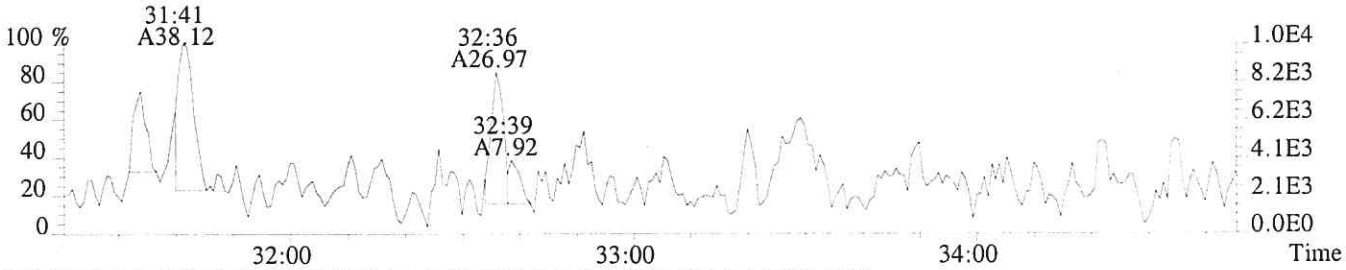


File:P511547 #1-308 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

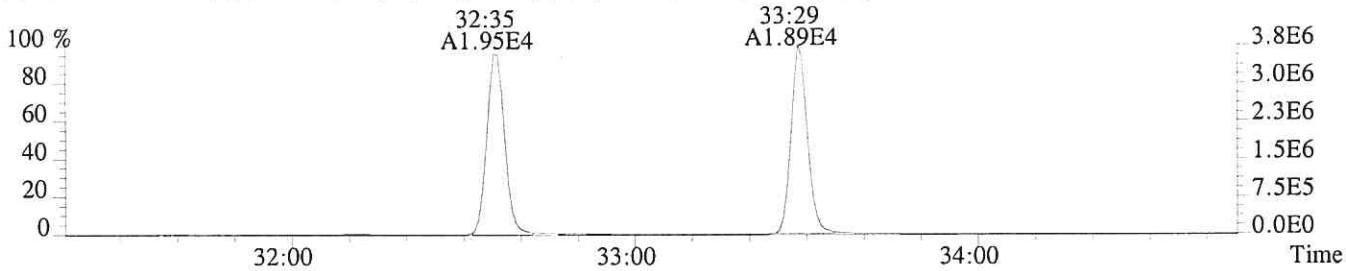
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



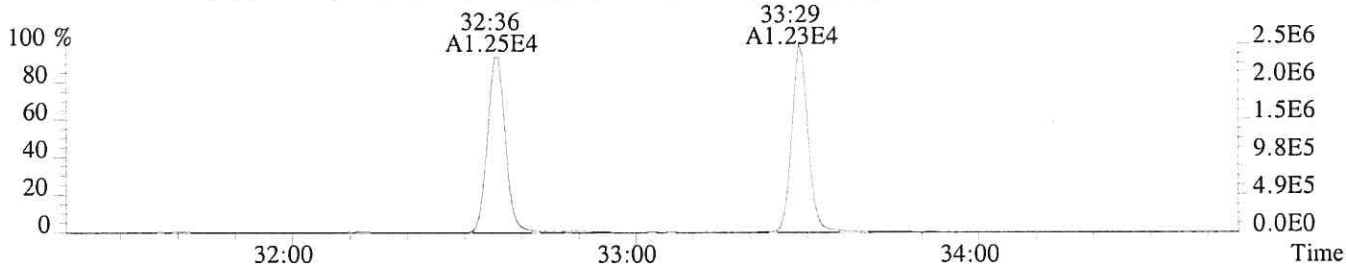
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3348.0,1.00%,F,T)



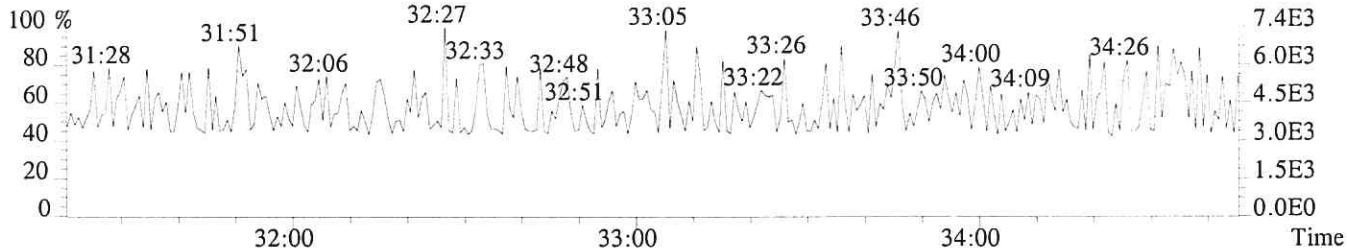
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,T)



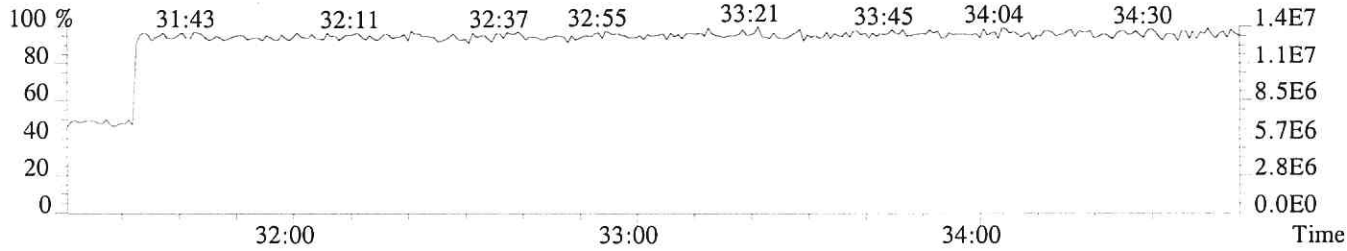
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

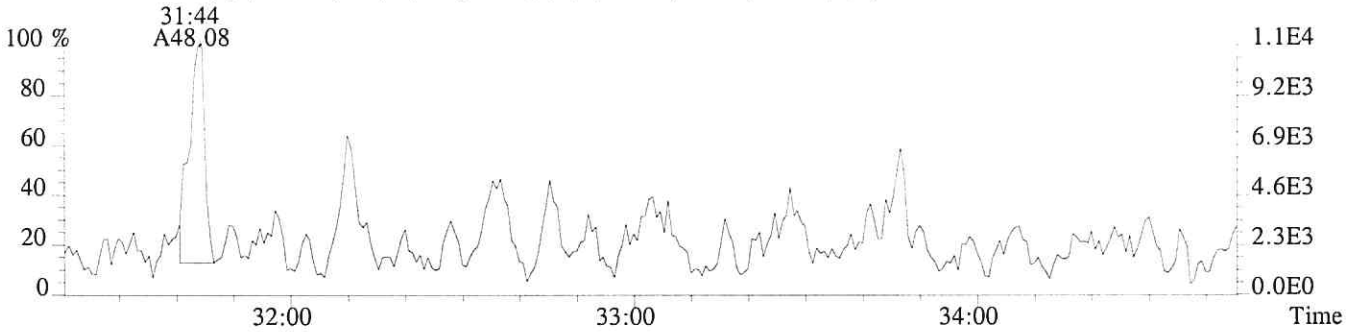


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

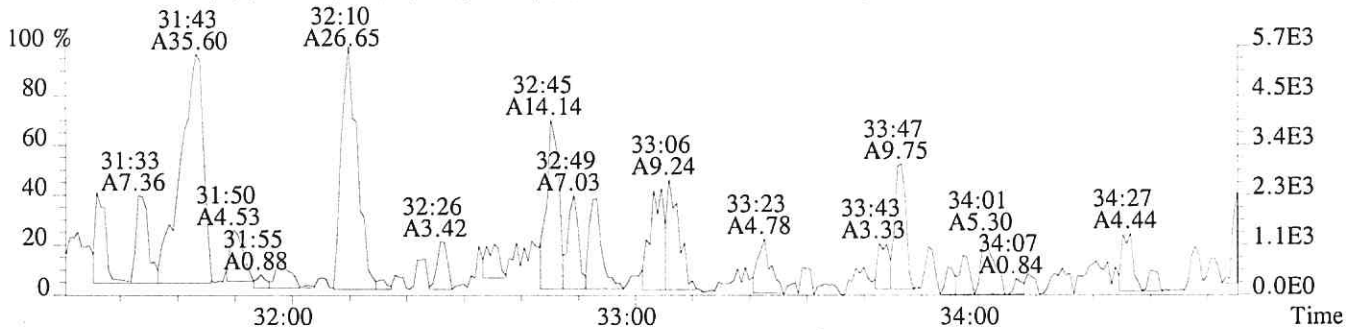


File:P511547 #1-308 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

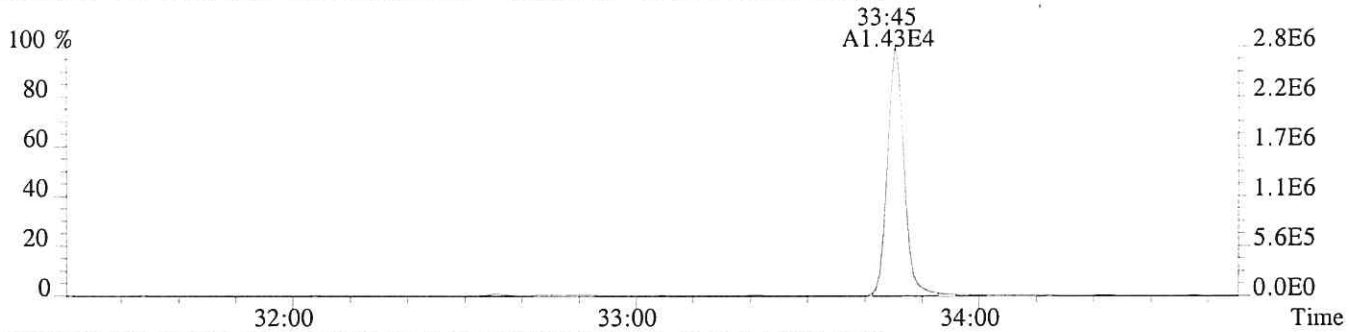
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2720.0,1.00%,F,T)



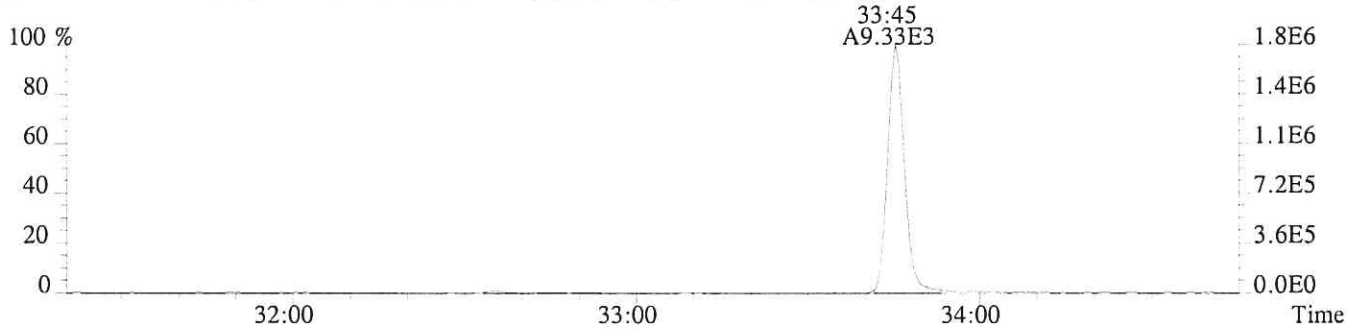
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,412.0,1.00%,F,T)



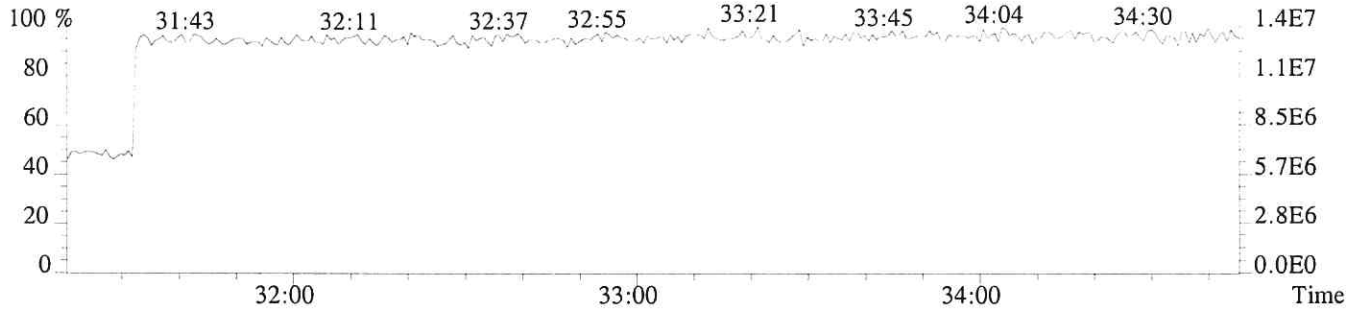
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2744.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2368.0,1.00%,F,T)

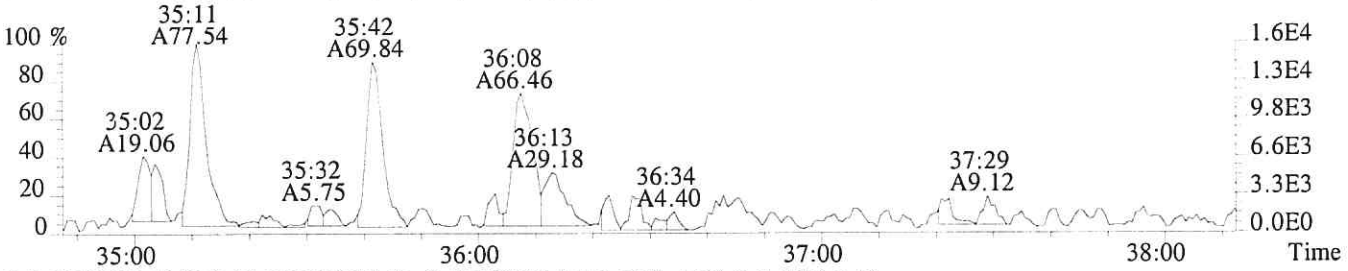


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

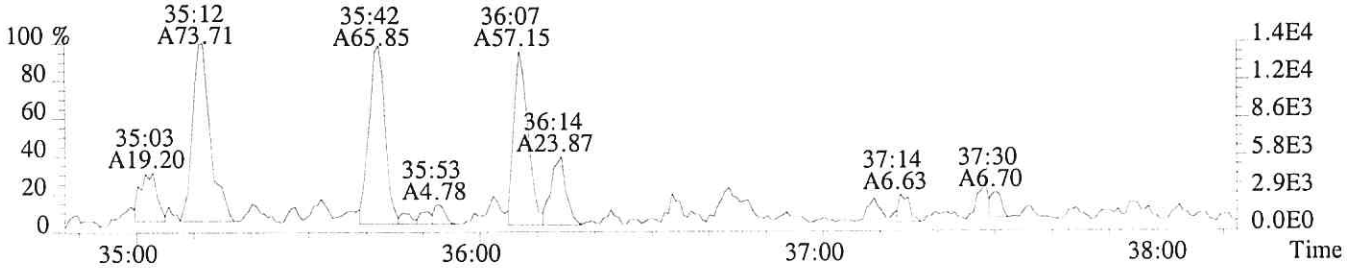


File:P511547 #1-308 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:E1700974-008

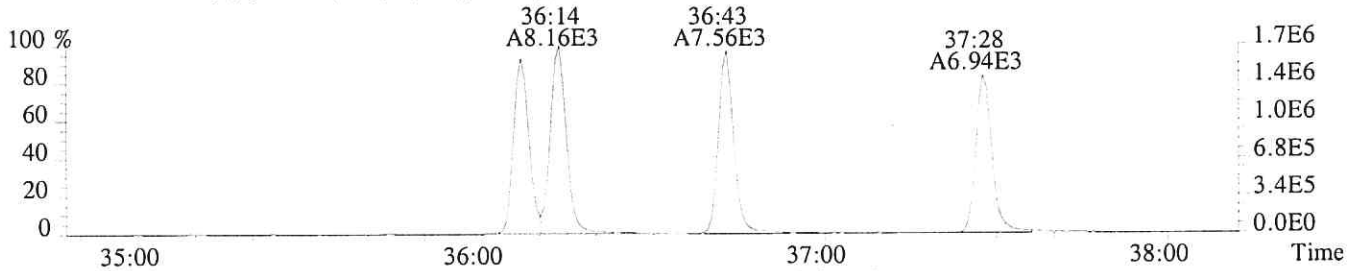
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



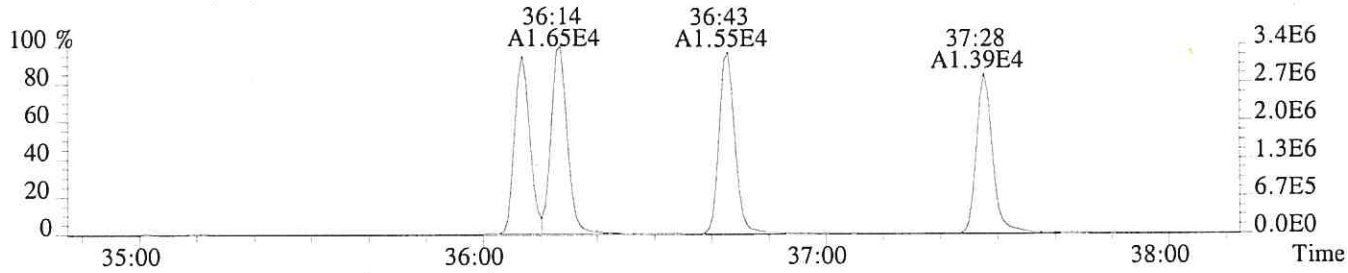
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



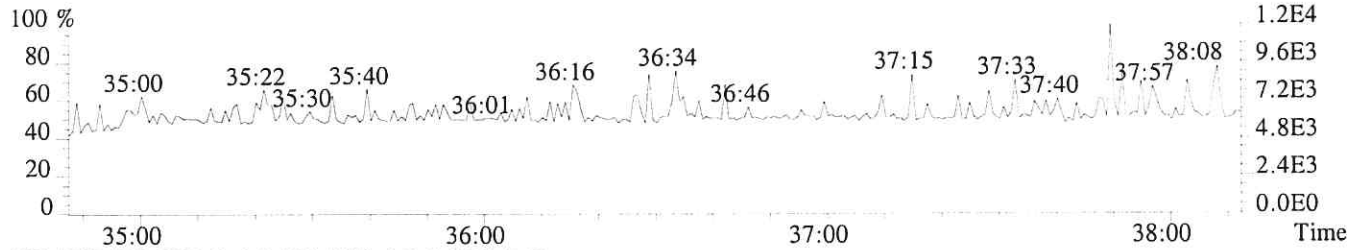
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1024.0,0.40%,F,T)



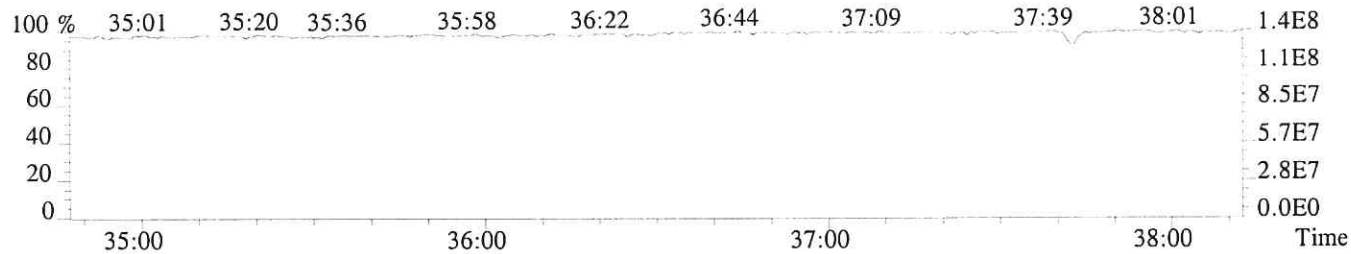
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1932.0,0.40%,F,T)



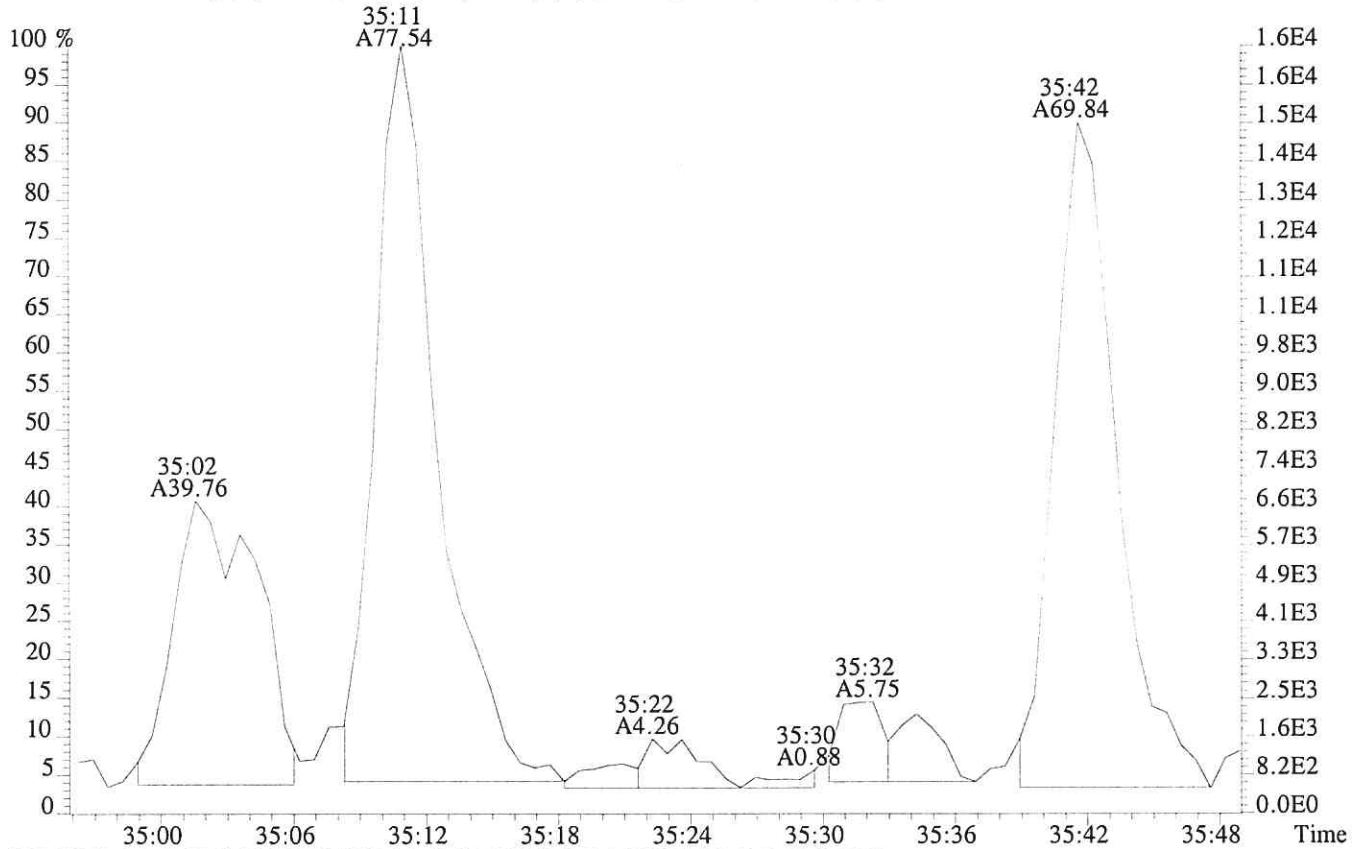
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



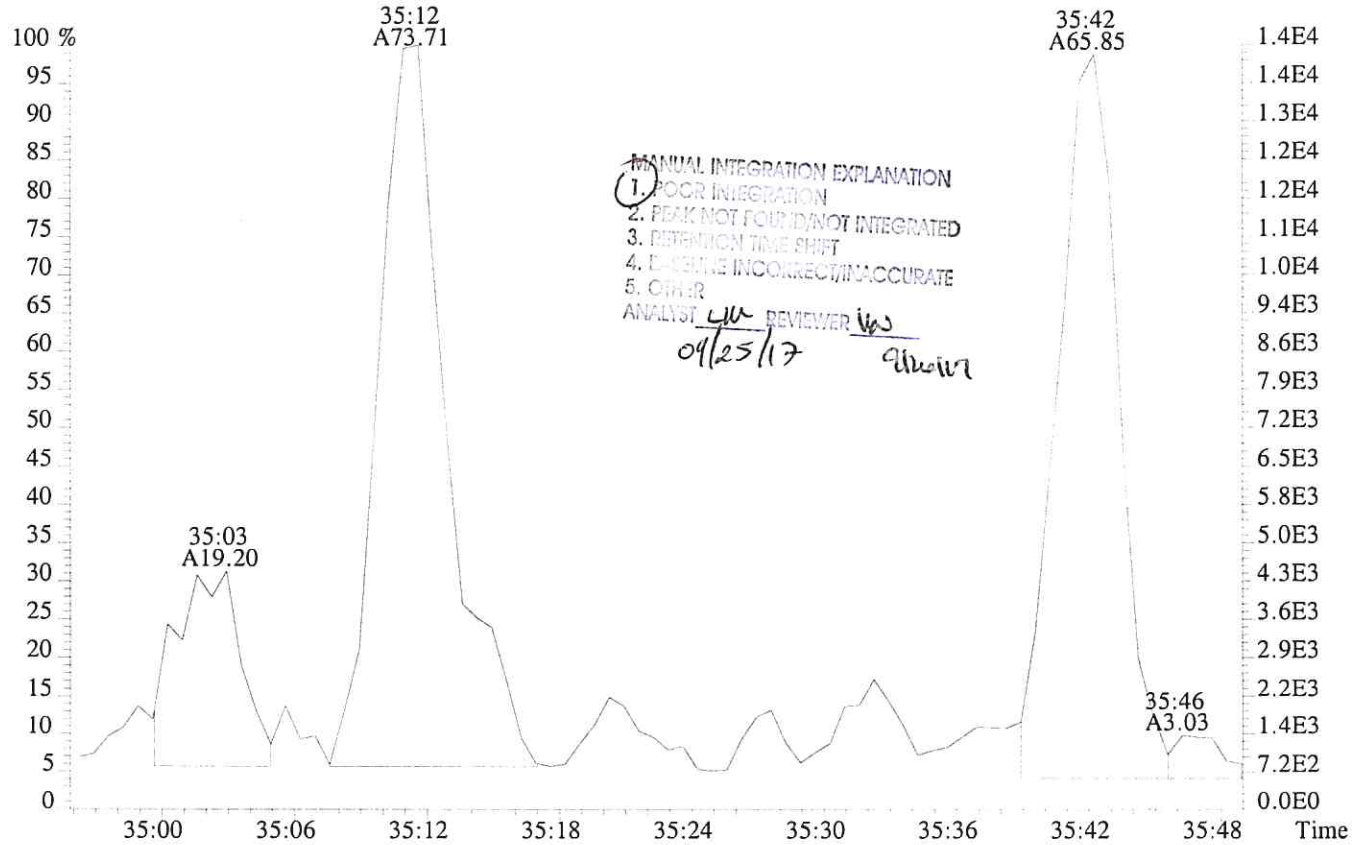
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511547 #1-308 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



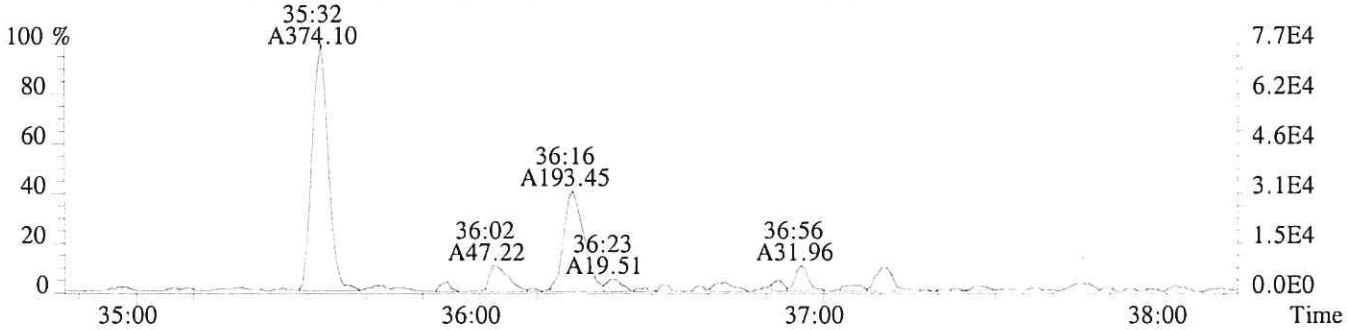
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



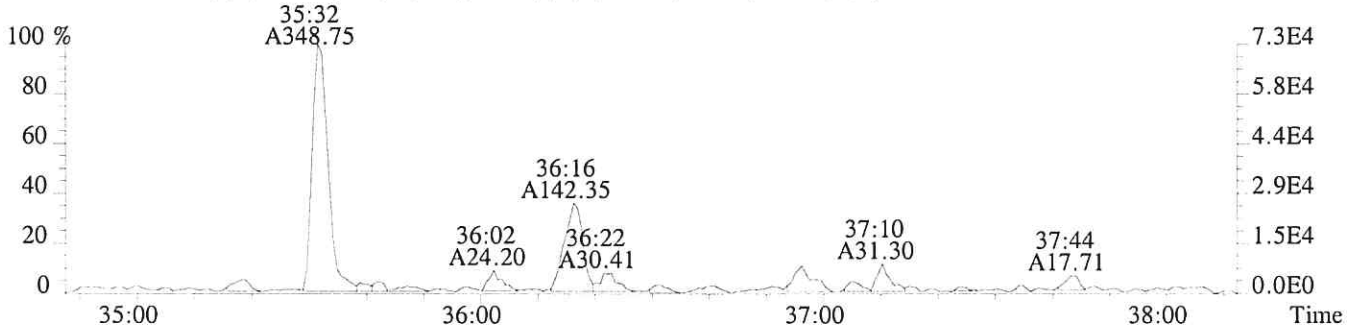
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LW REVIEWER WS
09/25/17 9/26/17

File:P511547 #1-308 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

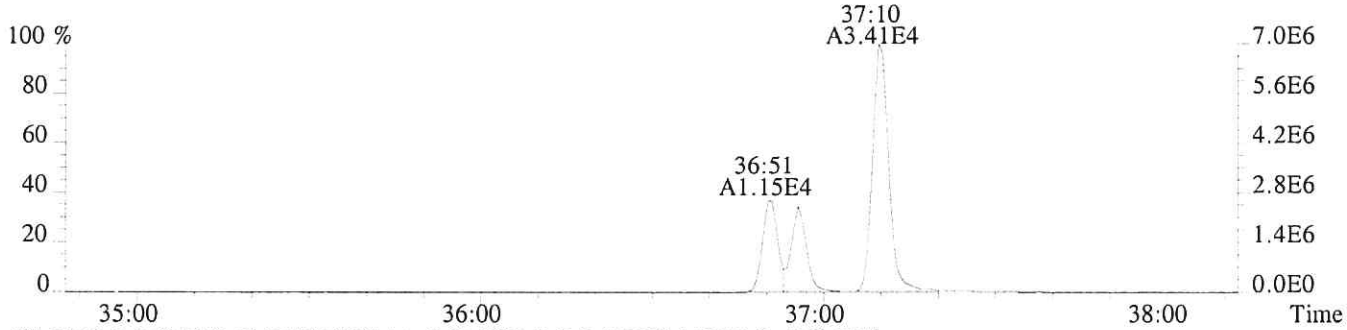
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1360.0,0.40%,F,T)



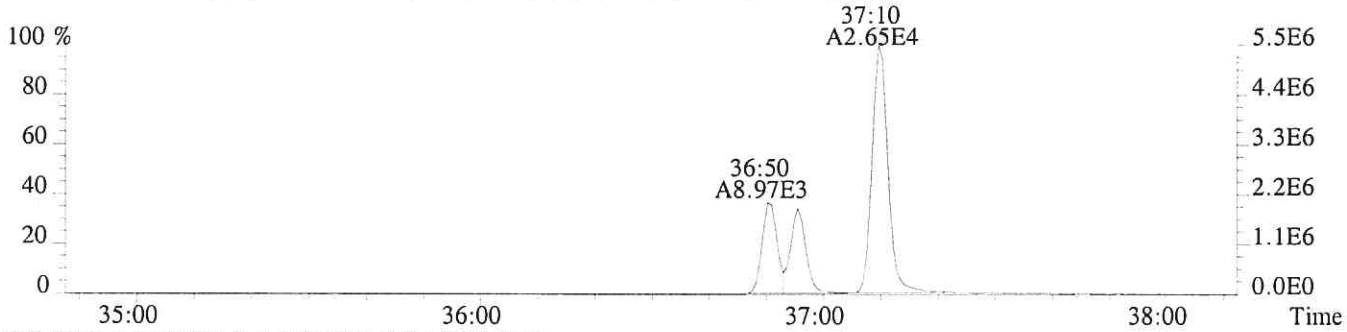
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



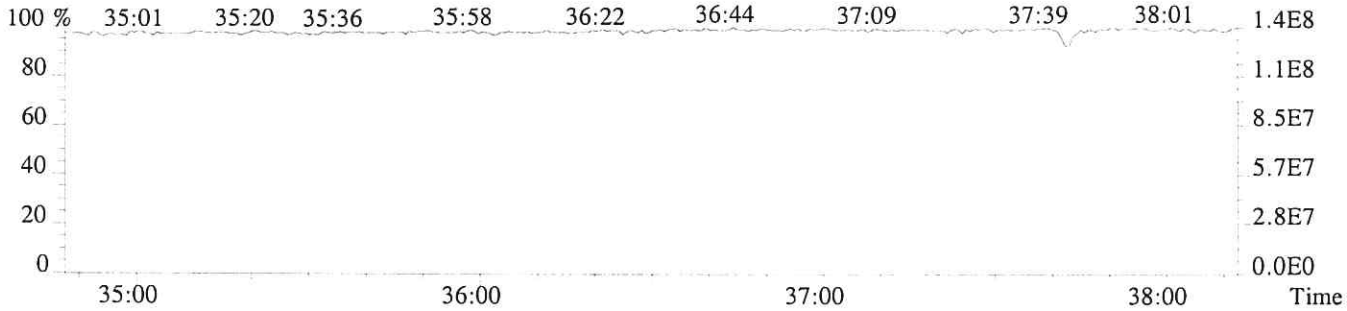
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,T)

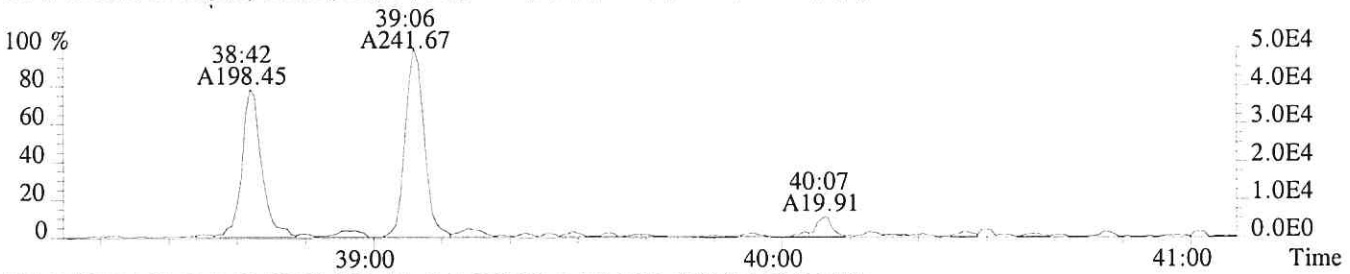


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

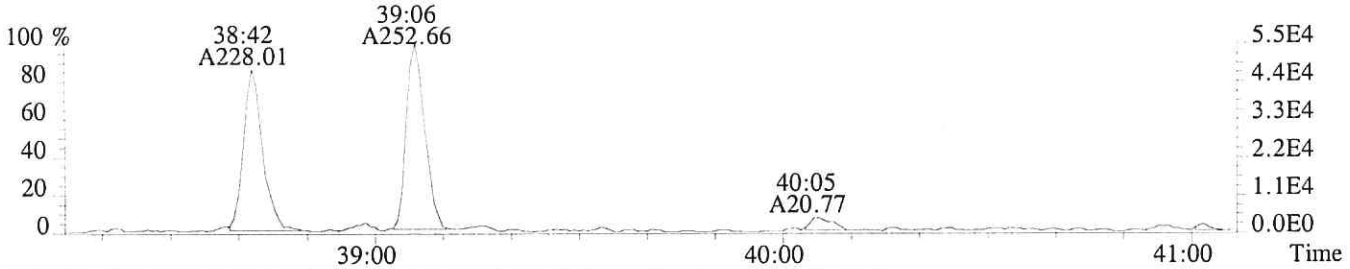


File:P511547 #1-259 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

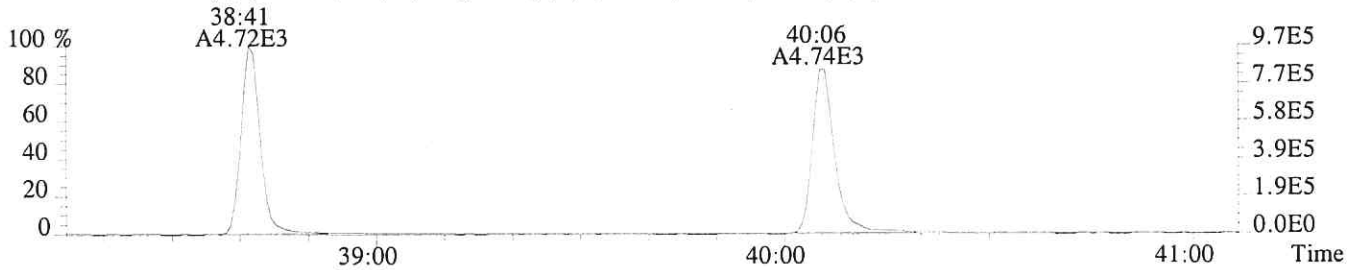
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.50%,F,T)



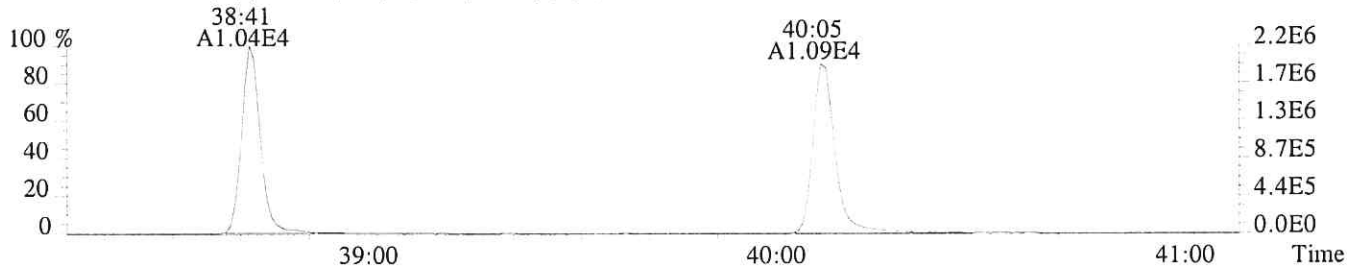
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,940.0,0.50%,F,T)



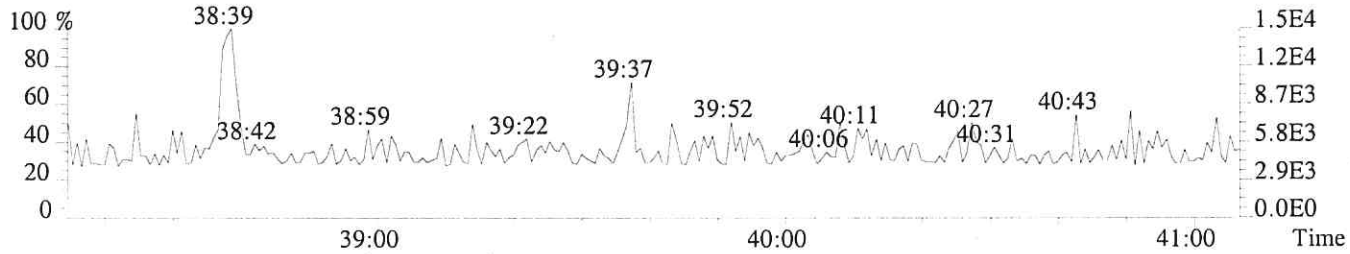
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2396.0,0.50%,F,T)



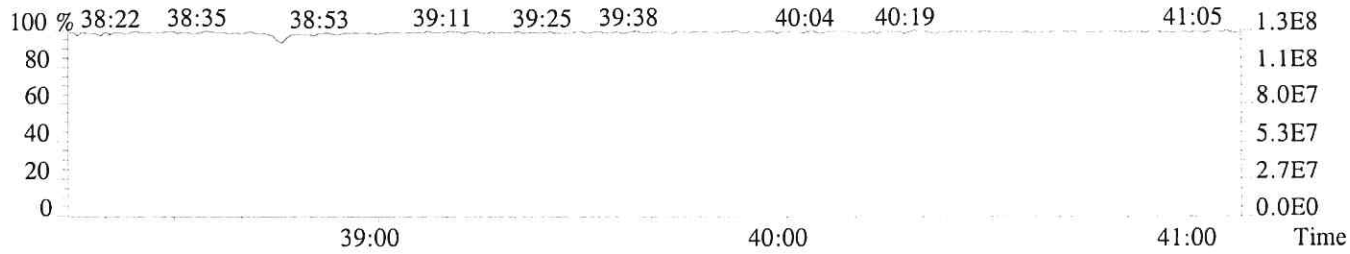
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2184.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

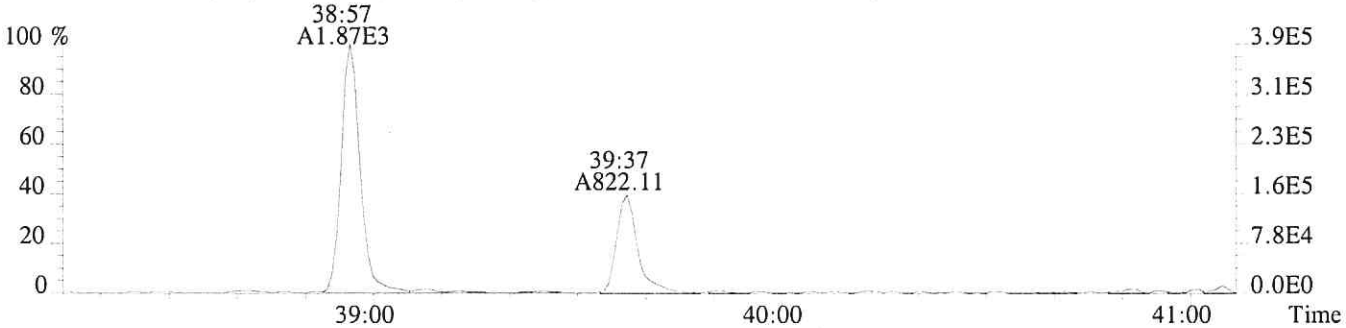


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

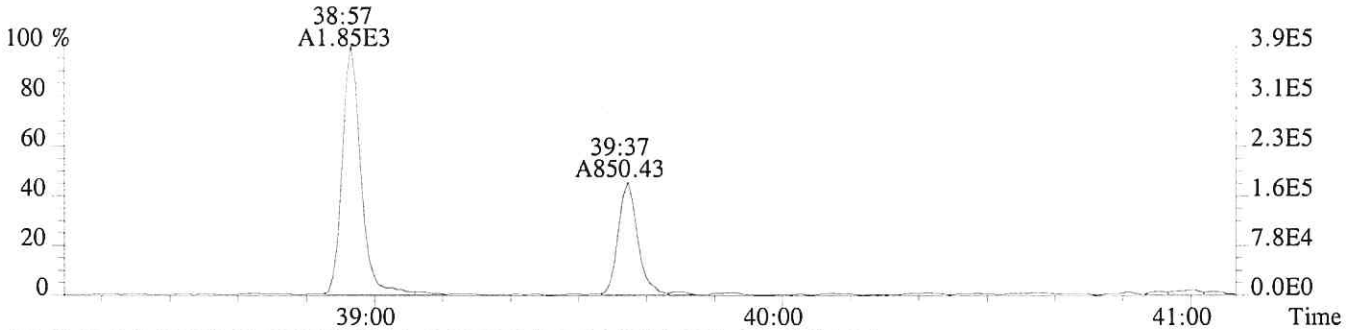


File:P511547 #1-259 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

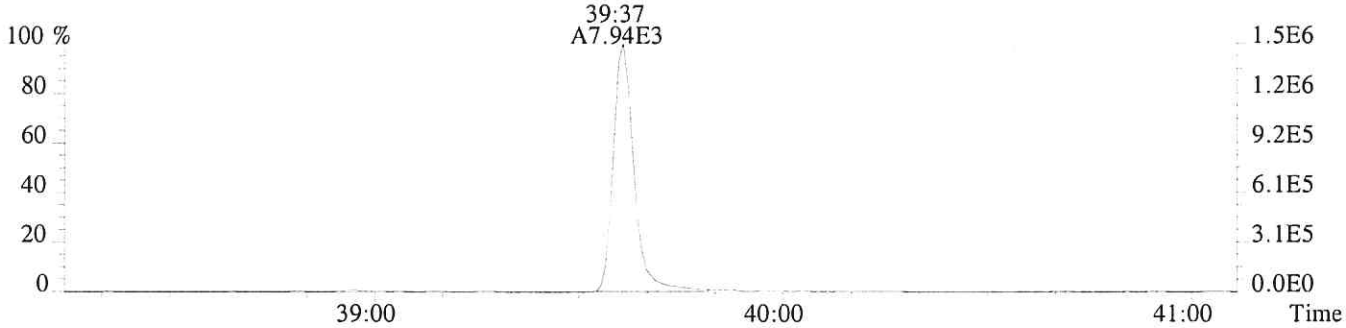
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1680.0,0.40%,F,T)



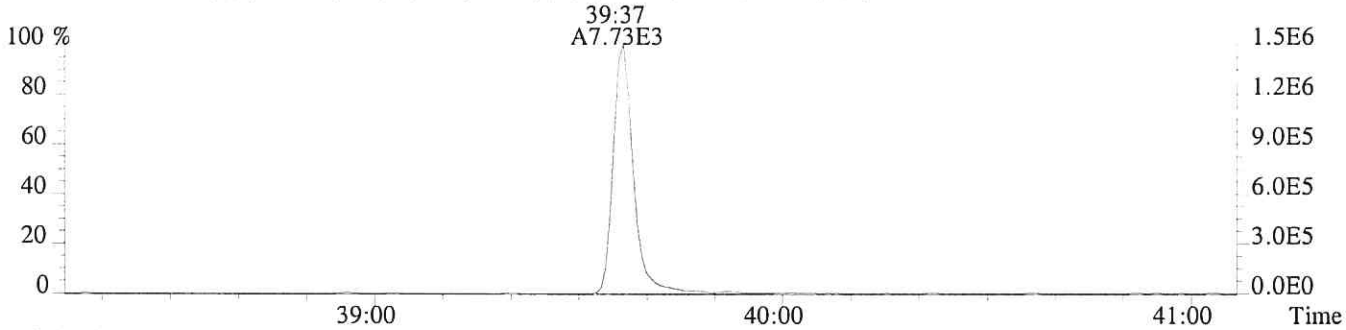
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2016.0,0.40%,F,T)



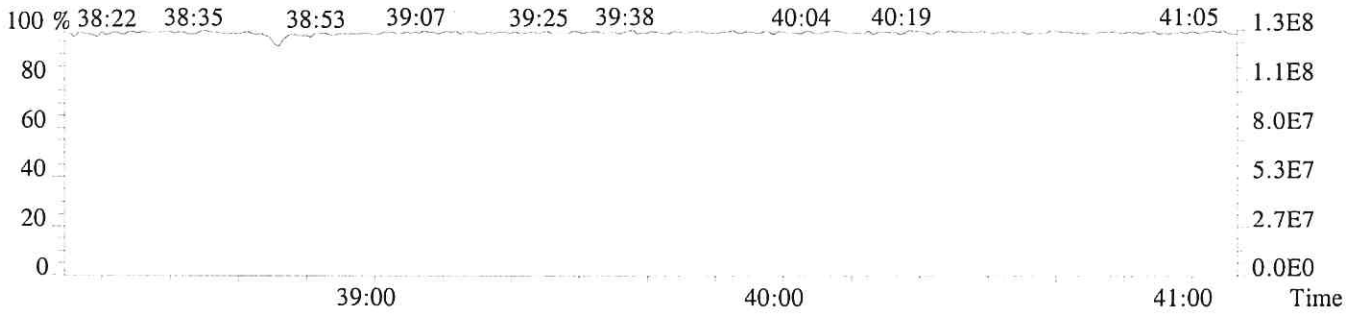
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1332.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)

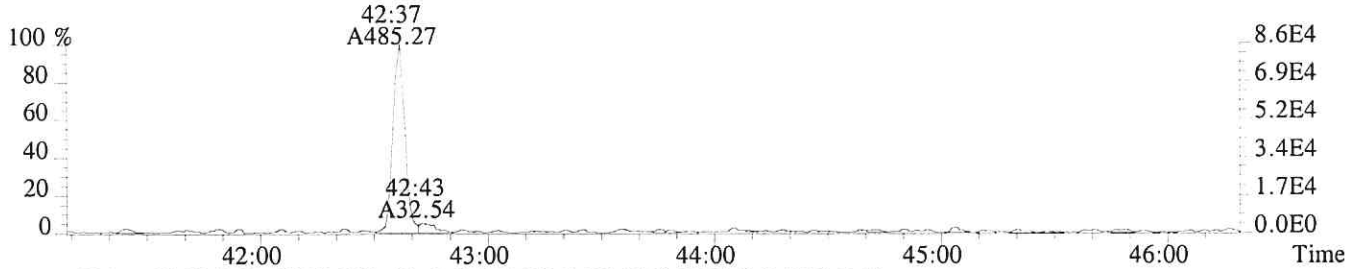


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

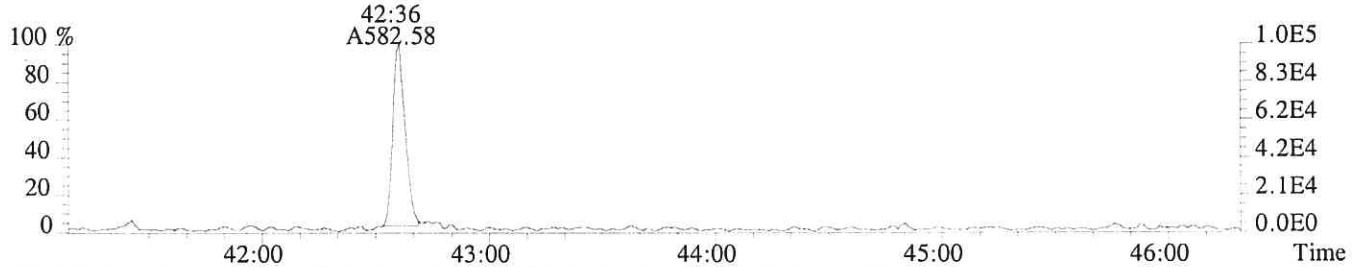


File:P511547 #1-466 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

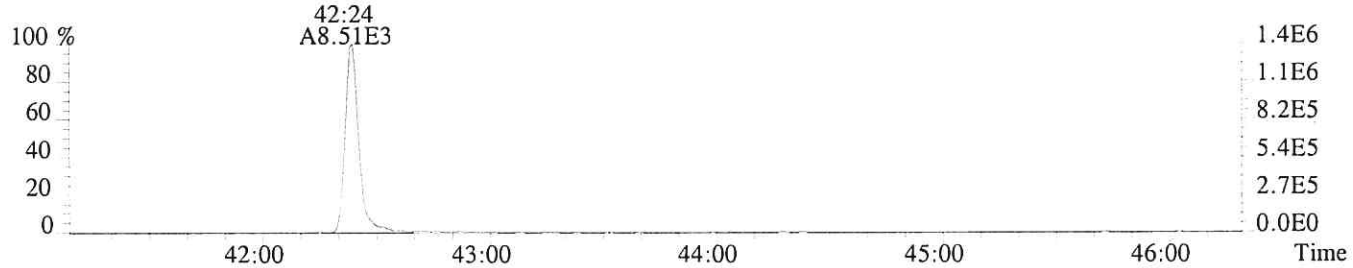
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,752.0,0.40%,F,T)



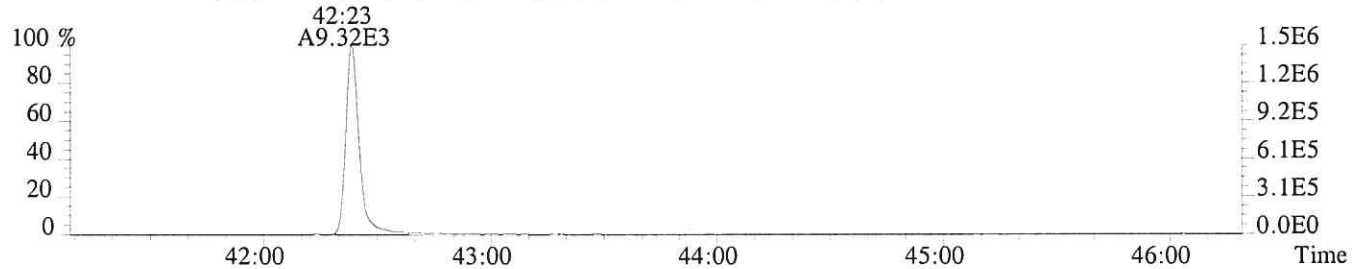
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2364.0,0.40%,F,T)



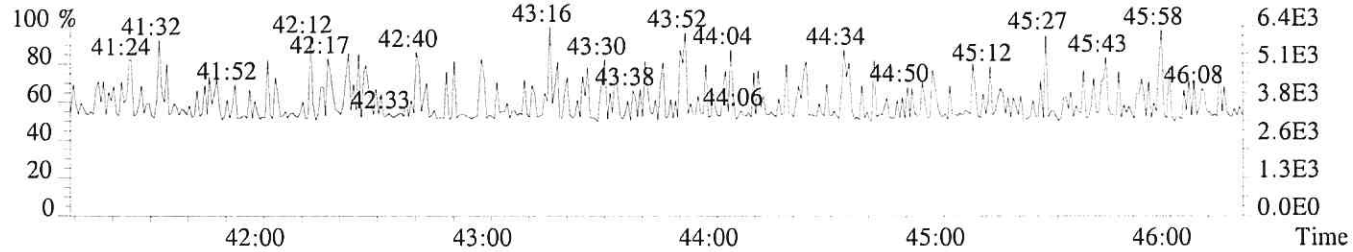
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,T)



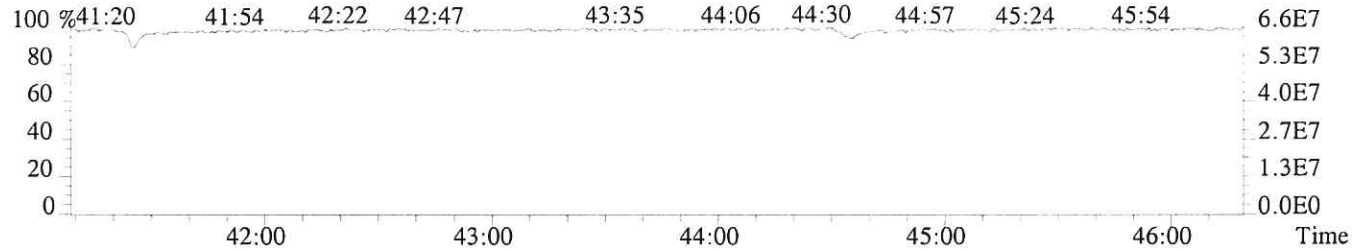
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1176.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

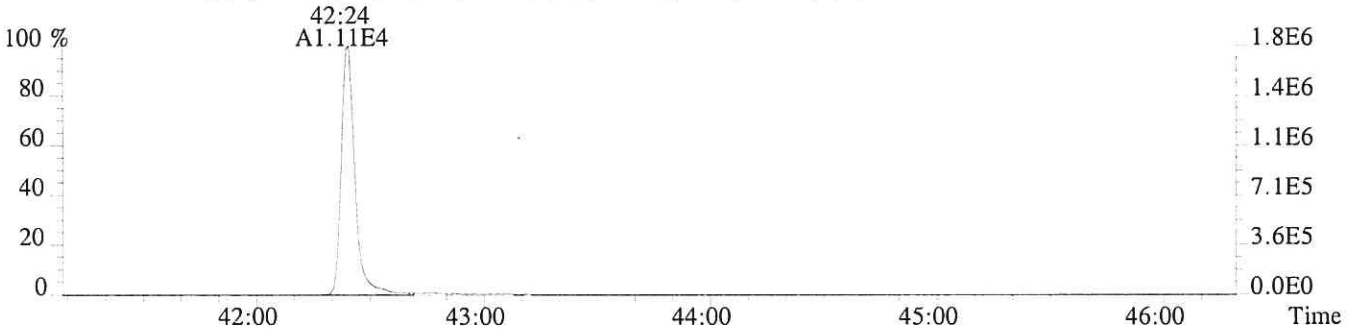


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

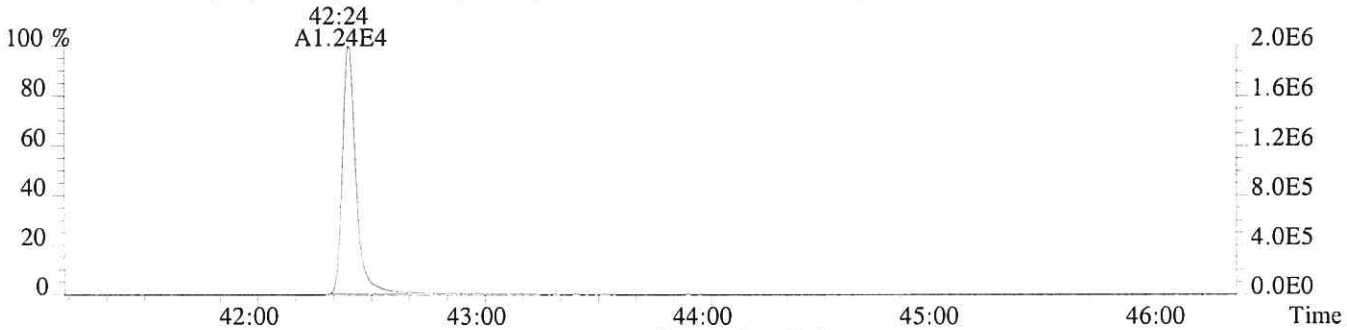


File:P511547 #1-466 Acq:24-SEP-2017 19:55:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-008

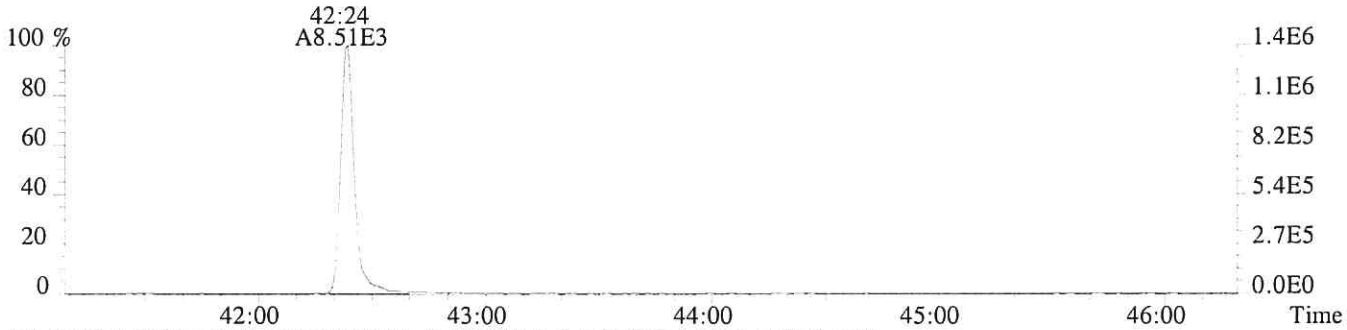
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,308.0,0.40%,F,T)



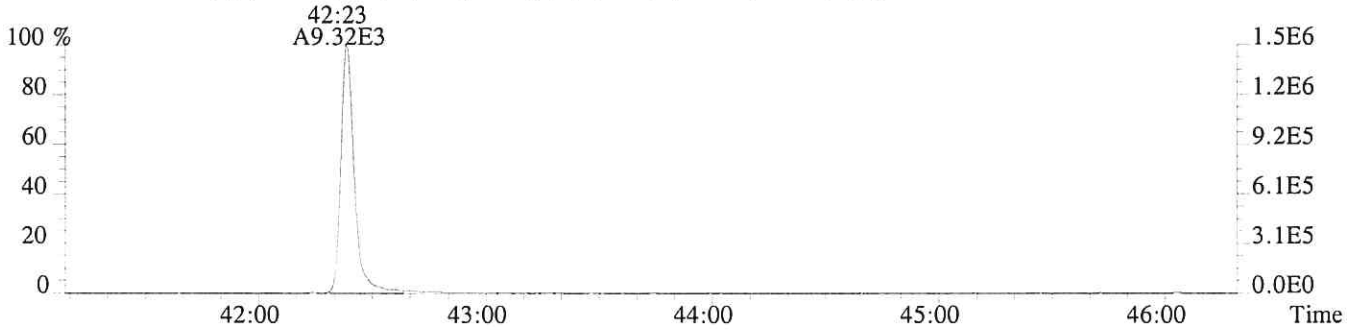
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,904.0,0.40%,F,T)



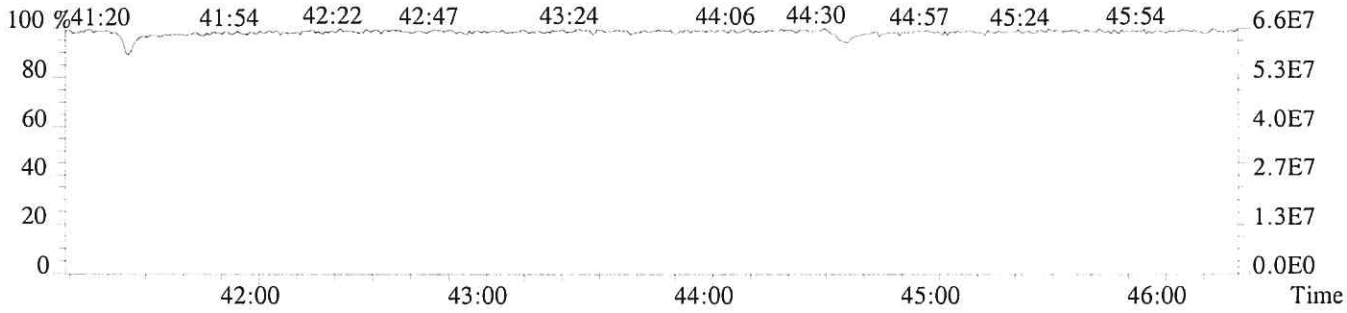
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1176.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #18 Filename P511548 Samp: 1 Inj: 1 Acquired: 24-SEP-17 20:44:42
Processed: 25-SEP-17 13:20:19 Sample ID: E1700974-009

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	3.240e+03	4.756e+03	0.68	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.365e+02	8.533e+01	1.60	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	1.025e+02	1.059e+02	0.97	no	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	1.622e+02	1.240e+02	1.31	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	4.855e+01	5.147e+01	0.94	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	3.327e+02	2.960e+02	1.12	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	2.723e+01	2.927e+01	0.93	yes	no	1.191
10	Unk	OCDF	42:37	1.714e+03	2.050e+03	0.84	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	7.930e+02	1.054e+03	0.75	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	3.293e+01	3.185e+01	1.03	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	8.006e+01	5.519e+01	1.45	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	1.163e+02	6.884e+01	1.69	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.397e+03	2.469e+03	0.97	yes	no	0.942
17	Unk	OCDD	42:24	6.123e+04	6.861e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	2.018e+04	2.527e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	3.294e+04	2.117e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	3.160e+04	2.047e+04	1.54	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.308e+04	2.559e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.438e+04	2.829e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	1.363e+04	2.577e+04	0.53	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.333e+04	2.615e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	8.322e+03	1.925e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	8.912e+03	2.013e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	1.546e+04	1.988e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	2.425e+04	1.526e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.997e+04	1.540e+04	1.30	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.014e+04	1.593e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.435e+04	1.366e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	1.565e+04	1.764e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.124e+04	2.690e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	2.954e+04	2.355e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.522e+04				no	1.033

$$\text{OCDD} = \frac{(6.123e{+}04 + 6.861e{+}04) \times 4000 \text{ pg} \times 1}{(1.565e{+}04 + 1.764e{+}04) \times 10.394 \text{ g} \times 33.0 / 100 \times 1.051} = 4225 \text{ ng/kg}$$

KW 9/26/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-028

Run #18 Filename P511548 Samp: 1 Inj: 1 Acquired: 24-SEP-17 20:44:42
Processed: 25-SEP-17 13:20:19 LAB. ID: E1700974-009

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.46e+05	1.55e+03	3.5e+02	8.05e+05	3.00e+03	2.7e+02
2	1,2,3,7,8-PeCDF	2.62e+04	1.24e+03	2.1e+01	1.29e+04	3.65e+03	3.5e+00
3	2,3,4,7,8-PeCDF	1.63e+04	1.24e+03	1.3e+01	1.42e+04	3.65e+03	3.9e+00
4	1,2,3,4,7,8-HxCDF	3.54e+04	2.29e+03	1.5e+01	2.40e+04	1.42e+03	1.7e+01
5	1,2,3,6,7,8-HxCDF	9.11e+03	2.29e+03	4.0e+00	9.82e+03	1.42e+03	6.9e+00
6	2,3,4,6,7,8-HxCDF	*	2.29e+03	*	*	1.42e+03	*
7	1,2,3,7,8,9-HxCDF	*	2.29e+03	*	*	1.42e+03	*
8	1,2,3,4,6,7,8-HpCDF	7.39e+04	7.60e+02	9.7e+01	5.92e+04	9.36e+02	6.3e+01
9	1,2,3,4,7,8,9-HpCDF	4.87e+03	7.60e+02	6.4e+00	7.09e+03	9.36e+02	7.6e+00
10	OCDF	2.84e+05	5.56e+02	5.1e+02	3.26e+05	1.87e+03	1.7e+02
11	2,3,7,8-TCDD	1.55e+05	3.08e+03	5.0e+01	2.00e+05	9.28e+02	2.2e+02
12	1,2,3,7,8-PeCDD	*	3.23e+03	*	*	7.40e+02	*
13	1,2,3,4,7,8-HxCDD	8.28e+03	8.92e+02	9.3e+00	8.97e+03	1.61e+03	5.6e+00
14	1,2,3,6,7,8-HxCDD	1.89e+04	8.92e+02	2.1e+01	1.23e+04	1.61e+03	7.6e+00
15	1,2,3,7,8,9-HxCDD	2.46e+04	8.92e+02	2.8e+01	1.48e+04	1.61e+03	9.2e+00
16	1,2,3,4,6,7,8-HpCDD	4.42e+05	1.17e+03	3.8e+02	4.72e+05	5.27e+03	9.0e+01
17	OCDD	9.71e+06	7.00e+02	1.4e+04	1.10e+07	9.92e+02	1.1e+04
18	13C-2,3,7,8-TCDF	3.67e+06	1.86e+04	2.0e+02	4.49e+06	8.64e+03	5.2e+02
19	13C-1,2,3,7,8-PeCDF	6.28e+06	7.28e+02	8.6e+03	3.98e+06	1.89e+03	2.1e+03
20	13C-2,3,4,7,8-PeCDF	6.19e+06	7.28e+02	8.5e+03	3.98e+06	1.89e+03	2.1e+03
21	13C-1,2,3,4,7,8-HxCDF	2.77e+06	1.26e+03	2.2e+03	5.36e+06	2.47e+03	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	2.87e+06	1.26e+03	2.3e+03	5.74e+06	2.47e+03	2.3e+03
23	13C-2,3,4,6,7,8-HxCDF	2.79e+06	1.26e+03	2.2e+03	5.36e+06	2.47e+03	2.2e+03
24	13C-1,2,3,7,8,9-HxCDF	2.61e+06	1.26e+03	2.1e+03	5.17e+06	2.47e+03	2.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.71e+06	3.13e+03	5.5e+02	4.01e+06	2.50e+03	1.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.61e+06	3.13e+03	5.2e+02	3.73e+06	2.50e+03	1.5e+03
27	13C-2,3,7,8-TCDD	2.86e+06	7.93e+03	3.6e+02	3.70e+06	3.31e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	4.60e+06	2.06e+03	2.2e+03	2.86e+06	1.95e+03	1.5e+03
29	13C-1,2,3,4,7,8-HxCDD	4.45e+06	2.11e+03	2.1e+03	3.40e+06	2.00e+03	1.7e+03
30	13C-1,2,3,6,7,8-HxCDD	4.05e+06	2.11e+03	1.9e+03	3.24e+06	2.00e+03	1.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.67e+06	1.48e+03	1.8e+03	2.59e+06	4.00e+02	6.5e+03
32	13C-OCDD	2.47e+06	1.33e+03	1.9e+03	2.84e+06	8.56e+02	3.3e+03
33	13C-1,2,3,4-TCDD	3.99e+06	7.93e+03	5.0e+02	5.12e+06	3.31e+03	1.5e+03
34	13C-1,2,3,7,8,9-HxCDD	5.94e+06	2.11e+03	2.8e+03	4.80e+06	2.00e+03	2.4e+03
35	37Cl-2,3,7,8-TCDD	2.91e+06	1.92e+03	1.5e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (3.084e{+}03 + 9.280e{+}02) \times 2000}{(2.857e{+}06 + 3.700e{+}06) \times (\qquad\qquad) \times 1.065} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 36 Totals Name: Total Tetra-Furans

Run: 18 File: P511548 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 303.9020 305.8990 Tot Response: 1.30e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:12	1.04e+02	1.22e+02	0.85	yes	2.26e+02		n	n
2	27:19	1.58e+02	2.15e+02	0.73	yes	3.73e+02		n	n
3	27:44	1.52e+03	2.06e+03	0.74	yes	3.58e+03		n	n
4	27:59	9.87e+01	1.44e+02	0.69	yes	2.43e+02		n	n
5	28:31	3.24e+03	4.76e+03	0.68	yes	8.00e+03	2,3,7,8-TCDF	n	n
6	28:50	2.71e+02	3.51e+02	0.77	yes	6.21e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 18 File: P511548 Sample:1 Injection:1 Function:1

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 319.8970 321.8940 Tot Response: 1.85e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	7.93e+02	1.05e+03	0.75	yes	1.85e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-028

Entry: 39 Totals Name: Total Penta-Furans2

Run: 18 File: P511548 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 339.8600 341.8570 Tot Response: 2.22e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:37	1.36e+02	8.53e+01	1.60	yes	2.22e+02	1,2,3,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 18 File: P511548 Sample:1 Injection:1 Function:2

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 355.8550 357.8520 Tot Response: 1.94e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:11	1.21e+02	7.29e+01	1.67	yes	1.94e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 41 Totals Name: Total Hexa-Furans

Run: 18 File: P511548 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 373.8210 375.8180 Tot Response: 4.95e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:42	1.21e+02	8.75e+01	1.39	yes	2.09e+02		n	n
2	36:08	1.62e+02	1.24e+02	1.31	yes	2.86e+02	1,2,3,4,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-028

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 18 File: P511548 Sample:1 Injection:1 Function:3

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 389.8160 391.8130 Tot Response: 3.23e+03 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	1.27e+03	1.04e+03	1.23	yes	2.31e+03	n	n
2	36:17	4.68e+02	3.73e+02	1.26	yes	8.41e+02	n	n
3	37:06	4.16e+01	3.20e+01	1.30	yes	7.36e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 43 Totals Name: Total Hepta-Furans

Run: 18 File: P511548 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 407.7820 409.7790 Tot Response: 1.54e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	3.33e+02	2.96e+02	1.12	yes	6.29e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	38:58	3.69e+01	3.90e+01	0.94	yes	7.59e+01		n	n
3	39:07	3.67e+02	4.14e+02	0.89	yes	7.81e+02		n	n
4	40:07	2.72e+01	2.93e+01	0.93	yes	5.65e+01	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-028

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 18 File: P511548 Sample:1 Injection:1 Function:4

Acquired: 24-SEP-17 20:44:42 Processed: 25-SEP-17 13:20:19

Mass: 423.7770 425.7740 Tot Response: 1.78e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	6.55e+03	6.36e+03	1.03	yes	1.29e+04		n	n
2	39:38	2.40e+03	2.47e+03	0.97	yes	4.87e+03	1,2,3,4,6,7,8-HpCDD	n	n

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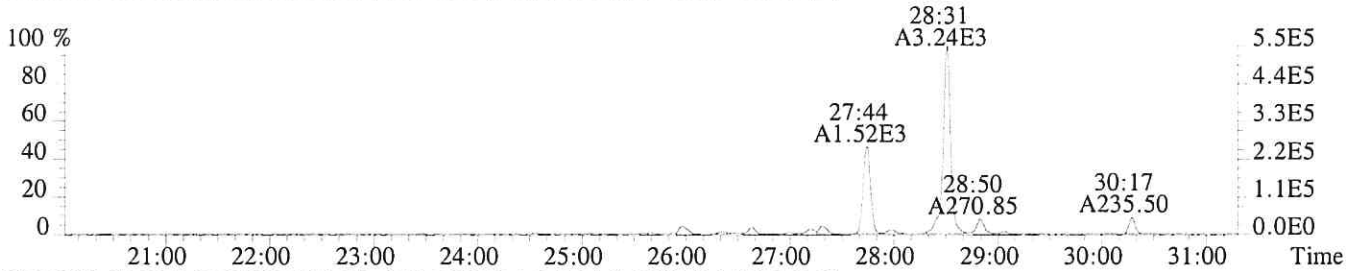
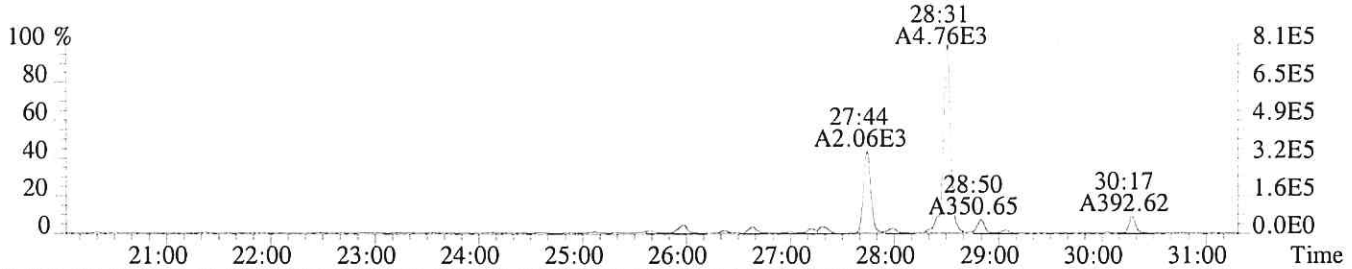
File:P511548 #1-800 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

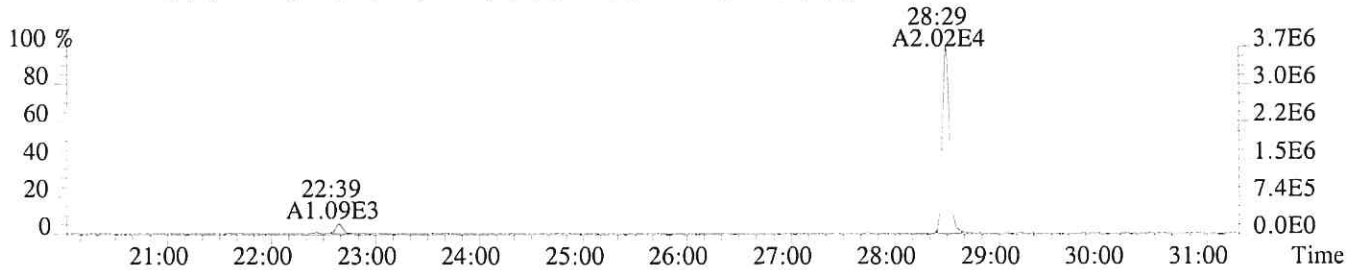
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1548.0,1.00%,F,T)



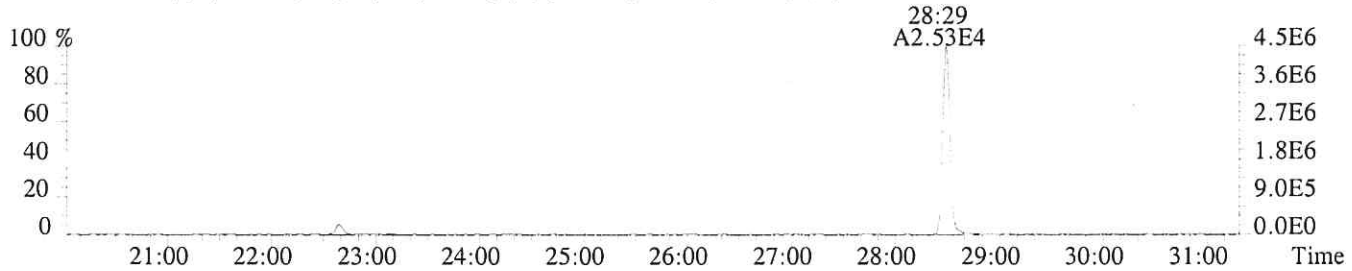
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3000.0,1.00%,F,T)



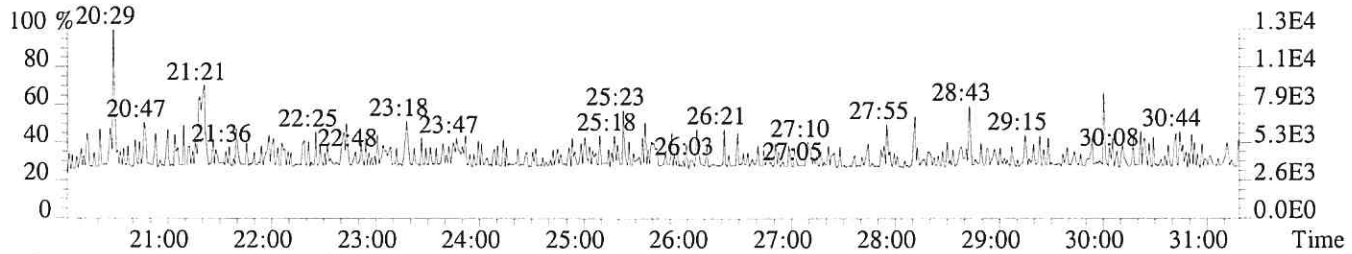
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18648.0,1.00%,F,T)



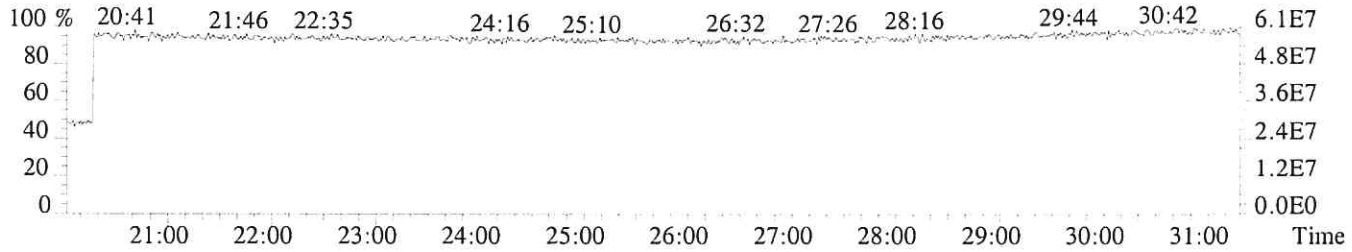
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8644.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

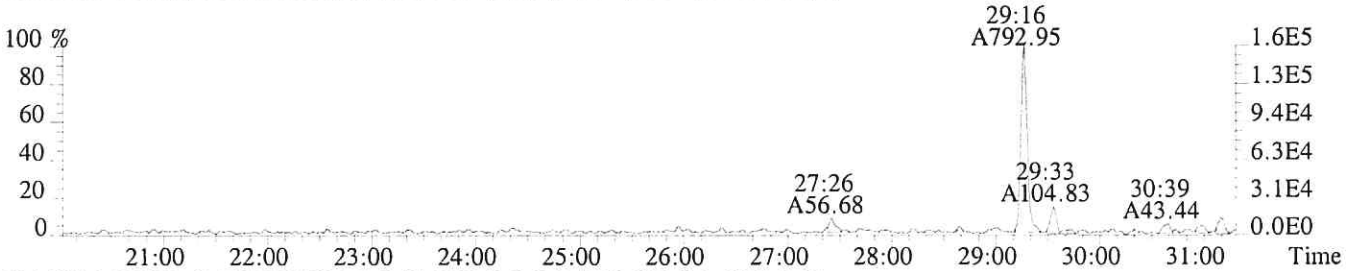


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

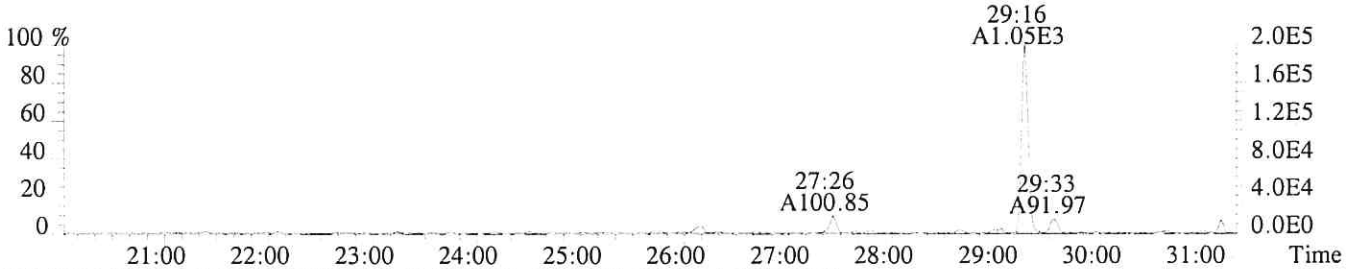


File:P511548 #1-800 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

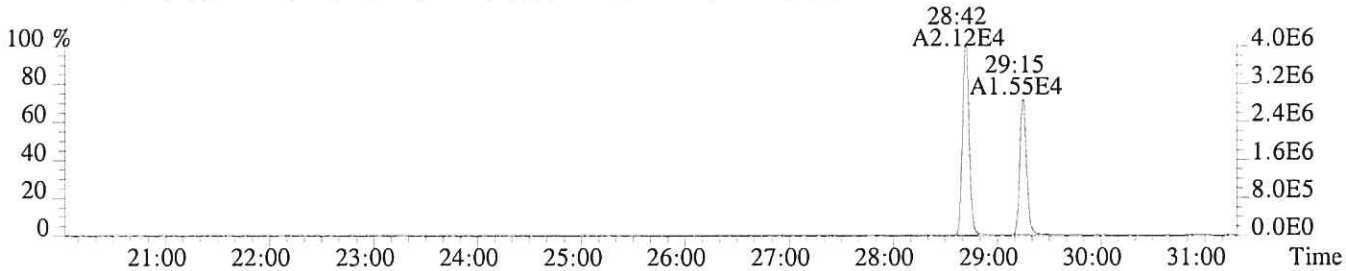
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3084.0,1.00%,F,T)



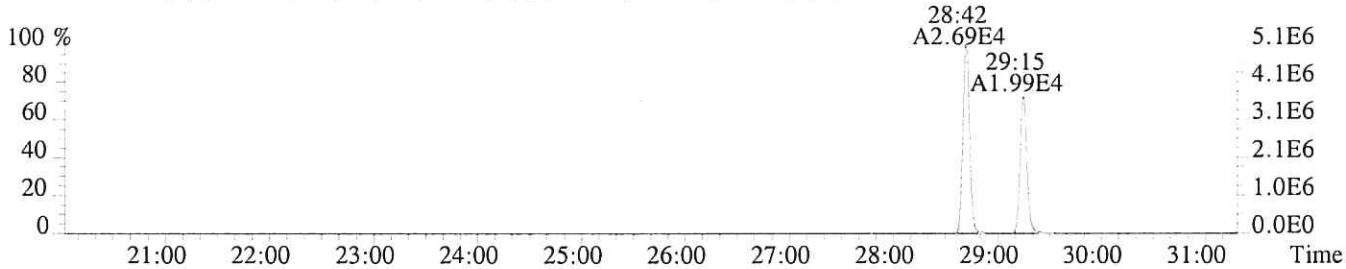
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,T)



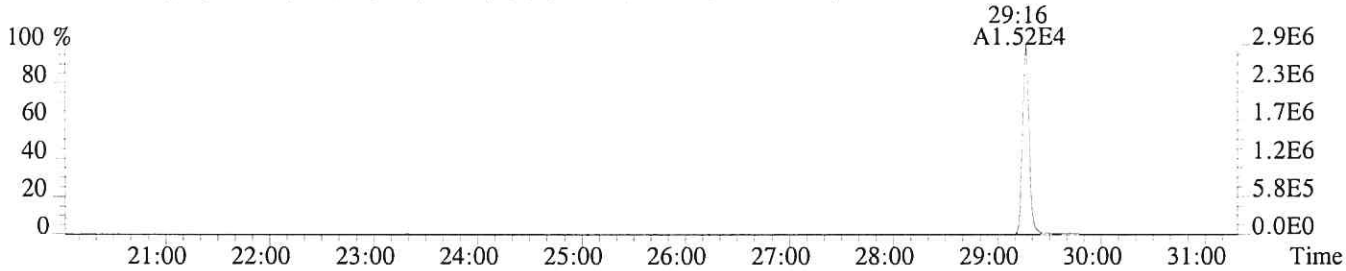
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7932.0,1.00%,F,T)



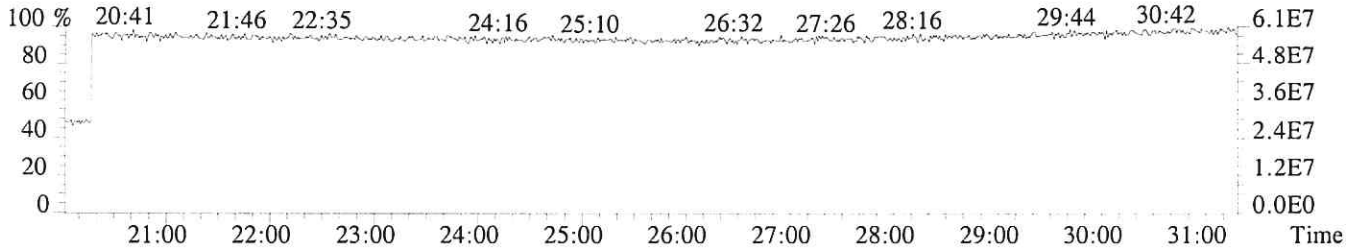
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3312.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,T)

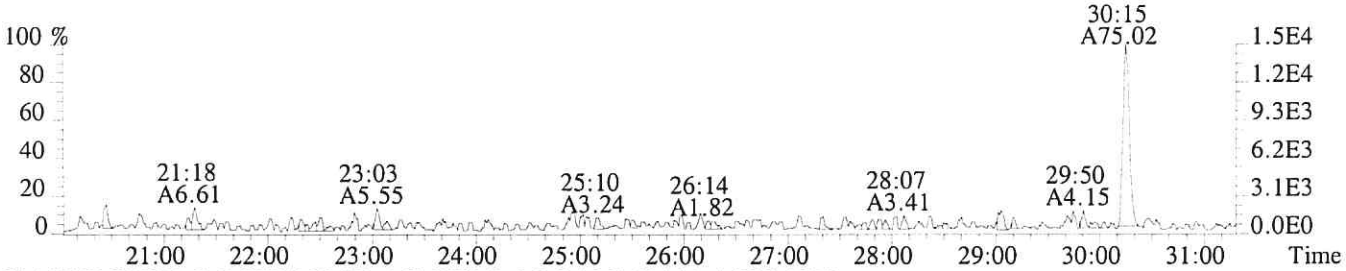


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

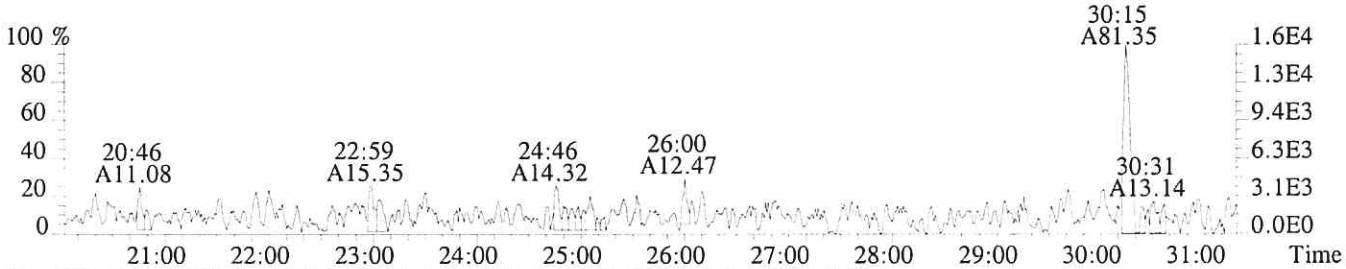


File:P511548 #1-800 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

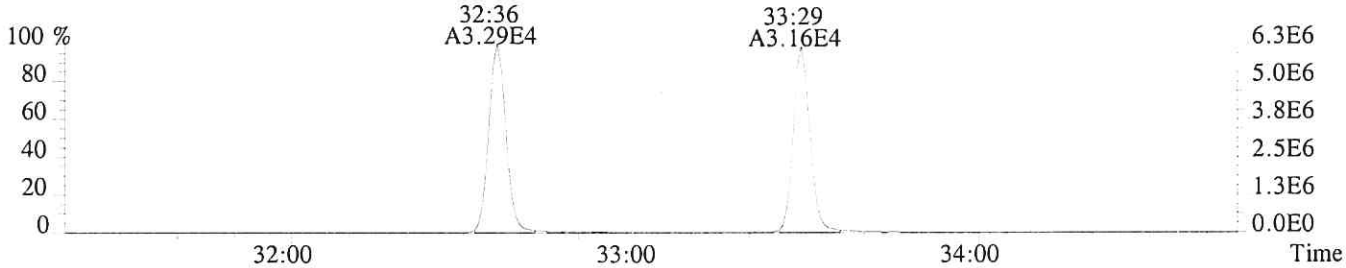
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



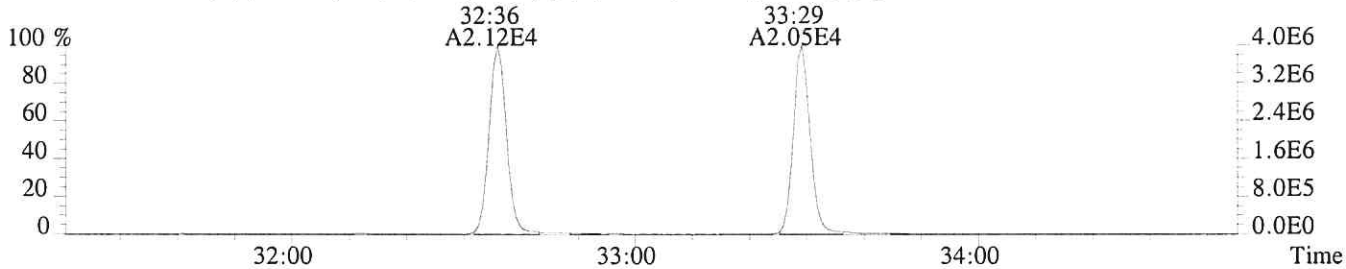
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1844.0,1.00%,F,T)



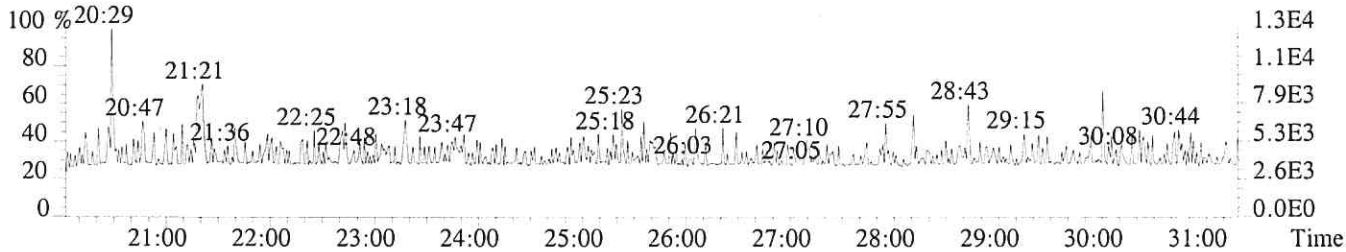
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



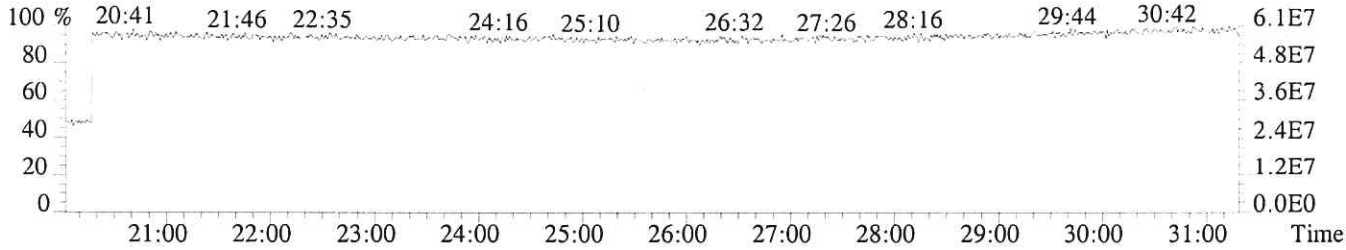
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1888.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

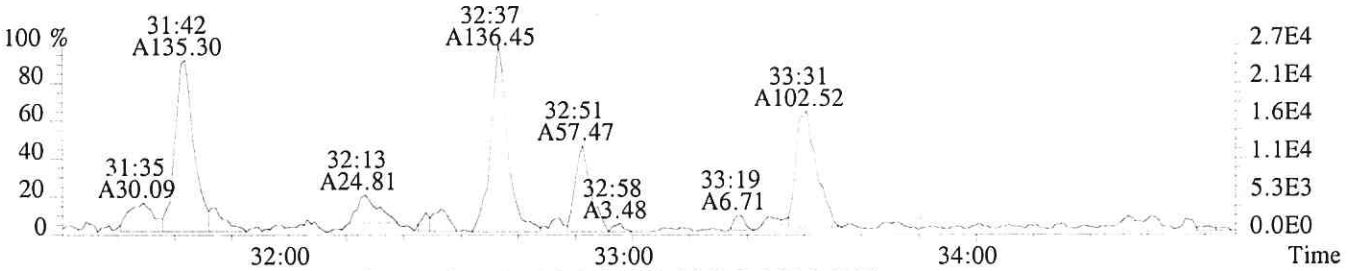


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

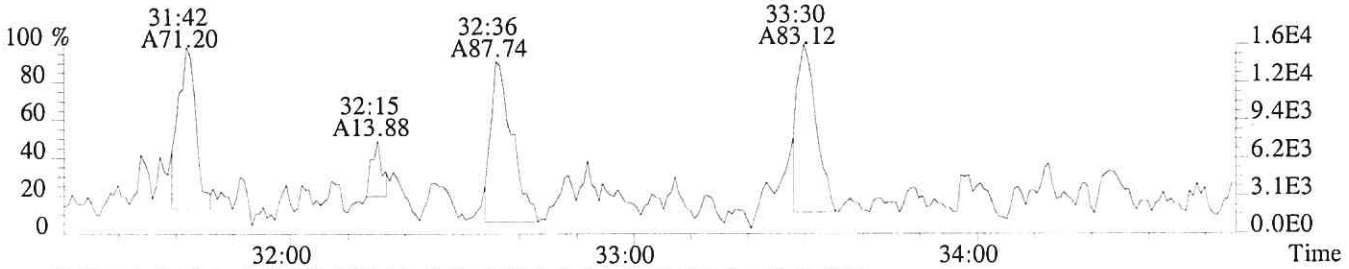


File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

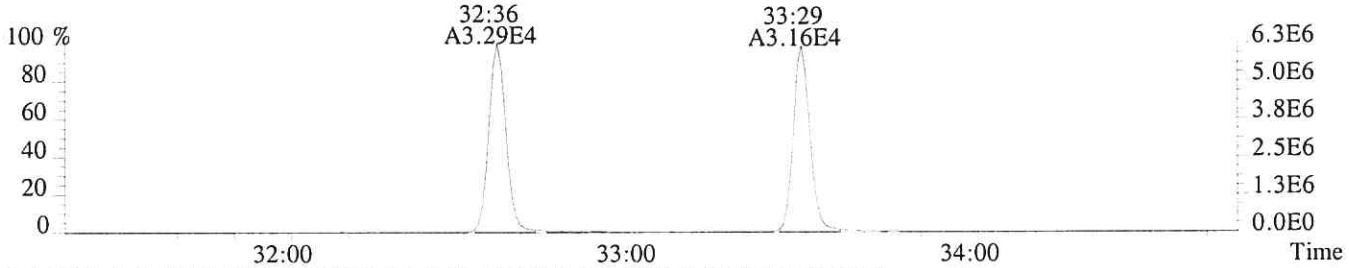
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



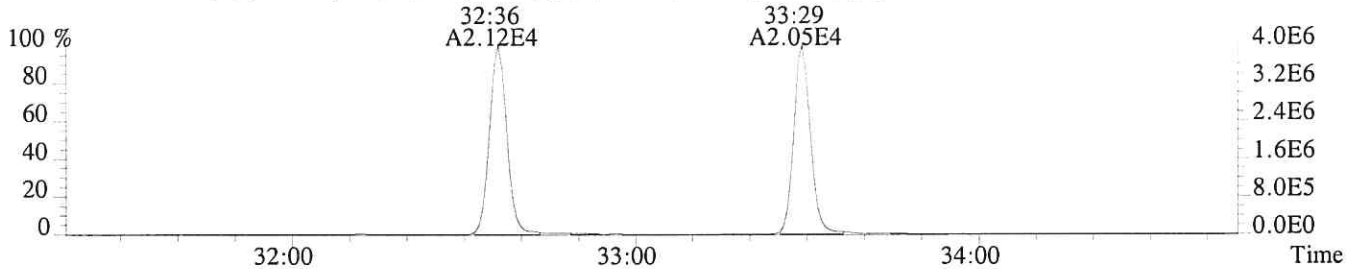
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3648.0,1.00%,F,T)



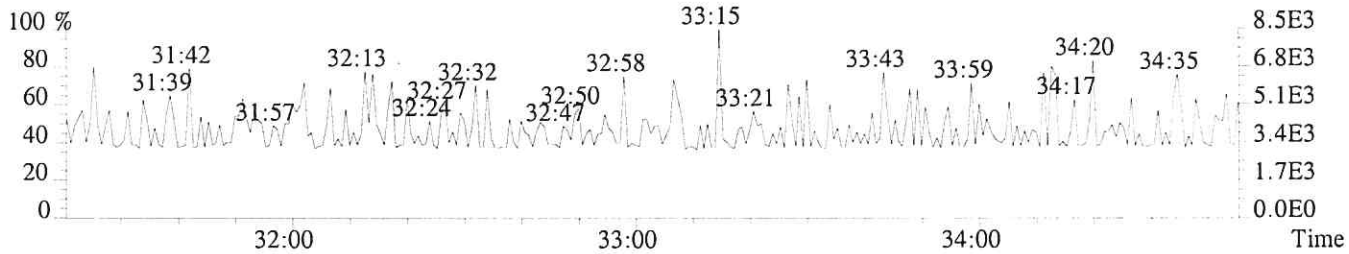
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



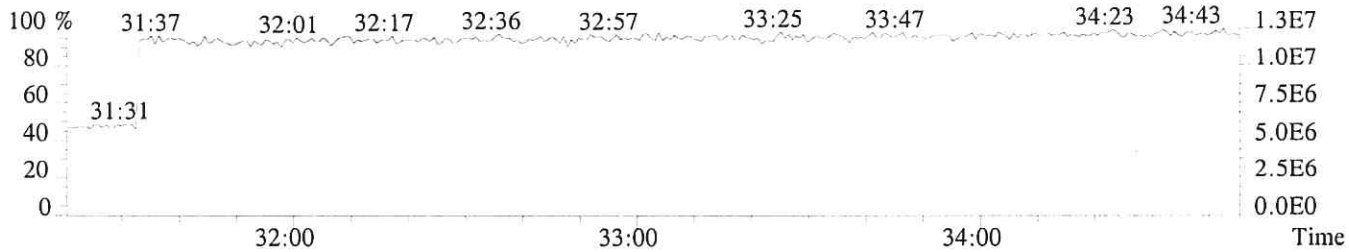
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1888.0,1.00%,F,T)



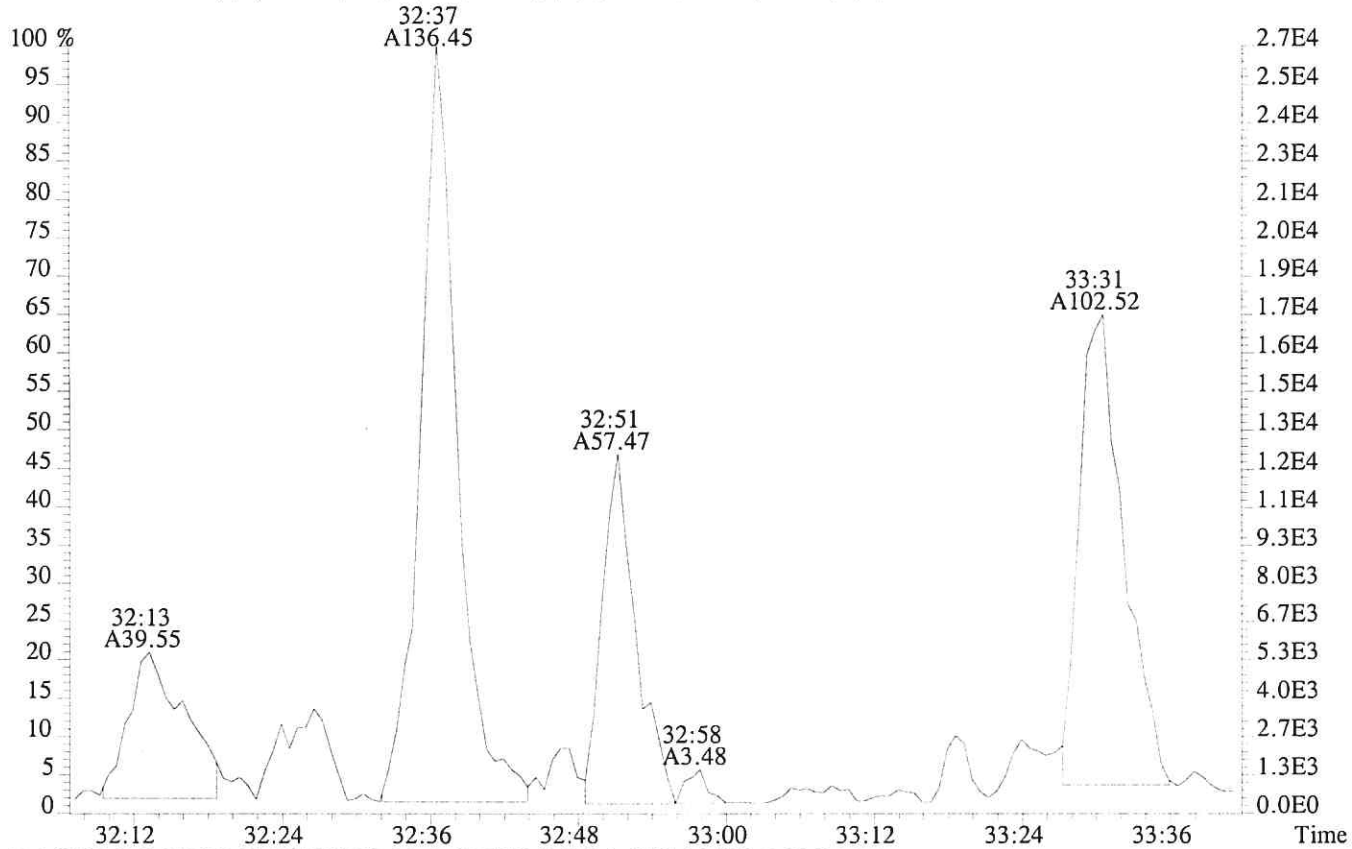
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



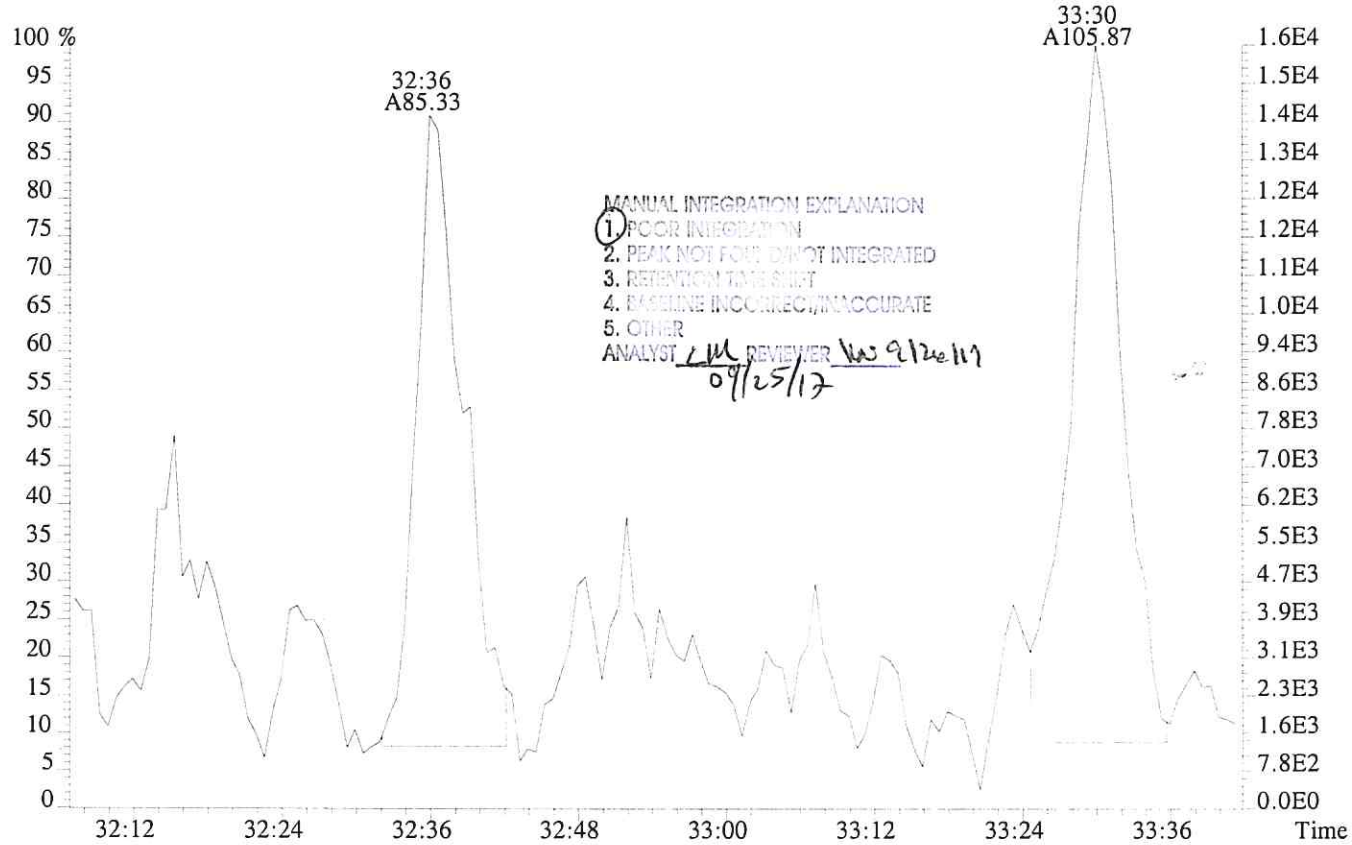
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



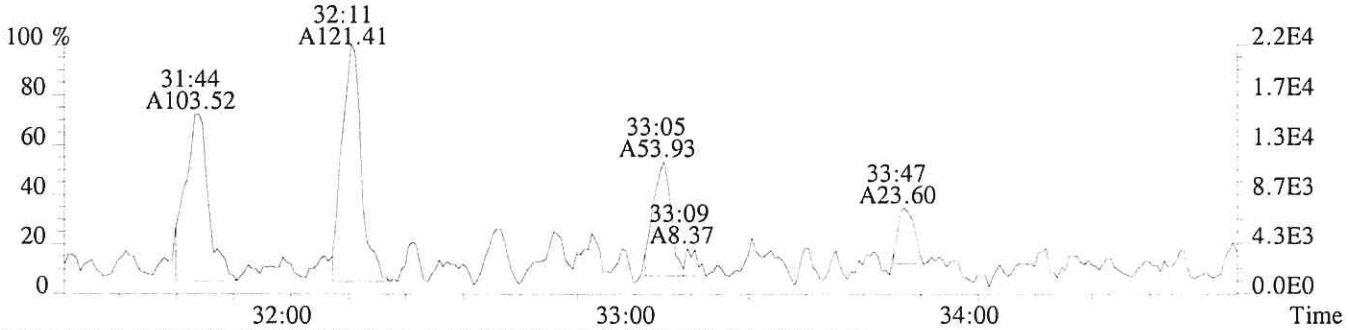
File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,T)



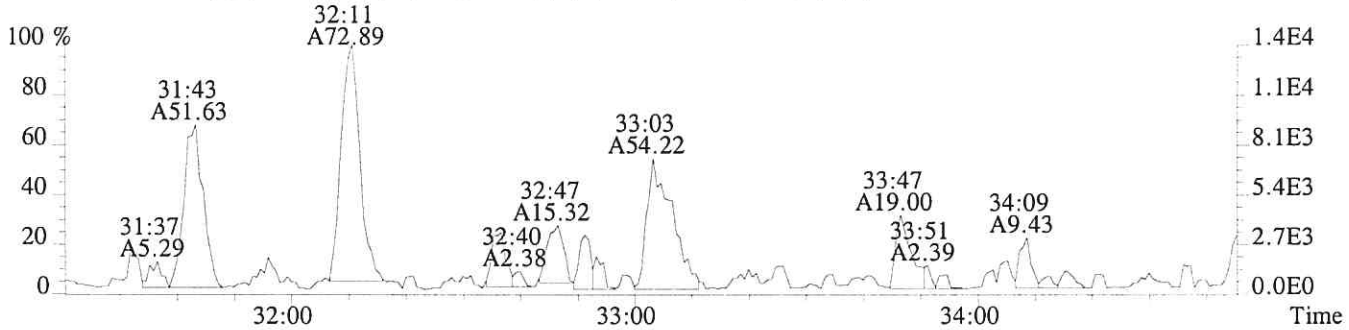
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3648.0,1.00%,F,T)



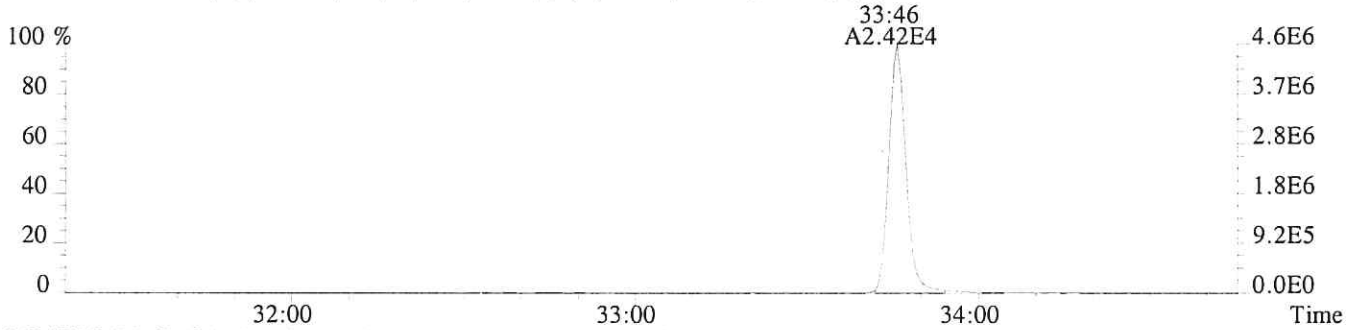
File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3228.0,1.00%,F,T)



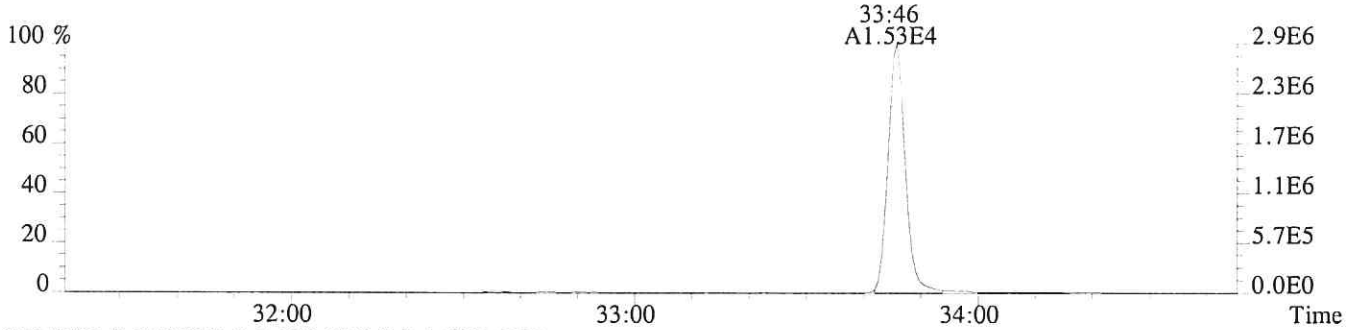
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



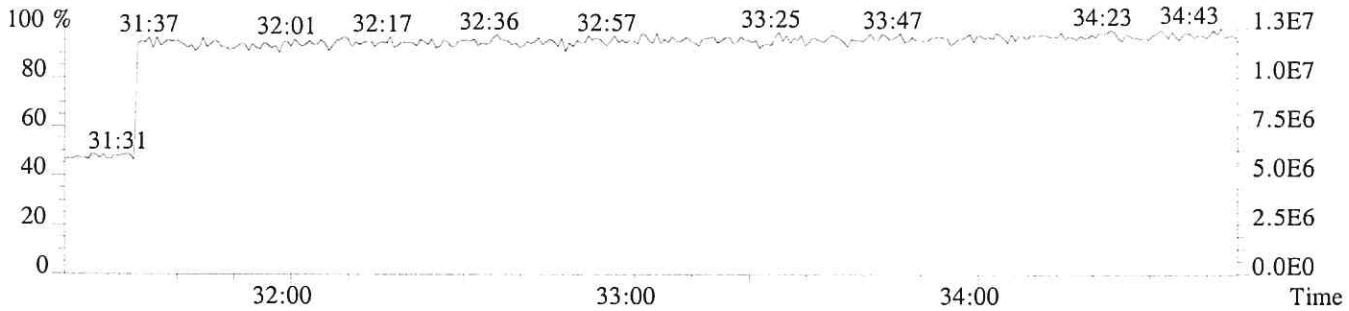
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2064.0,1.00%,F,T)



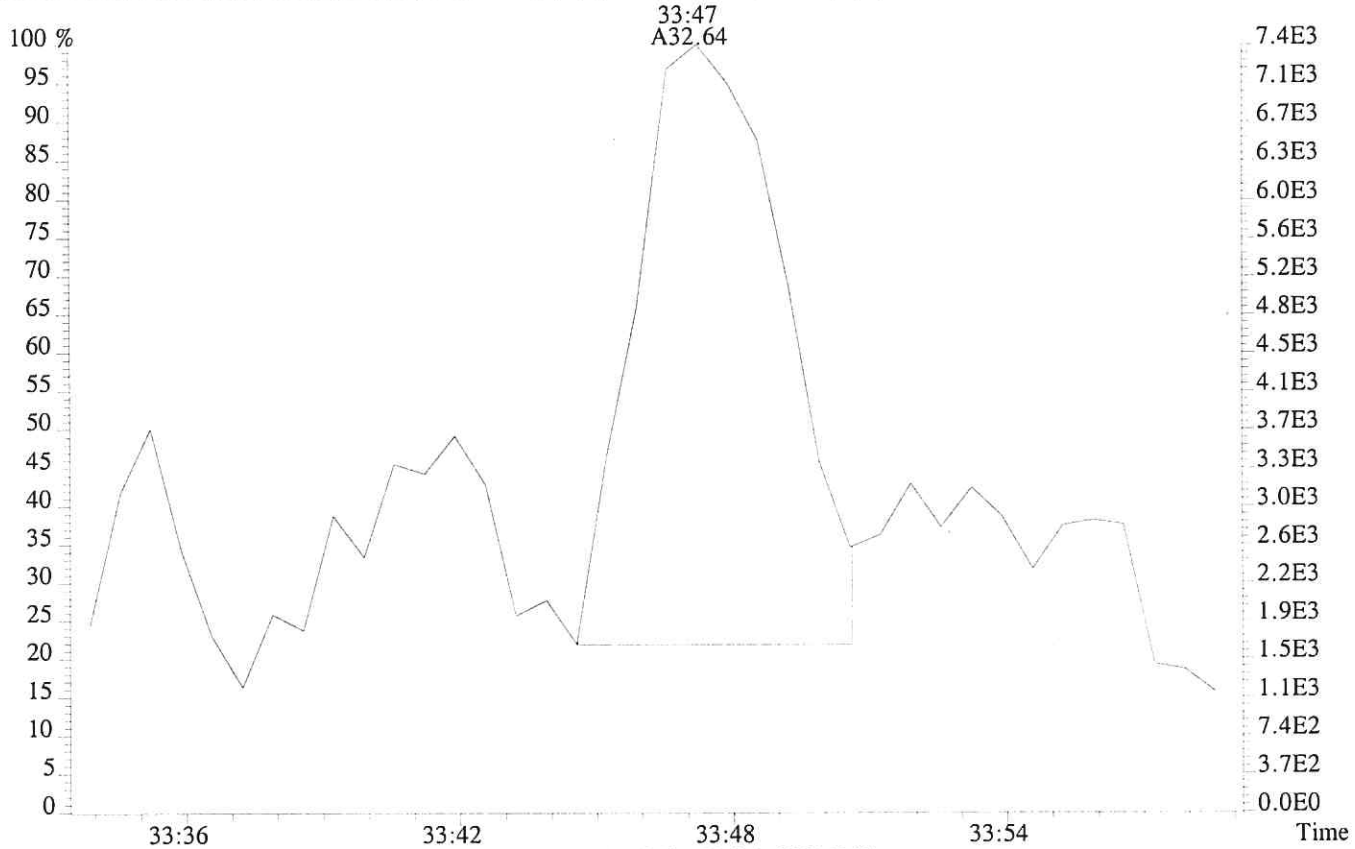
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



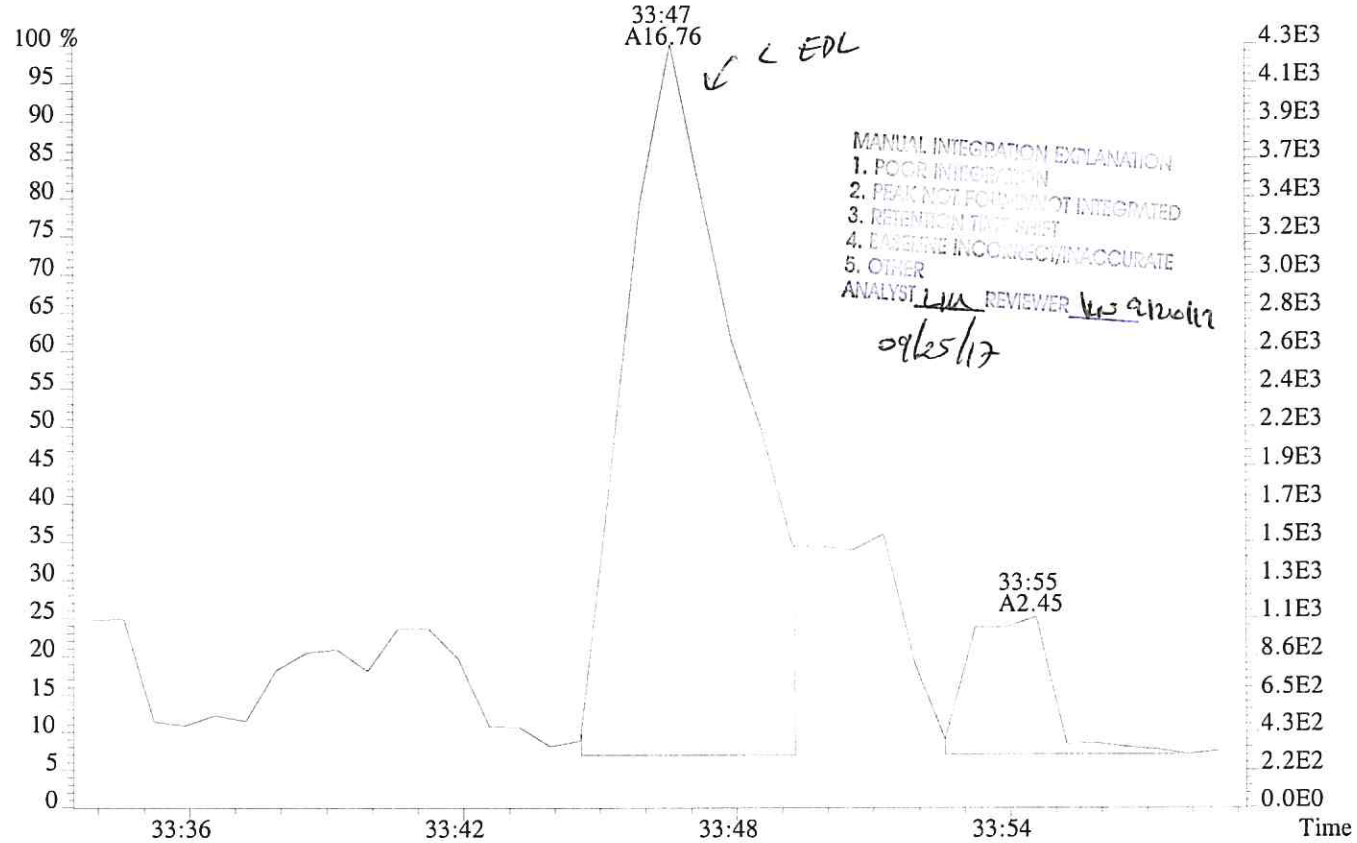
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3228.0,1.00%,F,T)

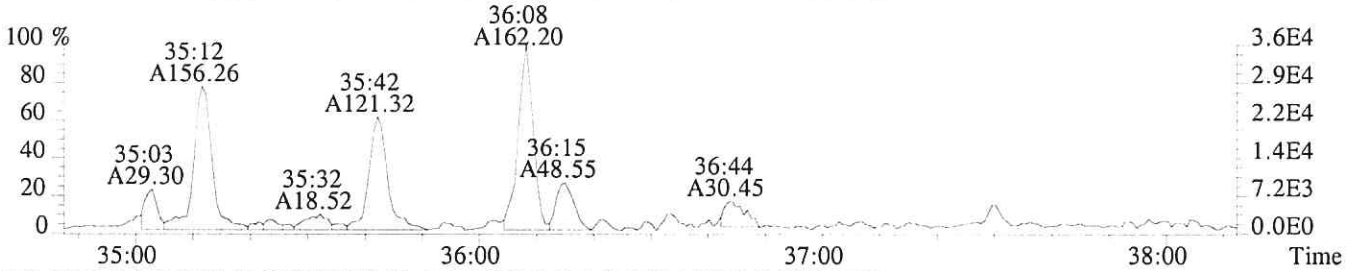


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)

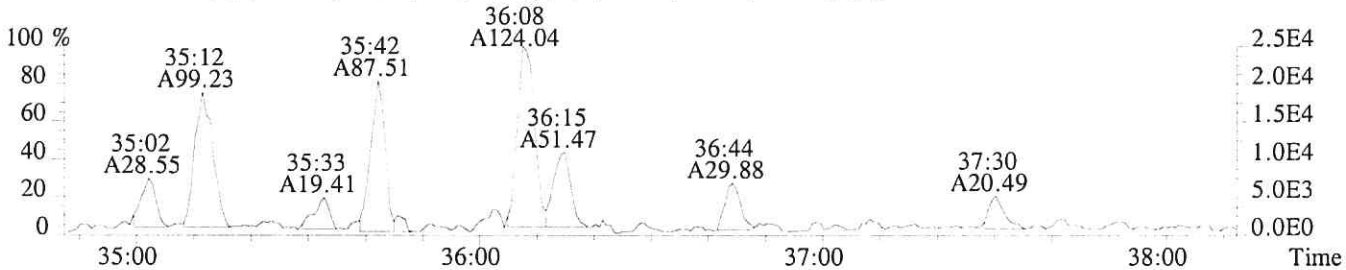


File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

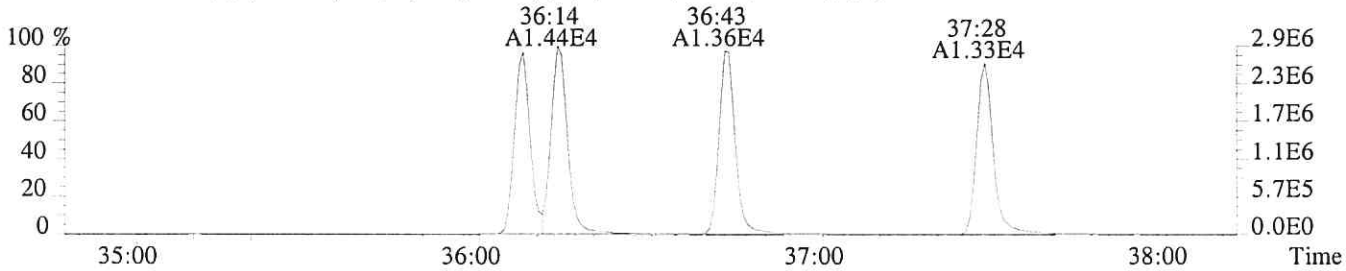
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2288.0,0.40%,F,T)



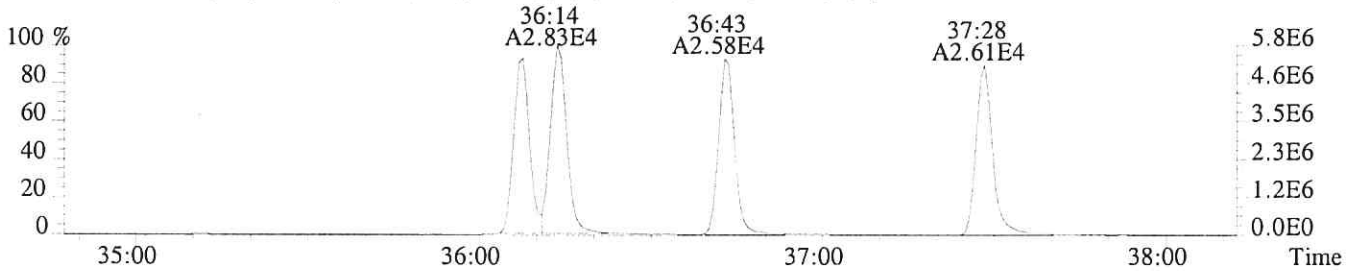
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1424.0,0.40%,F,T)



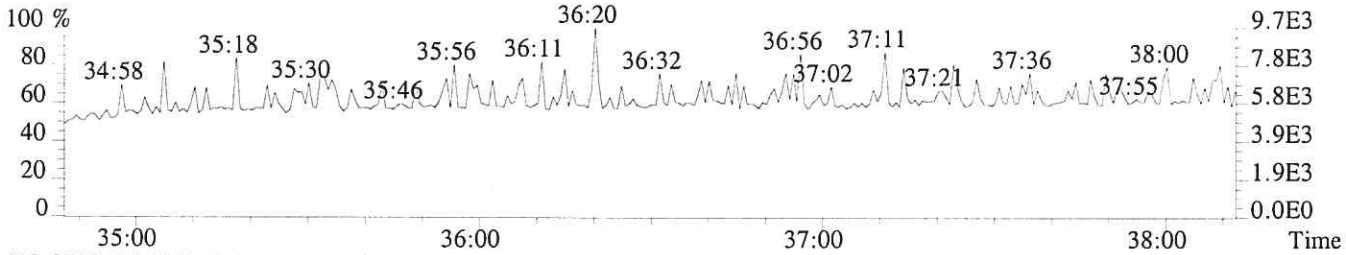
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1260.0,0.40%,F,T)



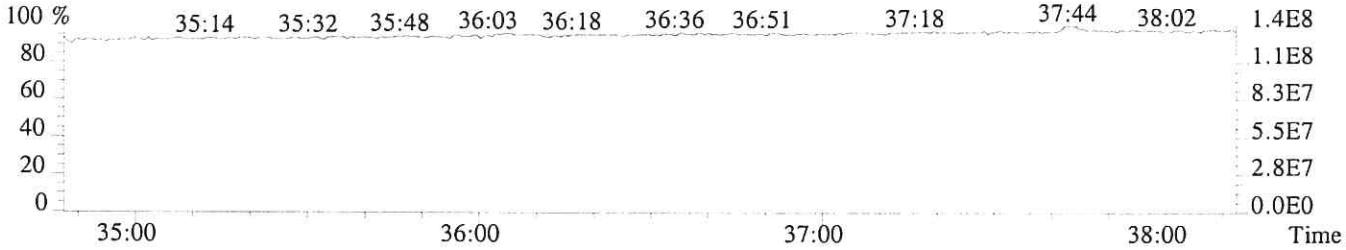
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2468.0,0.40%,F,T)



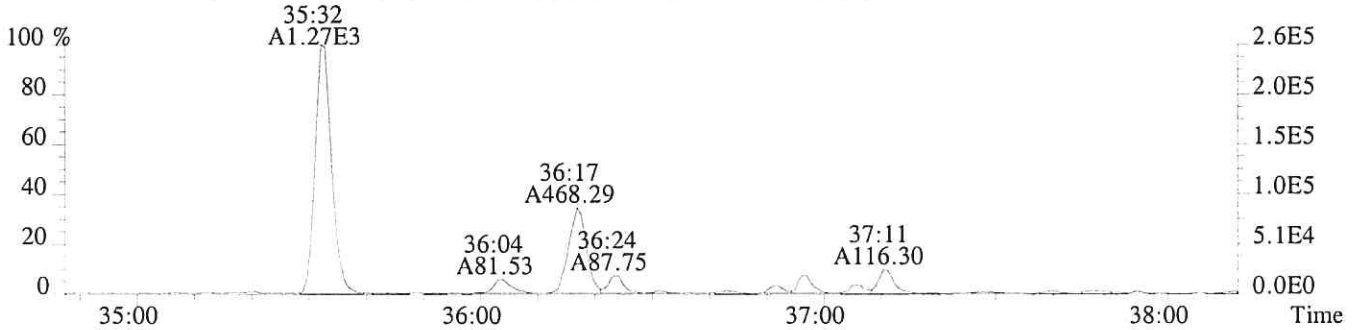
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



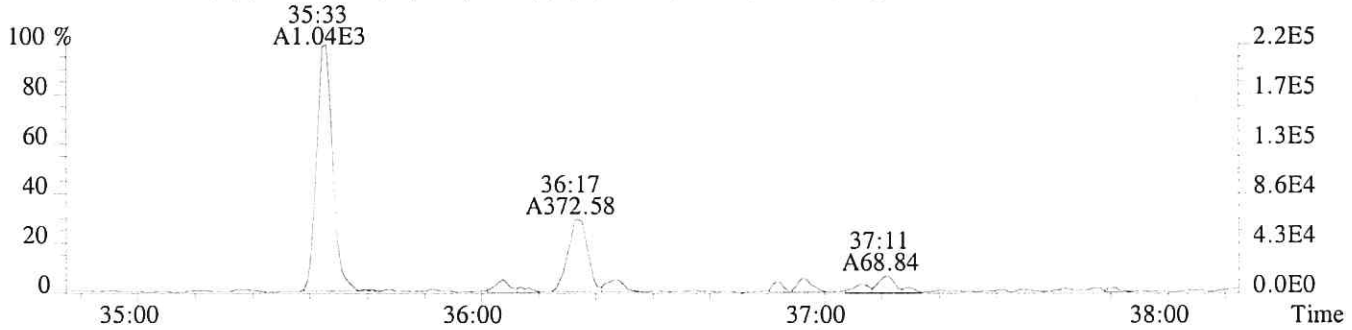
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



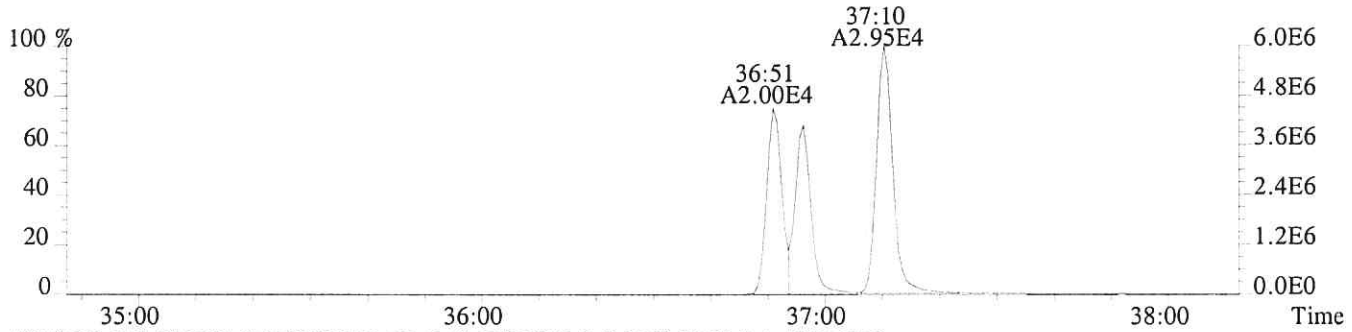
File:P511548 #1-308 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



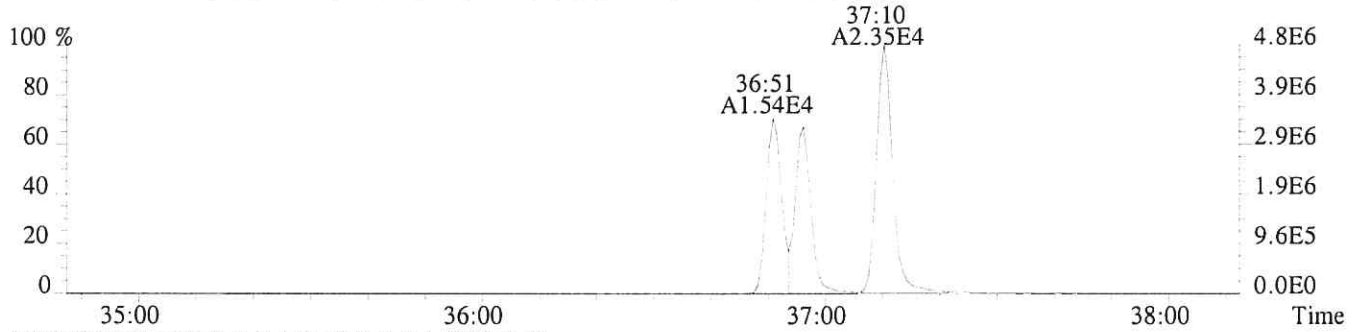
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1612.0,0.40%,F,T)



401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2112.0,0.40%,F,T)



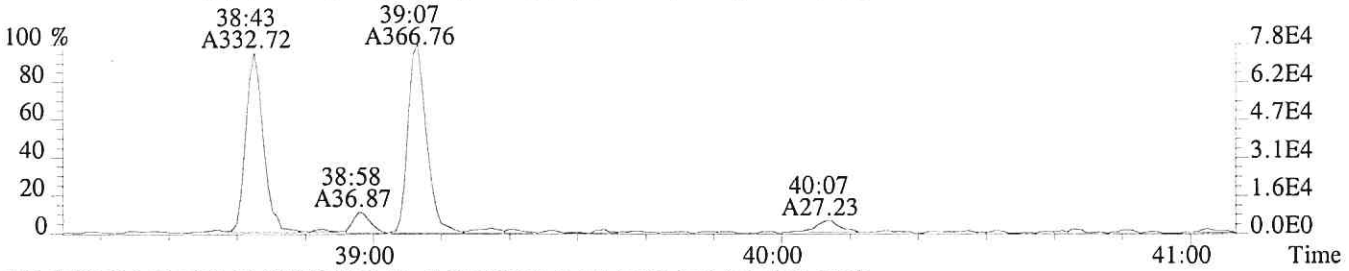
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2000.0,0.40%,F,T)



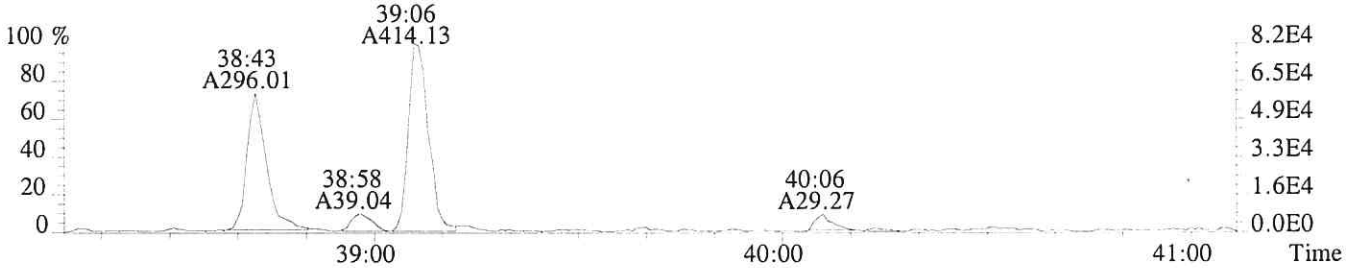
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

File:P511548 #1-259 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

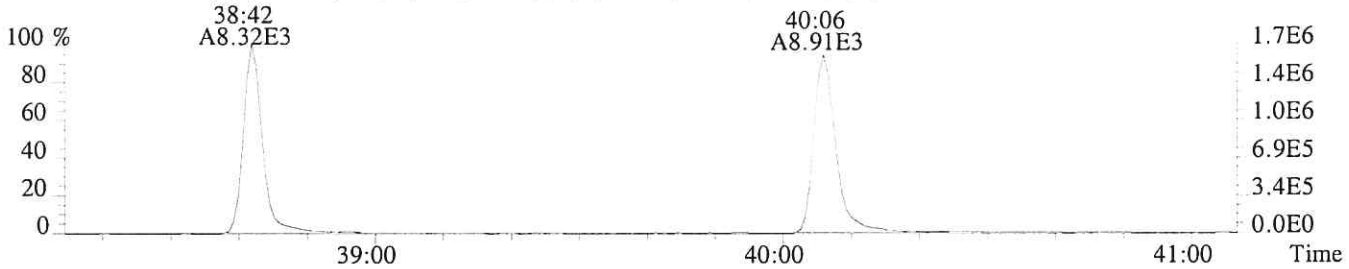
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,760.0,0.50%,F,T)



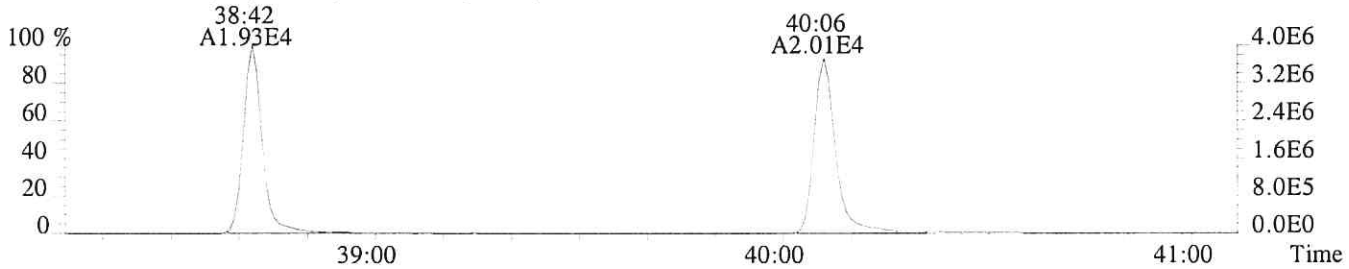
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.50%,F,T)



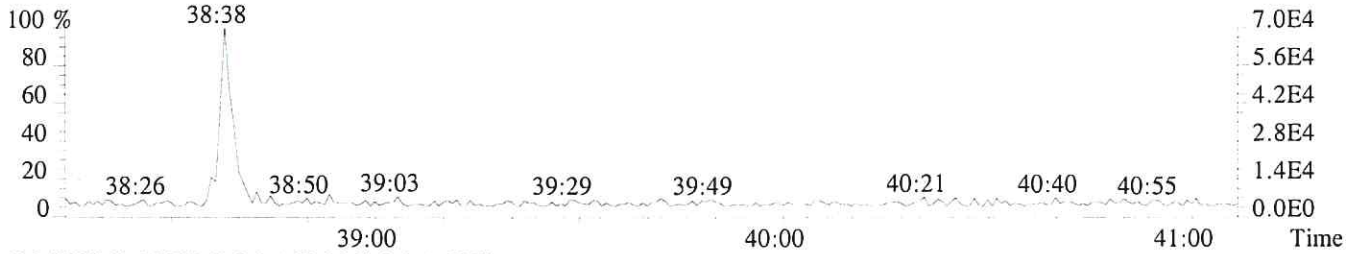
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3132.0,0.50%,F,T)



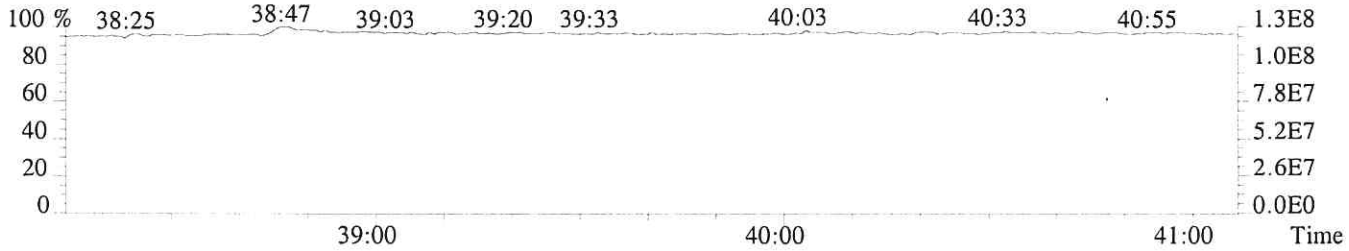
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

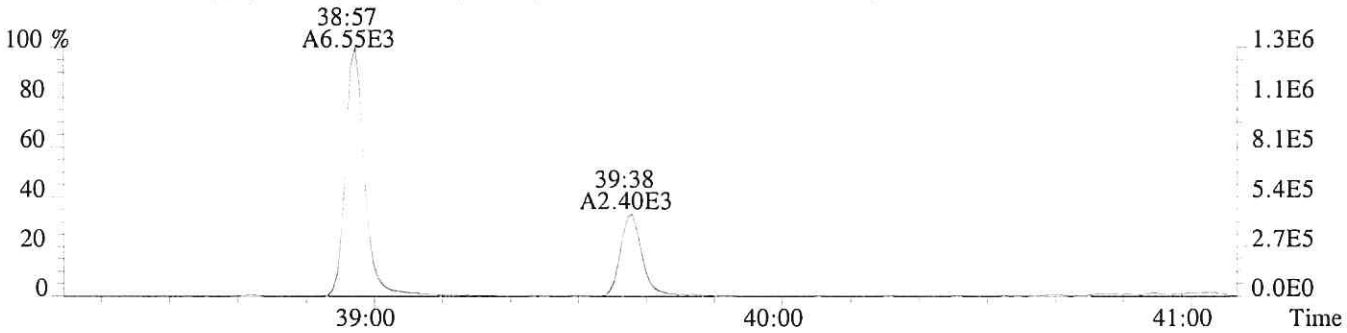


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

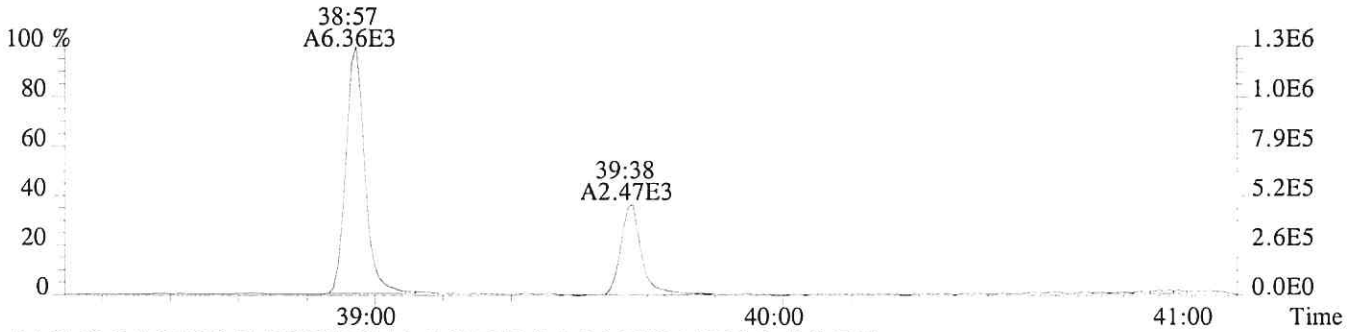


File:P511548 #1-259 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

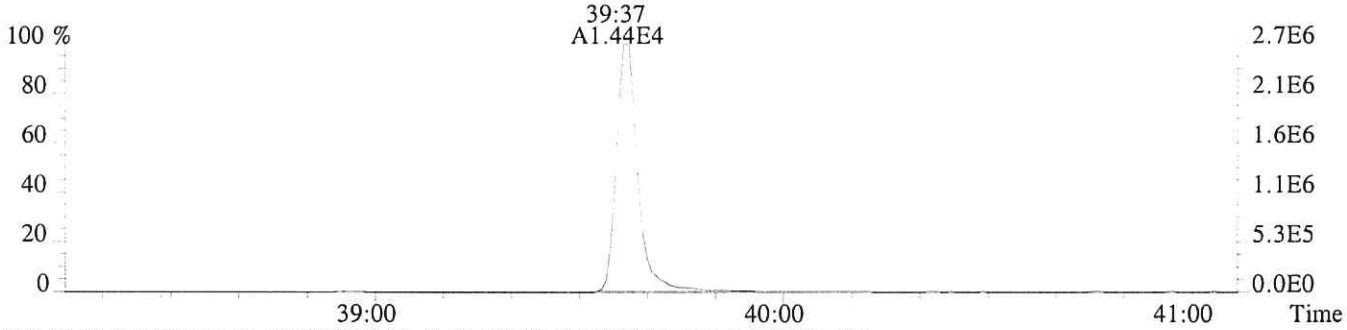
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,T)



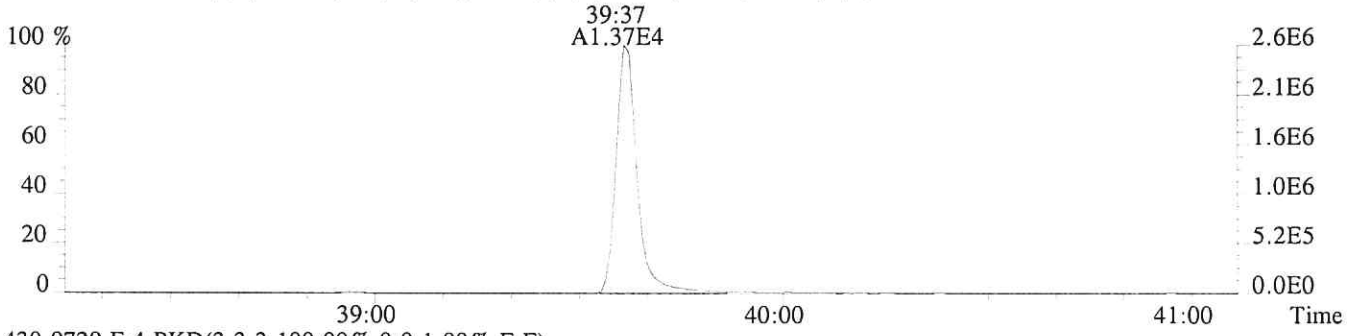
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5272.0,0.40%,F,T)



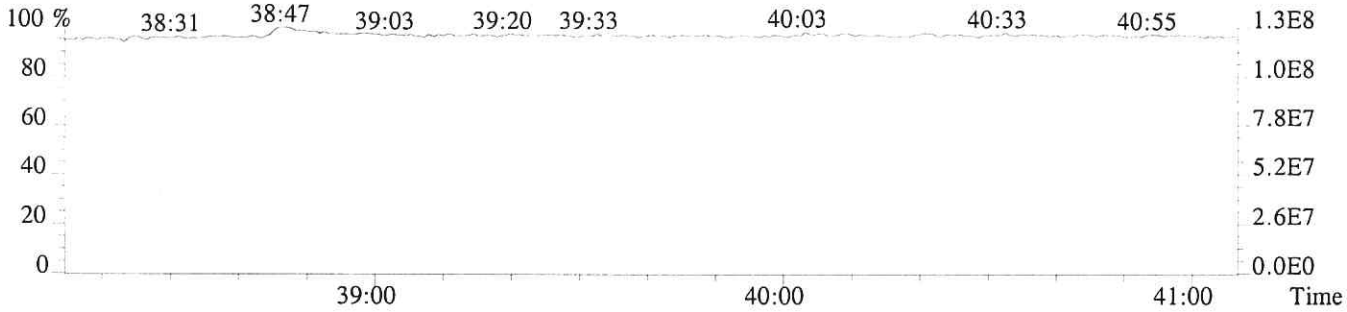
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,400.0,0.40%,F,T)

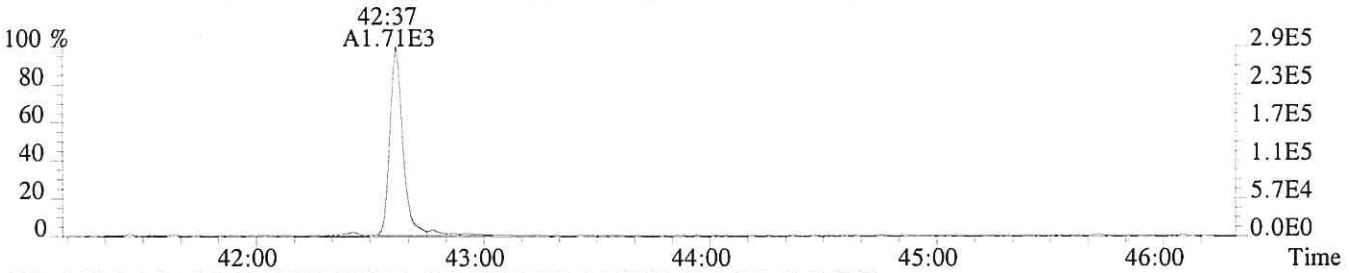


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

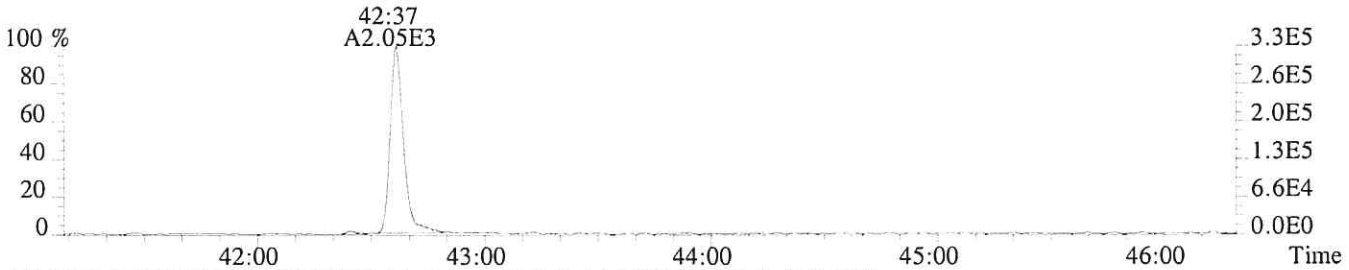


File:P511548 #1-466 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

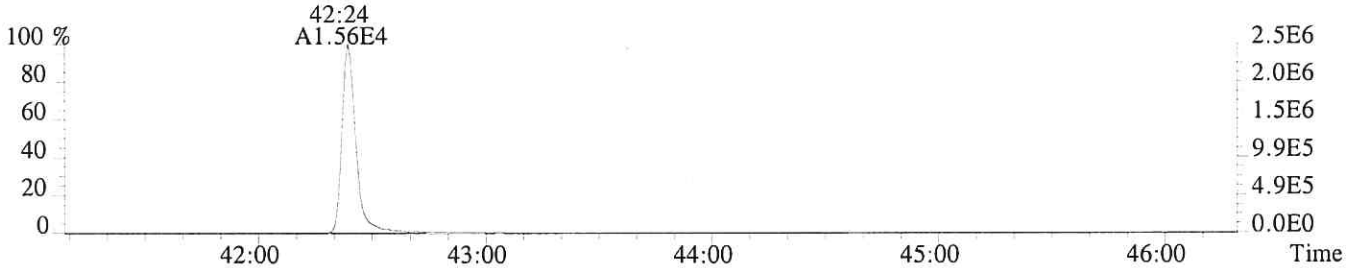
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,556.0,0.40%,F,T)



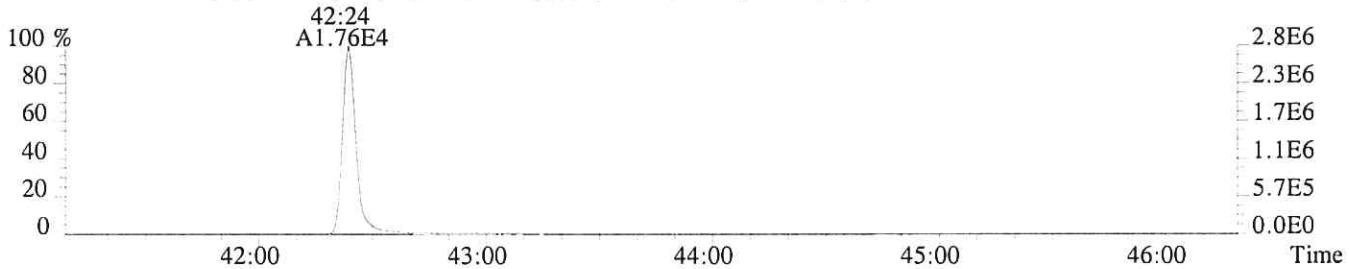
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1868.0,0.40%,F,T)



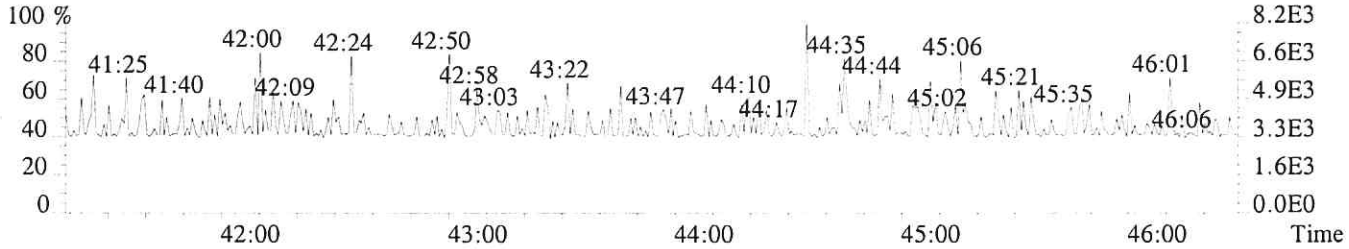
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1332.0,0.40%,F,T)



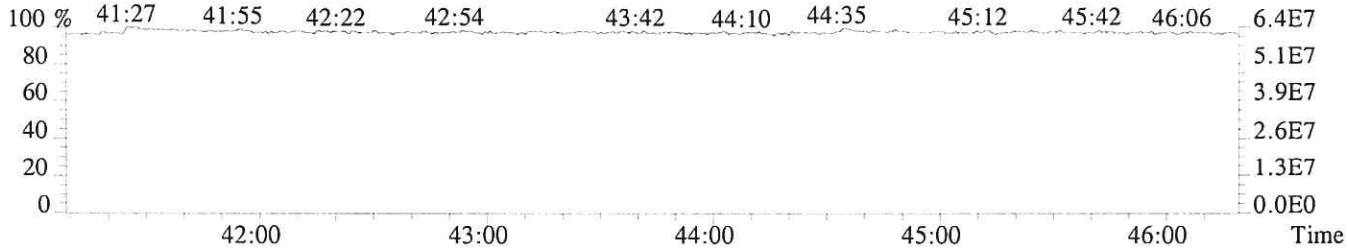
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,856.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

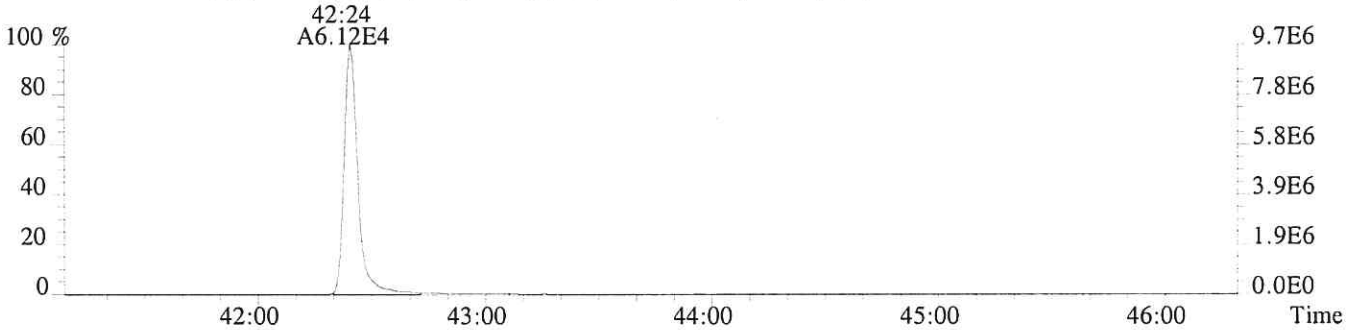


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

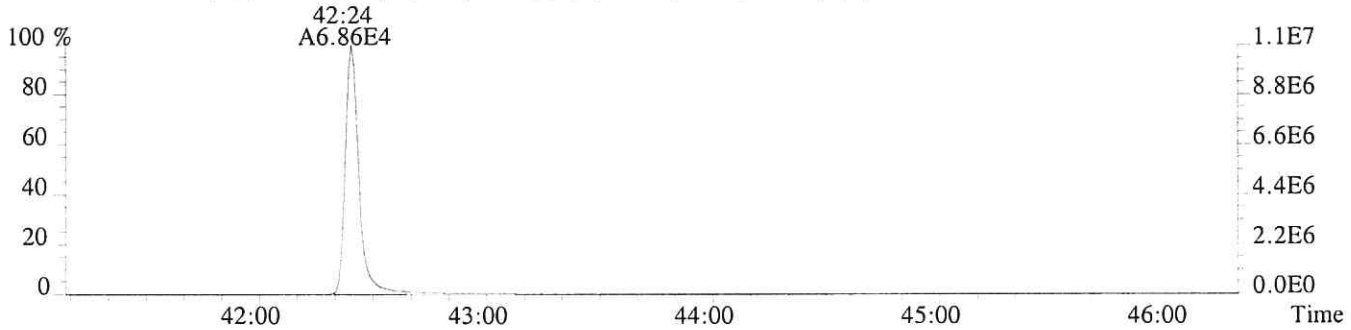


File:P511548 #1-466 Acq:24-SEP-2017 20:44:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-009

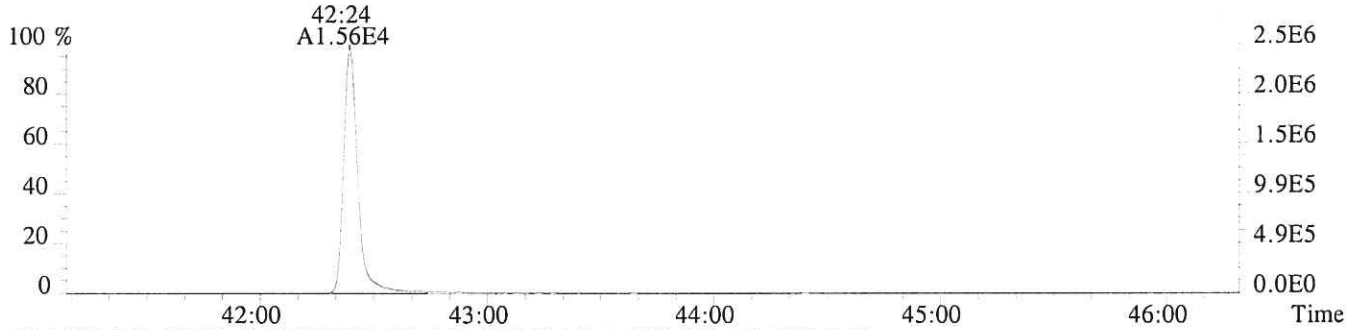
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,700.0,0.40%,F,T)



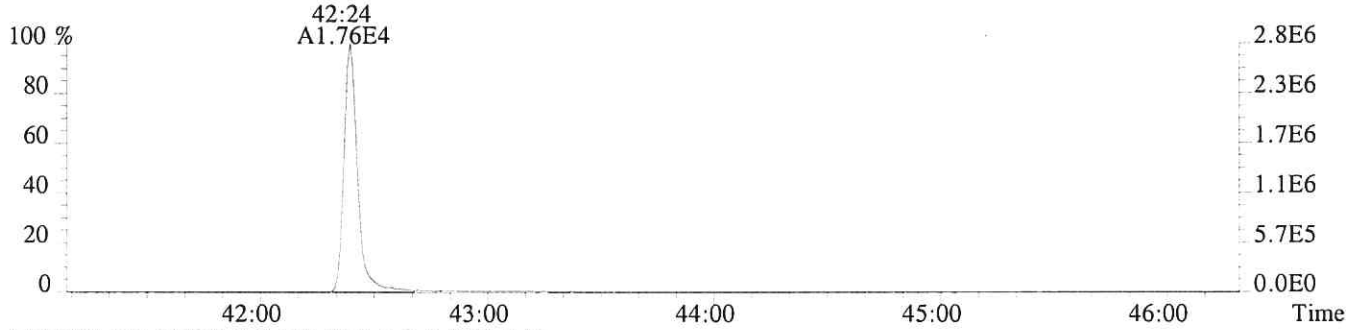
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,992.0,0.40%,F,T)



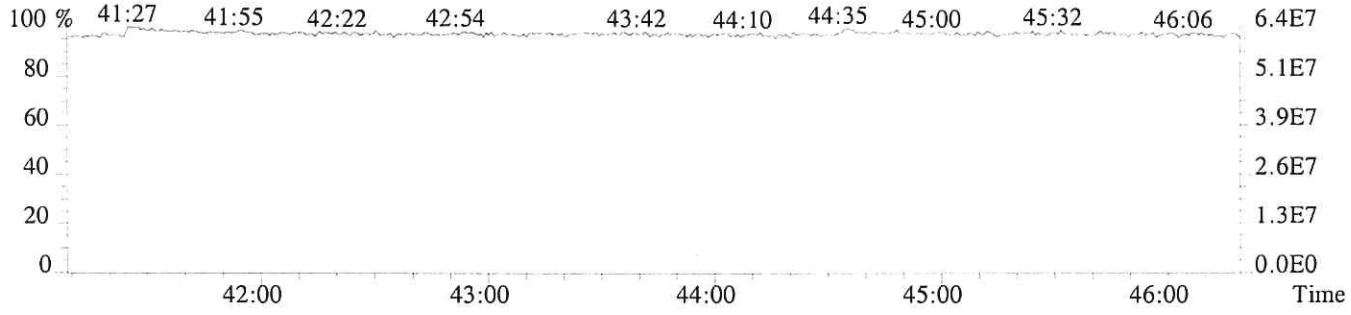
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1332.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,856.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #14 Filename P609257 Samp: 1 Inj: 1 Acquired: 25-SEP-17 08:15:53
Processed: 25-SEP-17 15:54:12 Sample ID: E1700974-010

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	26:06	2.185e+03	2.681e+03	0.82	yes	yes	1.020
2	Unk	1,2,3,7,8-PeCDF	30:56	1.176e+02	7.020e+01	1.68	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:58	1.199e+02	5.950e+01	2.02	no	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:49	1.505e+02	1.549e+02	0.97	no	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:55	6.378e+01	6.229e+01	1.02	no	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:28	1.194e+01	2.663e+01	0.45	no	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:17	2.310e+01	9.550e+00	2.42	no	yes	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:35	1.706e+02	1.868e+02	0.91	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	39:00	1.024e+01	2.582e+01	0.40	no	no	1.341
10	Unk	OCDF	41:25	9.476e+02	1.191e+03	0.80	yes	no	1.337
11	Unk	2,3,7,8-TCDD	27:02	4.338e+02	5.536e+02	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:15	1.611e+01	1.426e+01	1.13	no	yes	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:37	1.412e+01	1.005e+01	1.41	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:43	2.779e+01	2.041e+01	1.36	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:56	1.787e+01	3.331e+01	0.54	no	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:31	9.631e+02	8.569e+02	1.12	yes	no	1.048
17	Unk	OCDD	41:14	2.269e+04	2.511e+04	0.90	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	26:04	5.381e+03	6.831e+03	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:55	1.119e+04	6.959e+03	1.61	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:56	1.069e+04	6.673e+03	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:47	5.904e+03	1.113e+04	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:55	6.854e+03	1.298e+04	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:27	6.369e+03	1.122e+04	0.57	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:14	5.691e+03	1.040e+04	0.55	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:34	4.283e+03	9.310e+03	0.46	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:58	4.335e+03	1.008e+04	0.43	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	27:00	3.897e+03	4.969e+03	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:14	7.662e+03	4.797e+03	1.60	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:36	7.306e+03	5.865e+03	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:41	7.391e+03	5.870e+03	1.26	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:31	6.565e+03	6.016e+03	1.09	yes	no	0.884
32	IS	13C-OCDD	41:13	9.060e+03	9.749e+03	0.93	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:17	1.089e+04	1.398e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:56	1.961e+04	1.606e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:02	6.223e+03				no	1.072

$$\text{OCDD} = \frac{(2.269e+04 + 2.511e+04) \times 4000 \text{ pg} \times 1}{(9.060e+03 + 9.749e+03) \times 10.834 \text{ g} \times 33.3 / 100 \times 1.120} = 2515.7 \text{ ng/kg}$$

KW 9/26/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-029

Run #14 Filename P609257 Samp: 1 Inj: 1 Acquired: 25-SEP-17 08:15:53
Processed: 25-SEP-17 15:54:12 LAB. ID: E1700974-010

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.11e+05	2.28e+02	1.4e+03	3.97e+05	7.56e+02	5.2e+02
2	1,2,3,7,8-PeCDF	2.22e+04	2.04e+02	1.1e+02	1.20e+04	8.20e+02	1.5e+01
3	2,3,4,7,8-PeCDF	1.83e+04	2.04e+02	9.0e+01	9.48e+03	8.20e+02	1.2e+01
4	1,2,3,4,7,8-HxCDF	2.83e+04	1.92e+02	1.5e+02	3.14e+04	2.56e+02	1.2e+02
5	1,2,3,6,7,8-HxCDF	1.44e+04	1.92e+02	7.5e+01	1.00e+04	2.56e+02	3.9e+01
6	2,3,4,6,7,8-HxCDF	3.55e+03	1.92e+02	1.9e+01	5.85e+03	2.56e+02	2.3e+01
7	1,2,3,7,8,9-HxCDF	3.39e+03	1.92e+02	1.8e+01	1.40e+03	2.56e+02	5.5e+00
8	1,2,3,4,6,7,8-HpCDF	2.94e+04	2.84e+02	1.0e+02	3.20e+04	2.76e+02	1.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.52e+03	2.84e+02	8.9e+00	5.85e+03	2.76e+02	2.1e+01
10	OCDF	1.28e+05	2.32e+02	5.5e+02	1.58e+05	2.16e+02	7.3e+02
11	2,3,7,8-TCDD	7.05e+04	2.16e+02	3.3e+02	8.88e+04	2.24e+02	4.0e+02
12	1,2,3,7,8-PeCDD	3.40e+03	1.88e+02	1.8e+01	2.13e+03	1.68e+02	1.3e+01
13	1,2,3,4,7,8-HxCDD	3.55e+03	1.92e+02	1.8e+01	3.25e+03	2.20e+02	1.5e+01
14	1,2,3,6,7,8-HxCDD	5.51e+03	1.92e+02	2.9e+01	3.05e+03	2.20e+02	1.4e+01
15	1,2,3,7,8,9-HxCDD	4.59e+03	1.92e+02	2.4e+01	7.28e+03	2.20e+02	3.3e+01
16	1,2,3,4,6,7,8-HpCDD	1.50e+05	1.28e+03	1.2e+02	1.49e+05	3.24e+02	4.6e+02
17	OCDD	3.02e+06	2.44e+02	1.2e+04	3.37e+06	1.88e+02	1.8e+04
18	13C-2,3,7,8-TCDF	7.88e+05	4.13e+03	1.9e+02	9.61e+05	2.26e+03	4.2e+02
19	13C-1,2,3,7,8-PeCDF	1.80e+06	1.13e+03	1.6e+03	1.11e+06	1.92e+02	5.8e+03
20	13C-2,3,4,7,8-PeCDF	1.74e+06	1.13e+03	1.5e+03	1.11e+06	1.92e+02	5.8e+03
21	13C-1,2,3,4,7,8-HxCDF	1.13e+06	2.00e+02	5.7e+03	2.14e+06	2.76e+02	7.8e+03
22	13C-1,2,3,6,7,8-HxCDF	1.20e+06	2.00e+02	6.0e+03	2.29e+06	2.76e+02	8.3e+03
23	13C-2,3,4,6,7,8-HxCDF	1.19e+06	2.00e+02	6.0e+03	2.15e+06	2.76e+02	7.8e+03
24	13C-1,2,3,7,8,9-HxCDF	1.04e+06	2.00e+02	5.2e+03	1.94e+06	2.76e+02	7.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	8.12e+05	9.40e+02	8.6e+02	1.72e+06	2.27e+03	7.6e+02
26	13C-1,2,3,4,7,8,9-HpCDF	7.06e+05	9.40e+02	7.5e+02	1.62e+06	2.27e+03	7.1e+02
27	13C-2,3,7,8-TCDD	5.91e+05	5.07e+03	1.2e+02	7.55e+05	2.32e+03	3.3e+02
28	13C-1,2,3,7,8-PeCDD	1.27e+06	1.80e+02	7.1e+03	7.99e+05	2.72e+02	2.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.50e+06	1.72e+02	8.7e+03	1.23e+06	2.36e+02	5.2e+03
30	13C-1,2,3,6,7,8-HxCDD	1.35e+06	1.72e+02	7.8e+03	1.10e+06	2.36e+02	4.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.19e+06	2.16e+02	5.5e+03	1.08e+06	2.32e+02	4.6e+03
32	13C-OCDD	1.20e+06	2.16e+02	5.5e+03	1.33e+06	2.72e+02	4.9e+03
33	13C-1,2,3,4-TCDD	1.70e+06	5.07e+03	3.4e+02	2.15e+06	2.32e+03	9.3e+02
34	13C-1,2,3,7,8,9-HxCDD	3.78e+06	1.72e+02	2.2e+04	3.05e+06	2.36e+02	1.3e+04
35	37Cl-2,3,7,8-TCDD	9.29e+05	2.20e+02	4.2e+03			

---Sample Calculation---

```
          2.5 x (2.160e+02 + 2.240e+02   ) x 2000
D/L TCDD = ----------------------------------------------------------------- =
          (5.906e+05 + 7.553e+05 ) x (                          ) x 1.055
```

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029

Entry: 36 Totals Name: Total Tetra-Furans

Run: 14 File: P609257 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 303.9020 305.8990 Tot Response: 8.72e+03 RRF: 1.020

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	23:09	1.12e+02	1.64e+02	0.68	yes	2.76e+02		n	n
2	23:31	3.69e+01	5.33e+01	0.69	yes	9.02e+01		n	n
3	23:48	1.14e+02	1.37e+02	0.83	yes	2.51e+02		n	n
4	24:14	1.29e+01	1.68e+01	0.77	yes	2.97e+01		n	n
5	25:04	1.02e+03	1.29e+03	0.79	yes	2.32e+03		n	n
6	26:06	2.19e+03	2.68e+03	0.82	yes	4.87e+03	2,3,7,8-TCDF	n	y
7	26:20	2.29e+01	2.87e+01	0.80	yes	5.17e+01		n	n
8	26:29	1.75e+02	2.37e+02	0.74	yes	4.12e+02		n	n
9	28:15	1.84e+02	2.41e+02	0.76	yes	4.24e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 14 File: P609257 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 319.8970 321.8940 Tot Response: 9.87e+02 RRF: 1.055

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:02	4.34e+02	5.54e+02	0.78	yes	9.87e+02	2,3,7,8-TCDD	n	n

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10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-029

Entry: 39 Totals Name: Total Penta-Furans2

Run: 14 File: P609257 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 339.8600 341.8570 Tot Response: 1.88e+02 RRF: 1.036

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:56	1.18e+02	7.02e+01	1.68	yes	1.88e+02	1,2,3,7,8-PeCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-029

Entry: 41 Totals Name: Total Hexa-Furans

Run: 14 File: P609257 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 373.8210 375.8180 Tot Response: 4.14e+01 RRF: 1.207

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:37	2.27e+01	1.86e+01	1.22	yes	4.14e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-029

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 14 File: P609257 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 389.8160 391.8130 Tot Response: 1.20e+03 RRF: 1.085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:11	4.17e+02	3.49e+02	1.20	yes	7.66e+02		n	n
2	34:44	2.94e+01	2.69e+01	1.09	yes	5.63e+01		n	n
3	34:59	1.58e+02	1.44e+02	1.09	yes	3.02e+02		n	n
4	35:37	1.41e+01	1.00e+01	1.41	yes	2.42e+01	1,2,3,4,7,8-HxCDD	n	n
5	35:43	2.78e+01	2.04e+01	1.36	yes	4.82e+01	1,2,3,6,7,8-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-029

Entry: 43 Totals Name: Total Hepta-Furans

Run: 14 File: P609257 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

Mass: 407.7820 409.7790 Tot Response: 7.15e+02 RRF: 1.368

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:35	1.71e+02	1.87e+02	0.91	yes	3.57e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	38:00	1.87e+02	1.71e+02	1.09	yes	3.57e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 14 File: P609257 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 08:15:53 Processed: 25-SEP-17 15:54:12

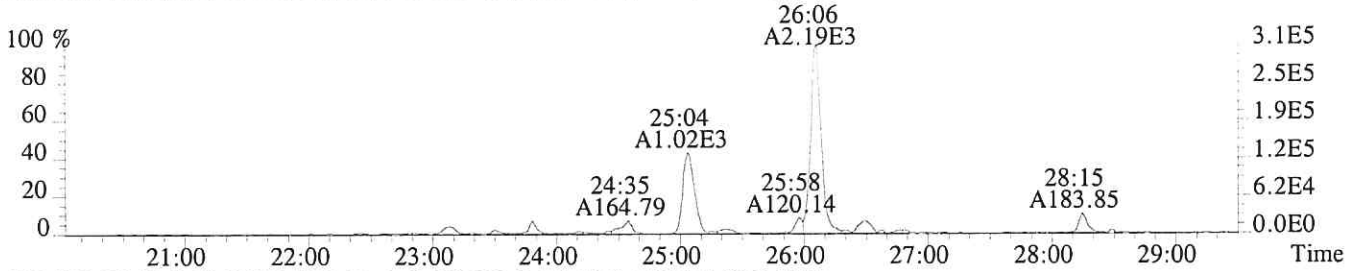
Mass: 423.7770 425.7740 Tot Response: 7.44e+03 RRF: 1.048

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:51	2.83e+03	2.79e+03	1.01	yes	5.62e+03		n	n
2	38:31	9.63e+02	8.57e+02	1.12	yes	1.82e+03	1,2,3,4,6,7,8-HpCDD	n	n

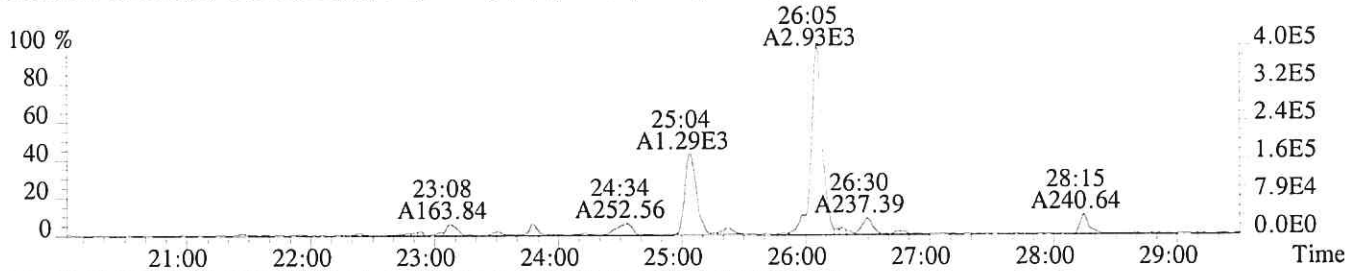
ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

File:P609257 #1-672 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

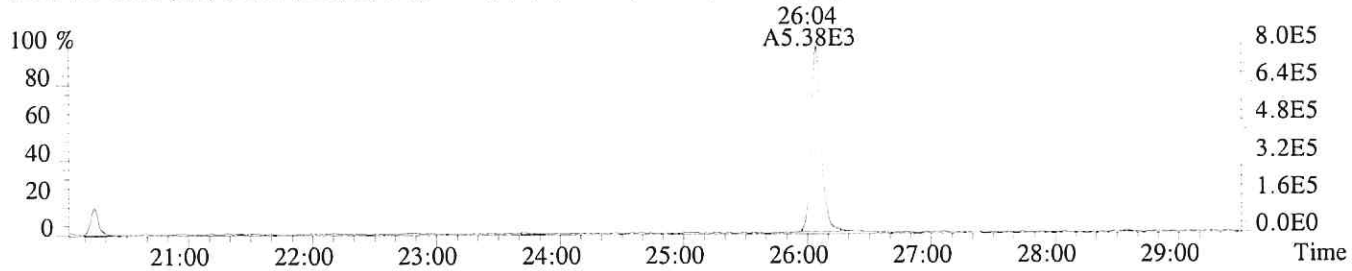
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



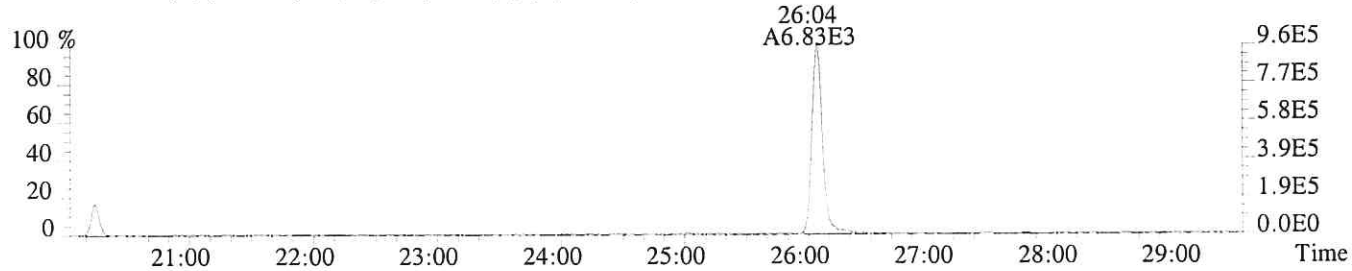
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



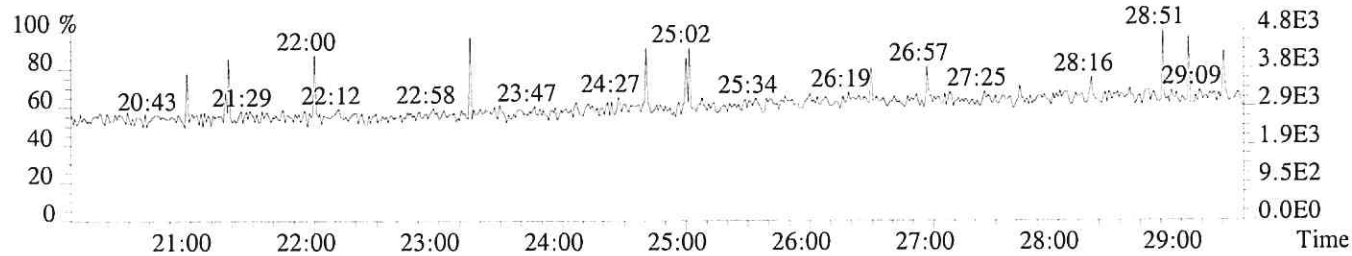
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4132.0,1.00%,F,T)



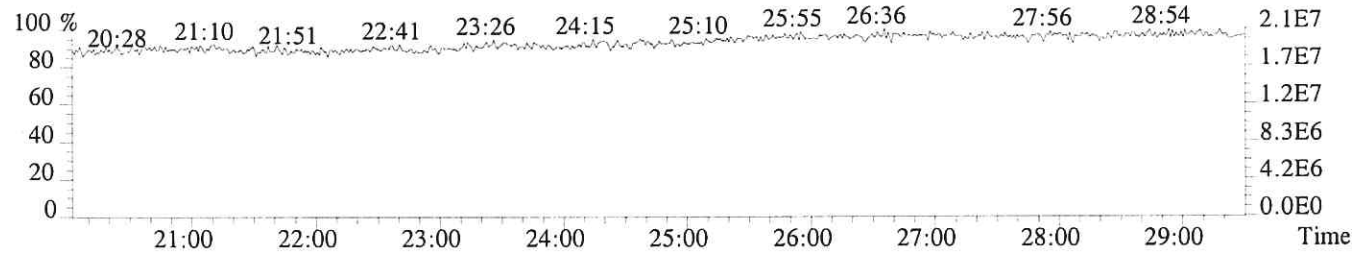
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2264.0,1.00%,F,T)



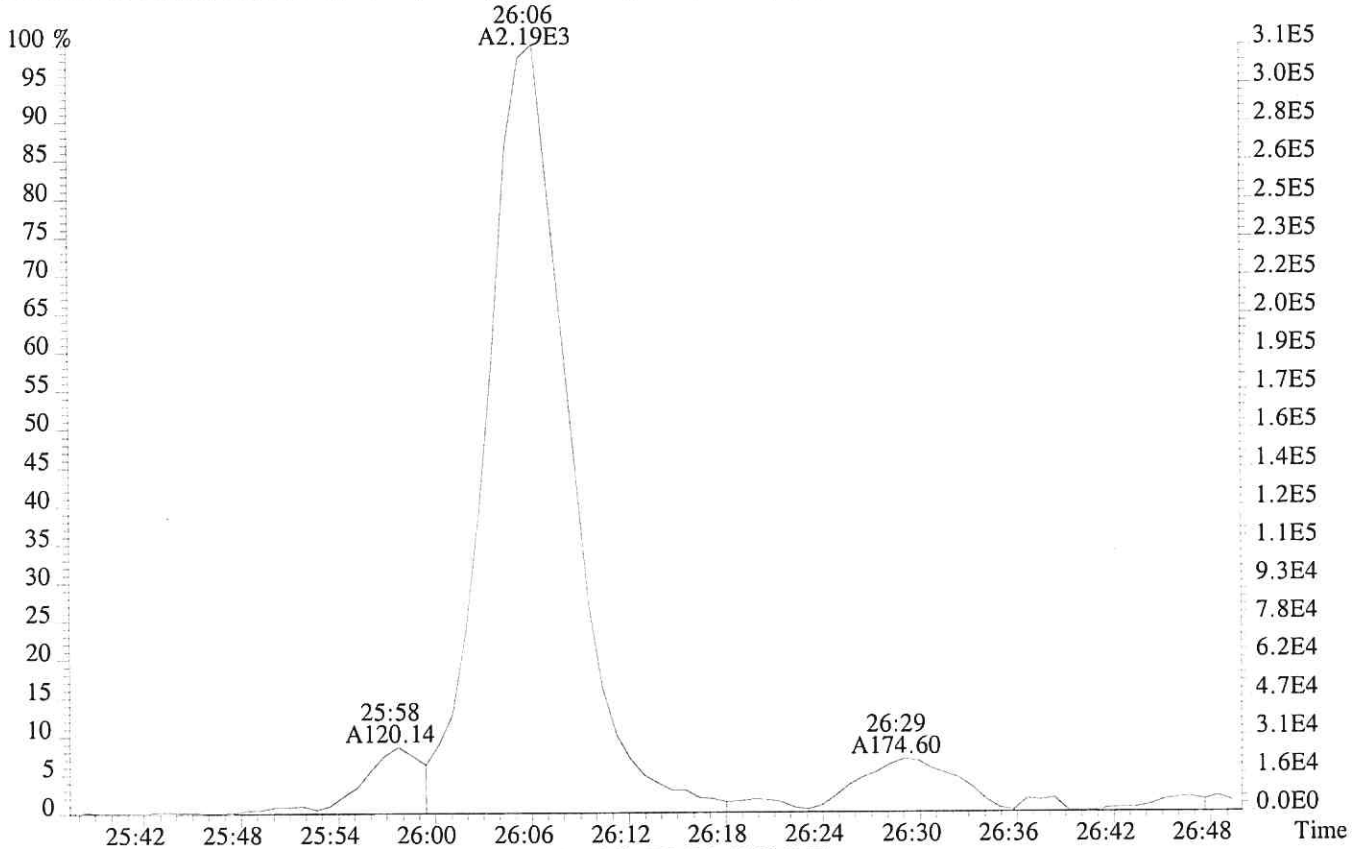
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



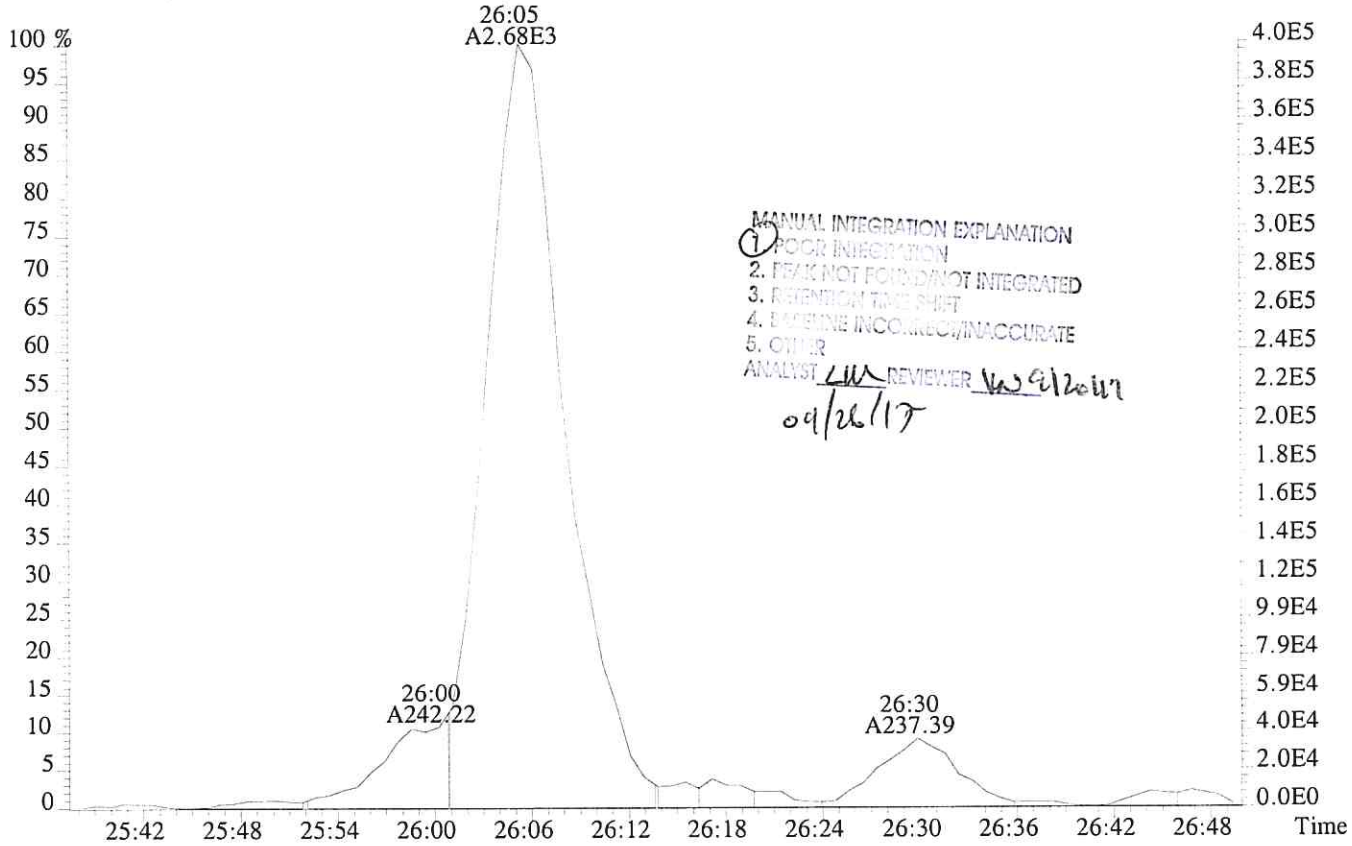
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609257 #1-672 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



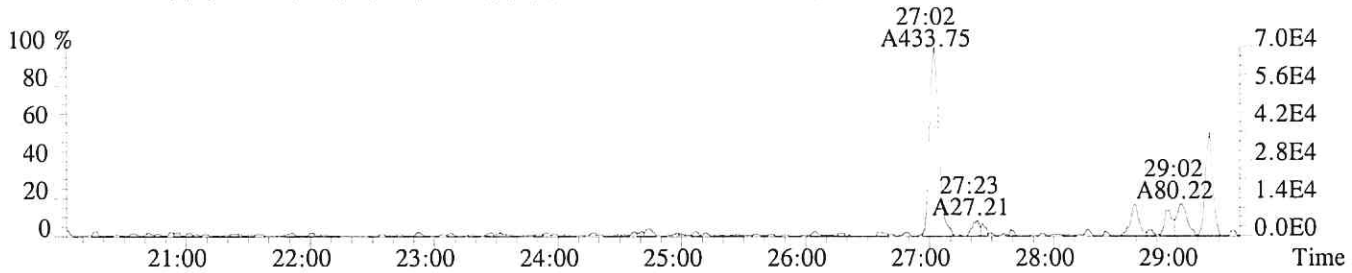
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,756.0,1.00%,F,T)



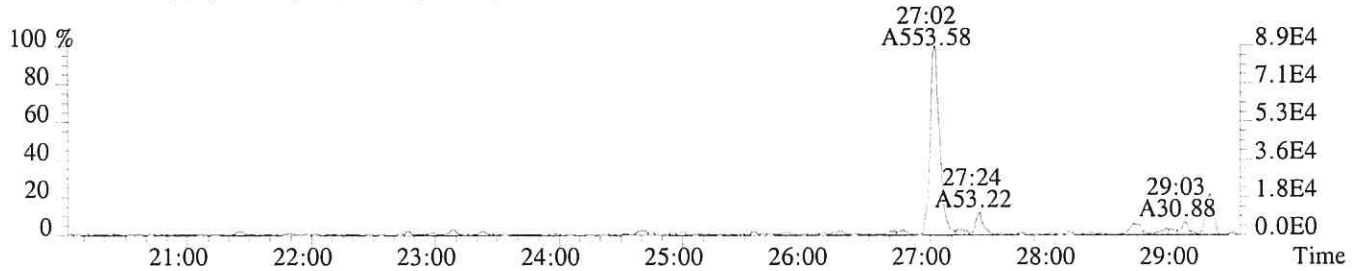
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LM REVIEWER KW 9/26/17
09/26/17

File:P609257 #1-672 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

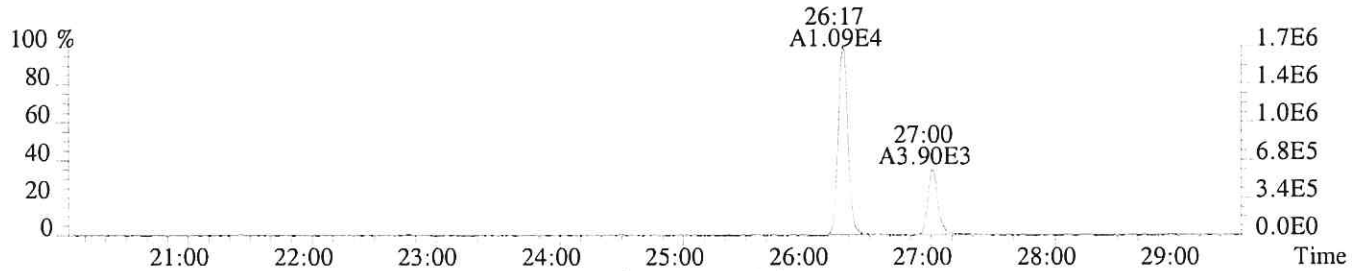
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



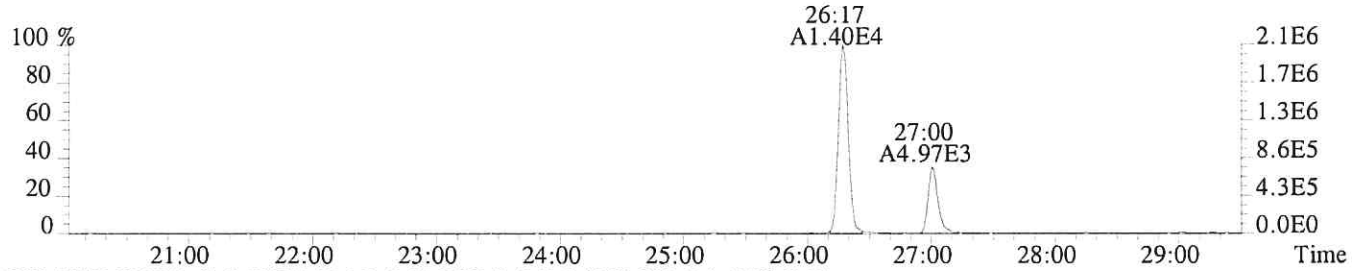
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



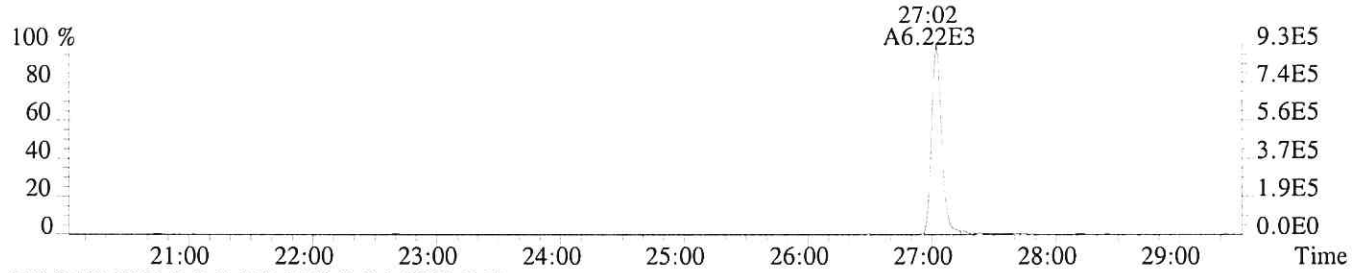
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5068.0,1.00%,F,T)



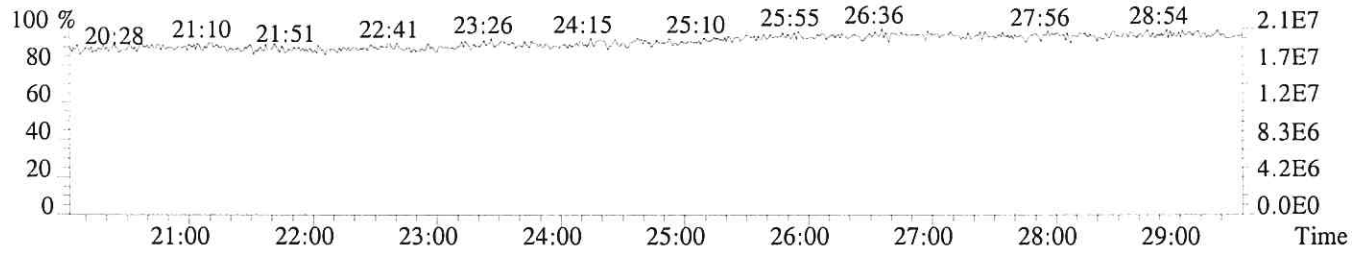
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2320.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)

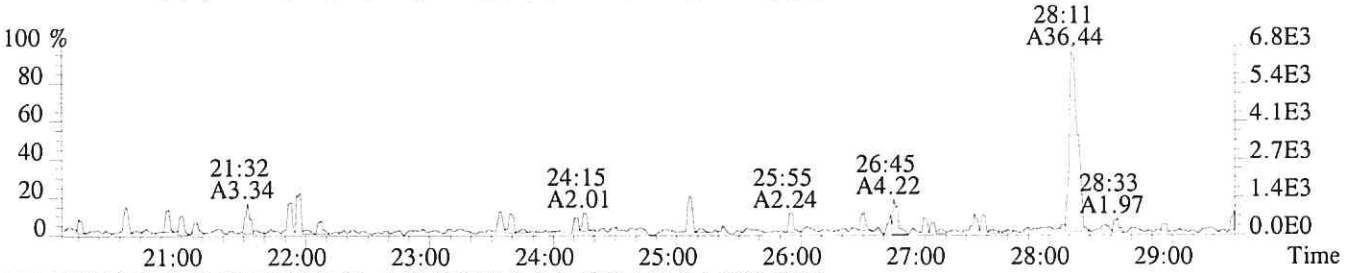


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

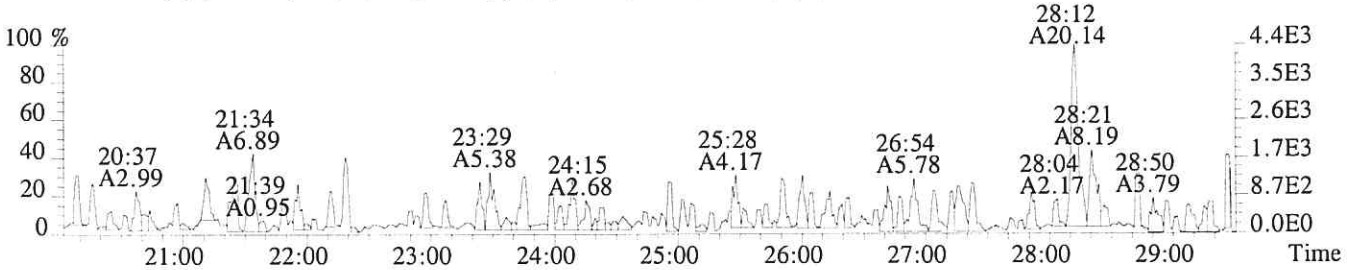


File:P609257 #1-672 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

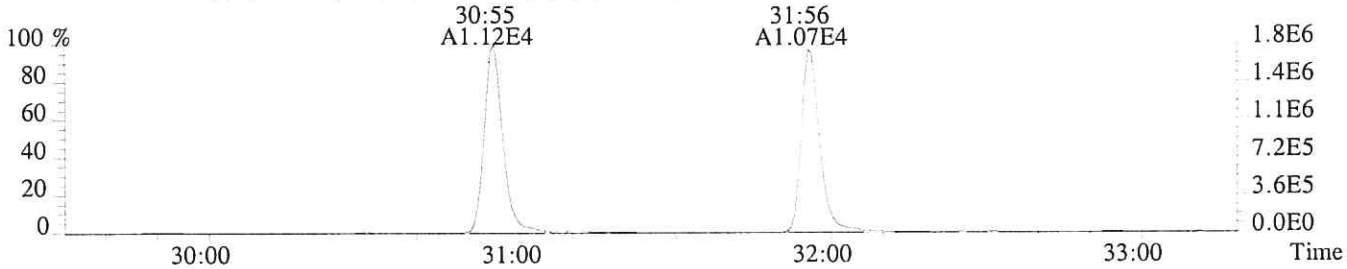
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



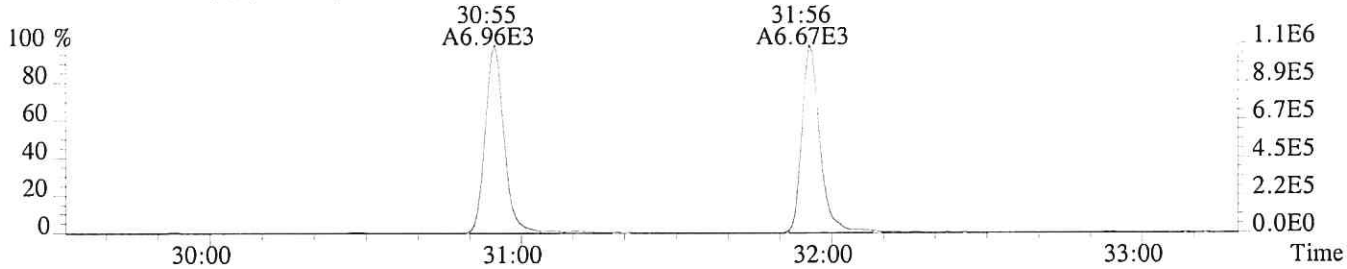
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



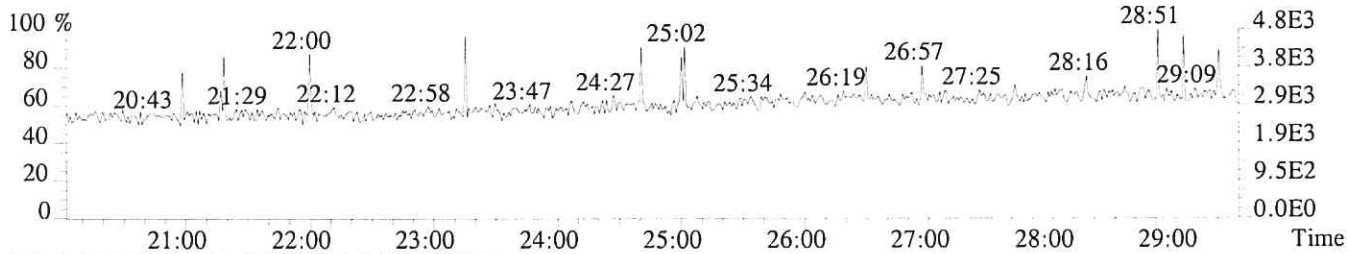
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



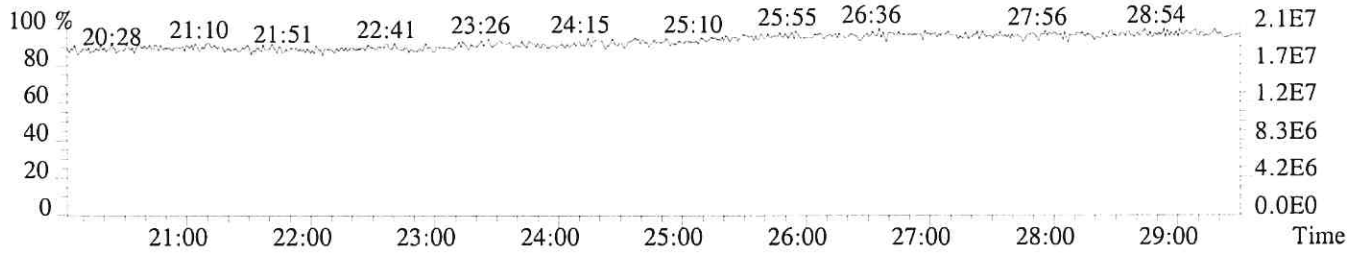
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

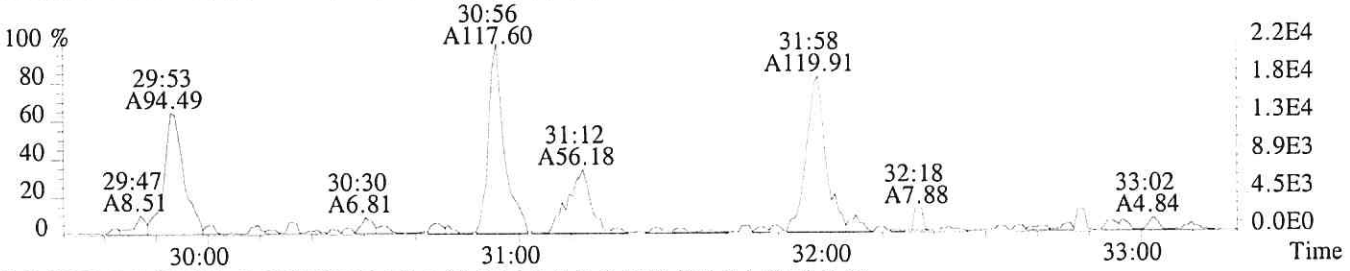


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

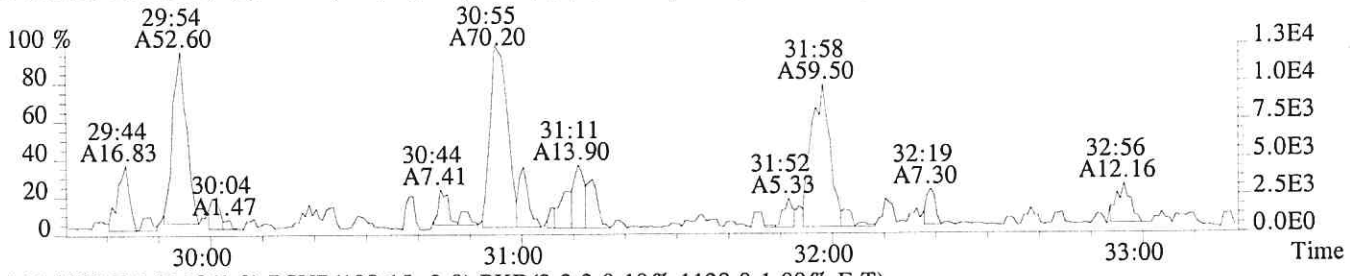


File:P609257 #1-340 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

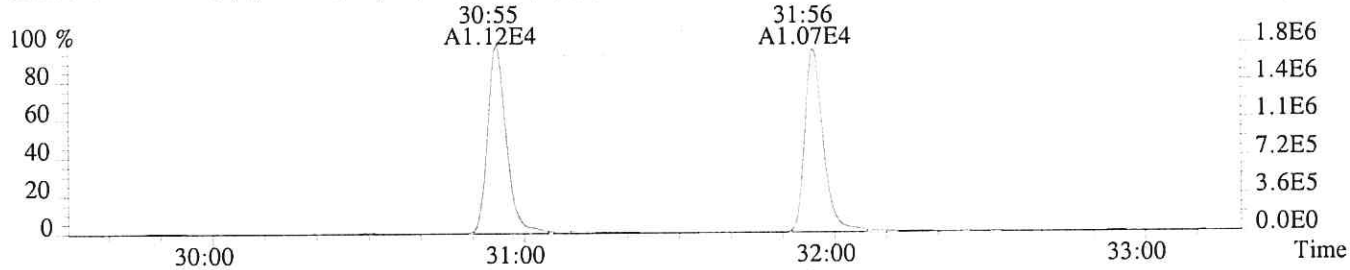
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



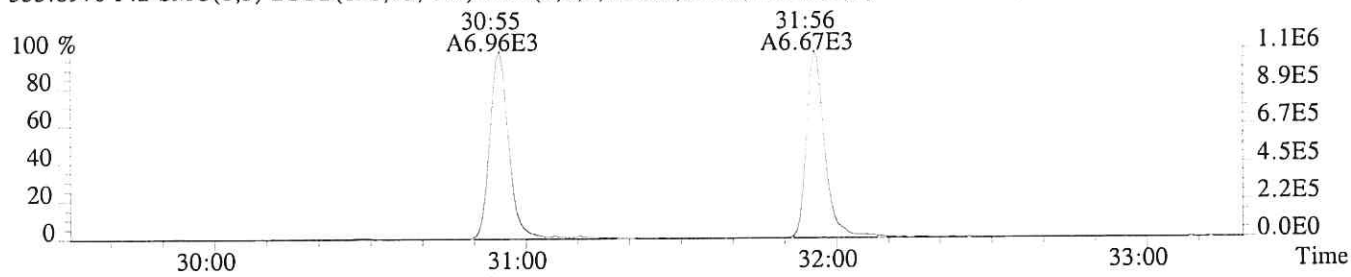
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,T)



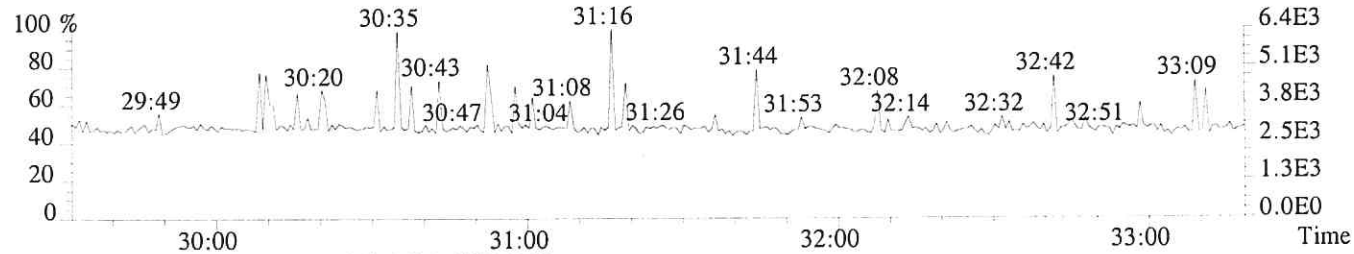
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



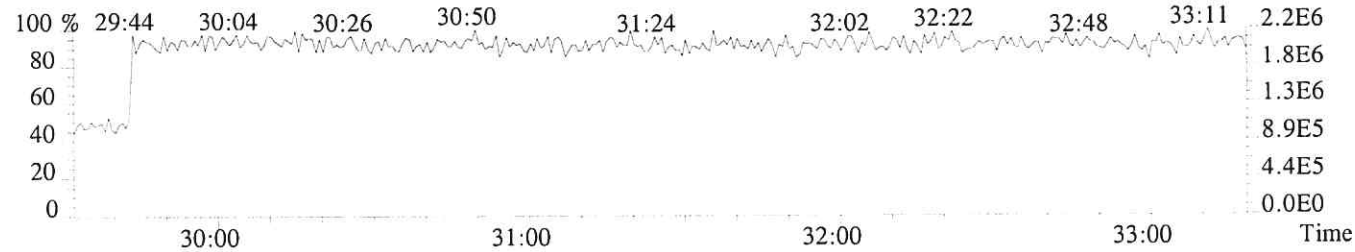
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



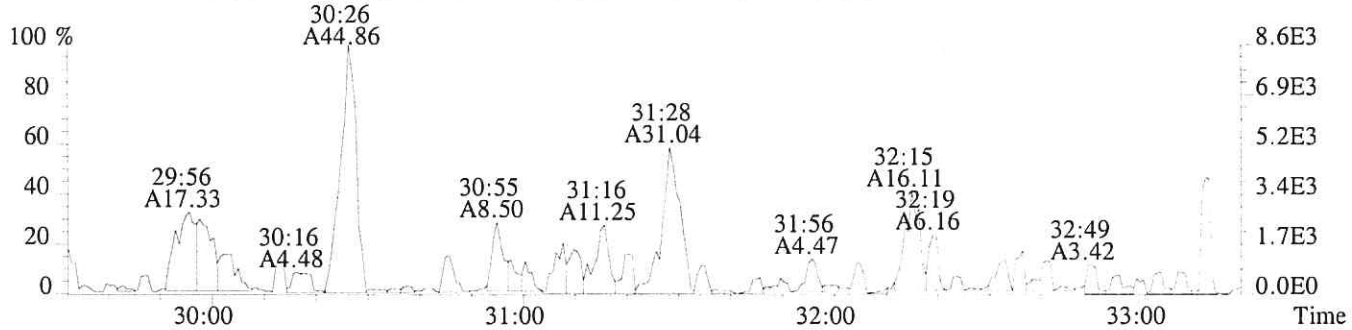
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



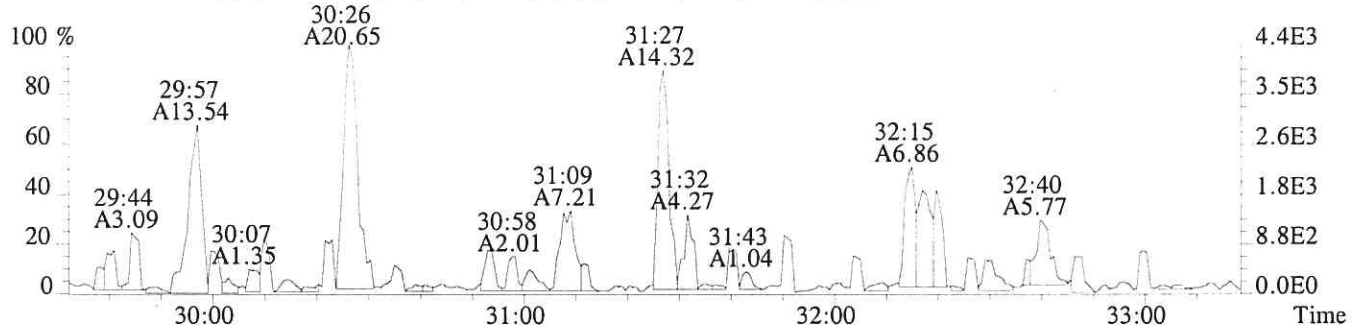
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



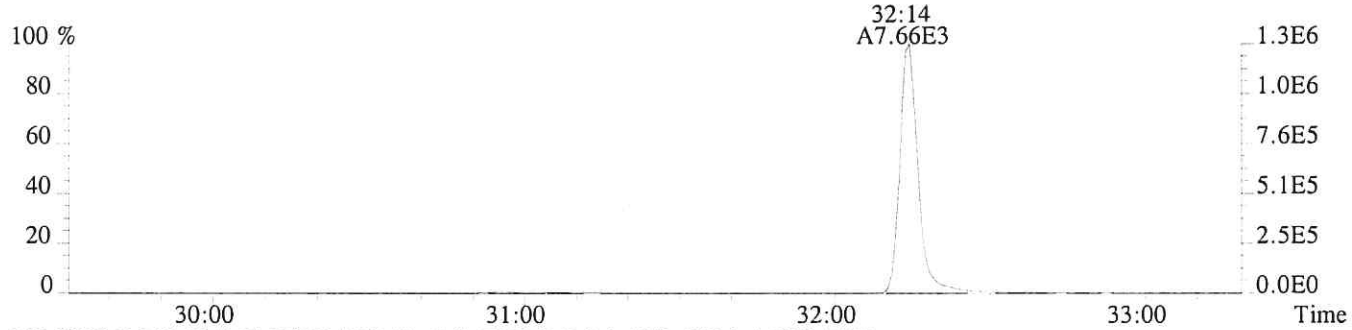
File:P609257 #1-340 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,188.0,1.00%,F,T)



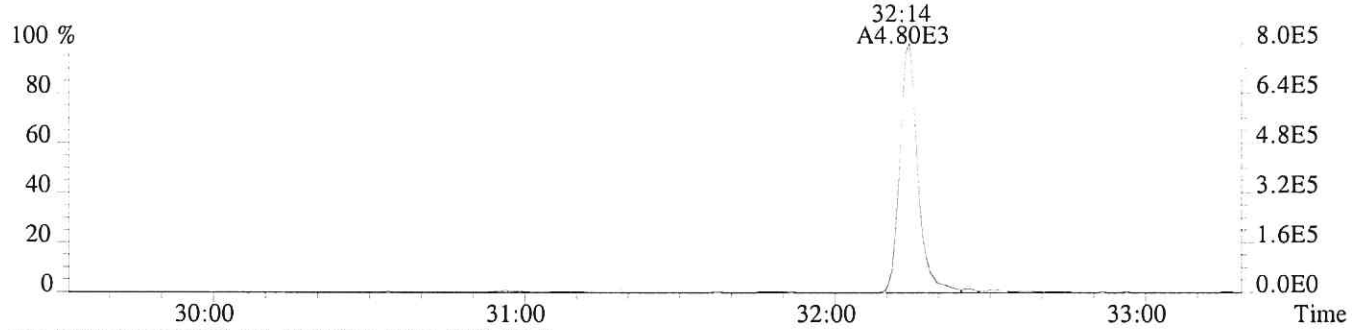
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,T)



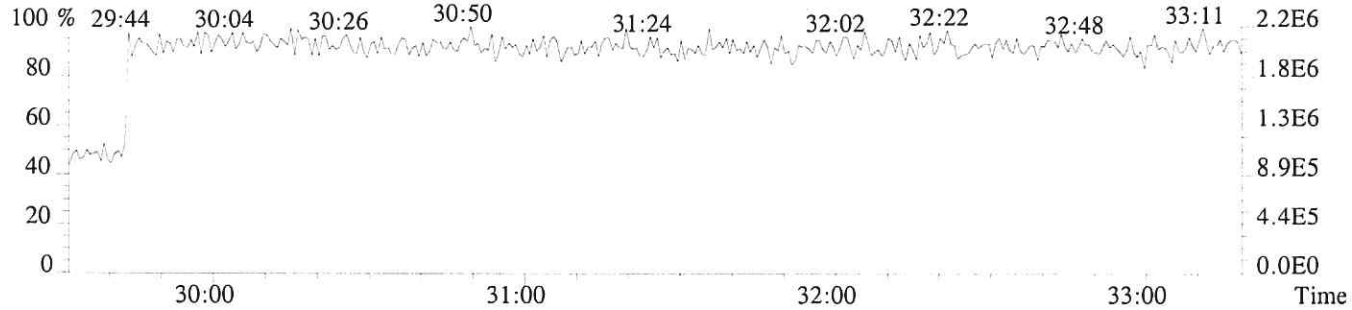
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



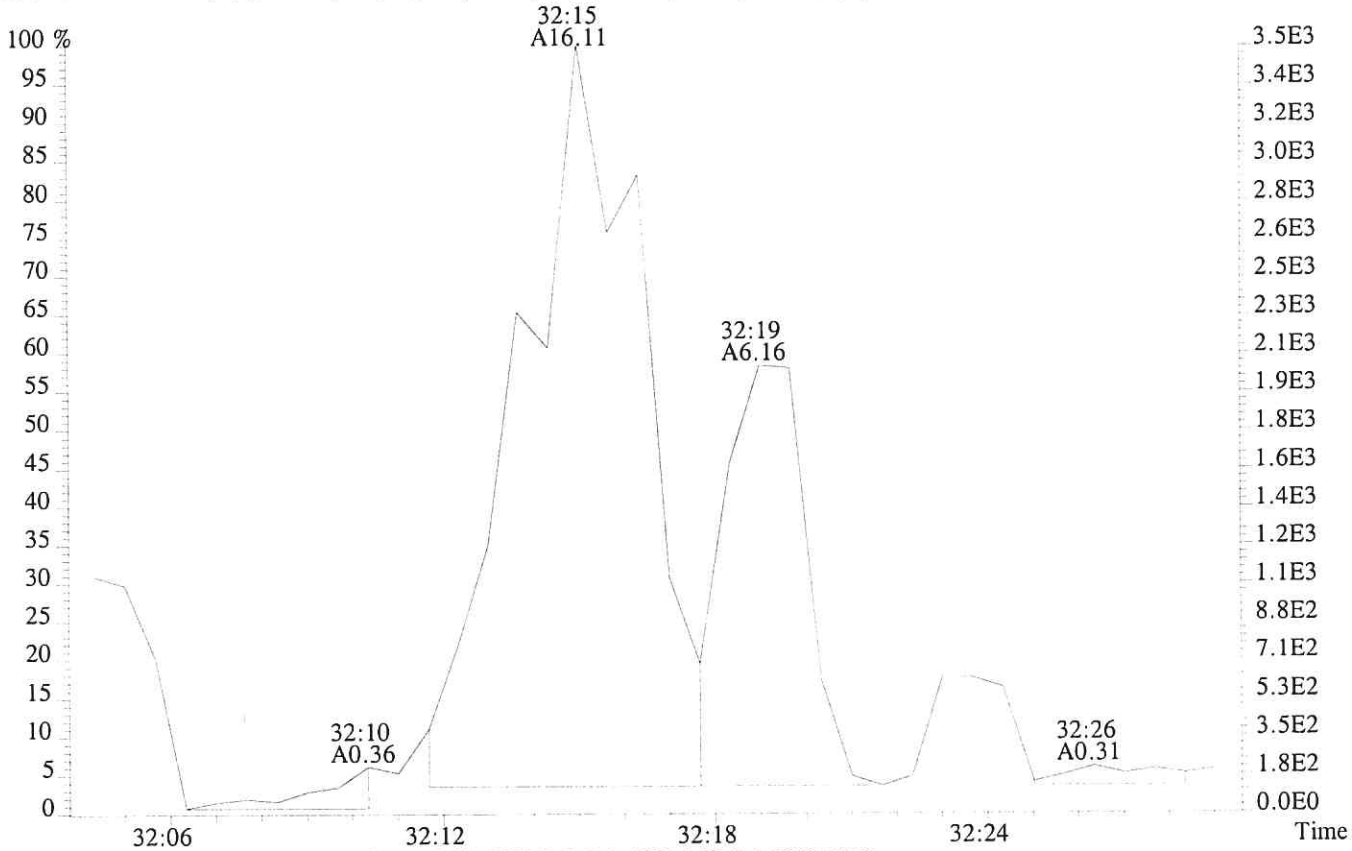
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,272.0,1.00%,F,T)



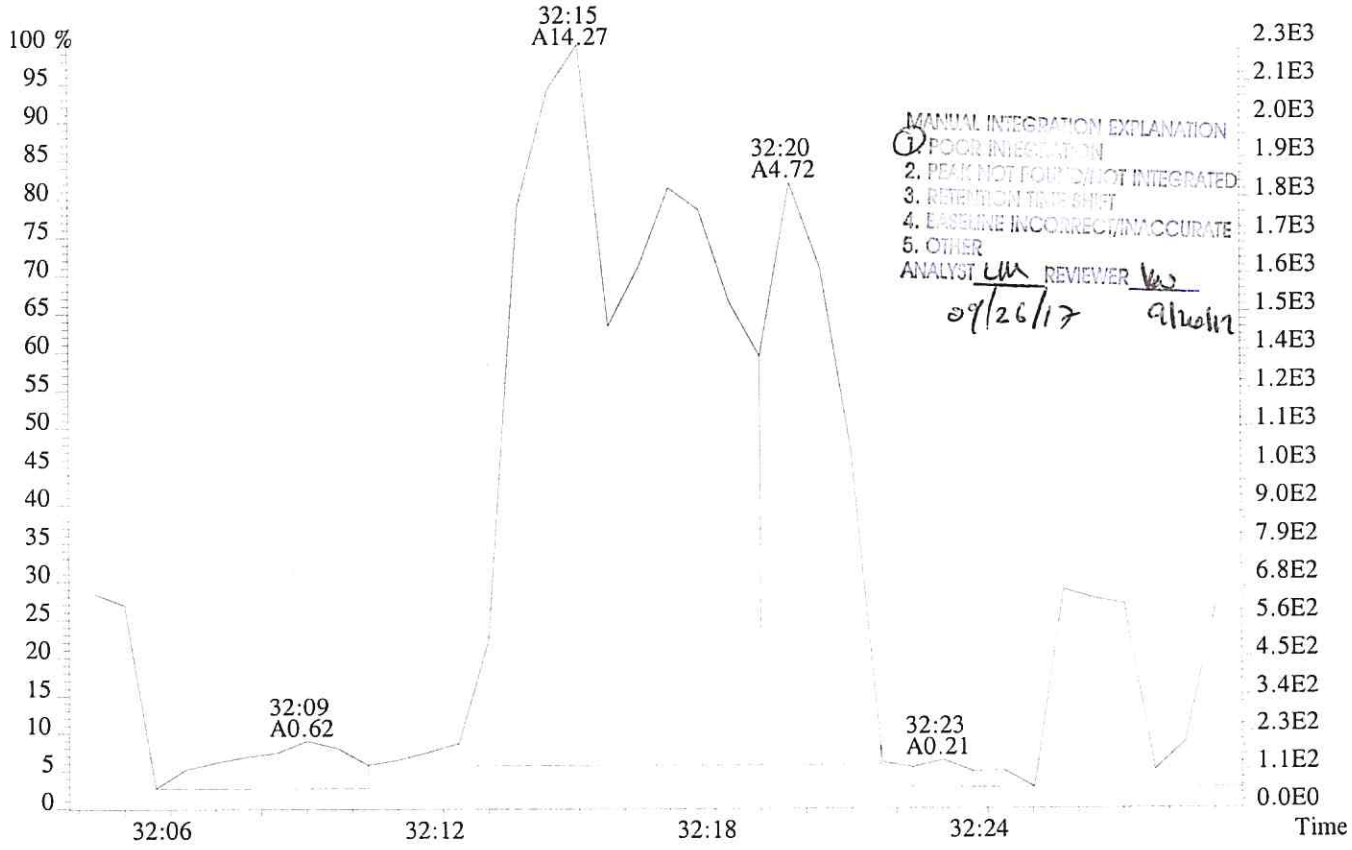
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609257 #1-340 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,188.0,1.00%,F,T)

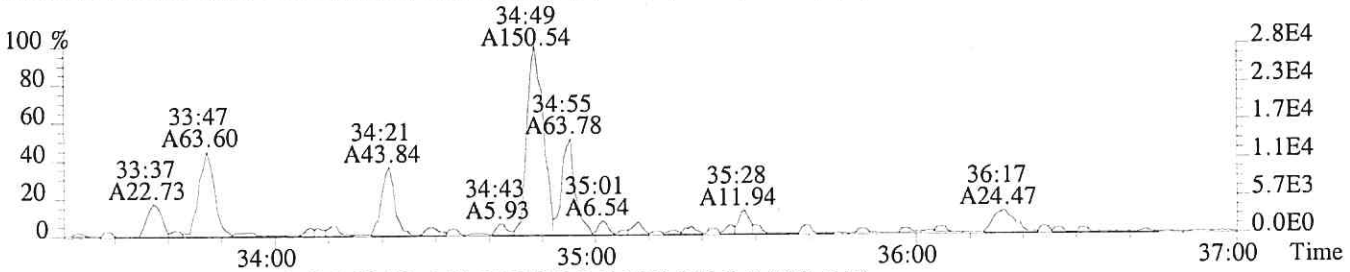


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,T)

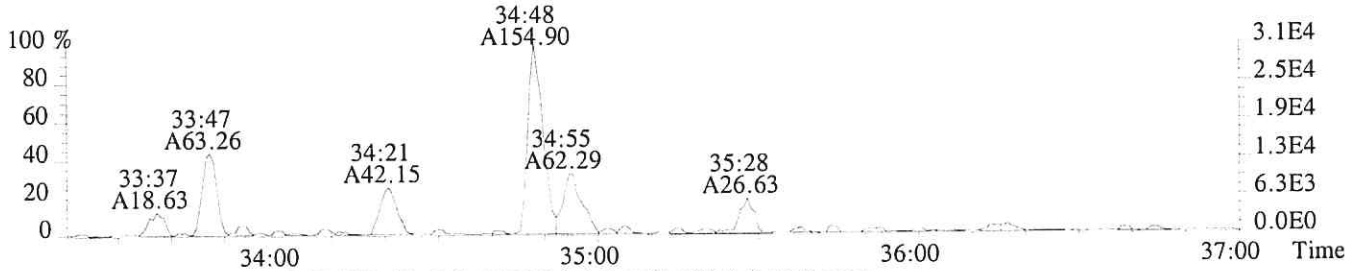


File:P609257 #1-330 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

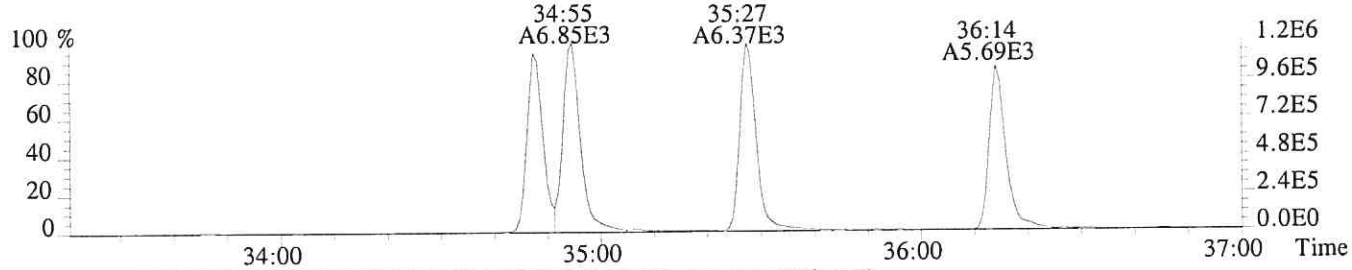
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



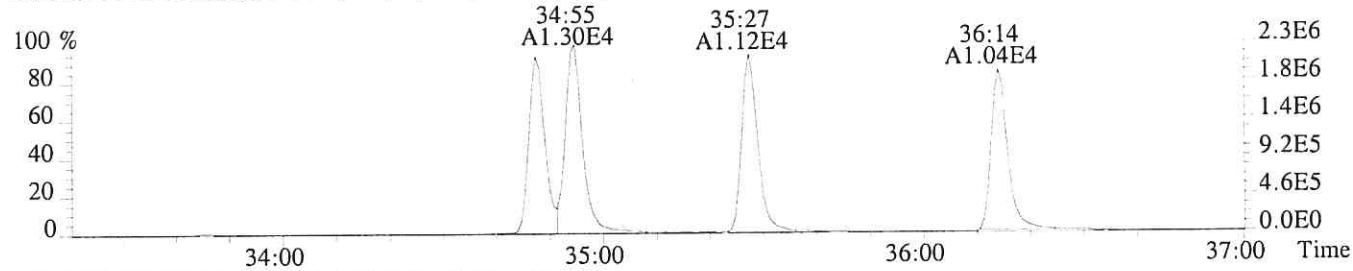
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



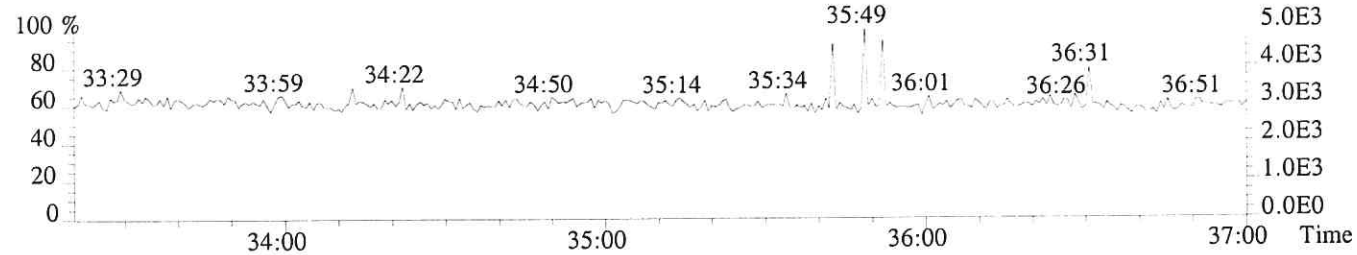
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



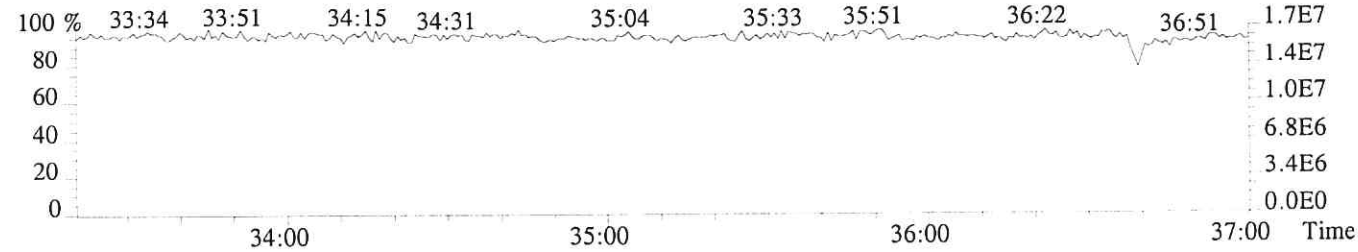
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)



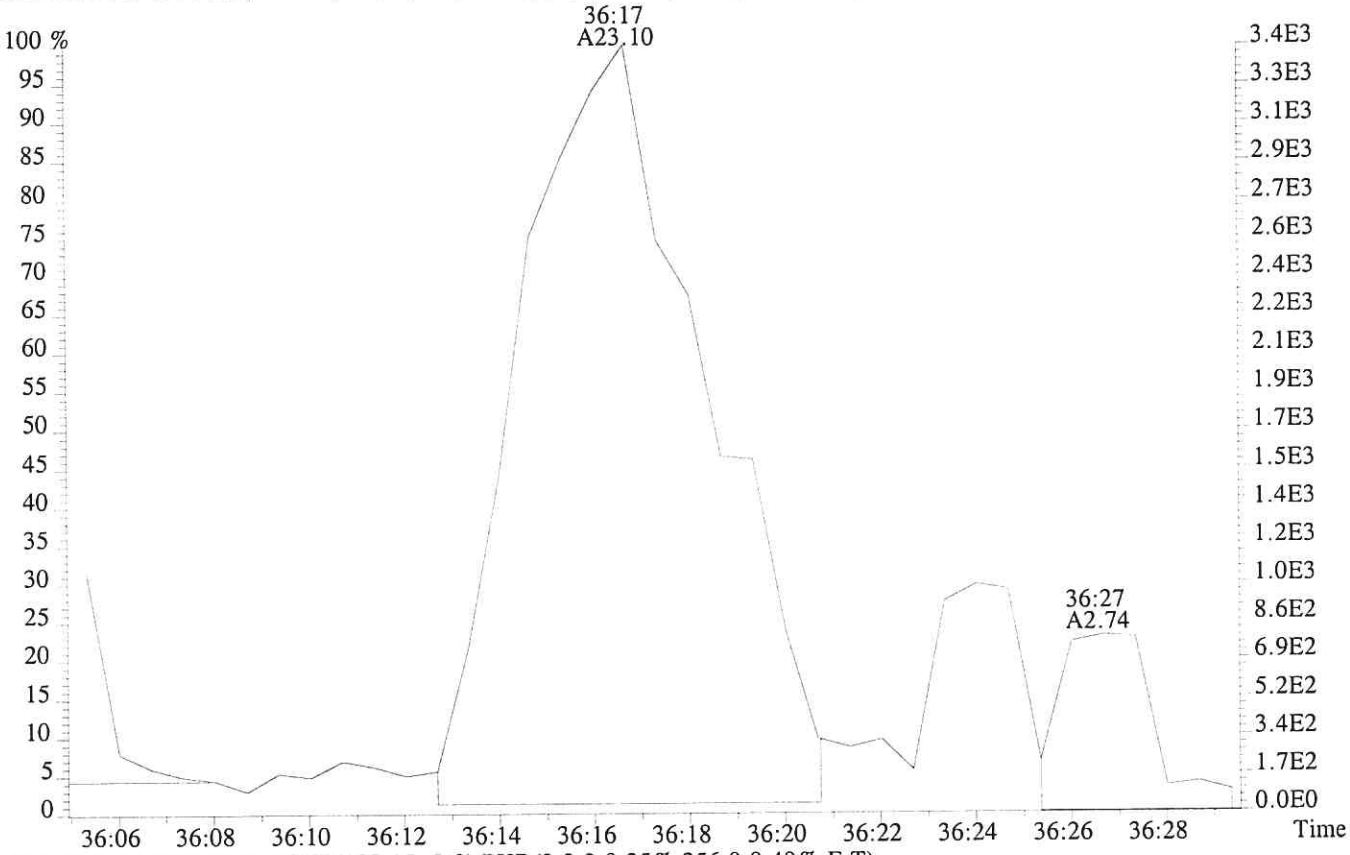
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



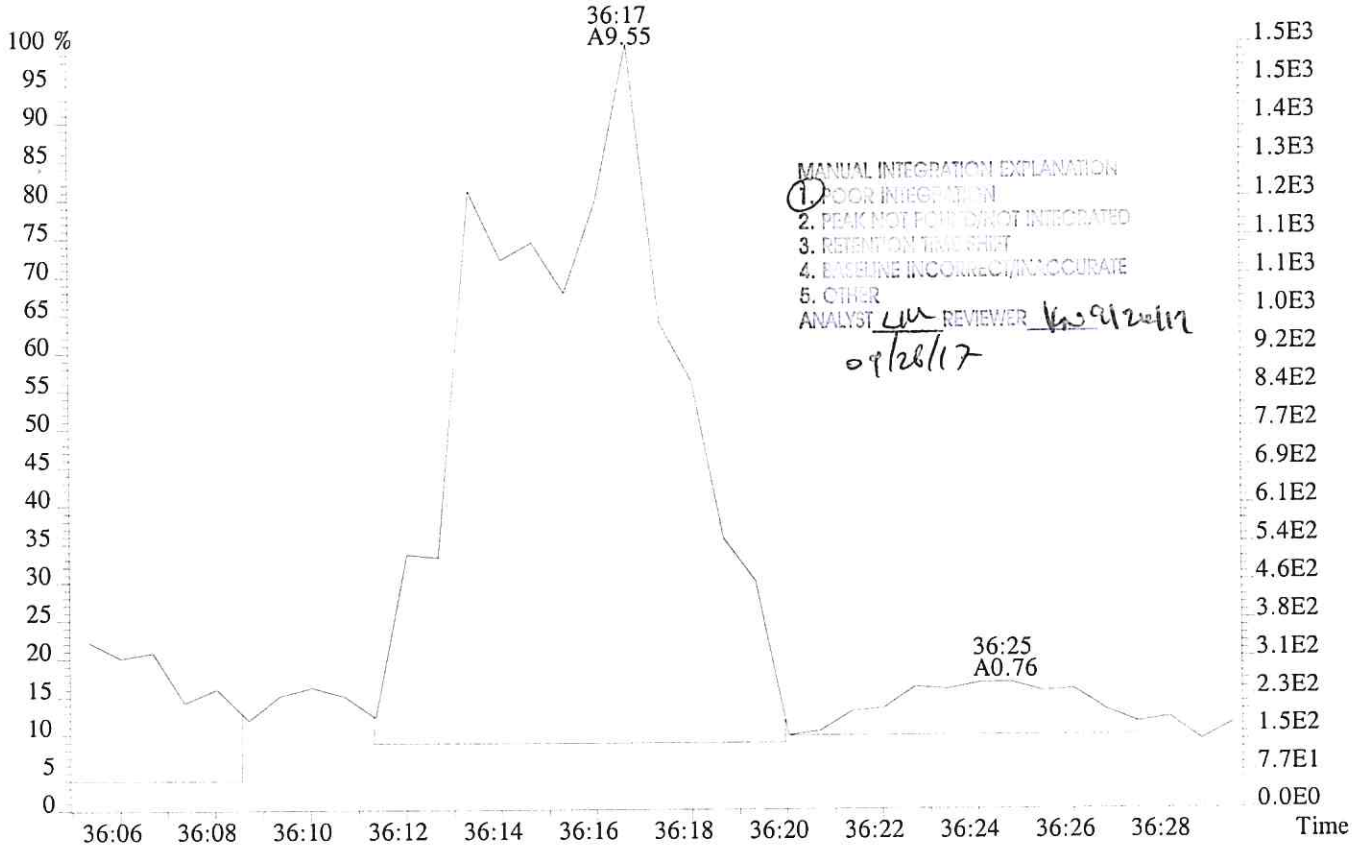
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609257 #1-330 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)

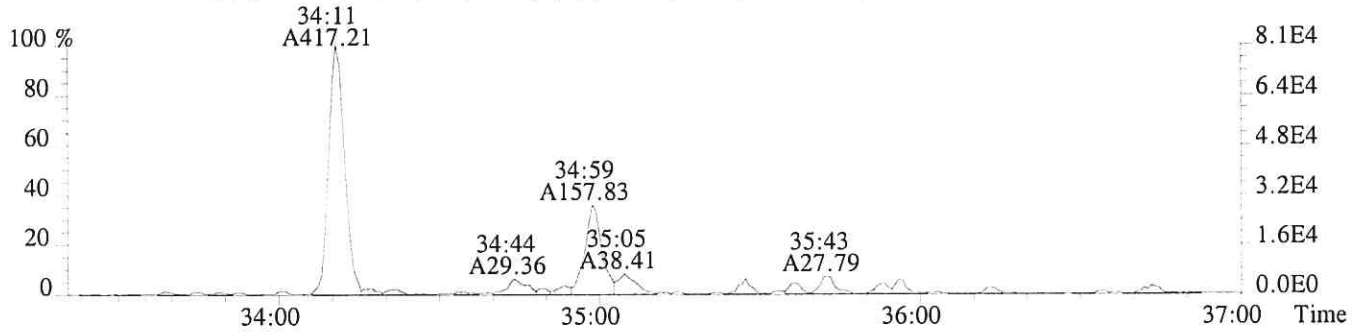


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)

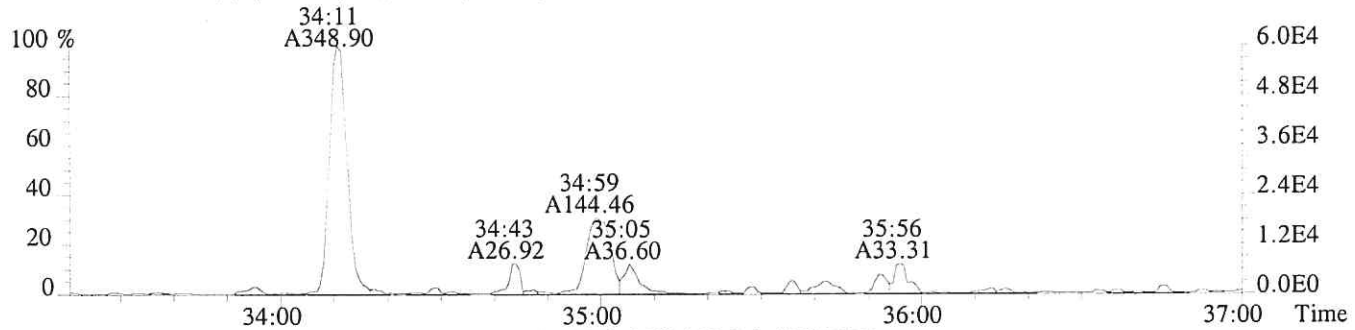


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LM REVIEWER 09/26/2017
09/26/17

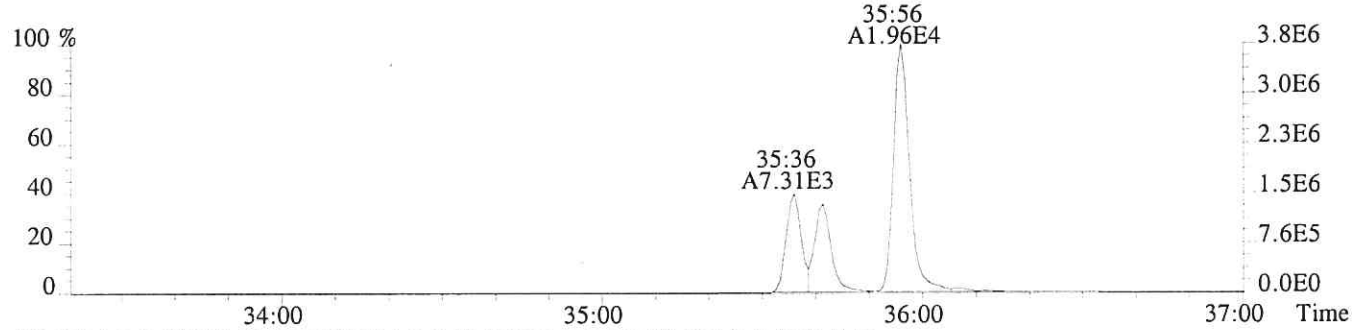
File:P609257 #1-330 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



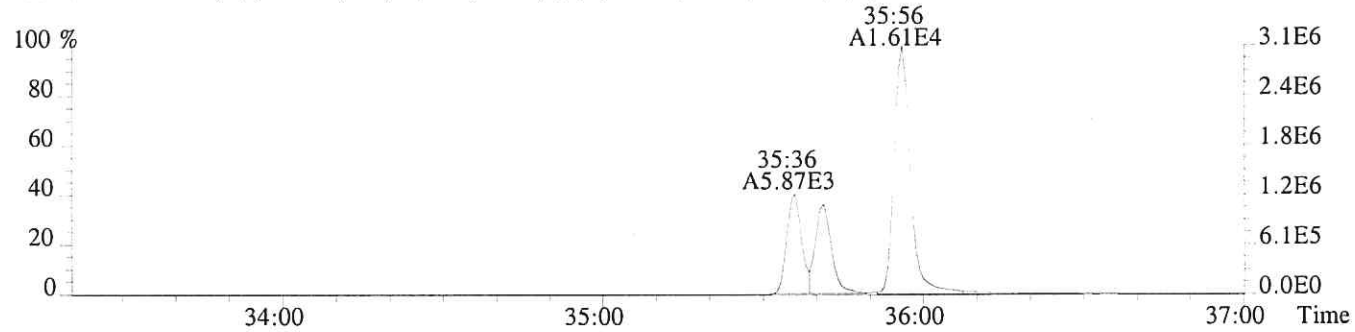
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



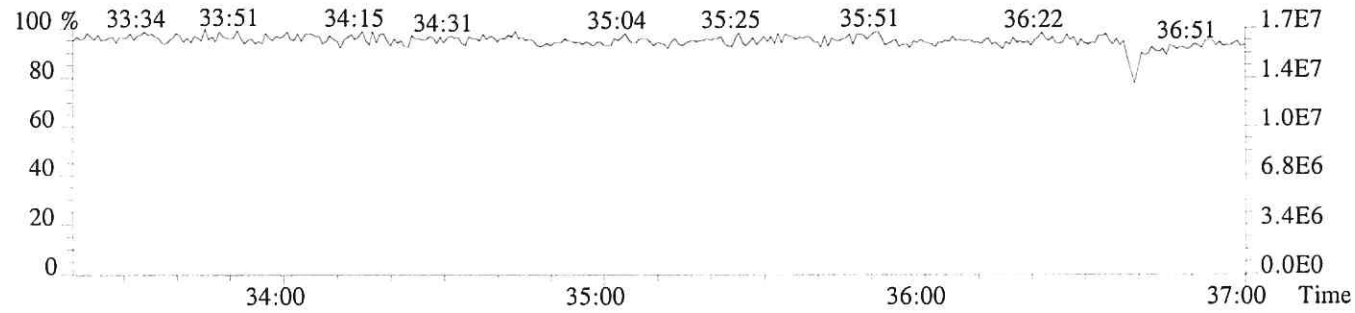
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,172.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,T)



430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609257 #1-250 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

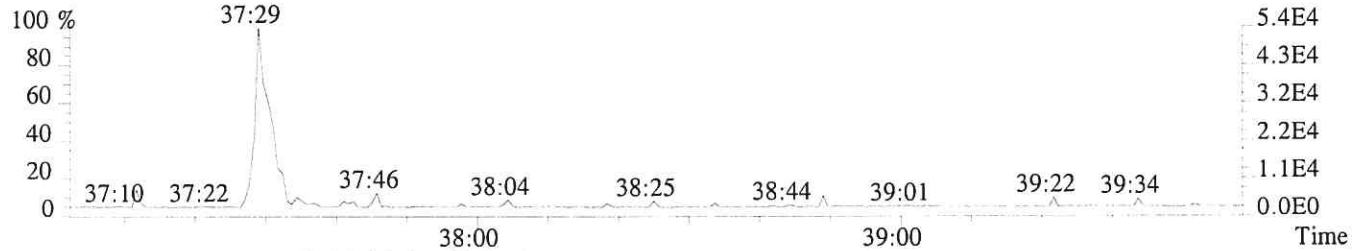
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.50%,F,T)

409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.50%,F,T)

417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,940.0,0.50%,F,T)

419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2272.0,0.50%,F,T)

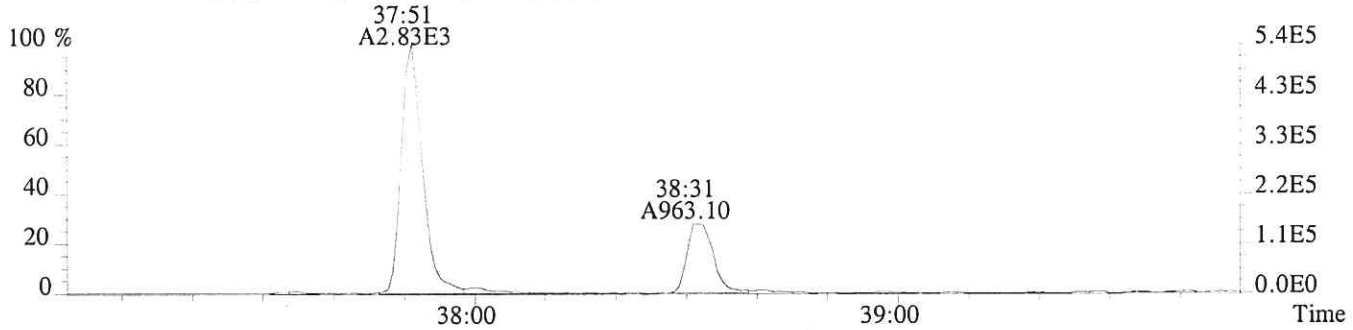
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



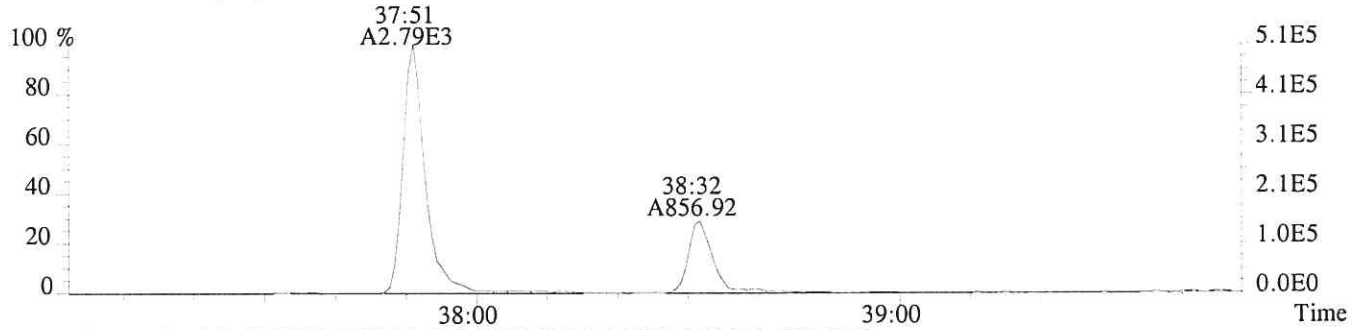
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

File:P609257 #1-250 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

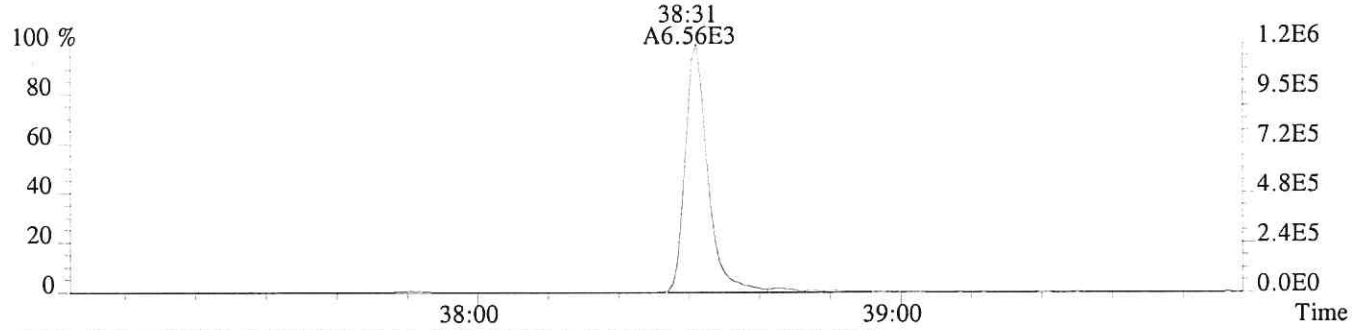
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1276.0,0.40%,F,T)



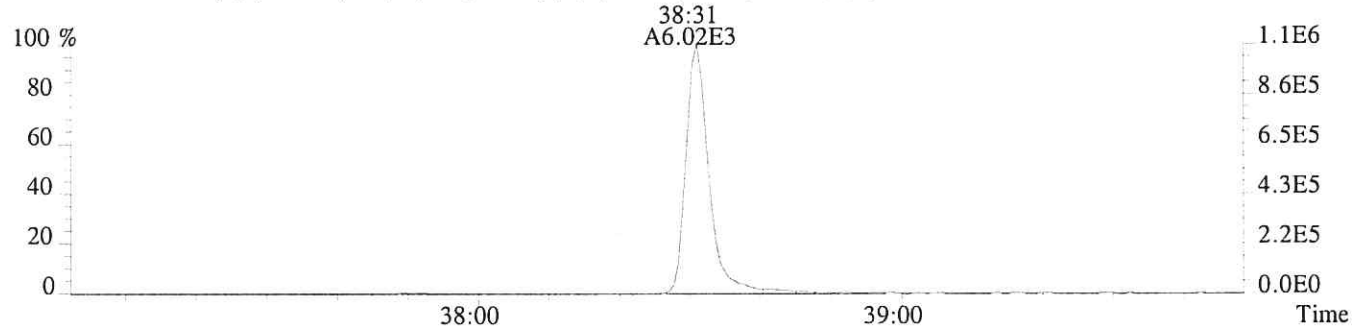
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,324.0,0.40%,F,T)



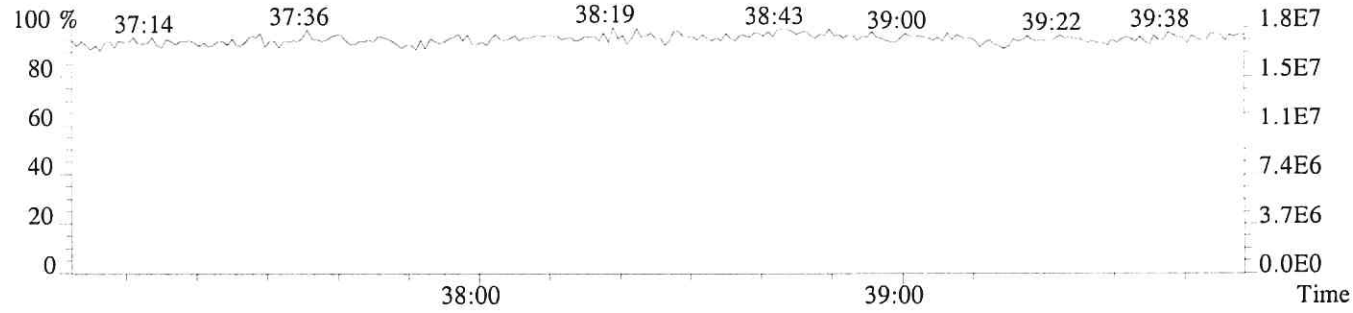
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)

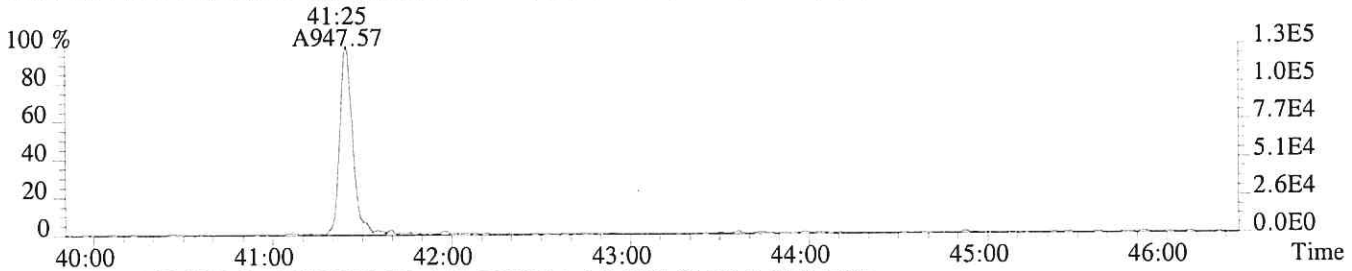


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

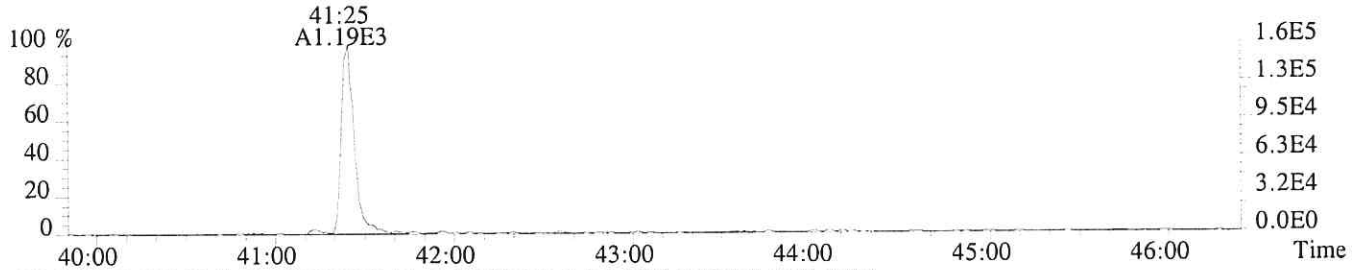


File:P609257 #1-591 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

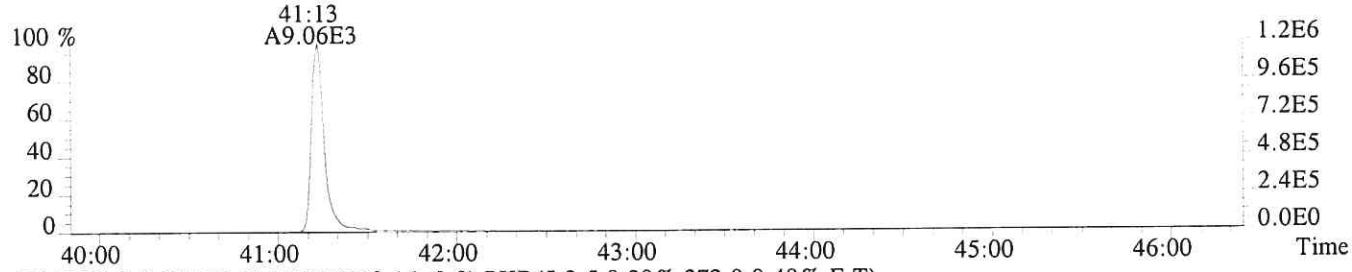
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



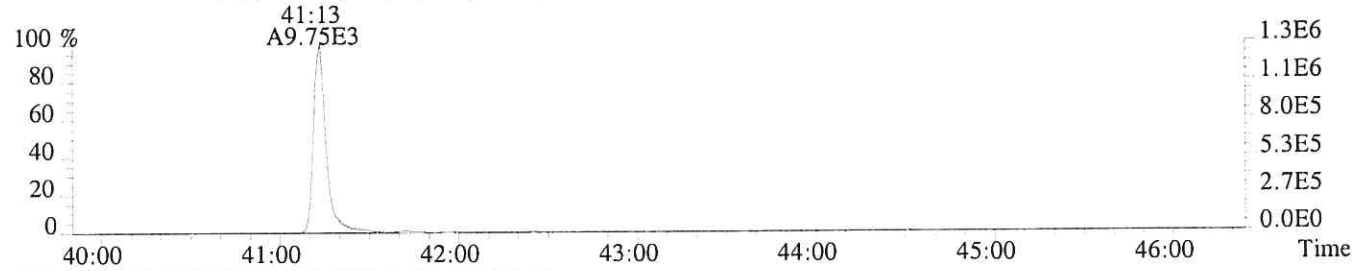
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



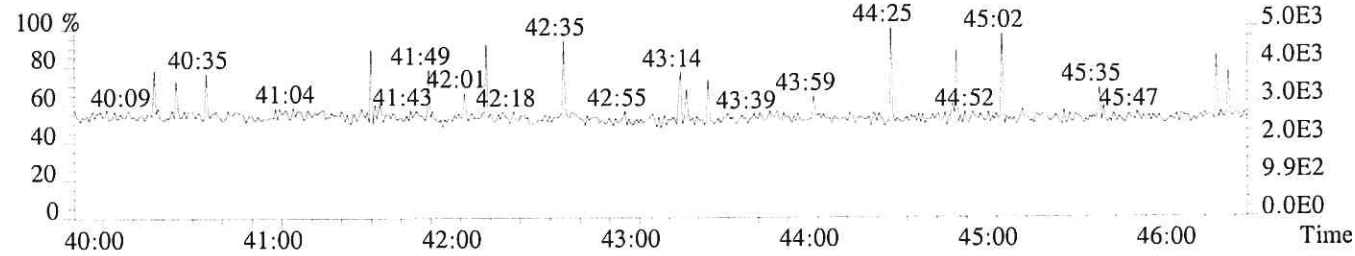
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



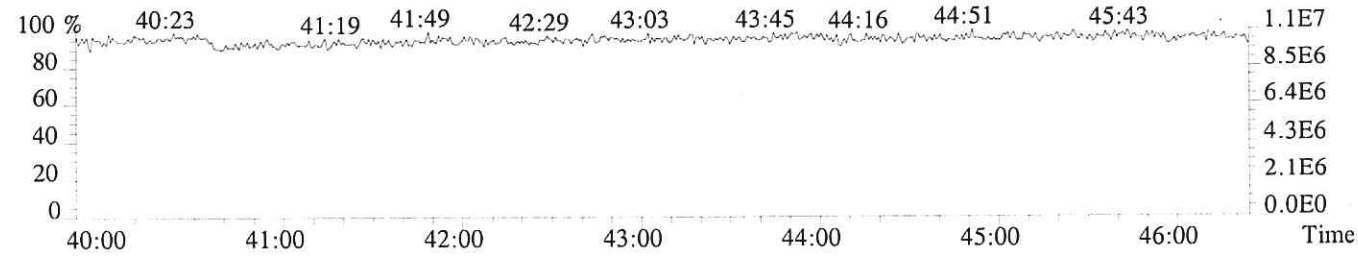
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,272.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

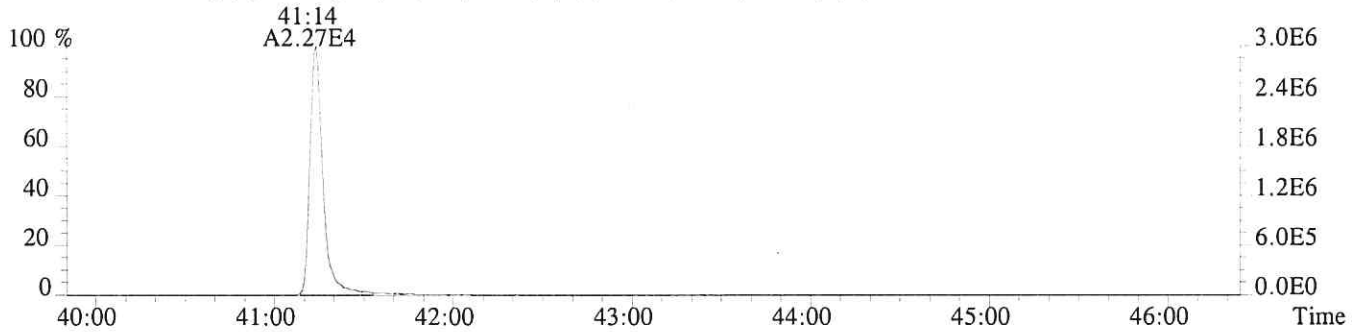


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

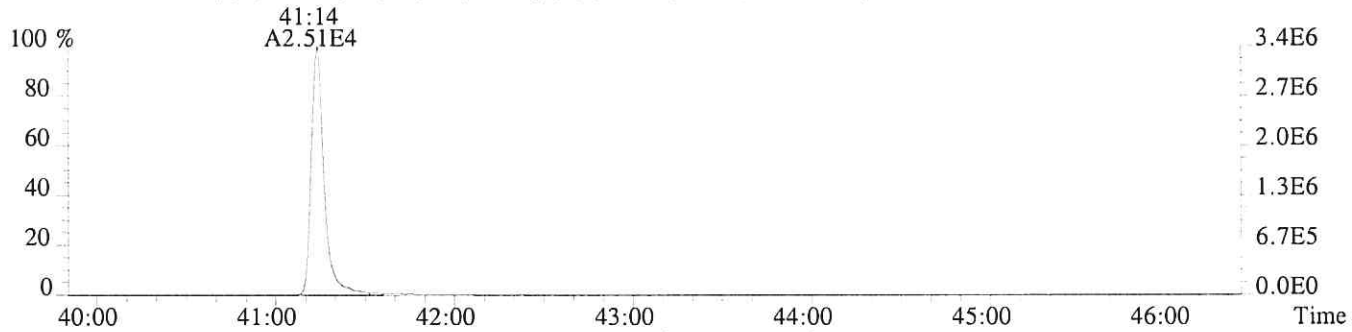


File:P609257 #1-591 Acq:25-SEP-2017 08:15:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-010

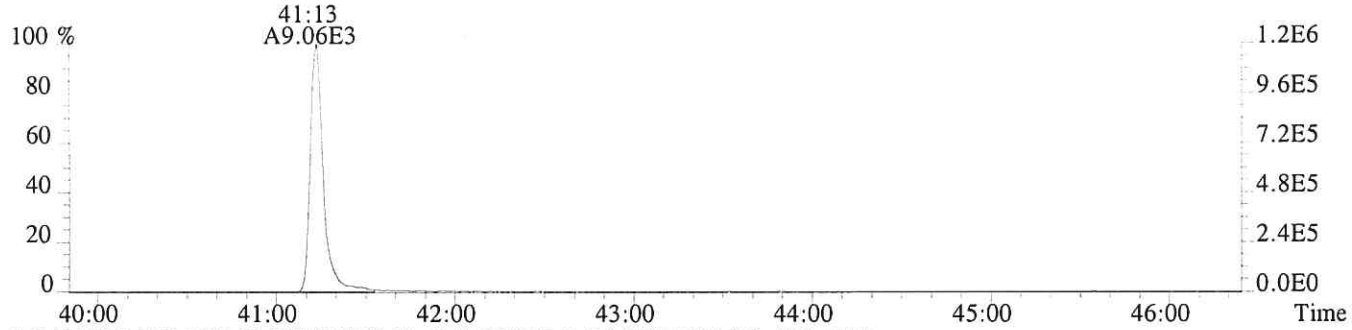
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,244.0,0.40%,F,T)



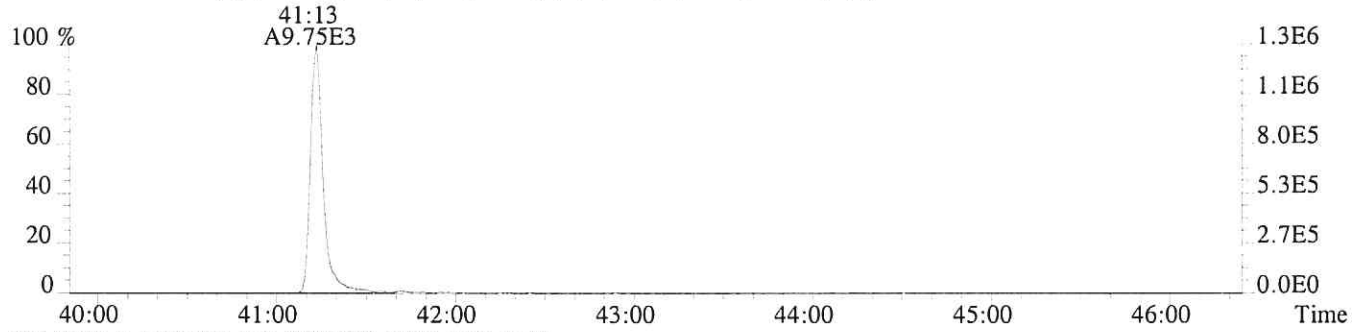
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,188.0,0.40%,F,T)



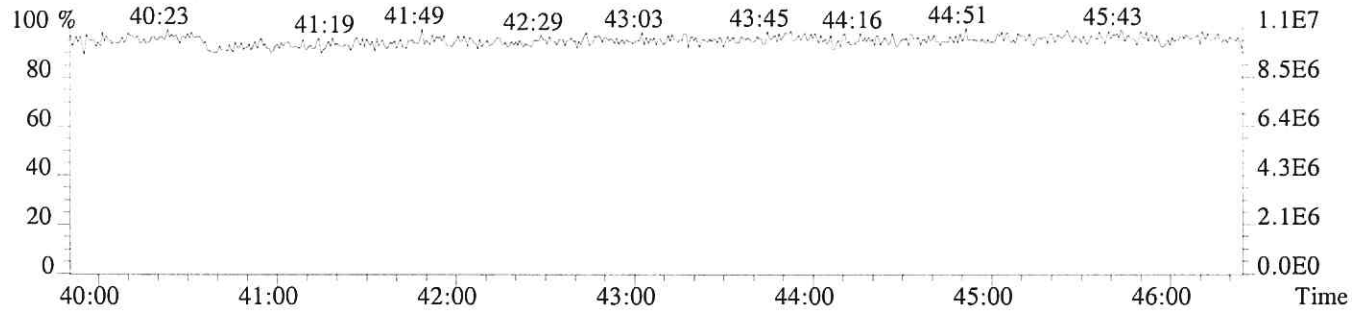
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,272.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #15 Filename P609258 Samp: 1 Inj: 1 Acquired: 25-SEP-17 09:04:34
Processed: 25-SEP-17 15:55:21 Sample ID: E1700974-011

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	26:10	1.042e+06	1.294e+06	0.80	yes	yes	1.020
2	Unk	1,2,3,7,8-PeCDF	30:58	3.711e+04	2.447e+04	1.52	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:58	3.225e+04	2.089e+04	1.54	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:49	3.705e+04	3.049e+04	1.22	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:55	1.006e+04	7.879e+03	1.28	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:28	1.663e+03	1.336e+03	1.25	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:16	2.759e+03	2.288e+03	1.21	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:34	8.859e+03	8.448e+03	1.05	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:57	3.293e+03	3.025e+03	1.09	yes	no	1.341
10	Unk	OCDF	41:23	4.685e+03	5.278e+03	0.89	yes	no	1.337
11	Unk	2,3,7,8-TCDD	27:07	1.922e+05	2.447e+05	0.79	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:16	2.910e+03	1.707e+03	1.71	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:37	3.659e+01	2.174e+01	1.68	no	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:42	1.649e+02	1.584e+02	1.04	no	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:56	4.976e+01	5.105e+01	0.97	no	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:30	1.741e+03	1.546e+03	1.13	yes	no	1.048
17	Unk	OCDD	41:12	1.531e+04	1.657e+04	0.92	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	26:08	1.212e+04	1.494e+04	0.81	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:57	1.647e+04	1.033e+04	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:58	1.631e+04	1.019e+04	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:48	6.372e+03	1.193e+04	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:55	7.182e+03	1.318e+04	0.54	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:27	6.741e+03	1.259e+04	0.54	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:14	6.478e+03	1.261e+04	0.51	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:34	3.527e+03	7.804e+03	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:56	3.563e+03	8.457e+03	0.42	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	27:06	6.891e+03	8.455e+03	0.81	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:15	1.138e+04	7.159e+03	1.59	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:36	8.134e+03	6.414e+03	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:41	8.229e+03	6.476e+03	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:30	5.239e+03	4.929e+03	1.06	yes	no	0.884
32	IS	13C-OCDD	41:11	5.420e+03	5.627e+03	0.96	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:23	2.631e+04	3.247e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:56	3.492e+04	2.756e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:07	1.878e+04				no	1.072

$$\text{OCDD} = \frac{(1.531e+04 + 1.657e+04) \times 4000 \text{ pg} \times 1}{(5.420e+03 + 5.627e+03) \times 10.188 \text{ g} \times 33.2 / 100 \times 1.120} = 3050 \text{ ng/kg}$$

KN 9/20/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL

Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-030

Run #15 Filename P609258 Samp: 1 Inj: 1 Acquired: 25-SEP-17 09:04:34
Processed: 25-SEP-17 15:55:21 LAB. ID: E1700974-011

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.53e+08	1.34e+03	1.1e+05	1.92e+08	2.00e+03	9.6e+04
2	1,2,3,7,8-PeCDF	6.34e+06	1.82e+04	3.5e+02	4.19e+06	8.42e+03	5.0e+02
3	2,3,4,7,8-PeCDF	5.32e+06	1.82e+04	2.9e+02	3.40e+06	8.42e+03	4.0e+02
4	1,2,3,4,7,8-HxCDF	7.55e+06	4.59e+03	1.6e+03	6.19e+06	2.81e+03	2.2e+03
5	1,2,3,6,7,8-HxCDF	1.89e+06	4.59e+03	4.1e+02	1.46e+06	2.81e+03	5.2e+02
6	2,3,4,6,7,8-HxCDF	3.50e+05	4.59e+03	7.6e+01	2.88e+05	2.81e+03	1.0e+02
7	1,2,3,7,8,9-HxCDF	5.11e+05	4.59e+03	1.1e+02	4.25e+05	2.81e+03	1.5e+02
8	1,2,3,4,6,7,8-HpCDF	1.73e+06	1.66e+03	1.0e+03	1.64e+06	3.81e+03	4.3e+02
9	1,2,3,4,7,8,9-HpCDF	5.88e+05	1.66e+03	3.5e+02	5.47e+05	3.81e+03	1.4e+02
10	OCDF	6.28e+05	1.76e+02	3.6e+03	7.29e+05	2.24e+02	3.3e+03
11	2,3,7,8-TCDD	3.93e+07	1.72e+03	2.3e+04	5.03e+07	8.04e+02	6.3e+04
12	1,2,3,7,8-PeCDD	4.69e+05	2.24e+02	2.1e+03	2.85e+05	6.00e+02	4.7e+02
13	1,2,3,4,7,8-HxCDD	8.27e+03	1.60e+02	5.2e+01	5.37e+03	1.76e+02	3.1e+01
14	1,2,3,6,7,8-HxCDD	2.92e+04	1.60e+02	1.8e+02	3.02e+04	1.76e+02	1.7e+02
15	1,2,3,7,8,9-HxCDD	1.09e+04	1.60e+02	6.8e+01	1.07e+04	1.76e+02	6.1e+01
16	1,2,3,4,6,7,8-HpCDD	3.21e+05	7.76e+02	4.1e+02	2.93e+05	4.56e+02	6.4e+02
17	OCDD	2.11e+06	1.68e+02	1.3e+04	2.25e+06	1.92e+02	1.2e+04
18	13C-2,3,7,8-TCDF	1.81e+06	7.08e+03	2.6e+02	2.24e+06	1.26e+04	1.8e+02
19	13C-1,2,3,7,8-PeCDF	2.94e+06	4.21e+03	7.0e+02	1.84e+06	5.89e+03	3.1e+02
20	13C-2,3,4,7,8-PeCDF	3.03e+06	4.21e+03	7.2e+02	1.89e+06	5.89e+03	3.2e+02
21	13C-1,2,3,4,7,8-HxCDF	1.29e+06	1.70e+03	7.6e+02	2.48e+06	1.46e+03	1.7e+03
22	13C-1,2,3,6,7,8-HxCDF	1.40e+06	1.70e+03	8.2e+02	2.61e+06	1.46e+03	1.8e+03
23	13C-2,3,4,6,7,8-HxCDF	1.42e+06	1.70e+03	8.3e+02	2.58e+06	1.46e+03	1.8e+03
24	13C-1,2,3,7,8,9-HxCDF	1.26e+06	1.70e+03	7.4e+02	2.46e+06	1.46e+03	1.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	7.11e+05	1.73e+03	4.1e+02	1.55e+06	1.34e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.39e+05	1.73e+03	3.7e+02	1.51e+06	1.34e+03	1.1e+03
27	13C-2,3,7,8-TCDD	1.31e+06	5.53e+03	2.4e+02	1.60e+06	1.78e+03	9.0e+02
28	13C-1,2,3,7,8-PeCDD	2.18e+06	2.36e+02	9.2e+03	1.33e+06	2.88e+02	4.6e+03
29	13C-1,2,3,4,7,8-HxCDD	1.68e+06	4.64e+02	3.6e+03	1.36e+06	2.44e+02	5.6e+03
30	13C-1,2,3,6,7,8-HxCDD	1.69e+06	4.64e+02	3.6e+03	1.29e+06	2.44e+02	5.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.02e+06	2.00e+02	5.1e+03	9.51e+05	2.64e+02	3.6e+03
32	13C-OCDD	7.73e+05	2.16e+02	3.6e+03	8.01e+05	2.32e+02	3.5e+03
33	13C-1,2,3,4-TCDD	4.05e+06	5.53e+03	7.3e+02	5.09e+06	1.78e+03	2.9e+03
34	13C-1,2,3,7,8,9-HxCDD	6.63e+06	4.64e+02	1.4e+04	5.32e+06	2.44e+02	2.2e+04
35	37Cl-2,3,7,8-TCDD	3.89e+06	1.16e+03	3.3e+03			

---Sample Calculation---

$$D/L\ TCDD = \frac{2.5 \times (1.724e+03 + 8.040e+02\ ) \times 2000}{(1.309e+06 + 1.597e+06\ ) \times (\qquad\qquad) \times 1.055} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 36 Totals Name: Total Tetra-Furans

Run: 15 File: P609258 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 303.9020 305.8990 Tot Response: 4.69e+06 RRF: 1.020

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	22:56	8.91e+03	1.16e+04	0.77	yes	2.05e+04		n	n
2	23:14	4.95e+04	6.30e+04	0.79	yes	1.12e+05		n	n
3	23:36	1.62e+04	2.12e+04	0.76	yes	3.74e+04		n	n
4	23:43	1.84e+03	2.45e+03	0.75	yes	4.30e+03		n	n
5	23:53	4.34e+04	5.55e+04	0.78	yes	9.89e+04		n	n
6	24:32	2.42e+04	3.06e+04	0.79	yes	5.48e+04		n	n
7	24:37	6.12e+04	7.69e+04	0.80	yes	1.38e+05		n	n
8	25:07	5.37e+05	6.85e+05	0.78	yes	1.22e+06		n	n
9	25:26	2.64e+04	3.38e+04	0.78	yes	6.02e+04		n	n
10	26:04	8.74e+04	1.06e+05	0.82	yes	1.94e+05		y	y
11	26:10	1.04e+06	1.29e+06	0.80	yes	2.34e+06	2,3,7,8-TCDF	y	y
12	26:34	8.04e+04	1.03e+05	0.78	yes	1.84e+05		n	n
13	26:52	1.40e+04	1.64e+04	0.85	yes	3.04e+04		n	n
14	28:19	8.78e+04	1.13e+05	0.78	yes	2.01e+05		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 15 File: P609258 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 319.8970 321.8940 Tot Response: 4.91e+05 RRF: 1.055

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:07	1.92e+05	2.45e+05	0.79	yes	4.37e+05	2,3,7,8-TCDD	n	n
2	27:27	2.39e+04	2.98e+04	0.80	yes	5.37e+04		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 38 Totals Name: Total Penta-Furans1

Run: 15 File: P609258 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 339.8600 341.8570 Tot Response: 1.28e+03 RRF: 1.036

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:17	7.80e+02	4.96e+02	1.57	yes	1.28e+03	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 39 Totals Name: Total Penta-Furans2

Run: 15 File: P609258 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 339.8600 341.8570 Tot Response: 1.78e+05 RRF: 1.036

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:48	4.42e+02	2.78e+02	1.59	yes	7.21e+02		n	n
2	29:57	1.81e+04	1.16e+04	1.56	yes	2.96e+04		n	n
3	30:38	7.85e+02	5.94e+02	1.32	yes	1.38e+03		n	n
4	30:47	4.49e+03	2.86e+03	1.57	yes	7.35e+03		n	n
5	30:58	3.71e+04	2.45e+04	1.52	yes	6.16e+04	1,2,3,7,8-PeCDF	n	n
6	31:15	1.21e+04	7.90e+03	1.54	yes	2.00e+04		n	n
7	31:52	5.11e+02	3.30e+02	1.55	yes	8.42e+02		n	n
8	31:58	3.23e+04	2.09e+04	1.54	yes	5.31e+04	2,3,4,7,8-PeCDF	n	n
9	32:55	1.89e+03	1.25e+03	1.51	yes	3.15e+03		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 15 File: P609258 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 355.8550 357.8520 Tot Response: 5.05e+03 RRF: 0.9636

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:59	9.95e+01	7.34e+01	1.36	yes	1.73e+02		n	n
2	31:10	1.38e+02	9.44e+01	1.46	yes	2.32e+02		n	n
3	32:16	2.91e+03	1.71e+03	1.71	yes	4.62e+03	1,2,3,7,8-PeCDD	n	n
4	32:47	1.77e+01	1.26e+01	1.40	yes	3.03e+01		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 41 Totals Name: Total Hexa-Furans

Run: 15 File: P609258 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 373.8210 375.8180 Tot Response: 1.02e+05 RRF: 1.207

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:38	3.58e+02	2.64e+02	1.35	yes	6.22e+02		n	n
2	33:48	2.63e+03	2.18e+03	1.21	yes	4.82e+03		n	n
3	34:21	1.72e+03	1.53e+03	1.13	yes	3.25e+03		n	n
4	34:49	3.71e+04	3.05e+04	1.22	yes	6.75e+04	1,2,3,4,7,8-HxCDF	n	n
5	34:55	1.01e+04	7.88e+03	1.28	yes	1.79e+04	1,2,3,6,7,8-HxCDF	n	n
6	35:28	1.66e+03	1.34e+03	1.25	yes	3.00e+03	2,3,4,6,7,8-HxCDF	n	n
7	36:16	2.76e+03	2.29e+03	1.21	yes	5.05e+03	1,2,3,7,8,9-HxCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 15 File: P609258 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 389.8160 391.8130 Tot Response: 1.35e+03 RRF: 1.085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:11	3.53e+02	3.12e+02	1.13	yes	6.65e+02	n	n
2	34:59	3.59e+02	3.30e+02	1.09	yes	6.89e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030

Entry: 43 Totals Name: Total Hepta-Furans

Run: 15 File: P609258 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 407.7820 409.7790 Tot Response: 2.99e+04 RRF: 1.368

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:34	8.86e+03	8.45e+03	1.05	yes	1.73e+04	1,2,3,4,6,7,8-HpCDF	n	n
2	37:59	3.28e+03	2.98e+03	1.10	yes	6.26e+03		n	n
3	38:57	3.29e+03	3.03e+03	1.09	yes	6.32e+03	1,2,3,4,7,8,9-HpCDF	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P609258 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 09:04:34 Processed: 25-SEP-17 15:55:21

Mass: 423.7770 425.7740 Tot Response: 8.11e+03 RRF: 1.048

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:50	2.56e+03	2.26e+03	1.13	yes	4.82e+03		n	n
2	38:30	1.74e+03	1.55e+03	1.13	yes	3.29e+03	1,2,3,4,6,7,8-HpCDD	n	n

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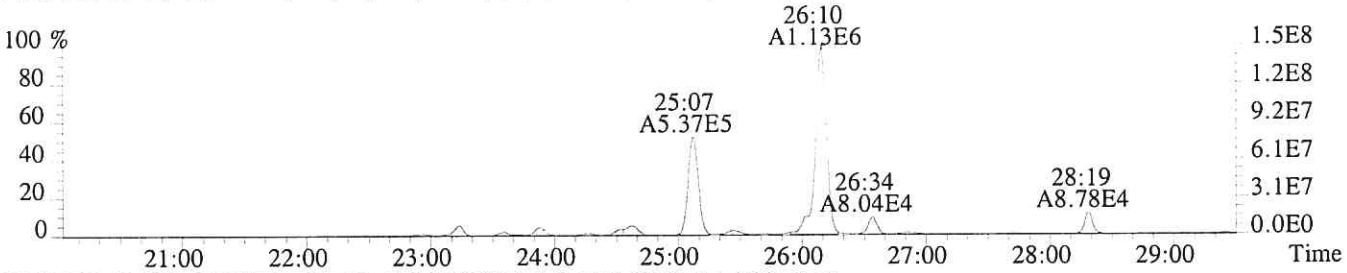
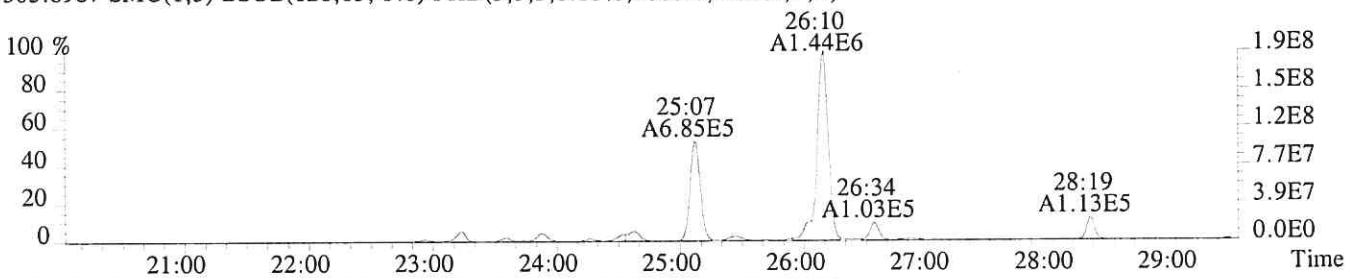
File:P609258 #1-672 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

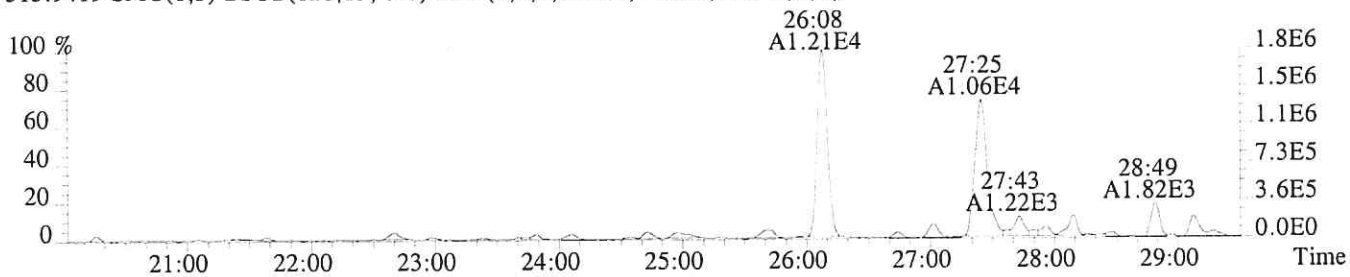
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



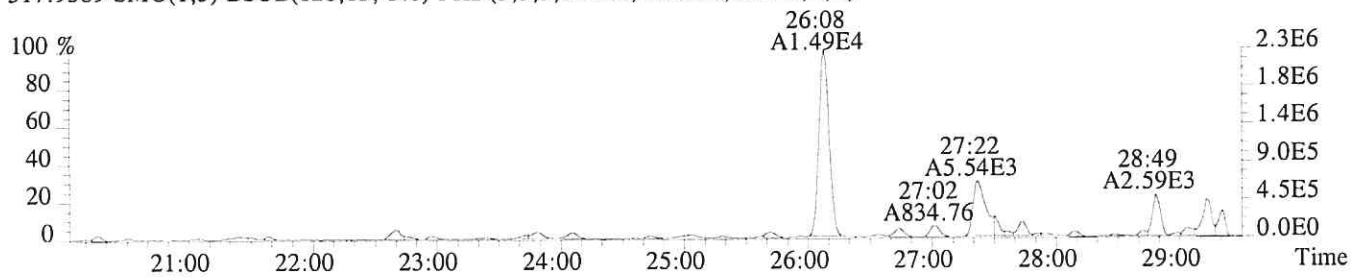
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



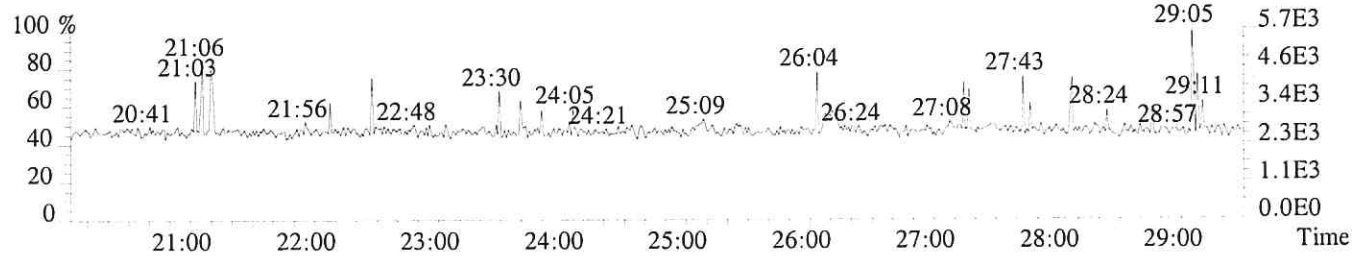
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7076.0,1.00%,F,T)



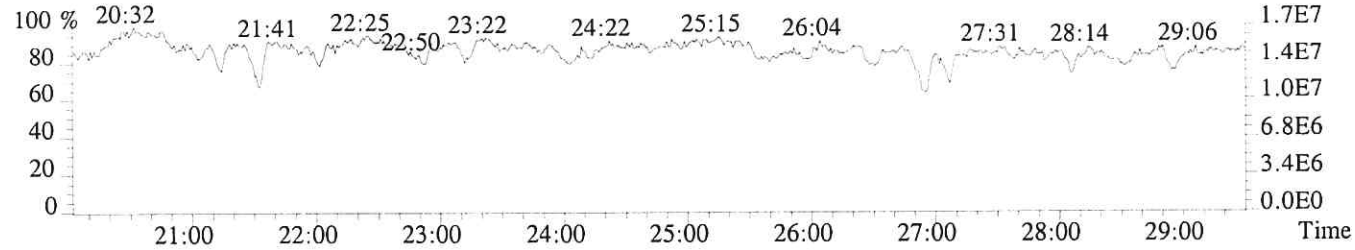
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12632.0,1.00%,F,T)



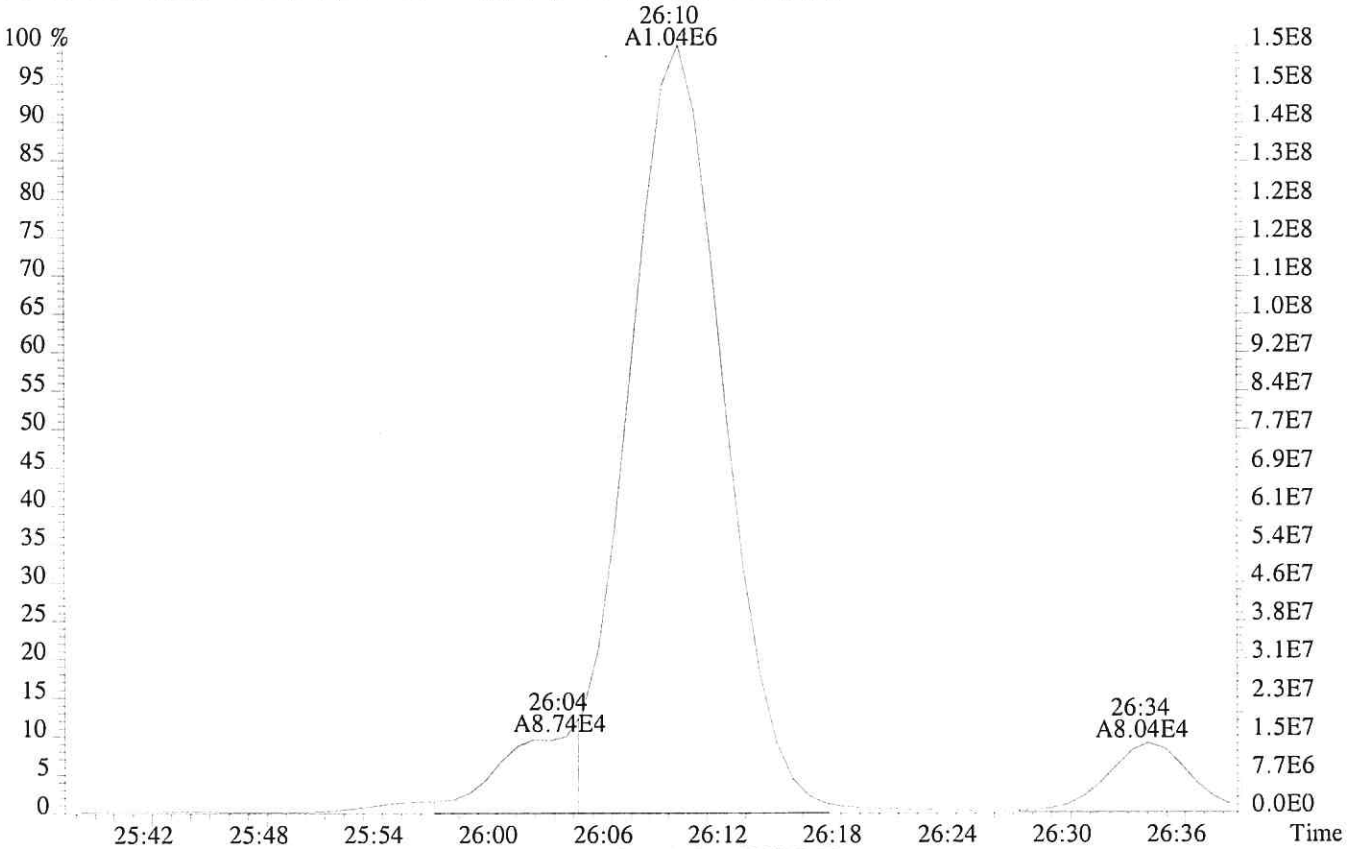
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



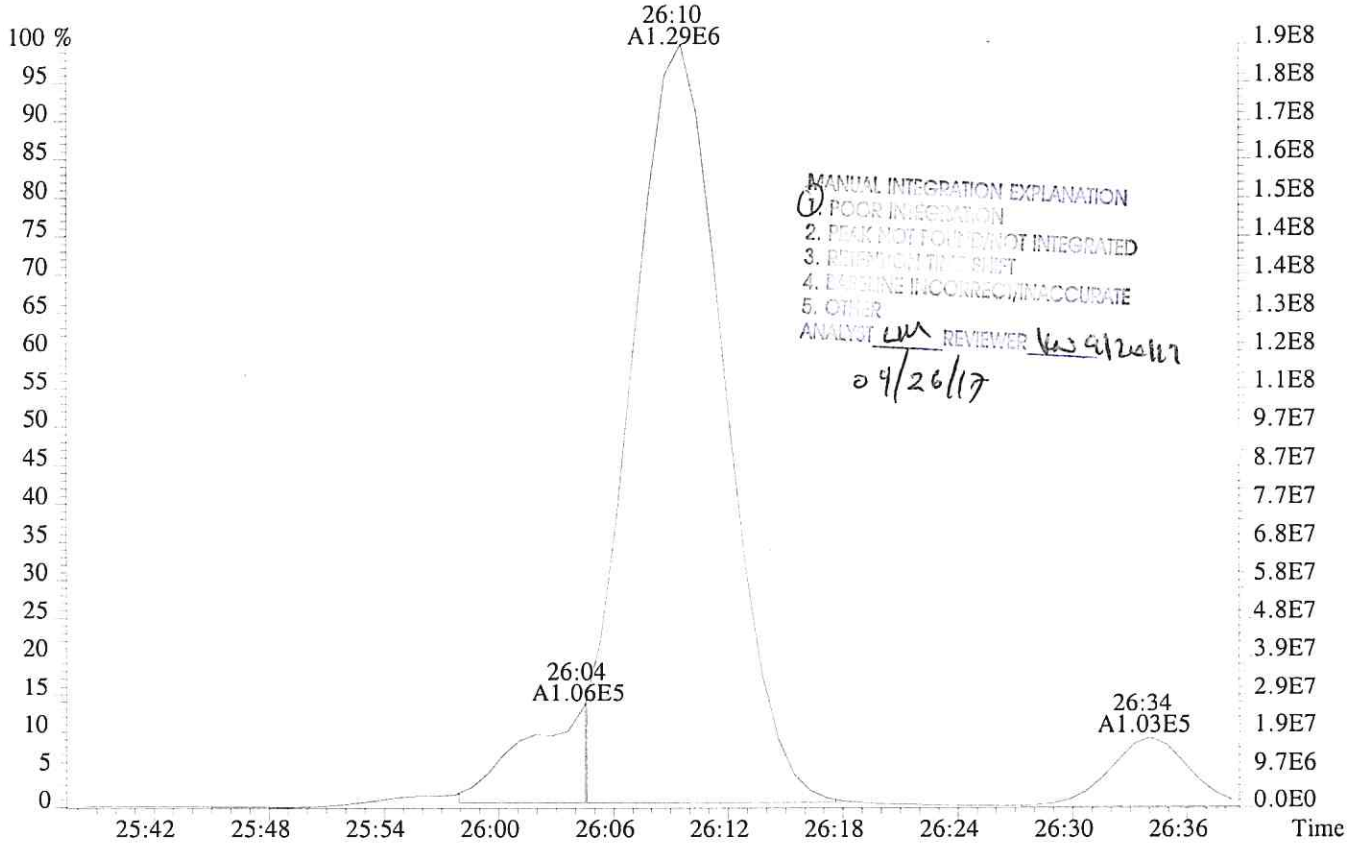
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609258 #1-672 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



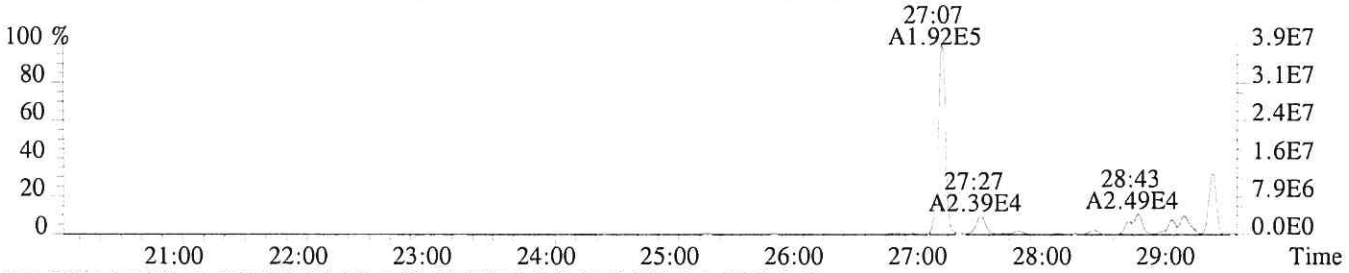
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



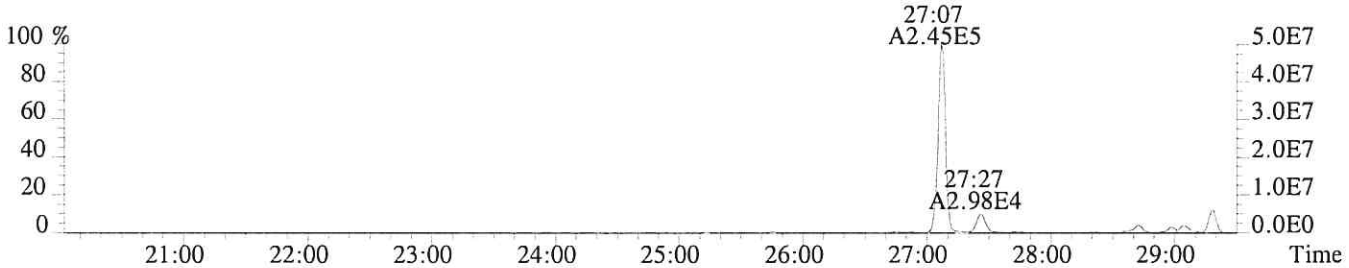
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST LM REVIEWER WS 9/26/17
09/26/17

File:P609258 #1-672 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

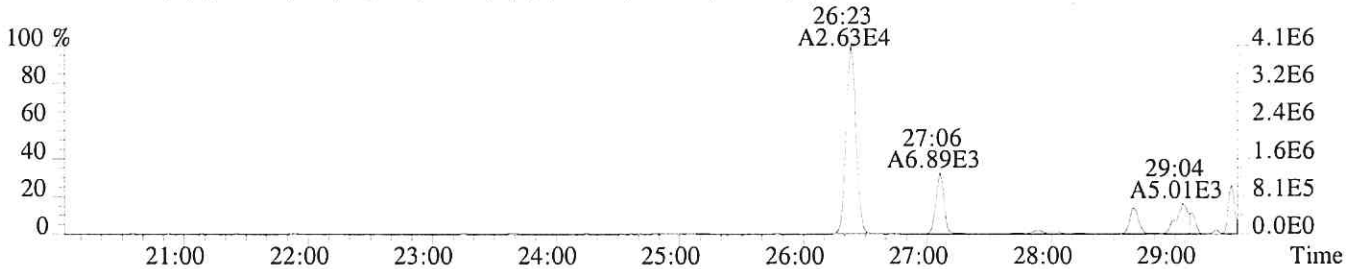
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



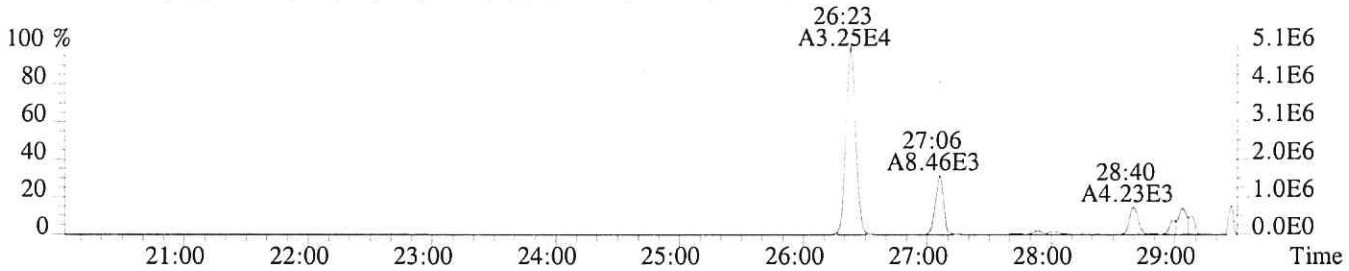
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



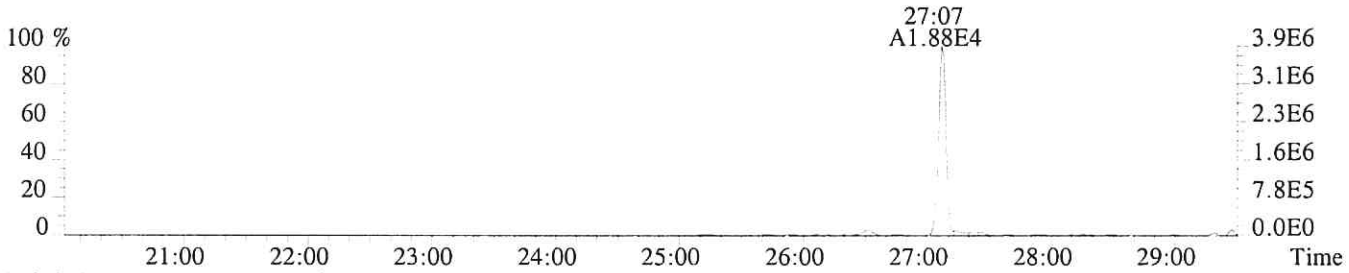
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5528.0,1.00%,F,T)



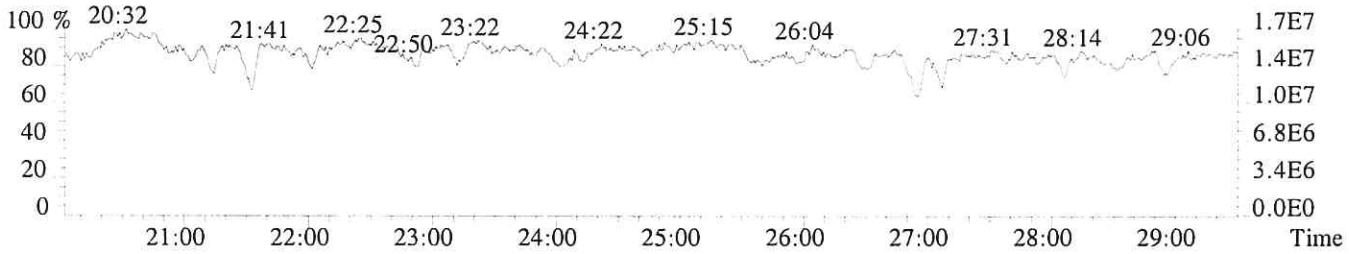
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)

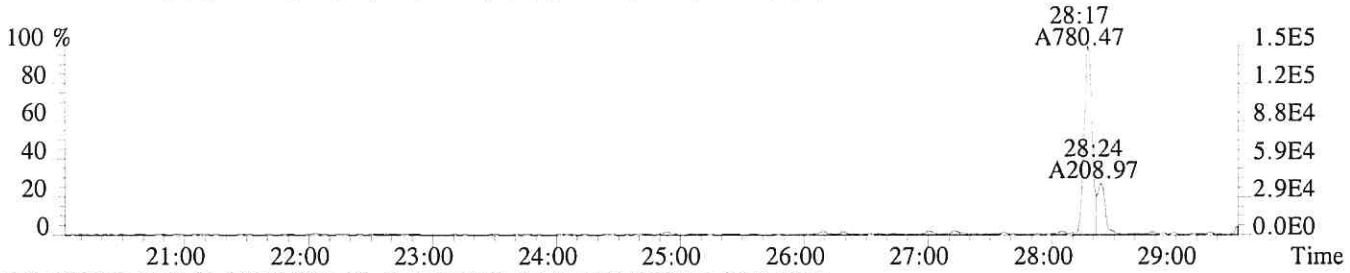


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

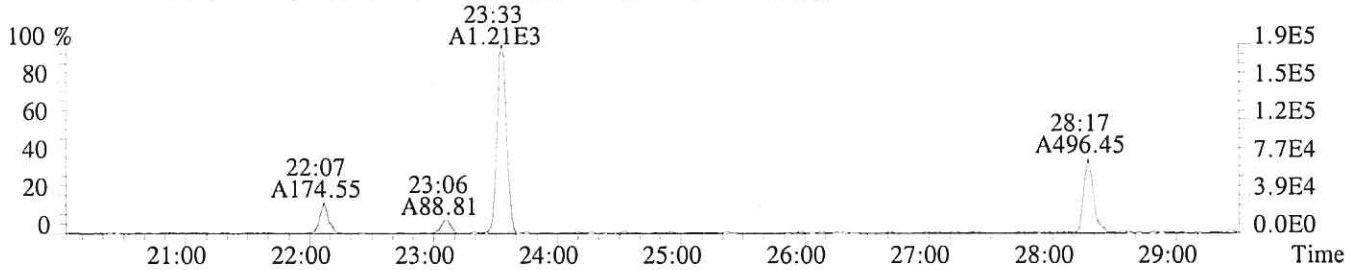


File:P609258 #1-672 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

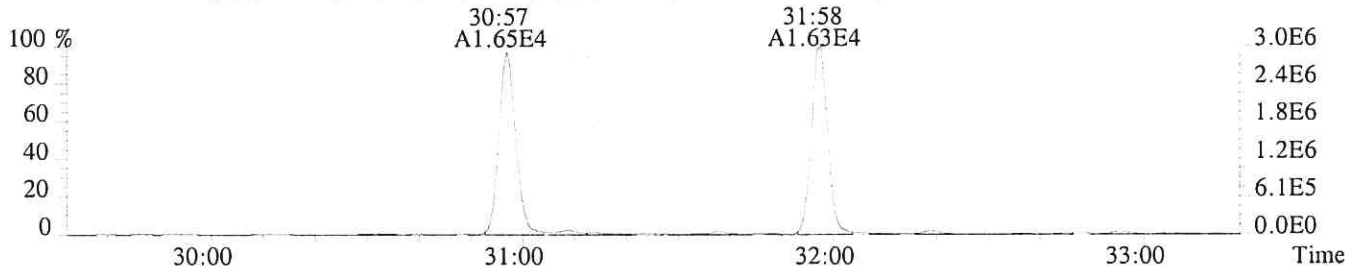
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,T)



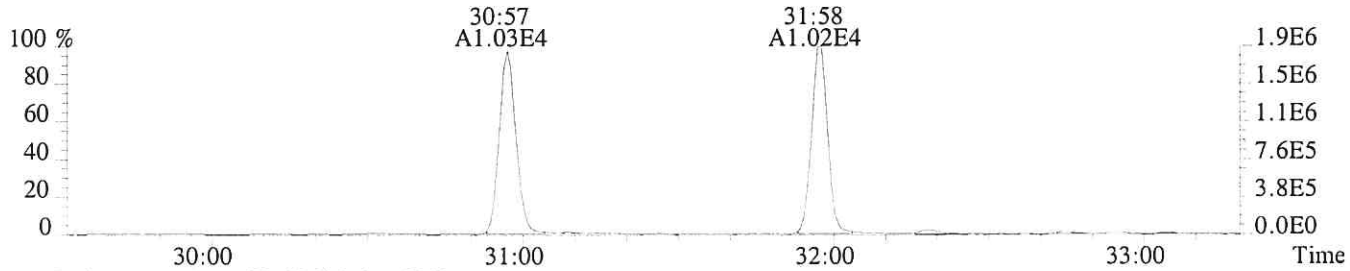
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,256.0,1.00%,F,T)



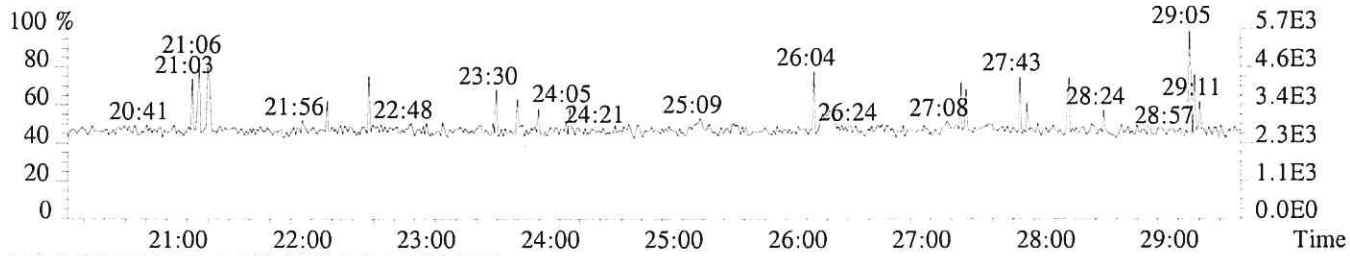
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4208.0,1.00%,F,T)



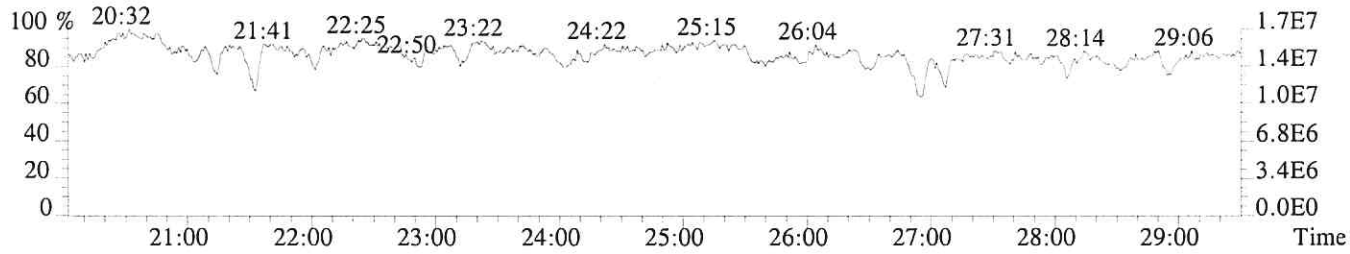
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5888.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

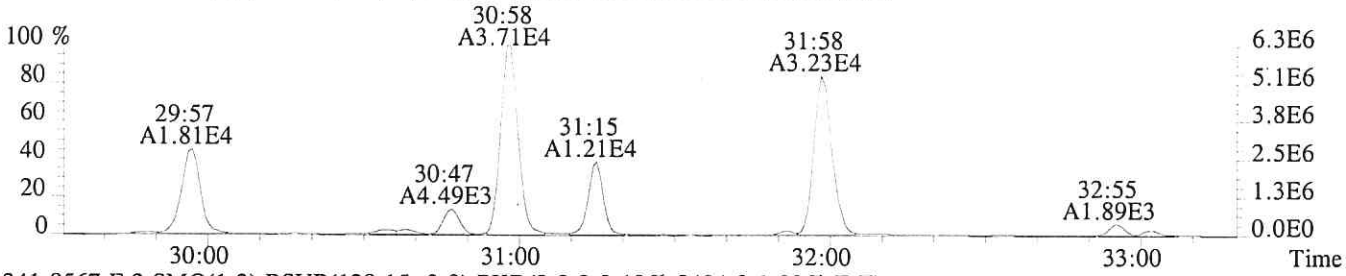


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

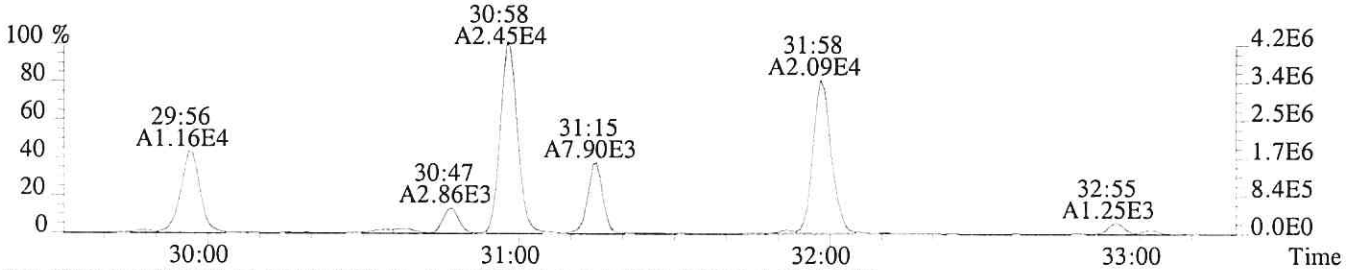


File:P609258 #1-340 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

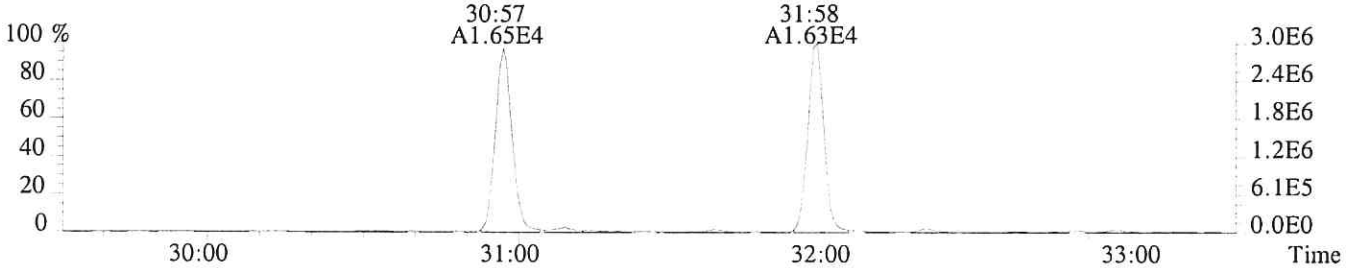
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18168.0,1.00%,F,T)



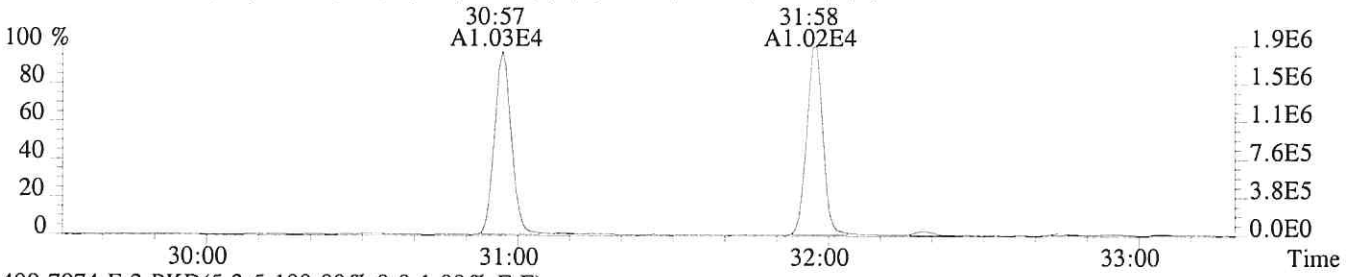
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8424.0,1.00%,F,T)



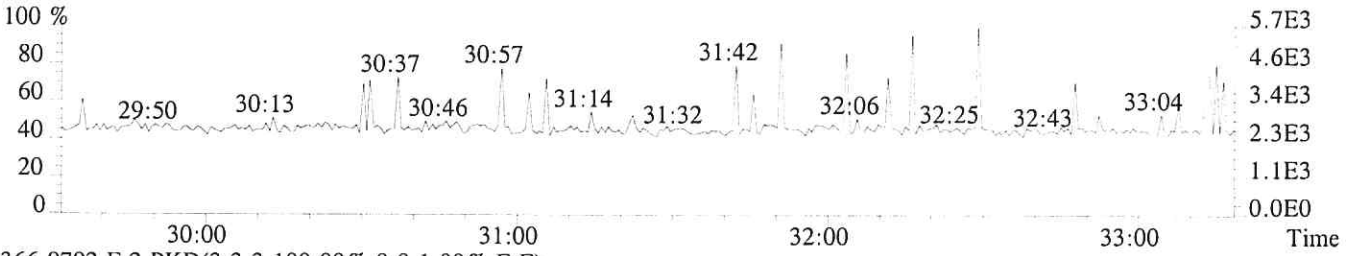
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4208.0,1.00%,F,T)



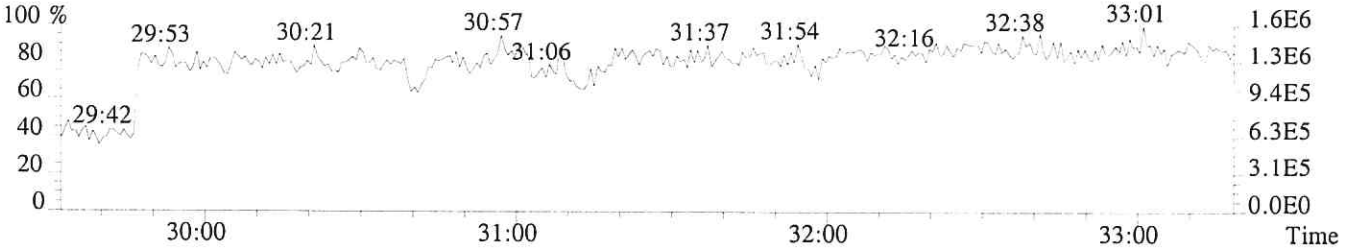
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5888.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

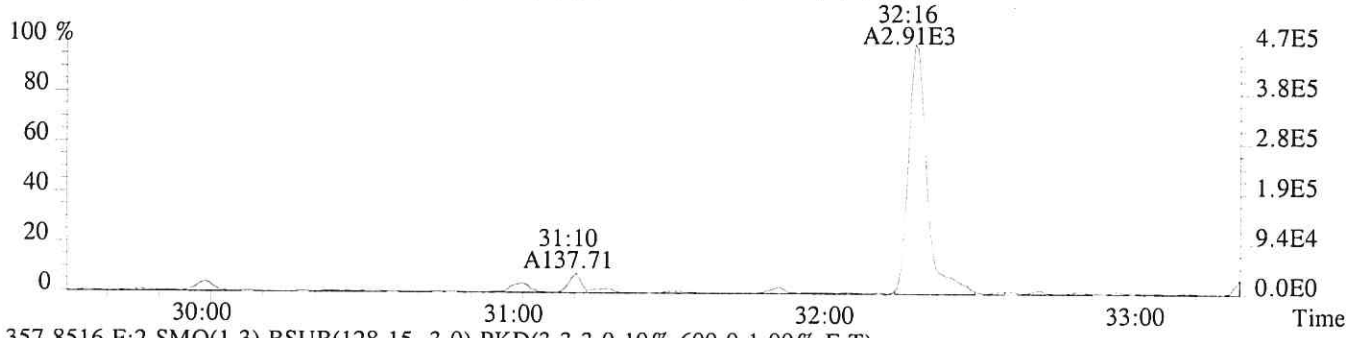


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

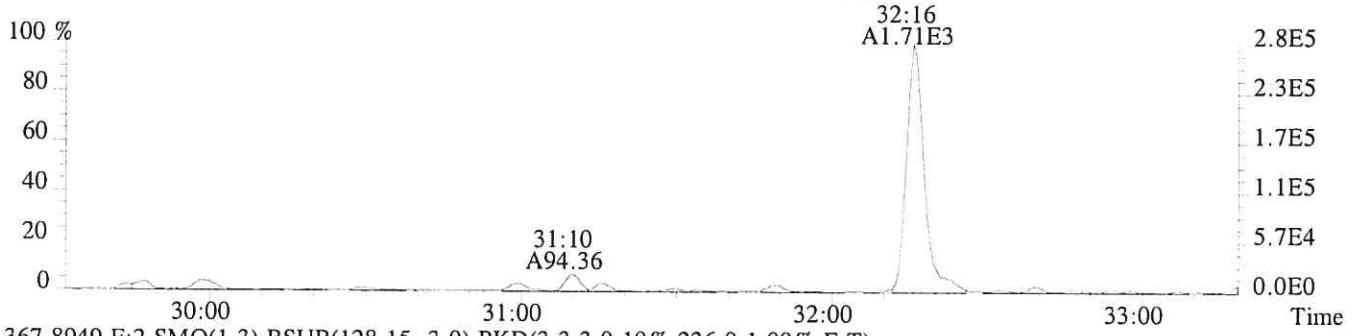


File:P609258 #1-340 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

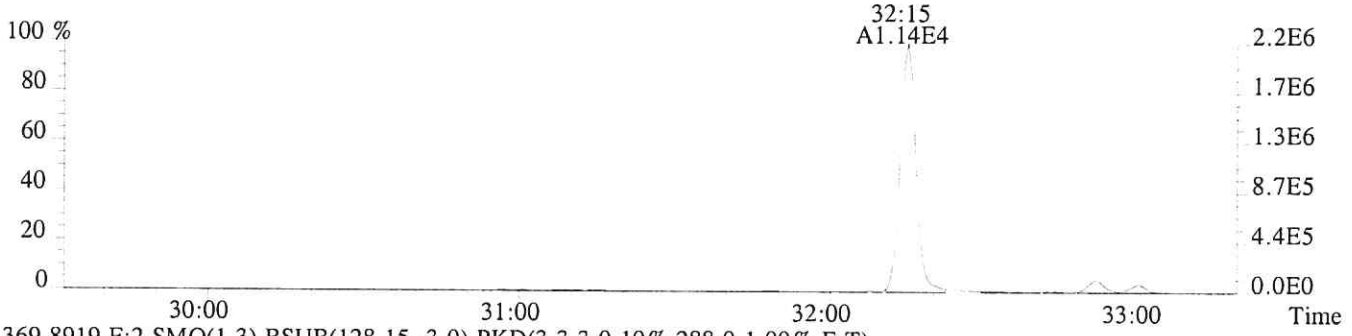
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



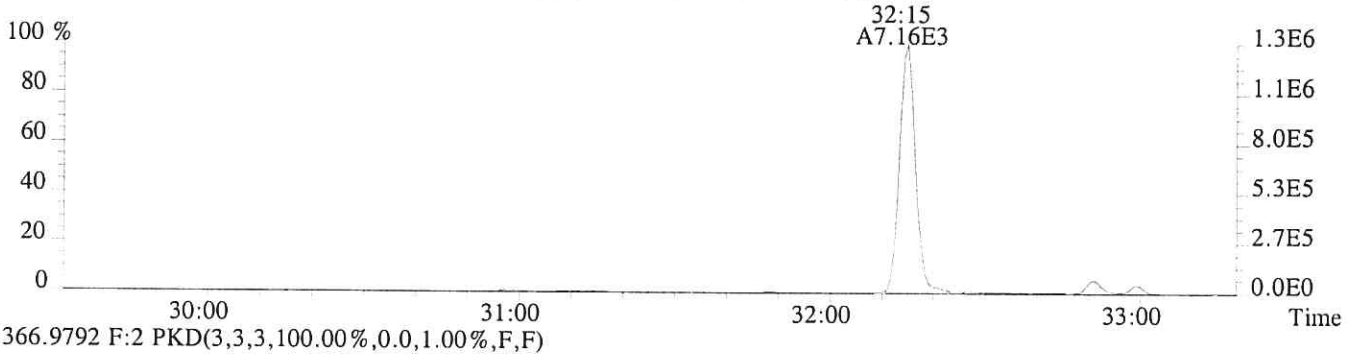
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



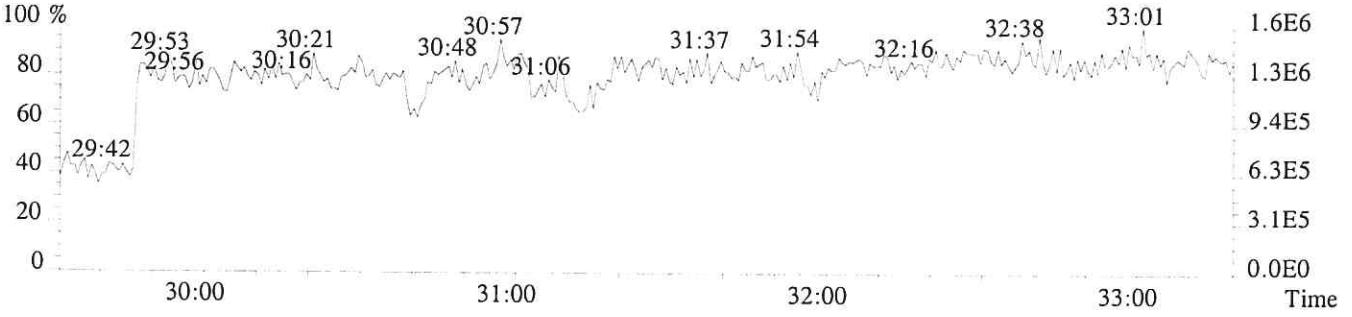
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,T)

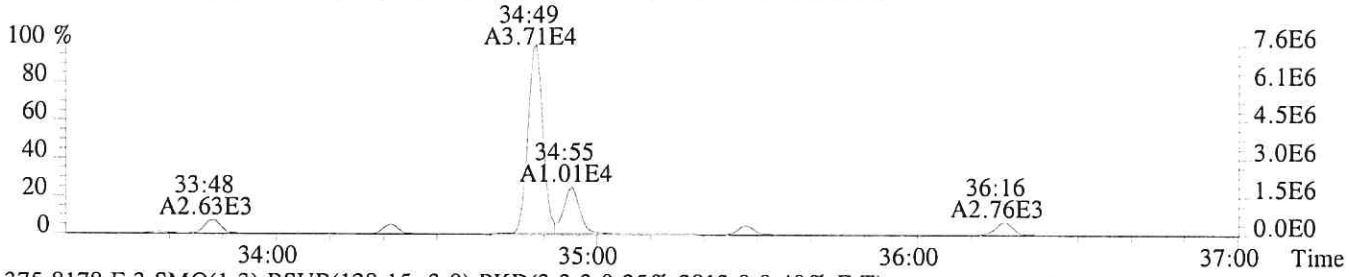


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

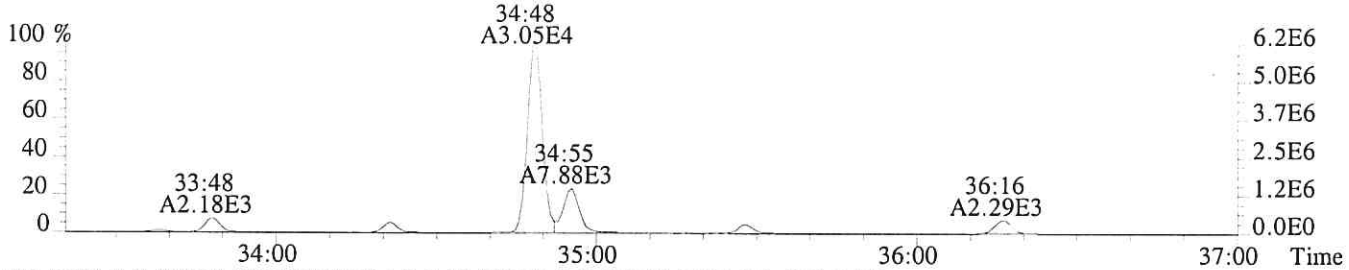


File:P609258 #1-330 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

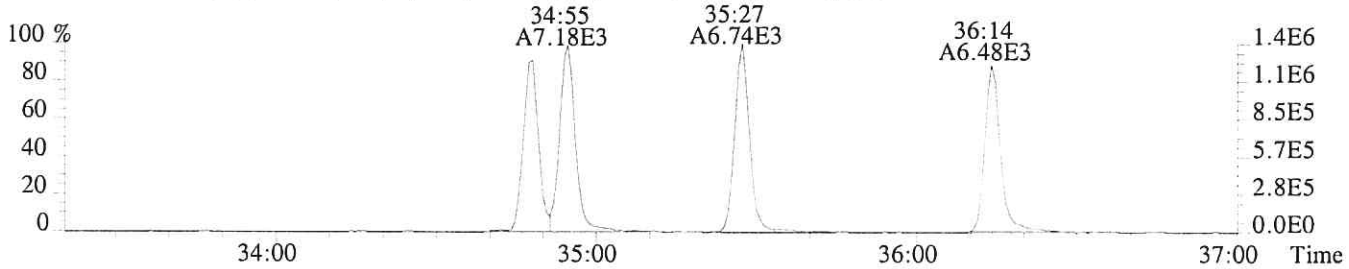
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4592.0,0.40%,F,T)



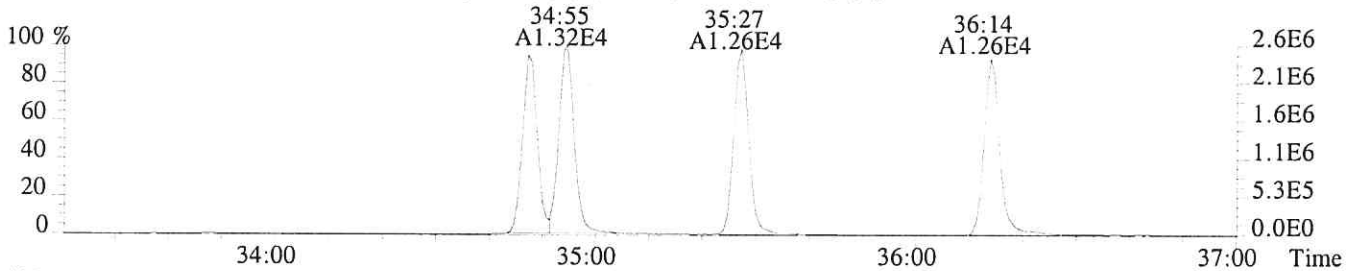
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2812.0,0.40%,F,T)



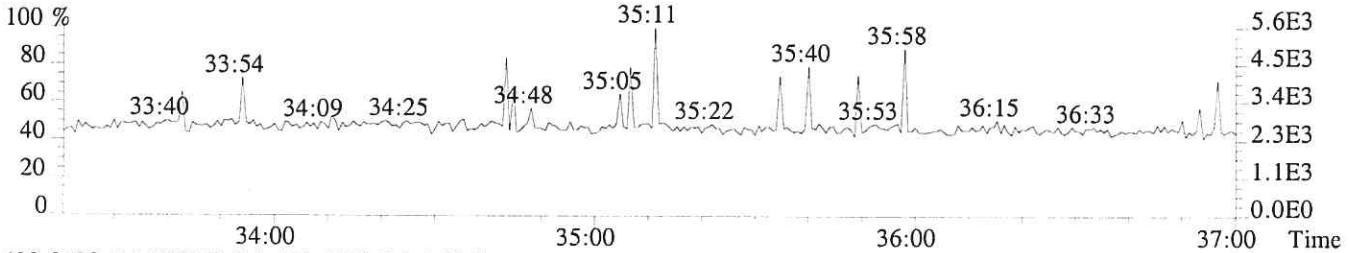
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)



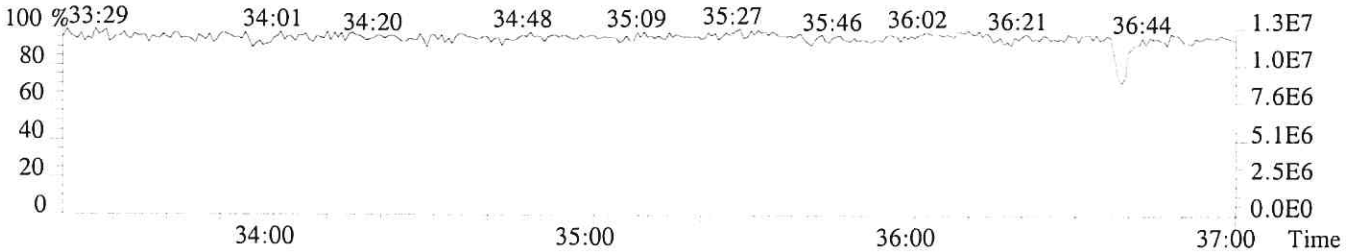
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

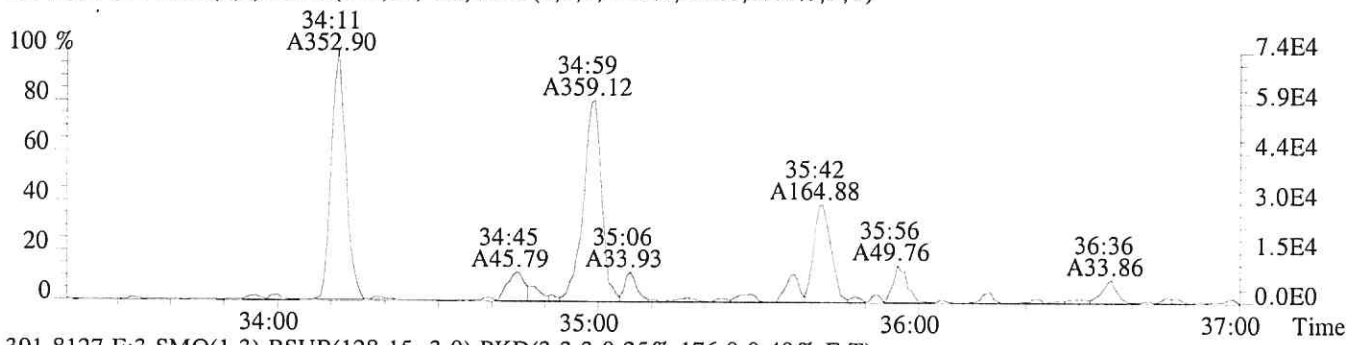


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

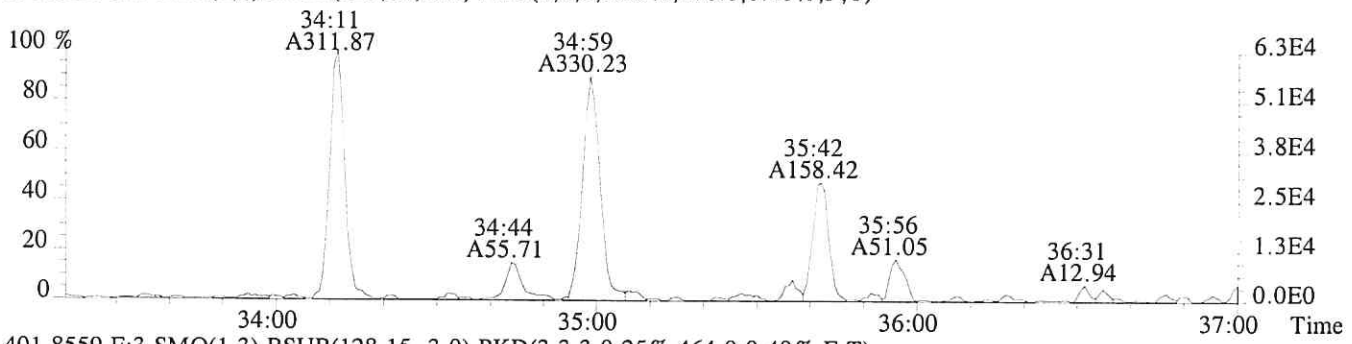


File:P609258 #1-330 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

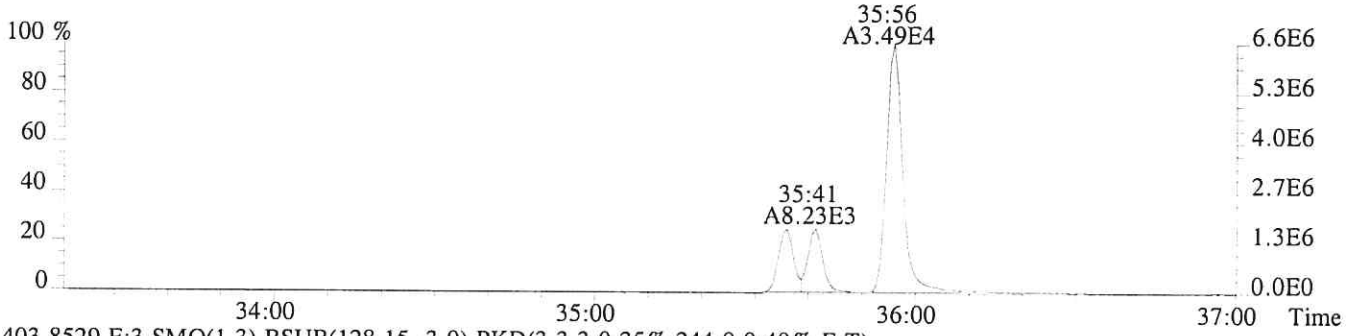
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,160.0,0.40%,F,T)



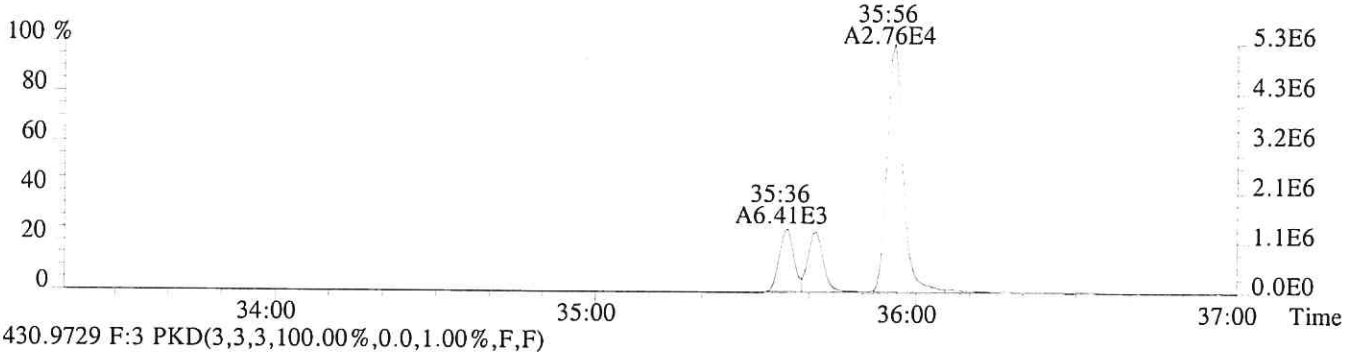
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



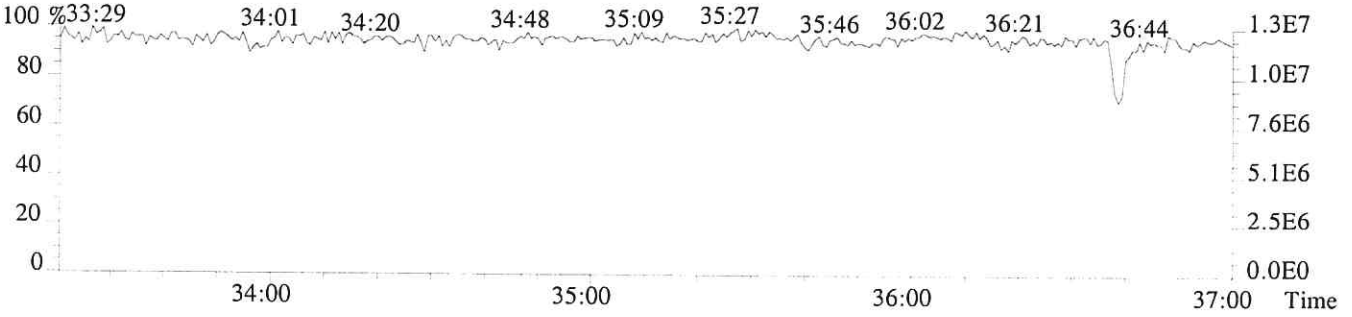
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,464.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)

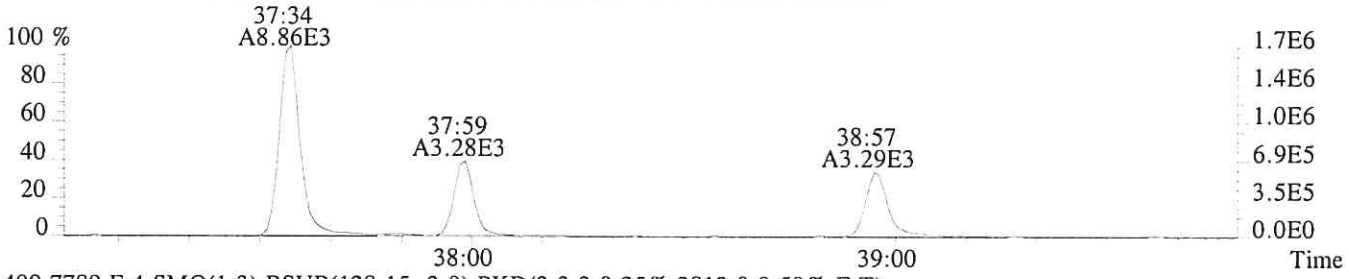


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

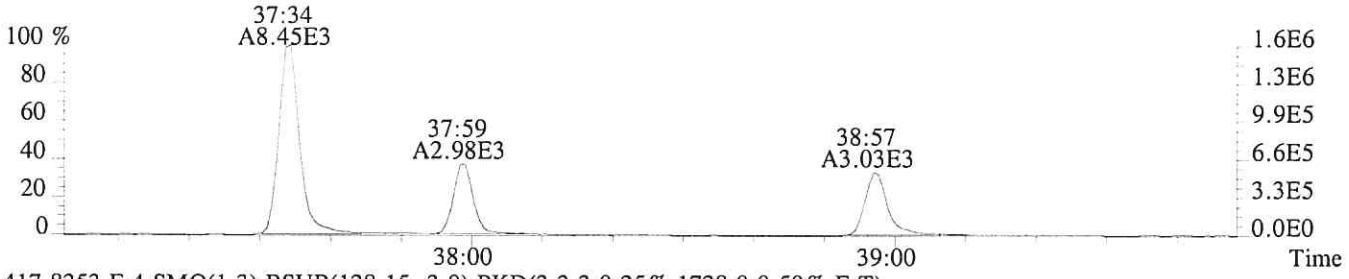


File:P609258 #1-250 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

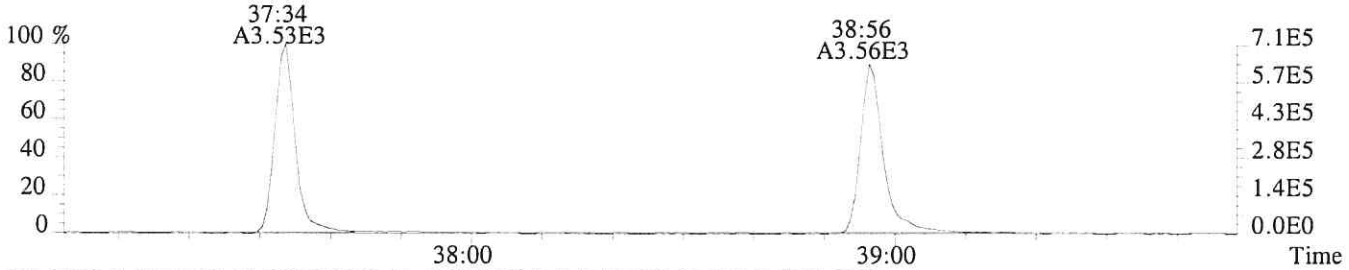
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.50%,F,T)



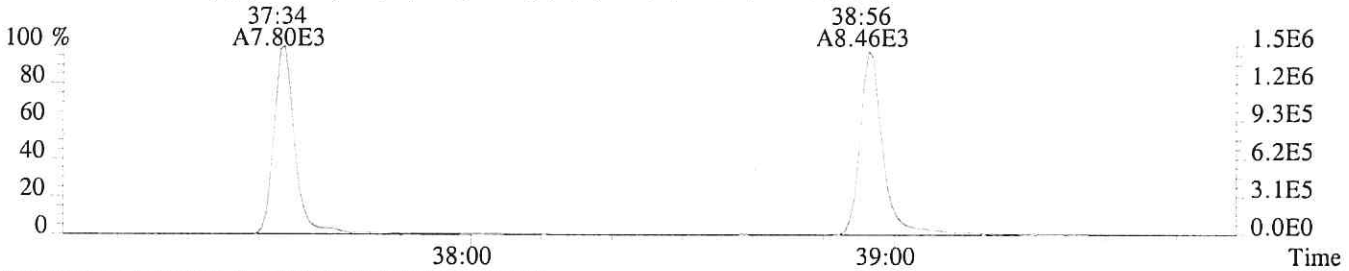
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3812.0,0.50%,F,T)



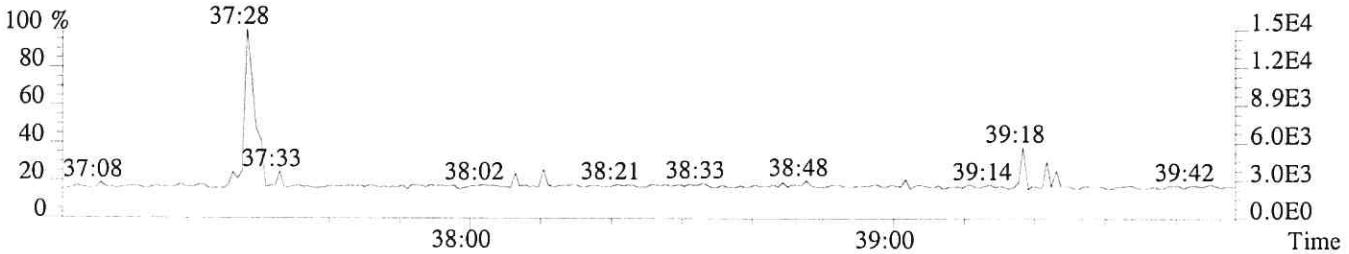
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1728.0,0.50%,F,T)



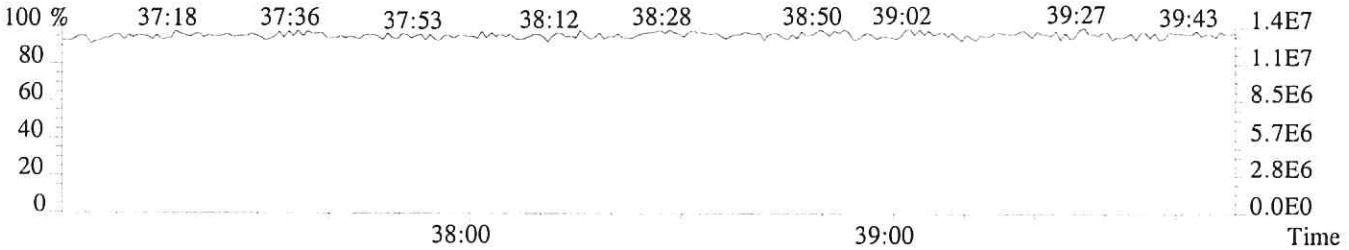
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1340.0,0.50%,F,T)



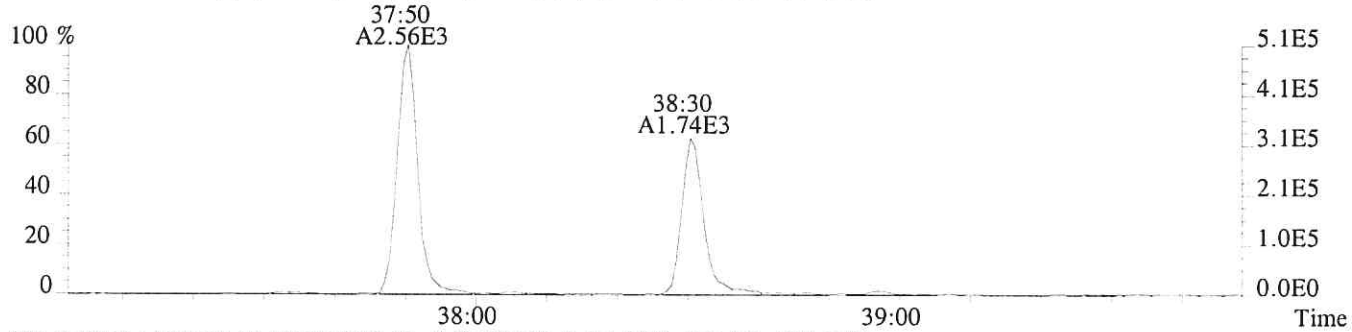
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



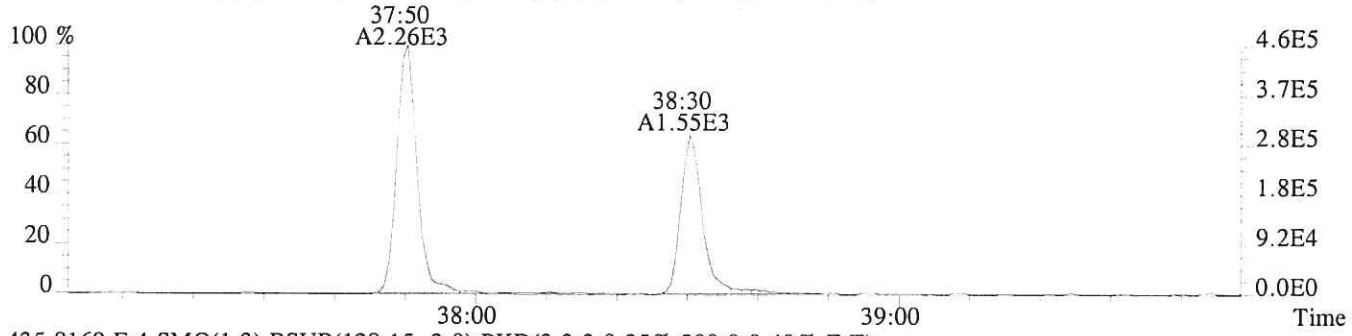
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



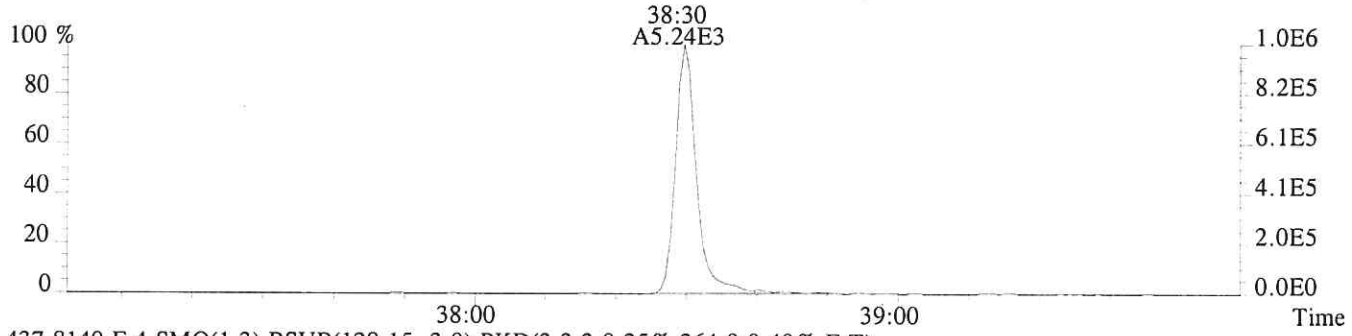
File:P609258 #1-250 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,T)



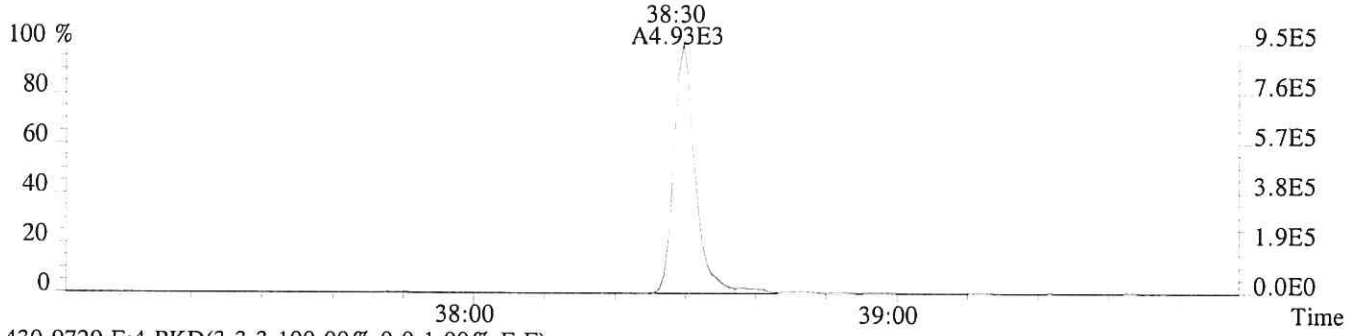
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,T)



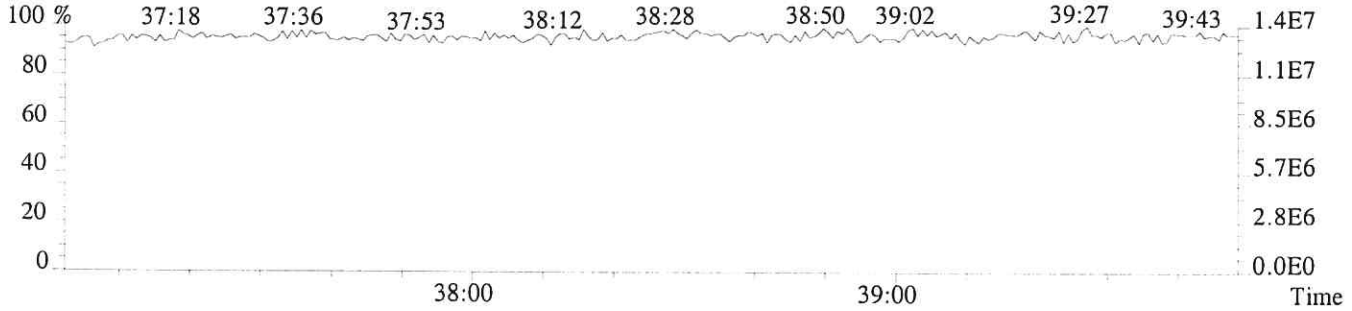
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,T)

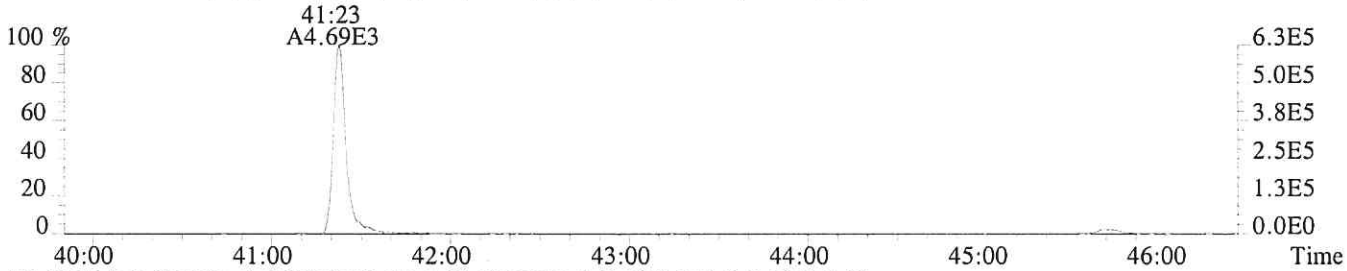


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

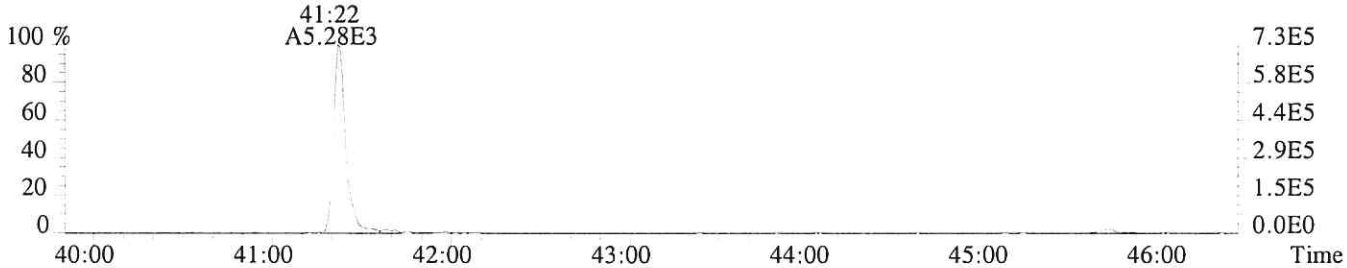


File:P609258 #1-591 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

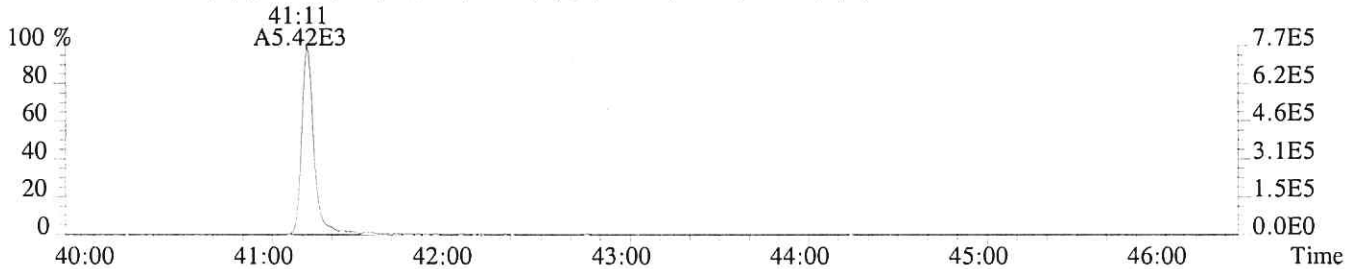
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,176.0,0.40%,F,T)



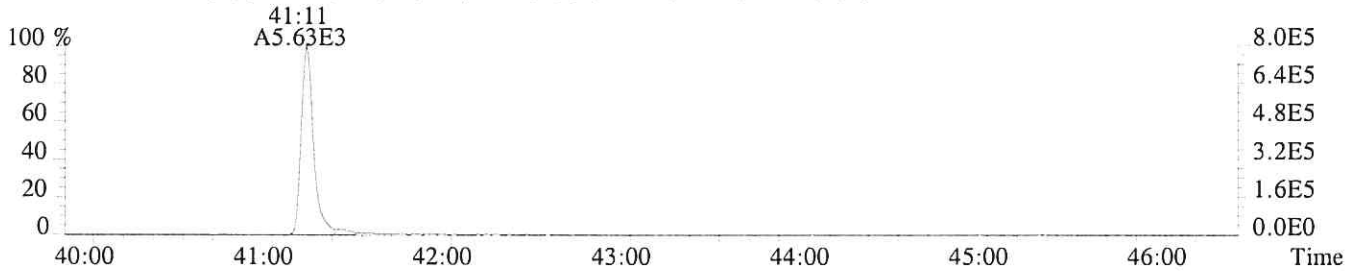
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



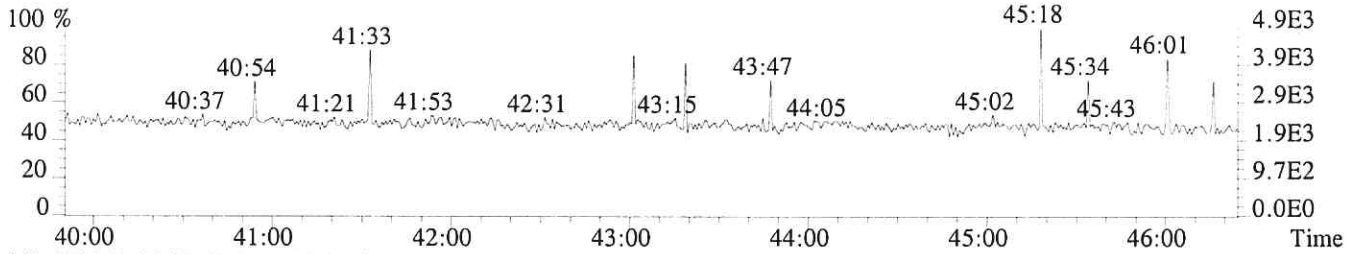
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



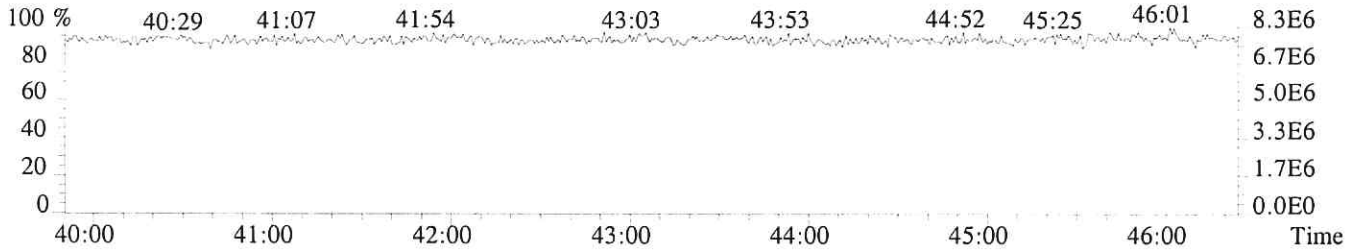
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

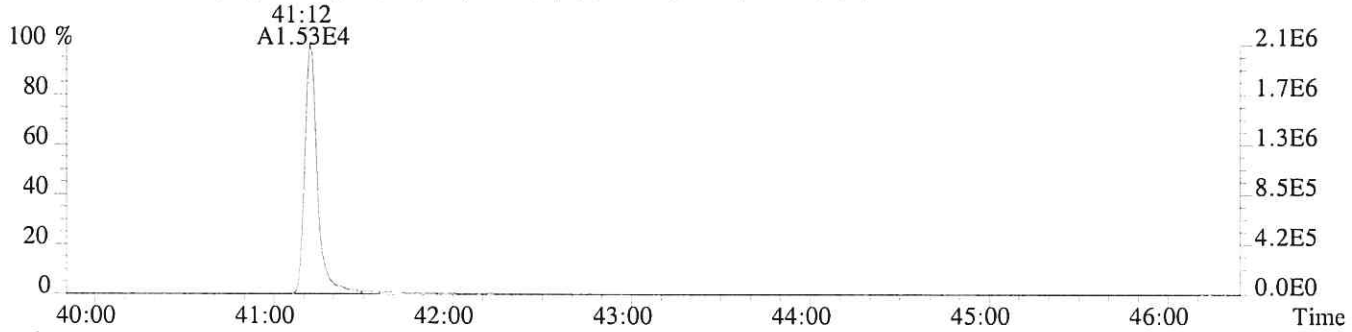


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

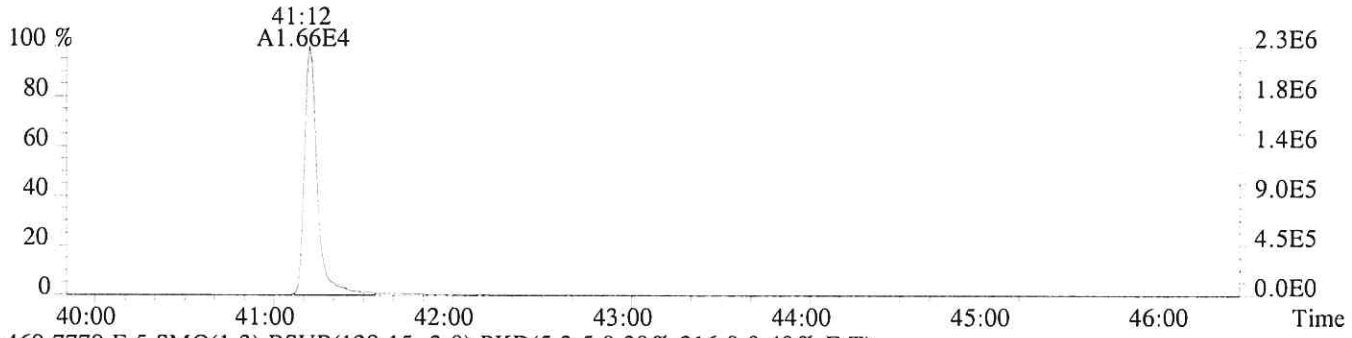


File:P609258 #1-591 Acq:25-SEP-2017 09:04:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011

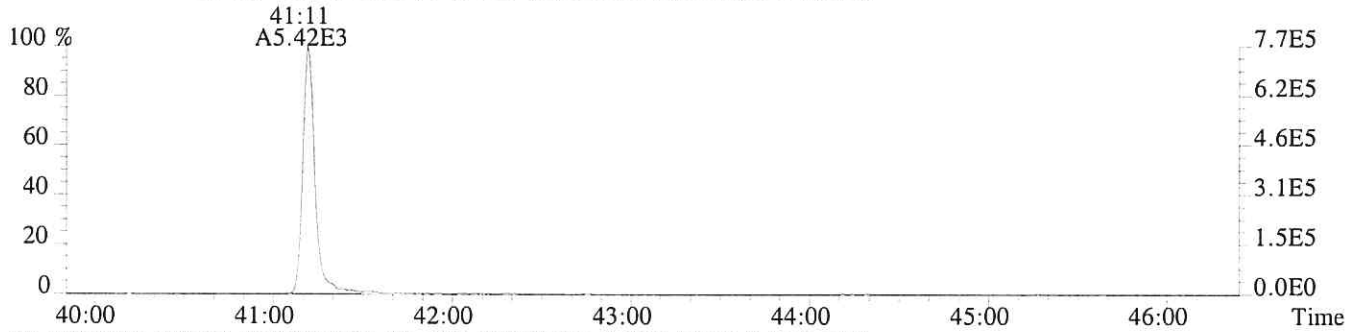
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,168.0,0.40%,F,T)



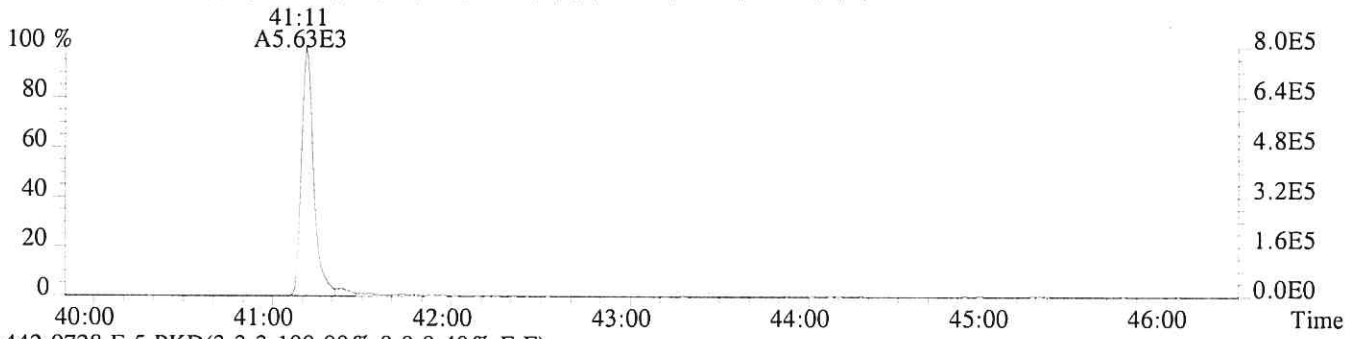
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,192.0,0.40%,F,T)



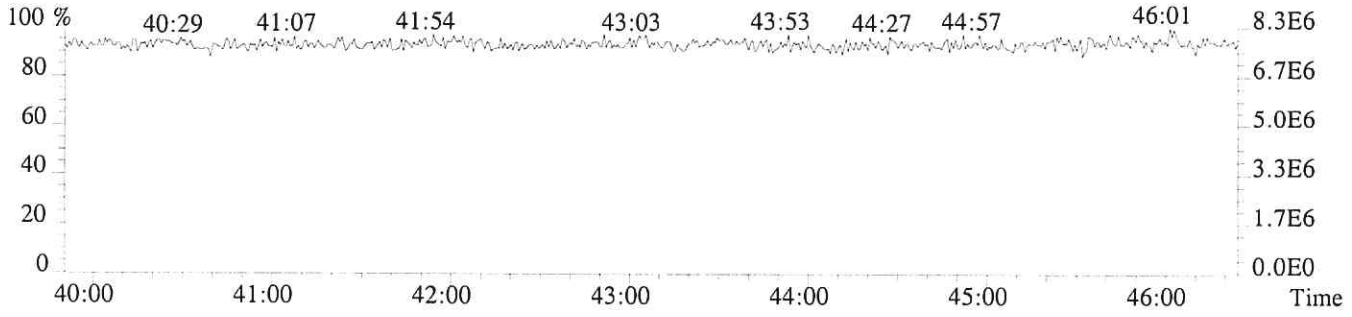
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-30

Run #11 Filename P511591 Samp: 1 Inj: 1 Acquired: 26-SEP-17 15:41:58
Processed: 27-SEP-17 08:31:06 Sample ID: E1700974-011DL

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:05	3.525e+03	4.554e+03	0.77	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:19	1.313e+02	7.582e+01	1.73	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:13	8.859e+01	7.961e+01	1.11	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:53	1.145e+02	1.185e+02	0.97	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:59	2.574e+01	3.179e+01	0.81	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:28	3.413e+01	4.223e+01	0.81	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	1.935e+01	7.991e+00	2.42	no	no	1.191
10	Unk	OCDF	42:19	5.306e+01	7.619e+01	0.70	no	no	1.103
11	Unk	2,3,7,8-TCDD	28:54	9.026e+02	9.865e+02	0.92	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:23	1.422e+02	1.572e+02	0.90	yes	no	0.942
17	Unk	OCDD	42:07	3.243e+03	3.636e+03	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:05	9.822e+03	1.220e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:18	1.447e+04	9.083e+03	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:12	1.483e+04	9.347e+03	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:53	5.876e+03	1.110e+04	0.53	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:59	6.660e+03	1.283e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:29	6.135e+03	1.242e+04	0.49	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:14	6.112e+03	1.172e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:28	4.702e+03	1.063e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:50	3.993e+03	9.096e+03	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:52	4.921e+03	6.263e+03	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:29	9.735e+03	6.205e+03	1.57	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:37	8.022e+03	6.287e+03	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:42	7.995e+03	6.276e+03	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:22	7.476e+03	7.053e+03	1.06	yes	no	0.881
32	IS	13C-OCDD	42:06	1.028e+04	1.117e+04	0.92	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:18	6.973e+03	8.690e+03	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:56	9.295e+03	7.411e+03	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:53	9.304e+01				no	1.033

$$\text{OCDD} = \frac{(3.243e+03 + 3.636e+03) \times 4000 \text{ pg} \times 100}{(1.028e+04 + 1.117e+04) \times 10.188 \text{ g} \times 33.2 / 100 \times 1.051} = 277577 \text{ ng/kg}$$

~~3101 ng/kg~~

GW 9/22/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-30

Run #11 Filename P511591 Samp: 1 Inj: 1 Acquired: 26-SEP-17 15:41:58
Processed: 27-SEP-17 08:31:06 LAB. ID: E1700974-011DL

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.75e+05	8.56e+02	6.7e+02	7.62e+05	3.40e+03	2.2e+02
2	1,2,3,7,8-PeCDF	2.93e+04	7.44e+02	3.9e+01	1.62e+04	2.28e+03	7.1e+00
3	2,3,4,7,8-PeCDF	1.91e+04	7.44e+02	2.6e+01	1.47e+04	2.28e+03	6.4e+00
4	1,2,3,4,7,8-HxCDF	2.46e+04	1.84e+03	1.3e+01	2.12e+04	1.87e+03	1.1e+01
5	1,2,3,6,7,8-HxCDF	4.93e+03	1.84e+03	2.7e+00	7.01e+03	1.87e+03	3.7e+00
6	2,3,4,6,7,8-HxCDF	*	1.84e+03	*	*	1.87e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.84e+03	*	*	1.87e+03	*
8	1,2,3,4,6,7,8-HpCDF	8.88e+03	1.21e+03	7.3e+00	8.10e+03	1.13e+03	7.2e+00
9	1,2,3,4,7,8,9-HpCDF	4.89e+03	1.21e+03	4.0e+00	2.23e+03	1.13e+03	2.0e+00
10	OCDF	9.40e+03	1.18e+03	8.0e+00	1.47e+04	1.99e+03	7.4e+00
11	2,3,7,8-TCDD	1.76e+05	2.33e+03	7.6e+01	1.94e+05	1.36e+03	1.4e+02
12	1,2,3,7,8-PeCDD	*	2.11e+03	*	*	1.70e+03	*
13	1,2,3,4,7,8-HxCDD	*	2.54e+03	*	*	2.46e+03	*
14	1,2,3,6,7,8-HxCDD	*	2.54e+03	*	*	2.46e+03	*
15	1,2,3,7,8,9-HxCDD	*	2.54e+03	*	*	2.46e+03	*
16	1,2,3,4,6,7,8-HpCDD	3.14e+04	2.12e+03	1.5e+01	3.69e+04	2.25e+03	1.6e+01
17	OCDD	5.72e+05	6.00e+02	9.5e+02	6.51e+05	2.58e+03	2.5e+02
18	13C-2,3,7,8-TCDF	1.81e+06	1.35e+04	1.3e+02	2.33e+06	5.82e+03	4.0e+02
19	13C-1,2,3,7,8-PeCDF	2.71e+06	4.36e+02	6.2e+03	1.73e+06	1.11e+03	1.6e+03
20	13C-2,3,4,7,8-PeCDF	2.99e+06	4.36e+02	6.9e+03	1.92e+06	1.11e+03	1.7e+03
21	13C-1,2,3,4,7,8-HxCDF	1.29e+06	8.32e+02	1.6e+03	2.40e+06	1.79e+03	1.3e+03
22	13C-1,2,3,6,7,8-HxCDF	1.37e+06	8.32e+02	1.6e+03	2.69e+06	1.79e+03	1.5e+03
23	13C-2,3,4,6,7,8-HxCDF	1.33e+06	8.32e+02	1.6e+03	2.71e+06	1.79e+03	1.5e+03
24	13C-1,2,3,7,8,9-HxCDF	1.27e+06	8.32e+02	1.5e+03	2.44e+06	1.79e+03	1.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.87e+05	2.69e+03	3.7e+02	2.26e+06	2.84e+03	8.0e+02
26	13C-1,2,3,4,7,8,9-HpCDF	7.70e+05	2.69e+03	2.9e+02	1.72e+06	2.84e+03	6.1e+02
27	13C-2,3,7,8-TCDD	9.76e+05	5.64e+03	1.7e+02	1.24e+06	2.74e+03	4.5e+02
28	13C-1,2,3,7,8-PeCDD	1.90e+06	1.77e+03	1.1e+03	1.20e+06	1.20e+03	1.0e+03
29	13C-1,2,3,4,7,8-HxCDD	1.84e+06	1.67e+03	1.1e+03	1.45e+06	1.31e+03	1.1e+03
30	13C-1,2,3,6,7,8-HxCDD	1.71e+06	1.67e+03	1.0e+03	1.33e+06	1.31e+03	1.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.54e+06	1.64e+03	9.4e+02	1.46e+06	1.20e+03	1.2e+03
32	13C-OCDD	1.81e+06	2.01e+03	9.0e+02	1.94e+06	7.08e+02	2.7e+03
33	13C-1,2,3,4-TCDD	1.31e+06	5.64e+03	2.3e+02	1.65e+06	2.74e+03	6.0e+02
34	13C-1,2,3,7,8,9-HxCDD	1.94e+06	1.67e+03	1.2e+03	1.58e+06	1.31e+03	1.2e+03
35	37Cl-2,3,7,8-TCDD	1.91e+04	1.64e+03	1.2e+01			

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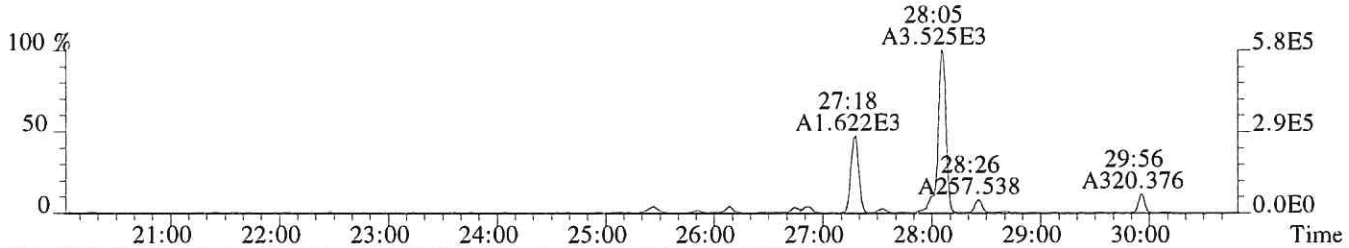
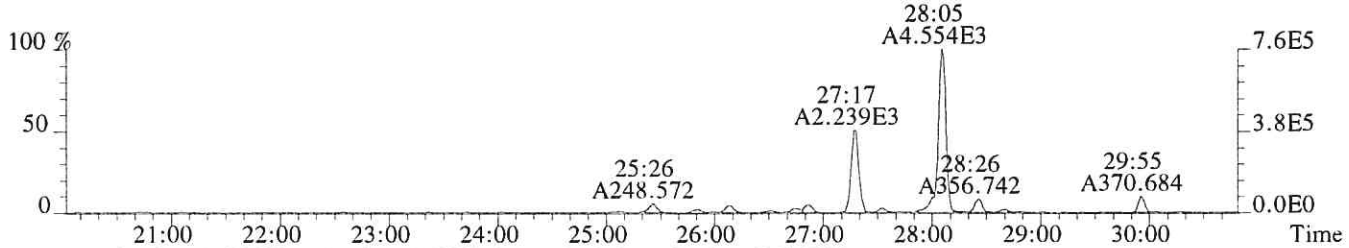
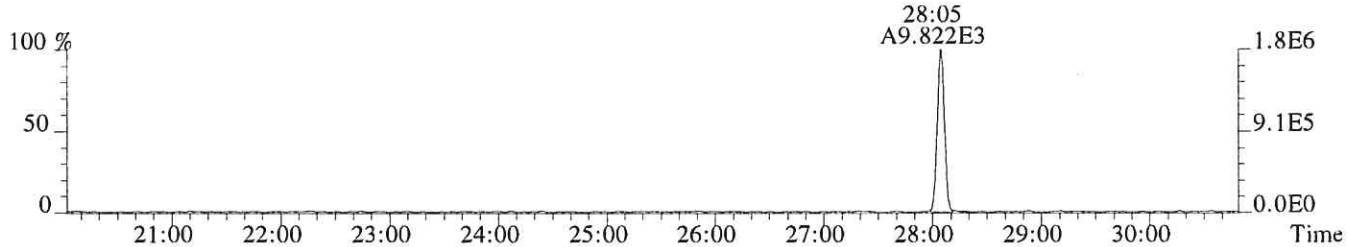
File:P511591 #1-765 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,T)



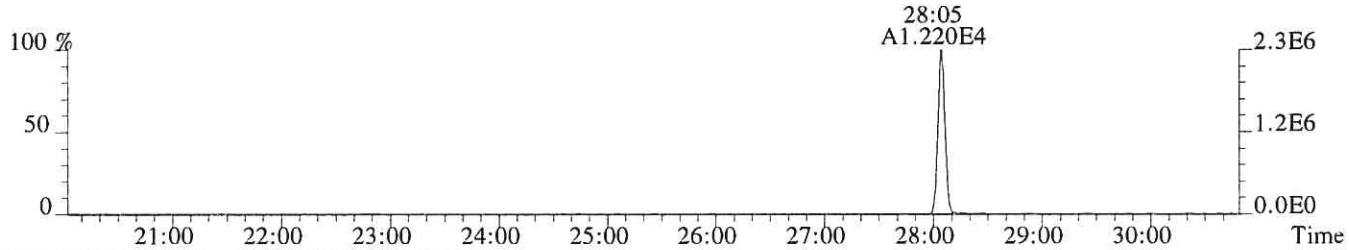
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3396.0,1.00%,F,T)



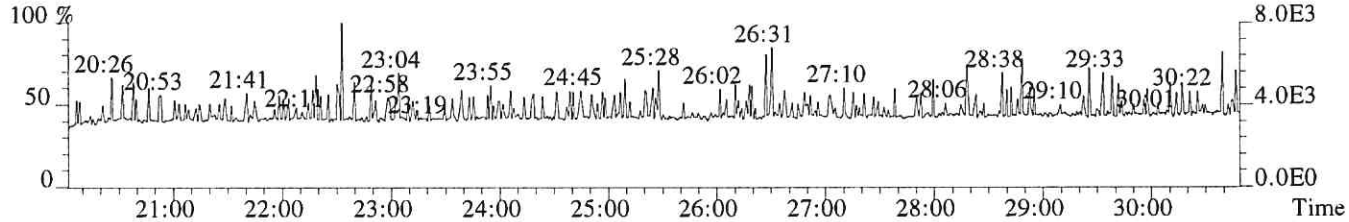
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13472.0,1.00%,F,T)



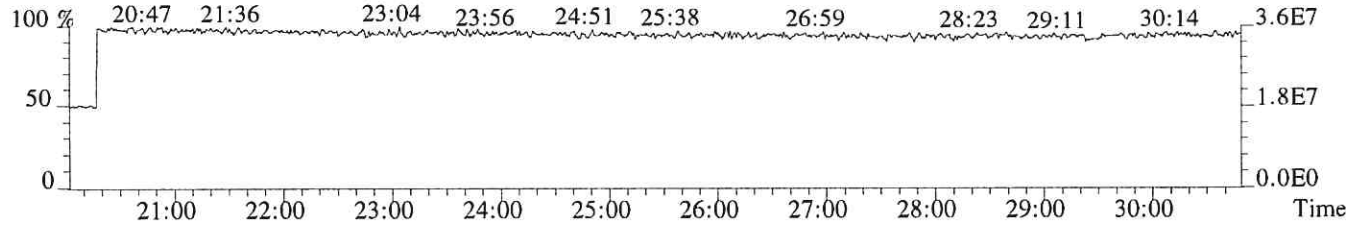
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5820.0,1.00%,F,T)



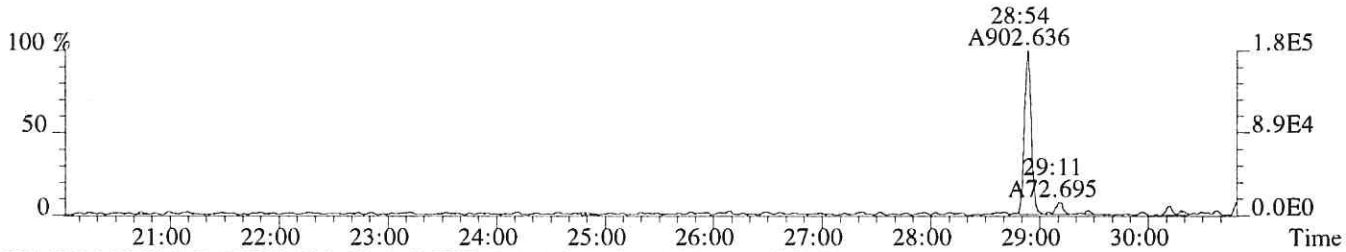
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



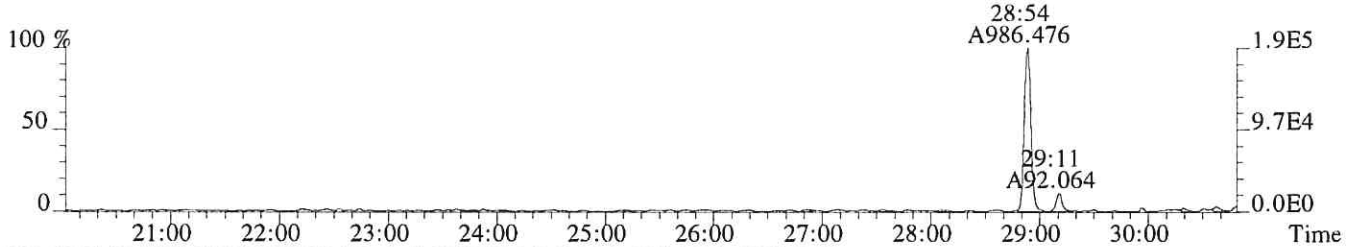
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



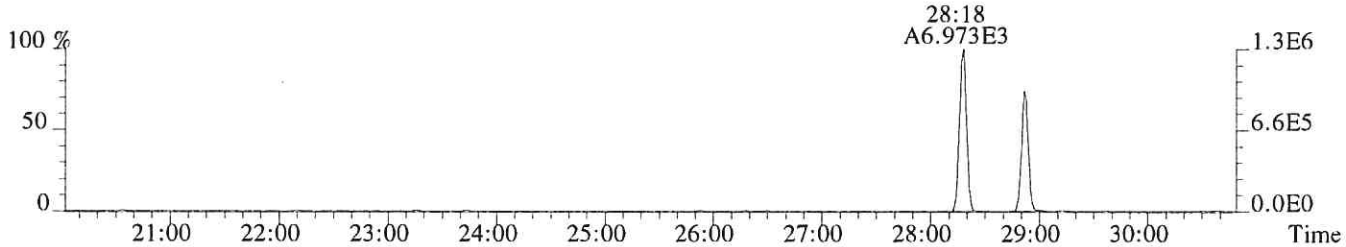
File:P511591 #1-765 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2332.0,1.00%,F,T)



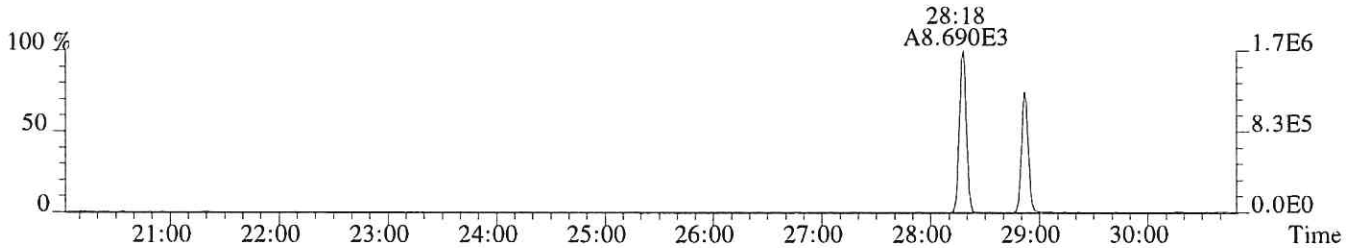
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,T)



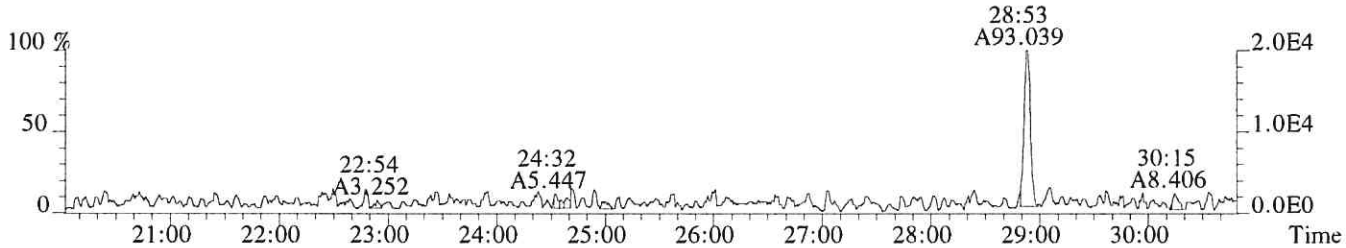
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5644.0,1.00%,F,T)



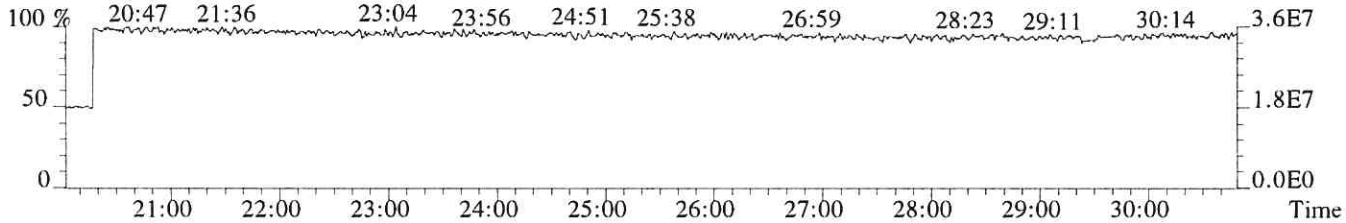
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2744.0,1.00%,F,T)



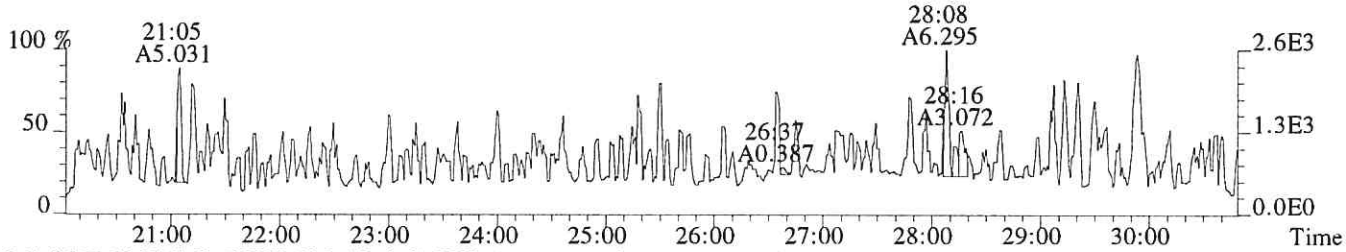
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



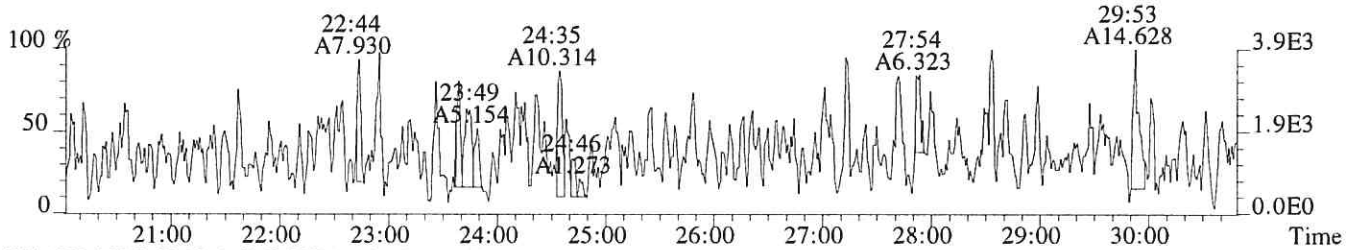
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



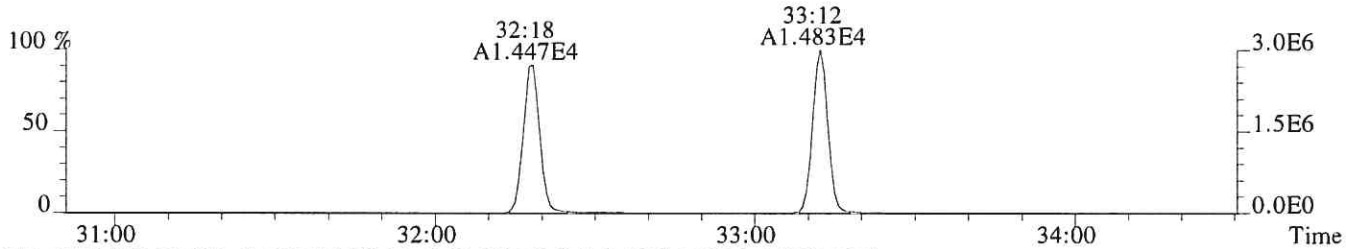
File:P511591 #1-765 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



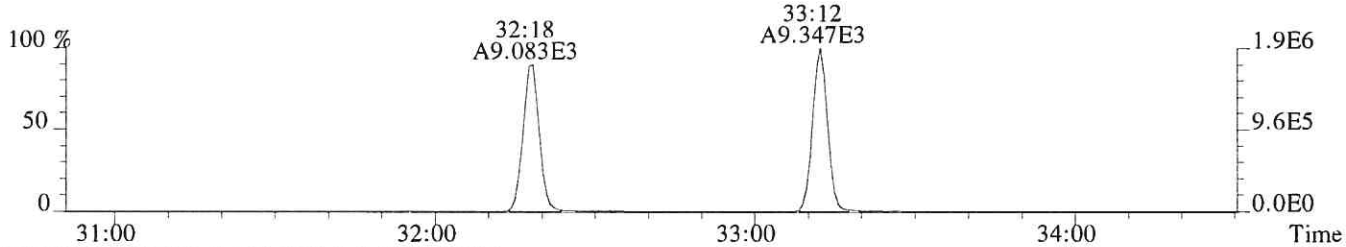
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1748.0,1.00%,F,T)



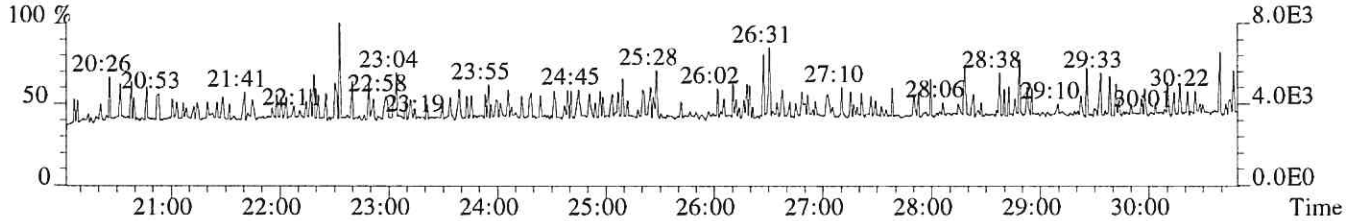
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,T)



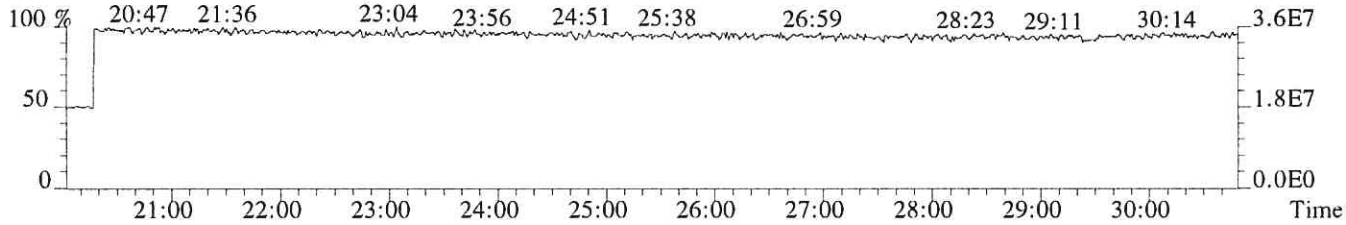
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,T)



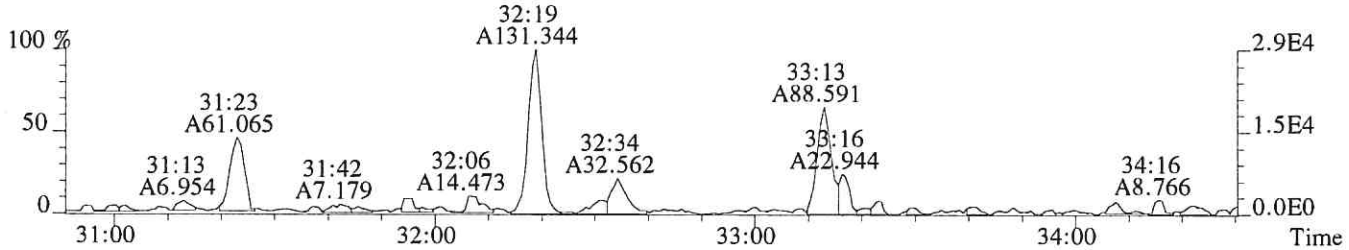
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



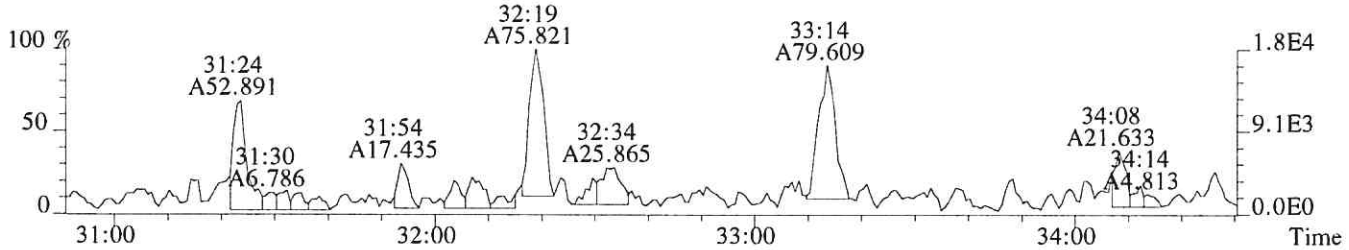
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



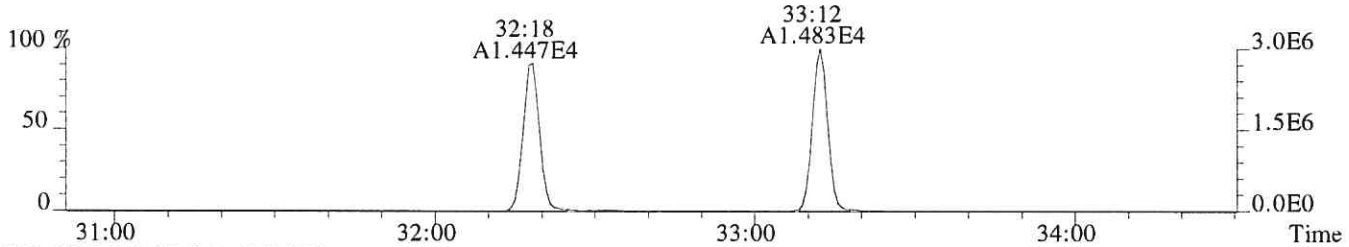
File:P511591 #1-330 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



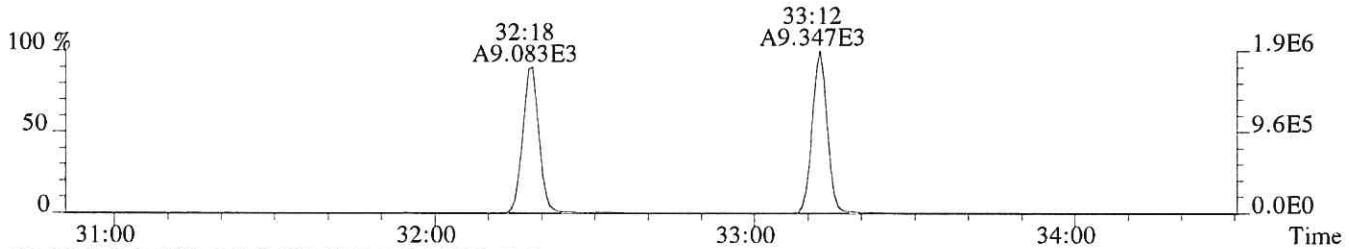
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2280.0,1.00%,F,T)



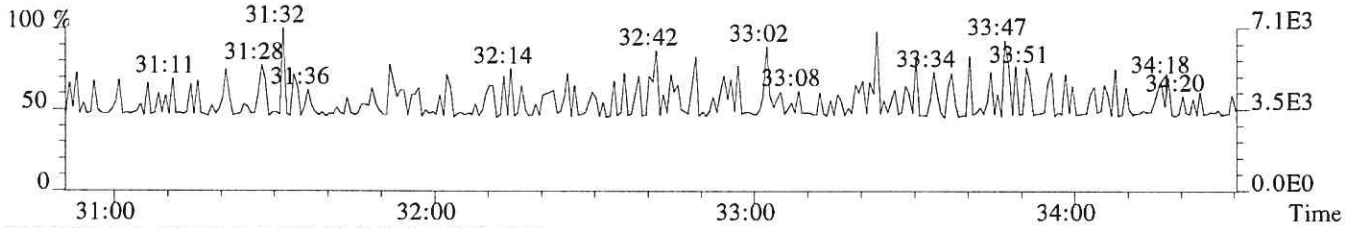
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,T)



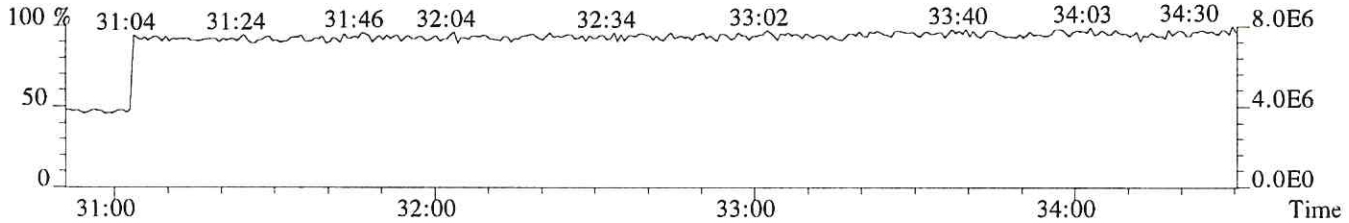
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,T)



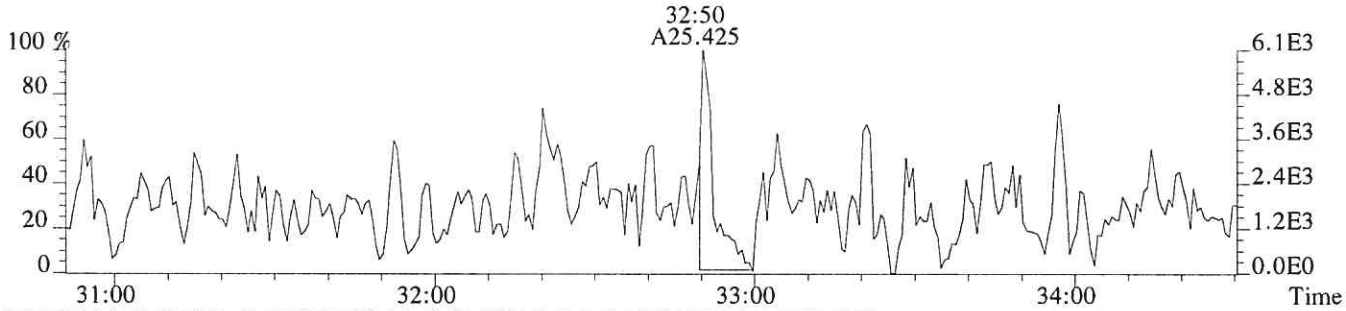
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



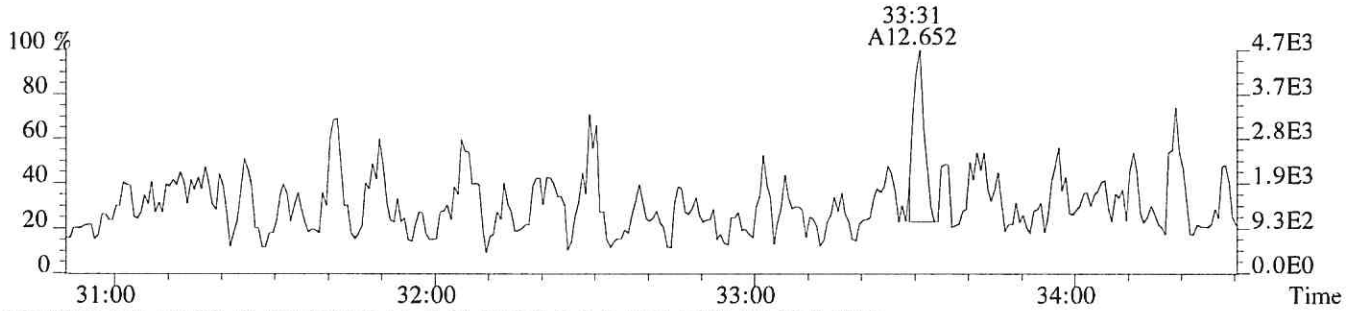
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



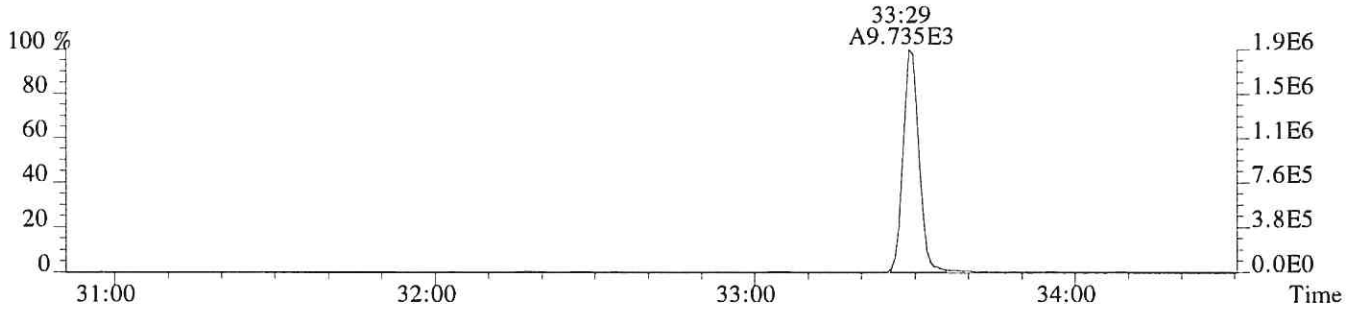
File:P511591 #1-330 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



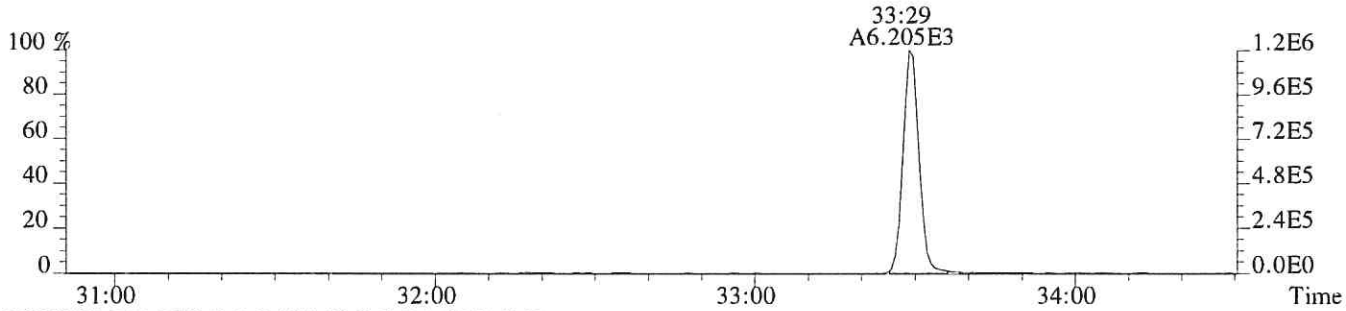
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1704.0,1.00%,F,T)



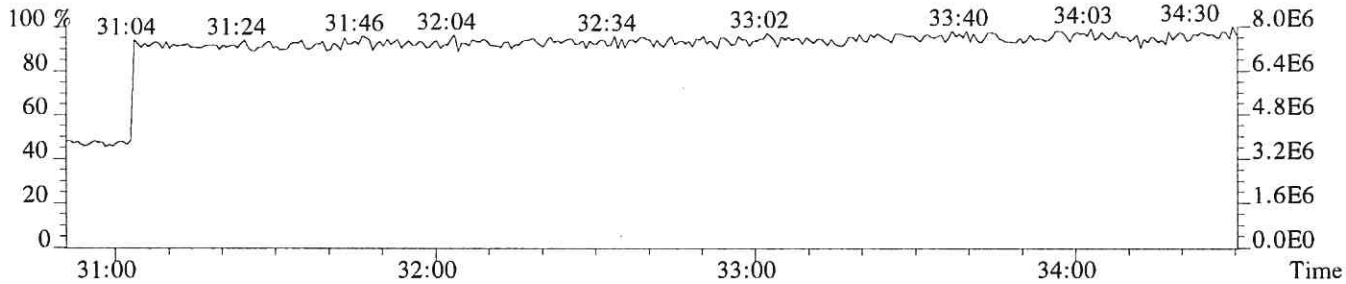
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1768.0,1.00%,F,T)



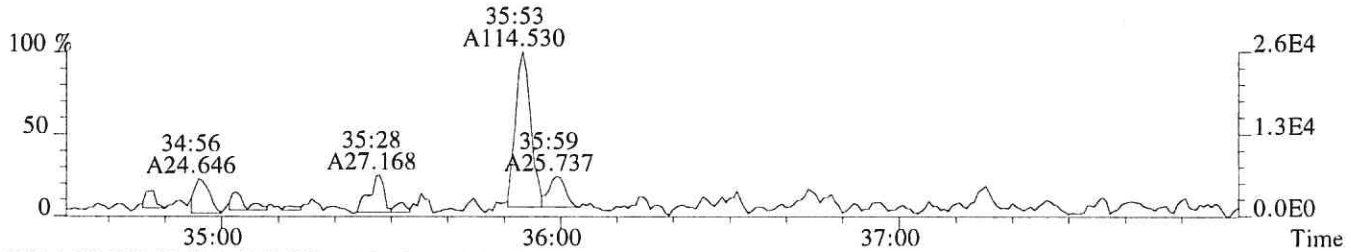
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1200.0,1.00%,F,T)



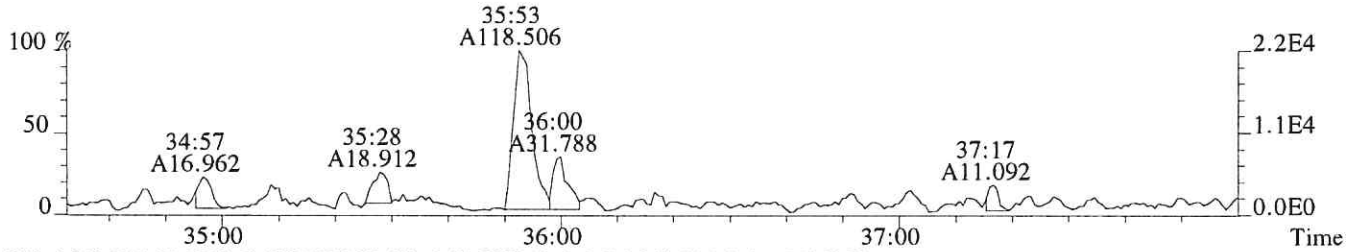
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



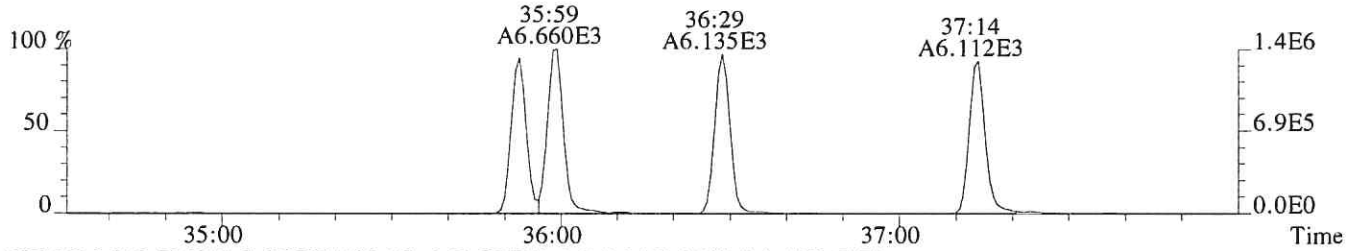
File:P511591 #1-312 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1840.0,0.40%,F,T)



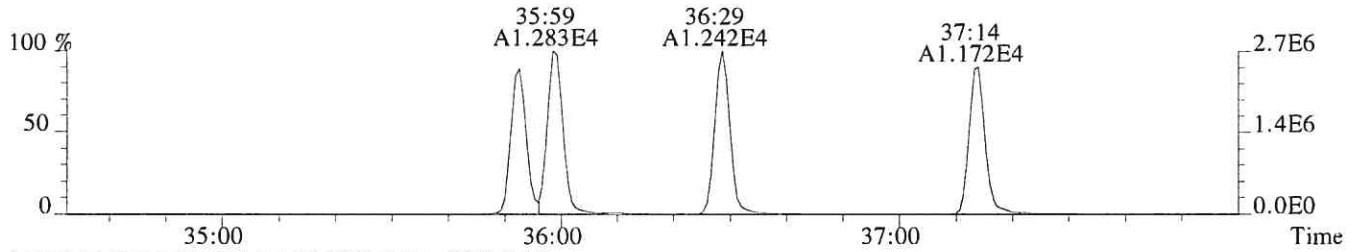
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1872.0,0.40%,F,T)



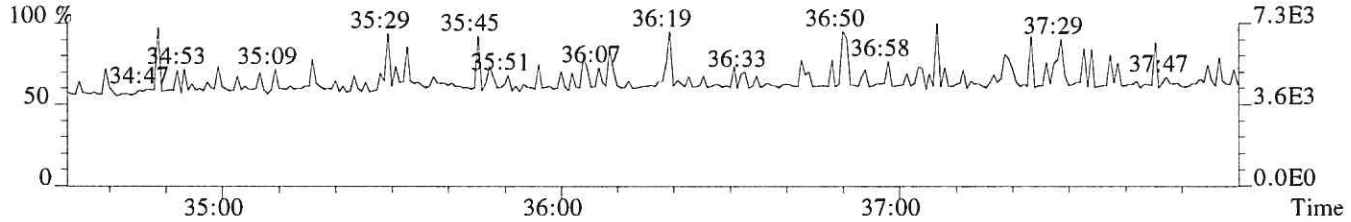
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,T)



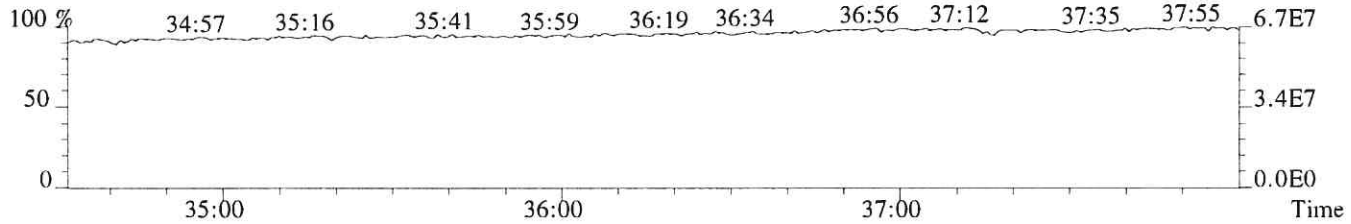
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1788.0,0.40%,F,T)



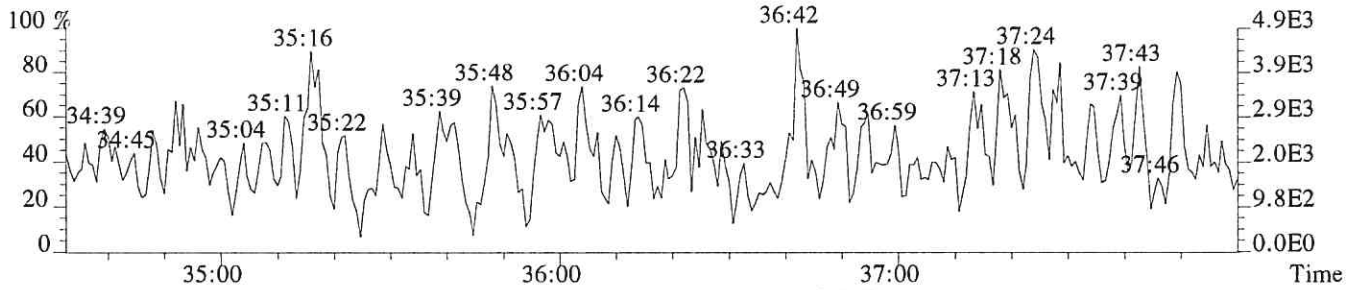
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



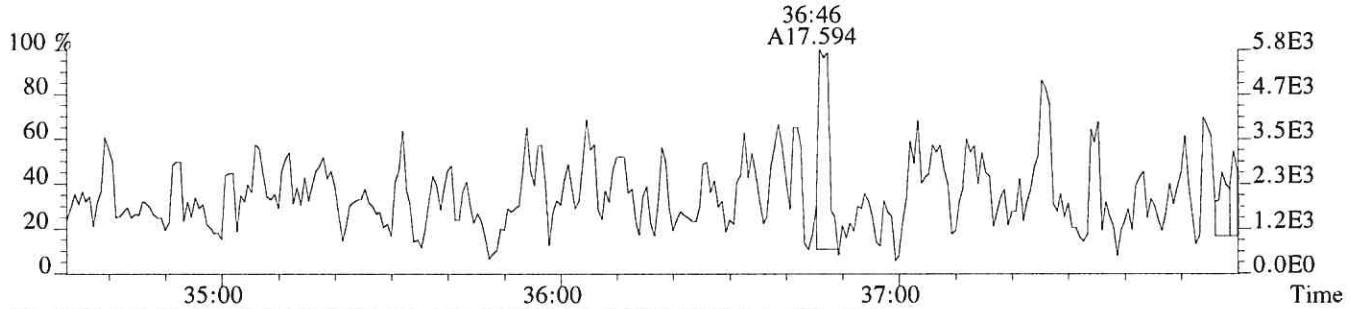
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



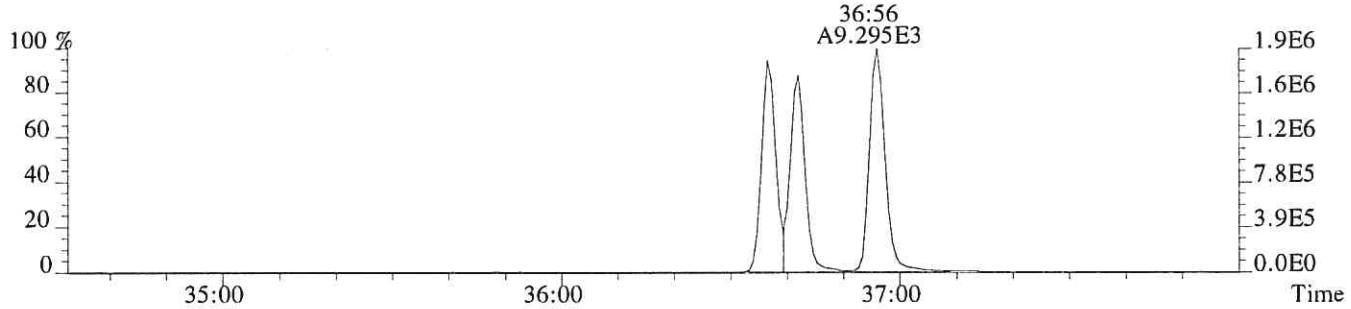
File:P511591 #1-312 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2544.0,0.40%,F,T)



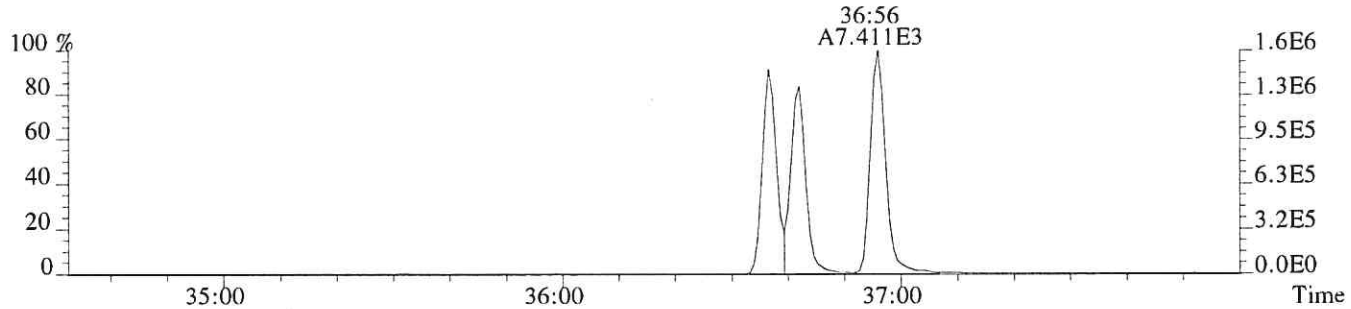
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2460.0,0.40%,F,T)



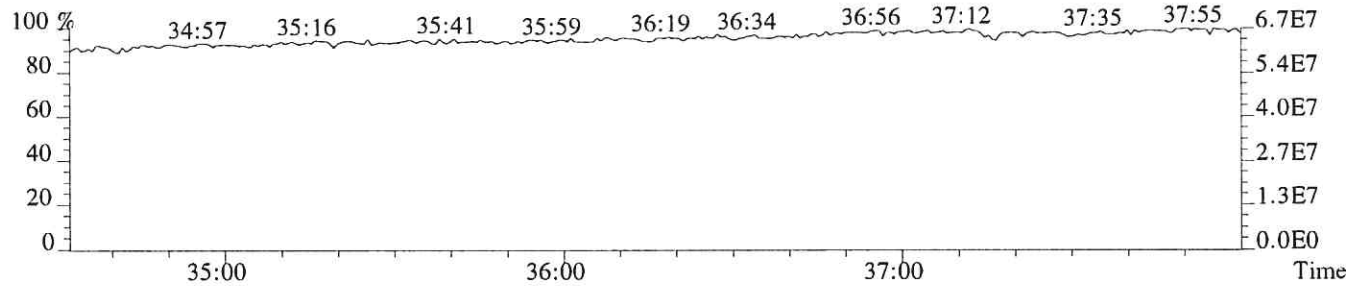
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



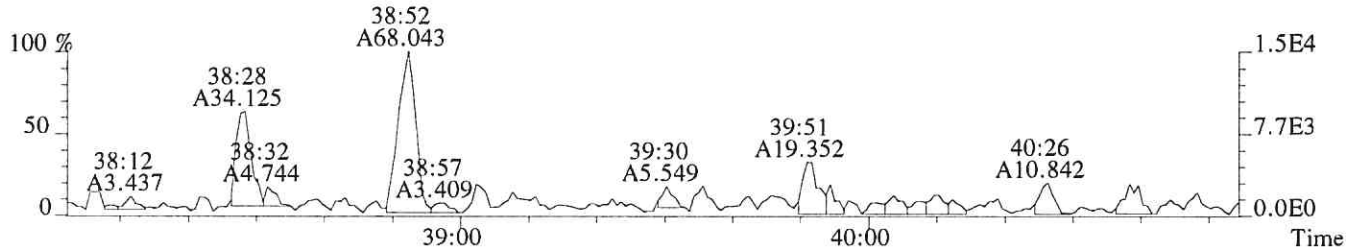
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1312.0,0.40%,F,T)



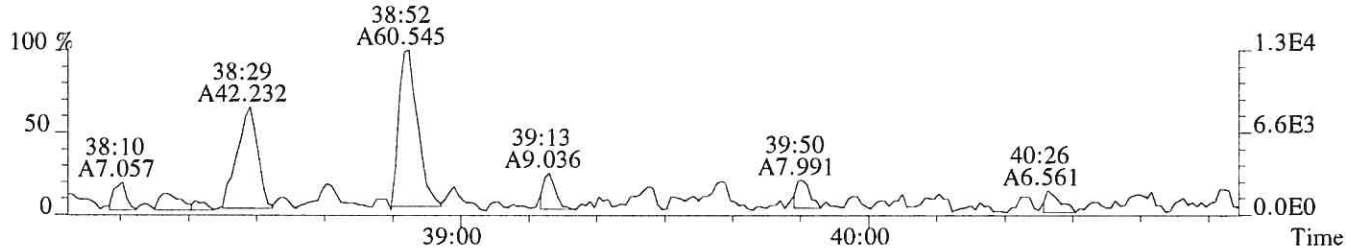
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



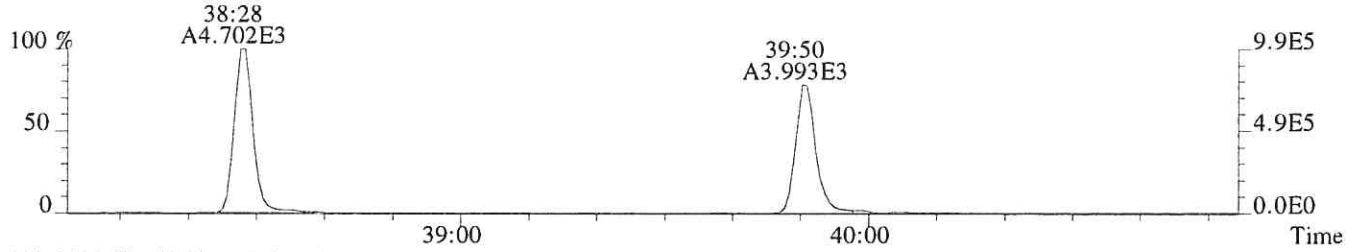
File:P511591 #1-259 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.50%,F,T)



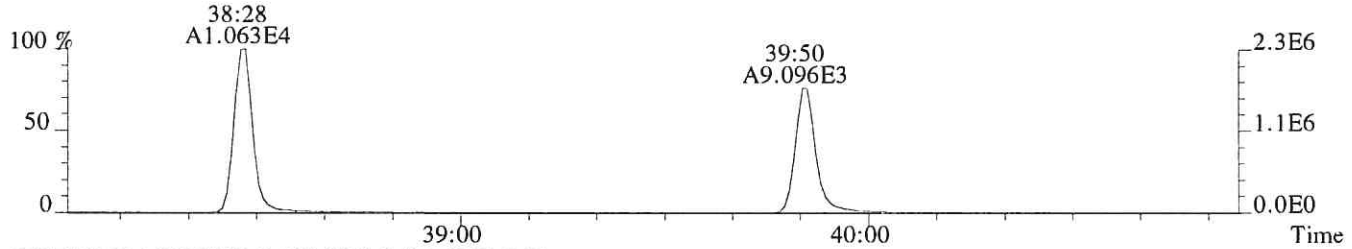
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.50%,F,T)



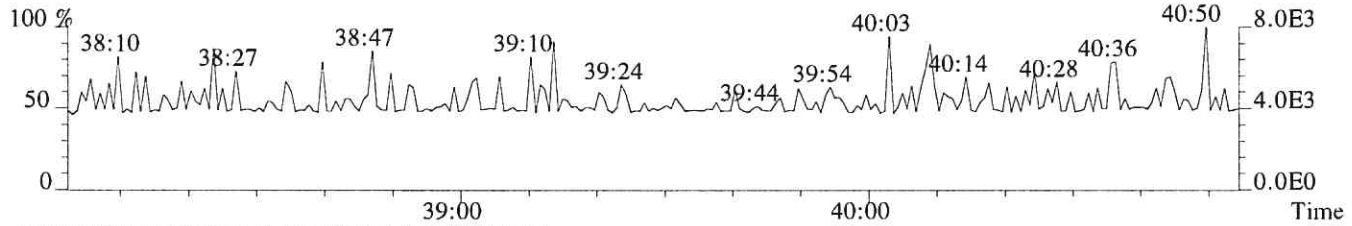
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2688.0,0.50%,F,T)



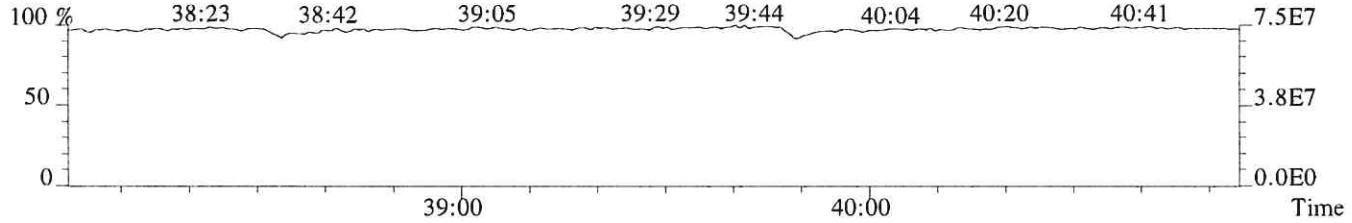
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2844.0,0.50%,F,T)



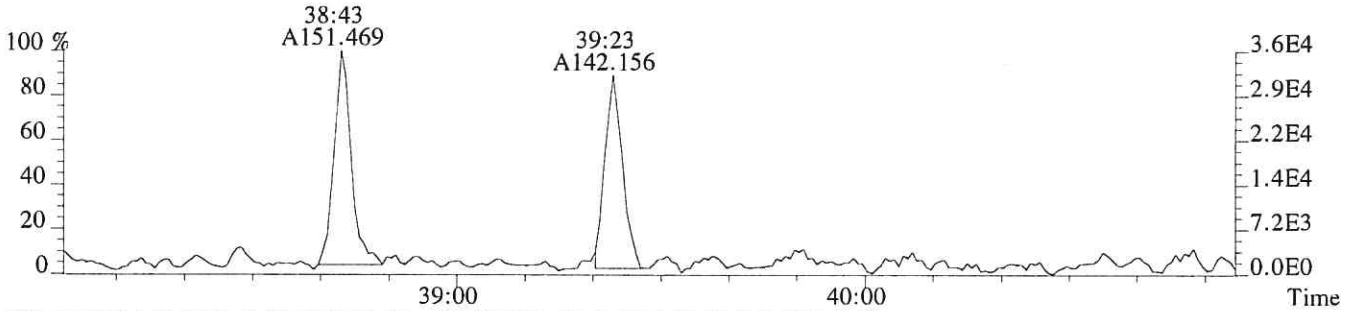
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



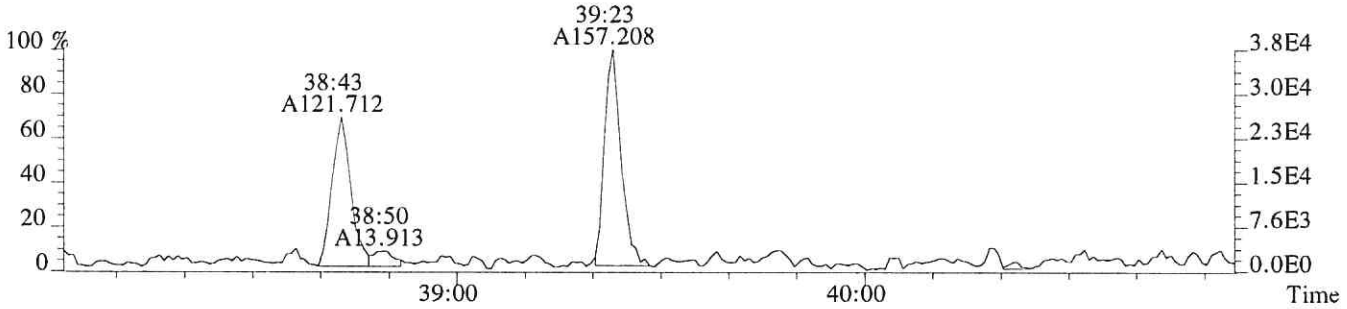
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



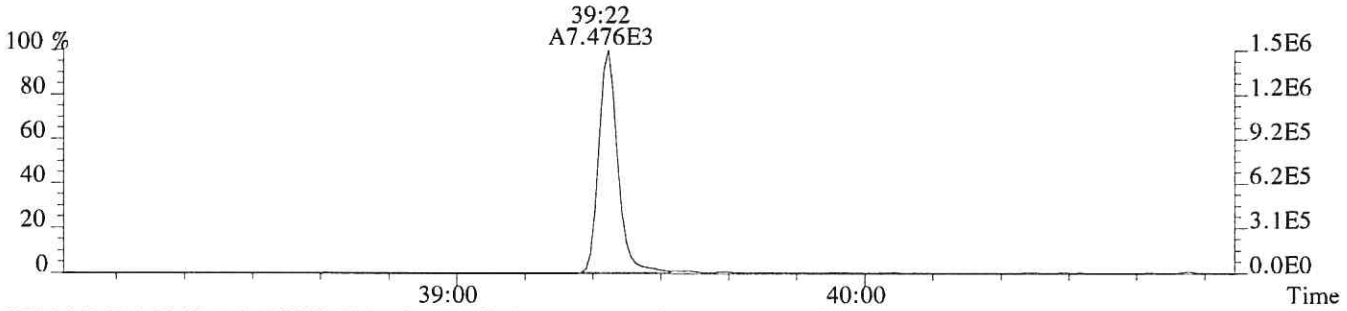
File:P511591 #1-259 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2124.0,0.40%,F,T)



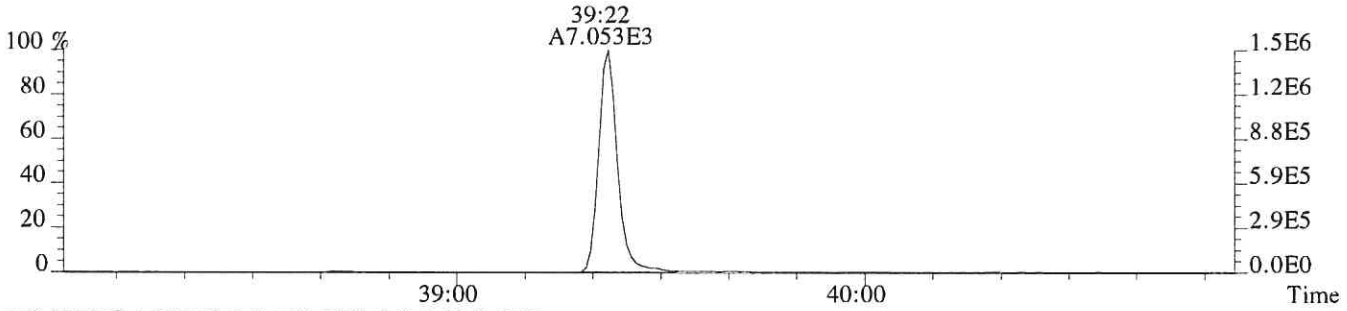
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.40%,F,T)



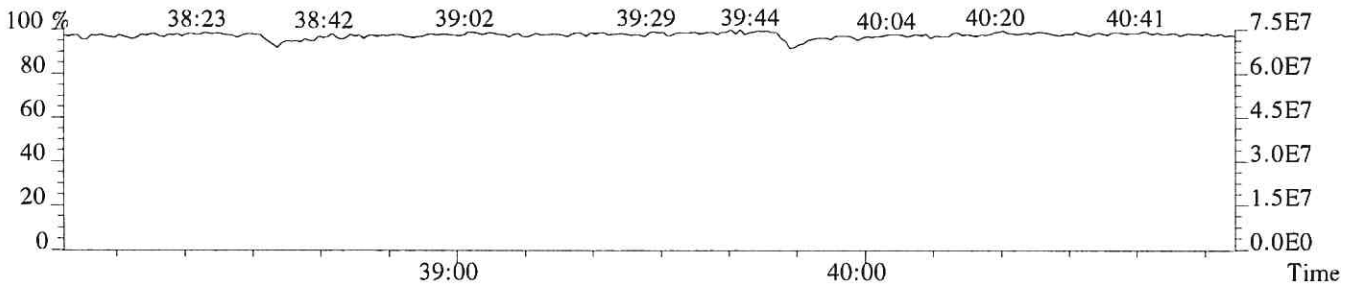
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1640.0,0.40%,F,T)



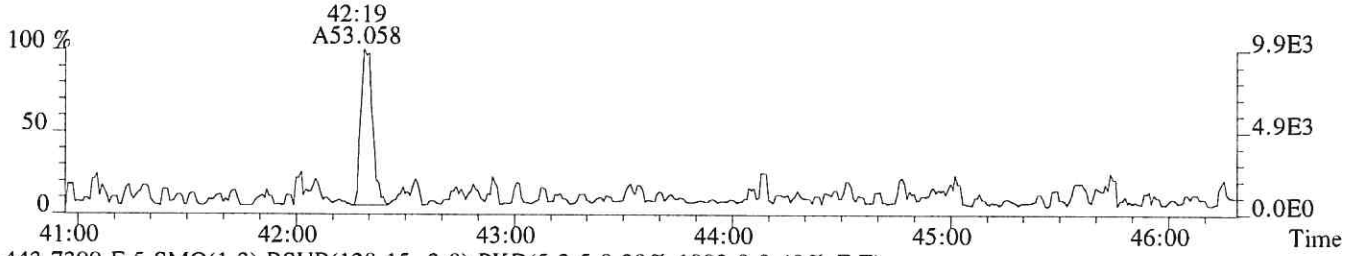
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1200.0,0.40%,F,T)



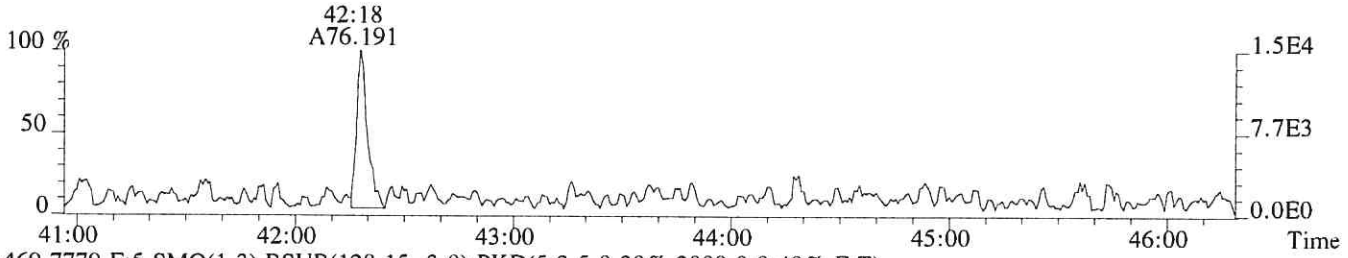
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



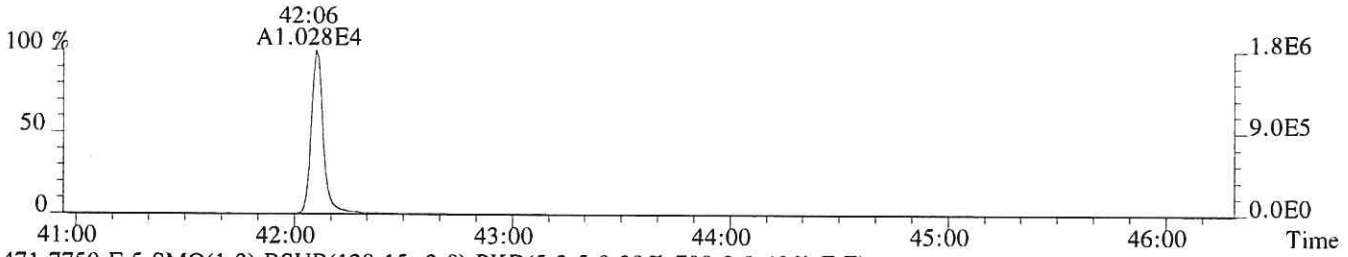
File:P511591 #1-484 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



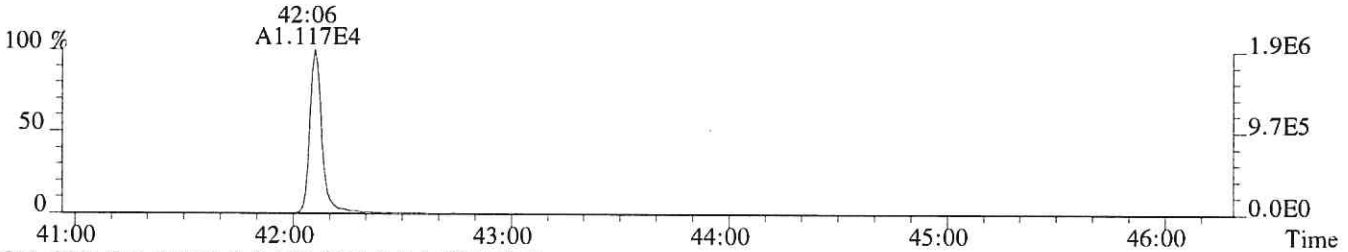
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1992.0,0.40%,F,T)



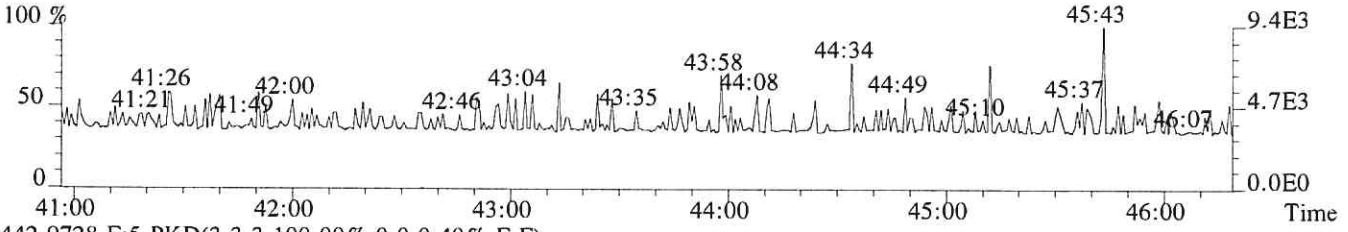
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2008.0,0.40%,F,T)



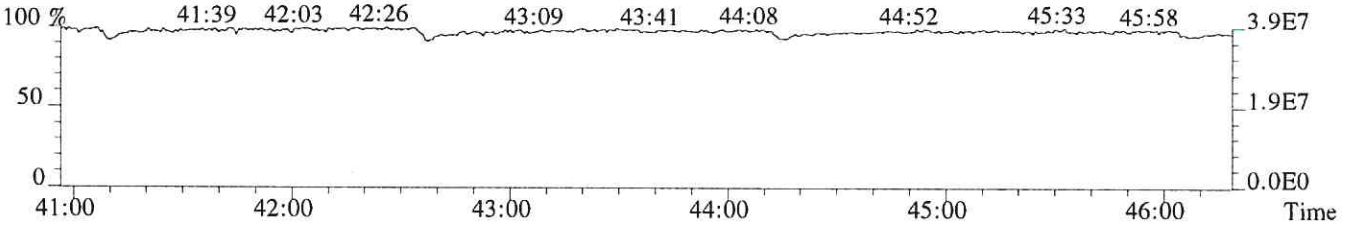
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,708.0,0.40%,F,T)



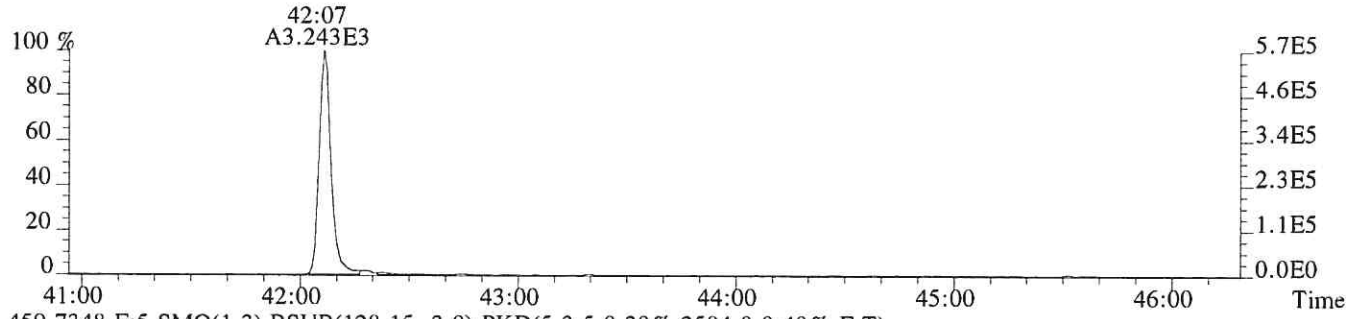
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



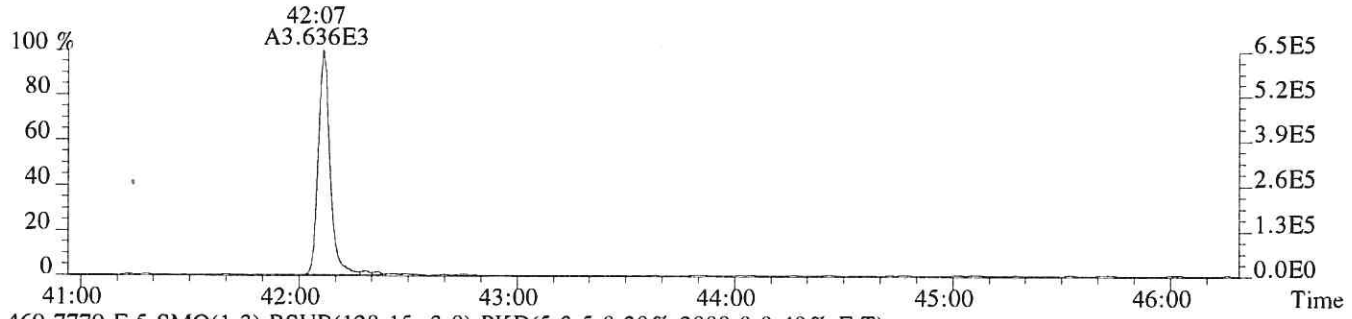
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



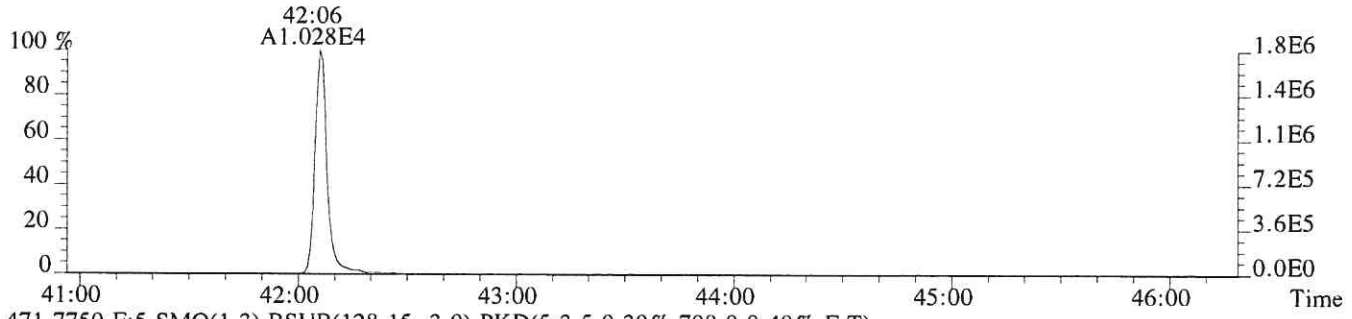
File:P511591 #1-484 Acq:26-SEP-2017 15:41:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-011DL
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,600.0,0.40%,F,T)



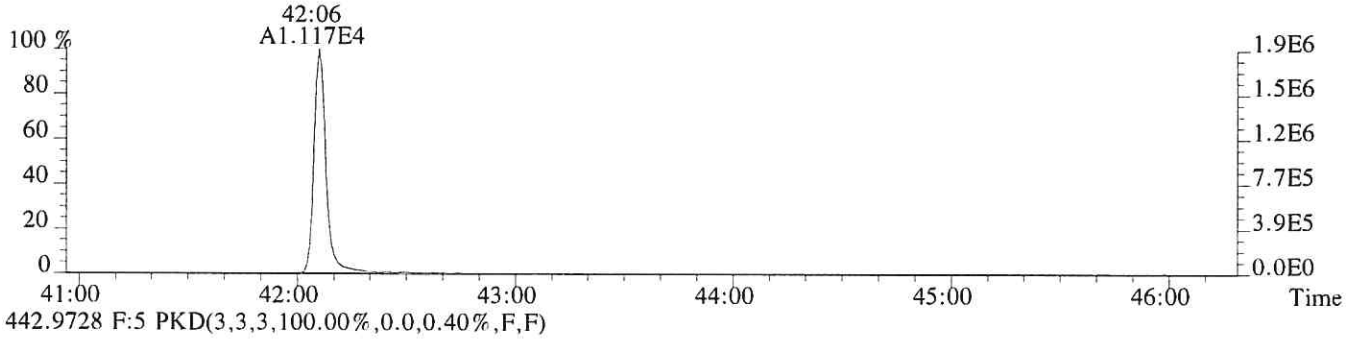
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2584.0,0.40%,F,T)



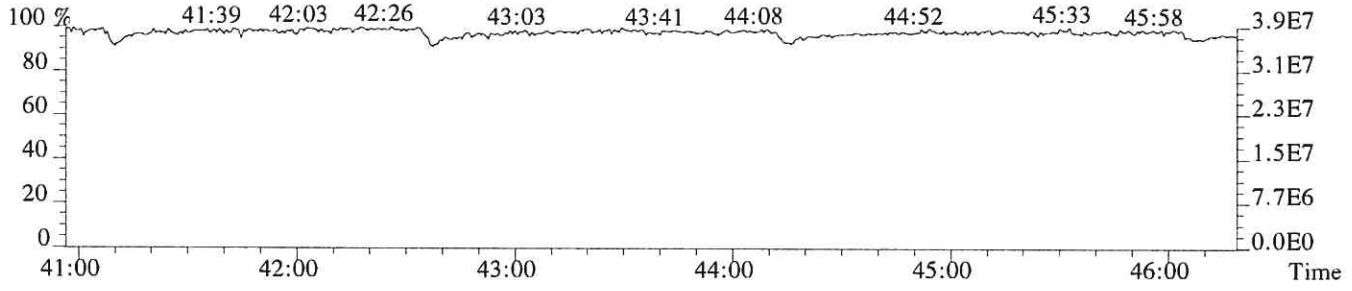
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2008.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,708.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-31

Run #12 Filename P511592 Samp: 1 Inj: 1 Acquired: 26-SEP-17 16:30:38
Processed: 27-SEP-17 08:31:06 Sample ID: E1700974-012

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:06	8.424e+01	9.434e+01	0.89	no	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:29	3.241e+01	2.530e+01	1.28	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:21	4.329e+01	5.951e+01	0.73	no	no	1.103
11	Unk	2,3,7,8-TCDD	28:54	5.343e+01	5.320e+01	1.00	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	9.931e+01	1.130e+02	0.88	no	no	0.942
17	Unk	OCDD	42:08	1.094e+03	1.347e+03	0.81	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:05	1.877e+04	2.409e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:18	2.772e+04	1.736e+04	1.60	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:13	2.692e+04	1.693e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:53	1.010e+04	1.982e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:00	1.100e+04	2.164e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:29	1.058e+04	2.060e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:15	1.036e+04	2.000e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:29	6.040e+03	1.376e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:52	5.791e+03	1.337e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:53	1.263e+04	1.604e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:30	1.879e+04	1.178e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:38	1.407e+04	1.068e+04	1.32	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:43	1.407e+04	1.109e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:23	9.389e+03	8.962e+03	1.05	yes	no	0.881
32	IS	13C-OCDD	42:07	1.102e+04	1.161e+04	0.95	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:18	2.540e+04	3.220e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:57	3.222e+04	2.532e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:54	1.633e+04				no	1.033

$$\text{OCDD} = \frac{(1.094e+03 + 1.347e+03) \times 4000 \text{ pg} \times 1}{(1.102e+04 + 1.161e+04) \times 10.051 \text{ g} \times 75.2 / 100 \times 1.051} = 51.3 \text{ ng/kg}$$

KW 9/27/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-31

Run #12 Filename P511592 Samp: 1 Inj: 1 Acquired: 26-SEP-17 16:30:38
Processed: 27-SEP-17 08:31:06 LAB. ID: E1700974-012

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.55e+04	1.13e+03	1.4e+01	1.42e+04	3.21e+03	4.4e+00
2	1,2,3,7,8-PeCDF	*	1.48e+03	*	*	2.40e+03	*
3	2,3,4,7,8-PeCDF	*	1.48e+03	*	*	2.40e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.62e+03	*	*	2.03e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.62e+03	*	*	2.03e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.62e+03	*	*	2.03e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.62e+03	*	*	2.03e+03	*
8	1,2,3,4,6,7,8-HpCDF	8.08e+03	1.24e+03	6.5e+00	6.86e+03	1.62e+03	4.2e+00
9	1,2,3,4,7,8,9-HpCDF	*	1.24e+03	*	*	1.62e+03	*
10	OCDF	7.32e+03	8.68e+02	8.4e+00	1.36e+04	1.49e+03	9.1e+00
11	2,3,7,8-TCDD	9.60e+03	2.02e+03	4.8e+00	9.54e+03	2.04e+03	4.7e+00
12	1,2,3,7,8-PeCDD	*	2.78e+03	*	*	1.81e+03	*
13	1,2,3,4,7,8-HxCDD	*	3.39e+03	*	*	2.53e+03	*
14	1,2,3,6,7,8-HxCDD	*	3.39e+03	*	*	2.53e+03	*
15	1,2,3,7,8,9-HxCDD	*	3.39e+03	*	*	2.53e+03	*
16	1,2,3,4,6,7,8-HpCDD	2.03e+04	2.48e+03	8.2e+00	2.55e+04	1.89e+03	1.3e+01
17	OCDD	1.97e+05	1.32e+03	1.5e+02	2.37e+05	1.72e+03	1.4e+02
18	13C-2,3,7,8-TCDF	3.53e+06	1.44e+04	2.5e+02	4.41e+06	5.32e+03	8.3e+02
19	13C-1,2,3,7,8-PeCDF	5.23e+06	1.13e+03	4.6e+03	3.29e+06	1.11e+03	3.0e+03
20	13C-2,3,4,7,8-PeCDF	5.41e+06	1.13e+03	4.8e+03	3.39e+06	1.11e+03	3.1e+03
21	13C-1,2,3,4,7,8-HxCDF	2.22e+06	1.27e+03	1.7e+03	4.34e+06	1.71e+03	2.5e+03
22	13C-1,2,3,6,7,8-HxCDF	2.28e+06	1.27e+03	1.8e+03	4.48e+06	1.71e+03	2.6e+03
23	13C-2,3,4,6,7,8-HxCDF	2.26e+06	1.27e+03	1.8e+03	4.46e+06	1.71e+03	2.6e+03
24	13C-1,2,3,7,8,9-HxCDF	2.31e+06	1.27e+03	1.8e+03	4.52e+06	1.71e+03	2.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.29e+06	2.28e+03	5.7e+02	2.90e+06	1.51e+03	1.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.13e+06	2.28e+03	5.0e+02	2.57e+06	1.51e+03	1.7e+03
27	13C-2,3,7,8-TCDD	2.48e+06	4.78e+03	5.2e+02	3.20e+06	2.86e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	3.77e+06	1.58e+03	2.4e+03	2.37e+06	1.18e+03	2.0e+03
29	13C-1,2,3,4,7,8-HxCDD	3.14e+06	2.47e+03	1.3e+03	2.36e+06	1.08e+03	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	2.85e+06	2.47e+03	1.2e+03	2.30e+06	1.08e+03	2.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.95e+06	1.45e+03	1.3e+03	1.86e+06	9.32e+02	2.0e+03
32	13C-OCDD	1.85e+06	1.50e+03	1.2e+03	2.01e+06	5.88e+02	3.4e+03
33	13C-1,2,3,4-TCDD	4.75e+06	4.78e+03	9.9e+02	6.07e+06	2.86e+03	2.1e+03
34	13C-1,2,3,7,8,9-HxCDD	6.48e+06	2.47e+03	2.6e+03	5.19e+06	1.08e+03	4.8e+03
35	37Cl-2,3,7,8-TCDD	3.19e+06	1.65e+03	1.9e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-31

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P511592 Sample:1 Injection:1 Function:4

Acquired: 26-SEP-17 16:30:38 Processed: 27-SEP-17 08:31:06

Mass: 423.7770 425.7740 Tot Response: 2.84e+02 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:44	1.36e+02	1.48e+02	0.92	yes	2.84e+02	n	n

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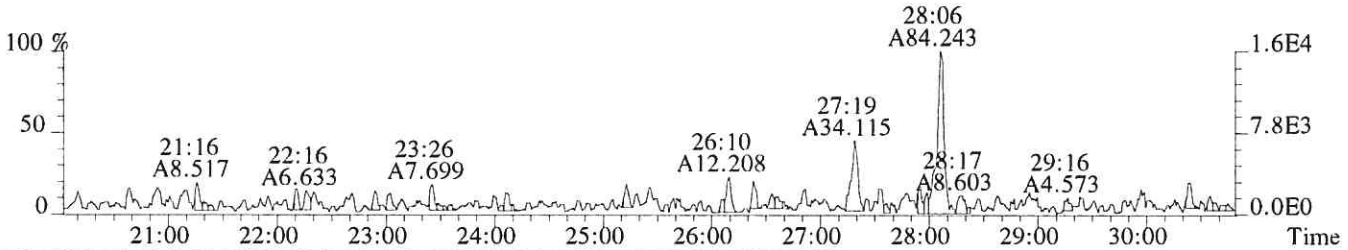
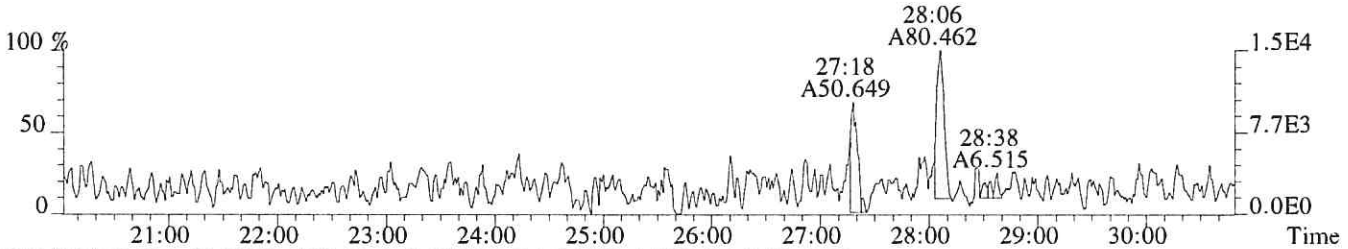
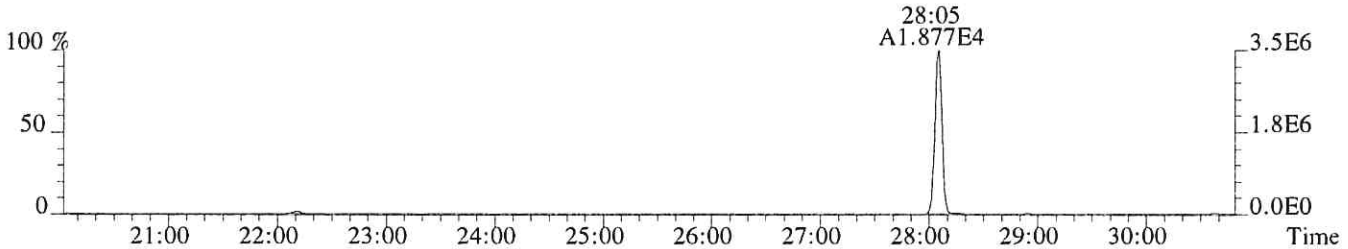
File:P511592 #1-765 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



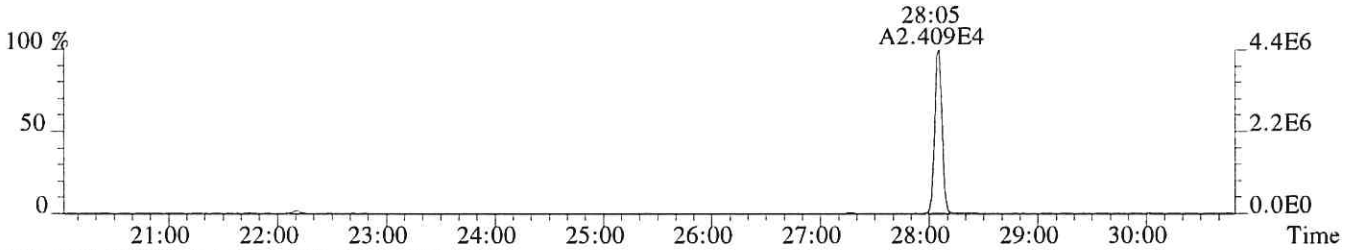
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3208.0,1.00%,F,T)



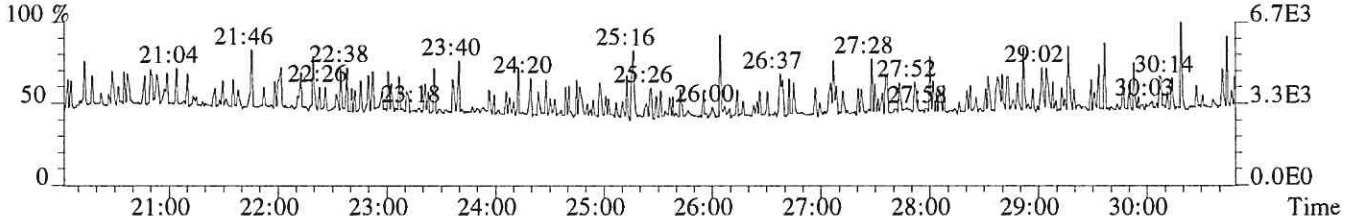
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14388.0,1.00%,F,T)



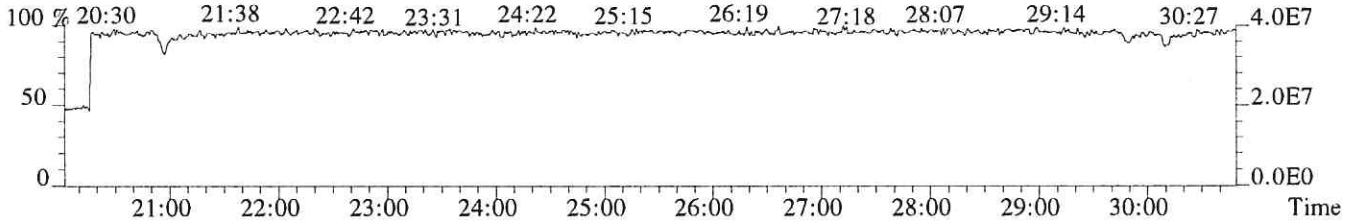
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5320.0,1.00%,F,T)



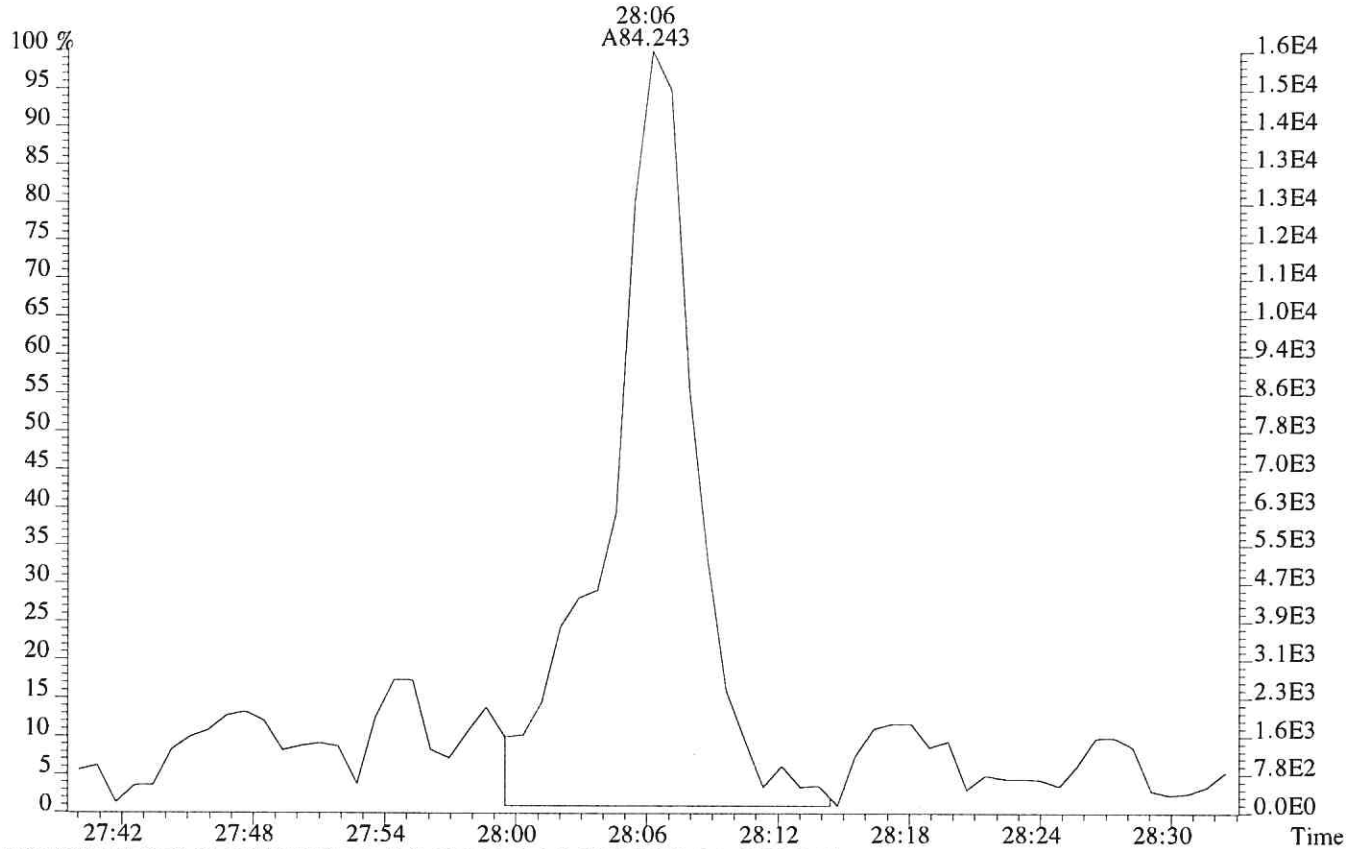
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



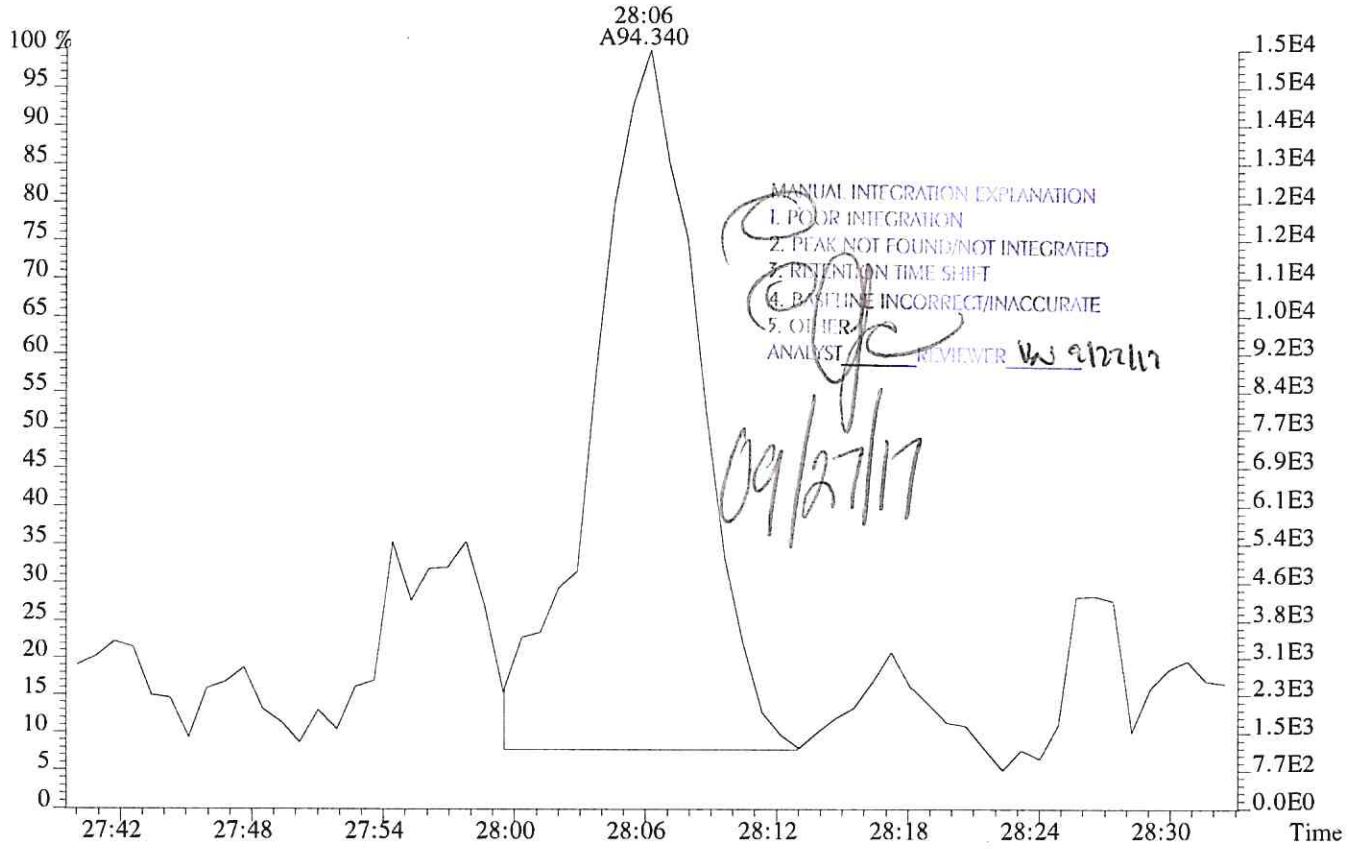
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



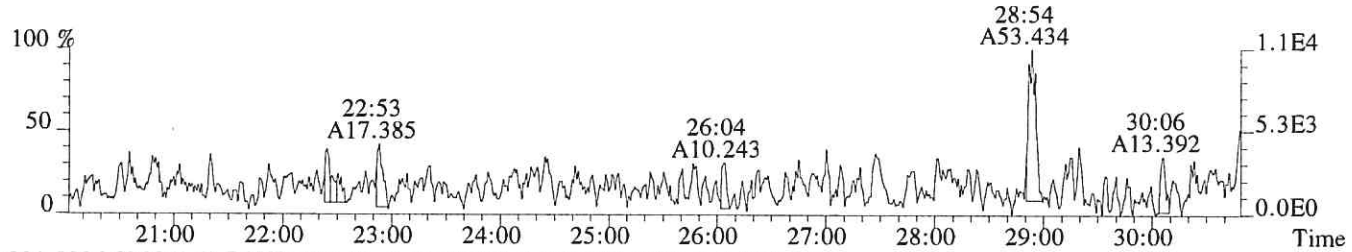
File:P511592 #1-765 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



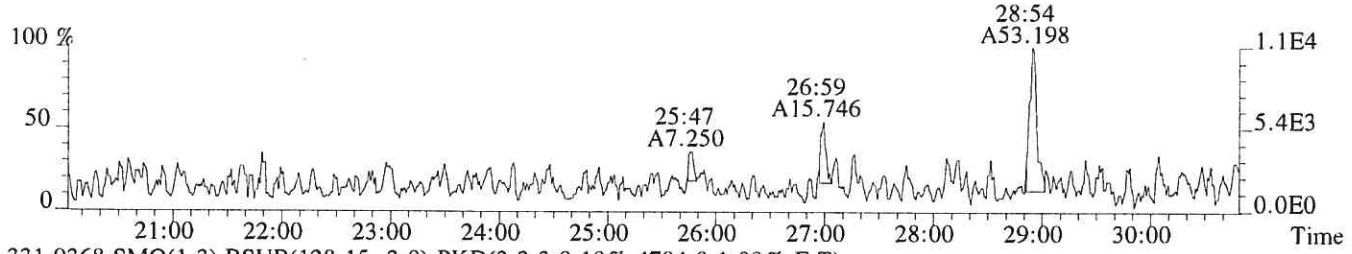
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3208.0,1.00%,F,T)



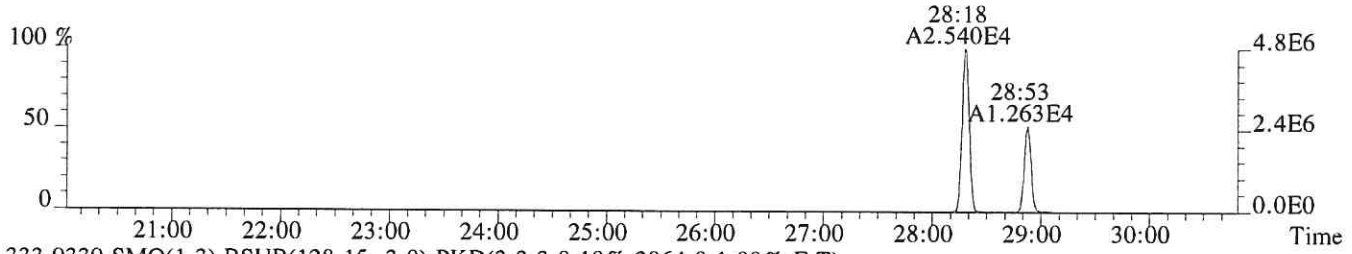
File:P511592 #1-765 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2020.0,1.00%,F,T)



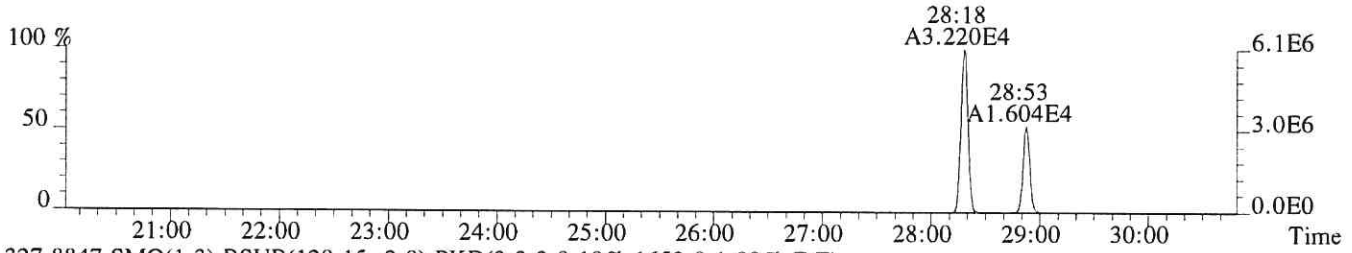
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2044.0,1.00%,F,T)



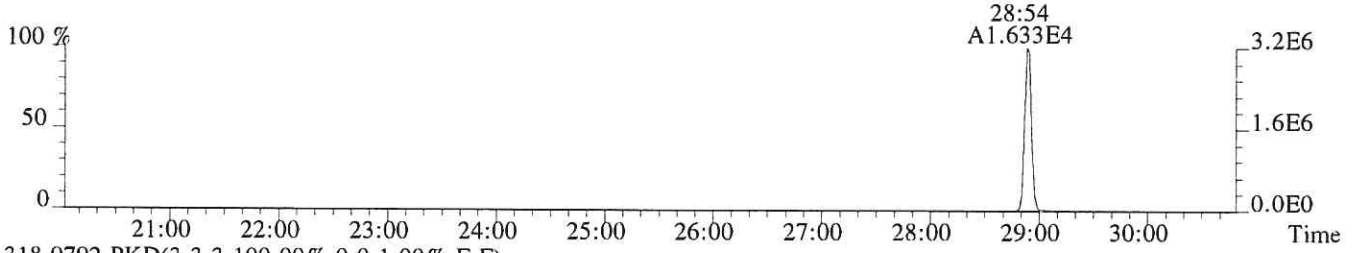
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4784.0,1.00%,F,T)



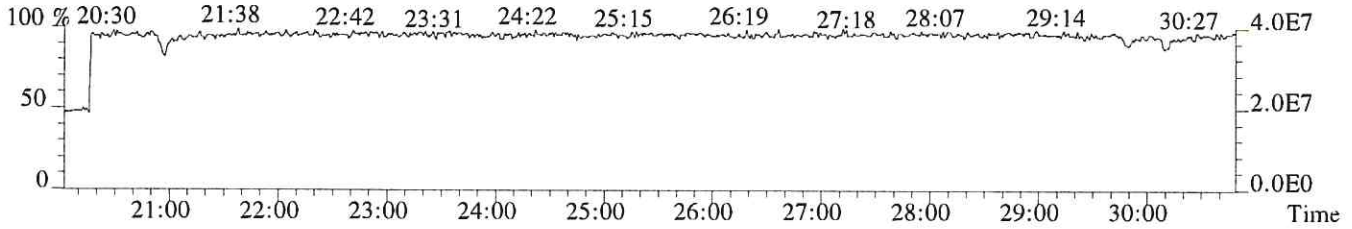
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2864.0,1.00%,F,T)



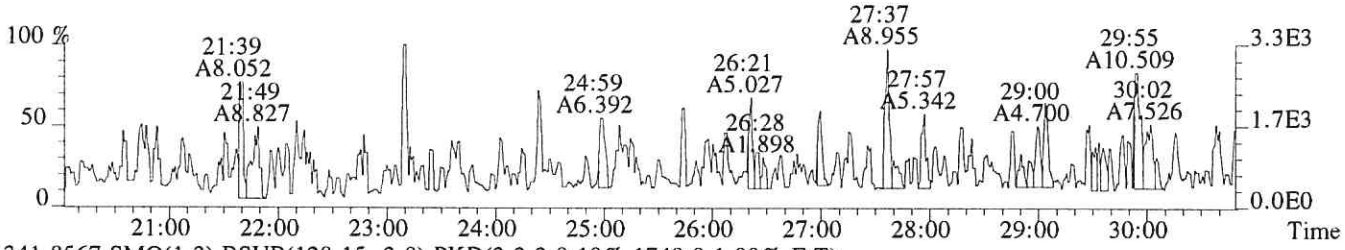
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1652.0,1.00%,F,T)



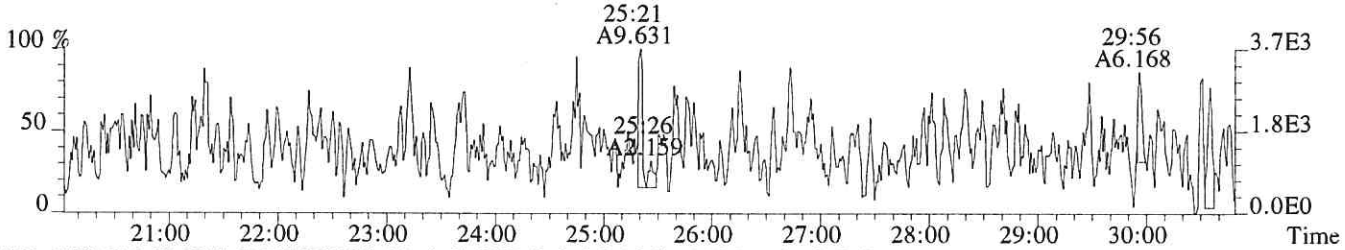
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



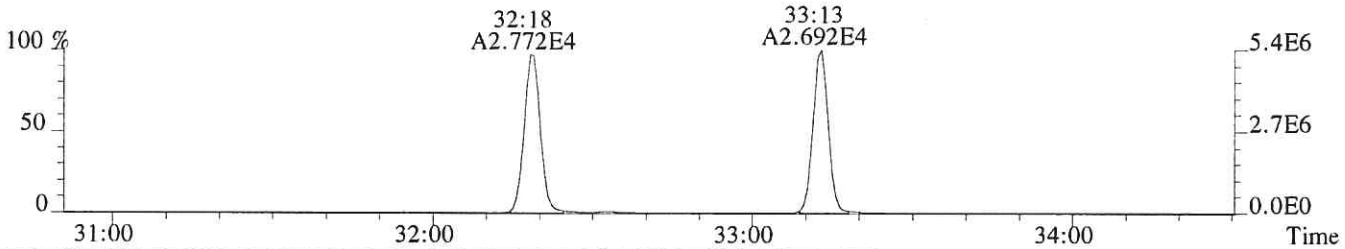
File:P511592 #1-765 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



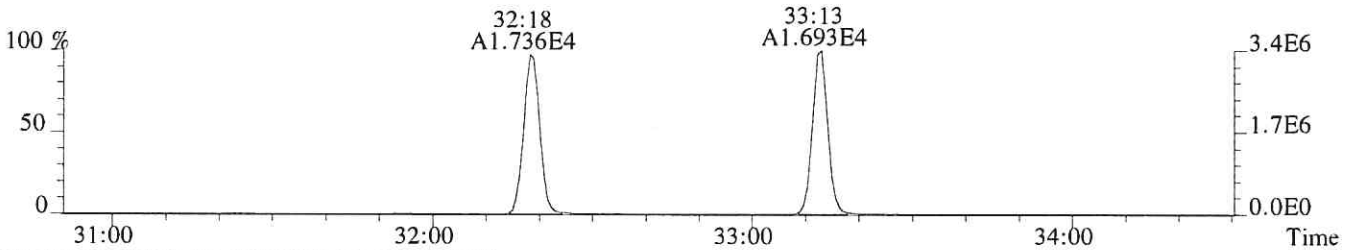
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1740.0,1.00%,F,T)



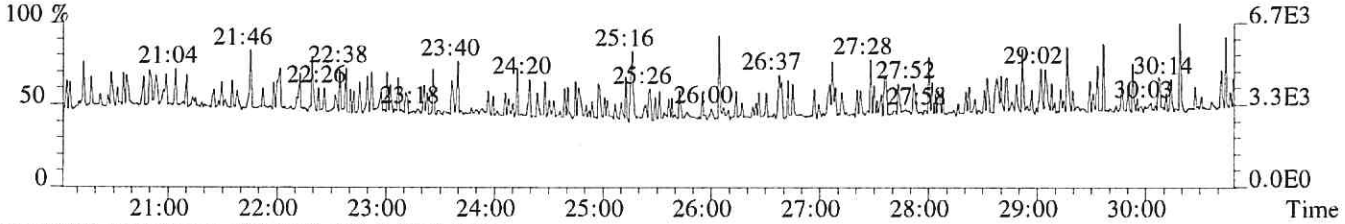
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



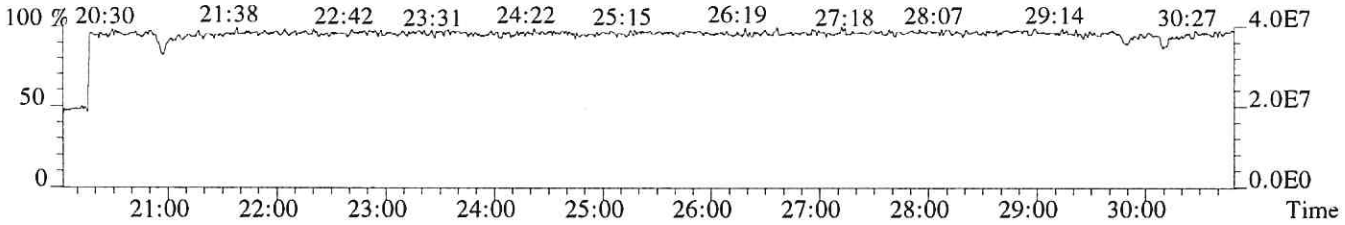
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,T)



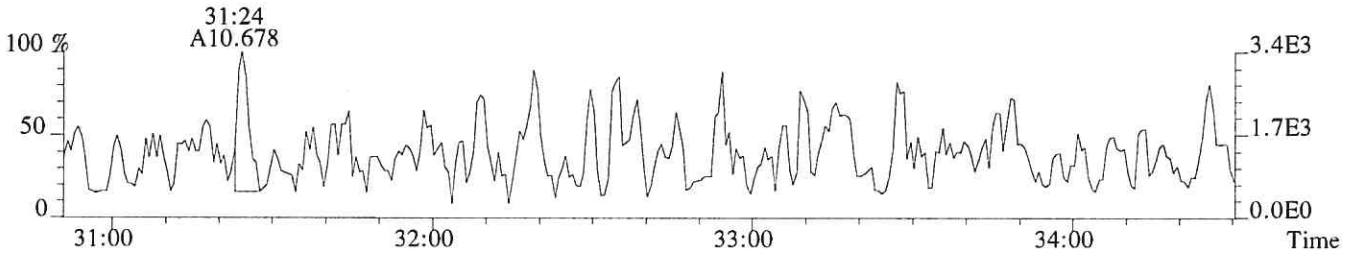
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



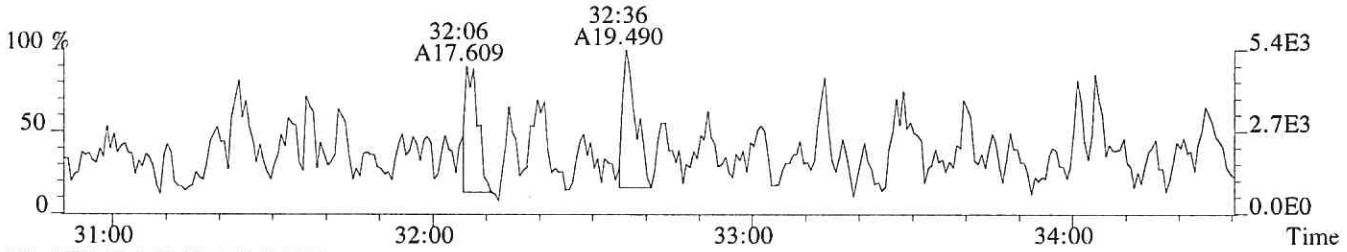
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



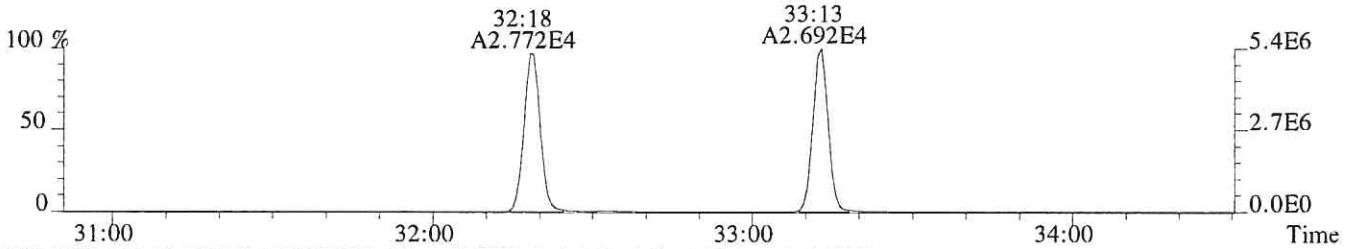
File:P511592 #1-330 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,T)



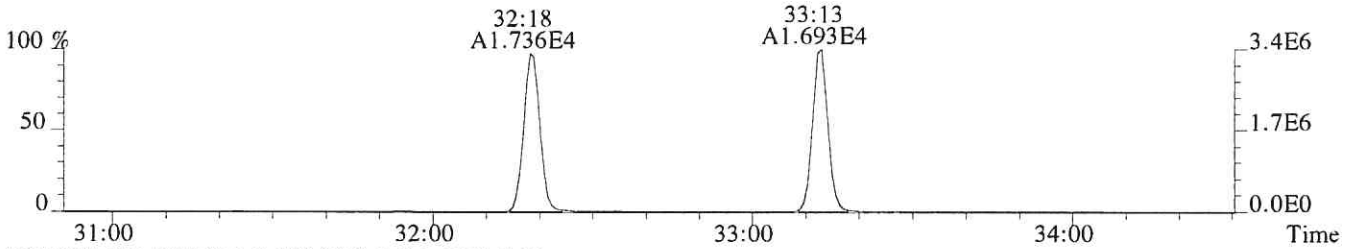
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2396.0,1.00%,F,T)



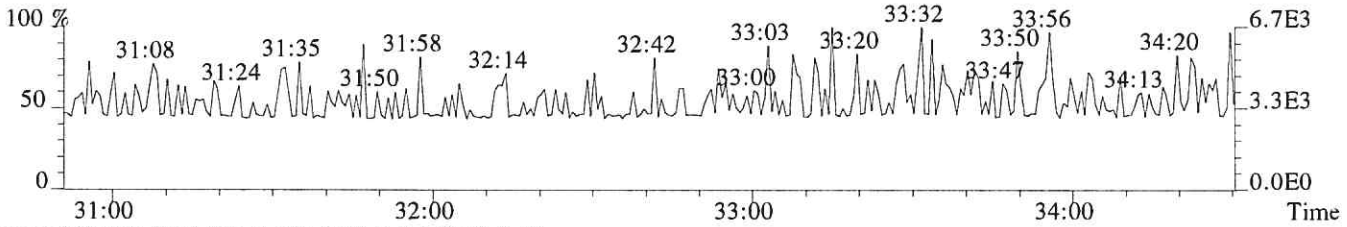
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



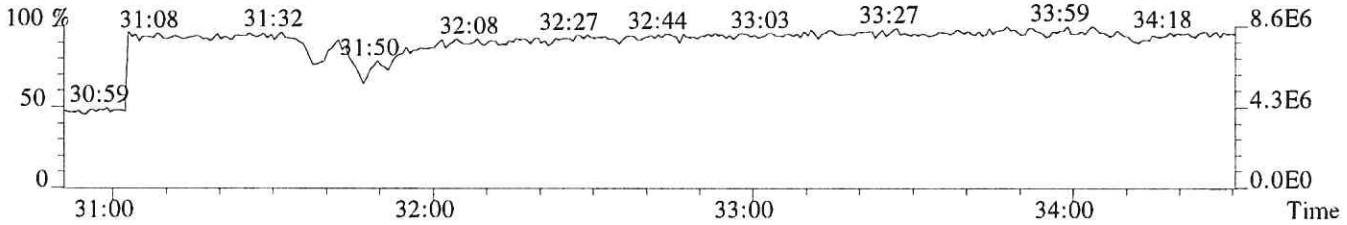
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,T)



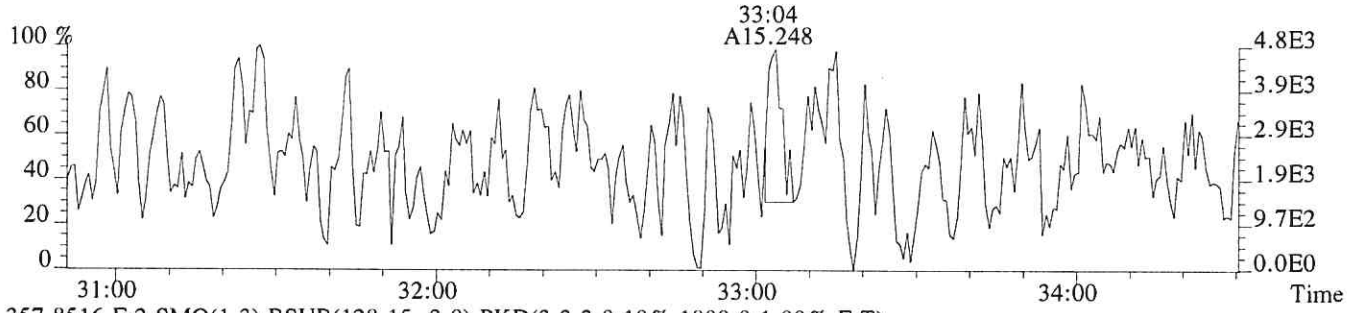
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



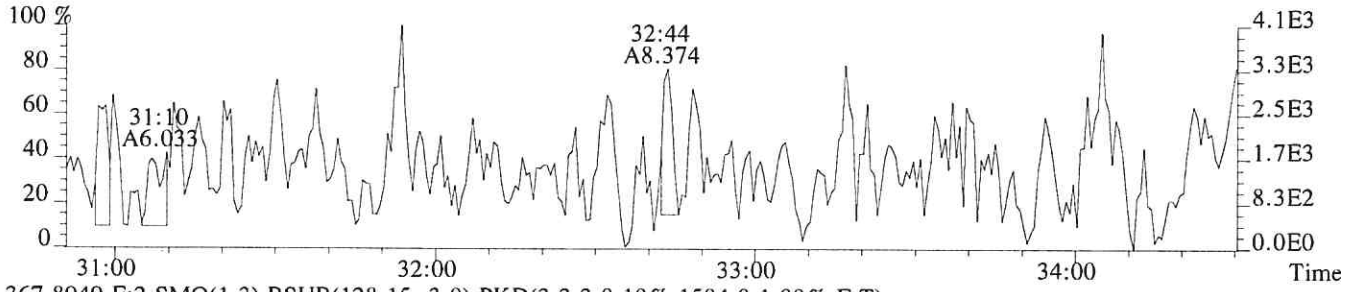
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



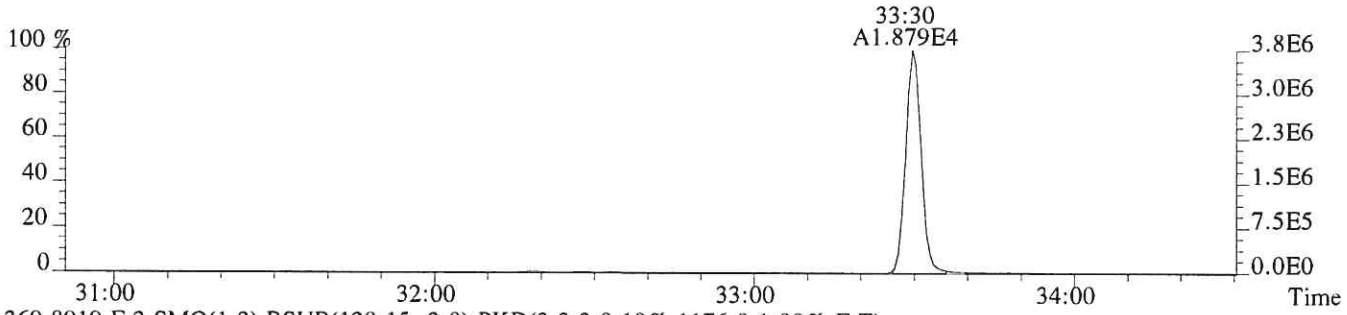
File:P511592 #1-330 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2780.0,1.00%,F,T)



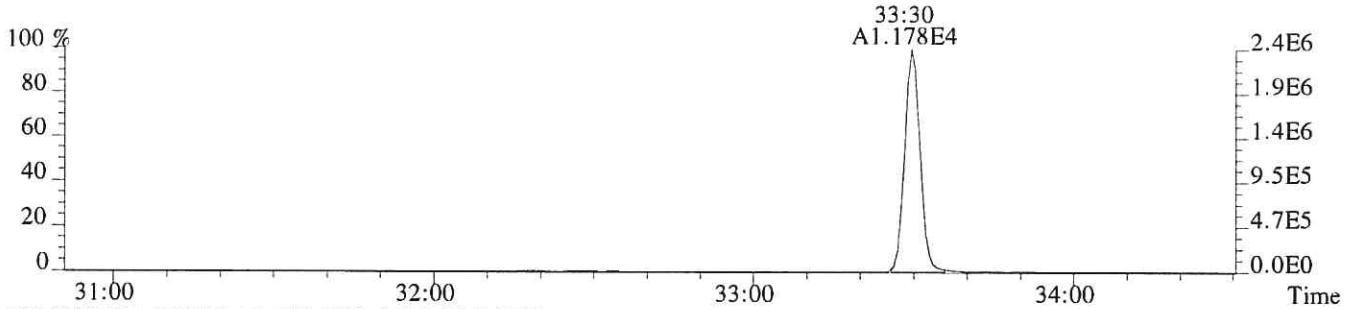
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



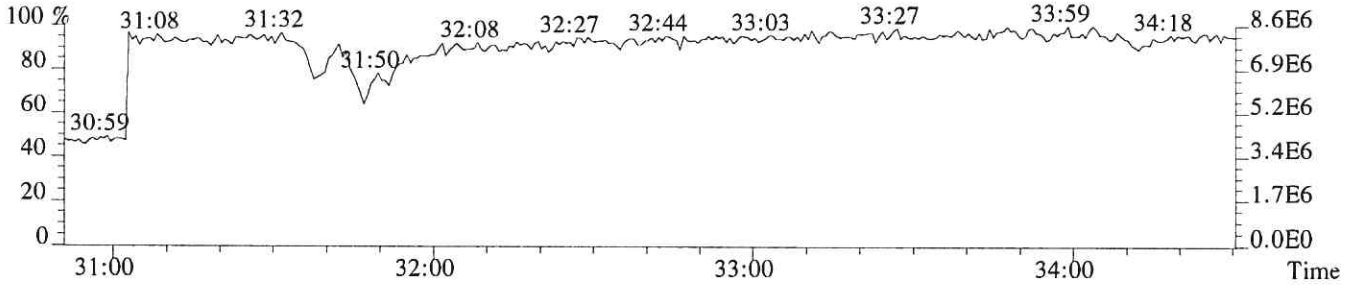
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1584.0,1.00%,F,T)



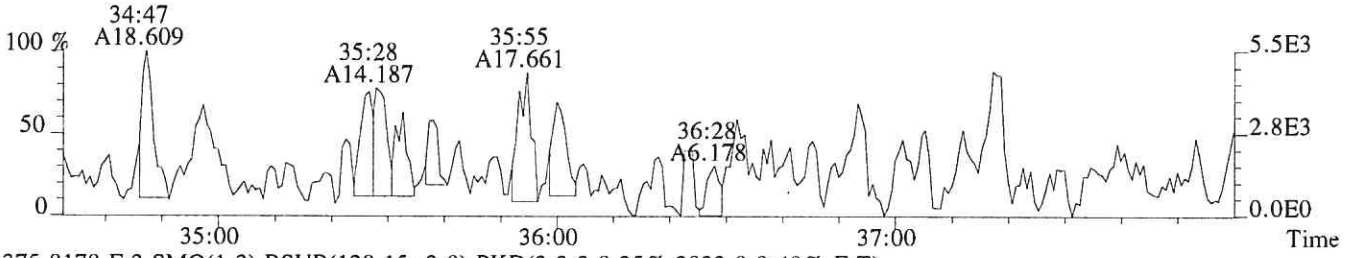
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1176.0,1.00%,F,T)



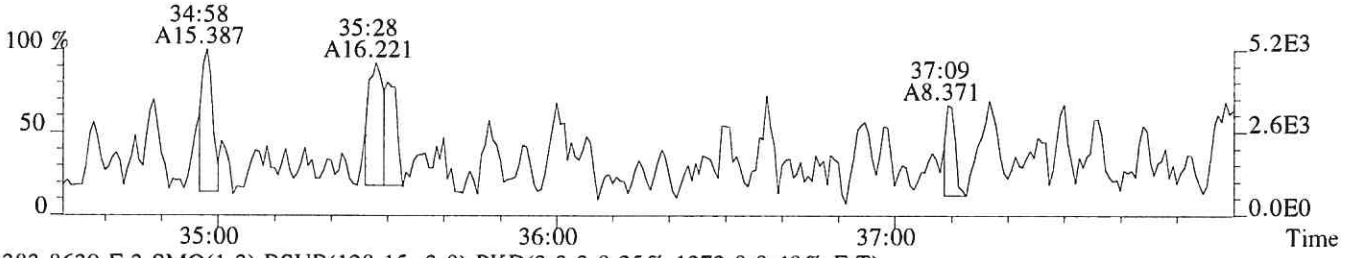
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



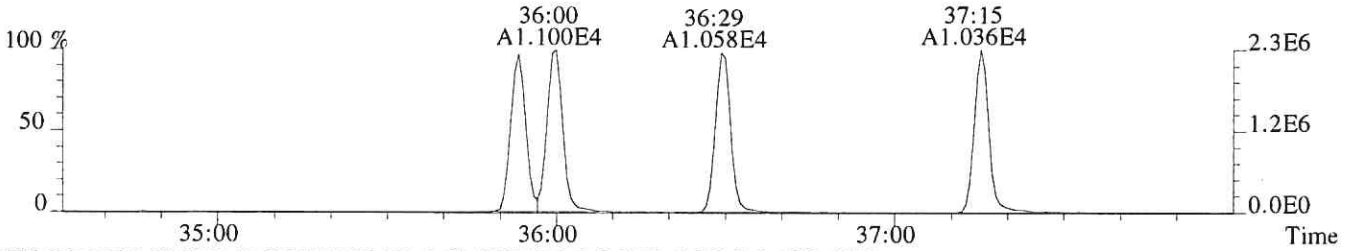
File:P511592 #1-312 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.40%,F,T)



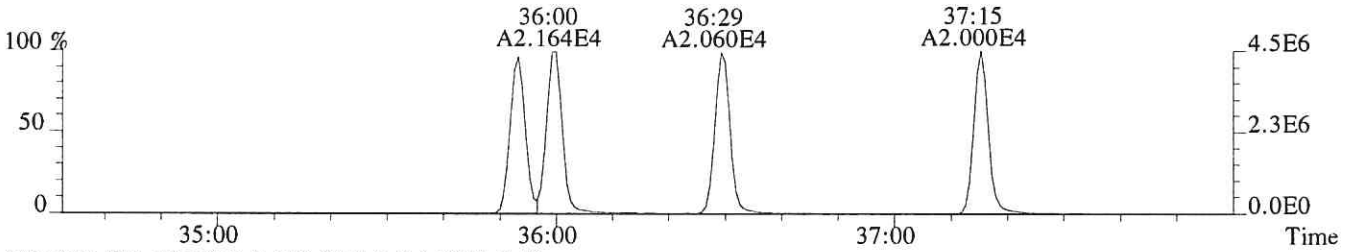
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2032.0,0.40%,F,T)



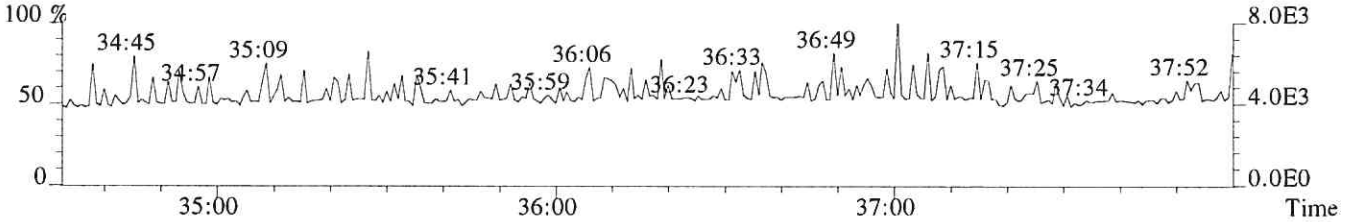
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1272.0,0.40%,F,T)



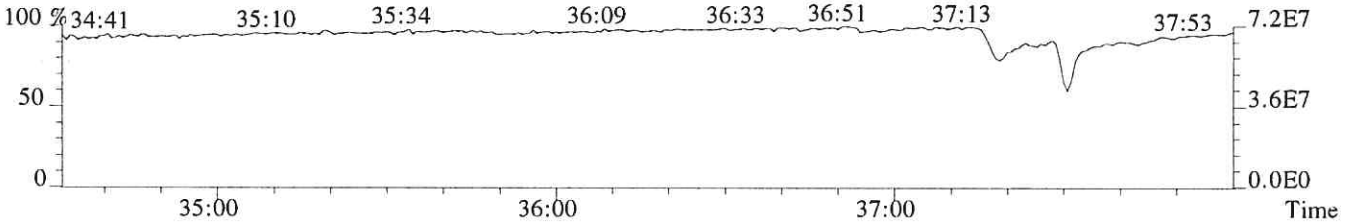
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1712.0,0.40%,F,T)



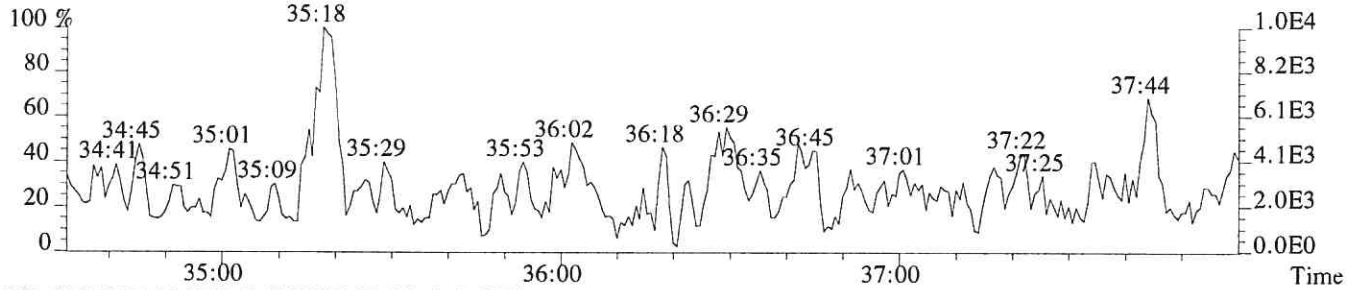
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



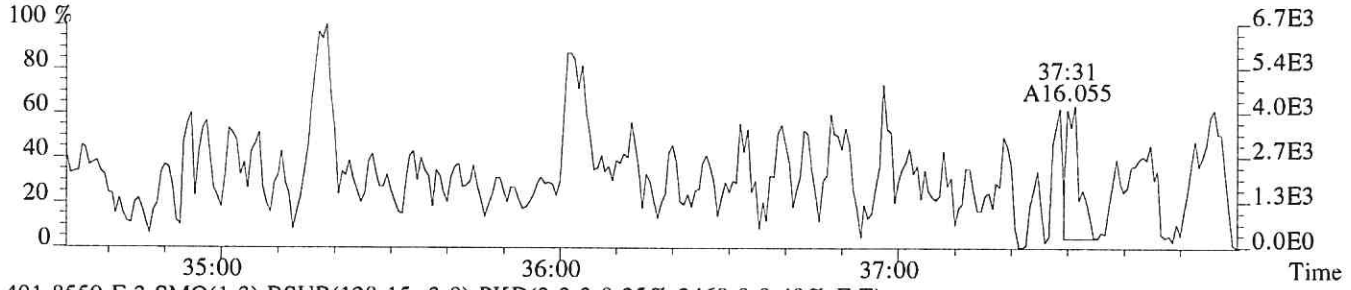
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



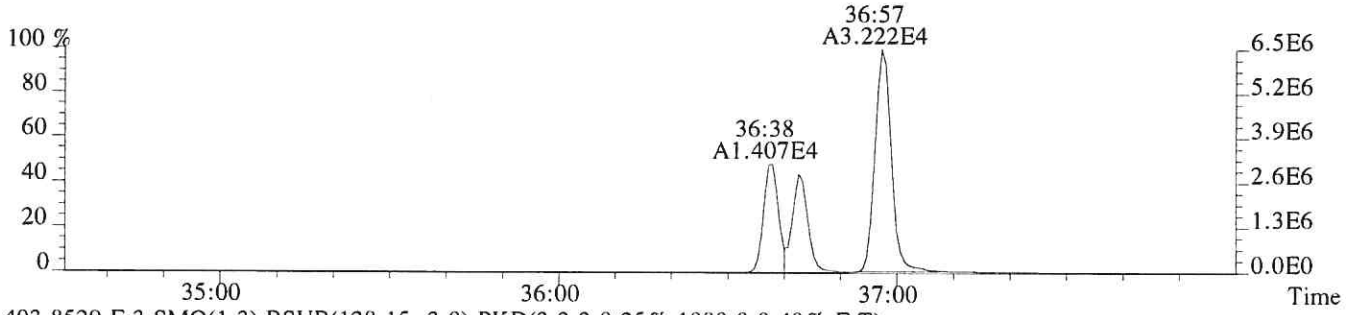
File:P511592 #1-312 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3392.0,0.40%,F,T)



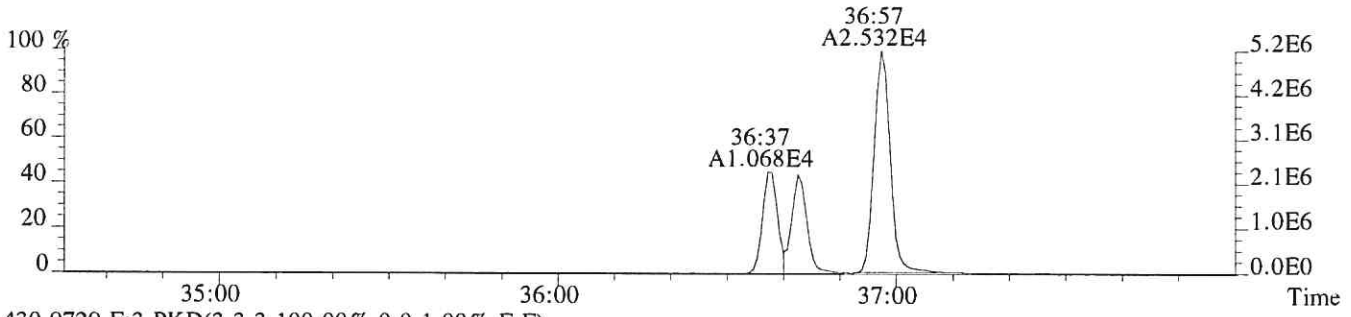
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2528.0,0.40%,F,T)



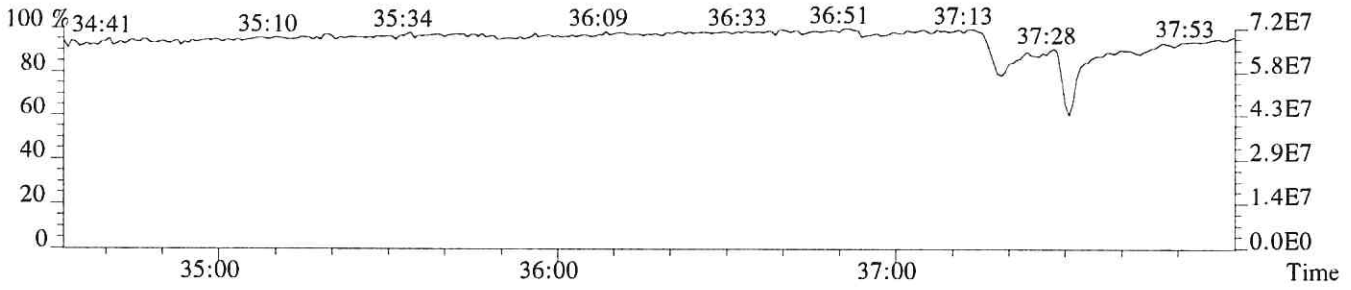
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2468.0,0.40%,F,T)



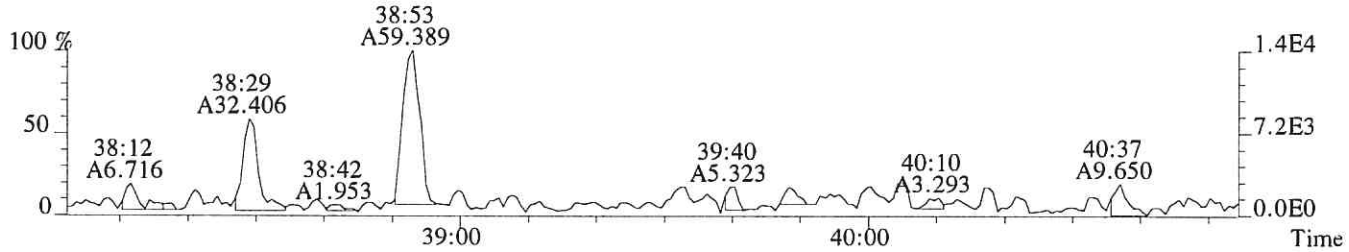
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1080.0,0.40%,F,T)



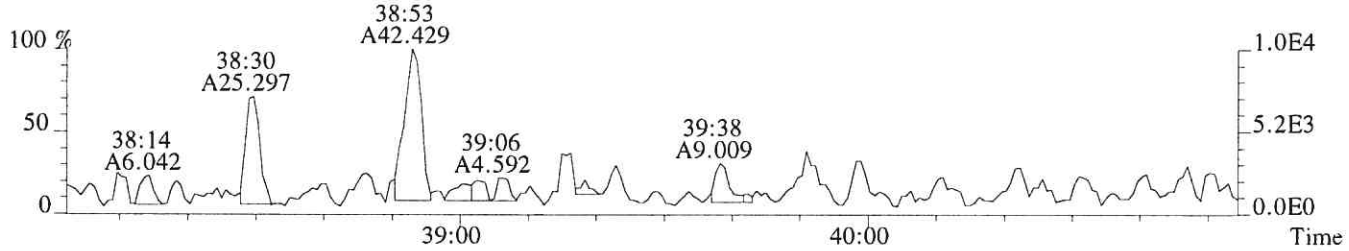
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



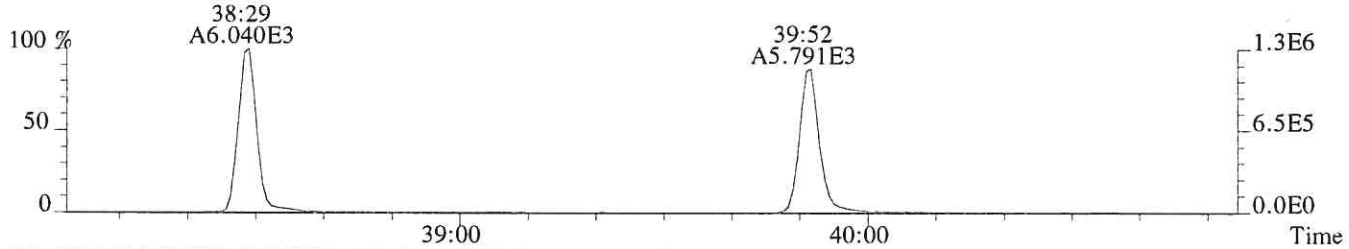
File:P511592 #1-259 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.50%,F,T)



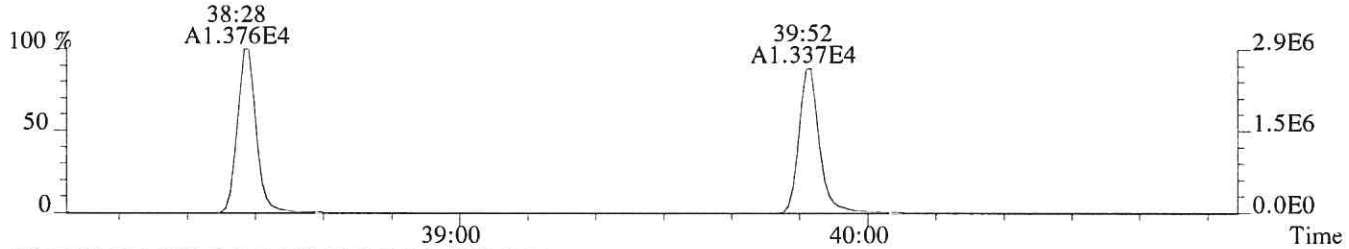
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.50%,F,T)



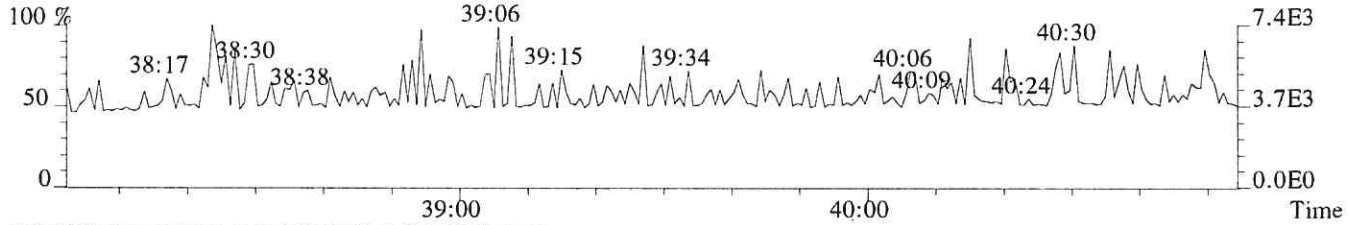
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2284.0,0.50%,F,T)



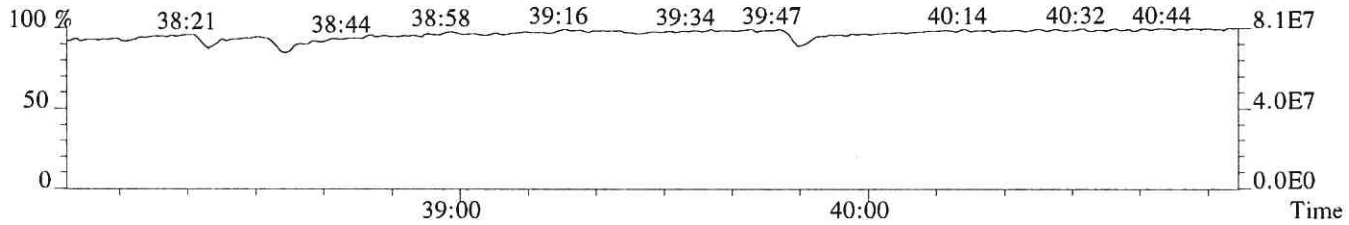
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.50%,F,T)



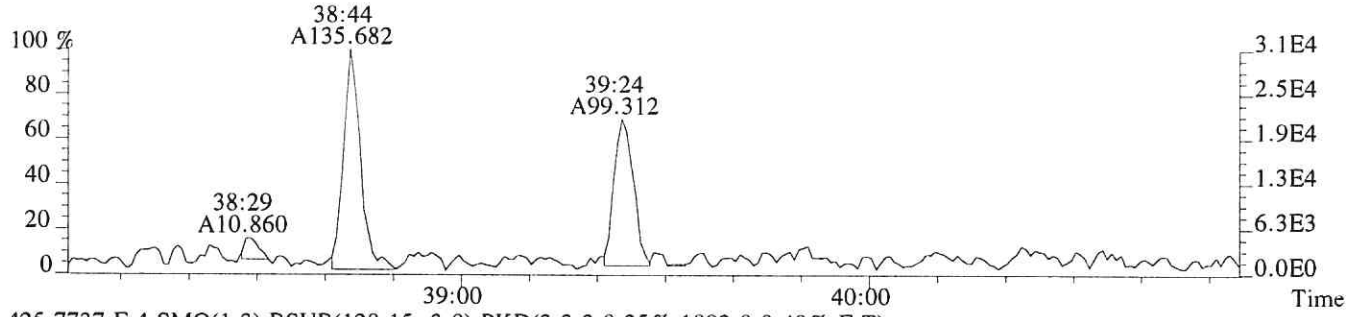
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



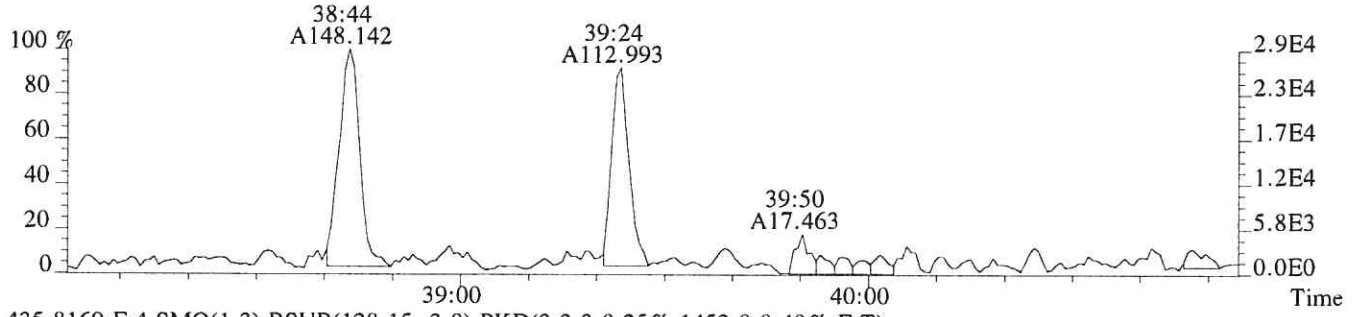
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



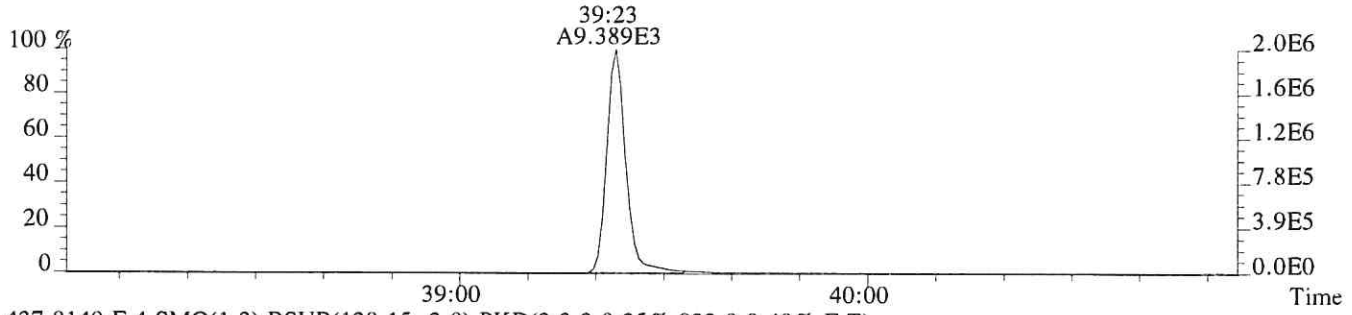
File:P511592 #1-259 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2480.0,0.40%,F,T)



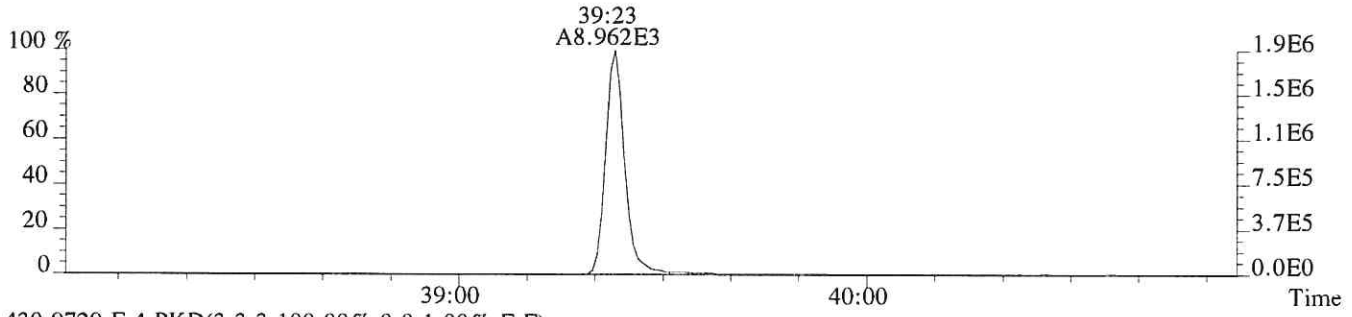
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1892.0,0.40%,F,T)



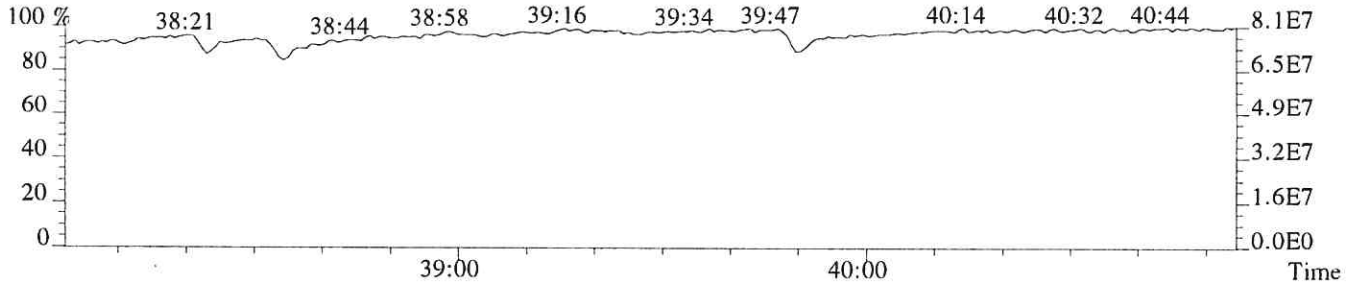
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1452.0,0.40%,F,T)



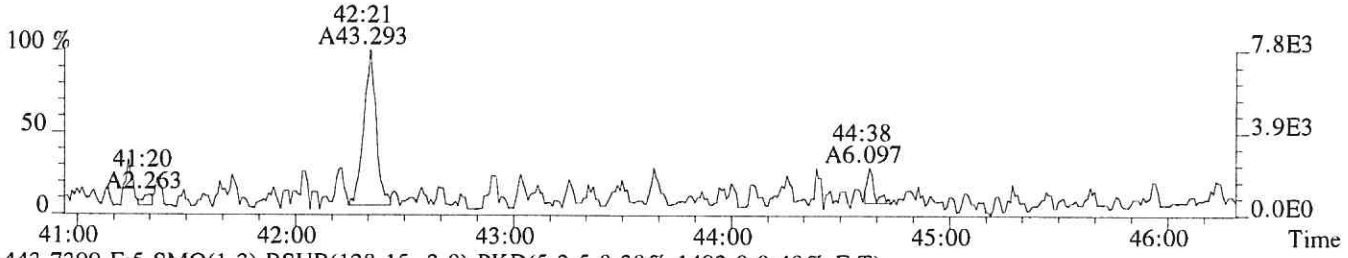
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



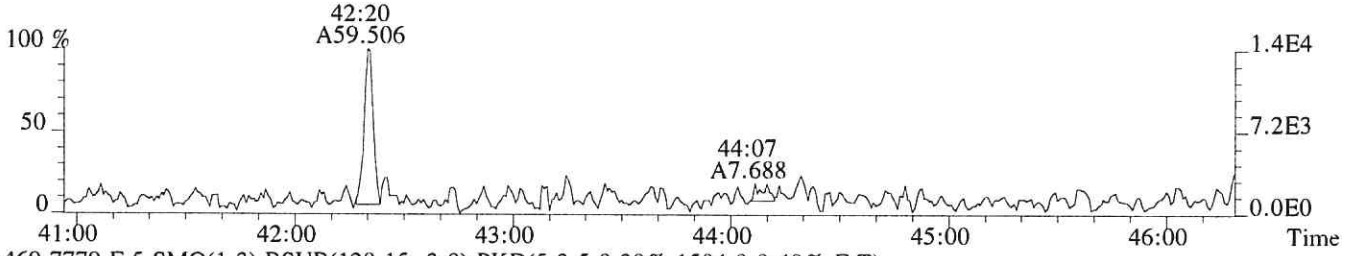
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



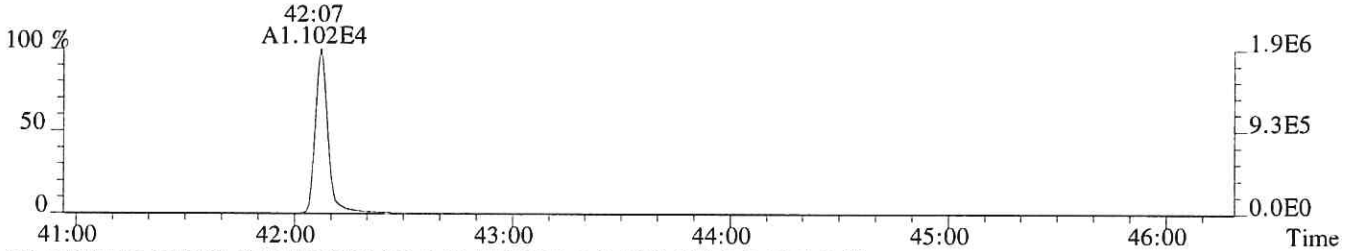
File:P511592 #1-484 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,868.0,0.40%,F,T)



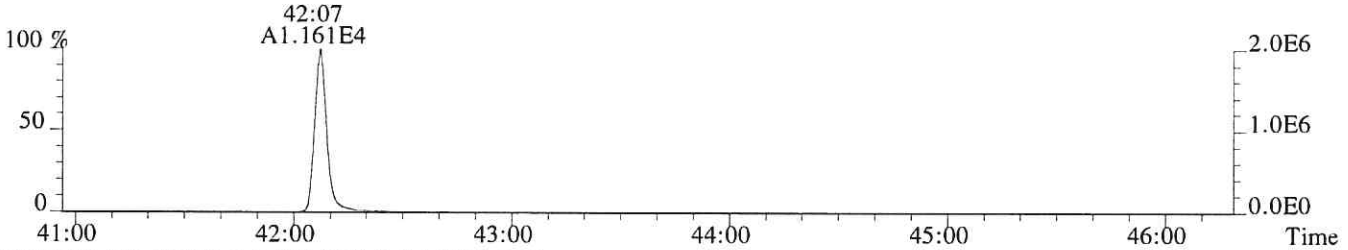
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1492.0,0.40%,F,T)



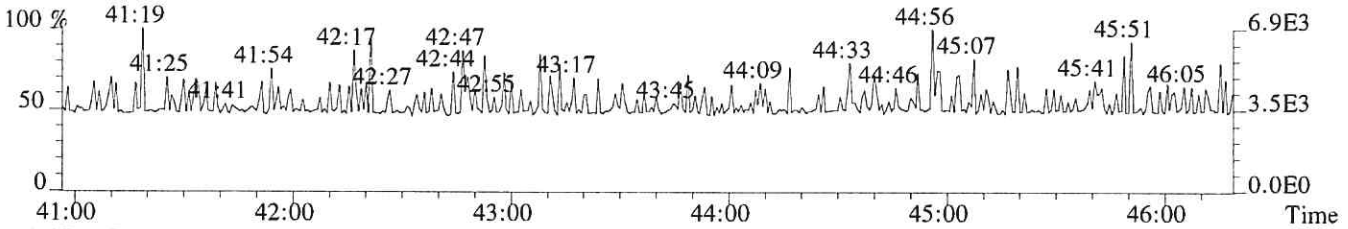
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1504.0,0.40%,F,T)



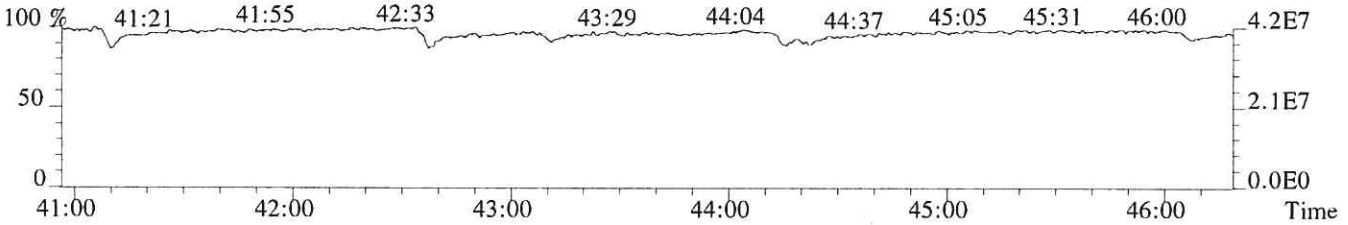
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



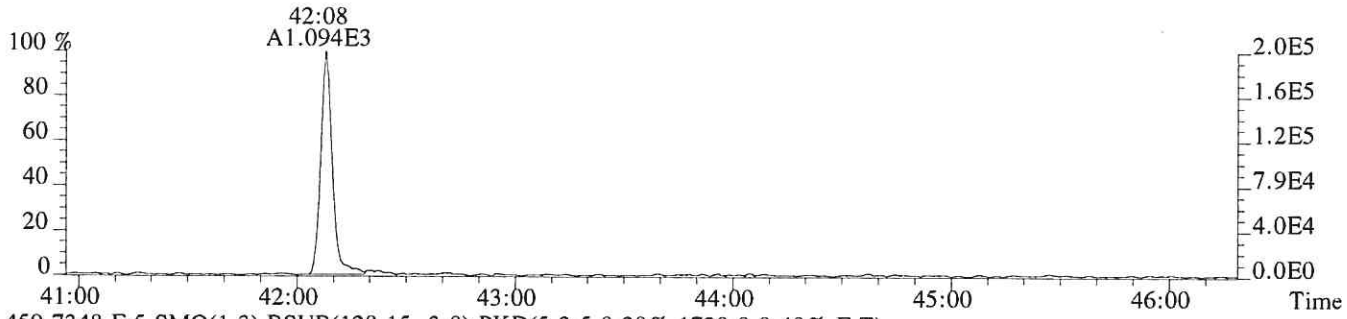
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



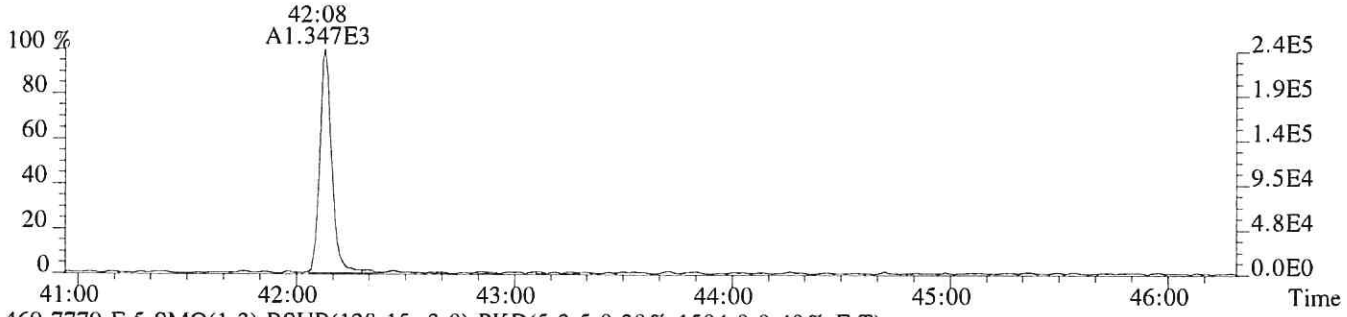
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



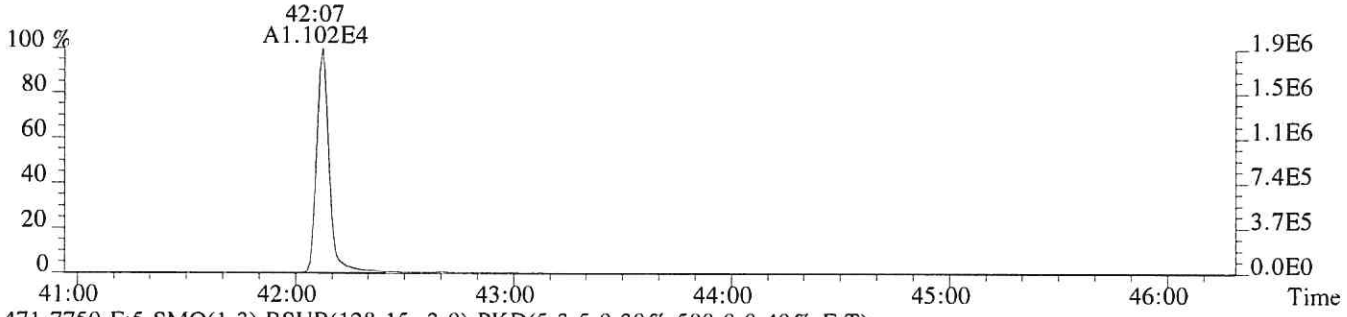
File:P511592 #1-484 Acq:26-SEP-2017 16:30:38 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-012
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1320.0,0.40%,F,T)



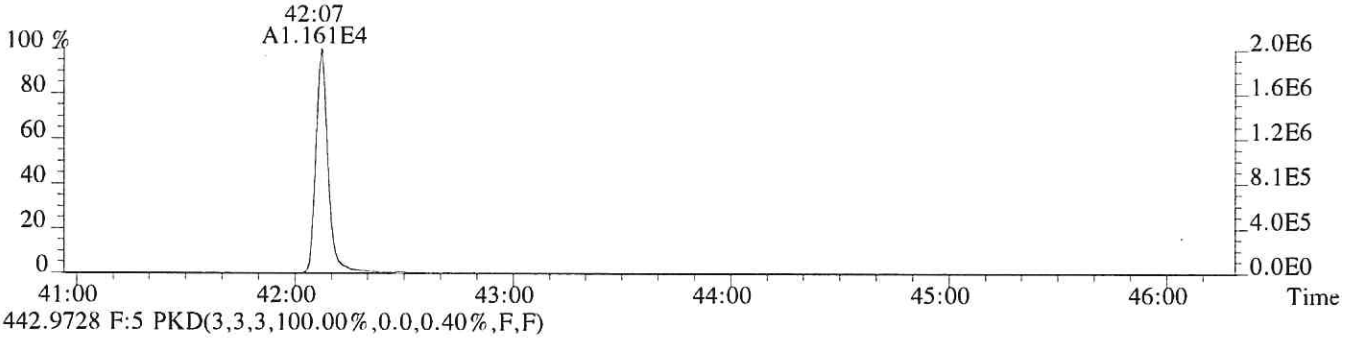
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1720.0,0.40%,F,T)



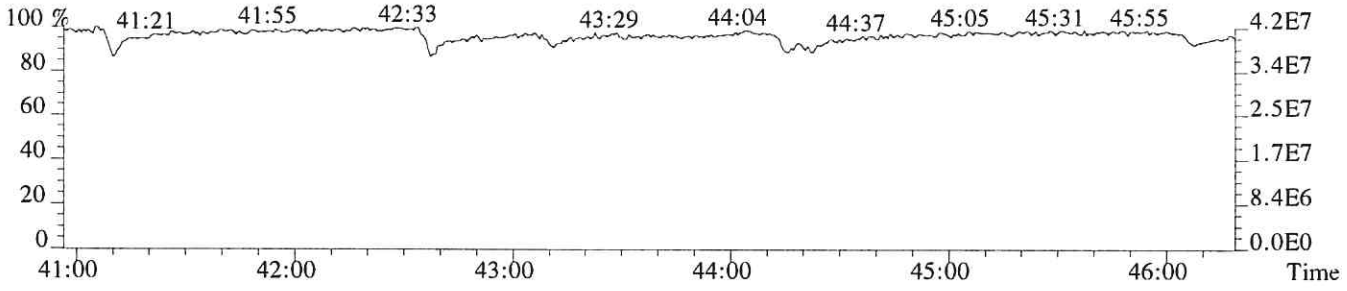
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1504.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-0

Run #17 Filename P609260 Samp: 1 Inj: 1 Acquired: 25-SEP-17 10:42:41
Processed: 25-SEP-17 15:57:06 Sample ID: E1700974-013

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	26:05	8.817e+02	1.049e+03	0.84	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:55	4.279e+01	2.934e+01	1.46	yes	yes	1.058
3	Unk	2,3,4,7,8-PeCDF	31:56	4.858e+01	2.201e+01	2.21	no	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:47	6.791e+01	5.613e+01	1.21	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:55	3.631e+01	1.428e+01	2.54	no	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:28	1.313e+01	1.625e+01	0.81	no	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:15	7.089e+00	8.505e+00	0.83	no	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:34	1.171e+02	1.403e+02	0.83	no	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:58	5.661e+00	2.450e+01	0.23	no	yes	1.341
10	Unk	OCDF	41:24	6.638e+02	7.567e+02	0.88	yes	yes	1.337
11	Unk	2,3,7,8-TCDD	27:01	2.019e+02	2.378e+02	0.85	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:14	1.168e+01	7.108e+00	1.64	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:35	1.023e+01	8.881e+00	1.15	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:41	3.617e+01	2.075e+01	1.74	no	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:56	2.590e+01	2.444e+01	1.06	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:31	7.882e+02	7.294e+02	1.08	yes	no	1.048
17	Unk	OCDD	41:14	1.764e+04	1.996e+04	0.88	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	26:04	7.801e+03	9.903e+03	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:54	1.462e+04	9.100e+03	1.61	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:55	1.403e+04	8.760e+03	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:47	7.266e+03	1.386e+04	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:53	8.572e+03	1.575e+04	0.54	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:27	7.507e+03	1.435e+04	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:14	6.940e+03	1.306e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:34	5.029e+03	1.116e+04	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:58	4.935e+03	1.074e+04	0.46	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:59	5.563e+03	7.380e+03	0.75	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:13	9.935e+03	6.530e+03	1.52	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:35	8.969e+03	7.170e+03	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:41	9.446e+03	7.215e+03	1.31	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:30	7.515e+03	6.959e+03	1.08	yes	no	0.884
32	IS	13C-OCDD	41:13	9.538e+03	1.059e+04	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:16	2.124e+04	2.672e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:55	3.076e+04	2.407e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:01	1.283e+04				no	1.072

$$\text{OCDD} = \frac{(1.764e{+}04 + 1.996e{+}04) \times 4000 \text{ pg} \times 1}{(9.538e{+}03 + 1.059e{+}04) \times 10.919 \text{ g} \times 31.2 / 100 \times 1.120} = 195.8 \text{ ng/kg}$$

VW 9/20/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-032

Run #17 Filename P609260 Samp: 1 Inj: 1 Acquired: 25-SEP-17 10:42:41
Processed: 25-SEP-17 15:57:06 LAB. ID: E1700974-013

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.35e+05	2.24e+02	6.0e+02	1.57e+05	7.84e+02	2.0e+02
2	1,2,3,7,8-PeCDF	5.80e+03	2.24e+02	2.6e+01	4.79e+03	1.92e+02	2.5e+01
3	2,3,4,7,8-PeCDF	9.58e+03	2.24e+02	4.3e+01	5.44e+03	1.92e+02	2.8e+01
4	1,2,3,4,7,8-HxCDF	1.26e+04	2.56e+02	4.9e+01	9.04e+03	2.52e+02	3.6e+01
5	1,2,3,6,7,8-HxCDF	5.78e+03	2.56e+02	2.3e+01	3.43e+03	2.52e+02	1.4e+01
6	2,3,4,6,7,8-HxCDF	2.73e+03	2.56e+02	1.1e+01	2.33e+03	2.52e+02	9.2e+00
7	1,2,3,7,8,9-HxCDF	1.75e+03	2.56e+02	6.8e+00	2.83e+03	2.52e+02	1.1e+01
8	1,2,3,4,6,7,8-HpCDF	2.07e+04	2.40e+02	8.6e+01	2.97e+04	2.12e+02	1.4e+02
9	1,2,3,4,7,8,9-HpCDF	1.53e+03	2.40e+02	6.4e+00	4.66e+03	2.12e+02	2.2e+01
10	OCDF	9.41e+04	2.24e+02	4.2e+02	9.77e+04	2.76e+02	3.5e+02
11	2,3,7,8-TCDD	2.91e+04	1.96e+02	1.5e+02	3.53e+04	1.96e+02	1.8e+02
12	1,2,3,7,8-PeCDD	2.03e+03	1.92e+02	1.1e+01	1.90e+03	2.32e+02	8.2e+00
13	1,2,3,4,7,8-HxCDD	3.16e+03	3.04e+02	1.0e+01	1.95e+03	1.64e+02	1.2e+01
14	1,2,3,6,7,8-HxCDD	7.03e+03	3.04e+02	2.3e+01	5.00e+03	1.64e+02	3.1e+01
15	1,2,3,7,8,9-HxCDD	6.01e+03	3.04e+02	2.0e+01	5.49e+03	1.64e+02	3.3e+01
16	1,2,3,4,6,7,8-HpCDD	1.46e+05	4.28e+02	3.4e+02	1.39e+05	7.32e+02	1.9e+02
17	OCDD	2.37e+06	2.40e+02	9.9e+03	2.62e+06	2.56e+02	1.0e+04
18	13C-2,3,7,8-TCDF	1.09e+06	4.21e+03	2.6e+02	1.45e+06	2.31e+03	6.3e+02
19	13C-1,2,3,7,8-PeCDF	2.38e+06	8.40e+02	2.8e+03	1.47e+06	1.48e+02	1.0e+04
20	13C-2,3,4,7,8-PeCDF	2.45e+06	8.40e+02	2.9e+03	1.51e+06	1.48e+02	1.0e+04
21	13C-1,2,3,4,7,8-HxCDF	1.45e+06	2.32e+02	6.2e+03	2.75e+06	2.48e+02	1.1e+04
22	13C-1,2,3,6,7,8-HxCDF	1.54e+06	2.32e+02	6.6e+03	2.88e+06	2.48e+02	1.2e+04
23	13C-2,3,4,6,7,8-HxCDF	1.49e+06	2.32e+02	6.4e+03	2.83e+06	2.48e+02	1.1e+04
24	13C-1,2,3,7,8,9-HxCDF	1.28e+06	2.32e+02	5.5e+03	2.32e+06	2.48e+02	9.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.66e+05	2.76e+02	3.5e+03	2.15e+06	2.48e+03	8.7e+02
26	13C-1,2,3,4,7,8,9-HpCDF	8.63e+05	2.76e+02	3.1e+03	1.86e+06	2.48e+03	7.5e+02
27	13C-2,3,7,8-TCDD	8.27e+05	5.15e+03	1.6e+02	1.17e+06	1.92e+03	6.1e+02
28	13C-1,2,3,7,8-PeCDD	1.78e+06	1.80e+02	9.9e+03	1.17e+06	2.76e+02	4.2e+03
29	13C-1,2,3,4,7,8-HxCDD	1.88e+06	2.28e+02	8.2e+03	1.51e+06	1.92e+02	7.9e+03
30	13C-1,2,3,6,7,8-HxCDD	1.83e+06	2.28e+02	8.0e+03	1.42e+06	1.92e+02	7.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.38e+06	1.68e+02	8.2e+03	1.27e+06	1.92e+02	6.6e+03
32	13C-OCDD	1.25e+06	2.56e+02	4.9e+03	1.39e+06	2.12e+02	6.6e+03
33	13C-1,2,3,4-TCDD	3.29e+06	5.15e+03	6.4e+02	4.24e+06	1.92e+03	2.2e+03
34	13C-1,2,3,7,8,9-HxCDD	5.75e+06	2.28e+02	2.5e+04	4.61e+06	1.92e+02	2.4e+04
35	37Cl-2,3,7,8-TCDD	2.04e+06	1.96e+02	1.0e+04			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (1.960e{+}02 + 1.960e{+}02\ ) \times 2000}{(8.267e{+}05 + 1.168e{+}06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.055} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032

Entry: 36 Totals Name: Total Tetra-Furans

Run: 17 File: P609260 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 303.9020 305.8990 Tot Response: 3.34e+03 RRF: 1.020

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	23:46	5.00e+01	6.00e+01	0.83	yes	1.10e+02		n	n
2	24:31	3.86e+01	4.65e+01	0.83	yes	8.51e+01		n	n
3	25:04	4.00e+02	4.62e+02	0.86	yes	8.61e+02		n	n
4	26:05	8.82e+02	1.05e+03	0.84	yes	1.93e+03	2,3,7,8-TCDF	n	n
5	26:29	7.33e+01	1.03e+02	0.71	yes	1.76e+02		n	n
6	28:15	7.41e+01	9.84e+01	0.75	yes	1.73e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-032

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 17 File: P609260 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 319.8970 321.8940 Tot Response: 4.83e+02 RRF: 1.055

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:01	2.02e+02	2.38e+02	0.85	yes	4.40e+02	2,3,7,8-TCDD	n	n
2	27:22	1.88e+01	2.45e+01	0.77	yes	4.33e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032

Entry: 39 Totals Name: Total Penta-Furans2

Run: 17 File: P609260 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 339.8600 341.8570 Tot Response: 7.21e+01 RRF: 1.036

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:55	4.28e+01	2.93e+01	1.46	yes	7.21e+01	1,2,3,7,8-PeCDF	n	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-032

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 17 File: P609260 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 355.8550 357.8520 Tot Response: 7.45e+01 RRF: 0.9636

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:26	3.52e+01	2.06e+01	1.71	yes	5.57e+01		n	n
2	32:14	1.17e+01	7.11e+00	1.64	yes	1.88e+01	1,2,3,7,8-PeCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032

Entry: 41 Totals Name: Total Hexa-Furans

Run: 17 File: P609260 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 373.8210 375.8180 Tot Response: 3.11e+02 RRF: 1.207

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:46	5.80e+01	4.30e+01	1.35	yes	1.01e+02		n	n
2	34:20	5.01e+01	3.56e+01	1.41	yes	8.57e+01		n	n
3	34:47	6.79e+01	5.61e+01	1.21	yes	1.24e+02	1,2,3,4,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 17 File: P609260 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 389.8160 391.8130 Tot Response: 7.92e+02 RRF: 1.085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:10	4.04e+02	3.18e+02	1.27	yes	7.23e+02		n	n
2	35:35	1.02e+01	8.88e+00	1.15	yes	1.91e+01	1,2,3,4,7,8-HxCDD	n	n
3	35:56	2.59e+01	2.44e+01	1.06	yes	5.03e+01	1,2,3,7,8,9-HxCDD	n	n

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
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Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-032

Entry: 43 Totals Name: Total Hepta-Furans

Run: 17 File: P609260 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 407.7820 409.7790 Tot Response: 2.91e+02 RRF: 1.368

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:00	1.56e+02	1.34e+02	1.16	yes	2.91e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-032

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 17 File: P609260 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 10:42:41 Processed: 25-SEP-17 15:57:06

Mass: 423.7770 425.7740 Tot Response: 5.98e+03 RRF: 1.048

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:50	2.32e+03	2.14e+03	1.08	yes	4.46e+03		n	n
2	38:31	7.88e+02	7.29e+02	1.08	yes	1.52e+03	1,2,3,4,6,7,8-HpCDD	n	n

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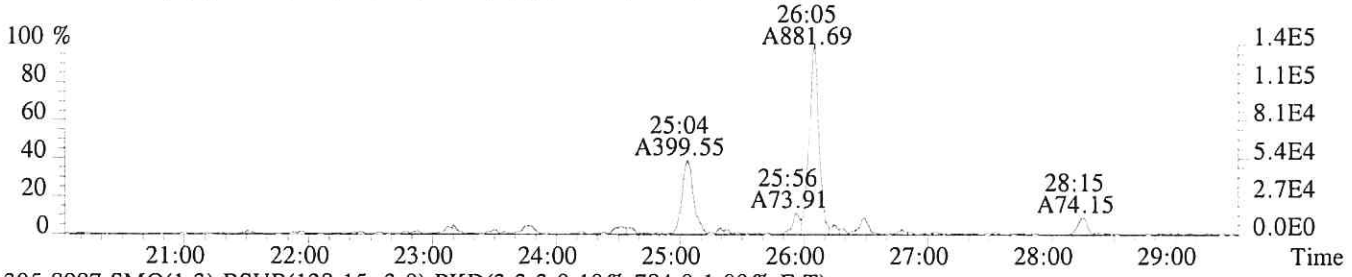
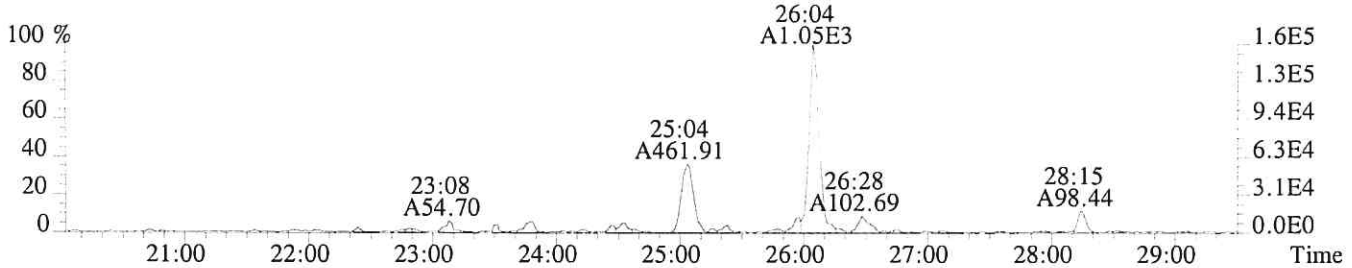
File:P609260 #1-672 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

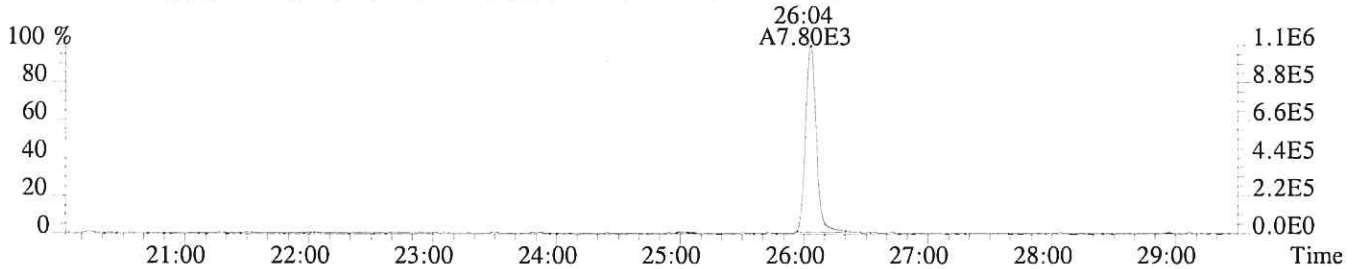
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



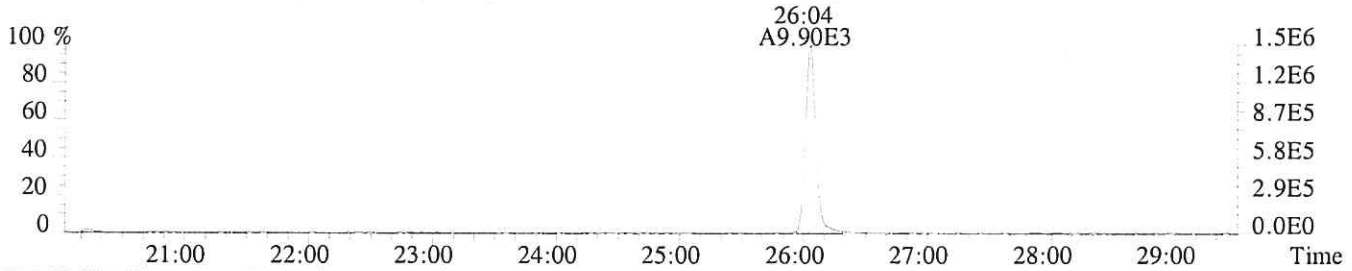
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,T)



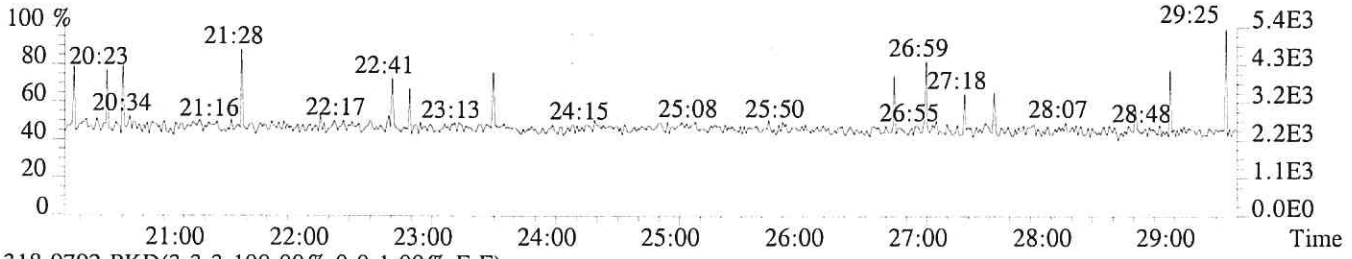
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4212.0,1.00%,F,T)



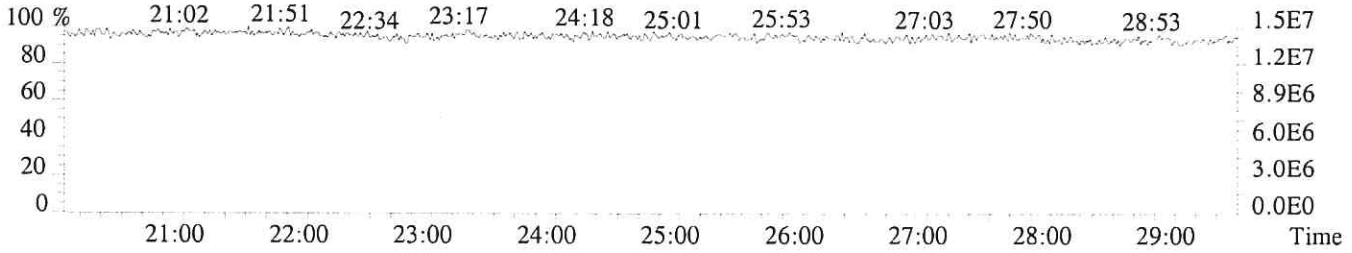
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

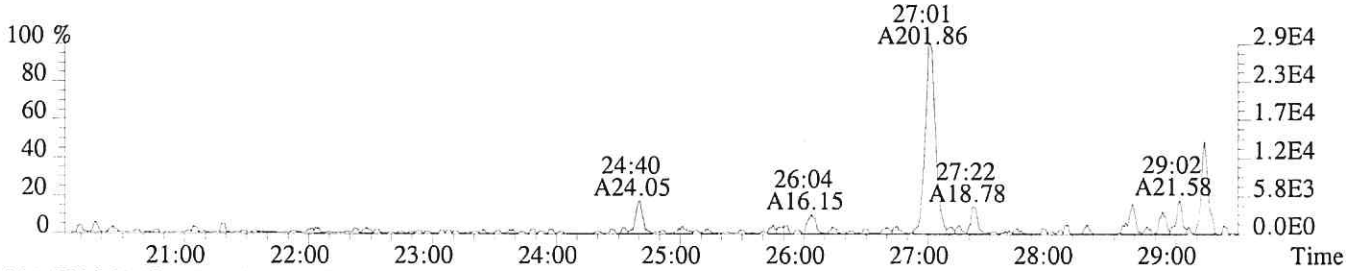


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

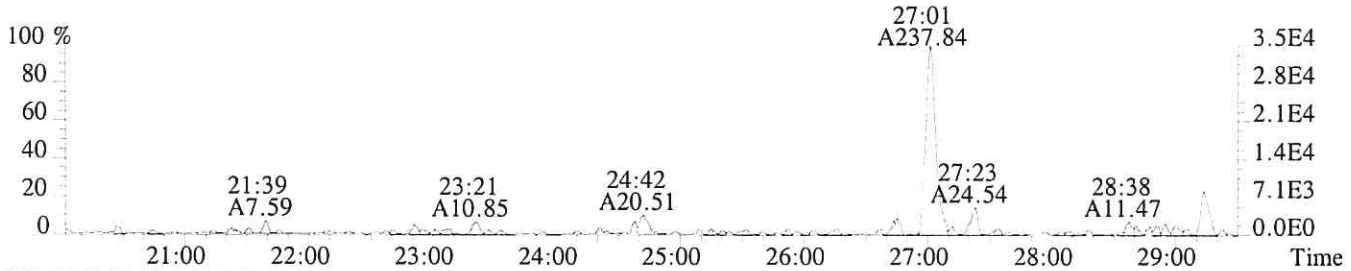


File:P609260 #1-672 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

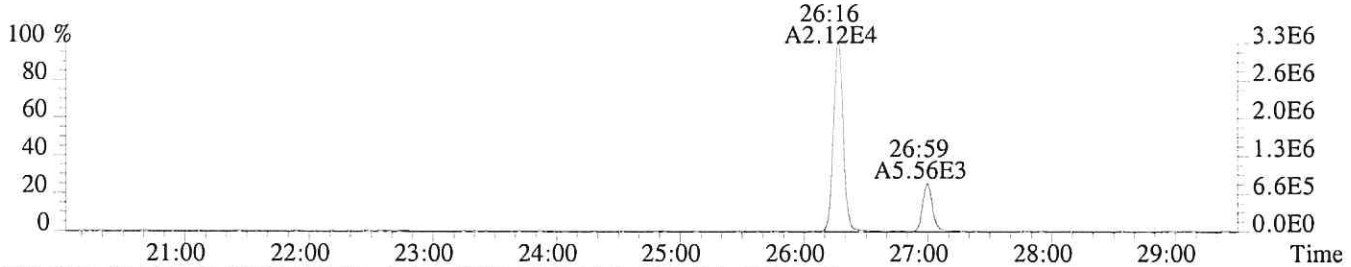
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



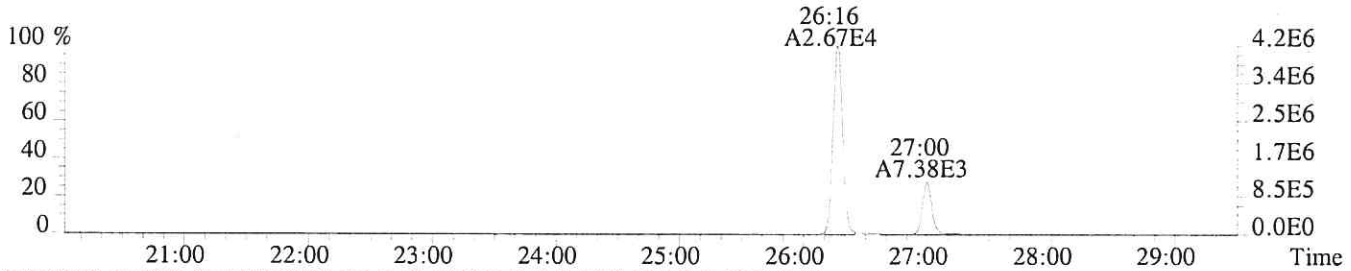
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



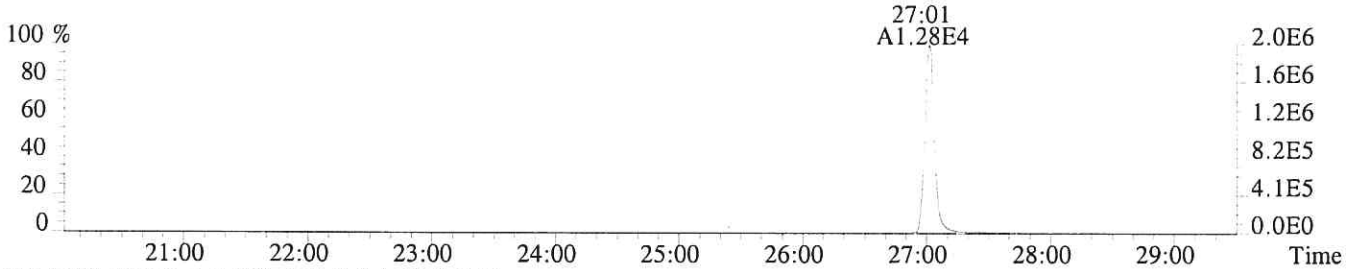
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5152.0,1.00%,F,T)



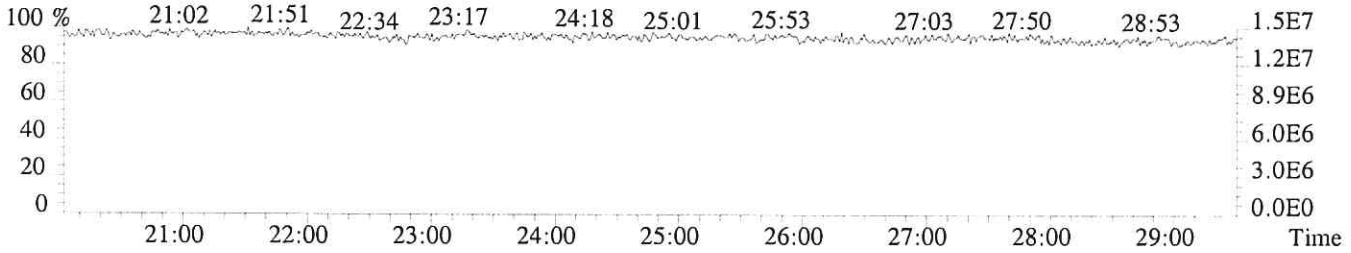
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)

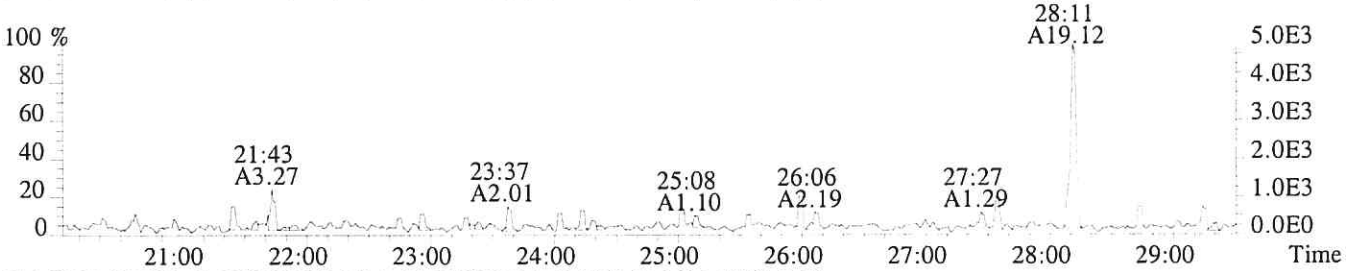


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

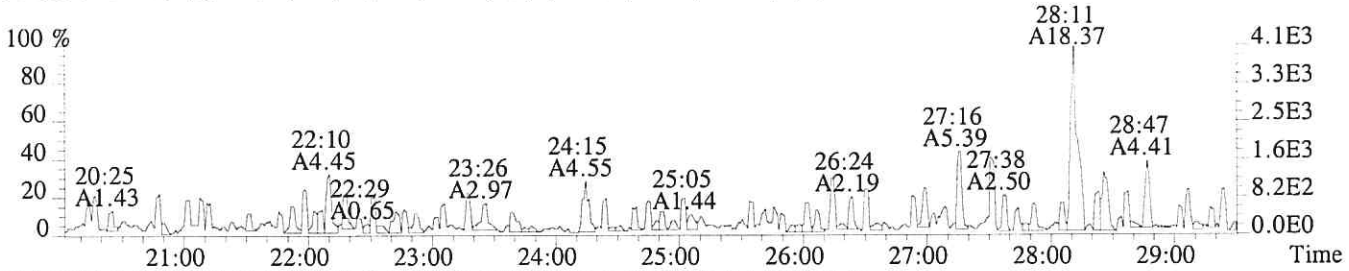


File:P609260 #1-672 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

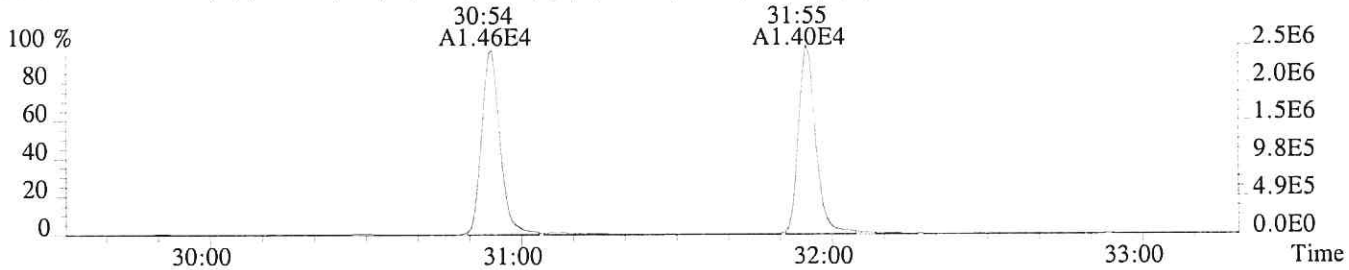
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



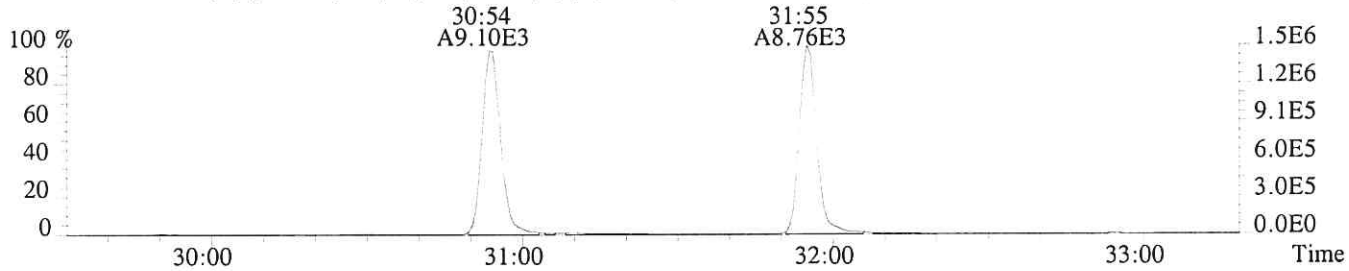
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



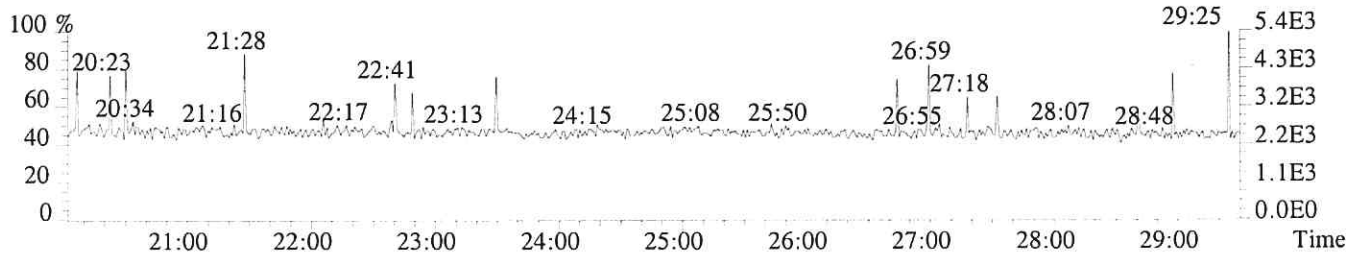
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



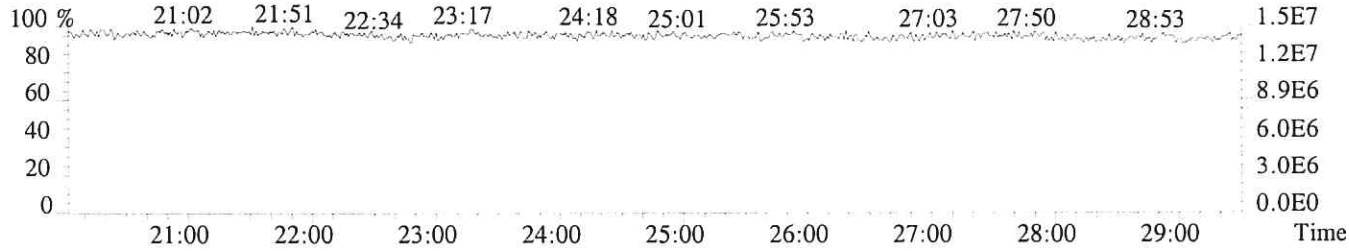
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

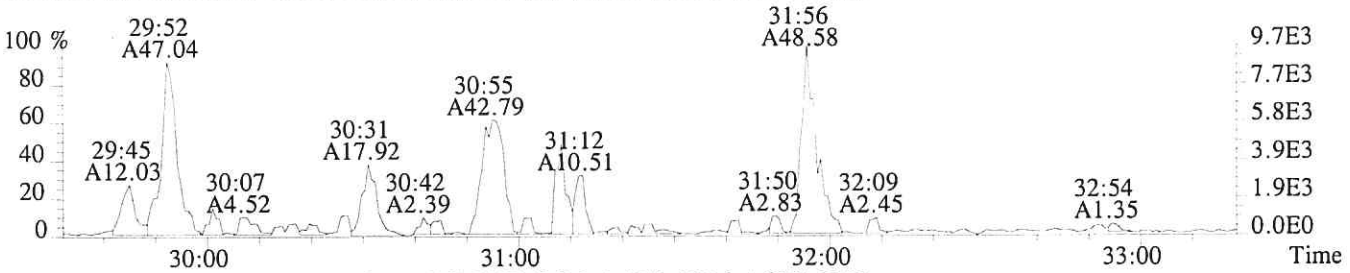


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

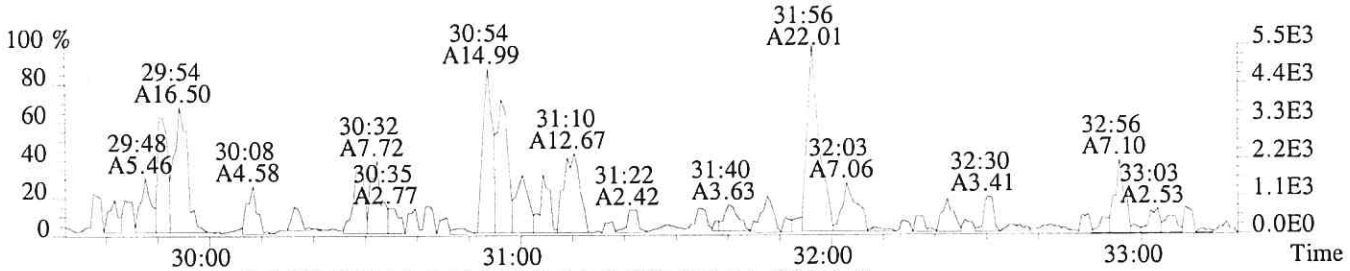


File:P609260 #1-340 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

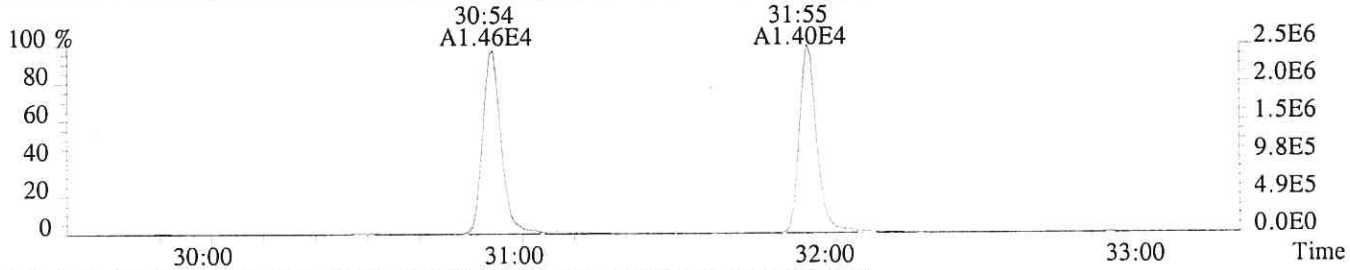
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



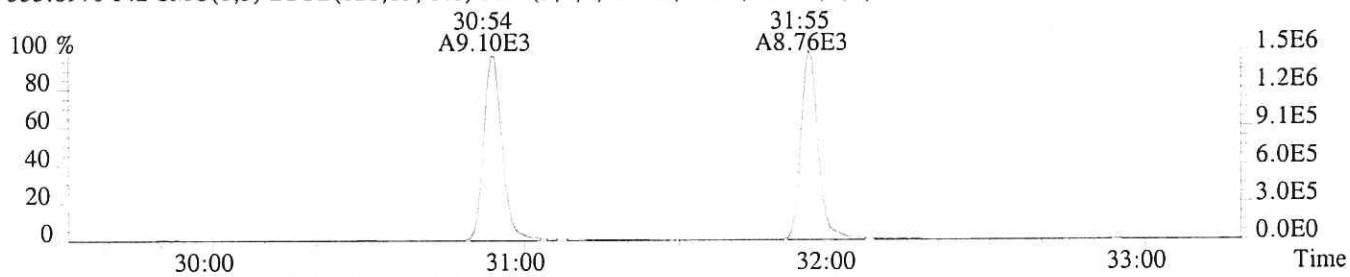
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



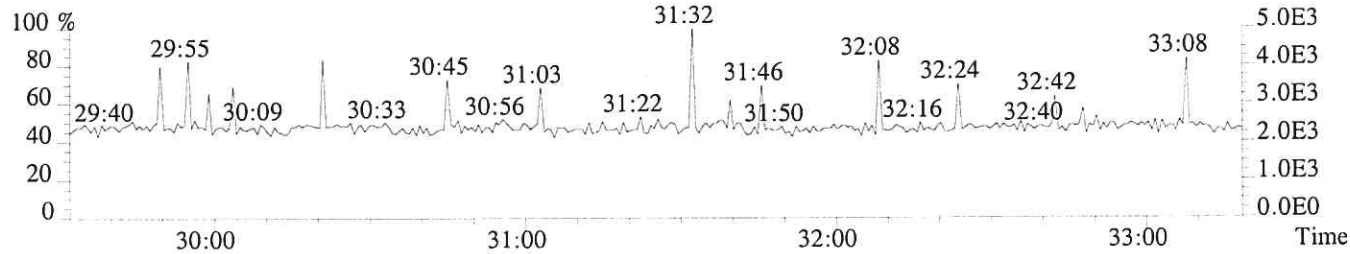
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



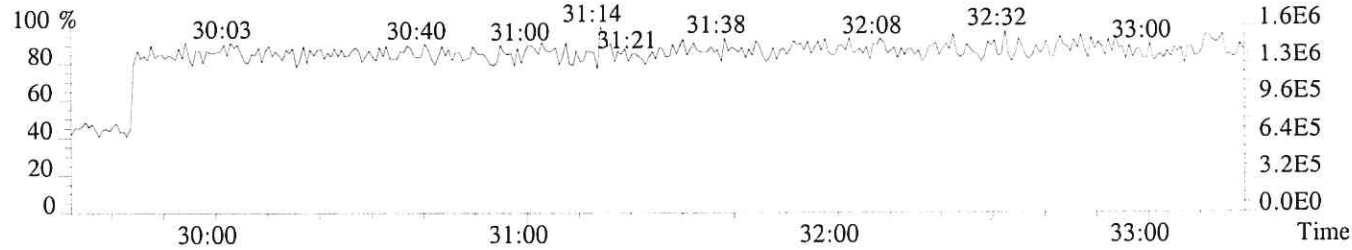
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



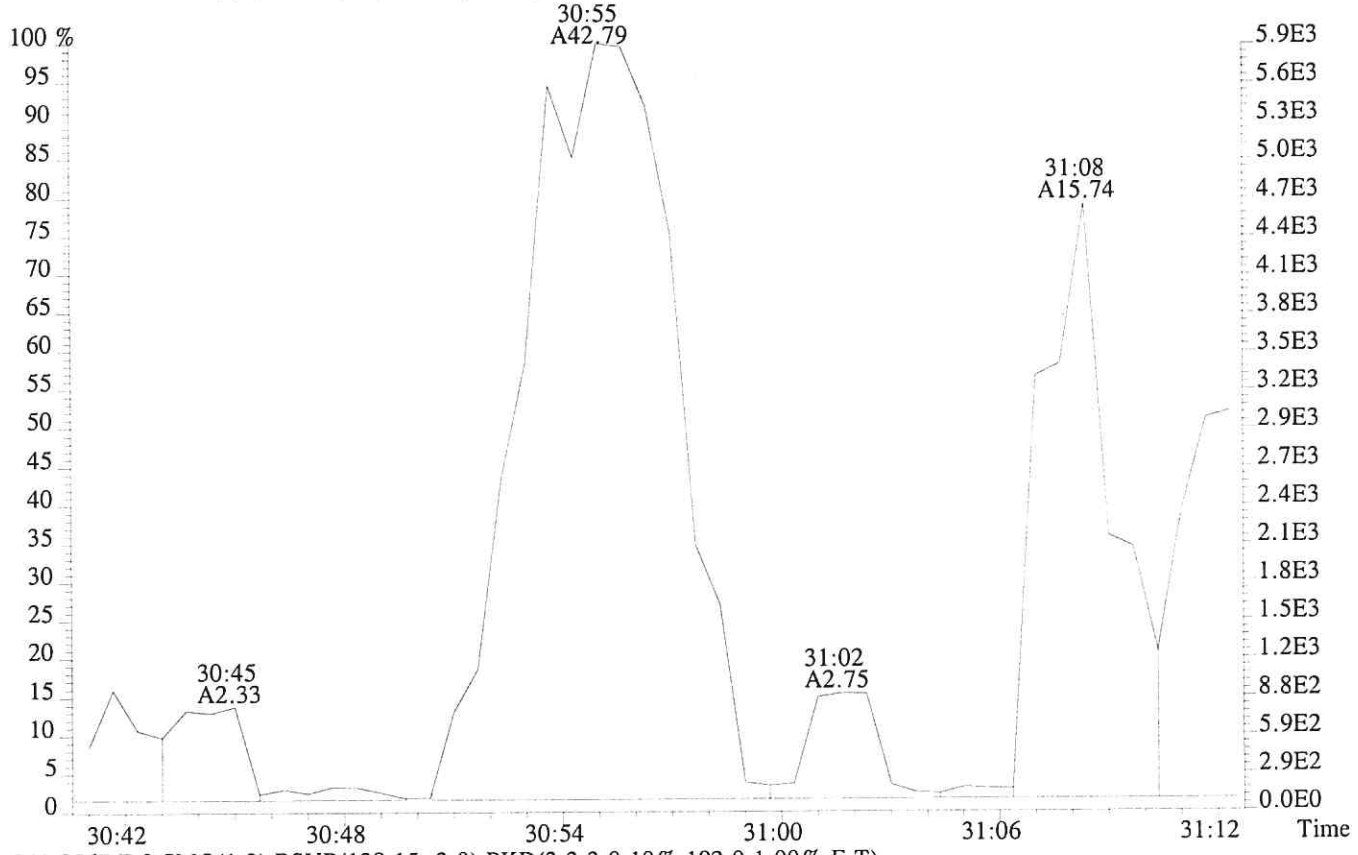
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



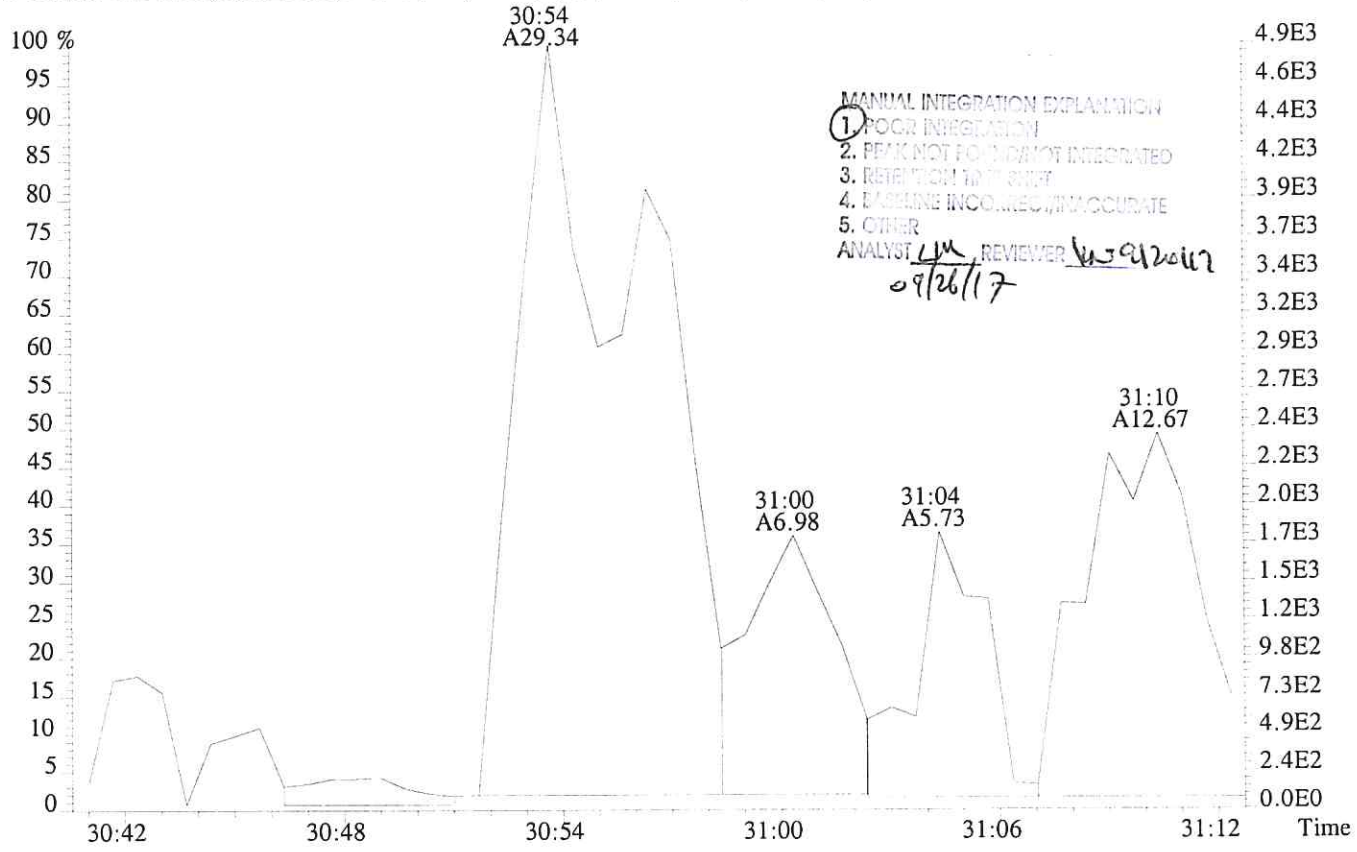
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609260 #1-340 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)

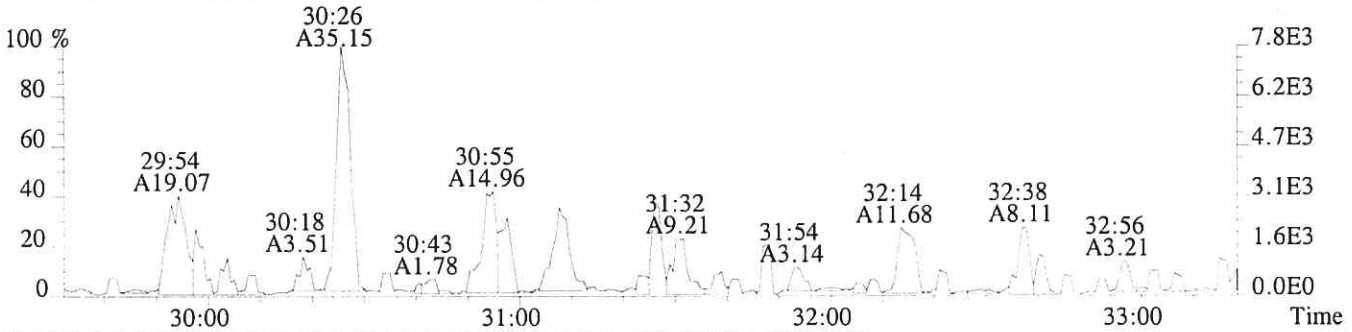


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)

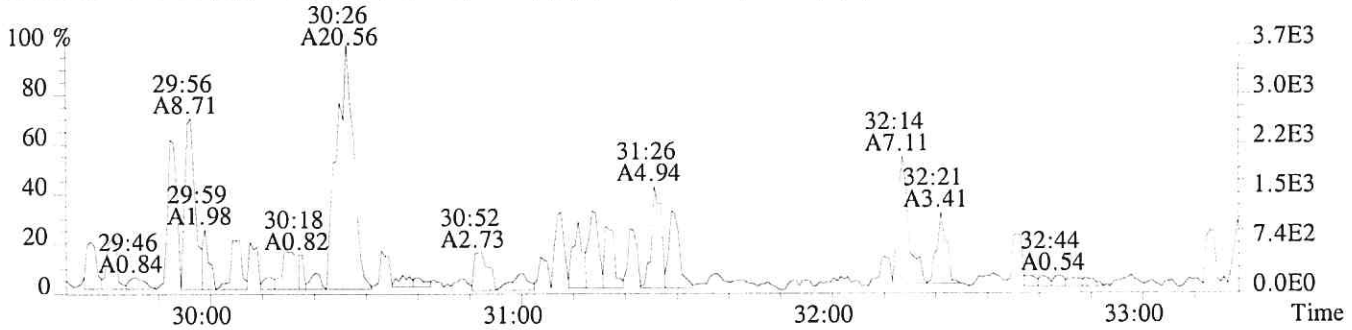


File:P609260 #1-340 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

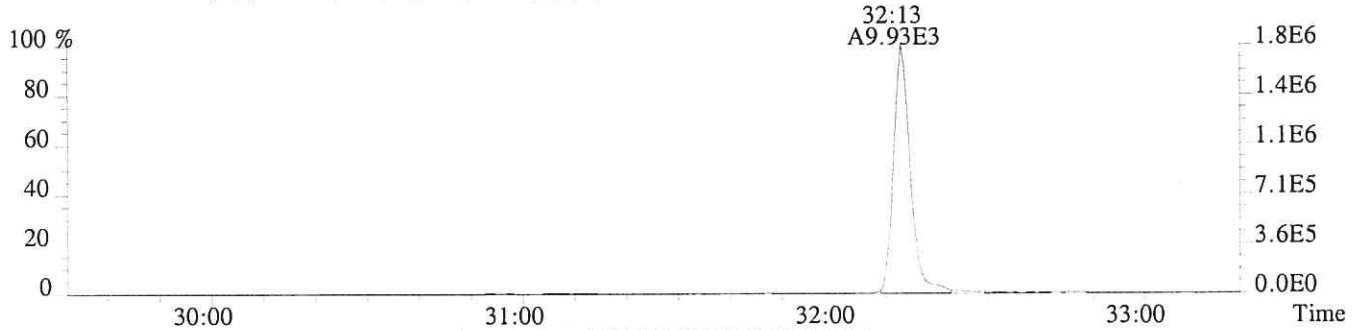
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



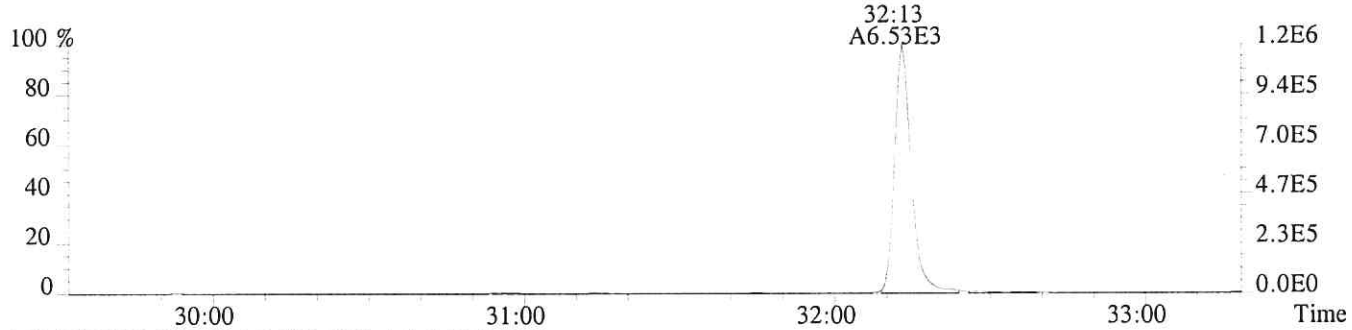
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



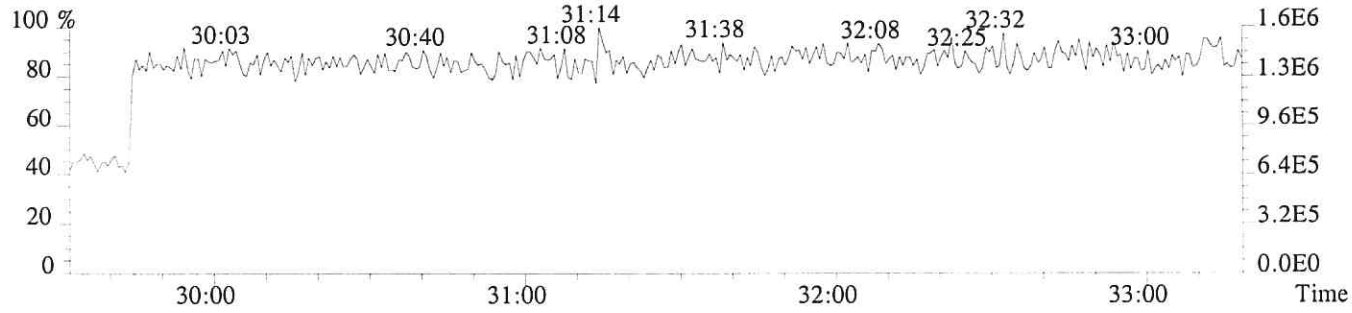
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,T)

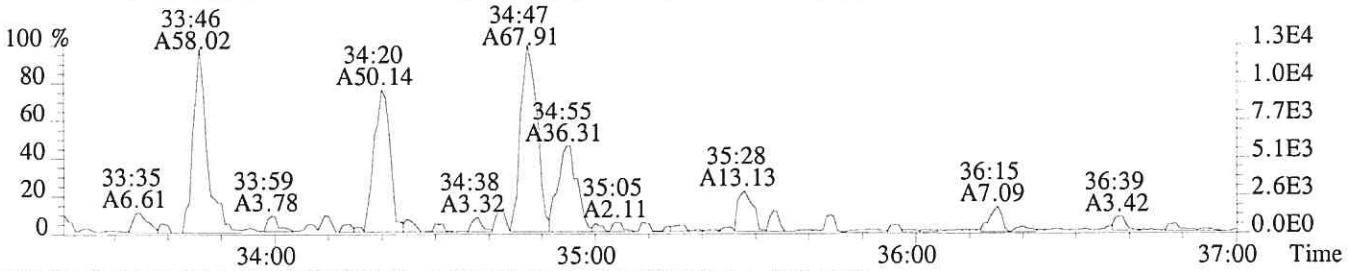


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

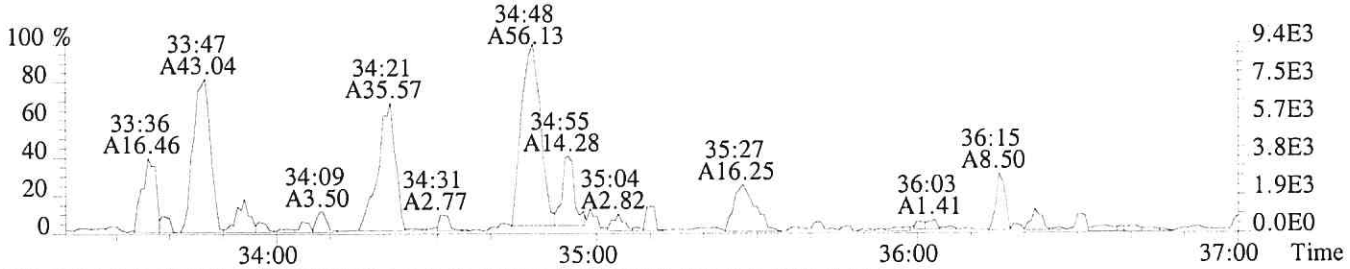


File:P609260 #1-330 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

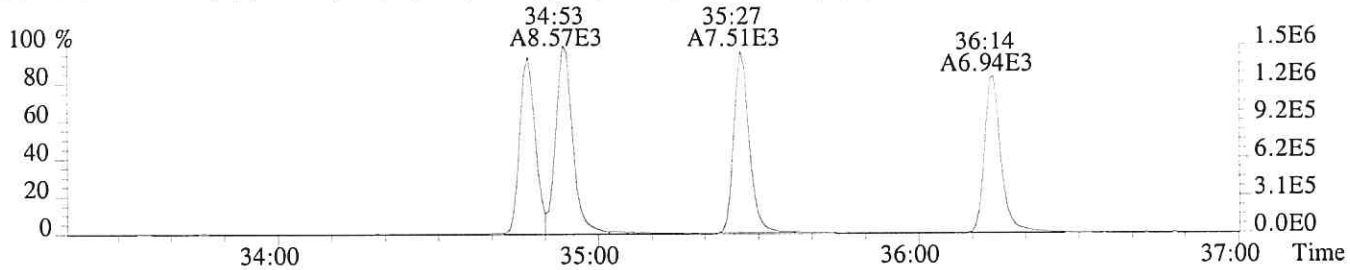
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



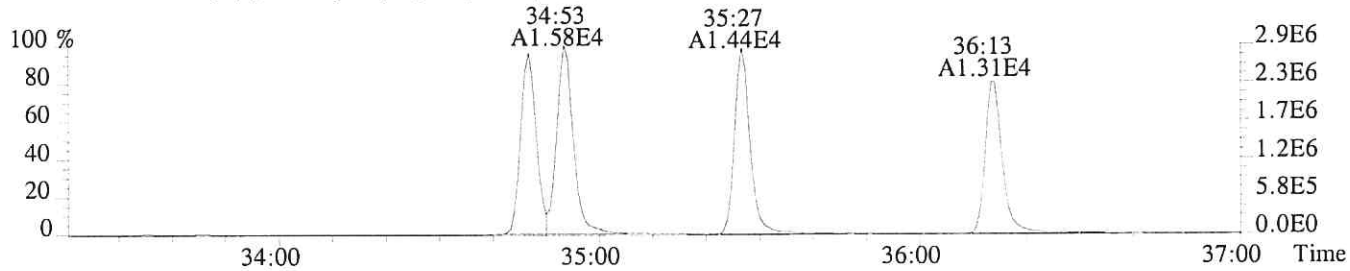
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,252.0,0.40%,F,T)



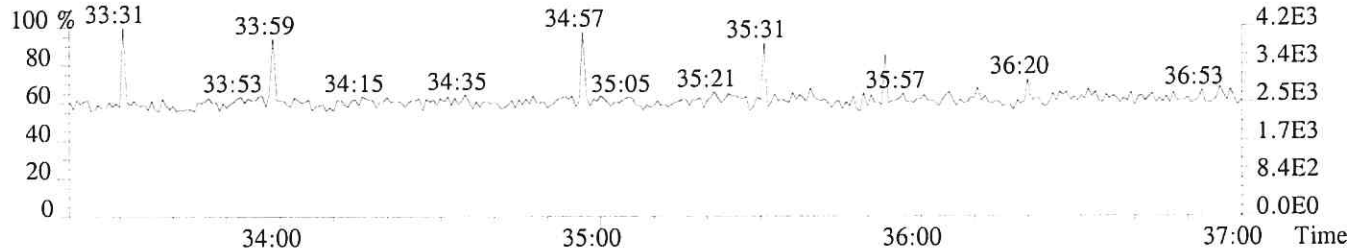
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



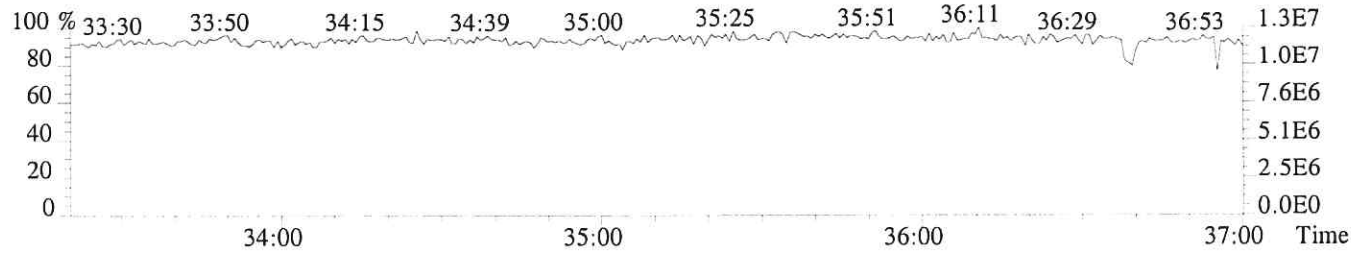
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

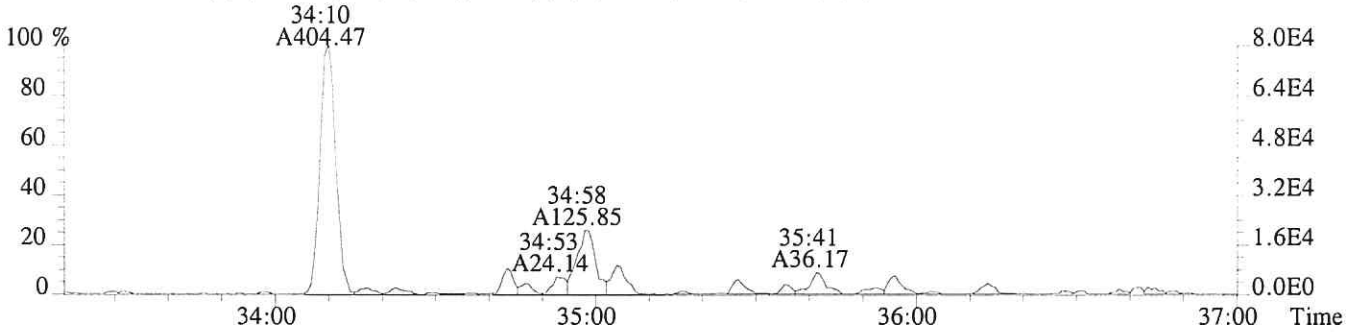


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

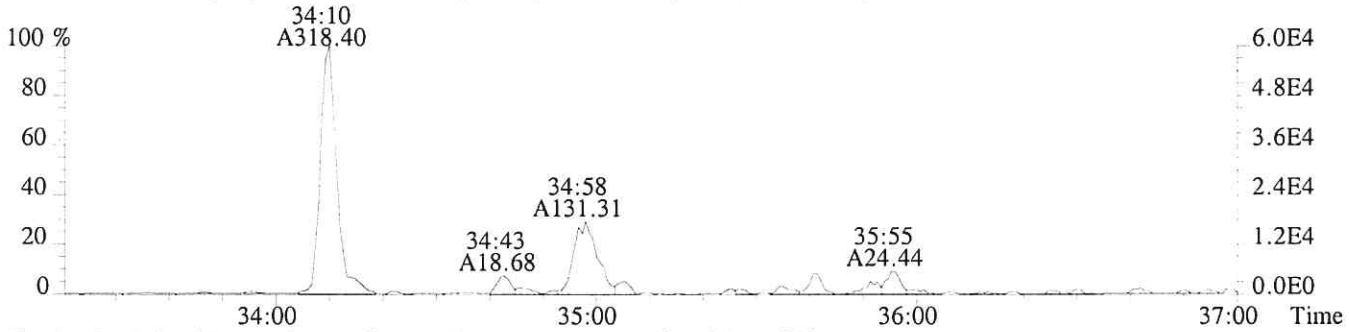


File:P609260 #1-330 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

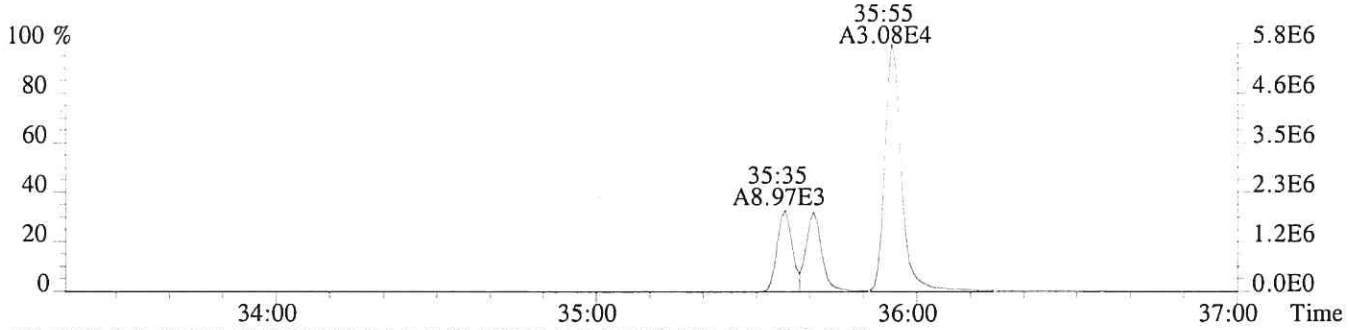
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



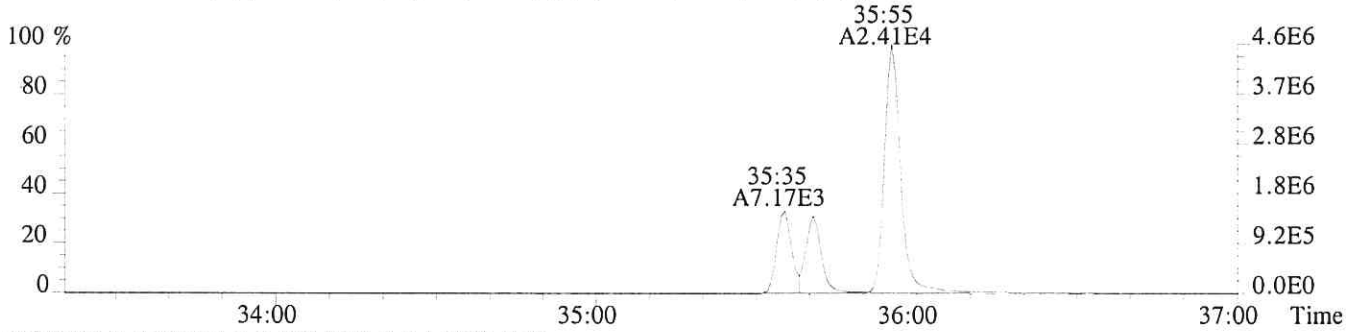
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,164.0,0.40%,F,T)



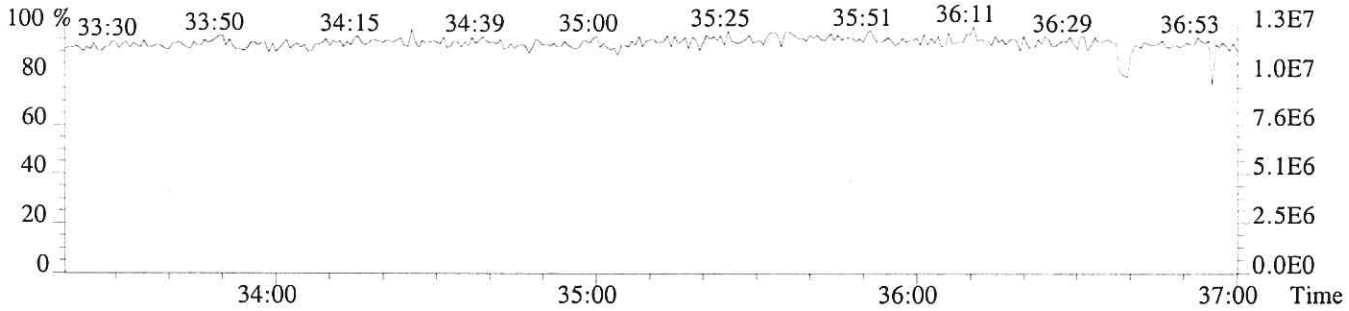
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)

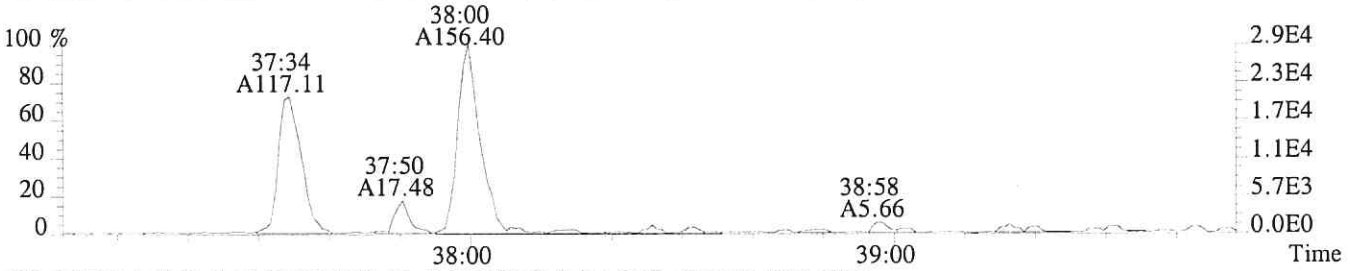


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

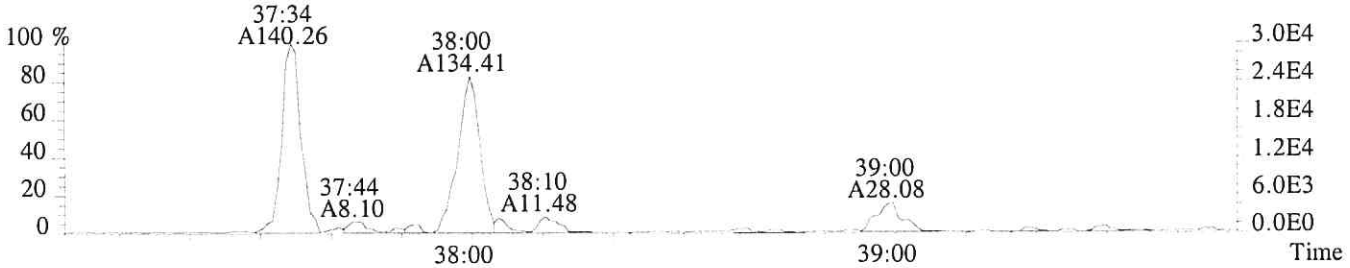


File:P609260 #1-250 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

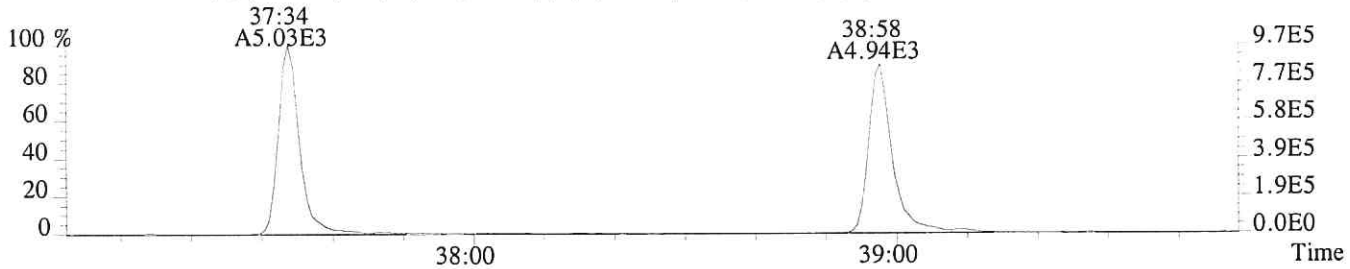
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.50%,F,T)



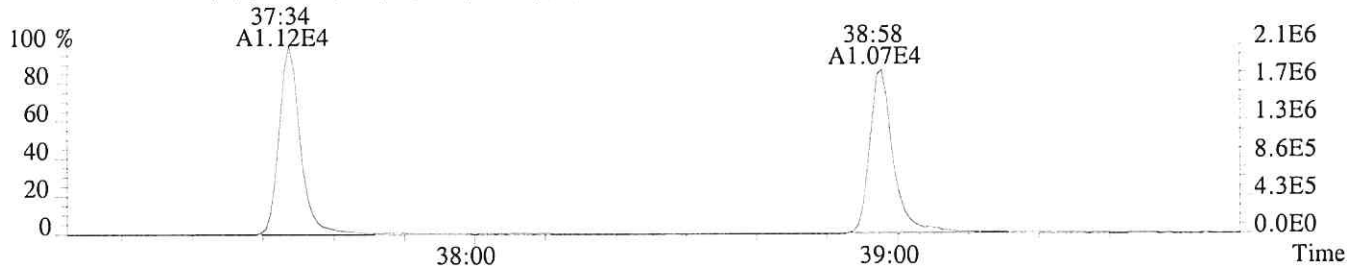
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,212.0,0.50%,F,T)



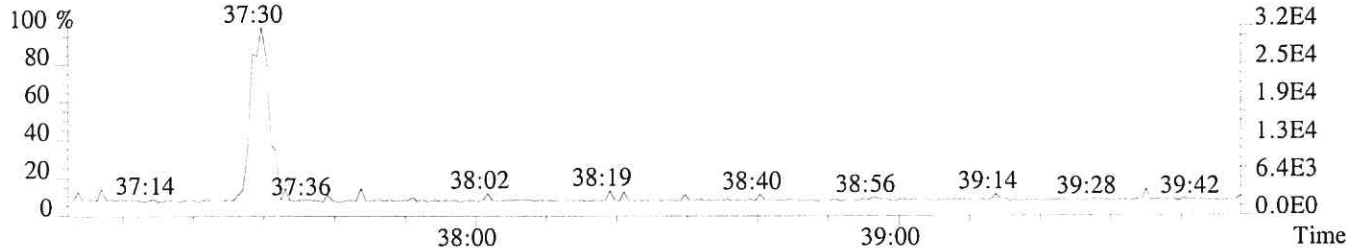
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.50%,F,T)



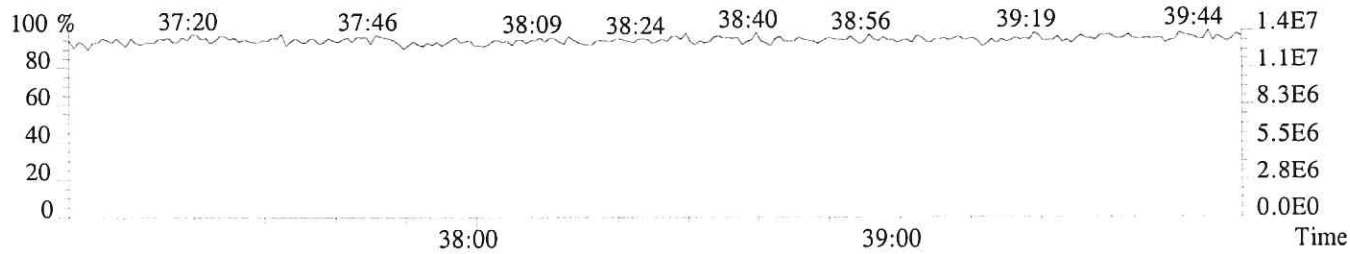
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2476.0,0.50%,F,T)



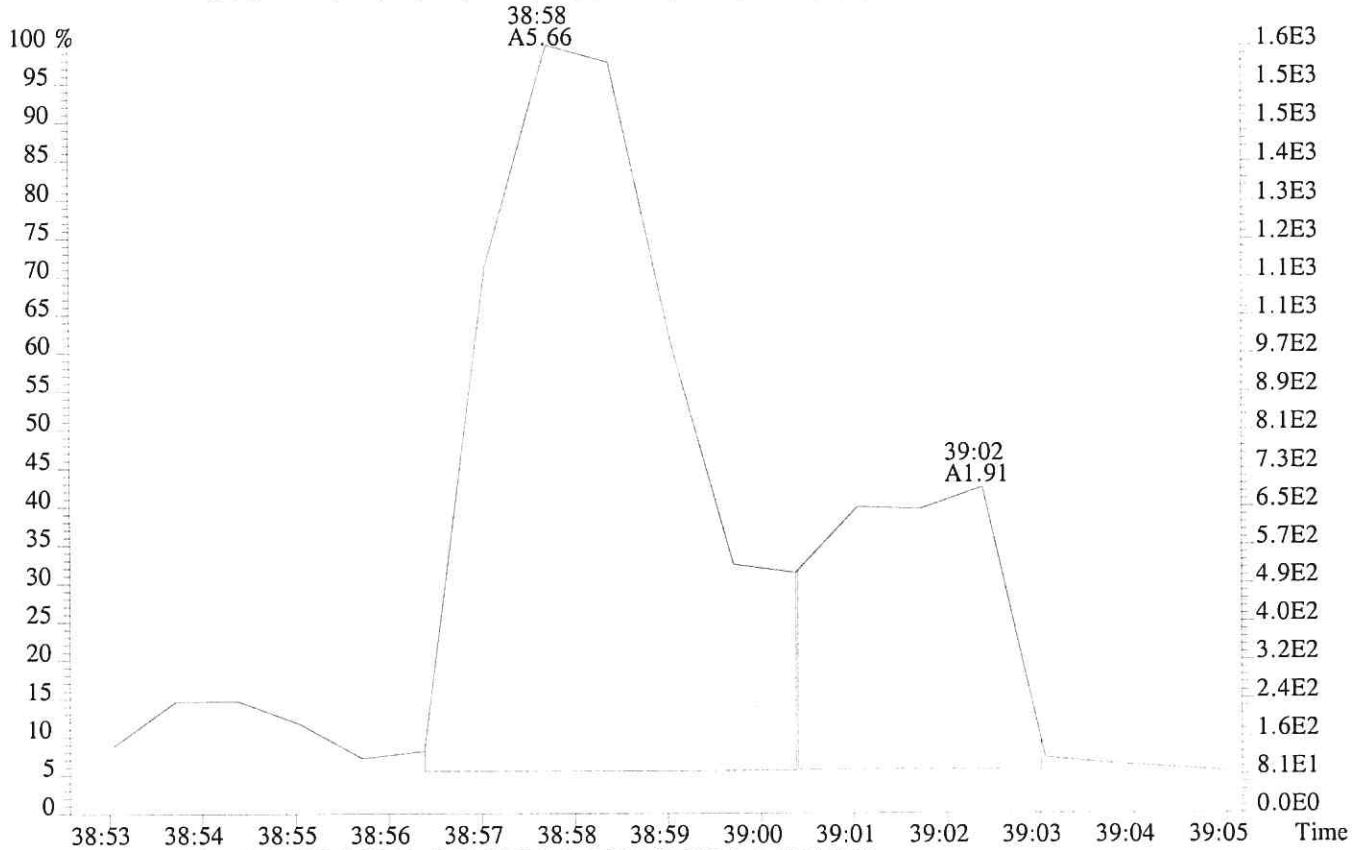
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



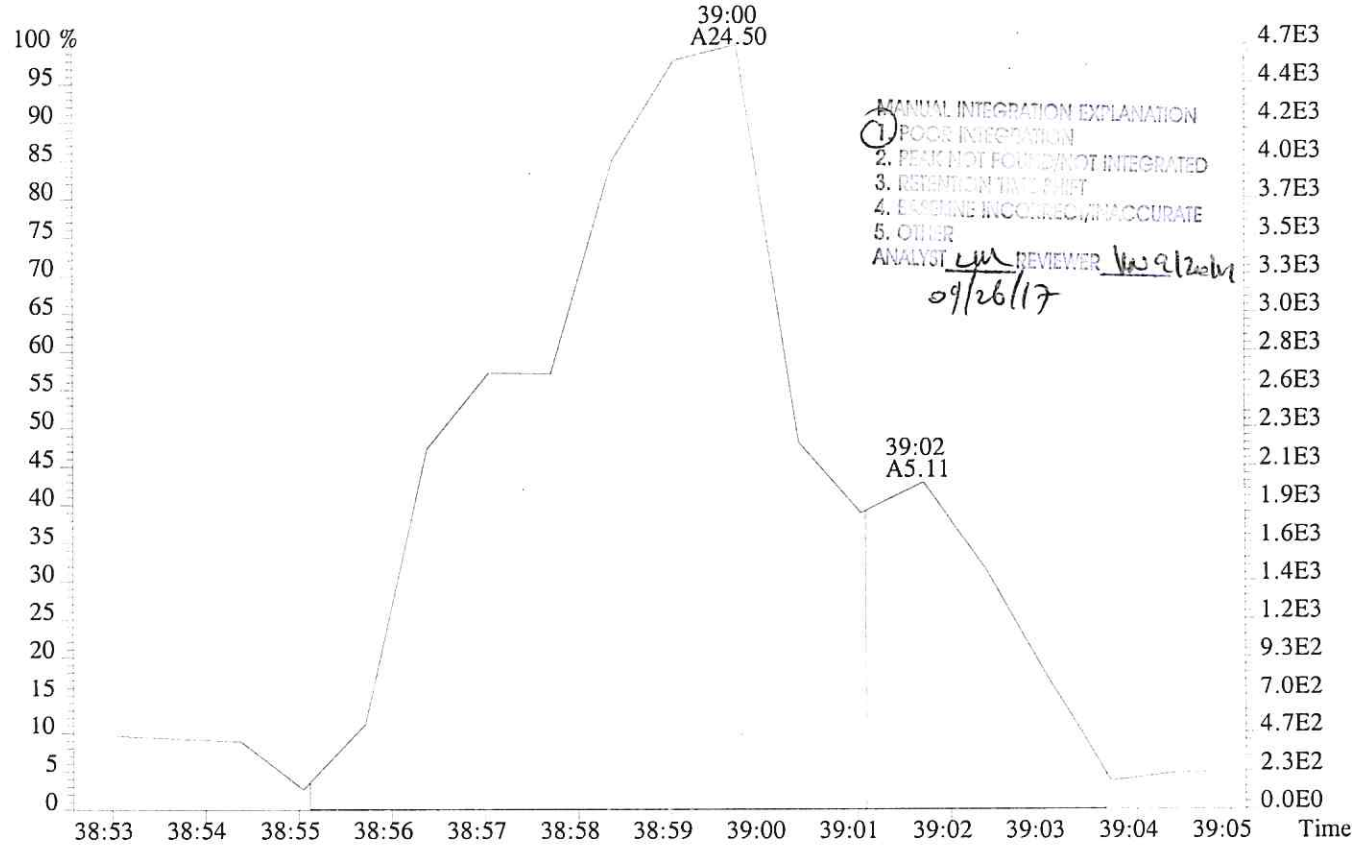
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609260 #1-250 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:E1700974-013
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.50%,F,T)

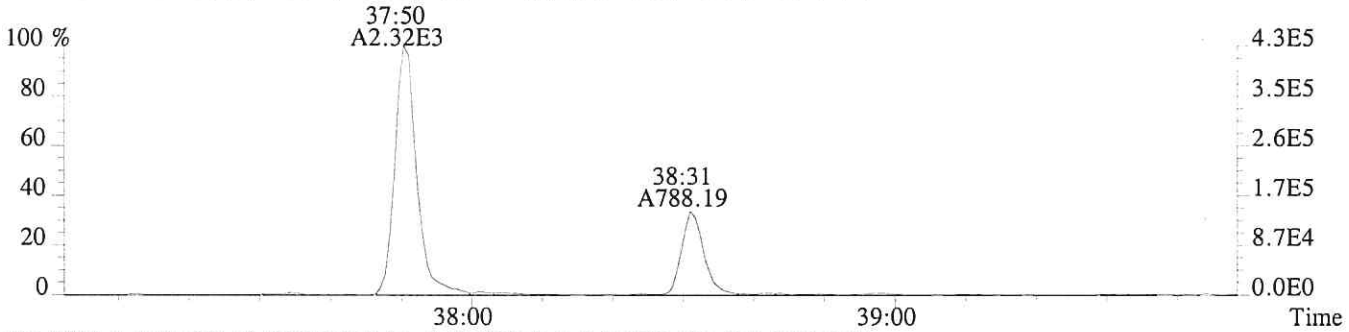


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,212.0,0.50%,F,T)

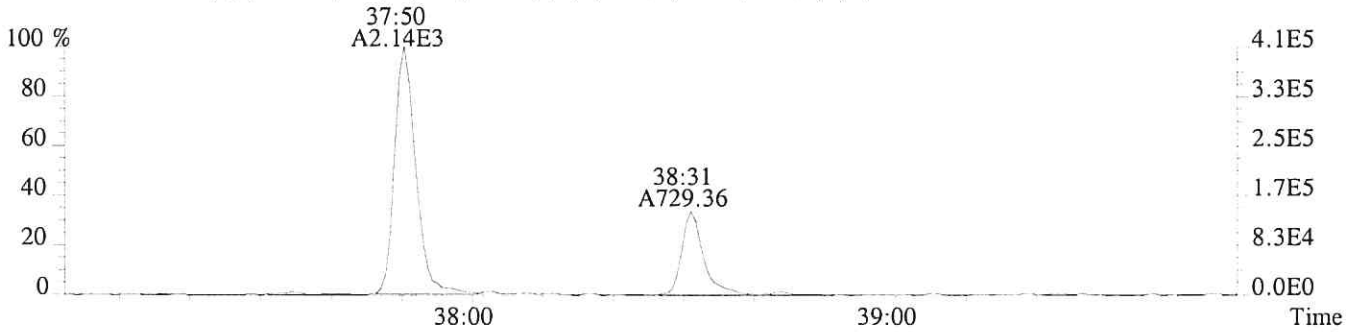


File:P609260 #1-250 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

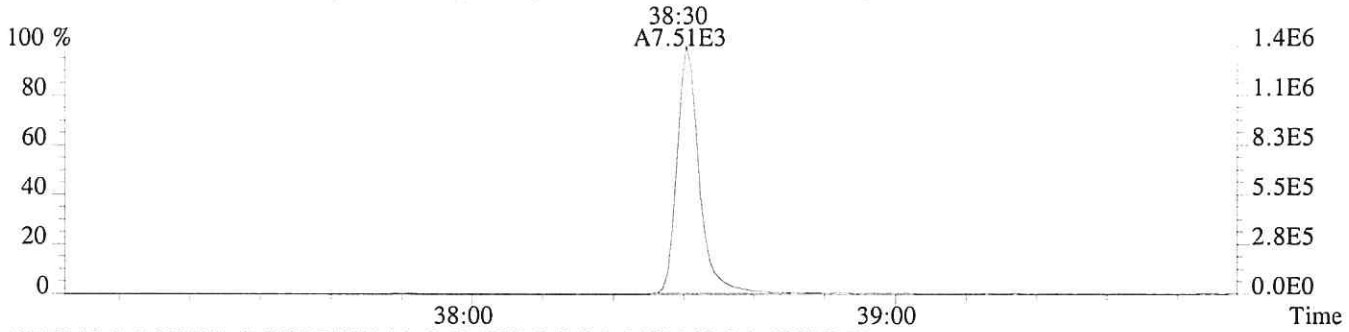
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,428.0,0.40%,F,T)



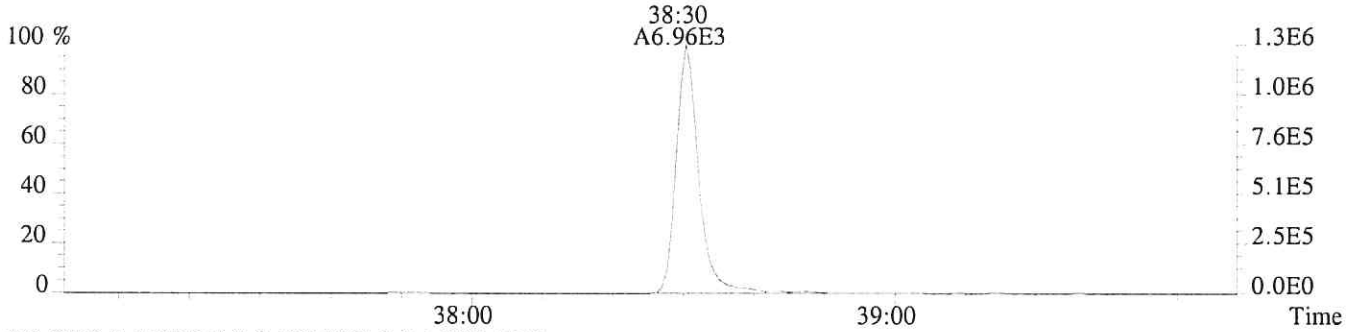
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,T)



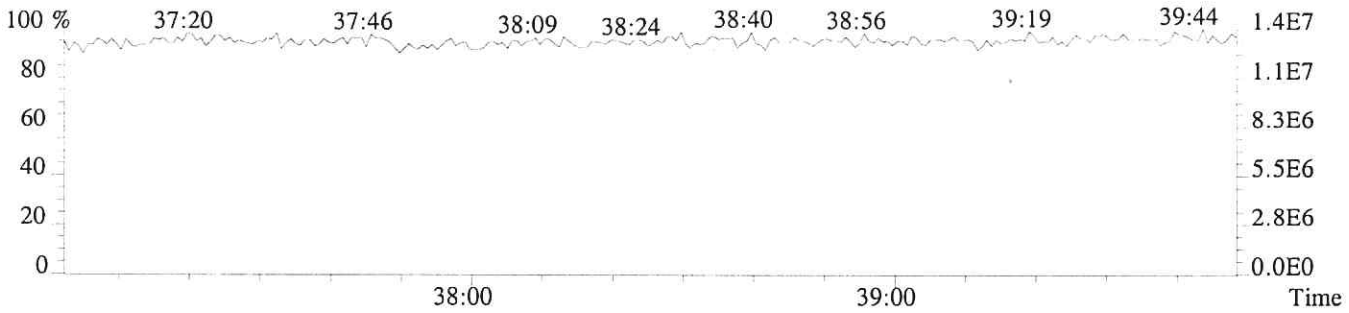
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)

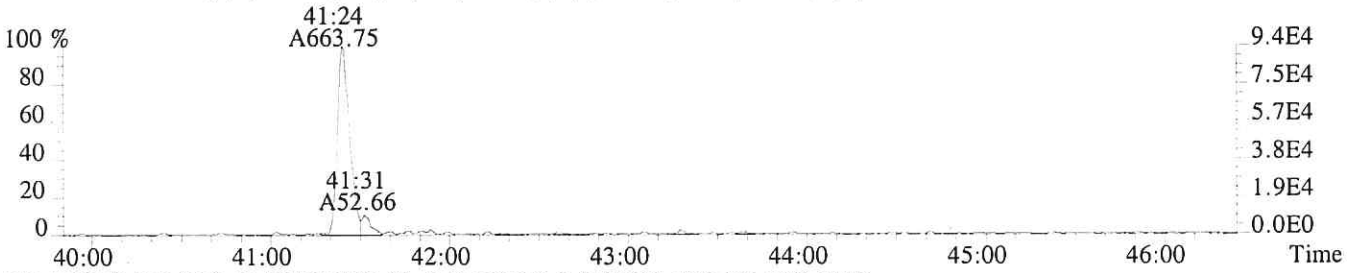


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

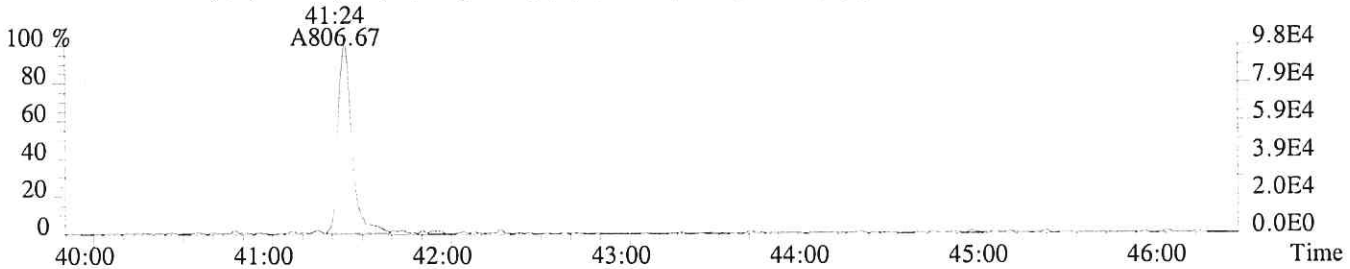


File:P609260 #1-591 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

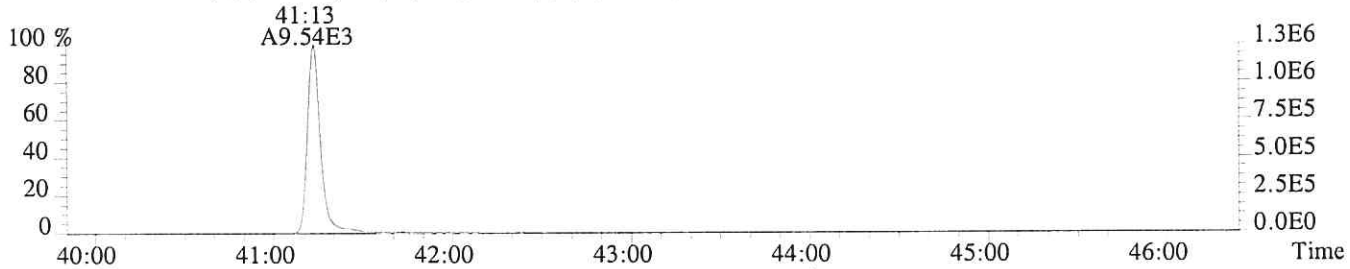
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



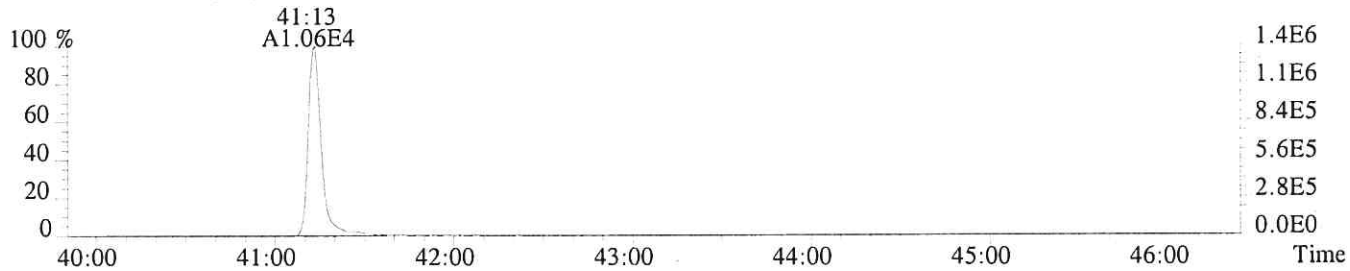
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



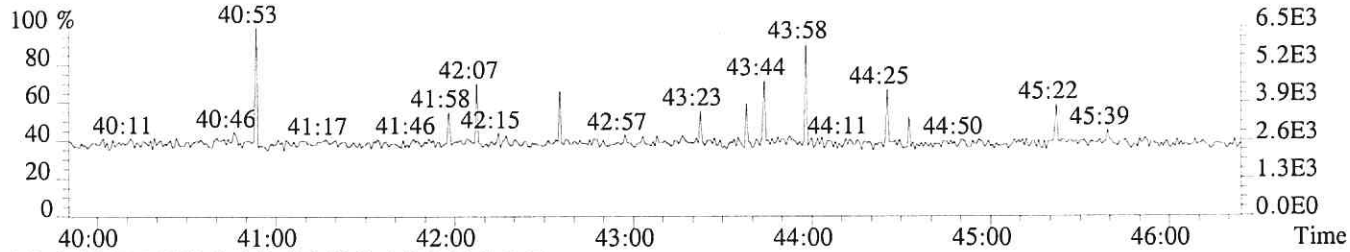
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,256.0,0.40%,F,T)



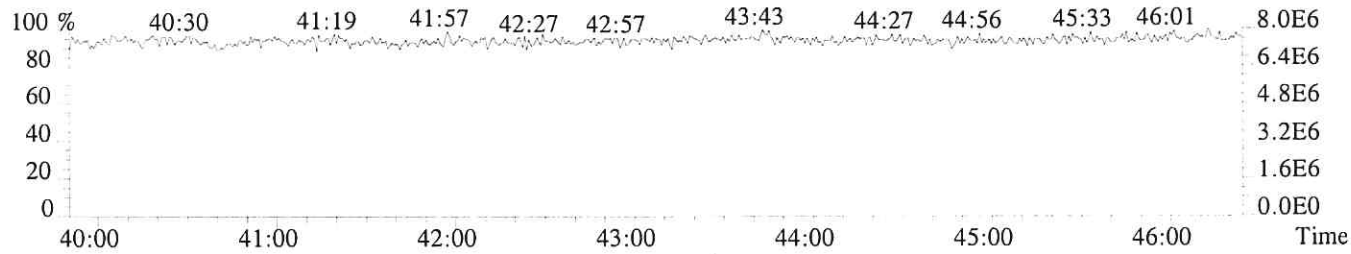
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,212.0,0.40%,F,T)



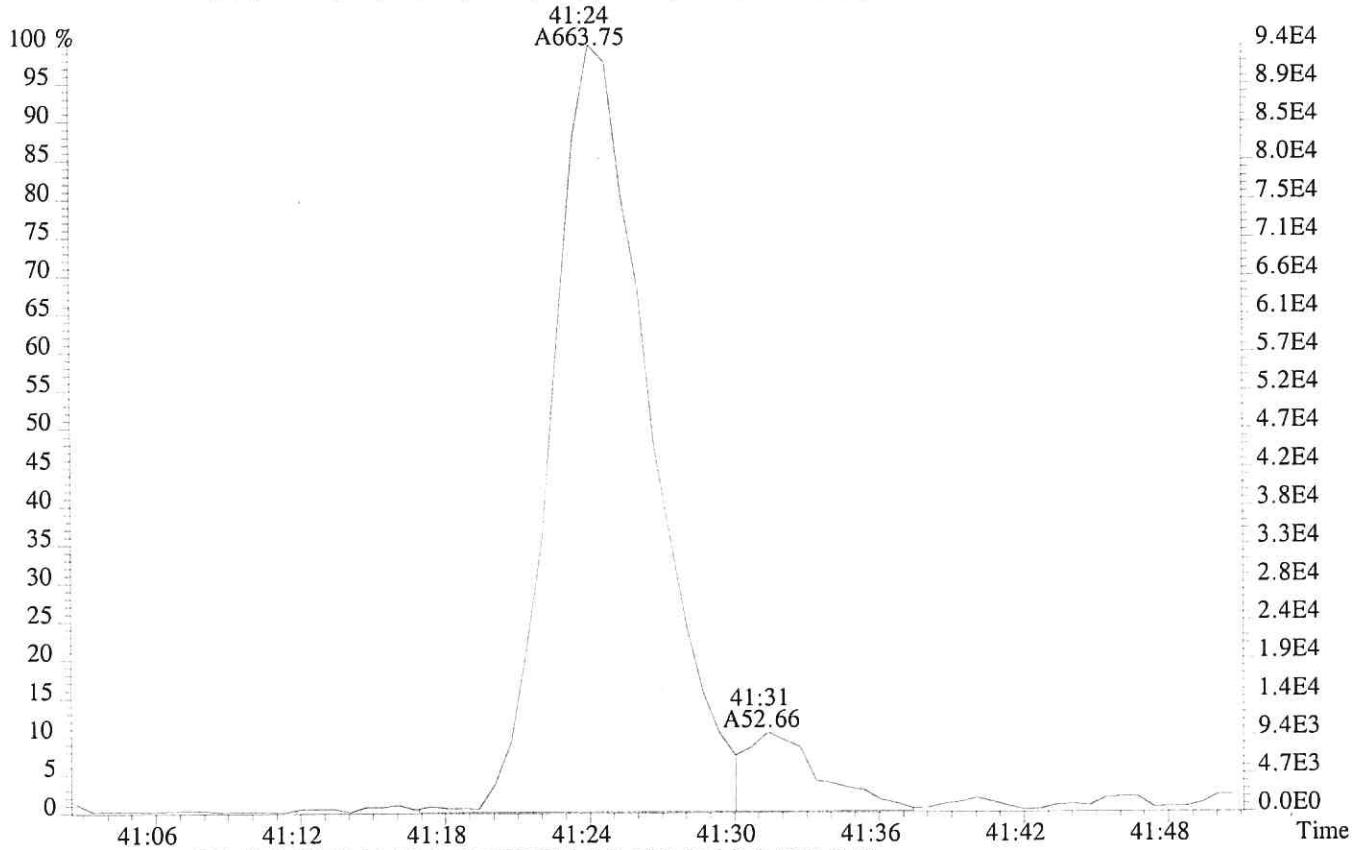
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



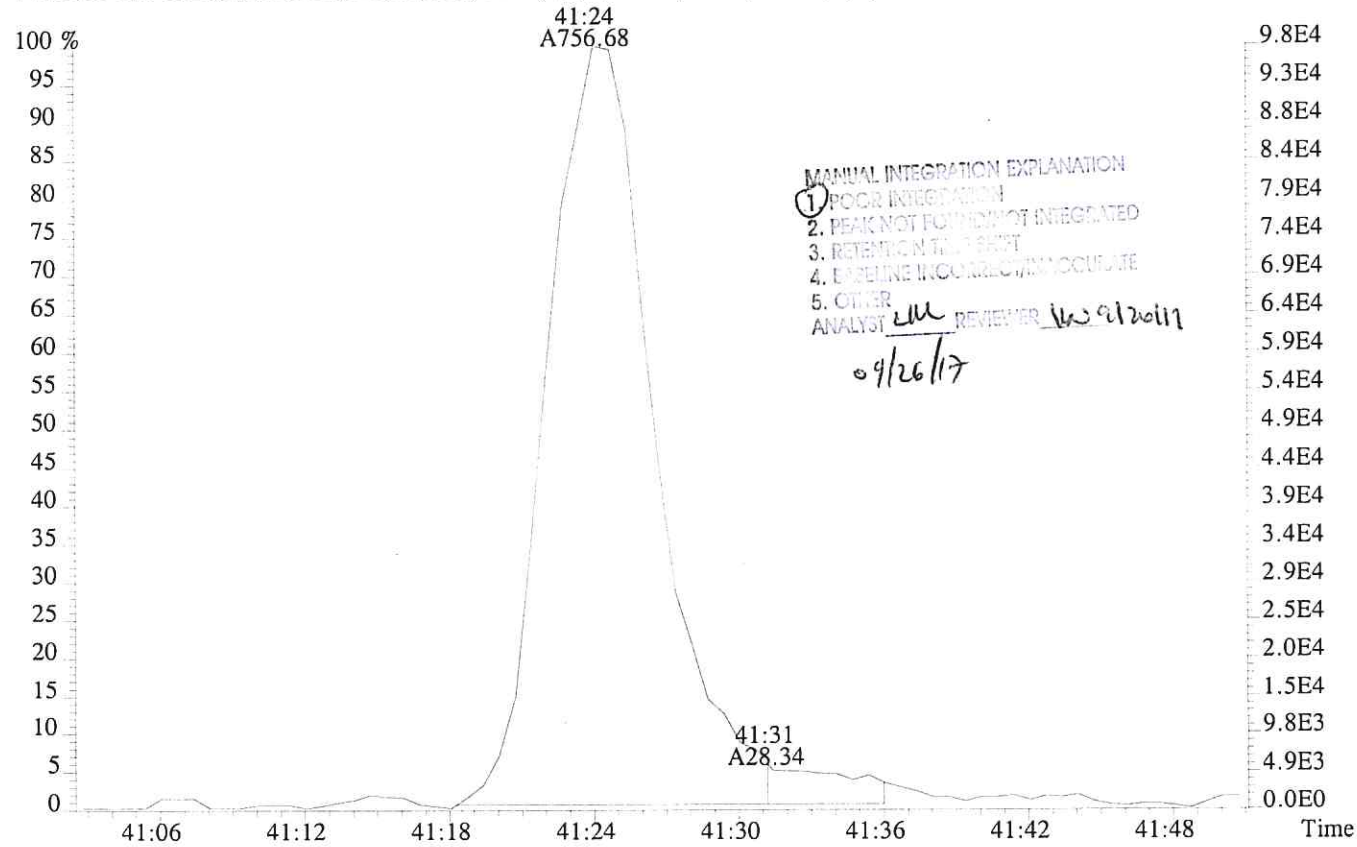
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P609260 #1-591 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)

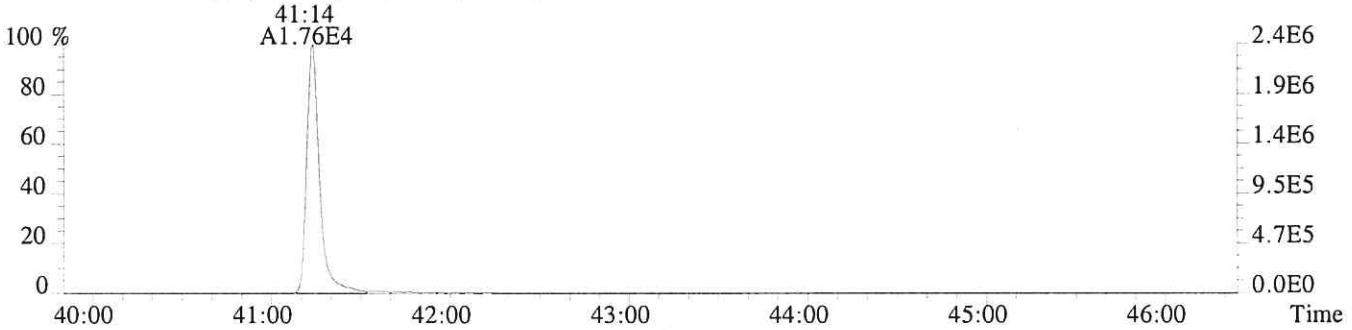


443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)

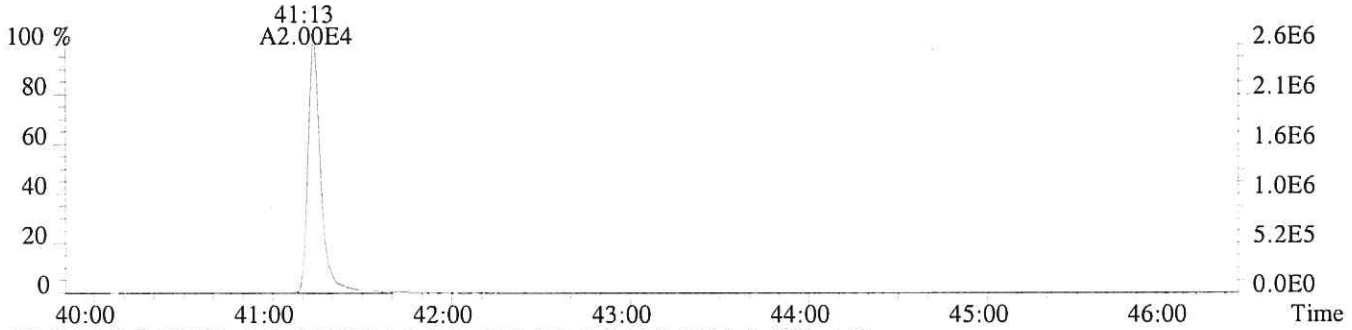


File:P609260 #1-591 Acq:25-SEP-2017 10:42:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-013

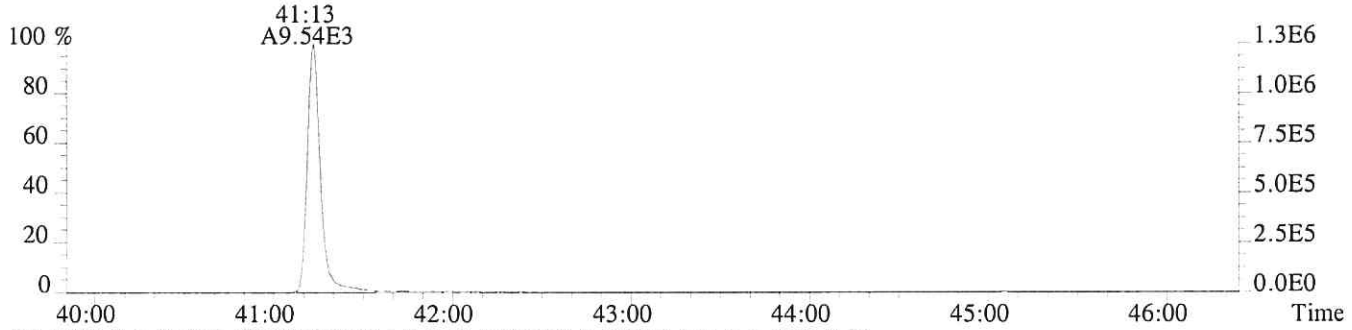
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,F,T)



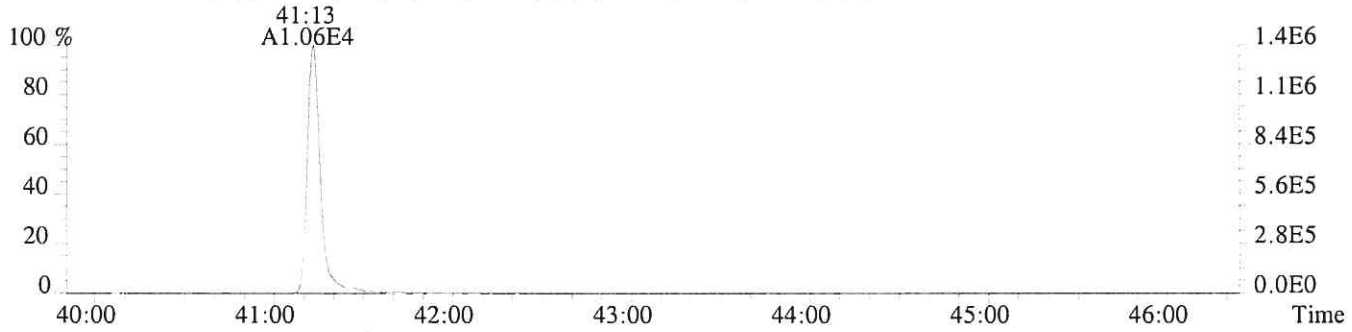
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,256.0,0.40%,F,T)



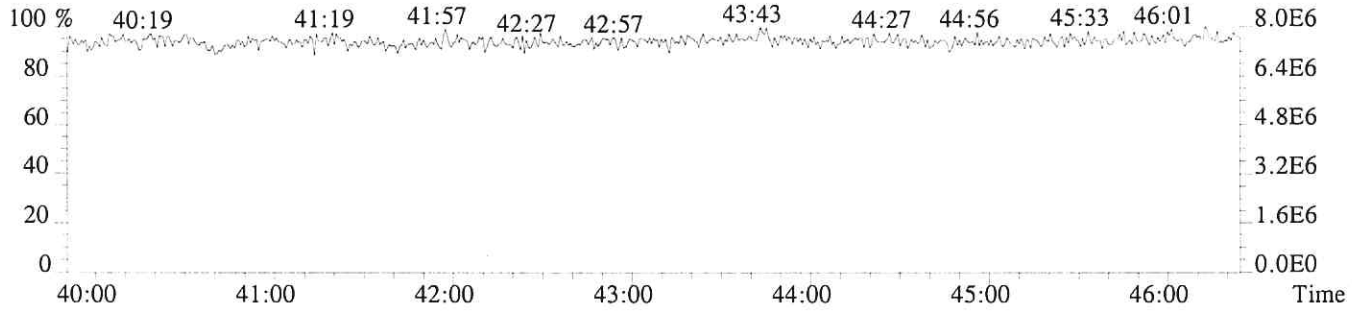
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,256.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,212.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-091517-07

Run #18 Filename P609261 Samp: 1 Inj: 1 Acquired: 25-SEP-17 11:31:45
Processed: 25-SEP-17 15:58:00 Sample ID: E1700974-014

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	26:05	3.602e+03	4.735e+03	0.76	yes	yes	1.020
2	Unk	1,2,3,7,8-PeCDF	30:55	1.896e+02	1.210e+02	1.57	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:56	1.826e+02	1.150e+02	1.59	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:48	3.018e+02	2.596e+02	1.16	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:55	1.087e+02	7.981e+01	1.36	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:28	4.784e+01	4.666e+01	1.03	no	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:17	3.080e+01	3.537e+01	0.87	no	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:34	2.854e+02	3.261e+02	0.88	no	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:58	5.009e+01	3.141e+01	1.59	no	no	1.341
10	Unk	OCDF	41:23	1.264e+03	1.456e+03	0.87	yes	no	1.337
11	Unk	2,3,7,8-TCDD	27:02	8.198e+02	1.041e+03	0.79	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:15	2.541e+01	2.307e+01	1.10	no	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:37	2.799e+01	2.419e+01	1.16	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:42	6.168e+01	6.337e+01	0.97	no	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:55	5.441e+01	5.444e+01	1.00	no	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:31	2.012e+03	1.657e+03	1.21	no	no	1.048
17	Unk	OCDD	41:12	3.773e+04	4.216e+04	0.89	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	26:04	1.081e+04	1.313e+04	0.82	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:54	1.914e+04	1.231e+04	1.55	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:56	1.845e+04	1.170e+04	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:47	8.956e+03	1.645e+04	0.54	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:55	1.042e+04	1.961e+04	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:27	9.285e+03	1.725e+04	0.54	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:14	8.426e+03	1.617e+04	0.52	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:34	5.138e+03	1.178e+04	0.44	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:57	5.361e+03	1.240e+04	0.43	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	27:00	7.725e+03	9.370e+03	0.82	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:14	1.305e+04	8.382e+03	1.56	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:35	1.132e+04	8.310e+03	1.36	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:41	1.078e+04	8.903e+03	1.21	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:30	8.249e+03	7.552e+03	1.09	yes	no	0.884
32	IS	13C-OCDD	41:11	9.153e+03	1.015e+04	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:17	2.238e+04	2.776e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:56	3.009e+04	2.351e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:02	1.170e+04				no	1.072

$$\text{OCDD} = \frac{(3.773e{+}04 + 4.216e{+}04) \times 4000 \text{ pg} \times 1}{(9.153e{+}03 + 1.015e{+}04) \times 10.04 \text{ g} \times 35.1 / 100 \times 1.120} = 4100 \text{ ng/kg}$$

KW 9/26/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-033

Run #18 Filename P609261 Samp: 1 Inj: 1 Acquired: 25-SEP-17 11:31:45
Processed: 25-SEP-17 15:58:00 LAB. ID: E1700974-014

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.47e+05	1.92e+02	2.9e+03	7.08e+05	9.60e+02	7.4e+02
2	1,2,3,7,8-PeCDF	3.16e+04	8.16e+02	3.9e+01	2.43e+04	1.31e+03	1.8e+01
3	2,3,4,7,8-PeCDF	2.63e+04	8.16e+02	3.2e+01	1.97e+04	1.31e+03	1.5e+01
4	1,2,3,4,7,8-HxCDF	5.87e+04	8.12e+02	7.2e+01	4.91e+04	1.96e+02	2.5e+02
5	1,2,3,6,7,8-HxCDF	2.13e+04	8.12e+02	2.6e+01	1.66e+04	1.96e+02	8.5e+01
6	2,3,4,6,7,8-HxCDF	1.01e+04	8.12e+02	1.2e+01	8.96e+03	1.96e+02	4.6e+01
7	1,2,3,7,8,9-HxCDF	7.09e+03	8.12e+02	8.7e+00	6.05e+03	1.96e+02	3.1e+01
8	1,2,3,4,6,7,8-HpCDF	5.42e+04	1.68e+02	3.2e+02	6.52e+04	2.52e+02	2.6e+02
9	1,2,3,4,7,8,9-HpCDF	9.60e+03	1.68e+02	5.7e+01	7.56e+03	2.52e+02	3.0e+01
10	OCDF	1.86e+05	1.52e+02	1.2e+03	1.88e+05	1.80e+02	1.0e+03
11	2,3,7,8-TCDD	1.24e+05	3.80e+02	3.3e+02	1.67e+05	5.48e+02	3.0e+02
12	1,2,3,7,8-PeCDD	3.32e+03	2.20e+02	1.5e+01	4.27e+03	1.68e+02	2.5e+01
13	1,2,3,4,7,8-HxCDD	6.14e+03	3.16e+02	1.9e+01	4.73e+03	2.48e+02	1.9e+01
14	1,2,3,6,7,8-HxCDD	1.47e+04	3.16e+02	4.7e+01	1.30e+04	2.48e+02	5.2e+01
15	1,2,3,7,8,9-HxCDD	9.54e+03	3.16e+02	3.0e+01	1.29e+04	2.48e+02	5.2e+01
16	1,2,3,4,6,7,8-HpCDD	3.77e+05	2.64e+02	1.4e+03	3.01e+05	1.56e+02	1.9e+03
17	OCDD	5.17e+06	2.08e+02	2.5e+04	5.73e+06	2.00e+02	2.9e+04
18	13C-2,3,7,8-TCDF	1.58e+06	2.82e+03	5.6e+02	1.88e+06	1.35e+03	1.4e+03
19	13C-1,2,3,7,8-PeCDF	3.18e+06	2.32e+02	1.4e+04	2.07e+06	6.88e+02	3.0e+03
20	13C-2,3,4,7,8-PeCDF	3.21e+06	2.32e+02	1.4e+04	2.04e+06	6.88e+02	3.0e+03
21	13C-1,2,3,4,7,8-HxCDF	1.79e+06	2.00e+02	8.9e+03	3.31e+06	4.28e+02	7.7e+03
22	13C-1,2,3,6,7,8-HxCDF	1.86e+06	2.00e+02	9.3e+03	3.57e+06	4.28e+02	8.3e+03
23	13C-2,3,4,6,7,8-HxCDF	1.83e+06	2.00e+02	9.2e+03	3.35e+06	4.28e+02	7.8e+03
24	13C-1,2,3,7,8,9-HxCDF	1.56e+06	2.00e+02	7.8e+03	2.93e+06	4.28e+02	6.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	9.86e+05	9.96e+02	9.9e+02	2.26e+06	2.08e+03	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	9.33e+05	9.96e+02	9.4e+02	2.12e+06	2.08e+03	1.0e+03
27	13C-2,3,7,8-TCDD	1.25e+06	4.99e+03	2.5e+02	1.52e+06	1.37e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	2.28e+06	3.08e+02	7.4e+03	1.46e+06	2.36e+02	6.2e+03
29	13C-1,2,3,4,7,8-HxCDD	2.31e+06	1.84e+02	1.3e+04	1.79e+06	2.08e+02	8.6e+03
30	13C-1,2,3,6,7,8-HxCDD	2.09e+06	1.84e+02	1.1e+04	1.61e+06	2.08e+02	7.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.47e+06	2.88e+02	5.1e+03	1.32e+06	2.00e+02	6.6e+03
32	13C-OCDD	1.26e+06	1.96e+02	6.4e+03	1.45e+06	1.88e+02	7.7e+03
33	13C-1,2,3,4-TCDD	3.57e+06	4.99e+03	7.2e+02	4.44e+06	1.37e+03	3.2e+03
34	13C-1,2,3,7,8,9-HxCDD	5.75e+06	1.84e+02	3.1e+04	4.52e+06	2.08e+02	2.2e+04
35	37Cl-2,3,7,8-TCDD	1.88e+06	1.96e+02	9.6e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (3.800e{+}02 + 5.480e{+}02) \times 2000}{(1.253e{+}06 + 1.519e{+}06) \times (\qquad\qquad) \times 1.055} =$$

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Peak List Summary

CLIENT ID.

SJWP-091517-033

Entry: 36 Totals Name: Total Tetra-Furans

Run: 18 File: P609261 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 303.9020 305.8990 Tot Response: 1.46e+04 RRF: 1.020

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	22:24	1.65e+01	2.27e+01	0.73	yes	3.93e+01		n	n
2	23:32	7.51e+01	9.01e+01	0.83	yes	1.65e+02		n	n
3	25:04	1.77e+03	2.30e+03	0.77	yes	4.07e+03		n	n
4	25:59	2.35e+02	3.27e+02	0.72	yes	5.62e+02		y	y
5	26:05	3.60e+03	4.74e+03	0.76	yes	8.34e+03	2,3,7,8-TCDF	y	y
6	26:30	3.11e+02	3.86e+02	0.81	yes	6.97e+02		n	n
7	28:16	3.24e+02	4.35e+02	0.75	yes	7.59e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 18 File: P609261 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 319.8970 321.8940 Tot Response: 1.86e+03 RRF: 1.055

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:02	8.20e+02	1.04e+03	0.79	yes	1.86e+03	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033

Entry: 38 Totals Name: Total Penta-Furans1

Run: 18 File: P609261 Sample:1 Injection:1 Function:1

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 339.8600 341.8570 Tot Response: 9.74e+01 RRF: 1.036

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:11	5.95e+01	3.78e+01	1.57	yes	9.74e+01	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-033

Entry: 39 Totals Name: Total Penta-Furans2

Run: 18 File: P609261 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 339.8600 341.8570 Tot Response: 9.55e+02 RRF: 1.036

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:53	1.47e+02	1.05e+02	1.40	yes	2.51e+02		n	n
2	30:55	1.90e+02	1.21e+02	1.57	yes	3.11e+02	1,2,3,7,8-PeCDF	n	n
3	31:12	5.81e+01	3.79e+01	1.54	yes	9.60e+01		n	n
4	31:56	1.83e+02	1.15e+02	1.59	yes	2.98e+02	2,3,4,7,8-PeCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 18 File: P609261 Sample:1 Injection:1 Function:2

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 355.8550 357.8520 Tot Response: 8.32e+01 RRF: 0.9636

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:29	4.81e+01	3.51e+01	1.37	yes	8.32e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033

Entry: 41 Totals Name: Total Hexa-Furans

Run: 18 File: P609261 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 373.8210 375.8180 Tot Response: 1.35e+03 RRF: 1.207

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:47	1.61e+02	1.15e+02	1.40	yes	2.77e+02		n	n
2	34:21	1.49e+02	1.33e+02	1.12	yes	2.82e+02		n	n
3	34:42	2.42e+01	1.83e+01	1.33	yes	4.25e+01		n	n
4	34:48	3.02e+02	2.60e+02	1.16	yes	5.61e+02	1,2,3,4,7,8-HxCDF	n	n
5	34:55	1.09e+02	7.98e+01	1.36	yes	1.89e+02	1,2,3,6,7,8-HxCDF	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-033

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 18 File: P609261 Sample:1 Injection:1 Function:3

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 389.8160 391.8130 Tot Response: 2.67e+03 RRF: 1.085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:11	1.05e+03	7.97e+02	1.32	yes	1.85e+03		n	n
2	34:58	3.82e+02	2.99e+02	1.28	yes	6.80e+02		n	n
3	35:27	1.72e+01	1.38e+01	1.25	yes	3.10e+01		n	n
4	35:37	2.80e+01	2.42e+01	1.16	yes	5.22e+01	1,2,3,4,7,8-HxCDD	n	n
5	35:52	3.31e+01	2.44e+01	1.36	yes	5.75e+01		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-033

Entry: 43 Totals Name: Total Hepta-Furans

Run: 18 File: P609261 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 407.7820 409.7790 Tot Response: 9.57e+02 RRF: 1.368

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:50	3.18e+01	3.49e+01	0.91	yes	6.67e+01		n	n
2	37:59	4.49e+02	4.41e+02	1.02	yes	8.90e+02		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-033

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 18 File: P609261 Sample:1 Injection:1 Function:4

Acquired: 25-SEP-17 11:31:45 Processed: 25-SEP-17 15:58:00

Mass: 423.7770 425.7740 Tot Response: 9.94e+03 RRF: 1.048

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:50	4.99e+03	4.95e+03	1.01	yes	9.94e+03		n	n

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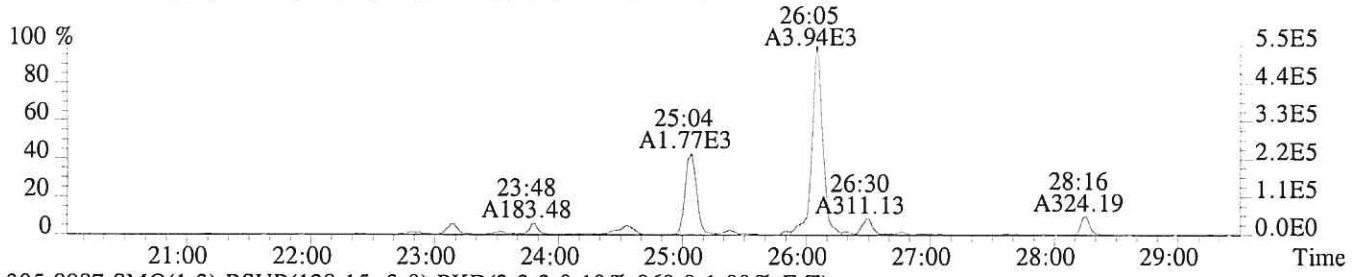
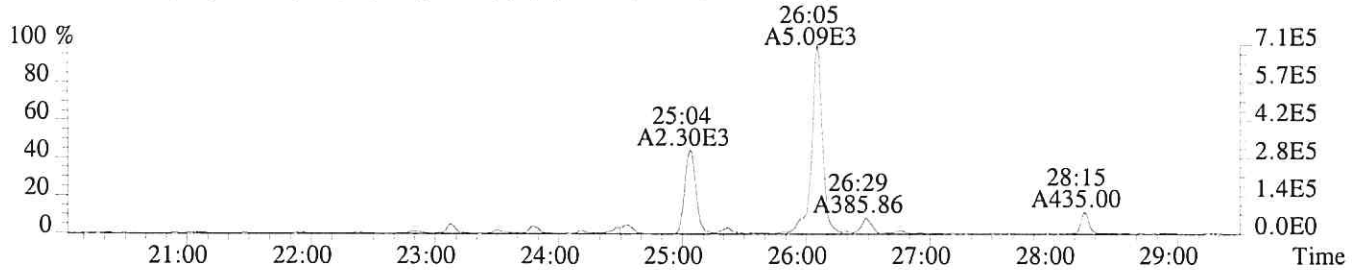
File:P609261 #1-672 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

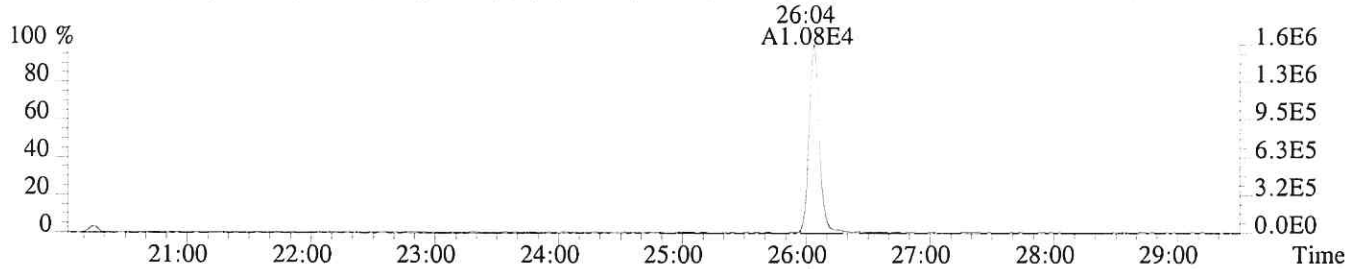
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



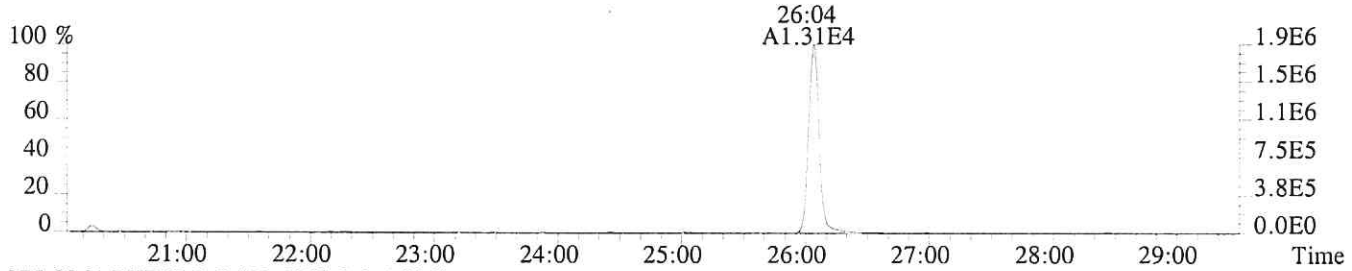
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



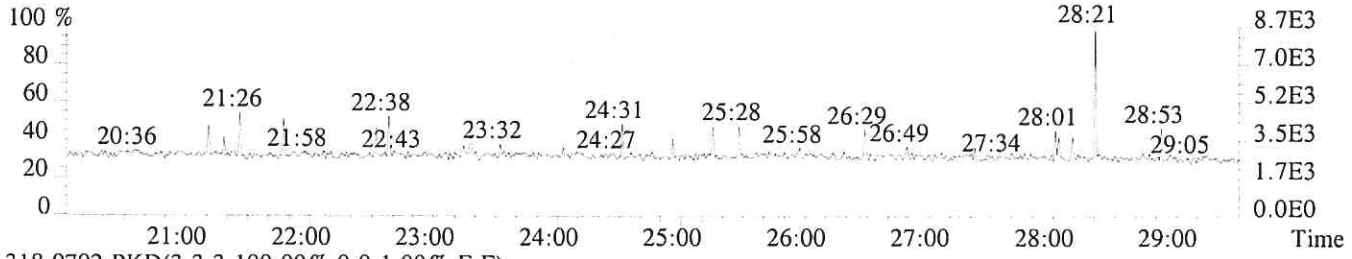
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2816.0,1.00%,F,T)



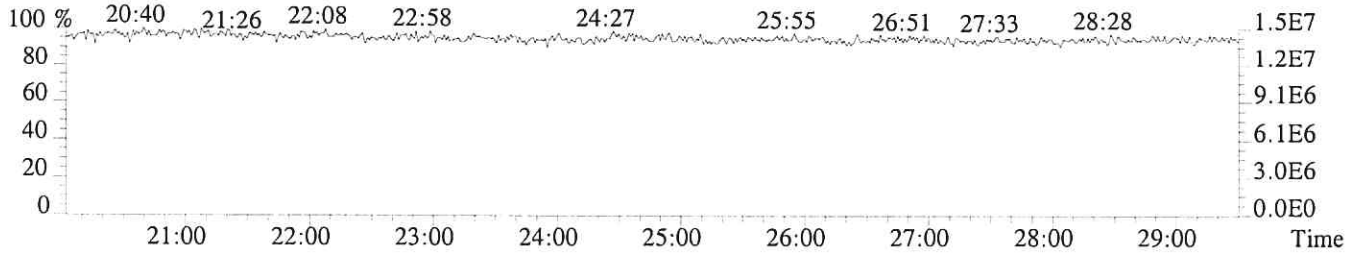
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,T)



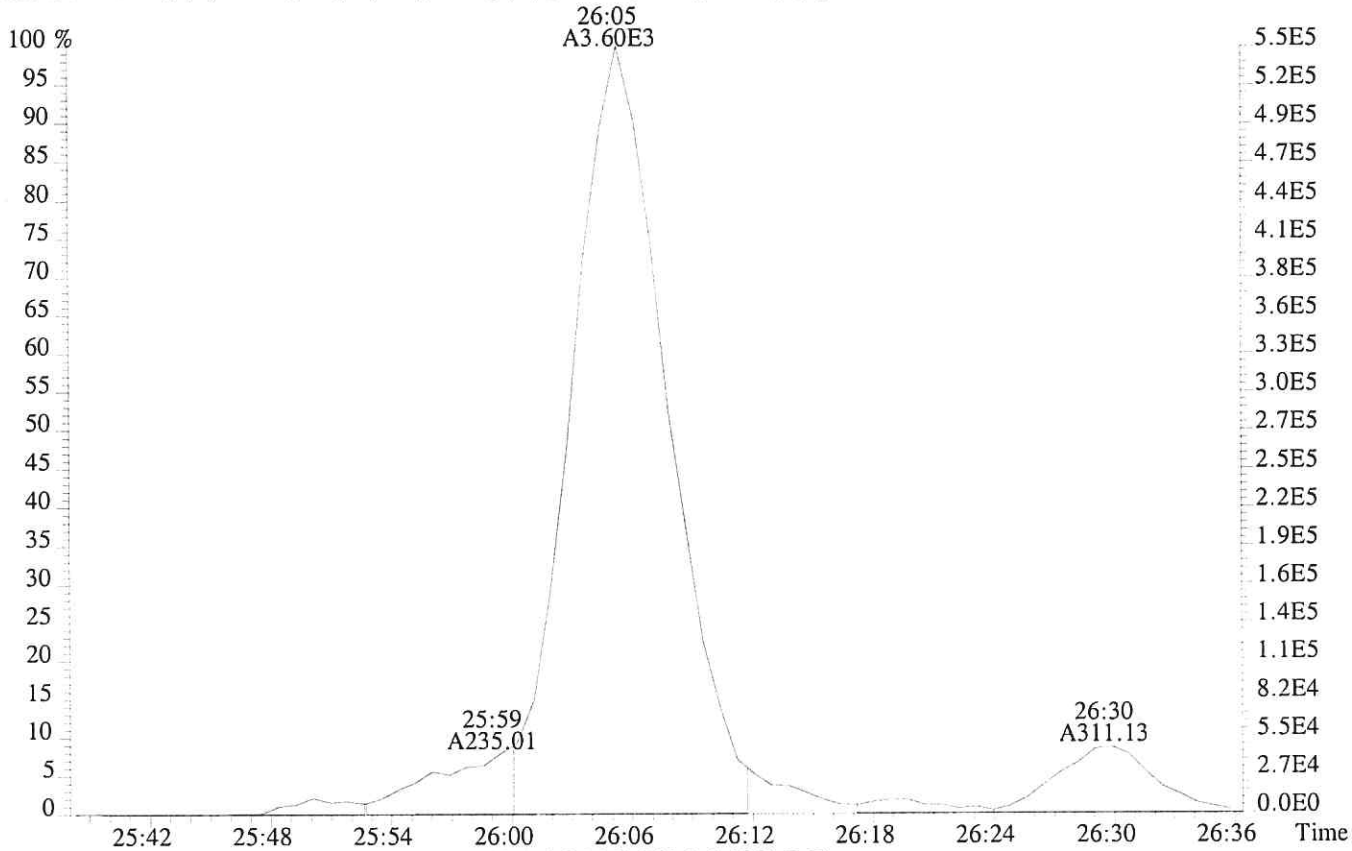
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



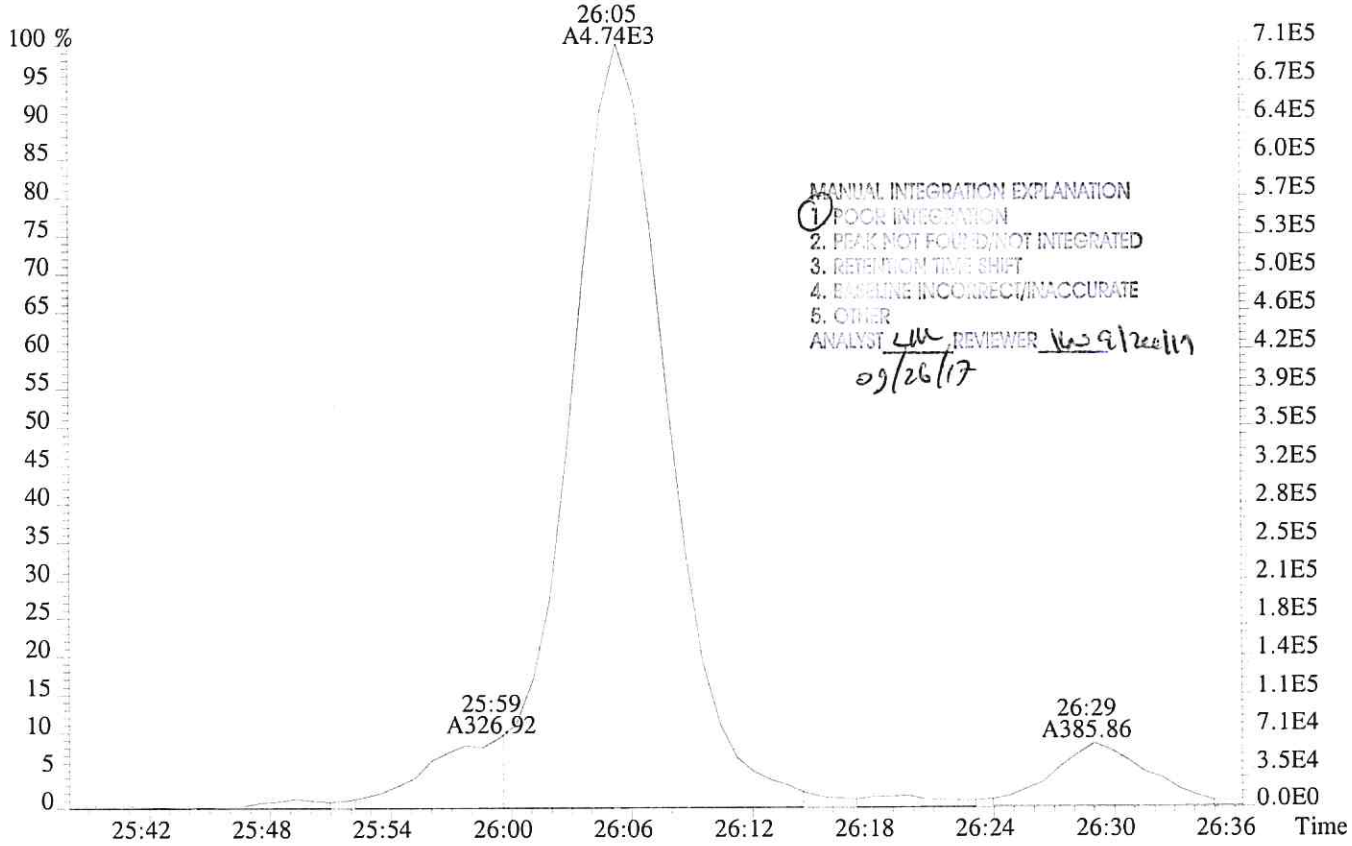
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609261 #1-672 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)

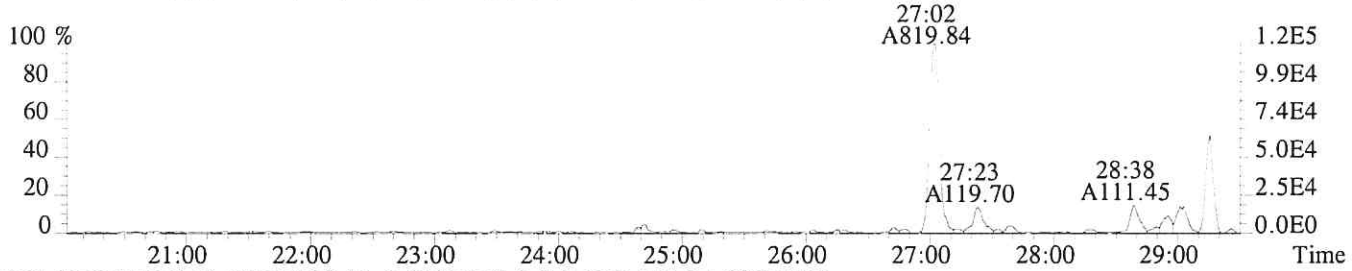


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)

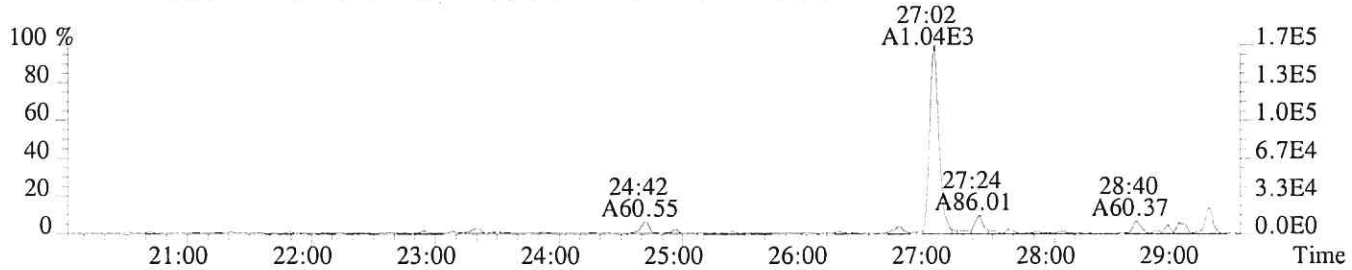


File:P609261 #1-672 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

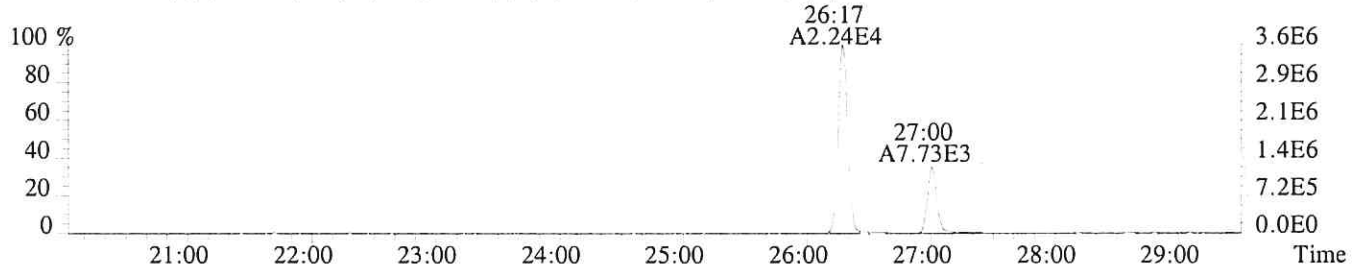
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,380.0,1.00%,F,T)



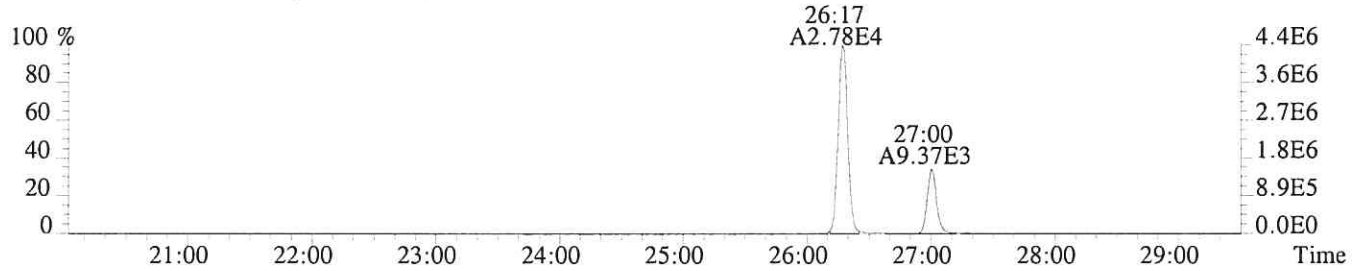
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



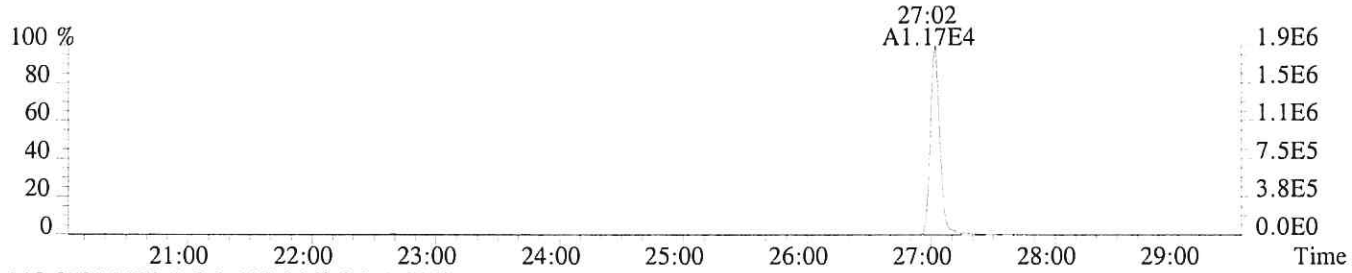
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4992.0,1.00%,F,T)



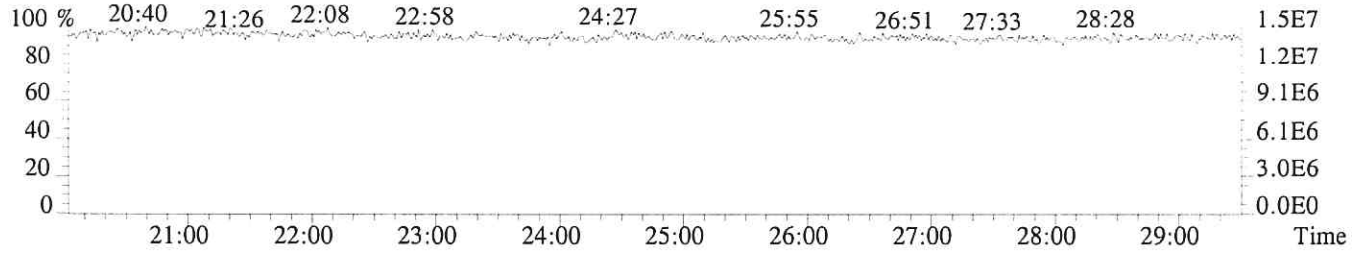
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)

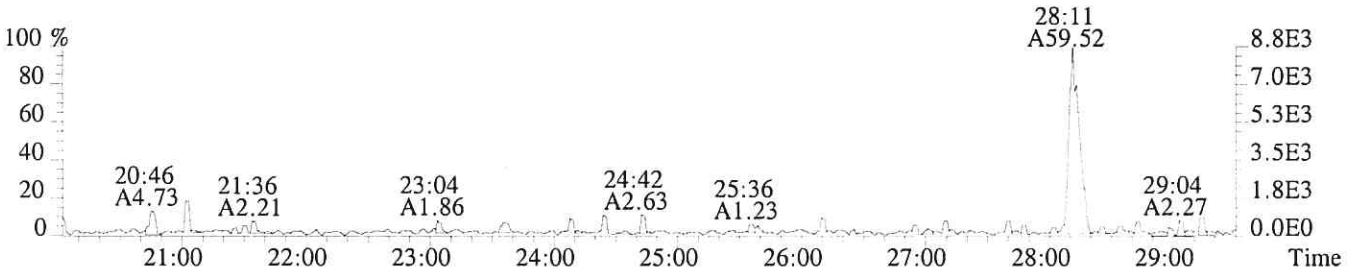


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

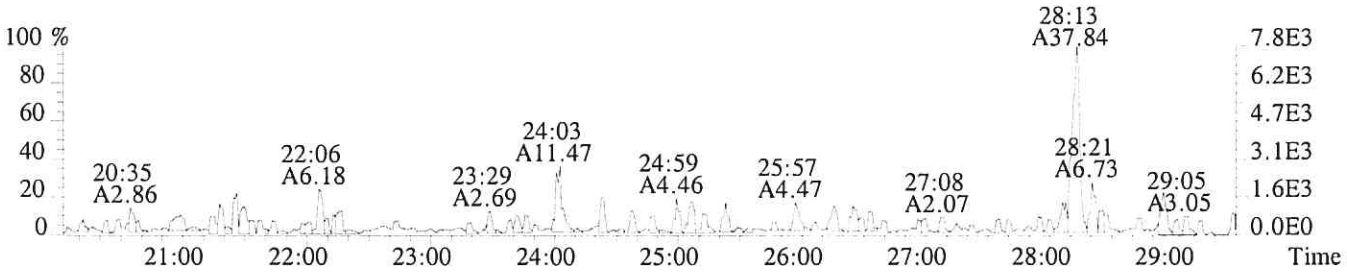


File:P609261 #1-672 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

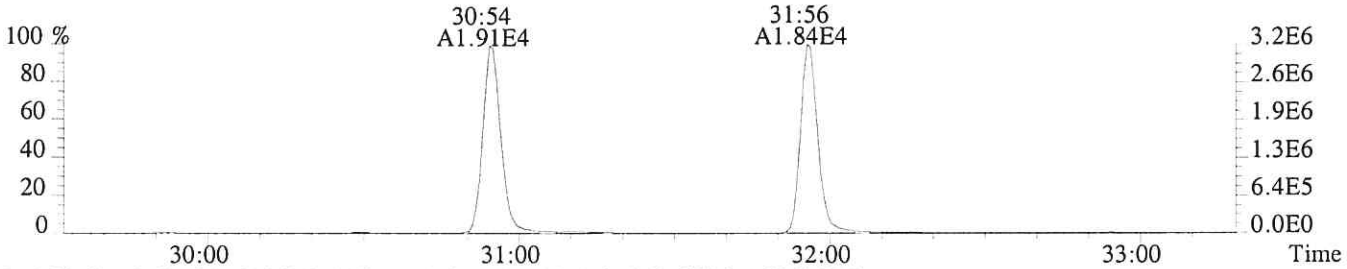
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



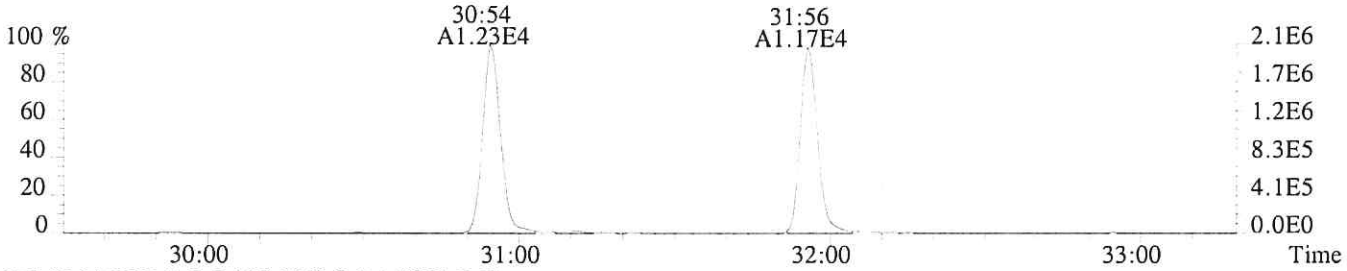
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



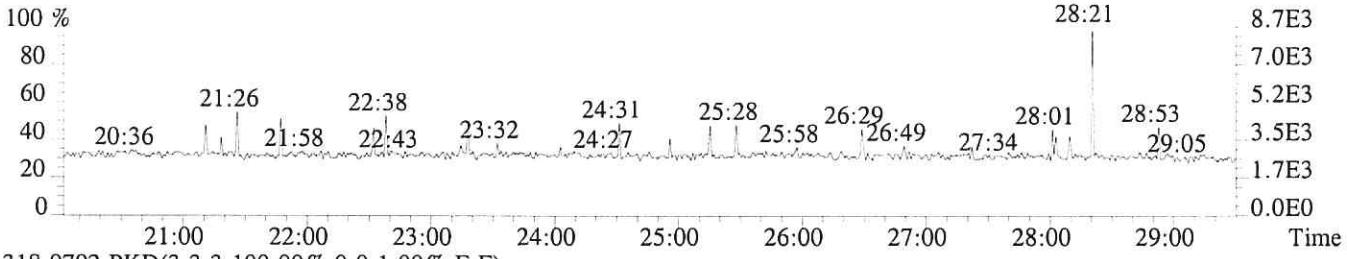
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



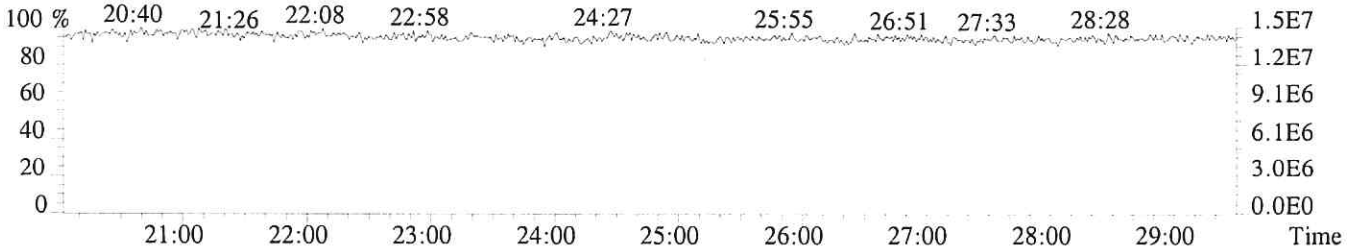
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

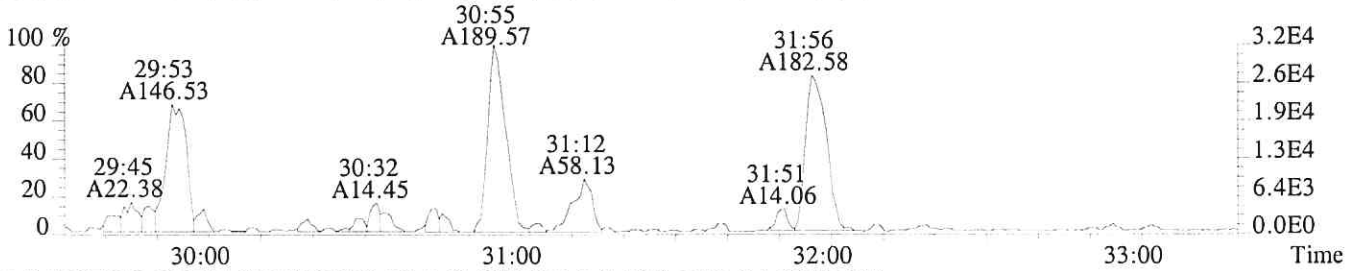


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

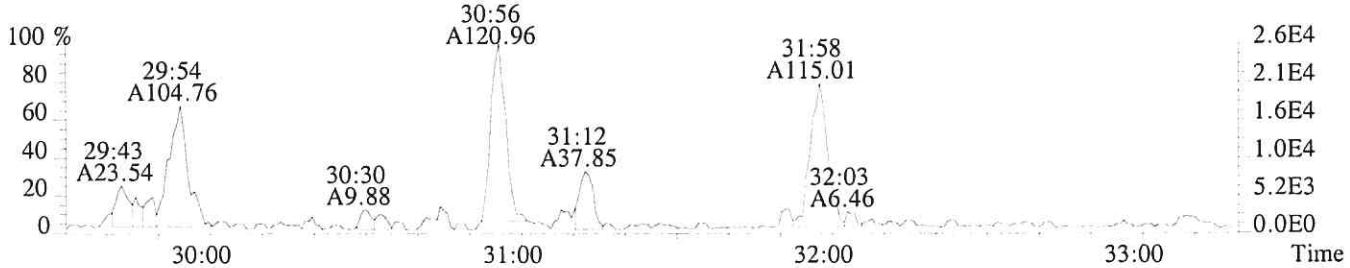


File:P609261 #1-340 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

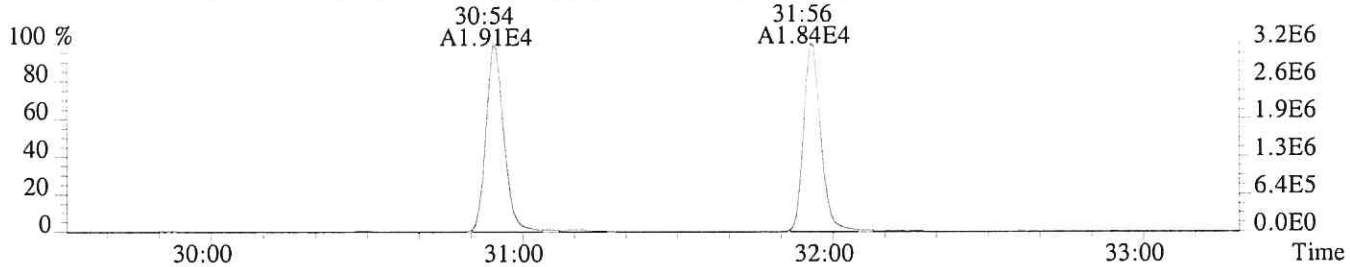
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



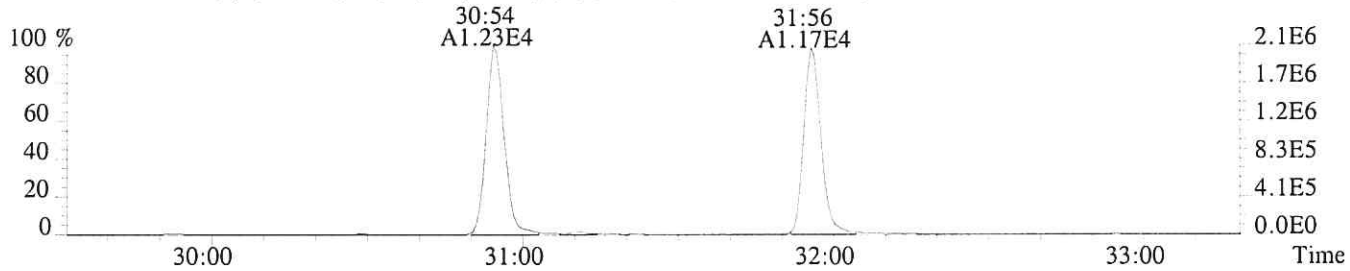
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



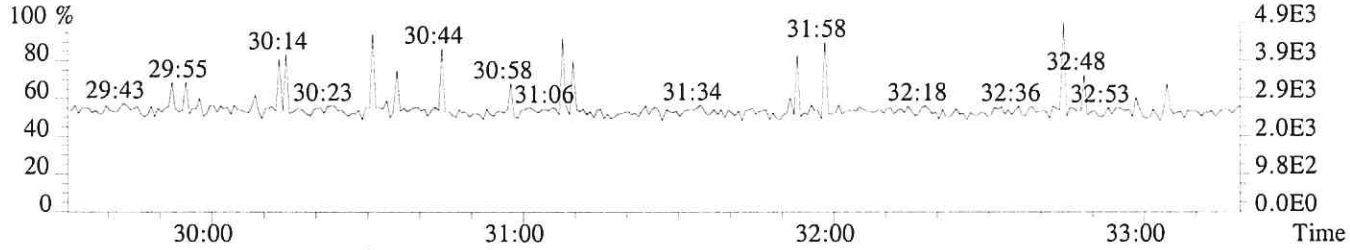
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,T)



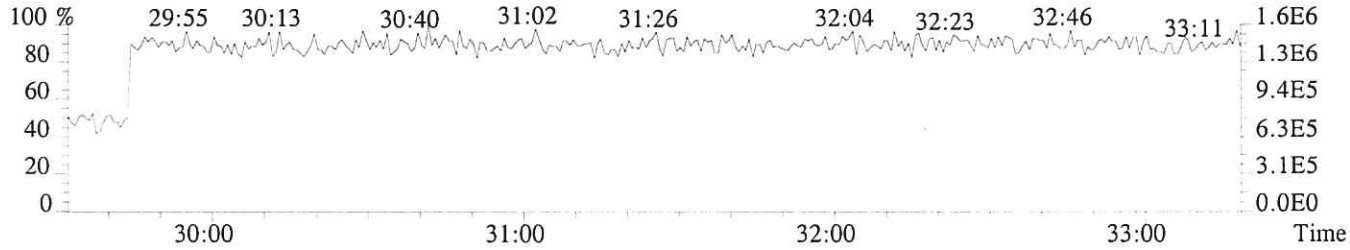
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



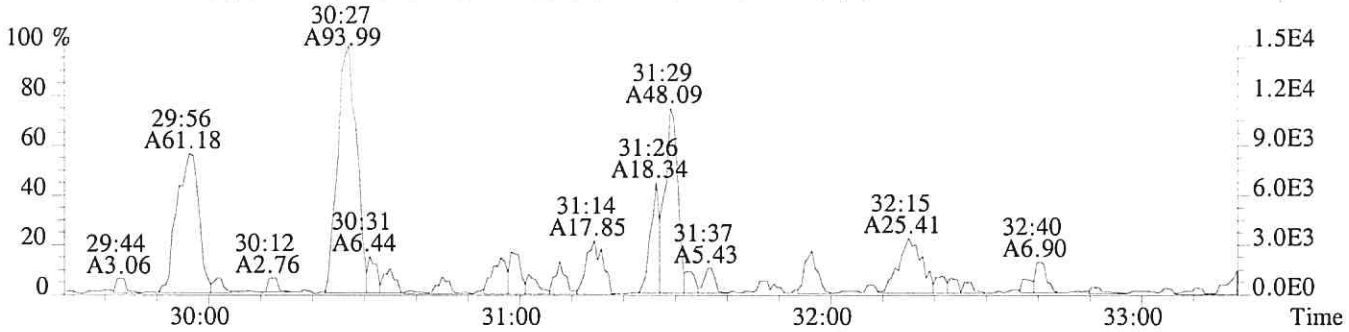
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



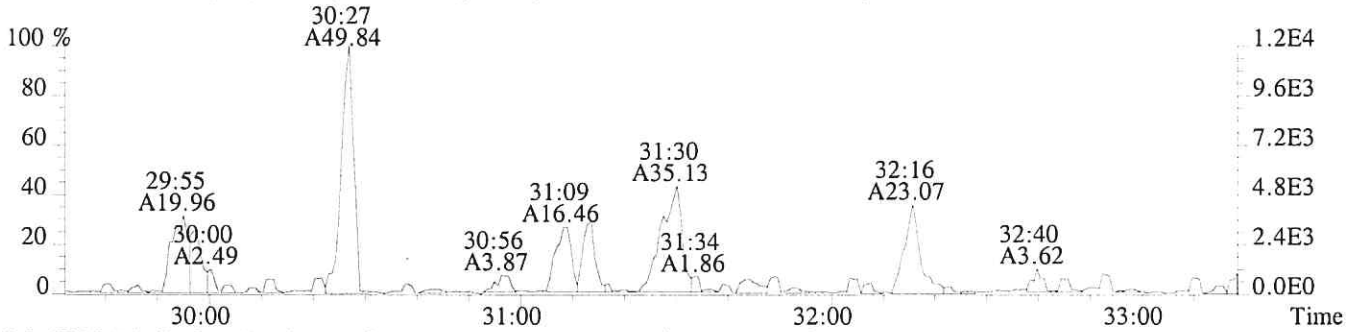
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



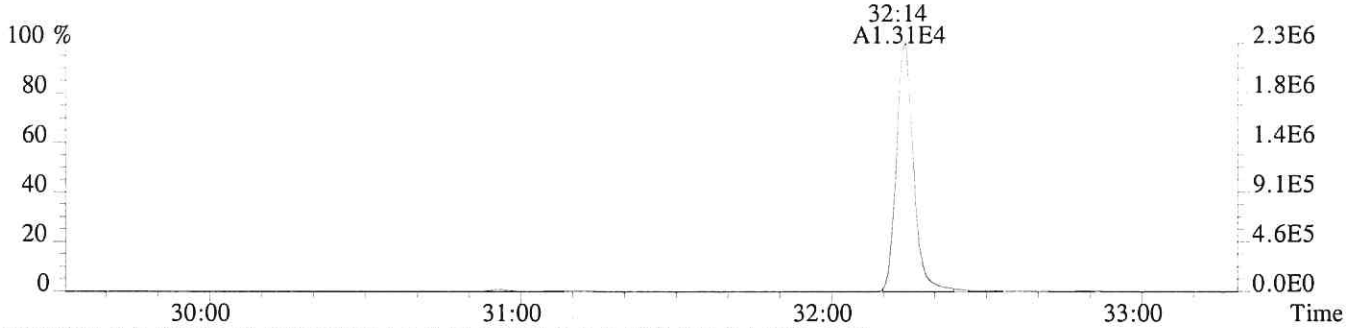
File:P609261 #1-340 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



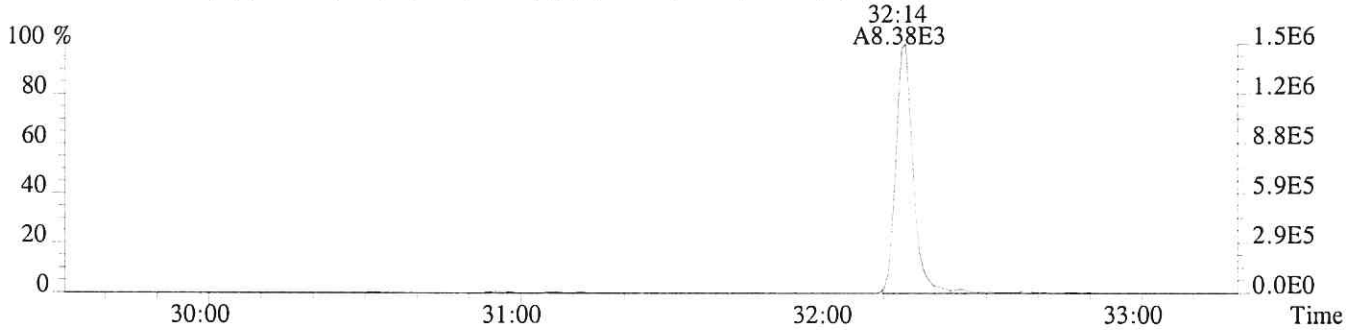
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,T)



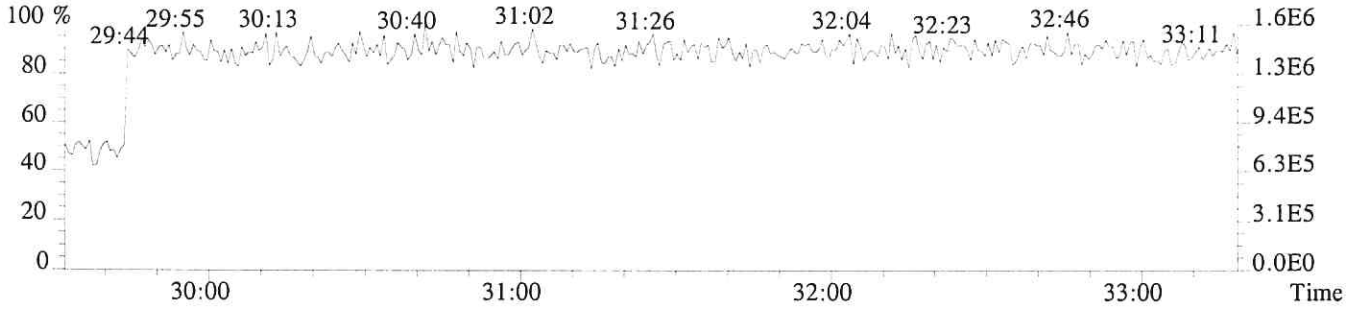
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)

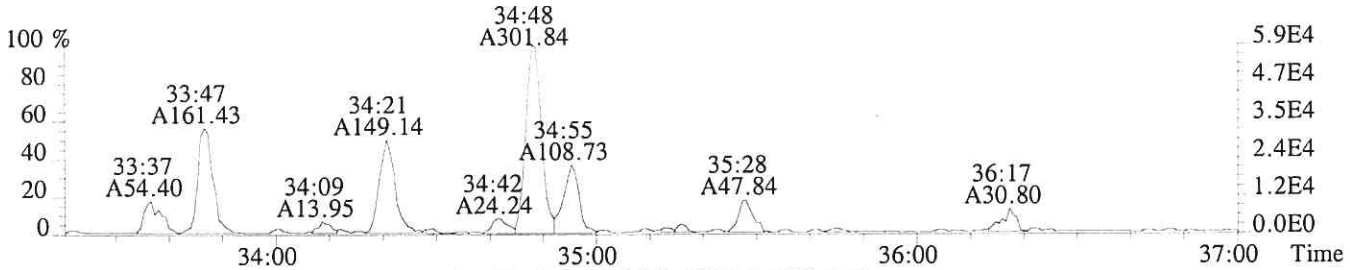


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

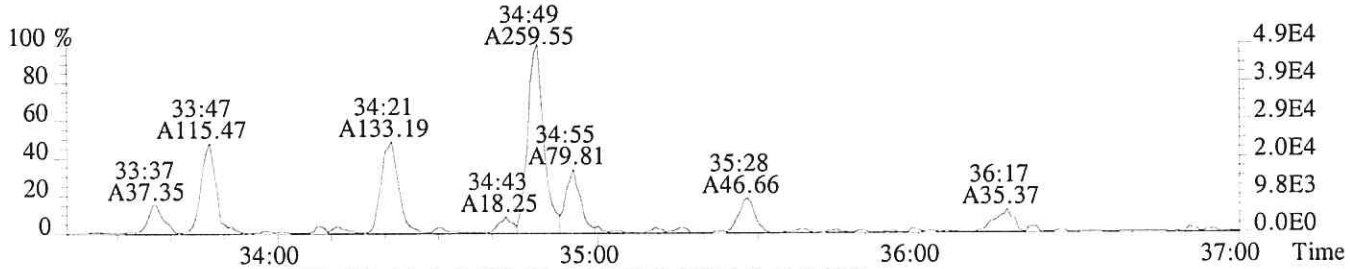


File:P609261 #1-330 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

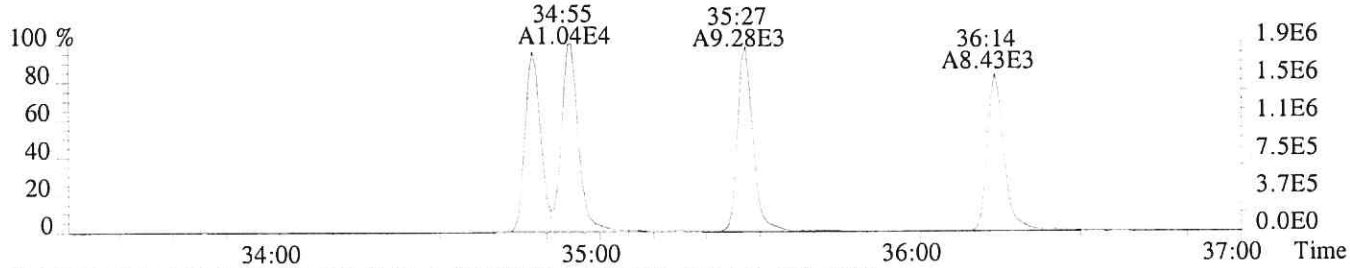
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



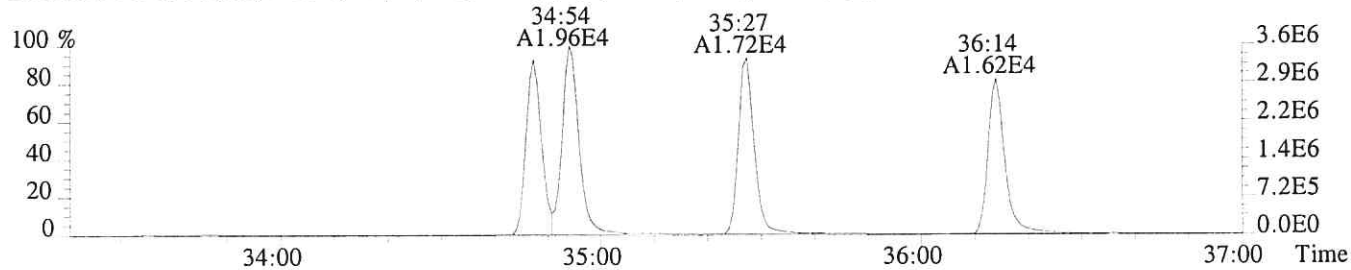
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,T)



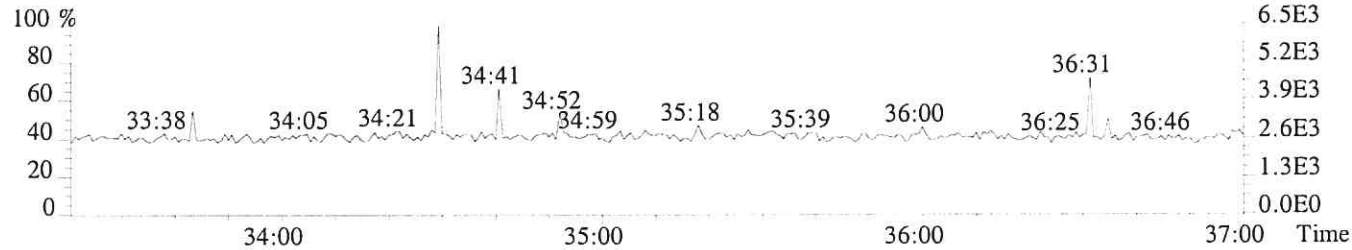
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



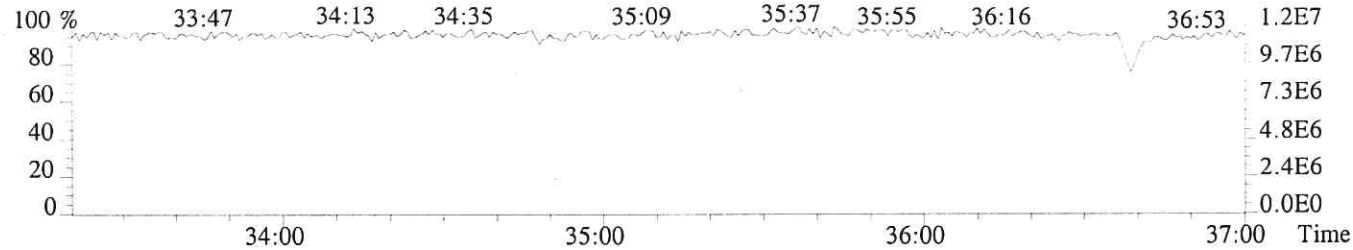
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,428.0,0.40%,F,T)



445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

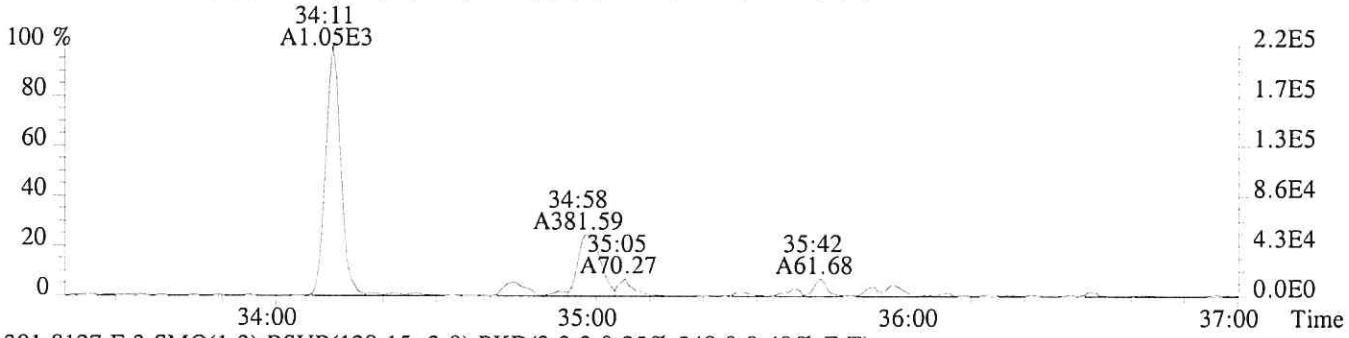


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

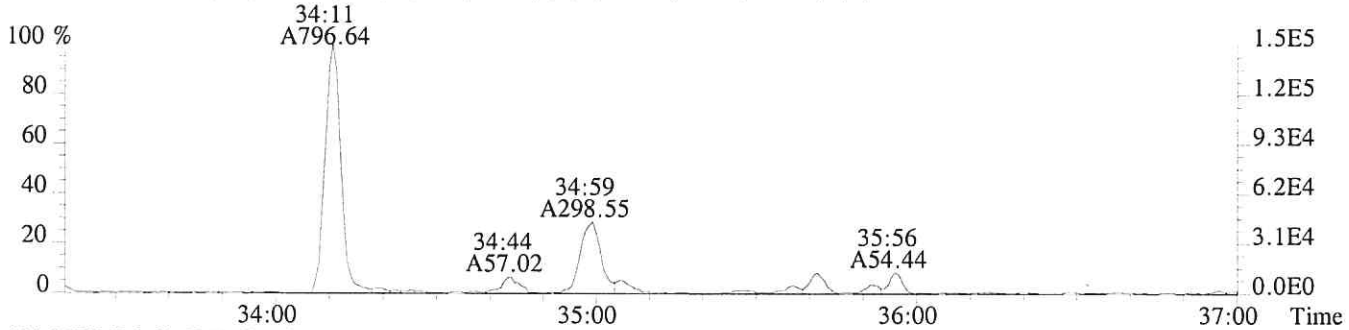


File:P609261 #1-330 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

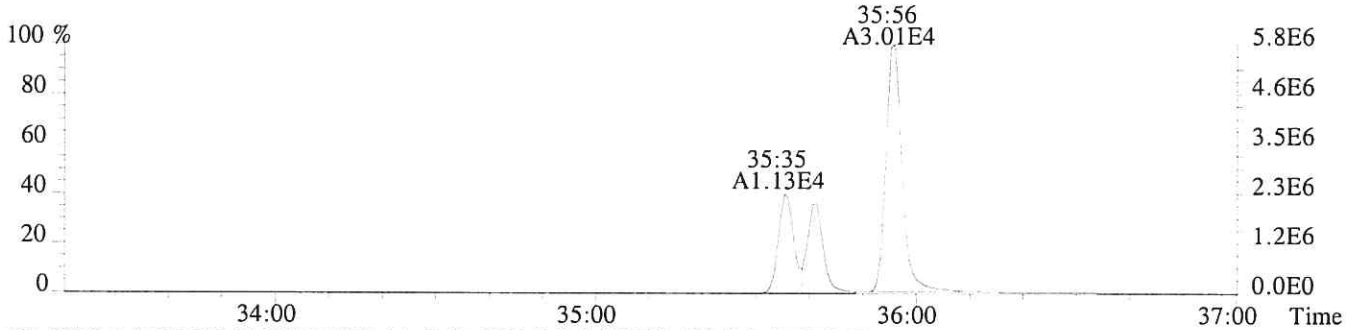
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



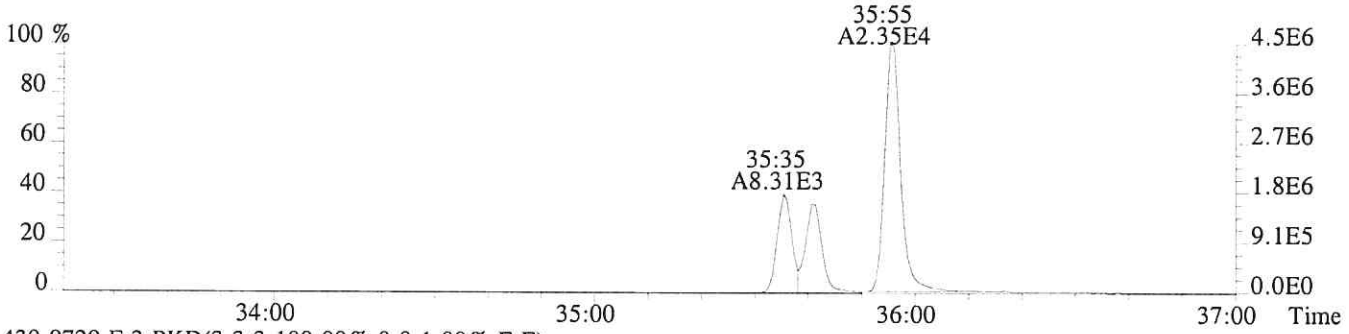
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.40%,F,T)



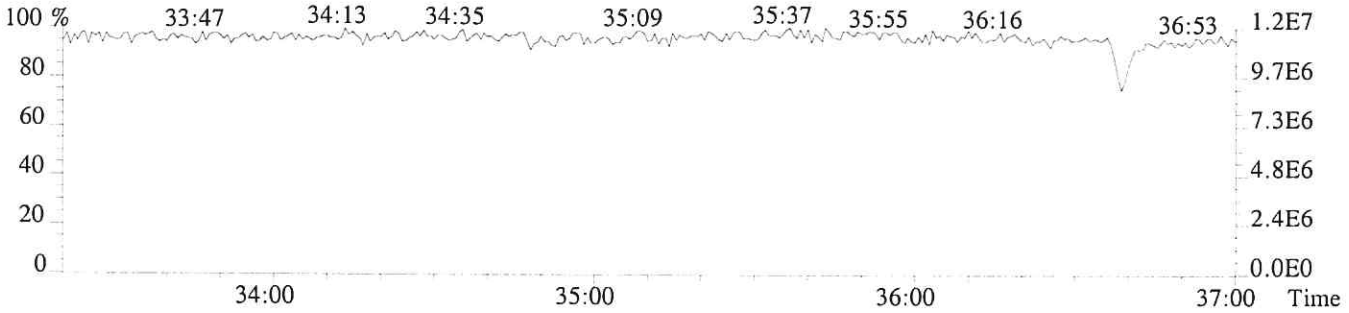
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,T)

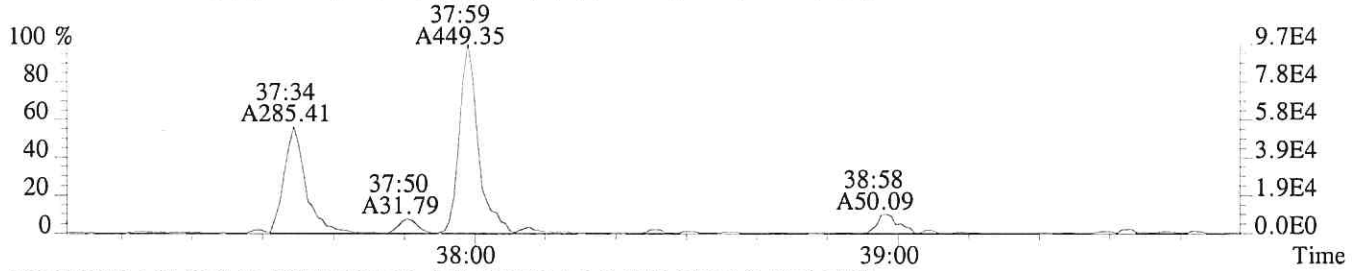


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



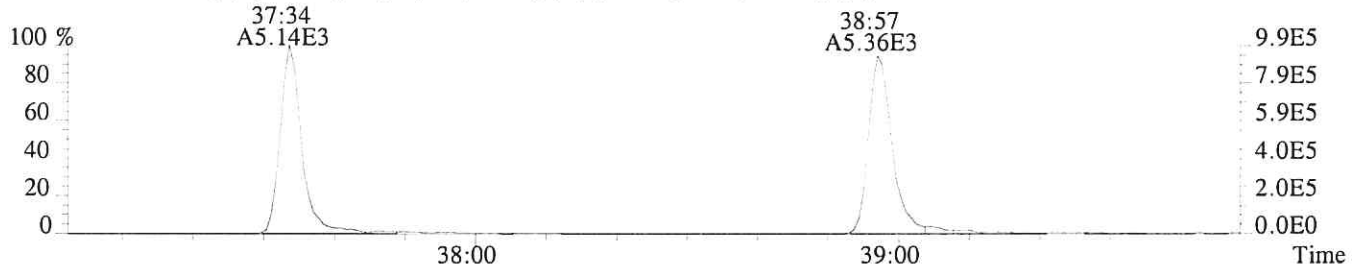
File:P609261 #1-250 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.50%,F,T)



409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,252.0,0.50%,F,T)

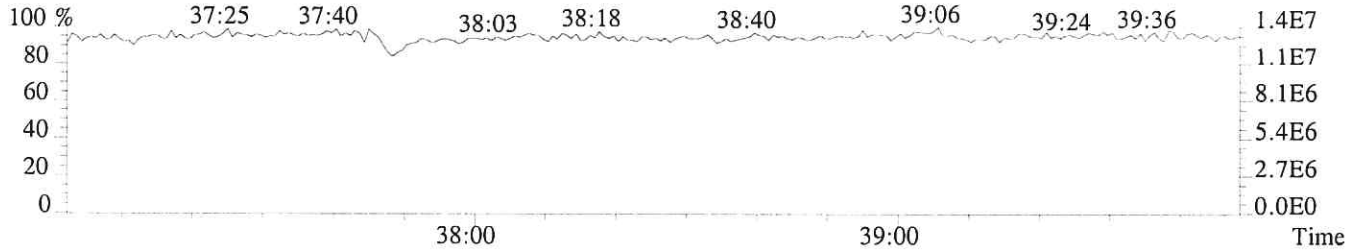
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,T)



419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2080.0,0.50%,F,T)

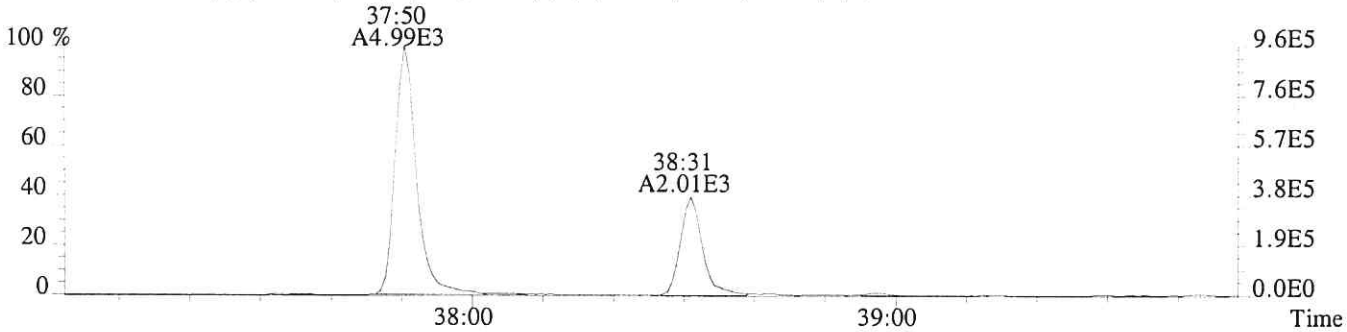
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

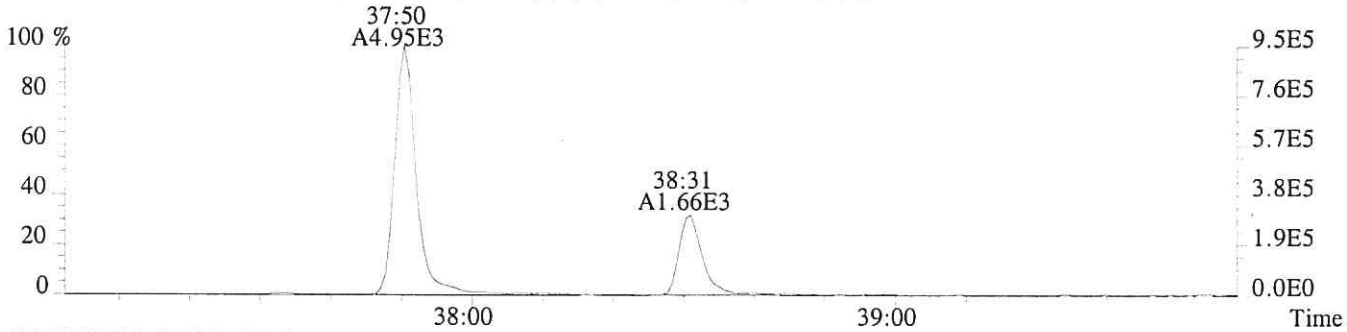


File:P609261 #1-250 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

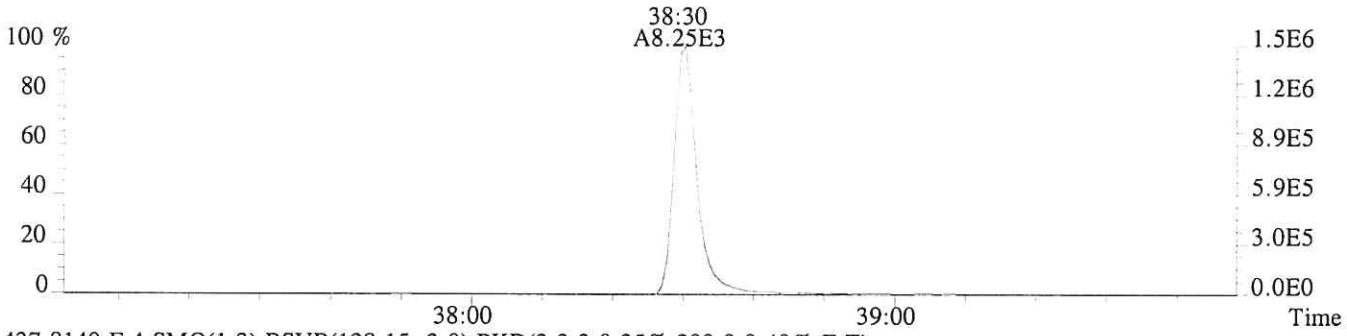
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,T)



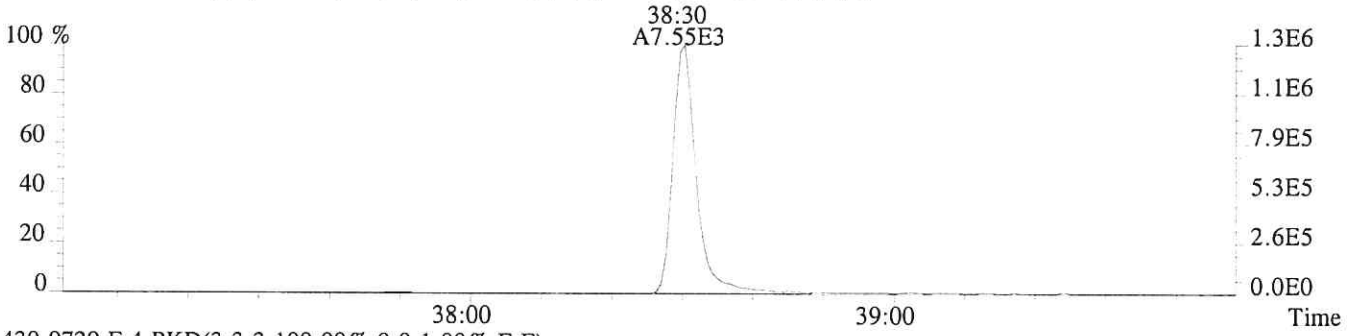
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



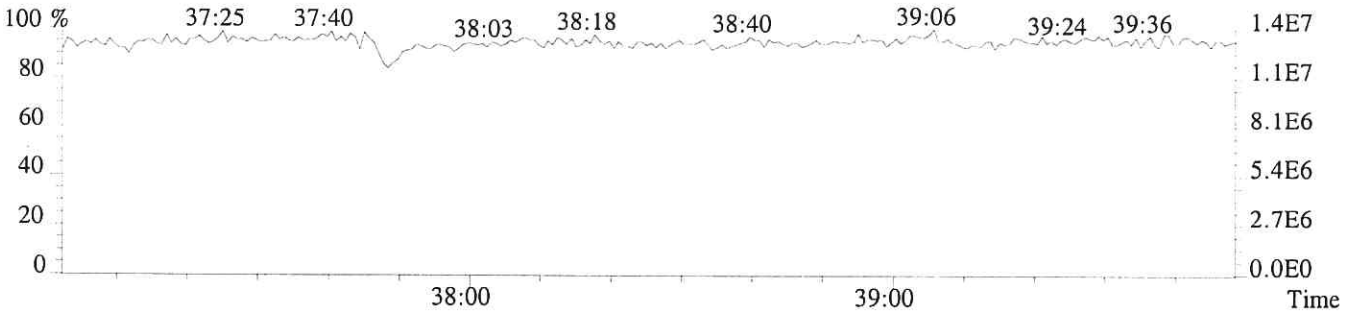
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)

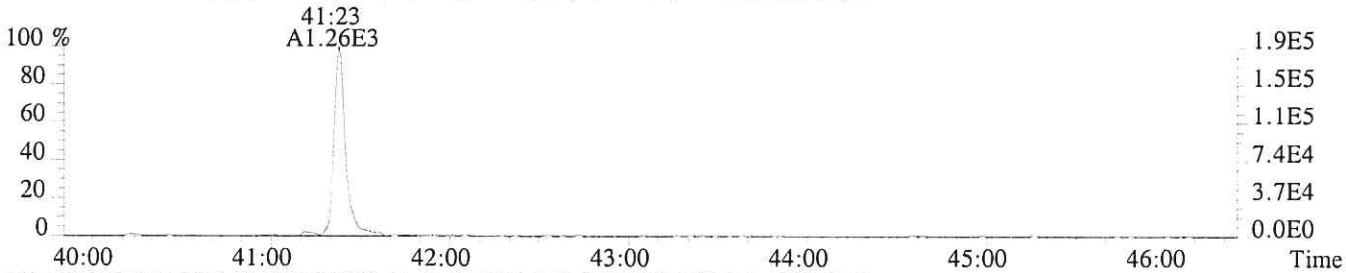


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

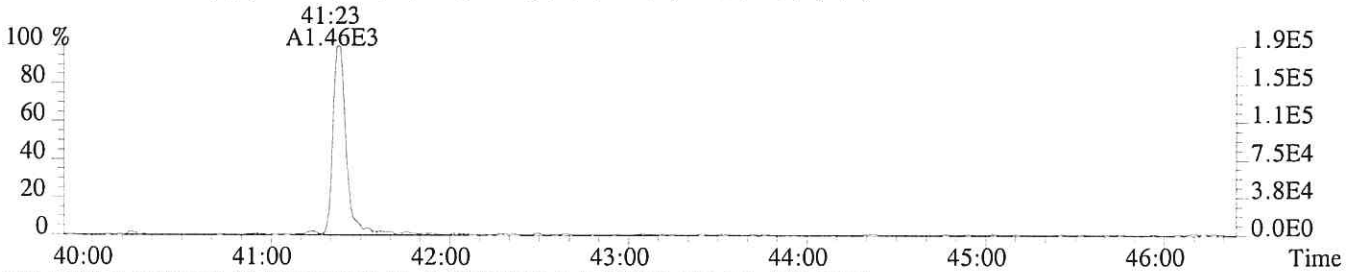


File:P609261 #1-591 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

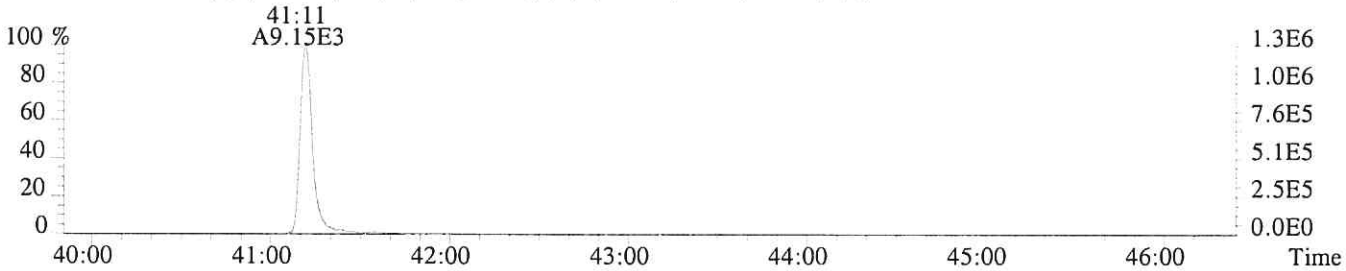
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,152.0,0.40%,F,T)



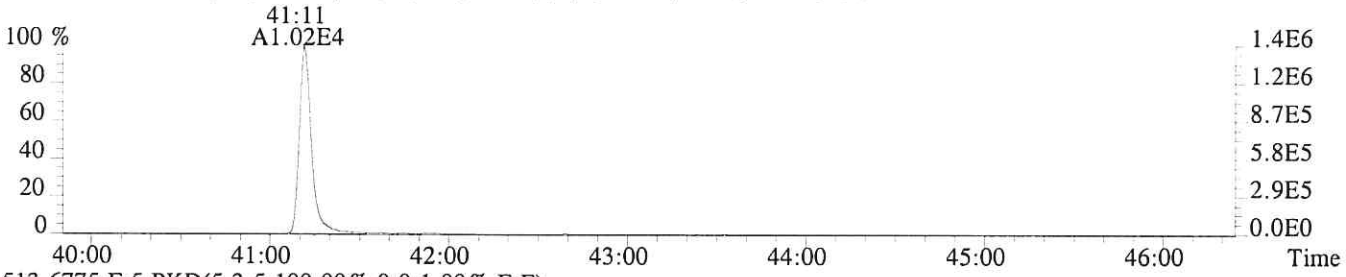
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,180.0,0.40%,F,T)



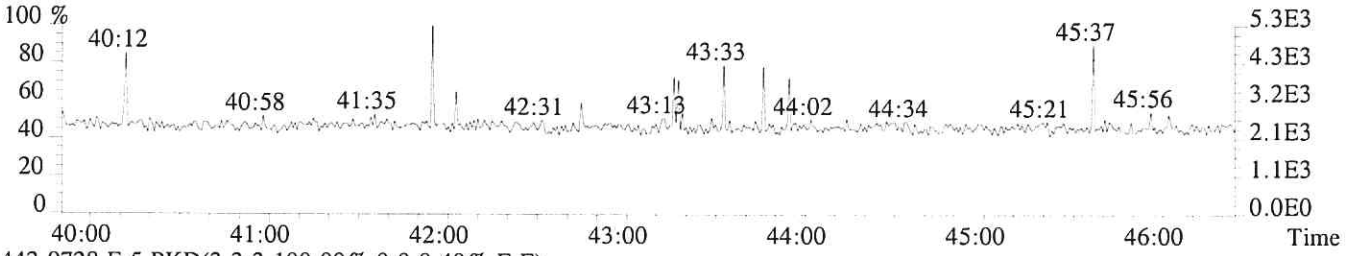
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,196.0,0.40%,F,T)



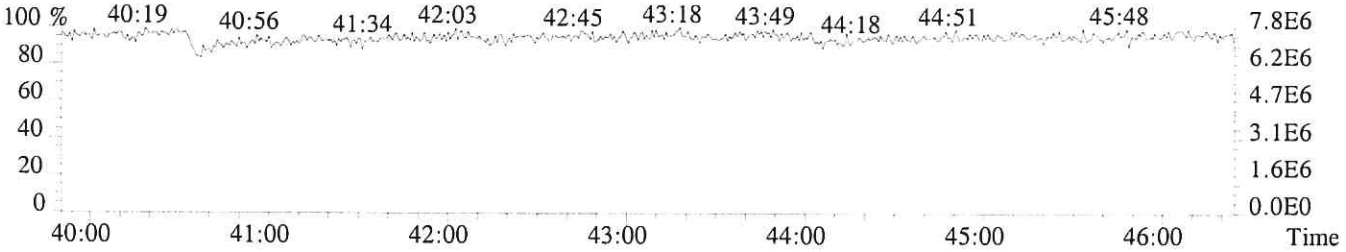
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,188.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

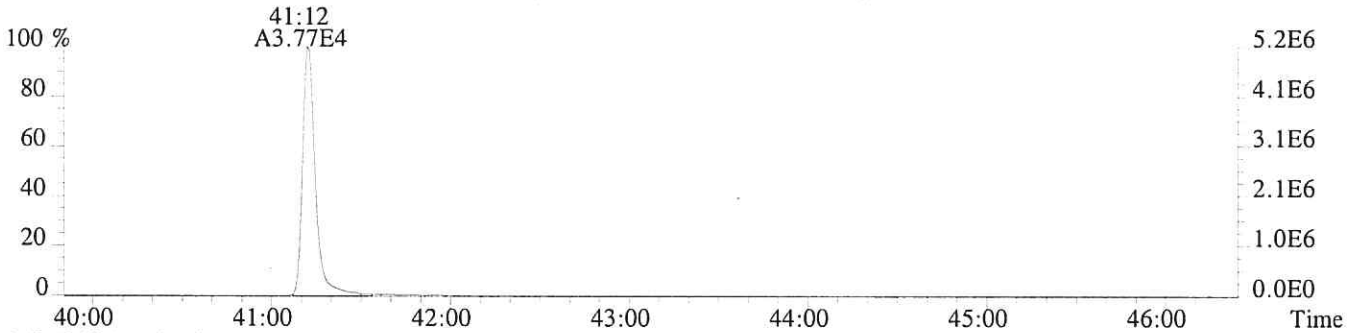


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

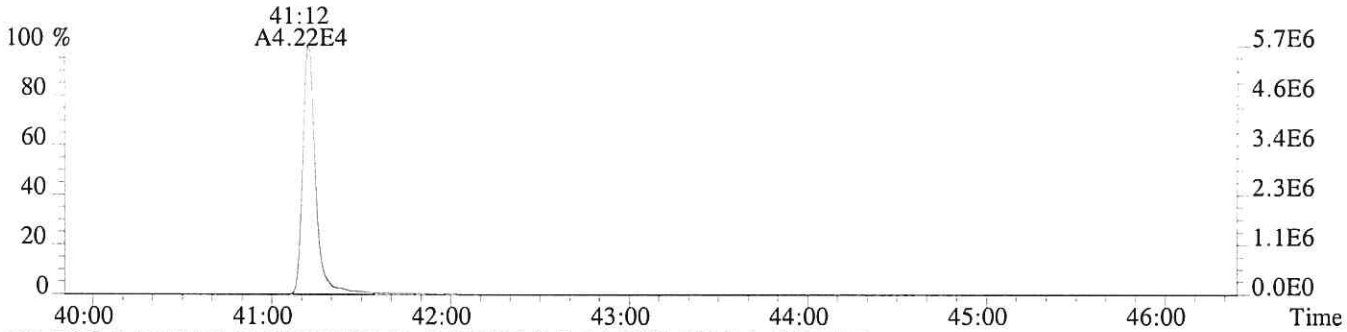


File:P609261 #1-591 Acq:25-SEP-2017 11:31:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700974-014

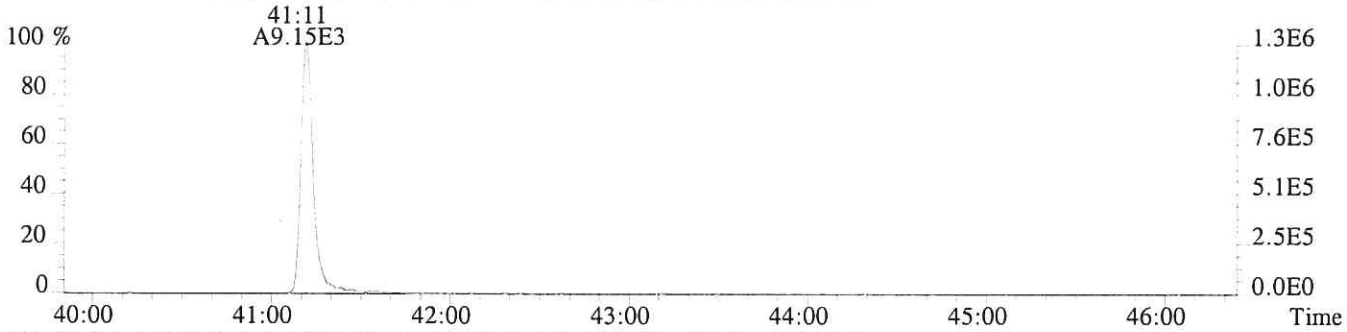
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,208.0,0.40%,F,T)



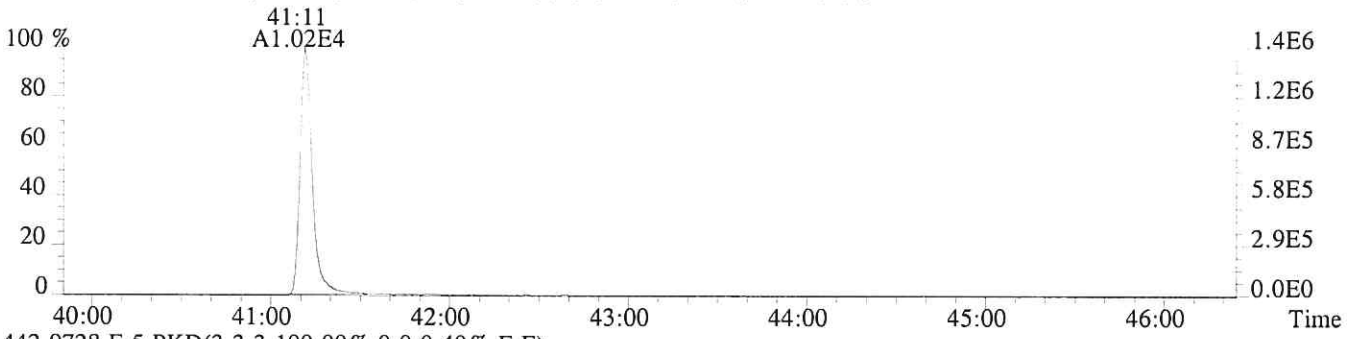
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,200.0,0.40%,F,T)



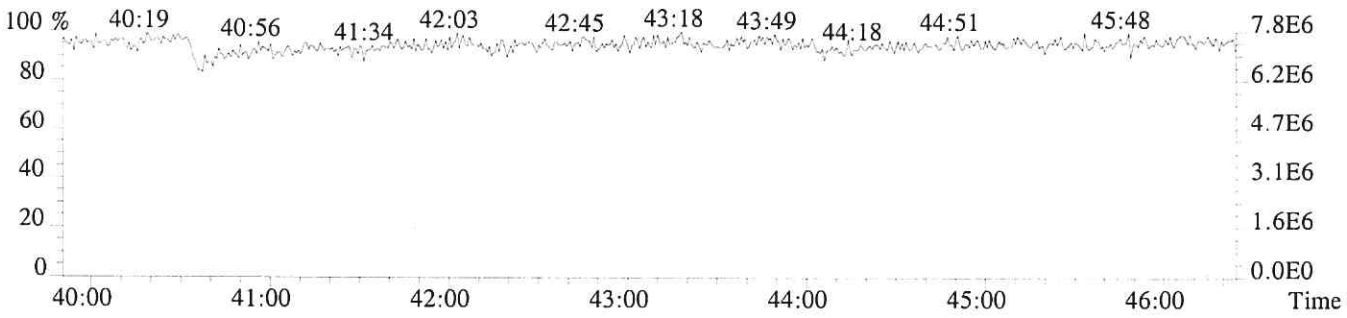
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,196.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,188.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #9 Filename P511539 Samp: 1 Inj: 1 Acquired: 24-SEP-17 13:26:30
Processed: 25-SEP-17 13:08:25 Sample ID: EQ1700418-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	NotFnd	*	*	*	no	no	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	NotFnd	*	*	*	no	yes	0.942
17	Unk	OCDD	42:24	7.234e+01	5.549e+01	1.30	no	yes	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.869e+04	2.439e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	3.116e+04	1.983e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	2.927e+04	1.844e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.145e+04	2.243e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.306e+04	2.627e+04	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	1.209e+04	2.363e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.105e+04	2.228e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	8.094e+03	1.820e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	7.154e+03	1.666e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	1.428e+04	1.823e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	2.252e+04	1.437e+04	1.57	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.740e+04	1.350e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.812e+04	1.434e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.284e+04	1.261e+04	1.02	yes	no	0.881
32	IS	13C-OCDD	42:24	1.405e+04	1.581e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.649e+04	3.364e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	3.269e+04	2.506e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.361e+04				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #9 Filename P511539 Samp: 1 Inj: 1 Acquired: 24-SEP-17 13:26:30
Processed: 25-SEP-17 13:08:25 LAB. ID: EQ1700418-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.37e+03	*	*	3.99e+03	*
2	1,2,3,7,8-PeCDF	*	1.03e+03	*	*	3.27e+03	*
3	2,3,4,7,8-PeCDF	*	1.03e+03	*	*	3.27e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.73e+03	*	*	1.34e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.73e+03	*	*	1.34e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.73e+03	*	*	1.34e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.73e+03	*	*	1.34e+03	*
8	1,2,3,4,6,7,8-HpCDF	*	4.12e+02	*	*	9.12e+02	*
9	1,2,3,4,7,8,9-HpCDF	*	4.12e+02	*	*	9.12e+02	*
10	OCDF	*	9.28e+02	*	*	2.28e+03	*
11	2,3,7,8-TCDD	*	3.22e+03	*	*	1.48e+03	*
12	1,2,3,7,8-PeCDD	*	1.94e+03	*	*	3.40e+02	*
13	1,2,3,4,7,8-HxCDD	*	9.00e+02	*	*	1.67e+03	*
14	1,2,3,6,7,8-HxCDD	*	9.00e+02	*	*	1.67e+03	*
15	1,2,3,7,8,9-HxCDD	*	9.00e+02	*	*	1.67e+03	*
16	1,2,3,4,6,7,8-HpCDD	*	1.04e+03	*	*	8.40e+02	*
17	OCDD	1.30e+04	4.24e+02	3.1e+01	8.03e+03	1.04e+03	7.7e+00
18	13C-2,3,7,8-TCDF	3.33e+06	1.73e+04	1.9e+02	4.28e+06	8.94e+03	4.8e+02
19	13C-1,2,3,7,8-PeCDF	5.83e+06	1.48e+03	3.9e+03	3.73e+06	1.61e+03	2.3e+03
20	13C-2,3,4,7,8-PeCDF	5.67e+06	1.48e+03	3.8e+03	3.61e+06	1.61e+03	2.2e+03
21	13C-1,2,3,4,7,8-HxCDF	2.41e+06	1.52e+03	1.6e+03	4.64e+06	2.90e+03	1.6e+03
22	13C-1,2,3,6,7,8-HxCDF	2.54e+06	1.52e+03	1.7e+03	5.13e+06	2.90e+03	1.8e+03
23	13C-2,3,4,6,7,8-HxCDF	2.46e+06	1.52e+03	1.6e+03	4.85e+06	2.90e+03	1.7e+03
24	13C-1,2,3,7,8,9-HxCDF	2.12e+06	1.52e+03	1.4e+03	4.33e+06	2.90e+03	1.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.69e+06	2.88e+03	5.9e+02	3.80e+06	3.02e+03	1.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.28e+06	2.88e+03	4.4e+02	3.01e+06	3.02e+03	1.0e+03
27	13C-2,3,7,8-TCDD	2.62e+06	8.64e+03	3.0e+02	3.32e+06	5.66e+03	5.9e+02
28	13C-1,2,3,7,8-PeCDD	4.41e+06	2.82e+03	1.6e+03	2.79e+06	2.24e+03	1.2e+03
29	13C-1,2,3,4,7,8-HxCDD	3.85e+06	2.71e+03	1.4e+03	2.99e+06	1.86e+03	1.6e+03
30	13C-1,2,3,6,7,8-HxCDD	3.60e+06	2.71e+03	1.3e+03	2.87e+06	1.86e+03	1.5e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.44e+06	1.24e+03	2.0e+03	2.33e+06	1.12e+03	2.1e+03
32	13C-OCDD	2.30e+06	1.57e+03	1.5e+03	2.49e+06	8.96e+02	2.8e+03
33	13C-1,2,3,4-TCDD	4.95e+06	8.64e+03	5.7e+02	6.23e+06	5.66e+03	1.1e+03
34	13C-1,2,3,7,8,9-HxCDD	6.41e+06	2.71e+03	2.4e+03	5.11e+06	1.86e+03	2.7e+03
35	37Cl-2,3,7,8-TCDD	2.57e+06	2.53e+03	1.0e+03			

---Sample Calculation---

$$D/L\ TCDD = \frac{2.5 \times (3.220e+03 + 1.476e+03\ ) \times 2000}{(2.623e+06 + 3.316e+06\ ) \times (\qquad\qquad) \times 1.065} =$$

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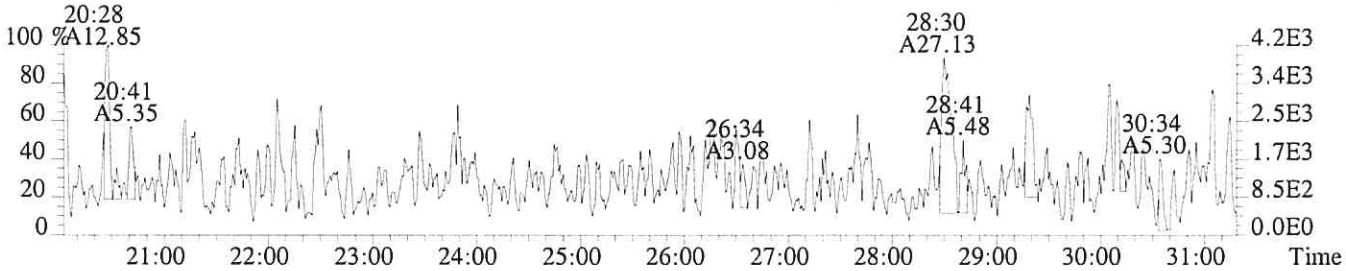
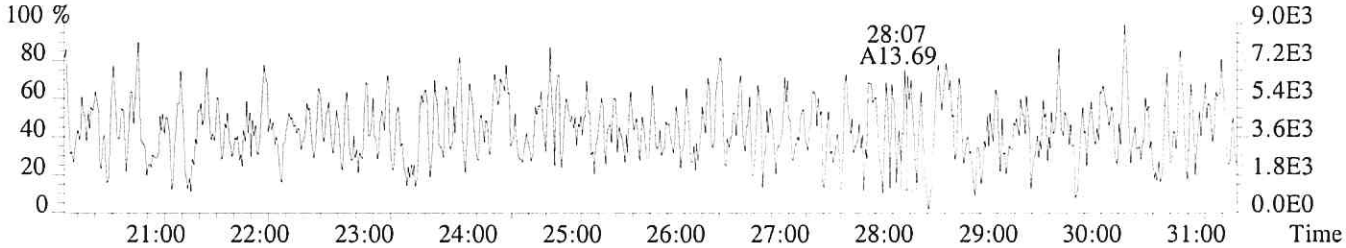
File:P511539 #1-800 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01

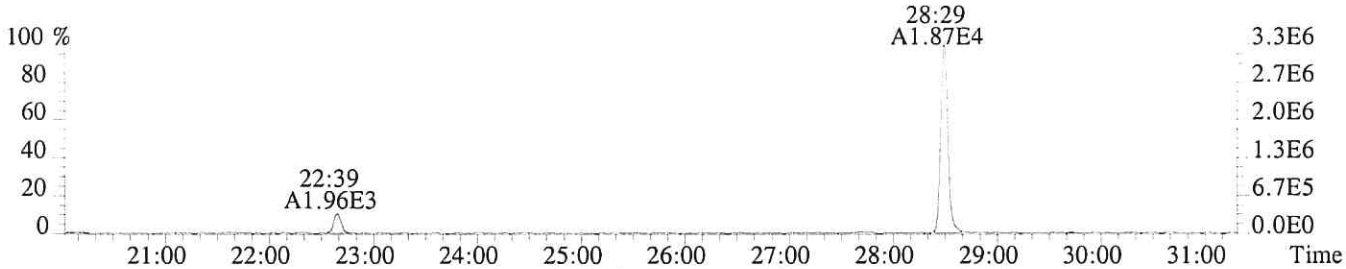
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1432.0,1.00%,F,T)



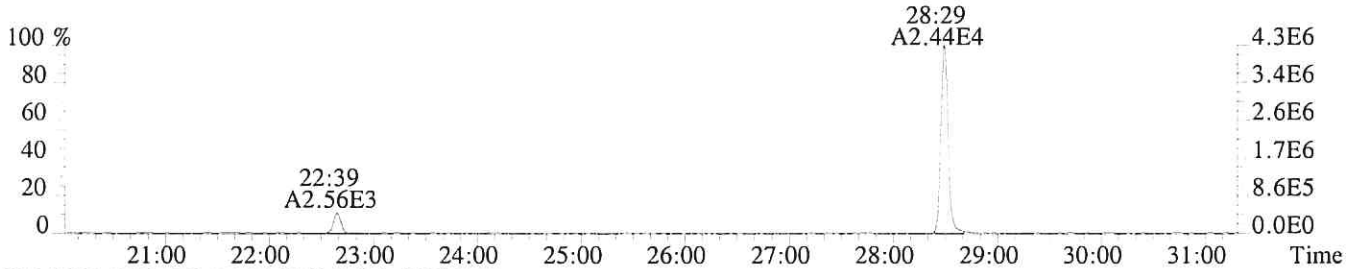
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5036.0,1.00%,F,T)



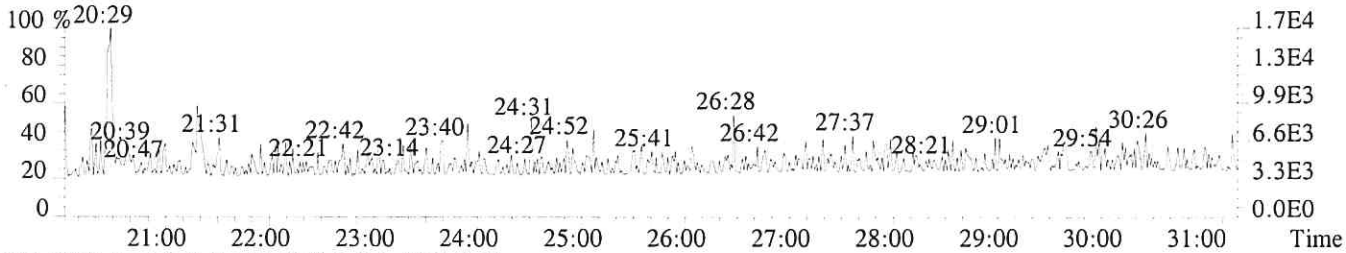
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17304.0,1.00%,F,T)



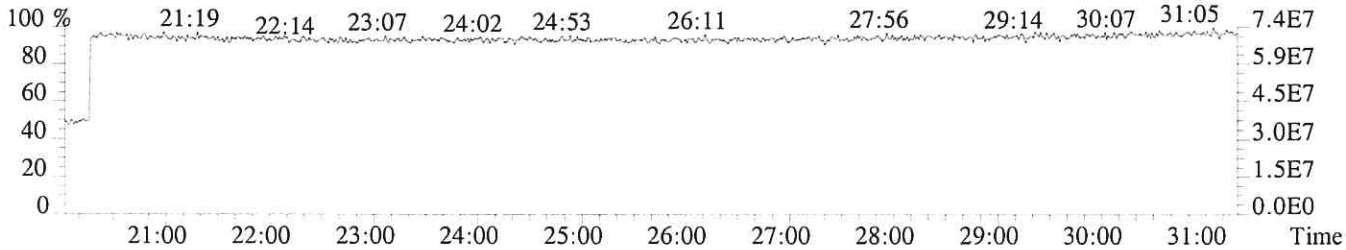
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8940.0,1.00%,F,T)



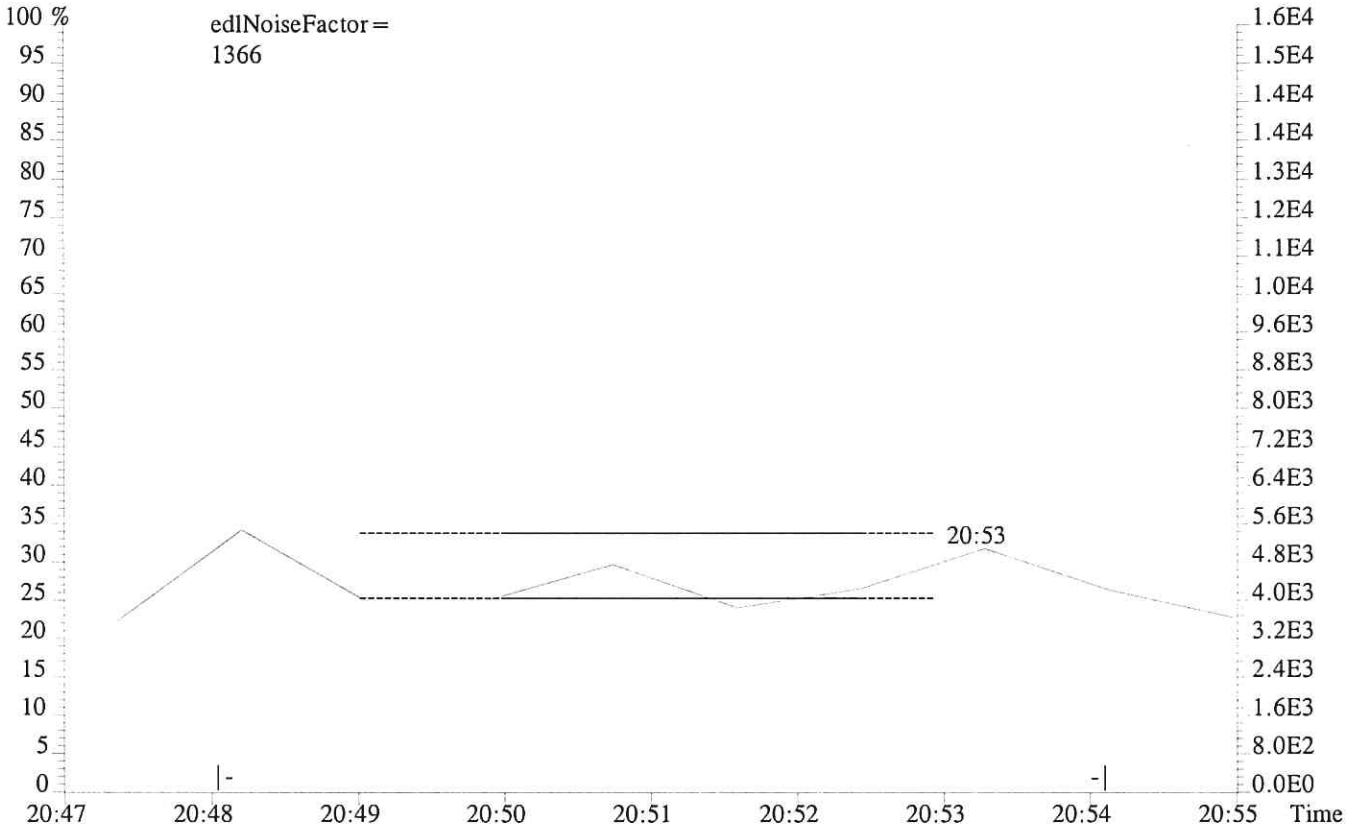
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



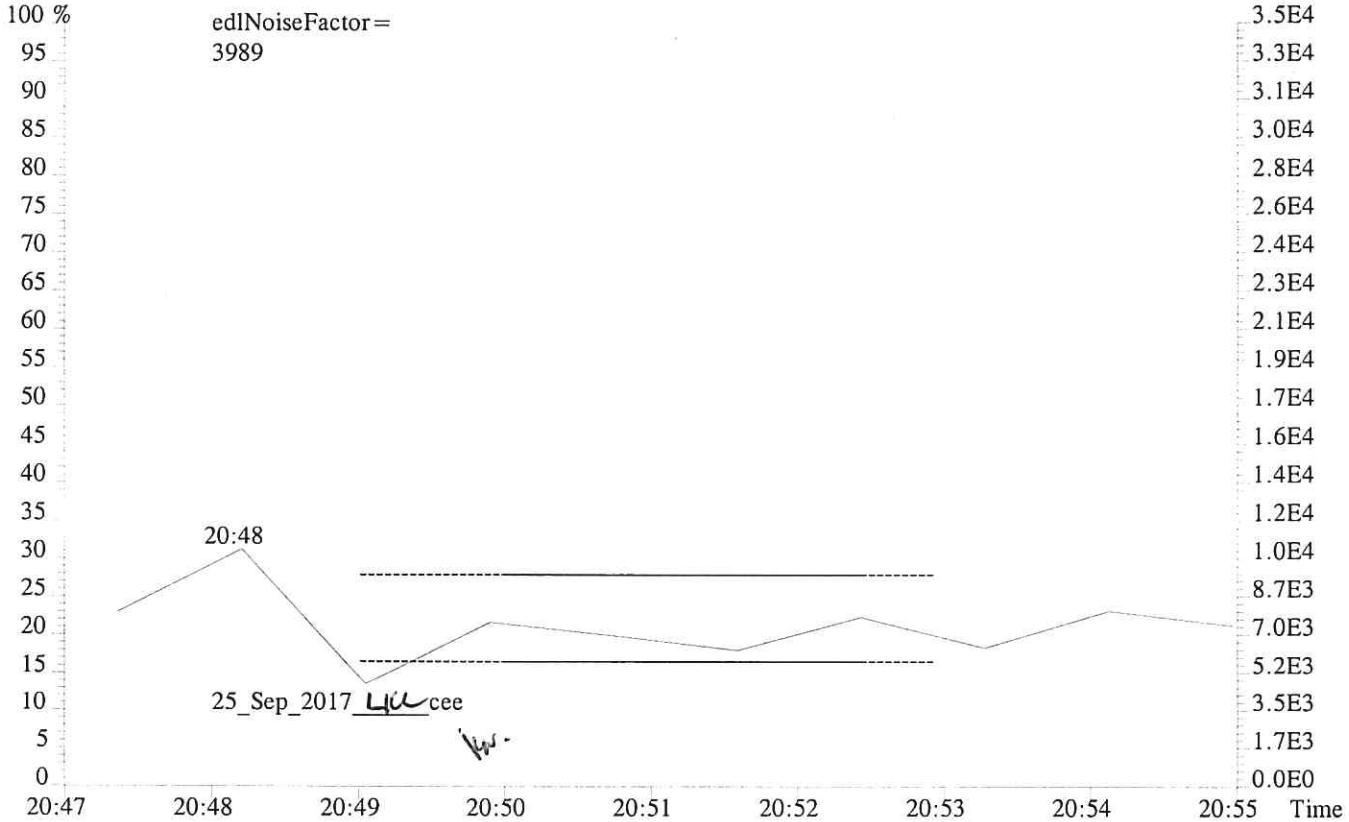
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



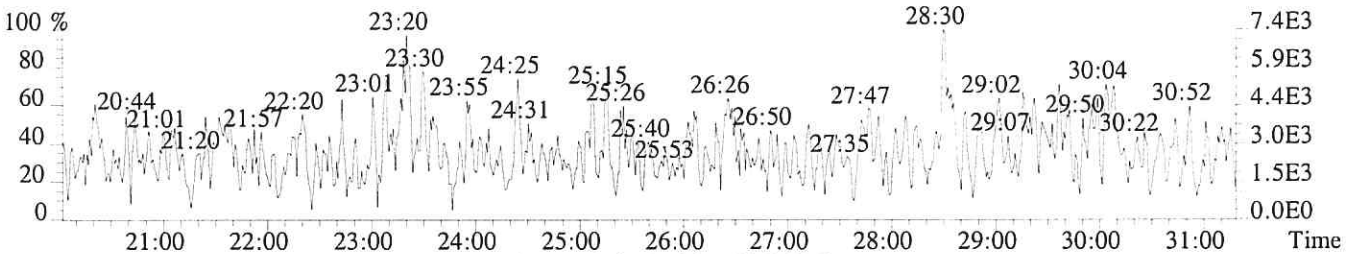
File:P511539 #1-800 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
303.9016



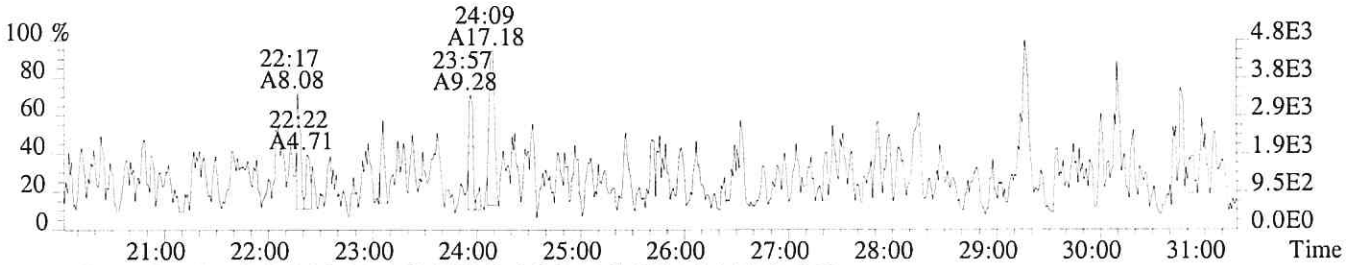
305.8987



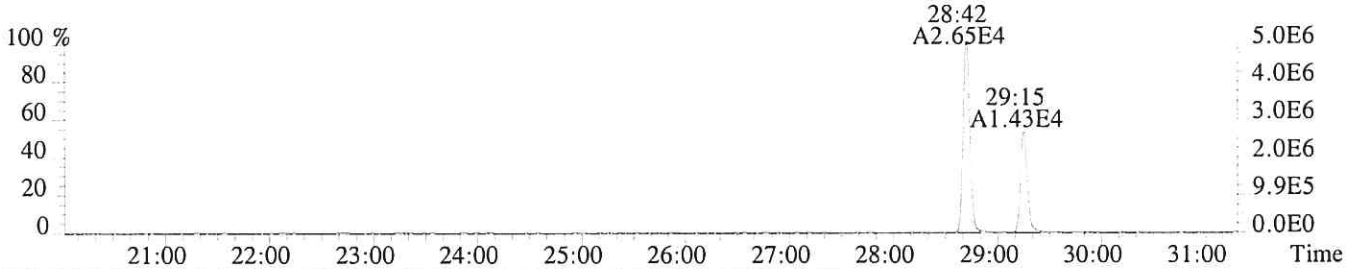
File:P511539 #1-800 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3220.0,1.00%,F,T)



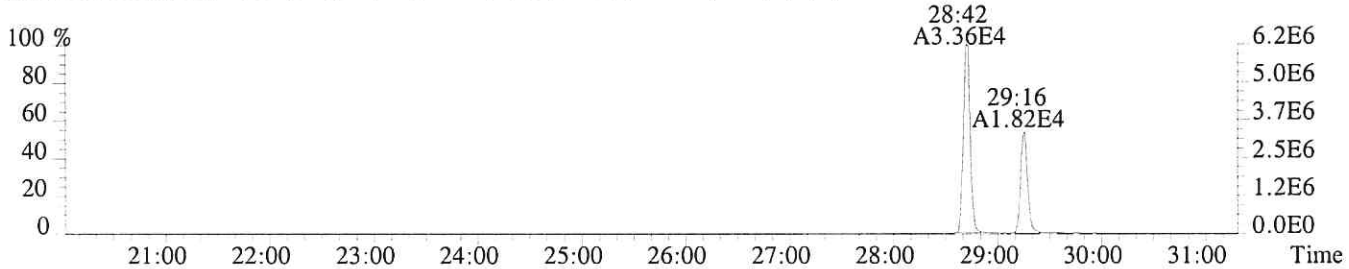
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1476.0,1.00%,F,T)



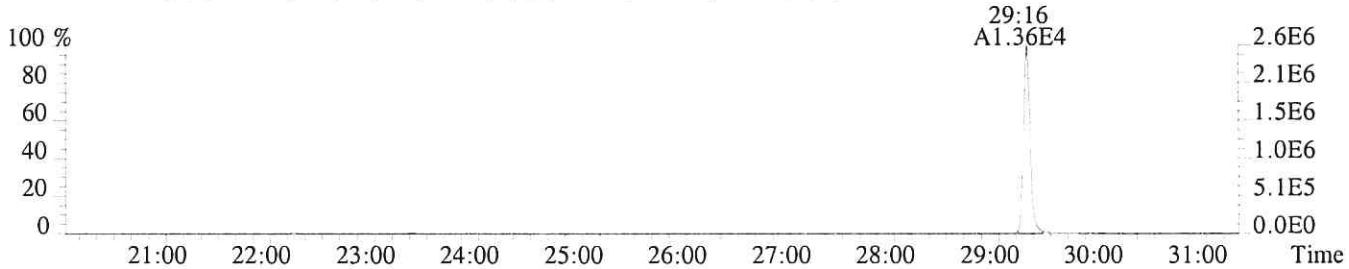
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8644.0,1.00%,F,T)



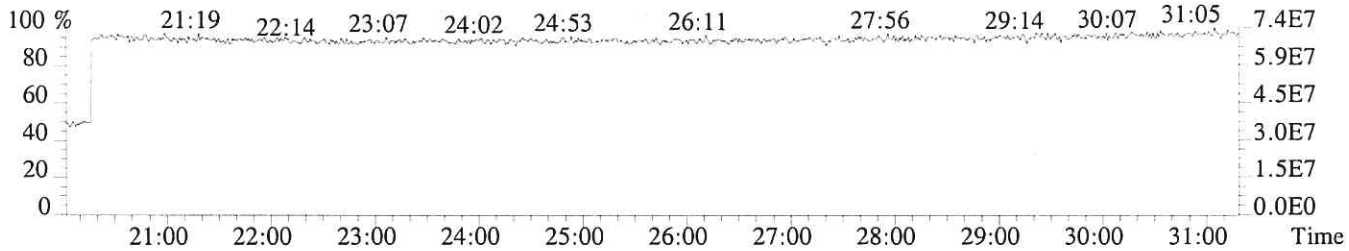
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5660.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2528.0,1.00%,F,T)

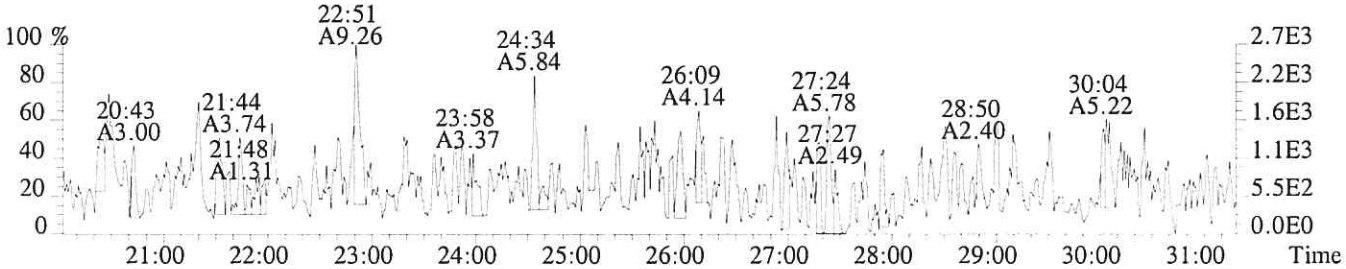


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

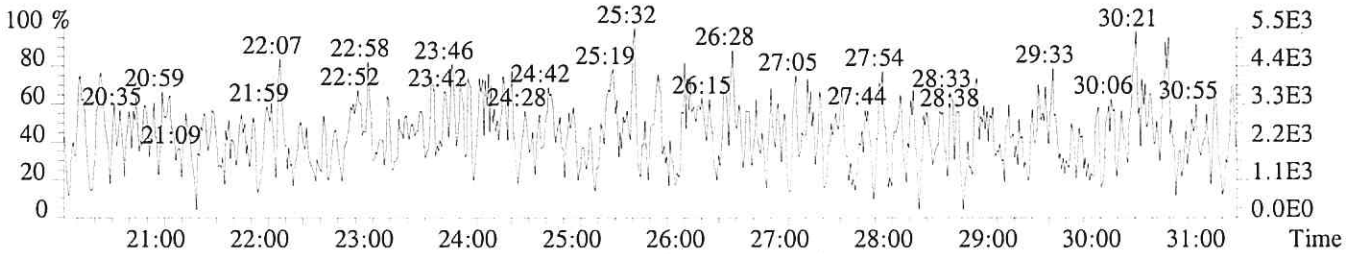


File:P511539 #1-800 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01

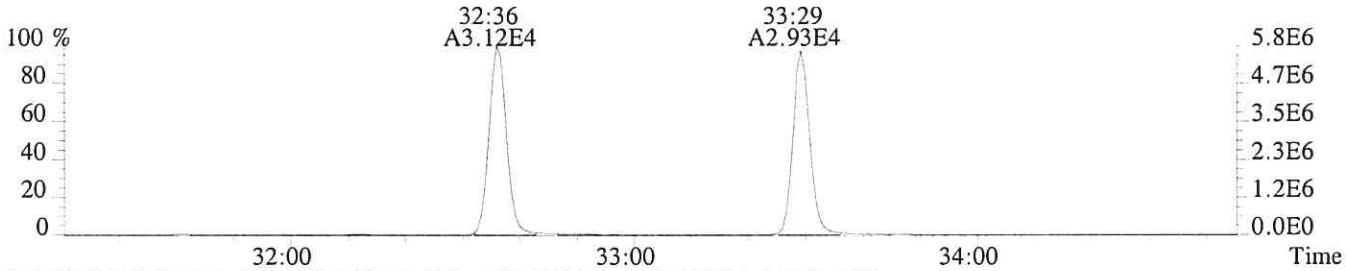
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



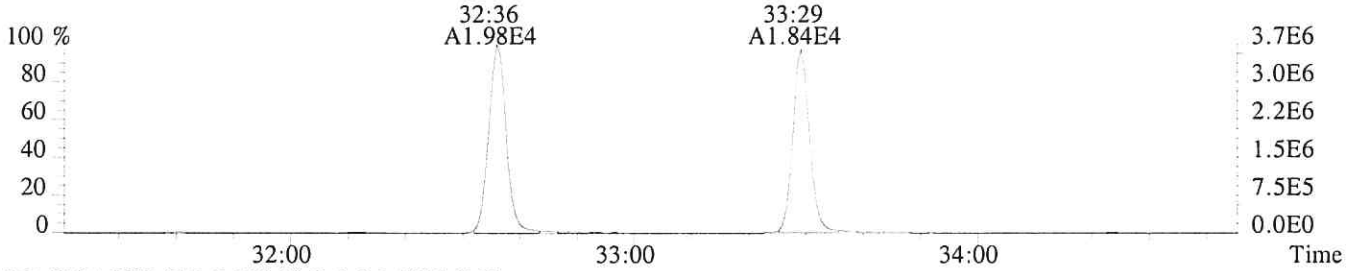
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3000.0,1.00%,F,T)



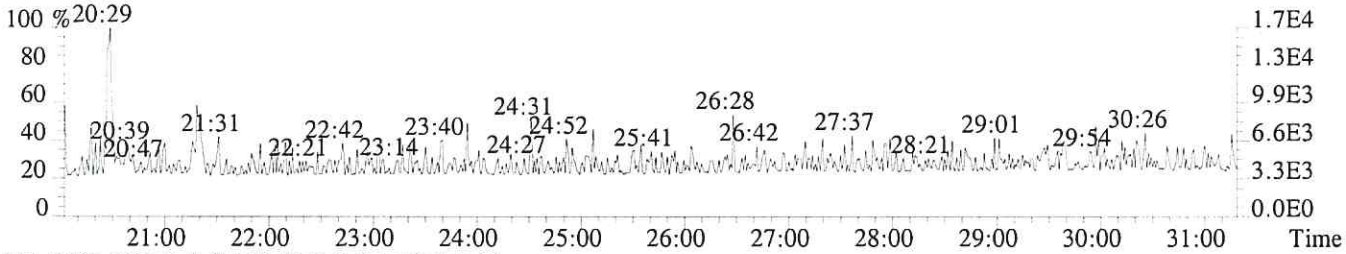
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,T)



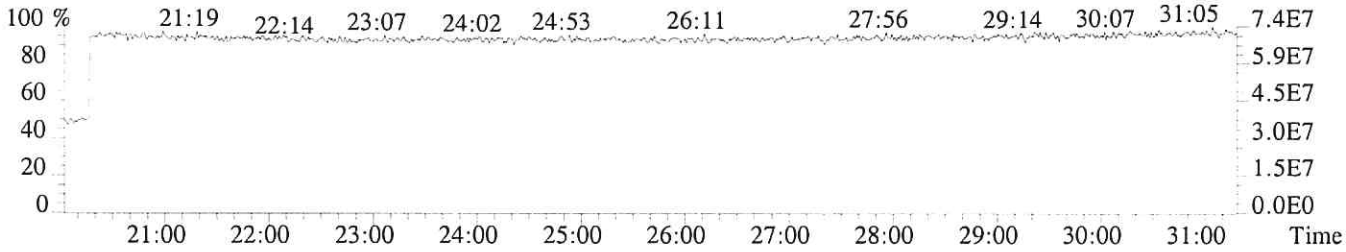
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

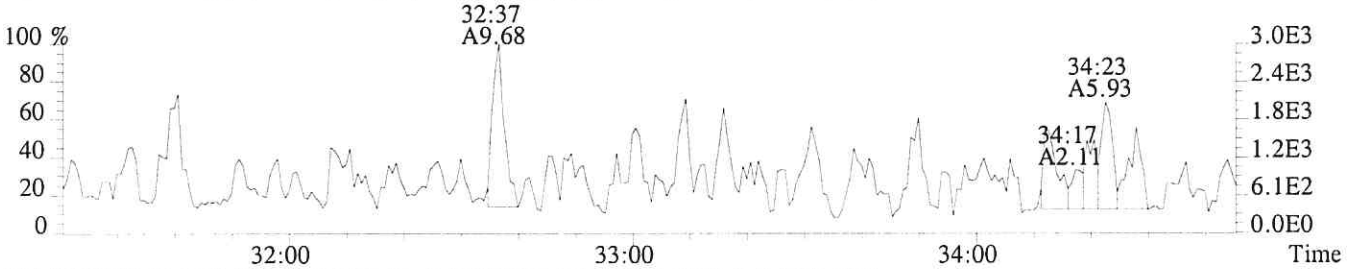


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

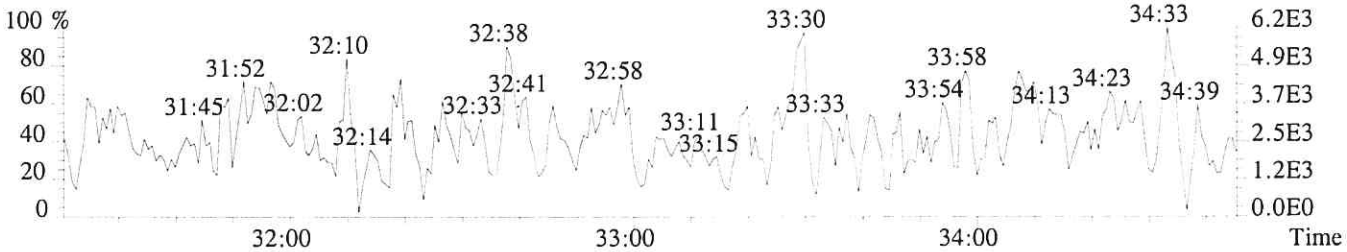


File:P511539 #1-308 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01

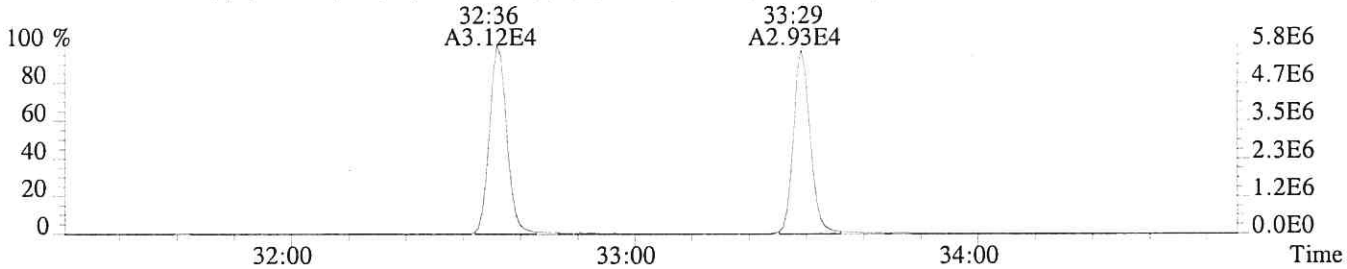
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1028.0,1.00%,F,T)



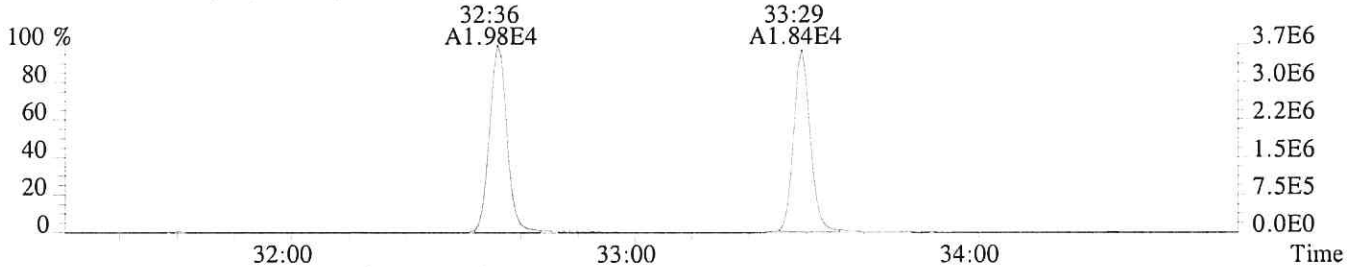
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3272.0,1.00%,F,T)



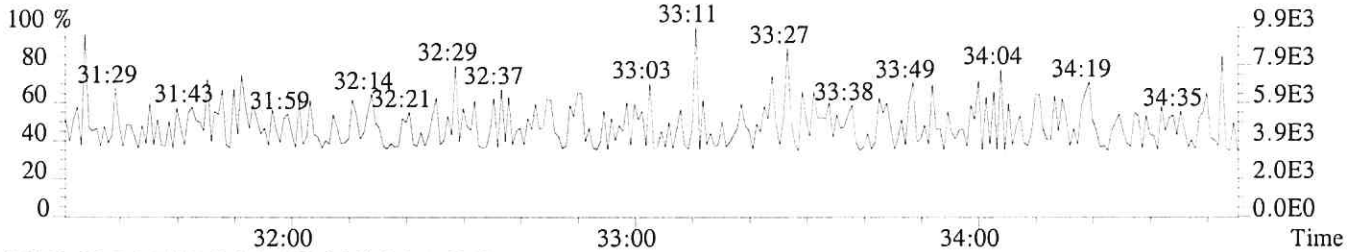
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,T)



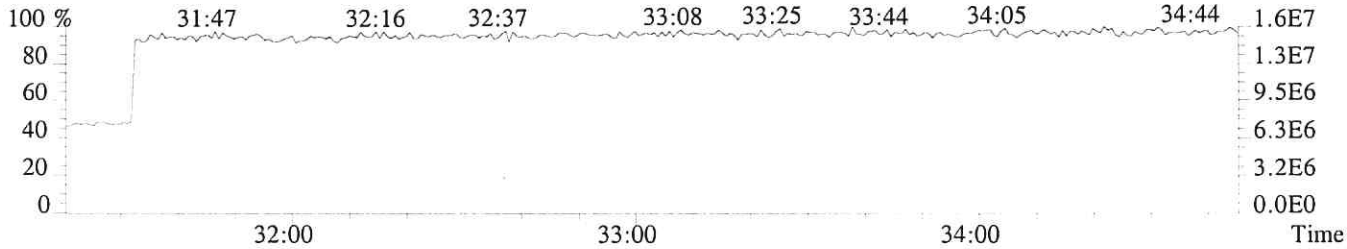
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



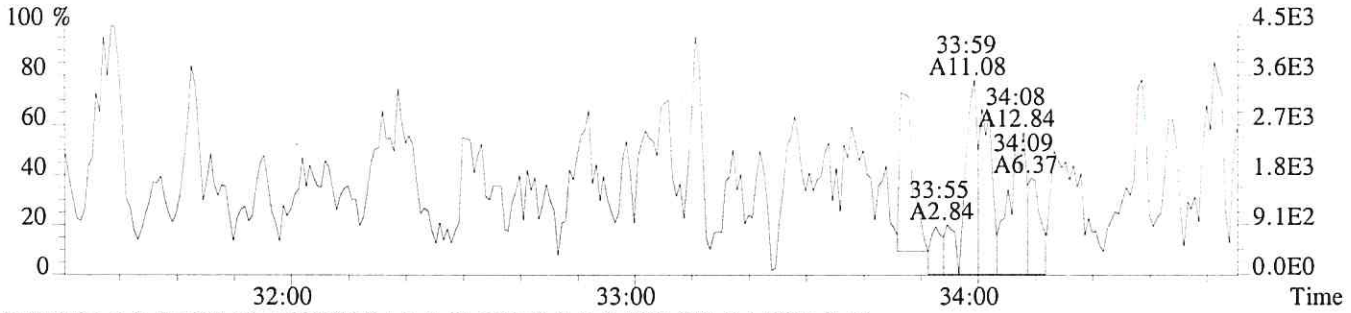
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



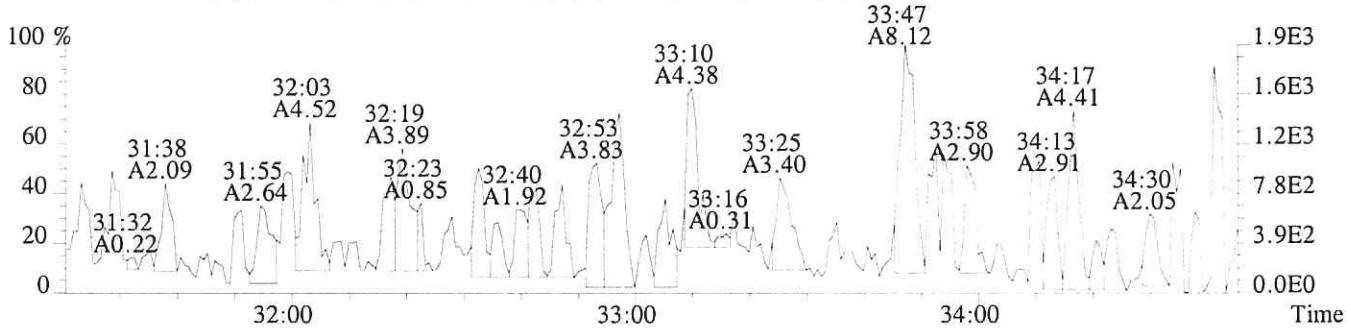
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



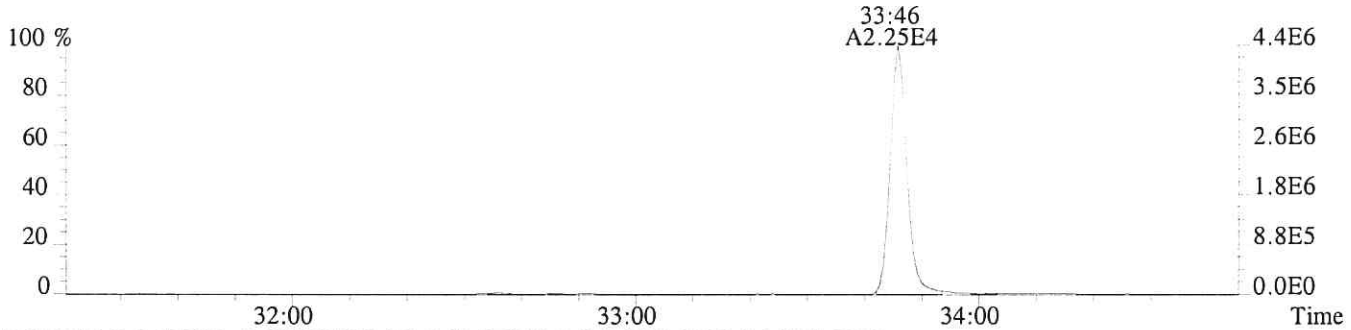
File:P511539 #1-308 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,T)



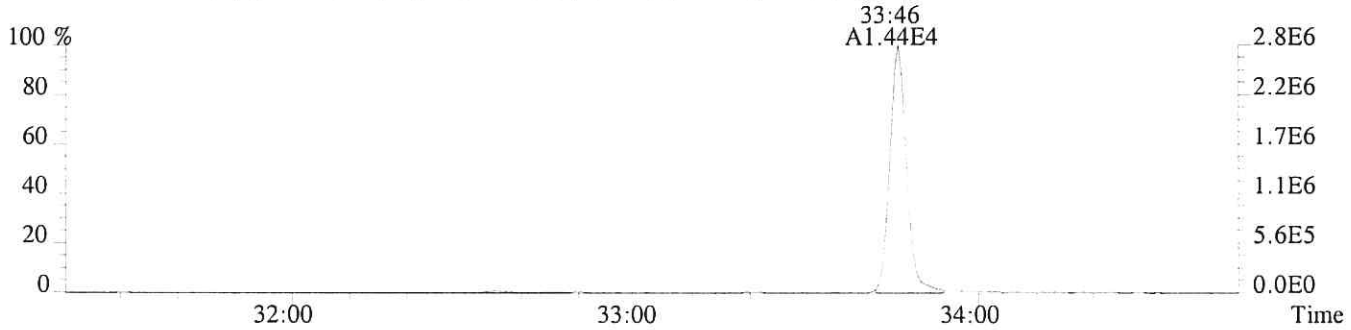
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



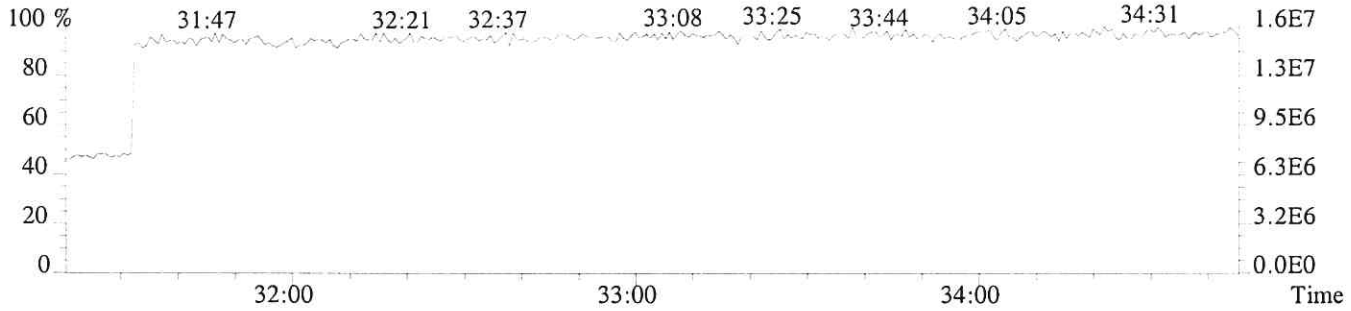
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2820.0,1.00%,F,T)



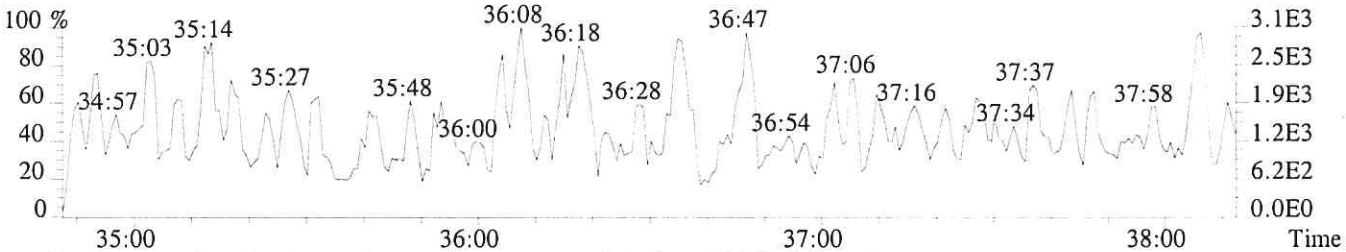
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,T)



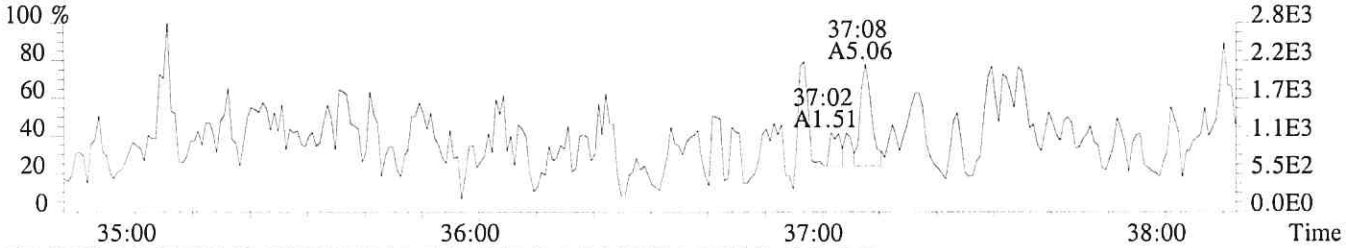
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



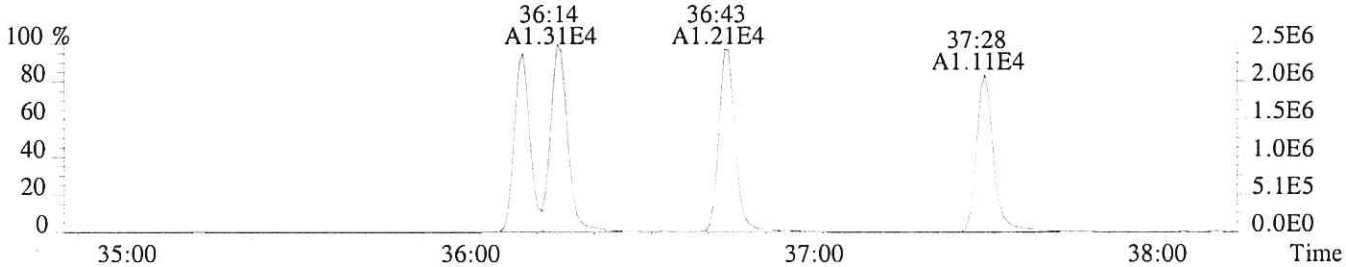
File:P511539 #1-308 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1728.0,0.40%,F,T)



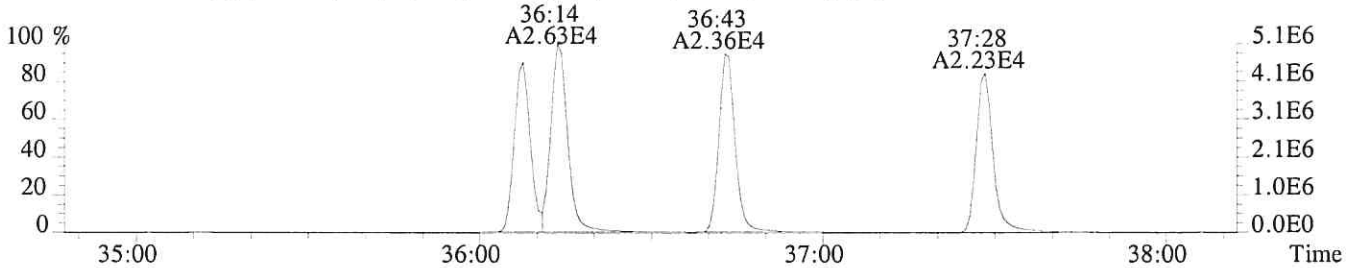
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



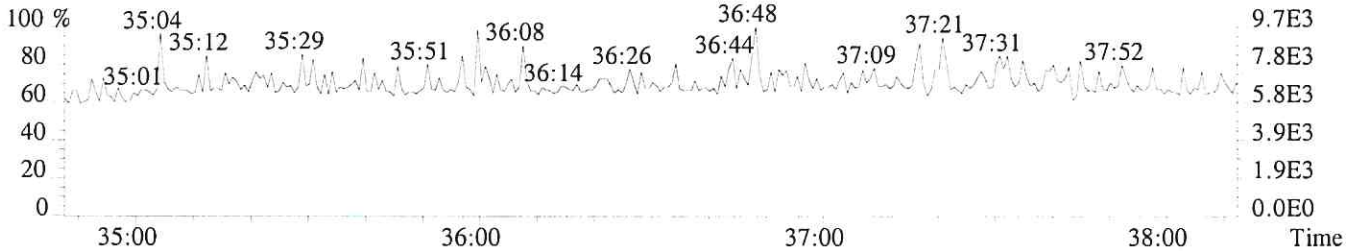
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1516.0,0.40%,F,T)



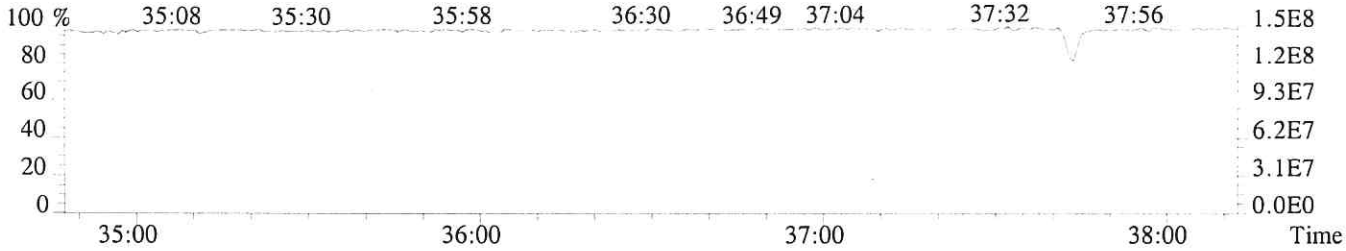
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2896.0,0.40%,F,T)



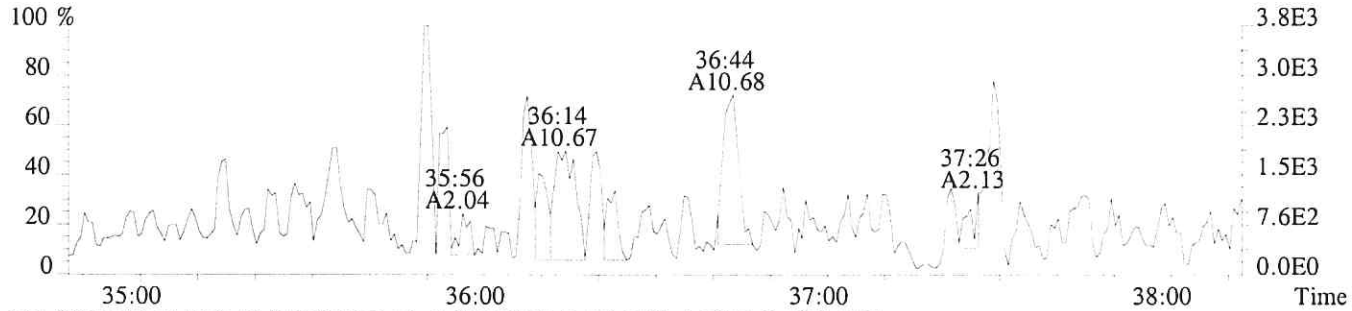
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



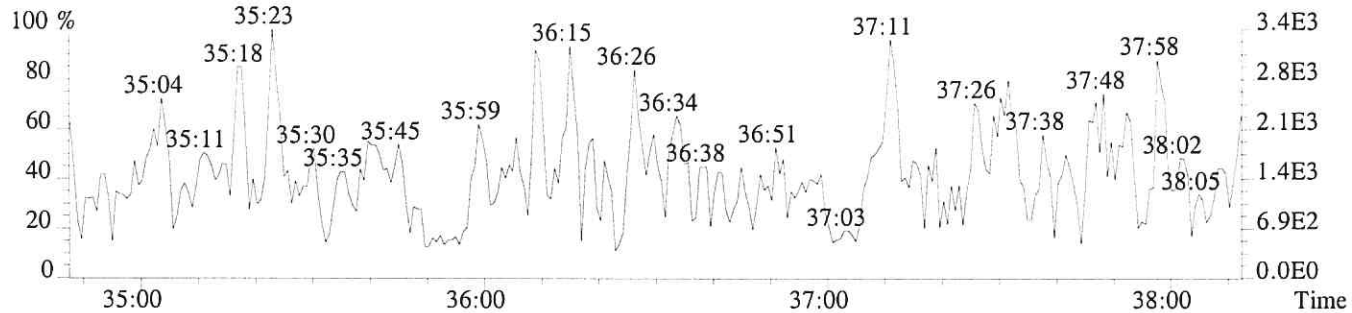
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



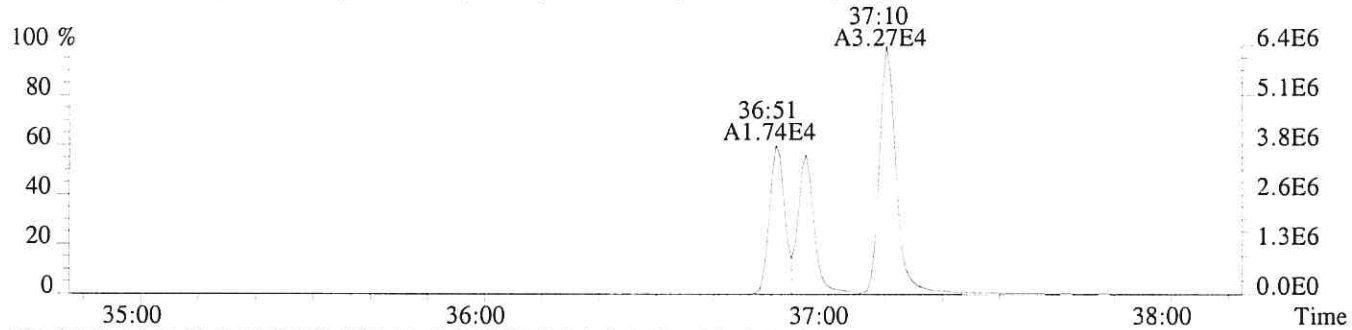
File:P511539 #1-308 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,900.0,0.40%,F,T)



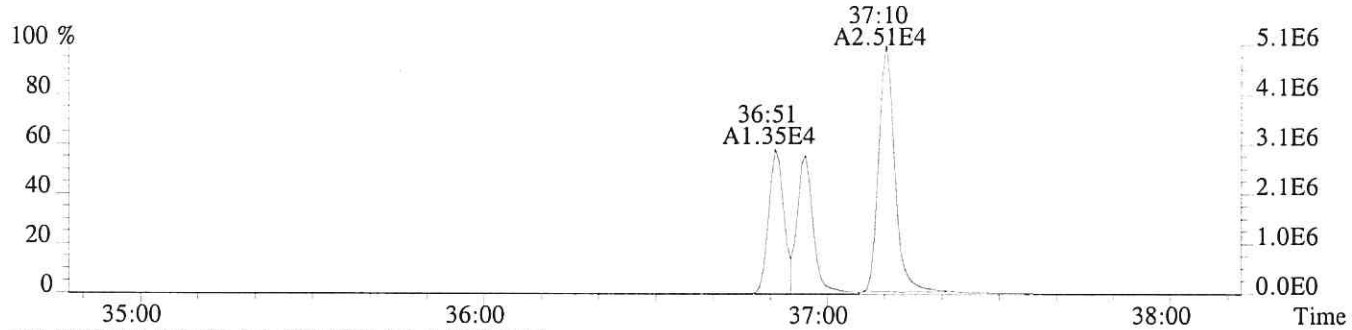
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



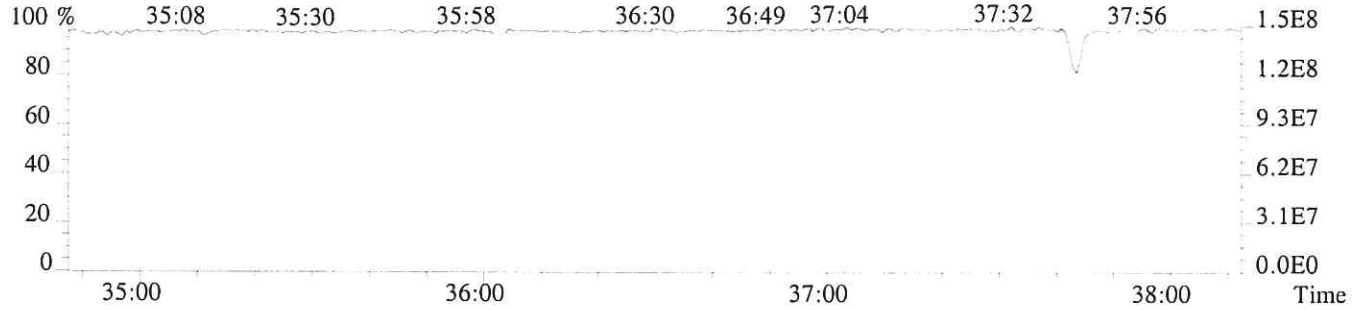
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2708.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1864.0,0.40%,F,T)

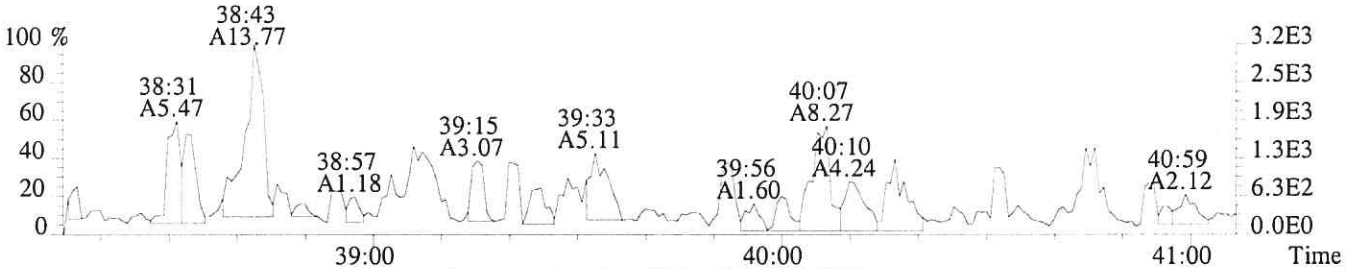


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

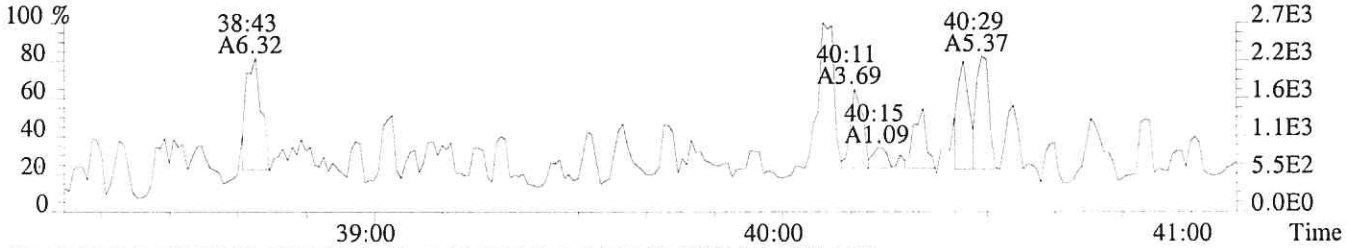


File:P511539 #1-259 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01

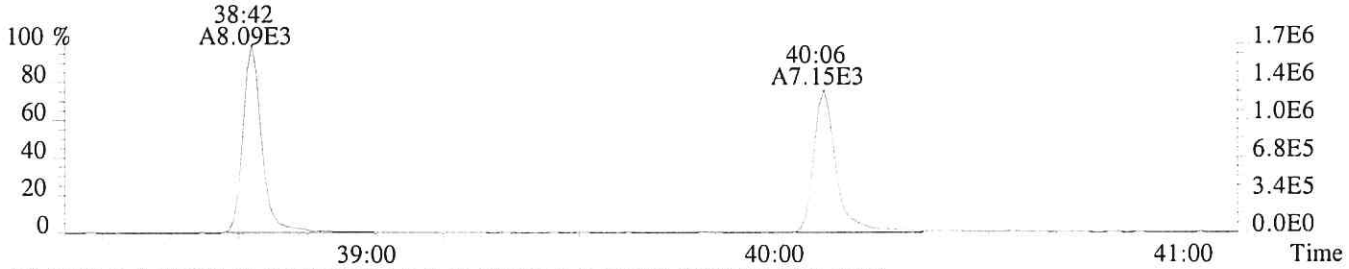
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,412.0,0.50%,F,T)



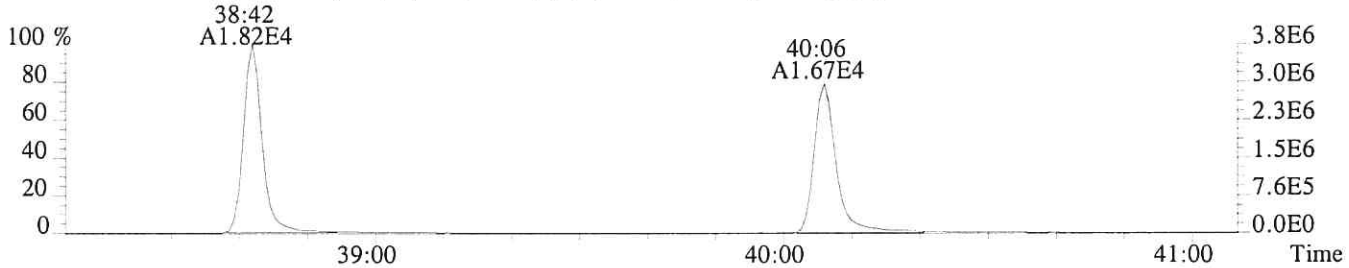
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.50%,F,T)



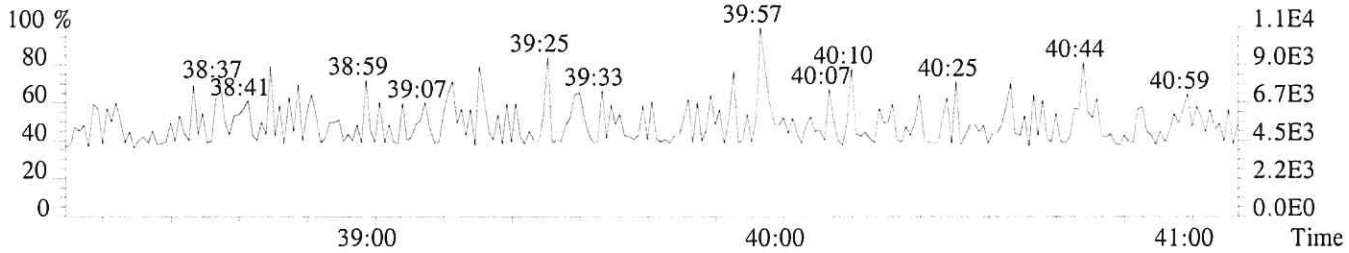
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2880.0,0.50%,F,T)



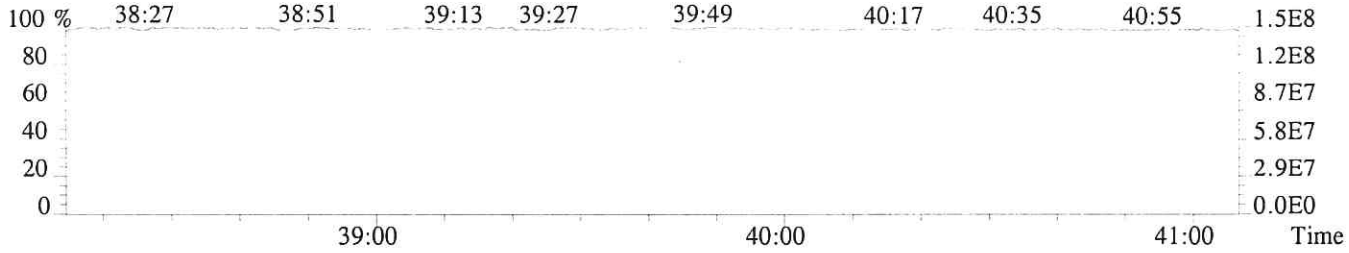
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3020.0,0.50%,F,T)



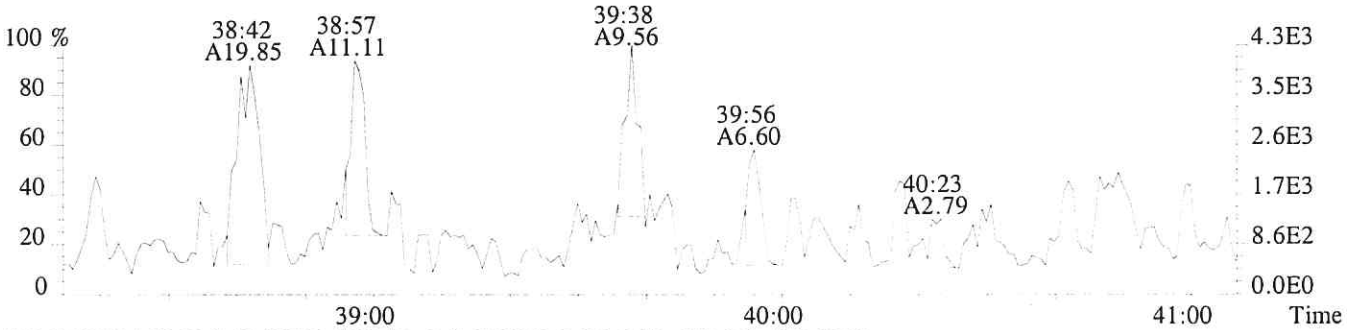
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



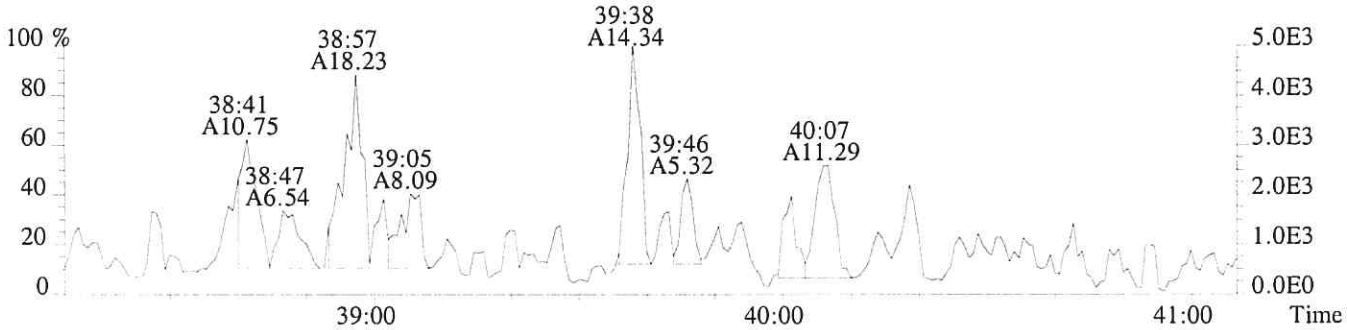
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



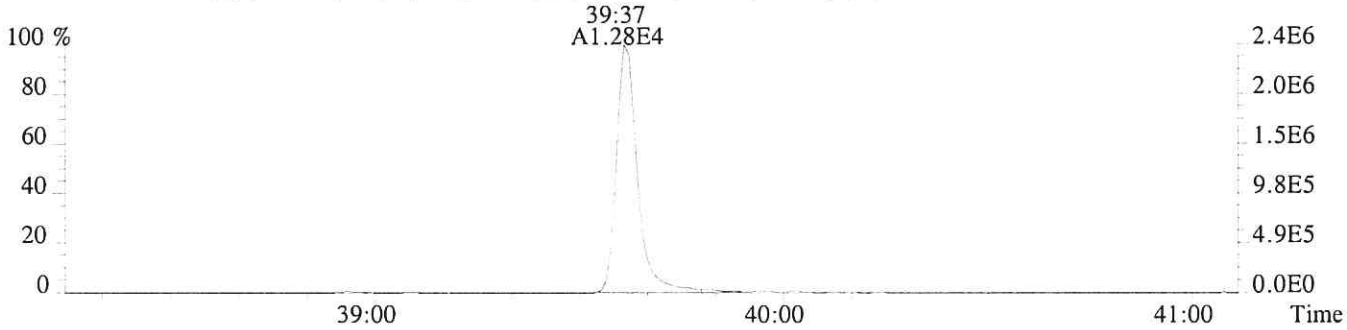
File:P511539 #1-259 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



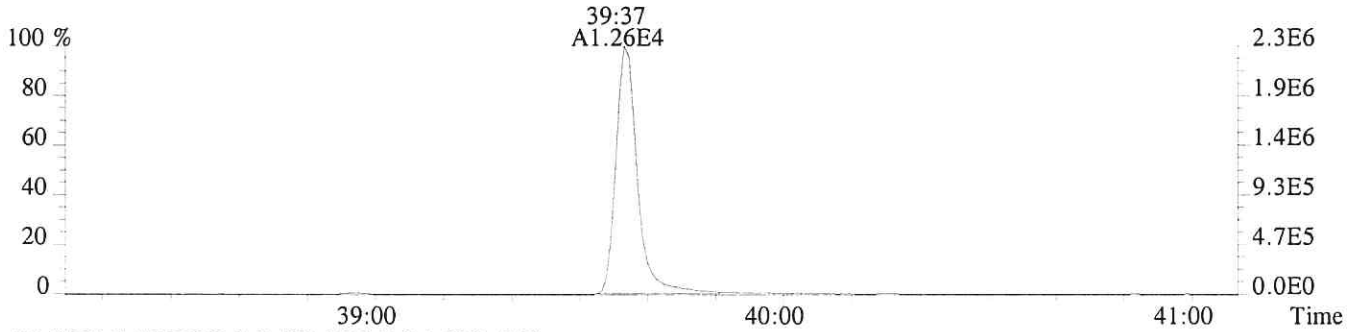
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



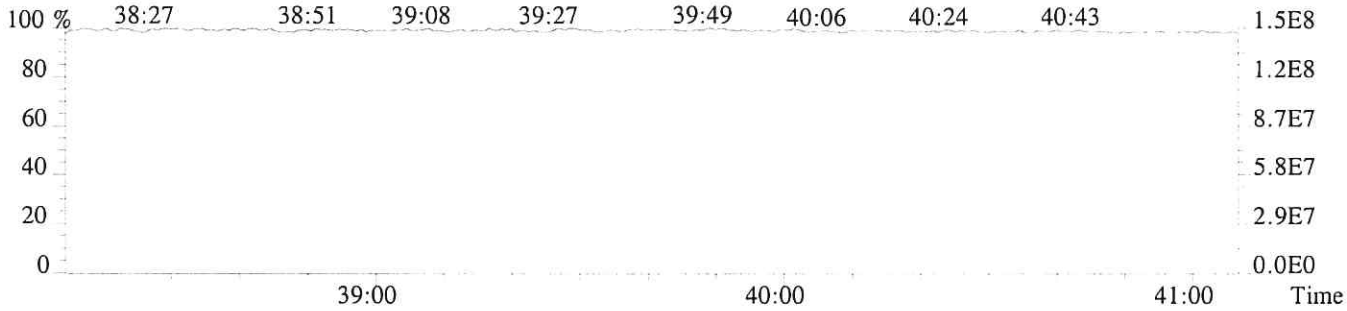
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.40%,F,T)



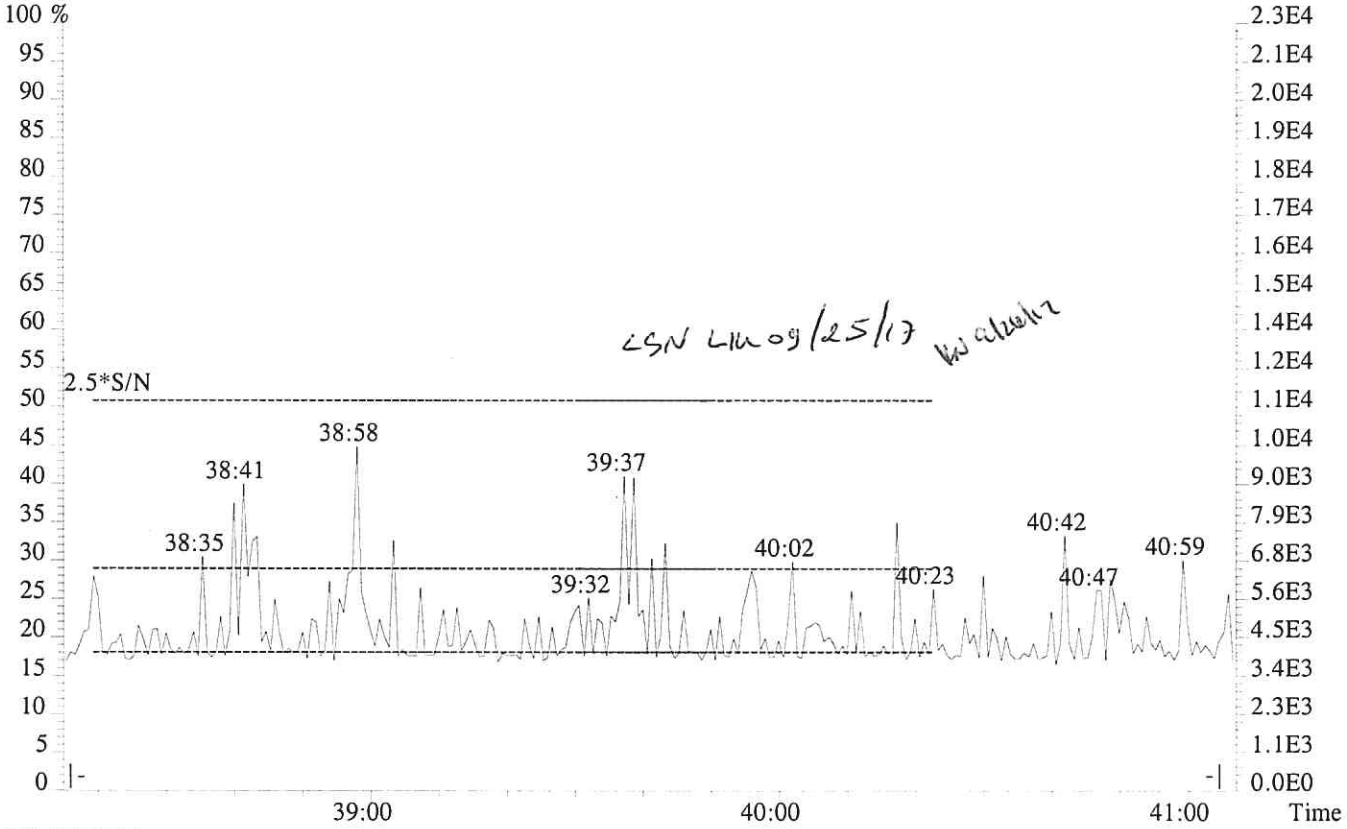
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



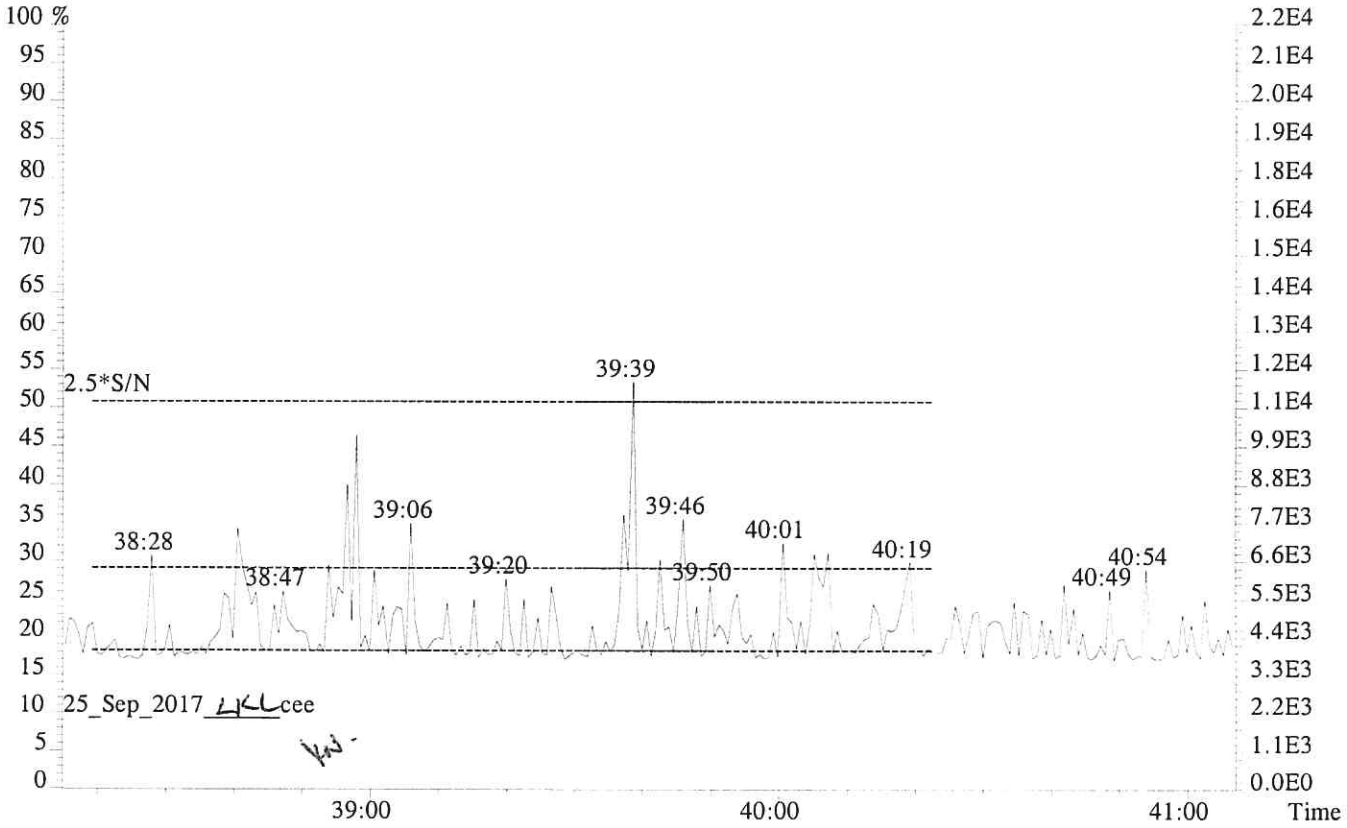
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



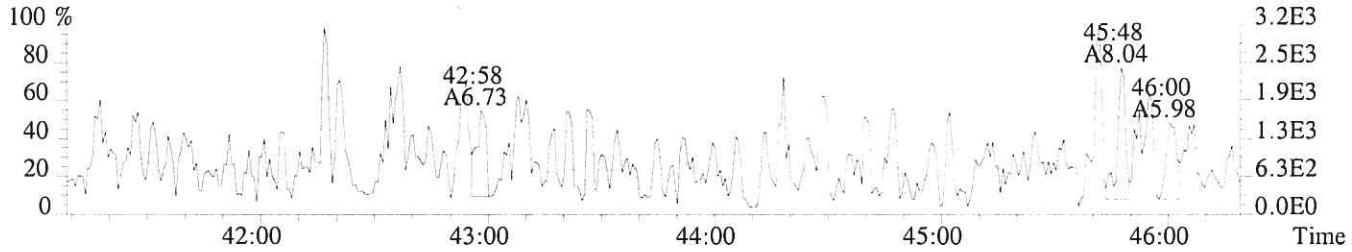
File:P511539 #1-259 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
423.7766 F:4



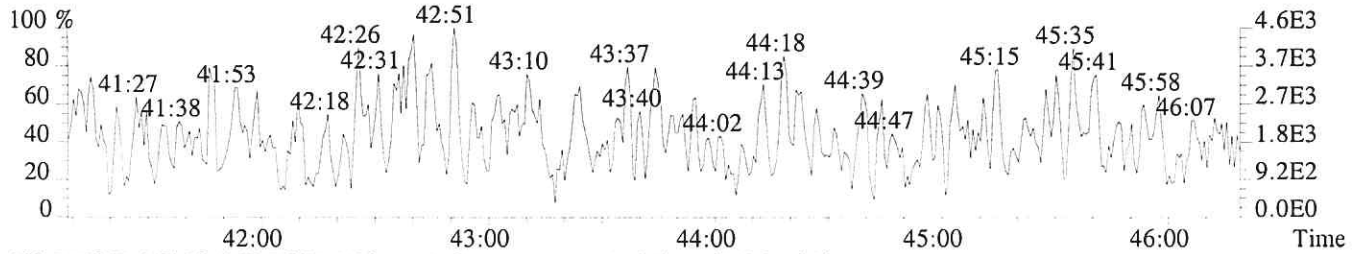
425.7737 F:4



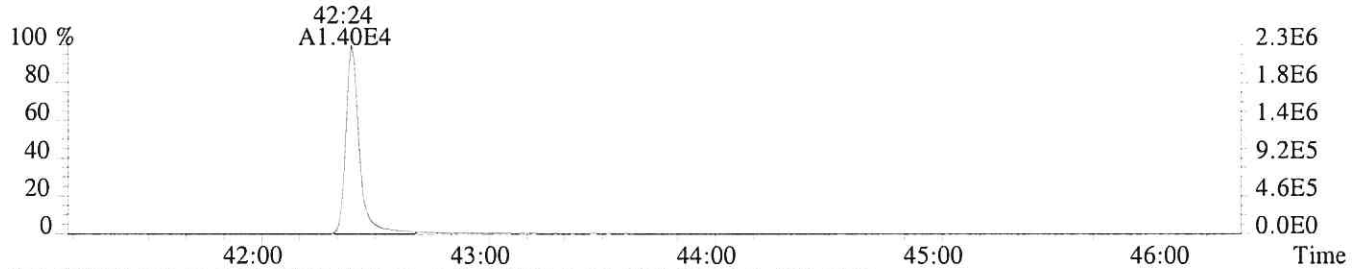
File:P511539 #1-466 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,928.0,0.40%,F,T)



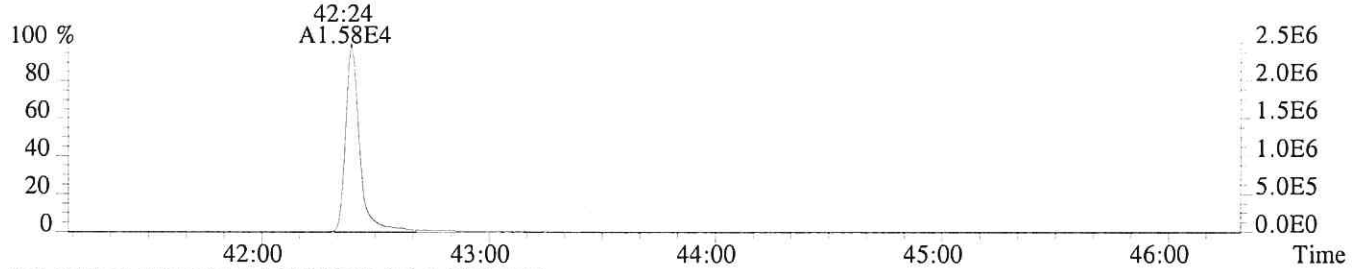
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2280.0,0.40%,F,T)



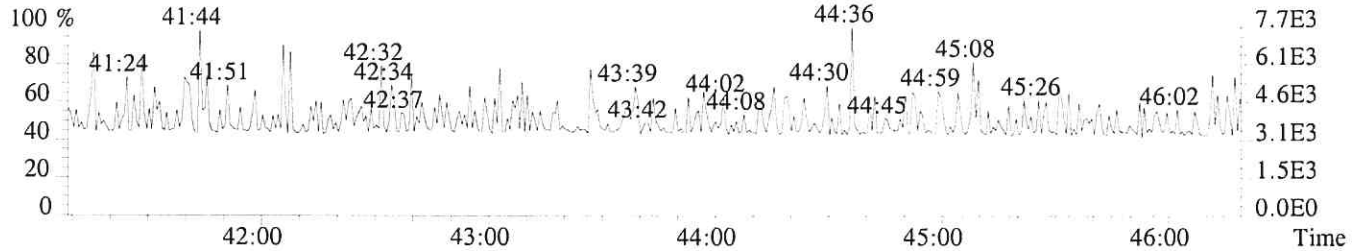
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1568.0,0.40%,F,T)



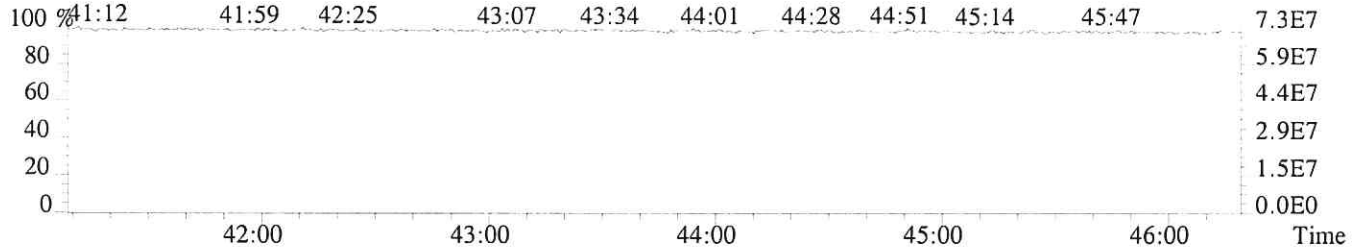
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,896.0,0.40%,F,T)



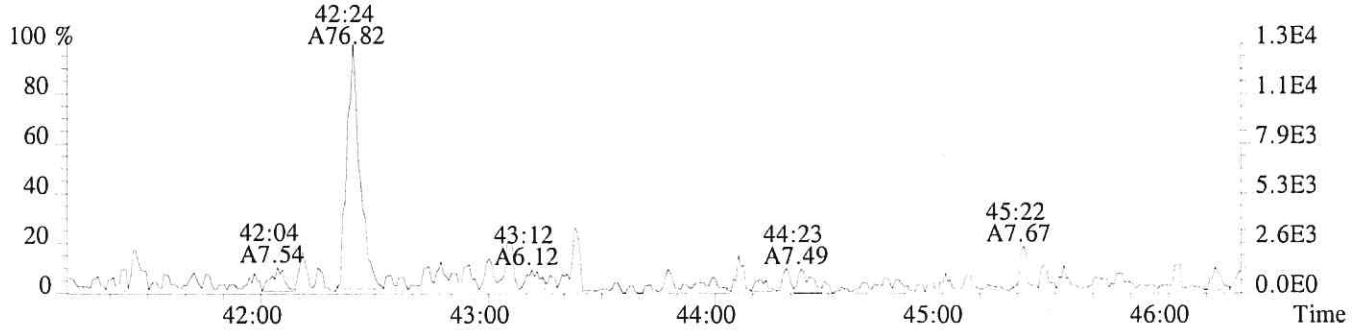
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



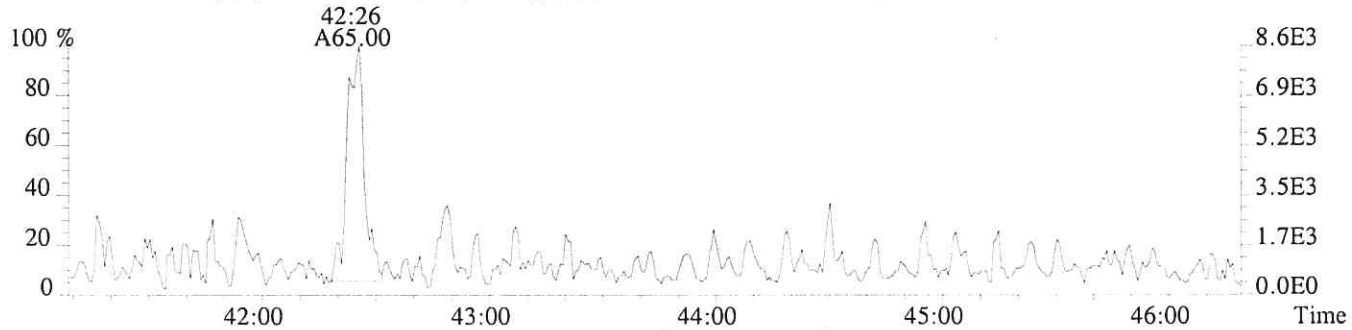
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



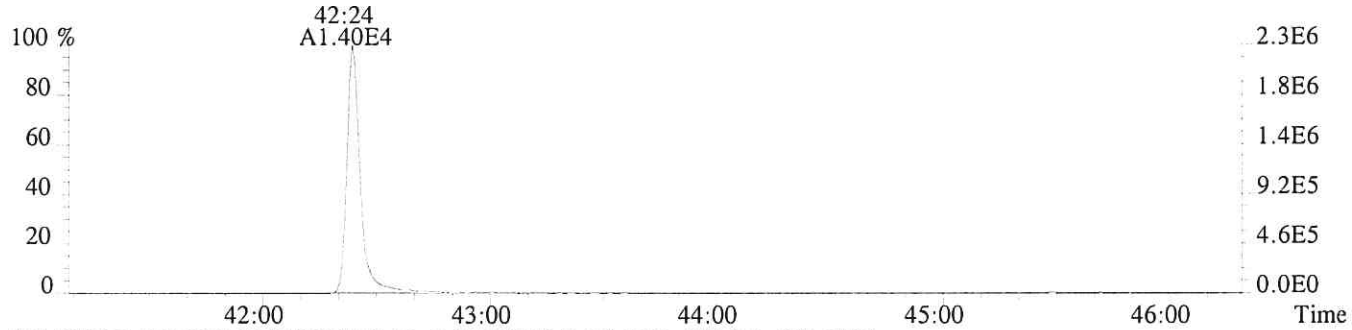
File:P511539 #1-466 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,424.0,0.40%,F,T)



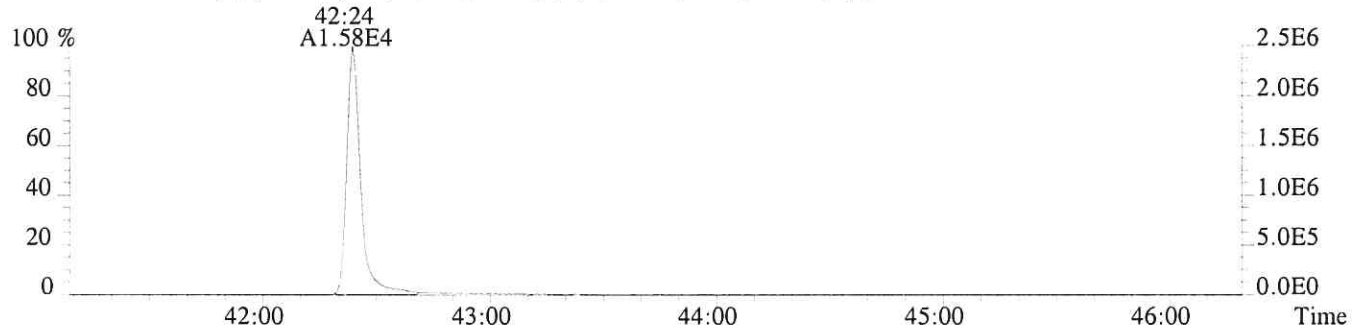
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1040.0,0.40%,F,T)



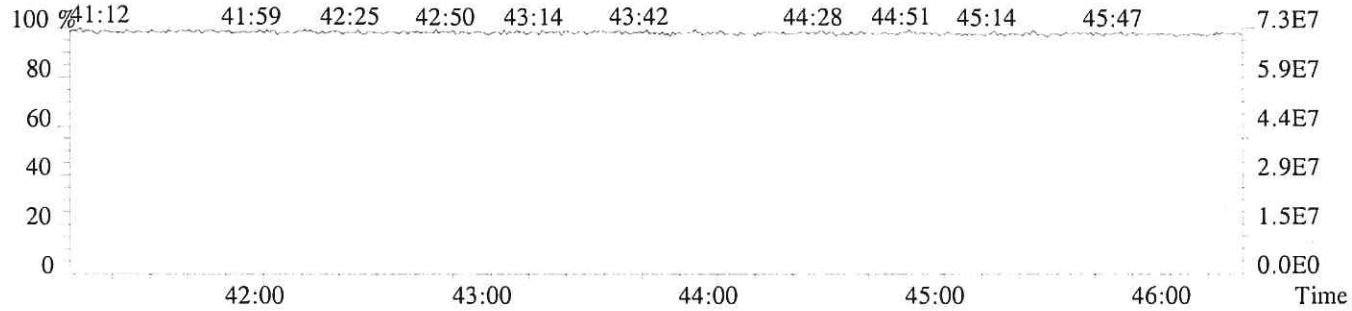
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1568.0,0.40%,F,T)



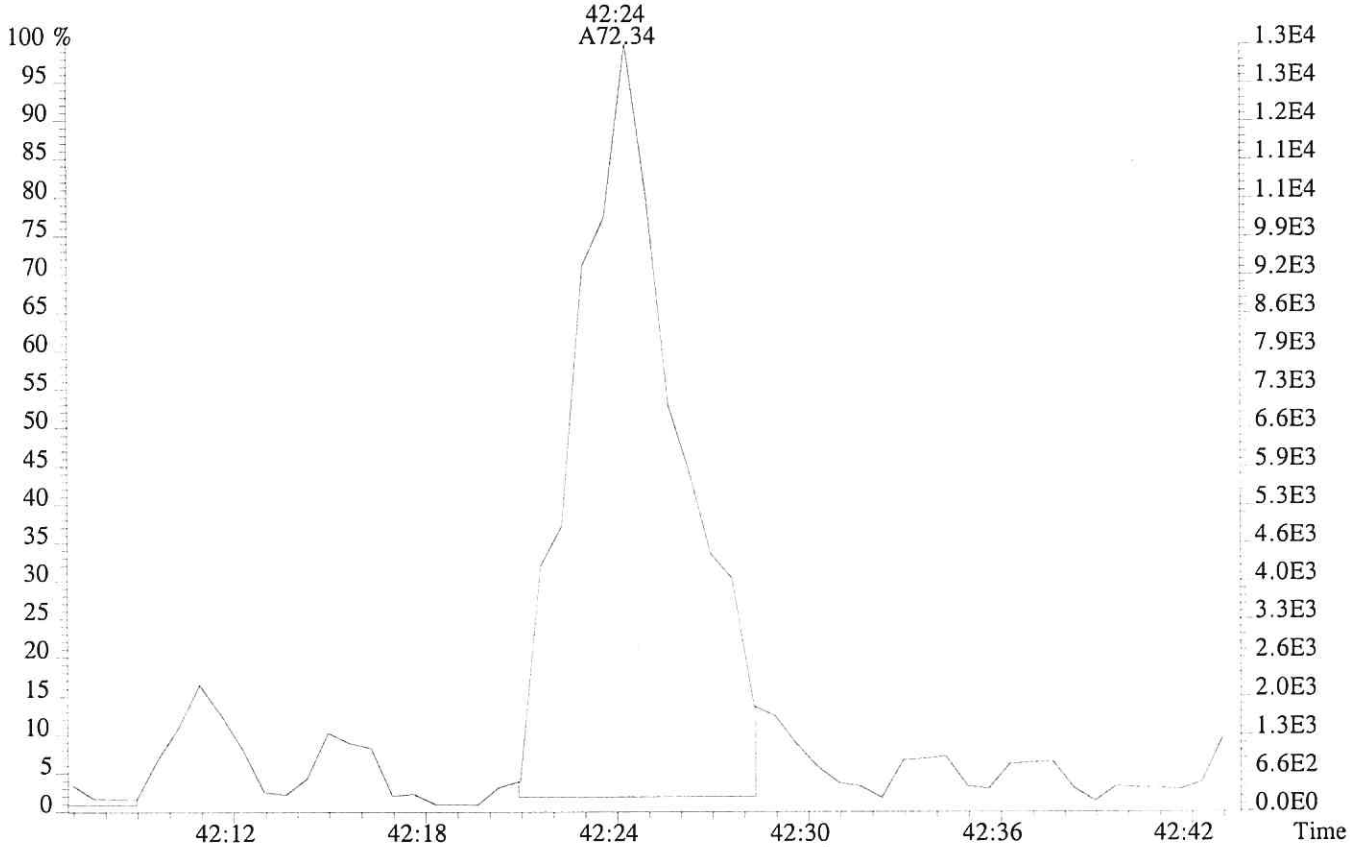
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,896.0,0.40%,F,T)



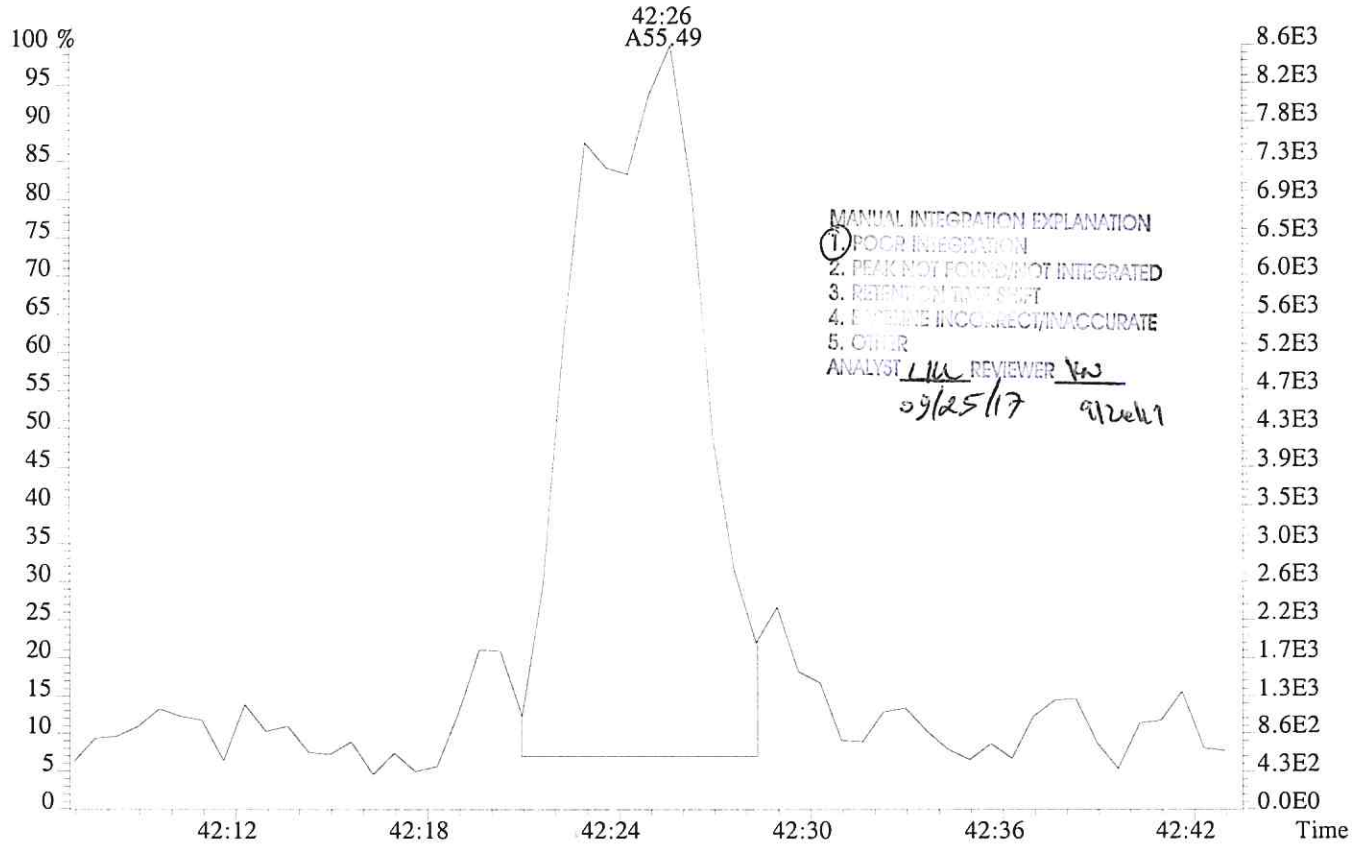
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P511539 #1-466 Acq:24-SEP-2017 13:26:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,424.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1040.0,0.40%,F,T)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
LCS

Run #19 Filename P511549 Samp: 1 Inj: 1 Acquired: 24-SEP-17 21:33:28
Processed: 25-SEP-17 13:21:03 Sample ID: EQ1700418-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	7.074e+02	9.579e+02	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	6.344e+03	4.278e+03	1.48	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:30	6.408e+03	4.188e+03	1.53	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	5.565e+03	4.835e+03	1.15	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	5.993e+03	5.554e+03	1.08	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	5.421e+03	4.824e+03	1.12	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:29	5.051e+03	4.437e+03	1.14	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	5.008e+03	5.193e+03	0.96	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	4.654e+03	4.664e+03	1.00	yes	no	1.191
10	Unk	OCDF	42:36	6.364e+03	7.172e+03	0.89	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	7.033e+02	8.610e+02	0.82	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:47	5.483e+03	3.424e+03	1.60	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	4.753e+03	3.786e+03	1.26	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	5.256e+03	4.300e+03	1.22	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	5.340e+03	4.281e+03	1.25	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	4.429e+03	3.859e+03	1.15	yes	no	0.942
17	Unk	OCDD	42:24	6.099e+03	6.775e+03	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	8.860e+03	1.139e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	1.635e+04	1.008e+04	1.62	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	1.578e+04	1.005e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	6.645e+03	1.341e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	7.766e+03	1.545e+04	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	7.217e+03	1.407e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	6.808e+03	1.336e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	5.074e+03	1.197e+04	0.42	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	5.155e+03	1.158e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	7.046e+03	9.089e+03	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	1.211e+04	7.649e+03	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	1.061e+04	8.537e+03	1.24	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.139e+04	8.905e+03	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	8.933e+03	8.604e+03	1.04	yes	no	0.881
32	IS	13C-OCDD	42:24	1.067e+04	1.149e+04	0.93	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	1.109e+04	1.418e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	1.797e+04	1.396e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	6.611e+03				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
LCS

Run #19 Filename P511549 Samp: 1 Inj: 1 Acquired: 24-SEP-17 21:33:28
Processed: 25-SEP-17 13:21:03 LAB. ID: EQ1700418-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.17e+05	1.06e+03	1.1e+02	1.62e+05	4.14e+03	3.9e+01
2	1,2,3,7,8-PeCDF	1.11e+06	6.20e+02	1.8e+03	7.50e+05	4.02e+03	1.9e+02
3	2,3,4,7,8-PeCDF	1.20e+06	6.20e+02	1.9e+03	7.94e+05	4.02e+03	2.0e+02
4	1,2,3,4,7,8-HxCDF	1.16e+06	2.09e+03	5.5e+02	9.90e+05	5.00e+02	2.0e+03
5	1,2,3,6,7,8-HxCDF	1.15e+06	2.09e+03	5.5e+02	1.05e+06	5.00e+02	2.1e+03
6	2,3,4,6,7,8-HxCDF	1.05e+06	2.09e+03	5.0e+02	9.63e+05	5.00e+02	1.9e+03
7	1,2,3,7,8,9-HxCDF	9.18e+05	2.09e+03	4.4e+02	8.15e+05	5.00e+02	1.6e+03
8	1,2,3,4,6,7,8-HpCDF	9.90e+05	1.11e+03	8.9e+02	1.05e+06	1.98e+03	5.3e+02
9	1,2,3,4,7,8,9-HpCDF	8.02e+05	1.11e+03	7.2e+02	8.35e+05	1.98e+03	4.2e+02
10	OCDF	9.56e+05	9.36e+02	1.0e+03	1.07e+06	2.26e+03	4.8e+02
11	2,3,7,8-TCDD	1.24e+05	3.00e+03	4.1e+01	1.48e+05	1.32e+03	1.1e+02
12	1,2,3,7,8-PeCDD	9.79e+05	1.47e+03	6.6e+02	6.31e+05	4.00e+02	1.6e+03
13	1,2,3,4,7,8-HxCDD	1.03e+06	8.48e+02	1.2e+03	8.21e+05	1.48e+03	5.6e+02
14	1,2,3,6,7,8-HxCDD	1.01e+06	8.48e+02	1.2e+03	8.17e+05	1.48e+03	5.5e+02
15	1,2,3,7,8,9-HxCDD	1.03e+06	8.48e+02	1.2e+03	8.25e+05	1.48e+03	5.6e+02
16	1,2,3,4,6,7,8-HpCDD	7.98e+05	1.12e+03	7.1e+02	7.20e+05	5.96e+02	1.2e+03
17	OCDD	9.15e+05	7.08e+02	1.3e+03	1.03e+06	9.56e+02	1.1e+03
18	13C-2,3,7,8-TCDF	1.48e+06	1.72e+04	8.6e+01	1.87e+06	8.62e+03	2.2e+02
19	13C-1,2,3,7,8-PeCDF	2.95e+06	6.88e+02	4.3e+03	1.81e+06	2.25e+03	8.1e+02
20	13C-2,3,4,7,8-PeCDF	2.95e+06	6.88e+02	4.3e+03	1.87e+06	2.25e+03	8.3e+02
21	13C-1,2,3,4,7,8-HxCDF	1.36e+06	1.30e+03	1.1e+03	2.72e+06	1.60e+03	1.7e+03
22	13C-1,2,3,6,7,8-HxCDF	1.48e+06	1.30e+03	1.1e+03	2.97e+06	1.60e+03	1.9e+03
23	13C-2,3,4,6,7,8-HxCDF	1.39e+06	1.30e+03	1.1e+03	2.79e+06	1.60e+03	1.7e+03
24	13C-1,2,3,7,8,9-HxCDF	1.27e+06	1.30e+03	9.8e+02	2.53e+06	1.60e+03	1.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.02e+06	1.98e+03	5.2e+02	2.41e+06	4.15e+03	5.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	8.74e+05	1.98e+03	4.4e+02	2.01e+06	4.15e+03	4.8e+02
27	13C-2,3,7,8-TCDD	1.24e+06	7.63e+03	1.6e+02	1.61e+06	4.17e+03	3.9e+02
28	13C-1,2,3,7,8-PeCDD	2.26e+06	2.06e+03	1.1e+03	1.45e+06	2.38e+03	6.1e+02
29	13C-1,2,3,4,7,8-HxCDD	2.35e+06	2.56e+03	9.2e+02	1.89e+06	1.86e+03	1.0e+03
30	13C-1,2,3,6,7,8-HxCDD	2.19e+06	2.56e+03	8.5e+02	1.73e+06	1.86e+03	9.3e+02
31	13C-1,2,3,4,6,7,8-HpCDD	1.62e+06	1.21e+03	1.3e+03	1.59e+06	7.12e+02	2.2e+03
32	13C-OCDD	1.59e+06	1.17e+03	1.4e+03	1.71e+06	6.24e+02	2.7e+03
33	13C-1,2,3,4-TCDD	2.01e+06	7.63e+03	2.6e+02	2.56e+06	4.17e+03	6.1e+02
34	13C-1,2,3,7,8,9-HxCDD	3.44e+06	2.56e+03	1.3e+03	2.70e+06	1.86e+03	1.5e+03
35	37Cl-2,3,7,8-TCDD	1.16e+06	2.42e+03	4.8e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.996e+03 + 1.324e+03\ ) \times 2000}{(1.239e+06 + 1.611e+06\ ) \times (\qquad\qquad) \times 1.065} =$$

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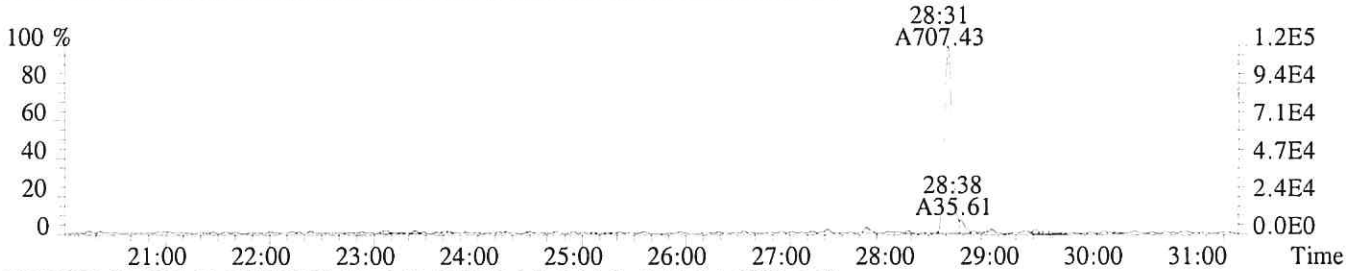
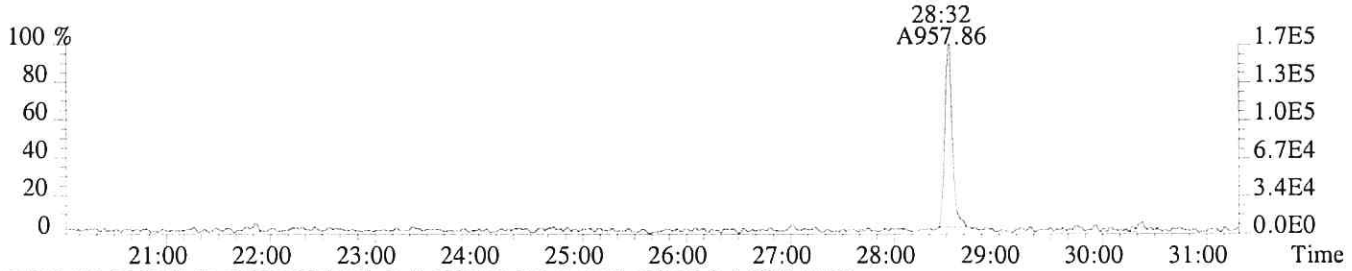
File:P511549 #1-800 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

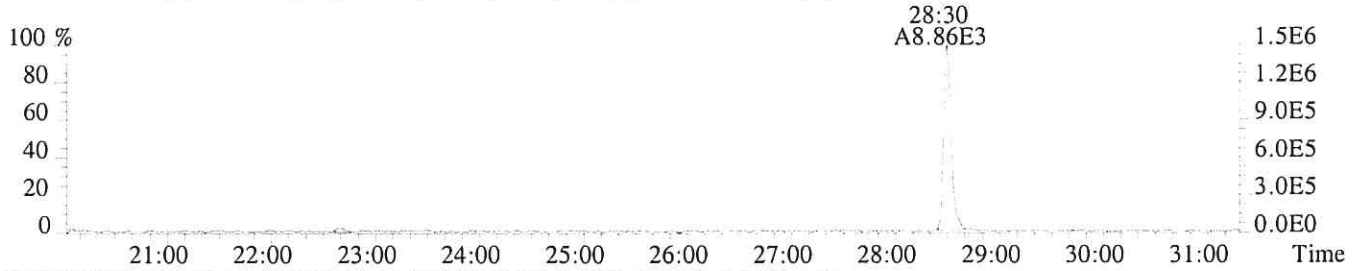
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



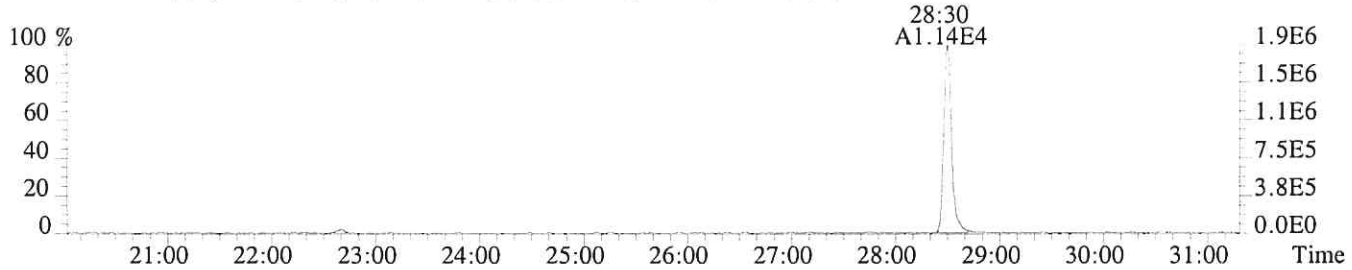
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4140.0,1.00%,F,T)



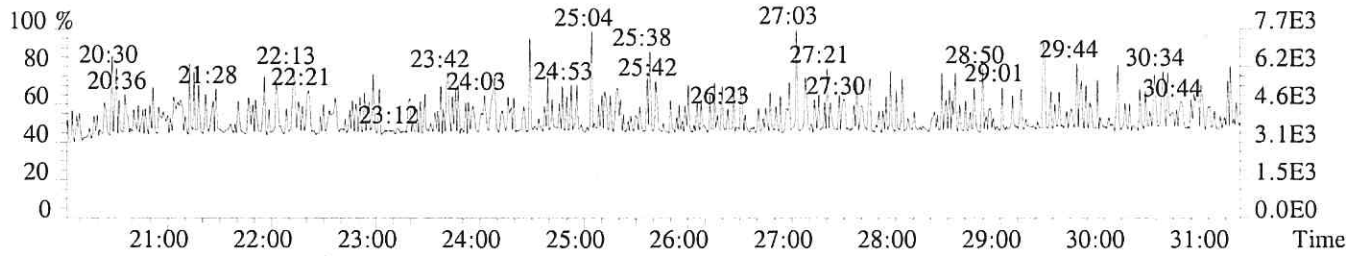
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17196.0,1.00%,F,T)



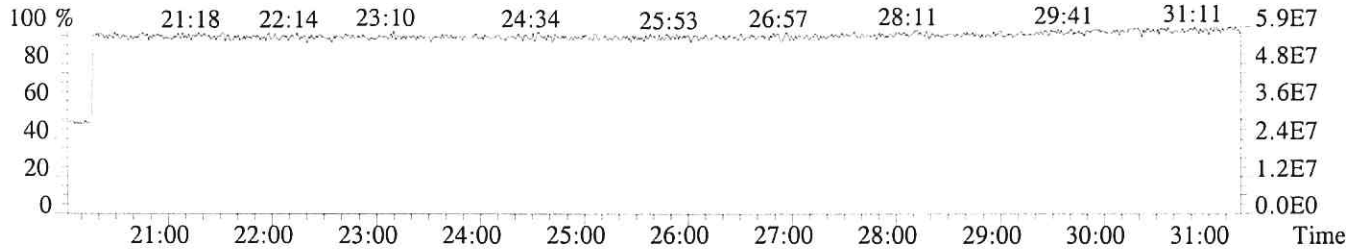
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8624.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

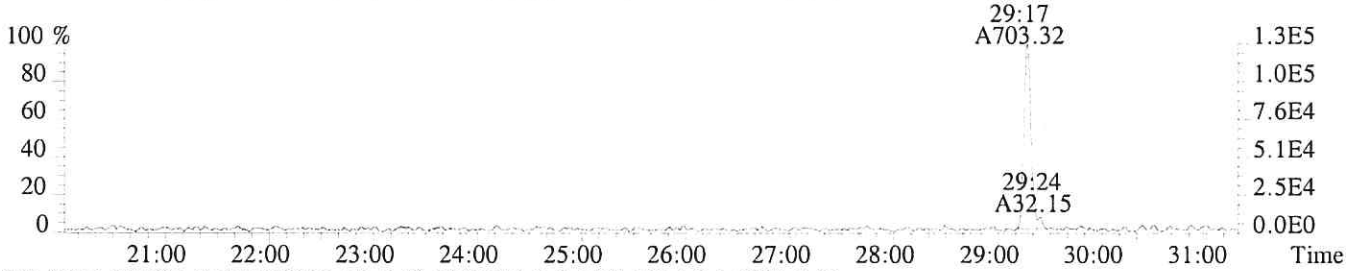


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

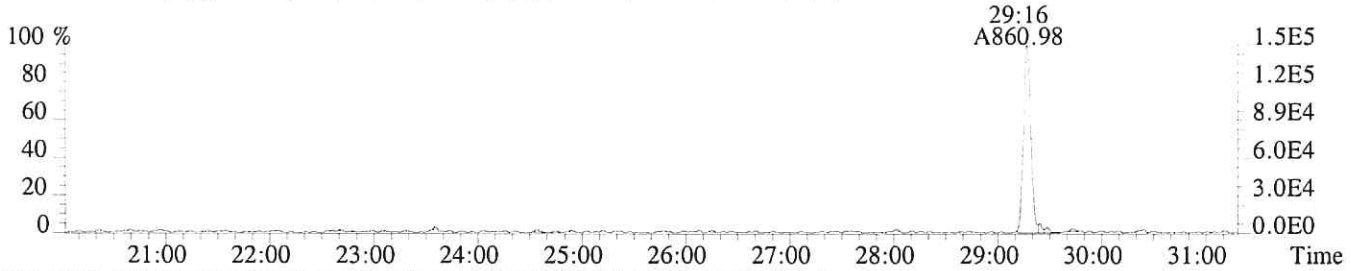


File:P511549 #1-800 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

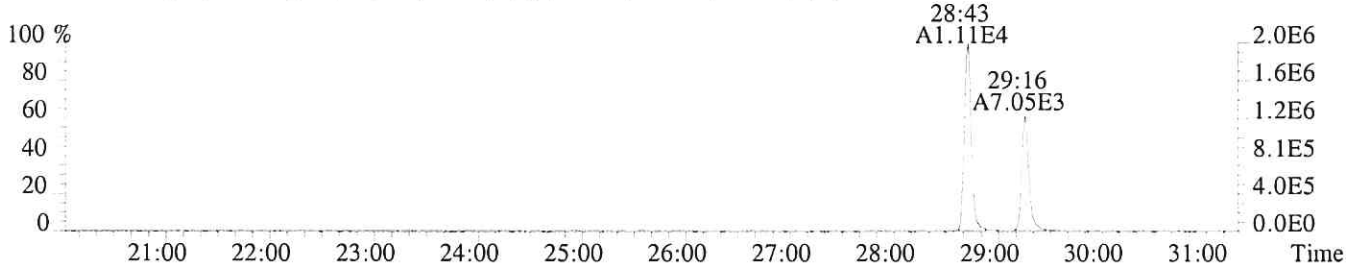
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2996.0,1.00%,F,T)



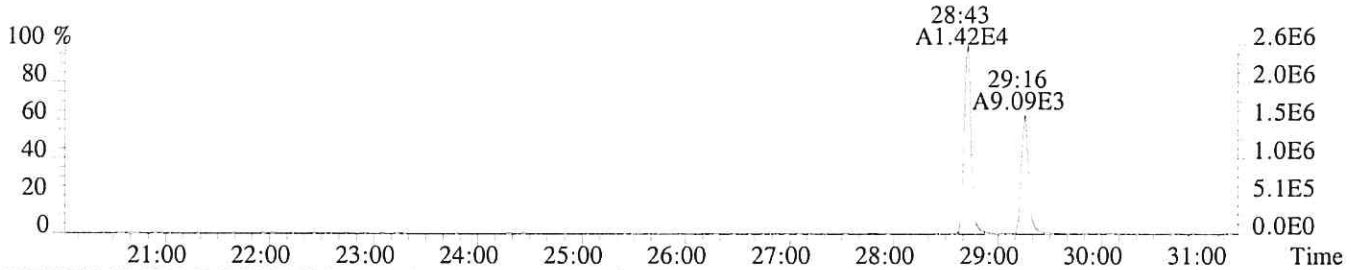
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



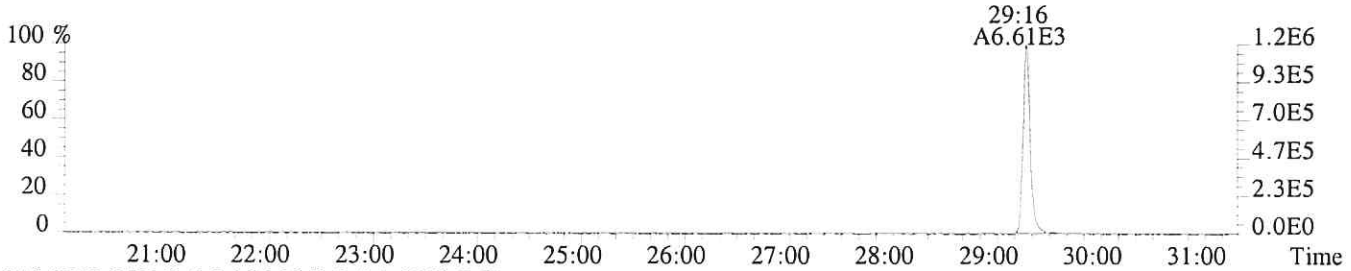
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7628.0,1.00%,F,T)



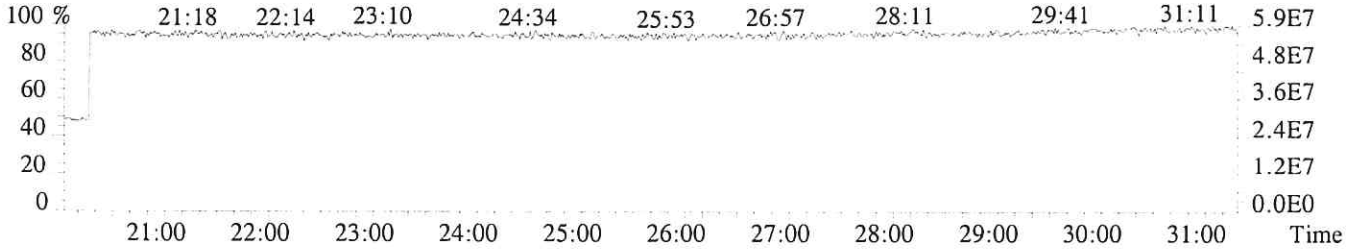
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4172.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2424.0,1.00%,F,T)

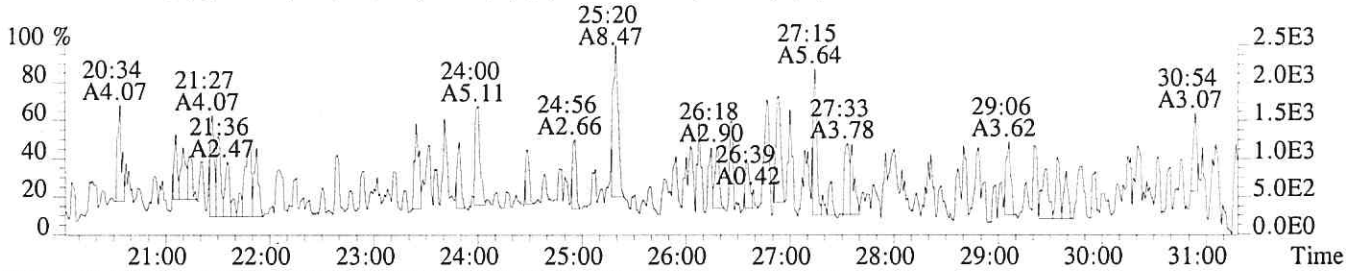


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

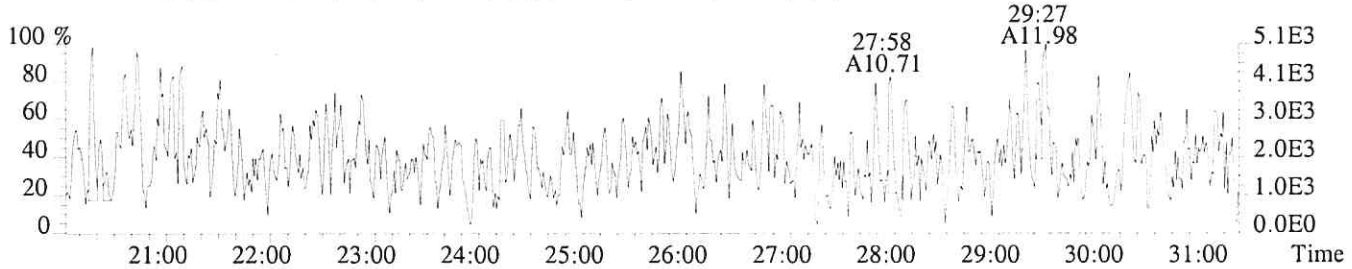


File:P511549 #1-800 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

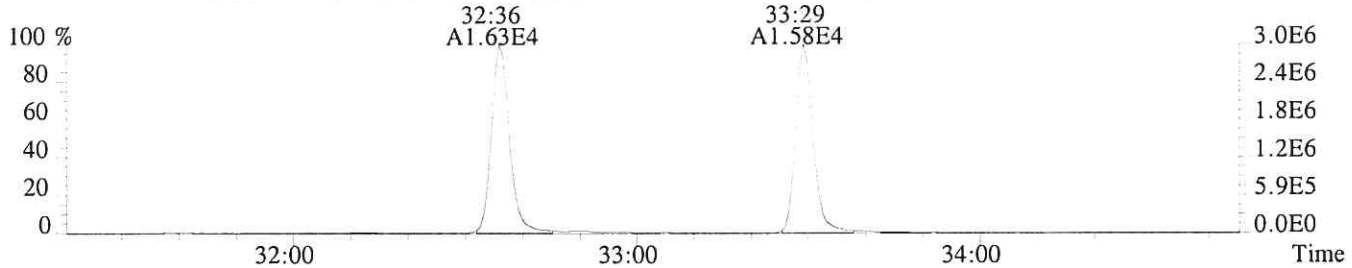
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,T)



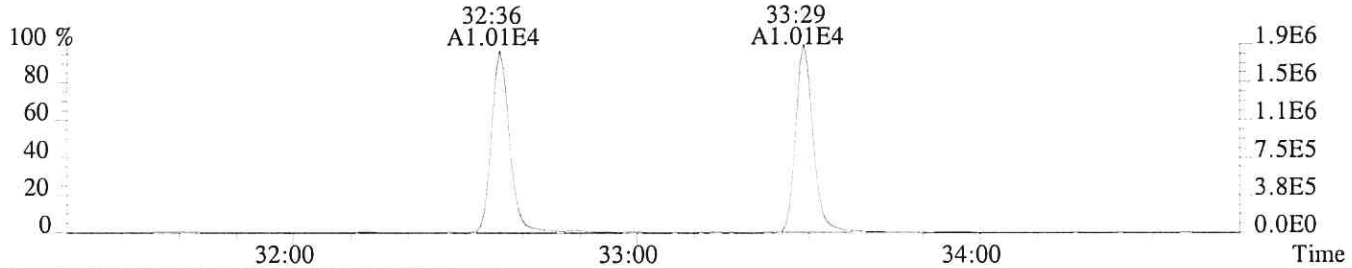
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2532.0,1.00%,F,T)



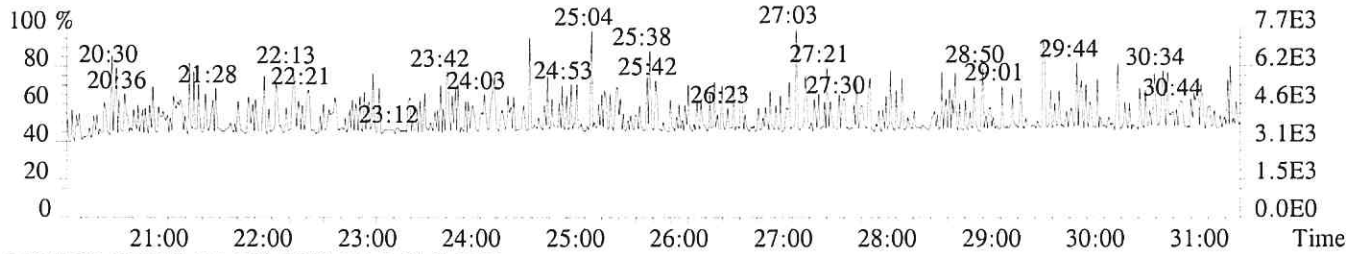
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



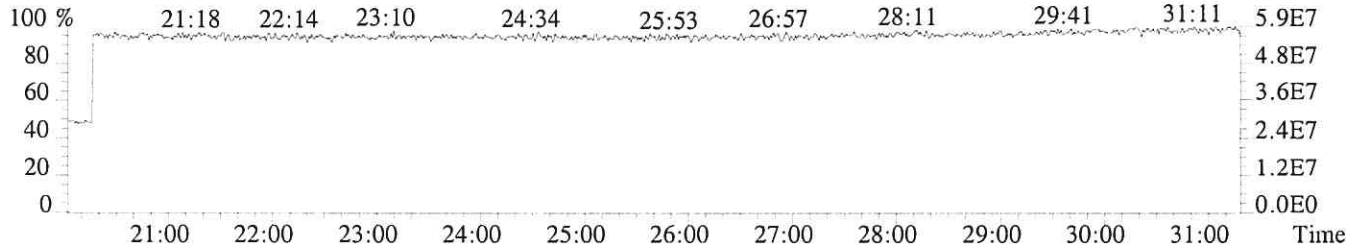
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2248.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

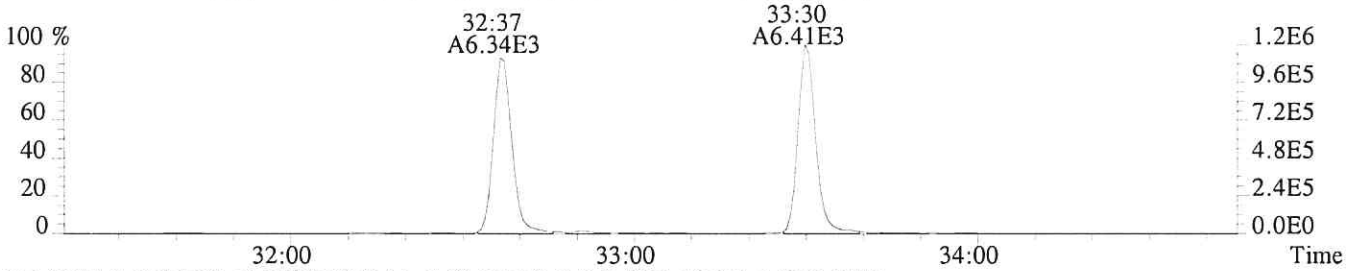


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

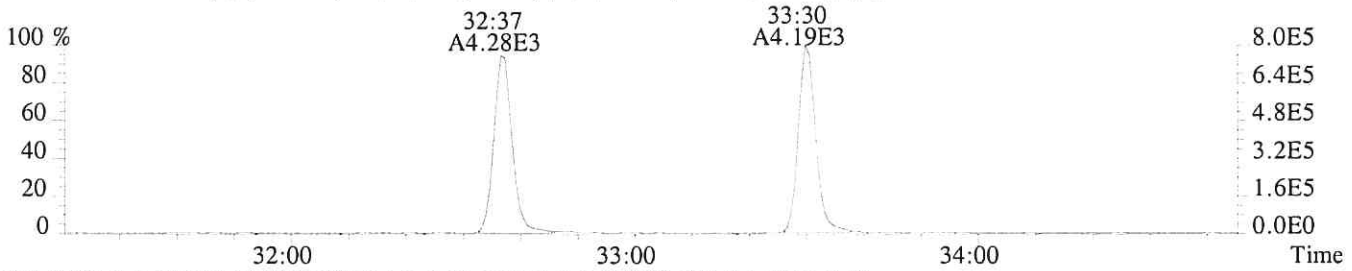


File:P511549 #1-308 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

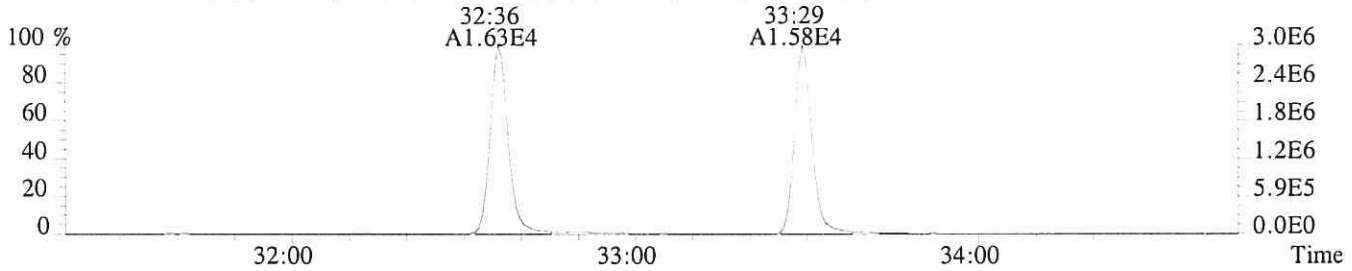
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,T)



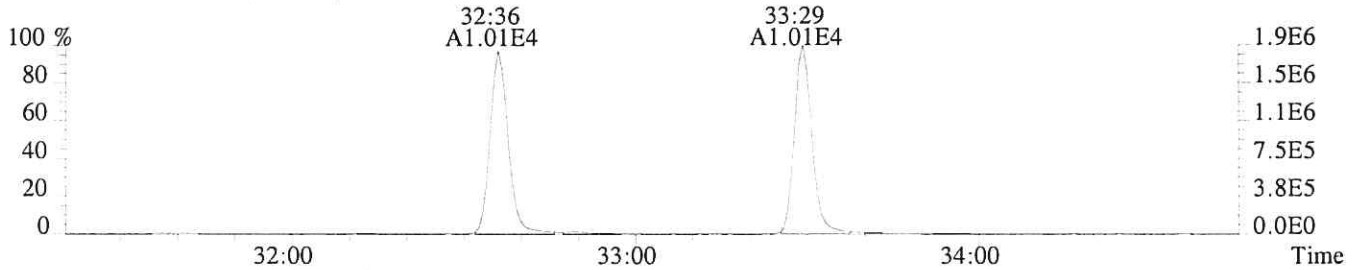
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4020.0,1.00%,F,T)



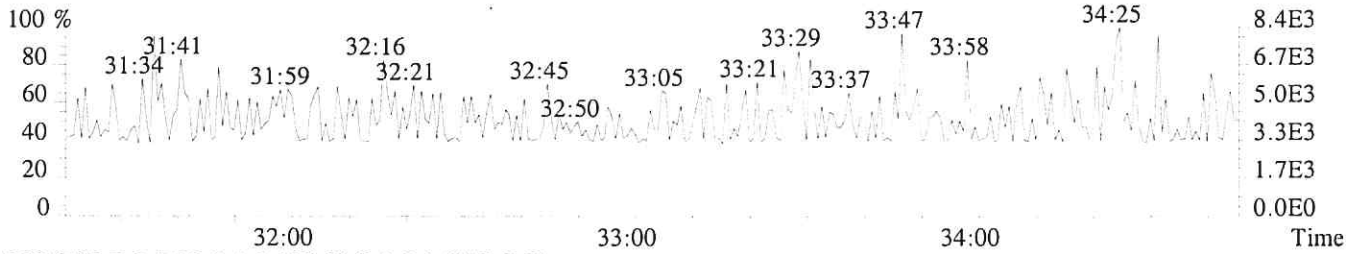
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,T)



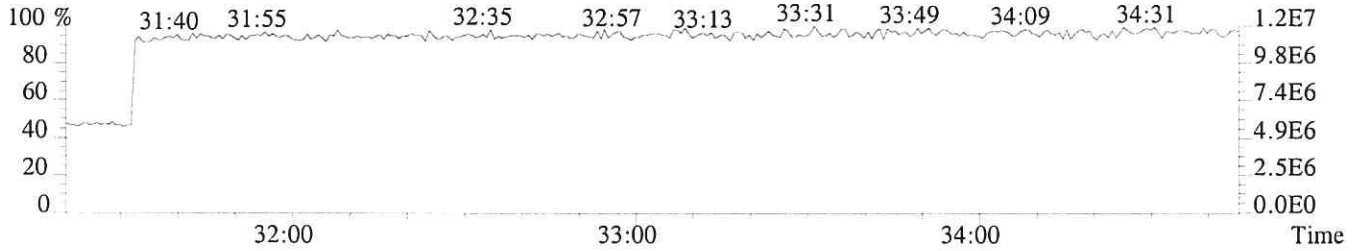
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2248.0,1.00%,F,T)



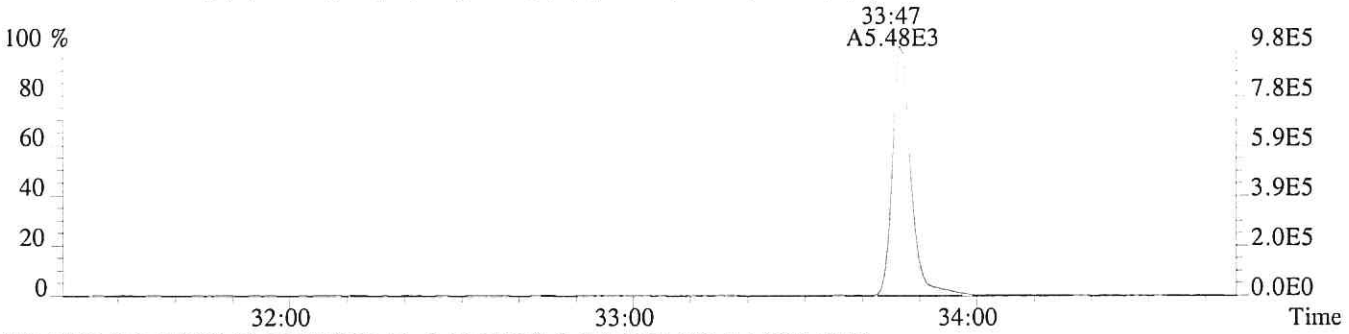
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



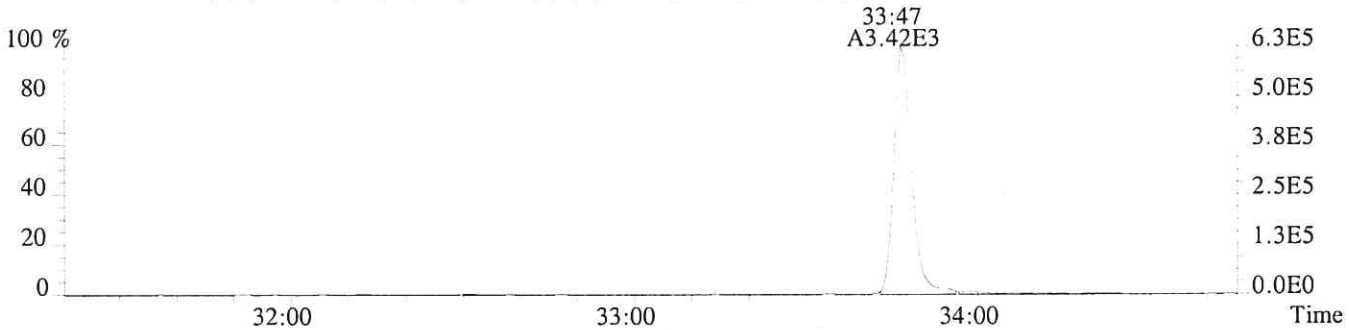
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



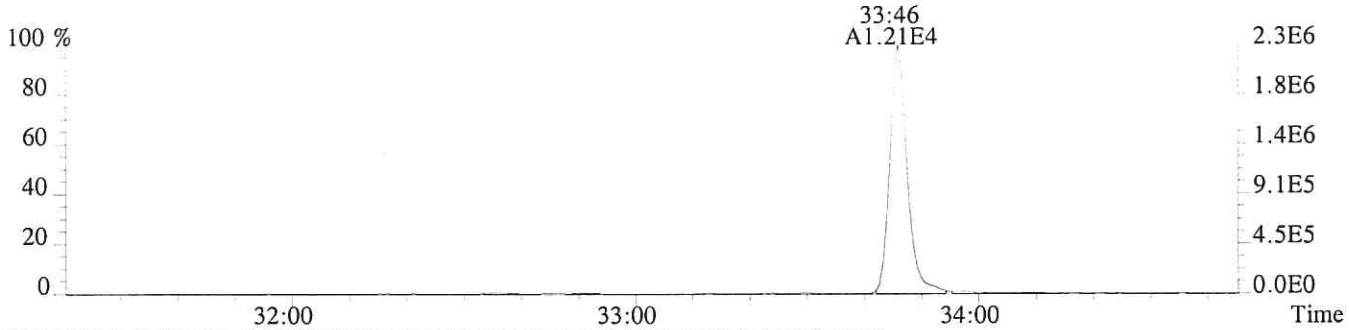
File:P511549 #1-308 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



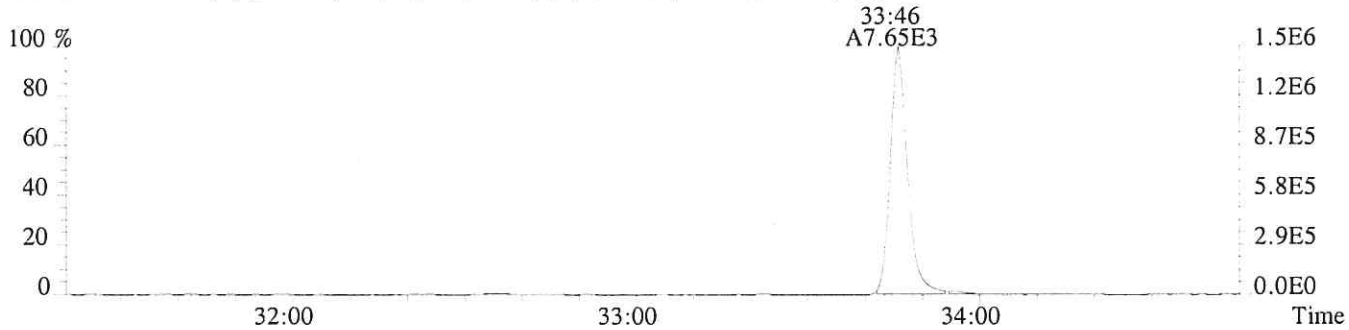
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,T)



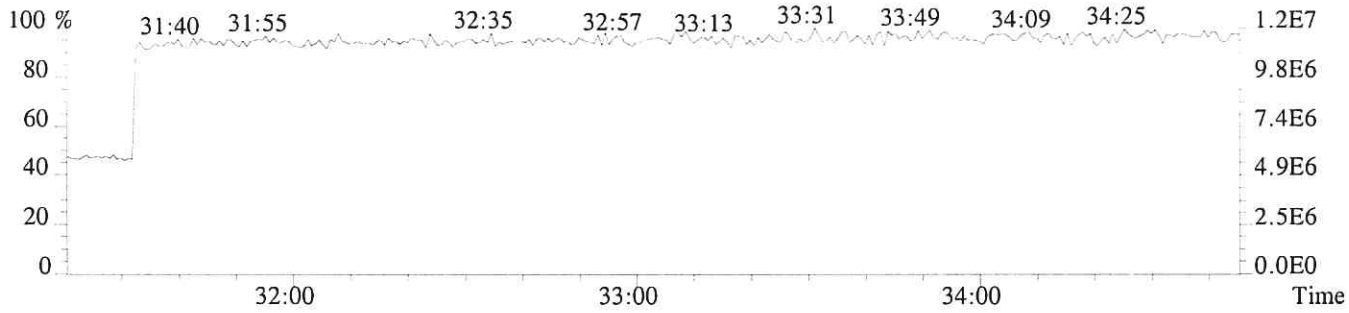
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2056.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)

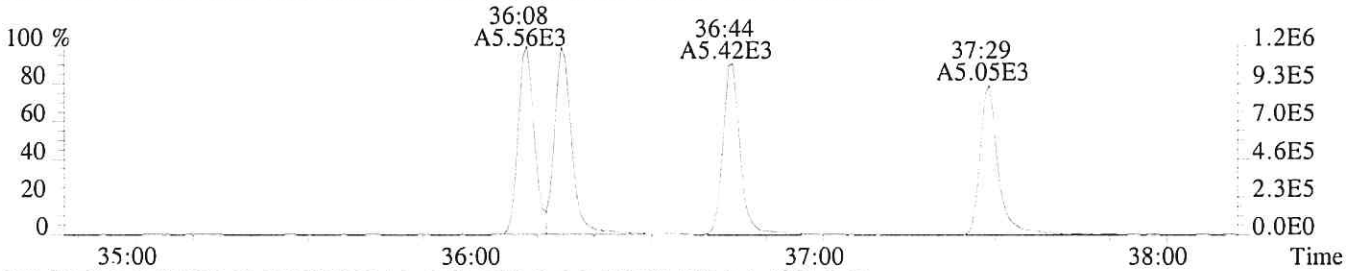


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

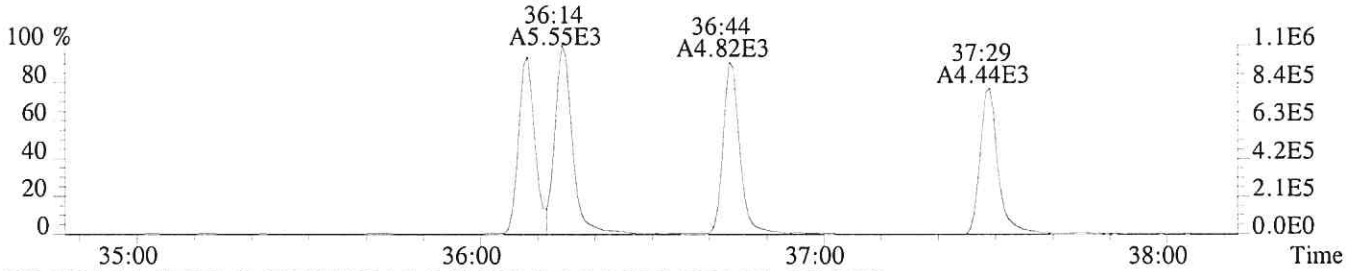


File:P511549 #1-308 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

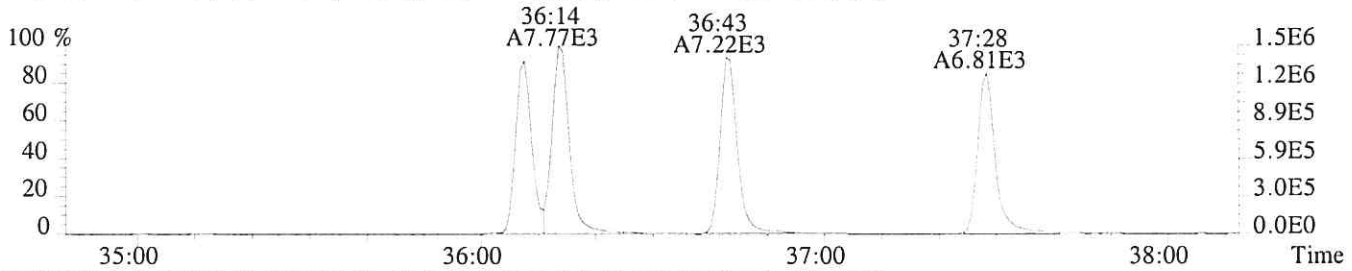
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2092.0,0.40%,F,T)



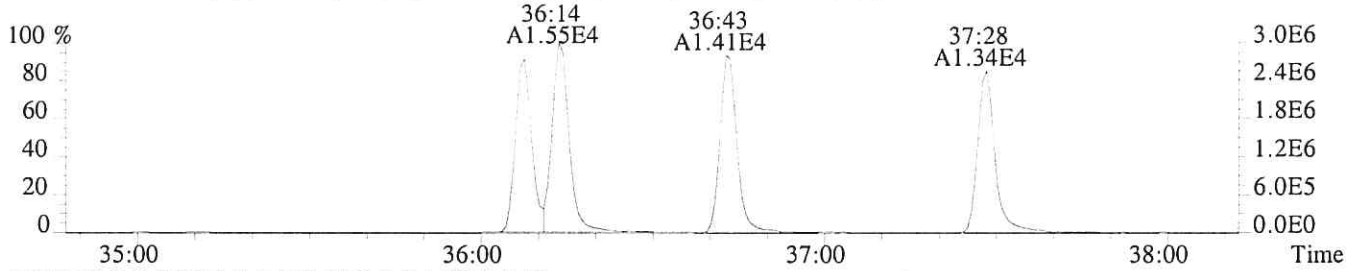
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,500.0,0.40%,F,T)



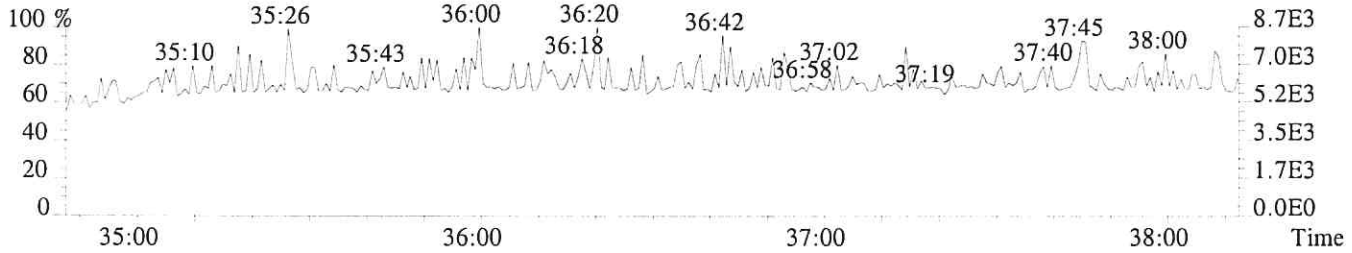
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



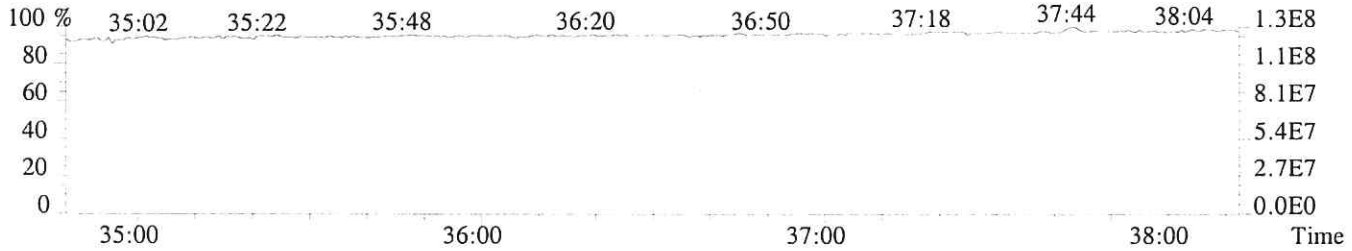
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,T)



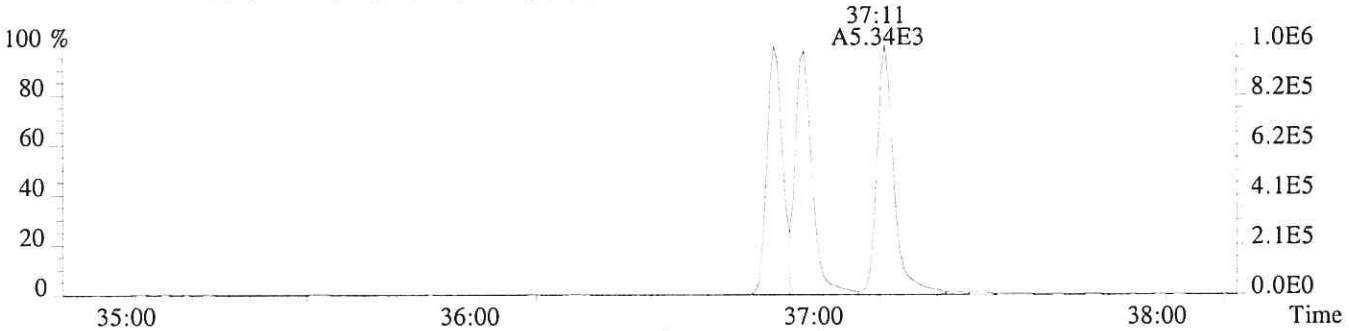
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



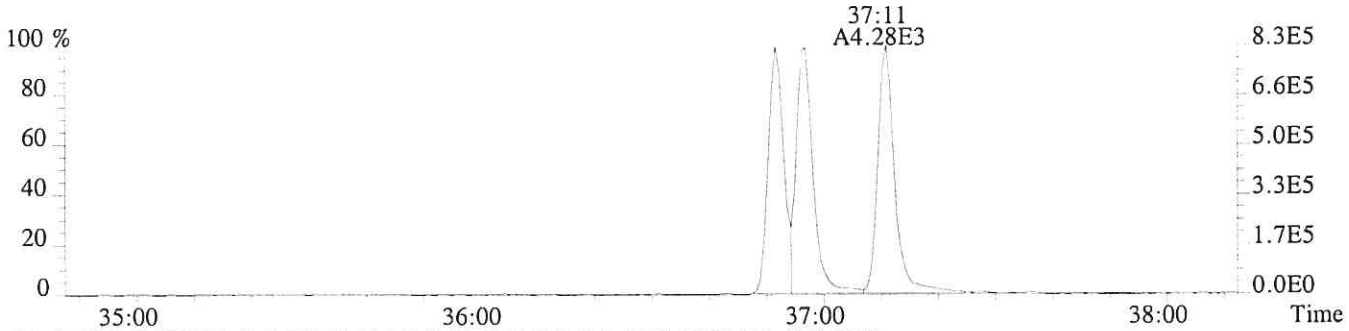
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



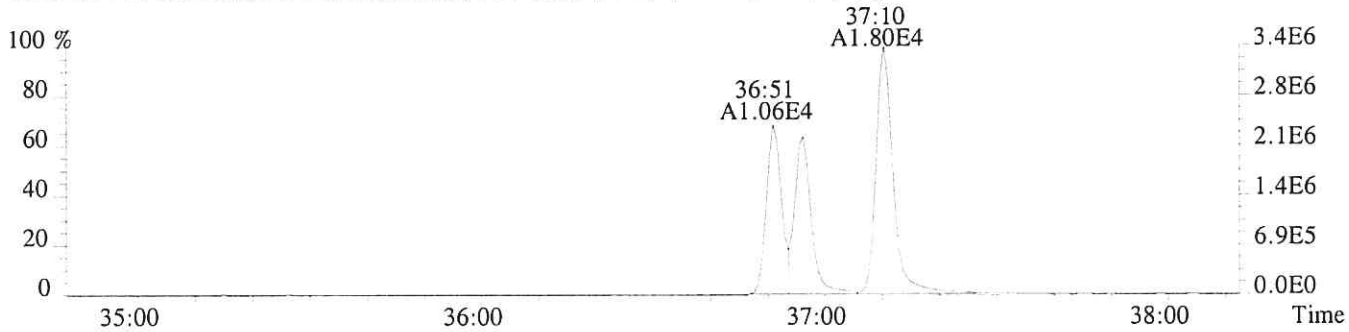
File:P511549 #1-308 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



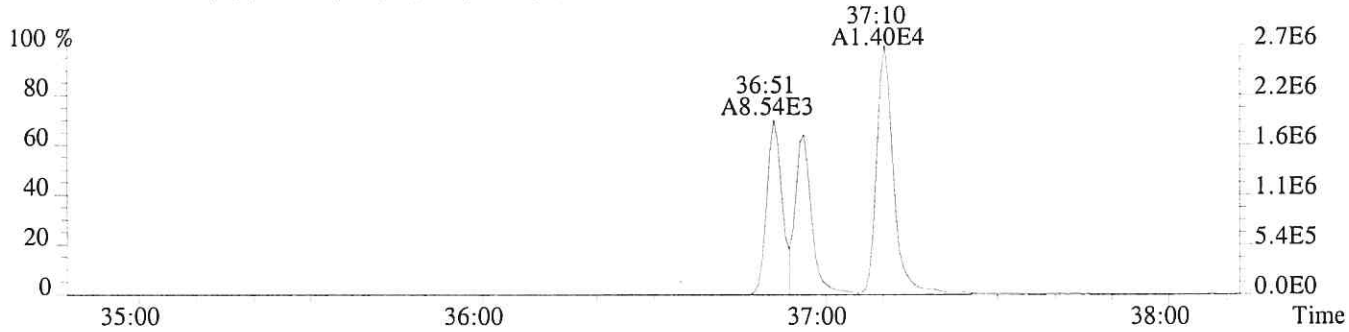
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)



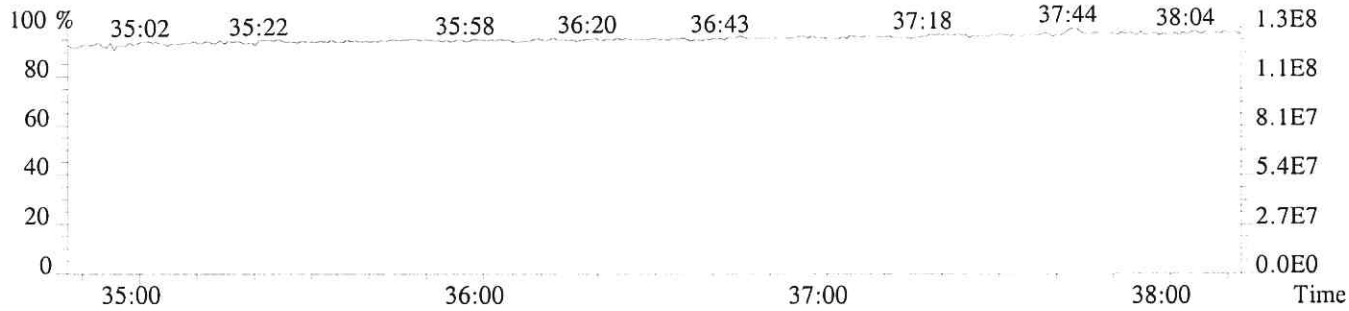
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2564.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1856.0,0.40%,F,T)

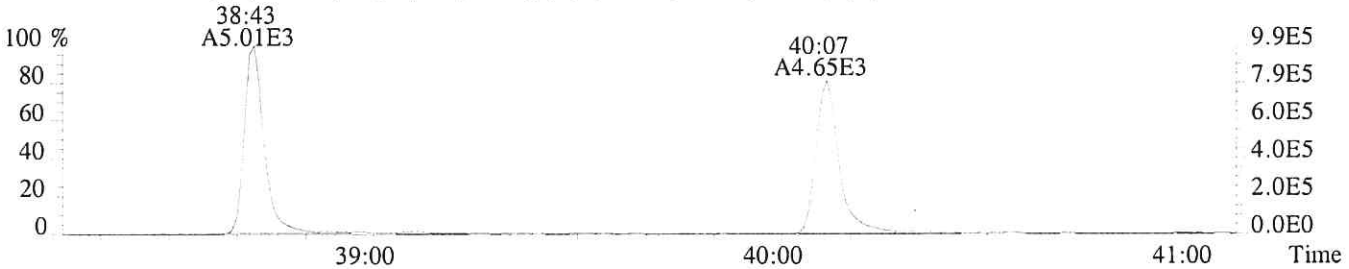


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

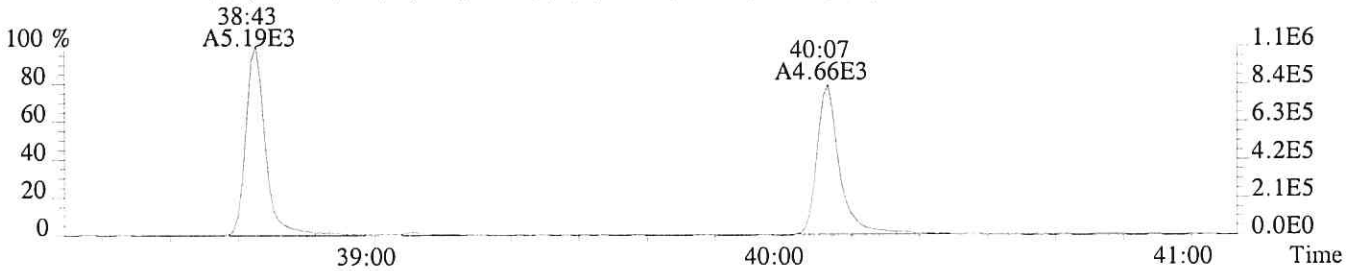


File:P511549 #1-259 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

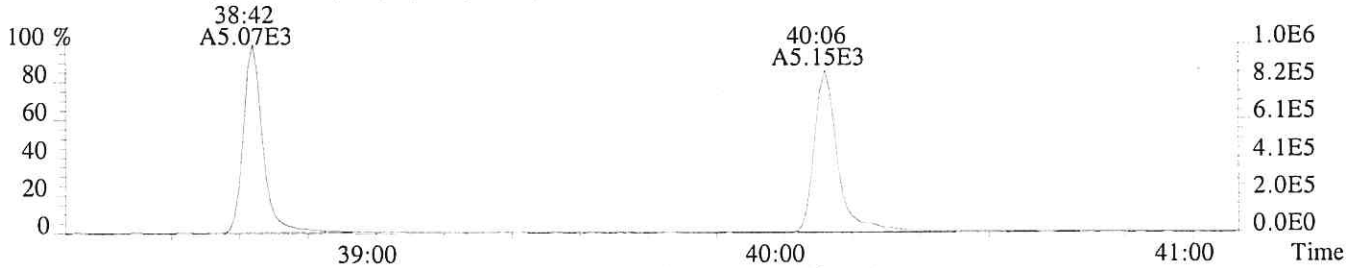
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.50%,F,T)



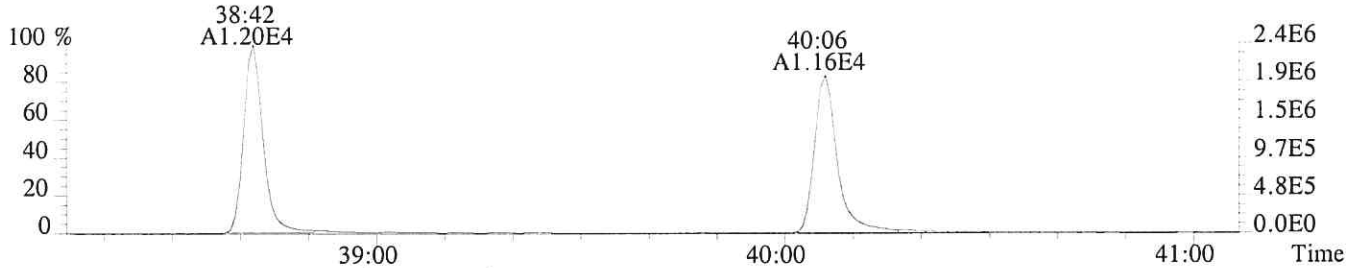
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1976.0,0.50%,F,T)



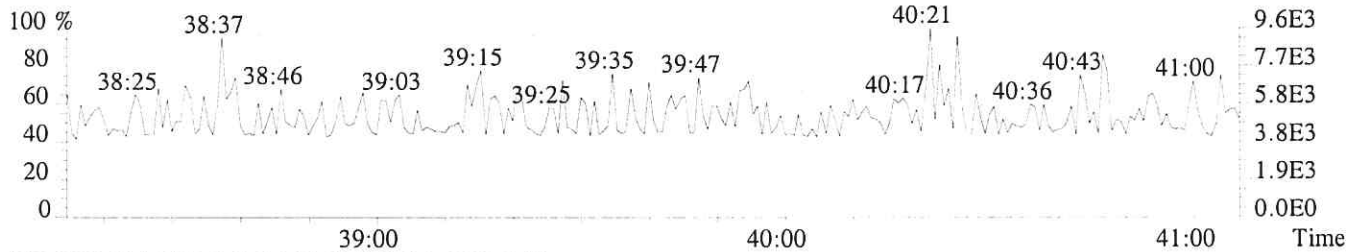
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1976.0,0.50%,F,T)



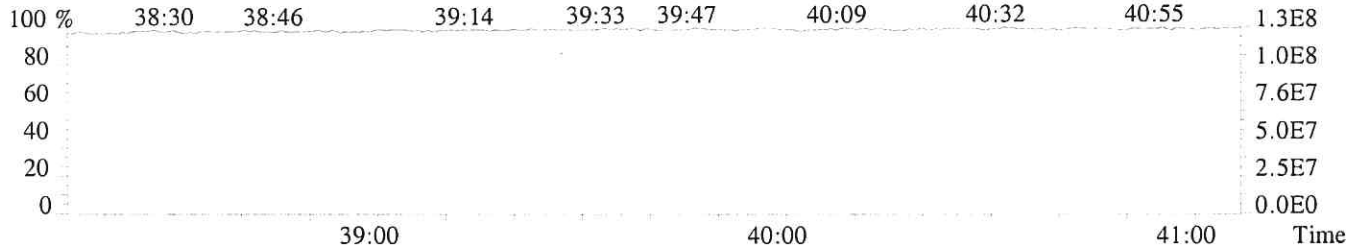
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4152.0,0.50%,F,T)



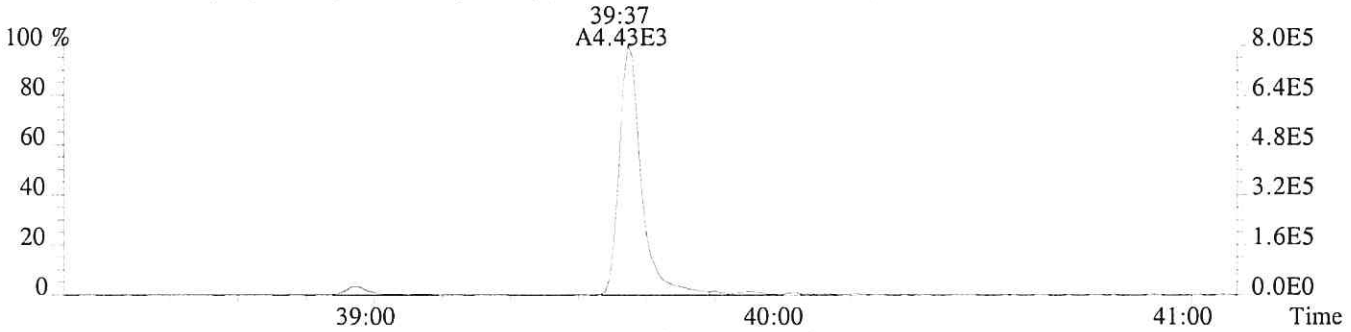
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



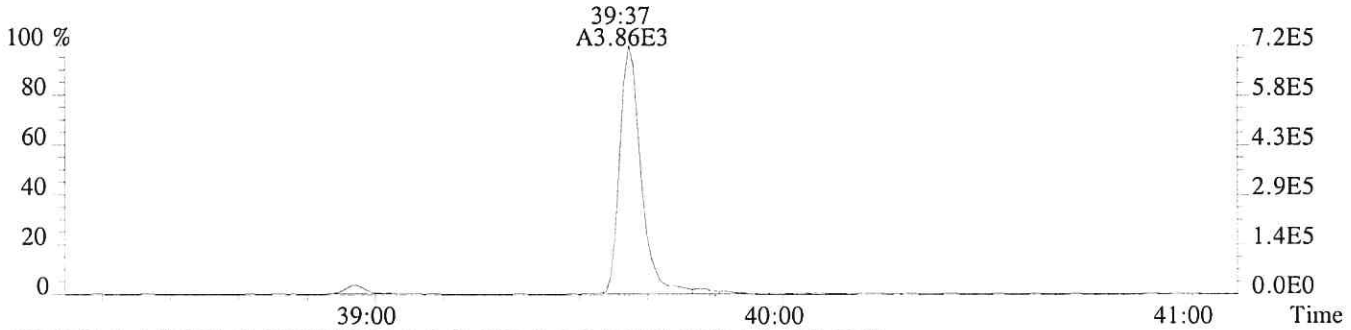
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



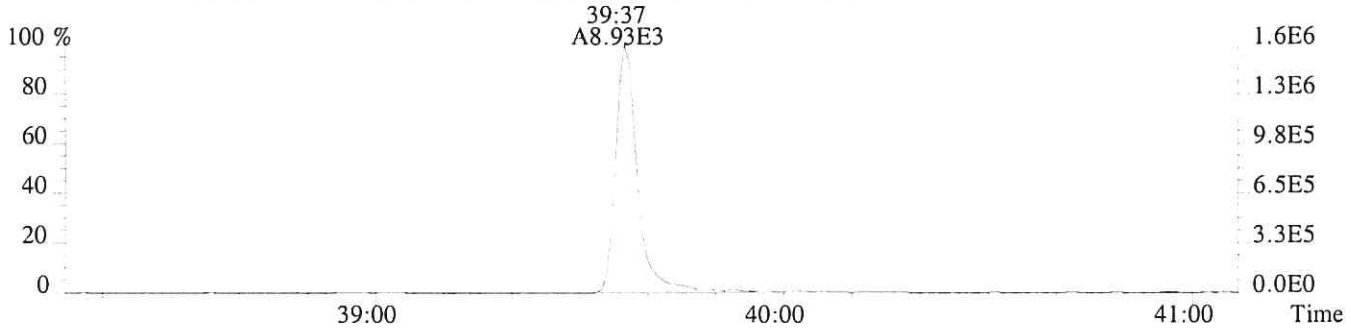
File:P511549 #1-259 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



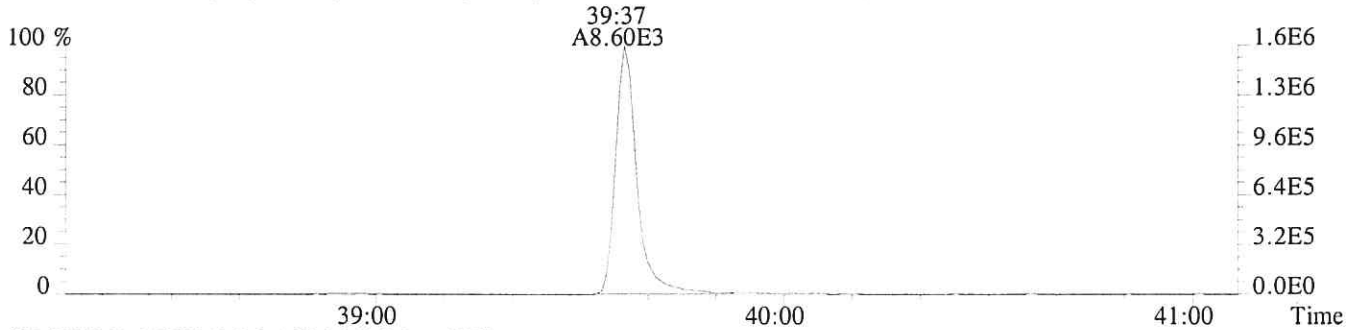
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,596.0,0.40%,F,T)



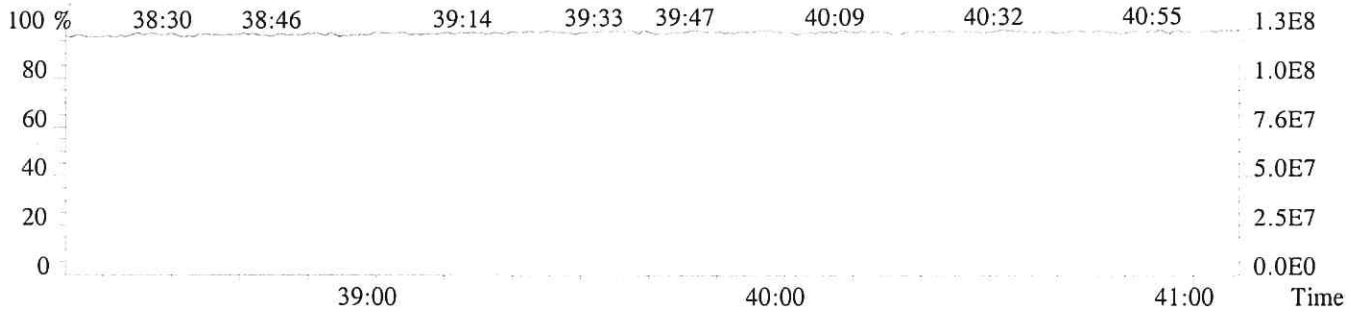
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)

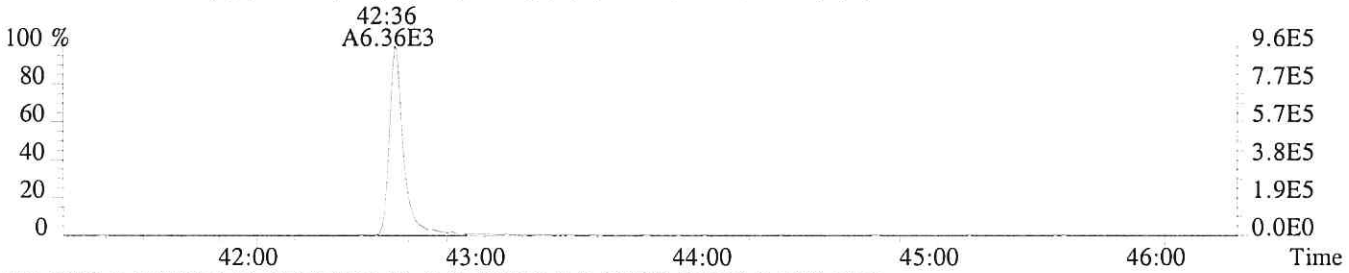


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

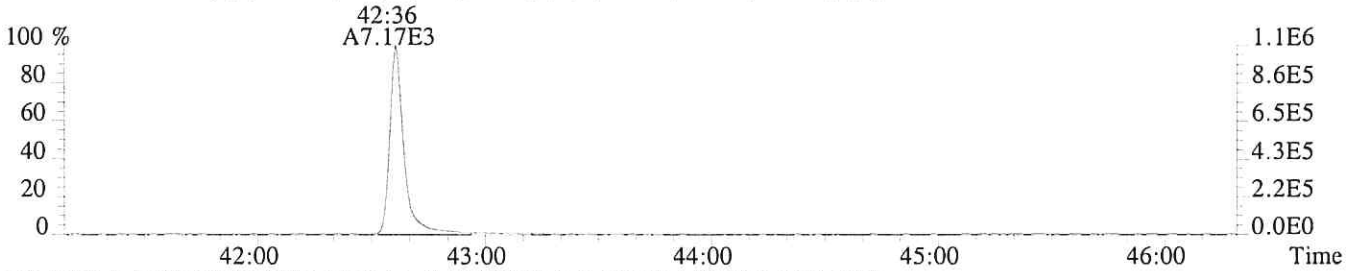


File:P511549 #1-466 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02

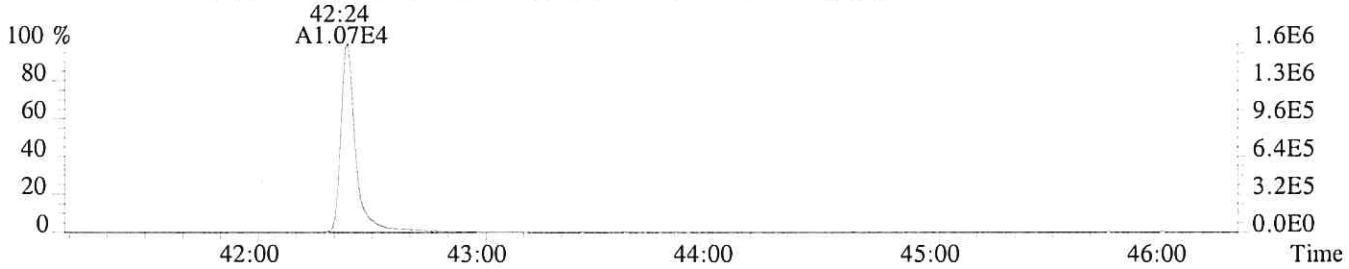
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,936.0,0.40%,F,T)



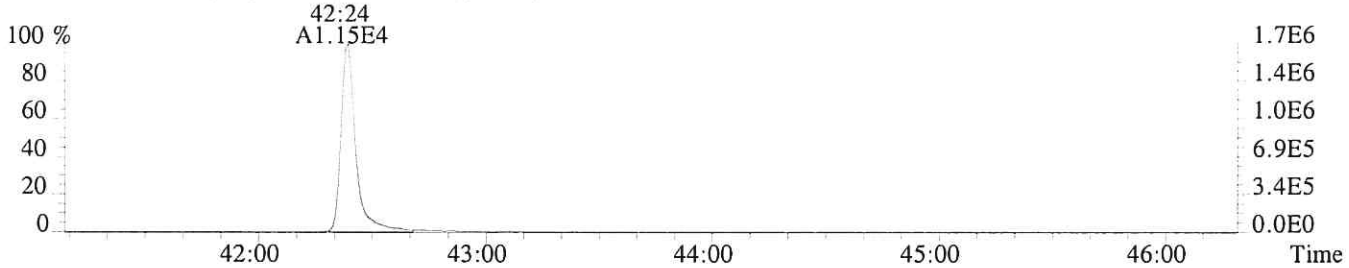
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2256.0,0.40%,F,T)



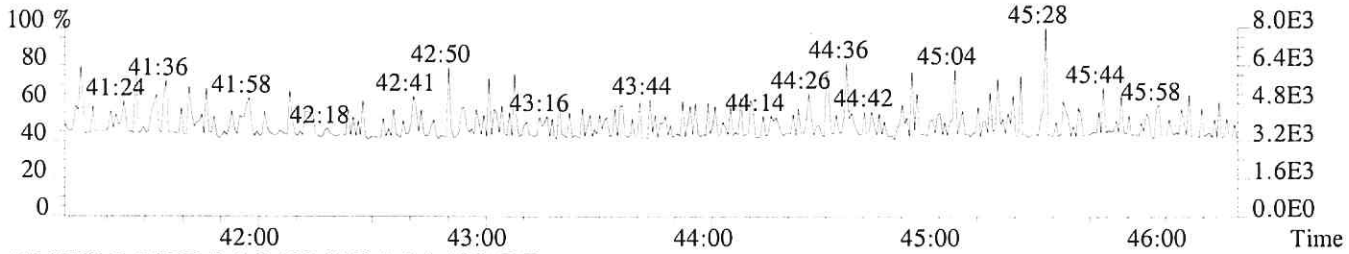
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1172.0,0.40%,F,T)



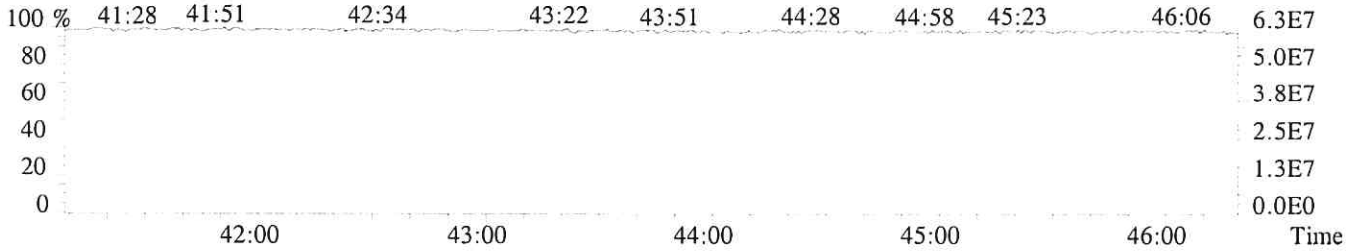
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,T)



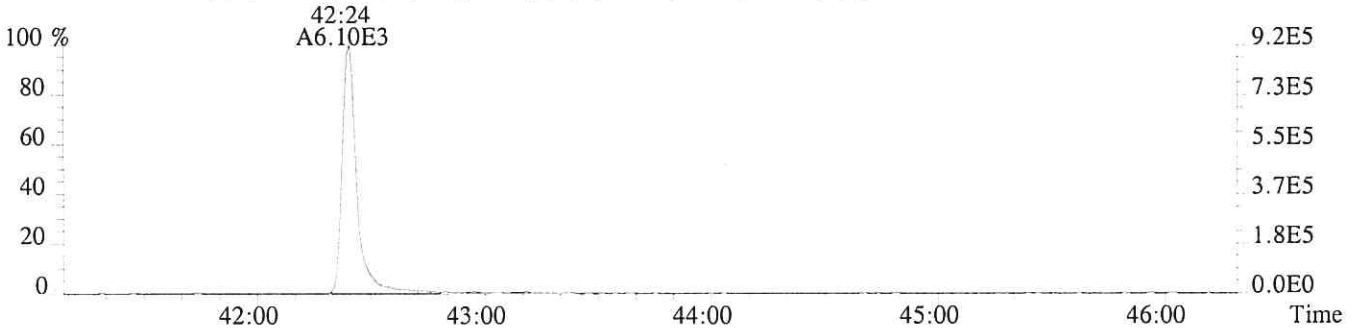
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



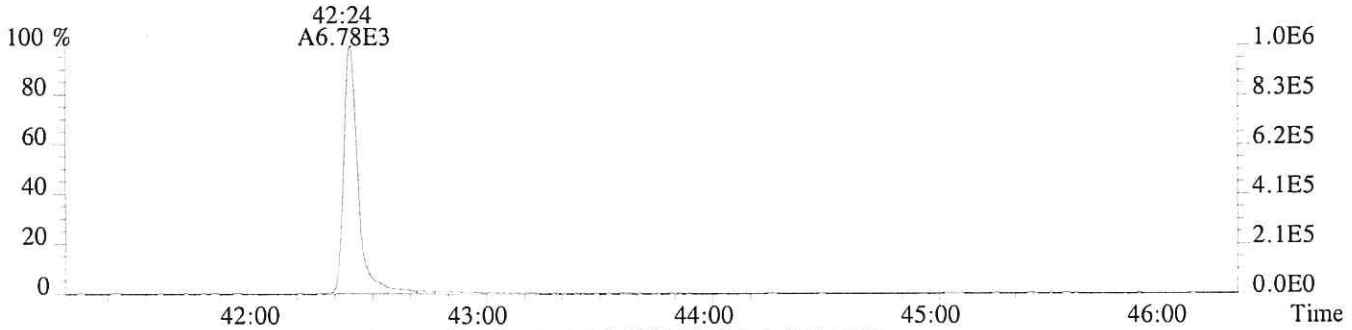
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



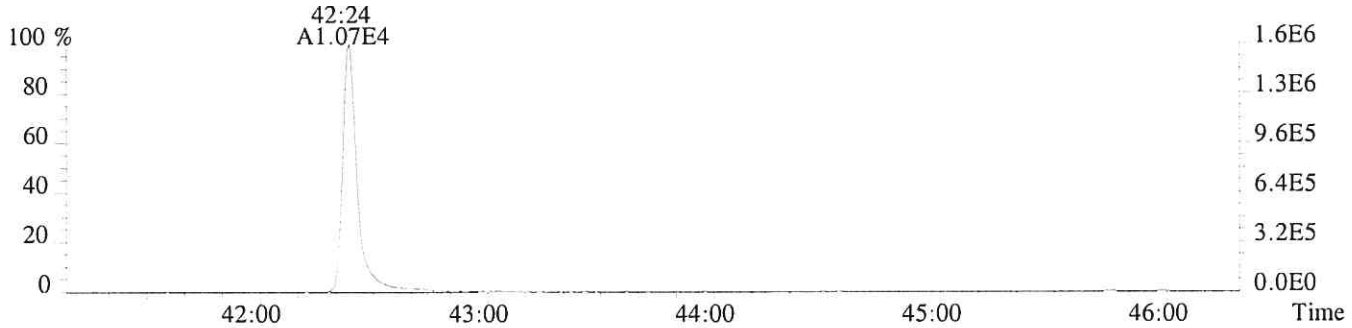
File:P511549 #1-466 Acq:24-SEP-2017 21:33:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-02
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,708.0,0.40%,F,T)



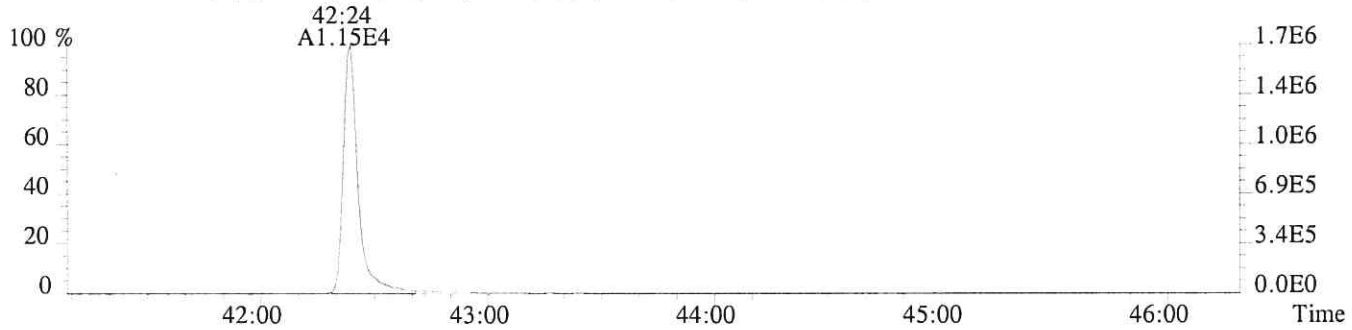
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,F,T)



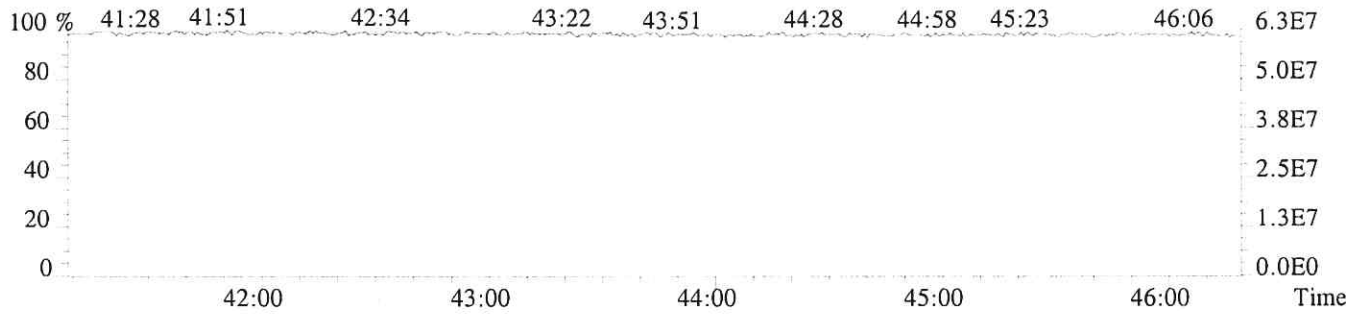
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1172.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
DLCS

Run #20 Filename P511550 Samp: 1 Inj: 1 Acquired: 24-SEP-17 22:22:12
Processed: 25-SEP-17 13:21:49 Sample ID: EQ1700418-03

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:30	1.288e+03	1.820e+03	0.71	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:36	1.097e+04	7.424e+03	1.48	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:29	1.036e+04	7.393e+03	1.40	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	8.783e+03	7.895e+03	1.11	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	9.531e+03	8.010e+03	1.19	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	8.883e+03	7.546e+03	1.18	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:28	7.977e+03	7.151e+03	1.12	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	7.721e+03	7.680e+03	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	6.997e+03	7.162e+03	0.98	yes	no	1.191
10	Unk	OCDF	42:36	8.791e+03	1.045e+04	0.84	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	1.204e+03	1.477e+03	0.82	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:46	9.204e+03	5.902e+03	1.56	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:51	7.378e+03	5.874e+03	1.26	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	8.220e+03	6.431e+03	1.28	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:10	8.158e+03	6.514e+03	1.25	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	6.440e+03	6.075e+03	1.06	yes	no	0.942
17	Unk	OCDD	42:24	7.768e+03	8.827e+03	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	1.583e+04	2.053e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:35	2.737e+04	1.771e+04	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	2.637e+04	1.675e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	1.054e+04	2.123e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:13	1.217e+04	2.389e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:42	1.144e+04	2.268e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.093e+04	2.186e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:41	8.129e+03	1.860e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:05	7.536e+03	1.749e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	1.240e+04	1.589e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:45	2.038e+04	1.290e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:50	1.695e+04	1.335e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	1.721e+04	1.389e+04	1.24	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:36	1.340e+04	1.288e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:23	1.503e+04	1.688e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	2.189e+04	2.813e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	3.058e+04	2.417e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	1.192e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
DLCS

Run #20 Filename P511550 Samp: 1 Inj: 1 Acquired: 24-SEP-17 22:22:12
Processed: 25-SEP-17 13:21:49 LAB. ID: EQ1700418-03

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.28e+05	1.19e+03	1.9e+02	2.93e+05	3.19e+03	9.2e+01
2	1,2,3,7,8-PeCDF	2.04e+06	5.32e+02	3.8e+03	1.34e+06	2.11e+03	6.4e+02
3	2,3,4,7,8-PeCDF	1.92e+06	5.32e+02	3.6e+03	1.37e+06	2.11e+03	6.5e+02
4	1,2,3,4,7,8-HxCDF	1.83e+06	9.60e+02	1.9e+03	1.65e+06	1.16e+03	1.4e+03
5	1,2,3,6,7,8-HxCDF	1.87e+06	9.60e+02	1.9e+03	1.59e+06	1.16e+03	1.4e+03
6	2,3,4,6,7,8-HxCDF	1.79e+06	9.60e+02	1.9e+03	1.51e+06	1.16e+03	1.3e+03
7	1,2,3,7,8,9-HxCDF	1.58e+06	9.60e+02	1.6e+03	1.36e+06	1.16e+03	1.2e+03
8	1,2,3,4,6,7,8-HpCDF	1.55e+06	1.18e+03	1.3e+03	1.57e+06	2.06e+03	7.6e+02
9	1,2,3,4,7,8,9-HpCDF	1.26e+06	1.18e+03	1.1e+03	1.27e+06	2.06e+03	6.2e+02
10	OCDF	1.39e+06	6.48e+02	2.1e+03	1.61e+06	1.65e+03	9.8e+02
11	2,3,7,8-TCDD	2.04e+05	2.15e+03	9.5e+01	2.73e+05	1.56e+03	1.8e+02
12	1,2,3,7,8-PeCDD	1.70e+06	2.49e+03	6.8e+02	1.13e+06	2.36e+02	4.8e+03
13	1,2,3,4,7,8-HxCDD	1.60e+06	1.14e+03	1.4e+03	1.28e+06	1.28e+03	9.9e+02
14	1,2,3,6,7,8-HxCDD	1.61e+06	1.14e+03	1.4e+03	1.29e+06	1.28e+03	1.0e+03
15	1,2,3,7,8,9-HxCDD	1.63e+06	1.14e+03	1.4e+03	1.26e+06	1.28e+03	9.8e+02
16	1,2,3,4,6,7,8-HpCDD	1.19e+06	8.84e+02	1.3e+03	1.14e+06	1.12e+03	1.0e+03
17	OCDD	1.22e+06	6.80e+02	1.8e+03	1.35e+06	1.33e+03	1.0e+03
18	13C-2,3,7,8-TCDF	2.68e+06	1.48e+04	1.8e+02	3.45e+06	7.66e+03	4.5e+02
19	13C-1,2,3,7,8-PeCDF	5.09e+06	8.60e+02	5.9e+03	3.28e+06	9.00e+02	3.6e+03
20	13C-2,3,4,7,8-PeCDF	4.91e+06	8.60e+02	5.7e+03	3.16e+06	9.00e+02	3.5e+03
21	13C-1,2,3,4,7,8-HxCDF	2.22e+06	8.72e+02	2.5e+03	4.42e+06	2.32e+03	1.9e+03
22	13C-1,2,3,6,7,8-HxCDF	2.40e+06	8.72e+02	2.8e+03	4.78e+06	2.32e+03	2.1e+03
23	13C-2,3,4,6,7,8-HxCDF	2.29e+06	8.72e+02	2.6e+03	4.65e+06	2.32e+03	2.0e+03
24	13C-1,2,3,7,8,9-HxCDF	2.16e+06	8.72e+02	2.5e+03	4.20e+06	2.32e+03	1.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.65e+06	2.02e+03	8.2e+02	3.79e+06	1.84e+03	2.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.34e+06	2.02e+03	6.6e+02	3.20e+06	1.84e+03	1.7e+03
27	13C-2,3,7,8-TCDD	2.29e+06	6.83e+03	3.4e+02	2.88e+06	3.07e+03	9.4e+02
28	13C-1,2,3,7,8-PeCDD	3.89e+06	2.08e+03	1.9e+03	2.48e+06	2.31e+03	1.1e+03
29	13C-1,2,3,4,7,8-HxCDD	3.68e+06	1.70e+03	2.2e+03	2.98e+06	1.35e+03	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	3.42e+06	1.70e+03	2.0e+03	2.76e+06	1.35e+03	2.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.44e+06	9.40e+02	2.6e+03	2.37e+06	8.68e+02	2.7e+03
32	13C-OCDD	2.27e+06	1.07e+03	2.1e+03	2.62e+06	8.88e+02	2.9e+03
33	13C-1,2,3,4-TCDD	3.99e+06	6.83e+03	5.8e+02	5.14e+06	3.07e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	5.95e+06	1.70e+03	3.5e+03	4.73e+06	1.35e+03	3.5e+03
35	37Cl-2,3,7,8-TCDD	2.15e+06	2.26e+03	9.5e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.152e{+}03 + 1.560e{+}03\ ) \times 2000}{(2.292e{+}06 + 2.879e{+}06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.065} =$$

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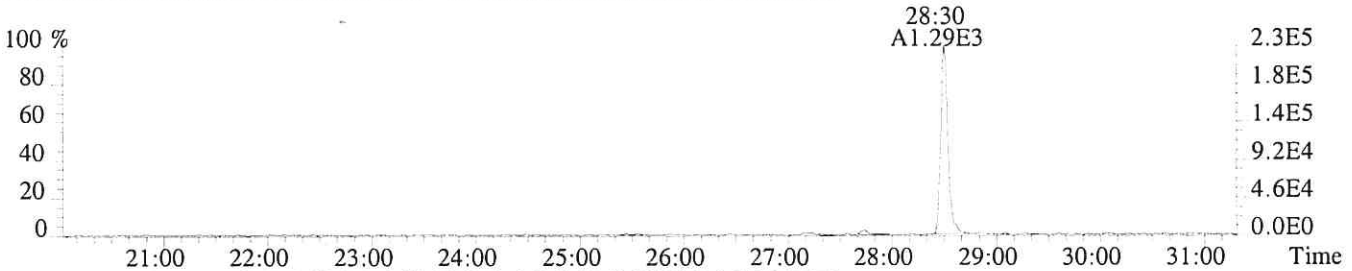
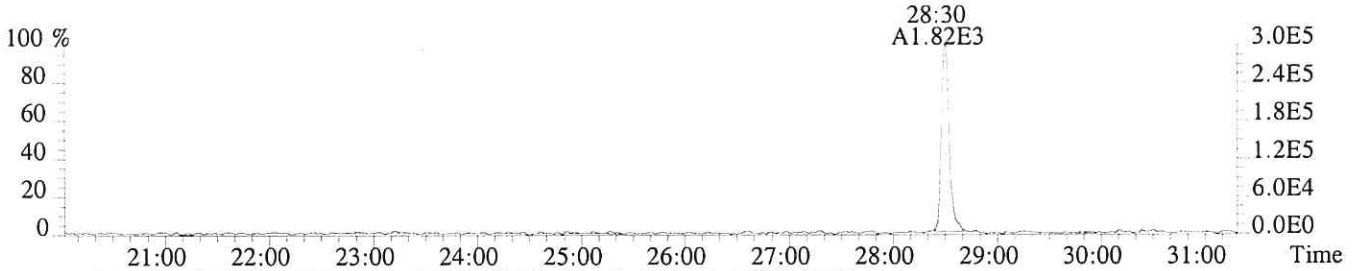
File:P511550 #1-800 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

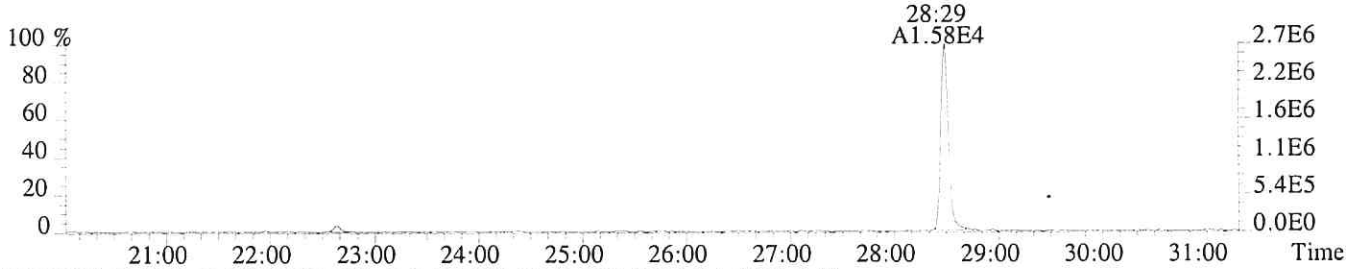
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,T)



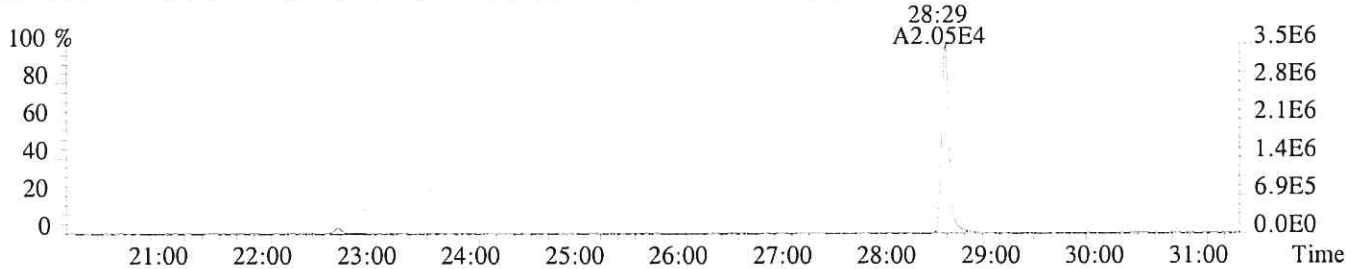
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3188.0,1.00%,F,T)



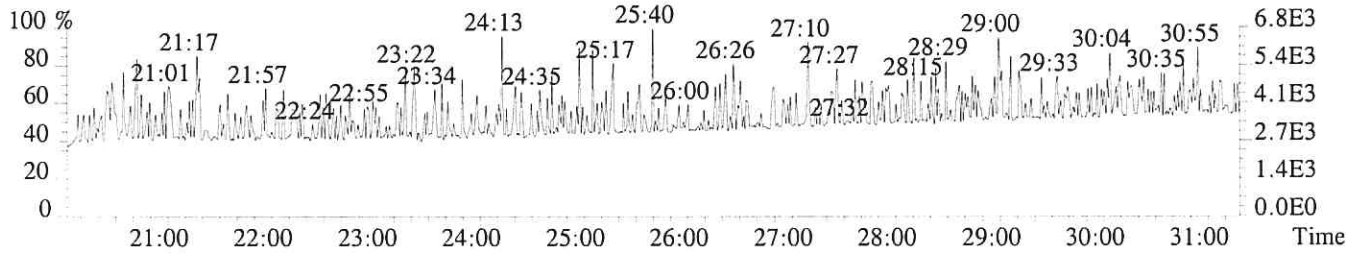
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14824.0,1.00%,F,T)



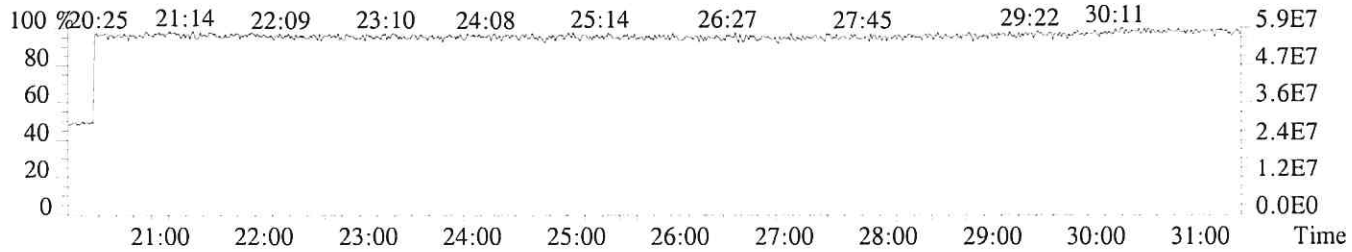
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7656.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

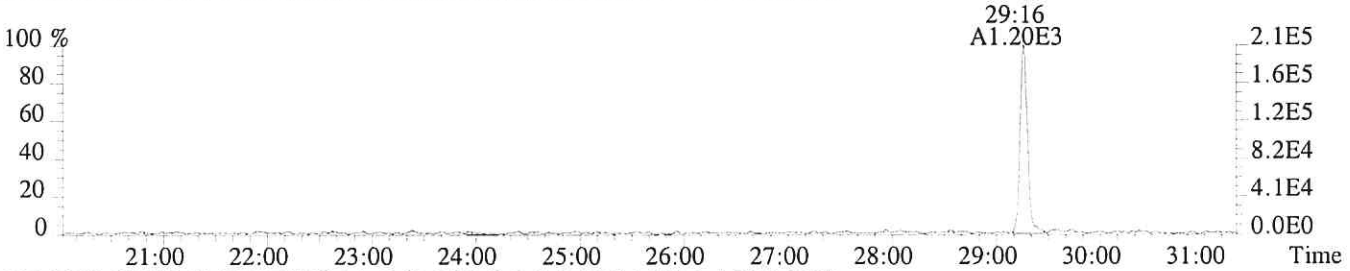


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

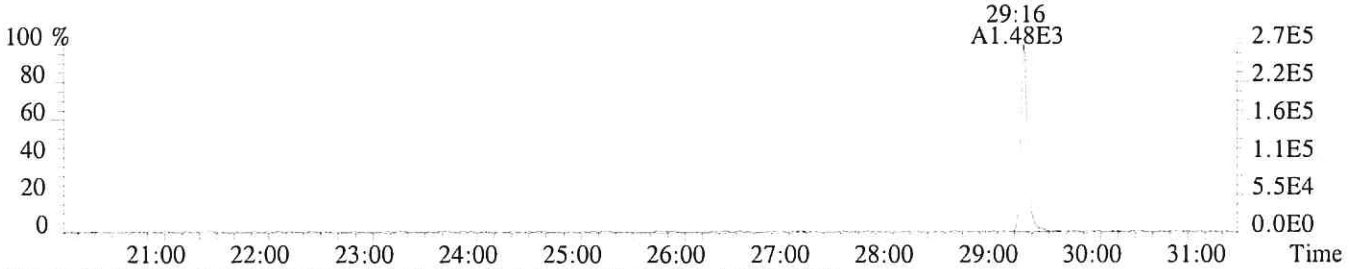


File:P511550 #1-800 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

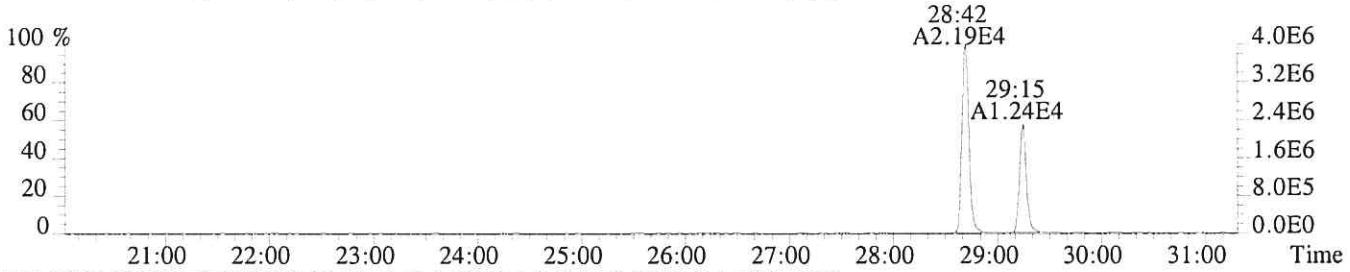
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



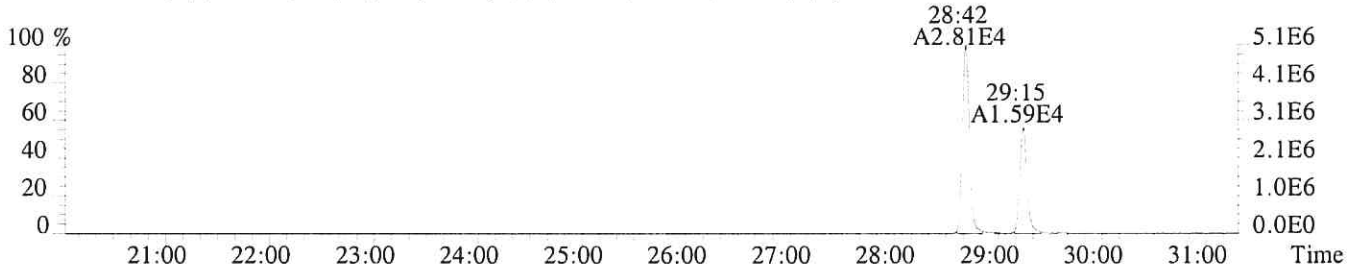
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1560.0,1.00%,F,T)



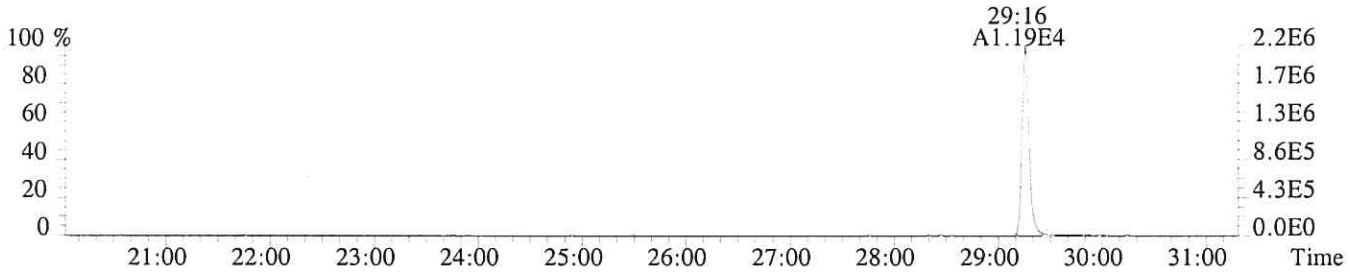
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6828.0,1.00%,F,T)



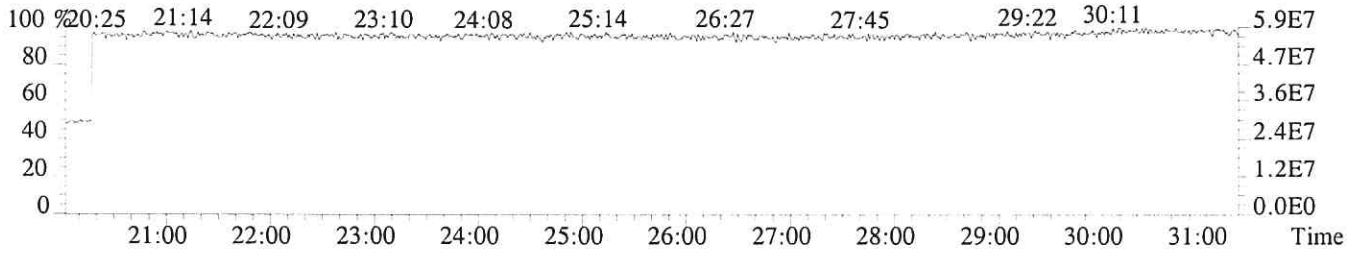
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3068.0,1.00%,F,T)



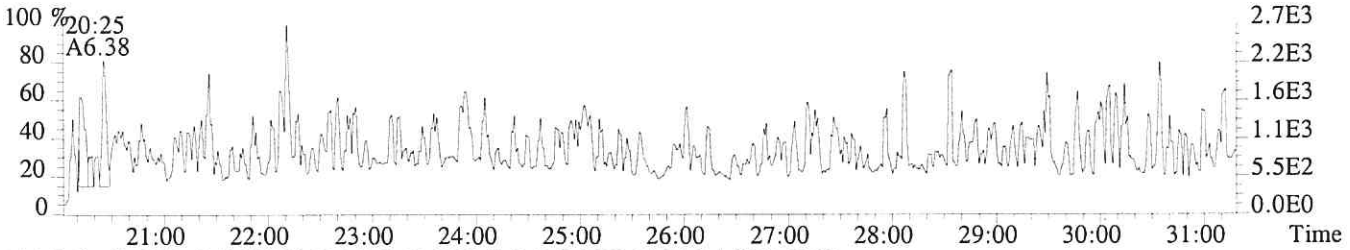
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2260.0,1.00%,F,T)



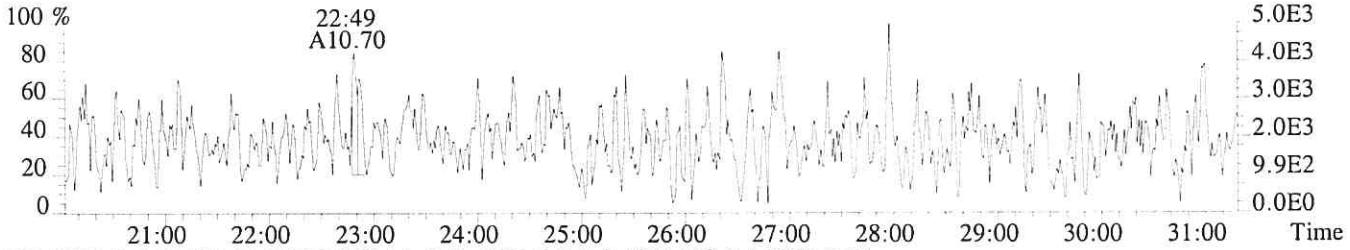
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



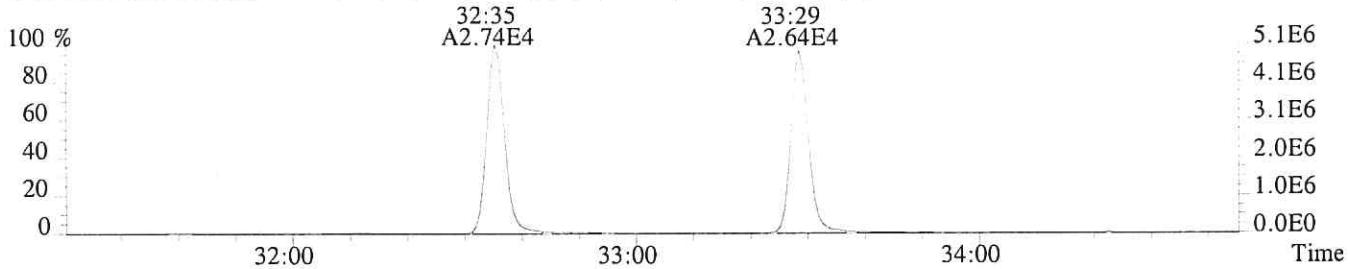
File:P511550 #1-800 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1156.0,1.00%,F,T)



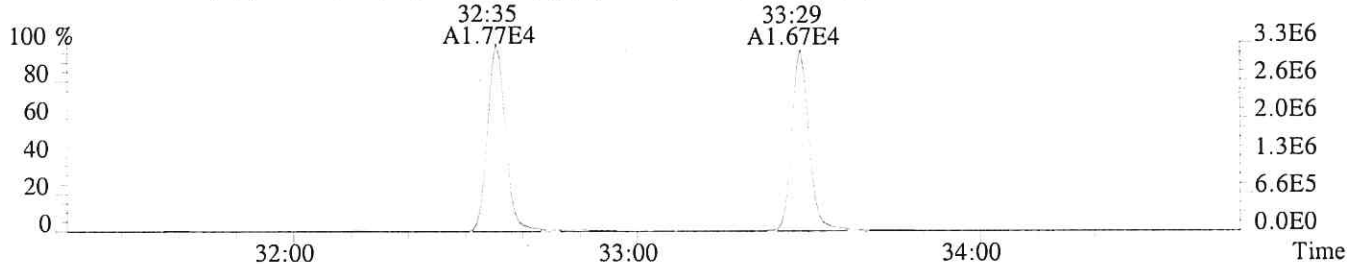
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2424.0,1.00%,F,T)



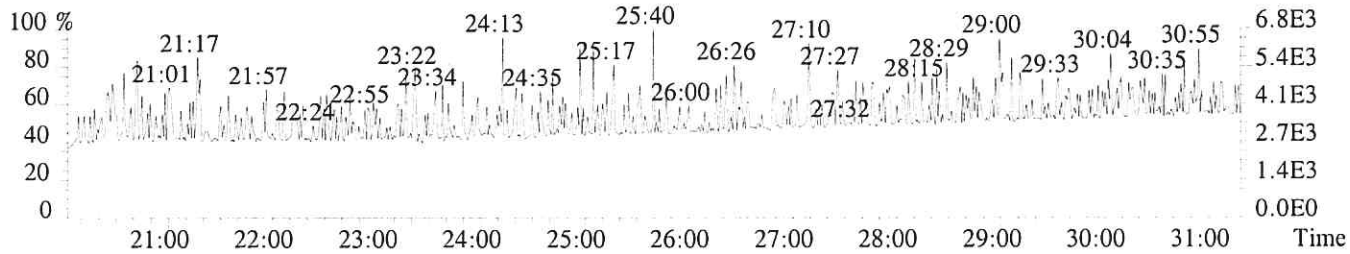
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



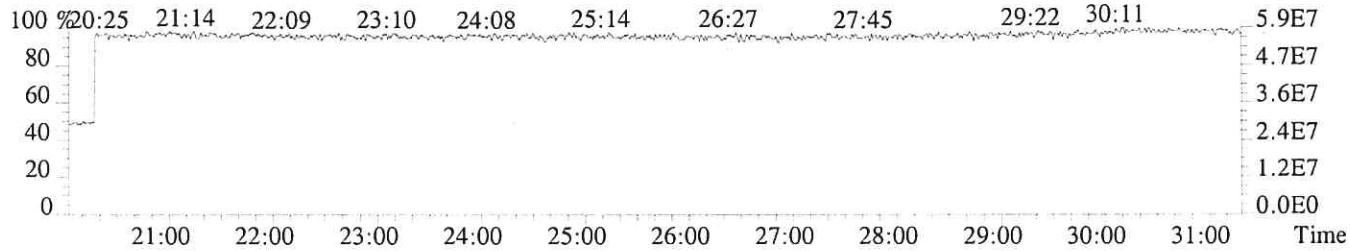
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

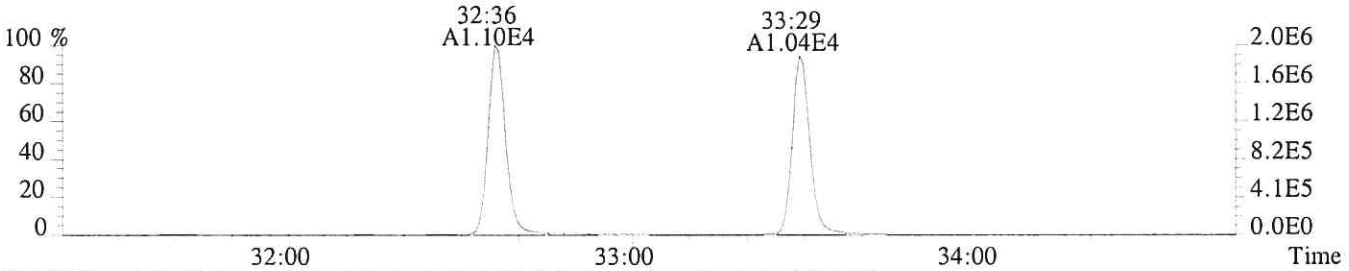


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

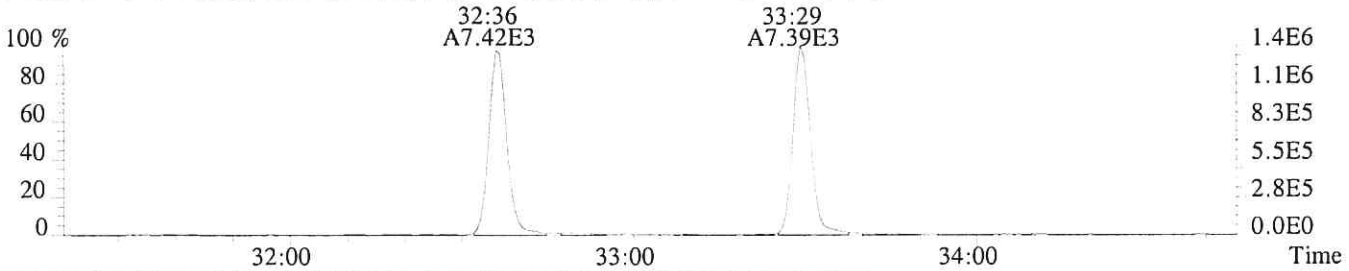


File:P511550 #1-308 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

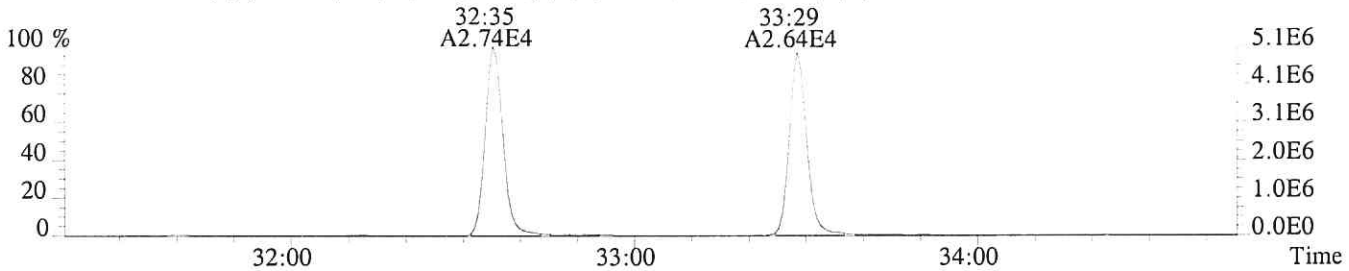
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



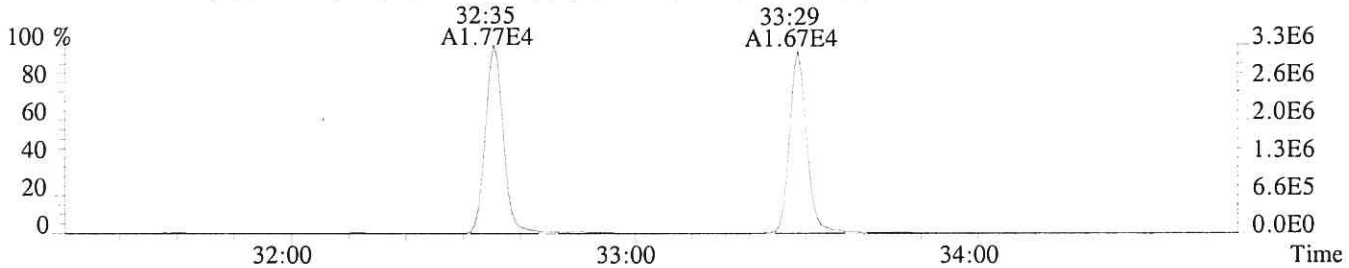
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



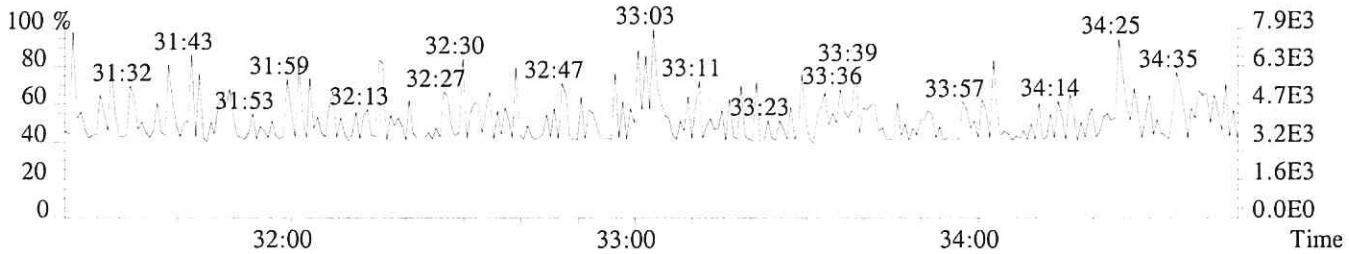
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



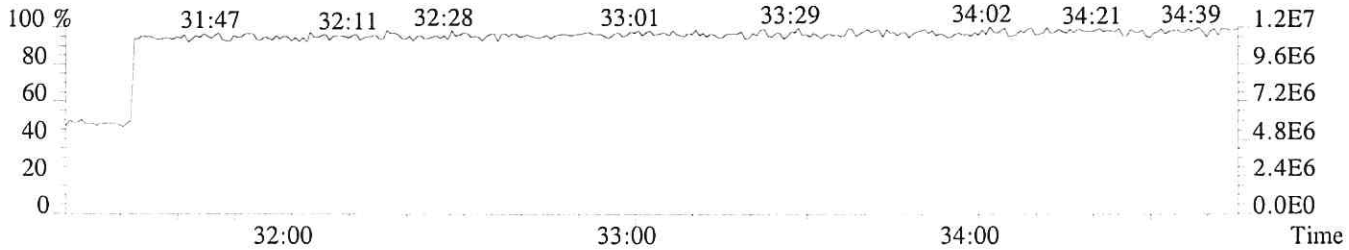
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

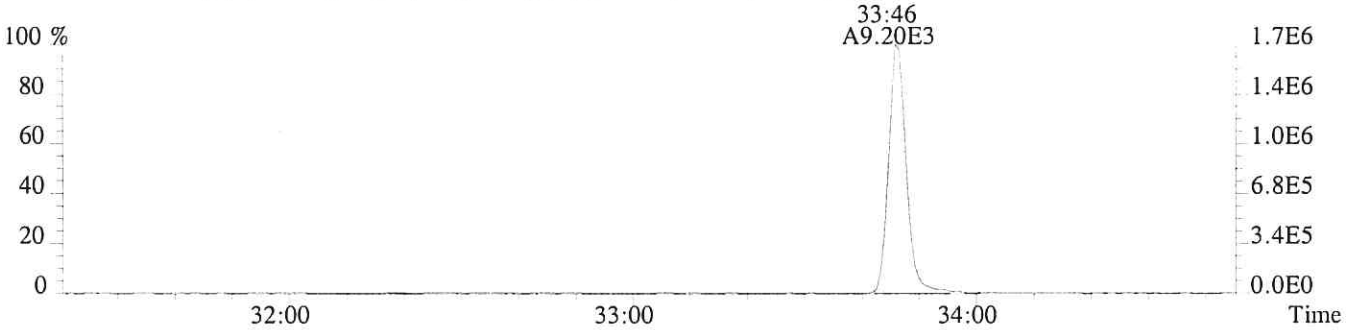


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

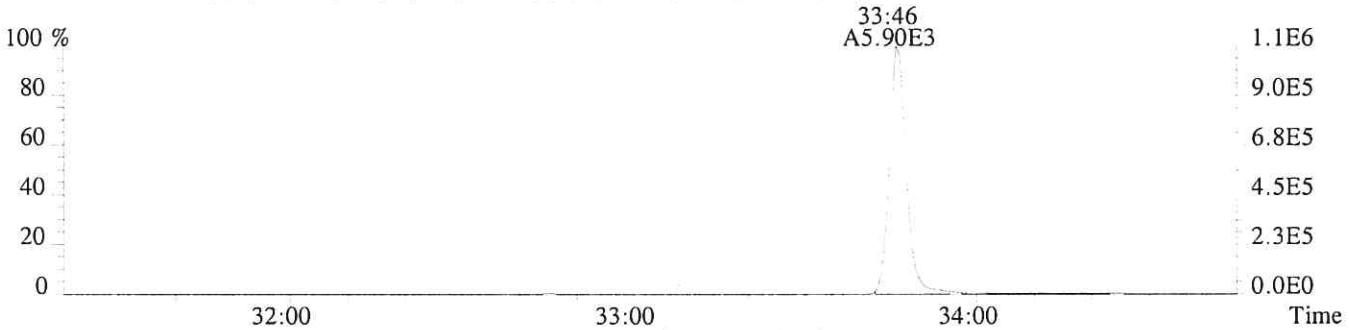


File:P511550 #1-308 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

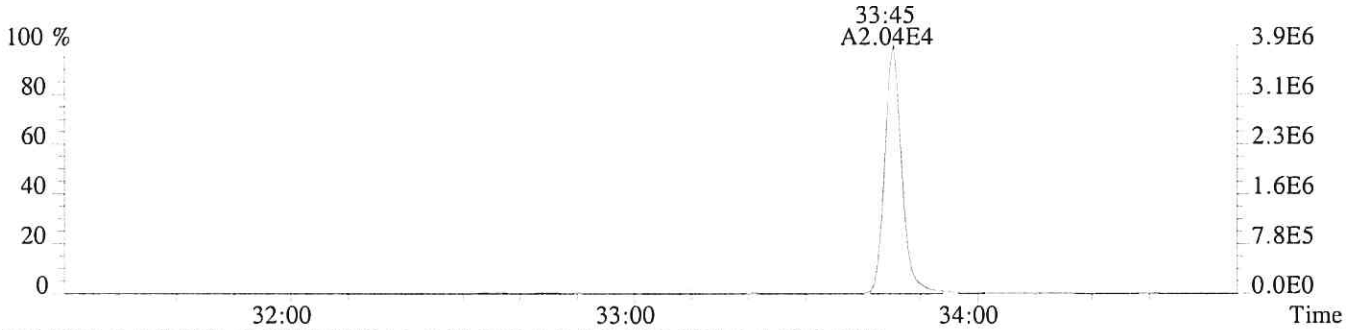
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2492.0,1.00%,F,T)



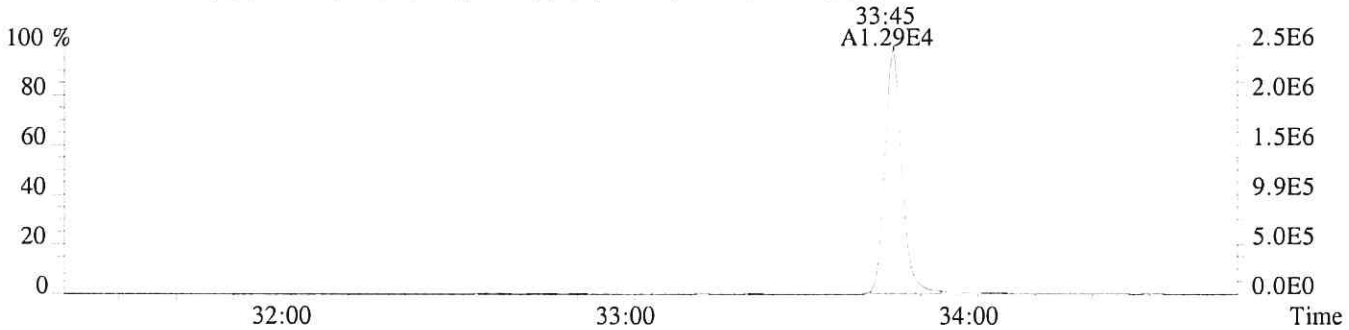
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



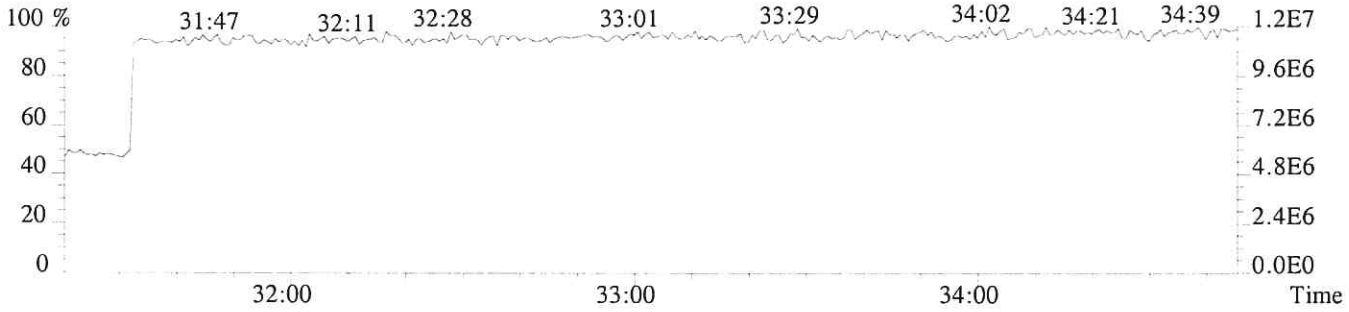
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2076.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)

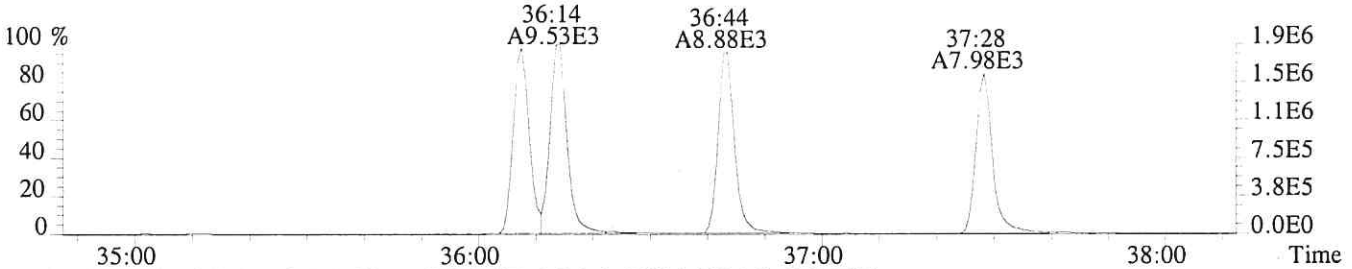


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

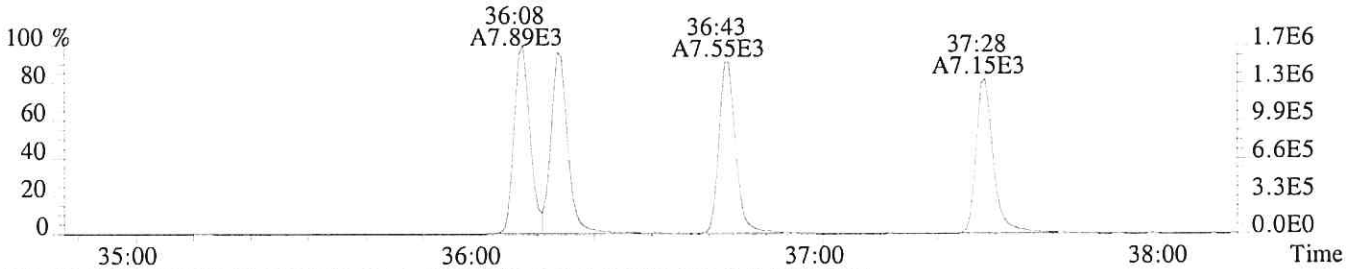


File:P511550 #1-308 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

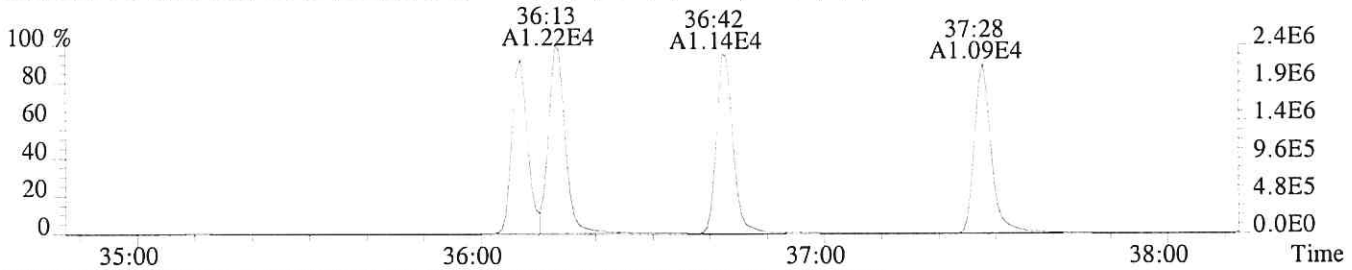
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,960.0,0.40%,F,T)



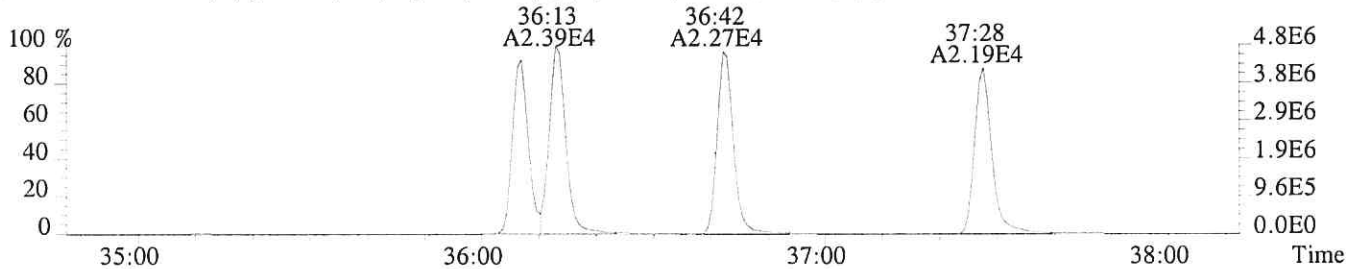
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



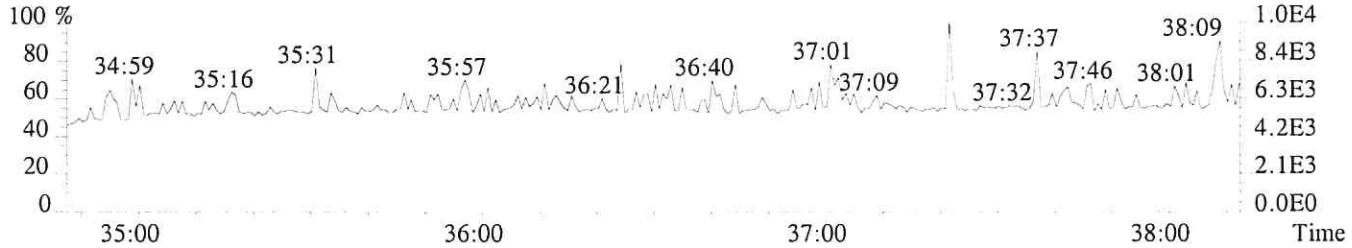
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,T)



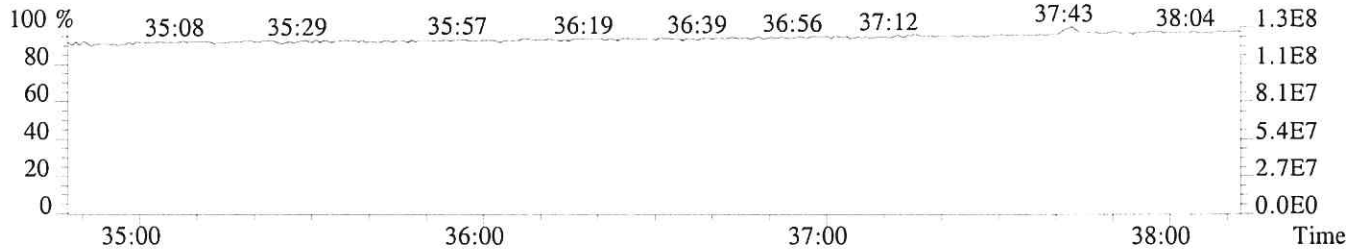
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2324.0,0.40%,F,T)



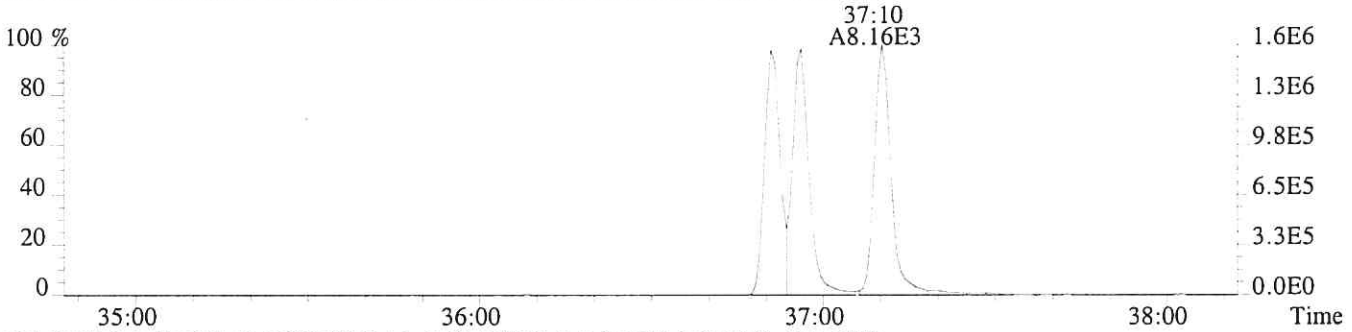
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



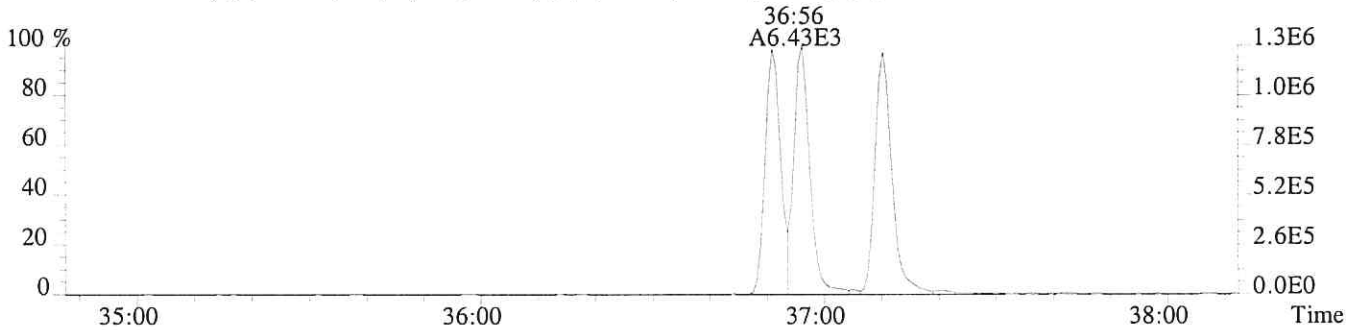
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



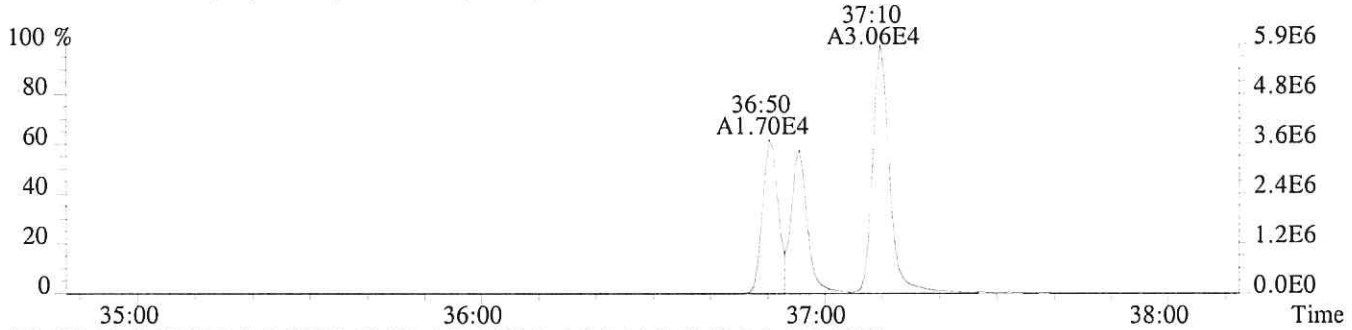
File:P511550 #1-308 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)



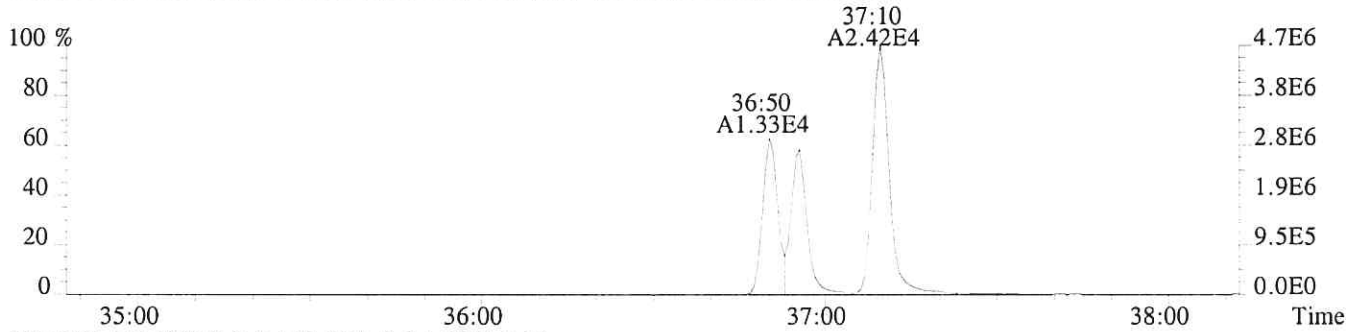
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.40%,F,T)



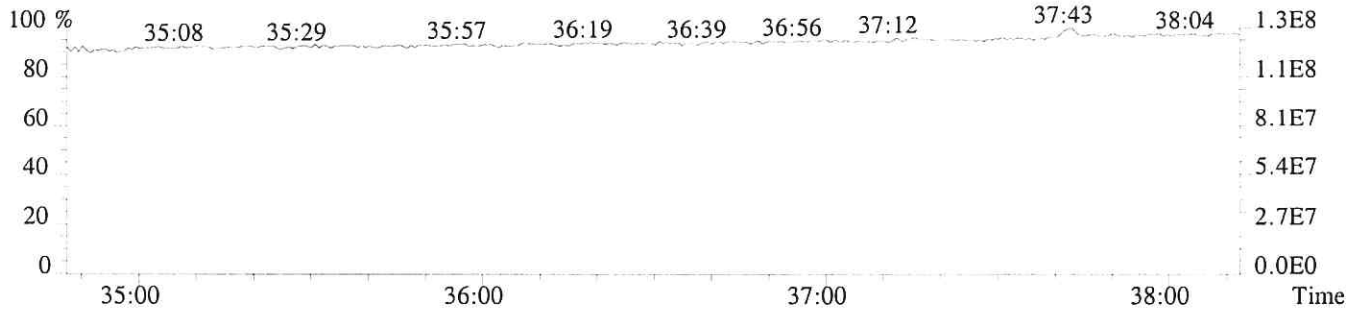
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1696.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1352.0,0.40%,F,T)

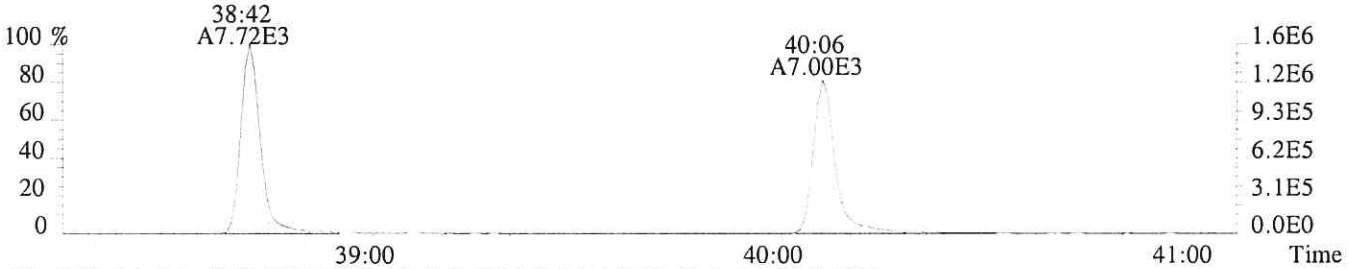


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

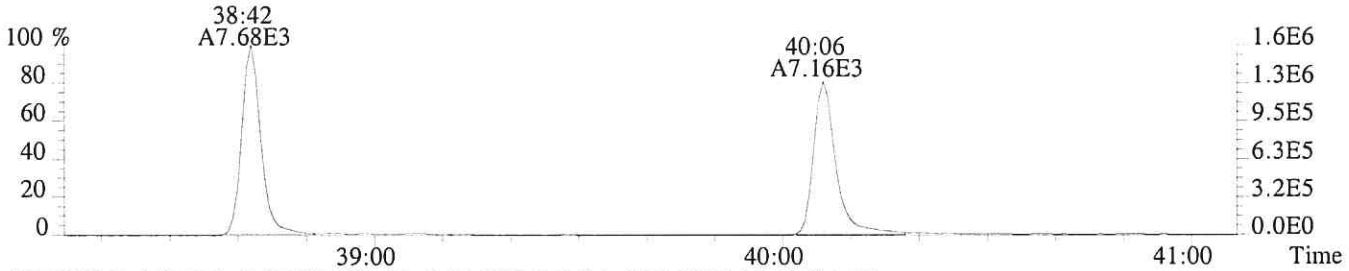


File:P511550 #1-259 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

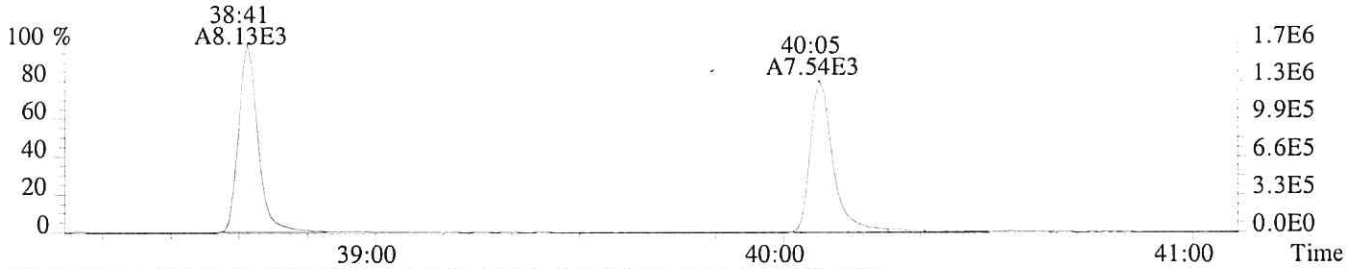
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1180.0,0.50%,F,T)



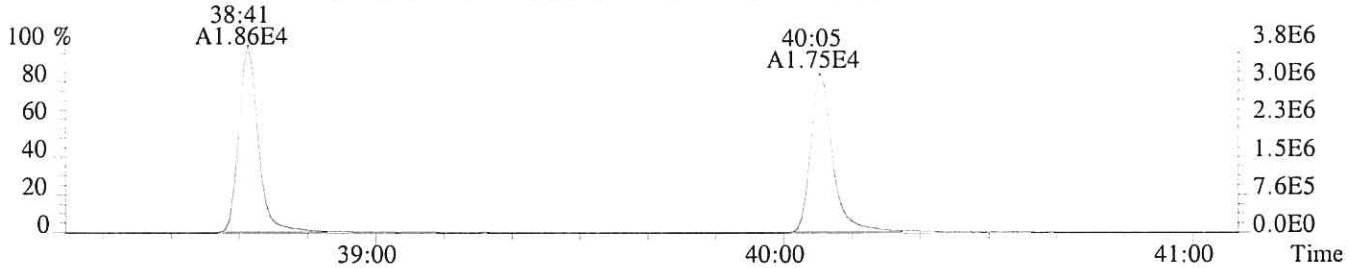
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2060.0,0.50%,F,T)



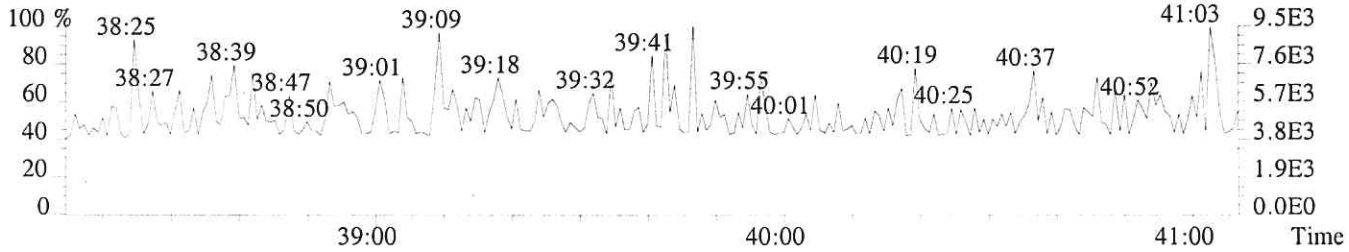
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2020.0,0.50%,F,T)



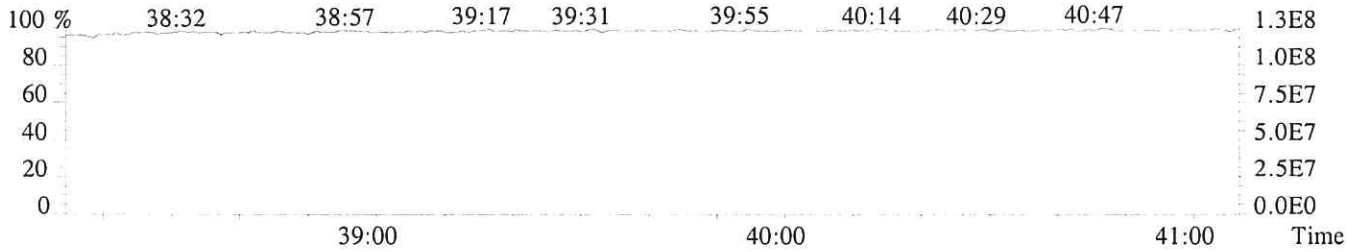
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1844.0,0.50%,F,T)



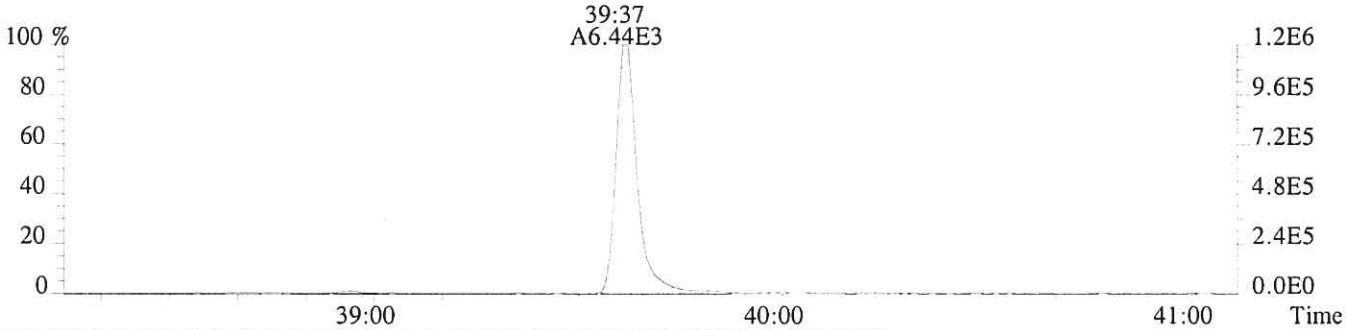
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



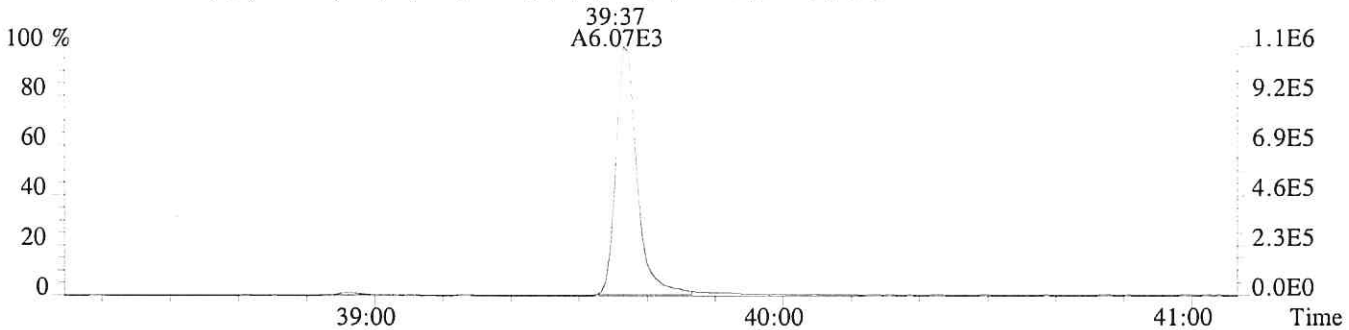
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



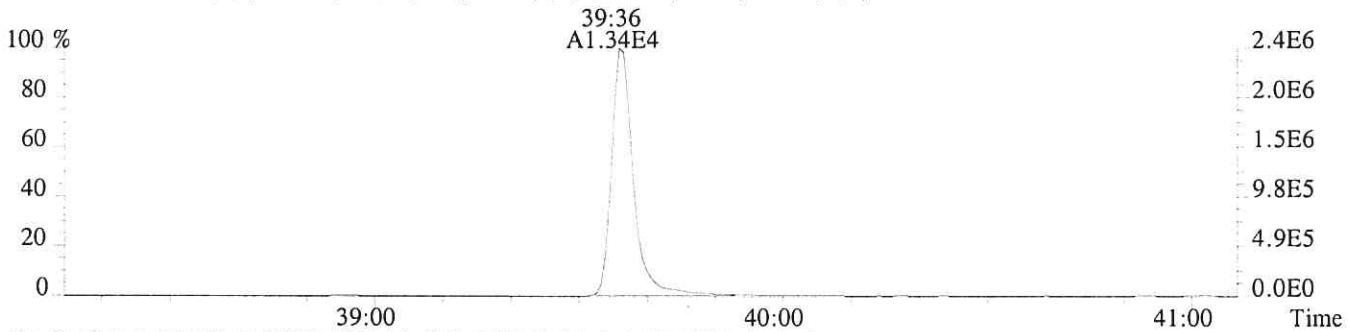
File:P511550 #1-259 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,T)



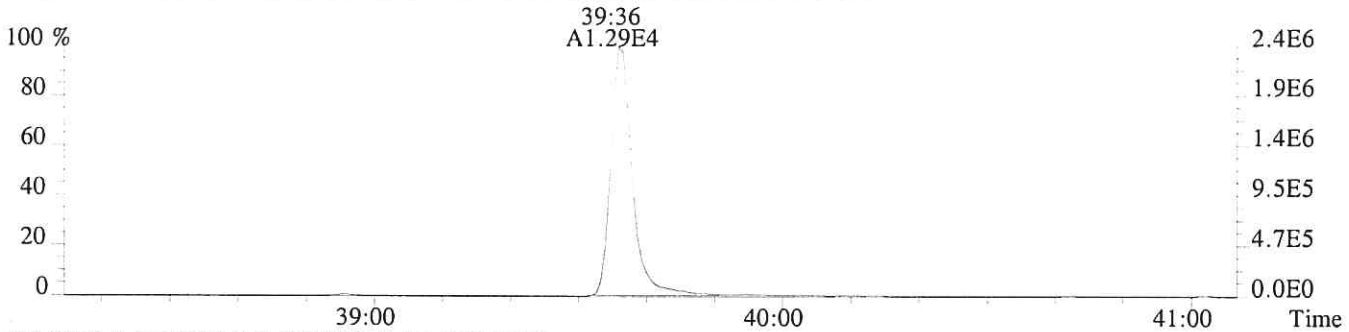
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



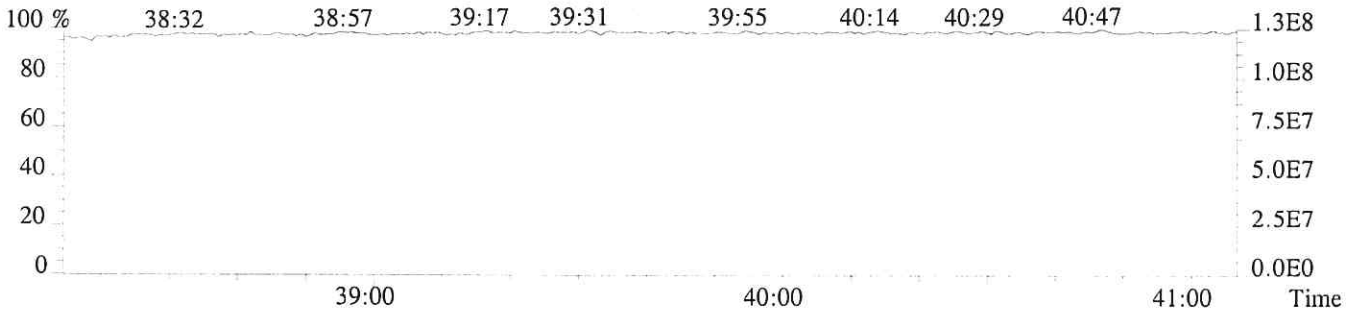
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,940.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)

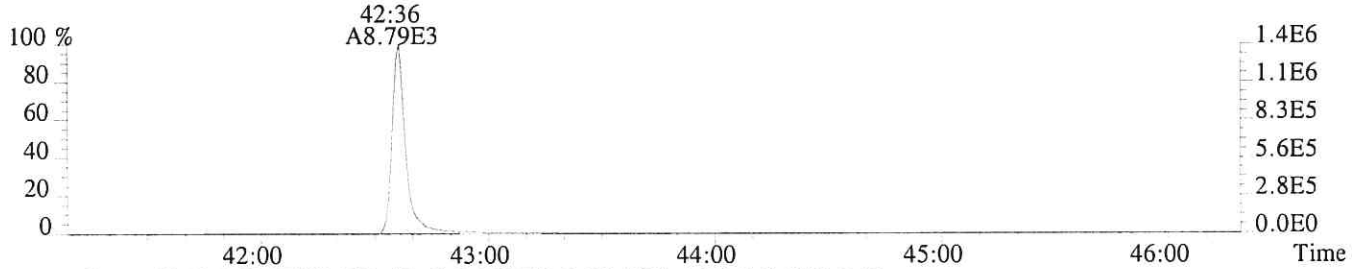


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

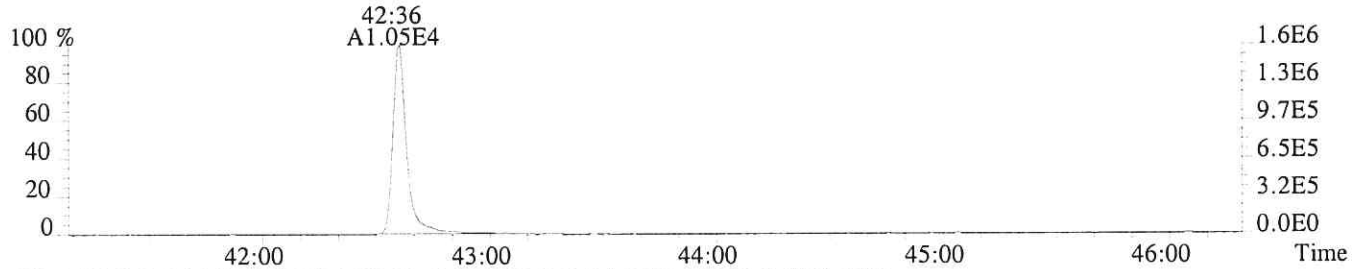


File:P511550 #1-466 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03

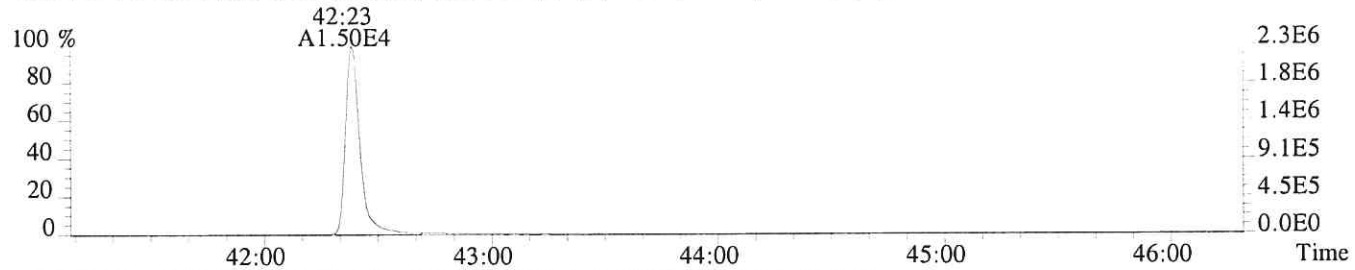
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



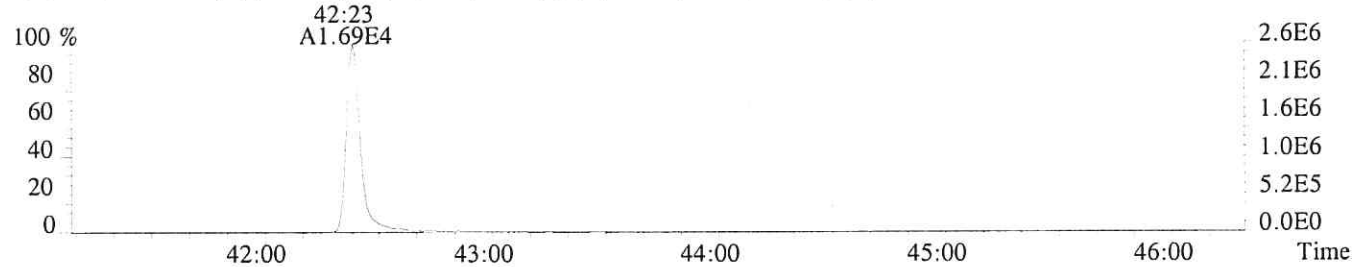
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1652.0,0.40%,F,T)



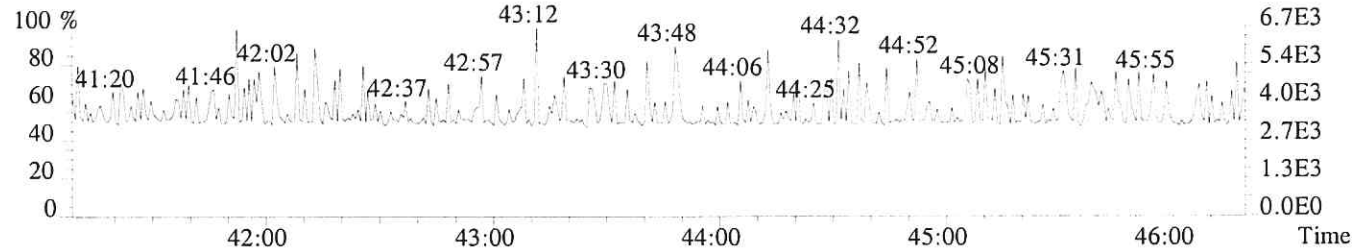
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1072.0,0.40%,F,T)



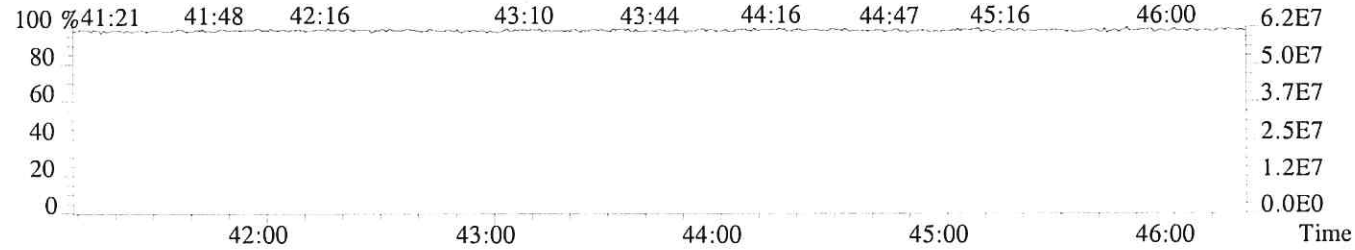
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



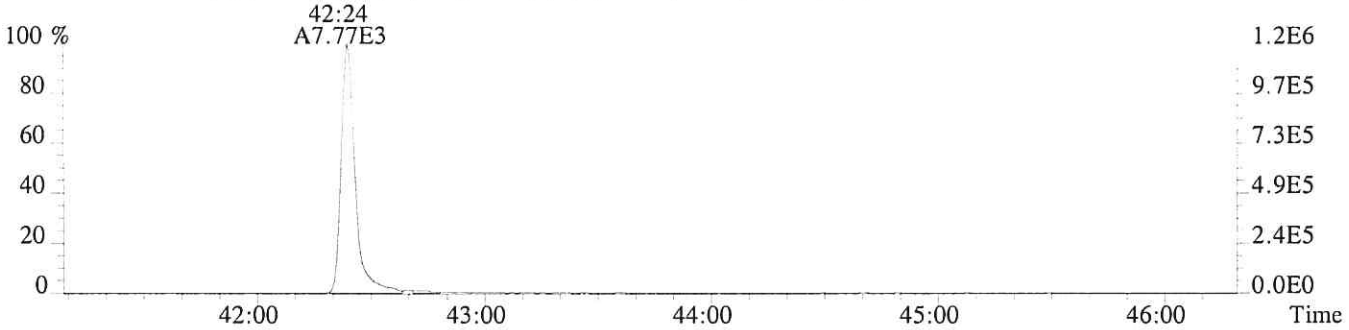
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



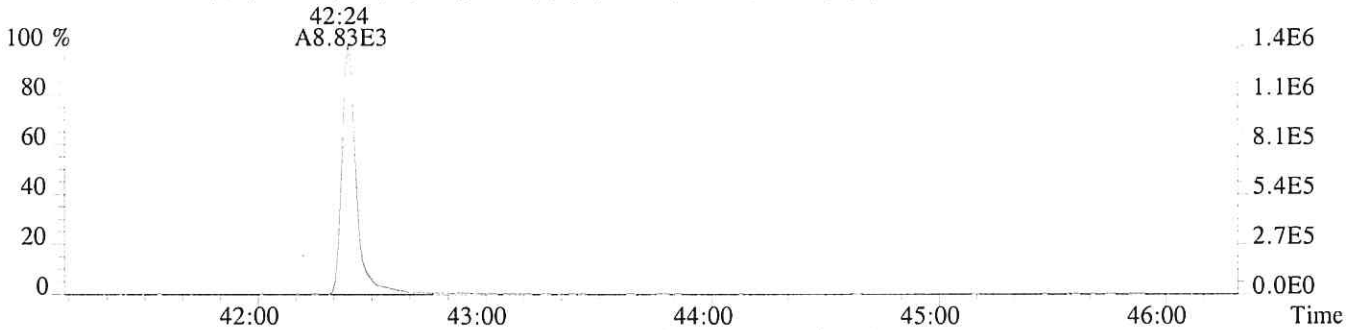
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



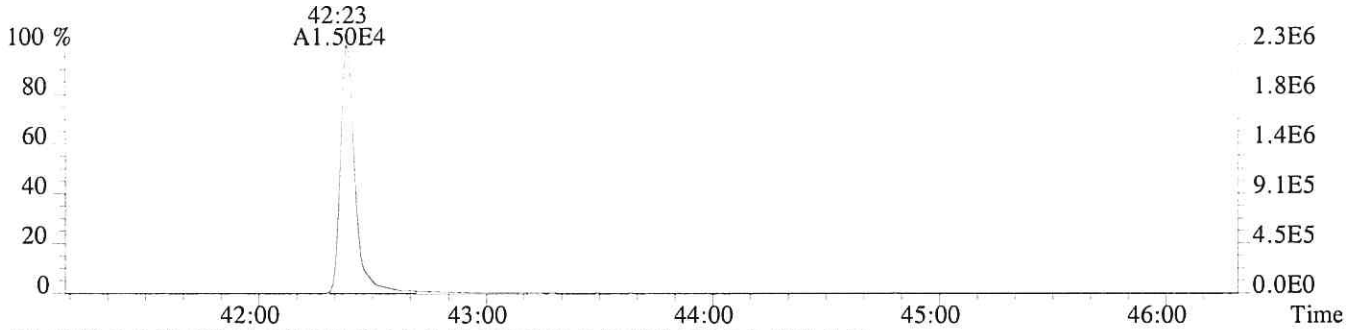
File:P511550 #1-466 Acq:24-SEP-2017 22:22:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700418-03
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,680.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1328.0,0.40%,F,T)



469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1072.0,0.40%,F,T)



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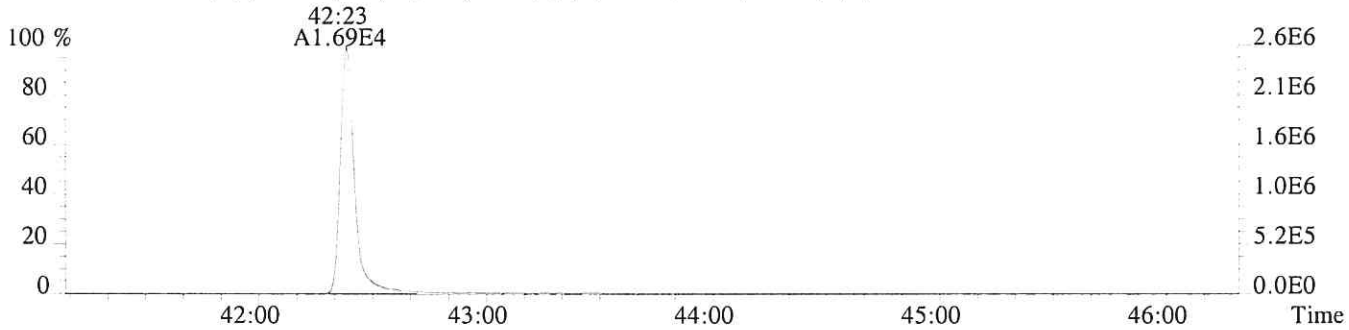
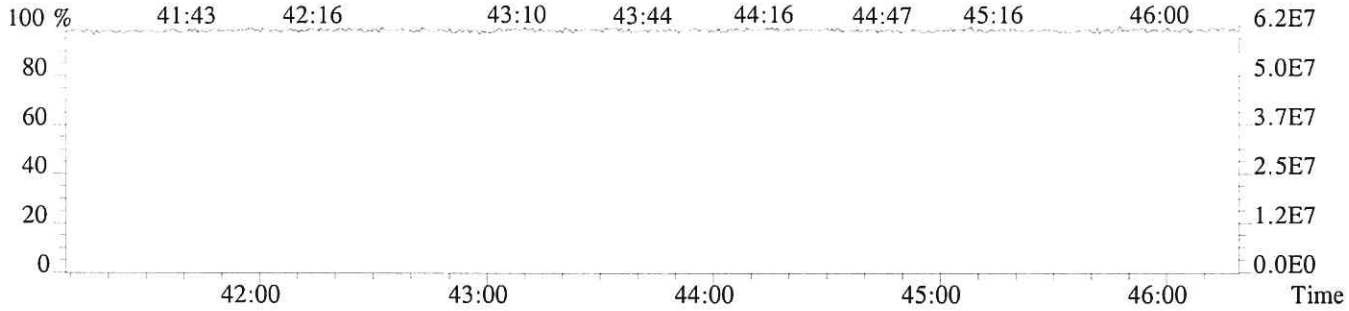


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



Continuing Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P609248

Date: 09/25/17

Circle one: Beginning / Ending

Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	N/A	N/A

Analyst: LKL

Second QC: kw.

ccalqc.xls 07/17/12

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 05/16/17

Init. Calib.Times: 11:03

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
178397	WINDOW DEFINE	P609250	25-SEP-17	02:32:23
178519	CS3	P609248	25-SEP-17	00:47:43
METHOD BLANK	EQ1700403-01	P609251	25-SEP-17	03:21:25
SAE-005	E1700963-006	P609252	25-SEP-17	04:10:27
SAE-006	E1700963-007	P609253	25-SEP-17	04:59:32
SAE-007	E1700963-008	P609254	25-SEP-17	05:48:36
SAE-008	E1700963-009	P609255	25-SEP-17	06:37:41
SAE-008_REP	E1700963-010	P609256	25-SEP-17	07:26:44
SJWP-091517-029	E1700974-010	P609257	25-SEP-17	08:15:53
SJWP-091517-030	E1700974-011	P609258	25-SEP-17	09:04:34
SJWP-091517-031	E1700974-012	P609259	25-SEP-17	09:53:37
SJWP-091517-032	E1700974-013	P609260	25-SEP-17	10:42:41
SJWP-091517-033	E1700974-014	P609261	25-SEP-17	11:31:45

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20170922F.SPL
Last Modified: Monday, September 25, 2017 12:05:21 Central Daylight Time
Printed: Monday, September 25, 2017 12:05:23 Central Daylight Time

Page Position (1, 1)

OPUS5NET: P609248 RES

	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	9/25/17	00:47	P609248	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS	LKL	HRMS check 01:44
2		02:32	P609250	178397	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS		
3		03:21	P609251	EQ1700403-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		
4		04:10	P609252	E1700963-006	E1700963-006	Tray1:4	EPA1613_ALS	Dioxin_ALS		
5		04:59	P609253	E1700963-007	E1700963-007	Tray1:5	EPA1613_ALS	Dioxin_ALS		
6		05:48	P609254	E1700963-008	E1700963-008	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		06:37	P609255	E1700963-009	E1700963-009	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8		07:26	P609256	E1700963-010	E1700963-010	Tray1:8	EPA1613_ALS	Dioxin_ALS		
9		08:15	P609257	E1700974-010	E1700974-010	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10		09:04	P609258	E1700974-011	E1700974-011	Tray1:10	EPA1613_ALS	Dioxin_ALS		
11		09:53	P609259	E1700974-012	E1700974-012	Tray1:11	EPA1613_ALS	Dioxin_ALS		
12		10:42	P609260	E1700974-013	E1700974-013	Tray1:12	EPA1613_ALS	Dioxin_ALS		
13		11:31	P609261	E1700974-014	E1700974-014	Tray1:13	EPA1613_ALS	Dioxin_ALS		HRMS check 12:35
14	---	---	---	---	---	Tray1:14	EPA1613_ALS	Dioxin_ALS	---	---
15	---	---	---	---	---	Tray1:2	EPA1613_ALS	Dioxin_ALS	---	---
16	---	---	---	---	---	Tray1:2	EPA1613_ALS	Dioxin_ALS	---	---
17	---	---	---	---	---	Tray1:1	EPA1613_ALS	Dioxin_ALS	---	---
18	---	---	---	---	---	Tray1:16	EPA1613_ALS	Dioxin_ALS	---	---
19	---	---	---	---	---	Tray1:17	EPA1613_ALS	Dioxin_ALS	---	---
20	---	---	---	skip file	---	Tray1:18	EPA1613_ALS	Dioxin_ALS	---	---
21	---	---	---	---	---	Tray1:19	EPA1613_ALS	Dioxin_ALS	---	---
22	---	---	---	---	---	Tray1:20	EPA1613_ALS	Dioxin_ALS	---	---
23	---	---	---	P609249	---	Tray1:21	EPA1613_ALS	Dioxin_ALS	---	---
24	---	---	---	---	---	Tray1:22	EPA1613_ALS	Dioxin_ALS	---	---
25	---	---	---	---	---	Tray1:23	EPA1613_ALS	Dioxin_ALS	---	---
26	---	---	---	---	---	Tray1:24	EPA1613_ALS	Dioxin_ALS	---	---
27	---	---	---	---	---	Tray1:25	EPA1613_ALS	Dioxin_ALS	---	---
28	---	---	LKL 09/26/17	---	---	Tray1:2	EPA1613_ALS	Dioxin_ALS	---	---
29	---	---	---	---	---	Tray1:2	EPA1613_ALS	Dioxin_ALS	---	---
30	---	---	---	---	---	Tray1:1	EPA1613_ALS	Dioxin_ALS	---	---
31	---	---	---	---	---	Tray1:29	EPA1613_ALS	Dioxin_ALS	---	---
32	---	---	---	---	---	Tray1:30	EPA1613_ALS	Dioxin_ALS	---	---
33	---	---	---	---	---	Tray1:31	EPA1613_ALS	Dioxin_ALS	---	---
34	---	---	---	---	---	Tray1:32	EPA1613_ALS	Dioxin_ALS	---	---
35	---	---	---	---	---	Tray1:33	EPA1613_ALS	Dioxin_ALS	---	---
36	---	---	---	---	---	Tray1:34	EPA1613_ALS	Dioxin_ALS	---	---
37	---	---	---	---	---	Tray1:35	EPA1613_ALS	Dioxin_ALS	---	---
38	---	---	---	---	---	Tray1:36	EPA1613_ALS	Dioxin_ALS	---	---
39	---	---	---	---	---	Tray1:37	EPA1613_ALS	Dioxin_ALS	---	---

Printed: Monday, September 25, 2017 01:44:06 Central Daylight Time

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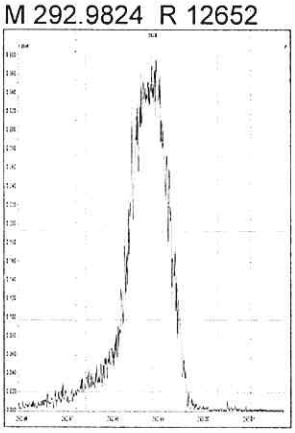

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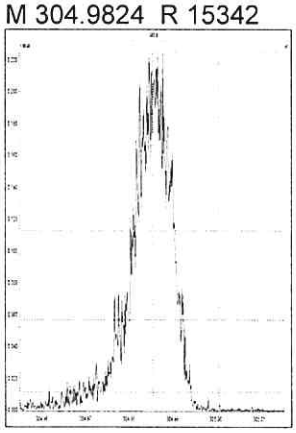

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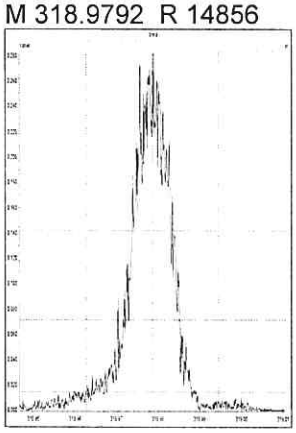

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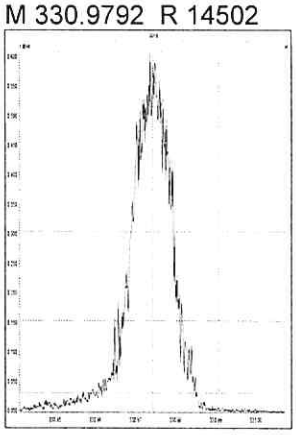

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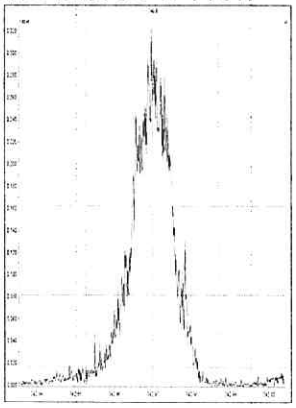

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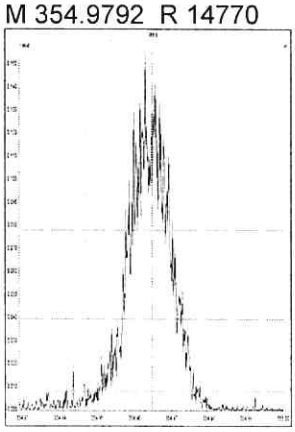

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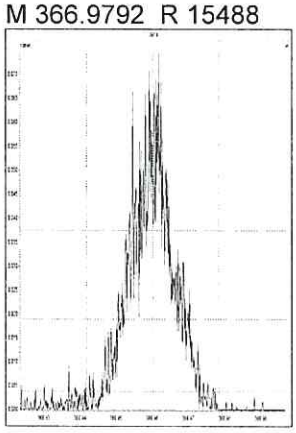

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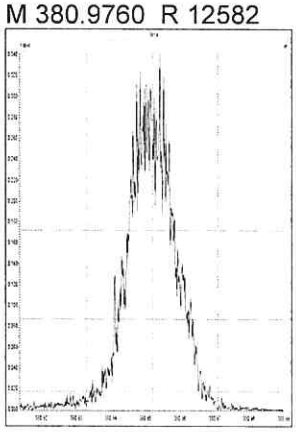

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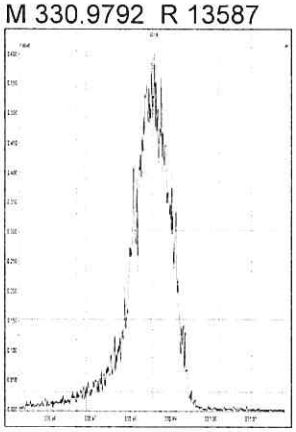

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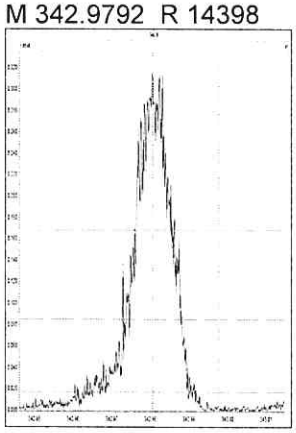
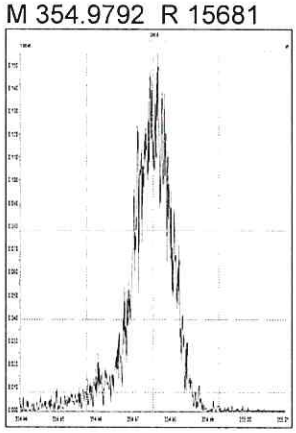


M 354.9792 R 15681



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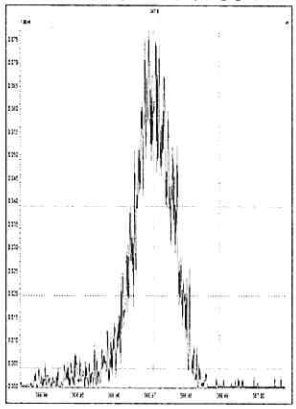

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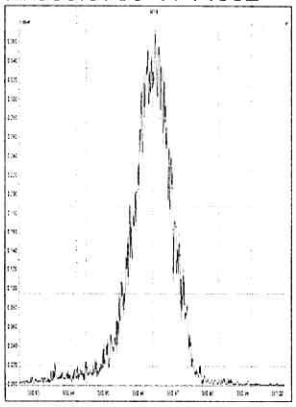

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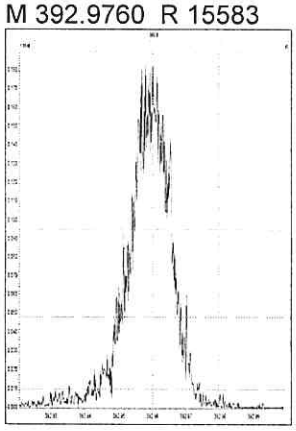

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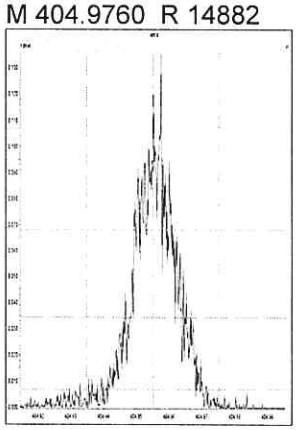

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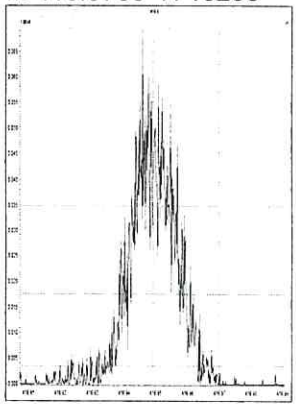

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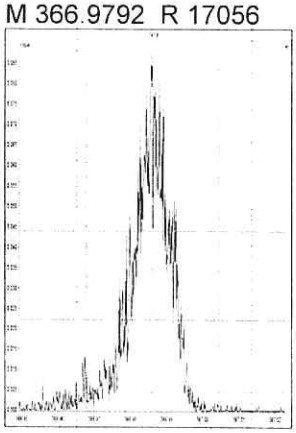
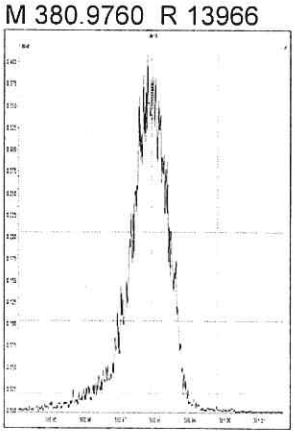


M 380.9760 R 13966



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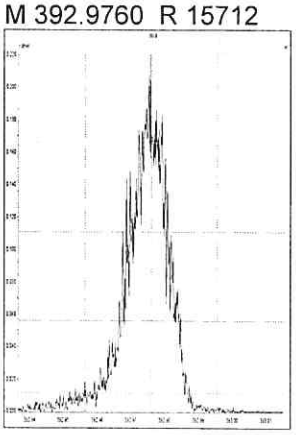

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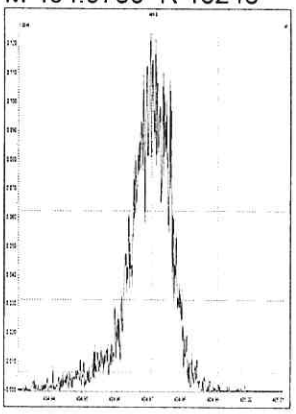

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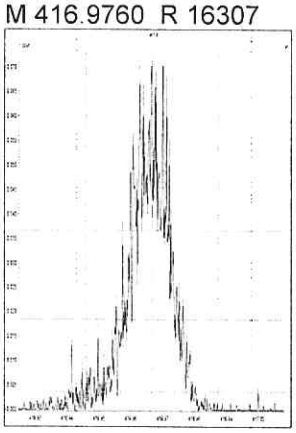

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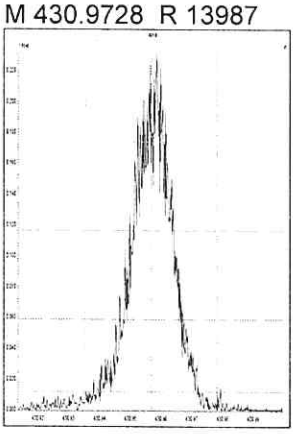
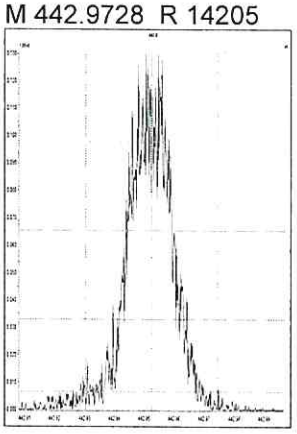


M 442.9728 R 14205



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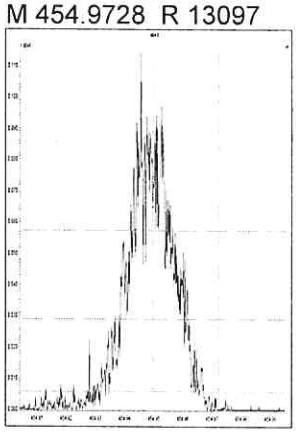

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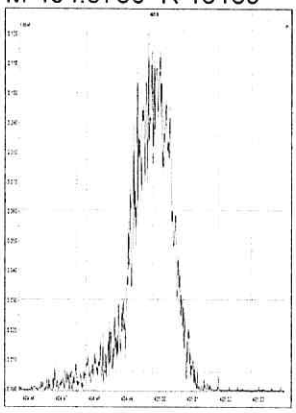

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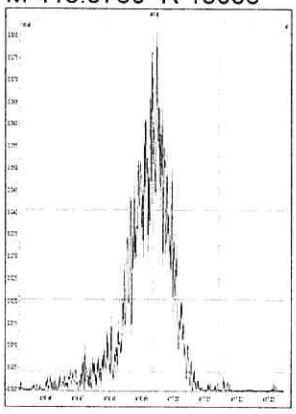

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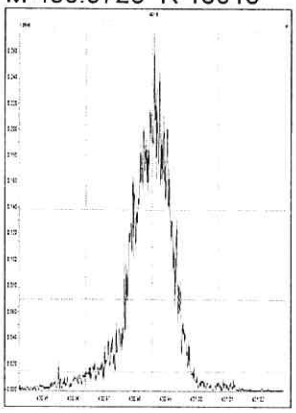

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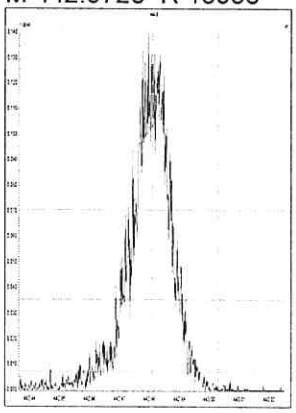

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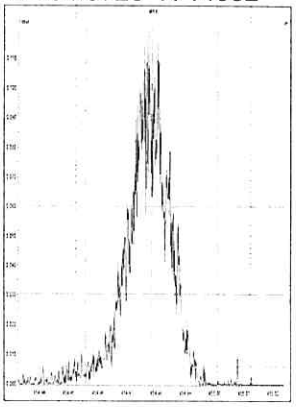

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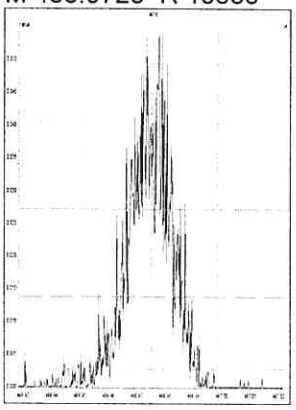

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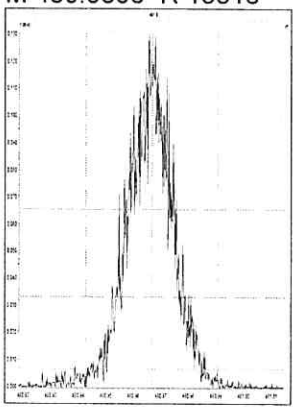

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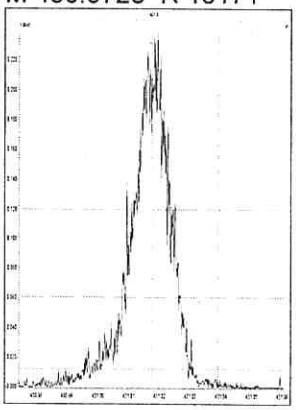

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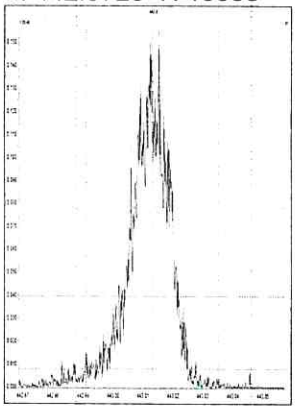

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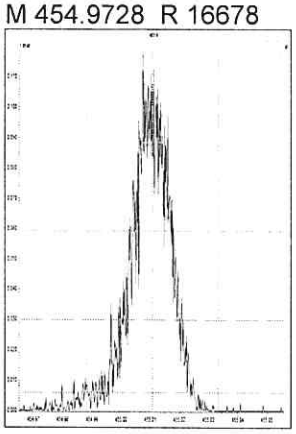
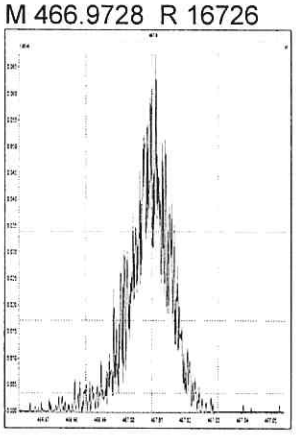
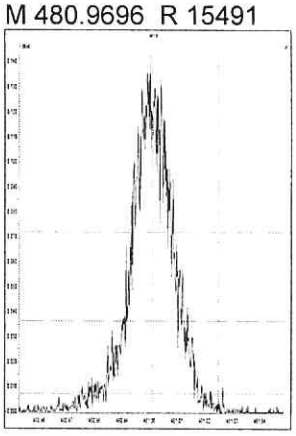


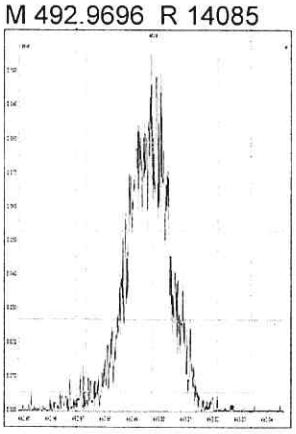
M 466.9728 R 16726



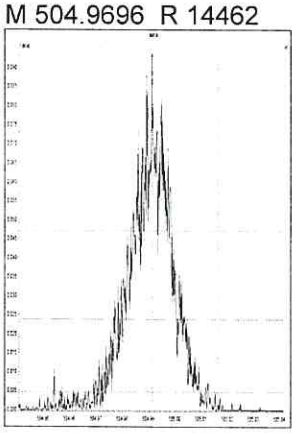
M 480.9696 R 15491



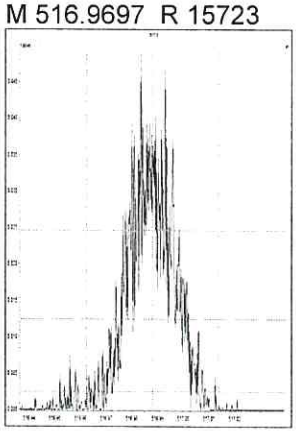
M 492.9696 R 14085



M 504.9696 R 14462



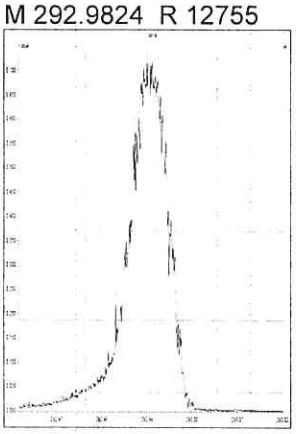
M 516.9697 R 15723



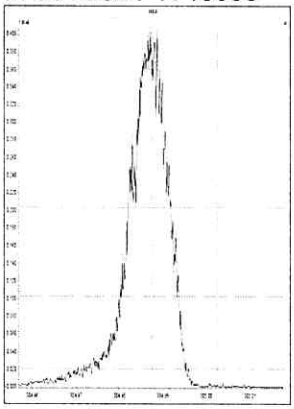
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, September 25, 2017 12:35:44 Central Daylight Time

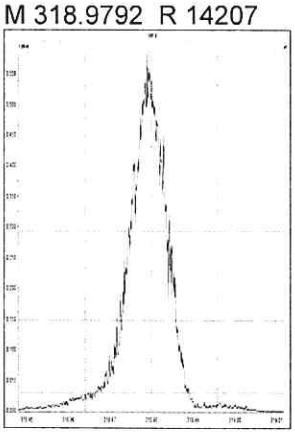
M 292.9824 R 12755



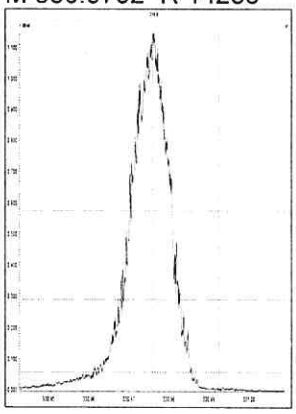
M 304.9824 R 15335



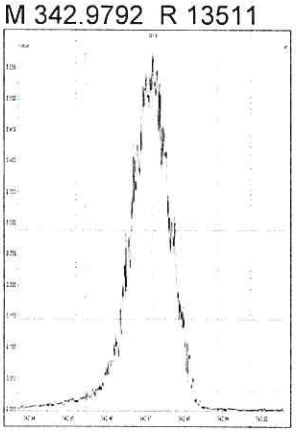
M 318.9792 R 14207



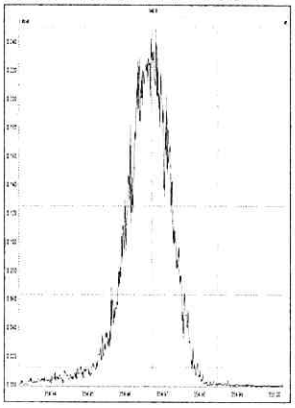
M 330.9792 R 14286



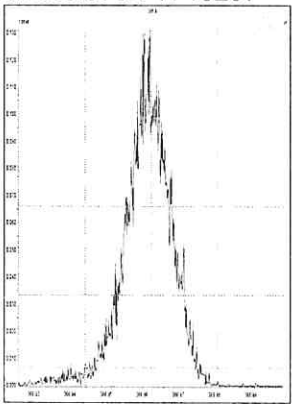
M 342.9792 R 13511



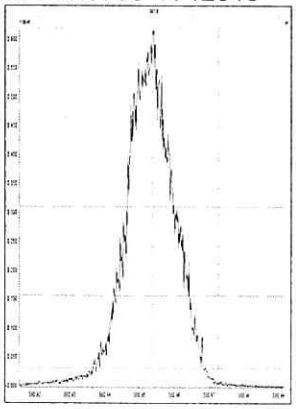
M 354.9792 R 13662



M 366.9792 R 13297



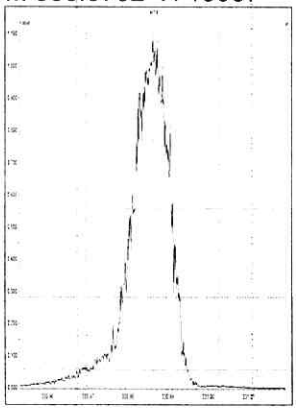
M 380.9760 R 12318



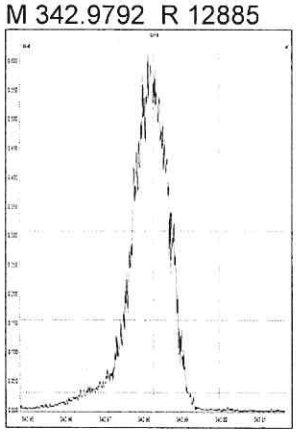
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, September 25, 2017 12:36:32 Central Daylight Time

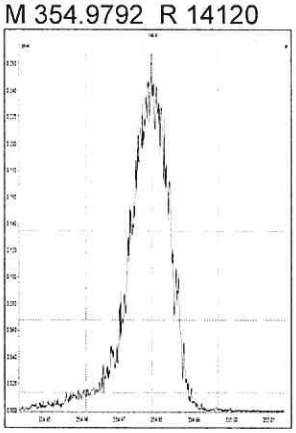
M 330.9792 R 13587



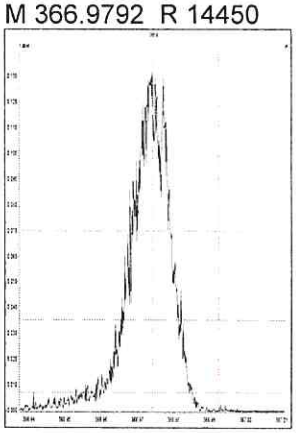
M 342.9792 R 12885



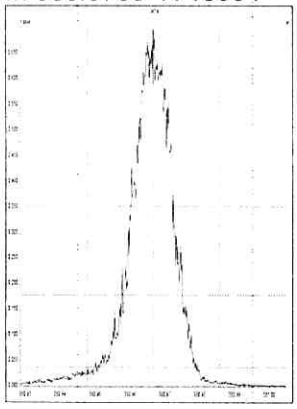
M 354.9792 R 14120



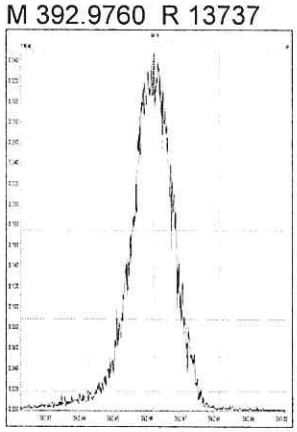
M 366.9792 R 14450



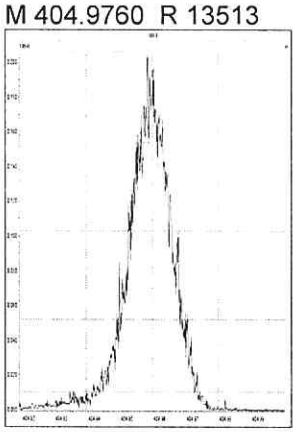
M 380.9760 R 13964



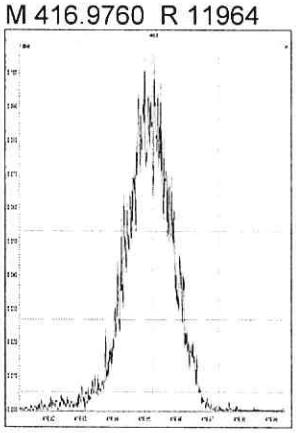
M 392.9760 R 13737



M 404.9760 R 13513



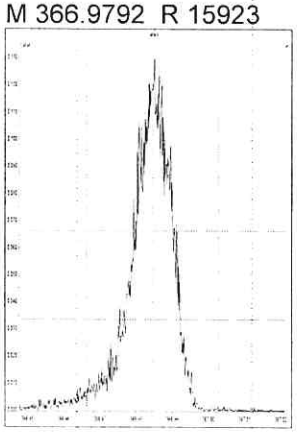
M 416.9760 R 11964



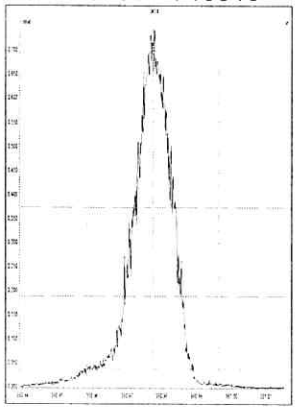
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, September 25, 2017 12:37:24 Central Daylight Time

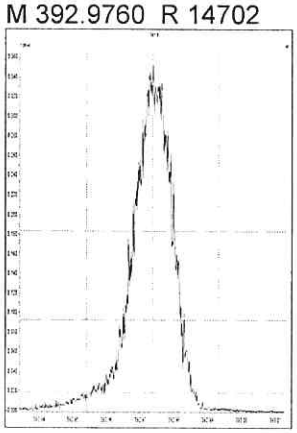
M 366.9792 R 15923



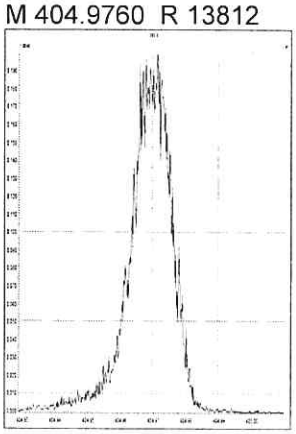
M 380.9760 R 13810



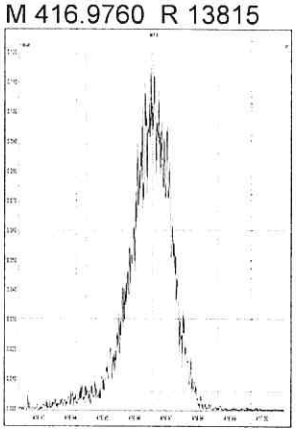
M 392.9760 R 14702



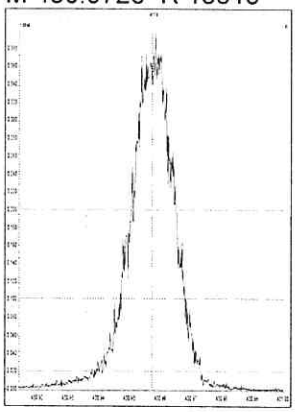
M 404.9760 R 13812



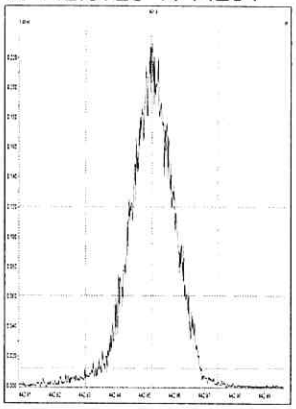
M 416.9760 R 13815



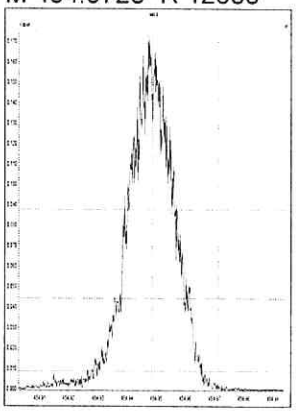
M 430.9728 R 13515



M 442.9728 R 14204



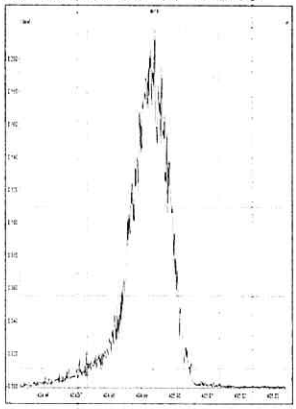
M 454.9728 R 12688



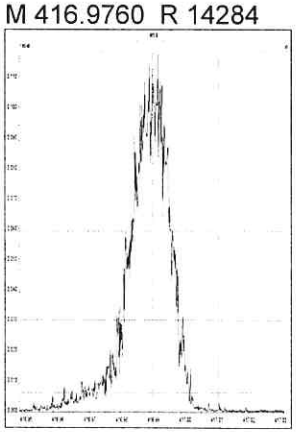
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, September 25, 2017 12:38:08 Central Daylight Time

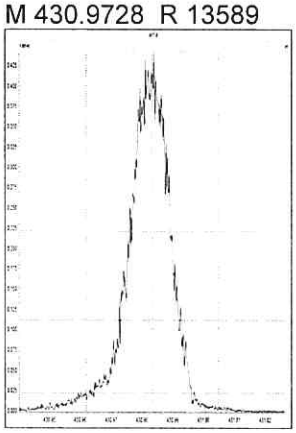
M 404.9760 R 12949



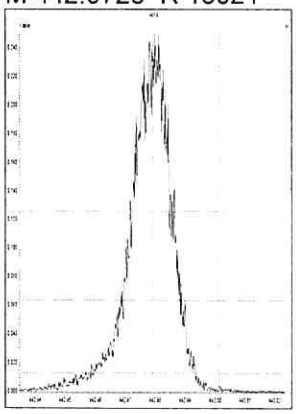
M 416.9760 R 14284



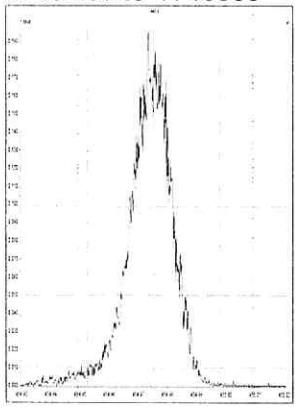
M 430.9728 R 13589



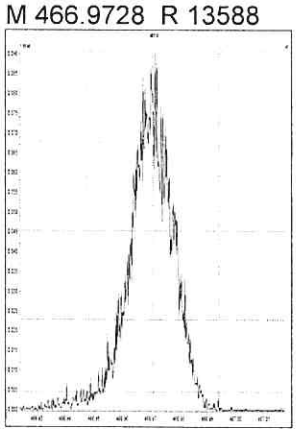
M 442.9728 R 13021



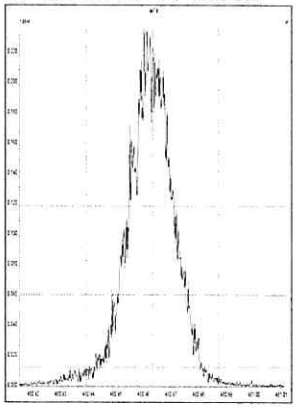
M 454.9728 R 13965



M 466.9728 R 13588



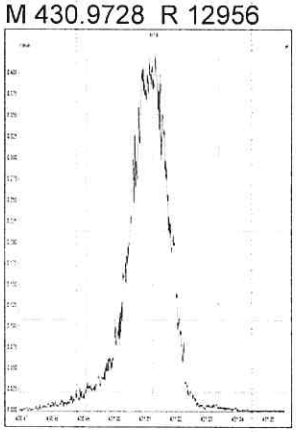
M 480.9696 R 12562



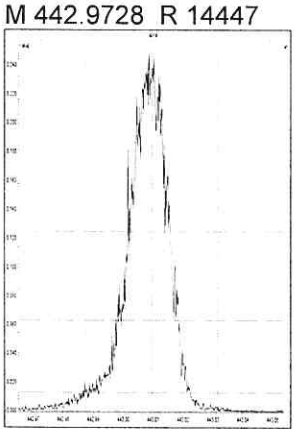
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Monday, September 25, 2017 12:38:58 Central Daylight Time

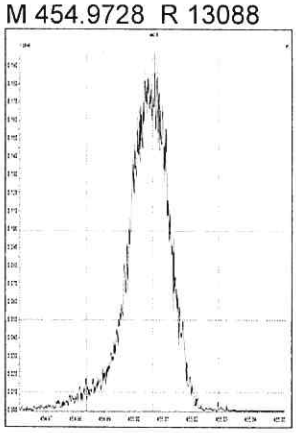
M 430.9728 R 12956



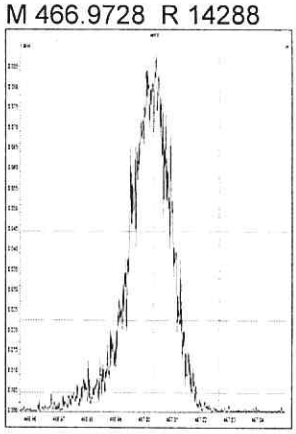
M 442.9728 R 14447



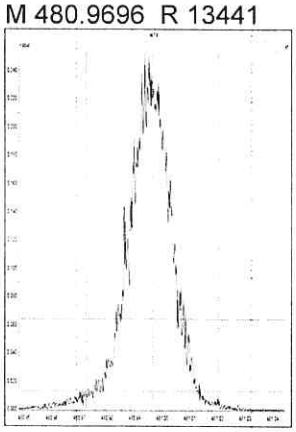
M 454.9728 R 13088



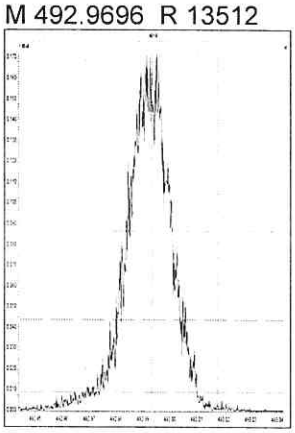
M 466.9728 R 14288



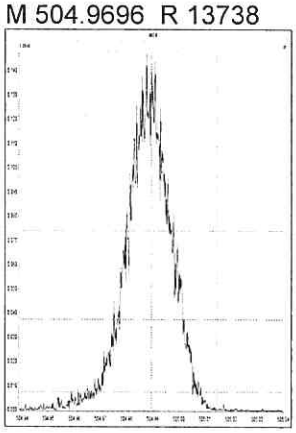
M 480.9696 R 13441



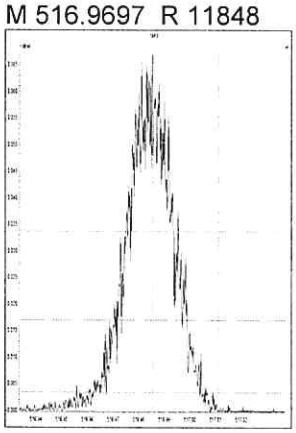
M 492.9696 R 13512



M 504.9696 R 13738



M 516.9697 R 11848



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

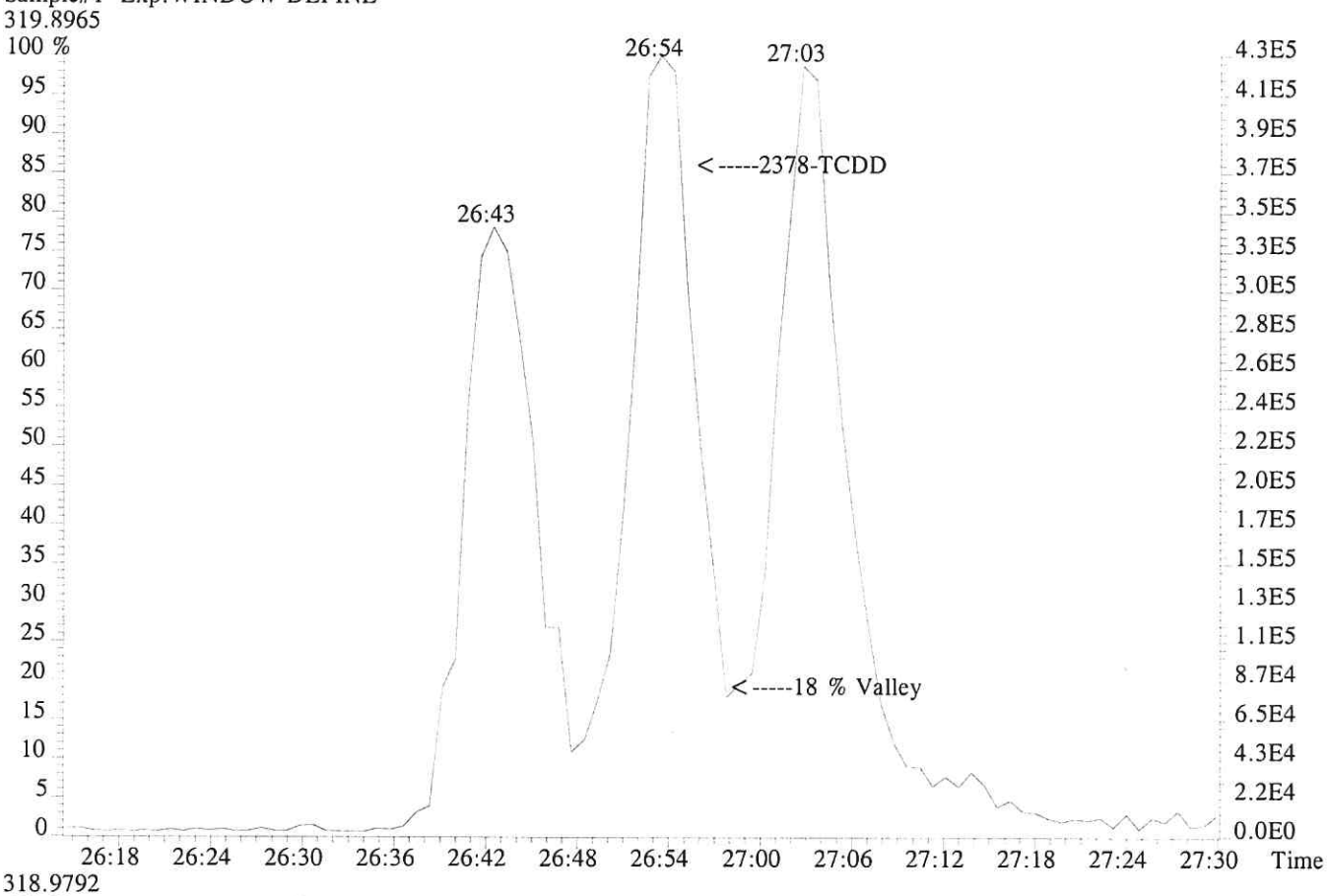
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

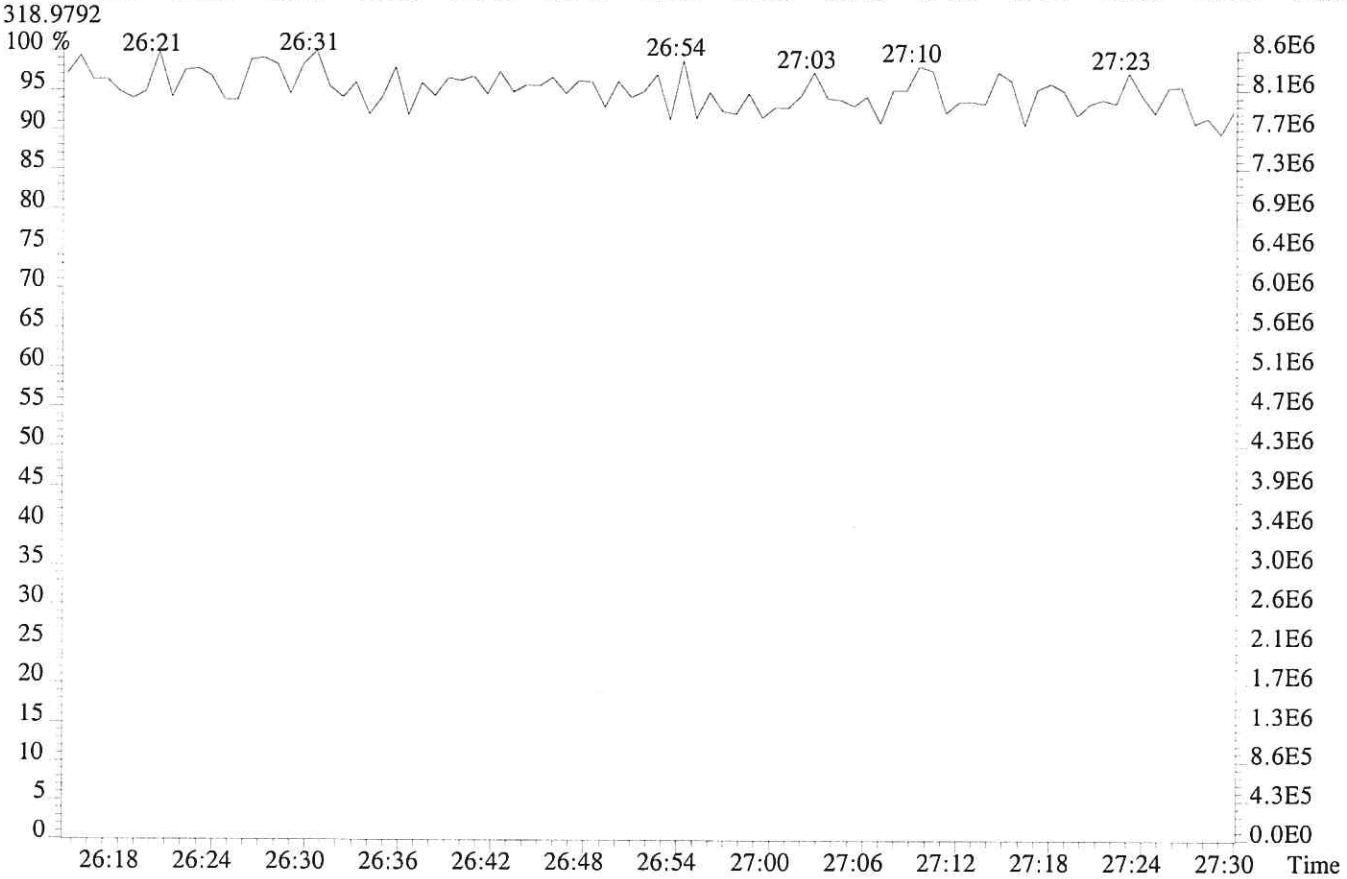
Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P609250
Date Analyzed: 25-SEP-17
Time Analyzed: 02:32:23

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:31	28:16
TCDD	23:09	28:05
PeCDF	28:11	32:56
PeCDD	29:57	32:40
HxCDF	33:37	36:17
HxCDD	34:11	35:53
HpCDF	37:36	38:59
HpCDD	37:51	38:32

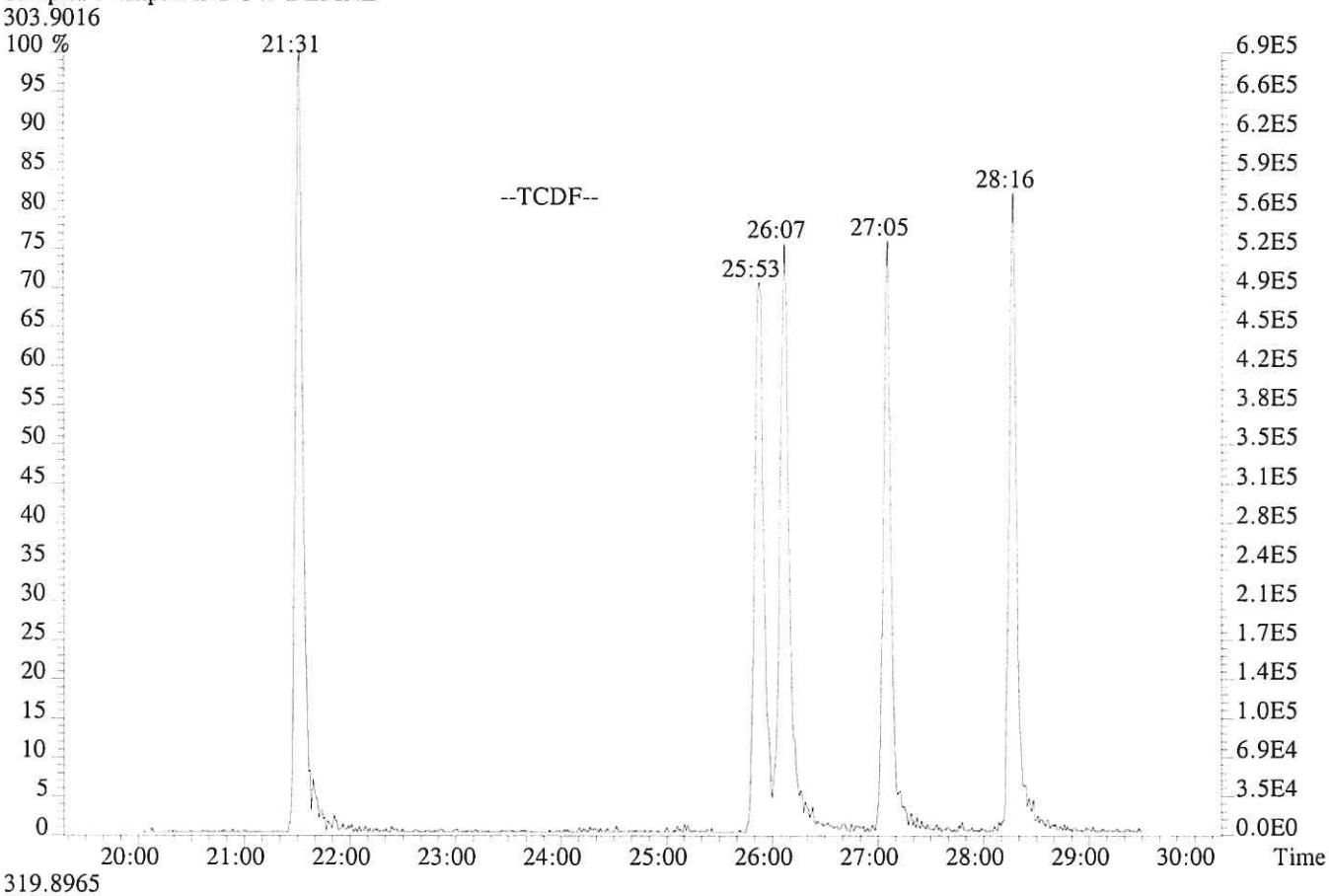
% Valley 2378-TCDD: 18 %

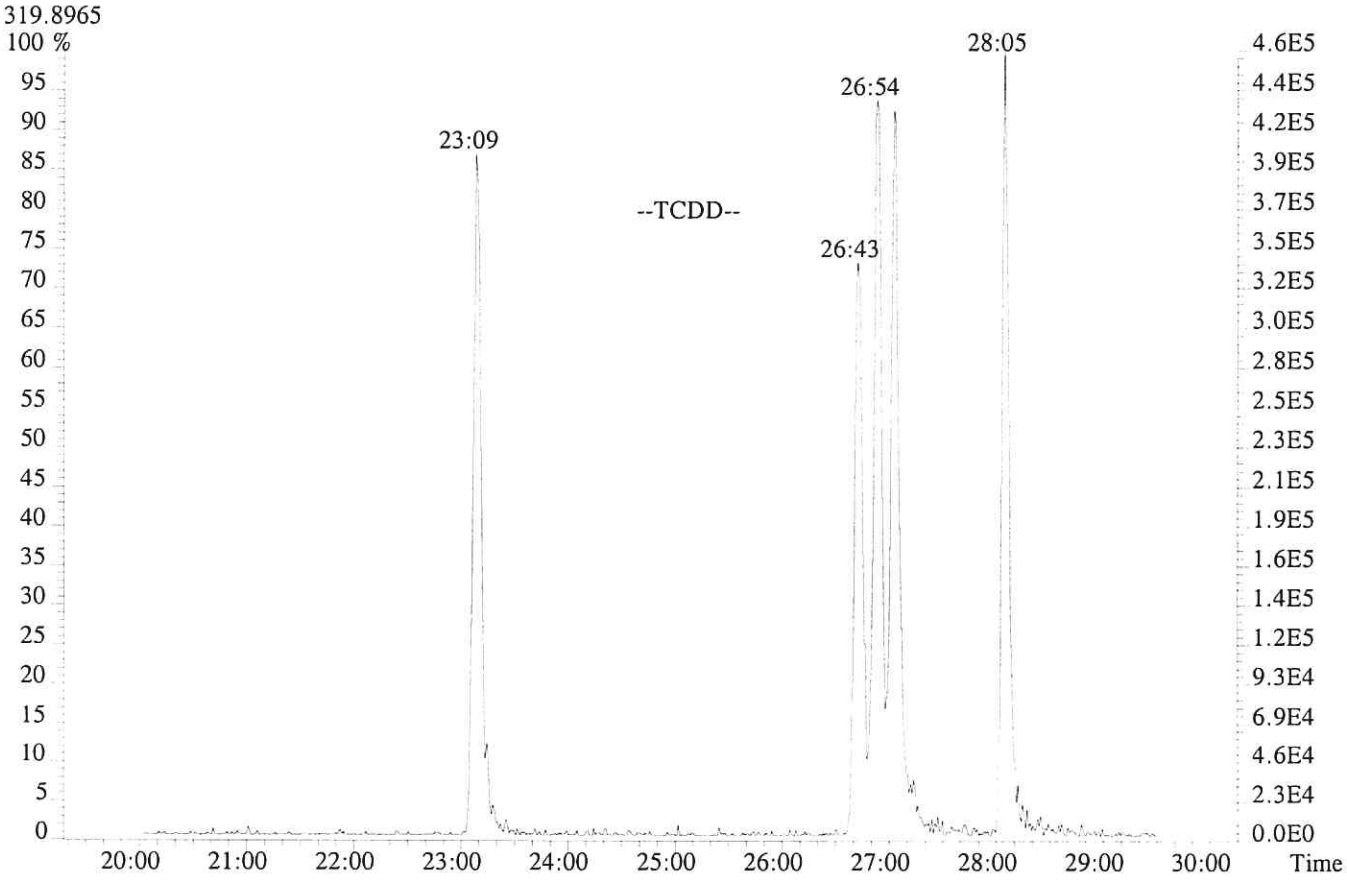
File:P609250 #1-672 Acq:25-SEP-2017 02:32:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



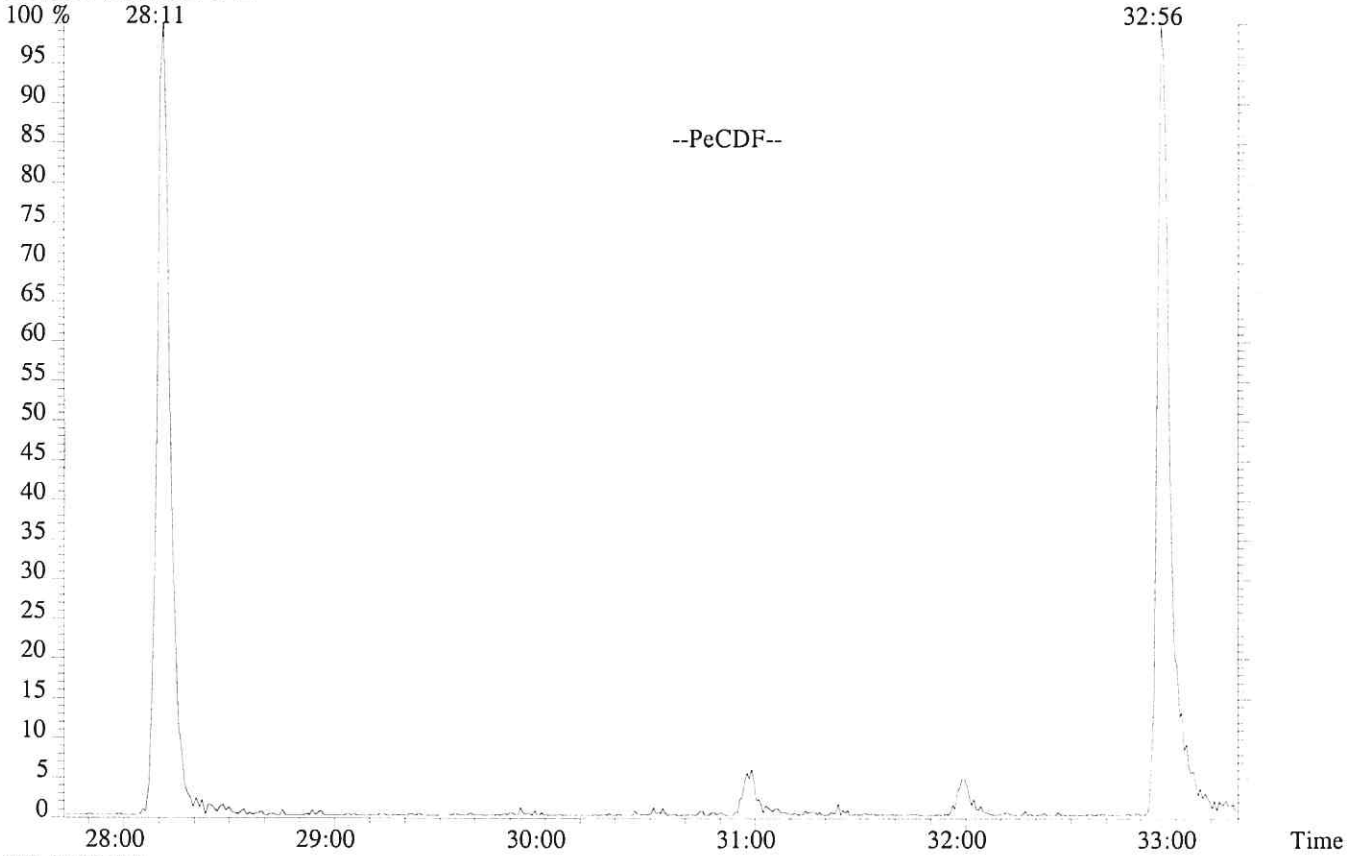


File:P609250 #1-672 Acq:25-SEP-2017 02:32:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

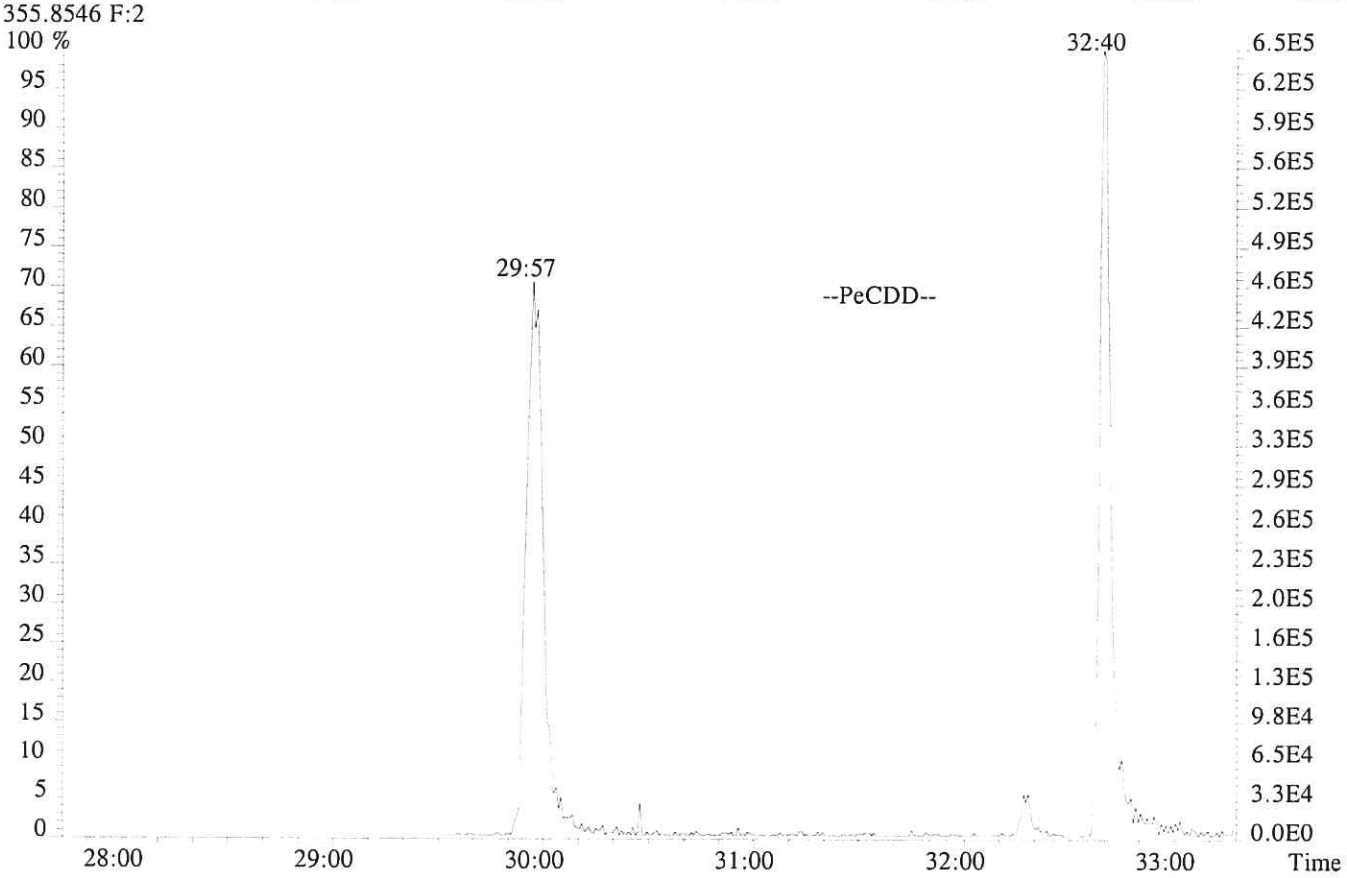




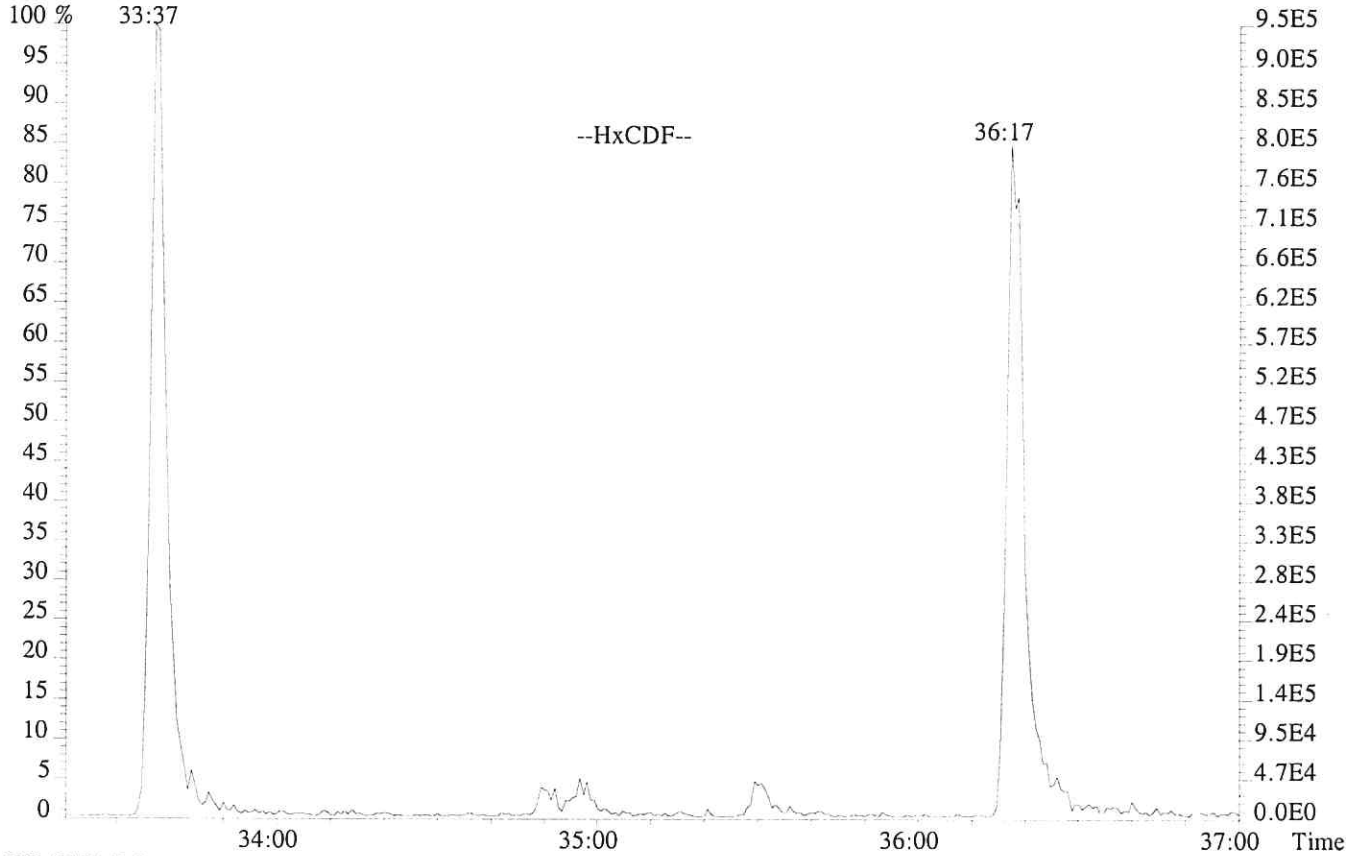
File:P609250 #1-672 Acq:25-SEP-2017 02:32:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



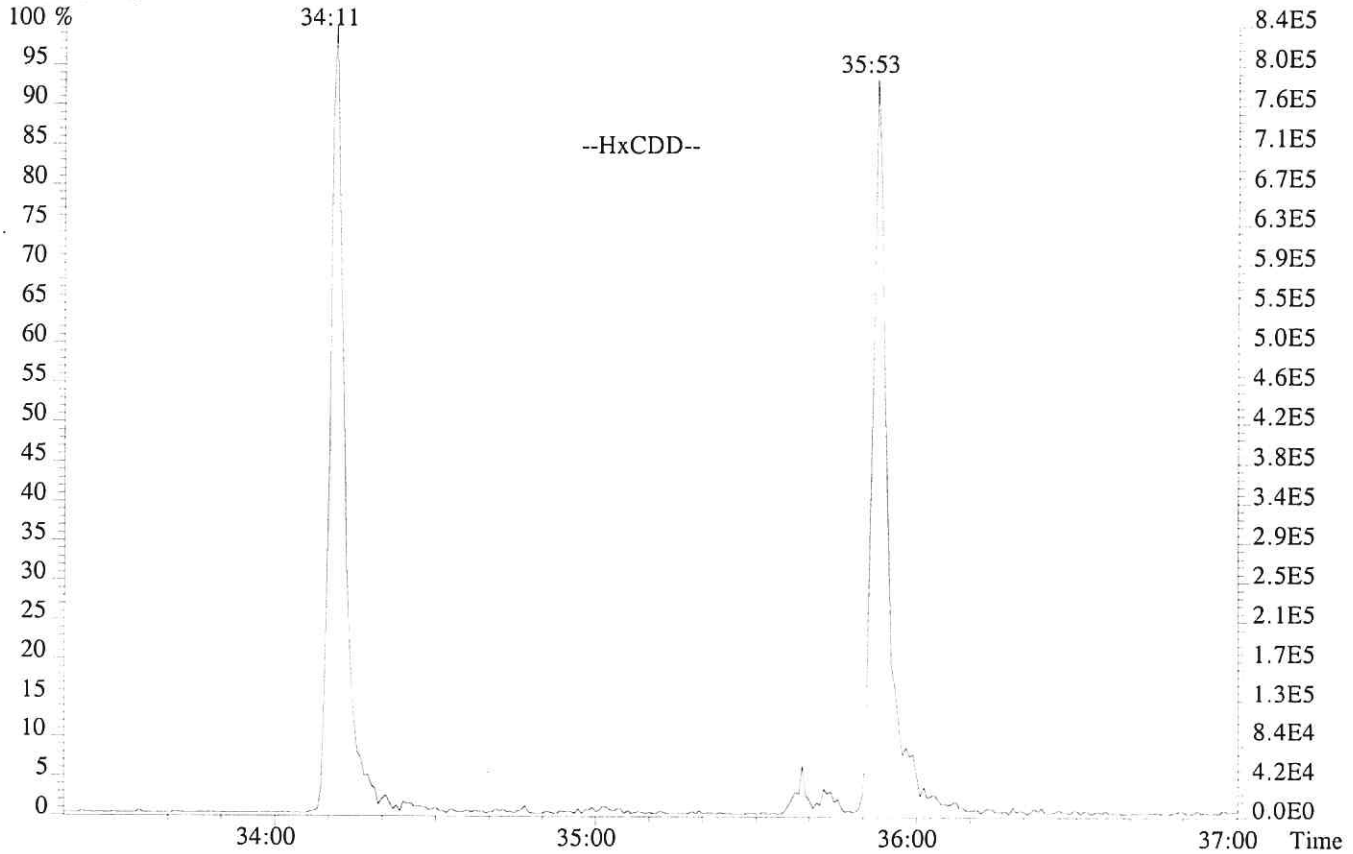
355.8546 F:2



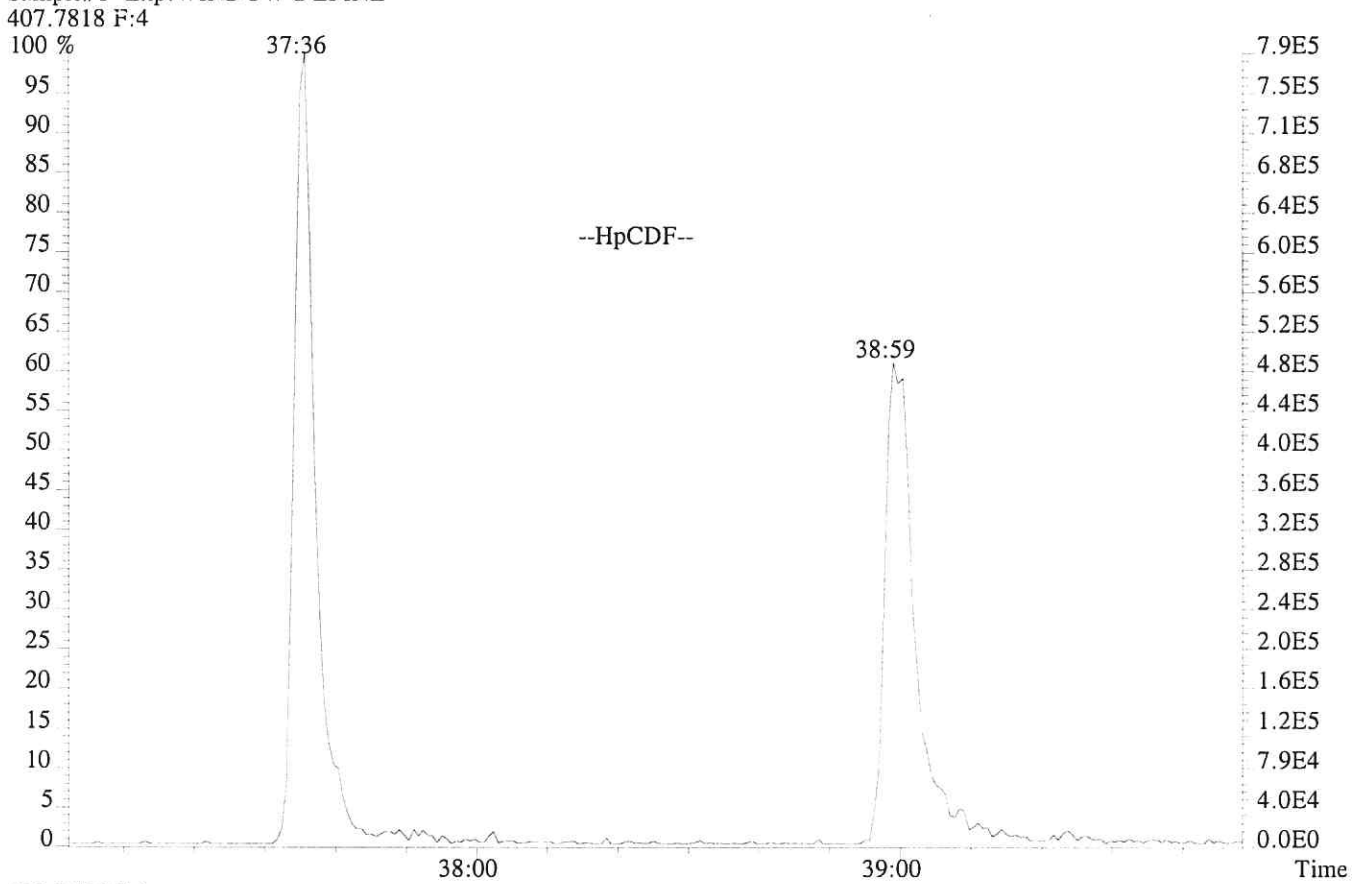
File:P609250 #1-672 Acq:25-SEP-2017 02:32:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
373.8208 F:3

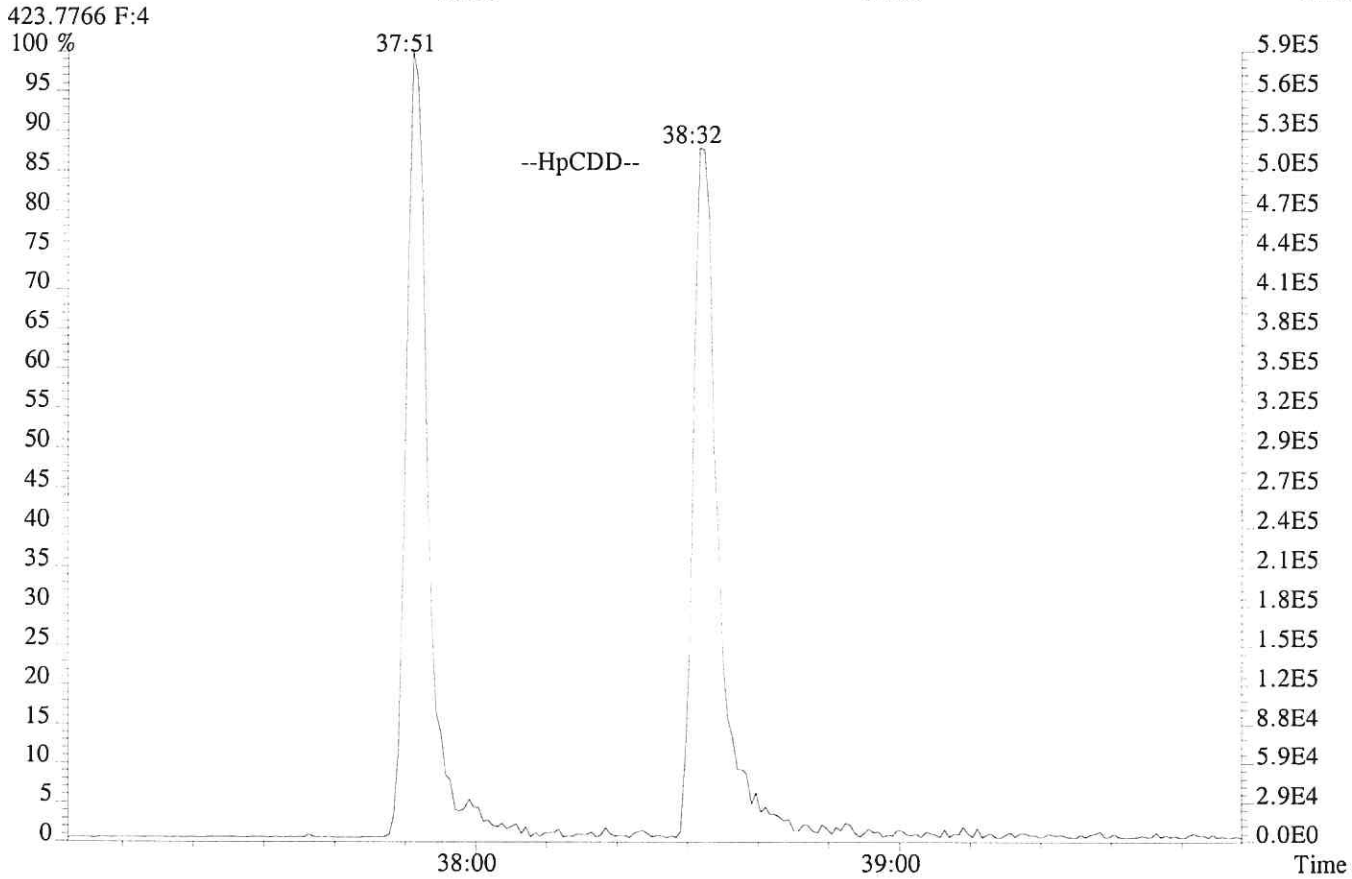


389.8157 F:3



File:P609250 #1-672 Acq:25-SEP-2017 02:32:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P609248 Analysis Date: 25-SEP-17 Time: 00:47:43

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	9.9	7.8 - 12.9	-0.7
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	49	39 - 65	-1.5
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	50	39 - 64	0.7
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	52	39 - 64	4.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	51	41 - 61	1.4
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	52	43 - 58	4.4
OCDD	M+2/M+4	0.90	0.76-1.02	105	79 - 126	5.4
2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	9.8	8.4 - 12.0	-1.9
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	50	41 - 60	0.2
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	50	41 - 61	0.6
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	49	45 - 56	-2.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	47	44 - 57	-5.3
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	48	45 - 56	-4.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	48	44 - 57	-3.4
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	48	45 - 55	-3.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88-1.20	47	43 - 58	-5.9
OCDF	M+2/M+4	0.89	0.76-1.02	108	63 - 159	7.7

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P609248 Analysis Date: 25-SEP-17 Time: 00:47:43

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	92	82 - 121	-7.9
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	116	62 - 160	15.9
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	95	85 - 117	-4.8
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	102	85 - 118	2.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	118	72 - 138	17.6
13C-OCDD	M+2/M+4	0.91	0.76-1.02	265	96 - 415	32.7
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	95	71 - 140	-5.5
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	116	76 - 130	16.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	117	77 - 130	17.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	76 - 131	0.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	100	70 - 143	0.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	104	74 - 135	4.4
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	103	73 - 137	2.5
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	116	78 - 129	16.4
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	125	77 - 129	24.7
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	M+2/M+4			9.3	7.8 - 12.7	-7.2

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
178519

Run #7 Filename P609248 Samp: 1 Inj: 1 Acquired: 25-SEP-17 00:47:43
Processed: 25-SEP-17 15:44:25 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	26:06	6.829e+03	8.441e+03	0.81	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:56	6.684e+04	4.297e+04	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:57	6.466e+04	4.222e+04	1.53	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:49	6.414e+04	5.182e+04	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:55	7.018e+04	5.683e+04	1.23	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:29	6.553e+04	5.370e+04	1.22	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:15	6.127e+04	4.879e+04	1.26	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:35	6.371e+04	6.085e+04	1.05	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:59	5.768e+04	5.436e+04	1.06	yes	no	1.341
10	Unk	OCDF	41:24	1.061e+05	1.186e+05	0.89	yes	no	1.337
11	Unk	2,3,7,8-TCDD	27:03	4.897e+03	6.379e+03	0.77	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:15	4.318e+04	2.789e+04	1.55	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:37	4.597e+04	3.580e+04	1.28	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:43	4.856e+04	3.817e+04	1.27	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:57	5.039e+04	4.037e+04	1.25	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:32	4.985e+04	4.690e+04	1.06	yes	no	1.048
17	Unk	OCDD	41:14	8.721e+04	9.706e+04	0.90	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	26:05	6.823e+04	8.439e+04	0.81	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:55	1.273e+05	7.991e+04	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:56	1.282e+05	8.108e+04	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:48	6.490e+04	1.237e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:55	7.785e+04	1.472e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:27	7.231e+04	1.375e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:15	6.588e+04	1.240e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:34	5.684e+04	1.283e+05	0.44	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:58	5.487e+04	1.226e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	27:01	4.759e+04	6.006e+04	0.79	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:14	9.161e+04	5.806e+04	1.58	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:36	8.455e+04	6.671e+04	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:41	8.953e+04	7.136e+04	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:31	9.132e+04	8.556e+04	1.07	yes	no	0.884
32	IS	13C-OCDD	41:13	1.483e+05	1.638e+05	0.91	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:19	5.284e+04	6.553e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:57	9.271e+04	7.756e+04	1.20	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:03	1.178e+04				no	1.072

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
178519

Run #7 Filename P609248 Samp: 1 Inj: 1 Acquired: 25-SEP-17 00:47:43
Processed: 25-SEP-17 15:44:25 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.72e+05	2.96e+02	3.3e+03	1.22e+06	7.76e+02	1.6e+03
2	1,2,3,7,8-PeCDF	1.11e+07	7.60e+02	1.5e+04	6.99e+06	1.72e+02	4.1e+04
3	2,3,4,7,8-PeCDF	1.20e+07	7.60e+02	1.6e+04	7.79e+06	1.72e+02	4.5e+04
4	1,2,3,4,7,8-HxCDF	1.32e+07	1.38e+03	9.5e+03	1.07e+07	7.56e+02	1.4e+04
5	1,2,3,6,7,8-HxCDF	1.37e+07	1.38e+03	9.9e+03	1.10e+07	7.56e+02	1.5e+04
6	2,3,4,6,7,8-HxCDF	1.28e+07	1.38e+03	9.3e+03	1.06e+07	7.56e+02	1.4e+04
7	1,2,3,7,8,9-HxCDF	1.16e+07	1.38e+03	8.4e+03	9.19e+06	7.56e+02	1.2e+04
8	1,2,3,4,6,7,8-HpCDF	1.27e+07	3.74e+03	3.4e+03	1.21e+07	6.20e+03	2.0e+03
9	1,2,3,4,7,8,9-HpCDF	9.95e+06	3.74e+03	2.7e+03	9.41e+06	6.20e+03	1.5e+03
10	OCDF	1.47e+07	2.04e+02	7.2e+04	1.67e+07	2.40e+02	7.0e+04
11	2,3,7,8-TCDD	7.58e+05	2.80e+02	2.7e+03	9.99e+05	2.60e+02	3.8e+03
12	1,2,3,7,8-PeCDD	7.73e+06	2.00e+02	3.9e+04	5.06e+06	1.60e+02	3.2e+04
13	1,2,3,4,7,8-HxCDD	1.01e+07	2.48e+02	4.1e+04	7.86e+06	2.28e+02	3.4e+04
14	1,2,3,6,7,8-HxCDD	8.99e+06	2.48e+02	3.6e+04	7.23e+06	2.28e+02	3.2e+04
15	1,2,3,7,8,9-HxCDD	9.81e+06	2.48e+02	4.0e+04	7.74e+06	2.28e+02	3.4e+04
16	1,2,3,4,6,7,8-HpCDD	9.29e+06	1.14e+03	8.2e+03	8.98e+06	9.12e+02	9.8e+03
17	OCDD	1.23e+07	1.76e+02	7.0e+04	1.36e+07	2.32e+02	5.9e+04
18	13C-2,3,7,8-TCDF	9.95e+06	5.23e+03	1.9e+03	1.23e+07	2.98e+03	4.1e+03
19	13C-1,2,3,7,8-PeCDF	2.14e+07	8.92e+02	2.4e+04	1.34e+07	3.88e+02	3.5e+04
20	13C-2,3,4,7,8-PeCDF	2.38e+07	8.92e+02	2.7e+04	1.51e+07	3.88e+02	3.9e+04
21	13C-1,2,3,4,7,8-HxCDF	1.33e+07	2.20e+02	6.0e+04	2.53e+07	8.92e+02	2.8e+04
22	13C-1,2,3,6,7,8-HxCDF	1.53e+07	2.20e+02	6.9e+04	2.90e+07	8.92e+02	3.3e+04
23	13C-2,3,4,6,7,8-HxCDF	1.45e+07	2.20e+02	6.6e+04	2.76e+07	8.92e+02	3.1e+04
24	13C-1,2,3,7,8,9-HxCDF	1.25e+07	2.20e+02	5.7e+04	2.38e+07	8.92e+02	2.7e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.15e+07	3.14e+03	3.7e+03	2.58e+07	7.01e+03	3.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	9.55e+06	3.14e+03	3.0e+03	2.13e+07	7.01e+03	3.0e+03
27	13C-2,3,7,8-TCDD	7.57e+06	7.47e+03	1.0e+03	9.62e+06	3.68e+03	2.6e+03
28	13C-1,2,3,7,8-PeCDD	1.68e+07	2.12e+02	7.9e+04	1.05e+07	2.28e+02	4.6e+04
29	13C-1,2,3,4,7,8-HxCDD	1.85e+07	2.16e+02	8.6e+04	1.45e+07	3.16e+02	4.6e+04
30	13C-1,2,3,6,7,8-HxCDD	1.71e+07	2.16e+02	7.9e+04	1.37e+07	3.16e+02	4.3e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.74e+07	1.06e+03	1.7e+04	1.63e+07	2.24e+02	7.3e+04
32	13C-OCDD	2.10e+07	2.24e+02	9.4e+04	2.30e+07	2.04e+02	1.1e+05
33	13C-1,2,3,4-TCDD	8.06e+06	7.47e+03	1.1e+03	9.80e+06	3.68e+03	2.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.83e+07	2.16e+02	8.5e+04	1.49e+07	3.16e+02	4.7e+04
35	37Cl-2,3,7,8-TCDD	1.85e+06	2.36e+02	7.8e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (2.800e+02 + 2.600e+02) \times 100}{(7.574e+06 + 9.617e+06) \times (\qquad\qquad) \times 1.055} =$$

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
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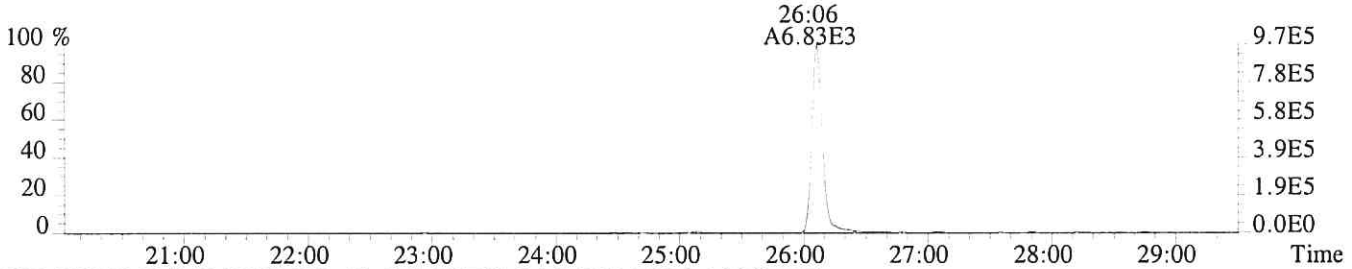
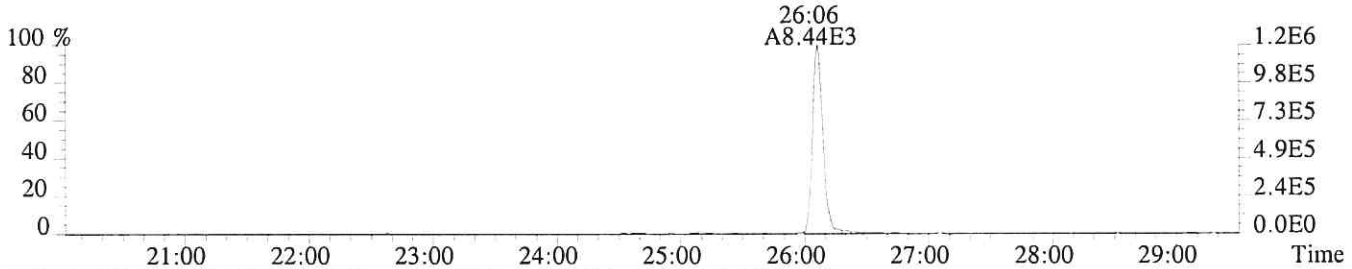
File:P609248 #1-672 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

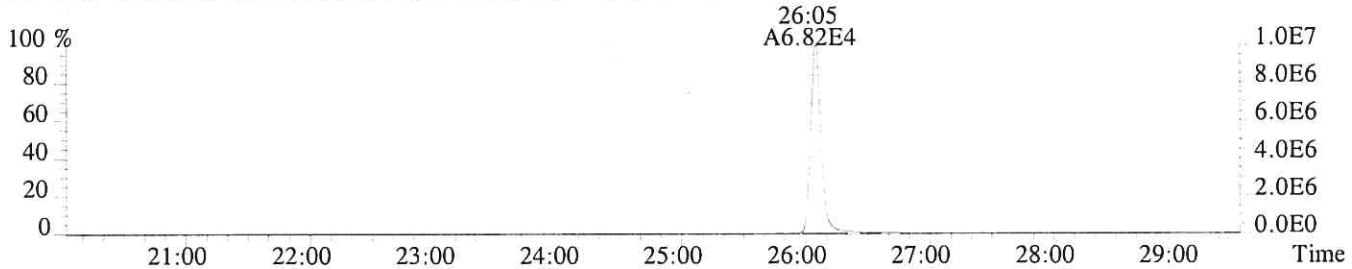
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,T)



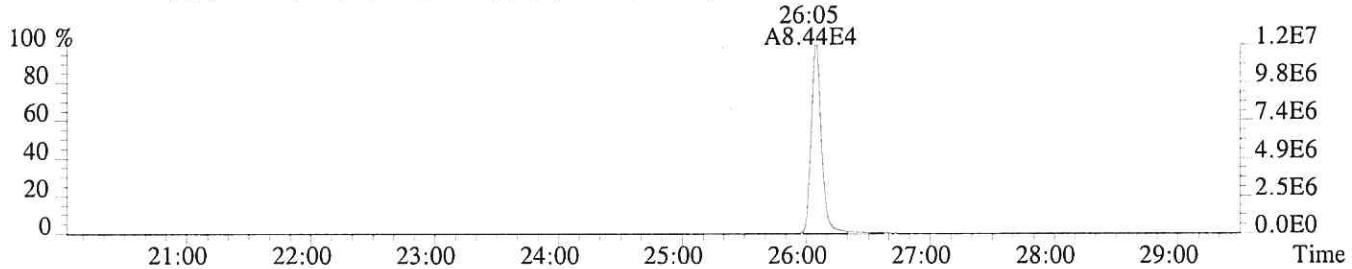
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



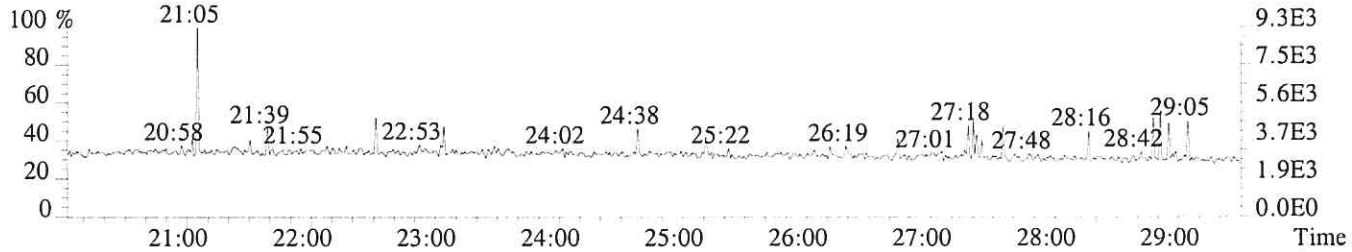
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5232.0,1.00%,F,T)



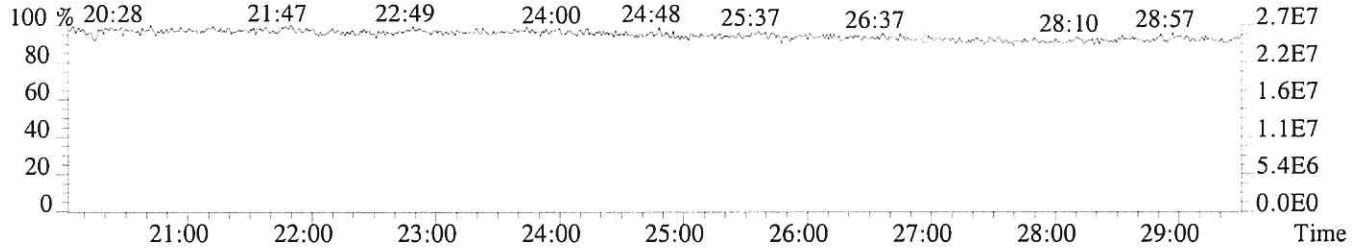
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2976.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

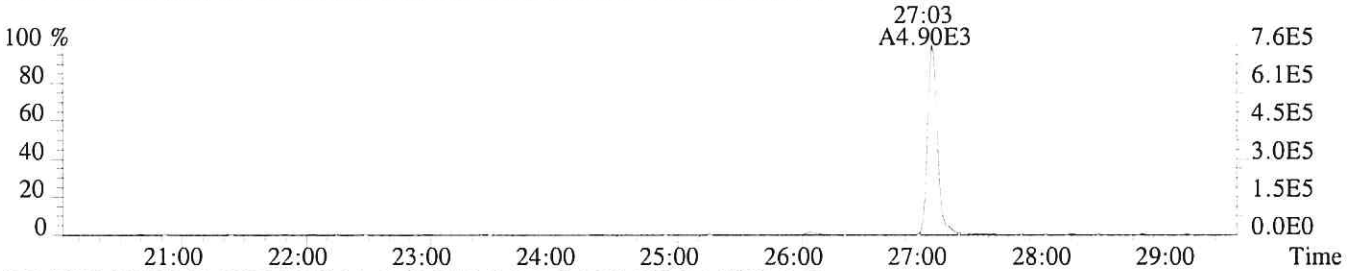


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

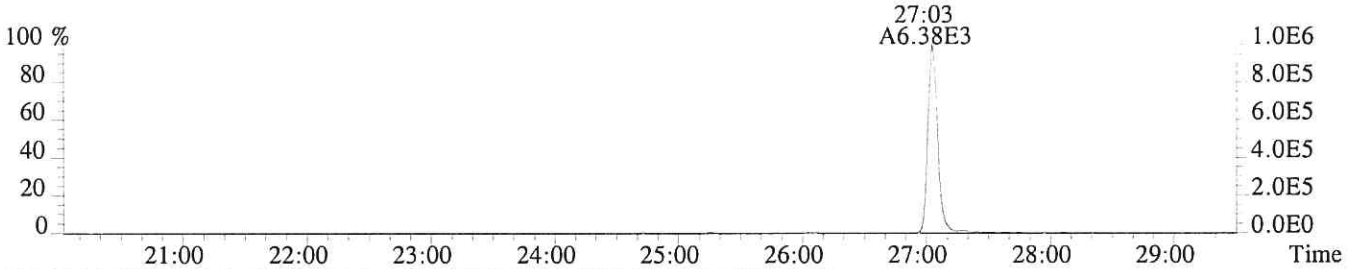


File:P609248 #1-672 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

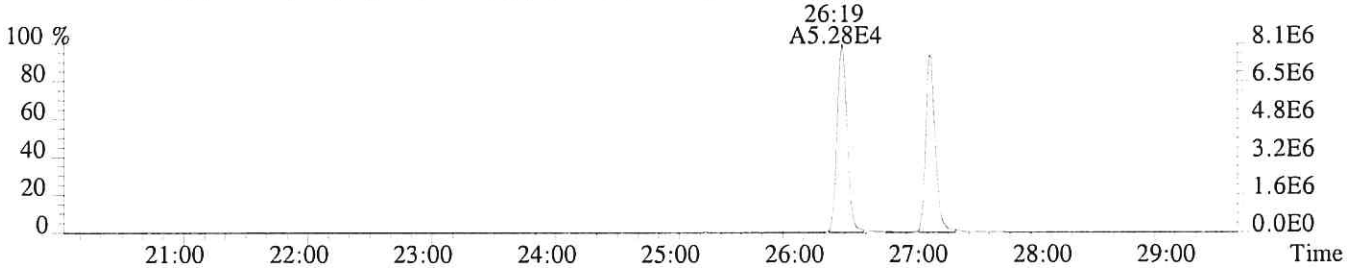
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,280.0,1.00%,F,T)



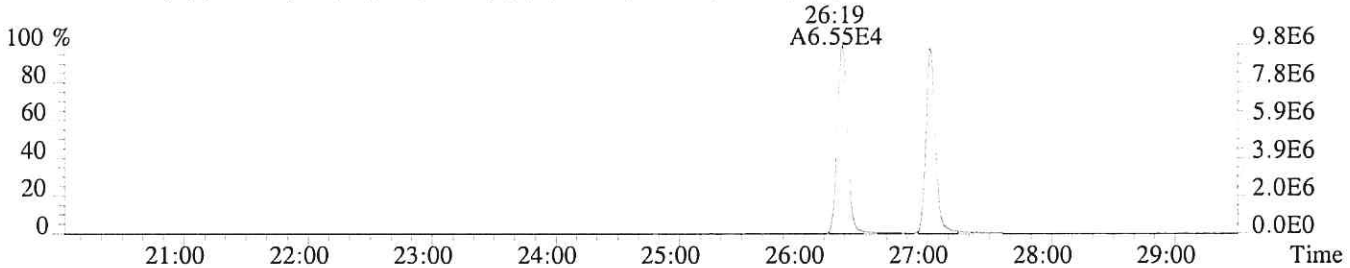
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



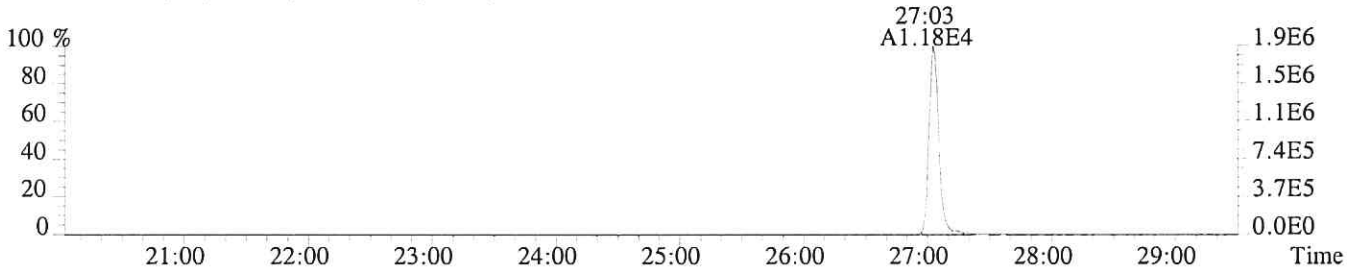
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7468.0,1.00%,F,T)



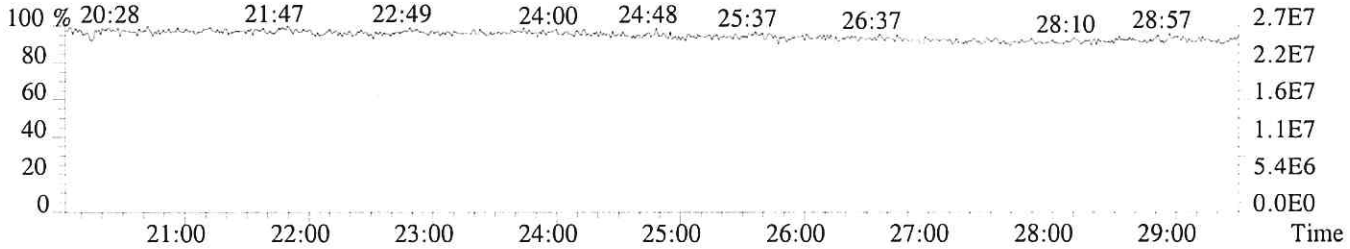
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3680.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)

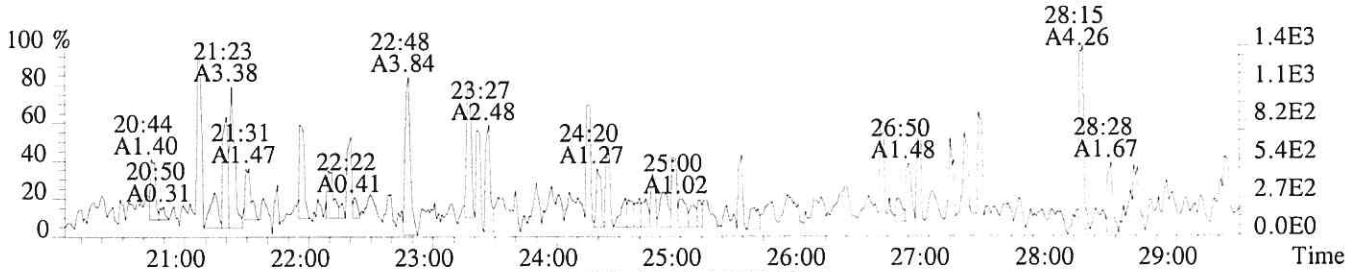


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

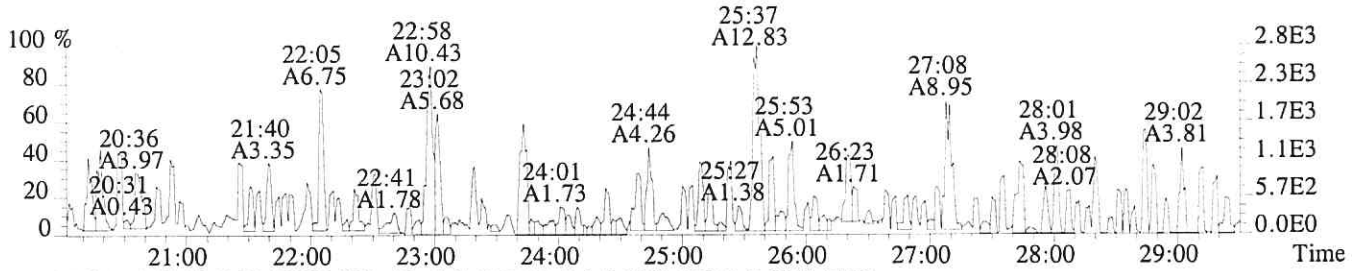


File:P609248 #1-672 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

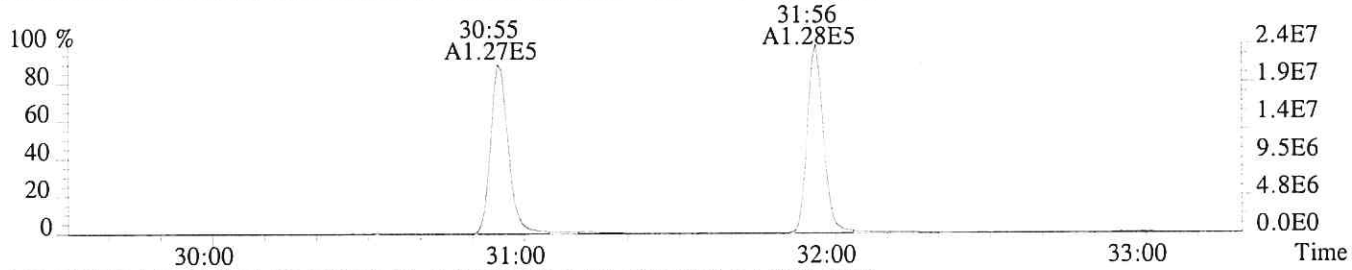
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



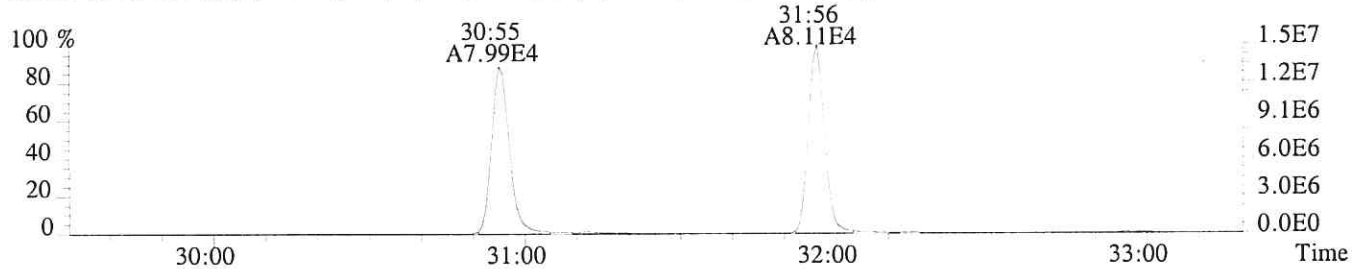
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



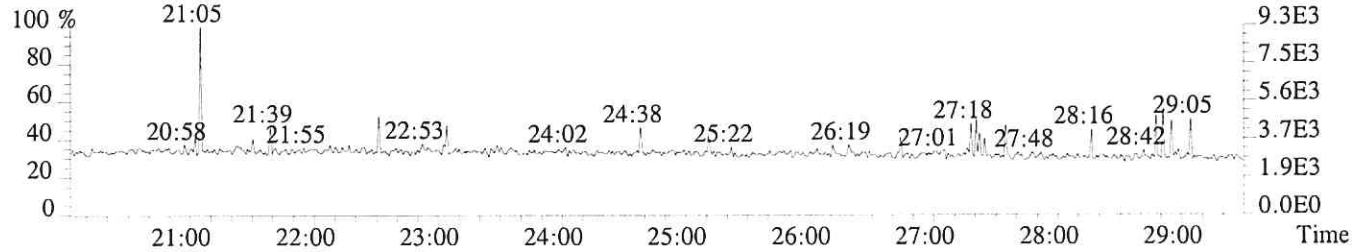
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



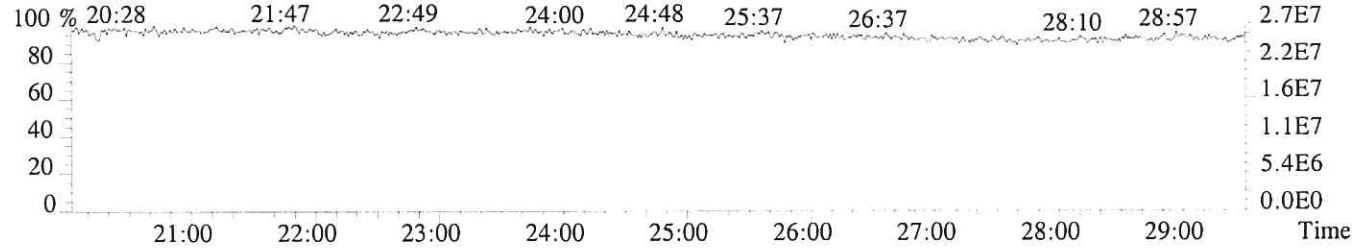
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

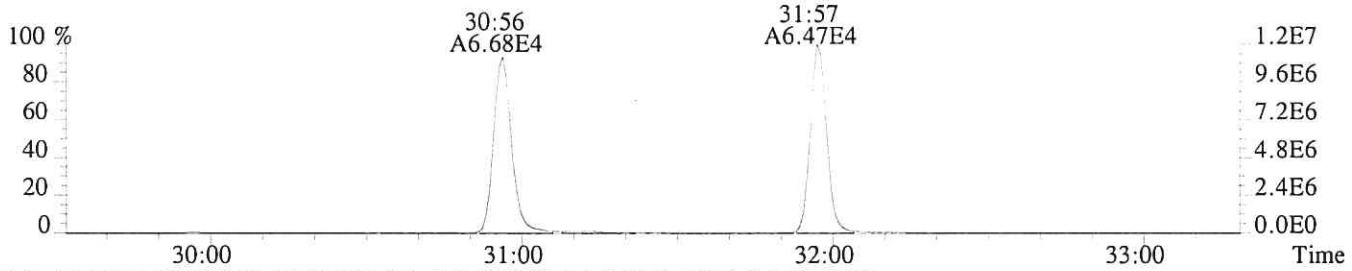


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

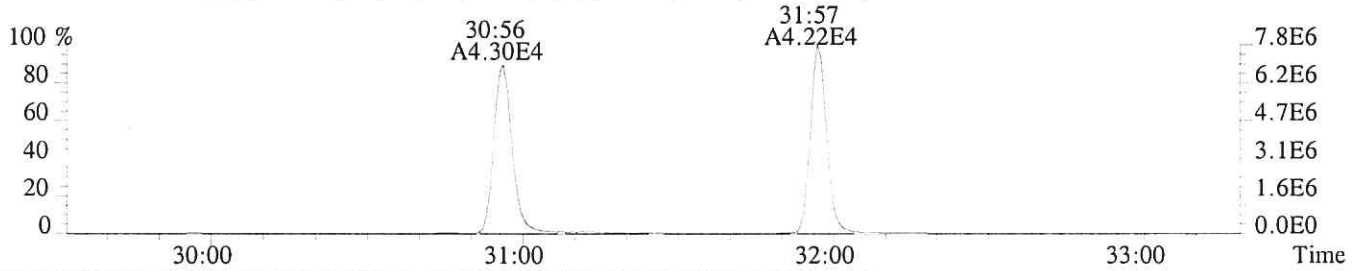


File:P609248 #1-340 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

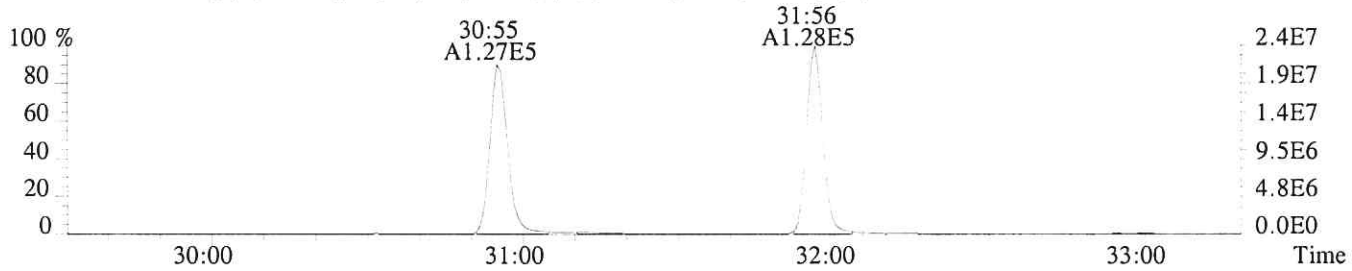
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,760.0,1.00%,F,T)



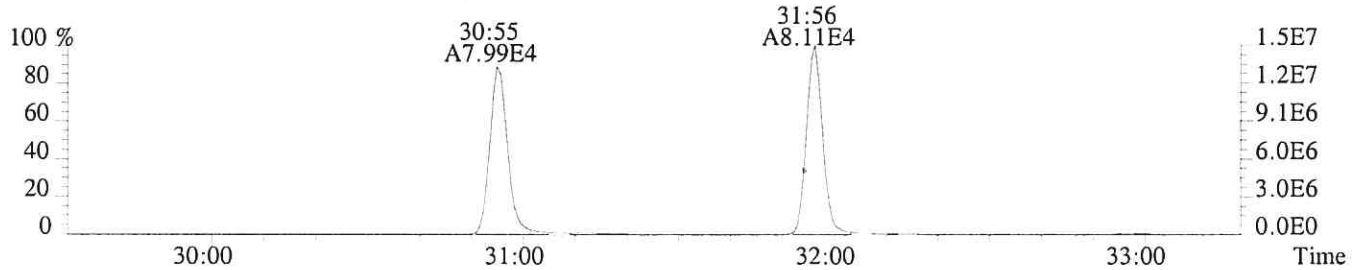
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



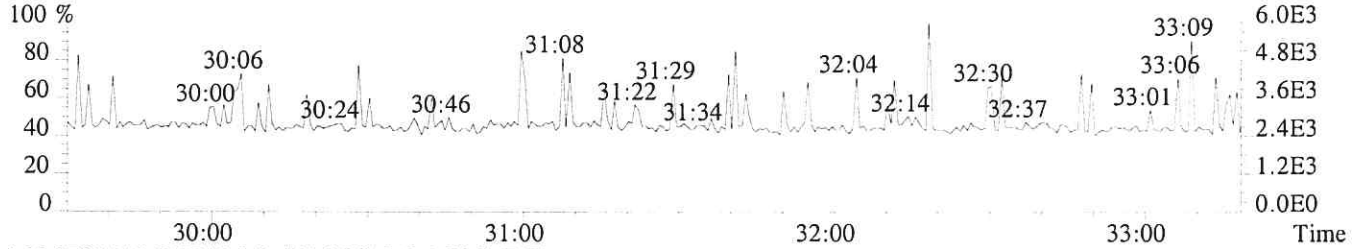
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



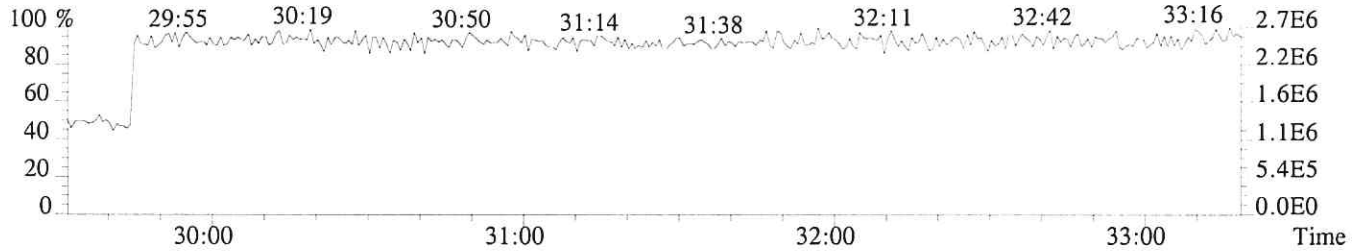
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,T)



409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

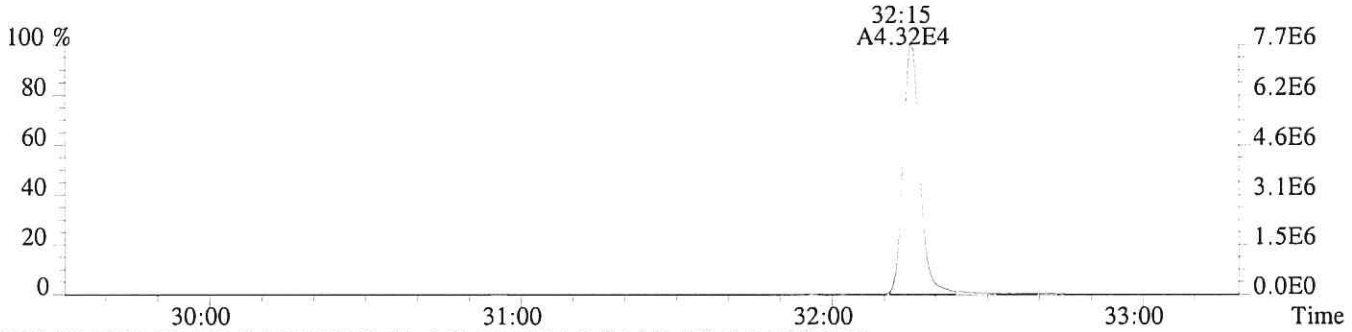


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

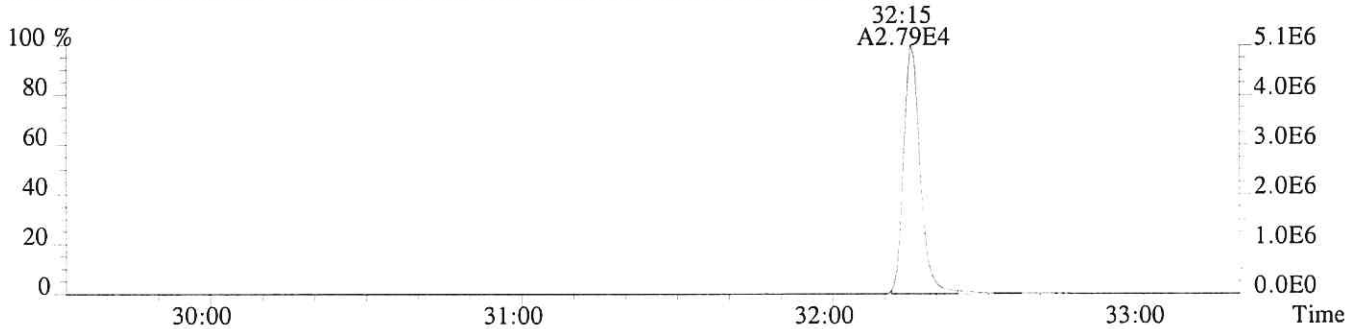


File:P609248 #1-340 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

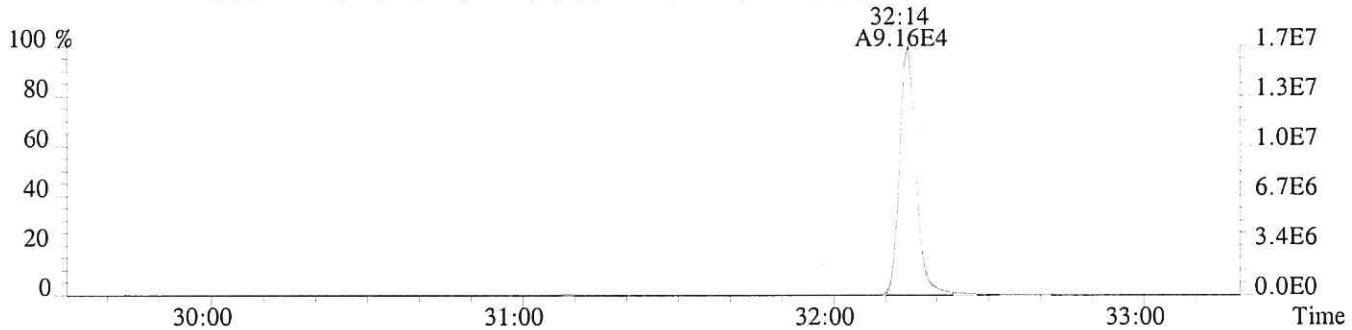
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



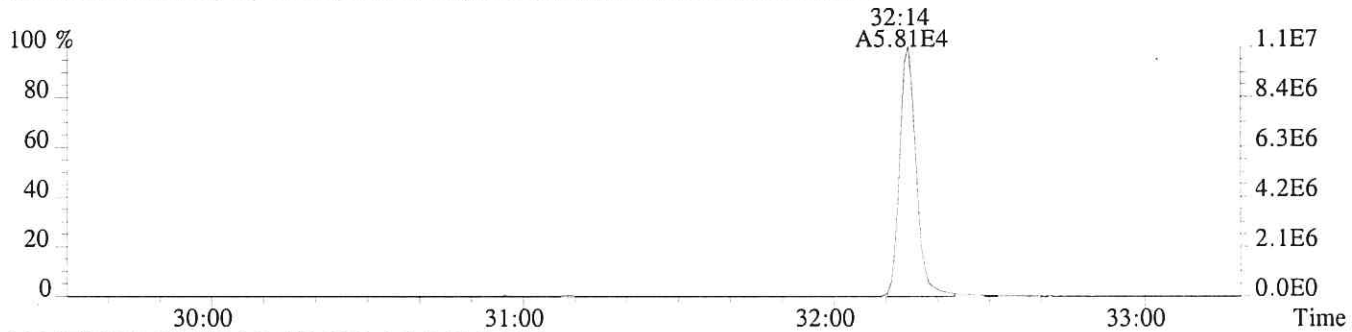
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



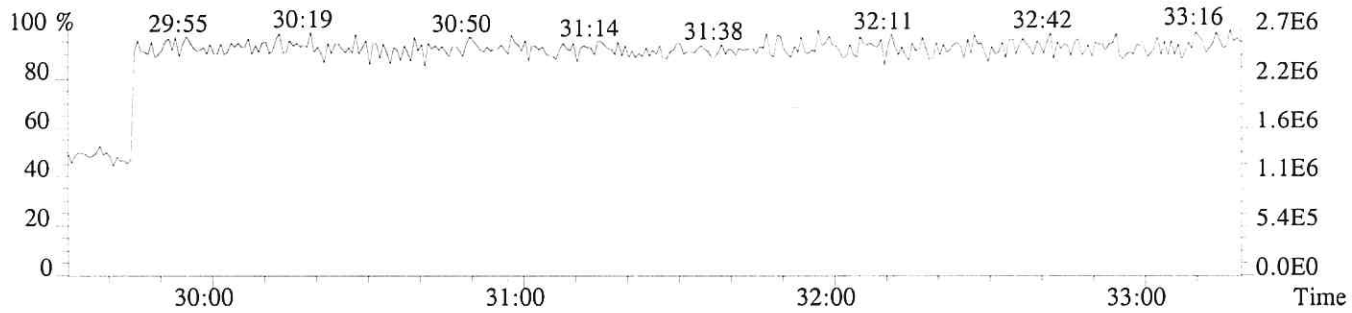
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)

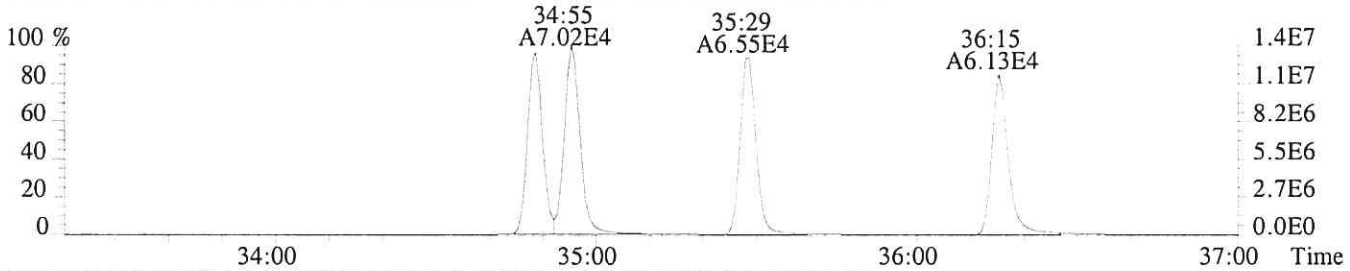


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

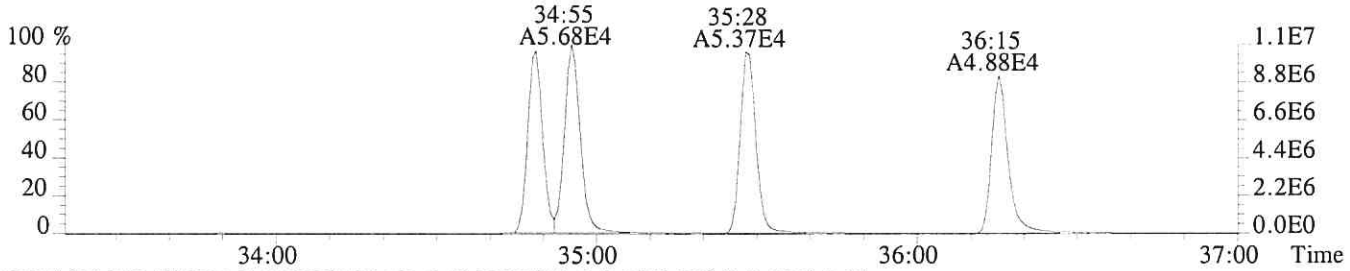


File:P609248 #1-330 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

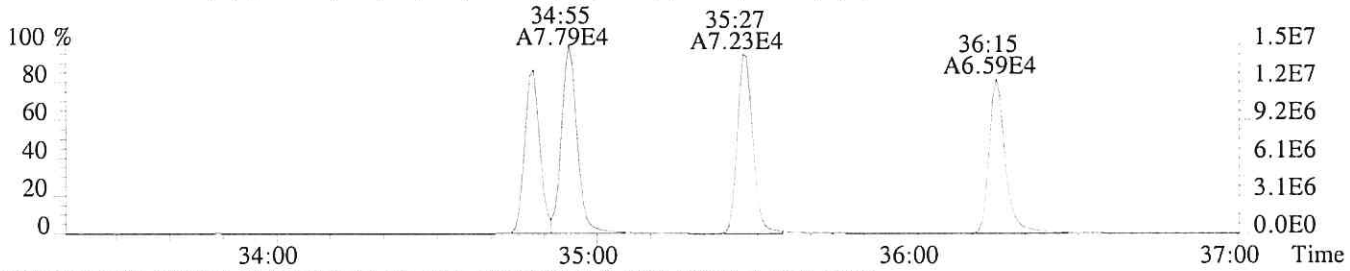
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,T)



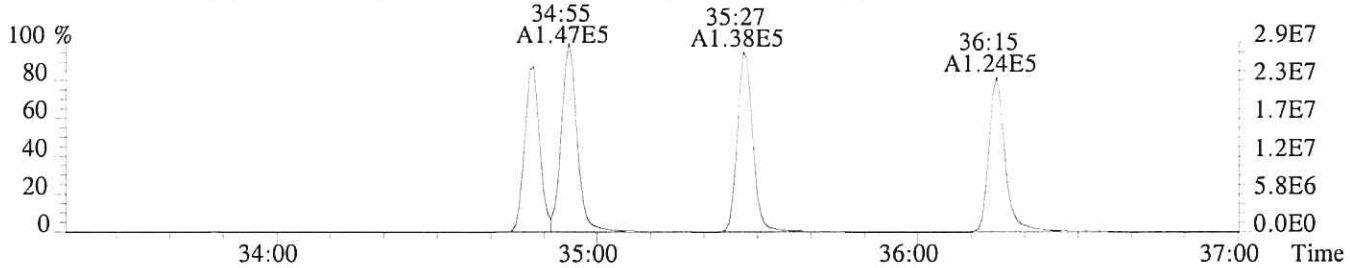
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,T)



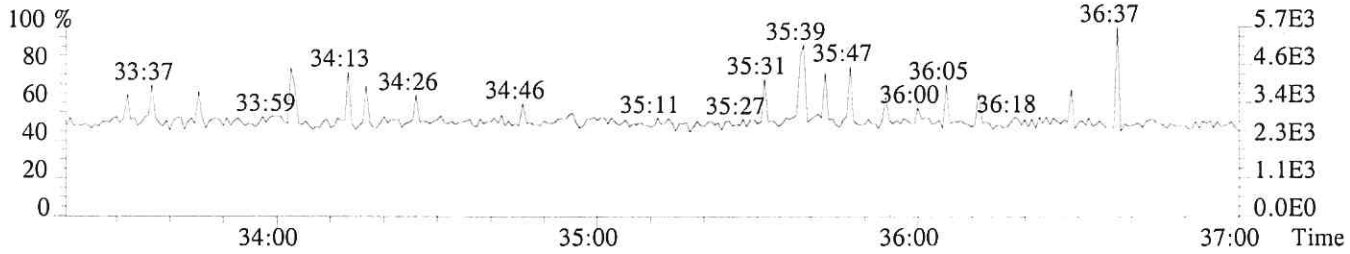
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



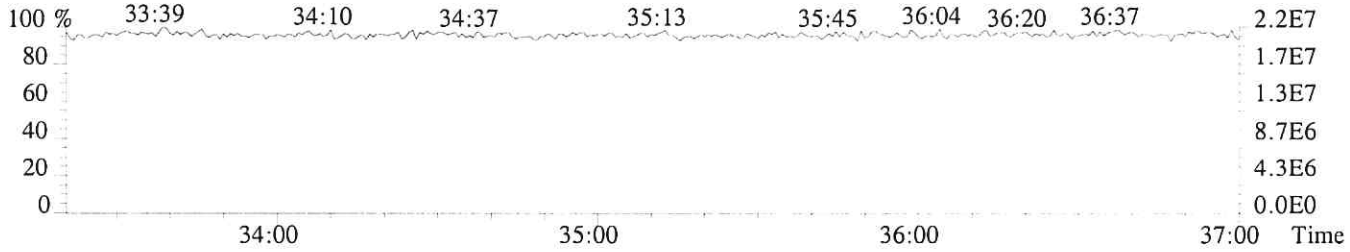
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



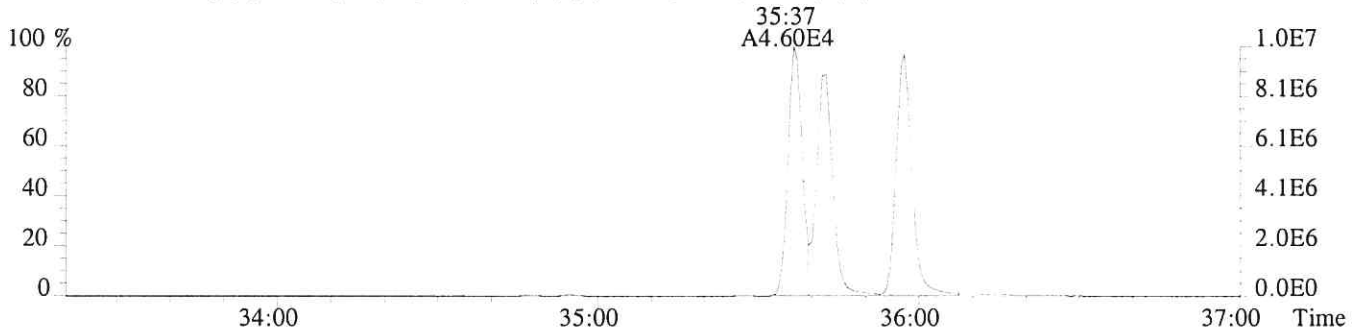
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



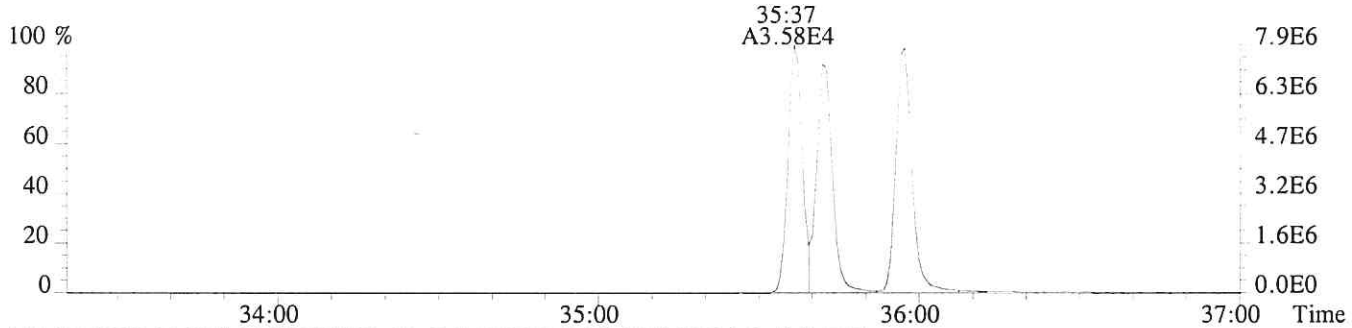
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



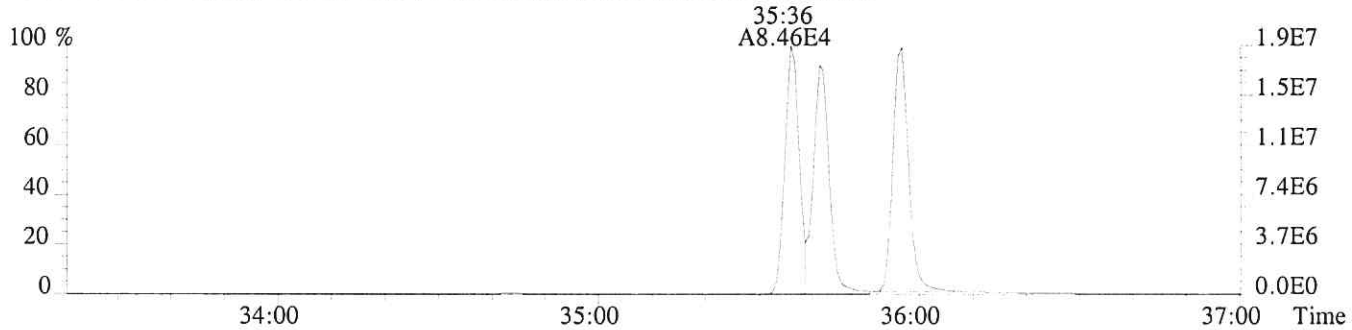
File:P609248 #1-330 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.40%,F,T)



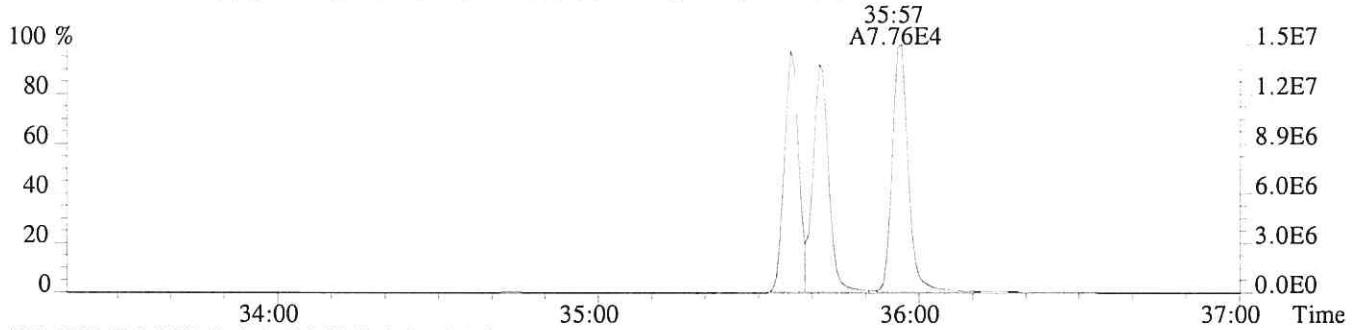
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



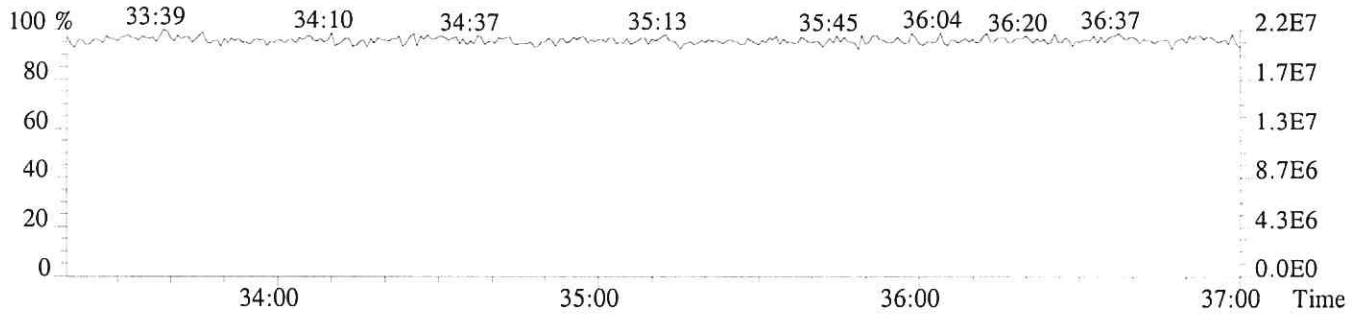
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



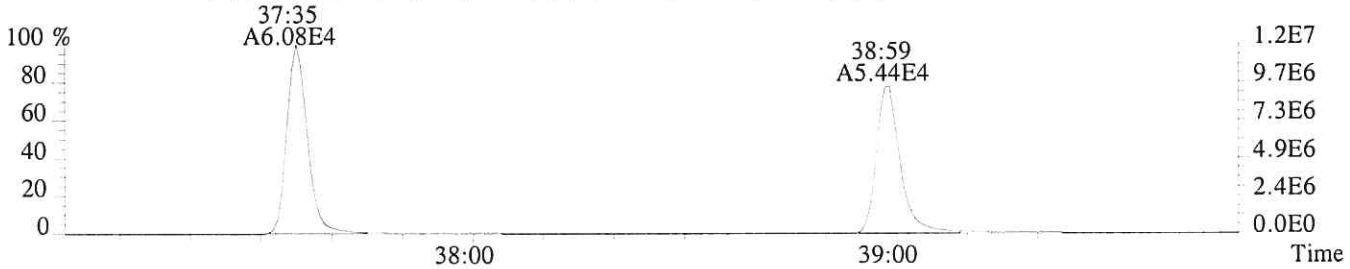
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



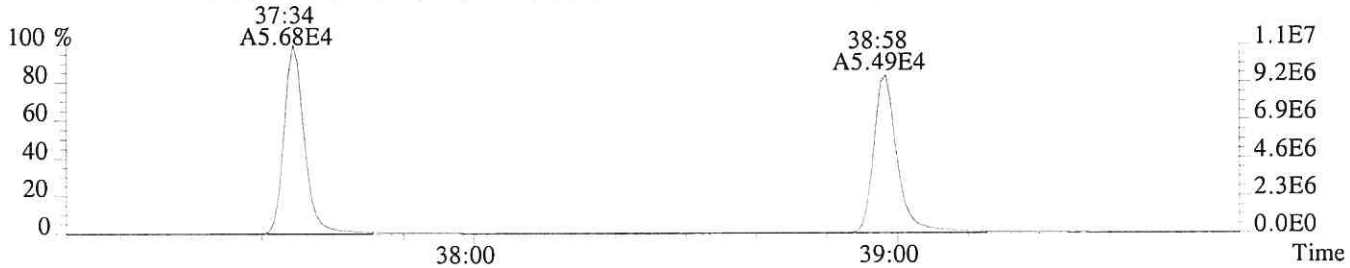
File:P609248 #1-250 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3740.0,0.50%,F,T)

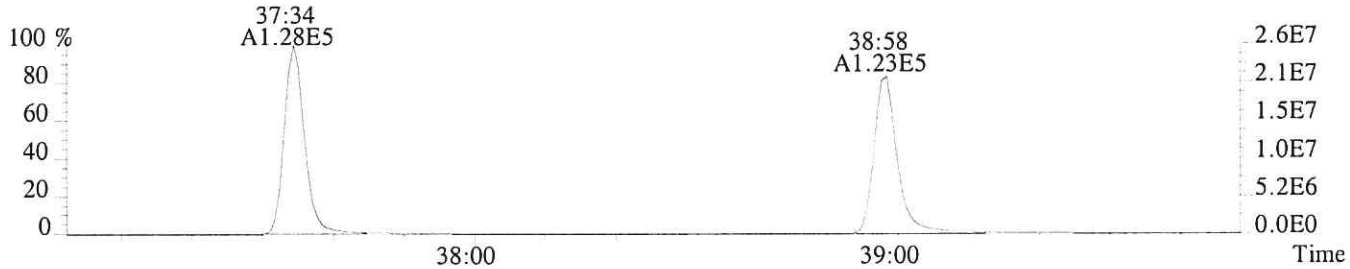
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6200.0,0.50%,F,T)



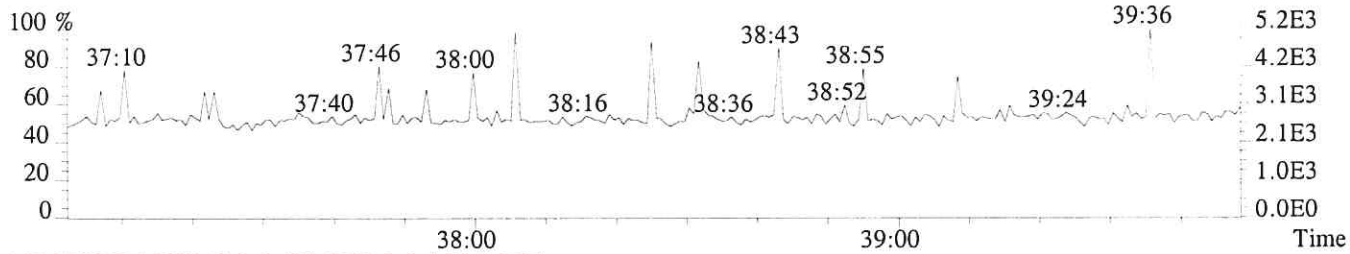
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3140.0,0.50%,F,T)



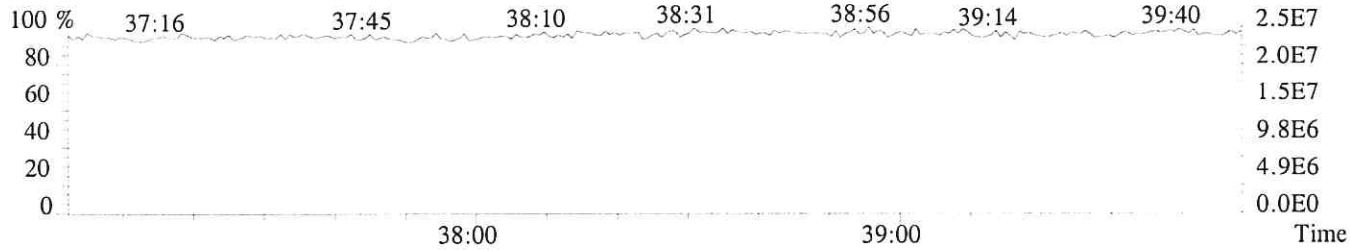
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7008.0,0.50%,F,T)



479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

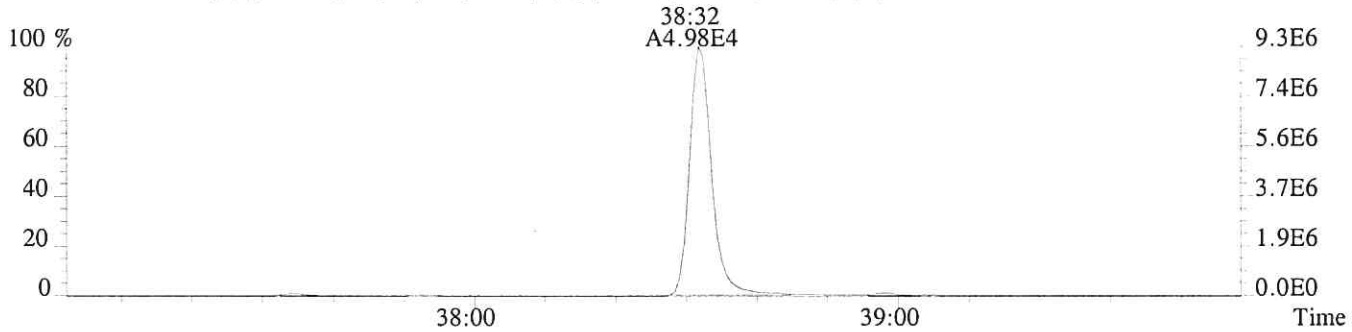


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

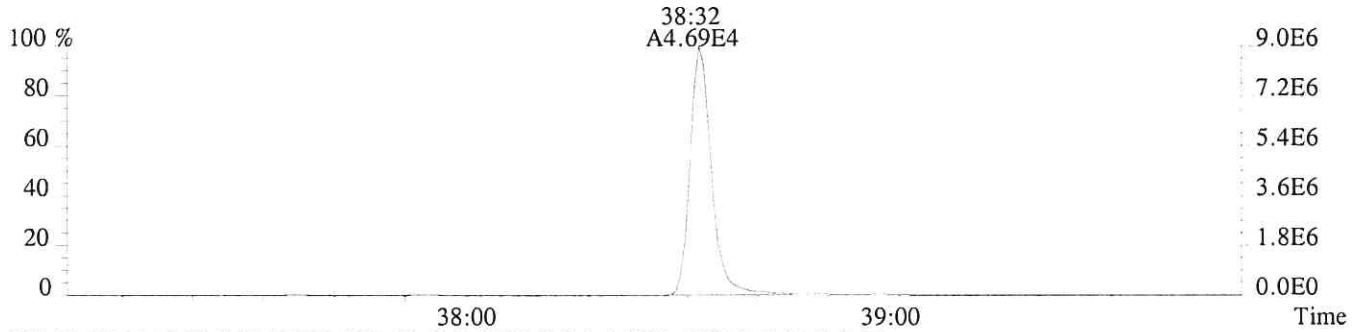


File:P609248 #1-250 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

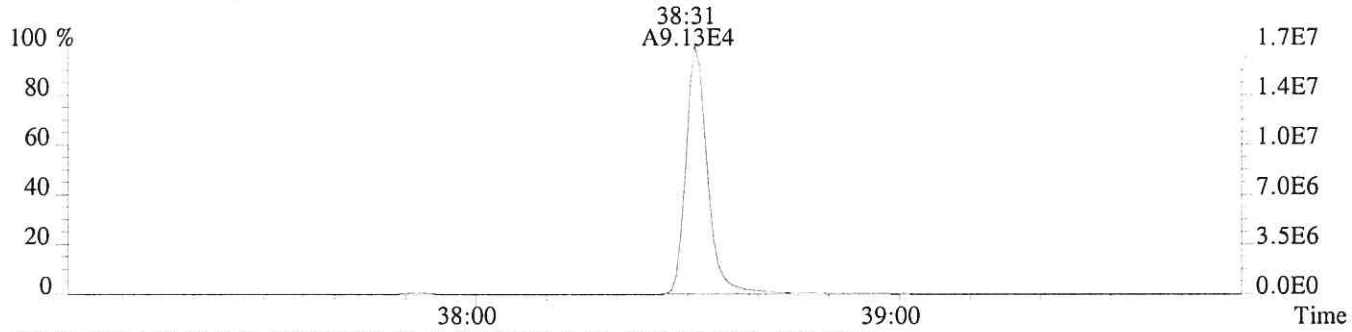
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1136.0,0.40%,F,T)



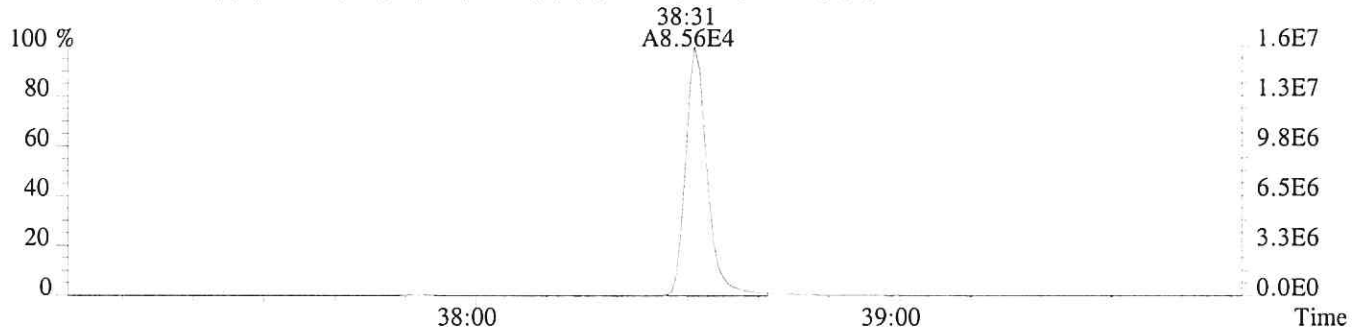
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.40%,F,T)



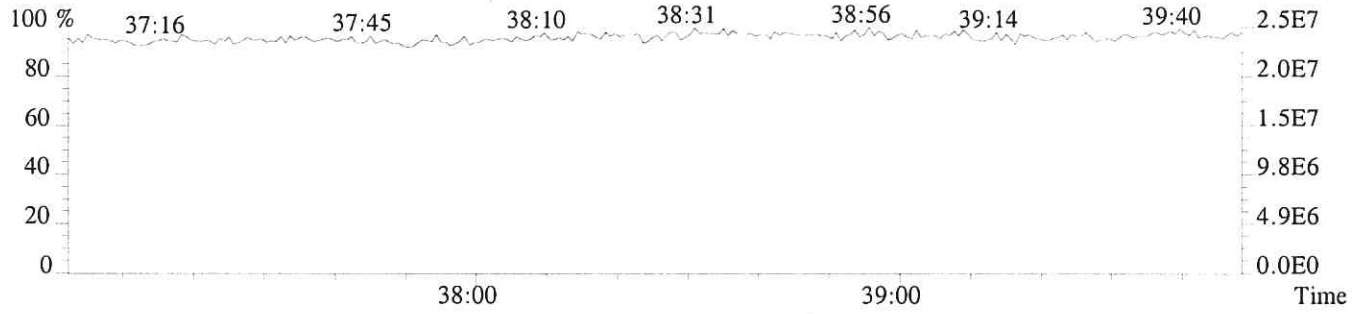
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)

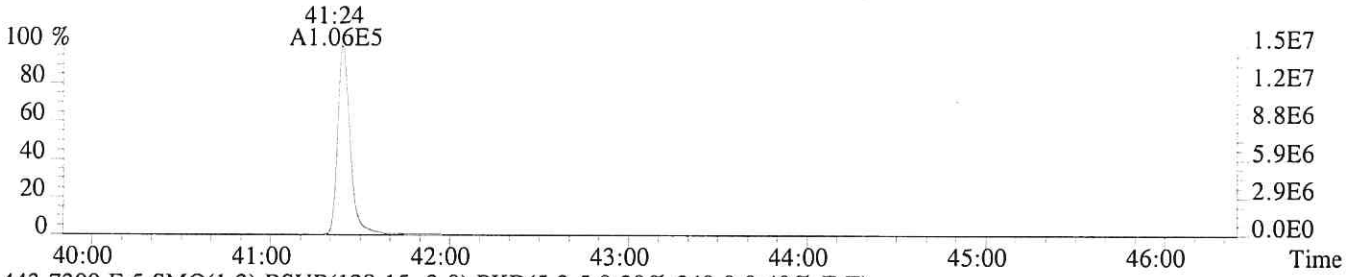


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

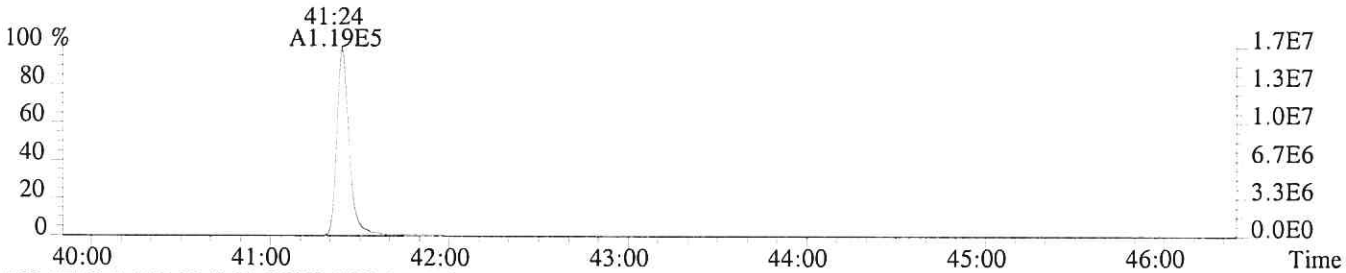


File:P609248 #1-591 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

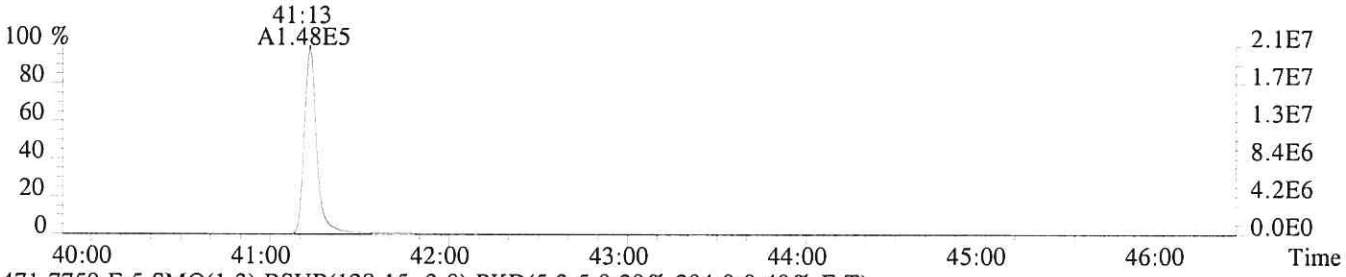
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,204.0,0.40%,F,T)



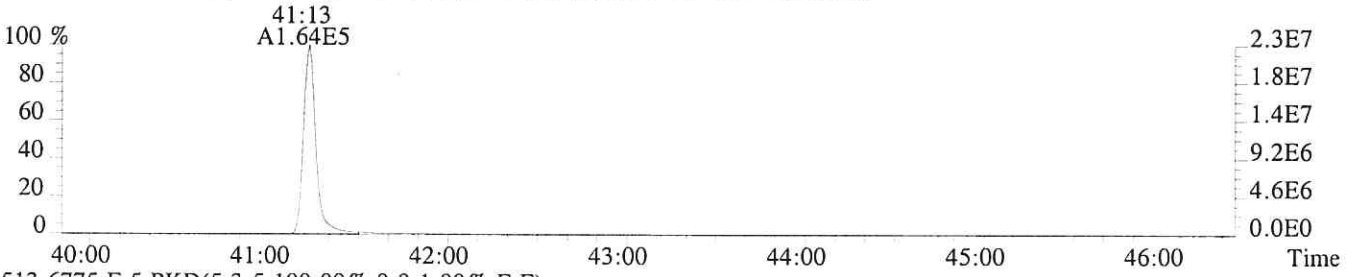
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,F,T)



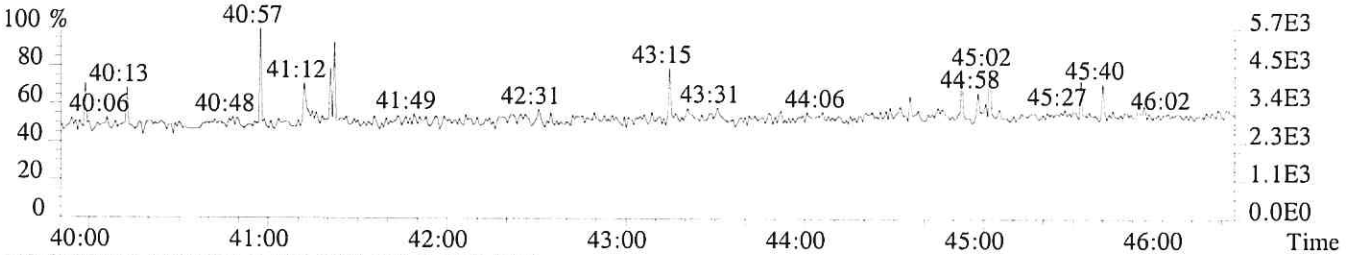
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



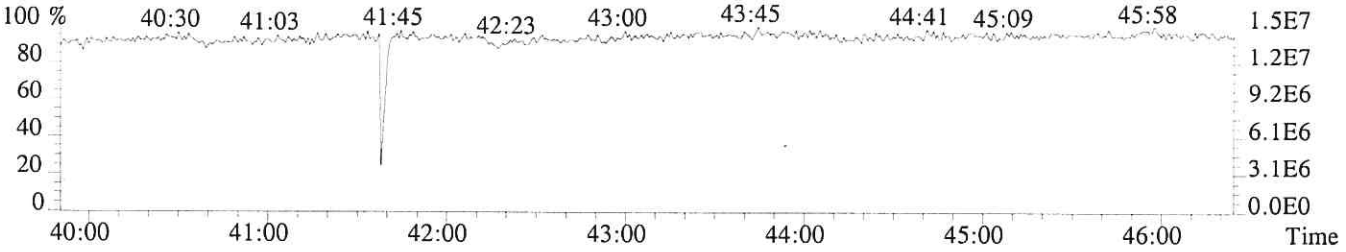
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,204.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

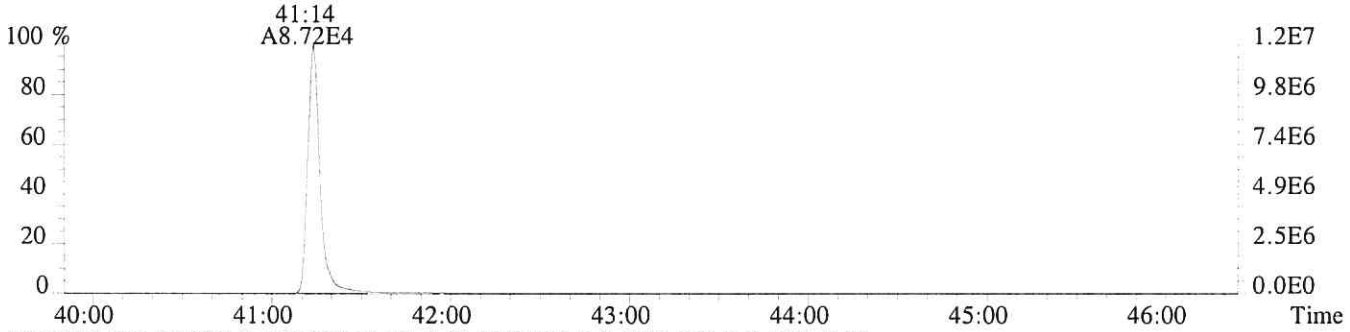


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

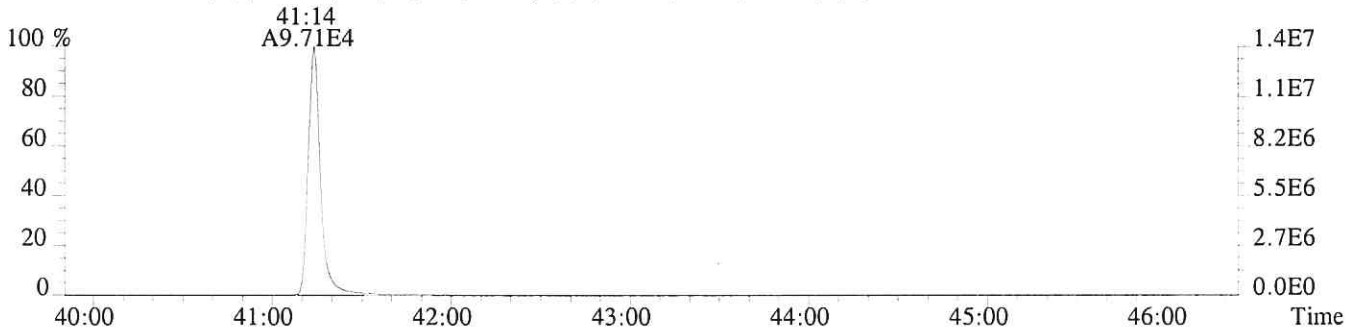


File:P609248 #1-591 Acq:25-SEP-2017 00:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

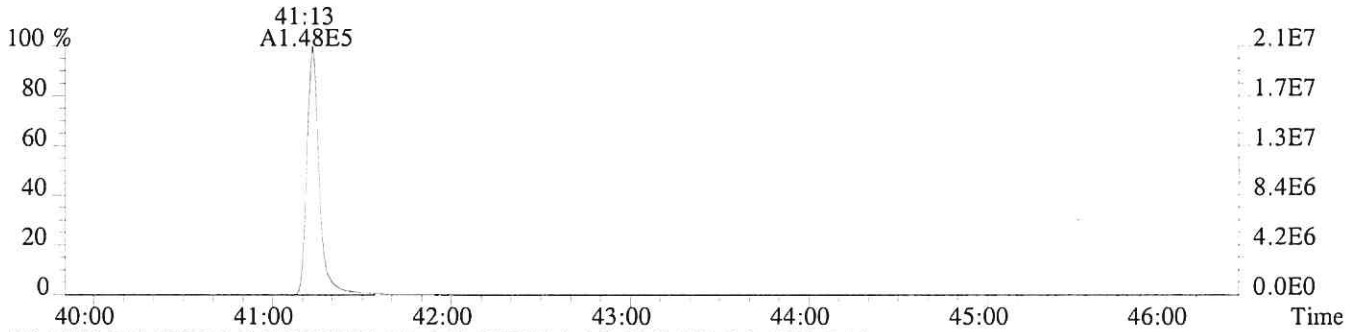
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,176.0,0.40%,F,T)



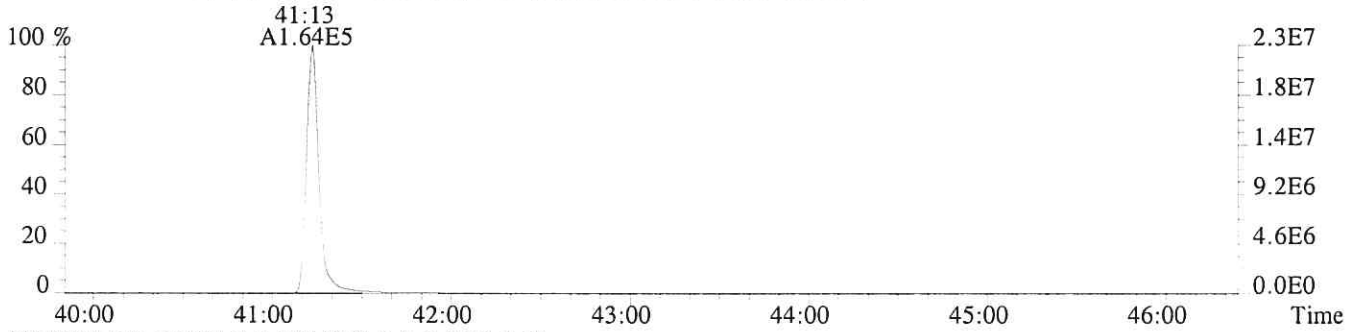
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



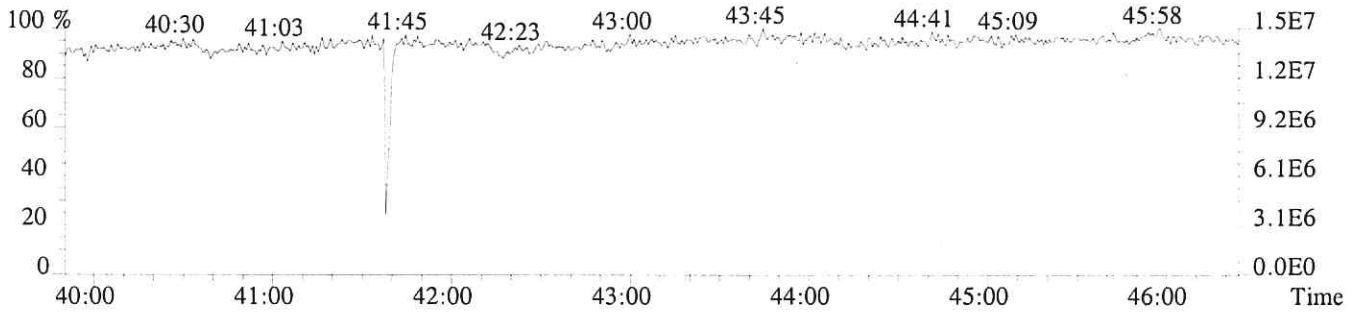
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,204.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P511536

Circle one: Beginning / Ending

Date: 09/24/17

Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	N/A	N/A

Analyst: LKL

Second QC: KN

ccalqc.xls 07/17/12

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 07/26/17

Init. Calib.Times: 10:27

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
178397	WINDOW DEFINE	P511537	24-SEP-17	11:50:02
180102	CS3	P511536	24-SEP-17	10:54:04
METHOD BLANK	EQ1700388-01	P511538	24-SEP-17	12:37:49
METHOD BLANK	EQ1700418-01	P511539	24-SEP-17	13:26:30
SJWP-091517-020	E1700974-001	P511540	24-SEP-17	14:15:07
SJWP-091517-021	E1700974-002	P511541	24-SEP-17	15:03:47
SJWP-091517-022	E1700974-003	P511542	24-SEP-17	15:52:27
SJWP-091517-023	E1700974-004	P511543	24-SEP-17	16:41:07
SJWP-091517-024	E1700974-005	P511544	24-SEP-17	17:29:49
SJWP-091517-025	E1700974-006	P511545	24-SEP-17	18:18:26
SJWP-091517-026	E1700974-007	P511546	24-SEP-17	19:07:12
SJWP-091517-027	E1700974-008	P511547	24-SEP-17	19:55:57
SJWP-091517-028	E1700974-009	P511548	24-SEP-17	20:44:42
LCS	EQ1700418-02	P511549	24-SEP-17	21:33:28
DLCS	EQ1700418-03	P511550	24-SEP-17	22:22:12

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20170923C.SPL
Last Modified: Monday, September 25, 2017 08:07:35 Eastern Daylight Time
Printed: Monday, September 25, 2017 08:07:37 Eastern Daylight Time

1613

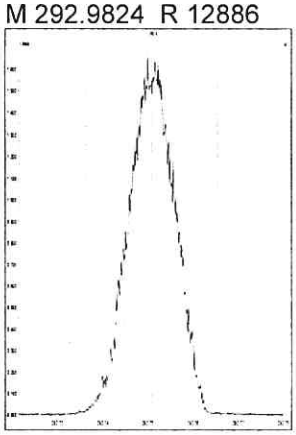
Page Position (1, 1)

OPUS 5 NET: P511536 RES

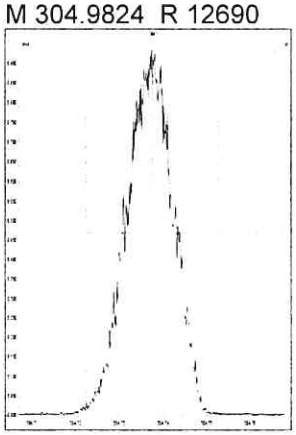
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	9/21/17	10:54	P511536	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	SLM	HRMS check 11:49
2		11:50	P511537	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		12:37	P511538	MB	EQ1700388-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		13:26	P511539	MB	EQ1700418-01	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		14:15	P511540	E1700974-001	E1700974-001	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		15:03	P511541	E1700974-002	E1700974-002	EPA1613_ALS	Dioxin_ALS	Tray1:6		
7		15:52	P511542	E1700974-003	E1700974-003	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		16:41	P511543	E1700974-004	E1700974-004	EPA1613_ALS	Dioxin_ALS	Tray1:8		
9		17:29	P511544	E1700974-005	E1700974-005	EPA1613_ALS	Dioxin_ALS	Tray1:9		
10		18:18	P511545	E1700974-006	E1700974-006	EPA1613_ALS	Dioxin_ALS	Tray1:10		
11		19:07	P511546	E1700974-007	E1700974-007	EPA1613_ALS	Dioxin_ALS	Tray1:11		
12		19:55	P511547	E1700974-008	E1700974-008	EPA1613_ALS	Dioxin_ALS	Tray1:12		
13		20:44	P511548	E1700974-009	E1700974-009	EPA1613_ALS	Dioxin_ALS	Tray1:13		
14		21:33	P511549	LCS	EQ1700418-02	EPA1613_ALS	Dioxin_ALS	Tray1:14		
15		22:22	P511550	DLCS	EQ1700418-03	EPA1613_ALS	Dioxin_ALS	Tray1:15		HRMS check 23:19
16	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
17	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:17	---	---
18	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:18	---	---
19	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:19	---	---
20	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:20	---	---
21	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:21	---	---
22	---			---	---	EPA1613_ALS	Dioxin_ALS	Tray1:22	---	---
23	---	DKL 09/25/17		---	---	EPA1613_ALS	Dioxin_ALS	Tray1:23	---	---
24	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:24	---	---
25	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:25	---	---
26	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:26	---	---
27	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:27	---	---
28	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:28	---	---
29	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
30	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:32	---	---
33	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:33	---	---
34	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:34	---	---
35	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:35	---	---
36	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:36	---	---
37	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:37	---	---
38	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:38	---	---
39	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:39	---	---

Printed: Sunday, September 24, 2017 11:49:57 Eastern Daylight Time

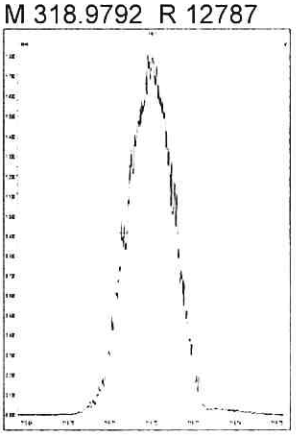
M 292.9824 R 12886



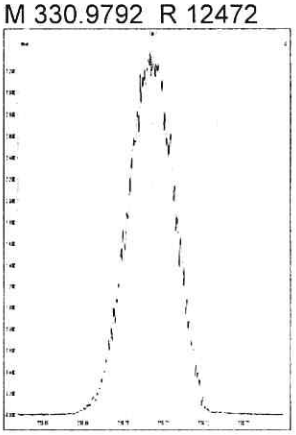
M 304.9824 R 12690



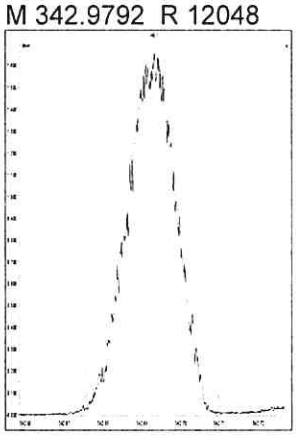
M 318.9792 R 12787



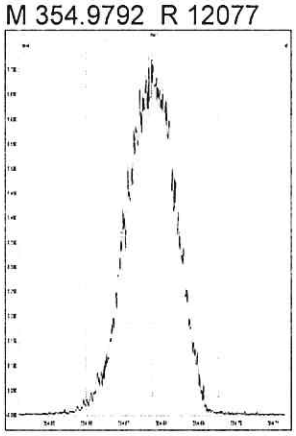
M 330.9792 R 12472



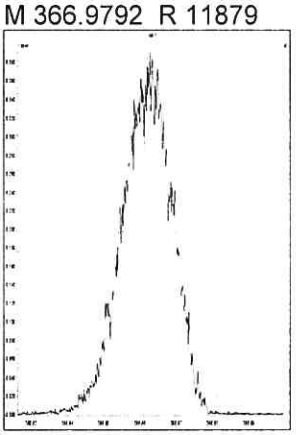
M 342.9792 R 12048



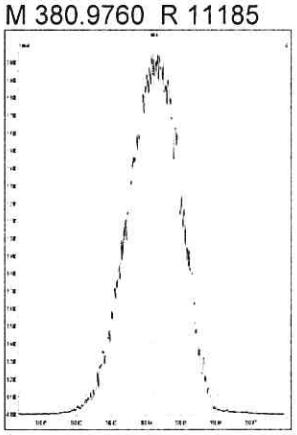
M 354.9792 R 12077



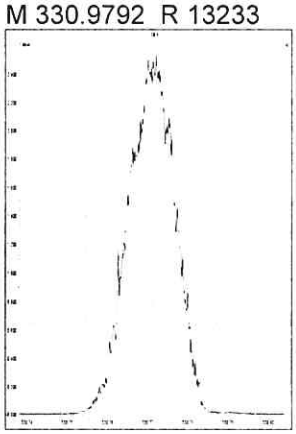
M 366.9792 R 11879



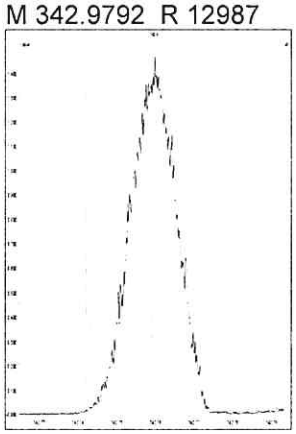
M 380.9760 R 11185



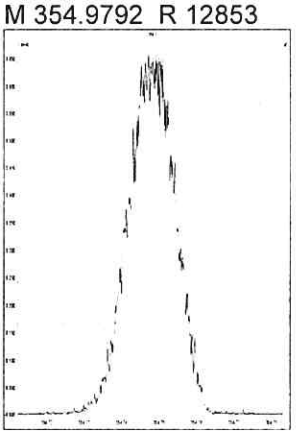
M 330.9792 R 13233



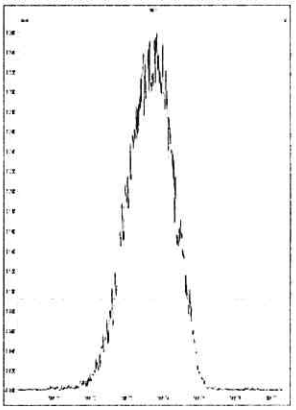
M 342.9792 R 12987



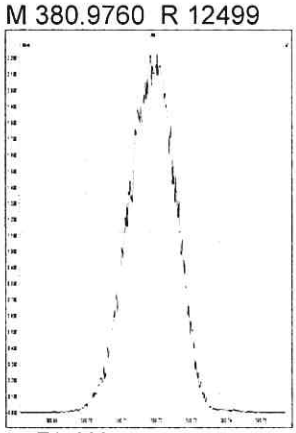
M 354.9792 R 12853



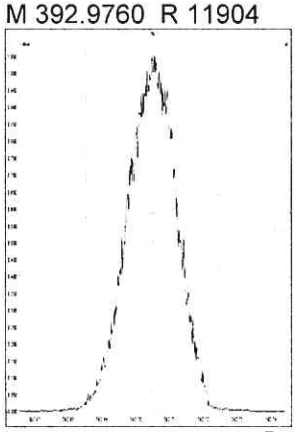
M 366.9792 R 12562



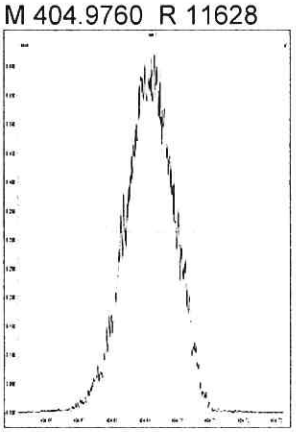
M 380.9760 R 12499



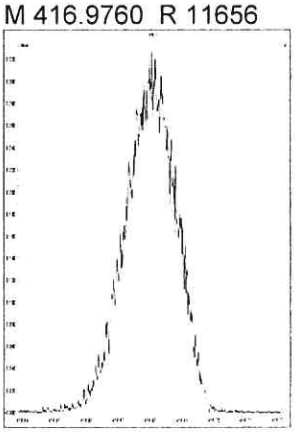
M 392.9760 R 11904



M 404.9760 R 11628



M 416.9760 R 11656



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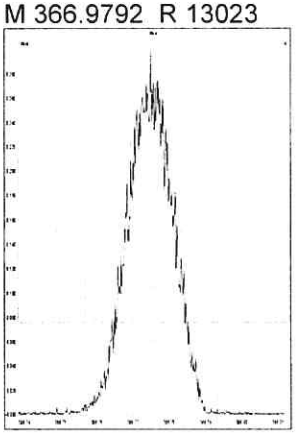
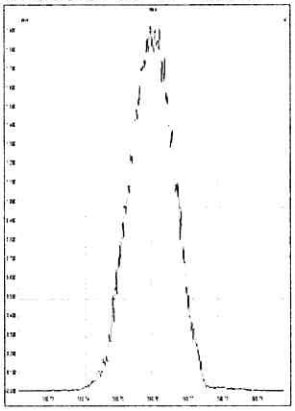
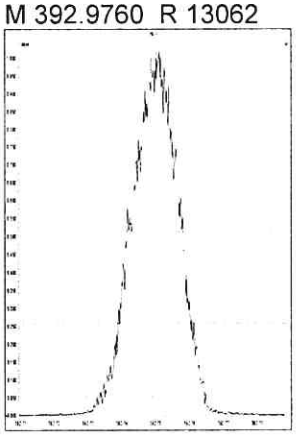
M 366.9792 R 13023



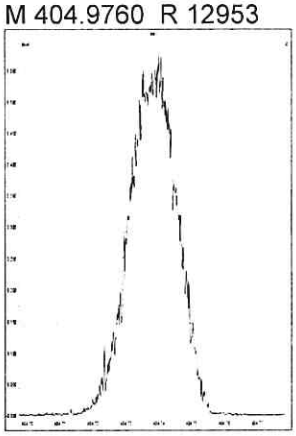
M 380.9760 R 13088



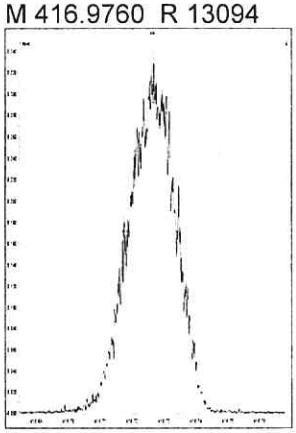
M 392.9760 R 13062



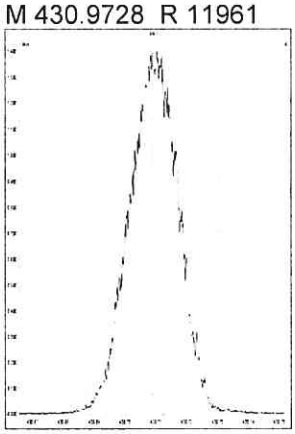
M 404.9760 R 12953



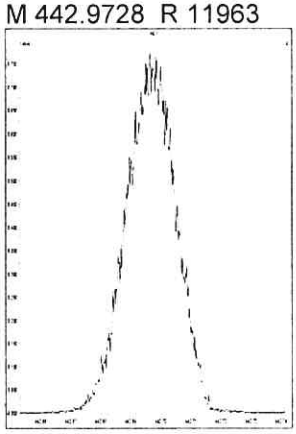
M 416.9760 R 13094



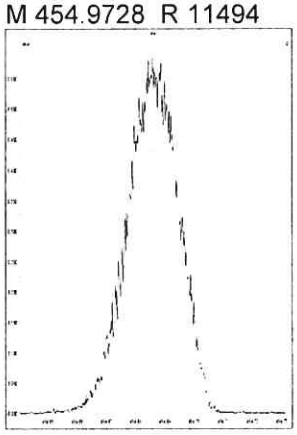
M 430.9728 R 11961



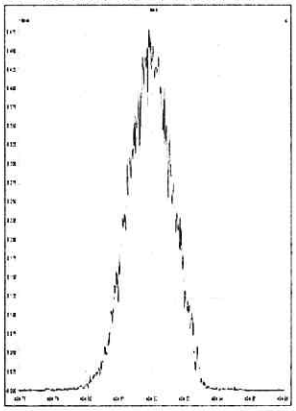
M 442.9728 R 11963



M 454.9728 R 11494



M 404.9760 R 13157



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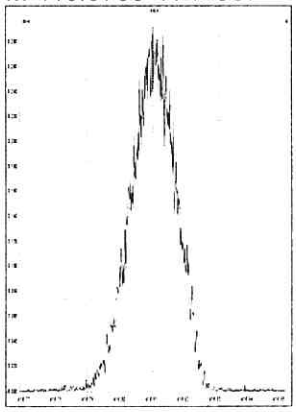

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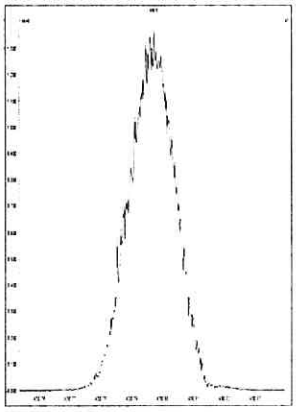

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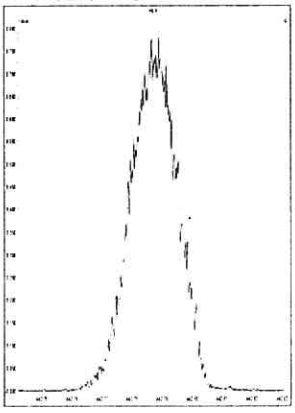

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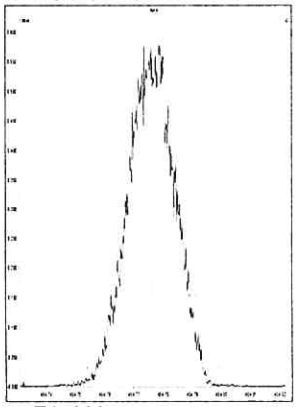

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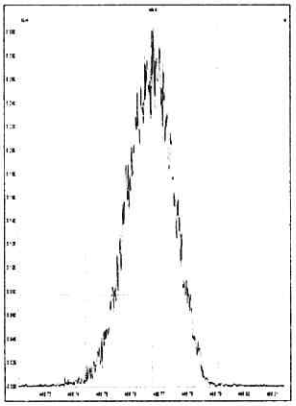

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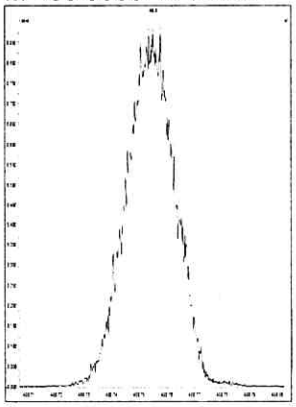

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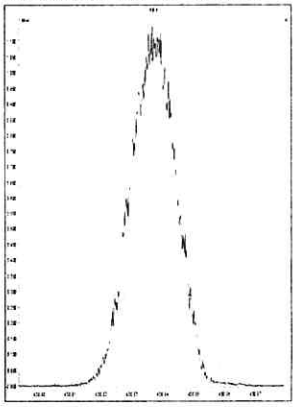

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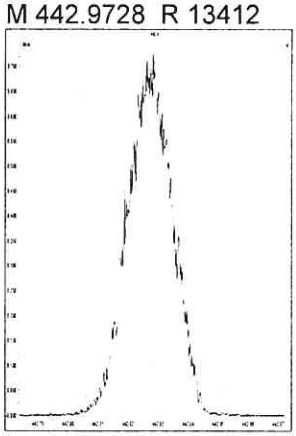

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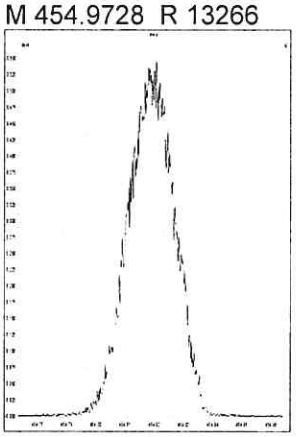

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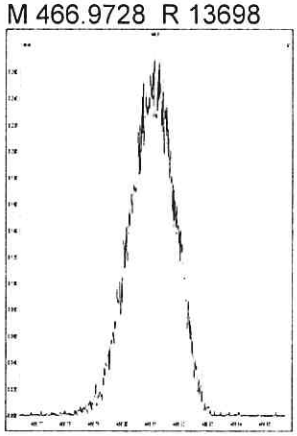

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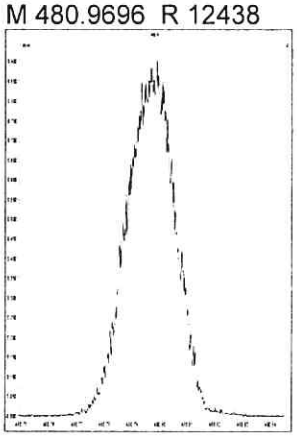

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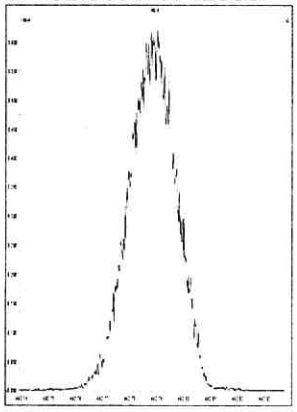

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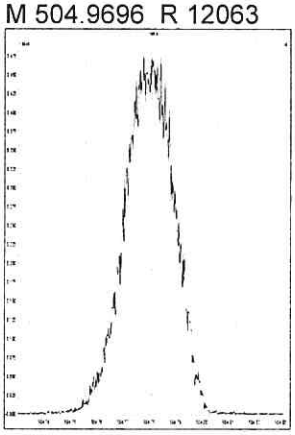

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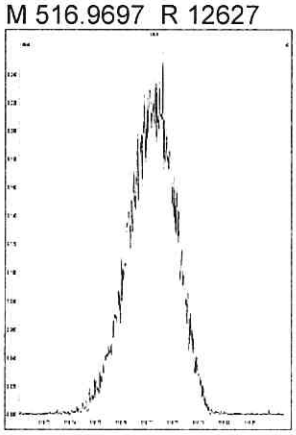

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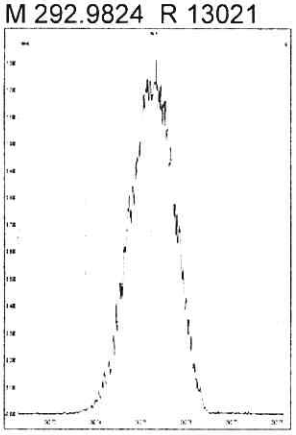

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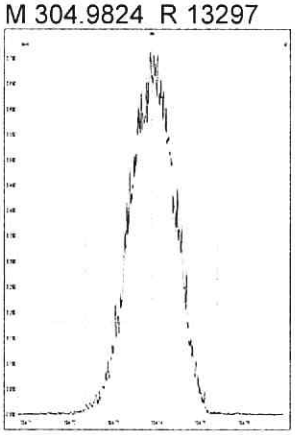

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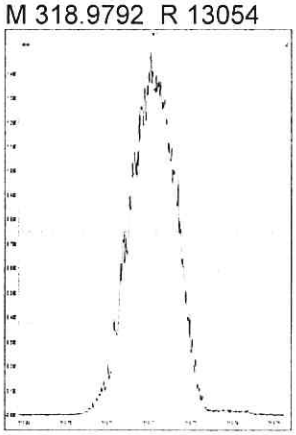

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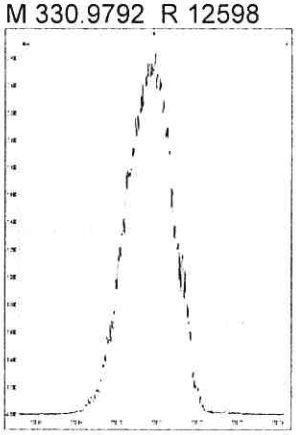

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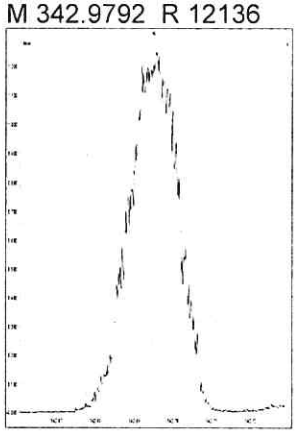

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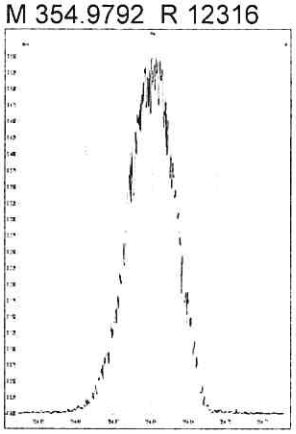

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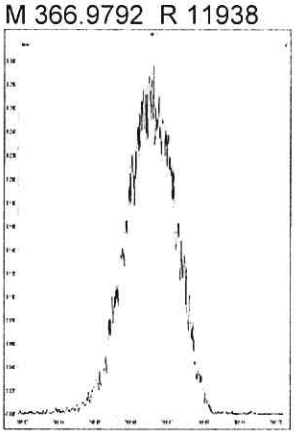

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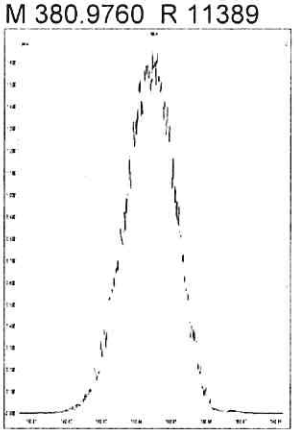

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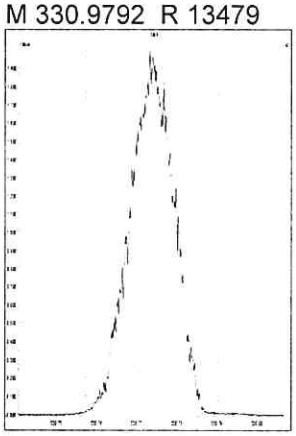

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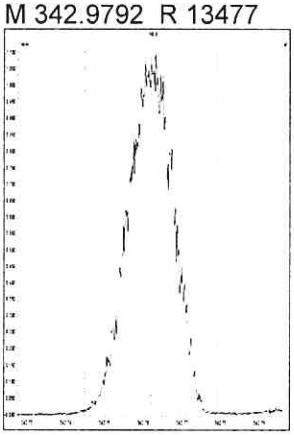

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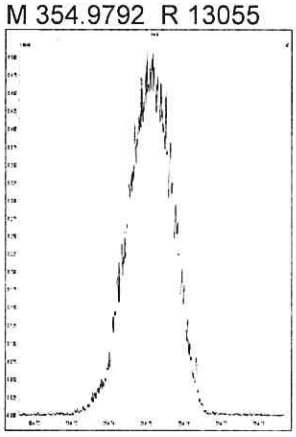

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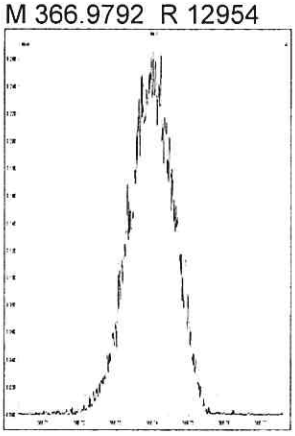

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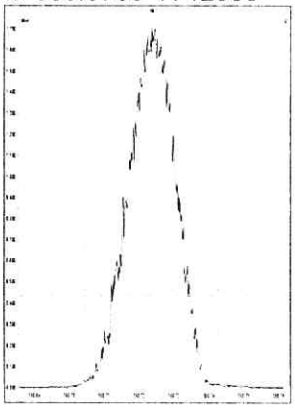

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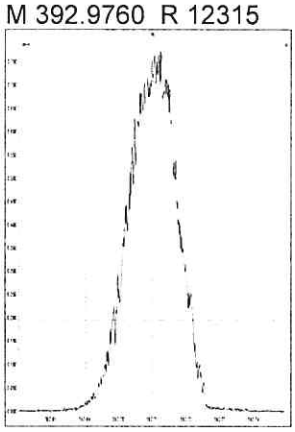

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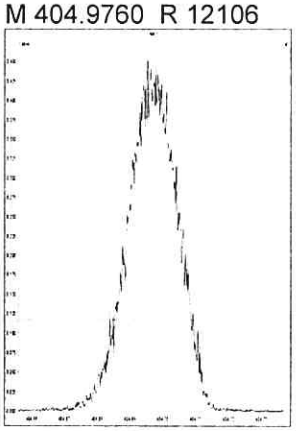

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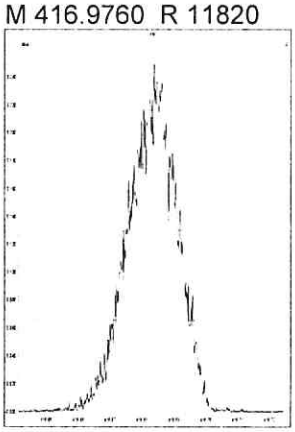

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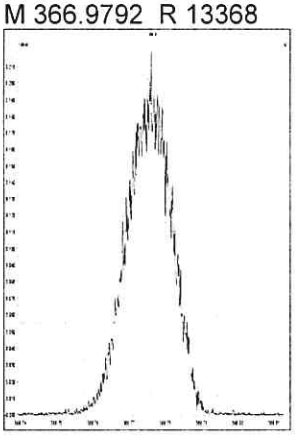

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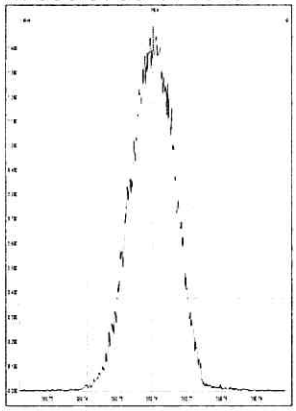

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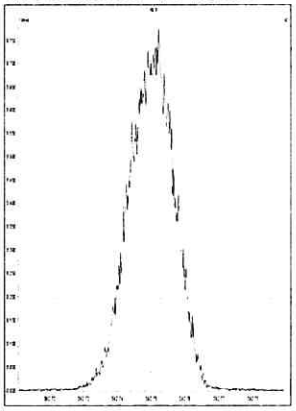

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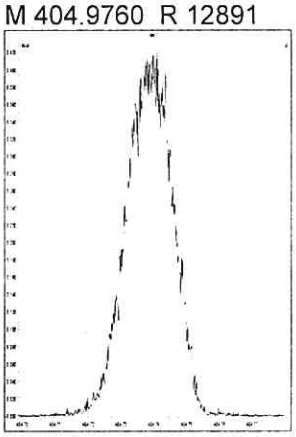

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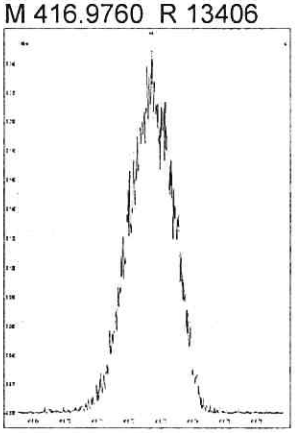

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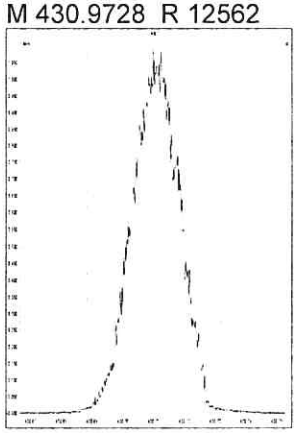

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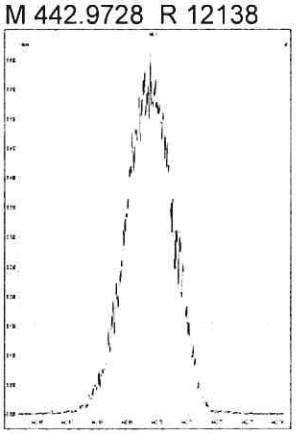

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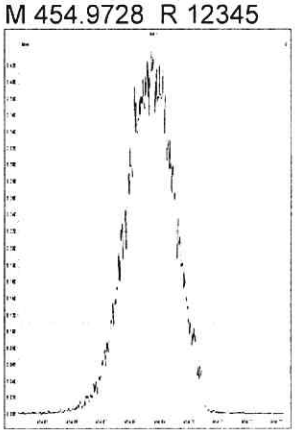

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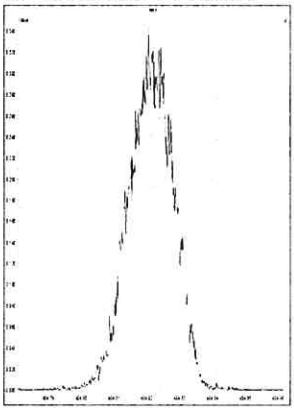

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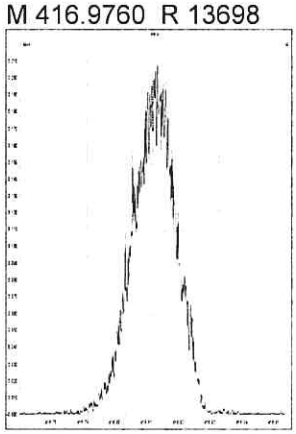

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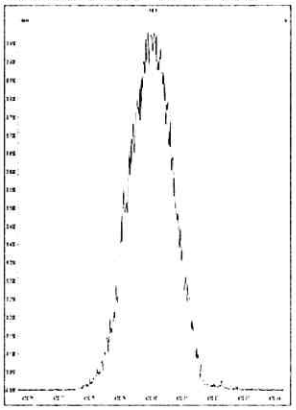

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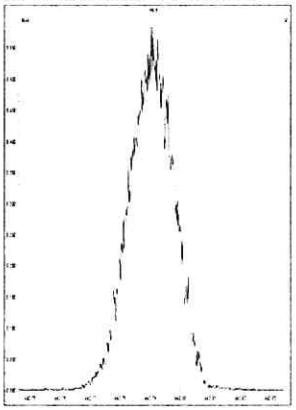

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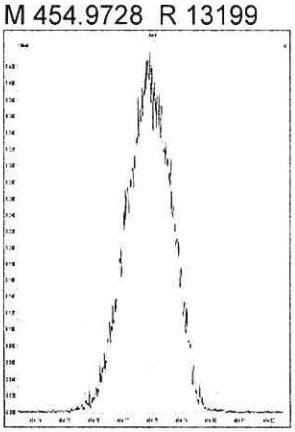

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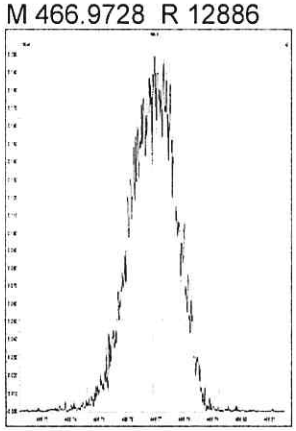

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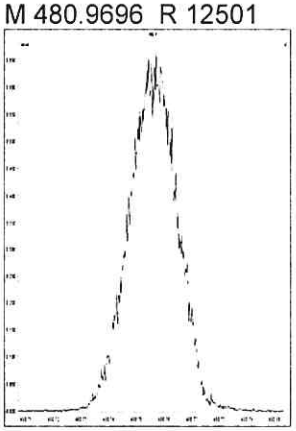

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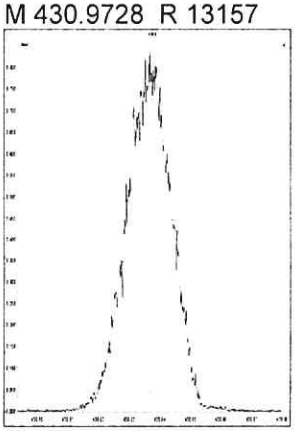

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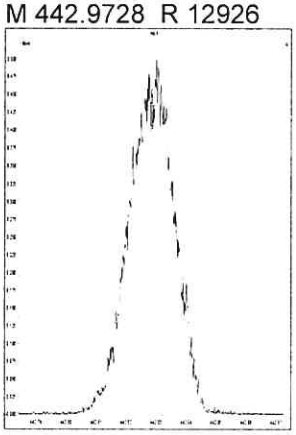

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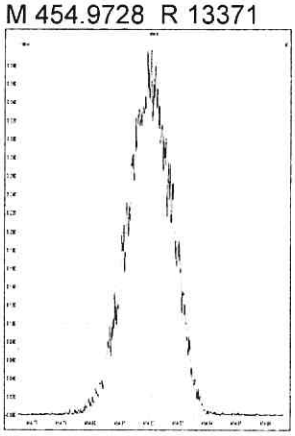

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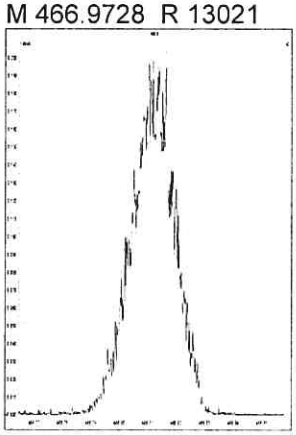

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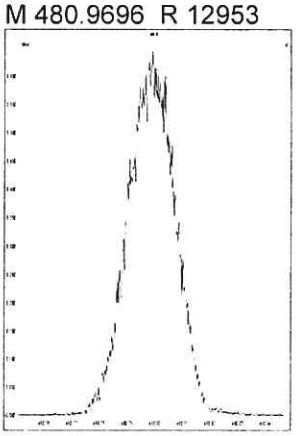

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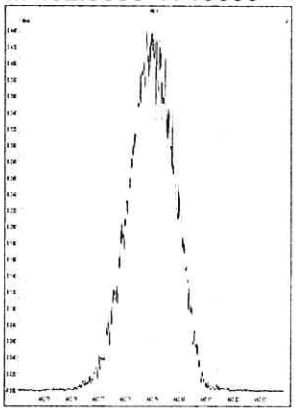

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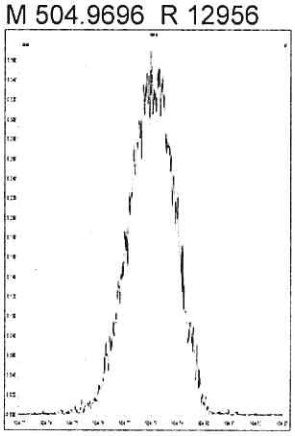

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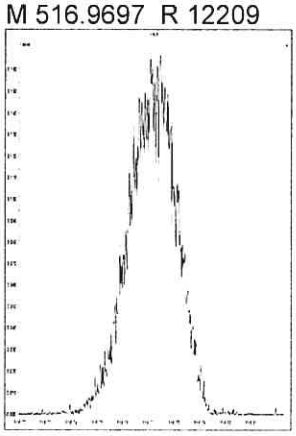


WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

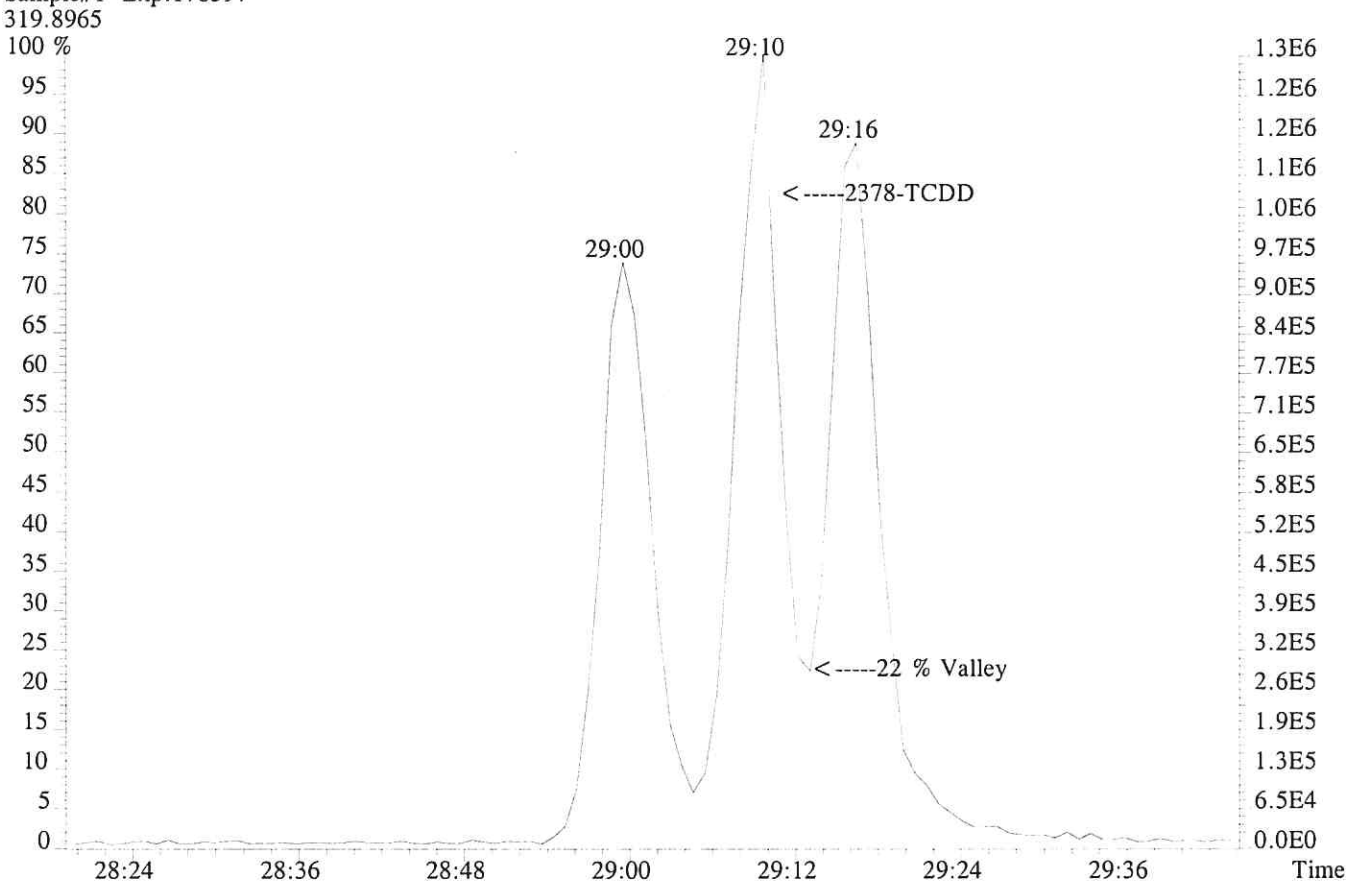
Case No.: _____ SDG No.:
ID: 0.25 (mm)

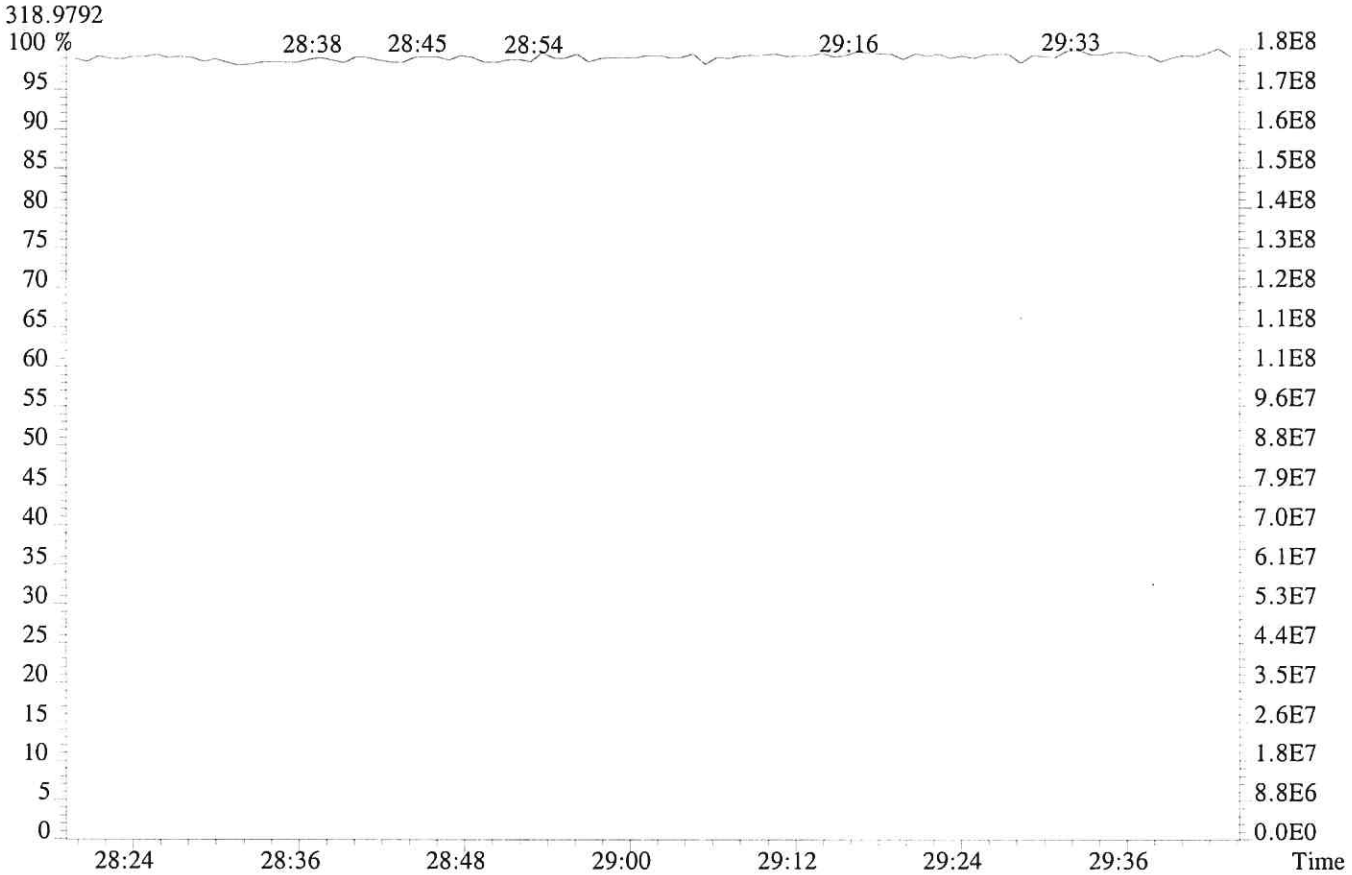
Lab File ID: P511537
Date Analyzed: 24-SEP-17
Time Analyzed: 11:50:02

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:06	30:17
TCDD	25:58	30:07
PeCDF	30:13	34:24
PeCDD	31:43	34:09
HxCDF	35:02	37:30
HxCDD	35:32	37:06
HpCDF	38:42	40:06
HpCDD	38:57	39:37

% Valley 2378-TCDD: 22 %

File:P511537 #1-800 Acq:24-SEP-2017 11:50:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397





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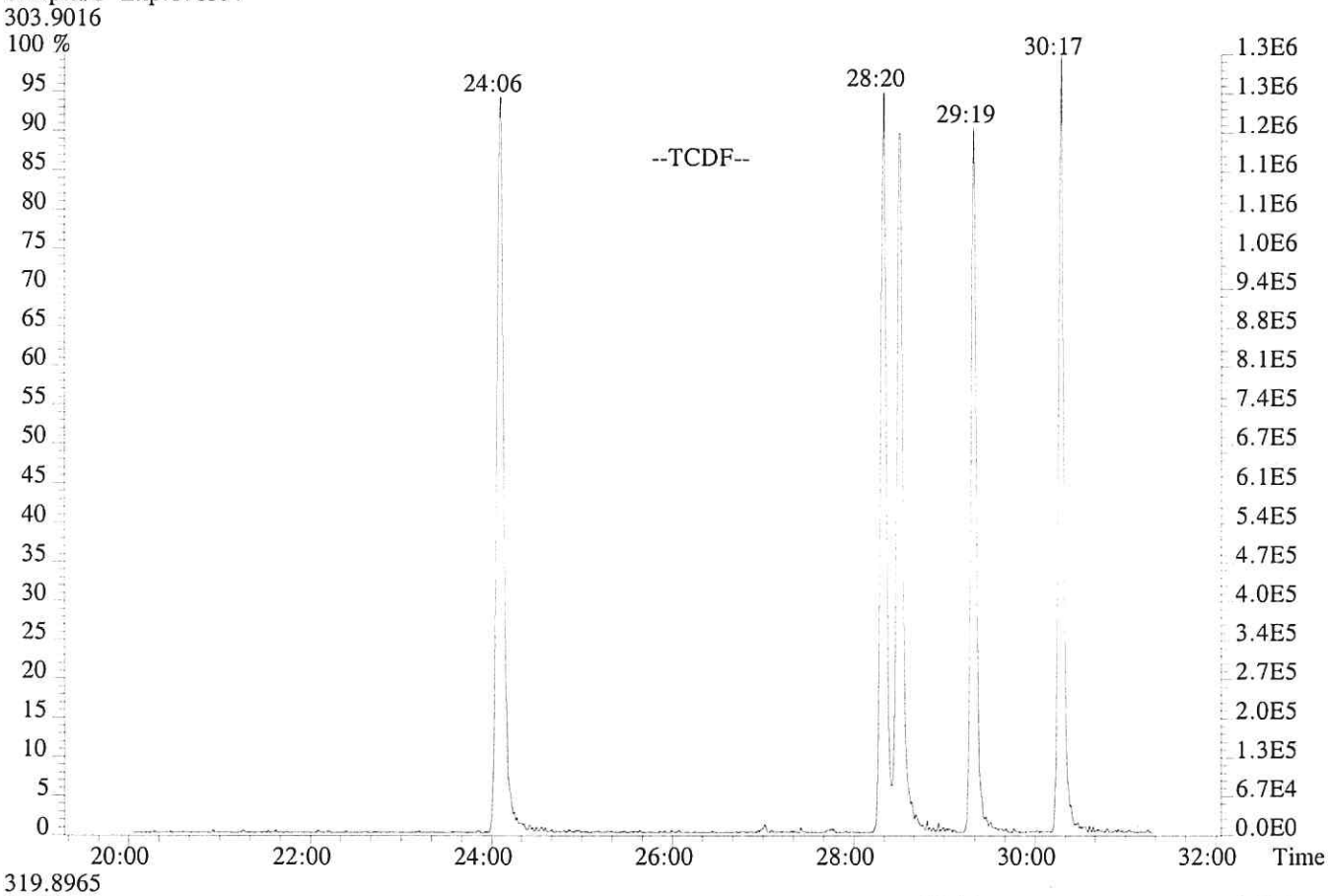
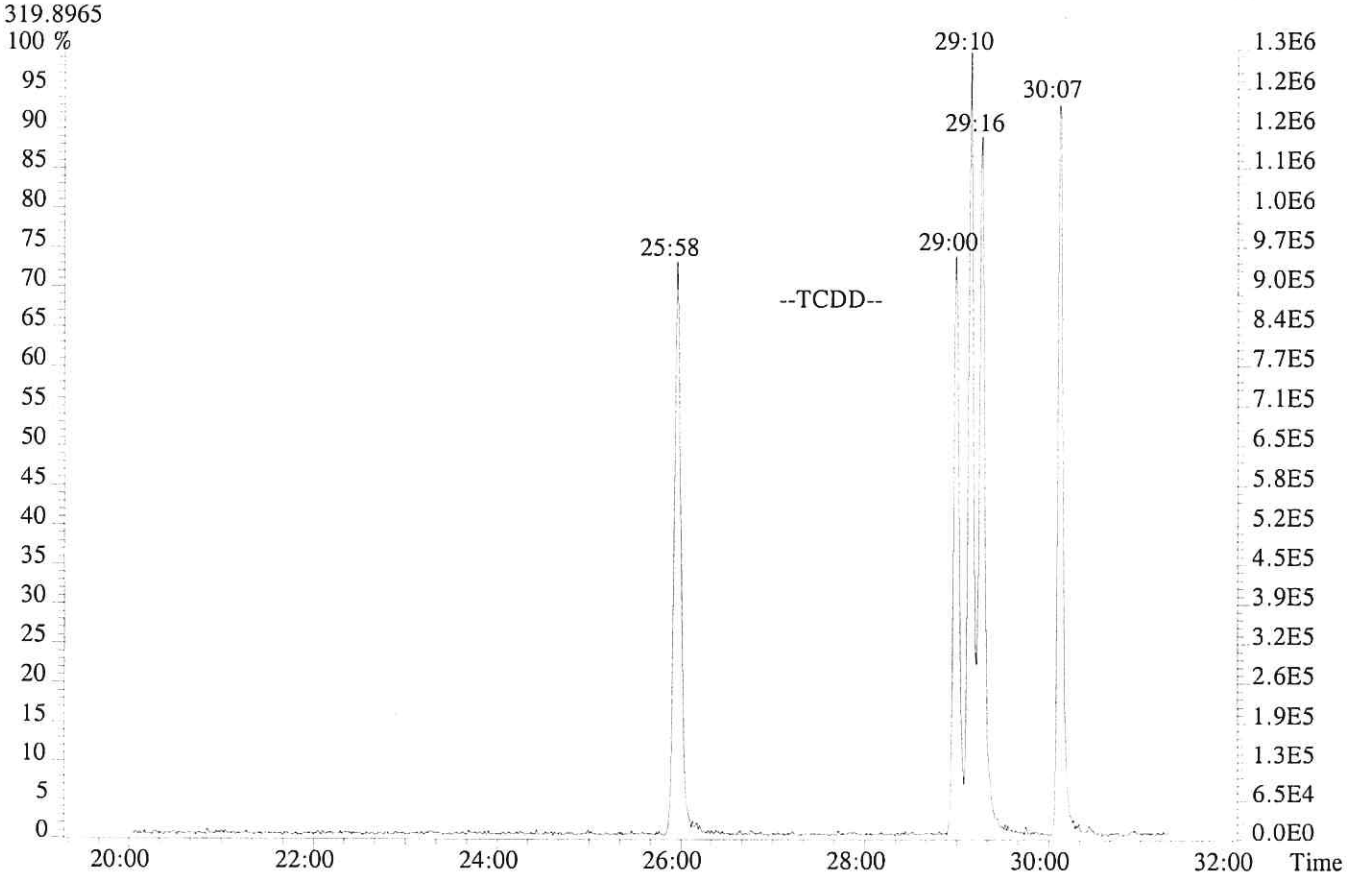
Sample#1 Exp:178397





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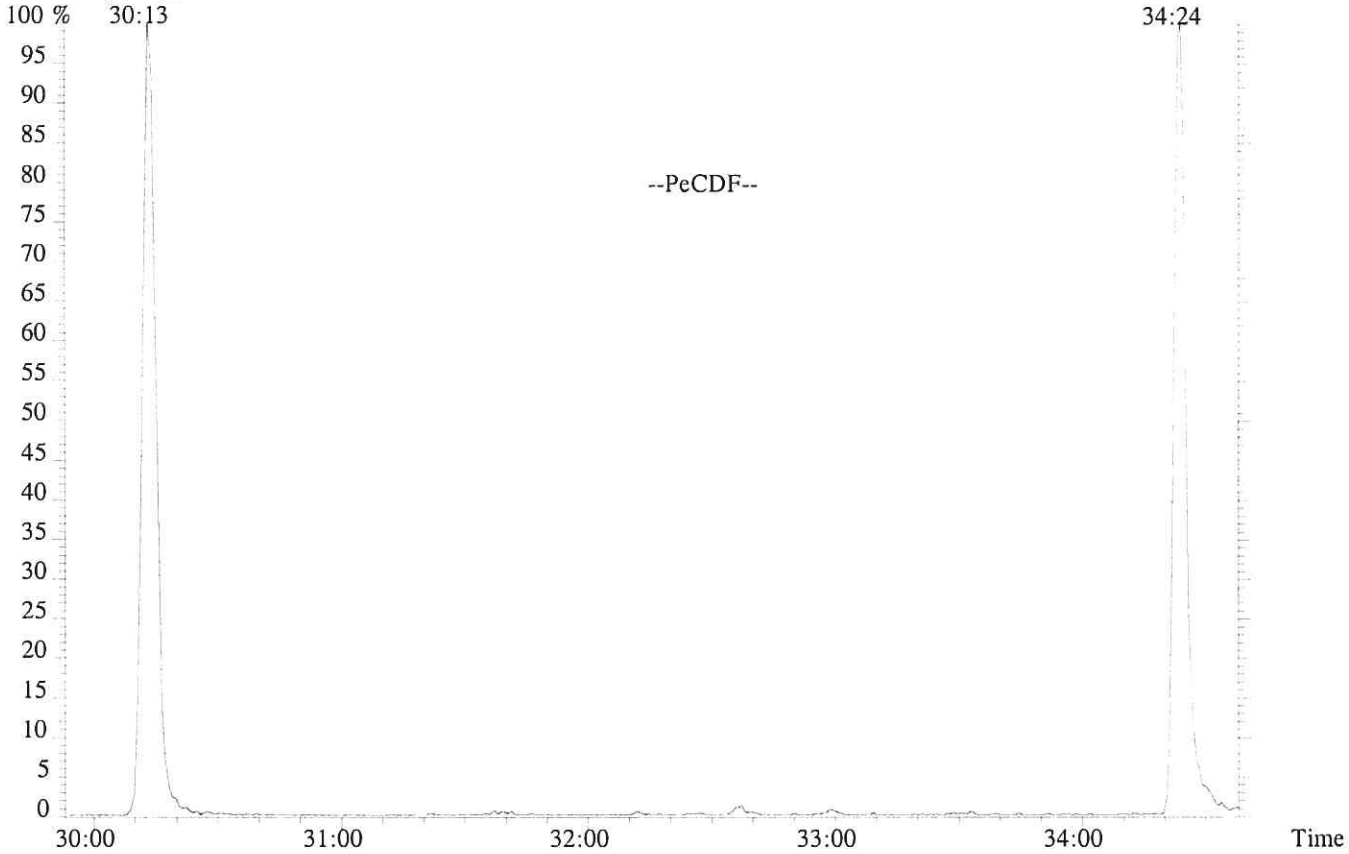
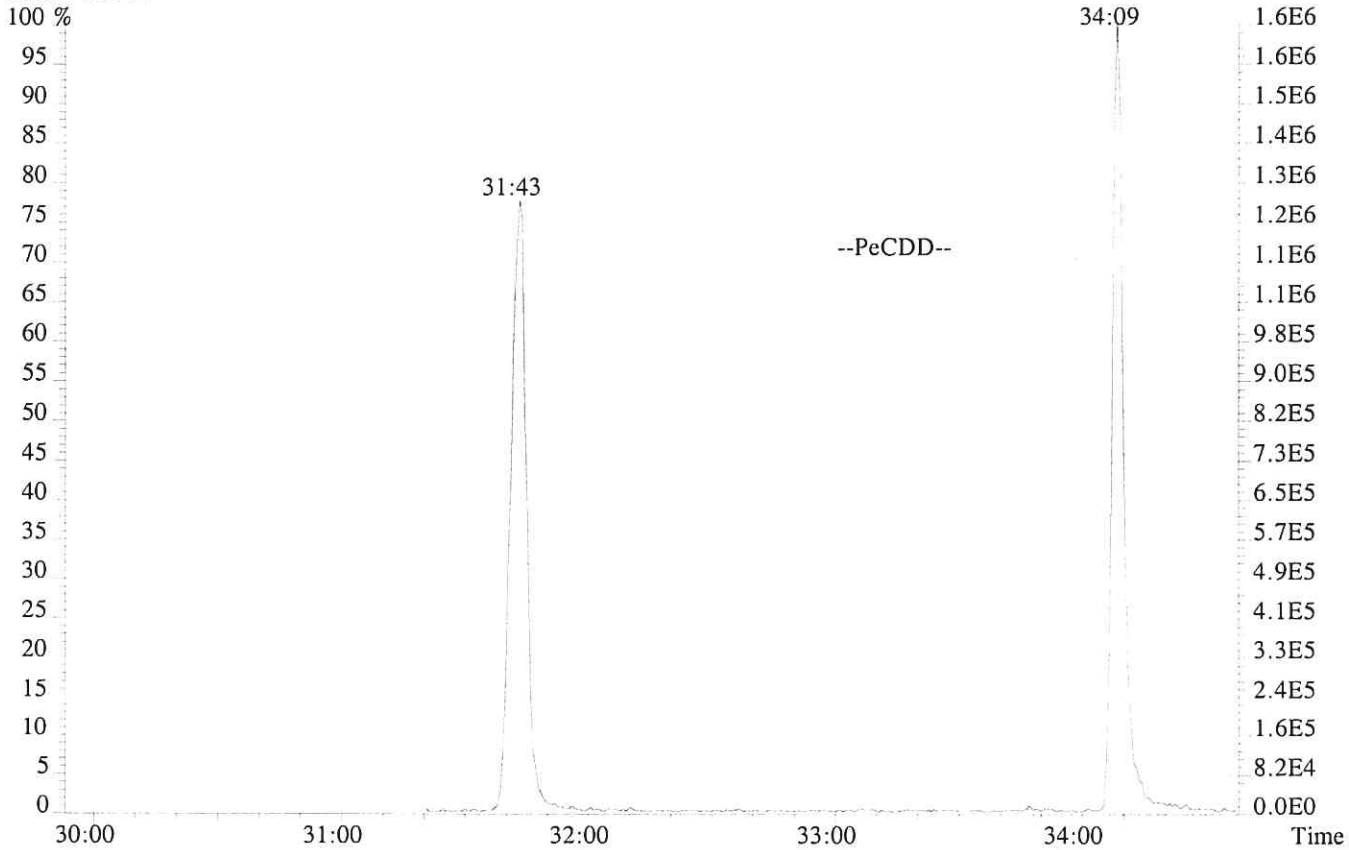
Sample#1 Exp:178397
339.8597,339.8597 F:2



355.8546 F:2



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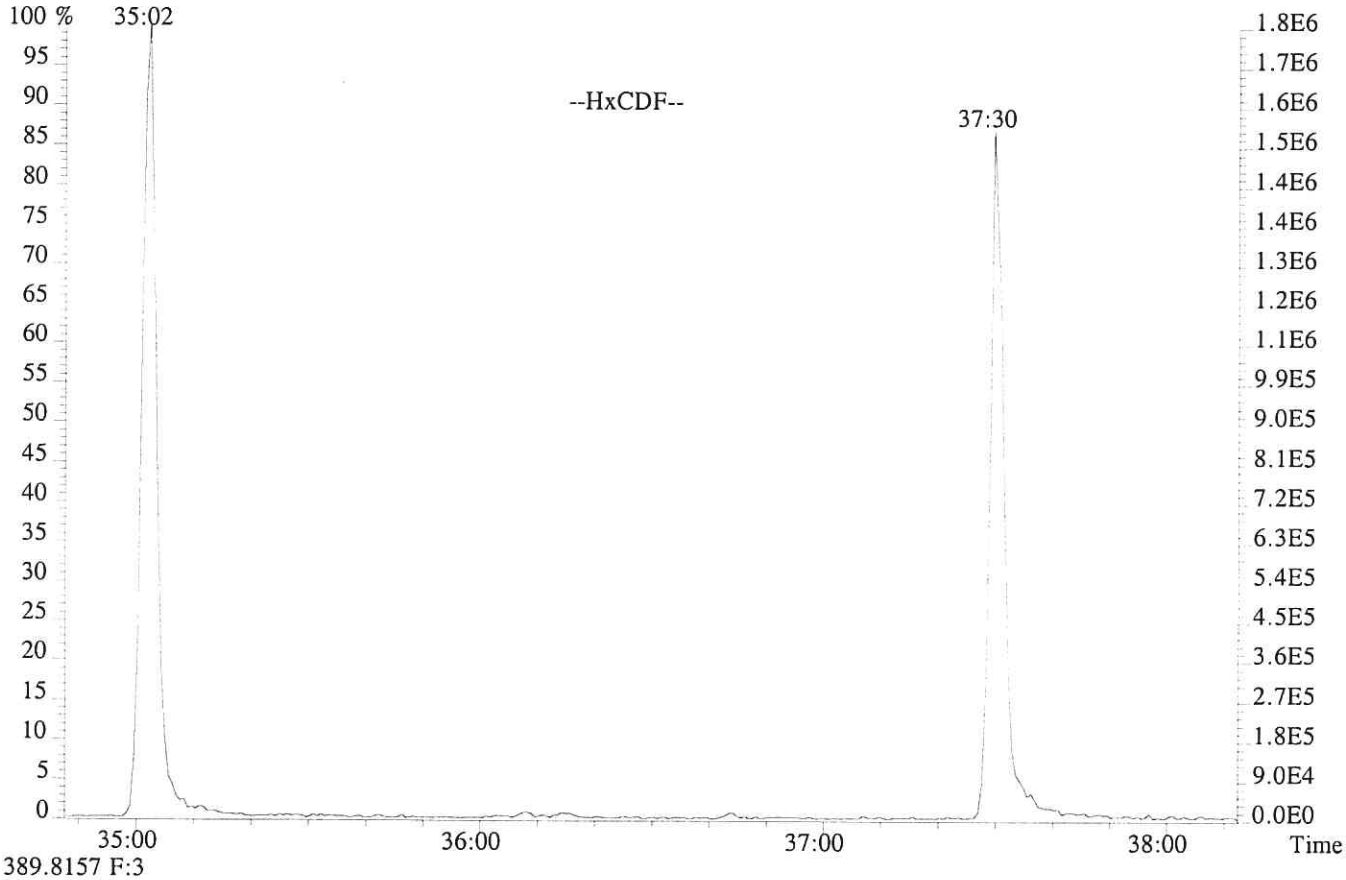
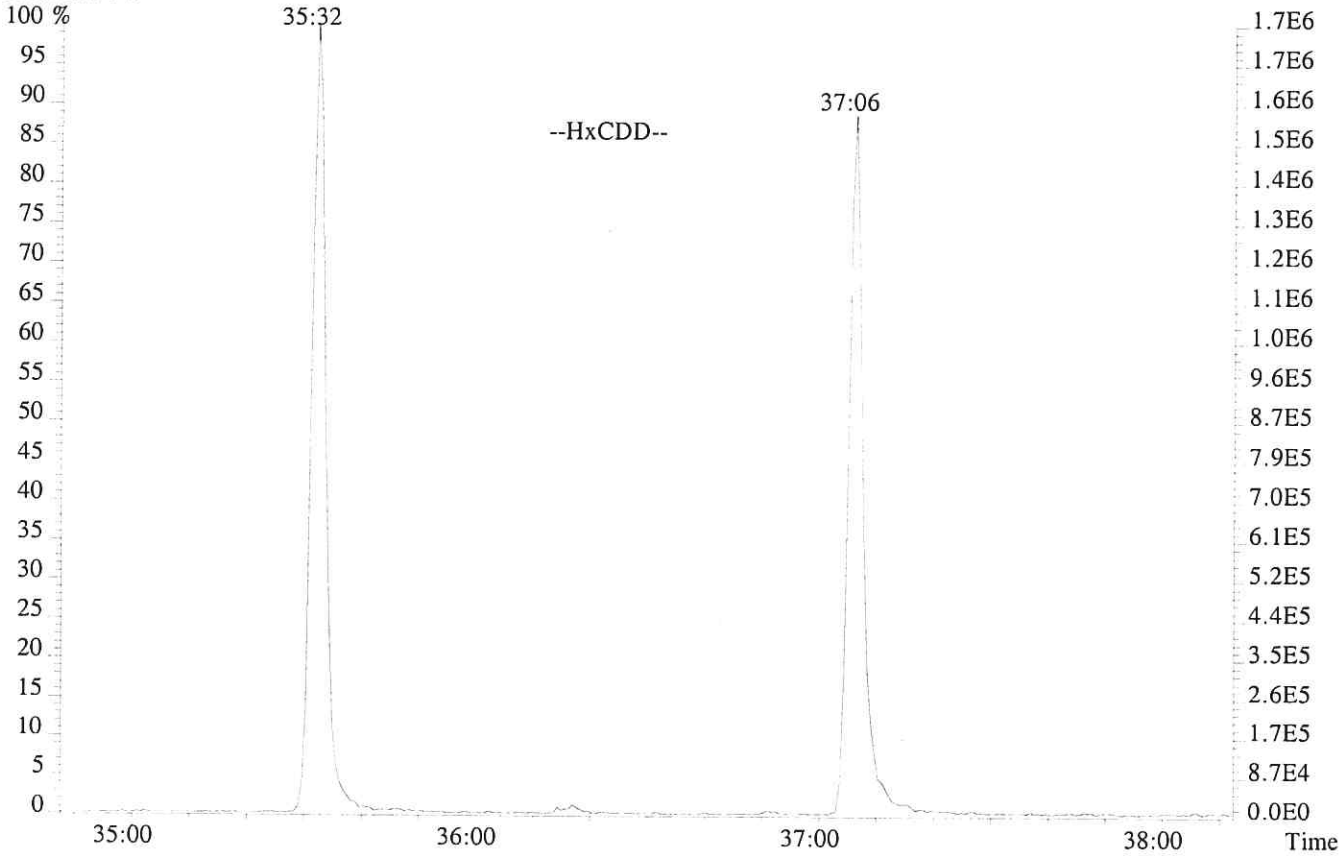
Sample#1 Exp:178397
373.8208 F:3



389.8157 F:3



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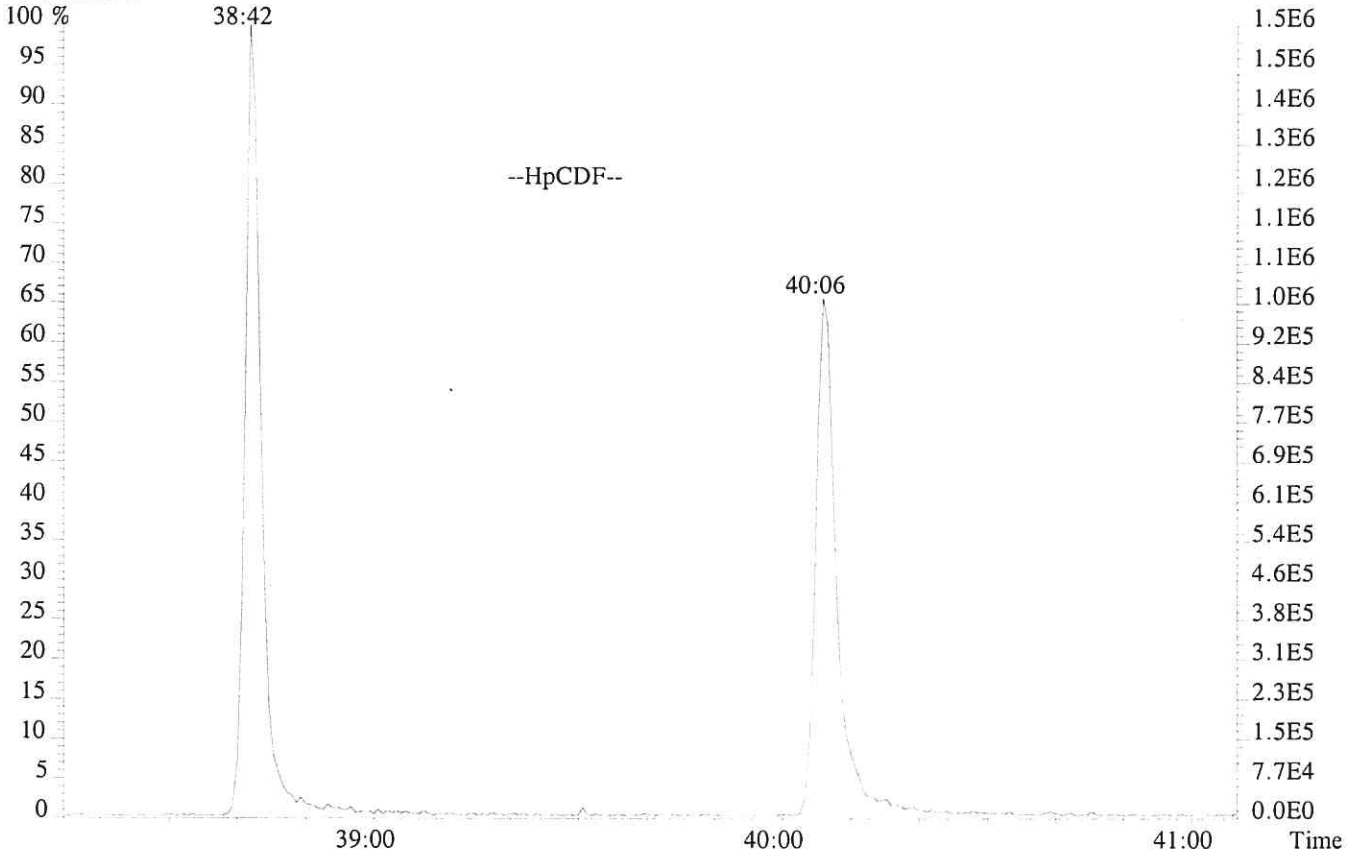
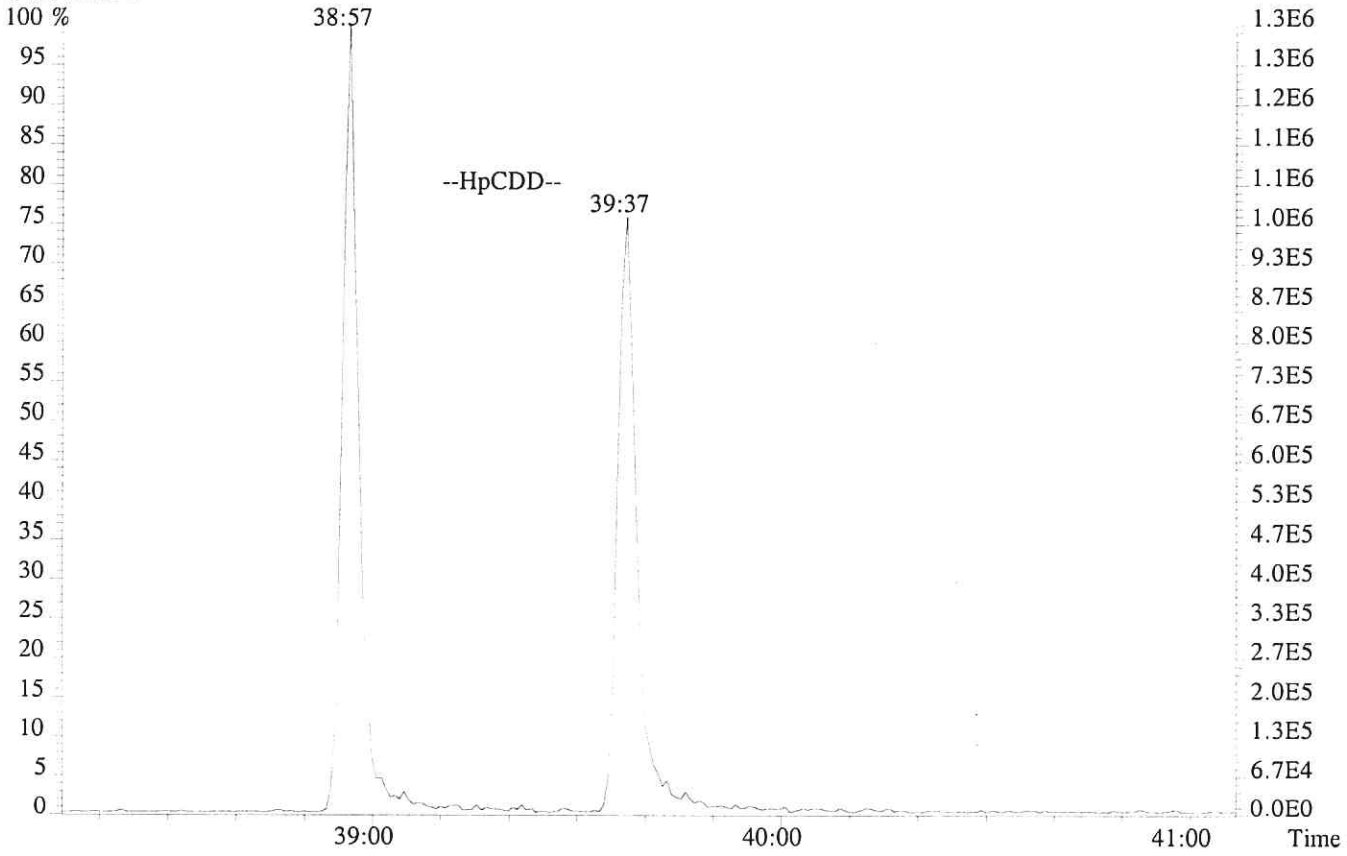
Sample#1 Exp:178397
407.7818 F:4



423.7766 F:4



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511536 Analysis Date: 24-SEP-17 Time: 10:54:04

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	9.2	7.8 - 12.9	-7.8
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	51	39 - 65	1.1
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	52	39 - 64	3.4
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	53	39 - 64	6.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	53	41 - 61	6.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	51	43 - 58	2.6
OCDD	M+2/M+4	0.89	0.76-1.02	102	79 - 126	2.1
2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	10.0	8.4 - 12.0	-0.3
1,2,3,7,8-PeCDF	M+2/M+4	1.45	1.32-1.78	52	41 - 60	4.5
2,3,4,7,8-PeCDF	M+2/M+4	1.43	1.32-1.78	52	41 - 61	3.7
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.05-1.43	52	45 - 56	4.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.15	1.05-1.43	52	44 - 57	4.4
1,2,3,7,8,9-HxCDF	M+2/M+4	1.15	1.05-1.43	52	45 - 56	4.9
2,3,4,6,7,8-HxCDF	M+2/M+4	1.17	1.05-1.43	54	44 - 57	7.7
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.97	0.88-1.20	50	45 - 55	0.2
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.97	0.88-1.20	50	43 - 58	-0.6
OCDF	M+2/M+4	0.86	0.76-1.02	110	63 - 159	9.9

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511536 Analysis Date: 24-SEP-17 Time: 10:54:04

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	100	82 - 121	-0.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	89	62 - 160	-10.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	101	85 - 117	0.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	97	85 - 118	-3.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	100	72 - 138	0.3
13C-OCDD	M+2/M+4	0.90	0.76-1.02	184	96 - 415	-7.9
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	98	71 - 140	-1.8
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	91	76 - 130	-9.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	91	77 - 130	-9.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	103	76 - 131	2.5
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	107	70 - 143	7.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	105	74 - 135	4.9
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	102	73 - 137	2.0
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	105	78 - 129	5.3
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	109	77 - 129	9.0
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	M+2/M+4			9.5	7.8 - 12.7	-5.2

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
180102

Run #7 Filename P511536 Samp: 1 Inj: 1 Acquired: 24-SEP-17 10:54:04
Processed: 25-SEP-17 13:01:45 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	4.350e+03	5.924e+03	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	3.498e+04	2.418e+04	1.45	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:30	3.281e+04	2.287e+04	1.43	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	2.688e+04	2.339e+04	1.15	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	3.028e+04	2.635e+04	1.15	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.746e+04	2.342e+04	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:28	2.468e+04	2.145e+04	1.15	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	2.457e+04	2.546e+04	0.97	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	2.079e+04	2.151e+04	0.97	yes	no	1.191
10	Unk	OCDF	42:36	3.267e+04	3.803e+04	0.86	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	3.846e+03	4.959e+03	0.78	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:47	2.673e+04	1.678e+04	1.59	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	2.210e+04	1.829e+04	1.21	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:56	2.327e+04	1.827e+04	1.27	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	2.384e+04	1.970e+04	1.21	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	1.965e+04	1.891e+04	1.04	yes	no	0.942
17	Unk	OCDD	42:24	2.938e+04	3.314e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:29	5.506e+04	6.992e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	7.894e+04	5.035e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	7.741e+04	4.958e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	3.068e+04	6.016e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	3.739e+04	7.224e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	3.306e+04	6.401e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	2.911e+04	5.850e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	2.432e+04	5.530e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	2.188e+04	4.959e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:15	3.934e+04	5.033e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	5.806e+04	3.667e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	4.545e+04	3.568e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	4.697e+04	3.735e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	4.084e+04	3.893e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:23	5.534e+04	6.124e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:42	4.139e+04	5.275e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	5.153e+04	3.876e+04	1.33	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	9.217e+03				no	1.033

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Office(281)530-5656. Fax(281)530-5887

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511536 Samp: 1 Inj: 1 Acquired: 24-SEP-17 10:54:04
Processed: 25-SEP-17 13:01:45 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.78e+05	1.26e+03	6.2e+02	1.07e+06	5.65e+03	1.9e+02
2	1,2,3,7,8-PeCDF	6.46e+06	6.92e+02	9.3e+03	4.40e+06	4.12e+03	1.1e+03
3	2,3,4,7,8-PeCDF	6.38e+06	6.92e+02	9.2e+03	4.39e+06	4.12e+03	1.1e+03
4	1,2,3,4,7,8-HxCDF	5.80e+06	1.54e+03	3.8e+03	5.02e+06	1.08e+03	4.7e+03
5	1,2,3,6,7,8-HxCDF	6.17e+06	1.54e+03	4.0e+03	5.31e+06	1.08e+03	4.9e+03
6	2,3,4,6,7,8-HxCDF	5.71e+06	1.54e+03	3.7e+03	4.94e+06	1.08e+03	4.6e+03
7	1,2,3,7,8,9-HxCDF	4.81e+06	1.54e+03	3.1e+03	4.12e+06	1.08e+03	3.8e+03
8	1,2,3,4,6,7,8-HpCDF	4.90e+06	3.73e+03	1.3e+03	5.15e+06	4.06e+03	1.3e+03
9	1,2,3,4,7,8,9-HpCDF	3.70e+06	3.73e+03	9.9e+02	3.79e+06	4.06e+03	9.3e+02
10	OCDF	5.17e+06	1.02e+03	5.1e+03	6.03e+06	2.56e+03	2.4e+03
11	2,3,7,8-TCDD	7.22e+05	3.60e+03	2.0e+02	9.32e+05	1.65e+03	5.6e+02
12	1,2,3,7,8-PeCDD	5.09e+06	2.31e+03	2.2e+03	3.17e+06	2.92e+02	1.1e+04
13	1,2,3,4,7,8-HxCDD	4.87e+06	1.18e+03	4.1e+03	3.97e+06	1.95e+03	2.0e+03
14	1,2,3,6,7,8-HxCDD	4.76e+06	1.18e+03	4.0e+03	3.75e+06	1.95e+03	1.9e+03
15	1,2,3,7,8,9-HxCDD	4.65e+06	1.18e+03	4.0e+03	3.76e+06	1.95e+03	1.9e+03
16	1,2,3,4,6,7,8-HpCDD	3.75e+06	1.48e+03	2.5e+03	3.59e+06	1.45e+03	2.5e+03
17	OCDD	4.68e+06	8.80e+02	5.3e+03	5.33e+06	1.05e+03	5.1e+03
18	13C-2,3,7,8-TCDF	9.54e+06	1.15e+04	8.3e+02	1.22e+07	9.05e+03	1.3e+03
19	13C-1,2,3,7,8-PeCDF	1.42e+07	1.46e+03	9.7e+03	9.05e+06	1.63e+03	5.5e+03
20	13C-2,3,4,7,8-PeCDF	1.45e+07	1.46e+03	1.0e+04	9.28e+06	1.63e+03	5.7e+03
21	13C-1,2,3,4,7,8-HxCDF	6.47e+06	1.70e+03	3.8e+03	1.29e+07	2.70e+03	4.8e+03
22	13C-1,2,3,6,7,8-HxCDF	7.51e+06	1.70e+03	4.4e+03	1.46e+07	2.70e+03	5.4e+03
23	13C-2,3,4,6,7,8-HxCDF	6.97e+06	1.70e+03	4.1e+03	1.34e+07	2.70e+03	5.0e+03
24	13C-1,2,3,7,8,9-HxCDF	5.60e+06	1.70e+03	3.3e+03	1.13e+07	2.70e+03	4.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	4.82e+06	5.18e+03	9.3e+02	1.09e+07	8.18e+03	1.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.83e+06	5.18e+03	7.4e+02	8.75e+06	8.18e+03	1.1e+03
27	13C-2,3,7,8-TCDD	7.12e+06	1.02e+04	7.0e+02	9.19e+06	4.34e+03	2.1e+03
28	13C-1,2,3,7,8-PeCDD	1.06e+07	2.64e+03	4.0e+03	6.69e+06	2.08e+03	3.2e+03
29	13C-1,2,3,4,7,8-HxCDD	9.89e+06	2.72e+03	3.6e+03	7.70e+06	1.89e+03	4.1e+03
30	13C-1,2,3,6,7,8-HxCDD	9.55e+06	2.72e+03	3.5e+03	7.64e+06	1.89e+03	4.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	7.73e+06	2.11e+03	3.7e+03	7.24e+06	1.47e+03	4.9e+03
32	13C-OCDD	8.64e+06	1.50e+03	5.8e+03	9.69e+06	1.33e+03	7.3e+03
33	13C-1,2,3,4-TCDD	7.61e+06	1.02e+04	7.4e+02	9.81e+06	4.34e+03	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	9.90e+06	2.72e+03	3.6e+03	7.68e+06	1.89e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	1.73e+06	2.73e+03	6.3e+02			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (3.596e{+}03 + 1.652e{+}03\ ) \times 100}{(7.123e{+}06 + 9.187e{+}06\ ) \times (\qquad\qquad\qquad\qquad) \times 1.065} =$$

ALS ENVIRONMENTAL
10450 Stancliff Rd., Suite 115
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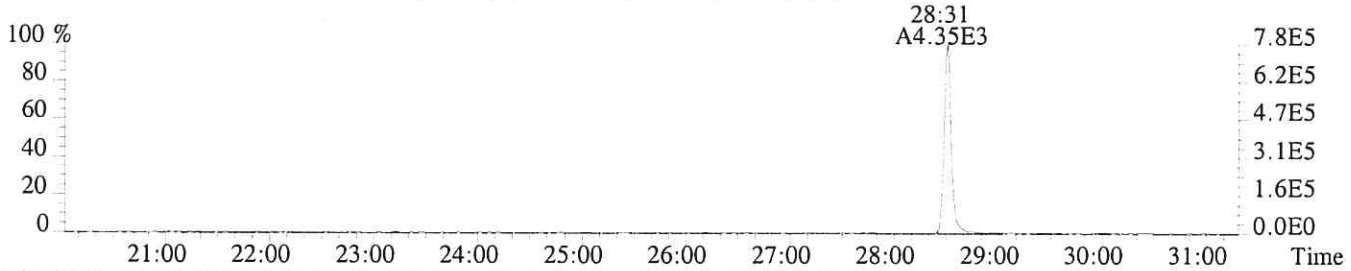
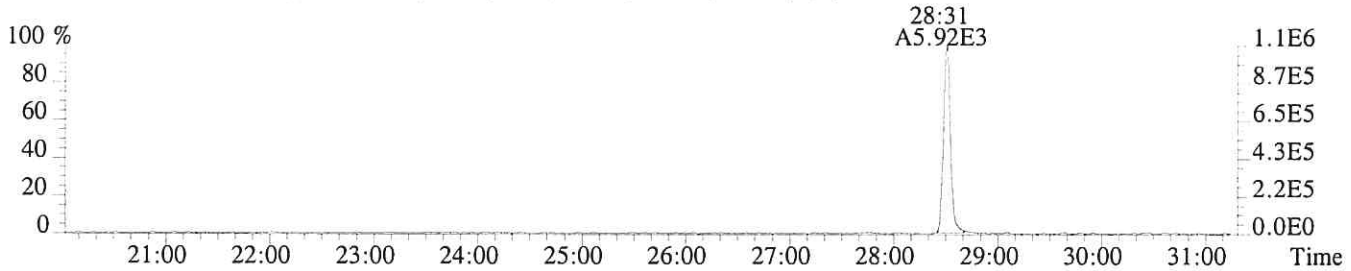
File:P511536 #1-800 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

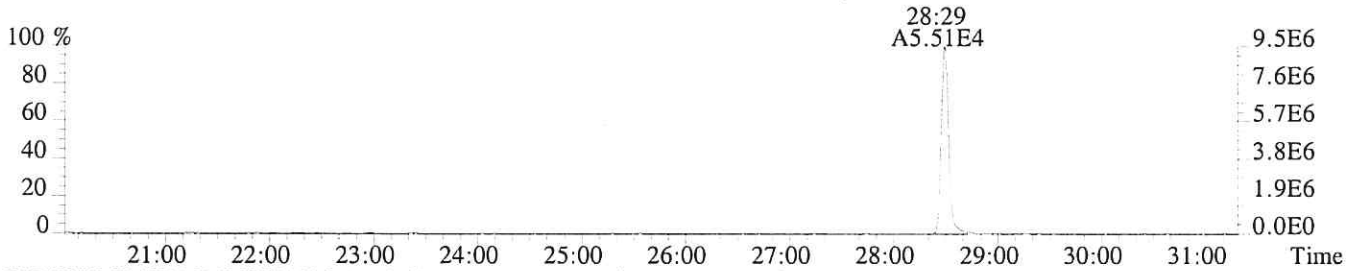
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,T)



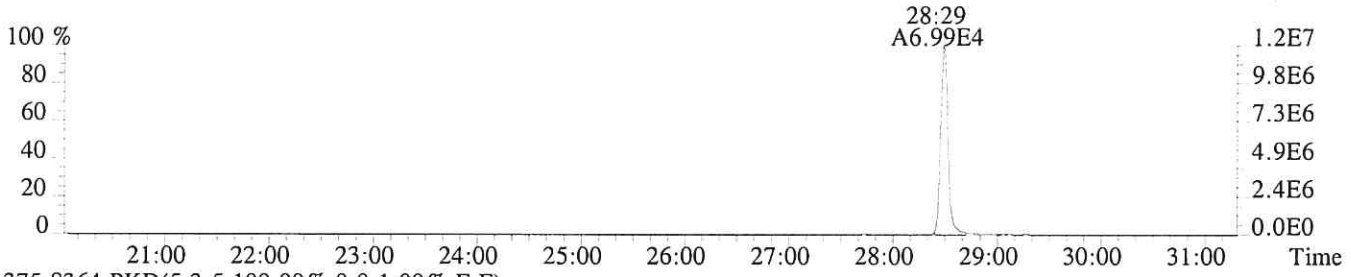
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5652.0,1.00%,F,T)



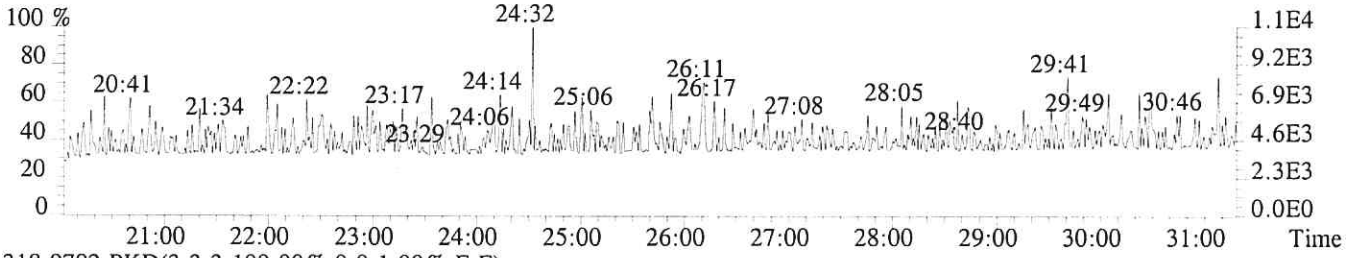
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11532.0,1.00%,F,T)



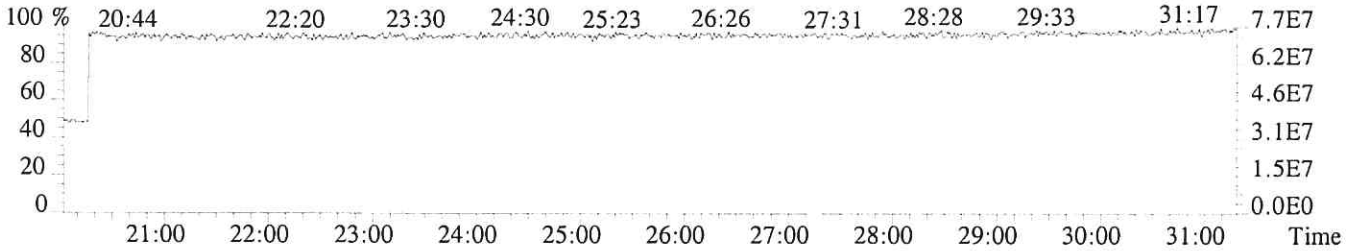
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9052.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

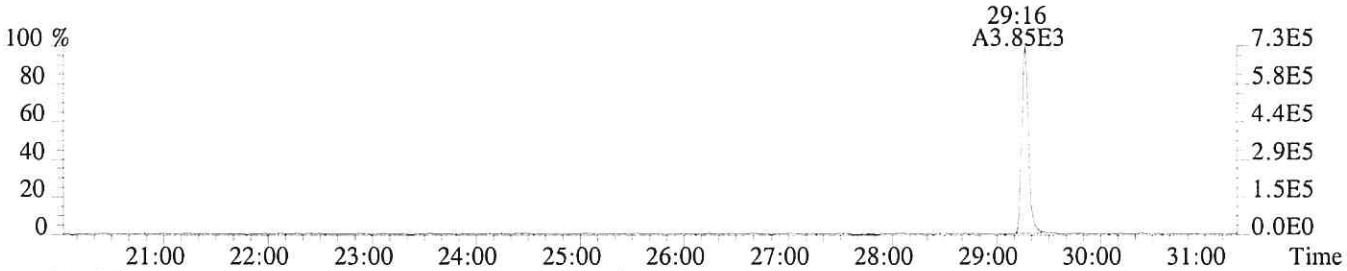


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

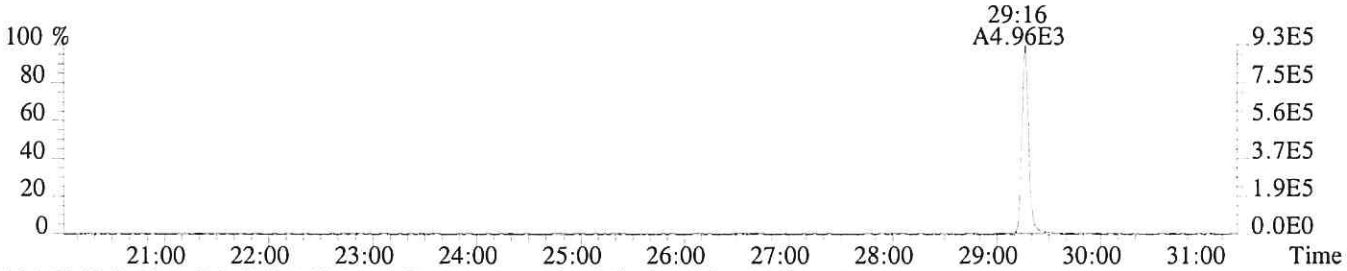


File:P511536 #1-800 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

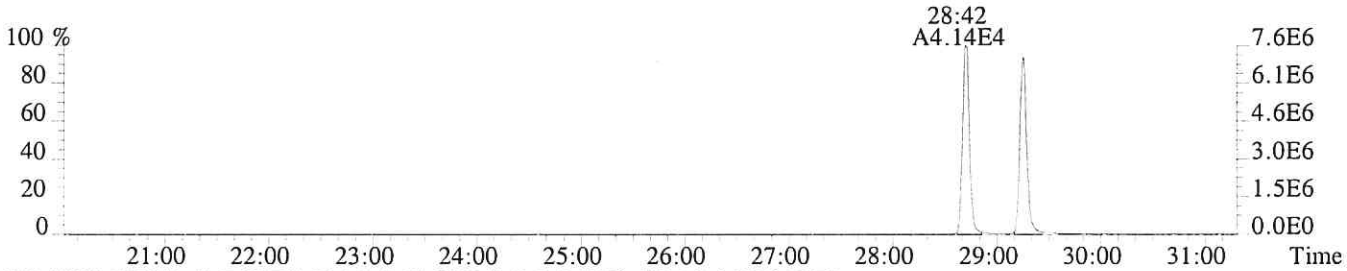
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3596.0,1.00%,F,T)



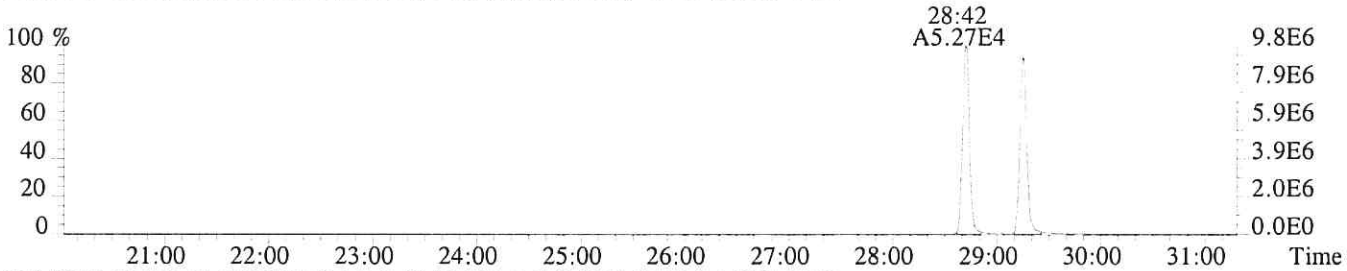
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1652.0,1.00%,F,T)



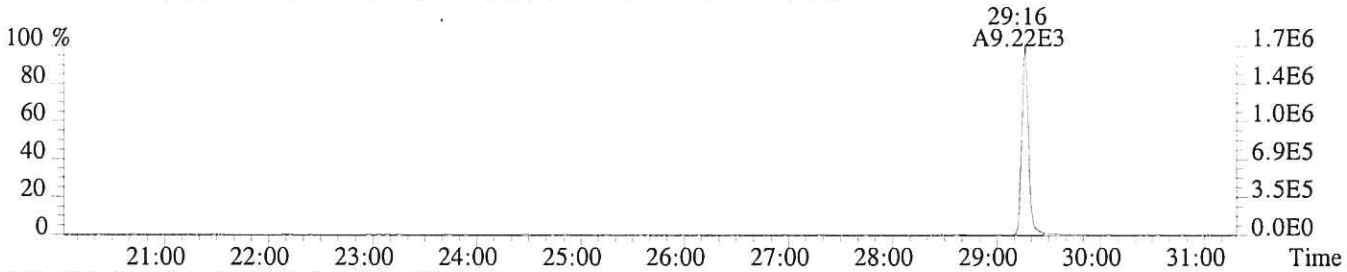
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10236.0,1.00%,F,T)



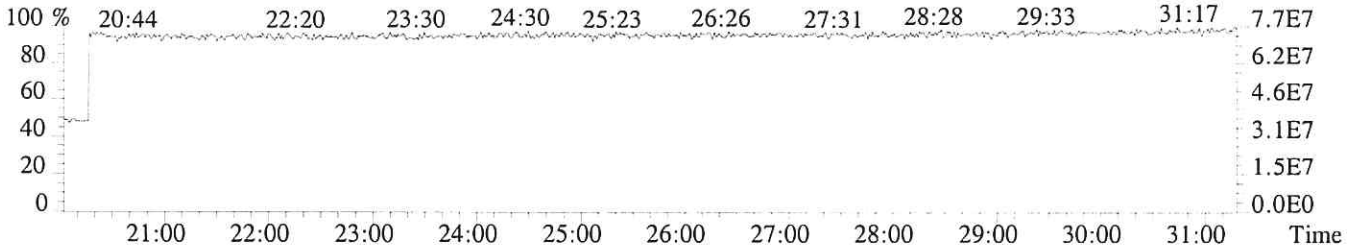
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4336.0,1.00%,F,T)



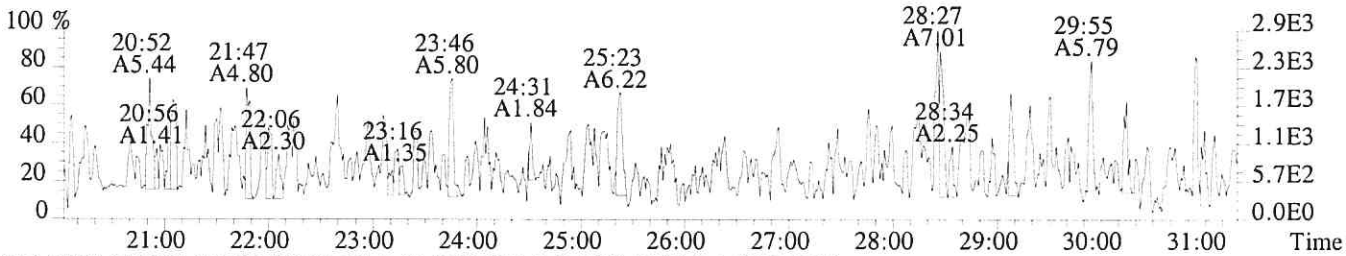
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2732.0,1.00%,F,T)



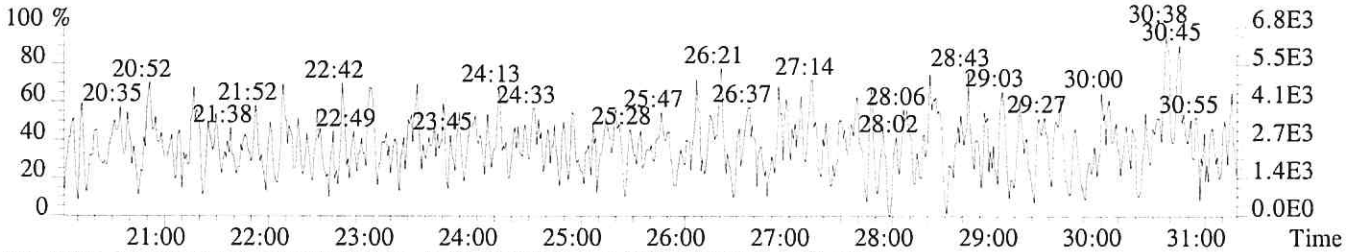
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



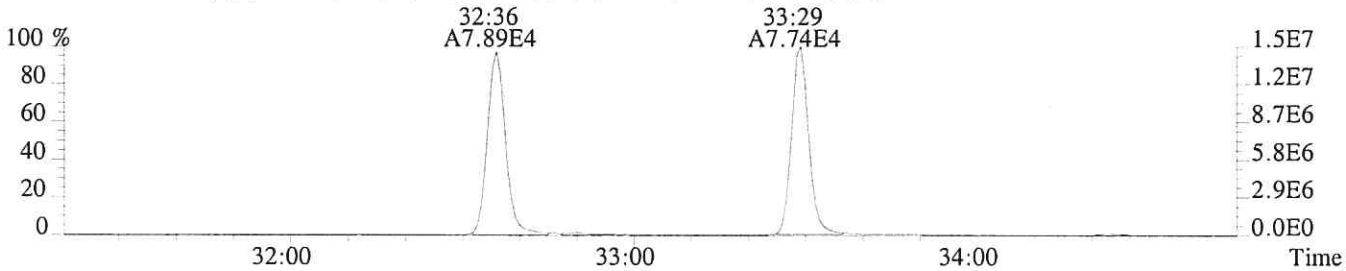
File:P511536 #1-800 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



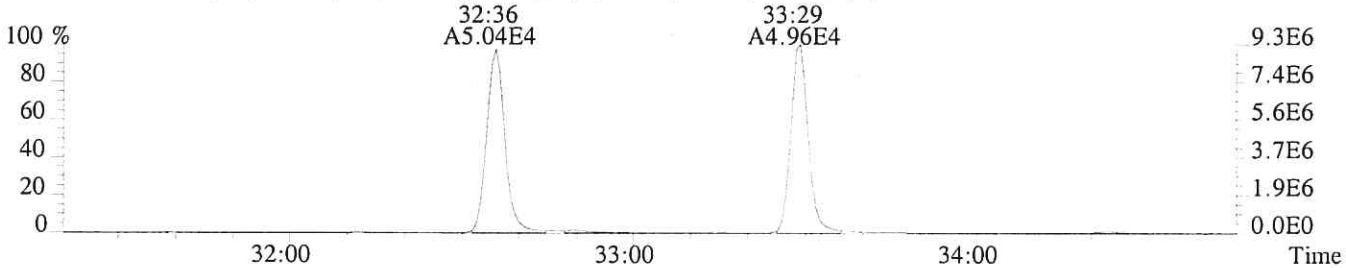
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3288.0,1.00%,F,T)



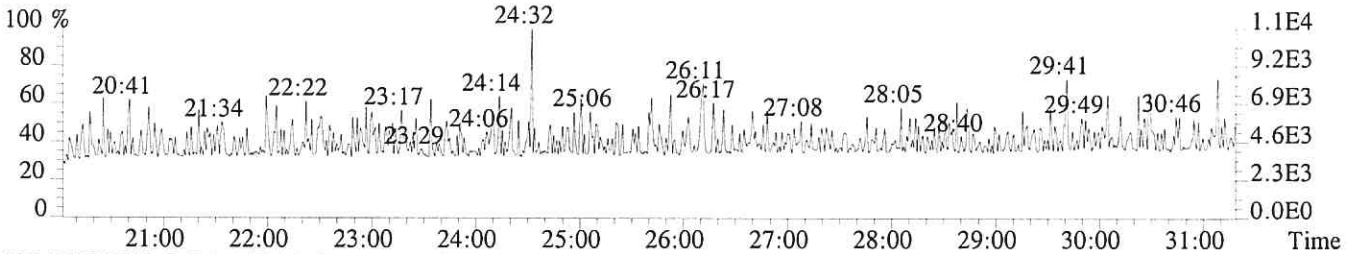
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



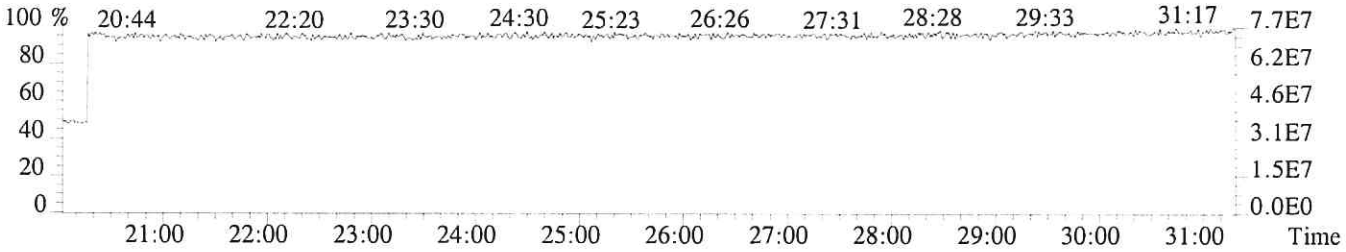
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

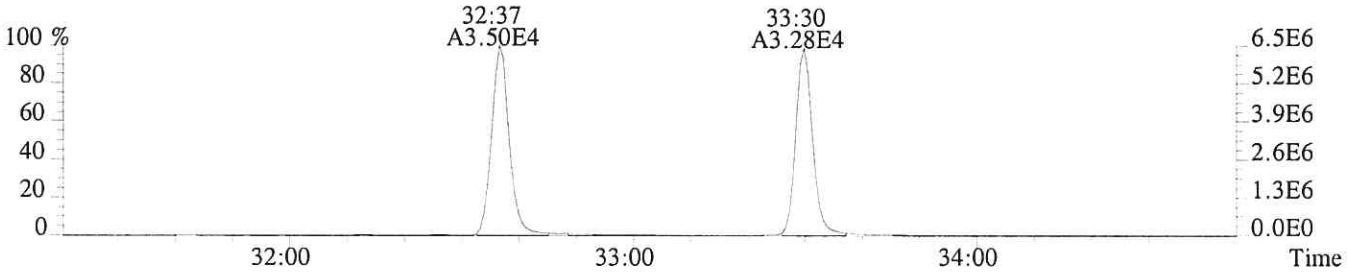


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

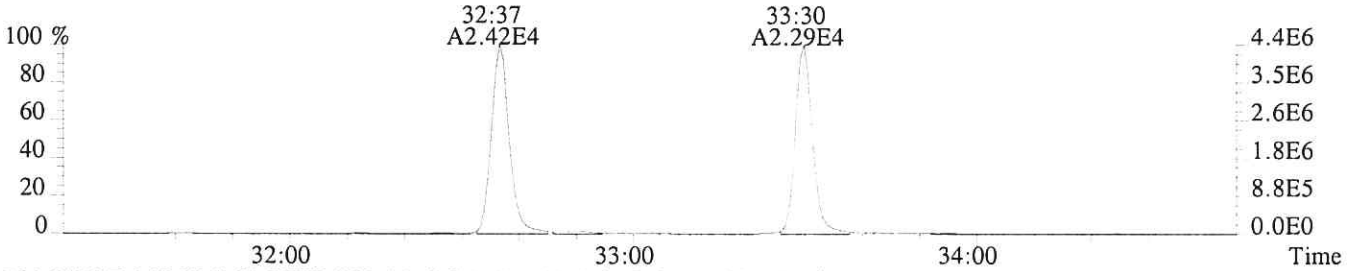


File:P511536 #1-308 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

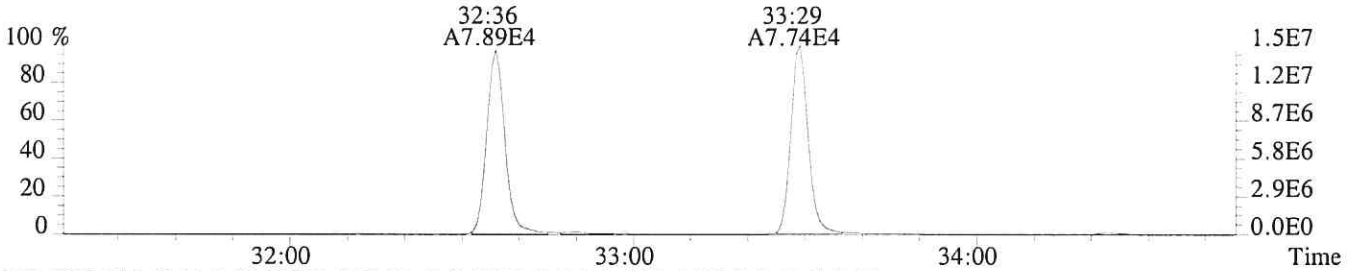
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,T)



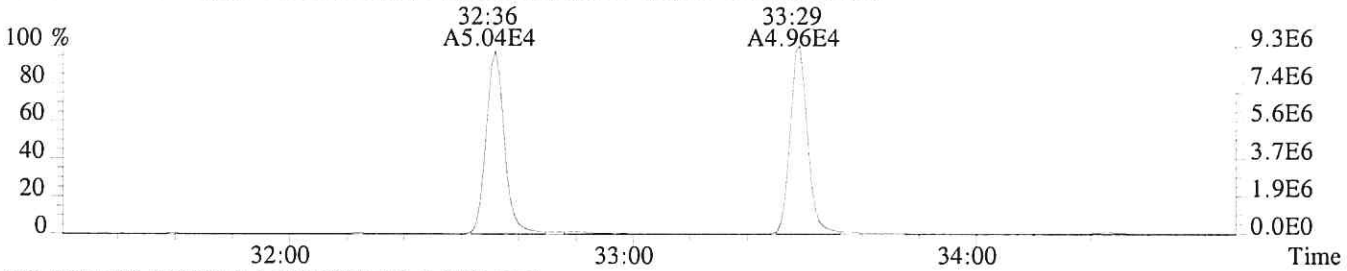
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4120.0,1.00%,F,T)



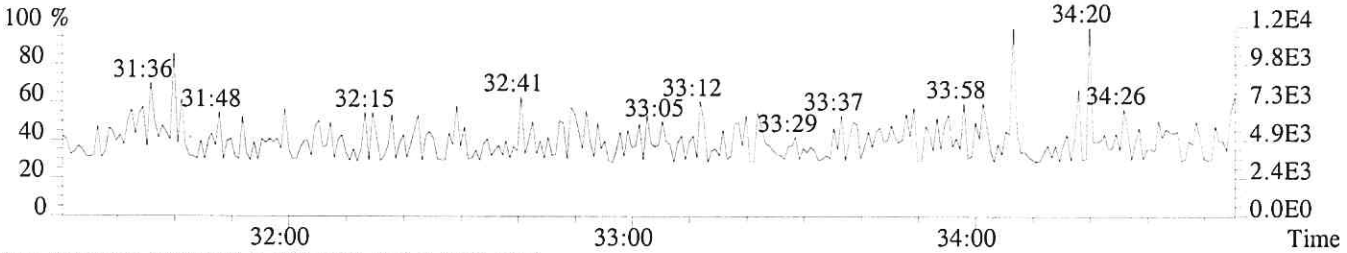
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,T)



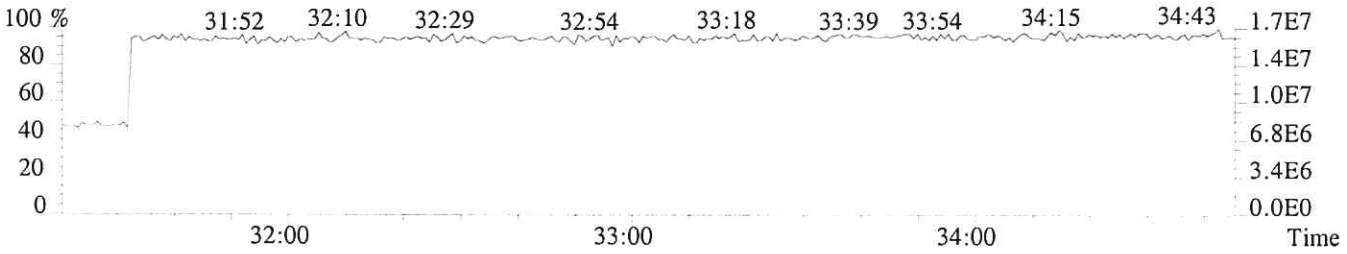
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)



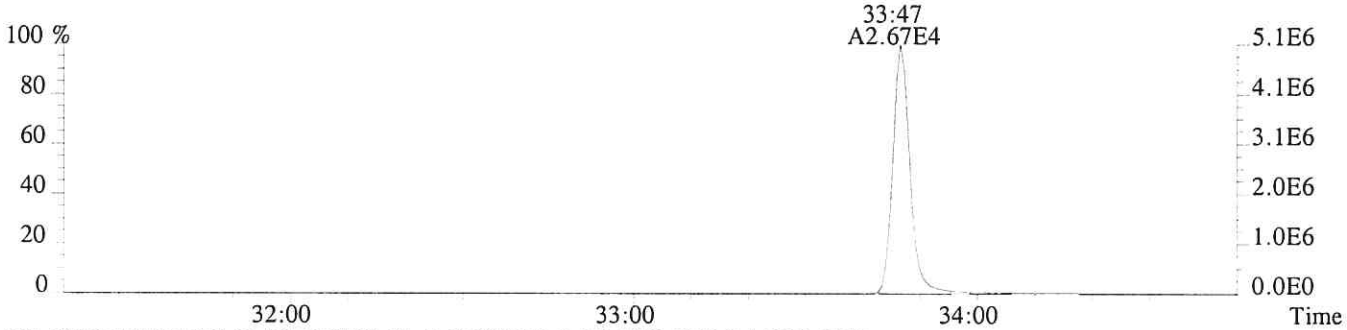
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



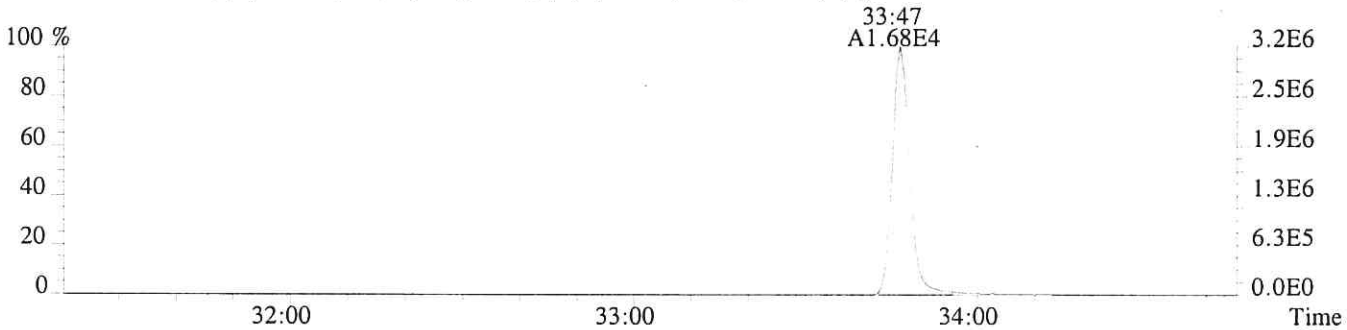
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



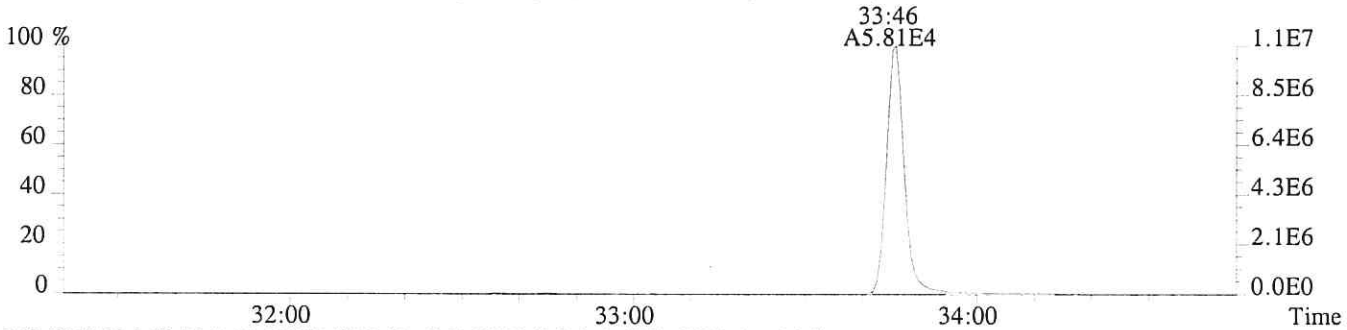
File:P511536 #1-308 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



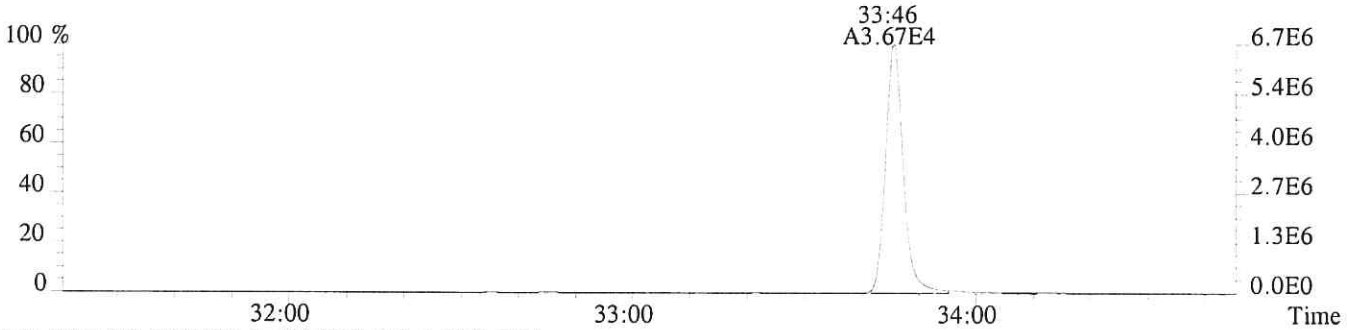
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,T)



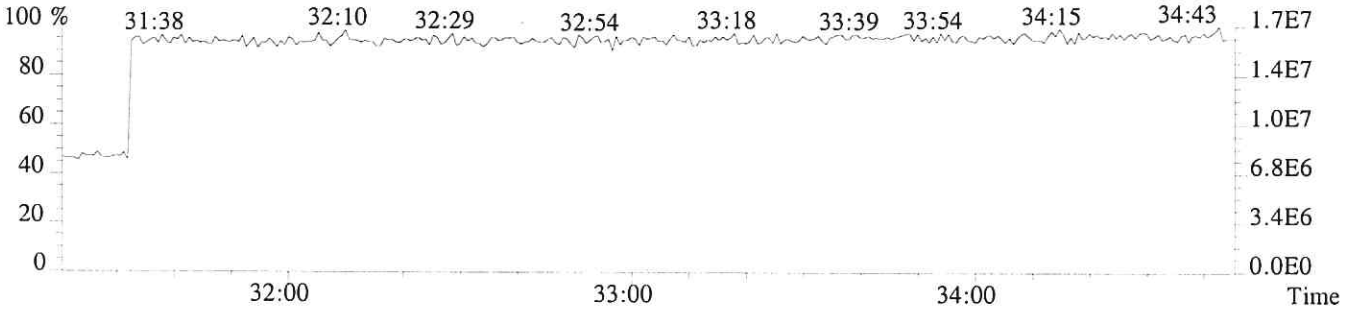
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2636.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2084.0,1.00%,F,T)

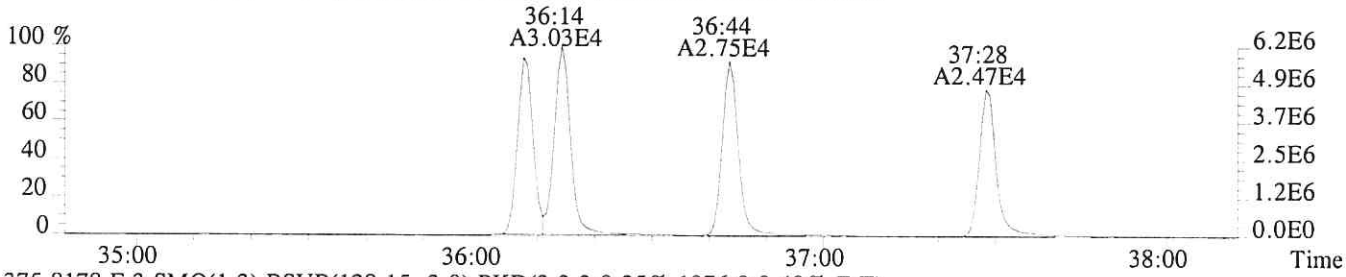


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

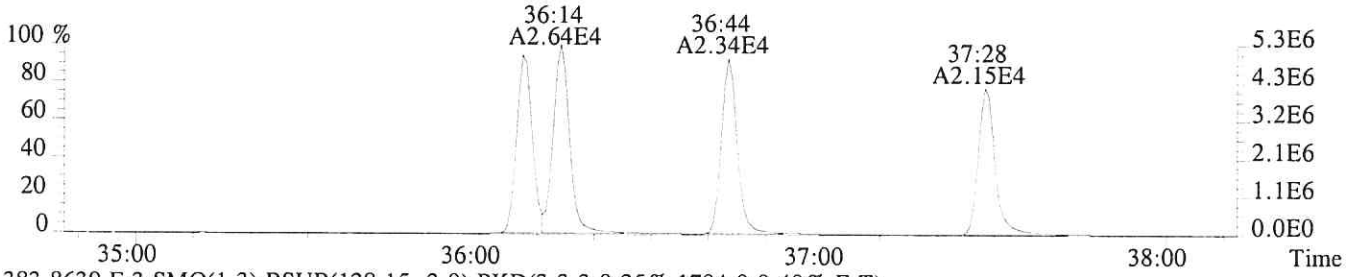


File:P511536 #1-308 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

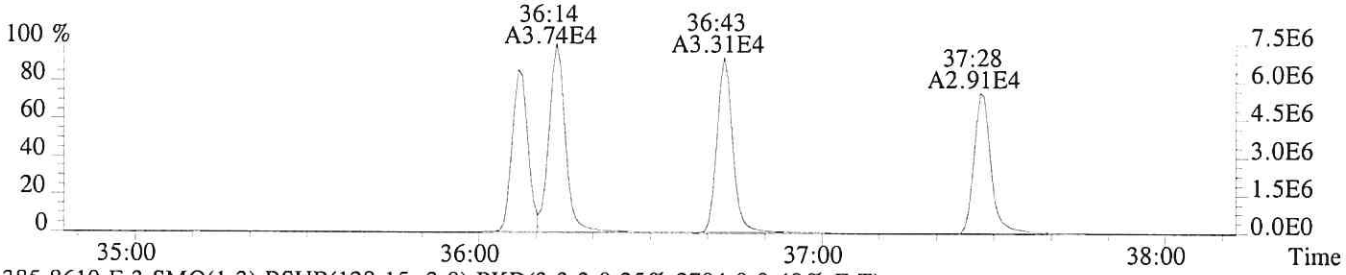
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1536.0,0.40%,F,T)



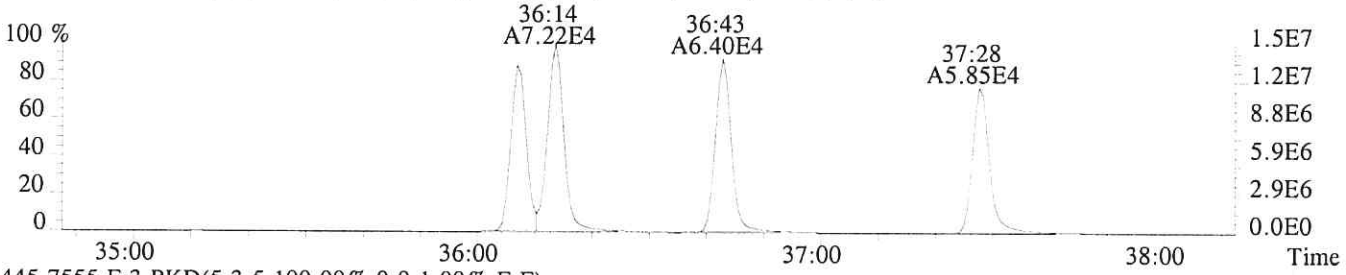
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1076.0,0.40%,F,T)



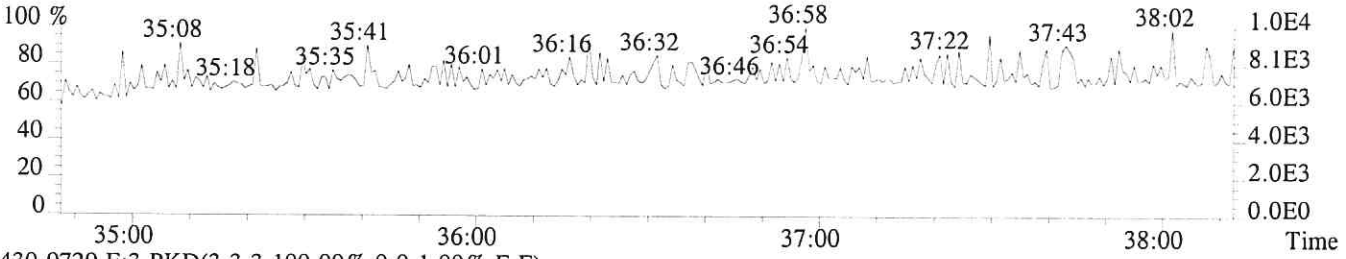
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)



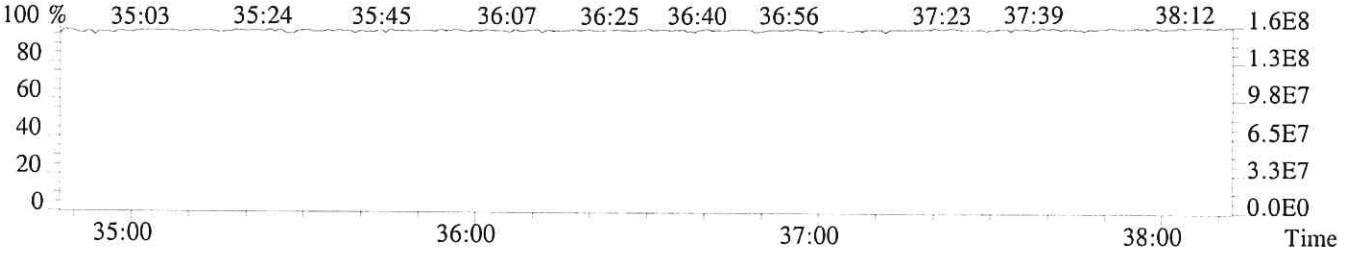
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2704.0,0.40%,F,T)



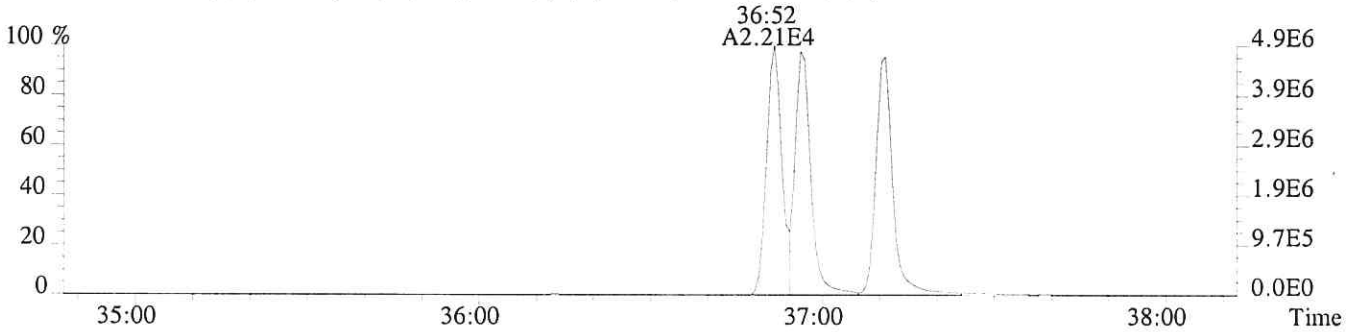
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



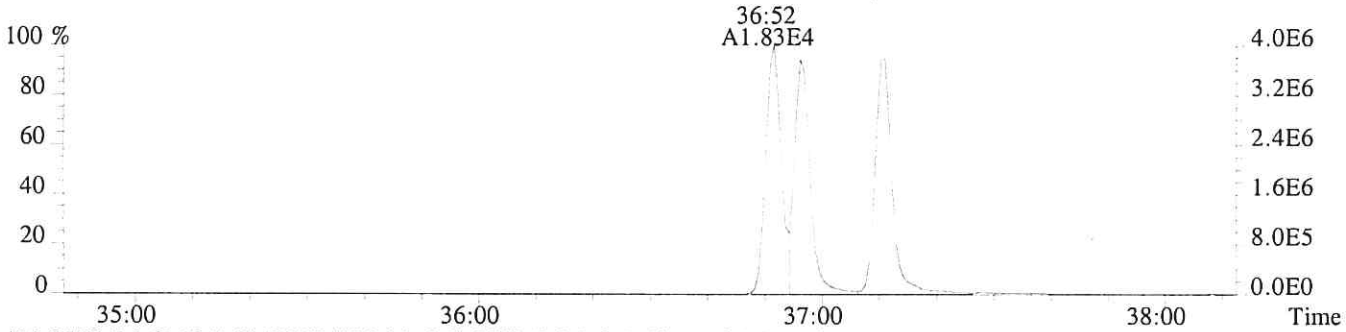
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



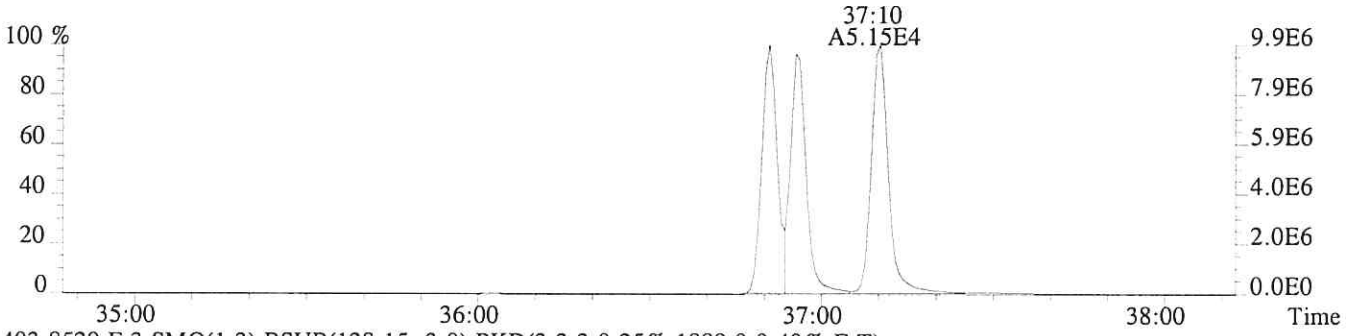
File:P511536 #1-308 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



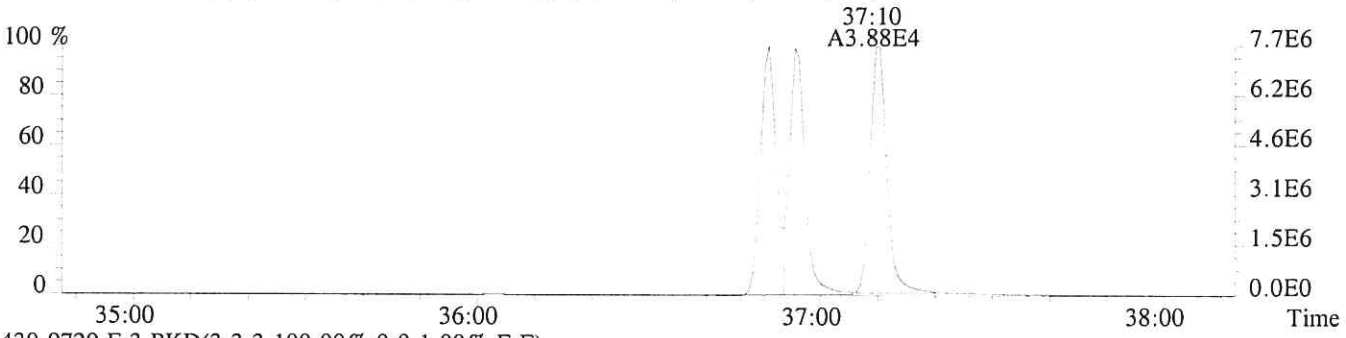
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1952.0,0.40%,F,T)



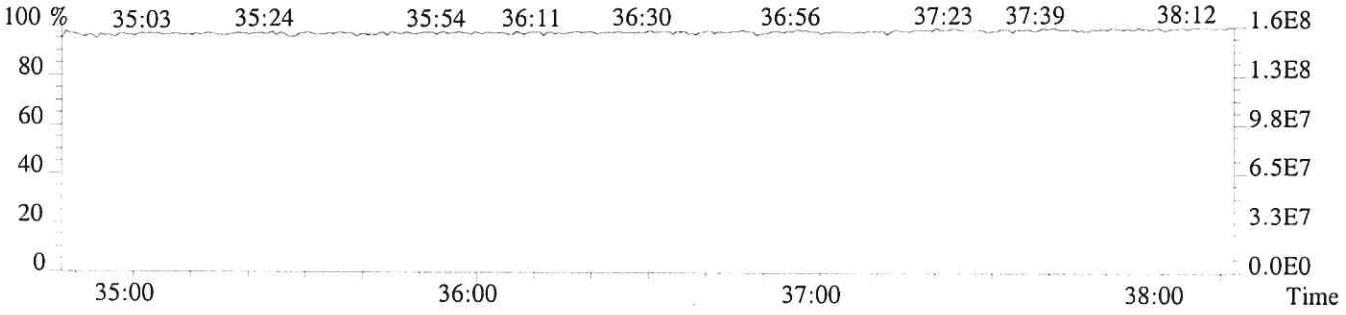
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2716.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1888.0,0.40%,F,T)

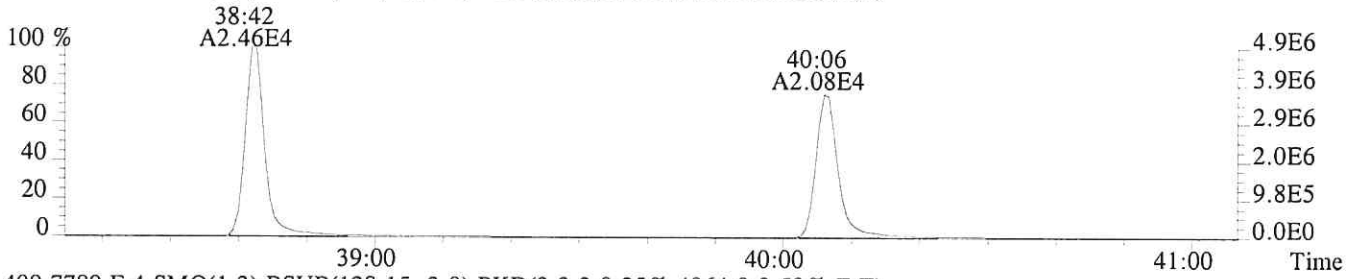


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

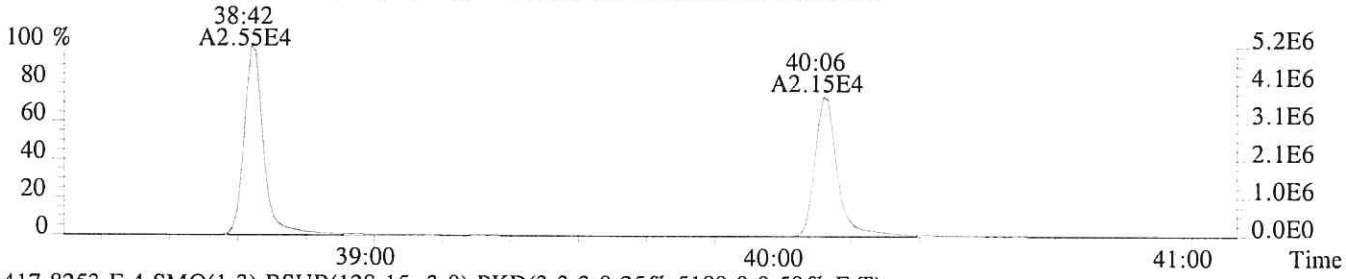


File:P511536 #1-259 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

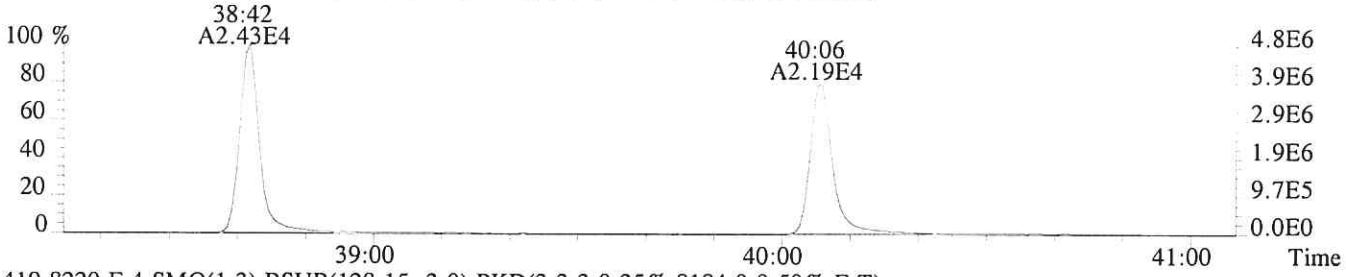
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3732.0,0.50%,F,T)



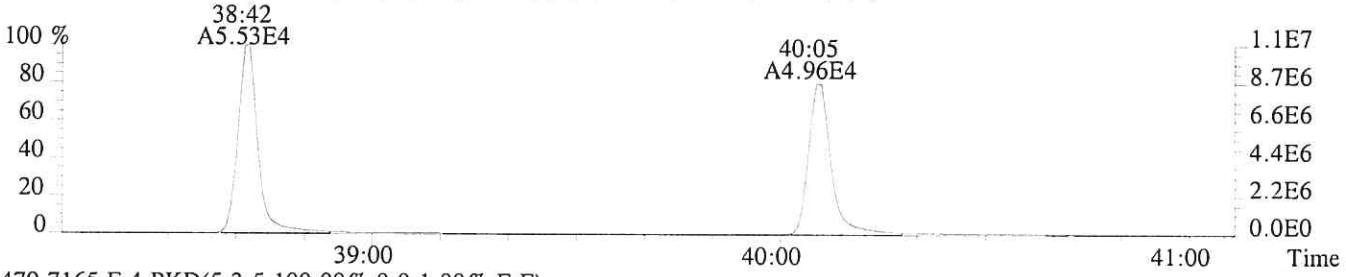
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4064.0,0.50%,F,T)



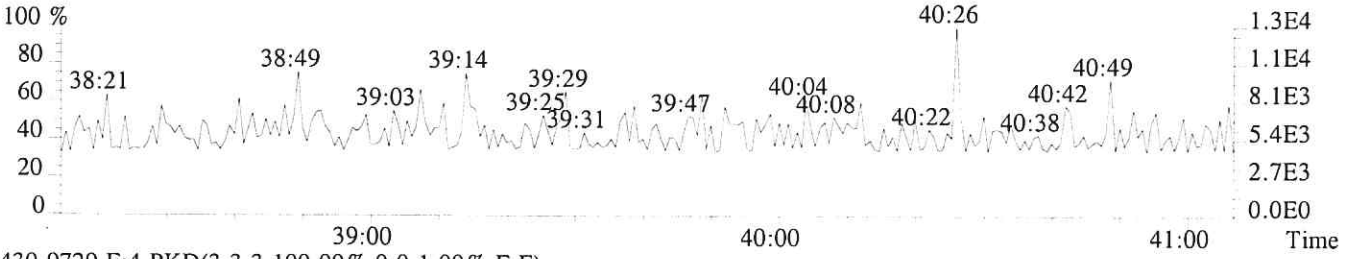
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5180.0,0.50%,F,T)



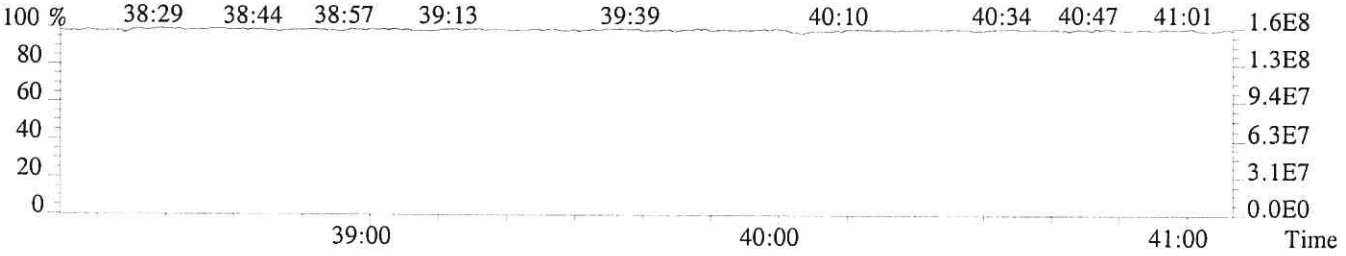
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8184.0,0.50%,F,T)



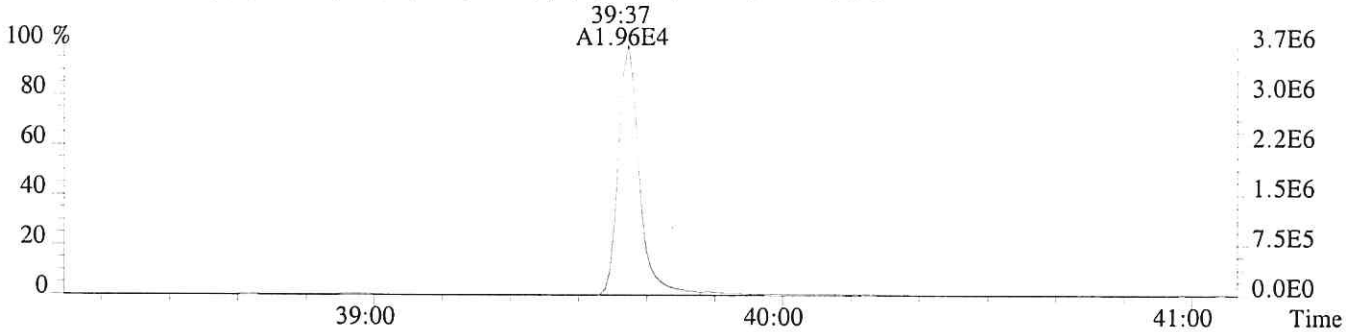
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



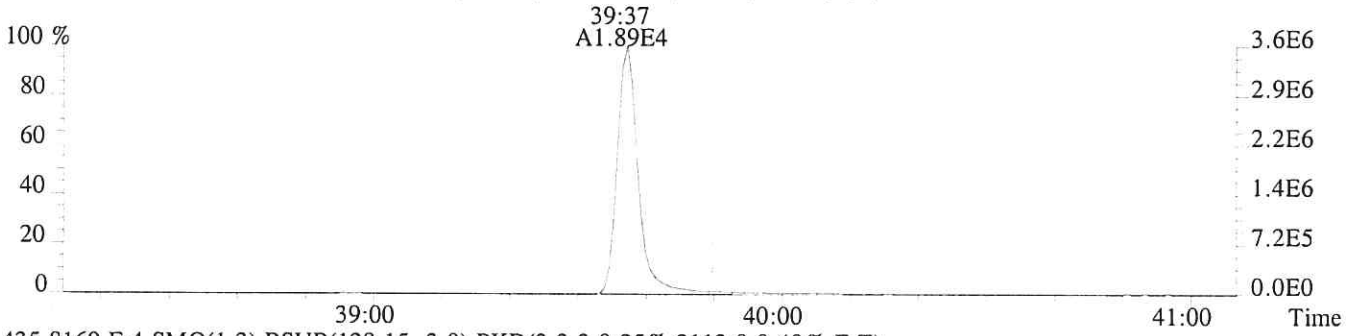
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



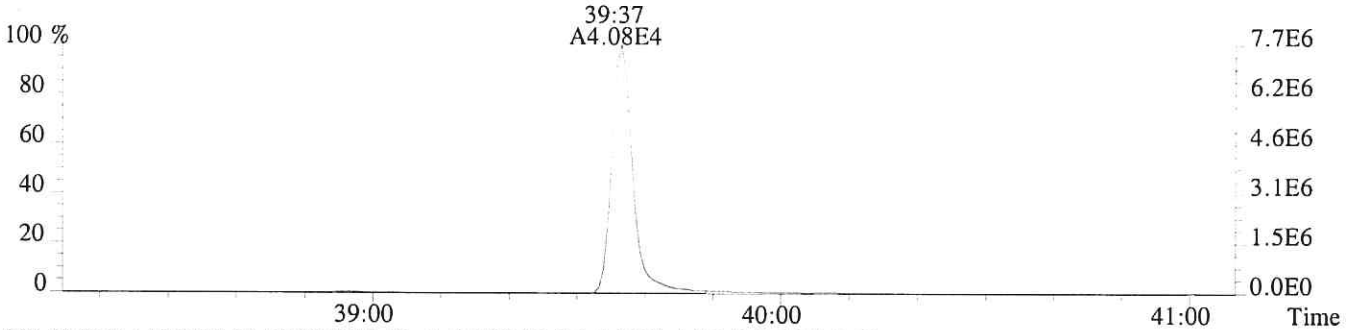
File:P511536 #1-259 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1480.0,0.40%,F,T)



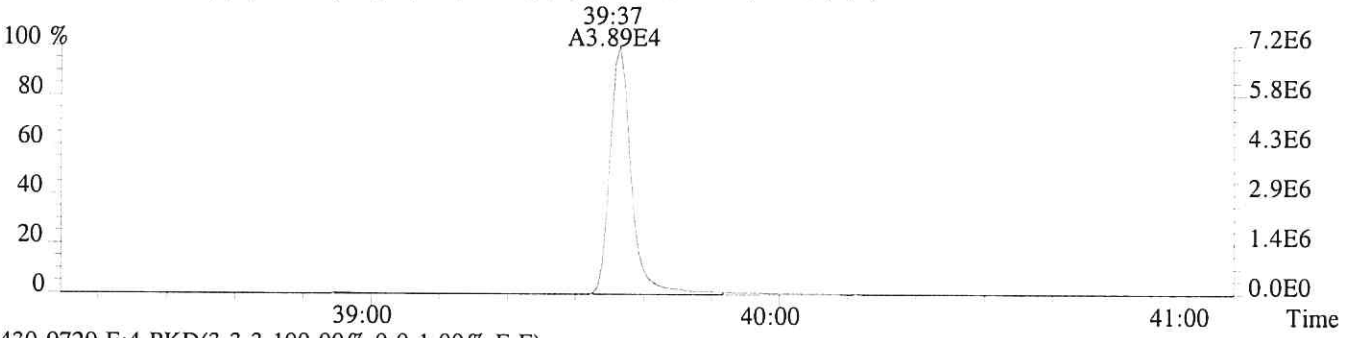
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1452.0,0.40%,F,T)



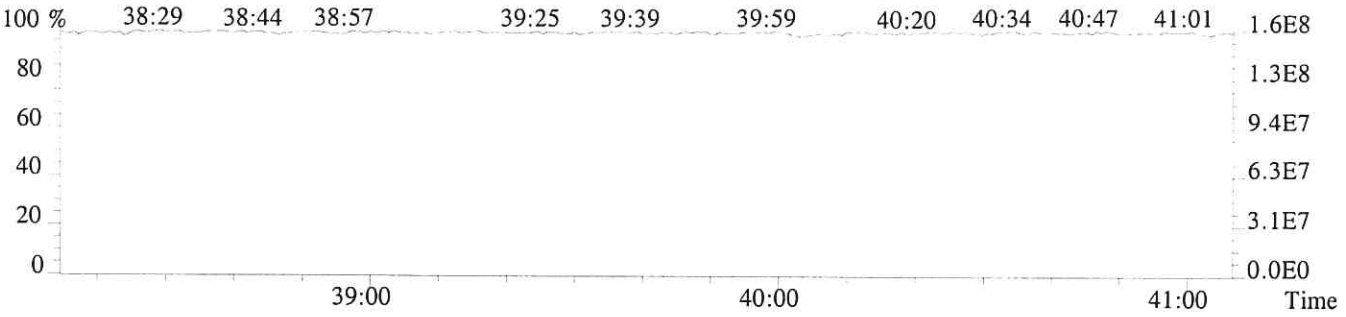
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2112.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)

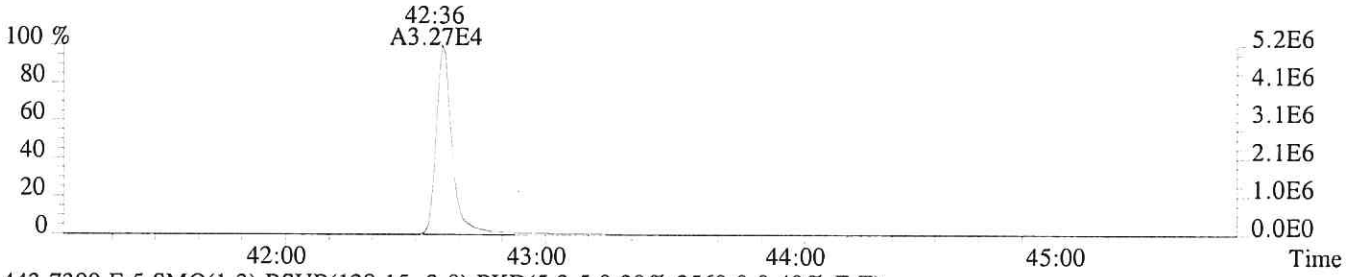


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

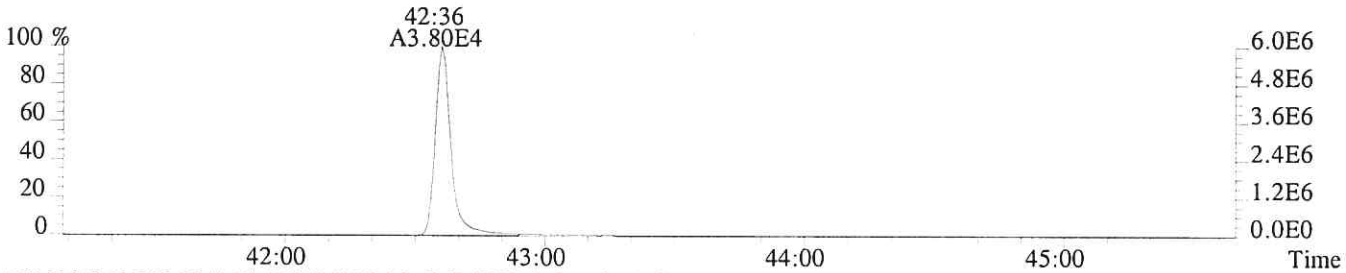


File:P511536 #1-407 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

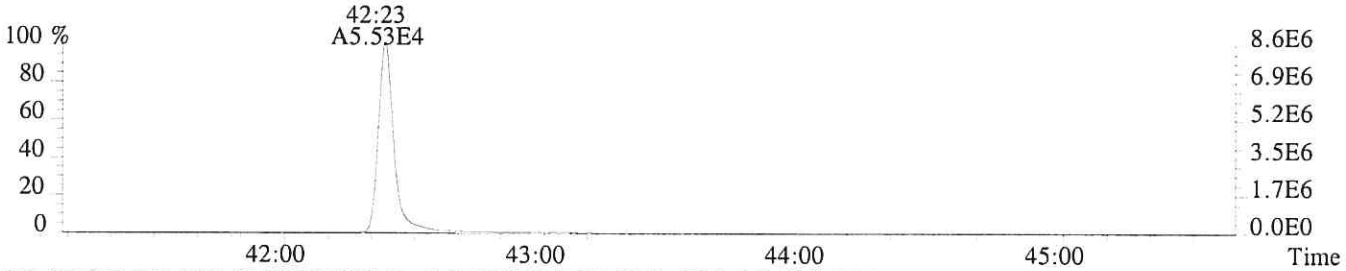
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1020.0,0.40%,F,T)



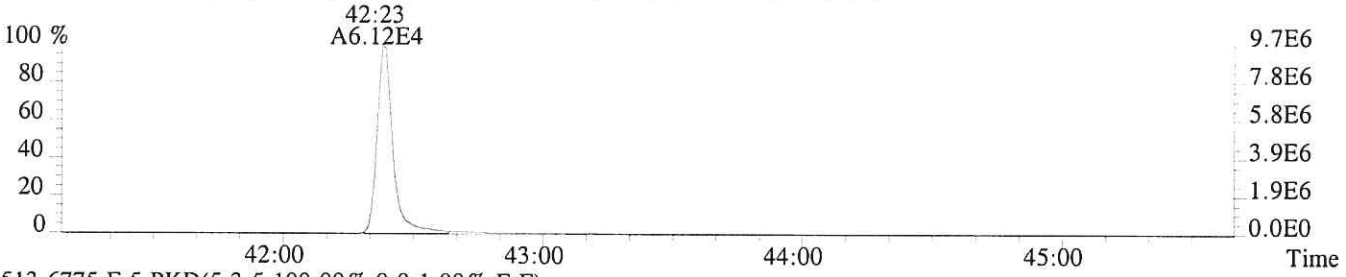
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2560.0,0.40%,F,T)



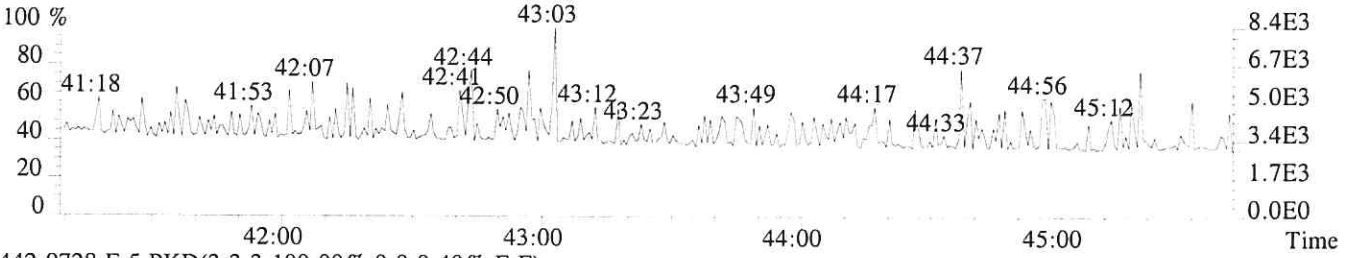
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1496.0,0.40%,F,T)



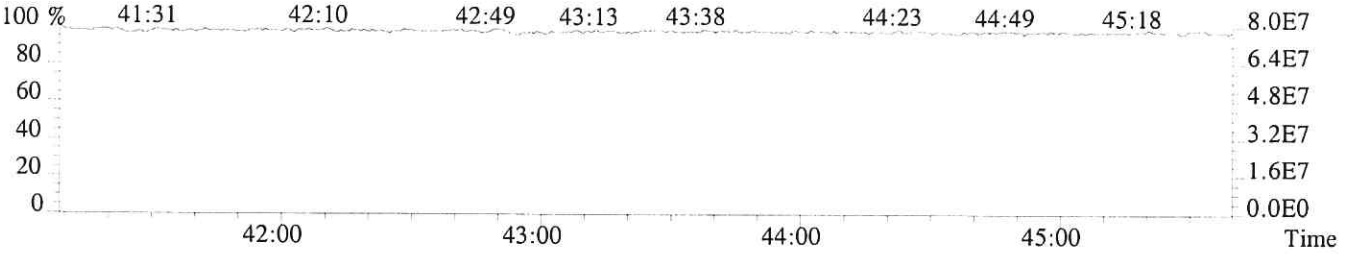
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1328.0,0.40%,F,T)



513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

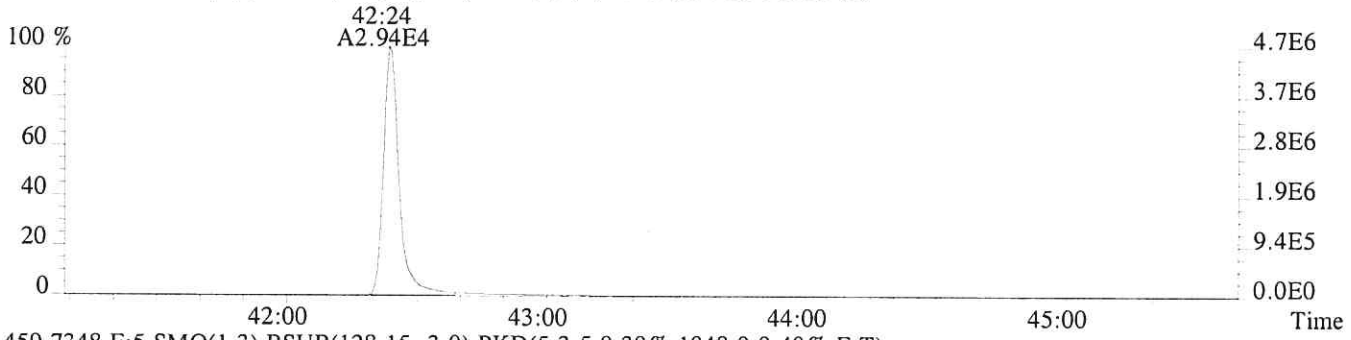


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

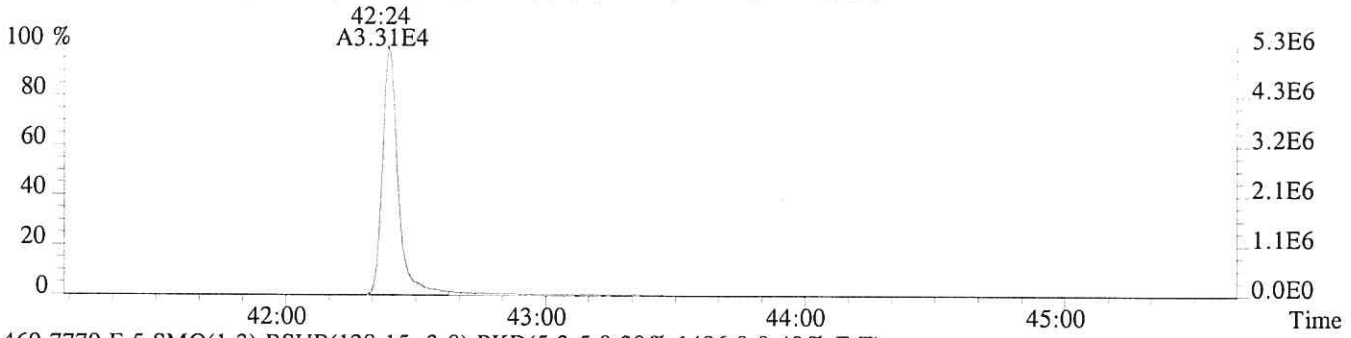


File:P511536 #1-407 Acq:24-SEP-2017 10:54:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102

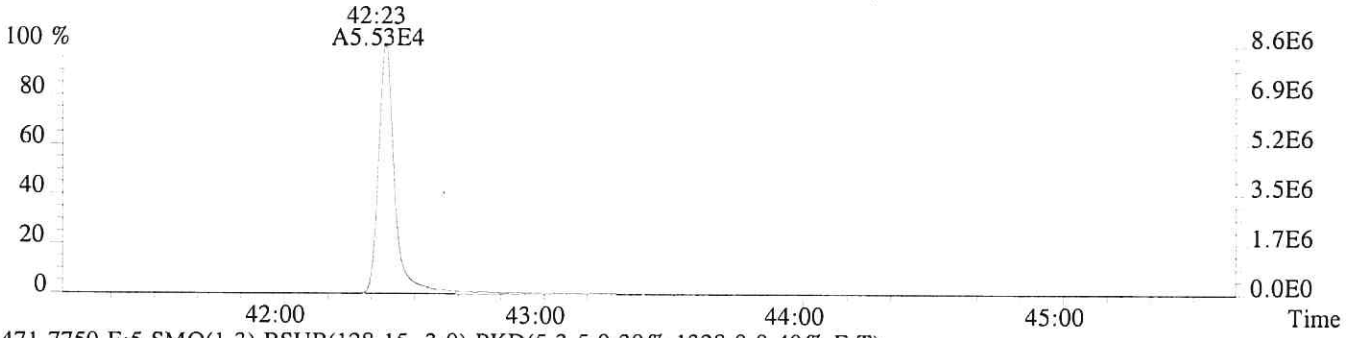
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



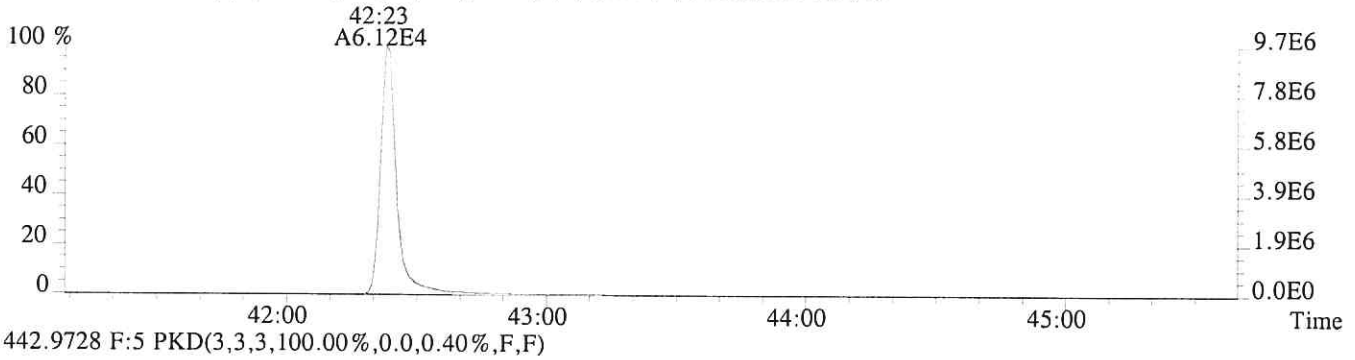
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1048.0,0.40%,F,T)



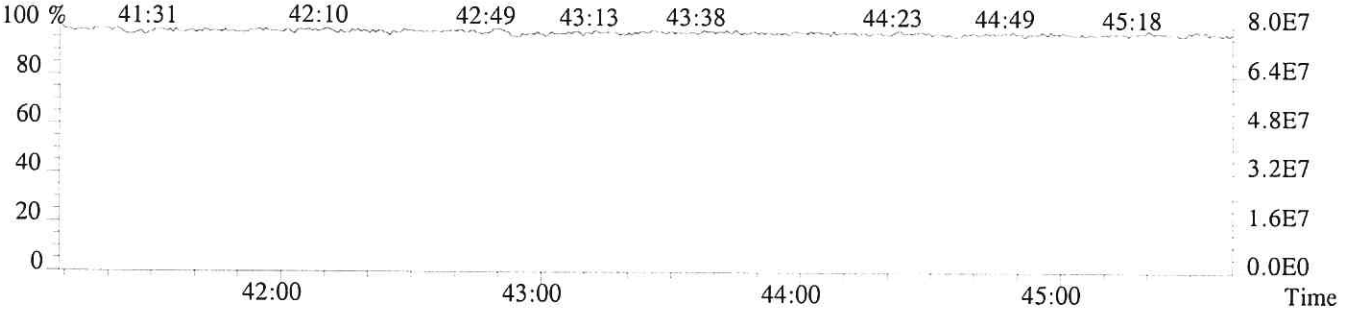
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1496.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1328.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



CCAL HRCC3/CS3 Daily Calibration QC Checklist

Calibration File Name: P511586-P511598

Date: 09/26/17

Circle one: Beginning / Ending

Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: _____ Second QC: VW.

ccalqc.xls 07/17/12

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: Case No.: Client No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm)

Init. Calib. Date: 07/26/17

Init. Calib.Times: 10:27

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, AND LABORATORY CONTROL SAMPLES (LCSs) IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
178397	WINDOW DEFINE	P511587	26-SEP-17	12:28:39
180102	CS3	P511586	26-SEP-17	11:24:47
METHOD BLANK	EQ1700401-01	P511588	26-SEP-17	13:16:27
METHOD BLANK	EQ1700417-01	P511589	26-SEP-17	14:05:00
METHOD BLANK	EQ1700426-01	P511590	26-SEP-17	14:54:14
SJWP-091517-30	E1700974-011DL	P511591	26-SEP-17	15:41:58
SJWP-091517-31	E1700974-012	P511592	26-SEP-17	16:30:38
S-6	E1701001-006DL	P511593	26-SEP-17	17:19:19
S-11	E1701001-011	P511594	26-SEP-17	18:08:02
S-4	E1701001-004DL	P511595	26-SEP-17	18:56:40
S-7	E1701001-007DL	P511596	26-SEP-17	19:45:26
S-8	E1701001-008DL	P511597	26-SEP-17	20:34:11
180102	CS3	P511598	26-SEP-17	21:31:11

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20170926A.SPL
Last Modified: Wednesday, September 27, 2017 07:49:49 Eastern Daylight Time
Printed: Wednesday, September 27, 2017 07:49:52 Eastern Daylight Time

Page Position (1, 1)

OPUS 4: P511586res

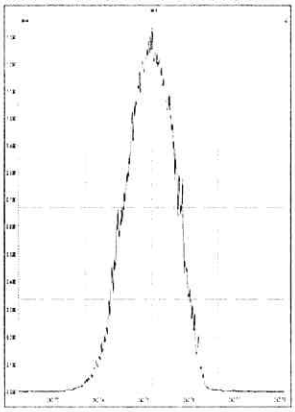
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	9/26/17	11:24	P511586	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	HJS	HRMS check 12:21
2		12:28	P511587	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		13:16	P511588	MB	EQ1700401-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		14:05	P511589	MB	EQ1700417-01	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		14:54	P511590	MB	EQ1700426-01	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		15:41	P511591	E1700974-011DL	E1700974-011DL	EPA1613_ALS	Dioxin_ALS	Tray1:6		1:100
7		16:30	P511592	E1700974-012	E1700974-012	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		17:19	P511593	E1701001-006DL	E1701001-006DL	EPA1613_ALS	Dioxin_ALS	Tray1:8		1:500
9		18:08	P511594	E1701001-011	E1701001-011	EPA1613_ALS	Dioxin_ALS	Tray1:9		
10		18:56	P511595	E1701001-004DL	E1701001-004DL	EPA1613_ALS	Dioxin_ALS	Tray1:10		1:10
11		19:45	P511596	E1701001-007DL	E1701001-007DL	EPA1613_ALS	Dioxin_ALS	Tray1:11		1:2000
12		20:34	P511597	E1701001-008DL	E1701001-008DL	EPA1613_ALS	Dioxin_ALS	Tray1:12		1:1000
13		21:31	P511598	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		HRMS check 21:31
14	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
15	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
16	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:16	---	---
17	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:17	---	---
18	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:18	---	---
19	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:19	---	---
20	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:20	---	---
21	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:21	---	---
22	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:22	---	---
23	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:23	---	---
24	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:24	---	---
25	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:25	---	---
26	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
27	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:27	---	---
28	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:28	---	---
29	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:29	---	---
30	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:30	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:31	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:32	---	---
33	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:33	---	---
34	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:34	---	---
35	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:35	---	---
36	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:36	---	---
37	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:37	---	---
38	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:38	---	---
39	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:39	---	---

JC 09/27/17

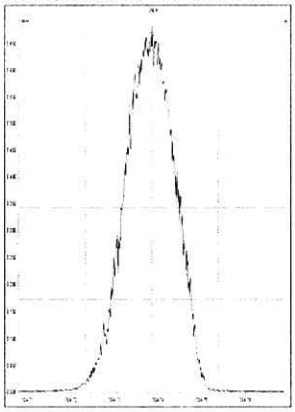
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, September 26, 2017 12:21:38 Eastern Daylight Time

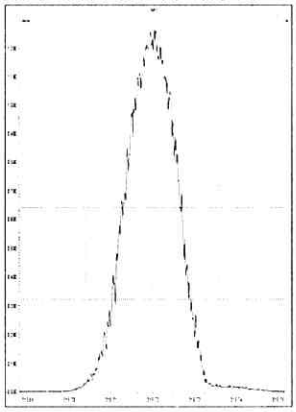
M 292.9824 R 12139



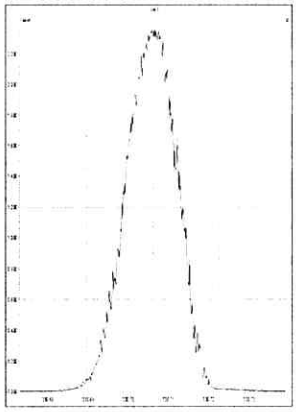
M 304.9824 R 12130



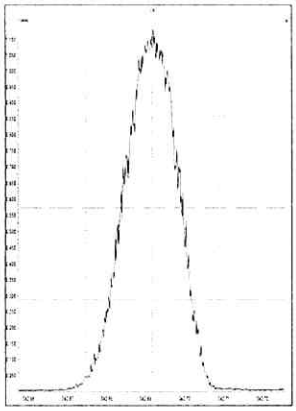
M 318.9792 R 12313



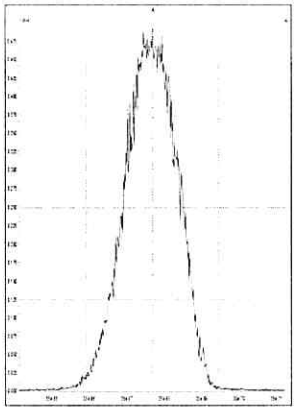
M 330.9792 R 12078



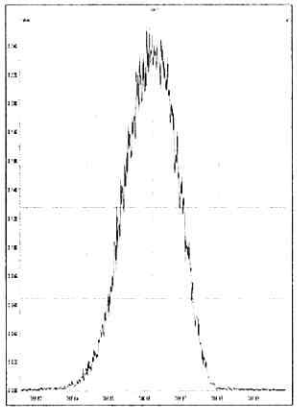
M 342.9792 R 11467



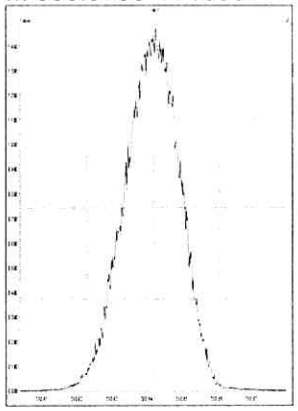
M 354.9792 R 11263



M 366.9792 R 11061



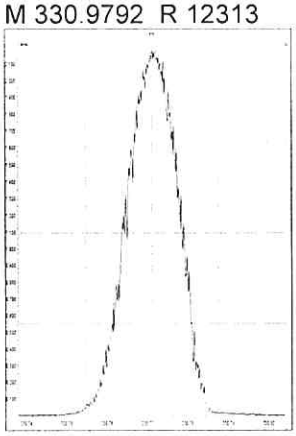
M 380.9760 R 10681



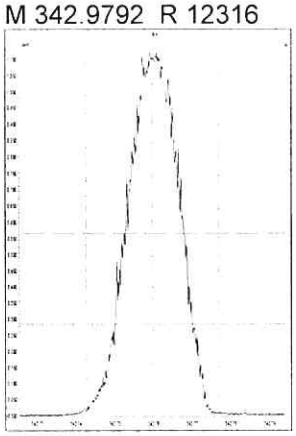
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, September 26, 2017 12:22:38 Eastern Daylight Time

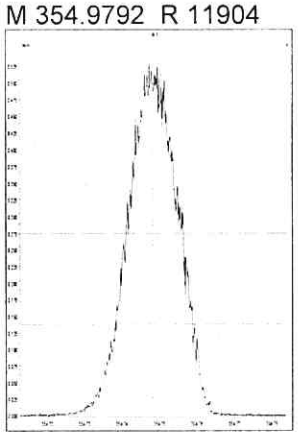
M 330.9792 R 12313



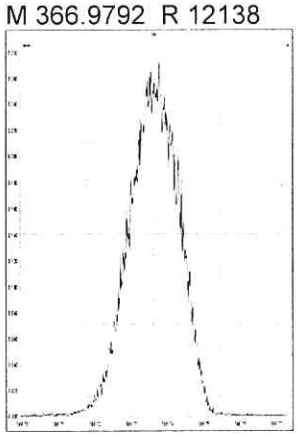
M 342.9792 R 12316



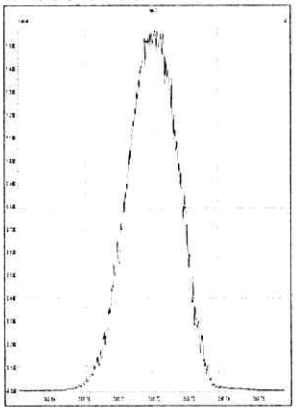
M 354.9792 R 11904



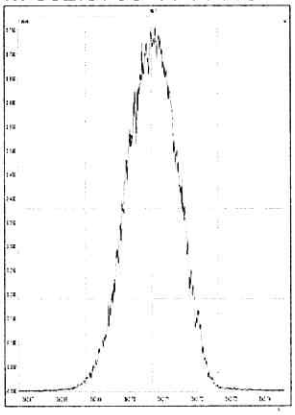
M 366.9792 R 12138



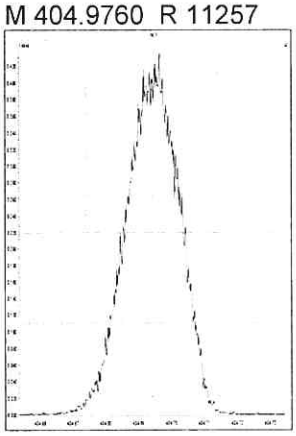
M 380.9760 R 11737



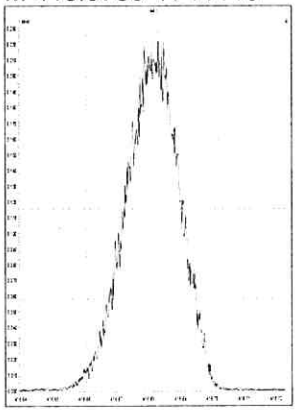
M 392.9760 R 11418



M 404.9760 R 11257



M 416.9760 R 11110



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

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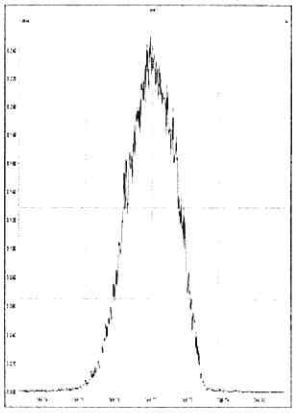
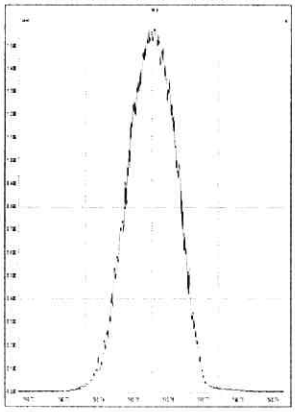
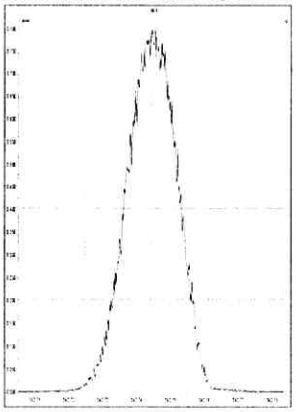
M 366.9792 R 12566



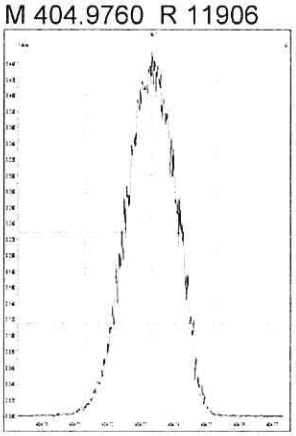
M 380.9760 R 12316



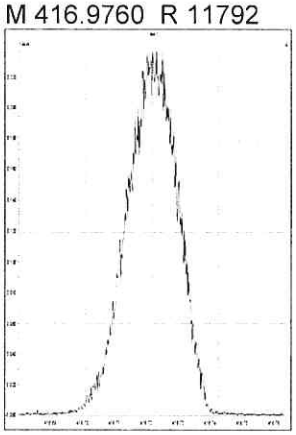
M 392.9760 R 12319



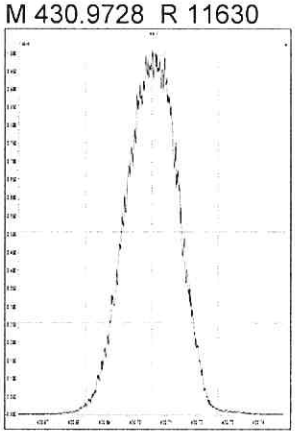
M 404.9760 R 11906



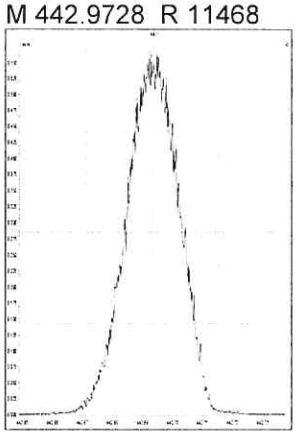
M 416.9760 R 11792



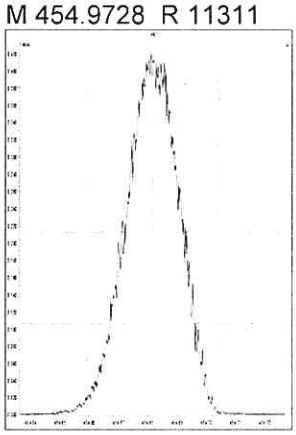
M 430.9728 R 11630



M 442.9728 R 11468



M 454.9728 R 11311



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

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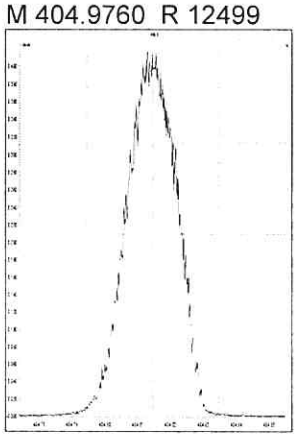
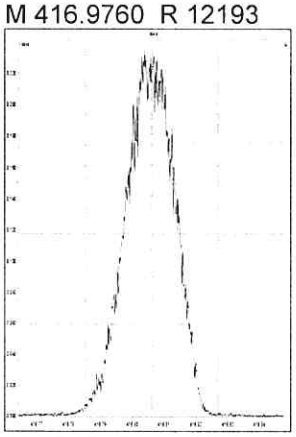
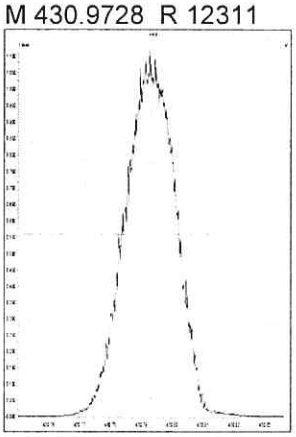
M 404.9760 R 12499



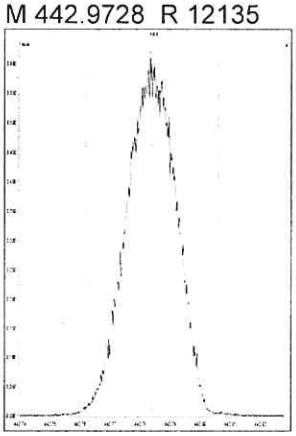
M 416.9760 R 12193



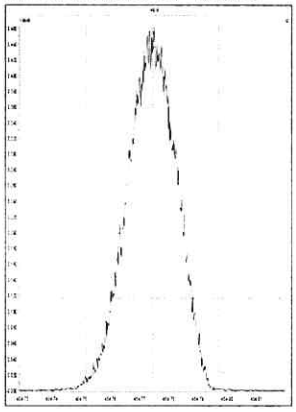
M 430.9728 R 12311



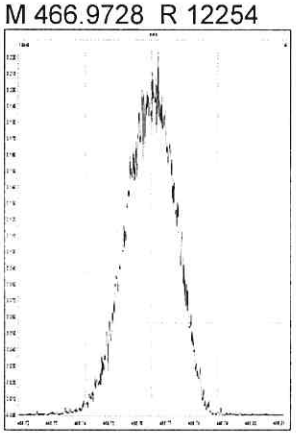
M 442.9728 R 12135



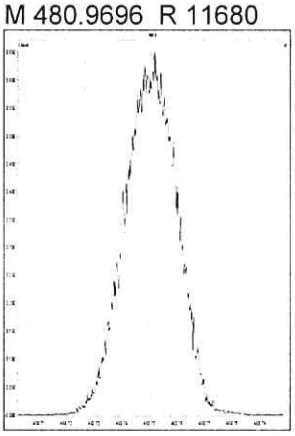
M 454.9728 R 12016



M 466.9728 R 12254



M 480.9696 R 11680



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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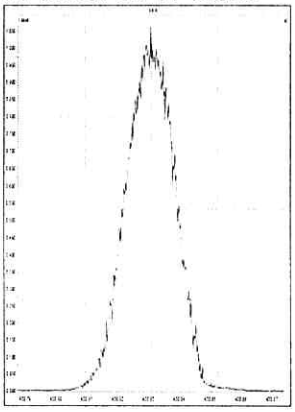
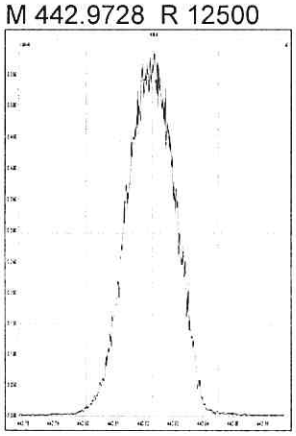
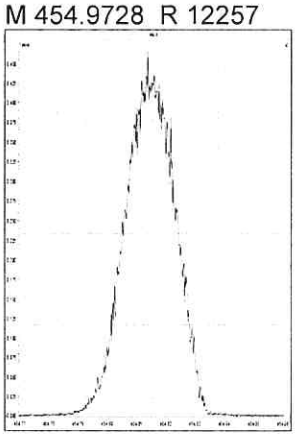
M 430.9728 R 12623



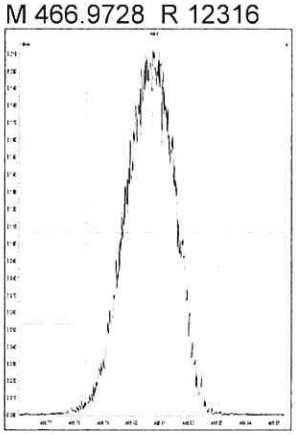
M 442.9728 R 12500



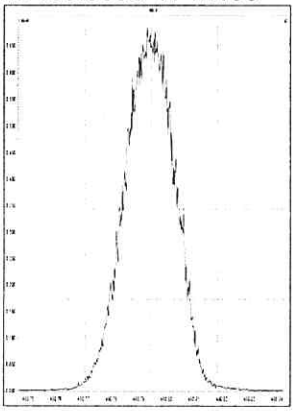
M 454.9728 R 12257



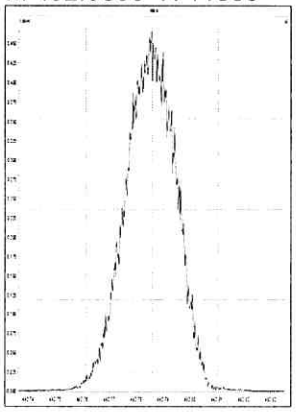
M 466.9728 R 12316



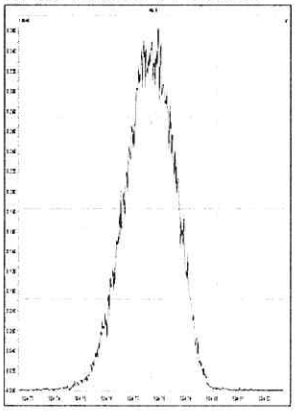
M 480.9696 R 12135



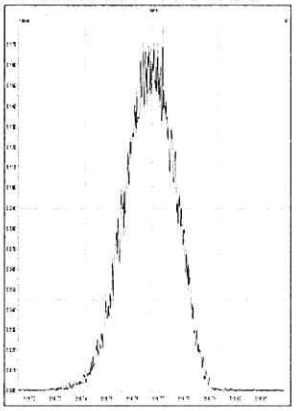
M 492.9696 R 11680



M 504.9696 R 11682



M 516.9697 R 11739



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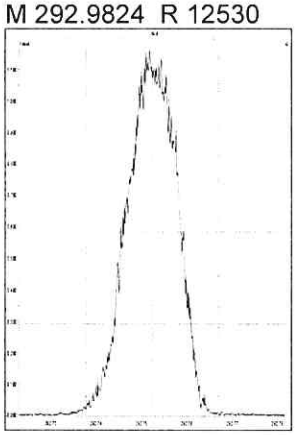
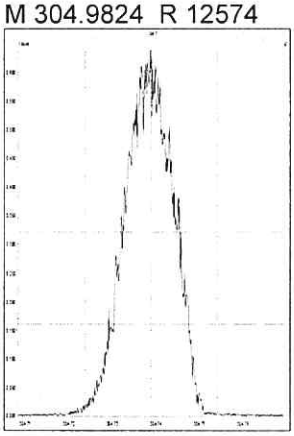
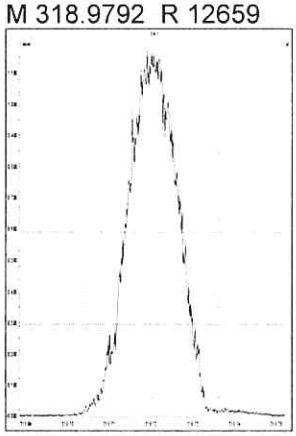
M 292.9824 R 12530



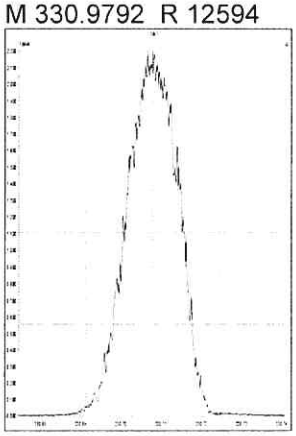
M 304.9824 R 12574



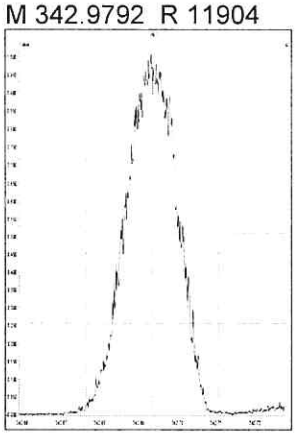
M 318.9792 R 12659



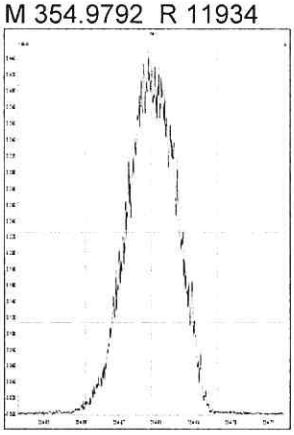
M 330.9792 R 12594



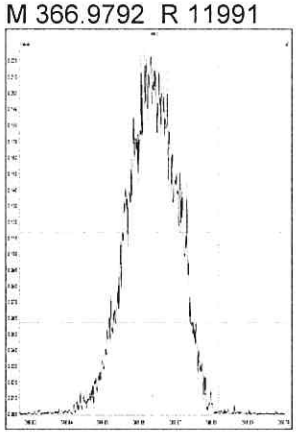
M 342.9792 R 11904



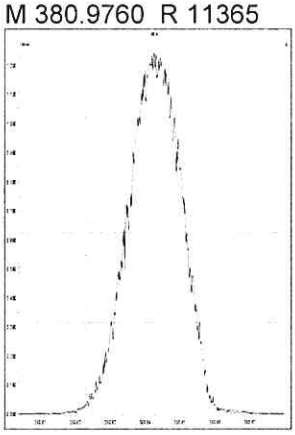
M 354.9792 R 11934



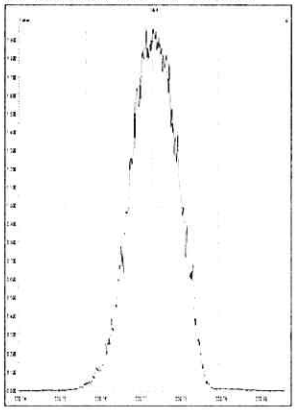
M 366.9792 R 11991



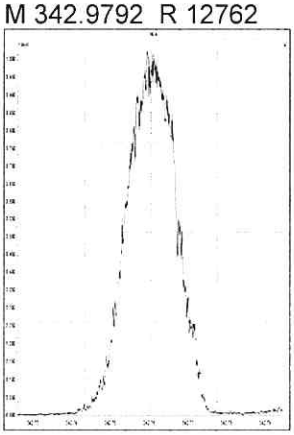
M 380.9760 R 11365



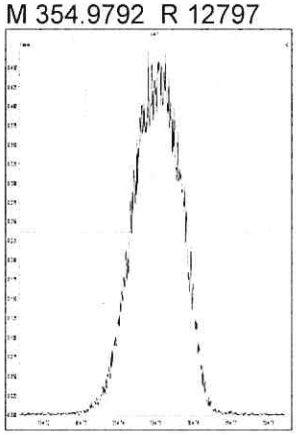
M 330.9792 R 12607



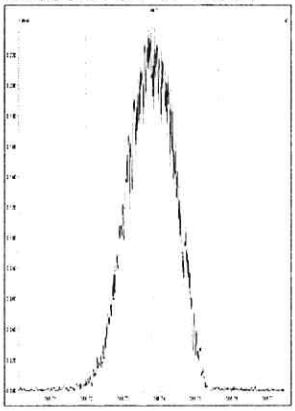
M 342.9792 R 12762



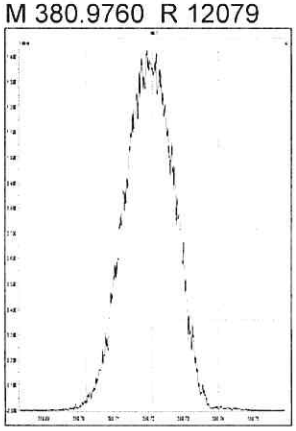
M 354.9792 R 12797



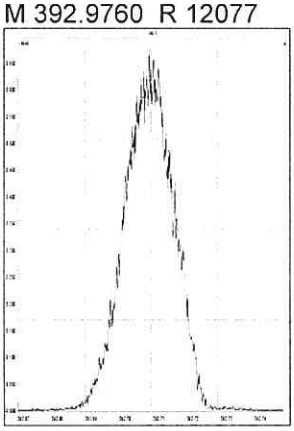
M 366.9792 R 12891



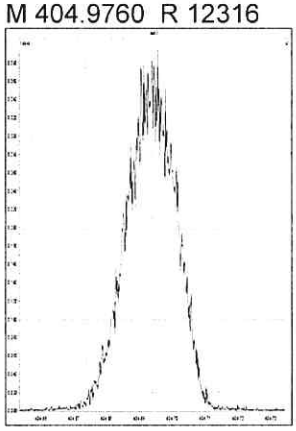
M 380.9760 R 12079



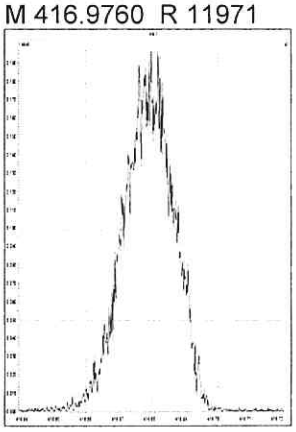
M 392.9760 R 12077



M 404.9760 R 12316



M 416.9760 R 11971



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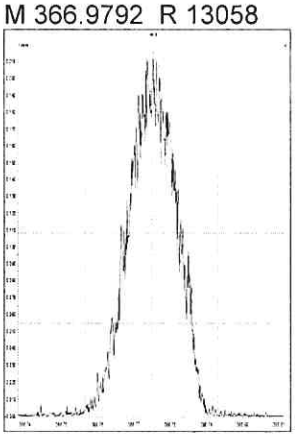
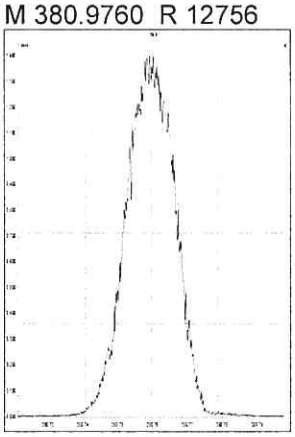
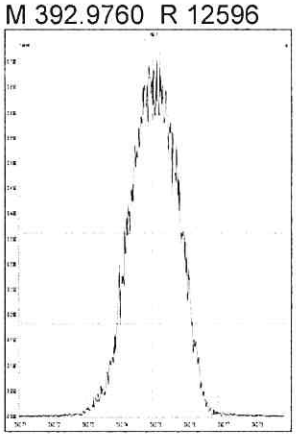
M 366.9792 R 13058



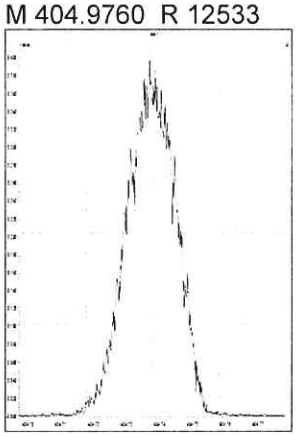
M 380.9760 R 12756



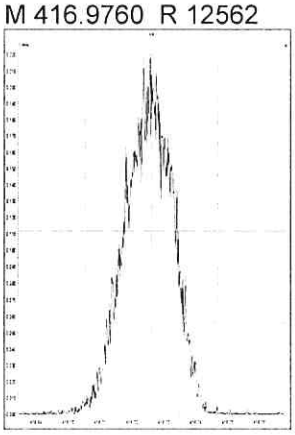
M 392.9760 R 12596



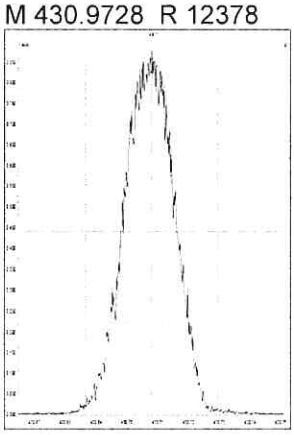
M 404.9760 R 12533



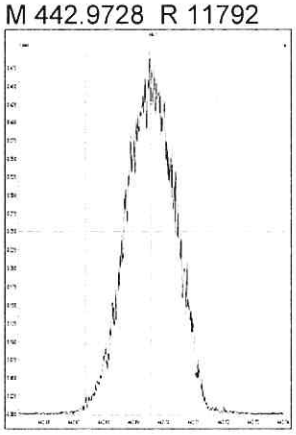
M 416.9760 R 12562



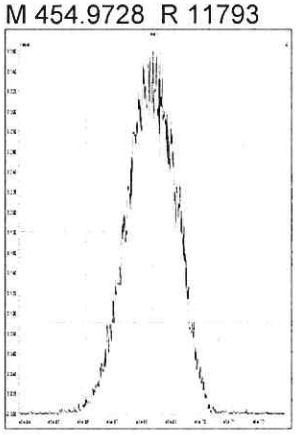
M 430.9728 R 12378



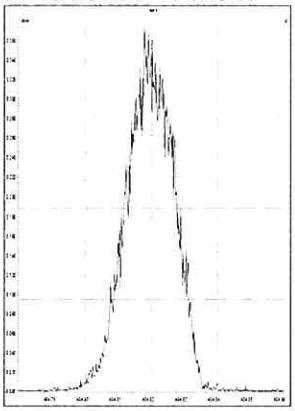
M 442.9728 R 11792



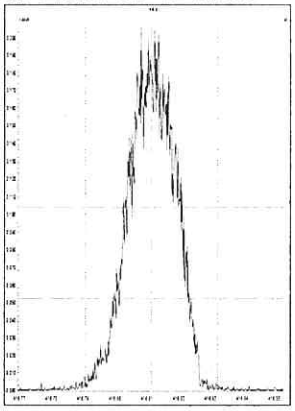
M 454.9728 R 11793



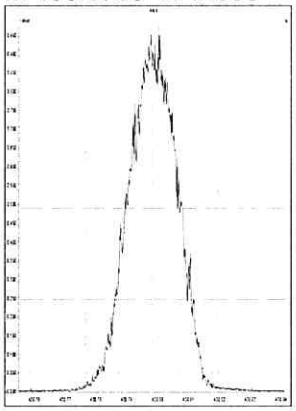
M 404.9760 R 12923



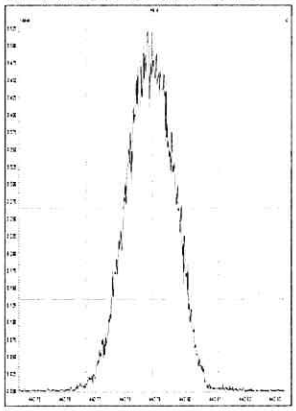
M 416.9760 R 12886



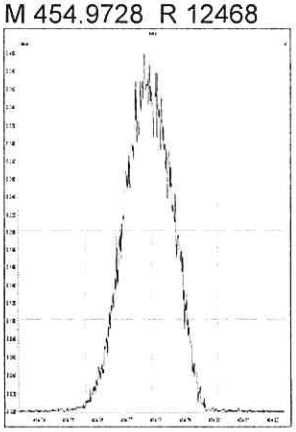
M 430.9728 R 12886



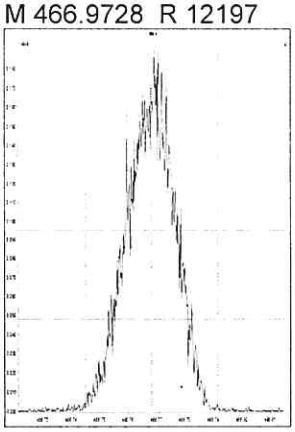
M 442.9728 R 12315



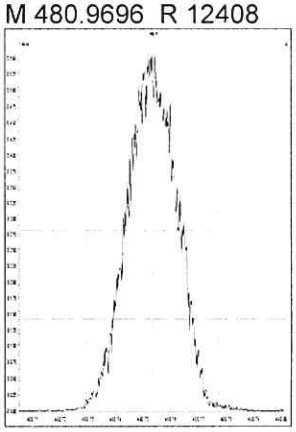
M 454.9728 R 12468



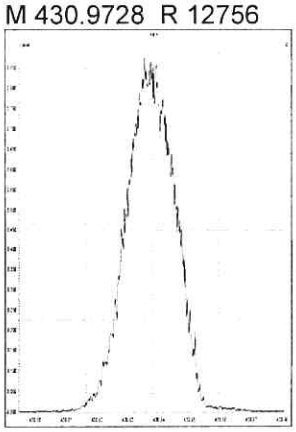
M 466.9728 R 12197



M 480.9696 R 12408

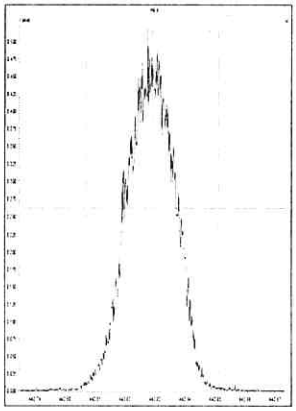


M 430.9728 R 12756

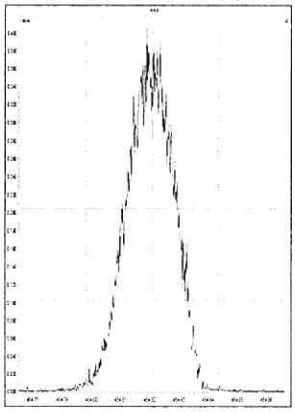


Printed: Tuesday, September 26, 2017 21:31:09 Eastern Daylight Time

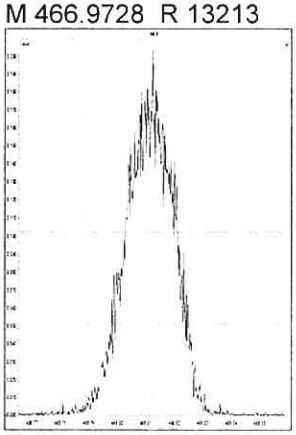
M 442.9728 R 12563



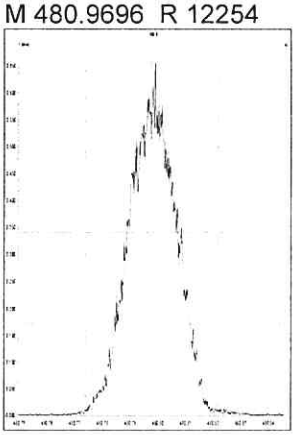
M 454.9728 R 12991



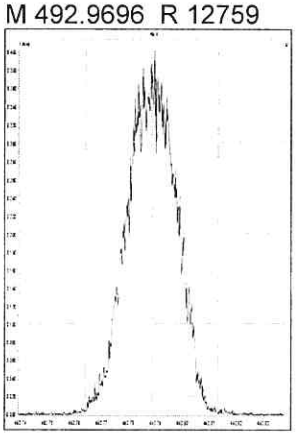
M 466.9728 R 13213



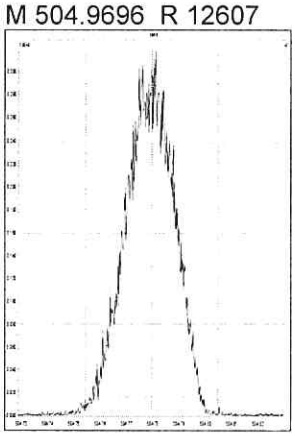
M 480.9696 R 12254



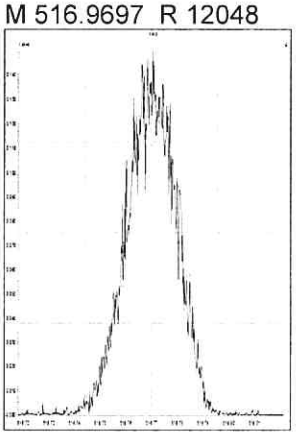
M 492.9696 R 12759



M 504.9696 R 12607



M 516.9697 R 12048



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

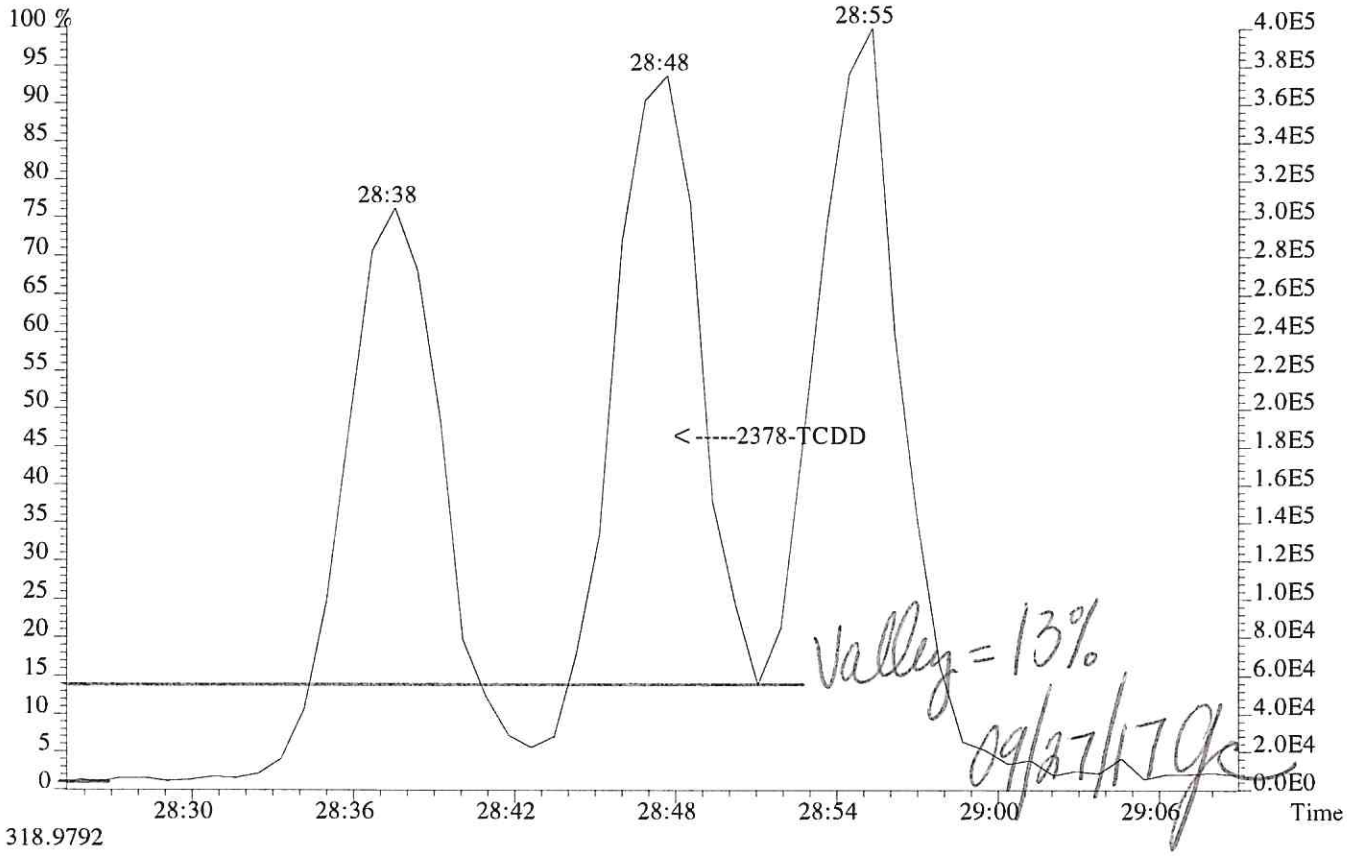
Case No.: _____ SDG No.:
ID: 0.25 (mm)

Lab File ID: P511587
Date Analyzed: 26-SEP-2017
Time Analyzed: 12:28:39

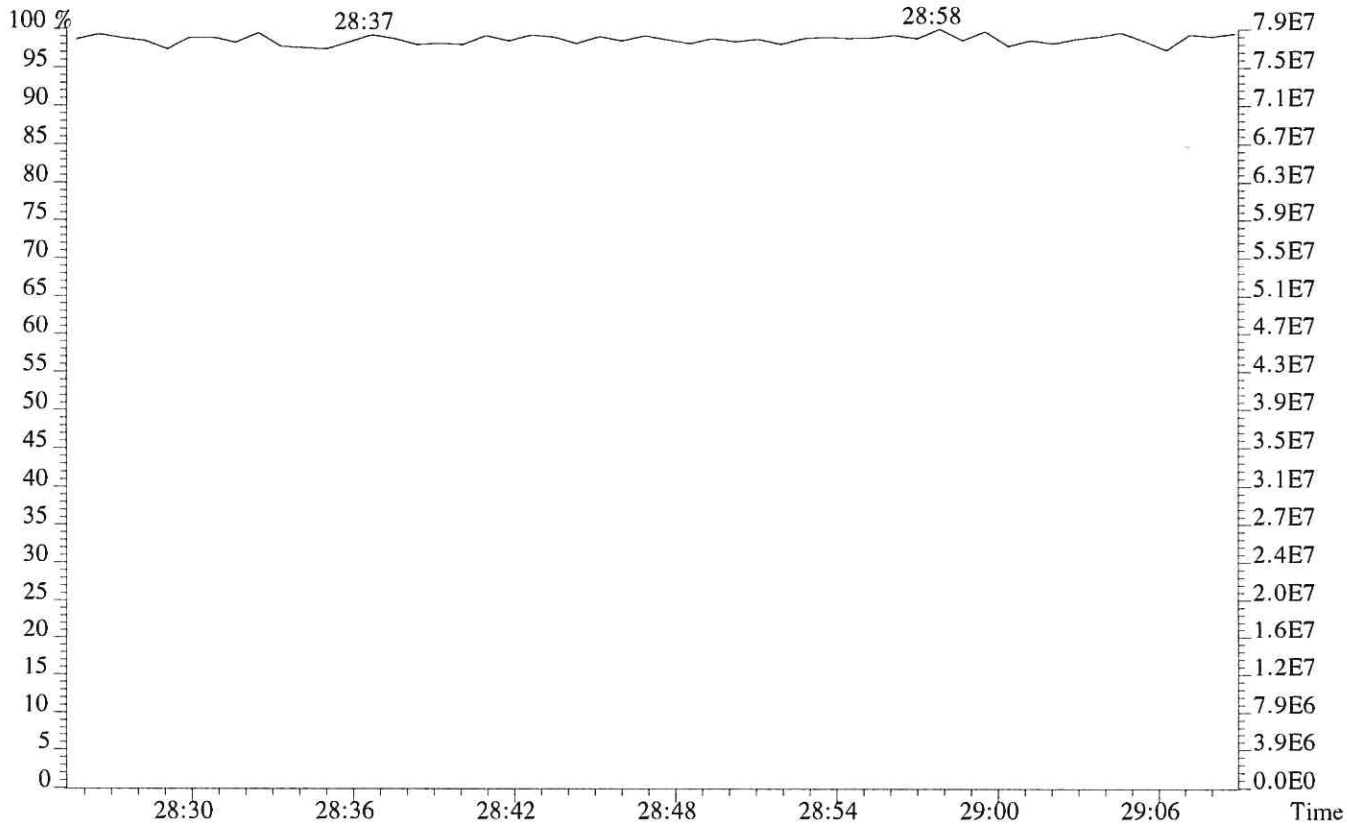
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:36	29:57
TCDD	25:27	29:47
PeCDF	29:55	34:08
PeCDD	31:26	33:53
HxCDF	34:48	37:17
HxCDD	35:19	36:53
HpCDF	38:30	39:52
HpCDD	38:44	39:24

% Valley 2378-TCDD: 13 %

File:P511587 #1-765 Acq:26-SEP-2017 12:28:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965



318.9792



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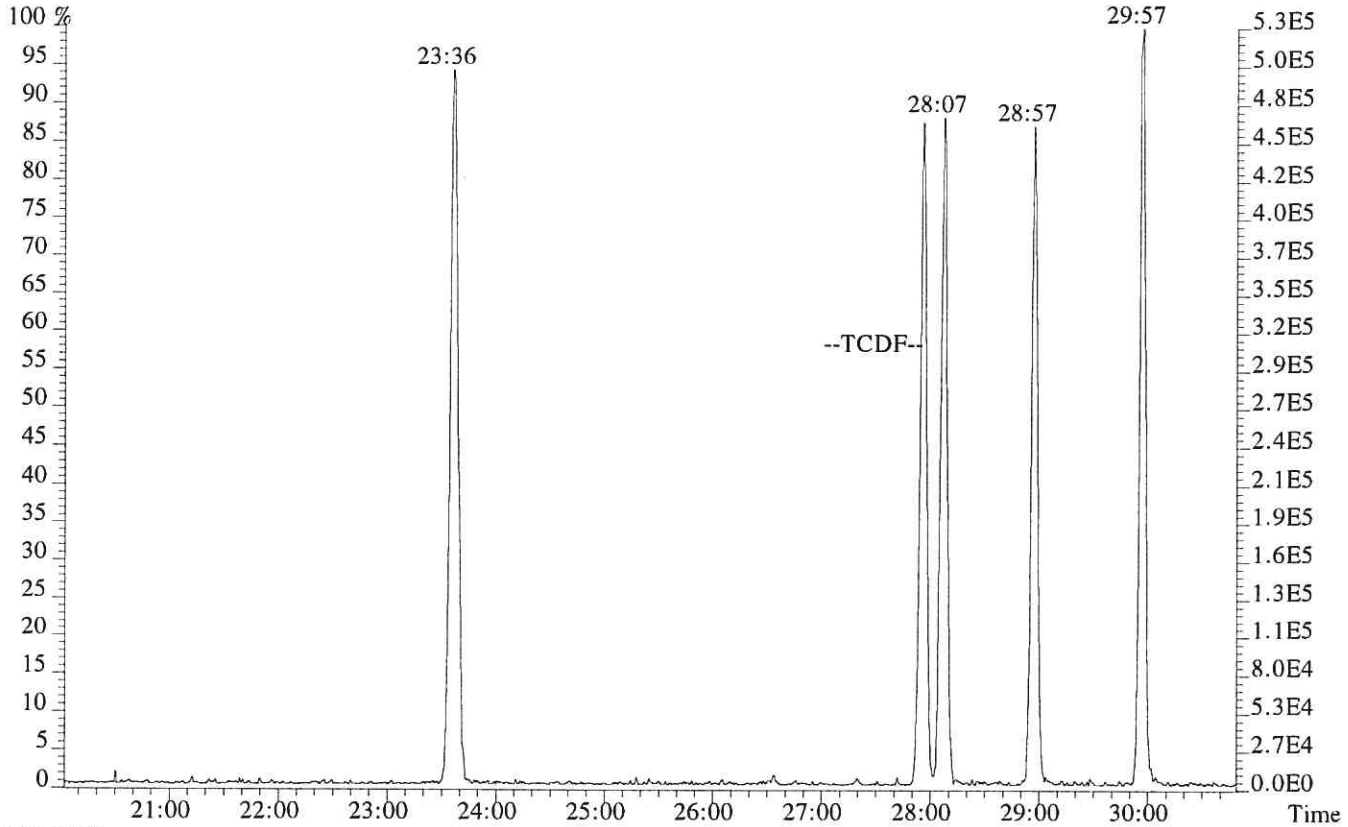
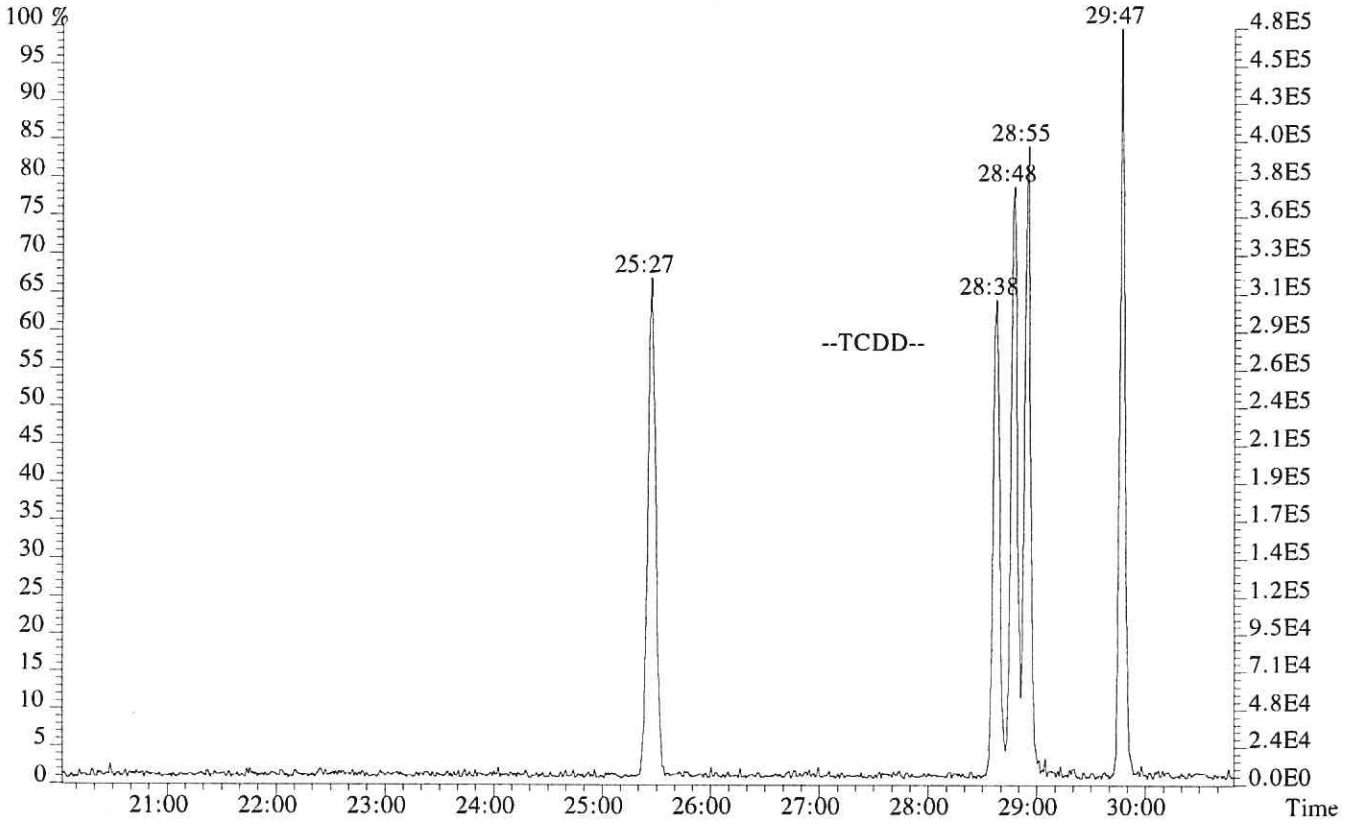
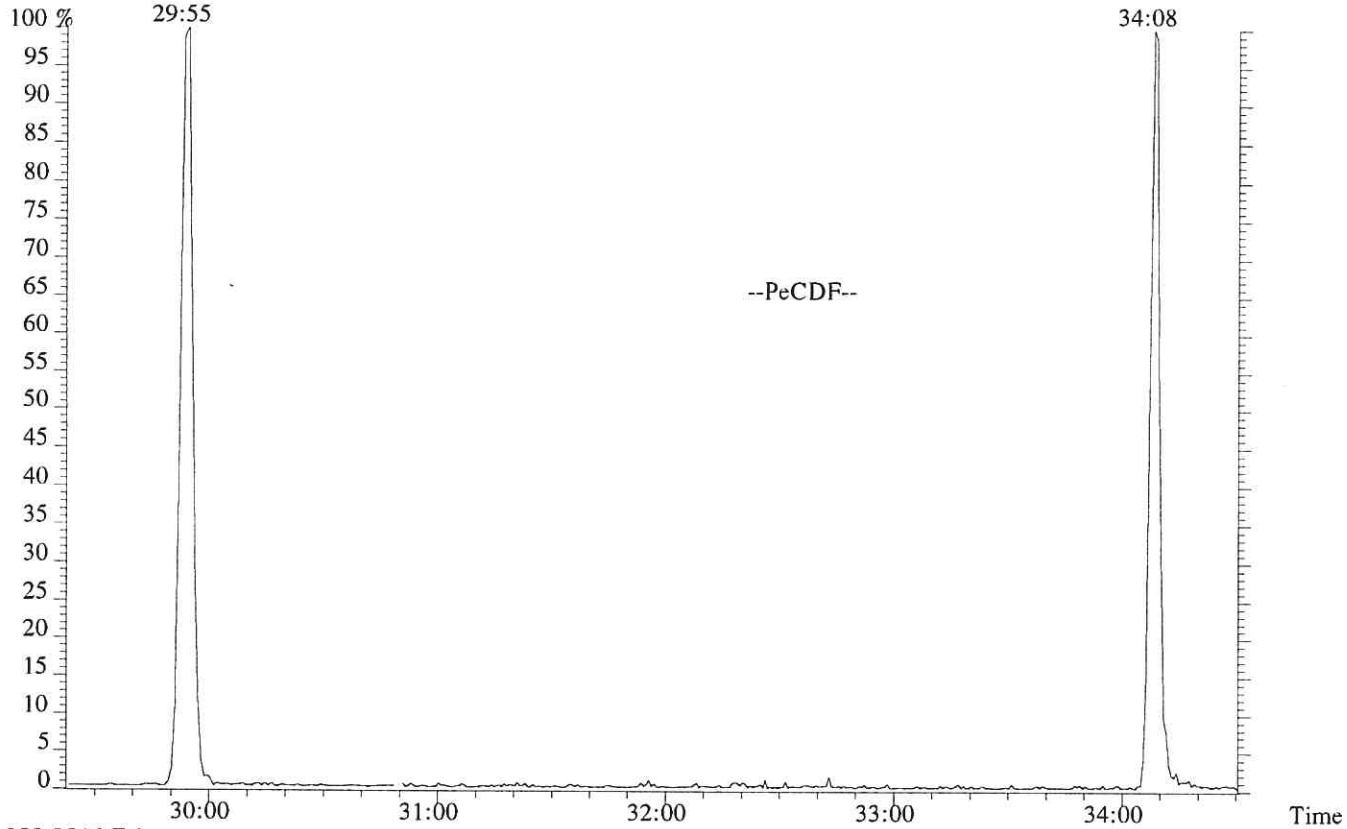
Sample#1 Exp:178397
303.9016



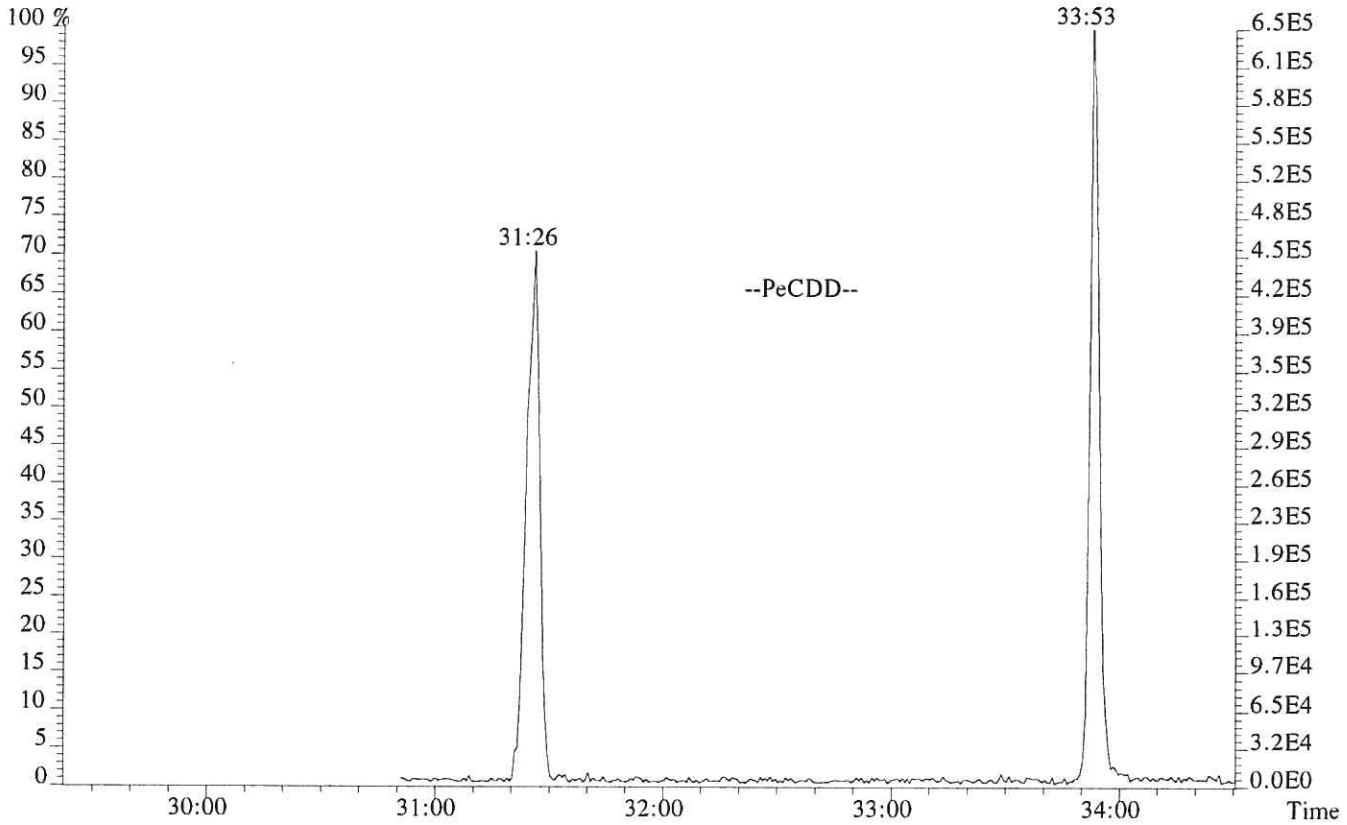
319.8965



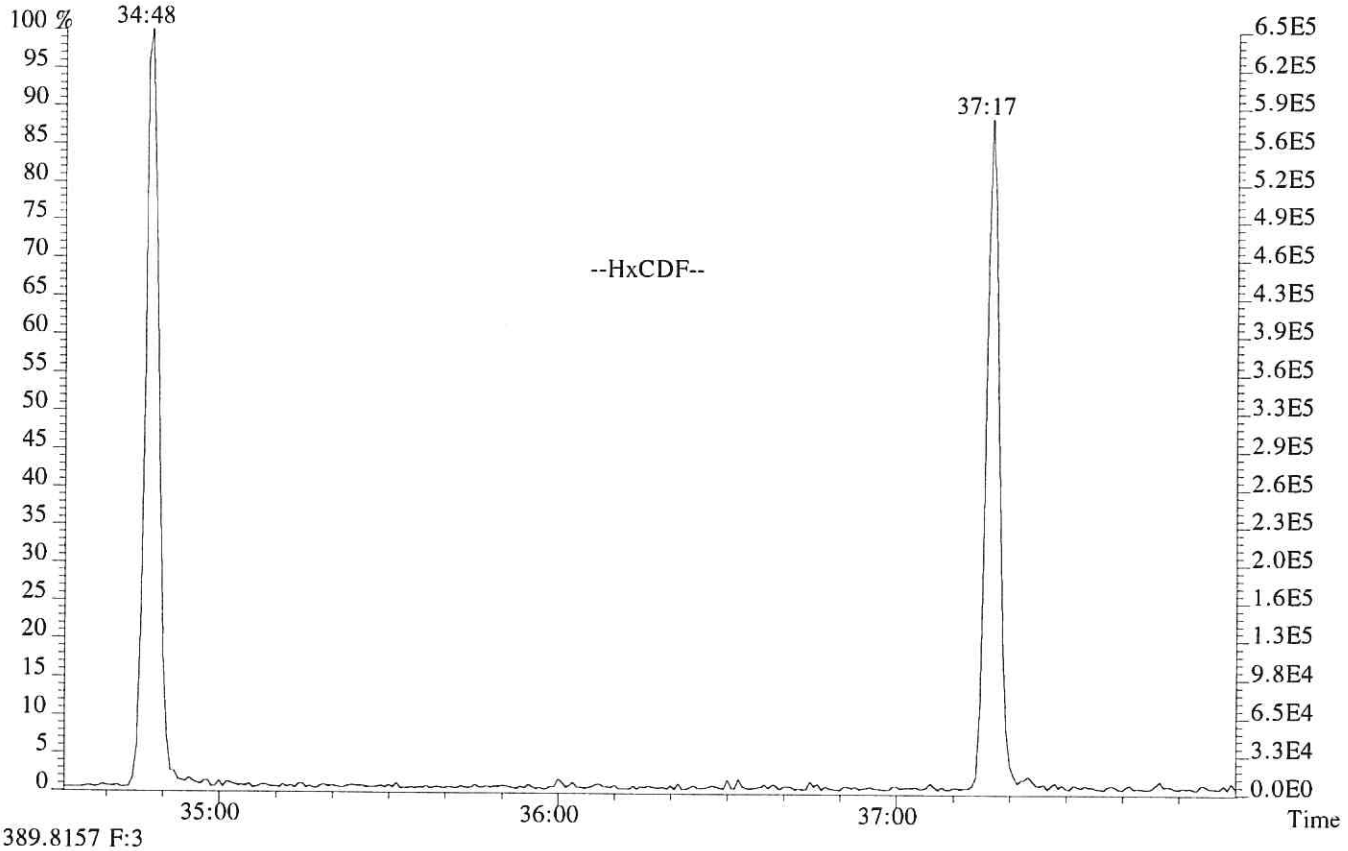
File:P511587 #1-765 Acq:26-SEP-2017 12:28:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



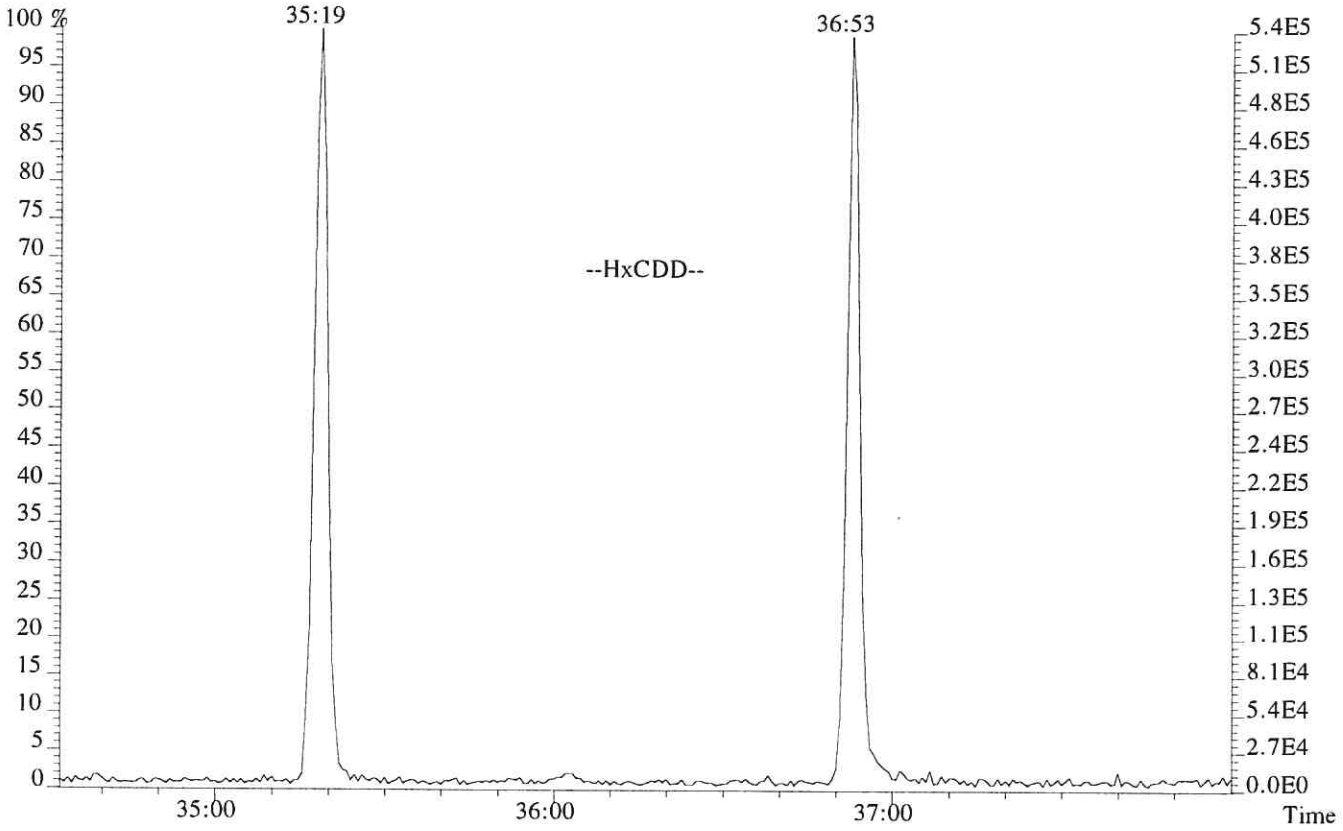
355.8546 F:2



File:P511587 #1-312 Acq:26-SEP-2017 12:28:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
373.8208 F:3



389.8157 F:3



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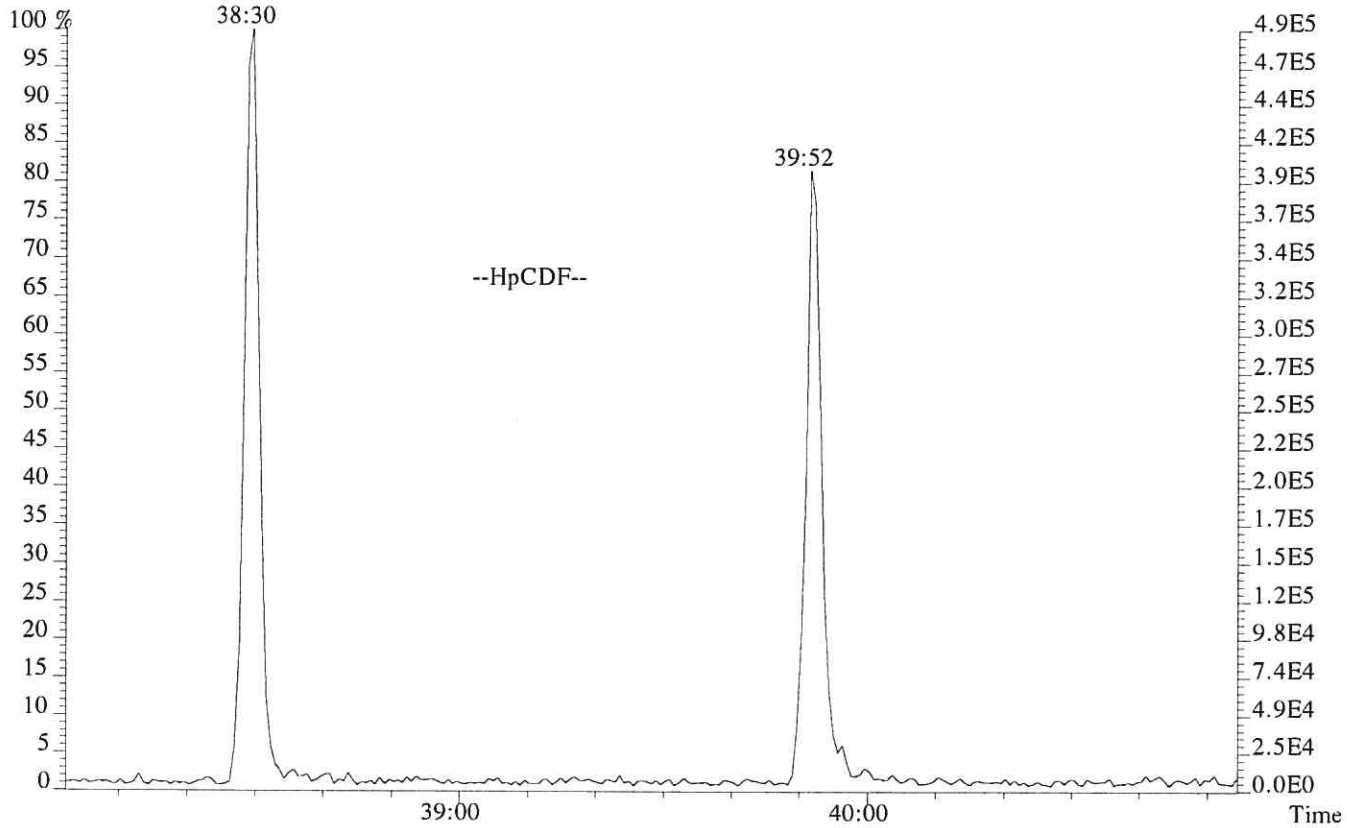
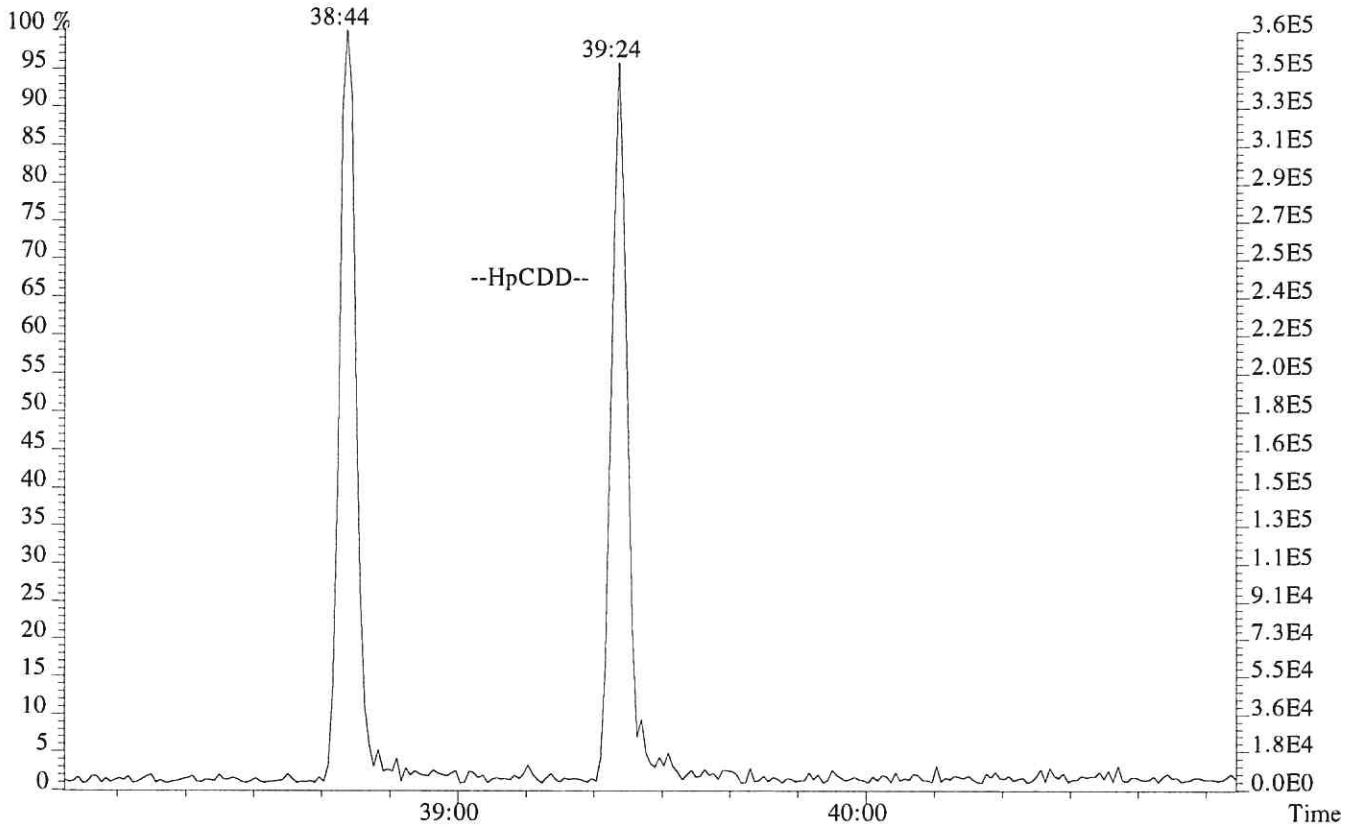
Sample#1 Exp:178397
407.7818 F:4



423.7766 F:4



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511586 Analysis Date: 26-SEP-17 Time: 11:24:47

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	9.8	7.8 - 12.9	-1.6
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	53	39 - 65	5.1
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	53	39 - 64	7.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	56	39 - 64	11.5
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	56	41 - 61	12.8
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	54	43 - 58	8.8
OCDD	M+2/M+4	0.90	0.76-1.02	108	79 - 126	8.2
2,3,7,8-TCDF	M/M+2	0.72	0.65-0.89	10.9	8.4 - 12.0	8.9
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	56	41 - 60	12.4
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	55	41 - 61	9.7
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	56	45 - 56	11.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	56	44 - 57	12.4
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	56	45 - 56	12.9
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	57	44 - 57	13.8
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	54	45 - 55	7.2
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	53	43 - 58	6.0
OCDF	M+2/M+4	0.88	0.76-1.02	119	63 - 159	18.5

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511586 Analysis Date: 26-SEP-17 Time: 11:24:47

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	106	82 - 121	5.6
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	91	62 - 160	-8.7
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	103	85 - 117	3.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	93	85 - 118	-6.9
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	89	72 - 138	-11.0
13C-OCDD	M+2/M+4	0.91	0.76-1.02	146	96 - 415	-27.2
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	105	71 - 140	4.9
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	96	76 - 130	-4.3
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	96	77 - 130	-4.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	114	76 - 131	13.7
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	104	70 - 143	3.6
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	108	74 - 135	7.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	111	73 - 137	11.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	101	78 - 129	0.8
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	91	77 - 129	-9.2
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.3	7.8 - 12.7	3.4

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
180102

Run #7 Filename P511586 Samp: 1 Inj: 1 Acquired: 26-SEP-17 11:24:47
Processed: 27-SEP-17 08:31:05 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:07	5.462e+03	7.591e+03	0.72	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:20	4.390e+04	2.912e+04	1.51	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:14	4.094e+04	2.681e+04	1.53	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:54	3.195e+04	2.589e+04	1.23	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:01	3.160e+04	2.563e+04	1.23	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:30	3.095e+04	2.585e+04	1.20	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:15	2.728e+04	2.219e+04	1.23	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:29	2.499e+04	2.476e+04	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:52	1.837e+04	1.814e+04	1.01	yes	no	1.191
10	Unk	OCDF	42:19	2.739e+04	3.105e+04	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:54	4.795e+03	6.018e+03	0.80	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:31	3.075e+04	1.951e+04	1.58	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:38	2.310e+04	1.856e+04	1.24	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:43	2.262e+04	1.808e+04	1.25	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:57	2.502e+04	1.961e+04	1.28	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	1.799e+04	1.724e+04	1.04	yes	no	0.942
17	Unk	OCDD	42:07	2.411e+04	2.671e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:05	6.451e+04	8.079e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:19	9.077e+04	5.766e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:13	8.968e+04	5.643e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:53	3.338e+04	6.439e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:59	3.519e+04	6.770e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:29	3.500e+04	6.758e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:15	2.935e+04	5.789e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:28	2.277e+04	5.125e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:51	1.774e+04	4.009e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:53	4.515e+04	5.804e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:30	6.441e+04	4.084e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:37	4.567e+04	3.524e+04	1.30	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:43	4.399e+04	3.455e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:23	3.557e+04	3.318e+04	1.07	yes	no	0.881
32	IS	13C-OCDD	42:07	4.262e+04	4.677e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:19	4.546e+04	5.695e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:57	4.910e+04	3.856e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:54	1.094e+04				no	1.033

ALS ENVIRONMENTAL
10450 Stancliff Rd, Suite 115
Houston, TX 77099
Office(713)266-1599. Fax(713)266-0130

www.alsglobal.com

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511586 Samp: 1 Inj: 1 Acquired: 26-SEP-17 11:24:47
Processed: 27-SEP-17 08:31:05 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.02e+06	1.68e+03	6.0e+02	1.41e+06	3.34e+03	4.2e+02
2	1,2,3,7,8-PeCDF	8.48e+06	2.52e+03	3.4e+03	5.58e+06	3.40e+03	1.6e+03
3	2,3,4,7,8-PeCDF	8.22e+06	2.52e+03	3.3e+03	5.46e+06	3.40e+03	1.6e+03
4	1,2,3,4,7,8-HxCDF	7.16e+06	3.14e+03	2.3e+03	5.81e+06	3.07e+03	1.9e+03
5	1,2,3,6,7,8-HxCDF	6.85e+06	3.14e+03	2.2e+03	5.53e+06	3.07e+03	1.8e+03
6	2,3,4,6,7,8-HxCDF	7.04e+06	3.14e+03	2.2e+03	5.89e+06	3.07e+03	1.9e+03
7	1,2,3,7,8,9-HxCDF	5.88e+06	3.14e+03	1.9e+03	4.81e+06	3.07e+03	1.6e+03
8	1,2,3,4,6,7,8-HpCDF	5.60e+06	5.15e+03	1.1e+03	5.60e+06	3.55e+03	1.6e+03
9	1,2,3,4,7,8,9-HpCDF	3.78e+06	5.15e+03	7.3e+02	3.71e+06	3.55e+03	1.0e+03
10	OCDF	4.91e+06	1.54e+03	3.2e+03	5.63e+06	5.65e+03	1.0e+03
11	2,3,7,8-TCDD	9.34e+05	3.21e+03	2.9e+02	1.16e+06	2.31e+03	5.0e+02
12	1,2,3,7,8-PeCDD	6.37e+06	3.54e+03	1.8e+03	4.04e+06	3.02e+03	1.3e+03
13	1,2,3,4,7,8-HxCDD	5.36e+06	4.28e+03	1.3e+03	4.27e+06	4.71e+03	9.1e+02
14	1,2,3,6,7,8-HxCDD	5.06e+06	4.28e+03	1.2e+03	3.99e+06	4.71e+03	8.5e+02
15	1,2,3,7,8,9-HxCDD	5.57e+06	4.28e+03	1.3e+03	4.42e+06	4.71e+03	9.4e+02
16	1,2,3,4,6,7,8-HpCDD	3.88e+06	4.10e+03	9.5e+02	3.67e+06	3.83e+03	9.6e+02
17	OCDD	4.38e+06	2.22e+03	2.0e+03	4.90e+06	3.52e+03	1.4e+03
18	13C-2,3,7,8-TCDF	1.22e+07	1.89e+04	6.4e+02	1.52e+07	9.14e+03	1.7e+03
19	13C-1,2,3,7,8-PeCDF	1.72e+07	1.97e+03	8.7e+03	1.09e+07	2.18e+03	5.0e+03
20	13C-2,3,4,7,8-PeCDF	1.83e+07	1.97e+03	9.3e+03	1.15e+07	2.18e+03	5.3e+03
21	13C-1,2,3,4,7,8-HxCDF	7.52e+06	1.42e+03	5.3e+03	1.43e+07	2.56e+03	5.6e+03
22	13C-1,2,3,6,7,8-HxCDF	7.51e+06	1.42e+03	5.3e+03	1.45e+07	2.56e+03	5.7e+03
23	13C-2,3,4,6,7,8-HxCDF	7.99e+06	1.42e+03	5.6e+03	1.54e+07	2.56e+03	6.0e+03
24	13C-1,2,3,7,8,9-HxCDF	6.30e+06	1.42e+03	4.4e+03	1.23e+07	2.56e+03	4.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.08e+06	3.39e+03	1.5e+03	1.15e+07	6.87e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.53e+06	3.39e+03	1.0e+03	8.11e+06	6.87e+03	1.2e+03
27	13C-2,3,7,8-TCDD	8.85e+06	1.01e+04	8.7e+02	1.14e+07	3.74e+03	3.0e+03
28	13C-1,2,3,7,8-PeCDD	1.29e+07	1.80e+03	7.2e+03	8.26e+06	1.80e+03	4.6e+03
29	13C-1,2,3,4,7,8-HxCDD	1.05e+07	1.72e+03	6.1e+03	8.15e+06	2.50e+03	3.3e+03
30	13C-1,2,3,6,7,8-HxCDD	9.68e+06	1.72e+03	5.6e+03	7.72e+06	2.50e+03	3.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	7.63e+06	3.56e+03	2.1e+03	7.01e+06	2.43e+03	2.9e+03
32	13C-OCDD	7.74e+06	1.66e+03	4.7e+03	8.49e+06	2.41e+03	3.5e+03
33	13C-1,2,3,4-TCDD	8.67e+06	1.01e+04	8.6e+02	1.09e+07	3.74e+03	2.9e+03
34	13C-1,2,3,7,8,9-HxCDD	1.09e+07	1.72e+03	6.4e+03	8.63e+06	2.50e+03	3.5e+03
35	37Cl-2,3,7,8-TCDD	2.18e+06	1.13e+03	1.9e+03			

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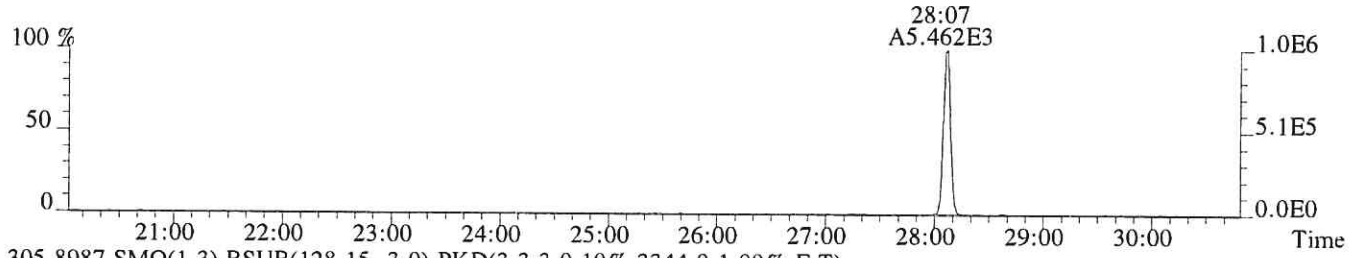
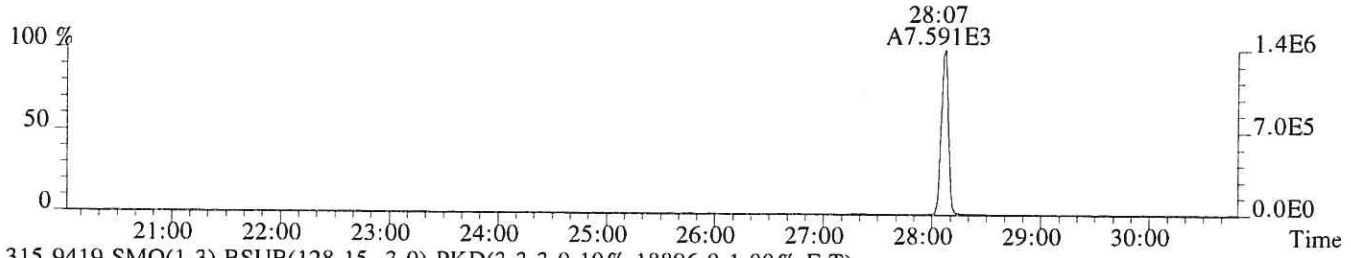
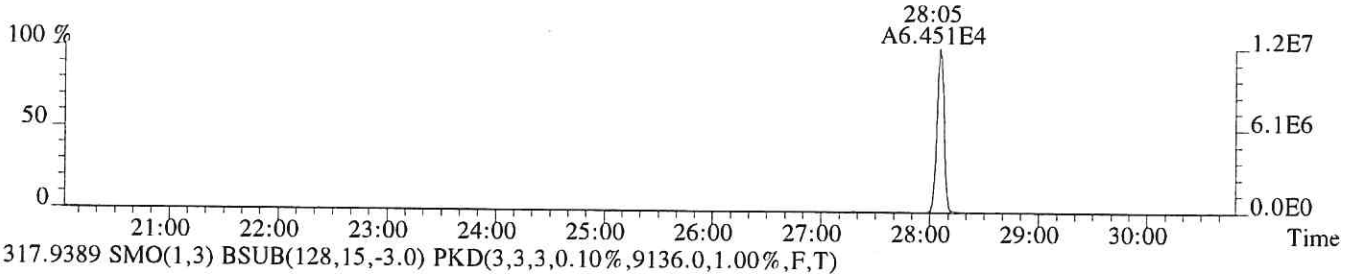
File:P511586 #1-765 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1684.0,1.00%,F,T)



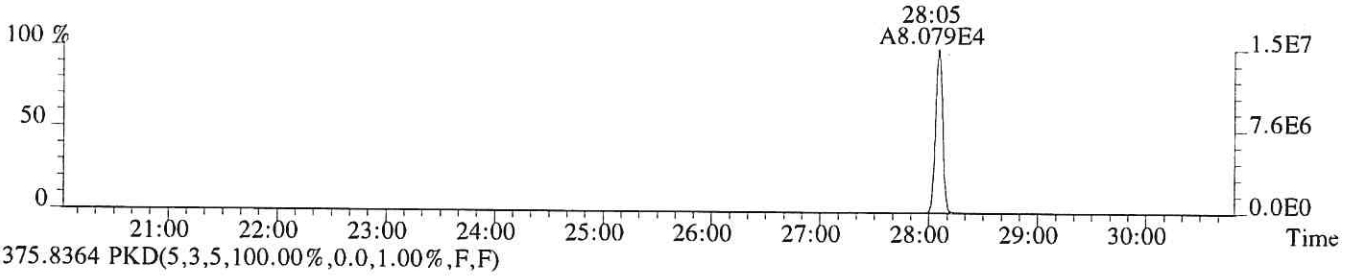
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3344.0,1.00%,F,T)



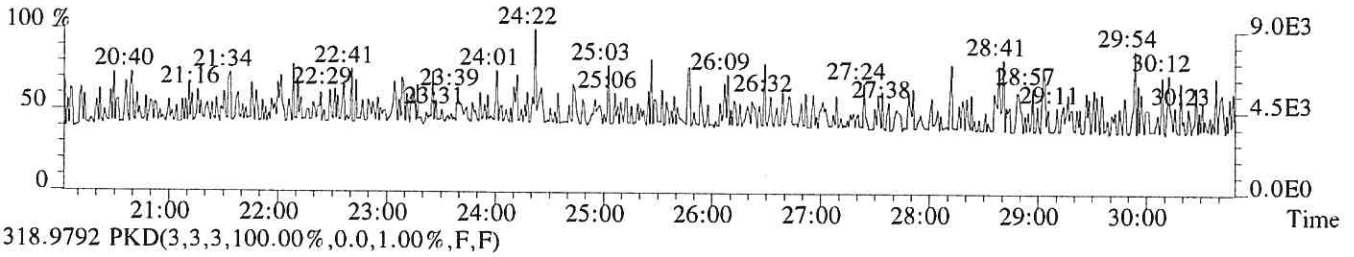
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18896.0,1.00%,F,T)



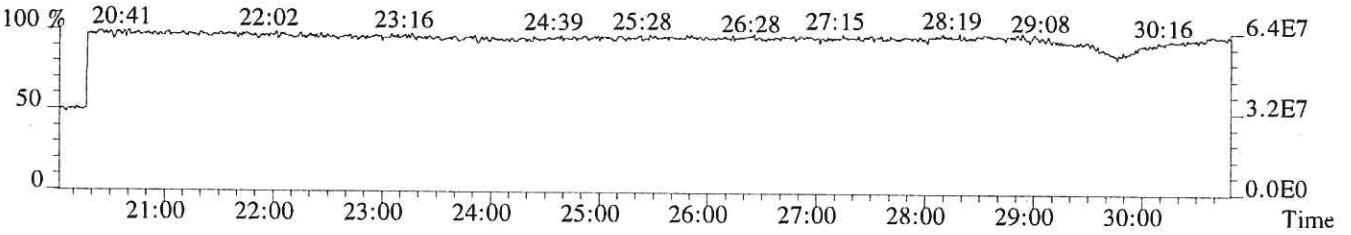
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9136.0,1.00%,F,T)



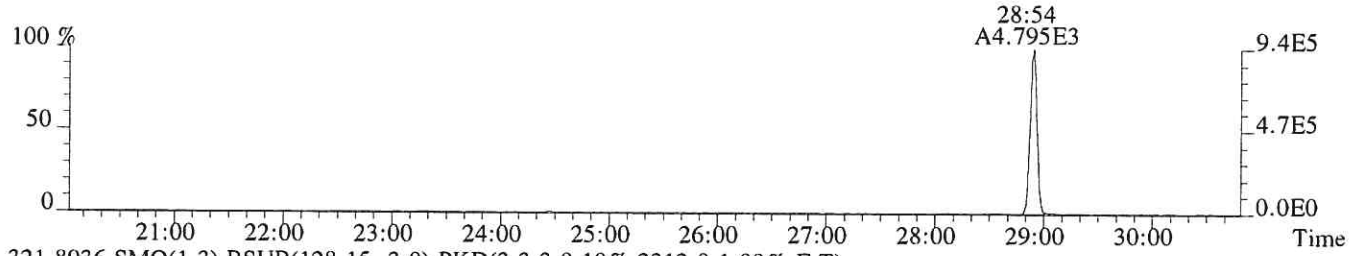
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



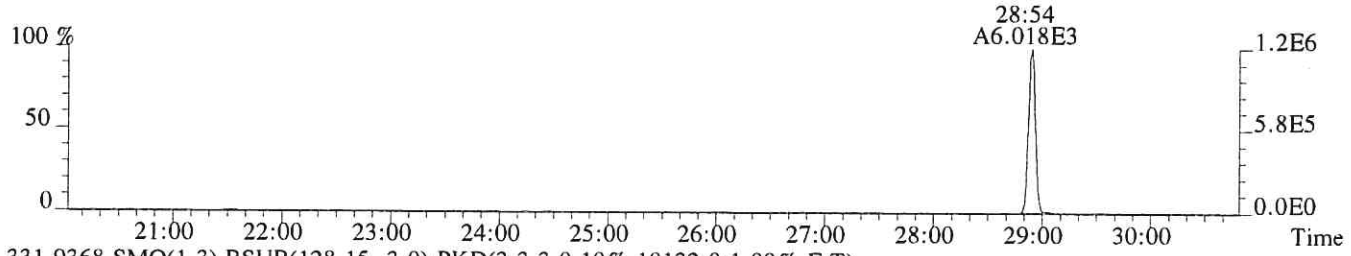
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



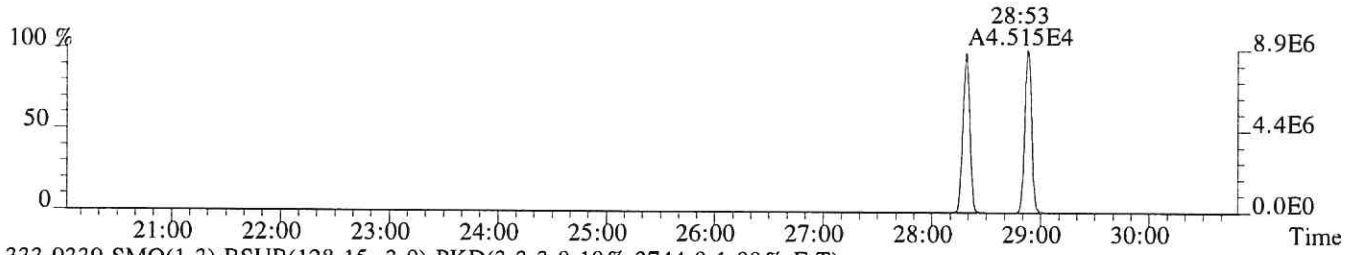
File:P511586 #1-765 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3212.0,1.00%,F,T)



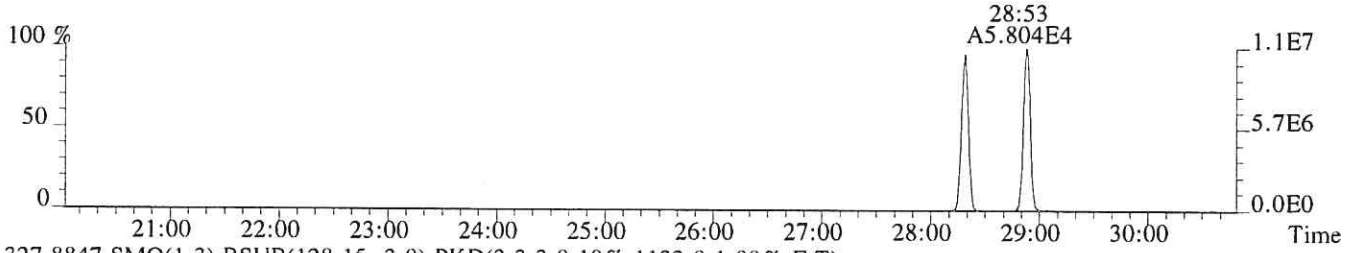
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



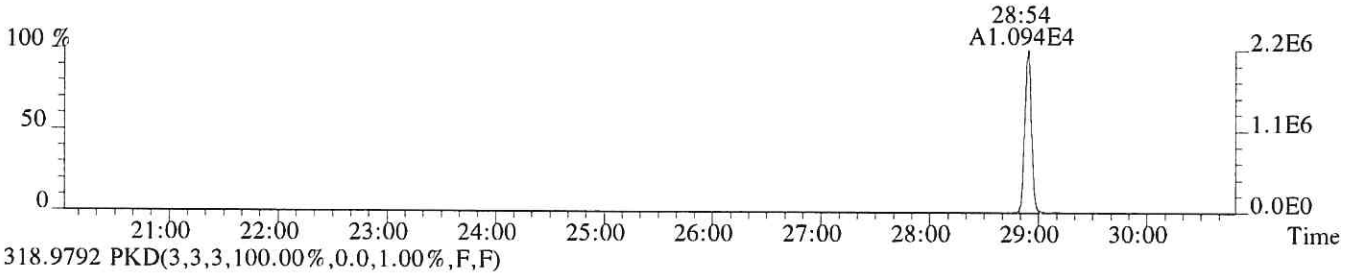
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10132.0,1.00%,F,T)



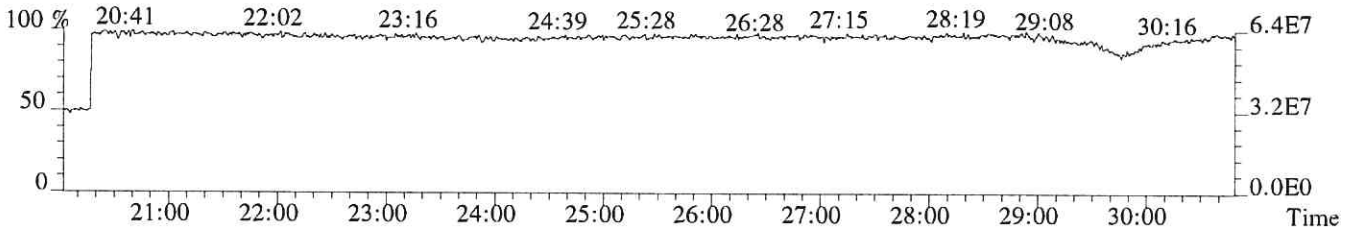
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3744.0,1.00%,F,T)



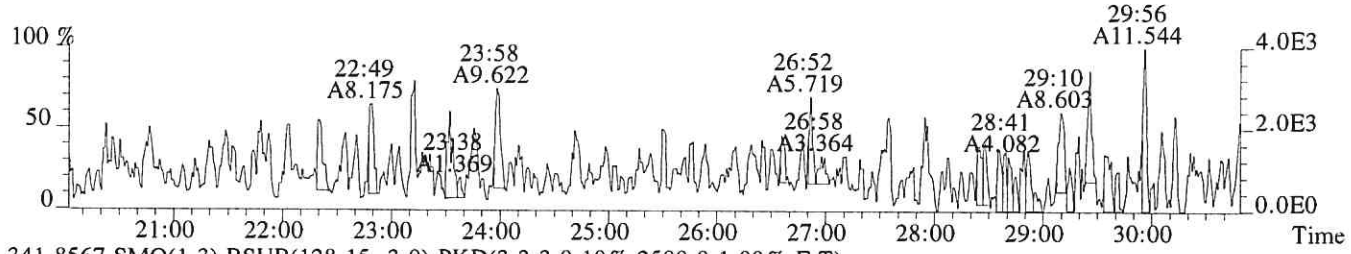
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1132.0,1.00%,F,T)



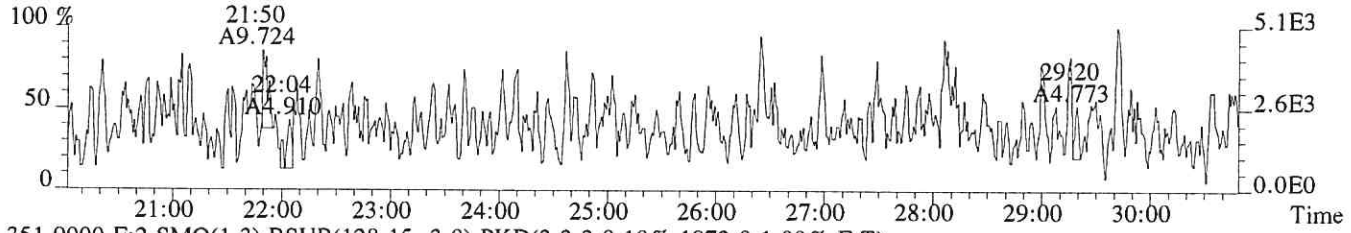
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



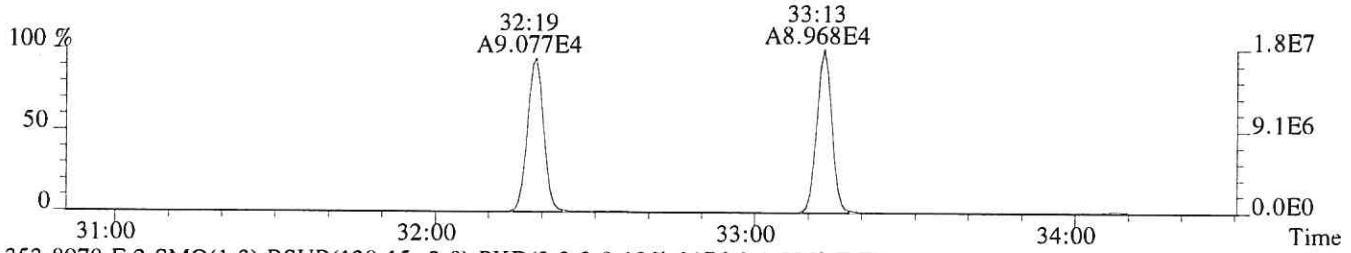
File:P511586 #1-765 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



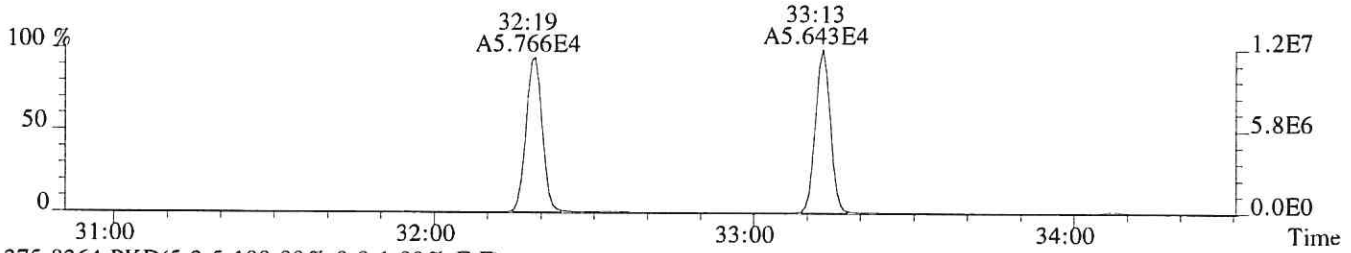
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2500.0,1.00%,F,T)



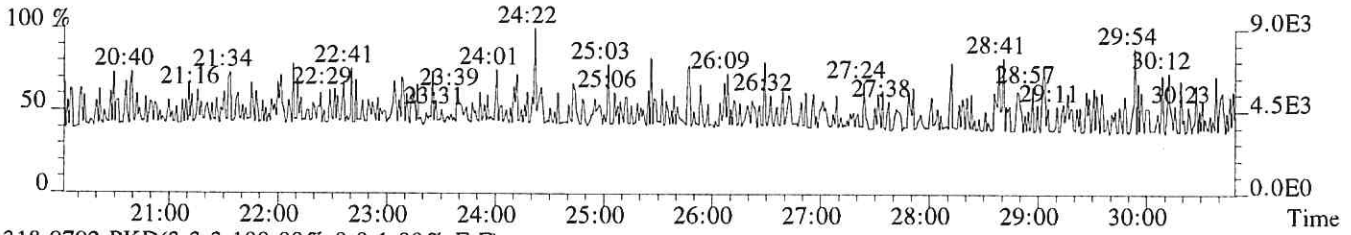
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1972.0,1.00%,F,T)



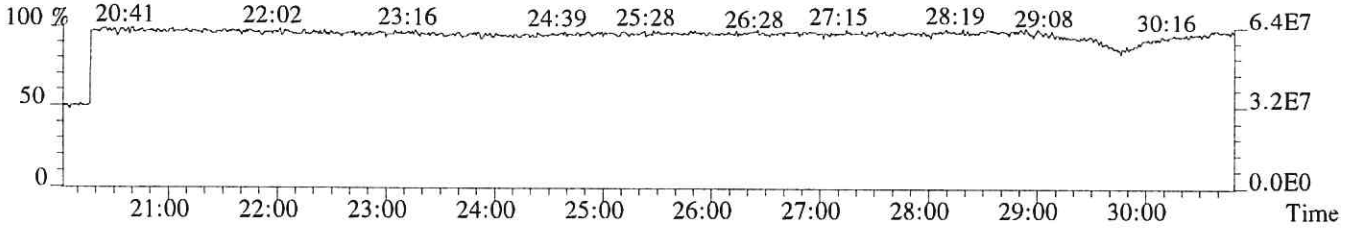
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2176.0,1.00%,F,T)



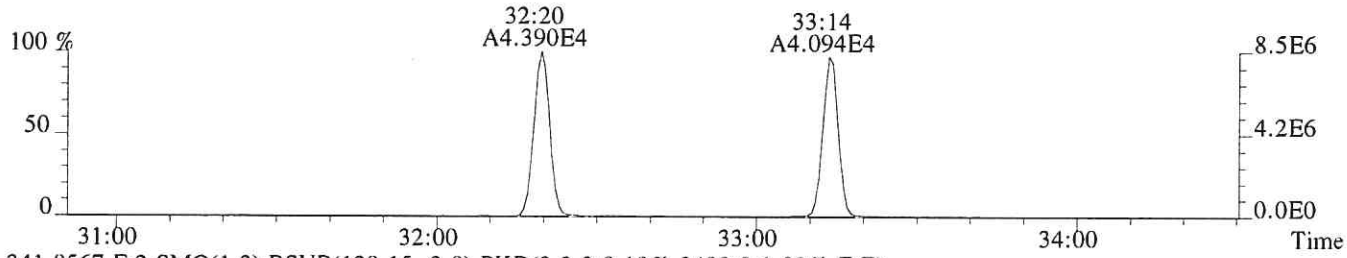
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



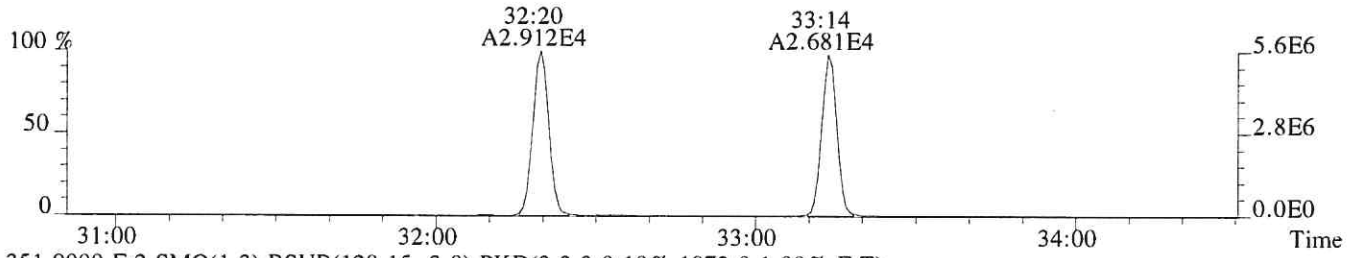
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



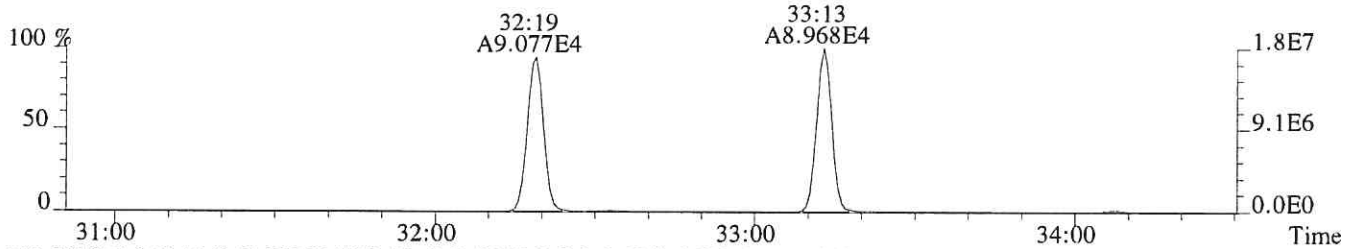
File:P511586 #1-330 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2520.0,1.00%,F,T)



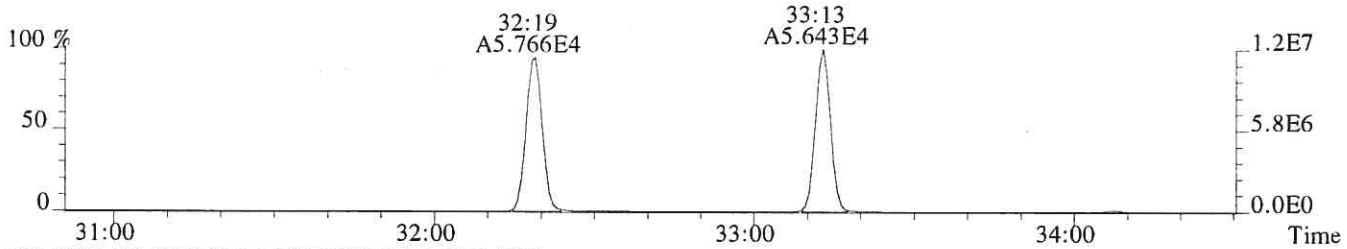
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3400.0,1.00%,F,T)



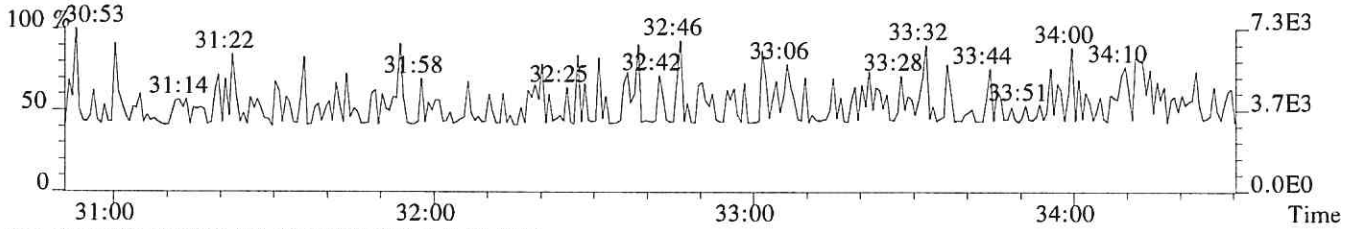
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1972.0,1.00%,F,T)



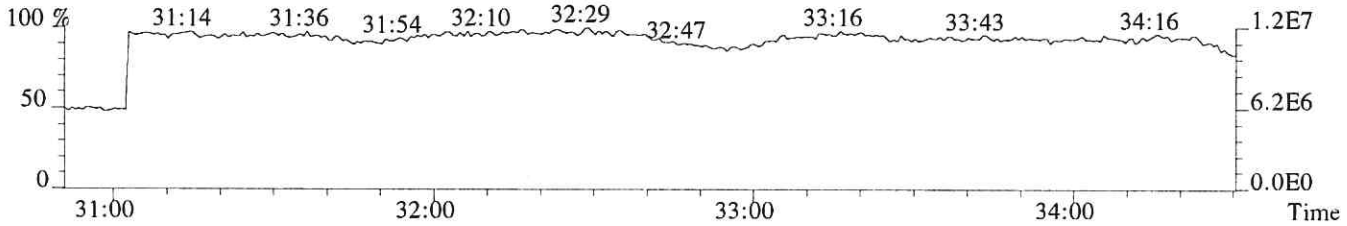
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2176.0,1.00%,F,T)



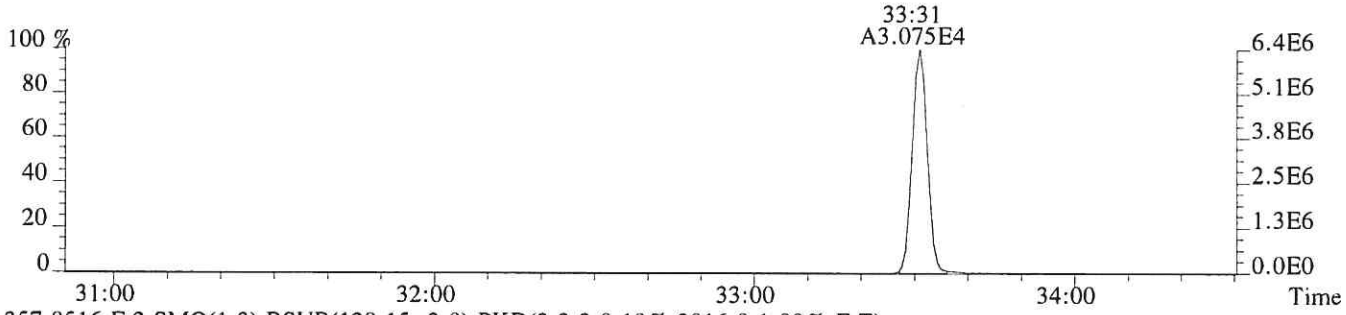
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



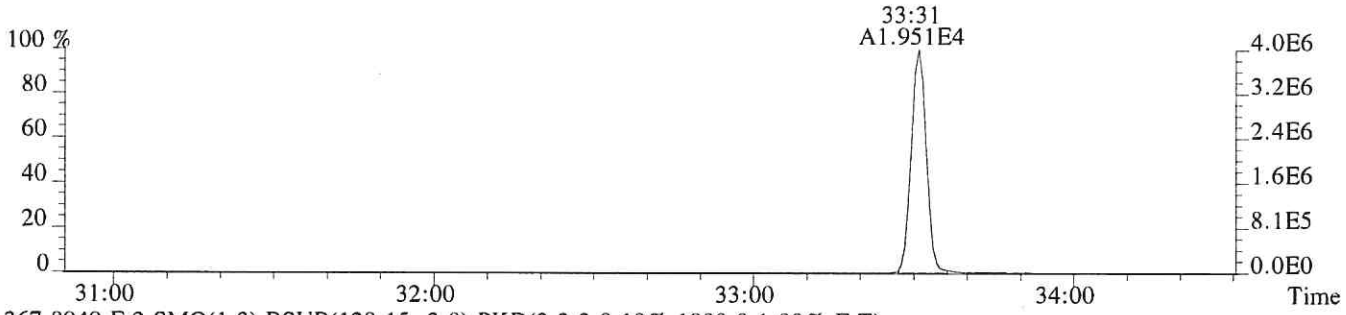
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



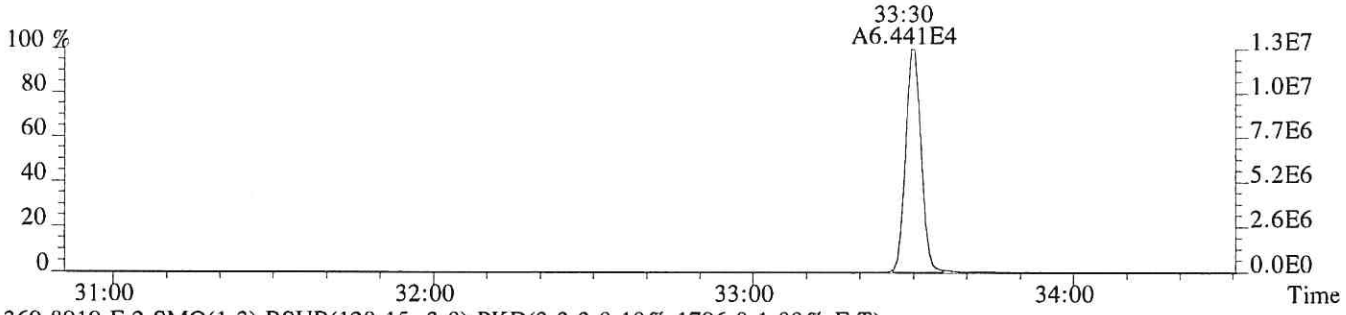
File:P511586 #1-330 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3540.0,1.00%,F,T)



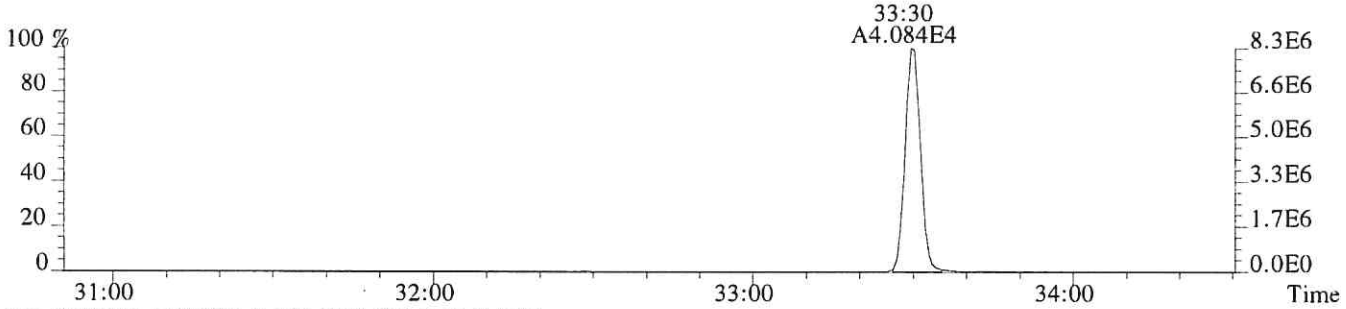
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3016.0,1.00%,F,T)



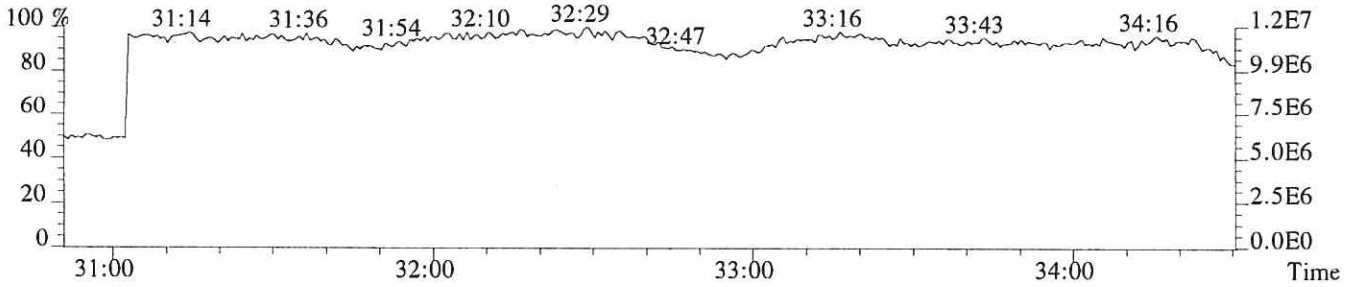
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1800.0,1.00%,F,T)



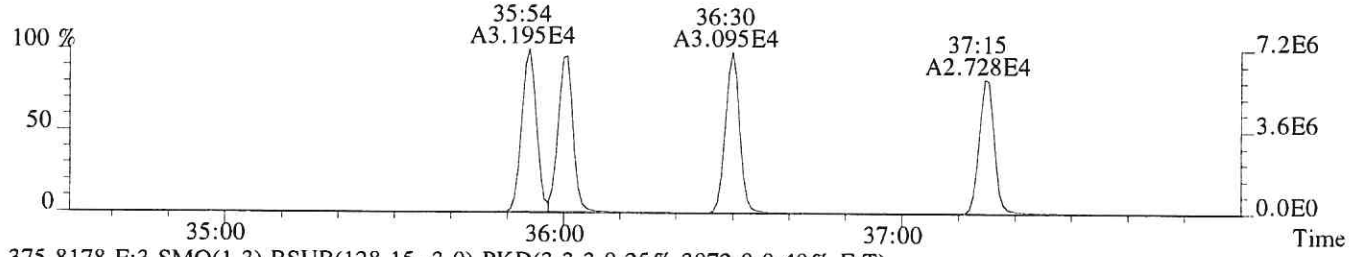
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1796.0,1.00%,F,T)



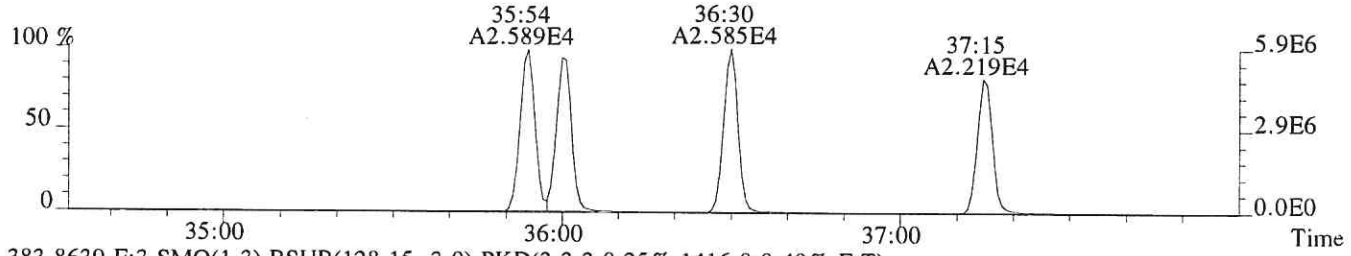
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



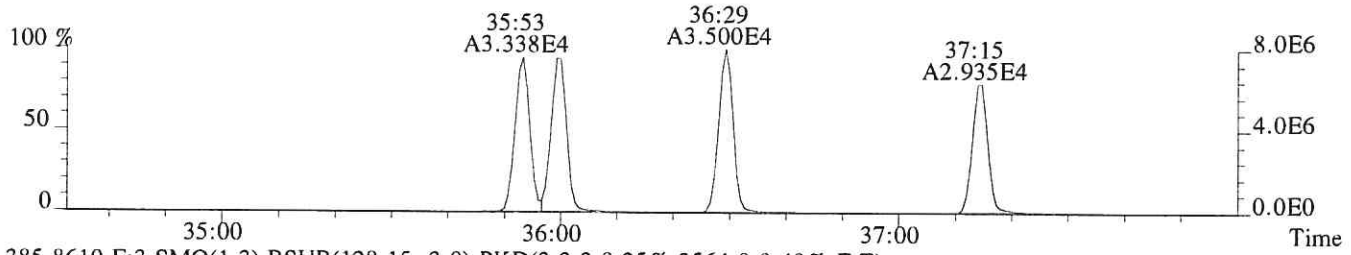
File:P511586 #1-312 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3140.0,0.40%,F,T)



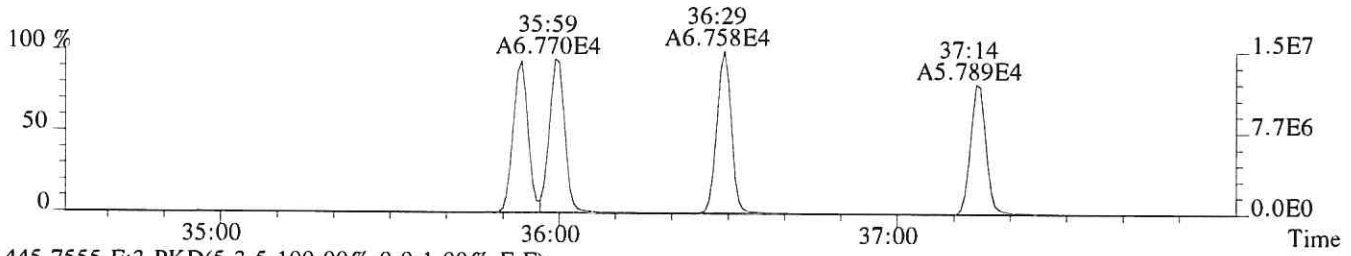
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3072.0,0.40%,F,T)



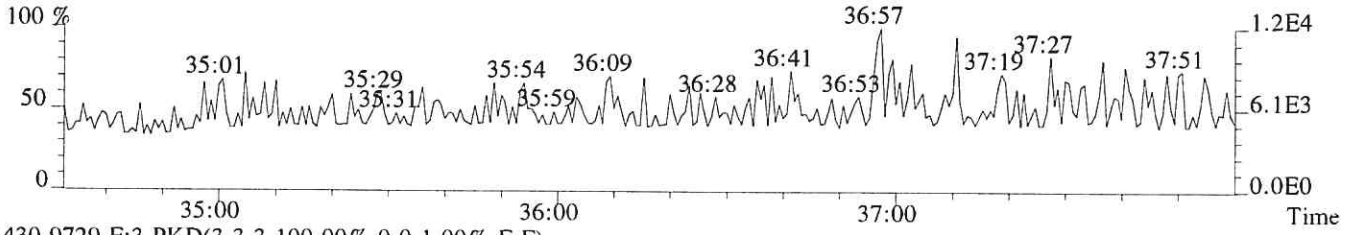
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1416.0,0.40%,F,T)



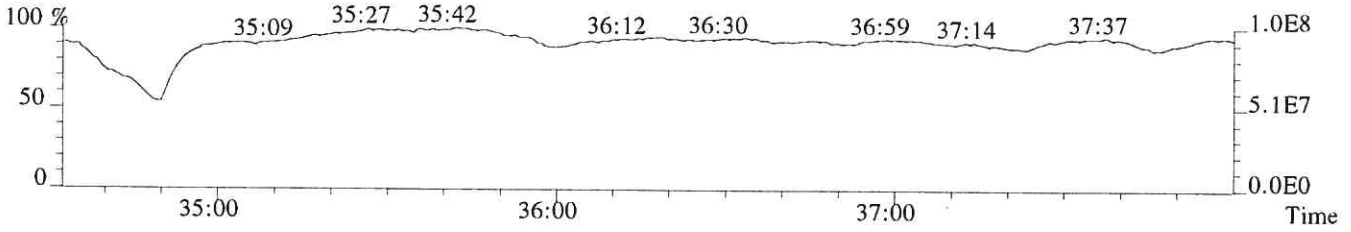
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2564.0,0.40%,F,T)



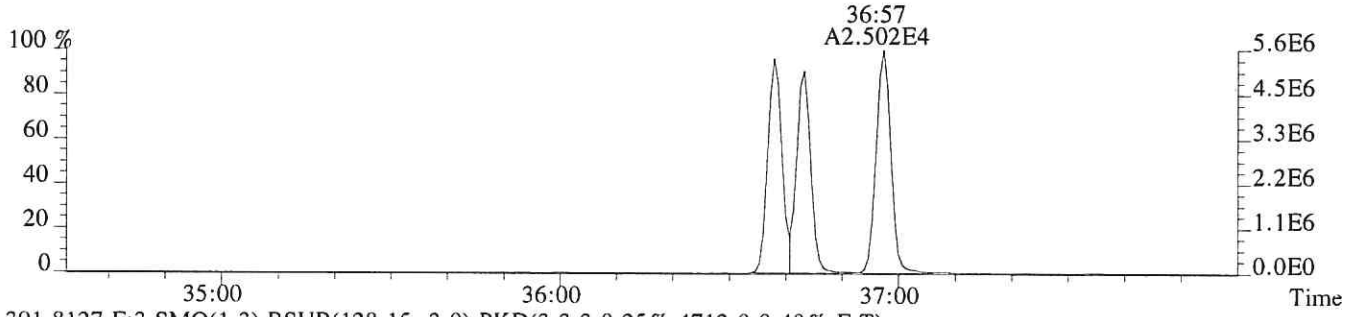
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



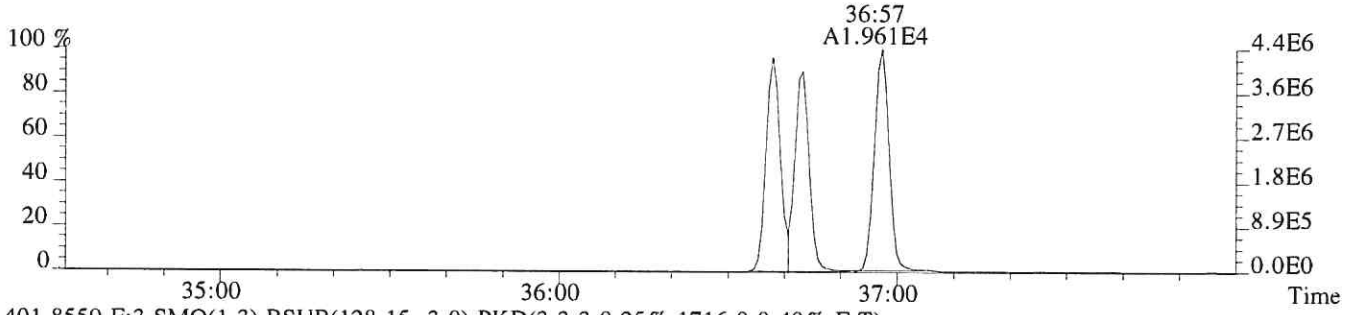
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



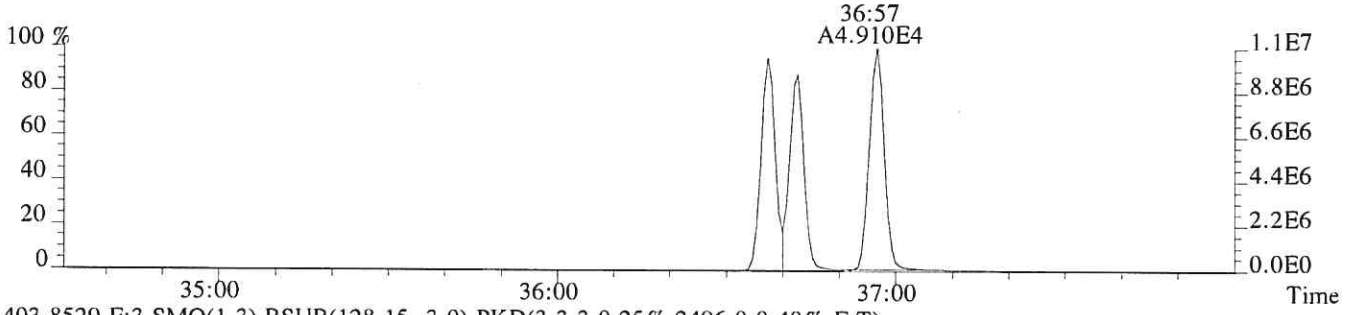
File:P511586 #1-312 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4276.0,0.40%,F,T)



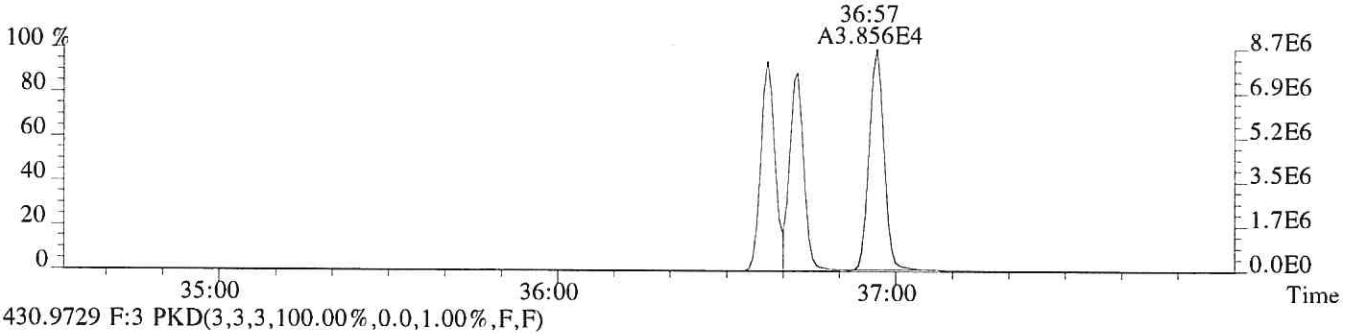
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4712.0,0.40%,F,T)



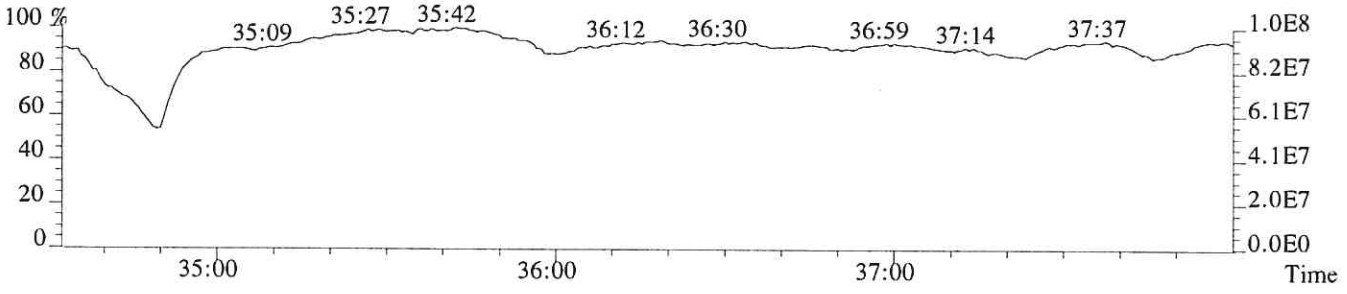
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1716.0,0.40%,F,T)



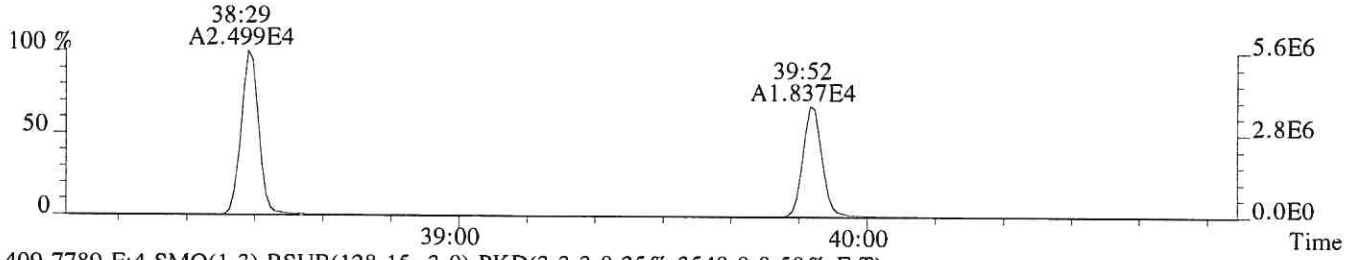
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.40%,F,T)



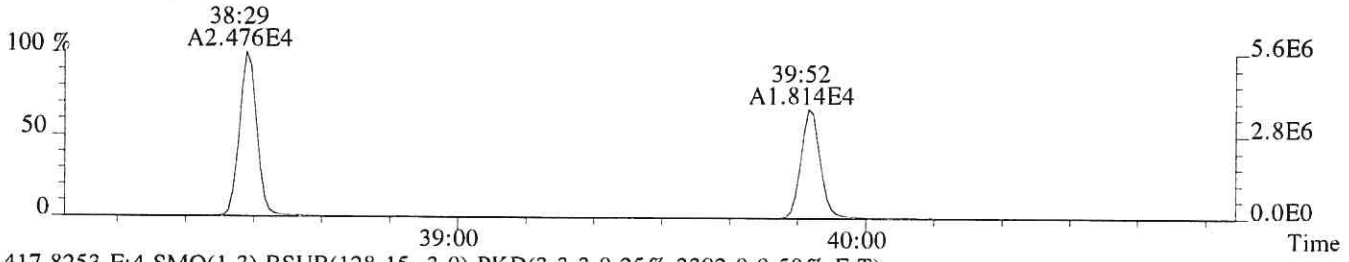
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



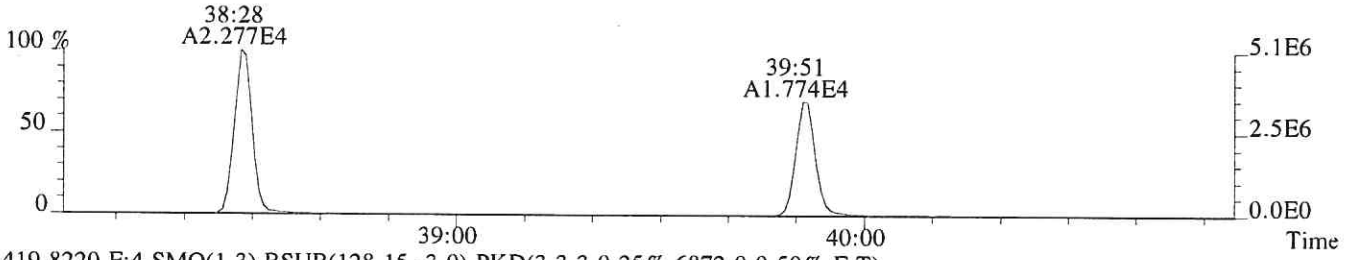
File:P511586 #1-259 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5148.0,0.50%,F,T)



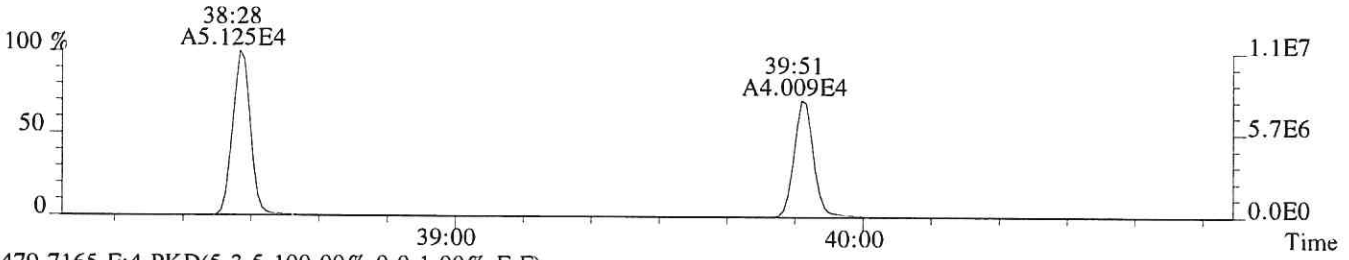
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3548.0,0.50%,F,T)



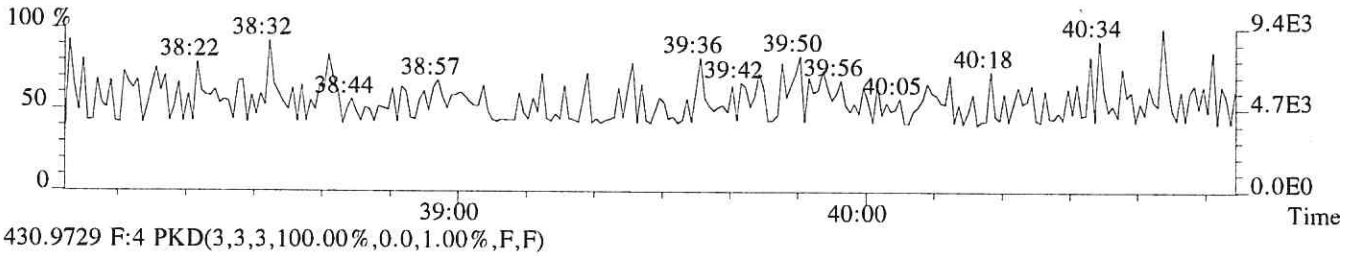
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3392.0,0.50%,F,T)



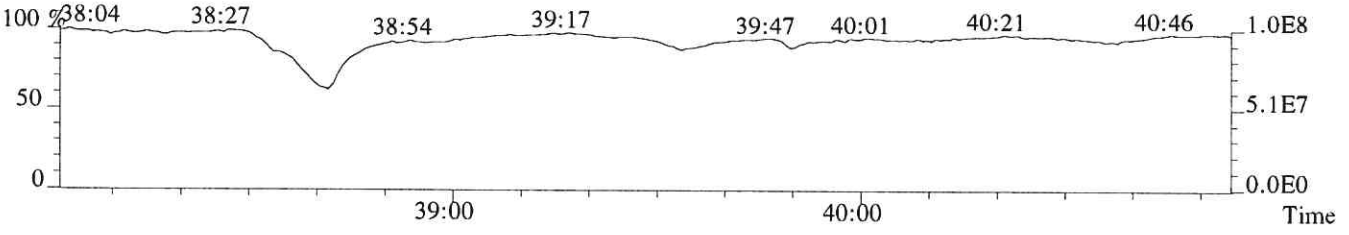
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6872.0,0.50%,F,T)



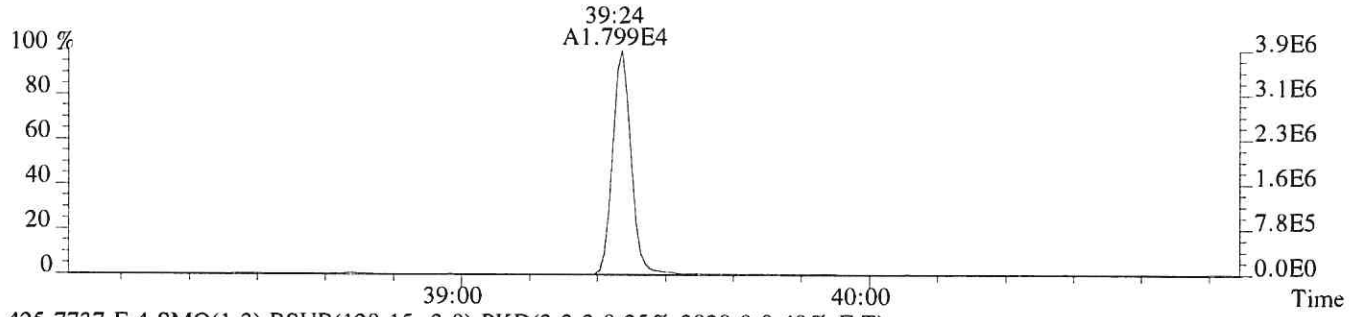
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



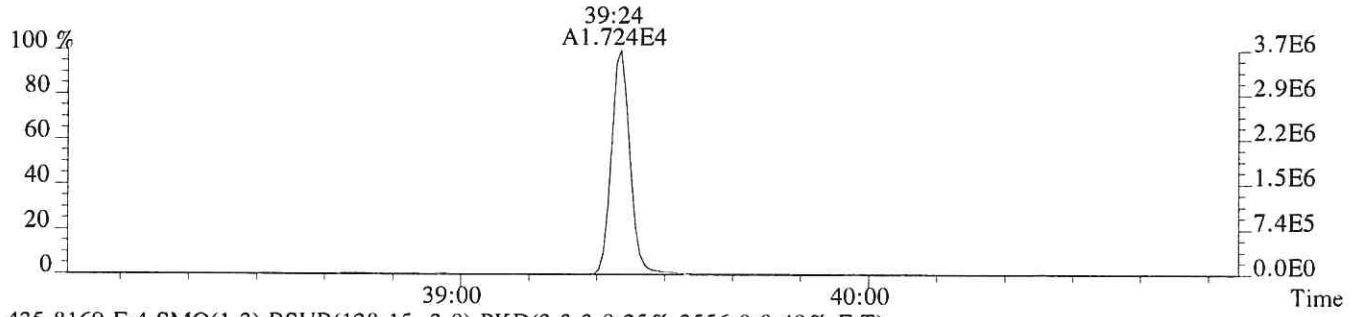
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



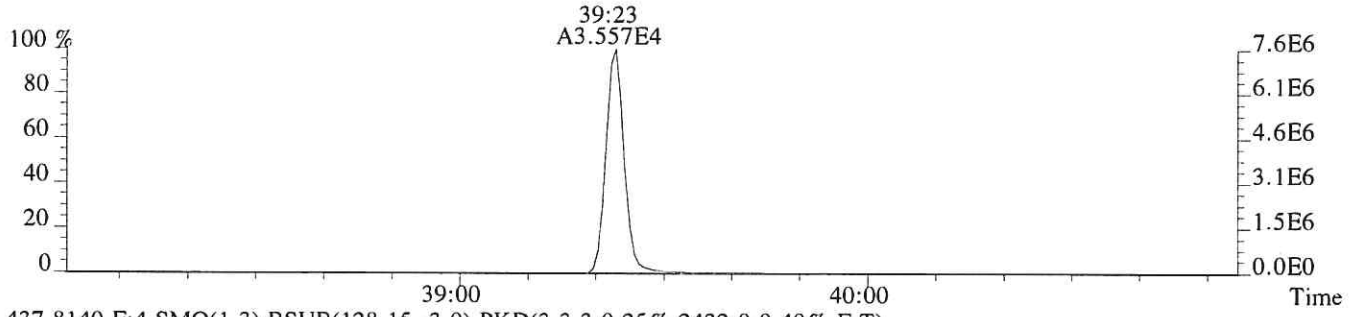
File:P511586 #1-259 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4096.0,0.40%,F,T)



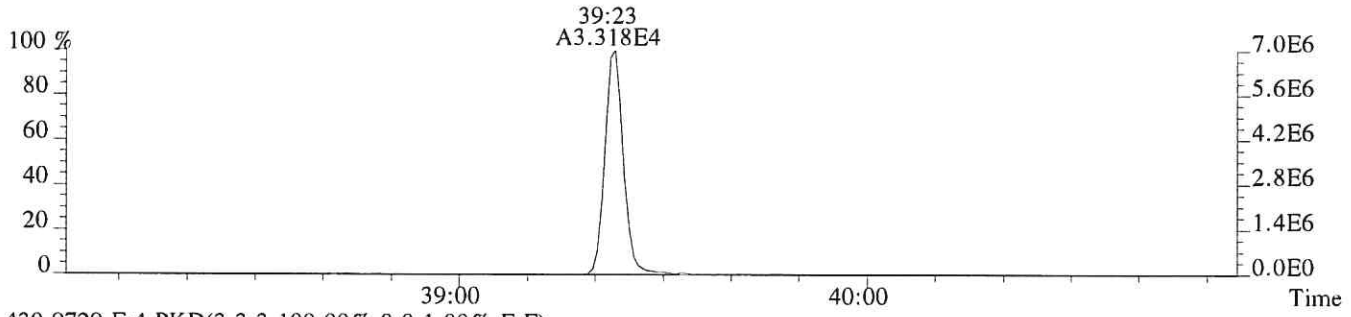
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3828.0,0.40%,F,T)



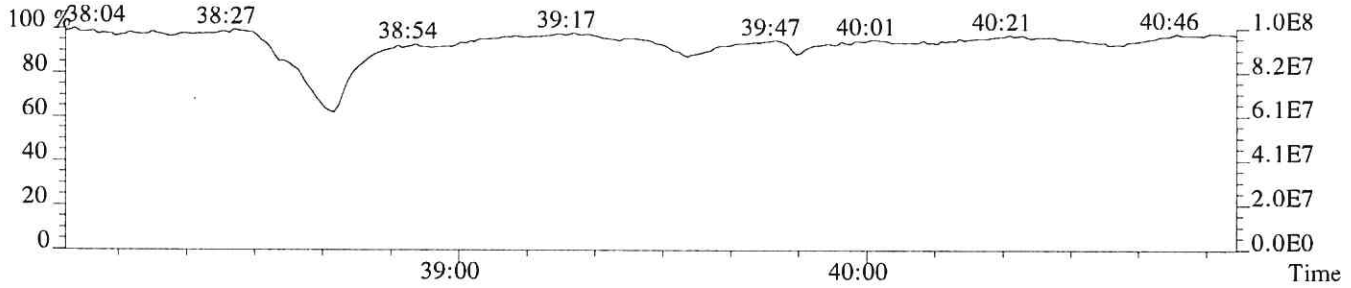
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3556.0,0.40%,F,T)



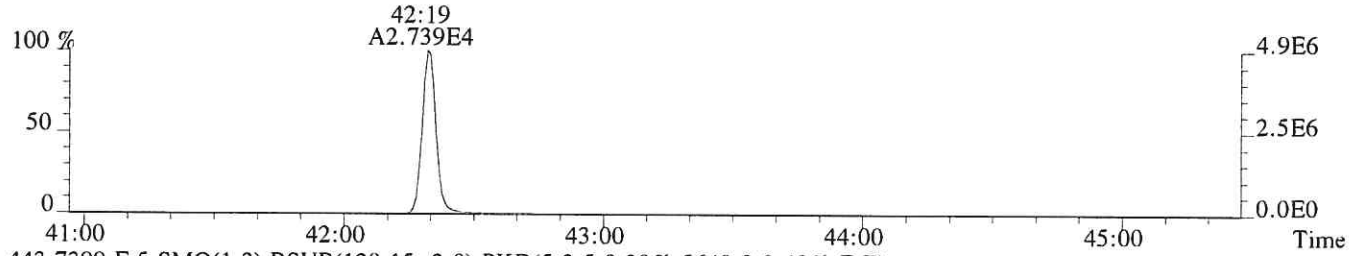
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2432.0,0.40%,F,T)



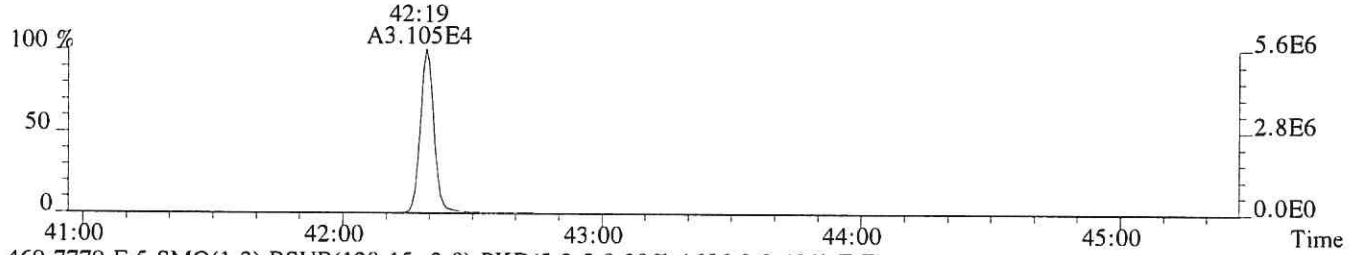
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



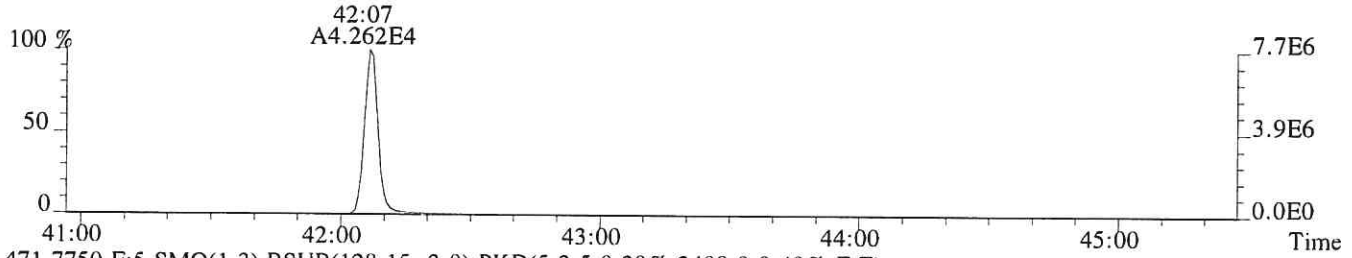
File:P511586 #1-407 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1544.0,0.40%,F,T)



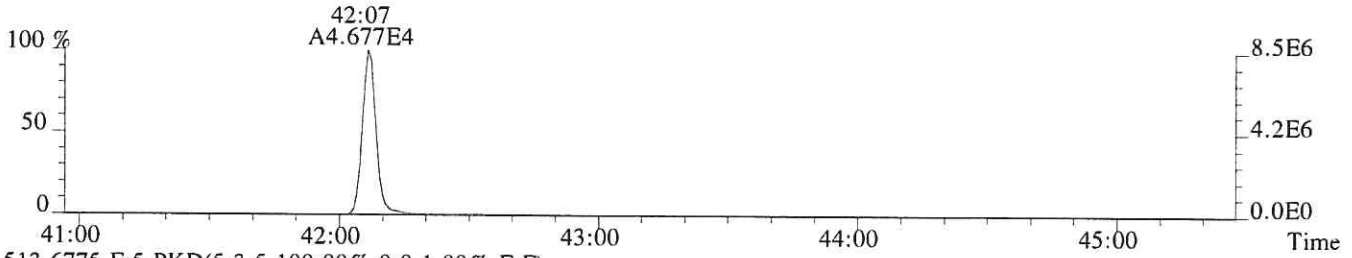
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5648.0,0.40%,F,T)



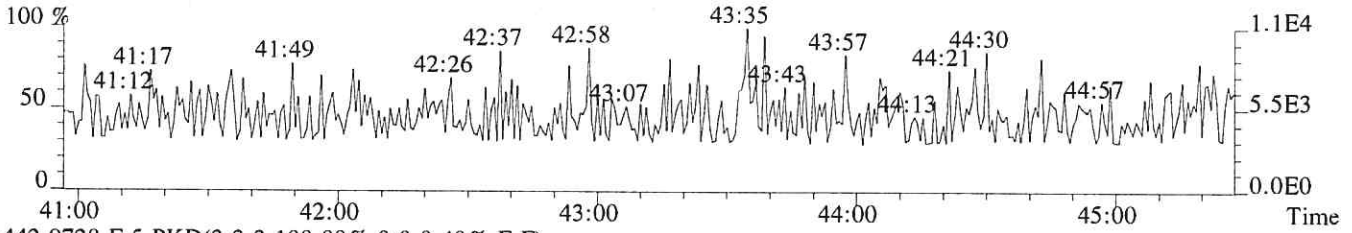
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1656.0,0.40%,F,T)



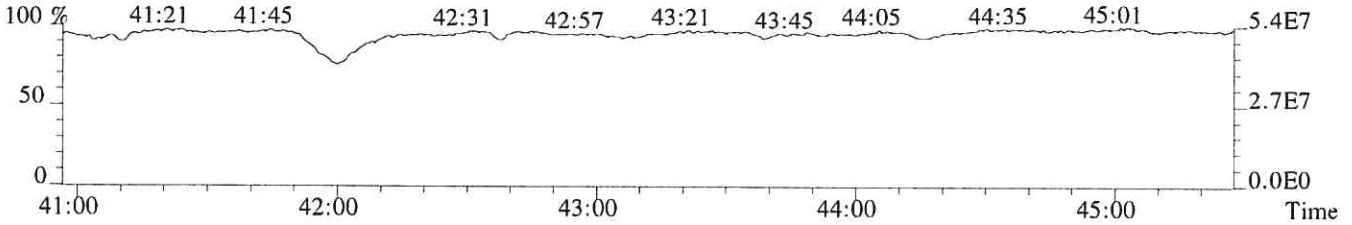
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2408.0,0.40%,F,T)



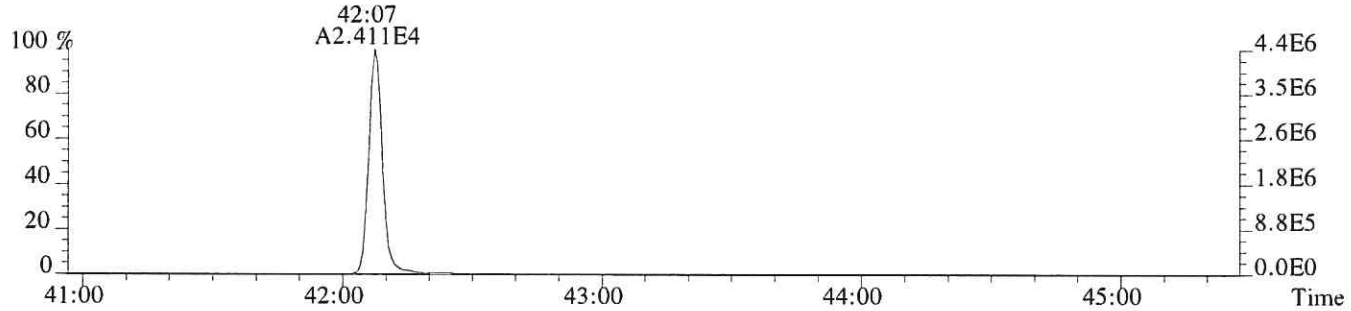
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



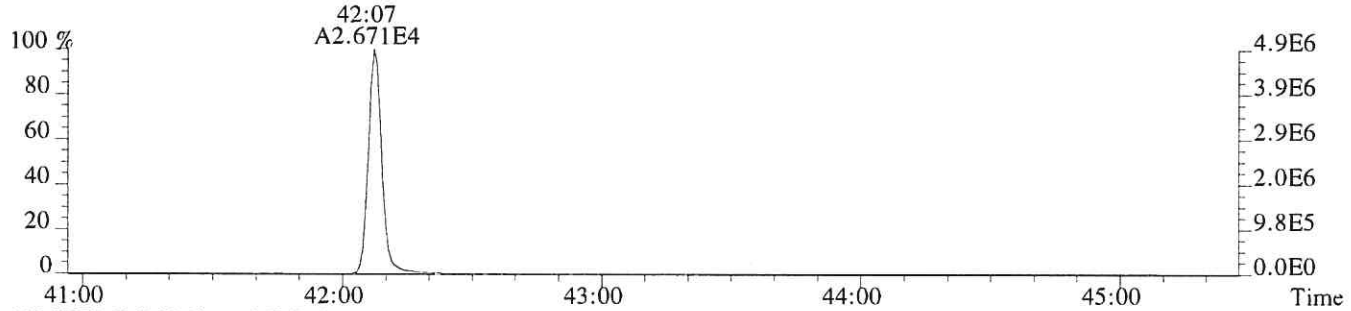
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



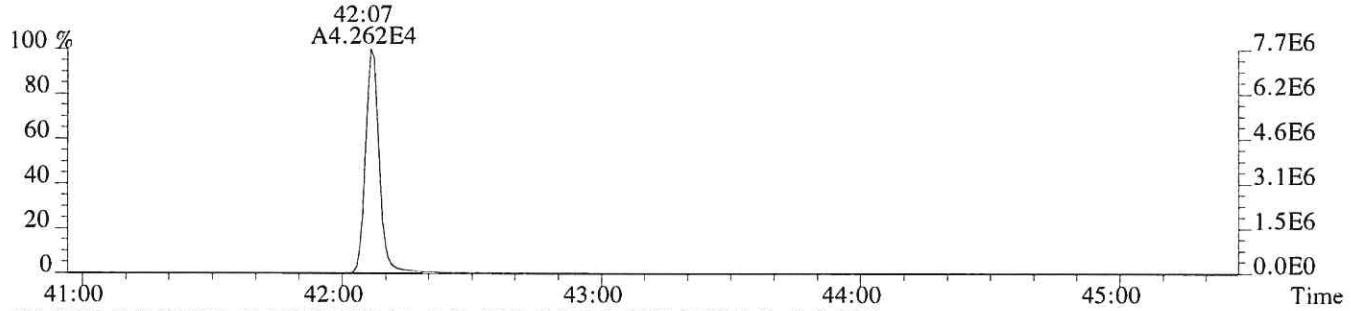
File:P511586 #1-407 Acq:26-SEP-2017 11:24:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2216.0,0.40%,F,T)



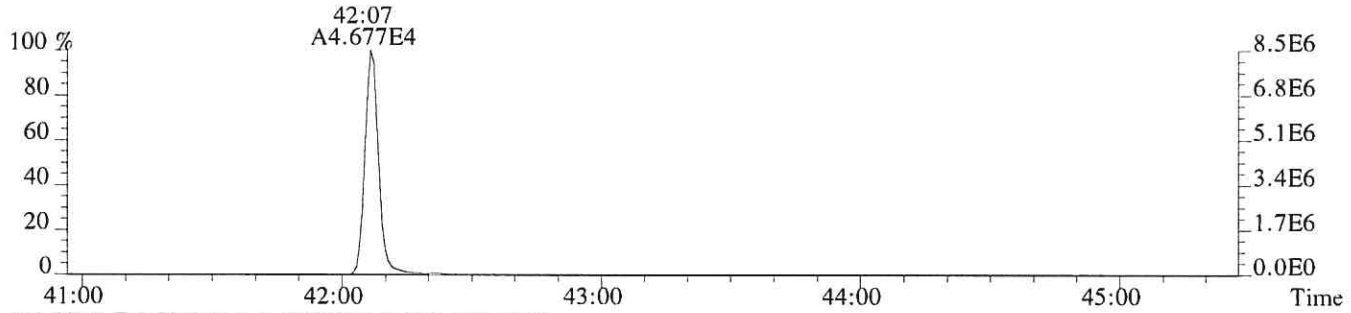
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3520.0,0.40%,F,T)



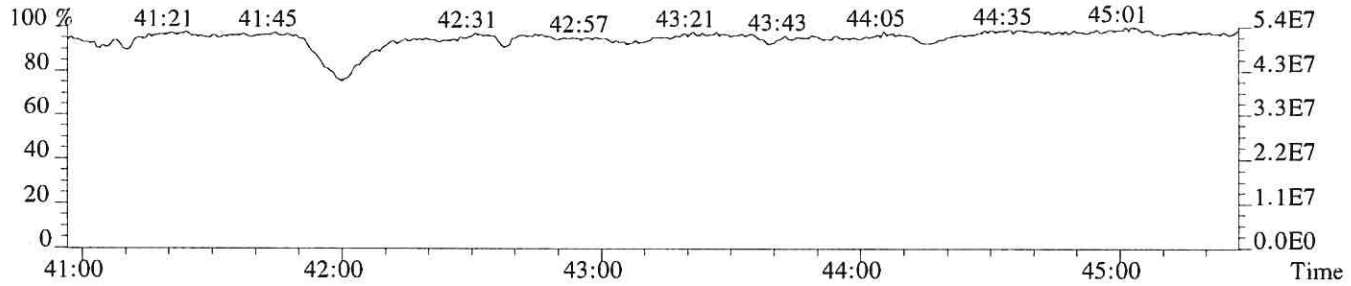
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1656.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2408.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511598 Analysis Date: 26-SEP-17 Time: 21:31:11

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	9.5	7.8 - 12.9	-4.8
1,2,3,7,8-PeCDD	M+2/M+4	1.53	1.32-1.78	53	39 - 65	6.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	53	39 - 64	5.8
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	55	39 - 64	10.2
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	56	41 - 61	12.6
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	53	43 - 58	6.7
OCDD	M+2/M+4	0.90	0.76-1.02	108	79 - 126	7.8
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	10.6	8.4 - 12.0	5.6
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	55	41 - 60	9.3
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	53	41 - 61	6.4
1,2,3,4,7,8-HxCDF	M+2/M+4	1.17	1.05-1.43	56	45 - 56	11.2
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	55	44 - 57	10.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	55	45 - 56	10.8
2,3,4,6,7,8-HxCDF	M+2/M+4	1.19	1.05-1.43	56	44 - 57	11.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	53	45 - 55	5.2
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	52	43 - 58	4.4
OCDF	M+2/M+4	0.89	0.76-1.02	112	63 - 159	12.1

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511598 Analysis Date: 26-SEP-17 Time: 21:31:11

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	99	82 - 121	-1.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	91	62 - 160	-9.3
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	102	85 - 117	1.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	95	85 - 118	-5.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	100	72 - 138	-0.1
13C-OCDD	M+2/M+4	0.90	0.76-1.02	187	96 - 415	-6.7
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	102	71 - 140	2.1
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	98	76 - 130	-2.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	98	77 - 130	-1.9
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	110	76 - 131	9.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	110	70 - 143	10.1
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	111	74 - 135	11.3
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	111	73 - 137	11.2
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	110	78 - 129	10.1
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	111	77 - 129	10.6
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.7	7.8 - 12.7	-2.9

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
180102

Run #18 Filename P511598 Samp: 1 Inj: 1 Acquired: 26-SEP-17 21:31:11
Processed: 27-SEP-17 08:31:07 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:07	1.741e+03	2.256e+03	0.77	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:20	1.416e+04	9.438e+03	1.50	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:14	1.316e+04	8.635e+03	1.52	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:54	1.103e+04	9.395e+03	1.17	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:00	1.210e+04	9.848e+03	1.23	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:30	1.105e+04	9.307e+03	1.19	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:15	1.004e+04	8.337e+03	1.20	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:29	9.817e+03	9.703e+03	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:52	8.111e+03	7.917e+03	1.02	yes	no	1.191
10	Unk	OCDF	42:19	1.221e+04	1.374e+04	0.89	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:54	1.408e+03	1.768e+03	0.80	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:31	9.902e+03	6.460e+03	1.53	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:38	8.075e+03	6.763e+03	1.19	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:43	8.458e+03	6.558e+03	1.29	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:57	9.142e+03	7.202e+03	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	7.170e+03	7.028e+03	1.02	yes	no	0.942
17	Unk	OCDD	42:07	1.123e+04	1.252e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:06	2.039e+04	2.548e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:19	3.025e+04	1.903e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:13	2.960e+04	1.884e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:53	1.184e+04	2.266e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:59	1.353e+04	2.647e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:29	1.266e+04	2.492e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:14	1.104e+04	2.199e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:28	9.033e+03	2.056e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:51	7.710e+03	1.807e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:54	1.389e+04	1.745e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:30	2.087e+04	1.305e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:37	1.639e+04	1.275e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:43	1.645e+04	1.287e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:23	1.453e+04	1.370e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	42:07	1.992e+04	2.203e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:19	1.462e+04	1.860e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:57	1.807e+04	1.402e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:54	3.333e+03				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #18 Filename P511598 Samp: 1 Inj: 1 Acquired: 26-SEP-17 21:31:11
Processed: 27-SEP-17 08:31:07 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.15e+05	1.22e+03	2.6e+02	4.29e+05	4.36e+03	9.8e+01
2	1,2,3,7,8-PeCDF	2.66e+06	1.58e+03	1.7e+03	1.78e+06	3.42e+03	5.2e+02
3	2,3,4,7,8-PeCDF	2.58e+06	1.58e+03	1.6e+03	1.73e+06	3.42e+03	5.0e+02
4	1,2,3,4,7,8-HxCDF	2.38e+06	2.31e+03	1.0e+03	1.99e+06	1.68e+03	1.2e+03
5	1,2,3,6,7,8-HxCDF	2.48e+06	2.31e+03	1.1e+03	2.08e+06	1.68e+03	1.2e+03
6	2,3,4,6,7,8-HxCDF	2.45e+06	2.31e+03	1.1e+03	2.05e+06	1.68e+03	1.2e+03
7	1,2,3,7,8,9-HxCDF	2.04e+06	2.31e+03	8.8e+02	1.68e+06	1.68e+03	1.0e+03
8	1,2,3,4,6,7,8-HpCDF	2.16e+06	2.36e+03	9.1e+02	2.13e+06	2.11e+03	1.0e+03
9	1,2,3,4,7,8,9-HpCDF	1.56e+06	2.36e+03	6.6e+02	1.60e+06	2.11e+03	7.6e+02
10	OCDF	2.07e+06	9.64e+02	2.1e+03	2.35e+06	1.70e+03	1.4e+03
11	2,3,7,8-TCDD	2.80e+05	2.74e+03	1.0e+02	3.28e+05	1.80e+03	1.8e+02
12	1,2,3,7,8-PeCDD	2.01e+06	2.83e+03	7.1e+02	1.30e+06	8.96e+02	1.4e+03
13	1,2,3,4,7,8-HxCDD	1.83e+06	2.32e+03	7.9e+02	1.52e+06	2.01e+03	7.6e+02
14	1,2,3,6,7,8-HxCDD	1.77e+06	2.32e+03	7.6e+02	1.35e+06	2.01e+03	6.7e+02
15	1,2,3,7,8,9-HxCDD	1.91e+06	2.32e+03	8.2e+02	1.48e+06	2.01e+03	7.4e+02
16	1,2,3,4,6,7,8-HpCDD	1.44e+06	1.07e+03	1.3e+03	1.40e+06	2.10e+03	6.7e+02
17	OCDD	1.92e+06	1.49e+03	1.3e+03	2.11e+06	9.16e+02	2.3e+03
18	13C-2,3,7,8-TCDF	3.78e+06	1.68e+04	2.3e+02	4.65e+06	6.47e+03	7.2e+02
19	13C-1,2,3,7,8-PeCDF	5.73e+06	8.52e+02	6.7e+03	3.60e+06	1.45e+03	2.5e+03
20	13C-2,3,4,7,8-PeCDF	5.90e+06	8.52e+02	6.9e+03	3.77e+06	1.45e+03	2.6e+03
21	13C-1,2,3,4,7,8-HxCDF	2.53e+06	1.17e+03	2.2e+03	4.85e+06	1.58e+03	3.1e+03
22	13C-1,2,3,6,7,8-HxCDF	2.84e+06	1.17e+03	2.4e+03	5.43e+06	1.58e+03	3.4e+03
23	13C-2,3,4,6,7,8-HxCDF	2.76e+06	1.17e+03	2.4e+03	5.34e+06	1.58e+03	3.4e+03
24	13C-1,2,3,7,8,9-HxCDF	2.23e+06	1.17e+03	1.9e+03	4.47e+06	1.58e+03	2.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.91e+06	2.85e+03	6.7e+02	4.46e+06	3.10e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.50e+06	2.85e+03	5.3e+02	3.48e+06	3.10e+03	1.1e+03
27	13C-2,3,7,8-TCDD	2.65e+06	6.20e+03	4.3e+02	3.37e+06	3.89e+03	8.7e+02
28	13C-1,2,3,7,8-PeCDD	4.05e+06	1.51e+03	2.7e+03	2.56e+06	1.40e+03	1.8e+03
29	13C-1,2,3,4,7,8-HxCDD	3.70e+06	3.06e+03	1.2e+03	2.90e+06	1.97e+03	1.5e+03
30	13C-1,2,3,6,7,8-HxCDD	3.45e+06	3.06e+03	1.1e+03	2.72e+06	1.97e+03	1.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.90e+06	1.53e+03	1.9e+03	2.67e+06	9.84e+02	2.7e+03
32	13C-OCDD	3.43e+06	1.09e+03	3.1e+03	3.76e+06	9.16e+02	4.1e+03
33	13C-1,2,3,4-TCDD	2.77e+06	6.20e+03	4.5e+02	3.53e+06	3.89e+03	9.1e+02
34	13C-1,2,3,7,8,9-HxCDD	3.81e+06	3.06e+03	1.2e+03	3.00e+06	1.97e+03	1.5e+03
35	37Cl-2,3,7,8-TCDD	6.63e+05	1.94e+03	3.4e+02			

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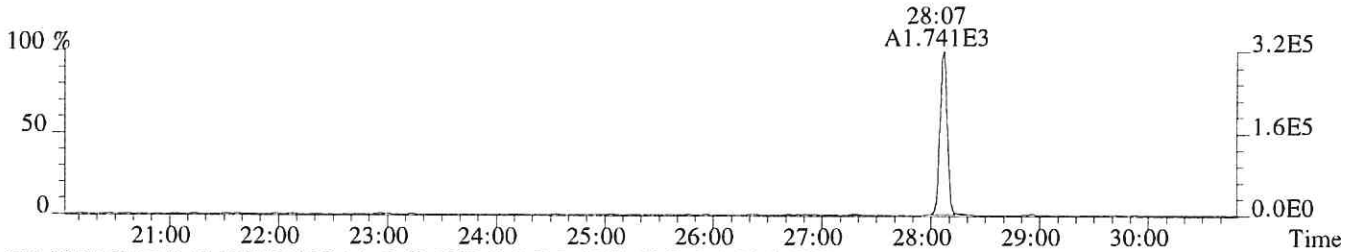
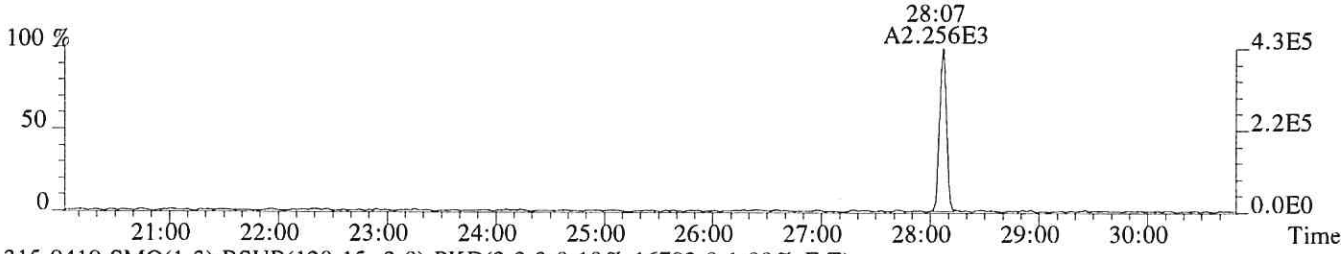
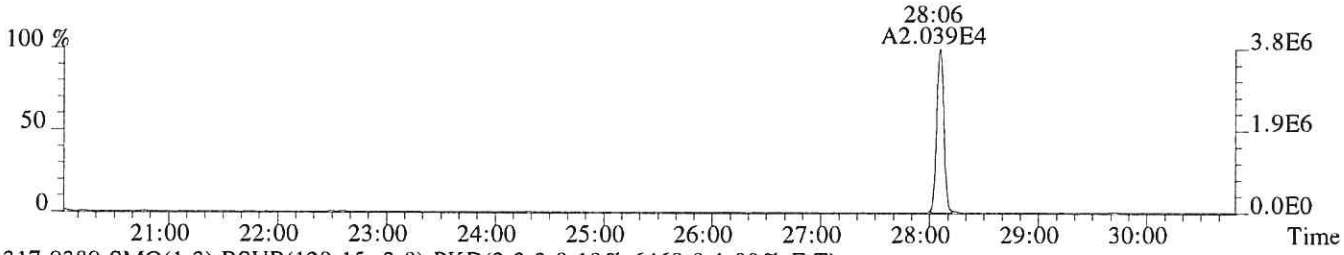
File:P511598 #1-765 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1216.0,1.00%,F,T)



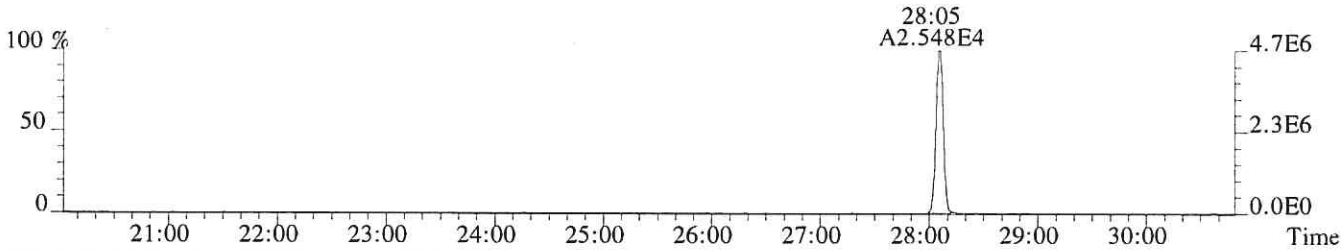
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4360.0,1.00%,F,T)



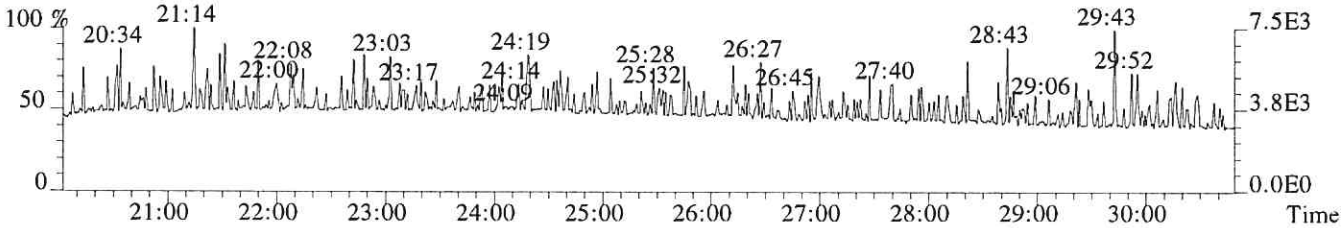
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16792.0,1.00%,F,T)



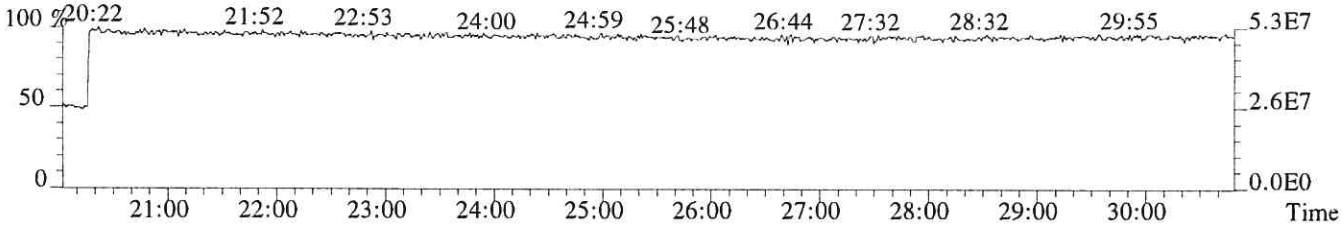
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6468.0,1.00%,F,T)



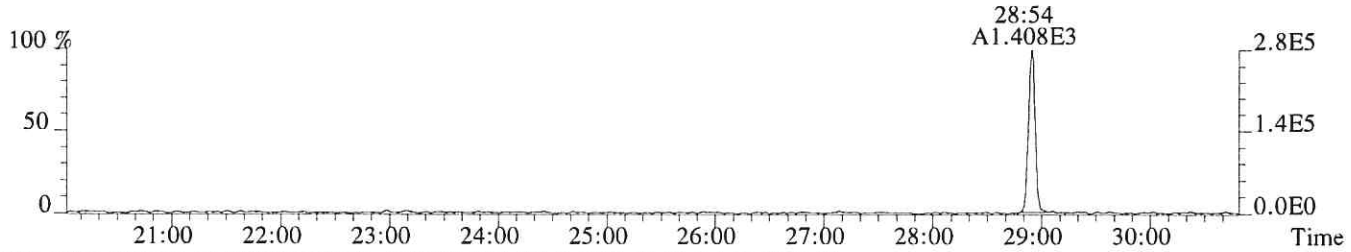
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



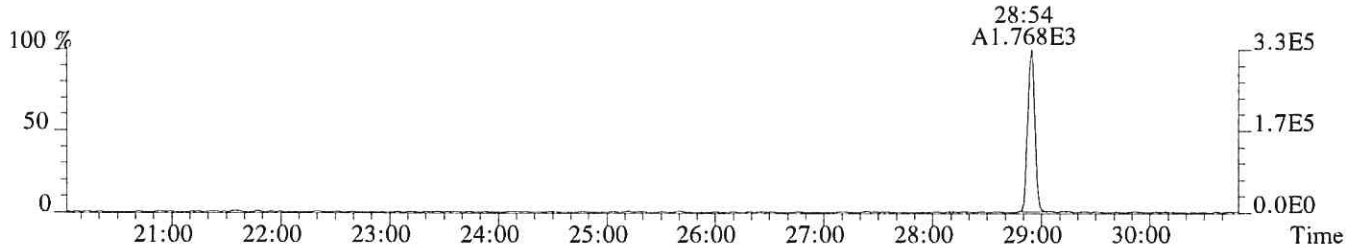
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



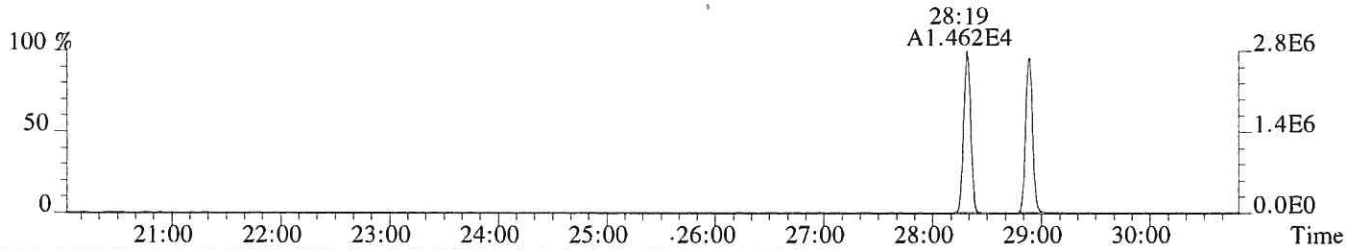
File:P511598 #1-765 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2736.0,1.00%,F,T)



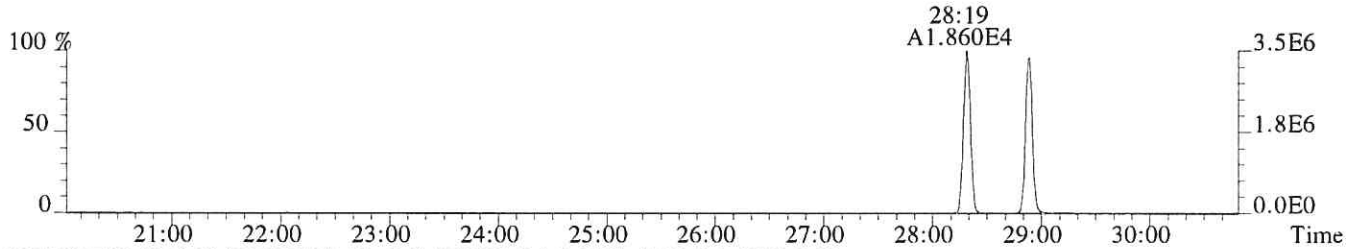
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1796.0,1.00%,F,T)



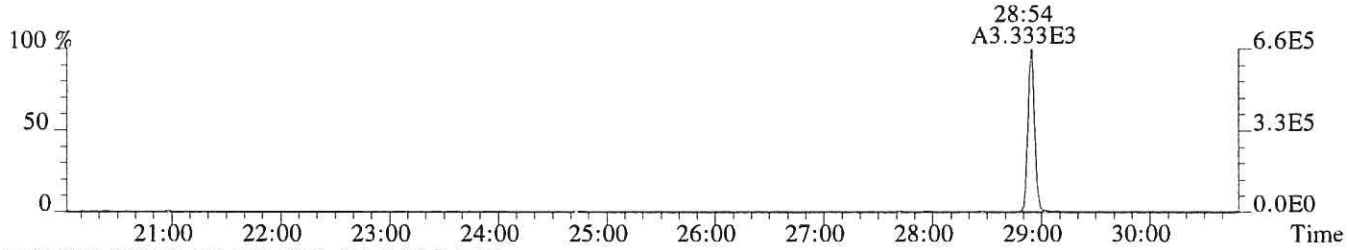
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6200.0,1.00%,F,T)



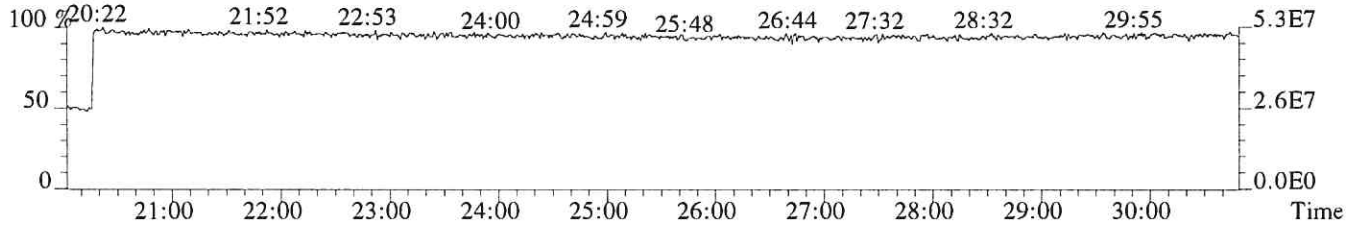
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3892.0,1.00%,F,T)



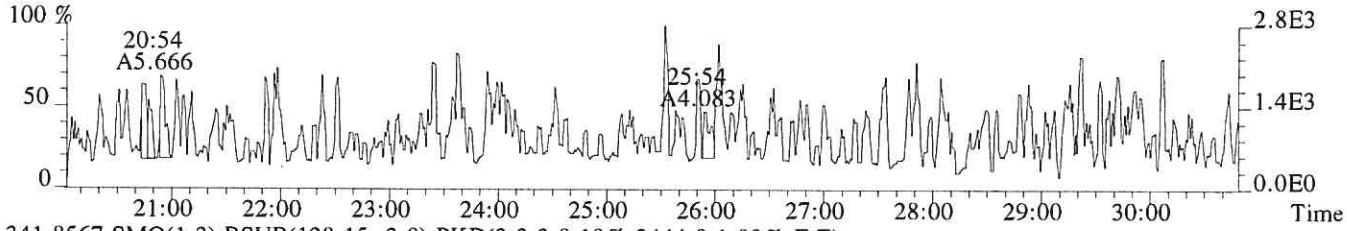
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,T)



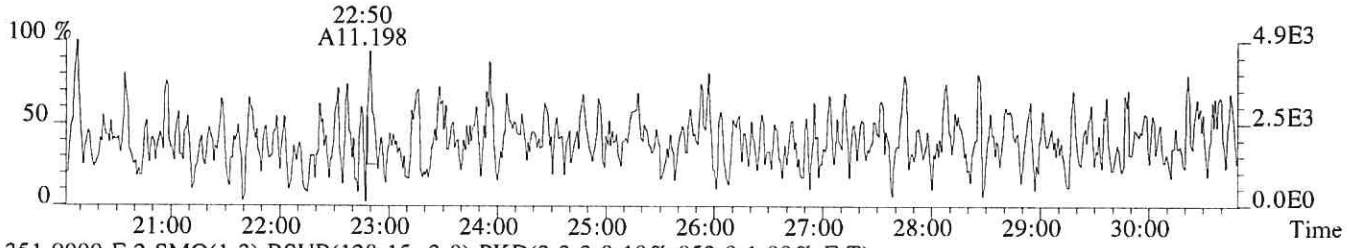
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



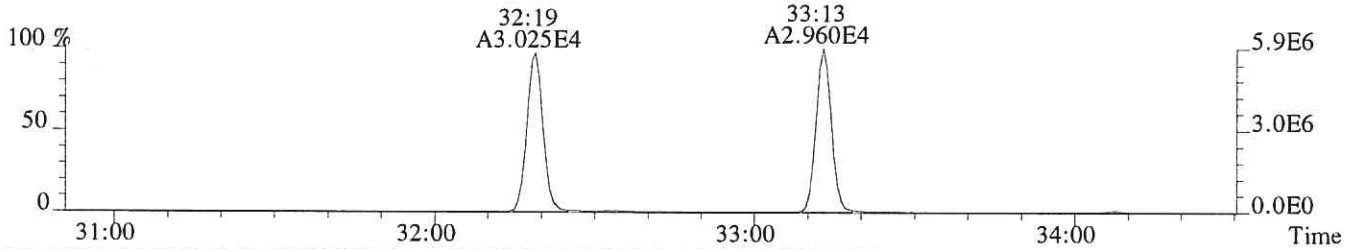
File:P511598 #1-765 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



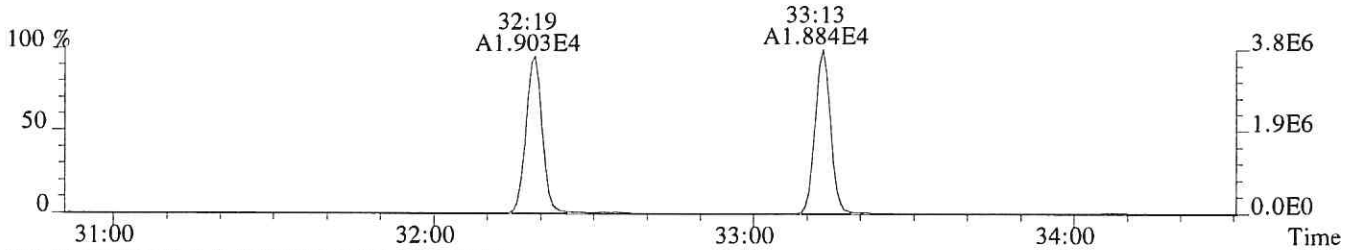
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



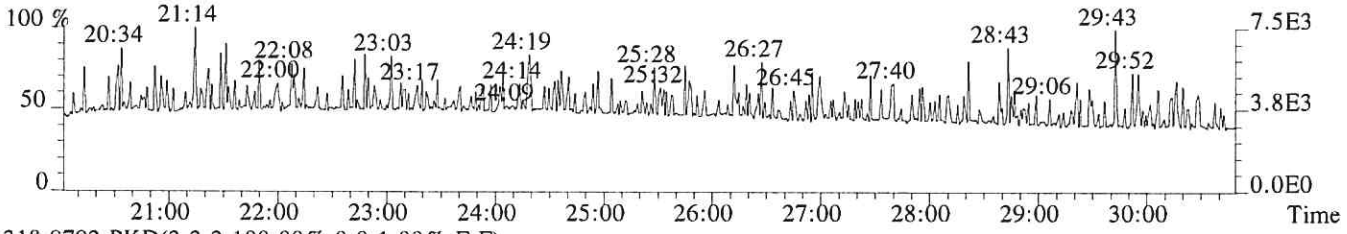
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



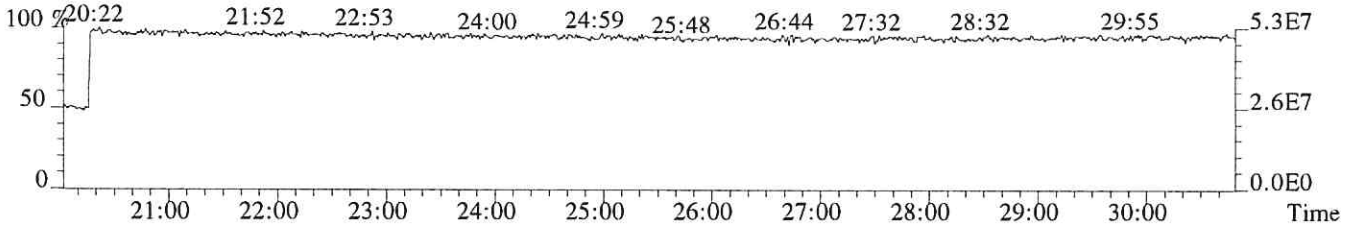
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1448.0,1.00%,F,T)



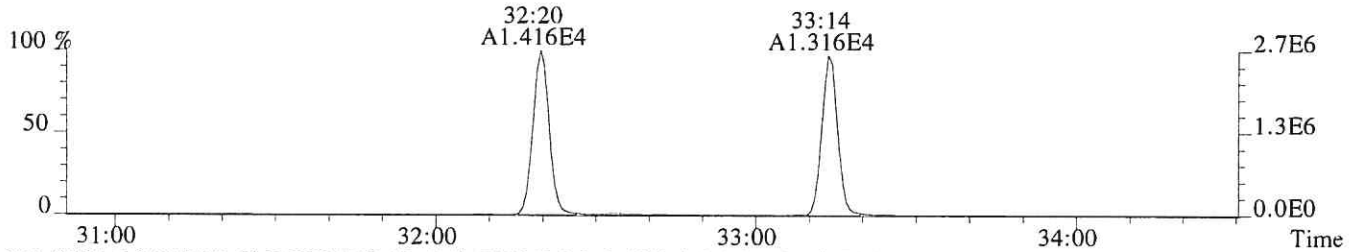
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



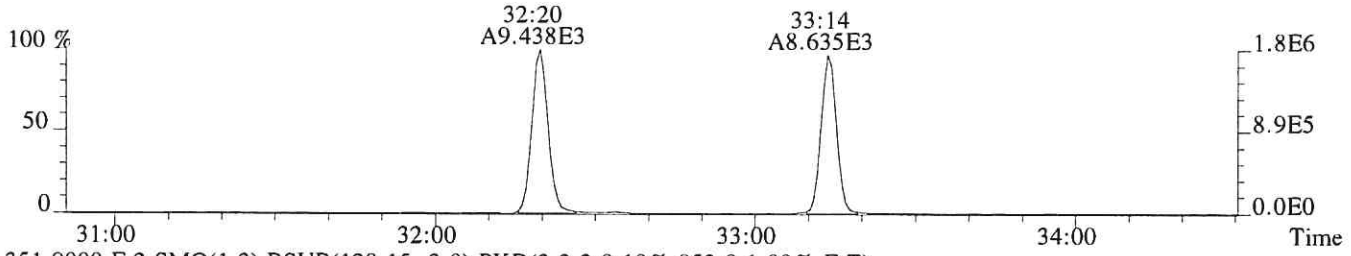
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



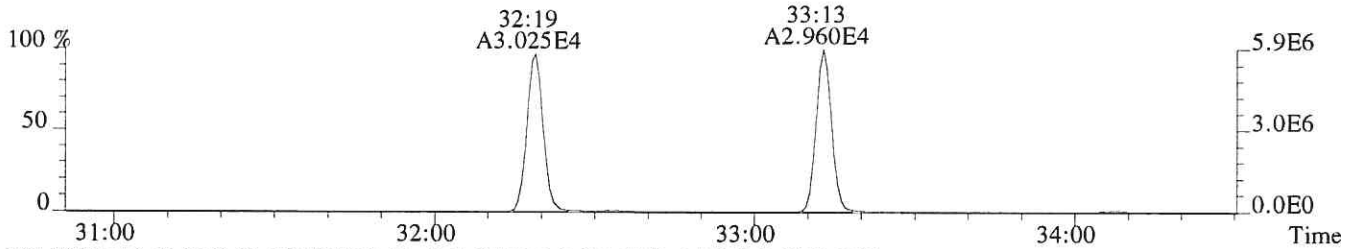
File:P511598 #1-330 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1584.0,1.00%,F,T)



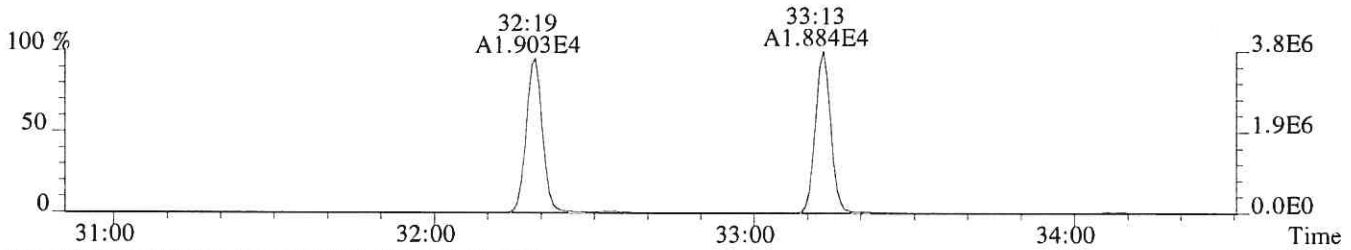
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3424.0,1.00%,F,T)



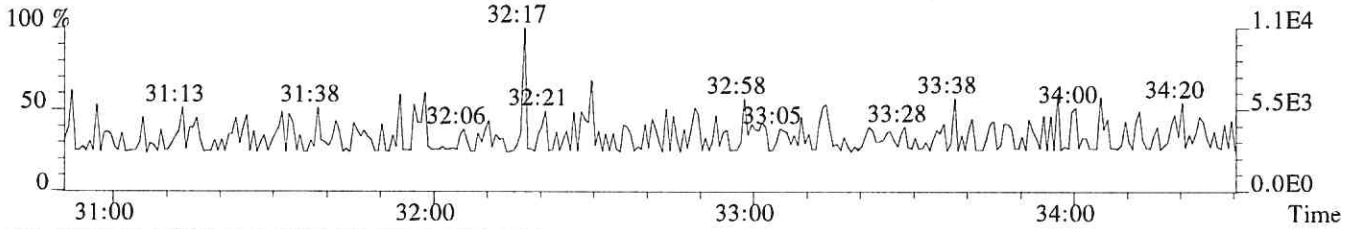
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



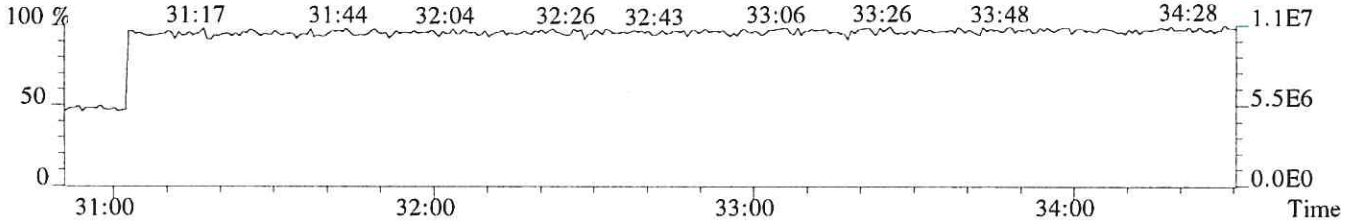
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1448.0,1.00%,F,T)



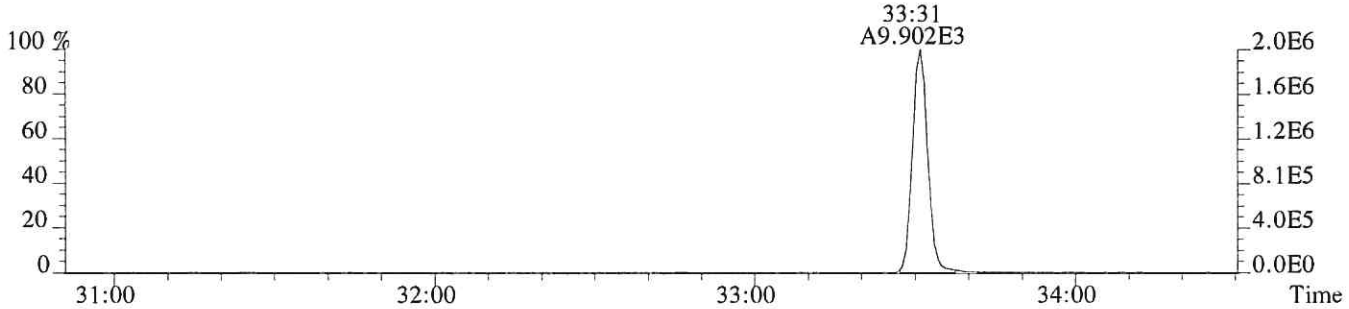
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



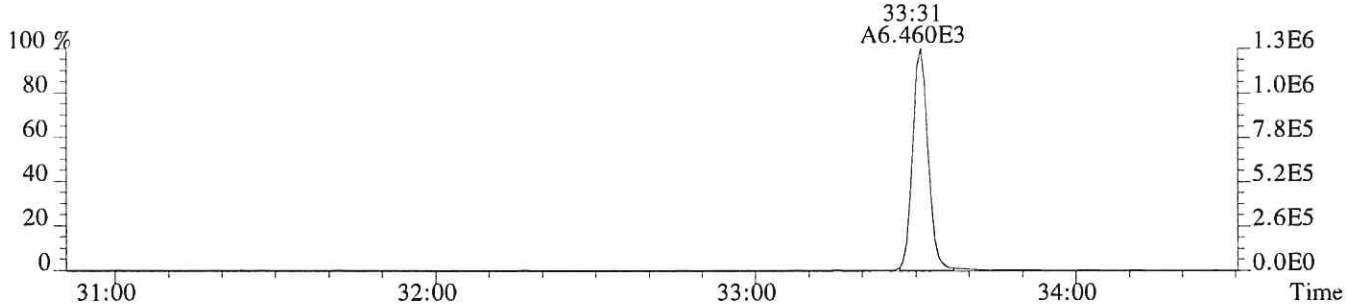
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



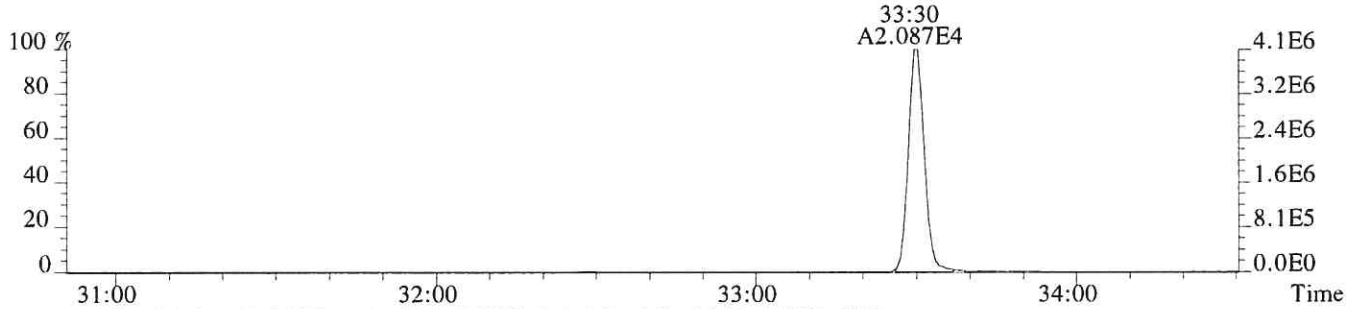
File:P511598 #1-330 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2828.0,1.00%,F,T)



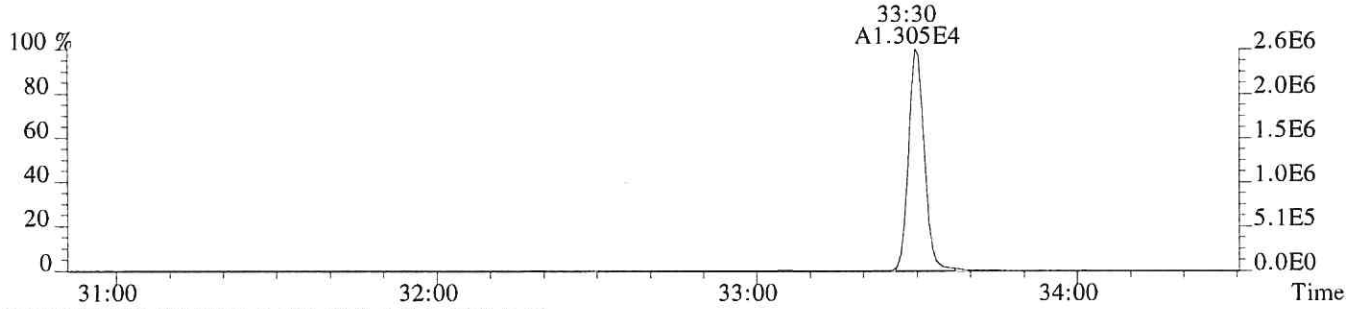
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



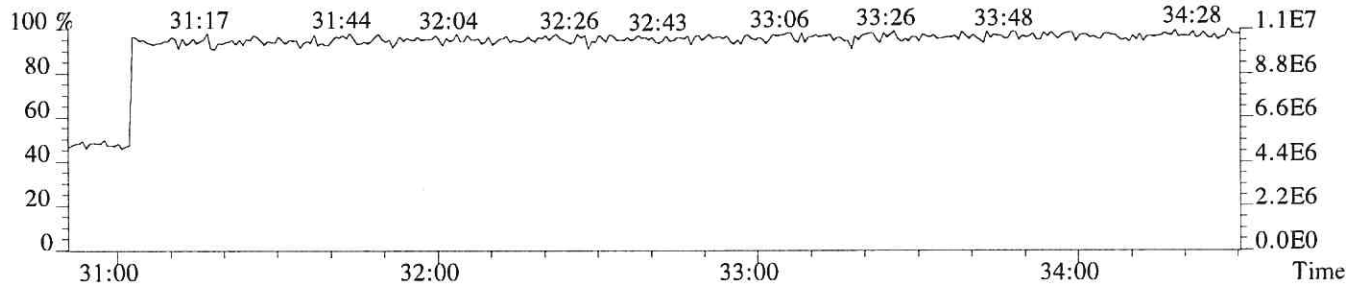
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1508.0,1.00%,F,T)



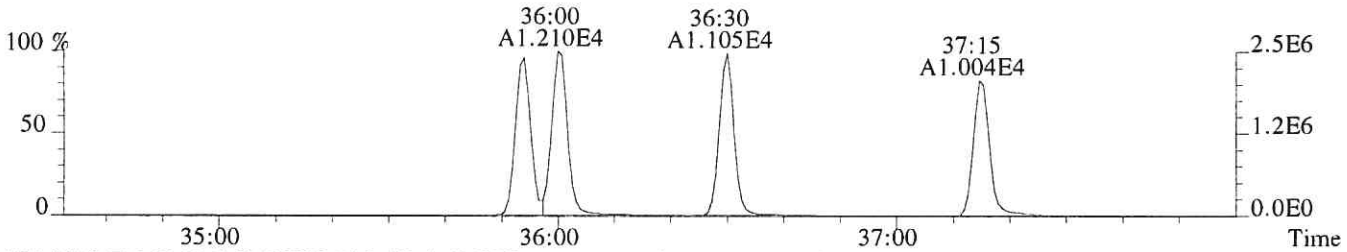
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



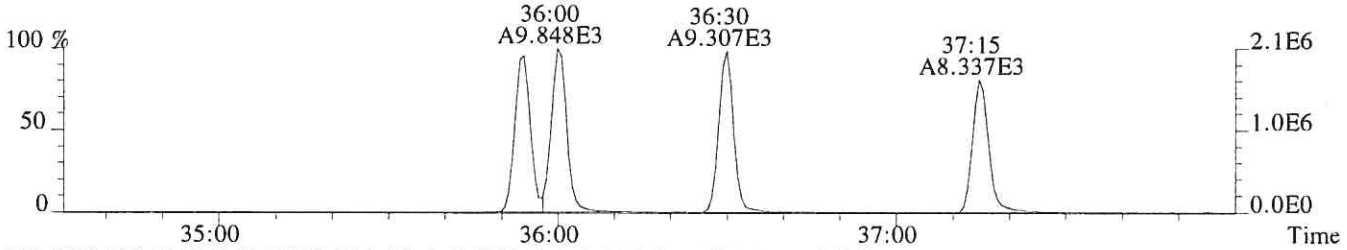
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



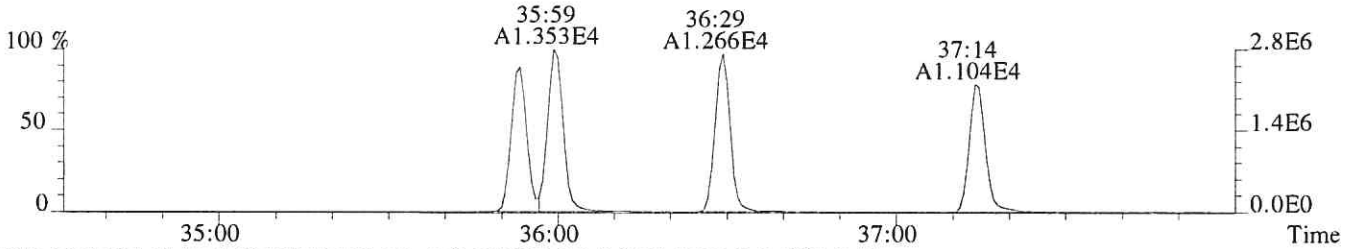
File:P511598 #1-312 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2312.0,0.40%,F,T)



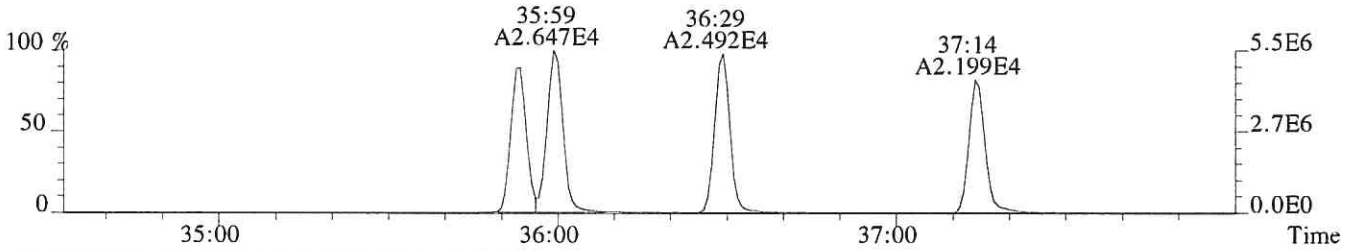
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1684.0,0.40%,F,T)



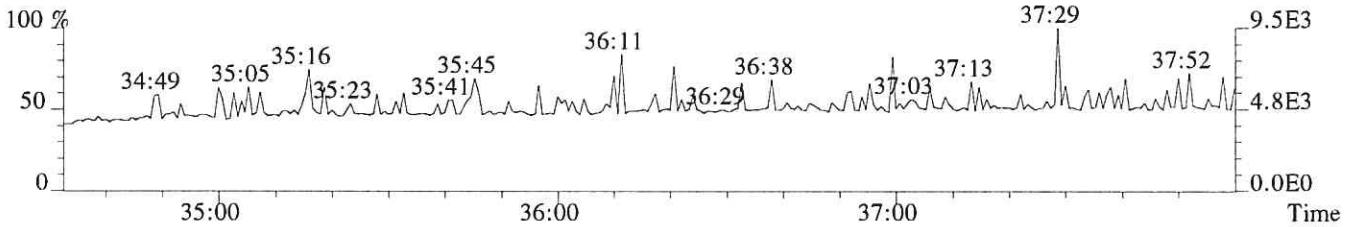
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1168.0,0.40%,F,T)



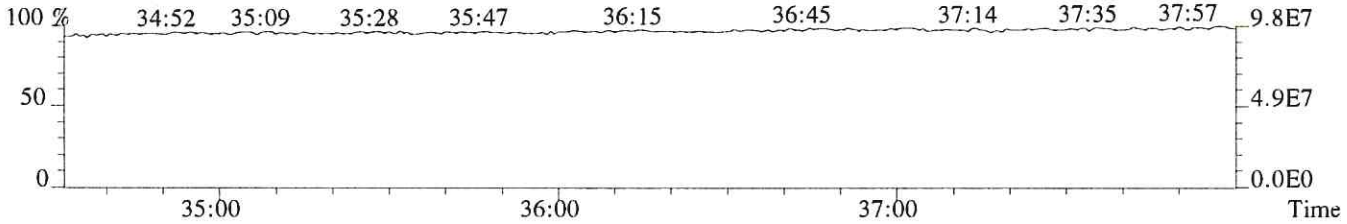
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1580.0,0.40%,F,T)



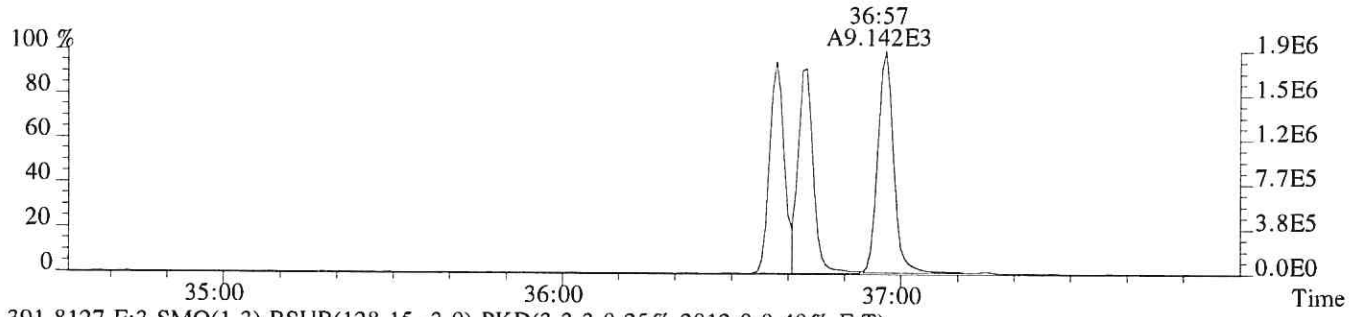
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



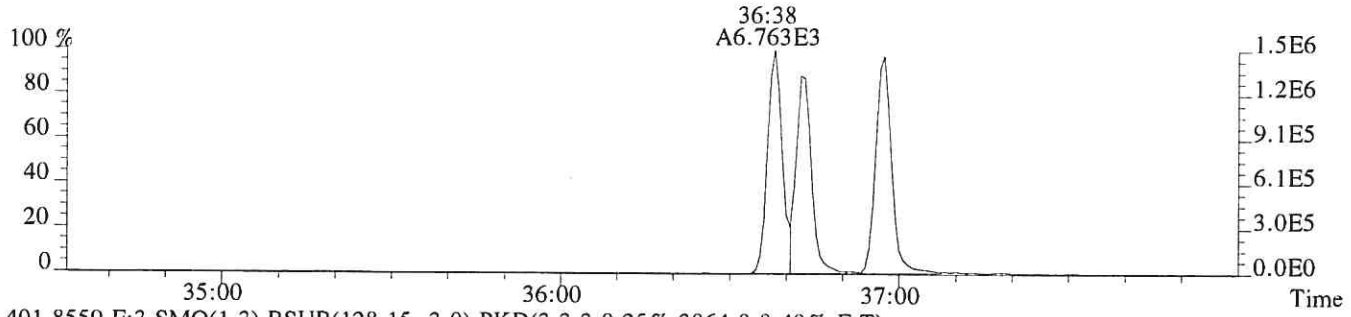
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



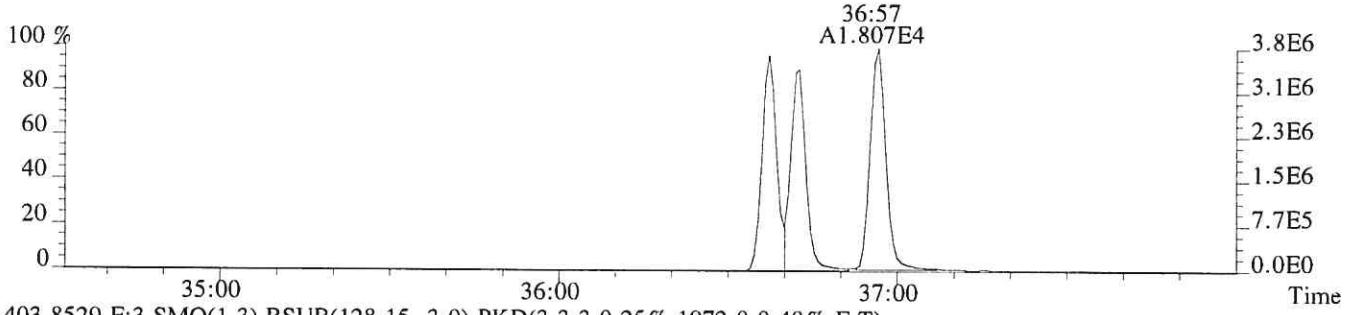
File:P511598 #1-312 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2324.0,0.40%,F,T)



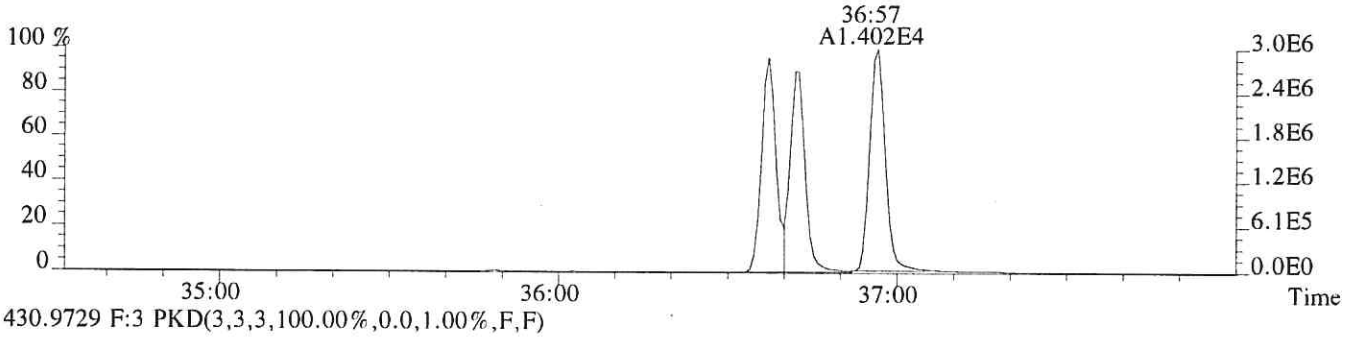
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.40%,F,T)



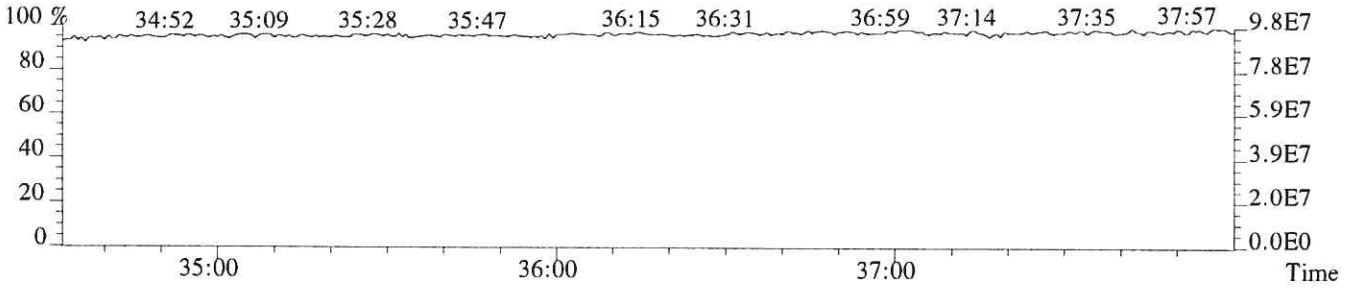
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3064.0,0.40%,F,T)



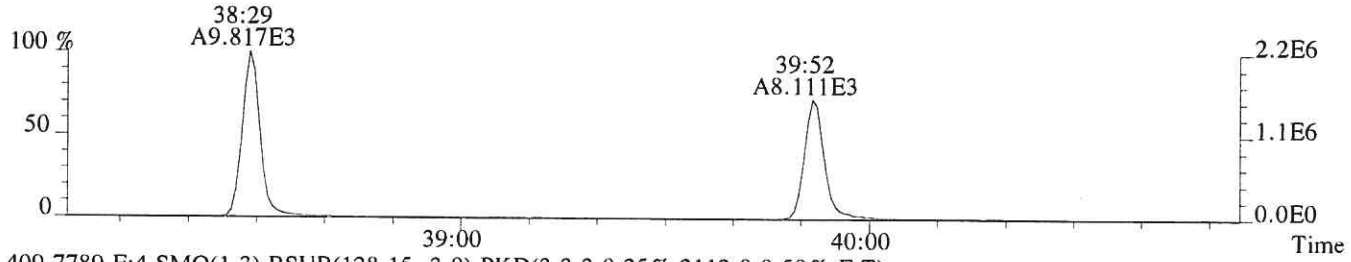
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1972.0,0.40%,F,T)



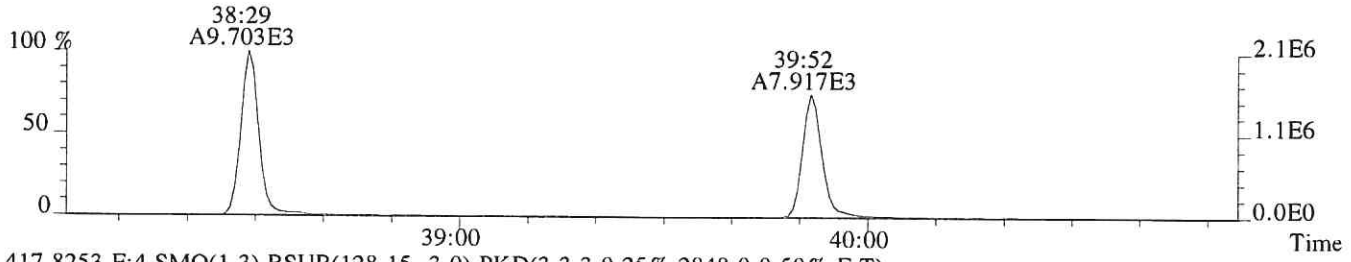
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



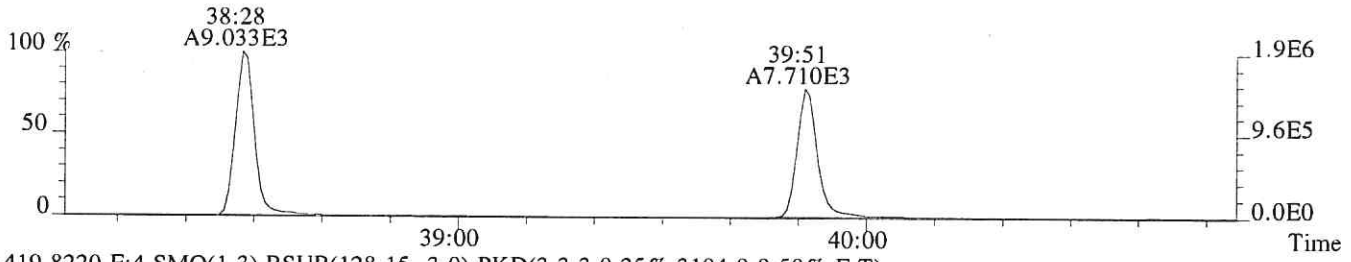
File:P511598 #1-259 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2364.0,0.50%,F,T)



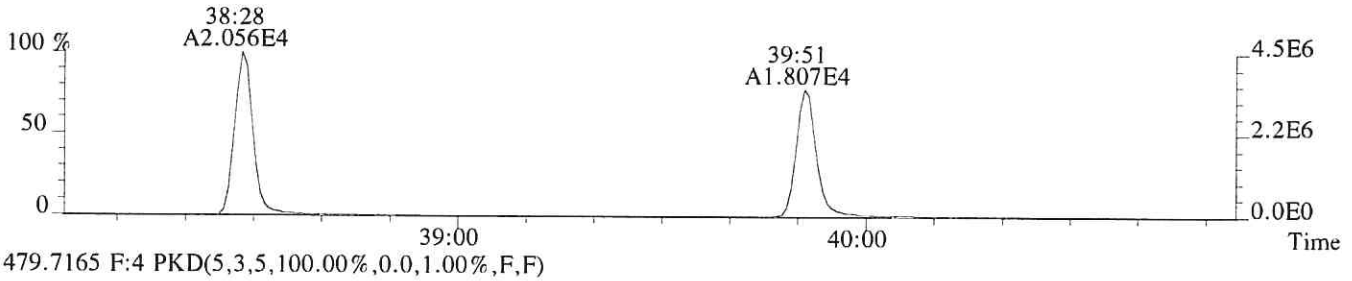
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2112.0,0.50%,F,T)



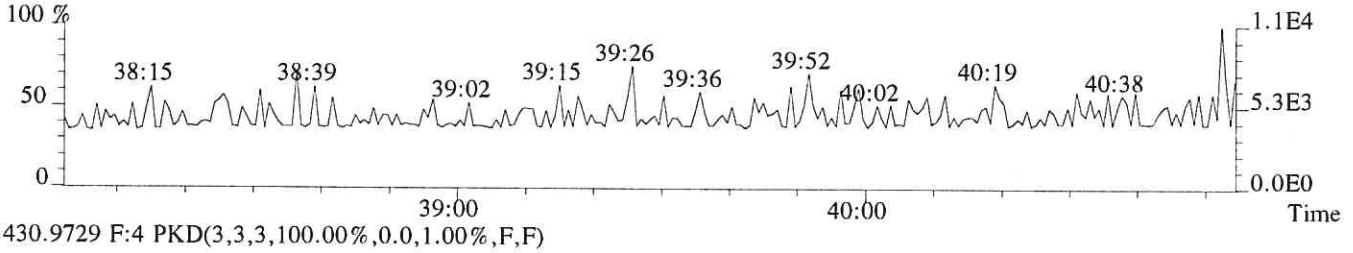
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2848.0,0.50%,F,T)



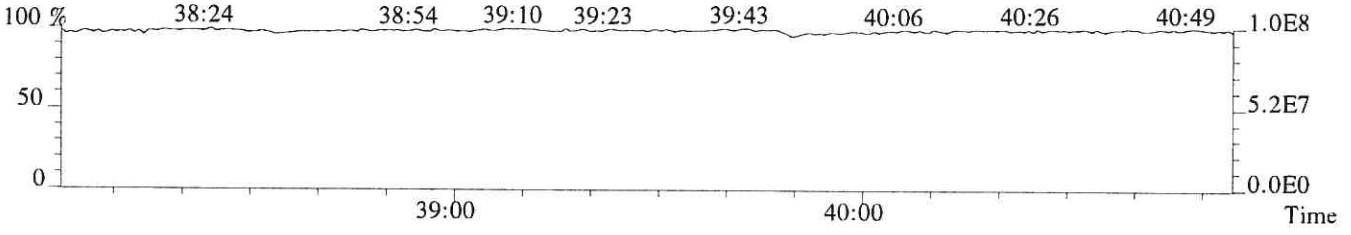
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3104.0,0.50%,F,T)



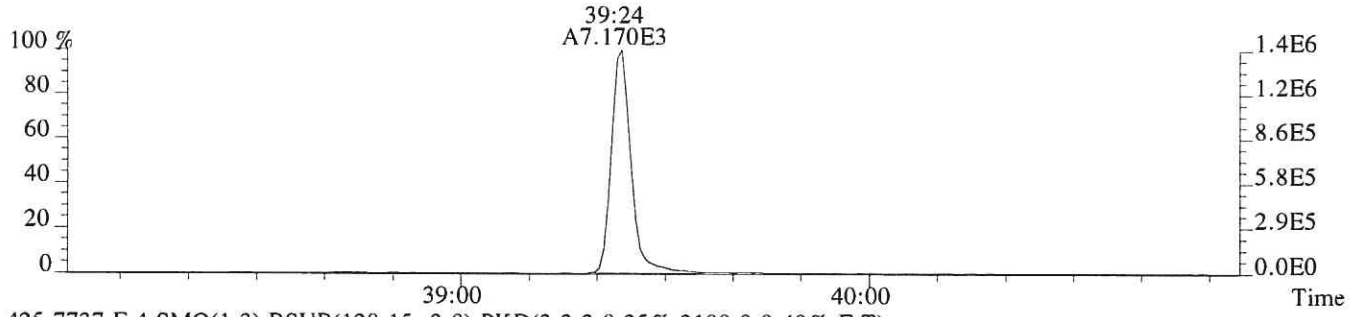
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



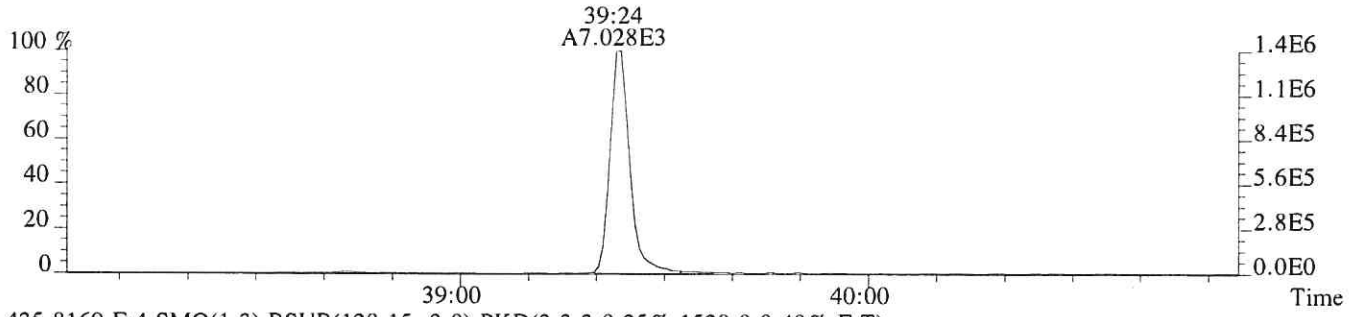
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



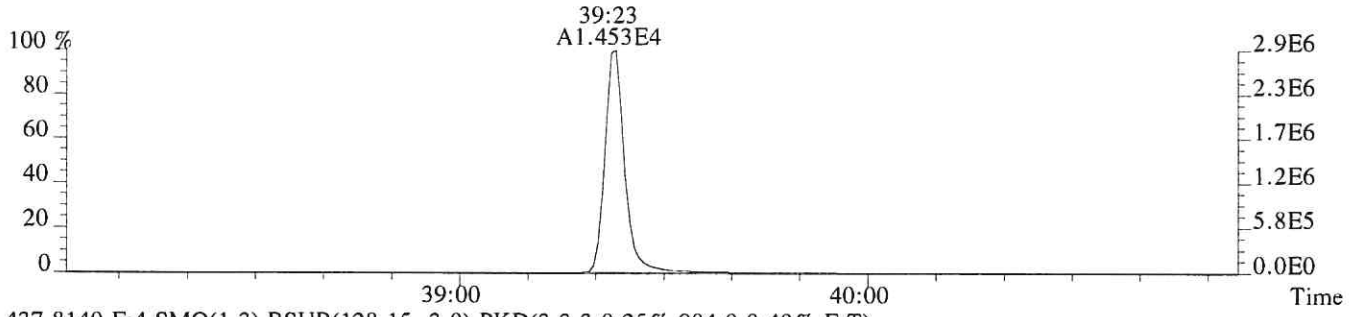
File:P511598 #1-259 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,T)



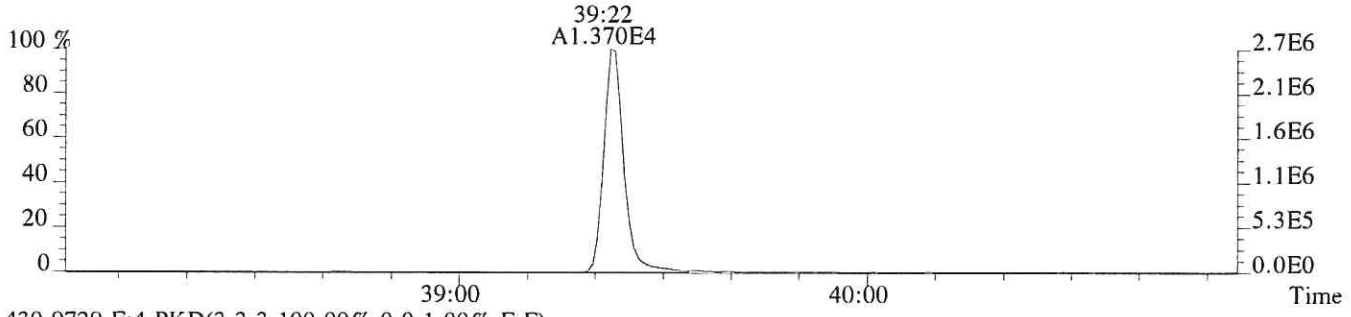
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2100.0,0.40%,F,T)



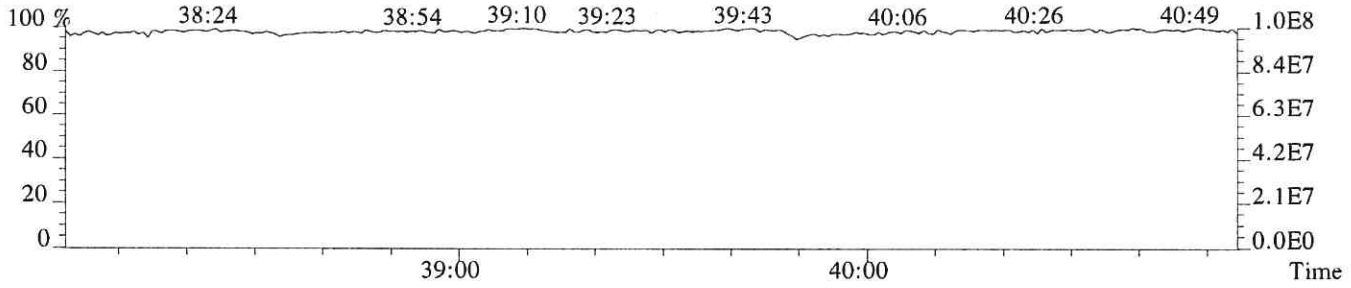
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1528.0,0.40%,F,T)



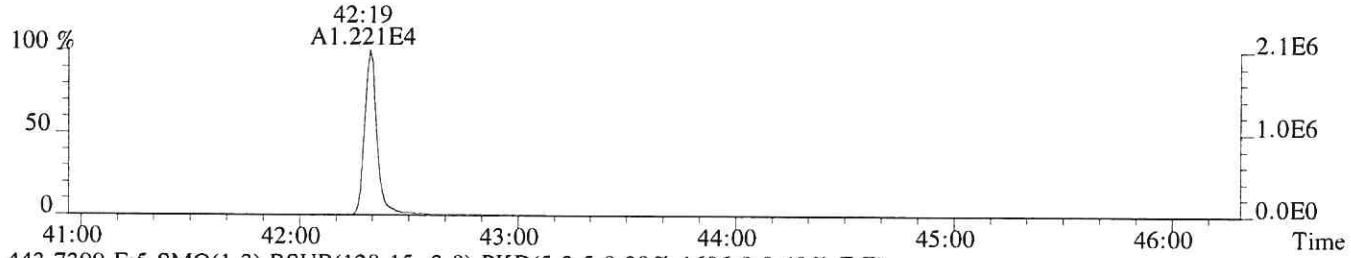
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,T)



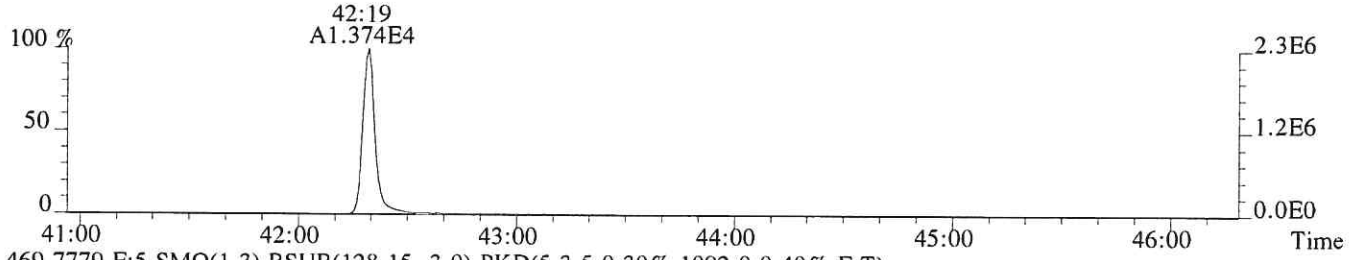
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



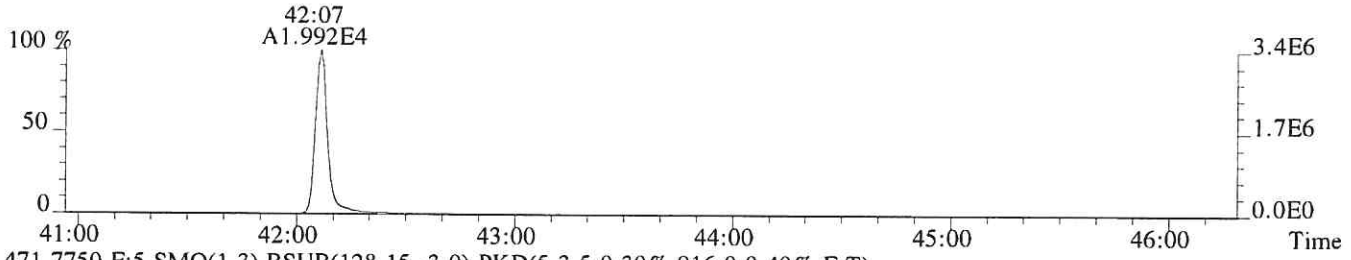
File:P511598 #1-484 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,964.0,0.40%,F,T)



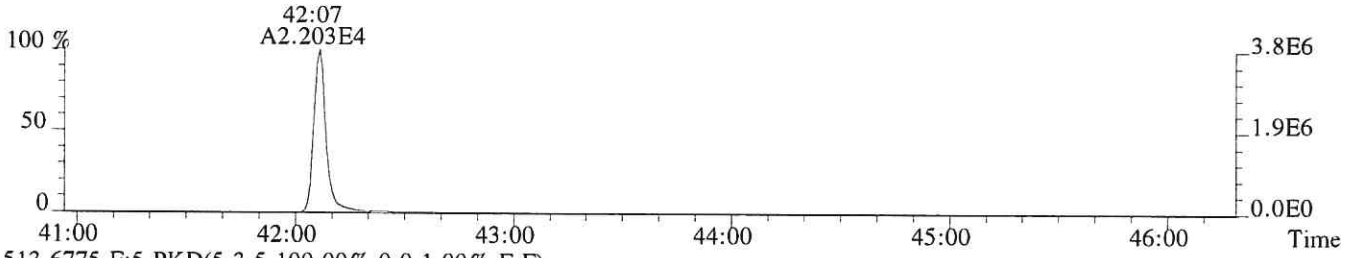
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1696.0,0.40%,F,T)



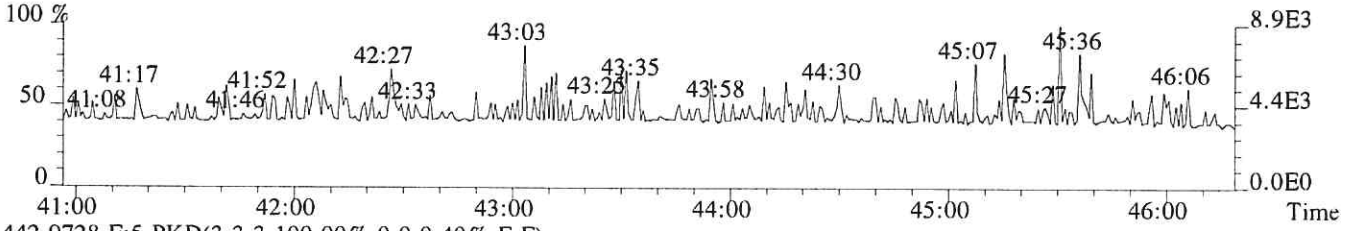
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



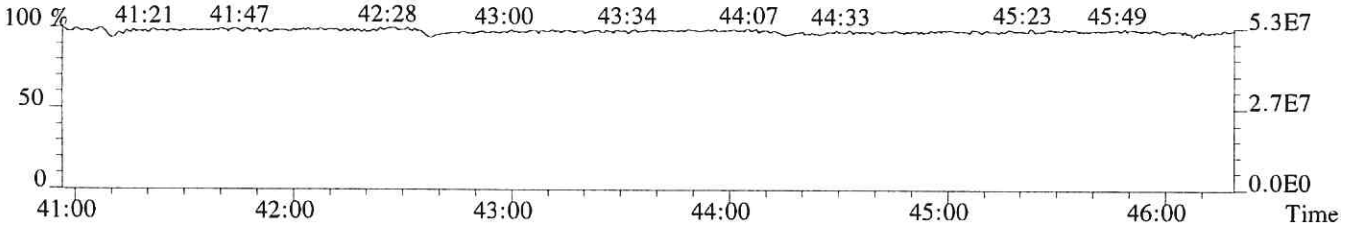
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,916.0,0.40%,F,T)



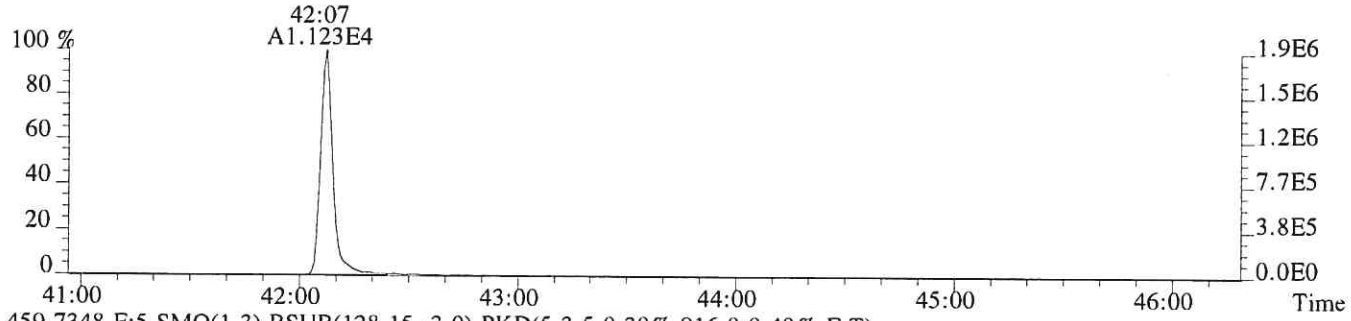
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



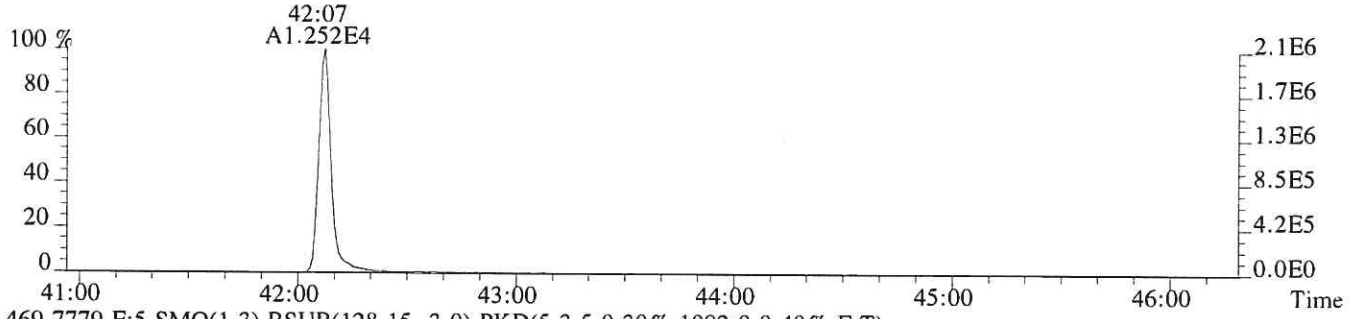
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



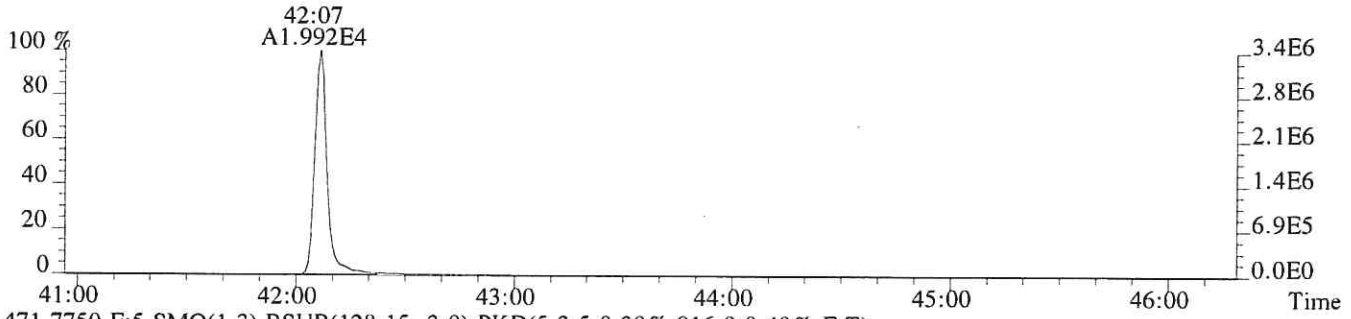
File:P511598 #1-484 Acq:26-SEP-2017 21:31:11 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1488.0,0.40%,F,T)



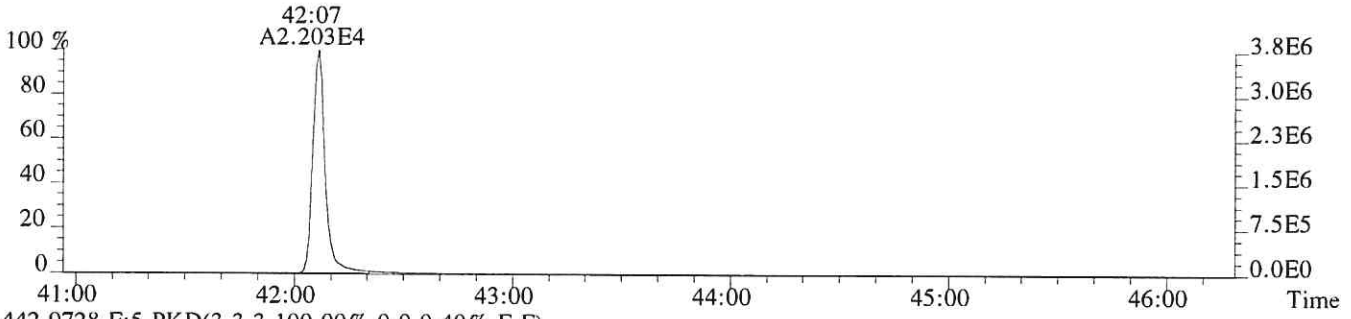
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,916.0,0.40%,F,T)



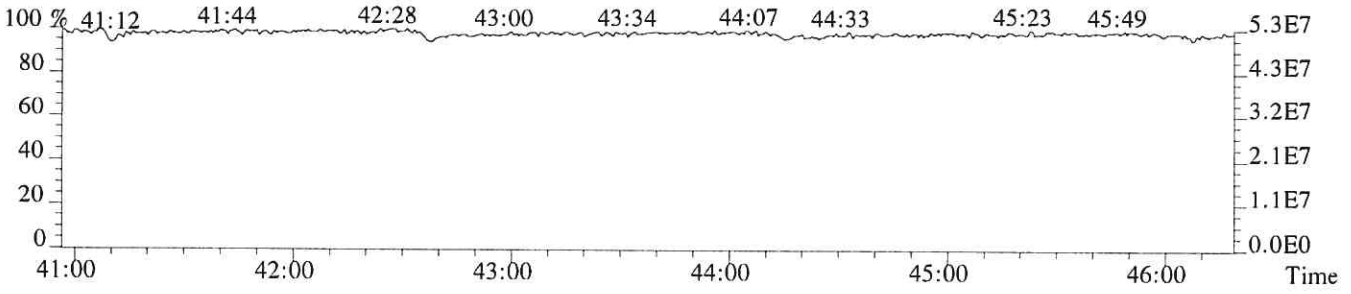
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,916.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 07/27/17
Instrument Name: E-HRMS-07	Calibration File Name: P5-1707261613I
Processor Name: Gisela Cruz	Reviewer Name: LOAN LUONG
Supervisor: Kristin Neiv	

Description	Yes	No	NA	NR	ER#
Analytical Sequence					
Does the analytical sequence summary accurately reflect the instrument run log, including ICV?	√				
Was a Mass Resolution Check performed at the beginning and end of the 12-hour sequence?	√				
Were all calibration standards and the ICV analyzed within the same 12-hour sequence?	√				
Were all calibration standards analyzed only once?	√				
Was the ICV analyzed after the ICAL, before analyzing samples?	√				
	√				
Mass Resolution Check					
Are beginning and ending resolution checks provided and legible?	√				
Were all target masses >10,000 resolving power at the beginning of the sequence?	√				
Were all target masses >10,000 resolving power at the end of the sequence?	√				
For PCB analysis, were masses at the low and high end of each function mass range >8,000?			√		
Where automatic printout of the mass resolution were not >10,000, was the resolution inspected by a trained analyst, including manual calculation of the resolution, if warranted?			√		
Window Define/209					
Is the window defining mix summary present, and accompanied by SICPs/Chromatograms for the WDM?	√				
Was the WDM/Column Performance/209 solution analyzed prior to the analysis of the calibration standards?	√				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?	√				
Were all first and last eluters adequately resolved in each function?	√				
If first and last eluters were not resolved, was corrective action performed and documented, followed by a reanalysis of the WDM?			√		
Was the retention time of PCB 209 >55 min?			√		
Were the following congeners uniquely resolved (valley height <40% of the shortest peak)? PCB-34 and PCB-23 PCB-187 and PCB-182			√		
Did PCB 156/157 co-elute within 2 seconds at peak maximum?			√		
Calibration Standards					
Were there at least 5 calibration standards analyzed?	√				
If not all calibration standards were used, were the omitted standards either the lowest or highest calibration standard?			√		

Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 07/27/17
Instrument Name: E-HRMS-07	Calibration File Name: P5-1707261613I
Processor Name: Gisela Cruz	Reviewer Name: LOAN LUONG
Supervisor: Kristin Neir	

Description	Yes	No	NA	NR	ER#
Are all sample response summaries, S/N height summaries, and SICPs included (and legible) for the entire sequence?	√				
Did each calibration point meet method criteria for Ion Abundance Ratio for all analytes and labeled standards?	√				
Did each calibration point meet method criteria for signal-to-noise ratios (S/N)?	√				
Were area counts for the highest calibration standard below levels of saturation?	√				
Were manual integrations technically justified to correct for poor software integration?	√				1
Response Factors					
Is the ICAL Response Factor Summary present, including RR/RF values for each native/labeled analyte at each level of calibration?	√				
Were all calibration standards used in determining response factors?	√				
Were relative response factors (RR) for each native analyte calculated at each calibration point?	√				
Did the RSD for RRFs for each native analyte meet method criteria?	√				
Were response factors (RF) for each native analyte not having a corresponding labeled compound calculated at each calibration point?	√				
Were RFs for each labeled compound calculated for each calibration point?	√				
Did the RSD for RF for each labeled compound meet method criteria?	√				
Initial Calibration Verification					
Is the calibration verification present, including form 4A/B reflecting results for the ICV (Conc. or %D)	√				
Did all analytes meet method criteria for the ICV.	√				

Laboratory Review Checklist: Initial Calibration

Method: 1613/8290	Process Date: 07/27/17
Instrument Name: E-HRMS-07	Calibration File Name: P6-1707261613I
Processor Name: Gisela Cruz	Reviewer Name: LOAN LUONG

ER#[5]	Description
	1 Manual integration on CS2 in order to correct baseline determination between primary and secondary ions. Before and after chromatograms provided.

NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: TX01411 Episode No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm) Instrument ID: E-HRMS-07

Init. Calib. Date: 07/26/17

Init. Calib.Times: 10:27

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, SPIKES AND DUPLICATES IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
178397	WINDOW DEFINE	P510633	26-JUL-17	10:27:50
76554	CS0.5	P510634	26-JUL-17	11:19:31
76555	CS1	P510635	26-JUL-17	12:22:45
76556	CS2	P510636	26-JUL-17	13:10:32
76557	CS3	P510637	26-JUL-17	13:59:13
76558	CS4	P510638	26-JUL-17	14:47:53
86168	CS5	P510639	26-JUL-17	15:36:33
75080	2ND SOURCE	P510641	26-JUL-17	17:13:54

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20170726A.SPL
Last Modified: Wednesday, July 26, 2017 18:33:19 Central Daylight Time
Printed: Wednesday, July 26, 2017 18:33:22 Central Daylight Time

OPUS 4: P5-1707261613I ; P510641res

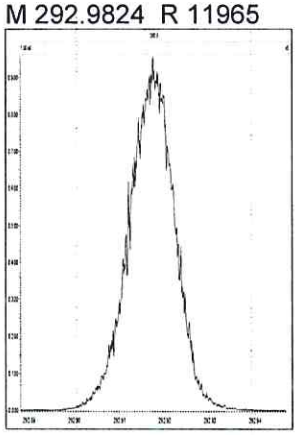
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	7/26/17	08:03	P510631	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LJS	not used
2		09:10	P510632	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		not used
3		10:27	P510633	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		HRMS check 10:22
4		11:19	P510634	CS0.5	76554	EPA1613_ALS	Dioxin_ALS	Tray1:3		
5		12:28	P510635	CS1	76555	EPA1613_ALS	Dioxin_ALS	Tray1:4		
6		13:10	P510636	CS2	76556	EPA1613_ALS	Dioxin_ALS	Tray1:5		
7		13:59	P510637	CS3	76557	EPA1613_ALS	Dioxin_ALS	Tray1:6		
8		14:47	P510638	CS4	76558	EPA1613_ALS	Dioxin_ALS	Tray1:7		
9		15:36	P510639	CS5	86168	EPA1613_ALS	Dioxin_ALS	Tray1:8		
10			P510640	NONANE	NONANE	EPA1613_ALS	Dioxin_ALS	Tray1:9		
11		17:13	P510641	2ND SOURCE	75080	EPA1613_ALS	Dioxin_ALS	Tray1:10		HRMS check 18:18
12	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
13	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
14	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
15	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:14	---	---
16	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:15	---	---
17	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:16	---	---
18	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:17	---	---
19	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:18	---	---
20	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:19	---	---
21	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:20	---	---
22	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:21	---	---
23	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:22	---	---
24	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:23	---	---
25	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
26	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
27	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
28	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:27	---	---
29	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:28	---	---
30	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:29	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:30	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:31	---	---
33	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:32	---	---
34	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:33	---	---
35	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:34	---	---
36	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:35	---	---
37	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:36	---	---
38	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
39	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---

gc 07/27/17

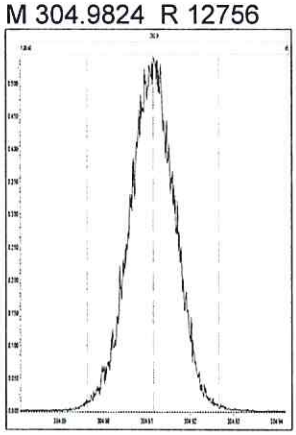
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:22:08 Central Daylight Time

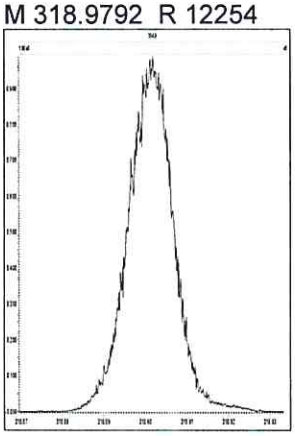
M 292.9824 R 11965



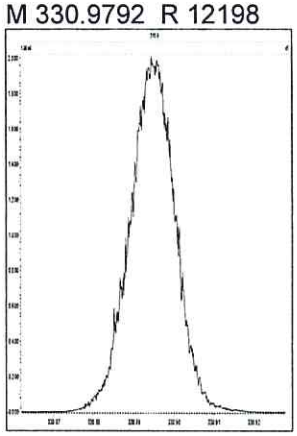
M 304.9824 R 12756



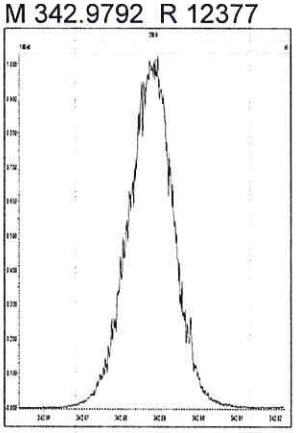
M 318.9792 R 12254



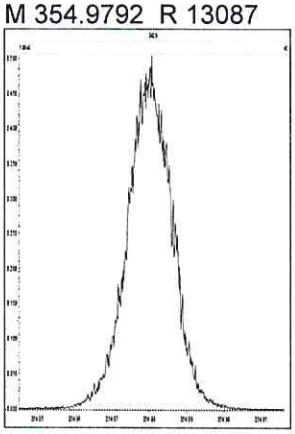
M 330.9792 R 12198



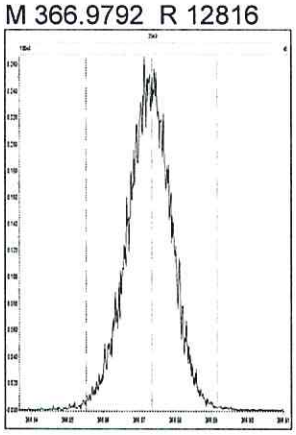
M 342.9792 R 12377



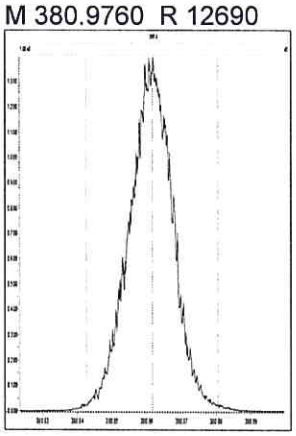
M 354.9792 R 13087



M 366.9792 R 12816



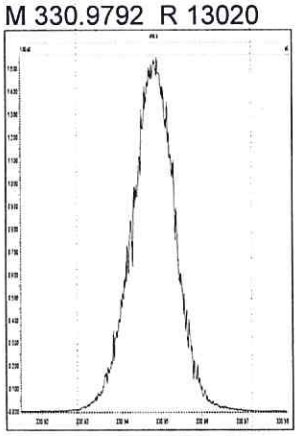
M 380.9760 R 12690



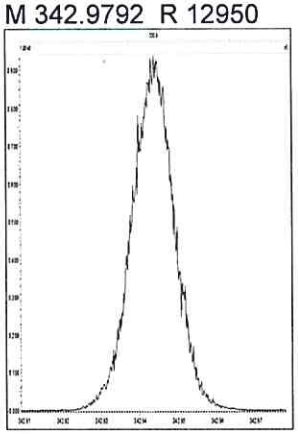
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:24:24 Central Daylight Time

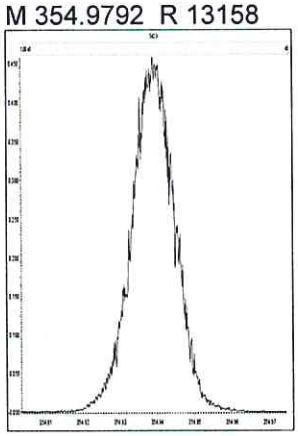
M 330.9792 R 13020



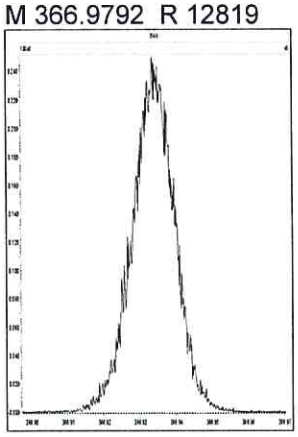
M 342.9792 R 12950



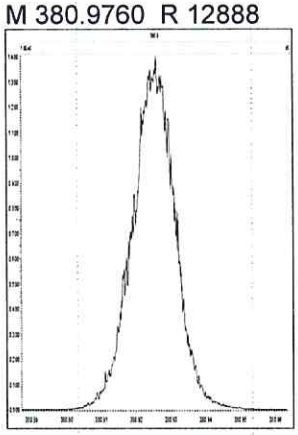
M 354.9792 R 13158



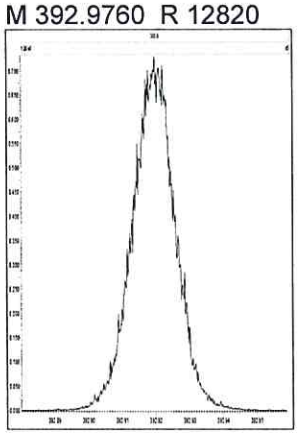
M 366.9792 R 12819



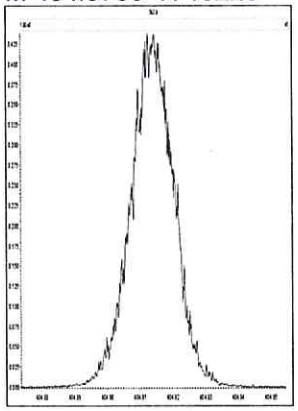
M 380.9760 R 12888



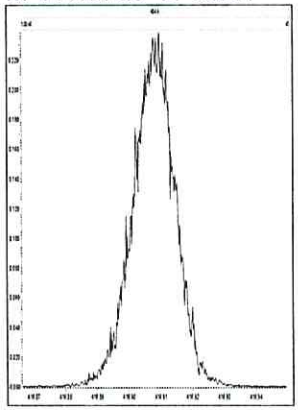
M 392.9760 R 12820



M 404.9760 R 13225



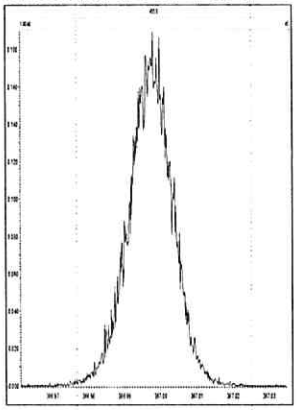
M 416.9760 R 13967



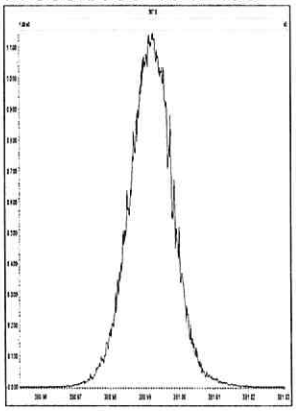
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:25:29 Central Daylight Time

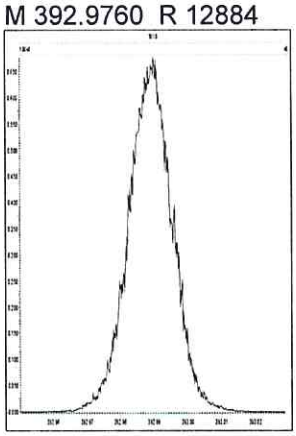
M 366.9792 R 12627



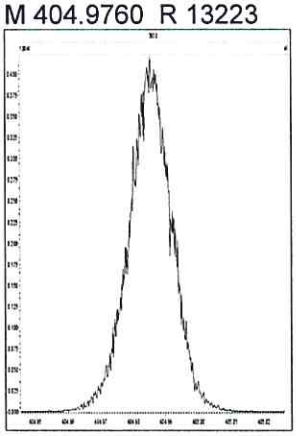
M 380.9760 R 12499



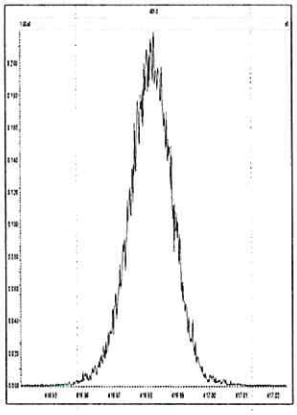
M 392.9760 R 12884



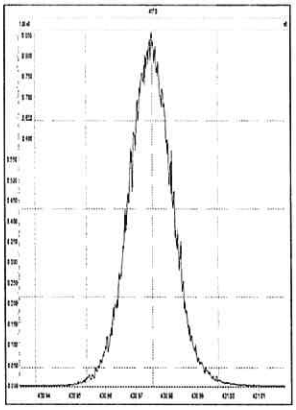
M 404.9760 R 13223



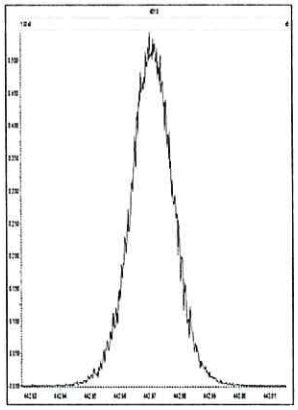
M 416.9760 R 12758



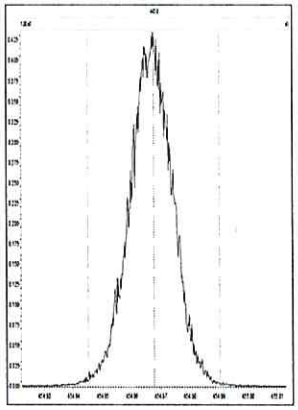
M 430.9728 R 12435



M 442.9728 R 12953



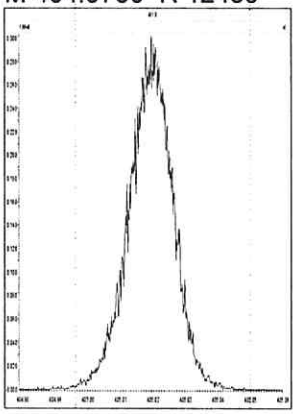
M 454.9728 R 12819



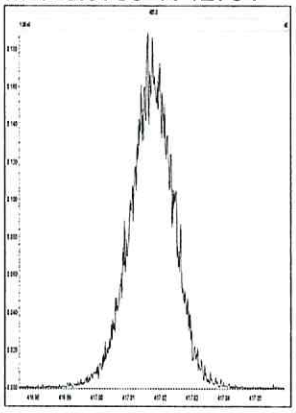
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:26:17 Central Daylight Time

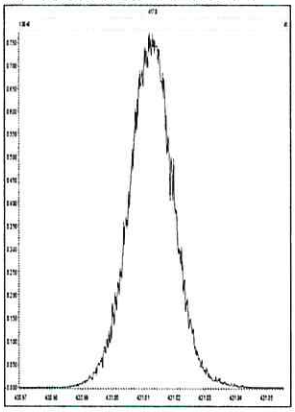
M 404.9760 R 12439



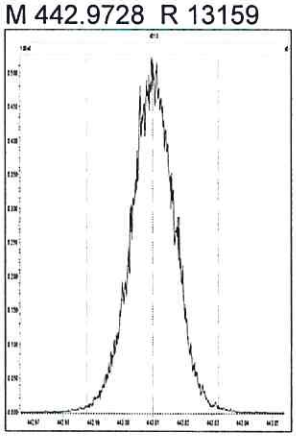
M 416.9760 R 12754



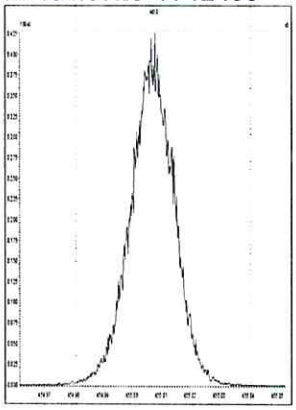
M 430.9728 R 12374



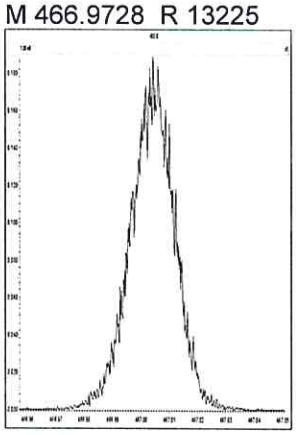
M 442.9728 R 13159



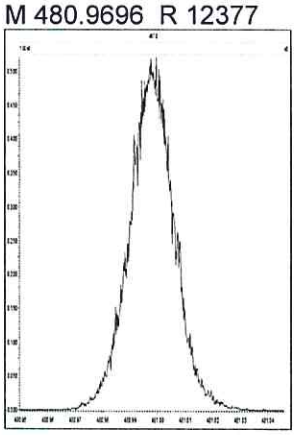
M 454.9728 R 12499



M 466.9728 R 13225



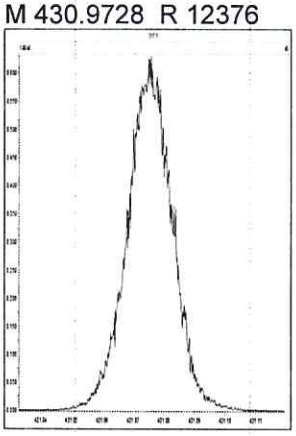
M 480.9696 R 12377



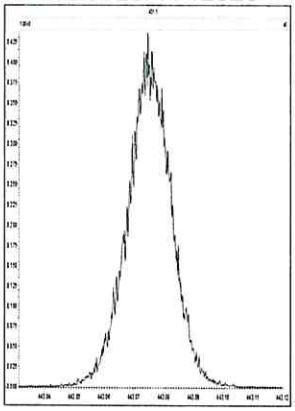
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:27:11 Central Daylight Time

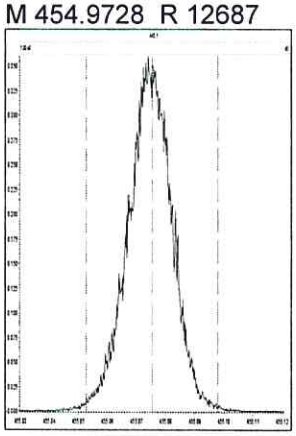
M 430.9728 R 12376



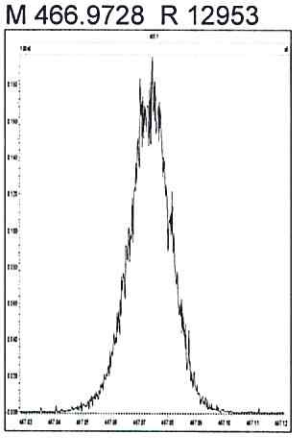
M 442.9728 R 12823



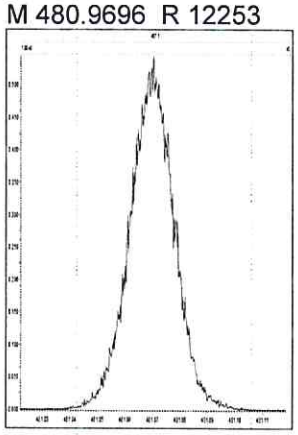
M 454.9728 R 12687



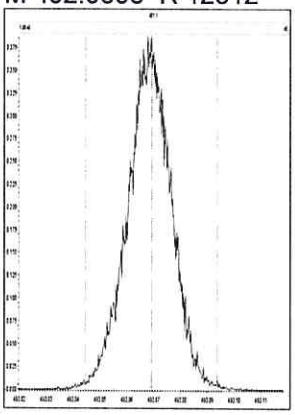
M 466.9728 R 12953



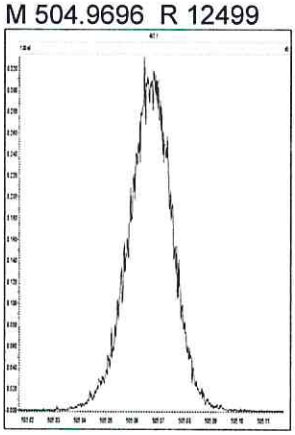
M 480.9696 R 12253



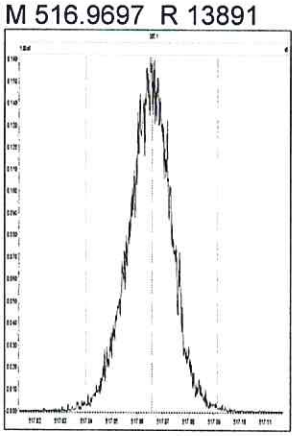
M 492.9696 R 12312



M 504.9696 R 12499



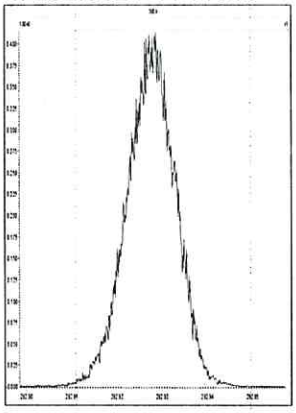
M 516.9697 R 13891



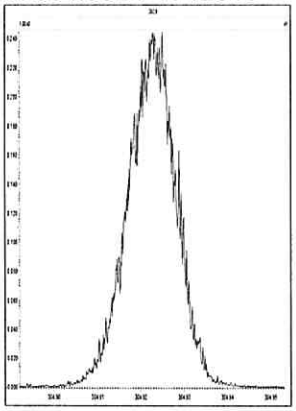
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:18:58 Central Daylight Time

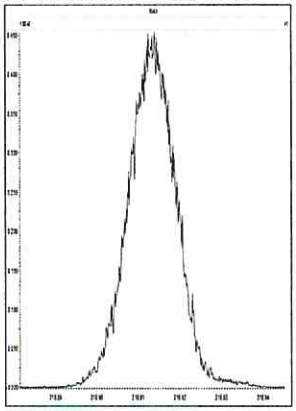
M 292.9824 R 11316



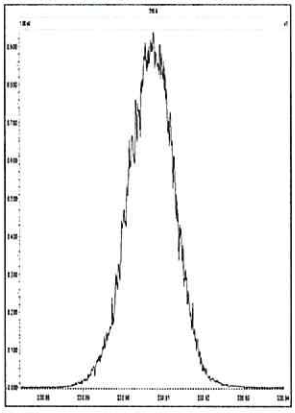
M 304.9824 R 12015



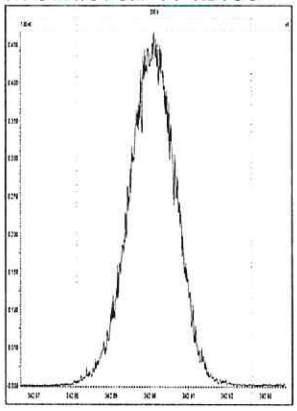
M 318.9792 R 12562



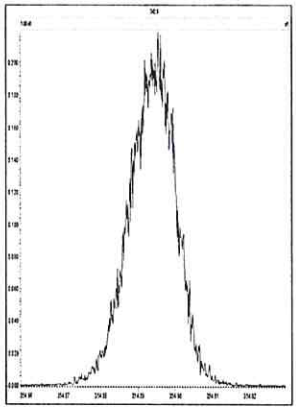
M 330.9792 R 12379



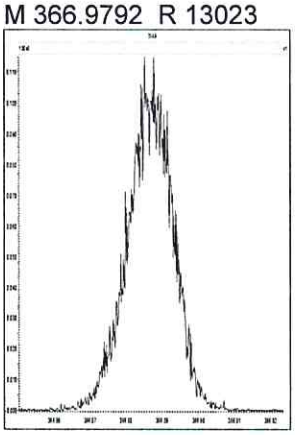
M 342.9792 R 12196



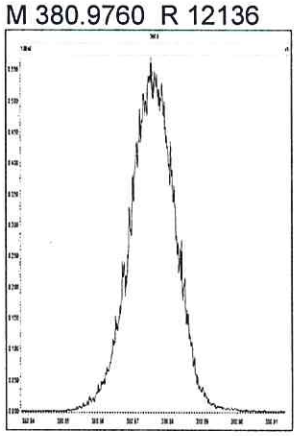
M 354.9792 R 12952



M 366.9792 R 13023



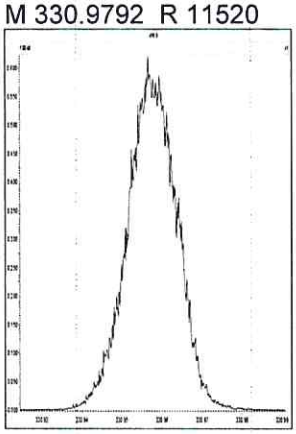
M 380.9760 R 12136



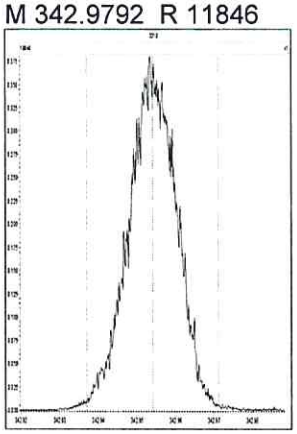
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:20:36 Central Daylight Time

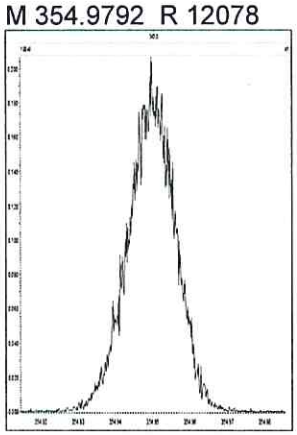
M 330.9792 R 11520



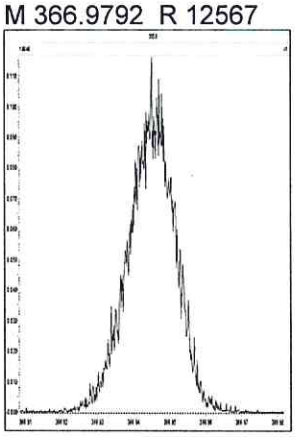
M 342.9792 R 11846



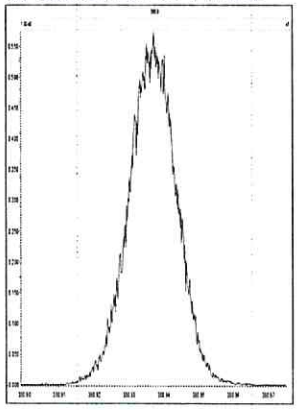
M 354.9792 R 12078



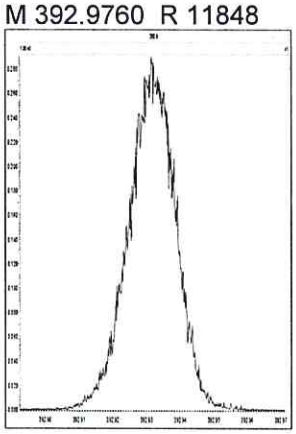
M 366.9792 R 12567



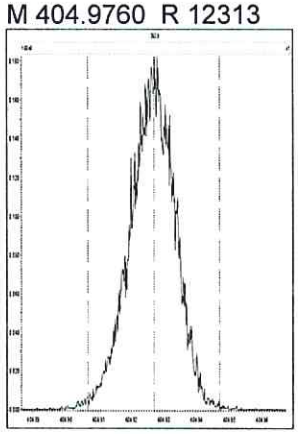
M 380.9760 R 11964



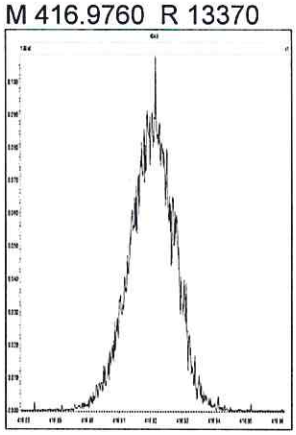
M 392.9760 R 11848



M 404.9760 R 12313



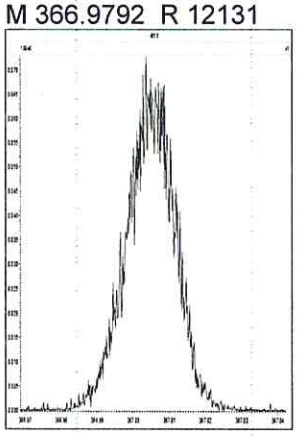
M 416.9760 R 13370



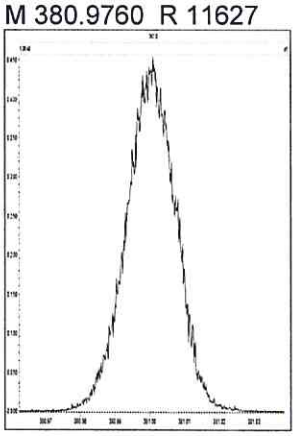
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:22:10 Central Daylight Time

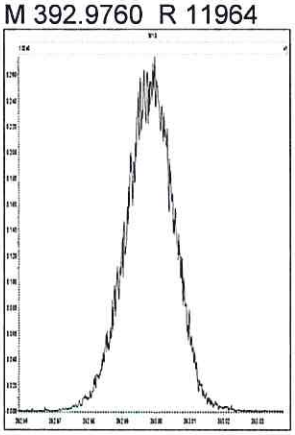
M 366.9792 R 12131



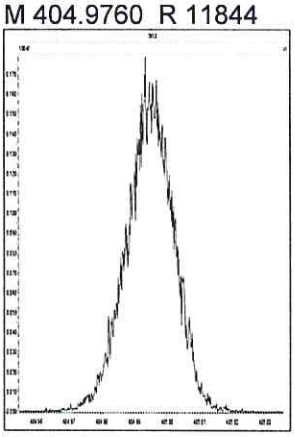
M 380.9760 R 11627



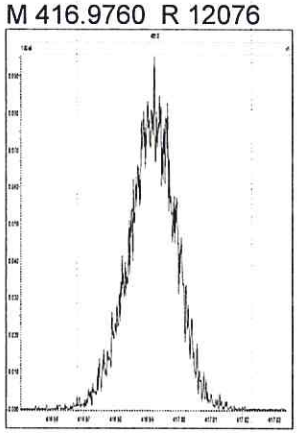
M 392.9760 R 11964



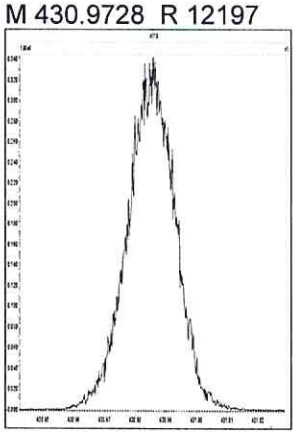
M 404.9760 R 11844



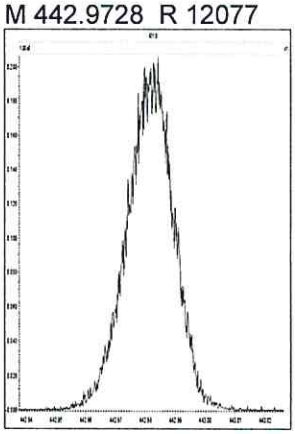
M 416.9760 R 12076



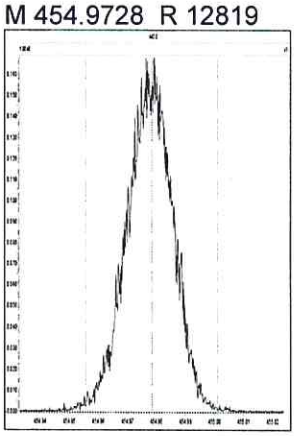
M 430.9728 R 12197



M 442.9728 R 12077



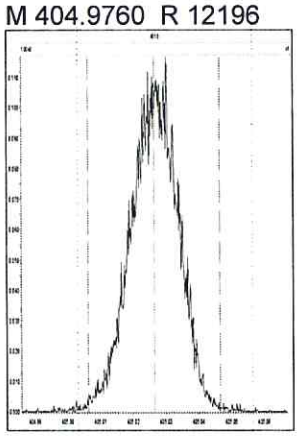
M 454.9728 R 12819



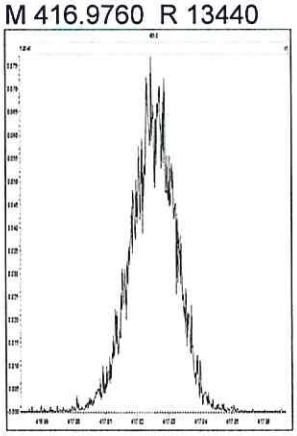
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:23:28 Central Daylight Time

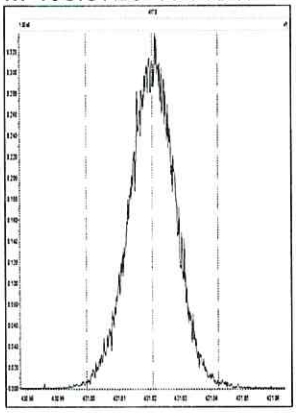
M 404.9760 R 12196



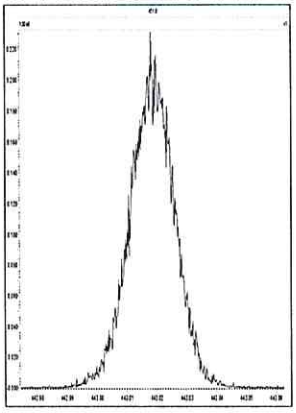
M 416.9760 R 13440



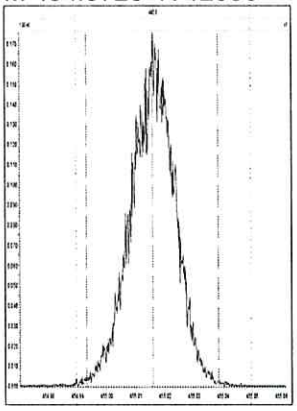
M 430.9728 R 11847



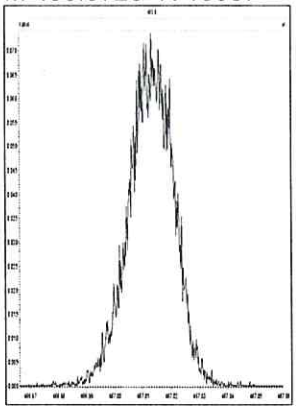
M 442.9728 R 12691



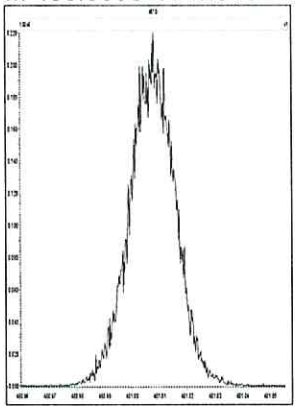
M 454.9728 R 12953



M 466.9728 R 13367



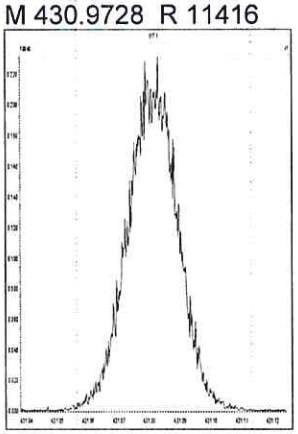
M 480.9696 R 12316



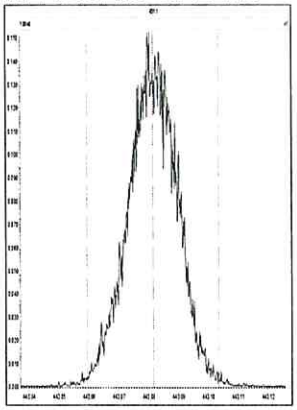
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:24:39 Central Daylight Time

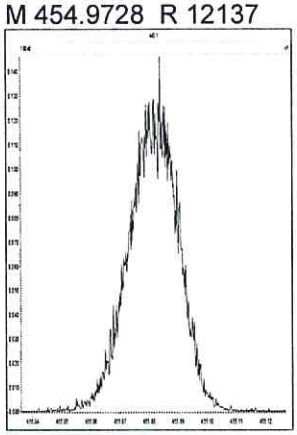
M 430.9728 R 11416



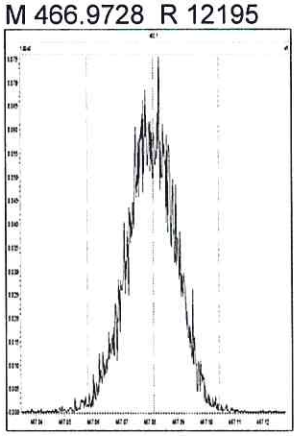
M 442.9728 R 11418



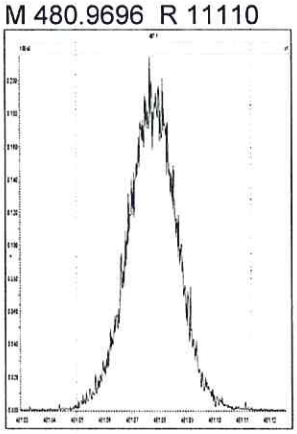
M 454.9728 R 12137



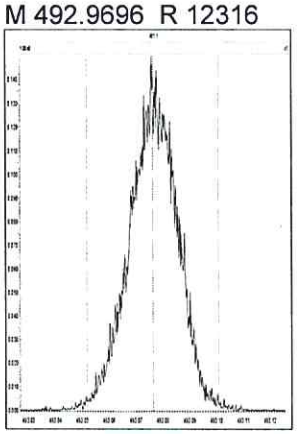
M 466.9728 R 12195



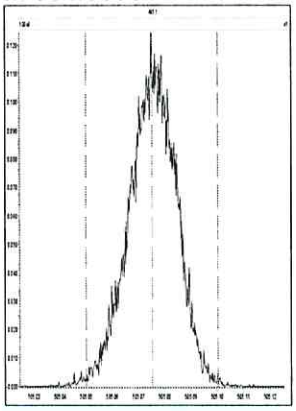
M 480.9696 R 11110



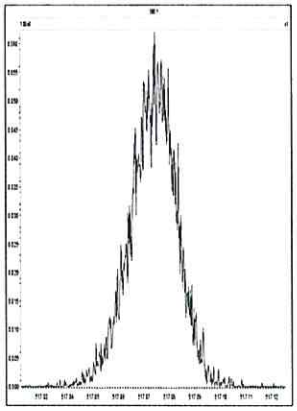
M 492.9696 R 12316



M 504.9696 R 12820



M 516.9697 R 12685



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

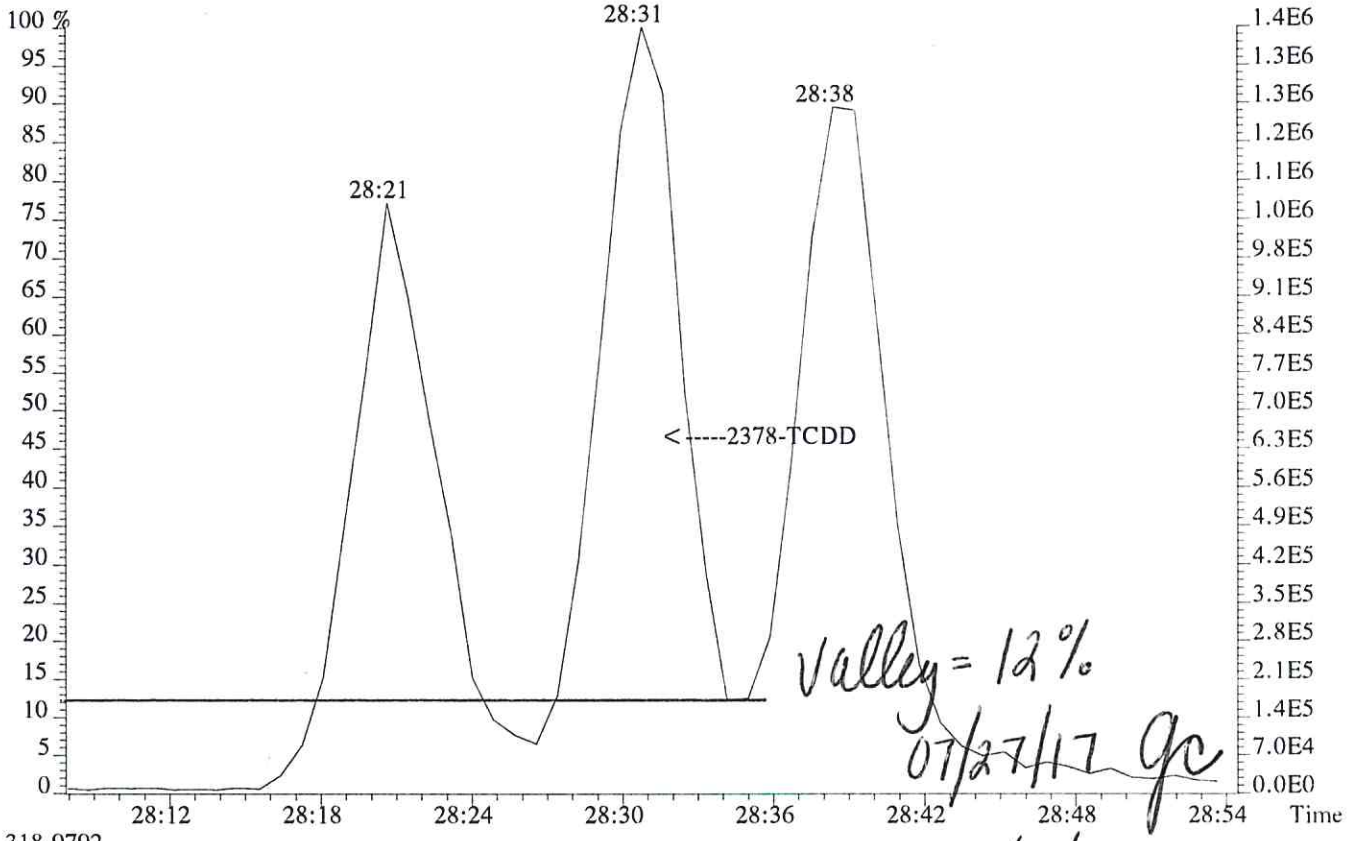
Case No.: _____ SDG No.:
ID: 0.25 (mm)

Lab File ID: P510633
Date Analyzed: 26-JUL-2017
Time Analyzed: 10:27:50

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:14	29:43
TCDD	25:03	29:33
PeCDF	29:38	33:58
PeCDD	31:12	33:43
HxCDF	34:37	37:09
HxCDD	35:08	36:45
HpCDF	38:24	39:48
HpCDD	38:38	39:20

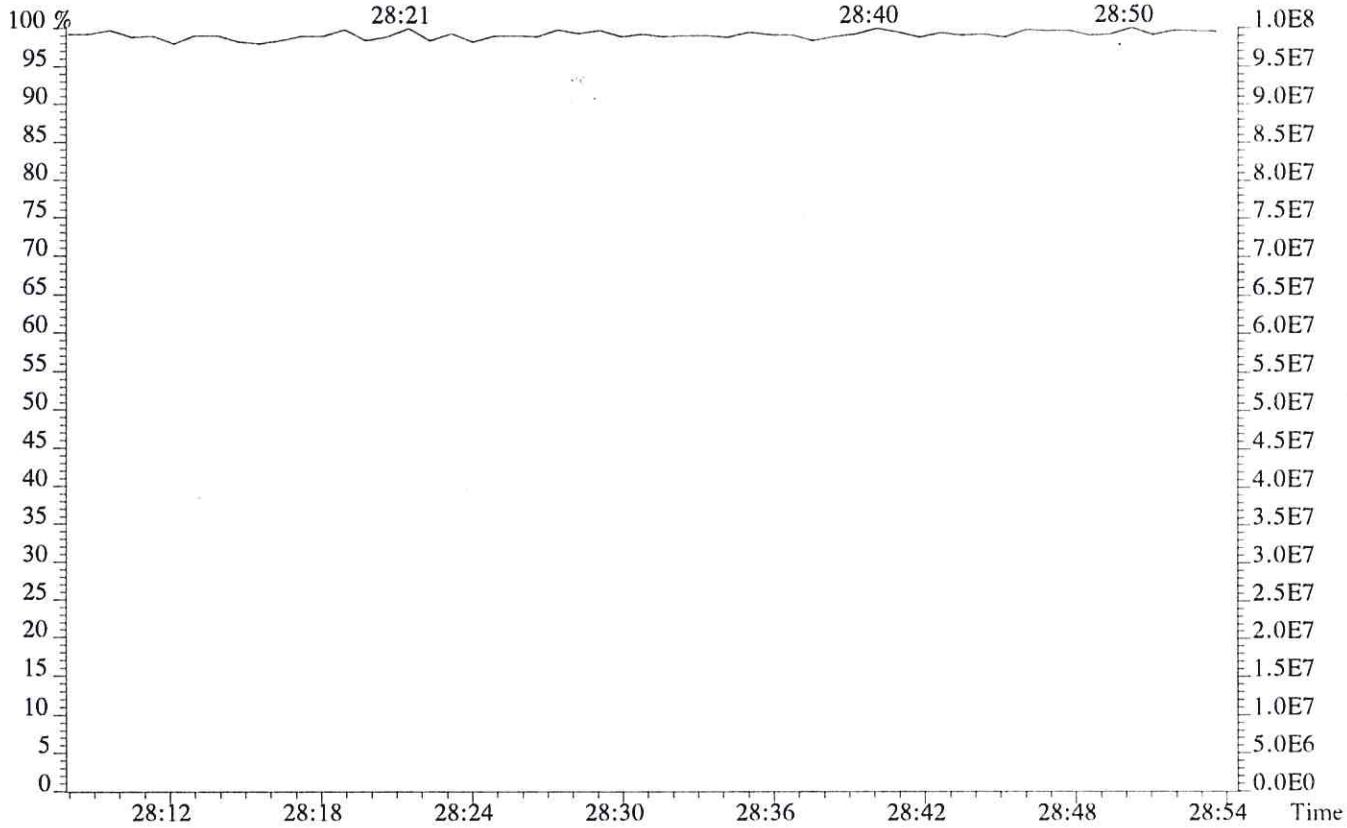
% Valley 2378-TCDD: 12 %

File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965

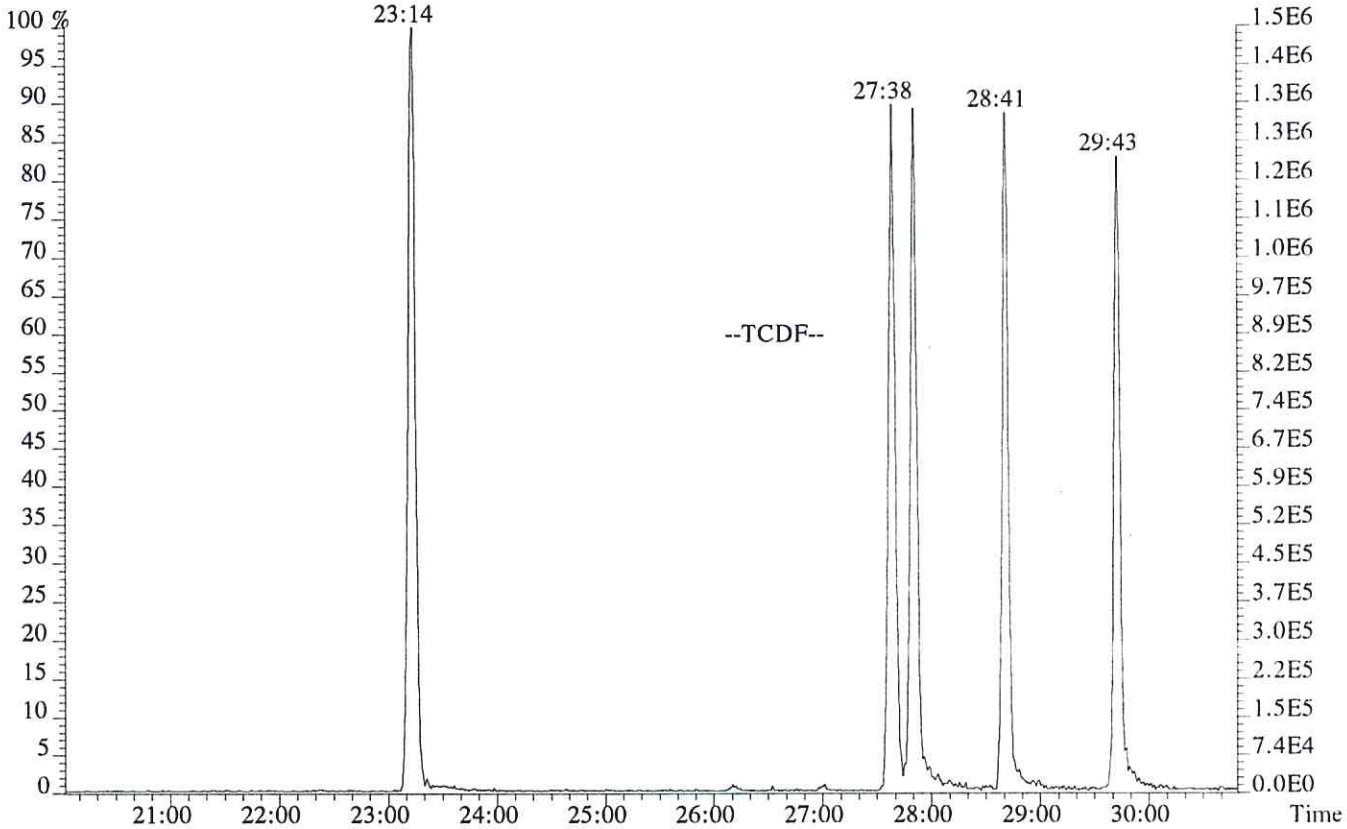


318.9792

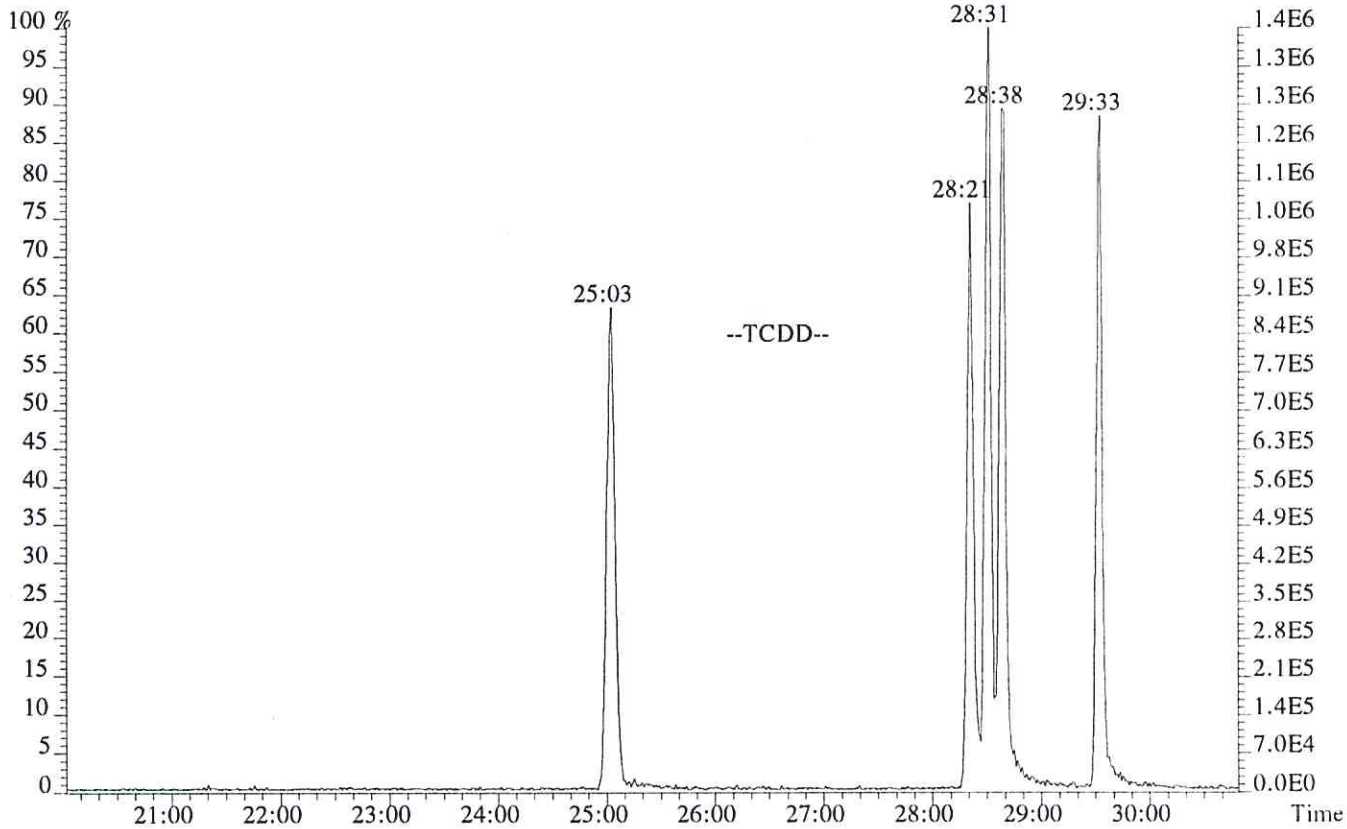
LKL 07/27/17



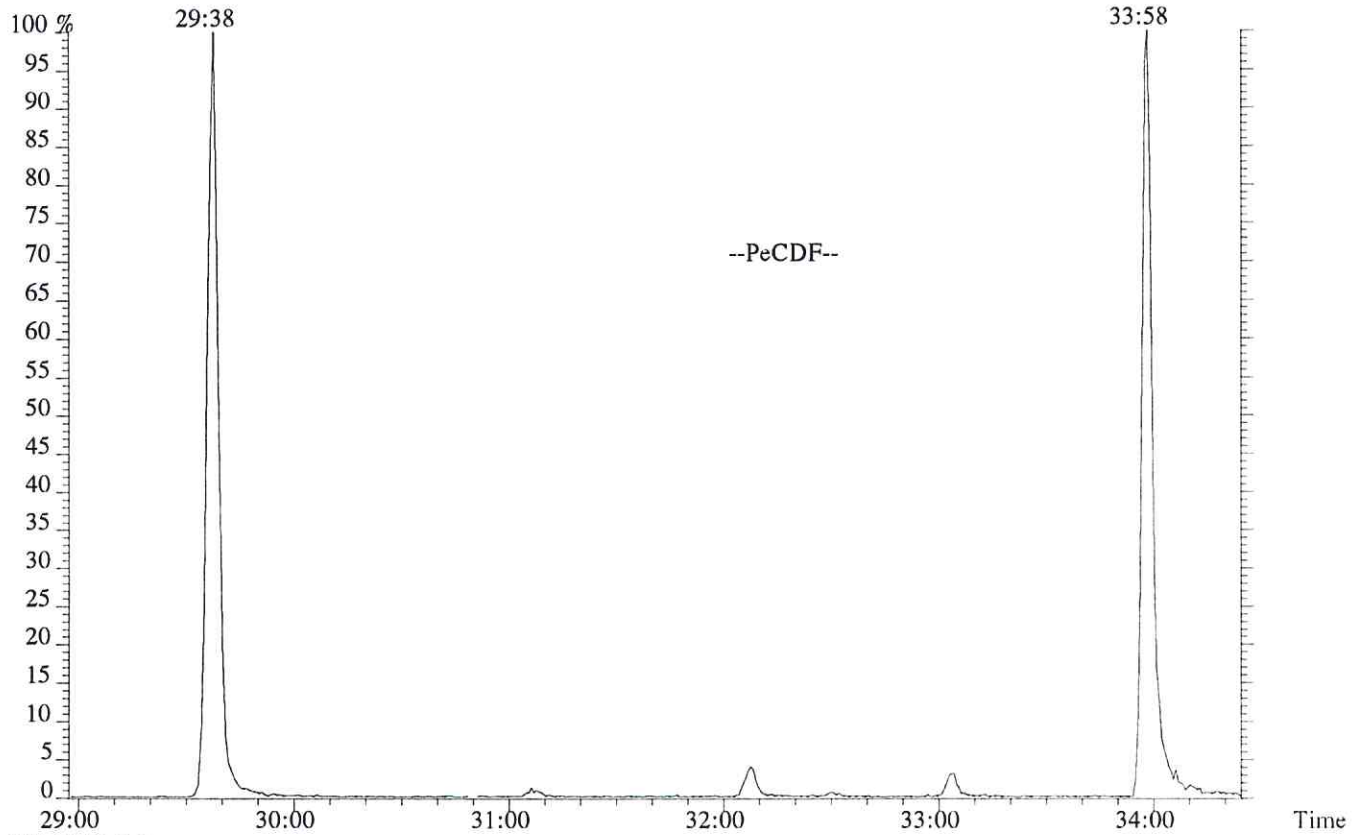
File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
303.9016



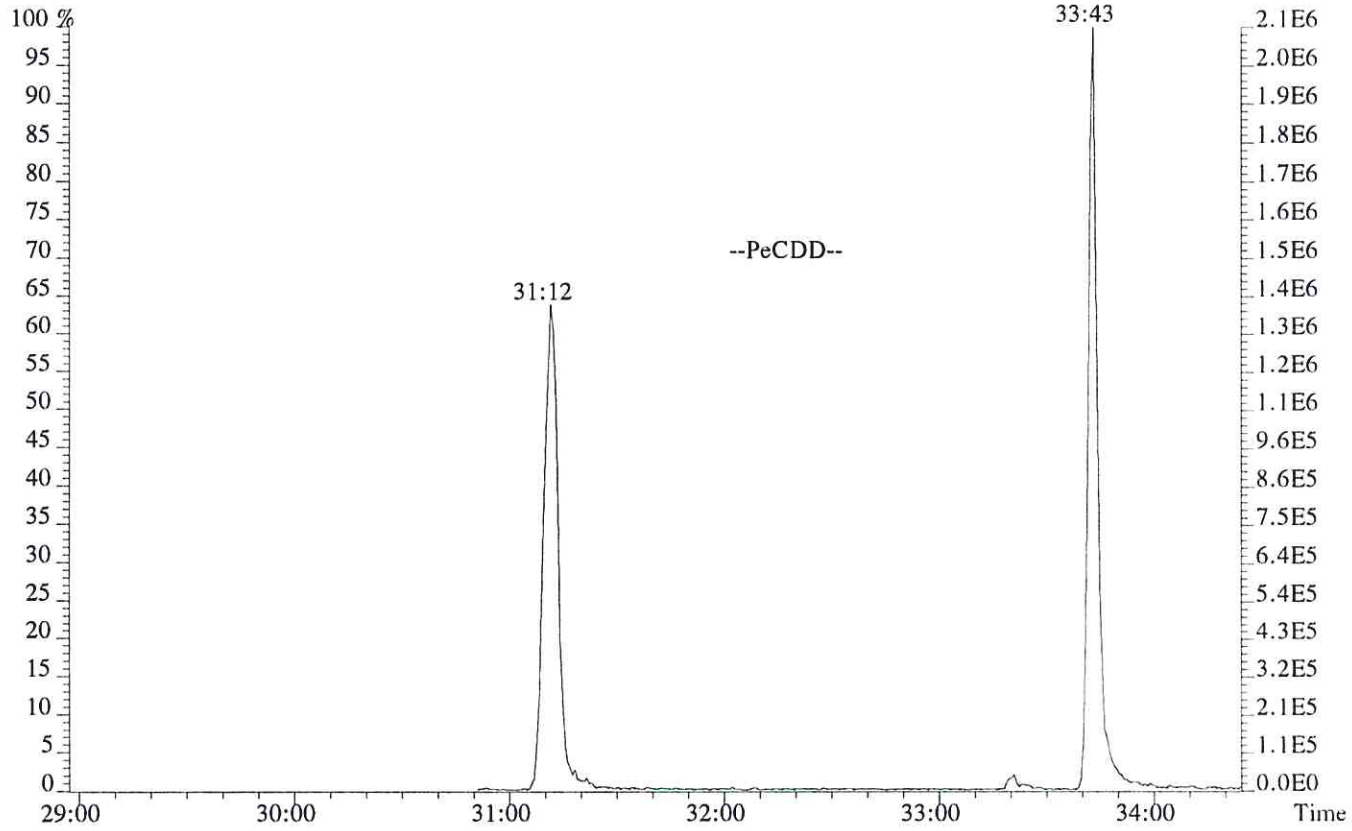
319.8965



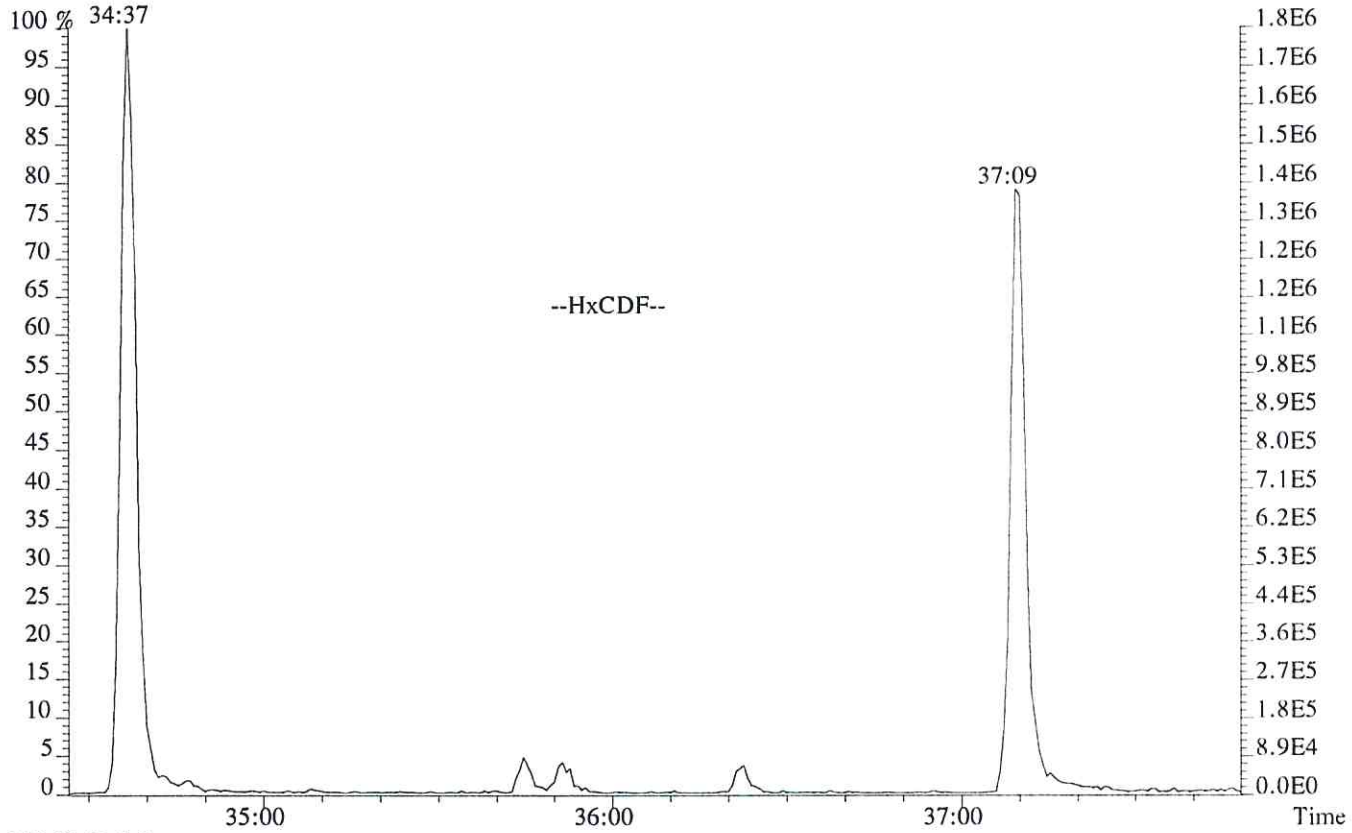
File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



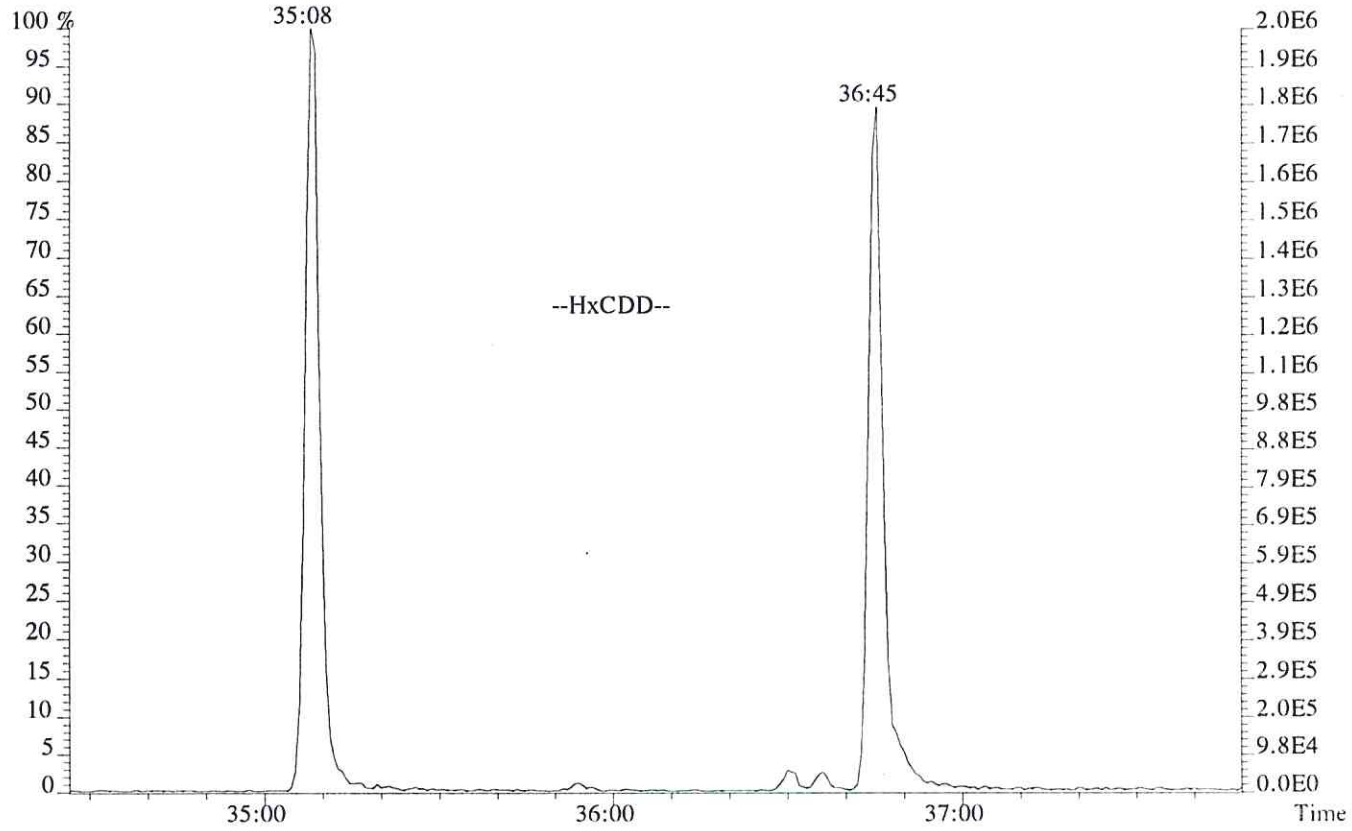
355.8546 F:2



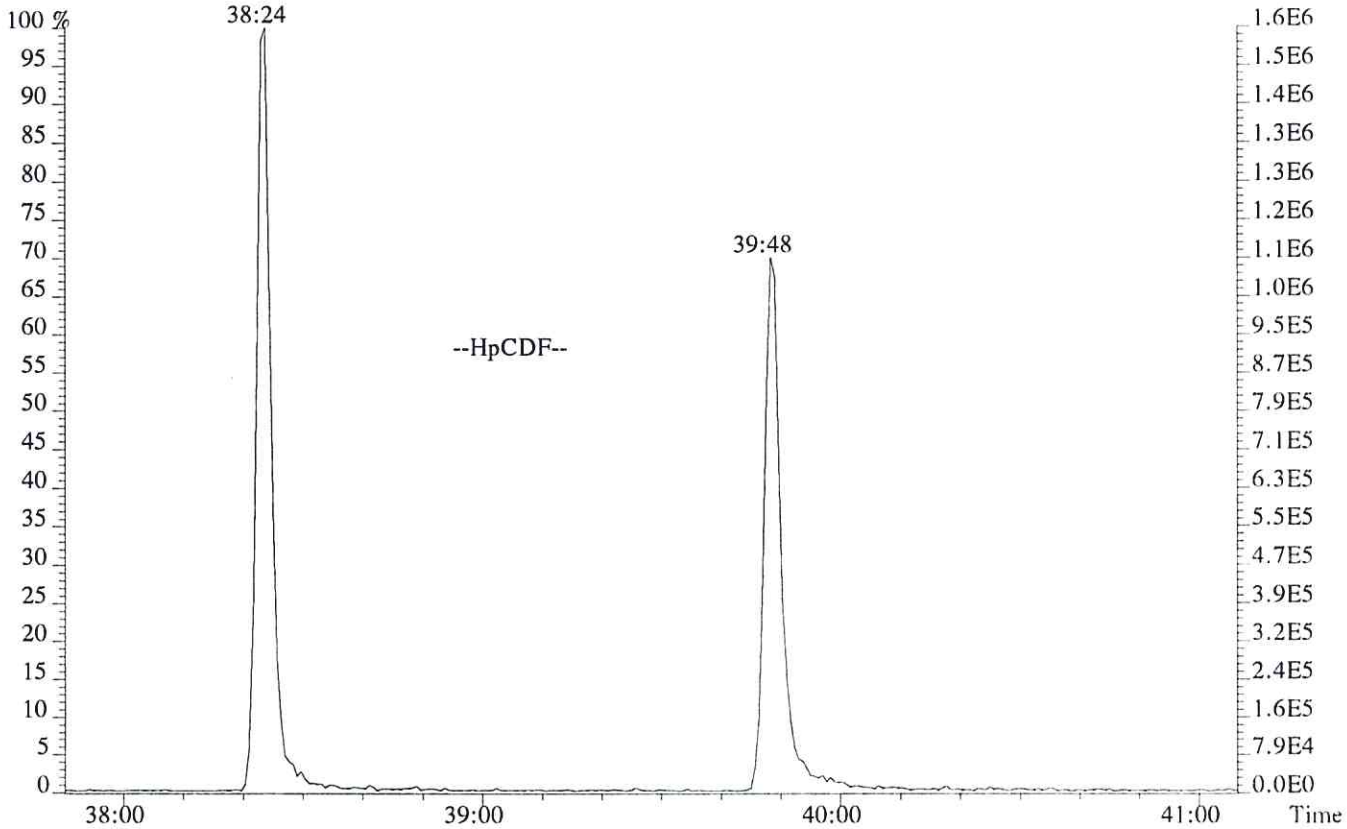
File:P510633 #1-303 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
373.8208 F:3



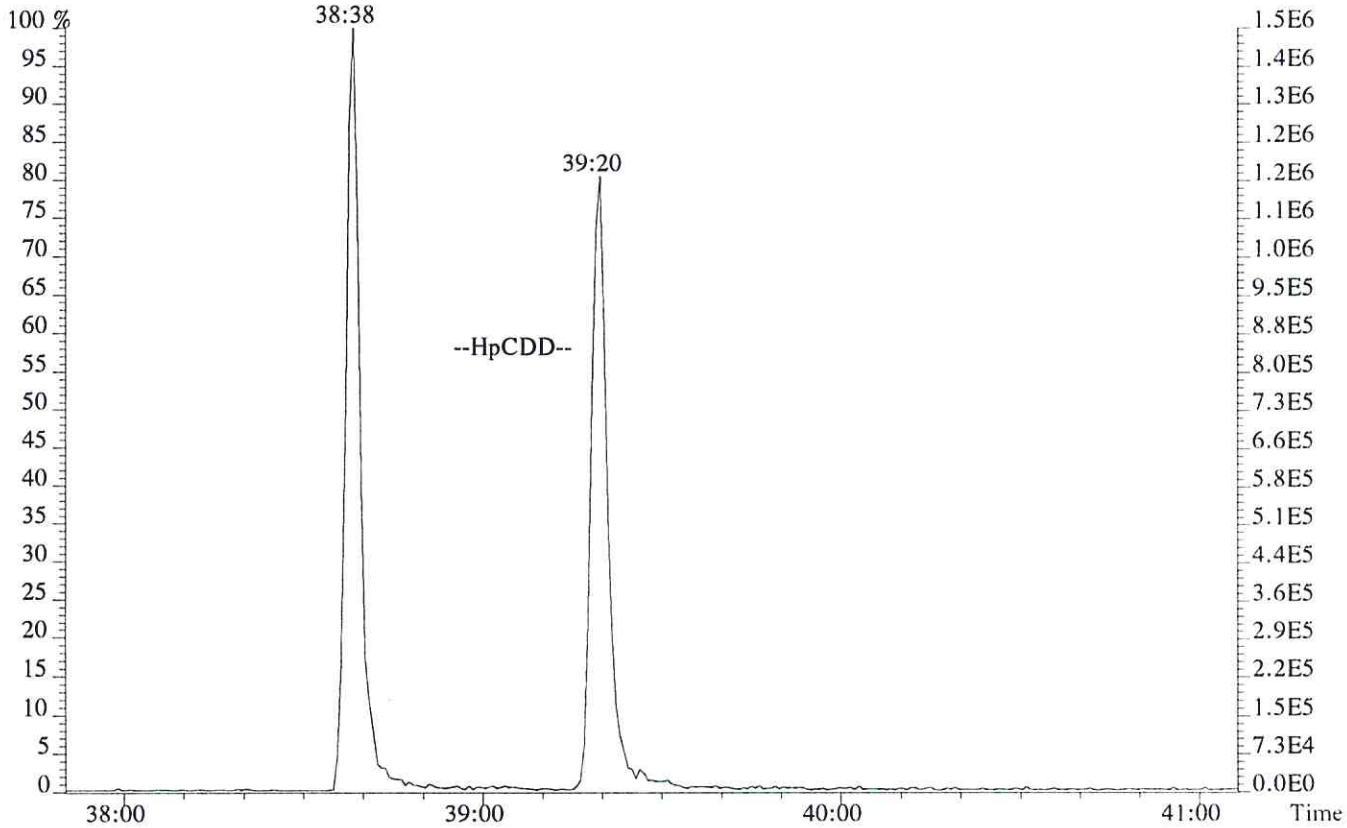
389.8157 F:3



File:P510633 #1-295 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
407.7818 F:4



423.7766 F:4



USEPA - CLP
6DFA6
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name: ALS Environmental
Lab Code: ALSTX Case No.:
GC Column: DB-5MSUI ID: 0.25(mm)
Init. Calib. Date(s).: 07/26/17
Init. Calib. Time.: 10:27

Contract No.:
TO No.: SDG No.:
Instrument ID: E-HRMS-07
Method 1613/8290

	RR/RRF								
Target Analytes	CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	MEAN %RSD	QC LIMITS
2,3,7,8-TCDD	1.23	1.05	0.98	1.03	1.05	1.04	1.06	7.95	+/-20%
2,3,7,8-TCDF	0.88	0.80	0.77	0.84	0.83	0.83	0.82	4.64	+/-20%
1,2,3,7,8-PeCDF	0.84	0.87	0.87	0.90	0.92	0.86	0.88	3.47	+/-20%
1,2,3,7,8-PeCDD	0.91	0.88	0.89	0.91	0.92	0.93	0.91	1.92	+/-20%
2,3,4,7,8-PeCDF	0.81	0.83	0.81	0.85	0.86	0.91	0.85	4.51	+/-20%
1,2,3,4,7,8-HxCDF	1.02	1.02	1.03	1.13	1.09	1.10	1.06	4.48	+/-20%
1,2,3,6,7,8-HxCDF	0.89	0.97	0.96	1.01	1.04	1.07	0.99	6.48	+/-20%
1,2,3,4,7,8-HxCDD	0.90	0.92	0.93	0.97	0.98	1.08	0.96	6.82	+/-20%
1,2,3,6,7,8-HxCDD	0.94	0.92	0.93	0.96	0.98	0.85	0.93	4.68	+/-20%
1,2,3,7,8,9-HxCDD	0.96	0.99	0.94	1.05	1.01	1.01	0.99	3.80	+/-20%
2,3,4,6,7,8-HxCDF	0.89	0.93	0.96	1.01	1.01	1.03	0.97	5.53	+/-20%
1,2,3,7,8,9-HxCDF	1.02	0.94	0.96	1.02	1.06	1.03	1.00	4.62	+/-20%
1,2,3,4,6,7,8-HpCDF	1.24	1.26	1.23	1.27	1.29	1.24	1.25	1.69	+/-20%
1,2,3,4,6,7,8-HpCDD	0.97	0.94	0.93	0.94	0.95	0.92	0.94	1.99	+/-20%
1,2,3,4,7,8,9-HpCDF	1.17	1.19	1.13	1.19	1.19	1.27	1.19	3.59	+/-20%
OCDD	1.15	1.07	1.05	1.05	1.06	0.93	1.05	6.48	+/-20%
OCDF	1.10	1.10	1.09	1.13	1.16	1.04	1.10	3.65	+/-20%
Labeled Compounds									
13C-2,3,7,8-TCDD	0.97	0.97	0.93	0.94	0.93	0.99	0.95	2.58	+/-35%
13C-1,2,3,7,8-PeCDD	1.15	1.15	1.08	1.10	1.10	1.17	1.13	3.18	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.89	0.88	0.91	0.90	0.92	0.87	0.89	2.08	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.94	0.95	0.98	0.90	0.98	1.03	0.96	4.44	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.88	0.86	0.88	0.84	0.91	0.91	0.88	3.40	+/-35%
13C-OCDD	0.70	0.68	0.68	0.63	0.73	0.78	0.70	7.22	+/-35%
13C-2,3,7,8-TCDF	1.35	1.38	1.31	1.38	1.32	1.37	1.35	2.26	+/-35%
13C-1,2,3,7,8-PeCDF	1.51	1.53	1.44	1.54	1.49	1.57	1.51	2.98	+/-35%
13C-2,3,4,7,8-PeCDF	1.51	1.53	1.43	1.47	1.46	1.52	1.49	2.56	+/-35%
13C-1,2,3,4,7,8-HxCDF	0.96	0.97	1.01	0.96	1.00	0.99	0.98	2.19	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.13	1.12	1.18	1.14	1.15	1.07	1.13	3.16	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.06	1.06	1.07	1.03	1.07	1.04	1.05	1.41	+/-35%
13C-1,2,3,7,8,9-HxCDF	0.93	0.95	0.91	0.91	0.92	0.94	0.92	1.74	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	0.84	0.82	0.84	0.81	0.87	0.85	0.84	2.58	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.72	0.72	0.72	0.70	0.77	0.72	0.73	3.50	+/-35%
37Cl-2,3,7,8-TCDD	1.06	0.96	1.07	1.01	1.02	1.08	1.03	4.14	+/-35%

1. 123789-HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.
2. OCDF RR is calculated based on the labeled analog of OCDD

FORM VI-HR CDD-1 DLM02.2

USEPA - CLP
6DFB6
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

Lab Name: ALS Environmental Contract No.:
Lab Code: ALSTX Case No.: TO No.: SDG No.:
GC Column: DB-5MSUI ID: 0.25(mm) Instrument ID: E-HRMS-07
Init. Calib. Date(s).: 07/26/17 Method 1613/8290
Init. Calib. Time.: 10:27

Target Analytes	SELECTED IONS	ION ABUNDANCE RATIO CS0.5	CS1	CS2	CS3	CS4	CS5	FLAG	ION RATIO QC LIMITS
2,3,7,8-TCDF	304/306	0.69	0.77	0.68	0.73	0.73	0.73		0.65-0.89
2,3,7,8-TCDD	320/322	0.84	0.68	0.70	0.77	0.76	0.78		0.65-0.89
1,2,3,7,8-PeCDF	340/342	1.43	1.45	1.45	1.49	1.48	1.50		1.32-1.78
2,3,4,7,8-PeCDF	340/342	1.37	1.44	1.42	1.48	1.49	1.49		1.32-1.78
1,2,3,7,8-PeCDD	356/358	1.49	1.62	1.56	1.55	1.55	1.55		1.32-1.78
1,2,3,4,7,8-HxCDF	374/376	1.11	1.06	1.14	1.17	1.14	1.18		1.05-1.43
1,2,3,6,7,8-HxCDF	374/376	1.14	1.14	1.16	1.17	1.16	1.17		1.05-1.43
2,3,4,6,7,8-HxCDF	374/376	1.15	1.10	1.17	1.16	1.15	1.17		1.05-1.43
1,2,3,7,8,9-HxCDF	374/376	1.24	1.13	1.07	1.16	1.15	1.16		1.05-1.43
1,2,3,4,7,8-HxCDD	390/392	1.18	1.28	1.20	1.22	1.23	1.29		1.05-1.43
1,2,3,6,7,8-HxCDD	390/392	1.15	1.20	1.17	1.26	1.24	1.18		1.05-1.43
1,2,3,7,8,9-HxCDD	390/392	1.12	1.20	1.25	1.24	1.27	1.23		1.05-1.43
1,2,3,4,6,7,8-HpCDF	408/410	0.98	1.01	1.02	0.99	0.99	1.01		0.88-1.20
1,2,3,4,7,8,9-HpCDF	408/410	0.96	0.98	0.95	1.00	1.01	0.98		0.88-1.20
1,2,3,4,6,7,8-HpCDD	424/426	1.00	1.03	1.03	1.04	1.04	1.03		0.88-1.20
OCDF	442/444	0.85	0.90	0.84	0.88	0.88	0.89		0.76-1.02
OCDD	458/460	0.90	0.87	0.87	0.87	0.88	0.88		0.76-1.02
13C-2,3,7,8-TCDD	332/334	0.80	0.80	0.80	0.80	0.80	0.80		0.65-0.89
13C-1,2,3,7,8-PeCDD	368/370	1.59	1.60	1.59	1.58	1.59	1.59		1.32-1.78
13C-1,2,3,4,7,8-HxCDD	402/404	1.26	1.27	1.25	1.29	1.28	1.28		1.05-1.43
13C-1,2,3,6,7,8-HxCDD	402/404	1.27	1.26	1.28	1.27	1.28	1.29		1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	436/438	1.06	1.05	1.05	1.04	1.05	1.04		0.88-1.20
13C-OCDD	470/472	0.89	0.90	0.89	0.90	0.89	0.90		0.76-1.02
13C-2,3,7,8-TCDF	316/318	0.78	0.78	0.78	0.78	0.79	0.79		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.55	1.55	1.58	1.55	1.56	1.57		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.54	1.56	1.56	1.55	1.55	1.56		1.32-1.78
13C-1,2,3,4,7,8-HxCDF	384/386	0.51	0.51	0.51	0.53	0.51	0.52		0.43-0.59
13C-1,2,3,6,7,8-HxCDF	384/386	0.50	0.52	0.52	0.52	0.52	0.50		0.43-0.59
13C-2,3,4,6,7,8-HxCDF	384/386	0.51	0.51	0.51	0.52	0.51	0.51		0.43-0.59
13C-1,2,3,7,8,9-HxCDF	384/386	0.52	0.51	0.51	0.51	0.51	0.50		0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	418/420	0.44	0.44	0.44	0.44	0.44	0.44		0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	418/420	0.44	0.44	0.44	0.44	0.44	0.43		0.37-0.51
13C-1,2,3,4-TCDD	332/334	0.80	0.81	0.81	0.81	0.80	0.80		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.32	1.33	1.22	1.29	1.27	1.31		1.05-1.43

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76554

Run #1 Filename P510634 Samp: 1 Inj: 1 Acquired: 26-JUL-17 11:19:31
Processed: 27-JUL-17 08:42:57 Sample ID: CS0.5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:50	1.777e+02	2.581e+02	0.69	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:08	1.370e+03	9.579e+02	1.43	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:03	1.310e+03	9.596e+02	1.37	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	1.061e+03	9.549e+02	1.11	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	1.099e+03	9.679e+02	1.14	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:23	1.040e+03	9.055e+02	1.15	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:09	1.073e+03	8.647e+02	1.24	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	1.060e+03	1.083e+03	0.98	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	8.587e+02	8.926e+02	0.96	yes	no	1.191
10	Unk	OCDF	42:22	1.454e+03	1.716e+03	0.85	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:39	2.002e+02	2.387e+02	0.84	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	1.147e+03	7.705e+02	1.49	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	8.967e+02	7.604e+02	1.18	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:36	9.689e+02	8.405e+02	1.15	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	9.604e+02	8.599e+02	1.12	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	8.816e+02	8.845e+02	1.00	yes	no	0.942
17	Unk	OCDD	42:09	1.569e+03	1.737e+03	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	8.735e+04	1.115e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:07	1.352e+05	8.721e+04	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.352e+05	8.770e+04	1.54	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	5.360e+04	1.045e+05	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	6.237e+04	1.240e+05	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:22	5.934e+04	1.154e+05	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:08	5.188e+04	1.006e+05	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:24	4.237e+04	9.579e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	3.669e+04	8.274e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:38	6.344e+04	7.932e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:19	1.038e+05	6.535e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:30	8.229e+04	6.507e+04	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	8.660e+04	6.805e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:19	7.473e+04	7.068e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	42:09	1.088e+05	1.220e+05	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:01	6.575e+04	8.190e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	9.369e+04	7.113e+04	1.32	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	3.912e+02				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76554

Run #1 Filename P510634 Samp: 1 Inj: 1 Acquired: 26-JUL-17 11:19:31
Processed: 27-JUL-17 08:42:57 LAB. ID: CS0.5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.90e+04	9.00e+02	3.2e+01	3.95e+04	2.88e+03	1.4e+01
2	1,2,3,7,8-PeCDF	2.54e+05	9.08e+02	2.8e+02	1.79e+05	2.44e+03	7.3e+01
3	2,3,4,7,8-PeCDF	2.43e+05	9.08e+02	2.7e+02	1.76e+05	2.44e+03	7.2e+01
4	1,2,3,4,7,8-HxCDF	2.18e+05	9.56e+02	2.3e+02	1.90e+05	8.28e+02	2.3e+02
5	1,2,3,6,7,8-HxCDF	2.18e+05	9.56e+02	2.3e+02	1.95e+05	8.28e+02	2.4e+02
6	2,3,4,6,7,8-HxCDF	2.17e+05	9.56e+02	2.3e+02	1.83e+05	8.28e+02	2.2e+02
7	1,2,3,7,8,9-HxCDF	2.01e+05	9.56e+02	2.1e+02	1.75e+05	8.28e+02	2.1e+02
8	1,2,3,4,6,7,8-HpCDF	2.21e+05	6.00e+02	3.7e+02	2.22e+05	6.76e+02	3.3e+02
9	1,2,3,4,7,8,9-HpCDF	1.61e+05	6.00e+02	2.7e+02	1.74e+05	6.76e+02	2.6e+02
10	OCDF	2.32e+05	3.84e+02	6.0e+02	2.60e+05	1.65e+03	1.6e+02
11	2,3,7,8-TCDD	3.61e+04	2.32e+03	1.6e+01	4.43e+04	1.32e+03	3.4e+01
12	1,2,3,7,8-PeCDD	2.06e+05	1.75e+03	1.2e+02	1.39e+05	1.84e+02	7.6e+02
13	1,2,3,4,7,8-HxCDD	1.96e+05	7.12e+02	2.7e+02	1.64e+05	1.20e+03	1.4e+02
14	1,2,3,6,7,8-HxCDD	2.04e+05	7.12e+02	2.9e+02	1.79e+05	1.20e+03	1.5e+02
15	1,2,3,7,8,9-HxCDD	1.98e+05	7.12e+02	2.8e+02	1.67e+05	1.20e+03	1.4e+02
16	1,2,3,4,6,7,8-HpCDD	1.79e+05	6.20e+02	2.9e+02	1.70e+05	8.00e+02	2.1e+02
17	OCDD	2.40e+05	1.23e+03	2.0e+02	2.77e+05	2.66e+03	1.0e+02
18	13C-2,3,7,8-TCDF	1.51e+07	1.40e+04	1.1e+03	1.90e+07	6.17e+03	3.1e+03
19	13C-1,2,3,7,8-PeCDF	2.40e+07	1.78e+03	1.3e+04	1.54e+07	1.99e+03	7.7e+03
20	13C-2,3,4,7,8-PeCDF	2.49e+07	1.78e+03	1.4e+04	1.63e+07	1.99e+03	8.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.09e+07	1.13e+03	9.6e+03	2.20e+07	1.46e+03	1.5e+04
22	13C-1,2,3,6,7,8-HxCDF	1.23e+07	1.13e+03	1.1e+04	2.44e+07	1.46e+03	1.7e+04
23	13C-2,3,4,6,7,8-HxCDF	1.23e+07	1.13e+03	1.1e+04	2.36e+07	1.46e+03	1.6e+04
24	13C-1,2,3,7,8,9-HxCDF	9.97e+06	1.13e+03	8.8e+03	1.92e+07	1.46e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.73e+06	4.12e+03	2.1e+03	1.94e+07	8.72e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.79e+06	4.12e+03	1.6e+03	1.55e+07	8.72e+03	1.8e+03
27	13C-2,3,7,8-TCDD	1.15e+07	6.74e+03	1.7e+03	1.44e+07	3.91e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	1.89e+07	1.87e+03	1.0e+04	1.20e+07	9.68e+02	1.2e+04
29	13C-1,2,3,4,7,8-HxCDD	1.81e+07	3.33e+03	5.4e+03	1.42e+07	1.22e+03	1.2e+04
30	13C-1,2,3,6,7,8-HxCDD	1.74e+07	3.33e+03	5.2e+03	1.37e+07	1.22e+03	1.1e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.42e+07	1.66e+03	8.5e+03	1.35e+07	8.92e+02	1.5e+04
32	13C-OCDD	1.70e+07	1.30e+03	1.3e+04	1.89e+07	7.96e+02	2.4e+04
33	13C-1,2,3,4-TCDD	1.18e+07	6.74e+03	1.7e+03	1.47e+07	3.91e+03	3.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.86e+07	3.33e+03	5.6e+03	1.44e+07	1.22e+03	1.2e+04
35	37Cl-2,3,7,8-TCDD	7.61e+04	9.92e+02	7.7e+01			

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File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
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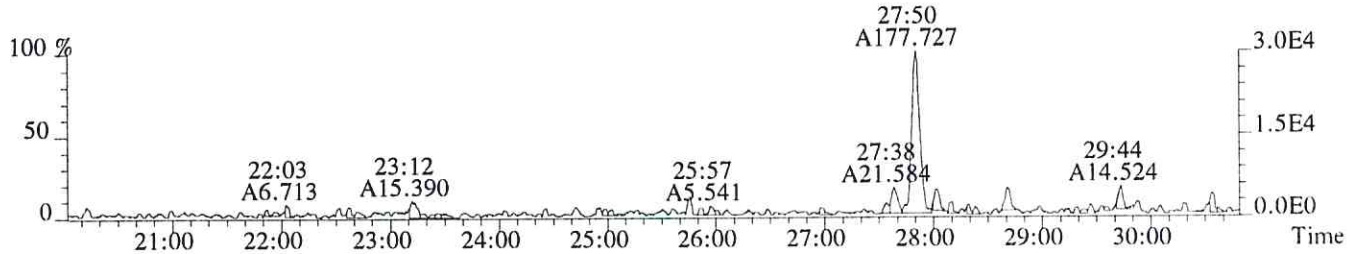

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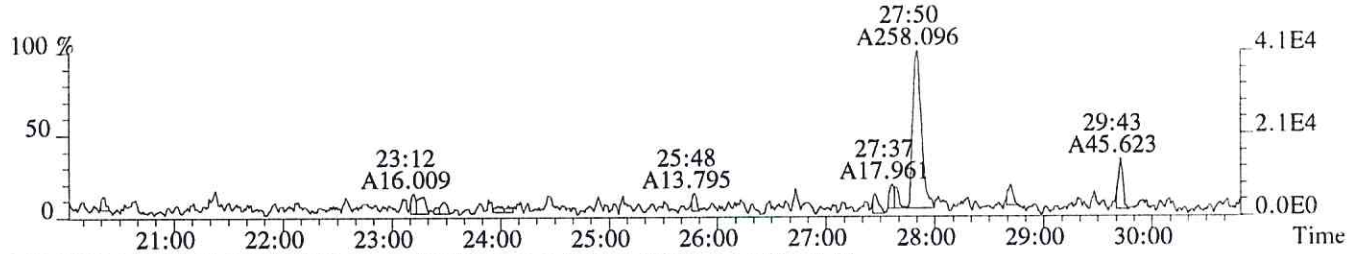
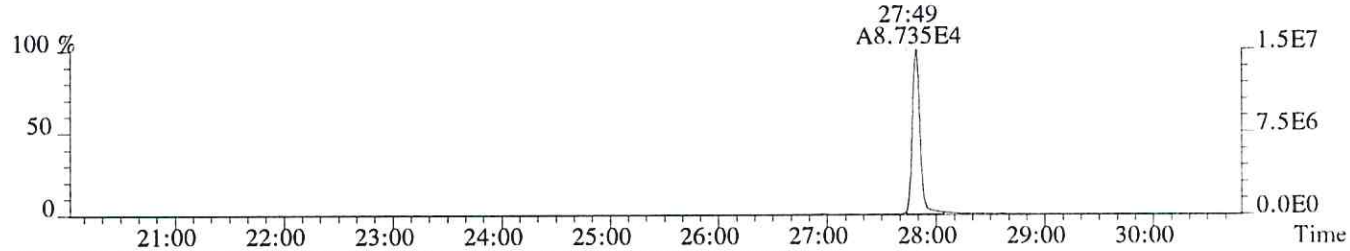
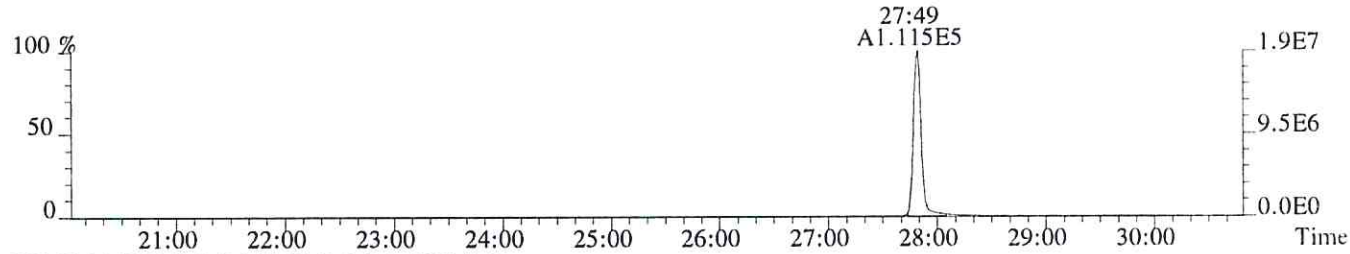


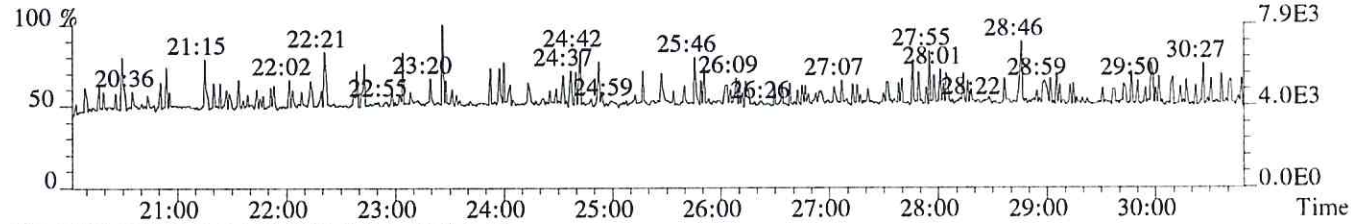
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13996.0,1.00%,F,T)



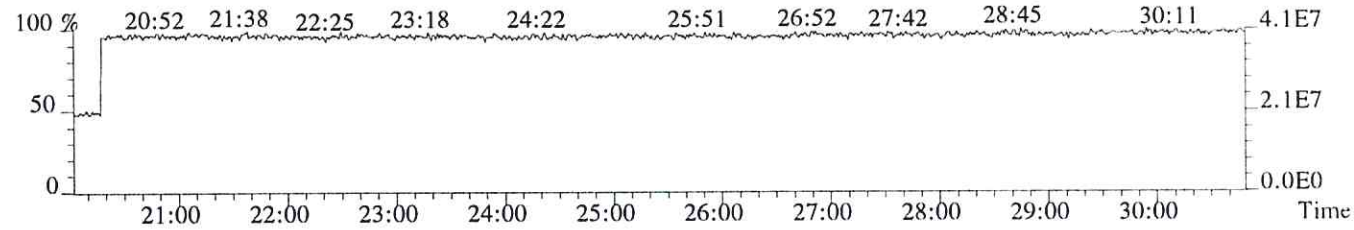
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6172.0,1.00%,F,T)



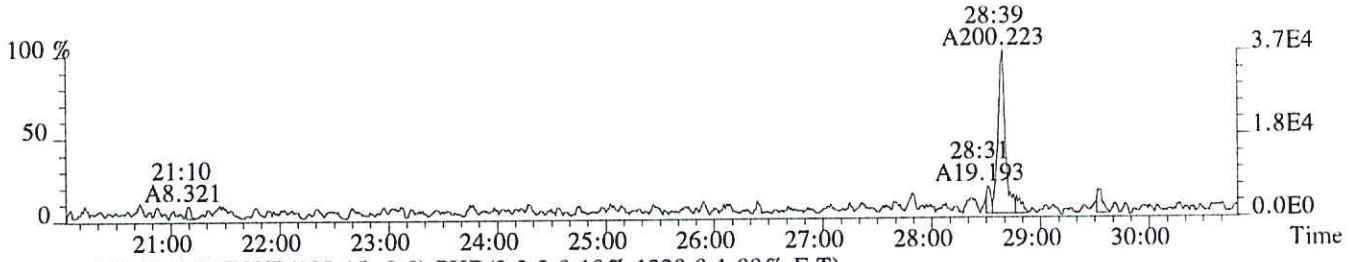
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



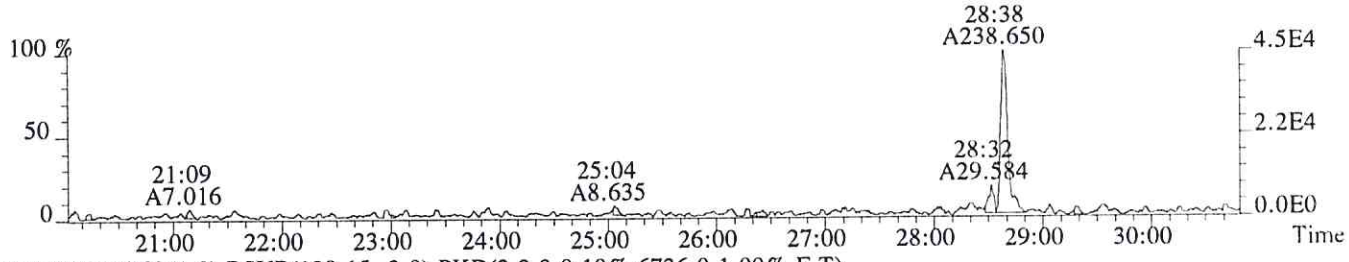
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



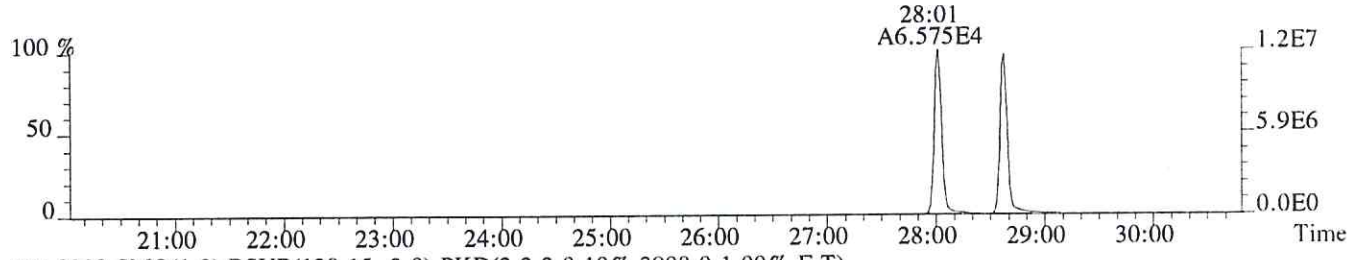
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2324.0,1.00%,F,T)



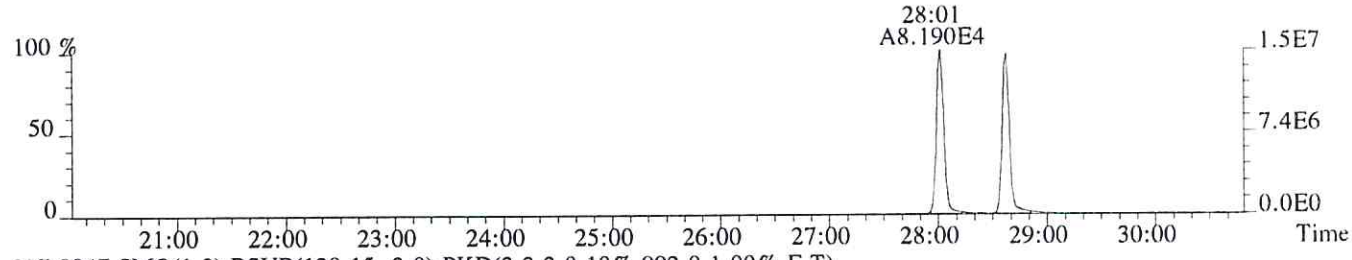
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



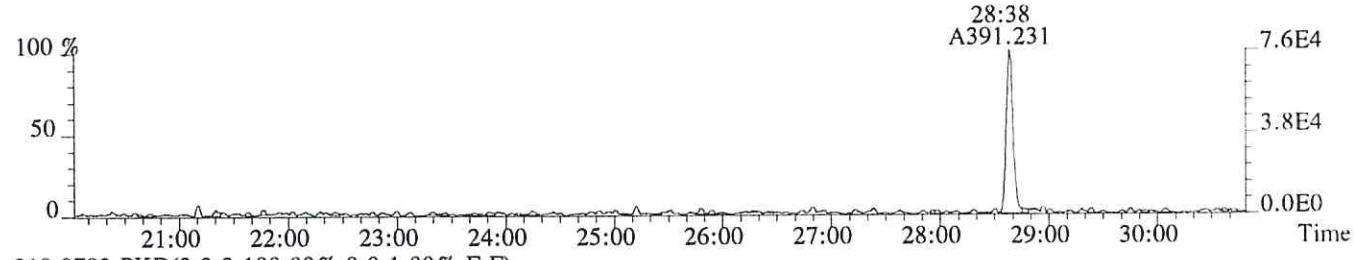
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6736.0,1.00%,F,T)



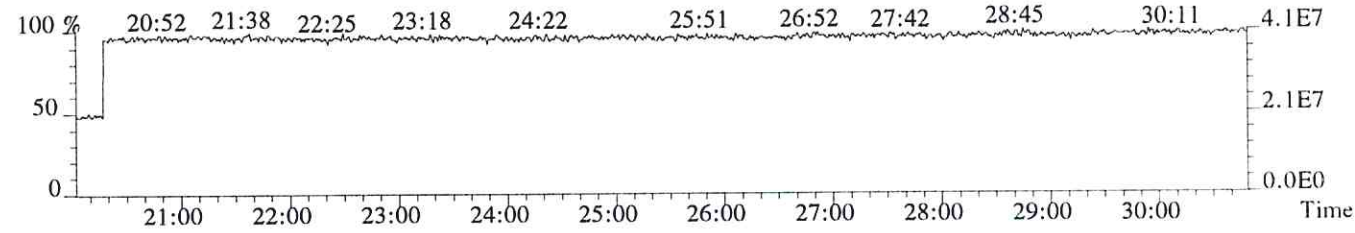
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3908.0,1.00%,F,T)



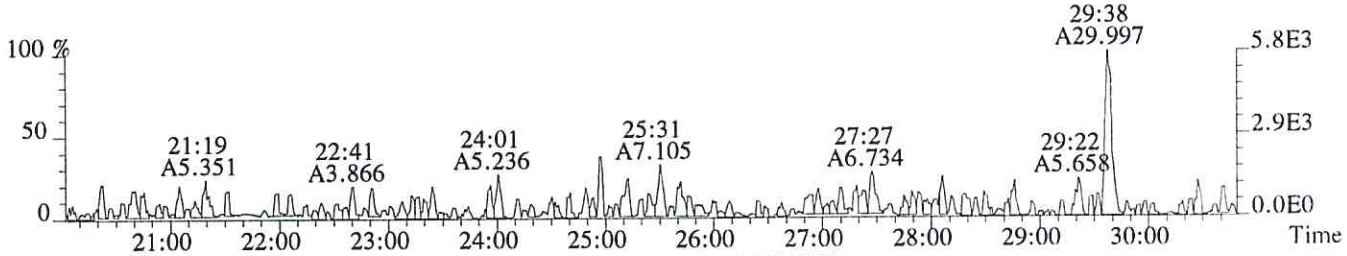
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



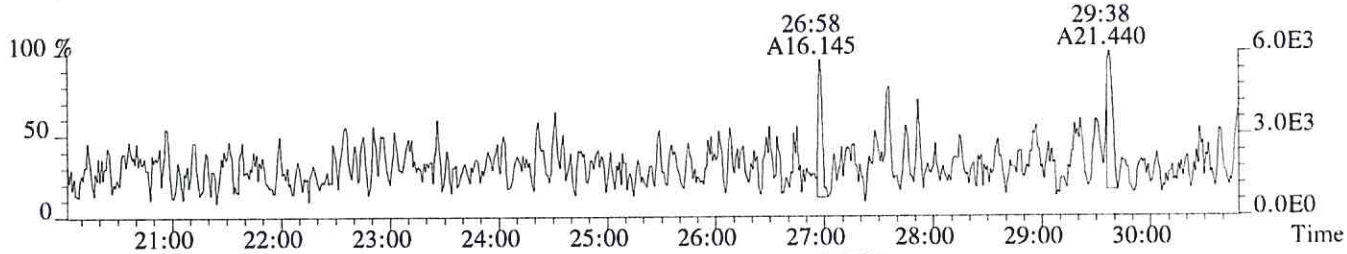
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



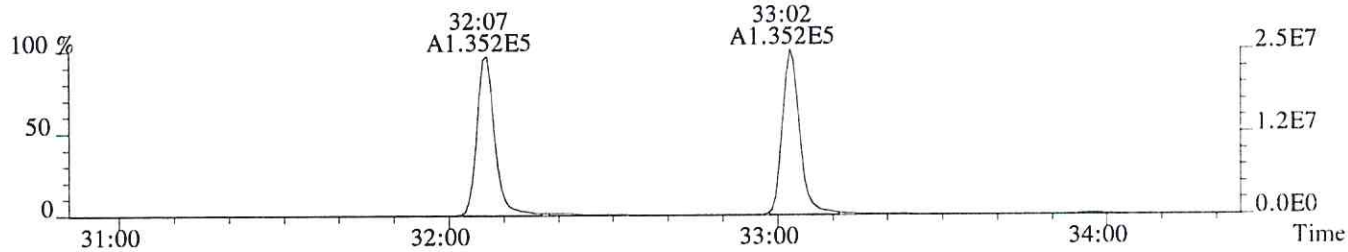
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



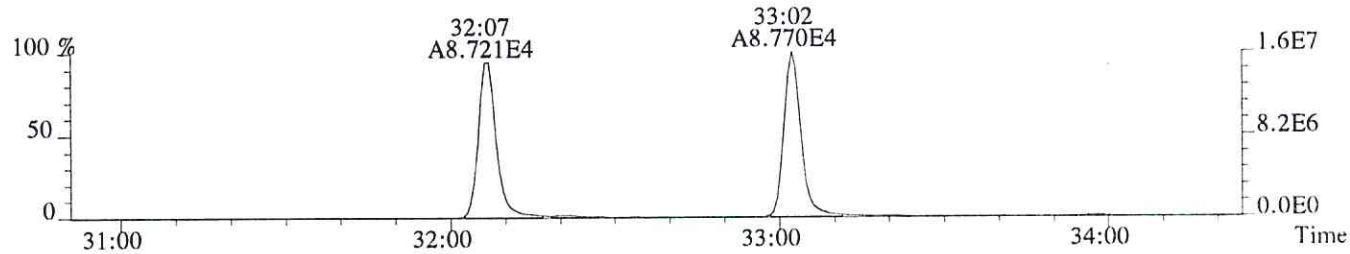
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2232.0,1.00%,F,T)



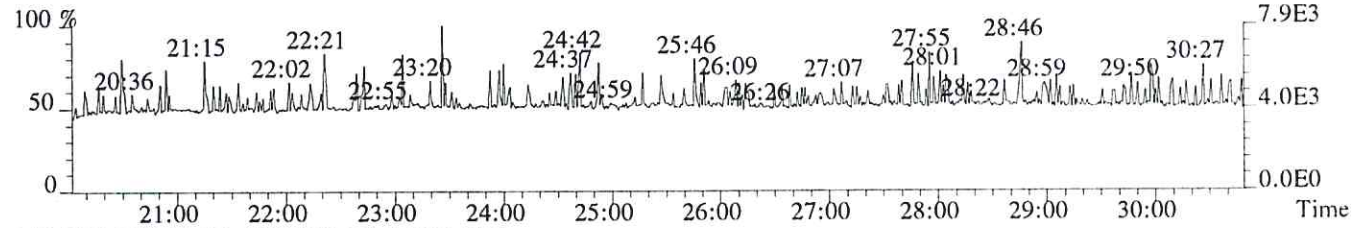
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



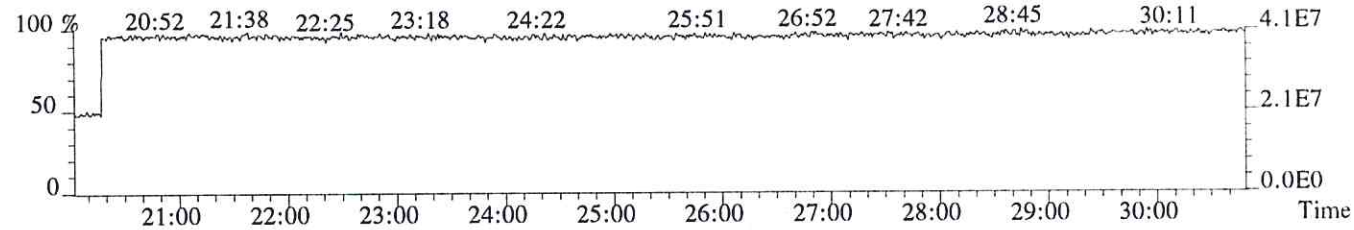
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



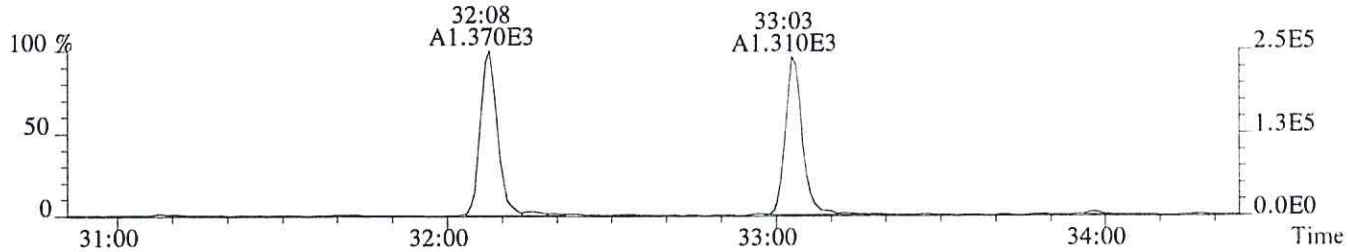
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



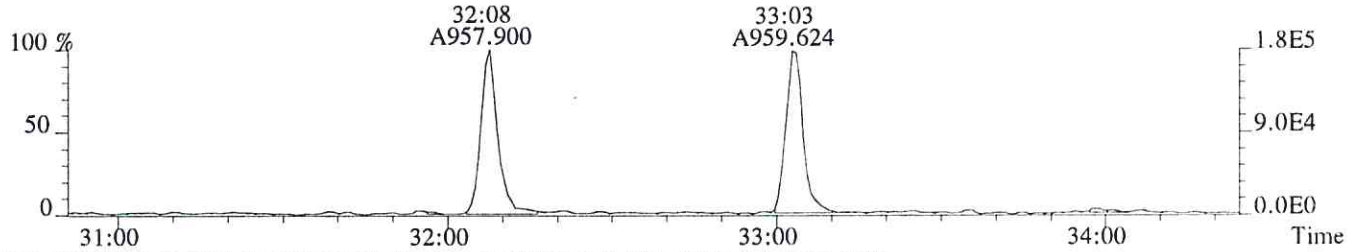
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



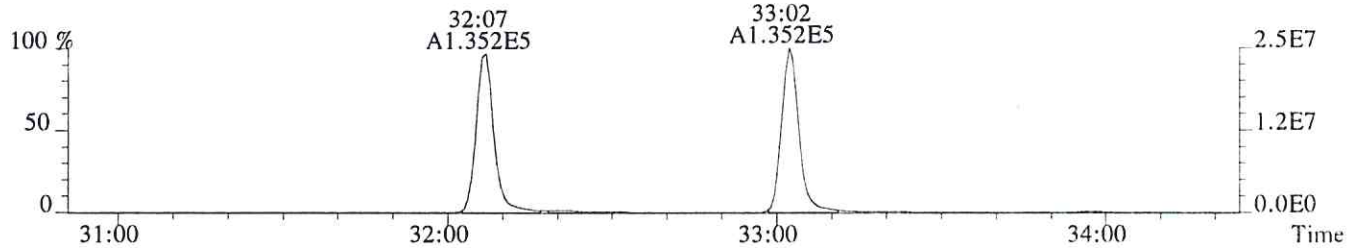
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



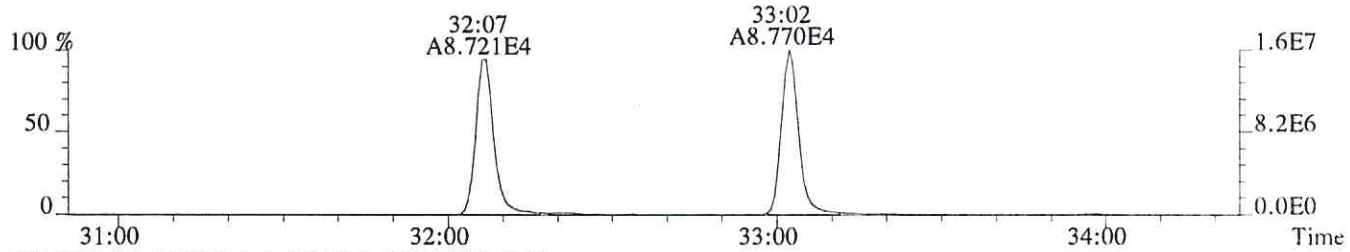
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



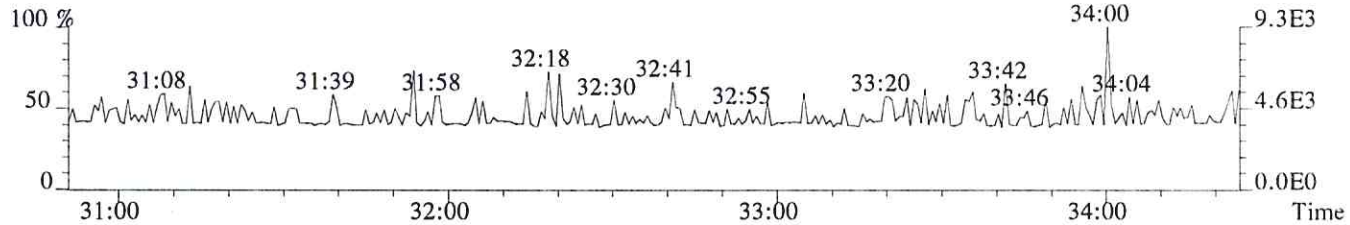
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



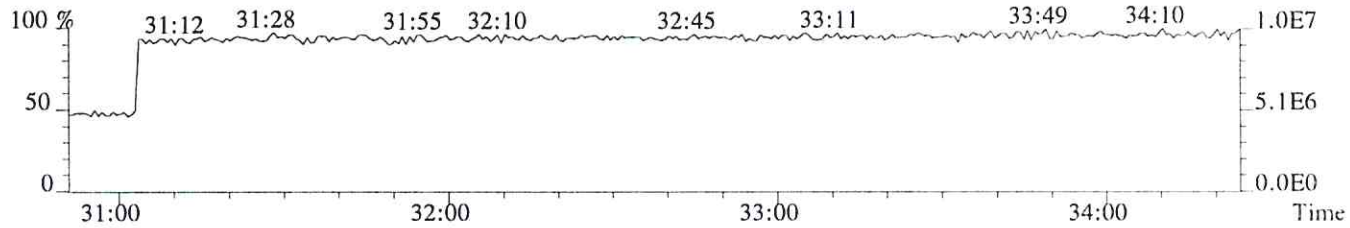
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



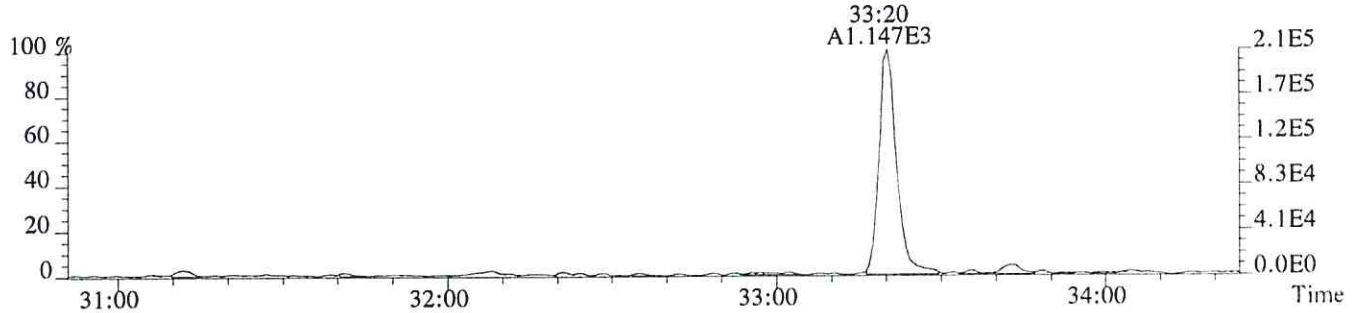
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



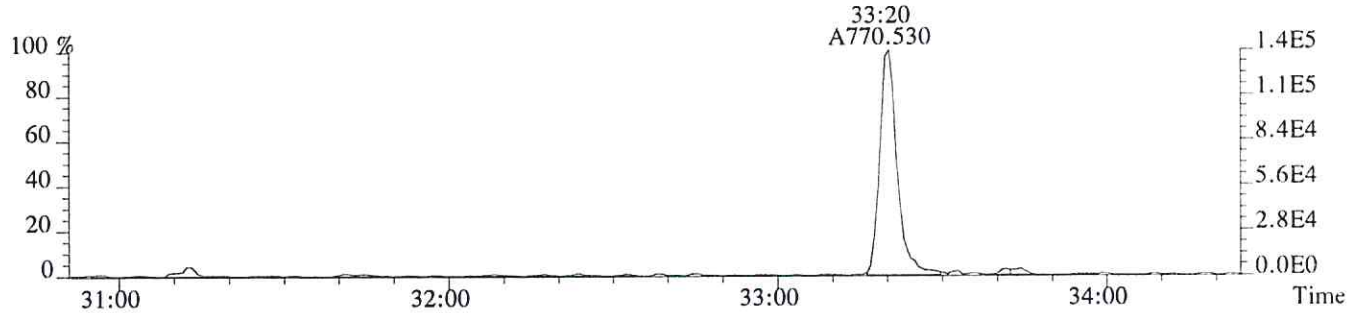
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



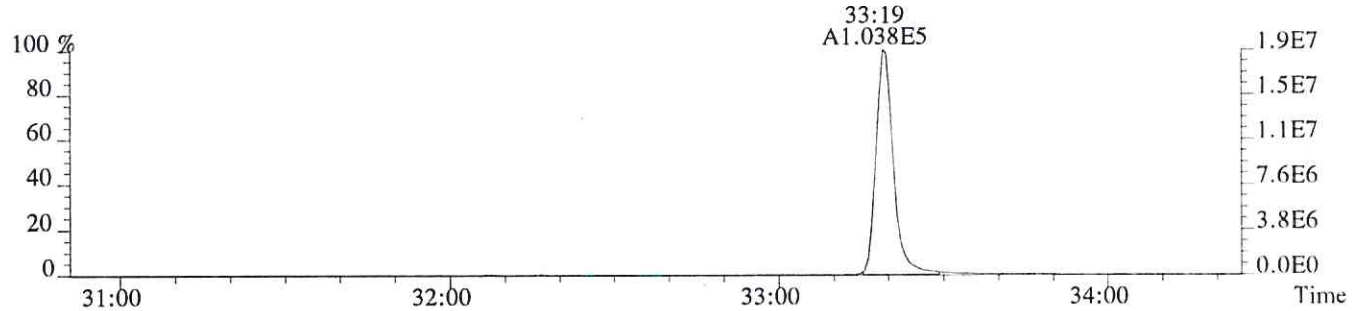
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



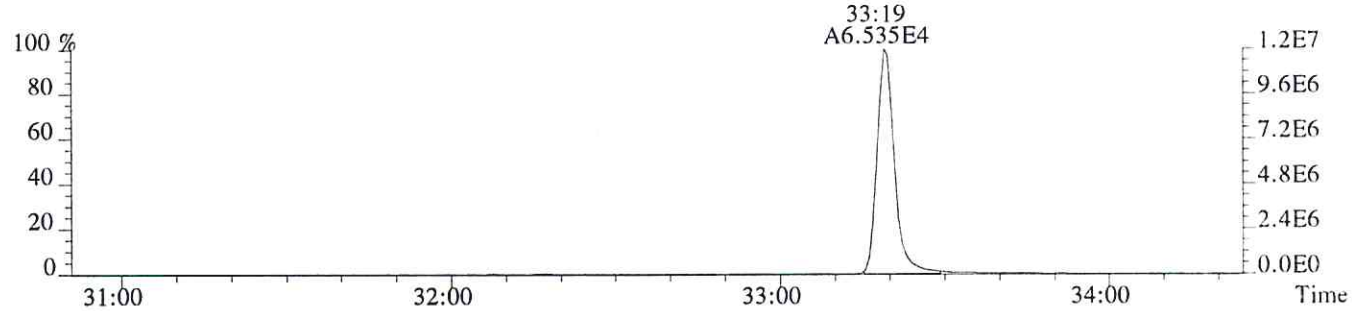
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



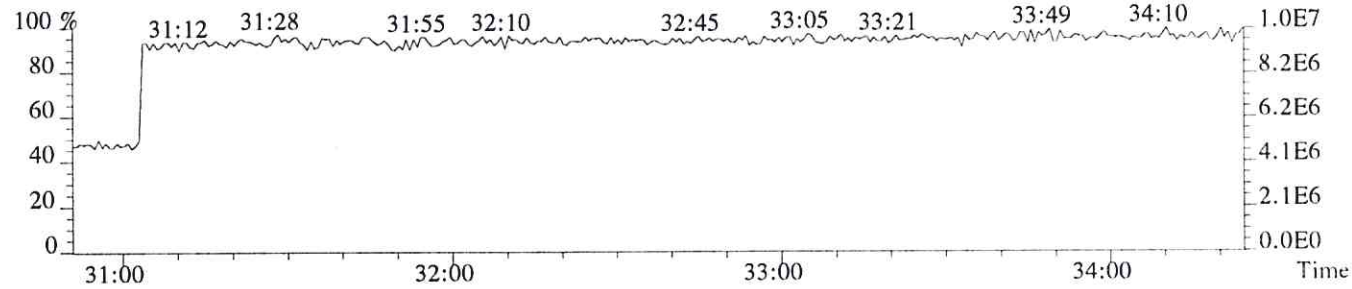
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1868.0,1.00%,F,T)



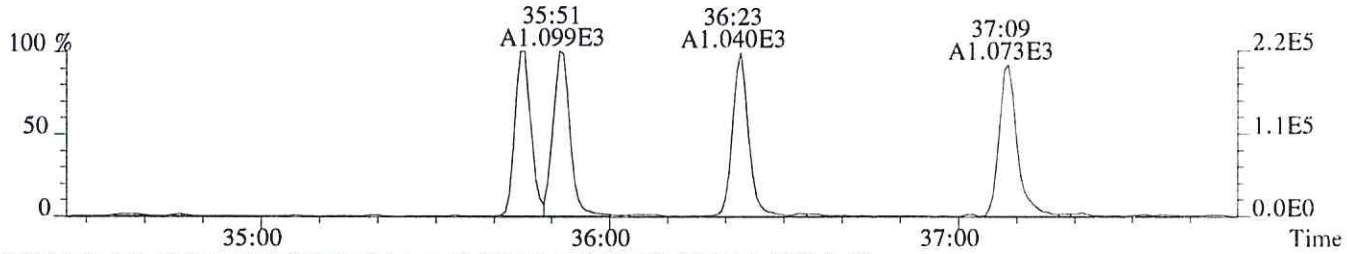
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



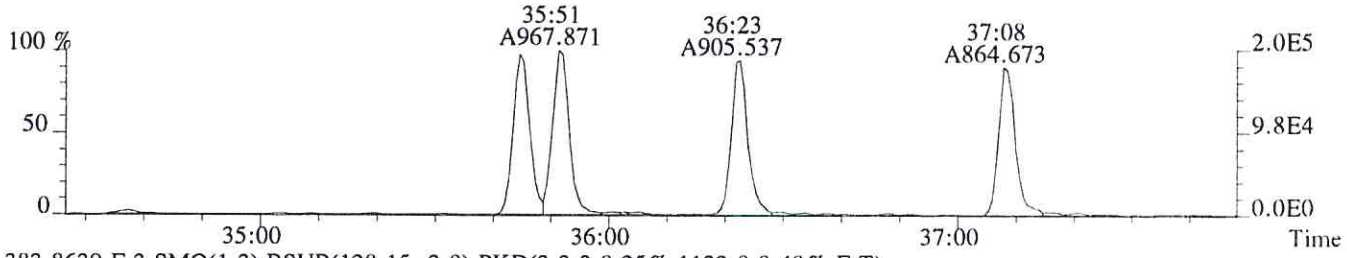
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



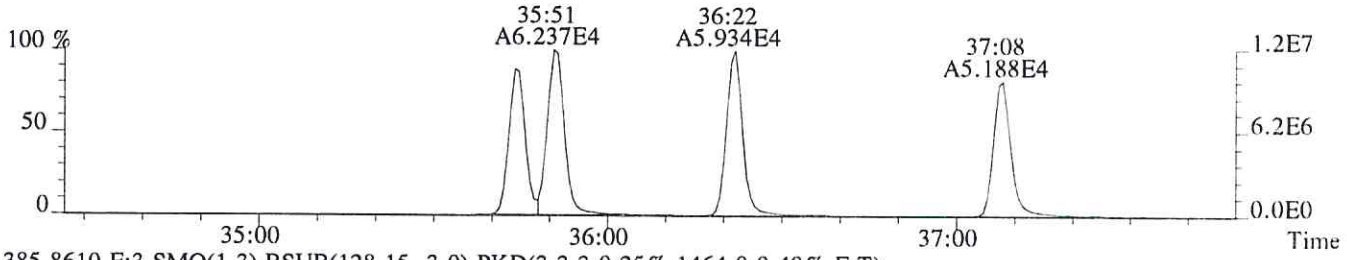
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



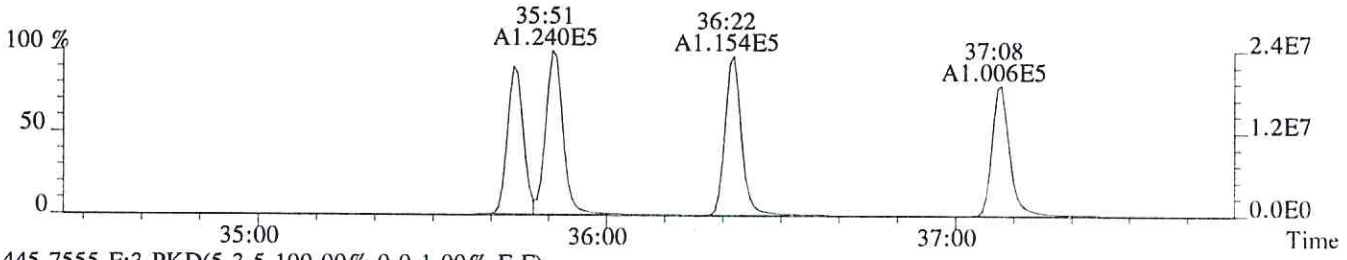
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



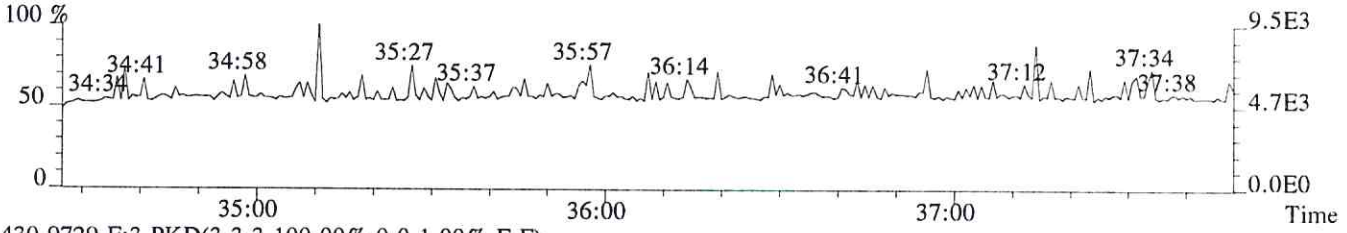
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



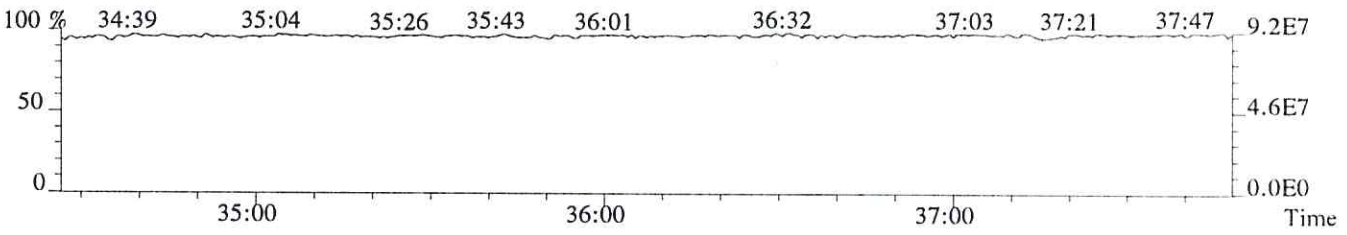
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



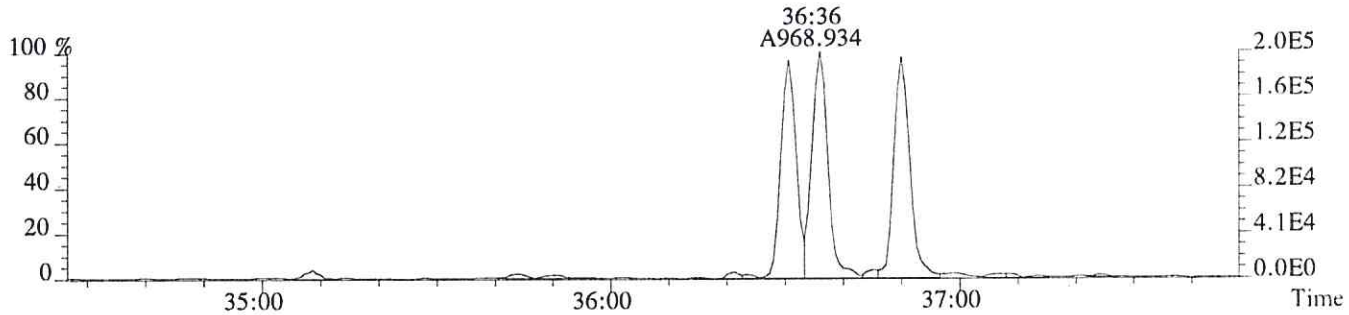
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



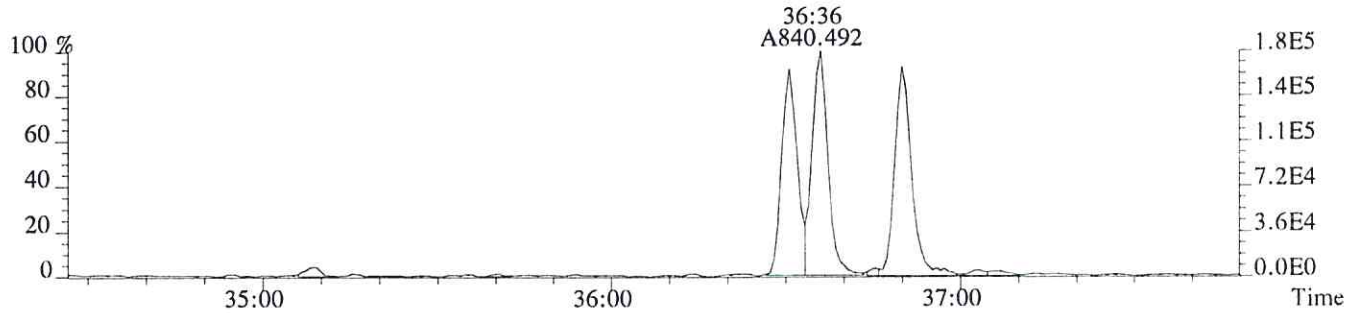
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



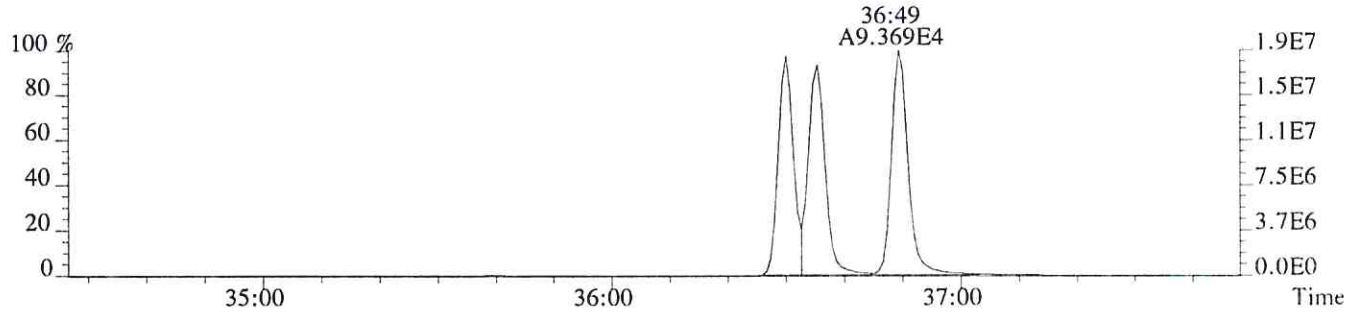
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



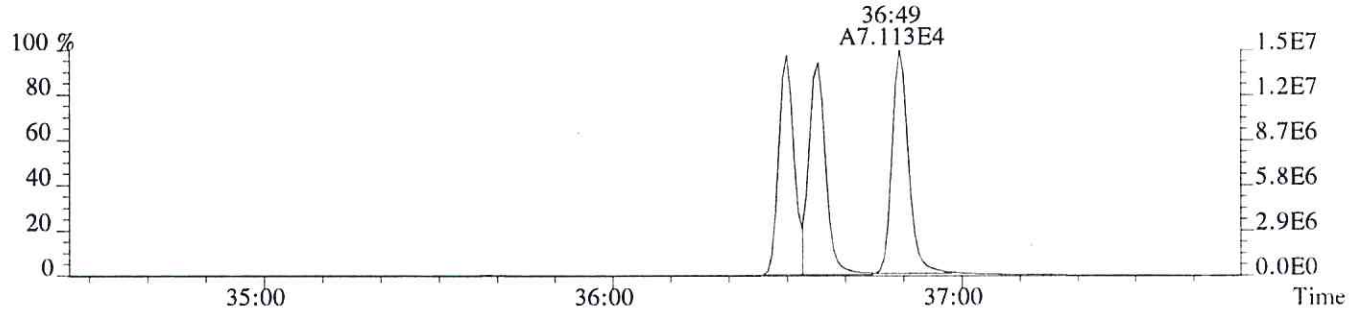
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



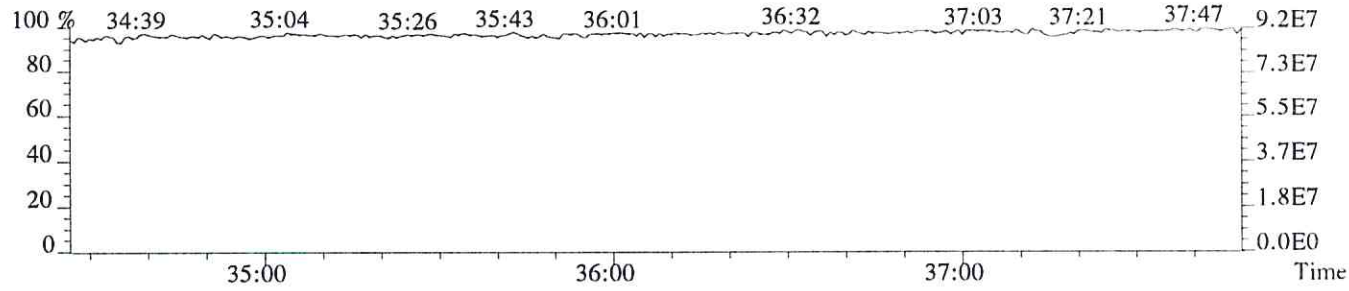
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3332.0,0.40%,F,T)



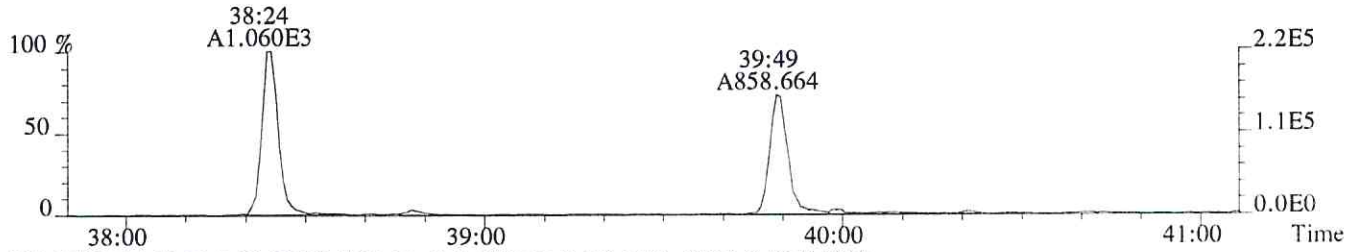
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



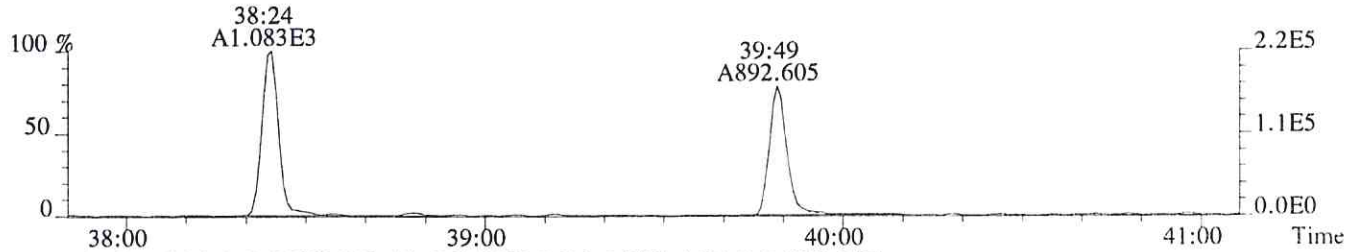
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



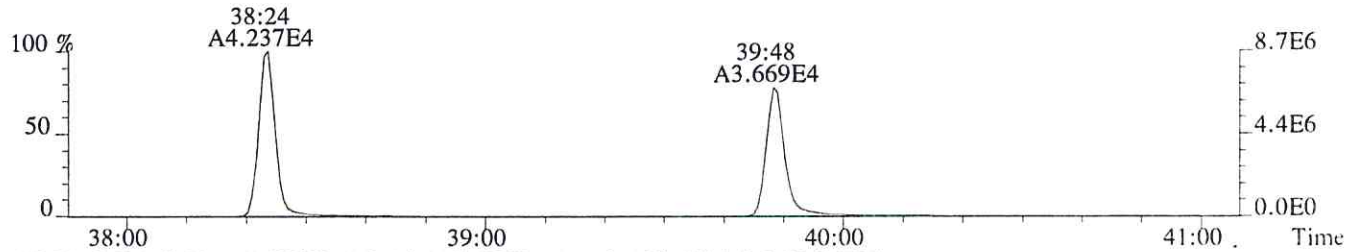
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.50%,F,T)



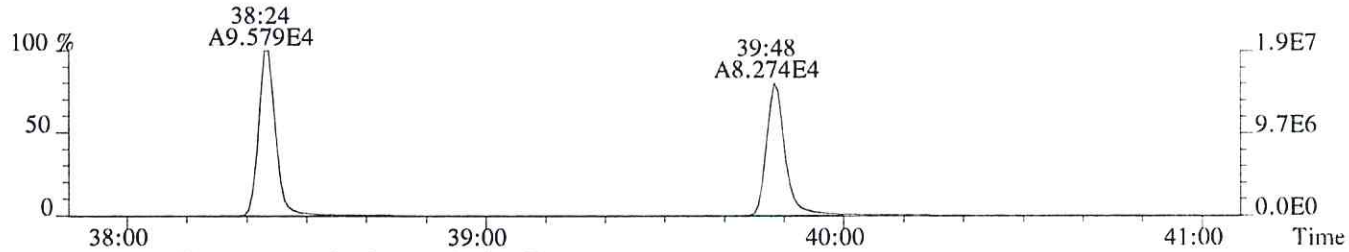
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.50%,F,T)



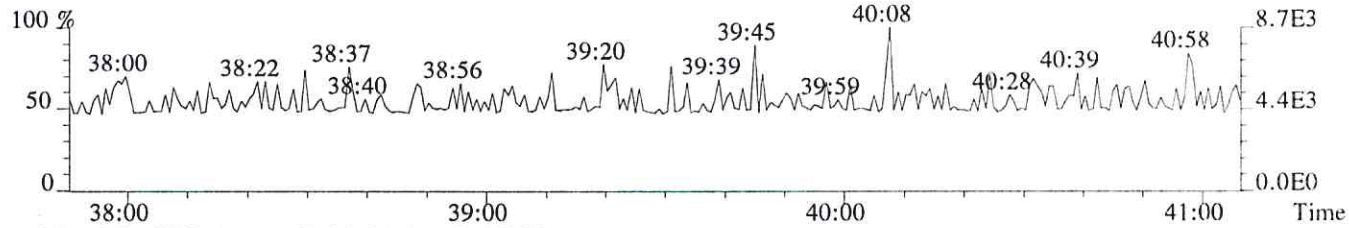
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4120.0,0.50%,F,T)



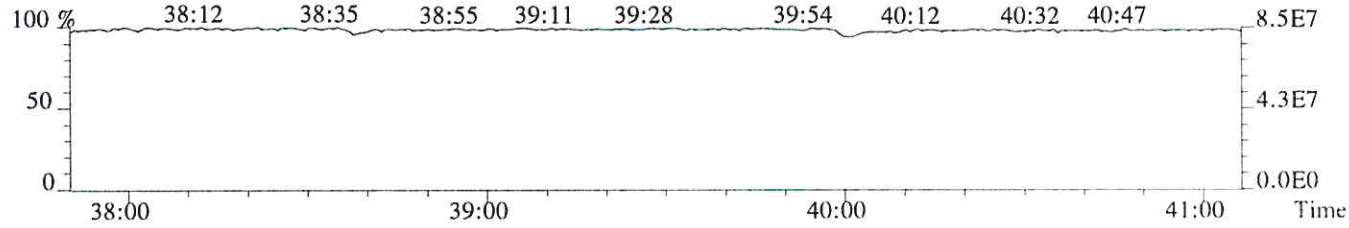
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8724.0,0.50%,F,T)



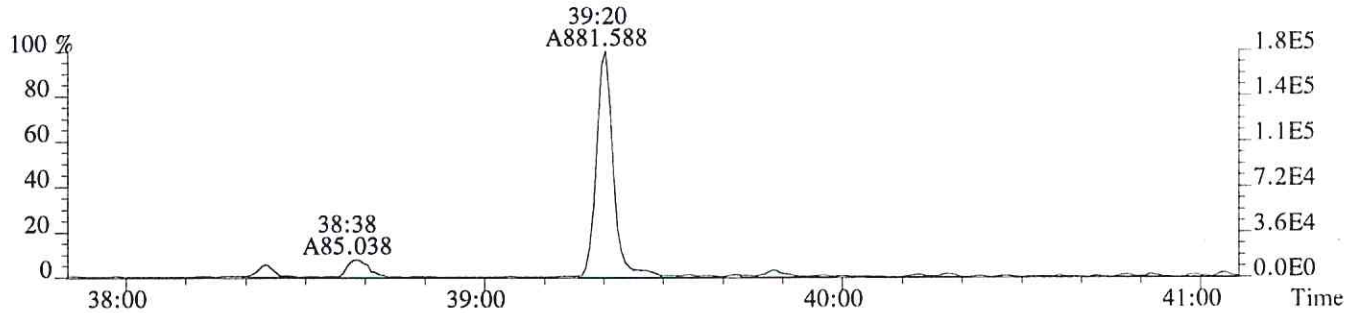
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



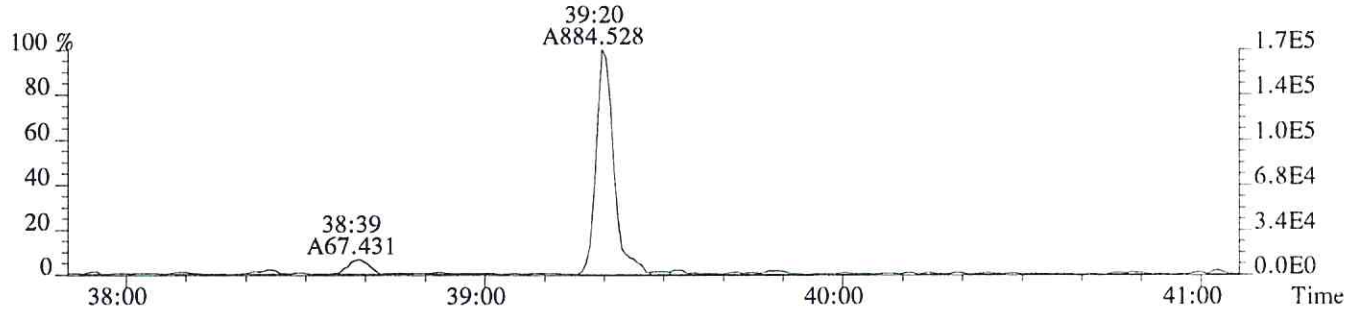
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



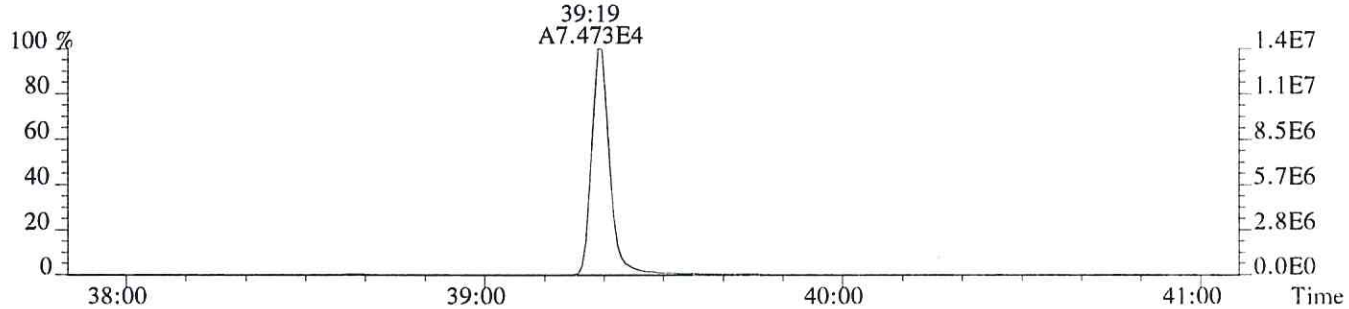
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



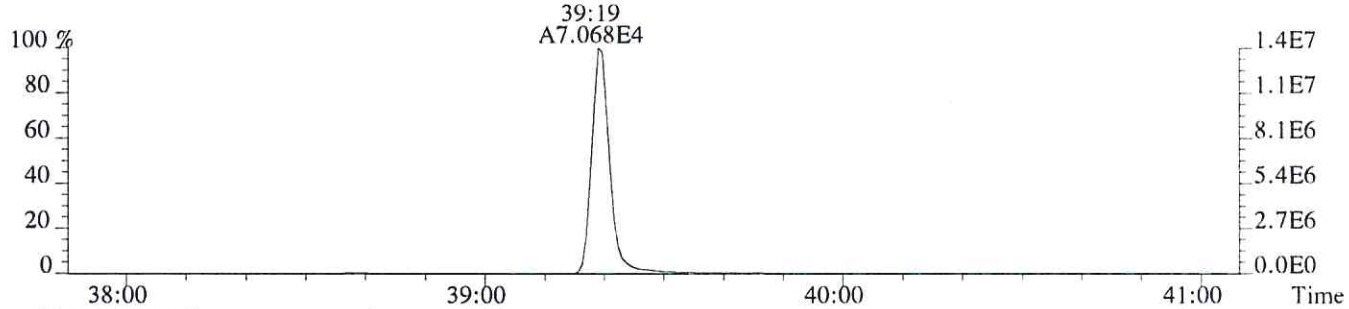
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



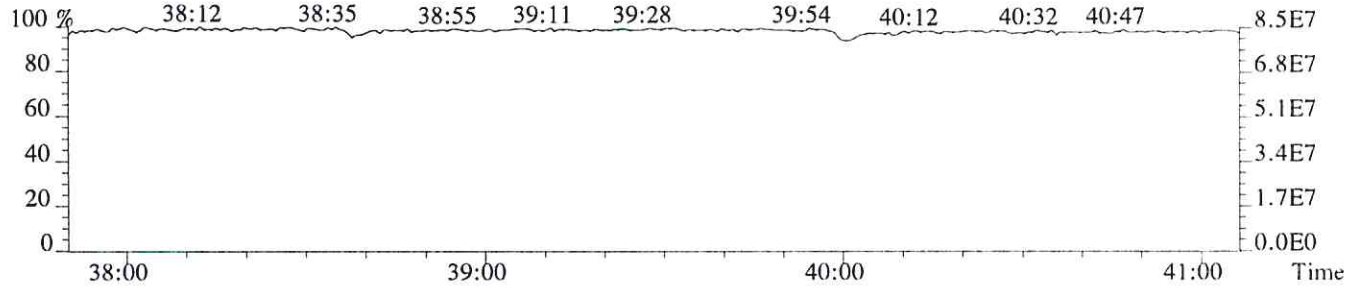
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.40%,F,T)



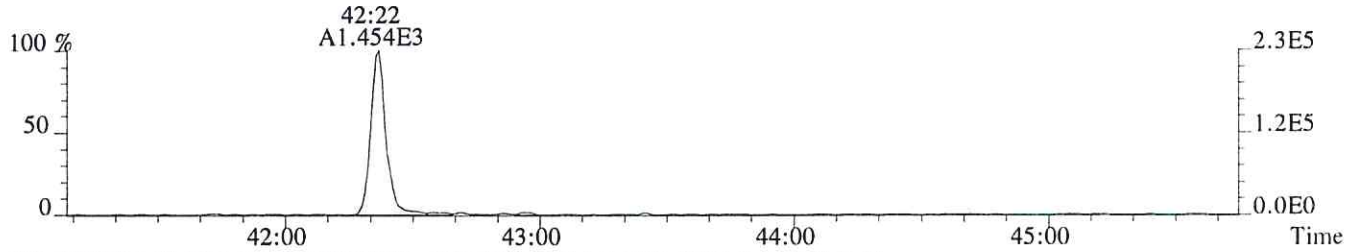
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



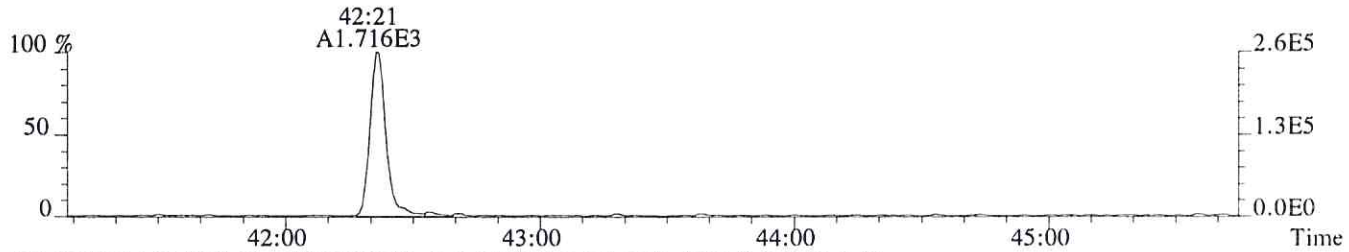
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



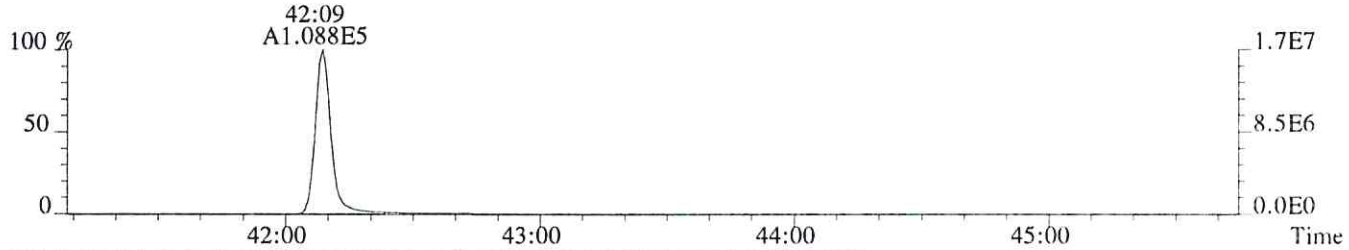
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,384.0,0.40%,F,T)



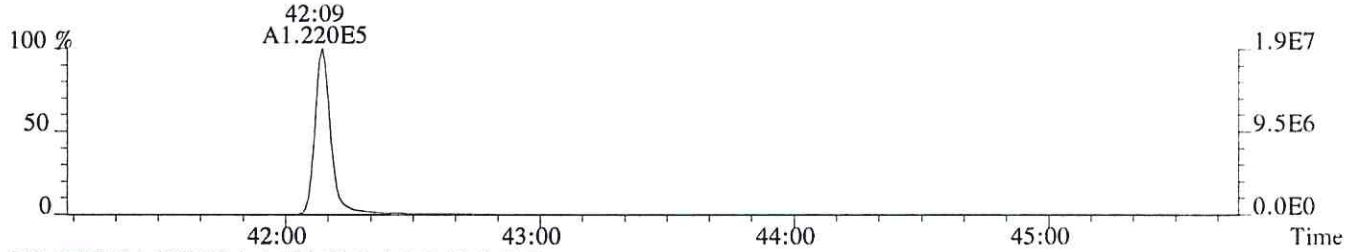
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1648.0,0.40%,F,T)



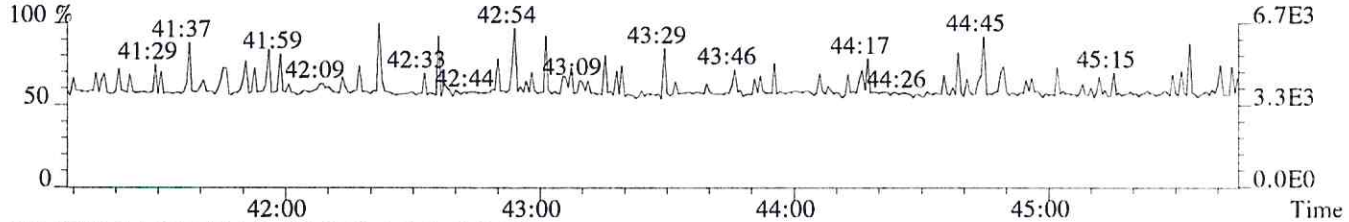
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



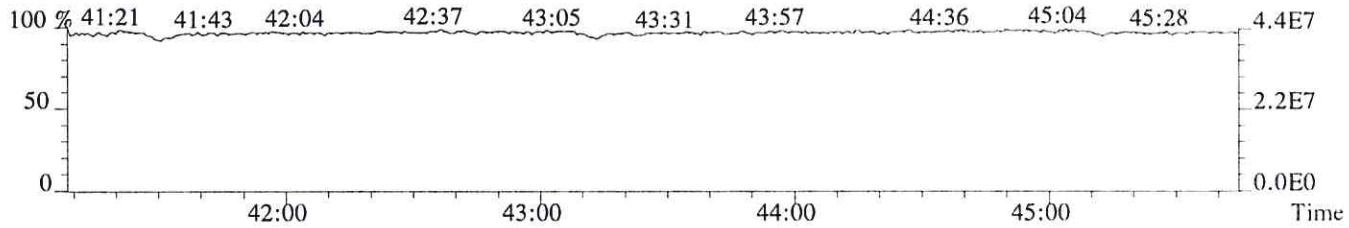
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



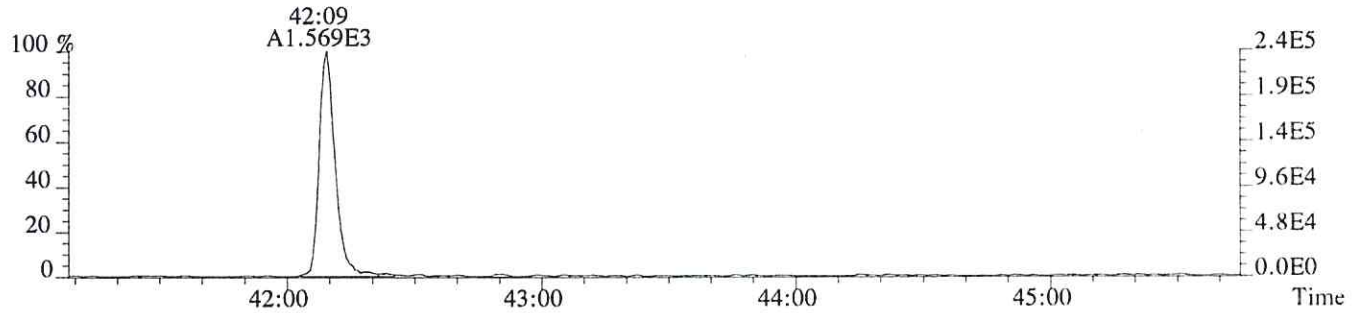
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



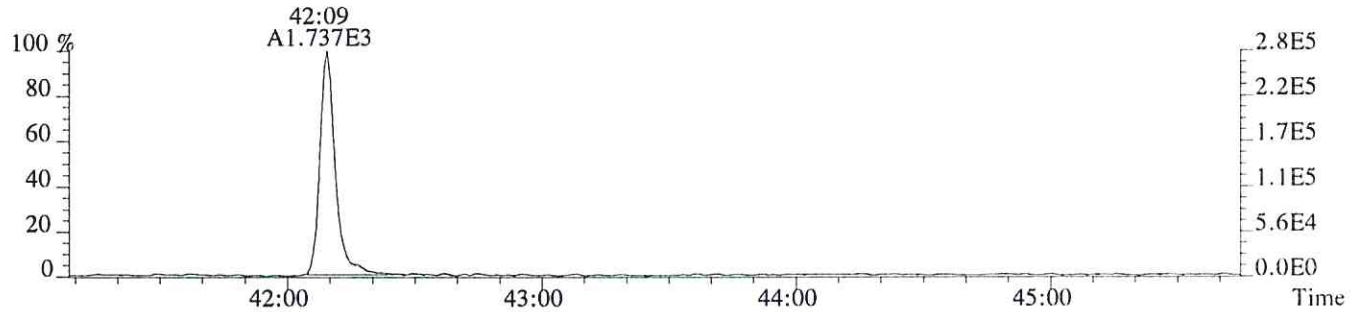
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



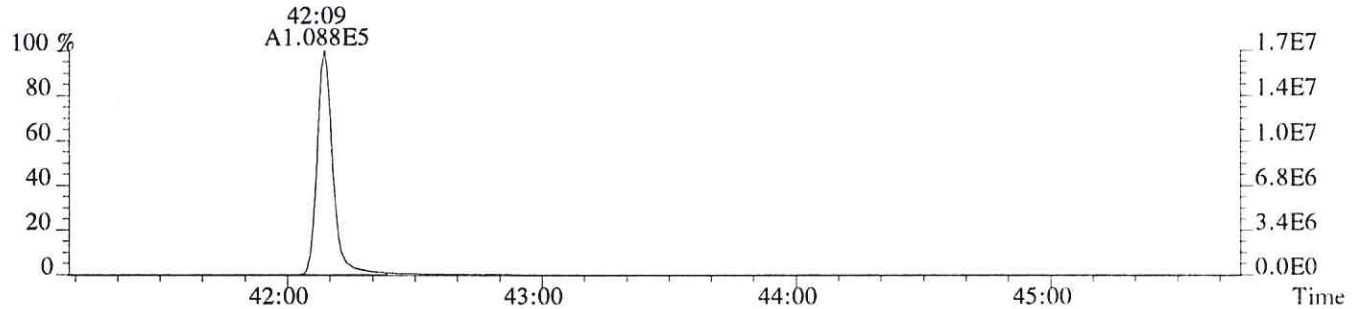
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1228.0,0.40%,F,T)



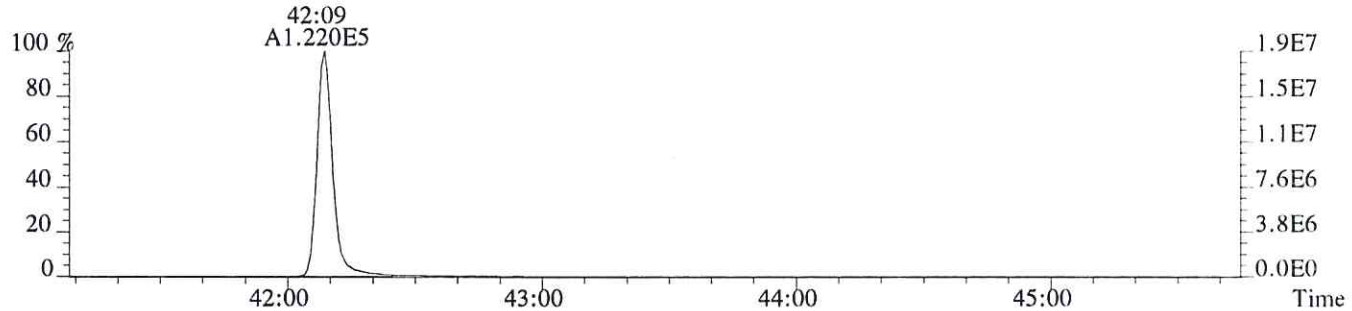
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2664.0,0.40%,F,T)



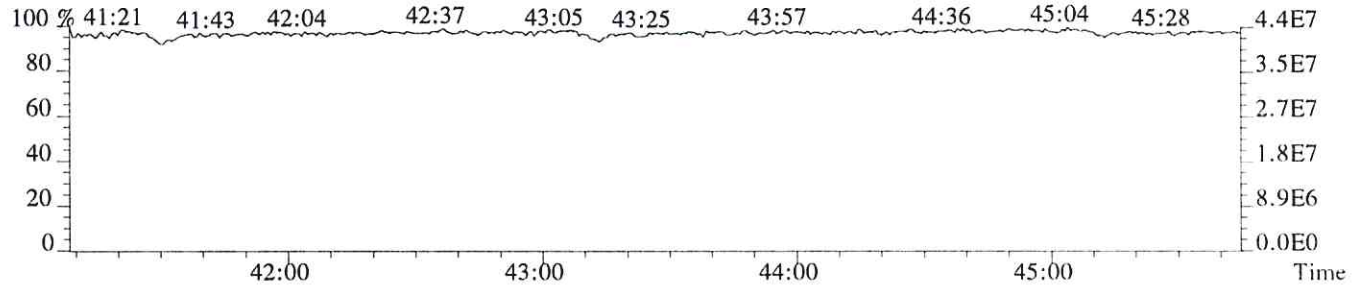
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76555

Run #2 Filename P510635 Samp: 1 Inj: 1 Acquired: 26-JUL-17 12:22:45
Processed: 27-JUL-17 08:42:57 Sample ID: CS1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:50	4.287e+02	5.566e+02	0.77	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:08	3.524e+03	2.426e+03	1.45	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:04	3.333e+03	2.314e+03	1.44	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	2.559e+03	2.425e+03	1.06	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:52	2.902e+03	2.552e+03	1.14	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:23	2.593e+03	2.361e+03	1.10	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	2.360e+03	2.093e+03	1.13	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	2.594e+03	2.570e+03	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	2.142e+03	2.186e+03	0.98	yes	no	1.191
10	Unk	OCDF	42:21	3.572e+03	3.977e+03	0.90	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:39	3.692e+02	5.441e+02	0.68	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	2.817e+03	1.734e+03	1.62	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	2.276e+03	1.779e+03	1.28	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:36	2.381e+03	1.983e+03	1.20	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	2.466e+03	2.060e+03	1.20	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	2.071e+03	2.001e+03	1.03	yes	no	0.942
17	Unk	OCDD	42:09	3.405e+03	3.921e+03	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	1.082e+05	1.387e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:07	1.664e+05	1.073e+05	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.665e+05	1.070e+05	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:45	6.587e+04	1.296e+05	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	7.730e+04	1.485e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:22	7.172e+04	1.403e+05	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	6.423e+04	1.260e+05	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:24	5.014e+04	1.142e+05	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	4.477e+04	1.007e+05	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:38	7.700e+04	9.630e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:20	1.270e+05	7.912e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:30	9.899e+04	7.771e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	1.059e+05	8.391e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:19	8.864e+04	8.436e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:08	1.296e+05	1.442e+05	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:01	8.032e+04	9.887e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	1.147e+05	8.606e+04	1.33	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:39	8.640e+02				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76555

Run #2 Filename P510635 Samp: 1 Inj: 1 Acquired: 26-JUL-17 12:22:45
Processed: 27-JUL-17 08:42:57 LAB. ID: CS1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.28e+04	1.03e+03	7.1e+01	1.06e+05	2.39e+03	4.4e+01
2	1,2,3,7,8-PeCDF	6.99e+05	5.32e+02	1.3e+03	4.47e+05	2.76e+03	1.6e+02
3	2,3,4,7,8-PeCDF	6.23e+05	5.32e+02	1.2e+03	4.30e+05	2.76e+03	1.6e+02
4	1,2,3,4,7,8-HxCDF	5.36e+05	1.00e+03	5.4e+02	5.13e+05	4.88e+02	1.1e+03
5	1,2,3,6,7,8-HxCDF	5.87e+05	1.00e+03	5.9e+02	5.14e+05	4.88e+02	1.1e+03
6	2,3,4,6,7,8-HxCDF	5.40e+05	1.00e+03	5.4e+02	4.73e+05	4.88e+02	9.7e+02
7	1,2,3,7,8,9-HxCDF	4.49e+05	1.00e+03	4.5e+02	4.26e+05	4.88e+02	8.7e+02
8	1,2,3,4,6,7,8-HpCDF	5.58e+05	7.08e+02	7.9e+02	5.32e+05	6.88e+02	7.7e+02
9	1,2,3,4,7,8,9-HpCDF	4.13e+05	7.08e+02	5.8e+02	4.16e+05	6.88e+02	6.0e+02
10	OCDF	5.74e+05	3.52e+02	1.6e+03	6.49e+05	1.26e+03	5.2e+02
11	2,3,7,8-TCDD	7.20e+04	2.31e+03	3.1e+01	1.03e+05	1.34e+03	7.7e+01
12	1,2,3,7,8-PeCDD	5.16e+05	2.00e+03	2.6e+02	3.26e+05	8.64e+02	3.8e+02
13	1,2,3,4,7,8-HxCDD	5.07e+05	7.00e+02	7.2e+02	3.92e+05	1.56e+03	2.5e+02
14	1,2,3,6,7,8-HxCDD	4.97e+05	7.00e+02	7.1e+02	4.20e+05	1.56e+03	2.7e+02
15	1,2,3,7,8,9-HxCDD	4.98e+05	7.00e+02	7.1e+02	4.05e+05	1.56e+03	2.6e+02
16	1,2,3,4,6,7,8-HpCDD	4.22e+05	4.72e+02	8.9e+02	4.06e+05	5.64e+02	7.2e+02
17	OCDD	5.42e+05	1.22e+03	4.5e+02	6.15e+05	2.04e+03	3.0e+02
18	13C-2,3,7,8-TCDF	1.95e+07	1.13e+04	1.7e+03	2.50e+07	7.72e+03	3.2e+03
19	13C-1,2,3,7,8-PeCDF	3.09e+07	9.44e+02	3.3e+04	2.00e+07	1.76e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	3.11e+07	9.44e+02	3.3e+04	2.03e+07	1.76e+03	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	1.39e+07	9.44e+02	1.5e+04	2.70e+07	2.21e+03	1.2e+04
22	13C-1,2,3,6,7,8-HxCDF	1.57e+07	9.44e+02	1.7e+04	2.96e+07	2.21e+03	1.3e+04
23	13C-2,3,4,6,7,8-HxCDF	1.52e+07	9.44e+02	1.6e+04	2.93e+07	2.21e+03	1.3e+04
24	13C-1,2,3,7,8,9-HxCDF	1.24e+07	9.44e+02	1.3e+04	2.48e+07	2.21e+03	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.05e+07	3.45e+03	3.0e+03	2.38e+07	5.62e+03	4.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.48e+06	3.45e+03	2.5e+03	1.91e+07	5.62e+03	3.4e+03
27	13C-2,3,7,8-TCDD	1.44e+07	7.64e+03	1.9e+03	1.78e+07	3.98e+03	4.5e+03
28	13C-1,2,3,7,8-PeCDD	2.35e+07	1.47e+03	1.6e+04	1.46e+07	6.44e+02	2.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.17e+07	1.51e+03	1.4e+04	1.72e+07	1.03e+03	1.7e+04
30	13C-1,2,3,6,7,8-HxCDD	2.23e+07	1.51e+03	1.5e+04	1.78e+07	1.03e+03	1.7e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.79e+07	1.36e+03	1.3e+04	1.72e+07	1.72e+03	1.0e+04
32	13C-OCDD	2.03e+07	2.96e+02	6.9e+04	2.28e+07	1.02e+03	2.2e+04
33	13C-1,2,3,4-TCDD	1.48e+07	7.64e+03	1.9e+03	1.83e+07	3.98e+03	4.6e+03
34	13C-1,2,3,7,8,9-HxCDD	2.29e+07	1.51e+03	1.5e+04	1.78e+07	1.03e+03	1.7e+04
35	37Cl-2,3,7,8-TCDD	1.56e+05	1.02e+03	1.5e+02			

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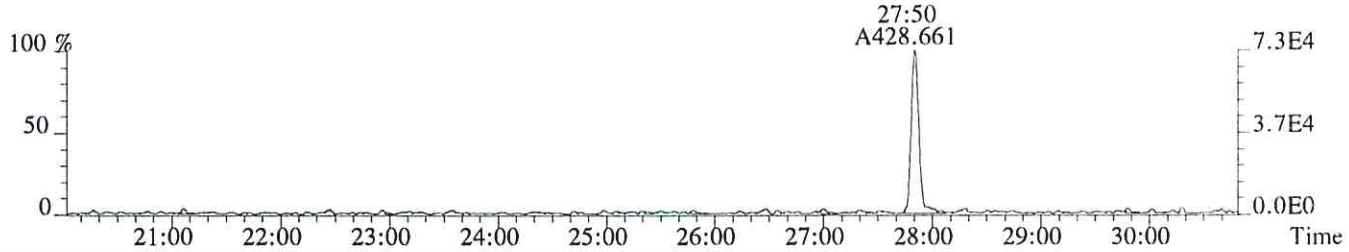
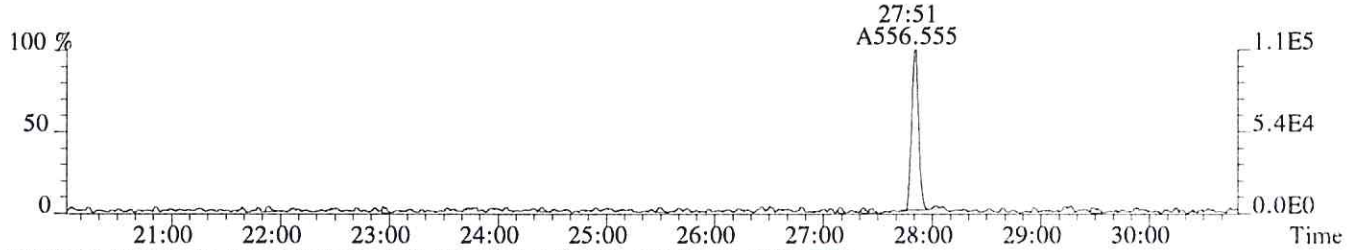
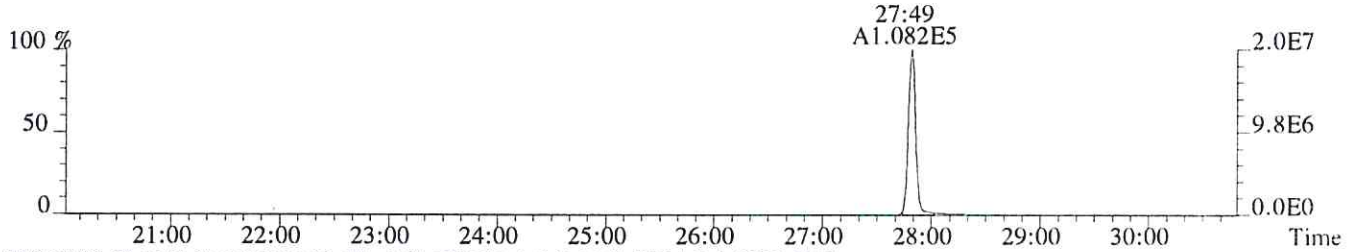
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



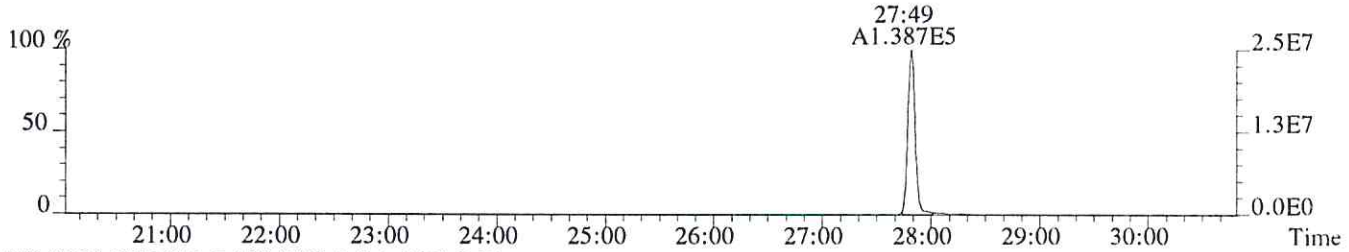
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2392.0,1.00%,F,T)



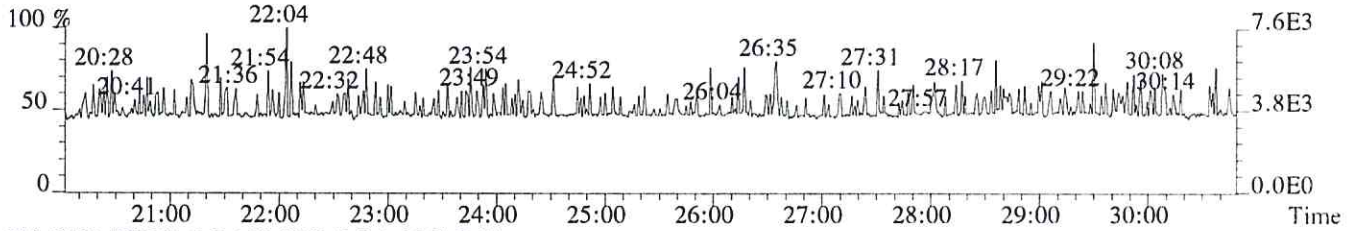
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11348.0,1.00%,F,T)



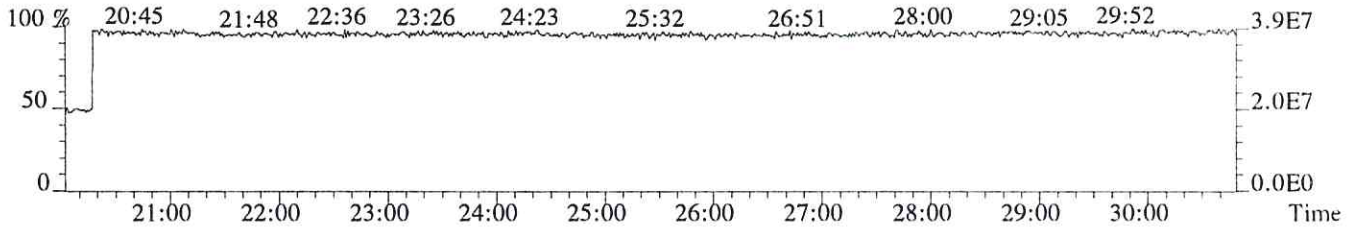
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7724.0,1.00%,F,T)



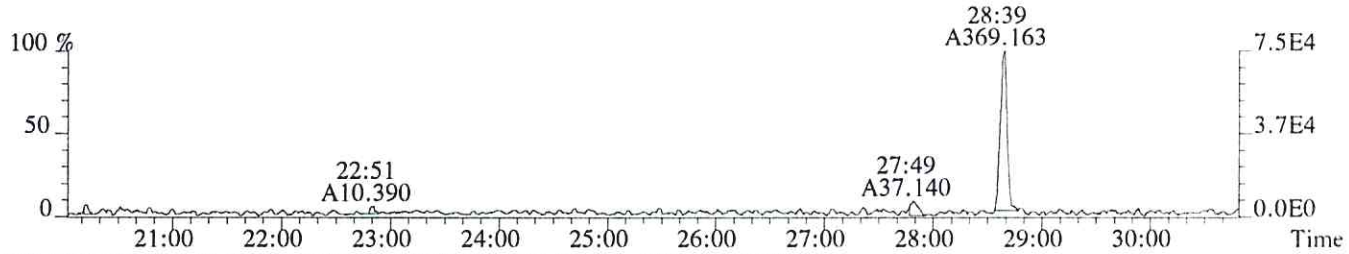
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



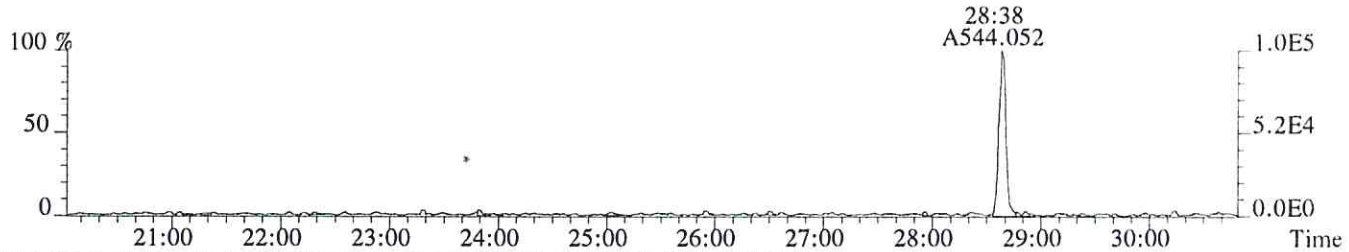
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



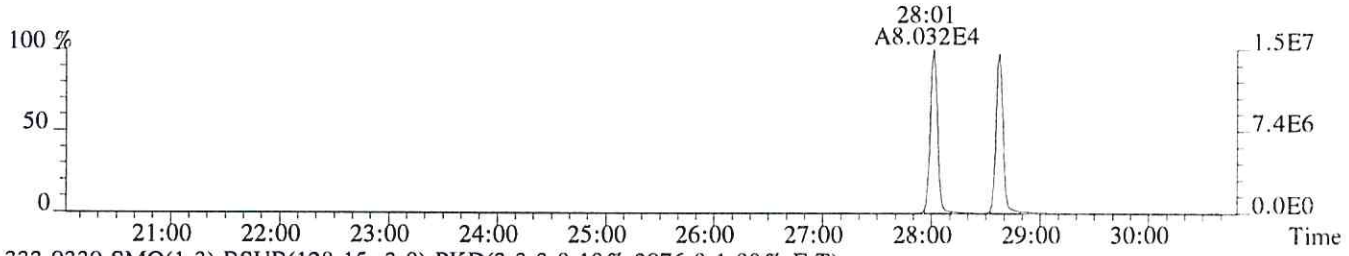
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



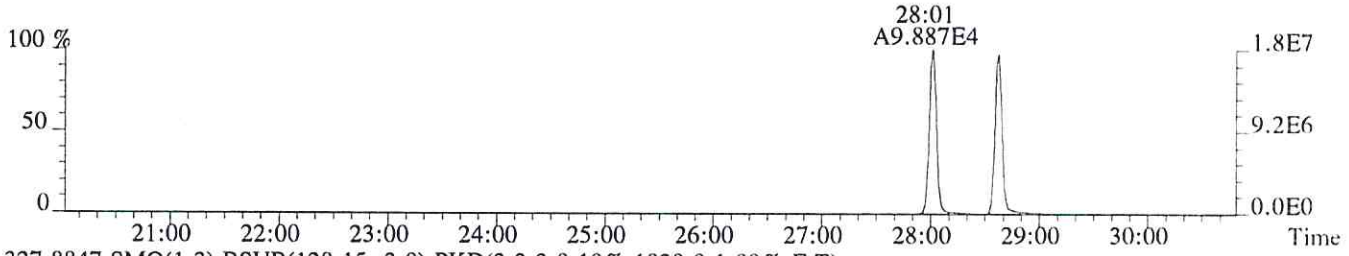
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



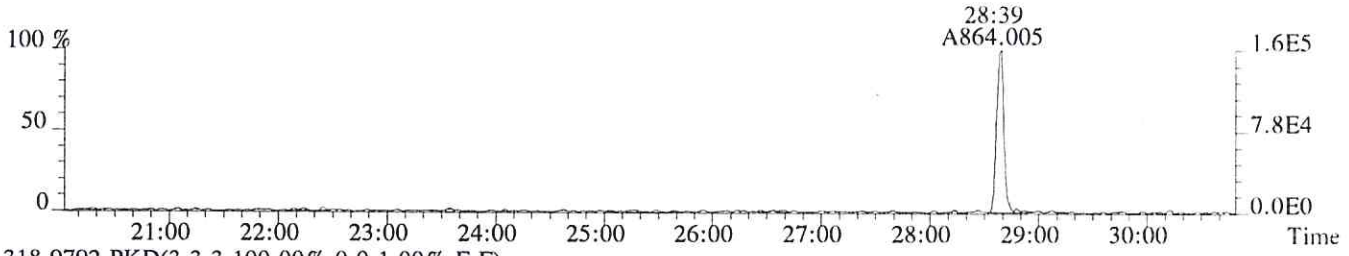
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7644.0,1.00%,F,T)



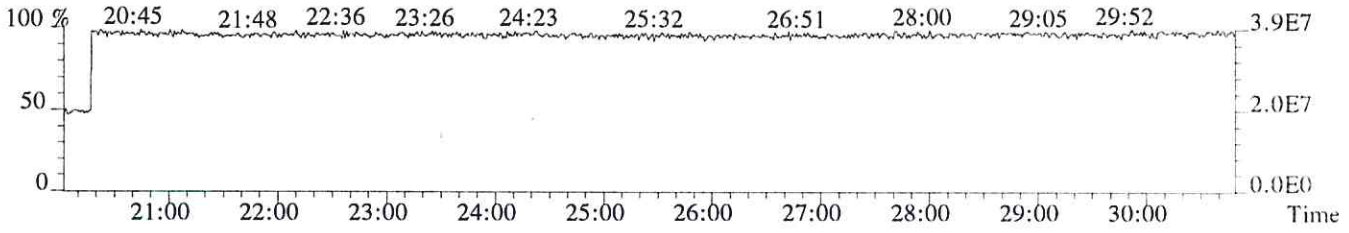
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3976.0,1.00%,F,T)



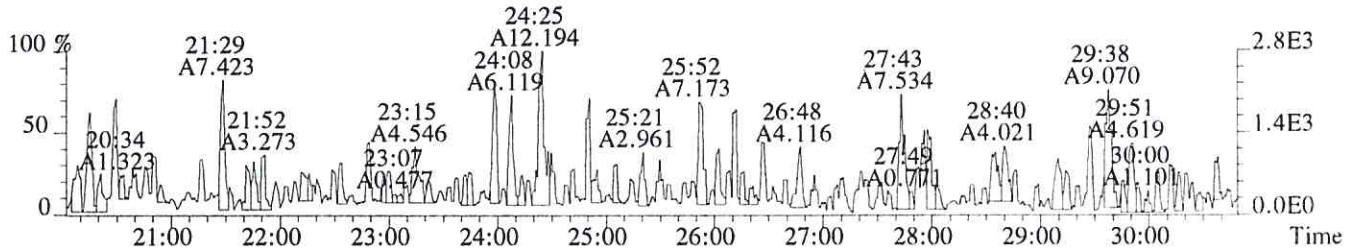
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



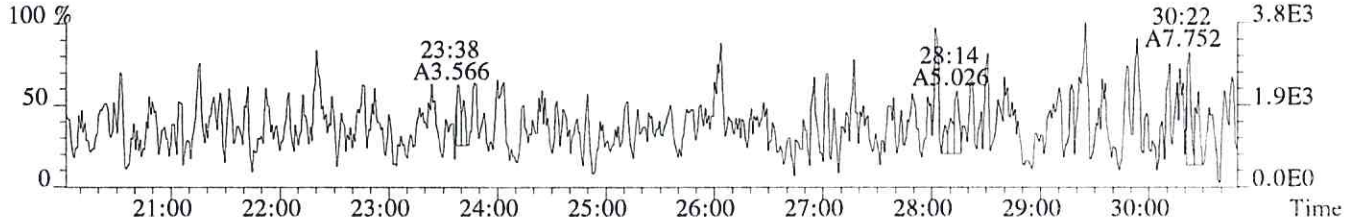
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



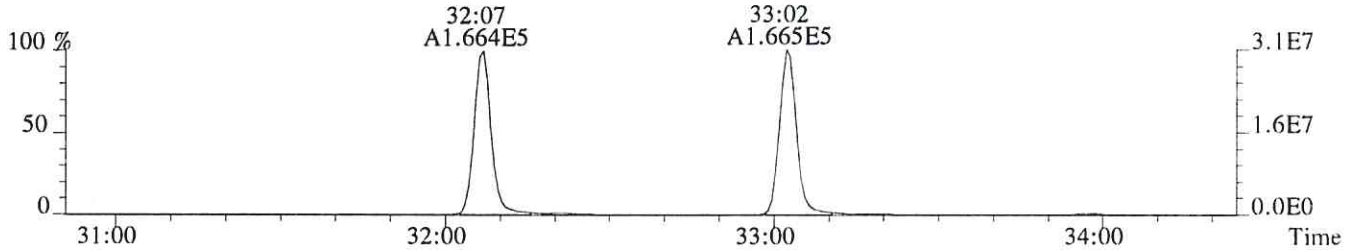
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



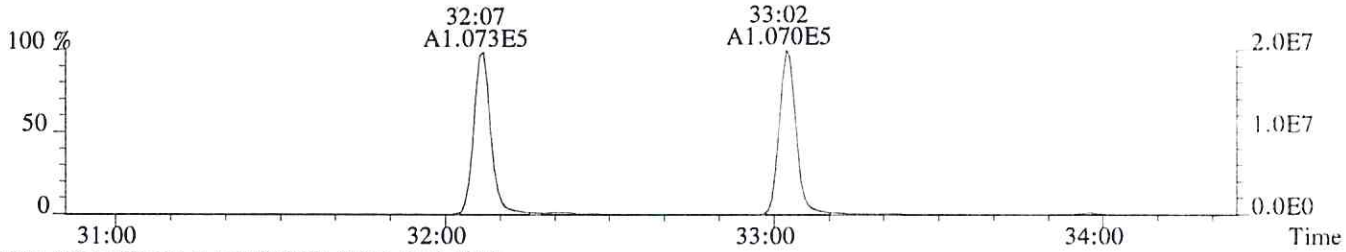
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1732.0,1.00%,F,T)



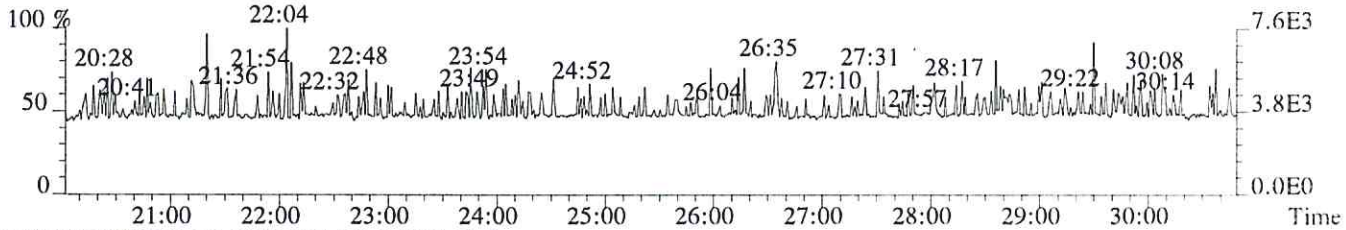
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



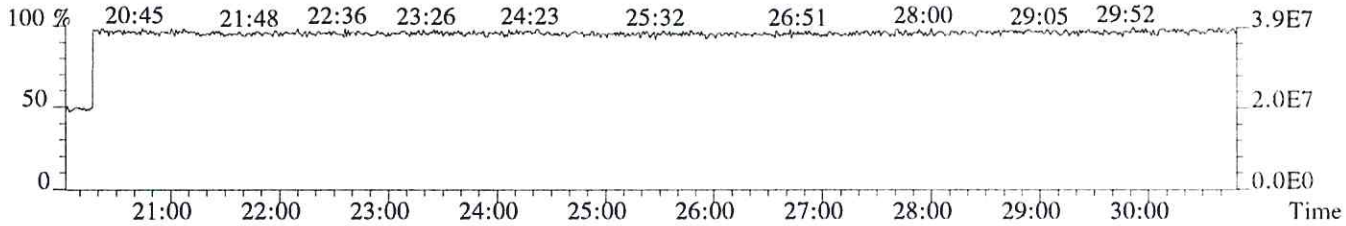
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



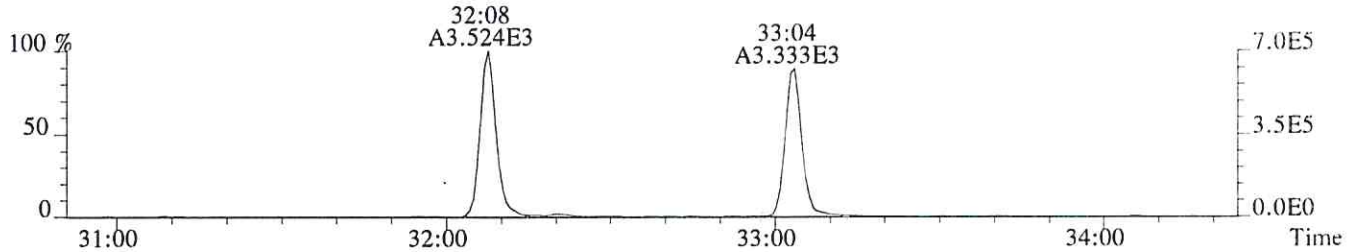
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



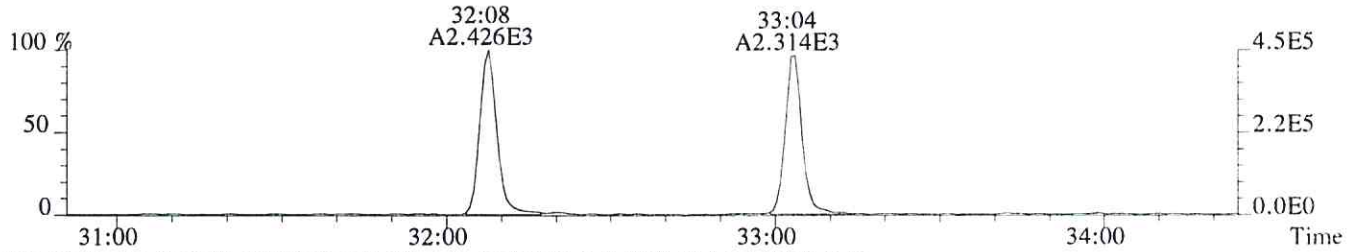
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



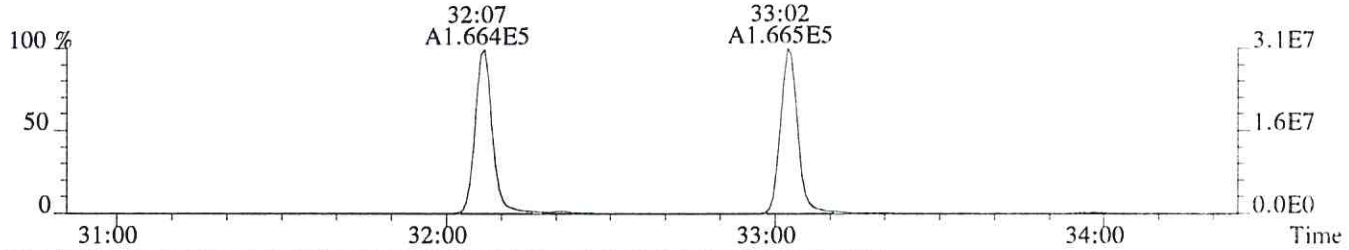
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



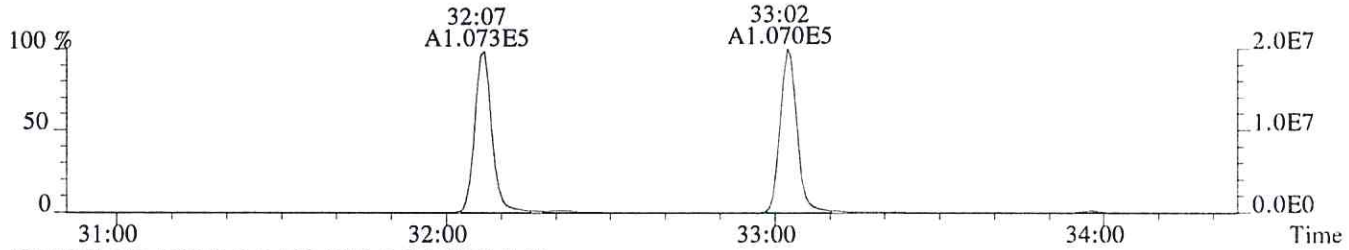
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2764.0,1.00%,F,T)



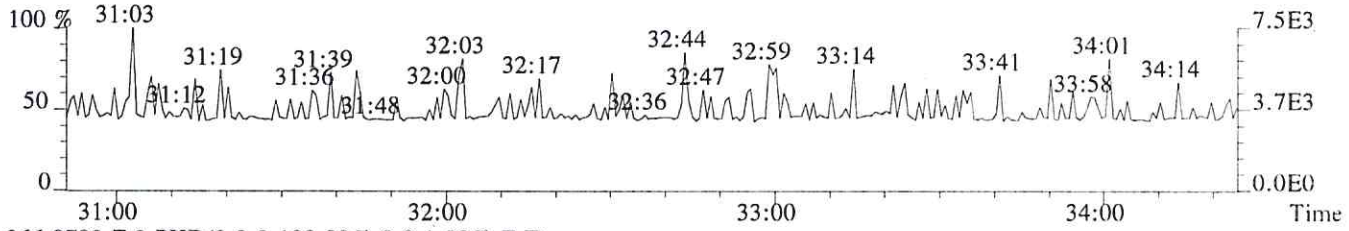
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



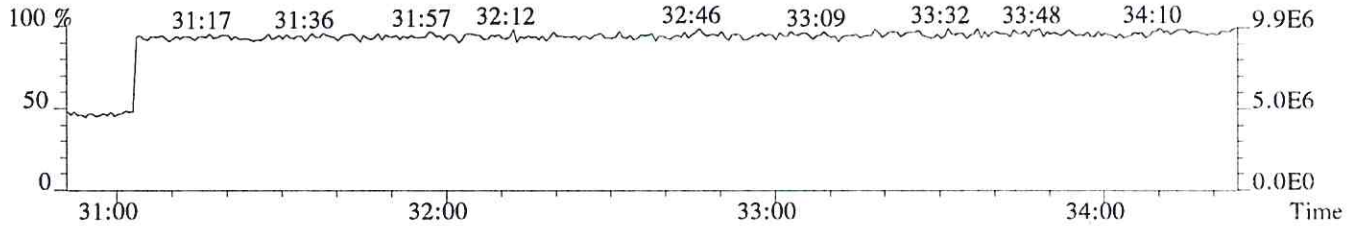
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



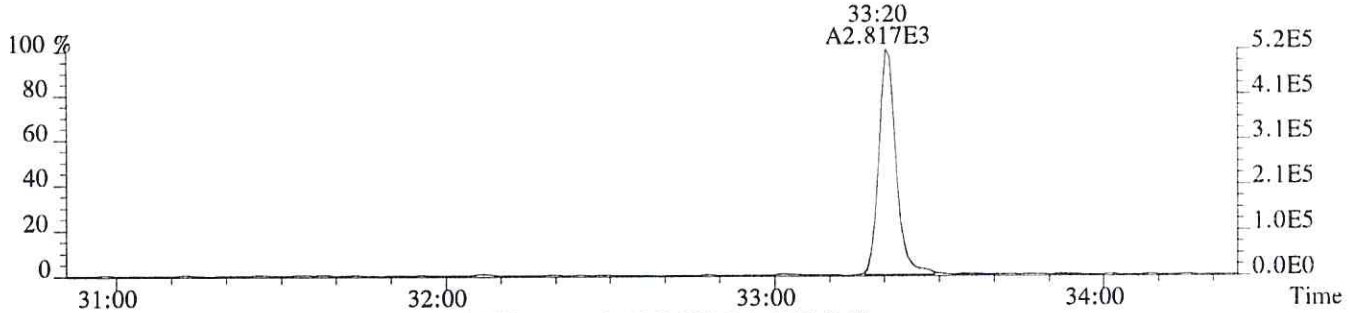
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



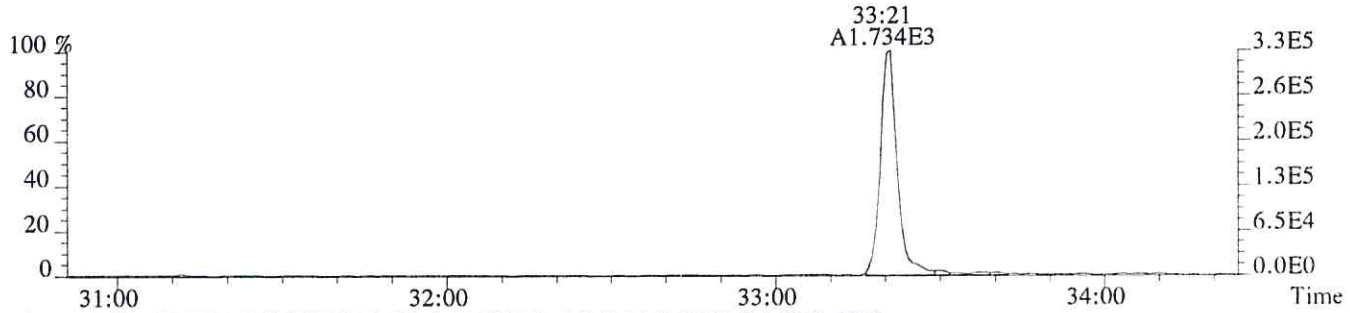
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



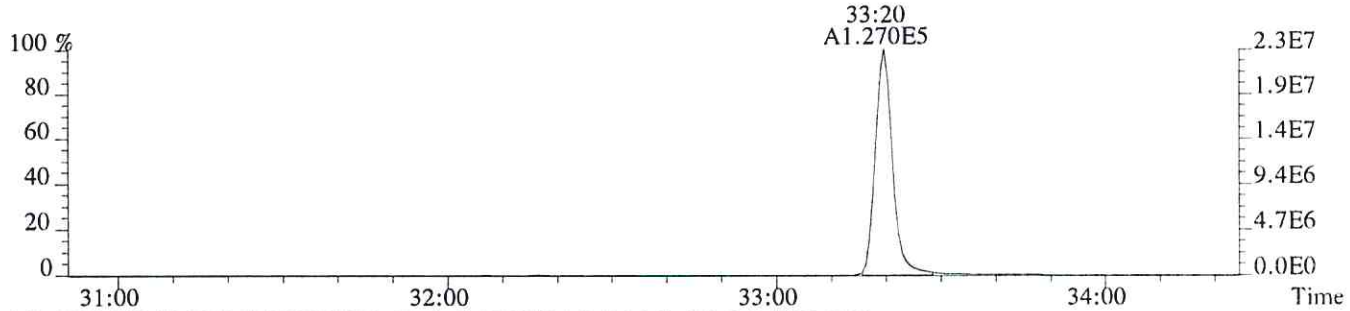
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:76555
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



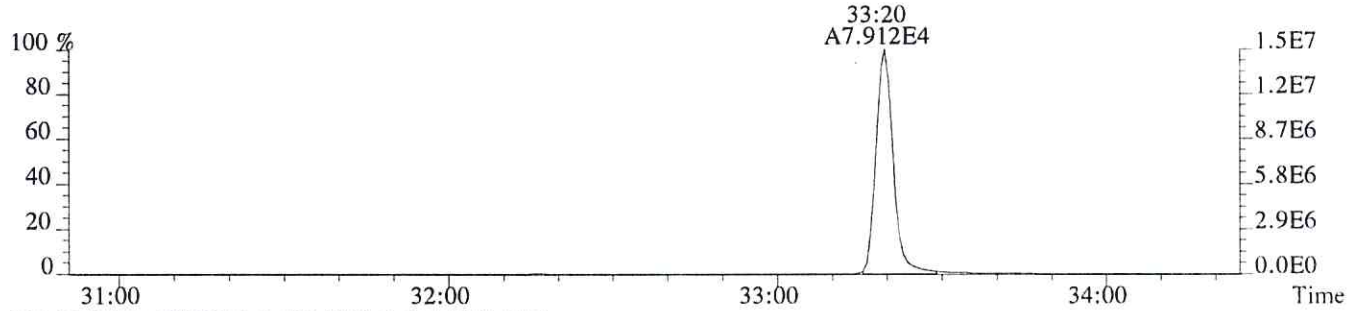
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,T)



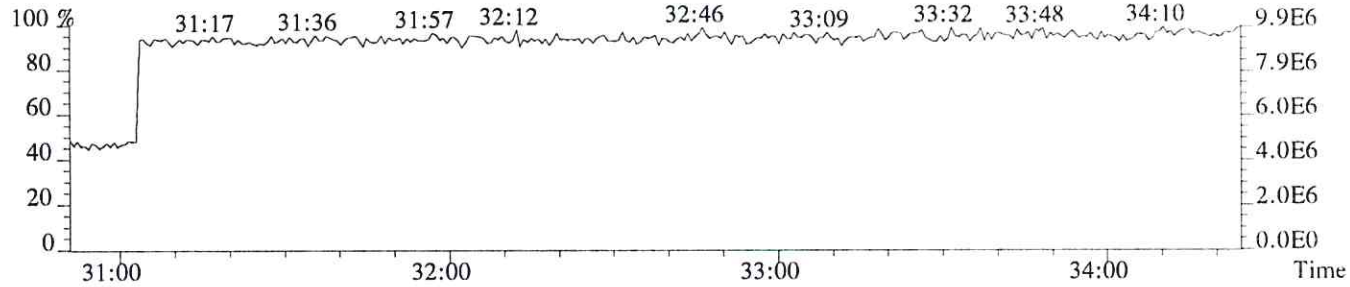
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,T)



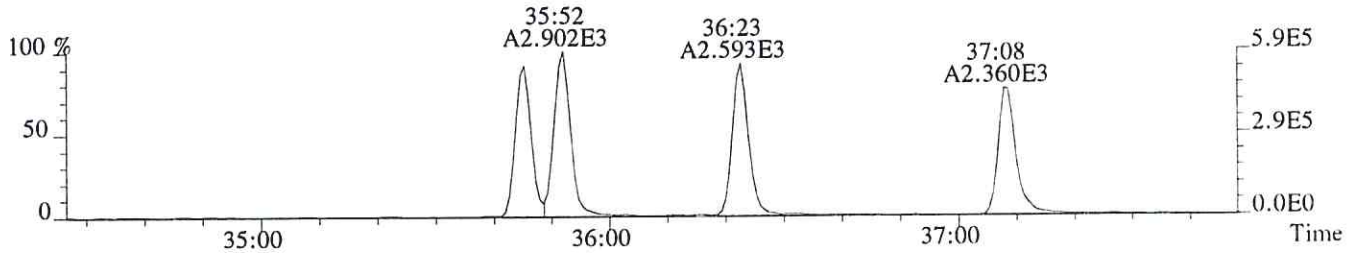
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



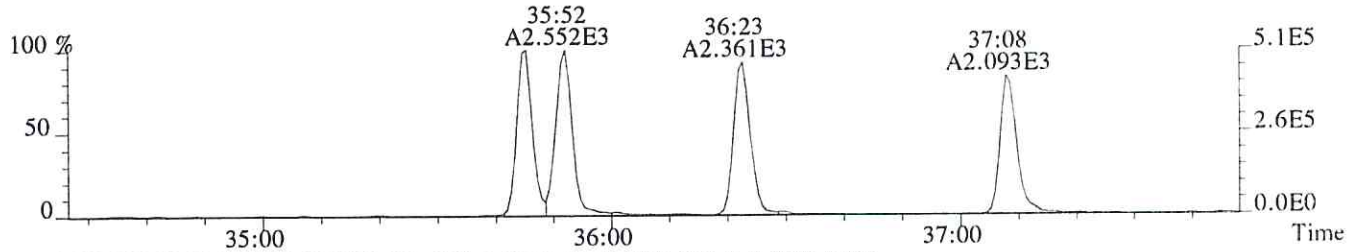
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



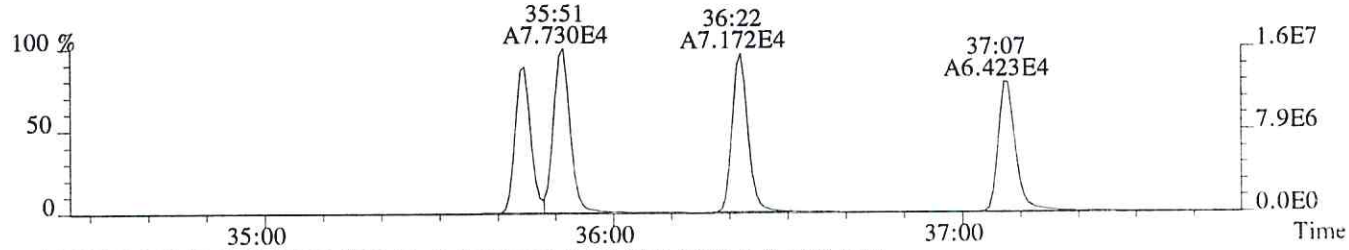
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



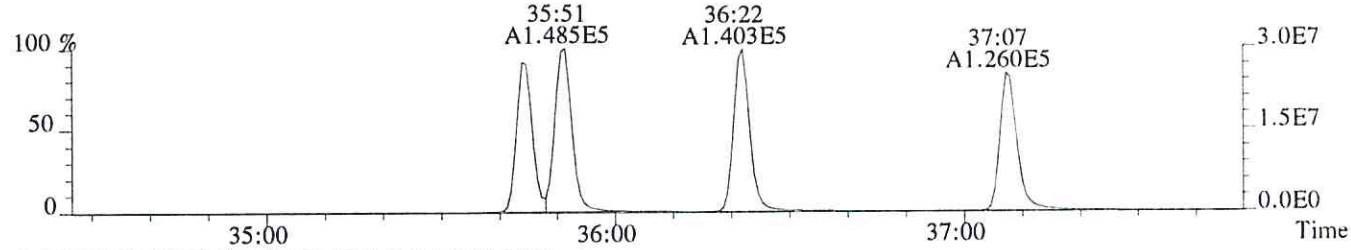
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



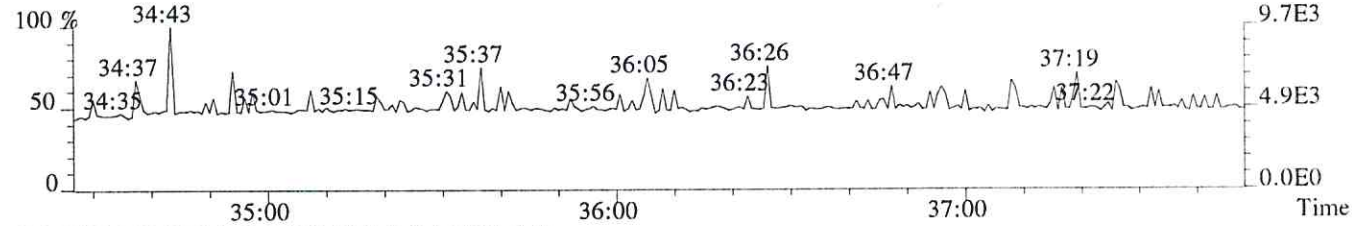
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,T)



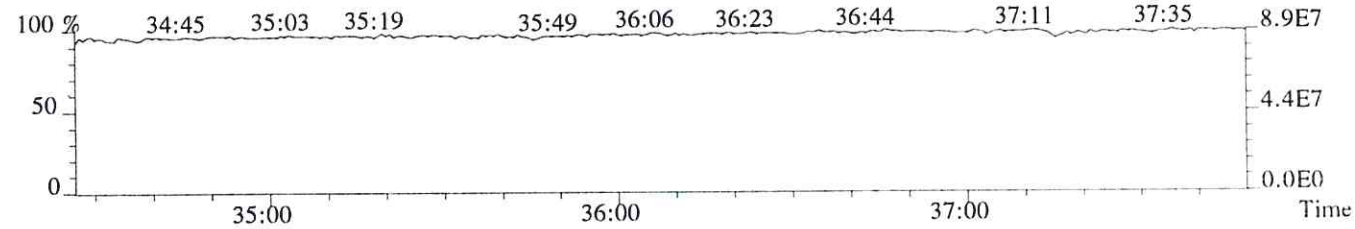
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2212.0,0.40%,F,T)



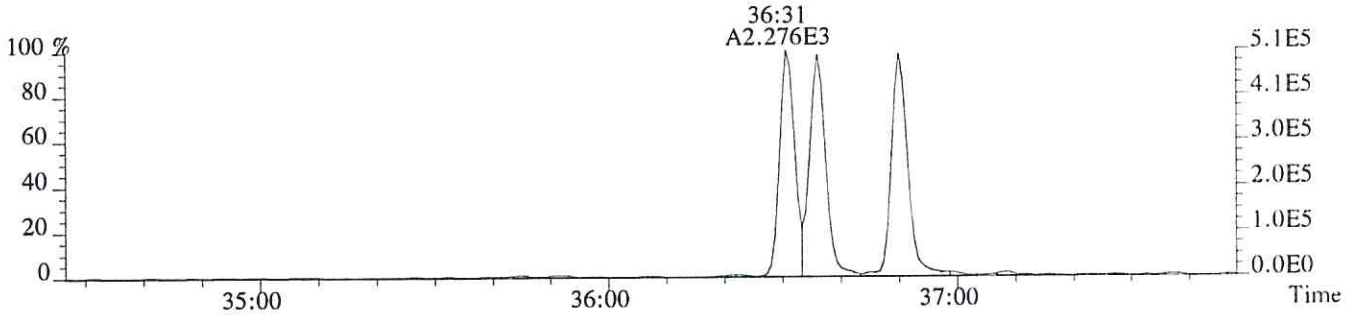
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



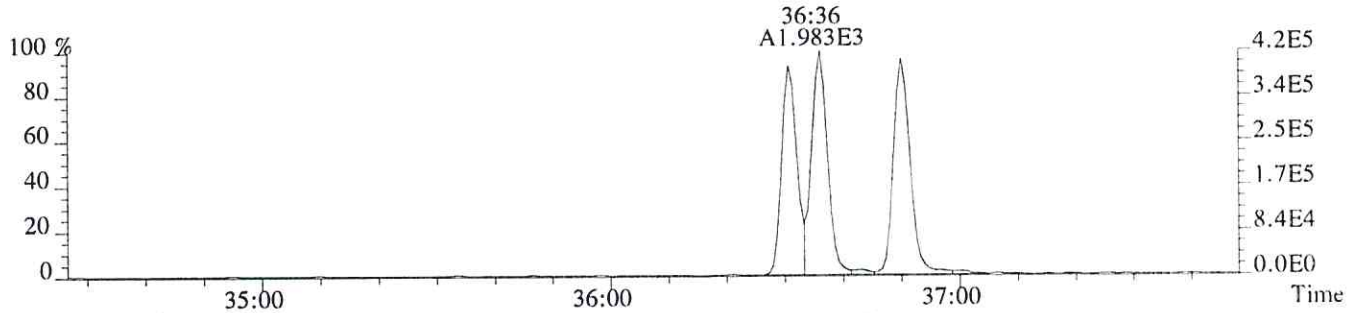
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



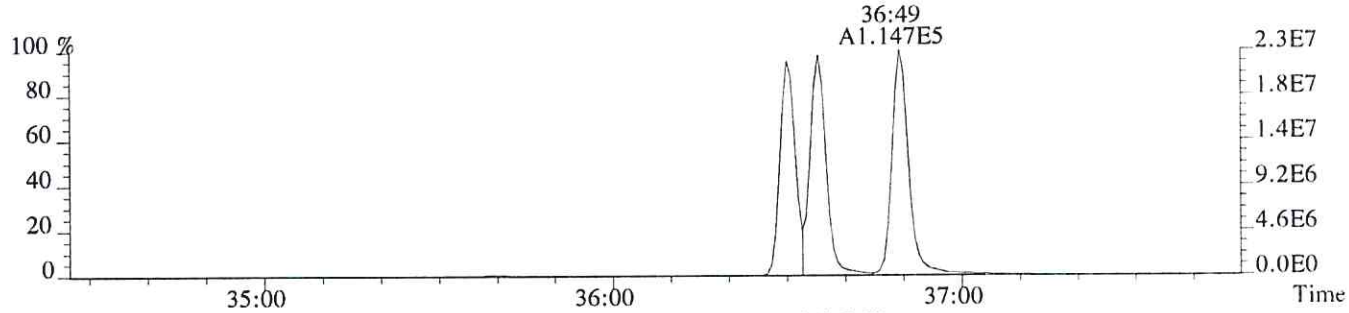
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



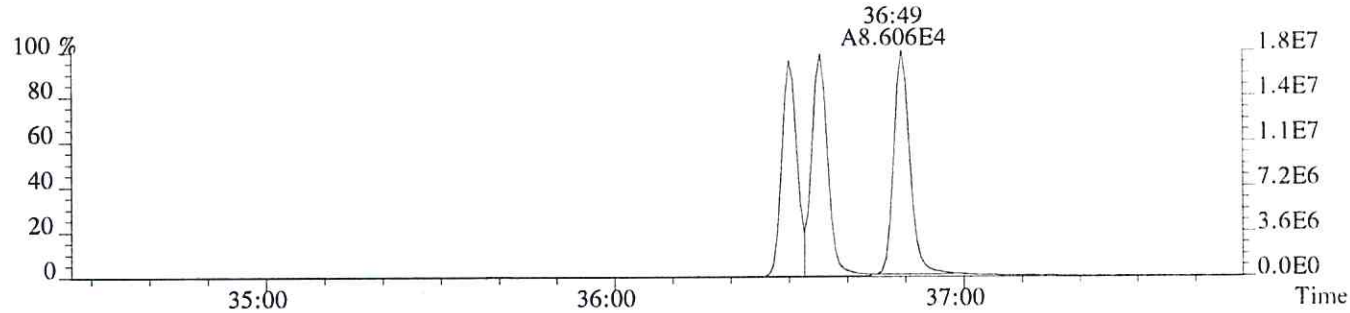
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



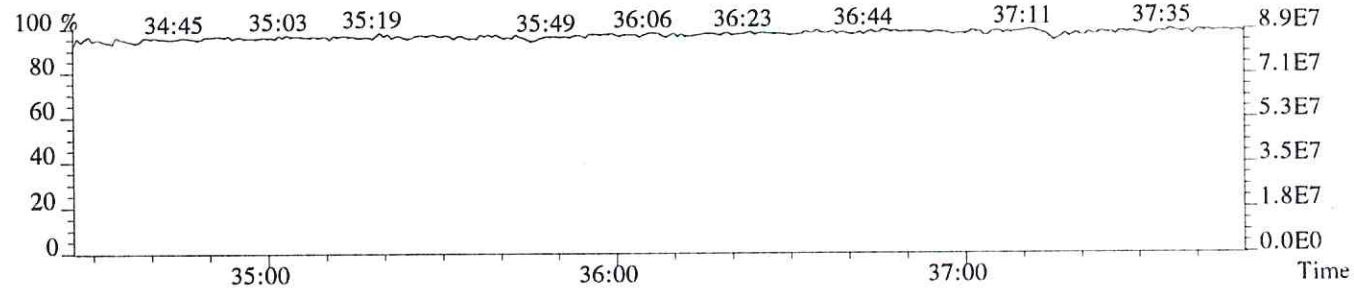
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



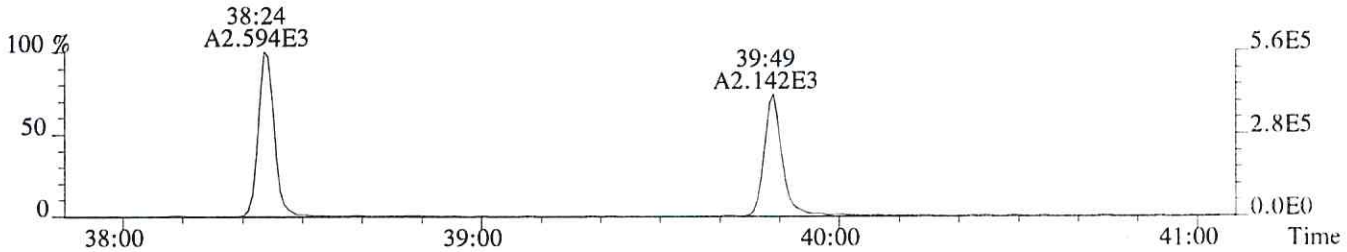
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



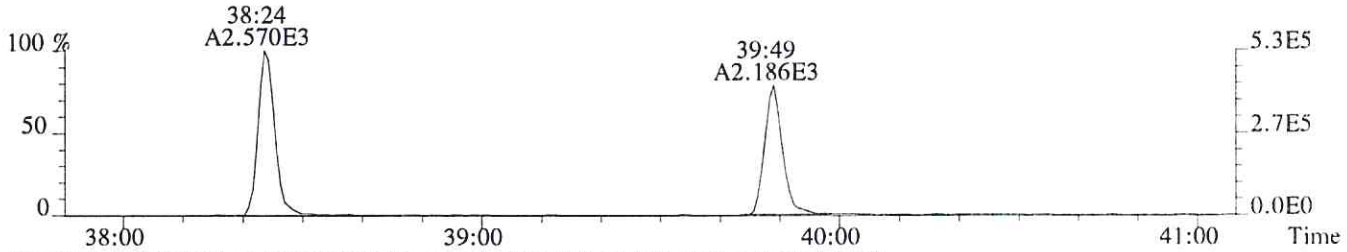
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



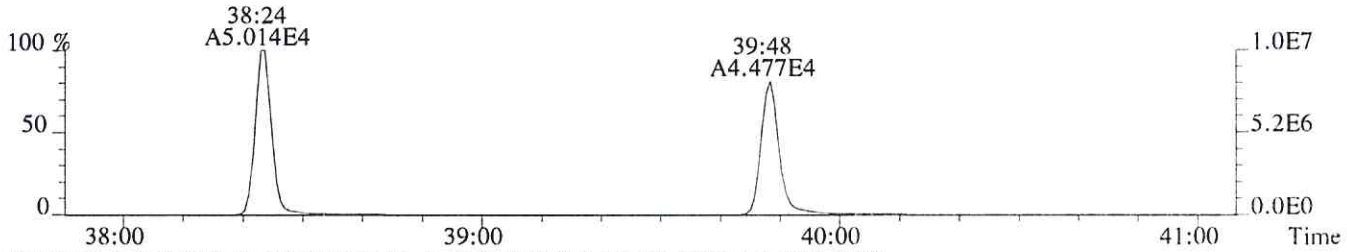
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.50%,F,T)



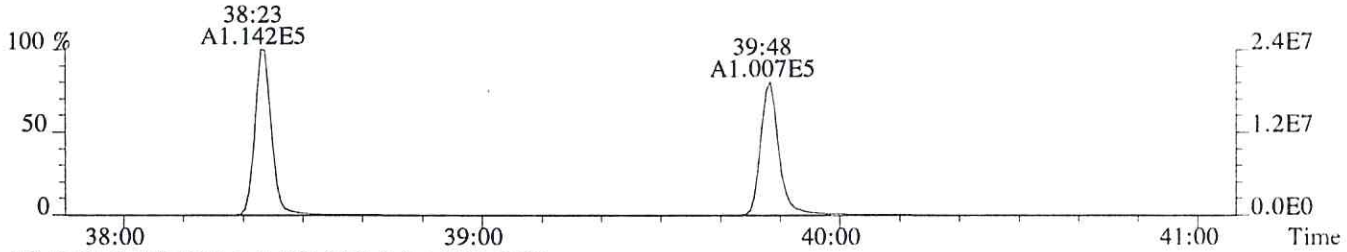
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.50%,F,T)



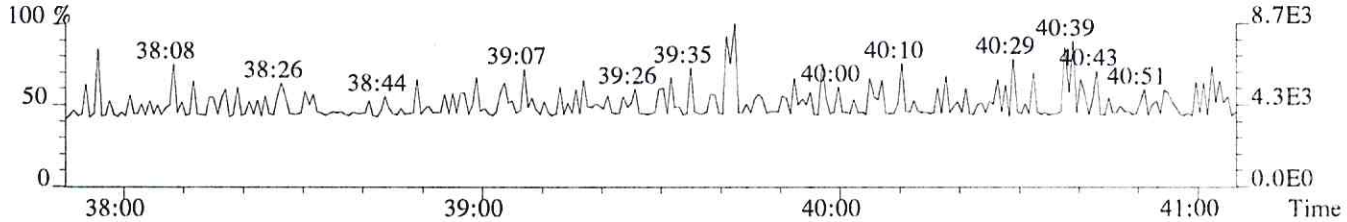
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3452.0,0.50%,F,T)



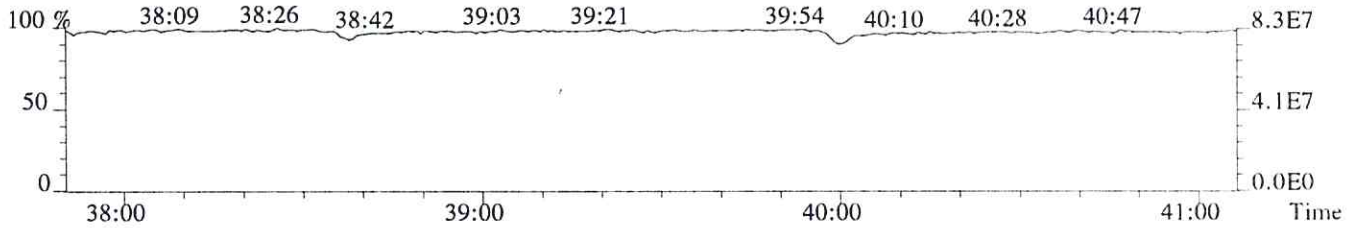
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5620.0,0.50%,F,T)



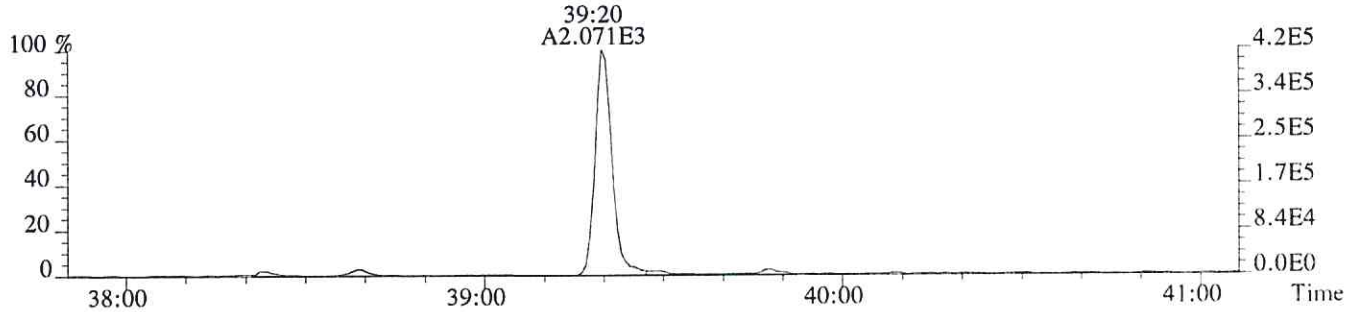
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



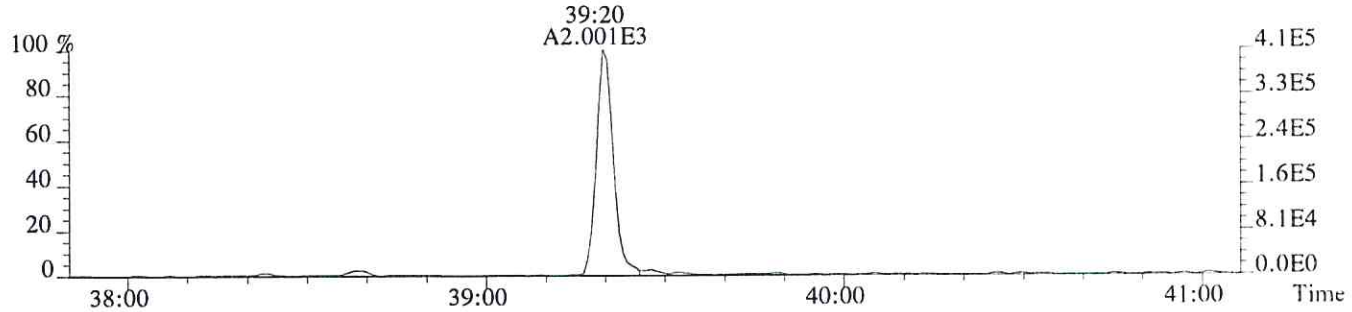
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



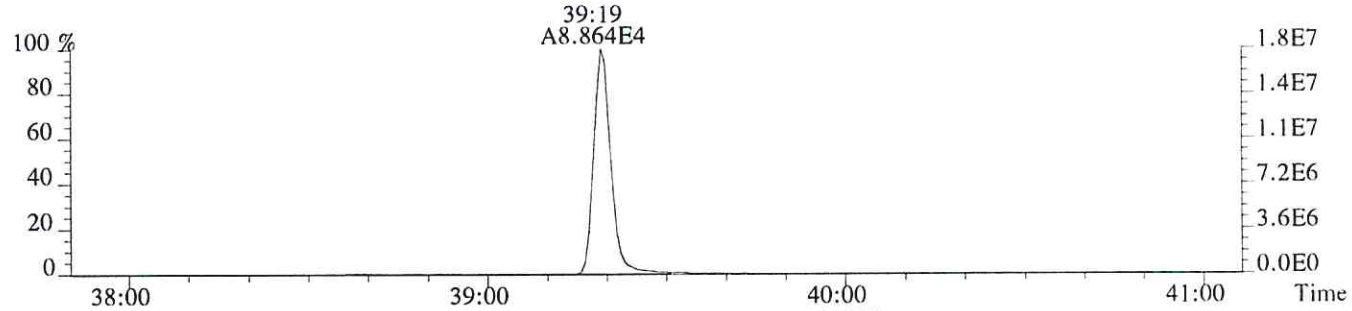
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



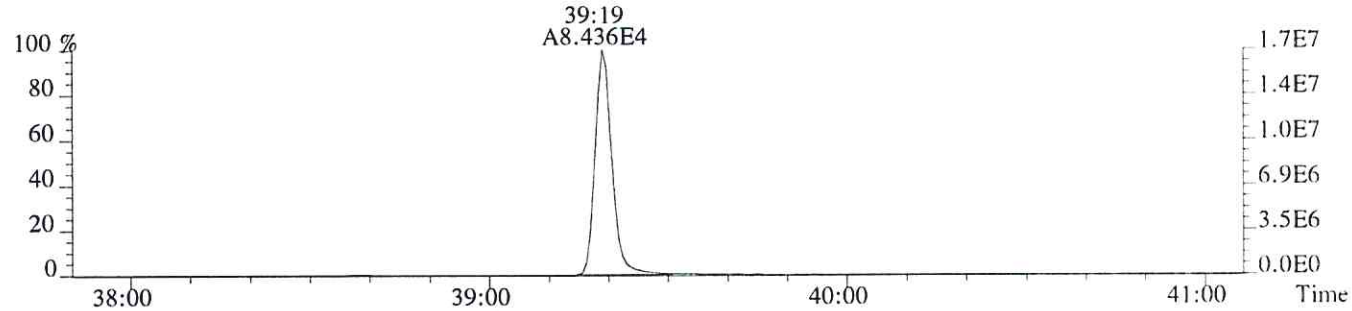
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



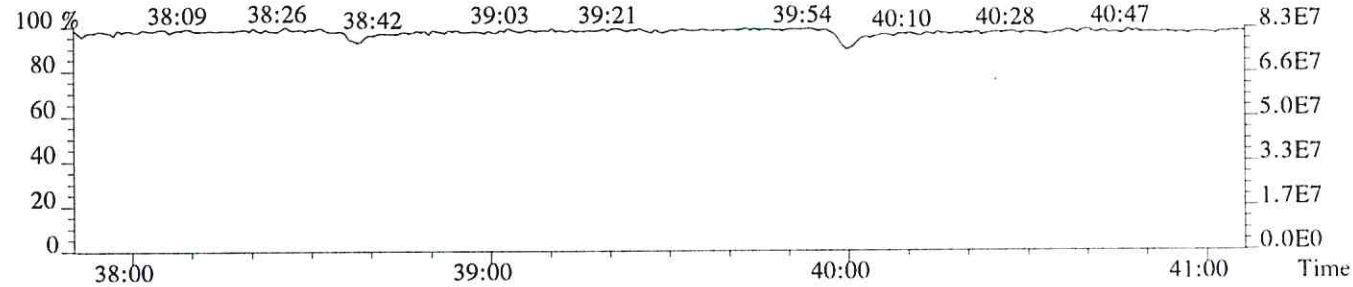
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



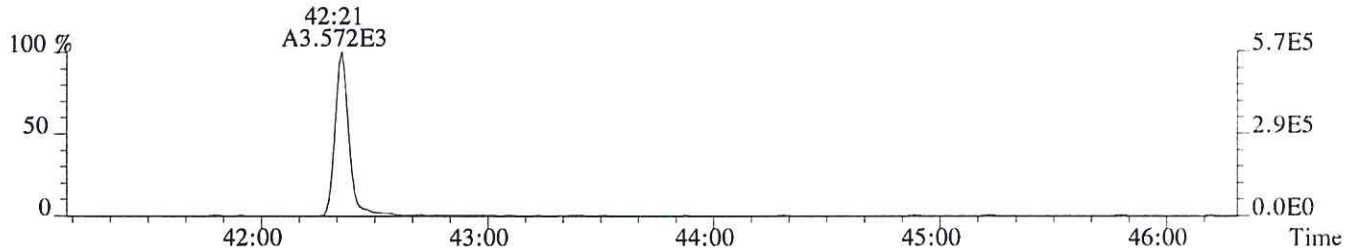
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1724.0,0.40%,F,T)



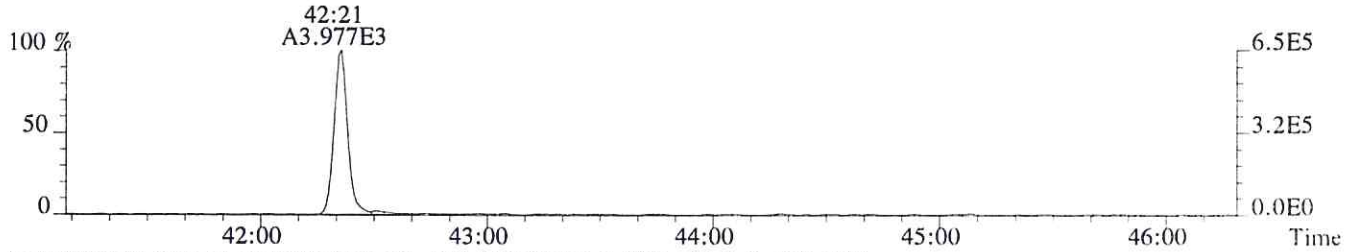
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



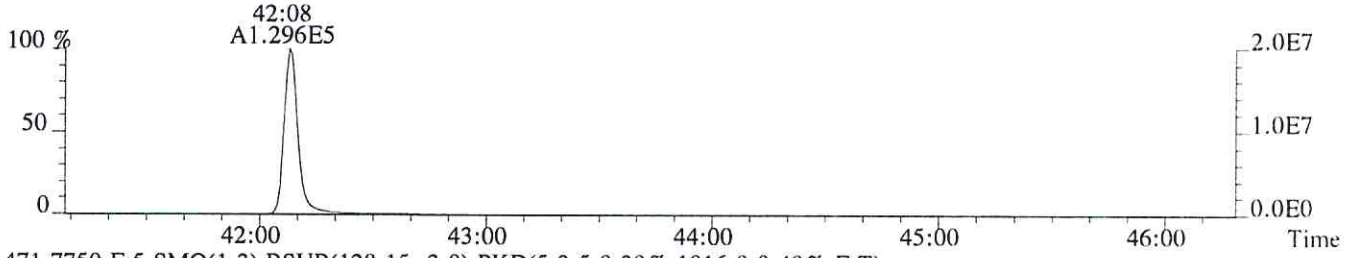
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



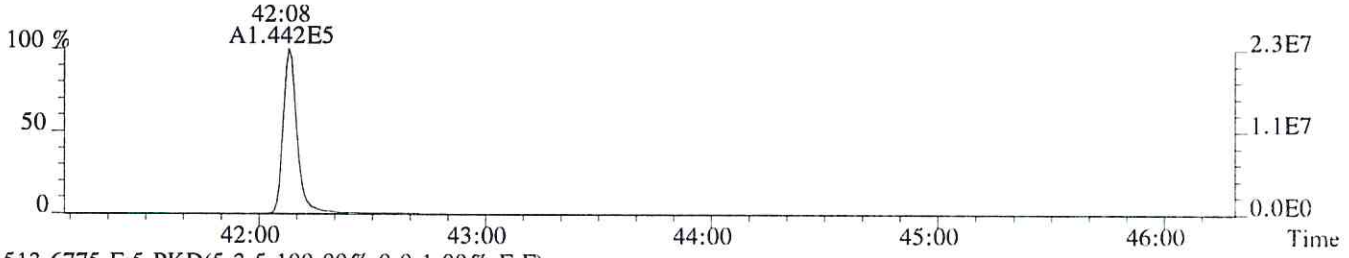
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1256.0,0.40%,F,T)



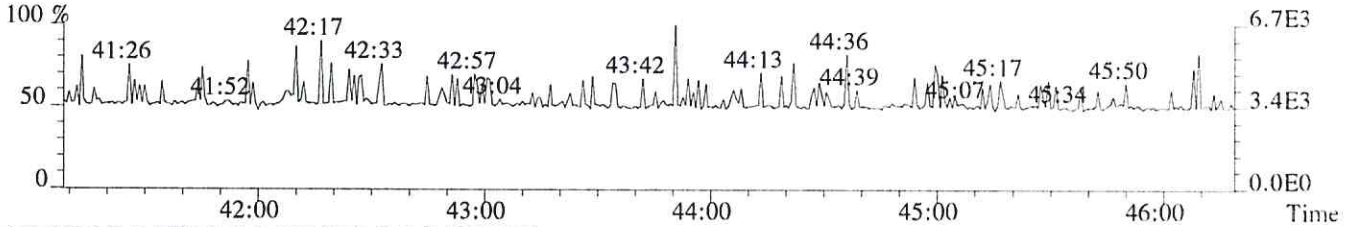
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



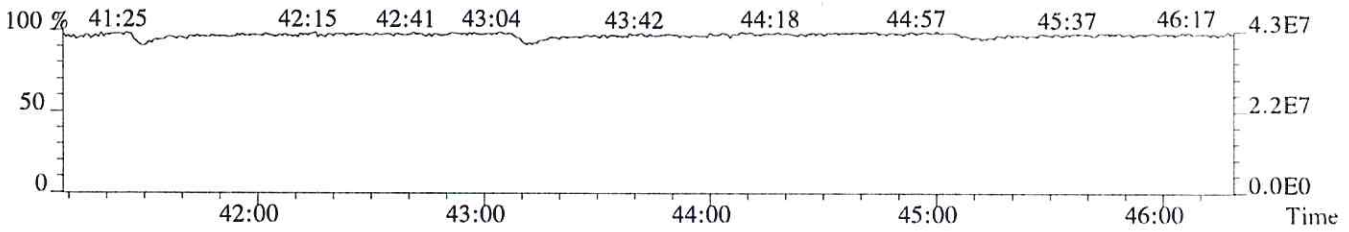
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



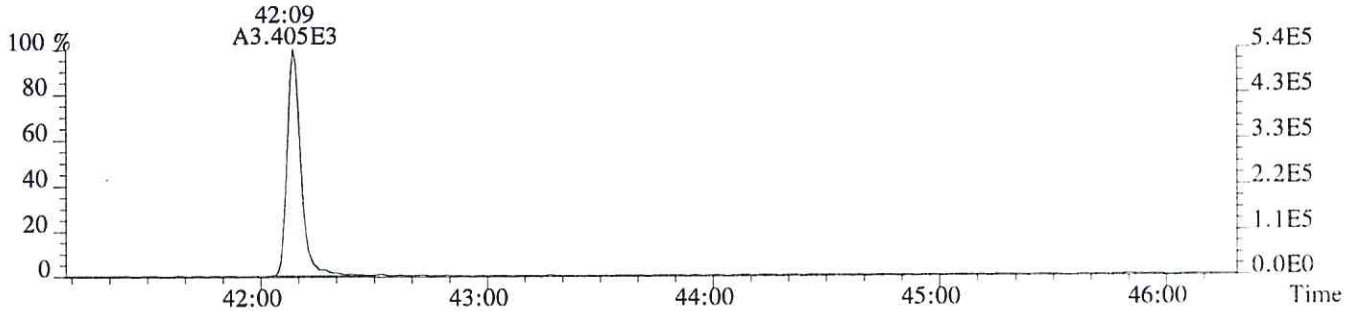
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



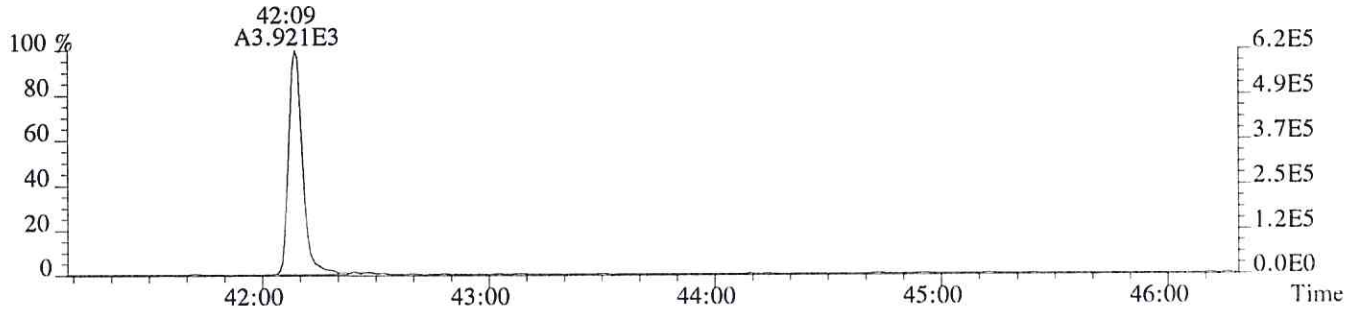
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



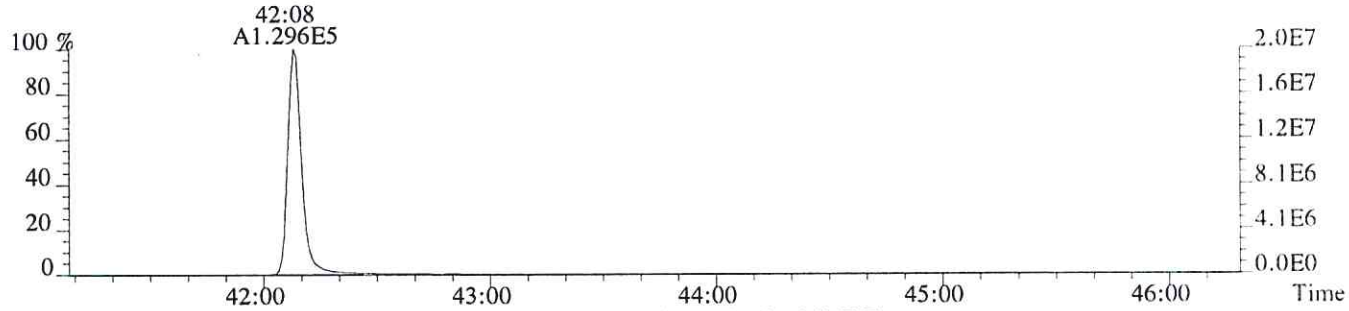
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76555
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



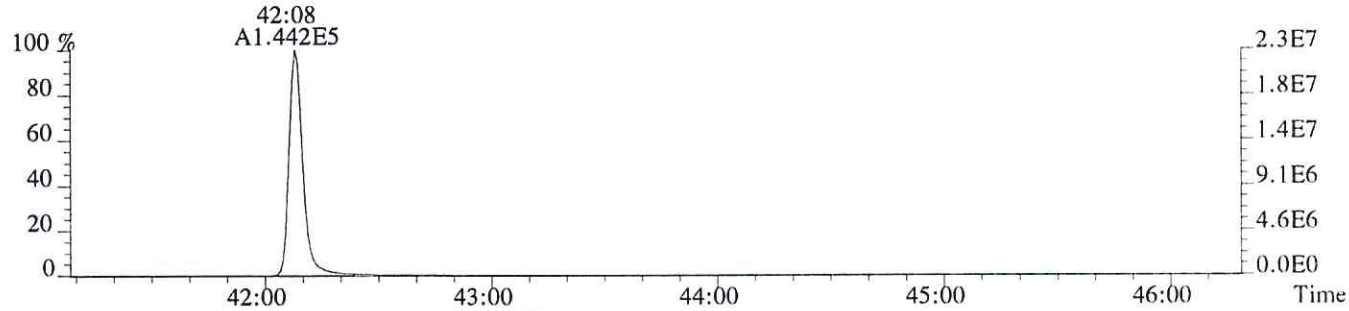
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2040.0,0.40%,F,T)



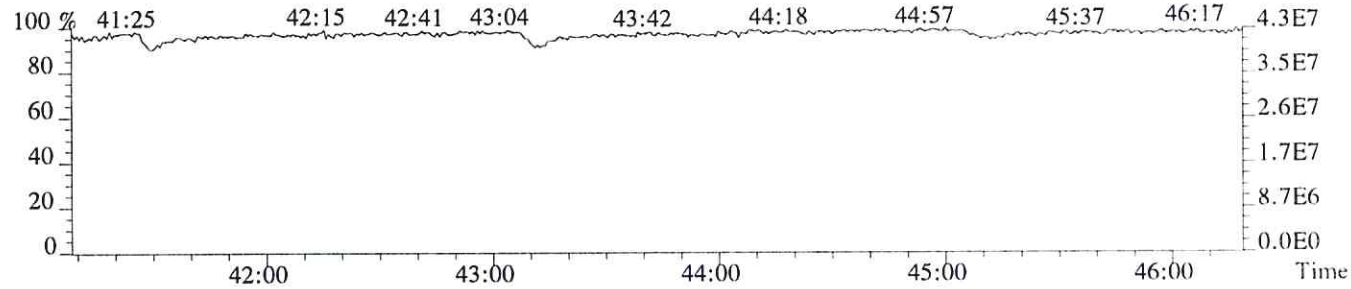
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76556

Run #3 Filename P510636 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:10:32
Processed: 27-JUL-17 08:42:58 Sample ID: CS2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	9.187e+02	1.348e+03	0.68	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	8.381e+03	5.775e+03	1.45	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	7.688e+03	5.407e+03	1.42	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	6.346e+03	5.561e+03	1.14	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	7.015e+03	6.050e+03	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	6.378e+03	5.460e+03	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	5.195e+03	4.872e+03	1.07	yes	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:23	6.035e+03	5.892e+03	1.02	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:48	4.583e+03	4.804e+03	0.95	yes	no	1.191
10	Unk	OCDF	42:21	7.750e+03	9.233e+03	0.84	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	8.518e+02	1.213e+03	0.70	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	6.660e+03	4.267e+03	1.56	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:30	5.313e+03	4.426e+03	1.20	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	5.692e+03	4.845e+03	1.17	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	5.675e+03	4.527e+03	1.25	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	4.749e+03	4.609e+03	1.03	yes	no	0.942
17	Unk	OCDD	42:09	7.578e+03	8.723e+03	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	6.496e+04	8.303e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	9.994e+04	6.315e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	9.863e+04	6.311e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	3.903e+04	7.696e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	4.636e+04	8.921e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	4.150e+04	8.152e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	3.520e+04	6.950e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	2.971e+04	6.743e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	2.518e+04	5.762e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:37	4.664e+04	5.828e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	7.497e+04	4.724e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	5.806e+04	4.638e+04	1.25	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	6.332e+04	4.956e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:19	5.190e+04	4.922e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:08	7.362e+04	8.232e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	5.048e+04	6.257e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	6.320e+04	5.188e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	2.415e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76556

Run #3 Filename P510636 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:10:32
Processed: 27-JUL-17 08:42:58 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.69e+05	9.52e+02	1.8e+02	2.54e+05	2.09e+03	1.2e+02
2	1,2,3,7,8-PeCDF	1.48e+06	2.68e+02	5.5e+03	1.03e+06	1.90e+03	5.4e+02
3	2,3,4,7,8-PeCDF	1.41e+06	2.68e+02	5.3e+03	1.01e+06	1.90e+03	5.3e+02
4	1,2,3,4,7,8-HxCDF	1.32e+06	9.04e+02	1.5e+03	1.16e+06	5.64e+02	2.0e+03
5	1,2,3,6,7,8-HxCDF	1.39e+06	9.04e+02	1.5e+03	1.21e+06	5.64e+02	2.1e+03
6	2,3,4,6,7,8-HxCDF	1.34e+06	9.04e+02	1.5e+03	1.13e+06	5.64e+02	2.0e+03
7	1,2,3,7,8,9-HxCDF	1.03e+06	9.04e+02	1.1e+03	9.78e+05	5.64e+02	1.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.31e+06	1.22e+03	1.1e+03	1.26e+06	2.02e+03	6.2e+02
9	1,2,3,4,7,8,9-HpCDF	9.18e+05	1.22e+03	7.5e+02	9.07e+05	2.02e+03	4.5e+02
10	OCDF	1.28e+06	3.04e+02	4.2e+03	1.56e+06	1.09e+03	1.4e+03
11	2,3,7,8-TCDD	1.72e+05	1.93e+03	8.9e+01	2.21e+05	1.21e+03	1.8e+02
12	1,2,3,7,8-PeCDD	1.25e+06	1.95e+03	6.4e+02	8.13e+05	4.80e+02	1.7e+03
13	1,2,3,4,7,8-HxCDD	1.18e+06	4.44e+02	2.7e+03	9.77e+05	1.37e+03	7.1e+02
14	1,2,3,6,7,8-HxCDD	1.16e+06	4.44e+02	2.6e+03	9.91e+05	1.37e+03	7.2e+02
15	1,2,3,7,8,9-HxCDD	1.13e+06	4.44e+02	2.5e+03	8.90e+05	1.37e+03	6.5e+02
16	1,2,3,4,6,7,8-HpCDD	9.70e+05	6.36e+02	1.5e+03	9.37e+05	8.64e+02	1.1e+03
17	OCDD	1.19e+06	3.92e+02	3.0e+03	1.33e+06	8.12e+02	1.6e+03
18	13C-2,3,7,8-TCDF	1.10e+07	1.24e+04	8.8e+02	1.39e+07	7.87e+03	1.8e+03
19	13C-1,2,3,7,8-PeCDF	1.79e+07	1.13e+03	1.6e+04	1.13e+07	9.92e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	1.84e+07	1.13e+03	1.6e+04	1.18e+07	9.92e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	8.08e+06	1.10e+03	7.4e+03	1.58e+07	2.10e+03	7.5e+03
22	13C-1,2,3,6,7,8-HxCDF	9.29e+06	1.10e+03	8.5e+03	1.79e+07	2.10e+03	8.5e+03
23	13C-2,3,4,6,7,8-HxCDF	8.65e+06	1.10e+03	7.9e+03	1.71e+07	2.10e+03	8.1e+03
24	13C-1,2,3,7,8,9-HxCDF	6.96e+06	1.10e+03	6.3e+03	1.35e+07	2.10e+03	6.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.46e+06	3.98e+03	1.6e+03	1.45e+07	5.07e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	5.02e+06	3.98e+03	1.3e+03	1.12e+07	5.07e+03	2.2e+03
27	13C-2,3,7,8-TCDD	8.51e+06	5.61e+03	1.5e+03	1.06e+07	3.54e+03	3.0e+03
28	13C-1,2,3,7,8-PeCDD	1.37e+07	1.15e+03	1.2e+04	8.66e+06	1.10e+03	7.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.29e+07	2.23e+03	5.8e+03	1.03e+07	1.59e+03	6.5e+03
30	13C-1,2,3,6,7,8-HxCDD	1.27e+07	2.23e+03	5.7e+03	9.84e+06	1.59e+03	6.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.03e+07	1.35e+03	7.6e+03	9.85e+06	1.11e+03	8.9e+03
32	13C-OCDD	1.11e+07	6.36e+02	1.7e+04	1.24e+07	5.16e+02	2.4e+04
33	13C-1,2,3,4-TCDD	9.10e+06	5.61e+03	1.6e+03	1.13e+07	3.54e+03	3.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.25e+07	2.23e+03	5.6e+03	9.97e+06	1.59e+03	6.3e+03
35	37Cl-2,3,7,8-TCDD	4.37e+05	1.14e+03	3.8e+02			

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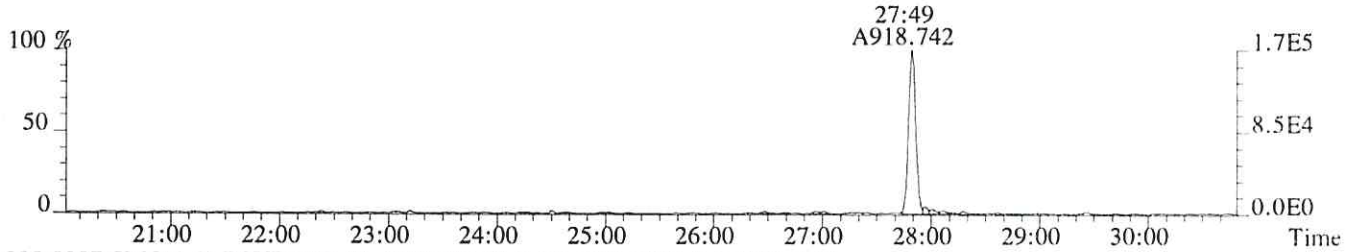
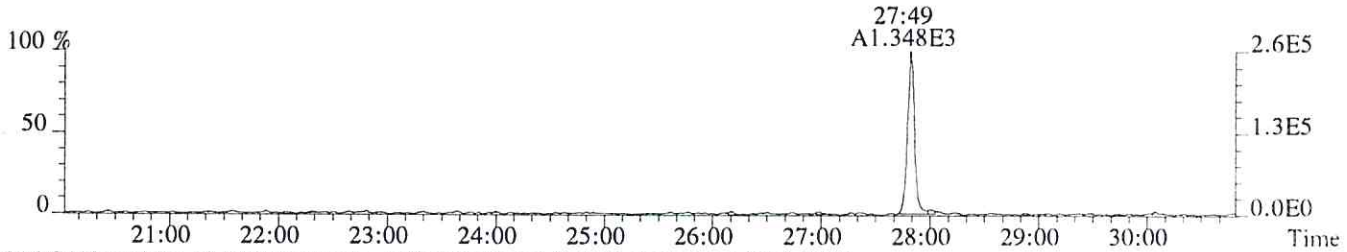
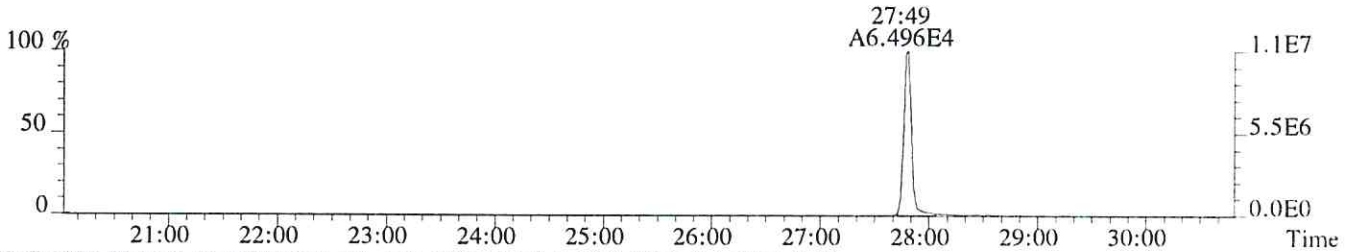
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



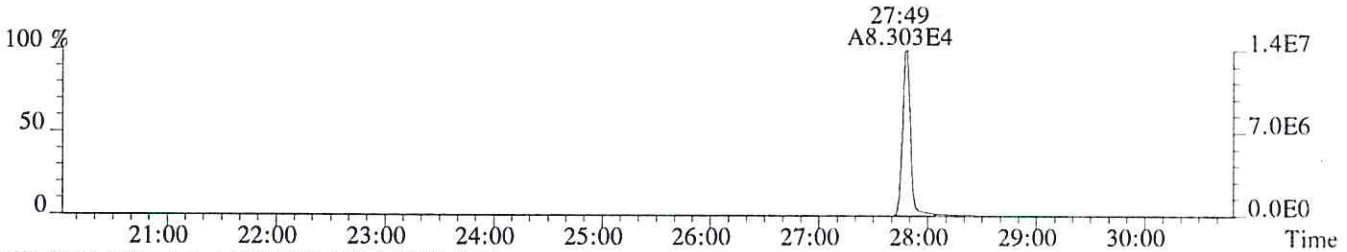
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2088.0,1.00%,F,T)



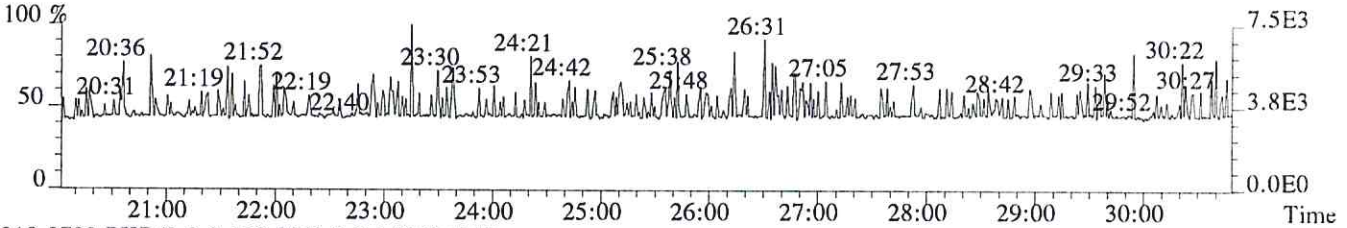
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12432.0,1.00%,F,T)



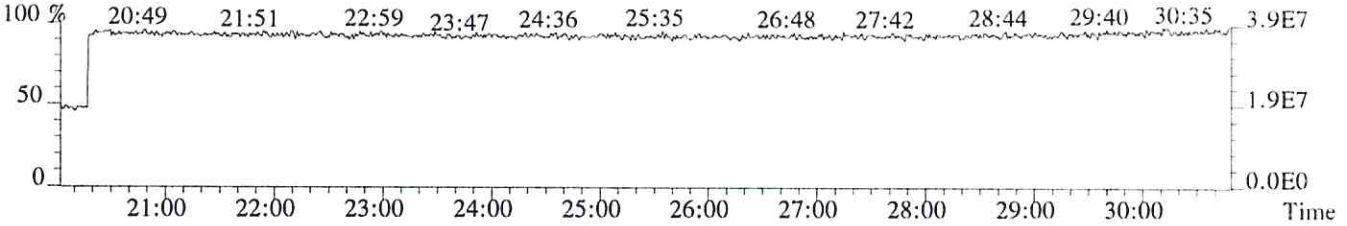
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7872.0,1.00%,F,T)



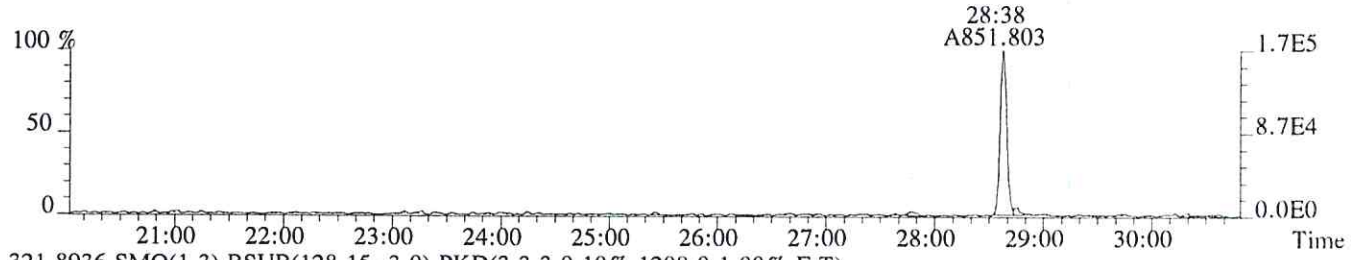
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



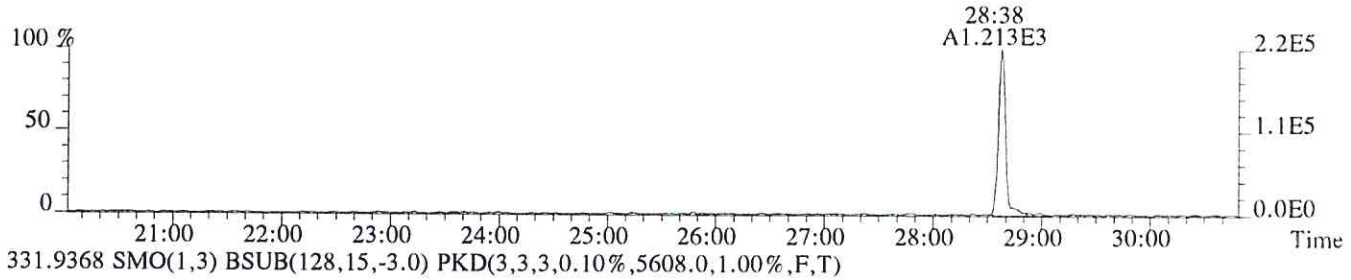
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



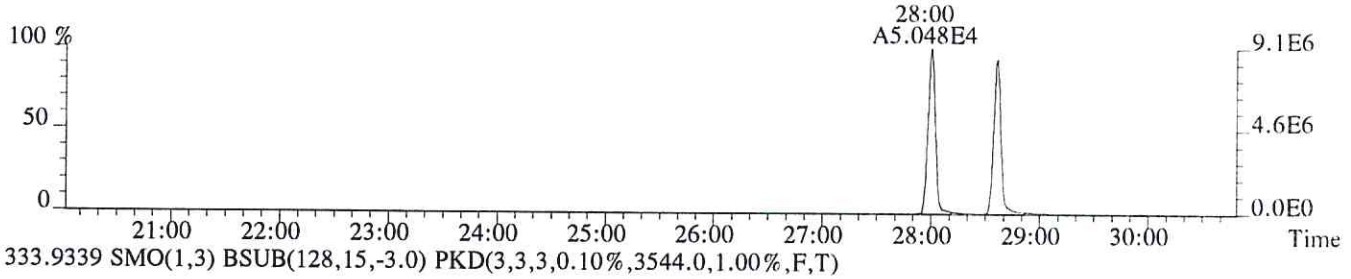
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1928.0,1.00%,F,T)



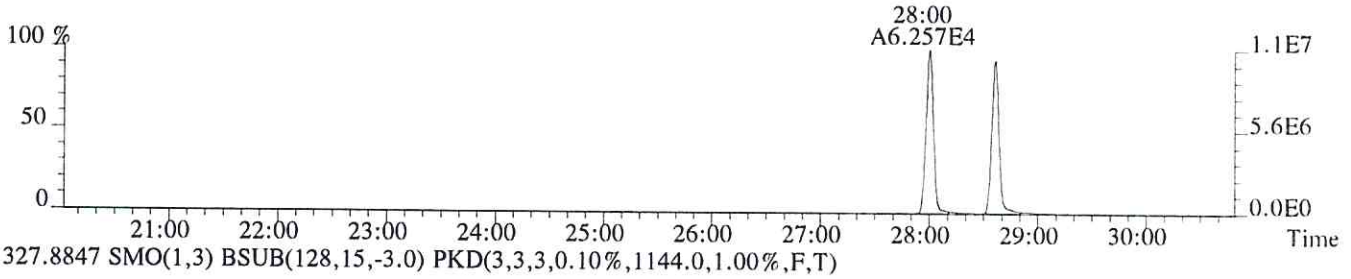
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



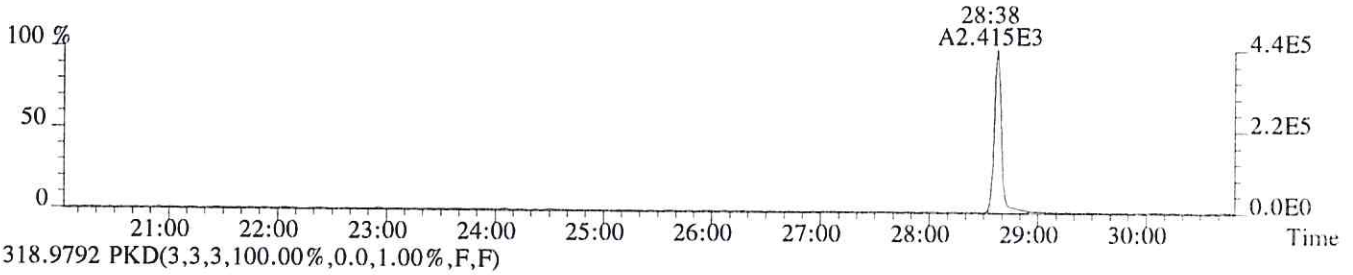
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5608.0,1.00%,F,T)



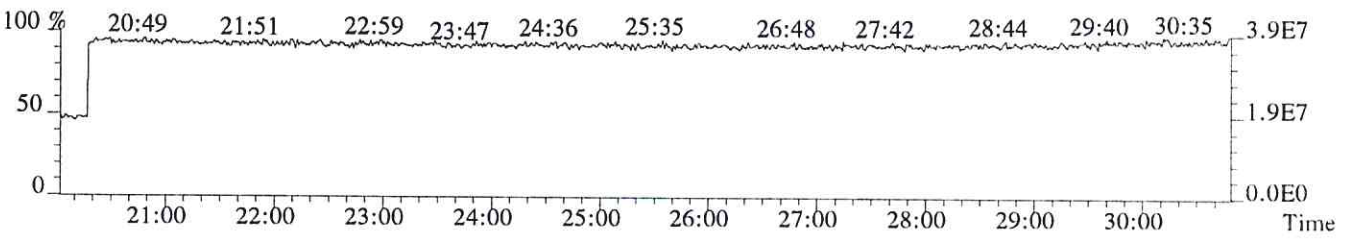
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3544.0,1.00%,F,T)



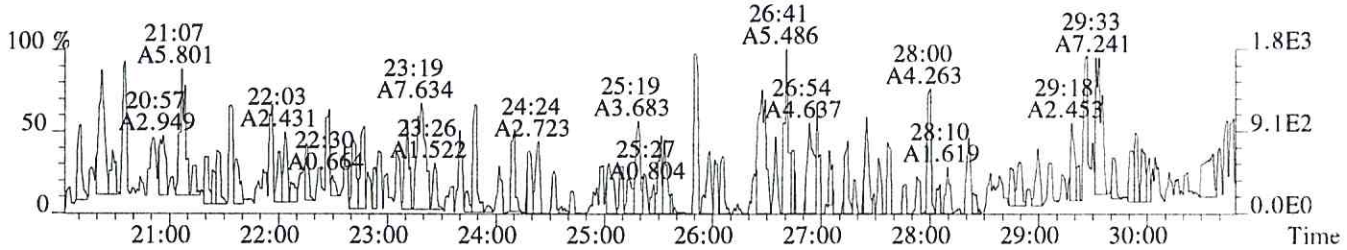
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



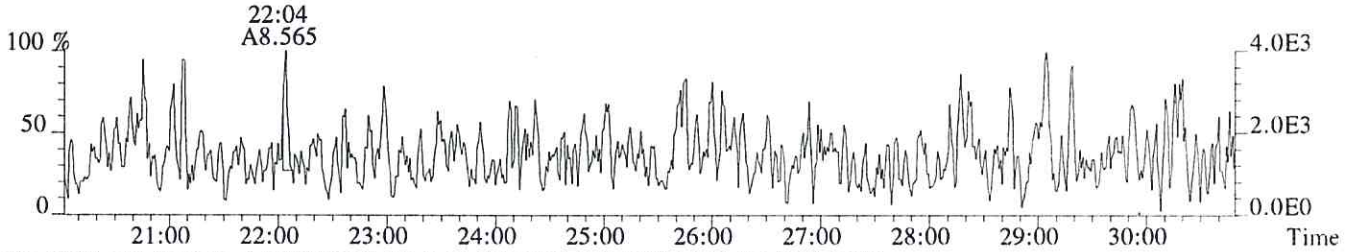
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



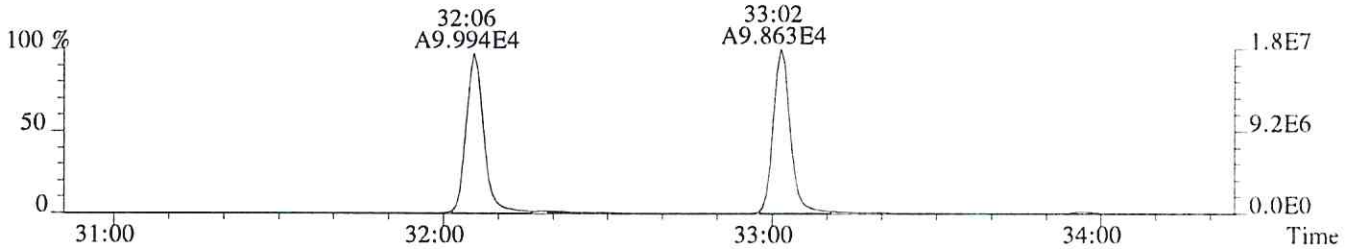
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



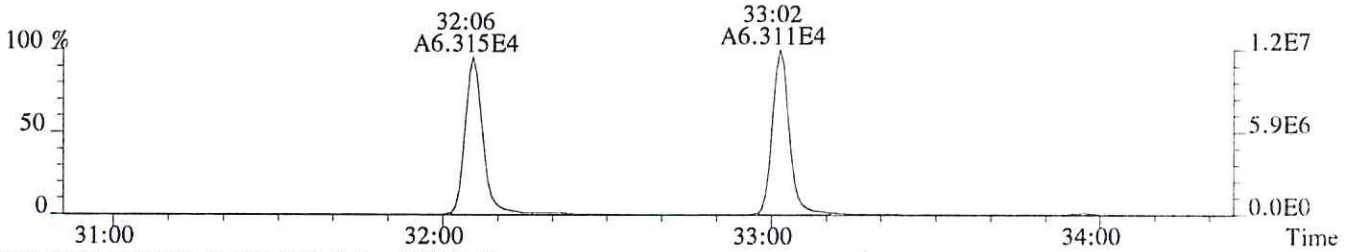
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



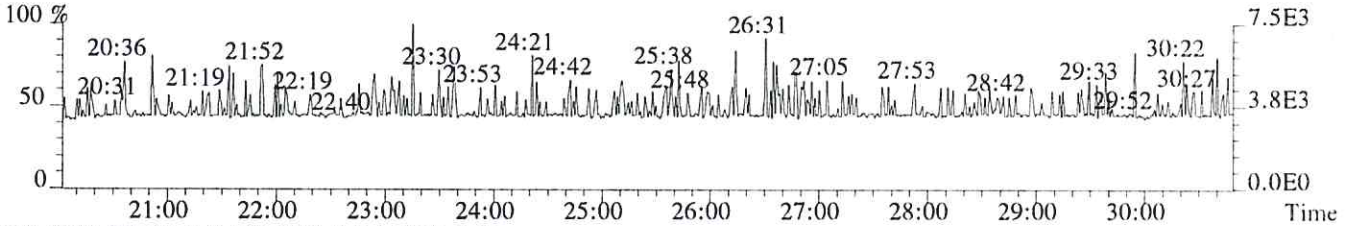
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



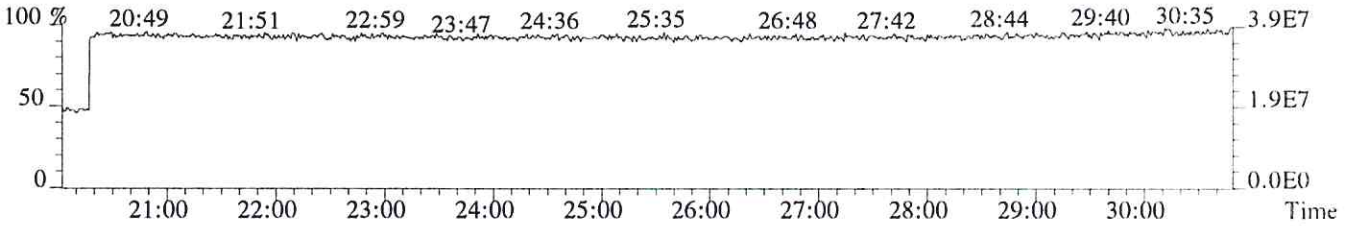
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



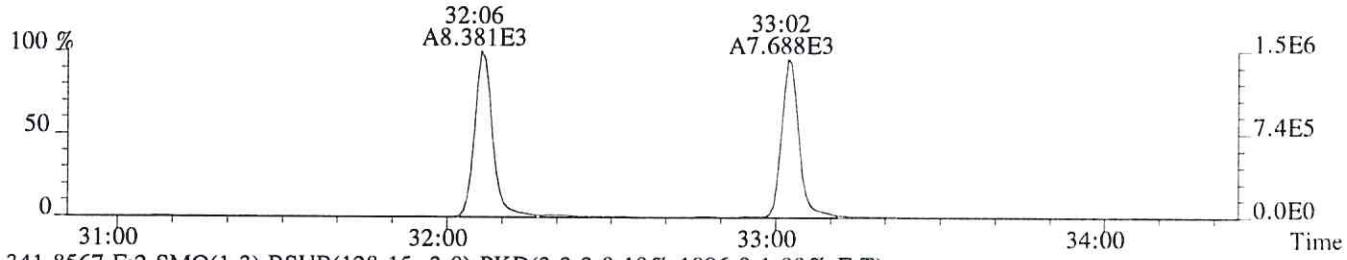
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



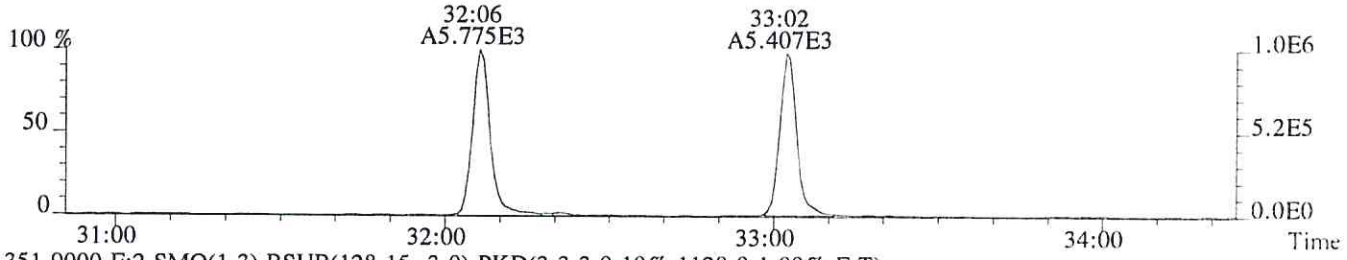
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



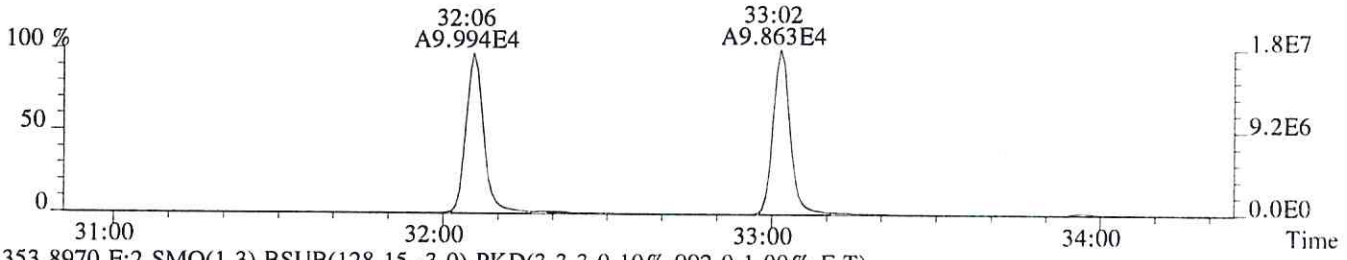
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



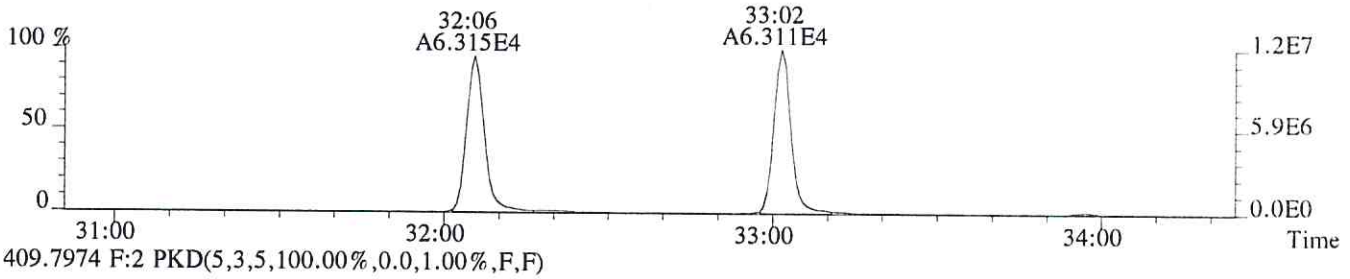
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



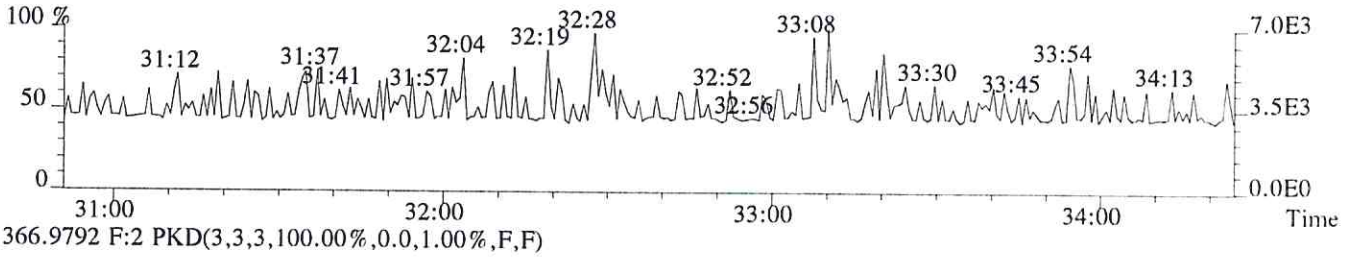
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



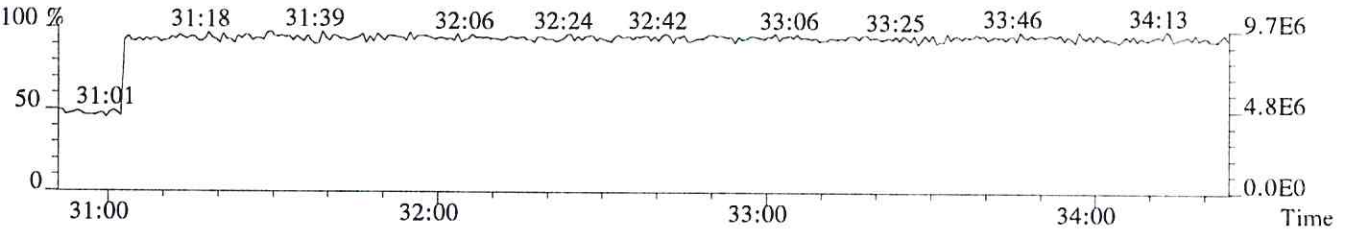
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



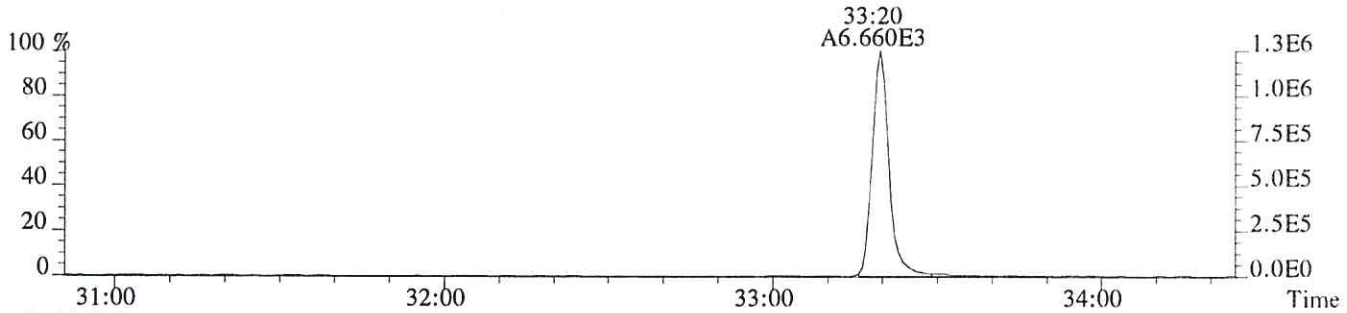
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



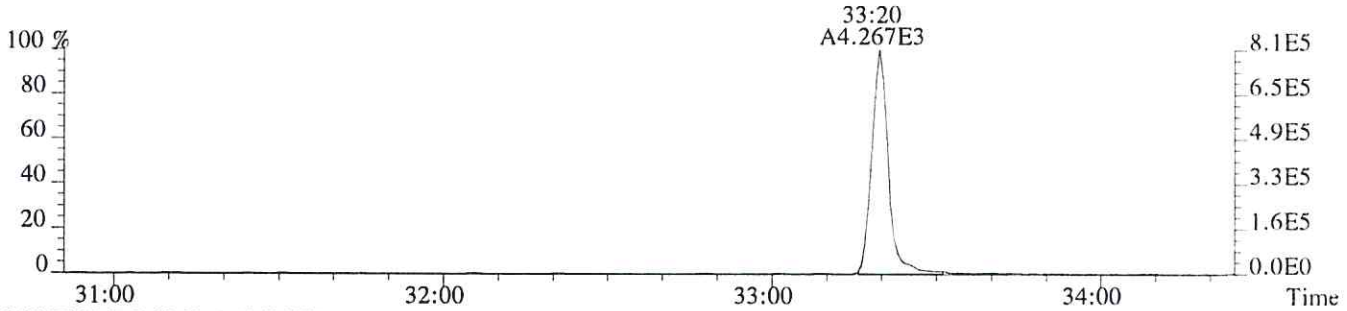
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



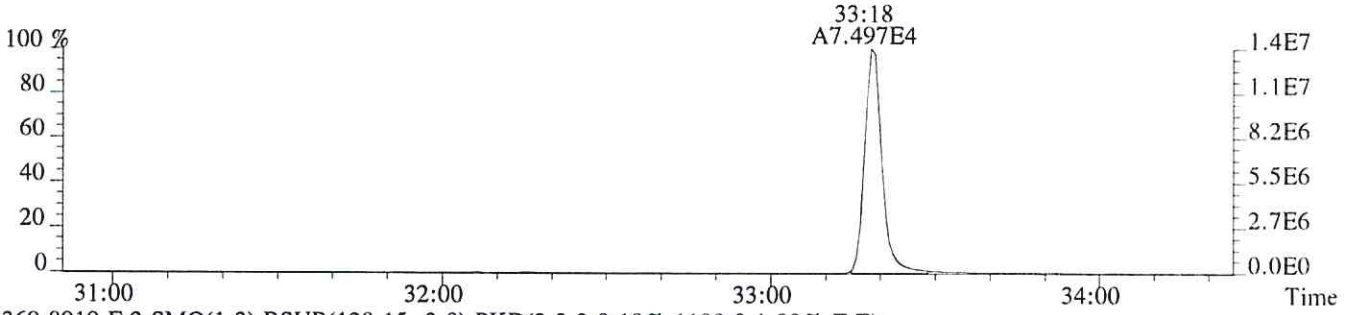
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



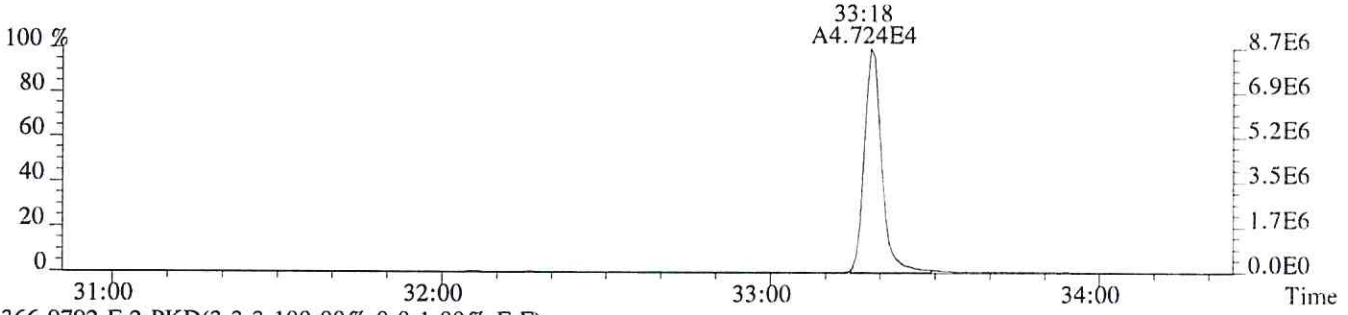
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



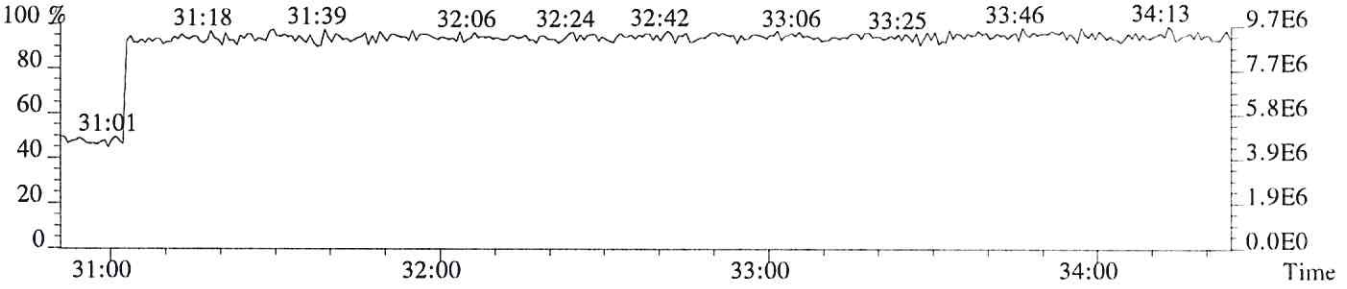
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



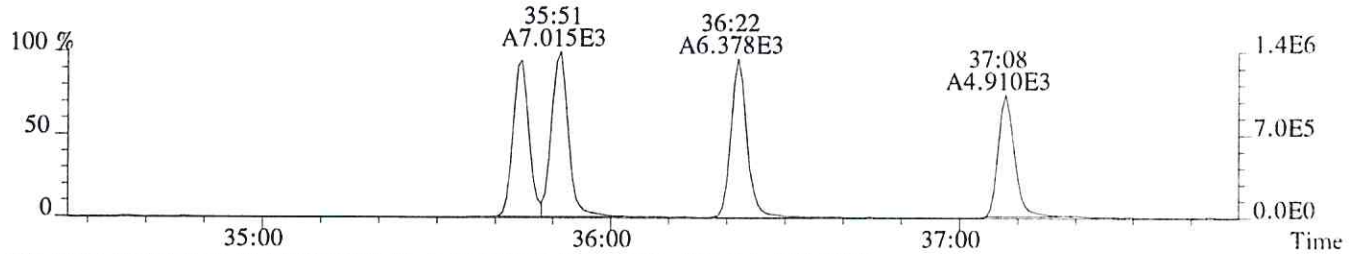
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



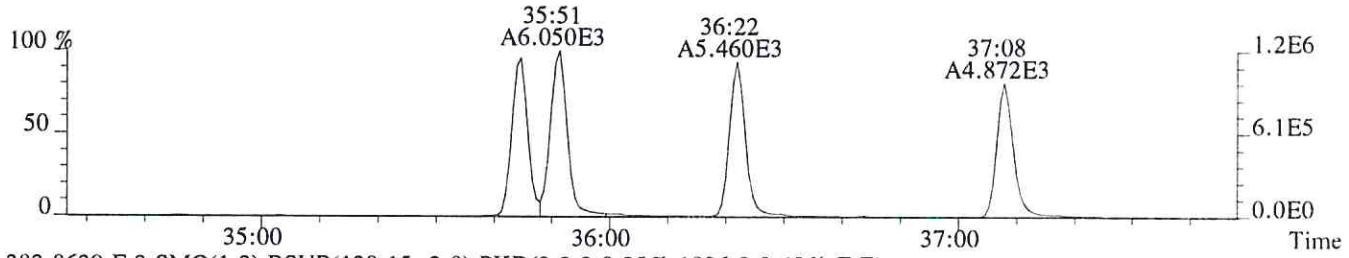
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



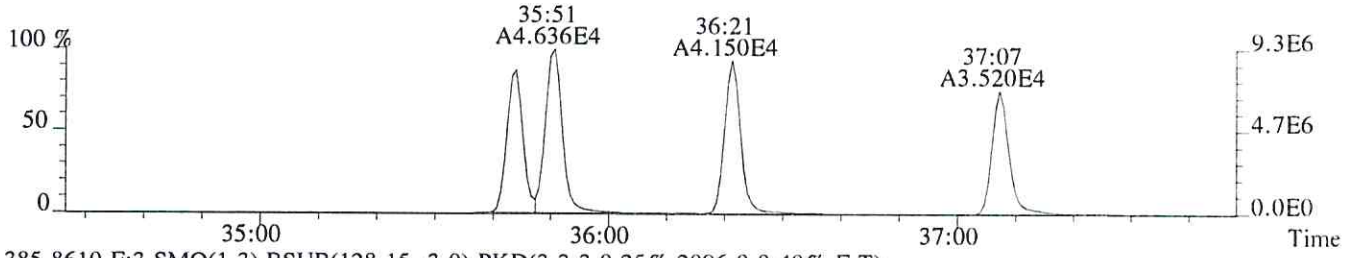
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



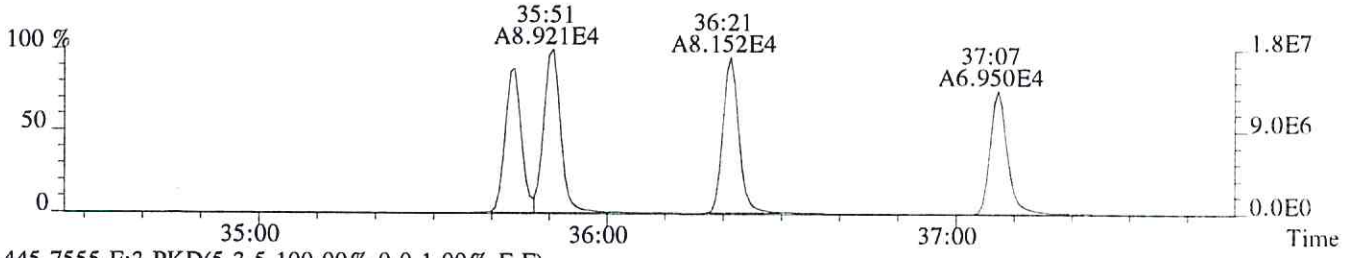
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



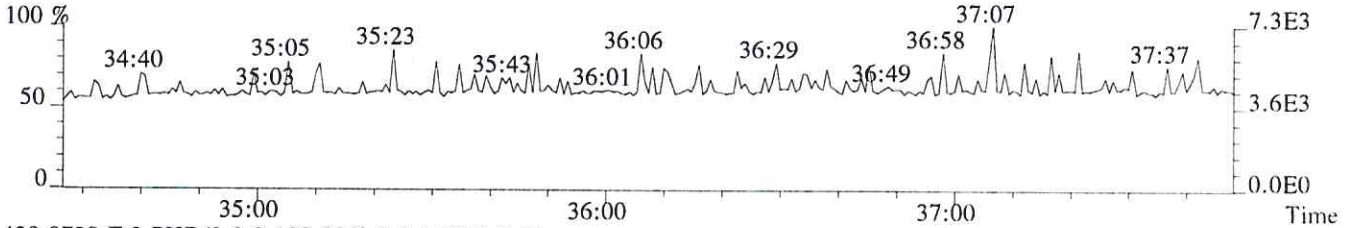
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1096.0,0.40%,F,T)



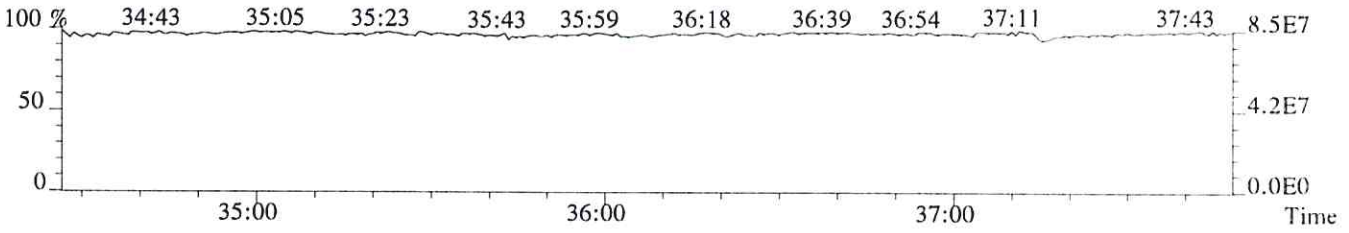
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



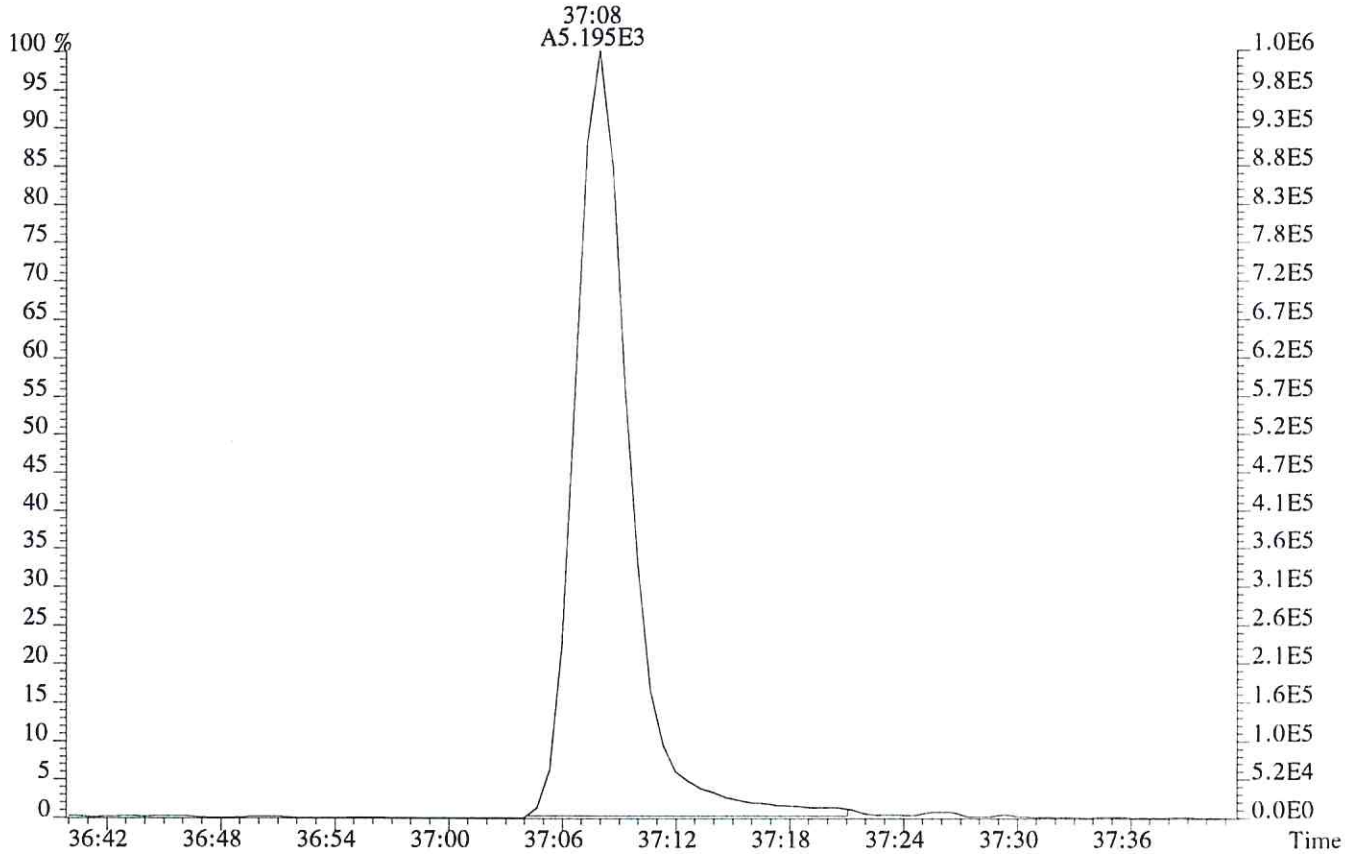
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



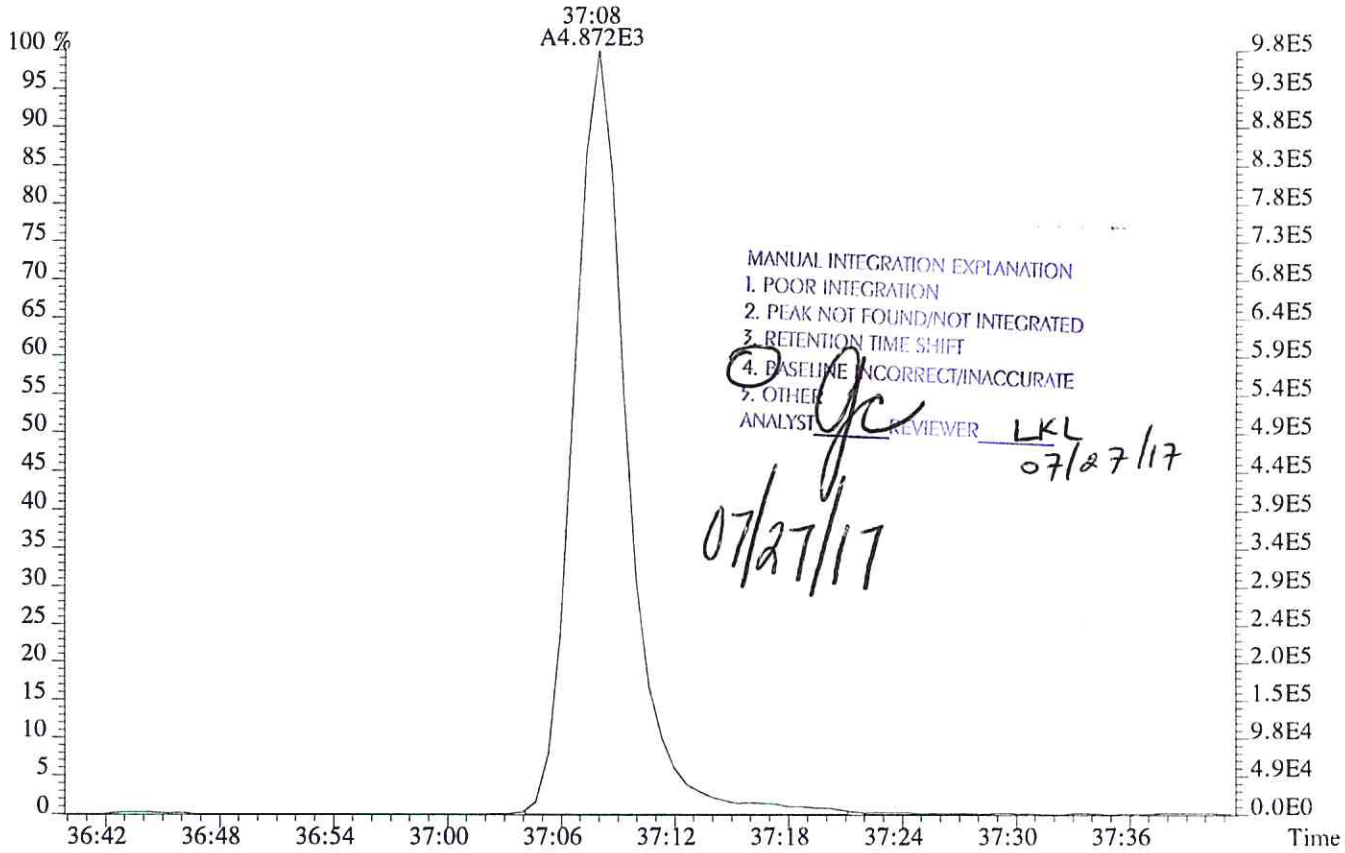
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)

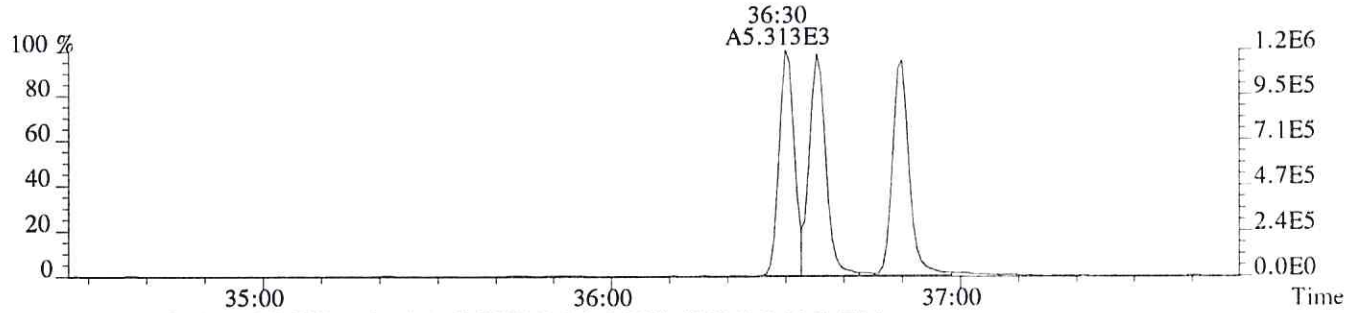


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)

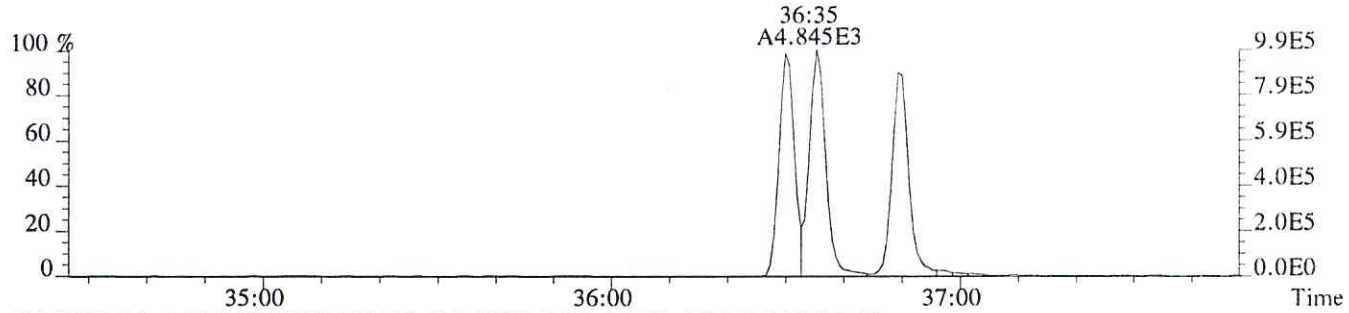


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER LKL 07/27/17
07/27/17

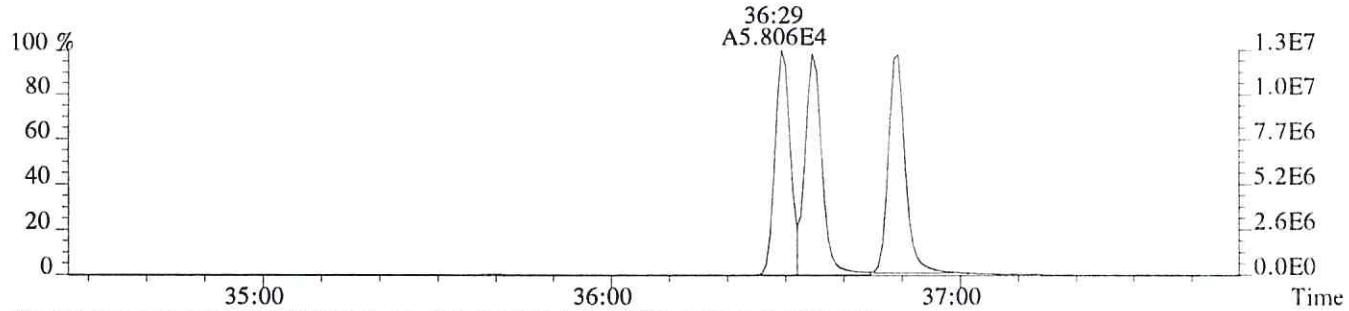
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,444.0,0.40%,F,T)



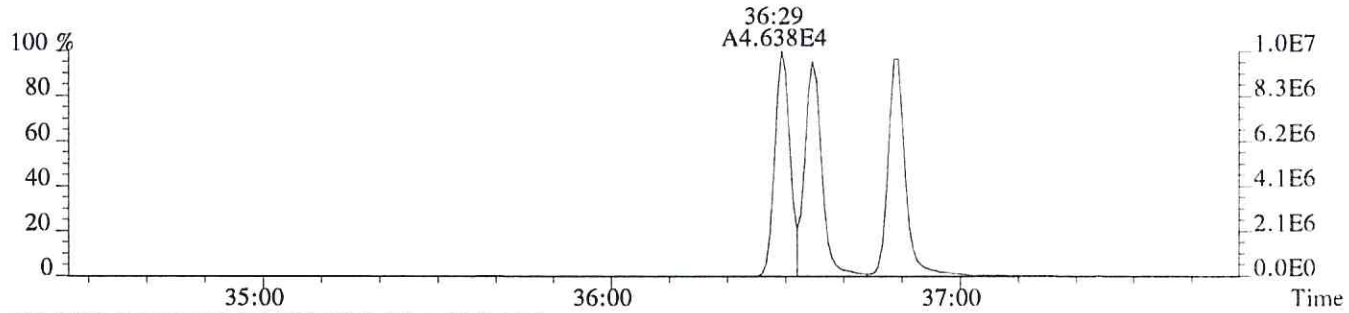
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



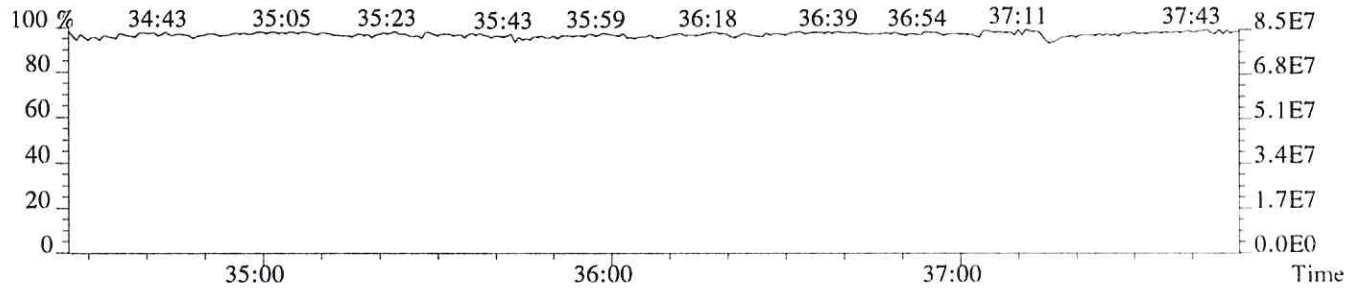
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2232.0,0.40%,F,T)



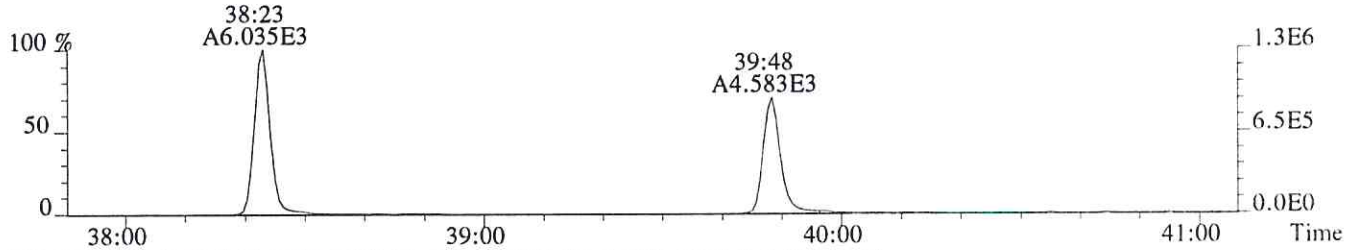
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.40%,F,T)



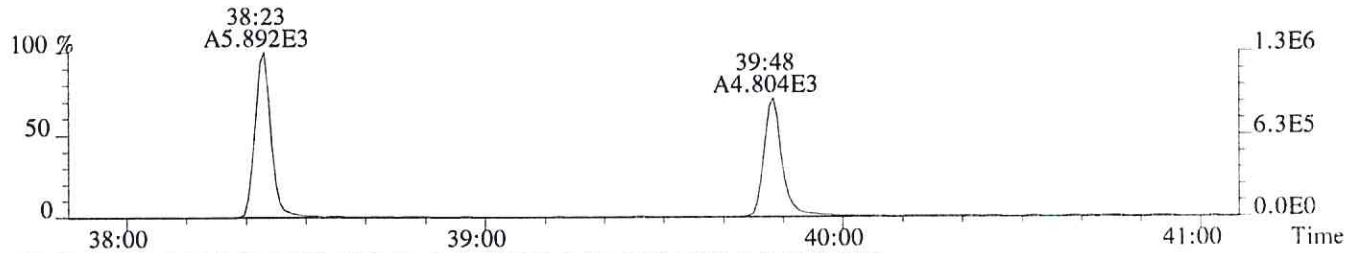
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



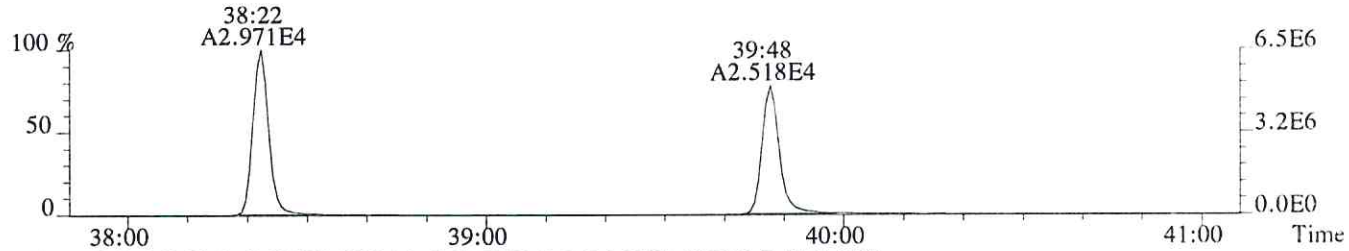
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.50%,F,T)



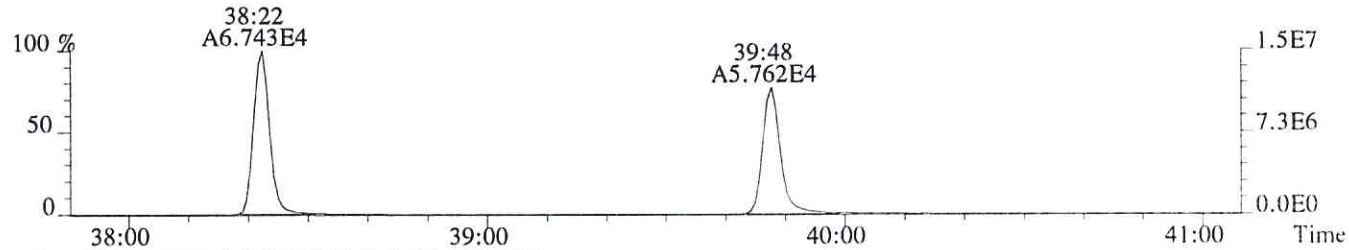
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2024.0,0.50%,F,T)



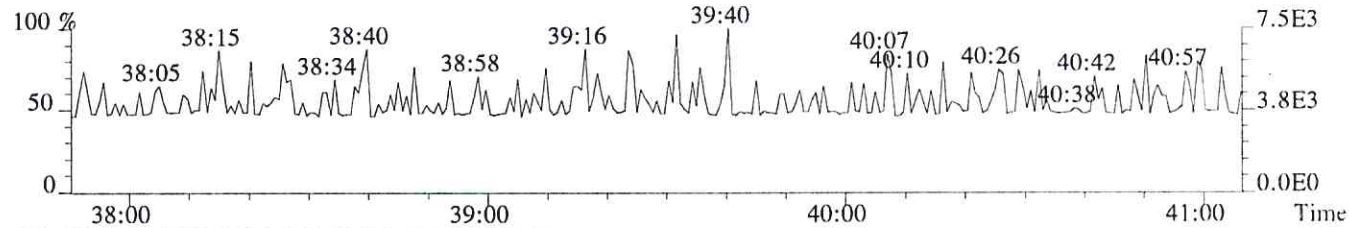
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3984.0,0.50%,F,T)



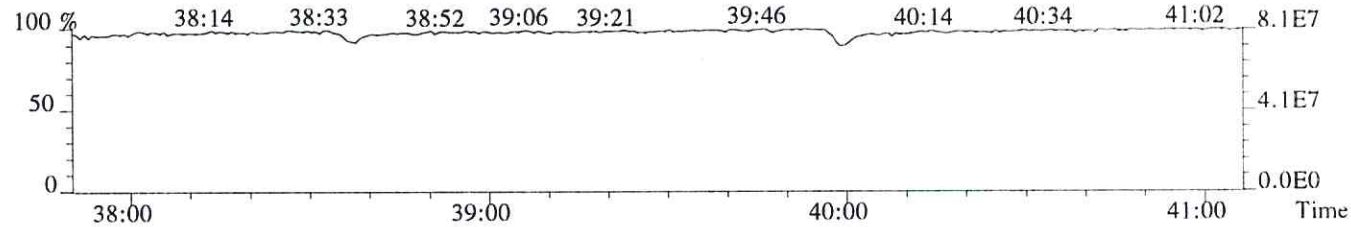
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5068.0,0.50%,F,T)



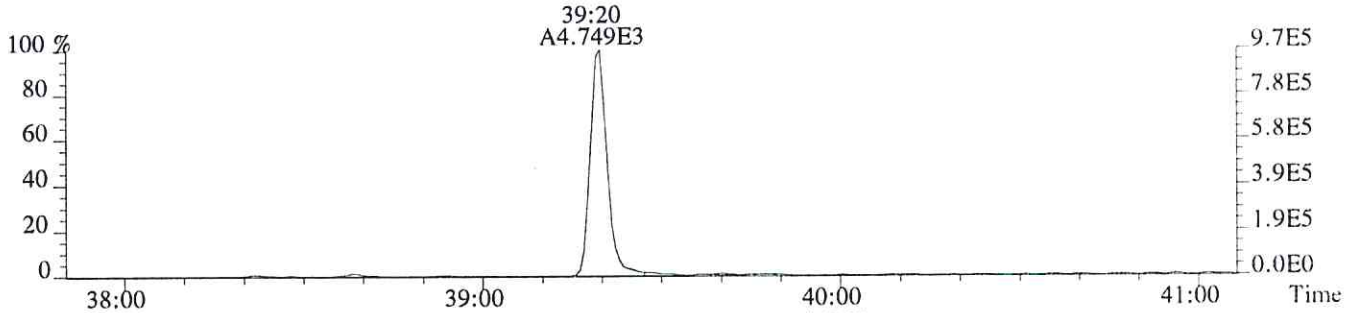
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



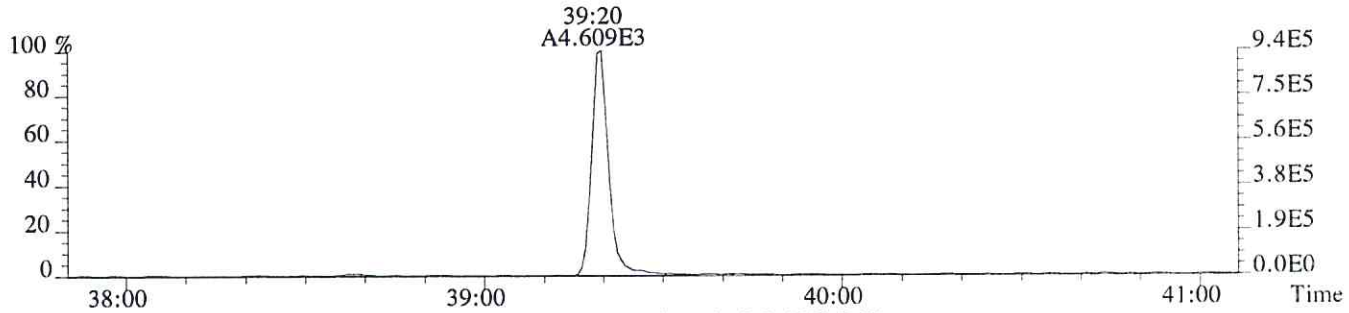
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



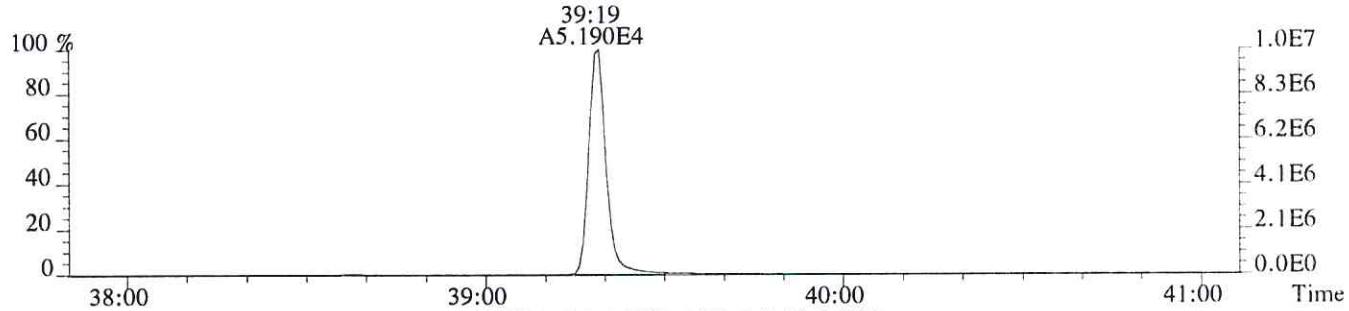
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



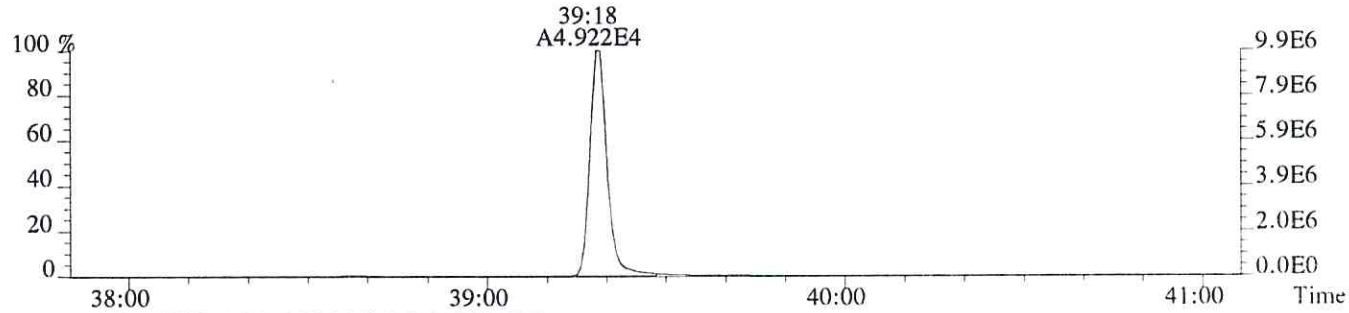
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)



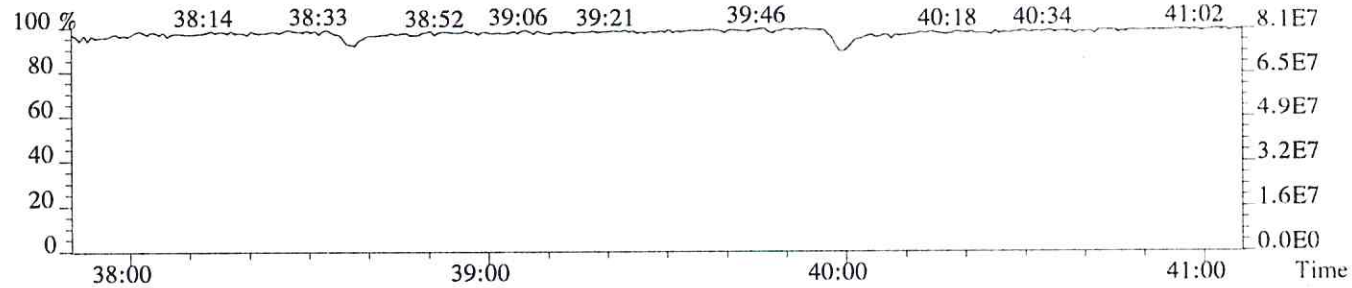
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1352.0,0.40%,F,T)



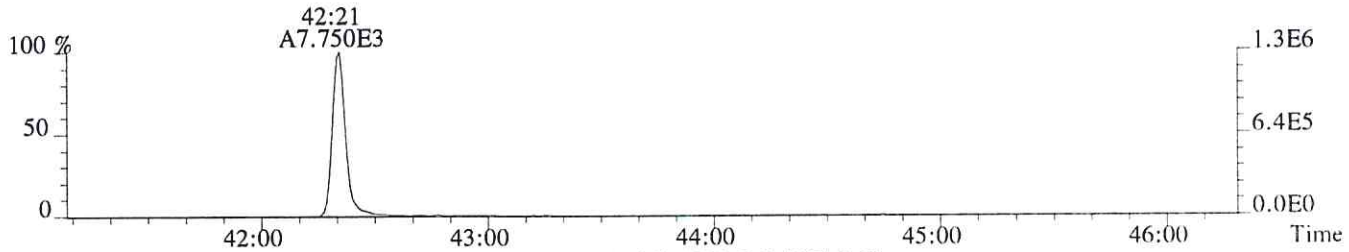
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,T)



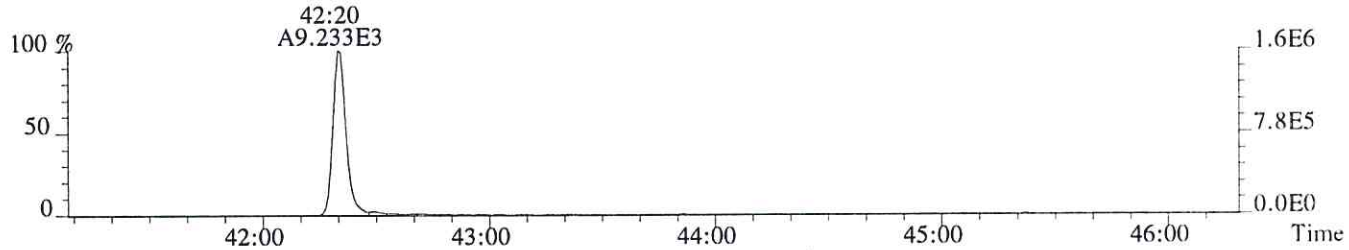
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



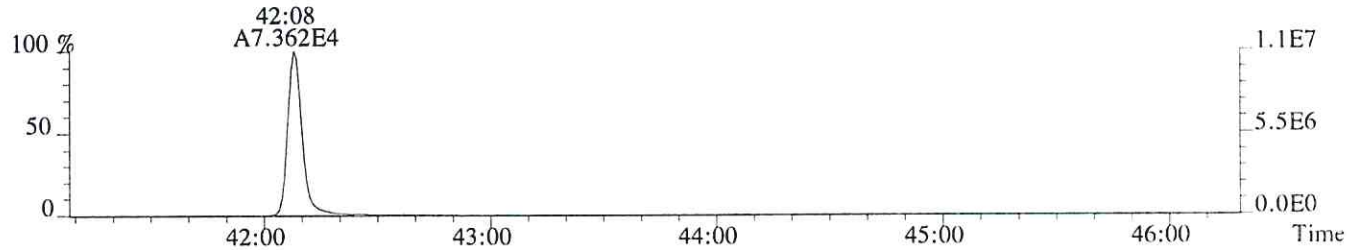
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



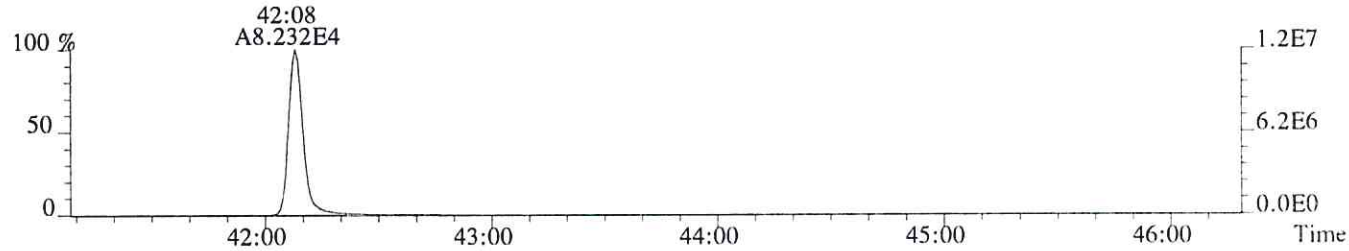
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



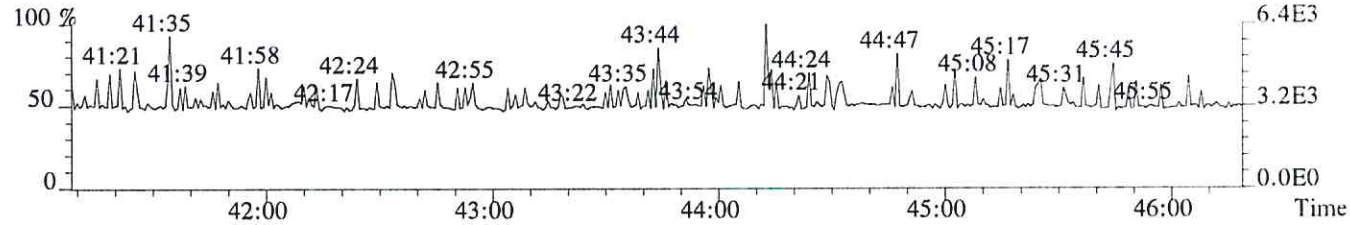
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



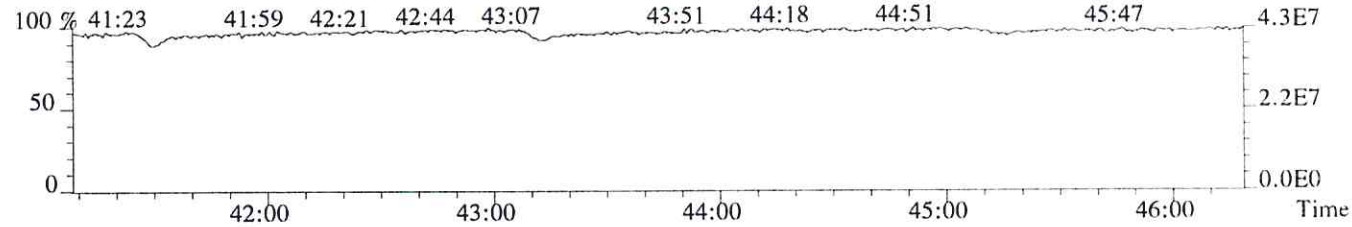
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



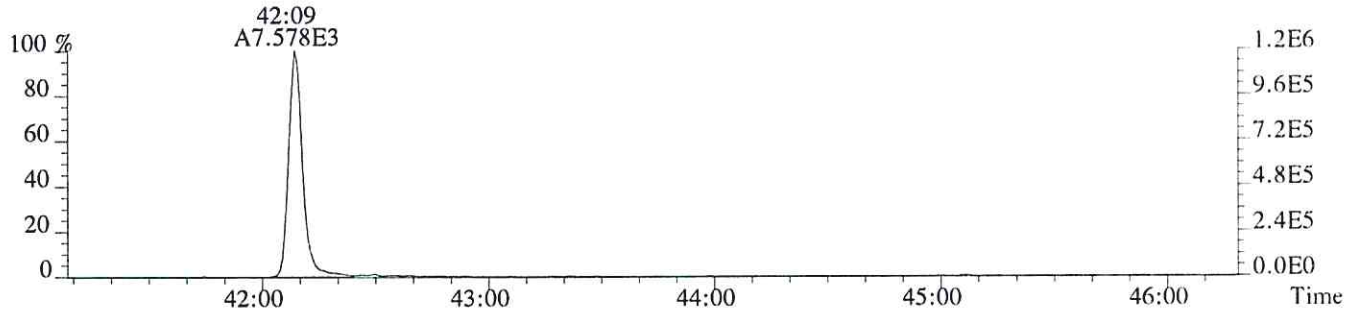
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



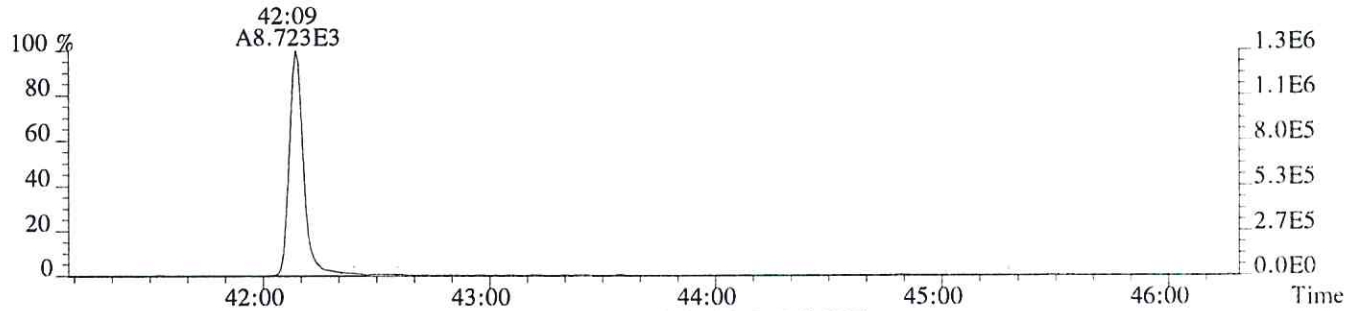
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



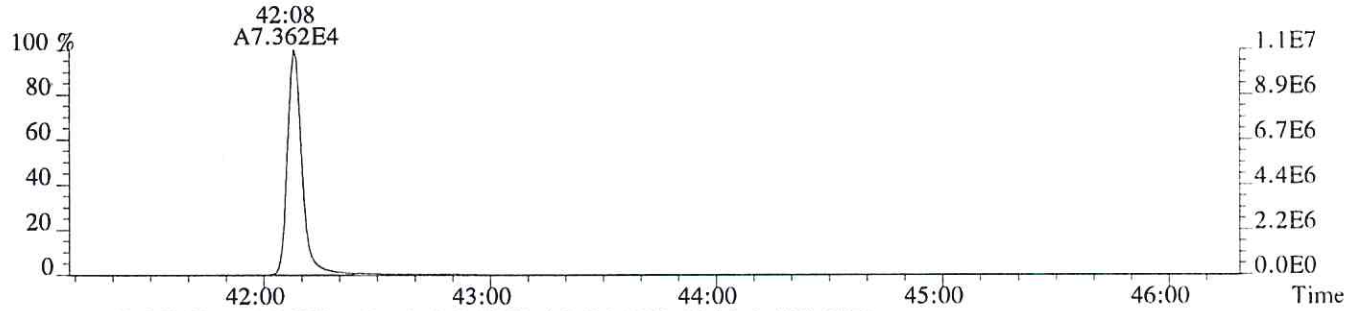
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,392.0,0.40%,F,T)



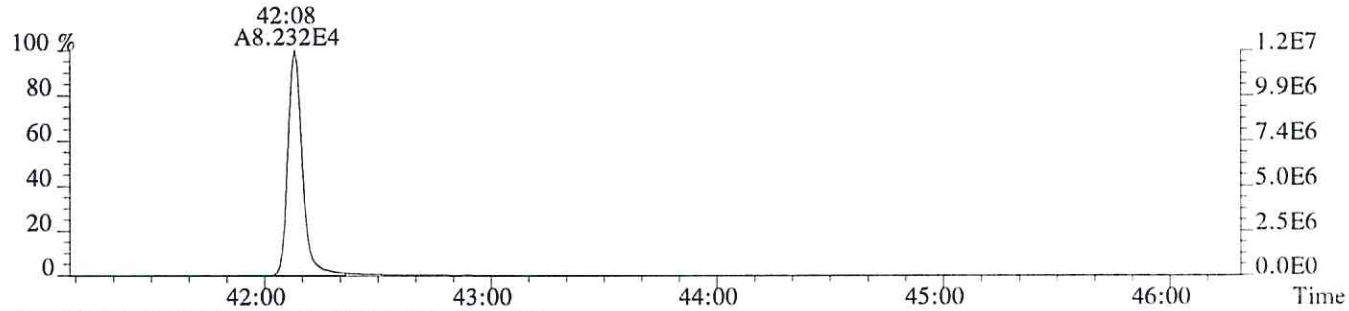
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



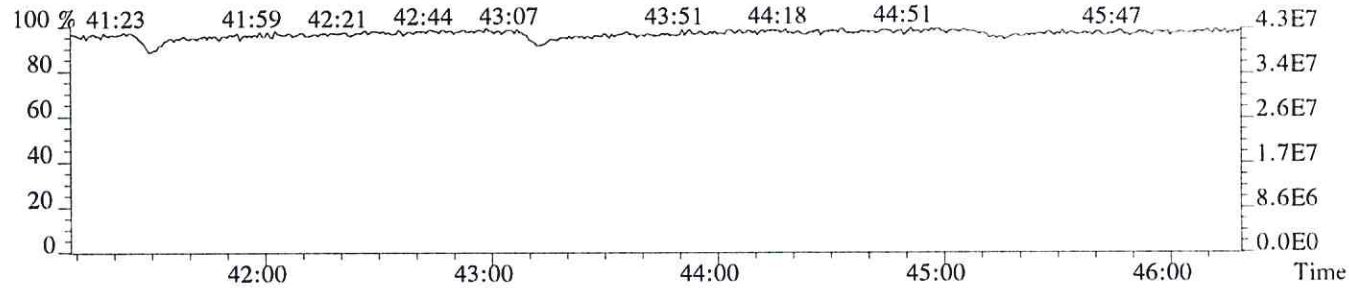
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76557

Run #4 Filename P510637 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:59:13
Processed: 27-JUL-17 08:42:58 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	1.395e+04	1.918e+04	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	1.190e+05	7.992e+04	1.49	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	1.061e+05	7.152e+04	1.48	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:44	8.799e+04	7.552e+04	1.17	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	9.465e+04	8.067e+04	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	8.501e+04	7.354e+04	1.16	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	7.547e+04	6.510e+04	1.16	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:23	7.745e+04	7.807e+04	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:47	6.315e+04	6.292e+04	1.00	yes	no	1.191
10	Unk	OCDF	42:19	1.015e+05	1.157e+05	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	1.204e+04	1.558e+04	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	8.721e+04	5.621e+04	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:30	7.234e+04	5.924e+04	1.22	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	7.342e+04	5.839e+04	1.26	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:49	7.893e+04	6.388e+04	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:18	6.096e+04	5.863e+04	1.04	yes	no	0.942
17	Unk	OCDD	42:07	9.426e+04	1.079e+05	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:48	1.729e+05	2.206e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	2.674e+05	1.722e+05	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	2.544e+05	1.640e+05	1.55	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:43	1.006e+05	1.901e+05	0.53	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:50	1.185e+05	2.276e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	1.070e+05	2.067e+05	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	9.282e+04	1.823e+05	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	7.515e+04	1.701e+05	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:46	6.454e+04	1.473e+05	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:36	1.188e+05	1.492e+05	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	1.923e+05	1.215e+05	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	1.530e+05	1.190e+05	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	1.534e+05	1.209e+05	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:18	1.294e+05	1.245e+05	1.04	yes	no	0.881
32	IS	13C-OCDD	42:06	1.819e+05	2.022e+05	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	1.275e+05	1.573e+05	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	1.711e+05	1.325e+05	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	2.880e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76557

Run #4 Filename P510637 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:59:13
Processed: 27-JUL-17 08:42:58 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.53e+06	8.28e+02	3.1e+03	3.50e+06	2.50e+03	1.4e+03
2	1,2,3,7,8-PeCDF	2.26e+07	8.92e+02	2.5e+04	1.51e+07	1.57e+03	9.6e+03
3	2,3,4,7,8-PeCDF	2.15e+07	8.92e+02	2.4e+04	1.44e+07	1.57e+03	9.2e+03
4	1,2,3,4,7,8-HxCDF	1.86e+07	1.44e+03	1.3e+04	1.60e+07	1.10e+03	1.4e+04
5	1,2,3,6,7,8-HxCDF	1.96e+07	1.44e+03	1.4e+04	1.67e+07	1.10e+03	1.5e+04
6	2,3,4,6,7,8-HxCDF	1.82e+07	1.44e+03	1.3e+04	1.56e+07	1.10e+03	1.4e+04
7	1,2,3,7,8,9-HxCDF	1.57e+07	1.44e+03	1.1e+04	1.34e+07	1.10e+03	1.2e+04
8	1,2,3,4,6,7,8-HpCDF	1.75e+07	6.21e+03	2.8e+03	1.76e+07	4.92e+03	3.6e+03
9	1,2,3,4,7,8,9-HpCDF	1.21e+07	6.21e+03	1.9e+03	1.23e+07	4.92e+03	2.5e+03
10	OCDF	1.65e+07	3.52e+02	4.7e+04	1.84e+07	1.42e+03	1.3e+04
11	2,3,7,8-TCDD	2.29e+06	1.81e+03	1.3e+03	3.01e+06	9.32e+02	3.2e+03
12	1,2,3,7,8-PeCDD	1.71e+07	2.11e+03	8.1e+03	1.11e+07	5.16e+02	2.1e+04
13	1,2,3,4,7,8-HxCDD	1.64e+07	2.96e+02	5.5e+04	1.33e+07	8.48e+02	1.6e+04
14	1,2,3,6,7,8-HxCDD	1.58e+07	2.96e+02	5.3e+04	1.25e+07	8.48e+02	1.5e+04
15	1,2,3,7,8,9-HxCDD	1.64e+07	2.96e+02	5.5e+04	1.34e+07	8.48e+02	1.6e+04
16	1,2,3,4,6,7,8-HpCDD	1.24e+07	8.56e+02	1.4e+04	1.19e+07	1.16e+03	1.0e+04
17	OCDD	1.55e+07	5.88e+02	2.6e+04	1.77e+07	8.04e+02	2.2e+04
18	13C-2,3,7,8-TCDF	3.06e+07	1.61e+04	1.9e+03	3.91e+07	6.57e+03	6.0e+03
19	13C-1,2,3,7,8-PeCDF	4.96e+07	2.28e+03	2.2e+04	3.20e+07	1.38e+03	2.3e+04
20	13C-2,3,4,7,8-PeCDF	5.02e+07	2.28e+03	2.2e+04	3.25e+07	1.38e+03	2.4e+04
21	13C-1,2,3,4,7,8-HxCDF	2.13e+07	1.04e+03	2.0e+04	4.06e+07	2.19e+03	1.9e+04
22	13C-1,2,3,6,7,8-HxCDF	2.44e+07	1.04e+03	2.3e+04	4.65e+07	2.19e+03	2.1e+04
23	13C-2,3,4,6,7,8-HxCDF	2.26e+07	1.04e+03	2.2e+04	4.30e+07	2.19e+03	2.0e+04
24	13C-1,2,3,7,8,9-HxCDF	1.91e+07	1.04e+03	1.8e+04	3.65e+07	2.19e+03	1.7e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.66e+07	3.13e+03	5.3e+03	3.76e+07	3.00e+03	1.3e+04
26	13C-1,2,3,4,7,8,9-HpCDF	1.22e+07	3.13e+03	3.9e+03	2.81e+07	3.00e+03	9.4e+03
27	13C-2,3,7,8-TCDD	2.25e+07	7.43e+03	3.0e+03	2.83e+07	3.85e+03	7.4e+03
28	13C-1,2,3,7,8-PeCDD	3.75e+07	1.80e+03	2.1e+04	2.39e+07	1.29e+03	1.8e+04
29	13C-1,2,3,4,7,8-HxCDD	3.46e+07	3.00e+03	1.2e+04	2.66e+07	1.30e+03	2.1e+04
30	13C-1,2,3,6,7,8-HxCDD	3.25e+07	3.00e+03	1.1e+04	2.57e+07	1.30e+03	2.0e+04
31	13C-1,2,3,4,6,7,8-HpCDD	2.62e+07	1.56e+03	1.7e+04	2.49e+07	1.41e+03	1.8e+04
32	13C-OCDD	2.96e+07	8.88e+02	3.3e+04	3.31e+07	3.32e+02	1.0e+05
33	13C-1,2,3,4-TCDD	2.32e+07	7.43e+03	3.1e+03	2.86e+07	3.85e+03	7.4e+03
34	13C-1,2,3,7,8,9-HxCDD	3.51e+07	3.00e+03	1.2e+04	2.79e+07	1.30e+03	2.2e+04
35	37Cl-2,3,7,8-TCDD	5.51e+06	1.06e+03	5.2e+03			

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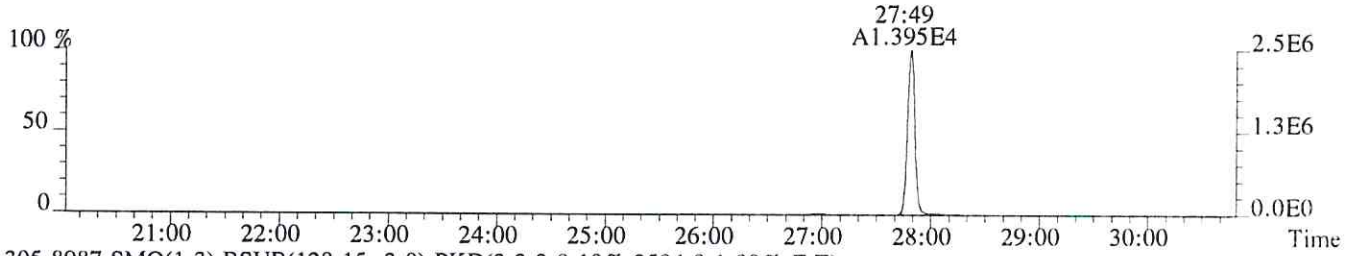
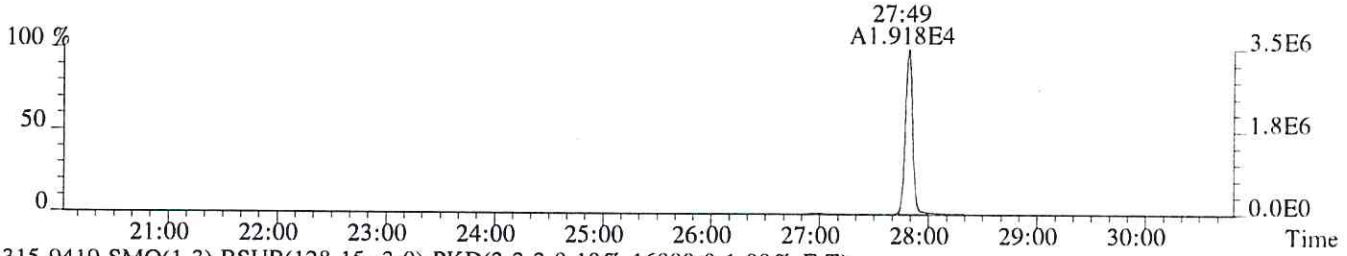
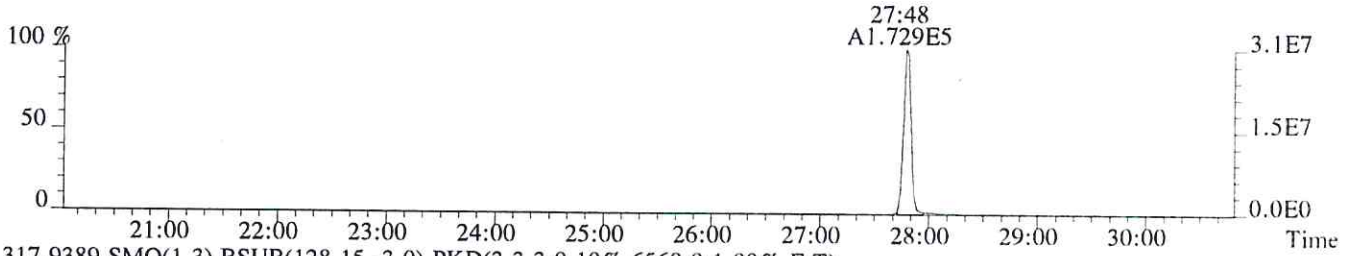
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



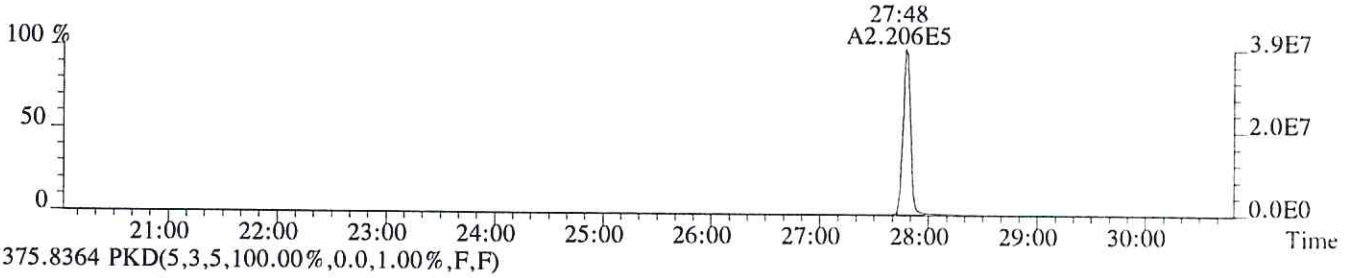
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



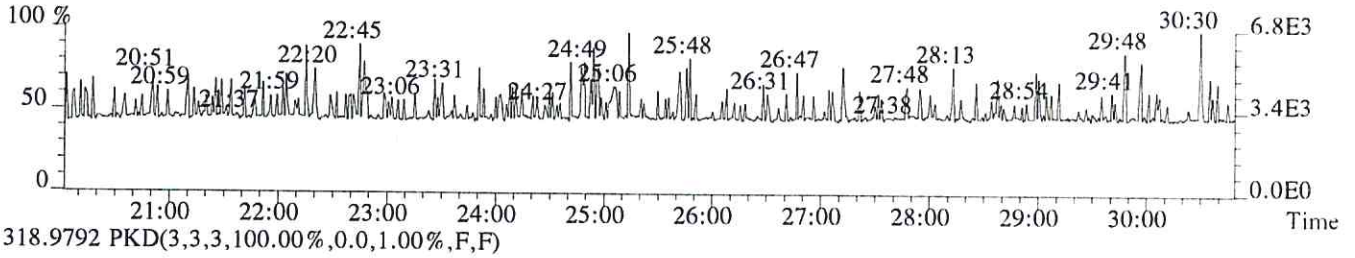
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16080.0,1.00%,F,T)



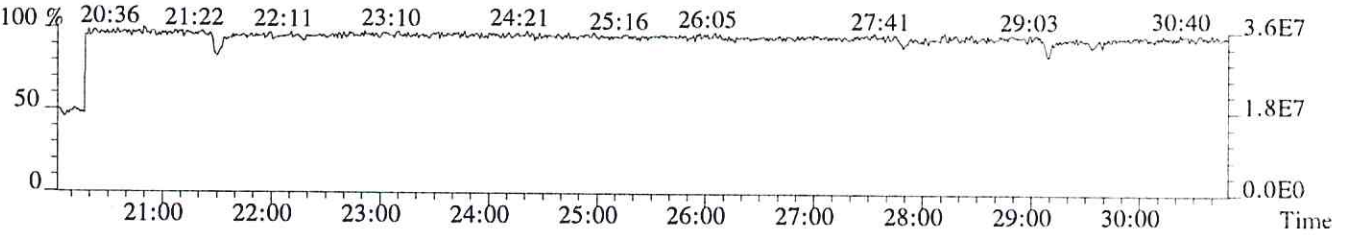
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6568.0,1.00%,F,T)



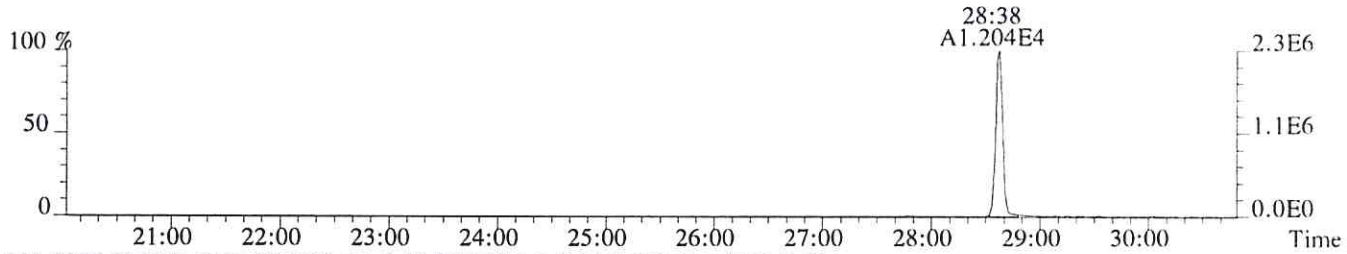
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



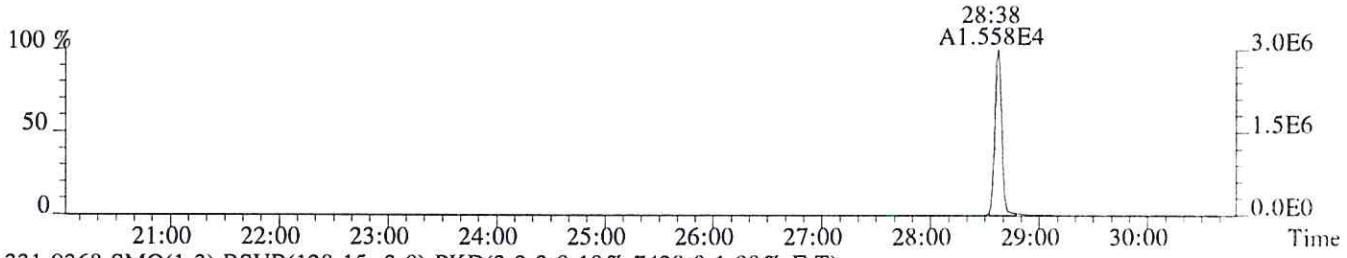
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



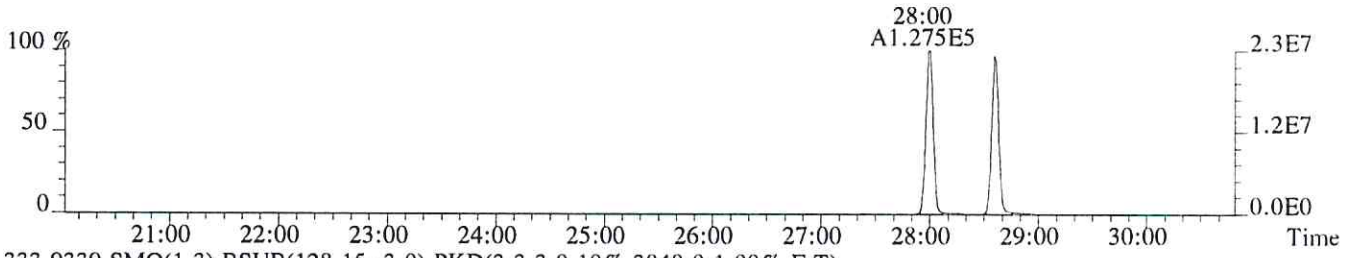
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



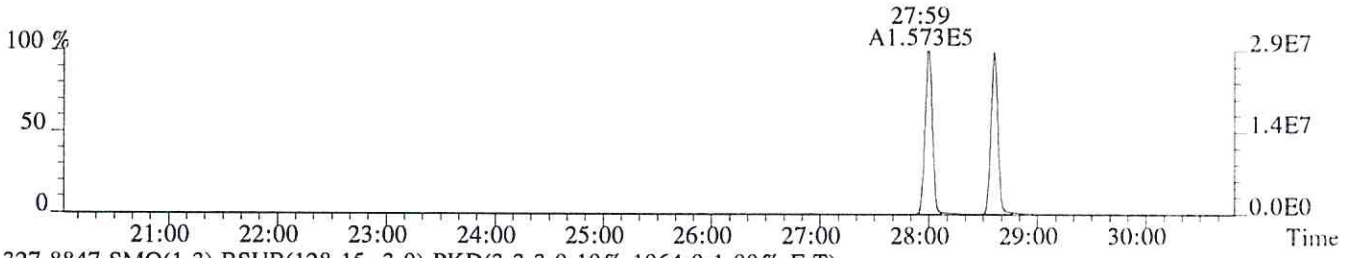
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



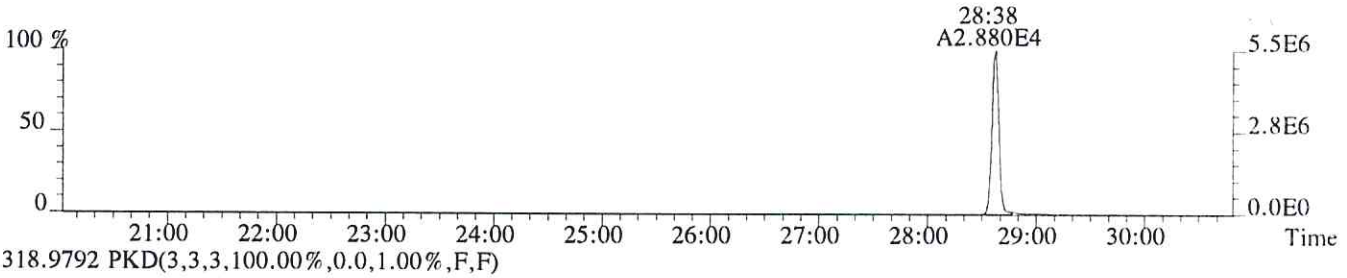
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7428.0,1.00%,F,T)



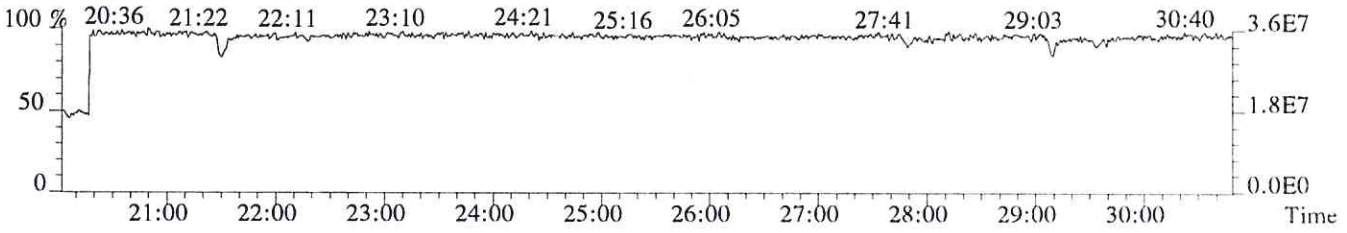
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3848.0,1.00%,F,T)



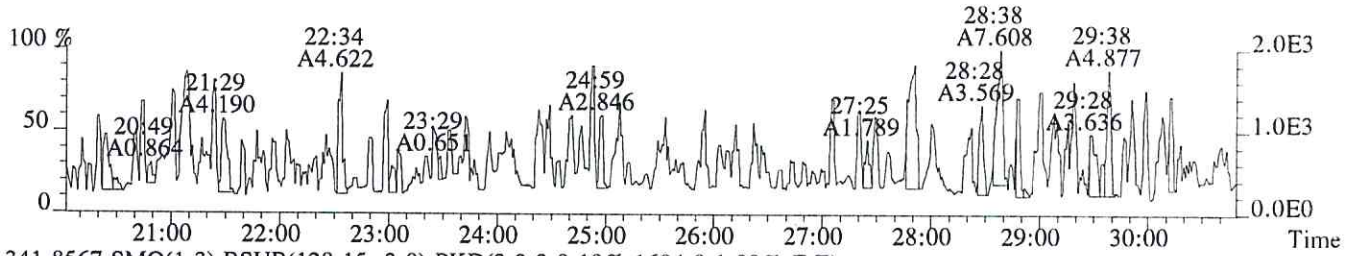
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



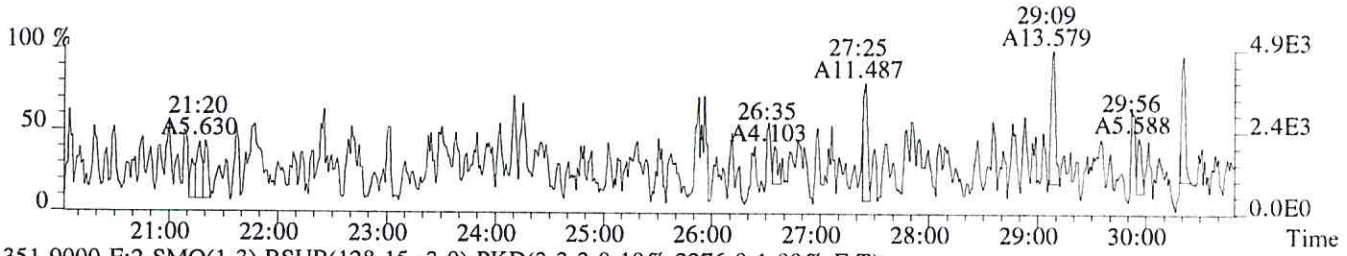
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



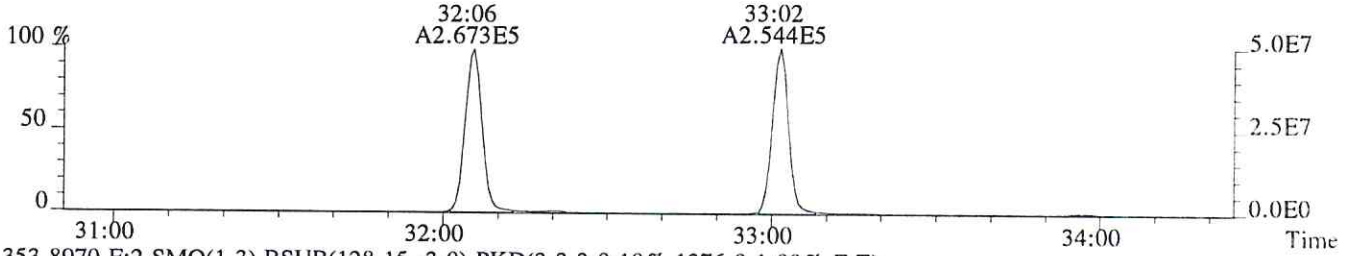
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



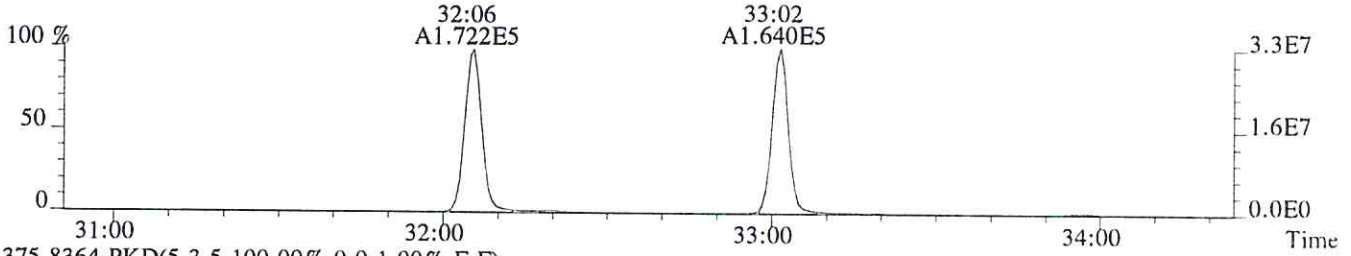
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



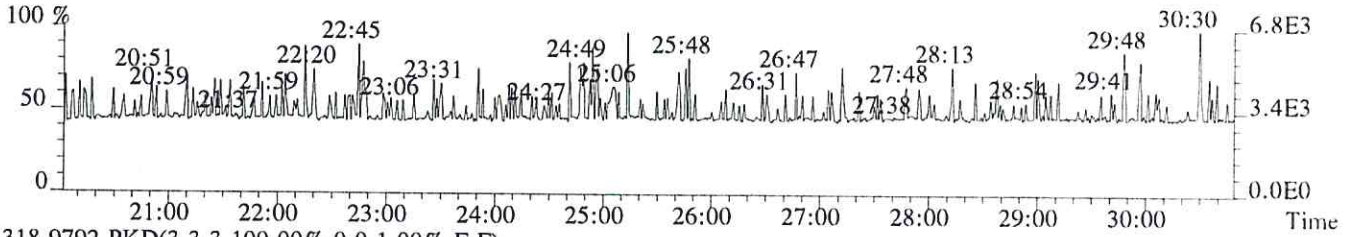
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



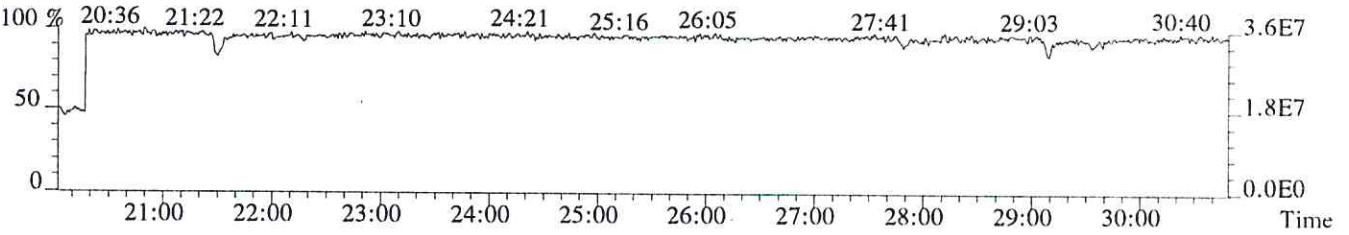
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



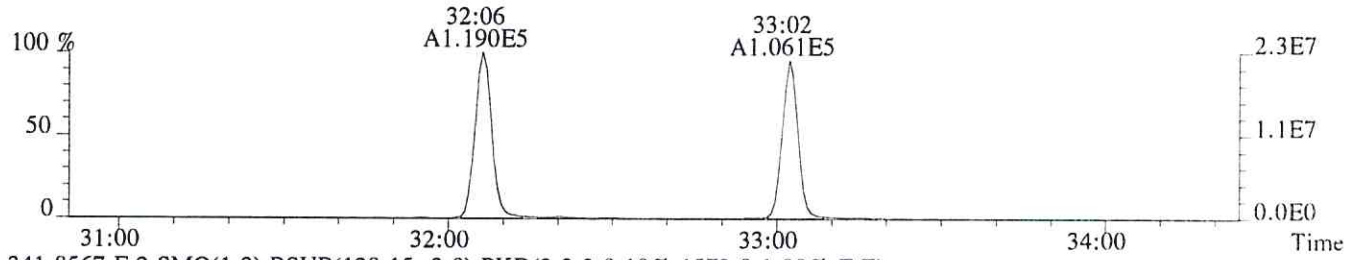
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



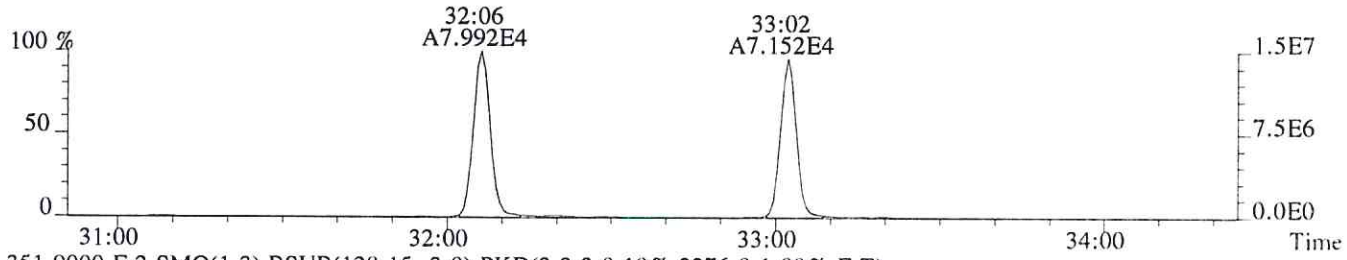
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



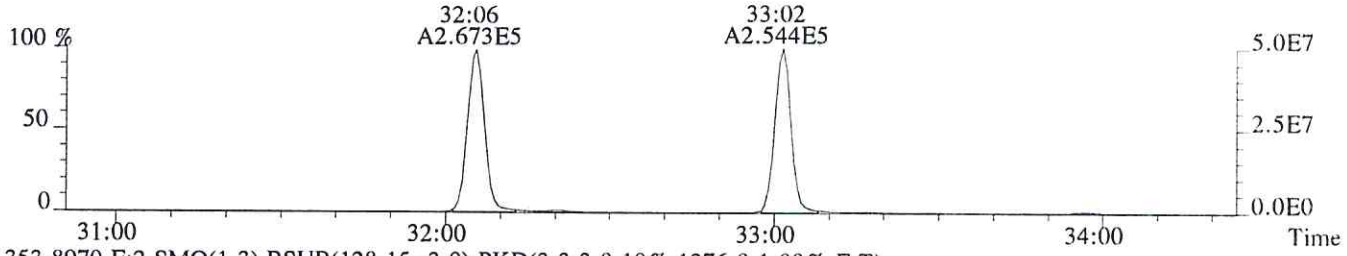
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



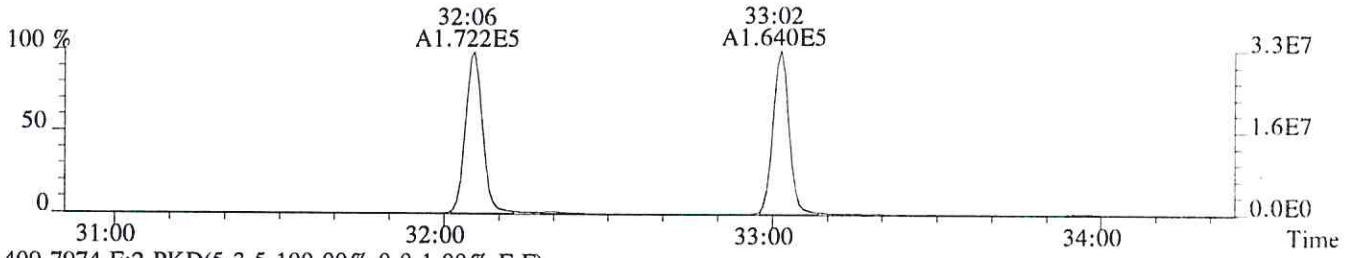
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



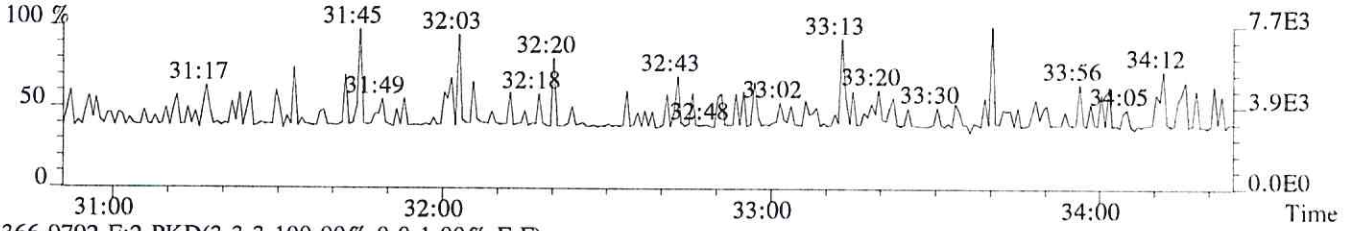
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



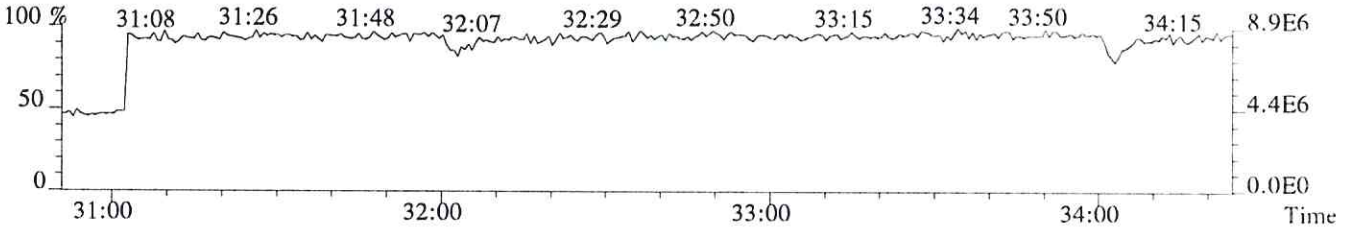
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



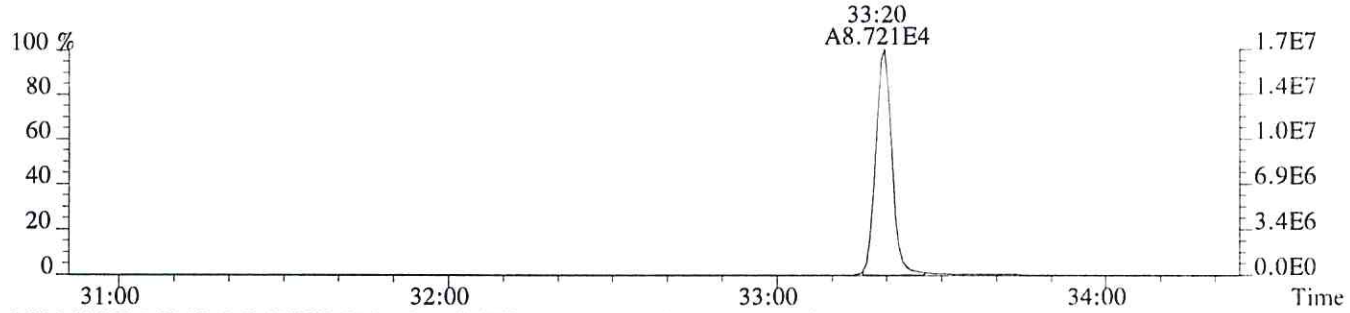
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



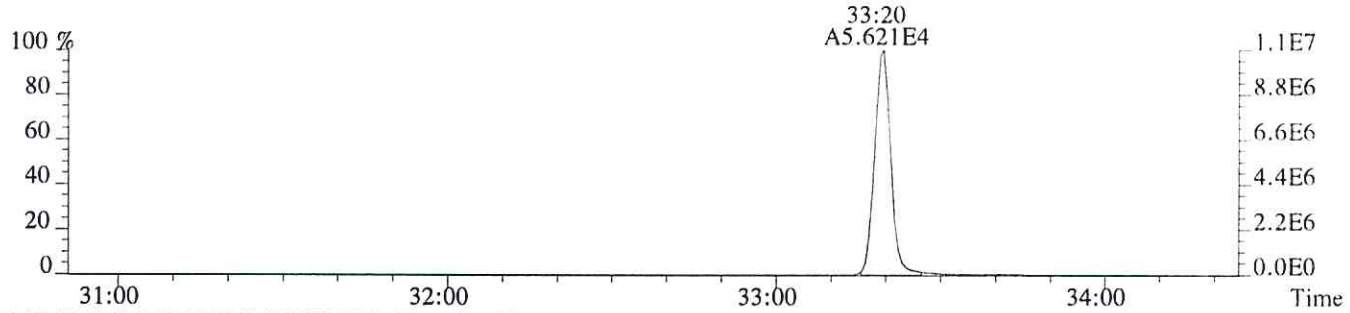
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



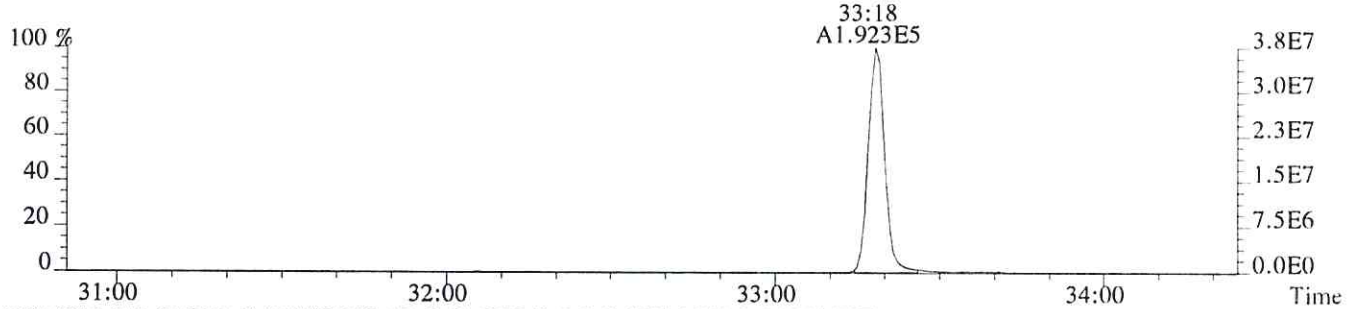
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



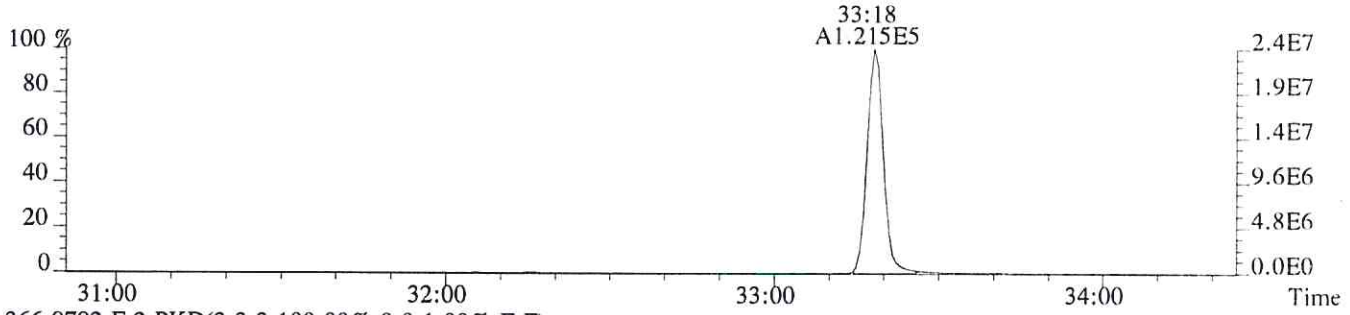
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



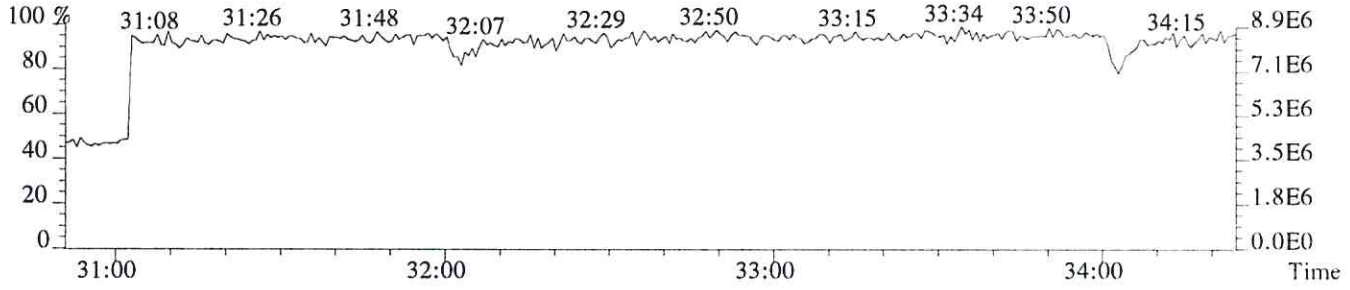
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



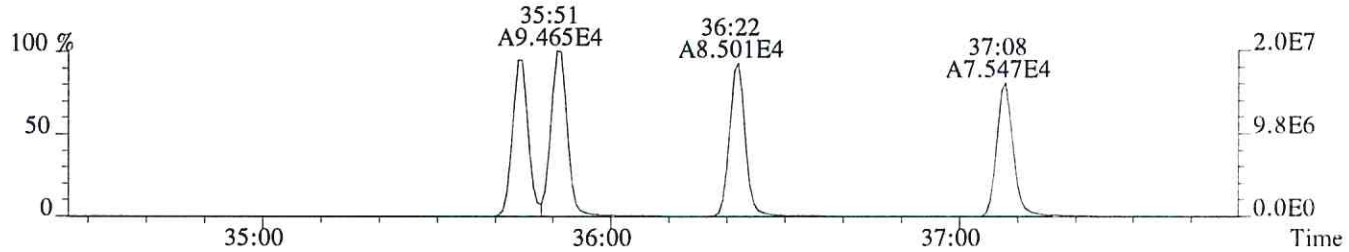
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



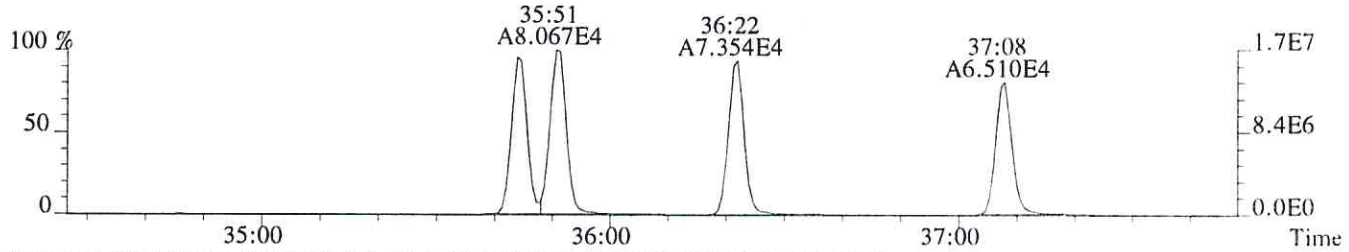
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



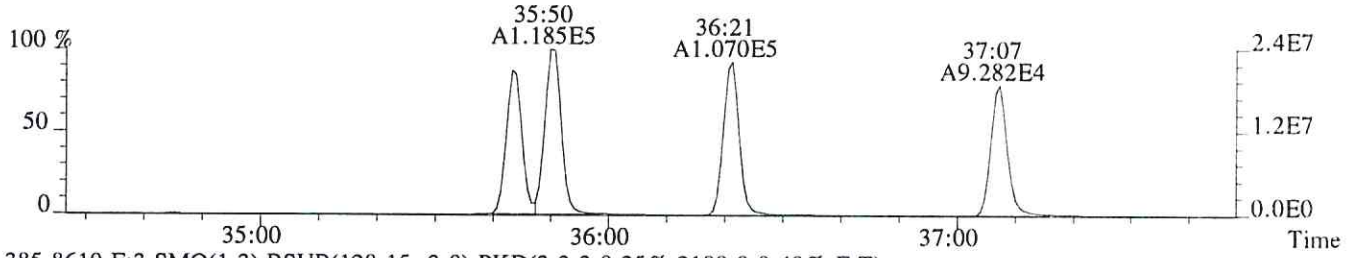
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



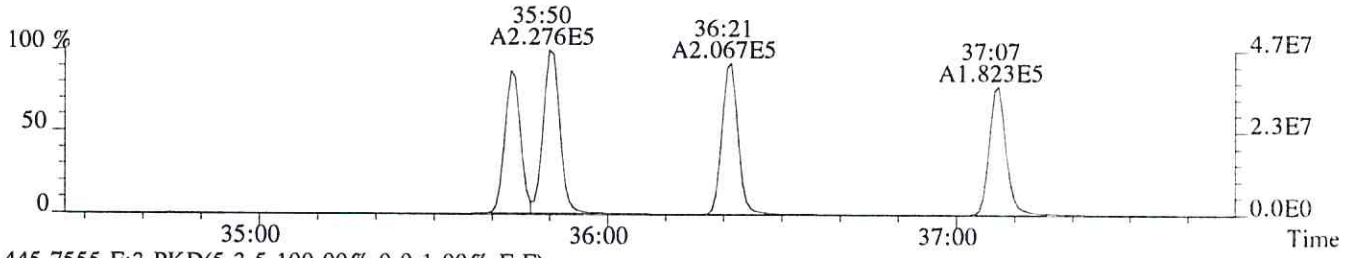
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)



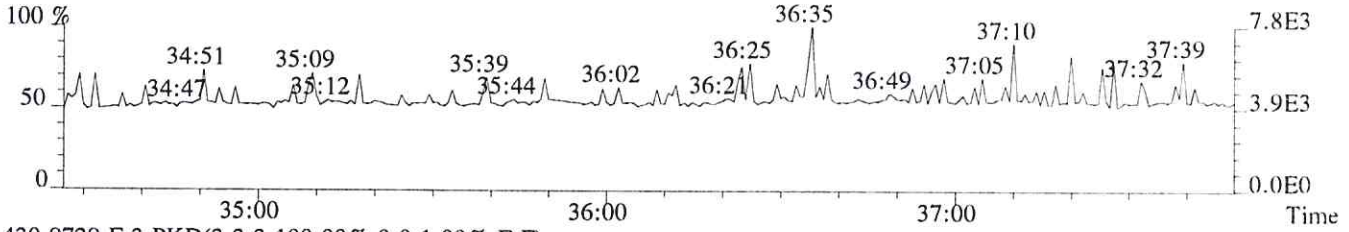
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



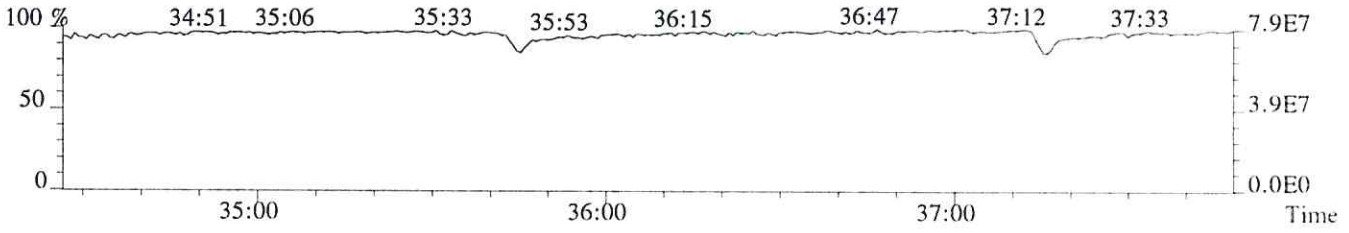
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2188.0,0.40%,F,T)



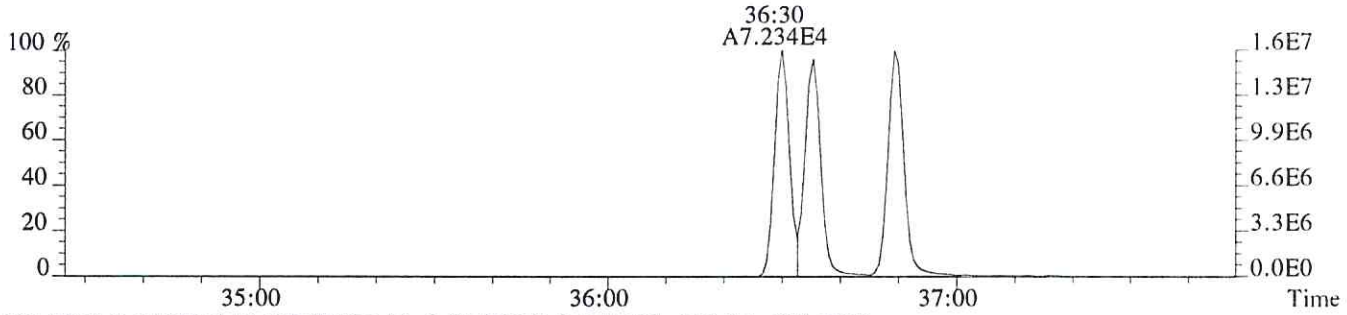
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



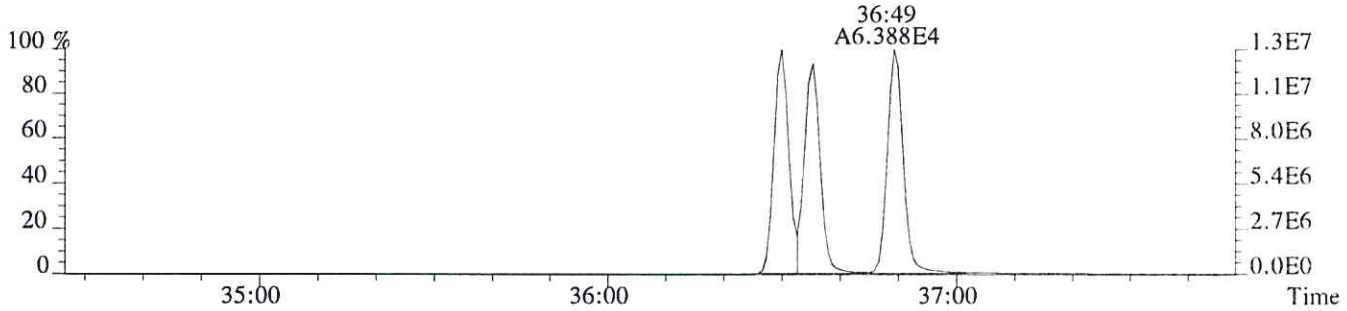
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



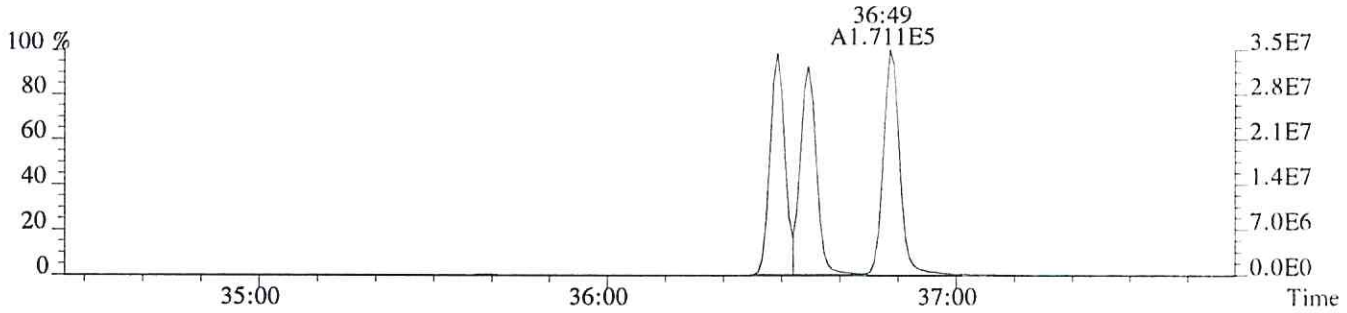
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



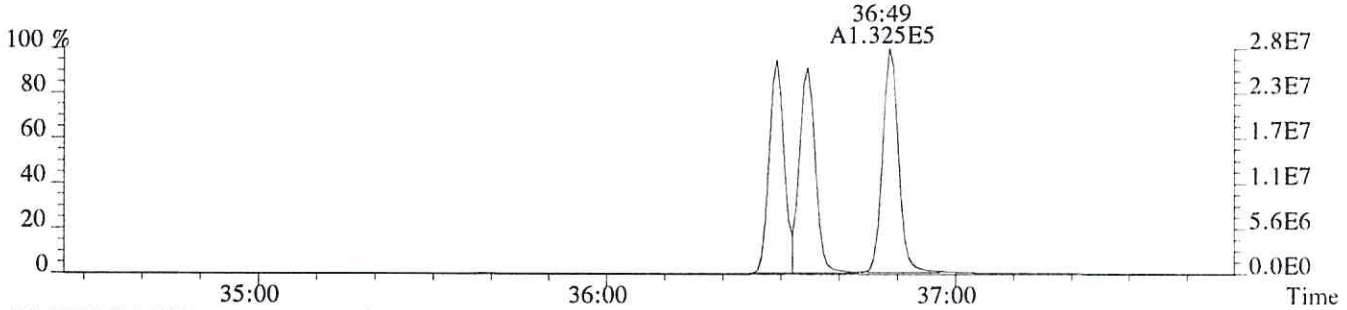
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



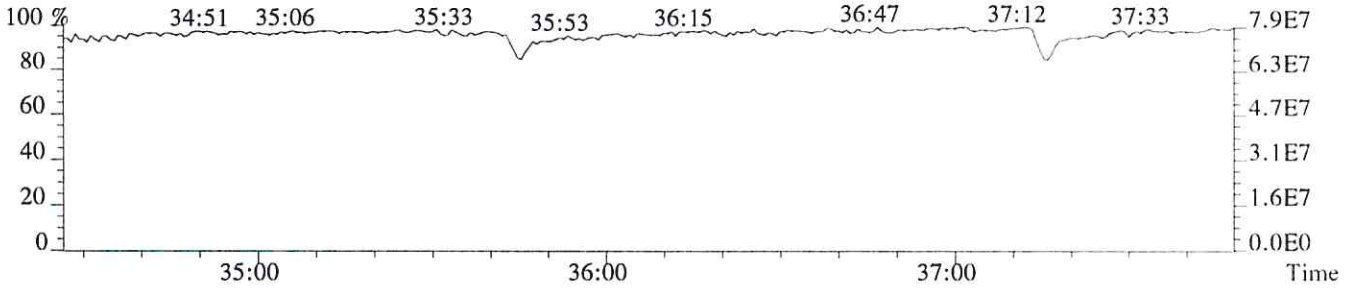
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.40%,F,T)



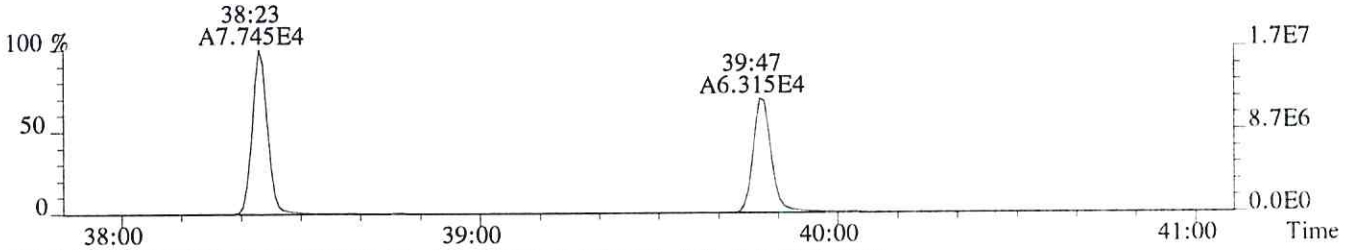
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



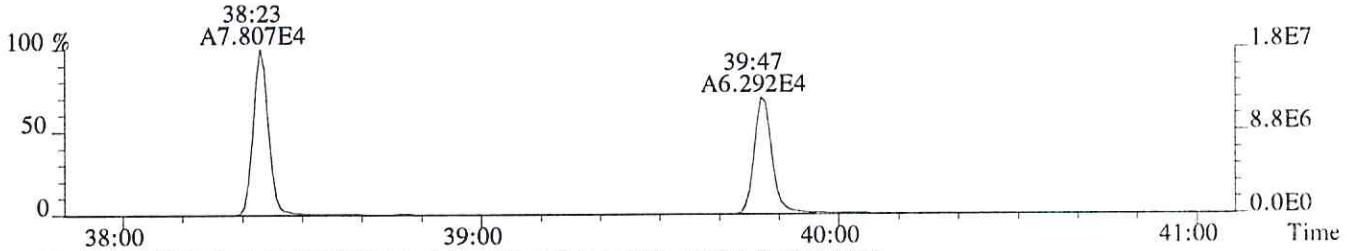
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



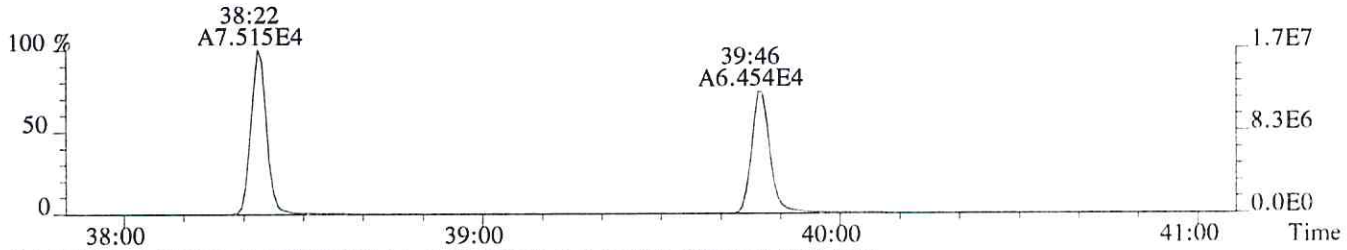
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6208.0,0.50%,F,T)



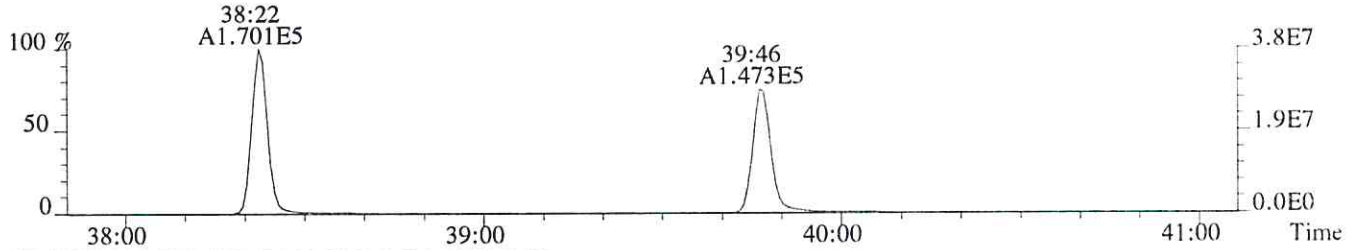
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4924.0,0.50%,F,T)



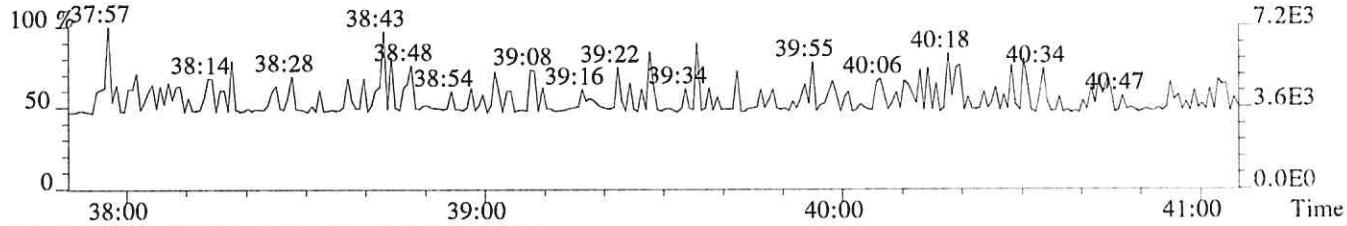
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3128.0,0.50%,F,T)



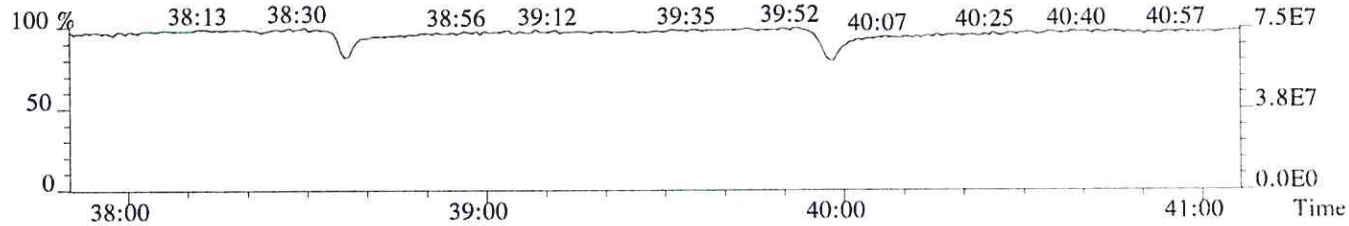
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2996.0,0.50%,F,T)



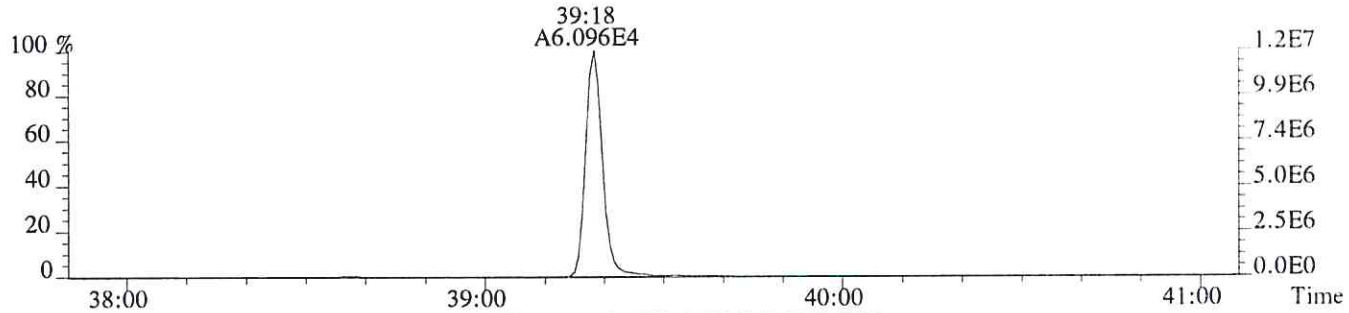
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



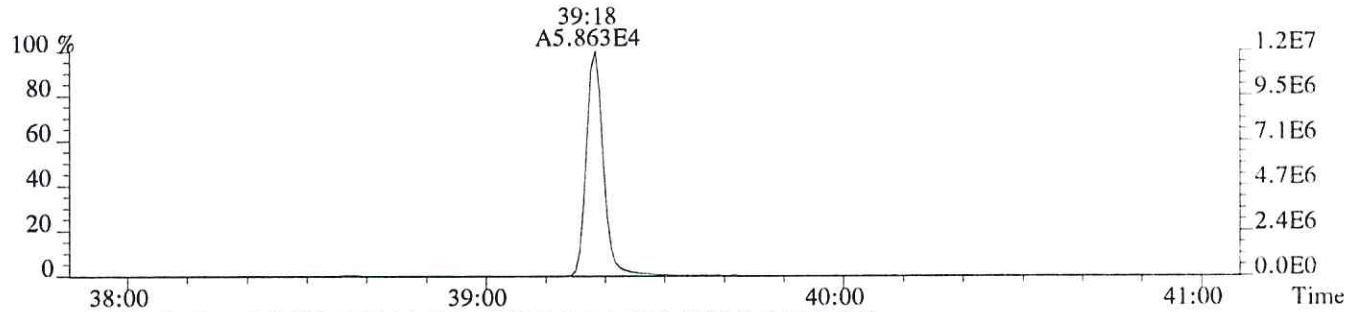
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



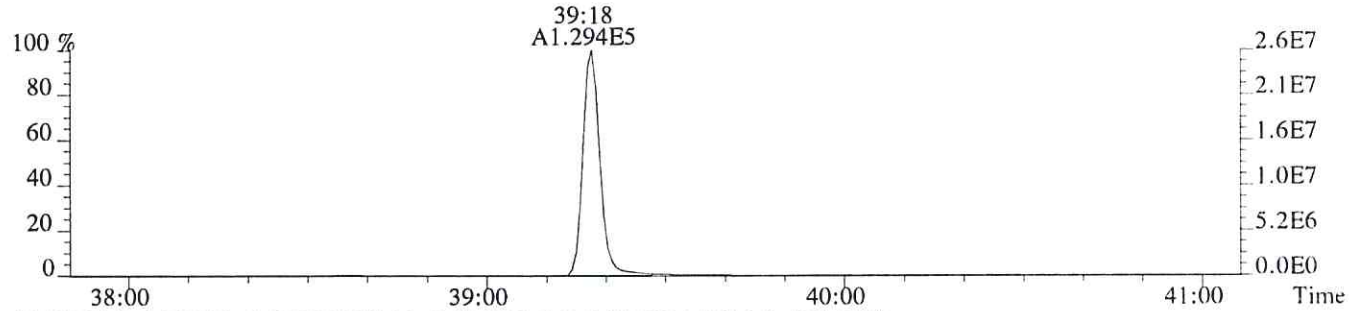
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



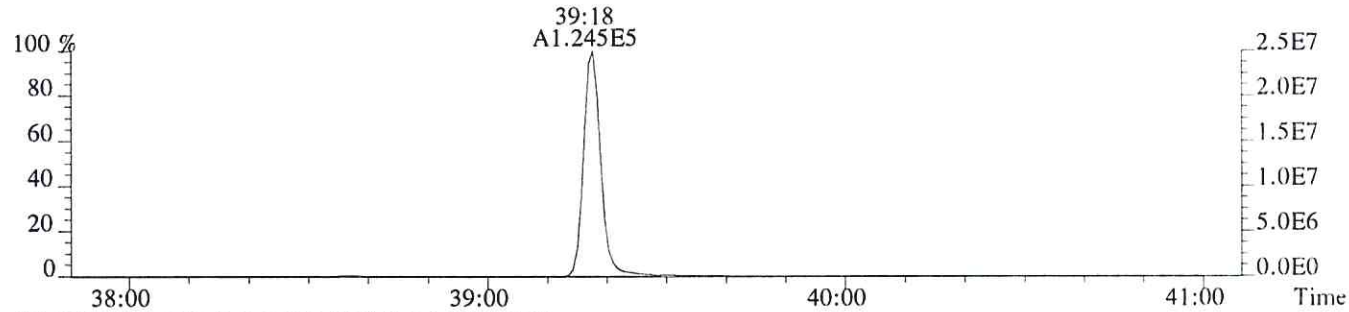
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



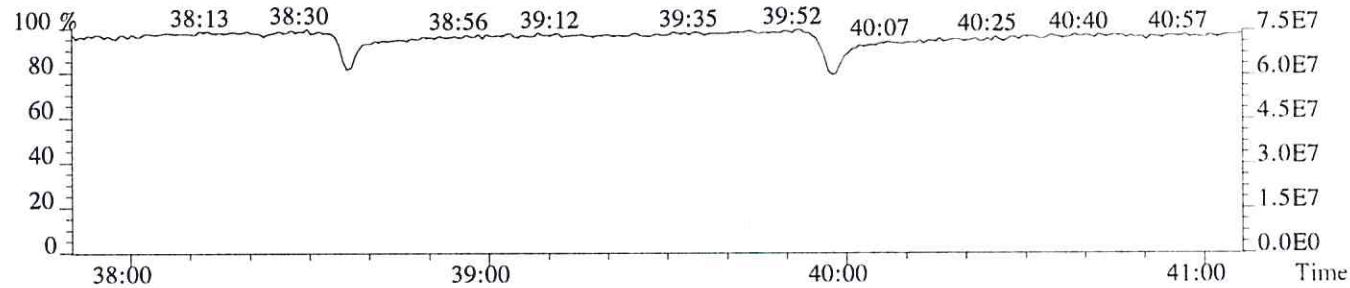
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



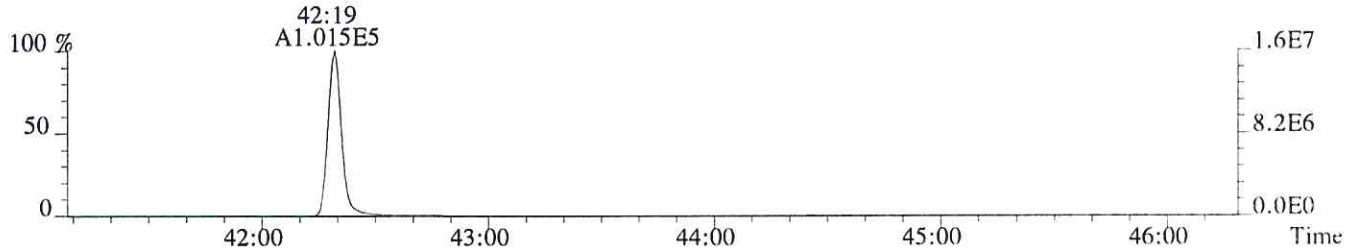
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



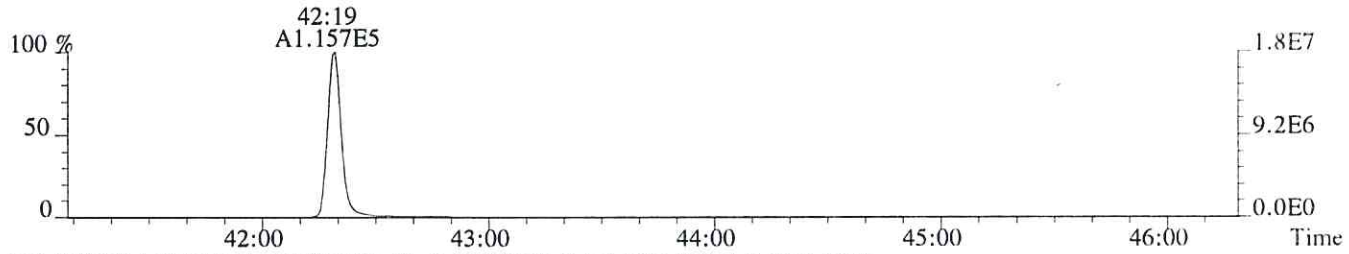
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



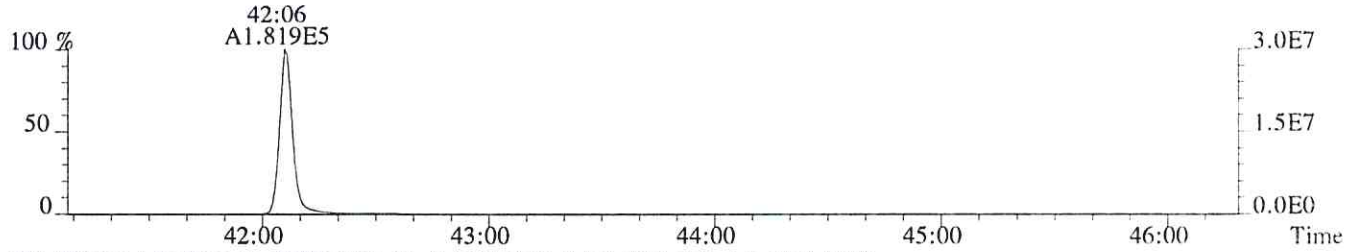
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



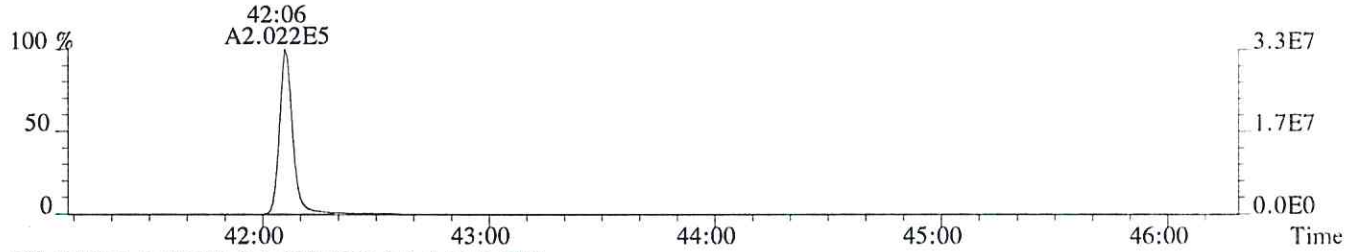
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1416.0,0.40%,F,T)



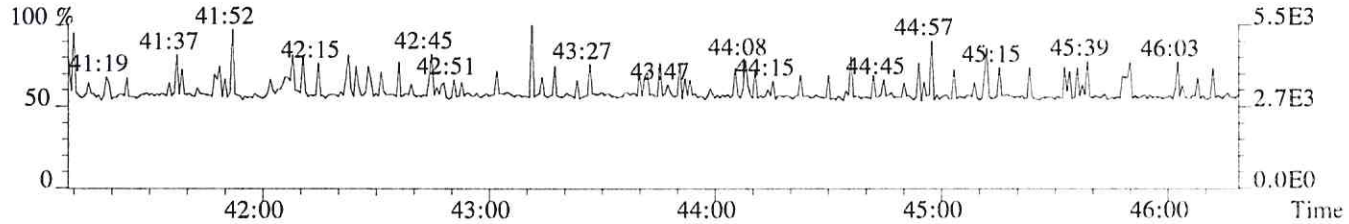
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



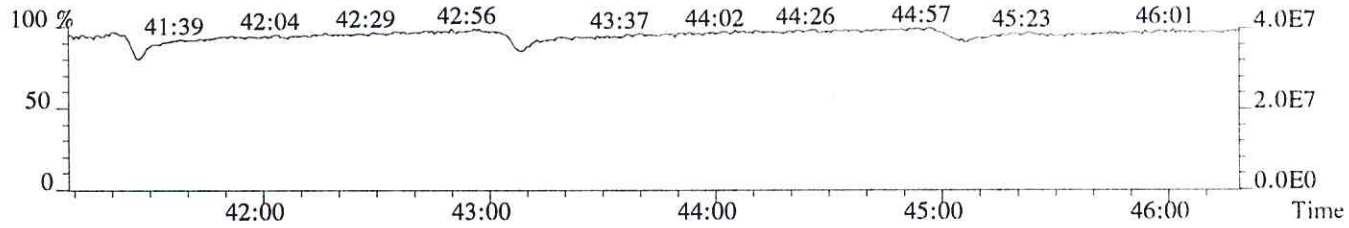
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



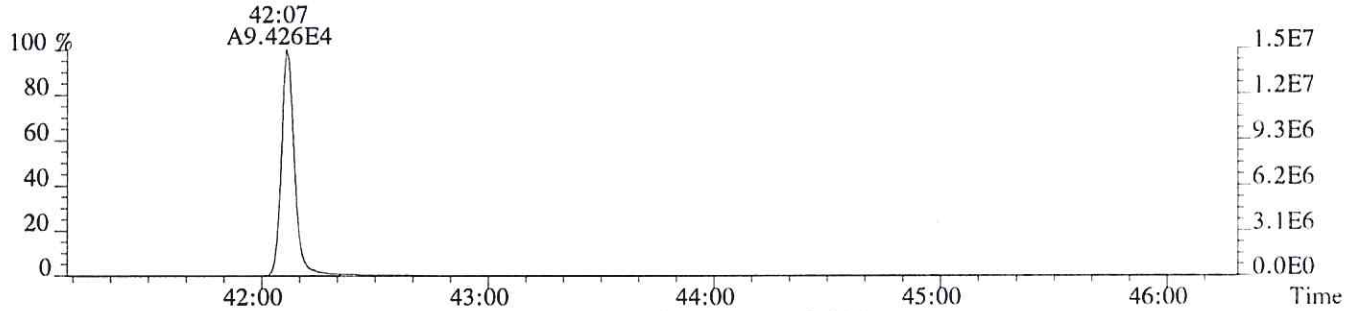
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



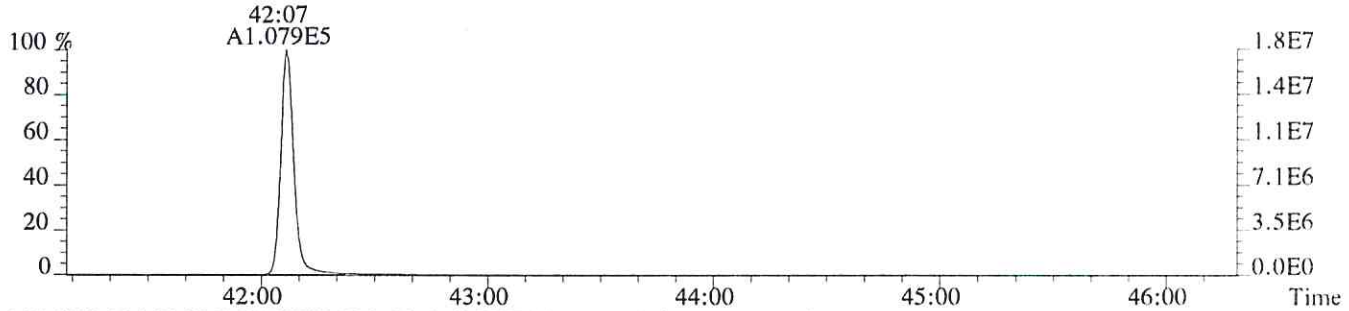
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



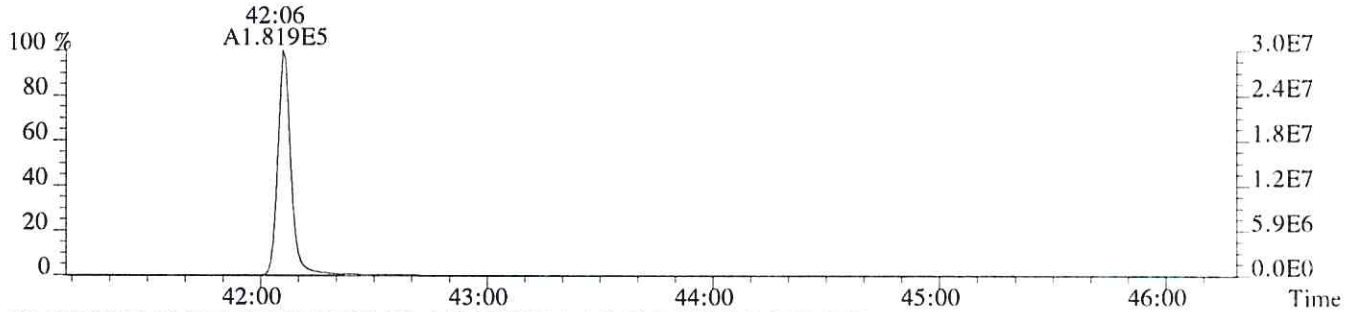
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



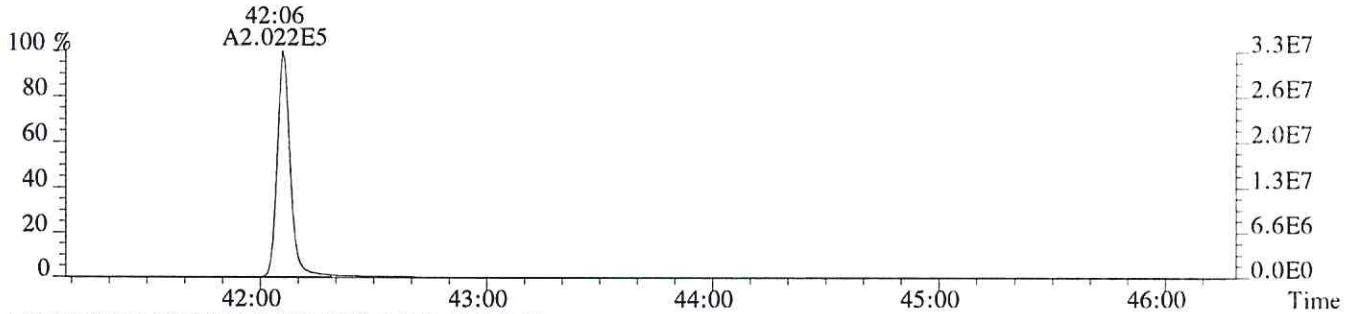
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,804.0,0.40%,F,T)



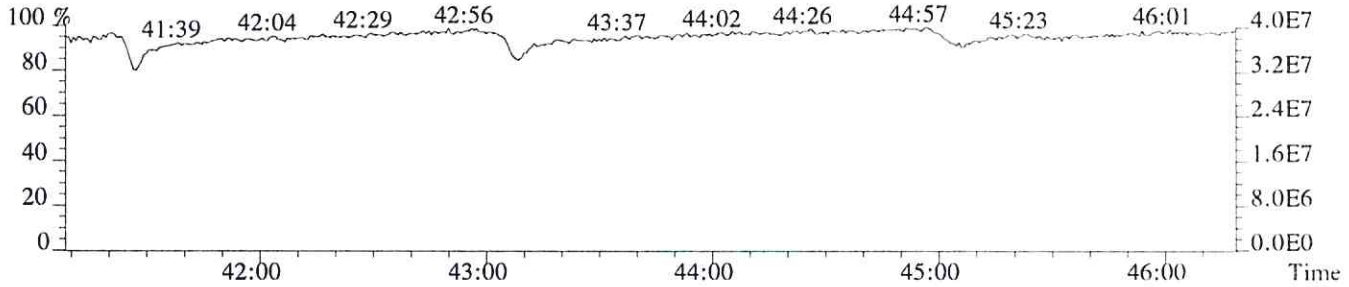
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76558

Run #5 Filename P510638 Samp: 1 Inj: 1 Acquired: 26-JUL-17 14:47:53
Processed: 27-JUL-17 08:42:58 Sample ID: CS4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	2.729e+04	3.745e+04	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:07	2.396e+05	1.615e+05	1.48	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:03	2.203e+05	1.482e+05	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	1.835e+05	1.610e+05	1.14	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	2.024e+05	1.752e+05	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	1.818e+05	1.574e+05	1.15	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	1.654e+05	1.434e+05	1.15	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	1.757e+05	1.766e+05	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	1.461e+05	1.449e+05	1.01	yes	no	1.191
10	Unk	OCDF	42:22	2.509e+05	2.845e+05	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	2.472e+04	3.257e+04	0.76	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	1.815e+05	1.169e+05	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	1.557e+05	1.267e+05	1.23	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	1.667e+05	1.345e+05	1.24	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	1.692e+05	1.337e+05	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	1.395e+05	1.347e+05	1.04	yes	no	0.942
17	Unk	OCDD	42:09	2.291e+05	2.596e+05	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	8.567e+04	1.084e+05	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	1.330e+05	8.545e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.302e+05	8.377e+04	1.55	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	5.324e+04	1.048e+05	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	6.188e+04	1.196e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	5.637e+04	1.115e+05	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	4.884e+04	9.652e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:23	4.203e+04	9.491e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	3.700e+04	8.501e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:37	6.067e+04	7.597e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:19	9.912e+04	6.232e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	8.119e+04	6.348e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	8.656e+04	6.779e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:20	7.355e+04	7.030e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:09	1.088e+05	1.222e+05	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	6.524e+04	8.125e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	8.824e+04	6.939e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	5.980e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76558

Run #5 Filename P510638 Samp: 1 Inj: 1 Acquired: 26-JUL-17 14:47:53
Processed: 27-JUL-17 08:42:58 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.85e+06	8.76e+02	5.5e+03	6.66e+06	2.40e+03	2.8e+03
2	1,2,3,7,8-PeCDF	4.33e+07	3.28e+02	1.3e+05	2.92e+07	2.64e+03	1.1e+04
3	2,3,4,7,8-PeCDF	4.27e+07	3.28e+02	1.3e+05	2.84e+07	2.64e+03	1.1e+04
4	1,2,3,4,7,8-HxCDF	3.96e+07	1.48e+03	2.7e+04	3.46e+07	9.32e+02	3.7e+04
5	1,2,3,6,7,8-HxCDF	4.27e+07	1.48e+03	2.9e+04	3.68e+07	9.32e+02	3.9e+04
6	2,3,4,6,7,8-HxCDF	3.89e+07	1.48e+03	2.6e+04	3.38e+07	9.32e+02	3.6e+04
7	1,2,3,7,8,9-HxCDF	3.35e+07	1.48e+03	2.3e+04	2.93e+07	9.32e+02	3.1e+04
8	1,2,3,4,6,7,8-HpCDF	3.78e+07	1.15e+04	3.3e+03	3.82e+07	7.06e+03	5.4e+03
9	1,2,3,4,7,8,9-HpCDF	2.84e+07	1.15e+04	2.5e+03	2.82e+07	7.06e+03	4.0e+03
10	OCDF	3.95e+07	6.92e+02	5.7e+04	4.50e+07	1.13e+03	4.0e+04
11	2,3,7,8-TCDD	4.62e+06	1.98e+03	2.3e+03	6.06e+06	1.30e+03	4.7e+03
12	1,2,3,7,8-PeCDD	3.54e+07	9.92e+02	3.6e+04	2.29e+07	1.80e+02	1.3e+05
13	1,2,3,4,7,8-HxCDD	3.44e+07	5.72e+02	6.0e+04	2.80e+07	1.18e+03	2.4e+04
14	1,2,3,6,7,8-HxCDD	3.29e+07	5.72e+02	5.8e+04	2.71e+07	1.18e+03	2.3e+04
15	1,2,3,7,8,9-HxCDD	3.48e+07	5.72e+02	6.1e+04	2.82e+07	1.18e+03	2.4e+04
16	1,2,3,4,6,7,8-HpCDD	2.79e+07	1.06e+03	2.6e+04	2.69e+07	1.00e+03	2.7e+04
17	OCDD	3.74e+07	5.44e+02	6.9e+04	4.25e+07	1.09e+03	3.9e+04
18	13C-2,3,7,8-TCDF	1.50e+07	1.50e+04	1.0e+03	1.88e+07	6.42e+03	2.9e+03
19	13C-1,2,3,7,8-PeCDF	2.43e+07	1.91e+03	1.3e+04	1.56e+07	7.44e+02	2.1e+04
20	13C-2,3,4,7,8-PeCDF	2.50e+07	1.91e+03	1.3e+04	1.62e+07	7.44e+02	2.2e+04
21	13C-1,2,3,4,7,8-HxCDF	1.14e+07	7.36e+02	1.6e+04	2.24e+07	1.55e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	1.30e+07	7.36e+02	1.8e+04	2.50e+07	1.55e+03	1.6e+04
23	13C-2,3,4,6,7,8-HxCDF	1.21e+07	7.36e+02	1.6e+04	2.41e+07	1.55e+03	1.6e+04
24	13C-1,2,3,7,8,9-HxCDF	9.99e+06	7.36e+02	1.4e+04	1.96e+07	1.55e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.91e+06	5.04e+03	1.8e+03	2.03e+07	4.52e+03	4.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	7.11e+06	5.04e+03	1.4e+03	1.62e+07	4.52e+03	3.6e+03
27	13C-2,3,7,8-TCDD	1.13e+07	6.44e+03	1.7e+03	1.41e+07	3.84e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	1.89e+07	1.33e+03	1.4e+04	1.18e+07	1.71e+03	6.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.78e+07	2.20e+03	8.1e+03	1.40e+07	1.46e+03	9.6e+03
30	13C-1,2,3,6,7,8-HxCDD	1.72e+07	2.20e+03	7.8e+03	1.37e+07	1.46e+03	9.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.45e+07	1.47e+03	9.9e+03	1.37e+07	1.12e+03	1.2e+04
32	13C-OCDD	1.75e+07	8.32e+02	2.1e+04	1.99e+07	7.60e+02	2.6e+04
33	13C-1,2,3,4-TCDD	1.20e+07	6.44e+03	1.9e+03	1.49e+07	3.84e+03	3.9e+03
34	13C-1,2,3,7,8,9-HxCDD	1.87e+07	2.20e+03	8.5e+03	1.47e+07	1.46e+03	1.0e+04
35	37Cl-2,3,7,8-TCDD	1.12e+07	1.56e+03	7.1e+03			

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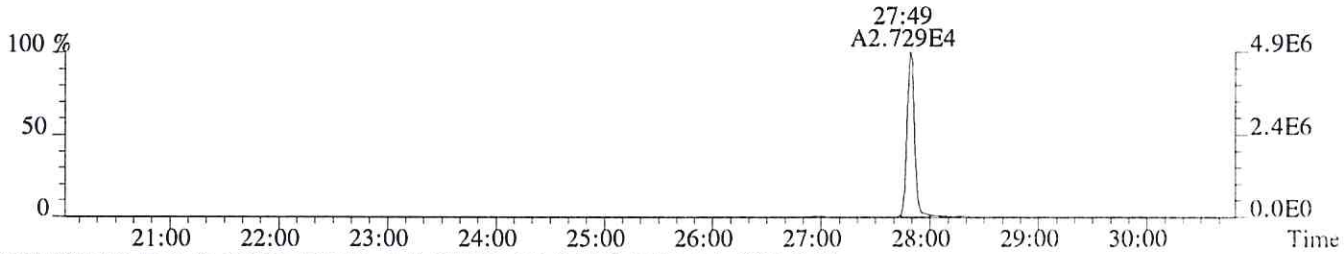
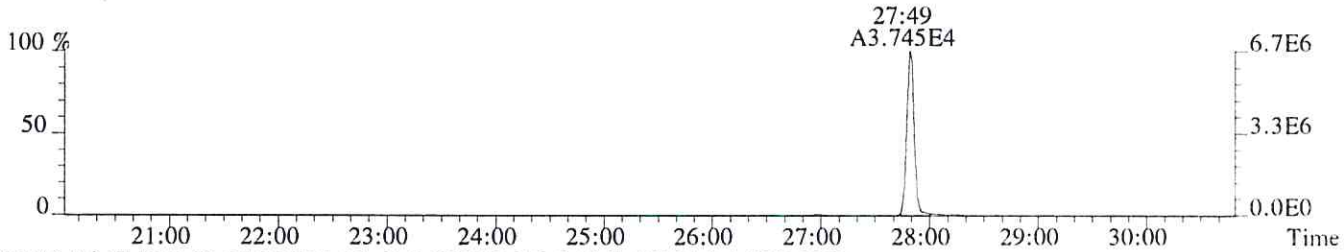
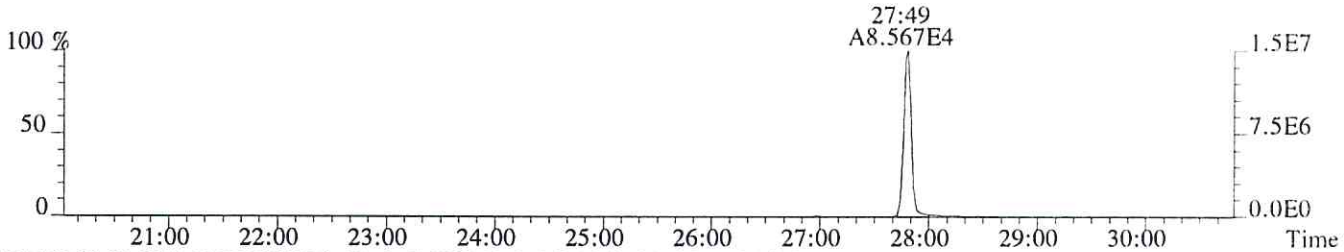
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



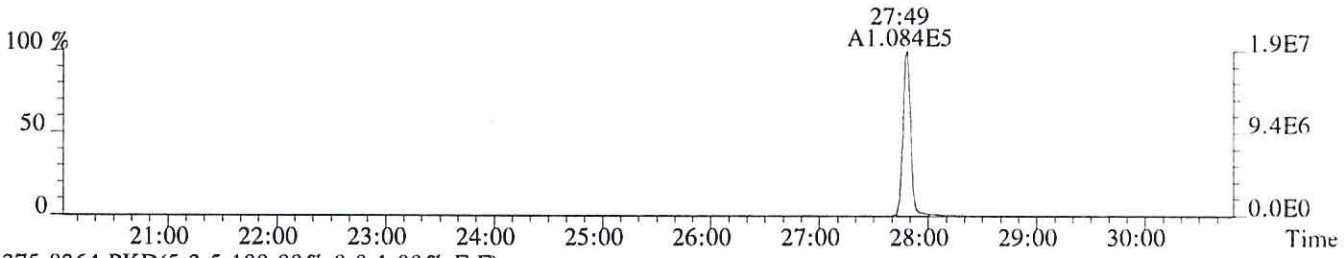
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



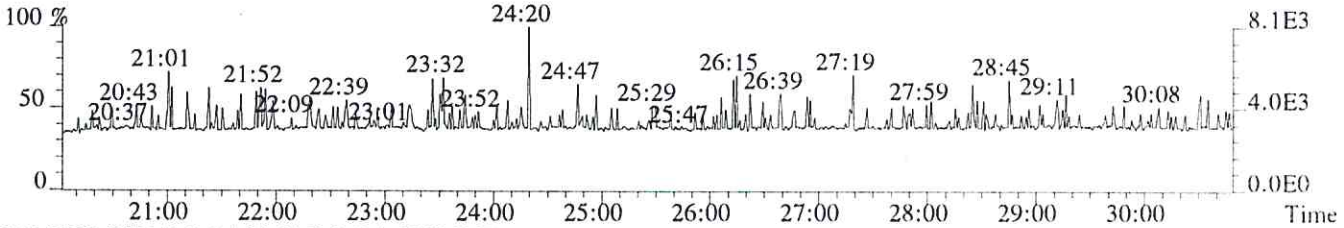
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15004.0,1.00%,F,T)



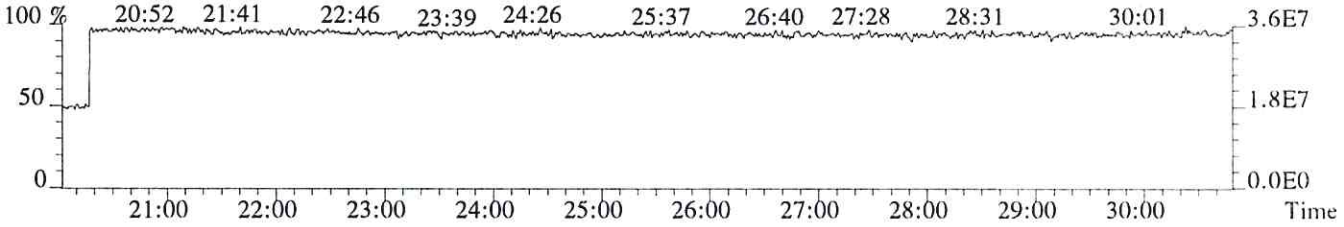
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6416.0,1.00%,F,T)



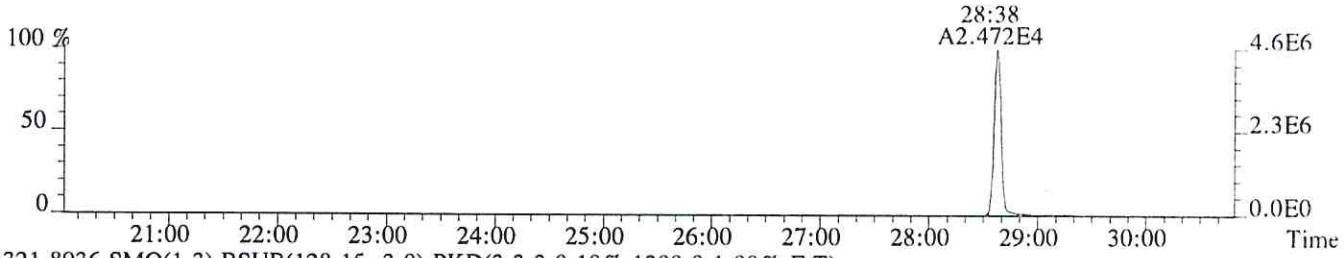
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



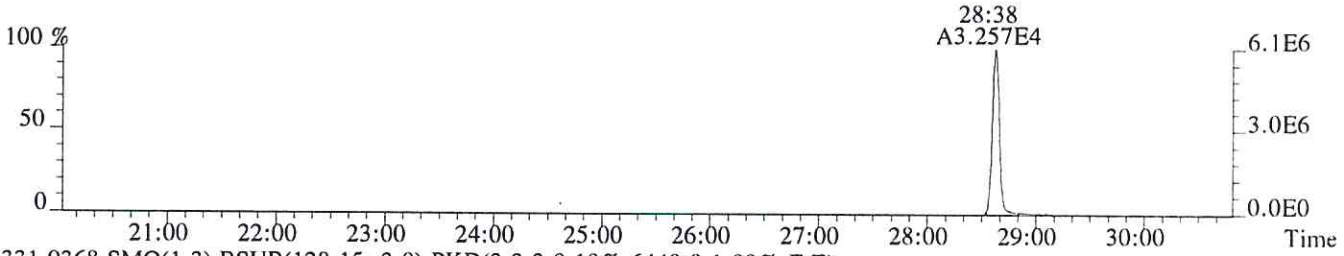
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



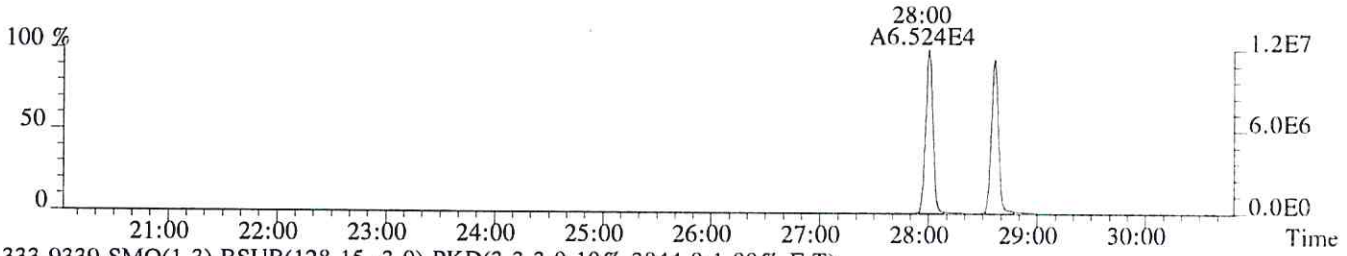
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1980.0,1.00%,F,T)



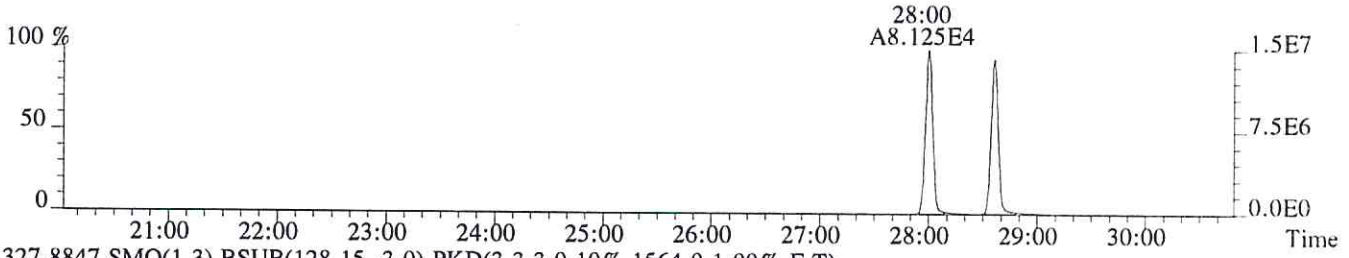
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



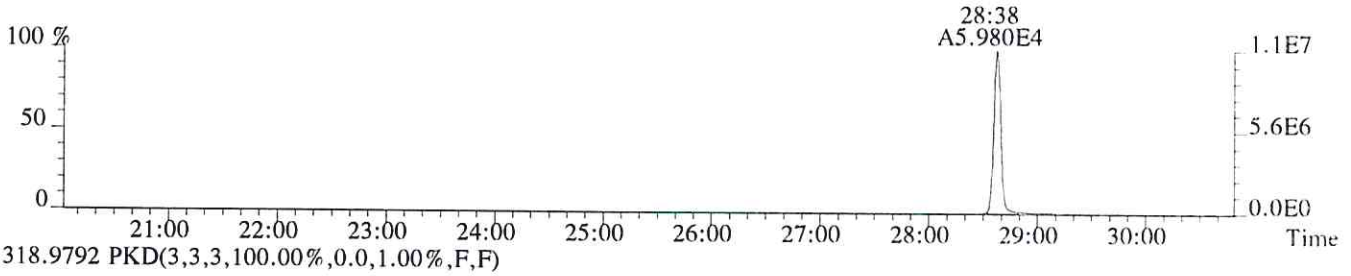
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



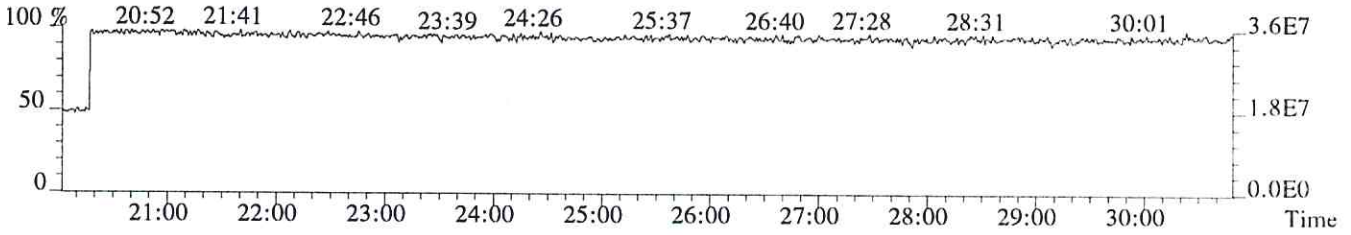
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3844.0,1.00%,F,T)



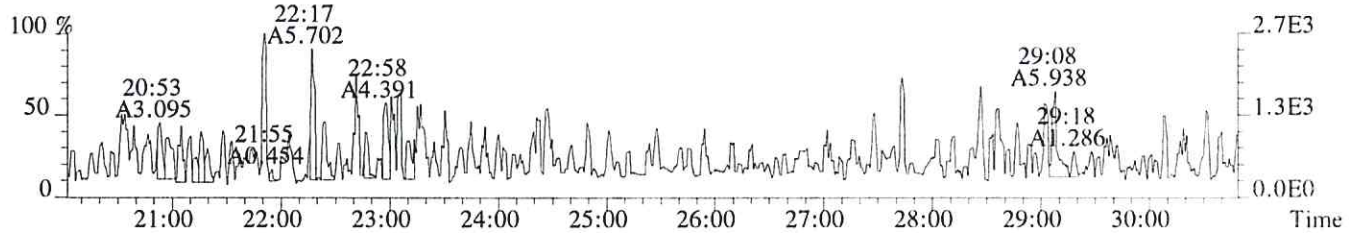
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1564.0,1.00%,F,T)



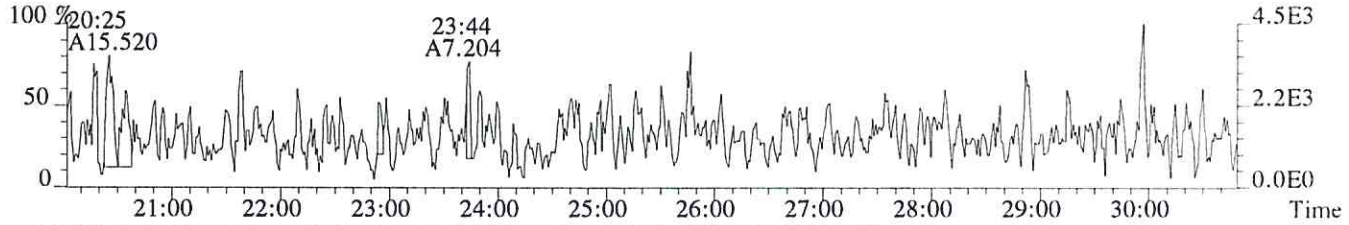
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



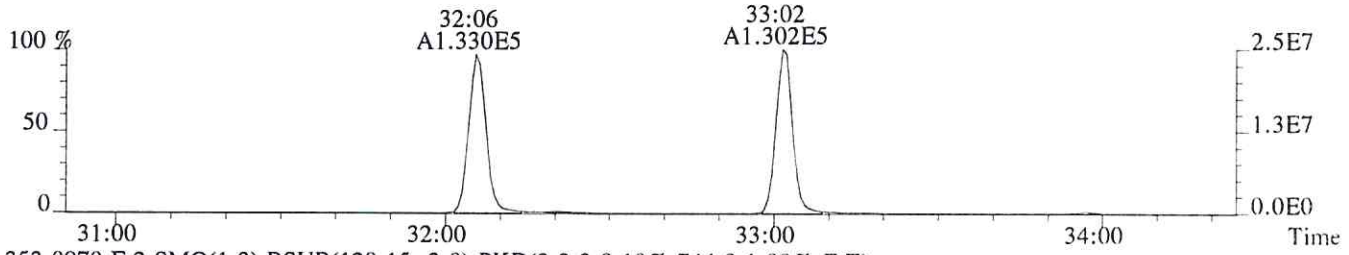
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)



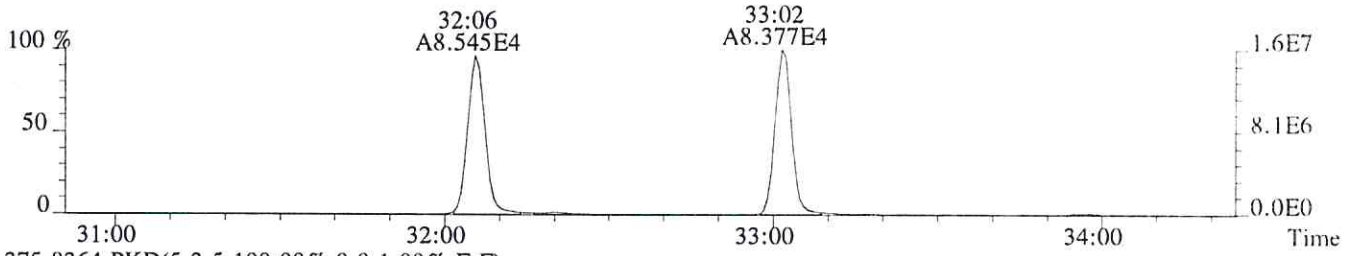
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1680.0,1.00%,F,T)



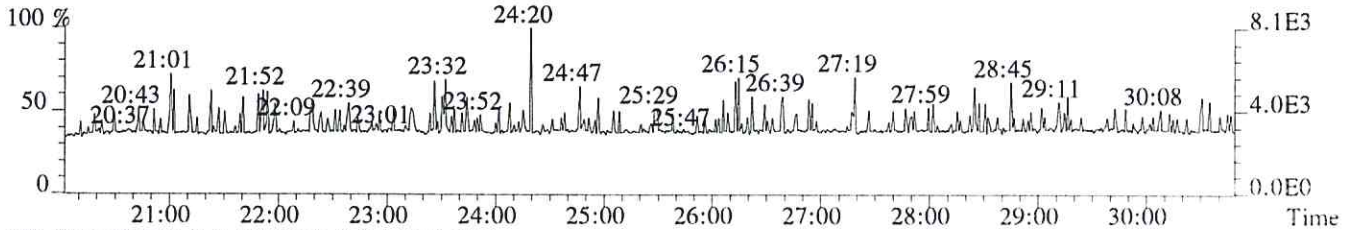
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



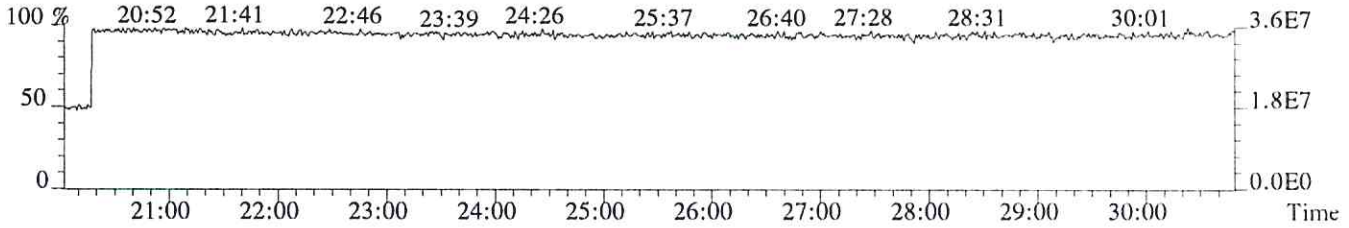
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



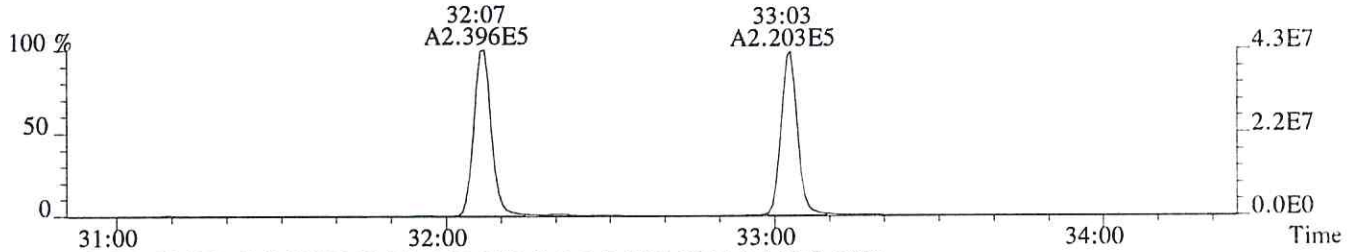
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



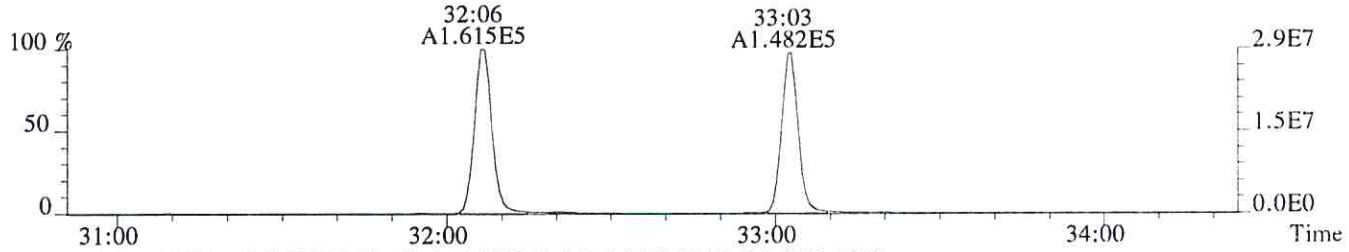
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



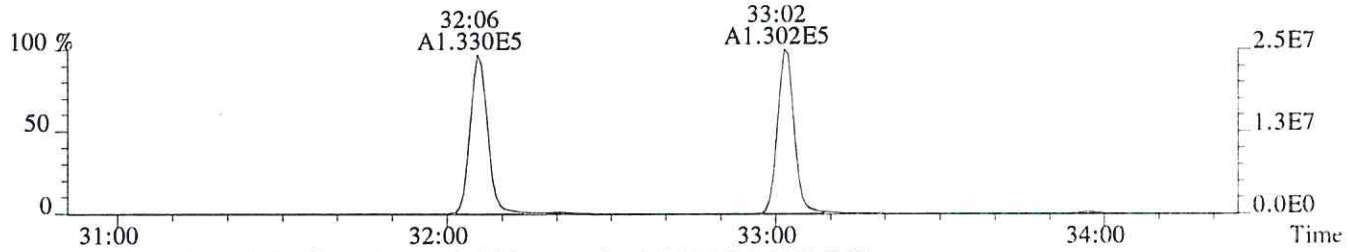
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,T)



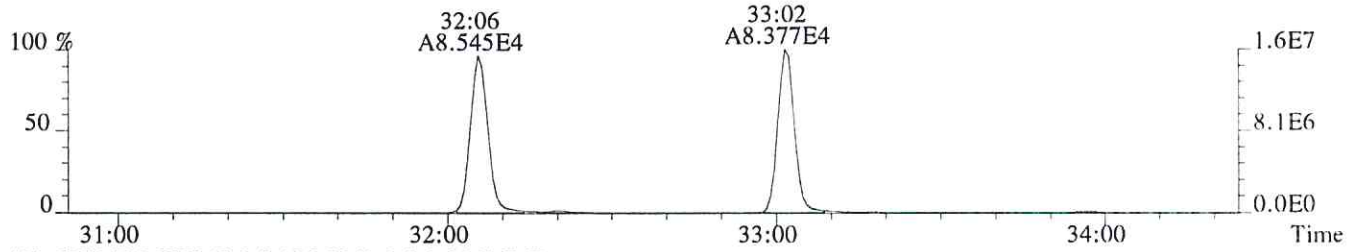
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2644.0,1.00%,F,T)



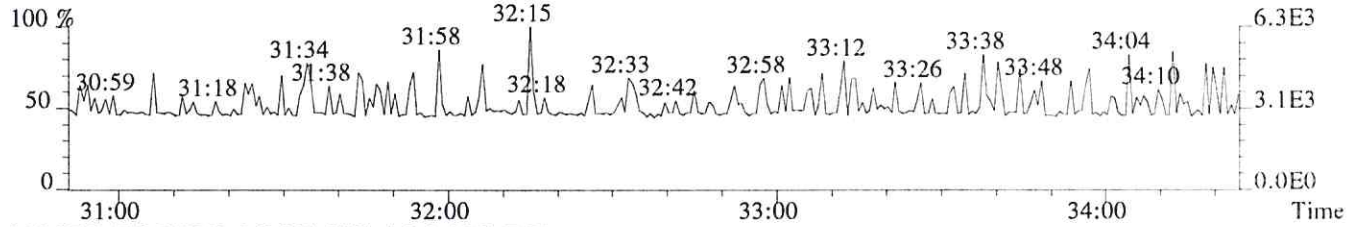
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



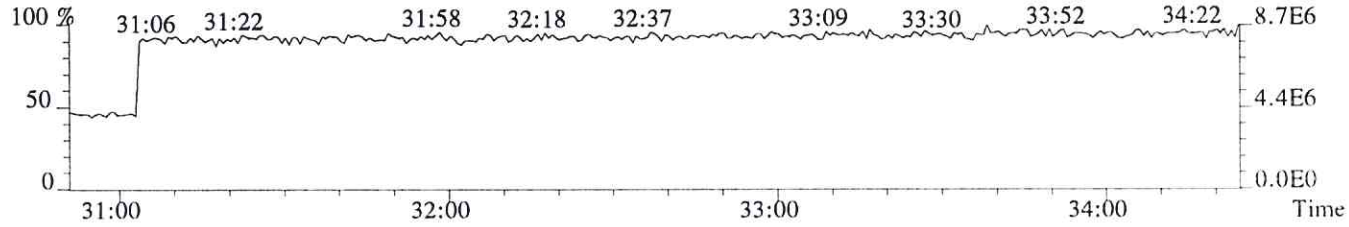
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



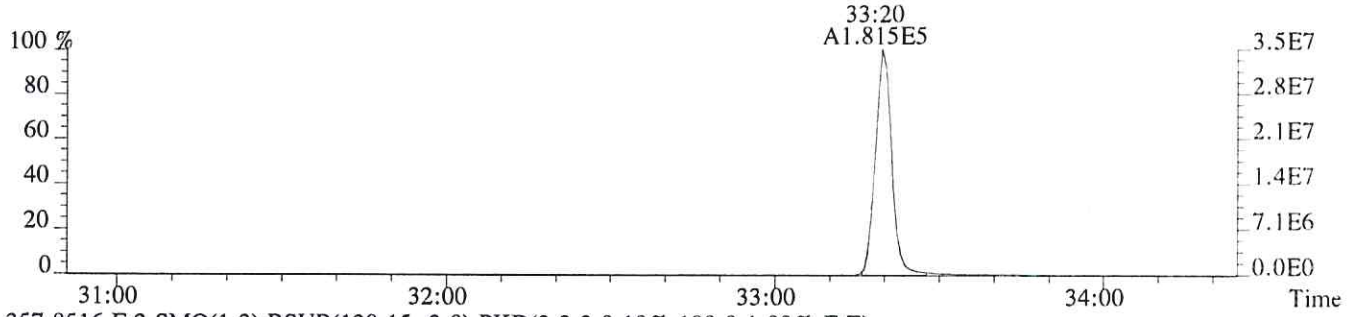
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



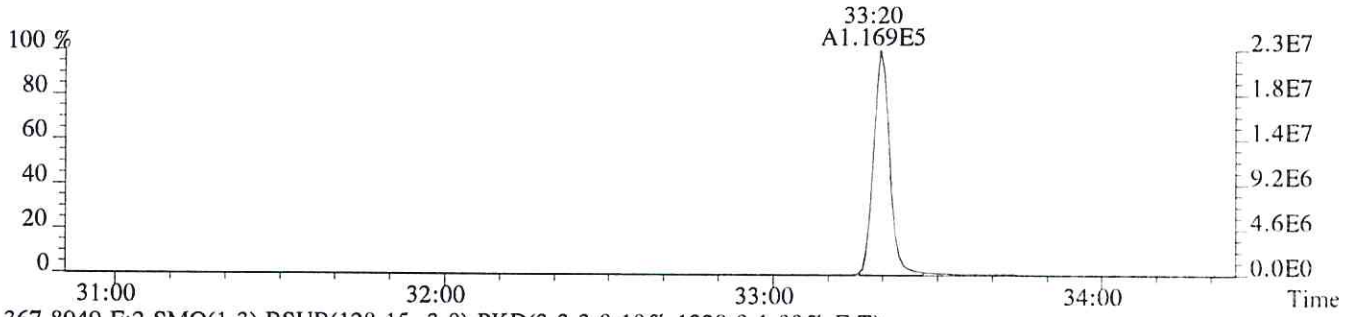
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



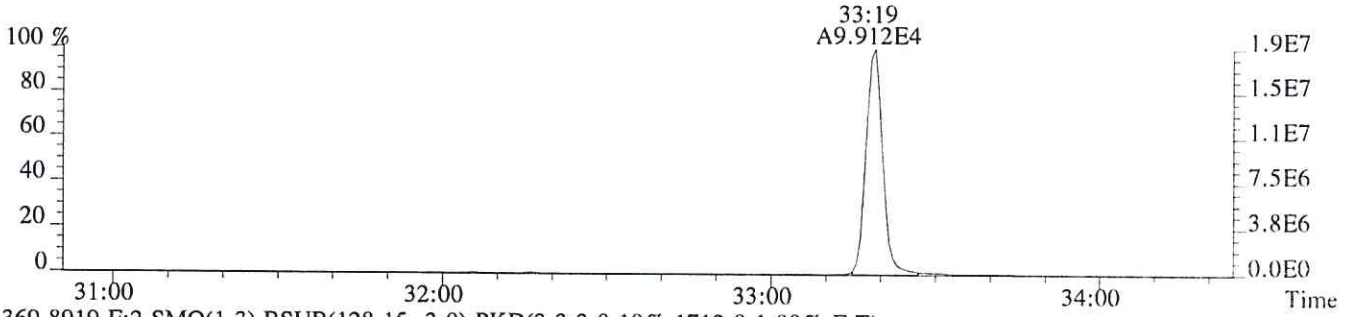
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



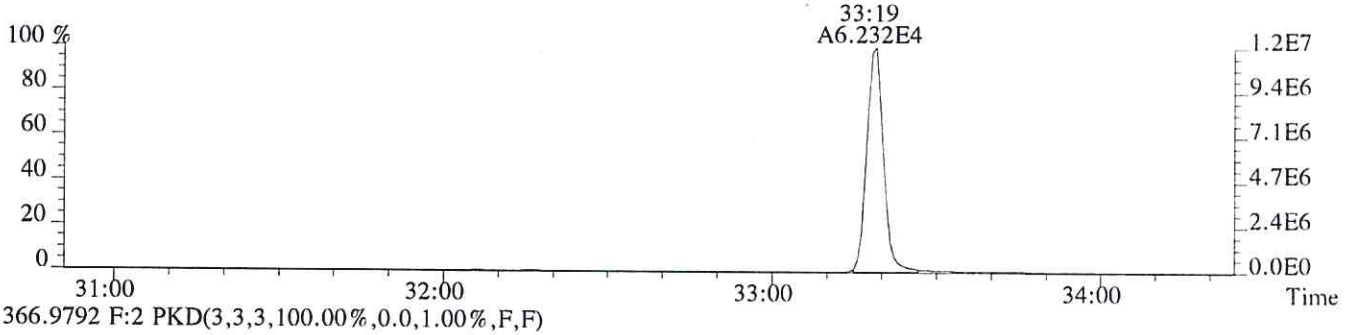
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



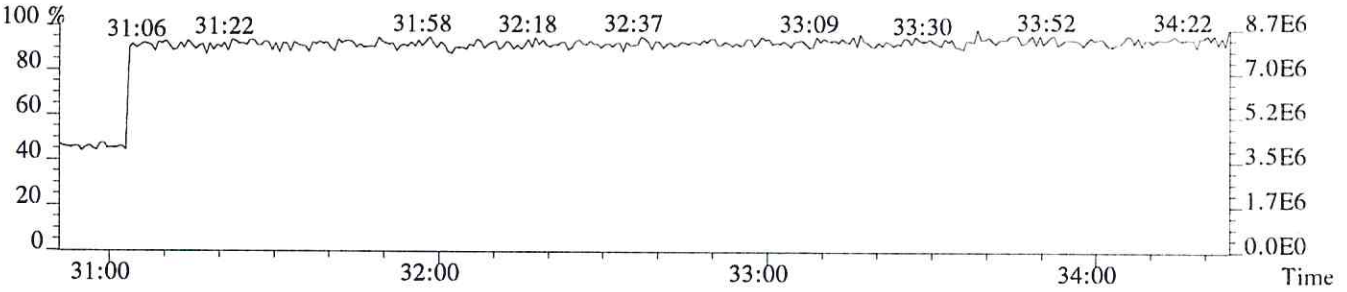
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1328.0,1.00%,F,T)



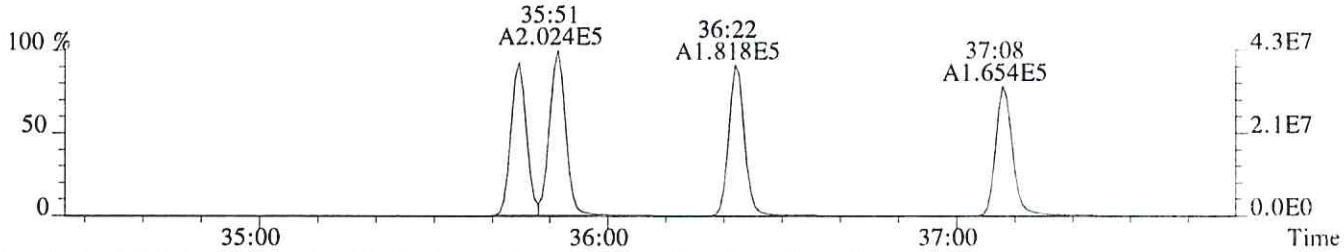
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,T)



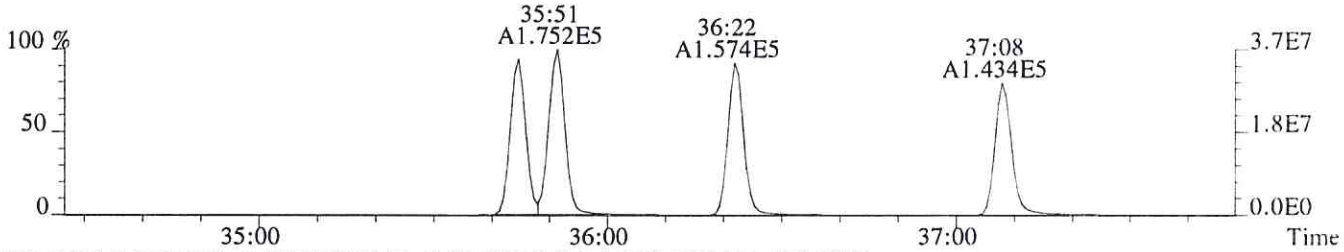
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



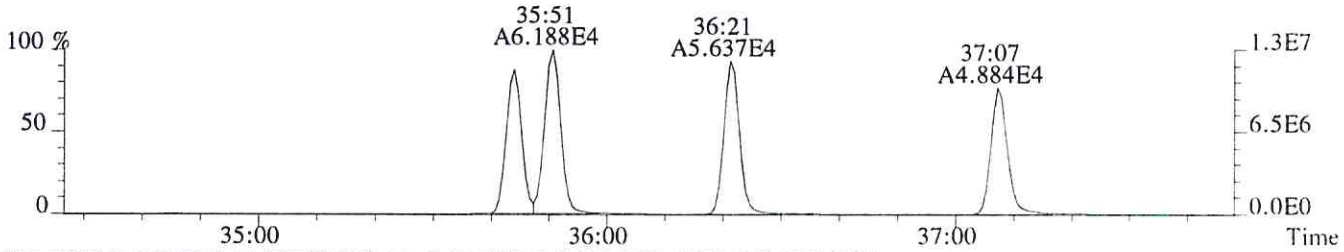
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,T)



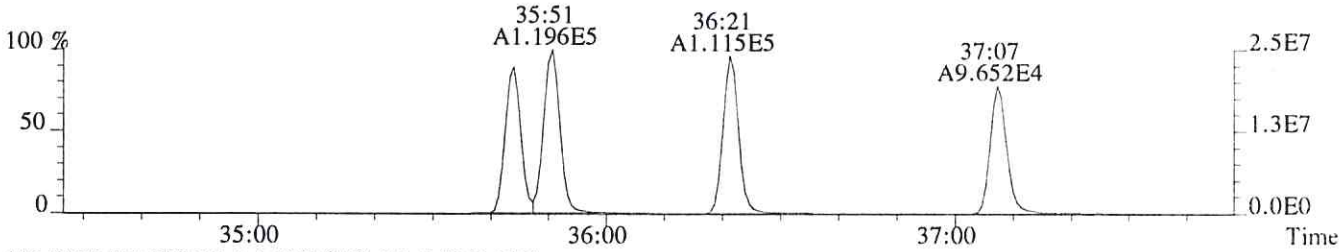
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



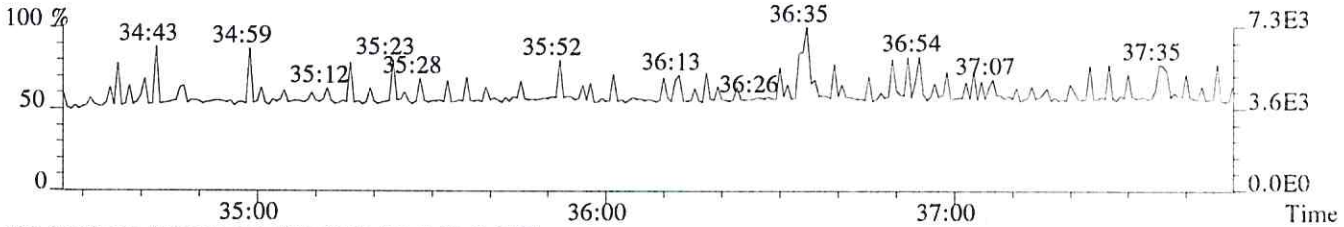
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



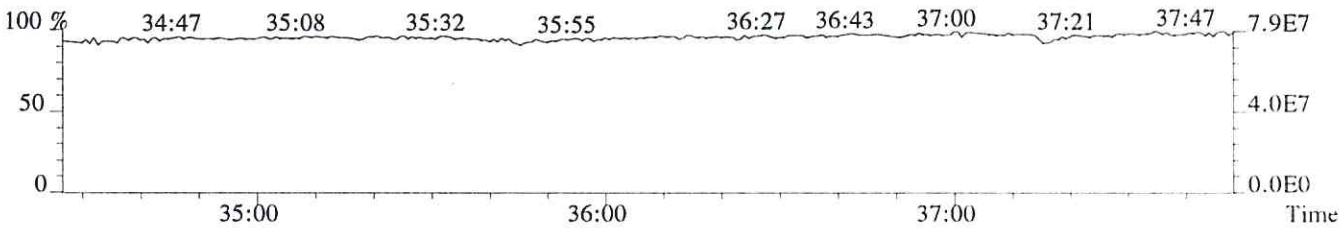
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1548.0,0.40%,F,T)



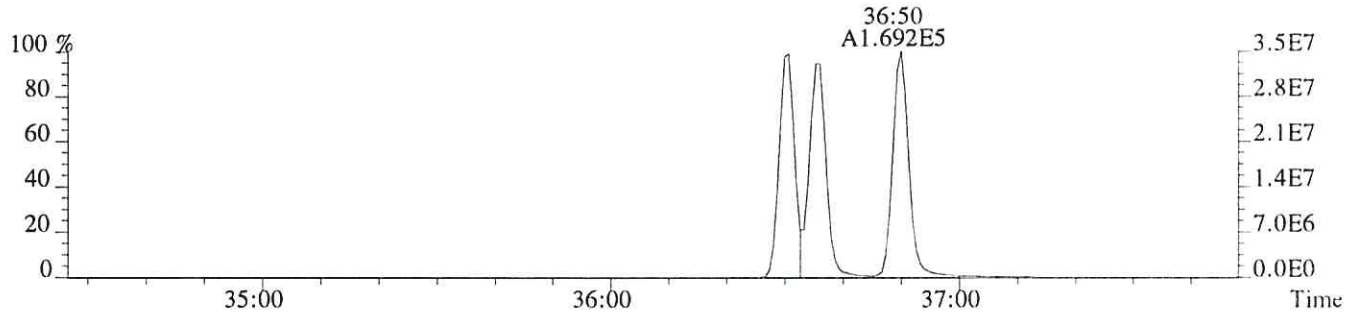
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



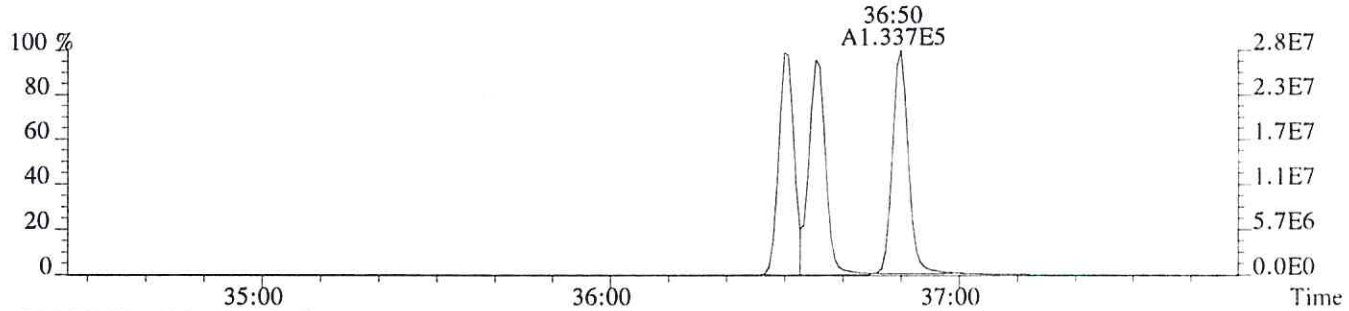
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



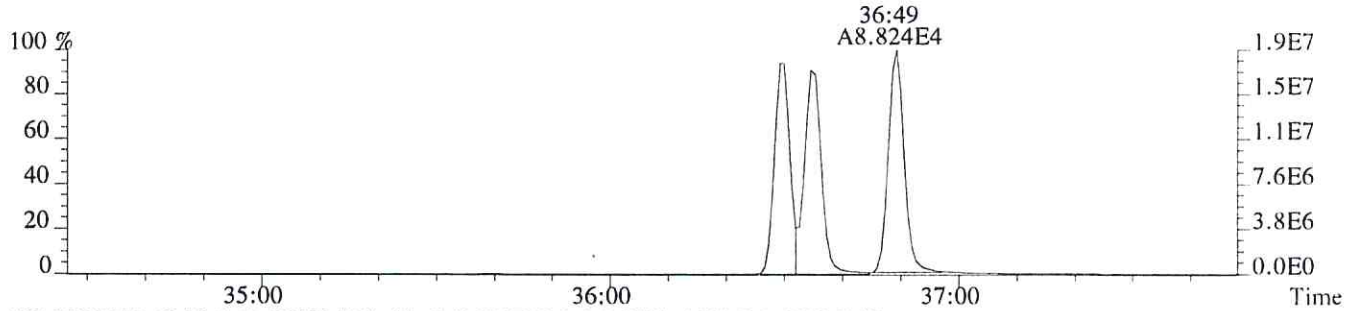
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,572.0,0.40%,F,T)



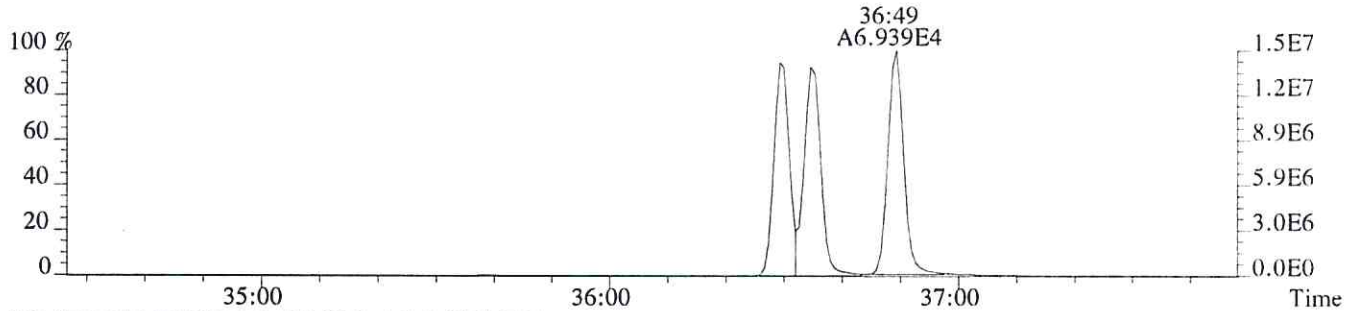
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



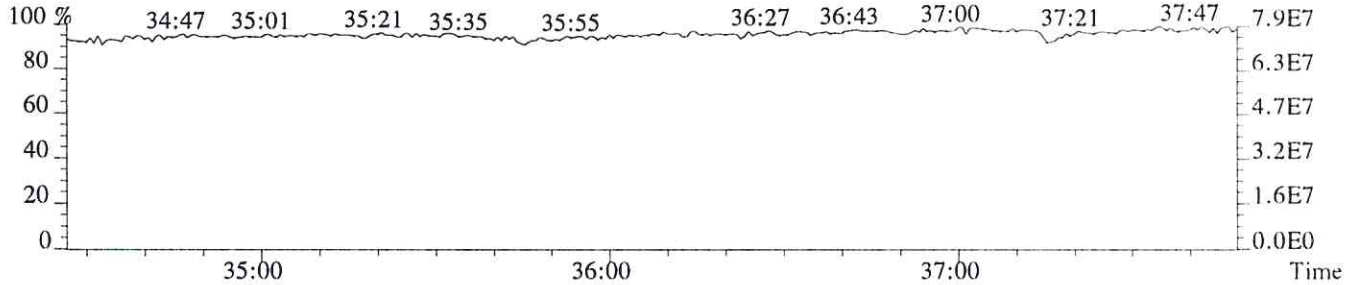
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2200.0,0.40%,F,T)



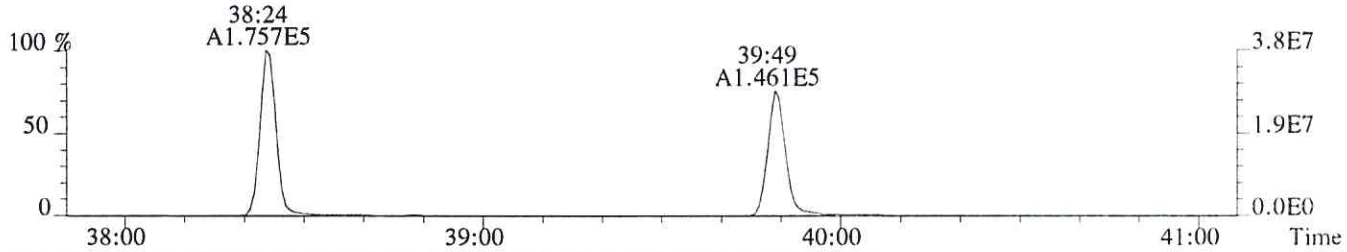
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



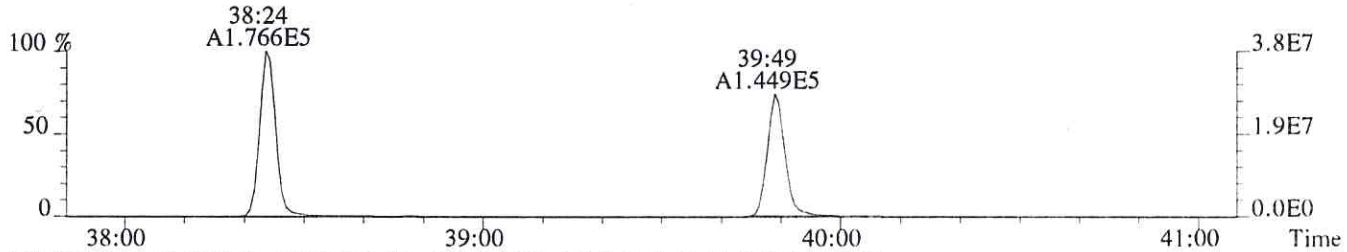
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



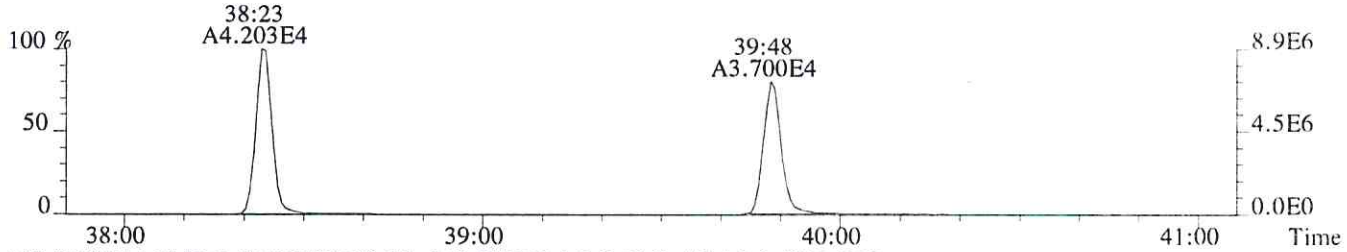
File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76558
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11464.0,0.50%,F,T)



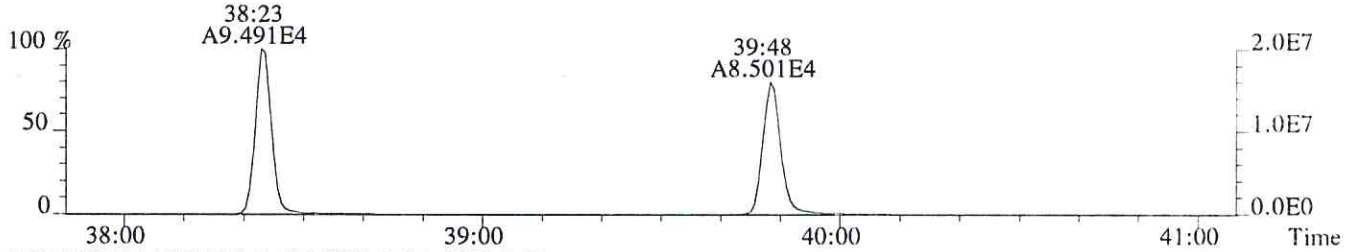
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7060.0,0.50%,F,T)



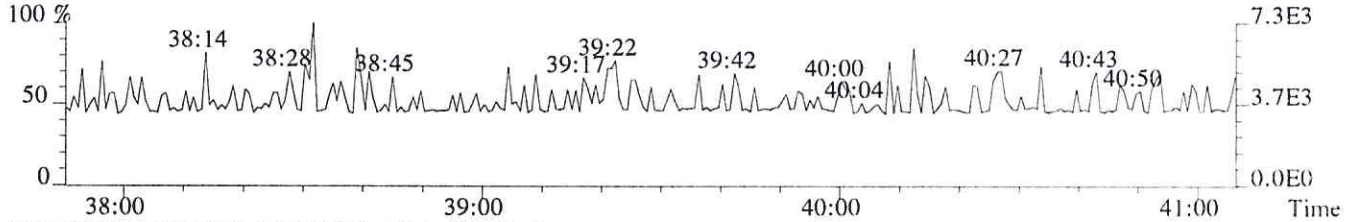
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5044.0,0.50%,F,T)



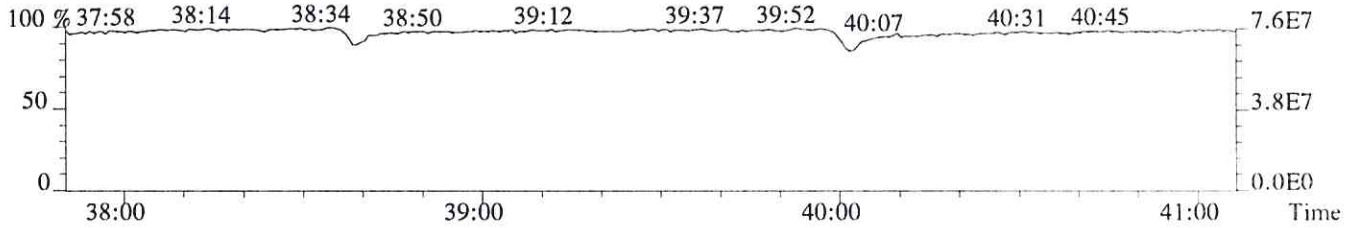
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4524.0,0.50%,F,T)



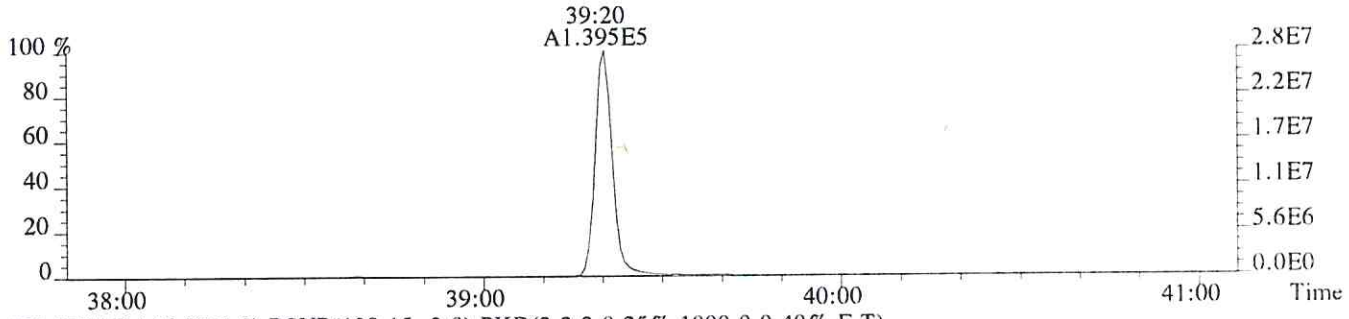
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



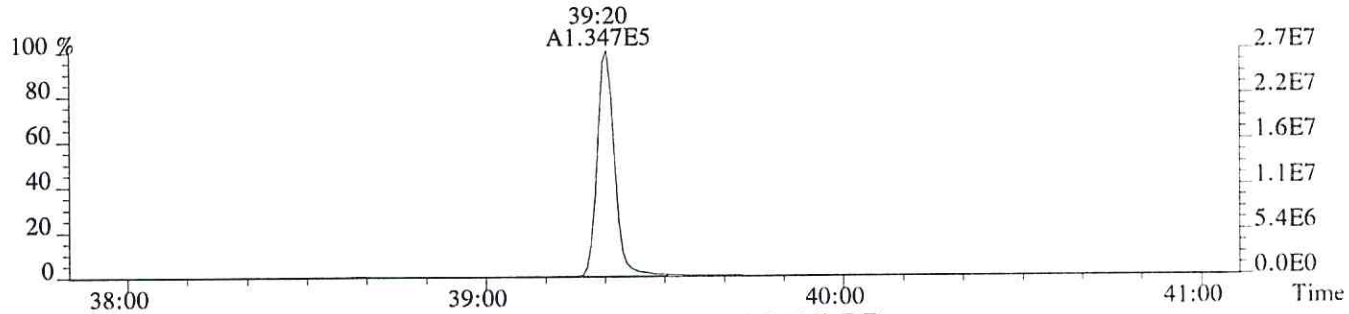
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



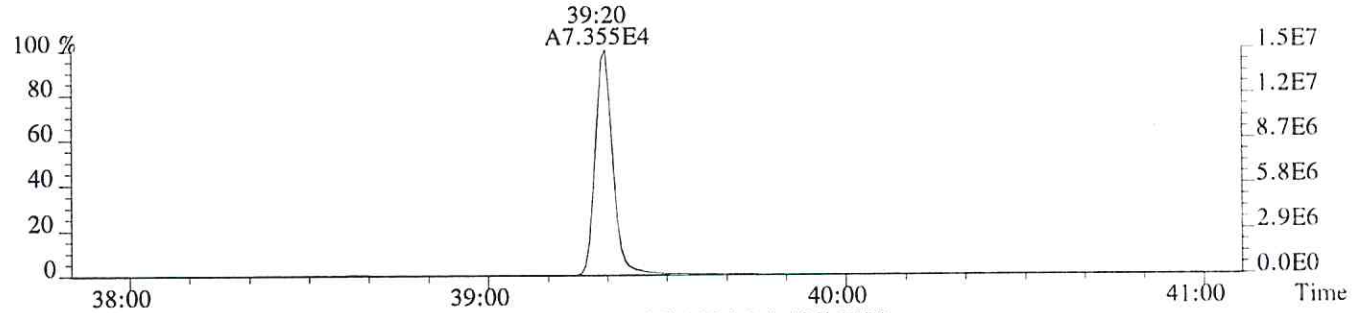
File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



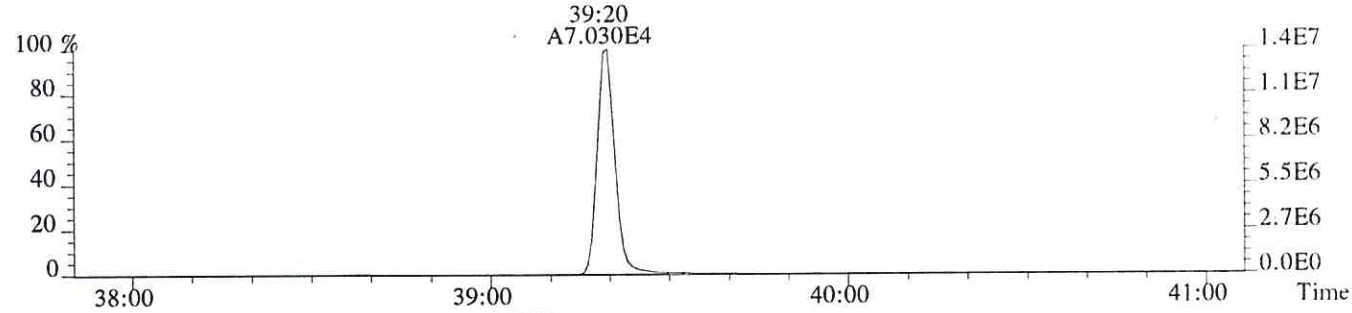
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



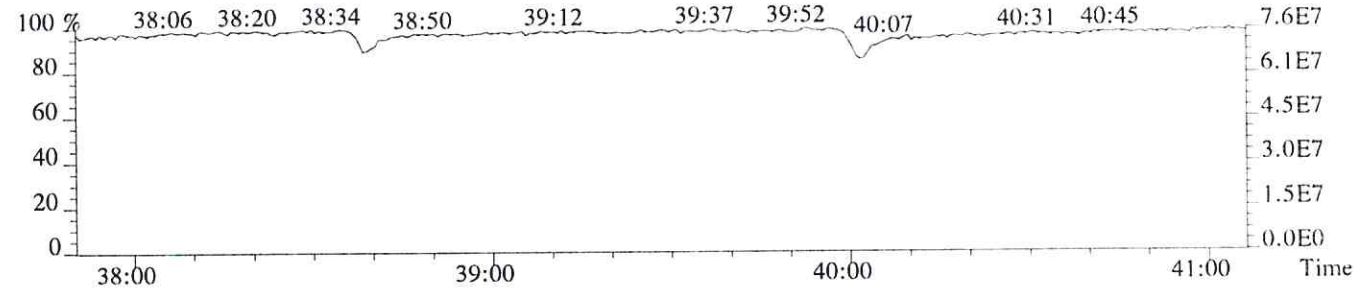
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



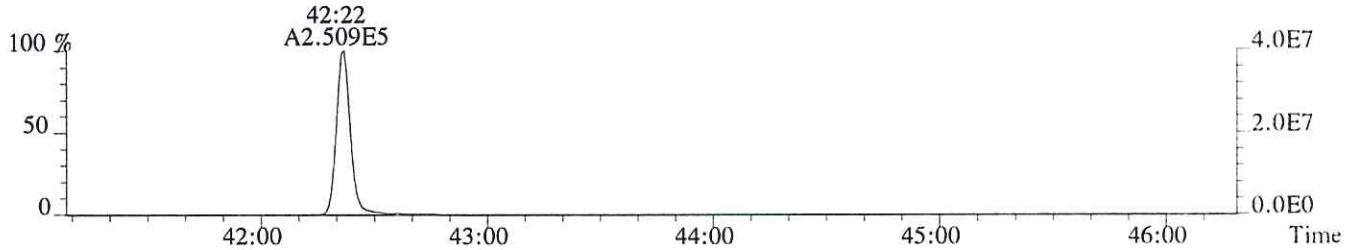
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



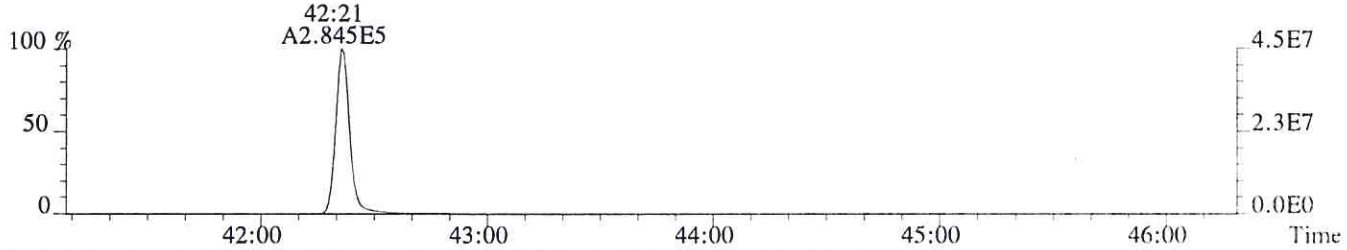
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



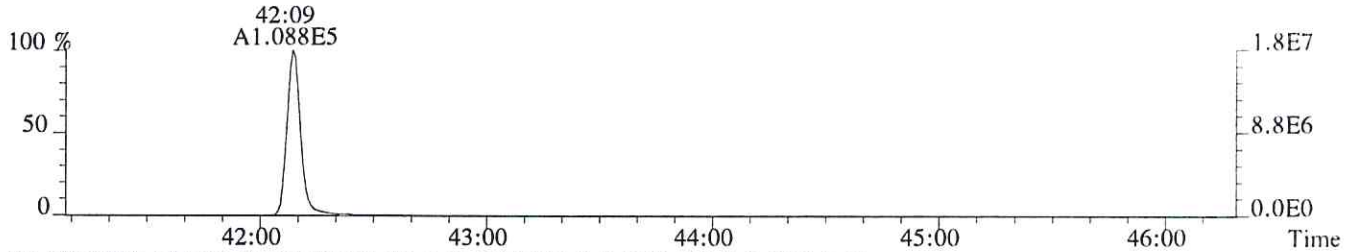
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



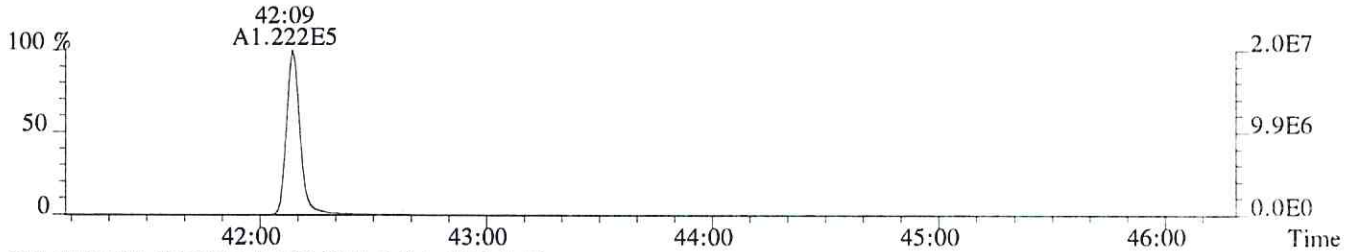
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



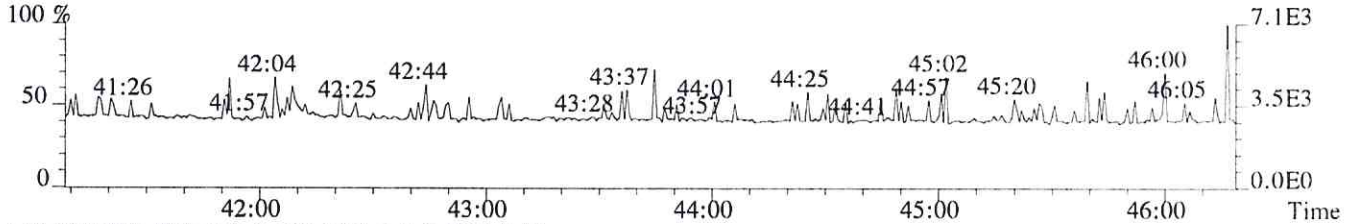
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



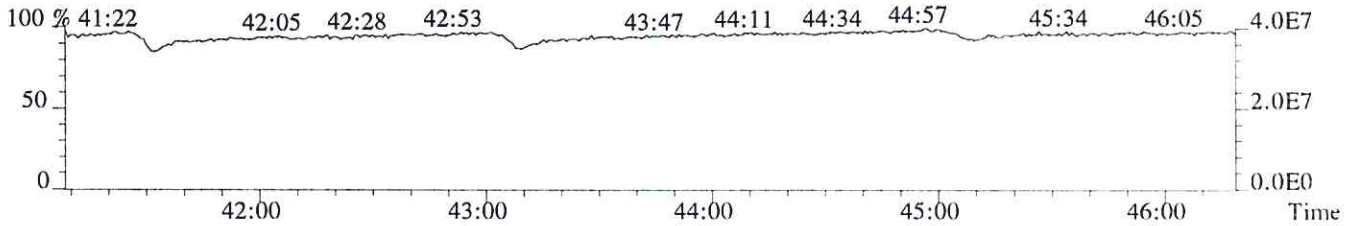
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



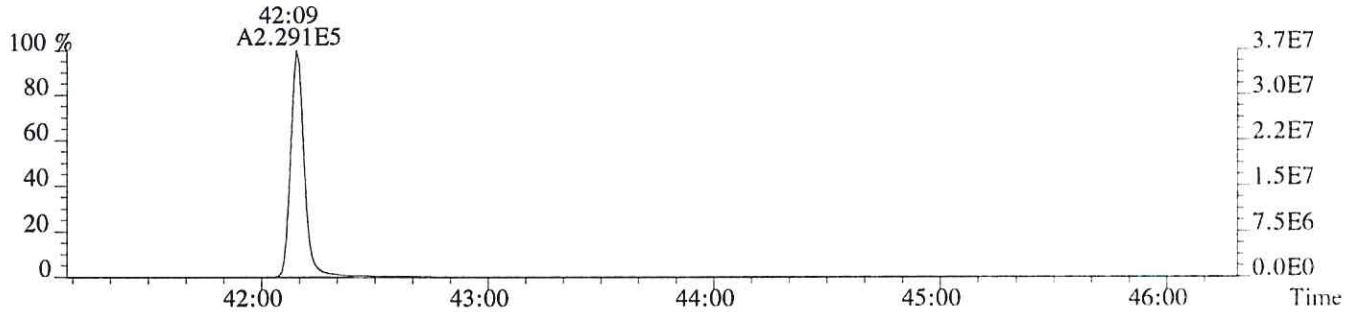
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



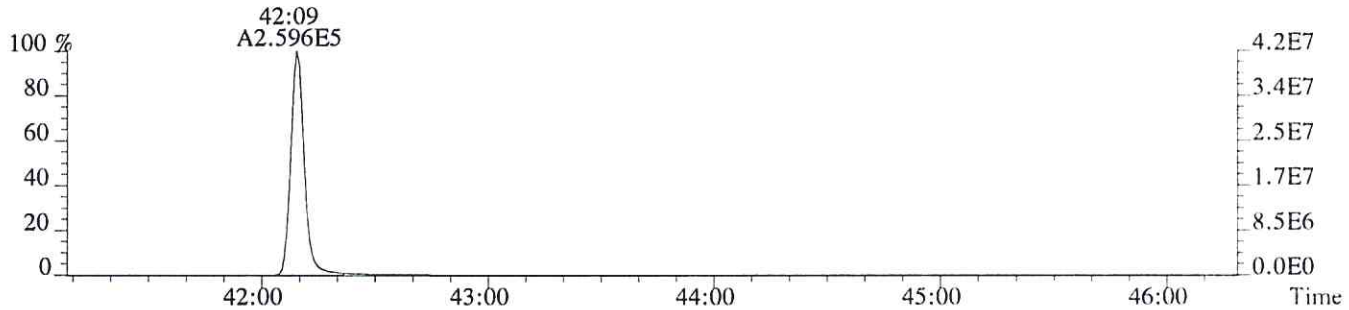
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



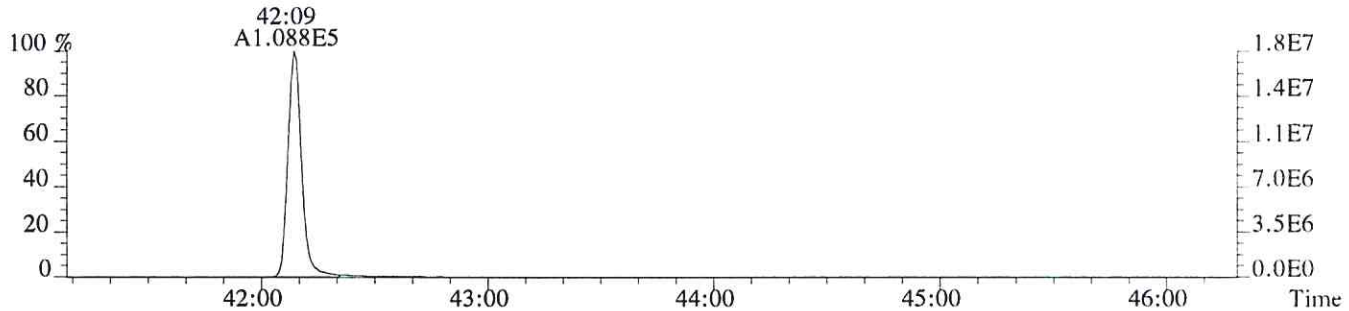
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,544.0,0.40%,F,T)



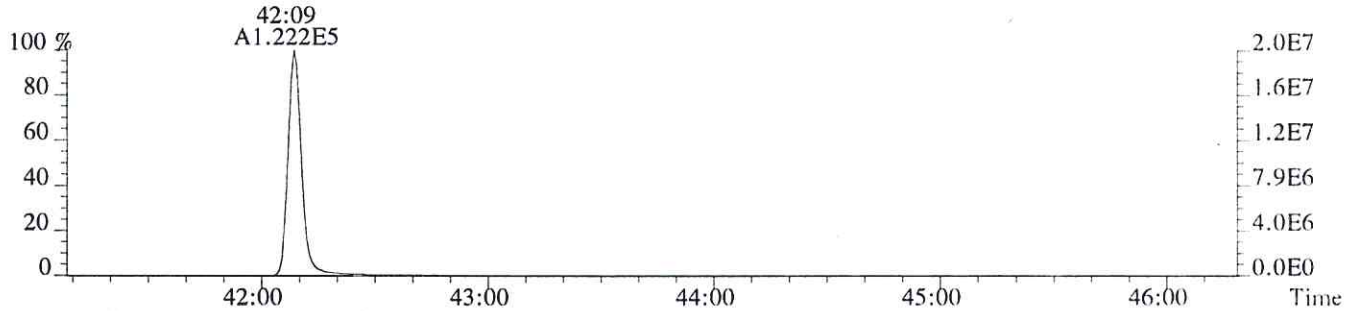
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



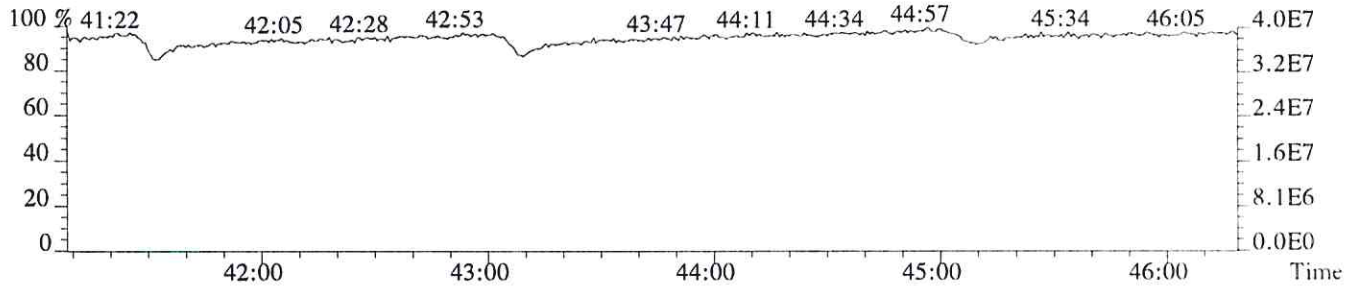
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
86168

Run #6 Filename P510639 Samp: 1 Inj: 1 Acquired: 26-JUL-17 15:36:33
Processed: 27-JUL-17 08:42:59 Sample ID: CS5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	8.939e+04	1.221e+05	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	7.475e+05	4.969e+05	1.50	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	7.651e+05	5.142e+05	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:43	6.452e+05	5.466e+05	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:50	6.733e+05	5.737e+05	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:21	6.303e+05	5.395e+05	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:07	5.658e+05	4.878e+05	1.16	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:22	5.775e+05	5.723e+05	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:47	4.921e+05	5.003e+05	0.98	yes	no	1.191
10	Unk	OCDF	42:19	8.355e+05	9.371e+05	0.89	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	8.359e+04	1.071e+05	0.78	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:19	6.115e+05	3.951e+05	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:29	5.771e+05	4.484e+05	1.29	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:34	5.175e+05	4.380e+05	1.18	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:49	5.750e+05	4.675e+05	1.23	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:18	4.662e+05	4.540e+05	1.03	yes	no	0.942
17	Unk	OCDD	42:07	7.460e+05	8.459e+05	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:48	5.613e+04	7.090e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:05	8.883e+04	5.647e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	8.555e+04	5.477e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:43	3.682e+04	7.106e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:49	3.913e+04	7.792e+04	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:20	3.846e+04	7.503e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:06	3.420e+04	6.844e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	2.818e+04	6.434e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:46	2.346e+04	5.496e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:36	4.063e+04	5.099e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	6.659e+04	4.185e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	5.310e+04	4.161e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:33	6.319e+04	4.911e+04	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:18	5.094e+04	4.904e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:06	8.078e+04	8.972e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:59	4.104e+04	5.135e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:48	6.201e+04	4.735e+04	1.31	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	1.989e+05				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
86168

Run #6 Filename P510639 Samp: 1 Inj: 1 Acquired: 26-JUL-17 15:36:33
Processed: 27-JUL-17 08:42:59 LAB. ID: CS5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.61e+07	9.60e+02	1.7e+04	2.17e+07	2.70e+03	8.0e+03
2	1,2,3,7,8-PeCDF	1.38e+08	5.54e+03	2.5e+04	9.12e+07	3.00e+03	3.0e+04
3	2,3,4,7,8-PeCDF	1.57e+08	5.54e+03	2.8e+04	1.05e+08	3.00e+03	3.5e+04
4	1,2,3,4,7,8-HxCDF	1.41e+08	3.20e+03	4.4e+04	1.20e+08	2.76e+03	4.3e+04
5	1,2,3,6,7,8-HxCDF	1.42e+08	3.20e+03	4.4e+04	1.21e+08	2.76e+03	4.4e+04
6	2,3,4,6,7,8-HxCDF	1.37e+08	3.20e+03	4.3e+04	1.17e+08	2.76e+03	4.2e+04
7	1,2,3,7,8,9-HxCDF	1.19e+08	3.20e+03	3.7e+04	1.02e+08	2.76e+03	3.7e+04
8	1,2,3,4,6,7,8-HpCDF	1.29e+08	2.30e+04	5.6e+03	1.28e+08	2.10e+04	6.1e+03
9	1,2,3,4,7,8,9-HpCDF	9.72e+07	2.30e+04	4.2e+03	9.82e+07	2.10e+04	4.7e+03
10	OCDF	1.37e+08	7.60e+02	1.8e+05	1.56e+08	1.15e+03	1.4e+05
11	2,3,7,8-TCDD	1.61e+07	2.42e+03	6.7e+03	2.04e+07	1.05e+03	1.9e+04
12	1,2,3,7,8-PeCDD	1.21e+08	1.50e+03	8.0e+04	7.81e+07	1.20e+02	6.5e+05
13	1,2,3,4,7,8-HxCDD	1.26e+08	7.72e+02	1.6e+05	1.00e+08	8.12e+02	1.2e+05
14	1,2,3,6,7,8-HxCDD	1.09e+08	7.72e+02	1.4e+05	8.93e+07	8.12e+02	1.1e+05
15	1,2,3,7,8,9-HxCDD	1.23e+08	7.72e+02	1.6e+05	9.94e+07	8.12e+02	1.2e+05
16	1,2,3,4,6,7,8-HpCDD	9.60e+07	4.36e+03	2.2e+04	9.27e+07	4.75e+03	2.0e+04
17	OCDD	1.24e+08	8.80e+02	1.4e+05	1.41e+08	5.00e+02	2.8e+05
18	13C-2,3,7,8-TCDF	1.01e+07	1.52e+04	6.6e+02	1.29e+07	3.93e+03	3.3e+03
19	13C-1,2,3,7,8-PeCDF	1.61e+07	7.44e+02	2.2e+04	1.03e+07	2.06e+03	5.0e+03
20	13C-2,3,4,7,8-PeCDF	1.72e+07	7.44e+02	2.3e+04	1.09e+07	2.06e+03	5.3e+03
21	13C-1,2,3,4,7,8-HxCDF	7.93e+06	5.80e+02	1.4e+04	1.53e+07	1.64e+03	9.3e+03
22	13C-1,2,3,6,7,8-HxCDF	8.06e+06	5.80e+02	1.4e+04	1.64e+07	1.64e+03	1.0e+04
23	13C-2,3,4,6,7,8-HxCDF	8.31e+06	5.80e+02	1.4e+04	1.62e+07	1.64e+03	9.9e+03
24	13C-1,2,3,7,8,9-HxCDF	7.18e+06	5.80e+02	1.2e+04	1.44e+07	1.64e+03	8.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.22e+06	8.13e+03	7.7e+02	1.42e+07	6.37e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.59e+06	8.13e+03	5.6e+02	1.05e+07	6.37e+03	1.7e+03
27	13C-2,3,7,8-TCDD	7.60e+06	7.38e+03	1.0e+03	9.57e+06	3.56e+03	2.7e+03
28	13C-1,2,3,7,8-PeCDD	1.27e+07	1.50e+03	8.5e+03	7.91e+06	8.80e+02	9.0e+03
29	13C-1,2,3,4,7,8-HxCDD	1.19e+07	1.75e+03	6.8e+03	9.16e+06	1.11e+03	8.2e+03
30	13C-1,2,3,6,7,8-HxCDD	1.29e+07	1.75e+03	7.4e+03	1.03e+07	1.11e+03	9.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.04e+07	1.67e+03	6.2e+03	9.83e+06	1.98e+03	5.0e+03
32	13C-OCDD	1.33e+07	8.60e+02	1.5e+04	1.48e+07	9.44e+02	1.6e+04
33	13C-1,2,3,4-TCDD	7.58e+06	7.38e+03	1.0e+03	9.46e+06	3.56e+03	2.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.27e+07	1.75e+03	7.3e+03	9.98e+06	1.11e+03	9.0e+03
35	37Cl-2,3,7,8-TCDD	3.77e+07	1.74e+03	2.2e+04			

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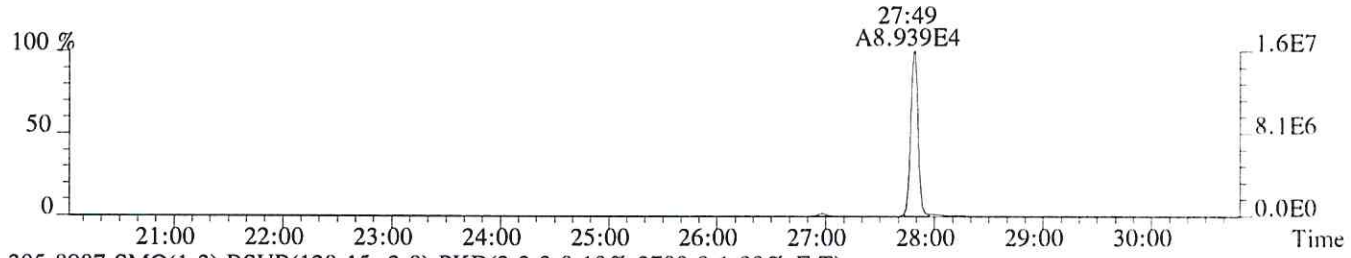
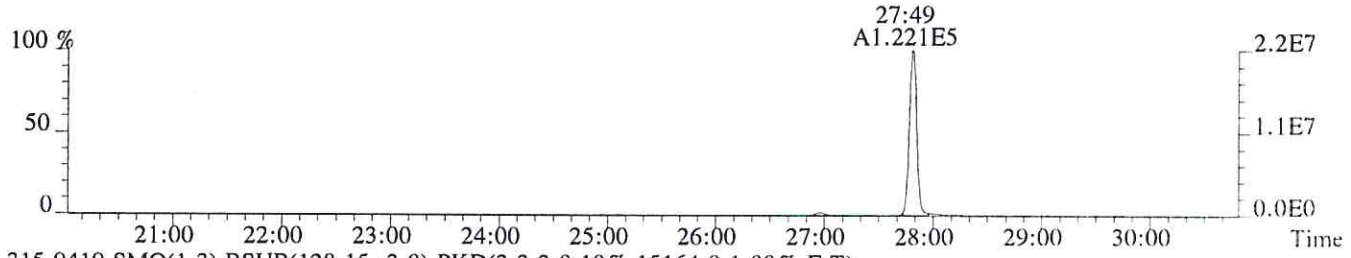
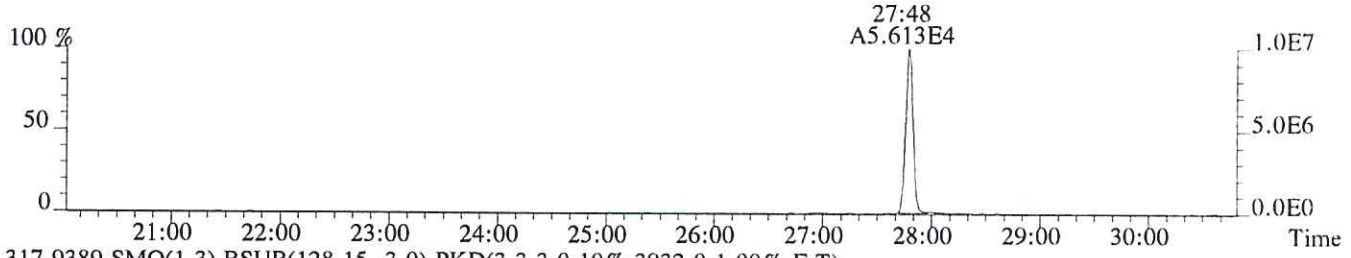
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



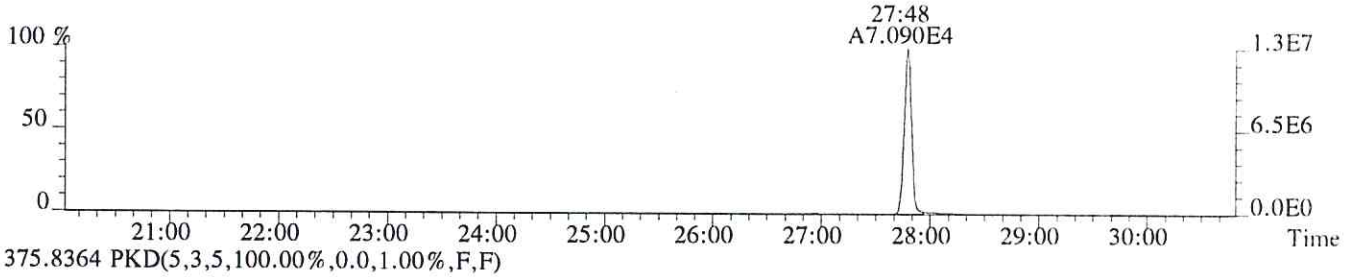
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2700.0,1.00%,F,T)



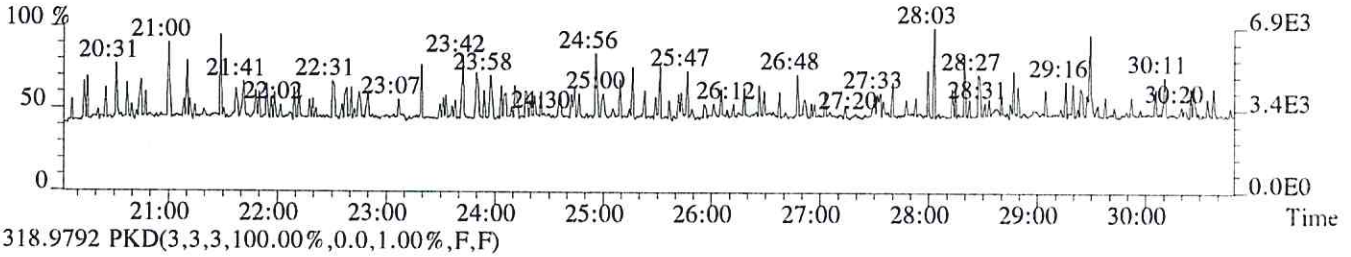
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15164.0,1.00%,F,T)



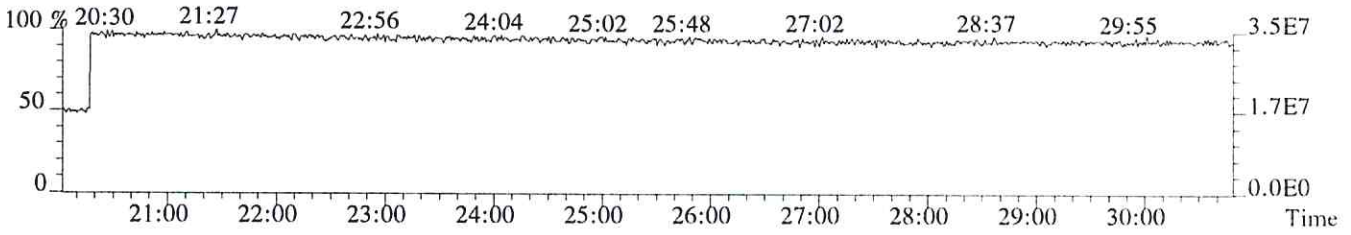
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3932.0,1.00%,F,T)



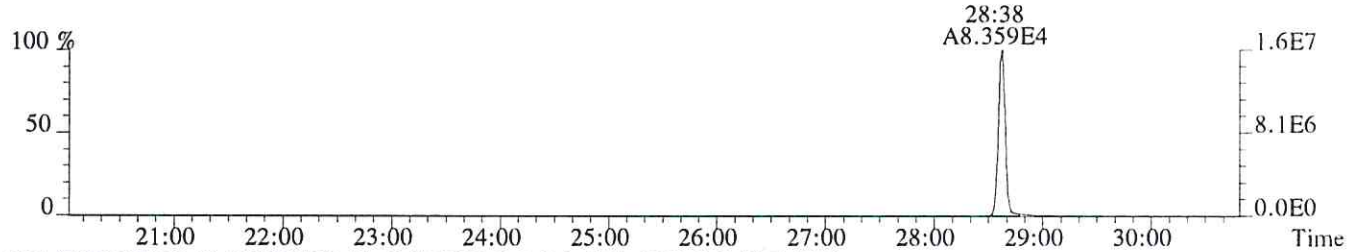
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



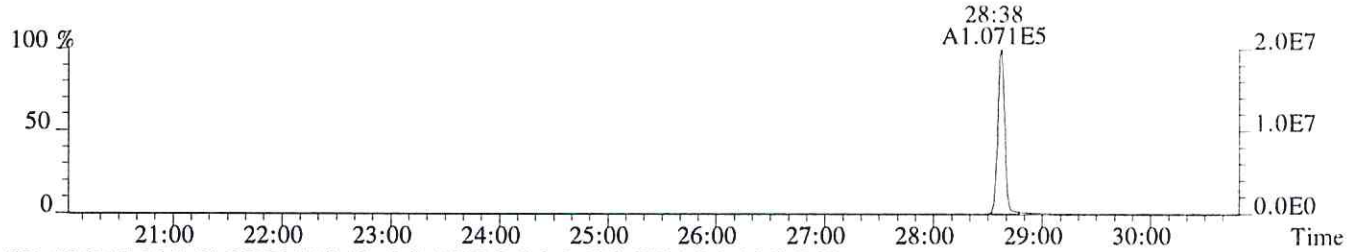
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



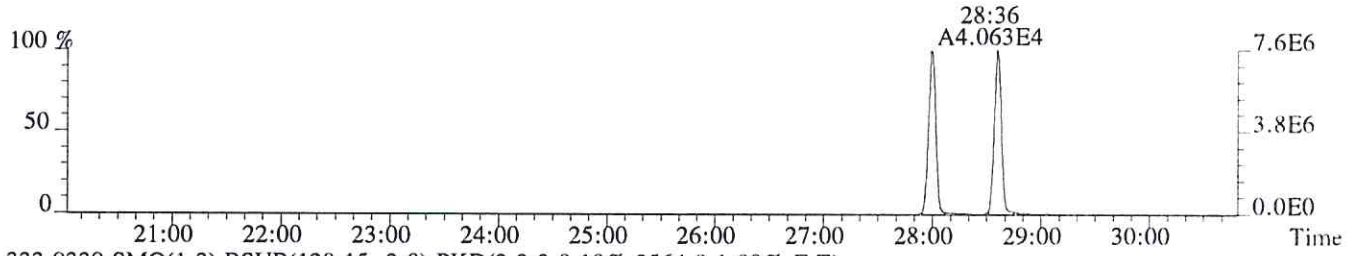
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2420.0,1.00%,F,T)



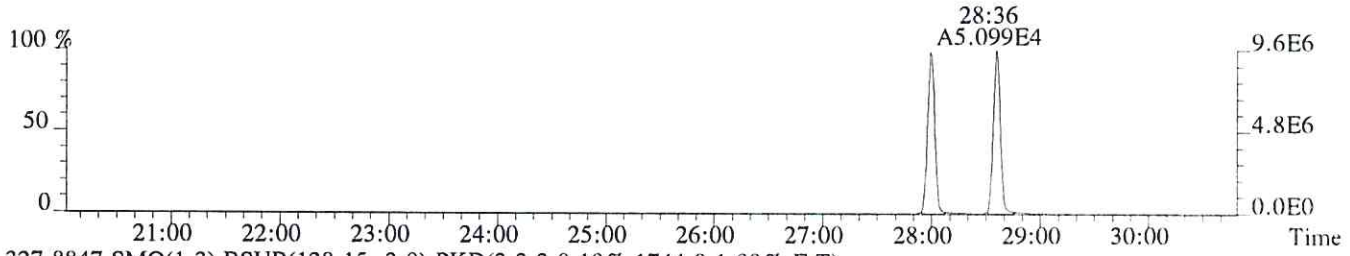
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



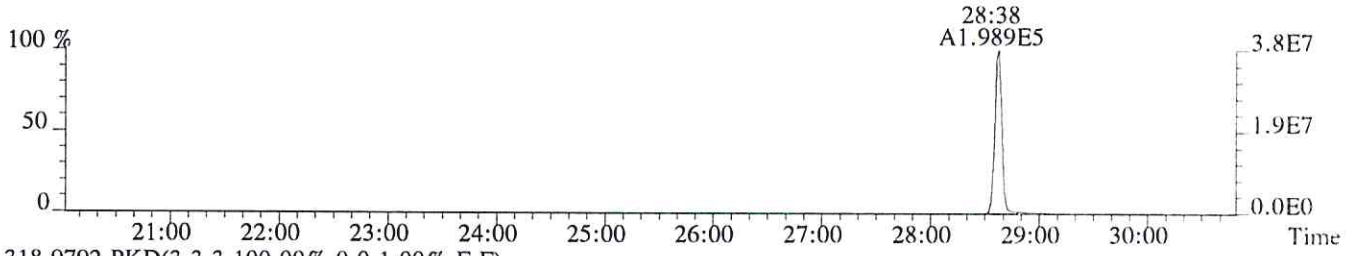
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7380.0,1.00%,F,T)



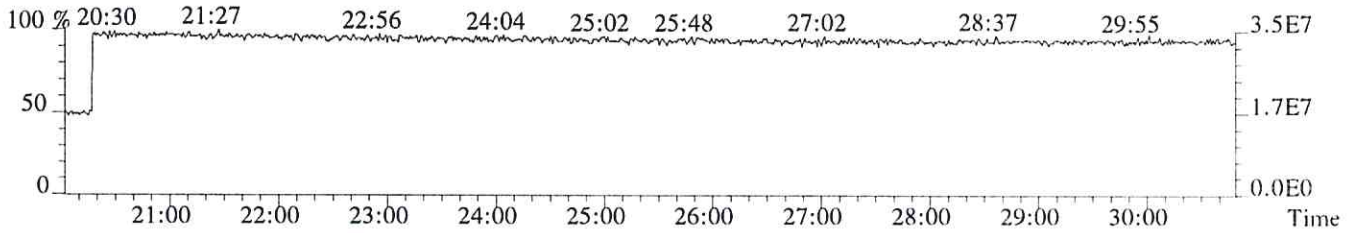
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3564.0,1.00%,F,T)



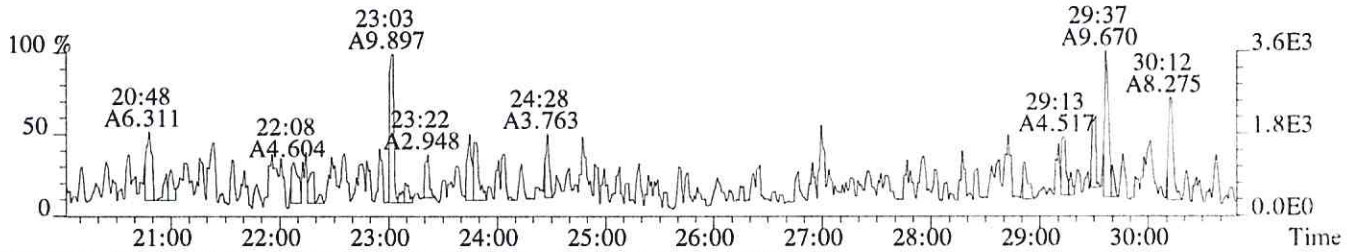
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1744.0,1.00%,F,T)



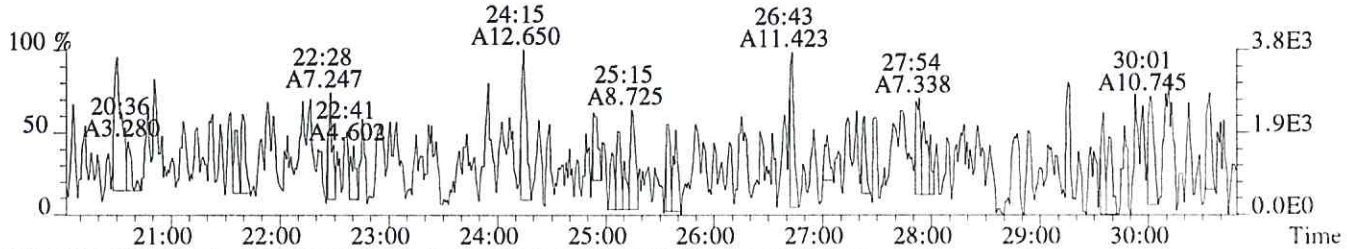
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



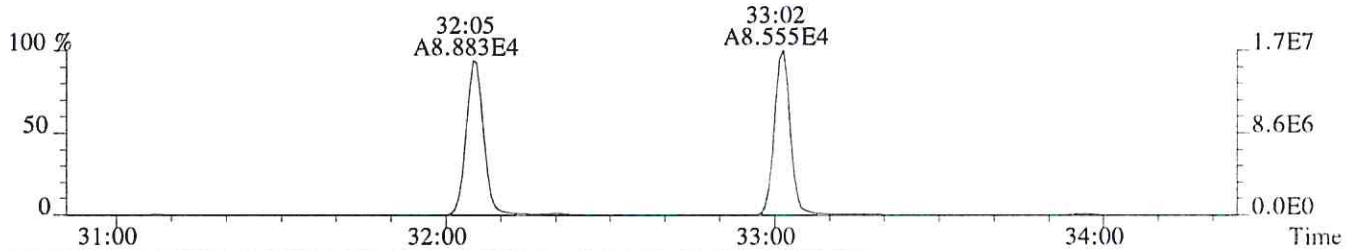
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



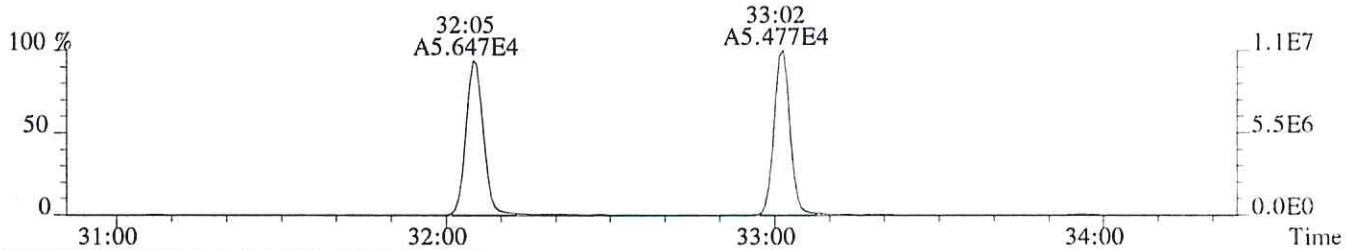
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



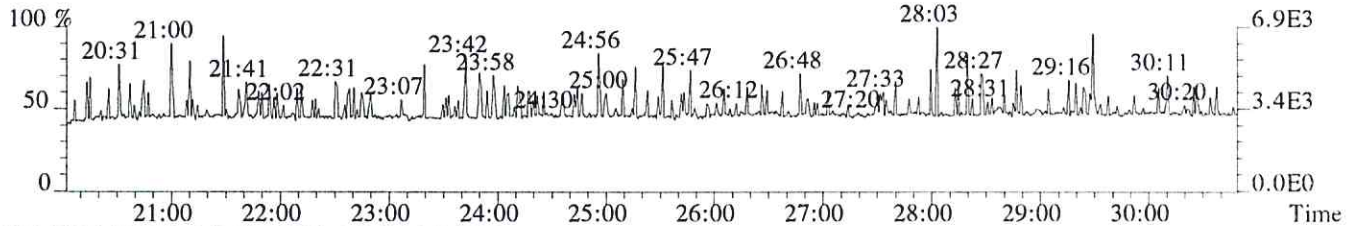
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



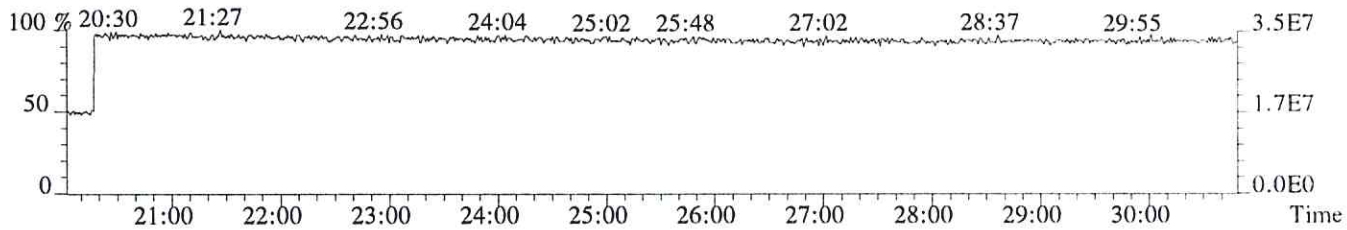
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



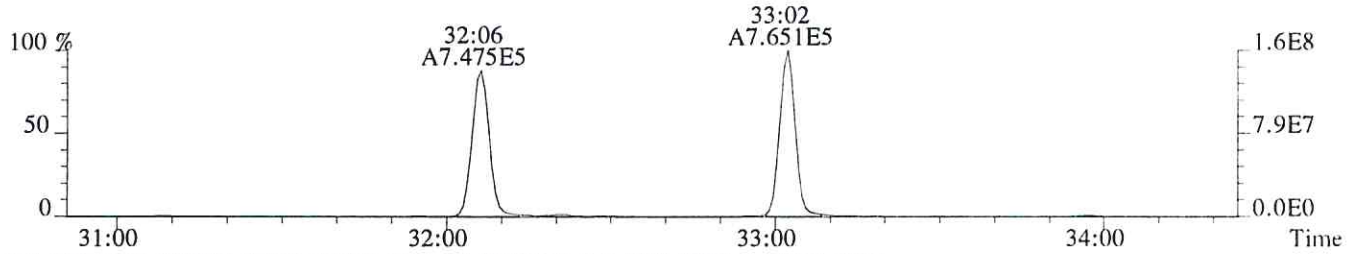
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



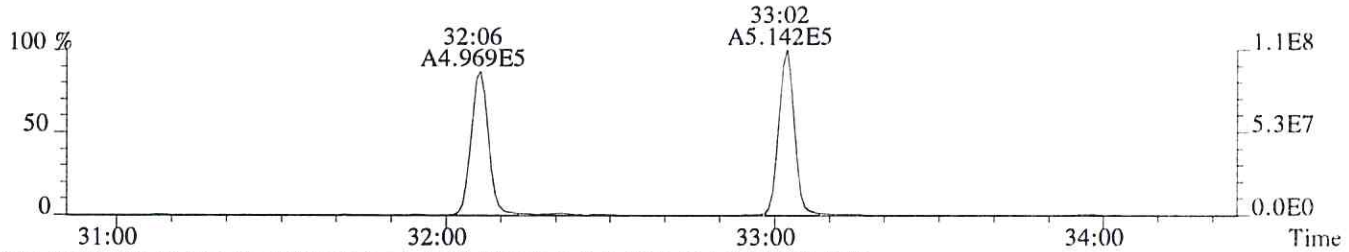
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



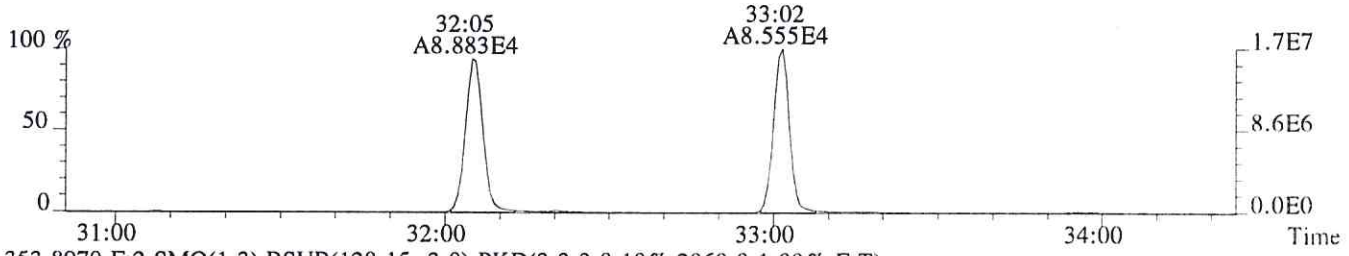
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5544.0,1.00%,F,T)



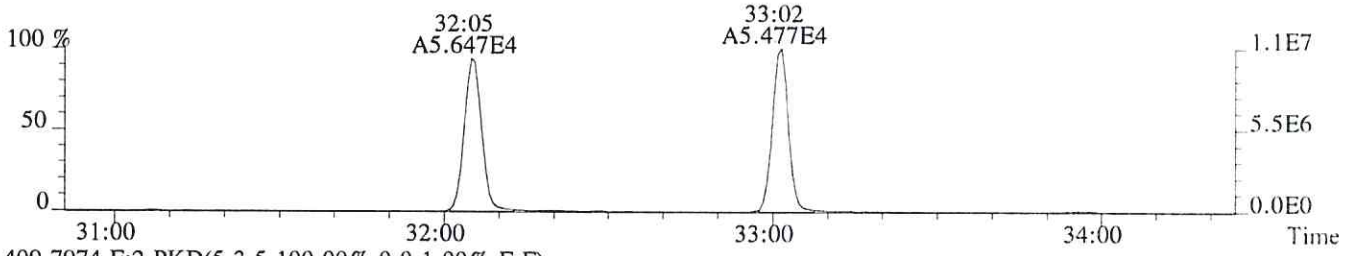
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3000.0,1.00%,F,T)



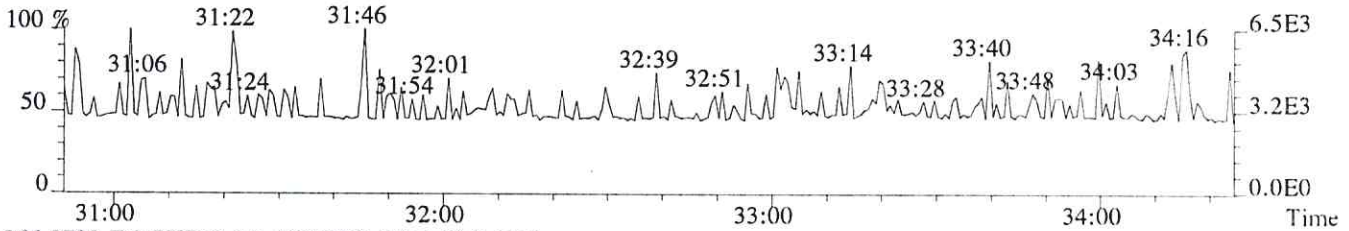
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



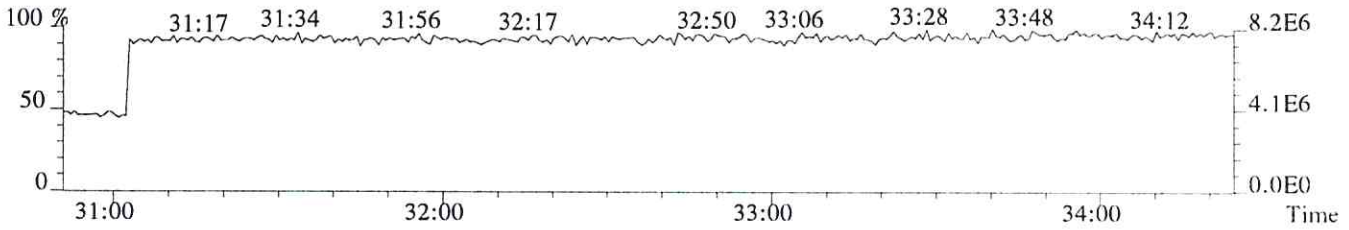
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



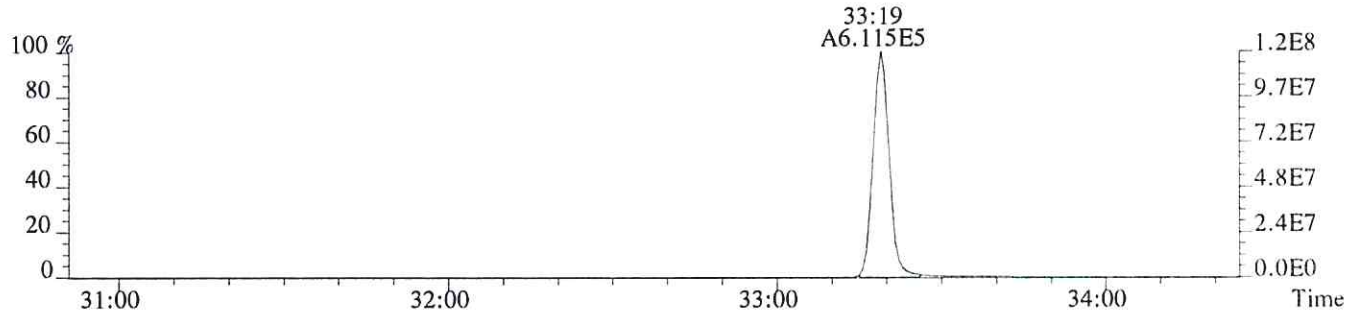
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



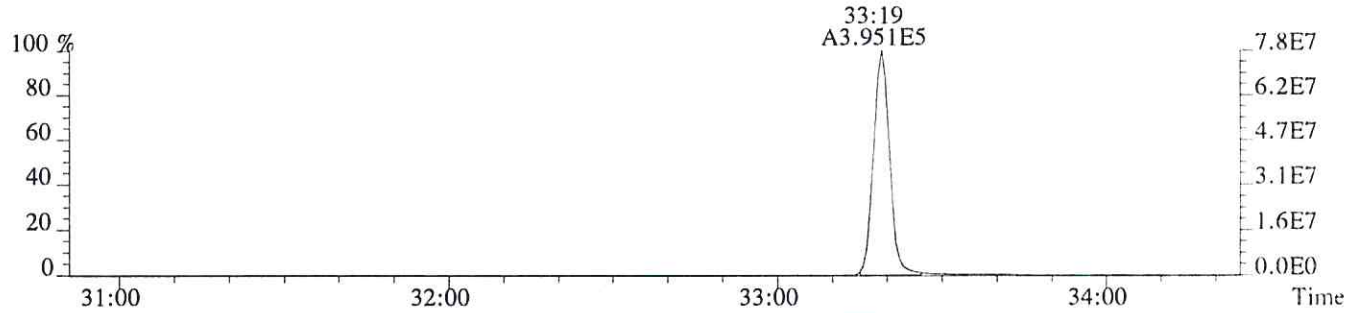
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



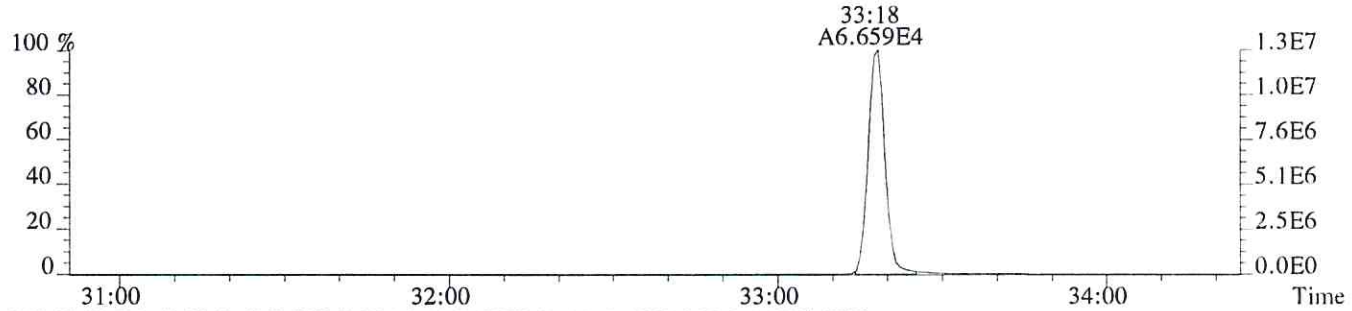
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



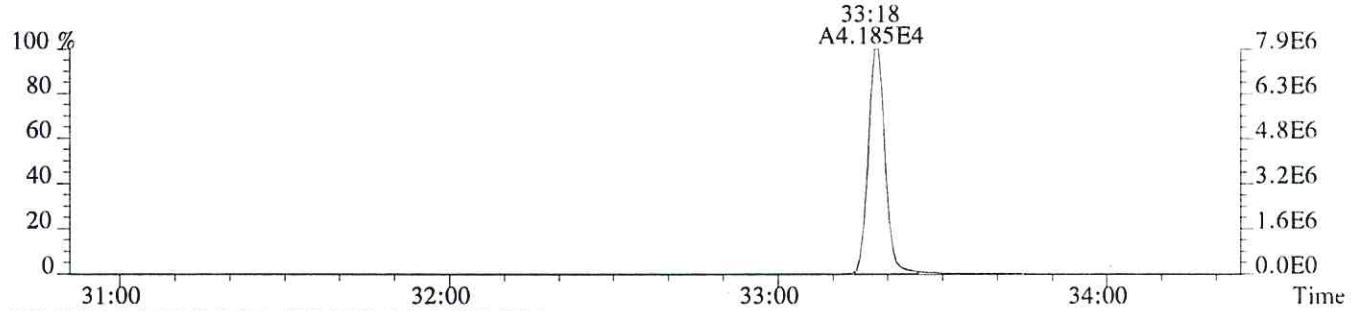
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,T)



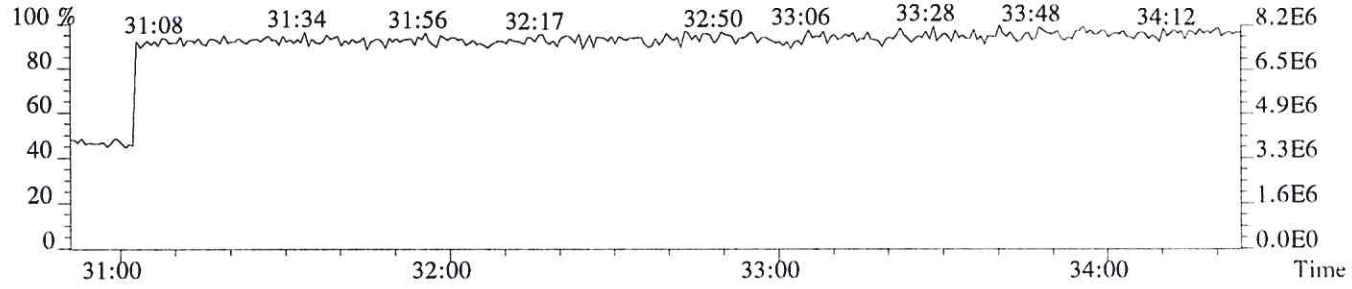
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



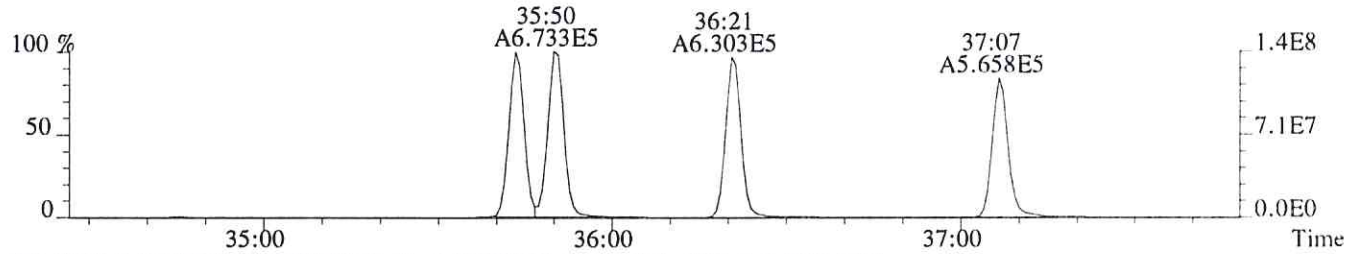
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



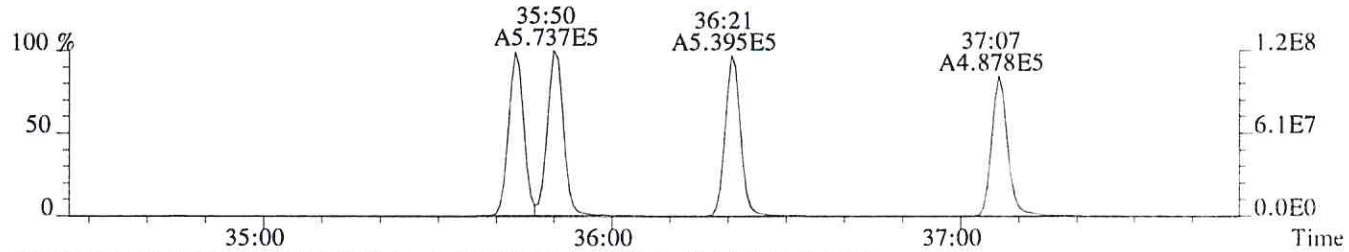
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



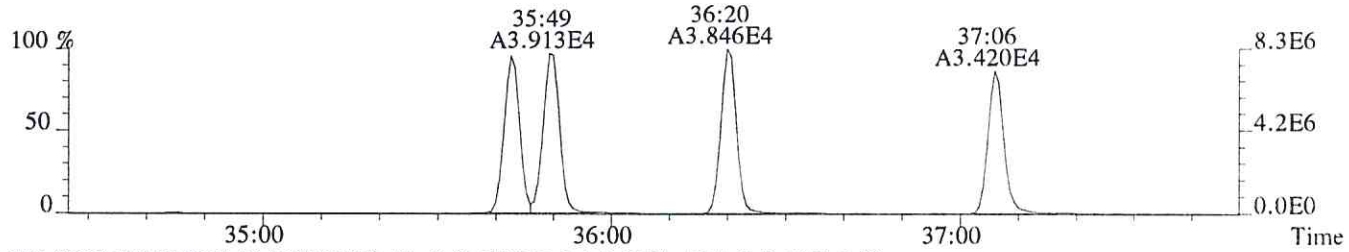
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3200.0,0.40%,F,T)



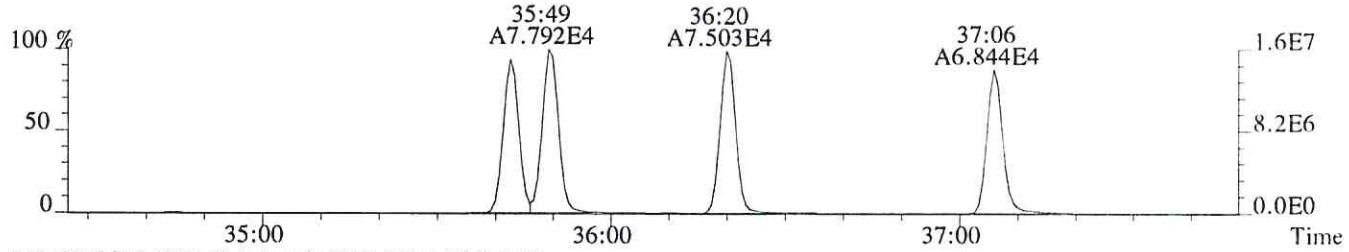
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2764.0,0.40%,F,T)



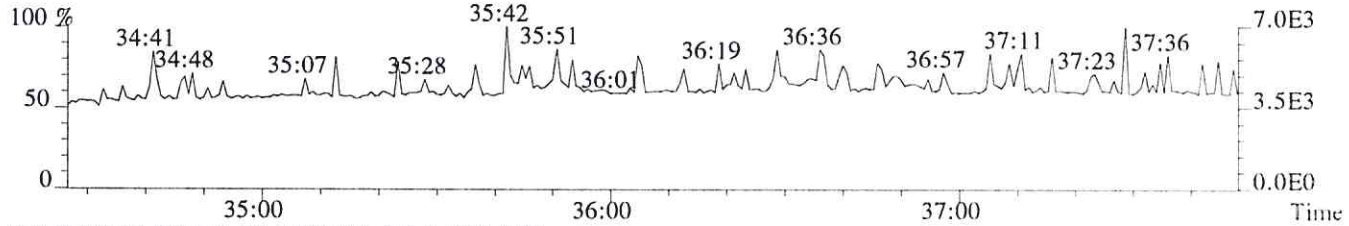
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



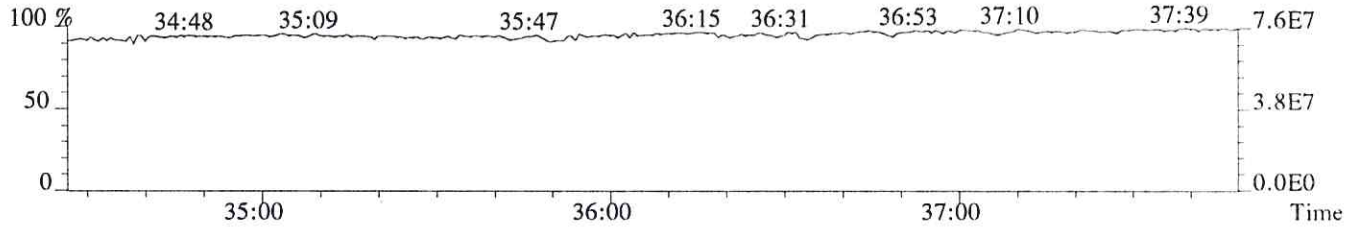
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1644.0,0.40%,F,T)



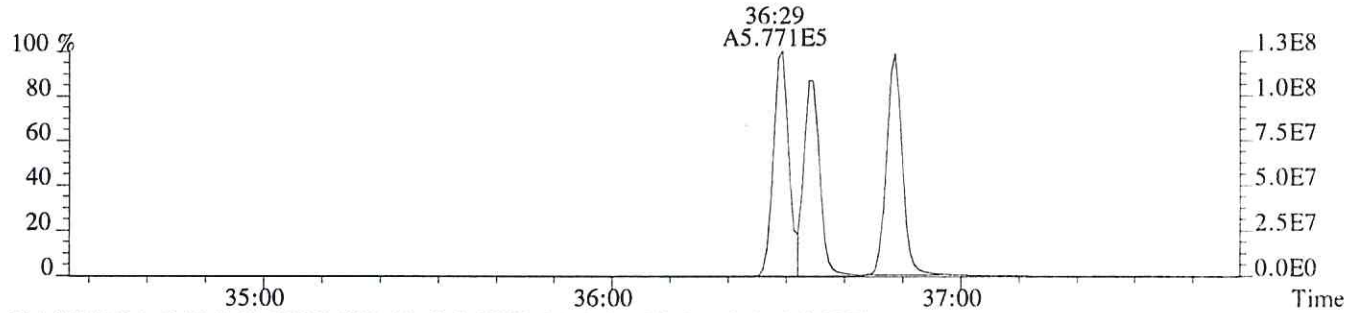
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



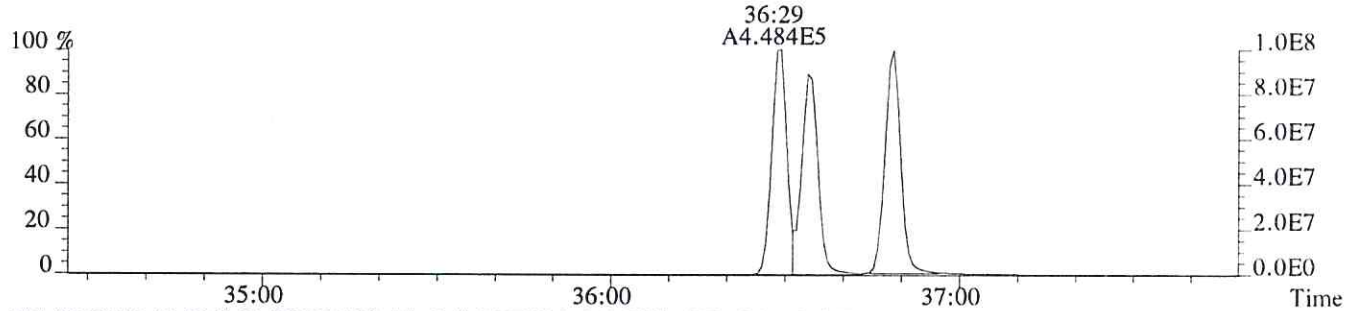
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



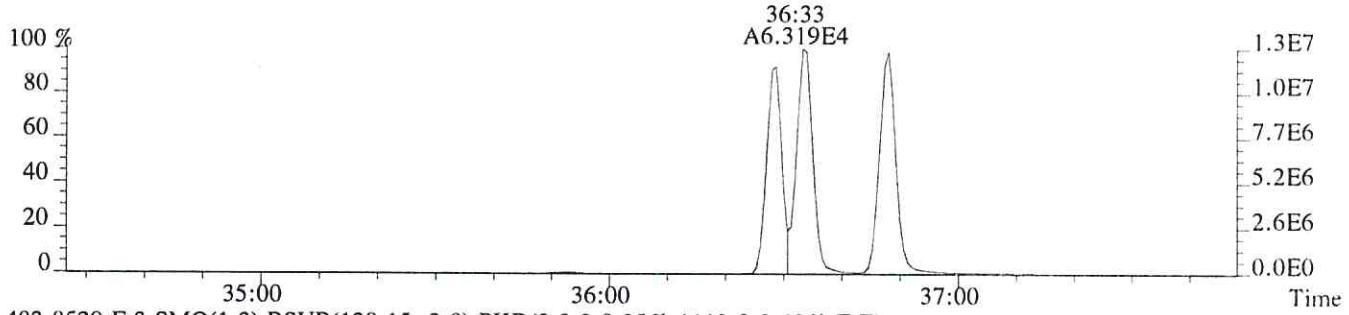
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



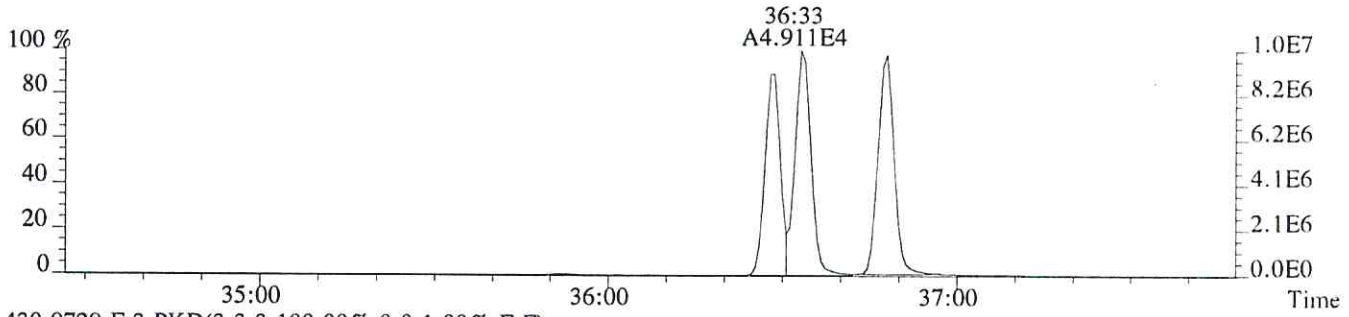
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



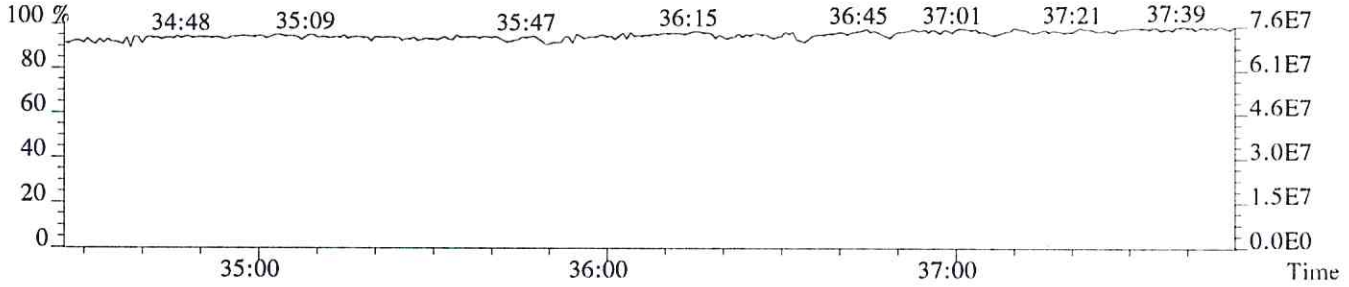
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



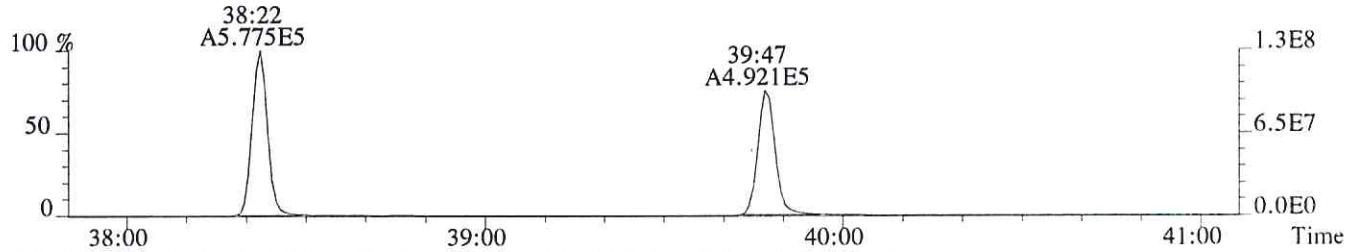
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



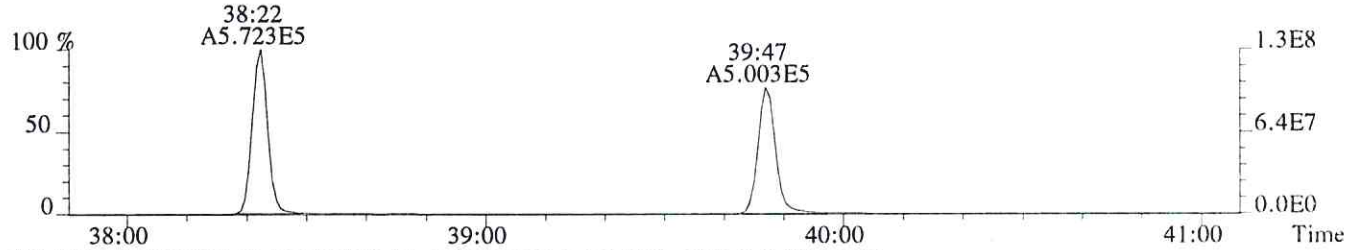
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



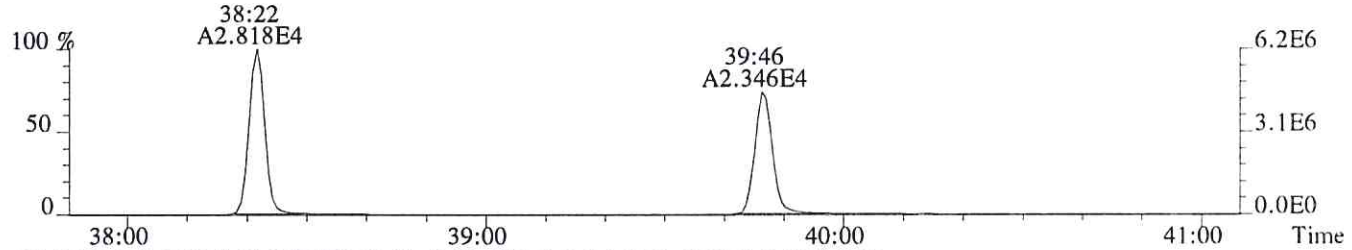
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22964.0,0.50%,F,T)



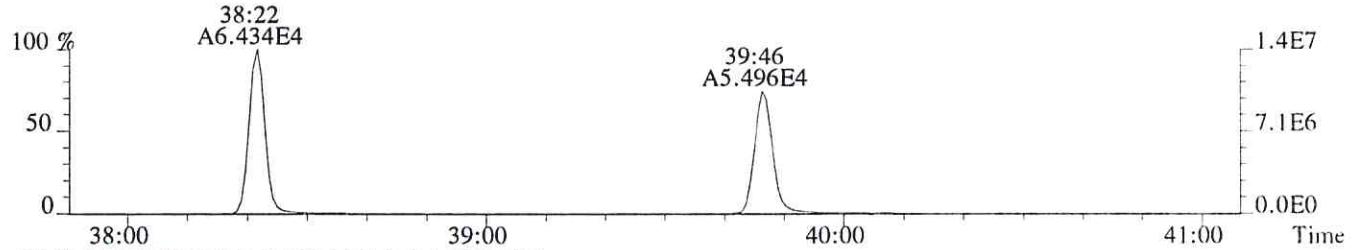
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,20988.0,0.50%,F,T)



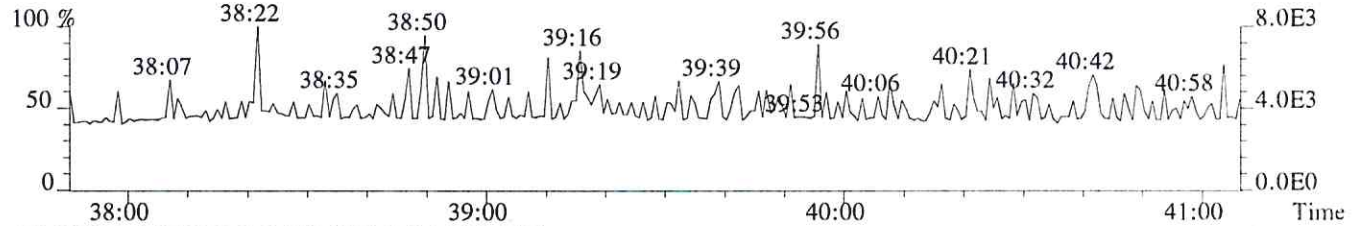
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8132.0,0.50%,F,T)



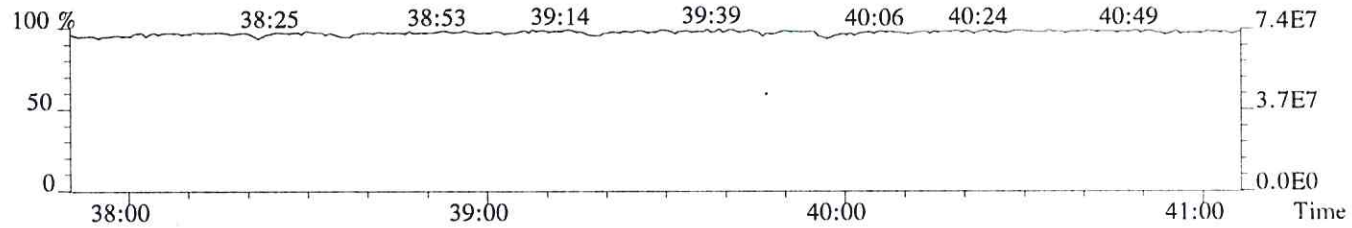
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6368.0,0.50%,F,T)



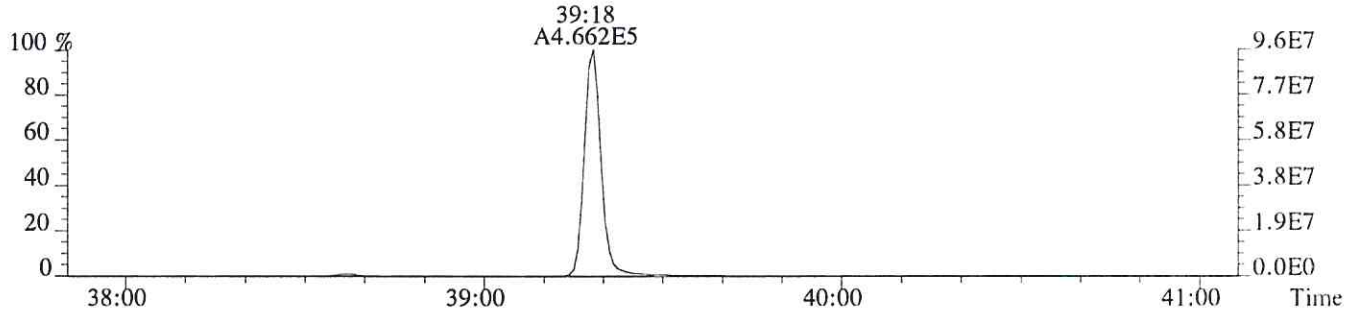
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



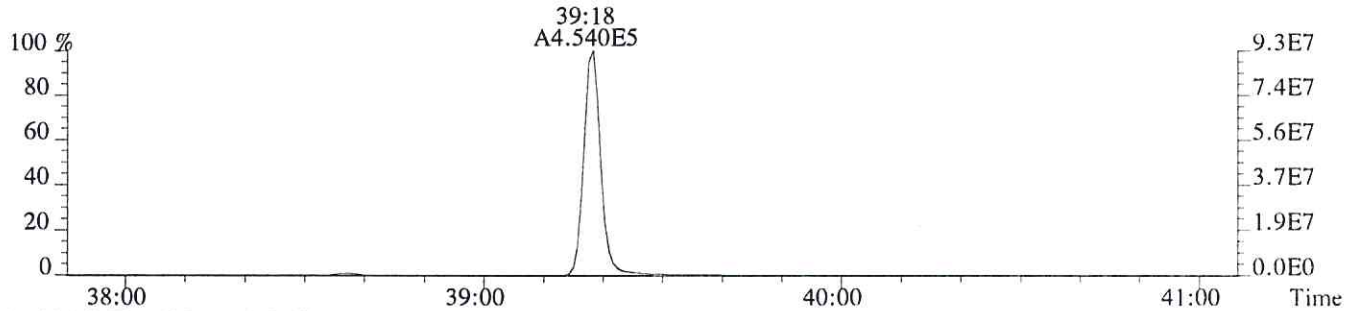
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



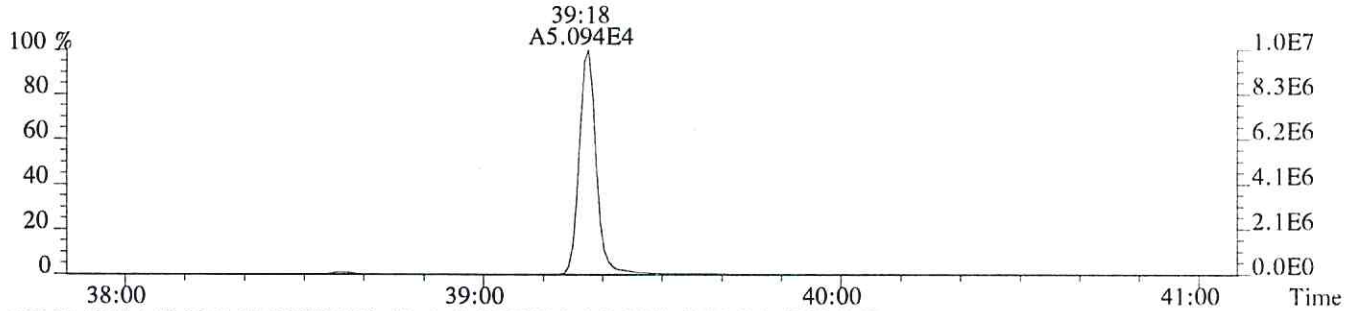
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4364.0,0.40%,F,T)



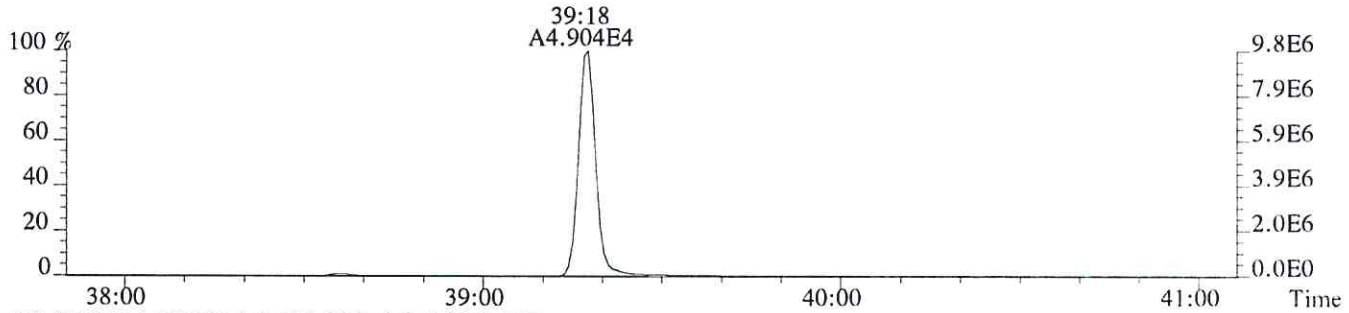
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4752.0,0.40%,F,T)



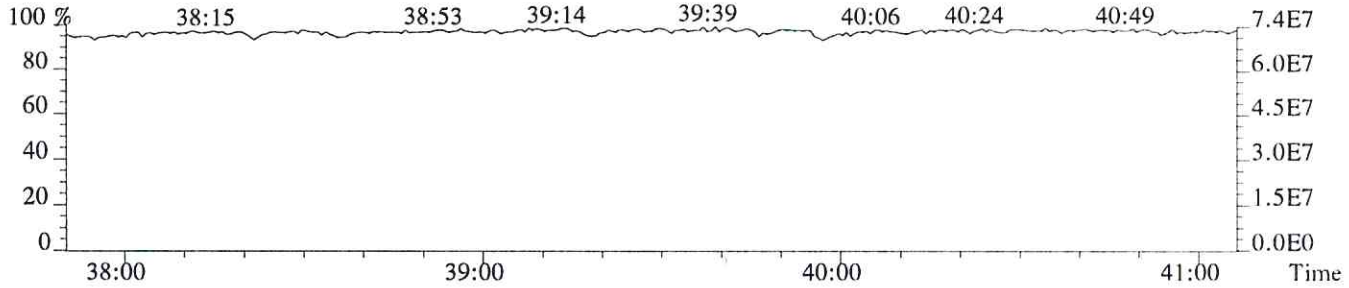
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



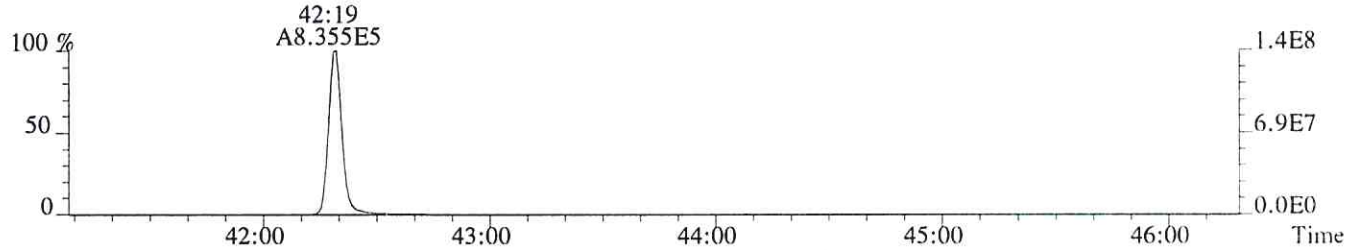
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.40%,F,T)



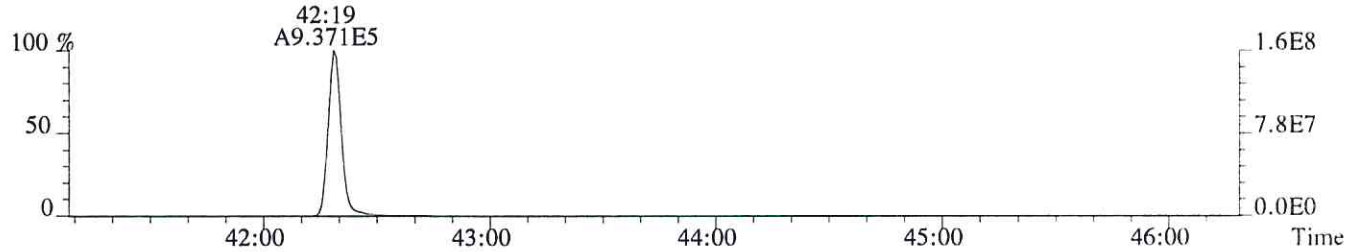
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



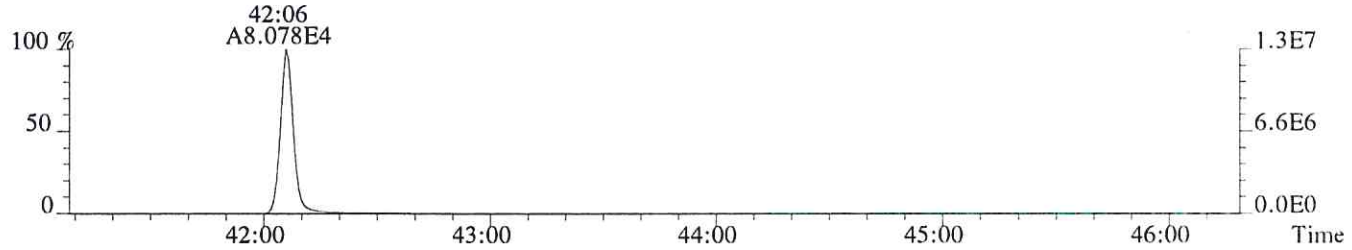
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



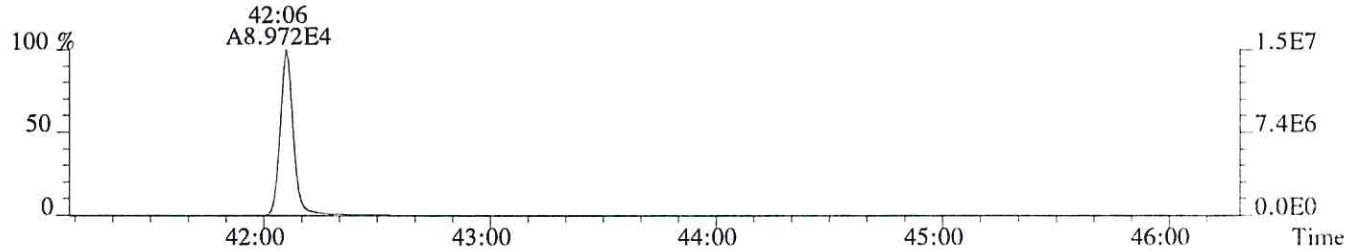
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1152.0,0.40%,F,T)



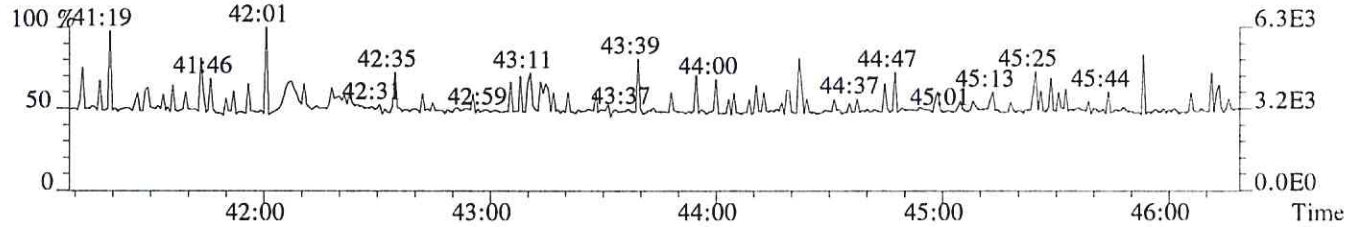
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



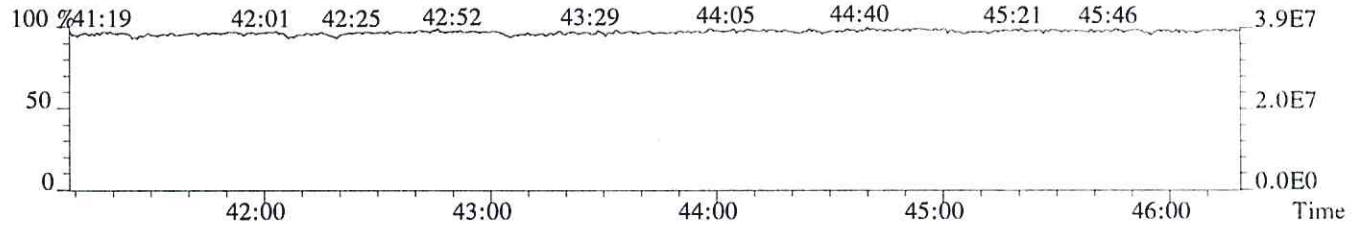
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,944.0,0.40%,F,T)



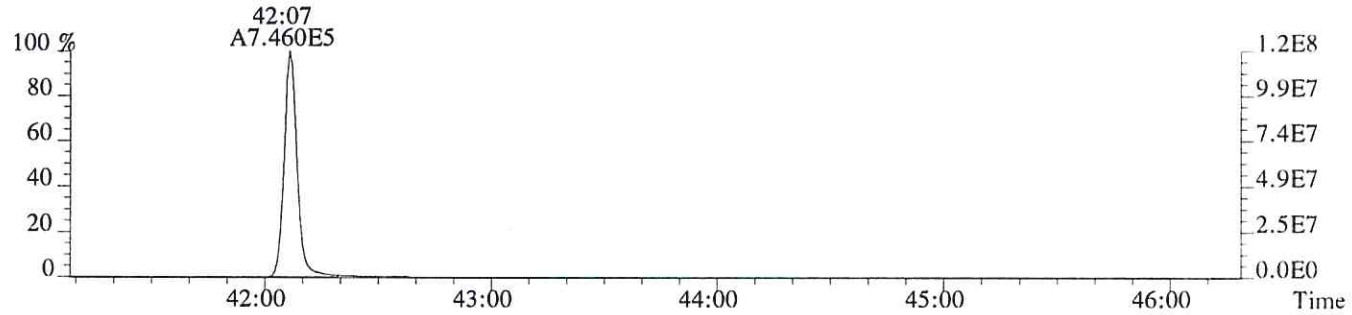
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



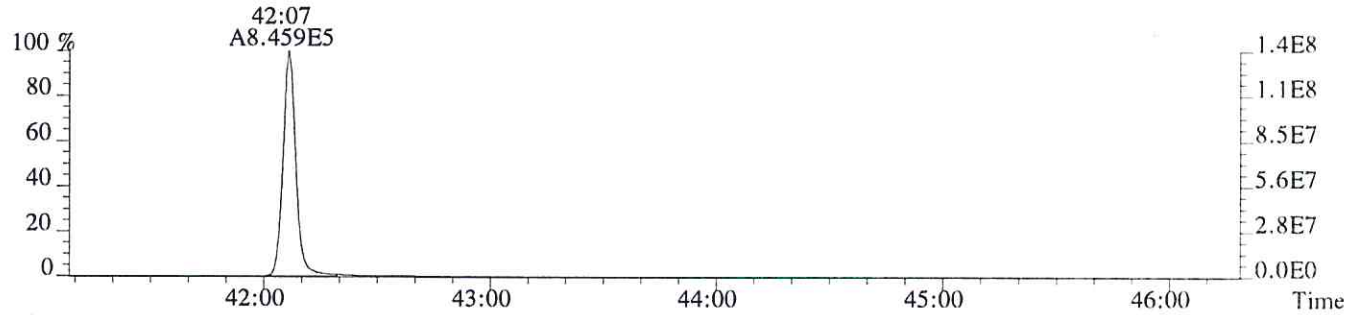
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



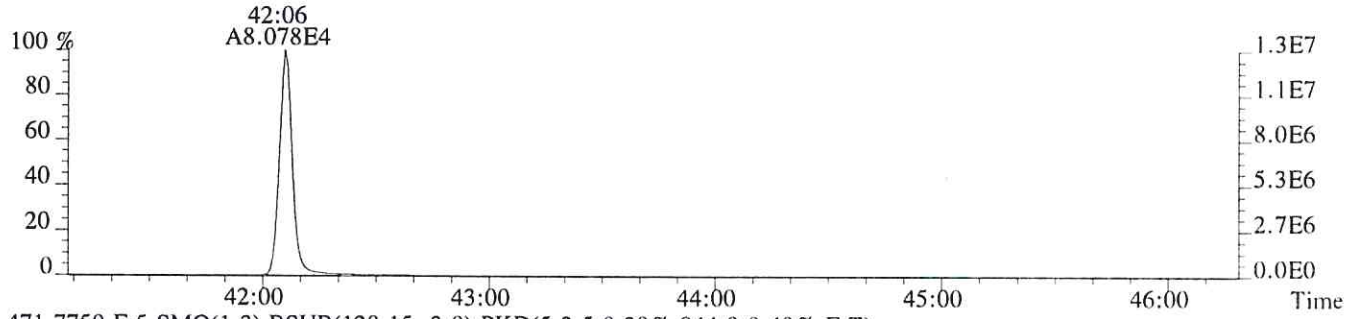
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



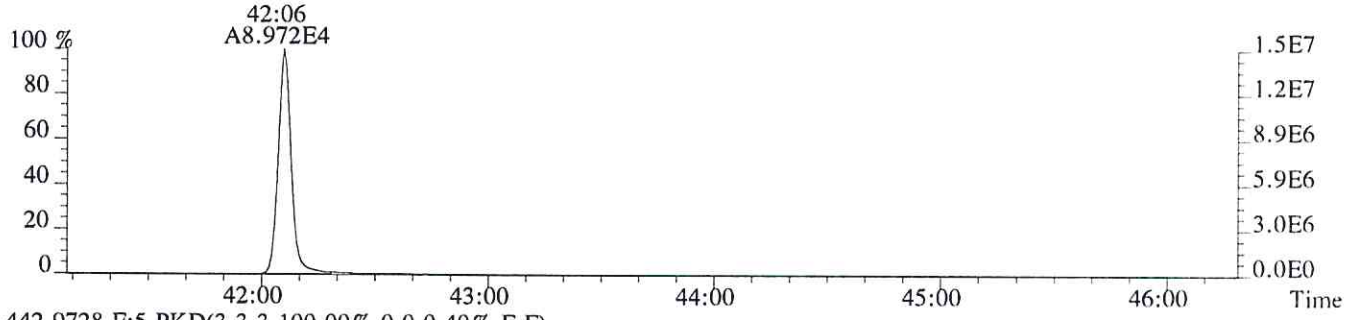
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,500.0,0.40%,F,T)



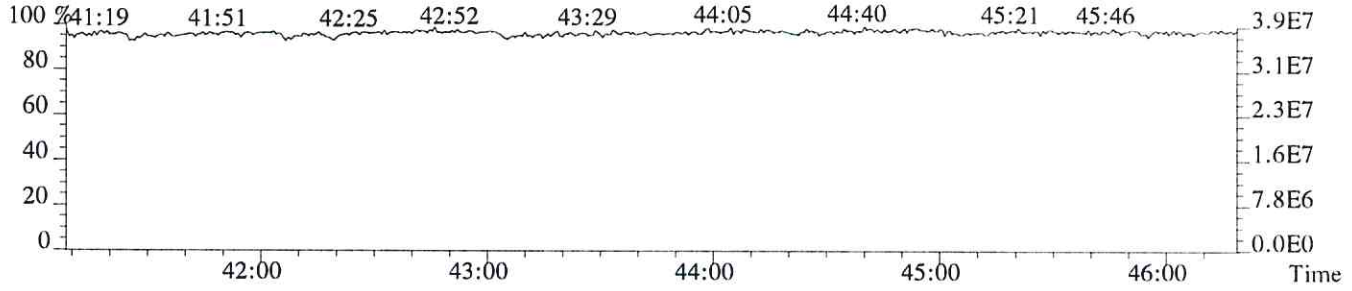
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,944.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P510641 Analysis Date: 26-JUL-17 Time: 17:13:54

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	9.4	7.8 - 12.9	-5.8
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	51	39 - 65	1.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	49	39 - 64	-1.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	51	39 - 64	1.9
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	52	41 - 61	4.2
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	-0.1
OCDD	M+2/M+4	0.87	0.76-1.02	100	79 - 126	-0.4
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	9.6	8.4 - 12.0	-4.5
1,2,3,7,8-PeCDF	M+2/M+4	1.46	1.32-1.78	50	41 - 60	0.4
2,3,4,7,8-PeCDF	M+2/M+4	1.43	1.32-1.78	49	41 - 61	-2.5
1,2,3,4,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	51	45 - 56	2.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.14	1.05-1.43	50	44 - 57	-0.2
1,2,3,7,8,9-HxCDF	M+2/M+4	1.17	1.05-1.43	50	45 - 56	0.6
2,3,4,6,7,8-HxCDF	M+2/M+4	1.16	1.05-1.43	51	44 - 57	1.7
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.99	0.88-1.20	50	45 - 55	-0.8
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	50	43 - 58	-0.4
OCDF	M+2/M+4	0.89	0.76-1.02	102	63 - 159	1.9

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P510641 Analysis Date: 26-JUL-17 Time: 17:13:54

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	99	82 - 121	-1.0
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	95	62 - 160	-5.3
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	98	85 - 117	-1.9
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	97	85 - 118	-3.1
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	104	72 - 138	4.3
13C-OCDD	M+2/M+4	0.89	0.76-1.02	209	96 - 415	4.7
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	102	71 - 140	2.4
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	96	76 - 130	-3.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	96	77 - 130	-4.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	94	76 - 131	-5.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	97	70 - 143	-3.4
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	99	74 - 135	-1.1
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	98	73 - 137	-2.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	102	78 - 129	1.7
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	106	77 - 129	5.7
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-2.3

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
75080

Run #7 Filename P510641 Samp: 1 Inj: 1 Acquired: 26-JUL-17 17:13:54
Processed: 27-JUL-17 09:17:31 Sample ID: 2ND SOURCE

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	6.122e+03	8.095e+03	0.76	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:07	4.965e+04	3.401e+04	1.46	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:03	4.508e+04	3.154e+04	1.43	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:44	3.873e+04	3.234e+04	1.20	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	4.064e+04	3.566e+04	1.14	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:23	3.877e+04	3.332e+04	1.16	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:09	3.515e+04	3.013e+04	1.17	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	3.711e+04	3.764e+04	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	3.199e+04	3.233e+04	0.99	yes	no	1.191
10	Unk	OCDF	42:23	5.479e+04	6.172e+04	0.89	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	5.347e+03	6.992e+03	0.76	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	3.870e+04	2.515e+04	1.54	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	3.264e+04	2.637e+04	1.24	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	3.471e+04	2.766e+04	1.26	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	3.689e+04	2.921e+04	1.26	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	3.111e+04	3.000e+04	1.04	yes	no	0.942
17	Unk	OCDD	42:09	5.058e+04	5.786e+04	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	7.900e+04	1.014e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	1.161e+05	7.415e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.134e+05	7.250e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:43	4.376e+04	8.716e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:50	5.288e+04	1.018e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:22	4.894e+04	9.675e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:08	4.417e+04	8.511e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:23	3.649e+04	8.377e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	3.291e+04	7.551e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:37	5.428e+04	6.879e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:19	8.532e+04	5.359e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:30	6.939e+04	5.450e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	7.354e+04	5.819e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:20	6.622e+04	6.364e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:09	9.765e+04	1.096e+05	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	5.832e+04	7.192e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	7.769e+04	6.359e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	1.315e+04				no	1.033

ALS ENVIRONMENTAL
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Houston, TX 77099
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www.alsglobal.com

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
75080

Run #7 Filename P510641 Samp: 1 Inj: 1 Acquired: 26-JUL-17 17:13:54
Processed: 27-JUL-17 09:17:31 LAB. ID: 2ND SOURCE

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.09e+06	3.68e+02	3.0e+03	1.51e+06	2.07e+03	7.3e+02
2	1,2,3,7,8-PeCDF	9.34e+06	7.76e+02	1.2e+04	6.43e+06	1.78e+03	3.6e+03
3	2,3,4,7,8-PeCDF	8.78e+06	7.76e+02	1.1e+04	6.10e+06	1.78e+03	3.4e+03
4	1,2,3,4,7,8-HxCDF	8.26e+06	9.32e+02	8.9e+03	6.97e+06	5.56e+02	1.3e+04
5	1,2,3,6,7,8-HxCDF	8.41e+06	9.32e+02	9.0e+03	7.21e+06	5.56e+02	1.3e+04
6	2,3,4,6,7,8-HxCDF	8.38e+06	9.32e+02	9.0e+03	7.34e+06	5.56e+02	1.3e+04
7	1,2,3,7,8,9-HxCDF	6.84e+06	9.32e+02	7.3e+03	5.96e+06	5.56e+02	1.1e+04
8	1,2,3,4,6,7,8-HpCDF	8.20e+06	4.46e+03	1.8e+03	8.35e+06	1.66e+03	5.0e+03
9	1,2,3,4,7,8,9-HpCDF	6.44e+06	4.46e+03	1.4e+03	6.47e+06	1.66e+03	3.9e+03
10	OCDF	7.88e+06	2.76e+02	2.9e+04	8.72e+06	6.68e+02	1.3e+04
11	2,3,7,8-TCDD	1.03e+06	1.53e+03	6.7e+02	1.29e+06	1.14e+03	1.1e+03
12	1,2,3,7,8-PeCDD	7.60e+06	1.41e+03	5.4e+03	4.92e+06	2.00e+02	2.5e+04
13	1,2,3,4,7,8-HxCDD	7.65e+06	4.96e+02	1.5e+04	6.20e+06	5.48e+02	1.1e+04
14	1,2,3,6,7,8-HxCDD	7.45e+06	4.96e+02	1.5e+04	5.91e+06	5.48e+02	1.1e+04
15	1,2,3,7,8,9-HxCDD	7.33e+06	4.96e+02	1.5e+04	5.82e+06	5.48e+02	1.1e+04
16	1,2,3,4,6,7,8-HpCDD	6.02e+06	7.12e+02	8.5e+03	5.76e+06	8.68e+02	6.6e+03
17	OCDD	7.98e+06	7.60e+01	1.1e+05	9.11e+06	2.32e+02	3.9e+04
18	13C-2,3,7,8-TCDF	1.41e+07	9.71e+03	1.5e+03	1.81e+07	4.93e+03	3.7e+03
19	13C-1,2,3,7,8-PeCDF	2.14e+07	9.08e+02	2.4e+04	1.35e+07	1.07e+03	1.3e+04
20	13C-2,3,4,7,8-PeCDF	2.18e+07	9.08e+02	2.4e+04	1.40e+07	1.07e+03	1.3e+04
21	13C-1,2,3,4,7,8-HxCDF	9.41e+06	3.76e+02	2.5e+04	1.87e+07	7.44e+02	2.5e+04
22	13C-1,2,3,6,7,8-HxCDF	1.05e+07	3.76e+02	2.8e+04	2.04e+07	7.44e+02	2.7e+04
23	13C-2,3,4,6,7,8-HxCDF	1.04e+07	3.76e+02	2.8e+04	2.07e+07	7.44e+02	2.8e+04
24	13C-1,2,3,7,8,9-HxCDF	8.53e+06	3.76e+02	2.3e+04	1.64e+07	7.44e+02	2.2e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.00e+06	3.00e+03	2.7e+03	1.84e+07	7.06e+03	2.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.49e+06	3.00e+03	2.2e+03	1.52e+07	7.06e+03	2.1e+03
27	13C-2,3,7,8-TCDD	1.04e+07	6.14e+03	1.7e+03	1.32e+07	2.24e+03	5.9e+03
28	13C-1,2,3,7,8-PeCDD	1.64e+07	8.72e+02	1.9e+04	1.03e+07	7.12e+02	1.5e+04
29	13C-1,2,3,4,7,8-HxCDD	1.63e+07	2.16e+03	7.5e+03	1.26e+07	8.36e+02	1.5e+04
30	13C-1,2,3,6,7,8-HxCDD	1.57e+07	2.16e+03	7.2e+03	1.24e+07	8.36e+02	1.5e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.27e+07	1.37e+03	9.3e+03	1.21e+07	7.92e+02	1.5e+04
32	13C-OCDD	1.53e+07	7.28e+02	2.1e+04	1.72e+07	4.52e+02	3.8e+04
33	13C-1,2,3,4-TCDD	1.06e+07	6.14e+03	1.7e+03	1.31e+07	2.24e+03	5.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.56e+07	2.16e+03	7.2e+03	1.24e+07	8.36e+02	1.5e+04
35	37Cl-2,3,7,8-TCDD	2.47e+06	8.24e+02	3.0e+03			

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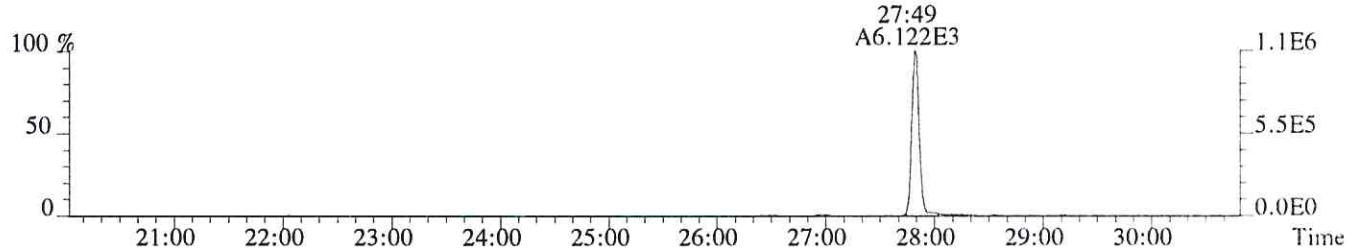
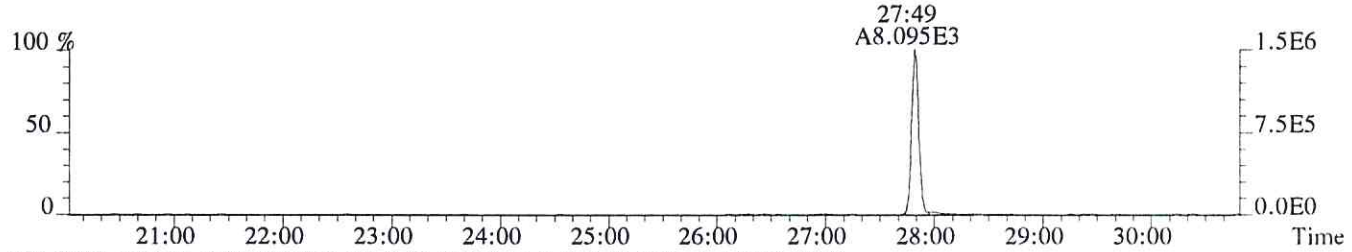
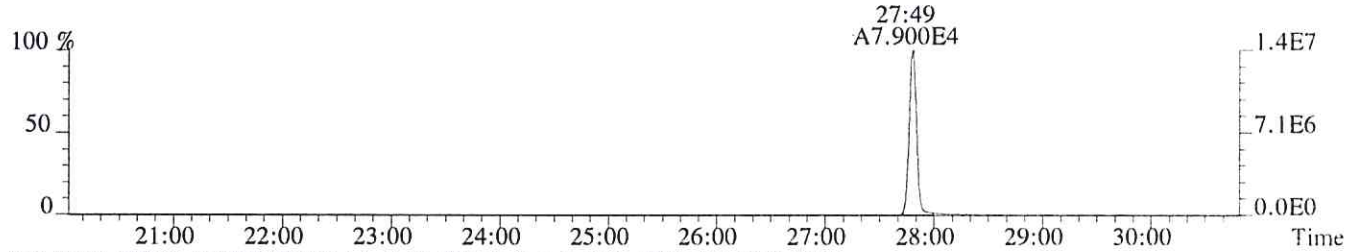
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



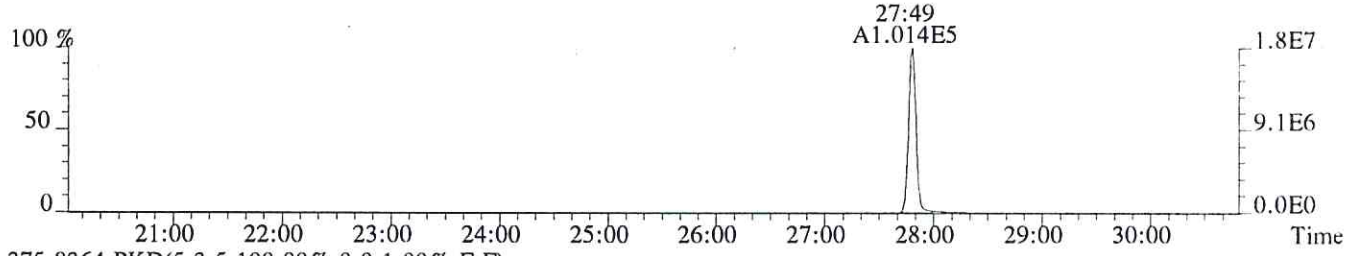
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



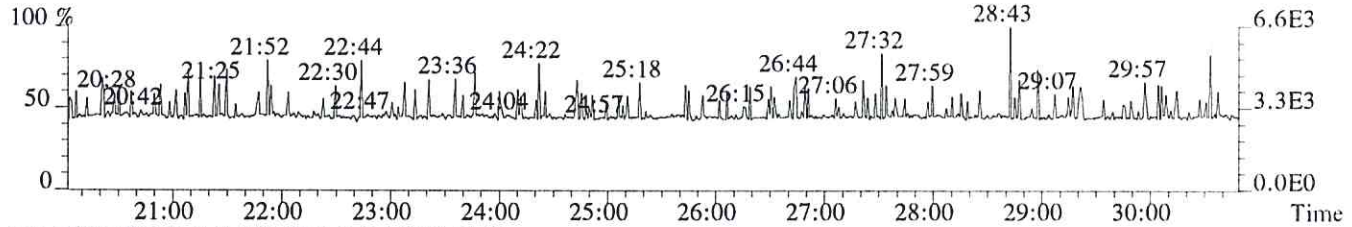
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9712.0,1.00%,F,T)



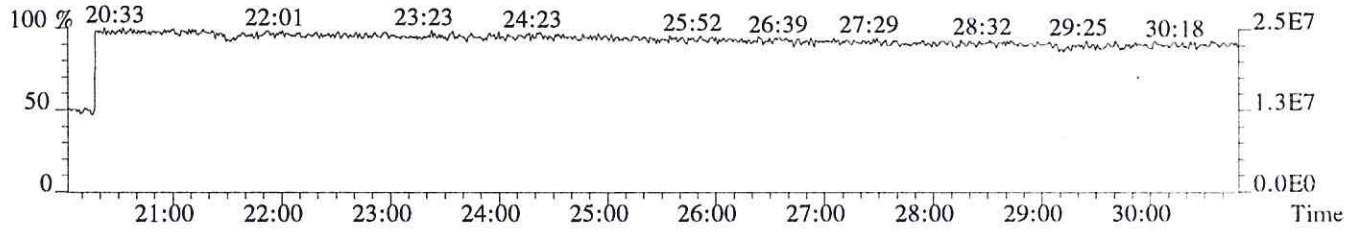
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4932.0,1.00%,F,T)



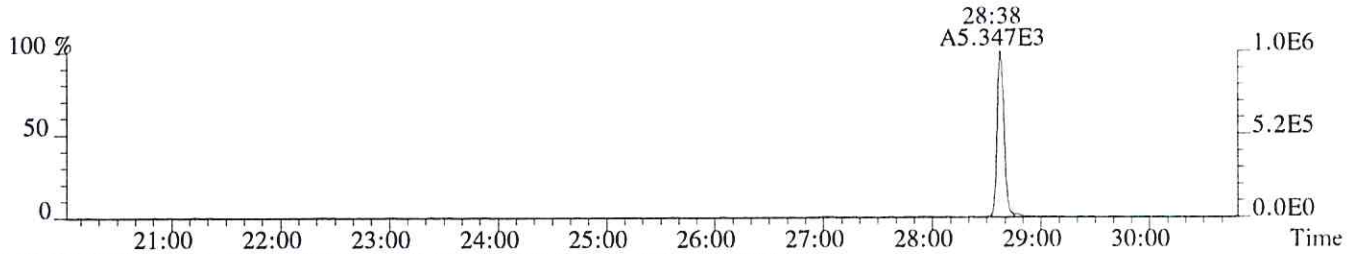
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



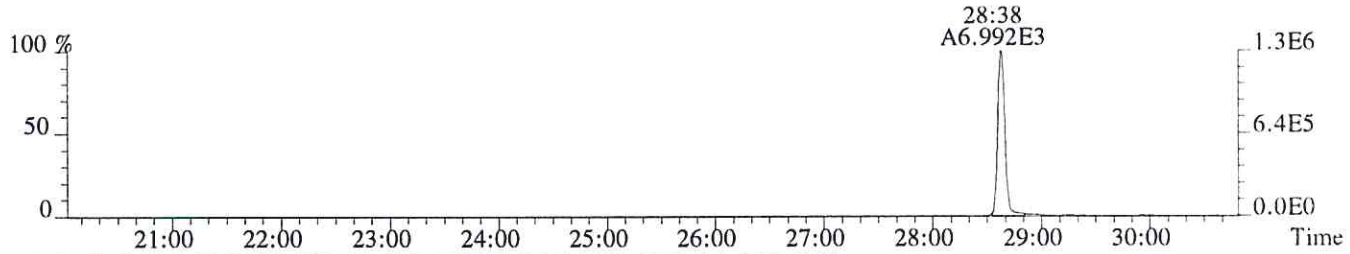
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



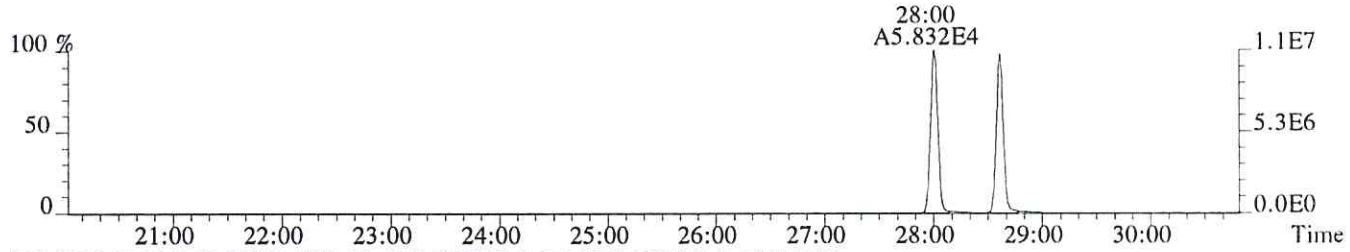
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



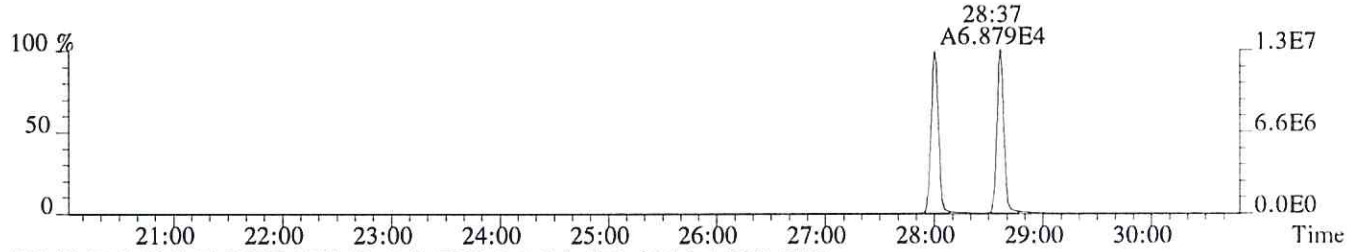
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



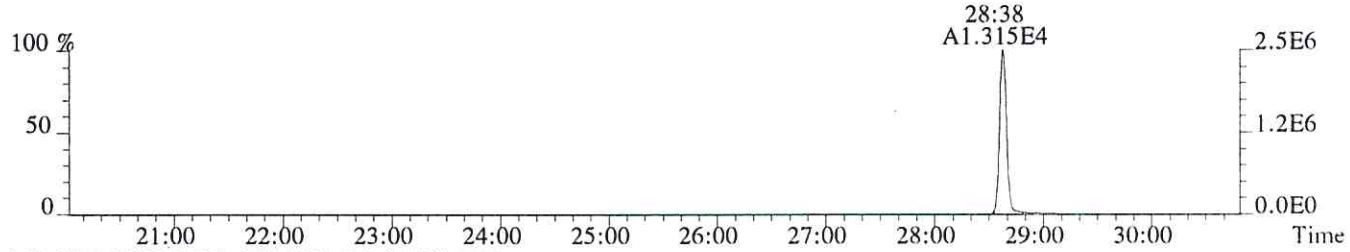
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6140.0,1.00%,F,T)



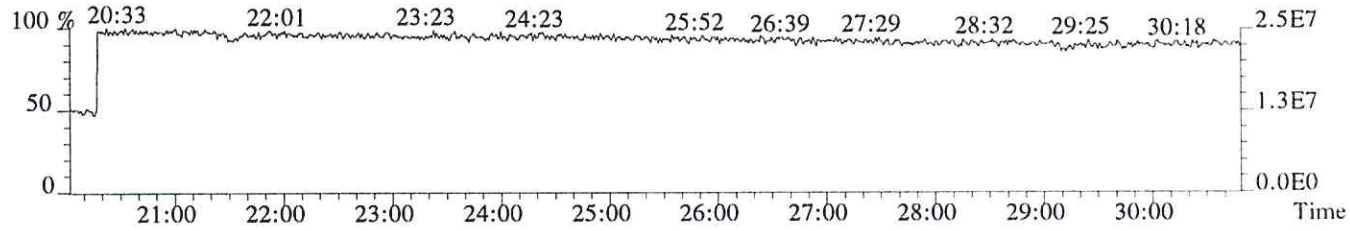
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,T)



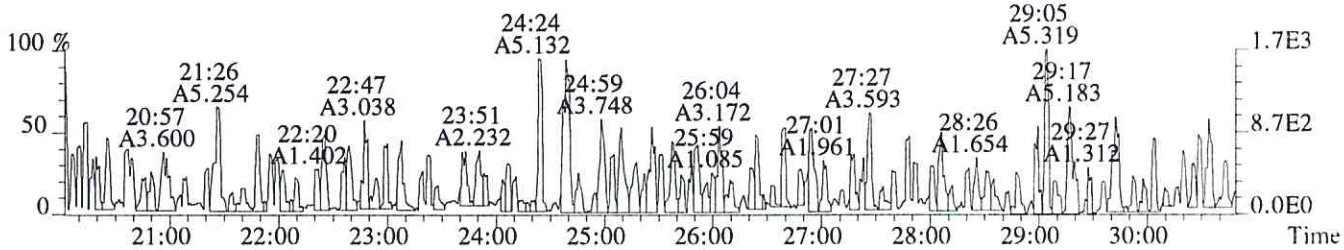
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



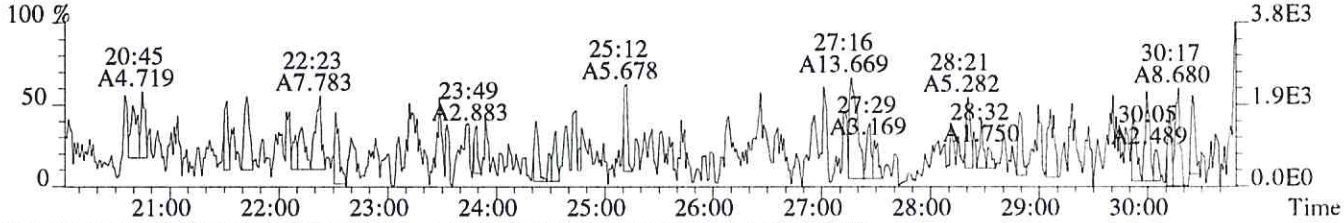
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



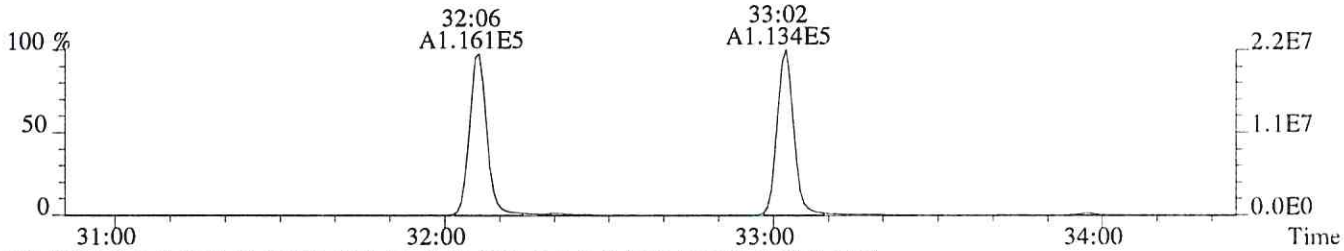
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



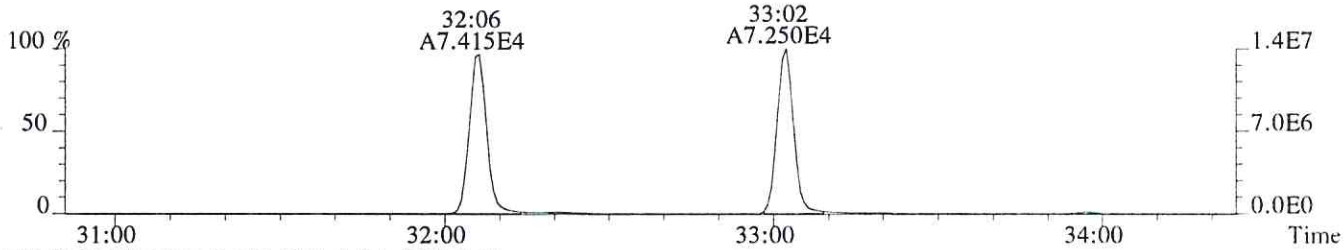
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



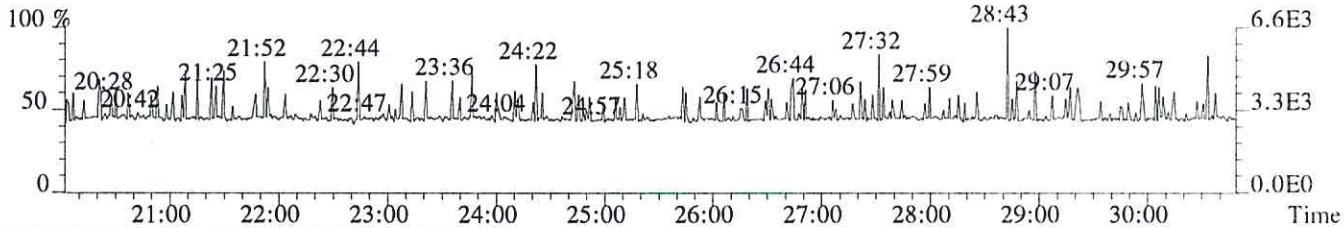
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



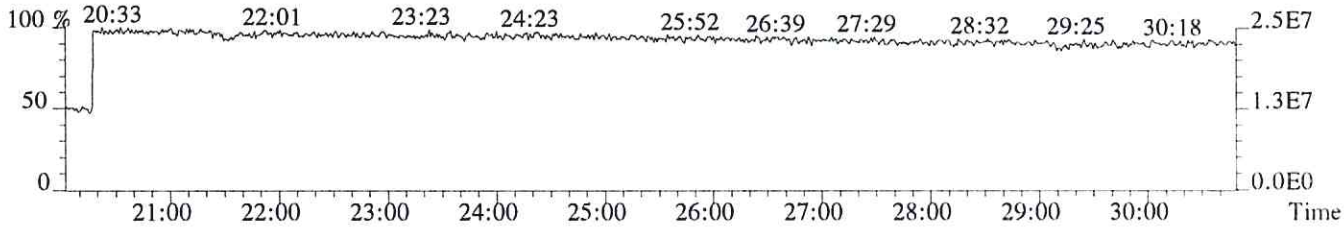
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



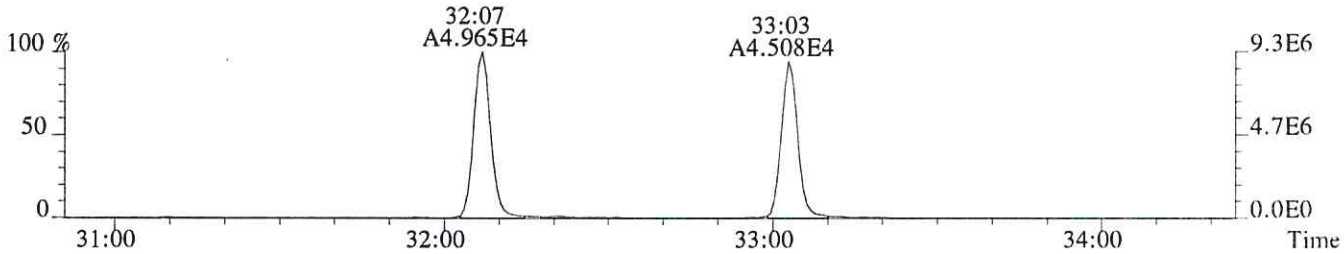
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



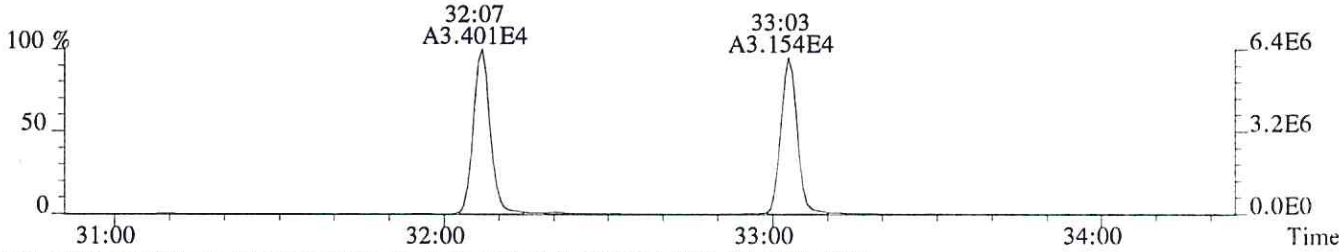
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



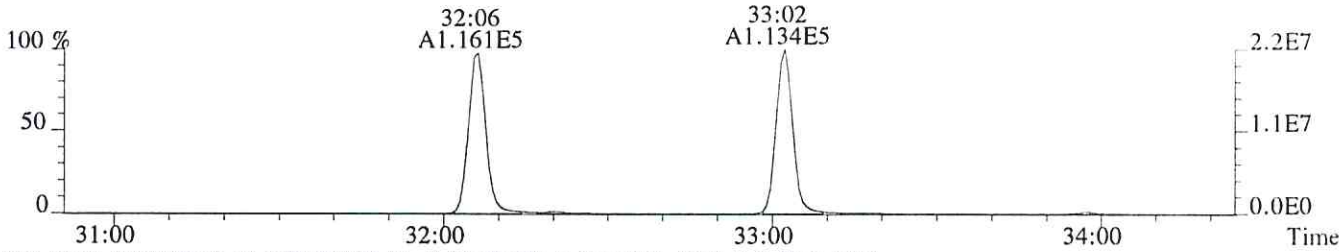
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



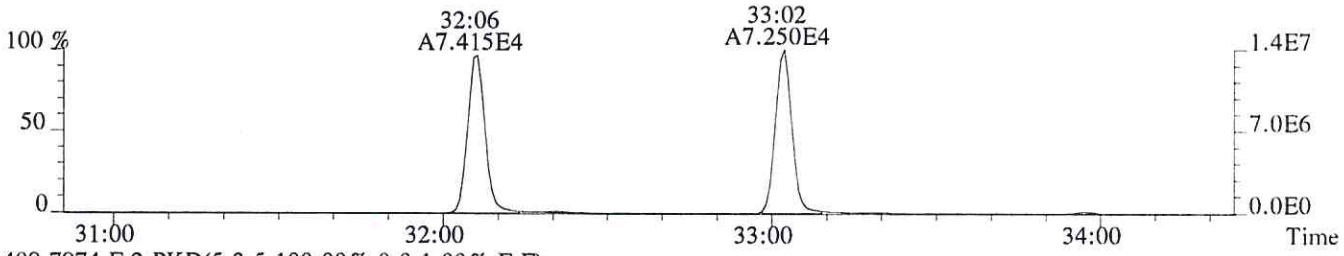
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



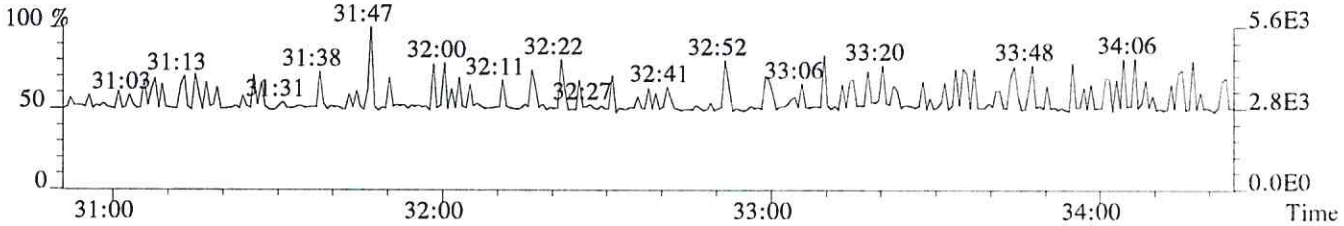
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



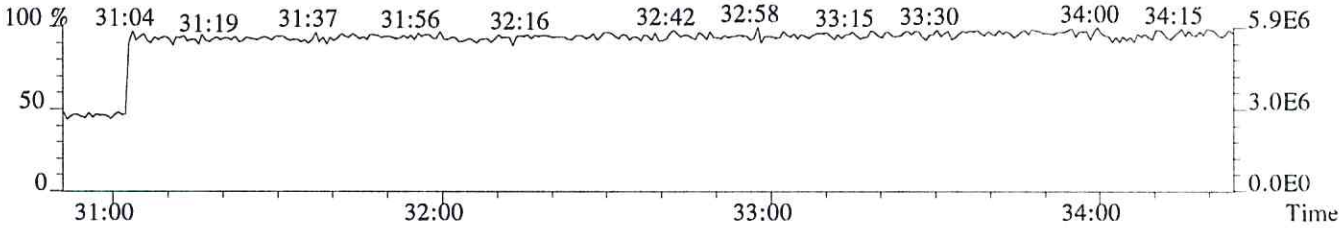
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



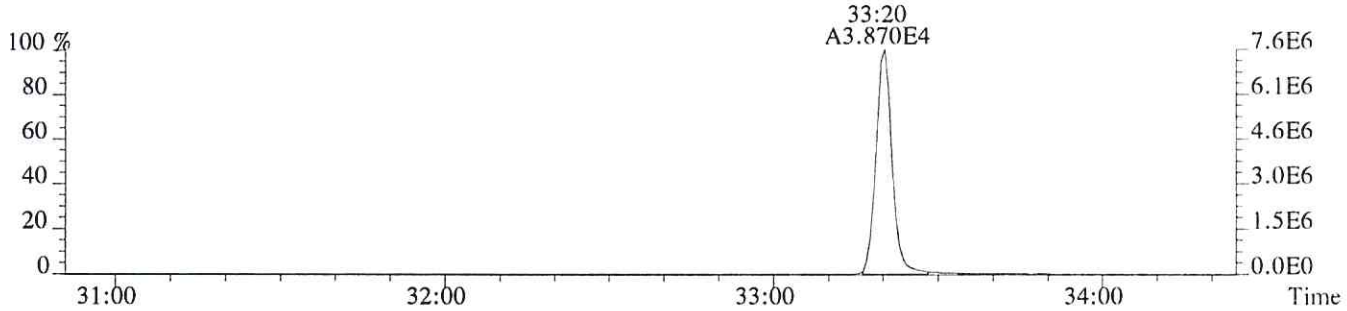
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



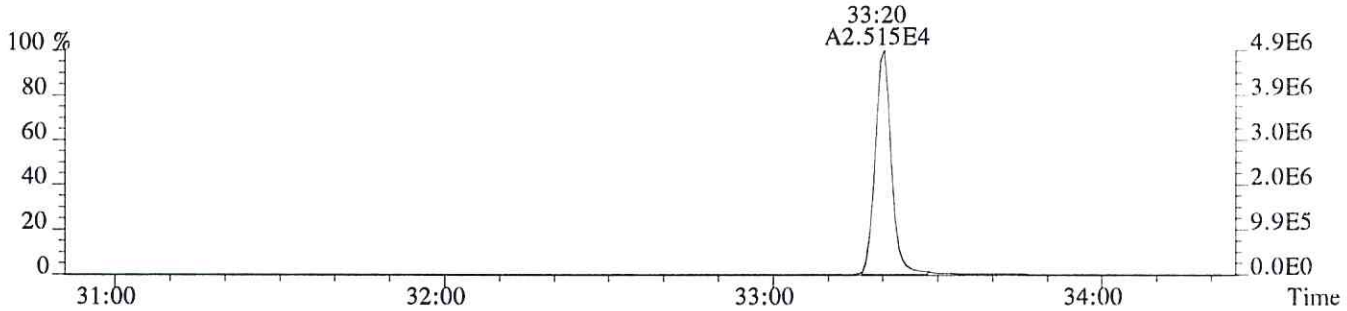
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



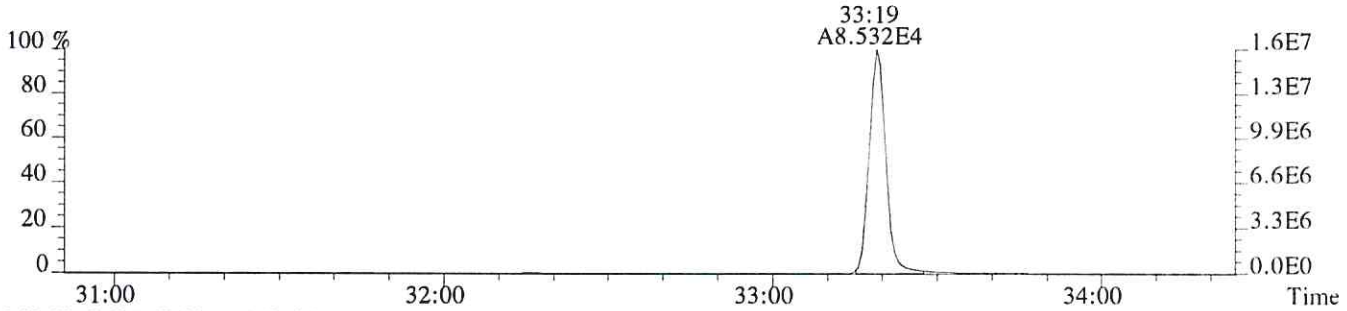
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



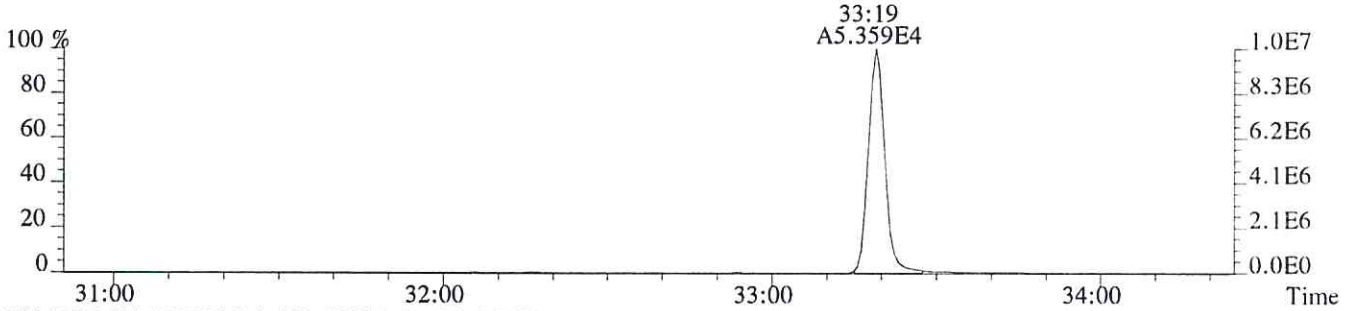
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



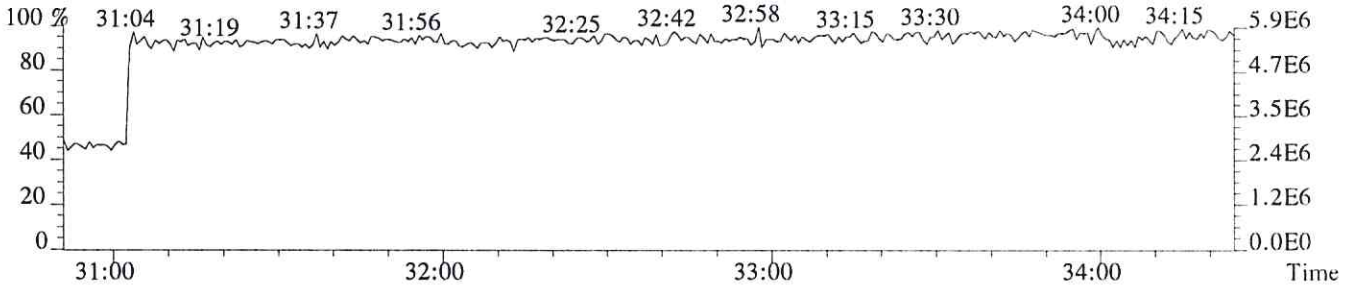
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



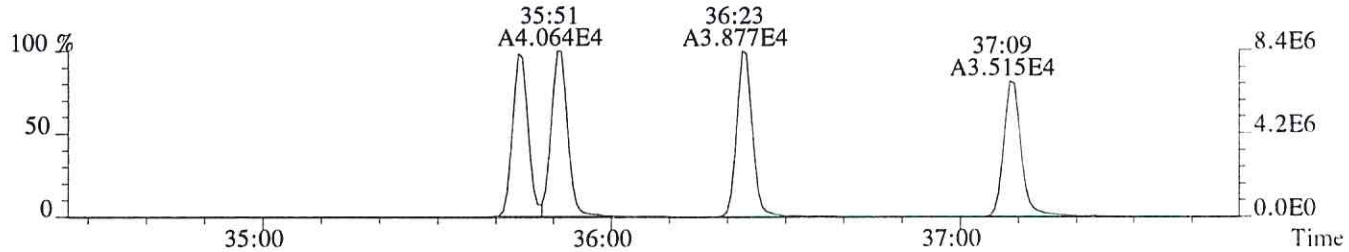
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



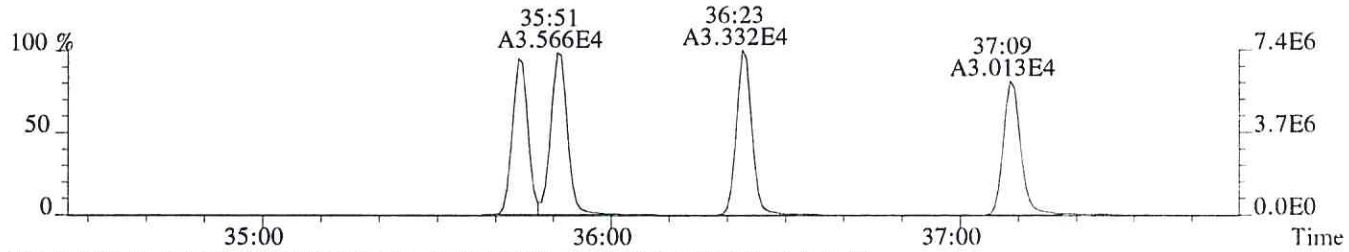
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



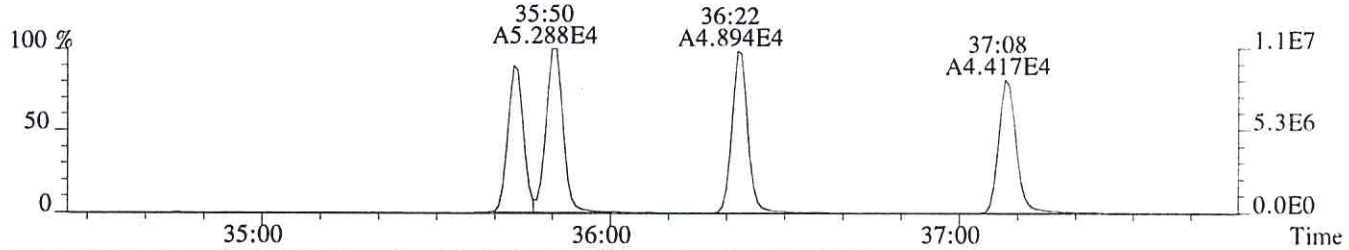
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



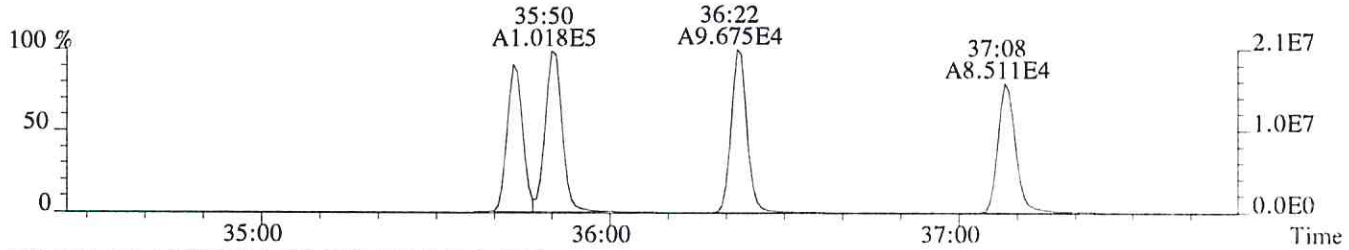
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,556.0,0.40%,F,T)



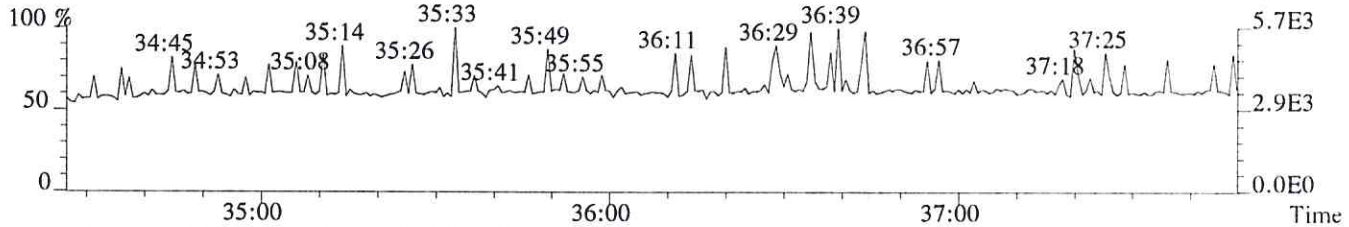
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



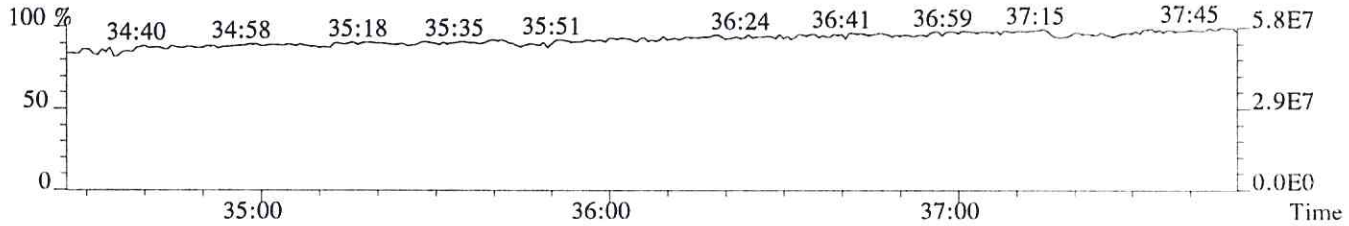
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,T)



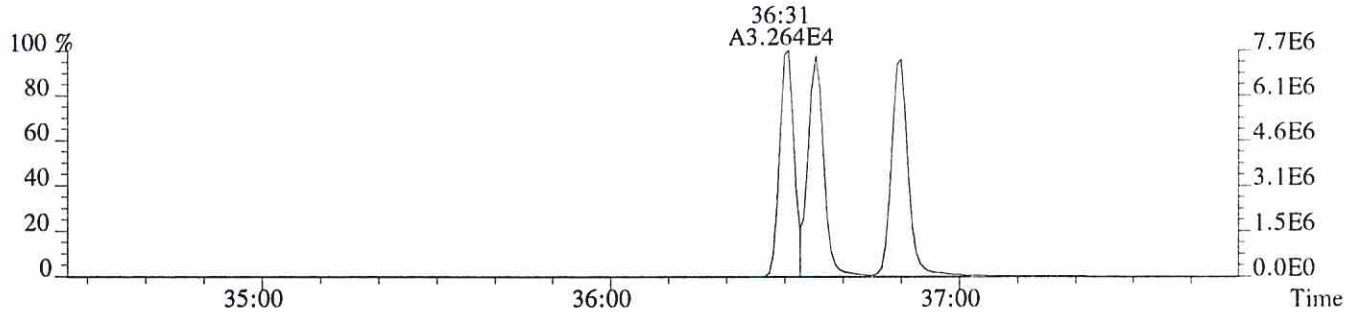
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



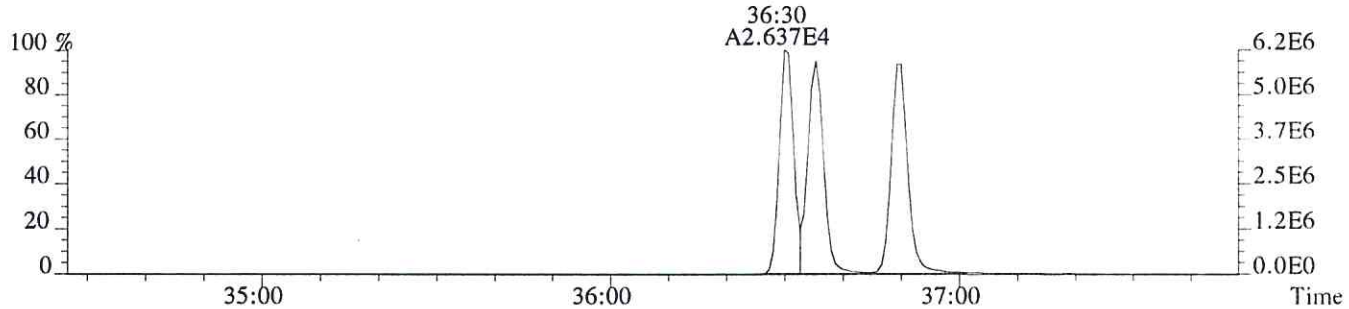
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



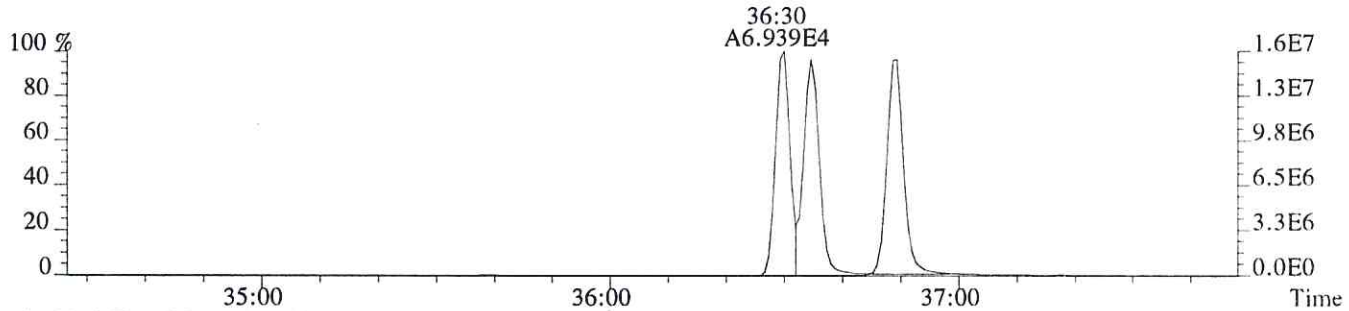
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



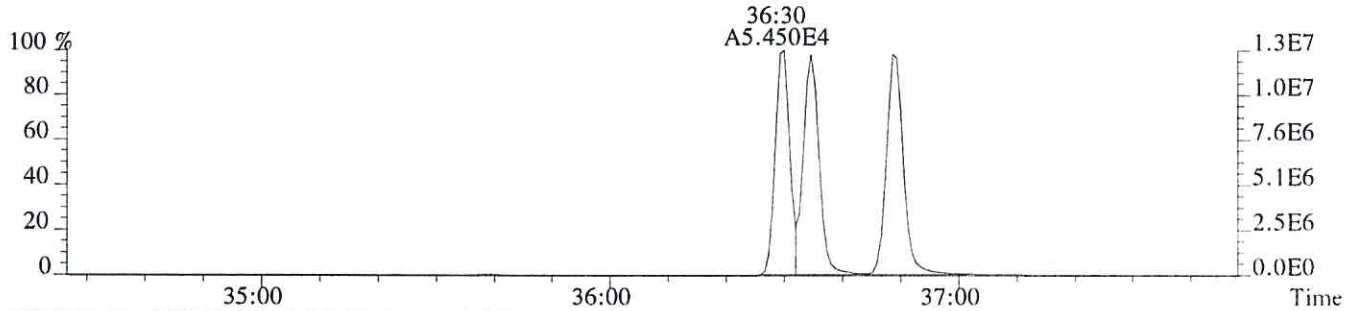
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



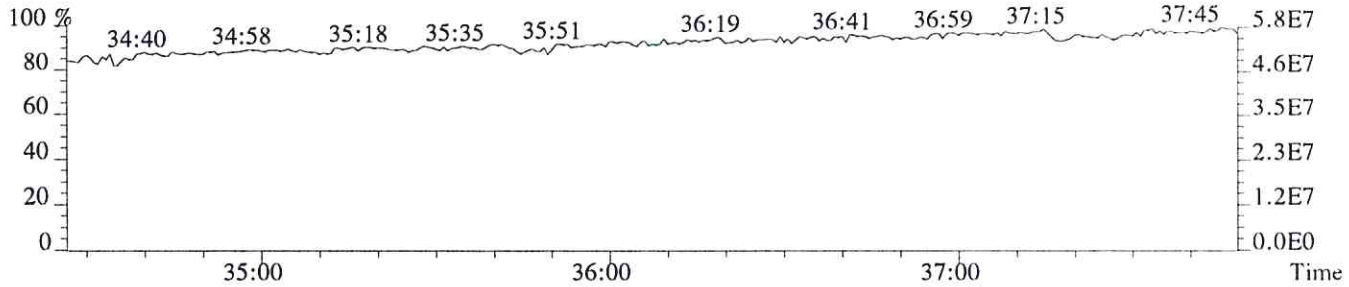
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2164.0,0.40%,F,T)



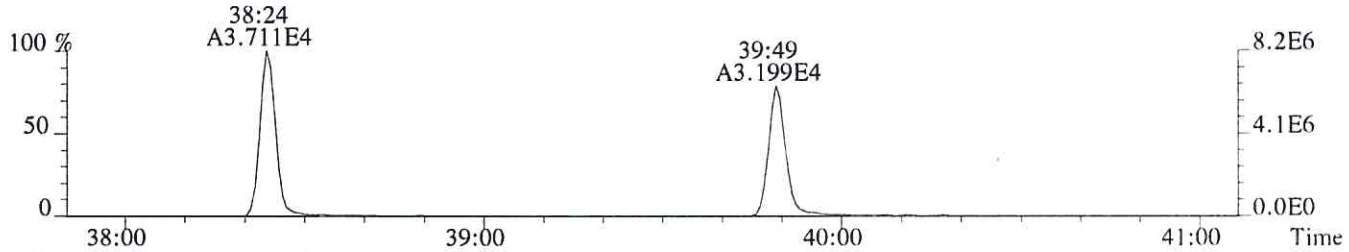
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



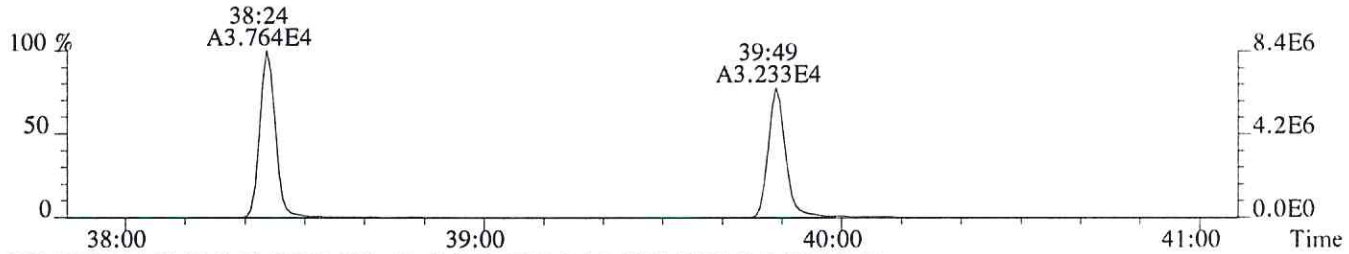
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



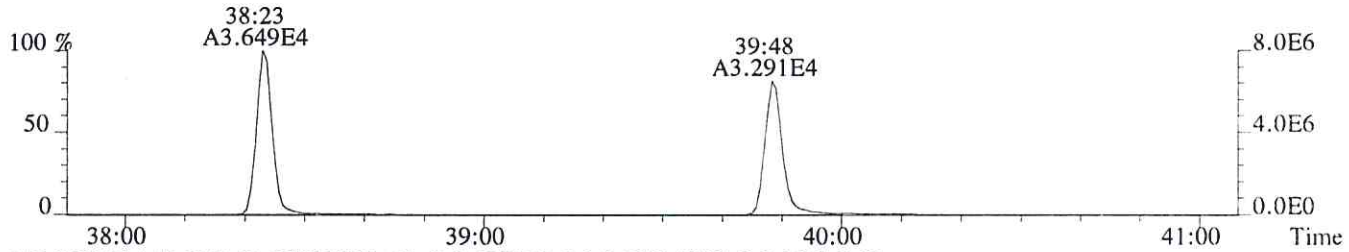
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4456.0,0.50%,F,T)



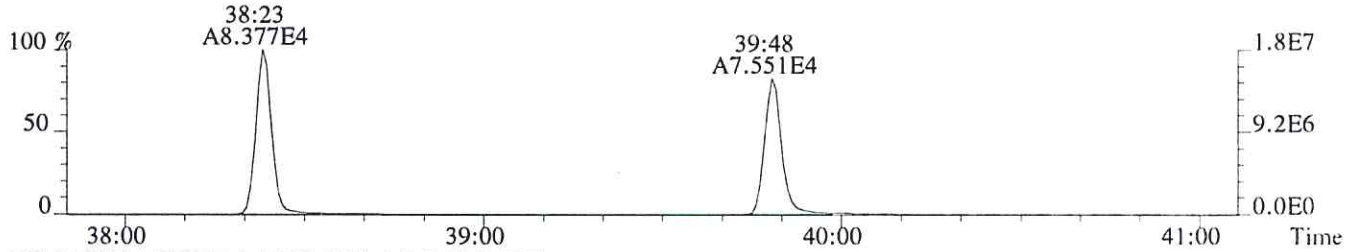
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1664.0,0.50%,F,T)



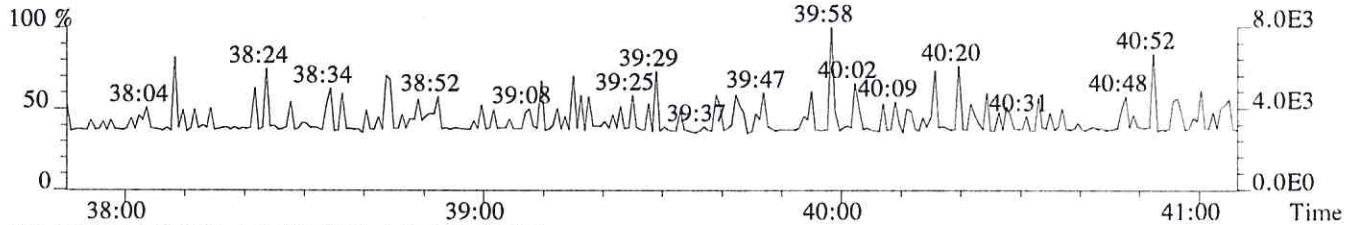
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.50%,F,T)



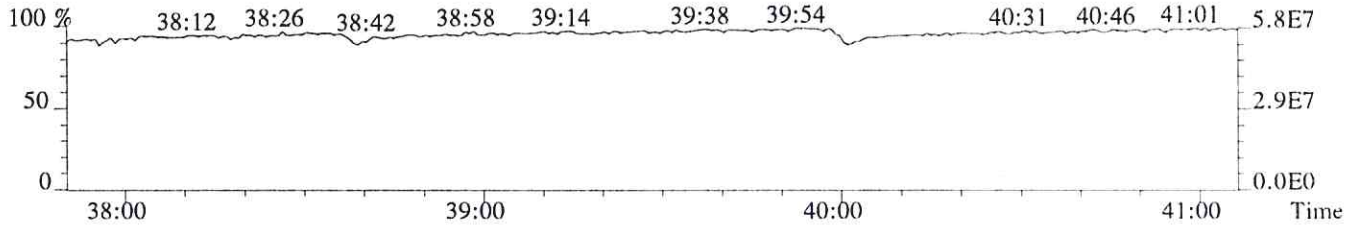
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7064.0,0.50%,F,T)



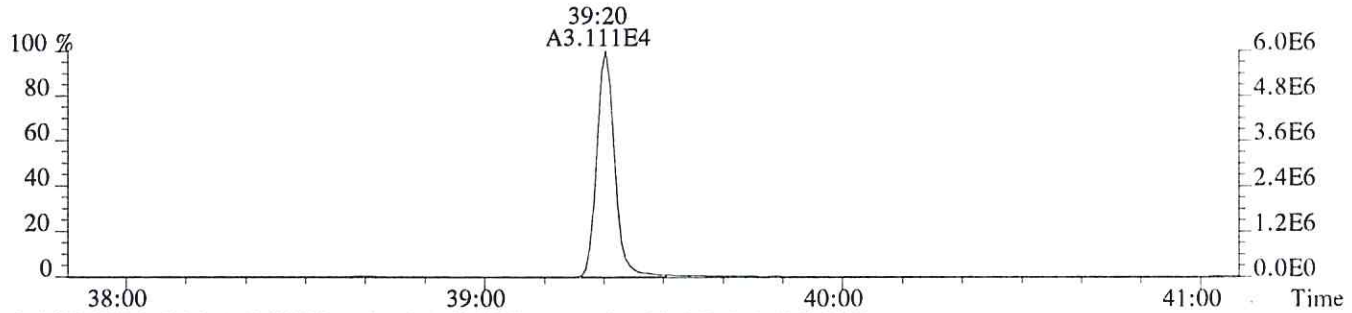
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



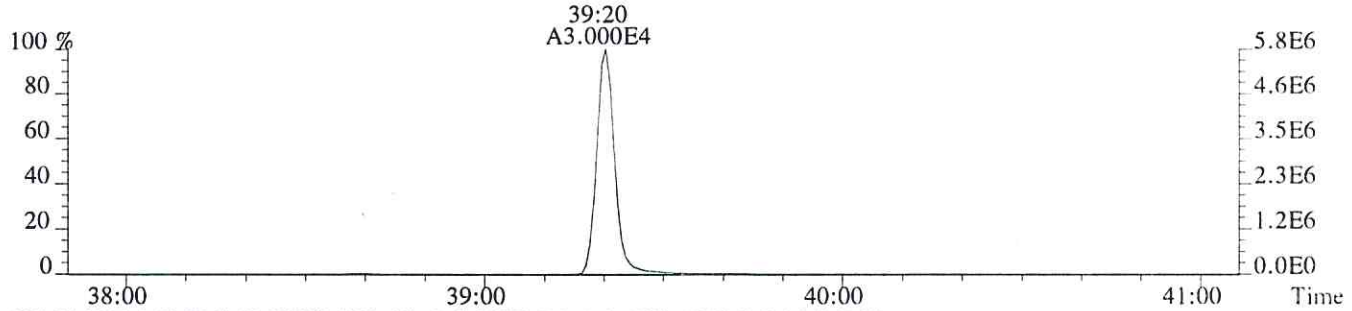
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



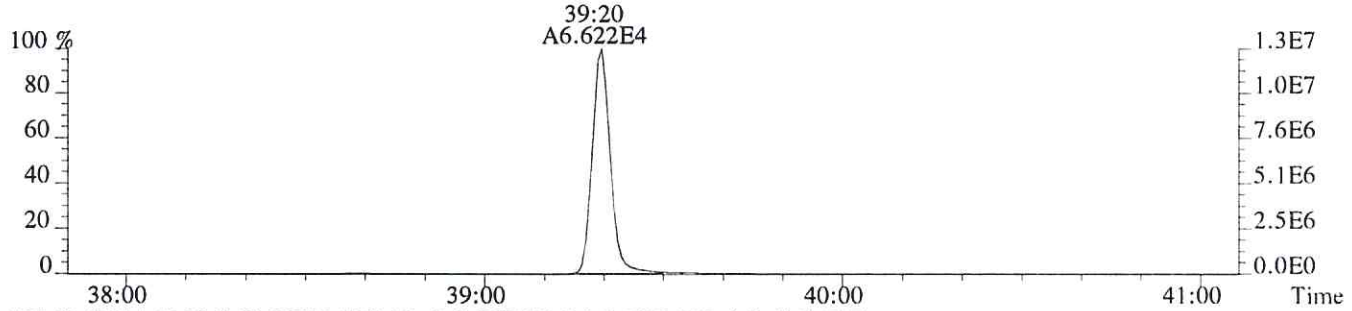
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



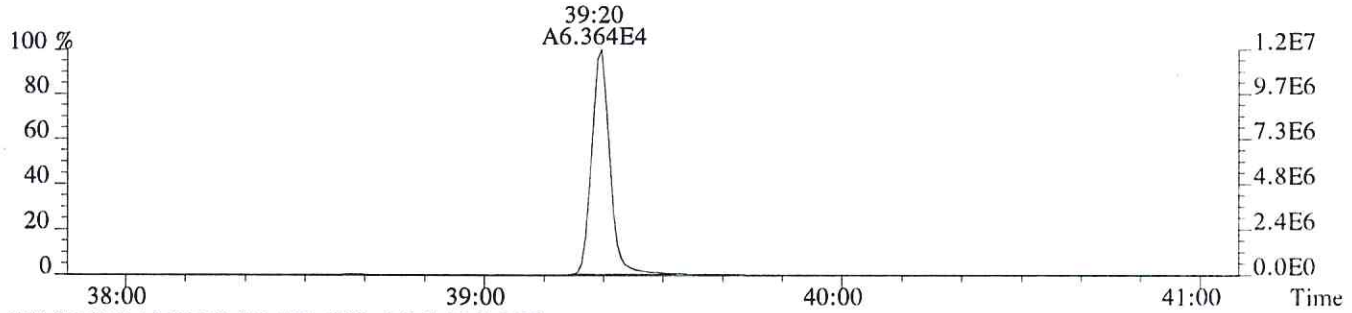
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



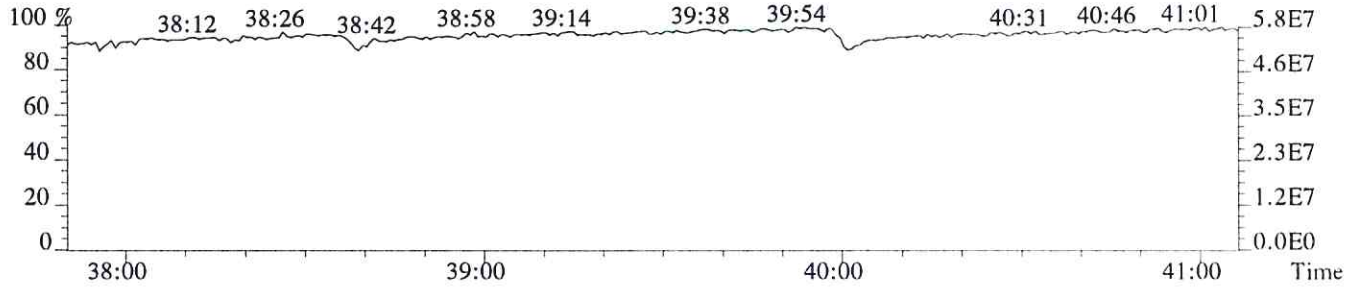
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



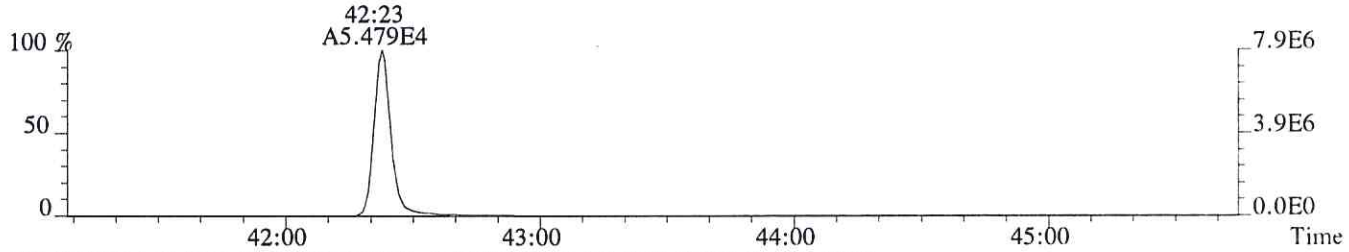
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,T)



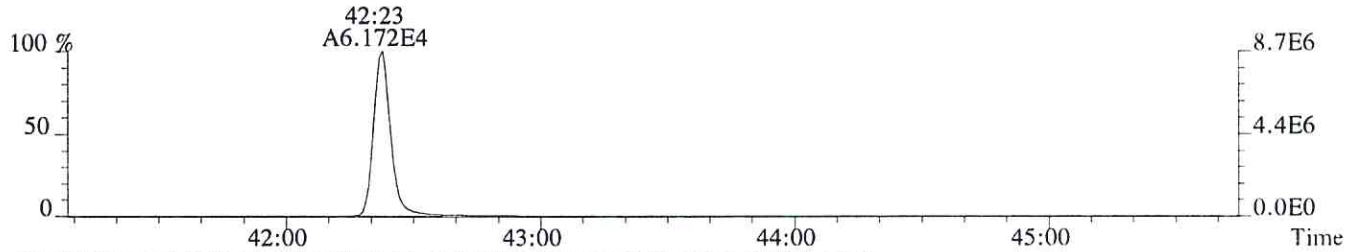
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



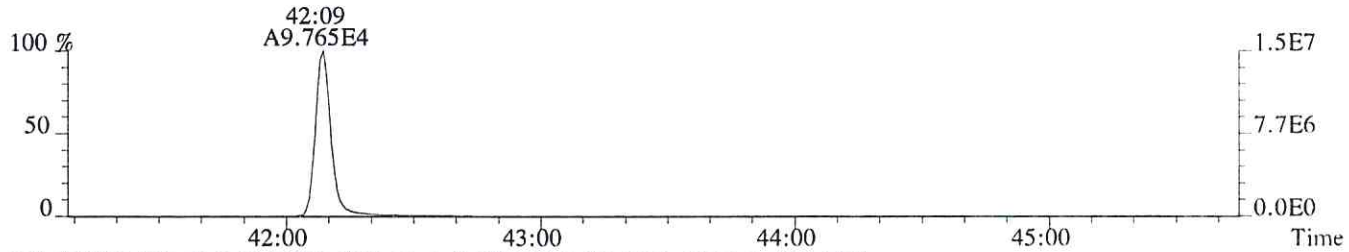
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



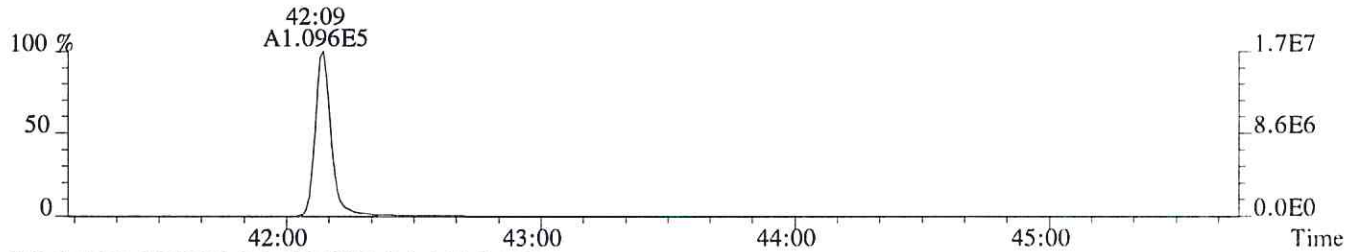
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,T)



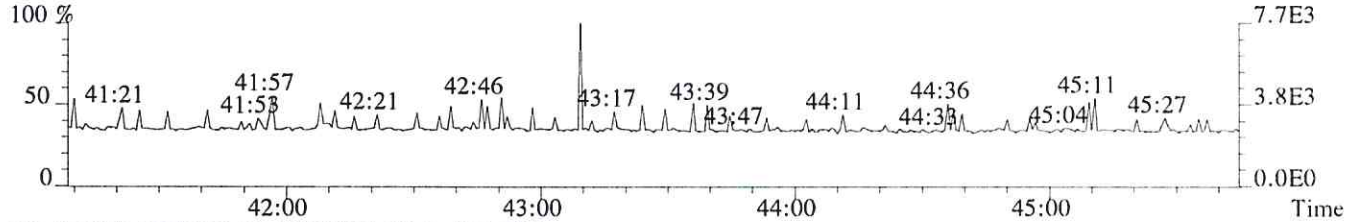
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



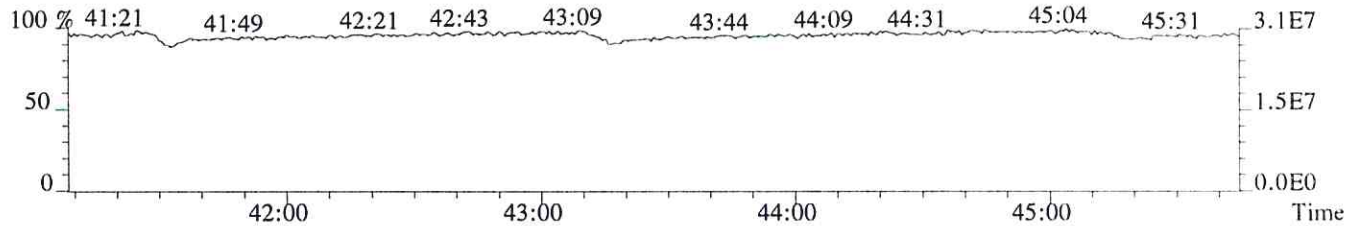
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



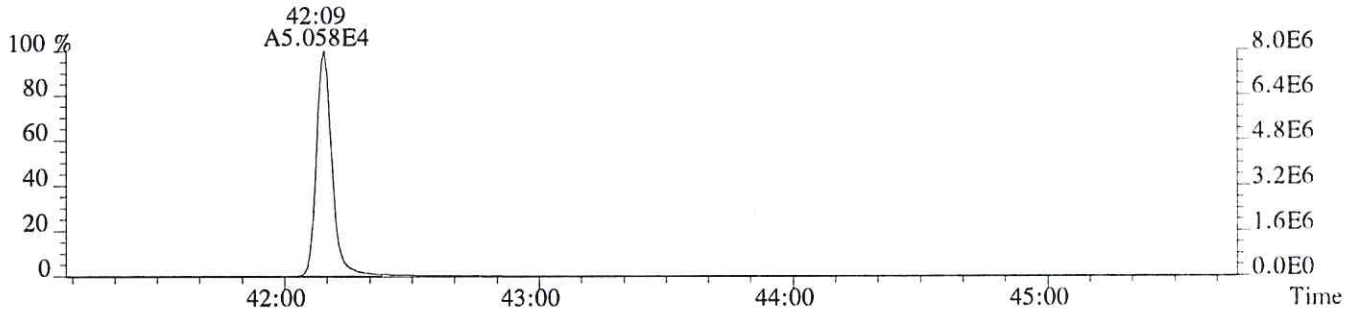
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



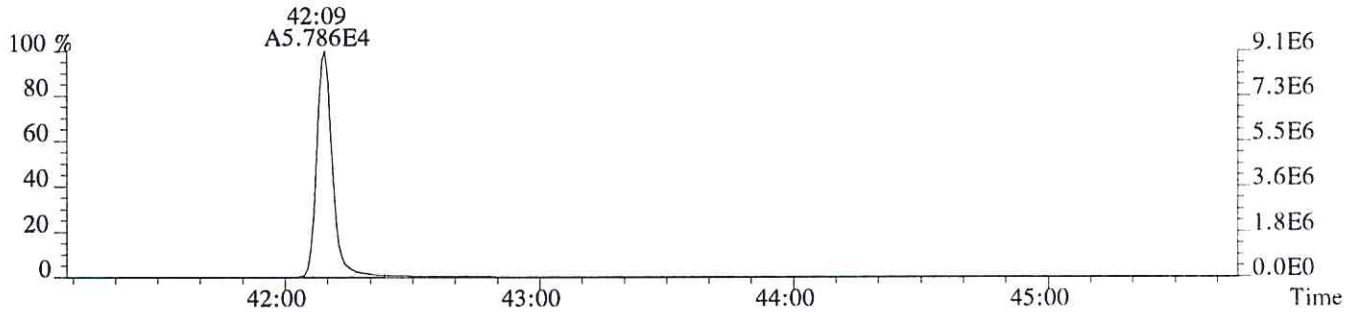
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



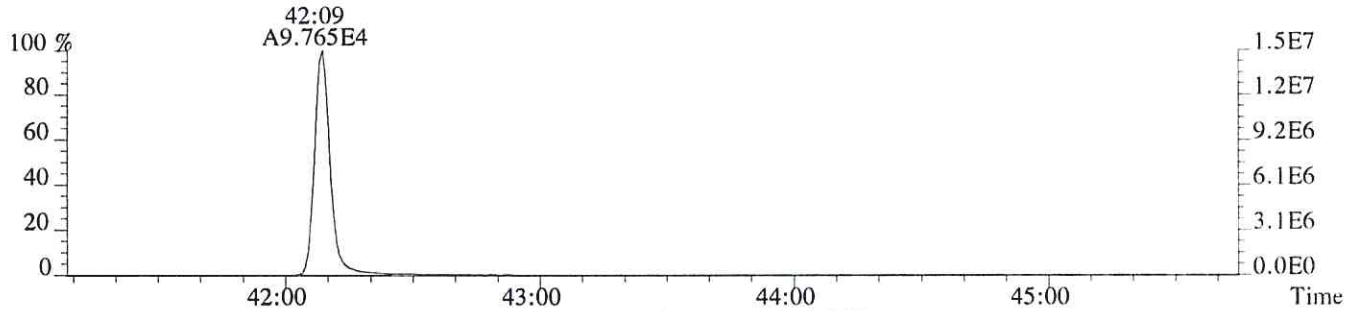
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,76.0,0.40%,F,T)



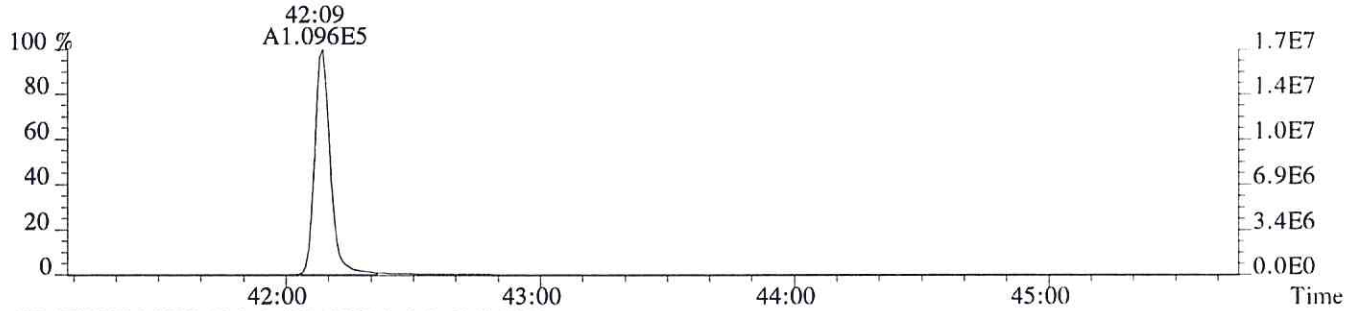
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



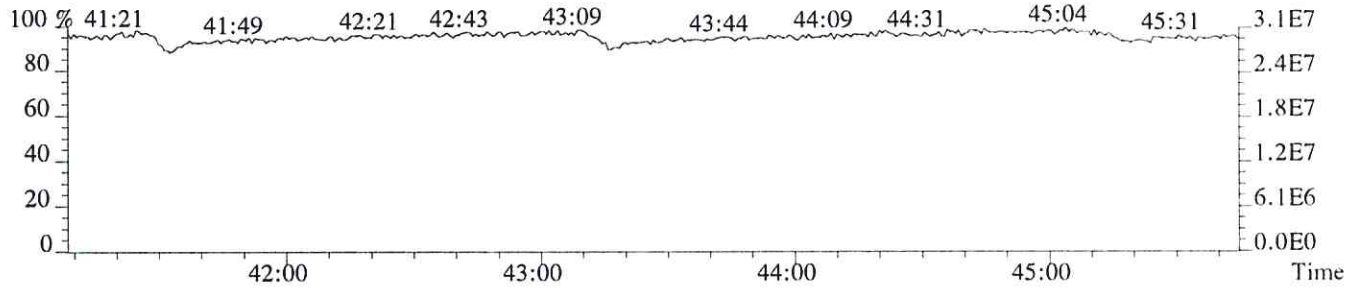
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 05/17/17
Instrument Name: E/HRMS-08	Calibration File Name: P6-1705161613I
Processor Name: Rosela Cruz	Reviewer Name: LOAN LUONG
Supervisor: Hien Nin	

Description	Yes	No	NA	NR	ER#
Analytical Sequence					
Does the analytical sequence summary accurately reflect the instrument run log, including ICV?	√				
Was a Mass Resolution Check performed at the beginning and end of the 12-hour sequence?	√				
Were all calibration standards and the ICV analyzed within the same 12-hour sequence?	√				
Were all calibration standards analyzed only once?	√				
Was the ICV analyzed after the ICAL, before analyzing samples?	√				
	√				
Mass Resolution Check					
Are beginning and ending resolution checks provided and legible?	√				
Were all target masses >10,000 resolving power at the beginning of the sequence?	√				
Were all target masses >10,000 resolving power at the end of the sequence?	√				
For PCB analysis, were masses at the low and high end of each function mass range >8,000?			√		
Where automatic printout of the mass resolution were not >10,000, was the resolution inspected by a trained analyst, including manual calculation of the resolution, if warranted?			√		
Window Define/209					
Is the window defining mix summary present, and accompanied by SICPs/Chromatograms for the WDM?	√				
Was the WDM/Column Performance/209 solution analyzed prior to the analysis of the calibration standards?	√				
Was 2,3,7,8-TCDD peak valley <25% to any other TCDD?	√				
Were all first and last eluters adequately resolved in each function?	√				
If first and last eluters were not resolved, was corrective action performed and documented, followed by a reanalysis of the WDM?			√		
Was the retention time of PCB 209 >55 min?			√		
Were the following congeners uniquely resolved (valley height <40% of the shortest peak)? PCB-34 and PCB-23 PCB-187 and PCB-182			√		
Did PCB 156/157 co-elute within 2 seconds at peak maximum?			√		
Calibration Standards					
Were there at least 5 calibration standards analyzed?	√				
If not all calibration standards were used, were the omitted standards either the lowest or highest calibration standard?			√		

Laboratory Review Checklist: HRMS Initial Calibration

Method: 1613/8290	Process Date: 05/17/17
Instrument Name: E-HRMS-08	Calibration File Name: P6-1705161613I
Processor Name: Gisela Cruz	Reviewer Name: LOAN LUONG
Supervisor: [illegible]	

Description	Yes	No	NA	NR	ER#
Are all sample response summaries, S/N height summaries, and SICPs included (and legible) for the entire sequence?	√				
Did each calibration point meet method criteria for Ion Abundance Ratio for all analytes and labeled standards?	√				
Did each calibration point meet method criteria for signal-to-noise ratios (S/N)?	√				
Were area counts for the highest calibration standard below levels of saturation?	√				
Were manual integrations technically justified to correct for poor software integration?			√		
Response Factors					
Is the ICAL Response Factor Summary present, including RR/RF values for each native/labeled analyte at each level of calibration?	√				
Were all calibration standards used in determining response factors?	√				
Were relative response factors (RR) for each native analyte calculated at each calibration point?	√				
Did the RSD for RRFs for each native analyte meet method criteria?	√				
Were response factors (RF) for each native analyte not having a corresponding labeled compound calculated at each calibration point?	√				
Were RFs for each labeled compound calculated for each calibration point?	√				
Did the RSD for RF for each labeled compound meet method criteria?	√				
Initial Calibration Verification					
Is the calibration verification present, including form 4A/B reflecting results for the ICV (Conc. or %D)	√				
Did all analytes meet method criteria for the ICV.	√				

Laboratory Review Checklist: Initial Calibration

Method: 1613/8290	Process Date: 05/17/17
Instrument Name: E-HRMS-08	Calibration File Name: P6-1705161613I
Processor Name: Gisela Cruz	Reviewer Name: LOAN LUONG

ER#[5]	Description

NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: ALS ENVIRONMENTAL Contract:

Lab Code: TX01411 Episode No.: SDG No.:

GC Column: DB-5MSUI ID: 0.25 (mm) Instrument ID: E-HRMS-08

Init. Calib. Date: 05/16/17

Init. Calib.Times: 11:03

THE ANALYTICAL SEQUENCE OF STANDARDS, SAMPLES, BLANKS, SPIKES AND DUPLICATES IS AS FOLLOWS:

EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
178397	WINDOW DEFINE	P607178	16-MAY-17	11:03:07
76554	CS0.5	P607179	16-MAY-17	12:44:15
76555	CS1	P607180	16-MAY-17	13:34:34
76556	CS2	P607181	16-MAY-17	14:24:51
76557	CS3	P607182	16-MAY-17	15:15:09
76558	CS4	P607183	16-MAY-17	16:05:29
82168	CS5	P607184	16-MAY-17	16:55:47
75080	2ND SOURCE	P607186	16-MAY-17	18:45:06

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20170516.SPL
Last Modified: Wednesday, May 17, 2017 09:44:00 Central Daylight Time
Printed: Wednesday, May 17, 2017 09:44:02 Central Daylight Time

Page Position (1, 1)

OPUS 4: P6-170516613I; P607186res

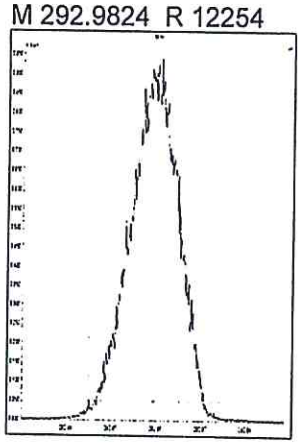
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	5/16/17	11:03	P607178	178397	WINDOWDEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LG	HRMScheck 10:00
2		12:44	P607179	76554	CS0.5	Tray1:3	EPA1613_ALS	Dioxin_ALS		
3		13:34	P607180	76555	CS1	Tray1:4	EPA1613_ALS	Dioxin_ALS		
4		14:24	P607181	76556	CS2	Tray1:5	EPA1613_ALS	Dioxin_ALS		
5		15:15	P607182	76557	CS3	Tray1:6	EPA1613_ALS	Dioxin_ALS		
6		16:05	P607183	76558	CS4	Tray1:7	EPA1613_ALS	Dioxin_ALS		
7		16:55	P607184	82168	CS5	Tray1:8	EPA1613_ALS	Dioxin_ALS		
8		17:54	P607185	NONANE	NONANE	Tray1:9	EPA1613_ALS	Dioxin_ALS		
9		18:45	P607186	75080	2ND SOURCE	Tray1:10	EPA1613_ALS	Dioxin_ALS		
10		19:43	P607187	NONANE	NONANE	Tray1:10	EPA1613_ALS	Dioxin_ALS		HRMScheck 19:43
11	---	---	P607188	---	---	Tray1:12	EPA1613_ALS	Dioxin_ALS	---	---
12	---	---	P607189	---	---	Tray1:13	EPA1613_ALS	Dioxin_ALS	---	---
13	---	---	P607190	---	---	Tray1:14	EPA1613_ALS	Dioxin_ALS	---	---
14	---	---	P607191	---	---	Tray1:15	EPA1613_ALS	Dioxin_ALS	---	---
15	---	---	P607192	---	---	Tray1:16	EPA1613_ALS	Dioxin_ALS	---	---
16	---	---	P607193	---	---	Tray1:17	EPA1613_ALS	Dioxin_ALS	---	---
17	---	---	P607194	---	---	Tray1:18	EPA1613_ALS	Dioxin_ALS	---	---
18	---	---	P607195	---	---	Tray1:19	EPA1613_ALS	Dioxin_ALS	---	---
19	---	---	P607196	---	---	Tray1:20	EPA1613_ALS	Dioxin_ALS	---	---
20	---	---	P607197	---	---	Tray1:21	EPA1613_ALS	Dioxin_ALS	---	---
21	---	---	P607198	---	---	Tray1:22	EPA1613_ALS	Dioxin_ALS	---	---
22	---	---	P607199	---	---	Tray1:23	EPA1613_ALS	Dioxin_ALS	---	---
23	---	---	P607200	---	---	Tray1:24	EPA1613_ALS	Dioxin_ALS	---	---
24	---	---	P607201	---	---	Tray1:25	EPA1613_ALS	Dioxin_ALS	---	---
25	---	---	P607202	---	---	Tray1:26	EPA1613_ALS	Dioxin_ALS	---	---
26	---	---	P607203	---	---	Tray1:27	EPA1613_ALS	Dioxin_ALS	---	---
27	---	---	P607204	---	---	Tray1:28	EPA1613_ALS	Dioxin_ALS	---	---
28	---	---	P607205	---	---	Tray1:29	EPA1613_ALS	Dioxin_ALS	---	---
29	---	---	P607206	---	---	Tray1:30	EPA1613_ALS	Dioxin_ALS	---	---
30	---	---	P607207	---	---	Tray1:31	EPA1613_ALS	Dioxin_ALS	---	---
31	---	---	P607208	---	---	Tray1:32	EPA1613_ALS	Dioxin_ALS	---	---
32	---	---	P607209	---	---	Tray1:33	EPA1613_ALS	Dioxin_ALS	---	---
33	---	---	P607210	---	---	Tray1:34	EPA1613_ALS	Dioxin_ALS	---	---
34	---	---	---	---	---	Tray1:35	EPA1613_ALS	Dioxin_ALS	---	---
35	---	---	---	---	---	Tray1:36	EPA1613_ALS	Dioxin_ALS	---	---
36	---	---	---	---	---	Tray1:37	EPA1613_ALS	Dioxin_ALS	---	---
37	---	---	---	---	---	Tray1:38	EPA1613_ALS	Dioxin_ALS	---	---
38	---	---	---	---	---	Tray1:39	EPA1613_ALS	Dioxin_ALS	---	---
39	---	---	---	---	---	Tray1:39	EPA1613_ALS	Dioxin_ALS	---	---

gc 05/17/17

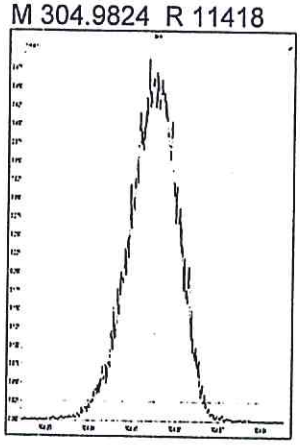
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:00:51 Central Daylight Time

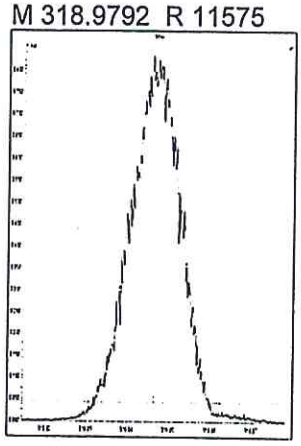
M 292.9824 R 12254



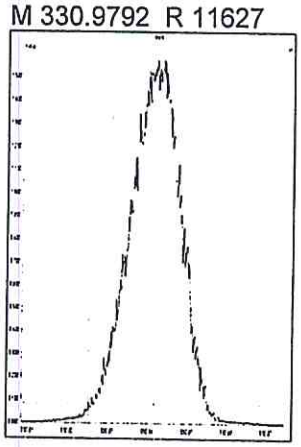
M 304.9824 R 11418



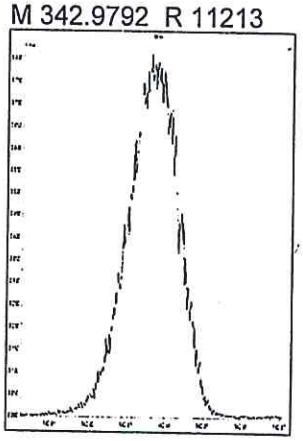
M 318.9792 R 11575



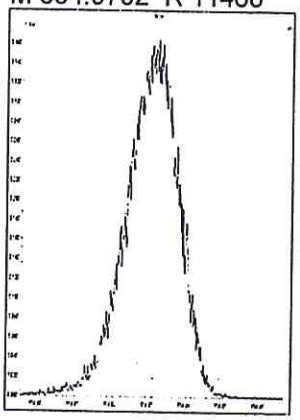
M 330.9792 R 11627



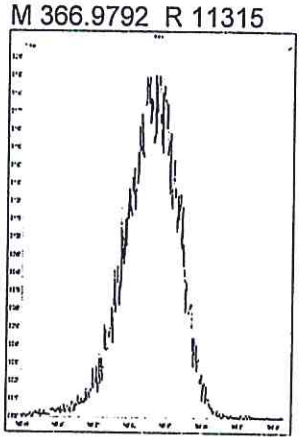
M 342.9792 R 11213



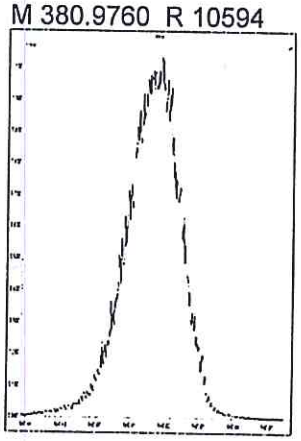
M 354.9792 R 11468



M 366.9792 R 11315



M 380.9760 R 10594

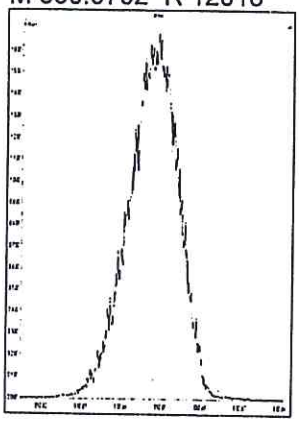


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

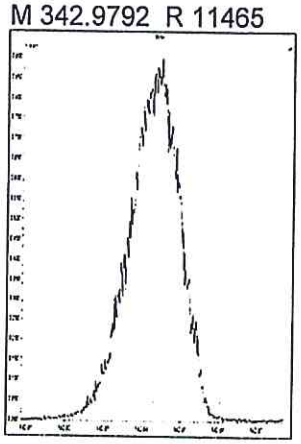
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:02:42 Central Daylight Time

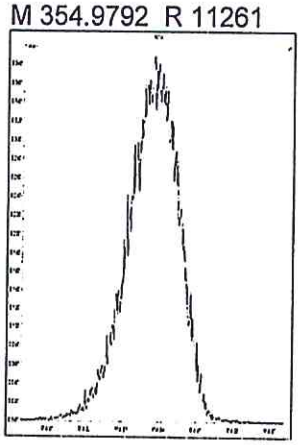
M 330.9792 R 12018



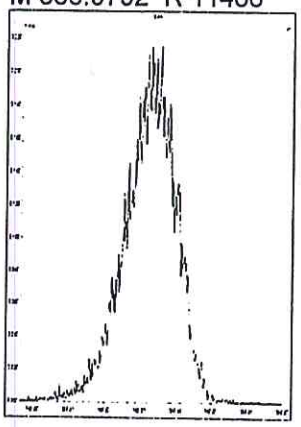
M 342.9792 R 11465



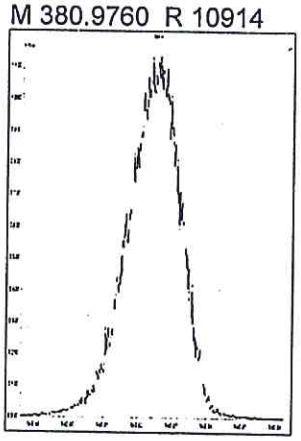
M 354.9792 R 11261



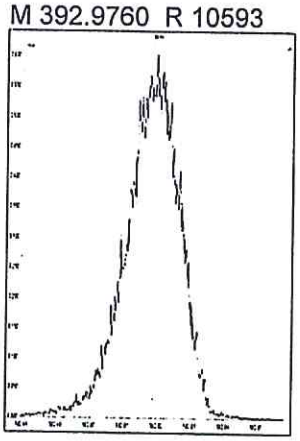
M 366.9792 R 11466



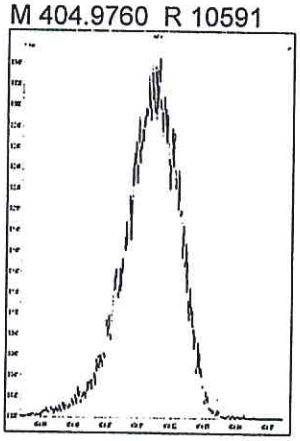
M 380.9760 R 10914



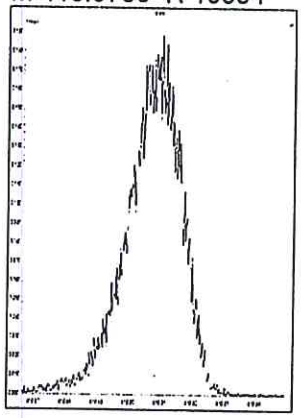
M 392.9760 R 10593



M 404.9760 R 10591



M 416.9760 R 10594

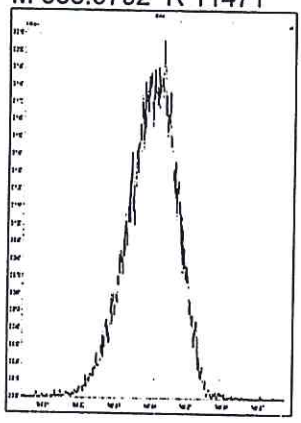


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

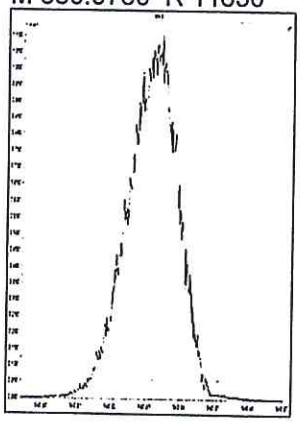
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:03:51 Central Daylight Time

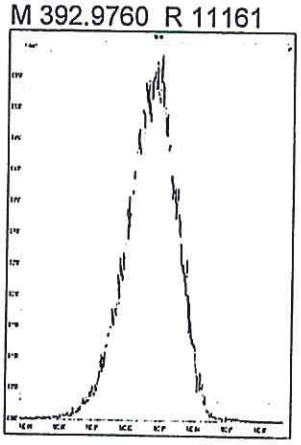
M 366.9792 R 11471



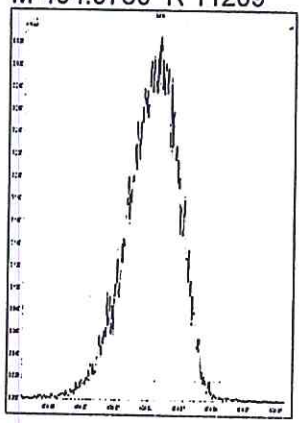
M 380.9760 R 11630



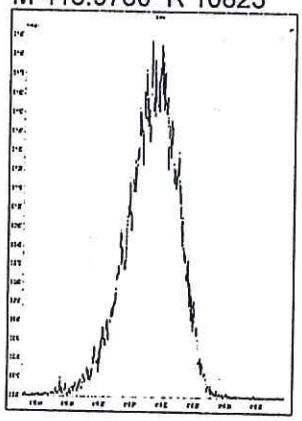
M 392.9760 R 11161



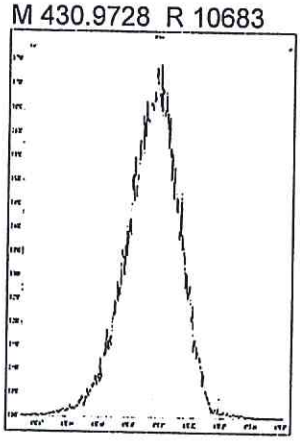
M 404.9760 R 11209



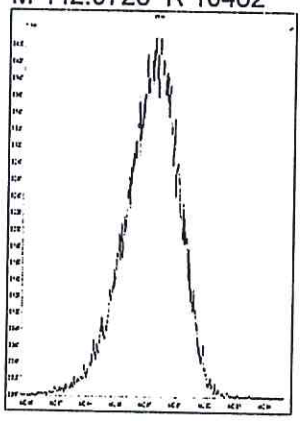
M 416.9760 R 10823



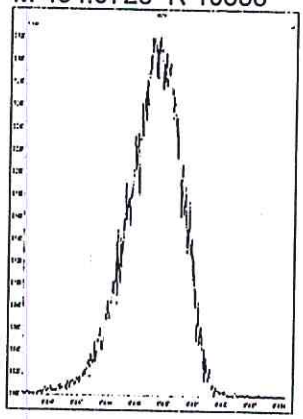
M 430.9728 R 10683



M 442.9728 R 10462



M 454.9728 R 10638

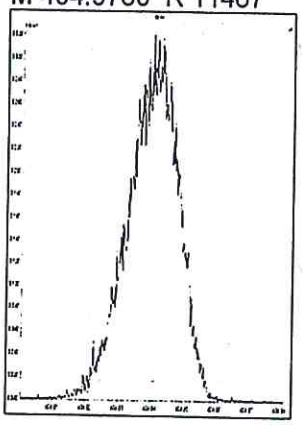


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

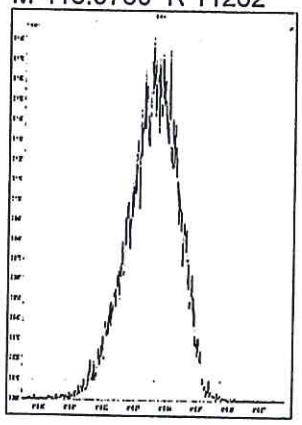
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:05:27 Central Daylight Time

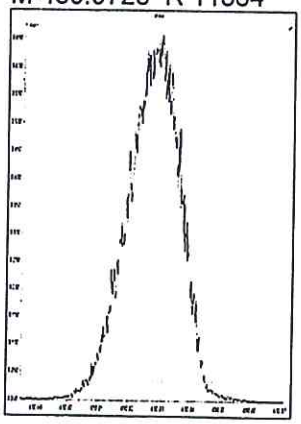
M 404.9760 R 11467



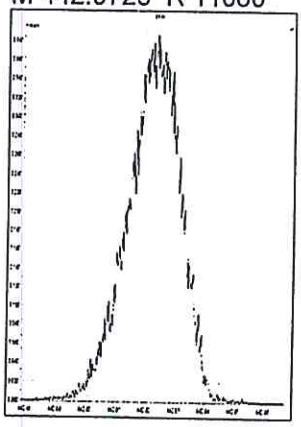
M 416.9760 R 11262



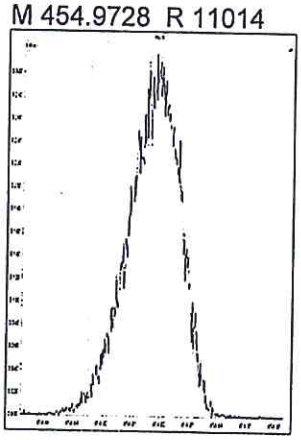
M 430.9728 R 11364



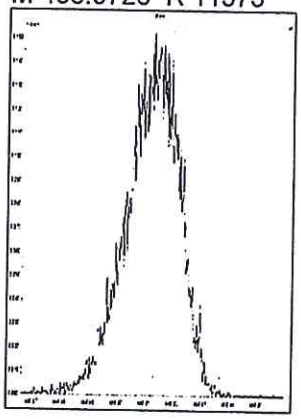
M 442.9728 R 11060



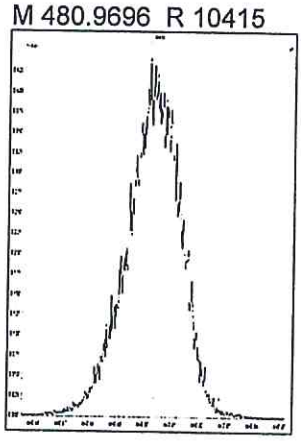
M 454.9728 R 11014



M 466.9728 R 11573



M 480.9696 R 10415



Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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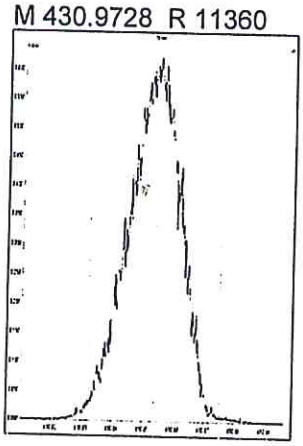
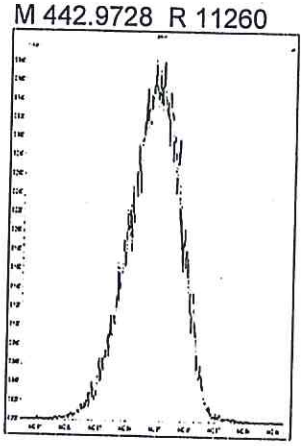
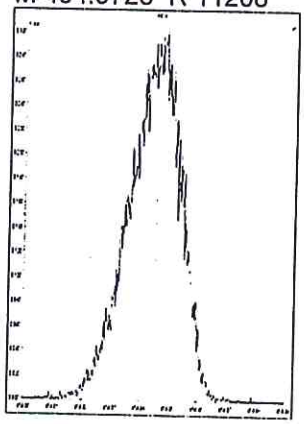
M 430.9728 R 11360



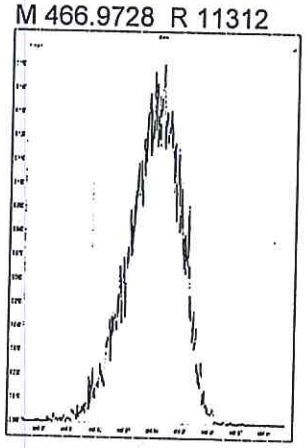
M 442.9728 R 11260



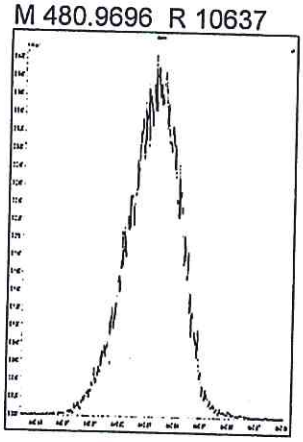
M 454.9728 R 11208



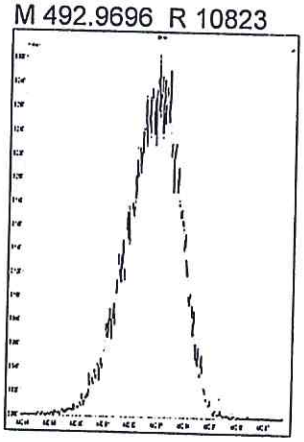
M 466.9728 R 11312



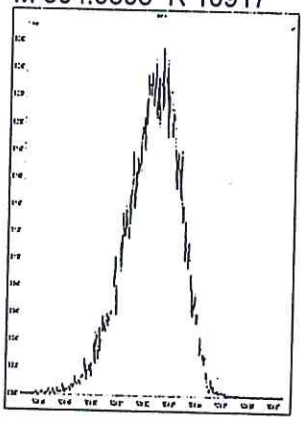
M 480.9696 R 10637



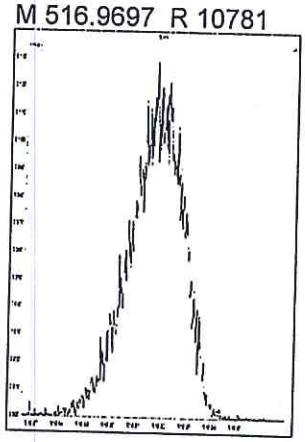
M 492.9696 R 10823



M 504.9696 R 10917



M 516.9697 R 10781



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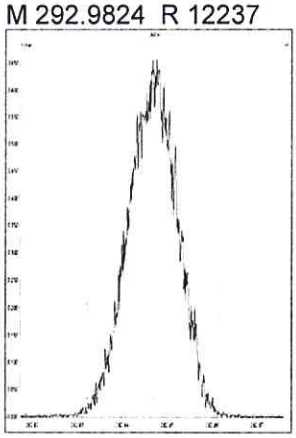
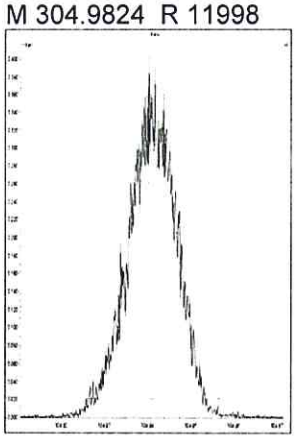
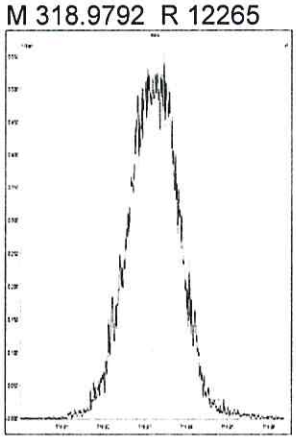
M 292.9824 R 12237



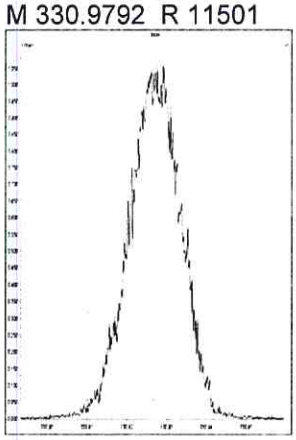
M 304.9824 R 11998



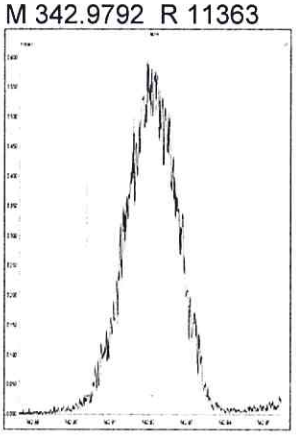
M 318.9792 R 12265



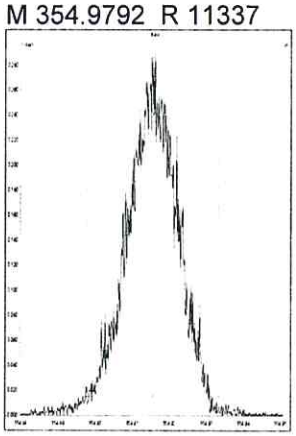
M 330.9792 R 11501



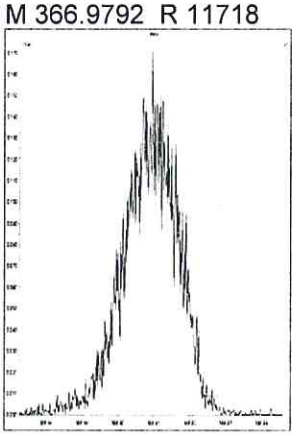
M 342.9792 R 11363



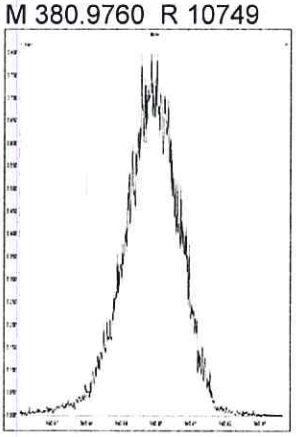
M 354.9792 R 11337



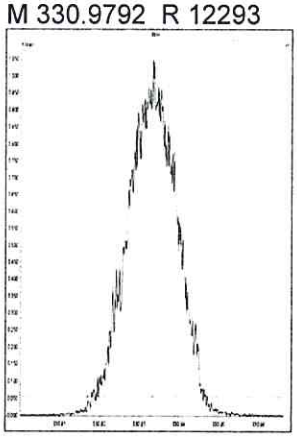
M 366.9792 R 11718



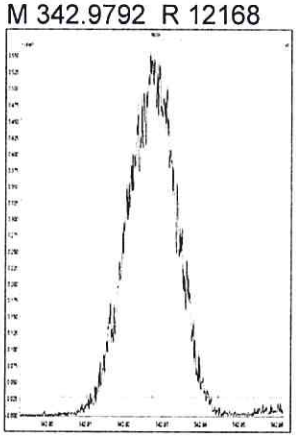
M 380.9760 R 10749



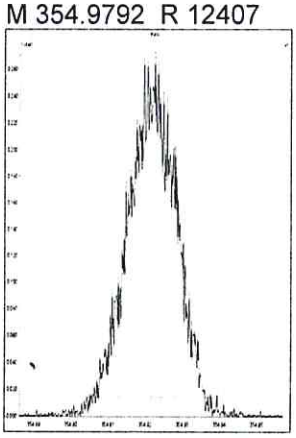
M 330.9792 R 12293



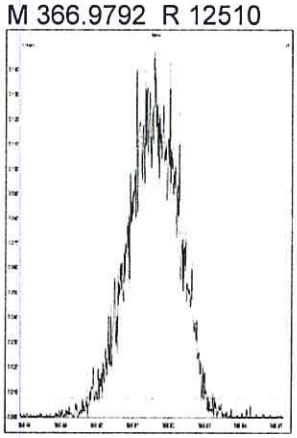
M 342.9792 R 12168



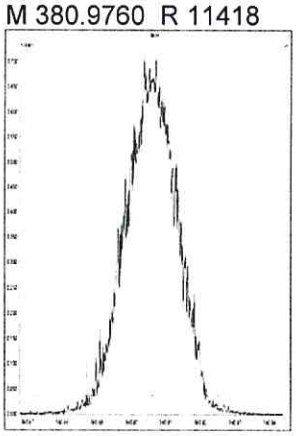
M 354.9792 R 12407



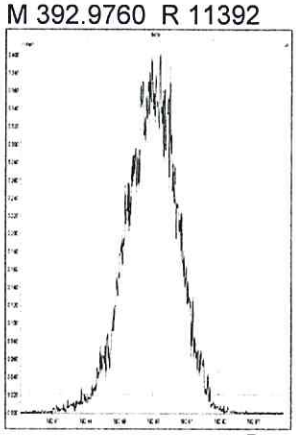
M 366.9792 R 12510



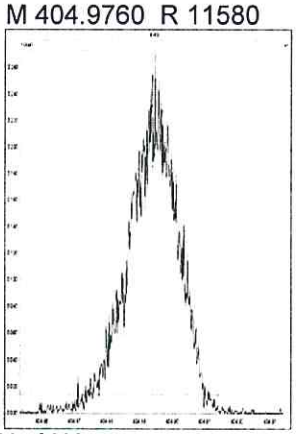
M 380.9760 R 11418



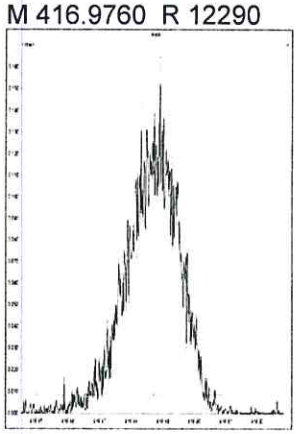
M 392.9760 R 11392



M 404.9760 R 11580



M 416.9760 R 12290



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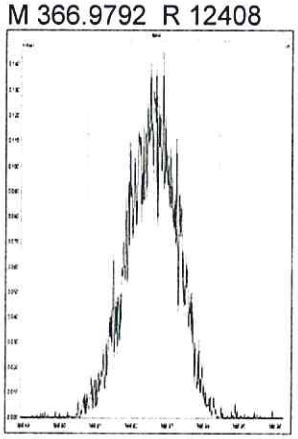
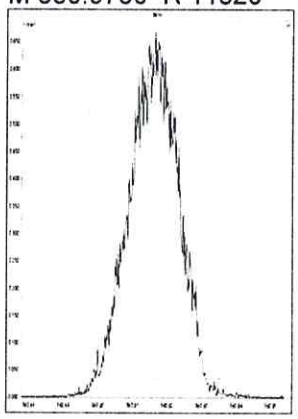
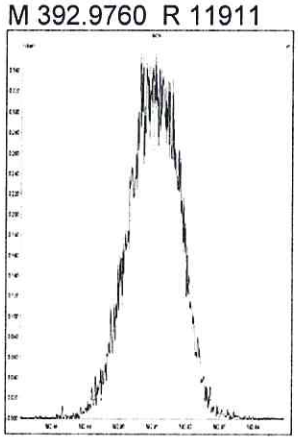
M 366.9792 R 12408



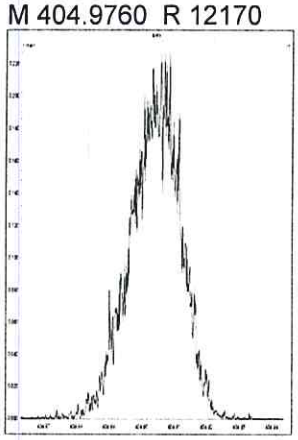
M 380.9760 R 11820



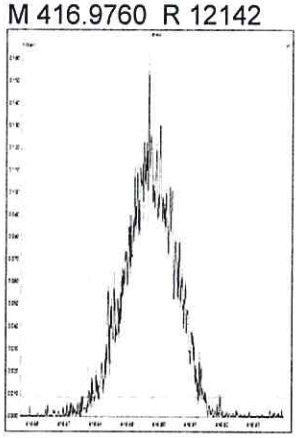
M 392.9760 R 11911



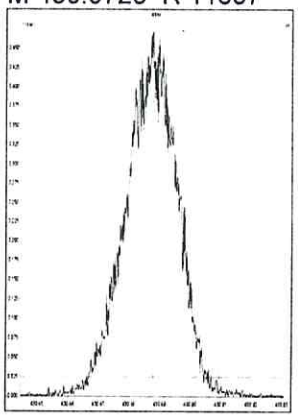
M 404.9760 R 12170



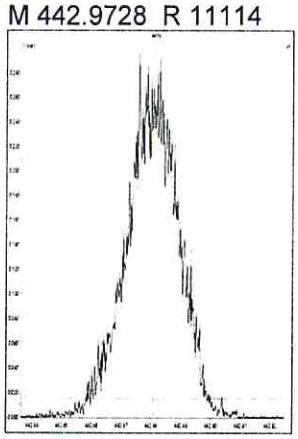
M 416.9760 R 12142



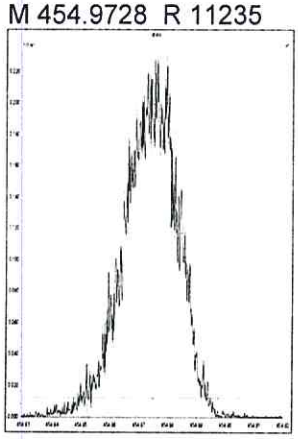
M 430.9728 R 11657



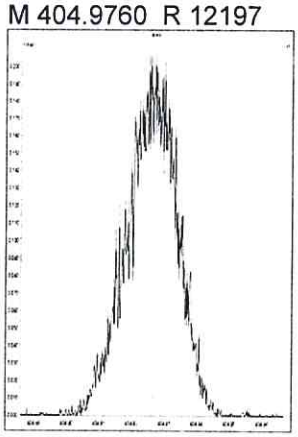
M 442.9728 R 11114



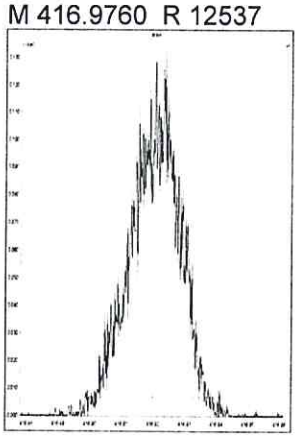
M 454.9728 R 11235



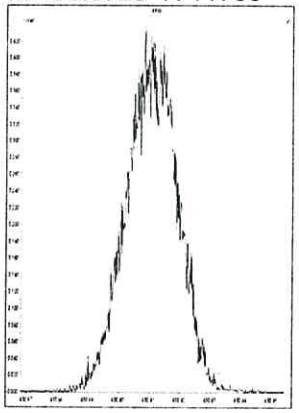
M 404.9760 R 12197



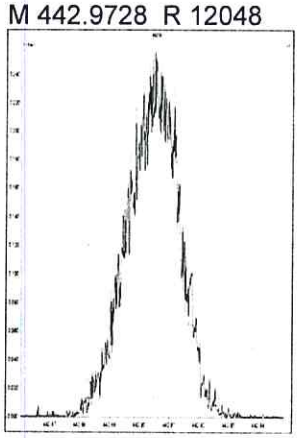
M 416.9760 R 12537



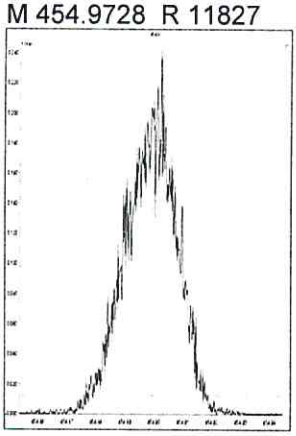
M 430.9728 R 11788



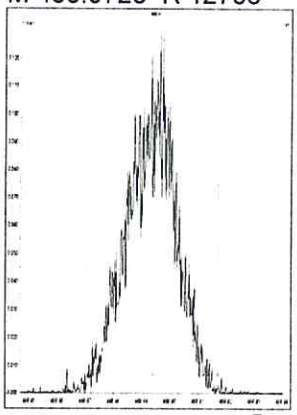
M 442.9728 R 12048



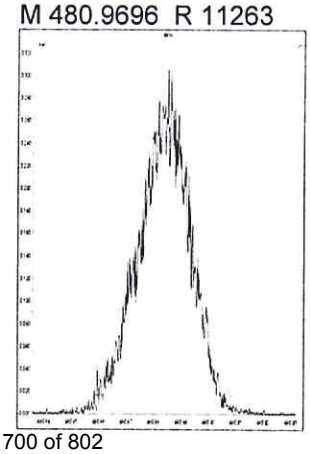
M 454.9728 R 11827



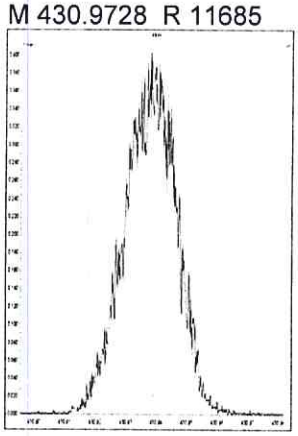
M 466.9728 R 12756



M 480.9696 R 11263

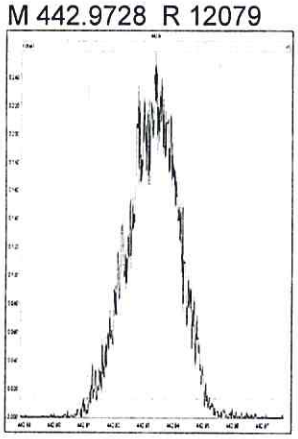


M 430.9728 R 11685

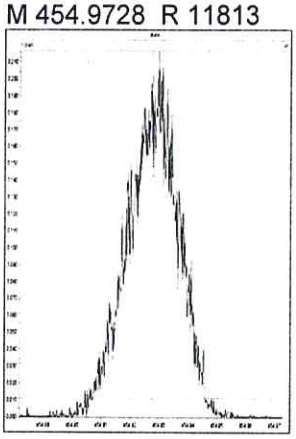


Printed: Tuesday, May 16, 2017 19:43:37 Central Daylight Time

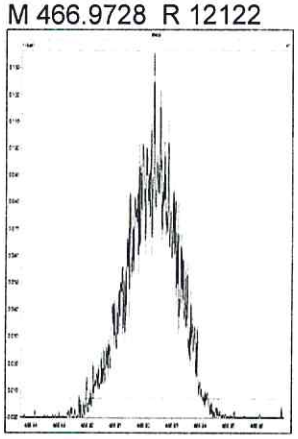
M 442.9728 R 12079



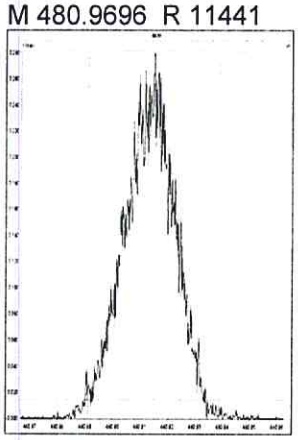
M 454.9728 R 11813



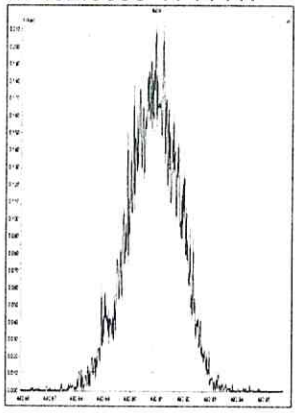
M 466.9728 R 12122



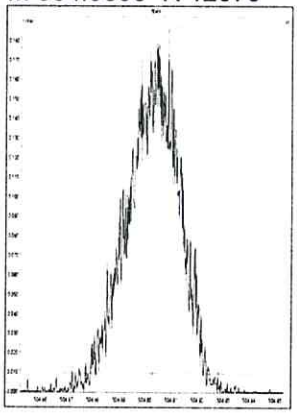
M 480.9696 R 11441



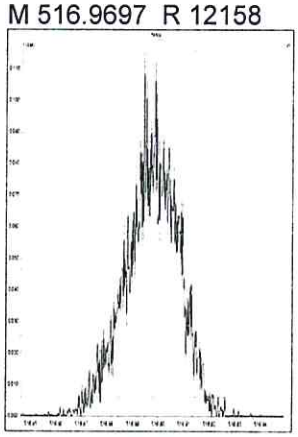
M 492.9696 R 11417



M 504.9696 R 12079



M 516.9697 R 12158



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

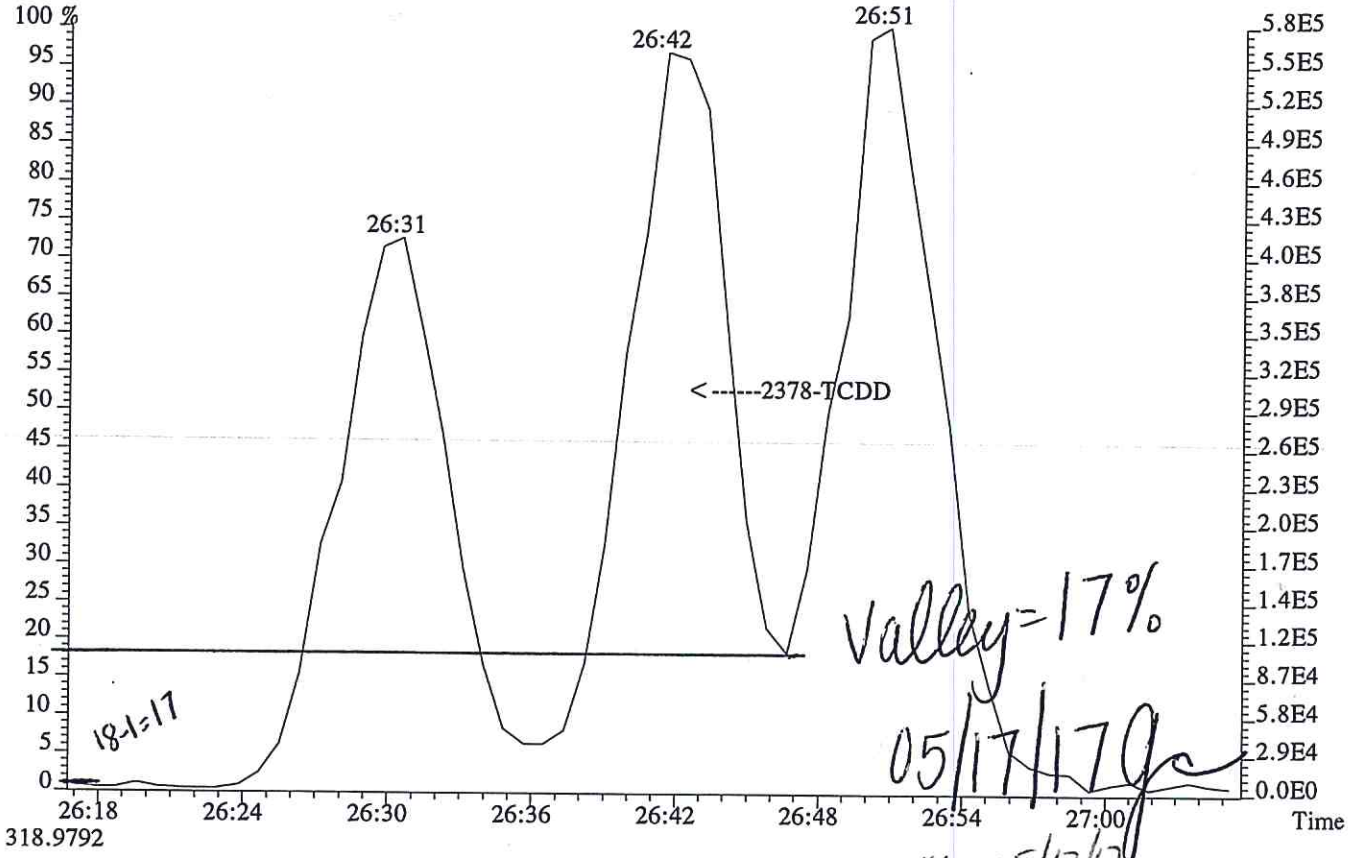
Case No.:
ID: 0.25 (mm)

SDG No.:
Lab File ID: P607178
Date Analyzed: 16-MAY-17
Time Analyzed: 11:03:07

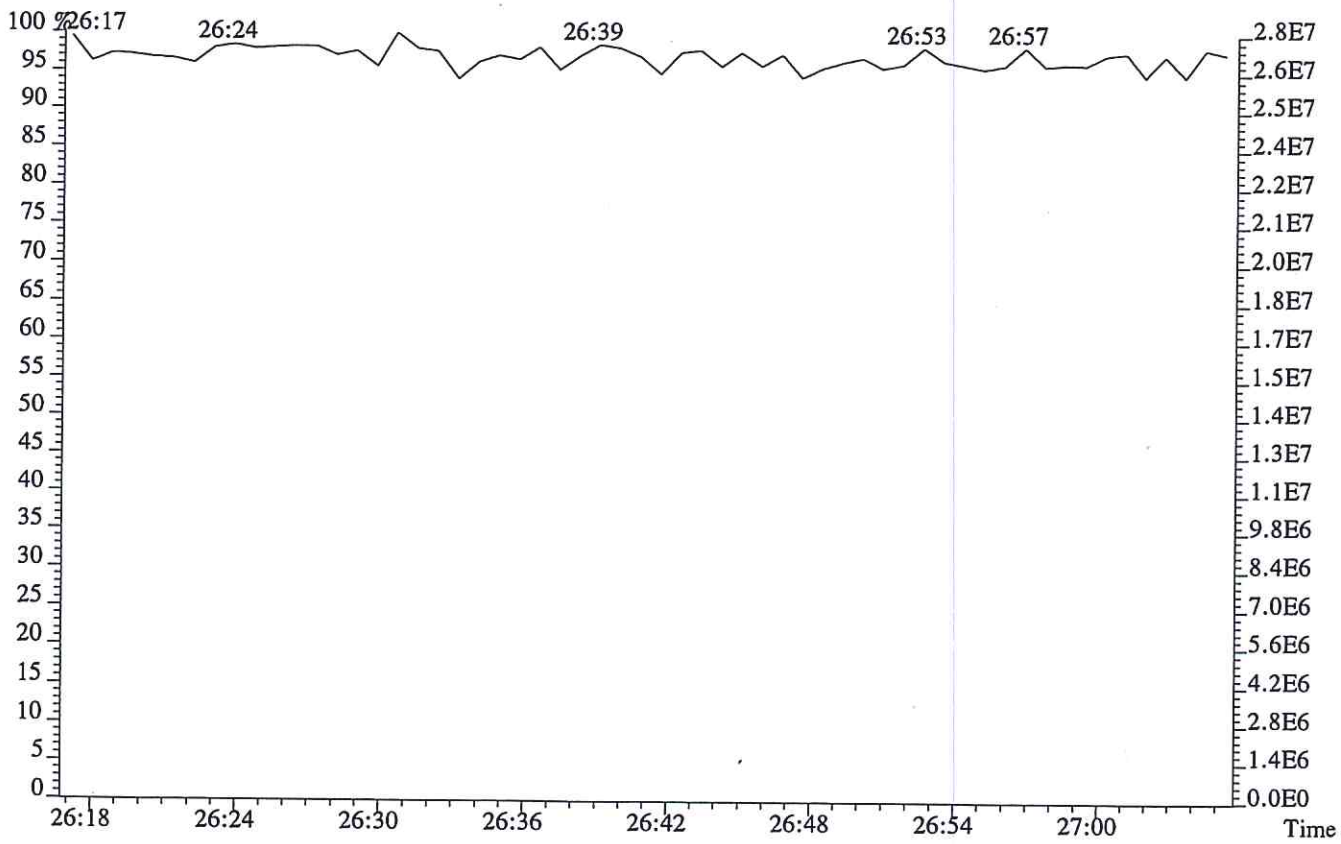
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:22	28:03
TCDD	22:58	27:53
PeCDF	28:02	32:42
PeCDD	29:47	32:28
HxCDF	33:25	36:01
HxCDD	33:59	35:37
HpCDF	37:17	38:35
HpCDD	37:32	38:10

% Valley 2378-TCDD: 17 %

File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
319.8965



318.9792



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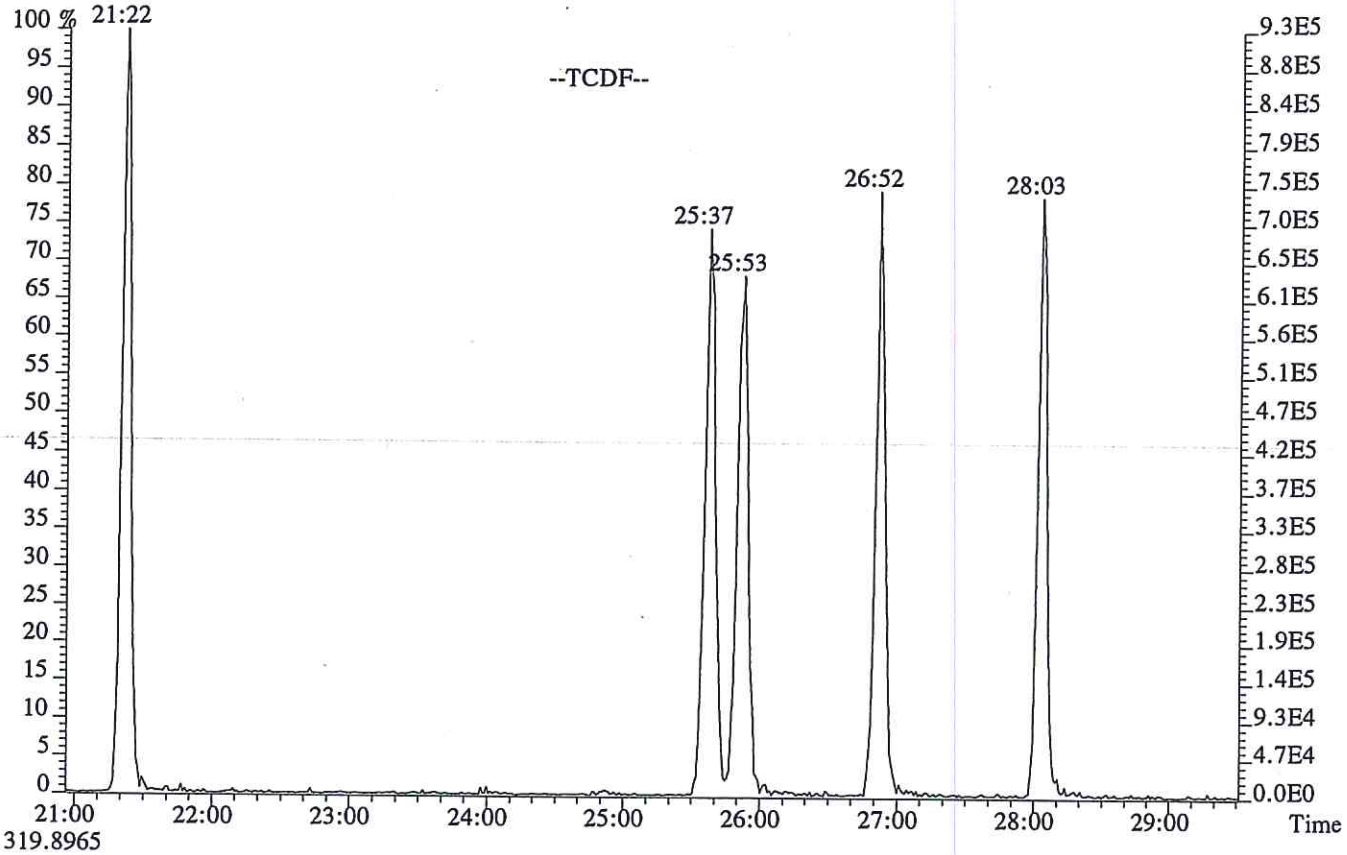
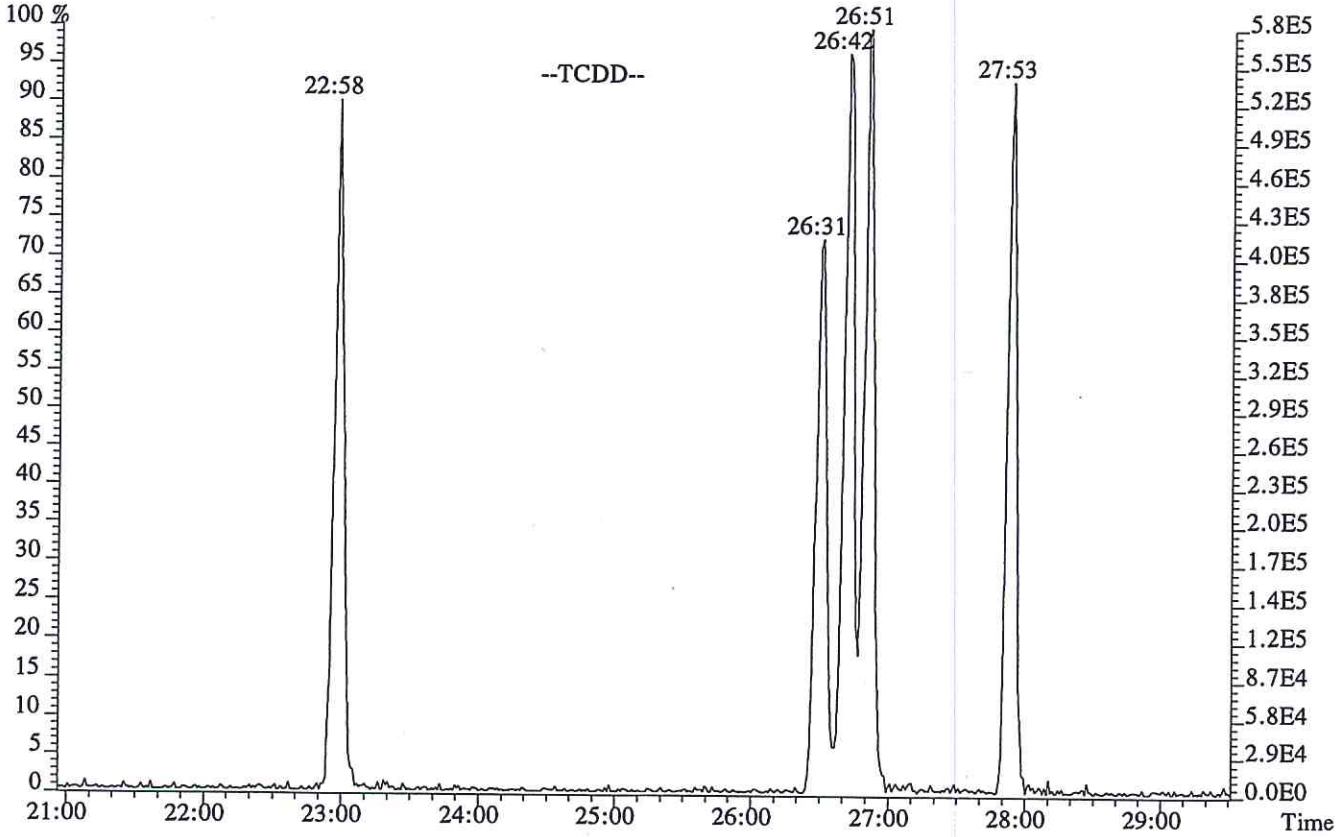
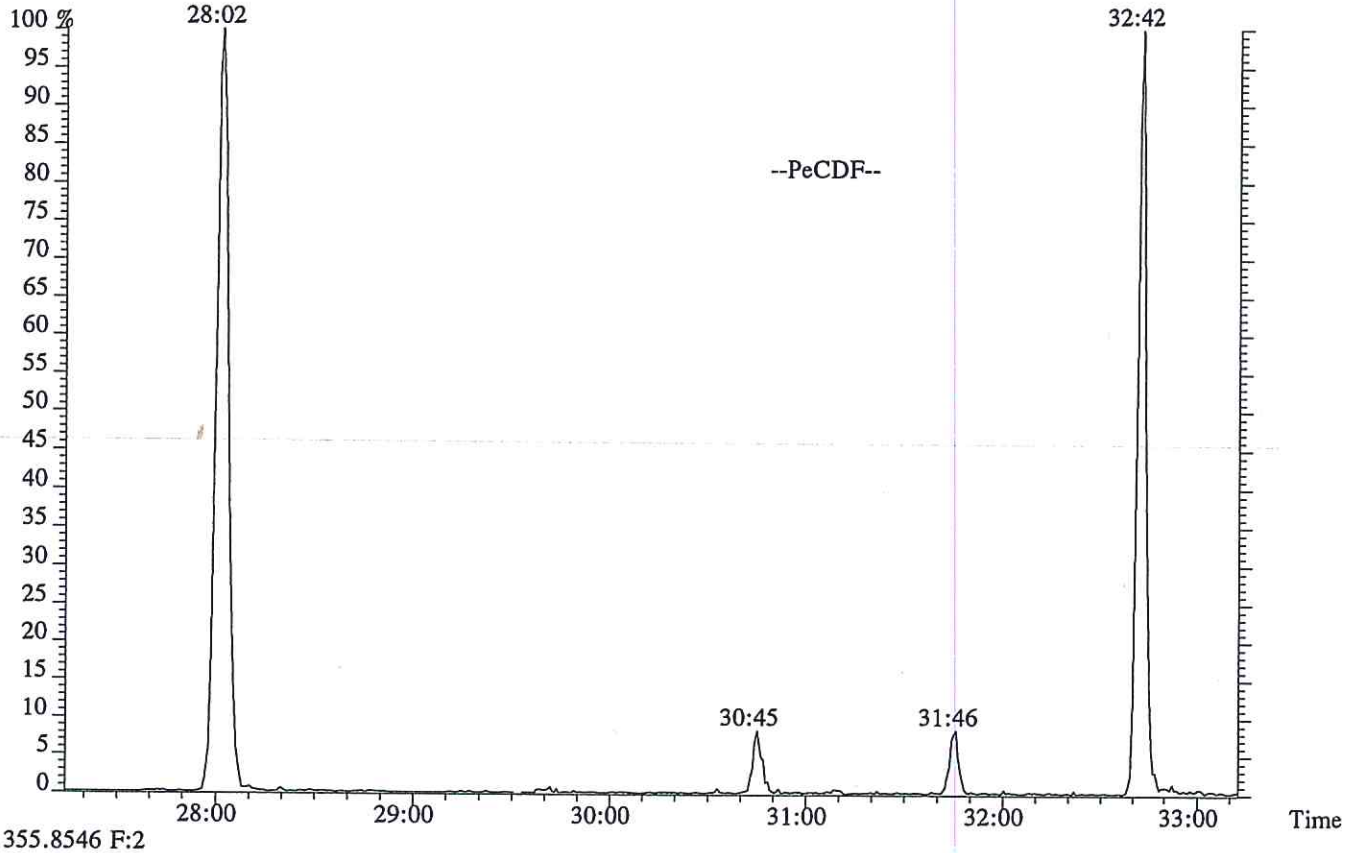
Sample#1 Exp:WINDOWDEFINE
303.9016

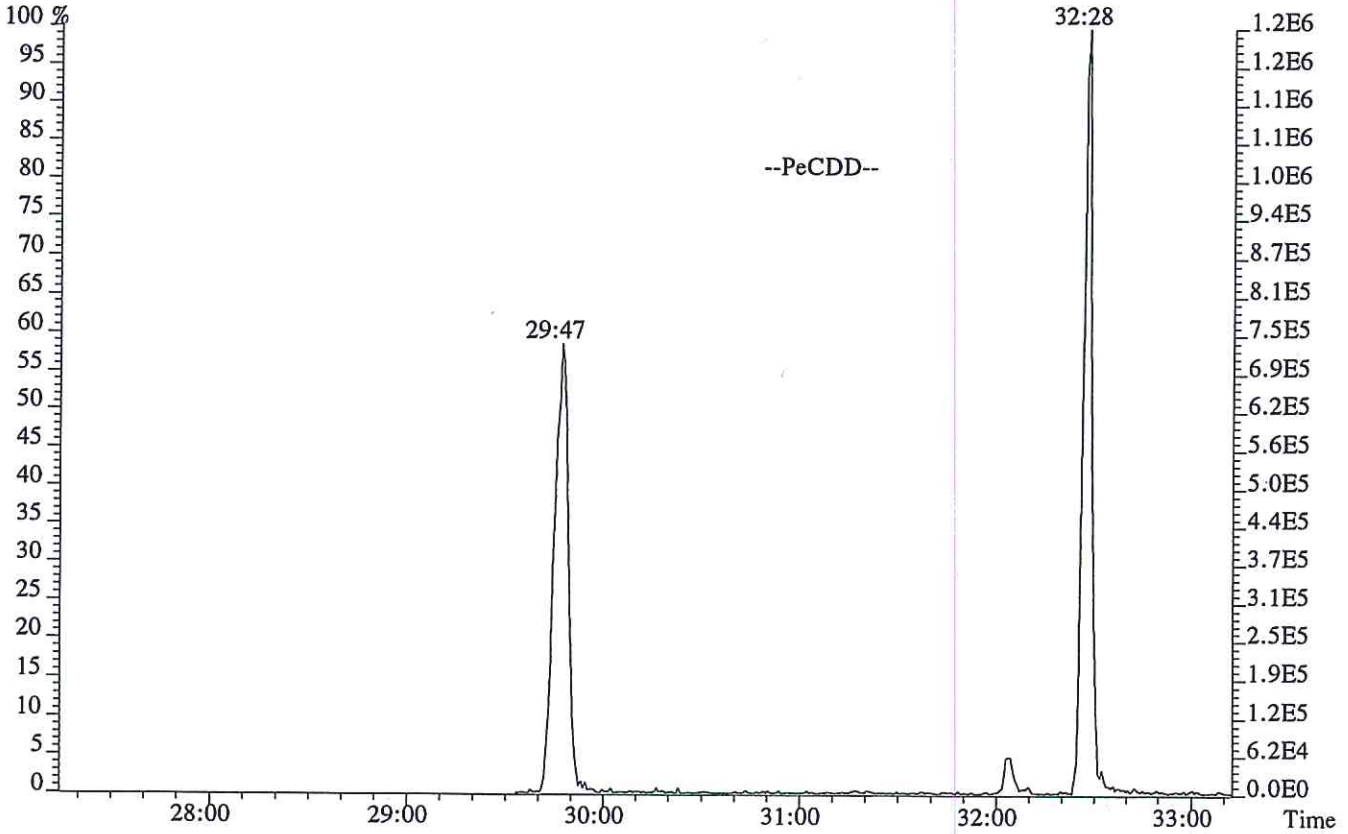




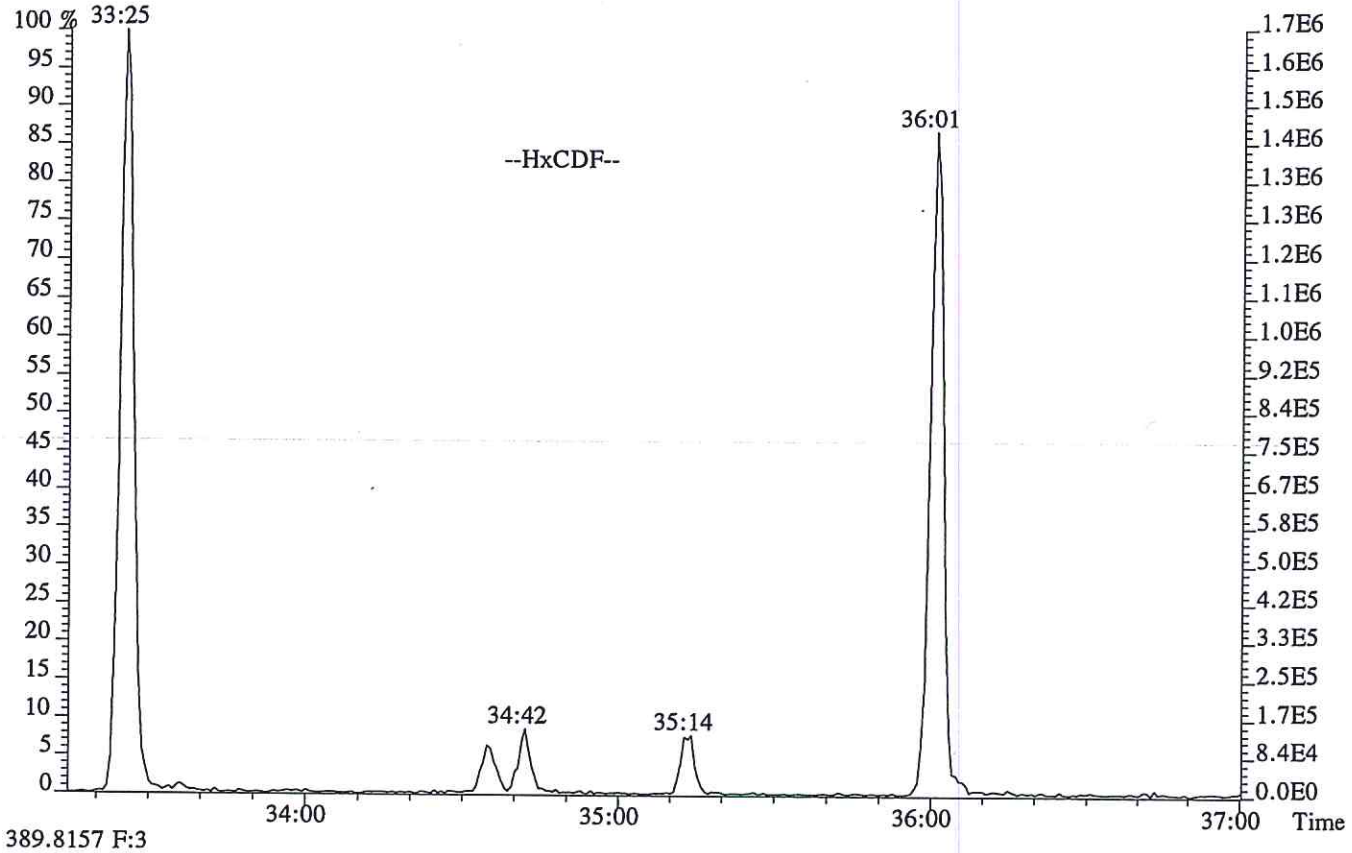
File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
339.8597,339.8597 F:2



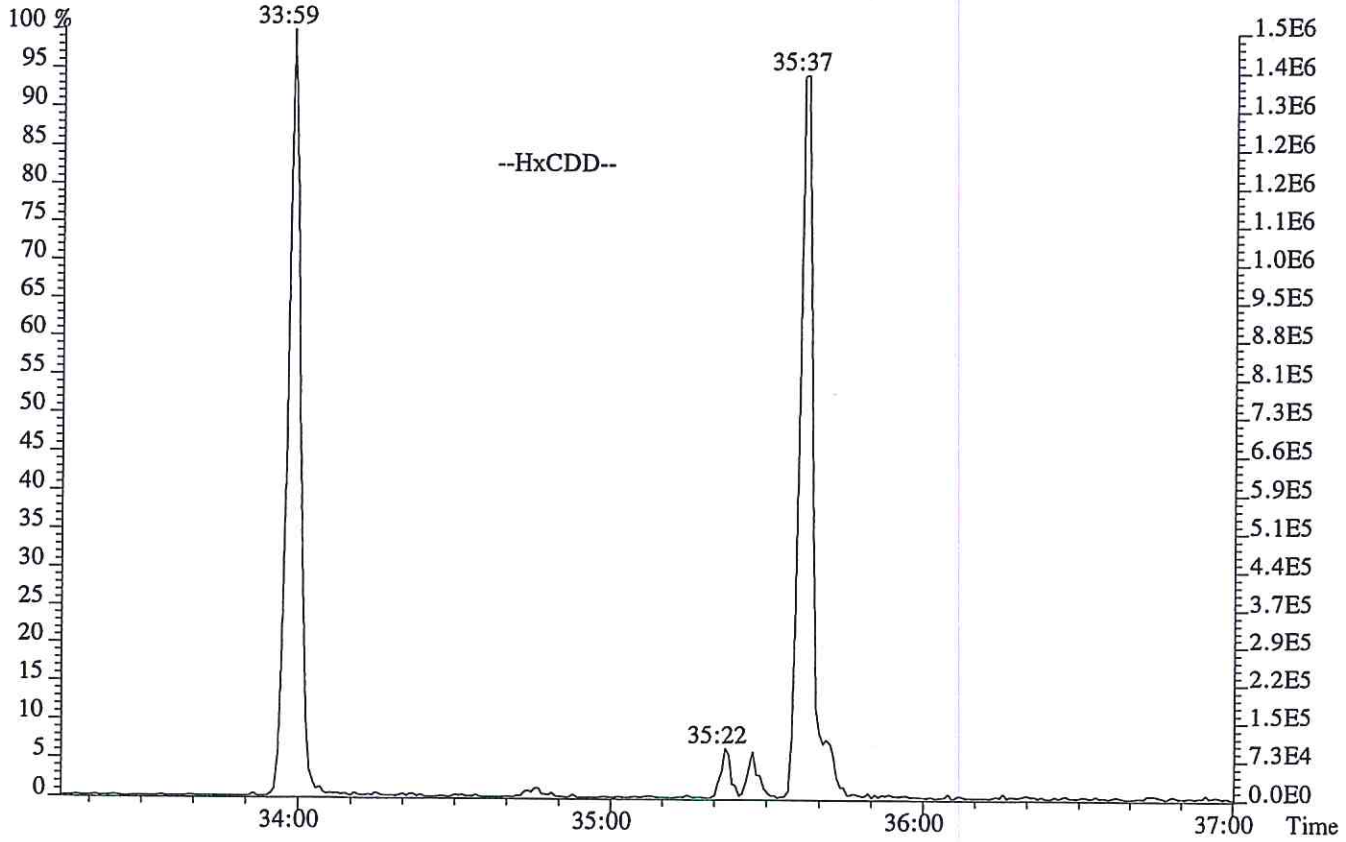
355.8546 F:2



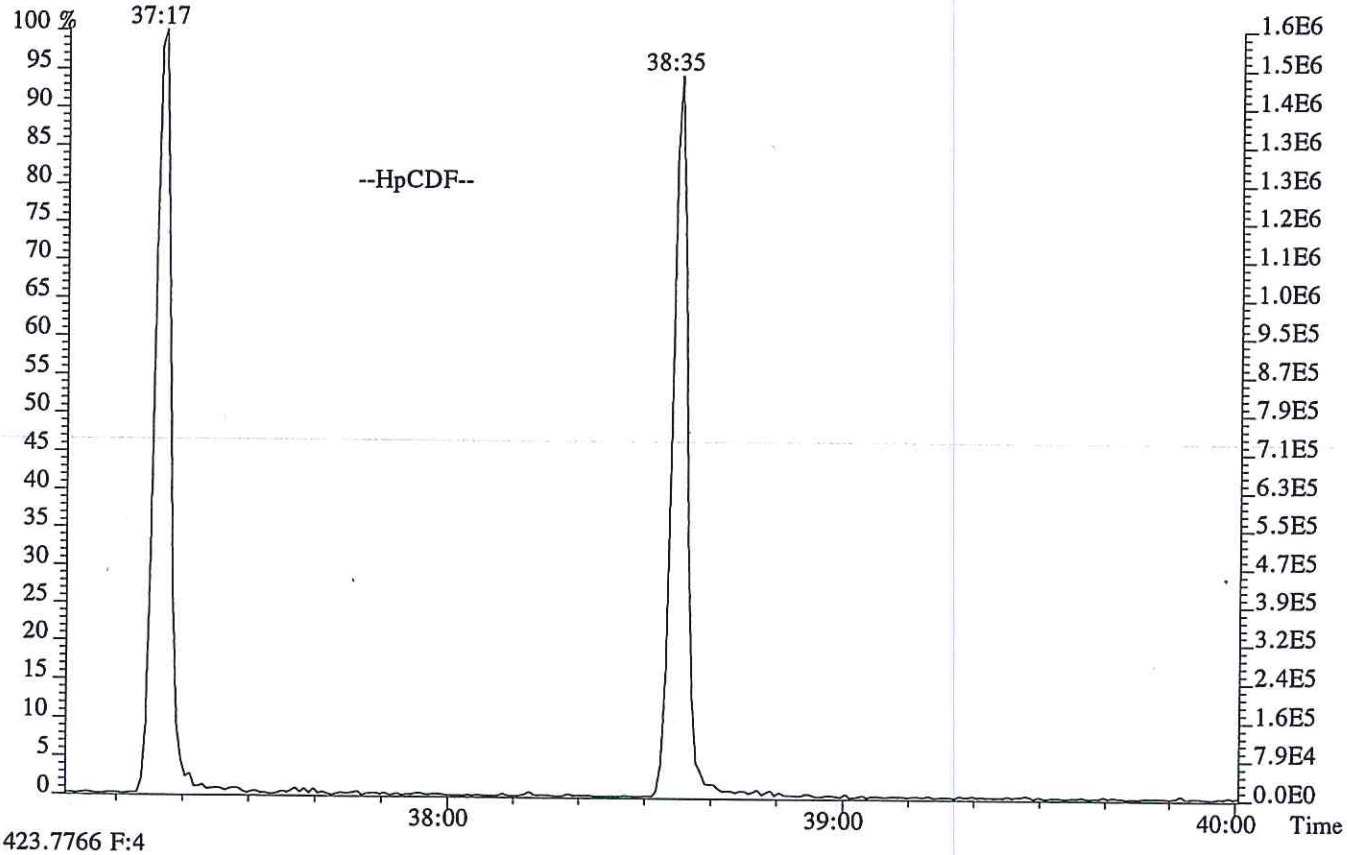
File:P607178 #1-339 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
373.8208 F:3



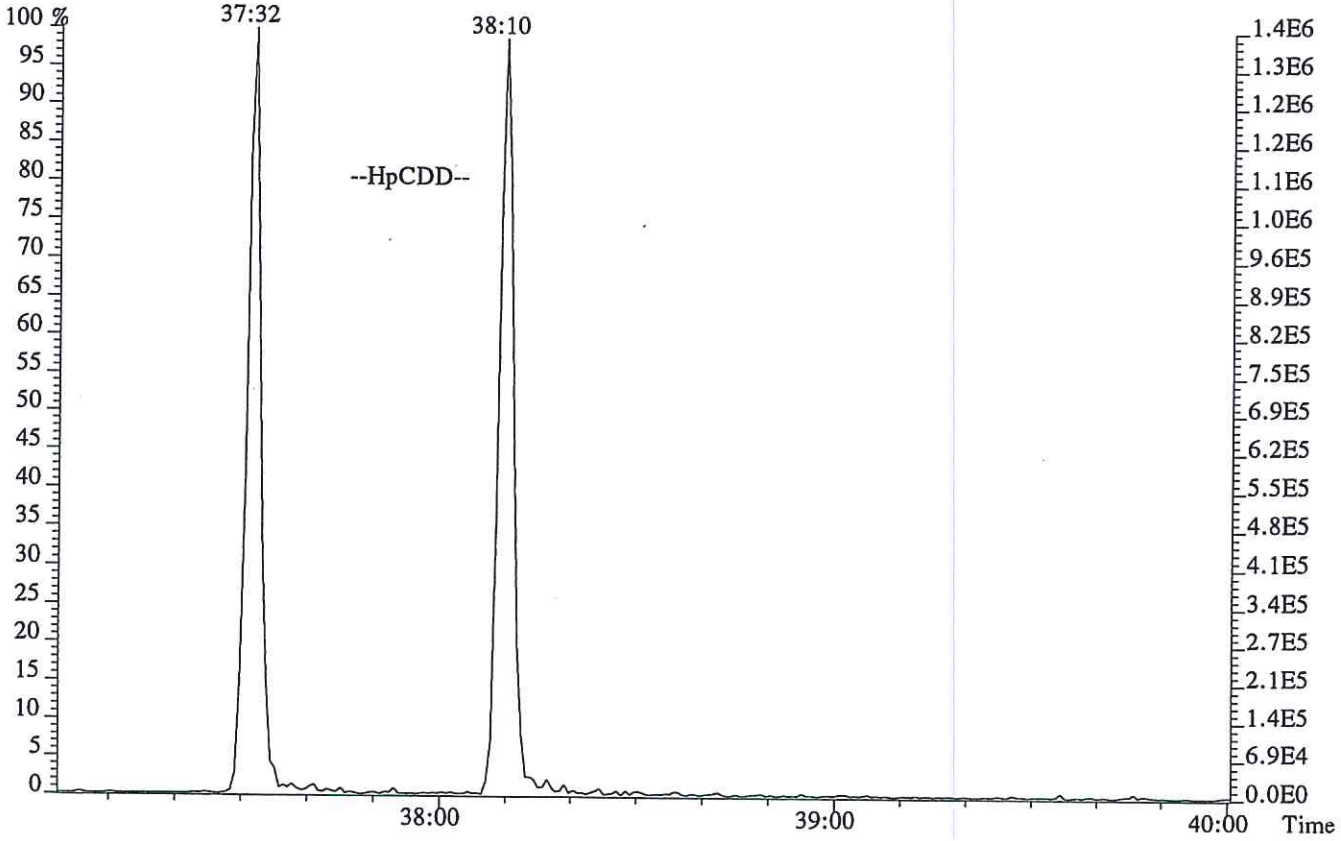
389.8157 F:3



File:P607178 #1-268 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
407.7818 F:4



423.7766 F:4



USEPA - CLP
6DFA6
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name: ALS Environmental Contract No.:
Lab Code: ALSTX Case No.: TO No.: SDG No.:
GC Column: DB-5MSUI ID: 0.25(mm) Instrument ID: E-HRMS-08
Init. Calib. Date(s).: 05/16/17 Method 1613/8290
Init. Calib. Time.: 11:03

Target Analytes	RR/RRF CS0.5	CS1	CS2	CS3	CS4	CS5	RR/RRF	MEAN %RSD	QC LIMITS
2,3,7,8-TCDD	1.16	1.02	1.08	1.04	1.03	1.00	1.05	5.40	+/-20%
2,3,7,8-TCDF	1.03	1.14	1.02	0.99	0.98	0.97	1.02	5.95	+/-20%
1,2,3,7,8-PeCDF	1.06	1.12	1.06	1.06	1.06	0.97	1.06	4.56	+/-20%
1,2,3,7,8-PeCDD	0.95	1.03	0.97	0.94	0.95	0.94	0.96	3.49	+/-20%
2,3,4,7,8-PeCDF	1.01	1.05	1.01	0.99	1.00	1.04	1.01	2.15	+/-20%
1,2,3,4,7,8-HxCDF	1.26	1.31	1.28	1.24	1.26	1.19	1.26	3.19	+/-20%
1,2,3,6,7,8-HxCDF	1.19	1.24	1.21	1.17	1.17	1.17	1.19	2.29	+/-20%
1,2,3,4,7,8-HxCDD	1.04	1.15	1.06	1.03	1.06	1.11	1.07	4.29	+/-20%
1,2,3,6,7,8-HxCDD	1.04	1.10	1.05	1.06	1.06	0.91	1.04	6.17	+/-20%
1,2,3,7,8,9-HxCDD	1.22	1.24	1.15	1.11	1.11	1.06	1.15	6.10	+/-20%
2,3,4,6,7,8-HxCDF	1.21	1.23	1.17	1.15	1.17	1.12	1.18	3.29	+/-20%
1,2,3,7,8,9-HxCDF	1.27	1.30	1.19	1.18	1.19	1.13	1.21	5.22	+/-20%
1,2,3,4,6,7,8-HpCDF	1.41	1.44	1.42	1.38	1.37	1.32	1.39	3.26	+/-20%
1,2,3,4,6,7,8-HpCDD	1.08	1.07	1.05	1.05	1.04	1.01	1.05	2.42	+/-20%
1,2,3,4,7,8,9-HpCDF	1.31	1.44	1.34	1.30	1.31	1.36	1.34	3.87	+/-20%
OCDD	1.16	1.22	1.14	1.11	1.11	0.98	1.12	7.13	+/-20%
OCDF	1.35	1.42	1.35	1.34	1.36	1.19	1.34	5.74	+/-20%
Labeled Compounds									
13C-2,3,7,8-TCDD	0.99	0.96	0.99	0.97	0.99	1.02	0.99	2.07	+/-35%
13C-1,2,3,7,8-PeCDD	1.04	1.25	1.07	1.05	1.07	1.07	1.09	7.35	+/-35%
13C-1,2,3,4,7,8-HxCDD	0.93	0.93	0.93	0.94	0.94	0.93	0.93	0.60	+/-35%
13C-1,2,3,6,7,8-HxCDD	0.89	0.91	0.91	0.91	0.91	1.02	0.93	5.21	+/-35%
13C-1,2,3,4,6,7,8-HpCDD	0.87	0.97	0.85	0.86	0.87	0.89	0.88	4.81	+/-35%
13C-OCDD	0.66	0.79	0.62	0.67	0.66	0.75	0.69	9.28	+/-35%
13C-2,3,7,8-TCDF	1.37	1.31	1.37	1.36	1.40	1.38	1.36	2.22	+/-35%
13C-1,2,3,7,8-PeCDF	1.45	1.67	1.49	1.45	1.48	1.49	1.51	5.39	+/-35%
13C-2,3,4,7,8-PeCDF	1.45	1.73	1.49	1.46	1.49	1.44	1.51	7.21	+/-35%
13C-1,2,3,4,7,8-HxCDF	1.08	1.07	1.08	1.10	1.11	1.16	1.10	2.84	+/-35%
13C-1,2,3,6,7,8-HxCDF	1.33	1.28	1.31	1.32	1.36	1.31	1.32	1.88	+/-35%
13C-2,3,4,6,7,8-HxCDF	1.20	1.18	1.21	1.20	1.21	1.21	1.20	0.87	+/-35%
13C-1,2,3,7,8,9-HxCDF	1.06	1.06	1.07	1.06	1.07	1.08	1.07	0.72	+/-35%
13C-1,2,3,4,6,7,8-HpCDF	0.92	1.00	0.90	0.91	0.93	0.94	0.93	3.97	+/-35%
13C-1,2,3,4,7,8,9-HpCDF	0.83	0.94	0.80	0.82	0.83	0.79	0.84	6.38	+/-35%
37Cl-2,3,7,8-TCDD	1.07	1.13	1.07	1.04	1.06	1.06	1.07	2.63	+/-35%

1. 123789-HxCDD Relative Response (RR) is calculated based on the labeled analog of the other two HxCDDs.
2. OCDF RR is calculated based on the labeled analog of OCDD

FORM VI-HR CDD-1 DLM02.2

USEPA - CLP
6DFB6
CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY
HIGH RESOLUTION

Lab Name: ALS Environmental Contract No.:
Lab Code: ALSTX Case No.: TO No.: SDG No.:
GC Column: DB-5MSUI ID: 0.25(mm) Instrument ID: E-HRMS-08
Init. Calib. Date(s).: 05/16/17 Method 1613/8290
Init. Calib. Time.: 11:03

Target Analytes	SELECTED IONS	ION ABUNDANCE RATIO CS0.5	CS1	CS2	CS3	CS4	CS5	FLAG	ION RATIO QC LIMITS
2,3,7,8-TCDF	304/306	0.86	0.76	0.78	0.78	0.77	0.78		0.65-0.89
2,3,7,8-TCDD	320/322	0.74	0.72	0.85	0.77	0.78	0.78		0.65-0.89
1,2,3,7,8-PeCDF	340/342	1.54	1.59	1.55	1.57	1.56	1.56		1.32-1.78
2,3,4,7,8-PeCDF	340/342	1.50	1.53	1.57	1.54	1.55	1.55		1.32-1.78
1,2,3,7,8-PeCDD	356/358	1.54	1.48	1.57	1.55	1.56	1.56		1.32-1.78
1,2,3,4,7,8-HxCDF	374/376	1.16	1.27	1.25	1.25	1.24	1.24		1.05-1.43
1,2,3,6,7,8-HxCDF	374/376	1.23	1.24	1.24	1.25	1.24	1.25		1.05-1.43
2,3,4,6,7,8-HxCDF	374/376	1.27	1.26	1.21	1.24	1.24	1.24		1.05-1.43
1,2,3,7,8,9-HxCDF	374/376	1.27	1.24	1.26	1.25	1.25	1.25		1.05-1.43
1,2,3,4,7,8-HxCDD	390/392	1.20	1.22	1.29	1.24	1.25	1.25		1.05-1.43
1,2,3,6,7,8-HxCDD	390/392	1.22	1.37	1.27	1.24	1.24	1.25		1.05-1.43
1,2,3,7,8,9-HxCDD	390/392	1.30	1.27	1.23	1.20	1.25	1.25		1.05-1.43
1,2,3,4,6,7,8-HpCDF	408/410	1.05	1.04	1.04	1.02	1.04	1.04		0.88-1.20
1,2,3,4,7,8,9-HpCDF	408/410	1.09	1.01	1.03	1.02	1.03	1.03		0.88-1.20
1,2,3,4,6,7,8-HpCDD	424/426	1.07	1.00	1.04	1.05	1.04	1.04		0.88-1.20
OCDF	442/444	0.92	0.93	0.88	0.90	0.90	0.91		0.76-1.02
OCDD	458/460	0.86	0.87	0.89	0.89	0.88	0.88		0.76-1.02
13C-2,3,7,8-TCDD	332/334	0.78	0.79	0.80	0.78	0.79	0.78		0.65-0.89
13C-1,2,3,7,8-PeCDD	368/370	1.57	1.57	1.57	1.57	1.58	1.56		1.32-1.78
13C-1,2,3,4,7,8-HxCDD	402/404	1.26	1.32	1.27	1.26	1.26	1.25		1.05-1.43
13C-1,2,3,6,7,8-HxCDD	402/404	1.27	1.20	1.27	1.26	1.25	1.25		1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	436/438	1.05	1.07	1.06	1.06	1.05	1.05		0.88-1.20
13C-OCDD	470/472	0.91	0.89	0.90	0.90	0.90	0.91		0.76-1.02
13C-2,3,7,8-TCDF	316/318	0.79	0.79	0.79	0.79	0.79	0.79		0.65-0.89
13C-1,2,3,7,8-PeCDF	352/354	1.58	1.55	1.59	1.58	1.59	1.58		1.32-1.78
13C-2,3,4,7,8-PeCDF	352/354	1.57	1.58	1.59	1.58	1.57	1.57		1.32-1.78
13C-1,2,3,4,7,8-HxCDF	384/386	0.53	0.52	0.52	0.52	0.53	0.52		0.43-0.59
13C-1,2,3,6,7,8-HxCDF	384/386	0.53	0.53	0.53	0.53	0.53	0.52		0.43-0.59
13C-2,3,4,6,7,8-HxCDF	384/386	0.53	0.53	0.53	0.52	0.53	0.52		0.43-0.59
13C-1,2,3,7,8,9-HxCDF	384/386	0.53	0.53	0.53	0.52	0.53	0.53		0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	418/420	0.45	0.45	0.46	0.45	0.45	0.45		0.37-0.51
13C-1,2,3,4,7,8,9-HpCDF	418/420	0.45	0.45	0.45	0.45	0.46	0.45		0.37-0.51
13C-1,2,3,4-TCDD	332/334	0.80	0.79	0.79	0.80	0.81	0.79		0.65-0.89
13C-1,2,3,7,8,9-HxCDD	402/404	1.25	1.22	1.23	1.24	1.26	1.27		1.05-1.43

Quality Control (QC) limits represent +/- 15% window around the theoretical ion abundance ratio. The laboratory must flag any analyte in any calibration solution which does not meet the ion abundance ratio QC limit by placing an asterisk in the flag column.

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76554

Run #1 Filename P607179 Samp: 1 Inj: 1 Acquired: 16-MAY-17 12:44:15
Processed: 17-MAY-17 07:52:56 Sample ID: CS0.5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	4.015e+02	4.653e+02	0.86	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	2.886e+03	1.876e+03	1.54	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	2.704e+03	1.798e+03	1.50	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	2.251e+03	1.948e+03	1.16	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	2.682e+03	2.184e+03	1.23	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	2.488e+03	1.954e+03	1.27	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	2.310e+03	1.814e+03	1.27	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	2.038e+03	1.948e+03	1.05	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	1.743e+03	1.596e+03	1.09	yes	no	1.341
10	Unk	OCDF	40:49	2.607e+03	2.845e+03	0.92	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	3.011e+02	4.047e+02	0.74	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	1.835e+03	1.190e+03	1.54	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	1.613e+03	1.346e+03	1.20	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	1.559e+03	1.275e+03	1.22	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.928e+03	1.488e+03	1.30	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	1.482e+03	1.390e+03	1.07	yes	no	1.048
17	Unk	OCDD	40:39	2.163e+03	2.511e+03	0.86	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	1.490e+05	1.891e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	2.190e+05	1.389e+05	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	2.176e+05	1.383e+05	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	9.173e+04	1.739e+05	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	1.137e+05	2.127e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:12	1.011e+05	1.919e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	8.982e+04	1.699e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	7.038e+04	1.551e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	6.384e+04	1.407e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	1.068e+05	1.373e+05	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	1.565e+05	9.952e+04	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.269e+05	1.006e+05	1.26	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	1.223e+05	9.638e+04	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	1.093e+05	1.038e+05	1.05	yes	no	0.884
32	IS	13C-OCDD	40:38	1.533e+05	1.693e+05	0.91	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	1.091e+05	1.371e+05	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	1.360e+05	1.090e+05	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	6.612e+02				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76554

Run #1 Filename P607179 Samp: 1 Inj: 1 Acquired: 16-MAY-17 12:44:15
Processed: 17-MAY-17 07:52:56 LAB. ID: CS0.5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.70e+04	1.96e+02	2.9e+02	7.05e+04	2.00e+03	3.5e+01
2	1,2,3,7,8-PeCDF	5.01e+05	1.24e+03	4.0e+02	3.19e+05	5.72e+02	5.6e+02
3	2,3,4,7,8-PeCDF	4.93e+05	1.24e+03	4.0e+02	3.22e+05	5.72e+02	5.6e+02
4	1,2,3,4,7,8-HxCDF	4.63e+05	4.92e+02	9.4e+02	4.05e+05	1.76e+02	2.3e+03
5	1,2,3,6,7,8-HxCDF	5.50e+05	4.92e+02	1.1e+03	4.50e+05	1.76e+02	2.6e+03
6	2,3,4,6,7,8-HxCDF	5.20e+05	4.92e+02	1.1e+03	4.12e+05	1.76e+02	2.3e+03
7	1,2,3,7,8,9-HxCDF	5.13e+05	4.92e+02	1.0e+03	3.76e+05	1.76e+02	2.1e+03
8	1,2,3,4,6,7,8-HpCDF	4.47e+05	1.28e+03	3.5e+02	4.50e+05	2.80e+02	1.6e+03
9	1,2,3,4,7,8,9-HpCDF	3.79e+05	1.28e+03	2.9e+02	3.42e+05	2.80e+02	1.2e+03
10	OCDF	5.14e+05	1.44e+03	3.6e+02	5.73e+05	1.06e+03	5.4e+02
11	2,3,7,8-TCDD	5.13e+04	6.12e+02	8.4e+01	6.57e+04	2.84e+02	2.3e+02
12	1,2,3,7,8-PeCDD	3.38e+05	1.70e+03	2.0e+02	2.28e+05	2.24e+02	1.0e+03
13	1,2,3,4,7,8-HxCDD	3.38e+05	1.68e+02	2.0e+03	2.89e+05	2.20e+02	1.3e+03
14	1,2,3,6,7,8-HxCDD	3.25e+05	1.68e+02	1.9e+03	2.69e+05	2.20e+02	1.2e+03
15	1,2,3,7,8,9-HxCDD	4.12e+05	1.68e+02	2.5e+03	3.20e+05	2.20e+02	1.5e+03
16	1,2,3,4,6,7,8-HpCDD	3.49e+05	1.24e+03	2.8e+02	3.14e+05	1.32e+02	2.4e+03
17	OCDD	4.42e+05	1.19e+03	3.7e+02	5.07e+05	1.02e+03	5.0e+02
18	13C-2,3,7,8-TCDF	2.17e+07	1.27e+04	1.7e+03	2.78e+07	7.08e+03	3.9e+03
19	13C-1,2,3,7,8-PeCDF	3.81e+07	1.05e+03	3.6e+04	2.41e+07	1.31e+03	1.8e+04
20	13C-2,3,4,7,8-PeCDF	4.04e+07	1.05e+03	3.8e+04	2.56e+07	1.31e+03	2.0e+04
21	13C-1,2,3,4,7,8-HxCDF	1.93e+07	2.28e+02	8.5e+04	3.66e+07	1.43e+03	2.6e+04
22	13C-1,2,3,6,7,8-HxCDF	2.38e+07	2.28e+02	1.0e+05	4.49e+07	1.43e+03	3.1e+04
23	13C-2,3,4,6,7,8-HxCDF	2.11e+07	2.28e+02	9.3e+04	4.05e+07	1.43e+03	2.8e+04
24	13C-1,2,3,7,8,9-HxCDF	1.94e+07	2.28e+02	8.5e+04	3.64e+07	1.43e+03	2.5e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.58e+07	9.30e+03	1.7e+03	3.49e+07	1.79e+04	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.38e+07	9.30e+03	1.5e+03	3.03e+07	1.79e+04	1.7e+03
27	13C-2,3,7,8-TCDD	1.70e+07	5.26e+03	3.2e+03	2.18e+07	3.70e+03	5.9e+03
28	13C-1,2,3,7,8-PeCDD	2.97e+07	3.16e+02	9.4e+04	1.90e+07	5.84e+02	3.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.70e+07	2.20e+03	1.2e+04	2.12e+07	1.56e+02	1.4e+05
30	13C-1,2,3,6,7,8-HxCDD	2.56e+07	2.20e+03	1.2e+04	2.01e+07	1.56e+02	1.3e+05
31	13C-1,2,3,4,6,7,8-HpCDD	2.48e+07	8.60e+02	2.9e+04	2.34e+07	8.80e+01	2.7e+05
32	13C-OCDD	3.05e+07	1.16e+04	2.6e+03	3.36e+07	1.42e+04	2.4e+03
33	13C-1,2,3,4-TCDD	1.64e+07	5.26e+03	3.1e+03	2.07e+07	3.70e+03	5.6e+03
34	13C-1,2,3,7,8,9-HxCDD	2.96e+07	2.20e+03	1.3e+04	2.37e+07	1.56e+02	1.5e+05
35	37Cl-2,3,7,8-TCDD	1.15e+05	6.00e+02	1.9e+02			

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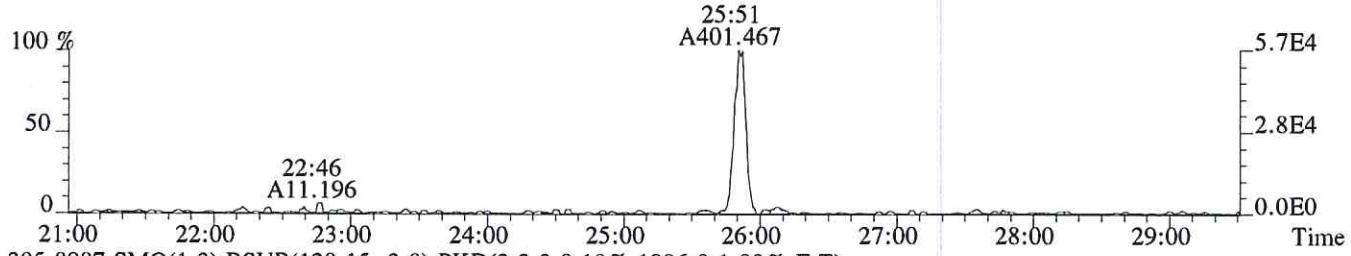
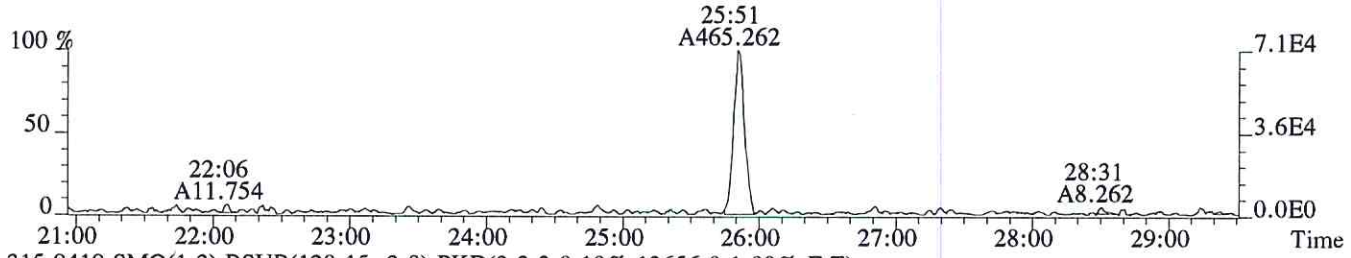
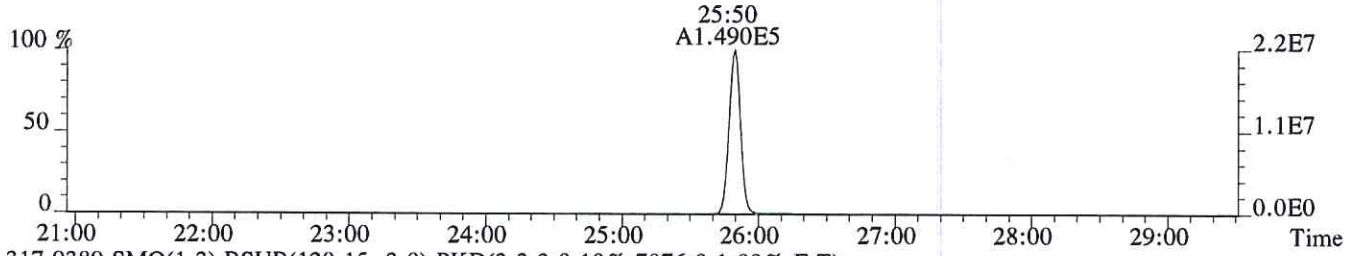
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



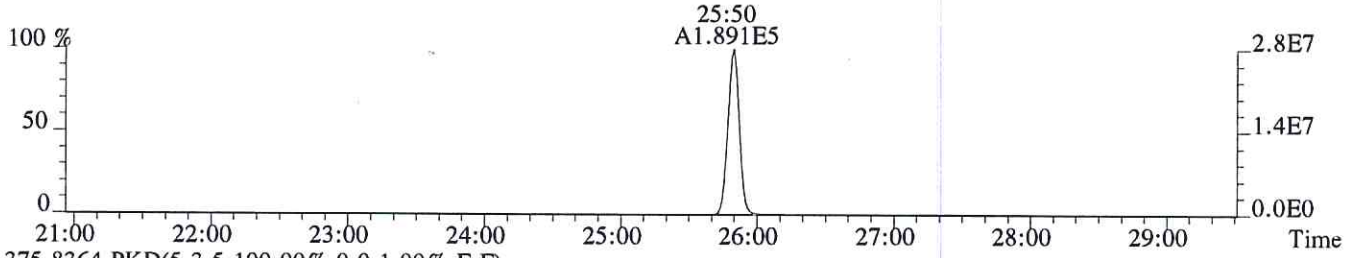
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1996.0,1.00%,F,T)



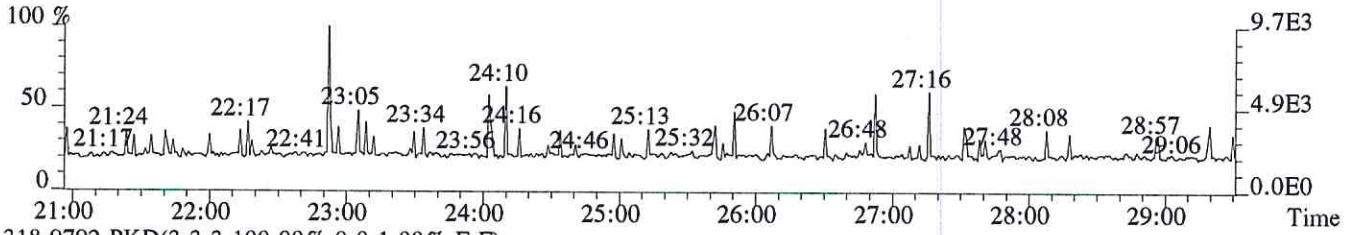
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12656.0,1.00%,F,T)



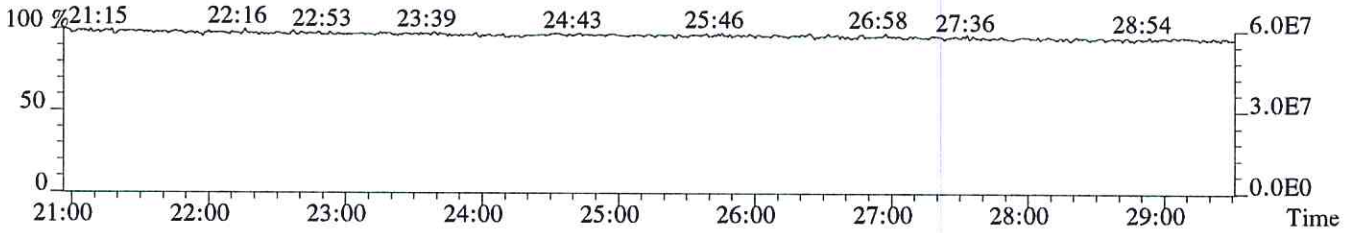
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7076.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

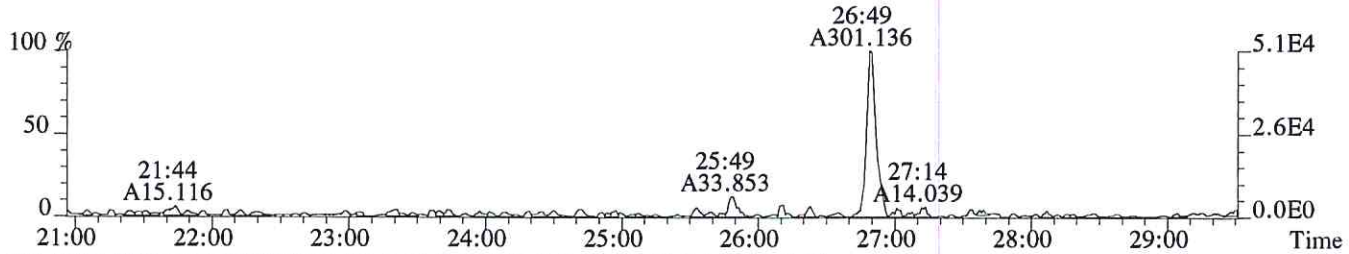


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

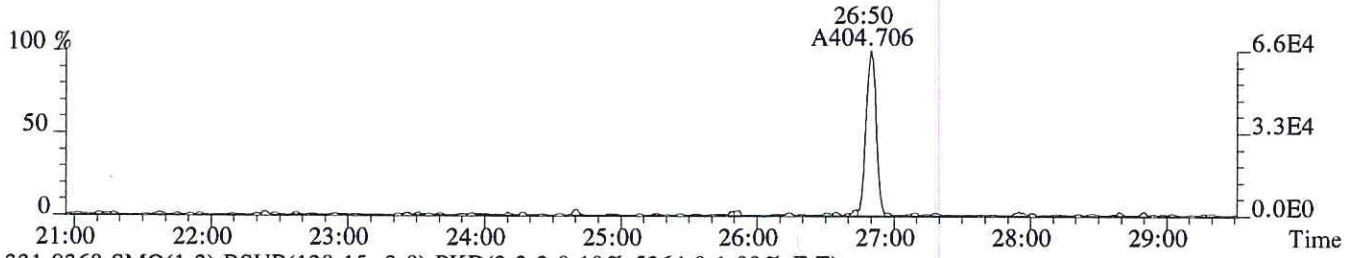


File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5

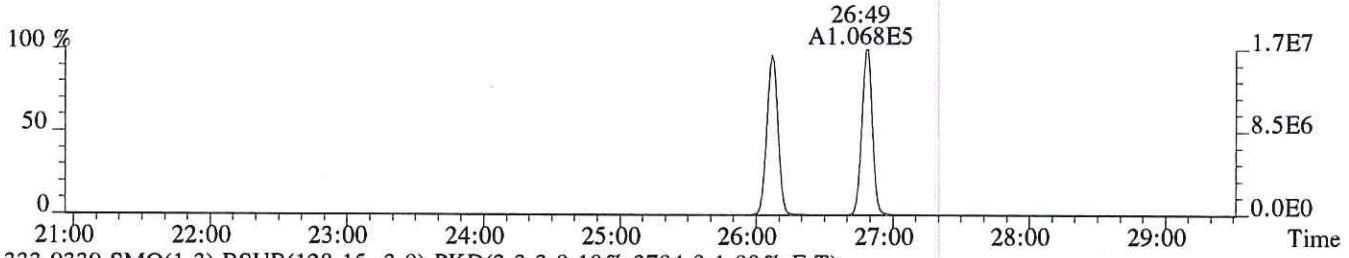
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



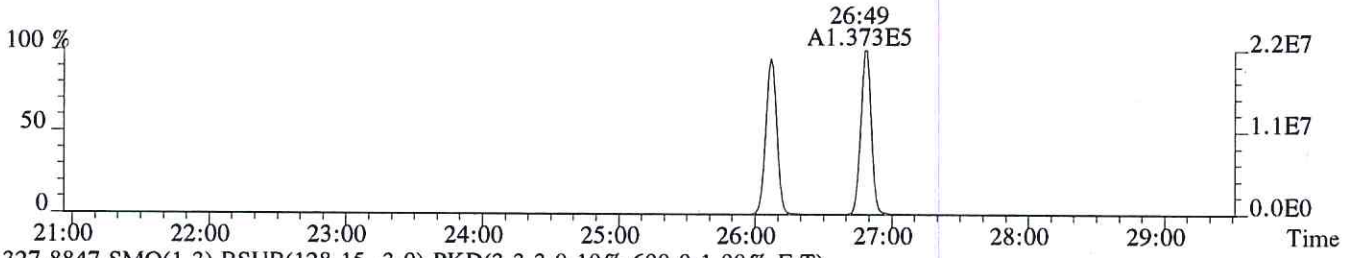
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



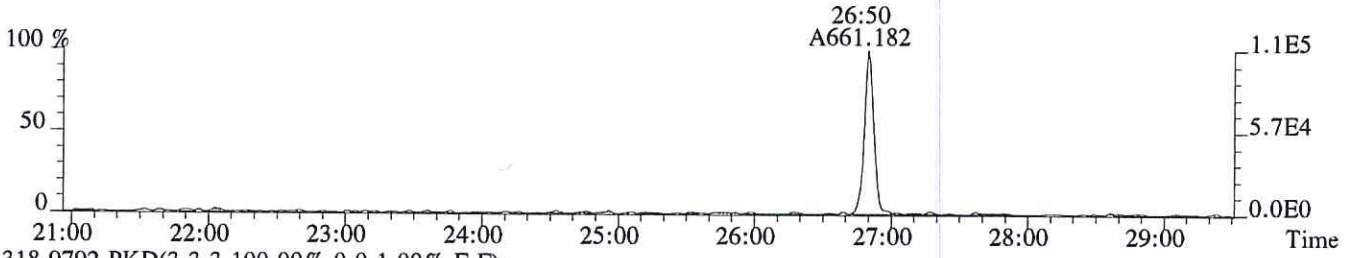
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5264.0,1.00%,F,T)



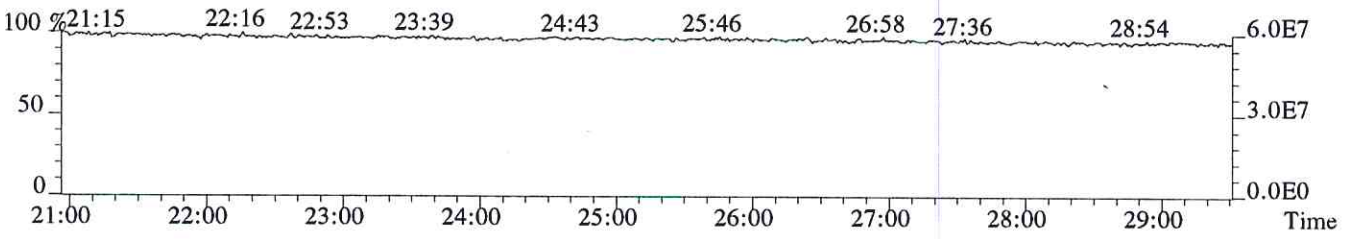
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3704.0,1.00%,F,T)



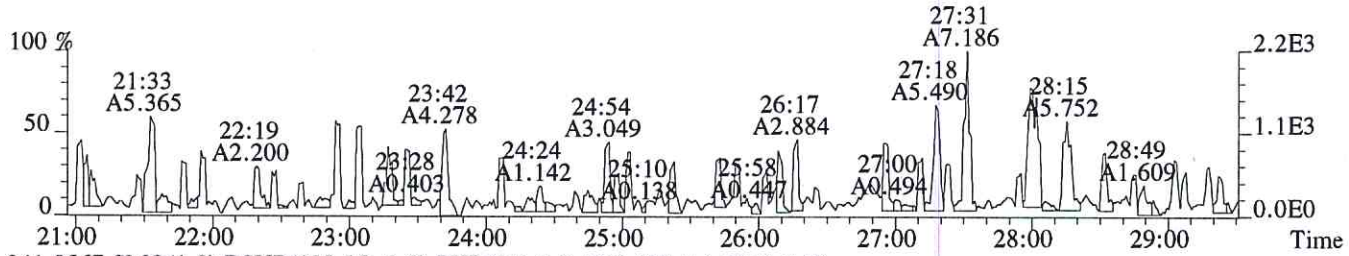
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



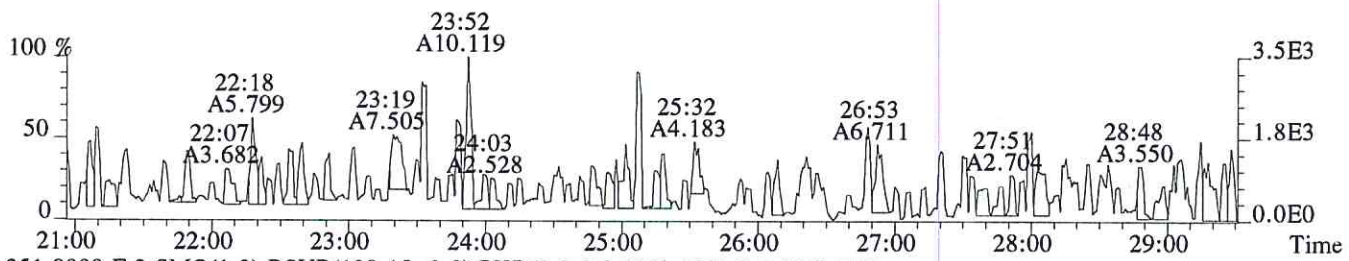
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



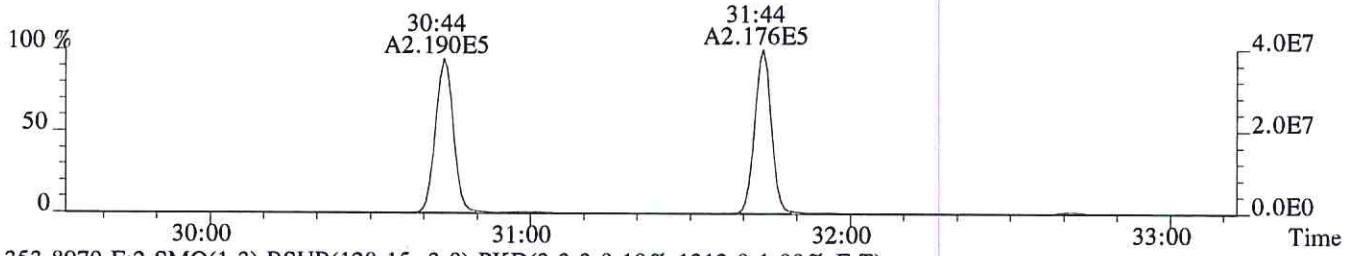
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



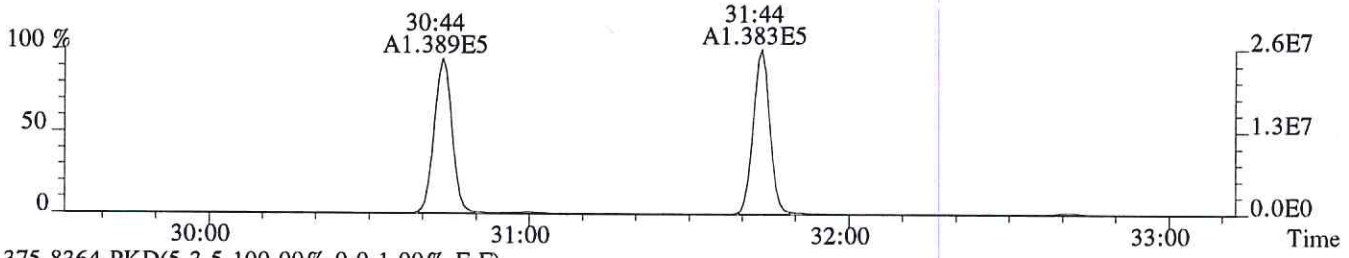
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



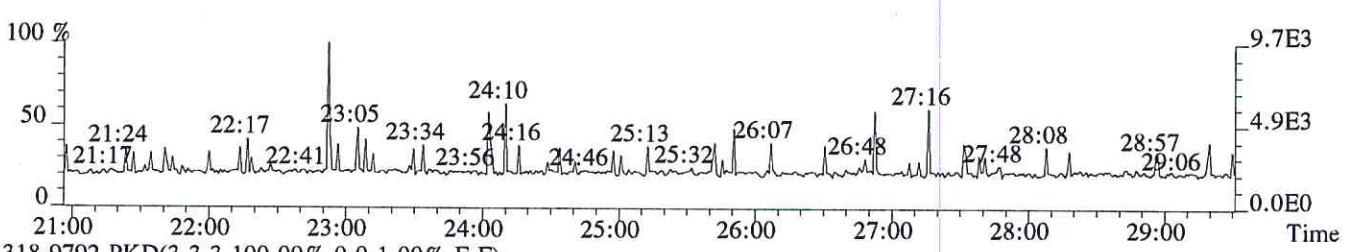
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



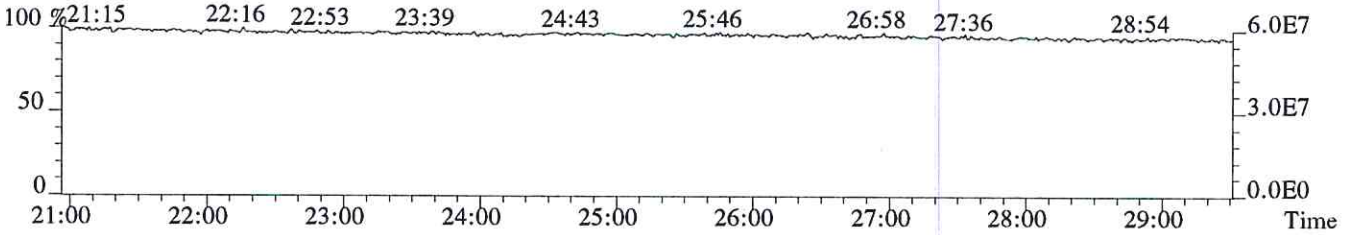
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



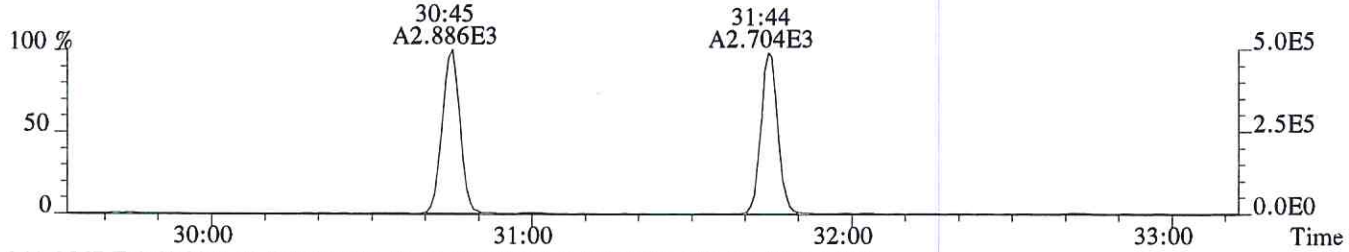
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



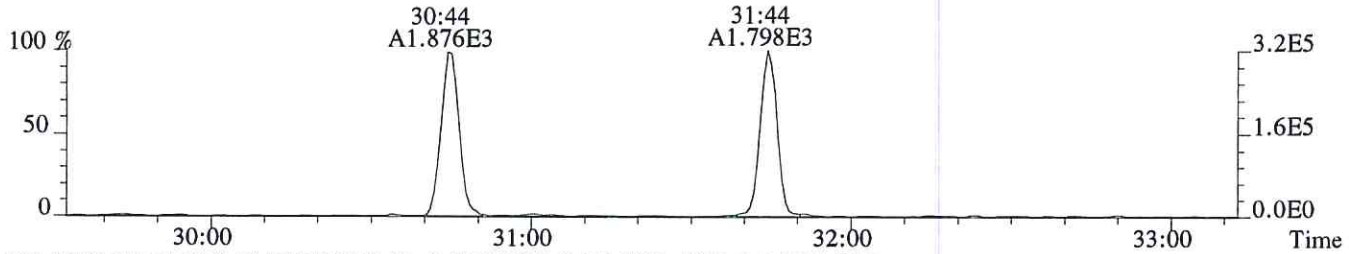
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



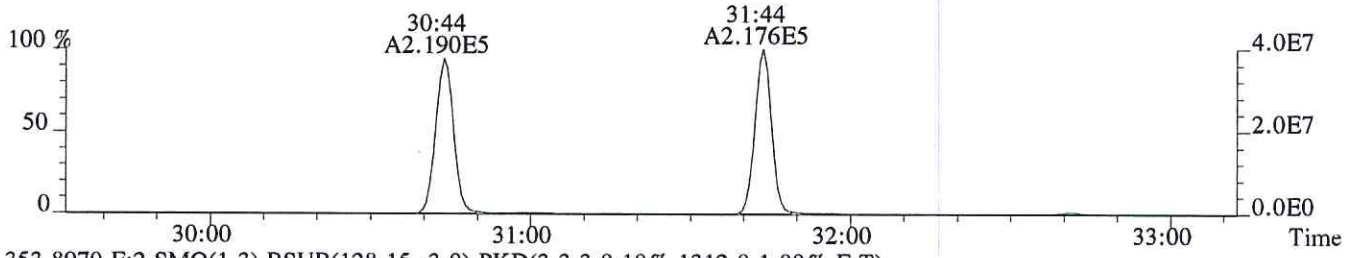
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



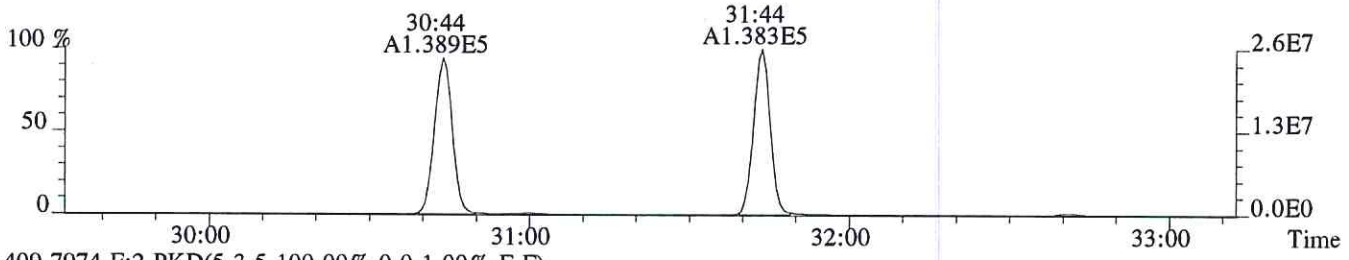
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



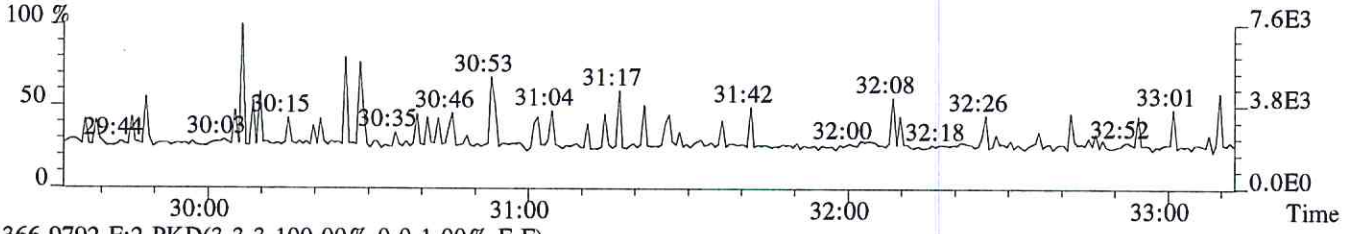
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



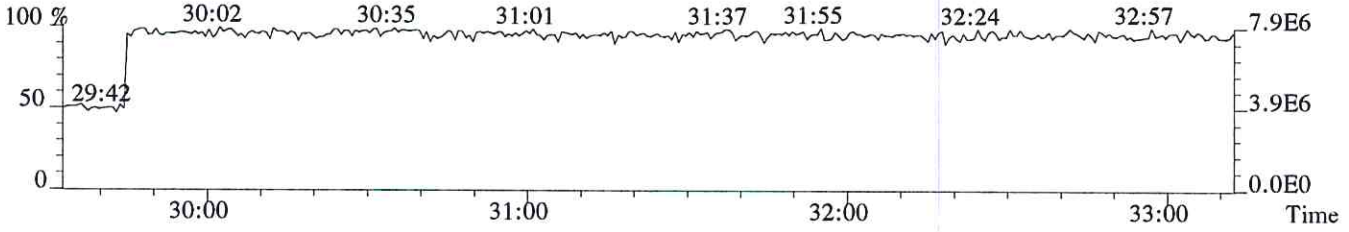
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



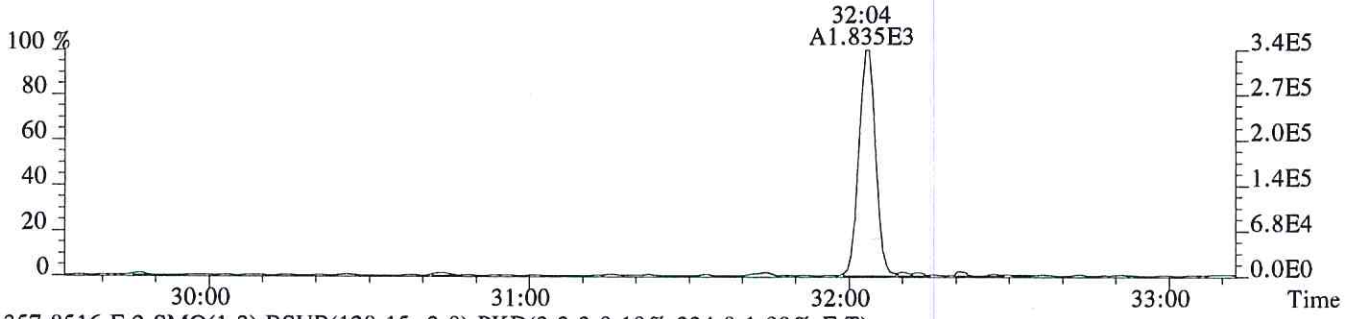
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



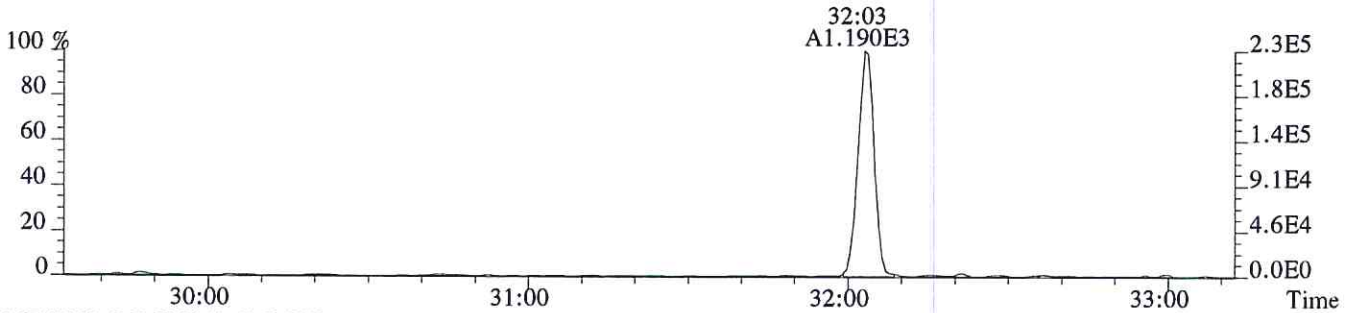
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



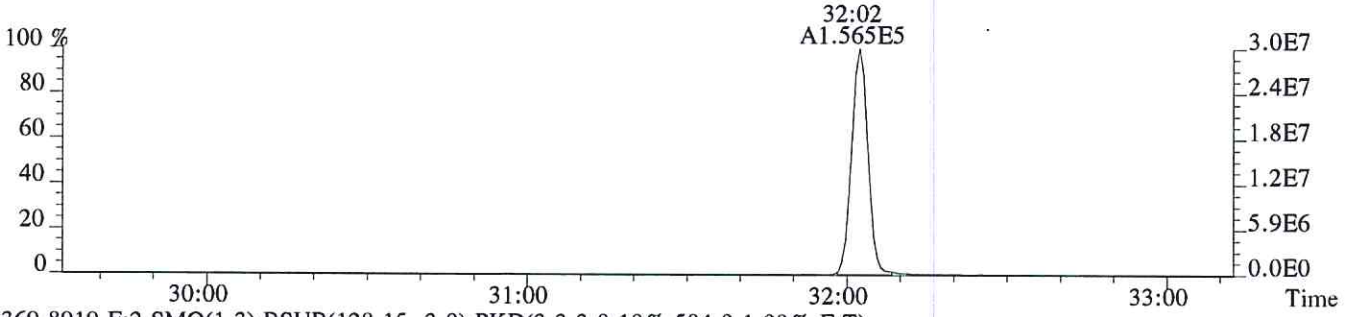
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,T)



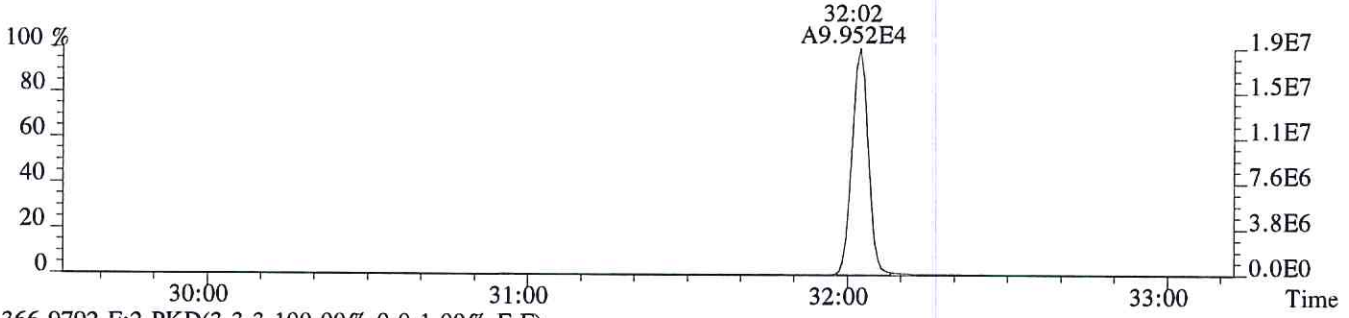
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



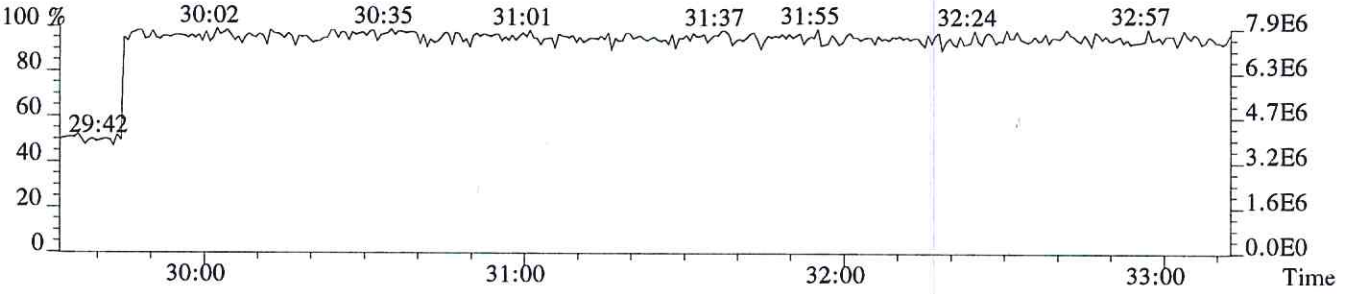
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)

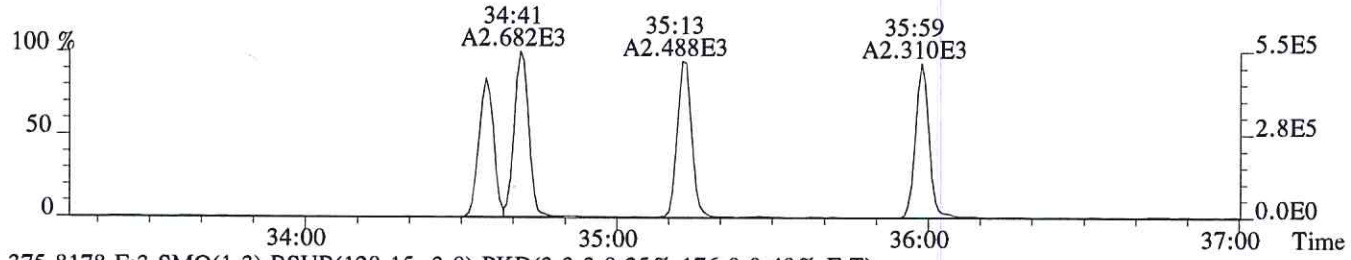


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

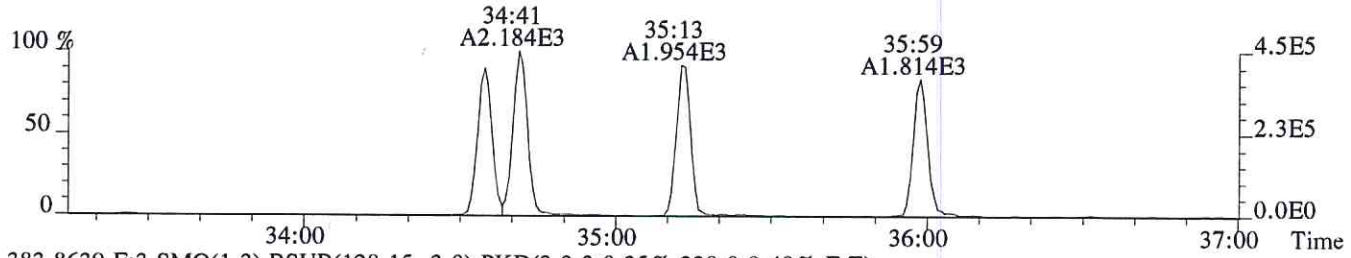


File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5

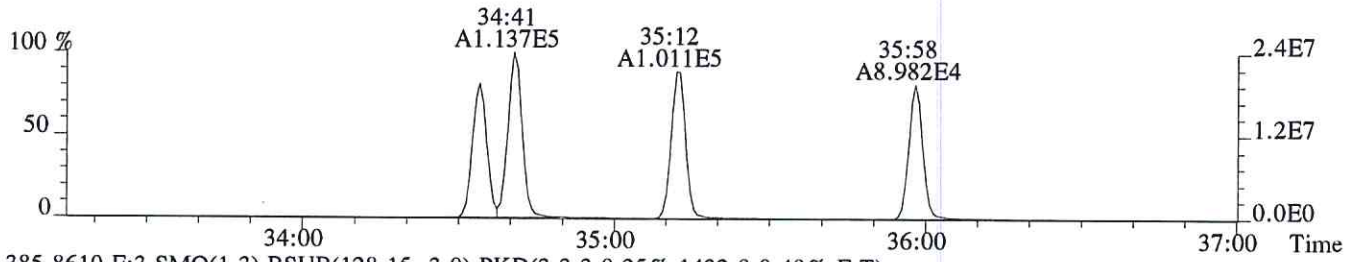
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,T)



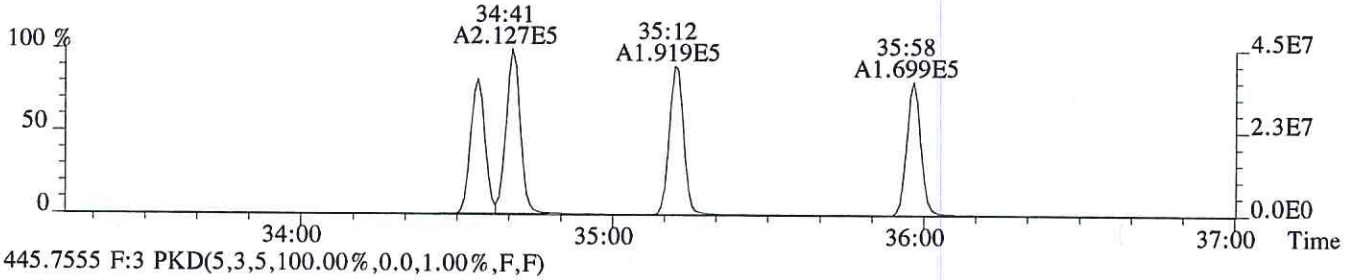
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



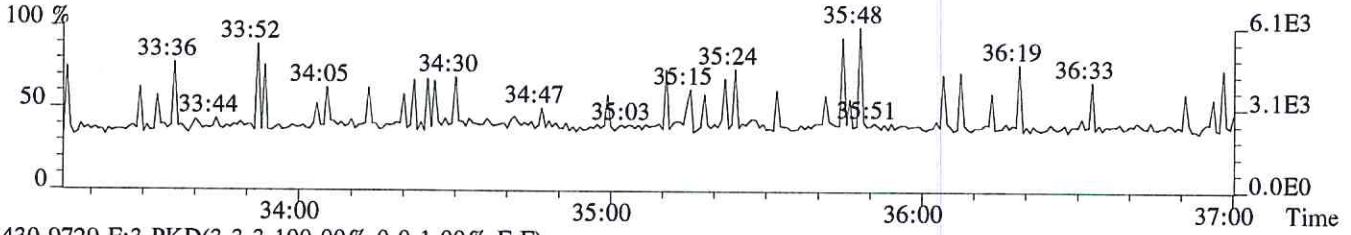
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



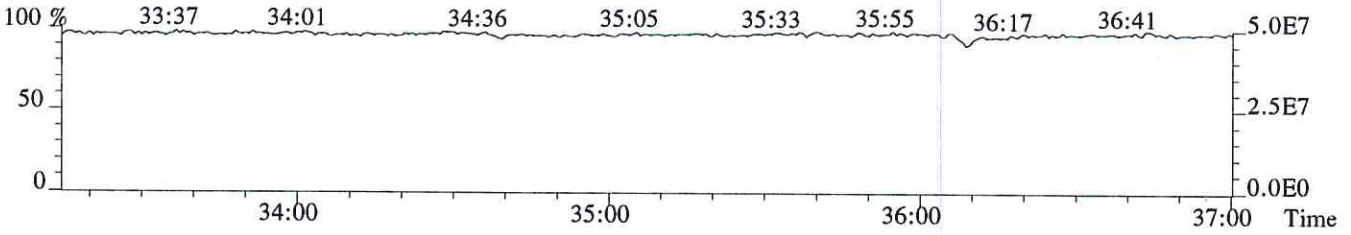
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



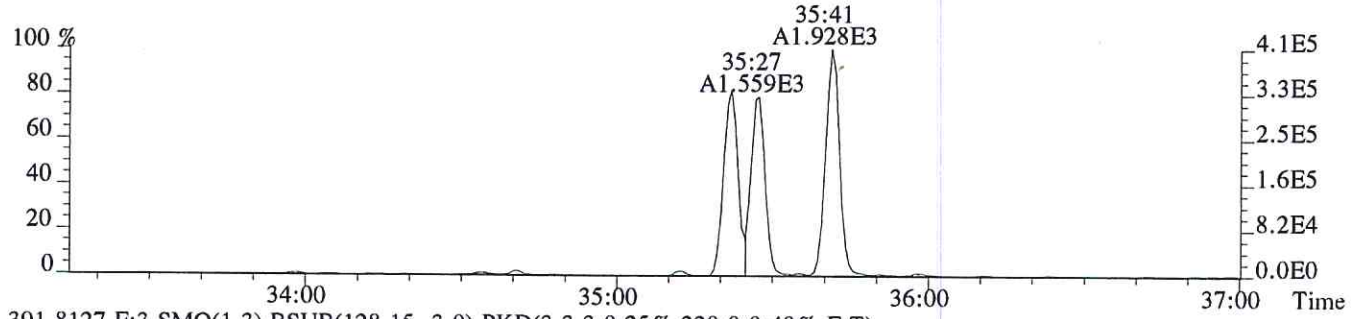
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



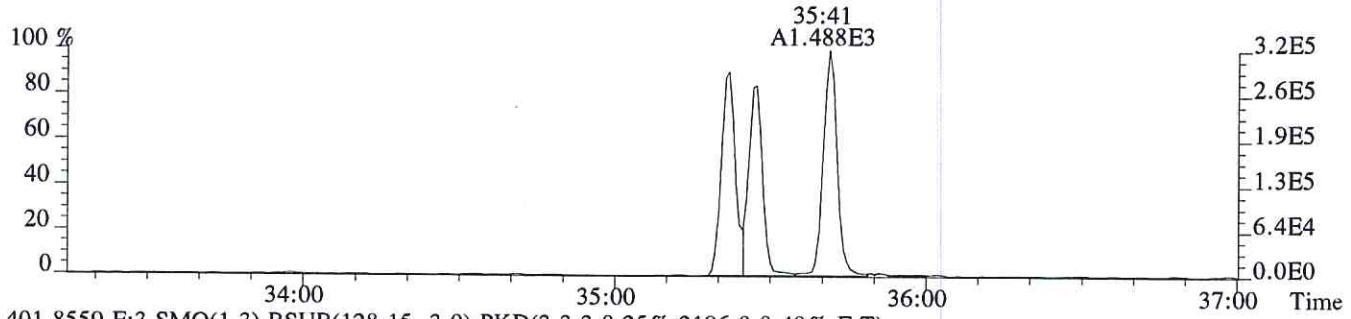
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



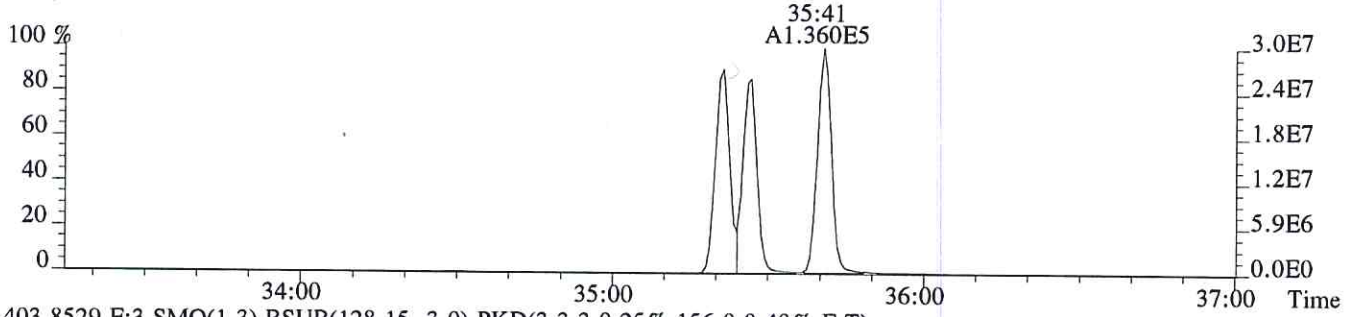
File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



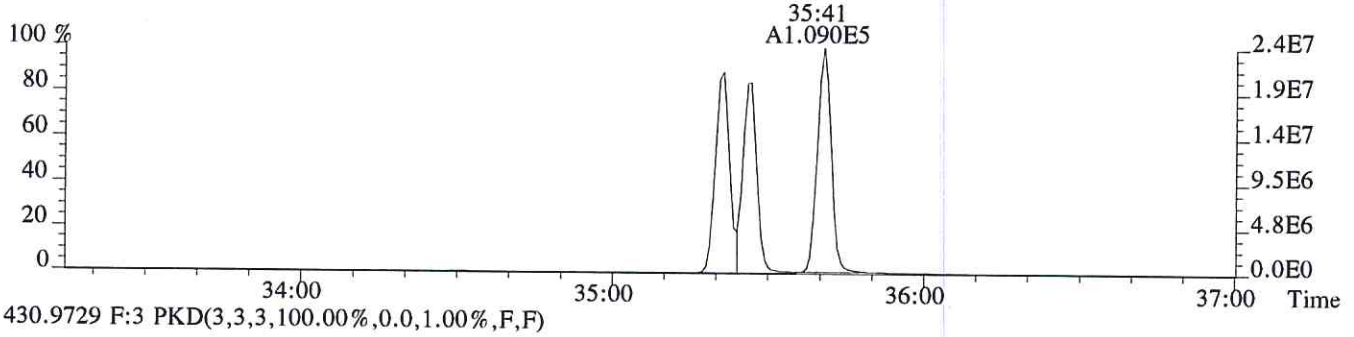
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



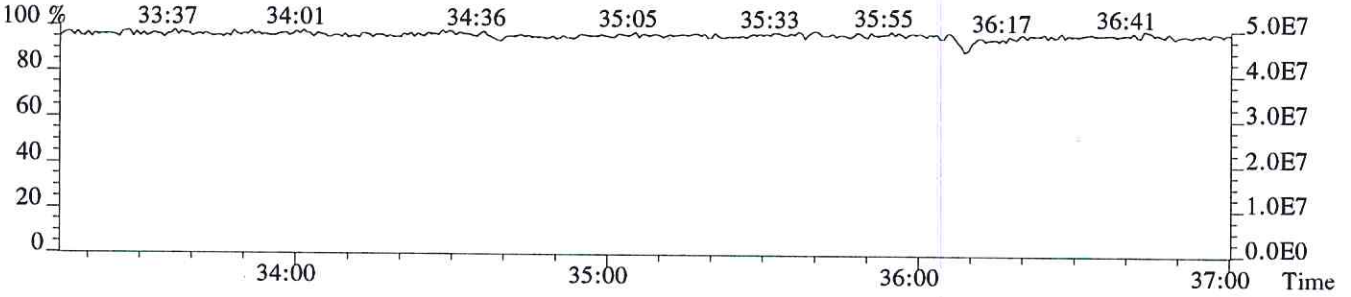
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2196.0,0.40%,F,T)



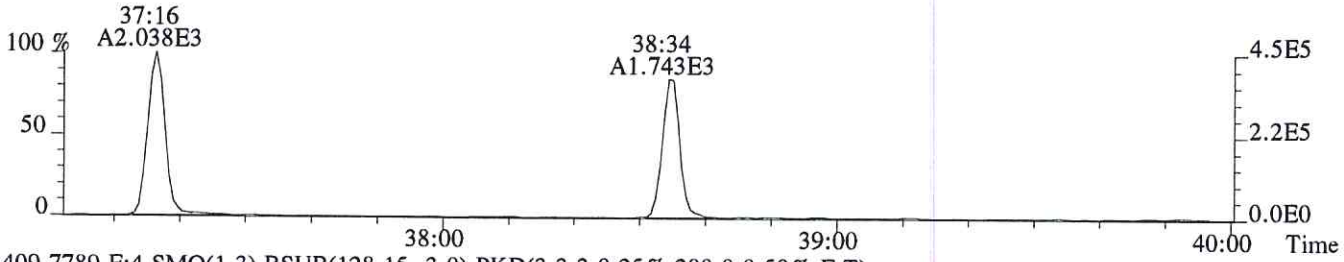
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



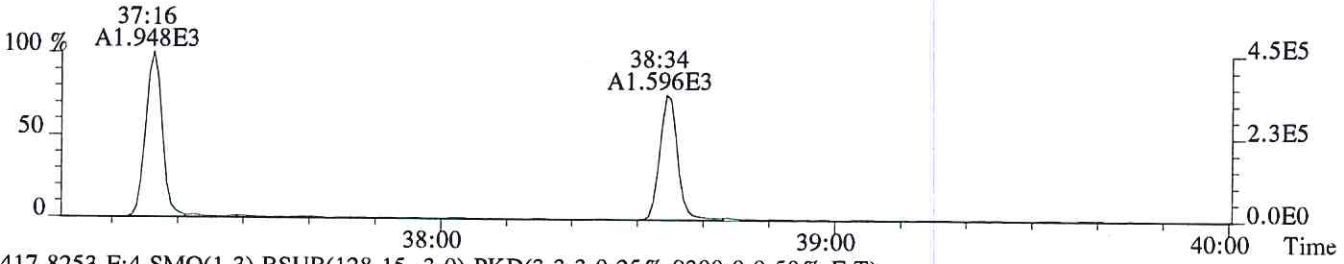
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



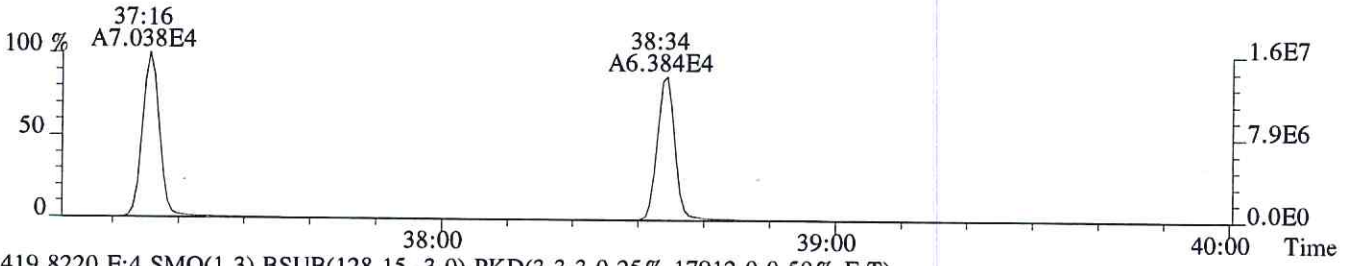
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.50%,F,T)



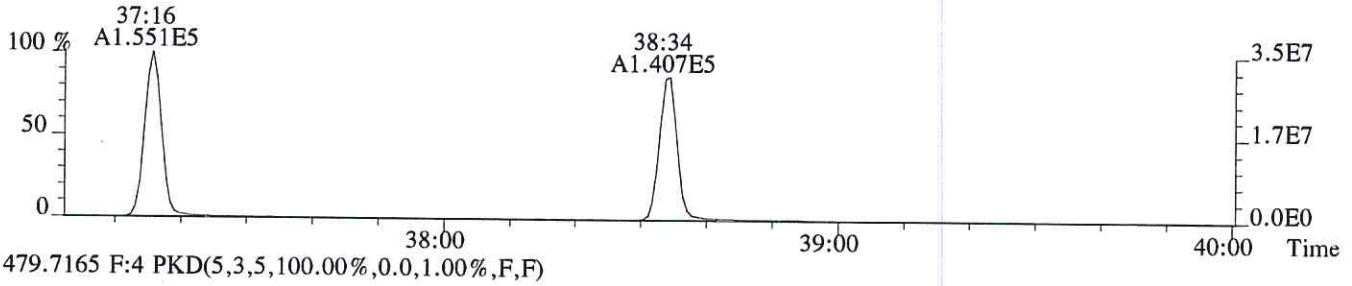
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.50%,F,T)



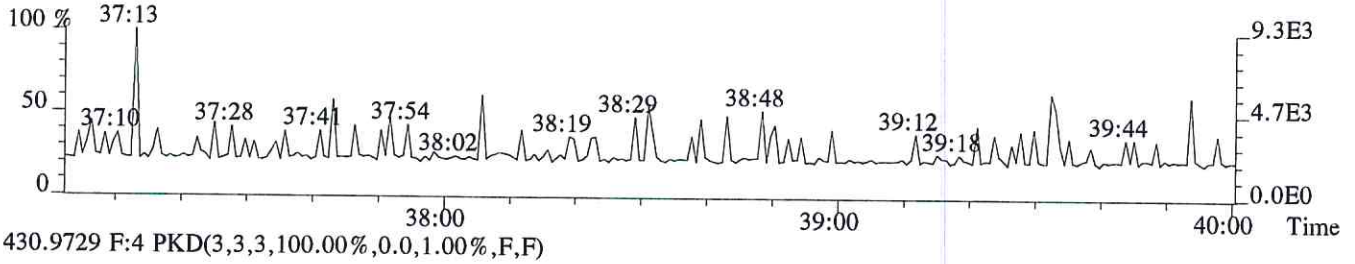
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9300.0,0.50%,F,T)



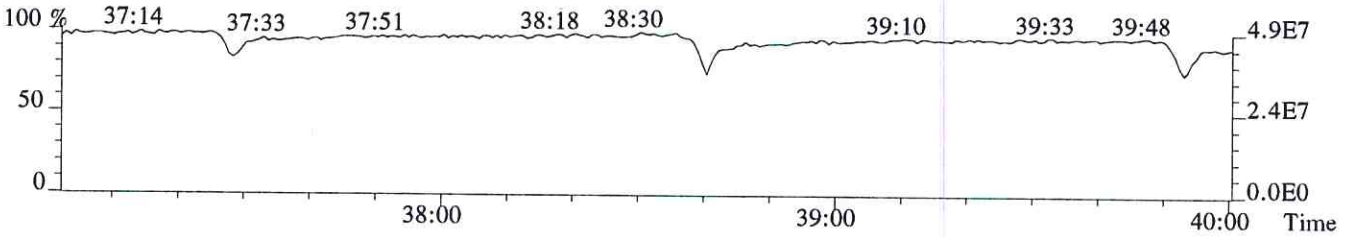
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17912.0,0.50%,F,T)



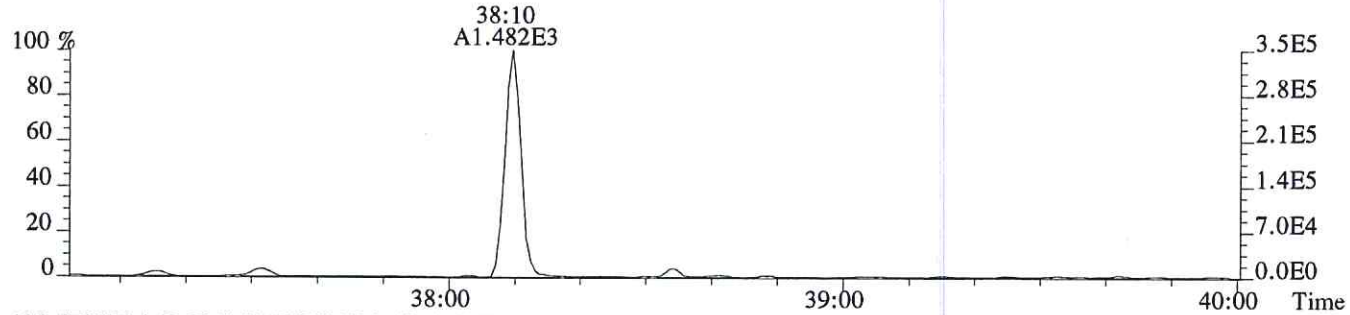
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



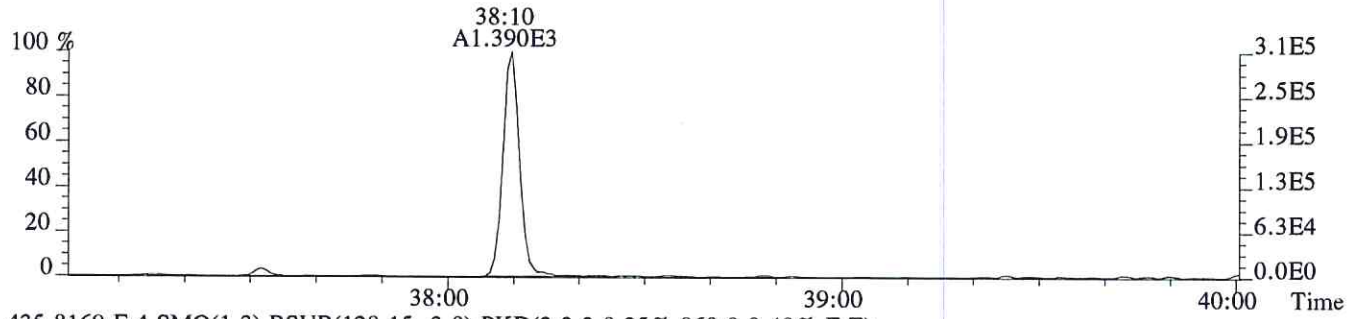
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



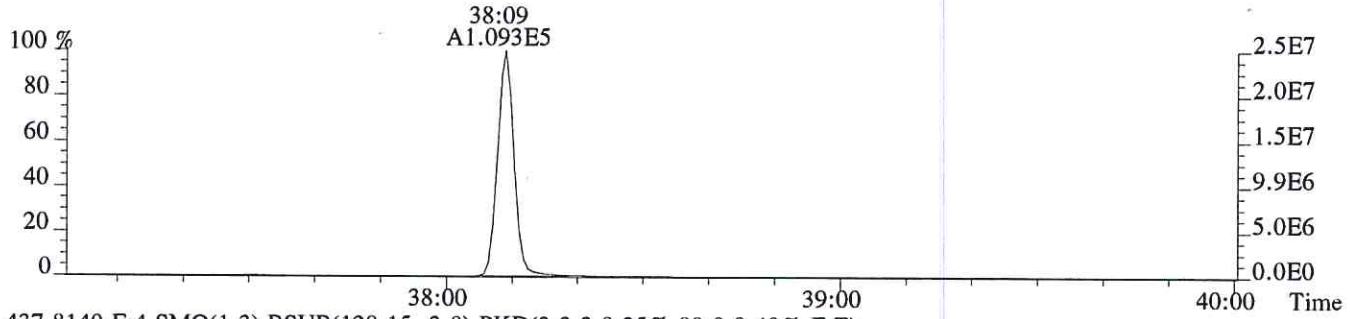
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1244.0,0.40%,F,T)



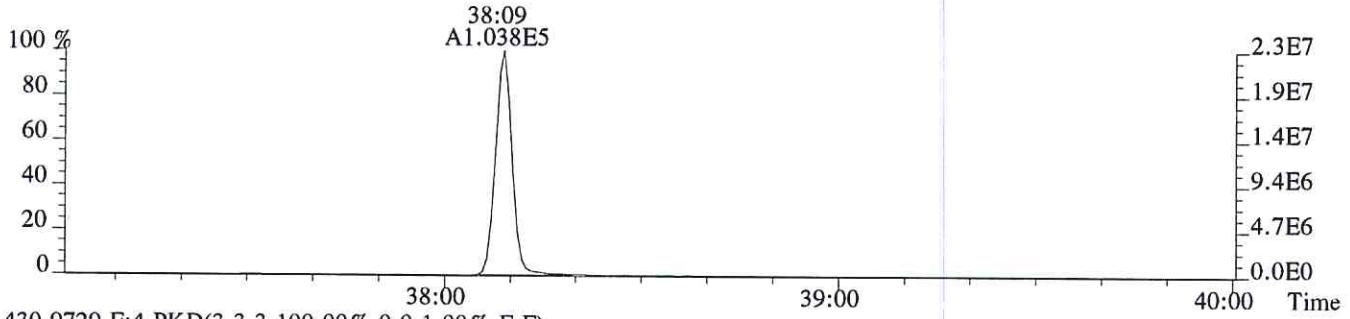
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



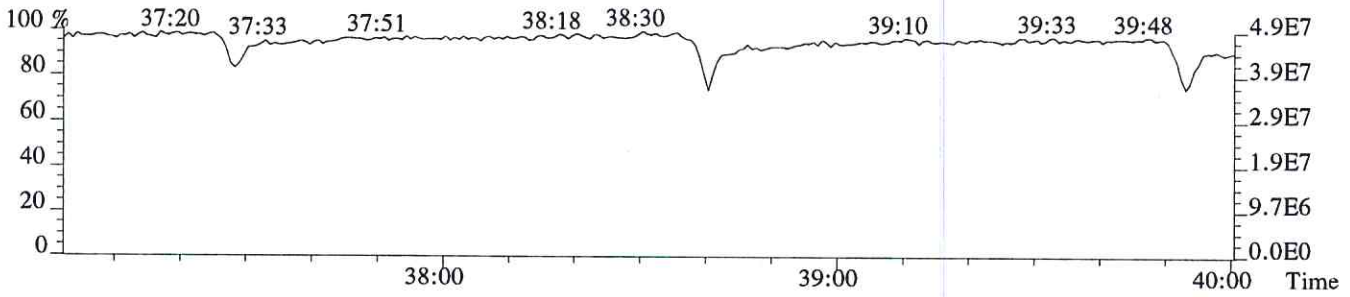
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



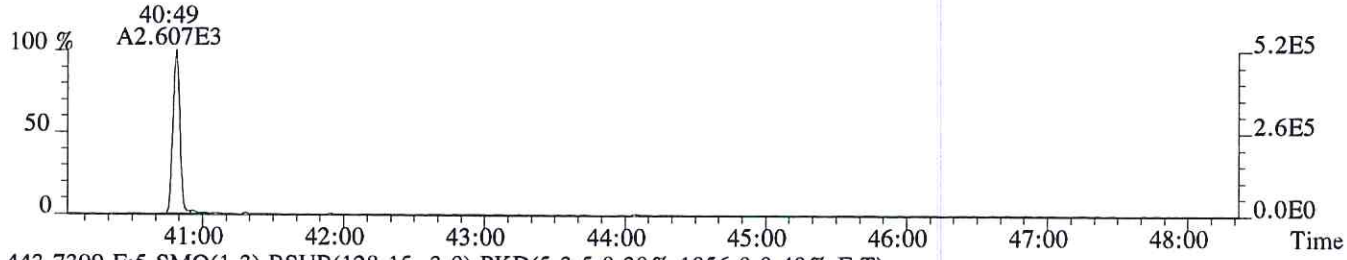
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,T)



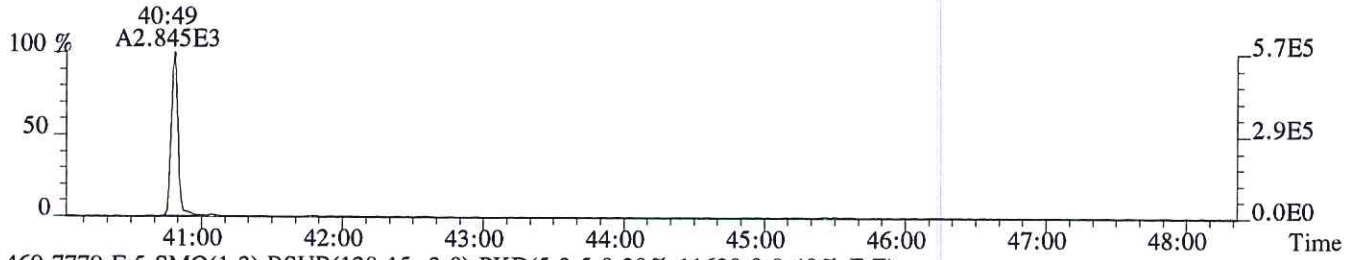
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



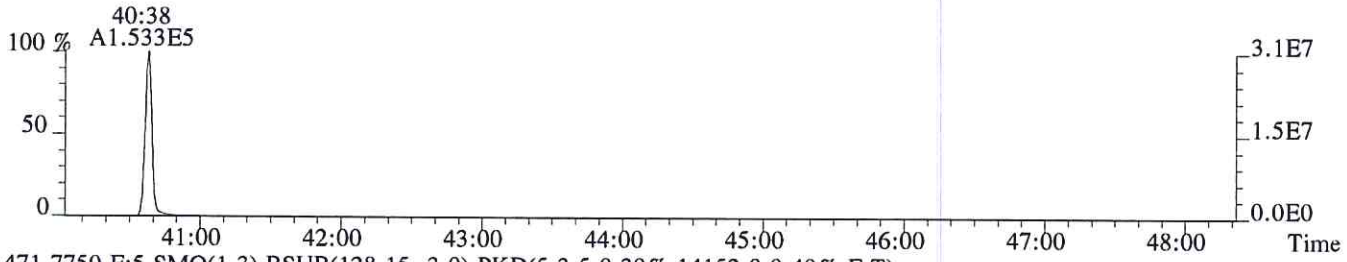
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1444.0,0.40%,F,T)



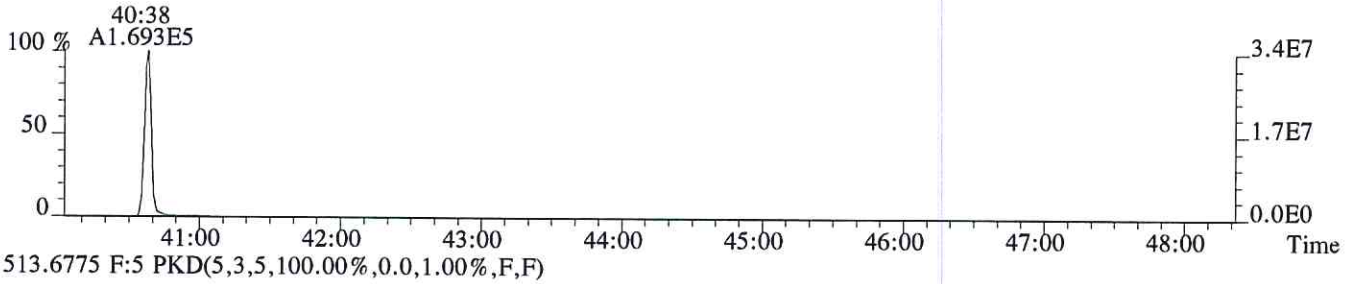
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)



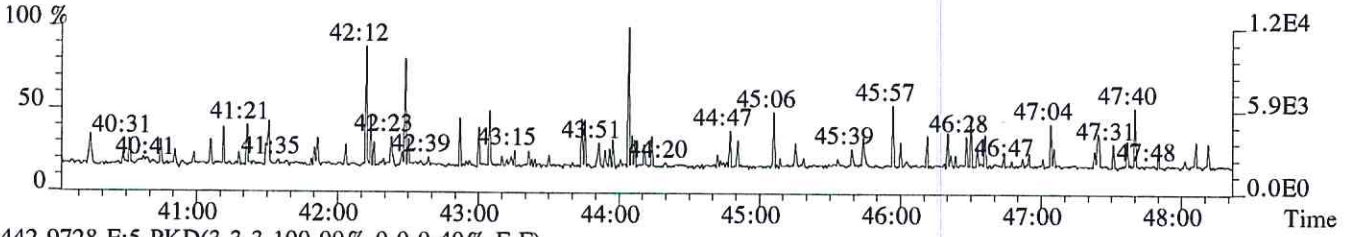
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



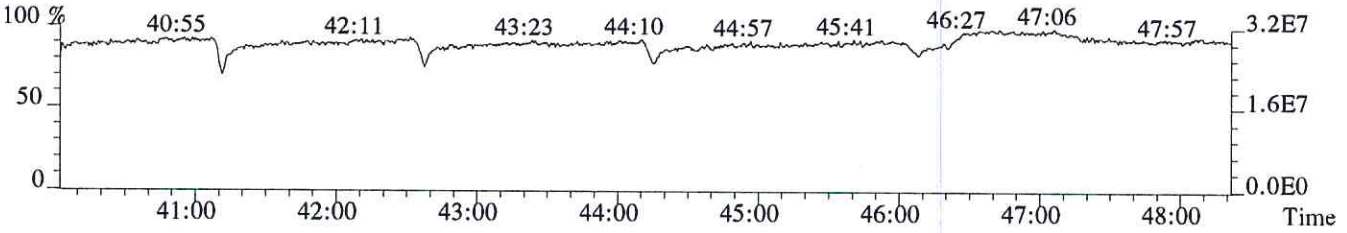
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14152.0,0.40%,F,T)



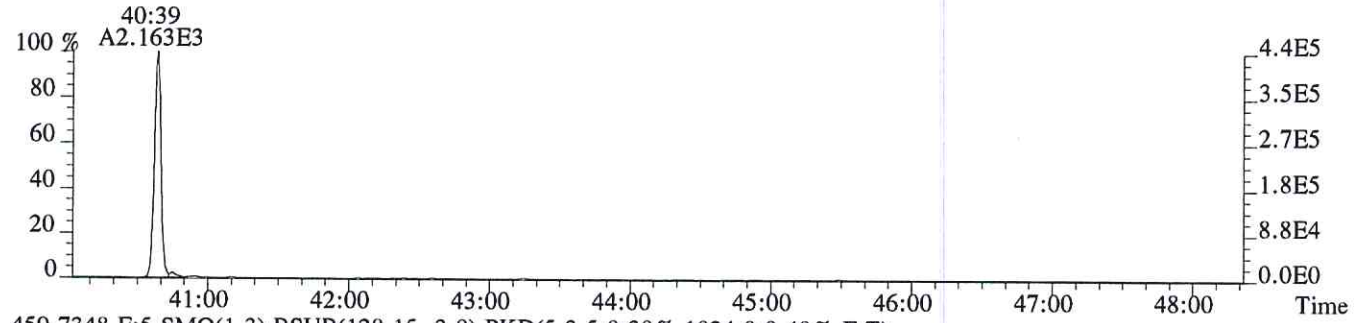
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



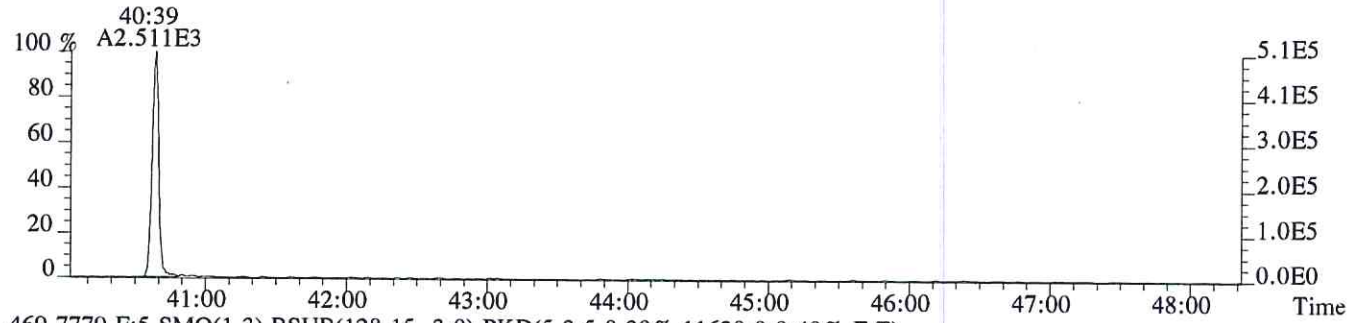
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



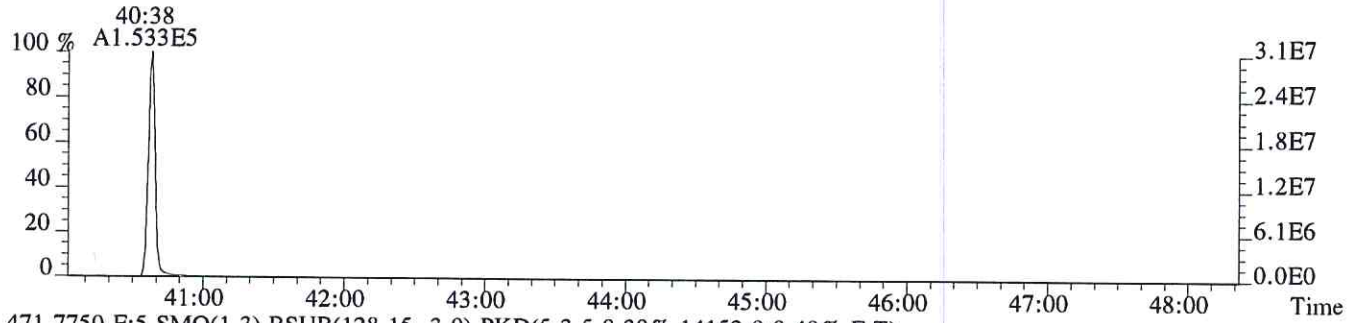
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1188.0,0.40%,F,T)



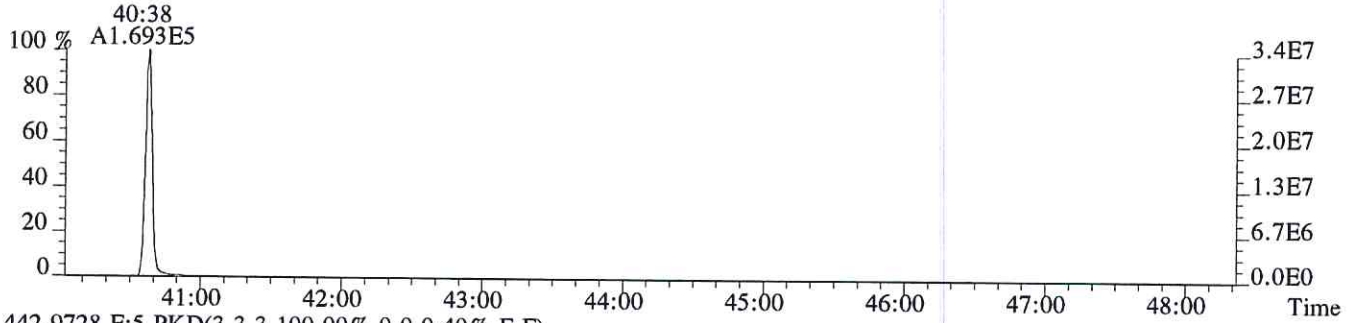
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



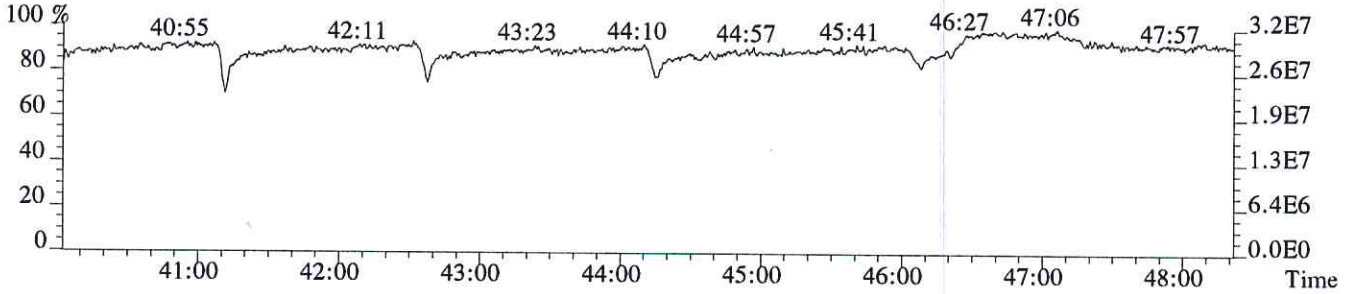
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14152.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76555

Run #2 Filename P607180 Samp: 1 Inj: 1 Acquired: 16-MAY-17 13:34:34
Processed: 17-MAY-17 07:52:56 Sample ID: CS1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.786e+02	3.646e+02	0.76	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	2.490e+03	1.570e+03	1.59	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	2.370e+03	1.545e+03	1.53	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	2.374e+03	1.865e+03	1.27	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	2.670e+03	2.147e+03	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	2.455e+03	1.954e+03	1.26	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	2.330e+03	1.873e+03	1.24	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	2.238e+03	2.152e+03	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	2.053e+03	2.035e+03	1.01	yes	no	1.341
10	Unk	OCDF	40:49	3.280e+03	3.524e+03	0.93	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:51	1.782e+02	2.485e+02	0.72	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:03	1.664e+03	1.126e+03	1.48	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	1.789e+03	1.465e+03	1.22	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	1.764e+03	1.289e+03	1.37	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.938e+03	1.524e+03	1.27	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	1.569e+03	1.570e+03	1.00	yes	no	1.048
17	Unk	OCDD	40:38	2.717e+03	3.114e+03	0.87	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	4.990e+04	6.337e+04	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	8.786e+04	5.655e+04	1.55	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	9.173e+04	5.802e+04	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	4.455e+04	8.504e+04	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	5.401e+04	1.016e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:12	4.976e+04	9.392e+04	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	4.440e+04	8.453e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	3.779e+04	8.379e+04	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	3.547e+04	7.849e+04	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	3.670e+04	4.659e+04	0.79	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	6.637e+04	4.219e+04	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	6.455e+04	4.885e+04	1.32	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:26	6.037e+04	5.044e+04	1.20	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	6.052e+04	5.673e+04	1.07	yes	no	0.884
32	IS	13C-OCDD	40:38	9.024e+04	1.011e+05	0.89	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	3.824e+04	4.842e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	6.677e+04	5.455e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:51	4.878e+02				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76555

Run #2 Filename P607180 Samp: 1 Inj: 1 Acquired: 16-MAY-17 13:34:34
Processed: 17-MAY-17 07:52:56 LAB. ID: CS1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.27e+04	2.64e+02	1.6e+02	5.58e+04	7.92e+02	7.0e+01
2	1,2,3,7,8-PeCDF	4.34e+05	1.64e+02	2.6e+03	2.59e+05	1.50e+03	1.7e+02
3	2,3,4,7,8-PeCDF	4.55e+05	1.64e+02	2.8e+03	2.71e+05	1.50e+03	1.8e+02
4	1,2,3,4,7,8-HxCDF	4.97e+05	1.05e+03	4.7e+02	3.90e+05	3.76e+02	1.0e+03
5	1,2,3,6,7,8-HxCDF	5.20e+05	1.05e+03	5.0e+02	4.62e+05	3.76e+02	1.2e+03
6	2,3,4,6,7,8-HxCDF	5.19e+05	1.05e+03	4.9e+02	4.02e+05	3.76e+02	1.1e+03
7	1,2,3,7,8,9-HxCDF	4.90e+05	1.05e+03	4.7e+02	3.90e+05	3.76e+02	1.0e+03
8	1,2,3,4,6,7,8-HpCDF	5.13e+05	6.96e+02	7.4e+02	4.88e+05	1.80e+02	2.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.74e+05	6.96e+02	6.8e+02	4.47e+05	1.80e+02	2.5e+03
10	OCDF	6.47e+05	8.96e+02	7.2e+02	6.88e+05	2.94e+03	2.3e+02
11	2,3,7,8-TCDD	2.98e+04	1.60e+03	1.9e+01	3.48e+04	2.28e+02	1.5e+02
12	1,2,3,7,8-PeCDD	3.08e+05	1.32e+03	2.3e+02	1.95e+05	8.16e+02	2.4e+02
13	1,2,3,4,7,8-HxCDD	3.67e+05	2.64e+02	1.4e+03	3.10e+05	3.04e+02	1.0e+03
14	1,2,3,6,7,8-HxCDD	3.64e+05	2.64e+02	1.4e+03	2.81e+05	3.04e+02	9.3e+02
15	1,2,3,7,8,9-HxCDD	4.07e+05	2.64e+02	1.5e+03	3.23e+05	3.04e+02	1.1e+03
16	1,2,3,4,6,7,8-HpCDD	3.70e+05	2.24e+02	1.7e+03	3.50e+05	3.08e+02	1.1e+03
17	OCDD	5.36e+05	1.18e+03	4.5e+02	6.01e+05	1.90e+03	3.2e+02
18	13C-2,3,7,8-TCDF	7.25e+06	1.24e+04	5.8e+02	9.21e+06	7.56e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	1.52e+07	1.28e+02	1.2e+05	9.81e+06	5.20e+02	1.9e+04
20	13C-2,3,4,7,8-PeCDF	1.70e+07	1.28e+02	1.3e+05	1.06e+07	5.20e+02	2.0e+04
21	13C-1,2,3,4,7,8-HxCDF	9.35e+06	1.36e+02	6.9e+04	1.78e+07	1.42e+03	1.3e+04
22	13C-1,2,3,6,7,8-HxCDF	1.12e+07	1.36e+02	8.2e+04	2.12e+07	1.42e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.05e+07	1.36e+02	7.7e+04	2.00e+07	1.42e+03	1.4e+04
24	13C-1,2,3,7,8,9-HxCDF	9.41e+06	1.36e+02	6.9e+04	1.78e+07	1.42e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.51e+06	5.36e+03	1.6e+03	1.88e+07	1.84e+04	1.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	7.61e+06	5.36e+03	1.4e+03	1.71e+07	1.84e+04	9.3e+02
27	13C-2,3,7,8-TCDD	5.65e+06	5.45e+03	1.0e+03	7.28e+06	2.99e+03	2.4e+03
28	13C-1,2,3,7,8-PeCDD	1.25e+07	1.41e+03	8.9e+03	7.89e+06	2.44e+02	3.2e+04
29	13C-1,2,3,4,7,8-HxCDD	1.35e+07	2.38e+03	5.6e+03	1.05e+07	8.96e+02	1.2e+04
30	13C-1,2,3,6,7,8-HxCDD	1.26e+07	2.38e+03	5.3e+03	1.02e+07	8.96e+02	1.1e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.36e+07	1.74e+03	7.8e+03	1.26e+07	5.48e+02	2.3e+04
32	13C-OCDD	1.80e+07	5.16e+03	3.5e+03	2.00e+07	1.45e+04	1.4e+03
33	13C-1,2,3,4-TCDD	5.78e+06	5.45e+03	1.1e+03	7.37e+06	2.99e+03	2.5e+03
34	13C-1,2,3,7,8,9-HxCDD	1.45e+07	2.38e+03	6.1e+03	1.17e+07	8.96e+02	1.3e+04
35	37Cl-2,3,7,8-TCDD	7.87e+04	7.04e+02	1.1e+02			

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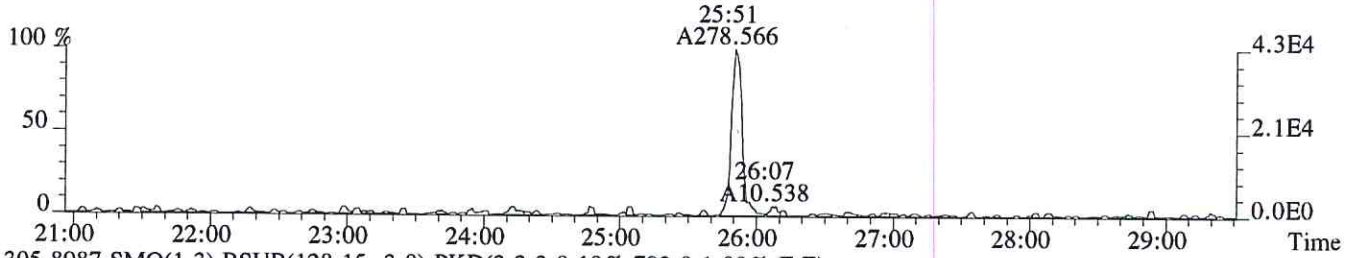
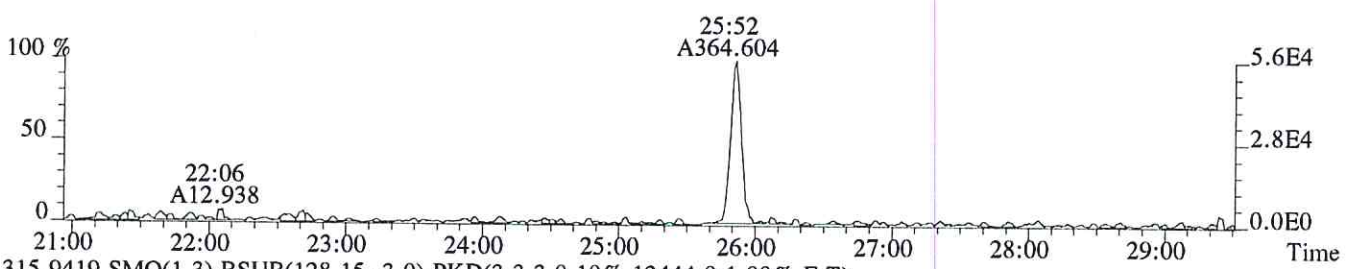
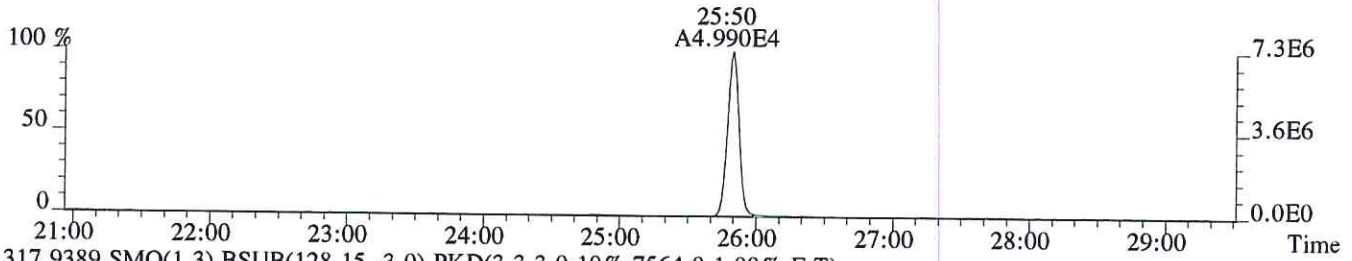
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



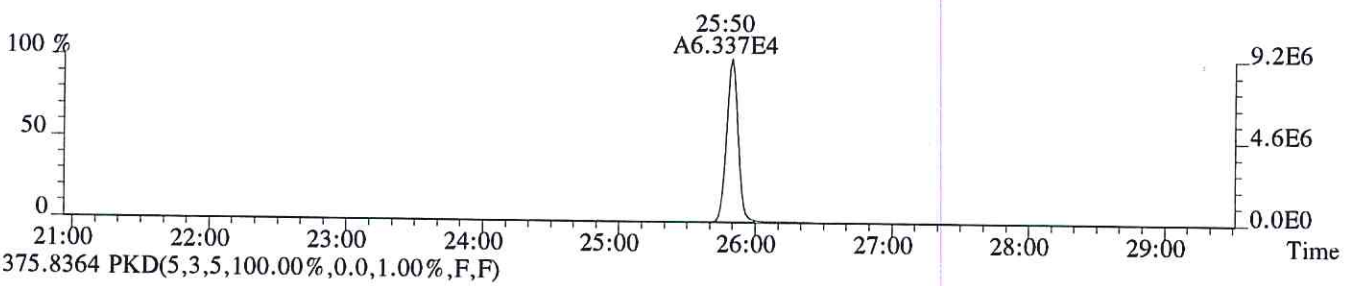
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



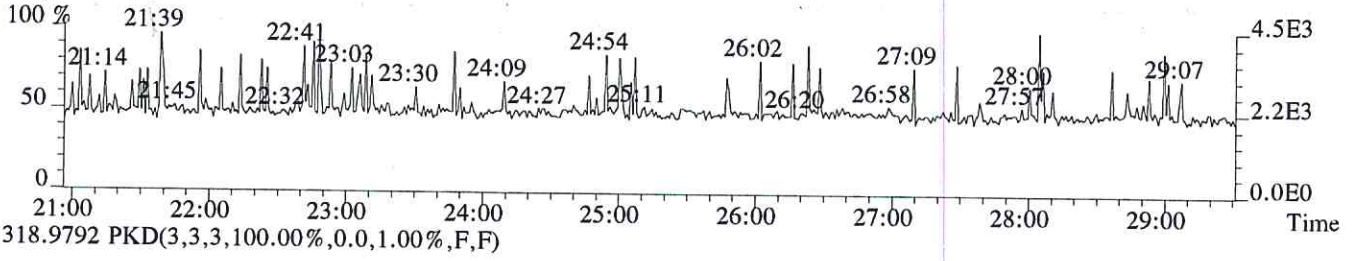
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12444.0,1.00%,F,T)



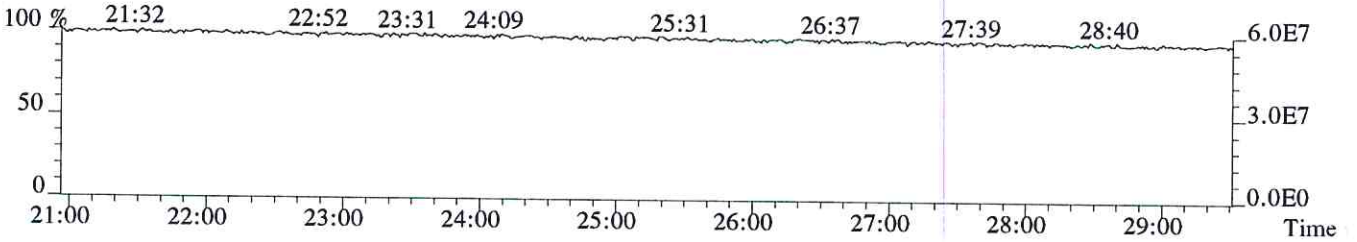
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7564.0,1.00%,F,T)



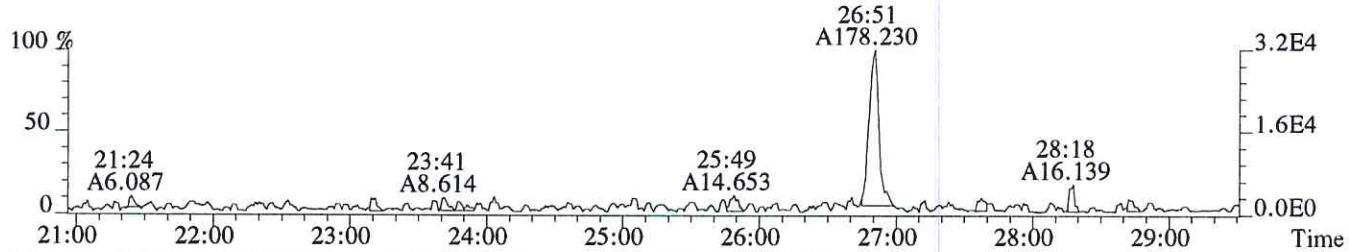
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



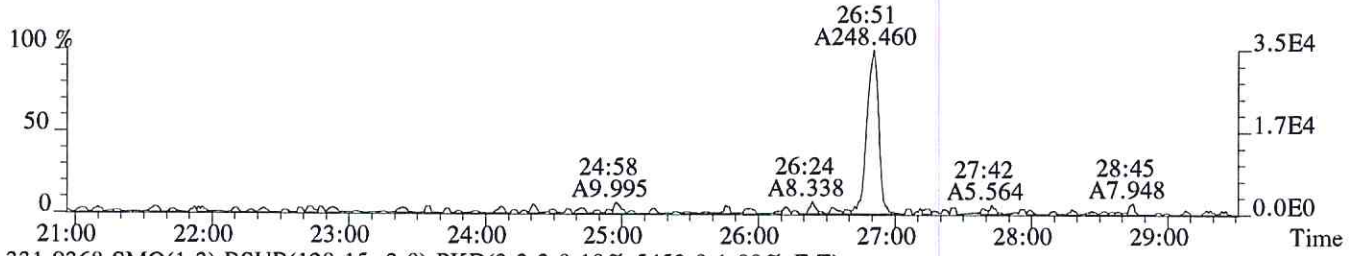
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



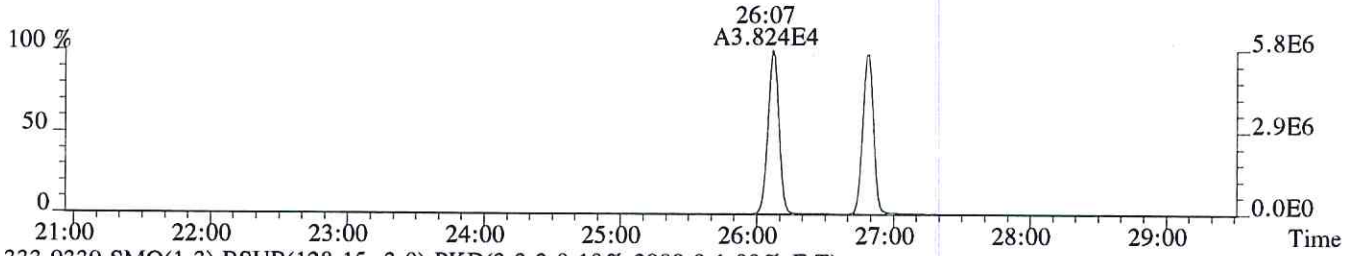
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



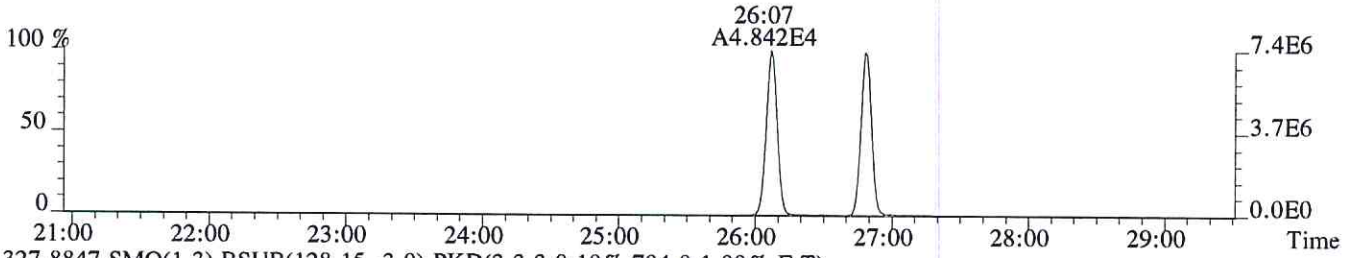
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



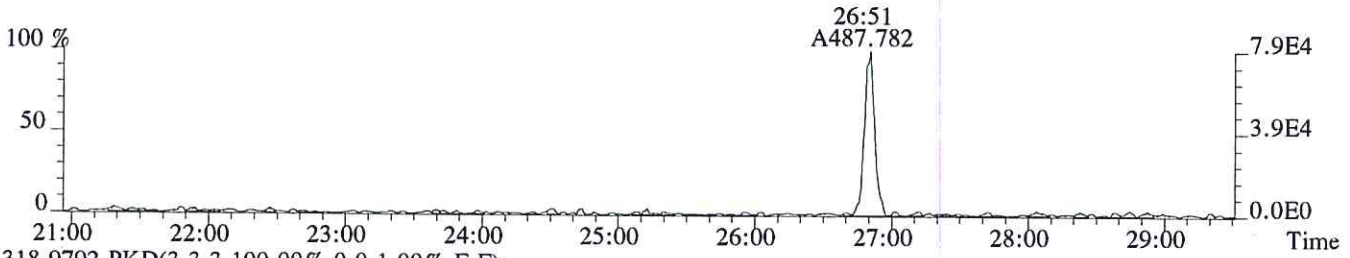
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5452.0,1.00%,F,T)



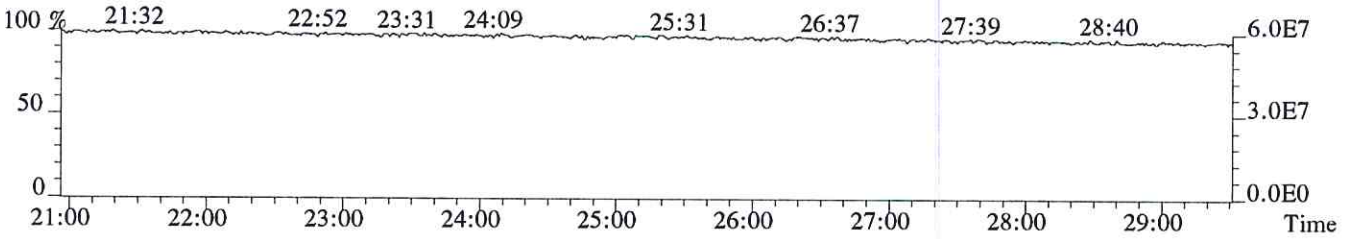
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



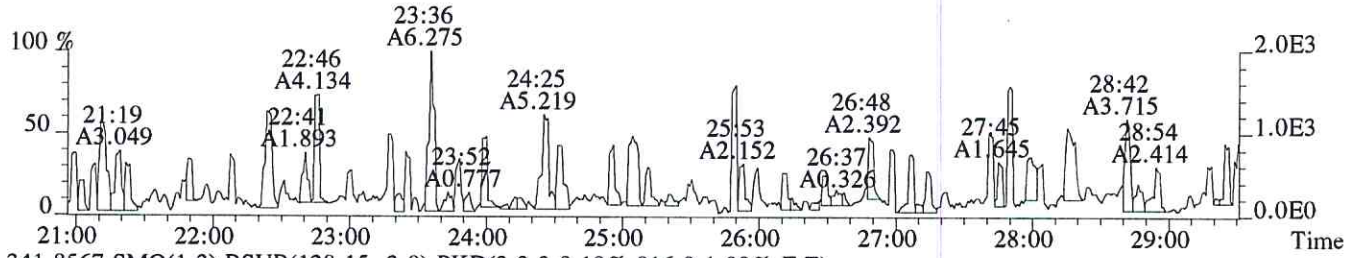
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



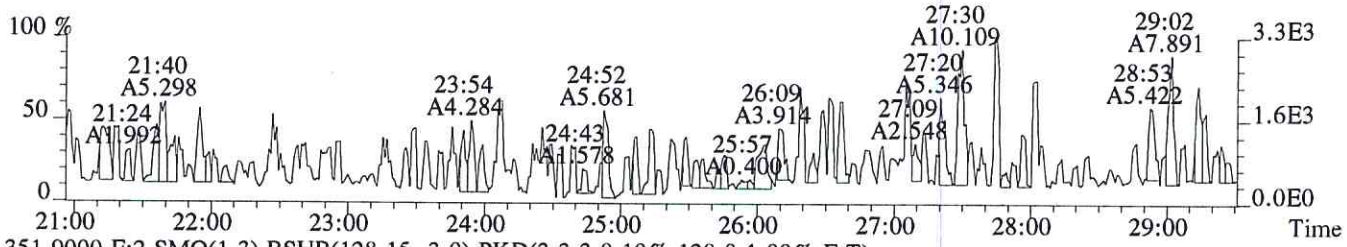
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



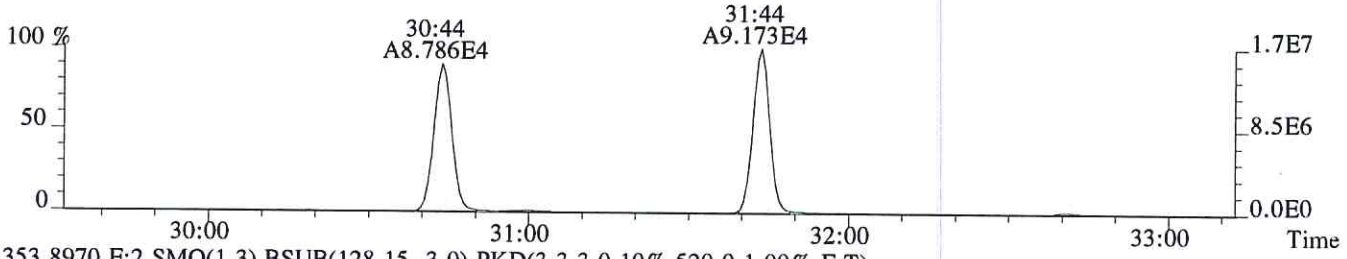
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



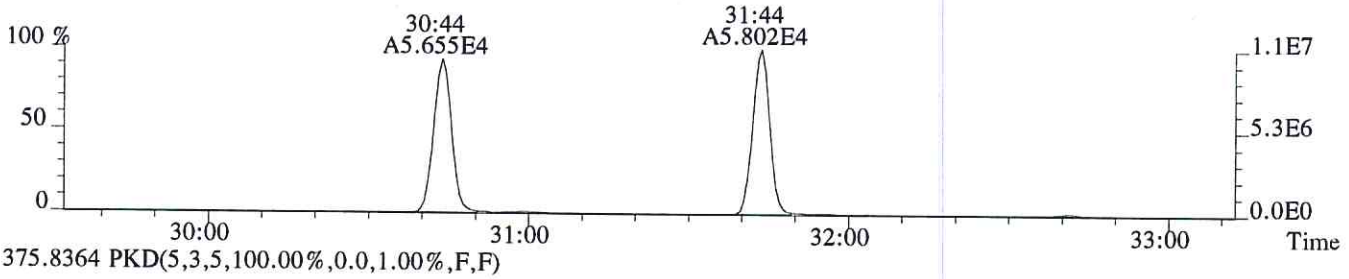
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



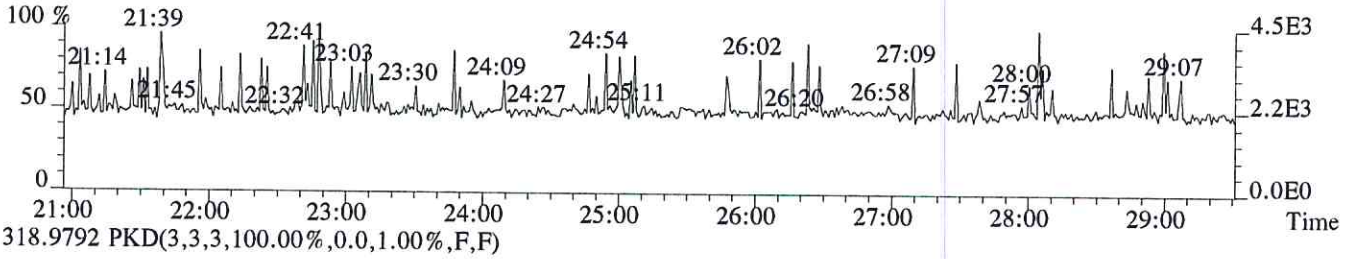
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



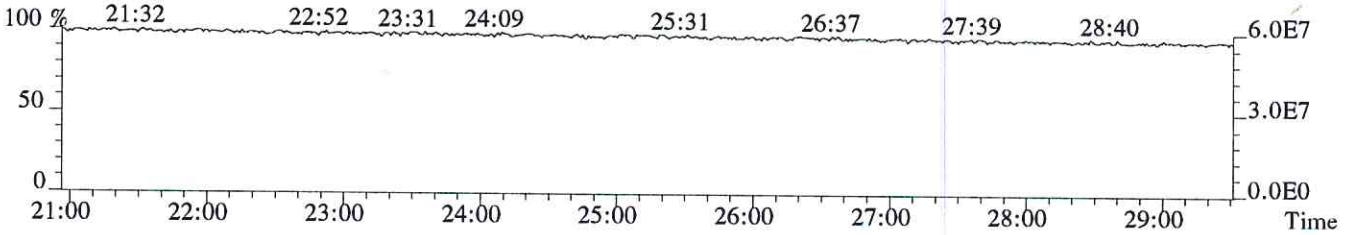
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



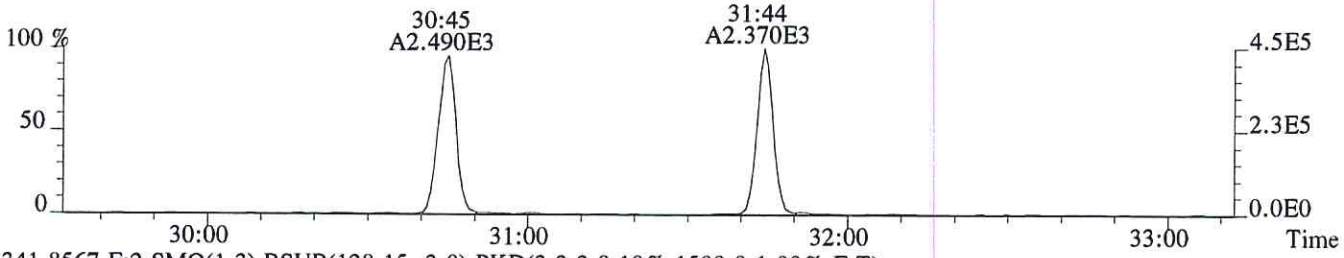
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



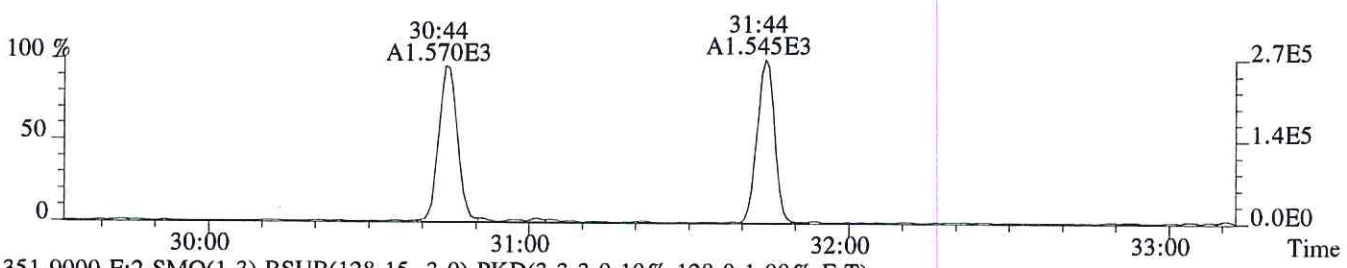
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



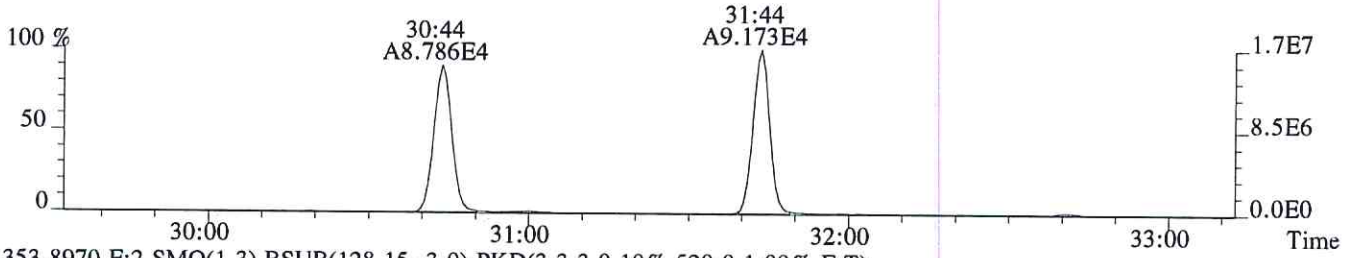
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,164.0,1.00%,F,T)



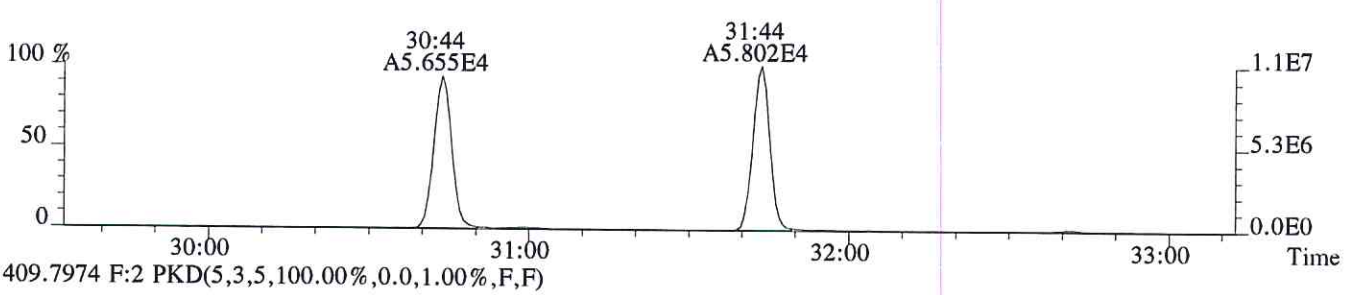
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



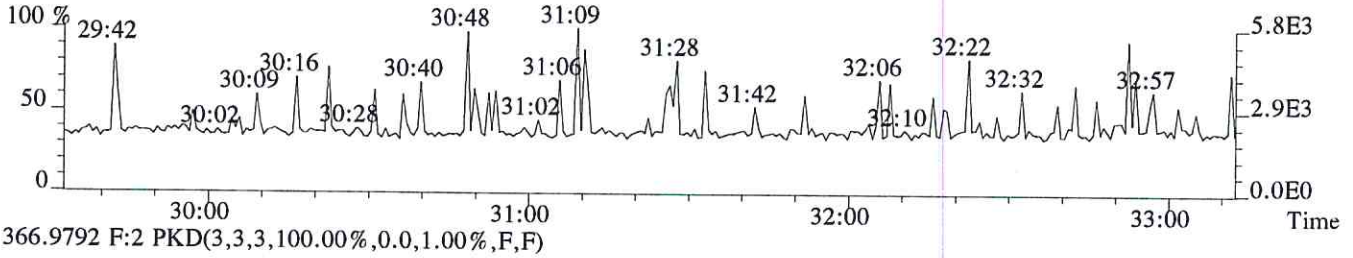
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



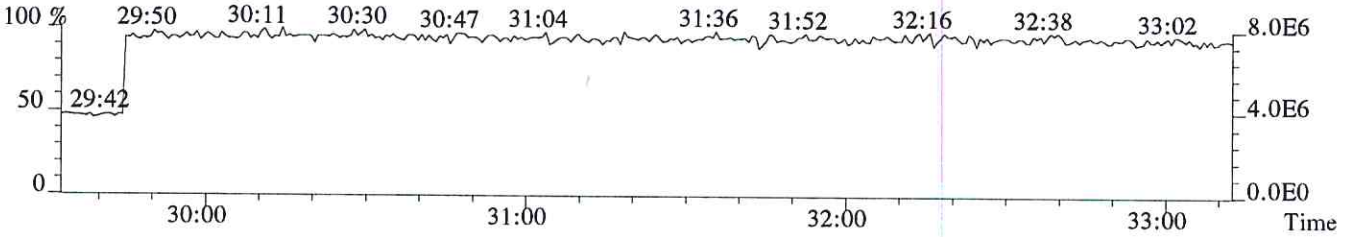
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



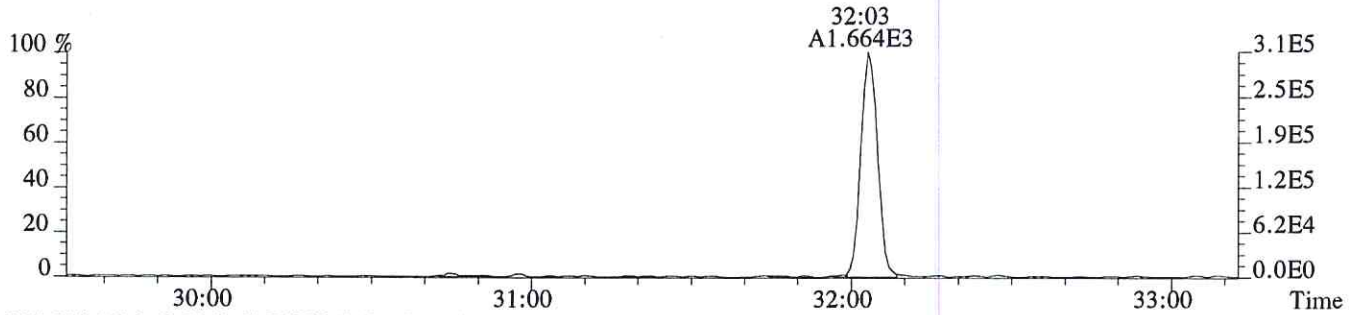
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



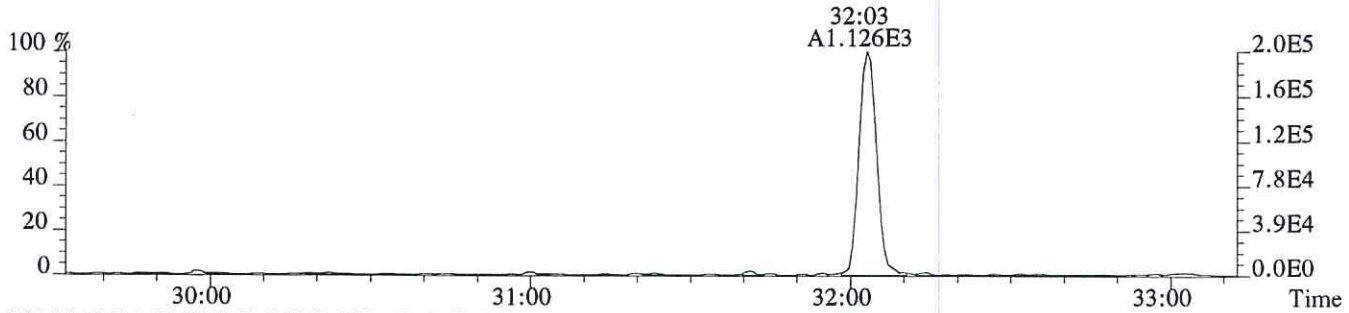
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



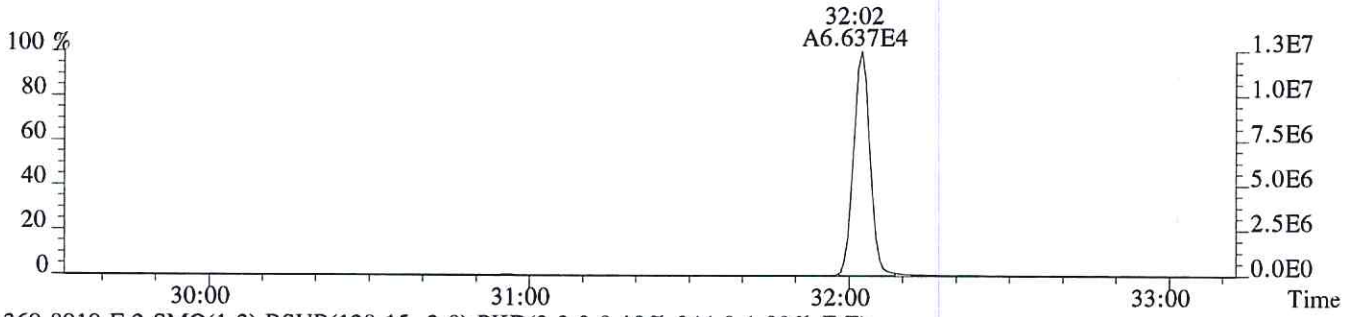
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



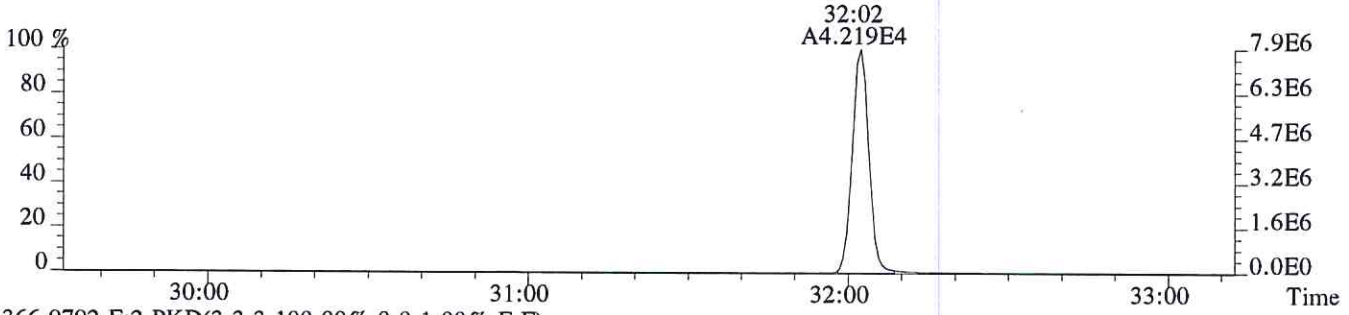
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



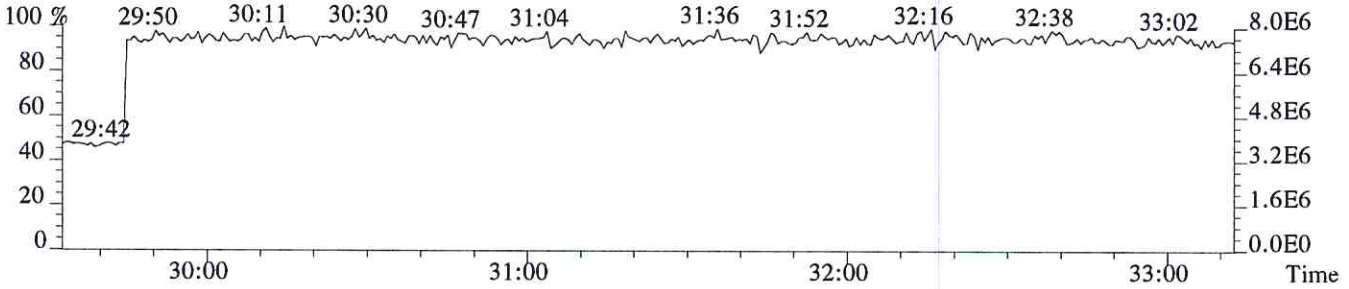
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



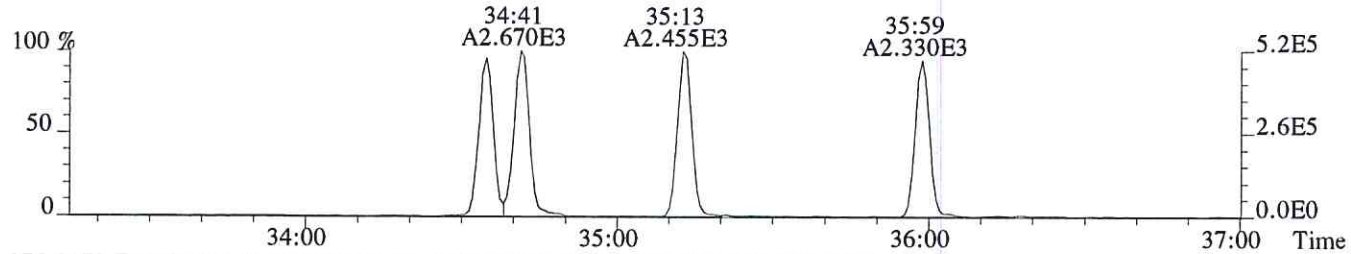
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



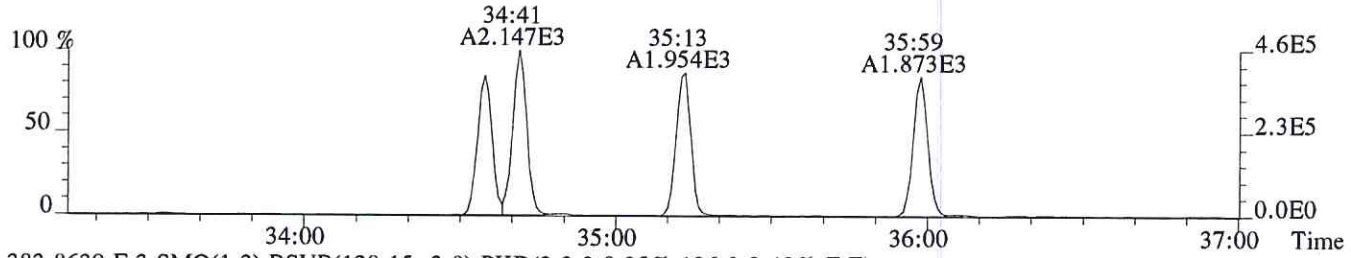
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



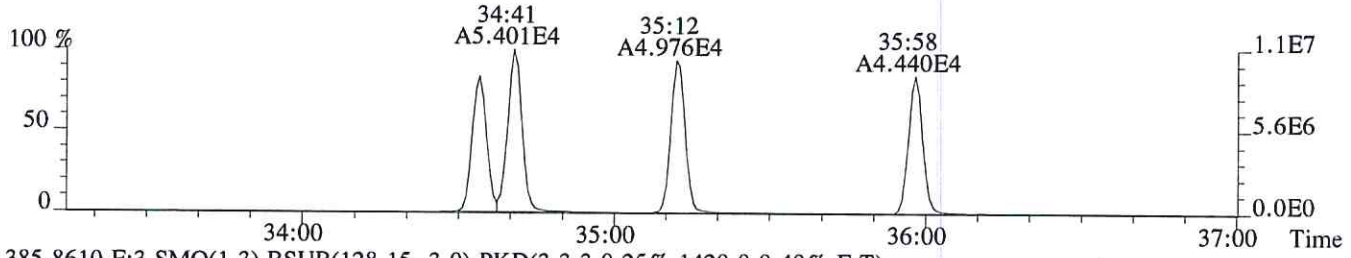
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



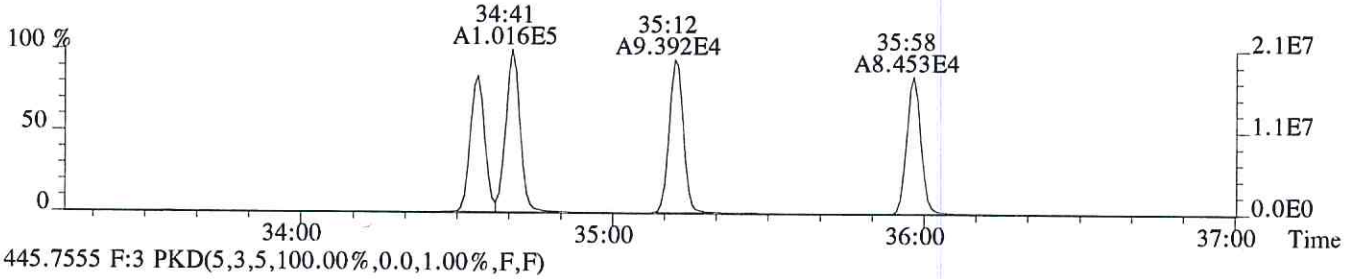
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



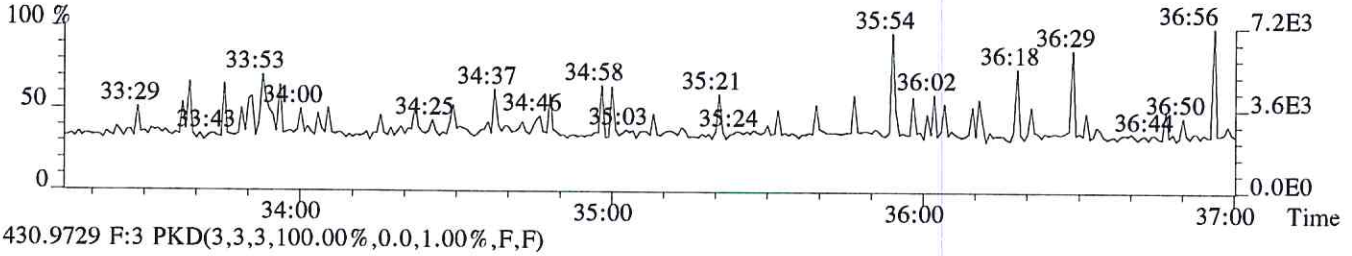
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



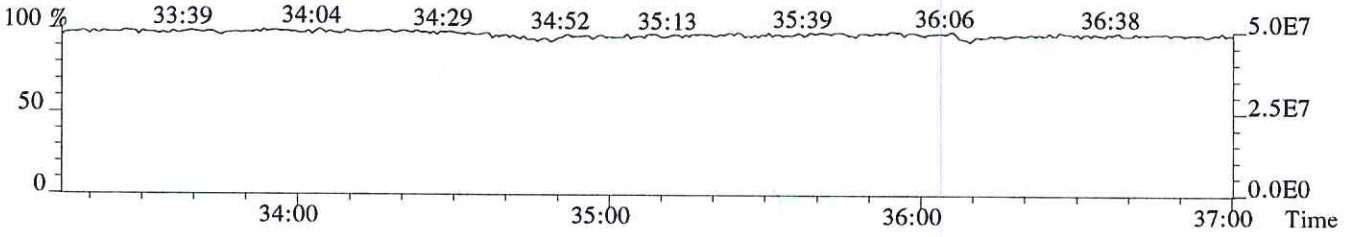
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,T)



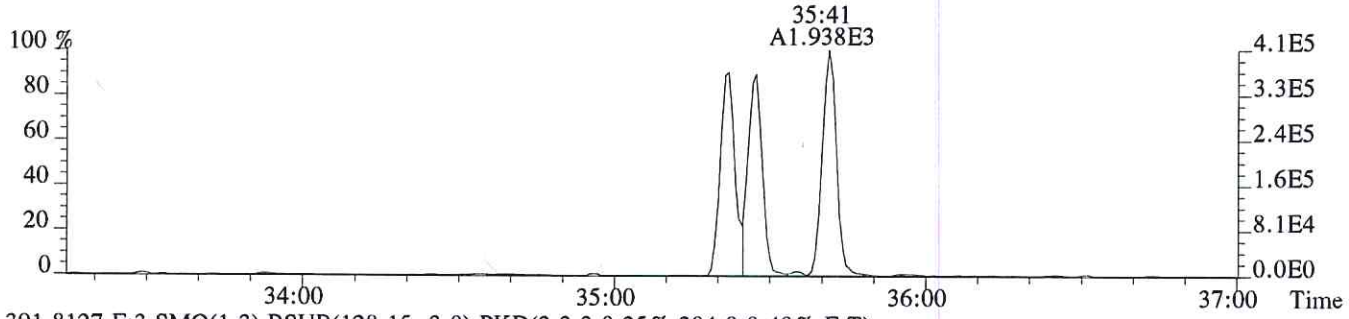
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



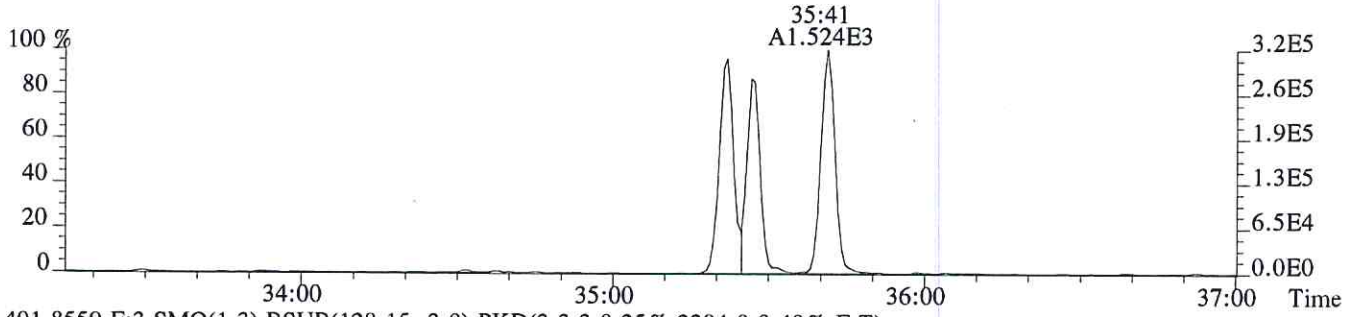
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



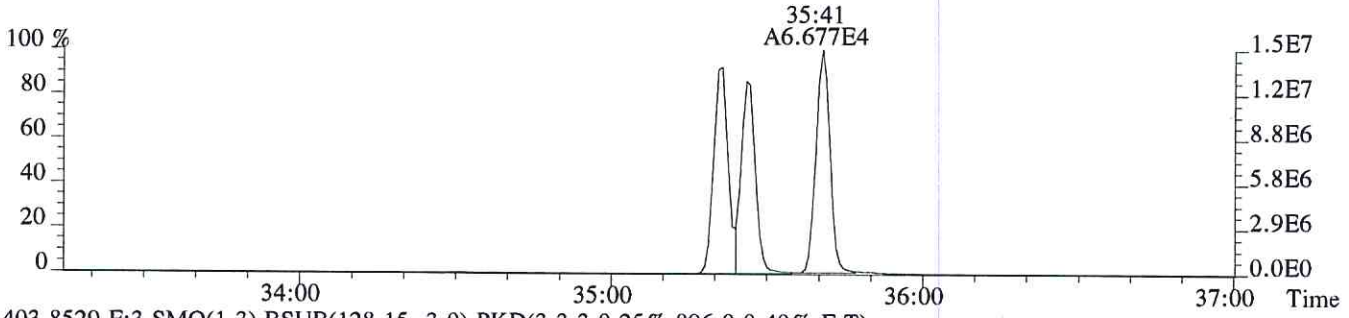
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,T)



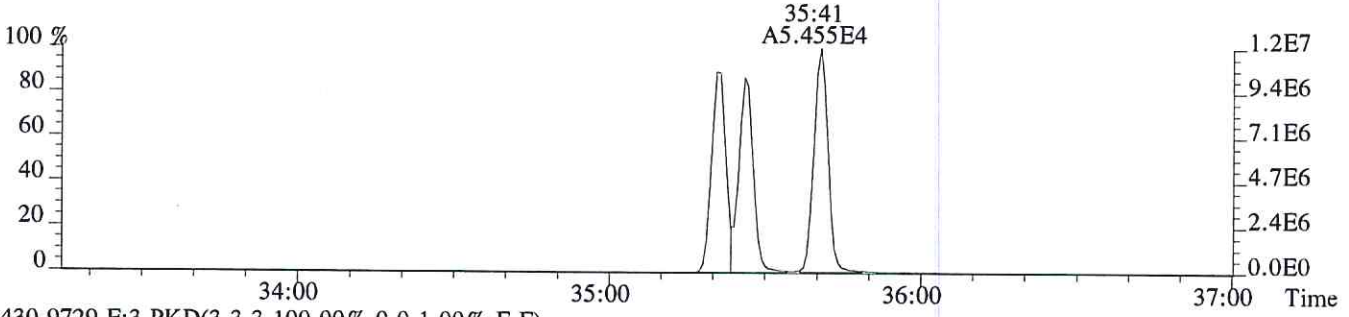
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



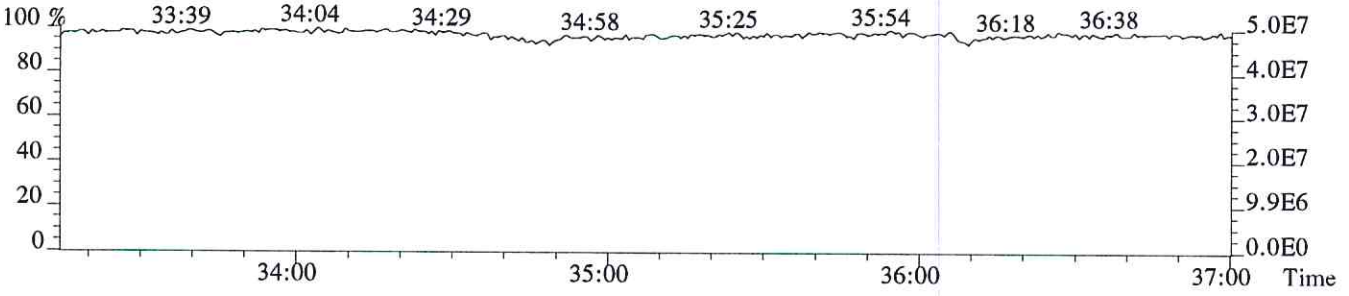
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2384.0,0.40%,F,T)



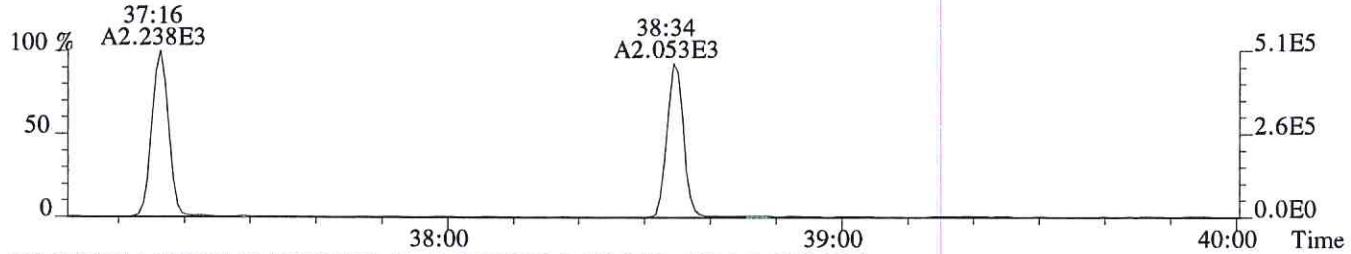
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



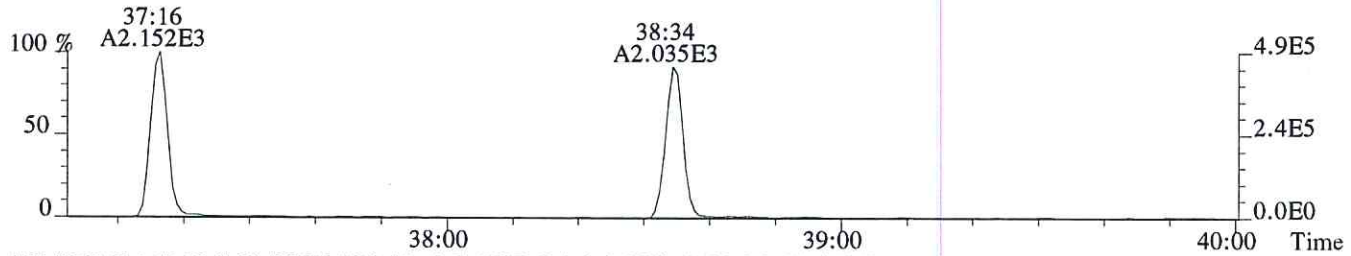
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



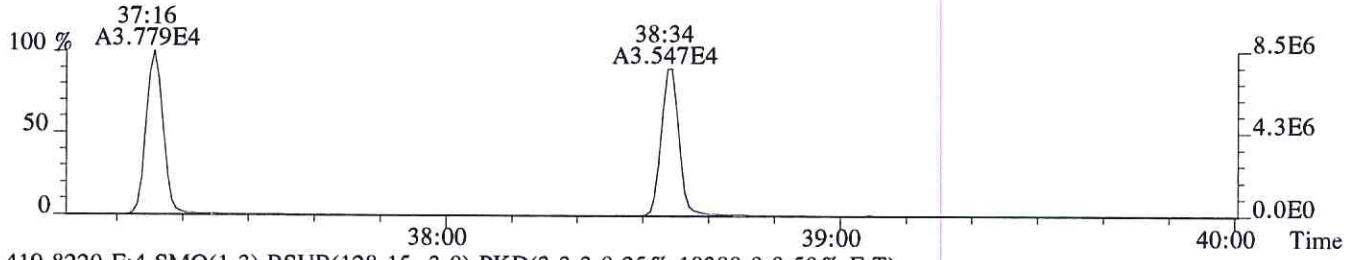
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.50%,F,T)



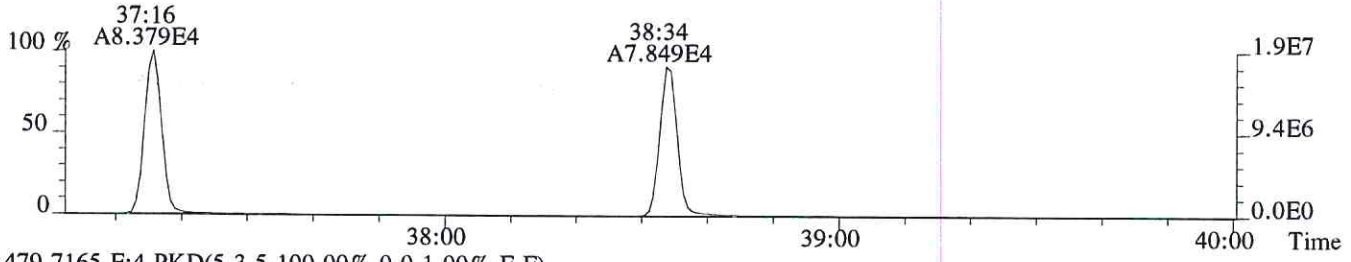
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.50%,F,T)



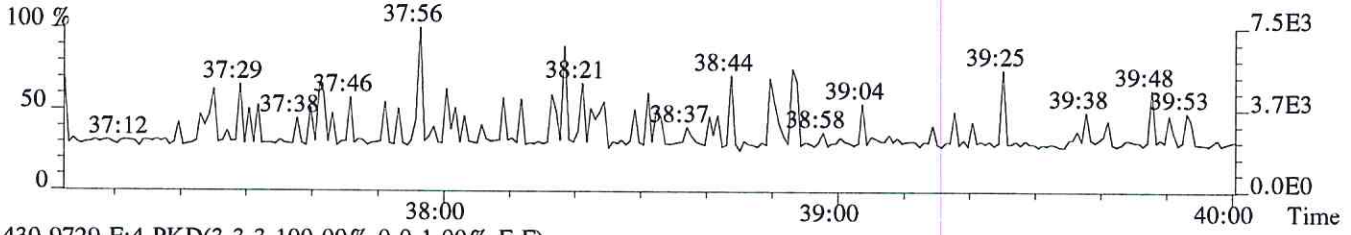
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5356.0,0.50%,F,T)



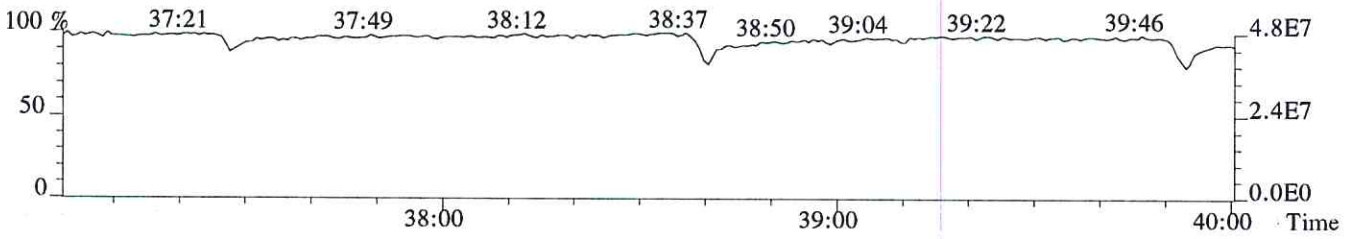
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18380.0,0.50%,F,T)



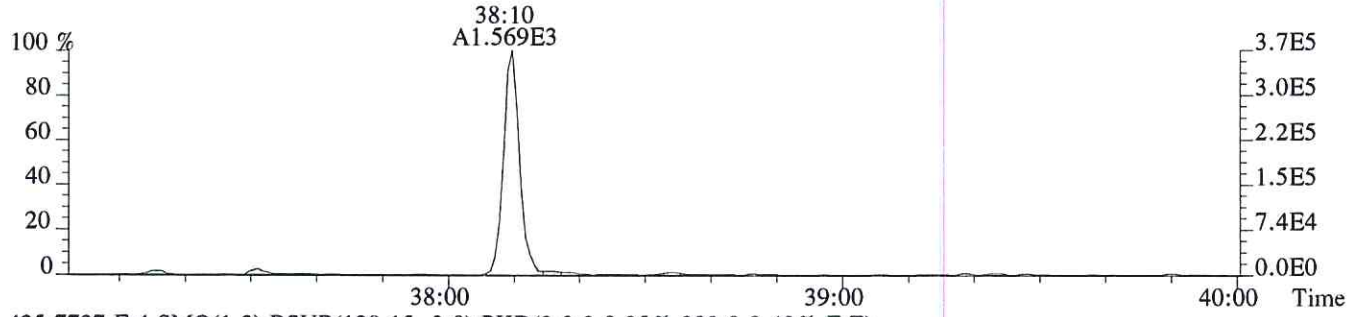
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



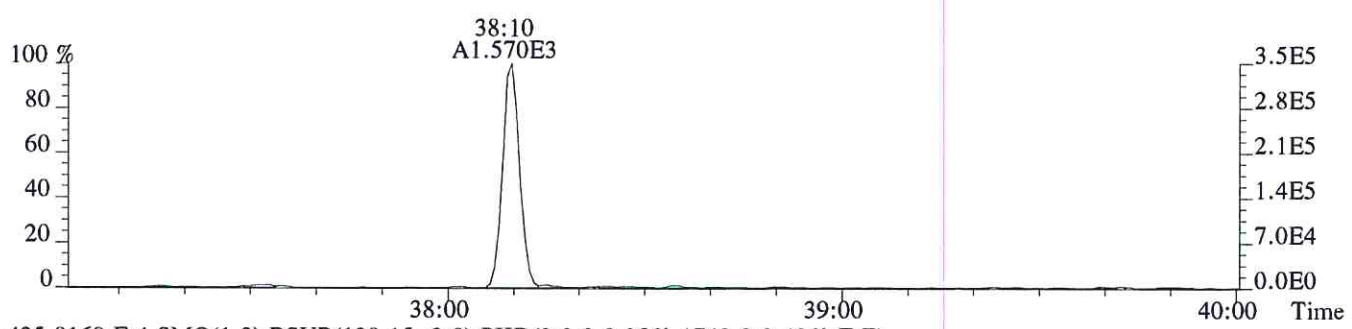
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



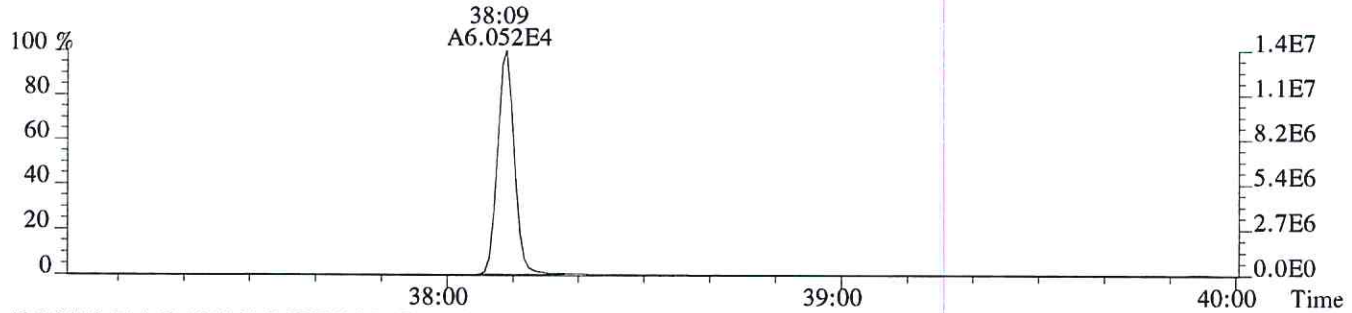
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



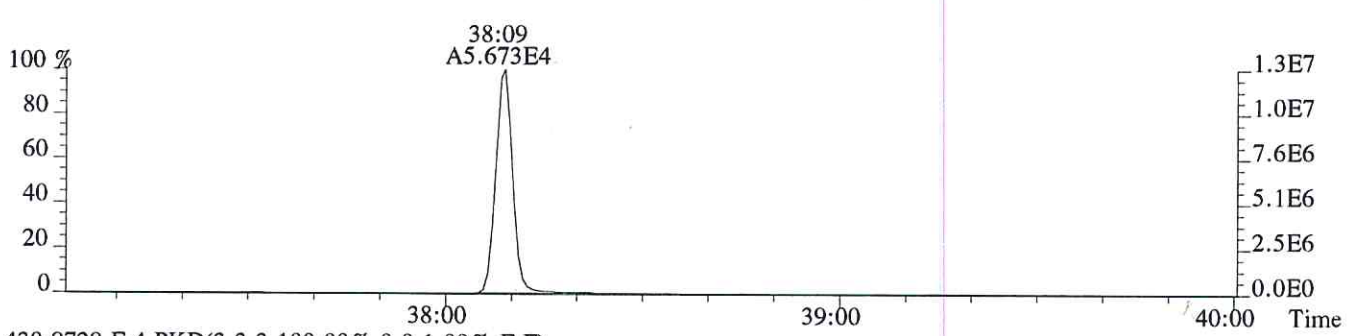
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



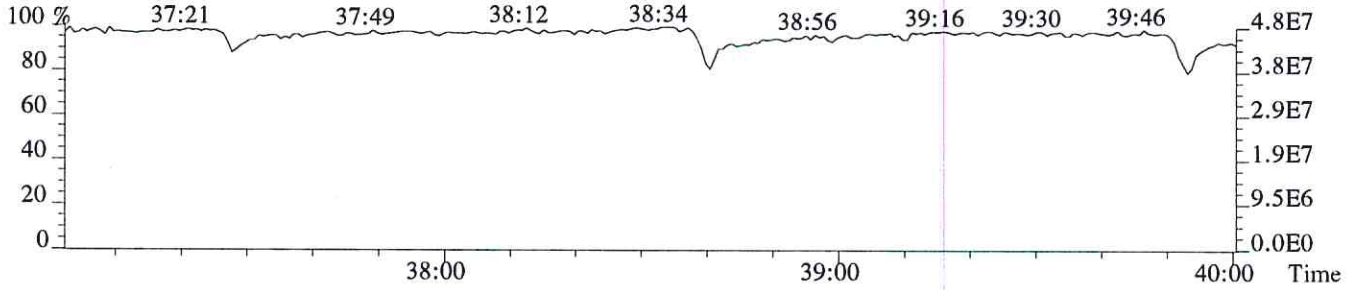
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



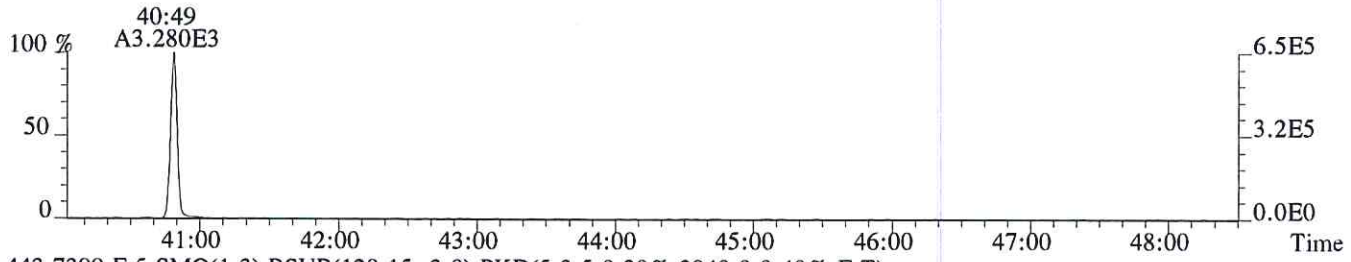
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



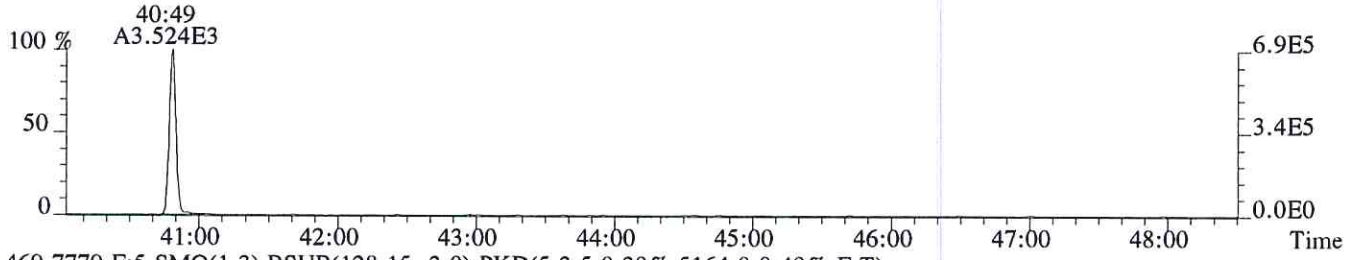
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



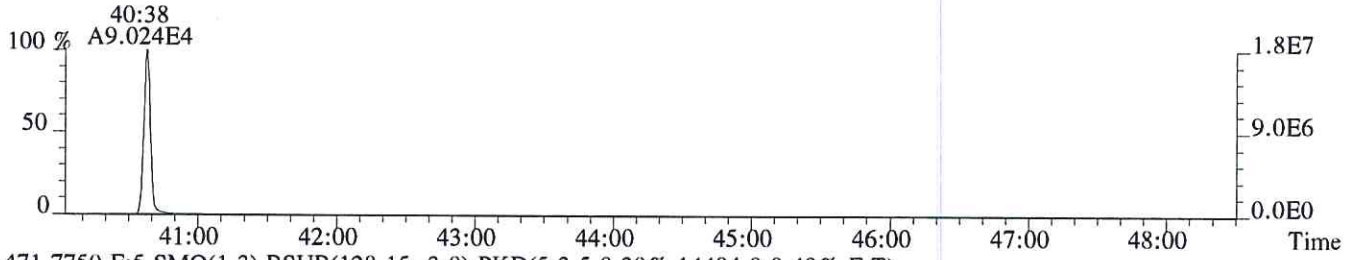
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,896.0,0.40%,F,T)



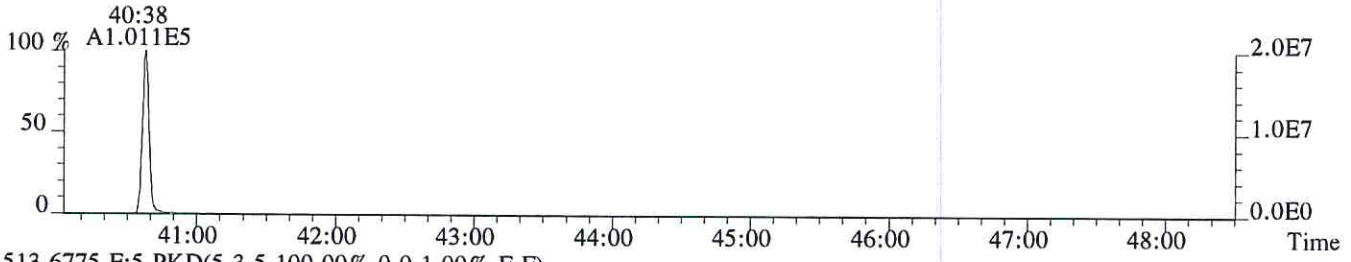
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2940.0,0.40%,F,T)



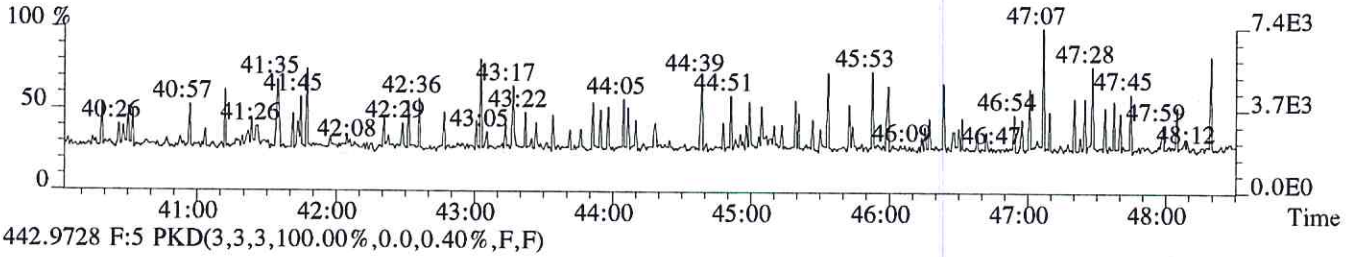
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



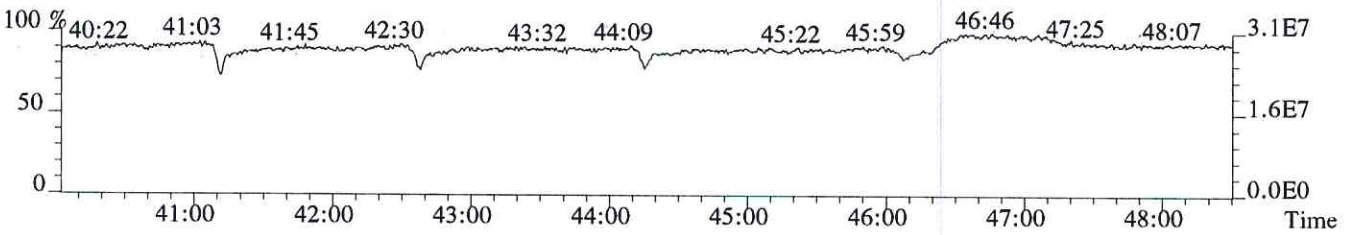
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14484.0,0.40%,F,T)



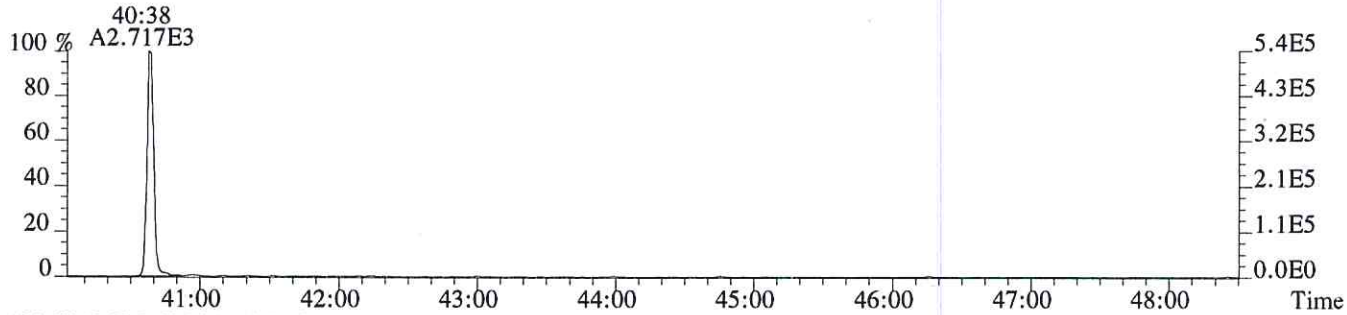
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



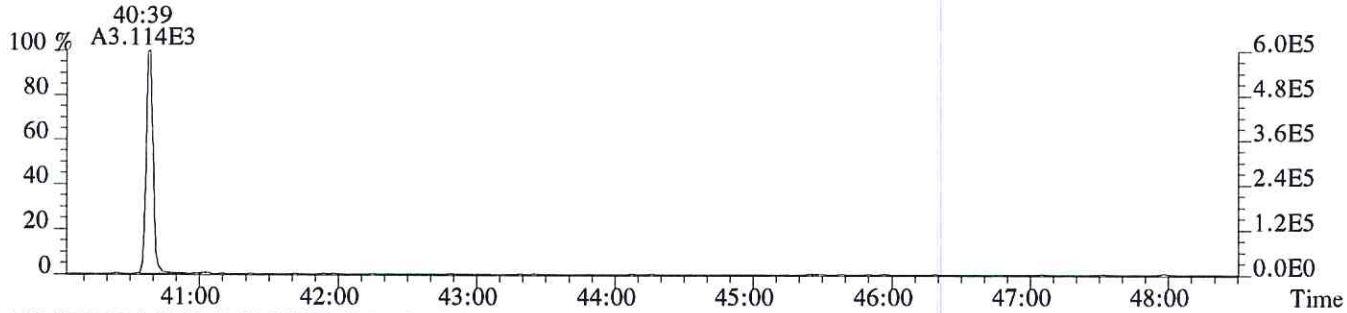
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



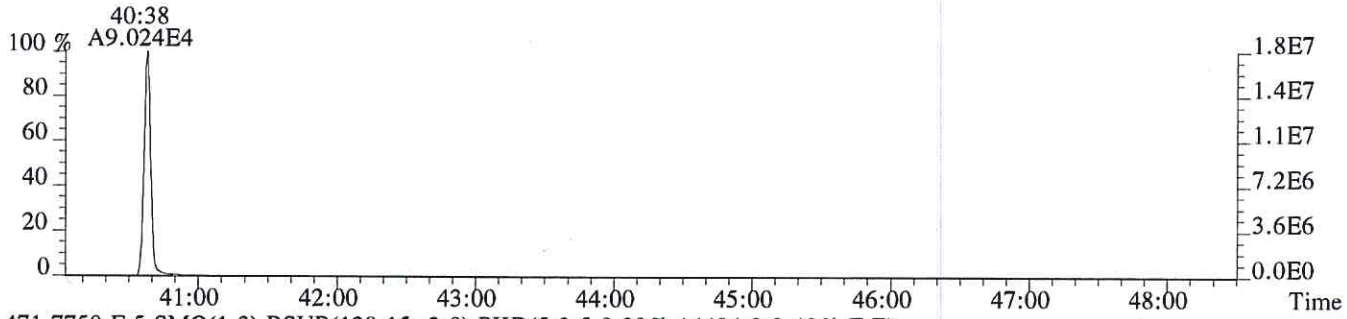
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



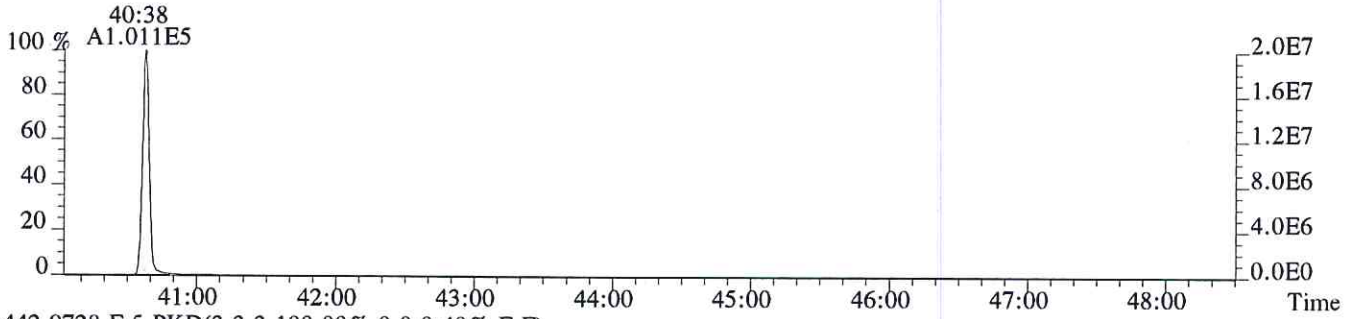
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1900.0,0.40%,F,T)



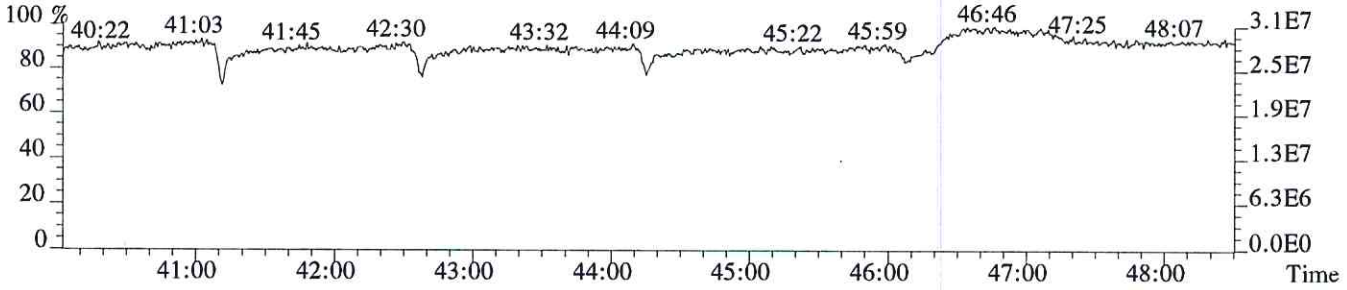
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14484.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76556

Run #3 Filename P607181 Samp: 1 Inj: 1 Acquired: 16-MAY-17 14:24:51
Processed: 17-MAY-17 07:52:57 Sample ID: CS2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.386e+03	3.044e+03	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	1.873e+04	1.205e+04	1.55	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.782e+04	1.132e+04	1.57	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	1.533e+04	1.224e+04	1.25	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.747e+04	1.410e+04	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	1.545e+04	1.279e+04	1.21	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	1.414e+04	1.119e+04	1.26	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	1.297e+04	1.250e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	1.081e+04	1.045e+04	1.03	yes	no	1.341
10	Unk	OCDF	40:49	1.570e+04	1.794e+04	0.88	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:51	1.912e+03	2.246e+03	0.85	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	1.230e+04	7.854e+03	1.57	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	1.103e+04	8.554e+03	1.29	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	1.070e+04	8.425e+03	1.27	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.163e+04	9.448e+03	1.23	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	9.034e+03	8.697e+03	1.04	yes	no	1.048
17	Unk	OCDD	40:39	1.332e+04	1.500e+04	0.89	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	1.182e+05	1.489e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	1.779e+05	1.120e+05	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	1.777e+05	1.118e+05	1.59	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	7.429e+04	1.418e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	9.014e+04	1.714e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	8.320e+04	1.573e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	7.343e+04	1.393e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	5.629e+04	1.225e+05	0.46	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	4.930e+04	1.095e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	8.544e+04	1.066e+05	0.80	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	1.268e+05	8.063e+04	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.036e+05	8.176e+04	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	1.018e+05	8.041e+04	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	8.739e+04	8.214e+04	1.06	yes	no	0.884
32	IS	13C-OCDD	40:38	1.177e+05	1.307e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	8.582e+04	1.086e+05	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	1.100e+05	8.941e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	4.153e+03				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76556

Run #3 Filename P607181 Samp: 1 Inj: 1 Acquired: 16-MAY-17 14:24:51
Processed: 17-MAY-17 07:52:57 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.41e+05	2.28e+02	1.5e+03	4.26e+05	1.24e+03	3.4e+02
2	1,2,3,7,8-PeCDF	3.23e+06	2.20e+02	1.5e+04	2.08e+06	1.54e+03	1.3e+03
3	2,3,4,7,8-PeCDF	3.32e+06	2.20e+02	1.5e+04	2.11e+06	1.54e+03	1.4e+03
4	1,2,3,4,7,8-HxCDF	3.21e+06	2.32e+02	1.4e+04	2.62e+06	2.96e+02	8.9e+03
5	1,2,3,6,7,8-HxCDF	3.44e+06	2.32e+02	1.5e+04	2.84e+06	2.96e+02	9.6e+03
6	2,3,4,6,7,8-HxCDF	3.22e+06	2.32e+02	1.4e+04	2.65e+06	2.96e+02	8.9e+03
7	1,2,3,7,8,9-HxCDF	2.95e+06	2.32e+02	1.3e+04	2.33e+06	2.96e+02	7.9e+03
8	1,2,3,4,6,7,8-HpCDF	2.95e+06	1.25e+03	2.4e+03	2.83e+06	2.92e+03	9.7e+02
9	1,2,3,4,7,8,9-HpCDF	2.35e+06	1.25e+03	1.9e+03	2.30e+06	2.92e+03	7.9e+02
10	OCDF	3.02e+06	1.31e+03	2.3e+03	3.47e+06	3.74e+03	9.3e+02
11	2,3,7,8-TCDD	2.89e+05	1.26e+03	2.3e+02	3.43e+05	2.48e+02	1.4e+03
12	1,2,3,7,8-PeCDD	2.38e+06	1.26e+03	1.9e+03	1.47e+06	9.68e+02	1.5e+03
13	1,2,3,4,7,8-HxCDD	2.37e+06	2.24e+02	1.1e+04	1.85e+06	2.52e+02	7.3e+03
14	1,2,3,6,7,8-HxCDD	2.25e+06	2.24e+02	1.0e+04	1.76e+06	2.52e+02	7.0e+03
15	1,2,3,7,8,9-HxCDD	2.46e+06	2.24e+02	1.1e+04	1.98e+06	2.52e+02	7.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.05e+06	1.36e+02	1.5e+04	1.98e+06	2.20e+02	9.0e+03
17	OCDD	2.63e+06	2.52e+03	1.0e+03	2.97e+06	2.03e+03	1.5e+03
18	13C-2,3,7,8-TCDF	1.71e+07	1.81e+04	9.5e+02	2.16e+07	6.03e+03	3.6e+03
19	13C-1,2,3,7,8-PeCDF	3.04e+07	7.72e+02	3.9e+04	1.93e+07	8.28e+02	2.3e+04
20	13C-2,3,4,7,8-PeCDF	3.31e+07	7.72e+02	4.3e+04	2.10e+07	8.28e+02	2.5e+04
21	13C-1,2,3,4,7,8-HxCDF	1.58e+07	2.96e+02	5.3e+04	2.99e+07	1.41e+03	2.1e+04
22	13C-1,2,3,6,7,8-HxCDF	1.80e+07	2.96e+02	6.1e+04	3.48e+07	1.41e+03	2.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.74e+07	2.96e+02	5.9e+04	3.26e+07	1.41e+03	2.3e+04
24	13C-1,2,3,7,8,9-HxCDF	1.55e+07	2.96e+02	5.2e+04	2.96e+07	1.41e+03	2.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.25e+07	1.31e+04	9.6e+02	2.77e+07	2.21e+04	1.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.08e+07	1.31e+04	8.3e+02	2.39e+07	2.21e+04	1.1e+03
27	13C-2,3,7,8-TCDD	1.36e+07	6.41e+03	2.1e+03	1.69e+07	3.18e+03	5.3e+03
28	13C-1,2,3,7,8-PeCDD	2.39e+07	9.08e+02	2.6e+04	1.52e+07	1.34e+03	1.1e+04
29	13C-1,2,3,4,7,8-HxCDD	2.26e+07	2.50e+03	9.0e+03	1.77e+07	7.20e+02	2.5e+04
30	13C-1,2,3,6,7,8-HxCDD	2.13e+07	2.50e+03	8.5e+03	1.67e+07	7.20e+02	2.3e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.98e+07	9.52e+02	2.1e+04	1.86e+07	1.94e+03	9.6e+03
32	13C-OCDD	2.37e+07	1.71e+04	1.4e+03	2.60e+07	8.06e+03	3.2e+03
33	13C-1,2,3,4-TCDD	1.30e+07	6.41e+03	2.0e+03	1.65e+07	3.18e+03	5.2e+03
34	13C-1,2,3,7,8,9-HxCDD	2.35e+07	2.50e+03	9.4e+03	1.92e+07	7.20e+02	2.7e+04
35	37Cl-2,3,7,8-TCDD	6.57e+05	1.05e+03	6.3e+02			

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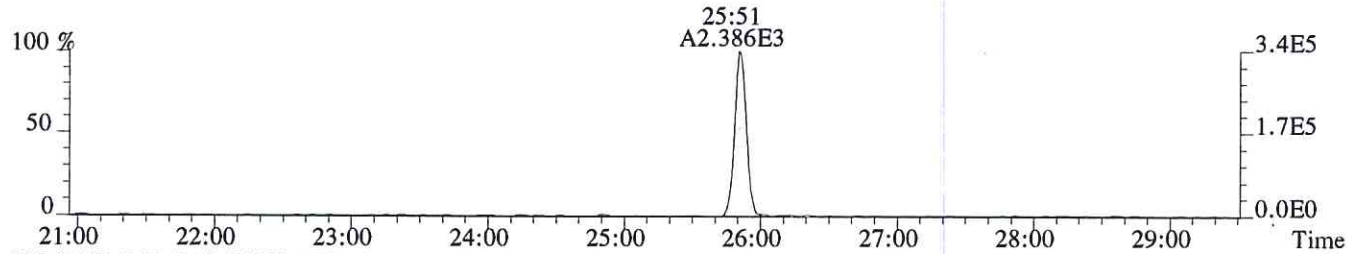
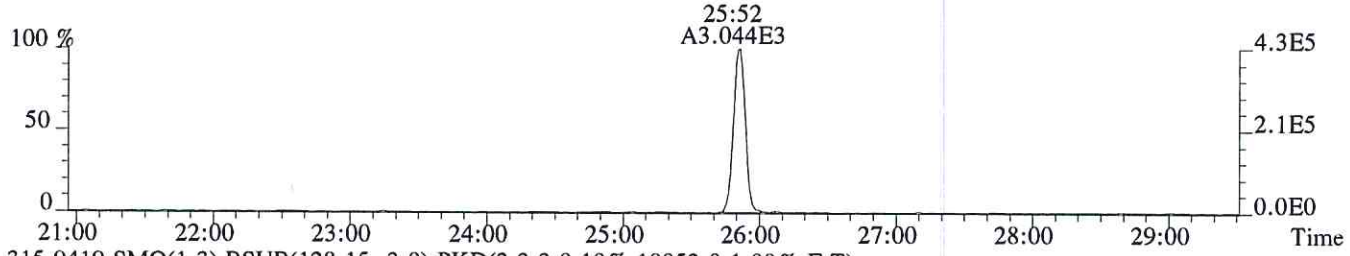
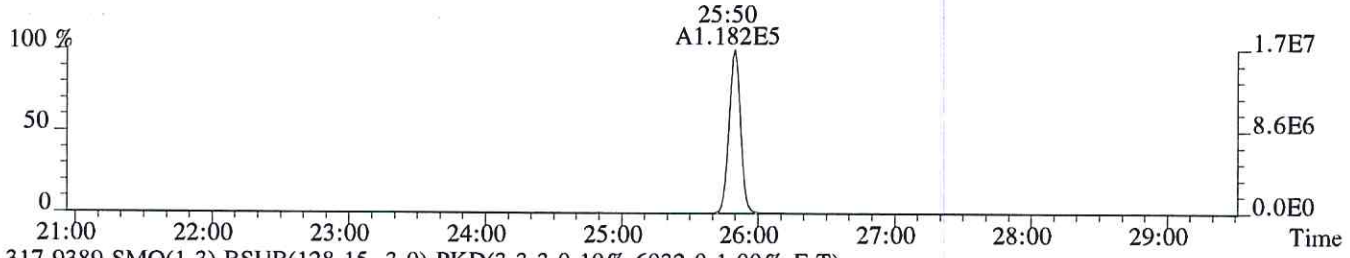
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



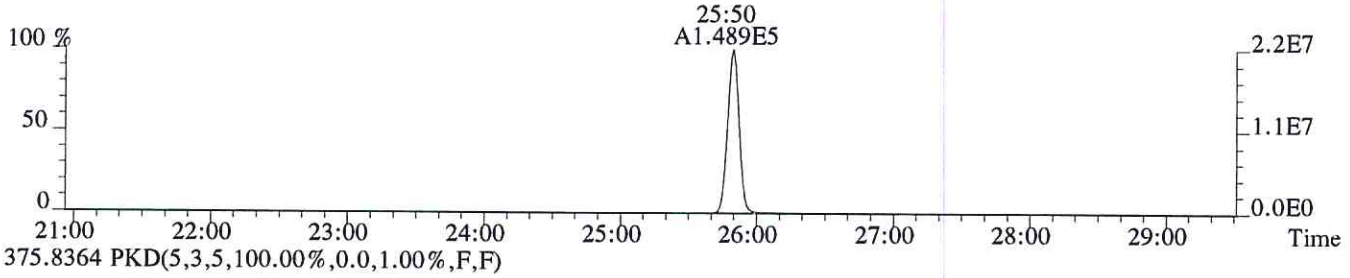
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1236.0,1.00%,F,T)



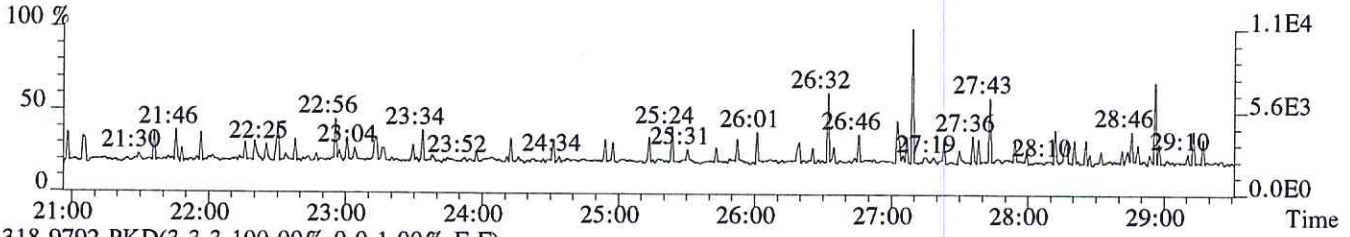
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18052.0,1.00%,F,T)



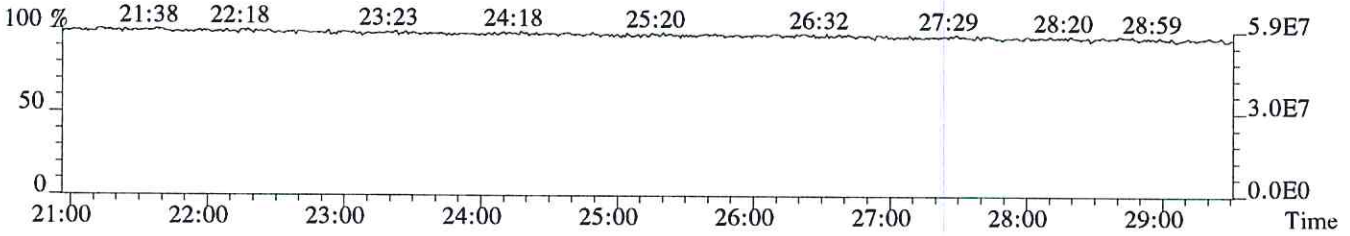
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6032.0,1.00%,F,T)



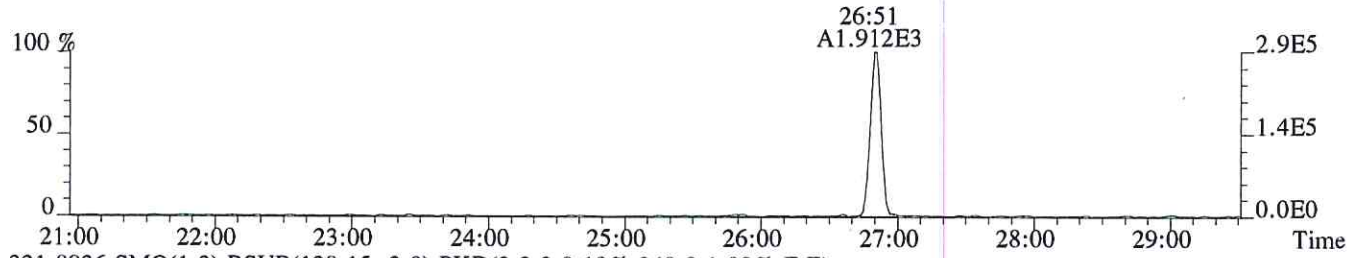
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



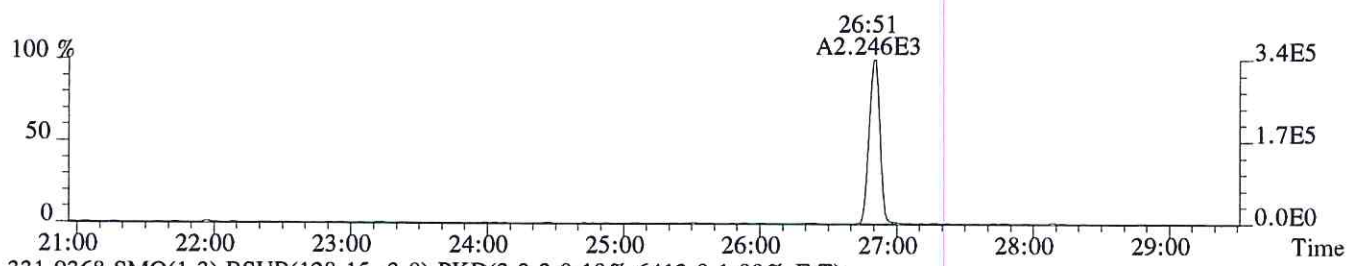
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



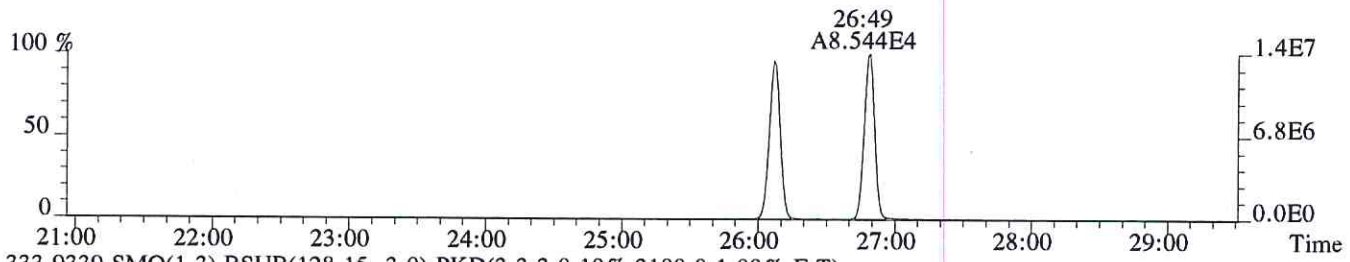
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



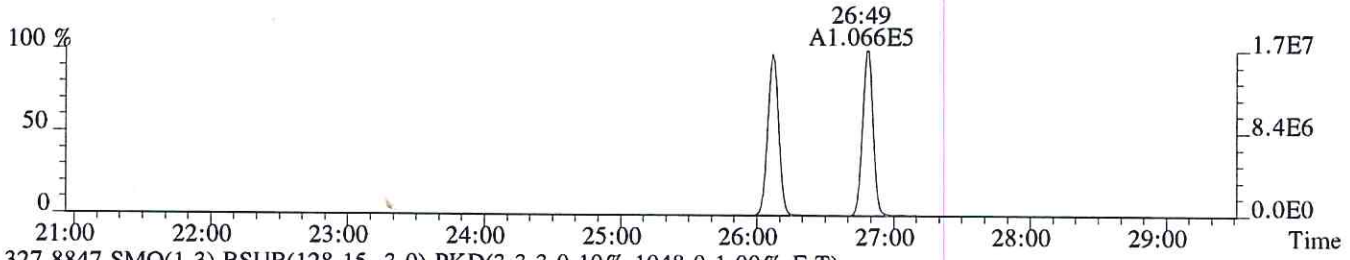
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,248.0,1.00%,F,T)



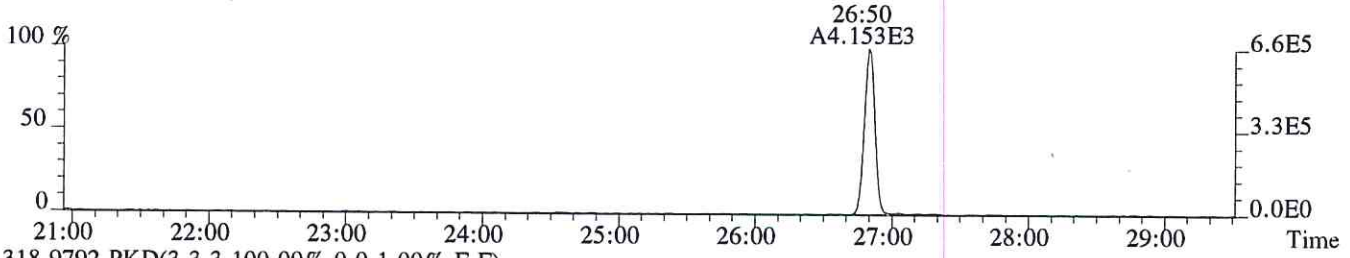
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6412.0,1.00%,F,T)



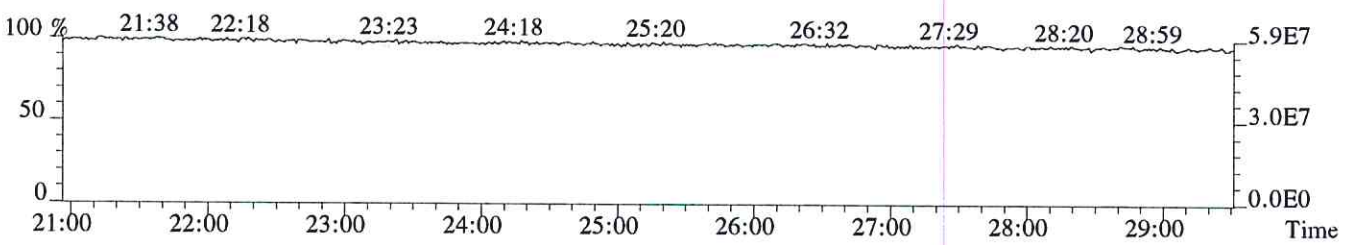
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3180.0,1.00%,F,T)



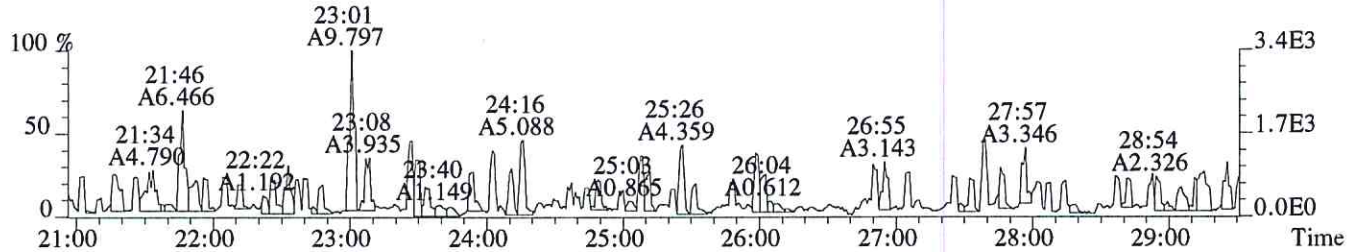
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



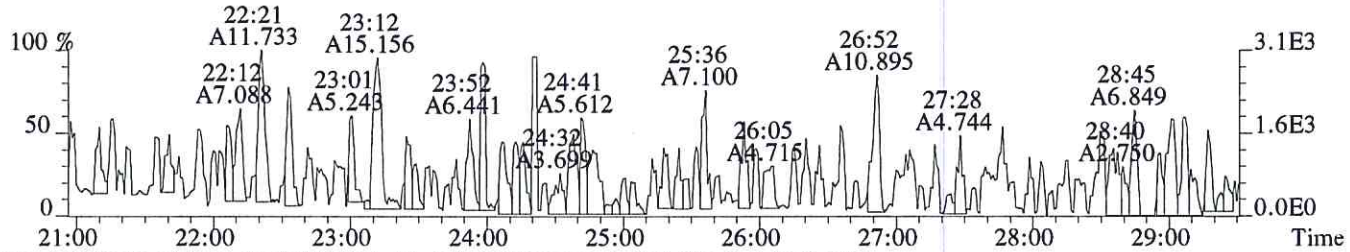
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



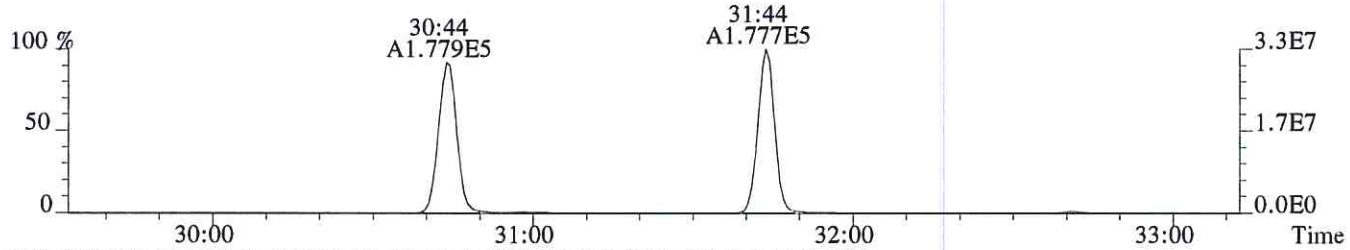
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



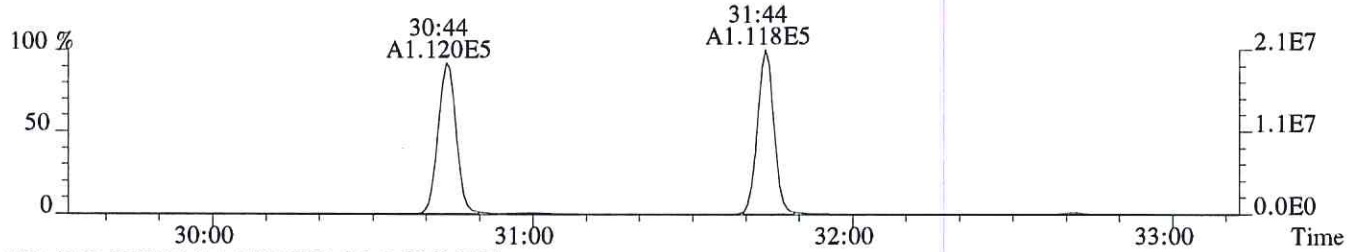
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



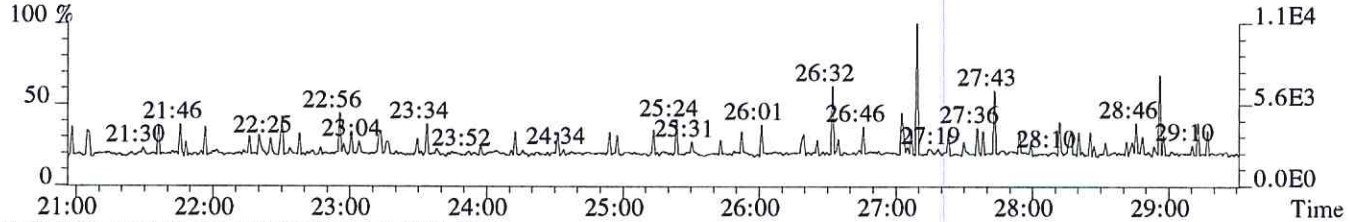
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



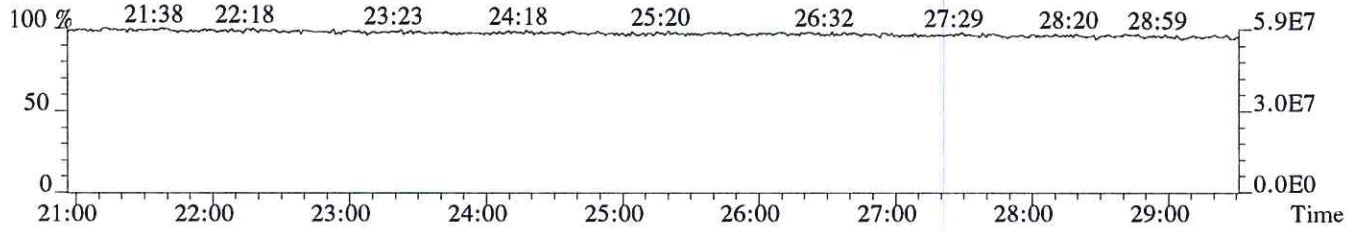
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



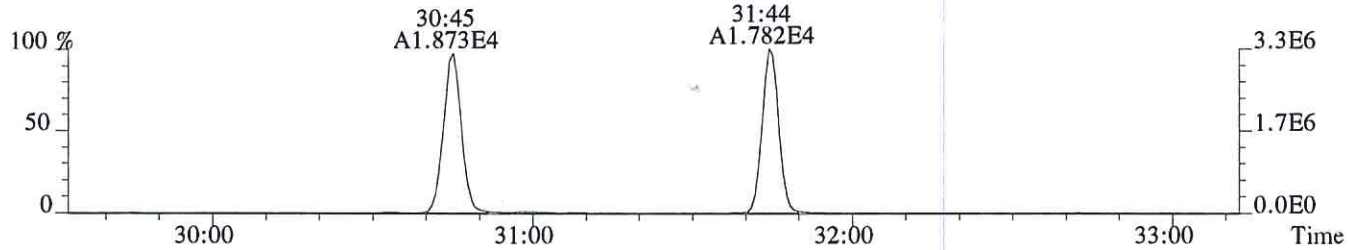
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



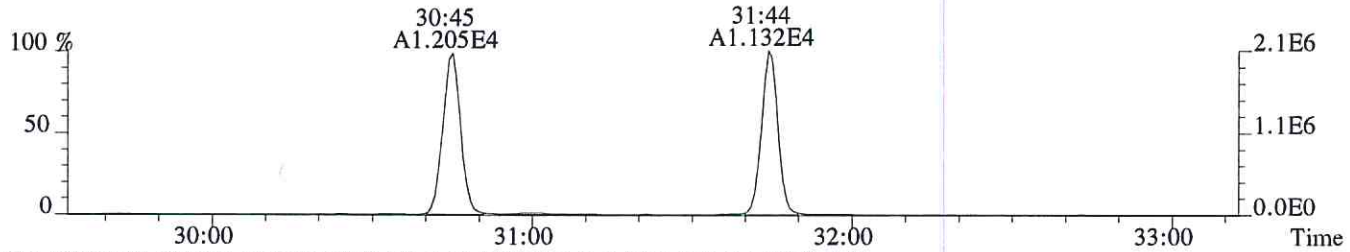
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



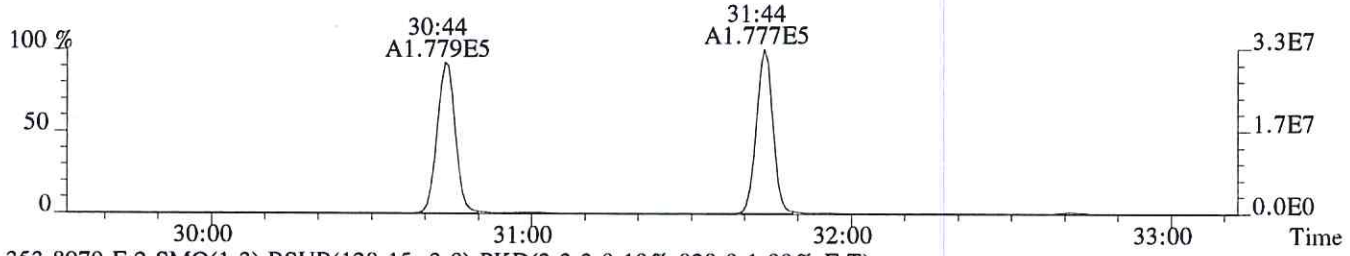
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



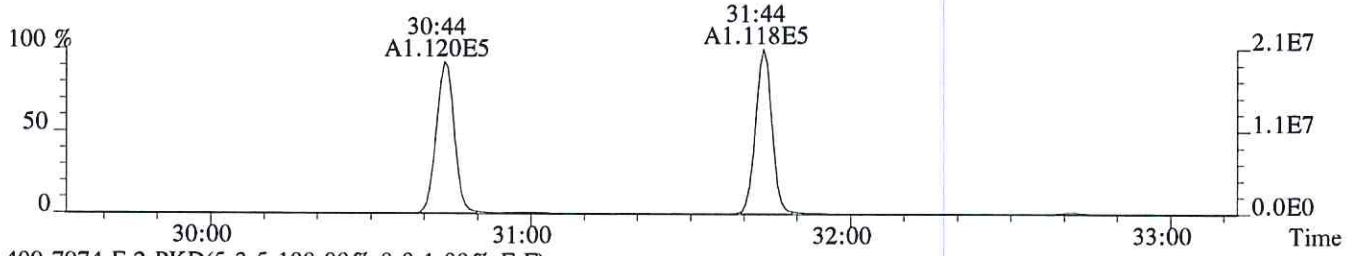
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,T)



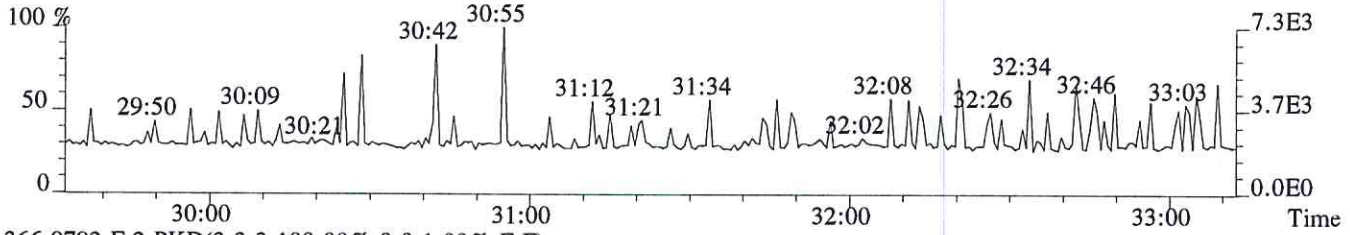
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



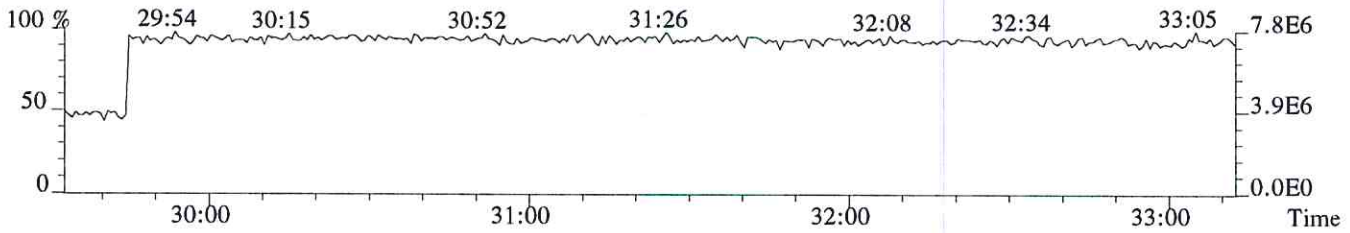
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



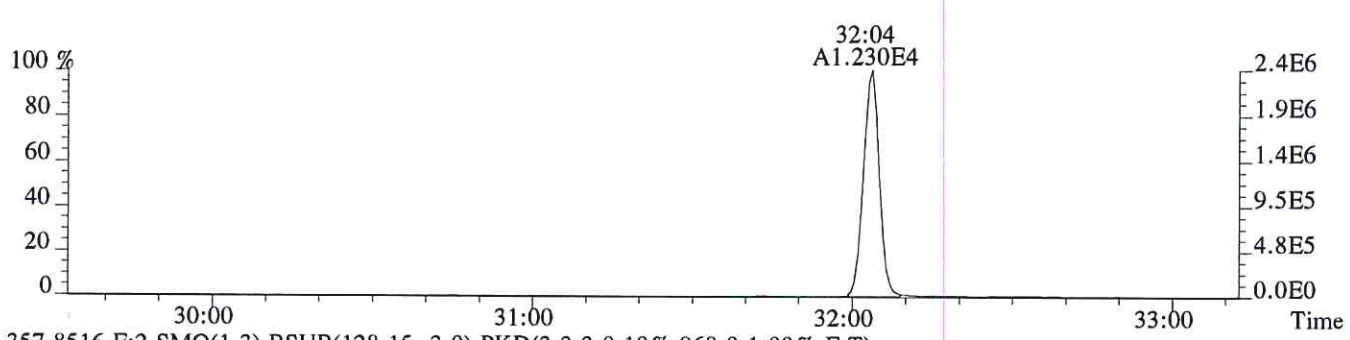
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



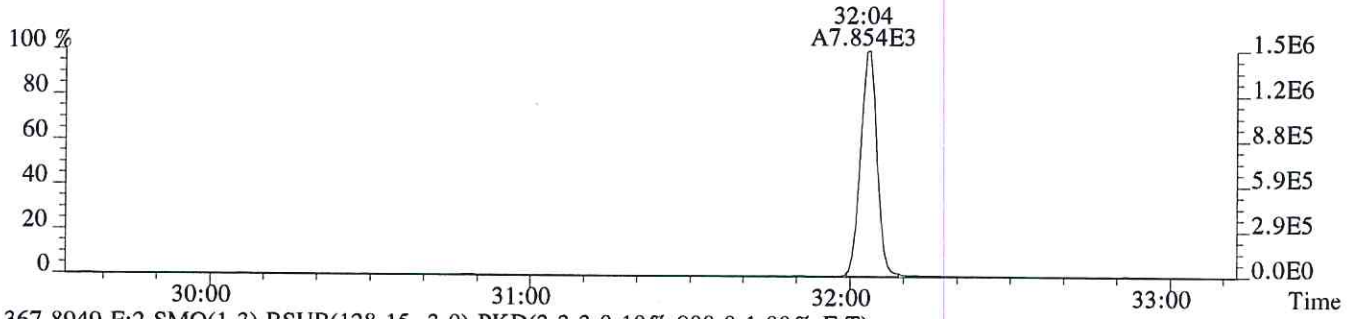
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



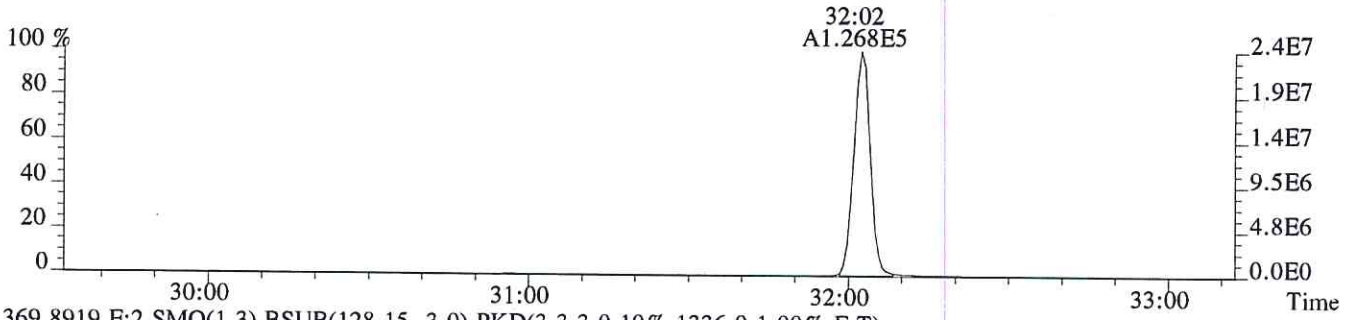
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1264.0,1.00%,F,T)



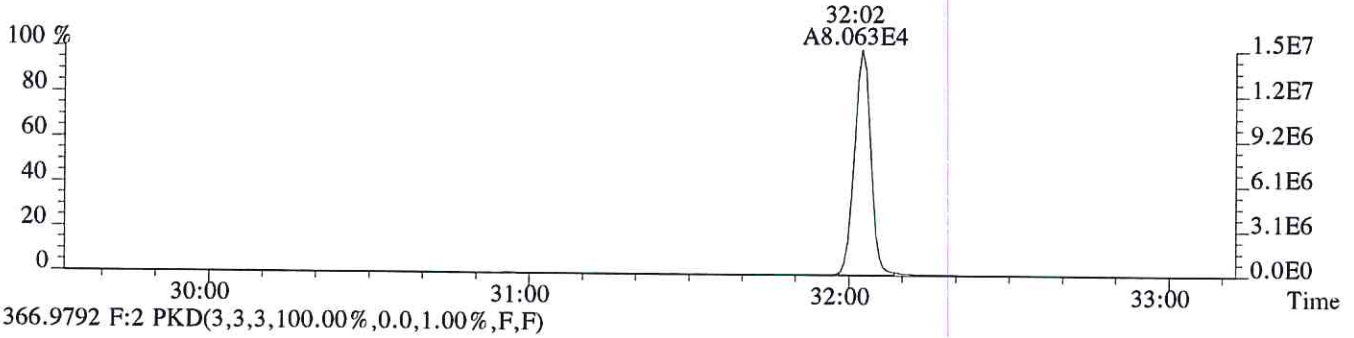
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



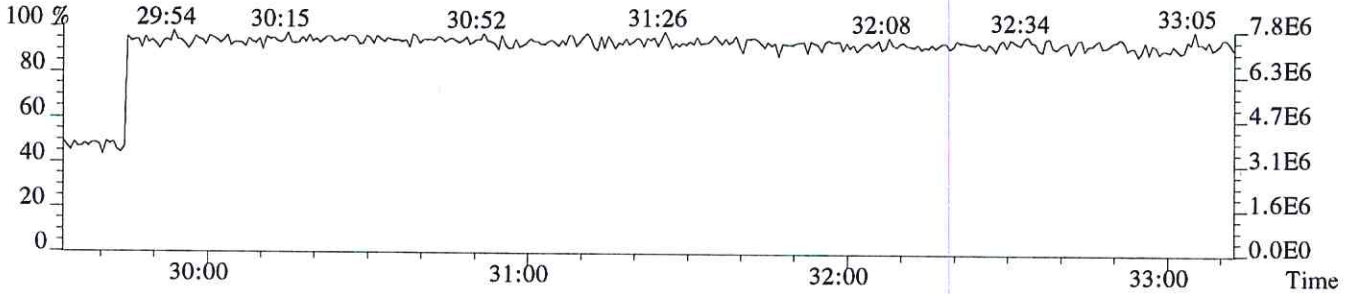
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



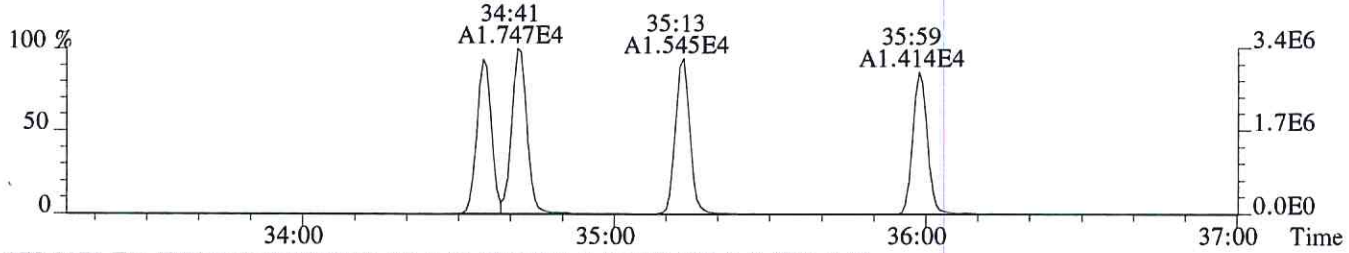
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



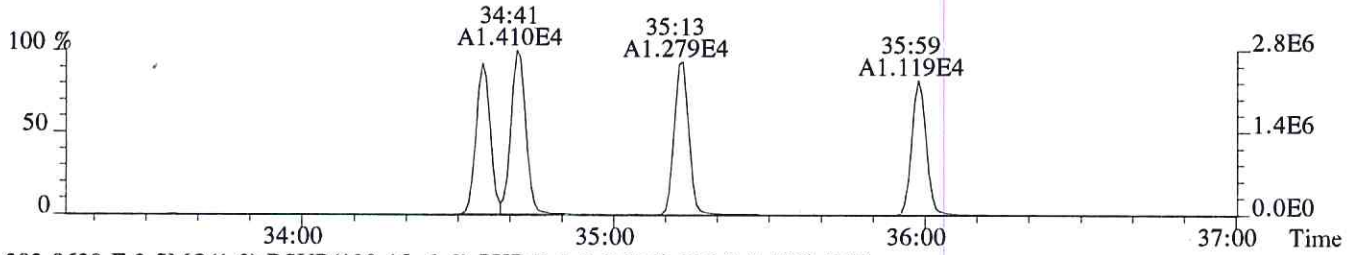
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



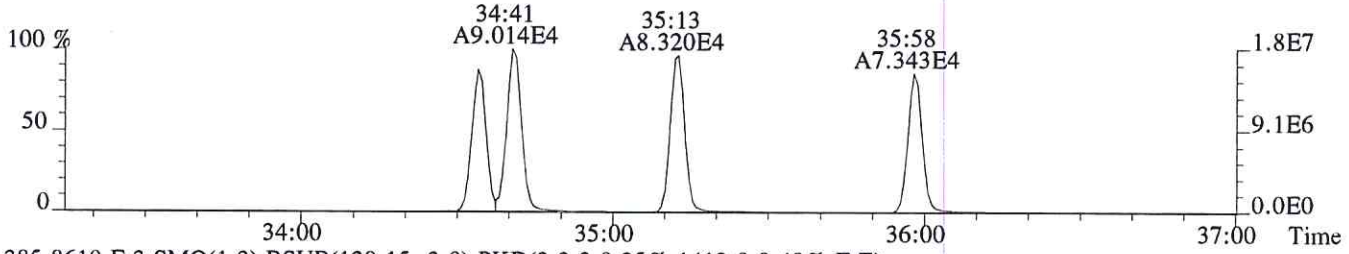
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



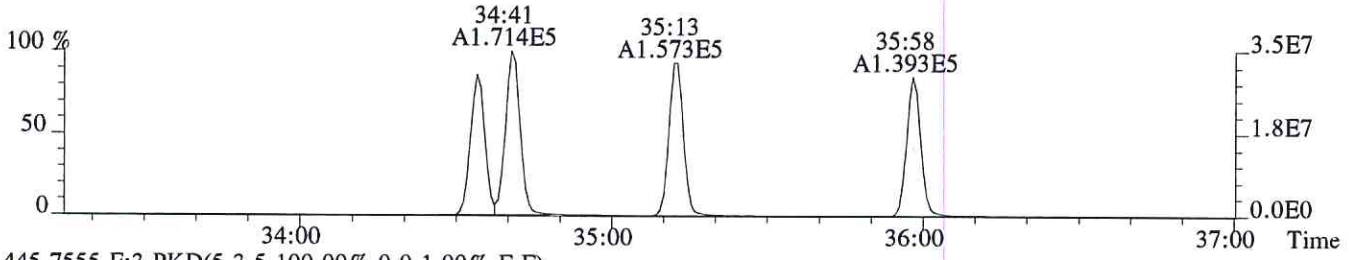
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



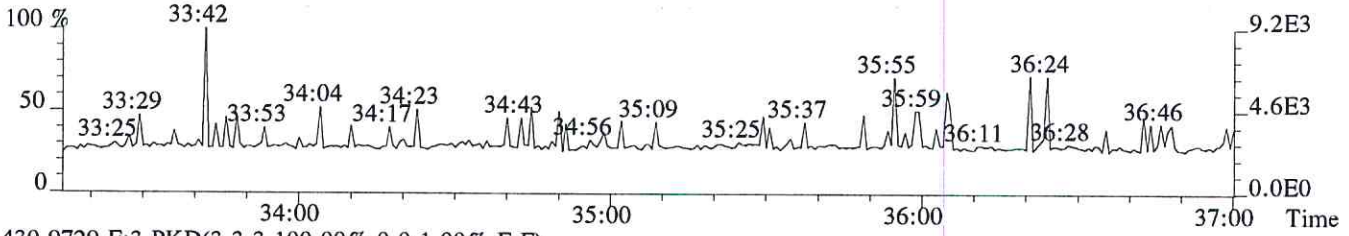
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



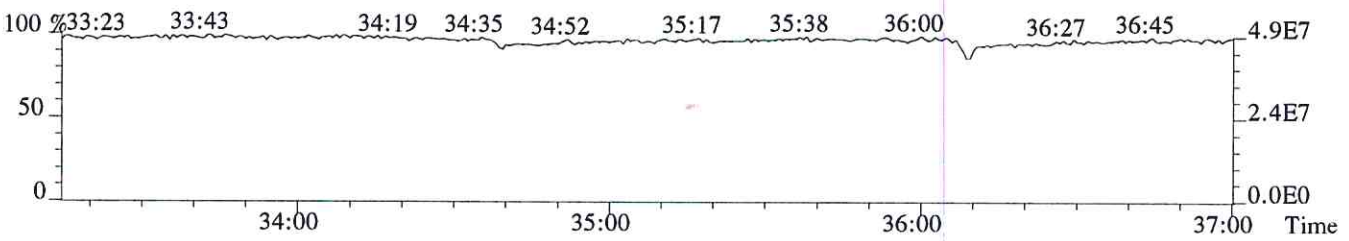
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



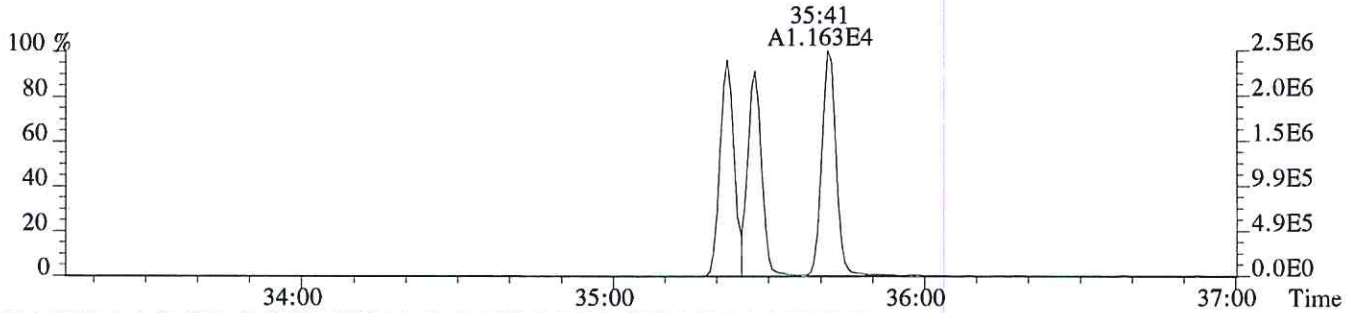
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



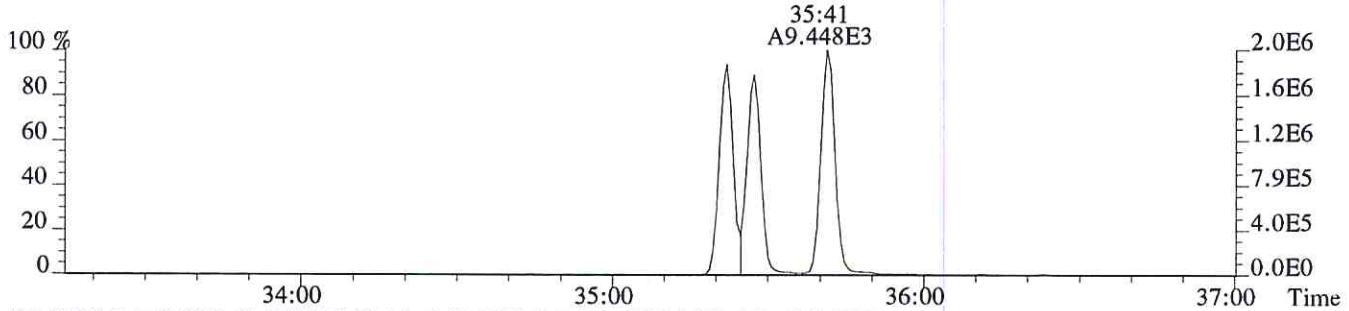
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



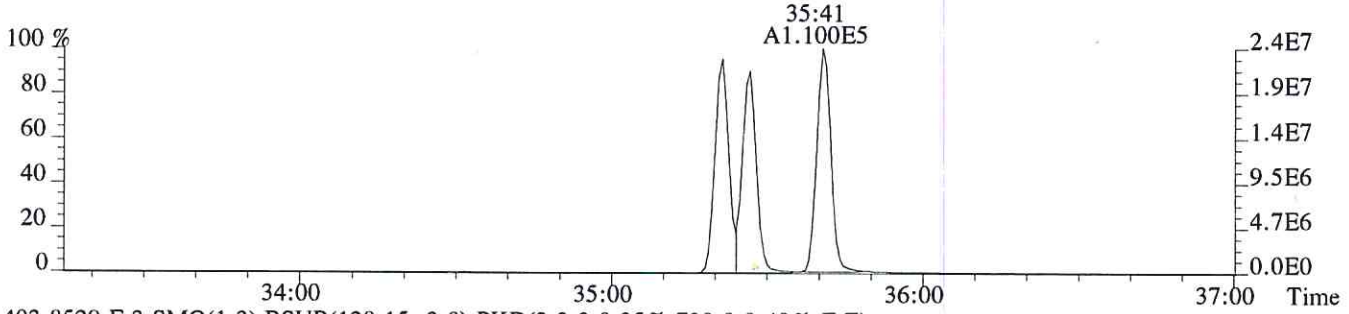
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



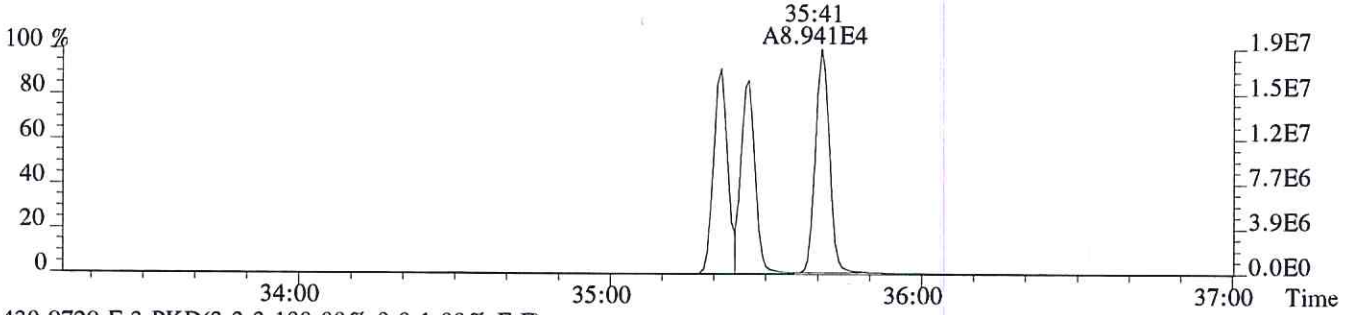
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,252.0,0.40%,F,T)



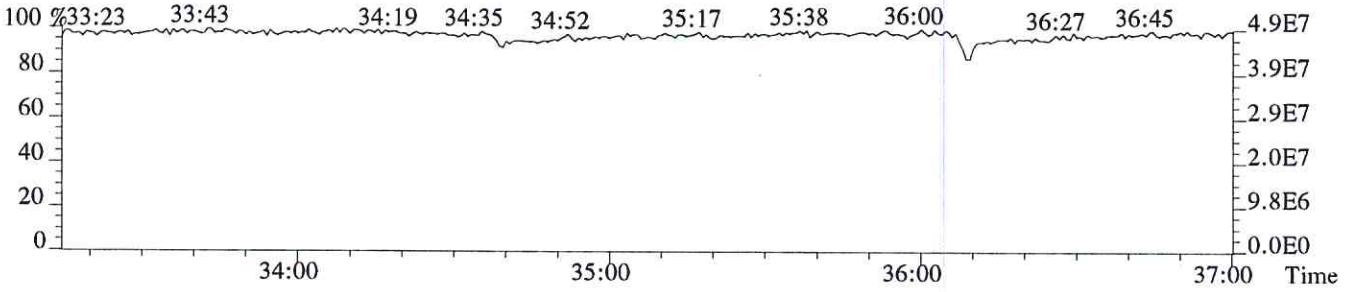
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2500.0,0.40%,F,T)



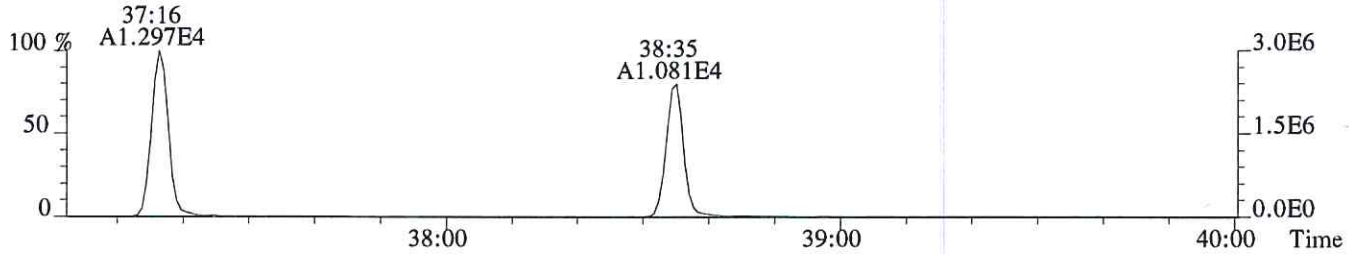
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



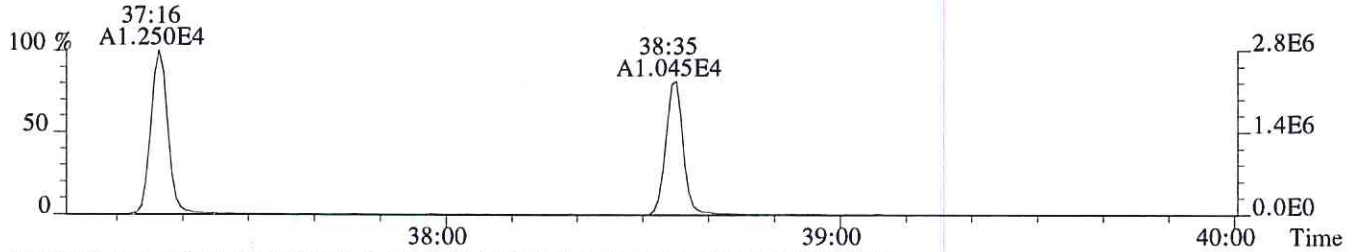
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



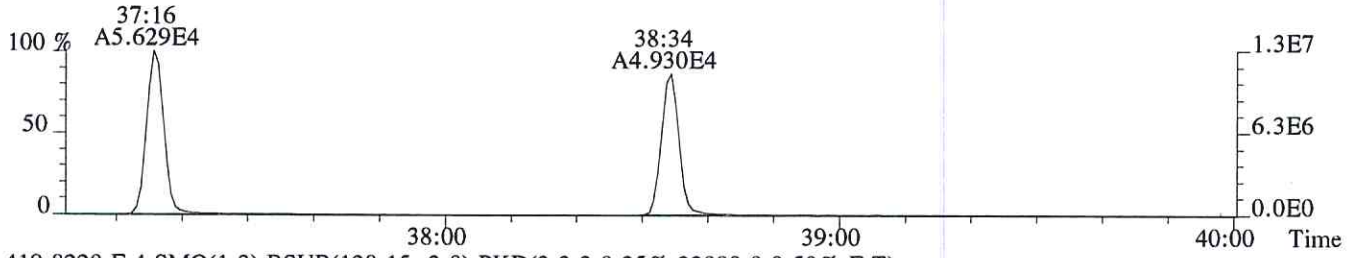
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.50%,F,T)



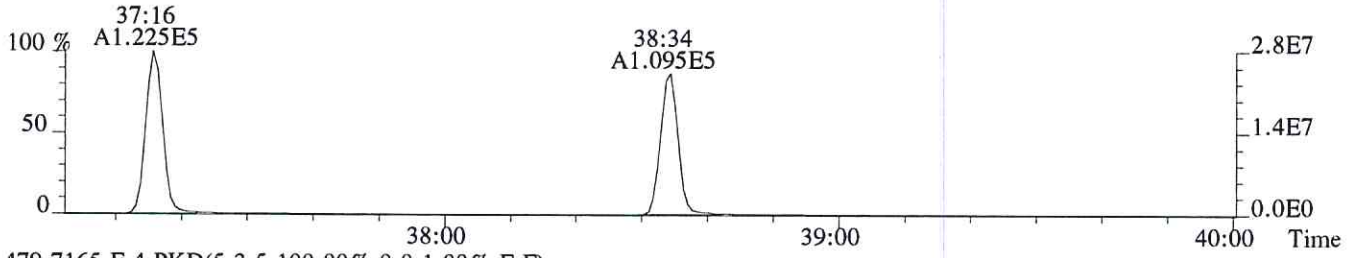
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2916.0,0.50%,F,T)



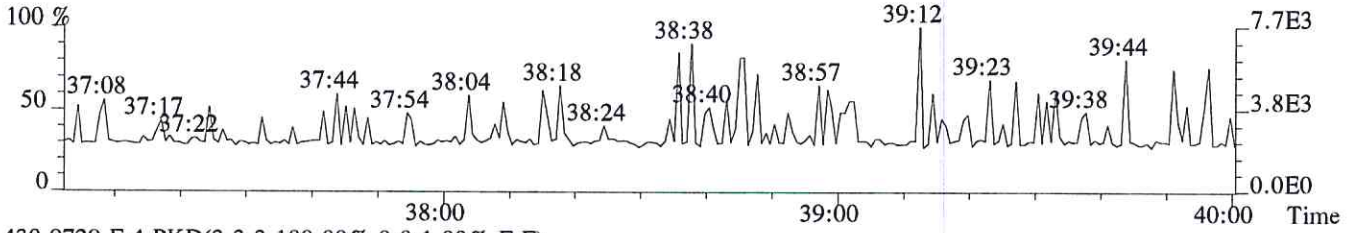
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,13056.0,0.50%,F,T)



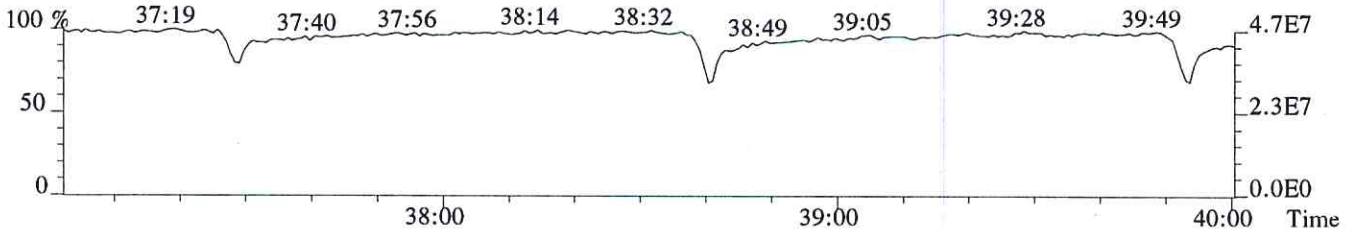
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22080.0,0.50%,F,T)



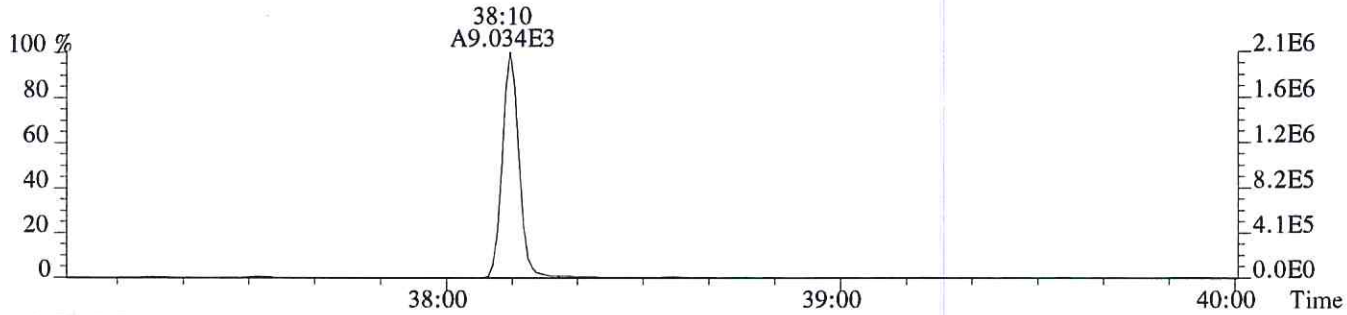
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



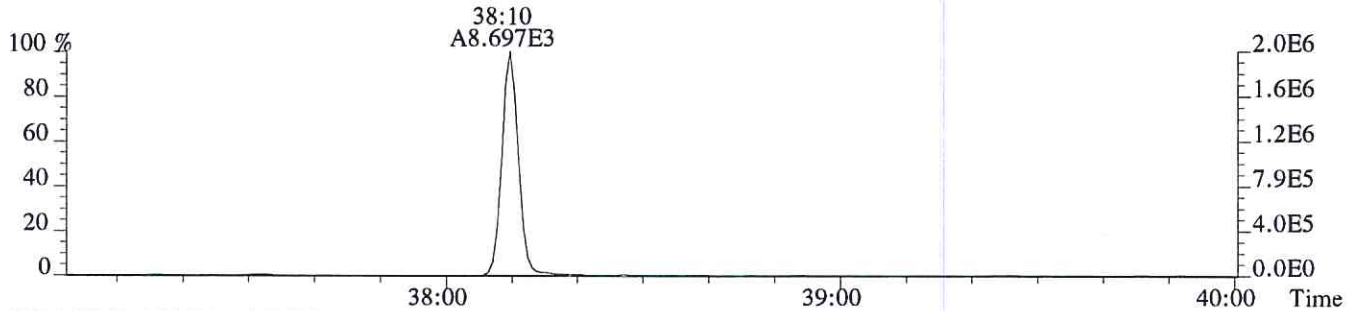
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



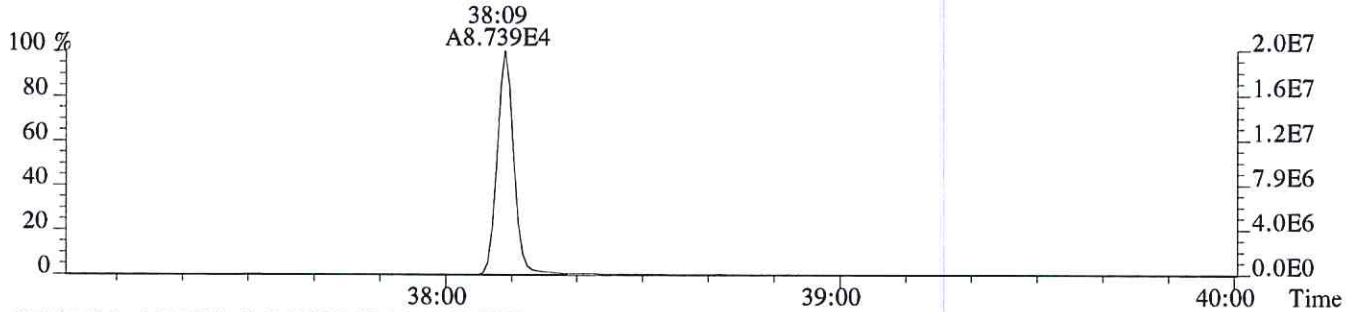
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



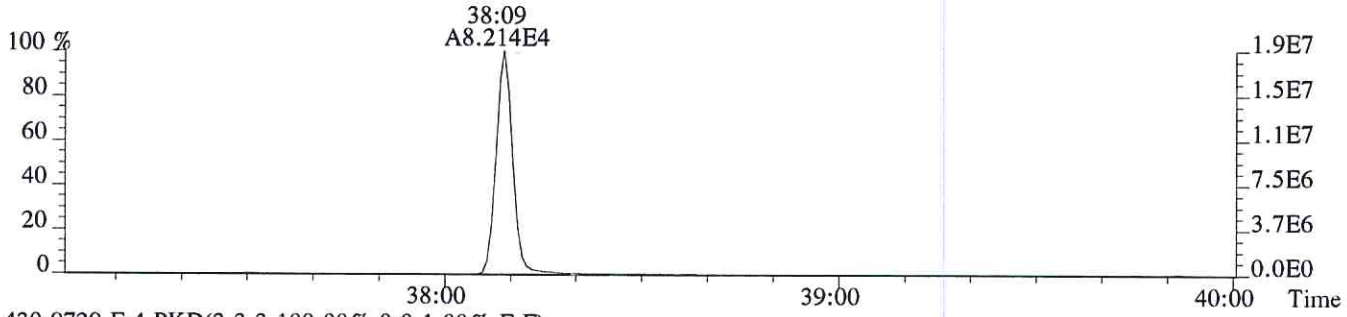
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



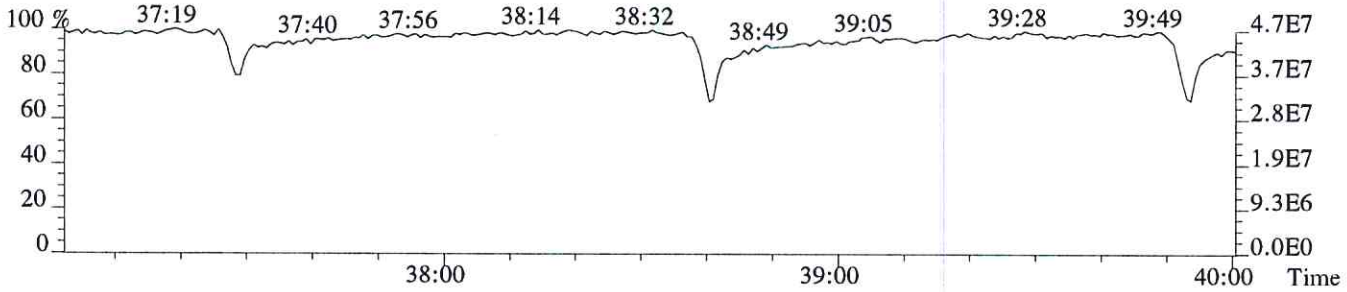
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



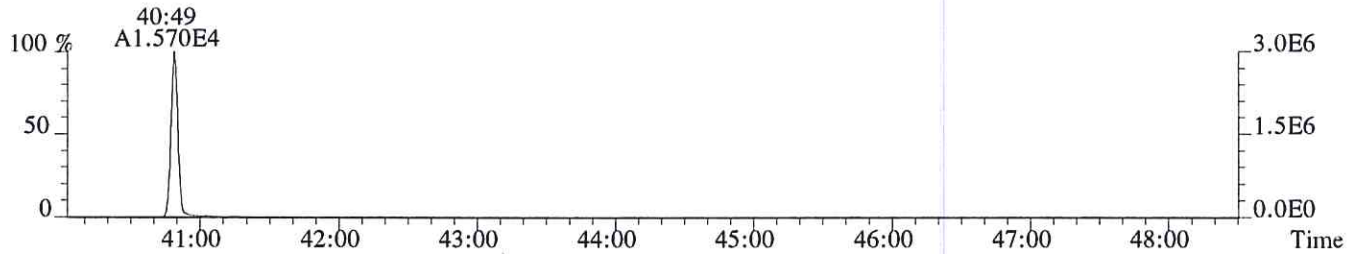
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1940.0,0.40%,F,T)



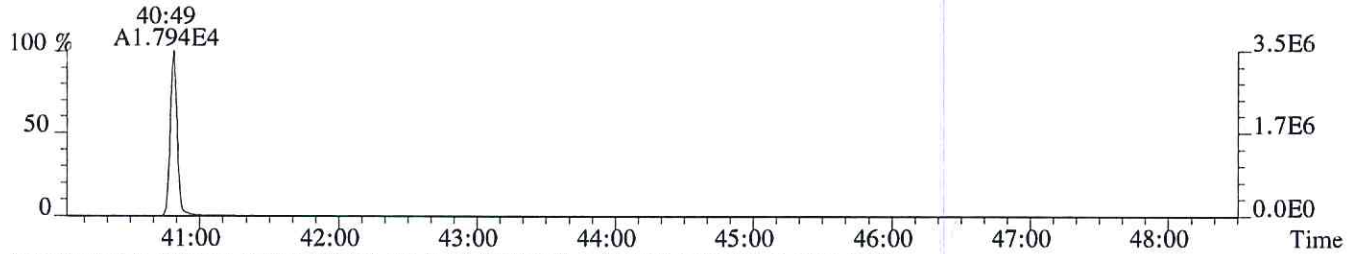
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



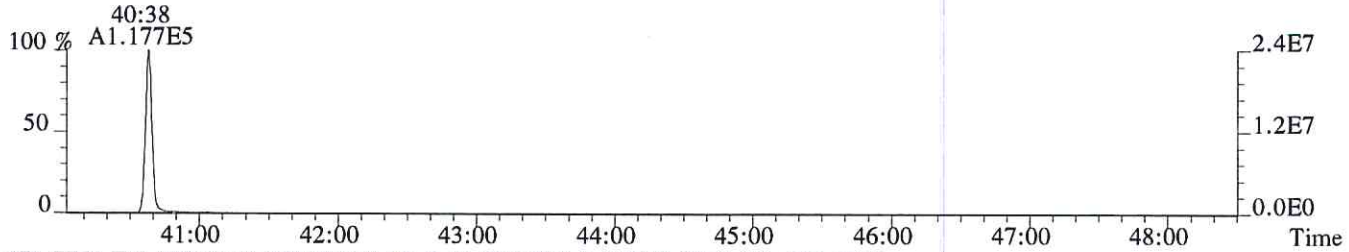
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1308.0,0.40%,F,T)



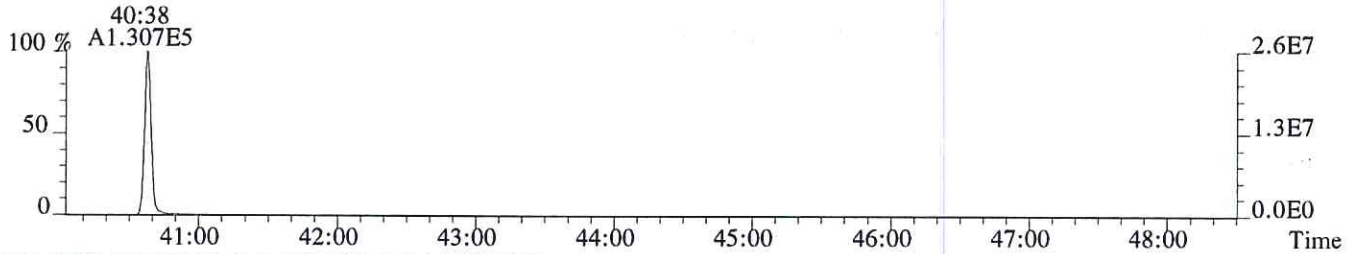
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3736.0,0.40%,F,T)



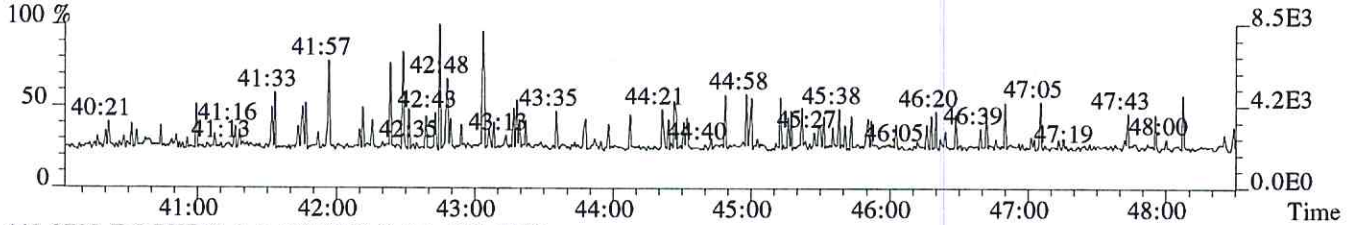
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



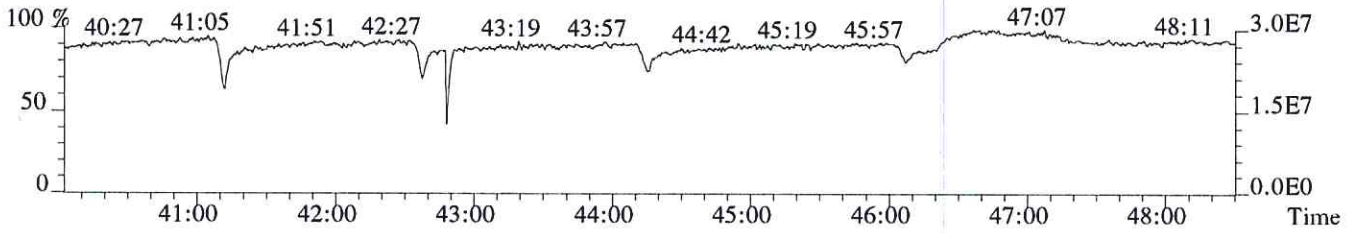
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8060.0,0.40%,F,T)



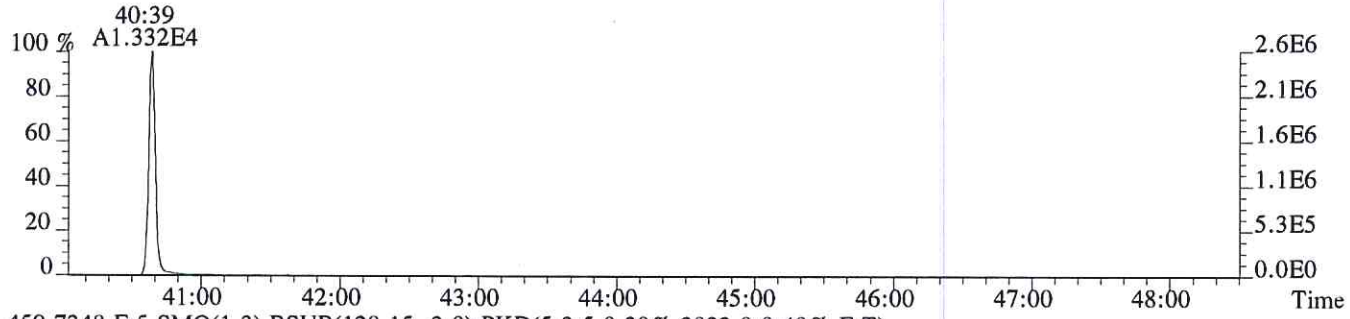
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



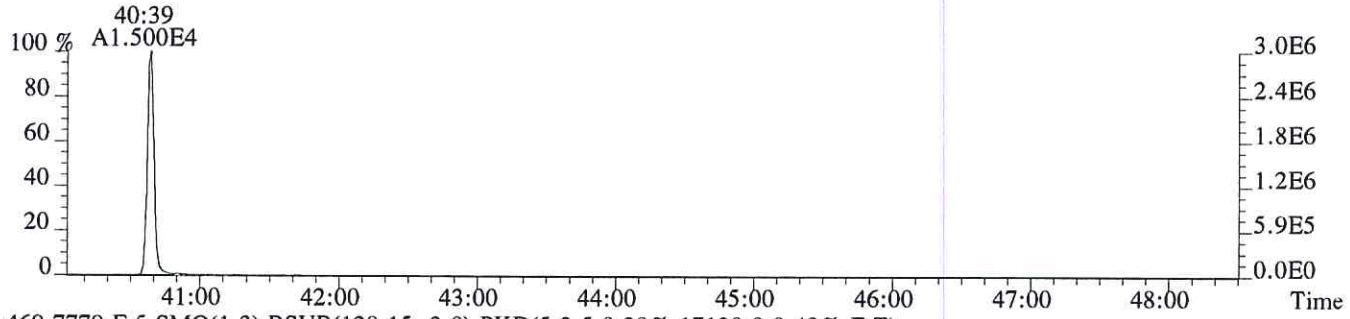
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



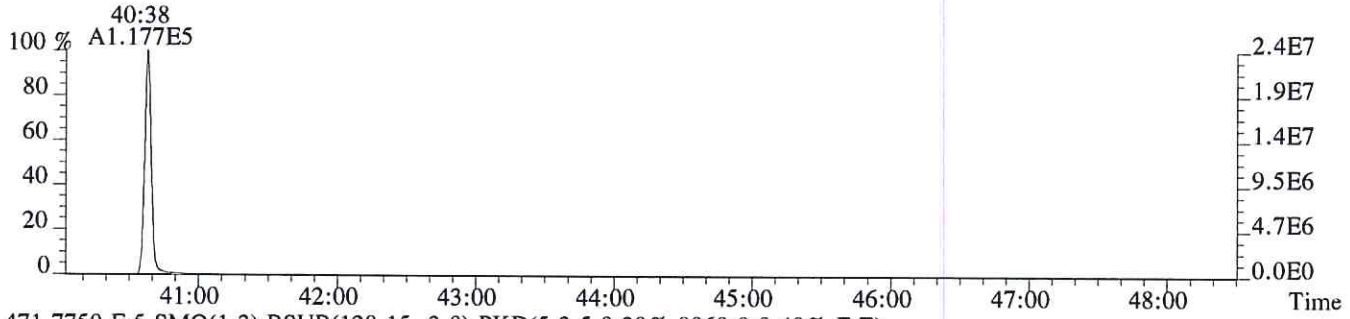
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2520.0,0.40%,F,T)



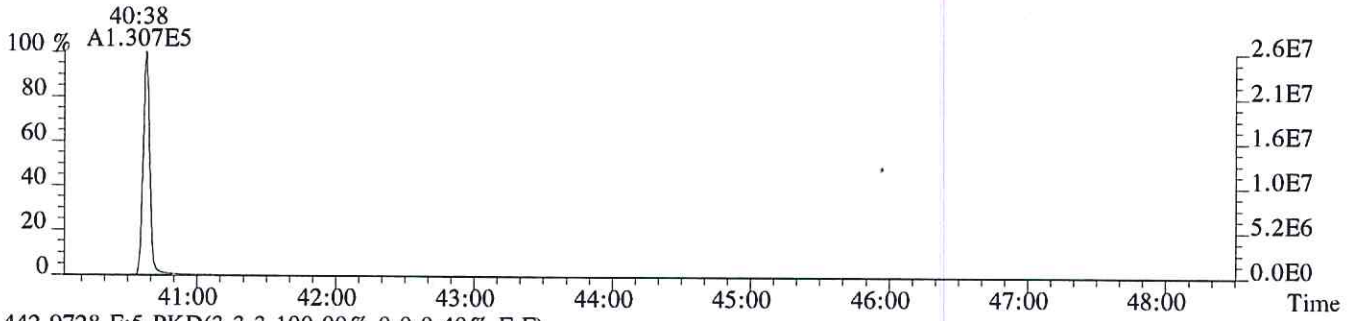
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2032.0,0.40%,F,T)



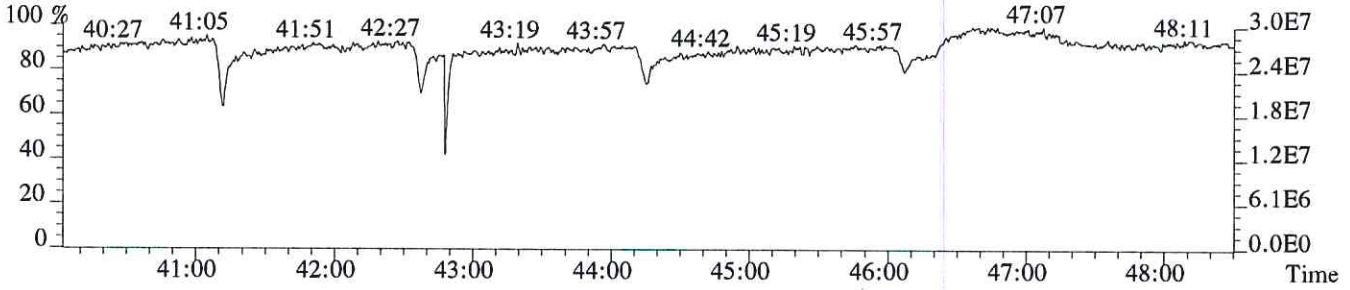
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8060.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76557

Run #4 Filename P607182 Samp: 1 Inj: 1 Acquired: 16-MAY-17 15:15:09
Processed: 17-MAY-17 07:52:58 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.103e+04	2.695e+04	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:44	1.681e+05	1.072e+05	1.57	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.575e+05	1.020e+05	1.54	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:34	1.359e+05	1.089e+05	1.25	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.536e+05	1.232e+05	1.25	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	1.372e+05	1.109e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:58	1.249e+05	1.001e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	1.138e+05	1.115e+05	1.02	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	9.665e+04	9.477e+04	1.02	yes	no	1.341
10	Unk	OCDF	40:48	1.516e+05	1.689e+05	0.90	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	1.568e+04	2.033e+04	0.77	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:03	1.076e+05	6.918e+04	1.55	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:21	9.560e+04	7.714e+04	1.24	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	9.479e+04	7.643e+04	1.24	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.002e+05	8.339e+04	1.20	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:09	8.246e+04	7.874e+04	1.05	yes	no	1.048
17	Unk	OCDD	40:38	1.247e+05	1.407e+05	0.89	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:49	2.148e+05	2.714e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:43	3.172e+05	2.010e+05	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:43	3.204e+05	2.023e+05	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:33	1.351e+05	2.585e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:40	1.645e+05	3.095e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:12	1.478e+05	2.826e+05	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:57	1.311e+05	2.502e+05	0.52	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:15	1.017e+05	2.244e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	9.181e+04	2.033e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	1.527e+05	1.948e+05	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	2.300e+05	1.461e+05	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.875e+05	1.484e+05	1.26	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:26	1.809e+05	1.433e+05	1.26	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:08	1.583e+05	1.492e+05	1.06	yes	no	0.884
32	IS	13C-OCDD	40:37	2.261e+05	2.514e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:06	1.586e+05	1.990e+05	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:40	1.984e+05	1.597e+05	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:49	3.730e+04				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76557

Run #4 Filename P607182 Samp: 1 Inj: 1 Acquired: 16-MAY-17 15:15:09
Processed: 17-MAY-17 07:52:58 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.08e+06	2.36e+02	1.3e+04	3.95e+06	1.76e+03	2.2e+03
2	1,2,3,7,8-PeCDF	2.87e+07	1.33e+03	2.2e+04	1.81e+07	3.27e+03	5.5e+03
3	2,3,4,7,8-PeCDF	2.93e+07	1.33e+03	2.2e+04	1.90e+07	3.27e+03	5.8e+03
4	1,2,3,4,7,8-HxCDF	2.89e+07	9.56e+02	3.0e+04	2.33e+07	2.24e+02	1.0e+05
5	1,2,3,6,7,8-HxCDF	3.14e+07	9.56e+02	3.3e+04	2.54e+07	2.24e+02	1.1e+05
6	2,3,4,6,7,8-HxCDF	2.89e+07	9.56e+02	3.0e+04	2.33e+07	2.24e+02	1.0e+05
7	1,2,3,7,8,9-HxCDF	2.68e+07	9.56e+02	2.8e+04	2.15e+07	2.24e+02	9.6e+04
8	1,2,3,4,6,7,8-HpCDF	2.57e+07	1.98e+03	1.3e+04	2.52e+07	6.98e+03	3.6e+03
9	1,2,3,4,7,8,9-HpCDF	2.12e+07	1.98e+03	1.1e+04	2.03e+07	6.98e+03	2.9e+03
10	OCDF	2.97e+07	9.76e+03	3.0e+03	3.30e+07	1.41e+04	2.3e+03
11	2,3,7,8-TCDD	2.52e+06	1.41e+03	1.8e+03	3.29e+06	3.04e+02	1.1e+04
12	1,2,3,7,8-PeCDD	2.01e+07	1.53e+03	1.3e+04	1.28e+07	1.01e+03	1.3e+04
13	1,2,3,4,7,8-HxCDD	2.10e+07	2.32e+02	9.0e+04	1.69e+07	1.80e+02	9.4e+04
14	1,2,3,6,7,8-HxCDD	2.03e+07	2.32e+02	8.7e+04	1.63e+07	1.80e+02	9.0e+04
15	1,2,3,7,8,9-HxCDD	2.14e+07	2.32e+02	9.2e+04	1.77e+07	1.80e+02	9.8e+04
16	1,2,3,4,6,7,8-HpCDD	1.88e+07	1.15e+03	1.6e+04	1.79e+07	7.52e+02	2.4e+04
17	OCDD	2.46e+07	6.92e+03	3.6e+03	2.79e+07	8.76e+03	3.2e+03
18	13C-2,3,7,8-TCDF	3.15e+07	1.20e+04	2.6e+03	3.98e+07	5.73e+03	6.9e+03
19	13C-1,2,3,7,8-PeCDF	5.53e+07	1.49e+03	3.7e+04	3.49e+07	1.28e+03	2.7e+04
20	13C-2,3,4,7,8-PeCDF	6.04e+07	1.49e+03	4.1e+04	3.83e+07	1.28e+03	3.0e+04
21	13C-1,2,3,4,7,8-HxCDF	2.88e+07	9.80e+02	2.9e+04	5.50e+07	1.92e+03	2.9e+04
22	13C-1,2,3,6,7,8-HxCDF	3.36e+07	9.80e+02	3.4e+04	6.38e+07	1.92e+03	3.3e+04
23	13C-2,3,4,6,7,8-HxCDF	3.13e+07	9.80e+02	3.2e+04	5.91e+07	1.92e+03	3.1e+04
24	13C-1,2,3,7,8,9-HxCDF	2.84e+07	9.80e+02	2.9e+04	5.43e+07	1.92e+03	2.8e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.28e+07	1.79e+04	1.3e+03	5.05e+07	1.14e+04	4.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.06e+07	1.79e+04	1.1e+03	4.54e+07	1.14e+04	4.0e+03
27	13C-2,3,7,8-TCDD	2.47e+07	6.44e+03	3.8e+03	3.12e+07	3.69e+03	8.5e+03
28	13C-1,2,3,7,8-PeCDD	4.35e+07	9.08e+02	4.8e+04	2.74e+07	6.40e+02	4.3e+04
29	13C-1,2,3,4,7,8-HxCDD	4.07e+07	1.50e+03	2.7e+04	3.21e+07	2.16e+02	1.5e+05
30	13C-1,2,3,6,7,8-HxCDD	3.86e+07	1.50e+03	2.6e+04	3.06e+07	2.16e+02	1.4e+05
31	13C-1,2,3,4,6,7,8-HpCDD	3.63e+07	1.29e+03	2.8e+04	3.41e+07	1.08e+03	3.1e+04
32	13C-OCDD	4.50e+07	3.03e+04	1.5e+03	5.06e+07	2.05e+04	2.5e+03
33	13C-1,2,3,4-TCDD	2.40e+07	6.44e+03	3.7e+03	2.98e+07	3.69e+03	8.1e+03
34	13C-1,2,3,7,8,9-HxCDD	4.25e+07	1.50e+03	2.8e+04	3.45e+07	2.16e+02	1.6e+05
35	37Cl-2,3,7,8-TCDD	6.02e+06	8.12e+02	7.4e+03			

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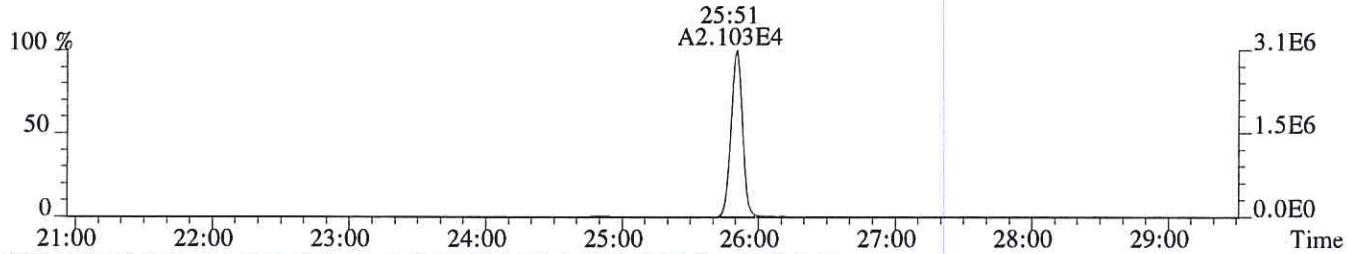
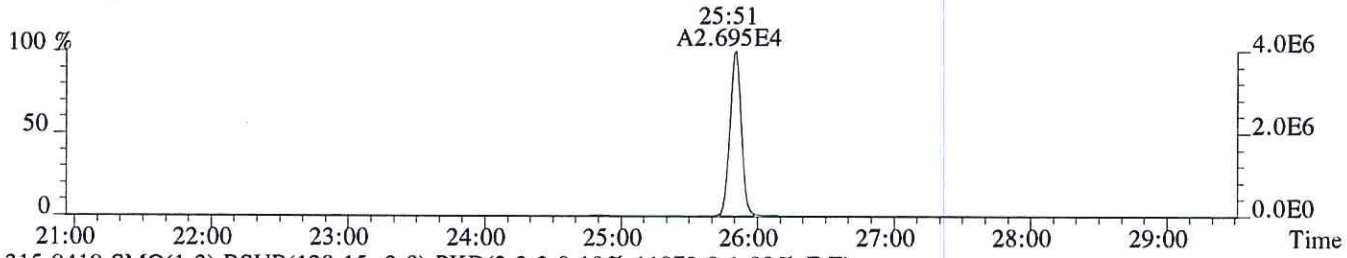
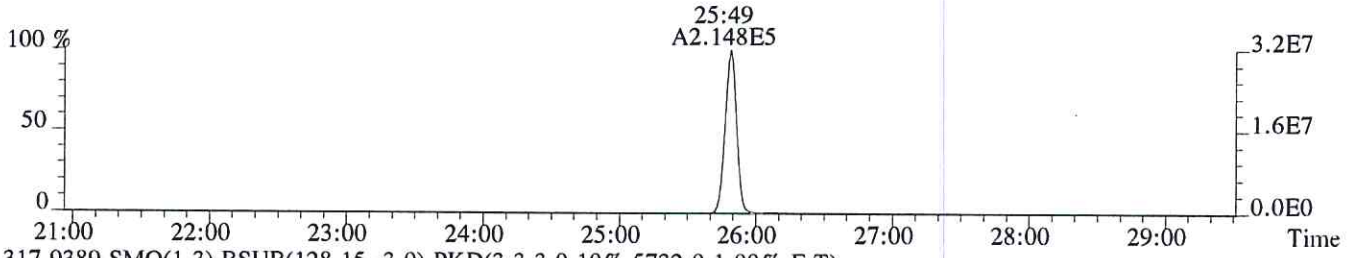
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



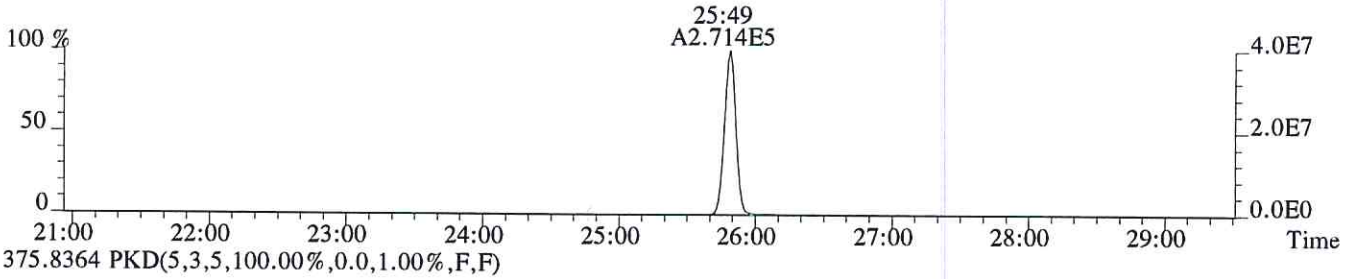
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



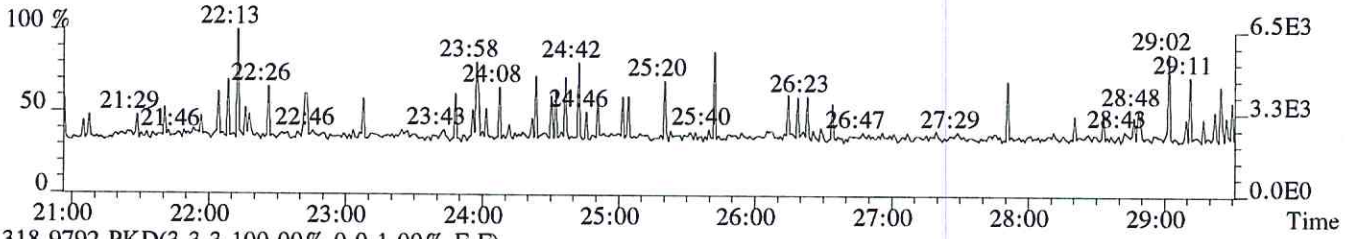
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11972.0,1.00%,F,T)



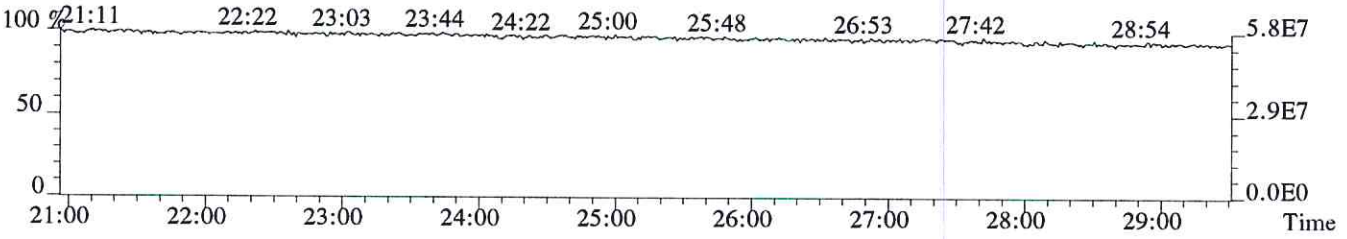
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5732.0,1.00%,F,T)



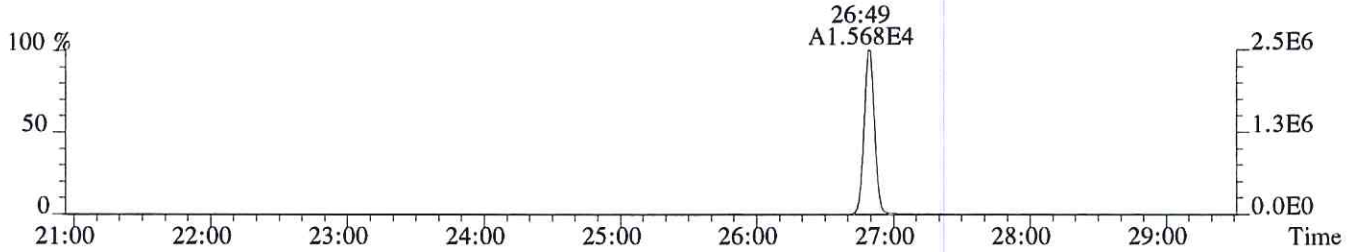
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



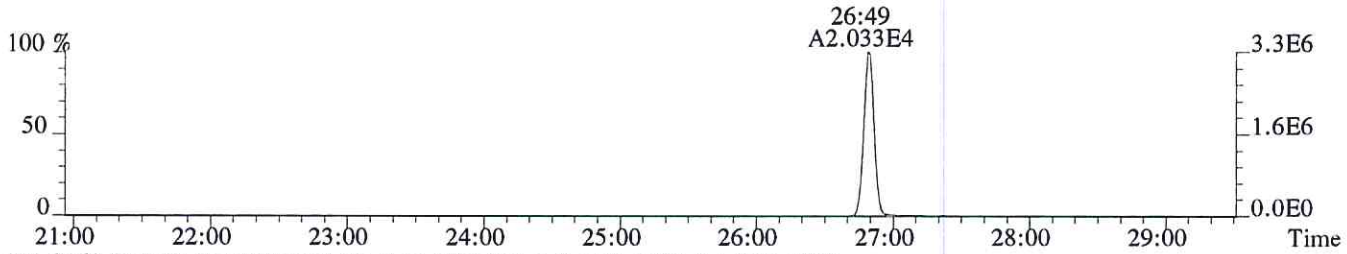
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



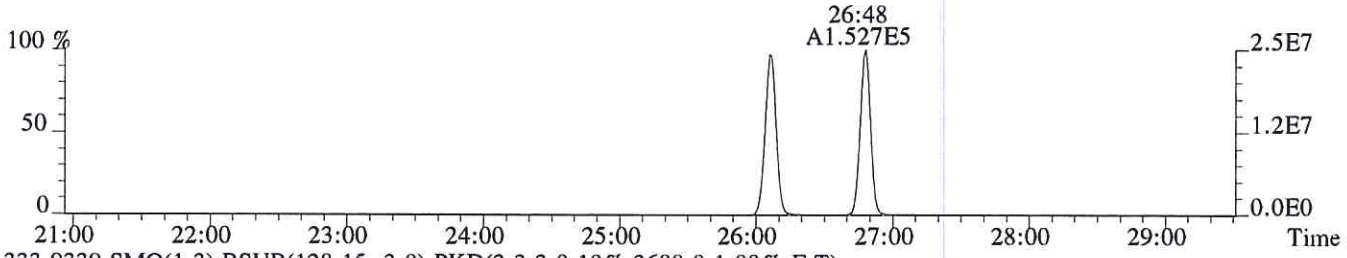
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



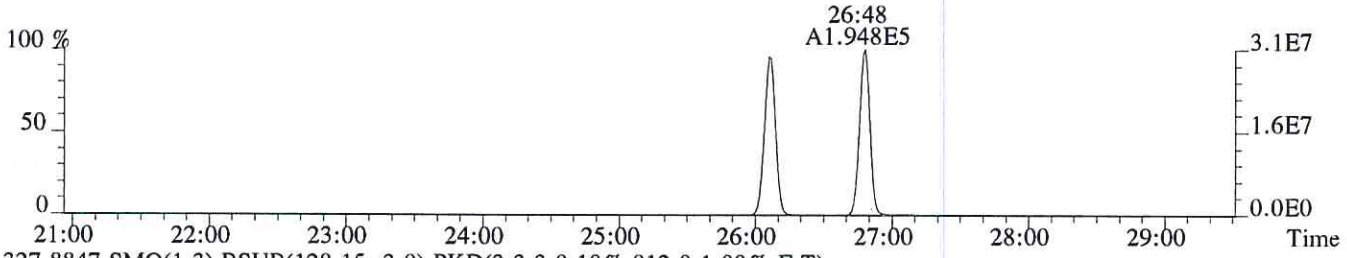
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



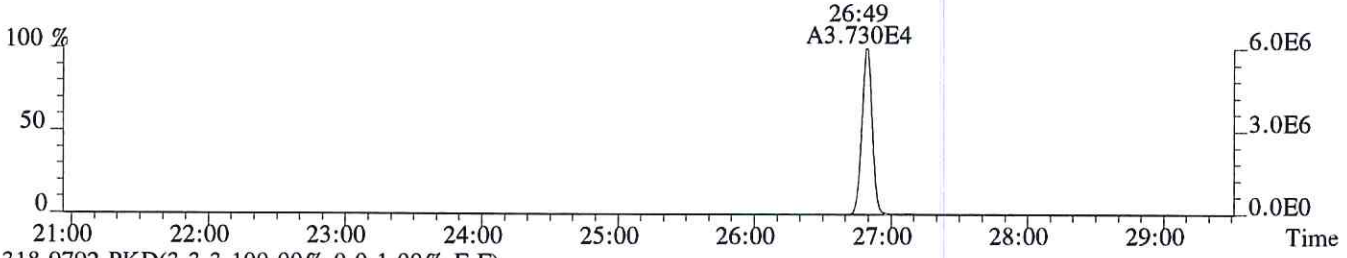
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



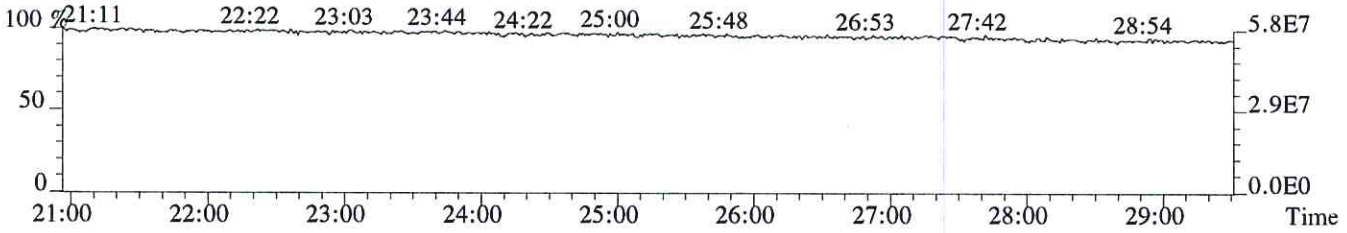
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3688.0,1.00%,F,T)



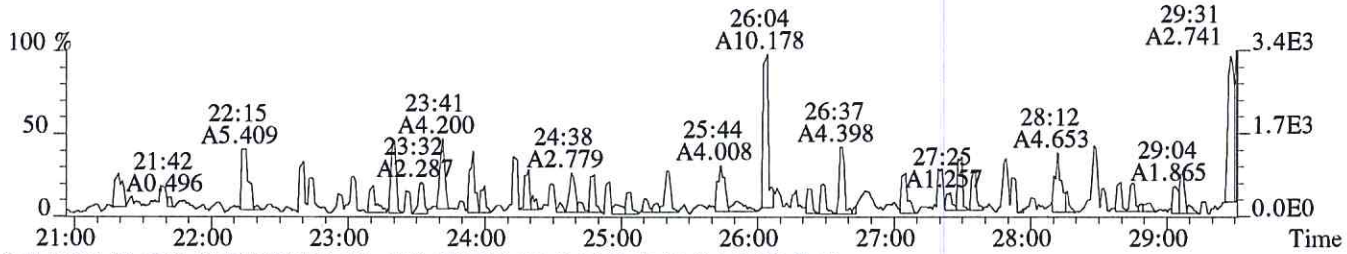
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



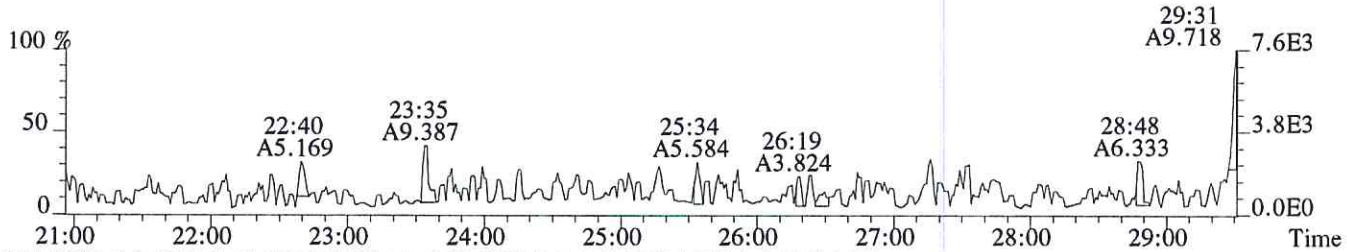
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



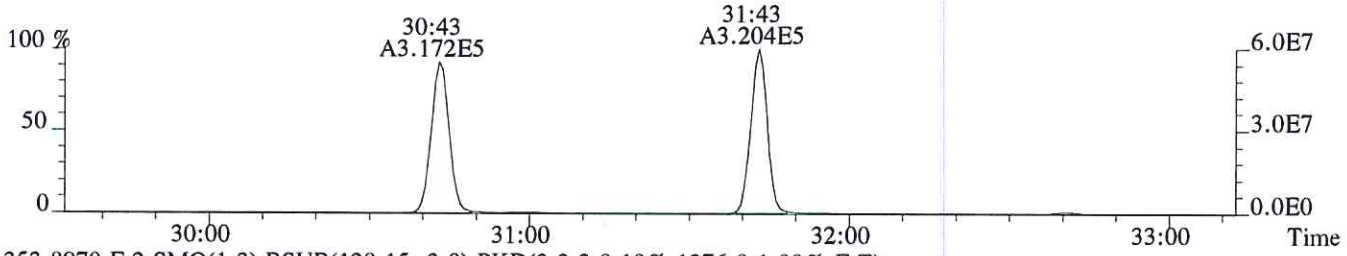
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



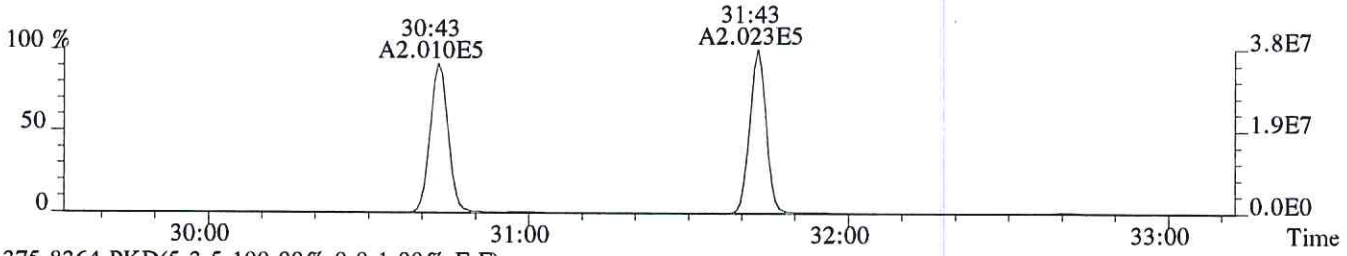
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1112.0,1.00%,F,T)



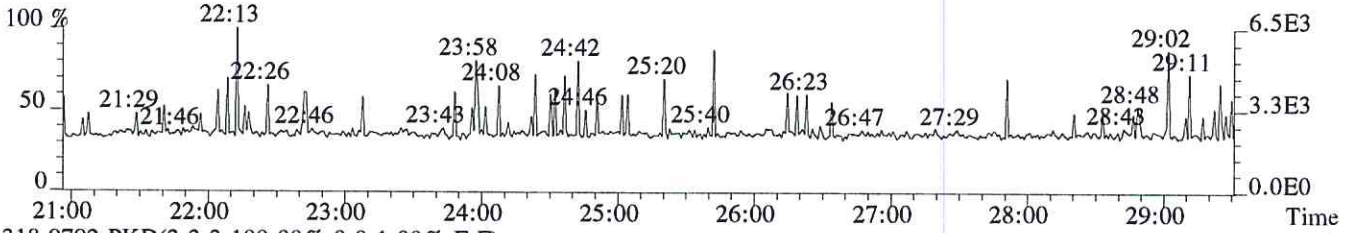
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



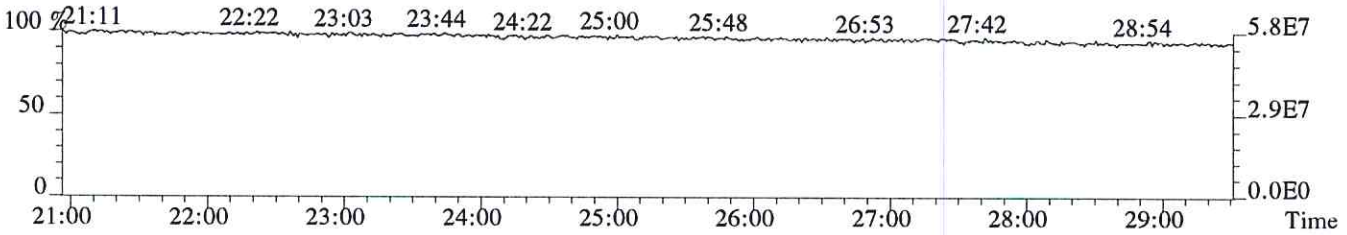
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

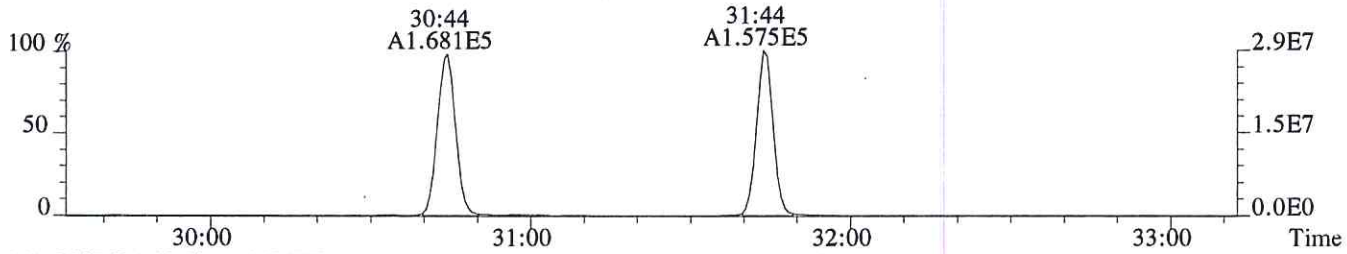


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

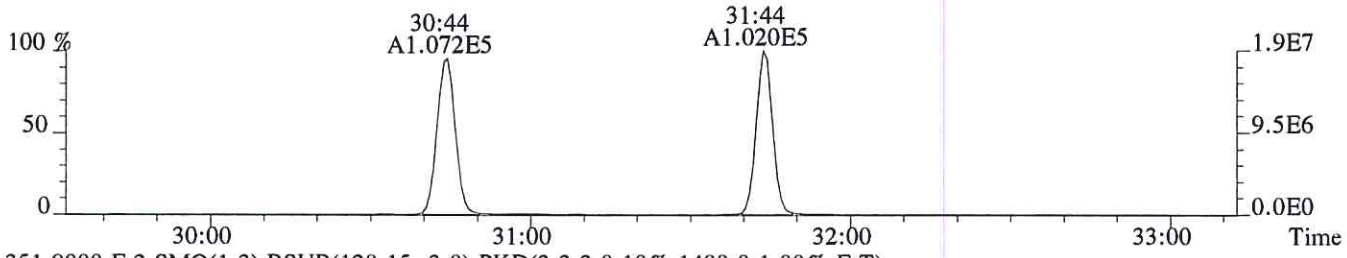


File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

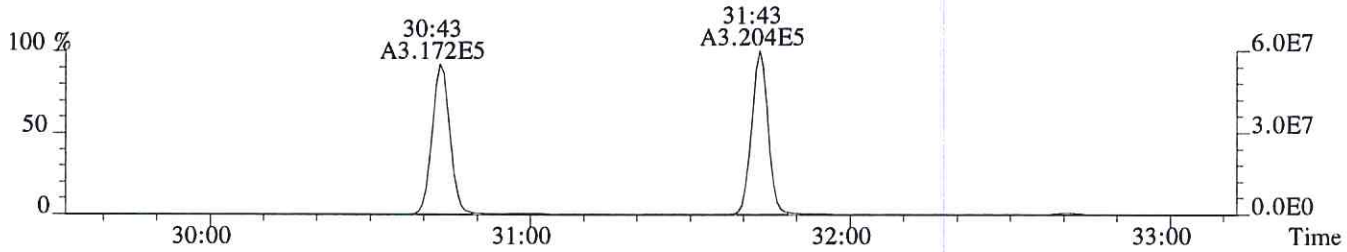
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



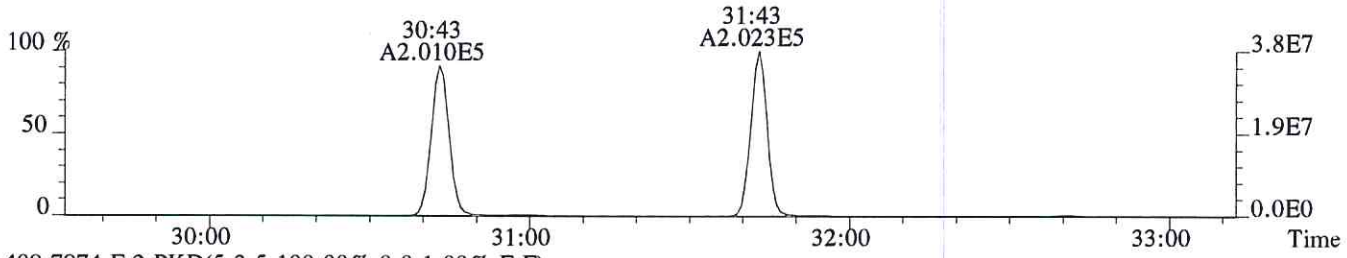
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3268.0,1.00%,F,T)



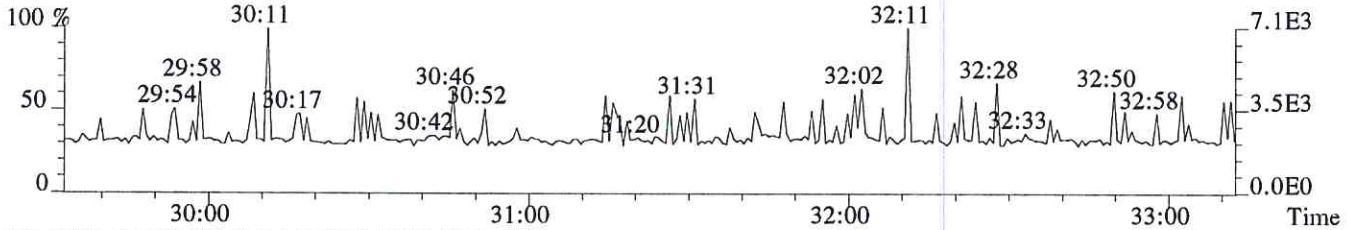
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



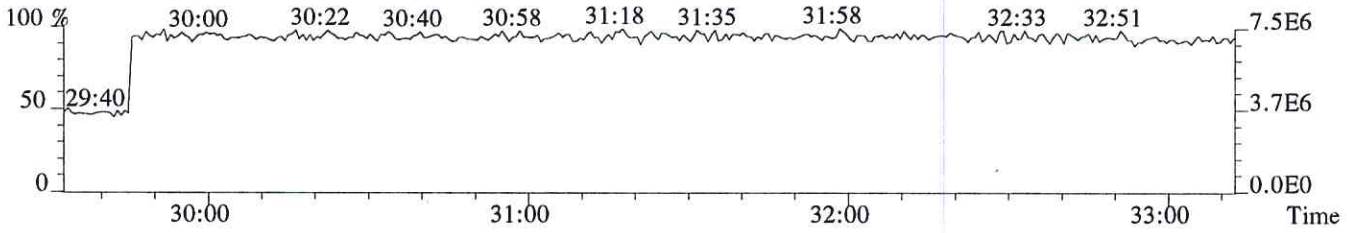
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



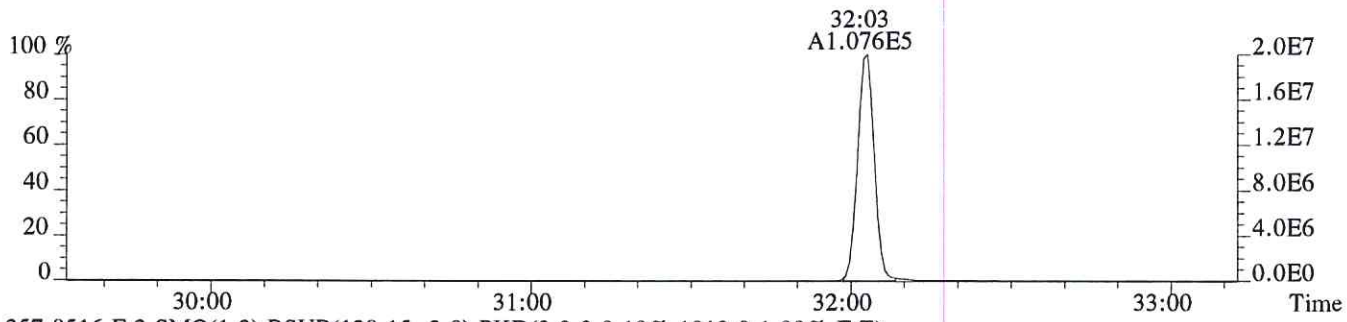
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



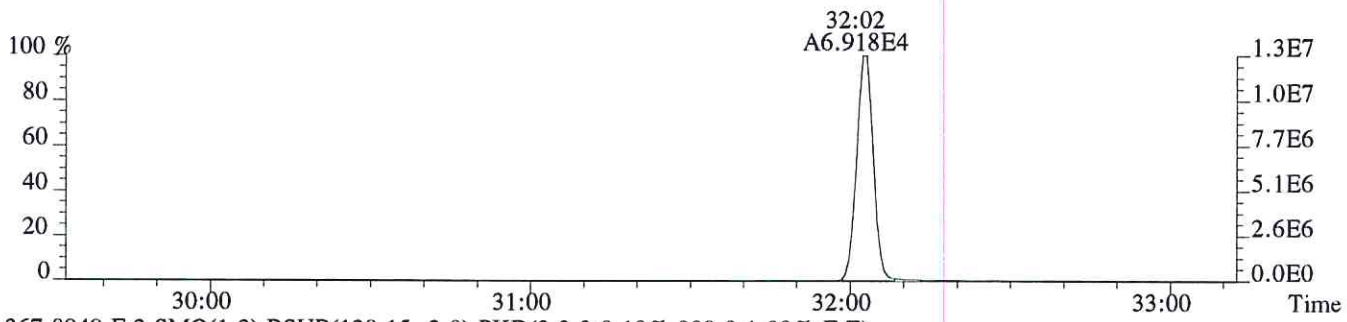
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



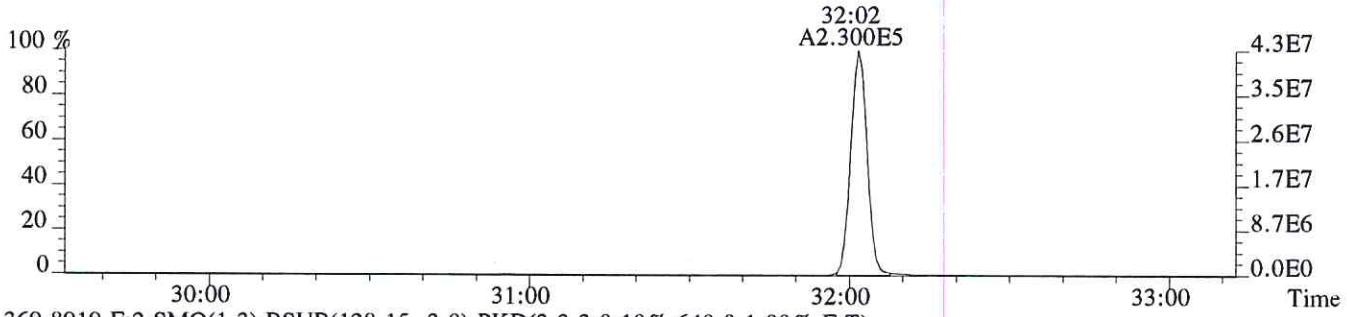
File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



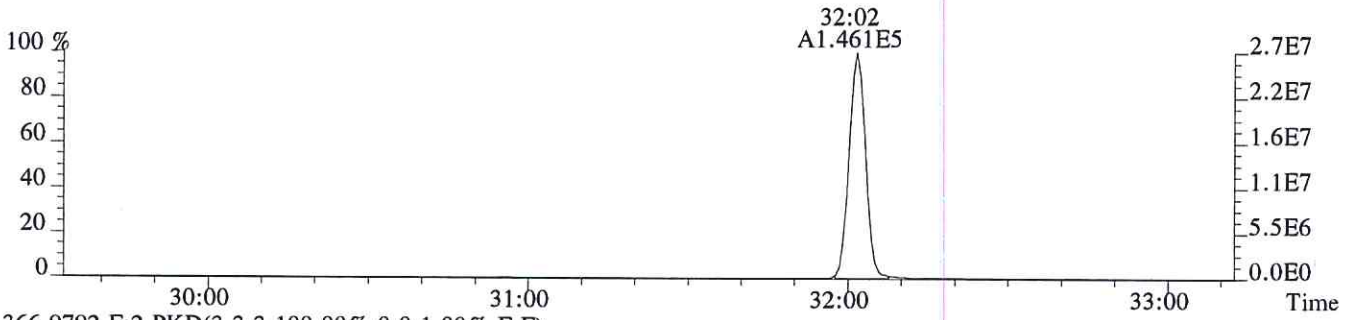
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



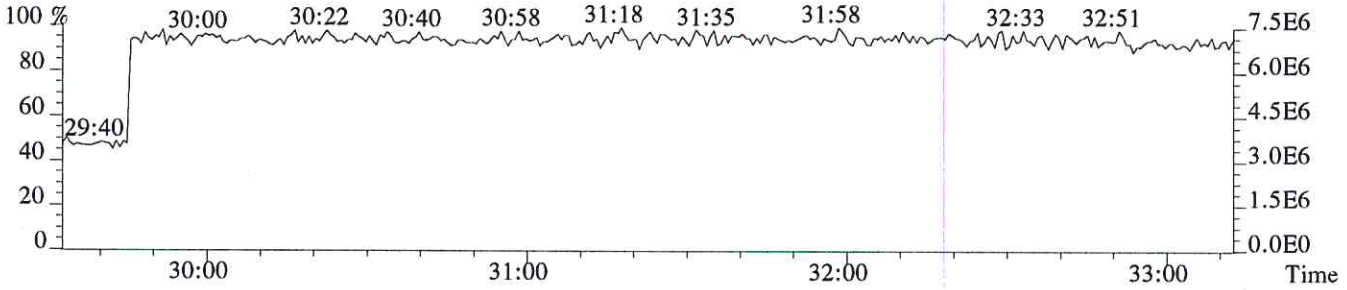
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



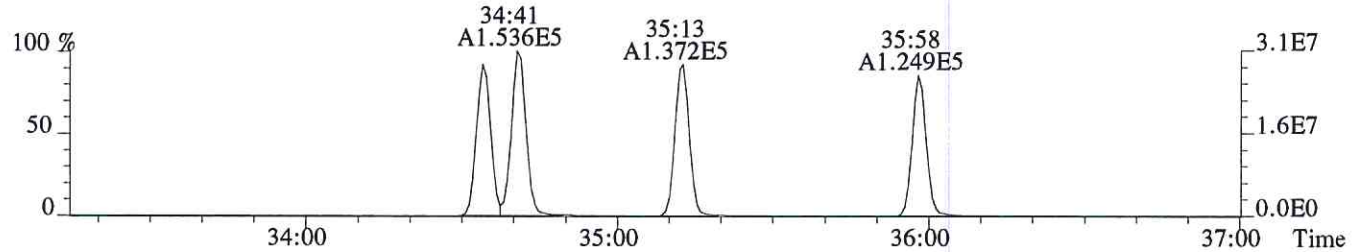
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



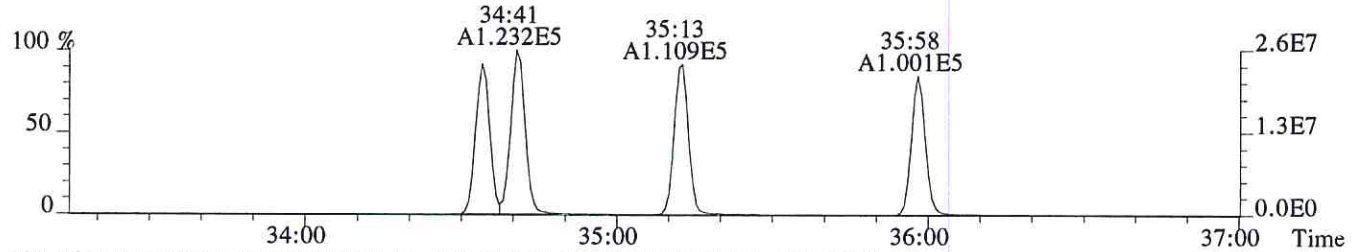
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



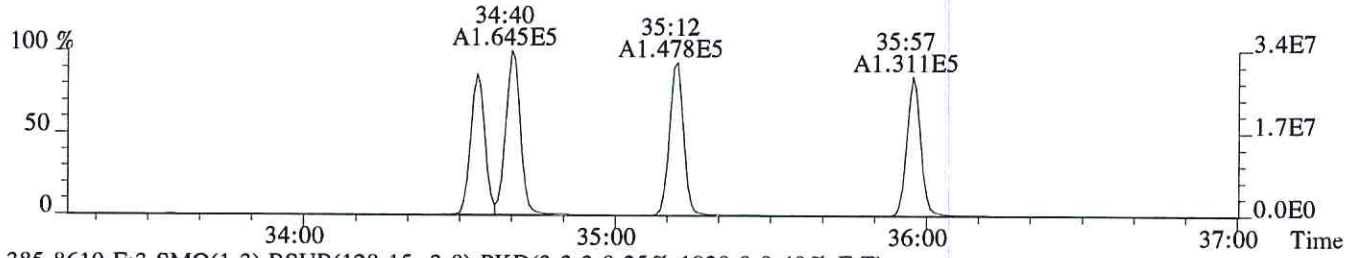
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



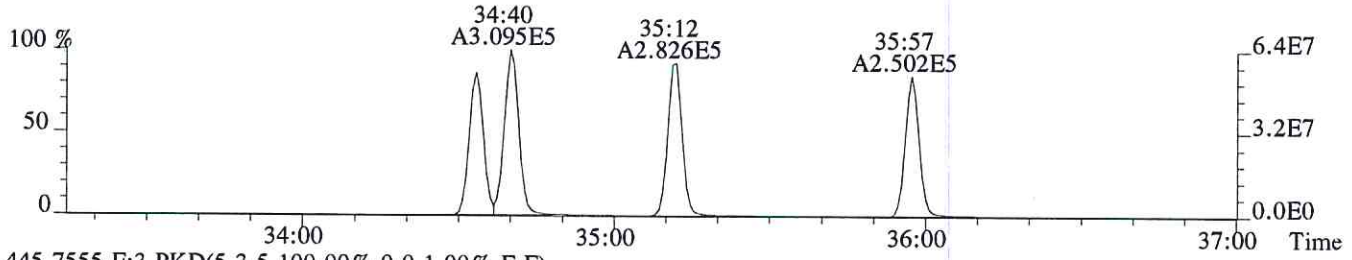
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



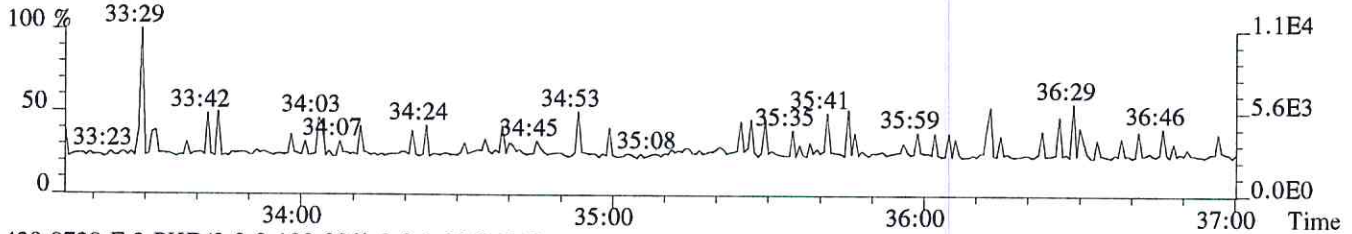
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



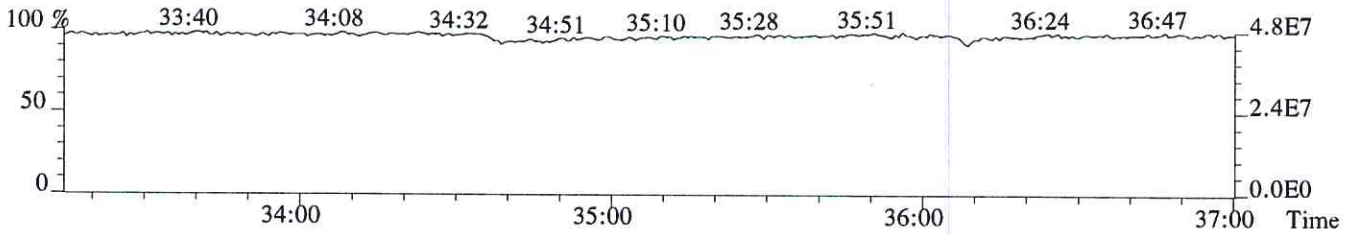
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.40%,F,T)



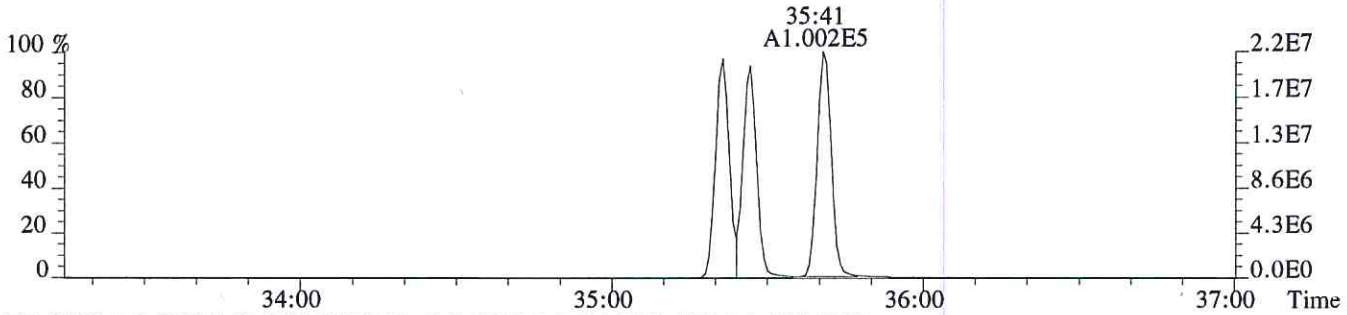
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



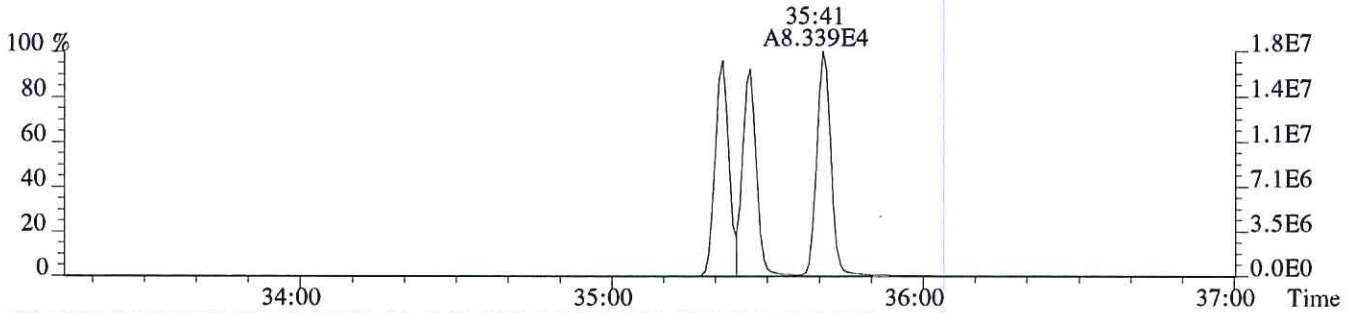
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



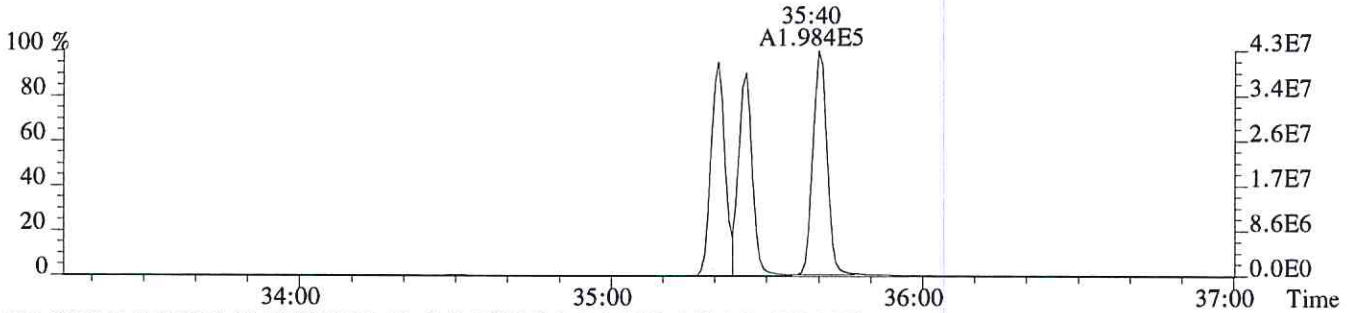
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



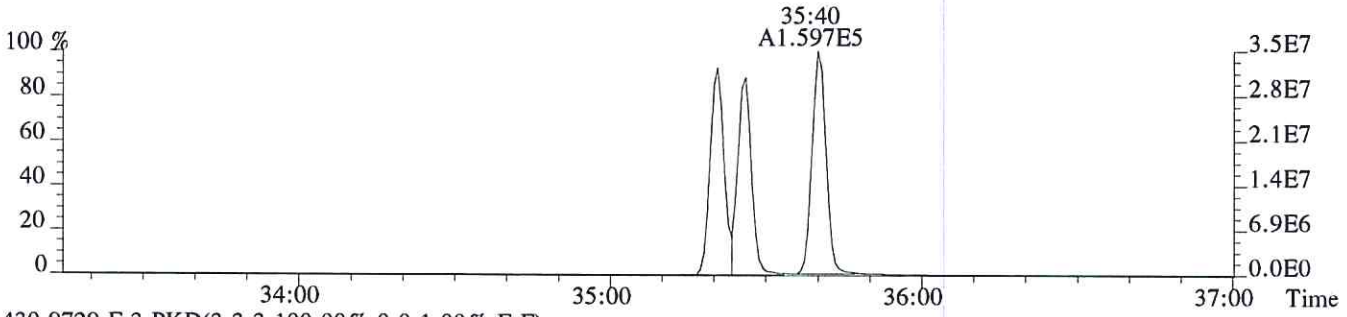
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



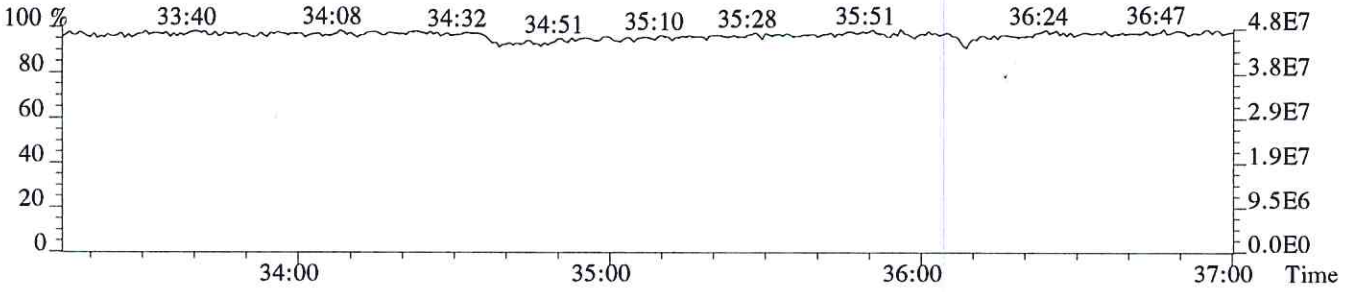
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



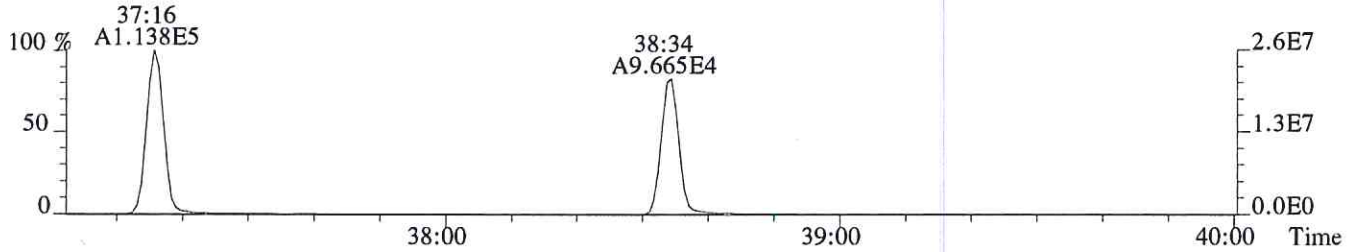
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



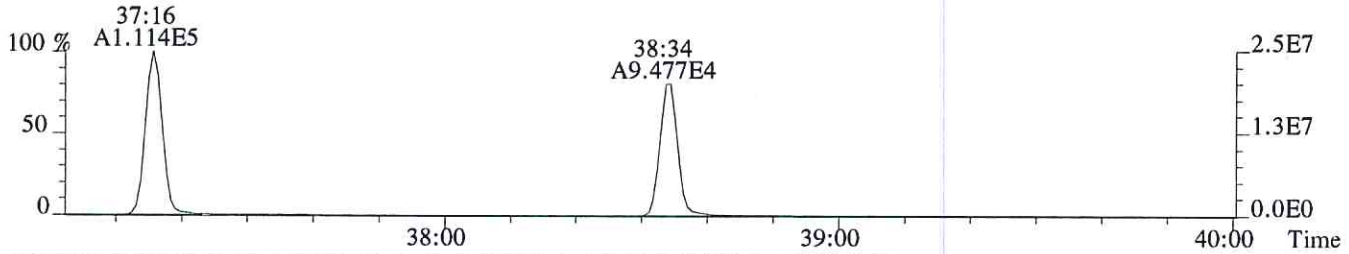
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



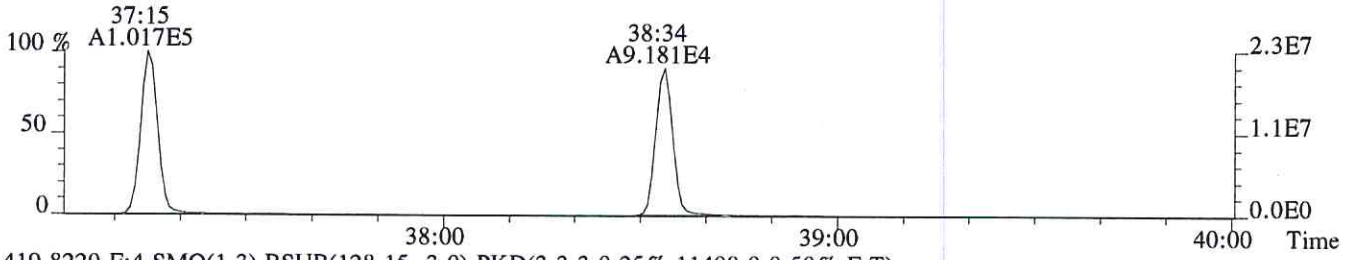
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.50%,F,T)



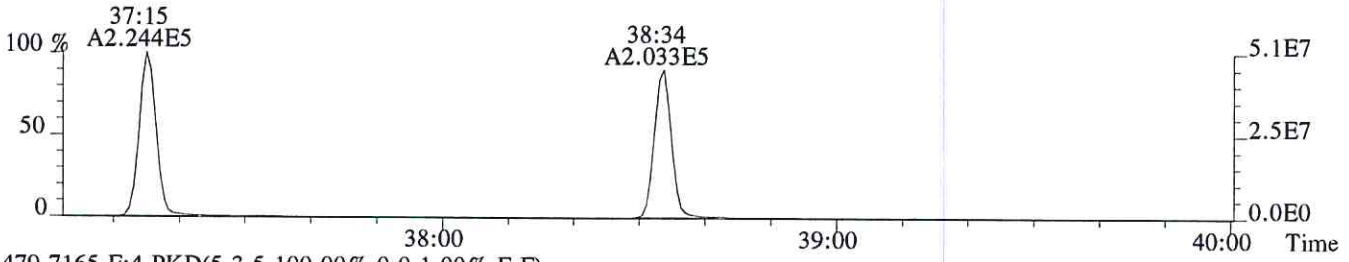
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6976.0,0.50%,F,T)



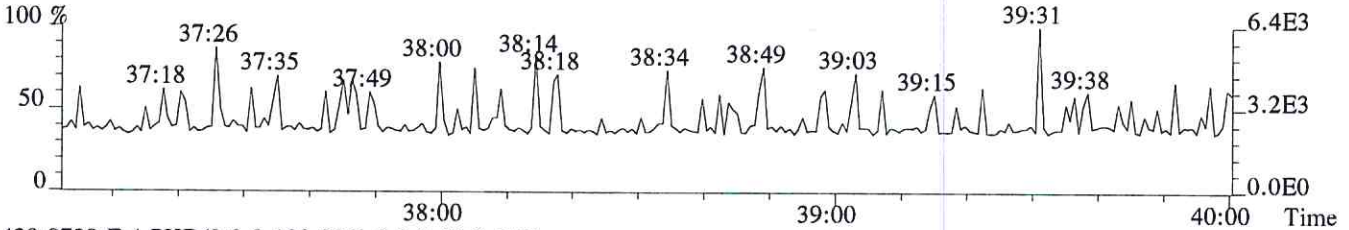
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17904.0,0.50%,F,T)



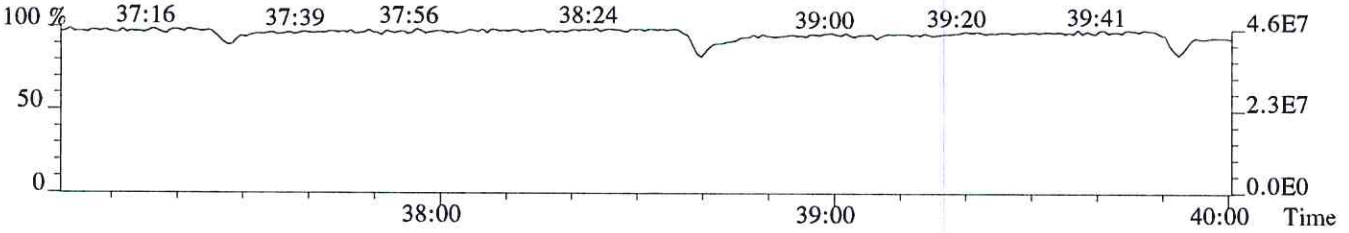
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11408.0,0.50%,F,T)



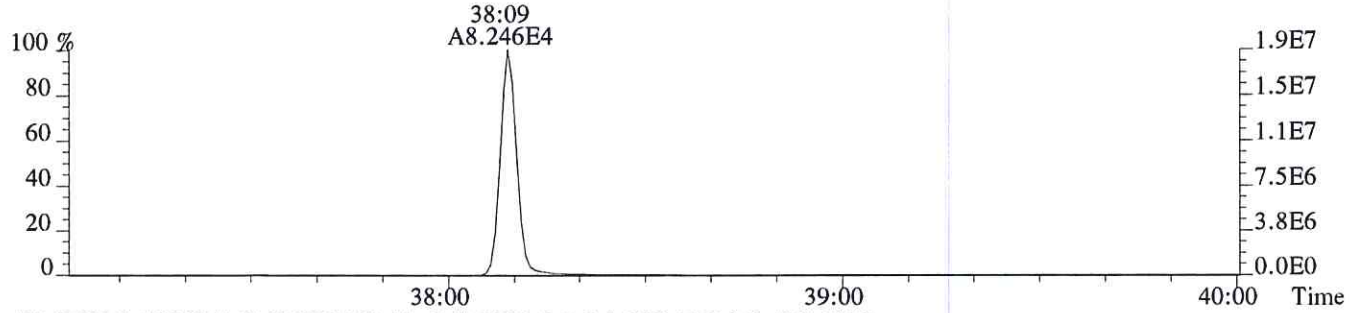
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



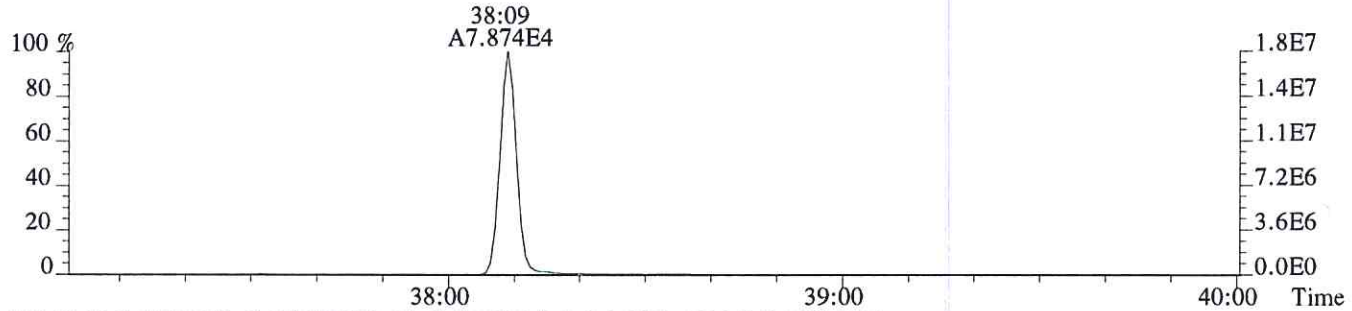
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



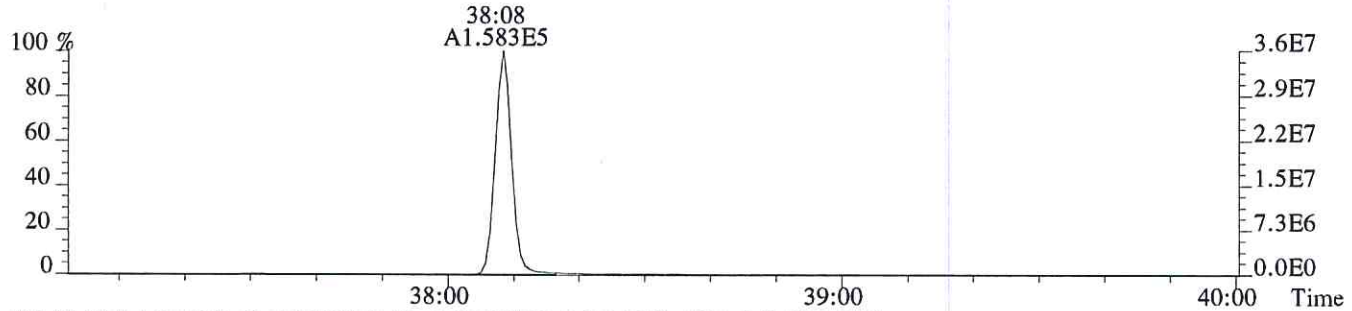
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1148.0,0.40%,F,T)



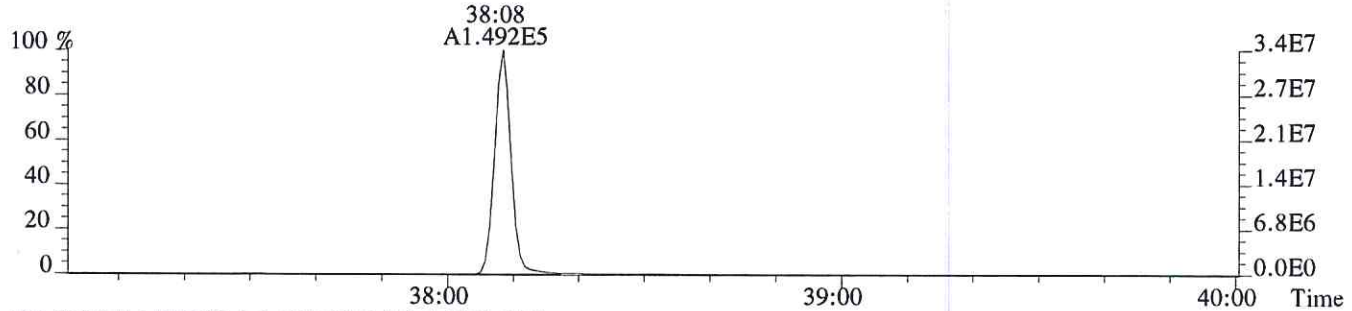
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



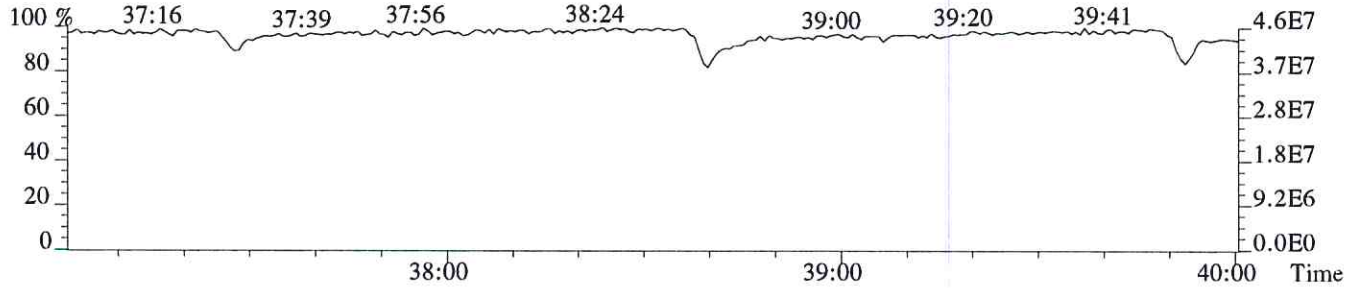
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



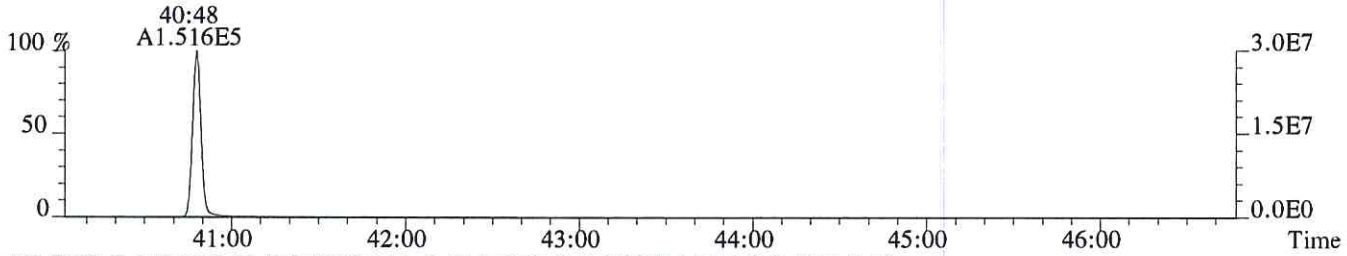
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.40%,F,T)



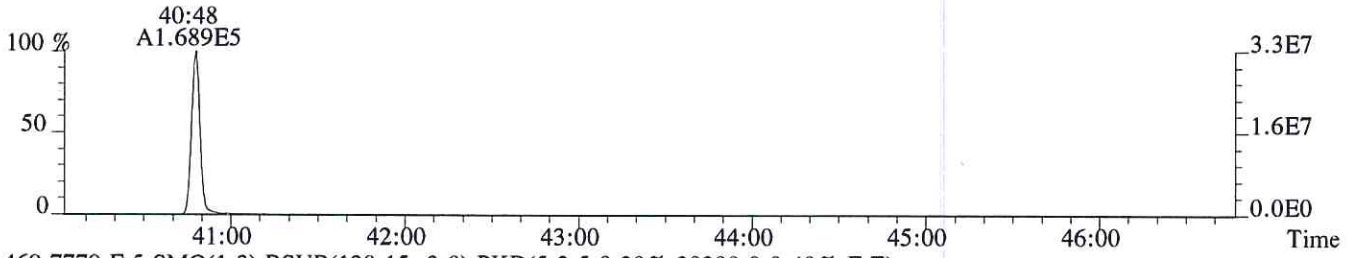
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



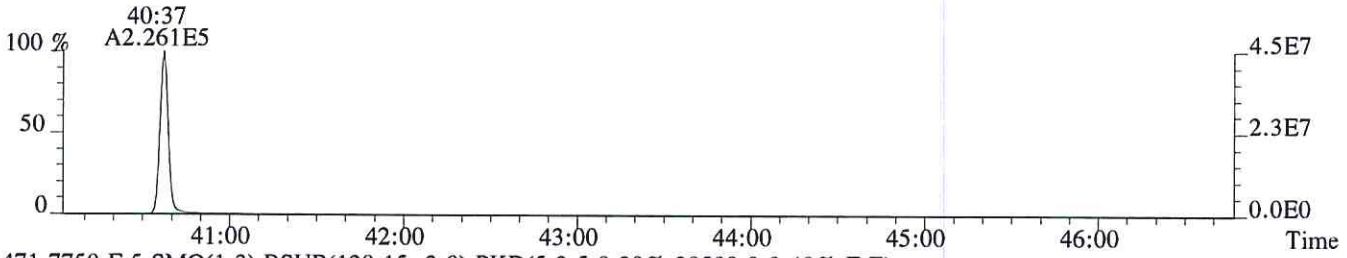
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9756.0,0.40%,F,T)



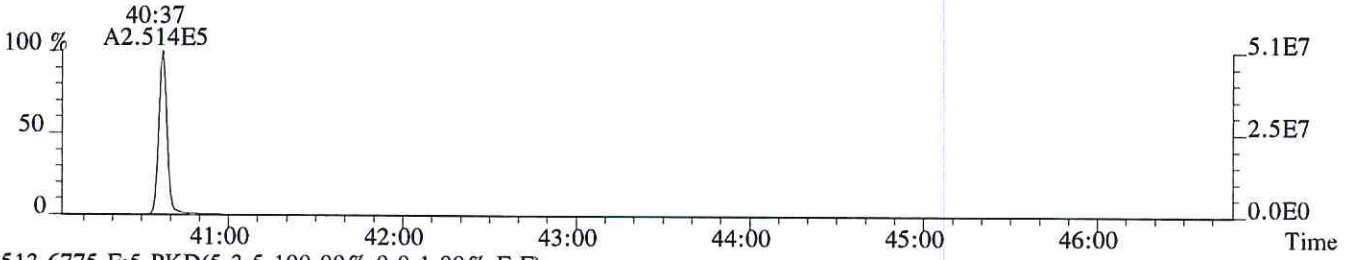
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14120.0,0.40%,F,T)



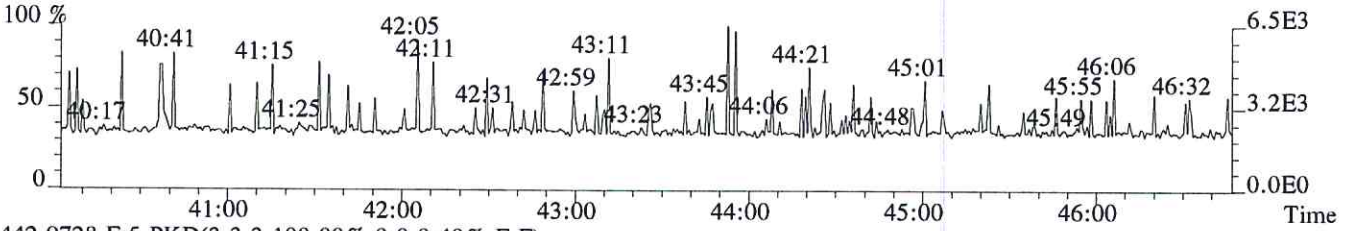
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



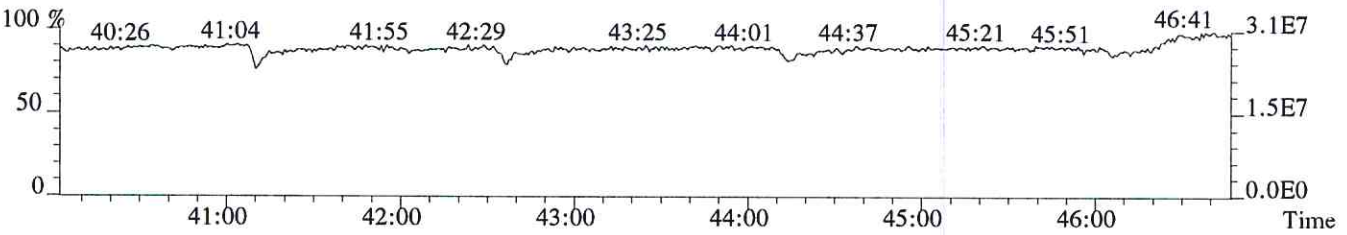
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,20500.0,0.40%,F,T)



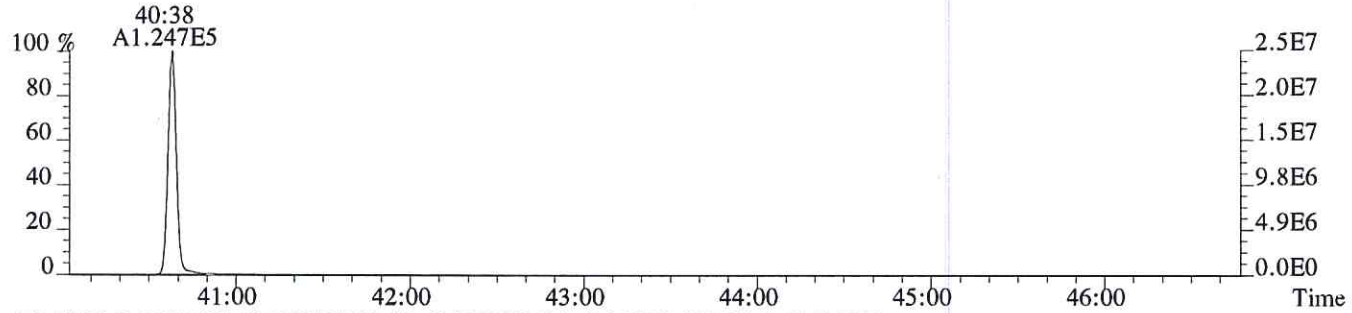
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



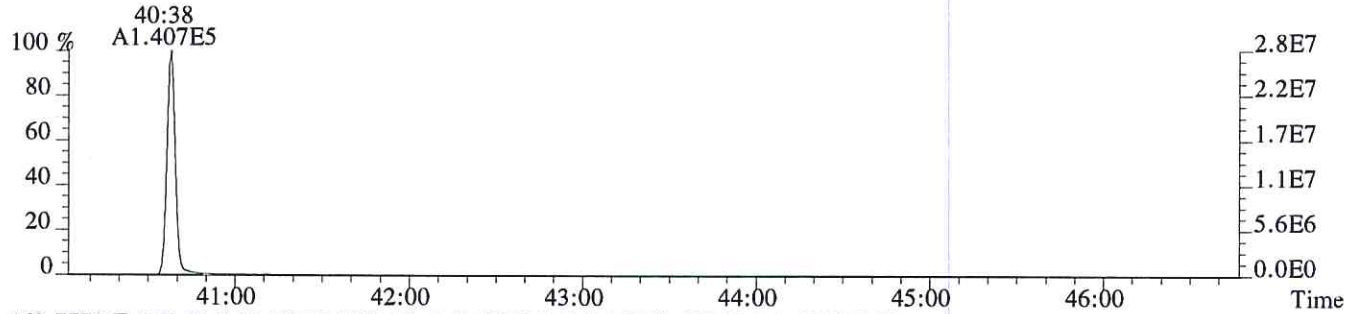
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



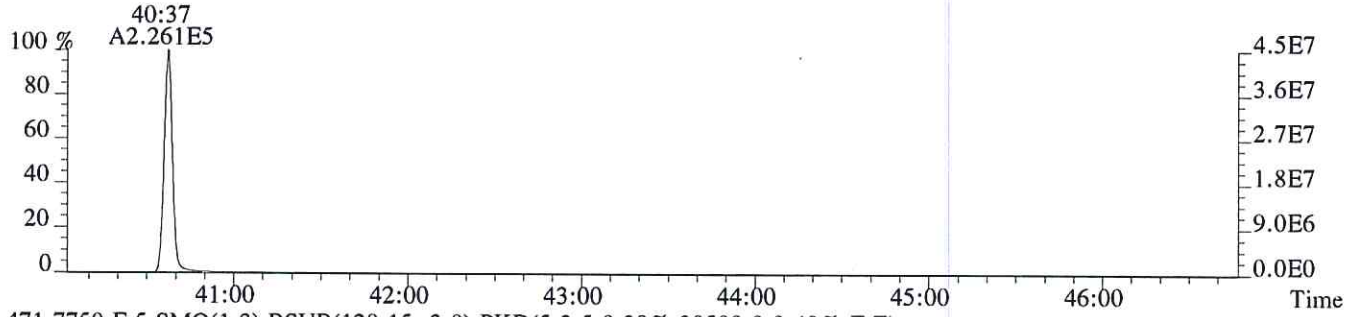
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,6924.0,0.40%,F,T)



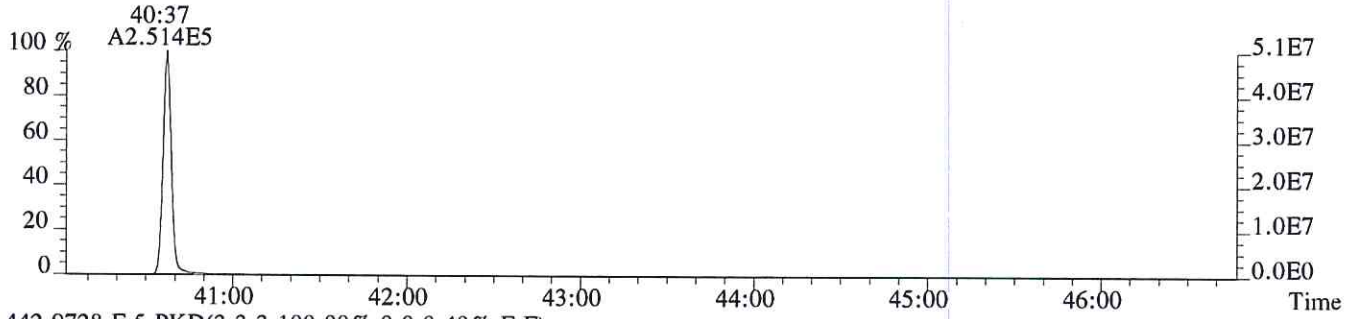
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8756.0,0.40%,F,T)



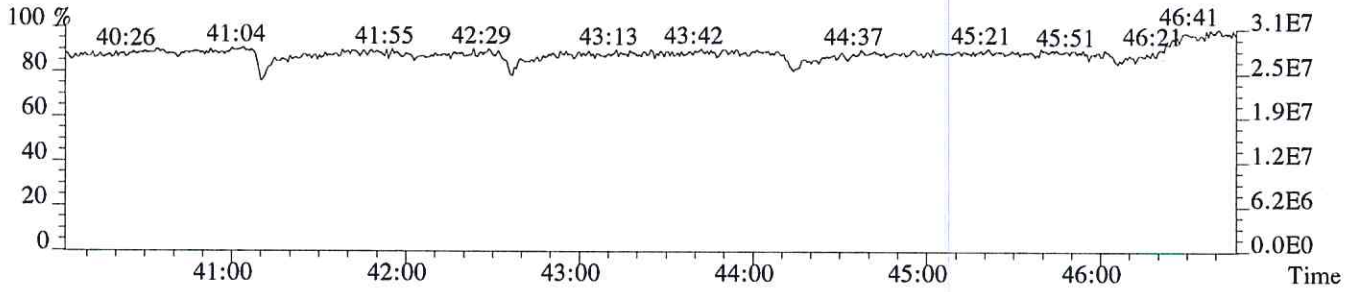
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,20500.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76558

Run #5 Filename P607183 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:05:29
Processed: 17-MAY-17 07:52:59 Sample ID: CS4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:52	7.595e+04	9.857e+04	0.77	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	6.078e+05	3.894e+05	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	5.718e+05	3.687e+05	1.55	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	4.949e+05	4.000e+05	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	5.624e+05	4.533e+05	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	4.994e+05	4.037e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	4.513e+05	3.624e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	4.147e+05	3.998e+05	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	3.490e+05	3.404e+05	1.03	yes	no	1.341
10	Unk	OCDF	40:49	5.372e+05	5.981e+05	0.90	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:50	5.666e+04	7.291e+04	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	3.937e+05	2.518e+05	1.56	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	3.517e+05	2.822e+05	1.25	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	3.395e+05	2.745e+05	1.24	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	3.627e+05	2.906e+05	1.25	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	2.941e+05	2.815e+05	1.04	yes	no	1.048
17	Unk	OCDD	40:39	4.374e+05	4.944e+05	0.88	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	1.955e+05	2.475e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	2.882e+05	1.816e+05	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	2.889e+05	1.835e+05	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	1.227e+05	2.325e+05	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	1.500e+05	2.824e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	1.337e+05	2.534e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	1.179e+05	2.244e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	9.217e+04	2.044e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	8.247e+04	1.809e+05	0.46	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	1.387e+05	1.755e+05	0.79	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	2.070e+05	1.311e+05	1.58	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.672e+05	1.326e+05	1.26	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	1.606e+05	1.288e+05	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	1.420e+05	1.351e+05	1.05	yes	no	0.884
32	IS	13C-OCDD	40:38	1.985e+05	2.200e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	1.415e+05	1.758e+05	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	1.780e+05	1.408e+05	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	1.347e+05				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76558

Run #5 Filename P607183 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:05:29
Processed: 17-MAY-17 07:52:59 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.11e+07	2.28e+02	4.9e+04	1.44e+07	1.42e+03	1.0e+04
2	1,2,3,7,8-PeCDF	1.07e+08	8.04e+02	1.3e+05	6.86e+07	2.58e+03	2.7e+04
3	2,3,4,7,8-PeCDF	1.06e+08	8.04e+02	1.3e+05	6.91e+07	2.58e+03	2.7e+04
4	1,2,3,4,7,8-HxCDF	1.05e+08	7.12e+02	1.5e+05	8.50e+07	1.34e+03	6.4e+04
5	1,2,3,6,7,8-HxCDF	1.14e+08	7.12e+02	1.6e+05	9.25e+07	1.34e+03	6.9e+04
6	2,3,4,6,7,8-HxCDF	1.06e+08	7.12e+02	1.5e+05	8.50e+07	1.34e+03	6.4e+04
7	1,2,3,7,8,9-HxCDF	9.55e+07	7.12e+02	1.3e+05	7.73e+07	1.34e+03	5.8e+04
8	1,2,3,4,6,7,8-HpCDF	9.29e+07	2.11e+04	4.4e+03	9.00e+07	4.37e+03	2.1e+04
9	1,2,3,4,7,8,9-HpCDF	7.70e+07	2.11e+04	3.6e+03	7.41e+07	4.37e+03	1.7e+04
10	OCDF	1.07e+08	2.56e+04	4.2e+03	1.20e+08	3.83e+04	3.1e+03
11	2,3,7,8-TCDD	9.22e+06	1.64e+03	5.6e+03	1.19e+07	8.40e+02	1.4e+04
12	1,2,3,7,8-PeCDD	7.33e+07	1.69e+03	4.3e+04	4.65e+07	1.04e+03	4.5e+04
13	1,2,3,4,7,8-HxCDD	7.80e+07	2.56e+02	3.0e+05	6.19e+07	2.40e+02	2.6e+05
14	1,2,3,6,7,8-HxCDD	7.31e+07	2.56e+02	2.9e+05	5.87e+07	2.40e+02	2.4e+05
15	1,2,3,7,8,9-HxCDD	7.74e+07	2.56e+02	3.0e+05	6.26e+07	2.40e+02	2.6e+05
16	1,2,3,4,6,7,8-HpCDD	6.69e+07	2.90e+03	2.3e+04	6.43e+07	2.50e+03	2.6e+04
17	OCDD	8.66e+07	1.61e+04	5.4e+03	9.81e+07	3.51e+04	2.8e+03
18	13C-2,3,7,8-TCDF	2.87e+07	1.22e+04	2.3e+03	3.63e+07	6.29e+03	5.8e+03
19	13C-1,2,3,7,8-PeCDF	4.98e+07	1.62e+03	3.1e+04	3.15e+07	2.38e+03	1.3e+04
20	13C-2,3,4,7,8-PeCDF	5.43e+07	1.62e+03	3.4e+04	3.46e+07	2.38e+03	1.5e+04
21	13C-1,2,3,4,7,8-HxCDF	2.62e+07	1.46e+03	1.8e+04	4.97e+07	2.35e+03	2.1e+04
22	13C-1,2,3,6,7,8-HxCDF	3.08e+07	1.46e+03	2.1e+04	5.86e+07	2.35e+03	2.5e+04
23	13C-2,3,4,6,7,8-HxCDF	2.81e+07	1.46e+03	1.9e+04	5.29e+07	2.35e+03	2.3e+04
24	13C-1,2,3,7,8,9-HxCDF	2.49e+07	1.46e+03	1.7e+04	4.77e+07	2.35e+03	2.0e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.06e+07	3.10e+03	6.6e+03	4.57e+07	2.12e+04	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.83e+07	3.10e+03	5.9e+03	3.99e+07	2.12e+04	1.9e+03
27	13C-2,3,7,8-TCDD	2.20e+07	5.38e+03	4.1e+03	2.77e+07	3.72e+03	7.5e+03
28	13C-1,2,3,7,8-PeCDD	3.86e+07	9.40e+02	4.1e+04	2.46e+07	2.12e+02	1.2e+05
29	13C-1,2,3,4,7,8-HxCDD	3.67e+07	1.43e+03	2.6e+04	2.87e+07	7.20e+02	4.0e+04
30	13C-1,2,3,6,7,8-HxCDD	3.45e+07	1.43e+03	2.4e+04	2.75e+07	7.20e+02	3.8e+04
31	13C-1,2,3,4,6,7,8-HpCDD	3.23e+07	1.99e+03	1.6e+04	3.04e+07	8.40e+02	3.6e+04
32	13C-OCDD	3.92e+07	1.53e+04	2.6e+03	4.33e+07	8.96e+03	4.8e+03
33	13C-1,2,3,4-TCDD	2.13e+07	5.38e+03	4.0e+03	2.65e+07	3.72e+03	7.1e+03
34	13C-1,2,3,7,8,9-HxCDD	3.76e+07	1.43e+03	2.6e+04	3.02e+07	7.20e+02	4.2e+04
35	37Cl-2,3,7,8-TCDD	2.21e+07	1.39e+03	1.6e+04			

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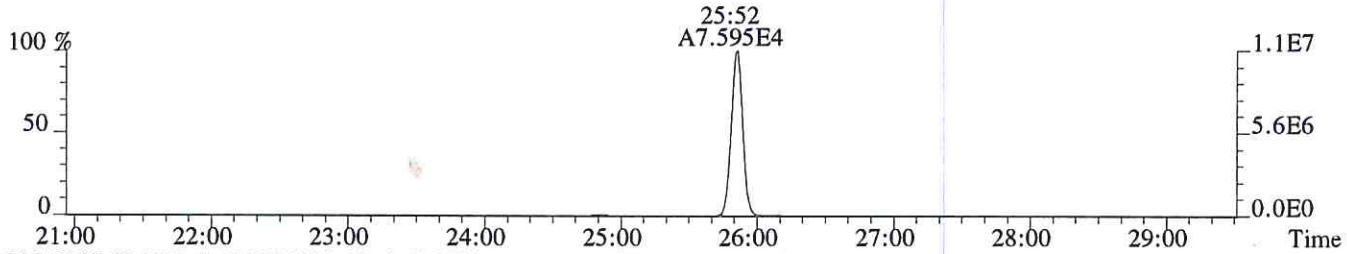
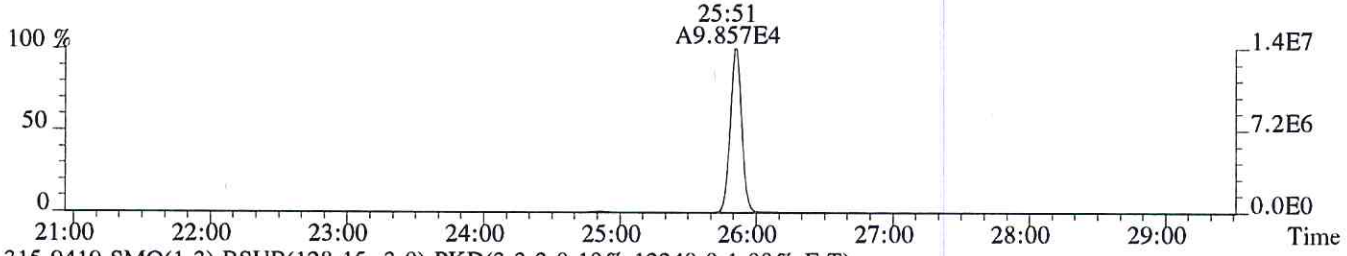
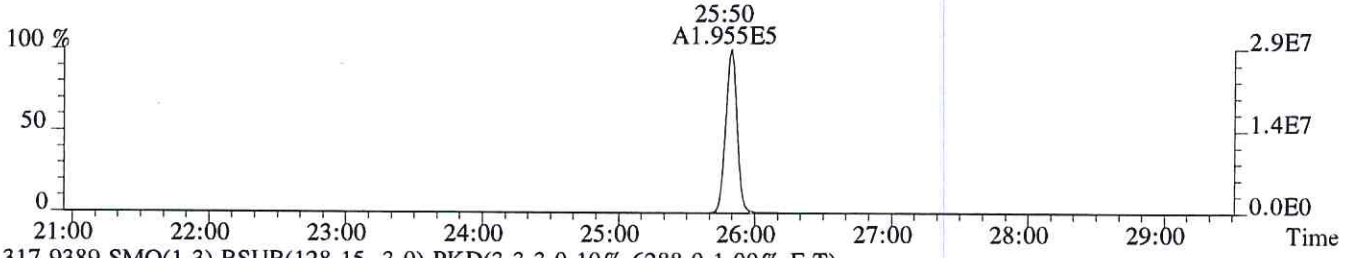
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



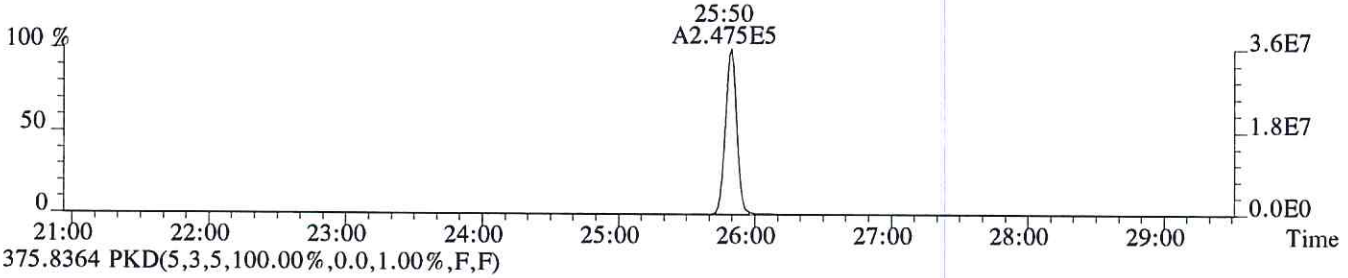
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



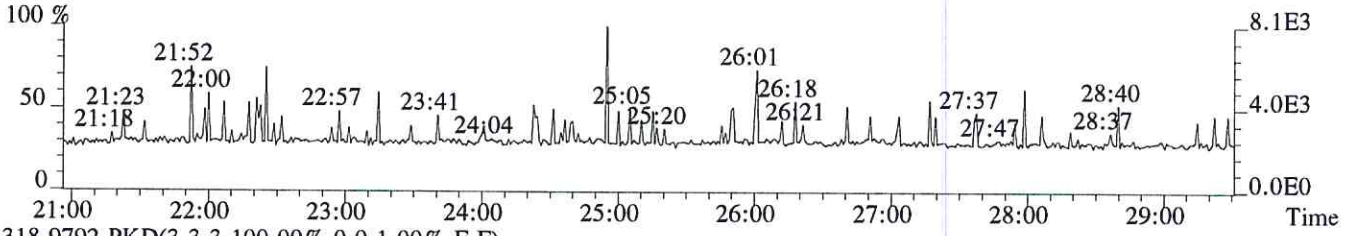
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12248.0,1.00%,F,T)



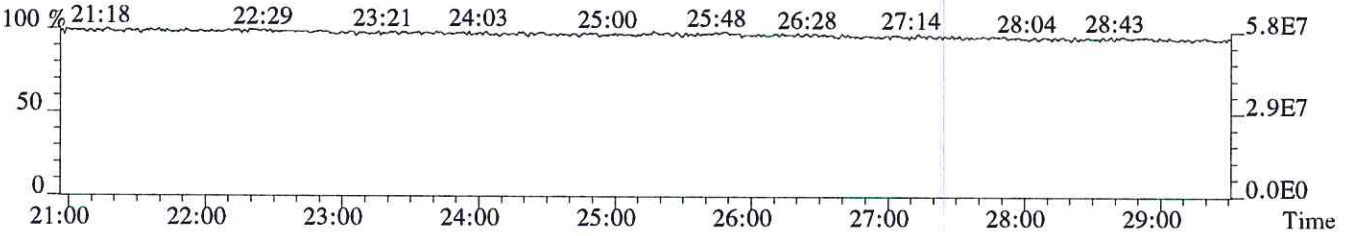
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6288.0,1.00%,F,T)



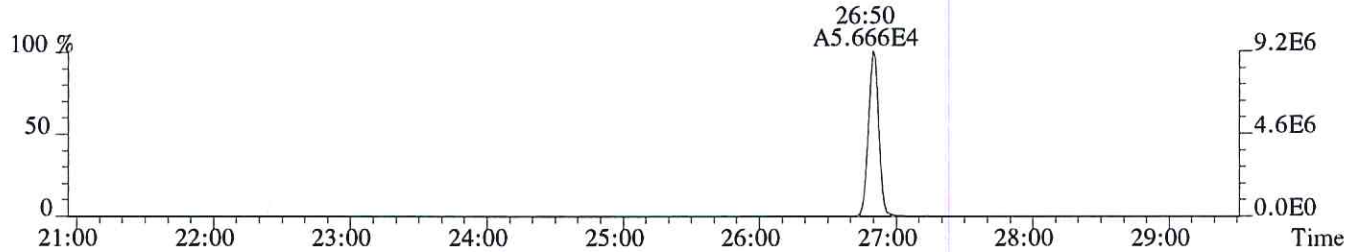
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



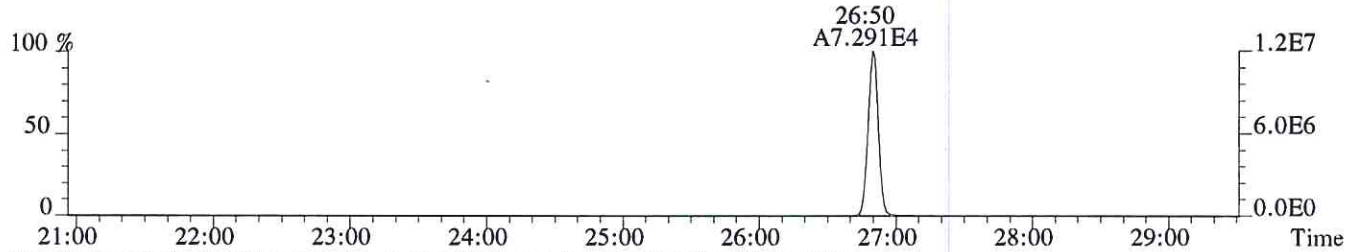
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



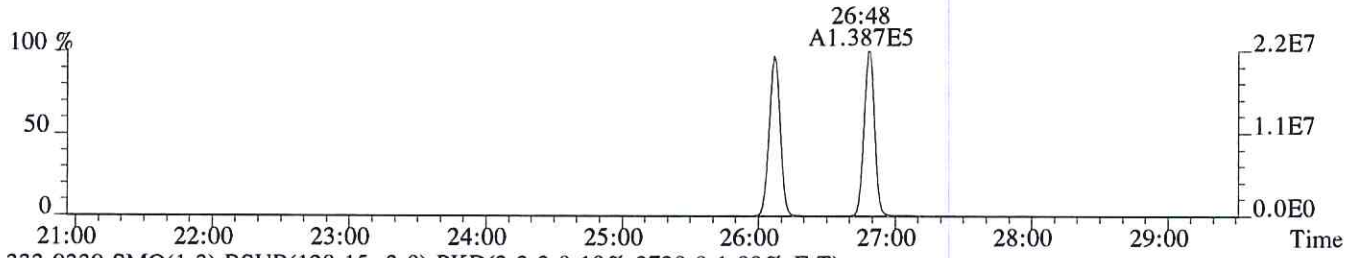
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



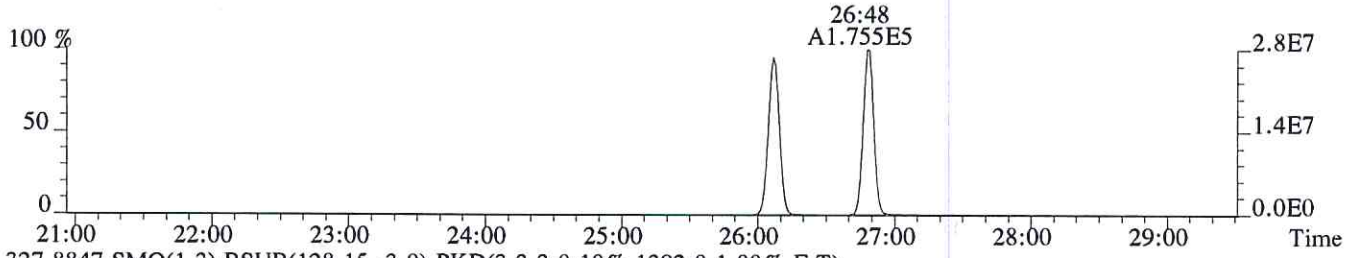
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



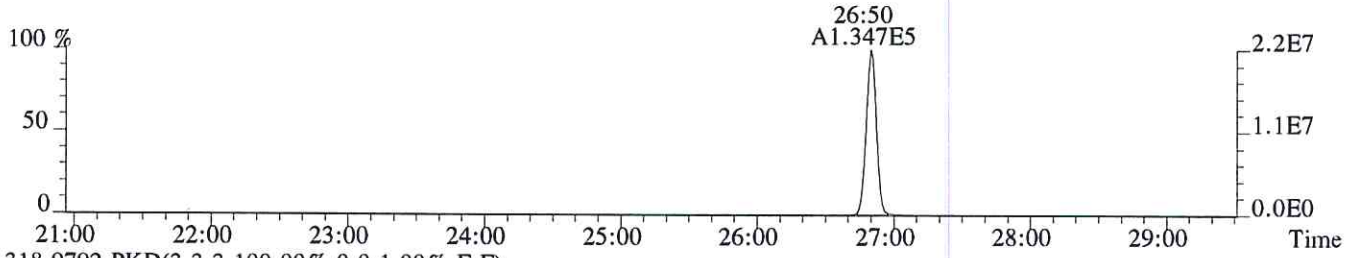
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5384.0,1.00%,F,T)



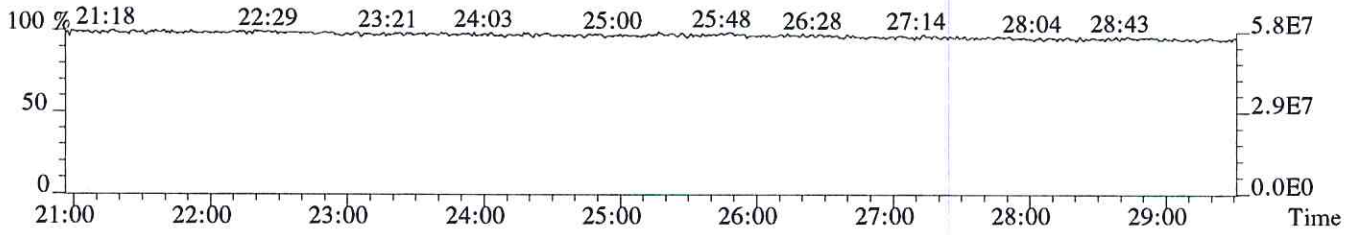
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3720.0,1.00%,F,T)



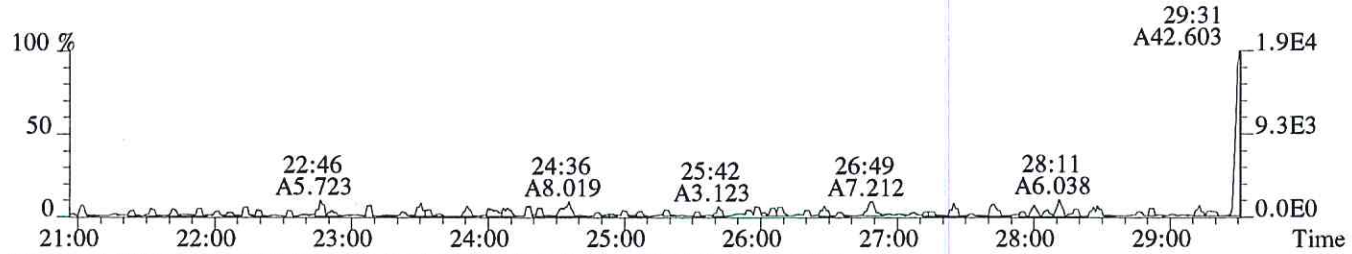
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



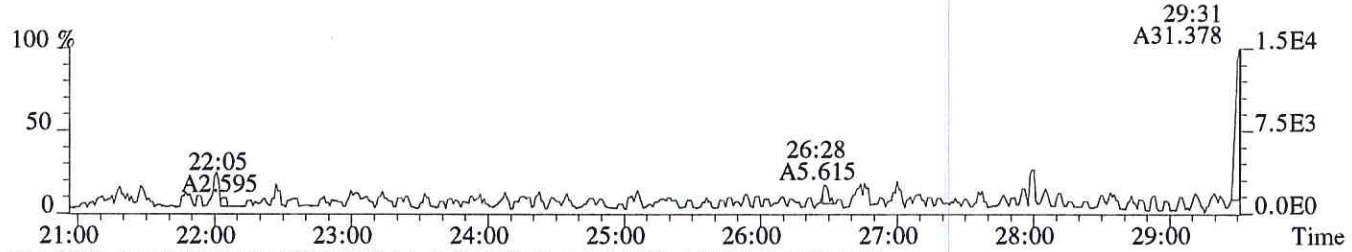
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



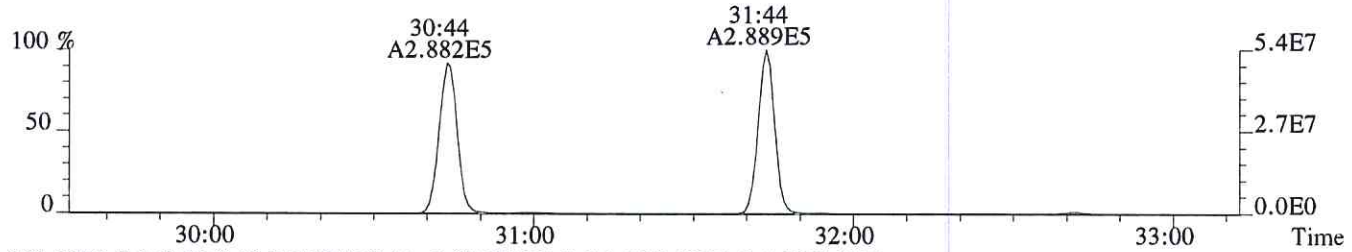
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,T)



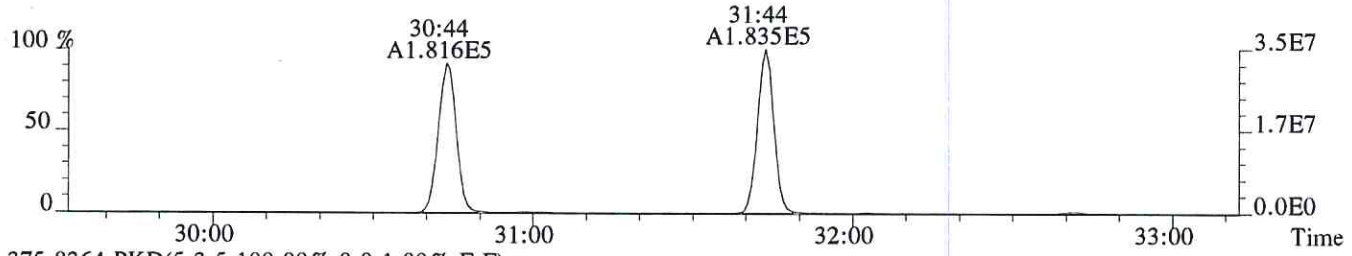
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



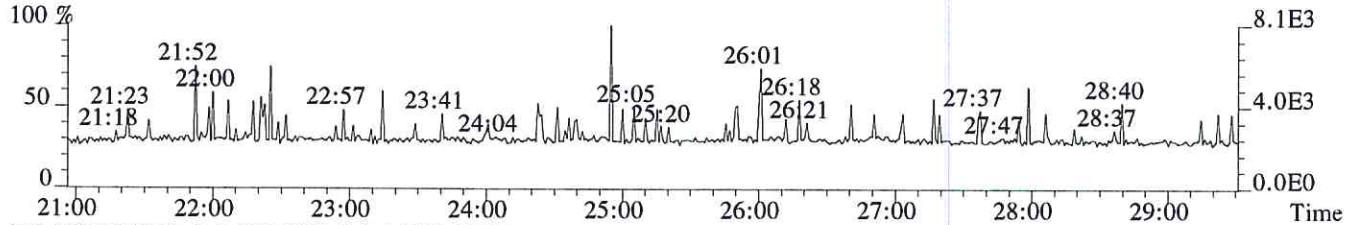
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



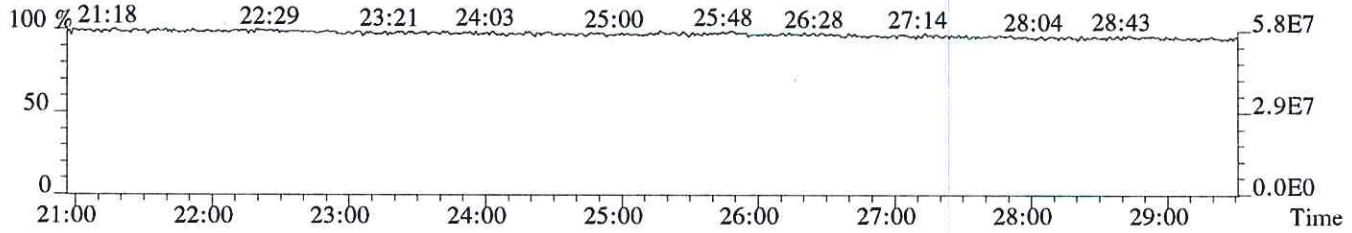
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

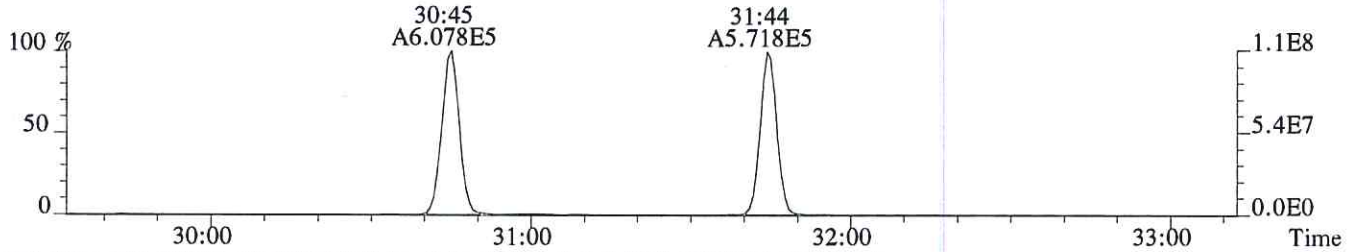


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

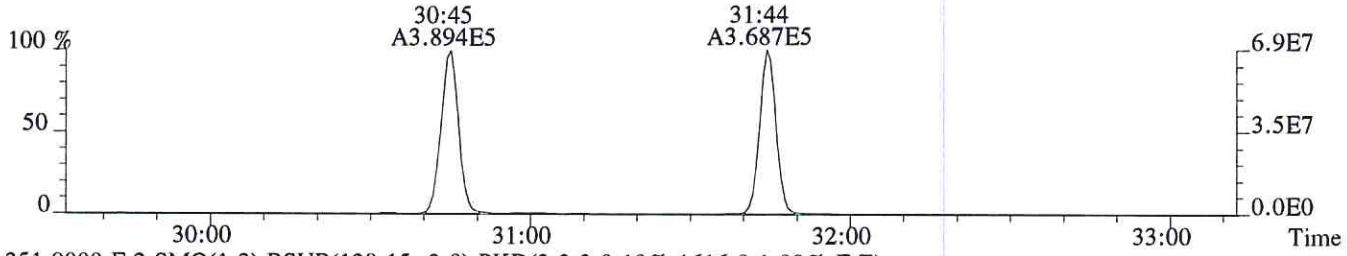


File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4

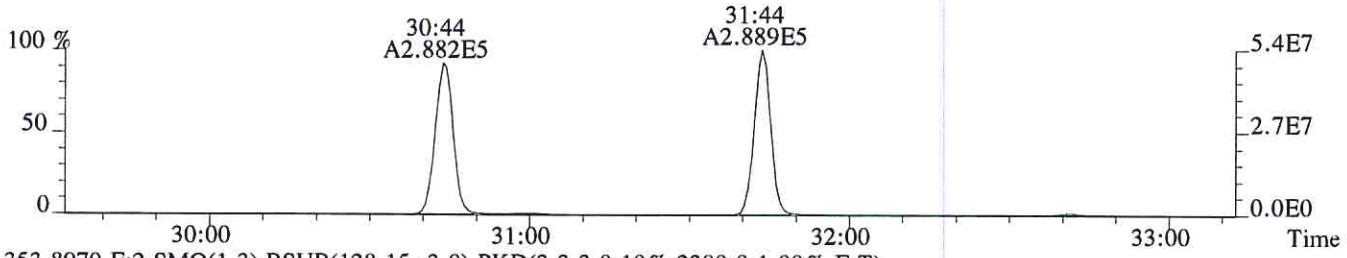
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



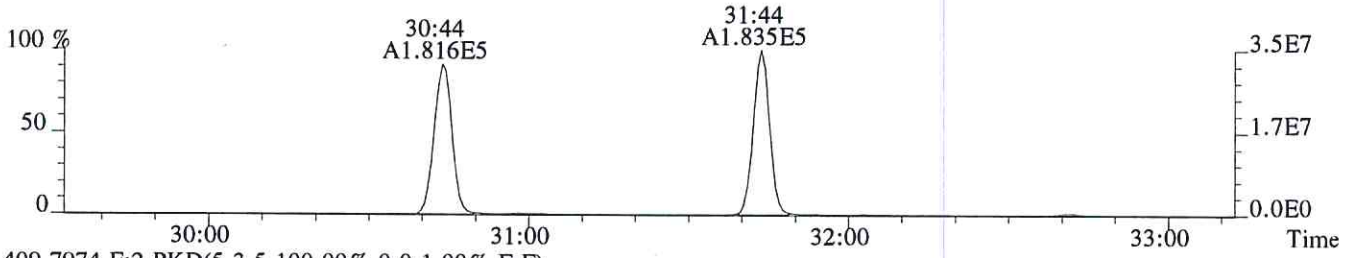
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2584.0,1.00%,F,T)



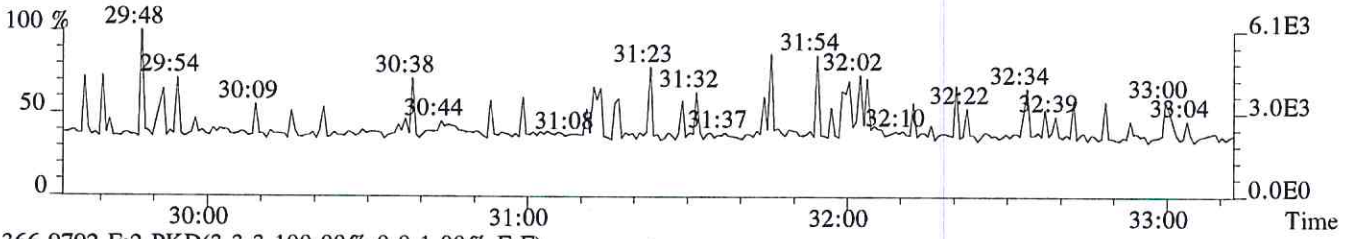
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



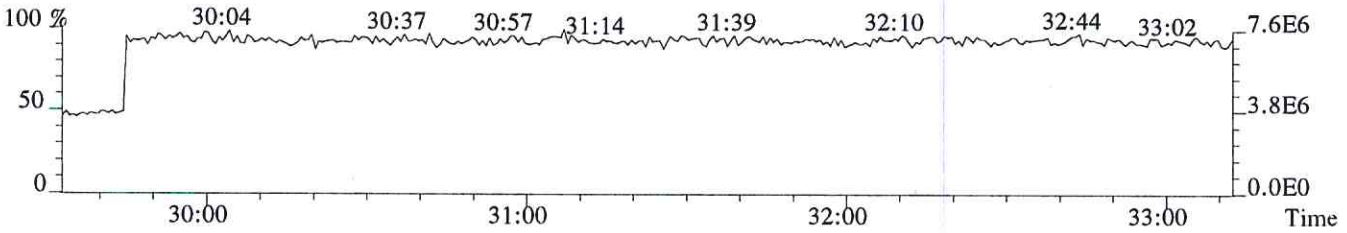
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



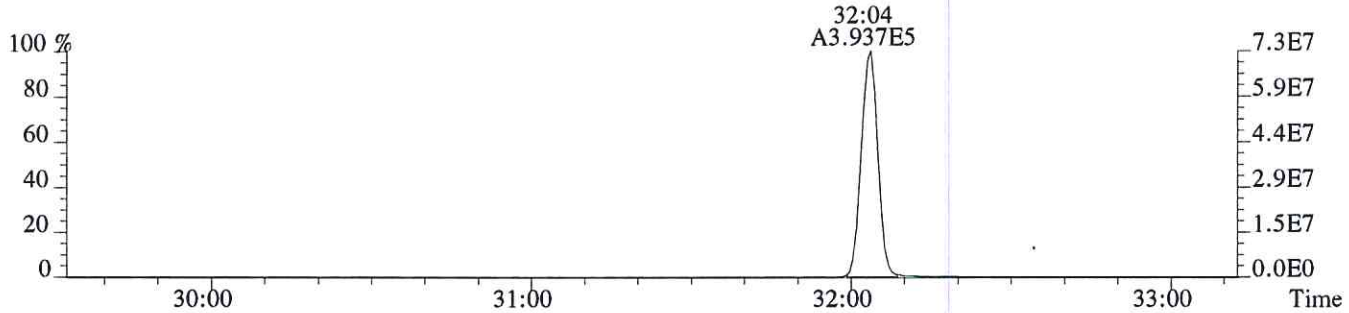
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



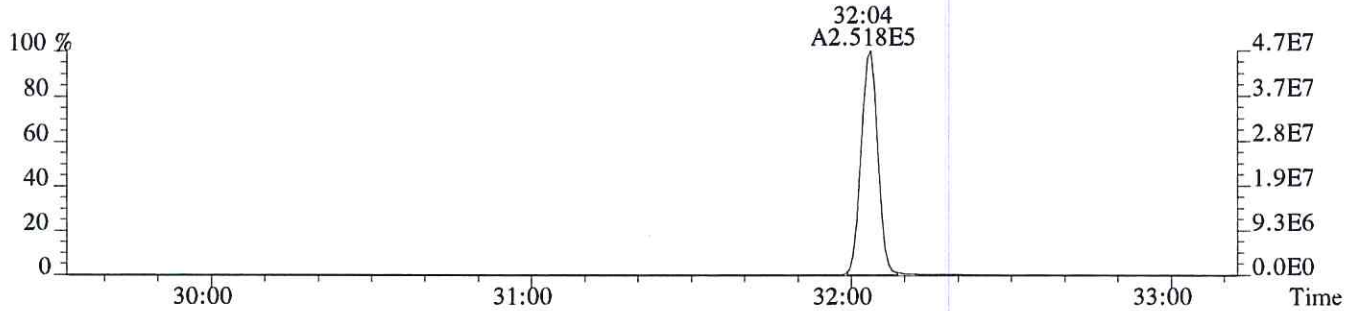
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



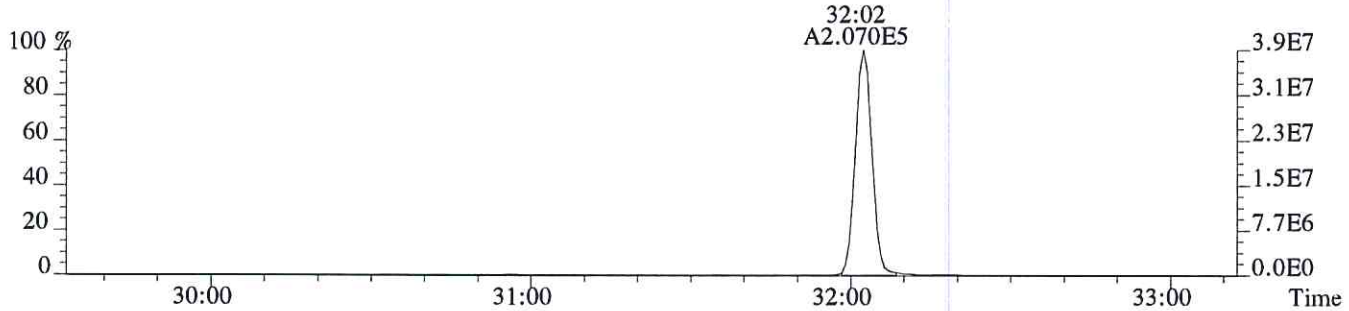
File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



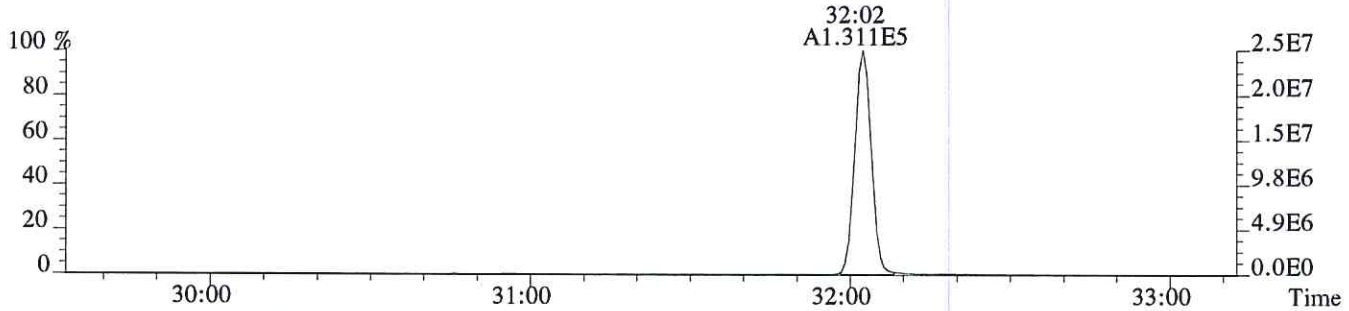
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1044.0,1.00%,F,T)



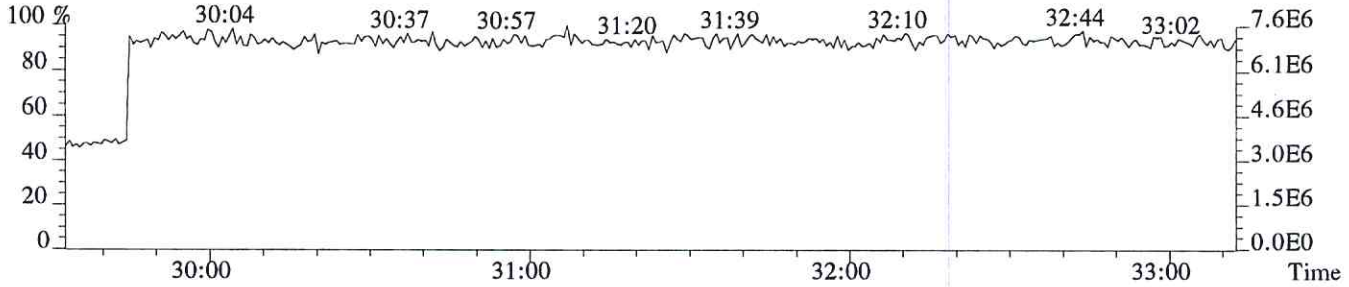
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



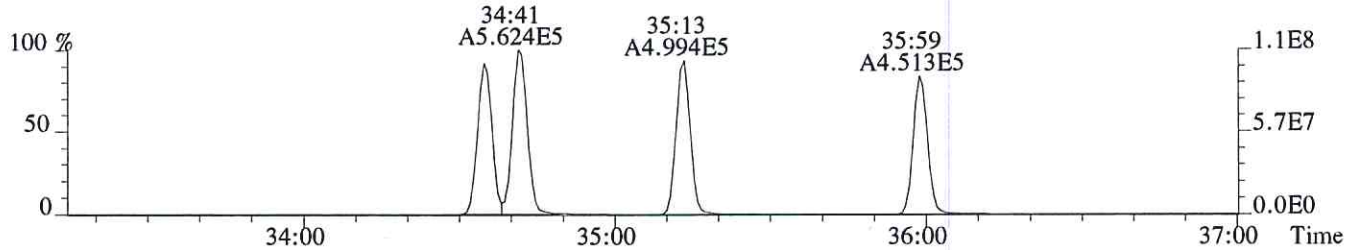
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



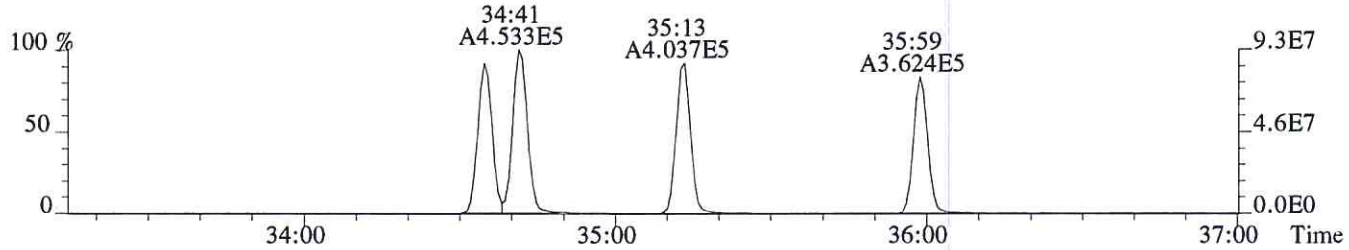
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



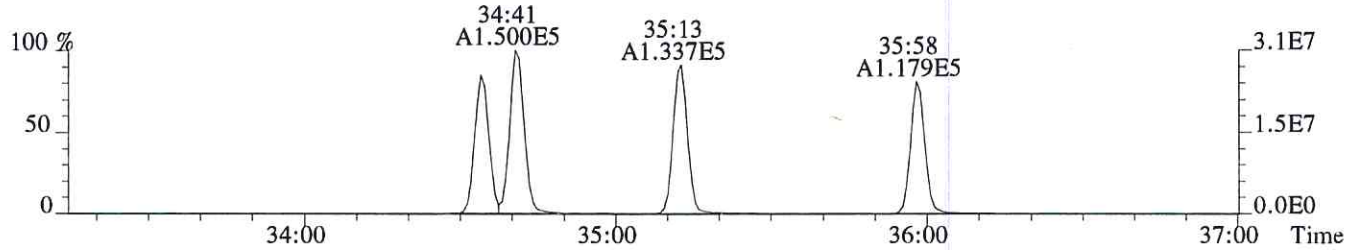
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



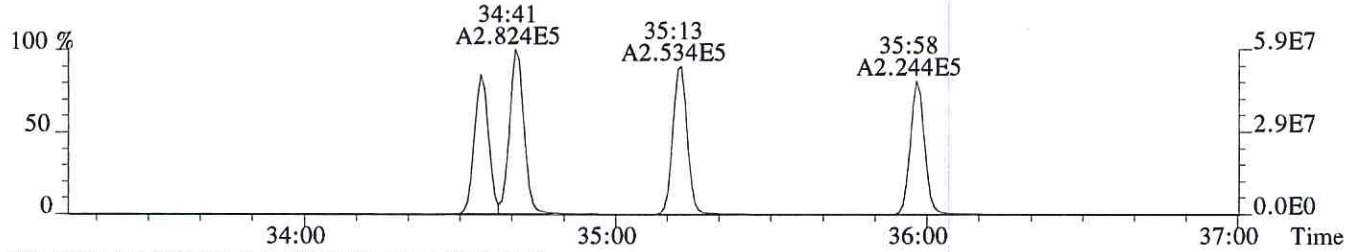
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



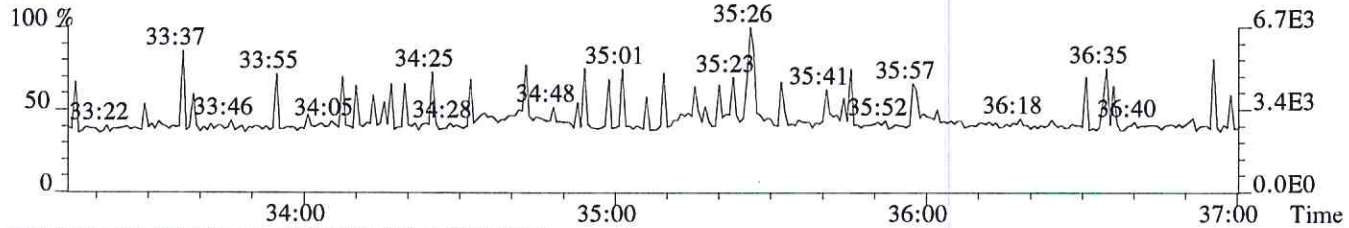
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.40%,F,T)



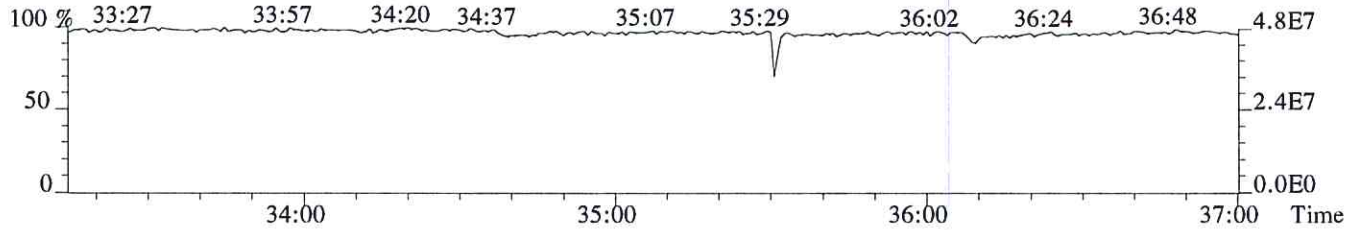
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



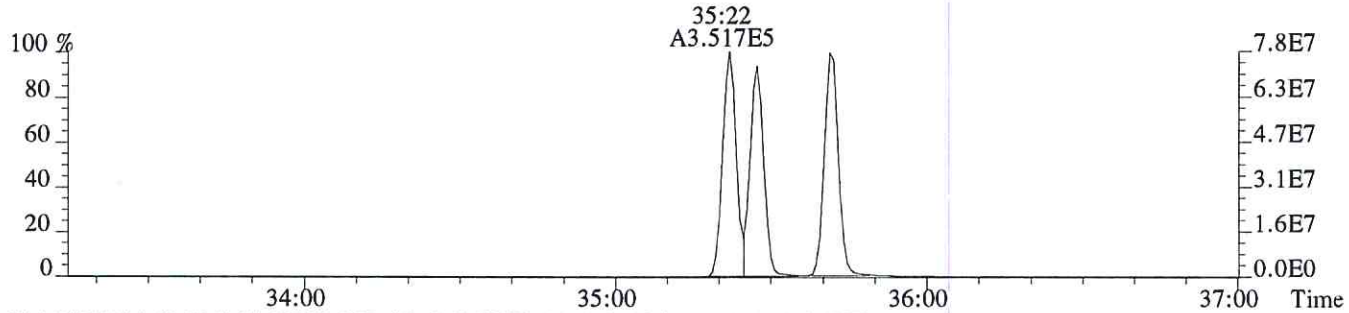
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



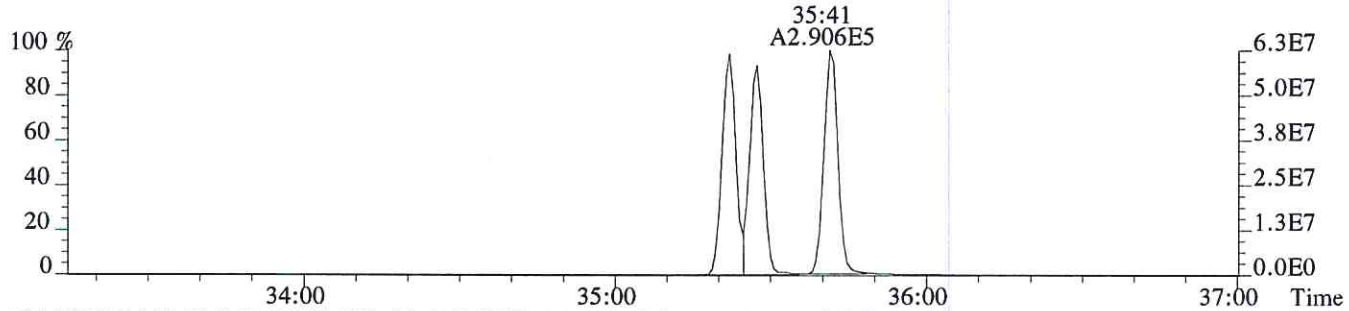
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



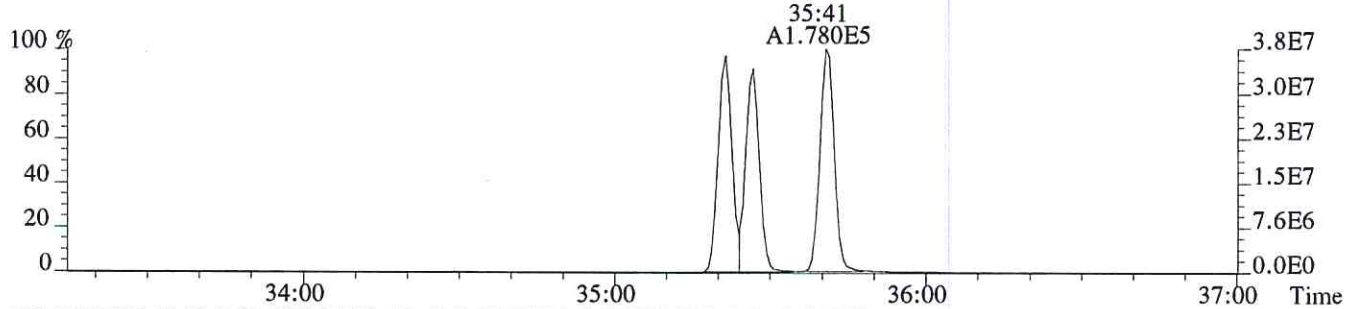
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



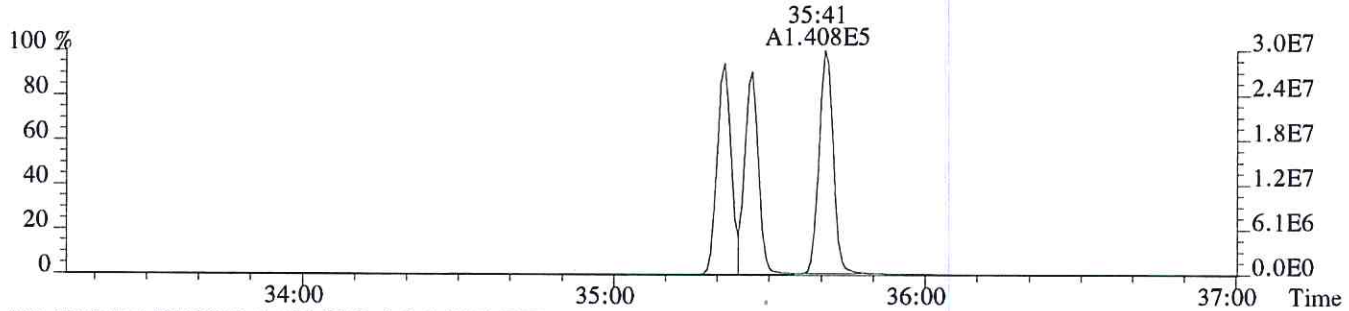
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.40%,F,T)



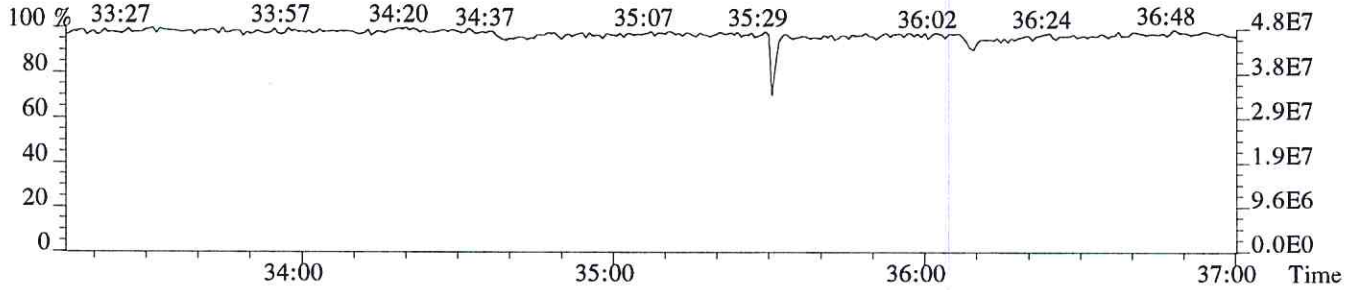
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)



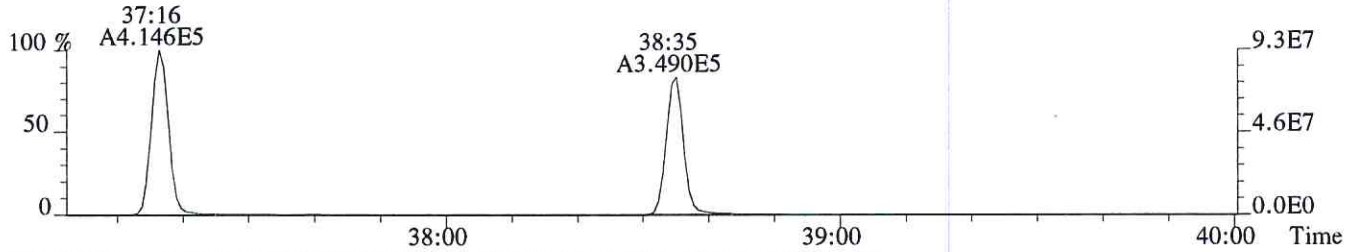
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



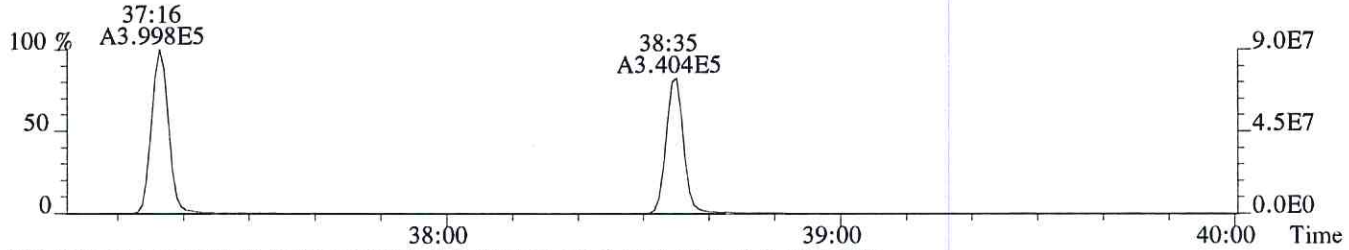
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



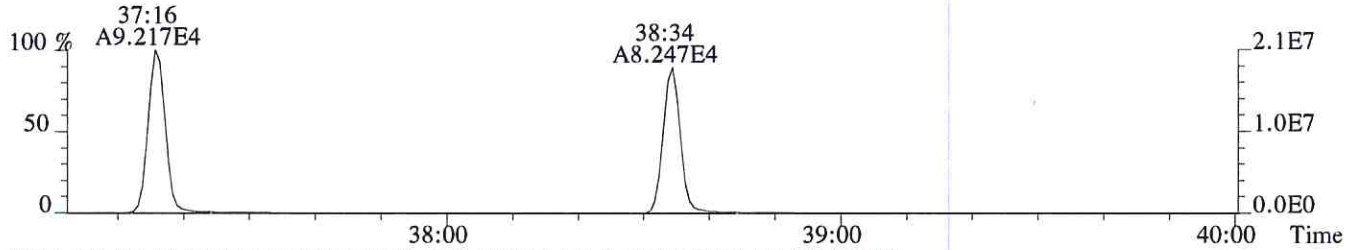
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21144.0,0.50%,F,T)



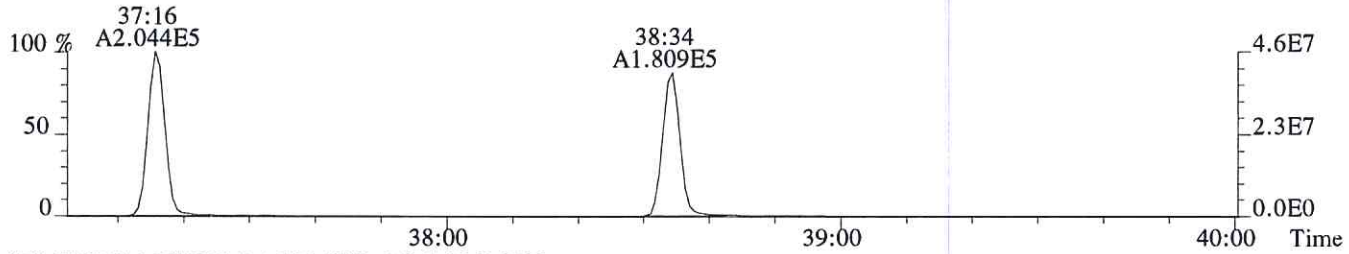
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4368.0,0.50%,F,T)



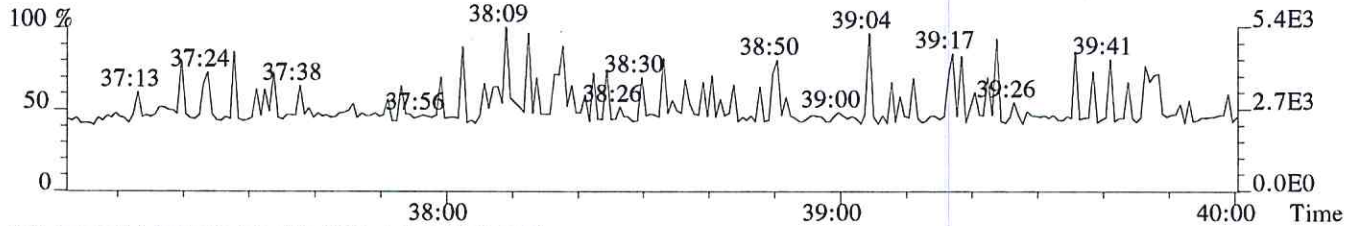
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3096.0,0.50%,F,T)



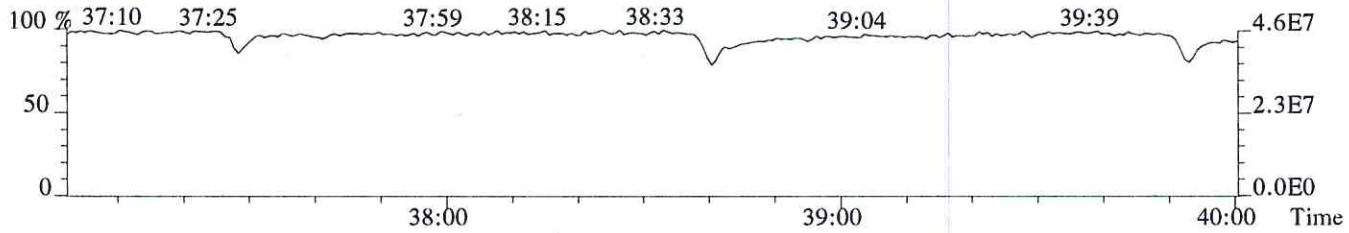
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21224.0,0.50%,F,T)



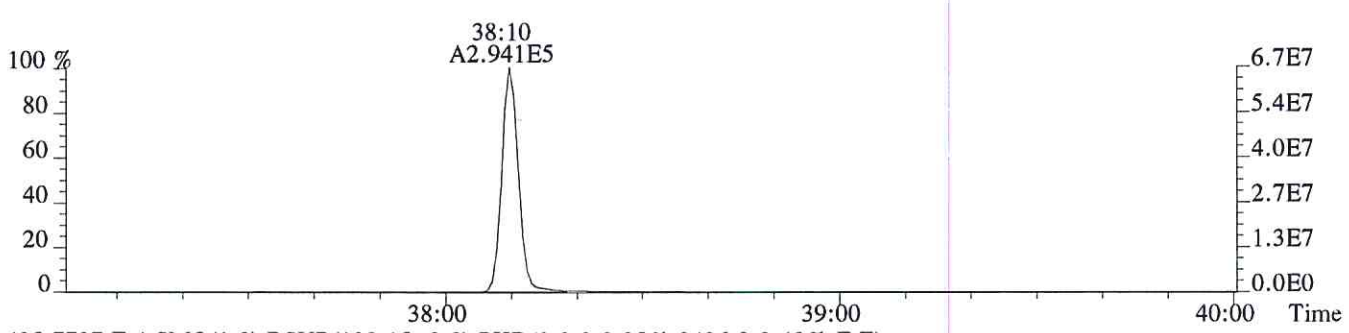
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



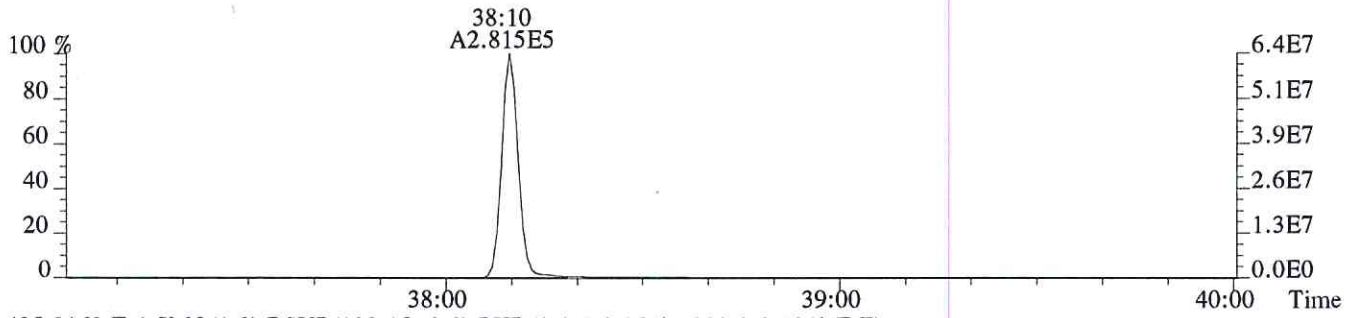
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



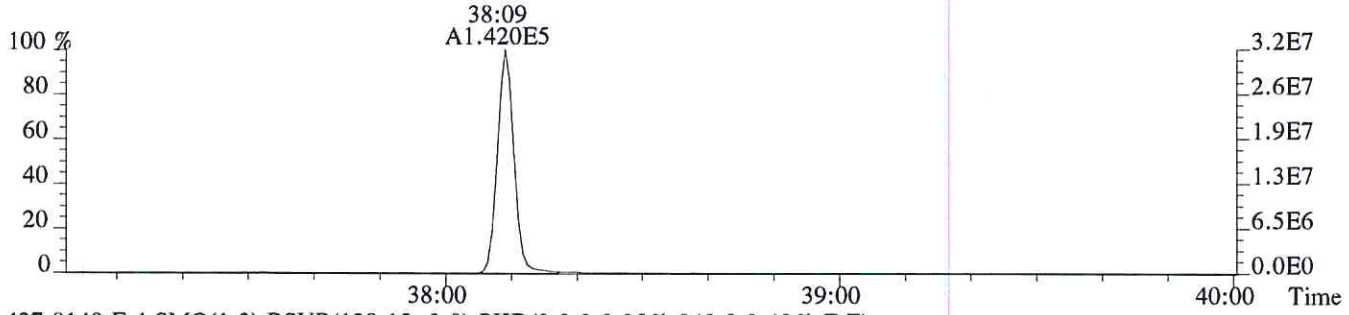
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2904.0,0.40%,F,T)



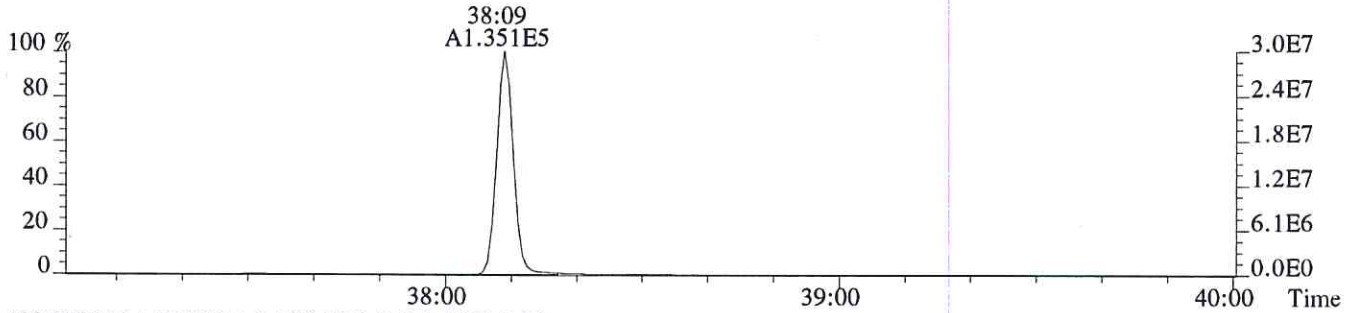
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.40%,F,T)



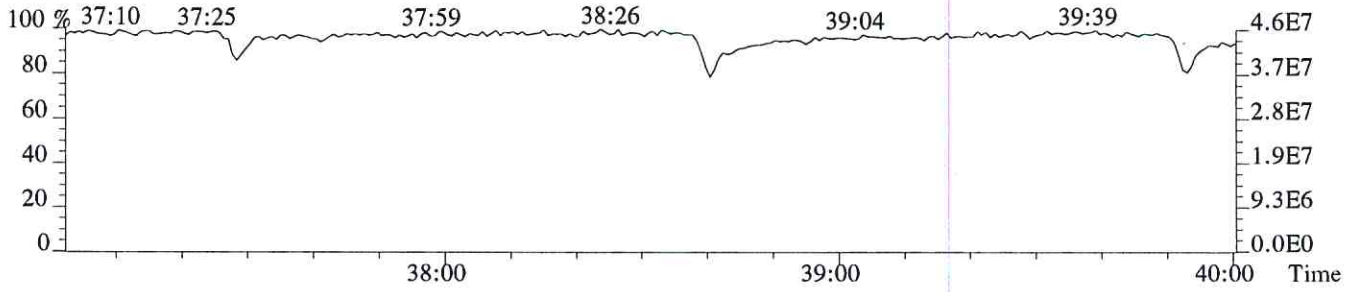
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1988.0,0.40%,F,T)



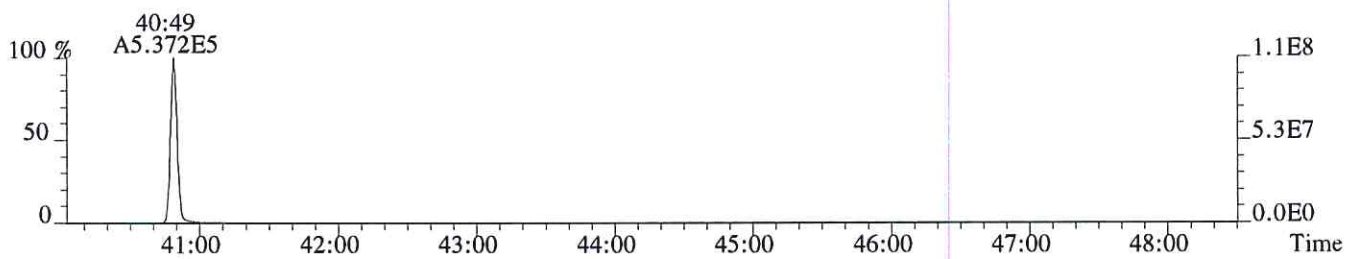
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



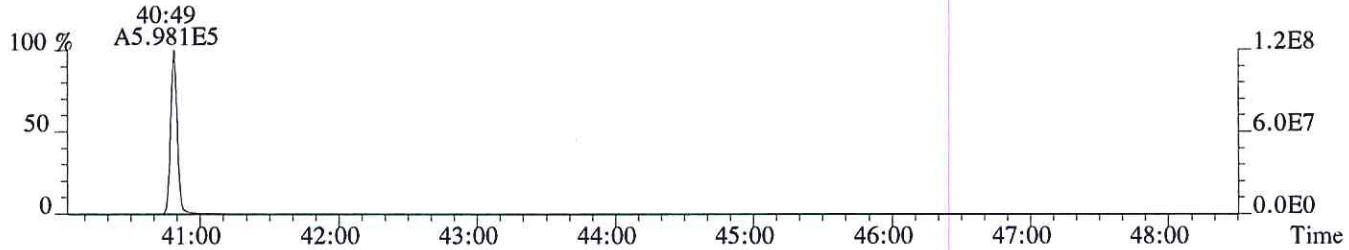
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



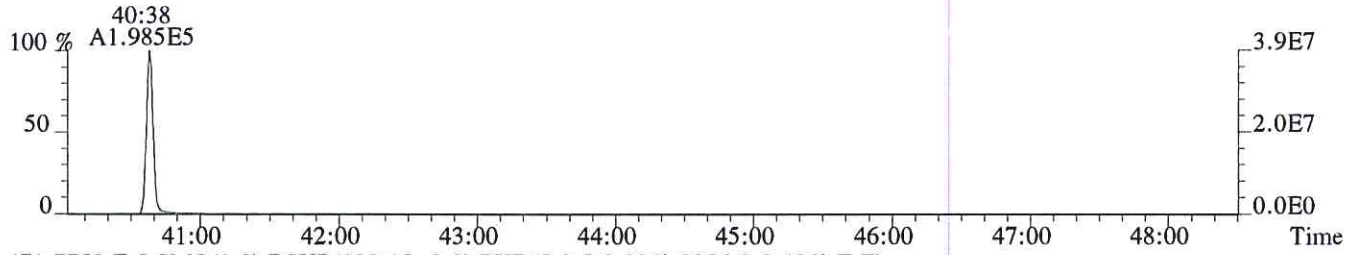
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,25616.0,0.40%,F,T)



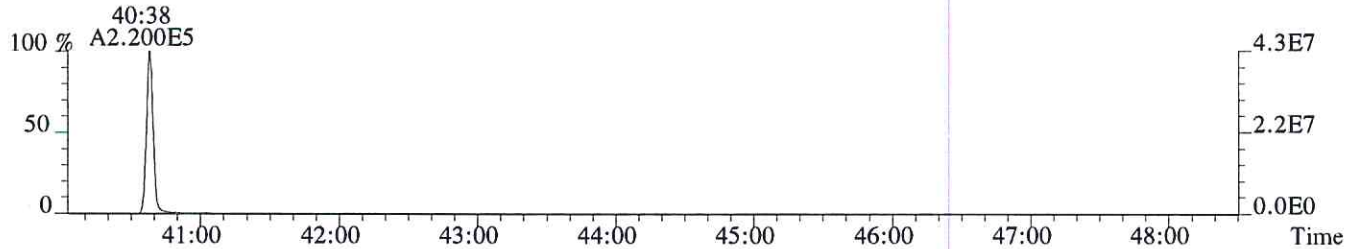
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,38344.0,0.40%,F,T)



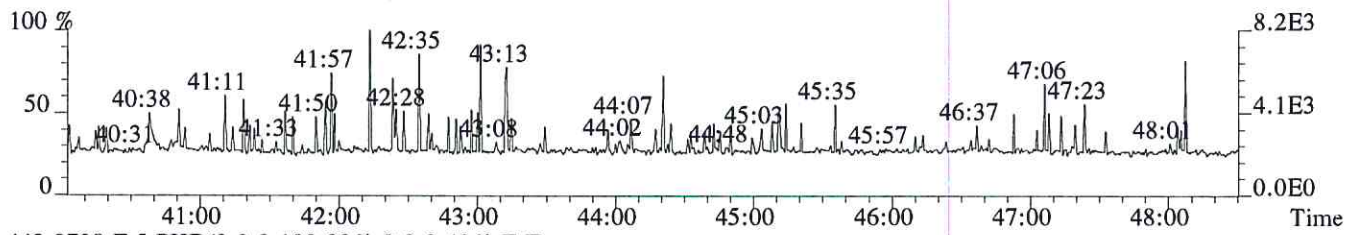
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



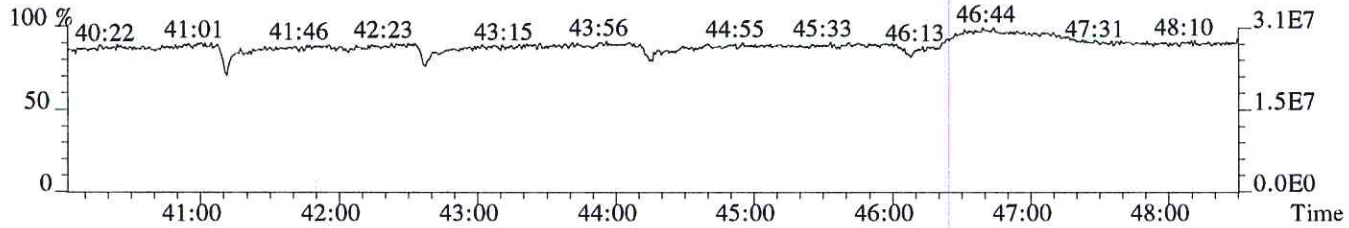
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8956.0,0.40%,F,T)



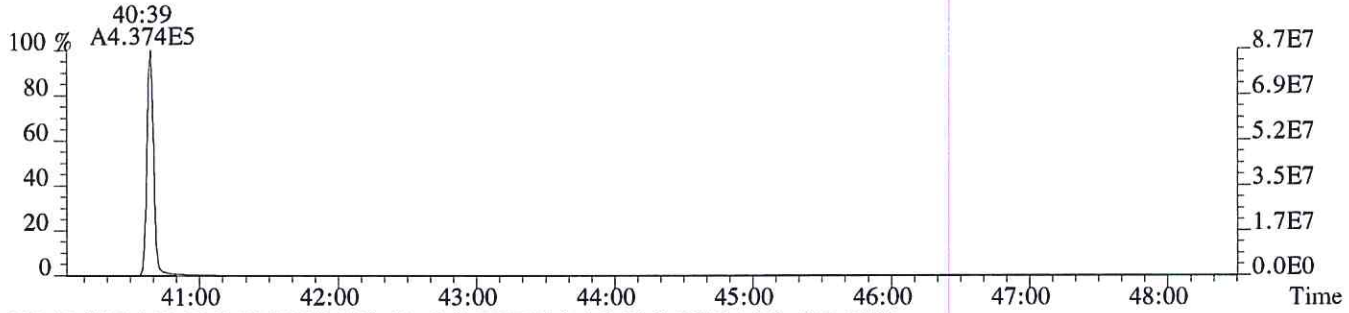
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



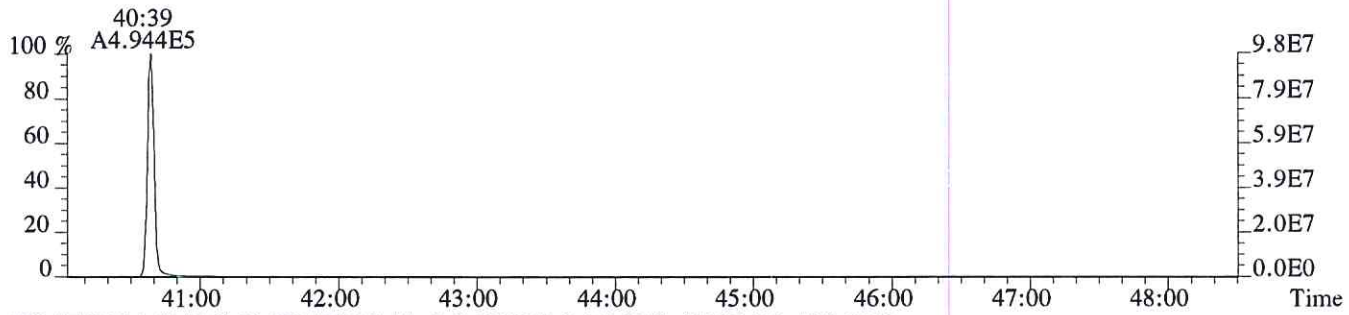
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



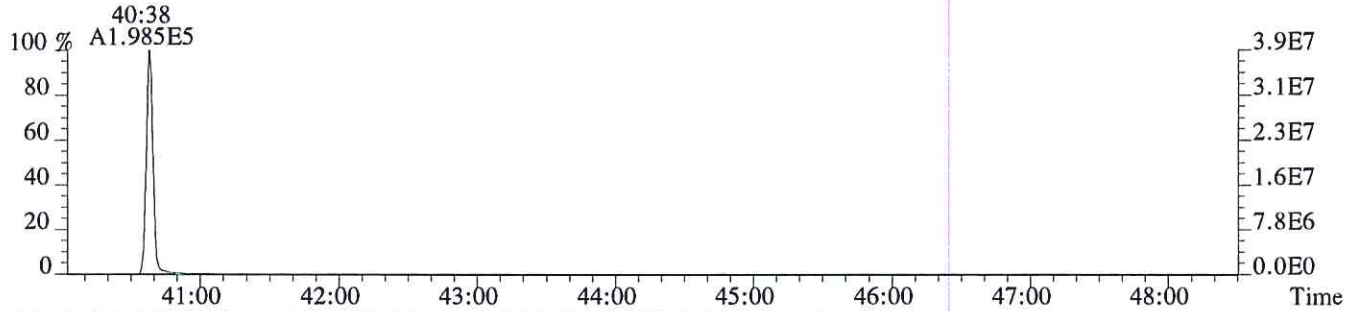
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,16144.0,0.40%,F,T)



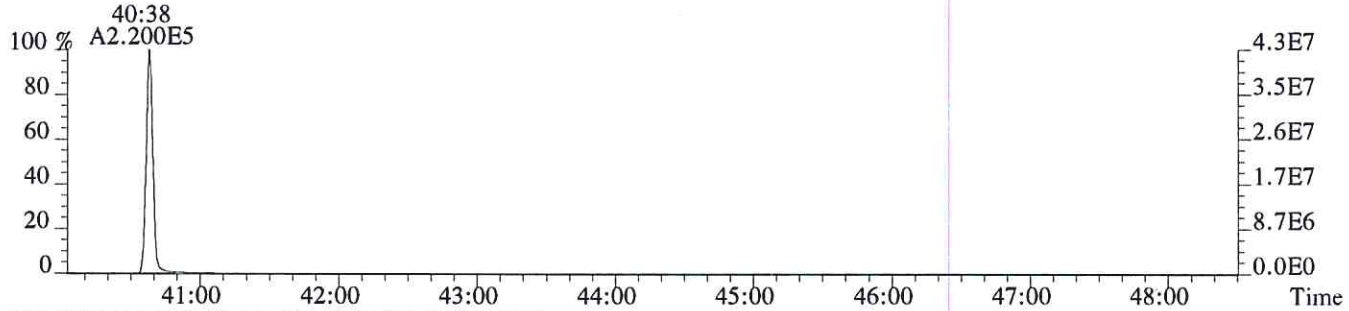
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,35104.0,0.40%,F,T)



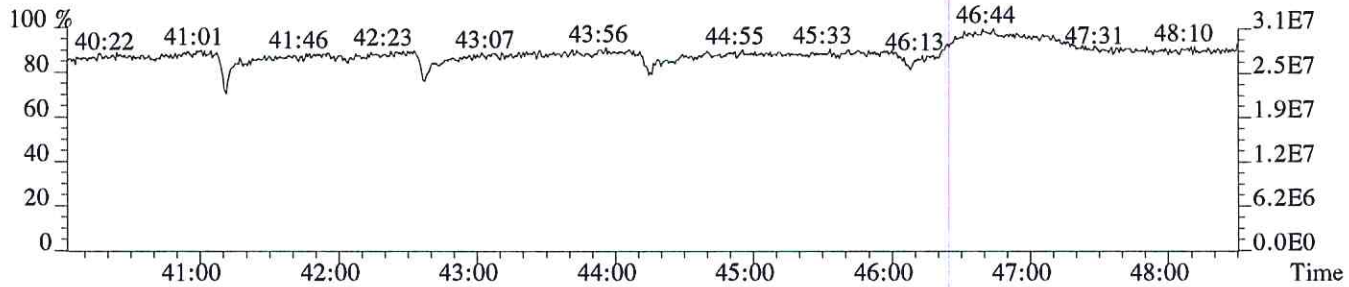
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8956.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
82168

Run #6 Filename P607184 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:55:47
Processed: 17-MAY-17 07:53:00 Sample ID: CS5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	1.497e+05	1.912e+05	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	1.130e+06	7.268e+05	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.167e+06	7.508e+05	1.55	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	9.742e+05	7.856e+05	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.089e+06	8.739e+05	1.25	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	9.619e+05	7.735e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	8.721e+05	6.979e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	8.107e+05	7.806e+05	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	7.029e+05	6.833e+05	1.03	yes	no	1.341
10	Unk	OCDF	40:49	1.091e+06	1.201e+06	0.91	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:50	1.147e+05	1.461e+05	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	7.854e+05	5.019e+05	1.56	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	7.321e+05	5.872e+05	1.25	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	6.649e+05	5.336e+05	1.25	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	7.344e+05	5.870e+05	1.25	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	5.824e+05	5.623e+05	1.04	yes	no	1.048
17	Unk	OCDD	40:39	8.817e+05	1.000e+06	0.88	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	7.771e+04	9.829e+04	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	1.168e+05	7.392e+04	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	1.131e+05	7.188e+04	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	5.081e+04	9.735e+04	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	5.746e+04	1.103e+05	0.52	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	5.300e+04	1.016e+05	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	4.784e+04	9.061e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	3.767e+04	8.314e+04	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	3.155e+04	7.023e+04	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	5.746e+04	7.322e+04	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	8.338e+04	5.330e+04	1.56	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	6.604e+04	5.272e+04	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	7.279e+04	5.834e+04	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	5.836e+04	5.533e+04	1.05	yes	no	0.884
32	IS	13C-OCDD	40:38	9.149e+04	1.008e+05	0.91	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	5.652e+04	7.147e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	7.174e+04	5.639e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	2.718e+05				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
82168

Run #6 Filename P607184 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:55:47
Processed: 17-MAY-17 07:53:00 LAB. ID: CS5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.17e+07	1.33e+03	1.6e+04	2.79e+07	1.18e+03	2.4e+04
2	1,2,3,7,8-PeCDF	1.97e+08	1.65e+04	1.2e+04	1.27e+08	9.81e+03	1.3e+04
3	2,3,4,7,8-PeCDF	2.17e+08	1.65e+04	1.3e+04	1.40e+08	9.81e+03	1.4e+04
4	1,2,3,4,7,8-HxCDF	2.04e+08	4.58e+03	4.4e+04	1.65e+08	2.35e+03	7.0e+04
5	1,2,3,6,7,8-HxCDF	2.23e+08	4.58e+03	4.9e+04	1.81e+08	2.35e+03	7.7e+04
6	2,3,4,6,7,8-HxCDF	2.03e+08	4.58e+03	4.4e+04	1.62e+08	2.35e+03	6.9e+04
7	1,2,3,7,8,9-HxCDF	1.87e+08	4.58e+03	4.1e+04	1.50e+08	2.35e+03	6.4e+04
8	1,2,3,4,6,7,8-HpCDF	1.79e+08	1.85e+04	9.7e+03	1.73e+08	5.49e+04	3.1e+03
9	1,2,3,4,7,8,9-HpCDF	1.52e+08	1.85e+04	8.2e+03	1.46e+08	5.49e+04	2.7e+03
10	OCDF	2.15e+08	1.36e+05	1.6e+03	2.39e+08	6.27e+04	3.8e+03
11	2,3,7,8-TCDD	1.87e+07	1.50e+03	1.2e+04	2.38e+07	3.48e+02	6.8e+04
12	1,2,3,7,8-PeCDD	1.48e+08	1.20e+03	1.2e+05	9.35e+07	1.00e+03	9.3e+04
13	1,2,3,4,7,8-HxCDD	1.62e+08	6.84e+02	2.4e+05	1.29e+08	3.16e+02	4.1e+05
14	1,2,3,6,7,8-HxCDD	1.41e+08	6.84e+02	2.1e+05	1.13e+08	3.16e+02	3.6e+05
15	1,2,3,7,8,9-HxCDD	1.57e+08	6.84e+02	2.3e+05	1.27e+08	3.16e+02	4.0e+05
16	1,2,3,4,6,7,8-HpCDD	1.33e+08	6.68e+03	2.0e+04	1.28e+08	3.04e+03	4.2e+04
17	OCDD	1.80e+08	5.70e+04	3.1e+03	2.03e+08	4.18e+04	4.9e+03
18	13C-2,3,7,8-TCDF	1.13e+07	1.70e+04	6.7e+02	1.41e+07	5.63e+03	2.5e+03
19	13C-1,2,3,7,8-PeCDF	2.02e+07	1.22e+03	1.7e+04	1.29e+07	2.11e+03	6.1e+03
20	13C-2,3,4,7,8-PeCDF	2.11e+07	1.22e+03	1.7e+04	1.34e+07	2.11e+03	6.4e+03
21	13C-1,2,3,4,7,8-HxCDF	1.07e+07	8.04e+02	1.3e+04	2.05e+07	1.51e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	1.19e+07	8.04e+02	1.5e+04	2.27e+07	1.51e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.12e+07	8.04e+02	1.4e+04	2.13e+07	1.51e+03	1.4e+04
24	13C-1,2,3,7,8,9-HxCDF	1.01e+07	8.04e+02	1.3e+04	1.93e+07	1.51e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.24e+06	4.42e+03	1.9e+03	1.84e+07	9.41e+03	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.99e+06	4.42e+03	1.6e+03	1.54e+07	9.41e+03	1.6e+03
27	13C-2,3,7,8-TCDD	9.11e+06	5.94e+03	1.5e+03	1.15e+07	1.78e+03	6.5e+03
28	13C-1,2,3,7,8-PeCDD	1.57e+07	1.10e+03	1.4e+04	1.01e+07	2.20e+02	4.6e+04
29	13C-1,2,3,4,7,8-HxCDD	1.44e+07	2.46e+03	5.8e+03	1.13e+07	8.20e+02	1.4e+04
30	13C-1,2,3,6,7,8-HxCDD	1.54e+07	2.46e+03	6.3e+03	1.22e+07	8.20e+02	1.5e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.33e+07	1.90e+03	7.0e+03	1.26e+07	1.01e+03	1.2e+04
32	13C-OCDD	1.79e+07	5.02e+03	3.6e+03	2.00e+07	1.04e+04	1.9e+03
33	13C-1,2,3,4-TCDD	8.41e+06	5.94e+03	1.4e+03	1.09e+07	1.78e+03	6.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.56e+07	2.46e+03	6.3e+03	1.23e+07	8.20e+02	1.5e+04
35	37Cl-2,3,7,8-TCDD	4.44e+07	1.06e+03	4.2e+04			

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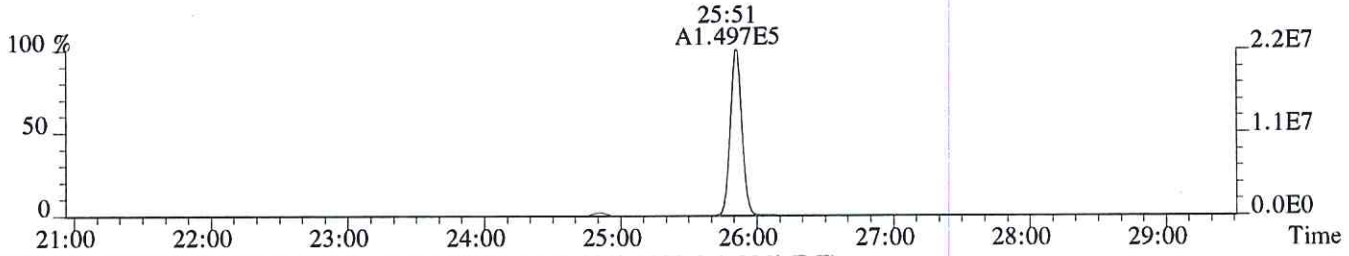
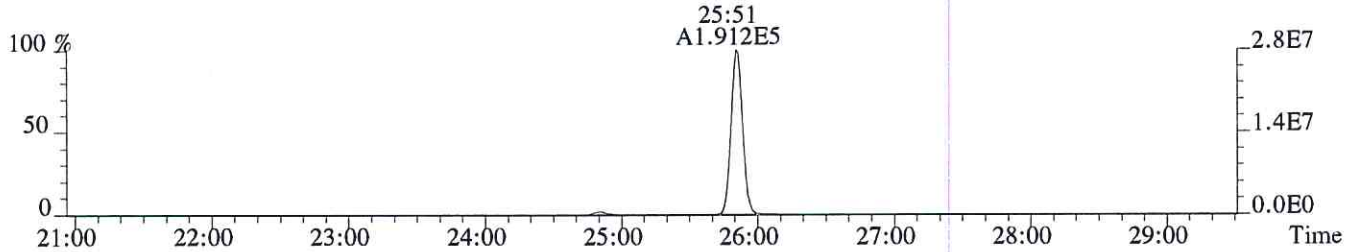
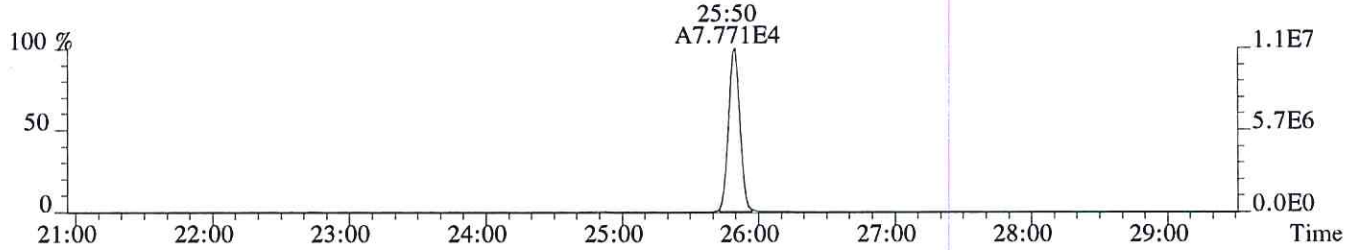
File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



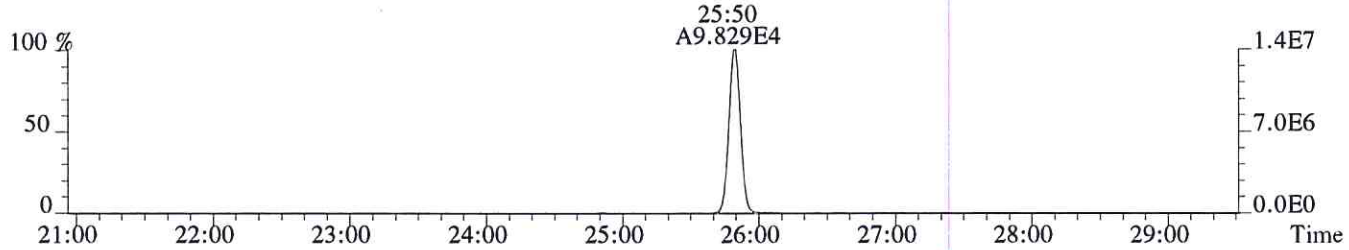
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



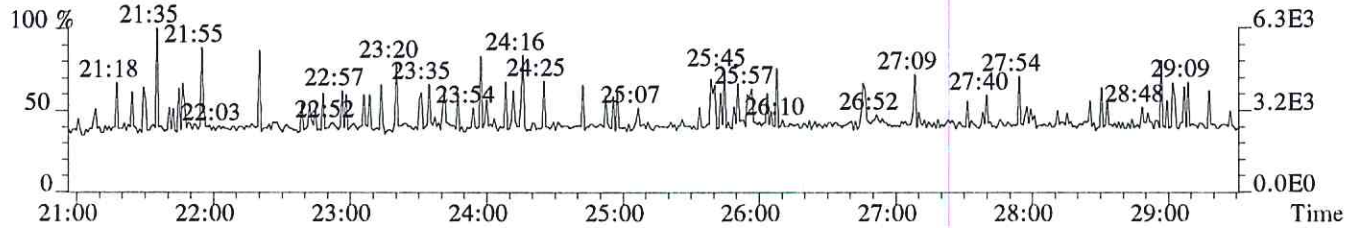
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16952.0,1.00%,F,T)



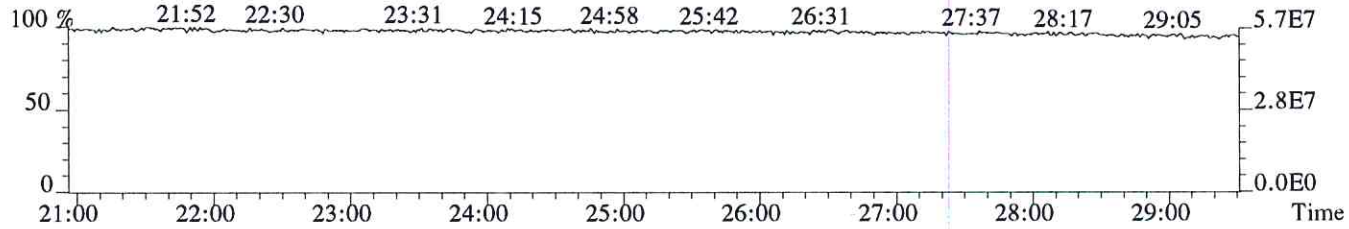
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5628.0,1.00%,F,T)



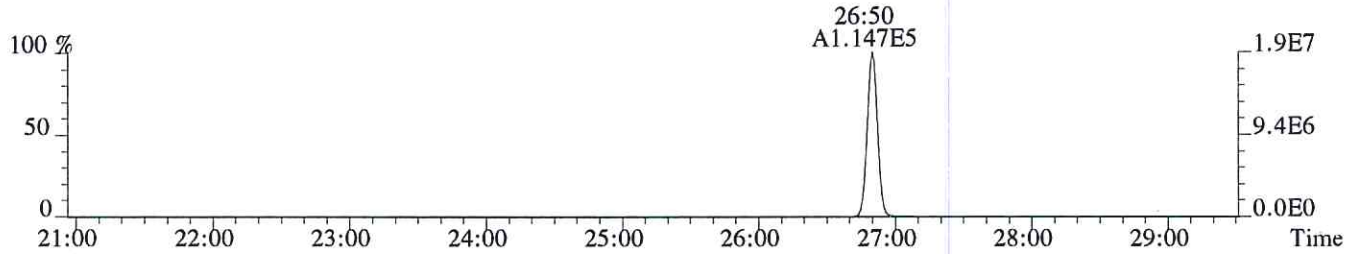
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



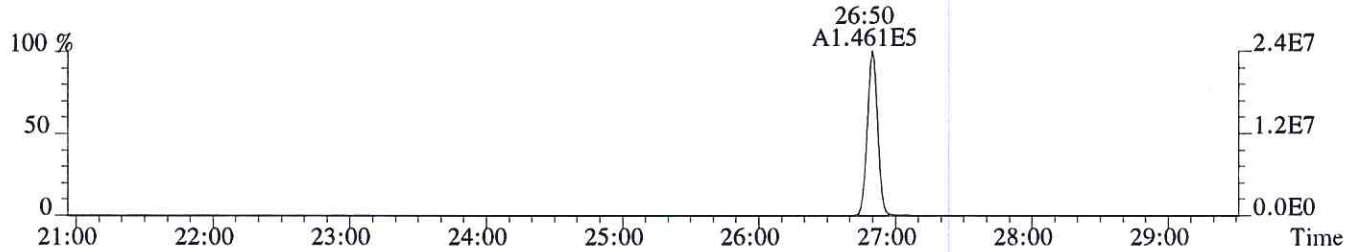
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



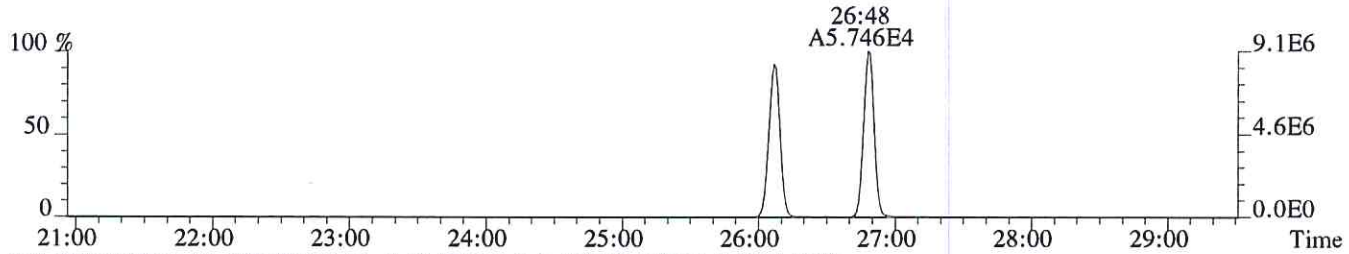
File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



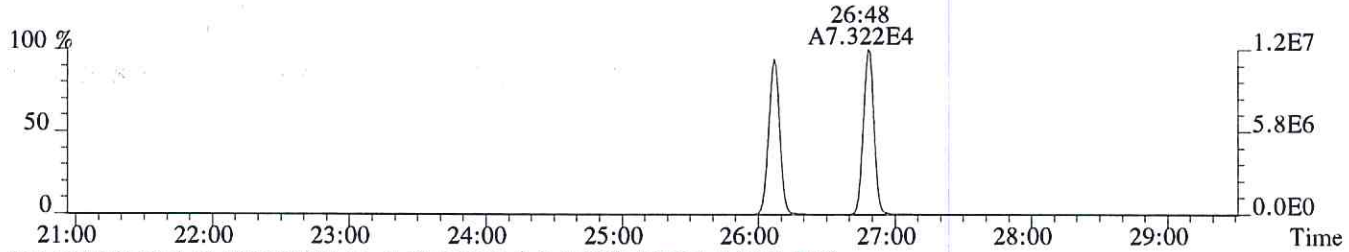
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



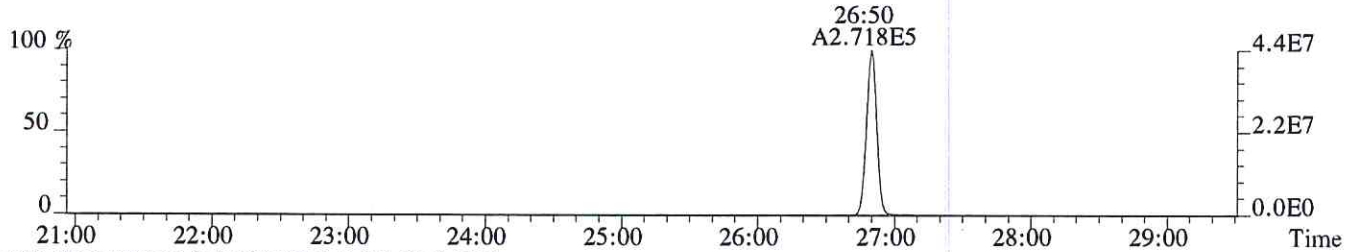
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5940.0,1.00%,F,T)



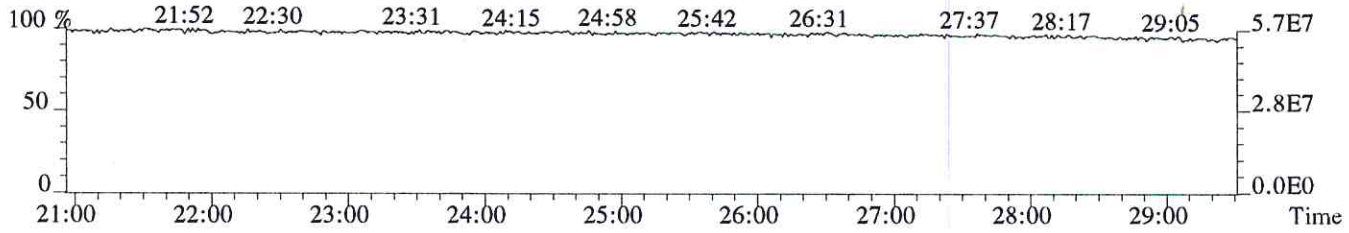
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)

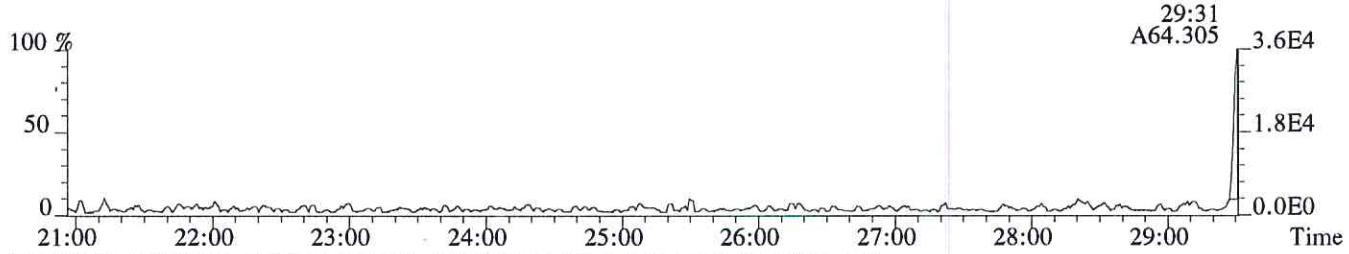


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

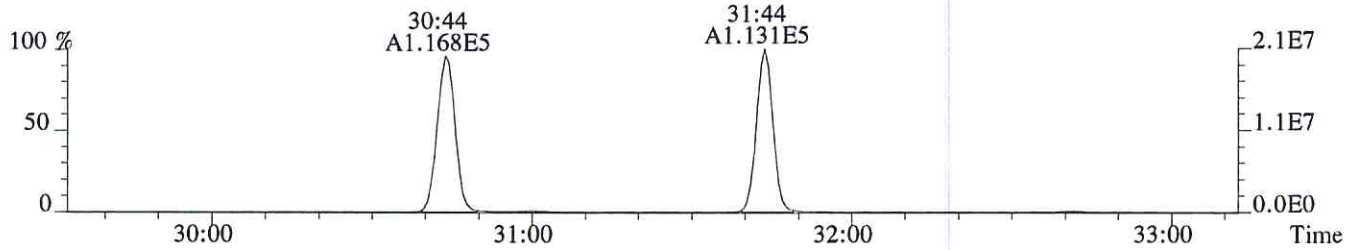


File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)

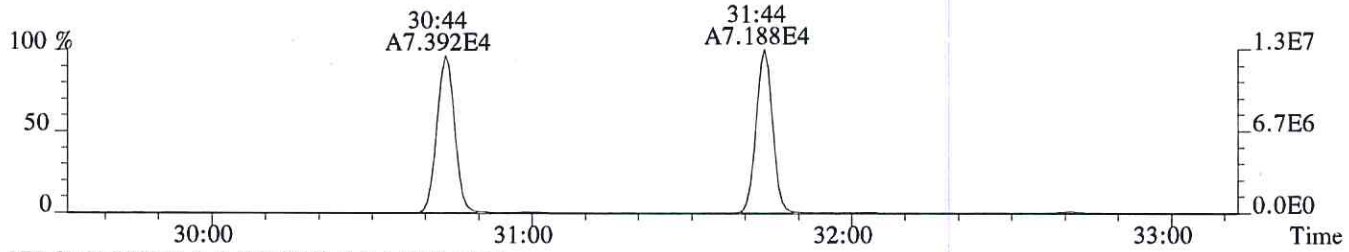
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



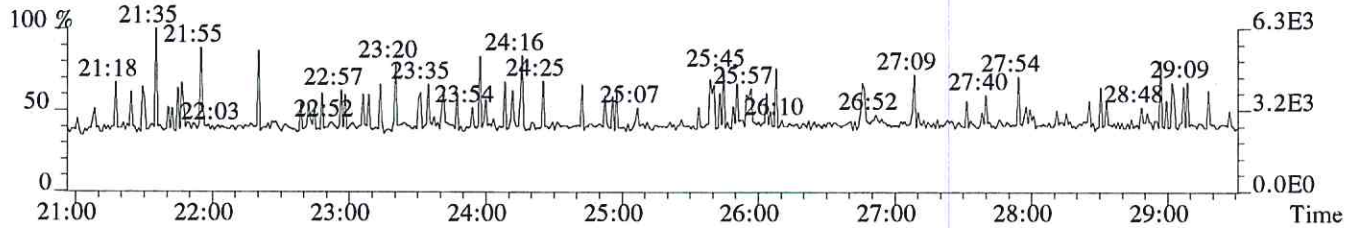
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



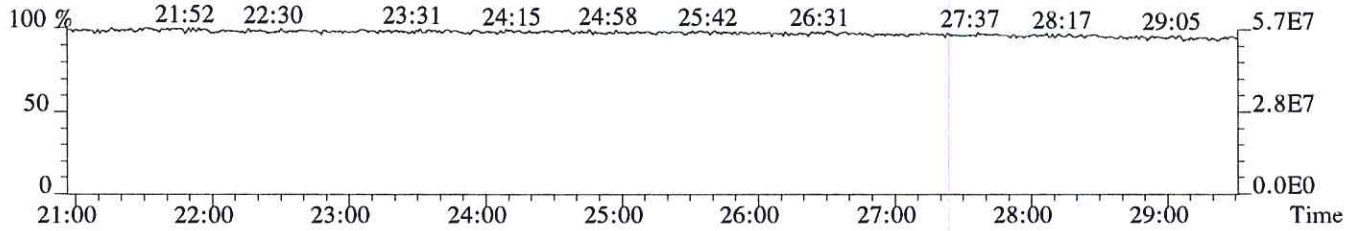
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

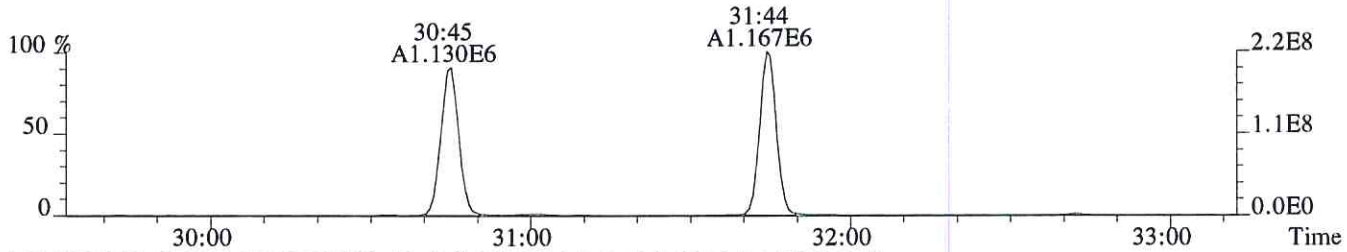


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

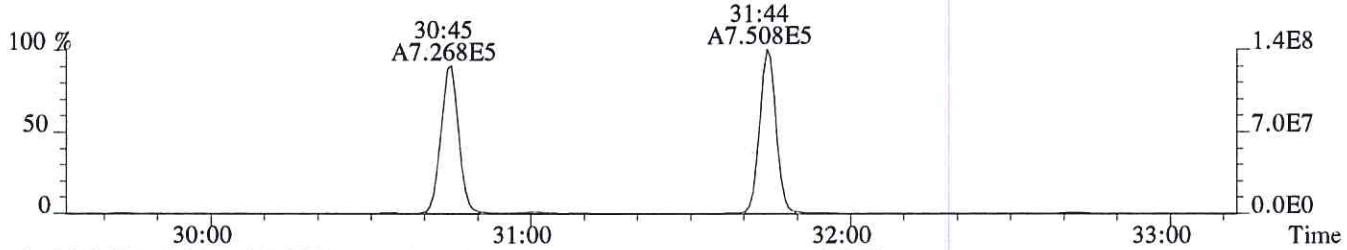


File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5

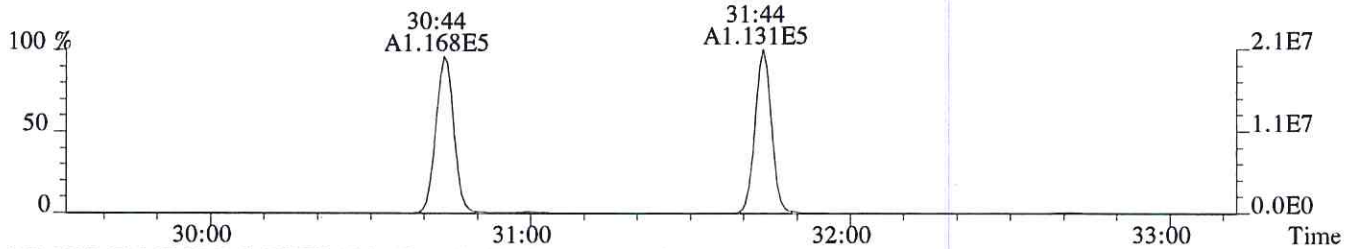
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16496.0,1.00%,F,T)



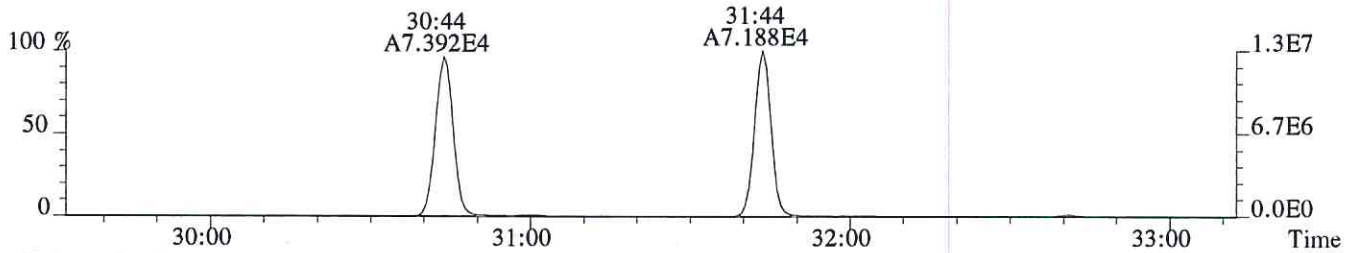
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9812.0,1.00%,F,T)



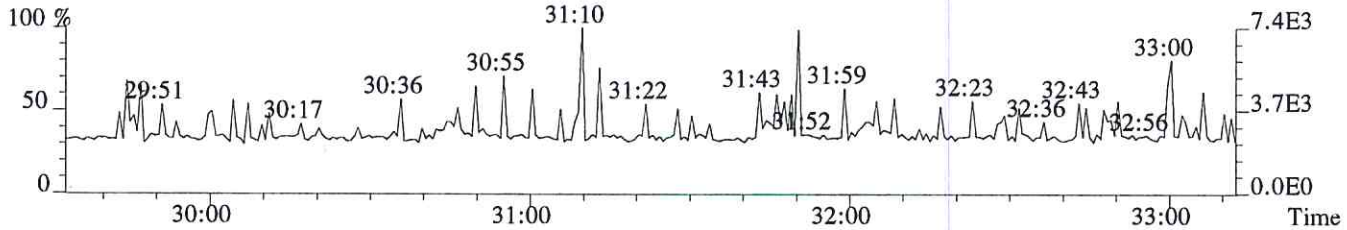
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



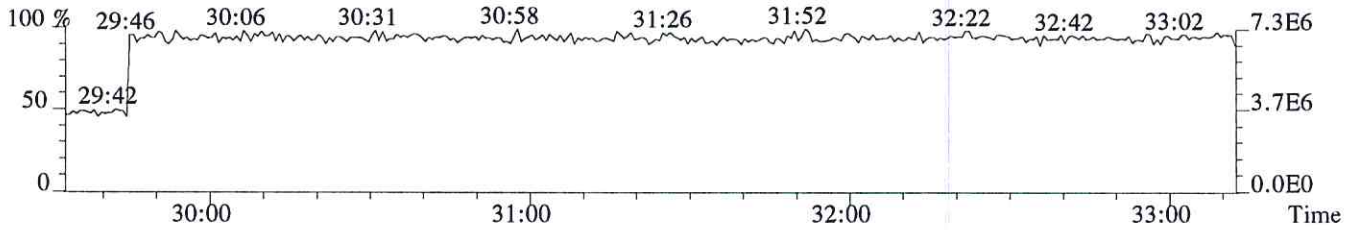
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



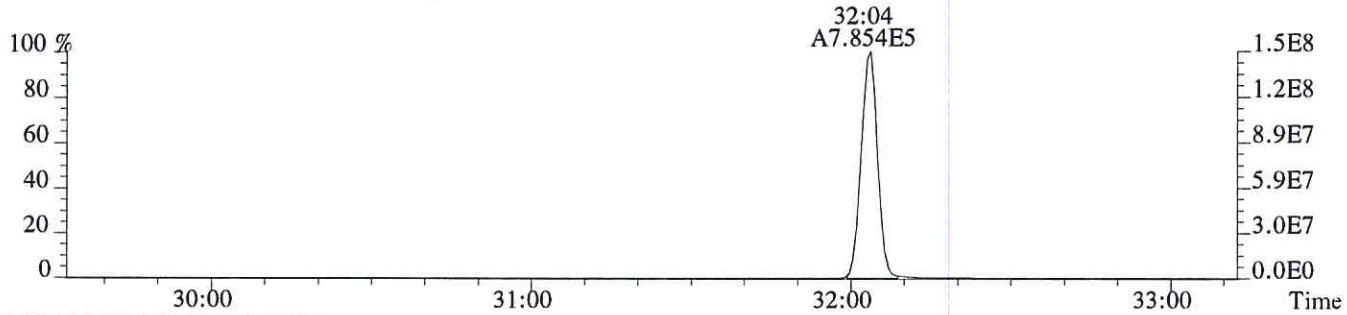
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



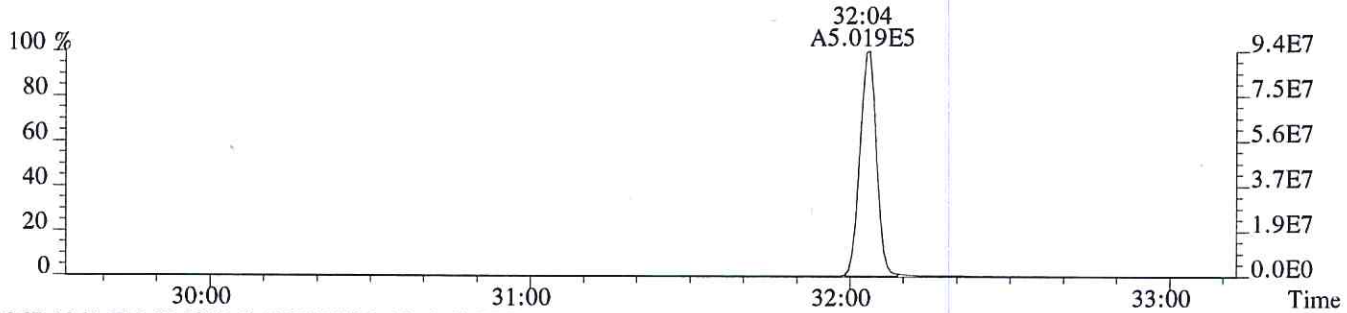
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



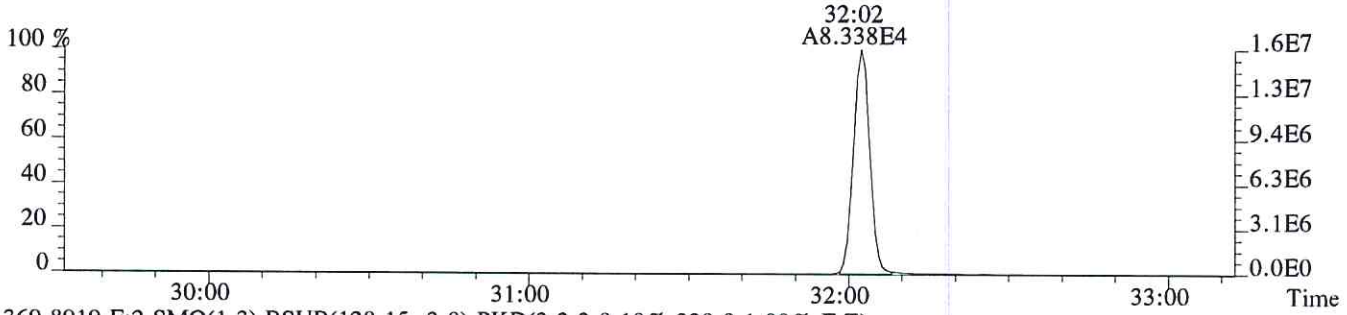
File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1200.0,1.00%,F,T)



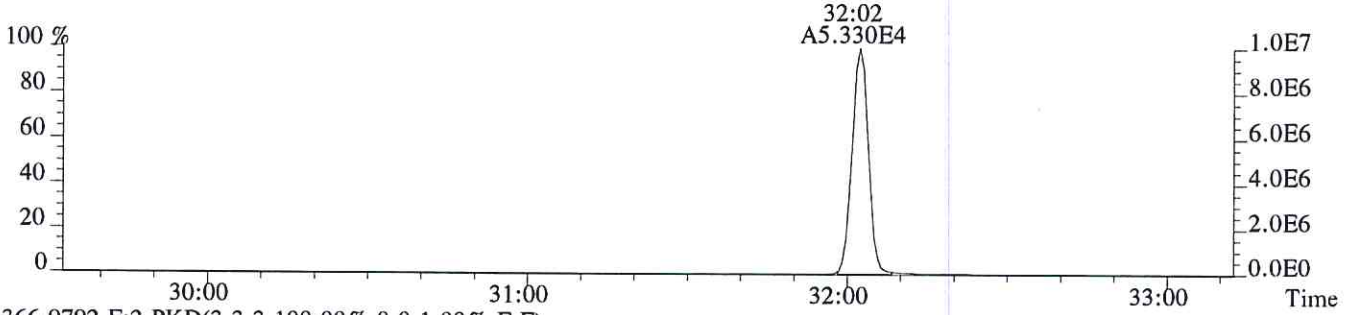
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



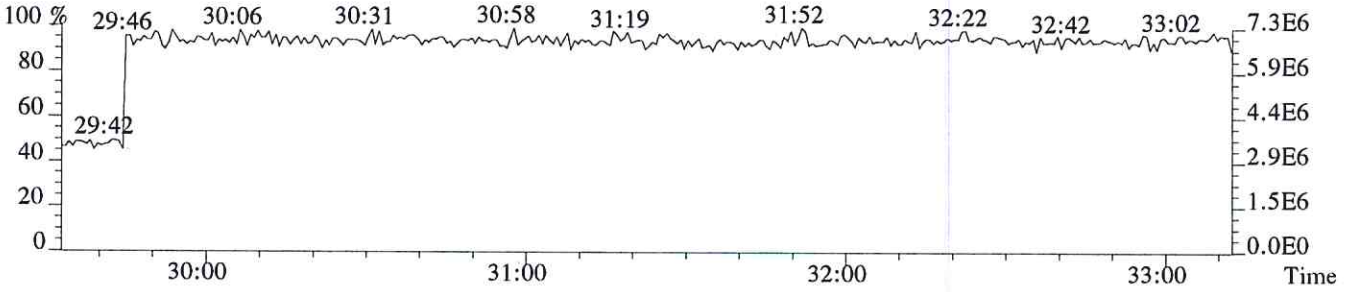
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



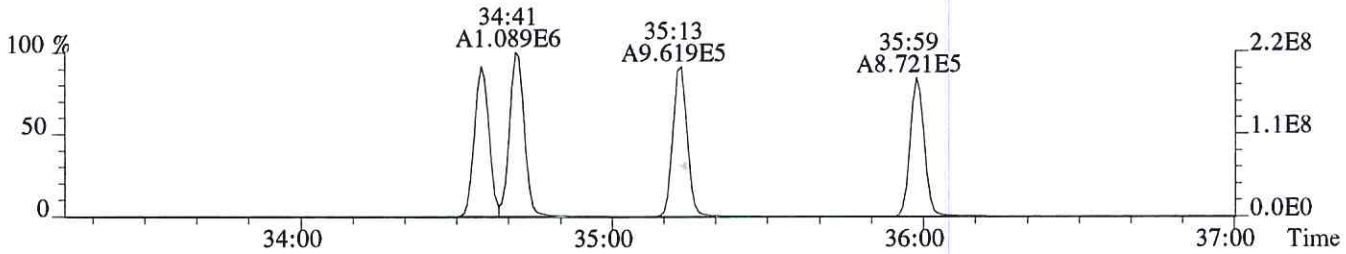
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



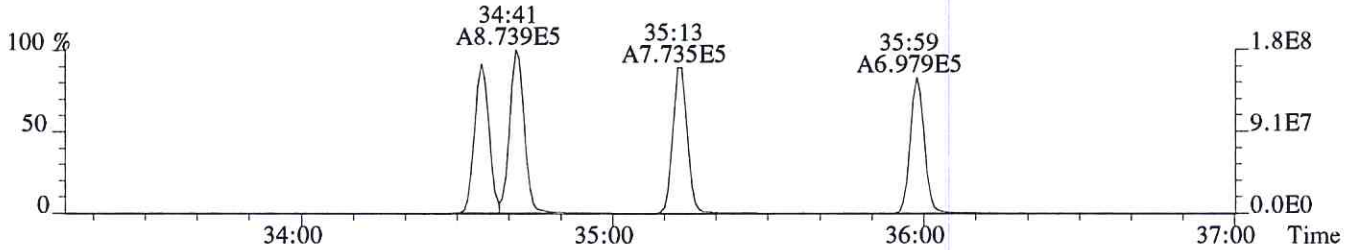
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



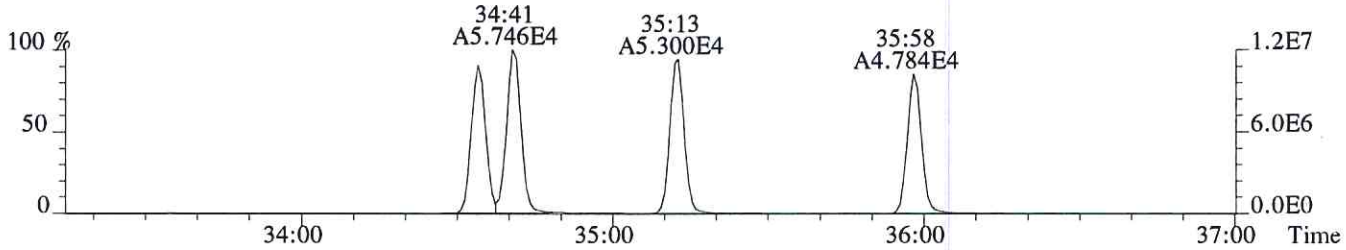
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4584.0,0.40%,F,T)



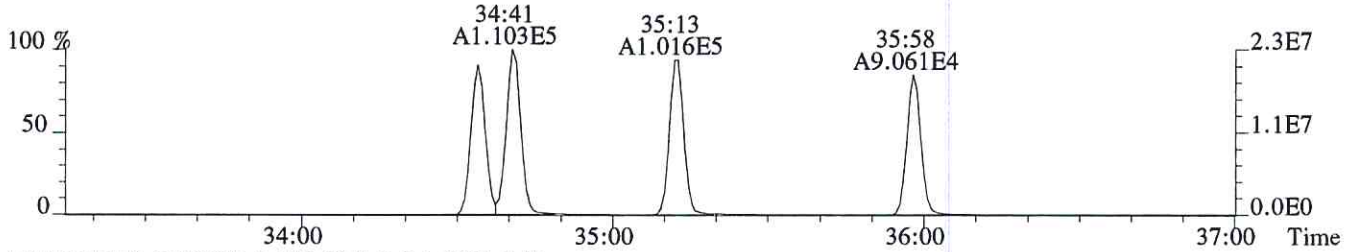
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2352.0,0.40%,F,T)



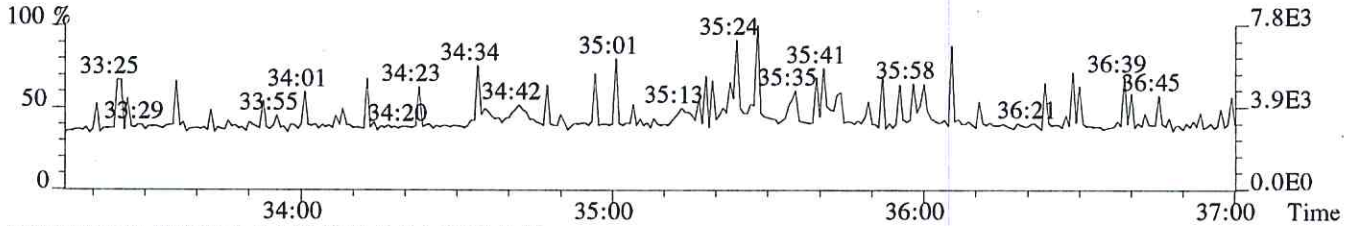
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)



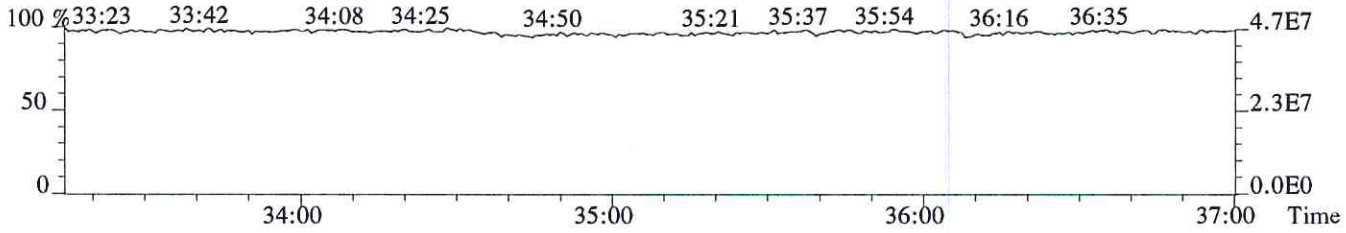
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



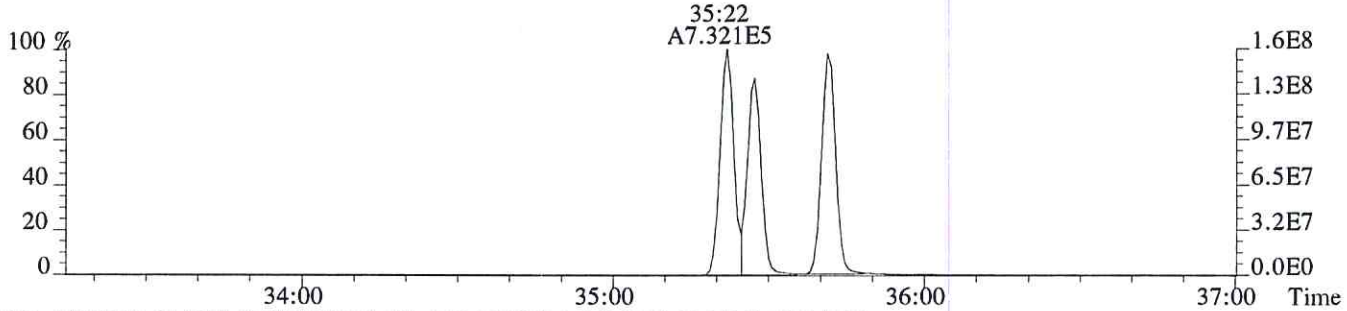
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



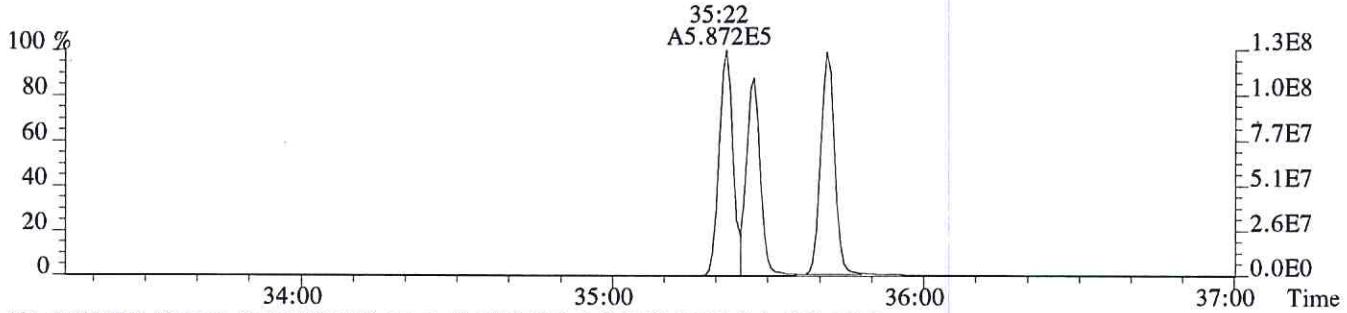
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



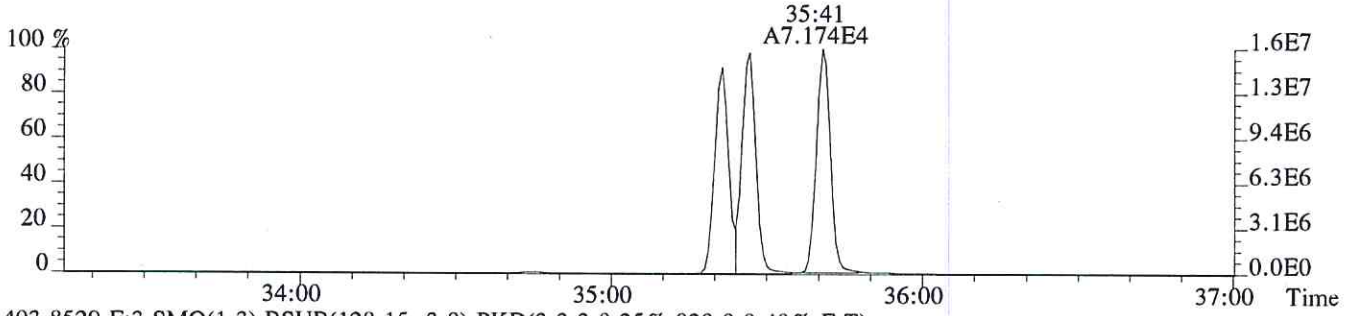
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



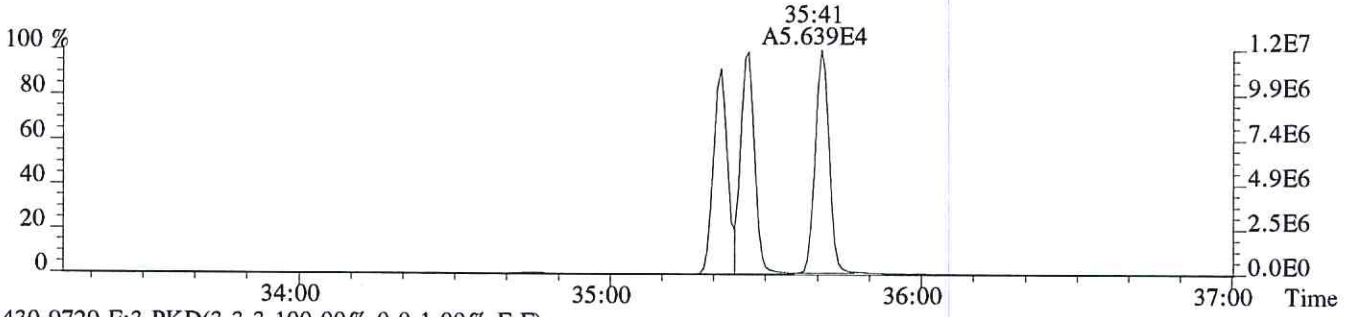
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



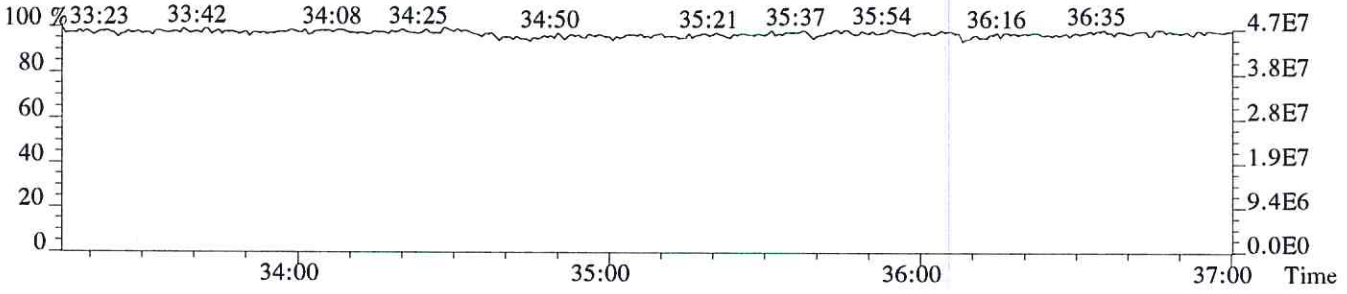
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2456.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)

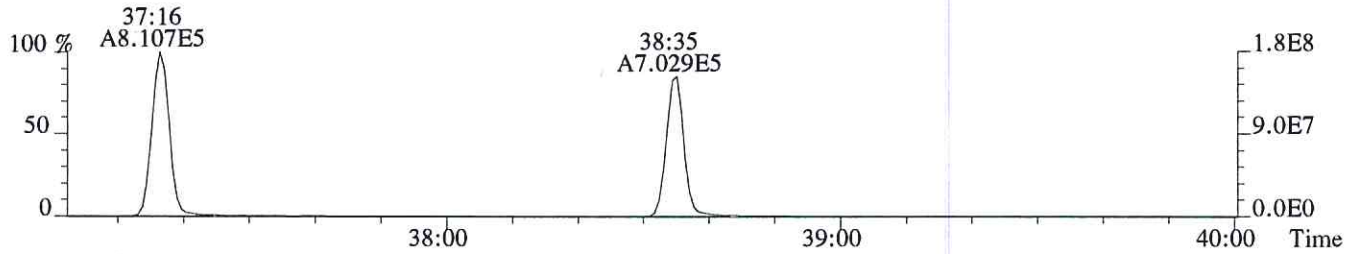


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

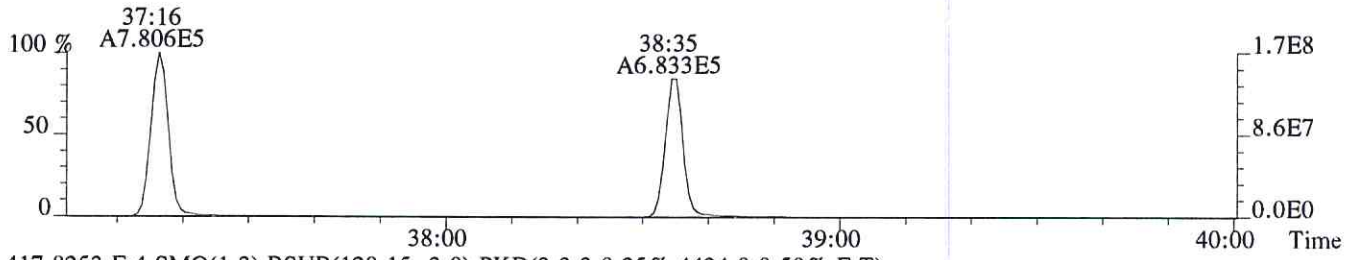


File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5

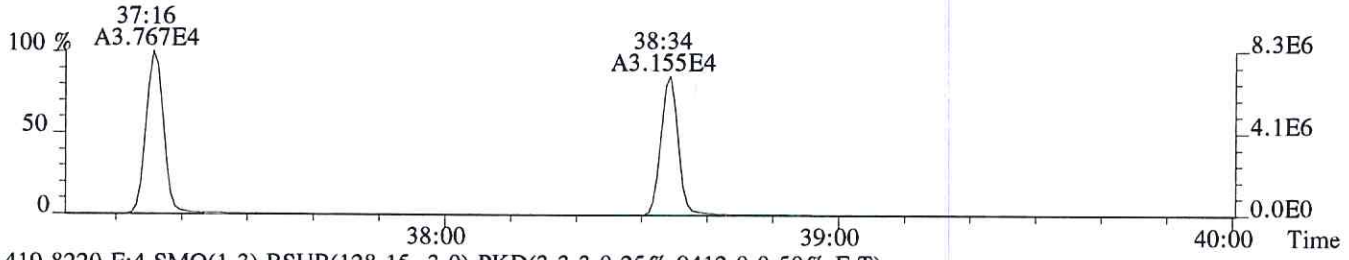
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18456.0,0.50%,F,T)



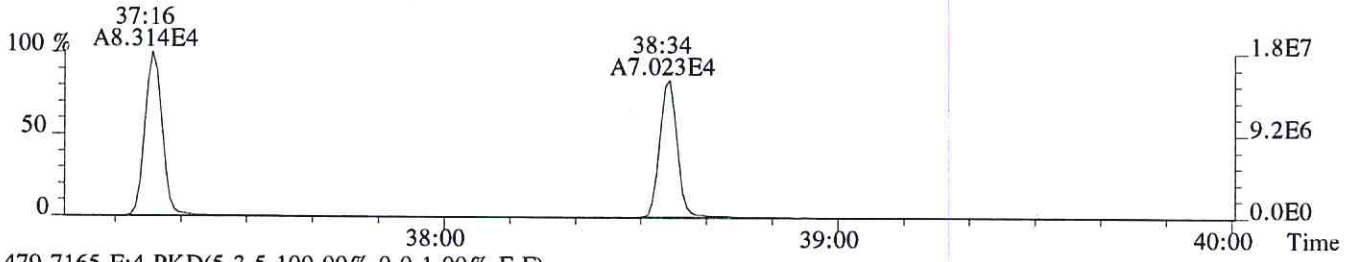
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,54876.0,0.50%,F,T)



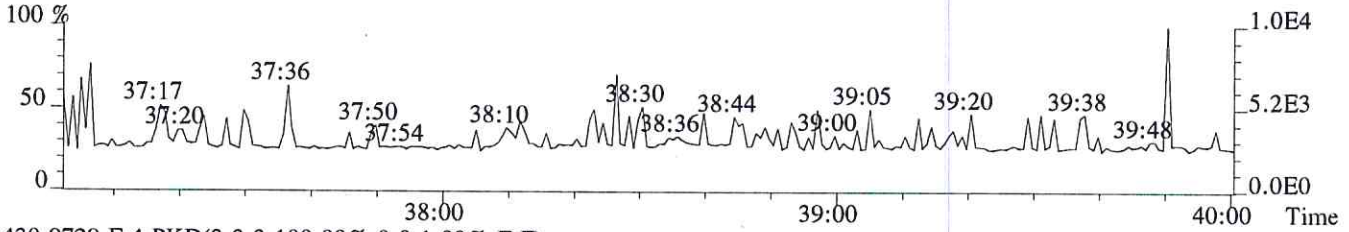
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4424.0,0.50%,F,T)



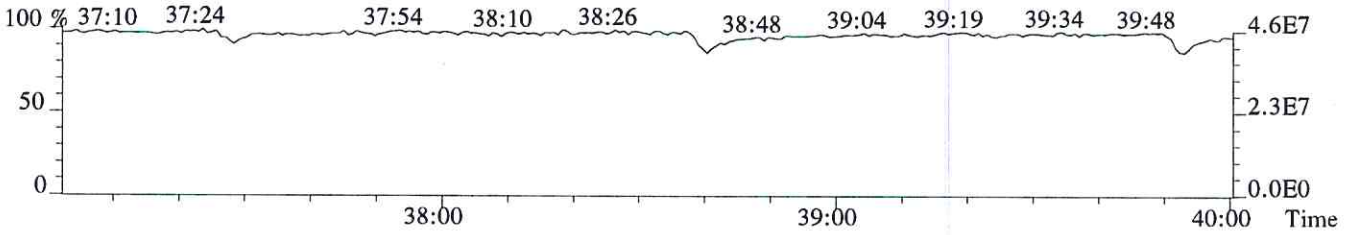
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9412.0,0.50%,F,T)



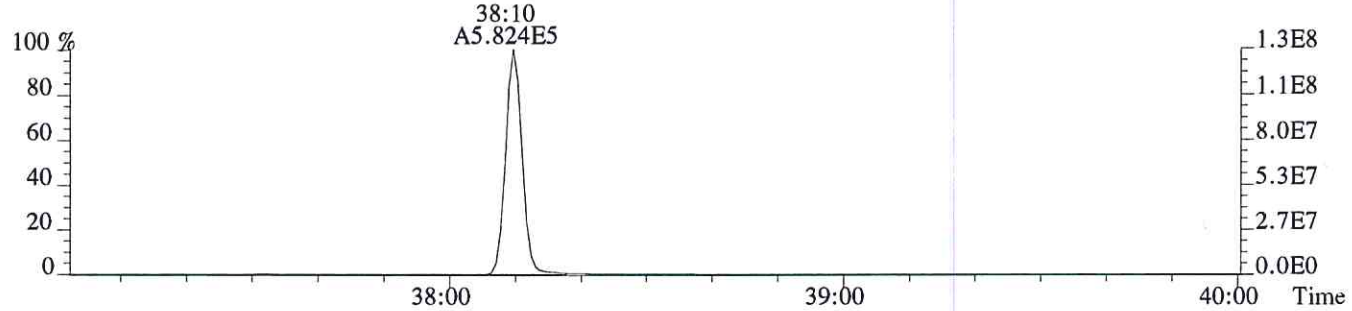
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



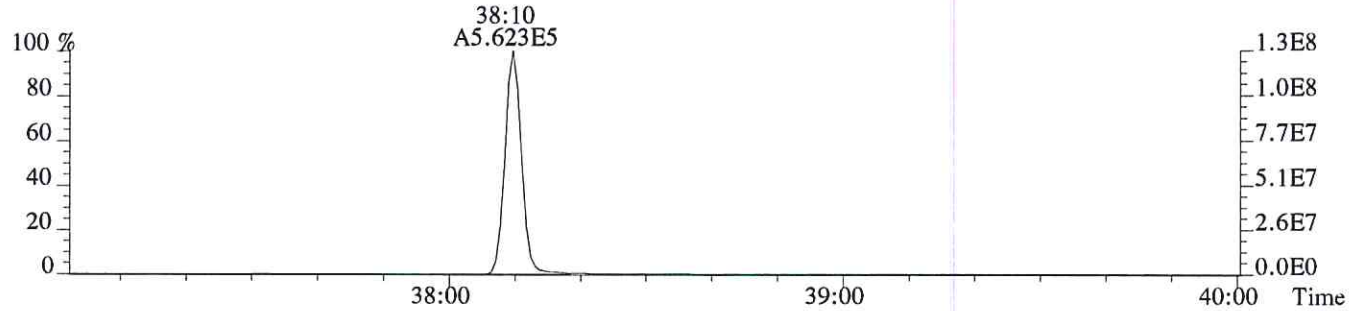
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



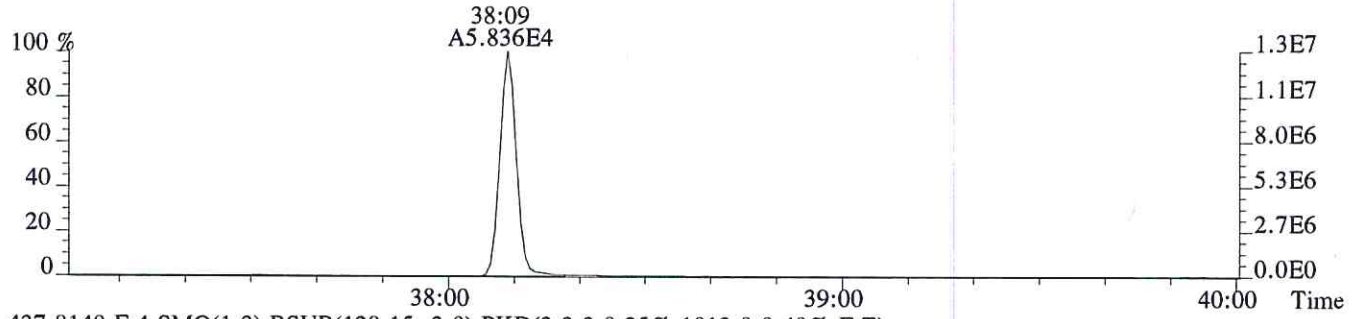
File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6684.0,0.40%,F,T)



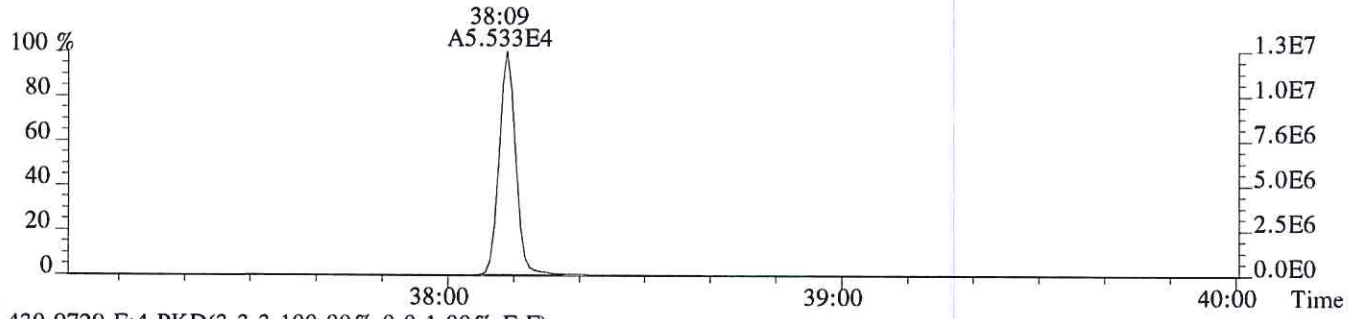
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3036.0,0.40%,F,T)



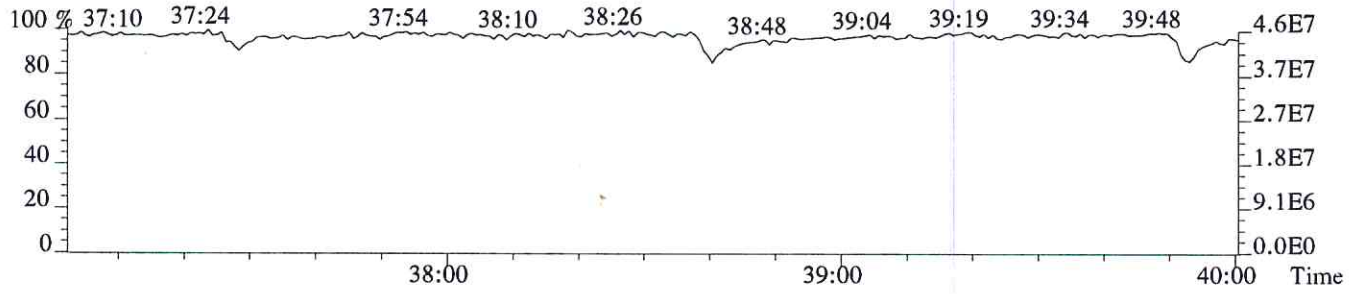
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1896.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)

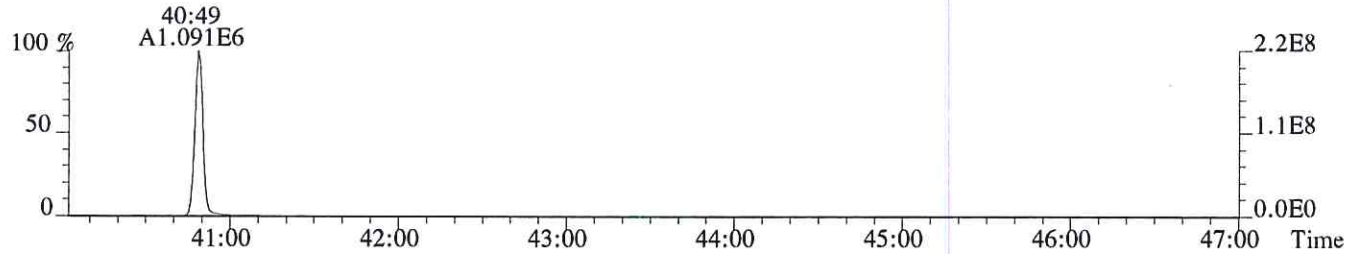


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

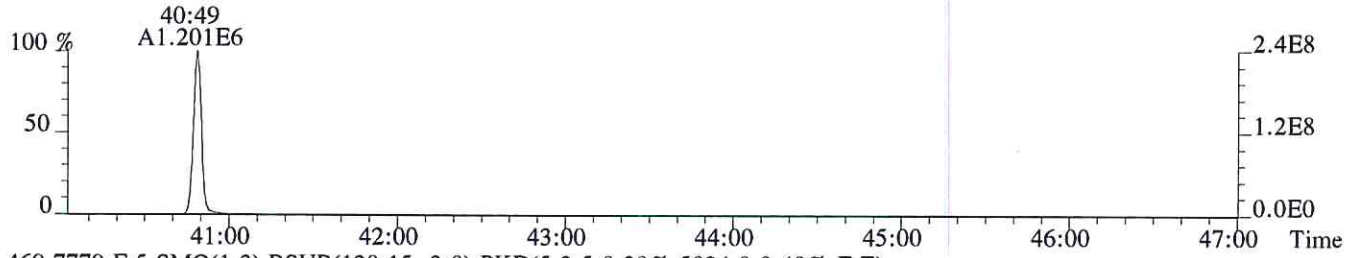


File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5

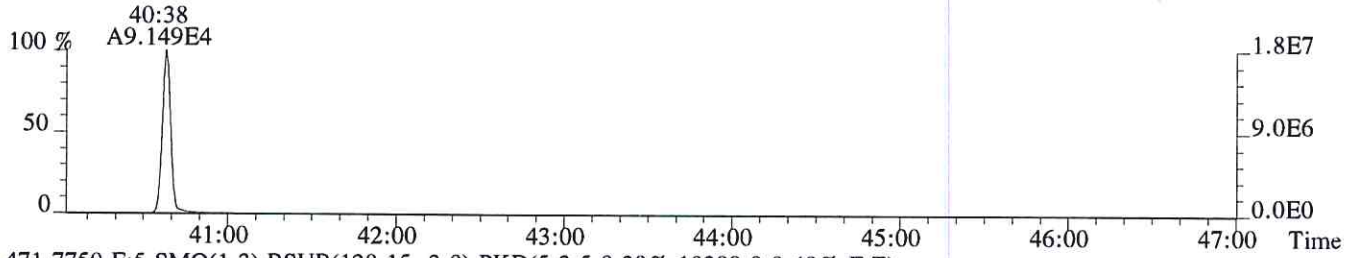
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136040.0,0.40%,F,T)



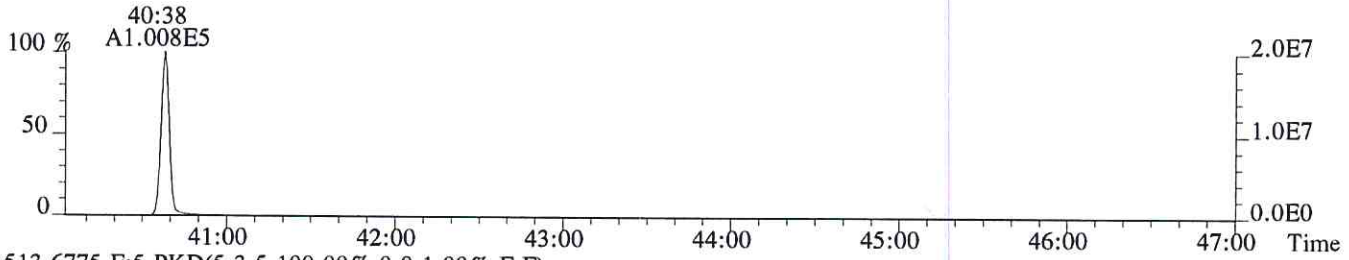
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,62728.0,0.40%,F,T)



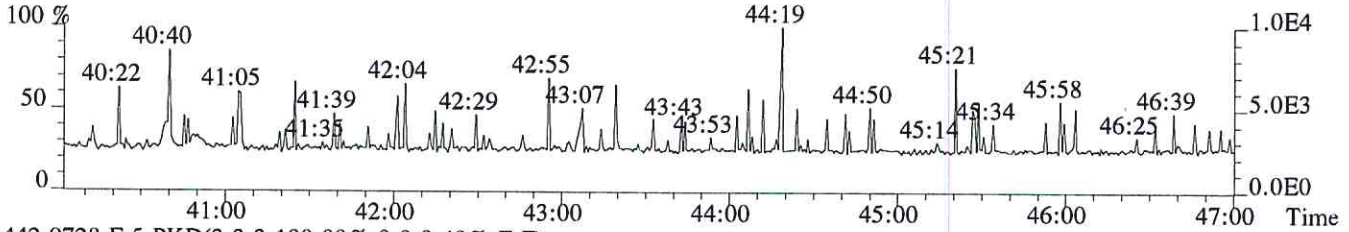
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



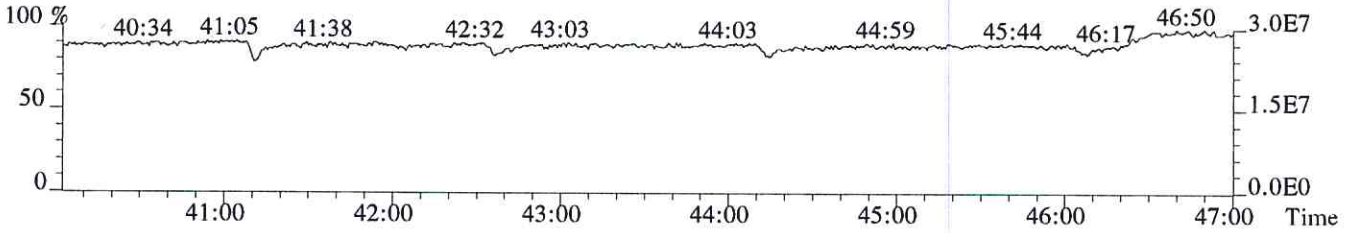
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10388.0,0.40%,F,T)



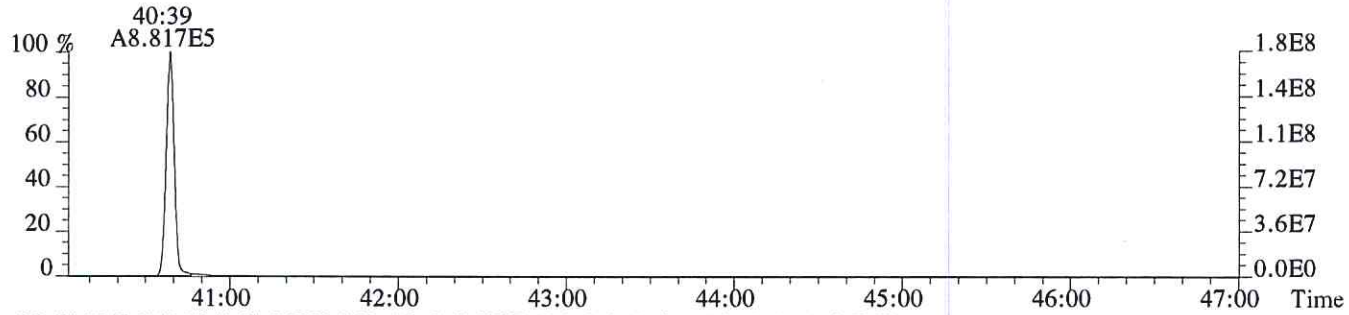
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



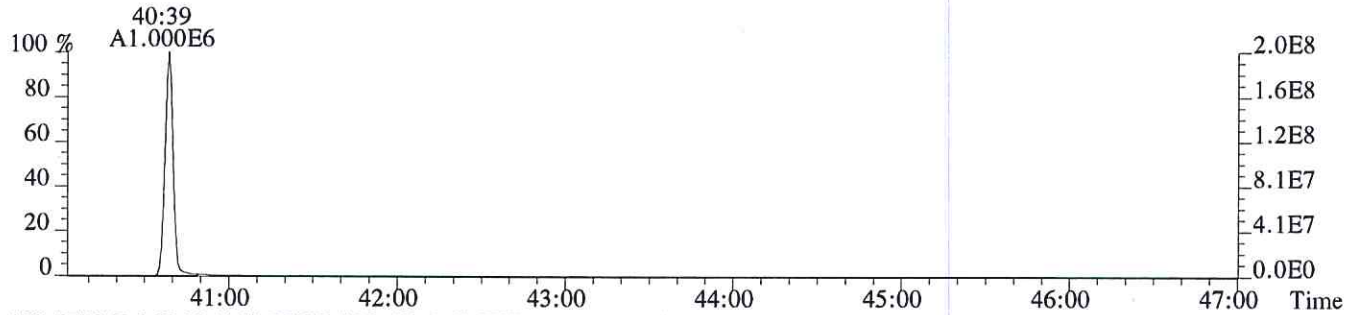
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



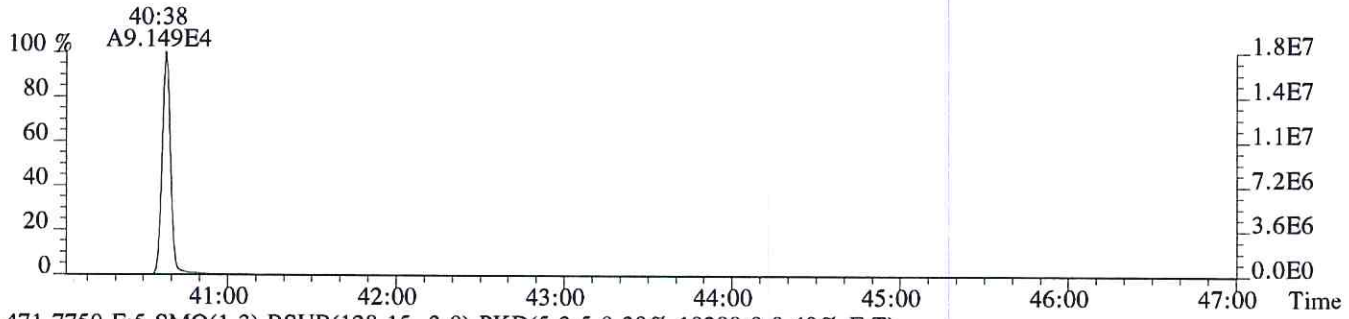
File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,57044.0,0.40%,F,T)



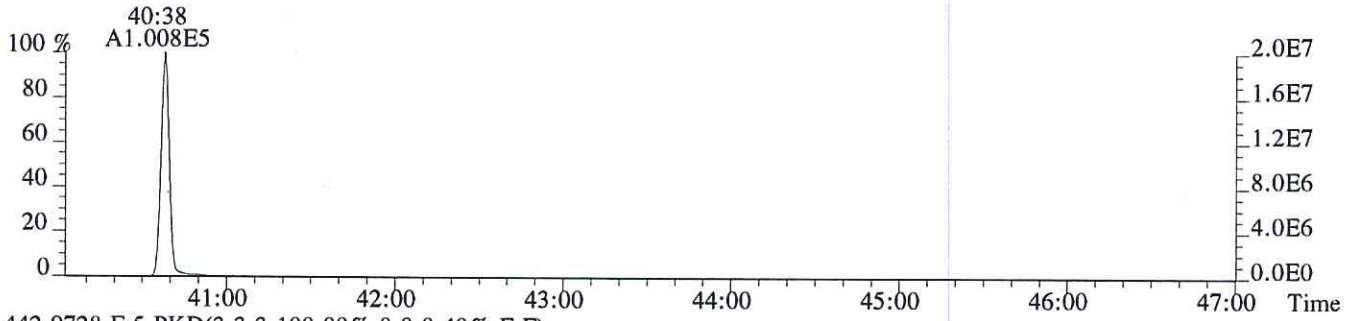
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,41804.0,0.40%,F,T)



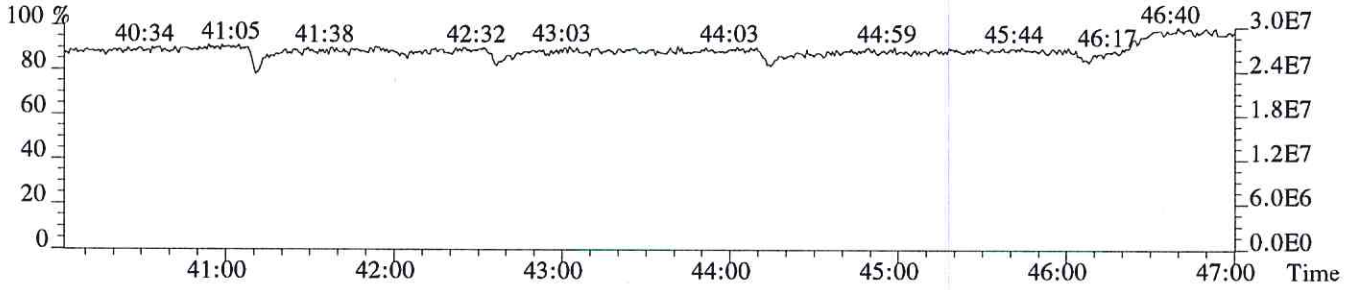
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10388.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P607186 Analysis Date: 16-MAY-17 Time: 18:45:06

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	9.8	7.8 - 12.9	-2.1
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	49	39 - 65	-1.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	48	39 - 64	-3.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	51	39 - 64	1.8
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	49	41 - 61	-1.5
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	-0.9
OCDD	M+2/M+4	0.90	0.76-1.02	100	79 - 126	0.0
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	9.7	8.4 - 12.0	-3.4
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	50	41 - 60	-0.5
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	49	41 - 61	-2.2
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	50	45 - 56	-0.5
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	49	44 - 57	-1.7
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	49	45 - 56	-1.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	49	44 - 57	-1.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	50	45 - 55	-0.5
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	48	43 - 58	-3.8
OCDF	M+2/M+4	0.91	0.76-1.02	100	63 - 159	0.4

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P607186 Analysis Date: 16-MAY-17 Time: 18:45:06

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	100	82 - 121	-0.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	95	62 - 160	-4.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	101	85 - 117	1.4
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	97	85 - 118	-3.1
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	99	72 - 138	-1.2
13C-OCDD	M+2/M+4	0.90	0.76-1.02	195	96 - 415	-2.6
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	101	71 - 140	1.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	97	76 - 130	-3.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	96	77 - 130	-4.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	76 - 131	0.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	97	70 - 143	-2.8
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	99	74 - 135	-1.4
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	99	73 - 137	-0.7
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	98	78 - 129	-1.9
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	101	77 - 129	0.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-2.4

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
75080

Run #7 Filename P607186 Samp: 1 Inj: 1 Acquired: 16-MAY-17 18:45:06
Processed: 17-MAY-17 07:57:37 Sample ID: 2ND SOURCE

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:50	1.553e+04	1.967e+04	0.79	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:44	1.217e+05	7.783e+04	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.135e+05	7.296e+04	1.56	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:34	9.768e+04	8.003e+04	1.22	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.060e+05	8.666e+04	1.22	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:12	9.781e+04	7.934e+04	1.23	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:58	8.937e+04	7.235e+04	1.24	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	8.292e+04	7.993e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	7.090e+04	6.844e+04	1.04	yes	no	1.341
10	Unk	OCDF	40:48	1.101e+05	1.214e+05	0.91	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	1.162e+04	1.478e+04	0.79	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:02	7.808e+04	5.026e+04	1.55	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:21	6.991e+04	5.640e+04	1.24	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	6.745e+04	5.397e+04	1.25	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	7.459e+04	5.897e+04	1.26	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:09	5.933e+04	5.705e+04	1.04	yes	no	1.048
17	Unk	OCDD	40:38	9.158e+04	1.016e+05	0.90	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:49	1.586e+05	1.989e+05	0.80	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:43	2.322e+05	1.468e+05	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:43	2.302e+05	1.456e+05	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:33	9.775e+04	1.865e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:40	1.137e+05	2.152e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:11	1.055e+05	2.006e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:57	9.333e+04	1.768e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:15	7.299e+04	1.621e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	6.677e+04	1.493e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:47	1.124e+05	1.432e+05	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	1.652e+05	1.048e+05	1.58	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.349e+05	1.077e+05	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:26	1.286e+05	1.016e+05	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:08	1.152e+05	1.088e+05	1.06	yes	no	0.884
32	IS	13C-OCDD	40:37	1.635e+05	1.815e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:06	1.152e+05	1.443e+05	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:40	1.427e+05	1.138e+05	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:49	2.716e+04				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
75080

Run #7 Filename P607186 Samp: 1 Inj: 1 Acquired: 16-MAY-17 18:45:06
Processed: 17-MAY-17 07:57:37 LAB. ID: 2ND SOURCE

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.24e+06	2.40e+02	9.3e+03	2.86e+06	1.97e+03	1.5e+03
2	1,2,3,7,8-PeCDF	2.09e+07	9.88e+02	2.1e+04	1.35e+07	2.46e+03	5.5e+03
3	2,3,4,7,8-PeCDF	2.11e+07	9.88e+02	2.1e+04	1.37e+07	2.46e+03	5.6e+03
4	1,2,3,4,7,8-HxCDF	2.08e+07	1.11e+03	1.9e+04	1.69e+07	1.54e+03	1.1e+04
5	1,2,3,6,7,8-HxCDF	2.22e+07	1.11e+03	2.0e+04	1.82e+07	1.54e+03	1.2e+04
6	2,3,4,6,7,8-HxCDF	2.07e+07	1.11e+03	1.9e+04	1.69e+07	1.54e+03	1.1e+04
7	1,2,3,7,8,9-HxCDF	1.93e+07	1.11e+03	1.7e+04	1.54e+07	1.54e+03	1.0e+04
8	1,2,3,4,6,7,8-HpCDF	1.87e+07	8.43e+03	2.2e+03	1.79e+07	8.37e+03	2.1e+03
9	1,2,3,4,7,8,9-HpCDF	1.53e+07	8.43e+03	1.8e+03	1.49e+07	8.37e+03	1.8e+03
10	OCDF	2.15e+07	8.60e+03	2.5e+03	2.31e+07	1.30e+04	1.8e+03
11	2,3,7,8-TCDD	1.89e+06	1.32e+03	1.4e+03	2.42e+06	1.48e+02	1.6e+04
12	1,2,3,7,8-PeCDD	1.45e+07	1.49e+03	9.8e+03	9.38e+06	7.16e+02	1.3e+04
13	1,2,3,4,7,8-HxCDD	1.49e+07	3.48e+02	4.3e+04	1.19e+07	2.20e+02	5.4e+04
14	1,2,3,6,7,8-HxCDD	1.41e+07	3.48e+02	4.1e+04	1.12e+07	2.20e+02	5.1e+04
15	1,2,3,7,8,9-HxCDD	1.59e+07	3.48e+02	4.6e+04	1.28e+07	2.20e+02	5.8e+04
16	1,2,3,4,6,7,8-HpCDD	1.36e+07	1.88e+03	7.2e+03	1.31e+07	9.16e+02	1.4e+04
17	OCDD	1.77e+07	9.67e+03	1.8e+03	1.96e+07	1.30e+04	1.5e+03
18	13C-2,3,7,8-TCDF	2.33e+07	1.17e+04	2.0e+03	2.90e+07	5.70e+03	5.1e+03
19	13C-1,2,3,7,8-PeCDF	3.99e+07	2.71e+03	1.5e+04	2.53e+07	2.37e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	4.30e+07	2.71e+03	1.6e+04	2.71e+07	2.37e+03	1.1e+04
21	13C-1,2,3,4,7,8-HxCDF	2.06e+07	1.31e+03	1.6e+04	3.95e+07	1.62e+03	2.4e+04
22	13C-1,2,3,6,7,8-HxCDF	2.35e+07	1.31e+03	1.8e+04	4.45e+07	1.62e+03	2.7e+04
23	13C-2,3,4,6,7,8-HxCDF	2.25e+07	1.31e+03	1.7e+04	4.31e+07	1.62e+03	2.7e+04
24	13C-1,2,3,7,8,9-HxCDF	2.02e+07	1.31e+03	1.5e+04	3.80e+07	1.62e+03	2.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.66e+07	1.18e+04	1.4e+03	3.64e+07	3.31e+04	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.44e+07	1.18e+04	1.2e+03	3.18e+07	3.31e+04	9.6e+02
27	13C-2,3,7,8-TCDD	1.79e+07	5.52e+03	3.2e+03	2.30e+07	3.63e+03	6.3e+03
28	13C-1,2,3,7,8-PeCDD	3.12e+07	1.19e+03	2.6e+04	1.96e+07	2.36e+02	8.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.85e+07	1.74e+03	1.6e+04	2.23e+07	1.27e+03	1.8e+04
30	13C-1,2,3,6,7,8-HxCDD	2.69e+07	1.74e+03	1.5e+04	2.12e+07	1.27e+03	1.7e+04
31	13C-1,2,3,4,6,7,8-HpCDD	2.62e+07	8.52e+02	3.1e+04	2.44e+07	1.43e+03	1.7e+04
32	13C-OCDD	3.20e+07	1.06e+04	3.0e+03	3.52e+07	1.47e+04	2.4e+03
33	13C-1,2,3,4-TCDD	1.74e+07	5.52e+03	3.1e+03	2.17e+07	3.63e+03	6.0e+03
34	13C-1,2,3,7,8,9-HxCDD	3.10e+07	1.74e+03	1.8e+04	2.47e+07	1.27e+03	2.0e+04
35	37Cl-2,3,7,8-TCDD	4.50e+06	1.38e+03	3.3e+03			

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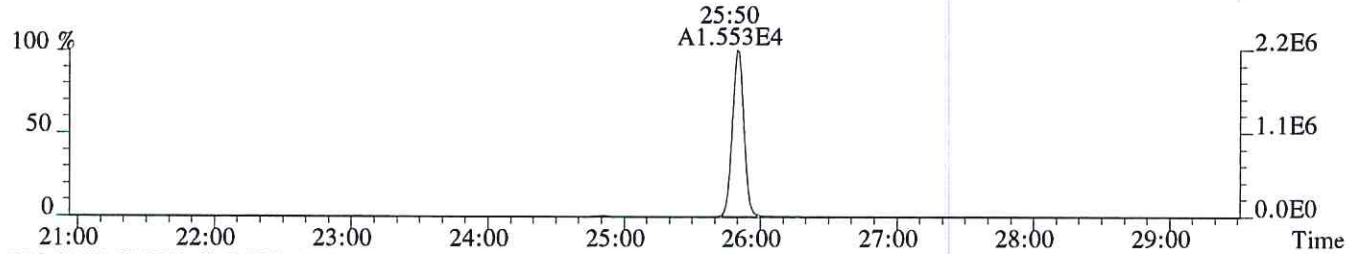
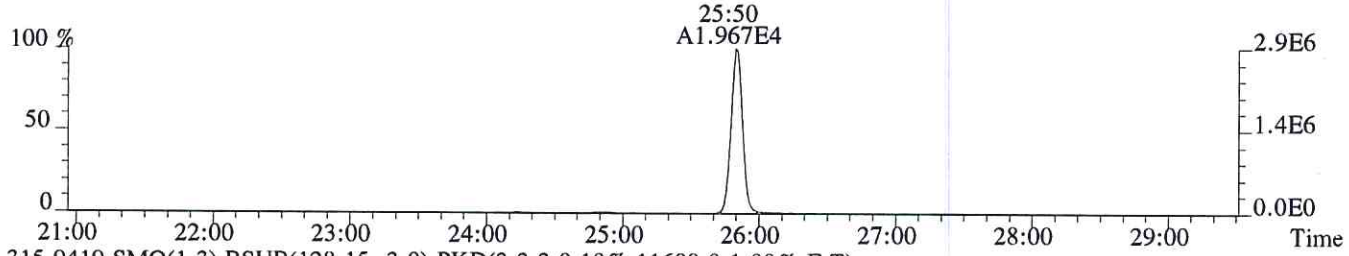
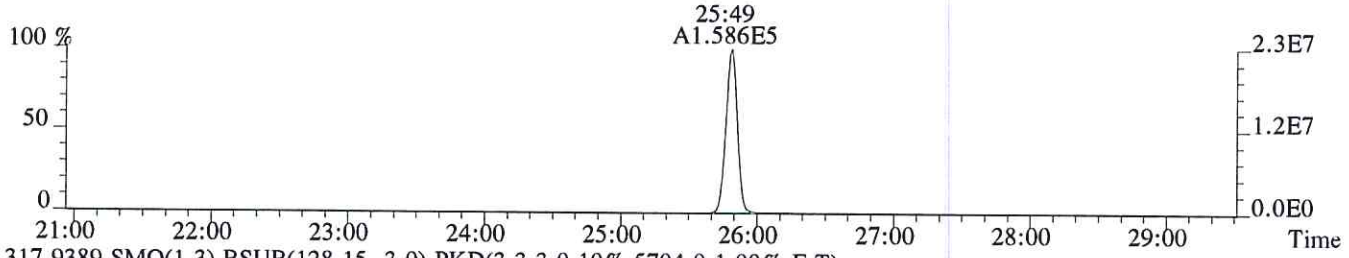
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



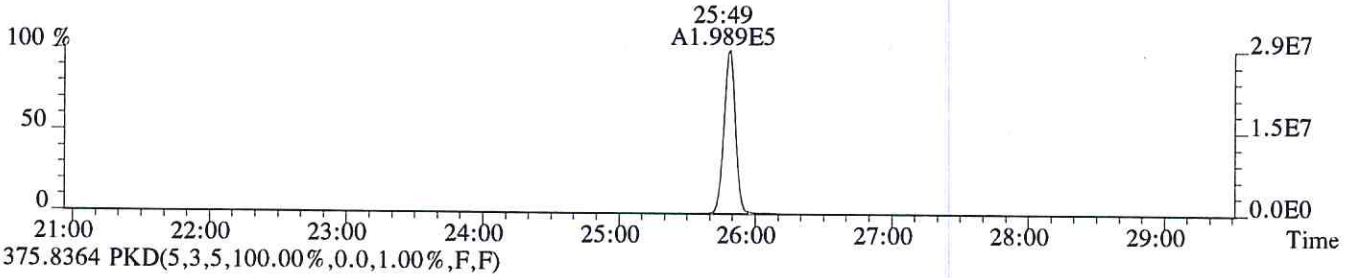
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1968.0,1.00%,F,T)



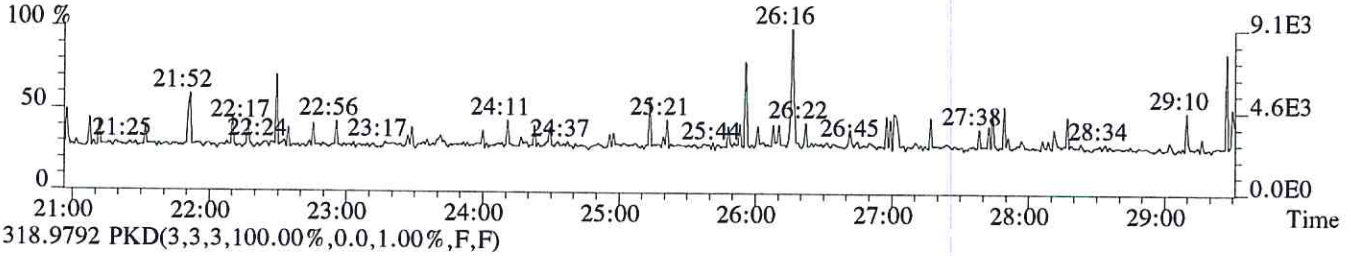
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11688.0,1.00%,F,T)



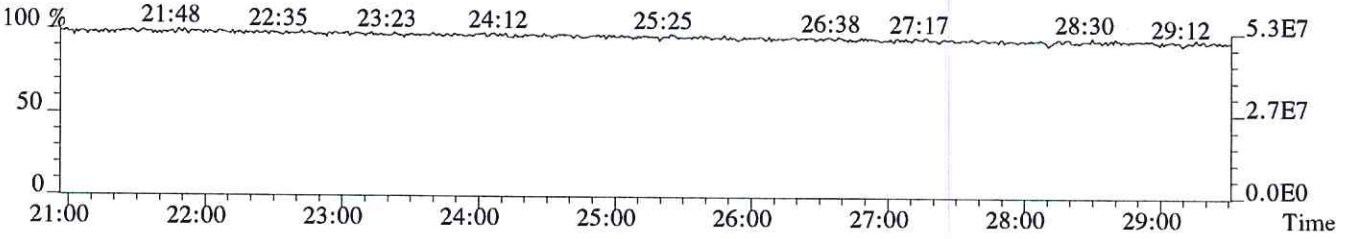
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5704.0,1.00%,F,T)



375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

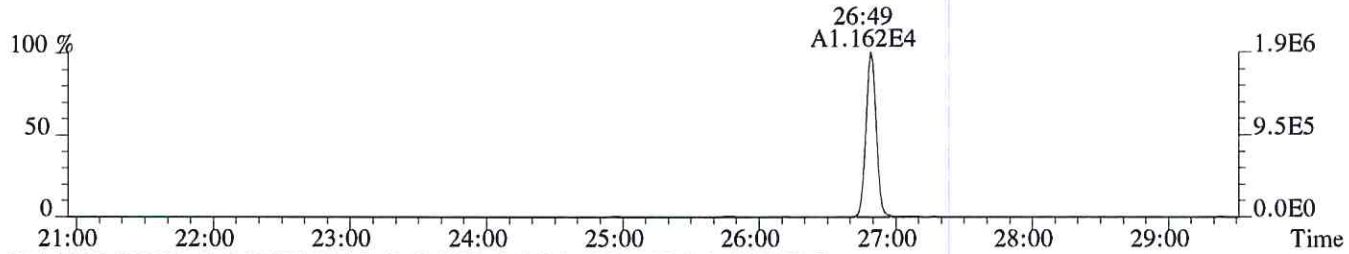


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

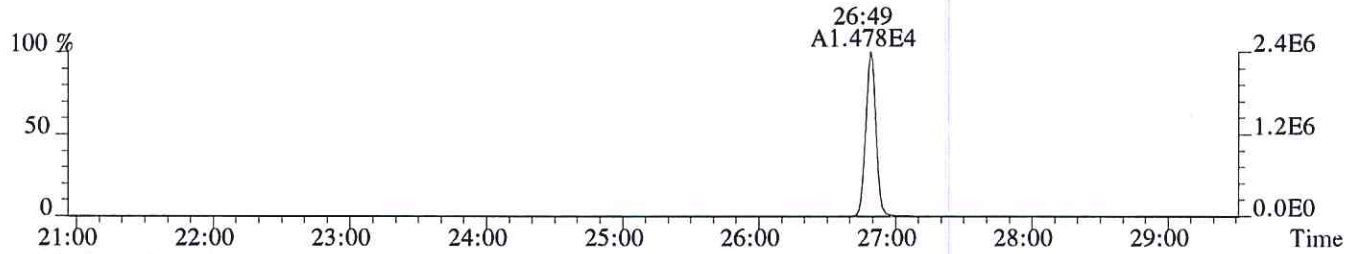


File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE

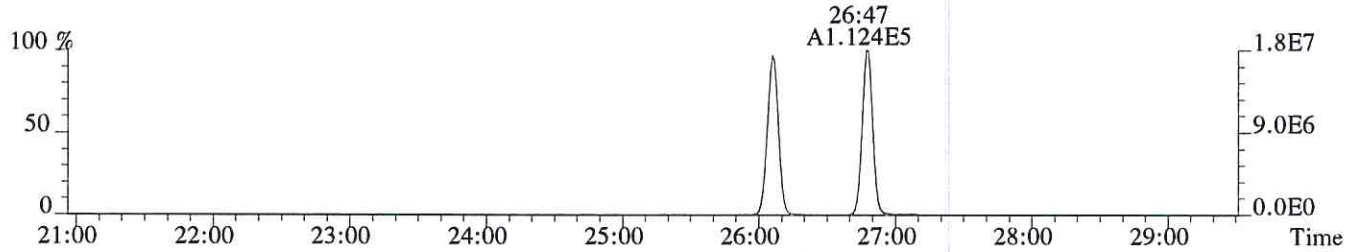
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



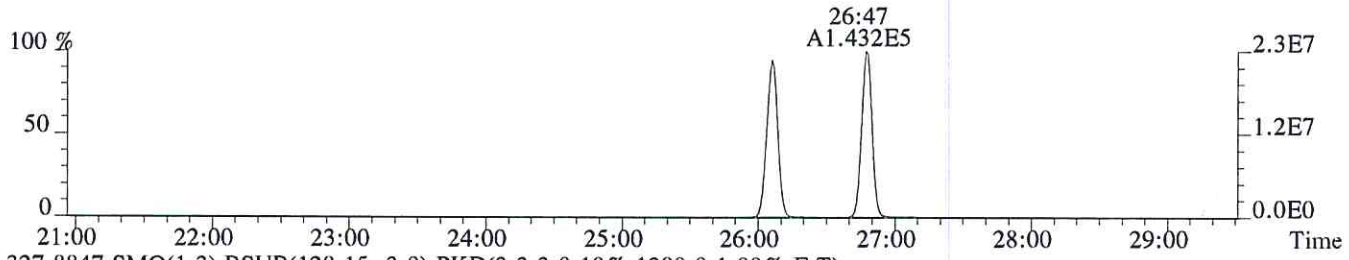
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



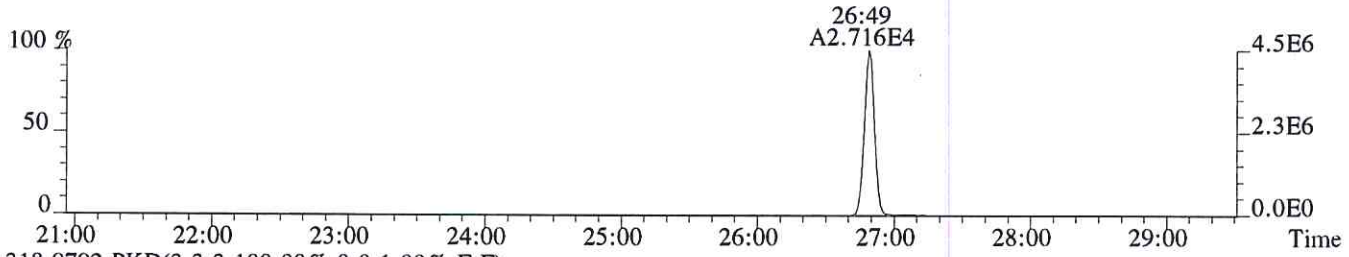
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5524.0,1.00%,F,T)



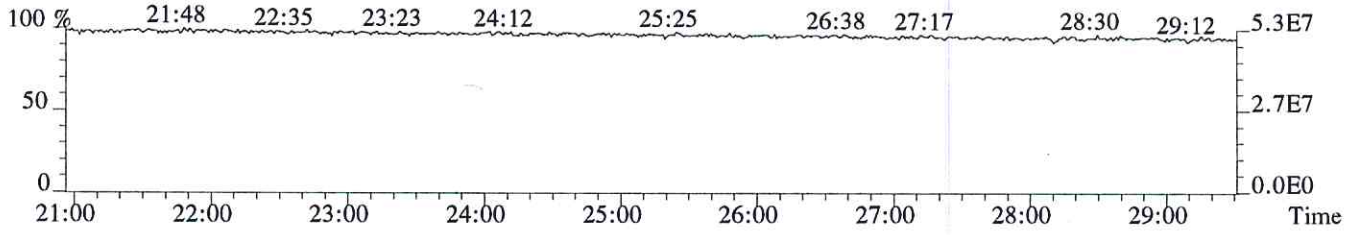
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3632.0,1.00%,F,T)



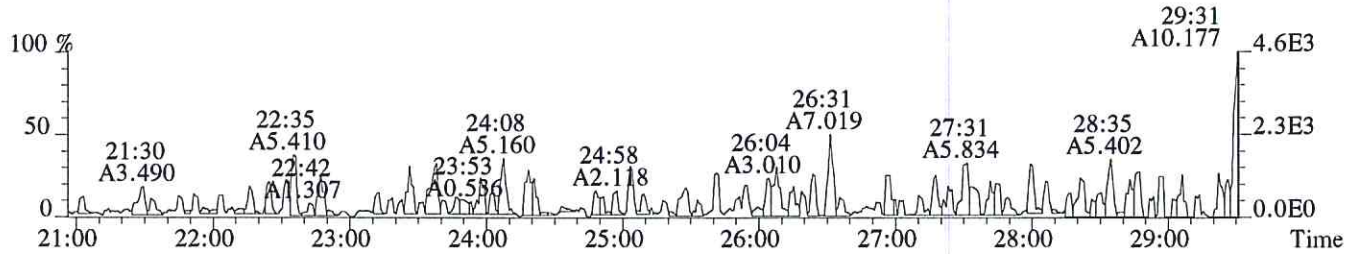
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



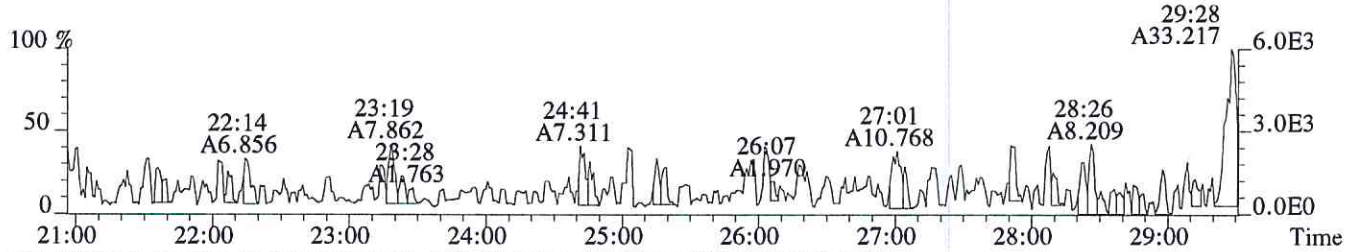
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



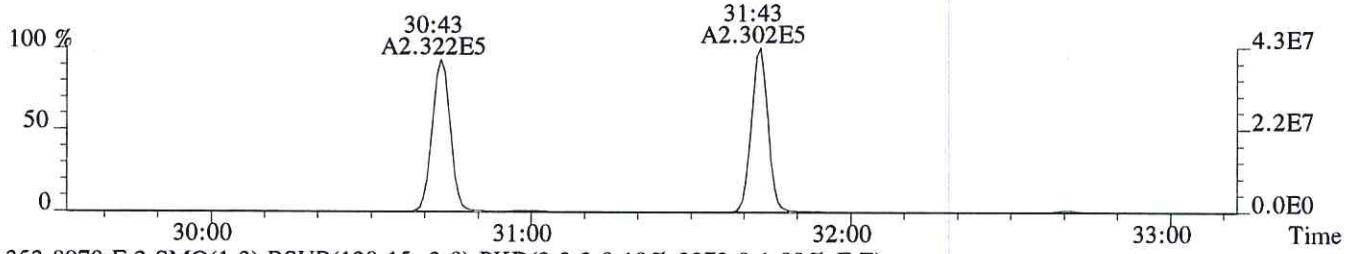
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



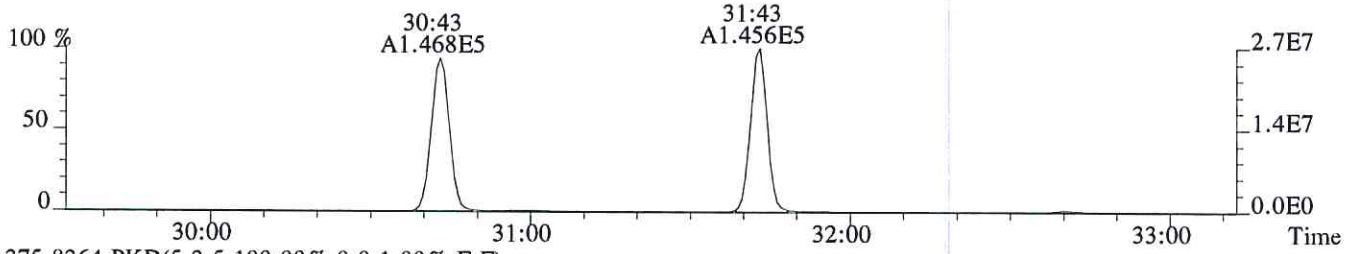
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,T)



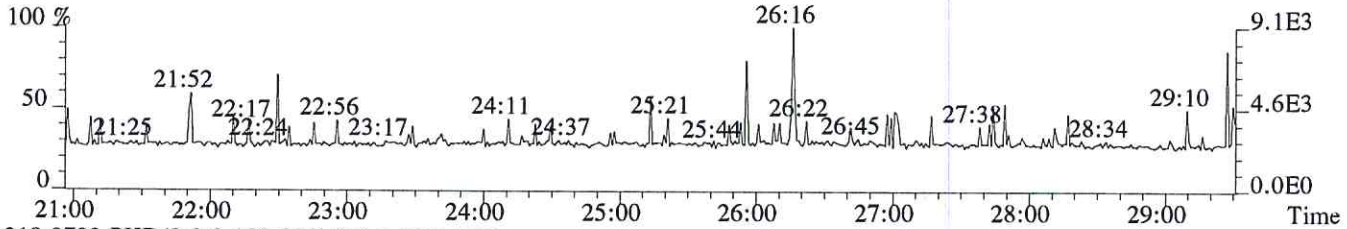
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



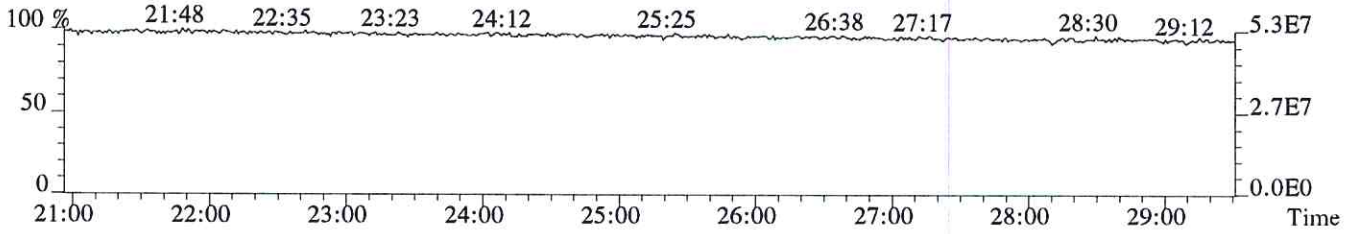
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



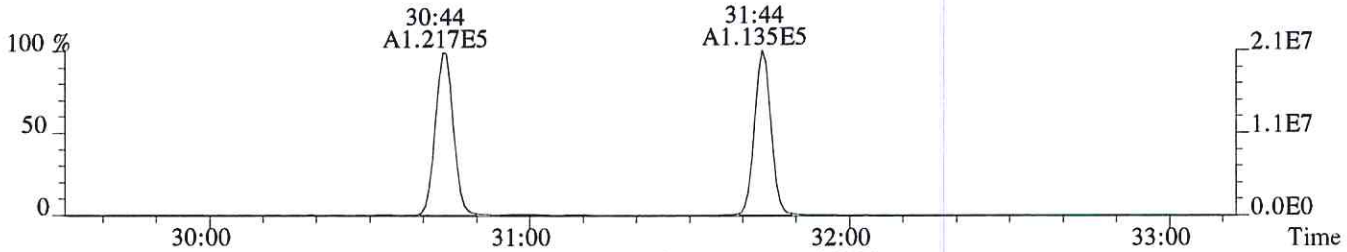
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



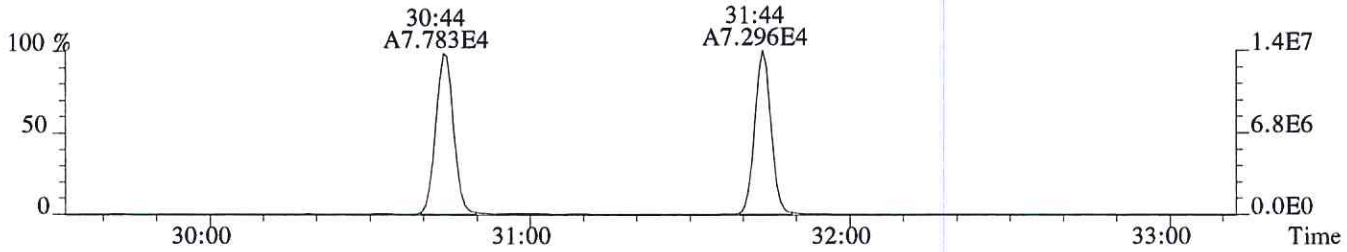
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



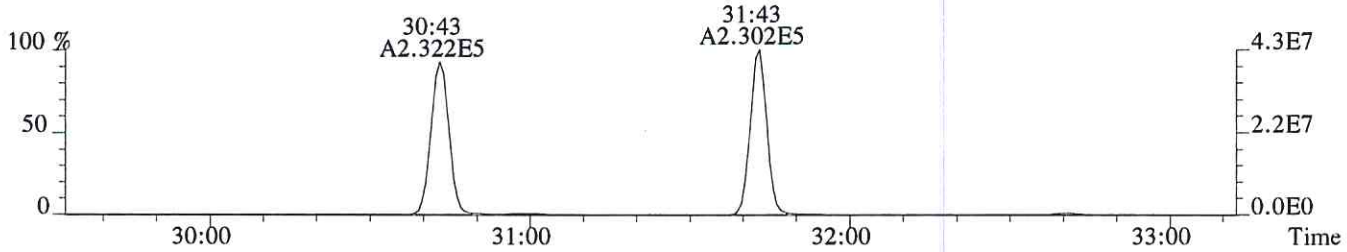
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



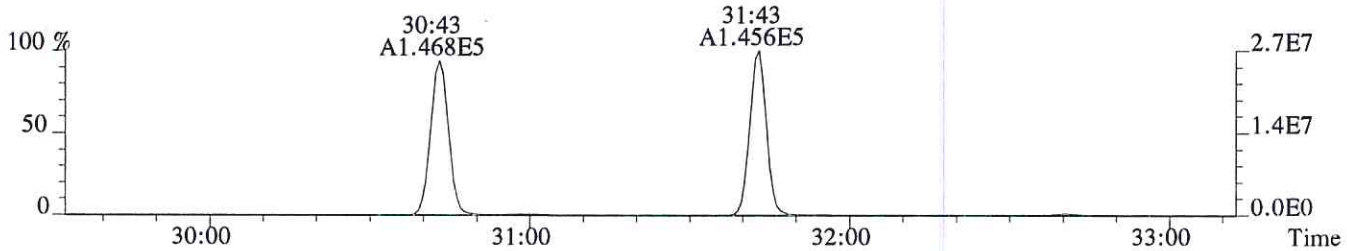
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2456.0,1.00%,F,T)



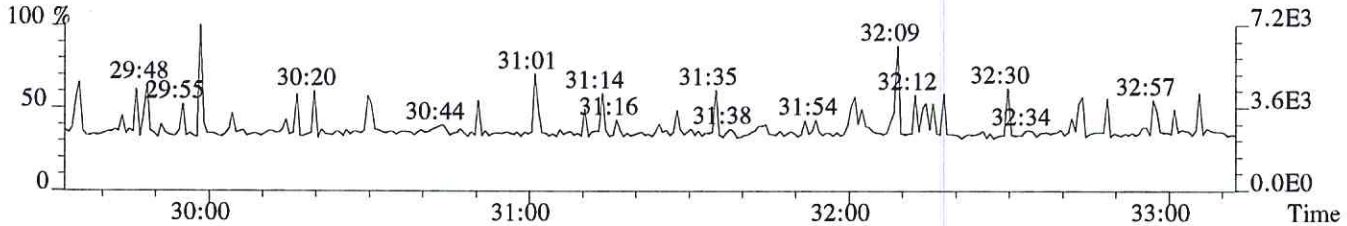
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



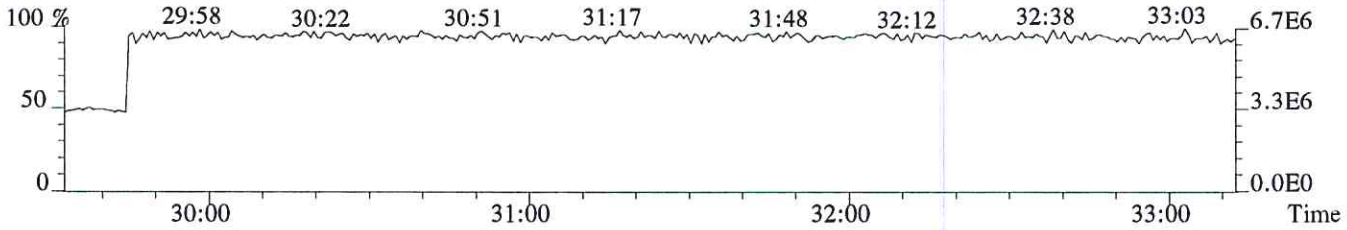
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



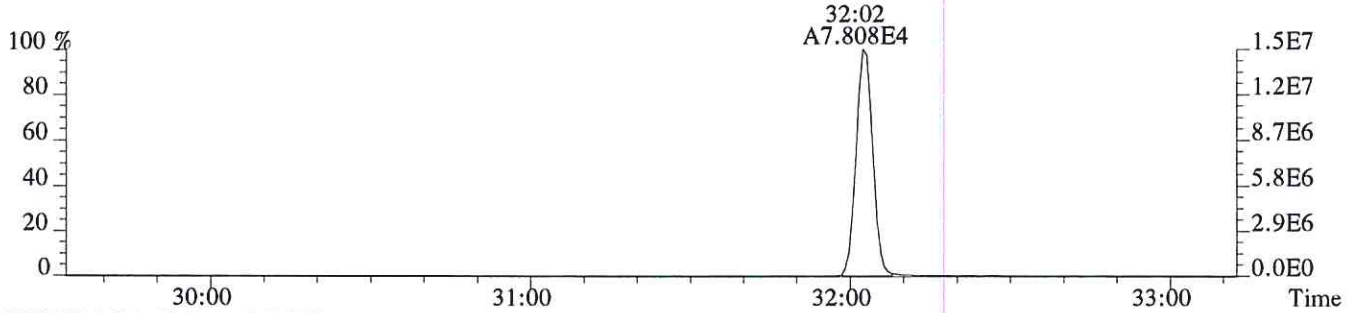
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



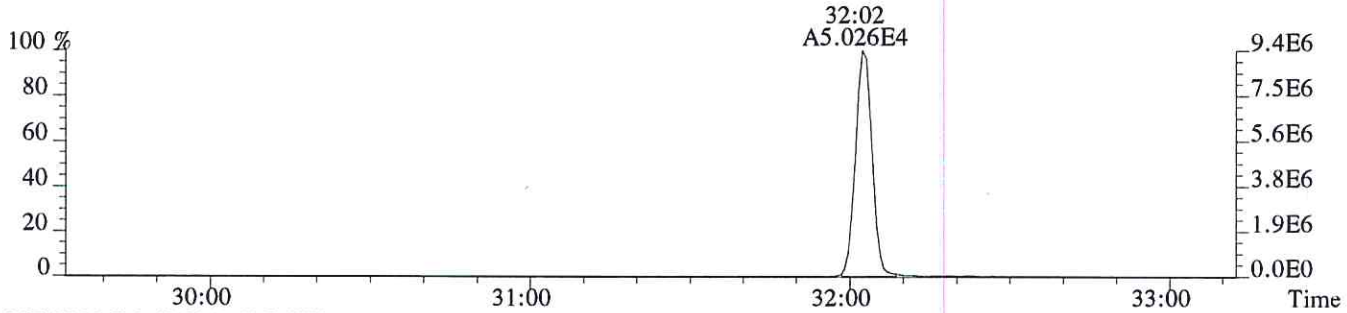
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



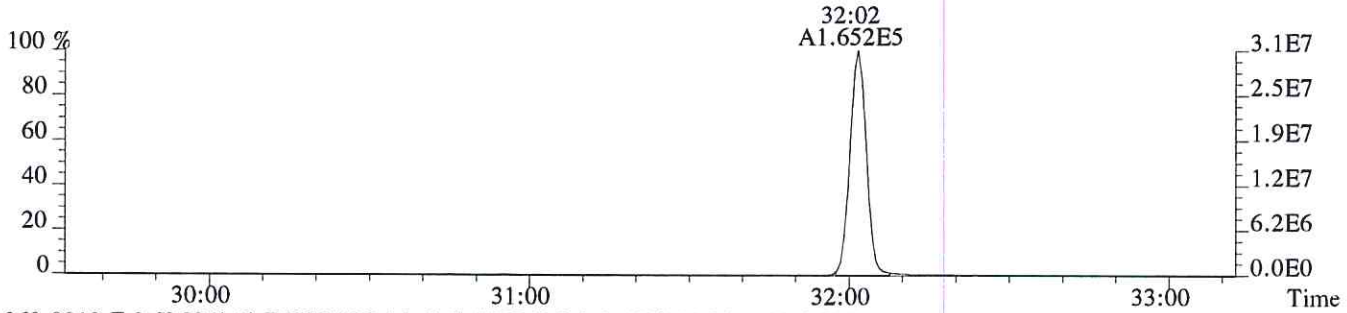
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



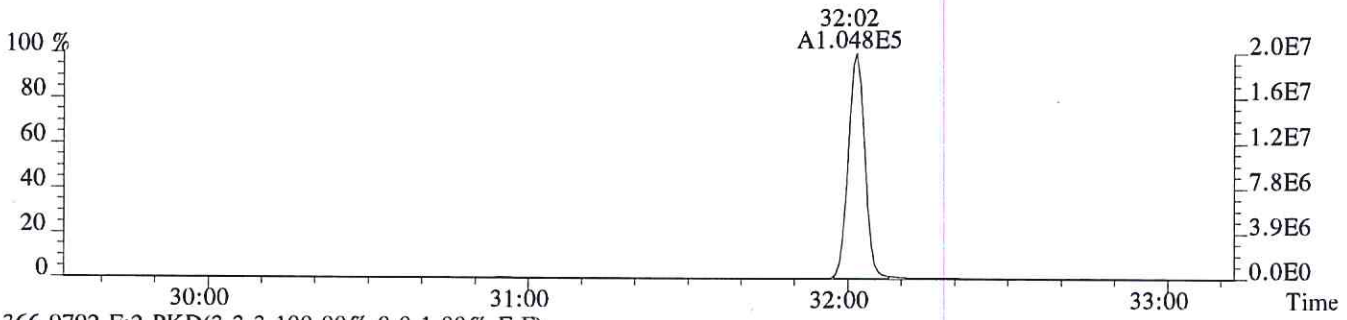
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



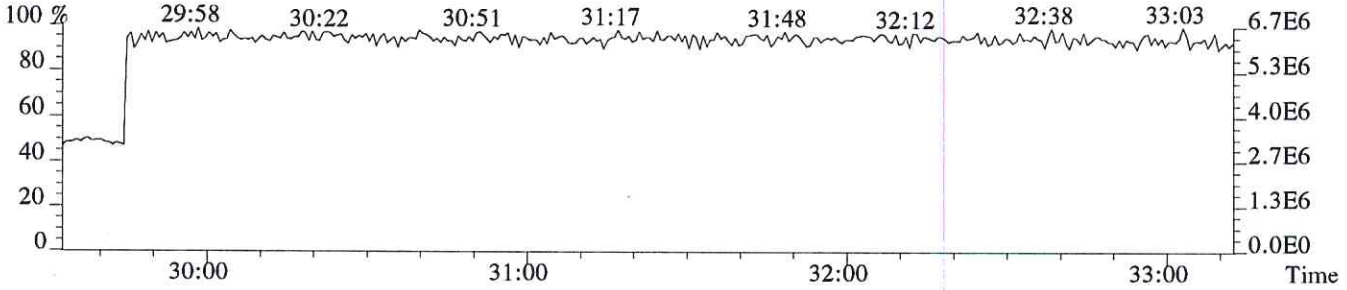
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,T)



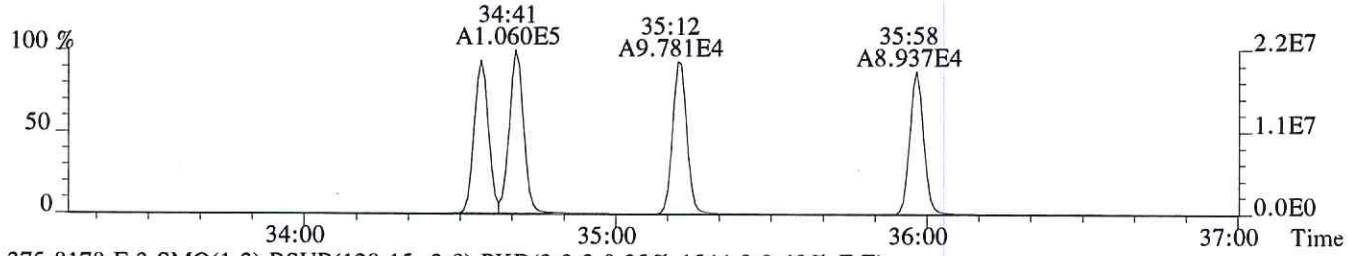
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



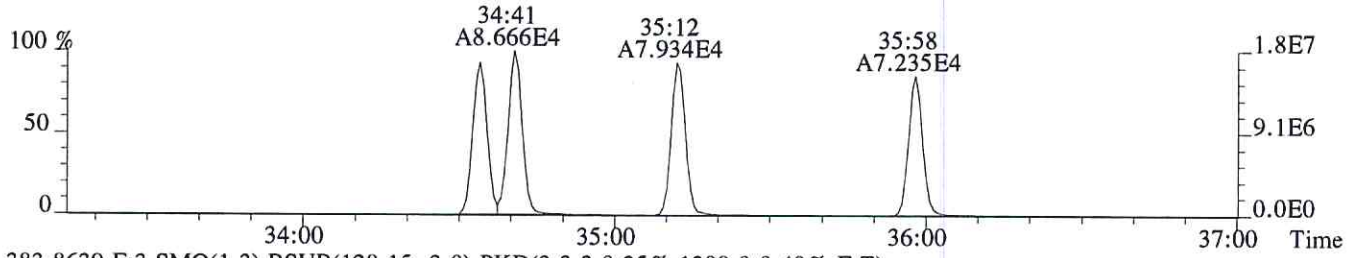
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



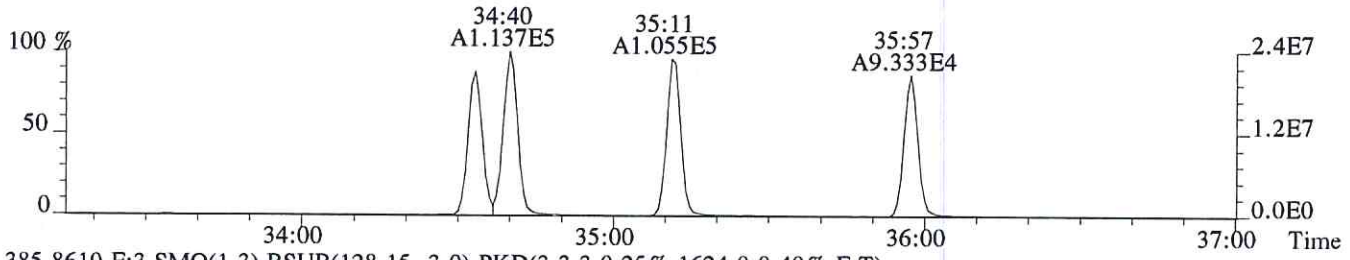
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



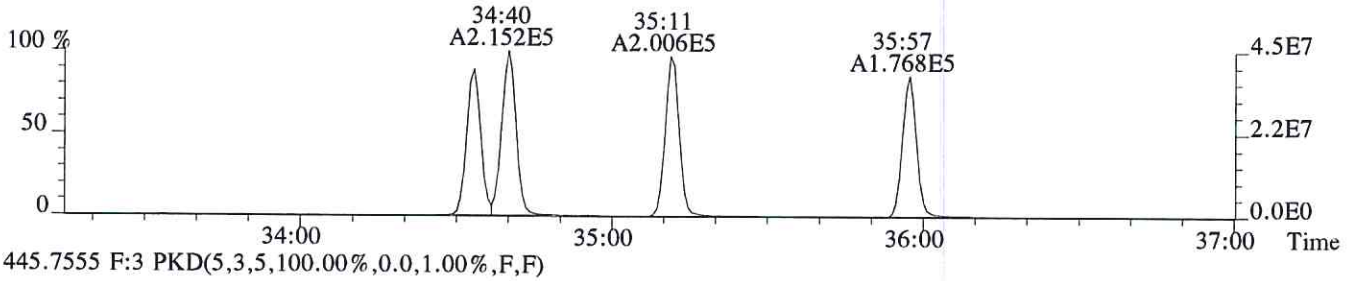
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



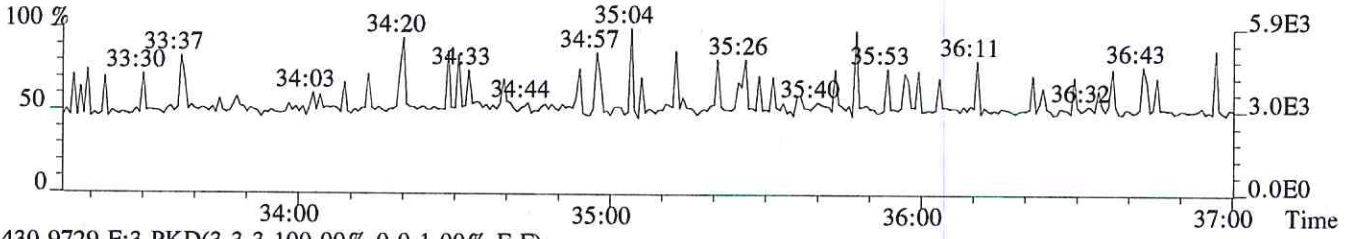
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



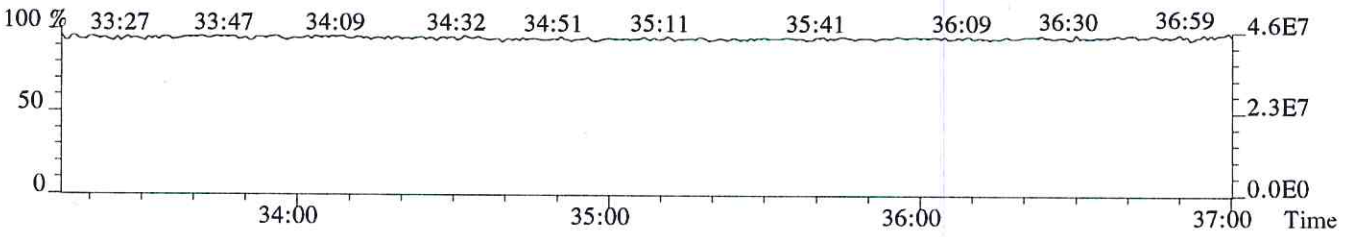
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1624.0,0.40%,F,T)



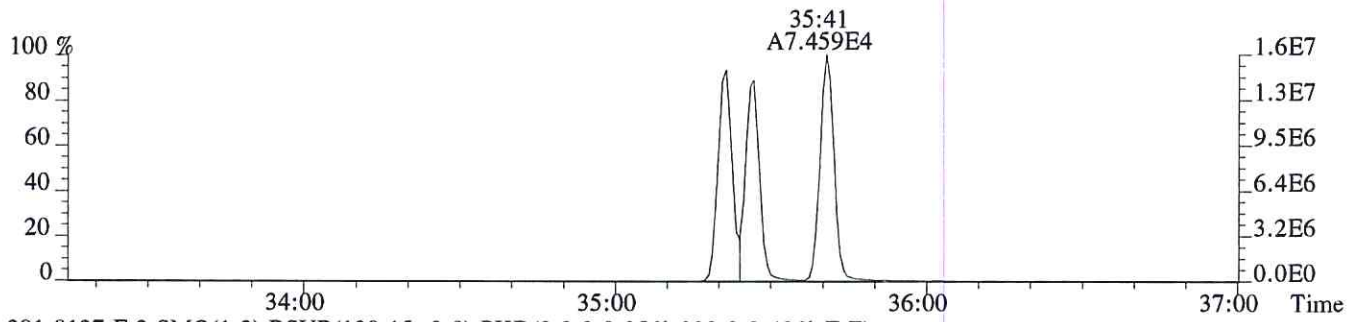
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



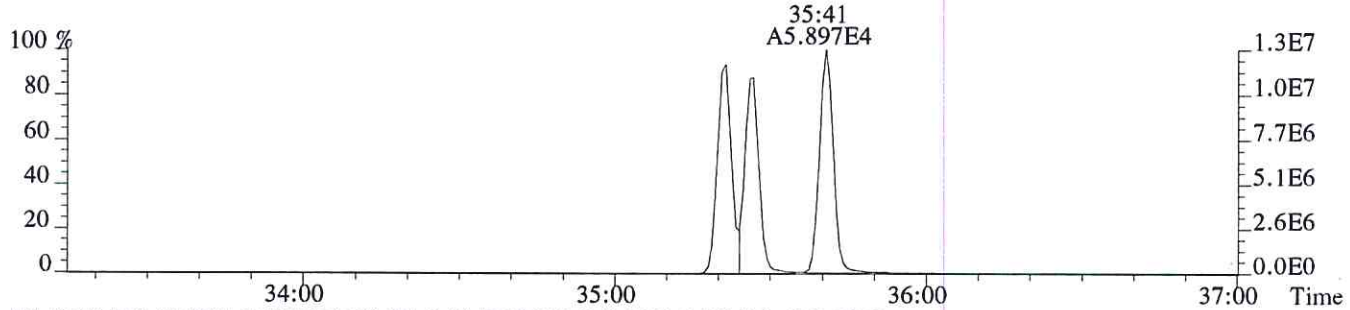
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



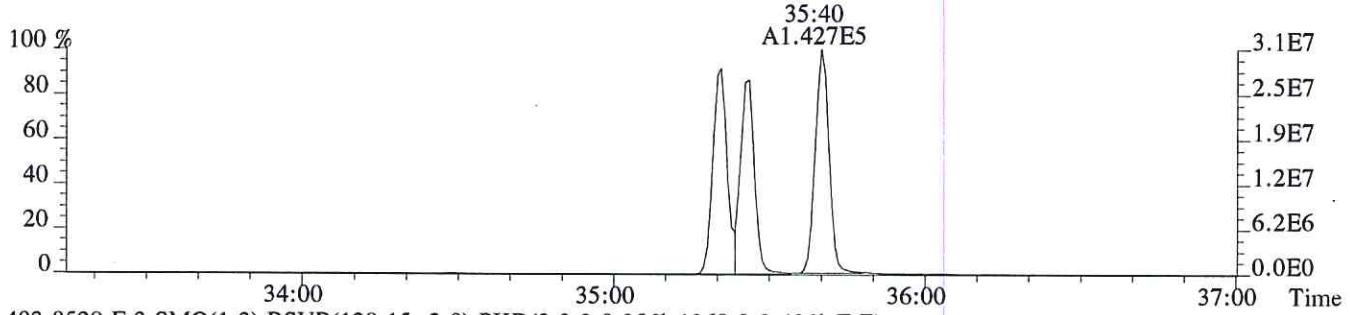
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,T)



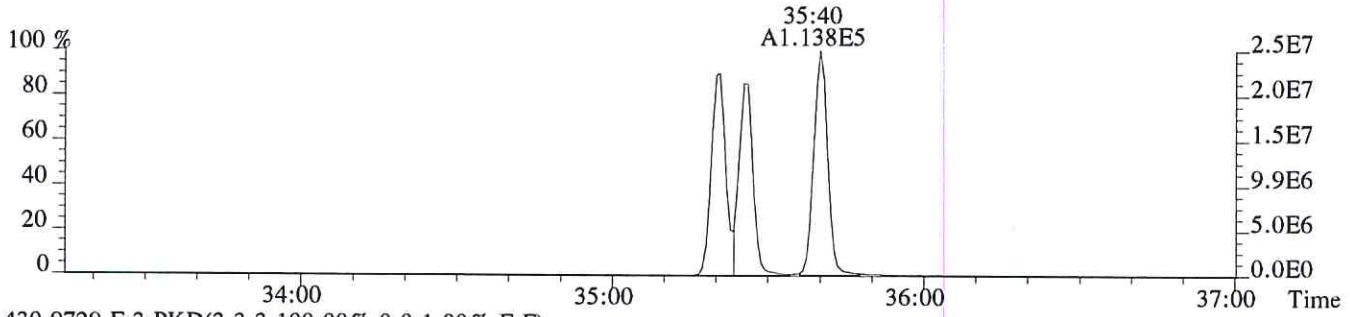
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



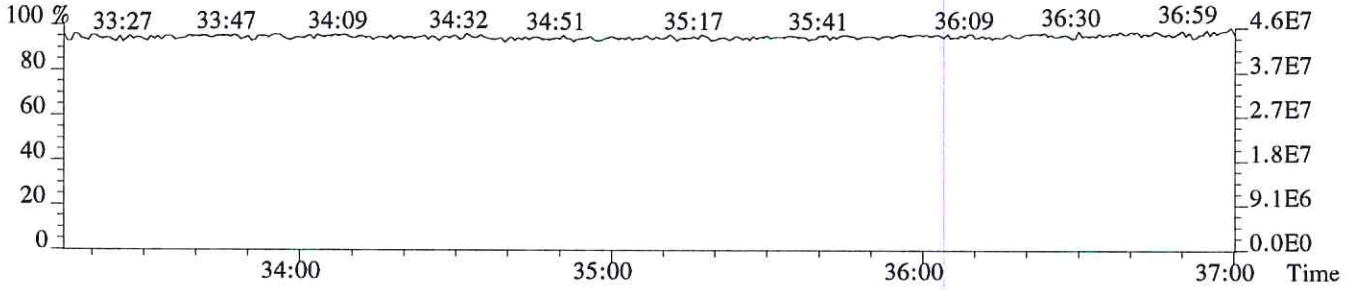
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



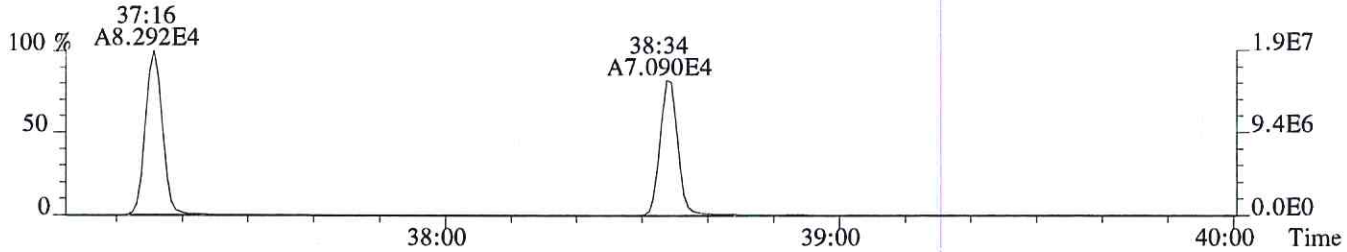
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,T)



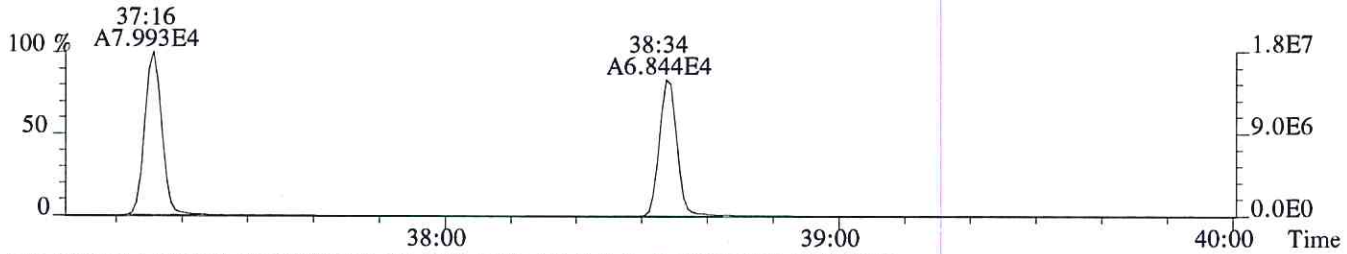
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



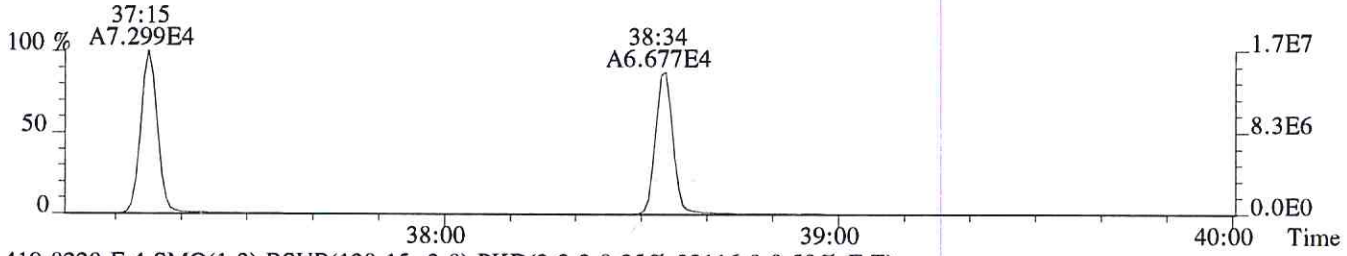
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8428.0,0.50%,F,T)



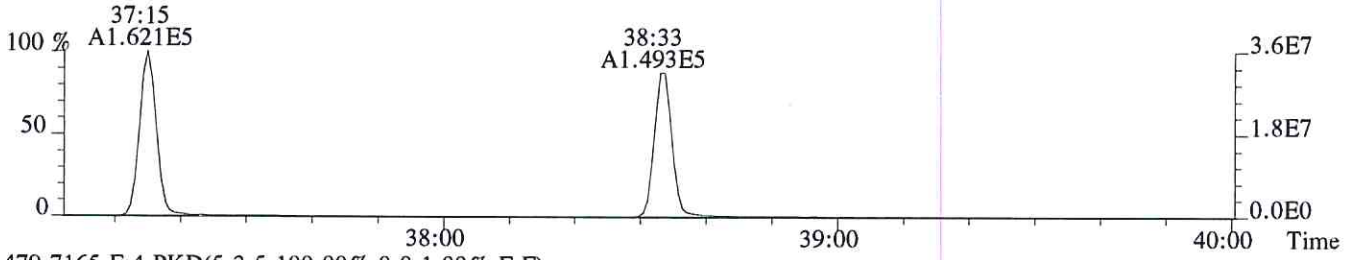
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8372.0,0.50%,F,T)



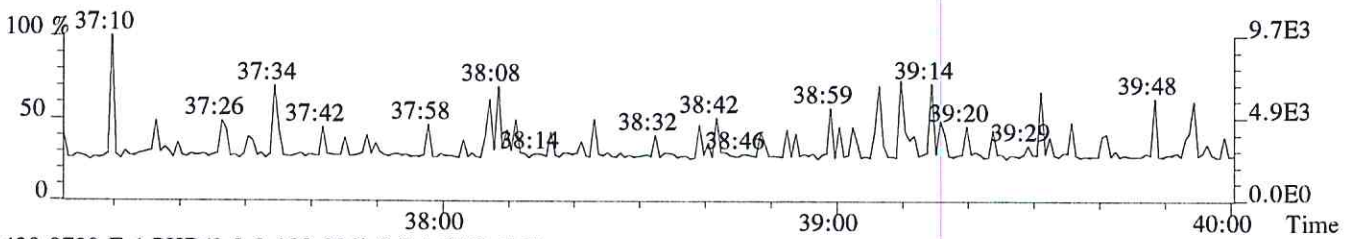
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11848.0,0.50%,F,T)



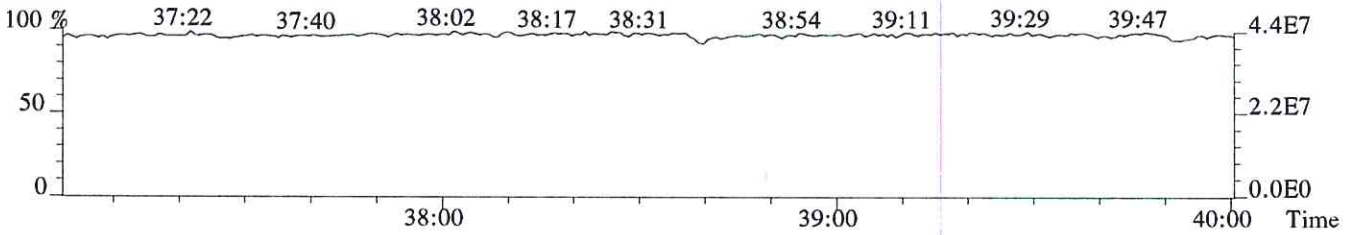
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,33116.0,0.50%,F,T)



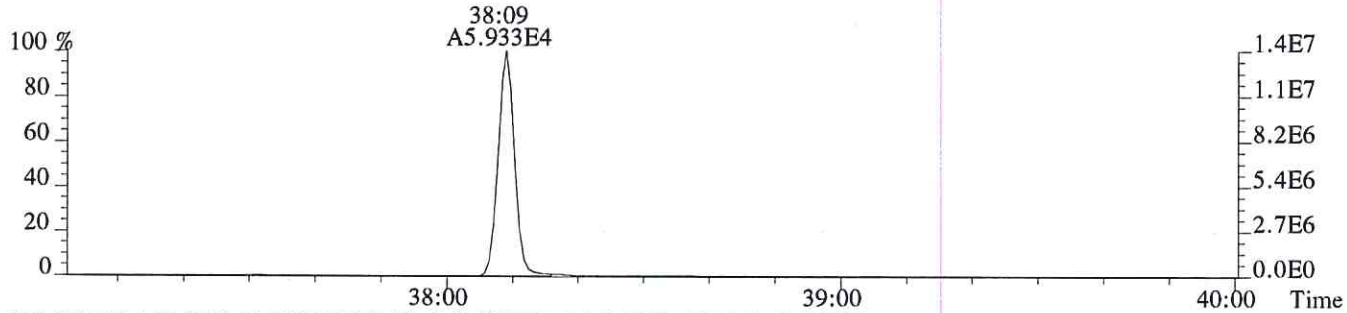
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



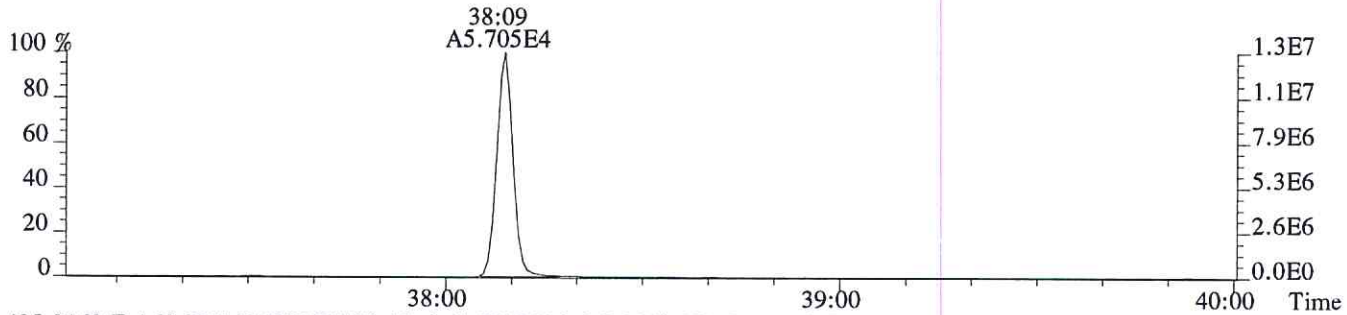
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



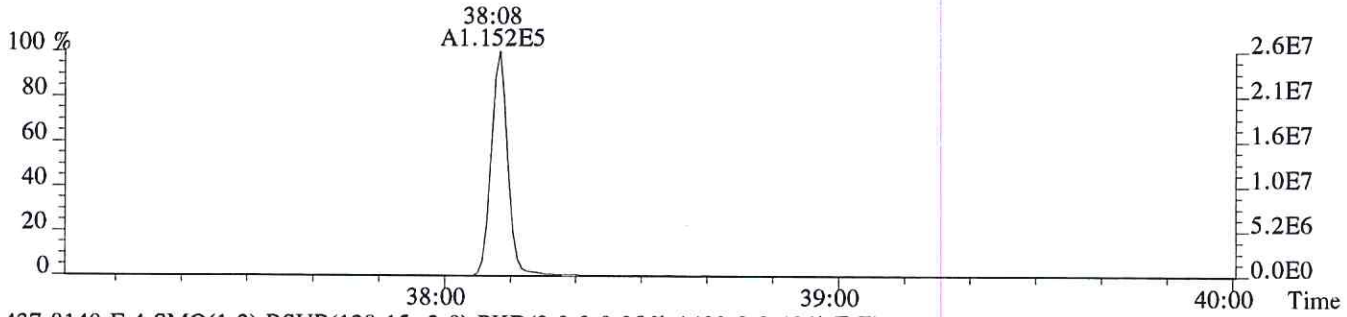
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1880.0,0.40%,F,T)



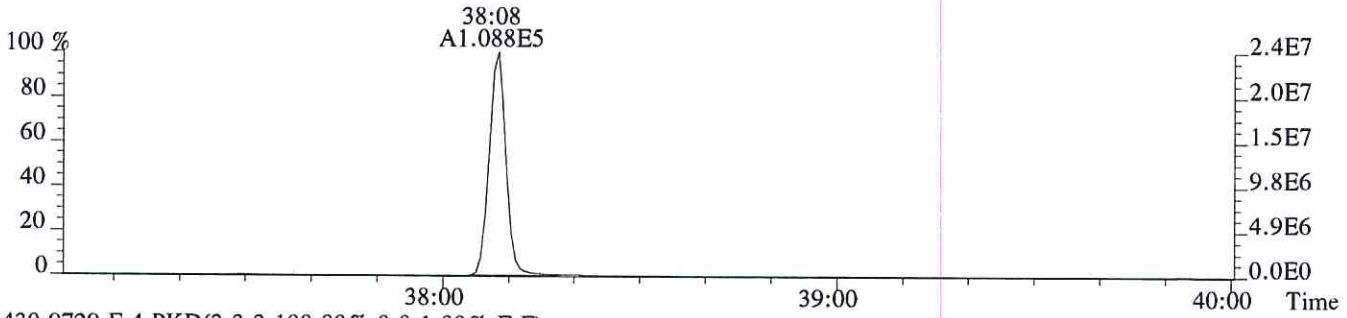
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.40%,F,T)



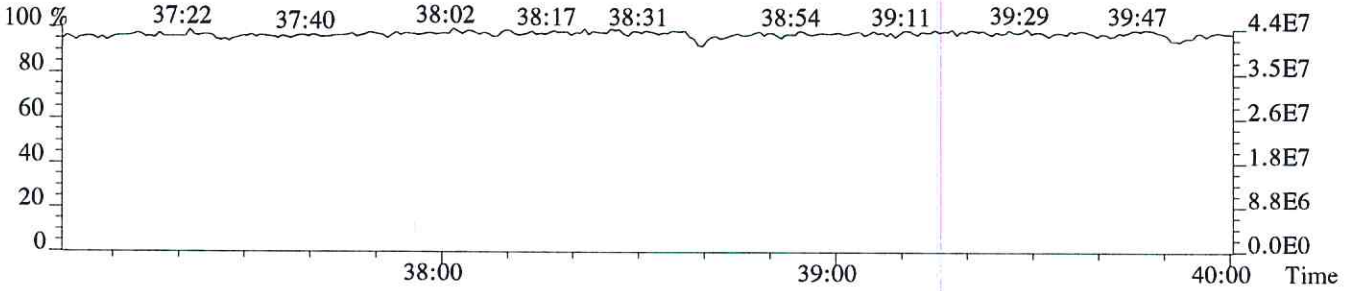
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



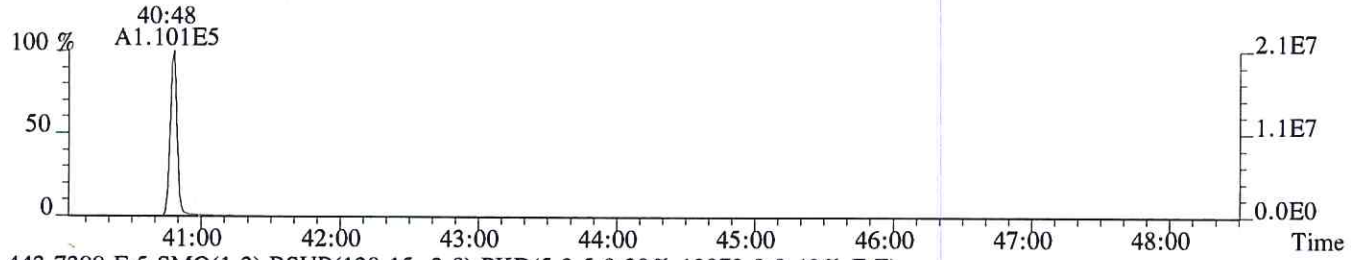
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



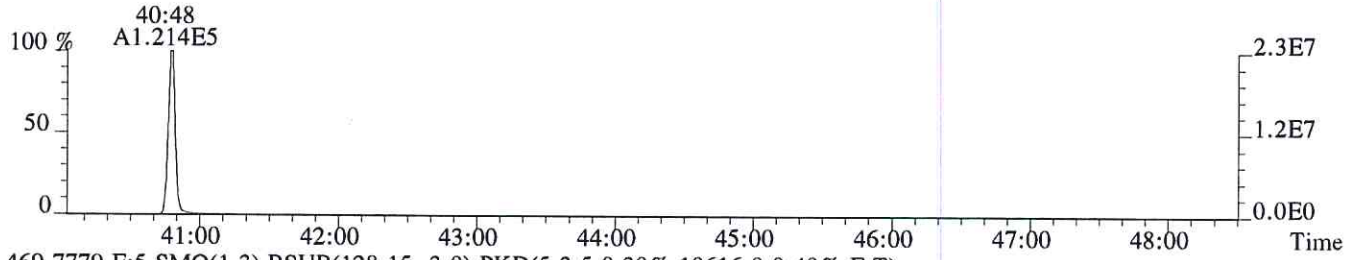
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



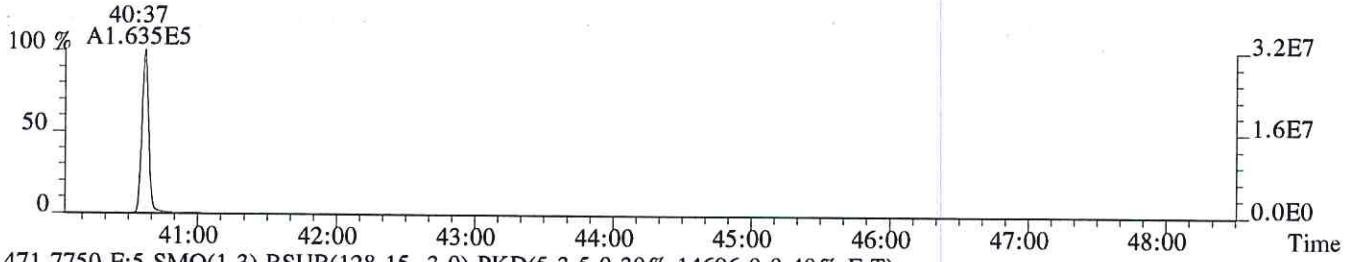
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8596.0,0.40%,F,T)



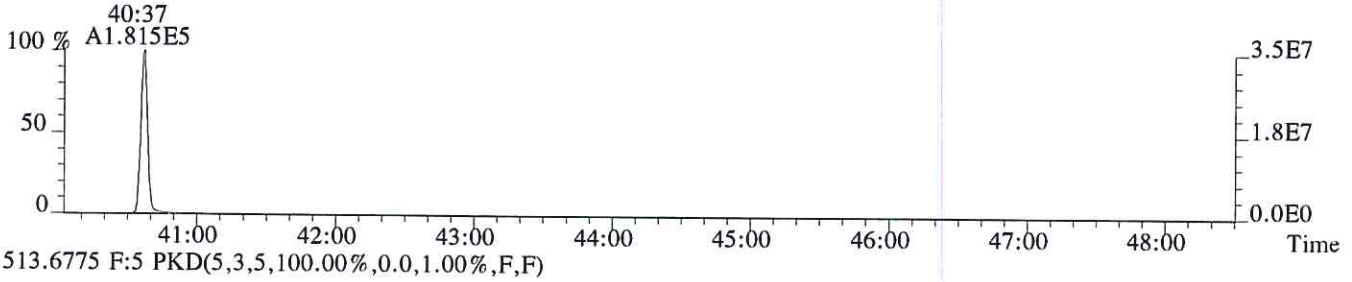
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12972.0,0.40%,F,T)



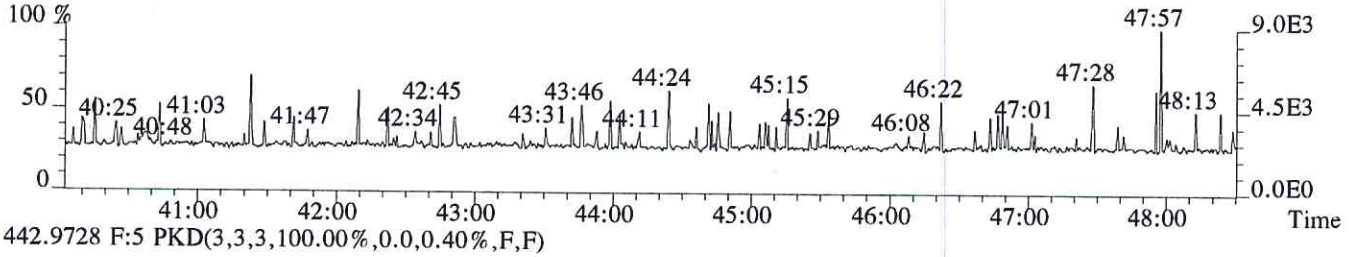
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10616.0,0.40%,F,T)



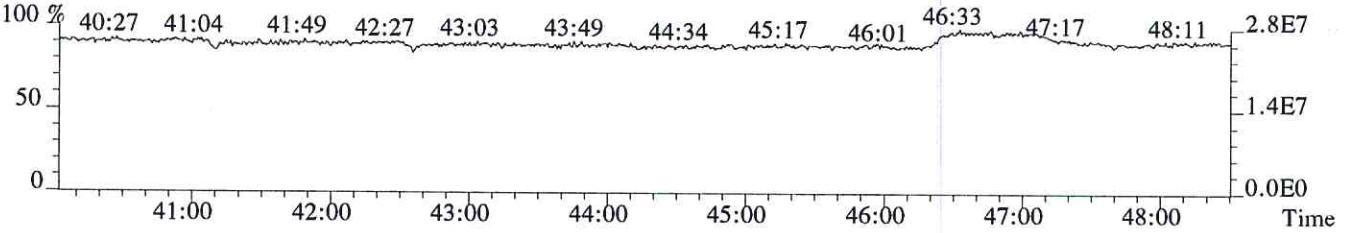
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14696.0,0.40%,F,T)



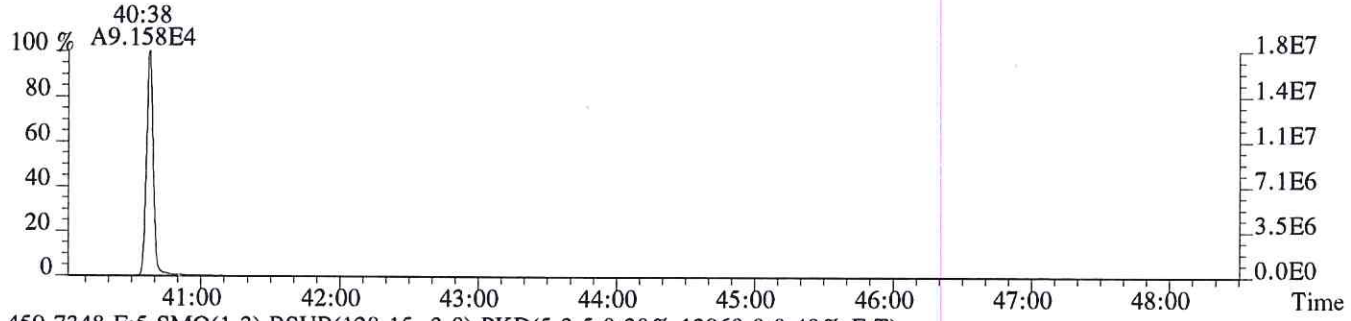
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



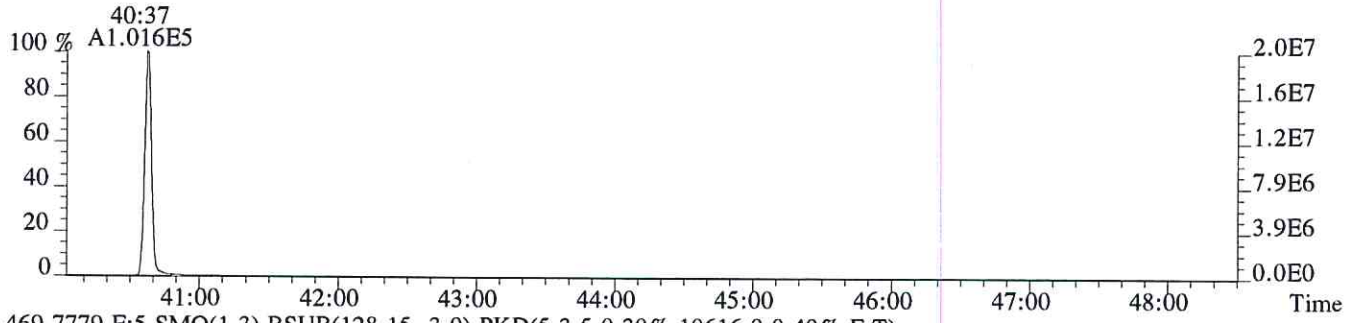
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



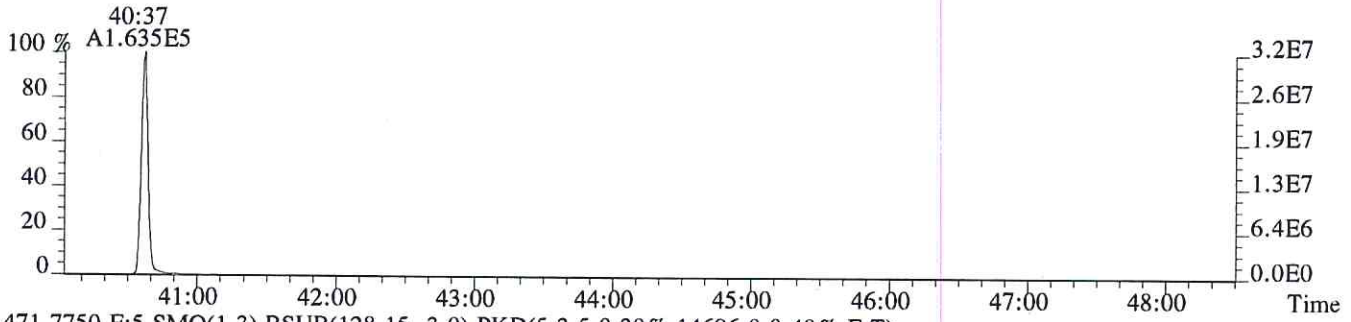
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9668.0,0.40%,F,T)



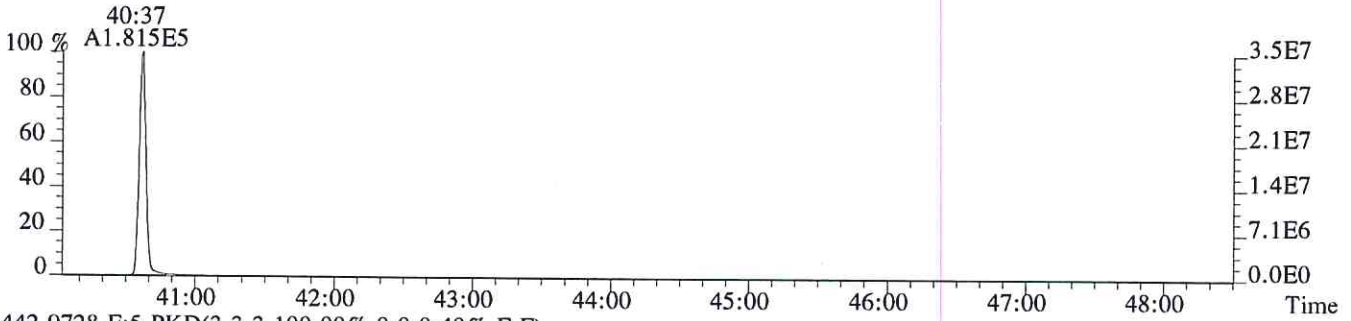
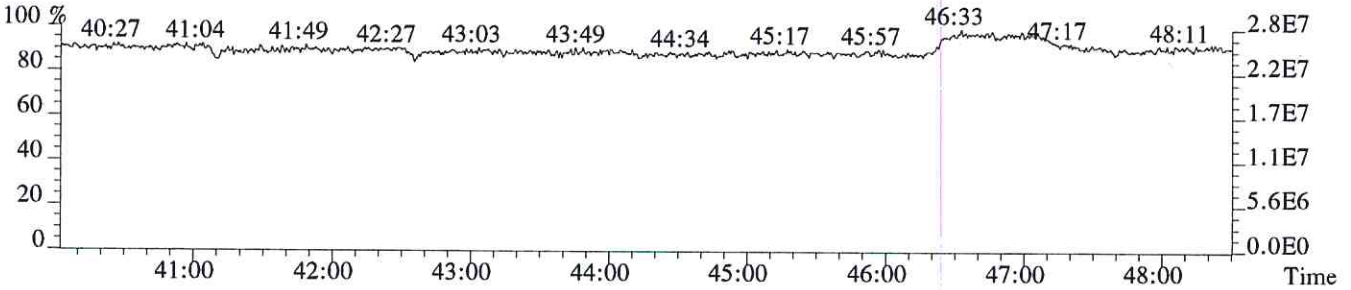
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12960.0,0.40%,F,T)



469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10616.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14696.0,0.40%,F,T)



442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)