September 26, 2017 Service Request No:E1700973

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 **E1700973.**

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.:**	E1700973
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 at 2.4°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:

EQ1700417: 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.

B flags – Method Blanks

The Method Blank EQ1700417-01 contained low levels of 1234678-HpCDD, OCDD, 1234678-HpCDF, and OCDF above the EDL however below the Method Reporting Limit (MRL).

The associated compounds in the samples are flagged with 'B' flags where the sample result is less 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 – Cleanup Standard

The recoveries for the cleanup standard, 37Cl-2,3,7,8-TCDD are marginally below control limits in the Method Blank and DLCS. This labeled standard is provided as a means of demonstrating that both the sample extraction and subsequent cleanup steps performed as expected, and is not used in quantitation of target analytes.

Dilutions

The sample SJWP-091517-030EPA (E1700973-011) 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
E1700973-001	SJWP-091517-020EPA	9/15/2017	1035
E1700973-002	SJWP-091517-021EPA	9/15/2017	1100
E1700973-003	SJWP-091517-022EPA	9/15/2017	1110
E1700973-004	SJWP-091517-023EPA	9/15/2017	1115
E1700973-005	SJWP-091517-024EPA	9/15/2017	1135
E1700973-006	SJWP-091517-025EPA	9/15/2017	1200
E1700973-007	SJWP-091517-026EPA	9/15/2017	1425
E1700973-008	SJWP-091517-027EPA	9/15/2017	1435
E1700973-009	SJWP-091517-028EPA	9/15/2017	1450
E1700973-010	SJWP-091517-029EPA	9/15/2017	1505
E1700973-011	SJWP-091517-030EPA	9/15/2017	1605
E1700973-012	SJWP-091517-031EPA	9/15/2017	1620
E1700973-013	SJWP-091517-032EPA	9/15/2017	1715
E1700973-014	SJWP-091517-033EPA	9/15/2017	1730

Service Request Summary

Folder #: **E1700973**
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: 9/26/2017
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: Integral-UCR

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

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1700973-001	SJWP-091517-020EPA	Sediment	09/15/17 1035	**IV**	**IV**
E1700973-002	SJWP-091517-021EPA	Sediment	09/15/17 1100	**IV**	**IV**
E1700973-003	SJWP-091517-022EPA	Sediment	09/15/17 1110	**IV**	**IV**
E1700973-004	SJWP-091517-023EPA	Sediment	09/15/17 1115	**IV**	**IV**
E1700973-005	SJWP-091517-024EPA	Sediment	09/15/17 1135	**IV**	**IV**
E1700973-006	SJWP-091517-025EPA	Sediment	09/15/17 1200	**IV**	**IV**
E1700973-007	SJWP-091517-026EPA	Sediment	09/15/17 1425	**IV**	**IV**
E1700973-008	SJWP-091517-027EPA	Sediment	09/15/17 1435	**IV**	**IV**
E1700973-009	SJWP-091517-028EPA	Sediment	09/15/17 1450	**IV**	**IV**
E1700973-010	SJWP-091517-029EPA	Sediment	09/15/17 1505	**IV**	**IV**
E1700973-011	SJWP-091517-030EPA	Sediment	09/15/17 1605	**IV**	**IV**
E1700973-012	SJWP-091517-031EPA	Sediment	09/15/17 1620	**IV**	**IV**
E1700973-013	SJWP-091517-032EPA	Sediment	09/15/17 1715	**IV**	**IV**
E1700973-014	SJWP-091517-033EPA	Sediment	09/15/17 1730	**IV**	**IV**

Service Request Summary

Folder #: **E1700973**
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: 9/26/2017
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number:
EDD: Integral-UCR

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

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1700973-001	SJWP-091517-020EPA	Sediment	09/15/17 1035	**IV**	**IV**
E1700973-002	SJWP-091517-021EPA	Sediment	09/15/17 1100	**IV**	**IV**
E1700973-003	SJWP-091517-022EPA	Sediment	09/15/17 1110	**IV**	**IV**
E1700973-004	SJWP-091517-023EPA	Sediment	09/15/17 1115	**IV**	**IV**
E1700973-005	SJWP-091517-024EPA	Sediment	09/15/17 1135	**IV**	**IV**
E1700973-006	SJWP-091517-025EPA	Sediment	09/15/17 1200	**IV**	**IV**
E1700973-007	SJWP-091517-026EPA	Sediment	09/15/17 1425	**IV**	**IV**
E1700973-008	SJWP-091517-027EPA	Sediment	09/15/17 1435	**IV**	**IV**
E1700973-009	SJWP-091517-028EPA	Sediment	09/15/17 1450	**IV**	**IV**
E1700973-010	SJWP-091517-029EPA	Sediment	09/15/17 1505	**IV**	**IV**
E1700973-011	SJWP-091517-030EPA	Sediment	09/15/17 1605	**IV**	**IV**
E1700973-012	SJWP-091517-031EPA	Sediment	09/15/17 1620	**IV**	**IV**
E1700973-013	SJWP-091517-032EPA	Sediment	09/15/17 1715	**IV**	**IV**
E1700973-014	SJWP-091517-033EPA	Sediment	09/15/17 1730	**IV**	**IV**

Service Request Summary

Folder #:	**E1700973**
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:	9/26/2017
QAP:	LAB QAP
Qualifier Set:	HRMS Qualifier Set
Formset:	Lab Standard
Merged?:	N
Report to MDL?:	Y
P.O. Number:	
EDD:	Integral-UCR

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

Location: EHRMS-WIC 10B, SMO

Pressure Gas:

Rush

Superset Summary

Service Request: E1700973 **SuperSet Reference:** 17-0000438190 rev 00

Analytical Method: **1613B**

Calibrations: 05/16/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P609267	P609264	P609286	E1700973-011
P609286	P609277	P609286	EQ1700417-01

Calibrations: 07/26/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P511487	P511481	P609286	E1700973-001
P511488	P511481	P609286	E1700973-002
P511489	P511481	P609286	E1700973-003
P511490	P511481	P609286	E1700973-004
P511491	P511481	P609286	E1700973-005
P511492	P511481	P609286	E1700973-006
P511511	P511508	P609286	E1700973-007
P511512	P511508	P609286	E1700973-008
P511513	P511508	P609286	E1700973-009
P511514	P511508	P609286	E1700973-010
P511515	P511508	P609286	E1700973-011.R01
P511516	P511508	P609286	E1700973-012
P511517	P511508	P609286	E1700973-013
P511518	P511508	P609286	E1700973-014
P511493	P511481	P609286	EQ1700417-02
P511494	P511481	P609286	EQ1700417-03

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 E1700973 DB-5MSUI SPB-Octyl

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

Date: 09/25/17	Analyst:	Samples: 001-006

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

Date: 09/25/17	Analyst:	Samples: 001-006

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

SR# Unique ID E1700973 DB-5MSUI SPB-Octyl

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

Date: 09/25/17	Analyst:	Samples: 007-014

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

Date: 09/25/17	Analyst:	Samples: 007-014

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

SR# Unique ID E1700973 DB-5MSUI SPB-Octyl

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

Date: 09/26/17	Analyst: JC	Samples: 011DL

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

Date: 09/26/17	Analyst: KN	Samples: 011DL.

Chain of Custody

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

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

Chain of Custody Form

Page 1 of 2

COC ID: 146295

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	Dioxins/Furans EPA method 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 N/N. 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-091517-020EPA	09/15/17	10:35	sed	8	1	X										
2	SJWP-091517-021EPA		11:00				X										
3	SJWP-091517-022EPA		11:10				X										
4	SJWP-091517-023EPA		11:15				X										
5	SJWP-091517-024EPA		11:35				X										
6	SJWP-091517-025EPA		12:00				X										
7	SJWP-091517-026EPA		14:25				X										
8	SJWP-091517-027EPA		14:35				X										
9	SJWP-091517-028EPA		14:50				X										
10	SJWP-091517-029EPA		15:05				X										

E1700973 5
Integral Consulting, Inc.
San Jacinto Waste Pits

Sampler(s) Please Print & Sign: Kevin Kichline

Shipment Method: Delivered

Required Turnaround Time: (Check Box) ☒ Other Soon as possible ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date: Soon as possible

Relinquished by:	Date:	Time:	Received by:
Kevin Kichline	09/15/17	18:15	[signature]
Kevin Kichline	09/16/17	10:00	Received by (Laboratory): J. Whitehead 9/16/17 09:00
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory): [signature] 9/8/17

Notes:

Cooler ID	Cooler Temp
43371	1.2
	1K20
	CFOS

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

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

Chain of Custody Form

COC ID: 146296

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 method 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-091517-030EPA	09/15/17	16:05	Sed	8	1	X										
2	SJWP-091517-031EPA	09/15/17	16:20	|	|	1	X										
3	SJWP-091517-032EPA	09/15/17	17:15	|	|	1	X										
4	SJWP-091517-033EPA	09/15/17	17:30	|	|	1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Kichline

Shipment Method: Delivered

Required Turnaround Time: (Check Box) ☐ Other Soon as possible ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date: Soon as possible

Relinquished by: Kevin Kichline	Date: 09/15/17	Time: 18:15	Received by: [signature]
Relinquished by: Kevin Kichline	Date: 09/16/17	Time: 10:00	Received by (Laboratory): J. Matchny 9/16/17 09:00
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory): [signature] 9/18/17

Notes:

Cooler ID	Cooler Temp
43371	1.2
	1K20
	CF0.5

QC Package: (Check One Box Below)
☐ Level II Std QC ☐ TRRP Checklist
☐ Level III Std QC/Raw Date ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other _____

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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ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project Integral

Thermometer ID SM04

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	18:22	AL	1.9/2.4	☐
						☐
						☐
						☐

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: E1700973 5
Integral Consulting, Inc.
San Jacinto Waste Pits

10450 Stancliff Rd., Suite 210
Houston, TX 77099
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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#: 298394 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/19/17 03:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1700973-001	SJWP-091517-020EPA	.01	1613B/Dioxins Furans			Sediment	10.509g	Wet Grey Soil
2	E1700973-002	SJWP-091517-021EPA	.01	1613B/Dioxins Furans			Sediment	10.918g	Wet Grey Soil
3	E1700973-003	SJWP-091517-022EPA	.01	1613B/Dioxins Furans			Sediment	10.734g	Wet Grey Soil
4	E1700973-004	SJWP-091517-023EPA	.01	1613B/Dioxins Furans			Sediment	10.486g	Wet Grey Soil
5	E1700973-005	SJWP-091517-024EPA	.01	1613B/Dioxins Furans			Sediment	10.080g	Wet Grey Soil
6	E1700973-006	SJWP-091517-025EPA	.01	1613B/Dioxins Furans			Sediment	10.854g	Wet Grey Soil
7	E1700973-007	SJWP-091517-026EPA	.01	1613B/Dioxins Furans			Sediment	10.227g	Light Brown Sand
8	E1700973-008	SJWP-091517-027EPA	.01	1613B/Dioxins Furans			Sediment	10.693g	Wet Grey Soil
9	E1700973-009	SJWP-091517-028EPA	.01	1613B/Dioxins Furans			Sediment	10.689g	Wet Grey Soil
10	E1700973-010	SJWP-091517-029EPA	.01	1613B/Dioxins Furans			Sediment	10.260g	Wet Grey Soil
11	E1700973-011	SJWP-091517-030EPA	.01	1613B/Dioxins Furans			Sediment	10.054g	Wet Grey Soil
12	E1700973-012	SJWP-091517-031EPA	.01	1613B/Dioxins Furans			Sediment	10.874g	Light Brown Sand
13	E1700973-013	SJWP-091517-032EPA	.01	1613B/Dioxins Furans			Sediment	10.198g	Wet Grey Soil
14	E1700973-014	SJWP-091517-033EPA	.01	1613B/Dioxins Furans			Sediment	10.360g	Wet Grey Soil
15	EQ1700417-01	MB		1613B/Dioxins Furans			Solid	10.210g	
16	EQ1700417-02	LCS		1613B/Dioxins Furans			Solid	10.675g	
17	EQ1700417-03	DLCS		1613B/Dioxins Furans			Solid	10.122g	

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

EQ1700417-02	100.00µL	EQ1700417-03	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

E1700973-001	100.00µL	E1700973-002	100.00µL	E1700973-003	100.00µL	E1700973-004	100.00µL	E1700973-005	100.00µL	E1700973-006	100.00µL
E1700973-007	100.00µL	E1700973-008	100.00µL	E1700973-009	100.00µL	E1700973-010	100.00µL	E1700973-011	100.00µL	E1700973-012	100.00µL
E1700973-013	100.00µL	E1700973-014	100.00µL	EQ1700417-01	100.00µL	EQ1700417-02	100.00µL	EQ1700417-03	100.00µL		

Name: 1613B Labeled Working Standard Inventory ID 184129 Logbook Ref: 184129 JG 9/19/17 2-4 ng/mL Expires On: 10/31/2017

E1700973-001	1,000.00µL	E1700973-002	1,000.00µL	E1700973-003	1,000.00µL	E1700973-004	1,000.00µL	E1700973-005	1,000.00µL	E1700973-006	1,000.00µL
E1700973-007	1,000.00µL	E1700973-008	1,000.00µL	E1700973-009	1,000.00µL	E1700973-010	1,000.00µL	E1700973-011	1,000.00µL	E1700973-012	1,000.00µL
E1700973-013	1,000.00µL	E1700973-014	1,000.00µL	EQ1700417-01	1,000.00µL	EQ1700417-02	1,000.00µL	EQ1700417-03	1,000.00µL		

Preparation Information Benchsheet

Prep Run#: 298394 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 9/19/17 03:00 PM

Preparation Materials

Carbon, High Purity	JR7/18/2017 (182733)	Ethyl Acetate 99.9% Minimum EtOAc	AL 3/3/17 (179750)	Glass Wool	JG 07/06/2017 (182496)
Hexanes 95%	JG 9/13/17 (184025)	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	AL 7/28/17 (182979)
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 15:00	Started:	9/21/17 09:00	Started:	9/21/17 10:00	Started:	9/21/17 13:00
Finished:	9/20/17 12:00	Finished:	9/21/17 10:00	Finished:	9/21/17 12:00	Finished:	9/21/17 16:00
By:	JRAMIREZ	By:	JGHOSH	By:	JGHOSH	By:	JGHOSH
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: AL Date: 9/22/17

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-020EPA	**Units:**	ng/Kg
Lab Code:	E1700973-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 16:47
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.509g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511487	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	1.17		0.572	0.718	0.75	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.275	3.59			1
1,2,3,4,7,8-HxCDD	0.233**JK**		0.218	3.59	0.78	1.000	1
1,2,3,6,7,8-HxCDD	0.567**J**		0.236	3.59	1.29	1.000	1
1,2,3,7,8,9-HxCDD	0.718**JK**		0.216	3.59	1.01	1.007	1
1,2,3,4,6,7,8-HpCDD	17.2		0.343	3.59	0.99	1.000	1
OCDD	559		0.370	7.18	0.90	1.000	1
2,3,7,8-TCDF	3.55		0.586	0.718	0.73	1.000	1
1,2,3,7,8-PeCDF	ND	U	0.237	3.59			1
2,3,4,7,8-PeCDF	ND	U	0.232	3.59			1
1,2,3,4,7,8-HxCDF	0.277**JK**		0.151	3.59	0.88	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	0.150	3.59			1
1,2,3,7,8,9-HxCDF	ND	U	0.161	3.59			1
2,3,4,6,7,8-HxCDF	ND	U	0.158	3.59			1
1,2,3,4,6,7,8-HpCDF	0.909**BJ**		0.147	3.59	1.14	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.159	3.59			1
OCDF	3.39**BJK**		0.740	7.18	0.68	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-020EPA	**Units:**	ng/Kg
Lab Code:	E1700973-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 16:47
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.509g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511487	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	1.17		0.572	0.718	0.75		1
Total Penta-Dioxins	ND	U	0.275	3.59			1
Total Hexa-Dioxins	11.7		0.227	3.59	1.31		1
Total Hepta-Dioxins	70.9		0.343	3.59	1.07		1
Total Tetra-Furans	5.28		0.586	0.718	0.74		1
Total Penta-Furans	ND	U	0.234	3.59			1
Total Hexa-Furans	ND	U	0.155	3.59			1
Total Hepta-Furans	0.909**J**		0.149	3.59	1.14		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-020EPA	**Units:**	Percent
Lab Code:	E1700973-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 16:47
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.509g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511487	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	1054.628	53		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	1272.489	64		25-181	1.59	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1224.549	61		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1173.382	59		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1060.523	53		23-140	1.04	1.066
13C-OCDD	4000	1499.682	37		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1008.312	50		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1306.401	65		24-185	1.59	1.135
13C-2,3,4,7,8-PeCDF	2000	1344.868	67		21-178	1.59	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1302.391	65		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1268.948	63		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1471.251	74		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1300.797	65		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1141.599	57		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1401.536	70		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	400.456	50		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-020EPA	**Units:**	ng/Kg
Lab Code:	E1700973-001	**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	**1.17**	0.572	0.718	1	1	1.17
1,2,3,7,8-PeCDD	ND	0.275	3.59	1	1	
1,2,3,4,7,8-HxCDD	**0.233**	0.218	3.59	1	0.1	0.0233
1,2,3,6,7,8-HxCDD	**0.567**	0.236	3.59	1	0.1	0.0567
1,2,3,7,8,9-HxCDD	**0.718**	0.216	3.59	1	0.1	0.0718
1,2,3,4,6,7,8-HpCDD	**17.2**	0.343	3.59	1	0.01	0.172
OCDD	**559**	0.370	7.18	1	0.0003	0.168
2,3,7,8-TCDF	**3.55**	0.586	0.718	1	0.1	0.355
1,2,3,7,8-PeCDF	ND	0.237	3.59	1	0.03	
2,3,4,7,8-PeCDF	ND	0.232	3.59	1	0.3	
1,2,3,4,7,8-HxCDF	**0.277**	0.151	3.59	1	0.1	0.0277
1,2,3,6,7,8-HxCDF	ND	0.150	3.59	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.161	3.59	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.158	3.59	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.909**	0.147	3.59	1	0.01	0.00909
1,2,3,4,7,8,9-HpCDF	ND	0.159	3.59	1	0.01	
OCDF	**3.39**	0.740	7.18	1	0.0003	0.00102
		Total TEQ				2.05

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 10:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-020EPA	**Units:**	Percent
Lab Code:	E1700973-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	7.213g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	66.3		-	-			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-021EPA	**Units:**	ng/Kg
Lab Code:	E1700973-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 17:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.918g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511488	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.32		1.70	1.70	0.70	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.961	6.56			1
1,2,3,4,7,8-HxCDD	ND	U	0.679	6.56			1
1,2,3,6,7,8-HxCDD	2.12**JK**		0.731	6.56	1.02	1.001	1
1,2,3,7,8,9-HxCDD	2.52**J**		0.671	6.56	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	49.0		1.05	6.56	1.07	1.000	1
OCDD	1380		1.04	13.1	0.91	1.000	1
2,3,7,8-TCDF	7.61**K**		1.27	1.31	0.97	1.001	1
1,2,3,7,8-PeCDF	ND	U	1.03	6.56			1
2,3,4,7,8-PeCDF	ND	U	0.965	6.56			1
1,2,3,4,7,8-HxCDF	1.03**J**		0.419	6.56	1.15	1.000	1
1,2,3,6,7,8-HxCDF	0.799**J**		0.429	6.56	1.29	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.448	6.56			1
2,3,4,6,7,8-HxCDF	0.582**JK**		0.439	6.56	1.44	1.000	1
1,2,3,4,6,7,8-HpCDF	3.20**JK**		0.438	6.56	0.83	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.514	6.56			1
OCDF	13.6**K**		1.82	13.1	0.71	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-021EPA	**Units:**	ng/Kg
Lab Code:	E1700973-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 17:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.918g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511488	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	5.08		1.70	1.70	0.78		1
Total Penta-Dioxins	9.65		0.961	6.56	1.76		1
Total Hexa-Dioxins	43.8		0.706	6.56	1.24		1
Total Hepta-Dioxins	148		1.05	6.56	1.01		1
Total Tetra-Furans	3.86		1.27	1.31	0.86		1
Total Penta-Furans	ND	U	0.994	6.56			1
Total Hexa-Furans	1.83**J**		0.434	6.56	1.15		1
Total Hepta-Furans	ND	U	0.463	6.56			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-021EPA	**Units:**	Percent
Lab Code:	E1700973-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 17:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.918g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511488	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	649.745	32		25-164	0.81	1.019
13C-1,2,3,7,8-PeCDD	2000	825.085	41		25-181	1.63	1.176
13C-1,2,3,4,7,8-HxCDD	2000	843.316	42		32-141	1.28	0.992
13C-1,2,3,6,7,8-HxCDD	2000	811.055	41		28-130	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	779.940	39		23-140	1.09	1.066
13C-OCDD	4000	1213.201	30		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	636.803	32		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	826.045	41		24-185	1.59	1.136
13C-2,3,4,7,8-PeCDF	2000	874.003	44		21-178	1.61	1.167
13C-1,2,3,4,7,8-HxCDF	2000	909.750	45		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	871.187	44		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1002.158	50		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	903.615	45		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	852.213	43		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	971.136	49		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	324.737	41		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-021EPA	**Units:**	ng/Kg
Lab Code:	E1700973-002	**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	**2.32**	1.70	1.70	1	1	2.32
1,2,3,7,8-PeCDD	ND	0.961	6.56	1	1	
1,2,3,4,7,8-HxCDD	ND	0.679	6.56	1	0.1	
1,2,3,6,7,8-HxCDD	**2.12**	0.731	6.56	1	0.1	0.212
1,2,3,7,8,9-HxCDD	**2.52**	0.671	6.56	1	0.1	0.252
1,2,3,4,6,7,8-HpCDD	**49.0**	1.05	6.56	1	0.01	0.490
OCDD	**1380**	1.04	13.1	1	0.0003	0.414
2,3,7,8-TCDF	**7.61**	1.27	1.31	1	0.1	0.761
1,2,3,7,8-PeCDF	ND	1.03	6.56	1	0.03	
2,3,4,7,8-PeCDF	ND	0.965	6.56	1	0.3	
1,2,3,4,7,8-HxCDF	**1.03**	0.419	6.56	1	0.1	0.103
1,2,3,6,7,8-HxCDF	**0.799**	0.429	6.56	1	0.1	0.0799
1,2,3,7,8,9-HxCDF	ND	0.448	6.56	1	0.1	
2,3,4,6,7,8-HxCDF	**0.582**	0.439	6.56	1	0.1	0.0582
1,2,3,4,6,7,8-HpCDF	**3.20**	0.438	6.56	1	0.01	0.0320
1,2,3,4,7,8,9-HpCDF	ND	0.514	6.56	1	0.01	
OCDF	**13.6**	1.82	13.1	1	0.0003	0.00408
		Total TEQ				4.73

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-021EPA	**Units:**	Percent
Lab Code:	E1700973-002	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	7.182g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	34.9		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-022EPA	**Units:**	ng/Kg
Lab Code:	E1700973-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 18:24
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.734g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511489	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.47		0.526	0.864	0.85	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.372	4.32			1
1,2,3,4,7,8-HxCDD	0.324**JK**		0.294	4.32	0.96	1.000	1
1,2,3,6,7,8-HxCDD	0.614**JK**		0.324	4.32	1.51	1.000	1
1,2,3,7,8,9-HxCDD	1.00**JK**		0.294	4.32	0.89	1.007	1
1,2,3,4,6,7,8-HpCDD	24.4		0.379	4.32	1.02	1.001	1
OCDD	812		0.521	8.64	0.90	1.000	1
2,3,7,8-TCDF	8.99		0.722	0.864	0.71	1.000	1
1,2,3,7,8-PeCDF	ND	U	0.365	4.32			1
2,3,4,7,8-PeCDF	ND	U	0.373	4.32			1
1,2,3,4,7,8-HxCDF	0.547**JK**		0.274	4.32	1.50	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	0.286	4.32			1
1,2,3,7,8,9-HxCDF	ND	U	0.295	4.32			1
2,3,4,6,7,8-HxCDF	ND	U	0.285	4.32			1
1,2,3,4,6,7,8-HpCDF	1.66**J**		0.209	4.32	0.97	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.247	4.32			1
OCDF	9.39**B**		0.730	8.64	0.77	1.006	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-022EPA	**Units:**	ng/Kg
Lab Code:	E1700973-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 18:24
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.734g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511489	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	2.47		0.526	0.864	0.85		1
Total Penta-Dioxins	0.639**J**		0.372	4.32	1.75		1
Total Hexa-Dioxins	14.1		0.309	4.32	1.25		1
Total Hepta-Dioxins	75.8		0.379	4.32	1.03		1
Total Tetra-Furans	9.92		0.722	0.864	0.88		1
Total Penta-Furans	ND	U	0.369	4.32			1
Total Hexa-Furans	ND	U	0.285	4.32			1
Total Hepta-Furans	2.61**J**		0.222	4.32	0.97		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-022EPA	**Units:**	Percent
Lab Code:	E1700973-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 18:24
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.734g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511489	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	1033.175	52		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	1196.241	60		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1123.214	56		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1035.486	52		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	975.715	49		23-140	1.08	1.065
13C-OCDD	4000	1523.447	38		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1029.293	51		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	1271.864	64		24-185	1.58	1.135
13C-2,3,4,7,8-PeCDF	2000	1288.421	64		21-178	1.57	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1185.673	59		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1111.357	56		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1293.600	65		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1169.114	58		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1035.119	52		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1193.319	60		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	846.801	106		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-022EPA	**Units:**	ng/Kg
Lab Code:	E1700973-003	**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	**2.47**	0.526	0.864	1	1	2.47
1,2,3,7,8-PeCDD	ND	0.372	4.32	1	1	
1,2,3,4,7,8-HxCDD	**0.324**	0.294	4.32	1	0.1	0.0324
1,2,3,6,7,8-HxCDD	**0.614**	0.324	4.32	1	0.1	0.0614
1,2,3,7,8,9-HxCDD	**1.00**	0.294	4.32	1	0.1	0.100
1,2,3,4,6,7,8-HpCDD	**24.4**	0.379	4.32	1	0.01	0.244
OCDD	**812**	0.521	8.64	1	0.0003	0.244
2,3,7,8-TCDF	**8.99**	0.722	0.864	1	0.1	0.899
1,2,3,7,8-PeCDF	ND	0.365	4.32	1	0.03	
2,3,4,7,8-PeCDF	ND	0.373	4.32	1	0.3	
1,2,3,4,7,8-HxCDF	**0.547**	0.274	4.32	1	0.1	0.0547
1,2,3,6,7,8-HxCDF	ND	0.286	4.32	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.295	4.32	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.285	4.32	1	0.1	
1,2,3,4,6,7,8-HpCDF	**1.66**	0.209	4.32	1	0.01	0.0166
1,2,3,4,7,8,9-HpCDF	ND	0.247	4.32	1	0.01	
OCDF	**9.39**	0.730	8.64	1	0.0003	0.00282
		Total TEQ				4.12

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:10
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-022EPA	**Units:**	Percent
Lab Code:	E1700973-003	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.861g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	53.9		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-023EPA	**Units:**	ng/Kg
Lab Code:	E1700973-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 19:13
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.486g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511490	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	30.7		0.704	0.831	0.81	1.001	1
1,2,3,7,8-PeCDD	0.591	**JK**	0.504	4.15	1.87	1.000	1
1,2,3,4,7,8-HxCDD	0.309	**JK**	0.304	4.15	0.76	1.000	1
1,2,3,6,7,8-HxCDD	1.05	**JK**	0.335	4.15	0.94	1.000	1
1,2,3,7,8,9-HxCDD	1.02	**JK**	0.304	4.15	0.99	1.007	1
1,2,3,4,6,7,8-HpCDD	42.8		0.900	4.15	1.10	1.001	1
OCDD	1440		0.724	8.31	0.87	1.000	1
2,3,7,8-TCDF	148		0.637	0.831	0.73	1.000	1
1,2,3,7,8-PeCDF	3.27	**J**	0.606	4.15	1.32	1.001	1
2,3,4,7,8-PeCDF	3.32	**J**	0.587	4.15	1.64	1.000	1
1,2,3,4,7,8-HxCDF	6.06		0.174	4.15	1.13	1.000	1
1,2,3,6,7,8-HxCDF	1.34	**JK**	0.181	4.15	0.97	1.000	1
1,2,3,7,8,9-HxCDF	0.523	**JK**	0.177	4.15	1.85	1.001	1
2,3,4,6,7,8-HxCDF	0.622	**JK**	0.177	4.15	0.92	1.000	1
1,2,3,4,6,7,8-HpCDF	6.63		0.232	4.15	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	1.14	**JK**	0.245	4.15	0.79	1.000	1
OCDF	59.2		0.899	8.31	0.83	1.006	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-023EPA	**Units:**	ng/Kg
Lab Code:	E1700973-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 19:13
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.486g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511490	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	33.8		0.704	0.831	0.81		1
Total Penta-Dioxins	1.10	**J**	0.504	4.15	1.36		1
Total Hexa-Dioxins	27.1		0.319	4.15	1.28		1
Total Hepta-Dioxins	156		0.900	4.15	1.05		1
Total Tetra-Furans	252		0.637	0.831	0.77		1
Total Penta-Furans	6.59		0.105	4.15	1.32		1
Total Hexa-Furans	10.5		0.177	4.15	1.35		1
Total Hepta-Furans	13.4		0.232	4.15	0.95		1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-023EPA	**Units:**	Percent
Lab Code:	E1700973-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 19:13
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.486g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511490	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	948.006	47		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	1038.255	52		25-181	1.57	1.176
13C-1,2,3,4,7,8-HxCDD	2000	941.994	47		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	850.178	43		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	724.601	36		23-140	1.07	1.065
13C-OCDD	4000	1010.896	25		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	950.361	48		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1080.247	54		24-185	1.58	1.135
13C-2,3,4,7,8-PeCDF	2000	1123.774	56		21-178	1.60	1.166
13C-1,2,3,4,7,8-HxCDF	2000	989.674	49		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	937.654	47		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1119.929	56		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	990.977	50		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	770.249	39		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	984.645	49		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	525.095	66		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-023EPA	**Units:**	ng/Kg
Lab Code:	E1700973-004	**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	**30.7**	0.704	0.831	1	1	30.7
1,2,3,7,8-PeCDD	**0.591**	0.504	4.15	1	1	0.591
1,2,3,4,7,8-HxCDD	**0.309**	0.304	4.15	1	0.1	0.0309
1,2,3,6,7,8-HxCDD	**1.05**	0.335	4.15	1	0.1	0.105
1,2,3,7,8,9-HxCDD	**1.02**	0.304	4.15	1	0.1	0.102
1,2,3,4,6,7,8-HpCDD	**42.8**	0.900	4.15	1	0.01	0.428
OCDD	**1440**	0.724	8.31	1	0.0003	0.432
2,3,7,8-TCDF	**148**	0.637	0.831	1	0.1	14.8
1,2,3,7,8-PeCDF	**3.27**	0.606	4.15	1	0.03	0.0981
2,3,4,7,8-PeCDF	**3.32**	0.587	4.15	1	0.3	0.996
1,2,3,4,7,8-HxCDF	**6.06**	0.174	4.15	1	0.1	0.606
1,2,3,6,7,8-HxCDF	**1.34**	0.181	4.15	1	0.1	0.134
1,2,3,7,8,9-HxCDF	**0.523**	0.177	4.15	1	0.1	0.0523
2,3,4,6,7,8-HxCDF	**0.622**	0.177	4.15	1	0.1	0.0622
1,2,3,4,6,7,8-HpCDF	**6.63**	0.232	4.15	1	0.01	0.0663
1,2,3,4,7,8,9-HpCDF	**1.14**	0.245	4.15	1	0.01	0.0114
OCDF	**59.2**	0.899	8.31	1	0.0003	0.0178
		Total TEQ				49.2

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-023EPA	**Units:**	Percent
Lab Code:	E1700973-004	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	8.686g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	57.4		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-024EPA	**Units:**	ng/Kg
Lab Code:	E1700973-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.080g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511491	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	17.1		1.34	1.55	0.78	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.757	7.75			1
1,2,3,4,7,8-HxCDD	1.02**JK**		0.622	7.75	0.99	1.000	1
1,2,3,6,7,8-HxCDD	1.69**JK**		0.664	7.75	1.75	1.000	1
1,2,3,7,8,9-HxCDD	2.07**J**		0.613	7.75	1.33	1.007	1
1,2,3,4,6,7,8-HpCDD	73.6		1.30	7.75	1.04	1.000	1
OCDD	2350		1.22	15.5	0.89	1.000	1
2,3,7,8-TCDF	76.9		1.25	1.55	0.68	1.000	1
1,2,3,7,8-PeCDF	1.81**JK**		0.741	7.75	1.23	1.001	1
2,3,4,7,8-PeCDF	2.05**J**		0.731	7.75	1.39	1.000	1
1,2,3,4,7,8-HxCDF	3.35**J**		0.692	7.75	1.19	1.000	1
1,2,3,6,7,8-HxCDF	1.08**JK**		0.730	7.75	0.98	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.695	7.75			1
2,3,4,6,7,8-HxCDF	1.09**J**		0.719	7.75	1.21	1.000	1
1,2,3,4,6,7,8-HpCDF	9.69		0.420	7.75	1.09	1.000	1
1,2,3,4,7,8,9-HpCDF	1.13**J**		0.448	7.75	1.06	1.000	1
OCDF	110		2.24	15.5	0.79	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-024EPA	**Units:**	ng/Kg
Lab Code:	E1700973-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.080g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511491	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	17.1		1.34	1.55	0.78		1
Total Penta-Dioxins	3.48	**J**	0.757	7.75	1.66		1
Total Hexa-Dioxins	49.2		0.644	7.75	1.25		1
Total Hepta-Dioxins	268		1.30	7.75	1.06		1
Total Tetra-Furans	131		1.25	1.55	0.67		1
Total Penta-Furans	2.05	**J**	0.195	7.75	1.39		1
Total Hexa-Furans	8.10		0.709	7.75	1.14		1
Total Hepta-Furans	21.5		0.423	7.75	1.09		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-024EPA	**Units:**	Percent
Lab Code:	E1700973-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:02
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.080g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511491	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	930.579	47		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	1086.774	54		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	927.364	46		32-141	1.25	0.991
13C-1,2,3,6,7,8-HxCDD	2000	871.071	44		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	769.899	38		23-140	1.09	1.066
13C-OCDD	4000	1109.407	28		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	913.838	46		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1107.909	55		24-185	1.58	1.135
13C-2,3,4,7,8-PeCDF	2000	1153.367	58		21-178	1.62	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1014.447	51		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	932.727	47		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1179.224	59		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	999.302	50		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	825.506	41		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1030.463	52		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	472.159	59		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-024EPA	**Units:**	ng/Kg
Lab Code:	E1700973-005	**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	**17.1**	1.34	1.55	1	1	17.1
1,2,3,7,8-PeCDD	ND	0.757	7.75	1	1	
1,2,3,4,7,8-HxCDD	**1.02**	0.622	7.75	1	0.1	0.102
1,2,3,6,7,8-HxCDD	**1.69**	0.664	7.75	1	0.1	0.169
1,2,3,7,8,9-HxCDD	**2.07**	0.613	7.75	1	0.1	0.207
1,2,3,4,6,7,8-HpCDD	**73.6**	1.30	7.75	1	0.01	0.736
OCDD	**2350**	1.22	15.5	1	0.0003	0.705
2,3,7,8-TCDF	**76.9**	1.25	1.55	1	0.1	7.69
1,2,3,7,8-PeCDF	**1.81**	0.741	7.75	1	0.03	0.0543
2,3,4,7,8-PeCDF	**2.05**	0.731	7.75	1	0.3	0.615
1,2,3,4,7,8-HxCDF	**3.35**	0.692	7.75	1	0.1	0.335
1,2,3,6,7,8-HxCDF	**1.08**	0.730	7.75	1	0.1	0.108
1,2,3,7,8,9-HxCDF	ND	0.695	7.75	1	0.1	
2,3,4,6,7,8-HxCDF	**1.09**	0.719	7.75	1	0.1	0.109
1,2,3,4,6,7,8-HpCDF	**9.69**	0.420	7.75	1	0.01	0.0969
1,2,3,4,7,8,9-HpCDF	**1.13**	0.448	7.75	1	0.01	0.0113
OCDF	**110**	2.24	15.5	1	0.0003	0.0330
		Total TEQ				28.1

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 11:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-024EPA	**Units:**	Percent
Lab Code:	E1700973-005	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.849g		NA
			E-Balance-01

Native Analyte Results

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

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 12:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-025EPA	**Units:**	ng/Kg
Lab Code:	E1700973-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:50
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.854g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511492	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	40.6		1.94	1.94	0.77	1.001	1
1,2,3,7,8-PeCDD	ND	U	1.01	6.24			1
1,2,3,4,7,8-HxCDD	0.630**JK**		0.432	6.24	1.88	1.000	1
1,2,3,6,7,8-HxCDD	2.32**J**		0.473	6.24	1.09	1.000	1
1,2,3,7,8,9-HxCDD	1.90**J**		0.430	6.24	1.35	1.007	1
1,2,3,4,6,7,8-HpCDD	75.2		1.44	6.24	1.08	1.000	1
OCDD	2230		0.929	12.5	0.89	1.000	1
2,3,7,8-TCDF	174		2.35	2.35	0.74	1.001	1
1,2,3,7,8-PeCDF	4.10**J**		1.16	6.24	1.46	1.000	1
2,3,4,7,8-PeCDF	4.96**J**		1.12	6.24	1.39	1.000	1
1,2,3,4,7,8-HxCDF	11.7**K**		0.442	6.24	1.01	1.000	1
1,2,3,6,7,8-HxCDF	2.98**J**		0.451	6.24	1.20	1.000	1
1,2,3,7,8,9-HxCDF	1.28**J**		0.450	6.24	1.25	1.001	1
2,3,4,6,7,8-HxCDF	0.672**JK**		0.463	6.24	1.93	1.000	1
1,2,3,4,6,7,8-HpCDF	30.3		0.345	6.24	0.91	1.000	1
1,2,3,4,7,8,9-HpCDF	2.02**JK**		0.389	6.24	0.84	1.000	1
OCDF	132		1.47	12.5	0.87	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 12:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-025EPA	**Units:**	ng/Kg
Lab Code:	E1700973-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:50
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.854g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511492	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	40.6		1.94	1.94	0.77		1
Total Penta-Dioxins	2.22	**J**	1.01	6.24	1.44		1
Total Hexa-Dioxins	43.4		0.452	6.24	1.24		1
Total Hepta-Dioxins	246		1.44	6.24	1.05		1
Total Tetra-Furans	296		2.35	2.35	0.78		1
Total Penta-Furans	17.2		0.157	6.24	1.63		1
Total Hexa-Furans	16.7		0.451	6.24	1.38		1
Total Hepta-Furans	46.7		0.357	6.24	0.91		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 12:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-025EPA	**Units:**	Percent
Lab Code:	E1700973-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 20:50
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.854g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511492	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	523.599	26		25-164	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	807.290	40		25-181	1.61	1.176
13C-1,2,3,4,7,8-HxCDD	2000	819.160	41		32-141	1.37	0.991
13C-1,2,3,6,7,8-HxCDD	2000	744.667	37		28-130	1.21	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	718.268	36		23-140	1.09	1.065
13C-OCDD	4000	1186.677	30		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	490.470	25		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	800.193	40		24-185	1.57	1.136
13C-2,3,4,7,8-PeCDF	2000	845.932	42		21-178	1.59	1.167
13C-1,2,3,4,7,8-HxCDF	2000	846.319	42		26-152	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	802.288	40		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	983.749	49		29-147	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	830.523	42		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	786.082	39		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	937.542	47		26-138	0.44	1.078
37Cl-2,3,7,8-TCDD	800	327.050	41		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 12:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-025EPA	**Units:**	ng/Kg
Lab Code:	E1700973-006	**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	**40.6**	1.94	1.94	1	1	40.6
1,2,3,7,8-PeCDD	ND	1.01	6.24	1	1	
1,2,3,4,7,8-HxCDD	**0.630**	0.432	6.24	1	0.1	0.0630
1,2,3,6,7,8-HxCDD	**2.32**	0.473	6.24	1	0.1	0.232
1,2,3,7,8,9-HxCDD	**1.90**	0.430	6.24	1	0.1	0.190
1,2,3,4,6,7,8-HpCDD	**75.2**	1.44	6.24	1	0.01	0.752
OCDD	**2230**	0.929	12.5	1	0.0003	0.669
2,3,7,8-TCDF	**174**	2.35	2.35	1	0.1	17.4
1,2,3,7,8-PeCDF	**4.10**	1.16	6.24	1	0.03	0.123
2,3,4,7,8-PeCDF	**4.96**	1.12	6.24	1	0.3	1.49
1,2,3,4,7,8-HxCDF	**11.7**	0.442	6.24	1	0.1	1.17
1,2,3,6,7,8-HxCDF	**2.98**	0.451	6.24	1	0.1	0.298
1,2,3,7,8,9-HxCDF	**1.28**	0.450	6.24	1	0.1	0.128
2,3,4,6,7,8-HxCDF	**0.672**	0.463	6.24	1	0.1	0.0672
1,2,3,4,6,7,8-HpCDF	**30.3**	0.345	6.24	1	0.01	0.303
1,2,3,4,7,8,9-HpCDF	**2.02**	0.389	6.24	1	0.01	0.0202
OCDF	**132**	1.47	12.5	1	0.0003	0.0396
		Total TEQ				63.5

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 12:00
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-025EPA	**Units:**	Percent
Lab Code:	E1700973-006	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.96g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	36.9		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-026EPA	**Units:**	ng/Kg
Lab Code:	E1700973-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 14:14
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.227g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511511	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	4.68		0.577	0.669	0.71	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.292	3.34			1
1,2,3,4,7,8-HxCDD	ND	U	0.195	3.34			1
1,2,3,6,7,8-HxCDD	0.255**JK**		0.227	3.34	0.86	1.000	1
1,2,3,7,8,9-HxCDD	ND	U	0.201	3.34			1
1,2,3,4,6,7,8-HpCDD	7.18		0.378	3.34	0.95	1.000	1
OCDD	229		0.412	6.69	0.88	1.000	1
2,3,7,8-TCDF	20.7		0.713	0.713	0.71	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.283	3.34			1
2,3,4,7,8-PeCDF	ND	U	0.281	3.34			1
1,2,3,4,7,8-HxCDF	1.85**J**		0.235	3.34	1.09	1.000	1
1,2,3,6,7,8-HxCDF	0.427**JK**		0.231	3.34	0.81	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.248	3.34			1
2,3,4,6,7,8-HxCDF	0.237**J**		0.226	3.34	1.28	1.000	1
1,2,3,4,6,7,8-HpCDF	4.55		0.176	3.34	0.91	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.191	3.34			1
OCDF	10.2		0.740	6.69	0.83	1.006	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-026EPA	**Units:**	ng/Kg
Lab Code:	E1700973-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 14:14
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.227g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511511	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	4.68		0.577	0.669	0.71		1
Total Penta-Dioxins	ND	U	0.292	3.34			1
Total Hexa-Dioxins	1.35**J**		0.211	3.34	1.24		1
Total Hepta-Dioxins	23.4		0.378	3.34	1.00		1
Total Tetra-Furans	20.7		0.713	0.713	0.71		1
Total Penta-Furans	ND	U	0.282	3.34			1
Total Hexa-Furans	2.97**J**		0.235	3.34	1.41		1
Total Hepta-Furans	6.08		0.179	3.34	0.91		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-026EPA	**Units:**	Percent
Lab Code:	E1700973-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 14:14
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.227g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511511	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1151.429	58		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	1304.914	65		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	2574.695	129		32-141	1.31	0.991
13C-1,2,3,6,7,8-HxCDD	2000	2344.868	117		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	2161.090	108		23-140	1.04	1.065
13C-OCDD	4000	3426.566	86		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1022.131	51		24-169	0.80	0.993
13C-1,2,3,7,8-PeCDF	2000	1276.433	64		24-185	1.57	1.136
13C-2,3,4,7,8-PeCDF	2000	1293.910	65		21-178	1.58	1.167
13C-1,2,3,4,7,8-HxCDF	2000	2371.196	119		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	2352.777	118		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	2731.394	137		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	2496.458	125		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	2160.245	108		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	2691.955	135		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	536.485	67		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-026EPA	**Units:**	ng/Kg
Lab Code:	E1700973-007	**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	**4.68**	0.577	0.669	1	1	4.68
1,2,3,7,8-PeCDD	ND	0.292	3.34	1	1	
1,2,3,4,7,8-HxCDD	ND	0.195	3.34	1	0.1	
1,2,3,6,7,8-HxCDD	**0.255**	0.227	3.34	1	0.1	0.0255
1,2,3,7,8,9-HxCDD	ND	0.201	3.34	1	0.1	
1,2,3,4,6,7,8-HpCDD	**7.18**	0.378	3.34	1	0.01	0.0718
OCDD	**229**	0.412	6.69	1	0.0003	0.0687
2,3,7,8-TCDF	**20.7**	0.713	0.713	1	0.1	2.07
1,2,3,7,8-PeCDF	ND	0.283	3.34	1	0.03	
2,3,4,7,8-PeCDF	ND	0.281	3.34	1	0.3	
1,2,3,4,7,8-HxCDF	**1.85**	0.235	3.34	1	0.1	0.185
1,2,3,6,7,8-HxCDF	**0.427**	0.231	3.34	1	0.1	0.0427
1,2,3,7,8,9-HxCDF	ND	0.248	3.34	1	0.1	
2,3,4,6,7,8-HxCDF	**0.237**	0.226	3.34	1	0.1	0.0237
1,2,3,4,6,7,8-HpCDF	**4.55**	0.176	3.34	1	0.01	0.0455
1,2,3,4,7,8,9-HpCDF	ND	0.191	3.34	1	0.01	
OCDF	**10.2**	0.740	6.69	1	0.0003	0.00306
		Total TEQ				7.22

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:25
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-026EPA	**Units:**	Percent
Lab Code:	E1700973-007	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.142g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	73.1		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-027EPA	**Units:**	ng/Kg
Lab Code:	E1700973-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.693g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511512	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	7.26		0.497	0.831	0.76	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.282	4.15			1
1,2,3,4,7,8-HxCDD	0.588**J**		0.256	4.15	1.33	1.000	1
1,2,3,6,7,8-HxCDD	0.880**JK**		0.279	4.15	1.64	1.000	1
1,2,3,7,8,9-HxCDD	1.15**JK**		0.255	4.15	0.75	1.007	1
1,2,3,4,6,7,8-HpCDD	38.0		0.791	4.15	1.09	1.000	1
OCDD	1140		0.515	8.31	0.88	1.000	1
2,3,7,8-TCDF	19.6		0.604	0.831	0.69	1.001	1
1,2,3,7,8-PeCDF	0.558**JK**		0.423	4.15	1.02	1.000	1
2,3,4,7,8-PeCDF	ND	U	0.421	4.15			1
1,2,3,4,7,8-HxCDF	0.838**J**		0.262	4.15	1.42	1.000	1
1,2,3,6,7,8-HxCDF	0.320**JK**		0.275	4.15	0.77	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.266	4.15			1
2,3,4,6,7,8-HxCDF	ND	U	0.279	4.15			1
1,2,3,4,6,7,8-HpCDF	3.58**J**		0.158	4.15	0.99	1.000	1
1,2,3,4,7,8,9-HpCDF	0.294**J**		0.159	4.15	1.13	1.000	1
OCDF	13.5**K**		1.21	8.31	0.75	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-027EPA	**Units:**	ng/Kg
Lab Code:	E1700973-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.693g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511512	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	7.26		0.497	0.831	0.76		1
Total Penta-Dioxins	1.36**J**		0.282	4.15	1.55		1
Total Hexa-Dioxins	23.5		0.268	4.15	1.20		1
Total Hepta-Dioxins	137		0.791	4.15	1.04		1
Total Tetra-Furans	33.1		0.604	0.831	0.65		1
Total Penta-Furans	1.21**J**		0.104	4.15	1.60		1
Total Hexa-Furans	3.22**J**		0.270	4.15	1.07		1
Total Hepta-Furans	3.87**J**		0.154	4.15	0.99		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-027EPA	**Units:**	Percent
Lab Code:	E1700973-008	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:03
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.693g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511512	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1319.492	66		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1422.548	71		25-181	1.59	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1320.662	66		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1231.606	62		28-130	1.31	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1042.506	52		23-140	1.08	1.066
13C-OCDD	4000	1555.816	39		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1194.995	60		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1388.492	69		24-185	1.59	1.136
13C-2,3,4,7,8-PeCDF	2000	1409.968	70		21-178	1.57	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1316.189	66		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1227.535	61		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1494.692	75		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1273.704	64		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1034.009	52		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1385.477	69		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	537.598	67		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-027EPA	**Units:**	ng/Kg
Lab Code:	E1700973-008	**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	**7.26**	0.497	0.831	1	1	7.26
1,2,3,7,8-PeCDD	ND	0.282	4.15	1	1	
1,2,3,4,7,8-HxCDD	**0.588**	0.256	4.15	1	0.1	0.0588
1,2,3,6,7,8-HxCDD	**0.880**	0.279	4.15	1	0.1	0.0880
1,2,3,7,8,9-HxCDD	**1.15**	0.255	4.15	1	0.1	0.115
1,2,3,4,6,7,8-HpCDD	**38.0**	0.791	4.15	1	0.01	0.380
OCDD	**1140**	0.515	8.31	1	0.0003	0.342
2,3,7,8-TCDF	**19.6**	0.604	0.831	1	0.1	1.96
1,2,3,7,8-PeCDF	**0.558**	0.423	4.15	1	0.03	0.0167
2,3,4,7,8-PeCDF	ND	0.421	4.15	1	0.3	
1,2,3,4,7,8-HxCDF	**0.838**	0.262	4.15	1	0.1	0.0838
1,2,3,6,7,8-HxCDF	**0.320**	0.275	4.15	1	0.1	0.0320
1,2,3,7,8,9-HxCDF	ND	0.266	4.15	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.279	4.15	1	0.1	
1,2,3,4,6,7,8-HpCDF	**3.58**	0.158	4.15	1	0.01	0.0358
1,2,3,4,7,8,9-HpCDF	**0.294**	0.159	4.15	1	0.01	0.00294
OCDF	**13.5**	1.21	8.31	1	0.0003	0.00405
		Total TEQ				10.4

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:35
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-027EPA	**Units:**	Percent
Lab Code:	E1700973-008	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.574g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	56.3		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-028EPA	**Units:**	ng/Kg
Lab Code:	E1700973-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.689g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511513	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	30.8		1.09	1.45	0.82	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.844	7.24			1
1,2,3,4,7,8-HxCDD	0.845**JK**		0.763	7.24	0.90	1.000	1
1,2,3,6,7,8-HxCDD	1.98**J**		0.879	7.24	1.15	1.000	1
1,2,3,7,8,9-HxCDD	2.24**J**		0.781	7.24	1.21	1.007	1
1,2,3,4,6,7,8-HpCDD	71.7		1.05	7.24	1.03	1.000	1
OCDD	2360		0.459	14.5	0.88	1.000	1
2,3,7,8-TCDF	134		1.27	1.45	0.70	1.001	1
1,2,3,7,8-PeCDF	2.84**JK**		0.939	7.24	1.26	1.001	1
2,3,4,7,8-PeCDF	3.19**J**		0.931	7.24	1.46	1.000	1
1,2,3,4,7,8-HxCDF	4.47**JK**		0.649	7.24	1.01	1.000	1
1,2,3,6,7,8-HxCDF	1.43**JK**		0.651	7.24	0.79	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.678	7.24			1
2,3,4,6,7,8-HxCDF	ND	U	0.668	7.24			1
1,2,3,4,6,7,8-HpCDF	9.33		0.525	7.24	1.18	1.000	1
1,2,3,4,7,8,9-HpCDF	0.819**JK**		0.567	7.24	1.84	1.000	1
OCDF	104		1.52	14.5	0.80	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-028EPA	**Units:**	ng/Kg
Lab Code:	E1700973-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.689g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511513	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	34.2		1.09	1.45	0.82		1
Total Penta-Dioxins	2.84**J**		0.844	7.24	1.67		1
Total Hexa-Dioxins	46.1		0.820	7.24	1.22		1
Total Hepta-Dioxins	261		1.05	7.24	1.01		1
Total Tetra-Furans	231		1.27	1.45	0.73		1
Total Penta-Furans	3.19**J**		0.182	7.24	1.46		1
Total Hexa-Furans	6.16**J**		0.661	7.24	1.26		1
Total Hepta-Furans	19.5		0.532	7.24	1.18		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-028EPA	**Units:**	Percent
Lab Code:	E1700973-009	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 15:51
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.689g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511513	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1147.741	57		25-164	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	1258.440	63		25-181	1.59	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1206.447	60		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1068.222	53		28-130	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1003.163	50		23-140	1.05	1.065
13C-OCDD	4000	1602.473	40		17-157	0.92	1.140
13C-2,3,7,8-TCDF	2000	1041.593	52		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	1219.843	61		24-185	1.55	1.136
13C-2,3,4,7,8-PeCDF	2000	1242.323	62		21-178	1.59	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1131.100	57		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1084.599	54		26-123	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1282.204	64		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1109.810	55		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1013.837	51		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1234.028	62		26-138	0.45	1.078
37Cl-2,3,7,8-TCDD	800	510.441	64		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-028EPA	**Units:**	ng/Kg
Lab Code:	E1700973-009	**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	**30.8**	1.09	1.45	1	1	30.8
1,2,3,7,8-PeCDD	ND	0.844	7.24	1	1	
1,2,3,4,7,8-HxCDD	**0.845**	0.763	7.24	1	0.1	0.0845
1,2,3,6,7,8-HxCDD	**1.98**	0.879	7.24	1	0.1	0.198
1,2,3,7,8,9-HxCDD	**2.24**	0.781	7.24	1	0.1	0.224
1,2,3,4,6,7,8-HpCDD	**71.7**	1.05	7.24	1	0.01	0.717
OCDD	**2360**	0.459	14.5	1	0.0003	0.708
2,3,7,8-TCDF	**134**	1.27	1.45	1	0.1	13.4
1,2,3,7,8-PeCDF	**2.84**	0.939	7.24	1	0.03	0.0852
2,3,4,7,8-PeCDF	**3.19**	0.931	7.24	1	0.3	0.957
1,2,3,4,7,8-HxCDF	**4.47**	0.649	7.24	1	0.1	0.447
1,2,3,6,7,8-HxCDF	**1.43**	0.651	7.24	1	0.1	0.143
1,2,3,7,8,9-HxCDF	ND	0.678	7.24	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.668	7.24	1	0.1	
1,2,3,4,6,7,8-HpCDF	**9.33**	0.525	7.24	1	0.01	0.0933
1,2,3,4,7,8,9-HpCDF	**0.819**	0.567	7.24	1	0.01	0.00819
OCDF	**104**	1.52	14.5	1	0.0003	0.0312
		Total TEQ				47.9

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 14:50
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-028EPA	**Units:**	Percent
Lab Code:	E1700973-009	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.815g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	32.3		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-029EPA	**Units:**	ng/Kg
Lab Code:	E1700973-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 16:40
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.260g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511514	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	44.1		1.13	1.25	0.80	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.536	6.25			1
1,2,3,4,7,8-HxCDD	ND	U	0.468	6.25			1
1,2,3,6,7,8-HxCDD	1.45**J**		0.527	6.25	1.15	1.000	1
1,2,3,7,8,9-HxCDD	1.84**J**		0.473	6.25	1.27	1.007	1
1,2,3,4,6,7,8-HpCDD	61.2		0.668	6.25	0.99	1.000	1
OCDD	2270		0.527	12.5	0.88	1.000	1
2,3,7,8-TCDF	211		1.16	1.25	0.72	1.001	1
1,2,3,7,8-PeCDF	3.92**J**		0.744	6.25	1.77	1.000	1
2,3,4,7,8-PeCDF	4.12**J**		0.714	6.25	1.55	1.000	1
1,2,3,4,7,8-HxCDF	6.29		0.571	6.25	1.19	1.000	1
1,2,3,6,7,8-HxCDF	2.08**JK**		0.566	6.25	1.04	1.001	1
1,2,3,7,8,9-HxCDF	ND	U	0.605	6.25			1
2,3,4,6,7,8-HxCDF	0.800**J**		0.564	6.25	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	7.20**K**		0.365	6.25	0.83	1.000	1
1,2,3,4,7,8,9-HpCDF	0.975**JK**		0.398	6.25	0.79	1.000	1
OCDF	82.6		1.72	12.5	0.83	1.005	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-029EPA	**Units:**	ng/Kg
Lab Code:	E1700973-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 16:40
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.260g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511514	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	49.0		1.13	1.25	0.80		1
Total Penta-Dioxins	ND	U	0.536	6.25			1
Total Hexa-Dioxins	37.8		0.497	6.25	1.28		1
Total Hepta-Dioxins	218		0.668	6.25	1.02		1
Total Tetra-Furans	337		1.16	1.25	0.66		1
Total Penta-Furans	8.04		0.157	6.25	1.77		1
Total Hexa-Furans	11.9		0.576	6.25	1.07		1
Total Hepta-Furans	8.55		0.372	6.25	1.02		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-029EPA	**Units:**	Percent
Lab Code:	E1700973-010	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 16:40
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.260g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511514	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1213.316	61		25-164	0.77	1.019
13C-1,2,3,7,8-PeCDD	2000	1373.047	69		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1327.920	66		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1197.098	60		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1099.019	55		23-140	1.04	1.065
13C-OCDD	4000	1630.631	41		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1101.500	55		24-169	0.76	0.993
13C-1,2,3,7,8-PeCDF	2000	1311.910	66		24-185	1.58	1.136
13C-2,3,4,7,8-PeCDF	2000	1380.904	69		21-178	1.56	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1238.972	62		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1192.389	60		26-123	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1402.719	70		29-147	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1244.662	62		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1107.878	55		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1361.528	68		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	530.050	66		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-029EPA	**Units:**	ng/Kg
Lab Code:	E1700973-010	**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	**44.1**	1.13	1.25	1	1	44.1
1,2,3,7,8-PeCDD	ND	0.536	6.25	1	1	
1,2,3,4,7,8-HxCDD	ND	0.468	6.25	1	0.1	
1,2,3,6,7,8-HxCDD	**1.45**	0.527	6.25	1	0.1	0.145
1,2,3,7,8,9-HxCDD	**1.84**	0.473	6.25	1	0.1	0.184
1,2,3,4,6,7,8-HpCDD	**61.2**	0.668	6.25	1	0.01	0.612
OCDD	**2270**	0.527	12.5	1	0.0003	0.681
2,3,7,8-TCDF	**211**	1.16	1.25	1	0.1	21.1
1,2,3,7,8-PeCDF	**3.92**	0.744	6.25	1	0.03	0.118
2,3,4,7,8-PeCDF	**4.12**	0.714	6.25	1	0.3	1.24
1,2,3,4,7,8-HxCDF	**6.29**	0.571	6.25	1	0.1	0.629
1,2,3,6,7,8-HxCDF	**2.08**	0.566	6.25	1	0.1	0.208
1,2,3,7,8,9-HxCDF	ND	0.605	6.25	1	0.1	
2,3,4,6,7,8-HxCDF	**0.800**	0.564	6.25	1	0.1	0.0800
1,2,3,4,6,7,8-HpCDF	**7.20**	0.365	6.25	1	0.01	0.0720
1,2,3,4,7,8,9-HpCDF	**0.975**	0.398	6.25	1	0.01	0.00975
OCDF	**82.6**	1.72	12.5	1	0.0003	0.0248
		Total TEQ				69.2

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 15:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-029EPA	**Units:**	Percent
Lab Code:	E1700973-010	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.403g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	39.0		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-030EPA	**Units:**	ng/Kg
Lab Code:	E1700973-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 18:27
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.054g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609267	**Blank File Name:**	P609286
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609264

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	56800		213	213	0.78	1.001	200
1,2,3,7,8-PeCDD	223		0.948	5.09	1.58	1.000	1
1,2,3,4,7,8-HxCDD	3.47	**J**	0.549	5.09	1.13	1.000	1
1,2,3,6,7,8-HxCDD	22.8		0.633	5.09	1.27	1.000	1
1,2,3,7,8,9-HxCDD	6.20		0.561	5.09	1.06	1.006	1
1,2,3,4,6,7,8-HpCDD	463		1.40	5.09	1.07	1.000	1
OCDD	29600		111	2030	0.94	1.000	200
2,3,7,8-TCDF	127000		170	203	0.78	1.001	200
1,2,3,7,8-PeCDF	2290		12.3	12.3	1.46	1.001	1
2,3,4,7,8-PeCDF	1950		12.7	12.7	1.45	1.000	1
1,2,3,4,7,8-HxCDF	3630		0.853	5.09	1.18	1.000	1
1,2,3,6,7,8-HxCDF	907		0.902	5.09	1.17	1.000	1
1,2,3,7,8,9-HxCDF	267		0.764	5.09	1.14	1.001	1
2,3,4,6,7,8-HxCDF	208		0.894	5.09	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	1050		1.21	5.09	0.99	1.000	1
1,2,3,4,7,8,9-HpCDF	440		1.37	5.09	0.96	1.000	1
OCDF	723		2.11	10.2	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-030EPA	**Units:**	ng/Kg
Lab Code:	E1700973-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/25/17 18:27
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.054g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609267	**Blank File Name:**	P609286
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609264

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	23700		0.744	1.02	0.80		1
Total Penta-Dioxins	257		0.948	5.09	1.46		1
Total Hexa-Dioxins	145		0.590	5.09	1.16		1
Total Hepta-Dioxins	1160		1.40	5.09	1.01		1
Total Tetra-Furans	148000		1.39	1.39	0.72		1
Total Penta-Furans	6300		0.128	5.09	1.54		1
Total Hexa-Furans	5390		0.849	5.09	1.16		1
Total Hepta-Furans	2010		1.26	5.09	0.99		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-030EPA	**Units:**	Percent
Lab Code:	E1700973-011	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 17:29
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.054g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511515	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	909.340	45		25-164	0.80	1.020
13C-1,2,3,7,8-PeCDD	2000	1005.067	50		25-181	1.62	1.173
13C-1,2,3,4,7,8-HxCDD	2000	1016.423	51		32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	867.304	43		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	782.700	39		23-140	1.04	1.065
13C-OCDD	4000	985.754	25		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	943.225	47		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	975.648	49		24-185	1.58	1.133
13C-2,3,4,7,8-PeCDF	2000	950.068	48		21-178	1.58	1.163
13C-1,2,3,4,7,8-HxCDF	2000	930.064	47		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	858.940	43		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1201.089	60		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	914.573	46		28-136	0.50	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	789.136	39		28-143	0.43	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	969.734	48		26-138	0.43	1.078
37Cl-2,3,7,8-TCDD	800	589.869	74		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-030EPA	**Units:**	ng/Kg
Lab Code:	E1700973-011	**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	**56800**	213	213	200	1	56800
1,2,3,7,8-PeCDD	**223**	0.948	5.09	1	1	223
1,2,3,4,7,8-HxCDD	**3.47**	0.549	5.09	1	0.1	0.347
1,2,3,6,7,8-HxCDD	**22.8**	0.633	5.09	1	0.1	2.28
1,2,3,7,8,9-HxCDD	**6.20**	0.561	5.09	1	0.1	0.620
1,2,3,4,6,7,8-HpCDD	**463**	1.40	5.09	1	0.01	4.63
OCDD	**29600**	111	2030	200	0.0003	8.88
2,3,7,8-TCDF	**127000**	170	203	200	0.1	12700
1,2,3,7,8-PeCDF	**2290**	12.3	12.3	1	0.03	68.7
2,3,4,7,8-PeCDF	**1950**	12.7	12.7	1	0.3	585
1,2,3,4,7,8-HxCDF	**3630**	0.853	5.09	1	0.1	363
1,2,3,6,7,8-HxCDF	**907**	0.902	5.09	1	0.1	90.7
1,2,3,7,8,9-HxCDF	**267**	0.764	5.09	1	0.1	26.7
2,3,4,6,7,8-HxCDF	**208**	0.894	5.09	1	0.1	20.8
1,2,3,4,6,7,8-HpCDF	**1050**	1.21	5.09	1	0.01	10.5
1,2,3,4,7,8,9-HpCDF	**440**	1.37	5.09	1	0.01	4.40
OCDF	**723**	2.11	10.2	1	0.0003	0.217
		Total TEQ				70900

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:05
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-030EPA	**Units:**	Percent
Lab Code:	E1700973-011	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	4.76g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	48.9		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-031EPA	**Units:**	ng/Kg
Lab Code:	E1700973-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 18:17
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.874g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511516	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	2.65		0.583	0.607	0.74	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.245	3.03			1
1,2,3,4,7,8-HxCDD	ND	U	0.158	3.03			1
1,2,3,6,7,8-HxCDD	ND	U	0.175	3.03			1
1,2,3,7,8,9-HxCDD	ND	U	0.159	3.03			1
1,2,3,4,6,7,8-HpCDD	0.864**BJK**		0.209	3.03	0.80	1.000	1
OCDD	31.4		0.290	6.07	0.86	1.000	1
2,3,7,8-TCDF	10.8		0.676	0.676	0.70	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.380	3.03			1
2,3,4,7,8-PeCDF	ND	U	0.359	3.03			1
1,2,3,4,7,8-HxCDF	0.320**J**		0.145	3.03	1.23	1.000	1
1,2,3,6,7,8-HxCDF	ND	U	0.149	3.03			1
1,2,3,7,8,9-HxCDF	ND	U	0.146	3.03			1
2,3,4,6,7,8-HxCDF	ND	U	0.147	3.03			1
1,2,3,4,6,7,8-HpCDF	0.290**BJK**		0.108	3.03	1.21	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.132	3.03			1
OCDF	1.16**BJK**		0.611	6.07	0.74	1.006	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-031EPA	**Units:**	ng/Kg
Lab Code:	E1700973-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 18:17
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.874g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511516	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	2.65		0.583	0.607	0.74		1
Total Penta-Dioxins	ND	U	0.245	3.03			1
Total Hexa-Dioxins	ND	U	0.167	3.03			1
Total Hepta-Dioxins	ND	U	0.209	3.03			1
Total Tetra-Furans	11.9		0.676	0.676	0.70		1
Total Penta-Furans	ND	U	0.369	3.03			1
Total Hexa-Furans	0.320**J**		0.147	3.03	1.23		1
Total Hepta-Furans	0.191**J**		0.116	3.03	1.17		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-031EPA	**Units:**	Percent
Lab Code:	E1700973-012	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 18:17
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.874g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511516	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	814.134	41		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1242.245	62		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1327.261	66		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1232.742	62		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1191.874	60		23-140	1.08	1.065
13C-OCDD	4000	1856.137	46		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	645.737	32		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	1088.880	54		24-185	1.60	1.136
13C-2,3,4,7,8-PeCDF	2000	1181.148	59		21-178	1.58	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1229.440	61		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1155.704	58		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1430.083	72		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1268.816	63		28-136	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1228.896	61		28-143	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1355.794	68		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	327.133	41		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-031EPA	**Units:**	ng/Kg
Lab Code:	E1700973-012	**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	**2.65**	0.583	0.607	1	1	2.65
1,2,3,7,8-PeCDD	ND	0.245	3.03	1	1	
1,2,3,4,7,8-HxCDD	ND	0.158	3.03	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.175	3.03	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.159	3.03	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.864**	0.209	3.03	1	0.01	0.00864
OCDD	**31.4**	0.290	6.07	1	0.0003	0.00942
2,3,7,8-TCDF	**10.8**	0.676	0.676	1	0.1	1.08
1,2,3,7,8-PeCDF	ND	0.380	3.03	1	0.03	
2,3,4,7,8-PeCDF	ND	0.359	3.03	1	0.3	
1,2,3,4,7,8-HxCDF	**0.320**	0.145	3.03	1	0.1	0.0320
1,2,3,6,7,8-HxCDF	ND	0.149	3.03	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.146	3.03	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.147	3.03	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.290**	0.108	3.03	1	0.01	0.00290
1,2,3,4,7,8,9-HpCDF	ND	0.132	3.03	1	0.01	
OCDF	**1.16**	0.611	6.07	1	0.0003	0.000348
		Total TEQ				3.78

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 16:20
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-031EPA	**Units:**	Percent
Lab Code:	E1700973-012	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	6.585g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	75.8		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-032EPA	**Units:**	ng/Kg
Lab Code:	E1700973-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:06
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.198g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511517	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	21.0		1.05	1.68	0.76	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.528	8.40			1
1,2,3,4,7,8-HxCDD	0.771**JK**		0.571	8.40	0.86	1.000	1
1,2,3,6,7,8-HxCDD	2.06**J**		0.654	8.40	1.16	1.000	1
1,2,3,7,8,9-HxCDD	2.17**J**		0.582	8.40	1.20	1.007	1
1,2,3,4,6,7,8-HpCDD	82.0		0.789	8.40	0.99	1.000	1
OCDD	3050		1.09	16.8	0.88	1.000	1
2,3,7,8-TCDF	78.1		1.16	1.68	0.70	1.001	1
1,2,3,7,8-PeCDF	2.39**J**		1.08	8.40	1.34	1.000	1
2,3,4,7,8-PeCDF	ND	U	1.04	8.40			1
1,2,3,4,7,8-HxCDF	4.11**J**		0.526	8.40	1.21	1.000	1
1,2,3,6,7,8-HxCDF	1.24**JK**		0.529	8.40	0.92	1.000	1
1,2,3,7,8,9-HxCDF	0.631**JK**		0.555	8.40	1.85	1.001	1
2,3,4,6,7,8-HxCDF	0.807**JK**		0.529	8.40	0.92	1.000	1
1,2,3,4,6,7,8-HpCDF	8.94		0.509	8.40	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	1.05**JK**		0.573	8.40	0.84	1.000	1
OCDF	102		2.24	16.8	0.81	1.005	1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-032EPA	**Units:**	ng/Kg
Lab Code:	E1700973-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:06
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.198g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511517	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	21.0		1.05	1.68	0.76		1
Total Penta-Dioxins	4.44**J**		0.528	8.40	1.63		1
Total Hexa-Dioxins	35.7		0.612	8.40	1.26		1
Total Hepta-Dioxins	291		0.789	8.40	1.01		1
Total Tetra-Furans	135		1.16	1.68	0.80		1
Total Penta-Furans	2.39**J**		0.211	8.40	1.34		1
Total Hexa-Furans	7.53**J**		0.534	8.40	1.22		1
Total Hepta-Furans	20.4		0.527	8.40	1.06		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-032EPA	**Units:**	Percent
Lab Code:	E1700973-013	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:06
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.198g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511517	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1272.609	64		25-164	0.80	1.019
13C-1,2,3,7,8-PeCDD	2000	1411.311	71		25-181	1.58	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1367.743	68		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1191.116	60		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1067.641	53		23-140	1.06	1.065
13C-OCDD	4000	1492.781	37		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1163.673	58		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1347.429	67		24-185	1.57	1.136
13C-2,3,4,7,8-PeCDF	2000	1427.791	71		21-178	1.59	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1259.093	63		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1217.124	61		26-123	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1426.452	71		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1278.499	64		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1072.489	54		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1276.402	64		26-138	0.44	1.078
37Cl-2,3,7,8-TCDD	800	607.320	76		35-197	NA	1.020

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-032EPA	**Units:**	ng/Kg
Lab Code:	E1700973-013	**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	**21.0**	1.05	1.68	1	1	21.0
1,2,3,7,8-PeCDD	ND	0.528	8.40	1	1	
1,2,3,4,7,8-HxCDD	**0.771**	0.571	8.40	1	0.1	0.0771
1,2,3,6,7,8-HxCDD	**2.06**	0.654	8.40	1	0.1	0.206
1,2,3,7,8,9-HxCDD	**2.17**	0.582	8.40	1	0.1	0.217
1,2,3,4,6,7,8-HpCDD	**82.0**	0.789	8.40	1	0.01	0.820
OCDD	**3050**	1.09	16.8	1	0.0003	0.915
2,3,7,8-TCDF	**78.1**	1.16	1.68	1	0.1	7.81
1,2,3,7,8-PeCDF	**2.39**	1.08	8.40	1	0.03	0.0717
2,3,4,7,8-PeCDF	ND	1.04	8.40	1	0.3	
1,2,3,4,7,8-HxCDF	**4.11**	0.526	8.40	1	0.1	0.411
1,2,3,6,7,8-HxCDF	**1.24**	0.529	8.40	1	0.1	0.124
1,2,3,7,8,9-HxCDF	**0.631**	0.555	8.40	1	0.1	0.0631
2,3,4,6,7,8-HxCDF	**0.807**	0.529	8.40	1	0.1	0.0807
1,2,3,4,6,7,8-HpCDF	**8.94**	0.509	8.40	1	0.01	0.0894
1,2,3,4,7,8,9-HpCDF	**1.05**	0.573	8.40	1	0.01	0.0105
OCDF	**102**	2.24	16.8	1	0.0003	0.0306
		Total TEQ				31.9

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:15
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-032EPA	**Units:**	Percent
Lab Code:	E1700973-013	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	5.067g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	29.2		-	-			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-033EPA	**Units:**	ng/Kg
Lab Code:	E1700973-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.360g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511518	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	35.5		0.836	1.42	0.84	1.000	1
1,2,3,7,8-PeCDD	ND	U	0.637	7.08			1
1,2,3,4,7,8-HxCDD	0.789**J**		0.604	7.08	1.14	1.000	1
1,2,3,6,7,8-HxCDD	3.05**J**		0.670	7.08	1.25	1.000	1
1,2,3,7,8,9-HxCDD	2.91**J**		0.606	7.08	1.23	1.007	1
1,2,3,4,6,7,8-HpCDD	124		1.96	7.08	1.01	1.000	1
OCDD	3670		0.923	14.2	0.89	1.000	1
2,3,7,8-TCDF	146		0.989	1.42	0.71	1.001	1
1,2,3,7,8-PeCDF	3.65**JK**		0.823	7.08	1.09	1.001	1
2,3,4,7,8-PeCDF	3.41**JK**		0.841	7.08	1.02	1.000	1
1,2,3,4,7,8-HxCDF	8.97		0.591	7.08	1.19	1.000	1
1,2,3,6,7,8-HxCDF	2.35**J**		0.577	7.08	1.06	1.000	1
1,2,3,7,8,9-HxCDF	0.966**JK**		0.650	7.08	0.89	1.001	1
2,3,4,6,7,8-HxCDF	1.32**J**		0.605	7.08	1.19	1.000	1
1,2,3,4,6,7,8-HpCDF	21.4		0.336	7.08	0.93	1.000	1
1,2,3,4,7,8,9-HpCDF	1.88**J**		0.383	7.08	0.89	1.000	1
OCDF	147		1.41	14.2	0.81	1.005	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-033EPA	**Units:**	ng/Kg
Lab Code:	E1700973-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.360g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511518	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	39.4		0.836	1.42	0.84		1
Total Penta-Dioxins	5.27	**J**	0.637	7.08	1.65		1
Total Hexa-Dioxins	59.4		0.637	7.08	1.22		1
Total Hepta-Dioxins	412		1.96	7.08	1.07		1
Total Tetra-Furans	249		0.989	1.42	0.67		1
Total Penta-Furans	3.91	**J**	0.178	7.08	1.44		1
Total Hexa-Furans	25.2		0.605	7.08	1.25		1
Total Hepta-Furans	47.8		0.350	7.08	0.93		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-033EPA	**Units:**	Percent
Lab Code:	E1700973-014	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/23/17 19:55
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.360g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511518	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511508

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	1304.211	65		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1345.565	67		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1300.105	65		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1159.264	58		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1058.245	53		23-140	1.06	1.066
13C-OCDD	4000	1594.554	40		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1212.316	61		24-169	0.78	0.992
13C-1,2,3,7,8-PeCDF	2000	1333.701	67		24-185	1.57	1.135
13C-2,3,4,7,8-PeCDF	2000	1335.638	67		21-178	1.56	1.166
13C-1,2,3,4,7,8-HxCDF	2000	1226.094	61		26-152	0.50	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1202.163	60		26-123	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1339.582	67		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1211.994	61		28-136	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1089.505	54		28-143	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1258.865	63		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	643.615	80		35-197	NA	1.019

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-033EPA	**Units:**	ng/Kg
Lab Code:	E1700973-014	**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	**35.5**	0.836	1.42	1	1	35.5
1,2,3,7,8-PeCDD	ND	0.637	7.08	1	1	
1,2,3,4,7,8-HxCDD	**0.789**	0.604	7.08	1	0.1	0.0789
1,2,3,6,7,8-HxCDD	**3.05**	0.670	7.08	1	0.1	0.305
1,2,3,7,8,9-HxCDD	**2.91**	0.606	7.08	1	0.1	0.291
1,2,3,4,6,7,8-HpCDD	**124**	1.96	7.08	1	0.01	1.24
OCDD	**3670**	0.923	14.2	1	0.0003	1.10
2,3,7,8-TCDF	**146**	0.989	1.42	1	0.1	14.6
1,2,3,7,8-PeCDF	**3.65**	0.823	7.08	1	0.03	0.110
2,3,4,7,8-PeCDF	**3.41**	0.841	7.08	1	0.3	1.02
1,2,3,4,7,8-HxCDF	**8.97**	0.591	7.08	1	0.1	0.897
1,2,3,6,7,8-HxCDF	**2.35**	0.577	7.08	1	0.1	0.235
1,2,3,7,8,9-HxCDF	**0.966**	0.650	7.08	1	0.1	0.0966
2,3,4,6,7,8-HxCDF	**1.32**	0.605	7.08	1	0.1	0.132
1,2,3,4,6,7,8-HpCDF	**21.4**	0.336	7.08	1	0.01	0.214
1,2,3,4,7,8,9-HpCDF	**1.88**	0.383	7.08	1	0.01	0.0188
OCDF	**147**	1.41	14.2	1	0.0003	0.0441
		Total TEQ				55.9

2005 WHO TEFs, ND = 0

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	09/15/17 17:30
Sample Matrix:	Sediment	**Date Received:**	09/16/17 09:30
Sample Name:	SJWP-091517-033EPA	**Units:**	Percent
Lab Code:	E1700973-014	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	09/21/17 15:00
	7.194g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Solids	34.1		-	-			1

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Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700417-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 11:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.210g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609286	**Blank File Name:**	P609286
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609277

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.634	0.634			1
1,2,3,7,8-PeCDD	ND	U	0.234	2.45			1
1,2,3,4,7,8-HxCDD	ND	U	0.112	2.45			1
1,2,3,6,7,8-HxCDD	ND	U	0.111	2.45			1
1,2,3,7,8,9-HxCDD	ND	U	0.102	2.45			1
1,2,3,4,6,7,8-HpCDD	0.517**JK**		0.191	2.45	0.83	1.000	1
OCDD	2.32**JK**		0.284	4.90	1.15	1.000	1
2,3,7,8-TCDF	ND	U	0.407	0.490			1
1,2,3,7,8-PeCDF	ND	U	0.166	2.45			1
2,3,4,7,8-PeCDF	ND	U	0.137	2.45			1
1,2,3,4,7,8-HxCDF	ND	U	0.0456	2.45			1
1,2,3,6,7,8-HxCDF	ND	U	0.0428	2.45			1
1,2,3,7,8,9-HxCDF	ND	U	0.0603	2.45			1
2,3,4,6,7,8-HxCDF	ND	U	0.0429	2.45			1
1,2,3,4,6,7,8-HpCDF	0.140**JK**		0.0453	2.45	1.41	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0630	2.45			1
OCDF	0.991**J**		0.377	4.90	0.77	1.005	1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700417-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 11:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.210g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609286	**Blank File Name:**	P609286
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609277

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.634	0.634			1
Total Penta-Dioxins	ND	U	0.234	2.45			1
Total Hexa-Dioxins	ND	U	0.108	2.45			1
Total Hepta-Dioxins	0.504**J**		0.191	2.45	1.08		1
Total Tetra-Furans	ND	U	0.407	0.490			1
Total Penta-Furans	ND	U	0.150	2.45			1
Total Hexa-Furans	ND	U	0.0471	2.45			1
Total Hepta-Furans	ND	U	0.0536	2.45			1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1700417-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/26/17 11:36
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.210g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609286	**Blank File Name:**	P609286
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609277

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	608.684	30		25-164	0.78	1.028
13C-1,2,3,7,8-PeCDD	2000	1148.244	57		25-181	1.62	1.231
13C-1,2,3,4,7,8-HxCDD	2000	1028.265	51		32-141	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1467.569	73		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1081.968	54		23-140	1.09	1.072
13C-OCDD	4000	1894.323	47		17-157	0.90	1.147
13C-2,3,7,8-TCDF	2000	604.939	30		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1030.053	52		24-185	1.62	1.180
13C-2,3,4,7,8-PeCDF	2000	1181.992	59		21-178	1.58	1.219
13C-1,2,3,4,7,8-HxCDF	2000	1072.174	54		26-152	0.54	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1394.273	70		26-123	0.53	0.971
13C-1,2,3,7,8,9-HxCDF	2000	1203.517	60		29-147	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1348.170	67		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1179.483	59		28-143	0.43	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1207.195	60		26-138	0.44	1.085
37Cl-2,3,7,8-TCDD	800	249.029	31	**Y**	35-197	NA	1.029

Accuracy & Precision

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

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Analyzed:**	09/22/17
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:	563040

	Lab Control Sample EQ1700417-02			Duplicate Lab Control Sample EQ1700417-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	102	93.7	109	108	98.8	109	70-140	6	50
1,2,3,4,7,8-HxCDD	96.6	93.7	103	104	98.8	105	70-164	7	50
1,2,3,6,7,8-HxCDD	106	93.7	113	114	98.8	116	76-134	7	50
1,2,3,7,8,9-HxCDD	102	93.7	109	106	98.8	108	64-162	4	50
1,2,3,7,8-PeCDD	102	93.7	109	109	98.8	110	70-142	6	50
2,3,7,8-TCDD	18.3	18.7	98	19.1	19.8	96	67-158	4	50
OCDD	198	187	106	208	198	105	78-144	5	50
1,2,3,4,6,7,8-HpCDF	97.3	93.7	104	104	98.8	105	82-122	7	50
1,2,3,4,7,8,9-HpCDF	98.4	93.7	105	107	98.8	108	78-138	8	50
1,2,3,4,7,8-HxCDF	105	93.7	112	111	98.8	112	72-134	6	50
1,2,3,6,7,8-HxCDF	107	93.7	114	112	98.8	114	84-130	5	50
1,2,3,7,8,9-HxCDF	97.3	93.7	104	104	98.8	105	78-130	6	50
1,2,3,7,8-PeCDF	98.5	93.7	105	103	98.8	104	80-134	4	50
2,3,4,6,7,8-HxCDF	104	93.7	111	111	98.8	113	70-156	7	50
2,3,4,7,8-PeCDF	103	93.7	110	109	98.8	110	68-160	6	50
2,3,7,8-TCDF	20.4	18.7	109	23.9	19.8	121	75-158	16	50
OCDF	261	187	139	262	198	132	63-170	<1	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
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:	EQ1700417-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 21:39
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.675g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511493	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.3		0.302	0.468	0.81	1.001	1
1,2,3,7,8-PeCDD	102		0.172	2.34	1.59	1.000	1
1,2,3,4,7,8-HxCDD	96.6		0.135	2.34	1.29	1.000	1
1,2,3,6,7,8-HxCDD	106		0.147	2.34	1.24	1.000	1
1,2,3,7,8,9-HxCDD	102		0.134	2.34	1.24	1.007	1
1,2,3,4,6,7,8-HpCDD	102		0.163	2.34	1.03	1.000	1
OCDD	198		0.222	4.68	0.90	1.000	1
2,3,7,8-TCDF	20.4		0.444	0.468	0.74	1.001	1
1,2,3,7,8-PeCDF	98.5		0.189	2.34	1.51	1.001	1
2,3,4,7,8-PeCDF	103		0.186	2.34	1.47	1.000	1
1,2,3,4,7,8-HxCDF	105		0.144	2.34	1.19	1.000	1
1,2,3,6,7,8-HxCDF	107		0.144	2.34	1.21	1.000	1
1,2,3,7,8,9-HxCDF	97.3		0.143	2.34	1.16	1.000	1
2,3,4,6,7,8-HxCDF	104		0.147	2.34	1.17	1.000	1
1,2,3,4,6,7,8-HpCDF	97.3		0.132	2.34	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	98.4		0.146	2.34	0.97	1.000	1
OCDF	261		0.373	4.68	0.86	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
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:	EQ1700417-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 21:39
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.675g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511493	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.3		0.302	0.468	0.81		1
Total Penta-Dioxins	102		0.172	2.34	1.59		1
Total Hexa-Dioxins	305		0.141	2.34	1.29		1
Total Hepta-Dioxins	102		0.163	2.34	1.03		1
Total Tetra-Furans	20.4		0.444	0.468	0.74		1
Total Penta-Furans	201		0.188	2.34	1.51		1
Total Hexa-Furans	412		0.144	2.34	1.19		1
Total Hepta-Furans	196		0.135	2.34	1.02		1

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
Project:	San Jacinto Waste Pits/C6430901	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700417-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 21:39
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.675g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511493	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	965.124	48		25-164	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1275.819	64		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1258.691	63		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1159.333	58		28-130	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1110.573	56		23-140	1.05	1.065
13C-OCDD	4000	1610.828	40		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	868.111	43		24-169	0.79	0.993
13C-1,2,3,7,8-PeCDF	2000	1297.323	65		24-185	1.57	1.136
13C-2,3,4,7,8-PeCDF	2000	1339.343	67		21-178	1.58	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1300.919	65		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1258.497	63		26-123	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1517.558	76		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1314.157	66		28-136	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1210.827	61		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1451.256	73		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	391.384	49		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
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:	EQ1700417-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 22:28
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.122g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511494	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	19.1		0.563	0.563	0.80	1.001	1
1,2,3,7,8-PeCDD	109		0.221	2.47	1.54	1.000	1
1,2,3,4,7,8-HxCDD	104		0.136	2.47	1.28	1.000	1
1,2,3,6,7,8-HxCDD	114		0.144	2.47	1.27	1.000	1
1,2,3,7,8,9-HxCDD	106		0.134	2.47	1.24	1.007	1
1,2,3,4,6,7,8-HpCDD	108		0.191	2.47	1.03	1.000	1
OCDD	208		0.302	4.94	0.90	1.000	1
2,3,7,8-TCDF	23.9		0.692	0.692	0.74	1.001	1
1,2,3,7,8-PeCDF	103		0.217	2.47	1.46	1.000	1
2,3,4,7,8-PeCDF	109		0.204	2.47	1.46	1.000	1
1,2,3,4,7,8-HxCDF	111		0.104	2.47	1.16	1.000	1
1,2,3,6,7,8-HxCDF	112		0.103	2.47	1.20	1.000	1
1,2,3,7,8,9-HxCDF	104		0.110	2.47	1.22	1.000	1
2,3,4,6,7,8-HxCDF	111		0.103	2.47	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	104		0.215	2.47	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	107		0.233	2.47	0.99	1.000	1
OCDF	262		0.520	4.94	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
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:	EQ1700417-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 22:28
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.122g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511494	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	19.1		0.563	0.563	0.80		1
Total Penta-Dioxins	109		0.221	2.47	1.54		1
Total Hexa-Dioxins	324		0.140	2.47	1.28		1
Total Hepta-Dioxins	108		0.191	2.47	1.03		1
Total Tetra-Furans	23.9		0.692	0.692	0.74		1
Total Penta-Furans	213		0.210	2.47	1.46		1
Total Hexa-Furans	438		0.105	2.47	1.16		1
Total Hepta-Furans	211		0.218	2.47	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1700973
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:	EQ1700417-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	09/22/17 22:28
Prep Method:	Method Soxhlet	**Date Extracted:**	9/19/17
Sample Amount:	10.122g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511494	**Blank File Name:**	P609286
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511481

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	668.247	33		25-164	0.81	1.019
13C-1,2,3,7,8-PeCDD	2000	1017.842	51		25-181	1.60	1.176
13C-1,2,3,4,7,8-HxCDD	2000	1094.693	55		32-141	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1036.806	52		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	992.226	50		23-140	1.09	1.066
13C-OCDD	4000	1453.017	36		17-157	0.92	1.141
13C-2,3,7,8-TCDF	2000	591.611	30		24-169	0.78	0.993
13C-1,2,3,7,8-PeCDF	2000	974.284	49		24-185	1.61	1.136
13C-2,3,4,7,8-PeCDF	2000	1056.925	53		21-178	1.61	1.167
13C-1,2,3,4,7,8-HxCDF	2000	1102.483	55		26-152	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1084.872	54		26-123	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1215.107	61		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1145.728	57		28-136	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1044.852	52		28-143	0.45	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1262.179	63		26-138	0.46	1.079
37Cl-2,3,7,8-TCDD	800	269.033	34	**Y**	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 #12 Filename P511487 Samp: 1 Inj: 1 Acquired: 22-SEP-17 16:47:43
Processed: 25-SEP-17 07:52:14 Sample ID: E1700973-001

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	2.771e+02	3.813e+02	0.73	yes	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	36:08	4.341e+01	4.951e+01	0.88	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	38:43	1.210e+02	1.058e+02	1.14	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:38	1.927e+02	2.822e+02	0.68	no	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	8.810e+01	1.180e+02	0.75	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	36:53	2.826e+01	3.646e+01	0.78	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	6.974e+01	5.413e+01	1.29	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	9.137e+01	9.018e+01	1.01	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:39	1.568e+03	1.583e+03	0.99	yes	no	0.942
17	Unk	OCDD	42:25	3.038e+04	3.385e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:32	2.853e+04	3.594e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	5.735e+04	3.616e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	5.799e+04	3.648e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.596e+04	5.041e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	2.929e+04	5.659e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.760e+04	5.429e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	2.752e+04	5.379e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.758e+04	3.953e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.865e+04	4.218e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:17	2.104e+04	2.655e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	4.157e+04	2.615e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	3.674e+04	2.865e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	3.769e+04	2.978e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:38	2.852e+04	2.731e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:24	2.976e+04	3.304e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:44	4.216e+04	5.239e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.641e+04	5.310e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	1.956e+04				no	1.033

$$\text{OCDD} = \frac{(3.038e{+}04 + 3.385e{+}04) \times 4000 \text{ pg} \times 1}{(2.976e{+}04 + 3.304e{+}04) \times 10.509 \text{ g} \times 10^{-3} / 100 \times 1.051} = 559 \text{ ng/kg}$$

KW 9/25/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-020E

Run #12 Filename P511487 Samp: 1 Inj: 1 Acquired: 22-SEP-17 16:47:43
Processed: 25-SEP-17 07:52:14 LAB. ID: E1700973-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.45e+04	1.71e+03	3.2e+01	8.05e+04	6.70e+03	1.2e+01
2	1,2,3,7,8-PeCDF	*	8.60e+02	*	*	4.42e+03	*
3	2,3,4,7,8-PeCDF	*	8.60e+02	*	*	4.42e+03	*
4	1,2,3,4,7,8-HxCDF	9.93e+03	2.58e+03	3.8e+00	1.18e+04	1.25e+03	9.4e+00
5	1,2,3,6,7,8-HxCDF	*	2.58e+03	*	*	1.25e+03	*
6	2,3,4,6,7,8-HxCDF	*	2.58e+03	*	*	1.25e+03	*
7	1,2,3,7,8,9-HxCDF	*	2.58e+03	*	*	1.25e+03	*
8	1,2,3,4,6,7,8-HpCDF	2.79e+04	1.23e+03	2.3e+01	2.41e+04	1.95e+03	1.2e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.23e+03	*	*	1.95e+03	*
10	OCDF	3.31e+04	2.22e+03	1.5e+01	4.34e+04	3.88e+03	1.1e+01
11	2,3,7,8-TCDD	1.90e+04	5.23e+03	3.6e+00	2.32e+04	2.98e+03	7.8e+00
12	1,2,3,7,8-PeCDD	*	3.62e+03	*	*	1.16e+03	*
13	1,2,3,4,7,8-HxCDD	6.08e+03	1.99e+03	3.1e+00	8.41e+03	2.36e+03	3.6e+00
14	1,2,3,6,7,8-HxCDD	1.30e+04	1.99e+03	6.6e+00	1.17e+04	2.36e+03	4.9e+00
15	1,2,3,7,8,9-HxCDD	2.16e+04	1.99e+03	1.1e+01	1.74e+04	2.36e+03	7.4e+00
16	1,2,3,4,6,7,8-HpCDD	3.21e+05	3.58e+03	9.0e+01	3.18e+05	1.43e+03	2.2e+02
17	OCDD	5.20e+06	1.20e+03	4.3e+03	5.84e+06	1.70e+03	3.4e+03
18	13C-2,3,7,8-TCDF	5.51e+06	4.07e+04	1.4e+02	6.92e+06	1.65e+04	4.2e+02
19	13C-1,2,3,7,8-PeCDF	1.11e+07	2.88e+03	3.9e+03	7.07e+06	2.34e+03	3.0e+03
20	13C-2,3,4,7,8-PeCDF	1.19e+07	2.88e+03	4.1e+03	7.44e+06	2.34e+03	3.2e+03
21	13C-1,2,3,4,7,8-HxCDF	5.81e+06	1.79e+03	3.2e+03	1.13e+07	4.18e+03	2.7e+03
22	13C-1,2,3,6,7,8-HxCDF	6.34e+06	1.79e+03	3.5e+03	1.22e+07	4.18e+03	2.9e+03
23	13C-2,3,4,6,7,8-HxCDF	6.08e+06	1.79e+03	3.4e+03	1.18e+07	4.18e+03	2.8e+03
24	13C-1,2,3,7,8,9-HxCDF	5.73e+06	1.79e+03	3.2e+03	1.13e+07	4.18e+03	2.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.79e+06	4.02e+03	9.4e+02	8.56e+06	3.87e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.67e+06	4.02e+03	9.1e+02	8.38e+06	3.87e+03	2.2e+03
27	13C-2,3,7,8-TCDD	4.27e+06	1.05e+04	4.1e+02	5.37e+06	4.62e+03	1.2e+03
28	13C-1,2,3,7,8-PeCDD	8.45e+06	3.13e+03	2.7e+03	5.28e+06	2.50e+03	2.1e+03
29	13C-1,2,3,4,7,8-HxCDD	8.36e+06	4.73e+03	1.8e+03	6.49e+06	3.00e+03	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	7.87e+06	4.73e+03	1.7e+03	6.33e+06	3.00e+03	2.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.68e+06	3.38e+03	1.7e+03	5.42e+06	2.20e+03	2.5e+03
32	13C-OCDD	5.05e+06	2.28e+03	2.2e+03	5.63e+06	1.79e+03	3.1e+03
33	13C-1,2,3,4-TCDD	8.43e+06	1.05e+04	8.1e+02	1.05e+07	4.62e+03	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	1.39e+07	4.73e+03	2.9e+03	1.12e+07	3.00e+03	3.7e+03
35	37Cl-2,3,7,8-TCDD	3.96e+06	2.81e+03	1.4e+03			

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Peak List Summary

CLIENT ID.

SJWP-091517-020E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 12 File: P511487 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 16:47:43 Processed: 25-SEP-17 07:52:14

Mass: 303.9020 305.8990 Tot Response: 9.78e+02 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:47	1.36e+02	1.84e+02	0.74	yes	3.20e+02	y	y
2	28:32	2.77e+02	3.81e+02	0.73	yes	6.58e+02 2,3,7,8-TCDF	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-020E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 12 File: P511487 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 16:47:43 Processed: 25-SEP-17 07:52:14

Mass: 319.8970 321.8940 Tot Response: 2.06e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:18	8.81e+01	1.18e+02	0.75	yes	2.06e+02	2,3,7,8-TCDD	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-020E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: P511487 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 16:47:43 Processed: 25-SEP-17 07:52:14

Mass: 389.8160 391.8130 Tot Response: 2.55e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	1.04e+03	7.93e+02	1.31	yes	1.83e+03		n	n
2	36:04	3.36e+01	2.93e+01	1.15	yes	6.28e+01		n	n
3	36:18	2.87e+02	2.46e+02	1.17	yes	5.32e+02		n	n
4	36:58	6.97e+01	5.41e+01	1.29	yes	1.24e+02	1,2,3,6,7,8-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-020E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 12 File: P511487 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 16:47:43 Processed: 25-SEP-17 07:52:14

Mass: 407.7820 409.7790 Tot Response: 2.27e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	1.21e+02	1.06e+02	1.14	yes	2.27e+02	1,2,3,4,6,7,8-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-020E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P511487 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 16:47:43 Processed: 25-SEP-17 07:52:14

Mass: 423.7770 425.7740 Tot Response: 1.30e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:58	5.09e+03	4.76e+03	1.07	yes	9.85e+03		n	n
2	39:39	1.57e+03	1.58e+03	0.99	yes	3.15e+03	1,2,3,4,6,7,8-HpCDD	n	n

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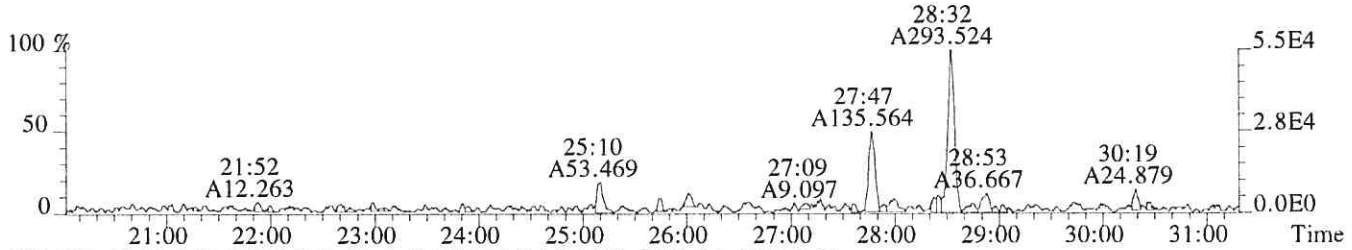
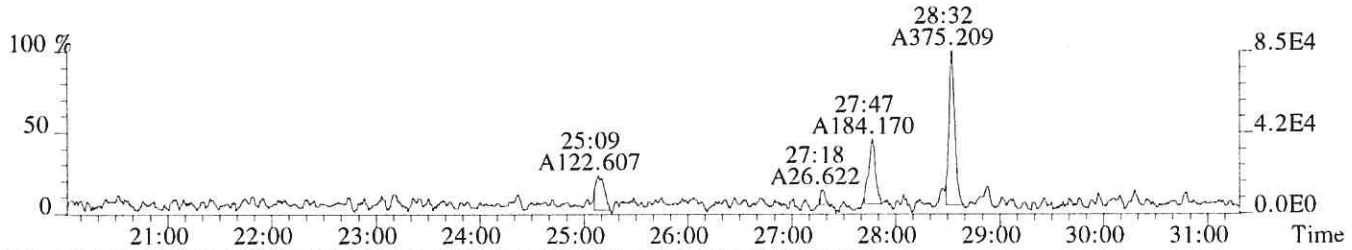
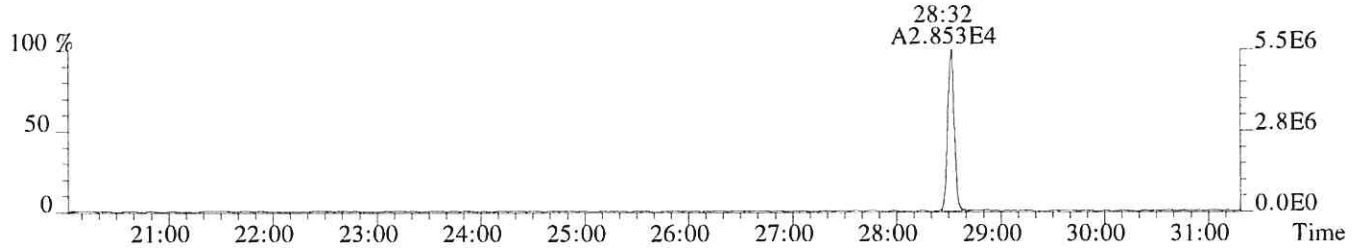
File:P511487 #1-800 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1708.0,1.00%,F,T)



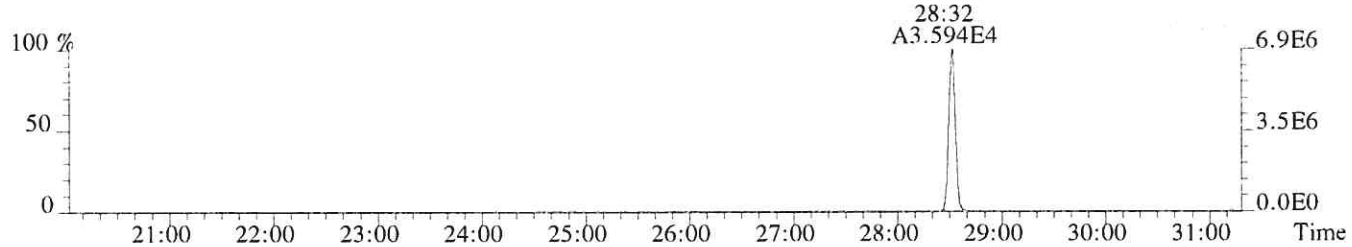
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6700.0,1.00%,F,T)



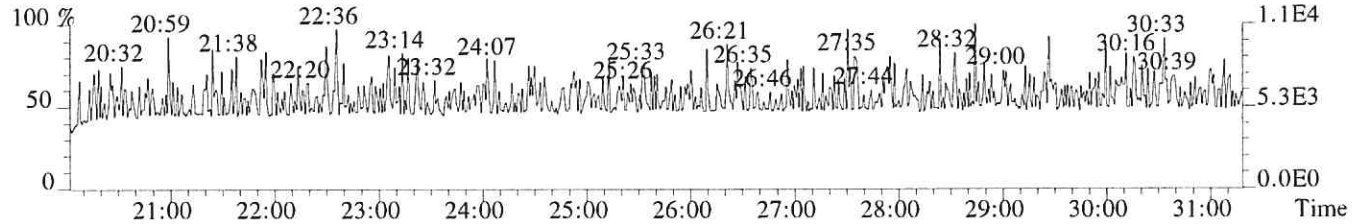
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,40708.0,1.00%,F,T)



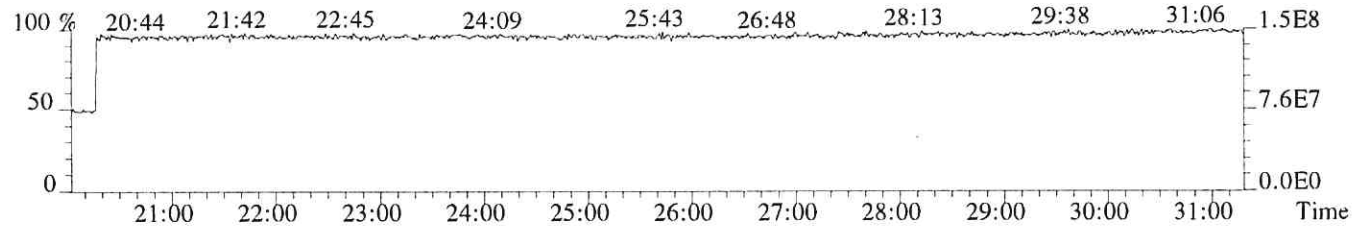
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16504.0,1.00%,F,T)



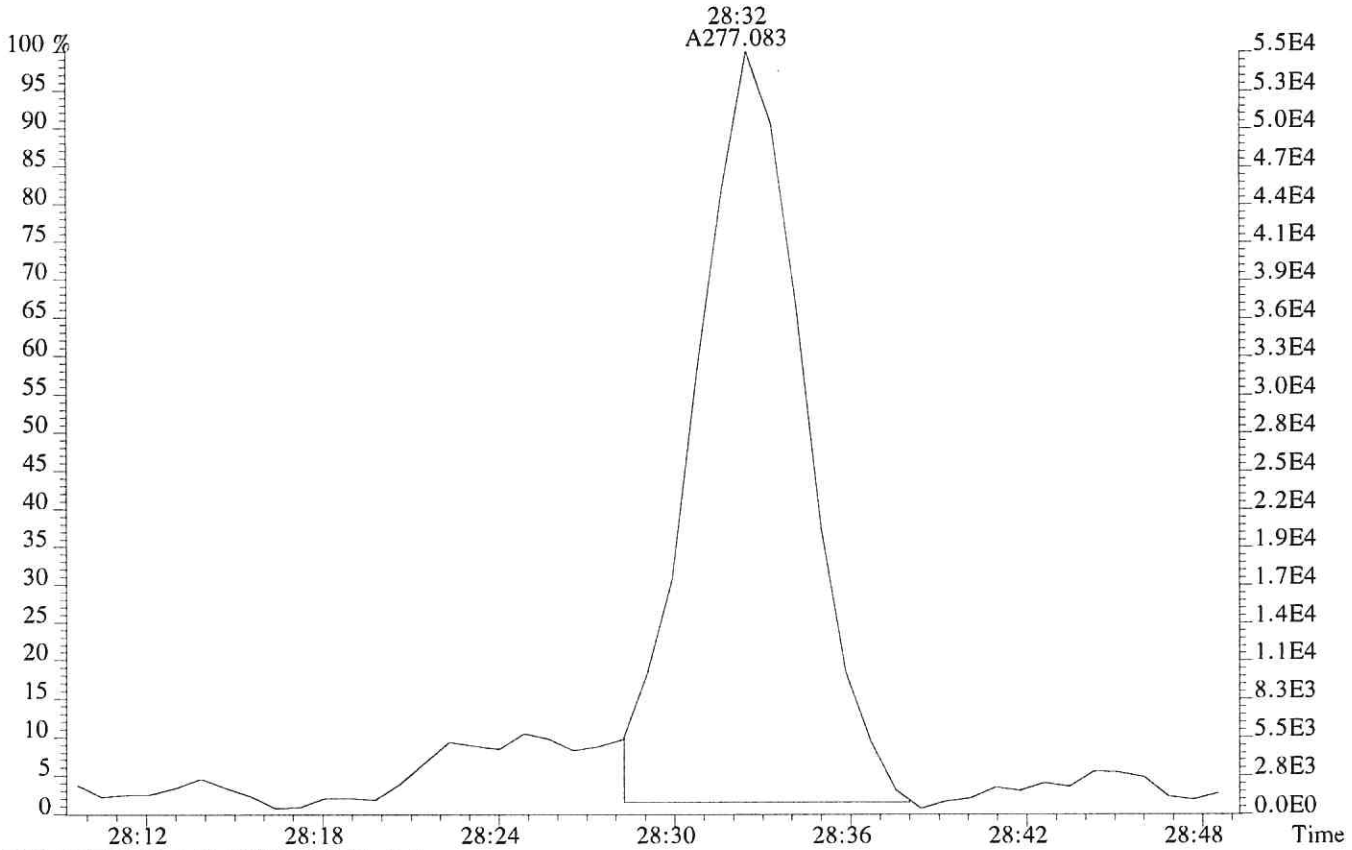
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



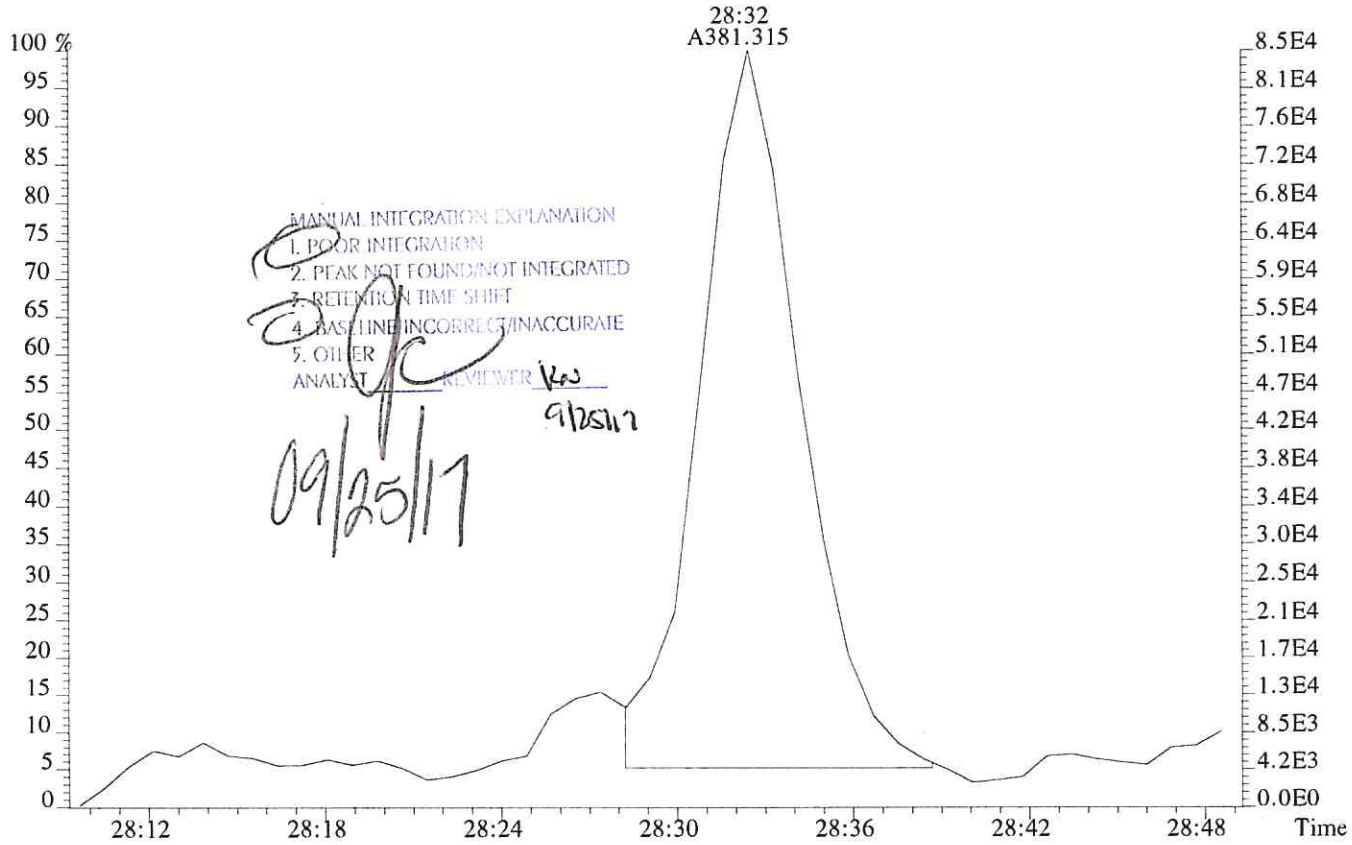
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511487 #1-800 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
303.9016 SMO(1,3) BSUB(128,15,-3.0)

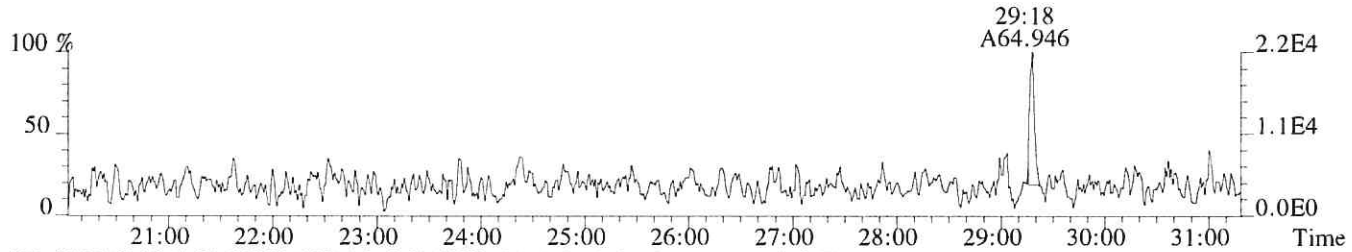


305.8987 SMO(1,3) BSUB(128,15,-3.0)

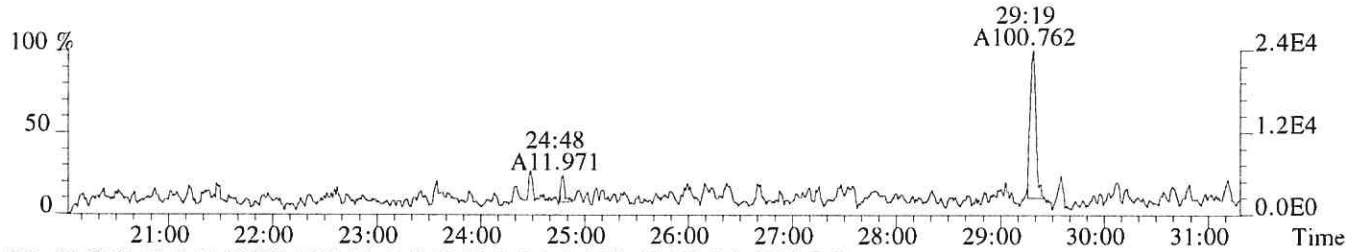


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER KW
9/25/17
09/25/17

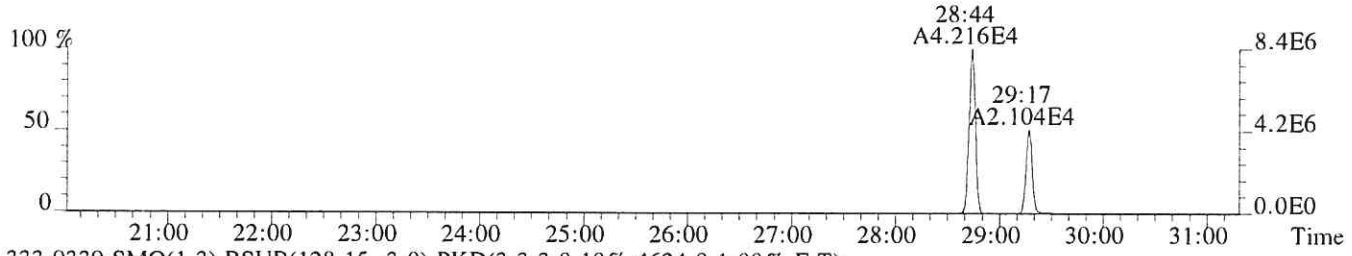
File:P511487 #1-800 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5228.0,1.00%,F,T)



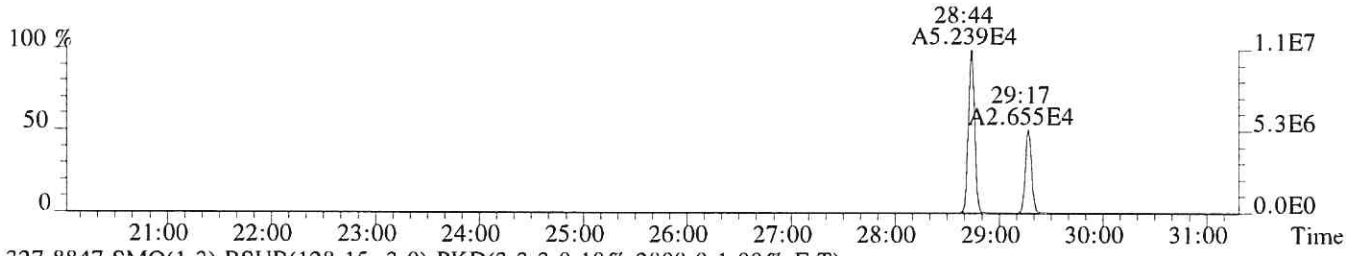
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2980.0,1.00%,F,T)



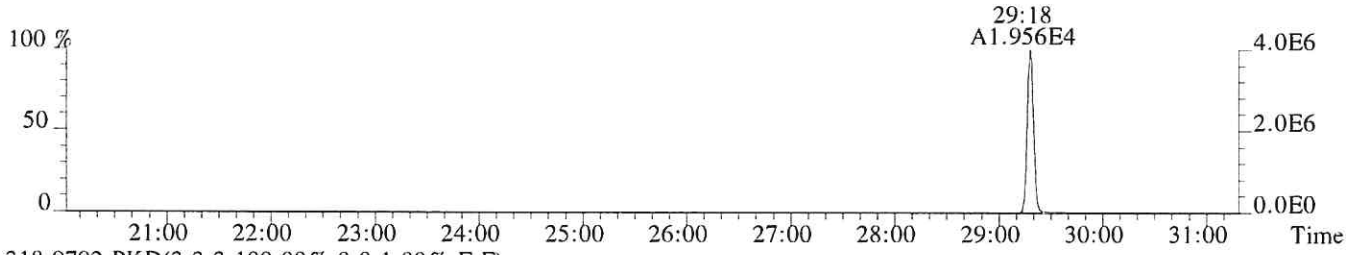
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10452.0,1.00%,F,T)



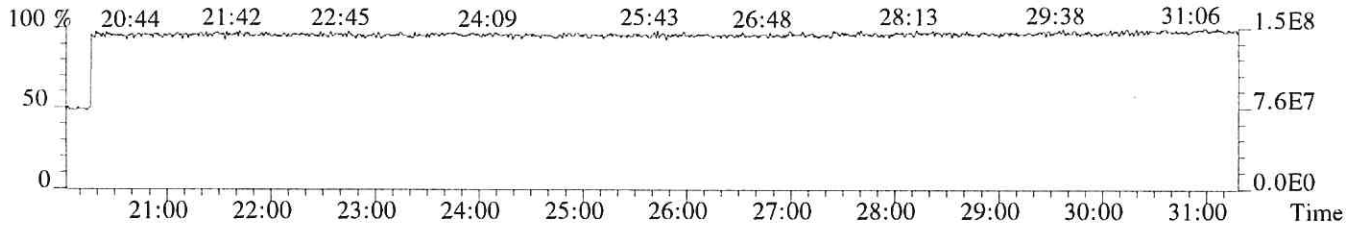
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4624.0,1.00%,F,T)



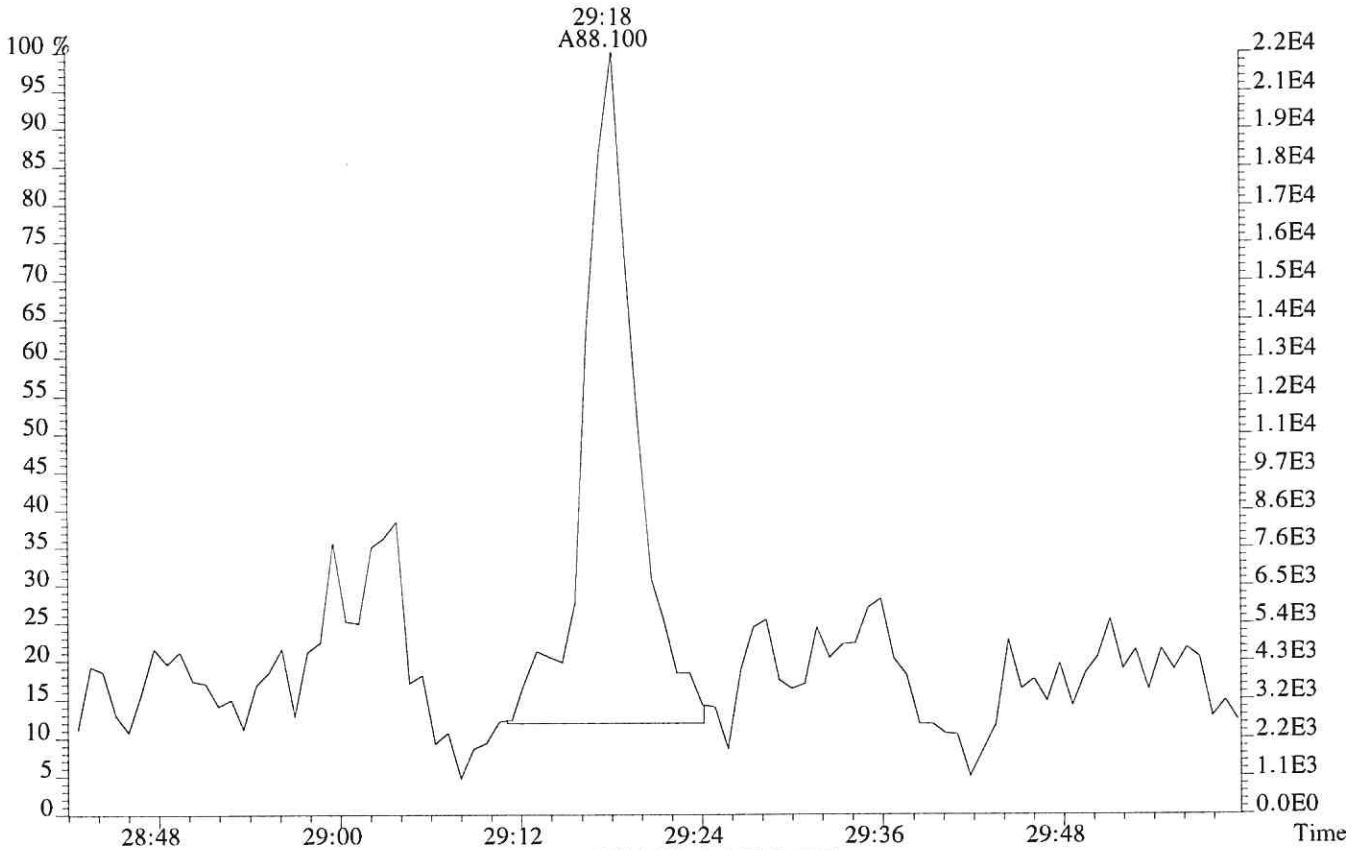
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2808.0,1.00%,F,T)



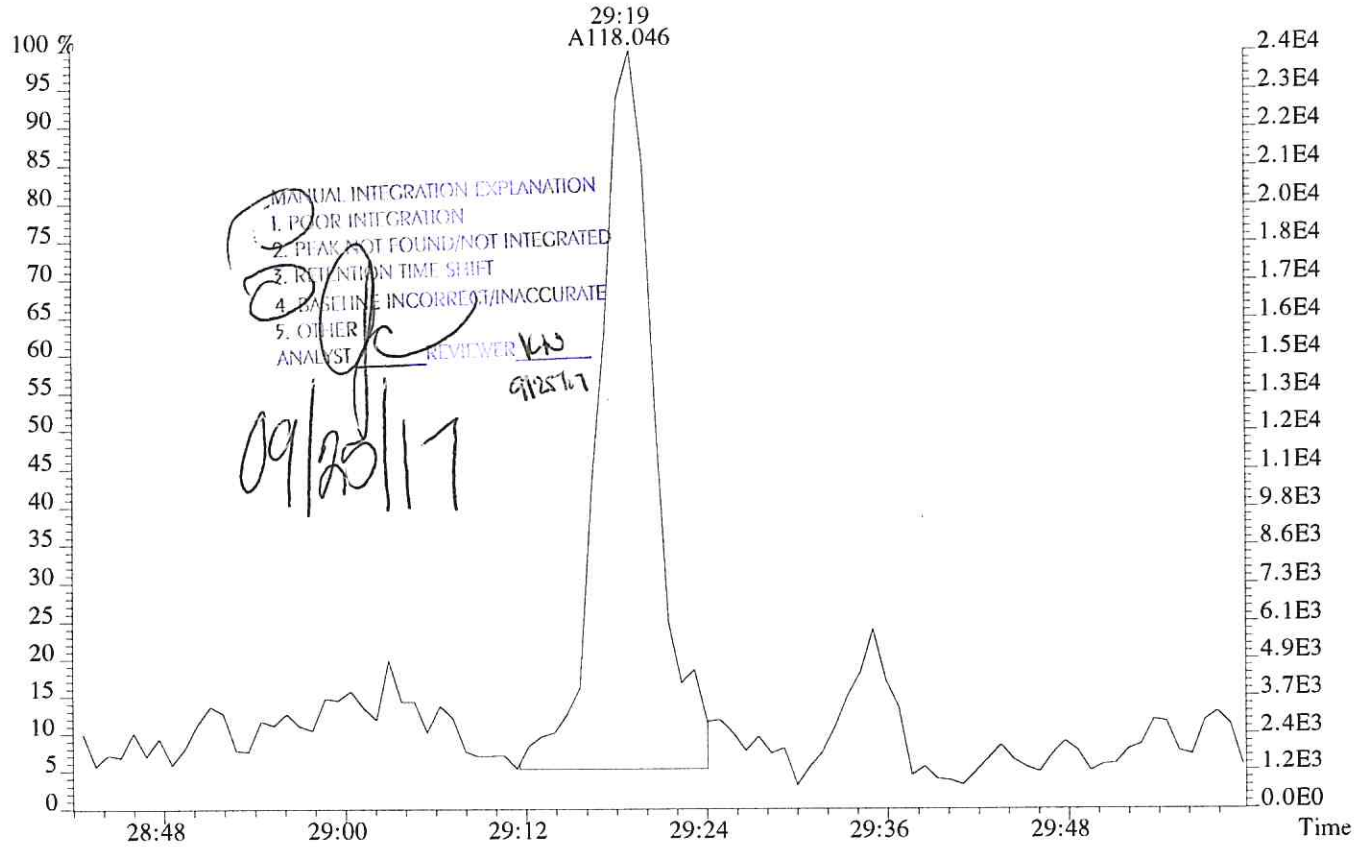
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



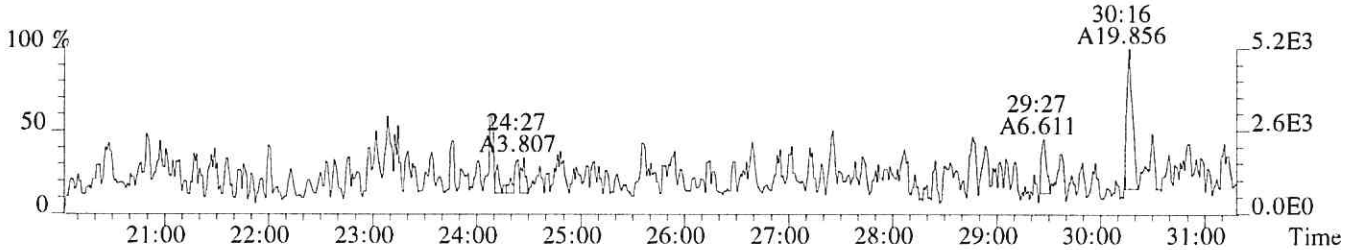
File:P511487 #1-800 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5228.0,1.00%,F,T)



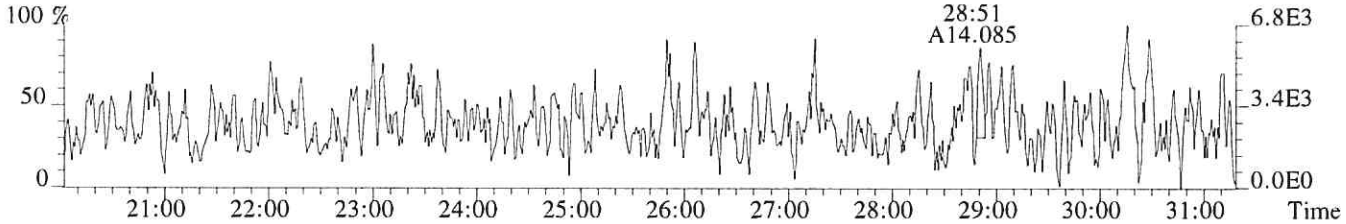
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2980.0,1.00%,F,T)



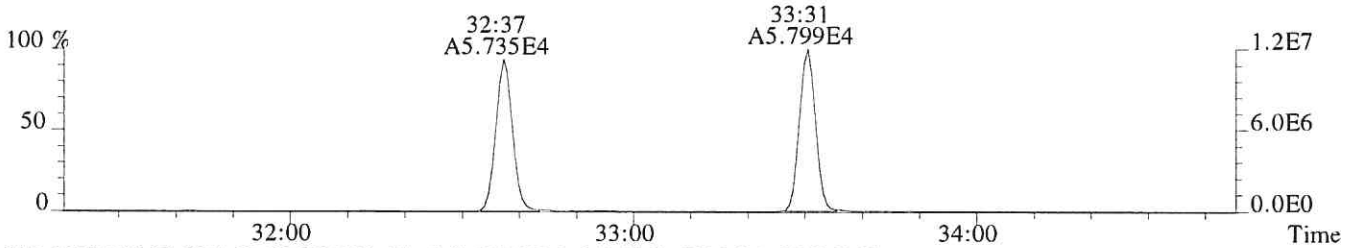
File:P511487 #1-800 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



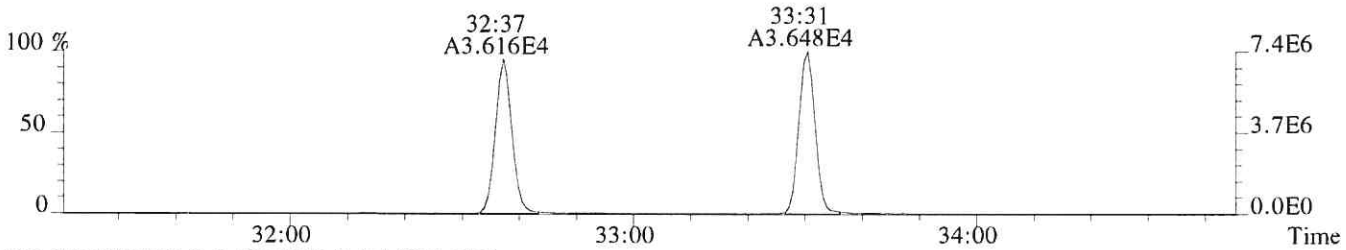
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3356.0,1.00%,F,T)



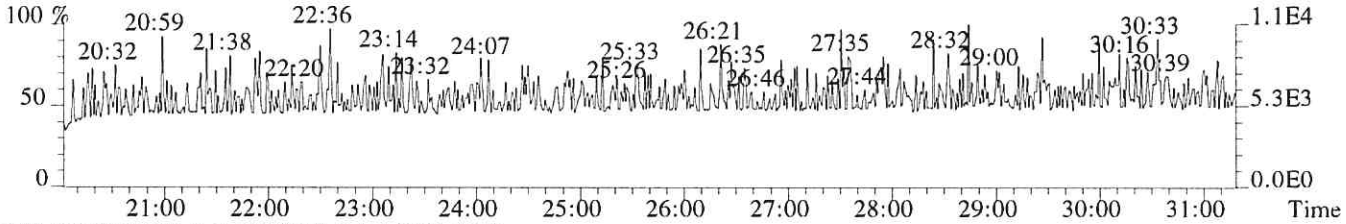
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2876.0,1.00%,F,T)



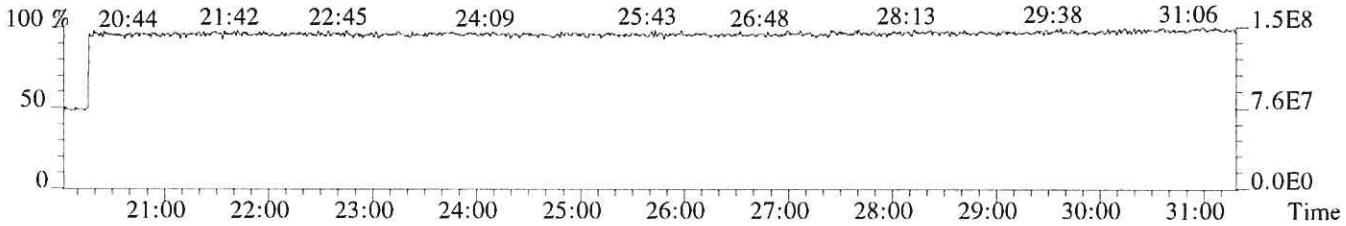
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2340.0,1.00%,F,T)



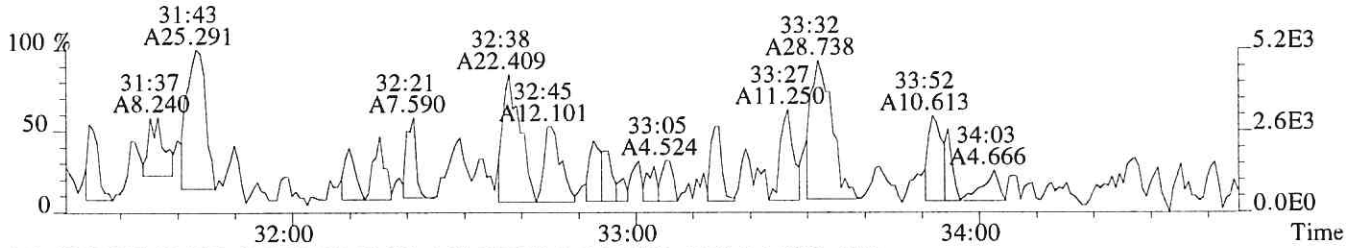
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



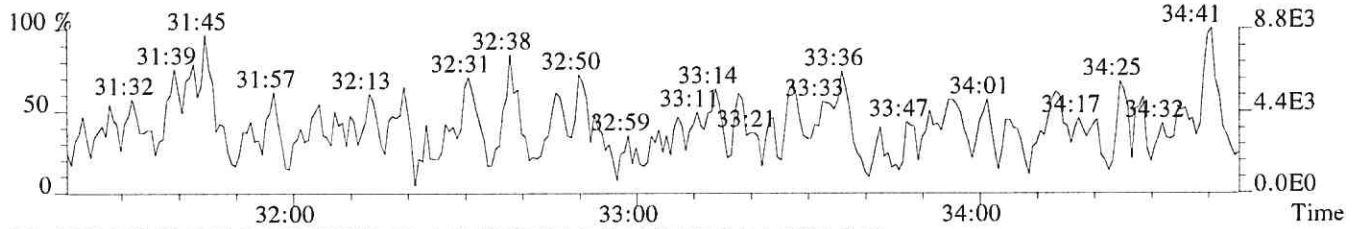
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



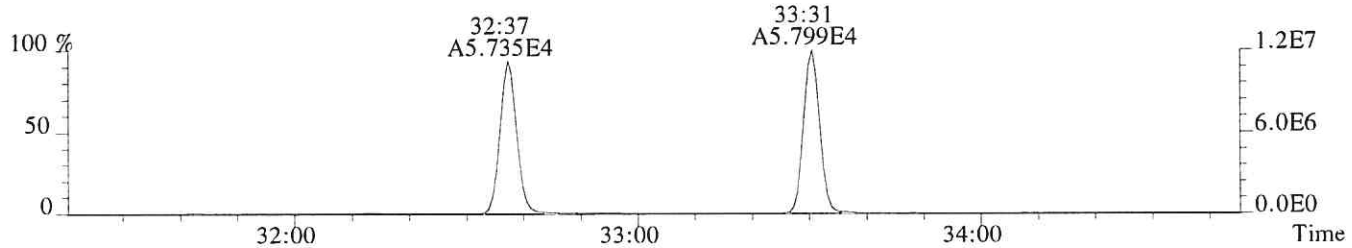
File:P511487 #1-308 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



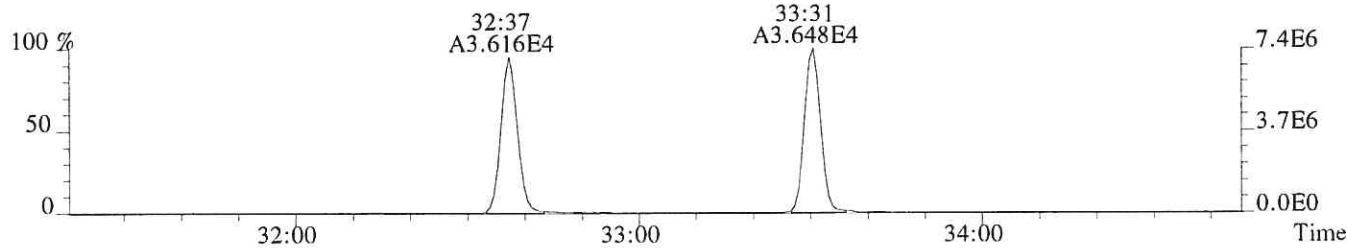
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4420.0,1.00%,F,T)



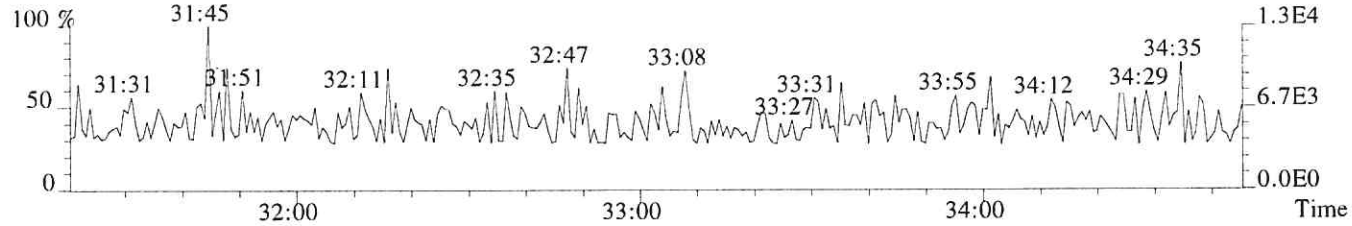
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2876.0,1.00%,F,T)



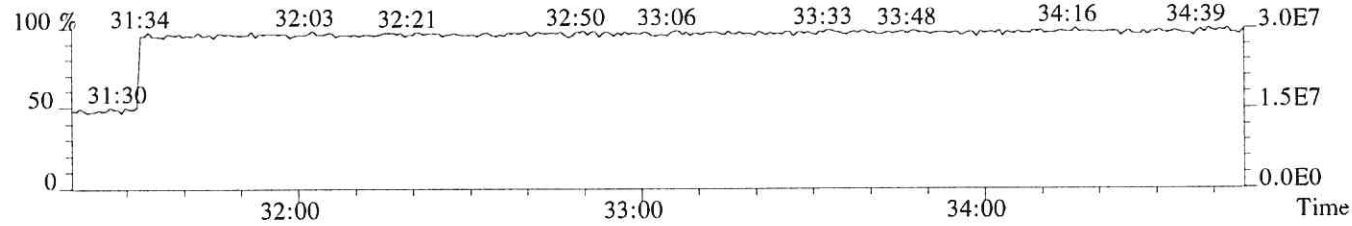
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2340.0,1.00%,F,T)



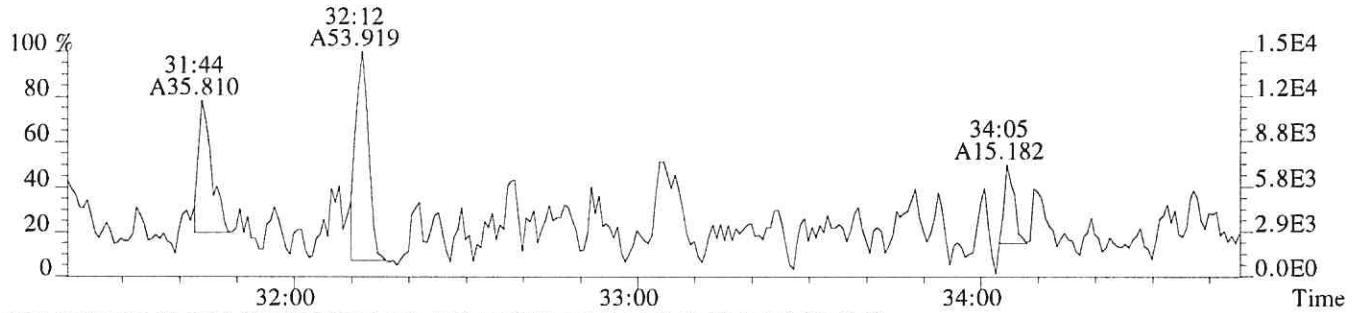
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



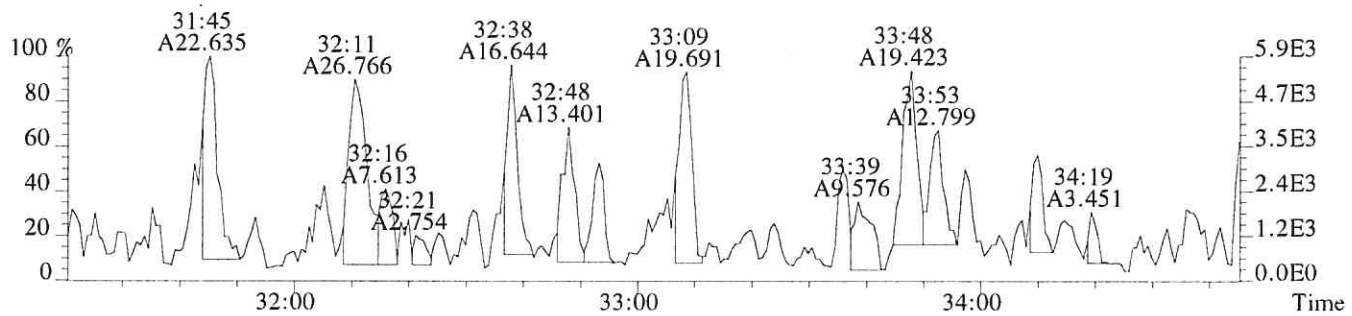
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



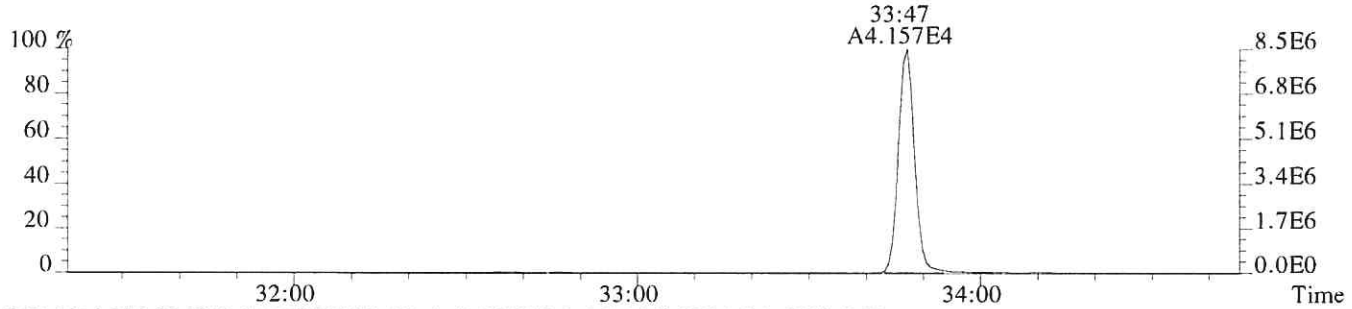
File:P511487 #1-308 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3624.0,1.00%,F,T)



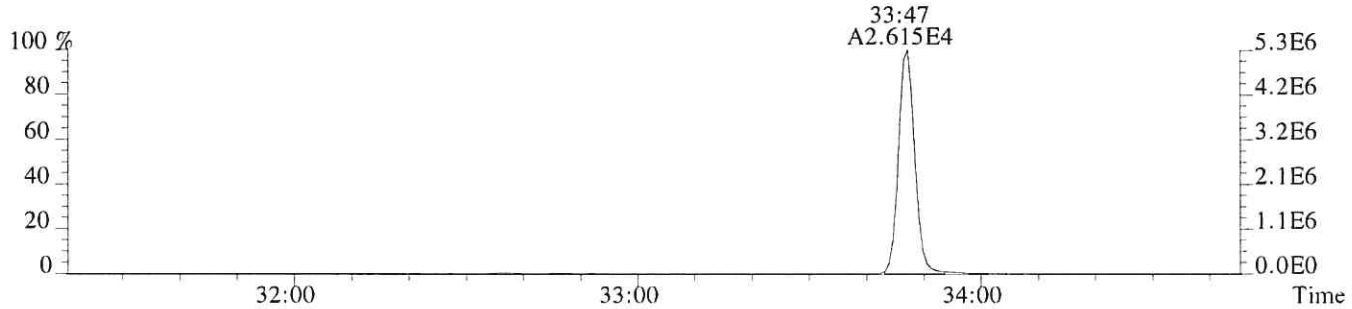
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1156.0,1.00%,F,T)



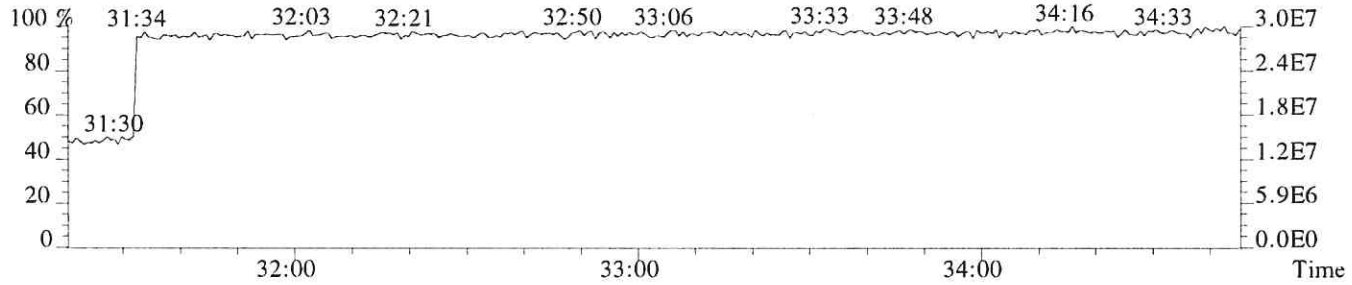
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3128.0,1.00%,F,T)



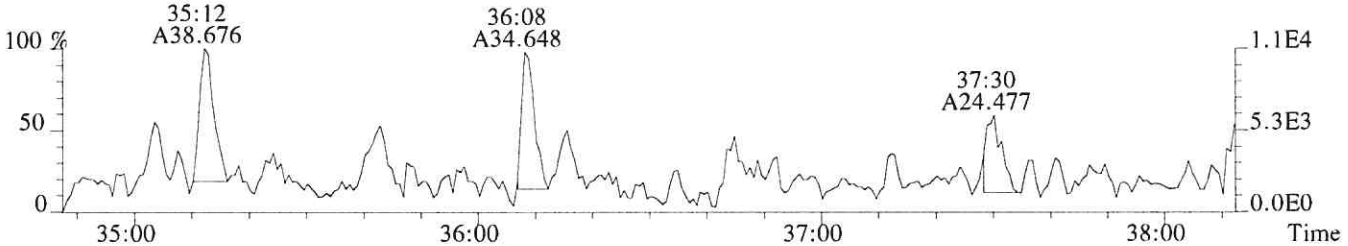
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



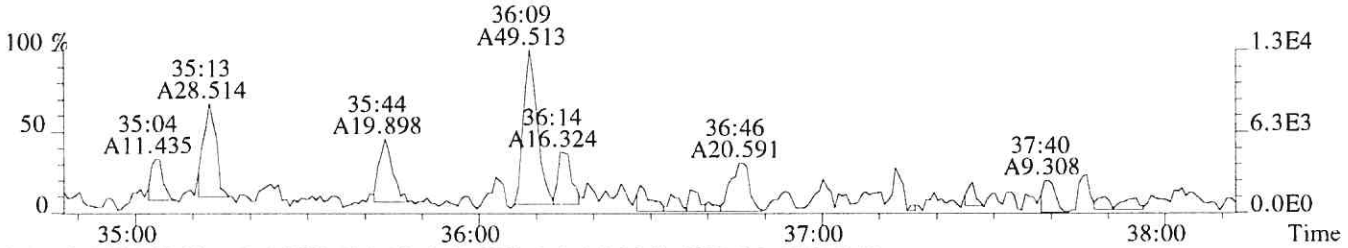
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



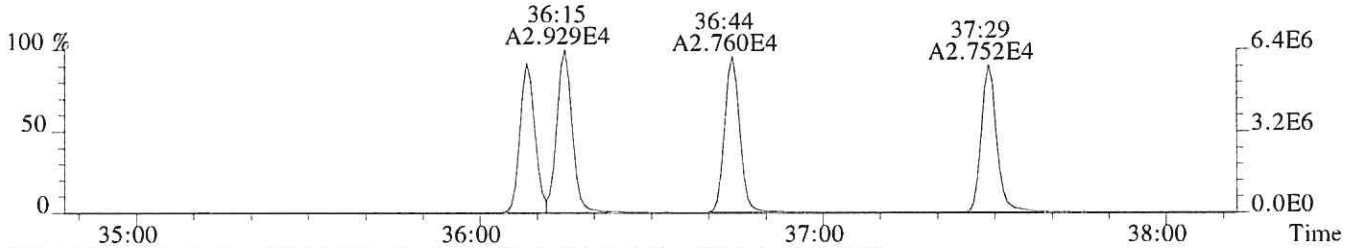
File:P511487 #1-308 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2584.0,0.40%,F,T)



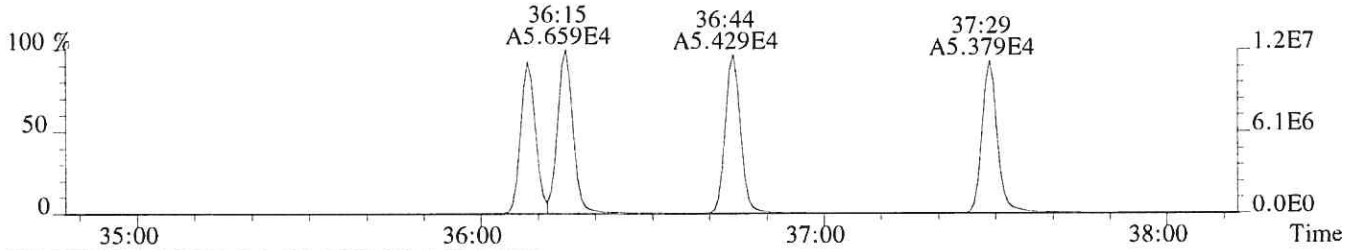
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



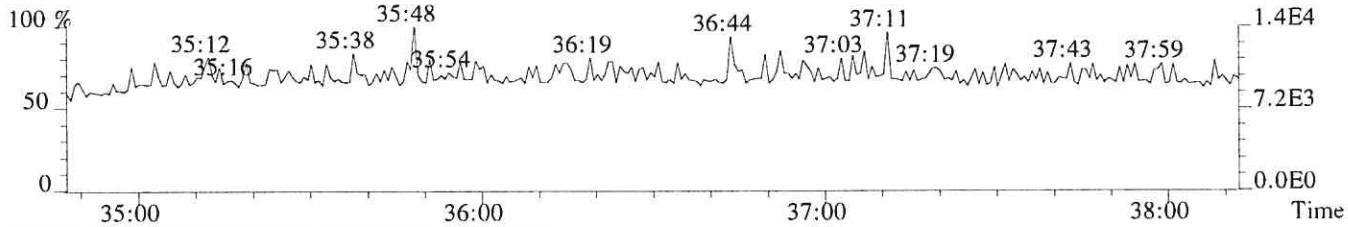
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1788.0,0.40%,F,T)



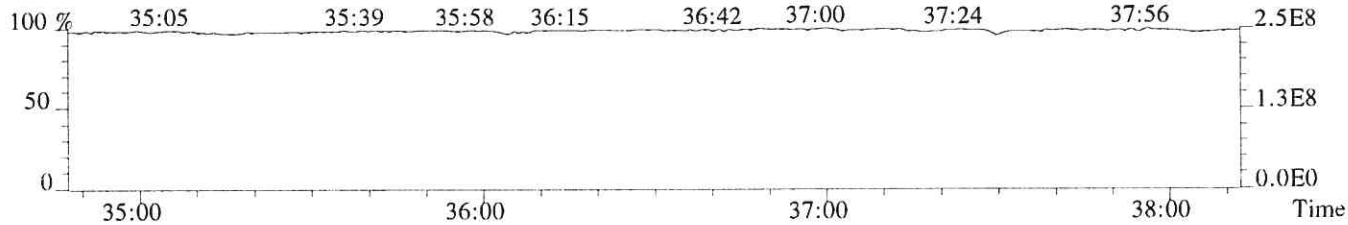
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4180.0,0.40%,F,T)



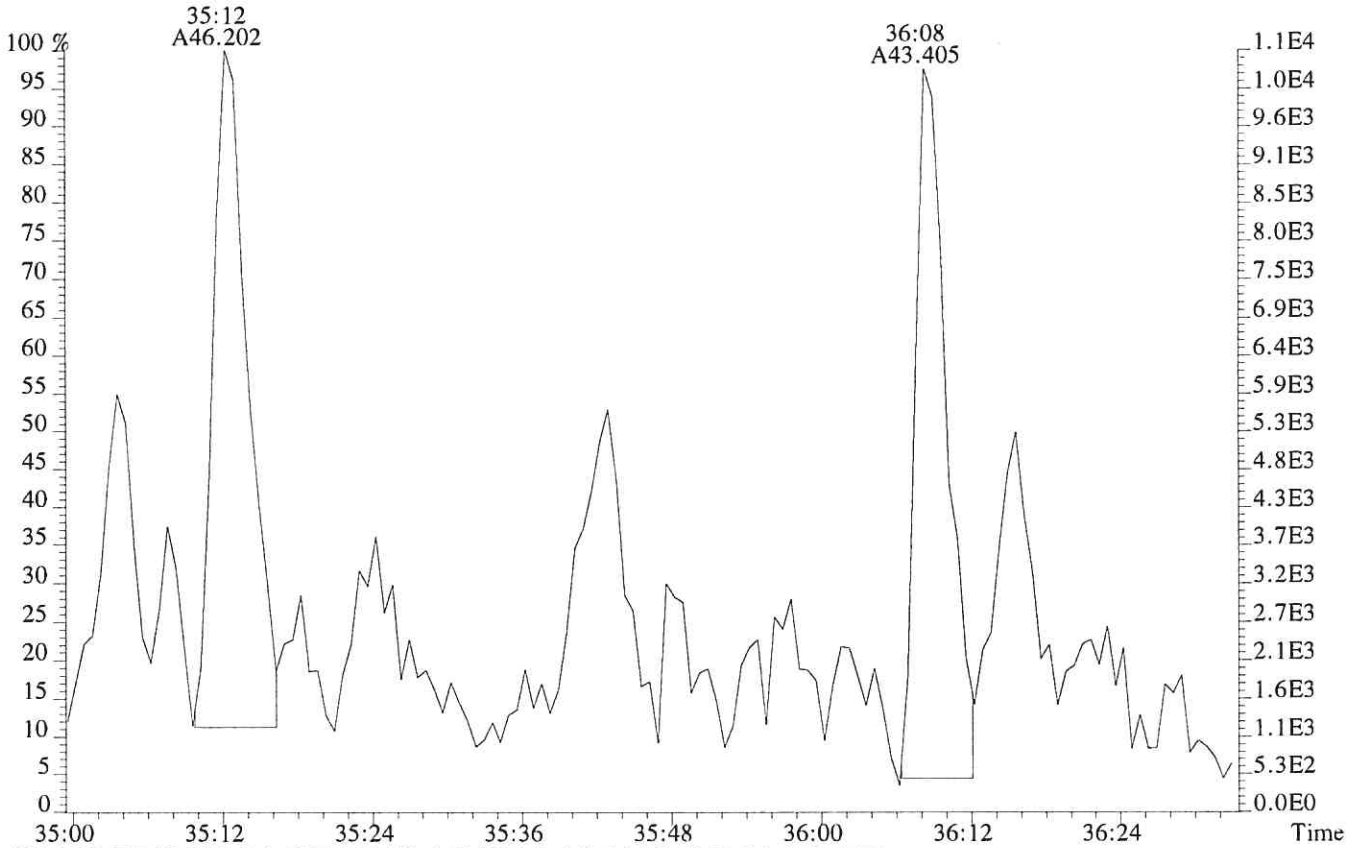
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



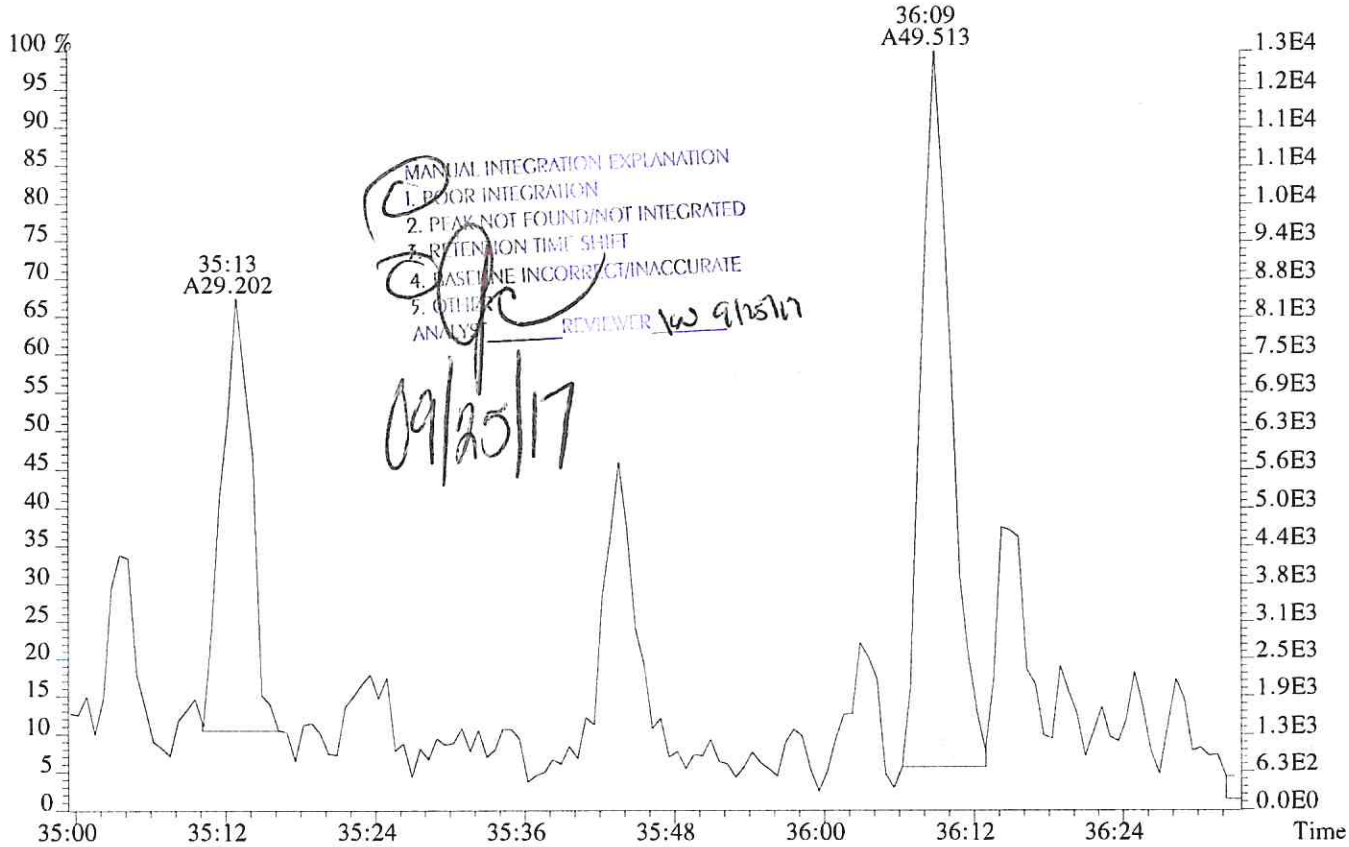
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511487 #1-308 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2584.0,0.40%,F,T)

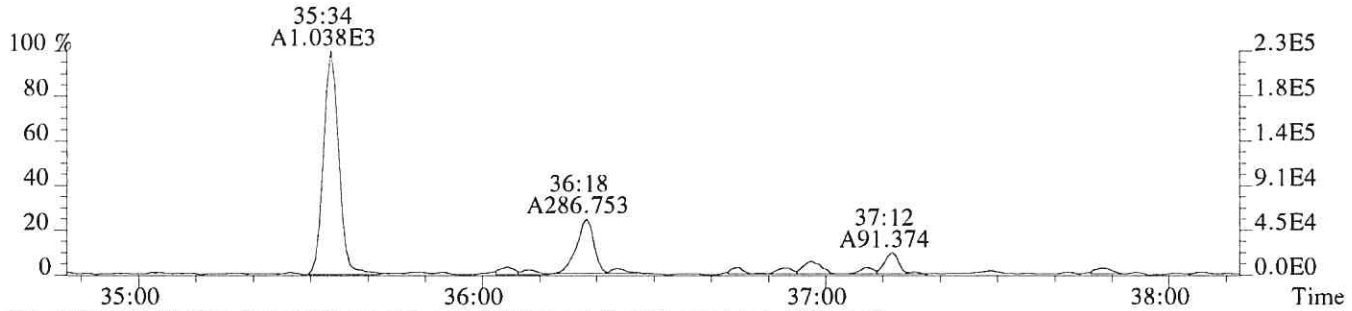


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)

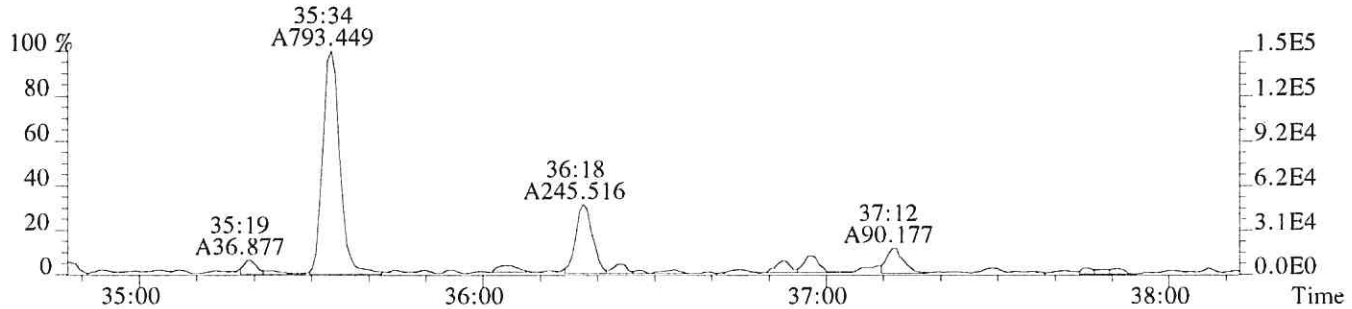


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER LW 9/25/17
09/25/17

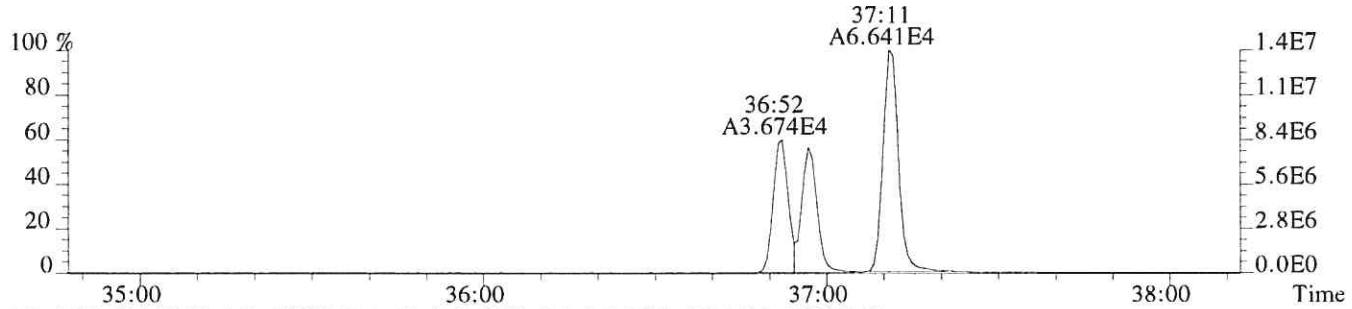
File:P511487 #1-308 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1988.0,0.40%,F,T)



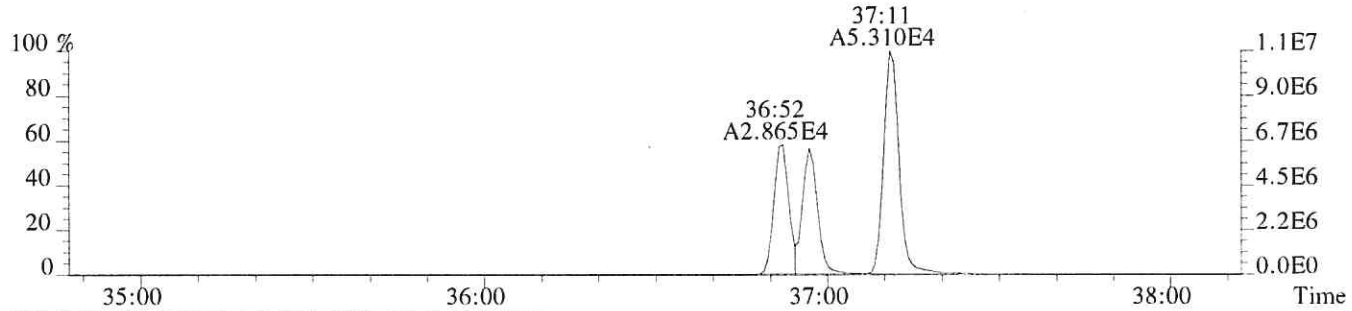
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2364.0,0.40%,F,T)



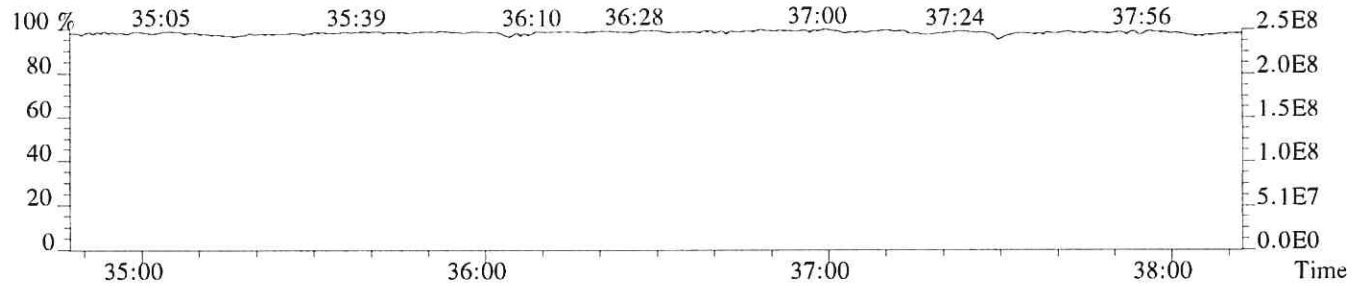
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4732.0,0.40%,F,T)



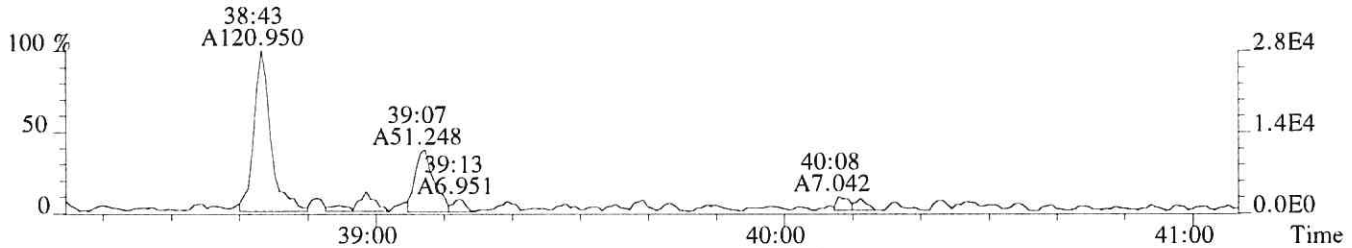
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.40%,F,T)



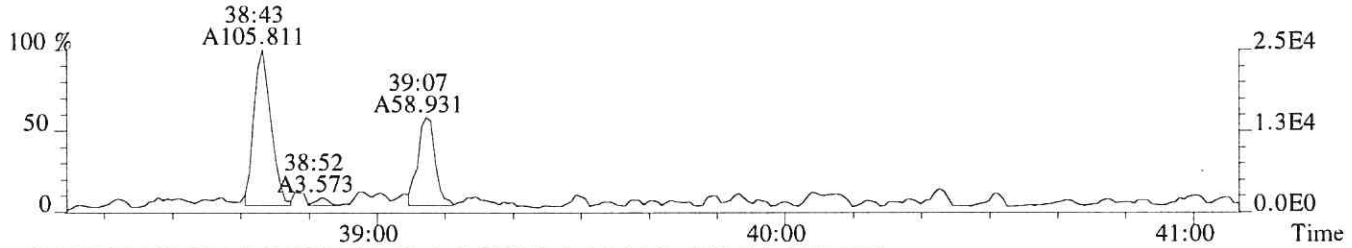
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



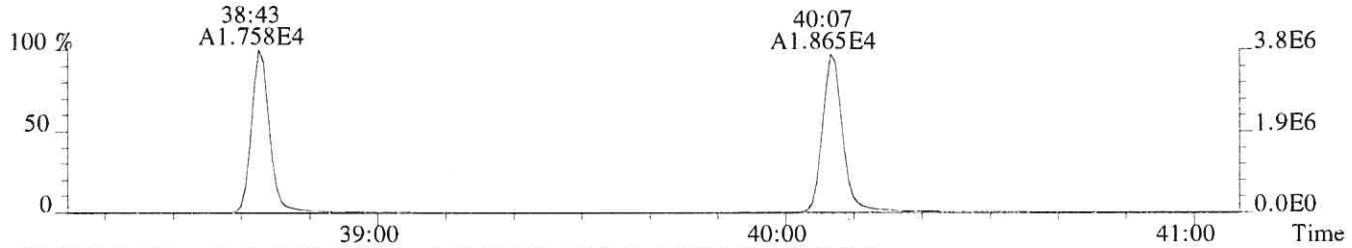
File:P511487 #1-259 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.50%,F,T)



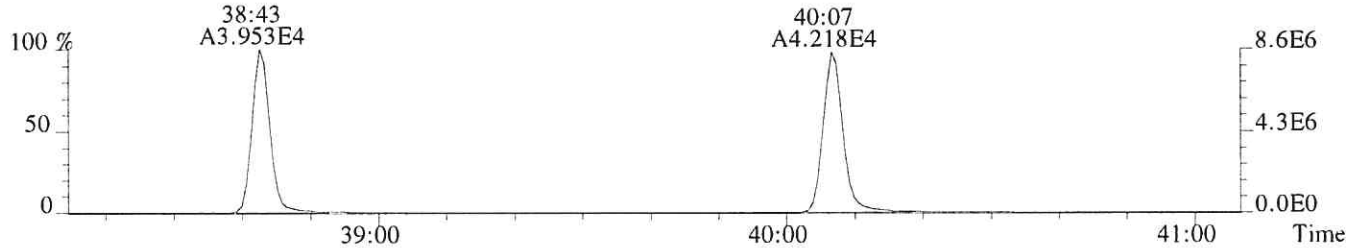
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1948.0,0.50%,F,T)



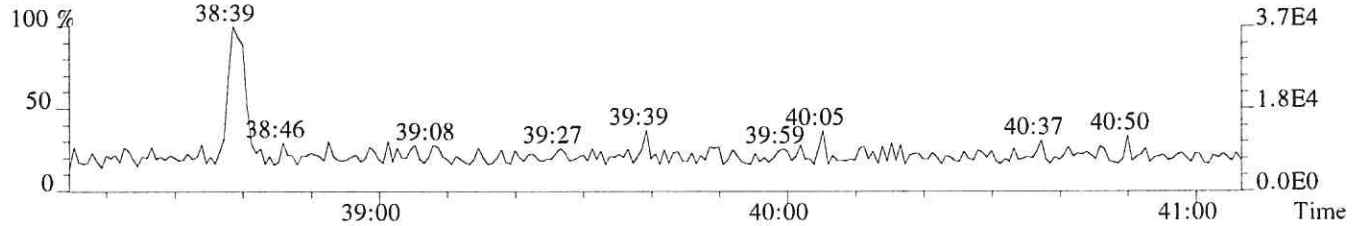
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4020.0,0.50%,F,T)



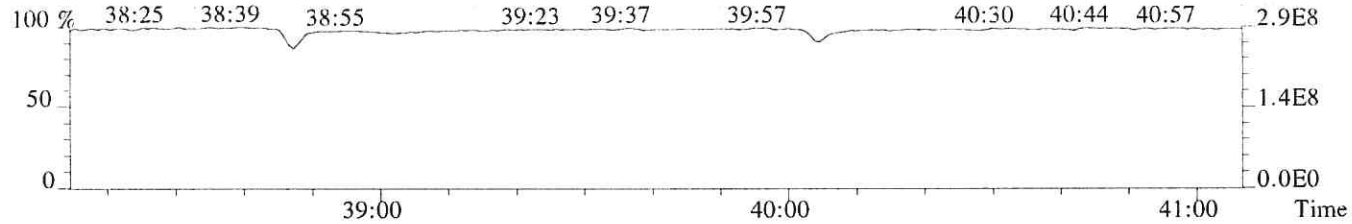
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3872.0,0.50%,F,T)



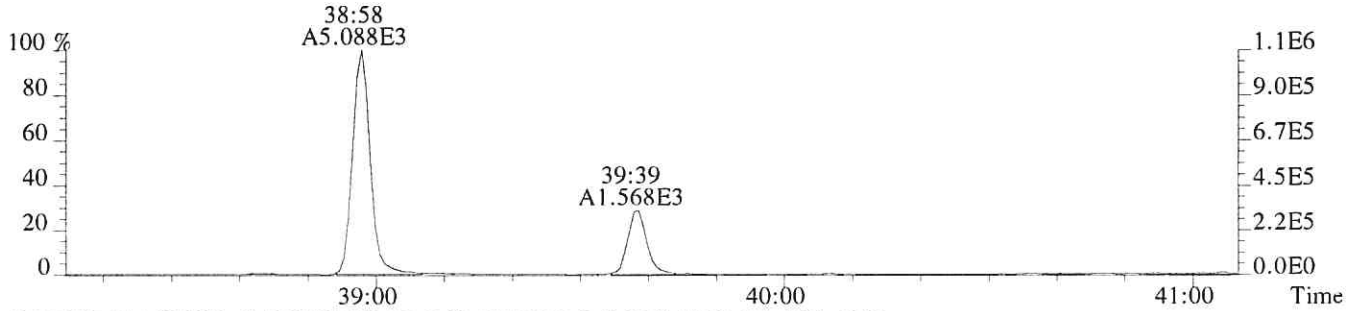
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



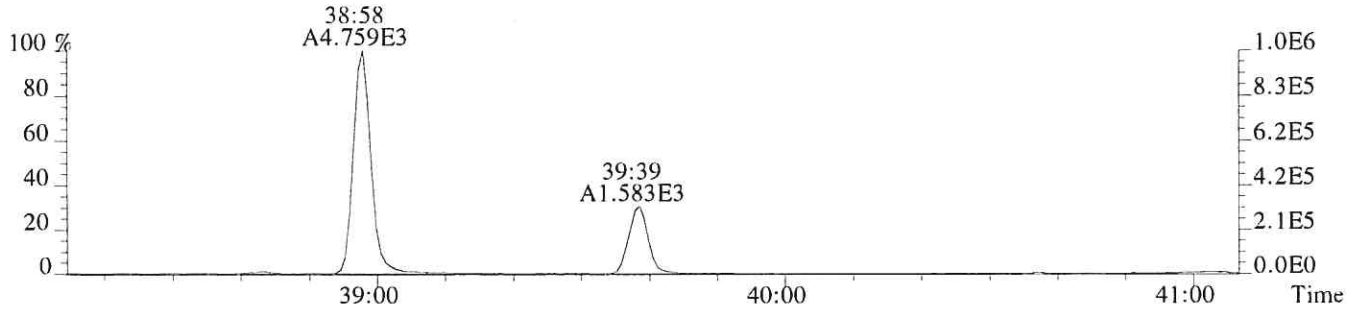
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



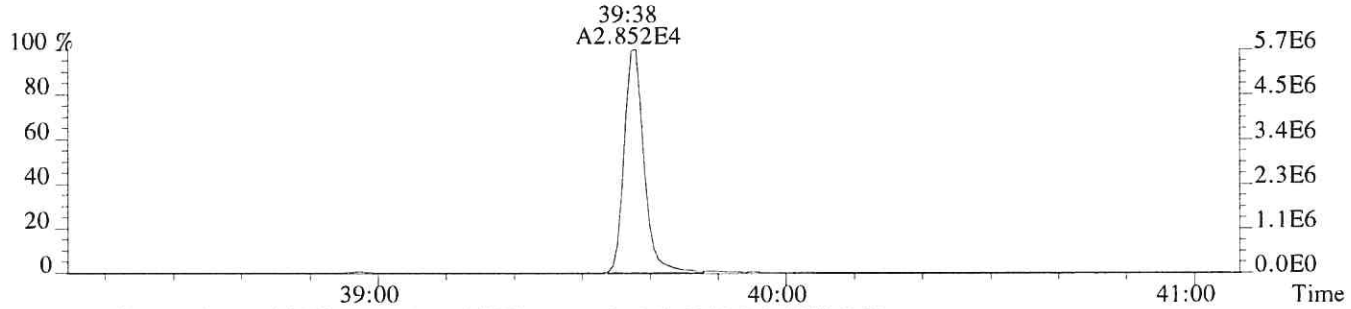
File:P511487 #1-259 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3584.0,0.40%,F,T)



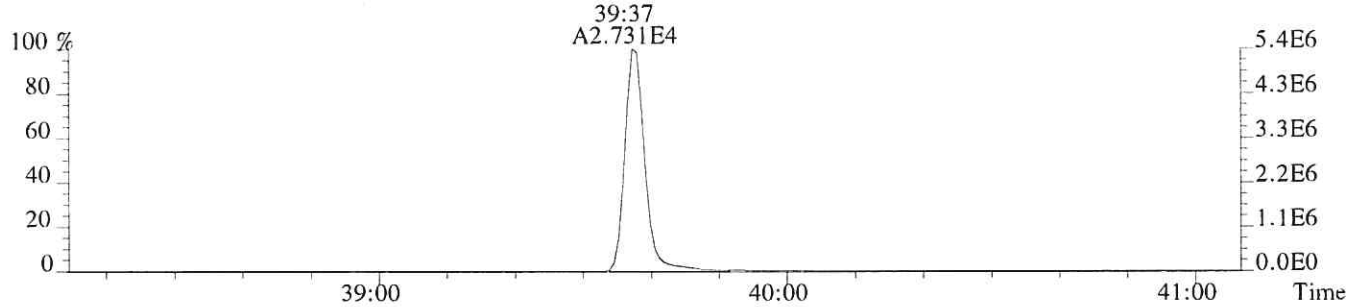
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



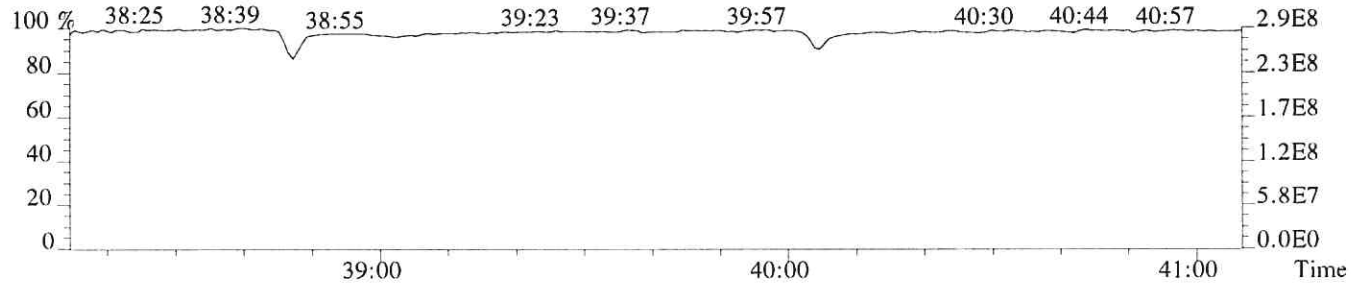
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3384.0,0.40%,F,T)



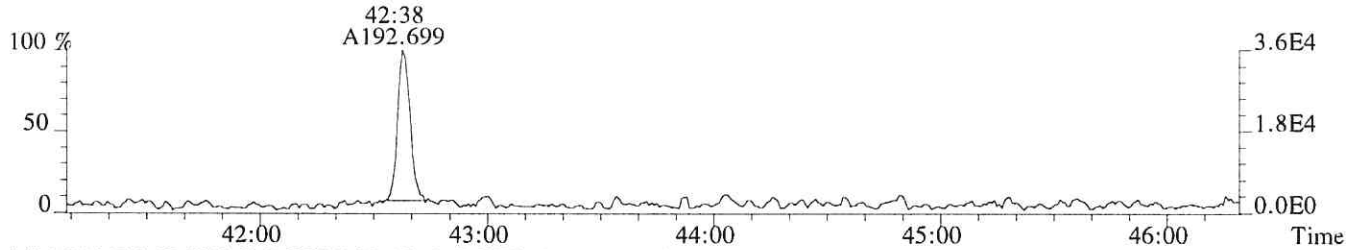
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2200.0,0.40%,F,T)



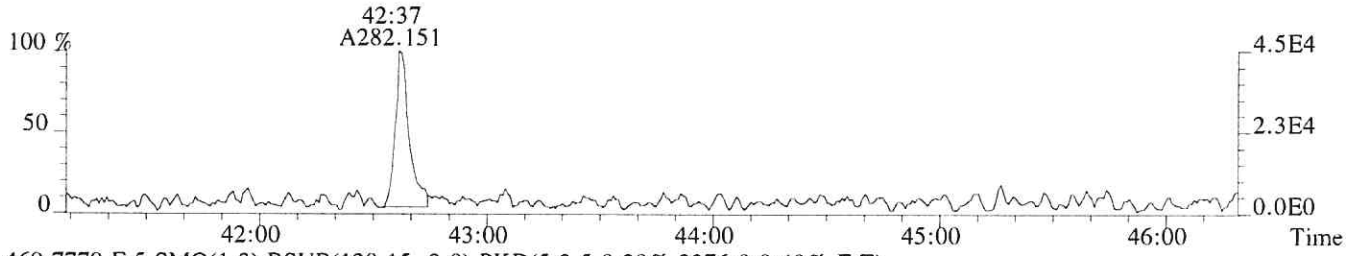
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



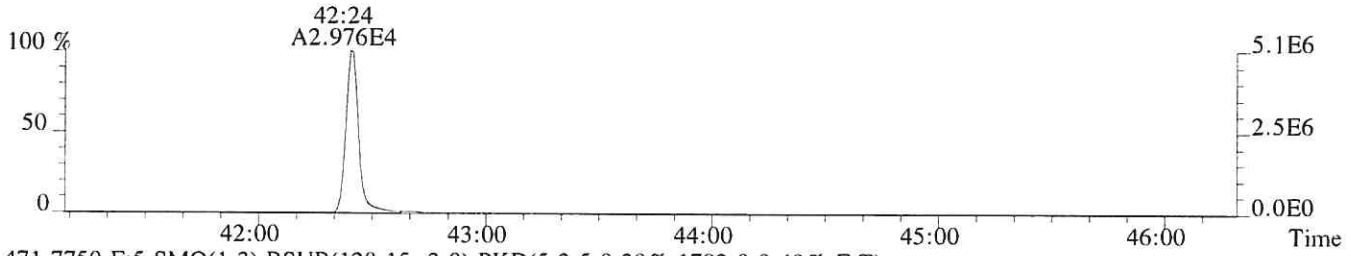
File:P511487 #1-466 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2224.0,0.40%,F,T)



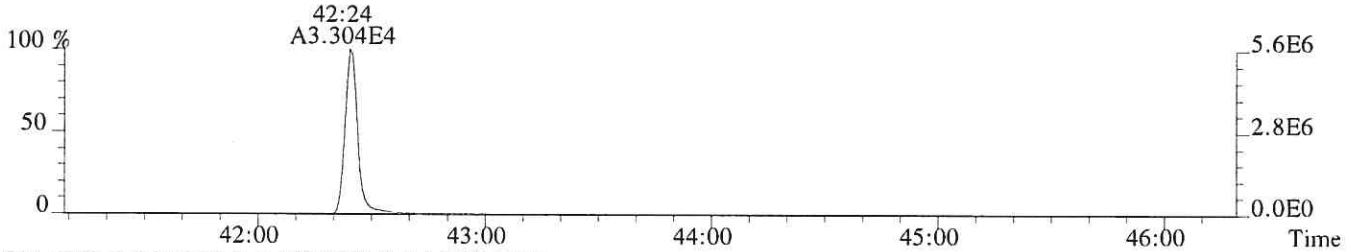
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3876.0,0.40%,F,T)



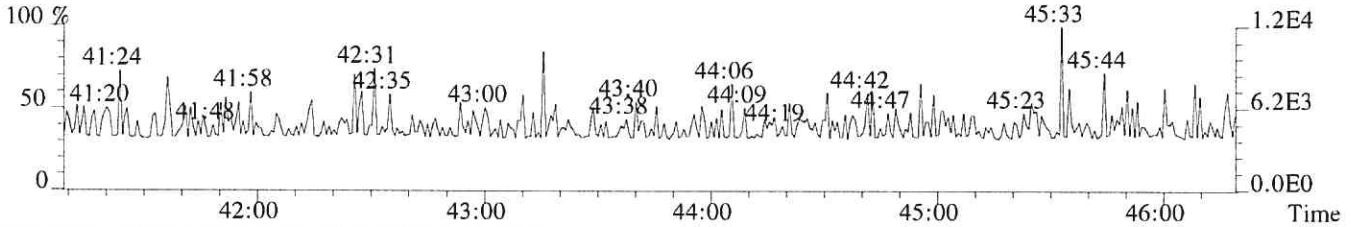
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2276.0,0.40%,F,T)



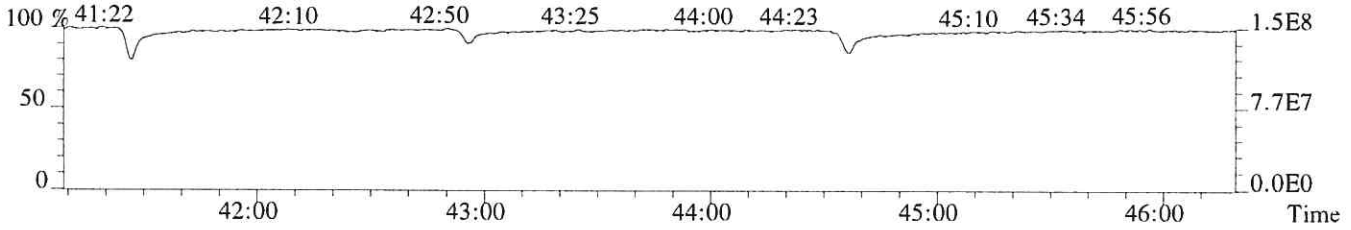
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1792.0,0.40%,F,T)



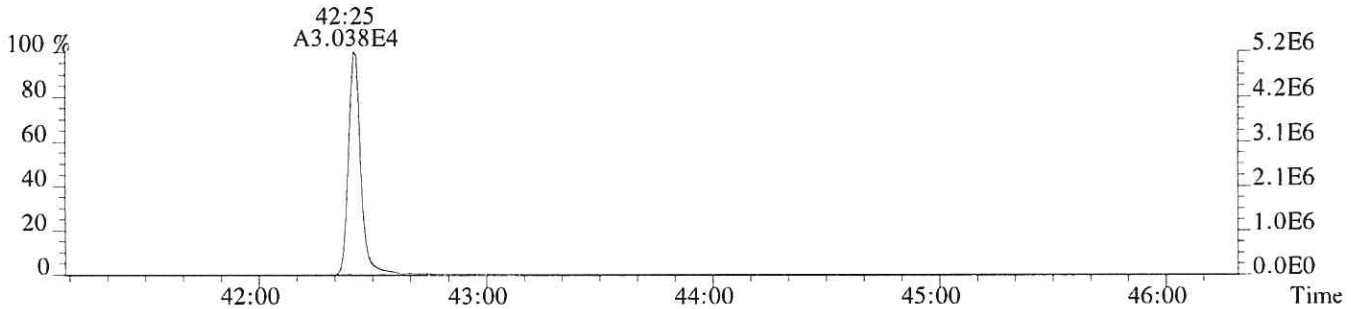
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



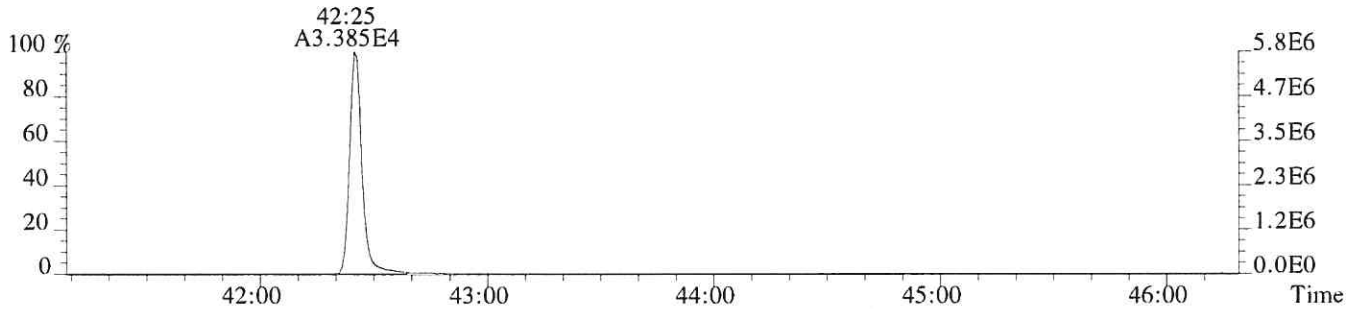
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



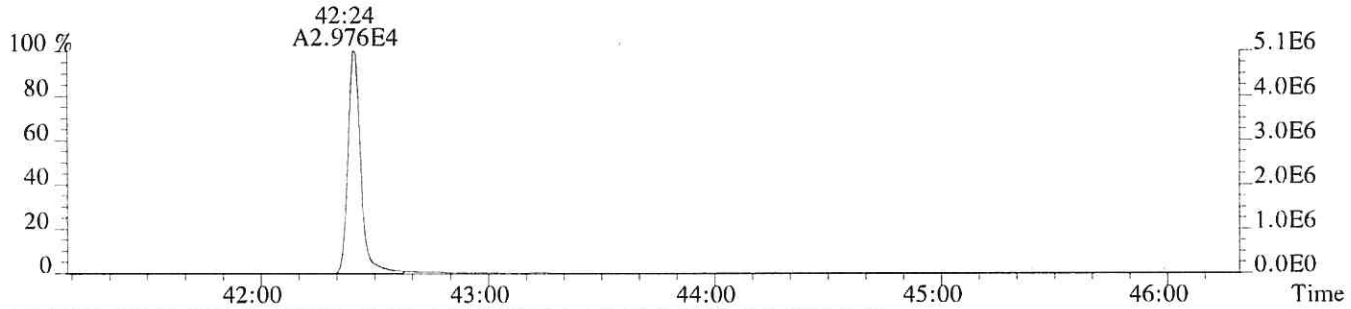
File:P511487 #1-466 Acq:22-SEP-2017 16:47:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-001
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1200.0,0.40%,F,T)



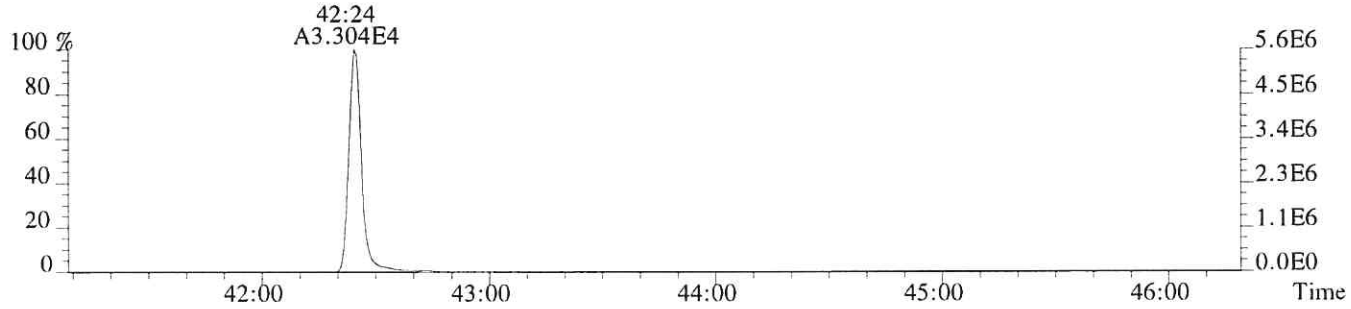
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1700.0,0.40%,F,T)



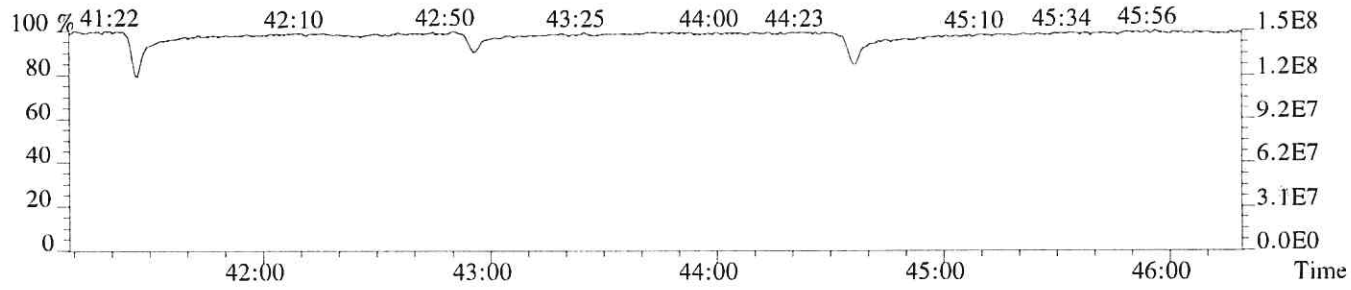
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2276.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1792.0,0.40%,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 P511488 Samp: 1 Inj: 1 Acquired: 22-SEP-17 17:36:03
Processed: 25-SEP-17 07:52:14 Sample ID: E1700973-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	2.679e+02	2.772e+02	0.97	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	36:08	6.007e+01	5.224e+01	1.15	yes	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	5.032e+01	3.901e+01	1.29	yes	yes	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	3.959e+01	2.755e+01	1.44	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	1.673e+02	2.013e+02	0.83	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:37	3.434e+02	4.807e+02	0.71	no	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	5.727e+01	8.184e+01	0.70	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	36:58	9.738e+01	9.537e+01	1.02	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	1.223e+02	9.746e+01	1.25	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	1.874e+03	1.758e+03	1.07	yes	no	0.942
17	Unk	OCDD	42:25	3.365e+04	3.716e+04	0.91	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.799e+04	2.305e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.663e+04	2.297e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.812e+04	2.375e+04	1.61	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.831e+04	3.534e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	2.019e+04	3.911e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.950e+04	3.771e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.880e+04	3.690e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	1.296e+04	2.992e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.310e+04	2.929e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.319e+04	1.636e+04	0.81	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.743e+04	1.683e+04	1.63	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.541e+04	1.988e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.650e+04	2.041e+04	1.30	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	2.151e+04	1.978e+04	1.09	yes	no	0.881
32	IS	13C-OCDD	42:24	2.421e+04	2.689e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	4.245e+04	5.284e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	6.739e+04	5.280e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.599e+04				no	1.033

$$\text{OCDD} = \frac{(3.365e+04 + 3.716e+04) \times 4000 \text{ pg} \times 1}{(2.421e+04 + 2.689e+04) \times 10.910 \text{ g} \times 34.9 / 100 \times 1.051} = 1384 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-021E

Run #13 Filename P511488 Samp: 1 Inj: 1 Acquired: 22-SEP-17 17:36:03
Processed: 25-SEP-17 07:52:14 LAB. ID: E1700973-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.27e+04	1.83e+03	2.9e+01	5.59e+04	4.62e+03	1.2e+01
2	1,2,3,7,8-PeCDF	*	2.62e+03	*	*	5.33e+03	*
3	2,3,4,7,8-PeCDF	*	2.62e+03	*	*	5.33e+03	*
4	1,2,3,4,7,8-HxCDF	1.33e+04	2.58e+03	5.2e+00	1.11e+04	1.52e+03	7.3e+00
5	1,2,3,6,7,8-HxCDF	1.21e+04	2.58e+03	4.7e+00	7.39e+03	1.52e+03	4.9e+00
6	2,3,4,6,7,8-HxCDF	7.55e+03	2.58e+03	2.9e+00	6.40e+03	1.52e+03	4.2e+00
7	1,2,3,7,8,9-HxCDF	*	2.58e+03	*	*	1.52e+03	*
8	1,2,3,4,6,7,8-HpCDF	3.68e+04	2.33e+03	1.6e+01	4.34e+04	1.62e+03	2.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	2.33e+03	*	*	1.62e+03	*
10	OCDF	6.10e+04	1.95e+03	3.1e+01	8.30e+04	4.62e+03	1.8e+01
11	2,3,7,8-TCDD	1.41e+04	5.41e+03	2.6e+00	1.68e+04	2.88e+03	5.8e+00
12	1,2,3,7,8-PeCDD	*	5.06e+03	*	*	9.80e+02	*
13	1,2,3,4,7,8-HxCDD	*	2.15e+03	*	*	3.00e+03	*
14	1,2,3,6,7,8-HxCDD	1.79e+04	2.15e+03	8.3e+00	2.04e+04	3.00e+03	6.8e+00
15	1,2,3,7,8,9-HxCDD	2.81e+04	2.15e+03	1.3e+01	1.68e+04	3.00e+03	5.6e+00
16	1,2,3,4,6,7,8-HpCDD	3.79e+05	2.52e+03	1.5e+02	3.58e+05	3.79e+03	9.5e+01
17	OCDD	5.67e+06	1.20e+03	4.7e+03	6.27e+06	2.37e+03	2.6e+03
18	13C-2,3,7,8-TCDF	3.55e+06	3.84e+04	9.2e+01	4.53e+06	1.44e+04	3.1e+02
19	13C-1,2,3,7,8-PeCDF	7.08e+06	2.50e+03	2.8e+03	4.50e+06	2.89e+03	1.6e+03
20	13C-2,3,4,7,8-PeCDF	7.86e+06	2.50e+03	3.1e+03	4.88e+06	2.89e+03	1.7e+03
21	13C-1,2,3,4,7,8-HxCDF	4.11e+06	2.13e+03	1.9e+03	7.90e+06	4.52e+03	1.7e+03
22	13C-1,2,3,6,7,8-HxCDF	4.28e+06	2.13e+03	2.0e+03	8.39e+06	4.52e+03	1.9e+03
23	13C-2,3,4,6,7,8-HxCDF	4.29e+06	2.13e+03	2.0e+03	8.28e+06	4.52e+03	1.8e+03
24	13C-1,2,3,7,8,9-HxCDF	4.07e+06	2.13e+03	1.9e+03	7.80e+06	4.52e+03	1.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.85e+06	4.38e+03	6.5e+02	6.55e+06	4.71e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.58e+06	4.38e+03	5.9e+02	5.89e+06	4.71e+03	1.3e+03
27	13C-2,3,7,8-TCDD	2.66e+06	1.02e+04	2.6e+02	3.34e+06	4.27e+03	7.8e+02
28	13C-1,2,3,7,8-PeCDD	5.64e+06	3.28e+03	1.7e+03	3.43e+06	2.88e+03	1.2e+03
29	13C-1,2,3,4,7,8-HxCDD	5.80e+06	4.37e+03	1.3e+03	4.53e+06	3.11e+03	1.5e+03
30	13C-1,2,3,6,7,8-HxCDD	5.56e+06	4.37e+03	1.3e+03	4.36e+06	3.11e+03	1.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.36e+06	3.77e+03	1.2e+03	4.01e+06	1.66e+03	2.4e+03
32	13C-OCDD	4.06e+06	2.35e+03	1.7e+03	4.51e+06	1.22e+03	3.7e+03
33	13C-1,2,3,4-TCDD	8.45e+06	1.02e+04	8.3e+02	1.05e+07	4.27e+03	2.5e+03
34	13C-1,2,3,7,8,9-HxCDD	1.42e+07	4.37e+03	3.2e+03	1.13e+07	3.11e+03	3.6e+03
35	37Cl-2,3,7,8-TCDD	3.19e+06	4.67e+03	6.8e+02			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-021E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 13 File: P511488 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 303.9020 305.8990 Tot Response: 2.49e+02 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:46	1.15e+02	1.34e+02	0.86	yes	2.49e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-021E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 13 File: P511488 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 319.8970 321.8940 Tot Response: 3.05e+02 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:28	7.23e+01	9.32e+01	0.78	yes	1.65e+02		n	n
2	29:18	5.73e+01	8.18e+01	0.70	yes	1.39e+02	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-021E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 13 File: P511488 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 355.8550 357.8520 Tot Response: 7.39e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:45	1.51e+02	8.63e+01	1.76	yes	2.38e+02	y	n
2	32:11	1.47e+02	9.88e+01	1.49	yes	2.46e+02	y	n
3	33:05	1.45e+02	1.10e+02	1.32	yes	2.55e+02	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-021E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 13 File: P511488 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 373.8210 375.8180 Tot Response: 2.02e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:08	6.01e+01	5.22e+01	1.15	yes	1.12e+02	1,2,3,4,7,8-HxCDF	y	n
2	36:15	5.03e+01	3.90e+01	1.29	yes	8.93e+01	1,2,3,6,7,8-HxCDF	y	n

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Peak List Summary

CLIENT ID.

SJWP-091517-021E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 13 File: P511488 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 389.8160 391.8130 Tot Response: 3.64e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.32e+03	1.06e+03	1.24	yes	2.38e+03		n	n
2	36:17	5.63e+02	4.75e+02	1.19	yes	1.04e+03		n	n
3	37:11	1.22e+02	9.75e+01	1.25	yes	2.20e+02	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-021E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 13 File: P511488 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 17:36:03 Processed: 25-SEP-17 07:52:14

Mass: 423.7770 425.7740 Tot Response: 1.10e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	3.69e+03	3.66e+03	1.01	yes	7.35e+03		n	n
2	39:38	1.87e+03	1.76e+03	1.07	yes	3.63e+03	1,2,3,4,6,7,8-HpCDD	n	n

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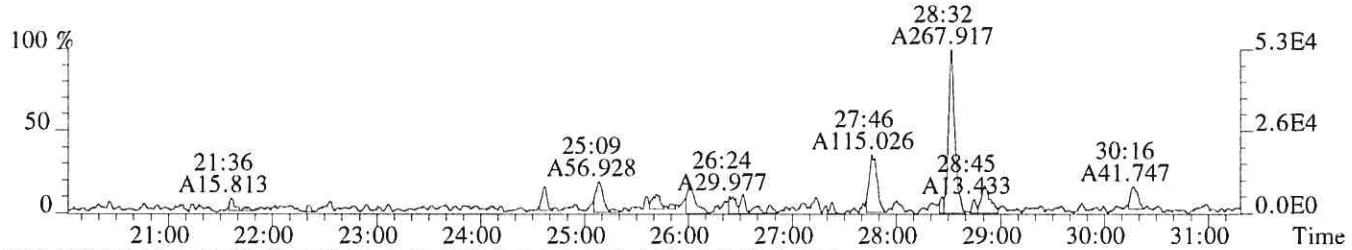
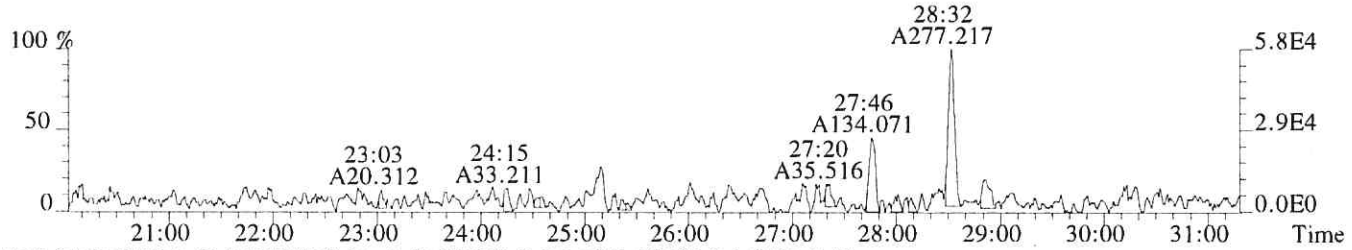
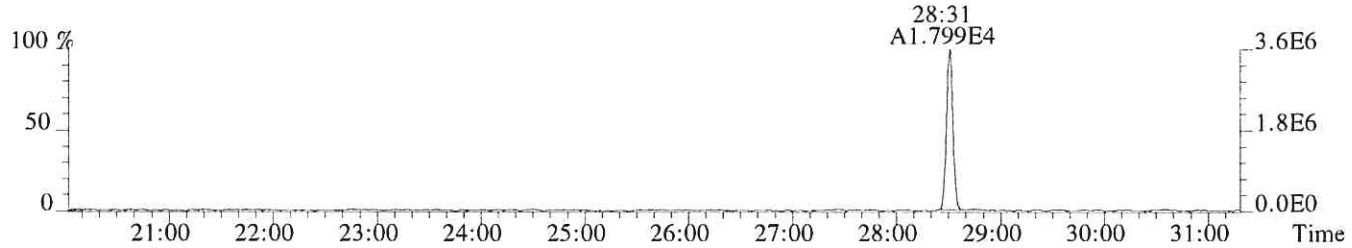
File:P511488 #1-800 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)



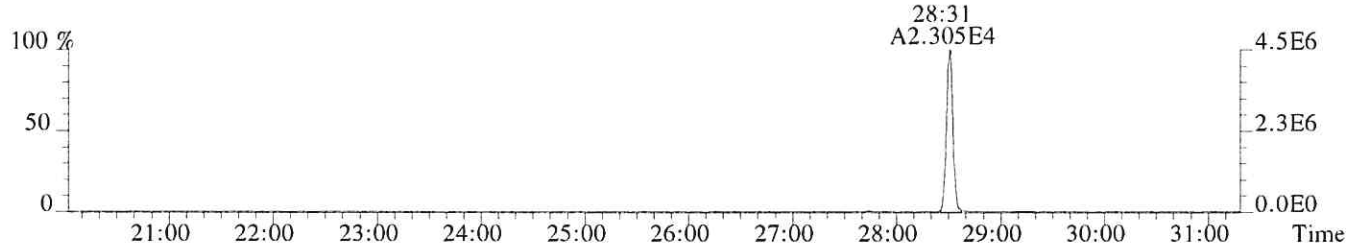
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4620.0,1.00%,F,T)



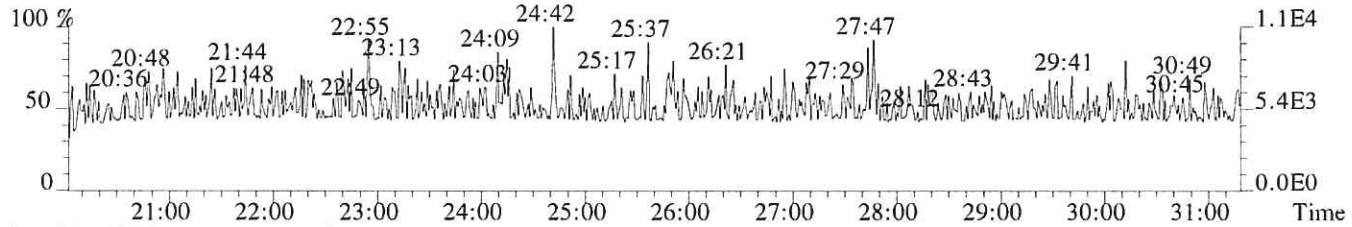
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,38400.0,1.00%,F,T)



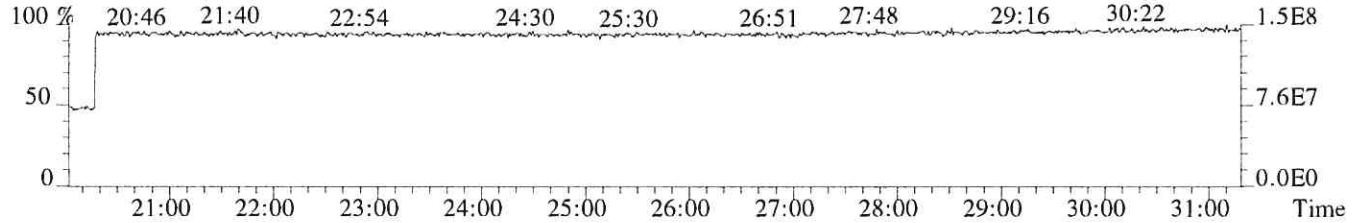
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14436.0,1.00%,F,T)



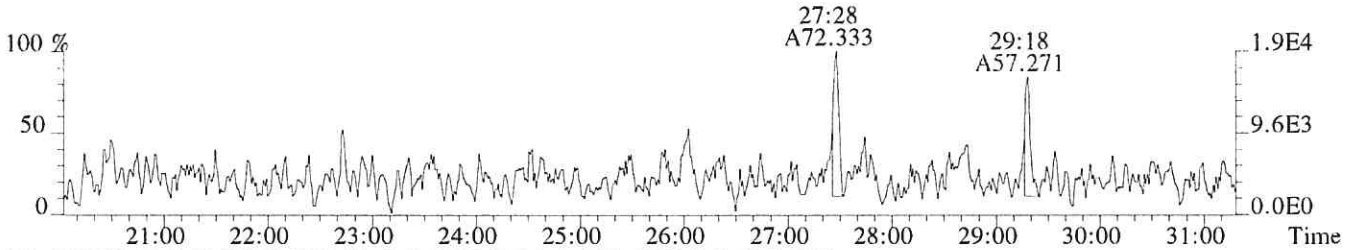
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



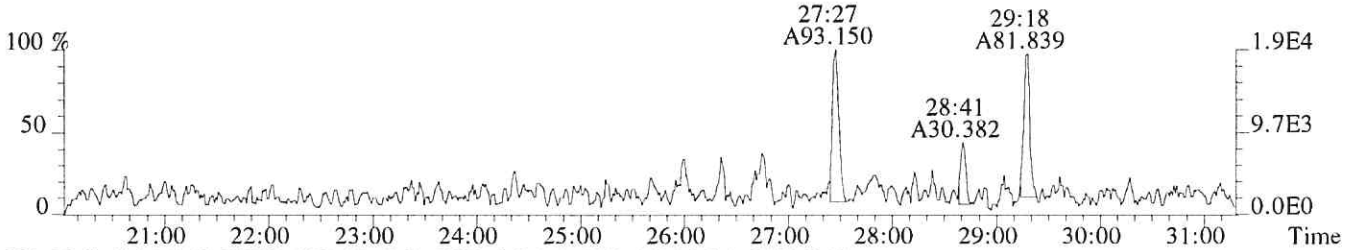
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



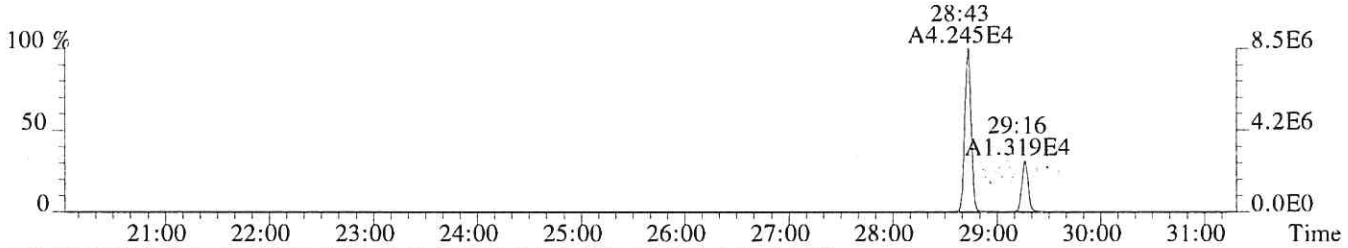
File:P511488 #1-800 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5412.0,1.00%,F,T)



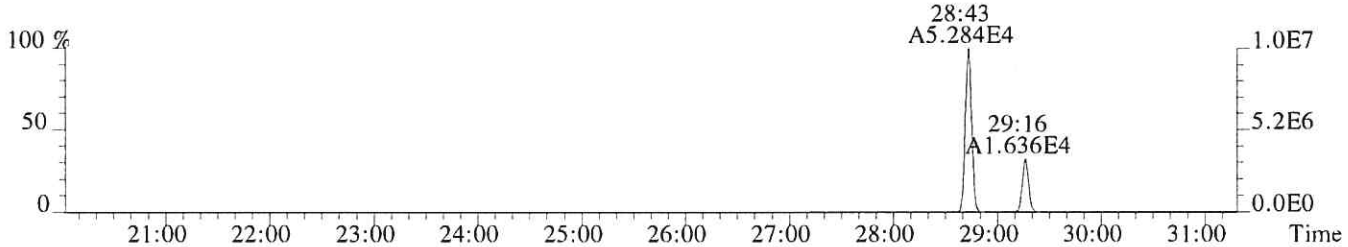
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2884.0,1.00%,F,T)



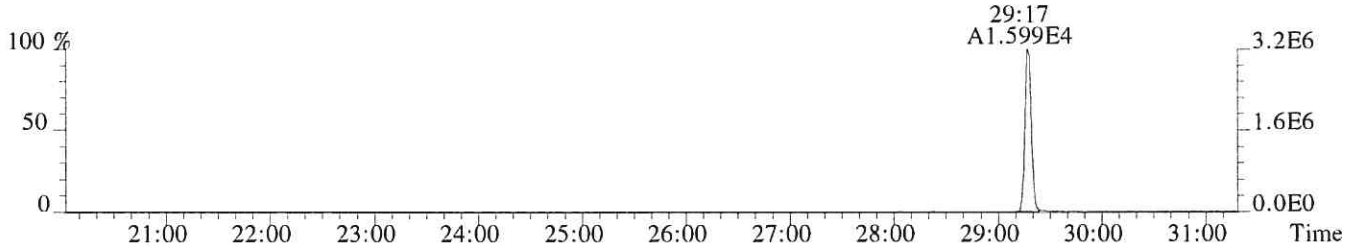
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10236.0,1.00%,F,T)



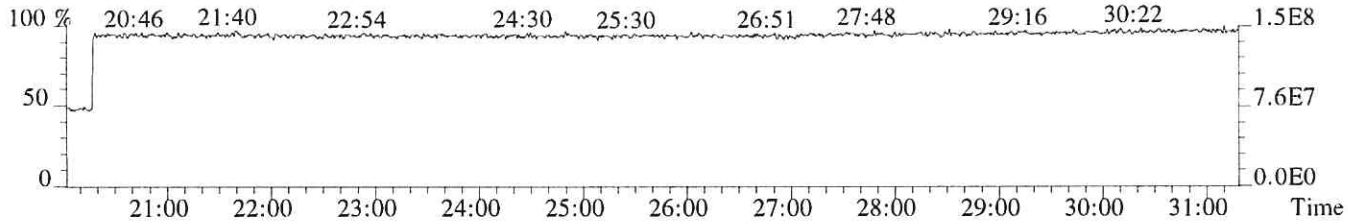
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4268.0,1.00%,F,T)



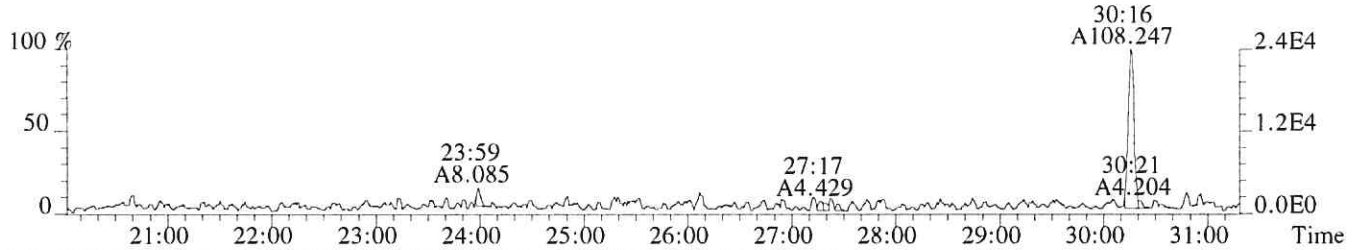
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4668.0,1.00%,F,T)



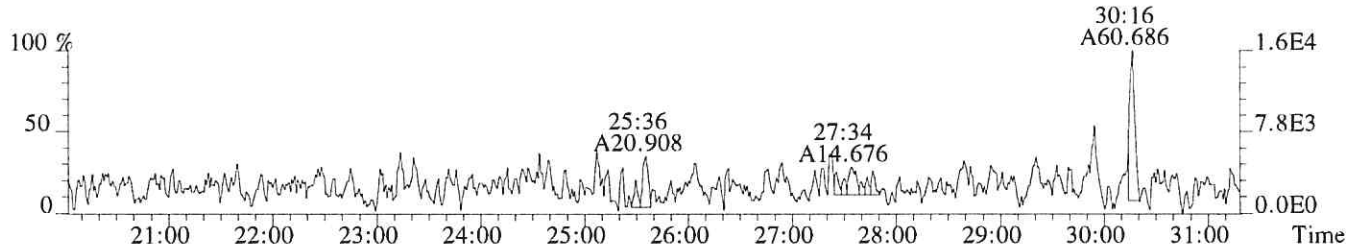
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



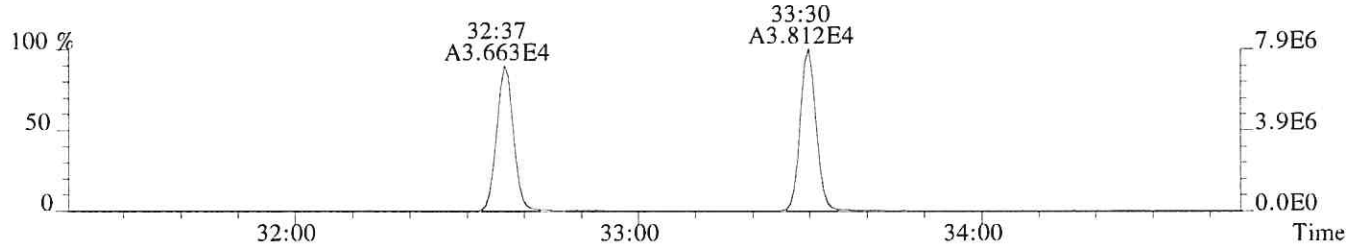
File:P511488 #1-800 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



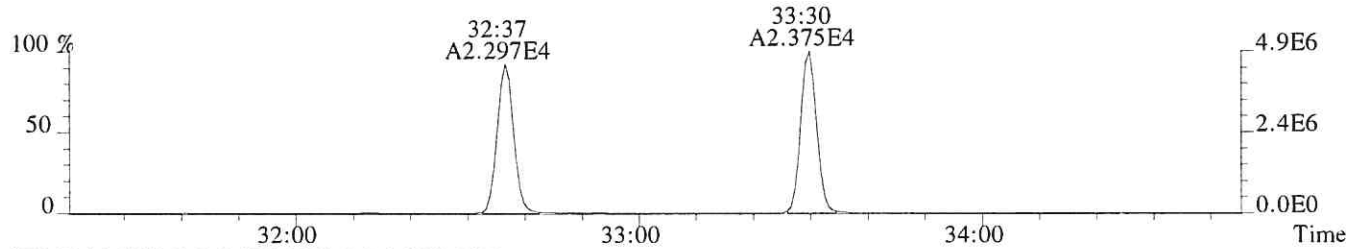
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3324.0,1.00%,F,T)



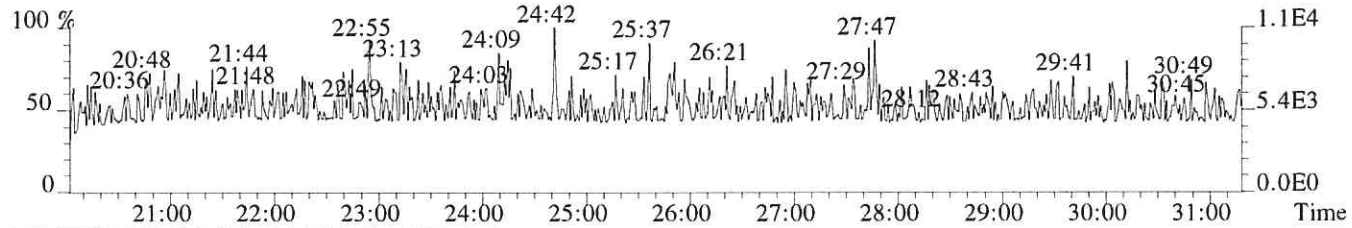
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2500.0,1.00%,F,T)



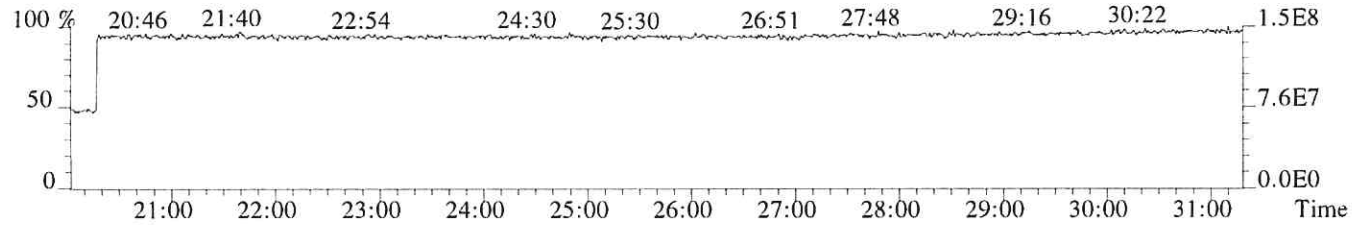
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2888.0,1.00%,F,T)



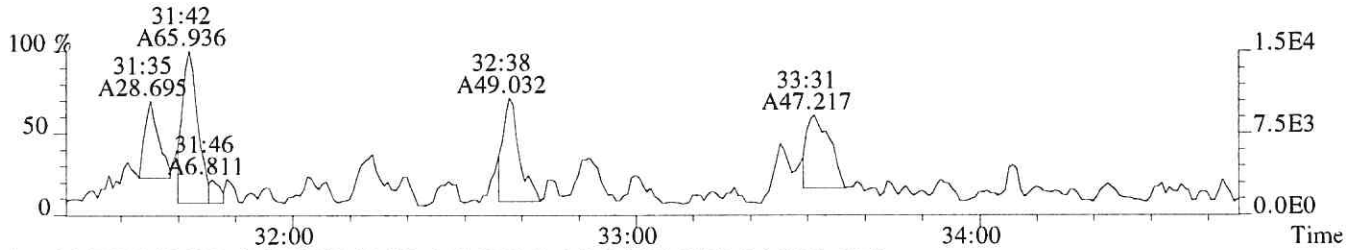
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



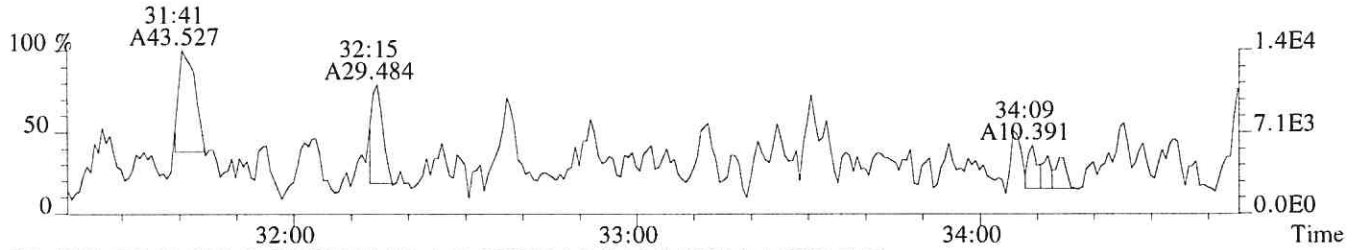
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



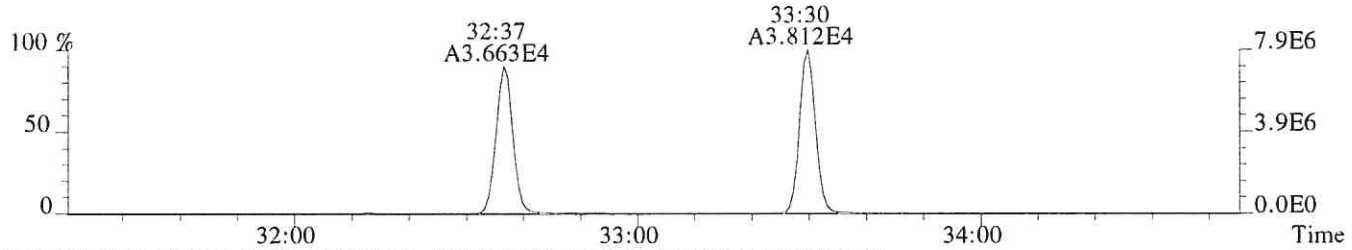
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2616.0,1.00%,F,T)



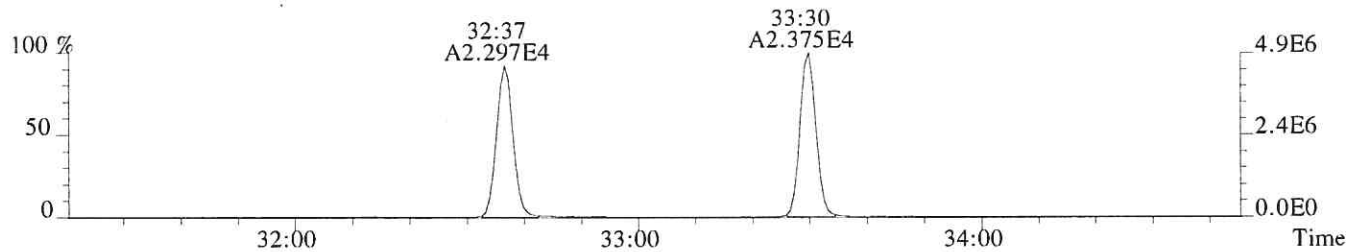
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5332.0,1.00%,F,T)



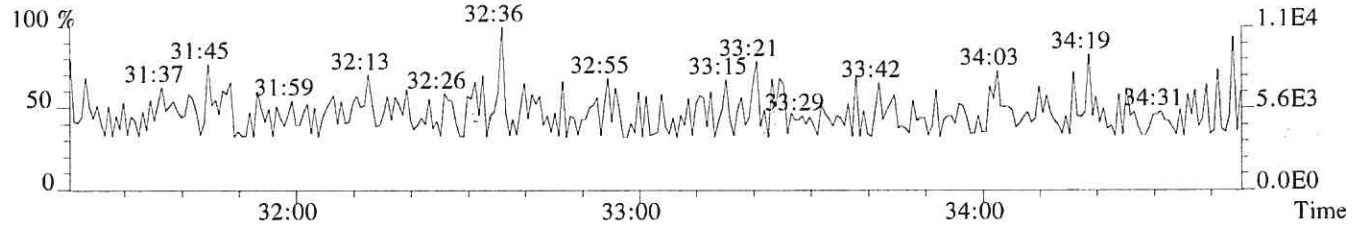
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2500.0,1.00%,F,T)



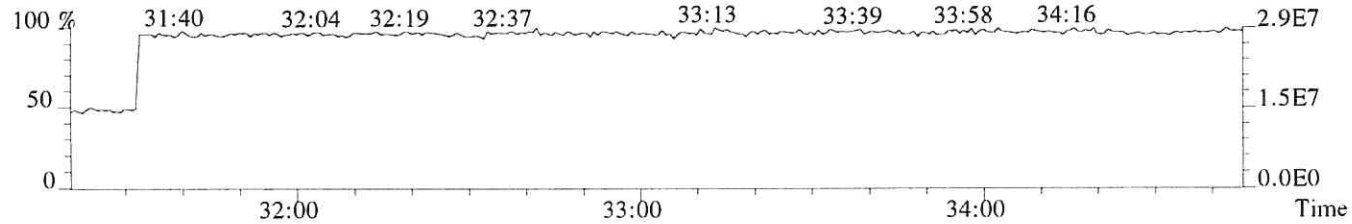
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2888.0,1.00%,F,T)



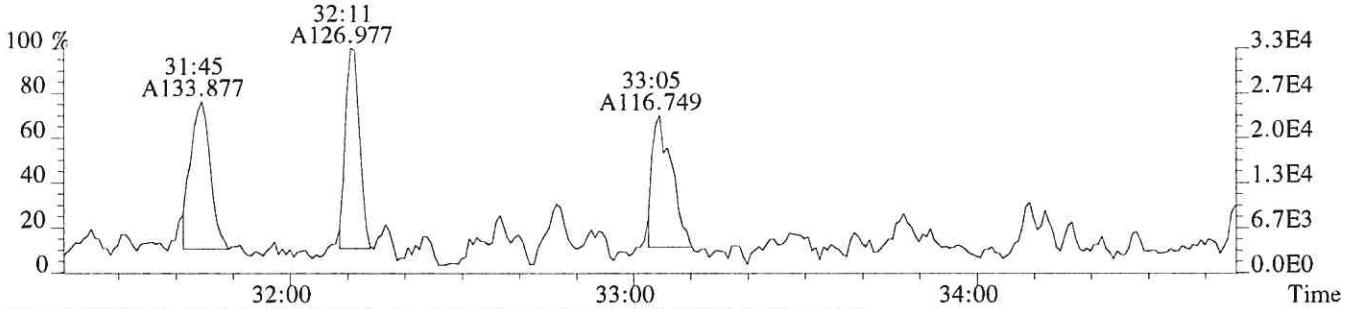
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



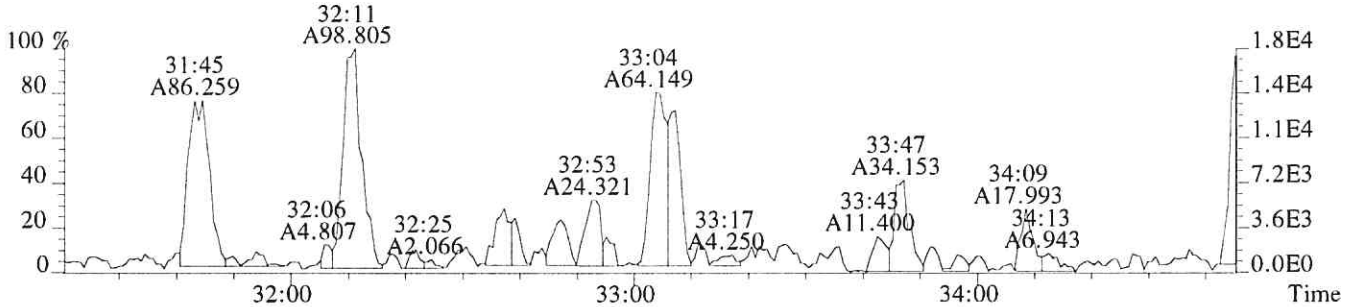
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



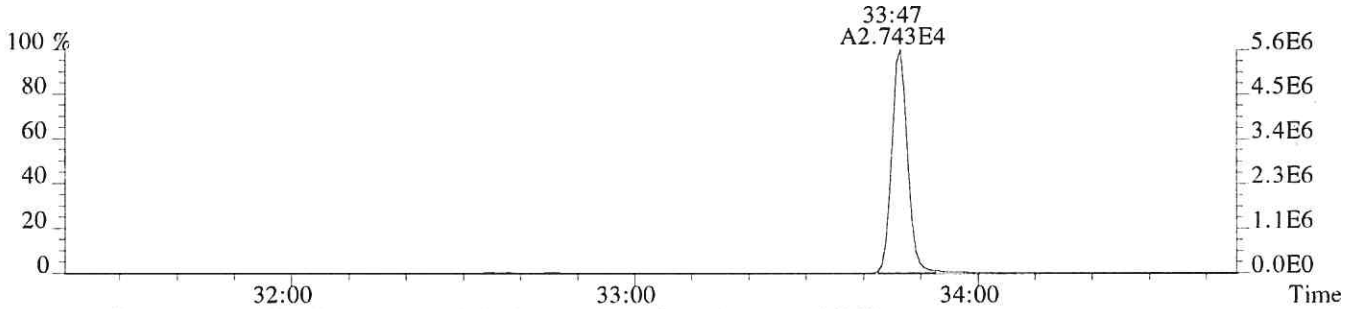
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5064.0,1.00%,F,T)



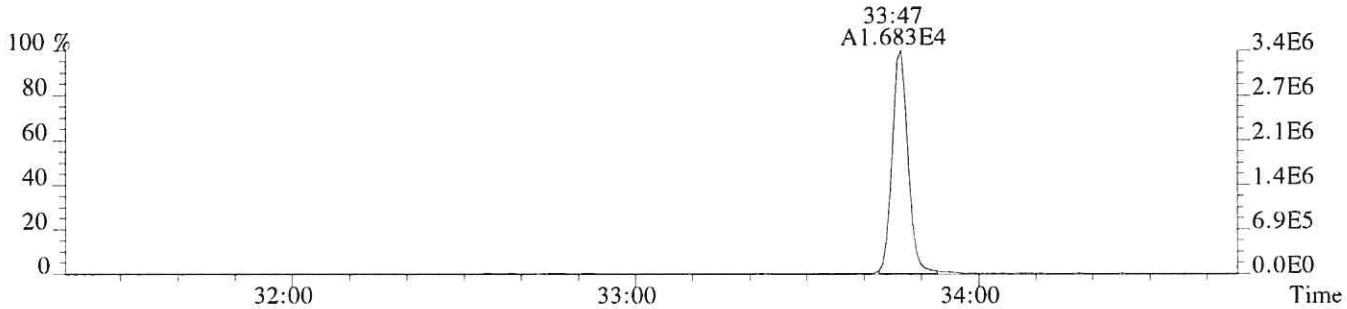
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



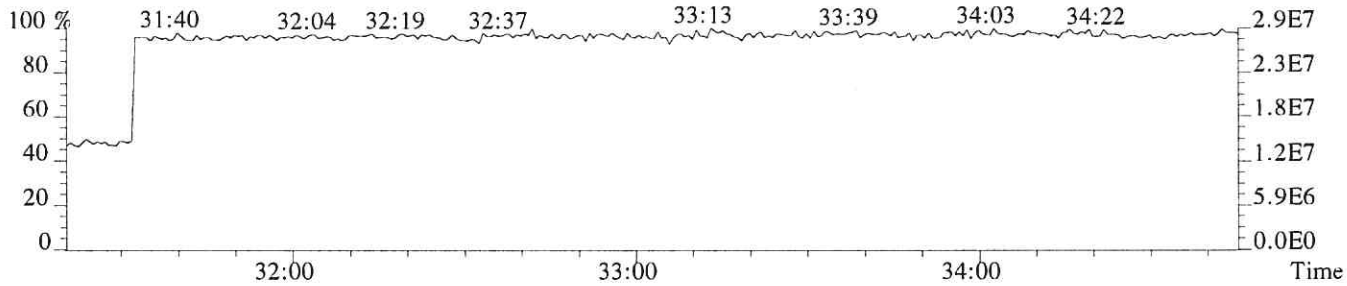
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3284.0,1.00%,F,T)



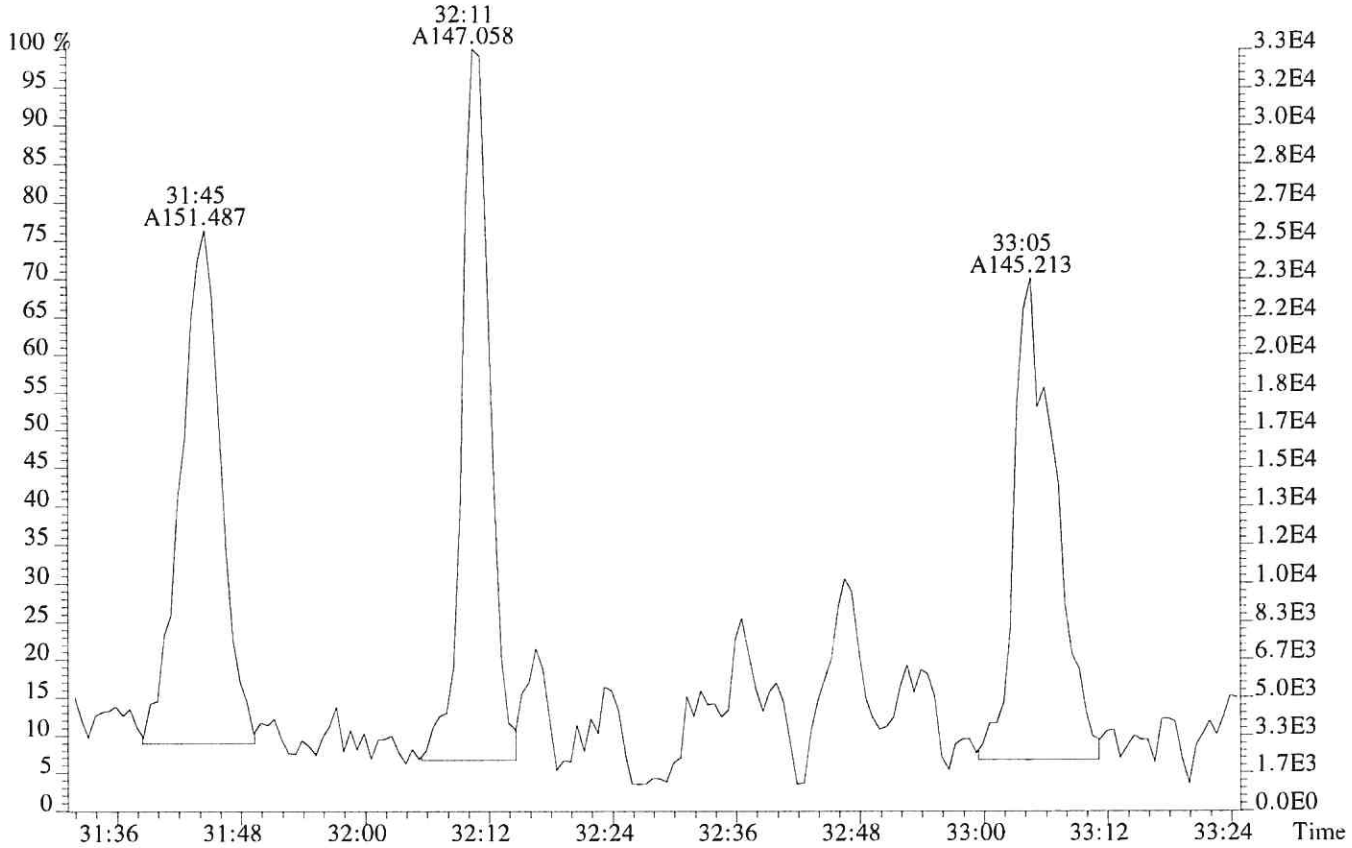
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2876.0,1.00%,F,T)



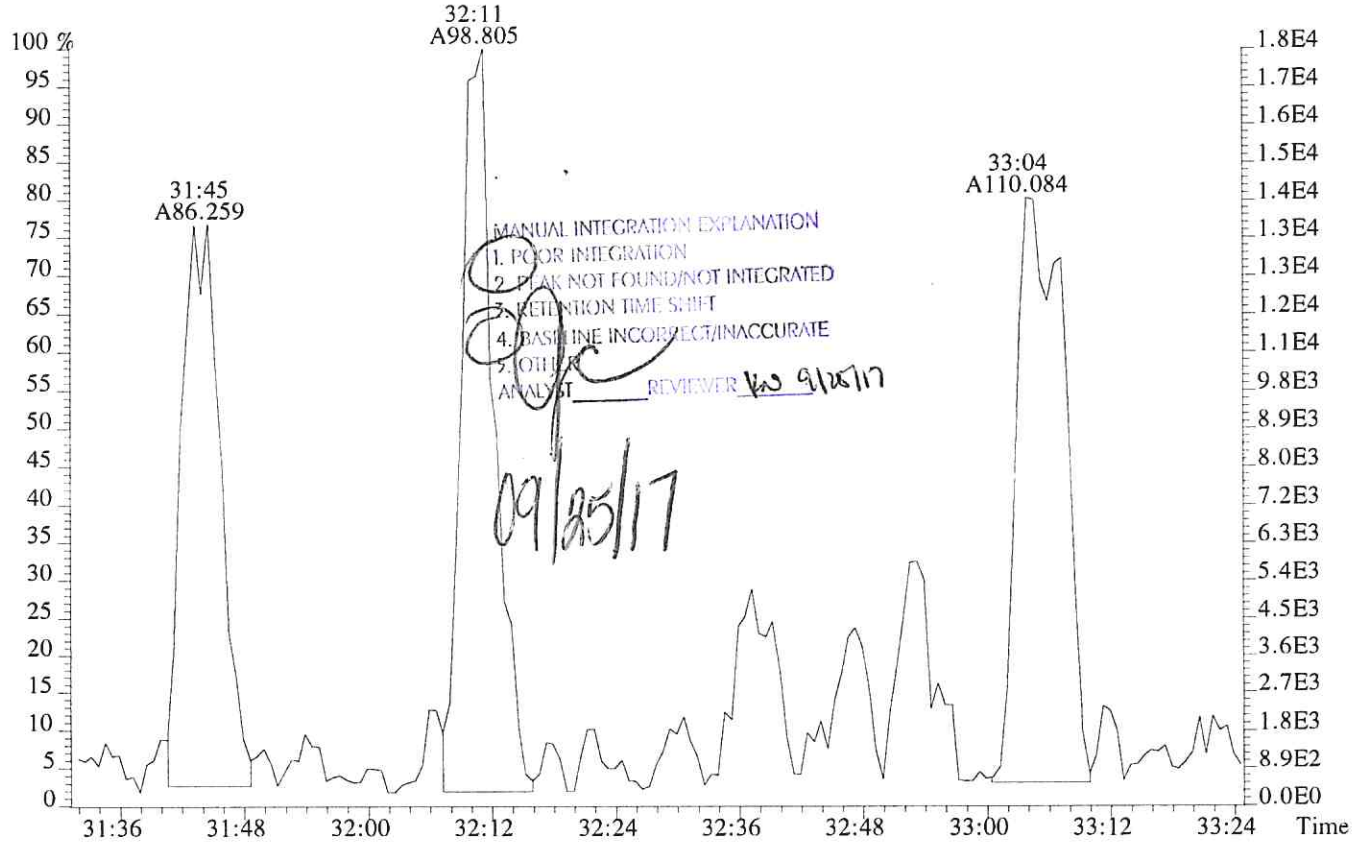
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



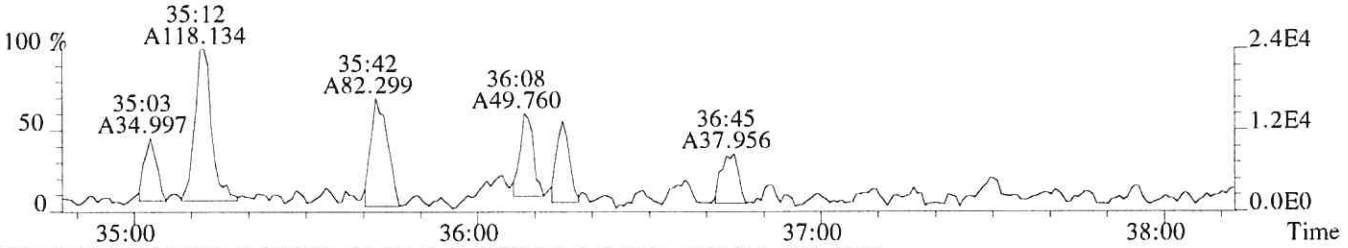
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5064.0,1.00%,F,T)



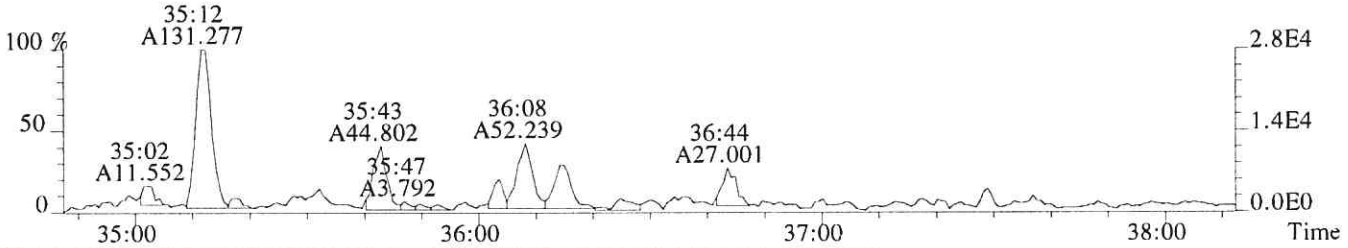
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



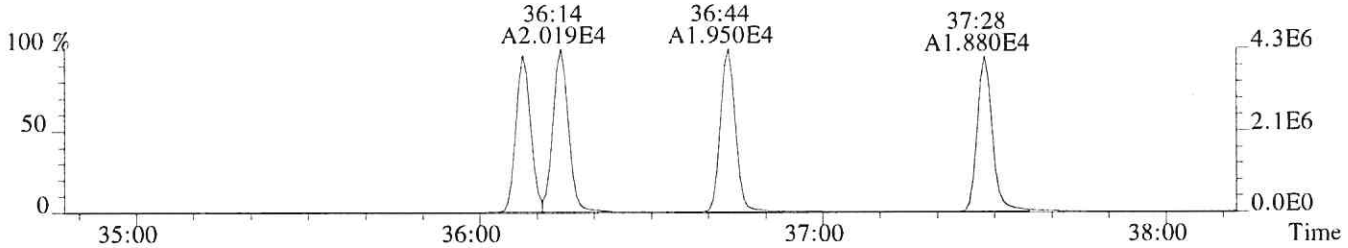
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2580.0,0.40%,F,T)



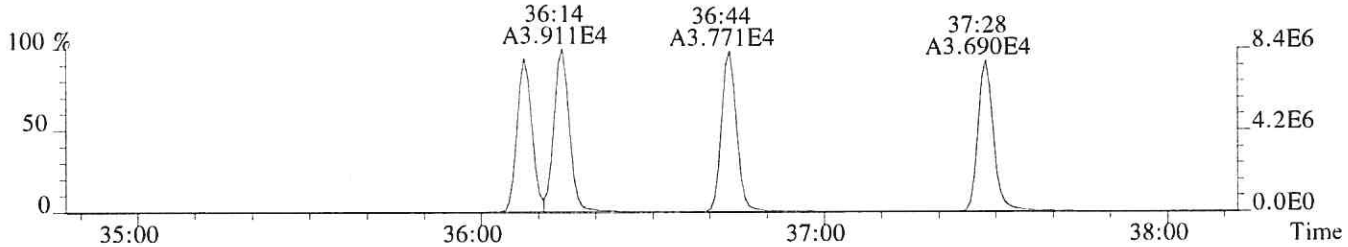
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.40%,F,T)



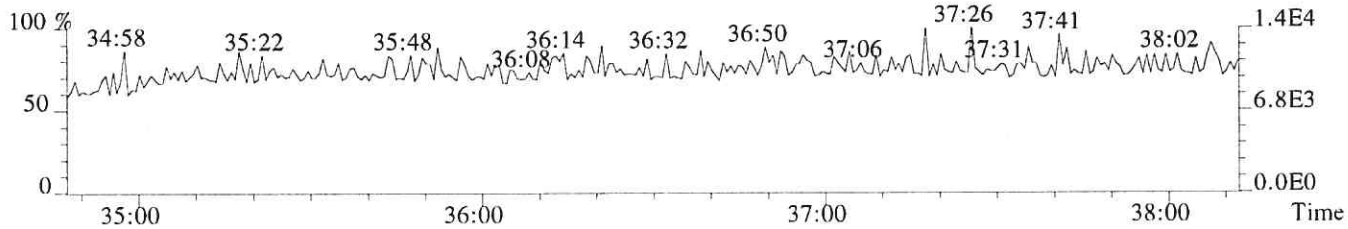
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2128.0,0.40%,F,T)



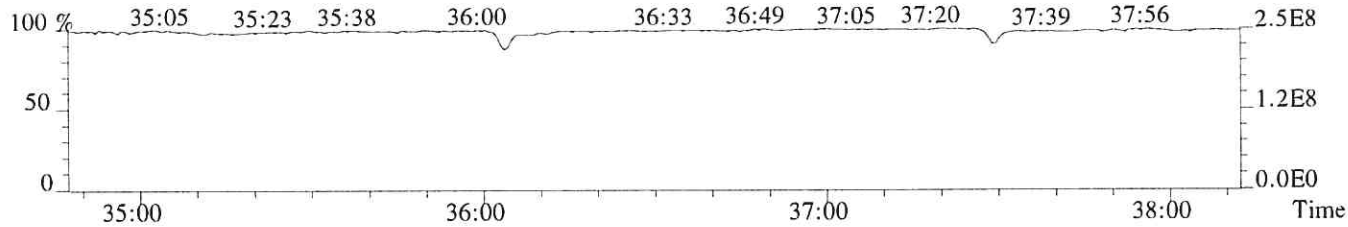
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4516.0,0.40%,F,T)



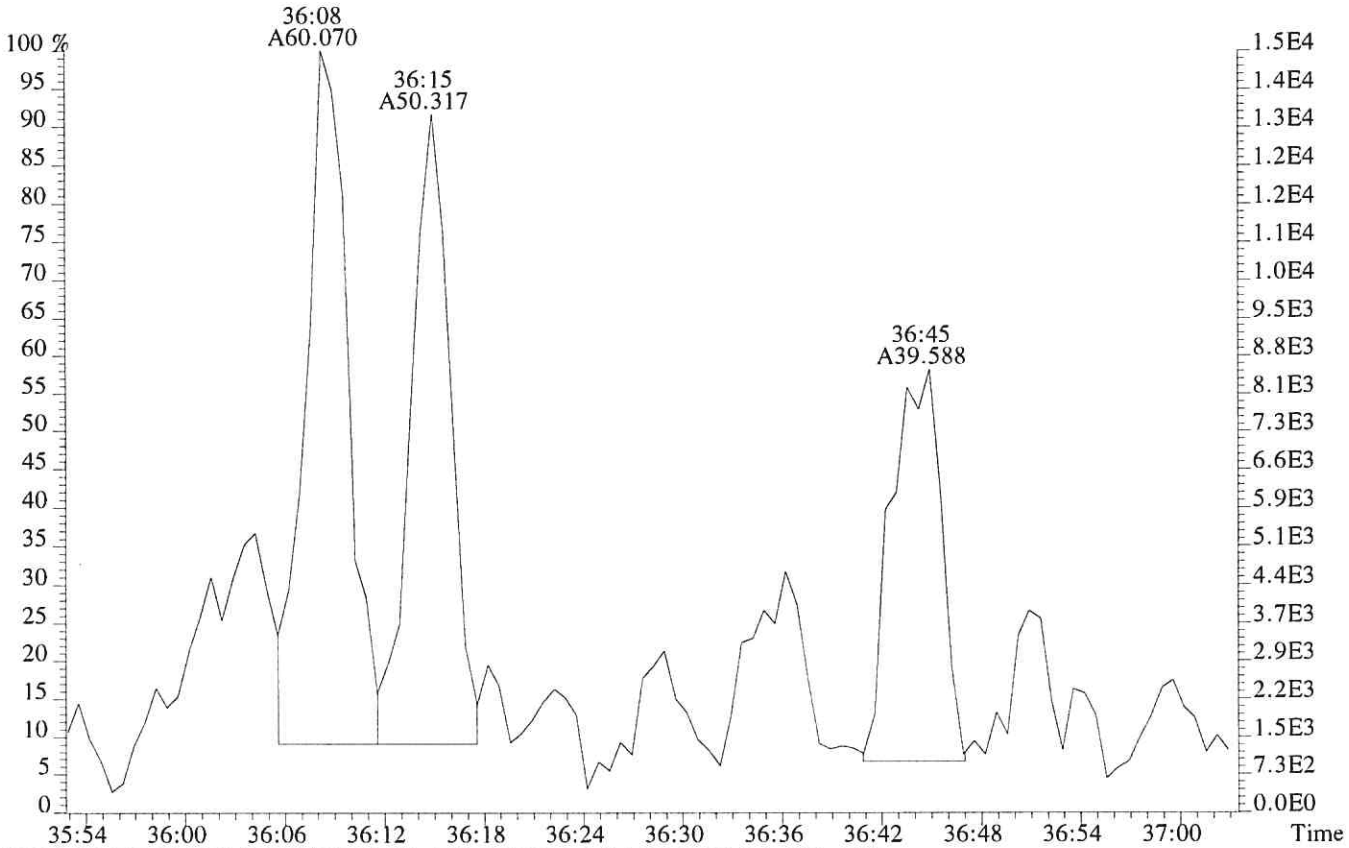
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



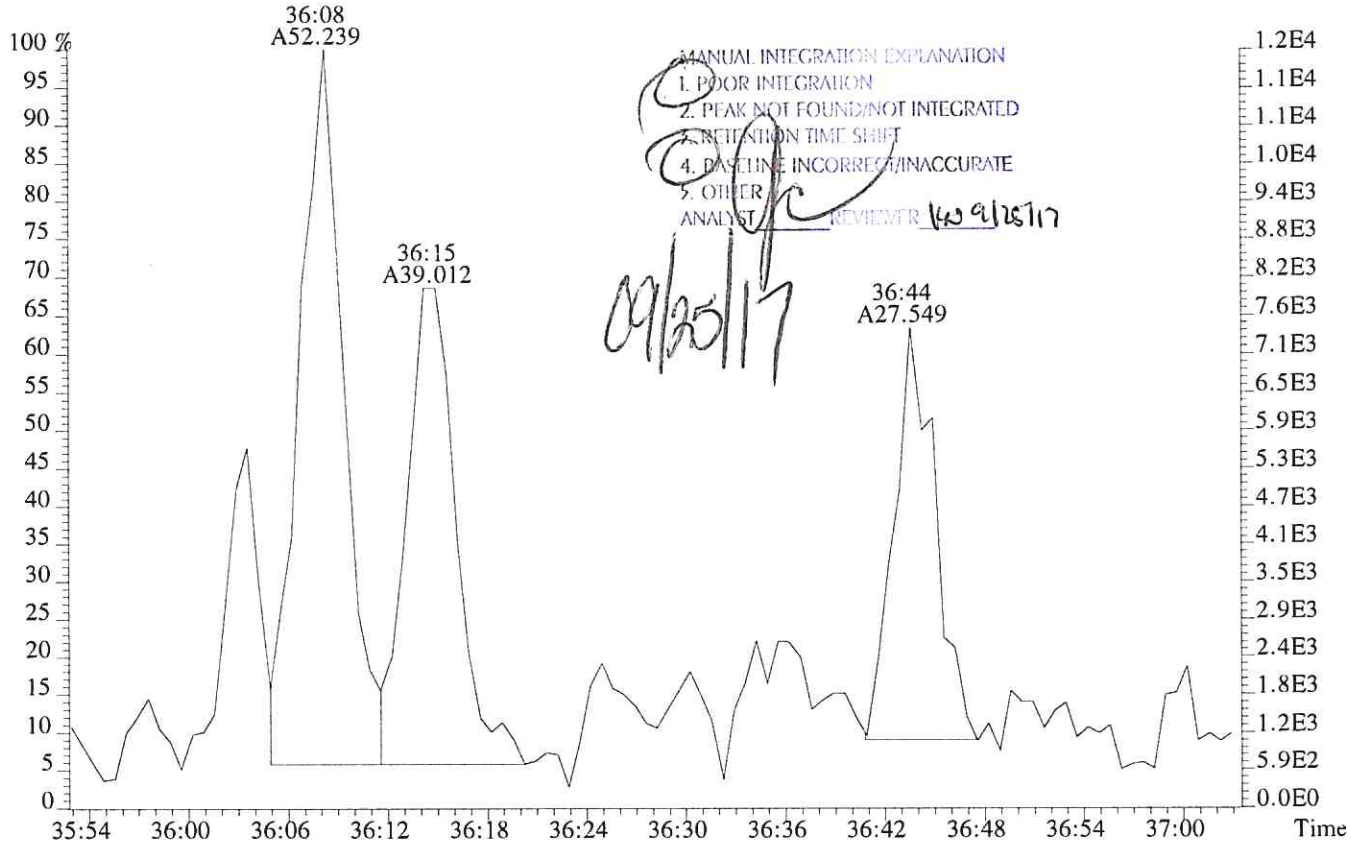
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



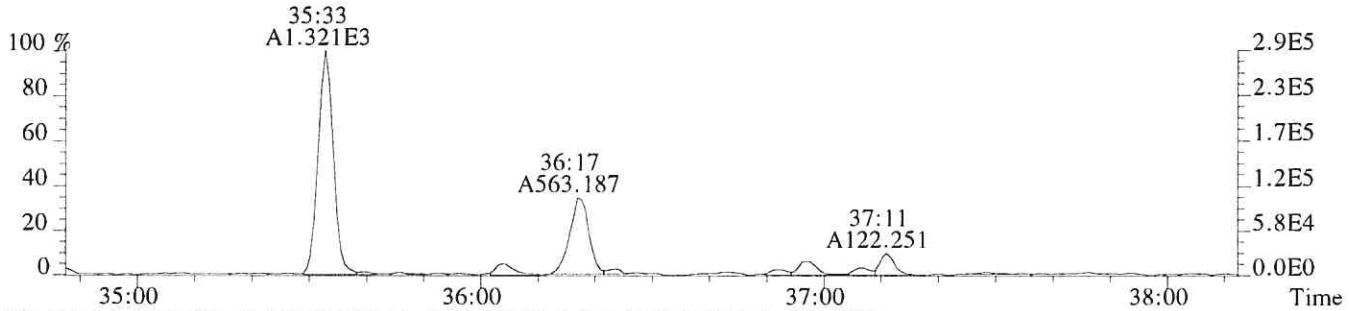
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2580.0,0.40%,F,T)



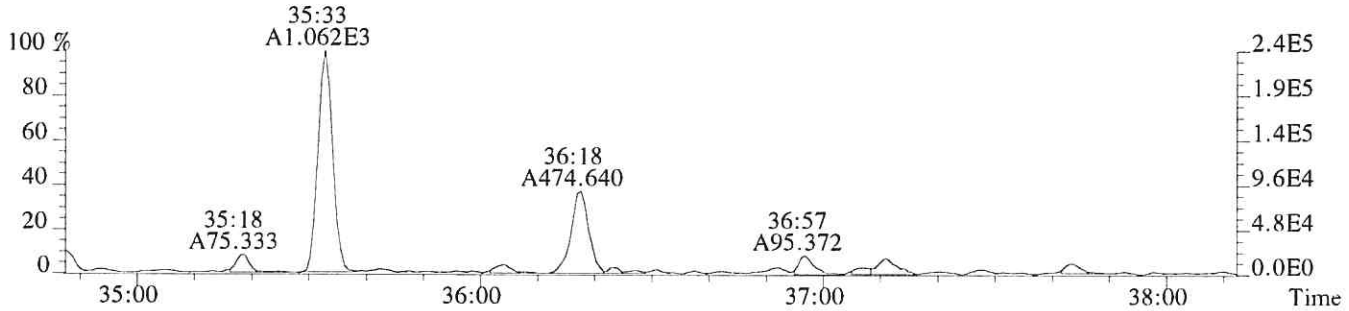
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1520.0,0.40%,F,T)



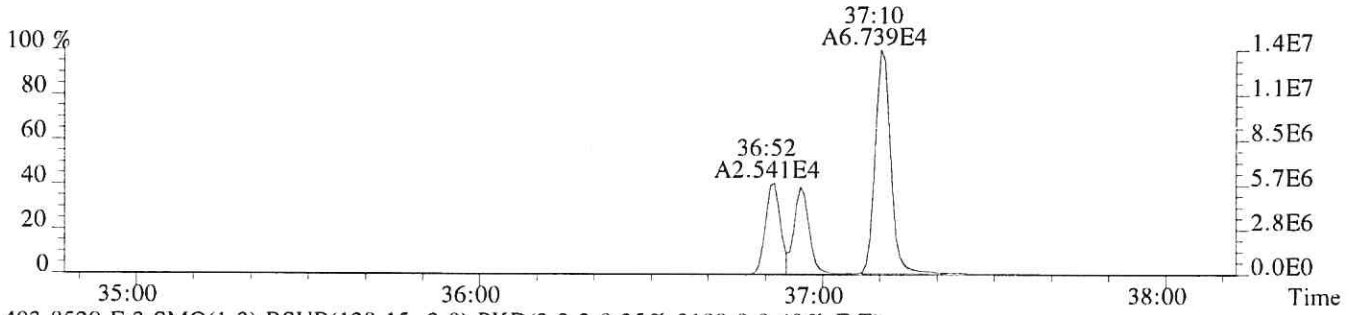
File:P511488 #1-308 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2152.0,0.40%,F,T)



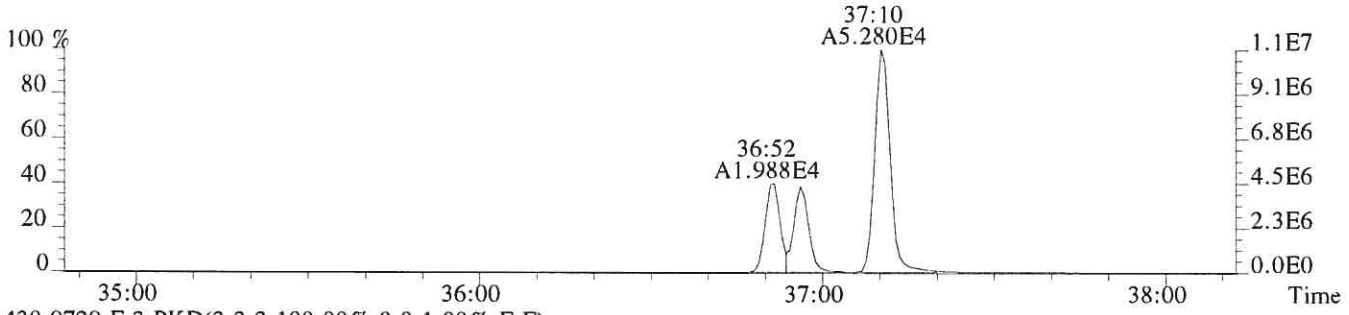
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3004.0,0.40%,F,T)



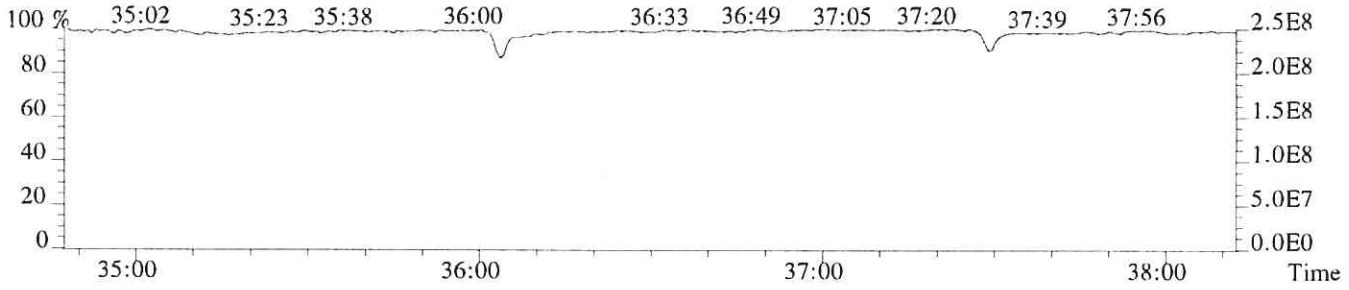
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4368.0,0.40%,F,T)



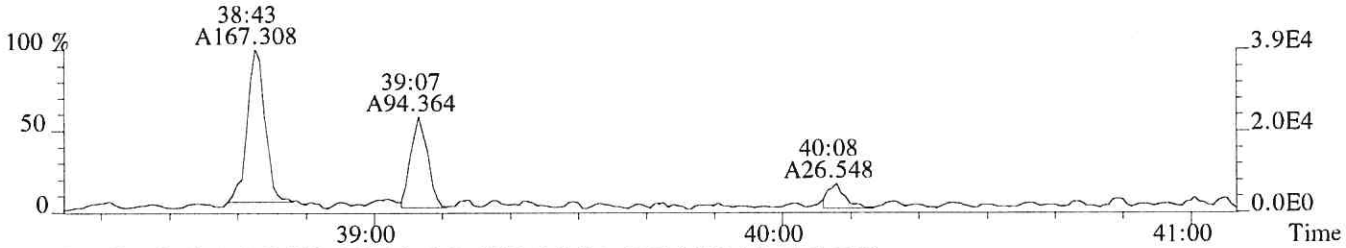
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3108.0,0.40%,F,T)



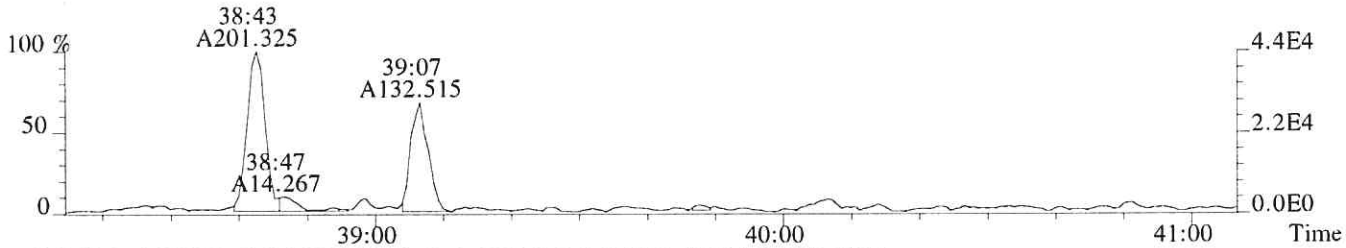
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



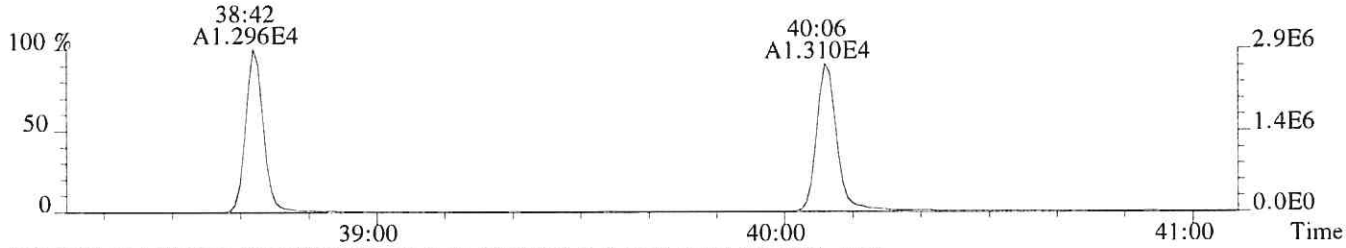
File:P511488 #1-259 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2328.0,0.50%,F,T)



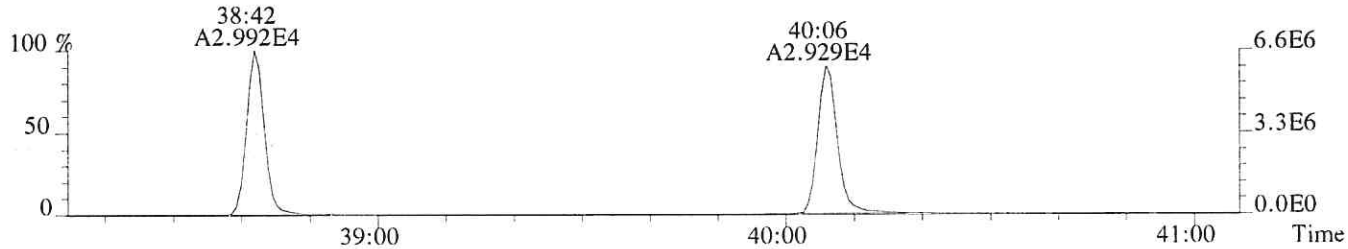
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.50%,F,T)



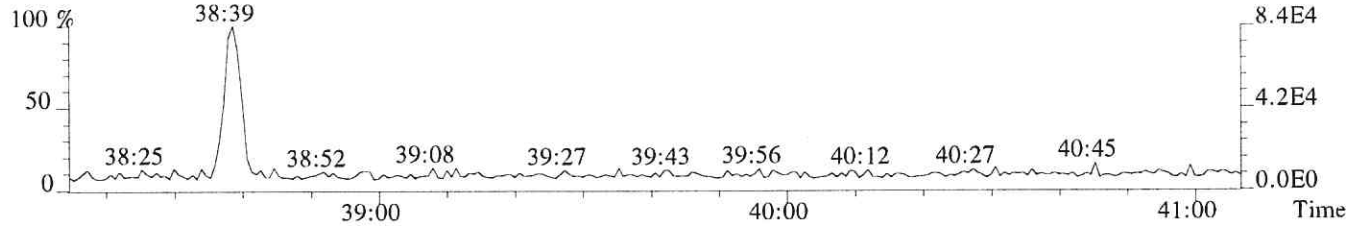
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4376.0,0.50%,F,T)



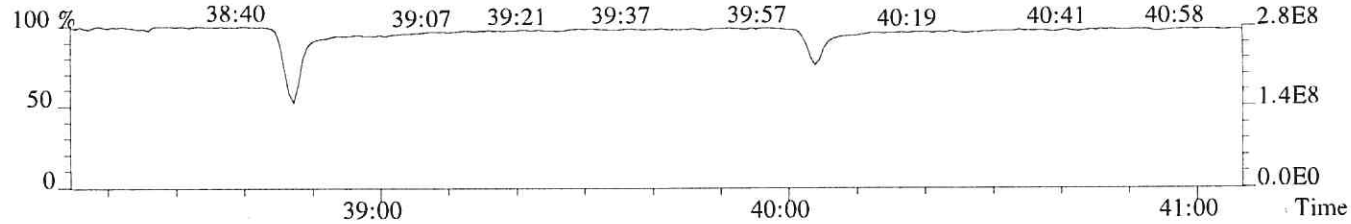
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4712.0,0.50%,F,T)



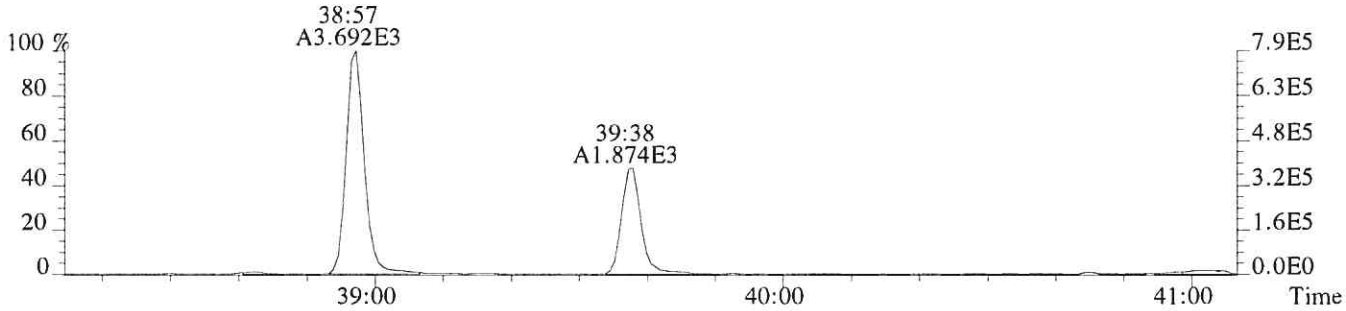
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



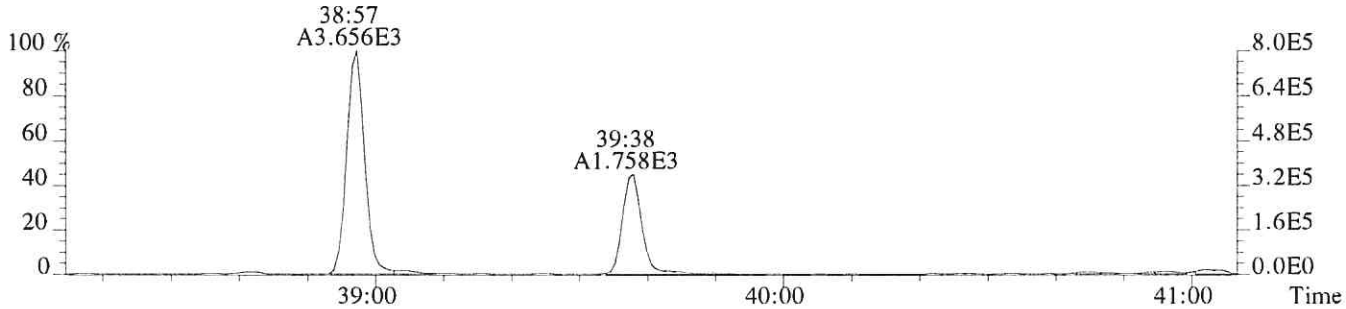
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



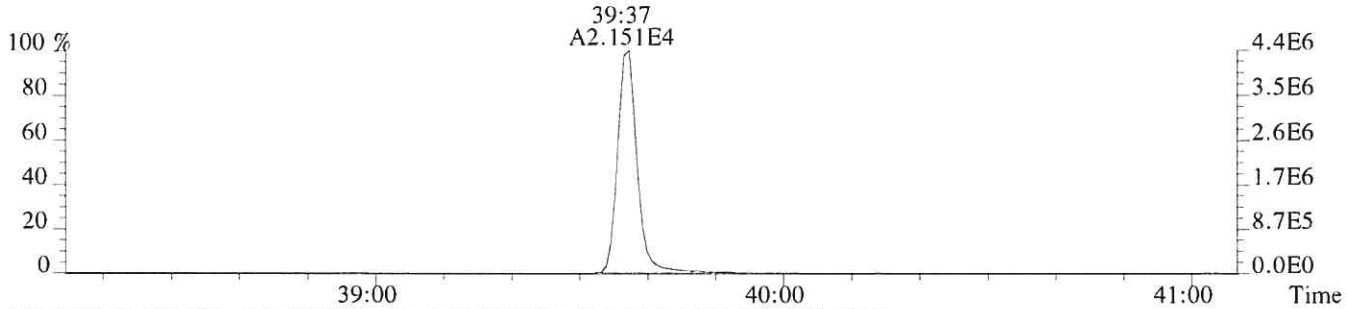
File:P511488 #1-259 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2520.0,0.40%,F,T)



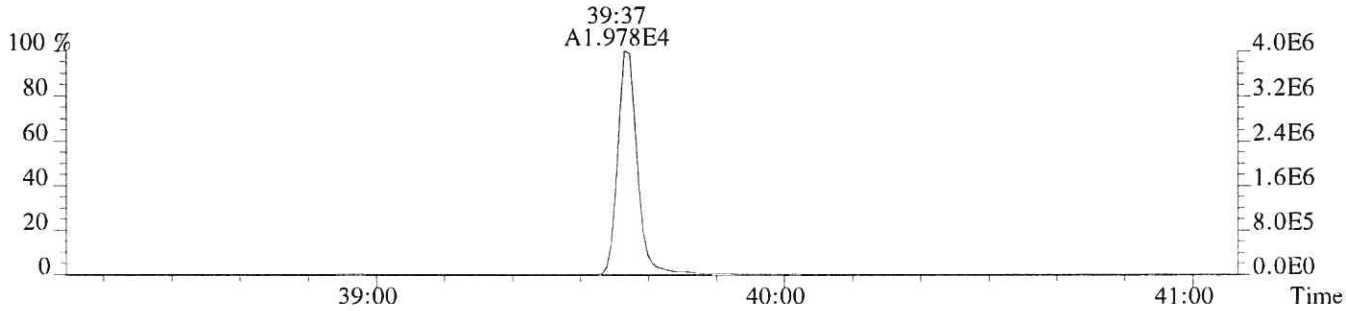
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3788.0,0.40%,F,T)



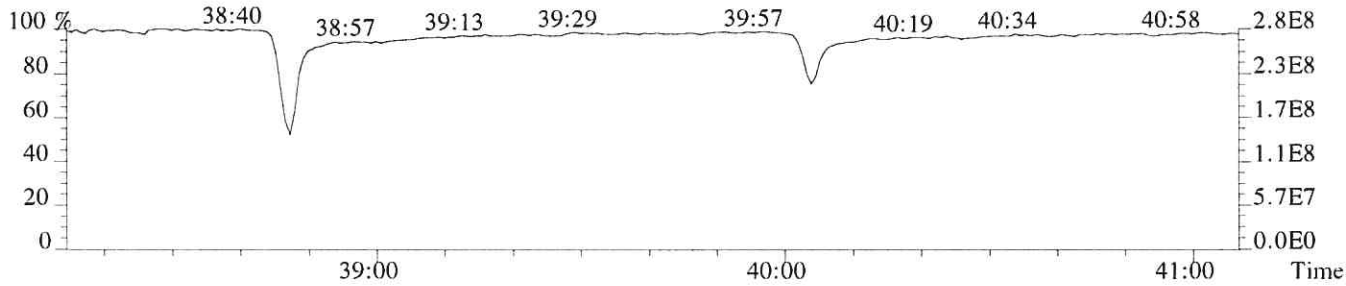
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3768.0,0.40%,F,T)



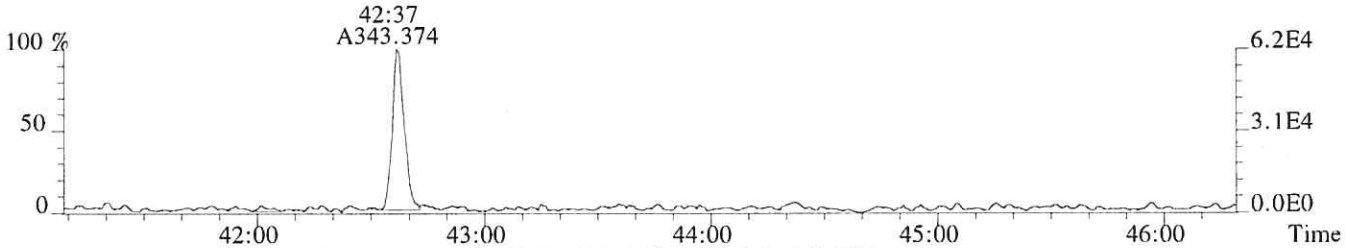
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1656.0,0.40%,F,T)



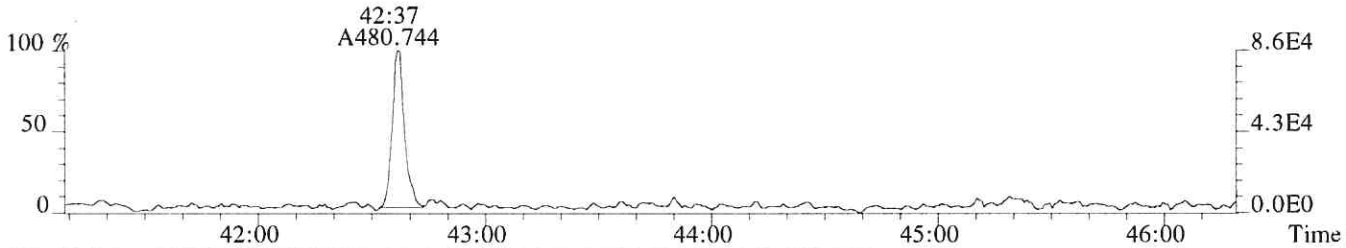
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



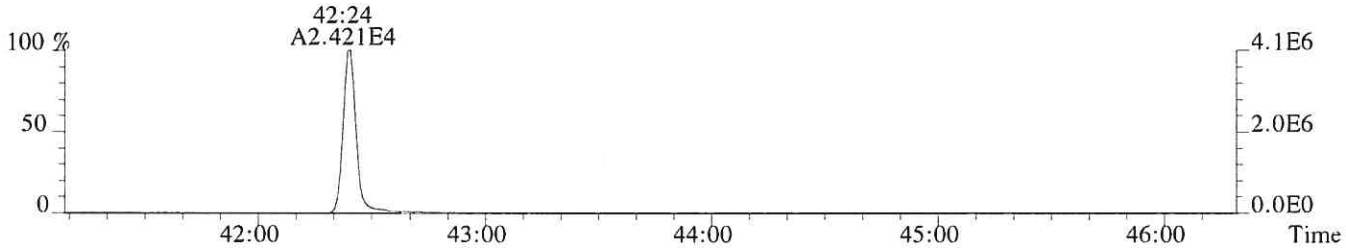
File:P511488 #1-466 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1952.0,0.40%,F,T)



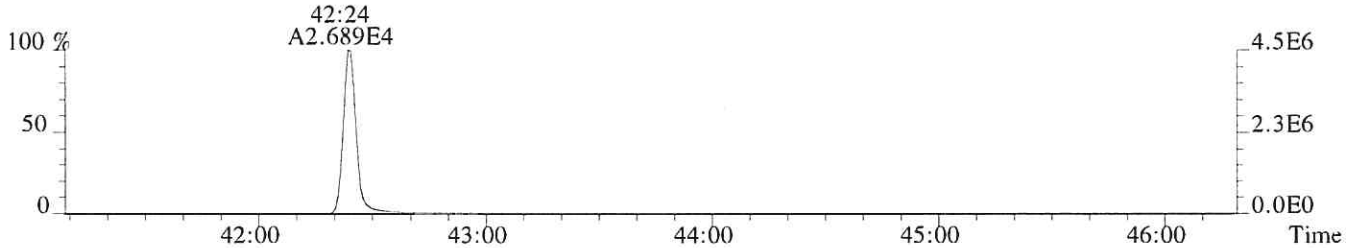
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4624.0,0.40%,F,T)



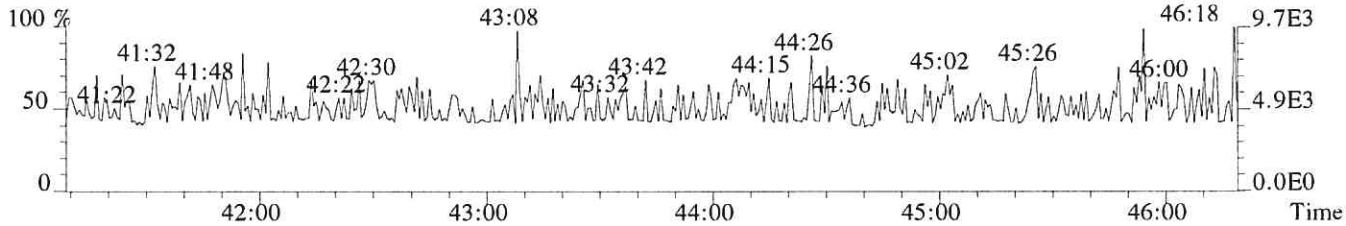
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2348.0,0.40%,F,T)



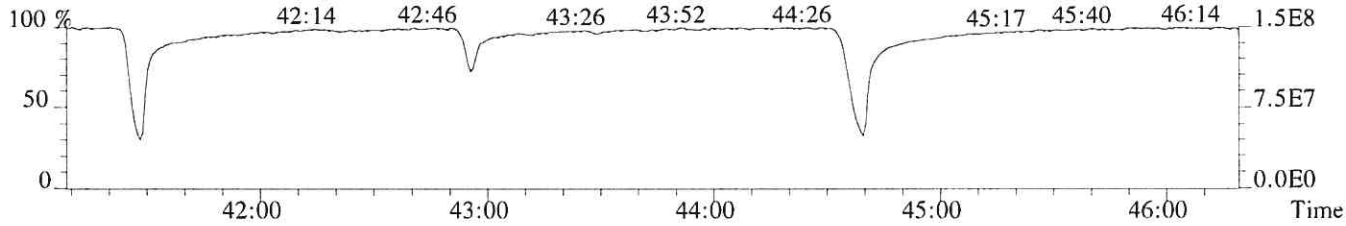
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



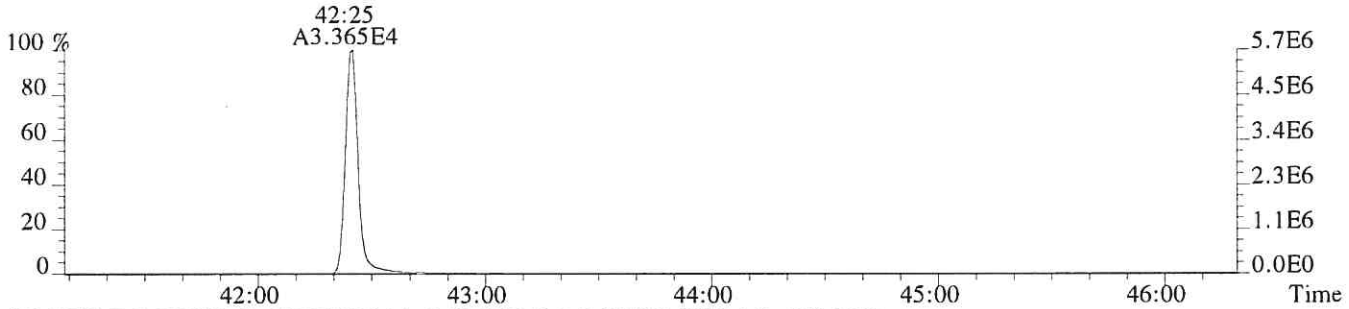
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



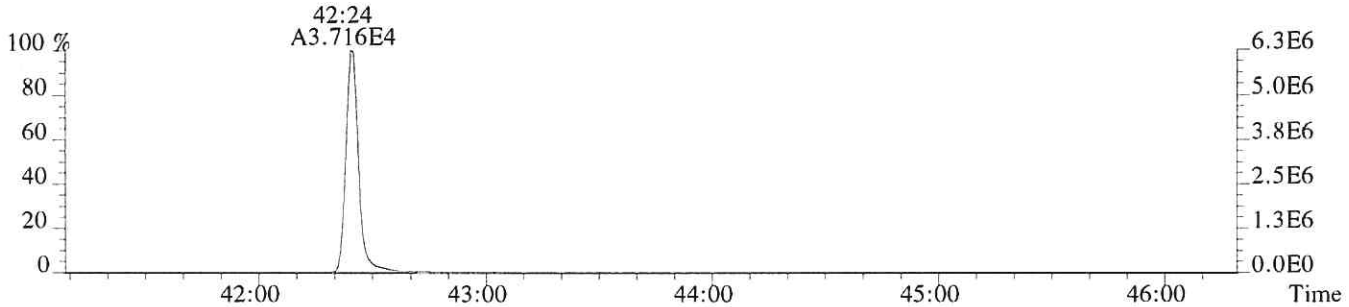
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



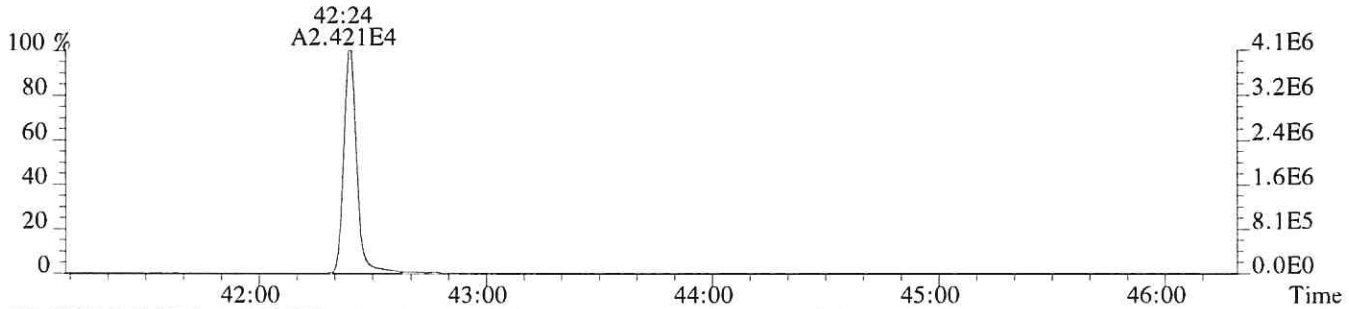
File:P511488 #1-466 Acq:22-SEP-2017 17:36:03 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-002
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1204.0,0.40%,F,T)



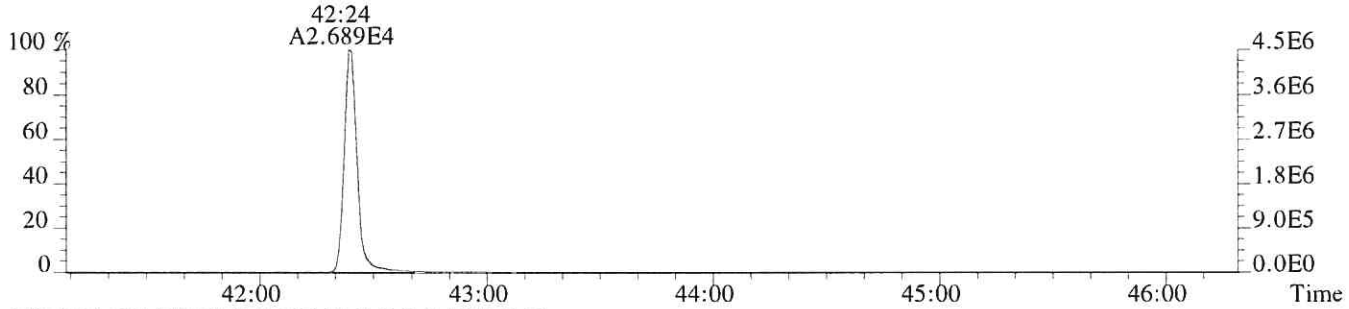
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2372.0,0.40%,F,T)



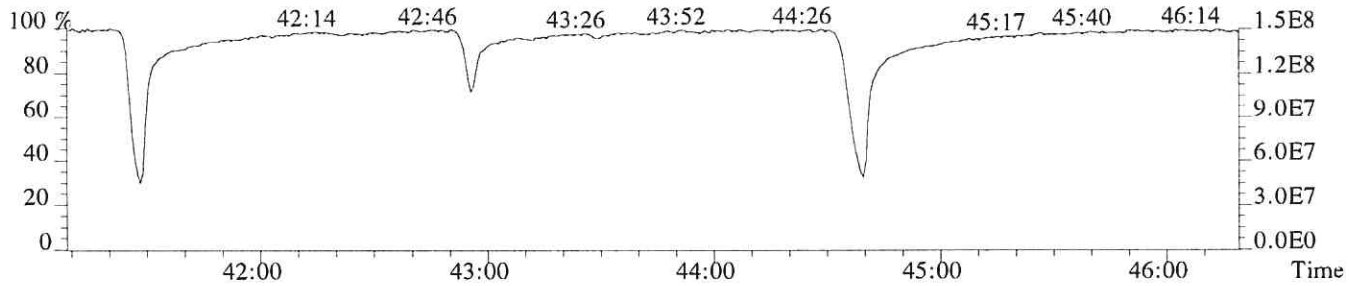
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2348.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,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 P511489 Samp: 1 Inj: 1 Acquired: 22-SEP-17 18:24:43
Processed: 25-SEP-17 07:52:15 Sample ID: E1700973-003

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	5.854e+02	8.297e+02	0.71	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	36:09	8.213e+01	5.490e+01	1.50	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	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	1.612e+02	1.656e+02	0.97	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.191
10	Unk	OCDF	42:38	4.373e+02	5.658e+02	0.77	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	1.632e+02	1.917e+02	0.85	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	36:52	3.143e+01	3.268e+01	0.96	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	6.933e+01	4.604e+01	1.51	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	9.979e+01	1.123e+02	0.89	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:39	1.816e+03	1.778e+03	1.02	yes	no	0.942
17	Unk	OCDD	42:25	3.921e+04	4.343e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:32	2.898e+04	3.696e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	5.585e+04	3.537e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	5.542e+04	3.526e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.461e+04	4.838e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	2.721e+04	5.175e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.631e+04	5.096e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	2.536e+04	4.969e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.650e+04	3.786e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.689e+04	3.748e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:17	2.078e+04	2.594e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	3.906e+04	2.473e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	3.548e+04	2.748e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	3.480e+04	2.771e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	2.796e+04	2.596e+04	1.08	yes	no	0.881
32	IS	13C-OCDD	42:24	3.176e+04	3.521e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:44	4.267e+04	5.207e+04	0.82	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	7.022e+04	5.524e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	4.145e+04				no	1.033

$$\text{OCDD} = \frac{(3.921e+04 + 4.343e+04) \times 4000 \text{ pg} \times 1}{(3.176e+04 + 3.521e+04) \times 10.734 \text{ g} \times 53.9 / 100 \times 1.051} = 84.7 \text{ ng/kg}$$

LW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-022E

Run #14 Filename P511489 Samp: 1 Inj: 1 Acquired: 22-SEP-17 18:24:43
Processed: 25-SEP-17 07:52:15 LAB. ID: E1700973-003

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.05e+05	2.29e+03	4.6e+01	1.48e+05	6.53e+03	2.3e+01
2	1,2,3,7,8-PeCDF	*	2.40e+03	*	*	4.16e+03	*
3	2,3,4,7,8-PeCDF	*	2.40e+03	*	*	4.16e+03	*
4	1,2,3,4,7,8-HxCDF	1.71e+04	2.70e+03	6.3e+00	1.06e+04	2.80e+03	3.8e+00
5	1,2,3,6,7,8-HxCDF	*	2.70e+03	*	*	2.80e+03	*
6	2,3,4,6,7,8-HxCDF	*	2.70e+03	*	*	2.80e+03	*
7	1,2,3,7,8,9-HxCDF	*	2.70e+03	*	*	2.80e+03	*
8	1,2,3,4,6,7,8-HpCDF	3.56e+04	1.97e+03	1.8e+01	3.32e+04	1.72e+03	1.9e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.97e+03	*	*	1.72e+03	*
10	OCDF	7.71e+04	1.84e+03	4.2e+01	1.04e+05	3.50e+03	3.0e+01
11	2,3,7,8-TCDD	2.89e+04	4.67e+03	6.2e+00	3.78e+04	1.44e+03	2.6e+01
12	1,2,3,7,8-PeCDD	*	4.36e+03	*	*	6.84e+02	*
13	1,2,3,4,7,8-HxCDD	9.02e+03	2.39e+03	3.8e+00	9.47e+03	2.25e+03	4.2e+00
14	1,2,3,6,7,8-HxCDD	1.49e+04	2.39e+03	6.2e+00	8.66e+03	2.25e+03	3.9e+00
15	1,2,3,7,8,9-HxCDD	2.10e+04	2.39e+03	8.8e+00	2.27e+04	2.25e+03	1.0e+01
16	1,2,3,4,6,7,8-HpCDD	3.74e+05	2.00e+03	1.9e+02	3.46e+05	2.50e+03	1.4e+02
17	OCDD	6.72e+06	1.17e+03	5.8e+03	7.59e+06	2.46e+03	3.1e+03
18	13C-2,3,7,8-TCDF	5.67e+06	3.98e+04	1.4e+02	7.07e+06	1.35e+04	5.2e+02
19	13C-1,2,3,7,8-PeCDF	1.09e+07	2.08e+03	5.2e+03	6.86e+06	3.26e+03	2.1e+03
20	13C-2,3,4,7,8-PeCDF	1.11e+07	2.08e+03	5.3e+03	6.91e+06	3.26e+03	2.1e+03
21	13C-1,2,3,4,7,8-HxCDF	5.49e+06	1.65e+03	3.3e+03	1.08e+07	3.31e+03	3.3e+03
22	13C-1,2,3,6,7,8-HxCDF	5.74e+06	1.65e+03	3.5e+03	1.10e+07	3.31e+03	3.3e+03
23	13C-2,3,4,6,7,8-HxCDF	5.86e+06	1.65e+03	3.5e+03	1.12e+07	3.31e+03	3.4e+03
24	13C-1,2,3,7,8,9-HxCDF	5.43e+06	1.65e+03	3.3e+03	1.05e+07	3.31e+03	3.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.72e+06	5.02e+03	7.4e+02	8.40e+06	3.06e+03	2.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.35e+06	5.02e+03	6.7e+02	7.52e+06	3.06e+03	2.5e+03
27	13C-2,3,7,8-TCDD	4.18e+06	1.07e+04	3.9e+02	5.21e+06	5.62e+03	9.3e+02
28	13C-1,2,3,7,8-PeCDD	7.85e+06	3.14e+03	2.5e+03	5.00e+06	2.42e+03	2.1e+03
29	13C-1,2,3,4,7,8-HxCDD	7.99e+06	4.40e+03	1.8e+03	6.16e+06	2.92e+03	2.1e+03
30	13C-1,2,3,6,7,8-HxCDD	7.40e+06	4.40e+03	1.7e+03	5.90e+06	2.92e+03	2.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.59e+06	3.89e+03	1.4e+03	5.28e+06	1.92e+03	2.8e+03
32	13C-OCDD	5.42e+06	2.37e+03	2.3e+03	6.00e+06	1.40e+03	4.3e+03
33	13C-1,2,3,4-TCDD	8.57e+06	1.07e+04	8.0e+02	1.04e+07	5.62e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	1.50e+07	4.40e+03	3.4e+03	1.18e+07	2.92e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	8.49e+06	4.32e+03	2.0e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 14 File: P511489 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 303.9020 305.8990 Tot Response: 1.56e+03 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:09	6.82e+01	7.75e+01	0.88	yes	1.46e+02		n	n
2	28:32	5.85e+02	8.30e+02	0.71	yes	1.42e+03	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 14 File: P511489 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 319.8970 321.8940 Tot Response: 3.55e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:18	1.63e+02	1.92e+02	0.85	yes	3.55e+02	2,3,7,8-TCDD	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-022E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 14 File: P511489 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 355.8550 357.8520 Tot Response: 1.07e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:11	6.81e+01	3.90e+01	1.75	yes	1.07e+02	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 14 File: P511489 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 389.8160 391.8130 Tot Response: 2.42e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	9.82e+02	7.88e+02	1.25	yes	1.77e+03		n	n
2	36:18	3.72e+02	2.84e+02	1.31	yes	6.56e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 14 File: P511489 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 407.7820 409.7790 Tot Response: 5.16e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	1.61e+02	1.66e+02	0.97	yes	3.27e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:07	8.93e+01	9.94e+01	0.90	yes	1.89e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-022E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 14 File: P511489 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 18:24:43 Processed: 25-SEP-17 07:52:15

Mass: 423.7770 425.7740 Tot Response: 1.11e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:58	3.82e+03	3.72e+03	1.03	yes	7.54e+03		n	n
2	39:39	1.82e+03	1.78e+03	1.02	yes	3.59e+03	1,2,3,4,6,7,8-HpCDD	n	n

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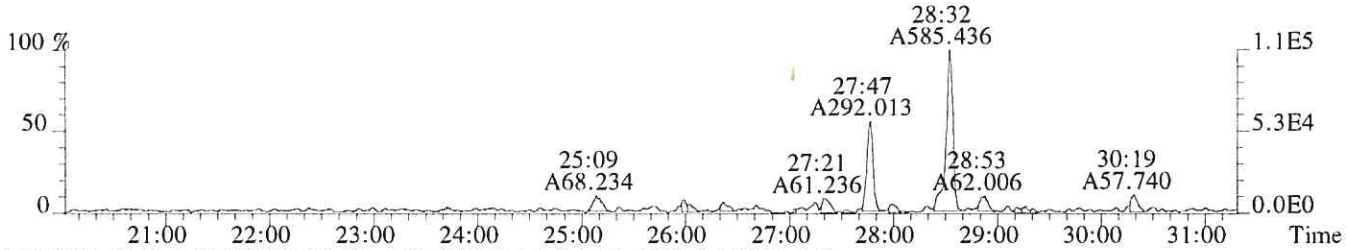
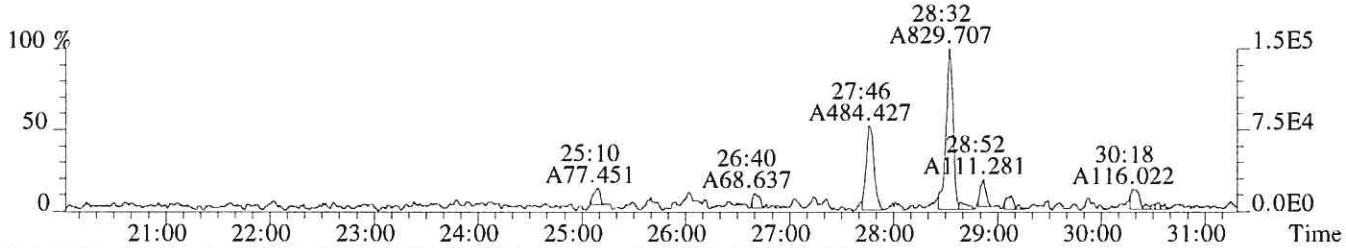
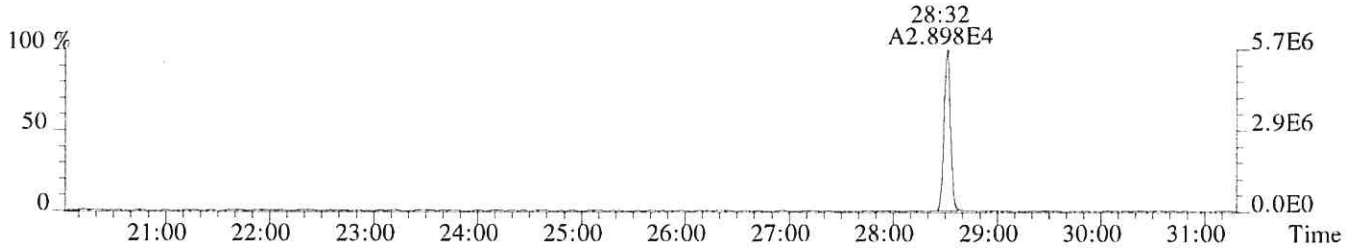
File:P511489 #1-800 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2288.0,1.00%,F,T)



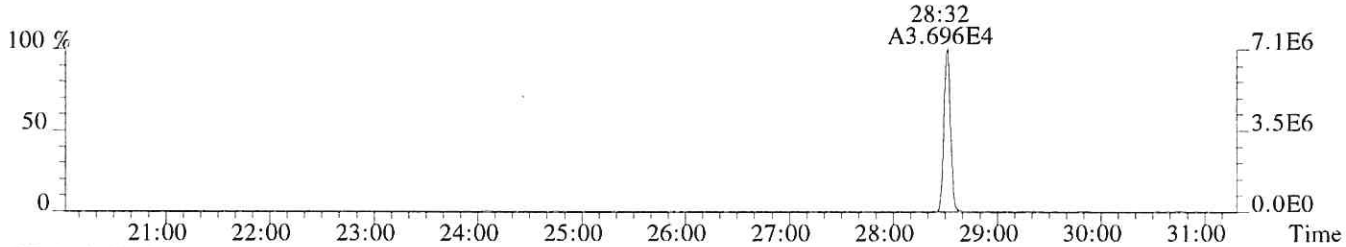
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6532.0,1.00%,F,T)



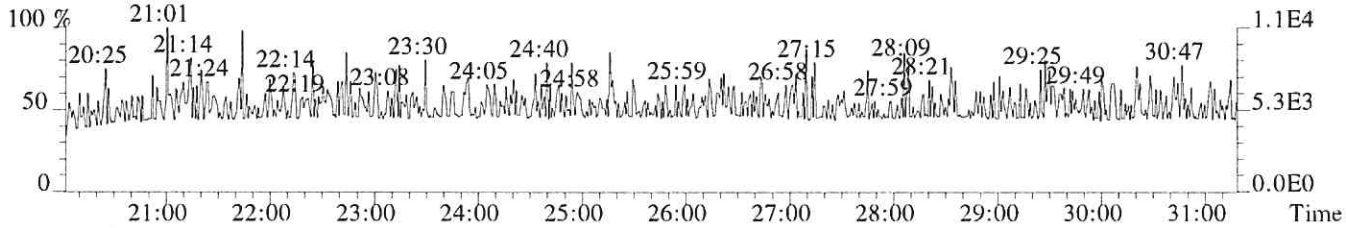
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,39784.0,1.00%,F,T)



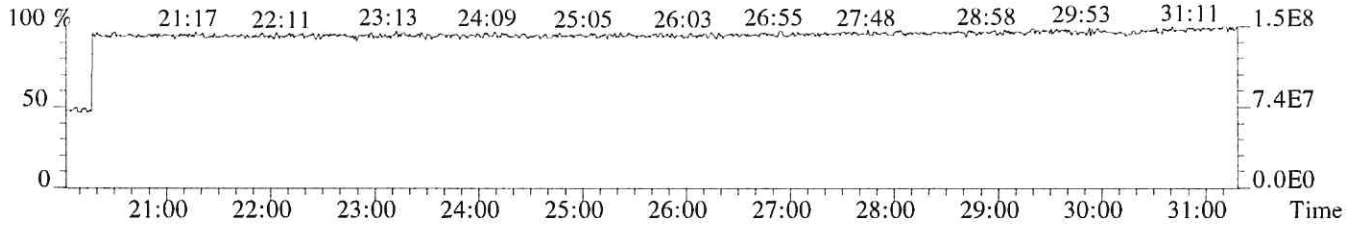
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13488.0,1.00%,F,T)



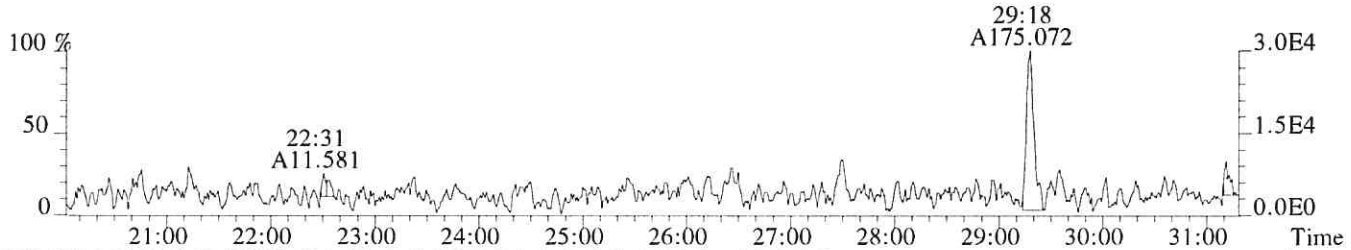
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



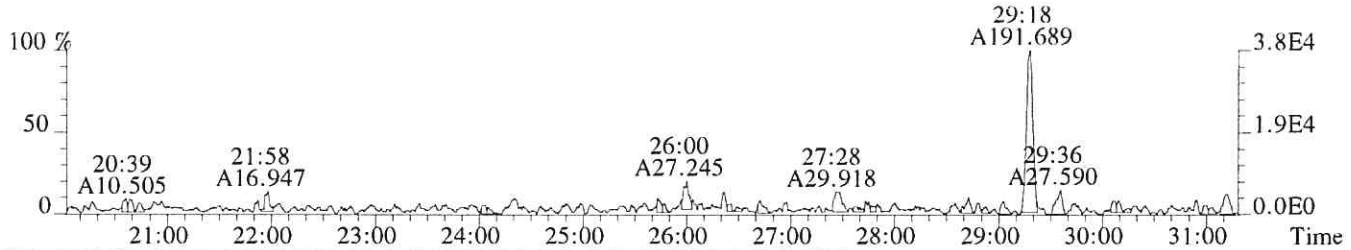
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



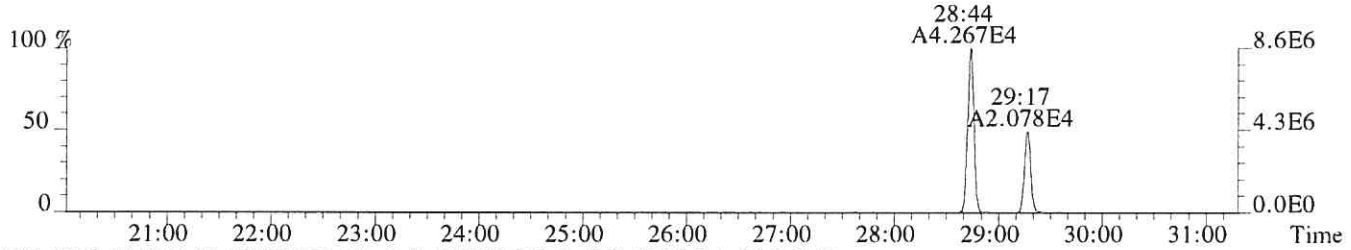
File:P511489 #1-800 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4668.0,1.00%,F,T)



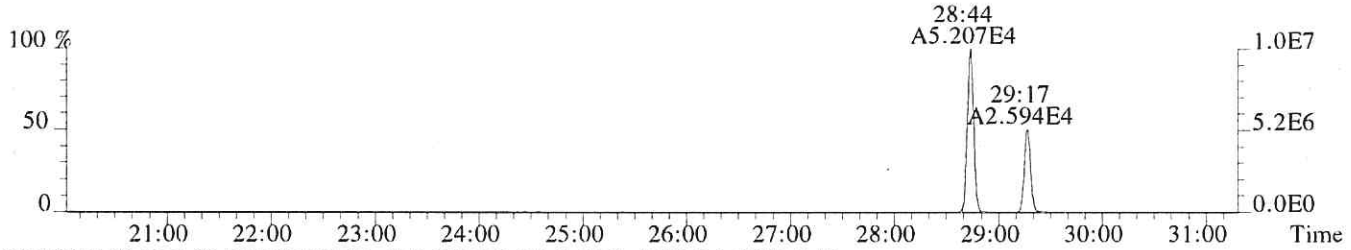
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



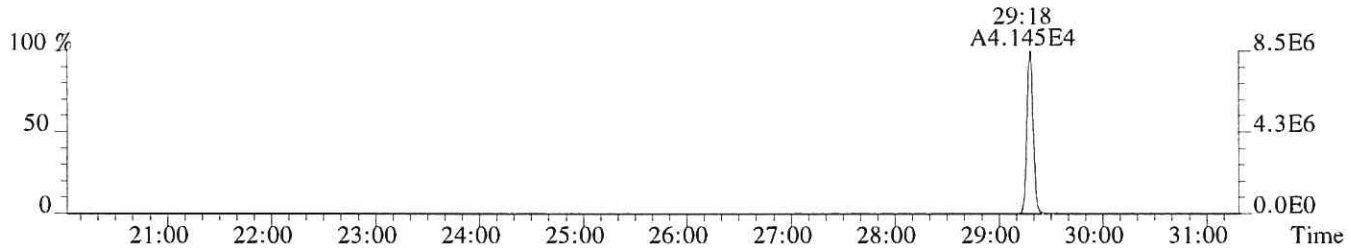
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10728.0,1.00%,F,T)



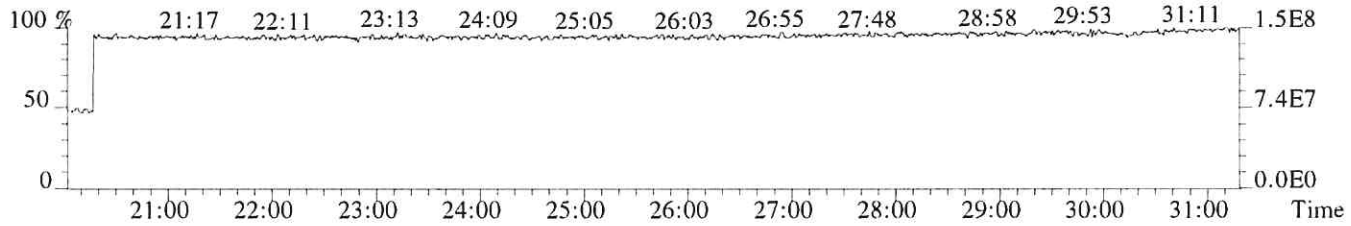
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5620.0,1.00%,F,T)



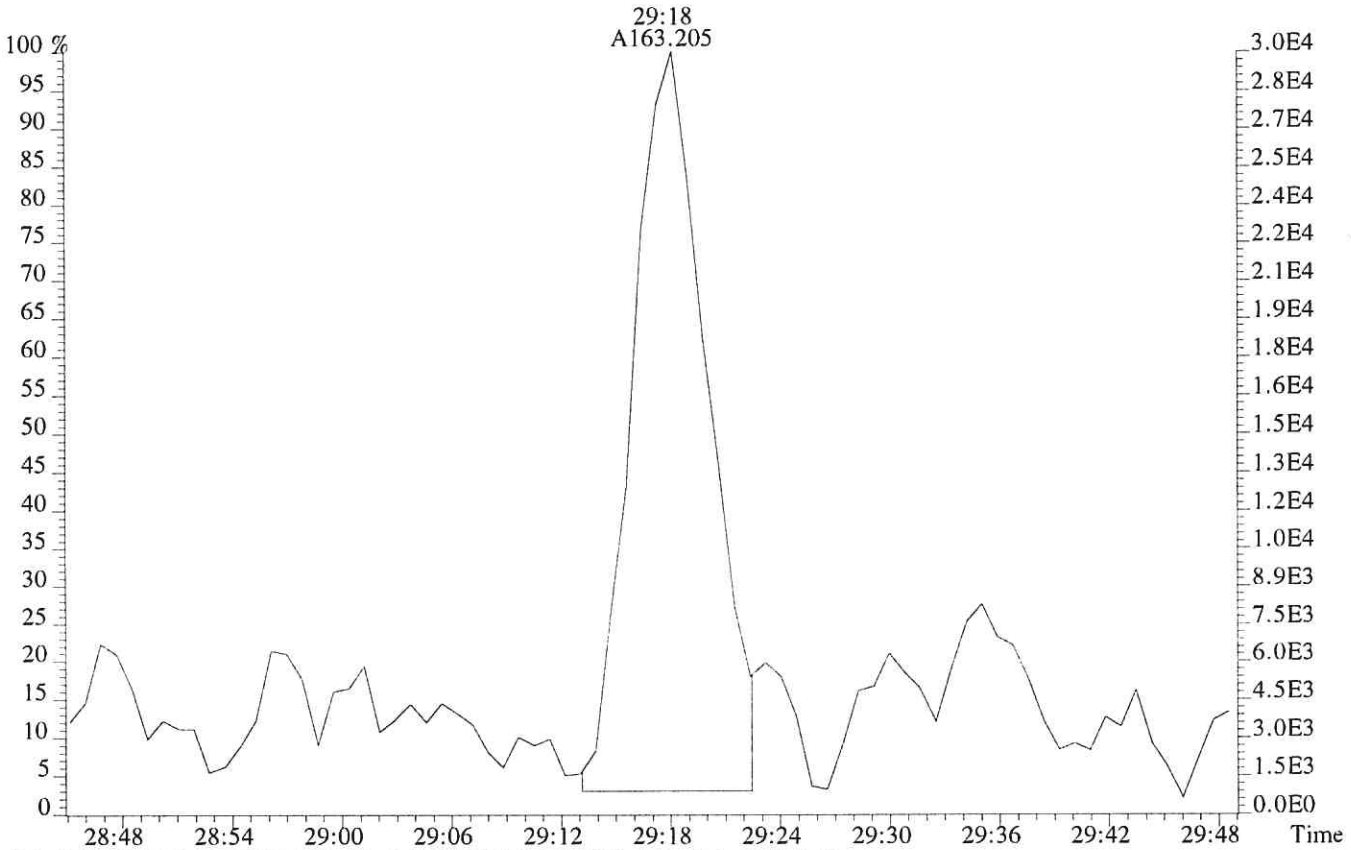
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4316.0,1.00%,F,T)



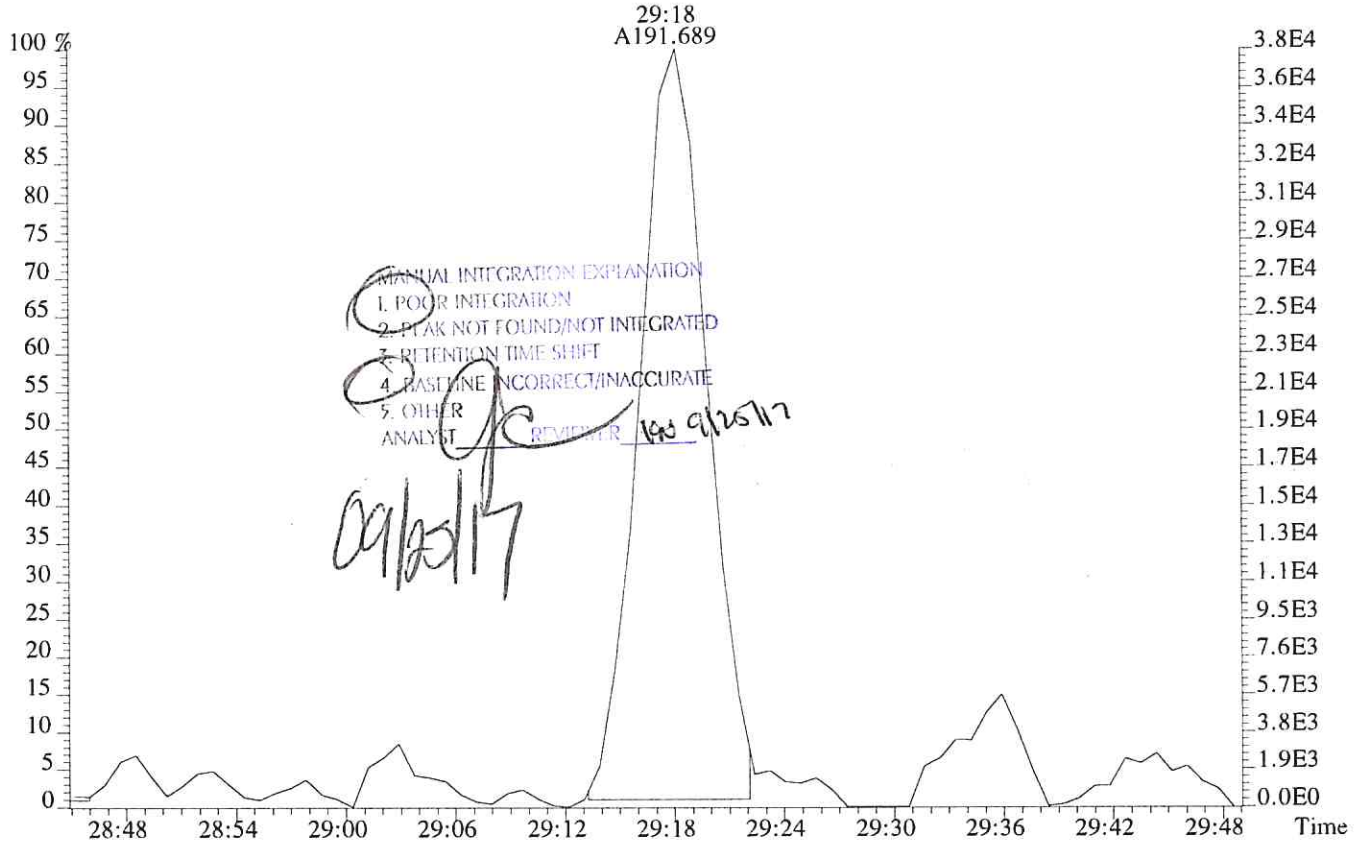
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511489 #1-800 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4668.0,1.00%,F,T)

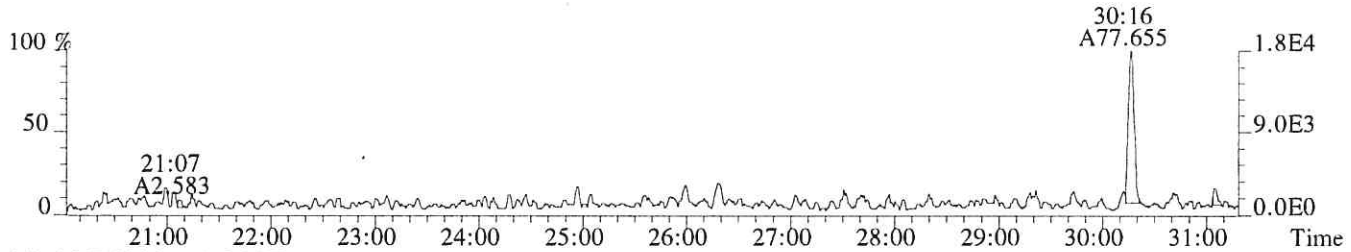


321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)

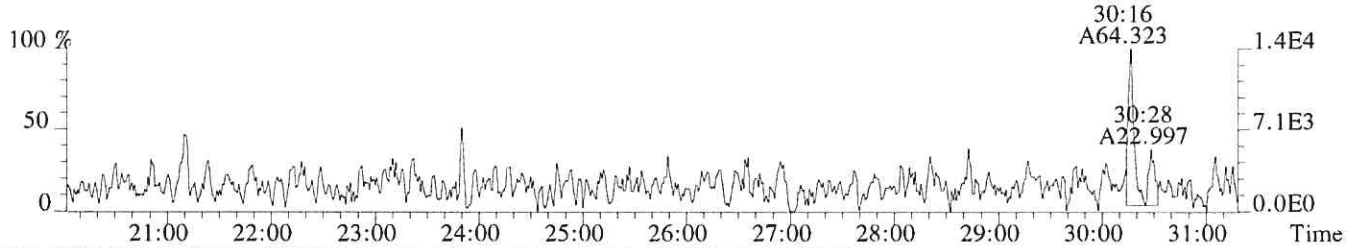


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER 09/25/17

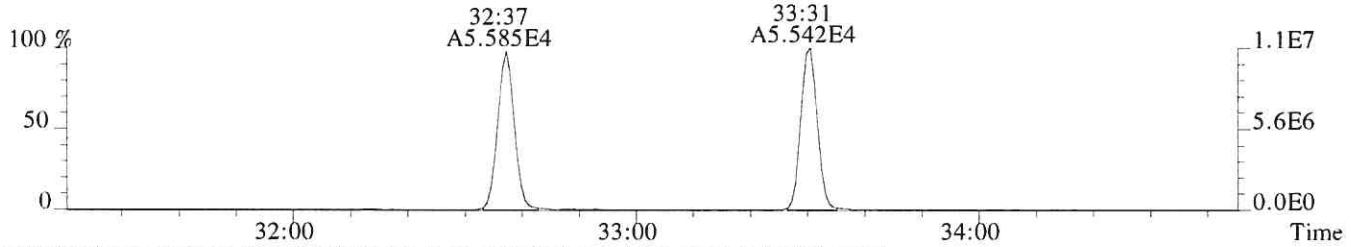
File:P511489 #1-800 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



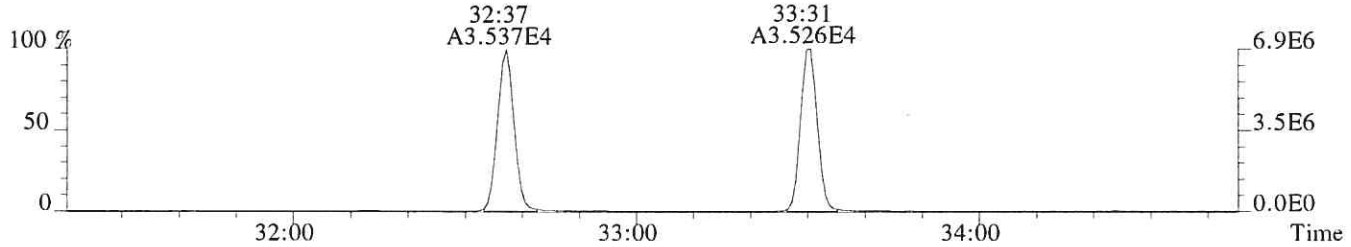
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2604.0,1.00%,F,T)



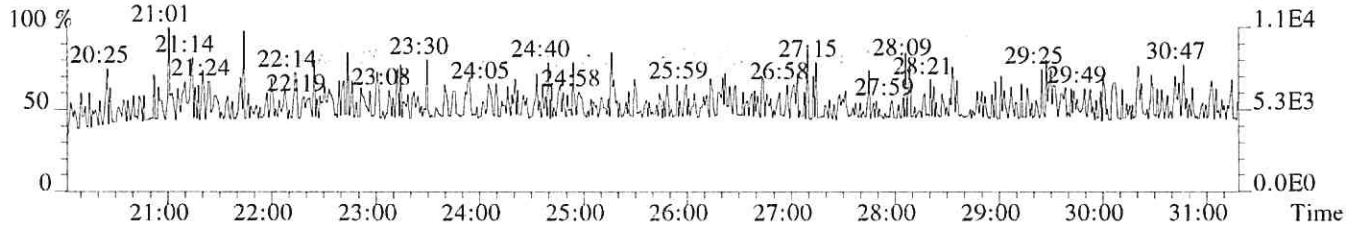
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2080.0,1.00%,F,T)



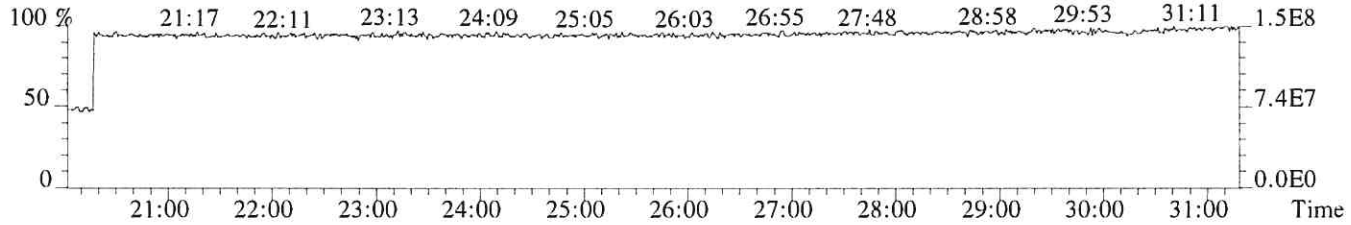
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3264.0,1.00%,F,T)



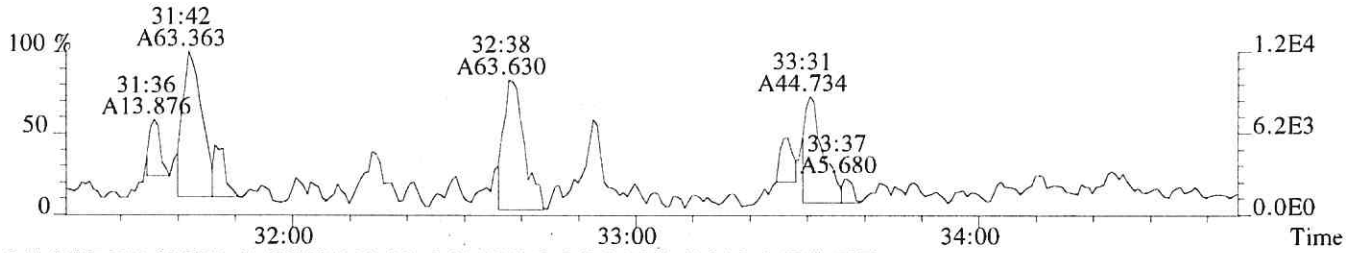
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



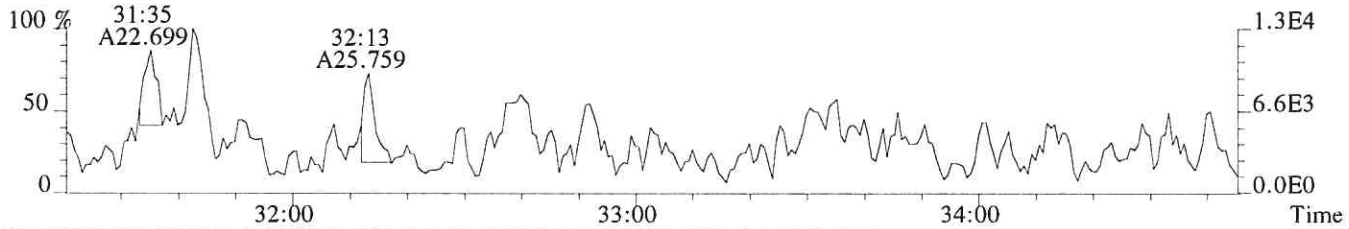
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



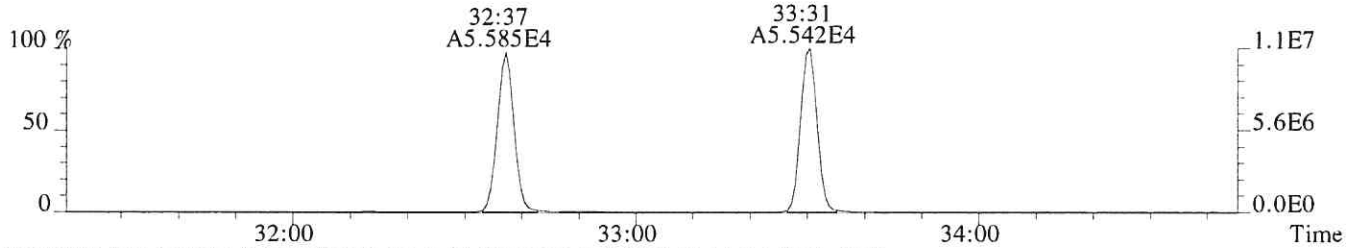
File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



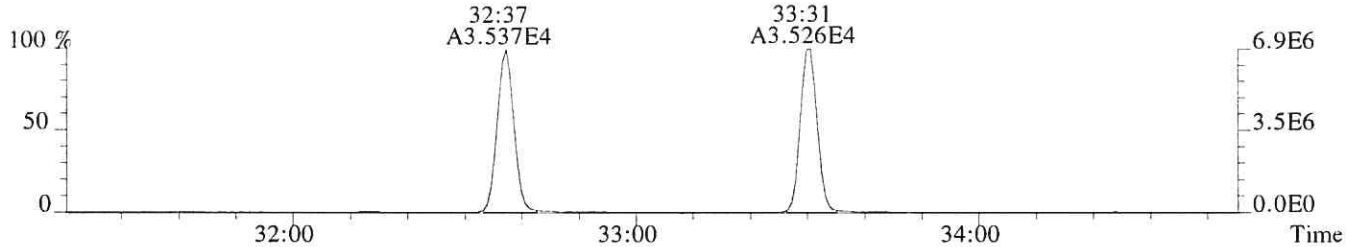
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4164.0,1.00%,F,T)



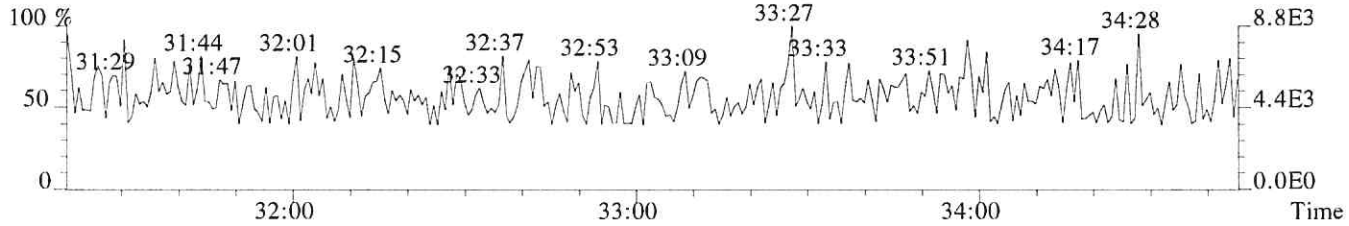
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2080.0,1.00%,F,T)



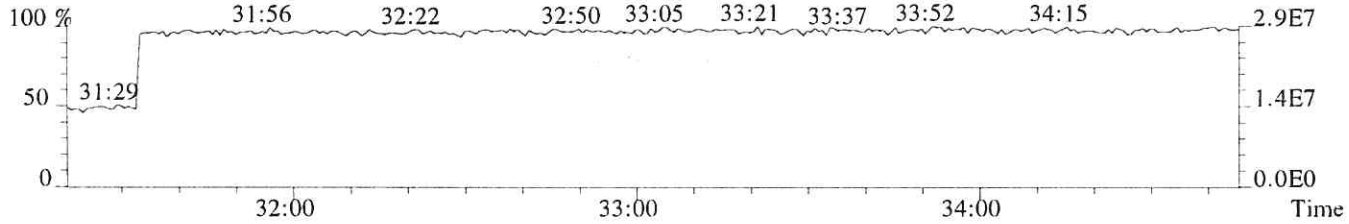
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3264.0,1.00%,F,T)



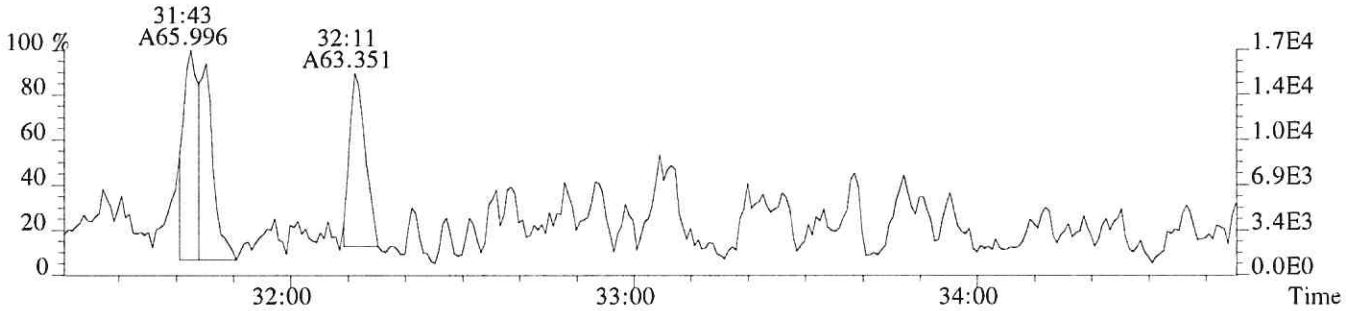
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



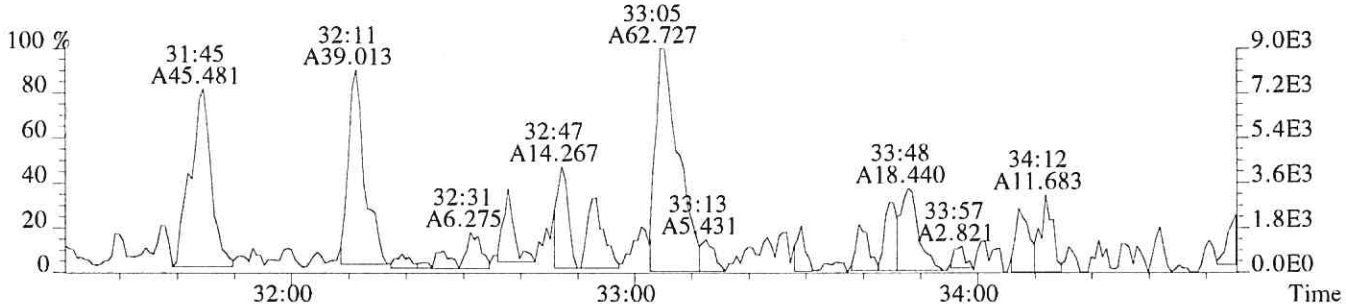
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



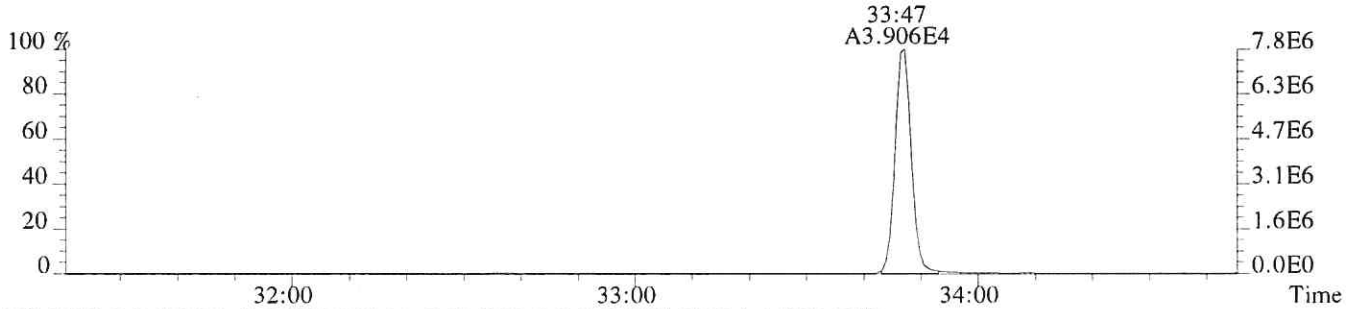
File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4364.0,1.00%,F,T)



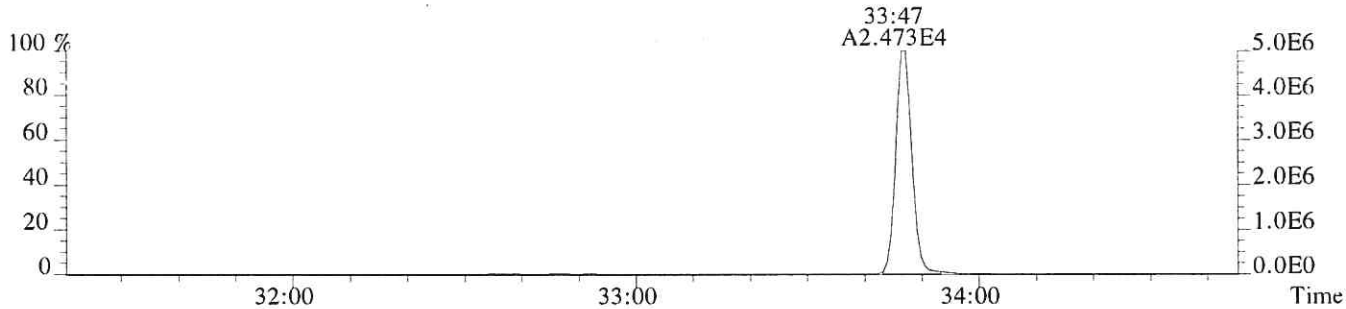
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



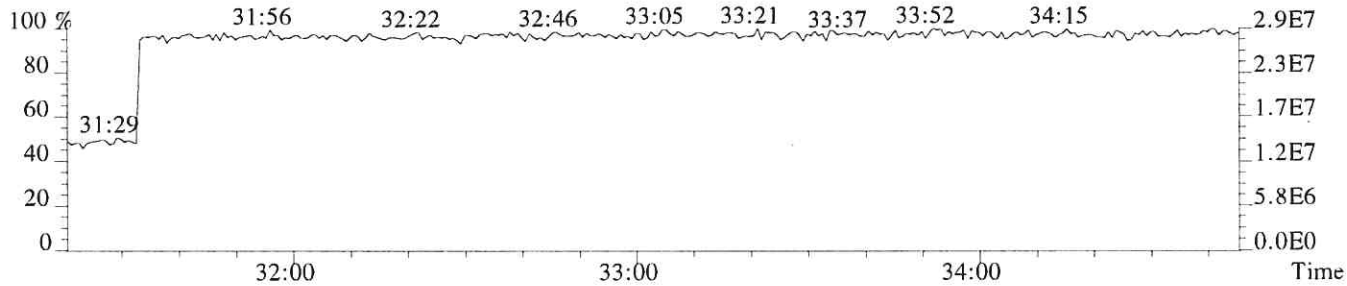
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3140.0,1.00%,F,T)



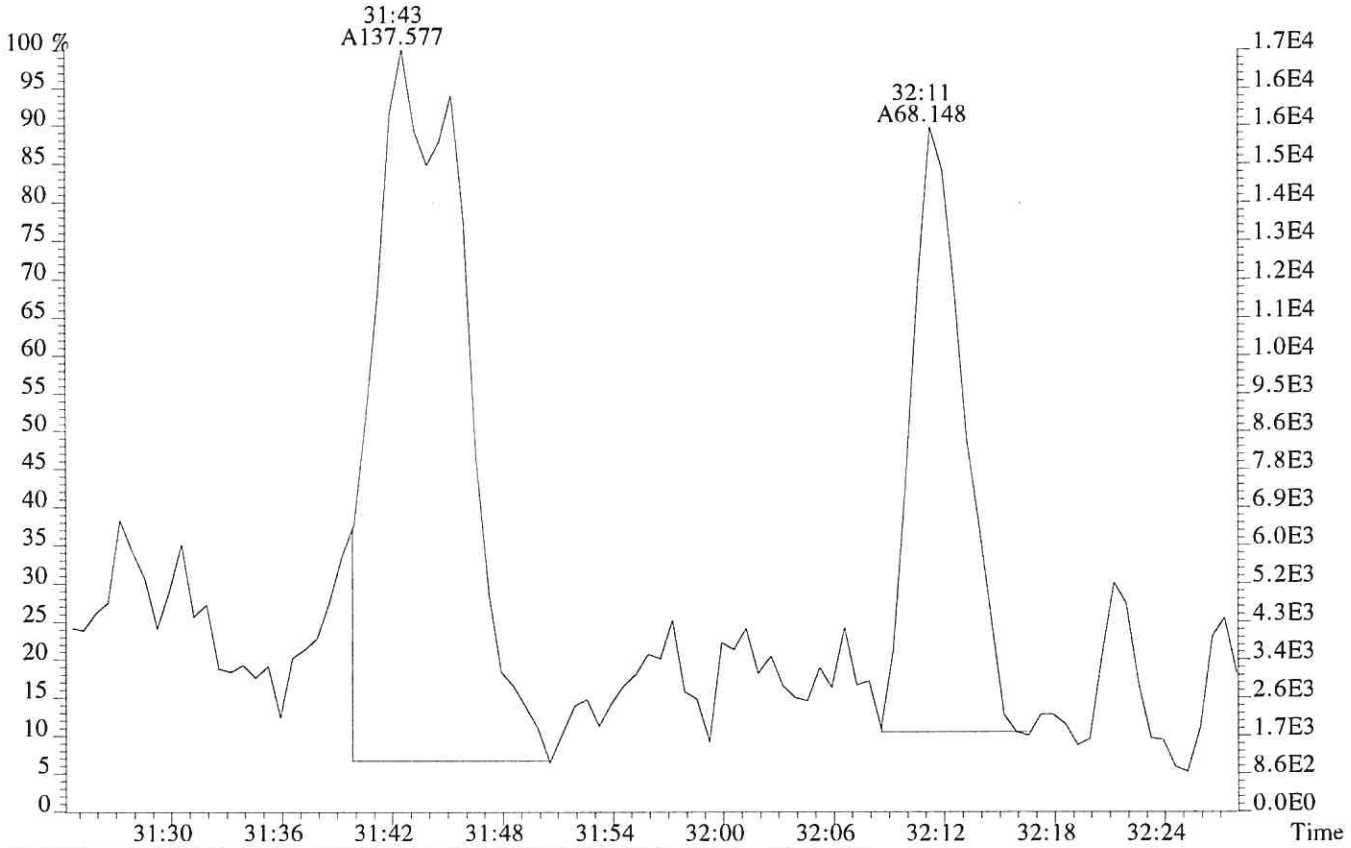
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2420.0,1.00%,F,T)



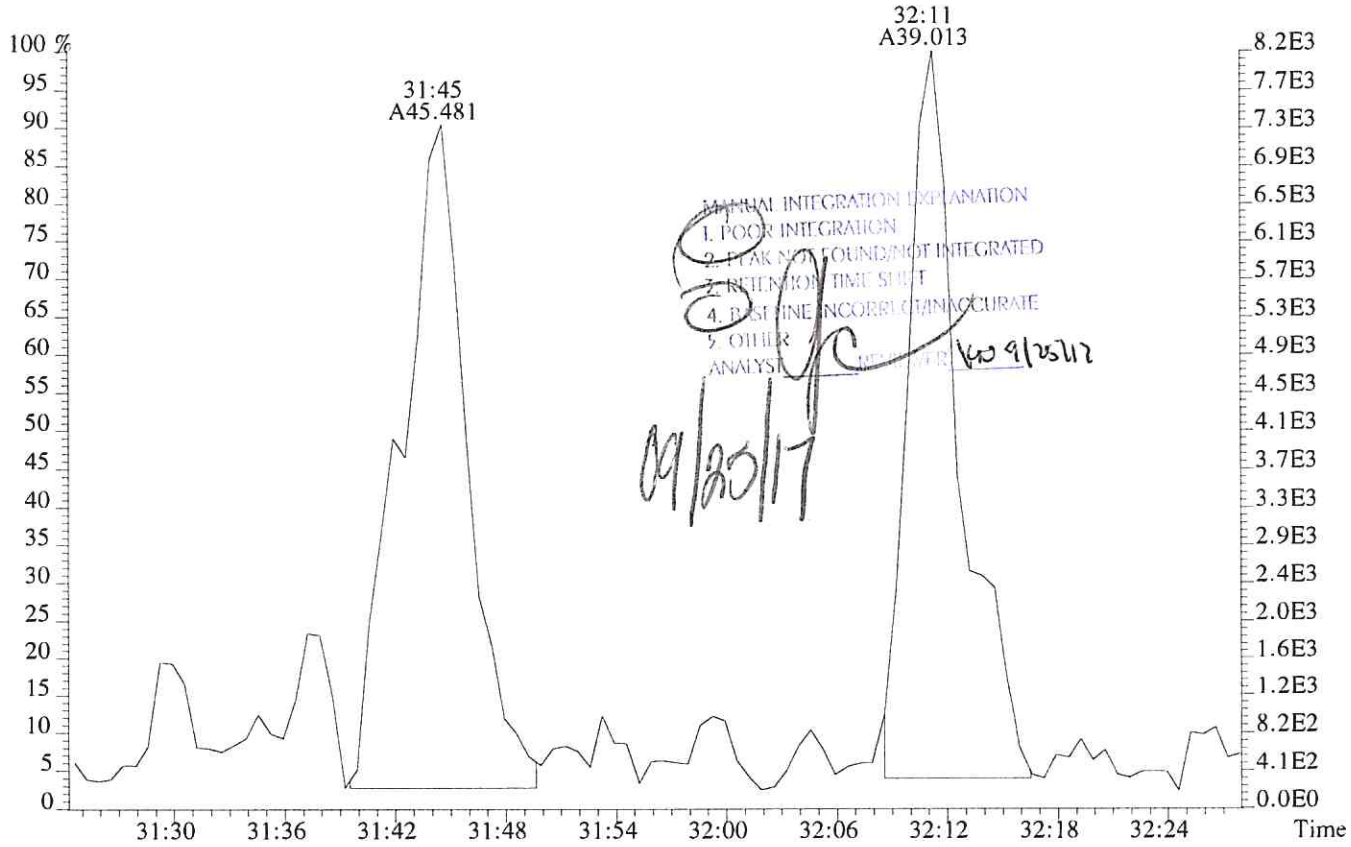
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



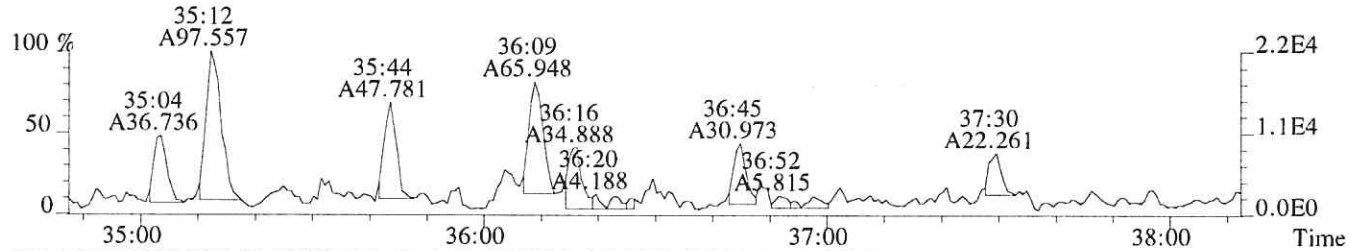
File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4364.0,1.00%,F,T)



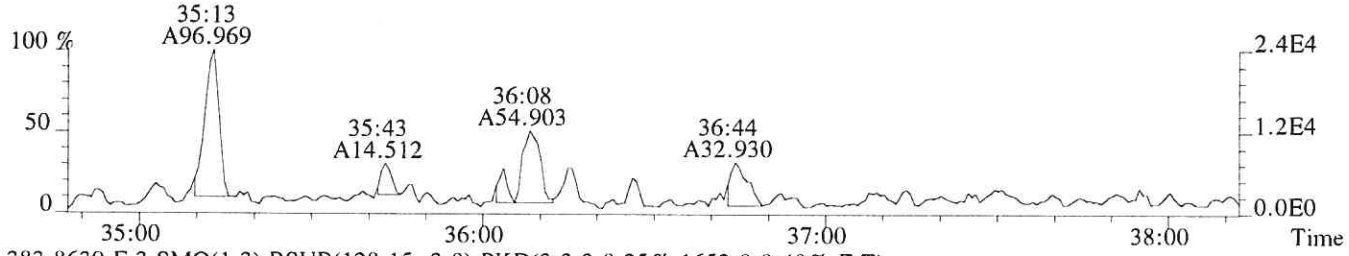
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,T)



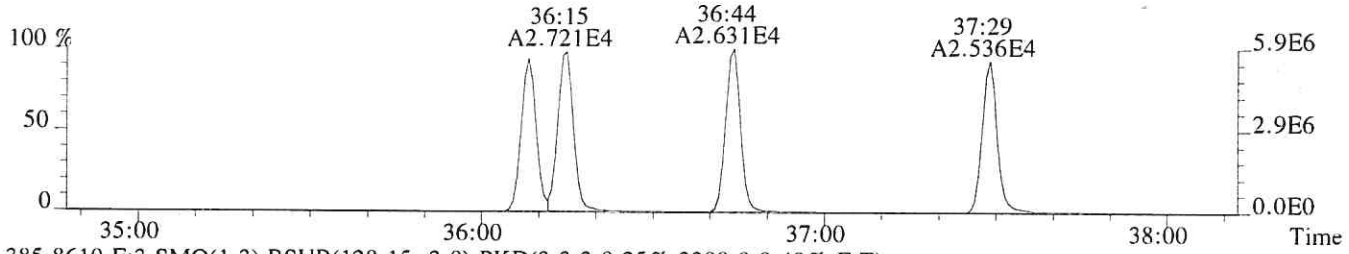
File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2696.0,0.40%,F,T)



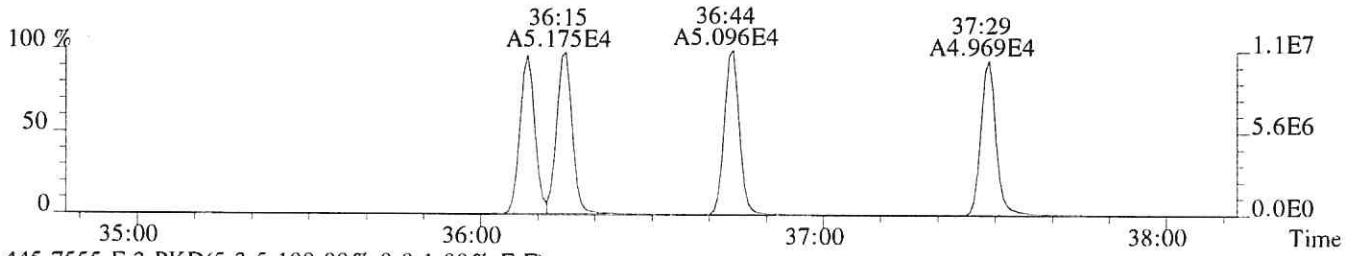
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2800.0,0.40%,F,T)



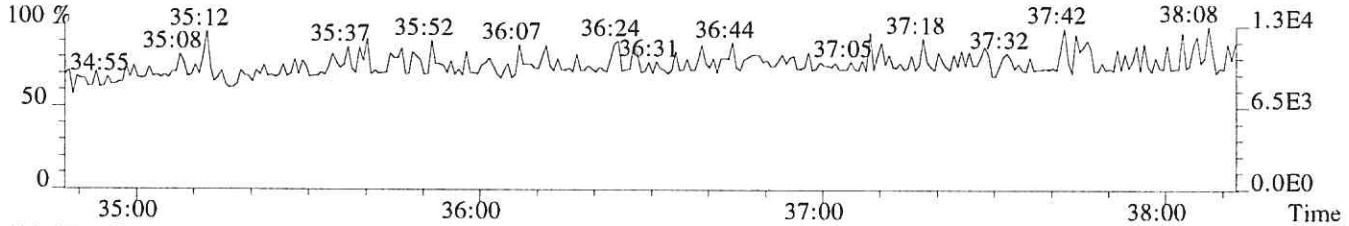
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1652.0,0.40%,F,T)



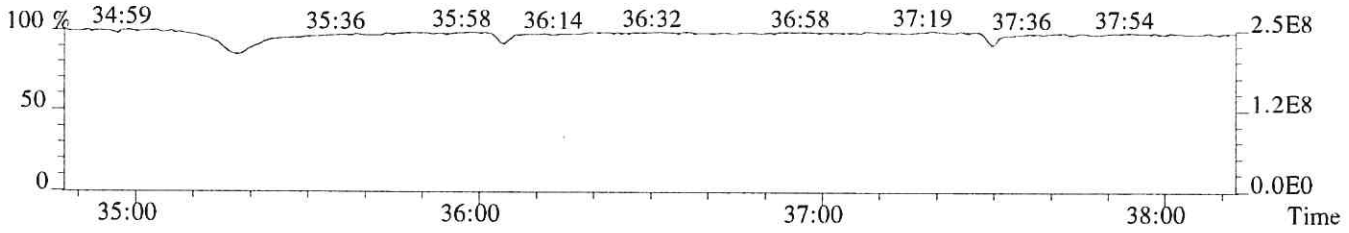
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3308.0,0.40%,F,T)



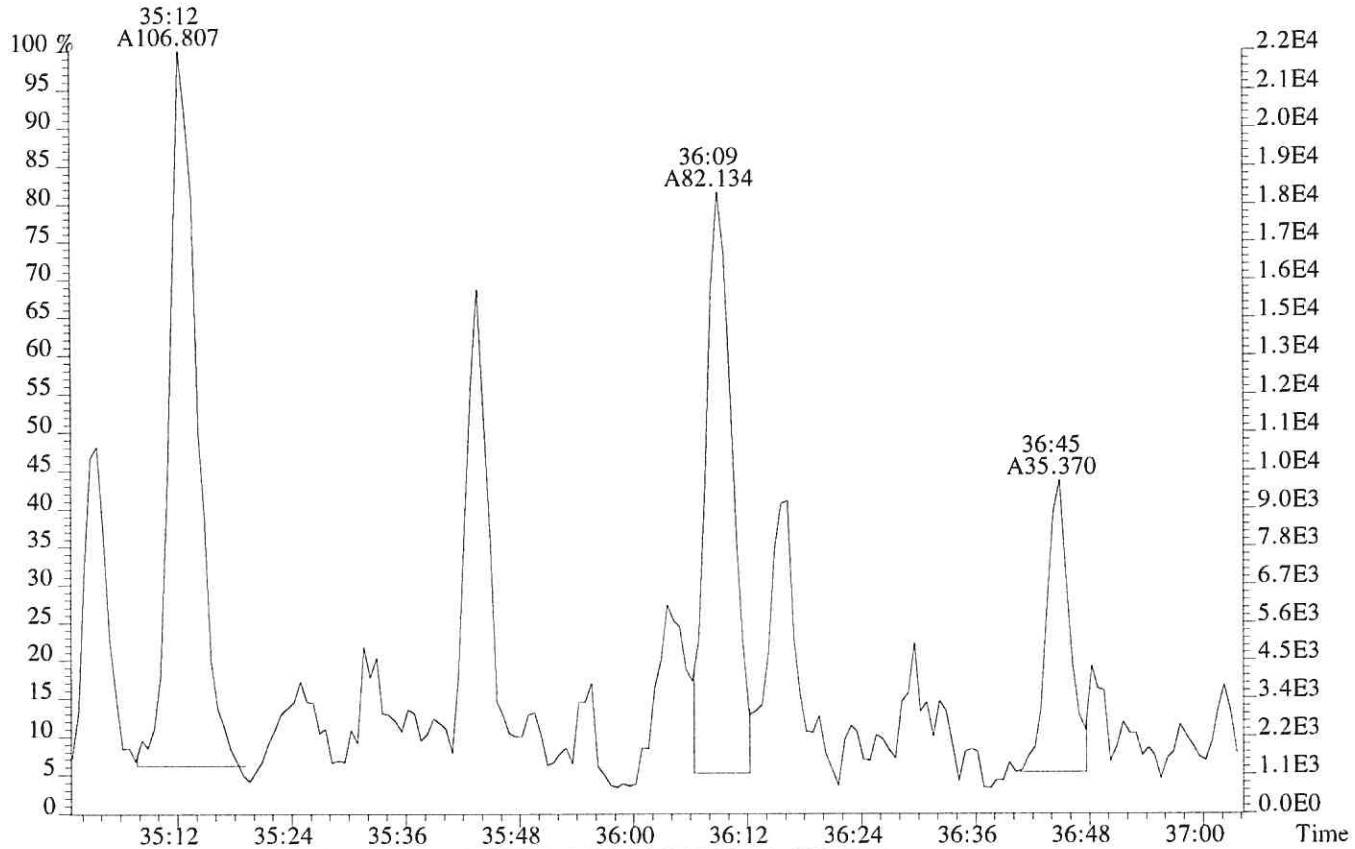
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



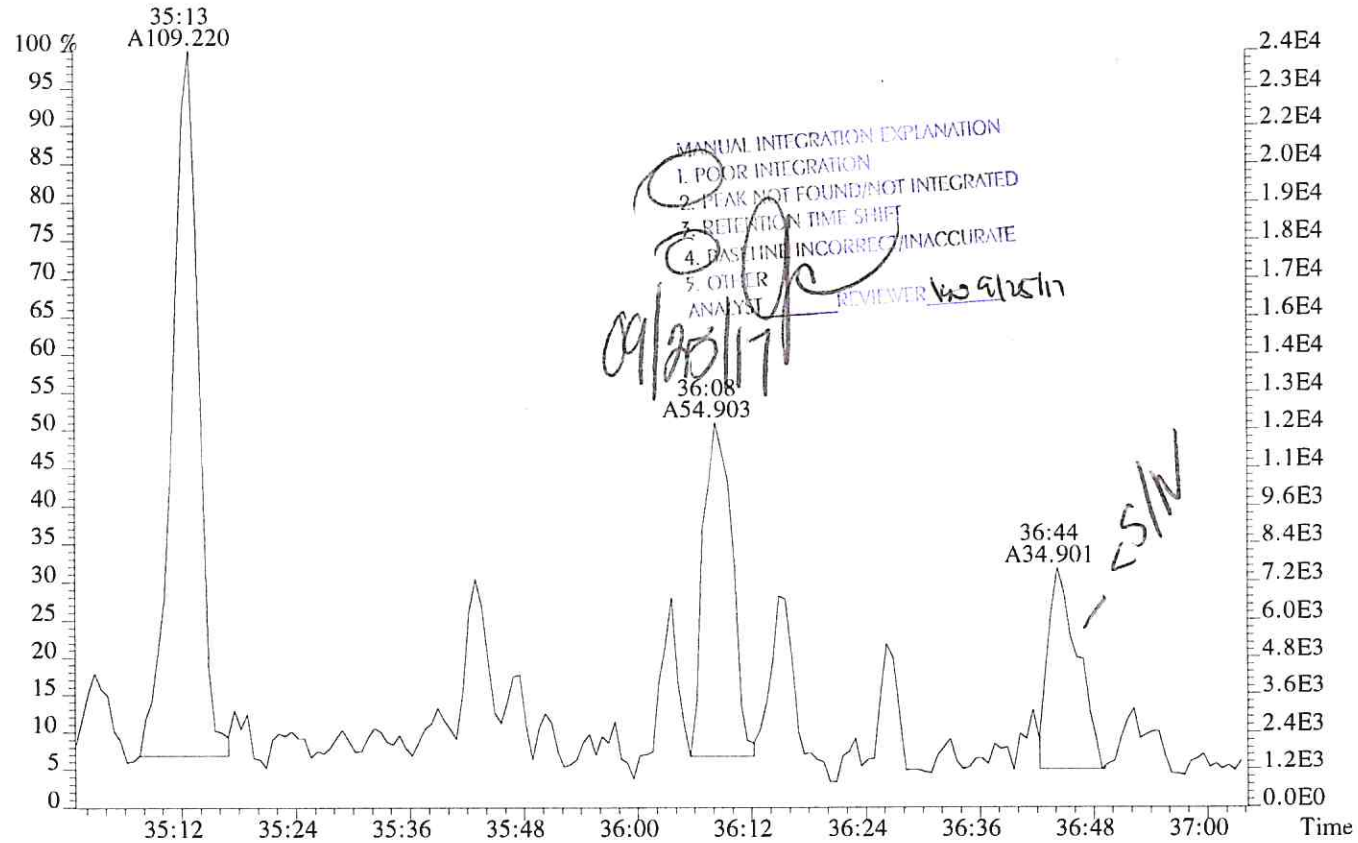
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2696.0,0.40%,F,T)

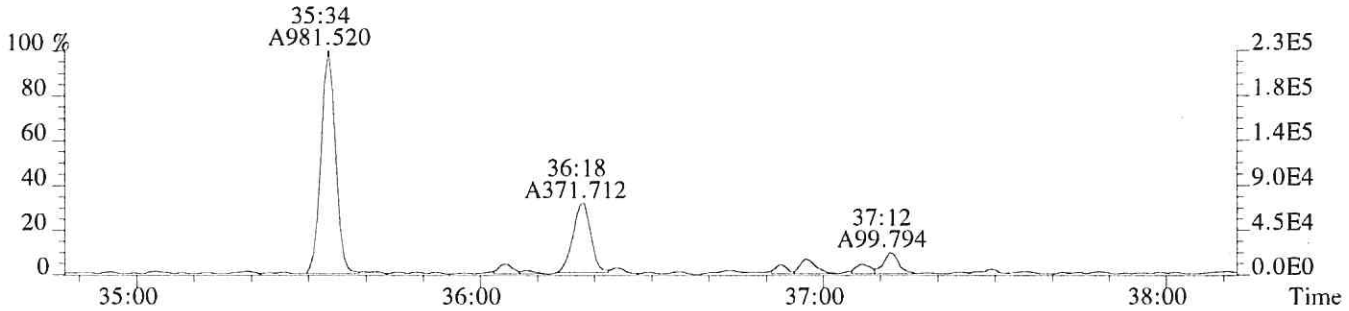


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2800.0,0.40%,F,T)

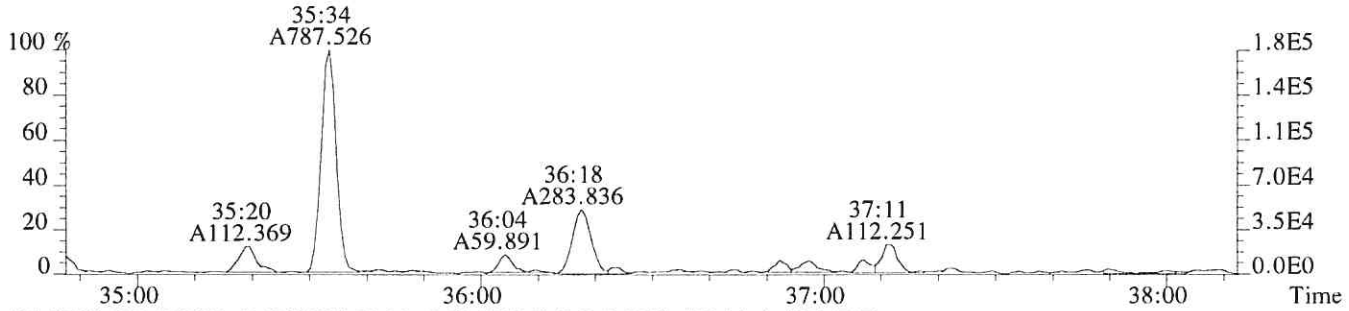


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER 9/25/17

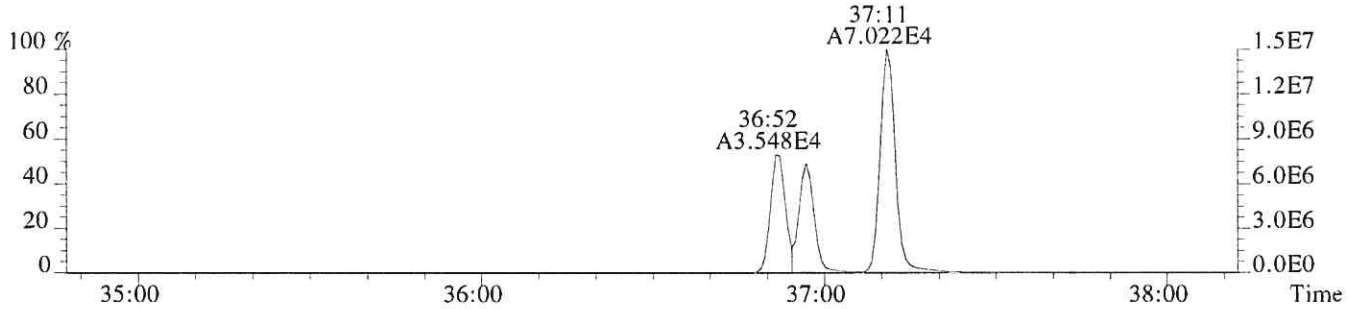
File:P511489 #1-308 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2392.0,0.40%,F,T)



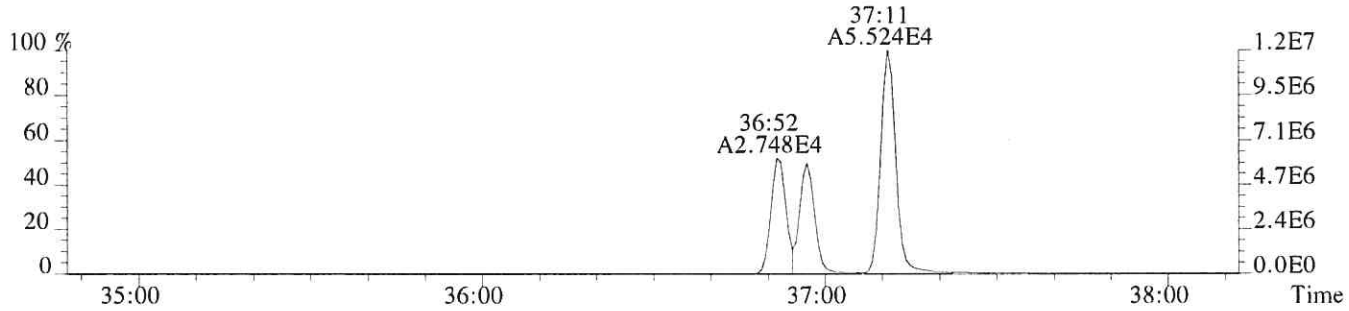
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.40%,F,T)



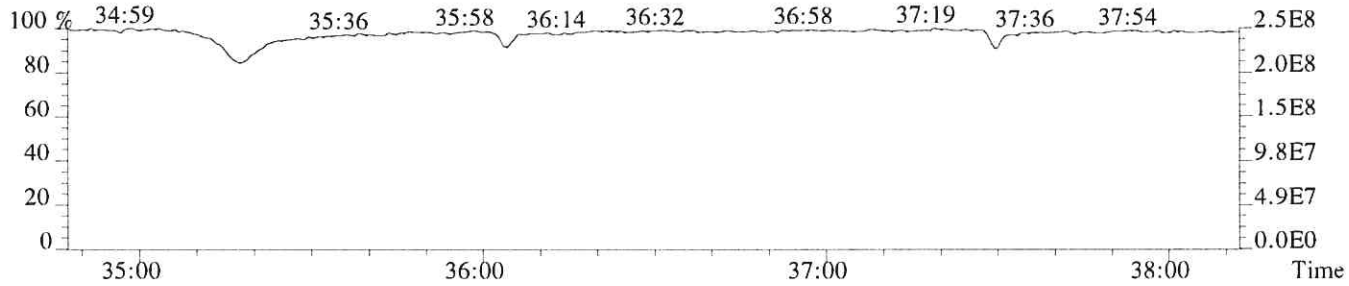
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4404.0,0.40%,F,T)



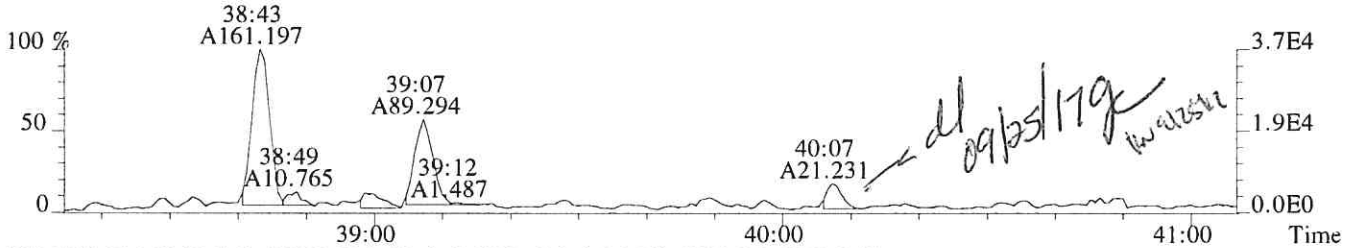
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2924.0,0.40%,F,T)



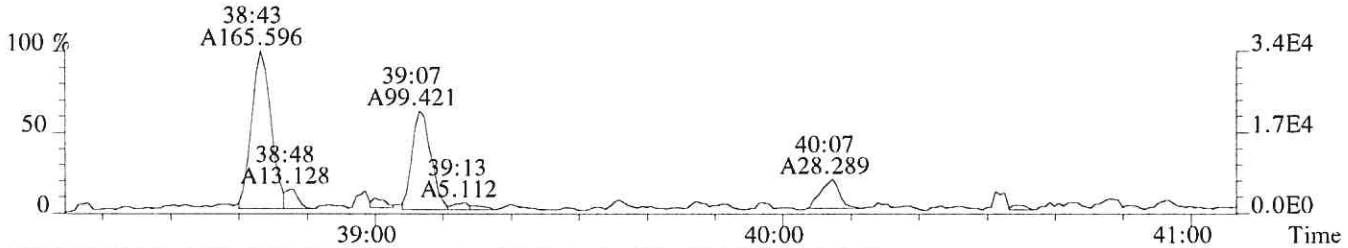
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



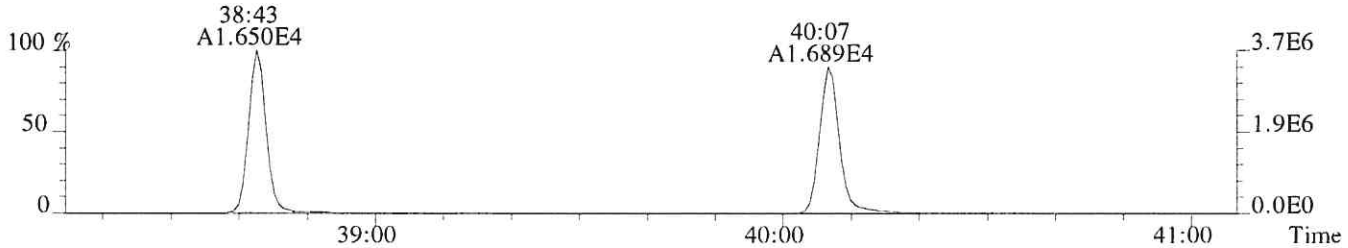
File:P511489 #1-259 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1972.0,0.50%,F,T)



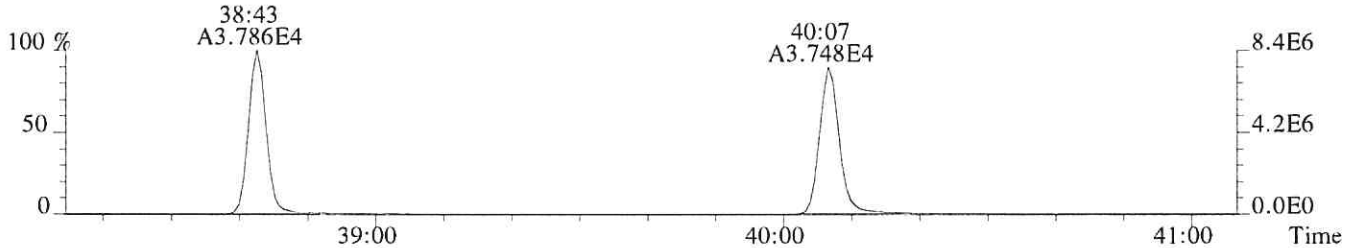
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1720.0,0.50%,F,T)



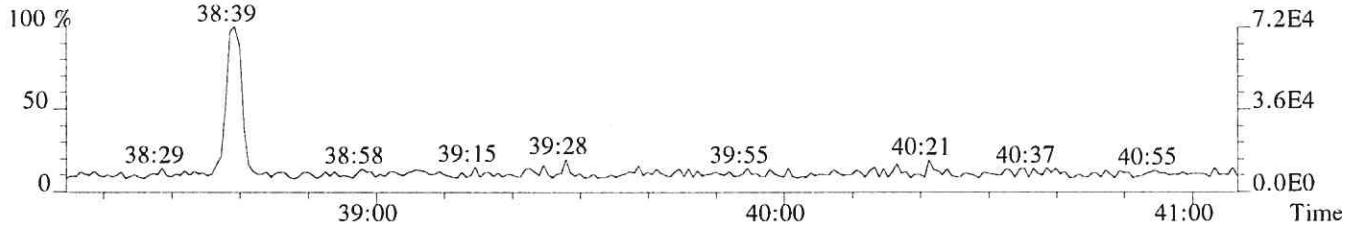
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5016.0,0.50%,F,T)



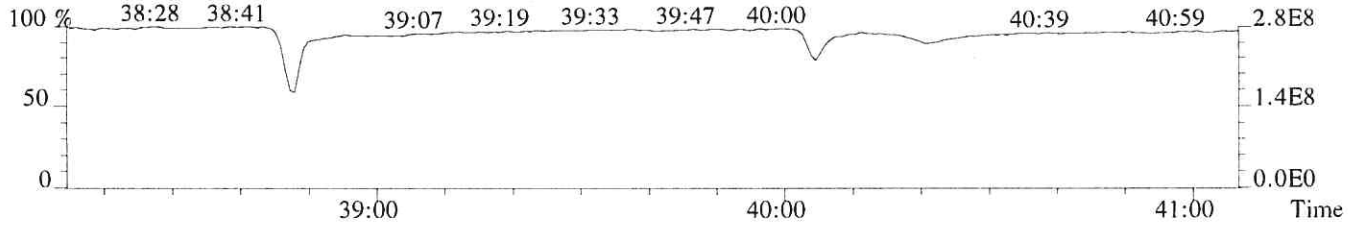
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3060.0,0.50%,F,T)



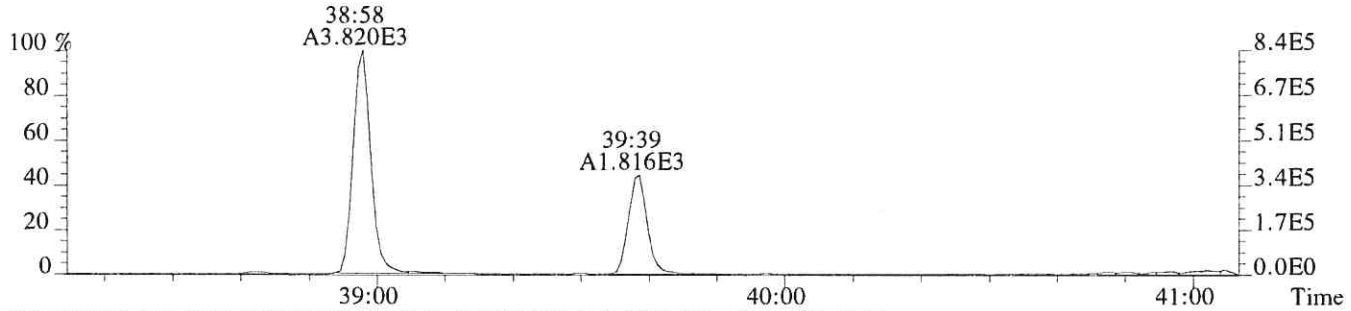
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



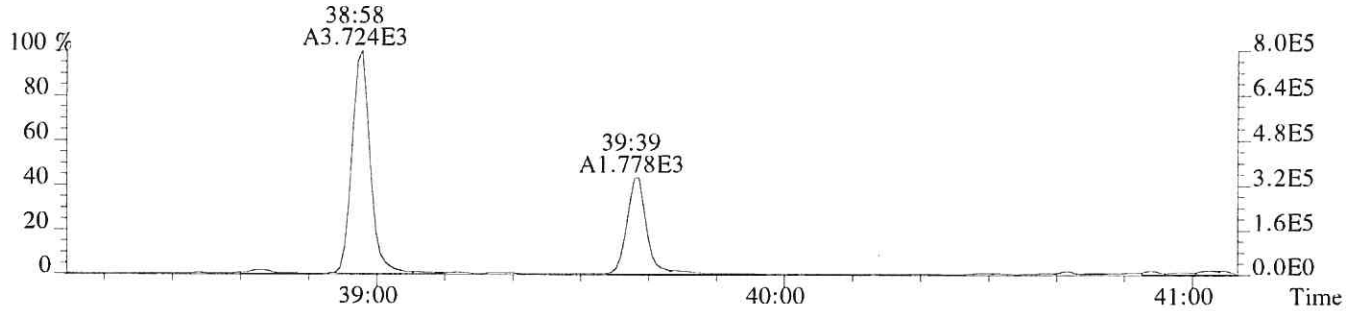
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



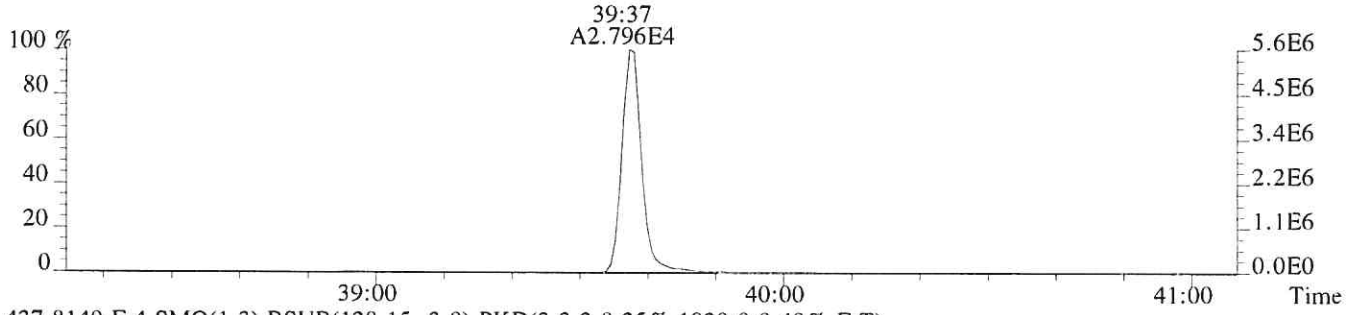
File:P511489 #1-259 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2000.0,0.40%,F,T)



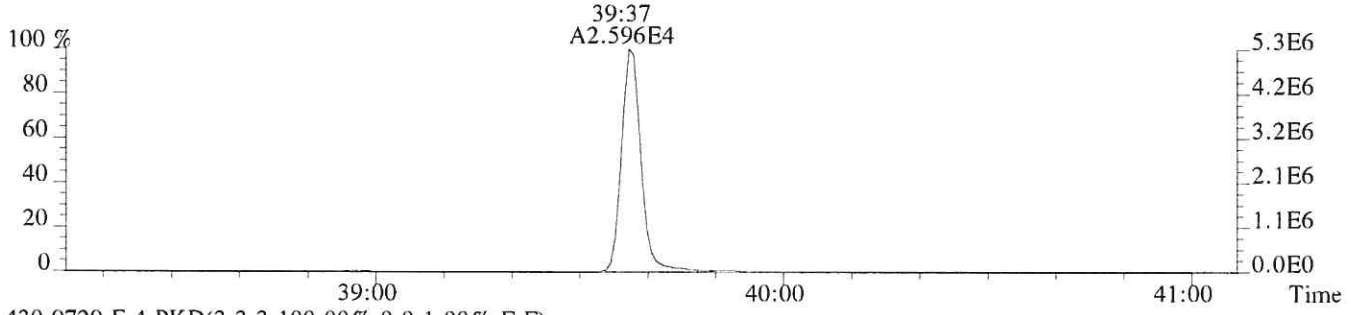
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2504.0,0.40%,F,T)



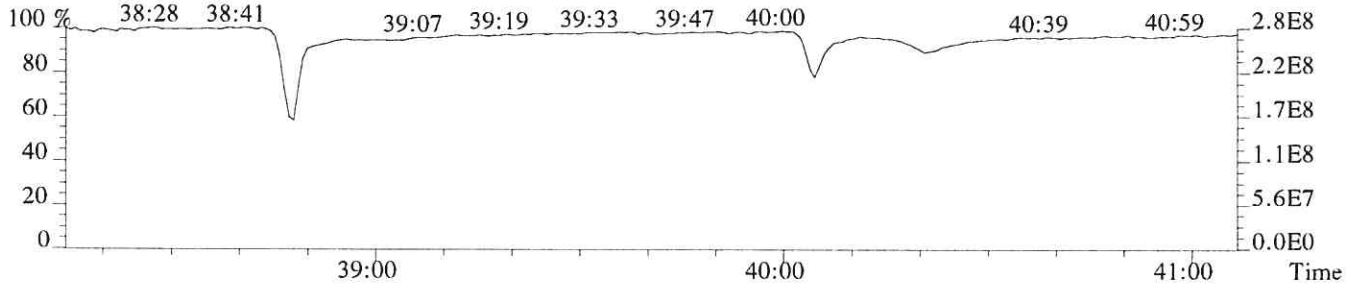
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3888.0,0.40%,F,T)



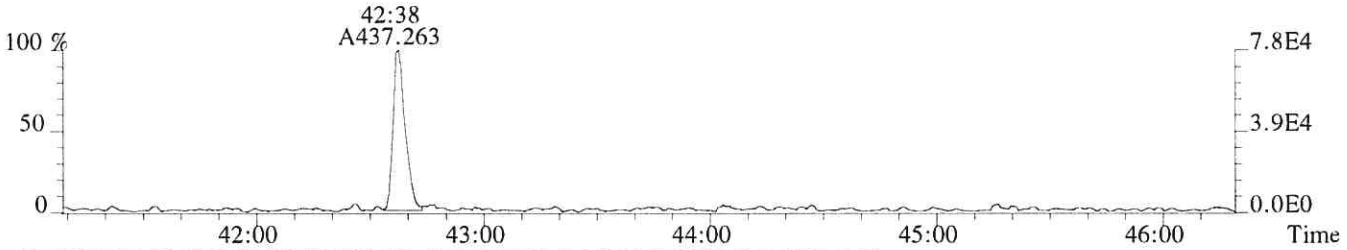
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.40%,F,T)



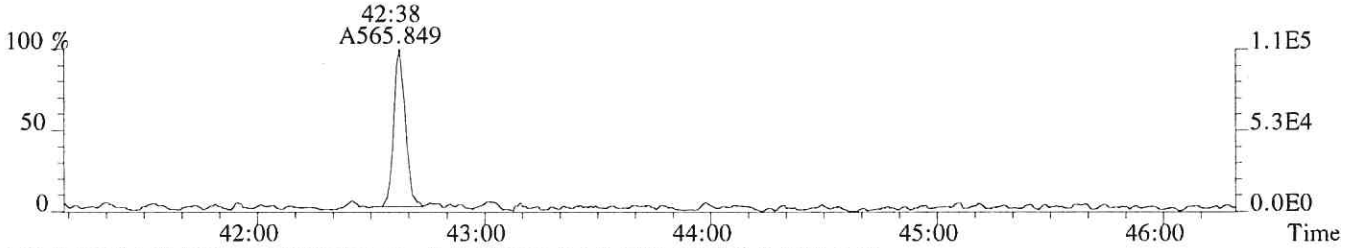
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



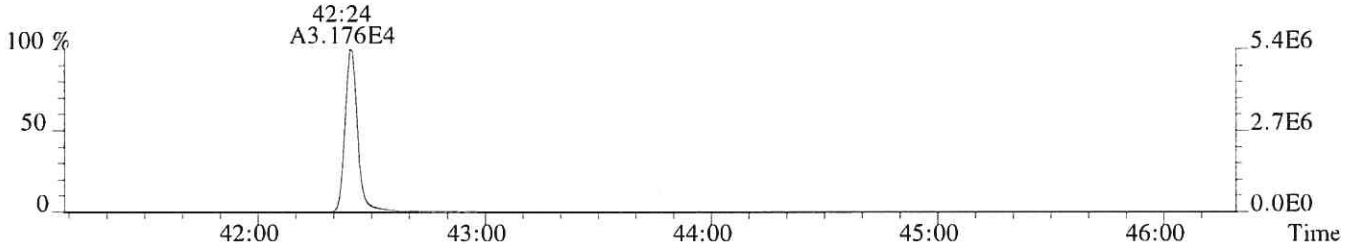
File:P511489 #1-466 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1840.0,0.40%,F,T)



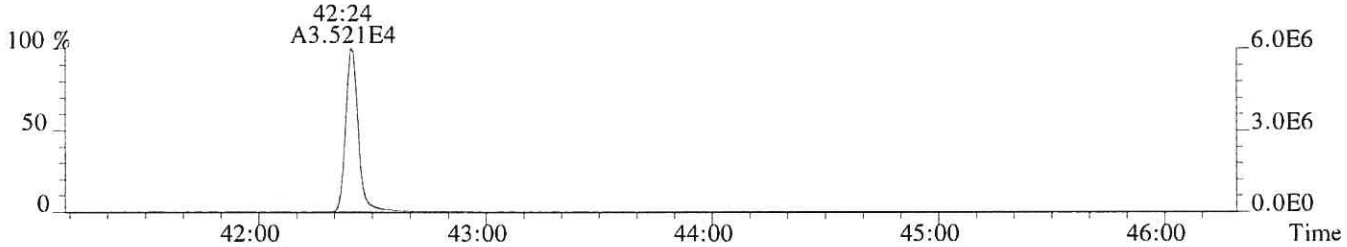
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3500.0,0.40%,F,T)



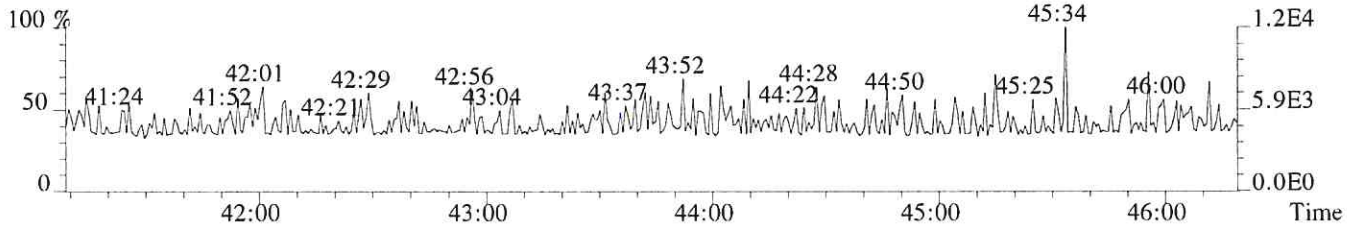
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2368.0,0.40%,F,T)



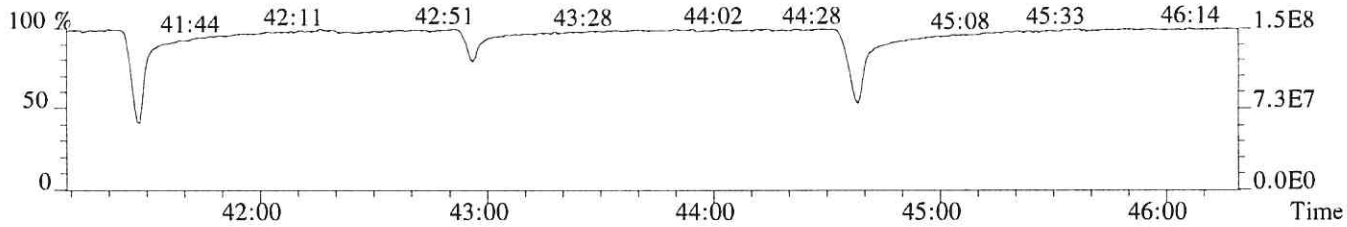
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1400.0,0.40%,F,T)



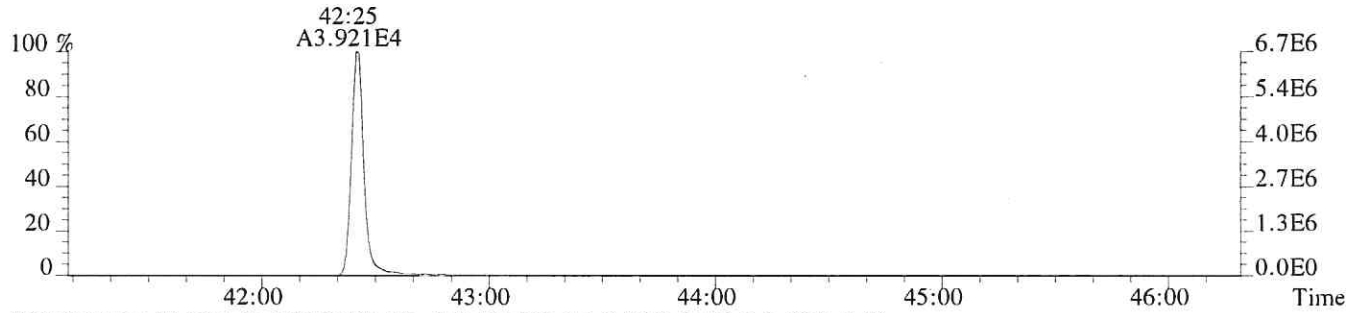
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



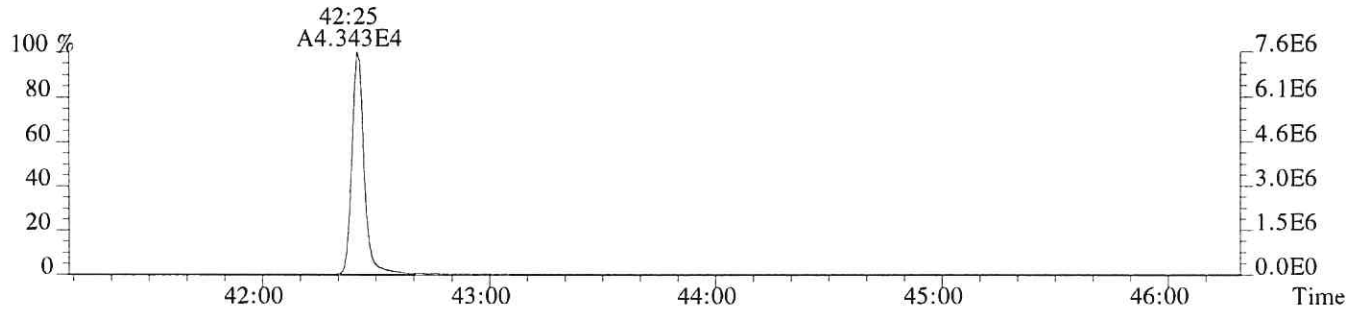
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



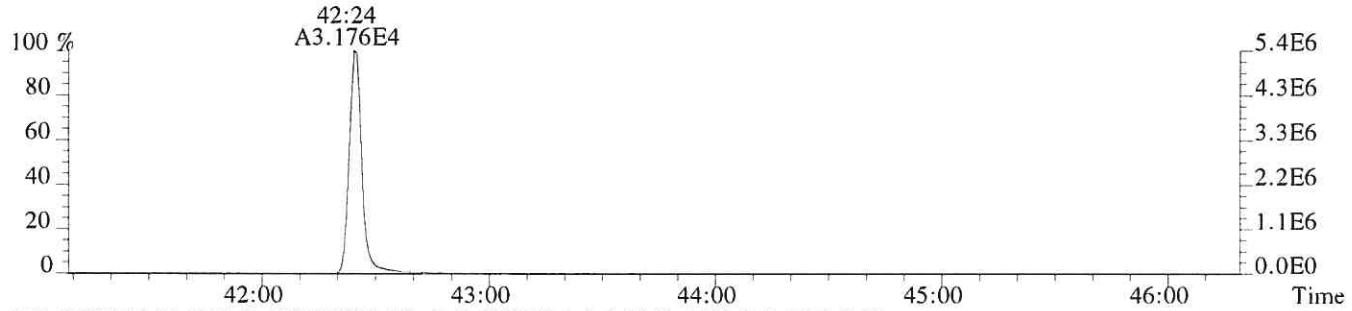
File:P511489 #1-466 Acq:22-SEP-2017 18:24:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-003
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1168.0,0.40%,F,T)



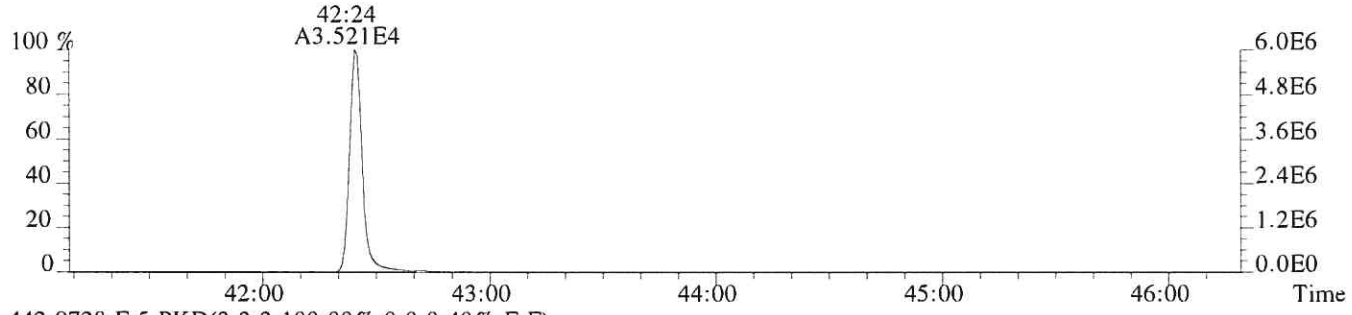
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2456.0,0.40%,F,T)



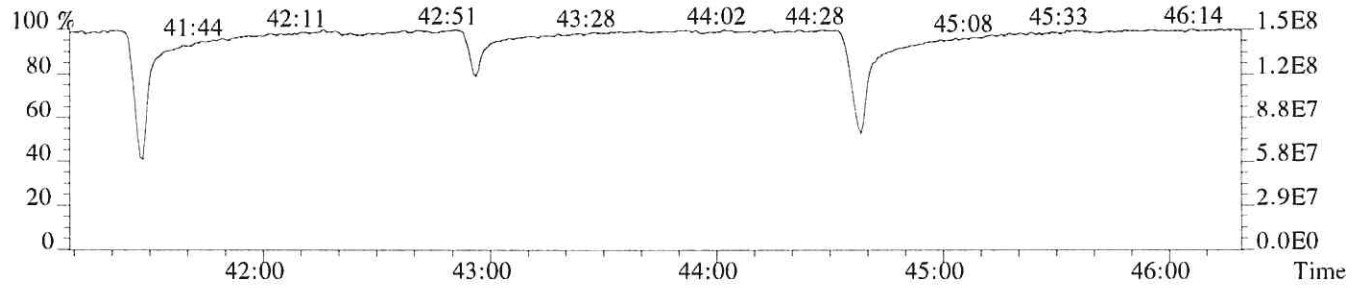
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2368.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1400.0,0.40%,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 P511490 Samp: 1 Inj: 1 Acquired: 22-SEP-17 19:13:24
Processed: 25-SEP-17 07:52:15 Sample ID: E1700973-004

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	9.341e+03	1.283e+04	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:38	3.771e+02	2.850e+02	1.32	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	4.109e+02	2.511e+02	1.64	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	6.136e+02	5.410e+02	1.13	yes	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:16	1.437e+02	1.481e+02	0.97	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	6.447e+01	7.027e+01	0.92	no	yes	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:31	8.270e+01	4.472e+01	1.85	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	4.822e+02	5.061e+02	0.95	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	9.152e+01	1.156e+02	0.79	no	no	1.191
10	Unk	OCDF	42:38	1.938e+03	2.323e+03	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	1.870e+03	2.315e+03	0.81	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:48	6.498e+01	3.478e+01	1.87	no	yes	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:53	2.554e+01	3.345e+01	0.76	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	8.158e+01	8.721e+01	0.94	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	8.607e+01	8.671e+01	0.99	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:39	2.483e+03	2.258e+03	1.10	yes	no	0.942
17	Unk	OCDD	42:25	4.608e+04	5.269e+04	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:32	2.656e+04	3.383e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	4.704e+04	2.981e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	4.827e+04	3.019e+04	1.60	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.023e+04	3.925e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	2.246e+04	4.258e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.186e+04	4.208e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	2.143e+04	4.201e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.212e+04	2.737e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.333e+04	3.047e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:17	1.886e+04	2.366e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	3.355e+04	2.137e+04	1.57	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.899e+04	2.256e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.792e+04	2.219e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	2.017e+04	1.893e+04	1.07	yes	no	0.881
32	IS	13C-OCDD	42:24	2.071e+04	2.268e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:44	4.192e+04	5.205e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.888e+04	5.361e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	2.549e+04				no	1.033

$$\text{OCDD} = \frac{(4.608e+04 + 5.269e+04) \times 4000 \text{ pg} \times 1}{(2.071e+04 + 2.268e+04) \times 10.46 \text{ g} \times 57.4 / 100 \times 1.051} = 1439.4 \text{ ng/kg}$$

KW 9/25/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
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Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-023E

Run #15 Filename P511490 Samp: 1 Inj: 1 Acquired: 22-SEP-17 19:13:24
Processed: 25-SEP-17 07:52:15 LAB. ID: E1700973-004

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.71e+06	1.92e+03	8.9e+02	2.36e+06	5.54e+03	4.3e+02
2	1,2,3,7,8-PeCDF	7.39e+04	1.83e+03	4.0e+01	5.42e+04	7.75e+03	7.0e+00
3	2,3,4,7,8-PeCDF	6.33e+04	1.83e+03	3.5e+01	4.42e+04	7.75e+03	5.7e+00
4	1,2,3,4,7,8-HxCDF	1.37e+05	1.23e+03	1.1e+02	1.22e+05	1.70e+03	7.2e+01
5	1,2,3,6,7,8-HxCDF	3.10e+04	1.23e+03	2.5e+01	2.77e+04	1.70e+03	1.6e+01
6	2,3,4,6,7,8-HxCDF	1.51e+04	1.23e+03	1.2e+01	1.62e+04	1.70e+03	9.5e+00
7	1,2,3,7,8,9-HxCDF	1.64e+04	1.23e+03	1.3e+01	9.63e+03	1.70e+03	5.7e+00
8	1,2,3,4,6,7,8-HpCDF	1.08e+05	1.46e+03	7.4e+01	1.09e+05	1.63e+03	6.7e+01
9	1,2,3,4,7,8,9-HpCDF	1.72e+04	1.46e+03	1.2e+01	2.44e+04	1.63e+03	1.5e+01
10	OCDF	3.54e+05	1.35e+03	2.6e+02	4.19e+05	3.14e+03	1.3e+02
11	2,3,7,8-TCDD	3.75e+05	5.51e+03	6.8e+01	4.67e+05	2.22e+03	2.1e+02
12	1,2,3,7,8-PeCDD	1.34e+04	4.76e+03	2.8e+00	8.10e+03	1.29e+03	6.3e+00
13	1,2,3,4,7,8-HxCDD	6.82e+03	2.03e+03	3.4e+00	7.99e+03	2.10e+03	3.8e+00
14	1,2,3,6,7,8-HxCDD	1.80e+04	2.03e+03	8.9e+00	1.75e+04	2.10e+03	8.3e+00
15	1,2,3,7,8,9-HxCDD	2.15e+04	2.03e+03	1.1e+01	1.90e+04	2.10e+03	9.0e+00
16	1,2,3,4,6,7,8-HpCDD	5.00e+05	2.87e+03	1.7e+02	4.54e+05	5.20e+03	8.7e+01
17	OCDD	7.96e+06	1.34e+03	5.9e+03	9.20e+06	2.10e+03	4.4e+03
18	13C-2,3,7,8-TCDF	5.14e+06	3.33e+04	1.5e+02	6.61e+06	1.34e+04	4.9e+02
19	13C-1,2,3,7,8-PeCDF	9.09e+06	2.59e+03	3.5e+03	5.83e+06	1.95e+03	3.0e+03
20	13C-2,3,4,7,8-PeCDF	9.88e+06	2.59e+03	3.8e+03	6.13e+06	1.95e+03	3.1e+03
21	13C-1,2,3,4,7,8-HxCDF	4.47e+06	1.92e+03	2.3e+03	8.67e+06	3.40e+03	2.5e+03
22	13C-1,2,3,6,7,8-HxCDF	4.71e+06	1.92e+03	2.5e+03	8.86e+06	3.40e+03	2.6e+03
23	13C-2,3,4,6,7,8-HxCDF	4.80e+06	1.92e+03	2.5e+03	9.30e+06	3.40e+03	2.7e+03
24	13C-1,2,3,7,8,9-HxCDF	4.66e+06	1.92e+03	2.4e+03	8.97e+06	3.40e+03	2.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.70e+06	4.12e+03	6.6e+02	6.08e+06	4.22e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.67e+06	4.12e+03	6.5e+02	6.13e+06	4.22e+03	1.5e+03
27	13C-2,3,7,8-TCDD	3.82e+06	8.84e+03	4.3e+02	4.71e+06	6.45e+03	7.3e+02
28	13C-1,2,3,7,8-PeCDD	6.72e+06	3.02e+03	2.2e+03	4.24e+06	2.99e+03	1.4e+03
29	13C-1,2,3,4,7,8-HxCDD	6.54e+06	3.14e+03	2.1e+03	5.15e+06	2.89e+03	1.8e+03
30	13C-1,2,3,6,7,8-HxCDD	6.09e+06	3.14e+03	1.9e+03	4.90e+06	2.89e+03	1.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.01e+06	3.08e+03	1.3e+03	3.88e+06	1.68e+03	2.3e+03
32	13C-OCDD	3.54e+06	2.11e+03	1.7e+03	3.96e+06	1.26e+03	3.1e+03
33	13C-1,2,3,4-TCDD	8.38e+06	8.84e+03	9.5e+02	1.03e+07	6.45e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	1.49e+07	3.14e+03	4.7e+03	1.17e+07	2.89e+03	4.1e+03
35	37Cl-2,3,7,8-TCDD	5.25e+06	3.66e+03	1.4e+03			

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 15 File: P511490 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 303.9020 305.8990 Tot Response: 3.77e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:00	4.34e+02	5.68e+02	0.77	yes	1.00e+03		n	n
2	26:41	3.25e+02	4.34e+02	0.75	yes	7.59e+02		n	n
3	27:21	3.87e+02	5.11e+02	0.76	yes	8.98e+02		n	n
4	27:47	3.91e+03	5.24e+03	0.75	yes	9.16e+03		n	n
5	28:01	2.08e+02	2.96e+02	0.70	yes	5.04e+02		n	n
6	28:32	9.34e+03	1.28e+04	0.73	yes	2.22e+04	2,3,7,8-TCDF	n	n
7	28:52	6.39e+02	8.48e+02	0.75	yes	1.49e+03		n	n
8	30:19	7.30e+02	1.04e+03	0.70	yes	1.77e+03		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 15 File: P511490 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 319.8970 321.8940 Tot Response: 4.60e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:18	1.87e+03	2.32e+03	0.81	yes	4.19e+03	2,3,7,8-TCDD	n	n
2	29:35	1.80e+02	2.36e+02	0.76	yes	4.16e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 15 File: P511490 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 339.8600 341.8570 Tot Response: 1.32e+03 RRF: 0.8606

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:38	3.77e+02	2.85e+02	1.32	yes	6.62e+02	1,2,3,7,8-PeCDF	n	y
2	33:31	4.11e+02	2.51e+02	1.64	yes	6.62e+02	2,3,4,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 15 File: P511490 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 355.8550 357.8520 Tot Response: 1.65e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:44	9.53e+01	7.00e+01	1.36	yes	1.65e+02	y	n

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 15 File: P511490 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 373.8210 375.8180 Tot Response: 2.00e+03 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:04	6.34e+01	4.70e+01	1.35	yes	1.10e+02		n	n
2	35:12	2.26e+02	1.85e+02	1.22	yes	4.11e+02		n	n
3	35:44	1.69e+02	1.57e+02	1.08	yes	3.25e+02		n	n
4	36:09	6.14e+02	5.41e+02	1.13	yes	1.15e+03	1,2,3,4,7,8-HxCDF	y	n

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 15 File: P511490 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 389.8160 391.8130 Tot Response: 3.92e+03 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	1.57e+03	1.23e+03	1.28	yes	2.80e+03	n	n
2	36:04	7.35e+01	5.55e+01	1.32	yes	1.29e+02	n	n
3	36:18	5.11e+02	4.06e+02	1.26	yes	9.17e+02	n	n
4	37:07	4.35e+01	3.16e+01	1.38	yes	7.51e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-023E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 15 File: P511490 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 407.7820 409.7790 Tot Response: 2.05e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	4.82e+02	5.06e+02	0.95	yes	9.88e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:07	5.14e+02	5.48e+02	0.94	yes	1.06e+03		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-023E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P511490 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 19:13:24 Processed: 25-SEP-17 07:52:15

Mass: 423.7770 425.7740 Tot Response: 1.73e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:58	6.43e+03	6.14e+03	1.05	yes	1.26e+04		n	n
2	39:39	2.48e+03	2.26e+03	1.10	yes	4.74e+03	1,2,3,4,6,7,8-HpCDD	n	n

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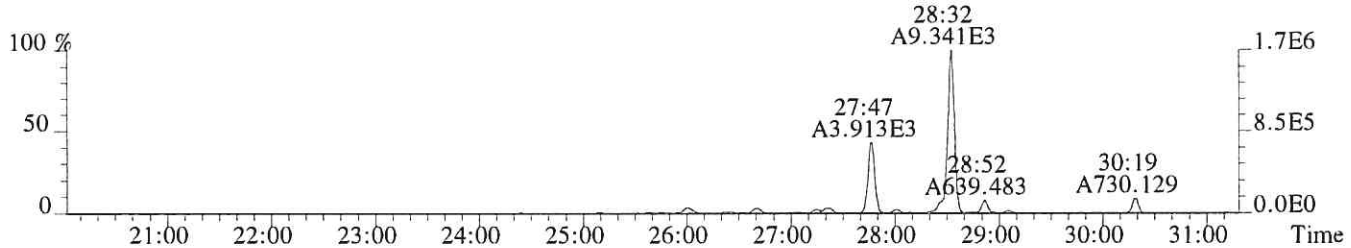
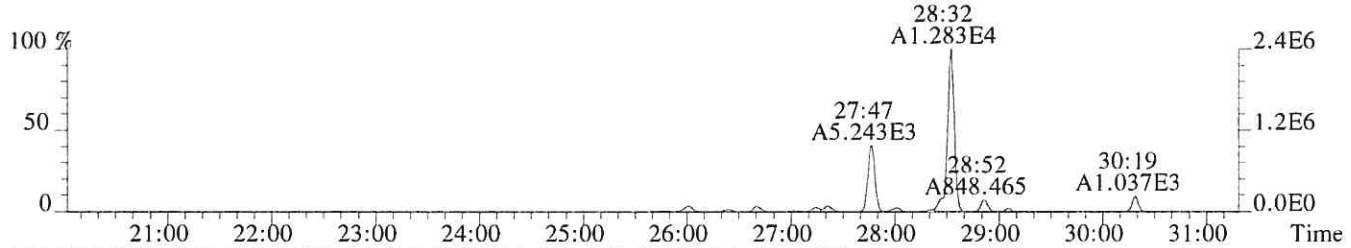
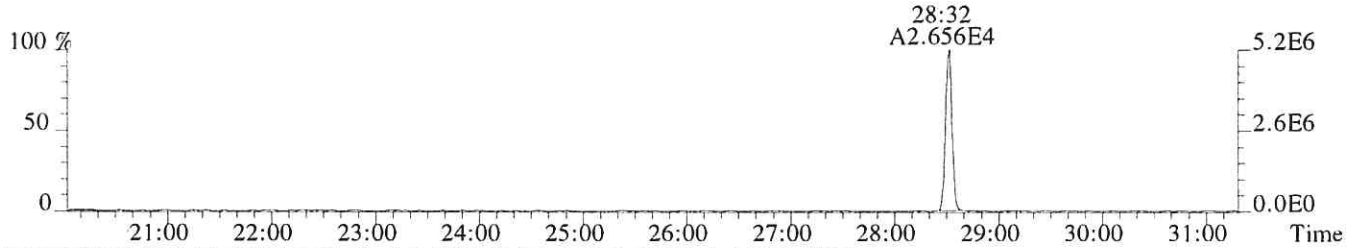
File:P511490 #1-800 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1916.0,1.00%,F,T)



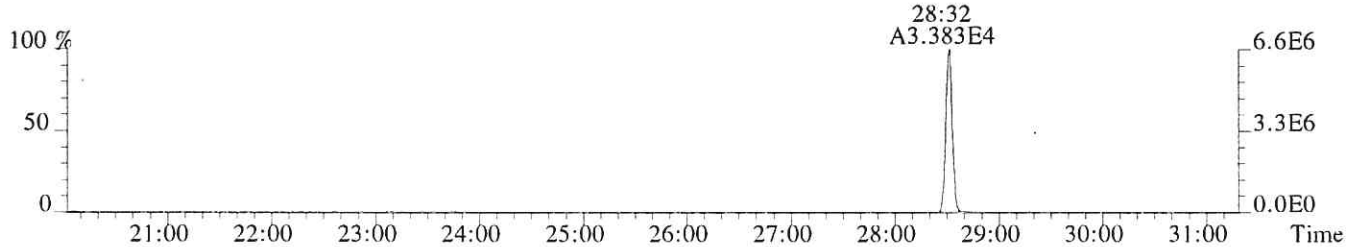
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5536.0,1.00%,F,T)



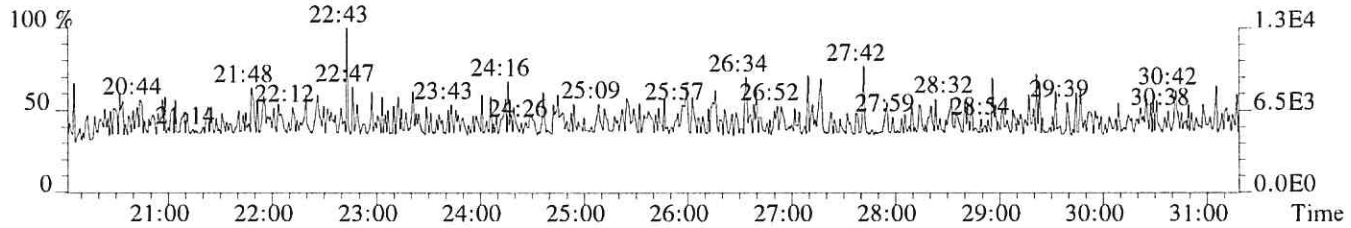
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,33252.0,1.00%,F,T)



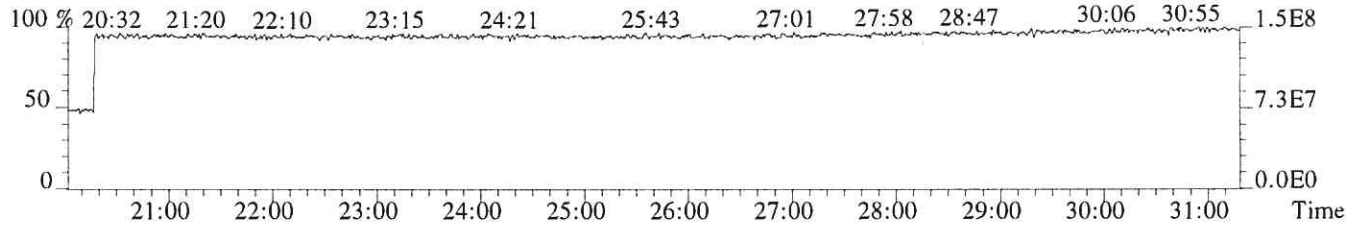
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13420.0,1.00%,F,T)



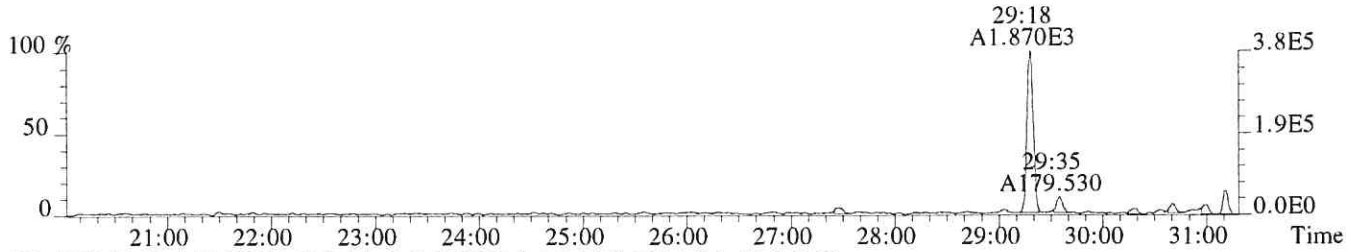
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



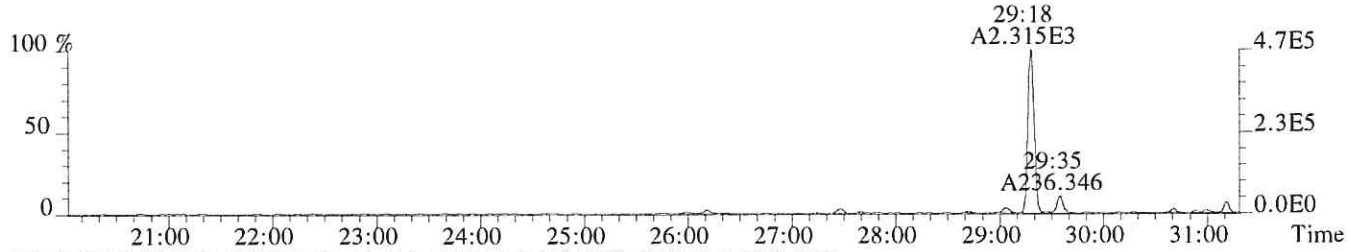
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



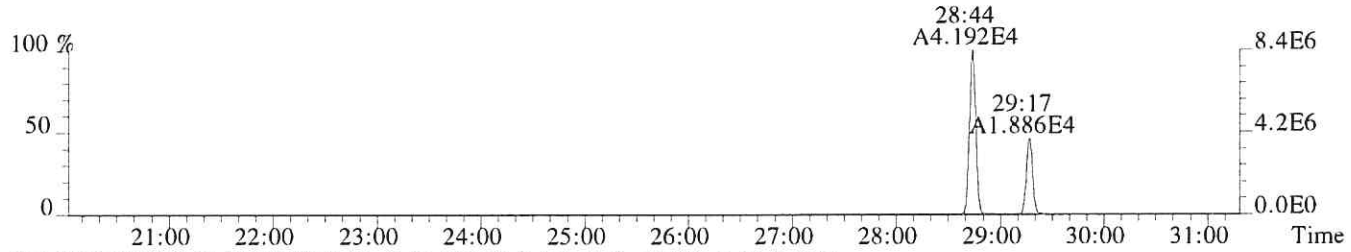
File:P511490 #1-800 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5512.0,1.00%,F,T)



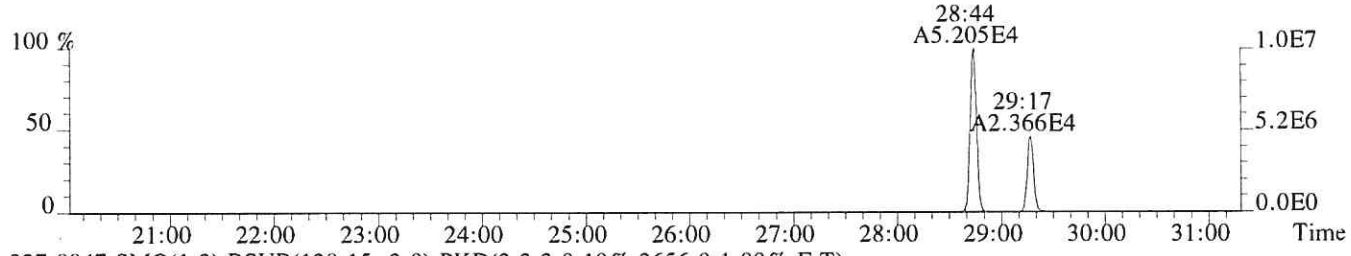
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2216.0,1.00%,F,T)



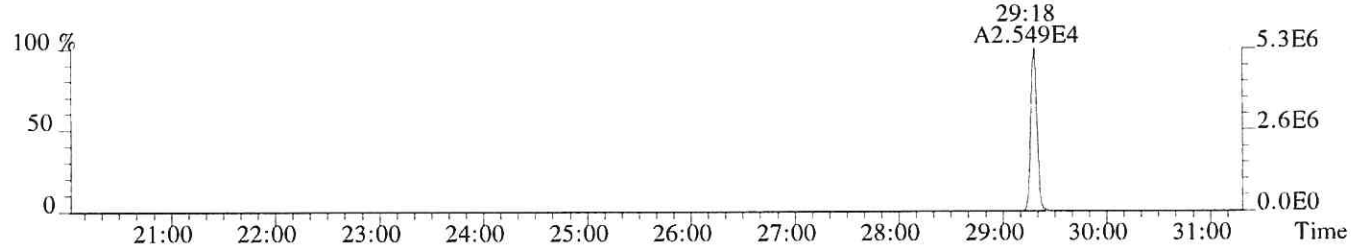
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8840.0,1.00%,F,T)



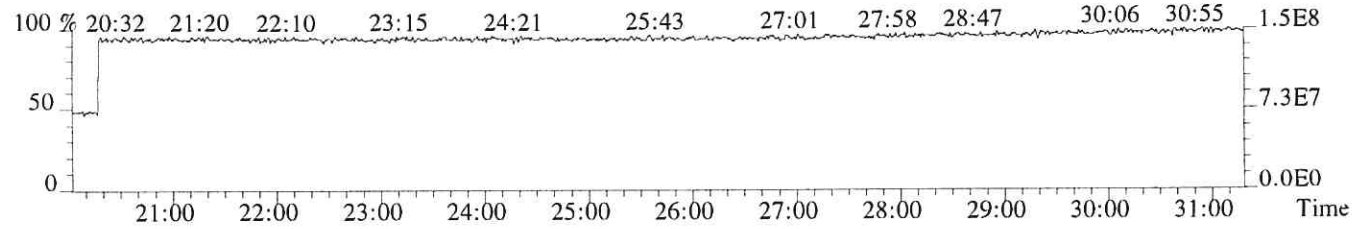
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6448.0,1.00%,F,T)



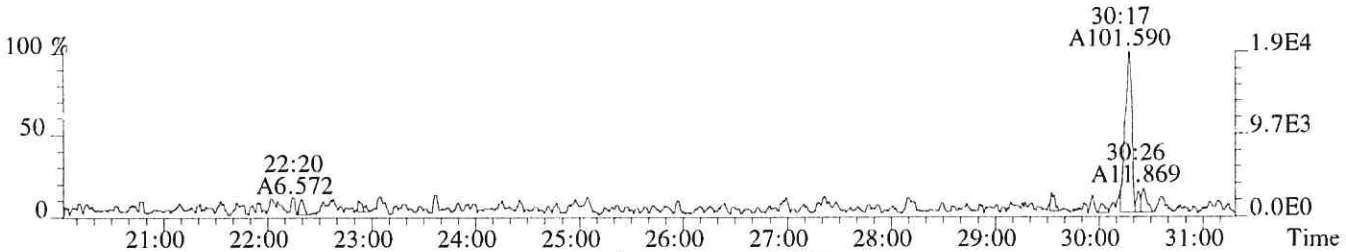
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3656.0,1.00%,F,T)



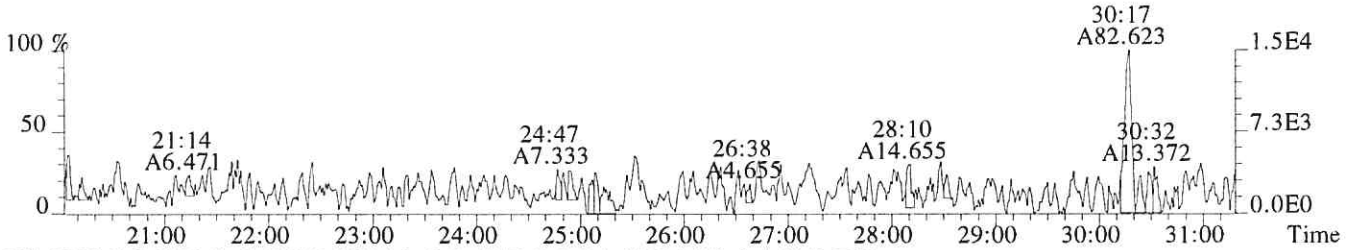
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



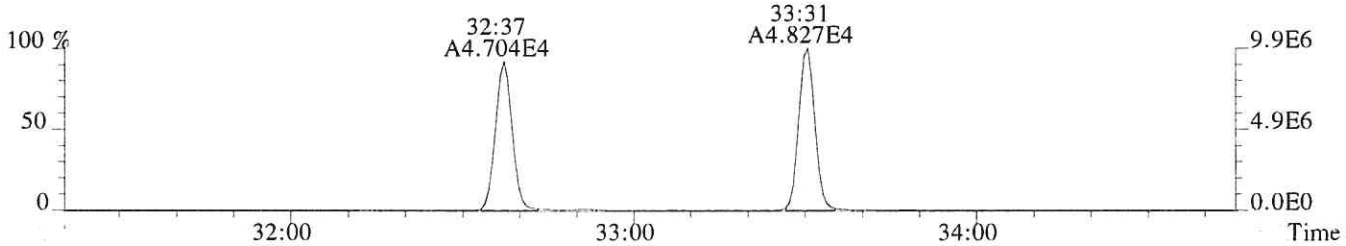
File:P511490 #1-800 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



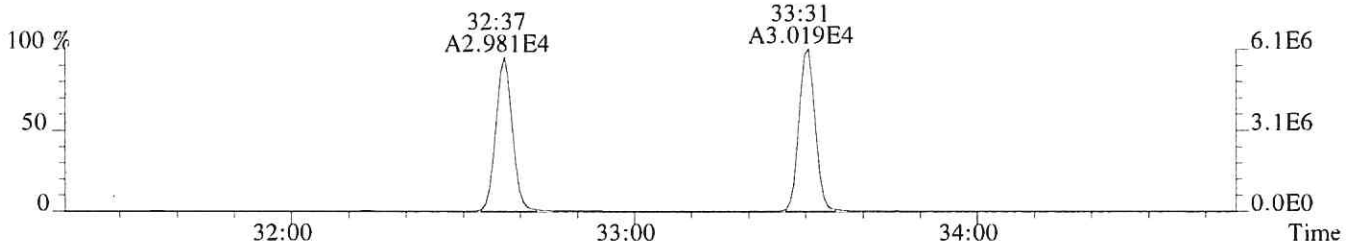
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2396.0,1.00%,F,T)



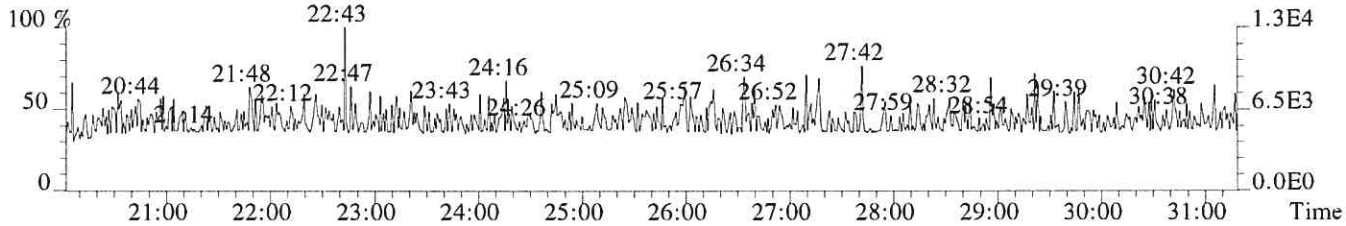
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2588.0,1.00%,F,T)



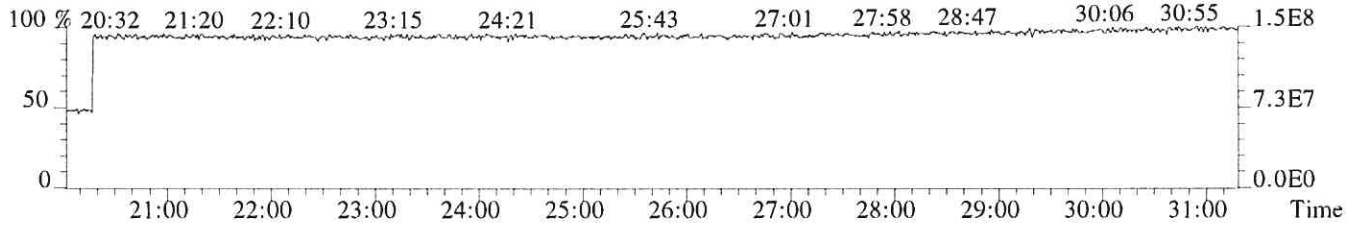
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



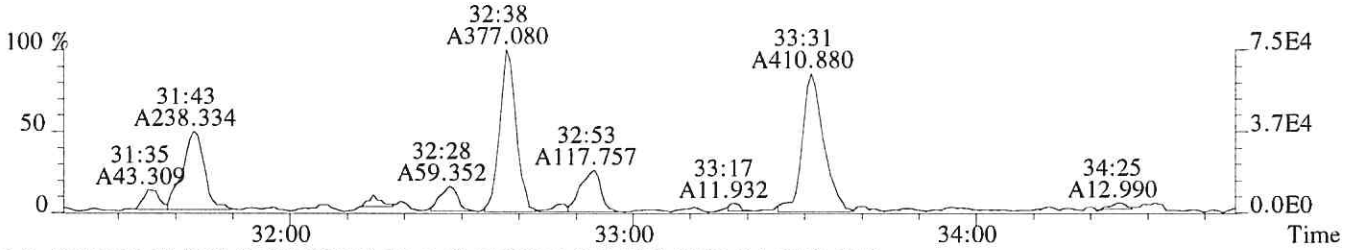
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



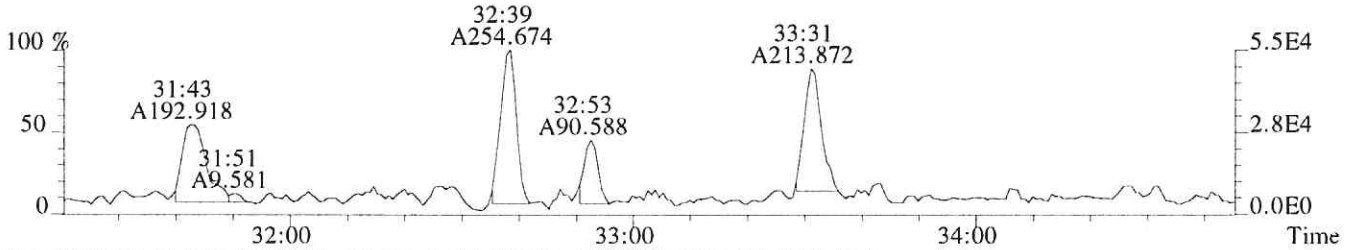
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



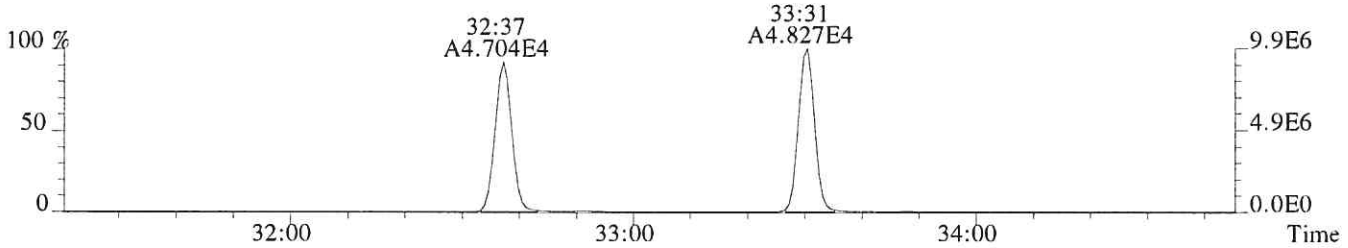
File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)



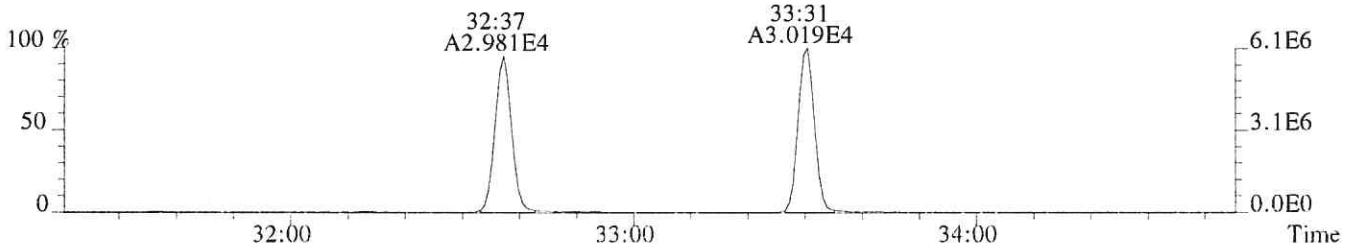
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7752.0,1.00%,F,T)



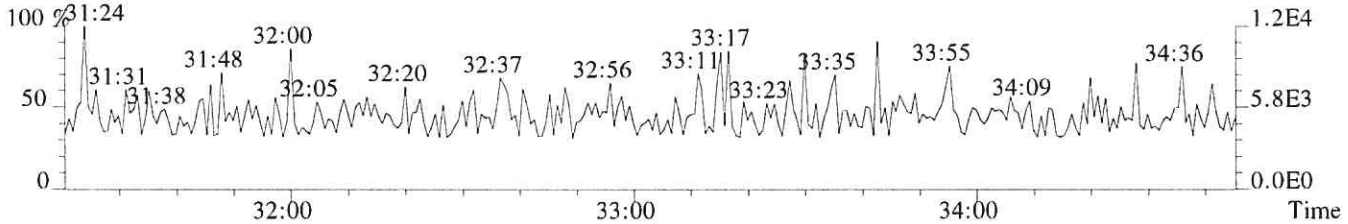
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2588.0,1.00%,F,T)



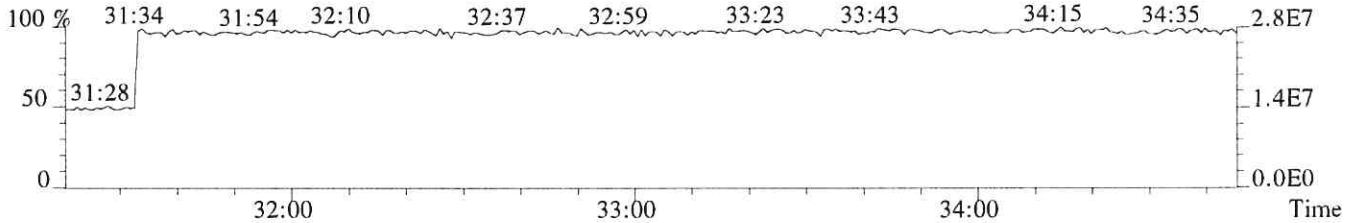
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



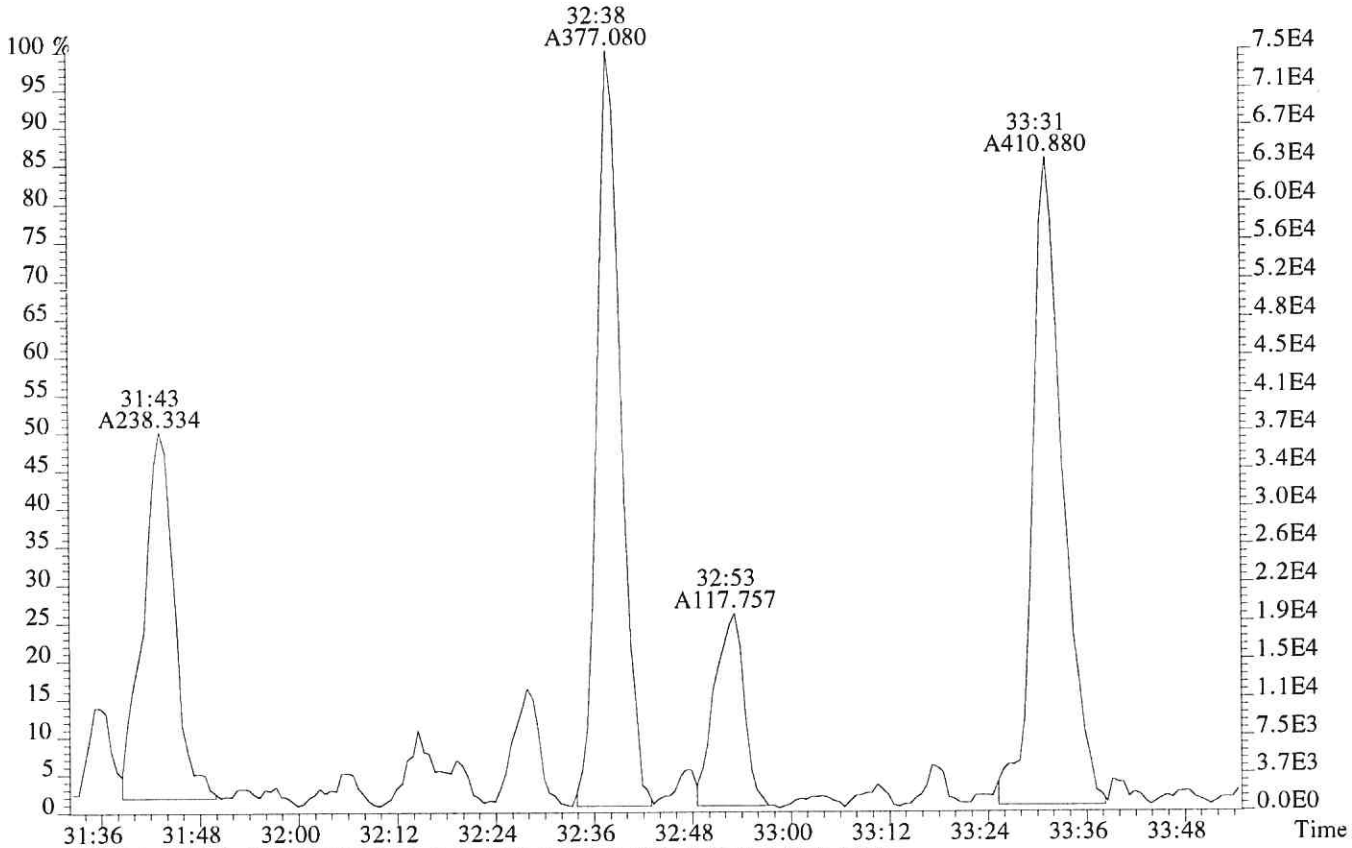
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



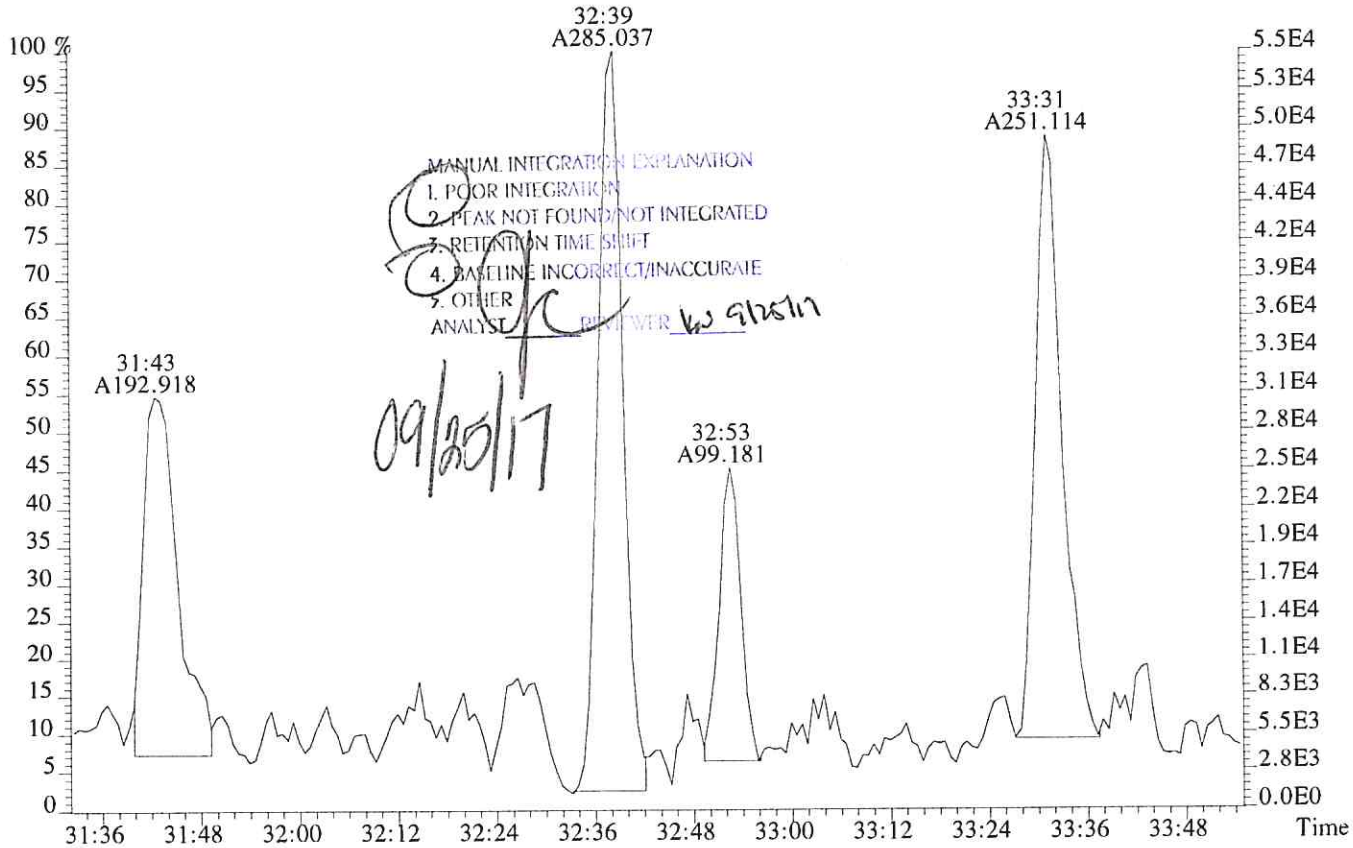
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,T)

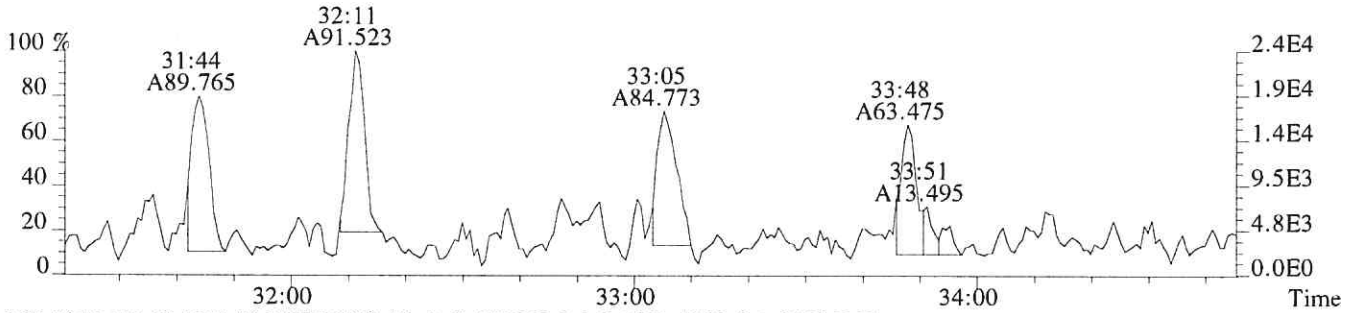


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7752.0,1.00%,F,T)

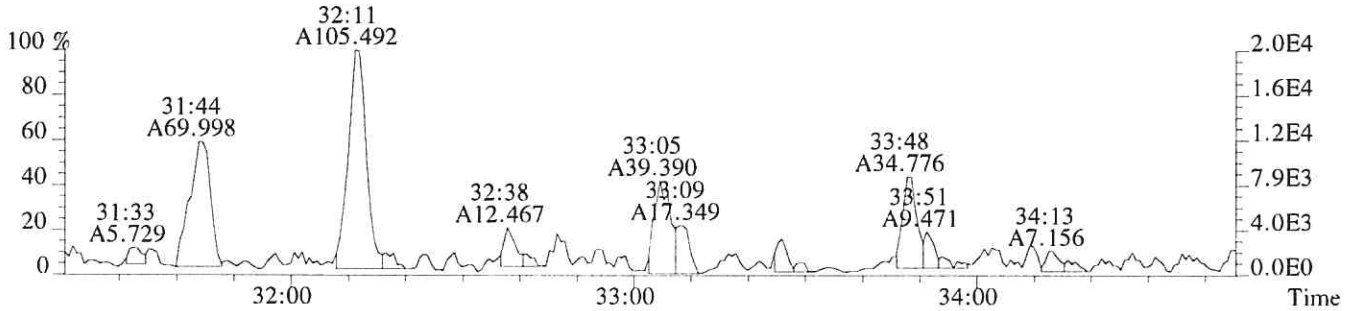


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST [illegible] REVIEWER KW 9/25/17
09/25/17

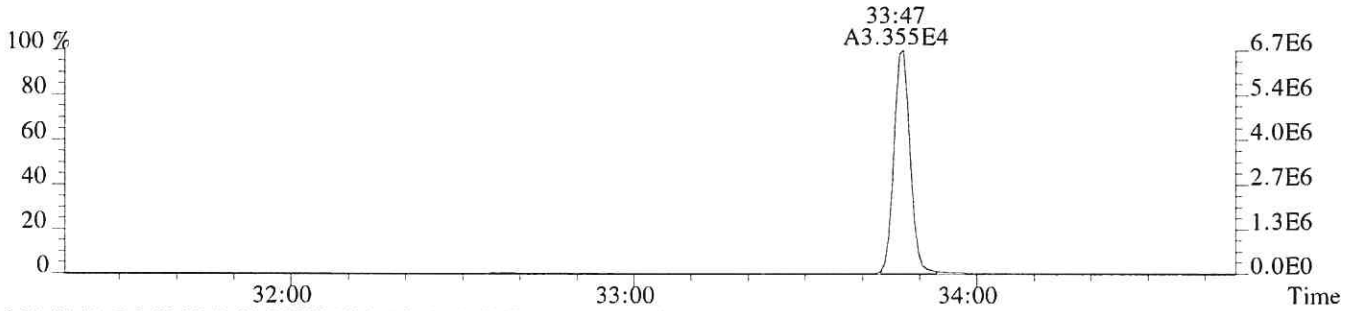
File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4764.0,1.00%,F,T)



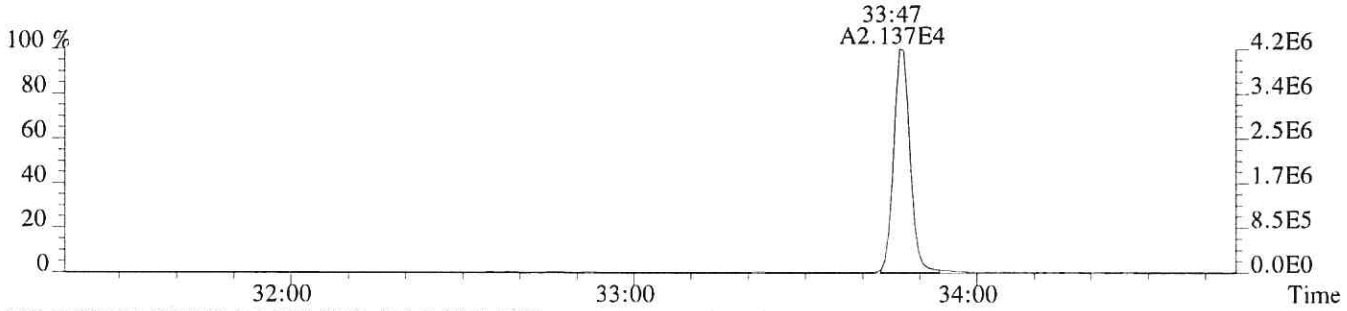
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1288.0,1.00%,F,T)



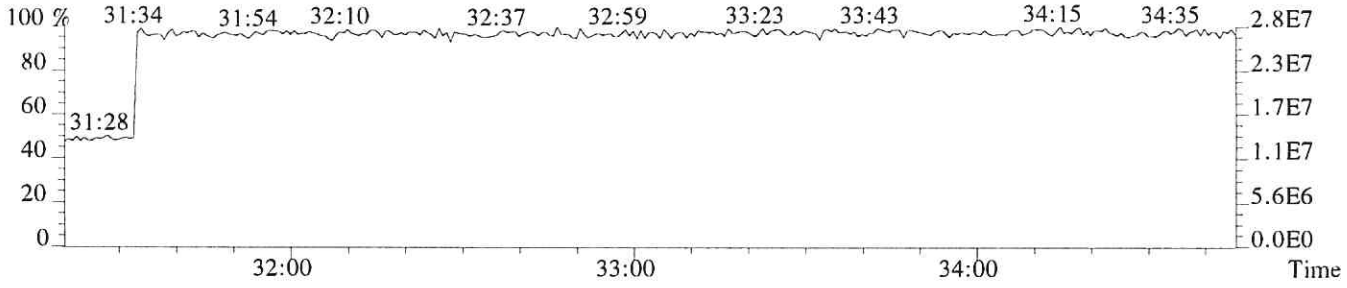
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3024.0,1.00%,F,T)



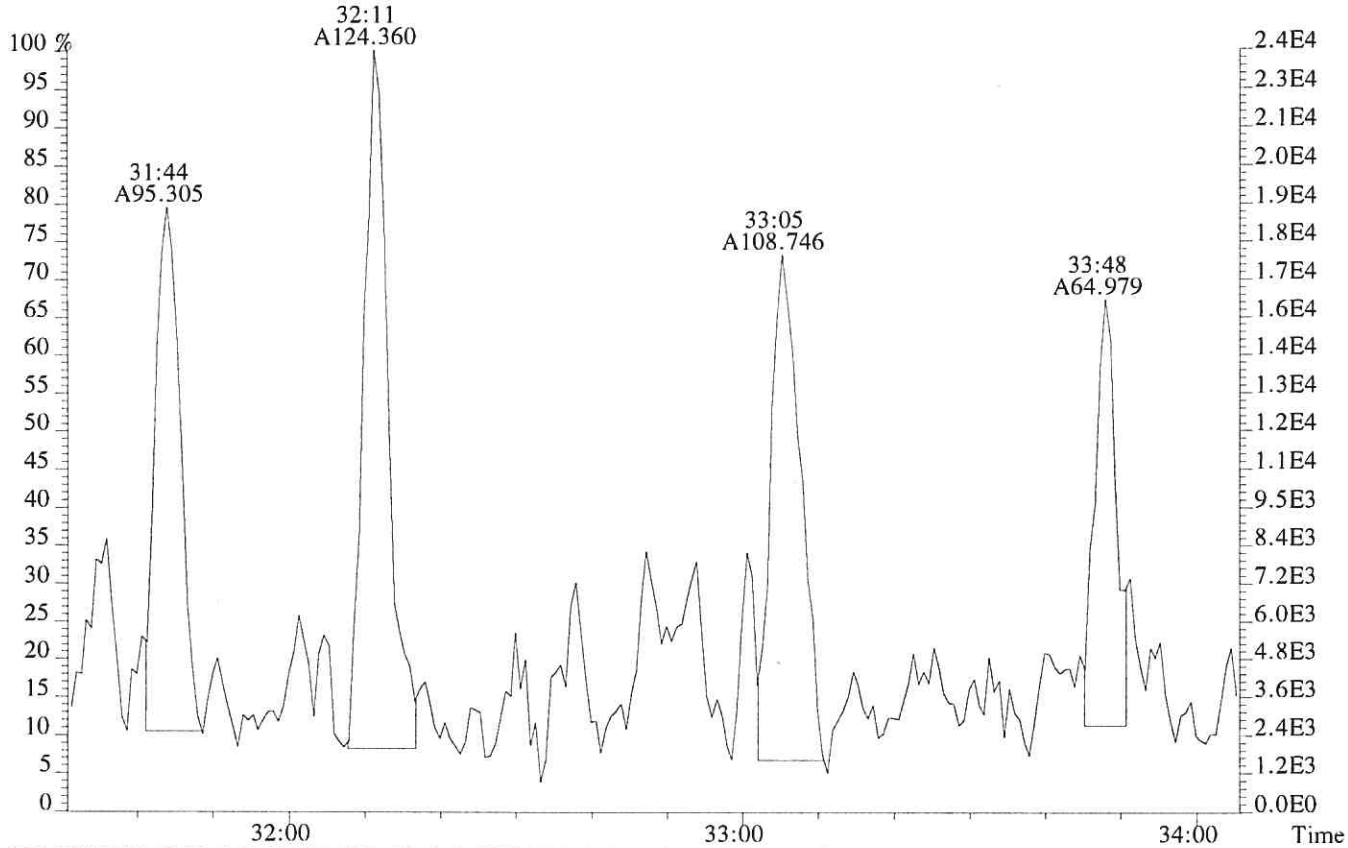
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



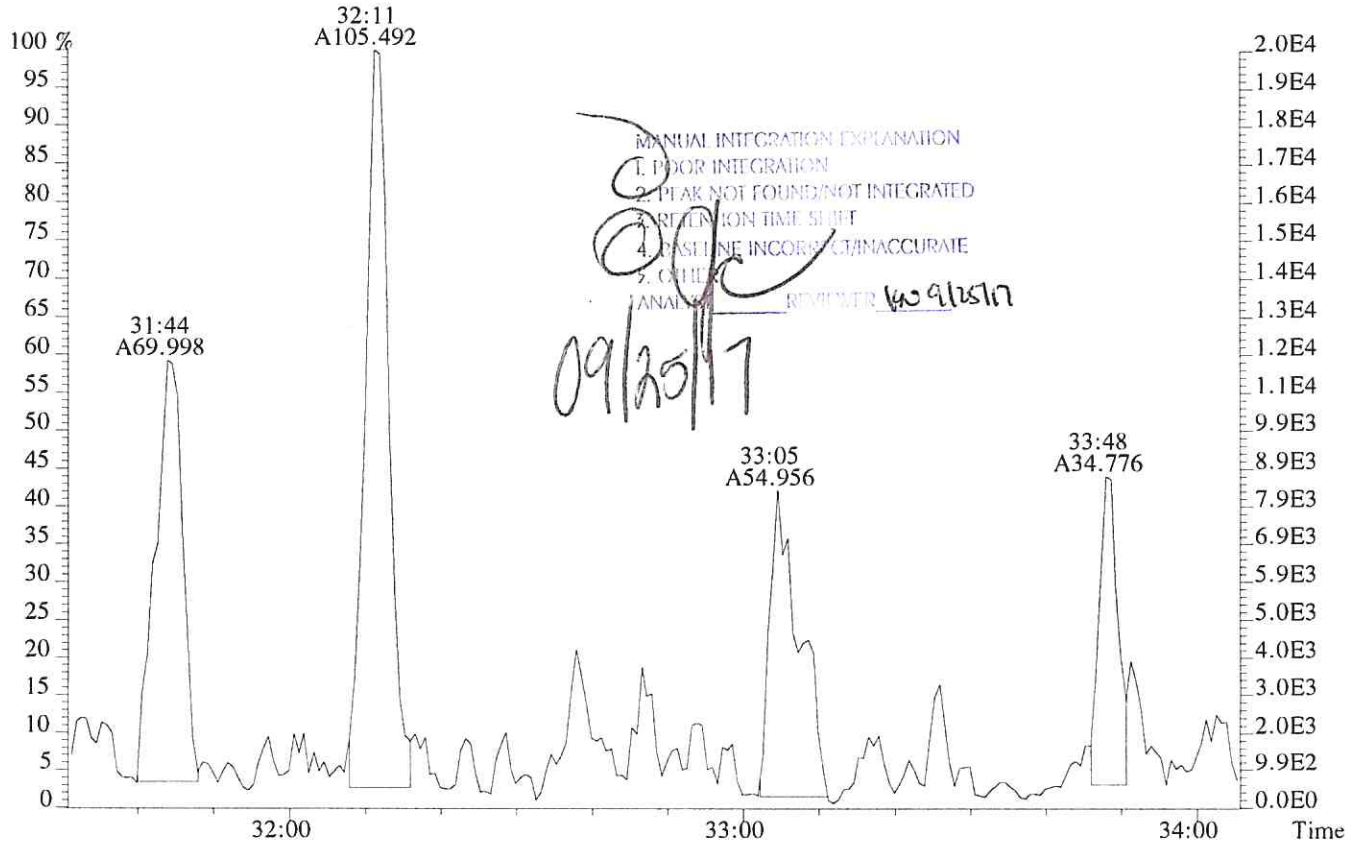
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4764.0,1.00%,F,T)

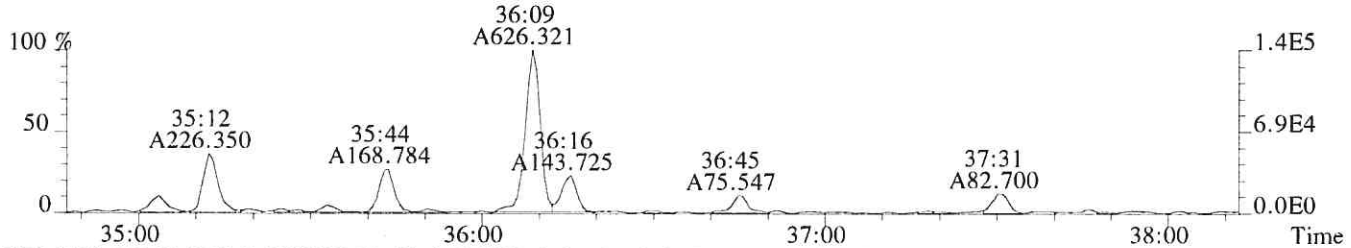


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1288.0,1.00%,F,T)

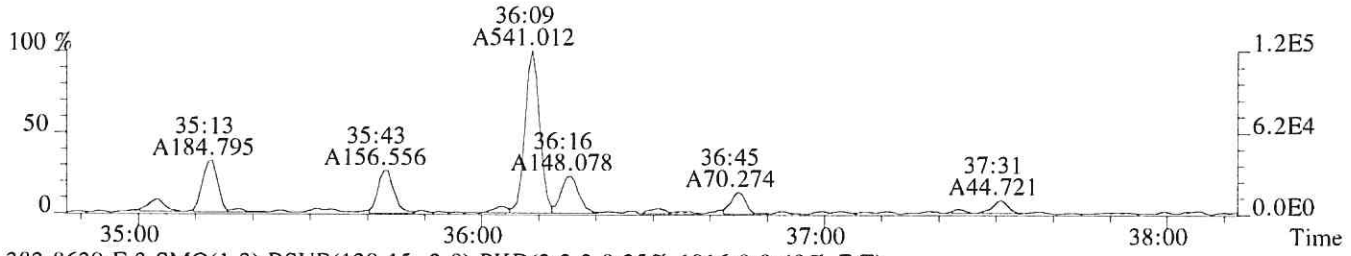


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER KO 9/25/17
09/25/17

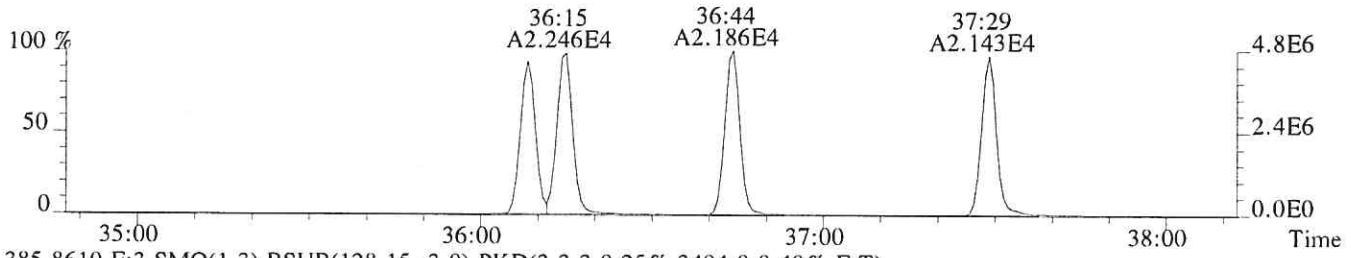
File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



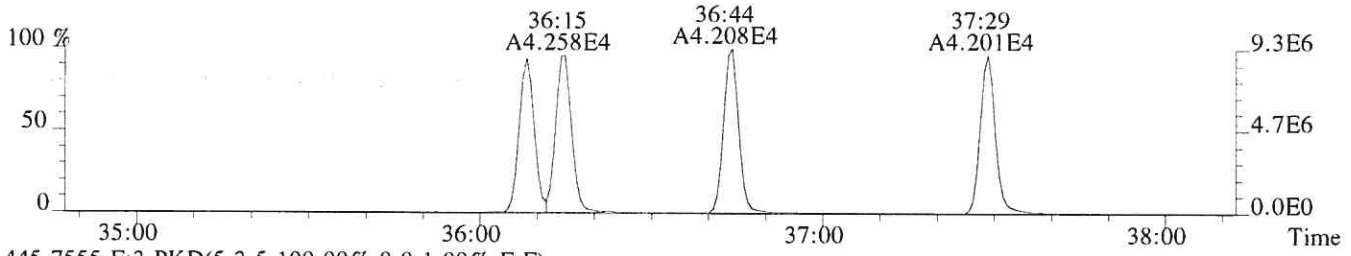
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)



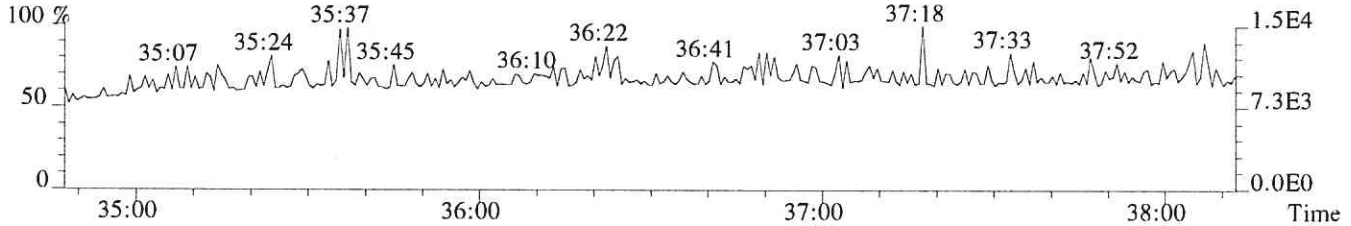
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1916.0,0.40%,F,T)



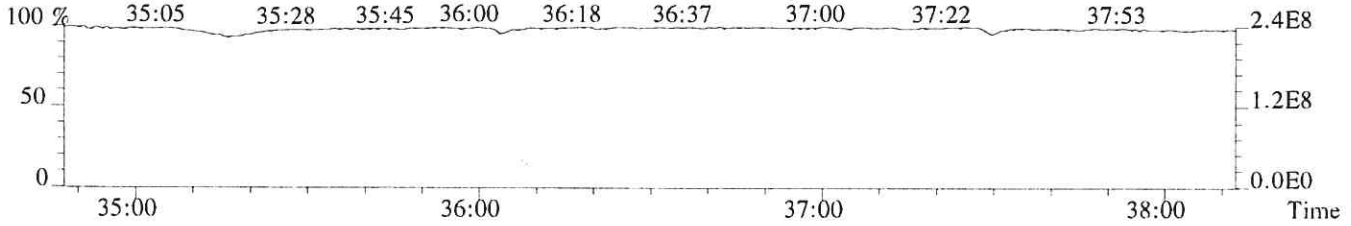
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3404.0,0.40%,F,T)



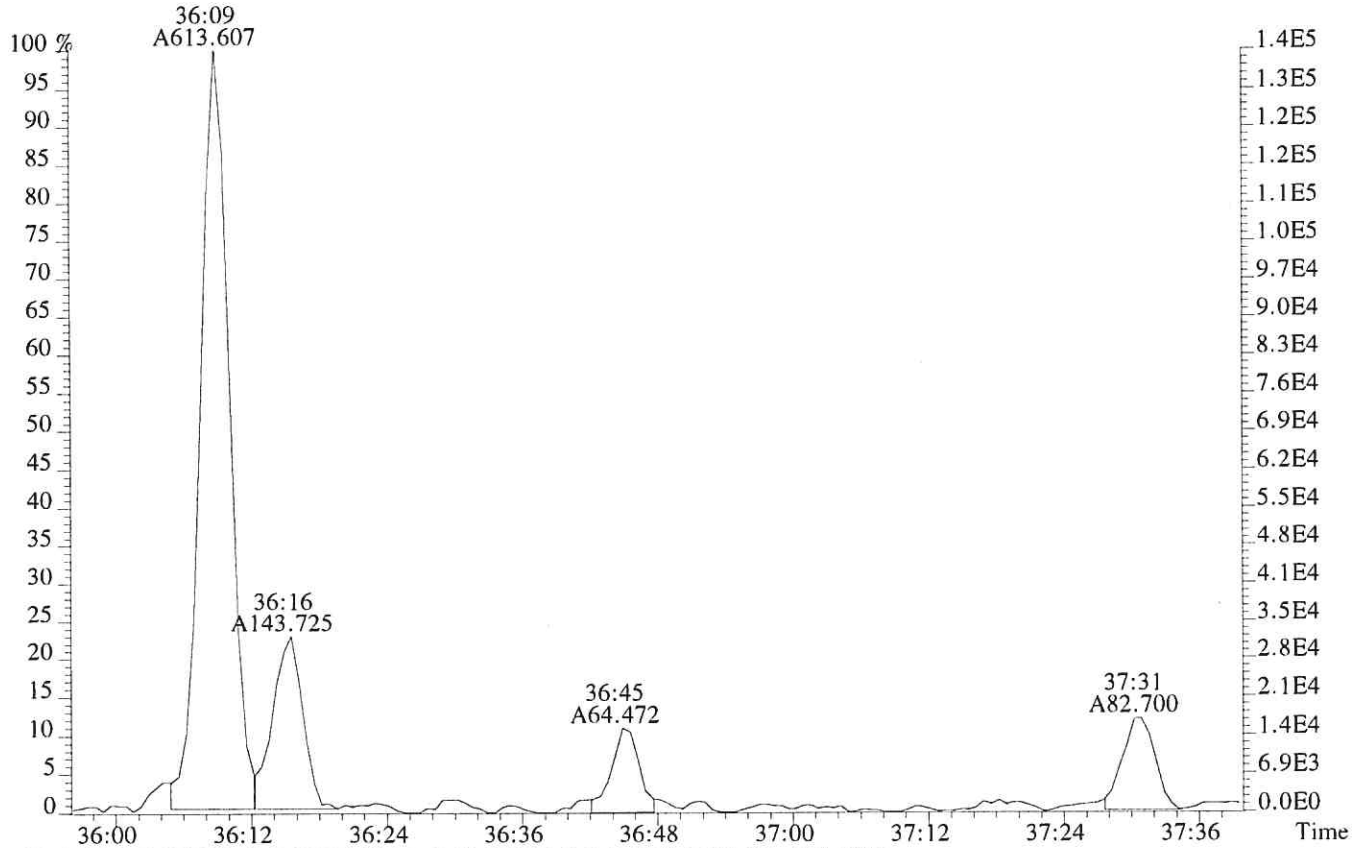
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



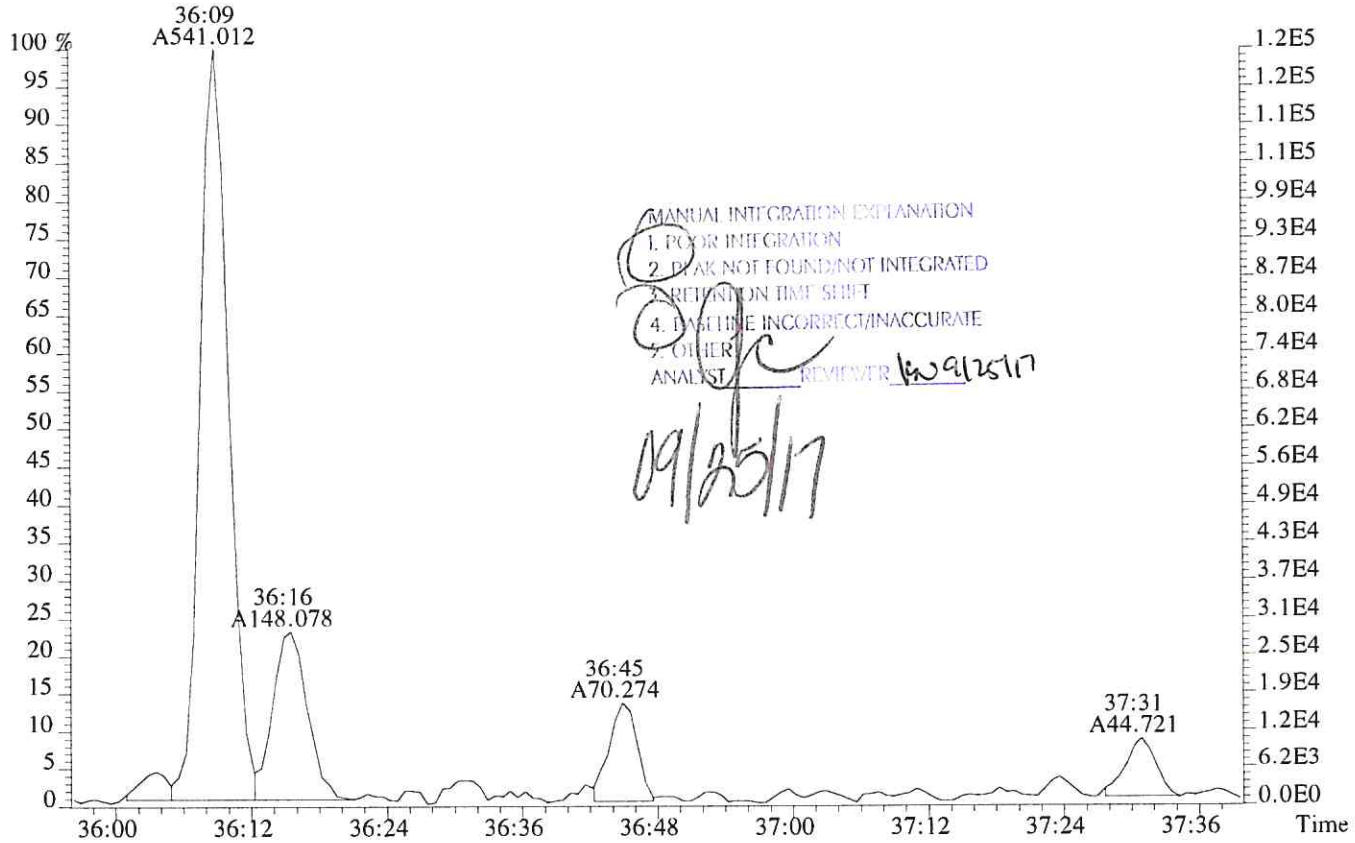
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)

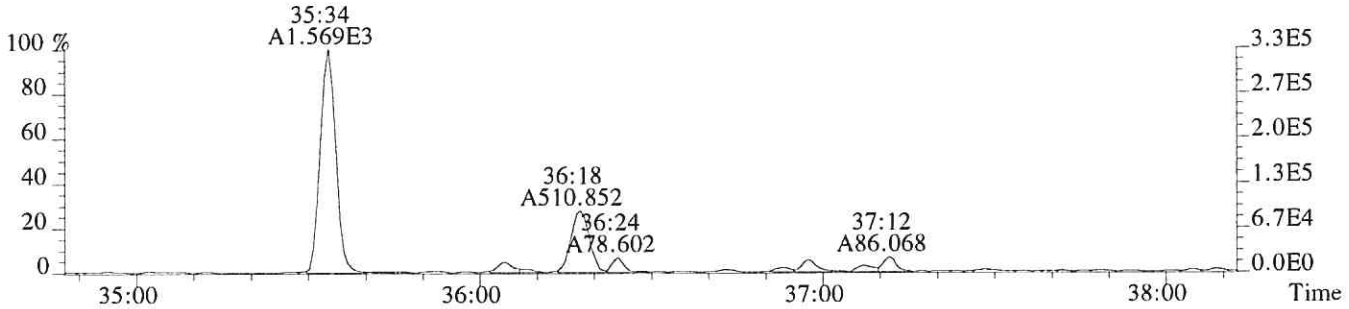


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)

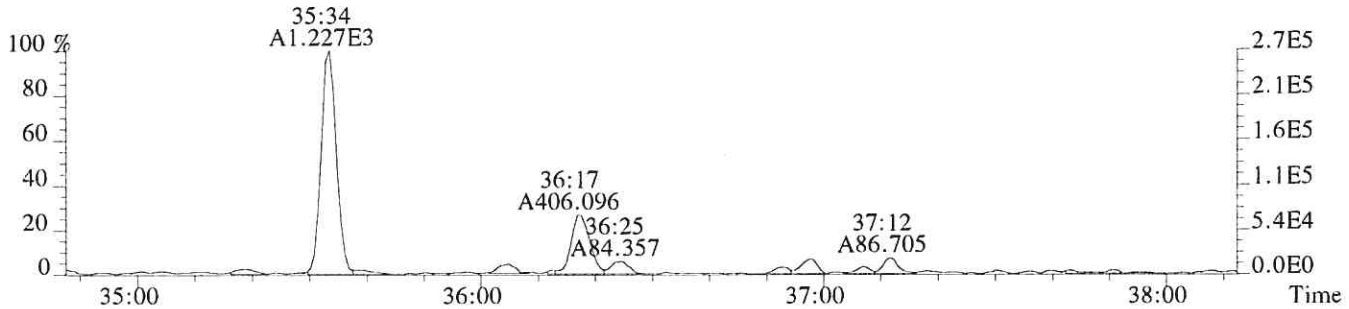


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER KW 9/25/17

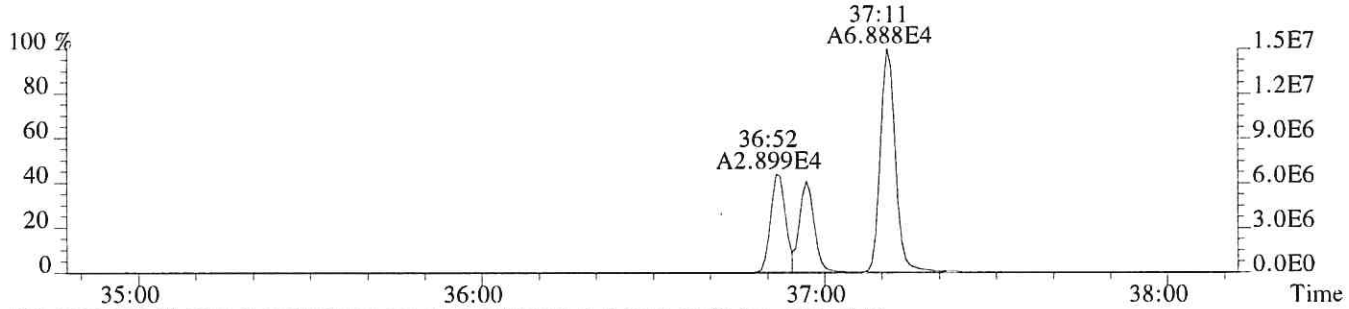
File:P511490 #1-308 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2028.0,0.40%,F,T)



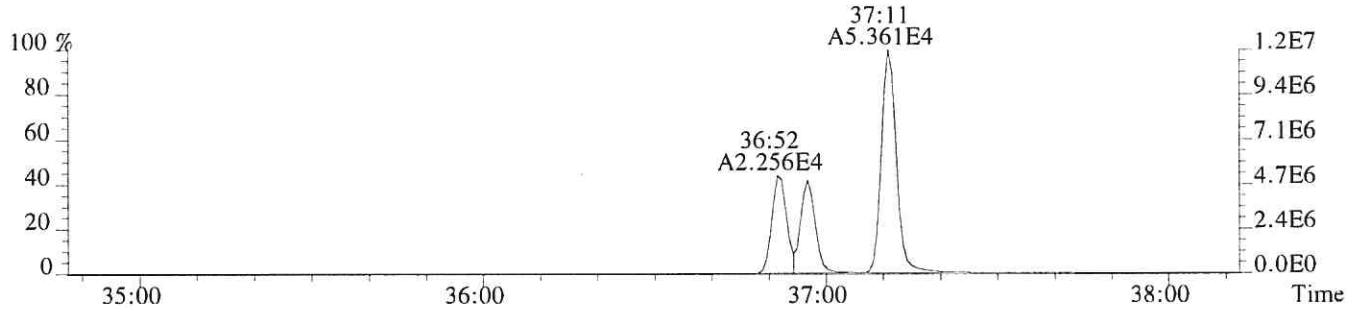
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2104.0,0.40%,F,T)



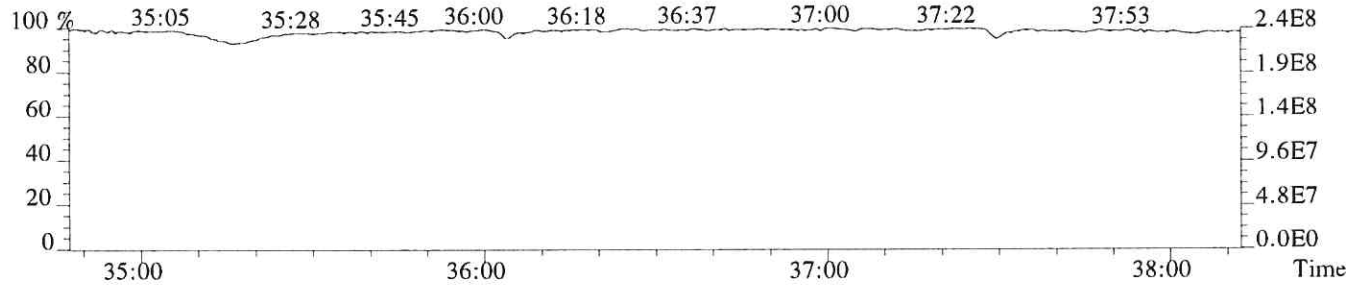
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3144.0,0.40%,F,T)



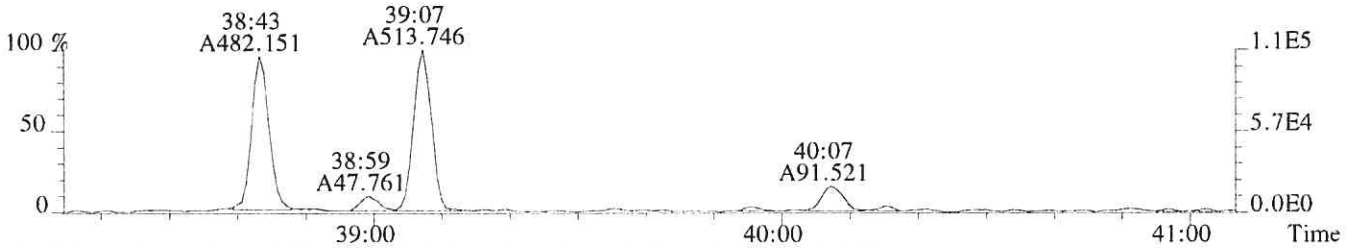
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2892.0,0.40%,F,T)



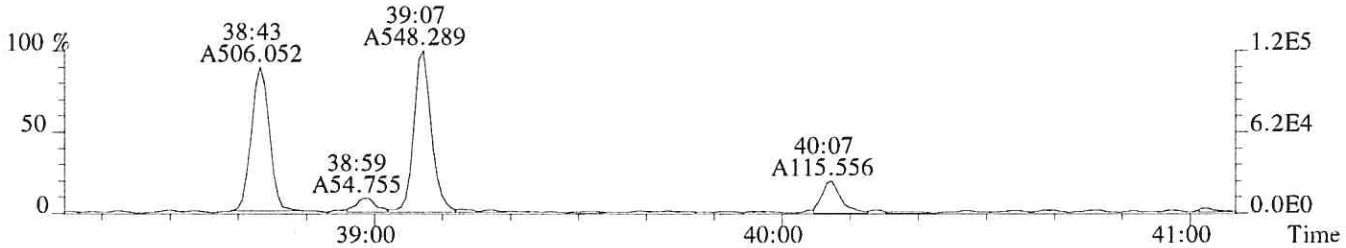
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



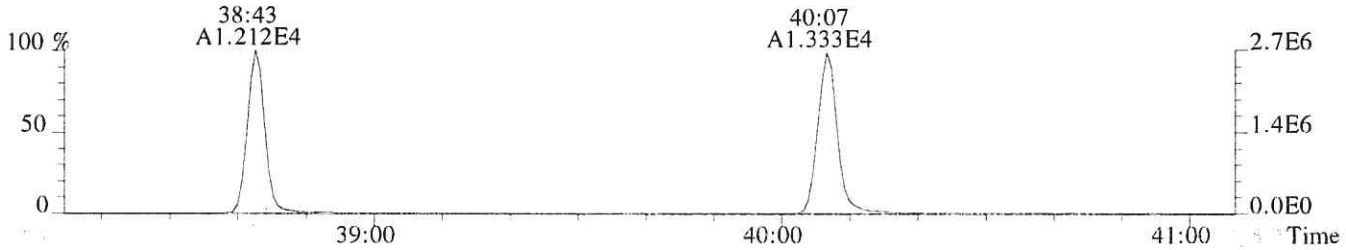
File:P511490 #1-259 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.50%,F,T)



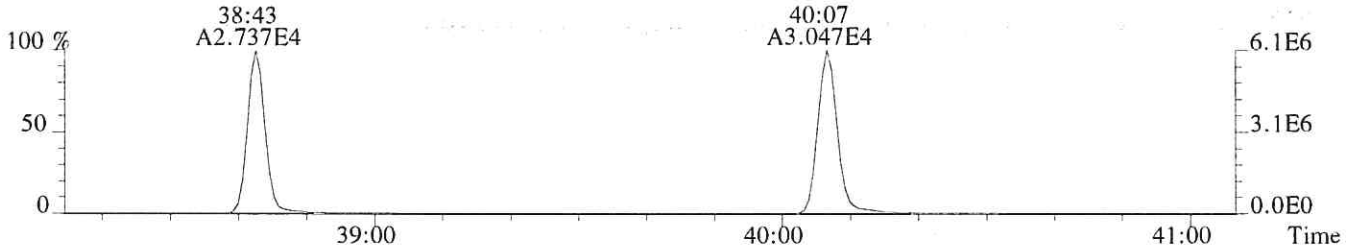
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1628.0,0.50%,F,T)



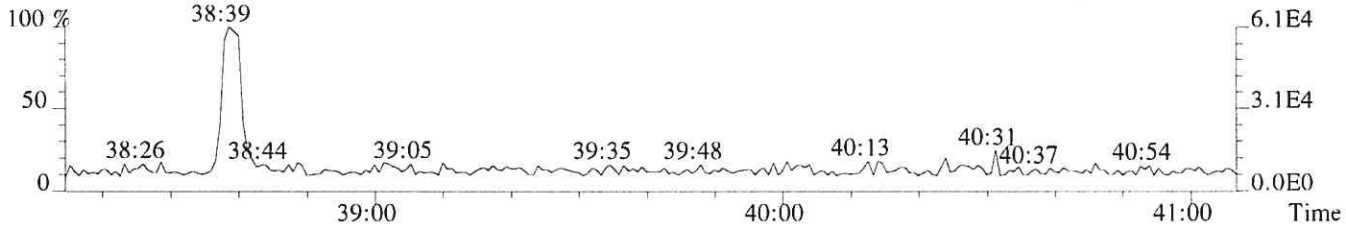
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4120.0,0.50%,F,T)



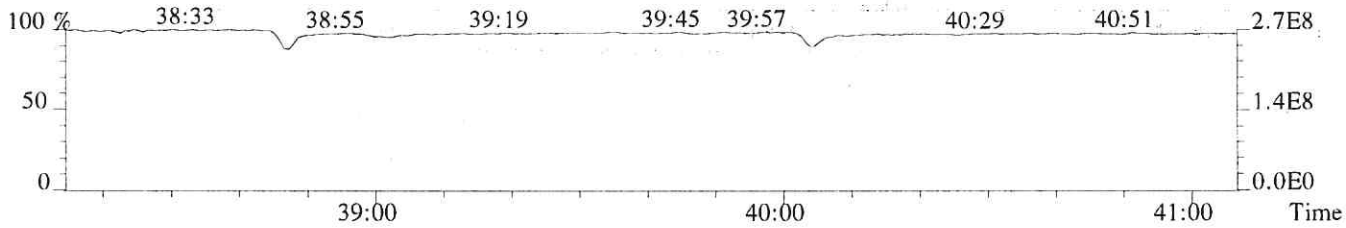
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4220.0,0.50%,F,T)



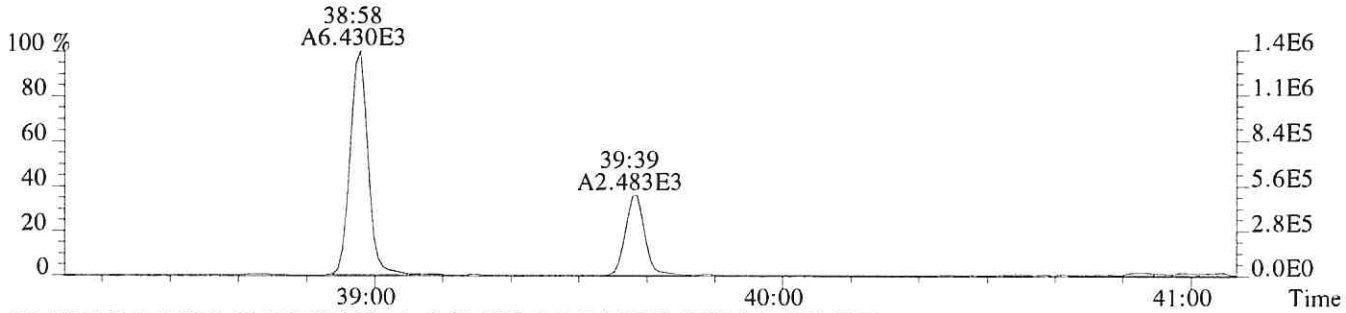
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



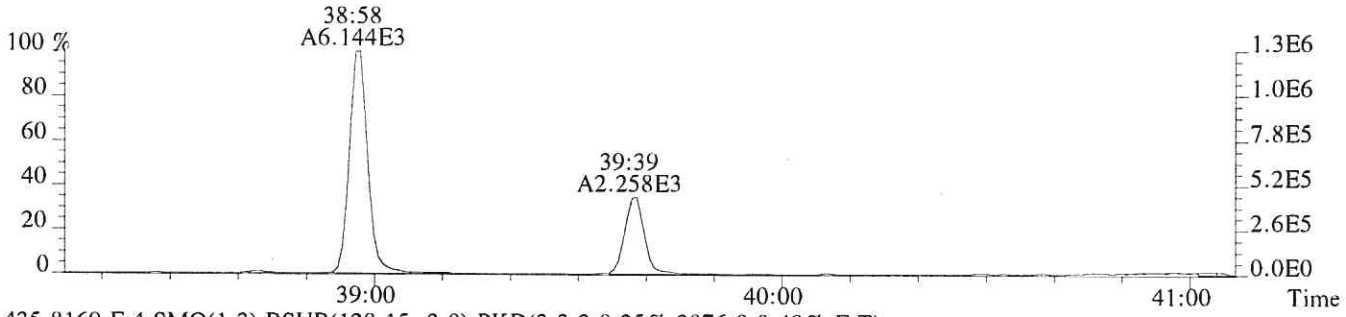
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



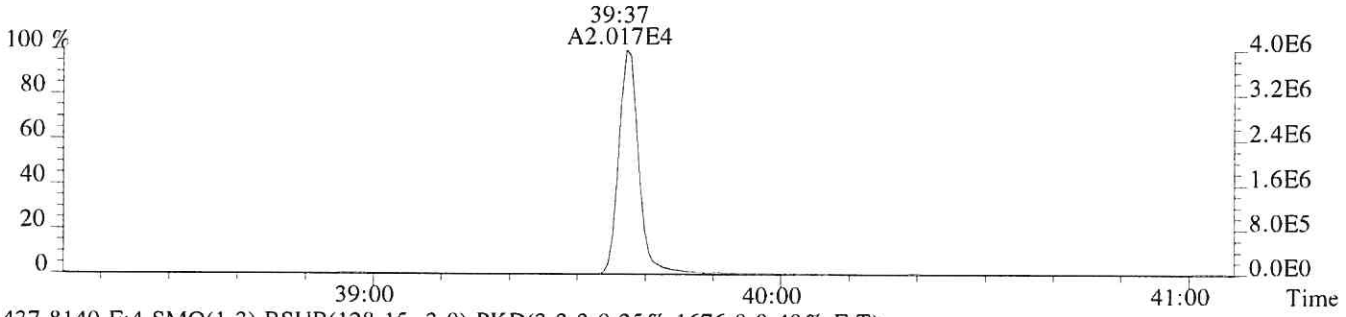
File:P511490 #1-259 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2872.0,0.40%,F,T)



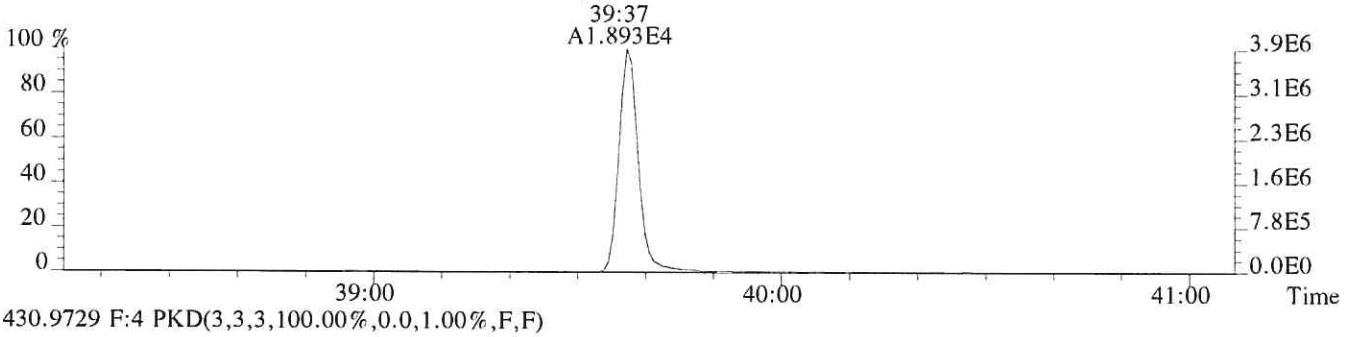
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5204.0,0.40%,F,T)



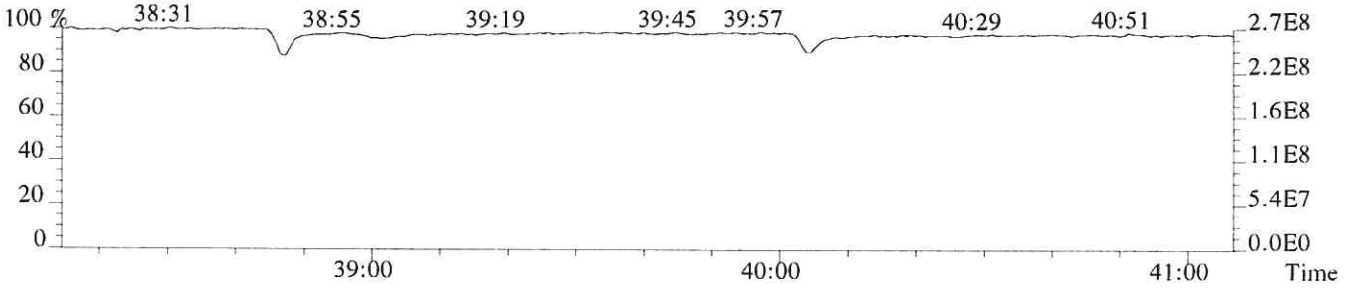
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3076.0,0.40%,F,T)



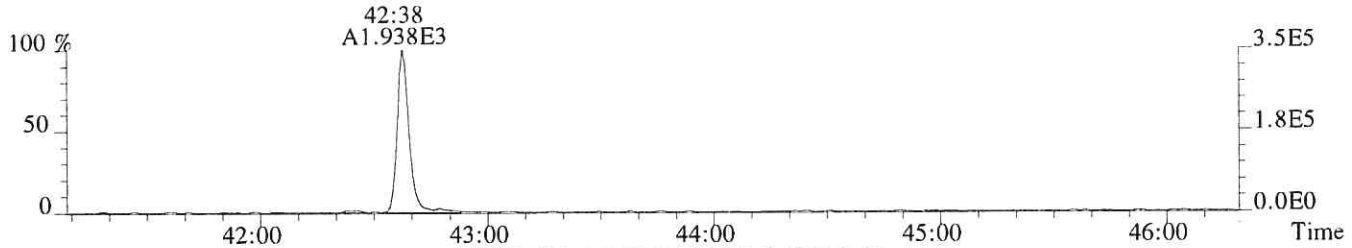
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1676.0,0.40%,F,T)



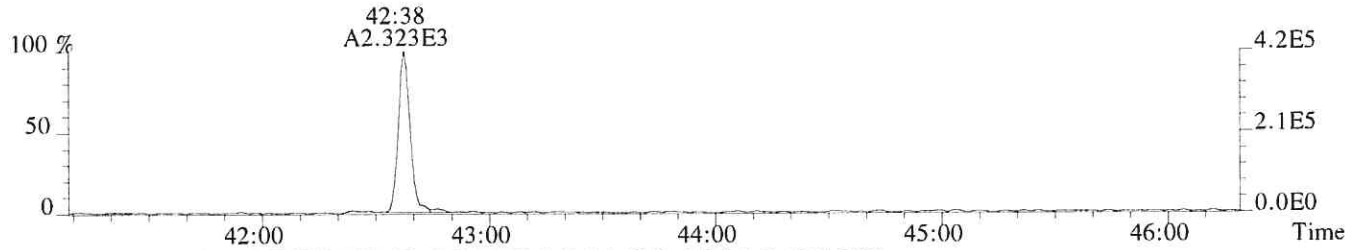
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



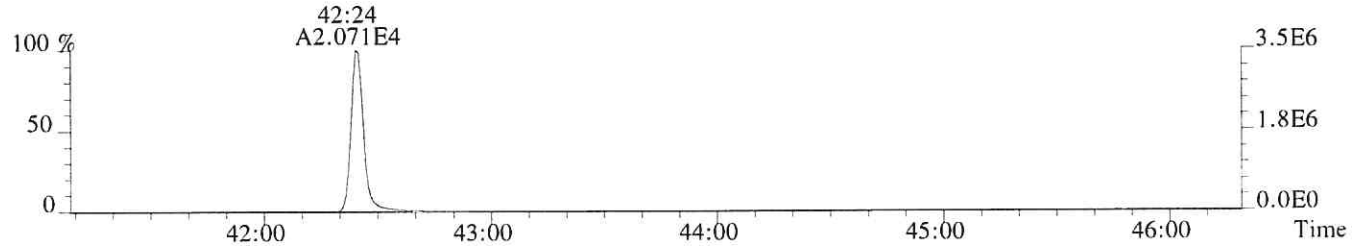
File:P511490 #1-466 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1348.0,0.40%,F,T)



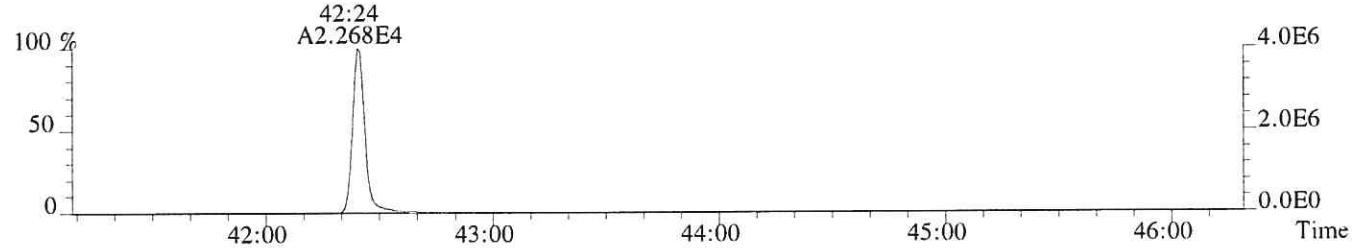
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3144.0,0.40%,F,T)



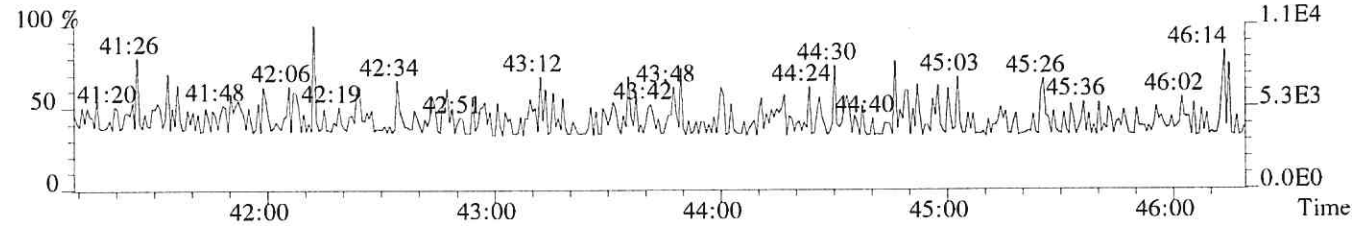
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2108.0,0.40%,F,T)



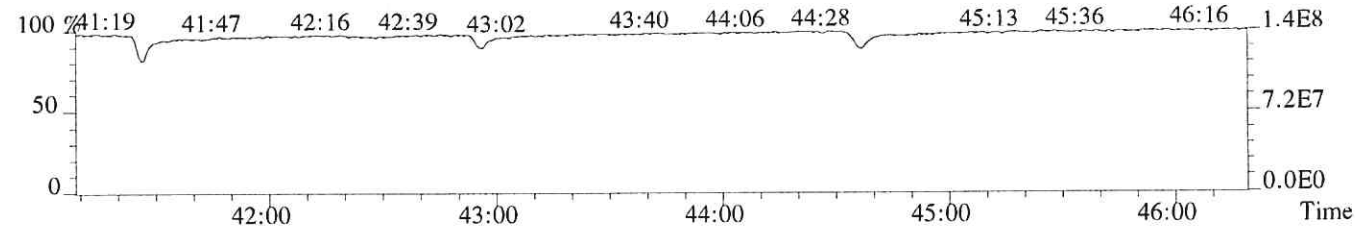
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1264.0,0.40%,F,T)



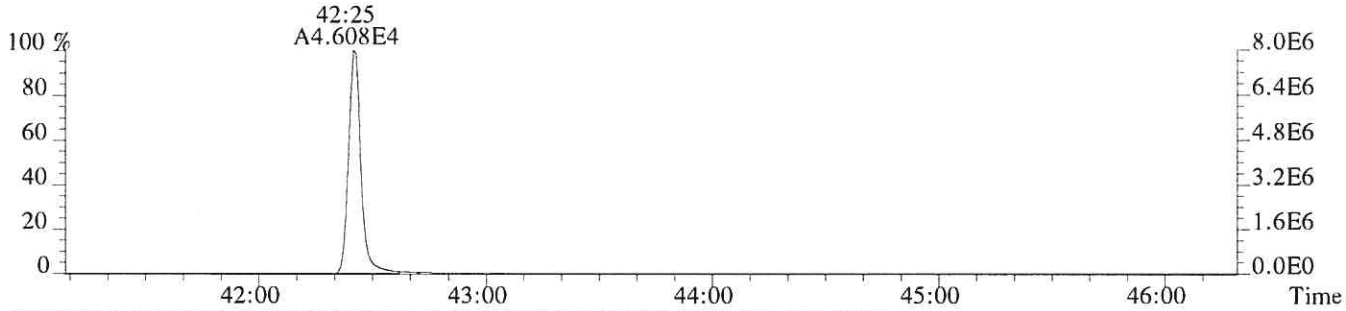
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



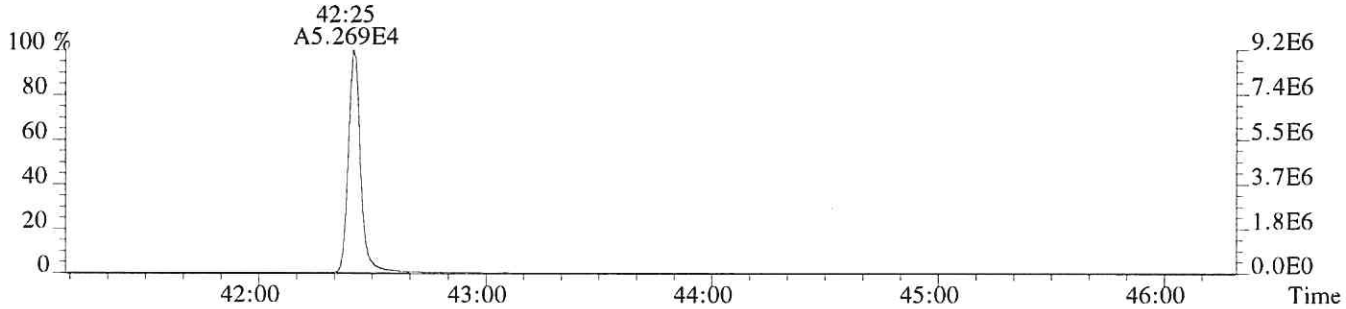
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



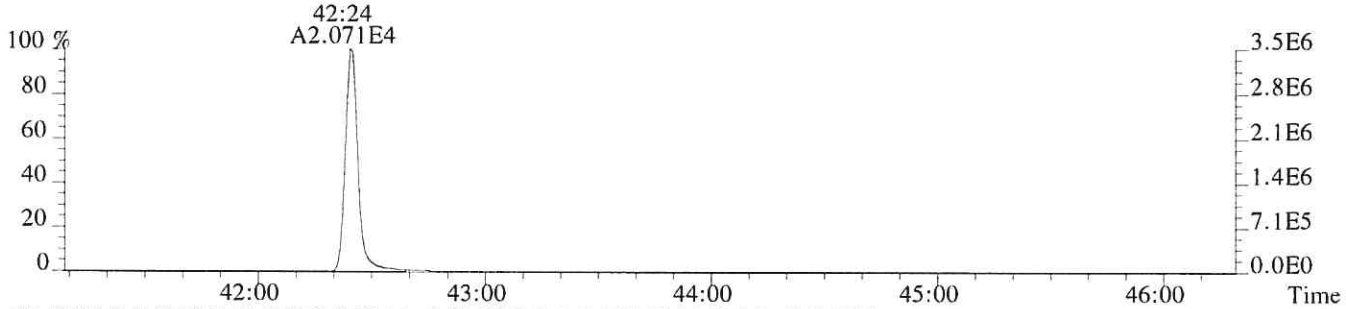
File:P511490 #1-466 Acq:22-SEP-2017 19:13:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-004
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1344.0,0.40%,F,T)



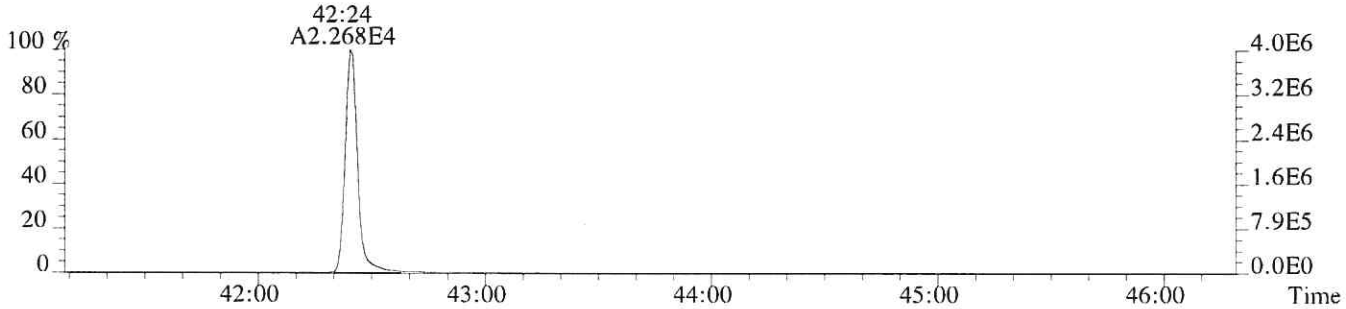
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2100.0,0.40%,F,T)



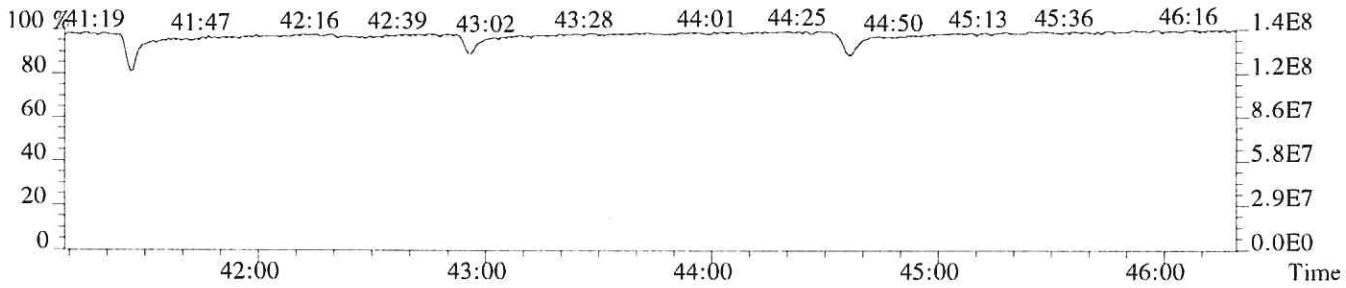
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2108.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1264.0,0.40%,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 P511491 Samp: 1 Inj: 1 Acquired: 22-SEP-17 20:02:05
Processed: 25-SEP-17 07:52:15 Sample ID: E1700973-005

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	2.402e+03	3.536e+03	0.68	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:38	1.223e+02	9.956e+01	1.23	no	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	1.310e+02	9.437e+01	1.39	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	1.921e+02	1.617e+02	1.19	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:16	6.244e+01	6.354e+01	0.98	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	6.099e+01	5.049e+01	1.21	yes	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	4.377e+02	3.997e+02	1.09	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:08	5.181e+01	4.890e+01	1.06	yes	no	1.191
10	Unk	OCDF	42:38	2.089e+03	2.635e+03	0.79	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	5.363e+02	6.884e+02	0.78	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	4.492e+01	4.559e+01	0.99	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	1.026e+02	5.867e+01	1.75	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	9.751e+01	7.354e+01	1.33	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:39	2.386e+03	2.303e+03	1.04	yes	no	0.942
17	Unk	OCDD	42:26	4.514e+04	5.046e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:32	2.555e+04	3.247e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	4.817e+04	3.057e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	4.973e+04	3.072e+04	1.62	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.087e+04	4.069e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	2.241e+04	4.292e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.202e+04	4.309e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	2.326e+04	4.420e+04	0.53	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.304e+04	2.971e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.397e+04	3.232e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:17	1.848e+04	2.322e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	3.538e+04	2.205e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.847e+04	2.278e+04	1.25	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.891e+04	2.293e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:38	2.189e+04	2.006e+04	1.09	yes	no	0.881
32	IS	13C-OCDD	42:25	2.289e+04	2.520e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:44	4.125e+04	5.264e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.937e+04	5.432e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	2.290e+04				no	1.033

$$\text{OCDD} = \frac{(4.514e+04 + 5.046e+04) \times 4000 \text{ pg} \times 1}{(2.289e+04 + 2.520e+04) \times 10.080 \text{ g} \times 32.0 / 100 \times 1.051} = 2345.5 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-024E

Run #16 Filename P511491 Samp: 1 Inj: 1 Acquired: 22-SEP-17 20:02:05
Processed: 25-SEP-17 07:52:15 LAB. ID: E1700973-005

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.40e+05	2.39e+03	1.8e+02	6.34e+05	5.23e+03	1.2e+02
2	1,2,3,7,8-PeCDF	2.10e+04	2.06e+03	1.0e+01	2.08e+04	4.44e+03	4.7e+00
3	2,3,4,7,8-PeCDF	2.07e+04	2.06e+03	1.0e+01	1.58e+04	4.44e+03	3.6e+00
4	1,2,3,4,7,8-HxCDF	4.33e+04	3.22e+03	1.3e+01	3.31e+04	3.30e+03	1.0e+01
5	1,2,3,6,7,8-HxCDF	1.60e+04	3.22e+03	5.0e+00	1.30e+04	3.30e+03	3.9e+00
6	2,3,4,6,7,8-HxCDF	1.33e+04	3.22e+03	4.1e+00	1.21e+04	3.30e+03	3.7e+00
7	1,2,3,7,8,9-HxCDF	*	3.22e+03	*	*	3.30e+03	*
8	1,2,3,4,6,7,8-HpCDF	9.83e+04	1.41e+03	7.0e+01	9.03e+04	1.82e+03	5.0e+01
9	1,2,3,4,7,8,9-HpCDF	1.17e+04	1.41e+03	8.3e+00	8.42e+03	1.82e+03	4.6e+00
10	OCDF	3.80e+05	2.10e+03	1.8e+02	4.60e+05	4.58e+03	1.0e+02
11	2,3,7,8-TCDD	1.10e+05	5.68e+03	1.9e+01	1.38e+05	2.08e+03	6.6e+01
12	1,2,3,7,8-PeCDD	*	3.83e+03	*	*	1.32e+03	*
13	1,2,3,4,7,8-HxCDD	9.36e+03	1.84e+03	5.1e+00	1.12e+04	2.66e+03	4.2e+00
14	1,2,3,6,7,8-HxCDD	1.92e+04	1.84e+03	1.0e+01	1.63e+04	2.66e+03	6.1e+00
15	1,2,3,7,8,9-HxCDD	2.21e+04	1.84e+03	1.2e+01	1.31e+04	2.66e+03	4.9e+00
16	1,2,3,4,6,7,8-HpCDD	4.83e+05	2.50e+03	1.9e+02	4.66e+05	4.20e+03	1.1e+02
17	OCDD	7.74e+06	9.76e+02	7.9e+03	8.62e+06	2.47e+03	3.5e+03
18	13C-2,3,7,8-TCDF	5.06e+06	2.85e+04	1.8e+02	6.35e+06	1.63e+04	3.9e+02
19	13C-1,2,3,7,8-PeCDF	9.46e+06	1.80e+03	5.2e+03	6.01e+06	2.76e+03	2.2e+03
20	13C-2,3,4,7,8-PeCDF	1.01e+07	1.80e+03	5.6e+03	6.18e+06	2.76e+03	2.2e+03
21	13C-1,2,3,4,7,8-HxCDF	4.63e+06	1.73e+03	2.7e+03	9.05e+06	3.86e+03	2.3e+03
22	13C-1,2,3,6,7,8-HxCDF	4.79e+06	1.73e+03	2.8e+03	9.15e+06	3.86e+03	2.4e+03
23	13C-2,3,4,6,7,8-HxCDF	4.90e+06	1.73e+03	2.8e+03	9.46e+06	3.86e+03	2.4e+03
24	13C-1,2,3,7,8,9-HxCDF	4.97e+06	1.73e+03	2.9e+03	9.49e+06	3.86e+03	2.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.89e+06	5.58e+03	5.2e+02	6.60e+06	2.23e+03	3.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.86e+06	5.58e+03	5.1e+02	6.44e+06	2.23e+03	2.9e+03
27	13C-2,3,7,8-TCDD	3.73e+06	1.04e+04	3.6e+02	4.69e+06	6.04e+03	7.8e+02
28	13C-1,2,3,7,8-PeCDD	7.11e+06	3.49e+03	2.0e+03	4.44e+06	3.48e+03	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	6.47e+06	3.17e+03	2.0e+03	5.16e+06	1.63e+03	3.2e+03
30	13C-1,2,3,6,7,8-HxCDD	6.27e+06	3.17e+03	2.0e+03	5.01e+06	1.63e+03	3.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.47e+06	2.76e+03	1.6e+03	4.03e+06	2.18e+03	1.8e+03
32	13C-OCDD	3.96e+06	1.81e+03	2.2e+03	4.39e+06	1.86e+03	2.4e+03
33	13C-1,2,3,4-TCDD	8.22e+06	1.04e+04	7.9e+02	1.05e+07	6.04e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.48e+07	3.17e+03	4.7e+03	1.17e+07	1.63e+03	7.2e+03
35	37Cl-2,3,7,8-TCDD	4.70e+06	4.35e+03	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 16 File: P511491 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 303.9020 305.8990 Tot Response: 1.01e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:01	1.07e+02	1.59e+02	0.67	yes	2.66e+02		n	n
2	26:41	9.92e+01	1.13e+02	0.88	yes	2.12e+02		n	n
3	27:47	1.12e+03	1.42e+03	0.79	yes	2.53e+03		n	n
4	28:02	5.35e+01	7.40e+01	0.72	yes	1.28e+02		n	n
5	28:32	2.40e+03	3.54e+03	0.68	yes	5.94e+03	2,3,7,8-TCDF	n	n
6	28:52	2.00e+02	2.48e+02	0.81	yes	4.49e+02		n	n
7	30:19	2.50e+02	3.20e+02	0.78	yes	5.69e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 16 File: P511491 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 319.8970 321.8940 Tot Response: 1.22e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:18	5.36e+02	6.88e+02	0.78	yes	1.22e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 16 File: P511491 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 339.8600 341.8570 Tot Response: 2.25e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:31	1.31e+02	9.44e+01	1.39	yes	2.25e+02	2,3,4,7,8-PeCDF	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 16 File: P511491 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 355.8550 357.8520 Tot Response: 2.93e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:44	9.36e+01	5.63e+01	1.66	yes	1.50e+02	n	n
2	33:07	8.29e+01	5.97e+01	1.39	yes	1.43e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 16 File: P511491 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 373.8210 375.8180 Tot Response: 8.51e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:04	4.54e+01	4.00e+01	1.14	yes	8.54e+01		n	n
2	35:13	1.71e+02	1.29e+02	1.32	yes	3.01e+02		n	n
3	36:09	1.92e+02	1.62e+02	1.19	yes	3.54e+02	1,2,3,4,7,8-HxCDF	n	n
4	36:45	6.10e+01	5.05e+01	1.21	yes	1.11e+02	2,3,4,6,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 16 File: P511491 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 389.8160 391.8130 Tot Response: 3.87e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:34	1.41e+03	1.13e+03	1.25	yes	2.54e+03		n	n
2	36:18	5.42e+02	4.02e+02	1.35	yes	9.44e+02		n	n
3	36:25	6.24e+01	5.62e+01	1.11	yes	1.19e+02		n	n
4	37:08	5.02e+01	4.26e+01	1.18	yes	9.28e+01		n	n
5	37:12	9.75e+01	7.35e+01	1.33	yes	1.71e+02	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 16 File: P511491 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 407.7820 409.7790 Tot Response: 1.90e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	4.38e+02	4.00e+02	1.09	yes	8.37e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	38:59	4.44e+01	4.96e+01	0.89	yes	9.39e+01		n	n
3	39:07	4.51e+02	4.18e+02	1.08	yes	8.70e+02		n	n
4	40:08	5.18e+01	4.89e+01	1.06	yes	1.01e+02	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-024E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 16 File: P511491 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 20:02:05 Processed: 25-SEP-17 07:52:15

Mass: 423.7770 425.7740 Tot Response: 1.71e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:58	6.37e+03	6.03e+03	1.06	yes	1.24e+04		n	n
2	39:39	2.39e+03	2.30e+03	1.04	yes	4.69e+03	1,2,3,4,6,7,8-HpCDD	n	n

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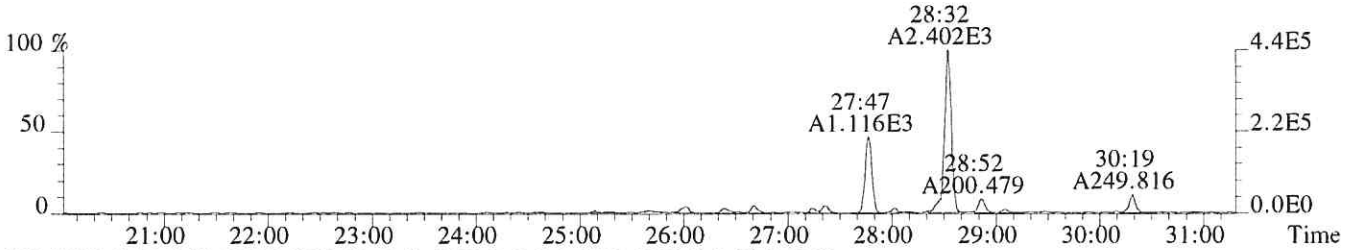
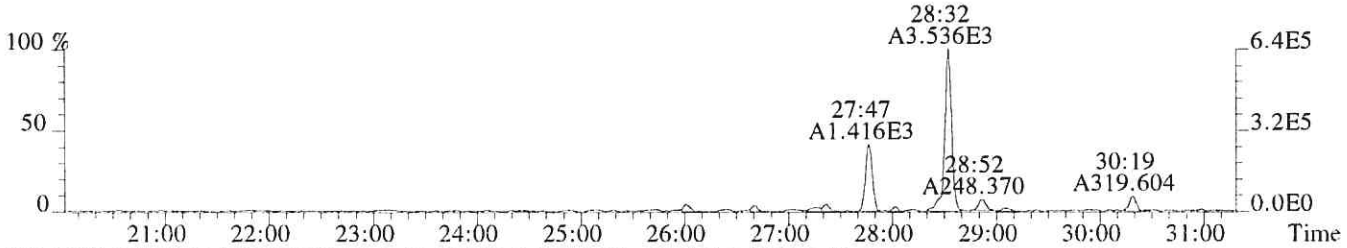
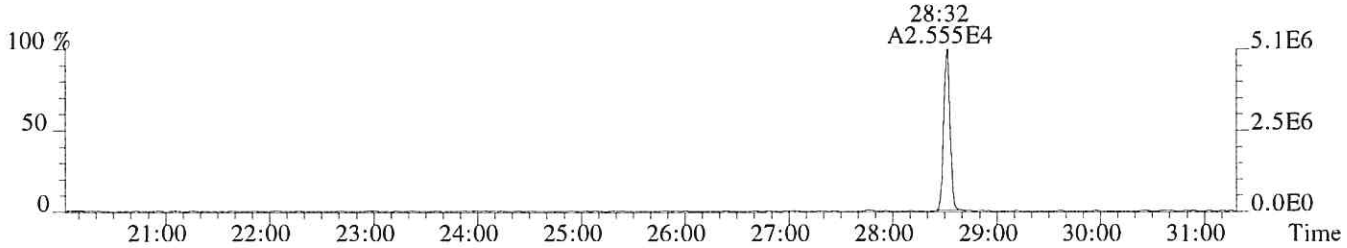
File:P511491 #1-800 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2388.0,1.00%,F,T)



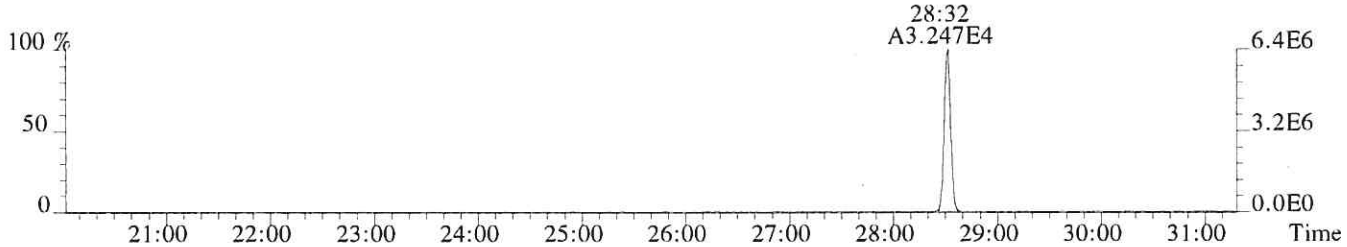
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5228.0,1.00%,F,T)



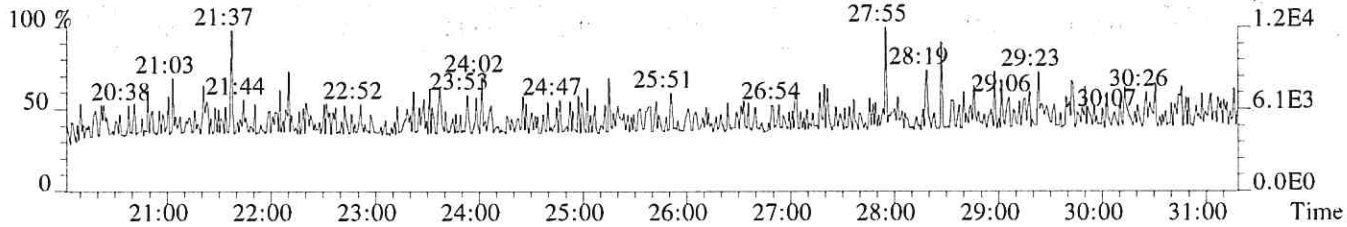
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,28524.0,1.00%,F,T)



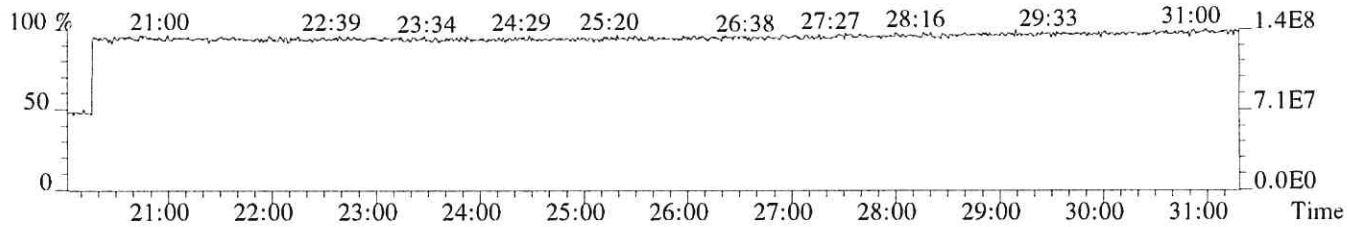
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16308.0,1.00%,F,T)



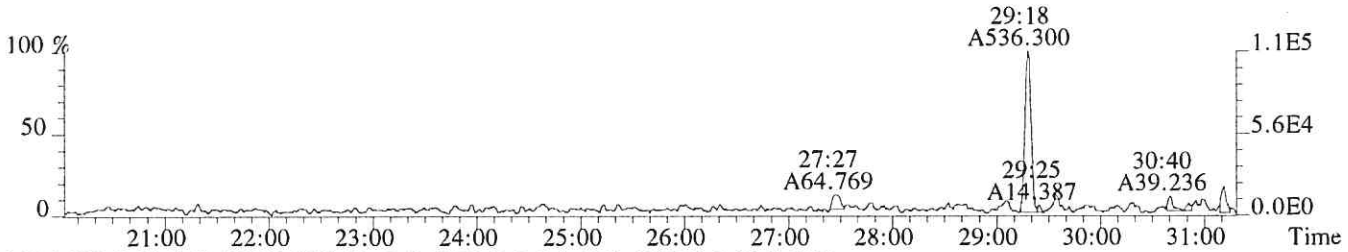
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



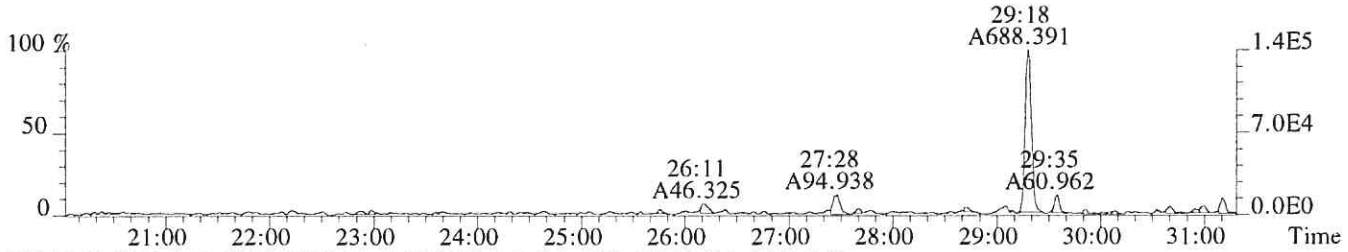
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



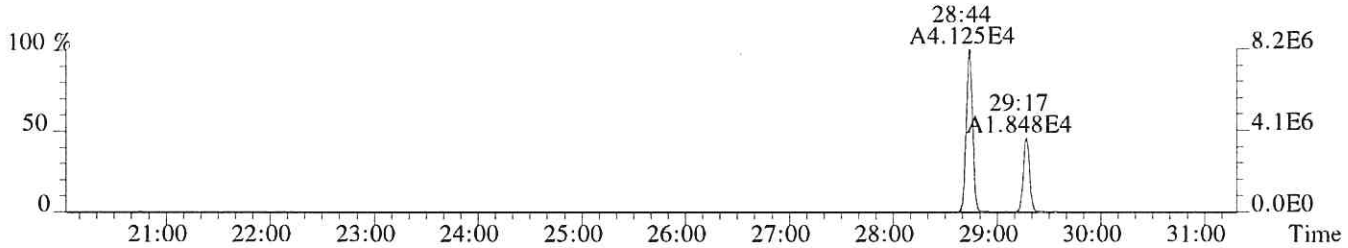
File:P511491 #1-800 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5680.0,1.00%,F,T)



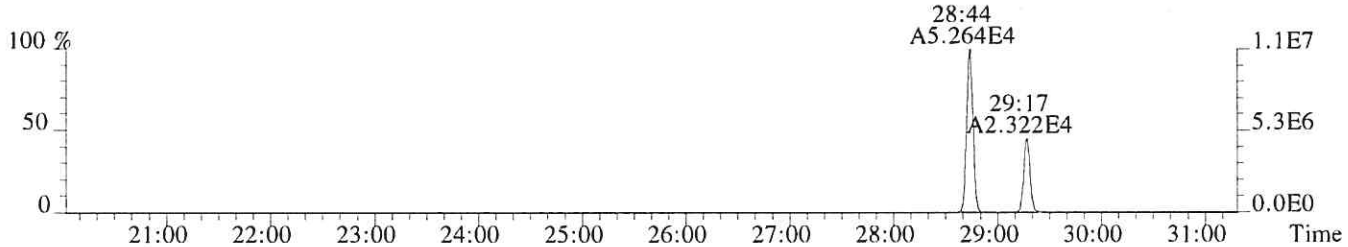
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2076.0,1.00%,F,T)



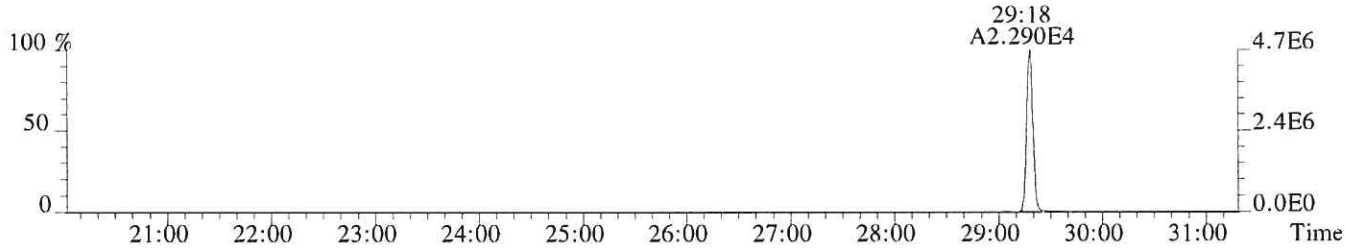
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10360.0,1.00%,F,T)



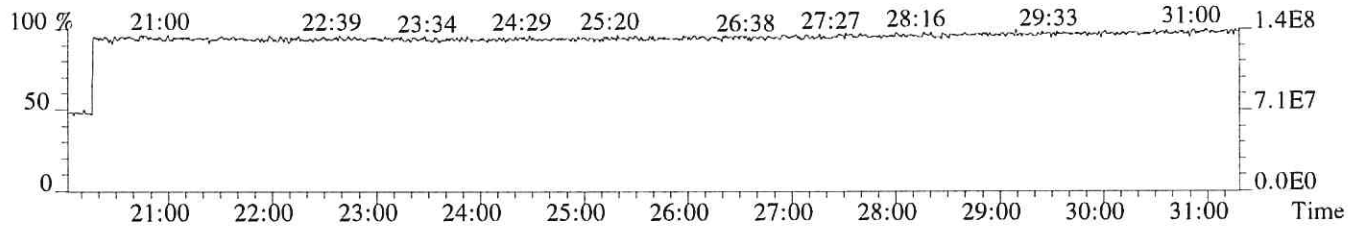
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6040.0,1.00%,F,T)



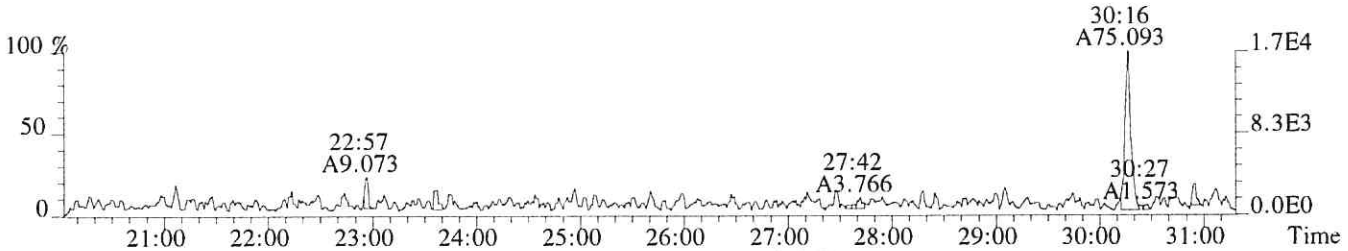
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4352.0,1.00%,F,T)



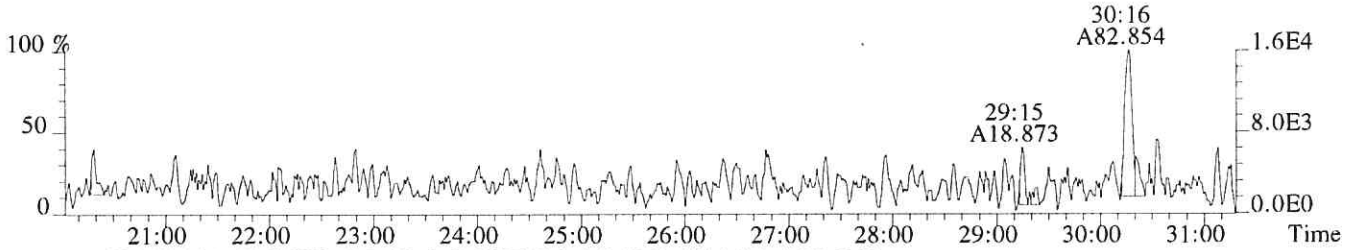
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



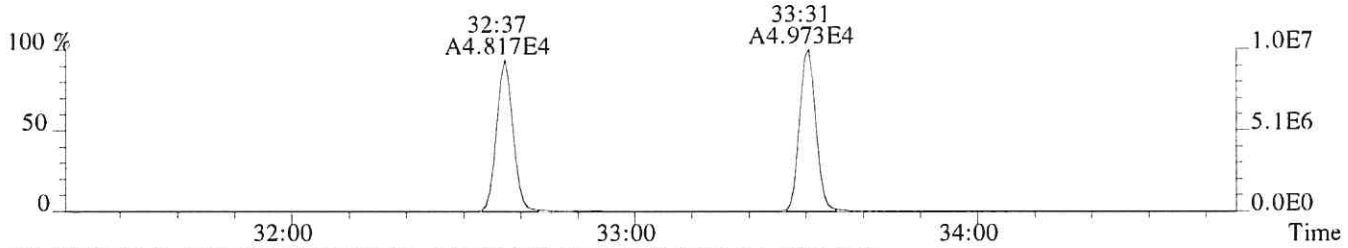
File:P511491 #1-800 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



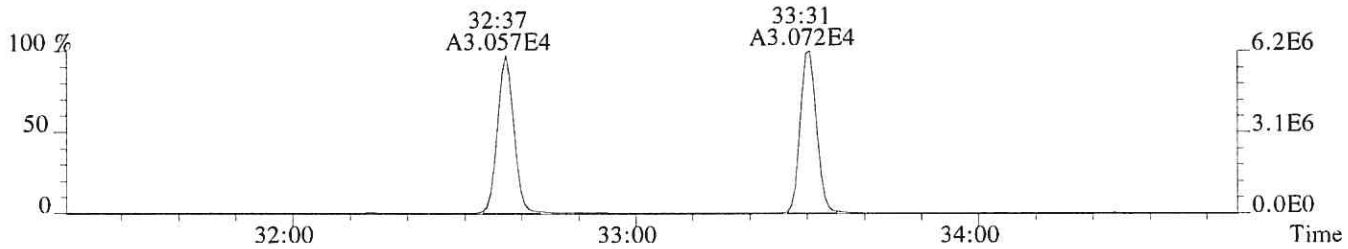
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3384.0,1.00%,F,T)



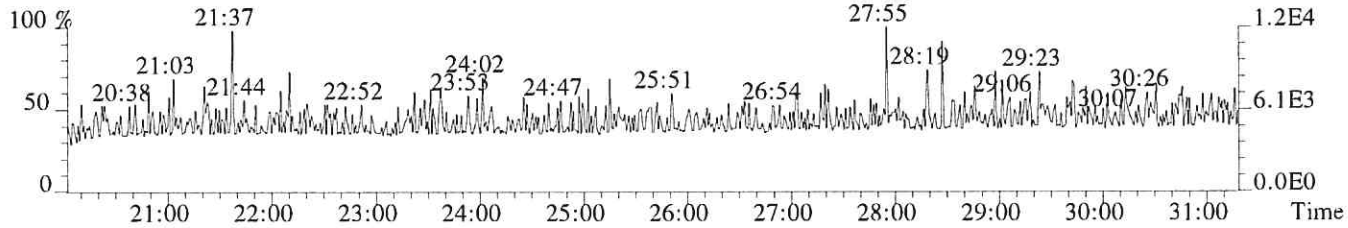
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



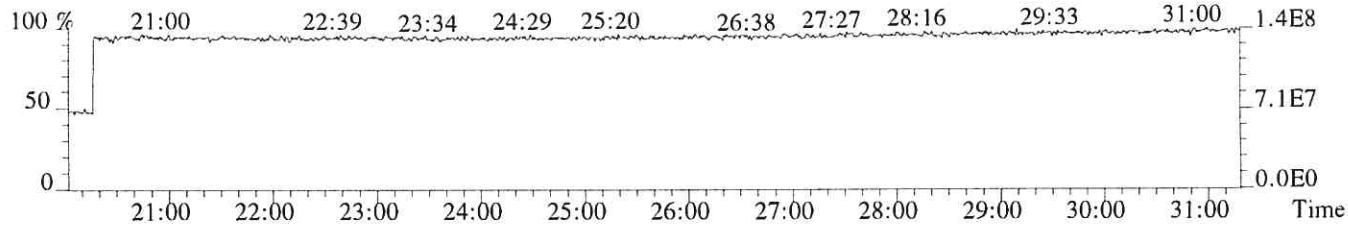
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2764.0,1.00%,F,T)



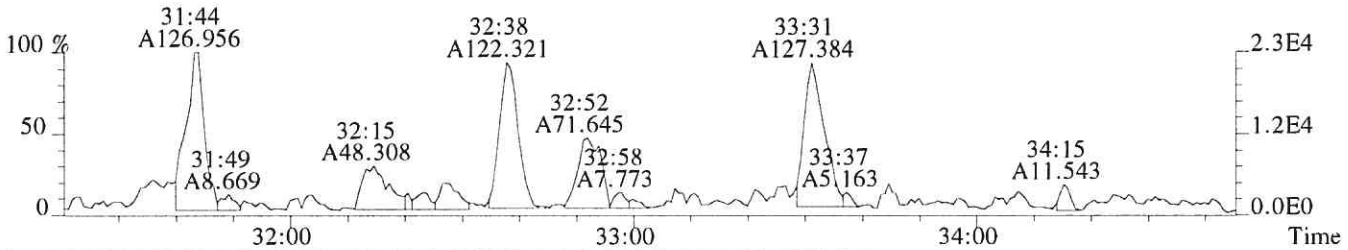
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



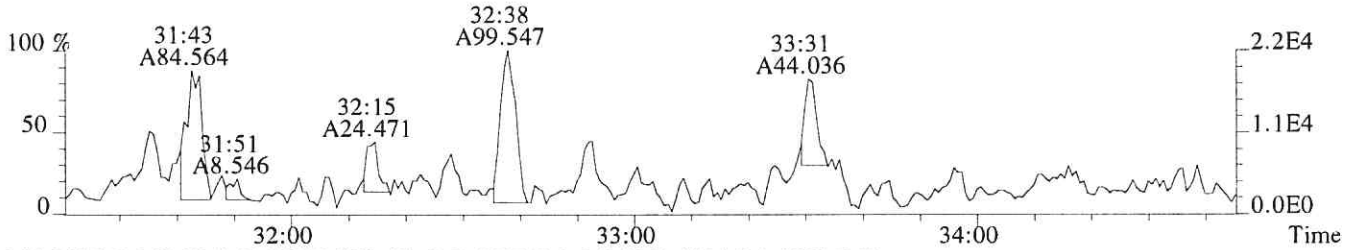
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



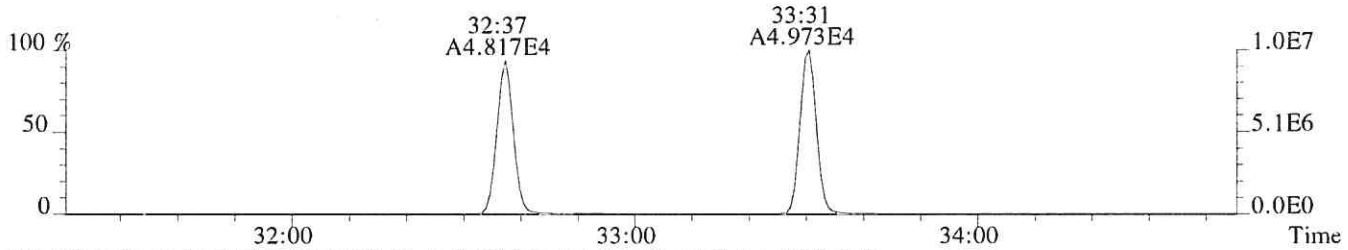
File:P511491 #1-308 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



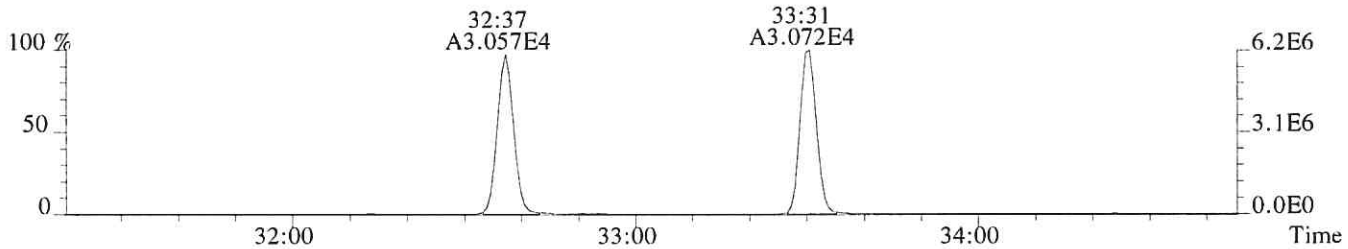
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4440.0,1.00%,F,T)



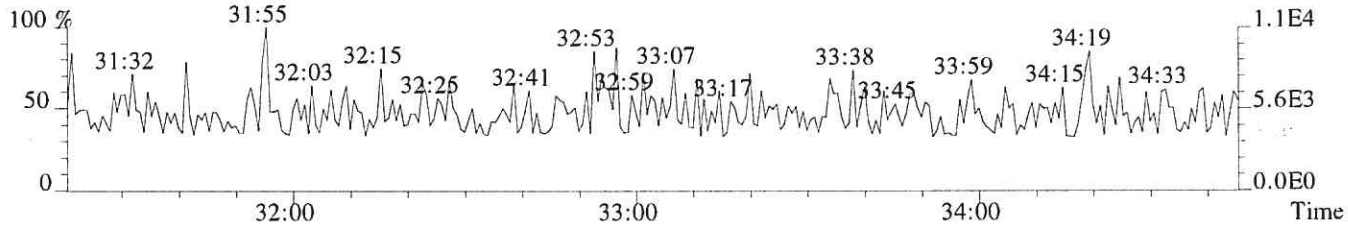
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



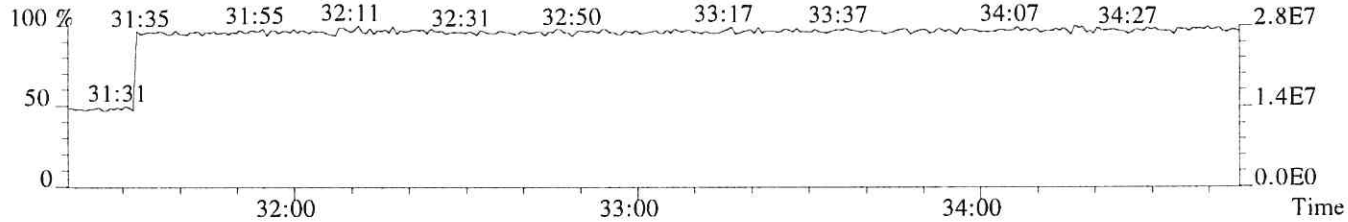
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2764.0,1.00%,F,T)



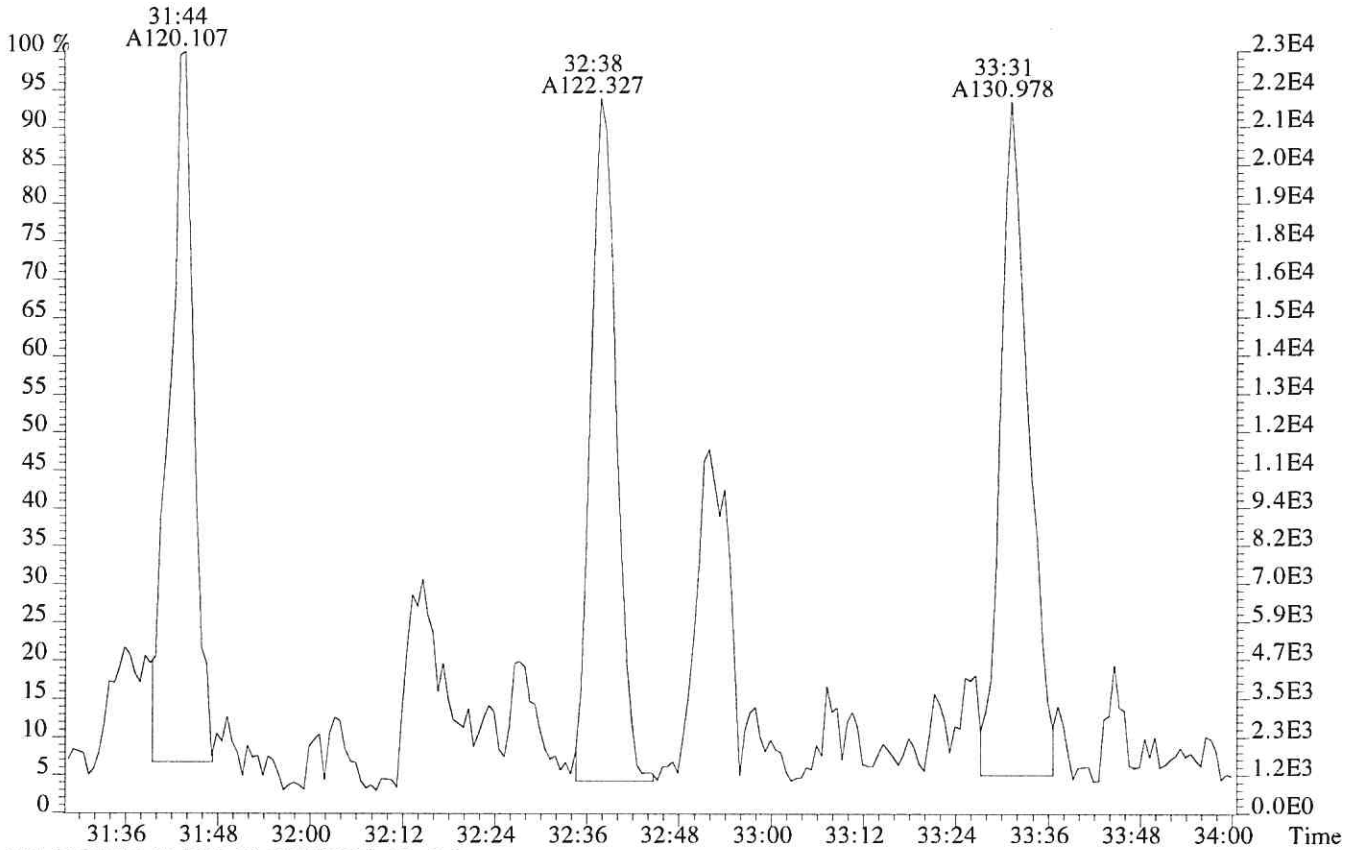
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



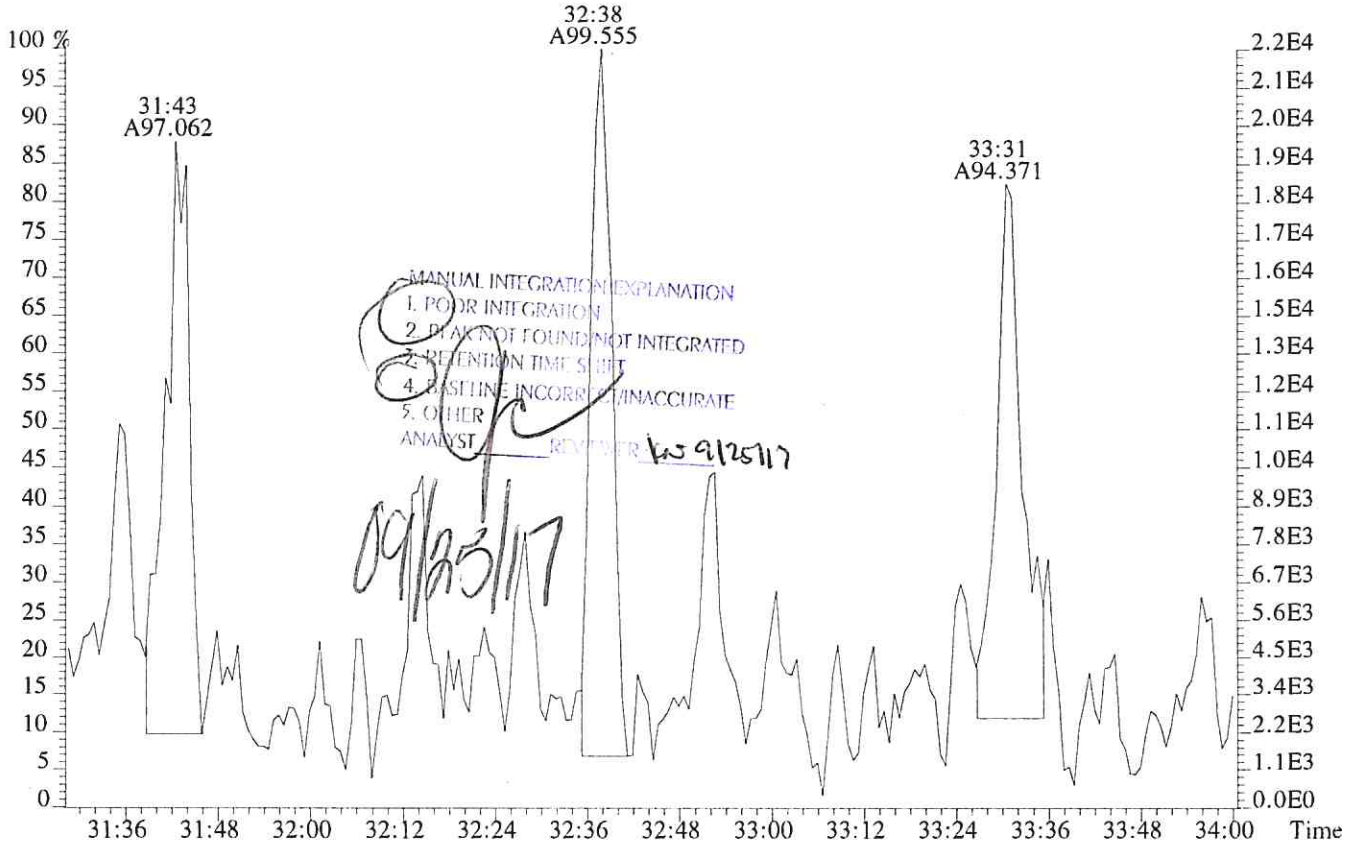
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511491 #1-308 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0)

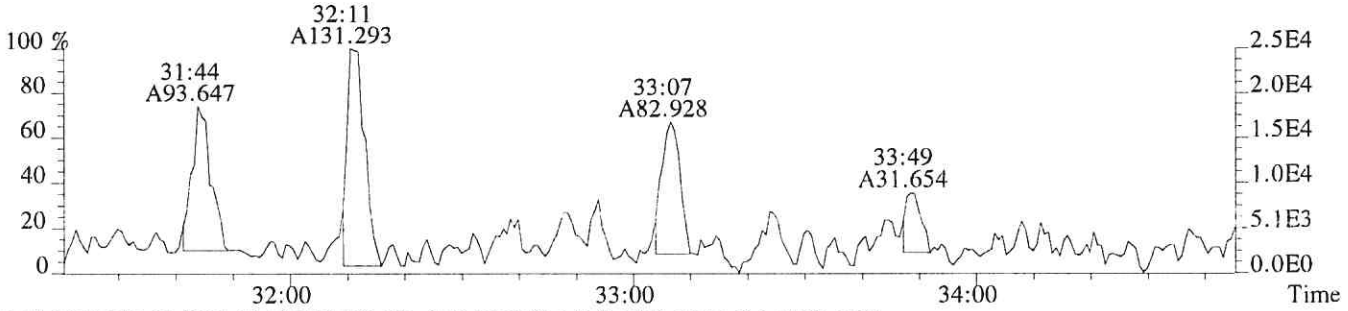


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0)

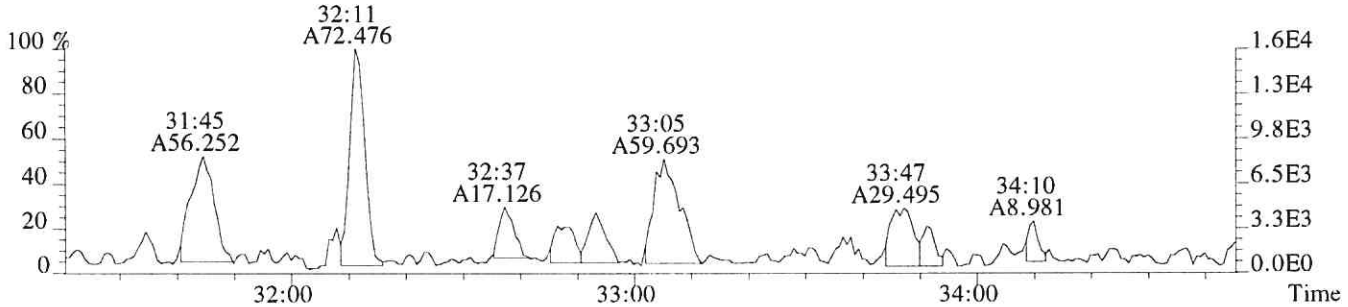


MANUAL INTEGRATION/EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER KW 9/25/17

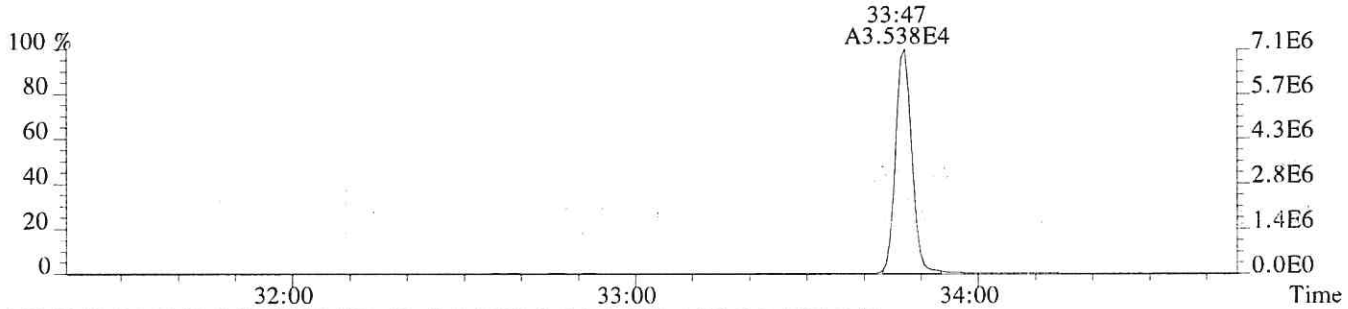
File:P511491 #1-308 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3828.0,1.00%,F,T)



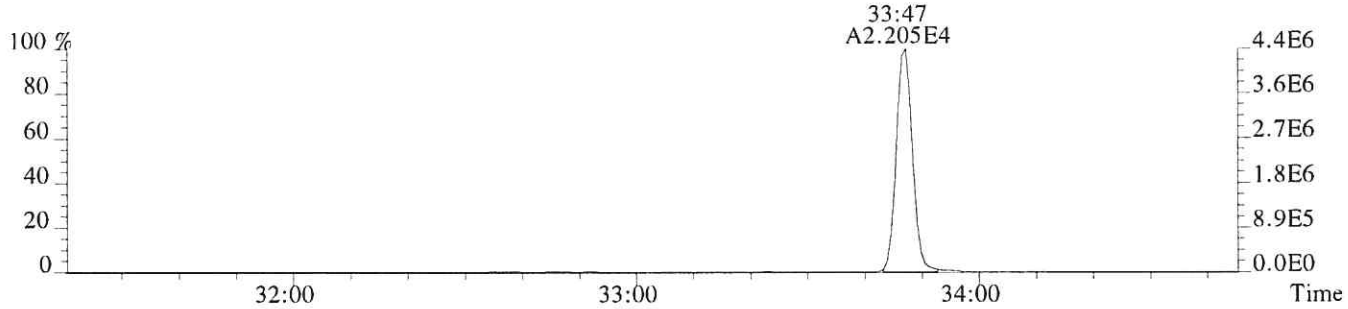
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1316.0,1.00%,F,T)



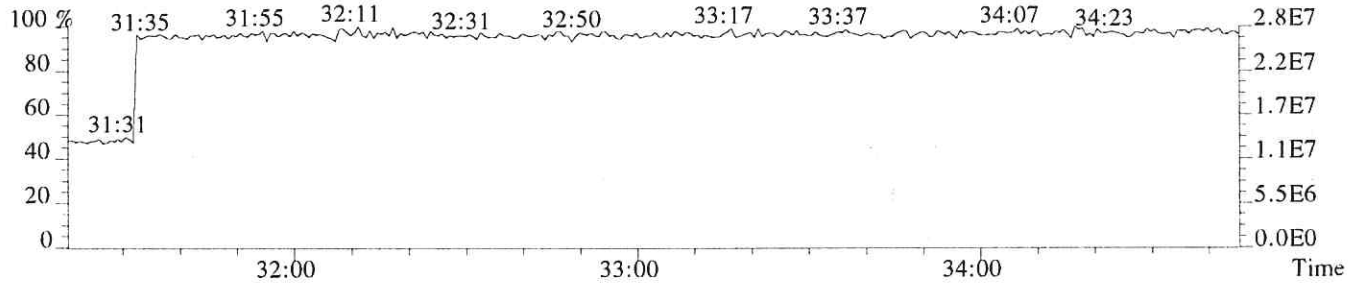
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3492.0,1.00%,F,T)



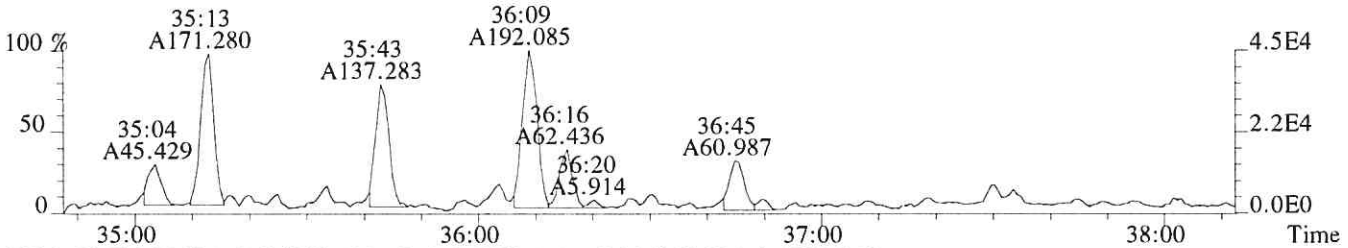
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3484.0,1.00%,F,T)



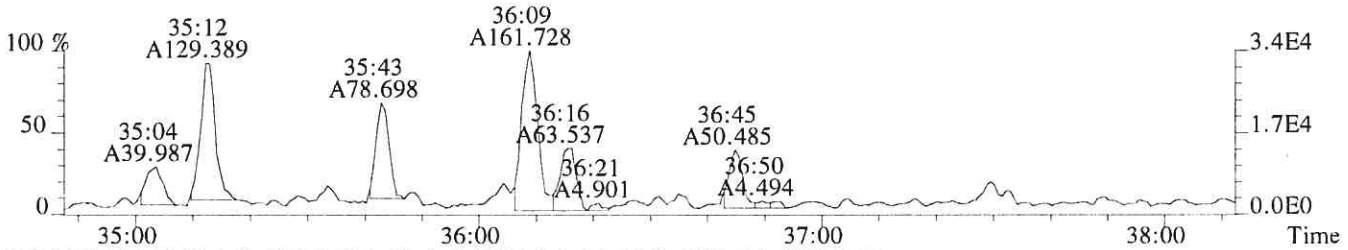
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



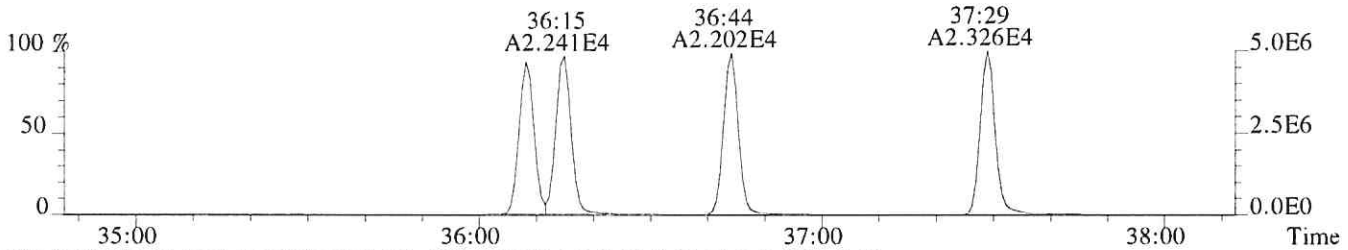
File:P511491 #1-308 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3220.0,0.40%,F,T)



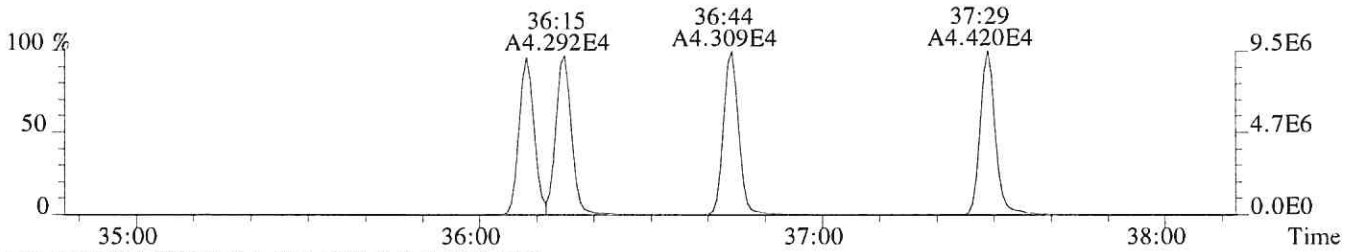
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3300.0,0.40%,F,T)



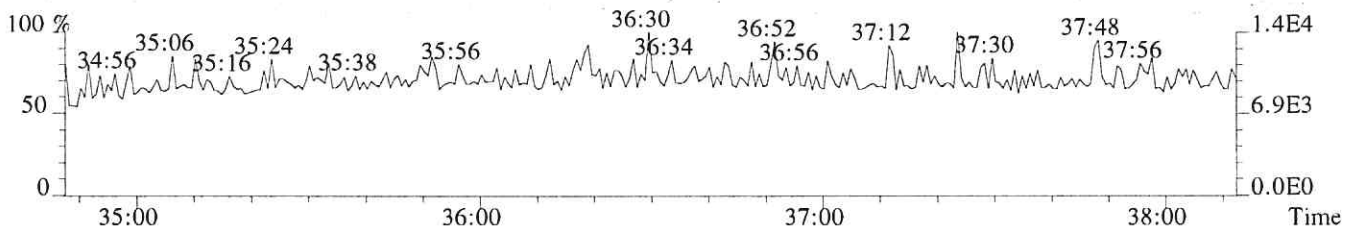
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,T)



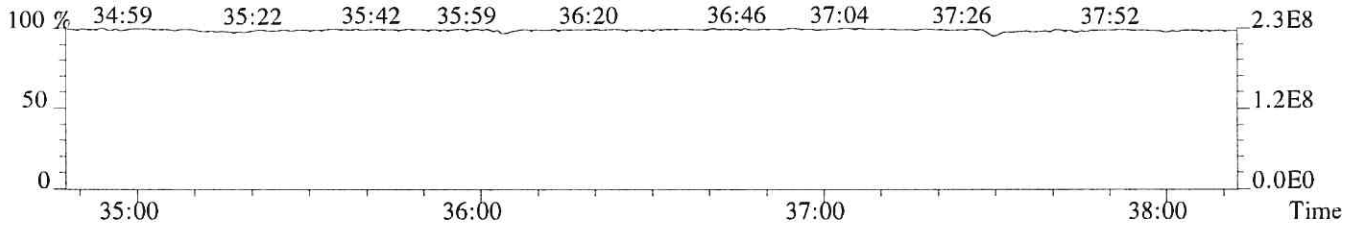
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3864.0,0.40%,F,T)



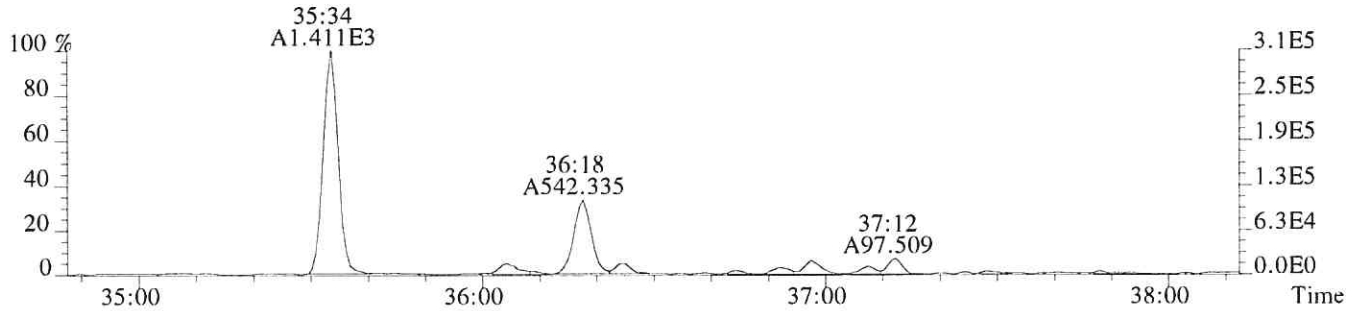
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



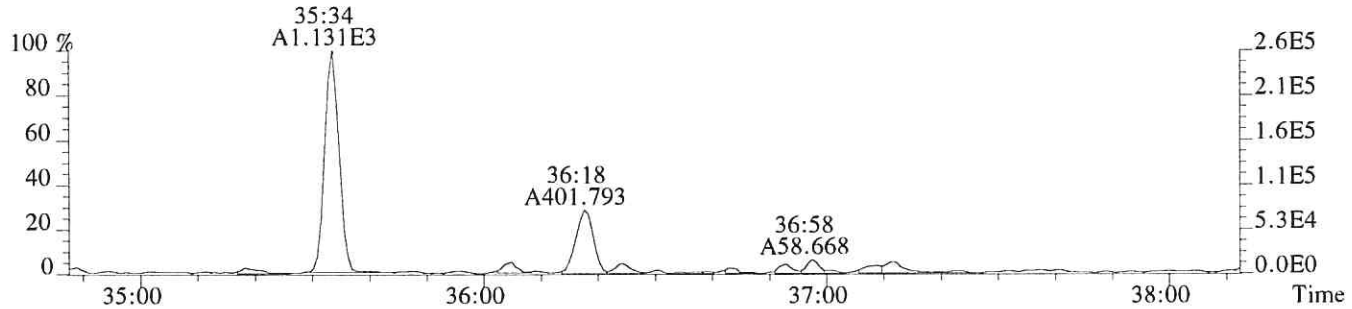
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



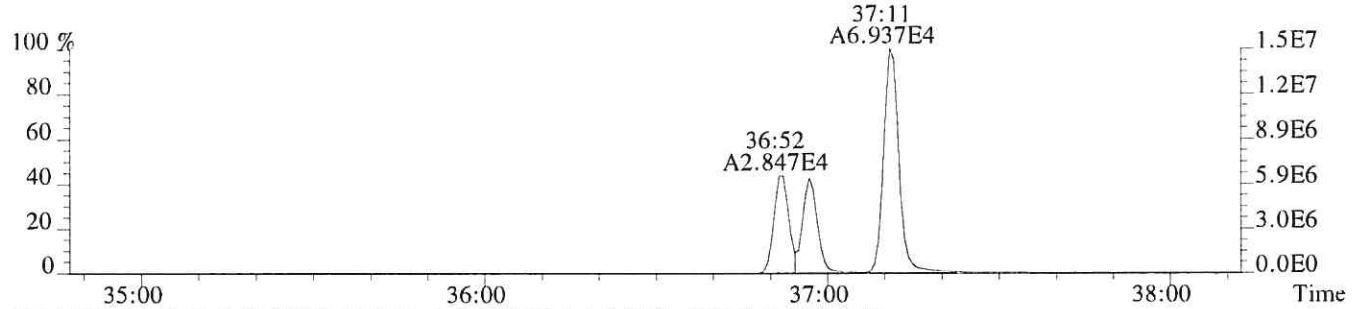
File:P511491 #1-308 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1844.0,0.40%,F,T)



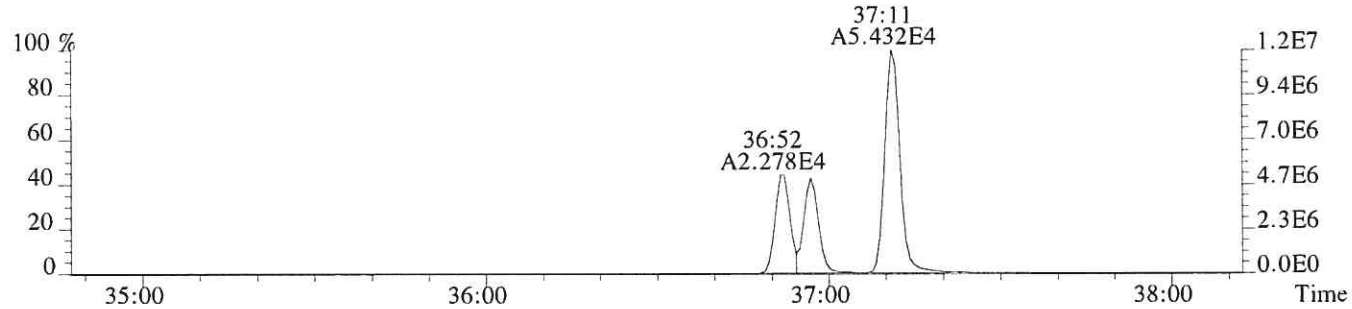
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2664.0,0.40%,F,T)



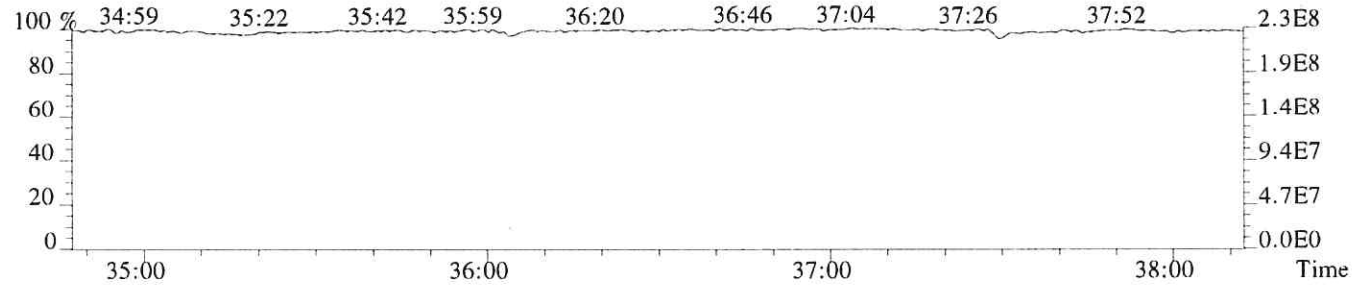
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3168.0,0.40%,F,T)



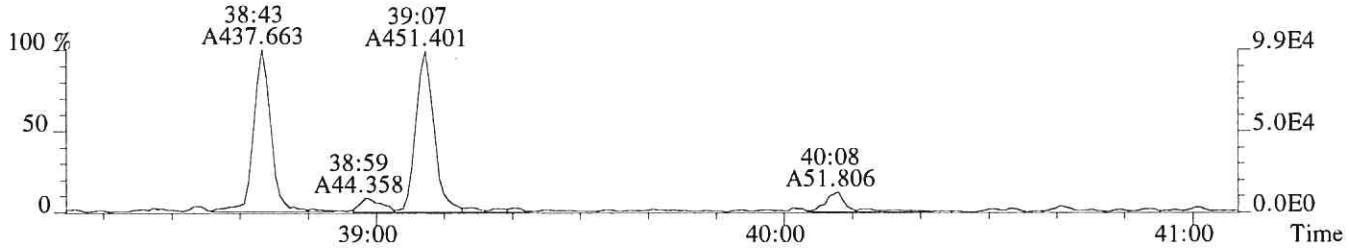
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1628.0,0.40%,F,T)



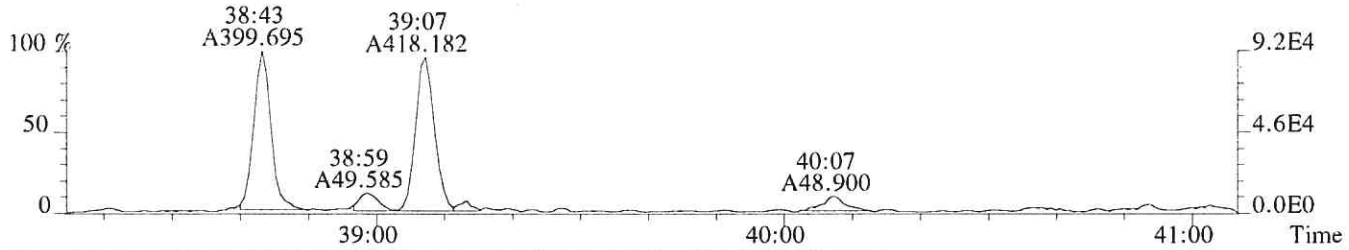
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



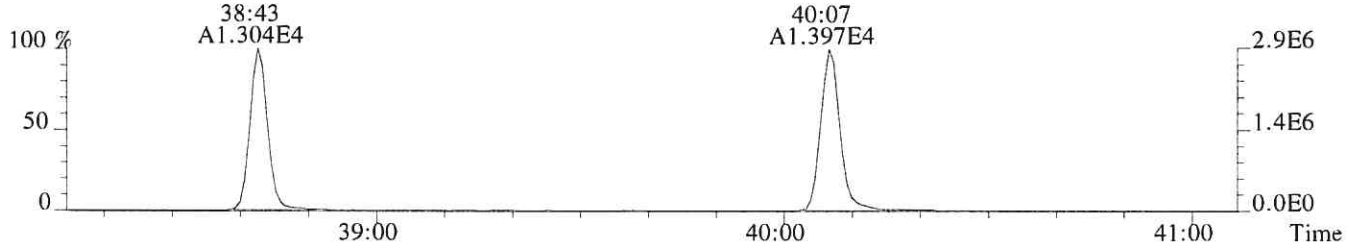
File:P511491 #1-259 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.50%,F,T)



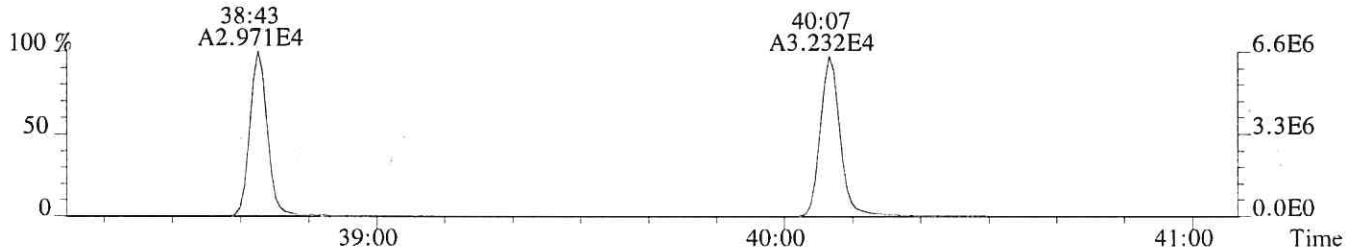
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1820.0,0.50%,F,T)



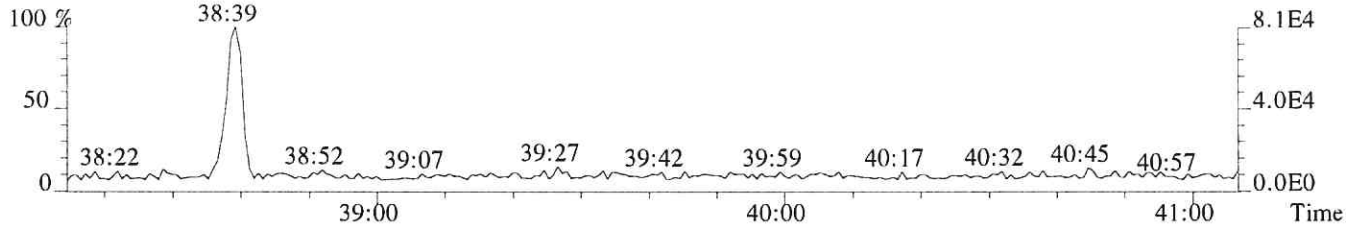
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5584.0,0.50%,F,T)



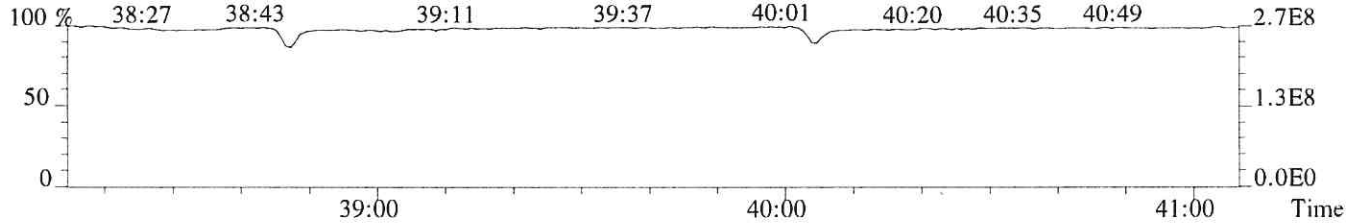
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2228.0,0.50%,F,T)



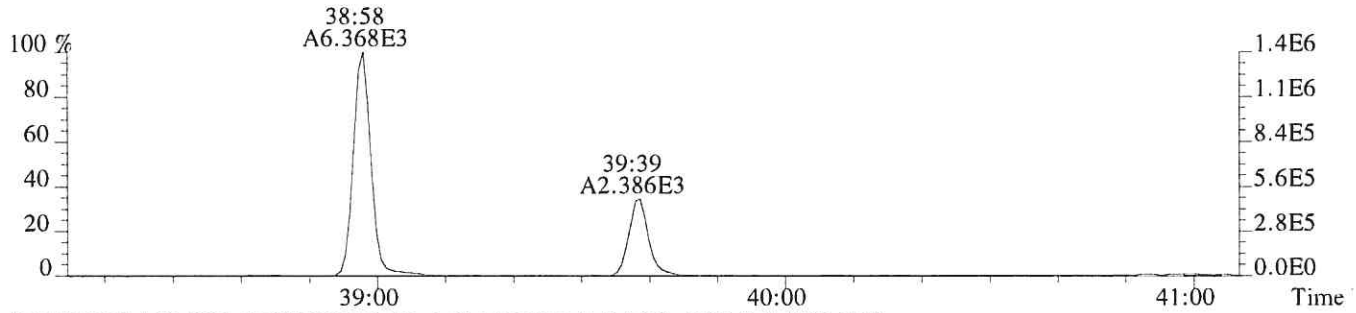
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



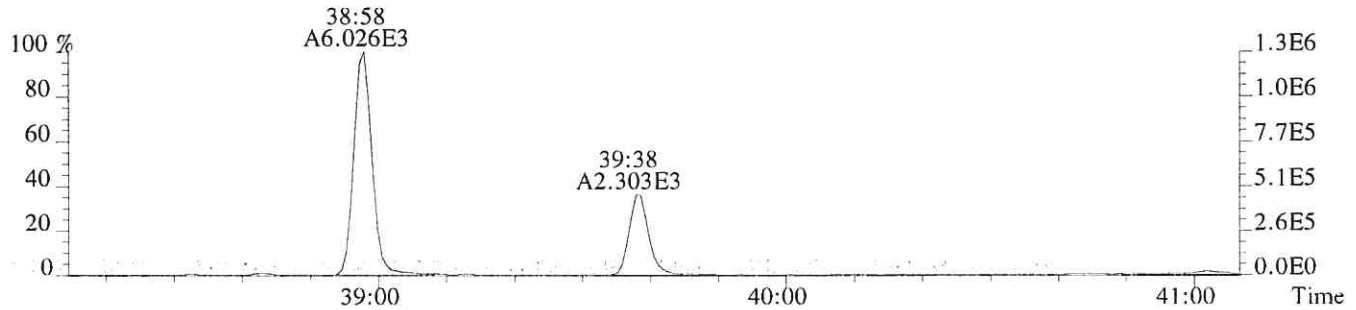
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



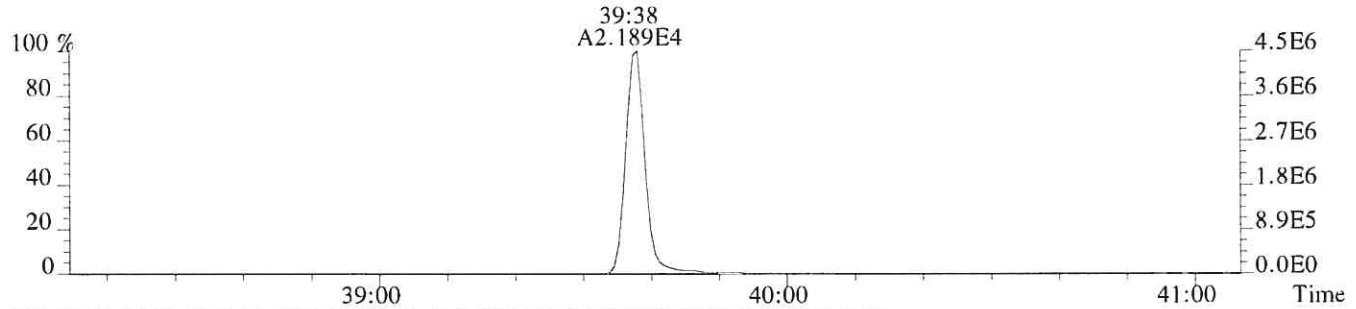
File:P511491 #1-259 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:E1700973-005
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2500.0,0.40%,F,T)



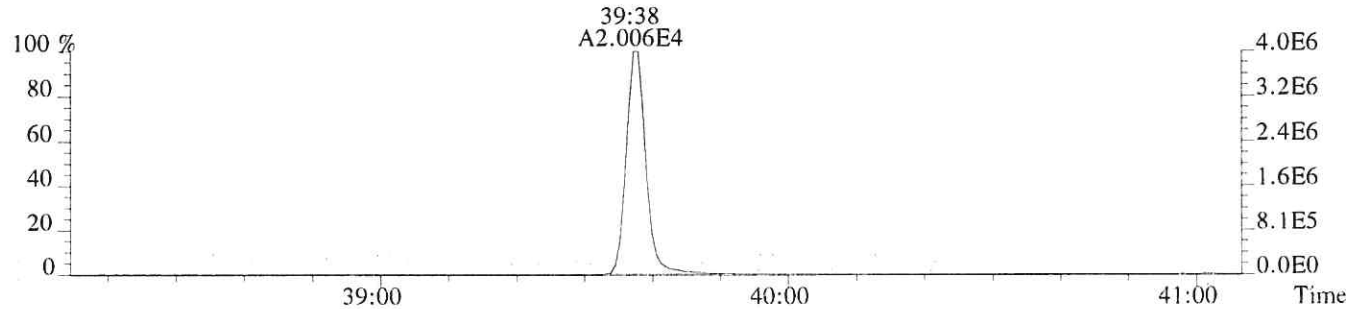
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4200.0,0.40%,F,T)



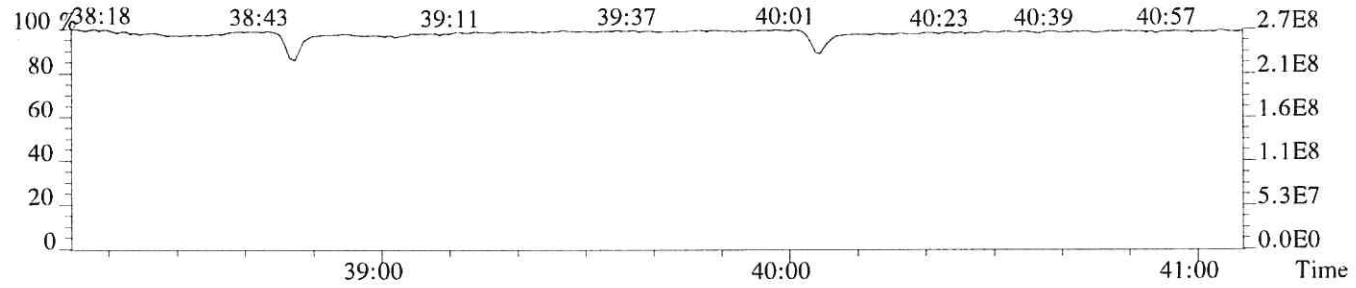
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2756.0,0.40%,F,T)



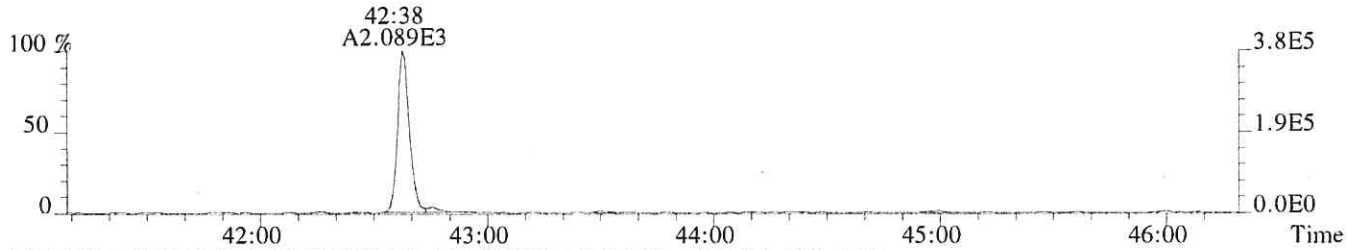
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2180.0,0.40%,F,T)



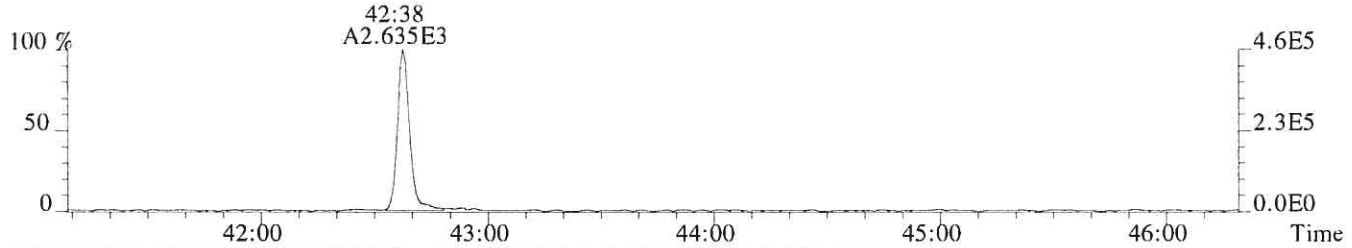
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



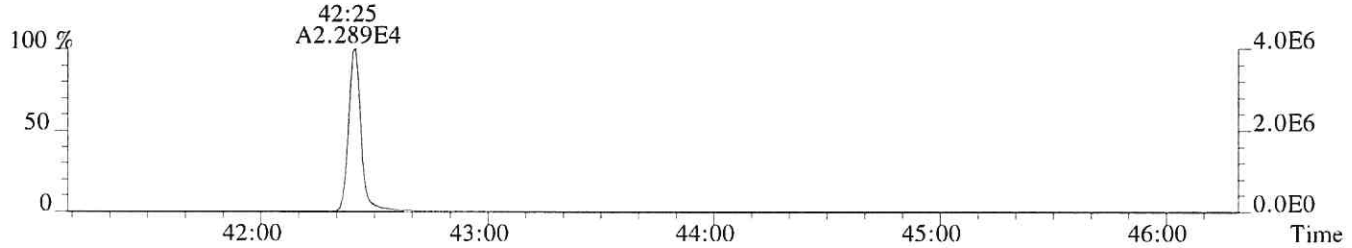
File:P511491 #1-466 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2104.0,0.40%,F,T)



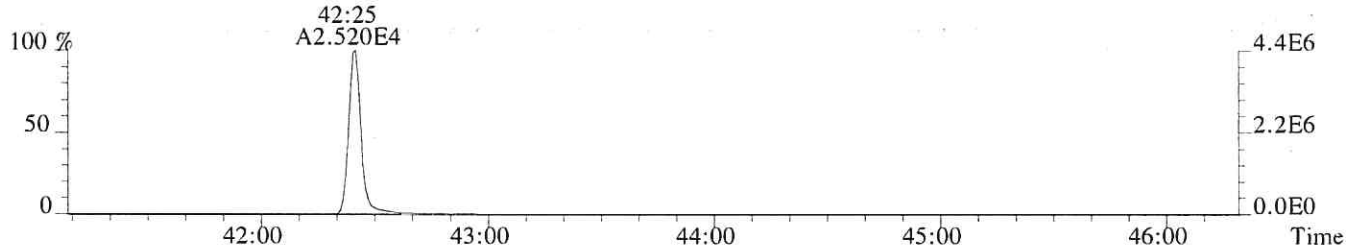
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4576.0,0.40%,F,T)



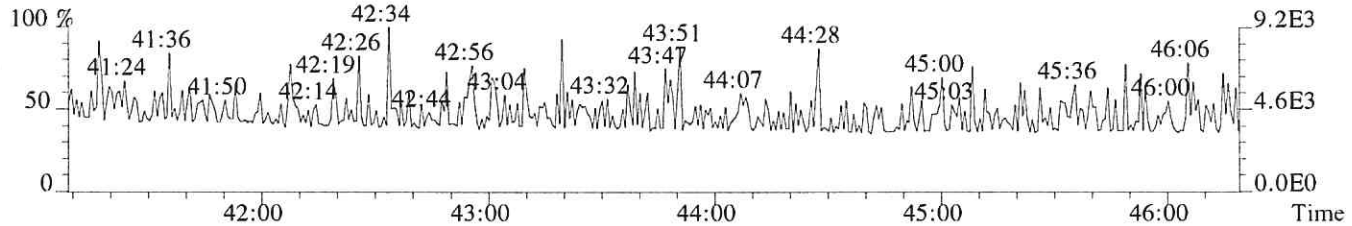
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1812.0,0.40%,F,T)



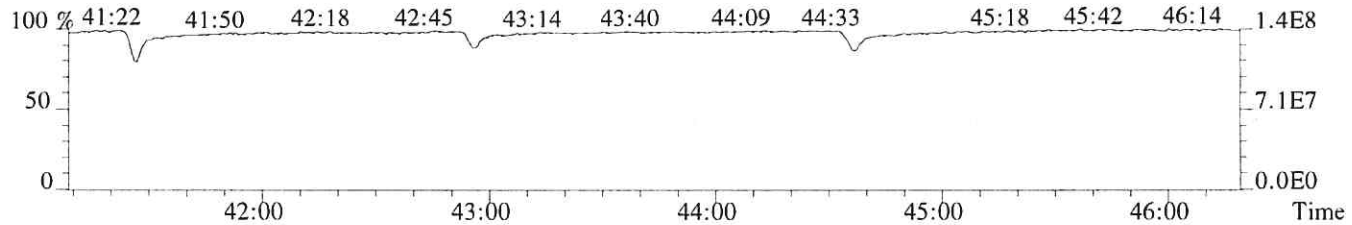
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1856.0,0.40%,F,T)



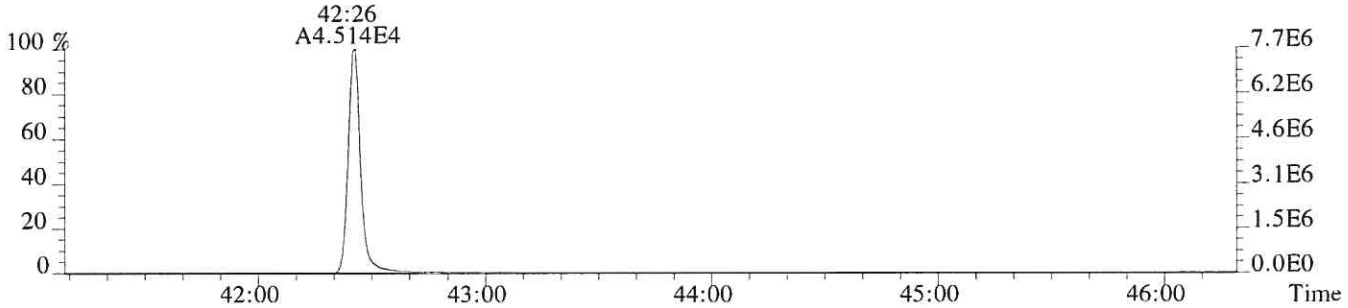
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



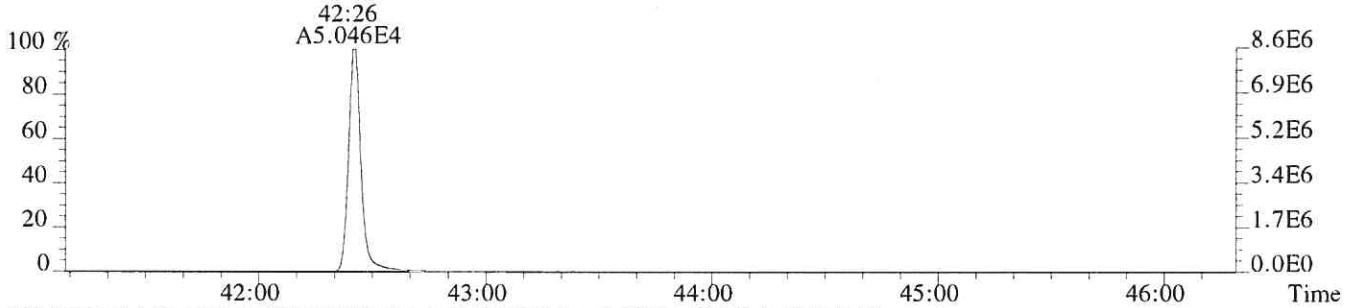
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



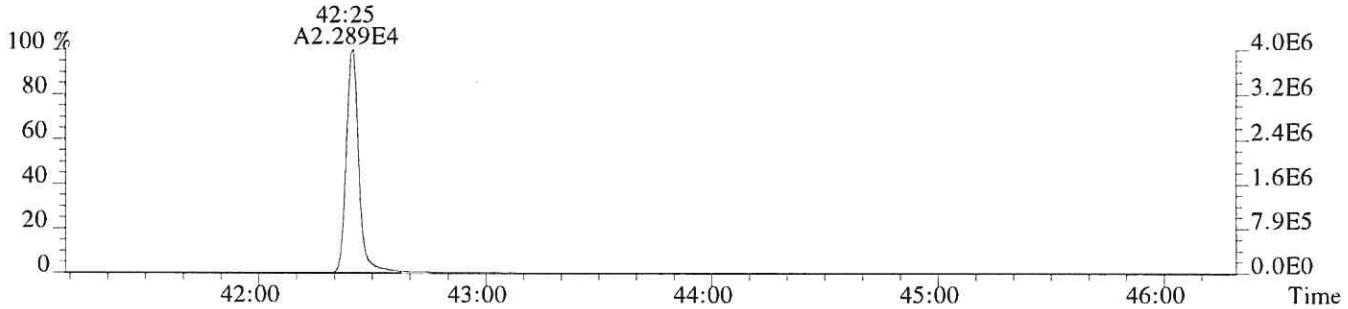
File:P511491 #1-466 Acq:22-SEP-2017 20:02:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-005
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,976.0,0.40%,F,T)



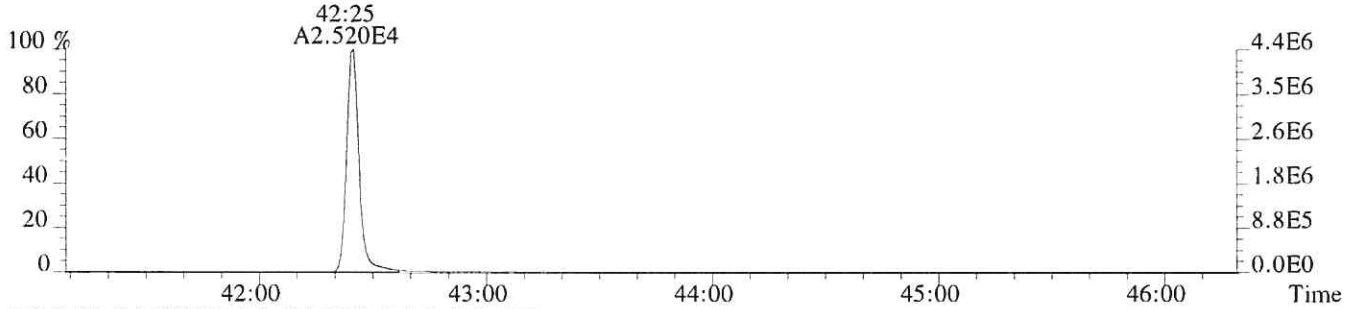
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2472.0,0.40%,F,T)



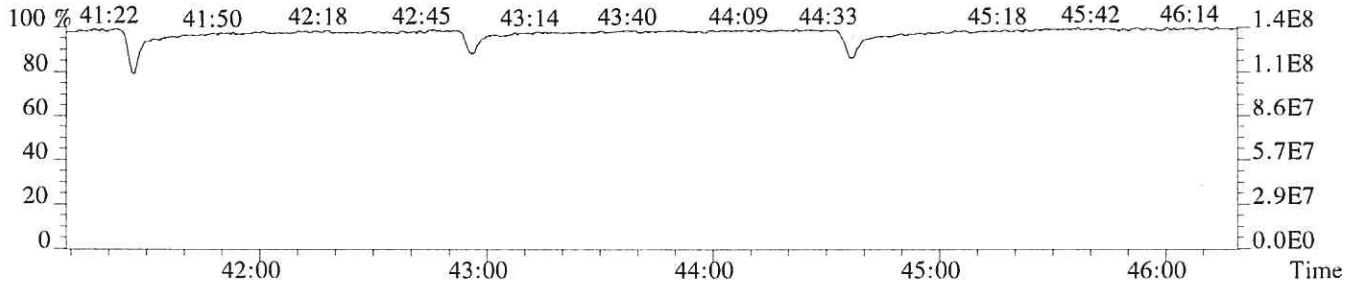
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1812.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1856.0,0.40%,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 P511492 Samp: 1 Inj: 1 Acquired: 22-SEP-17 20:50:41
Processed: 25-SEP-17 07:52:15 Sample ID: E1700973-006

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	3.733e+03	5.063e+03	0.74	yes	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	2.382e+02	1.634e+02	1.46	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	2.825e+02	2.037e+02	1.39	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	6.906e+02	6.806e+02	1.01	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	1.763e+02	1.475e+02	1.20	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	5.962e+01	3.092e+01	1.93	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	7.890e+01	6.312e+01	1.25	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	1.438e+03	1.583e+03	0.91	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	1.012e+02	1.209e+02	0.84	no	no	1.191
10	Unk	OCDF	42:37	3.396e+03	3.917e+03	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	8.700e+02	1.123e+03	0.77	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	4.499e+01	2.397e+01	1.88	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	9.768e+01	8.950e+01	1.09	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	9.483e+01	7.047e+01	1.35	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.816e+03	2.608e+03	1.08	yes	no	0.942
17	Unk	OCDD	42:25	5.564e+04	6.242e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.345e+04	1.711e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.407e+04	2.175e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.557e+04	2.234e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.720e+04	3.297e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.867e+04	3.622e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.795e+04	3.491e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.893e+04	3.603e+04	0.53	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	1.229e+04	2.747e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.256e+04	2.857e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.014e+04	1.288e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.582e+04	1.605e+04	1.61	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.557e+04	1.865e+04	1.37	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.366e+04	1.963e+04	1.21	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.993e+04	1.829e+04	1.09	yes	no	0.881
32	IS	13C-OCDD	42:24	2.375e+04	2.649e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	4.116e+04	5.098e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.809e+04	5.273e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.557e+04				no	1.033

$$\text{OCDD} = \frac{(5.564e+04 + 6.242e+04) \times 4000 \text{ pg} \times 1}{(2.375e+04 + 2.649e+04) \times 10.854 \text{ g} \times 30.9 / 100 \times 1.051} = 2233 \text{ pg/kg}$$

KW 9/25/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-025E

Run #17 Filename P511492 Samp: 1 Inj: 1 Acquired: 22-SEP-17 20:50:41
Processed: 25-SEP-17 07:52:15 LAB. ID: E1700973-006

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.37e+05	2.18e+03	3.4e+02	9.87e+05	7.11e+03	1.4e+02
2	1,2,3,7,8-PeCDF	4.97e+04	2.60e+03	1.9e+01	2.84e+04	6.33e+03	4.5e+00
3	2,3,4,7,8-PeCDF	5.41e+04	2.60e+03	2.1e+01	3.21e+04	6.33e+03	5.1e+00
4	1,2,3,4,7,8-HxCDF	1.50e+05	2.38e+03	6.3e+01	1.46e+05	1.87e+03	7.8e+01
5	1,2,3,6,7,8-HxCDF	3.82e+04	2.38e+03	1.6e+01	3.08e+04	1.87e+03	1.7e+01
6	2,3,4,6,7,8-HxCDF	1.33e+04	2.38e+03	5.6e+00	7.83e+03	1.87e+03	4.2e+00
7	1,2,3,7,8,9-HxCDF	1.65e+04	2.38e+03	6.9e+00	1.15e+04	1.87e+03	6.1e+00
8	1,2,3,4,6,7,8-HpCDF	3.08e+05	1.31e+03	2.4e+02	3.53e+05	1.70e+03	2.1e+02
9	1,2,3,4,7,8,9-HpCDF	1.93e+04	1.31e+03	1.5e+01	2.48e+04	1.70e+03	1.5e+01
10	OCDF	5.80e+05	2.08e+03	2.8e+02	6.79e+05	3.47e+03	2.0e+02
11	2,3,7,8-TCDD	1.68e+05	5.16e+03	3.3e+01	2.44e+05	2.58e+03	9.5e+01
12	1,2,3,7,8-PeCDD	*	4.75e+03	*	*	1.45e+03	*
13	1,2,3,4,7,8-HxCDD	1.29e+04	1.21e+03	1.1e+01	5.99e+03	2.13e+03	2.8e+00
14	1,2,3,6,7,8-HxCDD	1.92e+04	1.21e+03	1.6e+01	1.72e+04	2.13e+03	8.1e+00
15	1,2,3,7,8,9-HxCDD	1.67e+04	1.21e+03	1.4e+01	1.57e+04	2.13e+03	7.4e+00
16	1,2,3,4,6,7,8-HpCDD	5.87e+05	3.78e+03	1.6e+02	5.41e+05	4.68e+03	1.2e+02
17	OCDD	9.52e+06	1.24e+03	7.7e+03	1.07e+07	2.11e+03	5.1e+03
18	13C-2,3,7,8-TCDF	2.63e+06	3.38e+04	7.8e+01	3.35e+06	1.49e+04	2.3e+02
19	13C-1,2,3,7,8-PeCDF	6.64e+06	1.29e+03	5.1e+03	4.31e+06	2.44e+03	1.8e+03
20	13C-2,3,4,7,8-PeCDF	7.29e+06	1.29e+03	5.6e+03	4.54e+06	2.44e+03	1.9e+03
21	13C-1,2,3,4,7,8-HxCDF	3.89e+06	1.67e+03	2.3e+03	7.33e+06	3.18e+03	2.3e+03
22	13C-1,2,3,6,7,8-HxCDF	4.04e+06	1.67e+03	2.4e+03	7.81e+06	3.18e+03	2.5e+03
23	13C-2,3,4,6,7,8-HxCDF	4.01e+06	1.67e+03	2.4e+03	7.72e+06	3.18e+03	2.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.99e+06	1.67e+03	2.4e+03	7.74e+06	3.18e+03	2.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.65e+06	3.07e+03	8.6e+02	6.06e+06	4.20e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.45e+06	3.07e+03	8.0e+02	5.68e+06	4.20e+03	1.4e+03
27	13C-2,3,7,8-TCDD	2.07e+06	1.13e+04	1.8e+02	2.59e+06	4.21e+03	6.1e+02
28	13C-1,2,3,7,8-PeCDD	5.23e+06	4.48e+03	1.2e+03	3.22e+06	2.93e+03	1.1e+03
29	13C-1,2,3,4,7,8-HxCDD	5.70e+06	4.14e+03	1.4e+03	4.28e+06	2.56e+03	1.7e+03
30	13C-1,2,3,6,7,8-HxCDD	5.27e+06	4.14e+03	1.3e+03	4.20e+06	2.56e+03	1.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.05e+06	3.11e+03	1.3e+03	3.73e+06	2.31e+03	1.6e+03
32	13C-OCDD	4.05e+06	1.84e+03	2.2e+03	4.50e+06	1.62e+03	2.8e+03
33	13C-1,2,3,4-TCDD	8.30e+06	1.13e+04	7.4e+02	1.02e+07	4.21e+03	2.4e+03
34	13C-1,2,3,7,8,9-HxCDD	1.43e+07	4.14e+03	3.5e+03	1.12e+07	2.56e+03	4.4e+03
35	37Cl-2,3,7,8-TCDD	3.20e+06	3.94e+03	8.1e+02			

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 17 File: P511492 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 303.9020 305.8990 Tot Response: 1.49e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:59	1.50e+02	1.93e+02	0.78	yes	3.44e+02		n	n
2	27:46	1.48e+03	1.96e+03	0.76	yes	3.44e+03		n	n
3	28:26	3.07e+02	4.02e+02	0.77	yes	7.09e+02		n	y
4	28:32	3.73e+03	5.06e+03	0.74	yes	8.80e+03	2,3,7,8-TCDF	n	y
5	28:51	3.23e+02	4.52e+02	0.72	yes	7.76e+02		n	n
6	30:18	3.62e+02	4.98e+02	0.73	yes	8.60e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 17 File: P511492 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 319.8970 321.8940 Tot Response: 1.99e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	8.70e+02	1.12e+03	0.77	yes	1.99e+03	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 38 Totals Name: Total Penta-Furans1

Run: 17 File: P511492 Sample:1 Injection:1 Function:1

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 339.8600 341.8570 Tot Response: 1.79e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:16	1.05e+02	7.48e+01	1.40	yes	1.79e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 17 File: P511492 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 339.8600 341.8570 Tot Response: 1.51e+03 RRF: 0.8606

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:43	2.48e+02	1.52e+02	1.63	yes	4.00e+02	1,2,3,7,8-PeCDF	n	y
2	32:37	2.38e+02	1.63e+02	1.46	yes	4.02e+02	1,2,3,7,8-PeCDF	n	y
3	32:52	1.33e+02	8.41e+01	1.58	yes	2.17e+02		n	y
4	33:31	2.82e+02	2.04e+02	1.39	yes	4.86e+02	2,3,4,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 17 File: P511492 Sample:1 Injection:1 Function:2

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 355.8550 357.8520 Tot Response: 1.69e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:11	9.98e+01	6.95e+01	1.44	yes	1.69e+02	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 17 File: P511492 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 373.8210 375.8180 Tot Response: 1.80e+03 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:03	9.65e+01	7.01e+01	1.38	yes	1.67e+02		n	n
2	35:12	3.61e+02	3.27e+02	1.10	yes	6.88e+02		n	n
3	35:42	2.26e+02	1.94e+02	1.16	yes	4.20e+02		n	n
4	36:04	3.31e+01	2.94e+01	1.13	yes	6.25e+01		n	n
5	36:15	1.76e+02	1.47e+02	1.20	yes	3.24e+02	1,2,3,6,7,8-HxCDF	n	n
6	37:30	7.89e+01	6.31e+01	1.25	yes	1.42e+02	1,2,3,7,8,9-HxCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 17 File: P511492 Sample:1 Injection:1 Function:3

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 389.8160 391.8130 Tot Response: 3.59e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.12e+03	9.06e+02	1.24	yes	2.03e+03		n	n
2	36:04	1.41e+02	1.06e+02	1.33	yes	2.48e+02		y	n
3	36:17	4.45e+02	3.47e+02	1.28	yes	7.93e+02		n	n
4	36:24	6.11e+01	4.65e+01	1.31	yes	1.08e+02		n	n
5	36:57	9.77e+01	8.95e+01	1.09	yes	1.87e+02	1,2,3,6,7,8-HxCDD	n	n
6	37:06	3.64e+01	3.16e+01	1.15	yes	6.80e+01		n	n
7	37:11	9.48e+01	7.05e+01	1.35	yes	1.65e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-025E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 17 File: P511492 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 407.7820 409.7790 Tot Response: 4.69e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	1.44e+03	1.58e+03	0.91	yes	3.02e+03	1,2,3,4,6,7,8-HpCDF	n	n
2	38:58	9.06e+01	7.96e+01	1.14	yes	1.70e+02		n	n
3	39:07	7.71e+02	7.27e+02	1.06	yes	1.50e+03		n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-025E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 17 File: P511492 Sample:1 Injection:1 Function:4

Acquired: 22-SEP-17 20:50:41 Processed: 25-SEP-17 07:52:15

Mass: 423.7770 425.7740 Tot Response: 1.77e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	6.31e+03	6.02e+03	1.05	yes	1.23e+04	n	n
2	39:38	2.82e+03	2.61e+03	1.08	yes	5.42e+03	1,2,3,4,6,7,8-HpCDD	n	n

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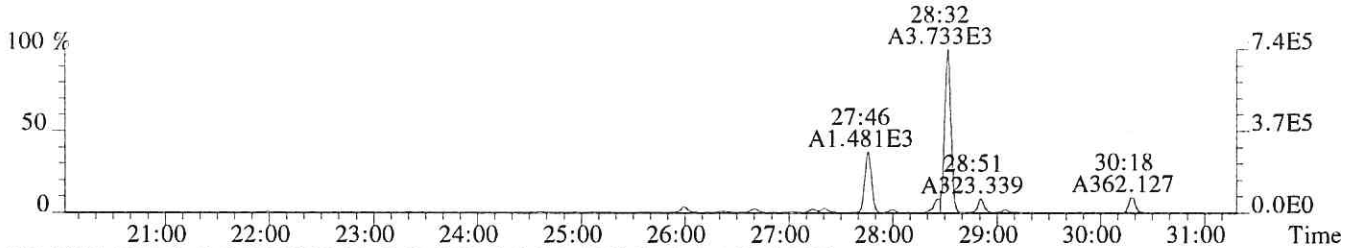
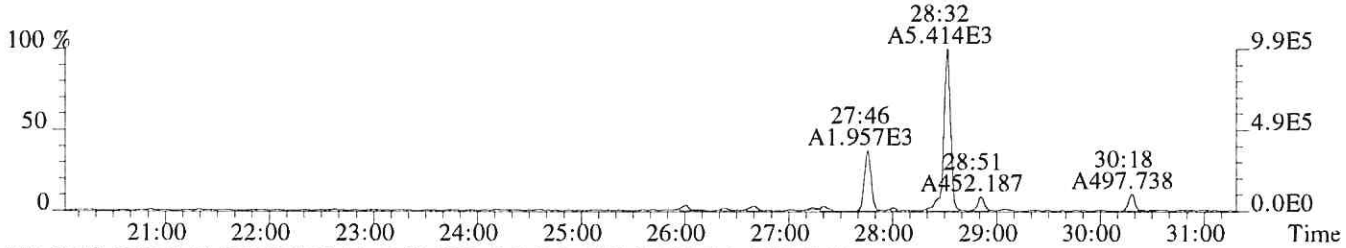
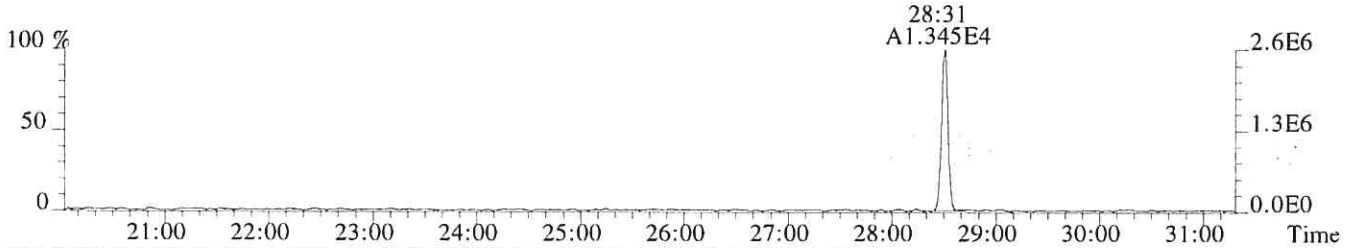
File:P511492 #1-800 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2180.0,1.00%,F,T)



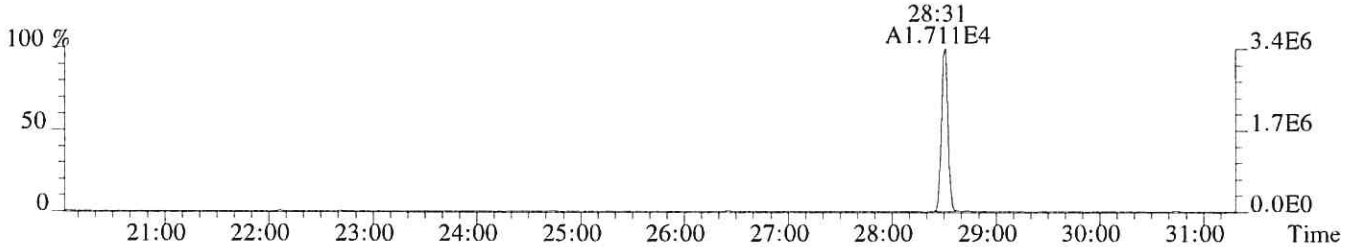
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7112.0,1.00%,F,T)



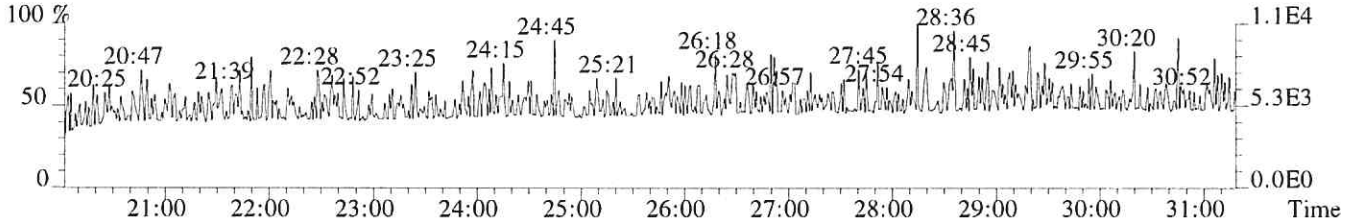
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,33804.0,1.00%,F,T)



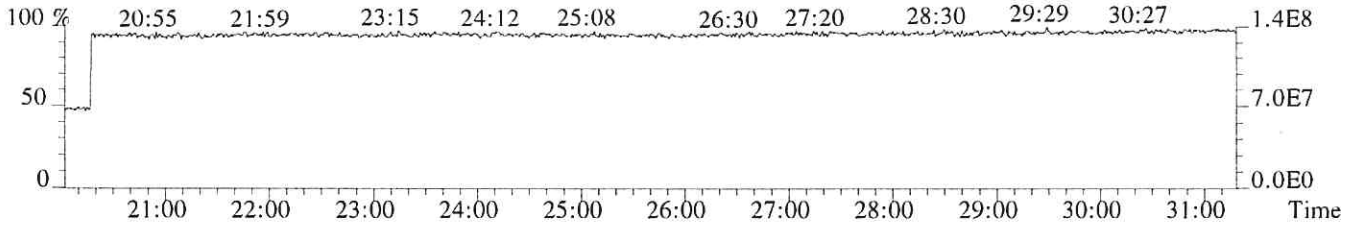
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14892.0,1.00%,F,T)



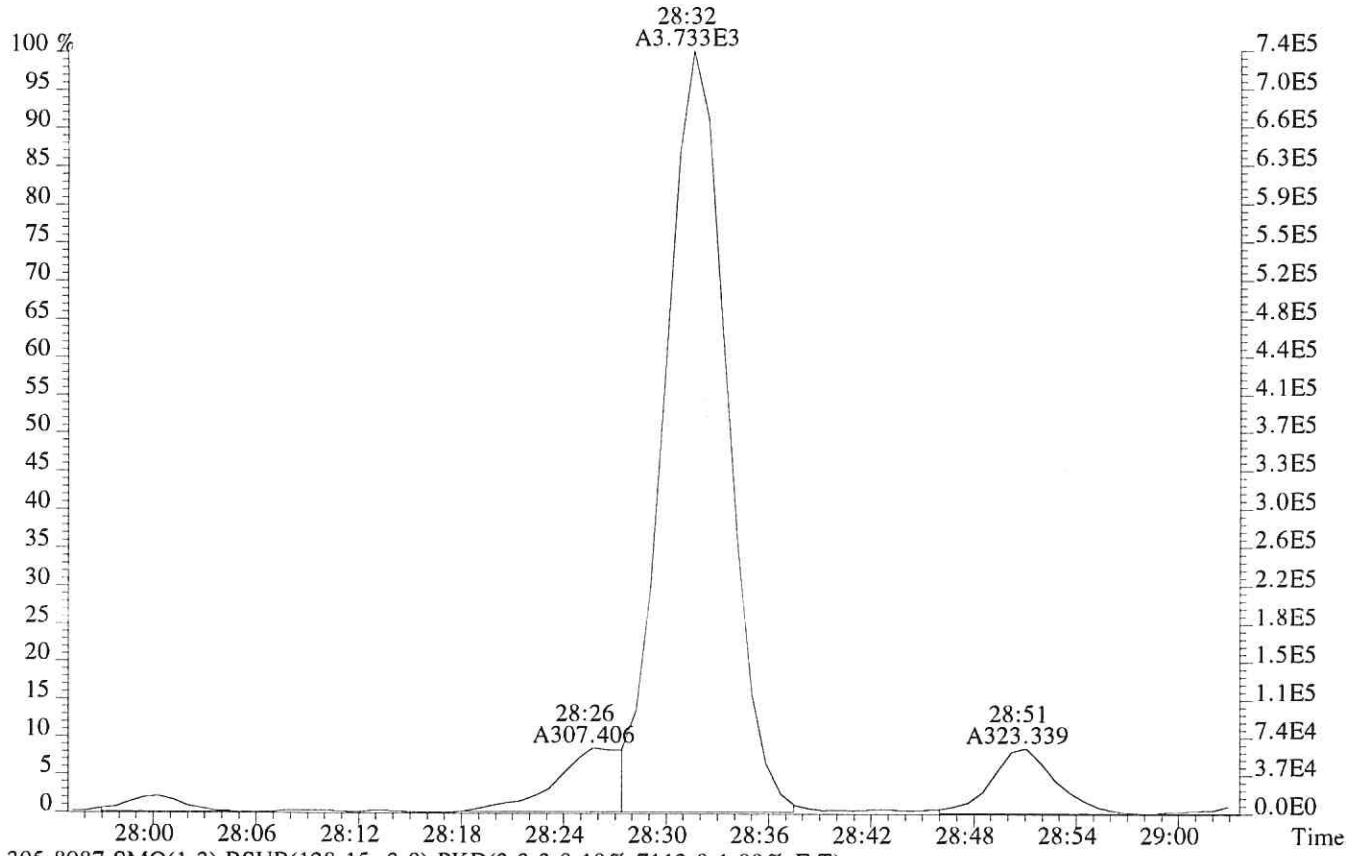
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



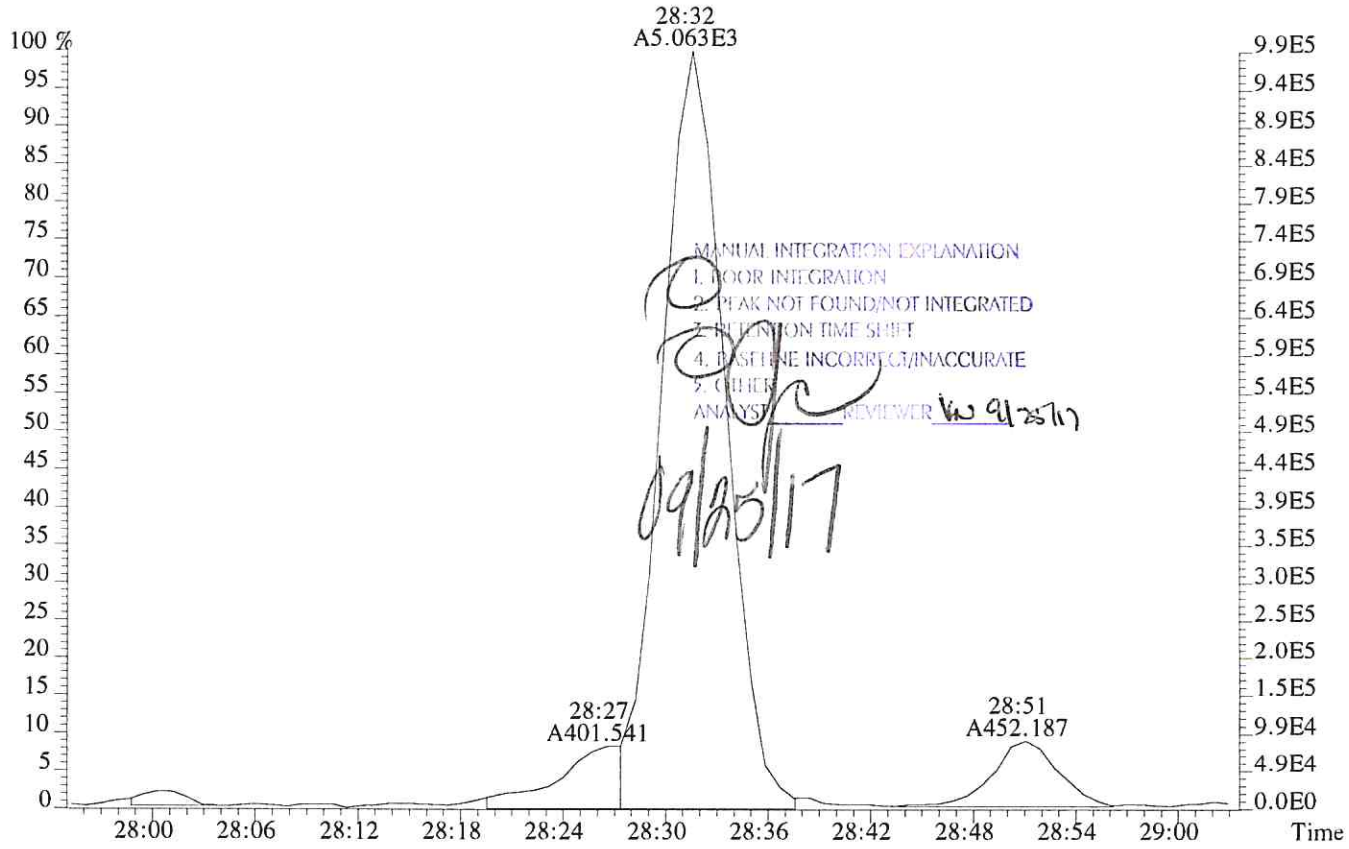
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511492 #1-800 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2180.0,1.00%,F,T)

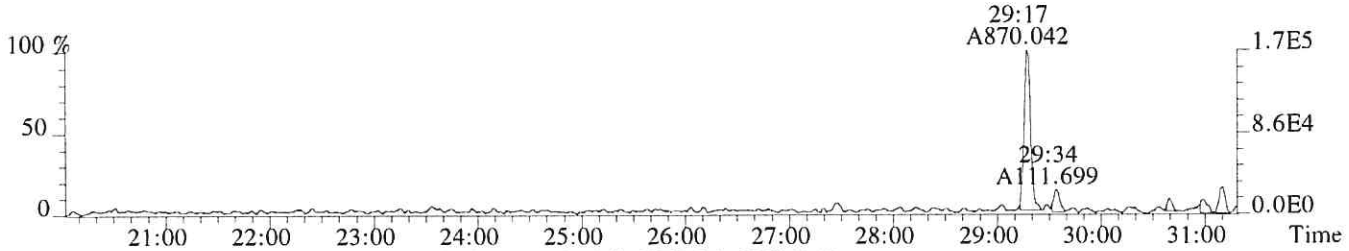


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7112.0,1.00%,F,T)

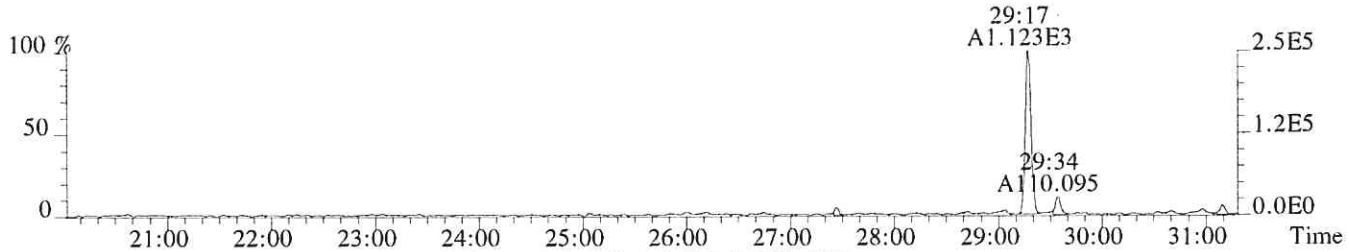


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER VW 9/25/17
09/25/17

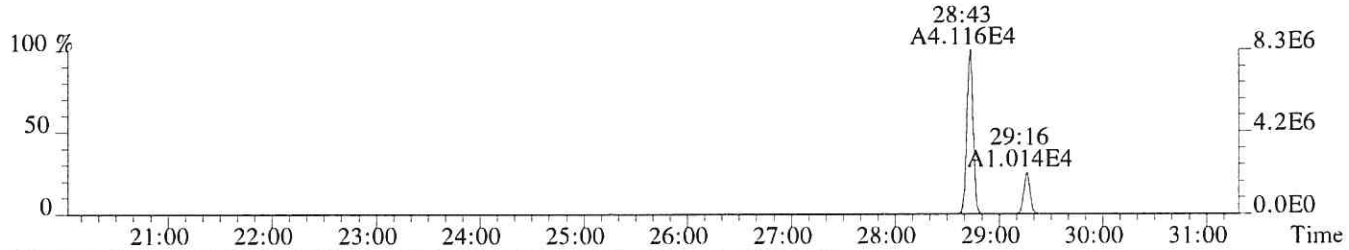
File:P511492 #1-800 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5160.0,1.00%,F,T)



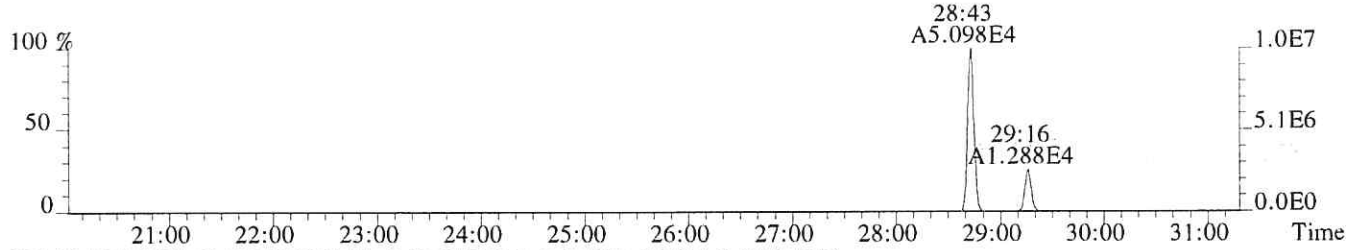
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2576.0,1.00%,F,T)



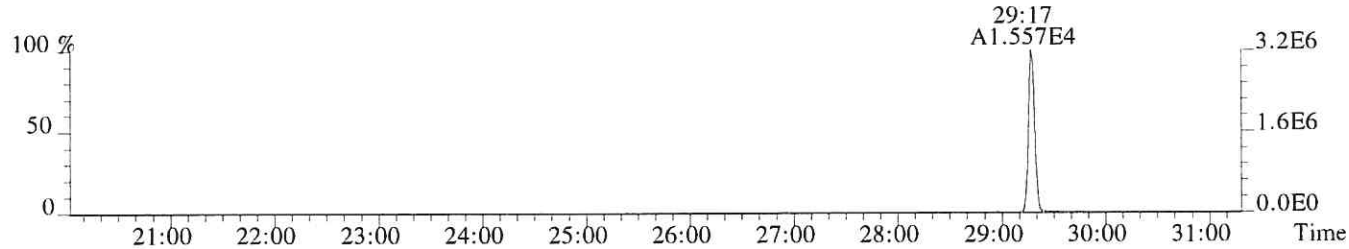
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11280.0,1.00%,F,T)



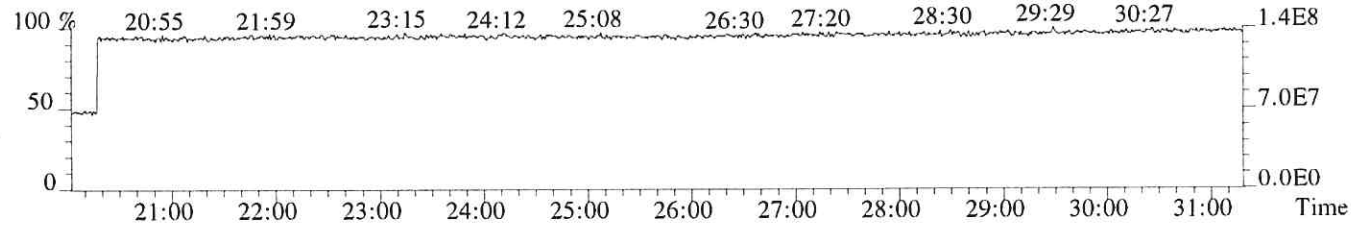
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4212.0,1.00%,F,T)



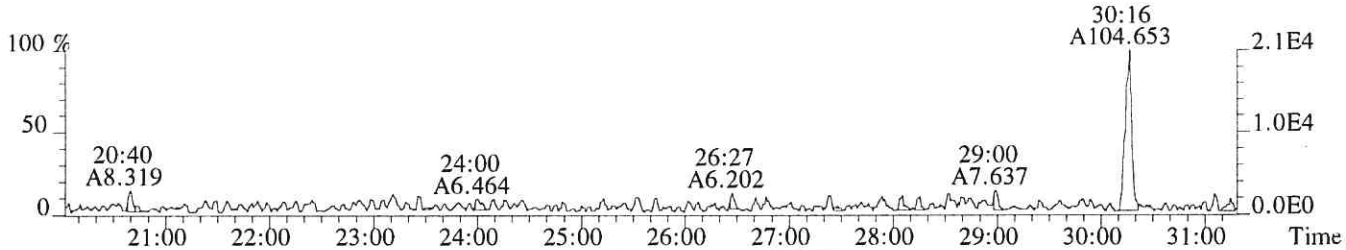
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3936.0,1.00%,F,T)



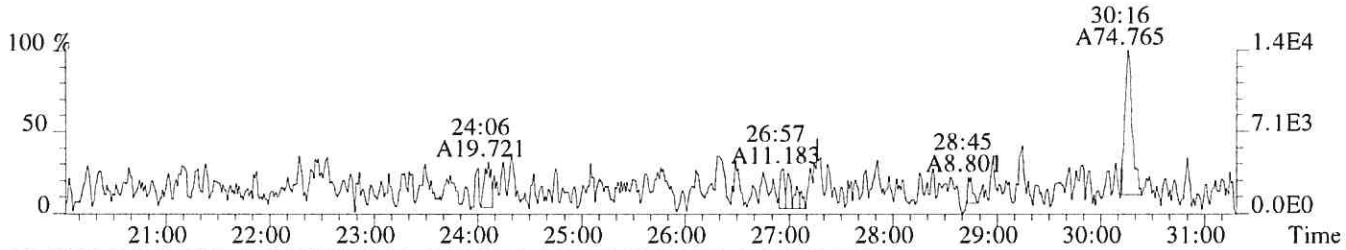
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



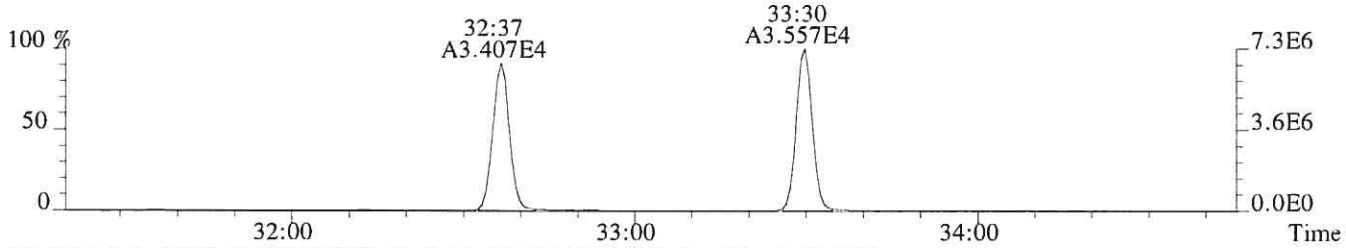
File:P511492 #1-800 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



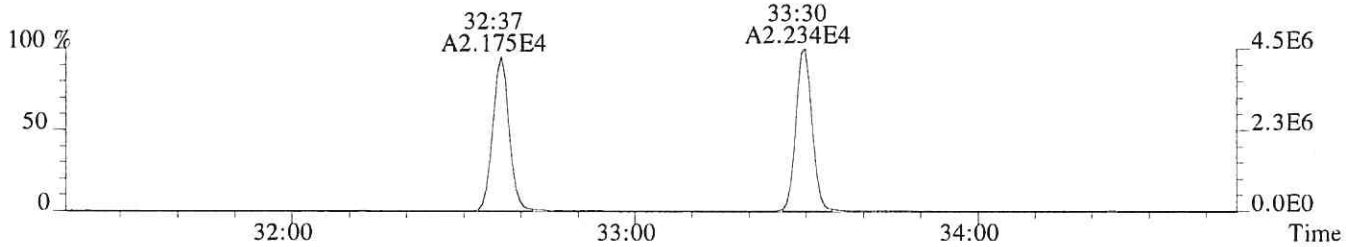
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2568.0,1.00%,F,T)



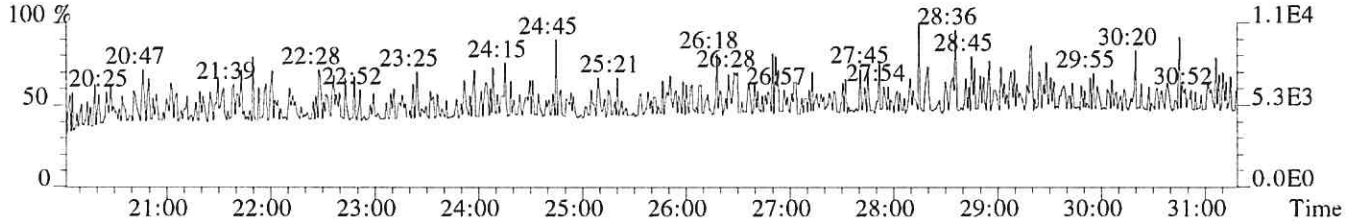
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



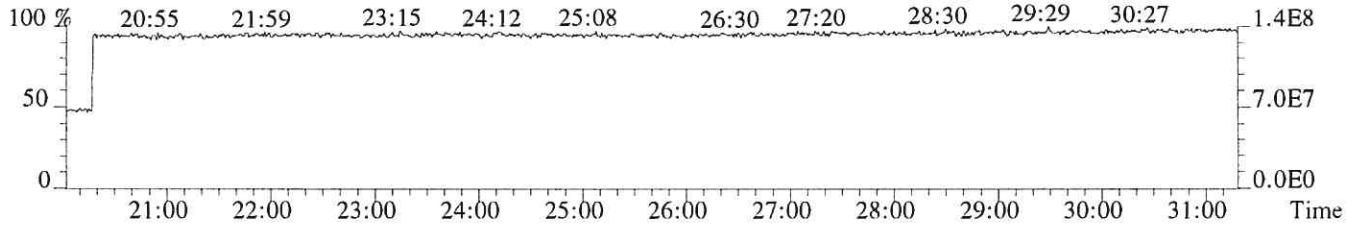
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



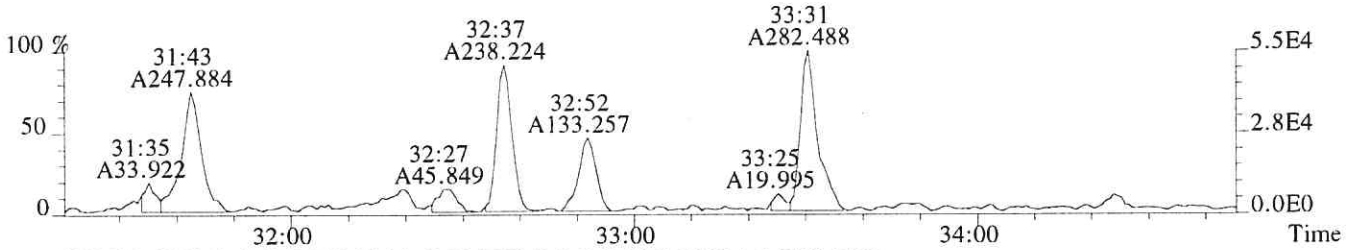
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



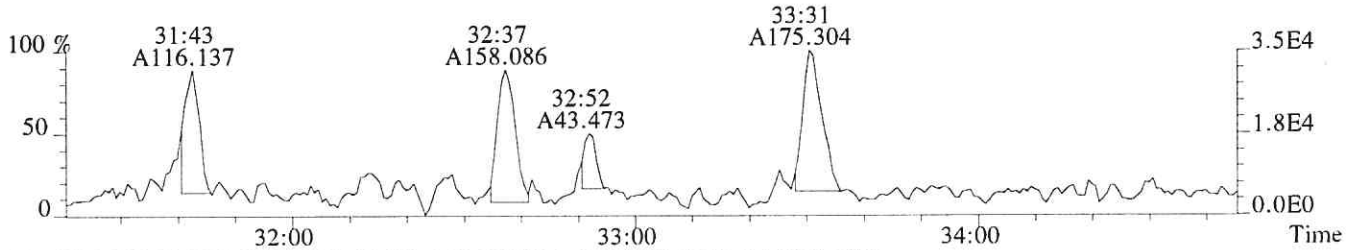
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



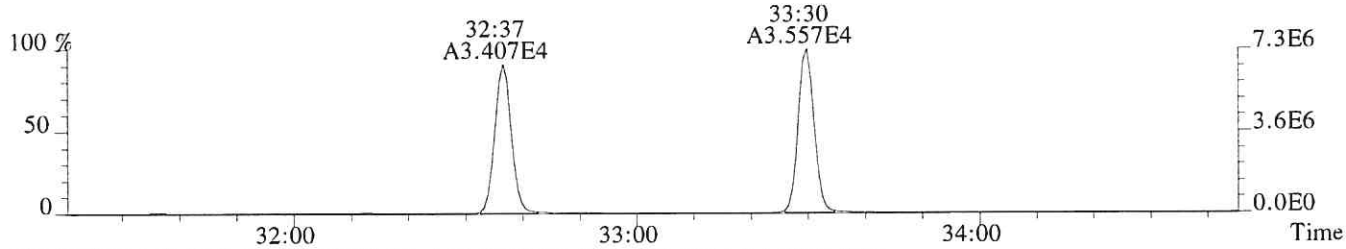
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2604.0,1.00%,F,T)



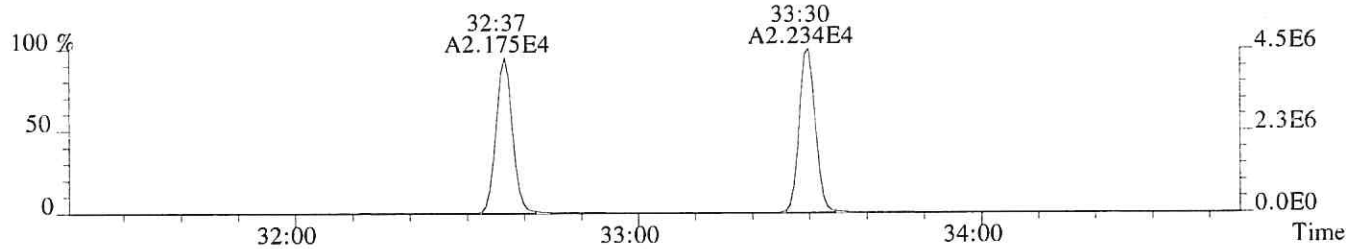
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6332.0,1.00%,F,T)



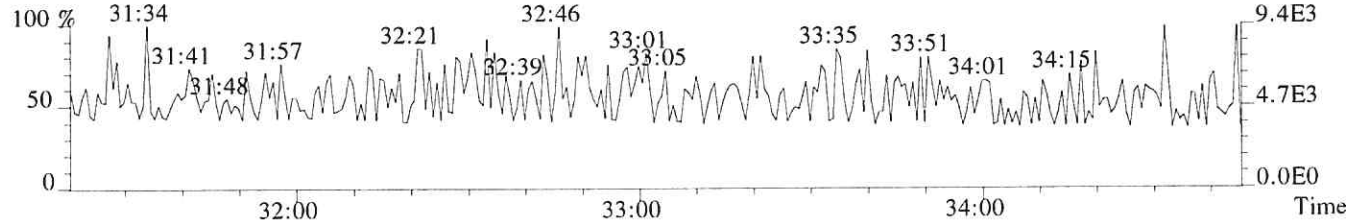
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



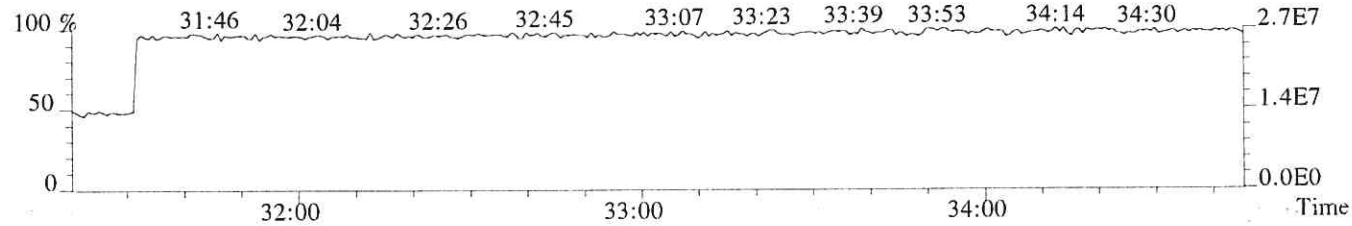
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



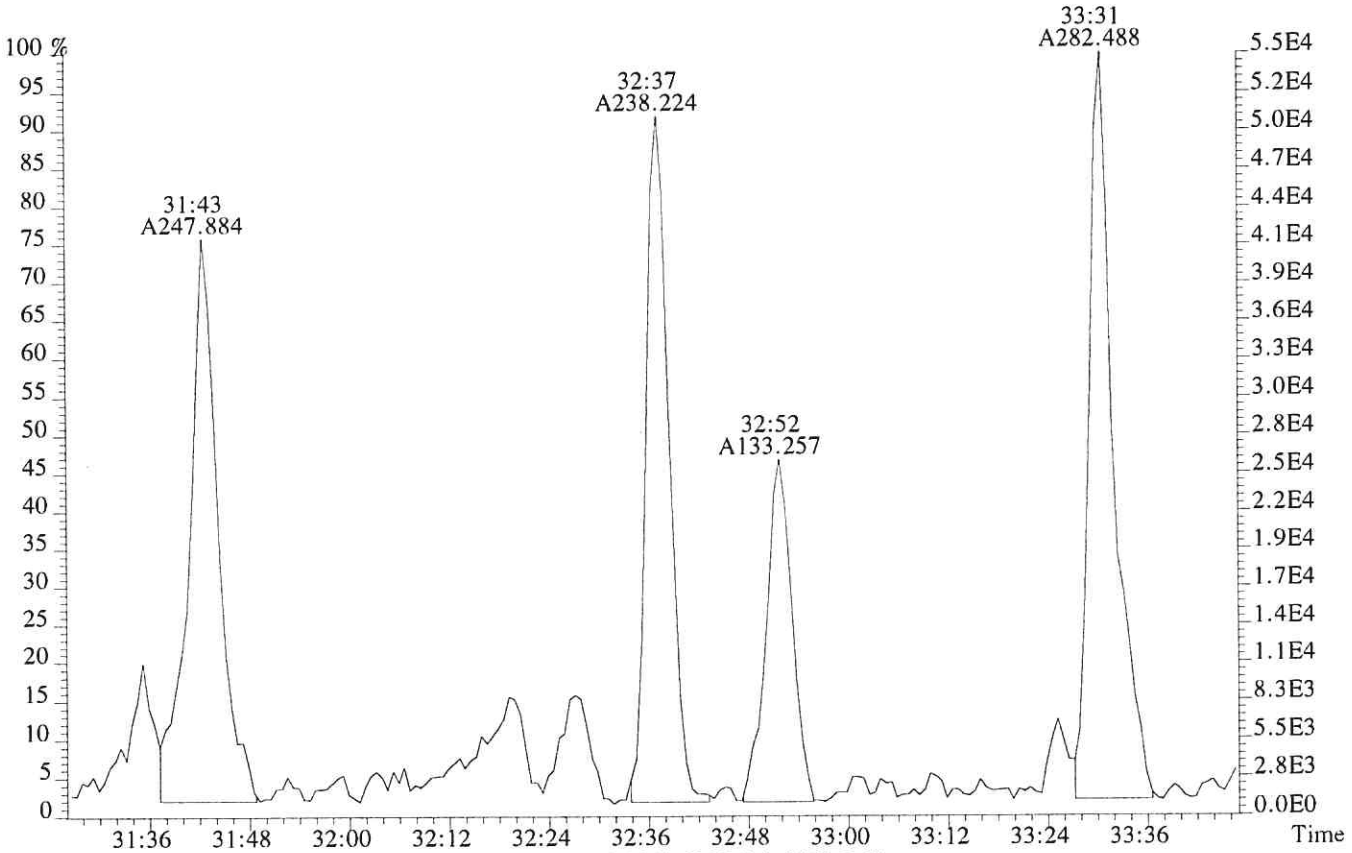
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



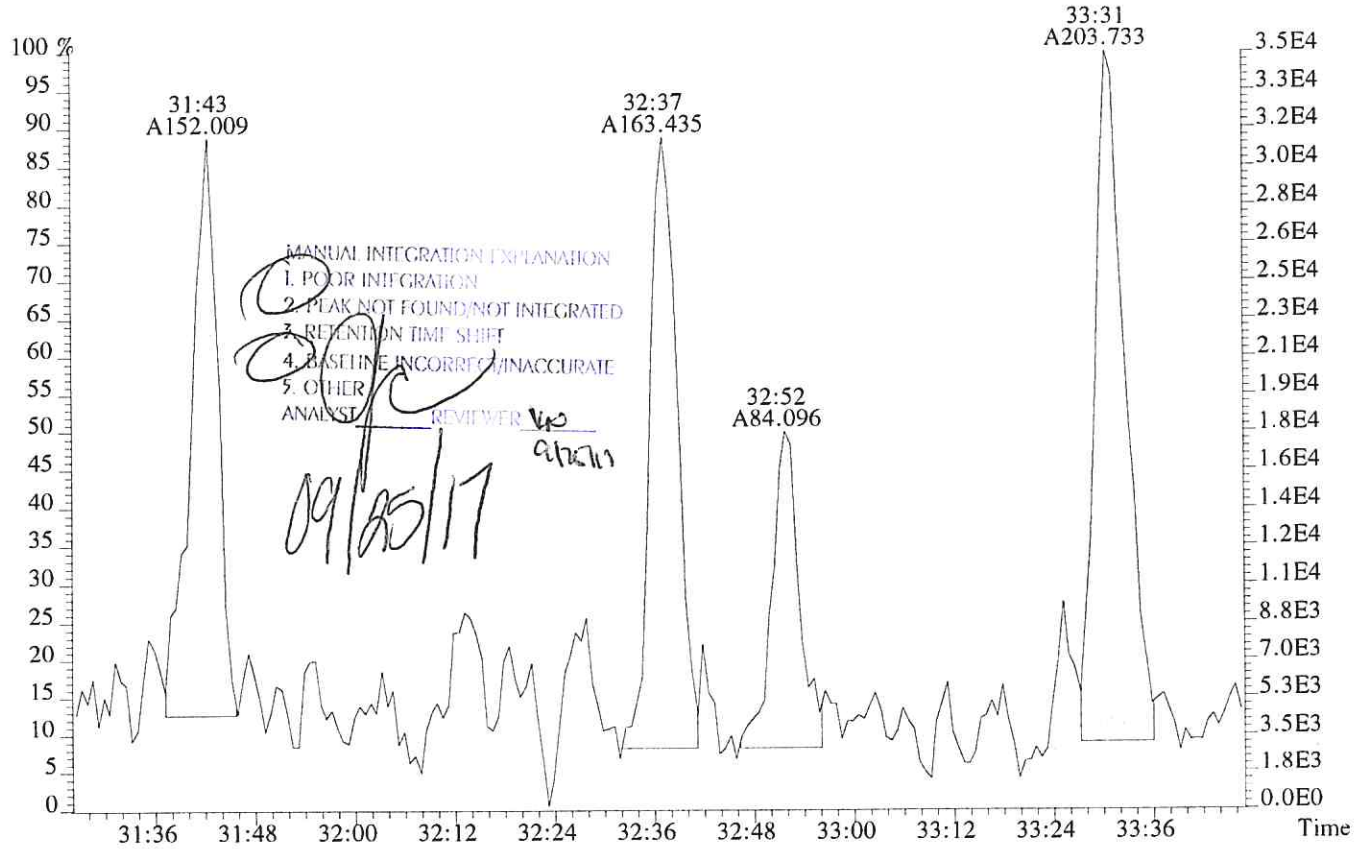
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2604.0,1.00%,F,T)

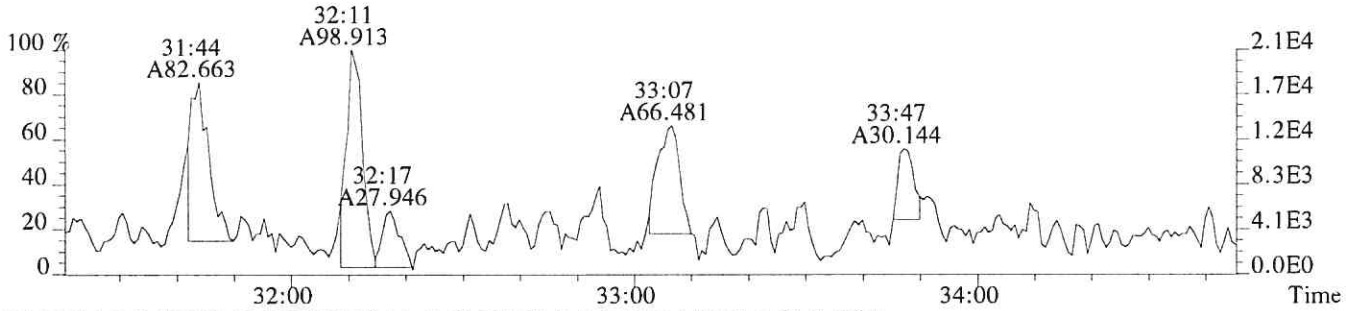


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6332.0,1.00%,F,T)

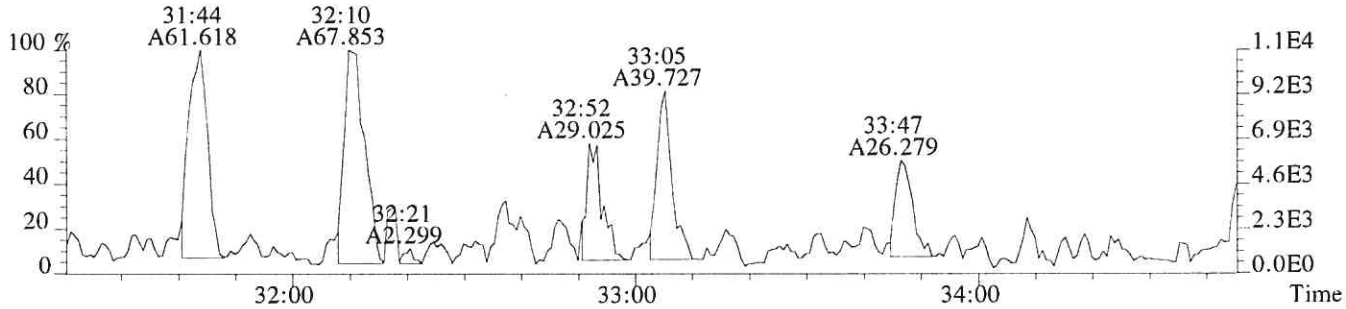


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
09/25/17

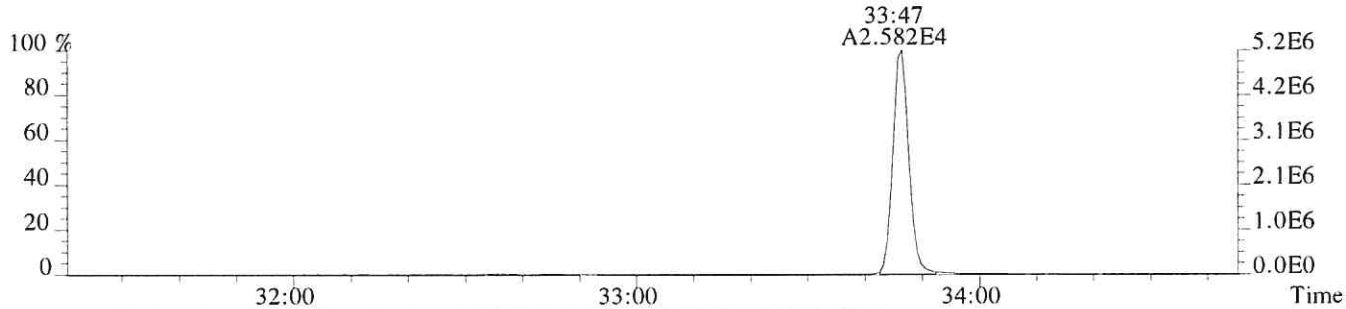
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4748.0,1.00%,F,T)



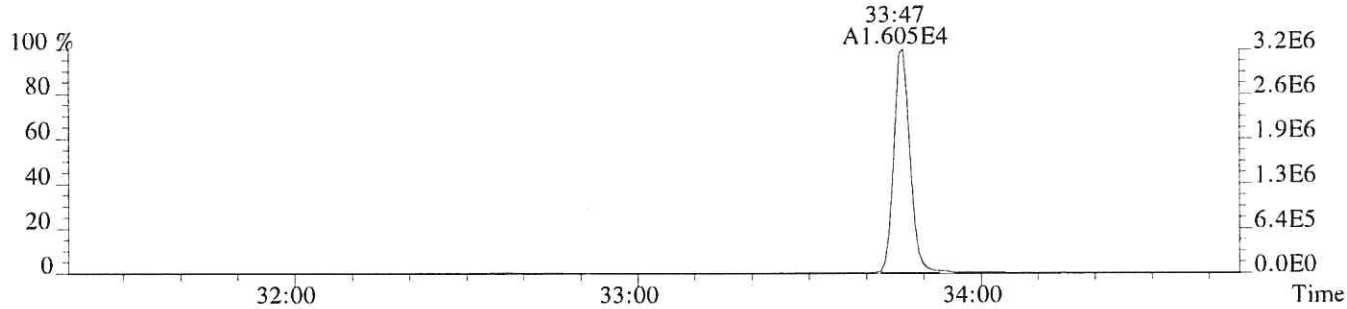
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



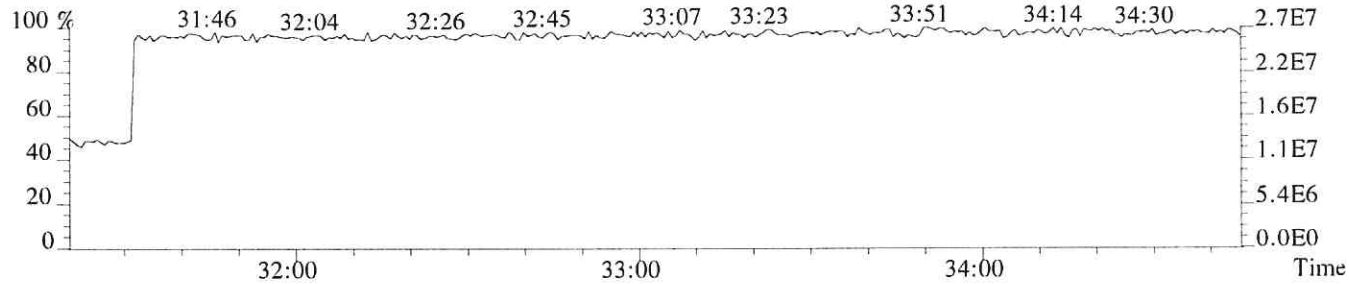
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4480.0,1.00%,F,T)



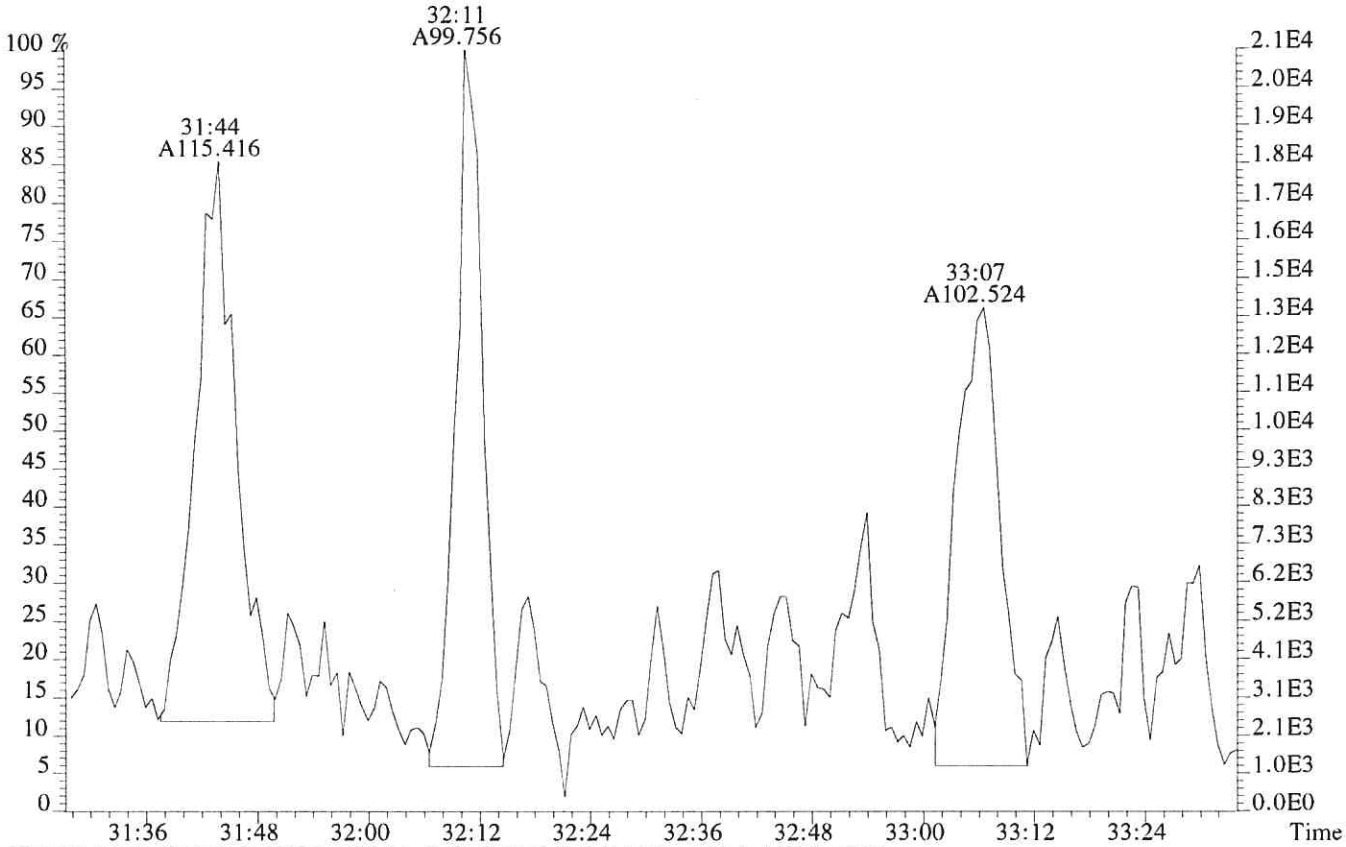
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2928.0,1.00%,F,T)



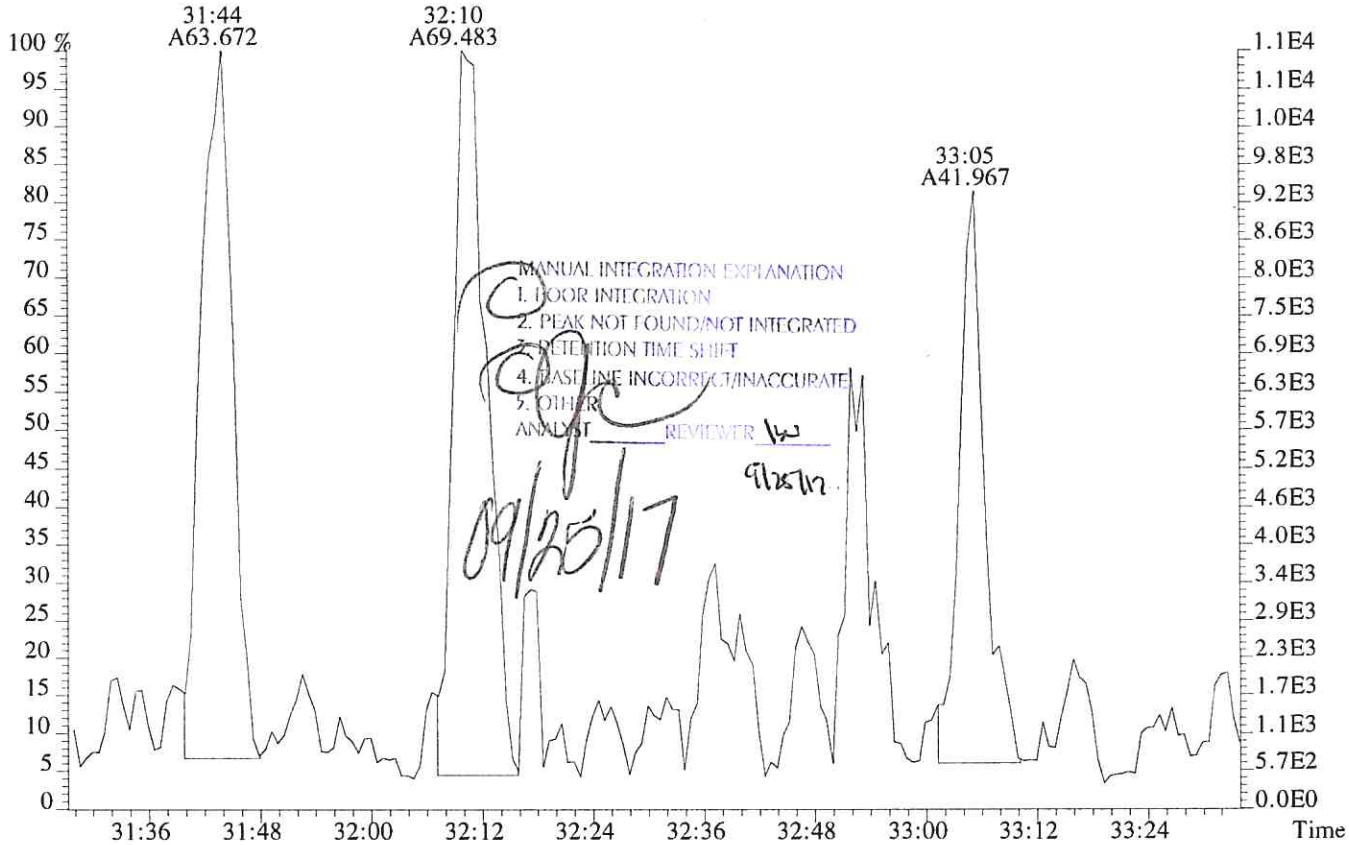
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



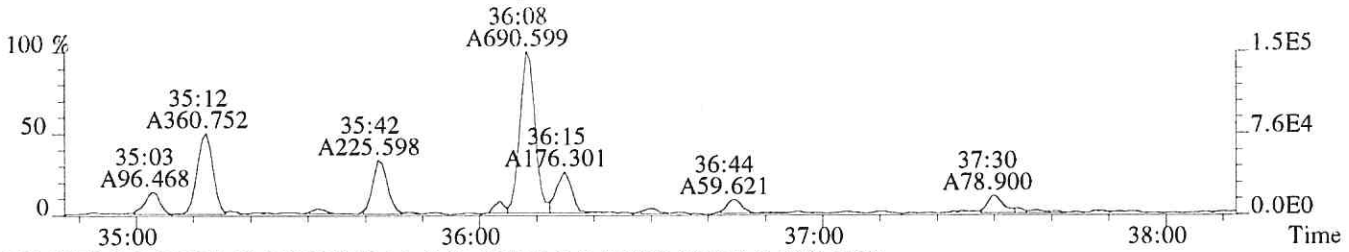
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4748.0,1.00%,F,T)



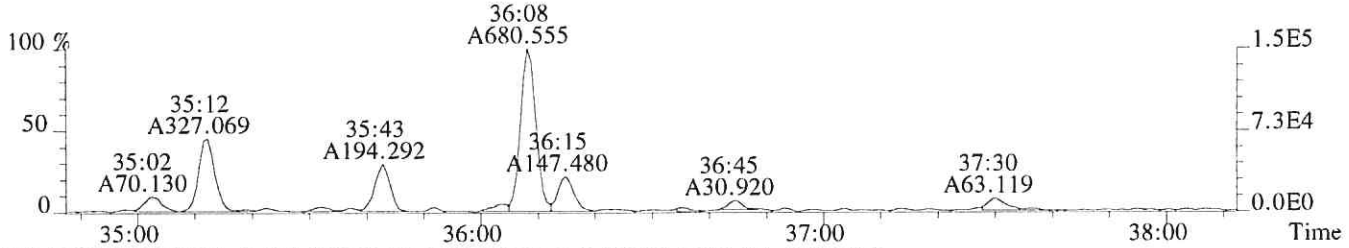
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



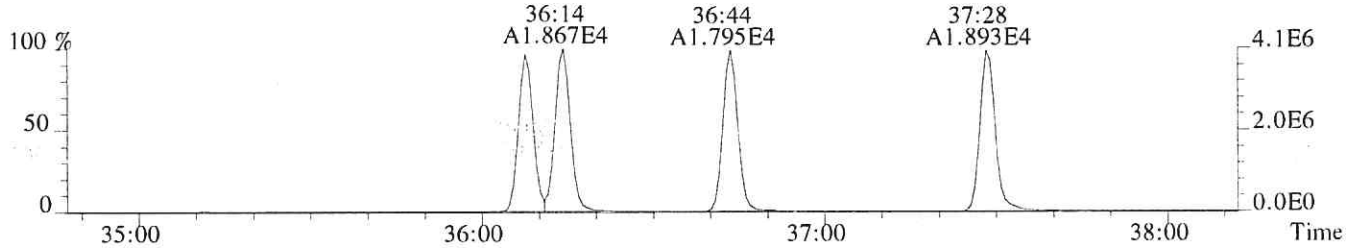
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2384.0,0.40%,F,T)



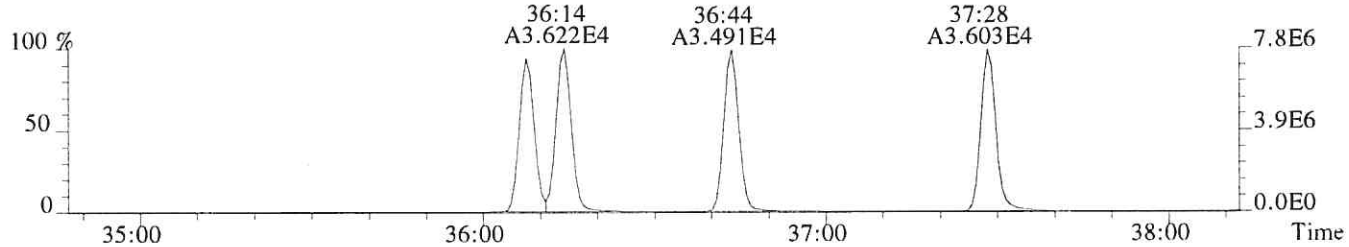
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1868.0,0.40%,F,T)



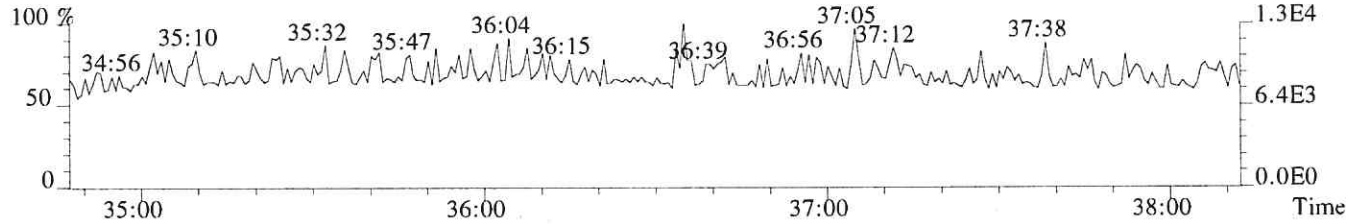
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1672.0,0.40%,F,T)



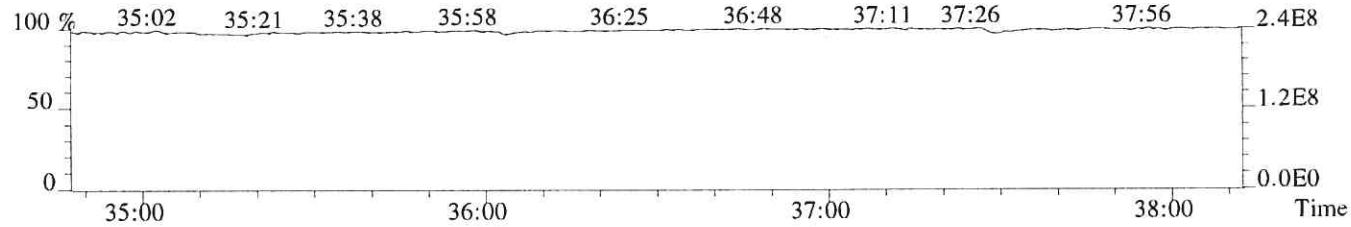
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3180.0,0.40%,F,T)



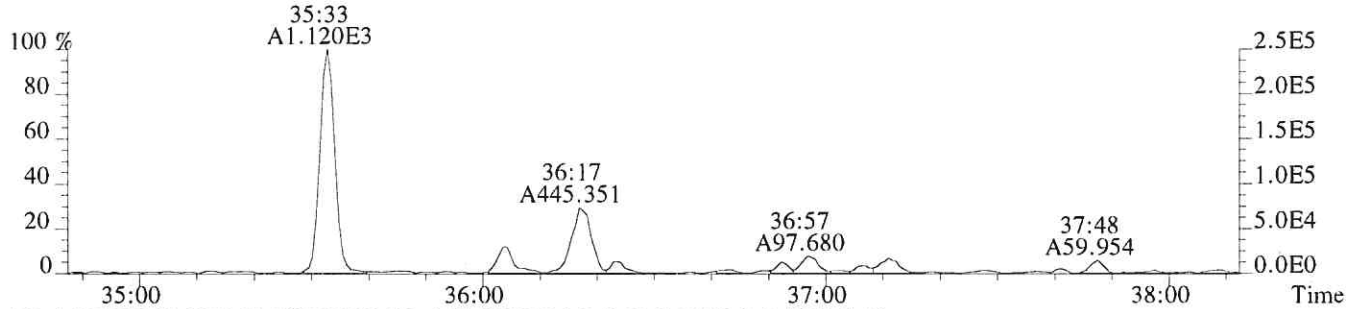
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



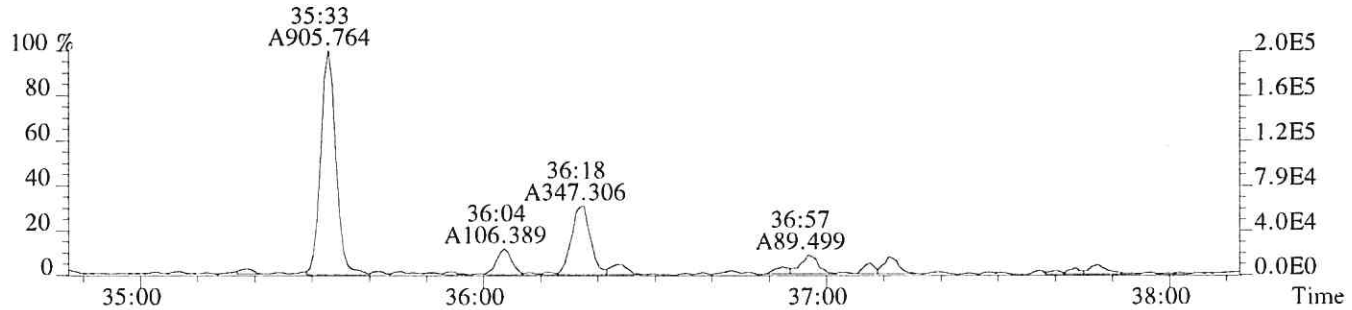
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



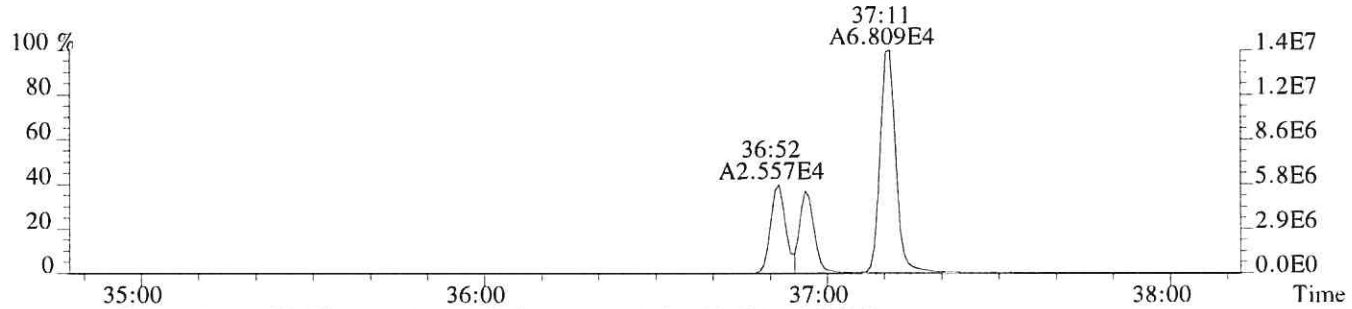
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.40%,F,T)



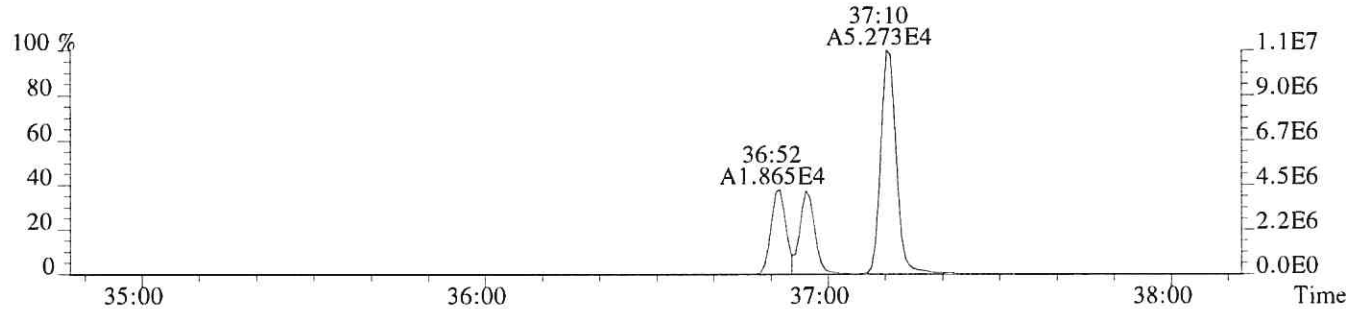
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2128.0,0.40%,F,T)



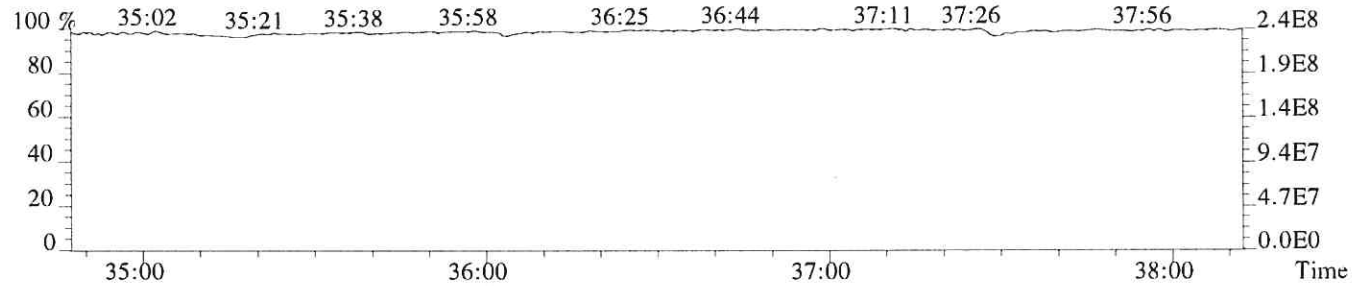
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4136.0,0.40%,F,T)



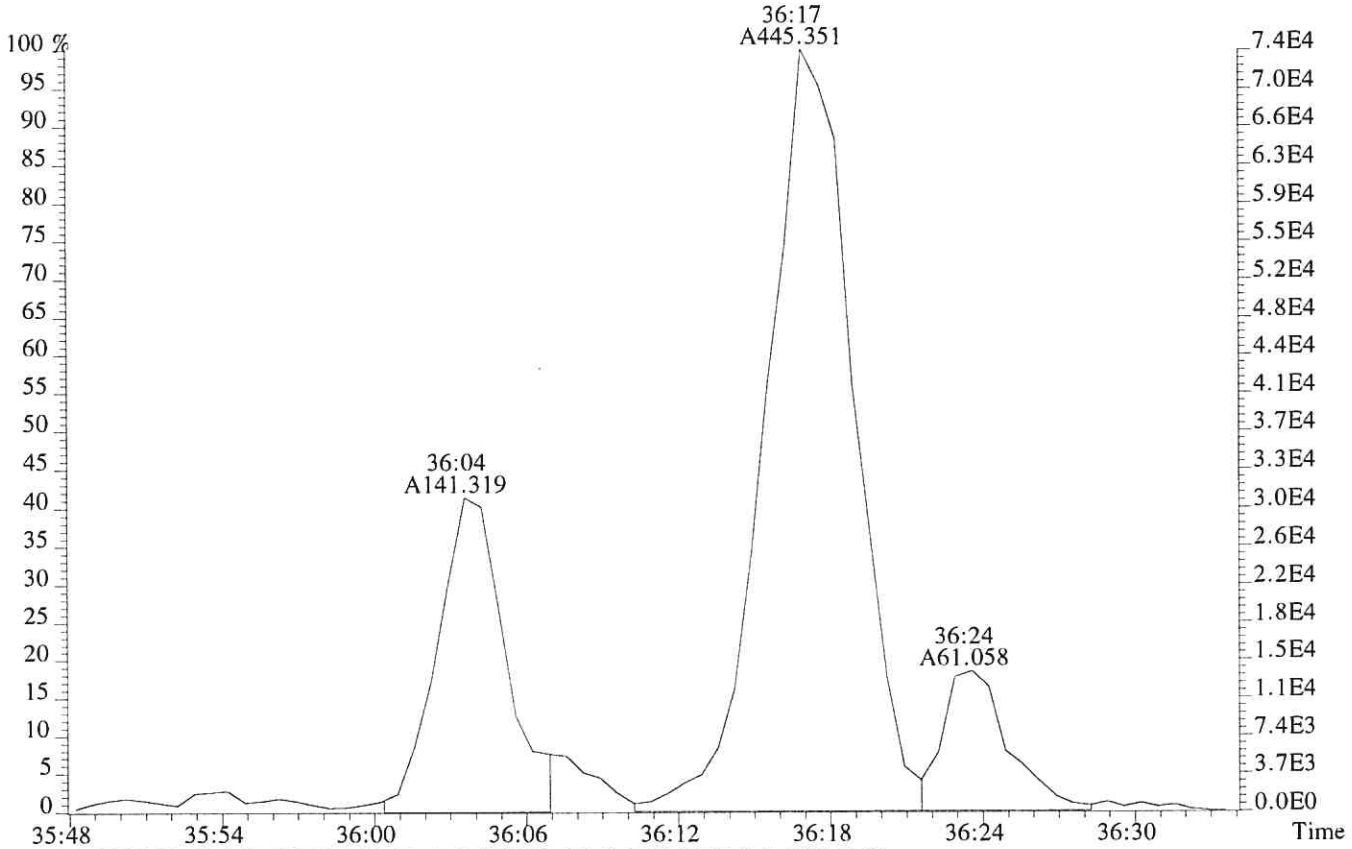
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2564.0,0.40%,F,T)



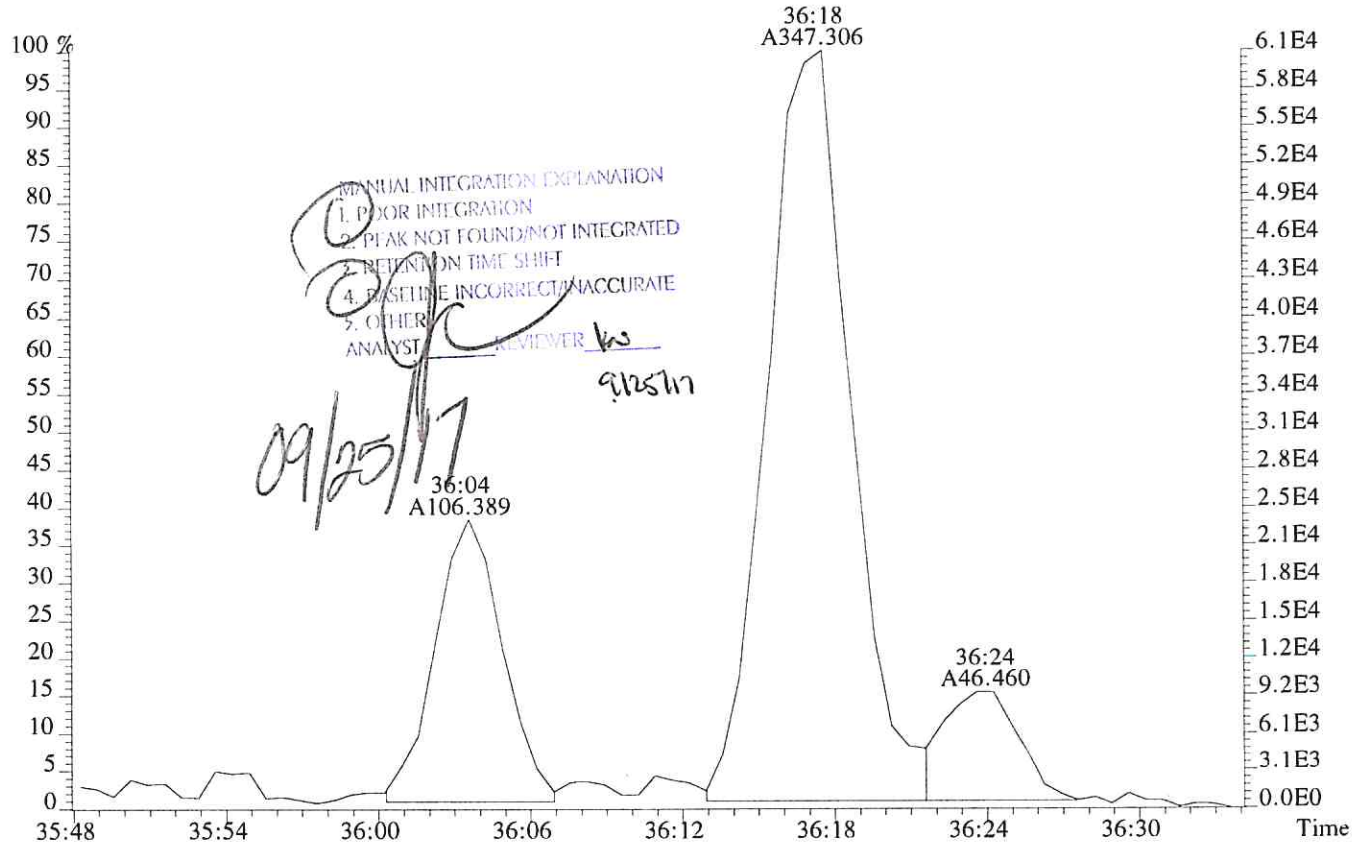
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



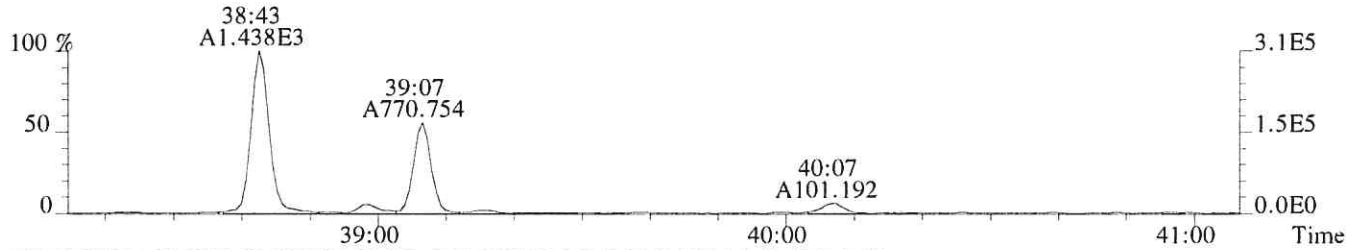
File:P511492 #1-308 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.40%,F,T)



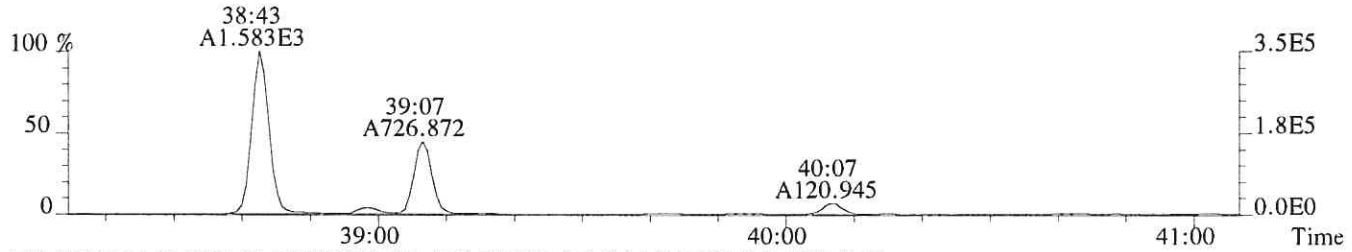
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2128.0,0.40%,F,T)



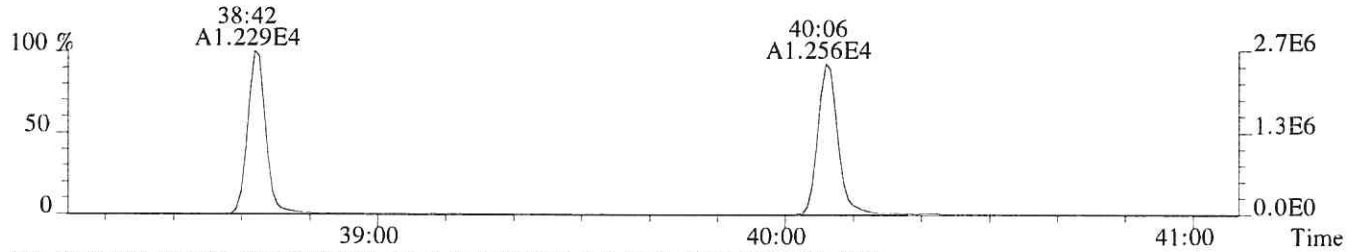
File:P511492 #1-259 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.50%,F,T)



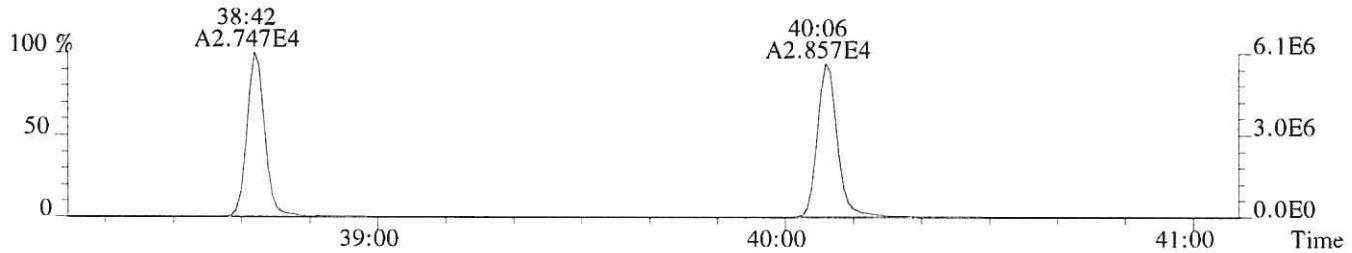
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.50%,F,T)



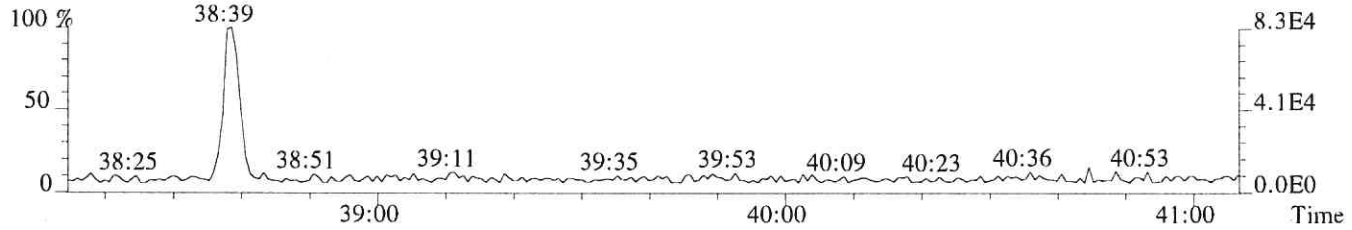
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3068.0,0.50%,F,T)



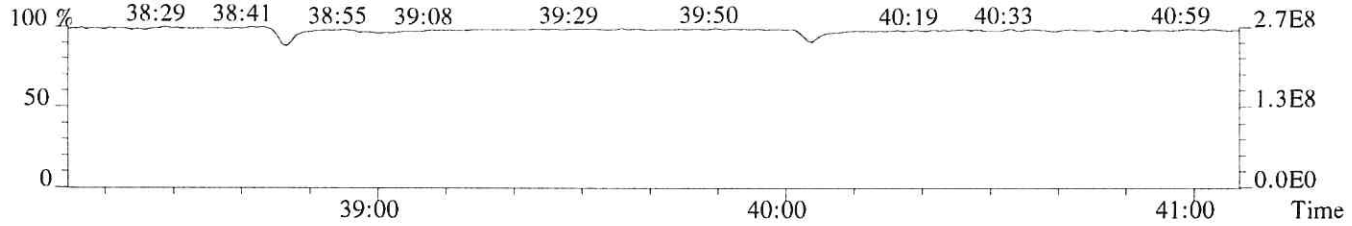
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4196.0,0.50%,F,T)



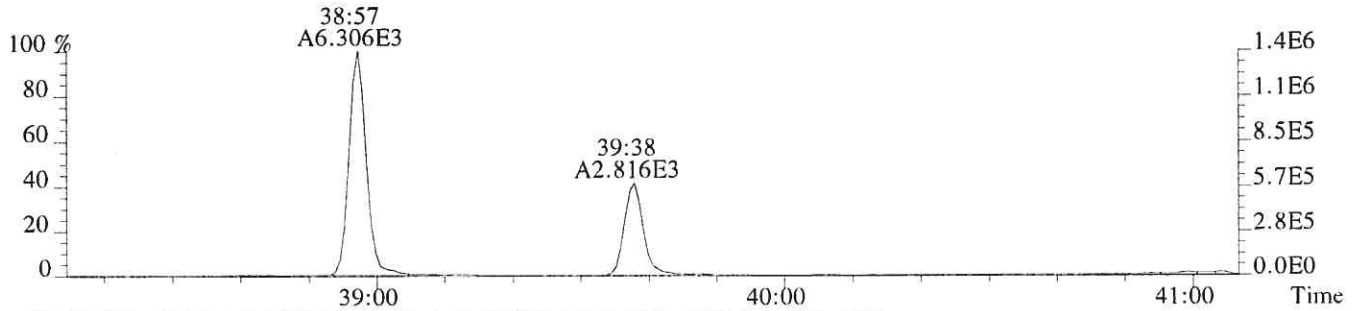
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



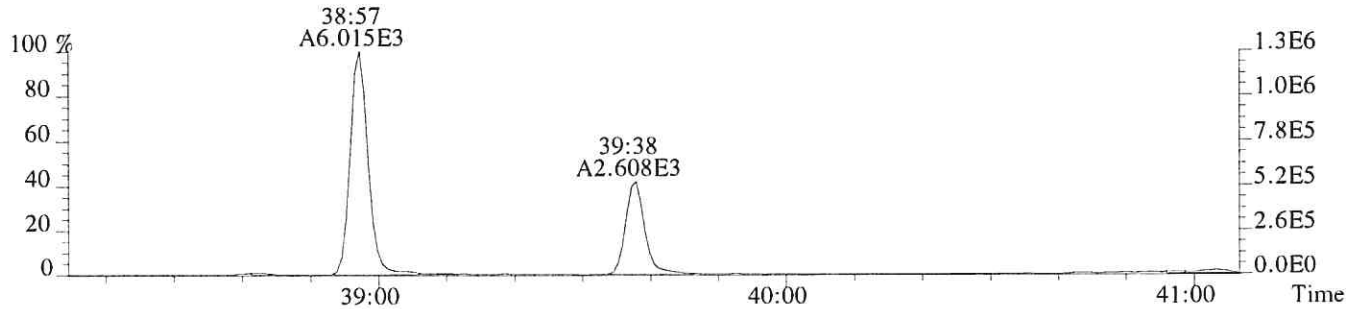
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



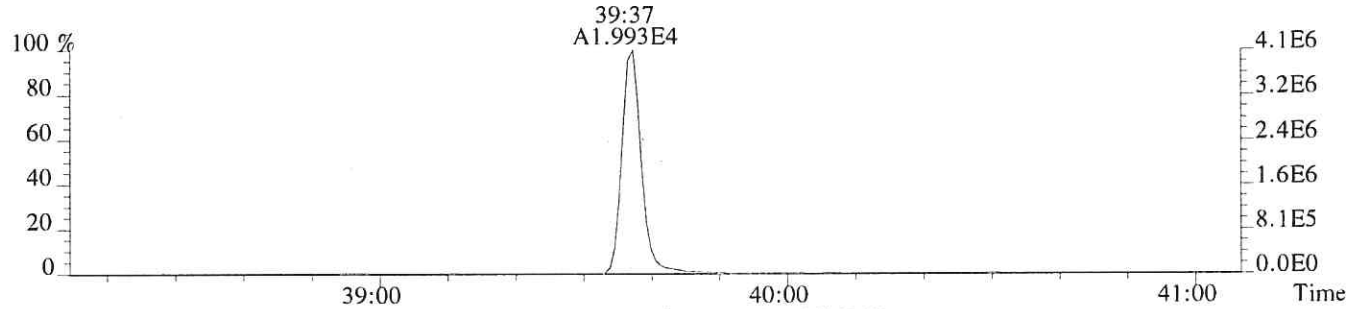
File:P511492 #1-259 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3780.0,0.40%,F,T)



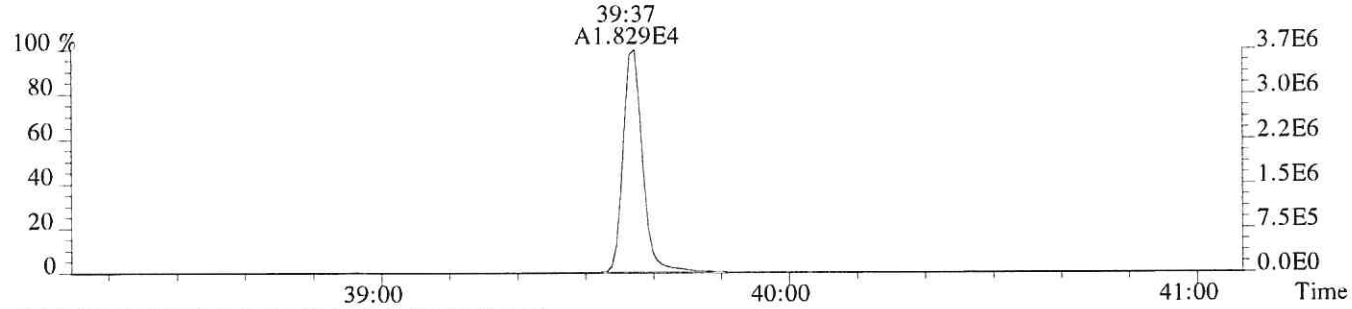
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4676.0,0.40%,F,T)



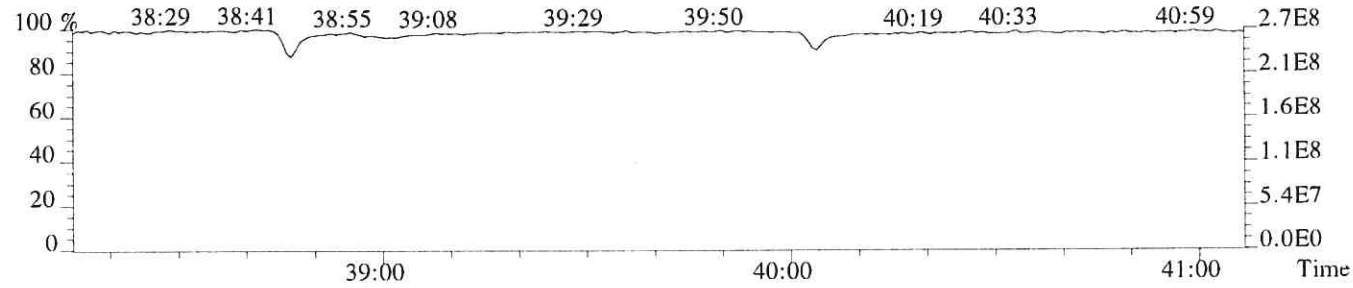
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3108.0,0.40%,F,T)



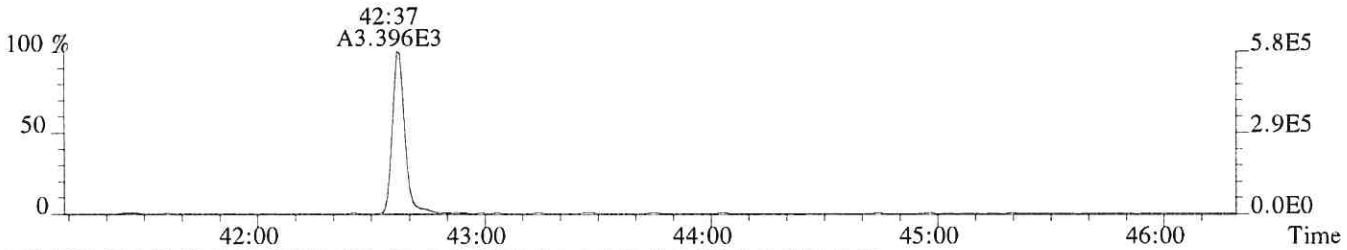
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2312.0,0.40%,F,T)



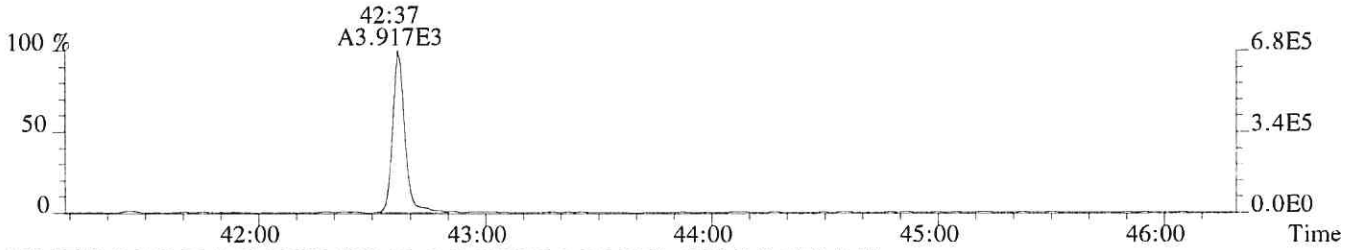
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



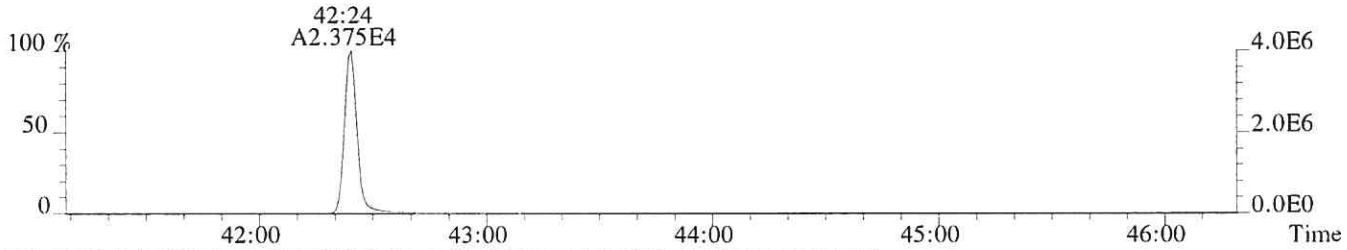
File:P511492 #1-466 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2076.0,0.40%,F,T)



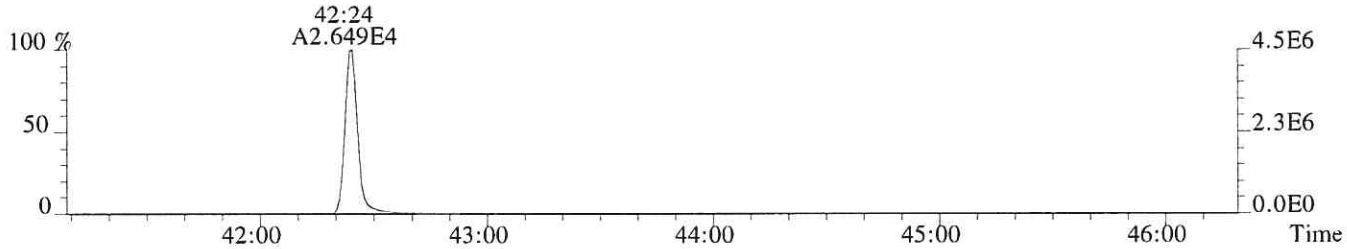
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3468.0,0.40%,F,T)



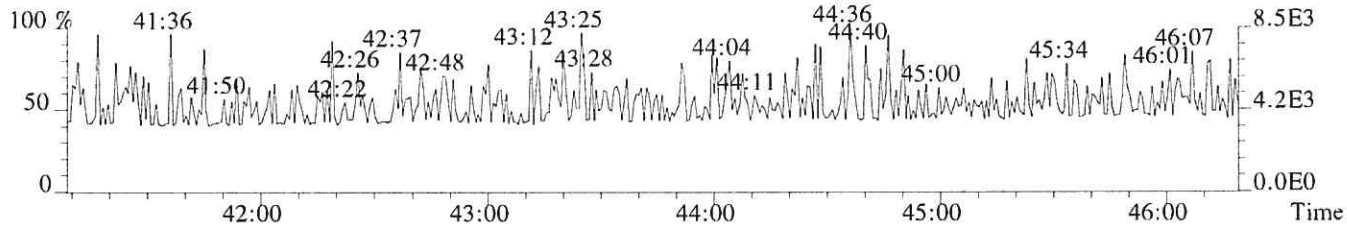
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1836.0,0.40%,F,T)



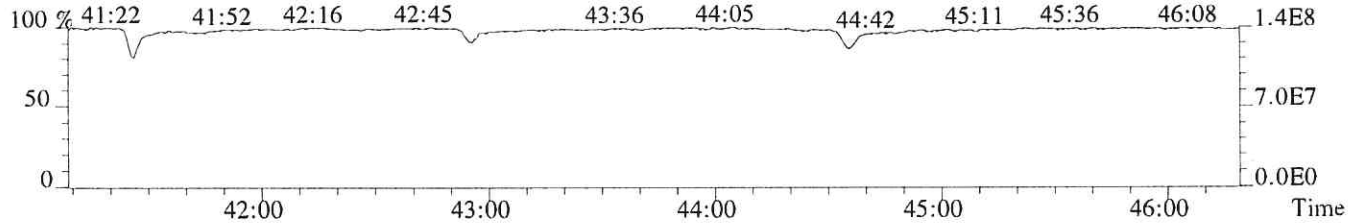
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1620.0,0.40%,F,T)



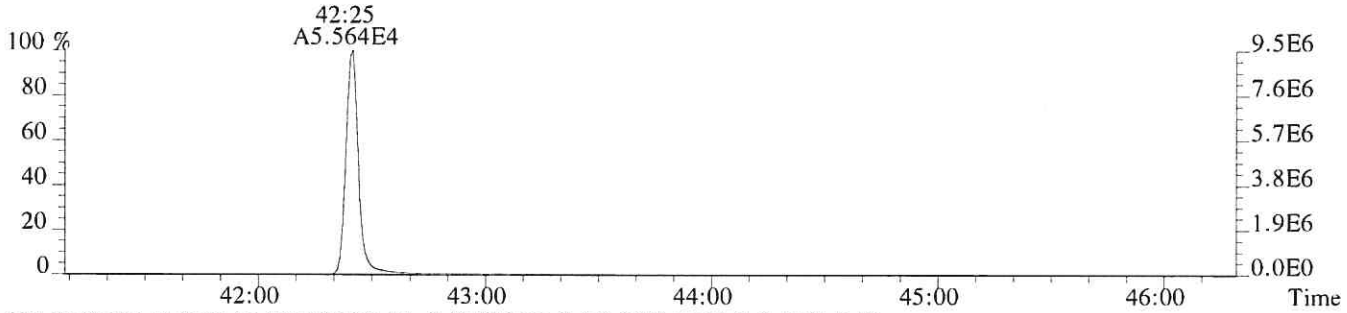
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



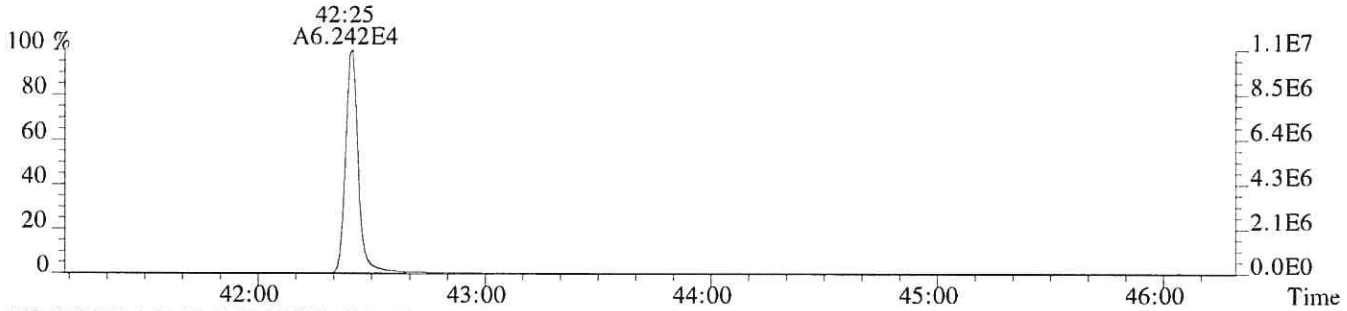
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



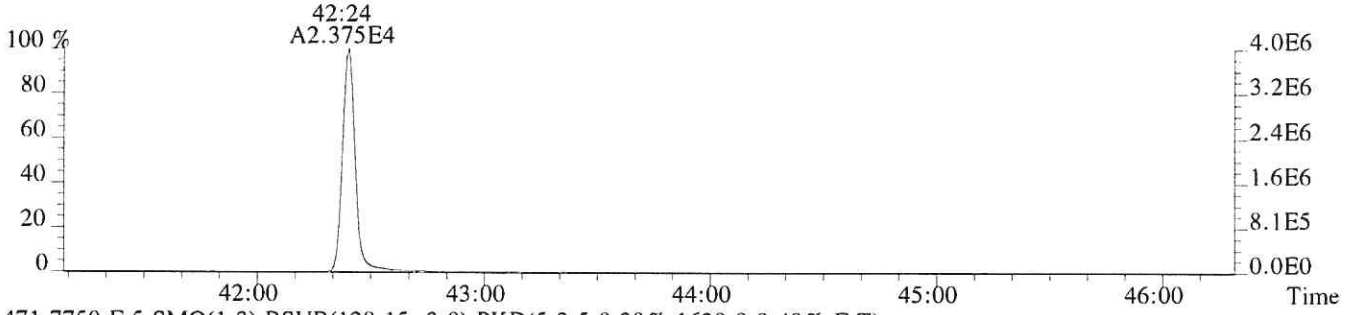
File:P511492 #1-466 Acq:22-SEP-2017 20:50:41 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-006
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1244.0,0.40%,F,T)



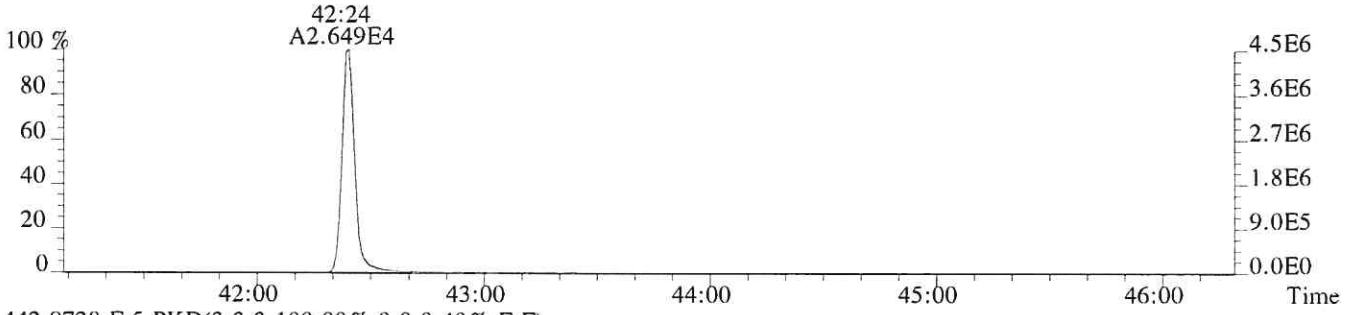
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2112.0,0.40%,F,T)



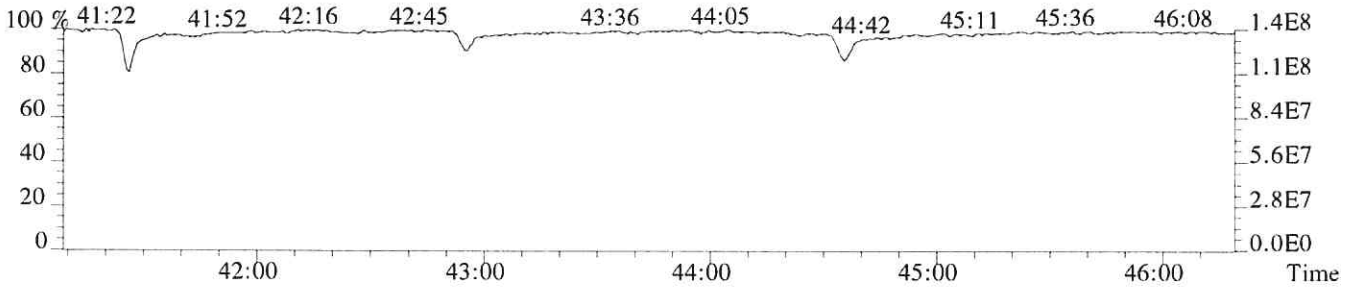
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1836.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1620.0,0.40%,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 #9 Filename P511511 Samp: 1 Inj: 1 Acquired: 23-SEP-17 14:14:34
Processed: 25-SEP-17 10:00:00 Sample ID: E1700973-007

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	1.113e+03	1.573e+03	0.71	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	36:09	1.710e+02	1.564e+02	1.09	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	4.453e+01	5.483e+01	0.81	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.431e+01	1.901e+01	1.28	yes	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	3.506e+02	3.872e+02	0.91	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.191
10	Unk	OCDF	42:38	4.380e+02	5.248e+02	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	2.591e+02	3.658e+02	0.71	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	36:58	2.115e+01	2.456e+01	0.86	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	39:38	4.472e+02	4.731e+02	0.95	yes	no	0.942
17	Unk	OCDD	42:25	9.653e+03	1.102e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.869e+04	2.347e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.599e+04	2.295e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.589e+04	2.275e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.481e+04	2.966e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.732e+04	3.360e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.701e+04	3.326e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	1.608e+04	3.220e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.033e+04	2.423e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.139e+04	2.598e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.492e+04	1.860e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.743e+04	1.737e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.496e+04	1.901e+04	1.31	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.422e+04	1.891e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.851e+04	1.788e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:24	2.166e+04	2.424e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.694e+04	3.406e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	2.165e+04	1.657e+04	1.31	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.691e+04				no	1.033

$$\text{OCDD} = \frac{(9.653e+03 + 1.102e+04) \times 4000 \text{ pg} \times 1}{(2.166e+04 + 2.424e+04) \times 10.227 \text{ g} \times 73.1 / 100 \times 1.051} = 229 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-026E

Run #9 Filename P511511 Samp: 1 Inj: 1 Acquired: 23-SEP-17 14:14:34
Processed: 25-SEP-17 10:00:00 LAB. ID: E1700973-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.95e+05	1.81e+03	1.1e+02	2.73e+05	5.26e+03	5.2e+01
2	1,2,3,7,8-PeCDF	*	7.40e+02	*	*	3.47e+03	*
3	2,3,4,7,8-PeCDF	*	7.40e+02	*	*	3.47e+03	*
4	1,2,3,4,7,8-HxCDF	3.38e+04	1.82e+03	1.9e+01	3.61e+04	1.80e+03	2.0e+01
5	1,2,3,6,7,8-HxCDF	9.76e+03	1.82e+03	5.4e+00	1.00e+04	1.80e+03	5.6e+00
6	2,3,4,6,7,8-HxCDF	5.77e+03	1.82e+03	3.2e+00	4.69e+03	1.80e+03	2.6e+00
7	1,2,3,7,8,9-HxCDF	*	1.82e+03	*	*	1.80e+03	*
8	1,2,3,4,6,7,8-HpCDF	7.41e+04	1.37e+03	5.4e+01	8.20e+04	1.04e+03	7.9e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.37e+03	*	*	1.04e+03	*
10	OCDF	7.19e+04	1.60e+03	4.5e+01	9.45e+04	3.14e+03	3.0e+01
11	2,3,7,8-TCDD	5.13e+04	3.70e+03	1.4e+01	7.83e+04	2.46e+03	3.2e+01
12	1,2,3,7,8-PeCDD	*	2.99e+03	*	*	6.28e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.16e+03	*	*	1.64e+03	*
14	1,2,3,6,7,8-HxCDD	5.37e+03	1.16e+03	4.6e+00	6.22e+03	1.64e+03	3.8e+00
15	1,2,3,7,8,9-HxCDD	*	1.16e+03	*	*	1.64e+03	*
16	1,2,3,4,6,7,8-HpCDD	9.23e+04	2.16e+03	4.3e+01	9.33e+04	1.70e+03	5.5e+01
17	OCDD	1.62e+06	1.16e+03	1.4e+03	1.87e+06	1.35e+03	1.4e+03
18	13C-2,3,7,8-TCDF	3.53e+06	3.33e+04	1.1e+02	4.48e+06	1.10e+04	4.1e+02
19	13C-1,2,3,7,8-PeCDF	6.94e+06	1.05e+03	6.6e+03	4.41e+06	2.36e+03	1.9e+03
20	13C-2,3,4,7,8-PeCDF	7.21e+06	1.05e+03	6.9e+03	4.60e+06	2.36e+03	1.9e+03
21	13C-1,2,3,4,7,8-HxCDF	3.20e+06	1.78e+03	1.8e+03	6.48e+06	3.31e+03	2.0e+03
22	13C-1,2,3,6,7,8-HxCDF	3.59e+06	1.78e+03	2.0e+03	7.02e+06	3.31e+03	2.1e+03
23	13C-2,3,4,6,7,8-HxCDF	3.67e+06	1.78e+03	2.1e+03	7.35e+06	3.31e+03	2.2e+03
24	13C-1,2,3,7,8,9-HxCDF	3.26e+06	1.78e+03	1.8e+03	6.46e+06	3.31e+03	1.9e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.20e+06	3.59e+03	6.1e+02	5.08e+06	1.80e+03	2.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.15e+06	3.59e+03	6.0e+02	4.94e+06	1.80e+03	2.7e+03
27	13C-2,3,7,8-TCDD	2.97e+06	1.06e+04	2.8e+02	3.70e+06	4.02e+03	9.2e+02
28	13C-1,2,3,7,8-PeCDD	5.56e+06	2.83e+03	2.0e+03	3.53e+06	3.60e+03	9.8e+02
29	13C-1,2,3,4,7,8-HxCDD	5.68e+06	2.80e+03	2.0e+03	4.29e+06	2.27e+03	1.9e+03
30	13C-1,2,3,6,7,8-HxCDD	4.93e+06	2.80e+03	1.8e+03	3.89e+06	2.27e+03	1.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.67e+06	1.87e+03	2.0e+03	3.56e+06	2.01e+03	1.8e+03
32	13C-OCDD	3.66e+06	1.80e+03	2.0e+03	4.09e+06	9.56e+02	4.3e+03
33	13C-1,2,3,4-TCDD	5.38e+06	1.06e+04	5.1e+02	6.69e+06	4.02e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	4.24e+06	2.80e+03	1.5e+03	3.32e+06	2.27e+03	1.5e+03
35	37Cl-2,3,7,8-TCDD	3.45e+06	2.45e+03	1.4e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 9 File: P511511 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 303.9020 305.8990 Tot Response: 2.69e+03 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:32	1.11e+03	1.57e+03	0.71	yes	2.69e+03	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 9 File: P511511 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 319.8970 321.8940 Tot Response: 6.25e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	2.59e+02	3.66e+02	0.71	yes	6.25e+02	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 9 File: P511511 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 373.8210 375.8180 Tot Response: 5.31e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	9.38e+01	6.64e+01	1.41	yes	1.60e+02		n	n
2	36:09	1.71e+02	1.56e+02	1.09	yes	3.27e+02	1,2,3,4,7,8-HxCDF	n	n
3	36:44	2.43e+01	1.90e+01	1.28	yes	4.33e+01	2,3,4,6,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 9 File: P511511 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 389.8160 391.8130 Tot Response: 2.08e+02 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:04	2.92e+01	2.35e+01	1.24	yes	5.27e+01		n	n
2	36:18	8.03e+01	7.47e+01	1.08	yes	1.55e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 9 File: P511511 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 407.7820 409.7790 Tot Response: 9.95e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	3.51e+02	3.87e+02	0.91	yes	7.38e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:07	1.23e+02	1.35e+02	0.91	yes	2.57e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-026E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 9 File: P511511 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 14:14:34 Processed: 25-SEP-17 10:00:00

Mass: 423.7770 425.7740 Tot Response: 3.01e+03 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	1.04e+03	1.04e+03	1.00	yes	2.09e+03	n	n
2	39:38	4.47e+02	4.73e+02	0.95	yes	9.20e+02	1,2,3,4,6,7,8-HpCDD	n	n

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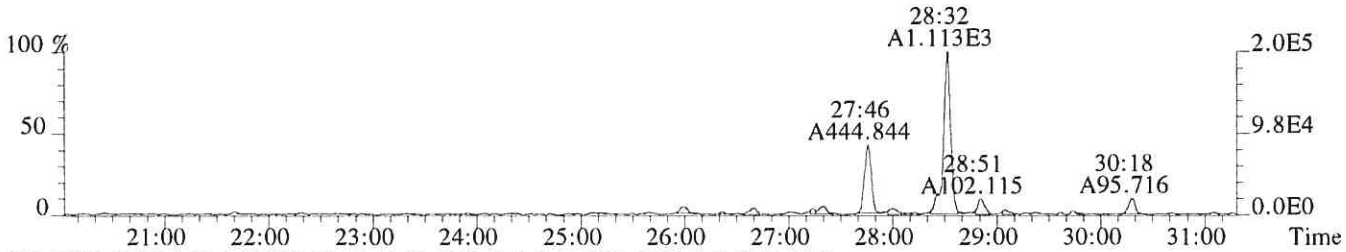
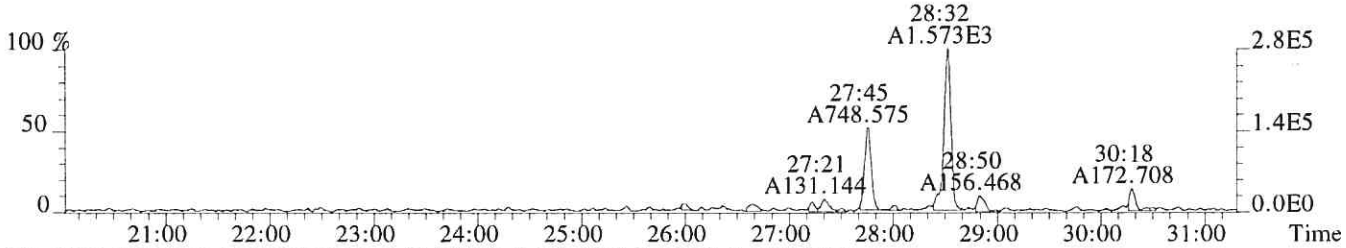
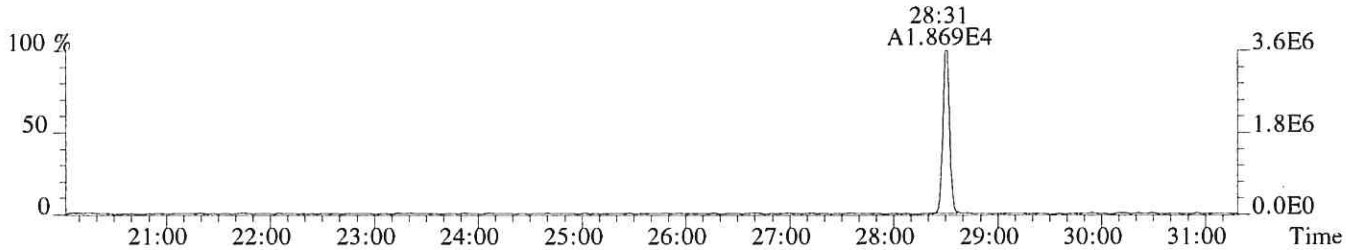
File:P511511 #1-800 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1812.0,1.00%,F,T)



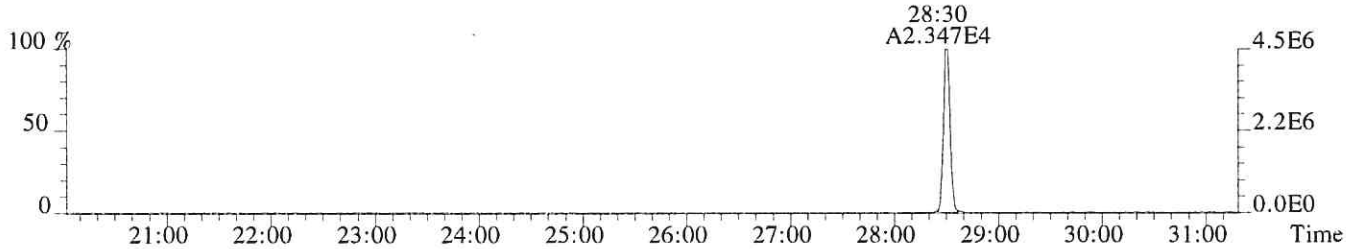
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5256.0,1.00%,F,T)



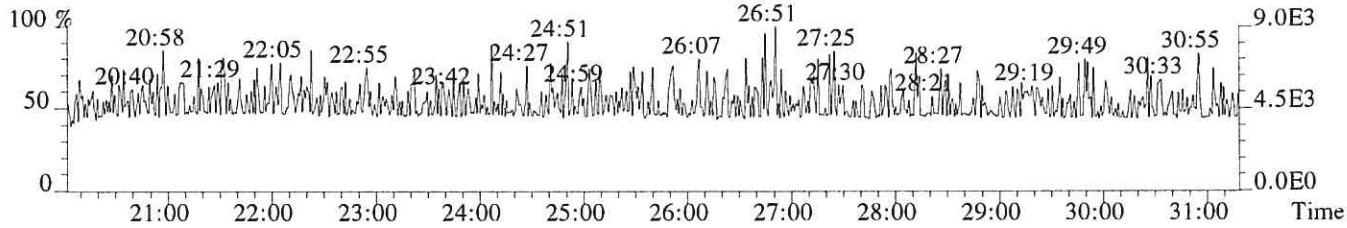
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,33284.0,1.00%,F,T)



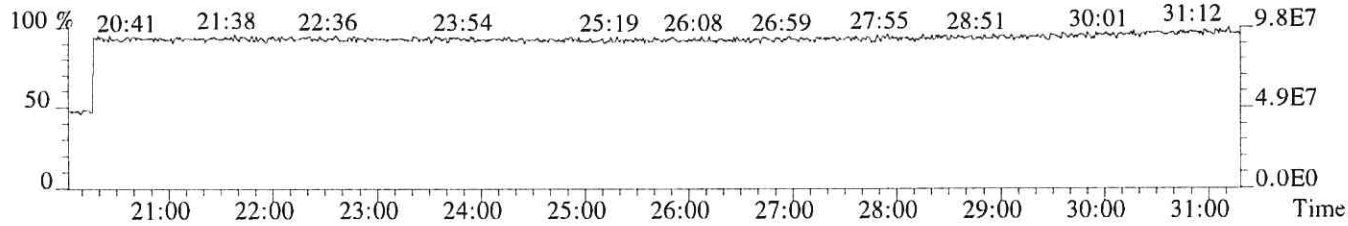
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11004.0,1.00%,F,T)



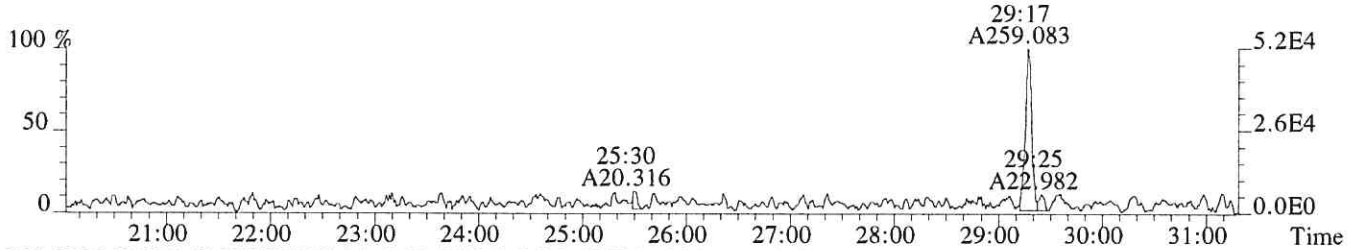
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



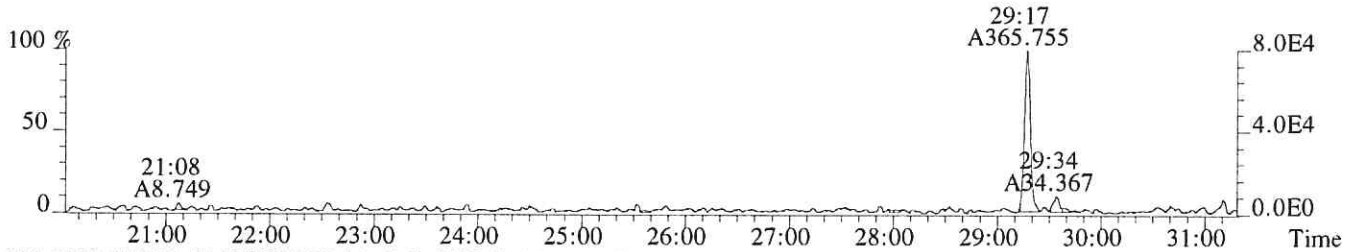
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



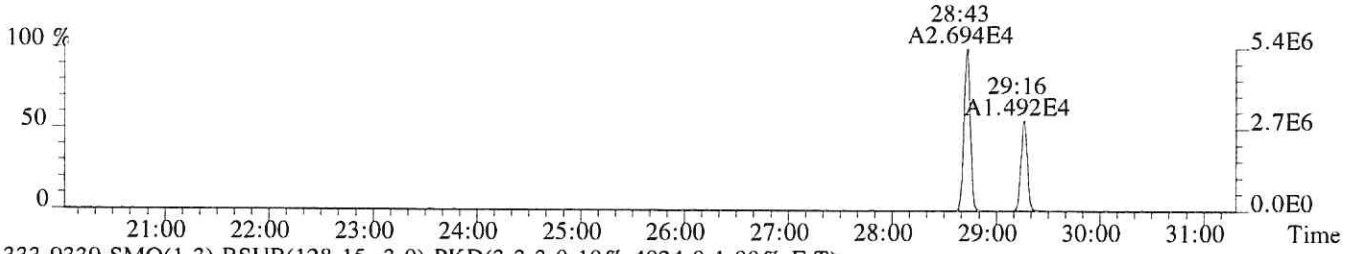
File:P511511 #1-800 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3700.0,1.00%,F,T)



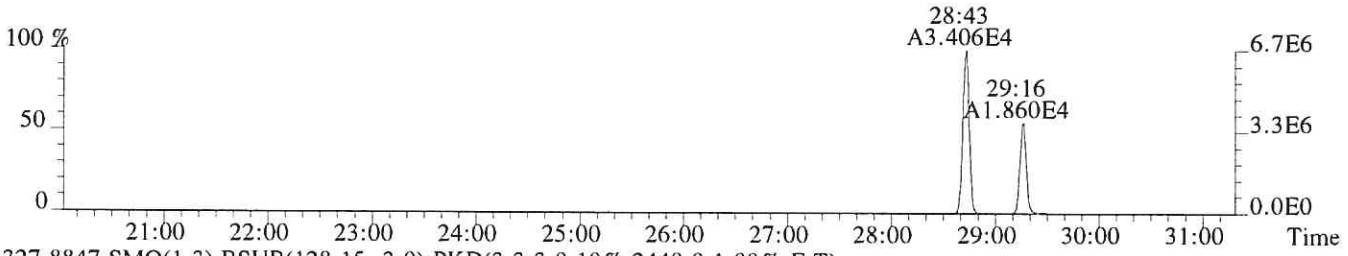
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2456.0,1.00%,F,T)



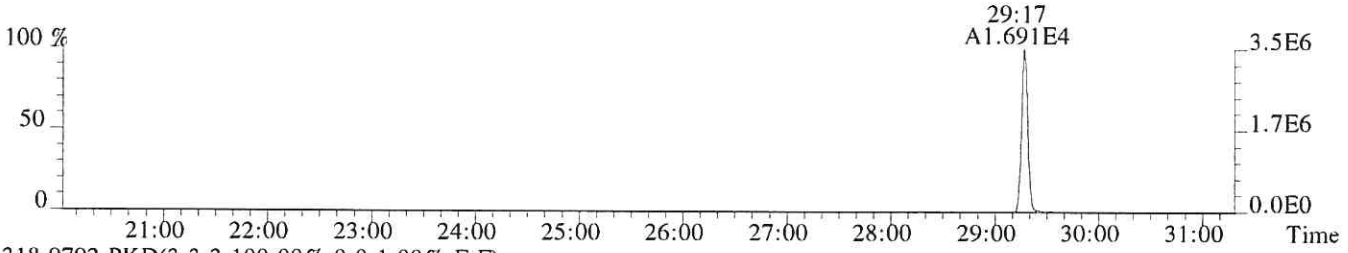
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10644.0,1.00%,F,T)



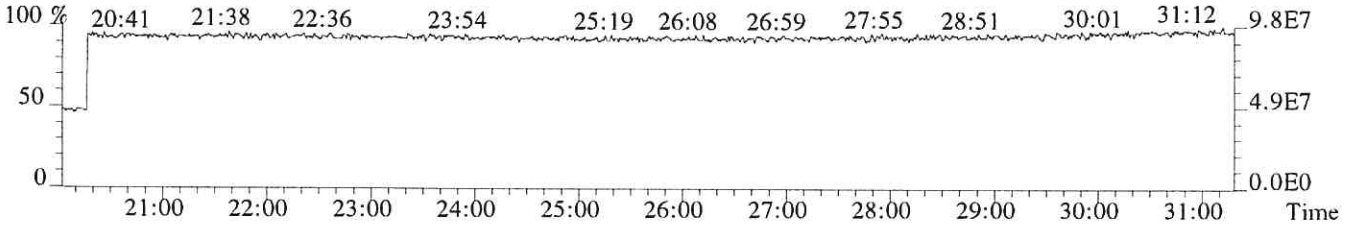
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4024.0,1.00%,F,T)



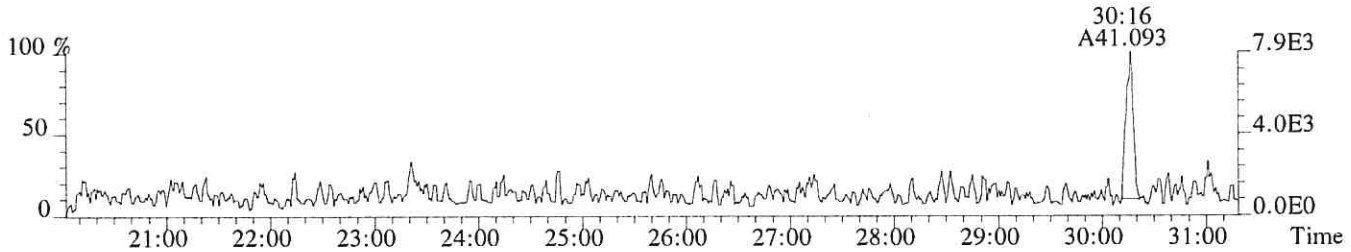
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2448.0,1.00%,F,T)



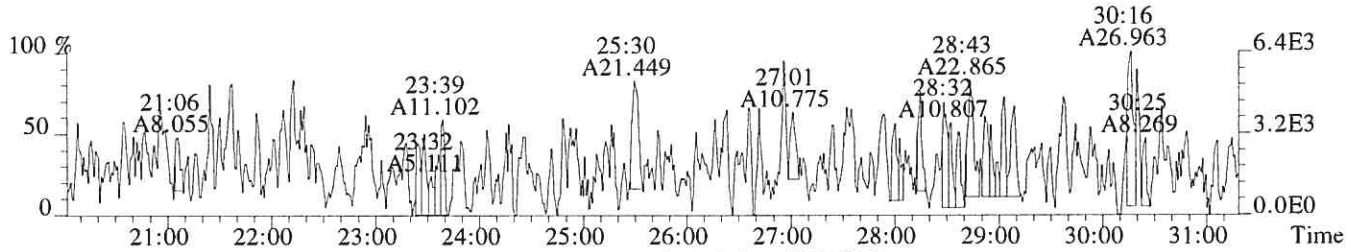
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



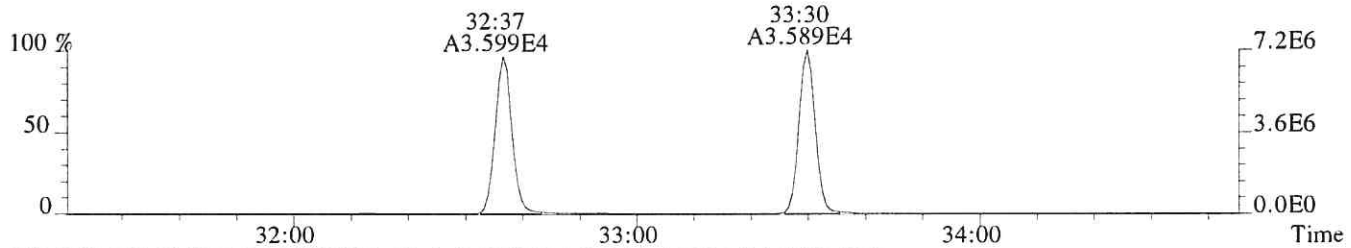
File:P511511 #1-800 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1236.0,1.00%,F,T)



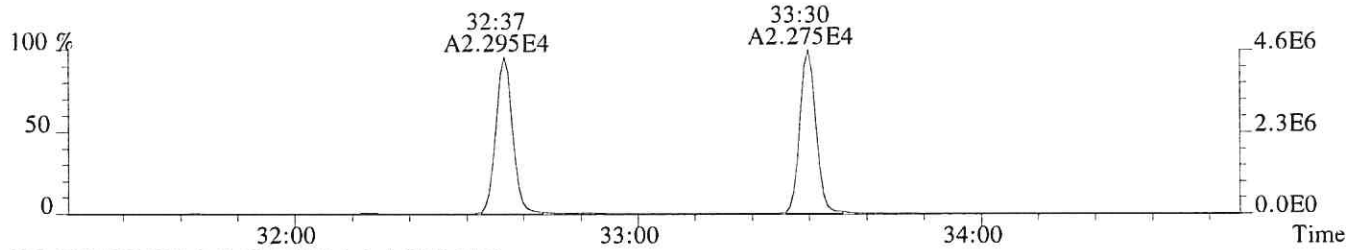
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2256.0,1.00%,F,T)



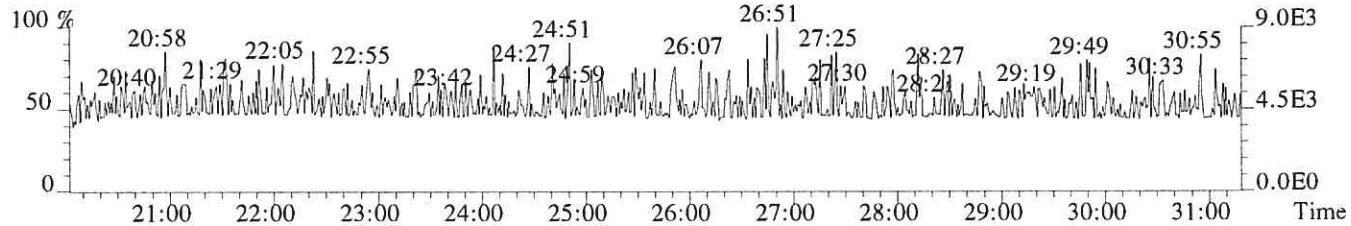
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



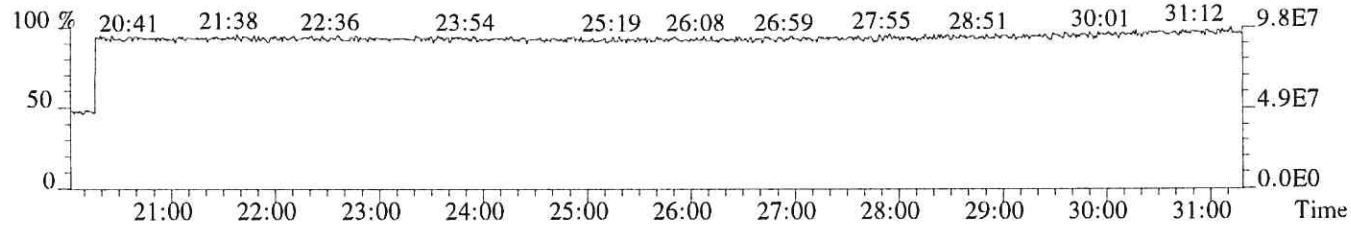
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2364.0,1.00%,F,T)



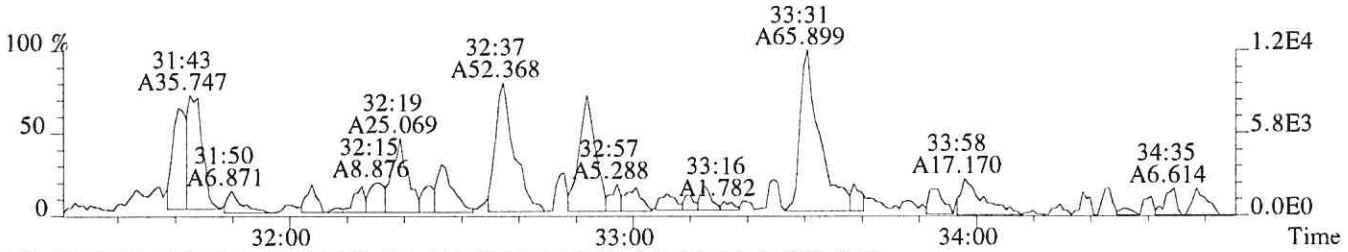
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



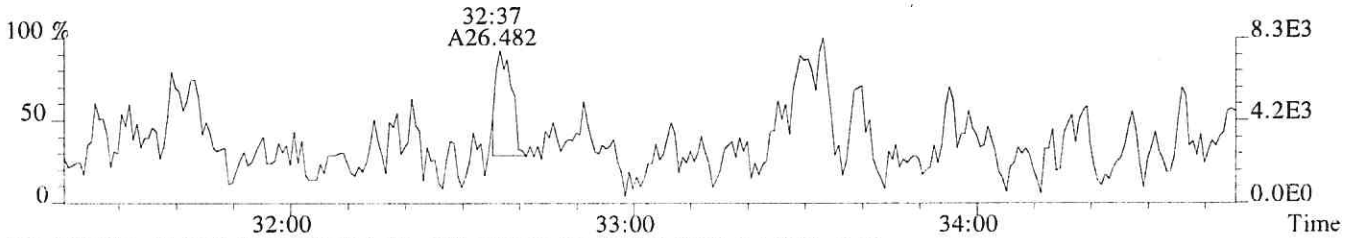
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



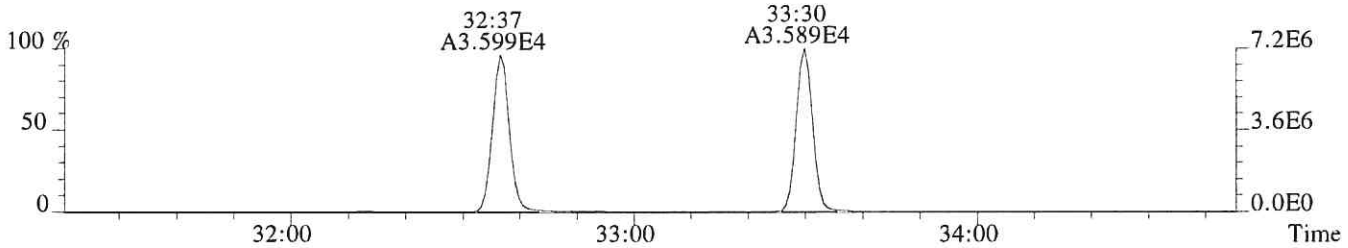
File:P511511 #1-308 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,T)



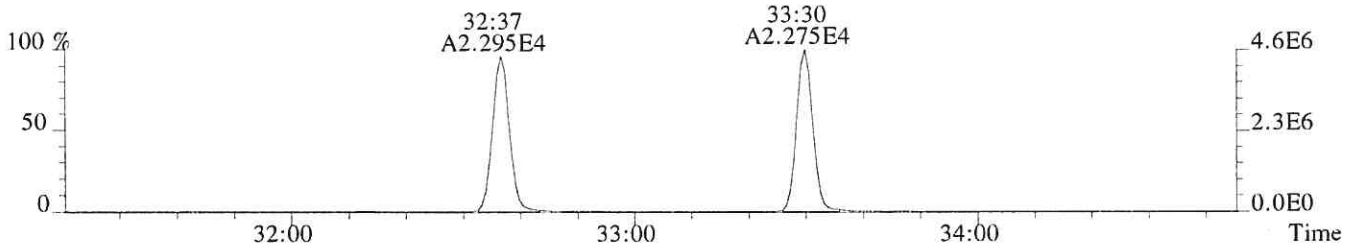
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3472.0,1.00%,F,T)



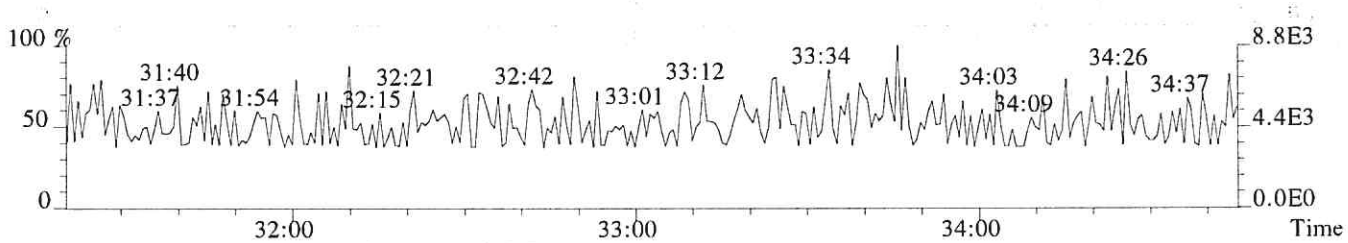
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



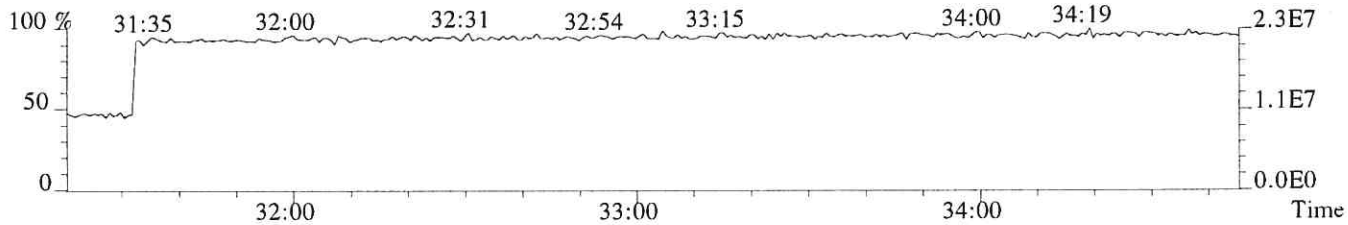
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2364.0,1.00%,F,T)



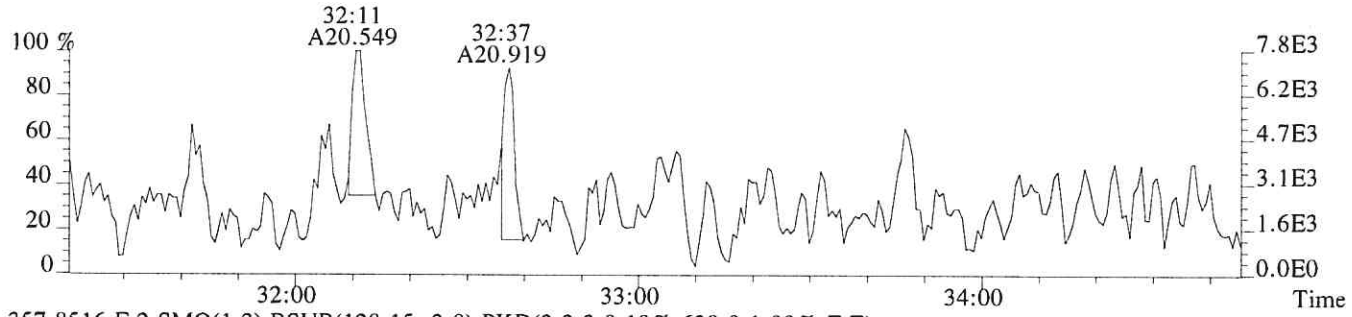
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



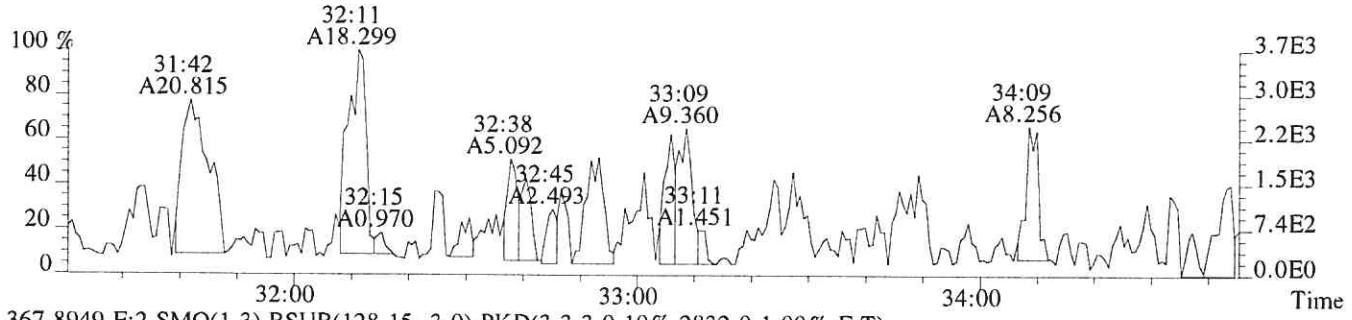
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



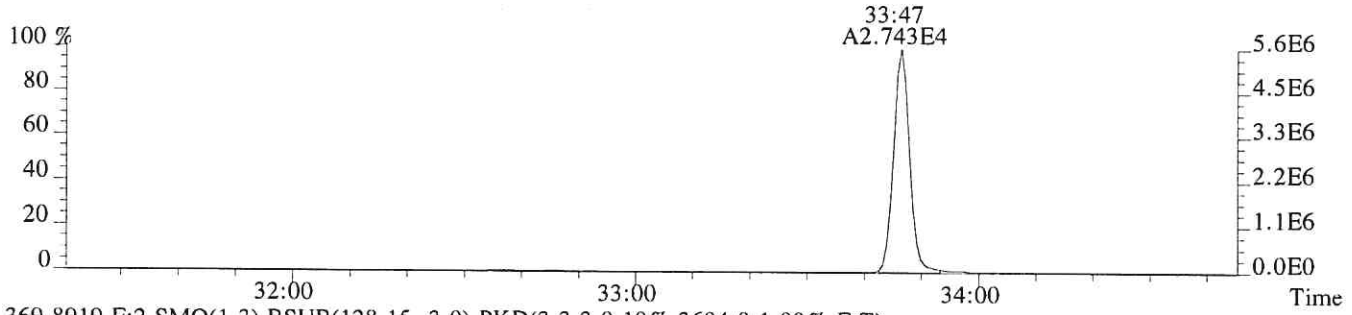
File:P511511 #1-308 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



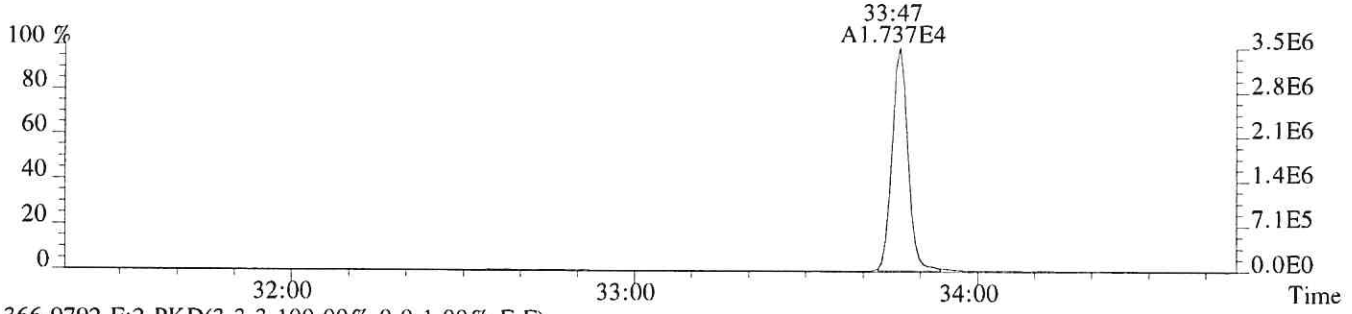
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,T)



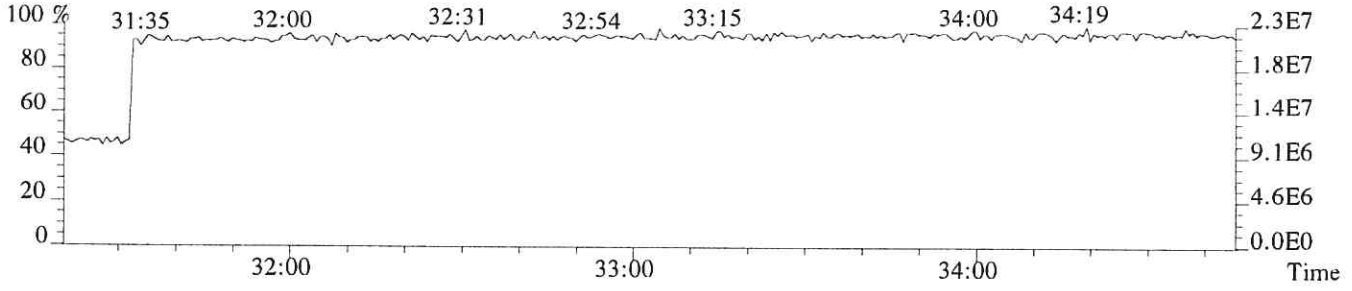
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2832.0,1.00%,F,T)



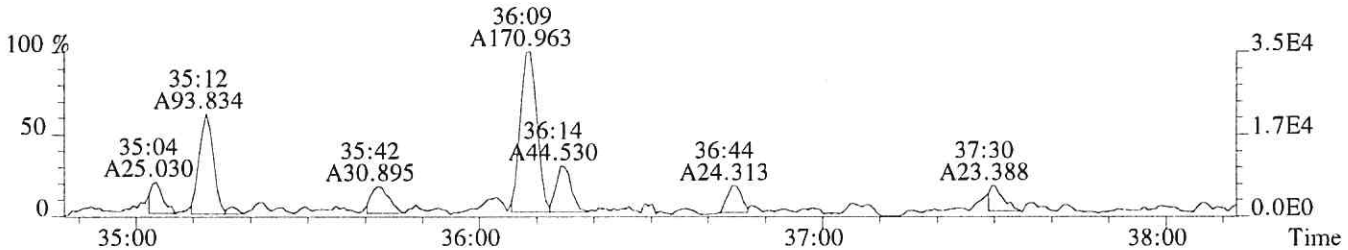
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3604.0,1.00%,F,T)



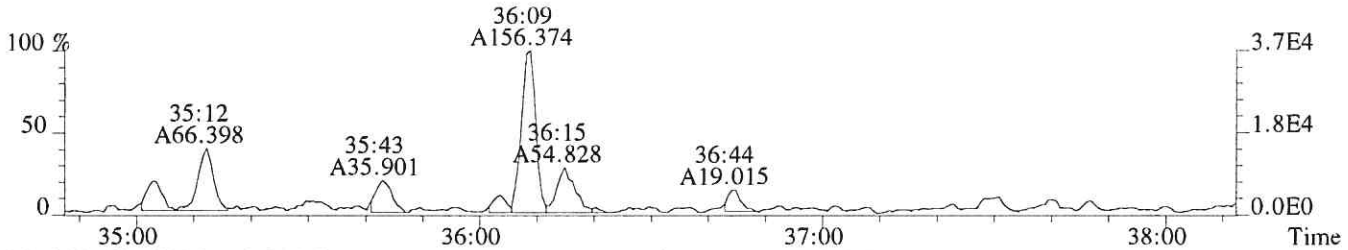
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



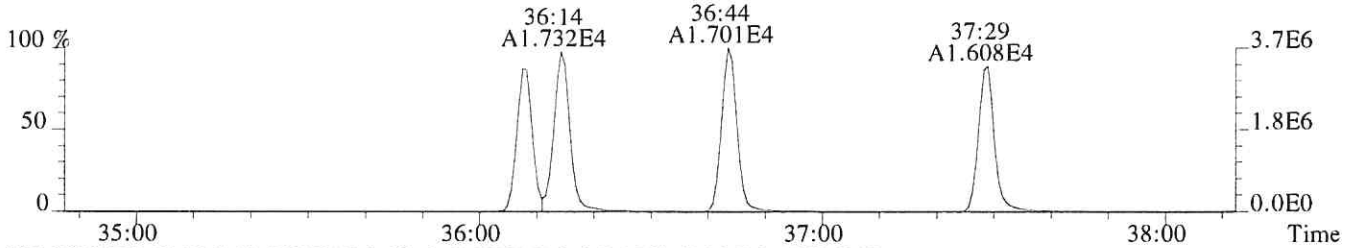
File:P511511 #1-308 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1820.0,0.40%,F,T)



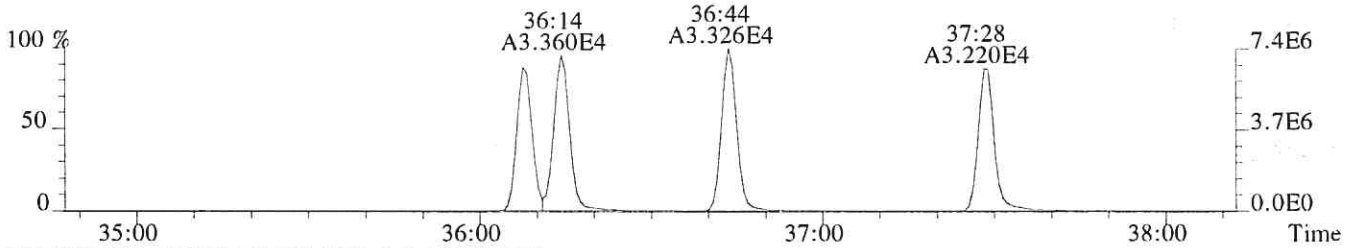
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1804.0,0.40%,F,T)



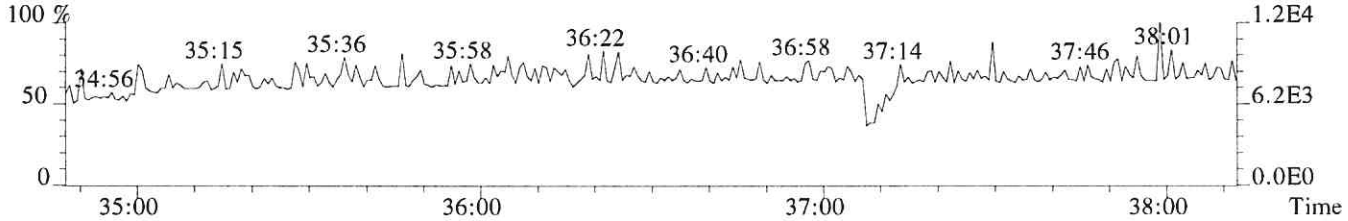
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1776.0,0.40%,F,T)



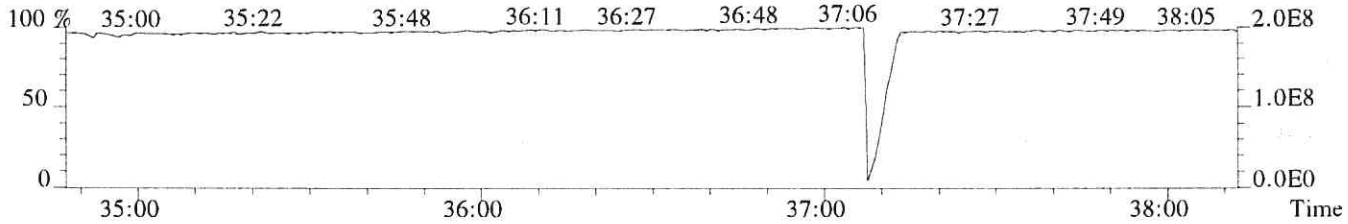
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3312.0,0.40%,F,T)



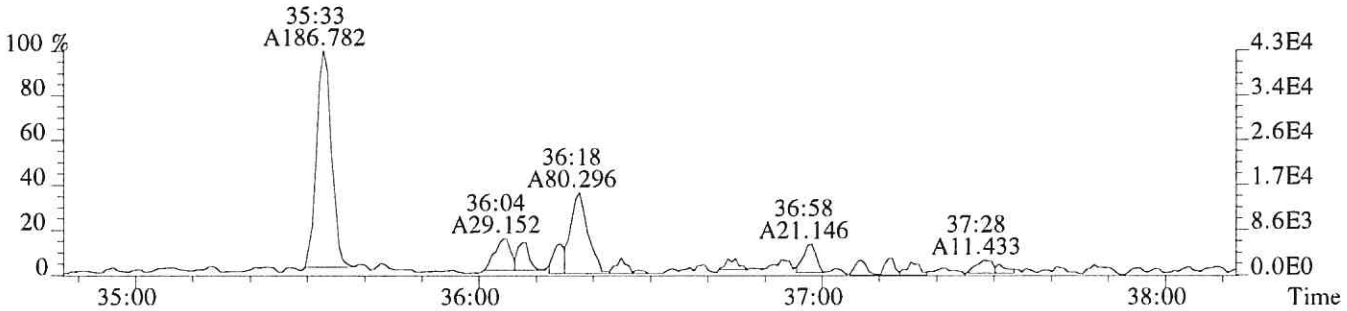
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



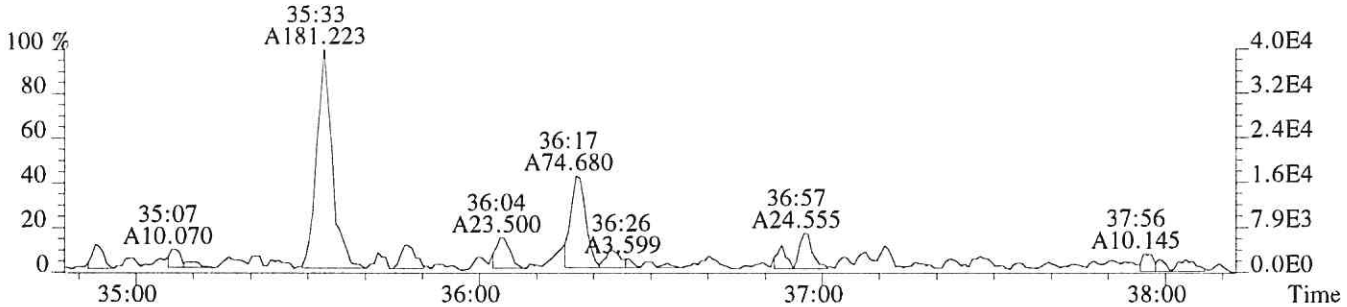
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



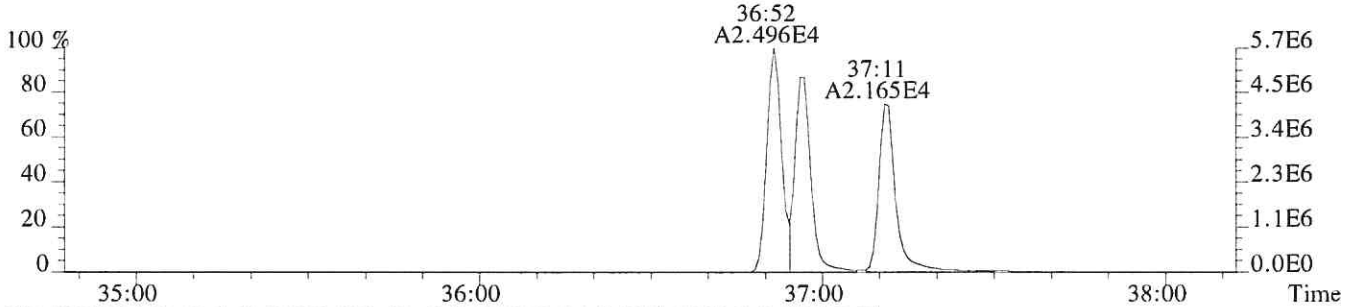
File:P511511 #1-308 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1160.0,0.40%,F,T)



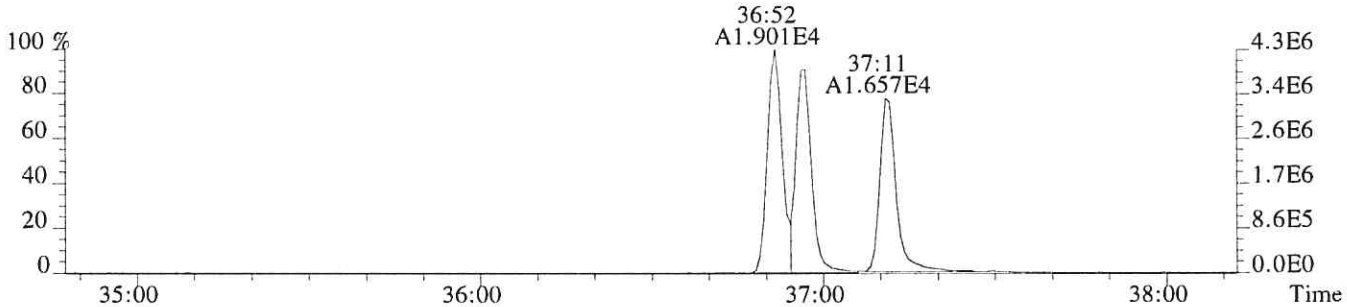
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,T)



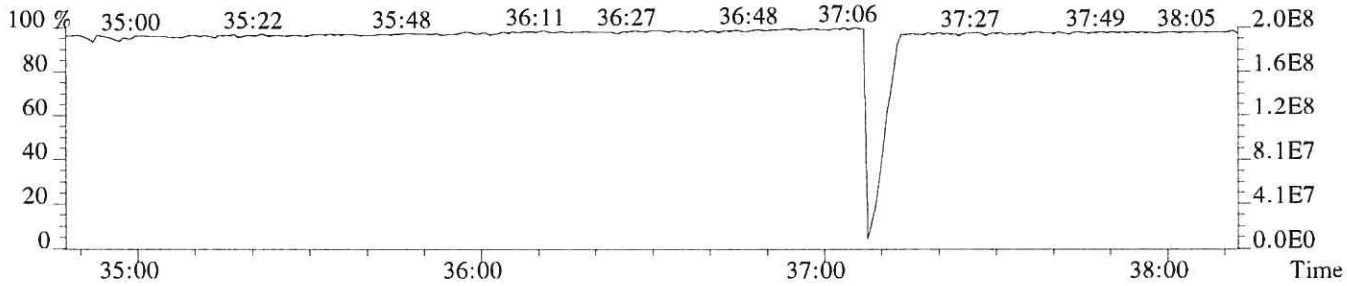
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2800.0,0.40%,F,T)



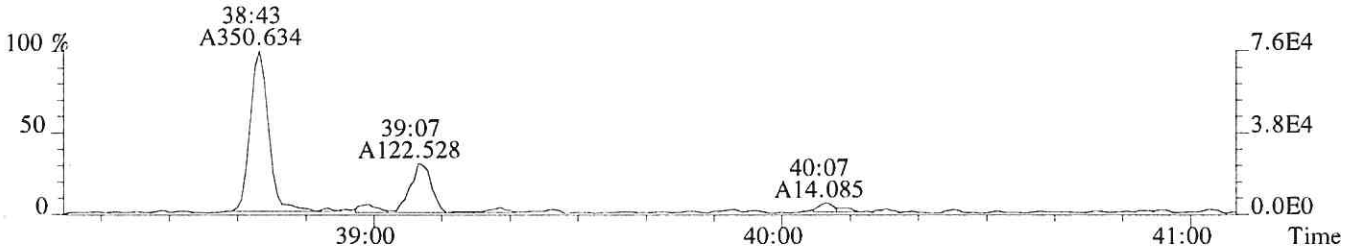
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2268.0,0.40%,F,T)



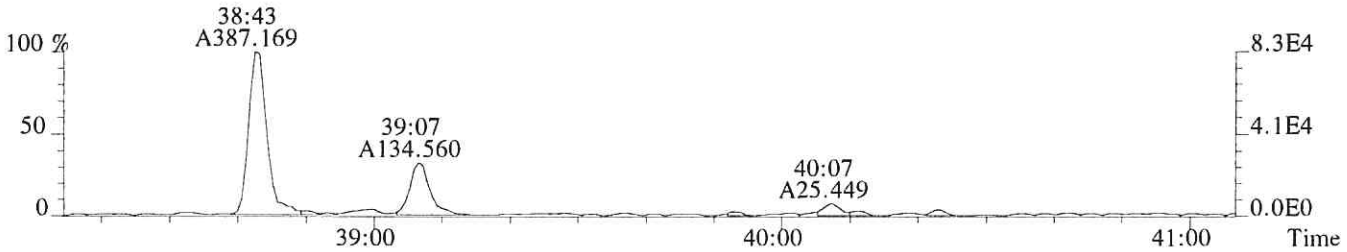
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



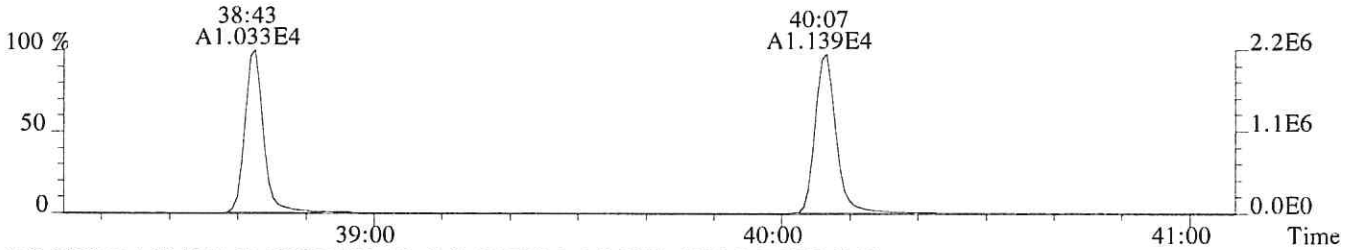
File:P511511 #1-259 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.50%,F,T)



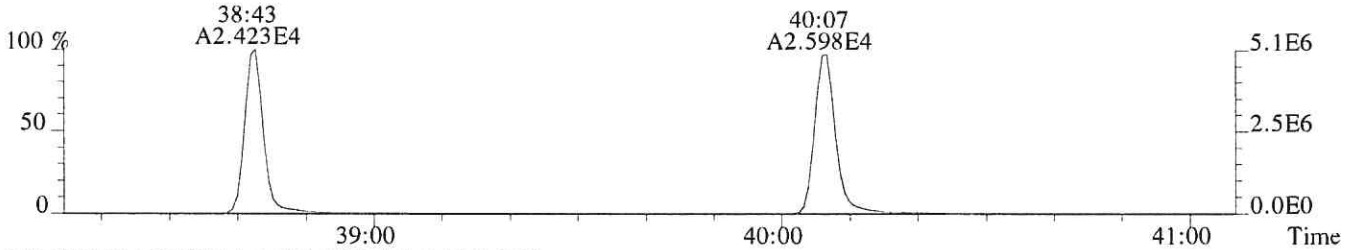
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.50%,F,T)



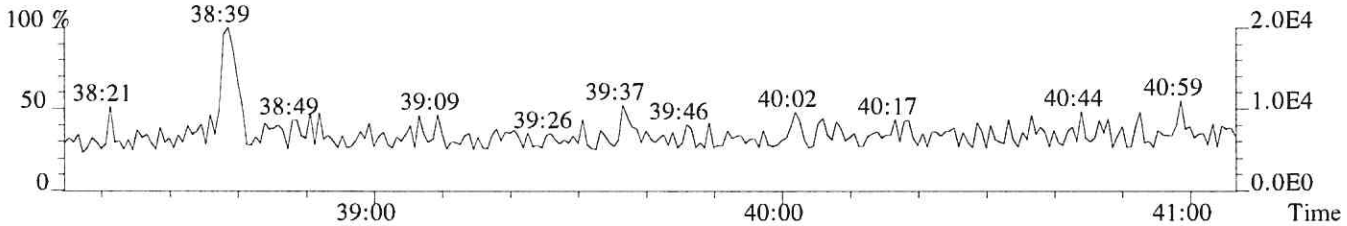
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3588.0,0.50%,F,T)



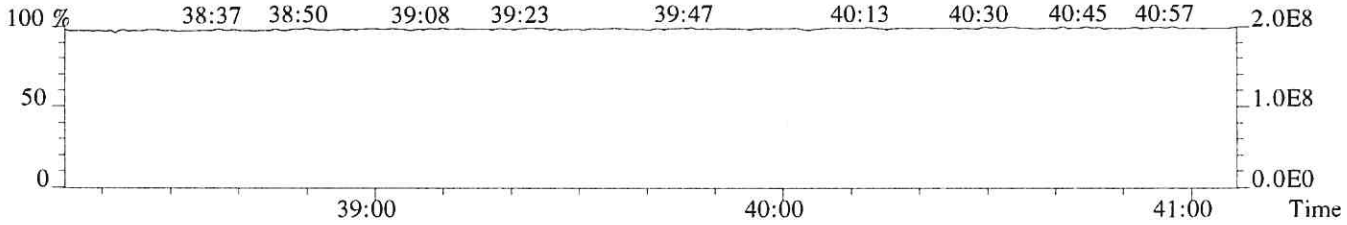
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1800.0,0.50%,F,T)



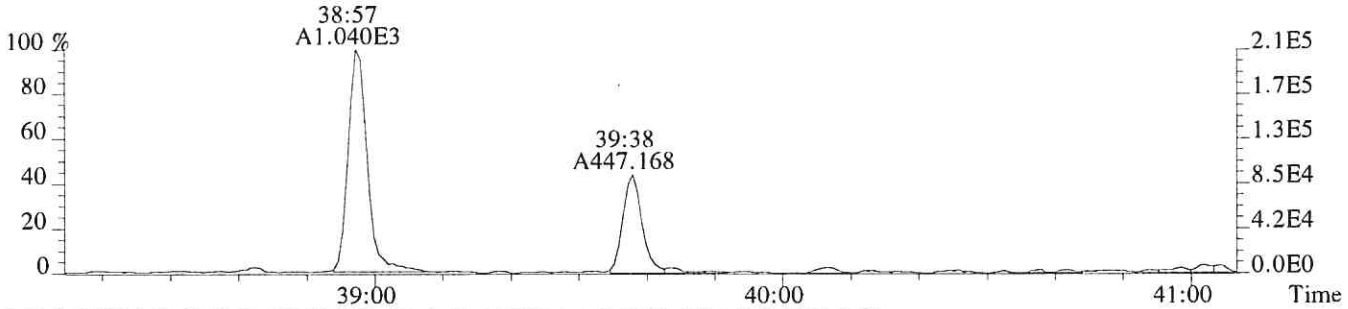
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



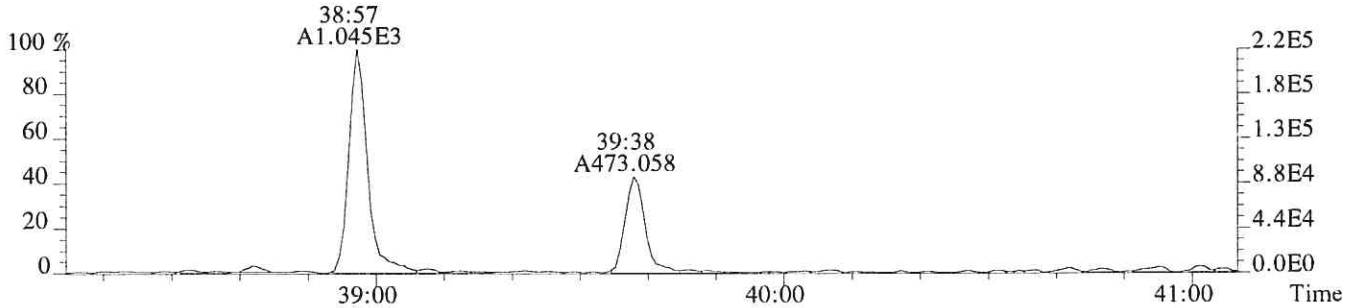
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



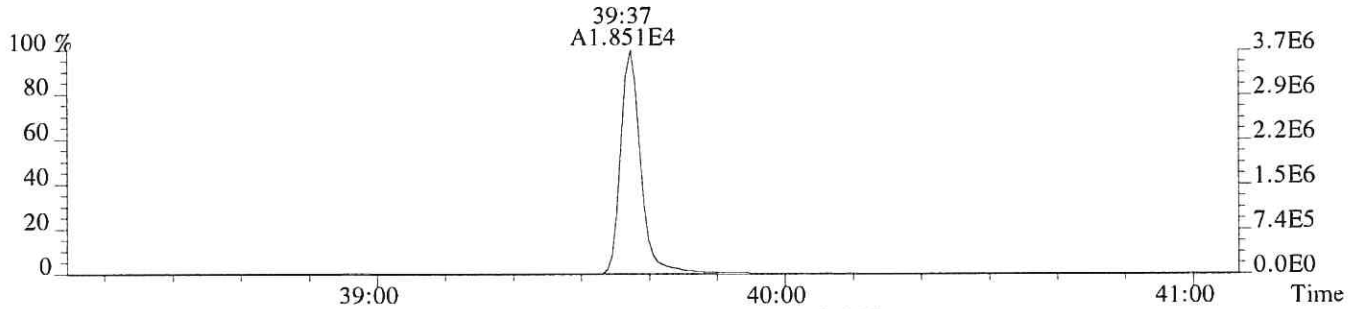
File:P511511 #1-259 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2160.0,0.40%,F,T)



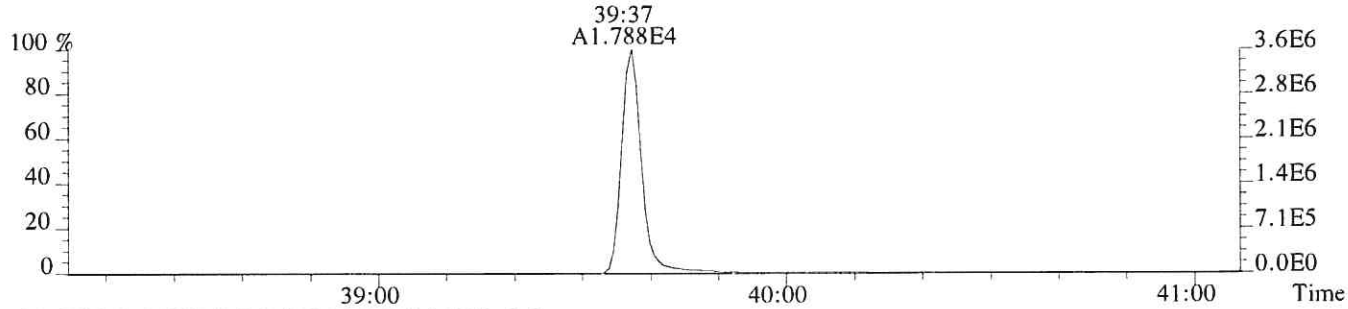
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1704.0,0.40%,F,T)



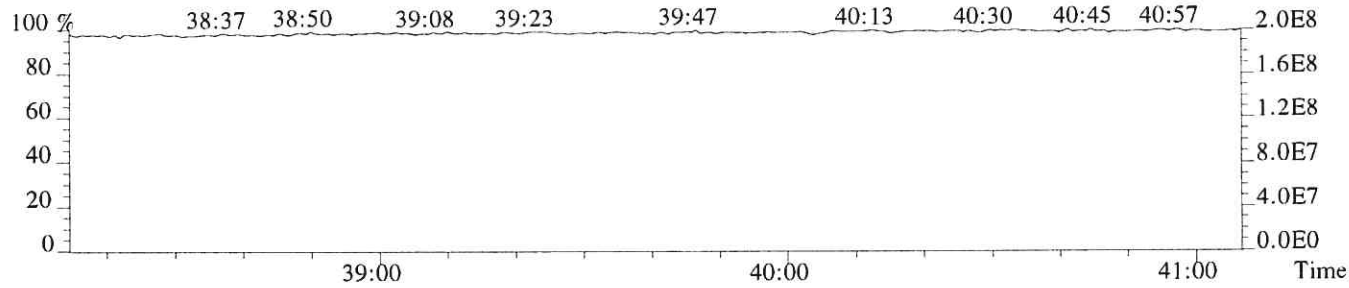
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1872.0,0.40%,F,T)



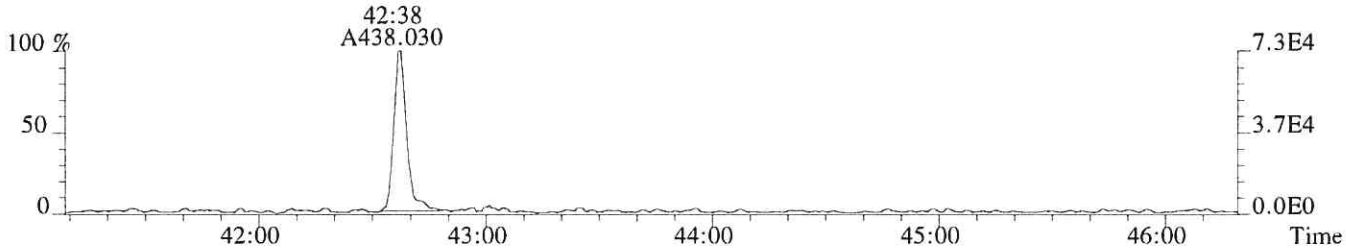
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.40%,F,T)



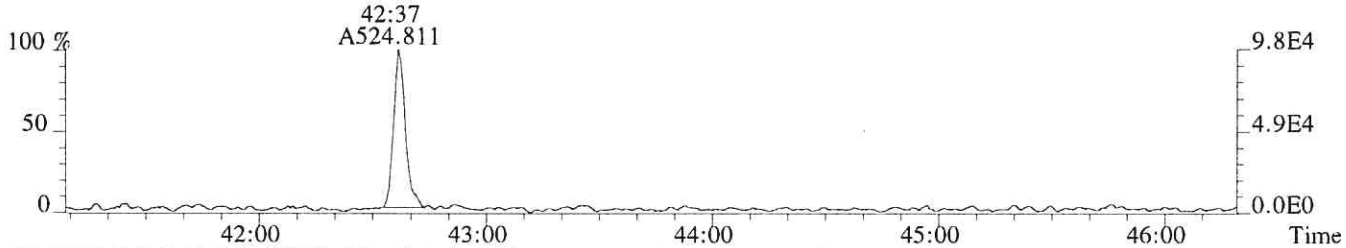
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



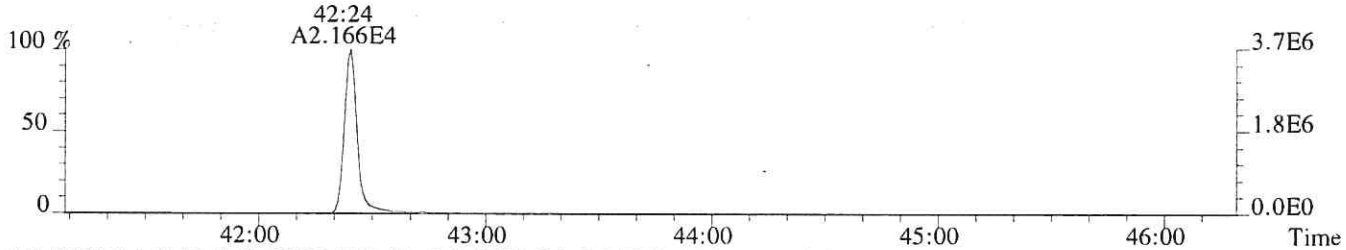
File:P511511 #1-466 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1604.0,0.40%,F,T)



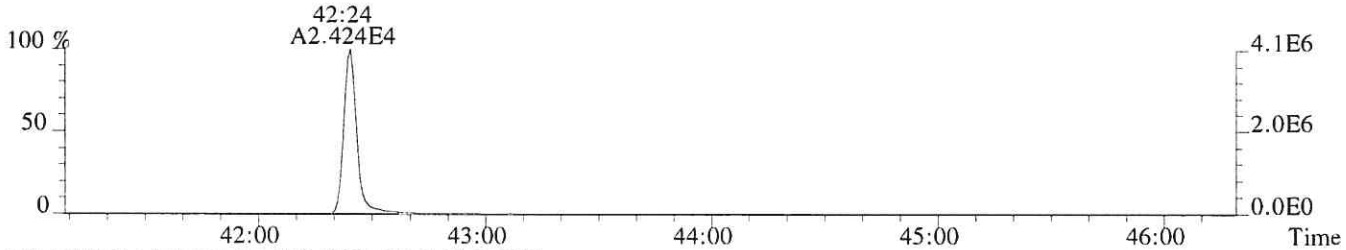
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3136.0,0.40%,F,T)



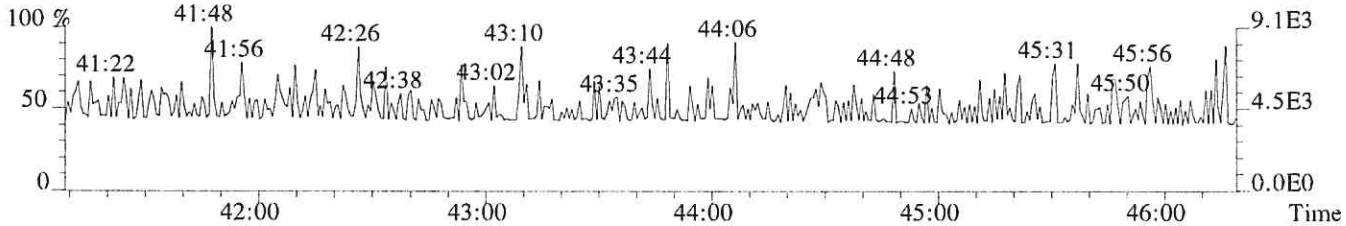
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1804.0,0.40%,F,T)



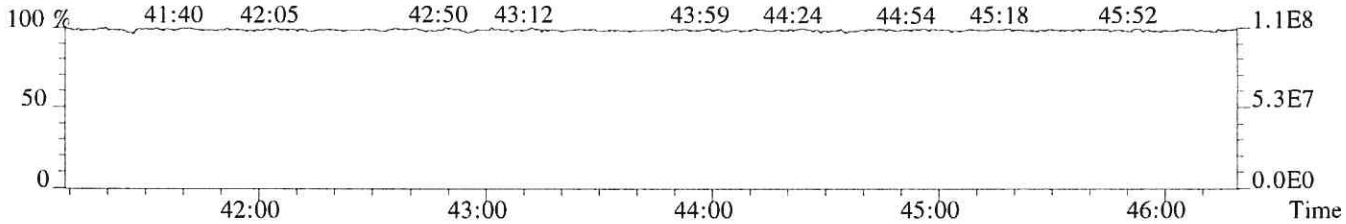
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,F,T)



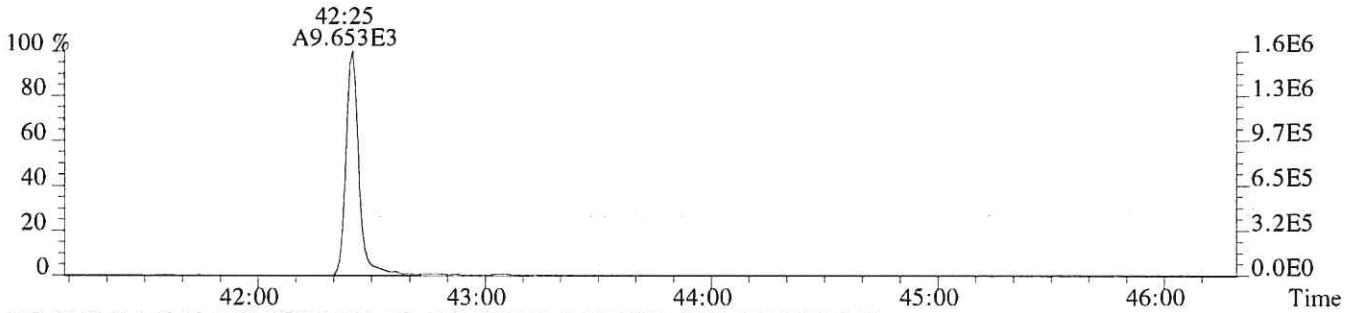
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



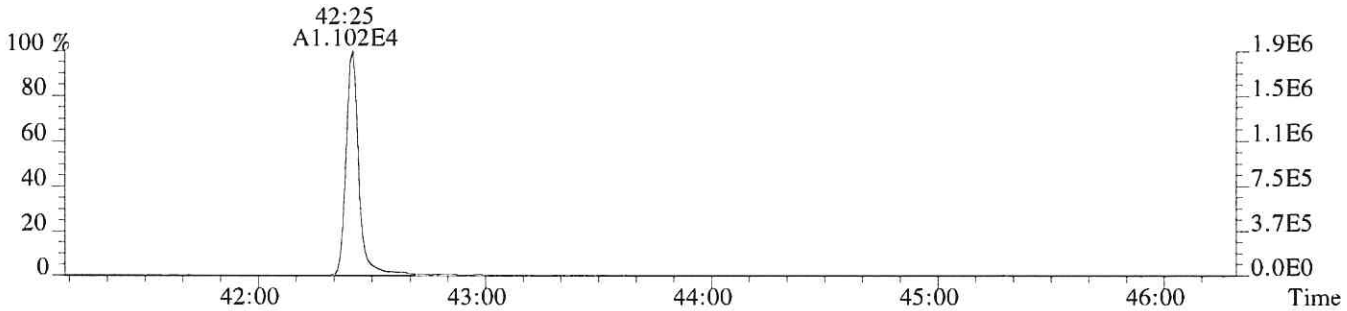
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



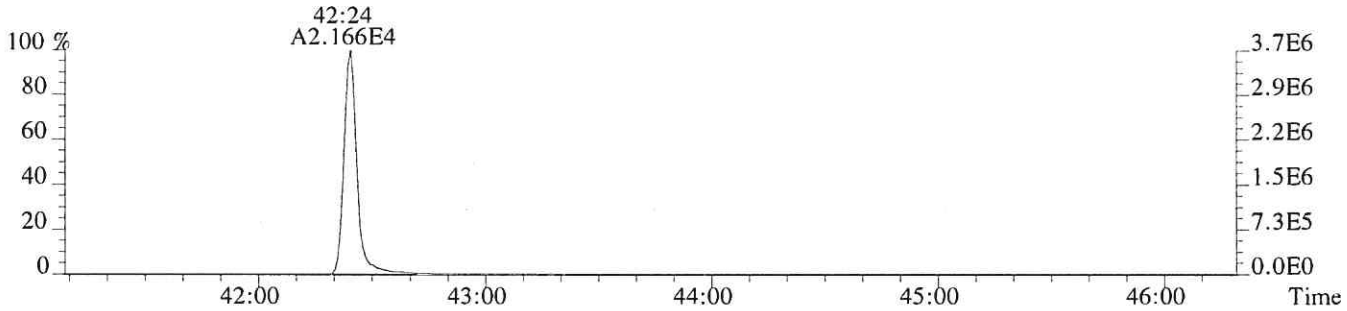
File:P511511 #1-466 Acq:23-SEP-2017 14:14:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-007
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1164.0,0.40%,F,T)



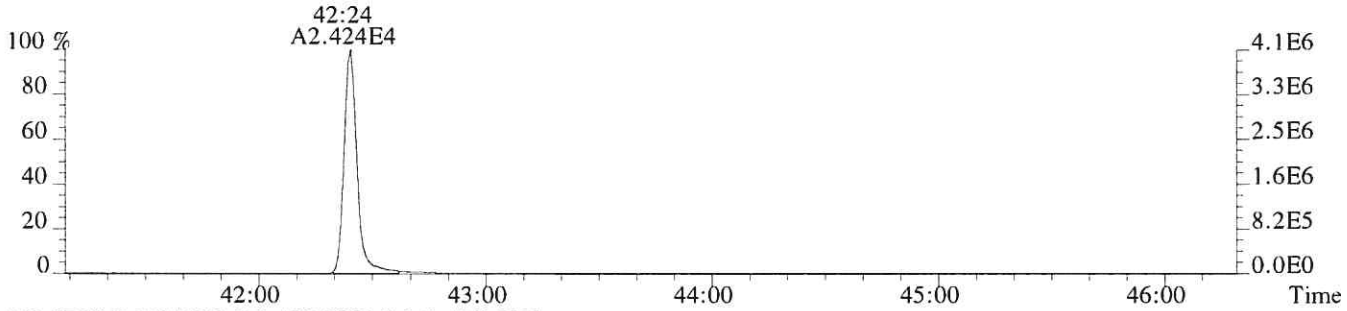
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1352.0,0.40%,F,T)



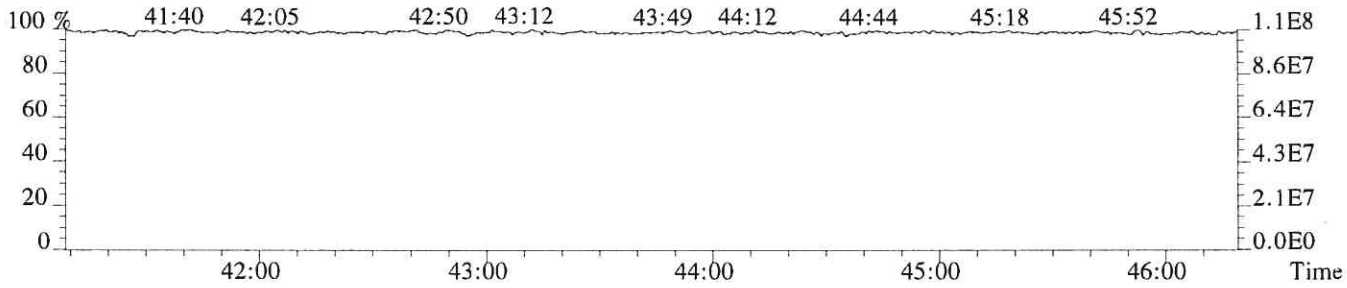
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1804.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,956.0,0.40%,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 #10 Filename P511512 Samp: 1 Inj: 1 Acquired: 23-SEP-17 15:03:14
Processed: 25-SEP-17 10:00:00 Sample ID: E1700973-008

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	9.694e+02	1.397e+03	0.69	yes	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	5.651e+01	5.554e+01	1.02	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	7.395e+01	5.207e+01	1.42	yes	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	2.665e+01	3.454e+01	0.77	no	yes	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	2.113e+02	2.135e+02	0.99	yes	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	2.048e+01	1.809e+01	1.13	yes	yes	1.191
10	Unk	OCDF	42:37	4.171e+02	5.525e+02	0.75	no	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	3.809e+02	5.006e+02	0.76	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	4.169e+01	3.140e+01	1.33	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	7.765e+01	4.735e+01	1.64	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	8.178e+01	1.091e+02	0.75	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	1.875e+03	1.726e+03	1.09	yes	no	0.942
17	Unk	OCDD	42:25	3.341e+04	3.793e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	2.135e+04	2.727e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.879e+04	2.445e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	3.852e+04	2.450e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.571e+04	3.124e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.736e+04	3.318e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.621e+04	3.257e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.670e+04	3.355e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	9.568e+03	2.190e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.126e+04	2.532e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.665e+04	2.124e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	2.954e+04	1.863e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	2.421e+04	1.869e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.447e+04	1.862e+04	1.31	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.735e+04	1.604e+04	1.08	yes	no	0.881
32	IS	13C-OCDD	42:24	1.880e+04	2.084e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.671e+04	3.345e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	4.070e+04	3.200e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.671e+04				no	1.033

$$\text{OCDD} = \frac{(3.341e+04 + 3.793e+04) \times 4000 \text{ pg} \times 1}{(1.880e+04 + 2.084e+04) \times 10.093 \text{ g} \times 50.3 / 100 \times 1.051} = 1137.8 \text{ ng/kg}$$

kw 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-027E

Run #10 Filename P511512 Samp: 1 Inj: 1 Acquired: 23-SEP-17 15:03:14
Processed: 25-SEP-17 10:00:00 LAB. ID: E1700973-008

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.74e+05	1.28e+03	1.4e+02	2.61e+05	4.38e+03	6.0e+01
2	1,2,3,7,8-PeCDF	1.22e+04	1.52e+03	8.0e+00	1.36e+04	3.92e+03	3.5e+00
3	2,3,4,7,8-PeCDF	*	1.52e+03	*	*	3.92e+03	*
4	1,2,3,4,7,8-HxCDF	1.38e+04	2.28e+03	6.0e+00	1.23e+04	1.20e+03	1.0e+01
5	1,2,3,6,7,8-HxCDF	7.35e+03	2.28e+03	3.2e+00	6.06e+03	1.20e+03	5.1e+00
6	2,3,4,6,7,8-HxCDF	*	2.28e+03	*	*	1.20e+03	*
7	1,2,3,7,8,9-HxCDF	*	2.28e+03	*	*	1.20e+03	*
8	1,2,3,4,6,7,8-HpCDF	4.73e+04	1.02e+03	4.7e+01	4.82e+04	6.24e+02	7.7e+01
9	1,2,3,4,7,8,9-HpCDF	4.86e+03	1.02e+03	4.8e+00	4.89e+03	6.24e+02	7.8e+00
10	OCDF	6.98e+04	1.10e+03	6.4e+01	1.01e+05	4.32e+03	2.3e+01
11	2,3,7,8-TCDD	8.05e+04	3.24e+03	2.5e+01	9.12e+04	1.68e+03	5.4e+01
12	1,2,3,7,8-PeCDD	*	2.19e+03	*	*	8.00e+02	*
13	1,2,3,4,7,8-HxCDD	1.05e+04	1.24e+03	8.5e+00	5.05e+03	1.64e+03	3.1e+00
14	1,2,3,6,7,8-HxCDD	1.71e+04	1.24e+03	1.4e+01	1.38e+04	1.64e+03	8.4e+00
15	1,2,3,7,8,9-HxCDD	1.75e+04	1.24e+03	1.4e+01	1.98e+04	1.64e+03	1.2e+01
16	1,2,3,4,6,7,8-HpCDD	3.79e+05	2.60e+03	1.5e+02	3.38e+05	3.43e+03	9.8e+01
17	OCDD	5.75e+06	8.52e+02	6.8e+03	6.36e+06	1.35e+03	4.7e+03
18	13C-2,3,7,8-TCDF	4.16e+06	2.78e+04	1.5e+02	5.25e+06	7.71e+03	6.8e+02
19	13C-1,2,3,7,8-PeCDF	7.47e+06	1.12e+03	6.6e+03	4.70e+06	1.79e+03	2.6e+03
20	13C-2,3,4,7,8-PeCDF	7.68e+06	1.12e+03	6.8e+03	4.95e+06	1.79e+03	2.8e+03
21	13C-1,2,3,4,7,8-HxCDF	3.47e+06	1.38e+03	2.5e+03	6.87e+06	3.13e+03	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.60e+06	1.38e+03	2.6e+03	7.02e+06	3.13e+03	2.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.56e+06	1.38e+03	2.6e+03	7.03e+06	3.13e+03	2.2e+03
24	13C-1,2,3,7,8,9-HxCDF	3.60e+06	1.38e+03	2.6e+03	7.21e+06	3.13e+03	2.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.12e+06	2.86e+03	7.4e+02	4.73e+06	2.18e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.21e+06	2.86e+03	7.7e+02	4.97e+06	2.18e+03	2.3e+03
27	13C-2,3,7,8-TCDD	3.38e+06	8.69e+03	3.9e+02	4.31e+06	4.16e+03	1.0e+03
28	13C-1,2,3,7,8-PeCDD	5.93e+06	3.15e+03	1.9e+03	3.75e+06	1.86e+03	2.0e+03
29	13C-1,2,3,4,7,8-HxCDD	5.45e+06	3.05e+03	1.8e+03	4.22e+06	2.27e+03	1.9e+03
30	13C-1,2,3,6,7,8-HxCDD	5.22e+06	3.05e+03	1.7e+03	3.99e+06	2.27e+03	1.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.44e+06	1.95e+03	1.8e+03	3.25e+06	1.34e+03	2.4e+03
32	13C-OCDD	3.22e+06	1.79e+03	1.8e+03	3.51e+06	1.22e+03	2.9e+03
33	13C-1,2,3,4-TCDD	5.24e+06	8.69e+03	6.0e+02	6.58e+06	4.16e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.53e+06	3.05e+03	2.8e+03	6.86e+06	2.27e+03	3.0e+03
35	37Cl-2,3,7,8-TCDD	3.42e+06	2.83e+03	1.2e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-027E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 10 File: P511512 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 303.9020 305.8990 Tot Response: 3.99e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:59	8.37e+01	1.28e+02	0.65	yes	2.12e+02		n	n
2	27:45	5.22e+02	6.65e+02	0.79	yes	1.19e+03		n	n
3	28:32	9.69e+02	1.40e+03	0.69	yes	2.37e+03	2,3,7,8-TCDF	n	y
4	28:50	1.07e+02	1.23e+02	0.87	yes	2.30e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-027E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 10 File: P511512 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 319.8970 321.8940 Tot Response: 8.82e+02 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	3.81e+02	5.01e+02	0.76	yes	8.82e+02	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-027E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 10 File: P511512 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 339.8600 341.8570 Tot Response: 1.98e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:43	1.22e+02	7.61e+01	1.60	yes	1.98e+02	y	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-027E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 10 File: P511512 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 355.8550 357.8520 Tot Response: 1.79e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:42	1.09e+02	7.03e+01	1.55	yes	1.79e+02	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-027E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 10 File: P511512 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 373.8210 375.8180 Tot Response: 4.81e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	1.28e+02	1.19e+02	1.07	yes	2.47e+02	y	y
2	35:42	5.87e+01	4.88e+01	1.20	yes	1.08e+02	y	y
3	36:08	7.39e+01	5.21e+01	1.42	yes	1.26e+02 1,2,3,4,7,8-HxCDF	y	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-027E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 10 File: P511512 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 389.8160 391.8130 Tot Response: 2.88e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.03e+03	8.56e+02	1.20	yes	1.89e+03		n	n
2	36:18	4.79e+02	3.45e+02	1.39	yes	8.24e+02		n	n
3	36:24	4.80e+01	4.40e+01	1.09	yes	9.20e+01		n	n
4	36:52	4.17e+01	3.14e+01	1.33	yes	7.31e+01	1,2,3,4,7,8-HxCDD	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-091517-027E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 10 File: P511512 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 407.7820 409.7790 Tot Response: 4.63e+02 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	2.11e+02	2.14e+02	0.99	yes	4.25e+02	1,2,3,4,6,7,8-HpCDF	n	y
2	40:06	2.05e+01	1.81e+01	1.13	yes	3.86e+01	1,2,3,4,7,8,9-HpCDF	y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-027E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 10 File: P511512 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 15:03:14 Processed: 25-SEP-17 10:00:00

Mass: 423.7770 425.7740 Tot Response: 1.30e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	4.79e+03	4.62e+03	1.04	yes	9.41e+03		n	n
2	39:37	1.88e+03	1.73e+03	1.09	yes	3.60e+03	1,2,3,4,6,7,8-HpCDD	n	n

ALS ENVIRONMENTAL
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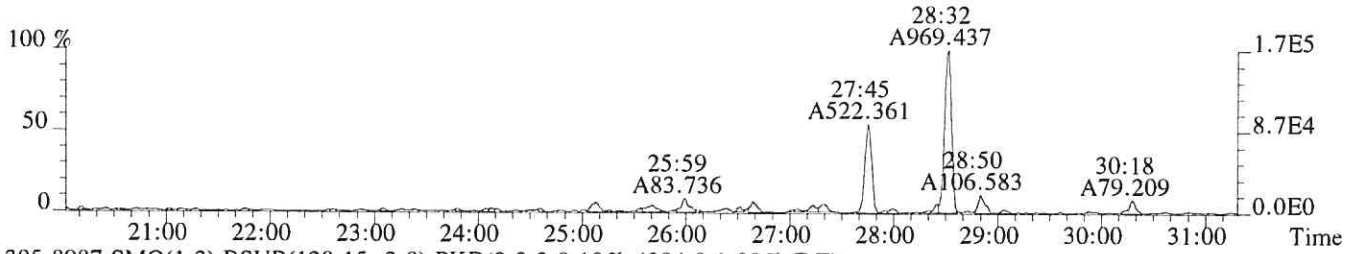
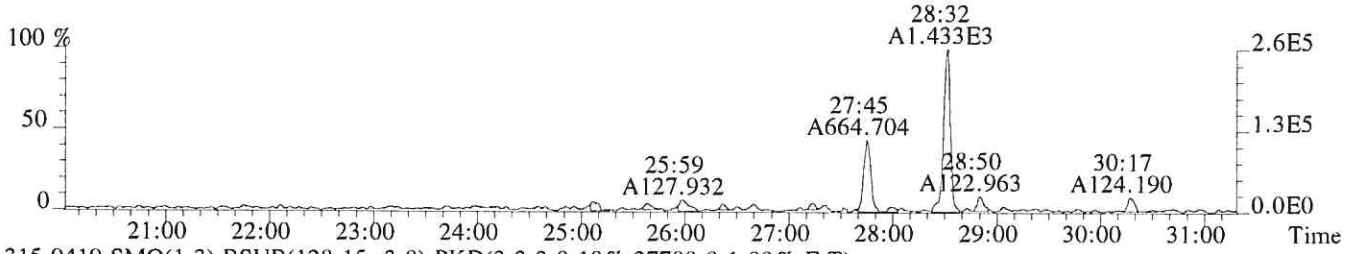
Office(281)530-5656. Fax(281)530-5887

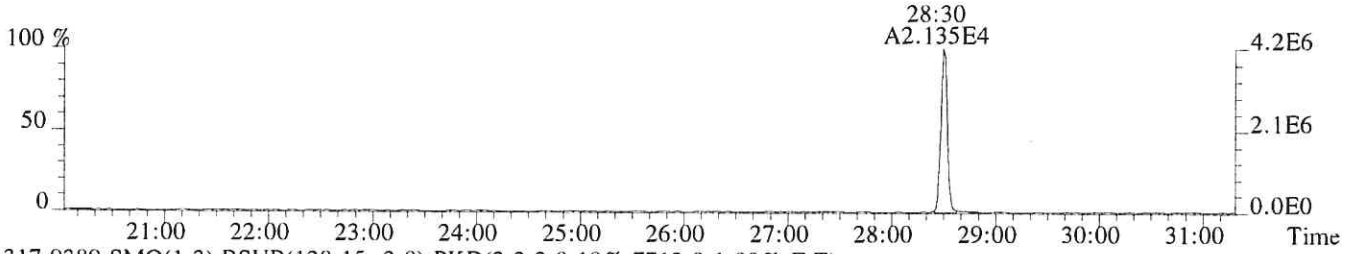
File:P511512 #1-800 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



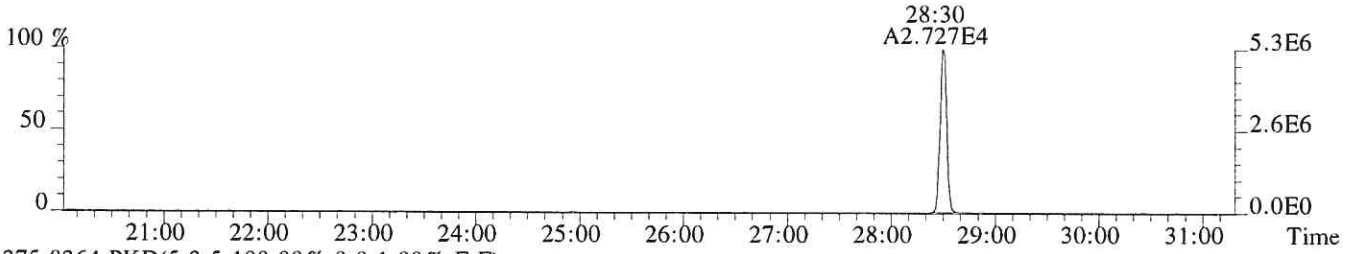
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4384.0,1.00%,F,T)



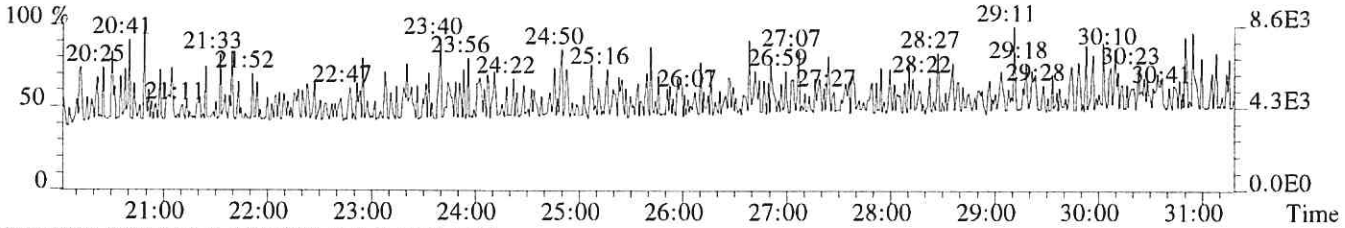
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,27780.0,1.00%,F,T)



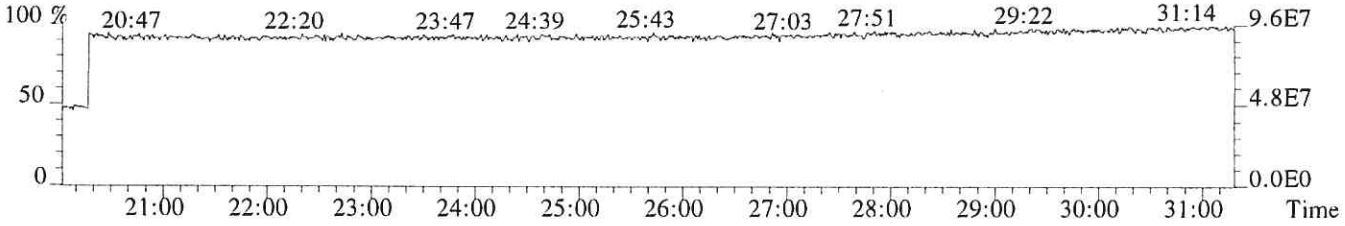
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7712.0,1.00%,F,T)



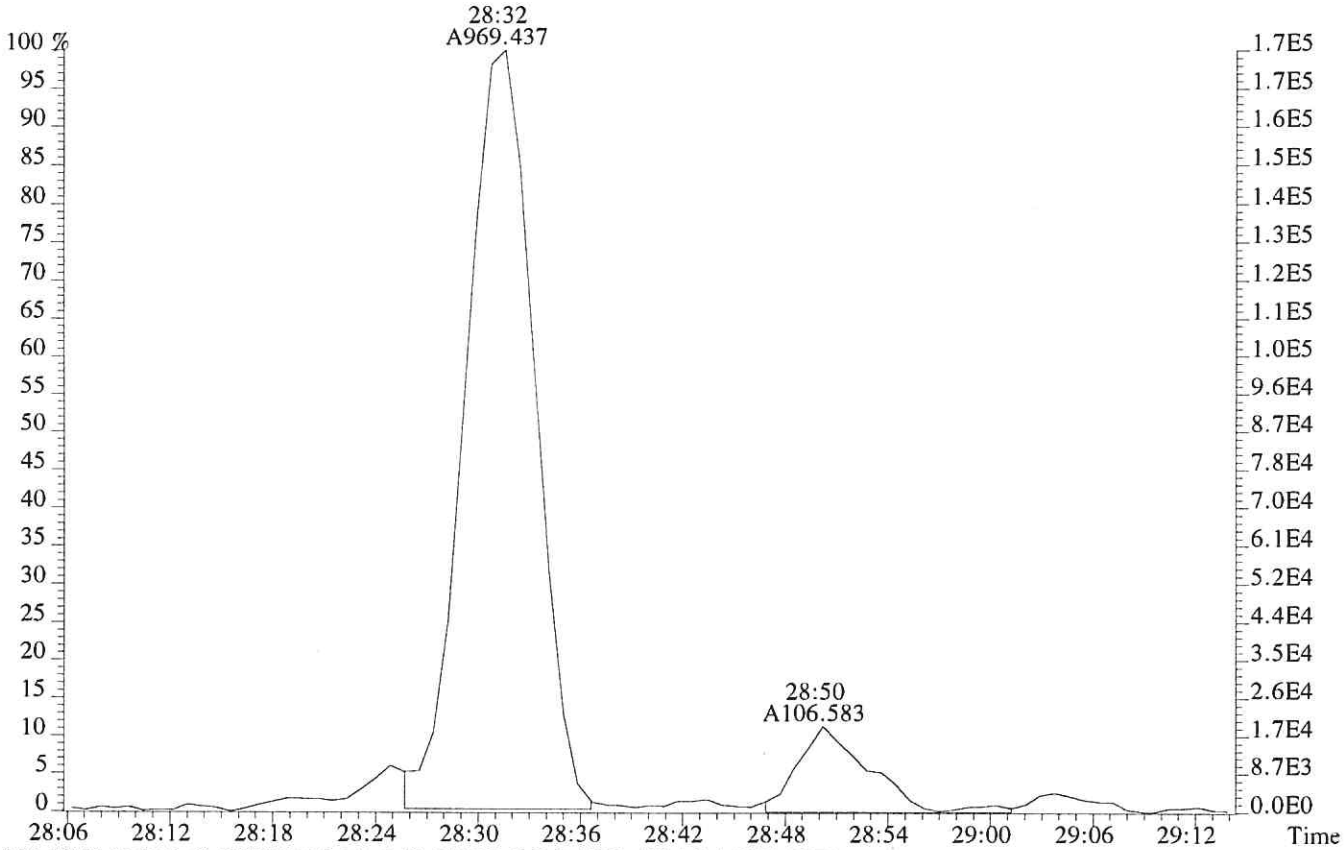
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



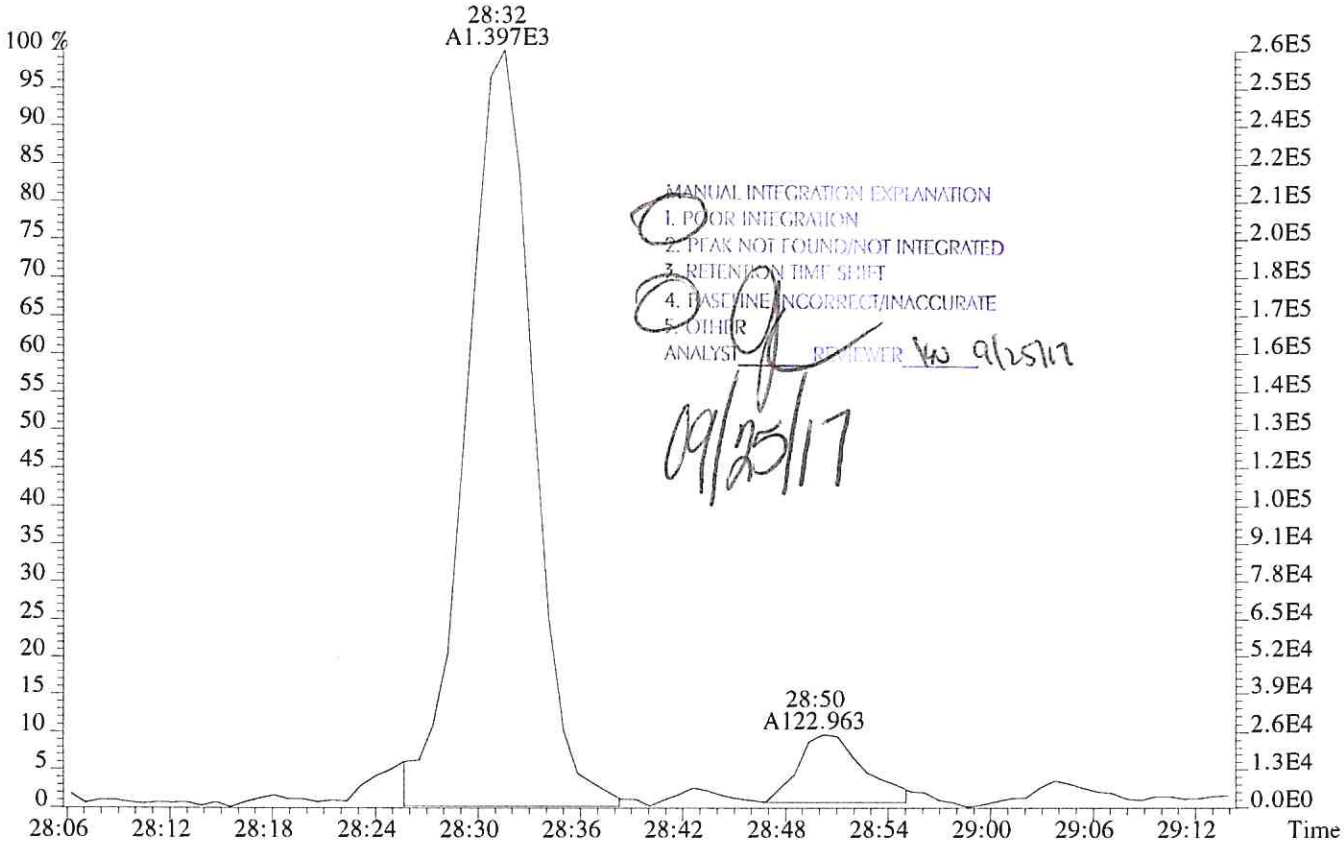
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511512 #1-800 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)

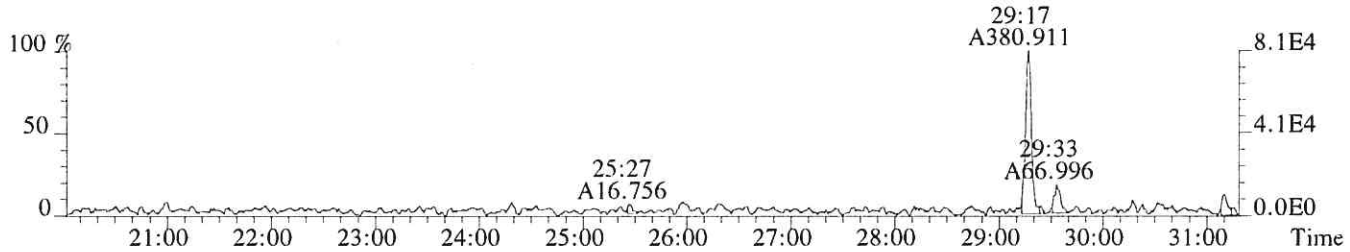


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4384.0,1.00%,F,T)

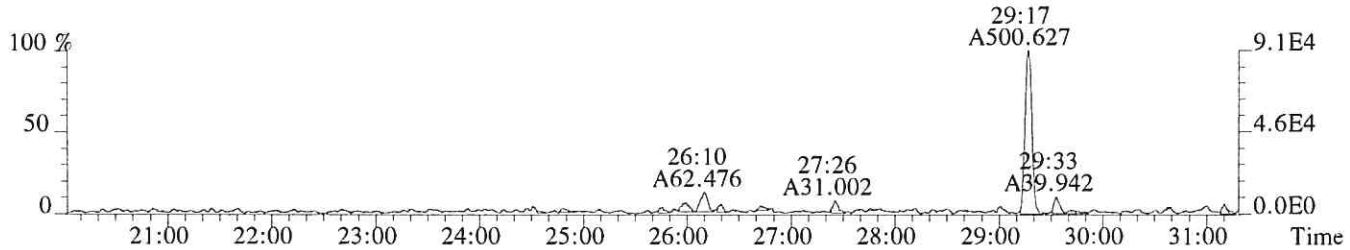


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER 9/25/17

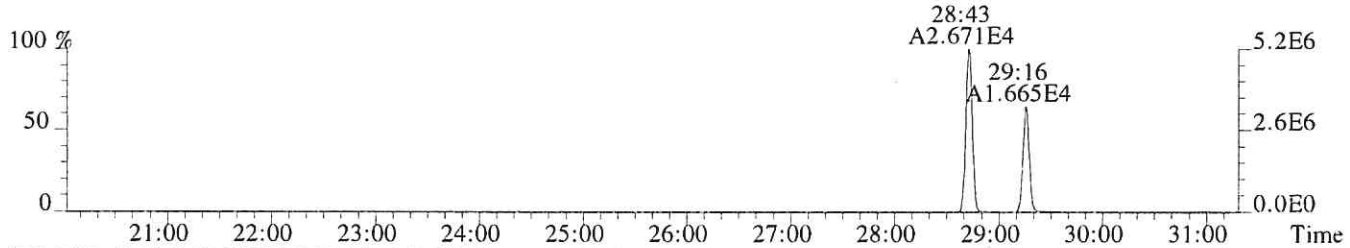
File:P511512 #1-800 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3236.0,1.00%,F,T)



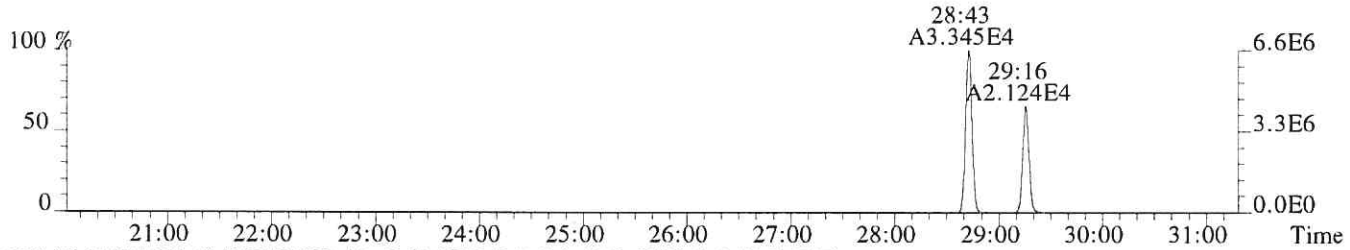
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1676.0,1.00%,F,T)



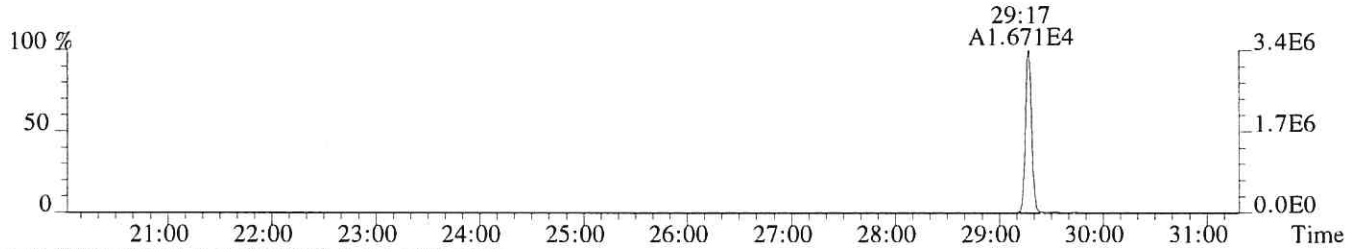
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8688.0,1.00%,F,T)



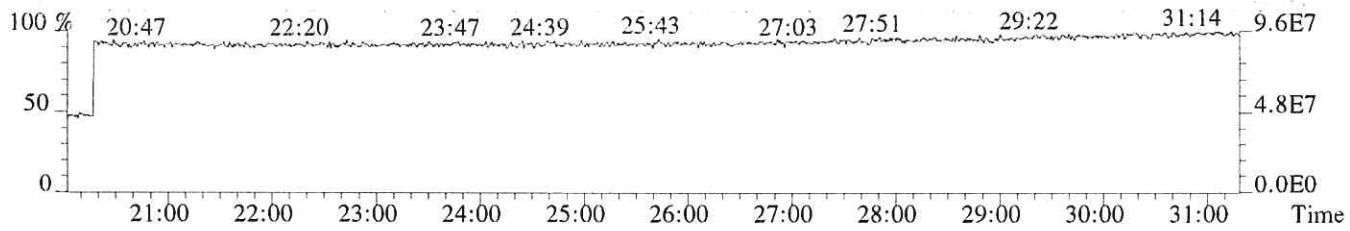
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4156.0,1.00%,F,T)



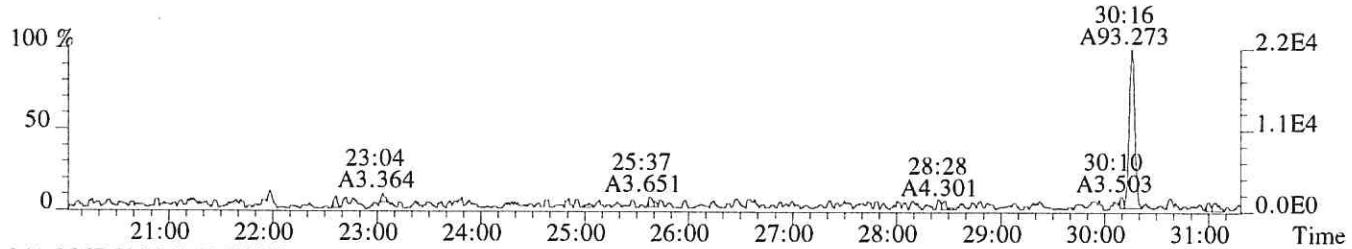
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2832.0,1.00%,F,T)



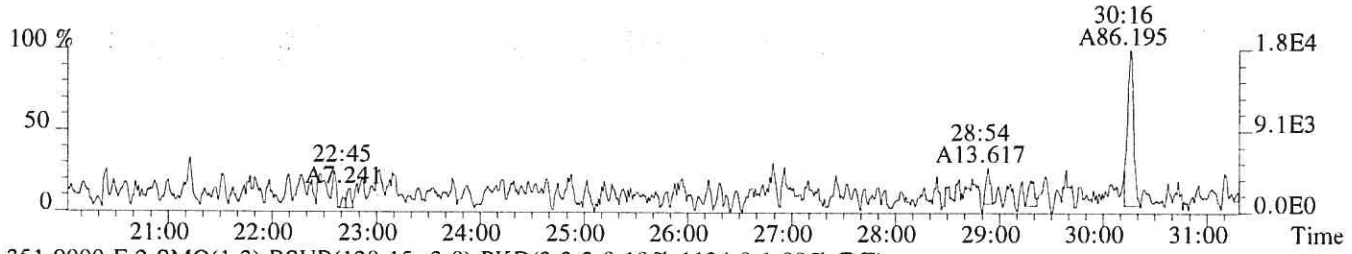
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



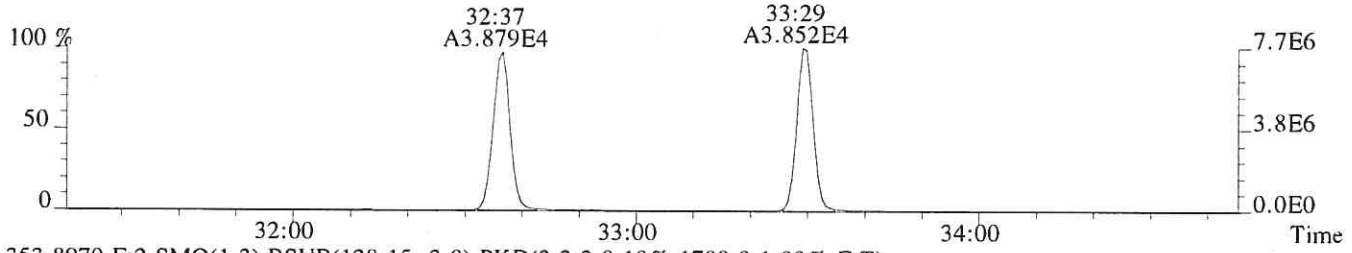
File:P511512 #1-800 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



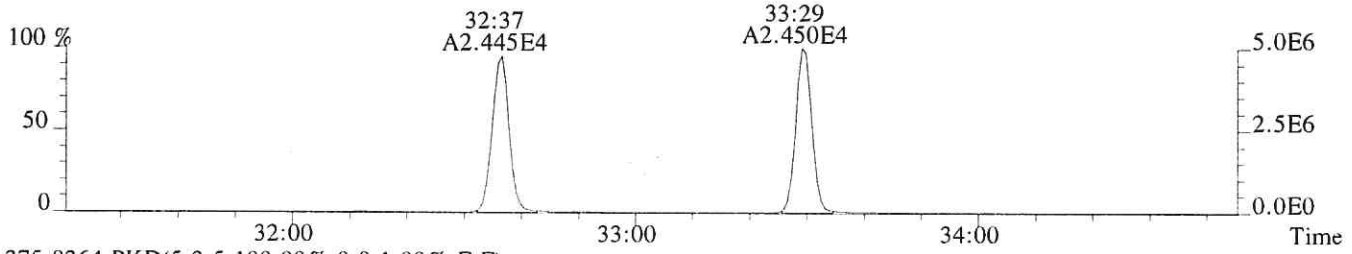
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2556.0,1.00%,F,T)



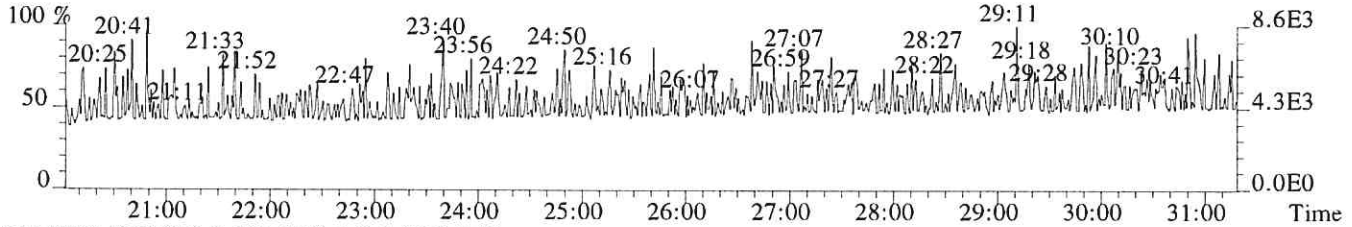
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



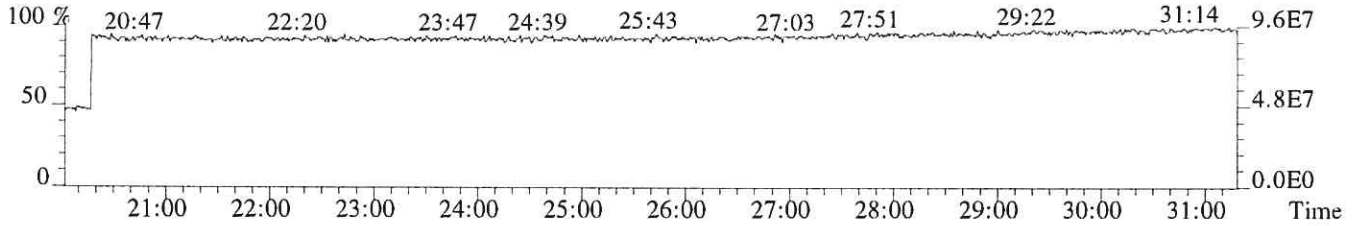
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1788.0,1.00%,F,T)



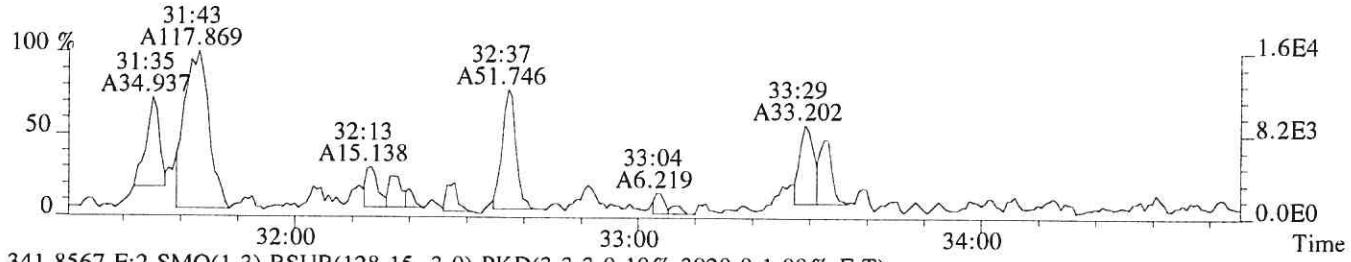
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



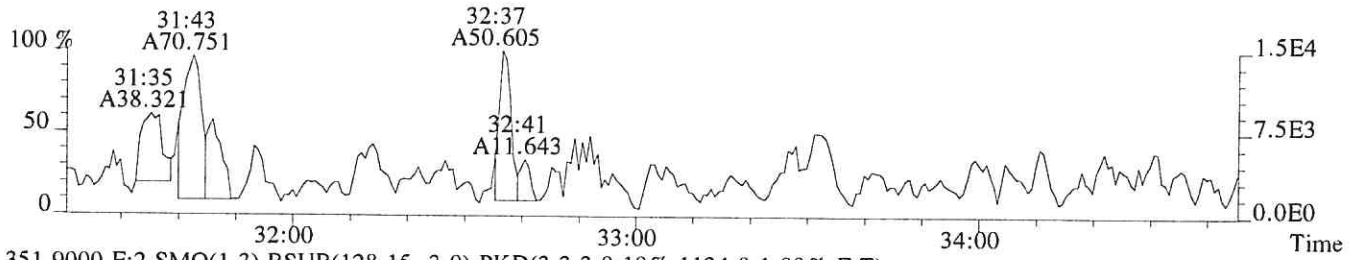
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



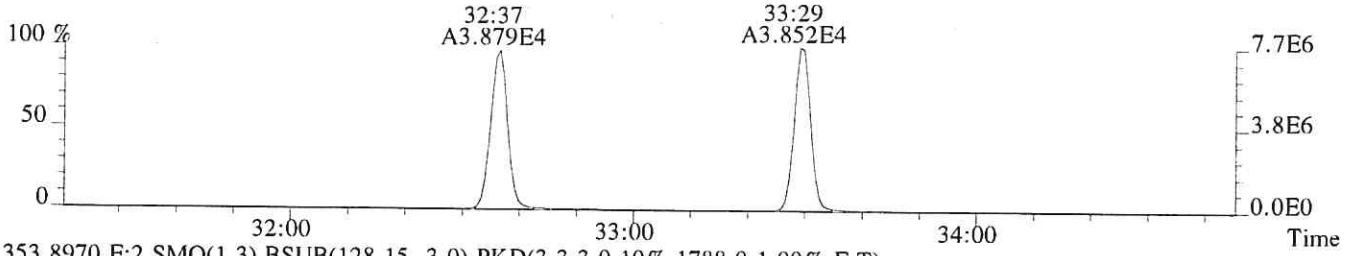
File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)



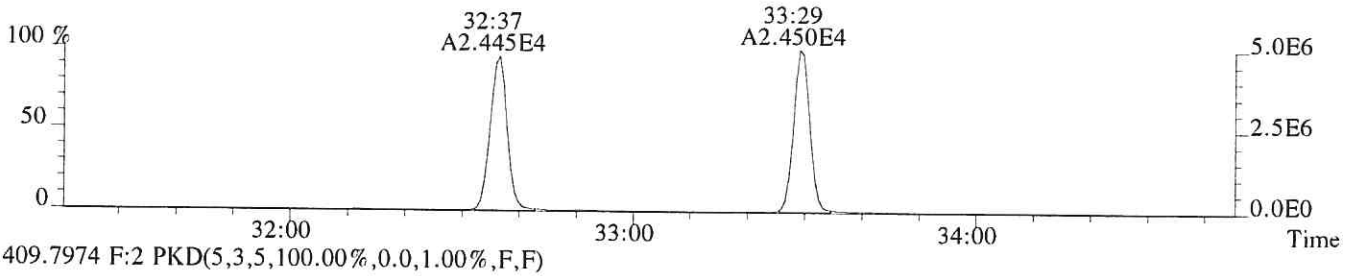
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3920.0,1.00%,F,T)



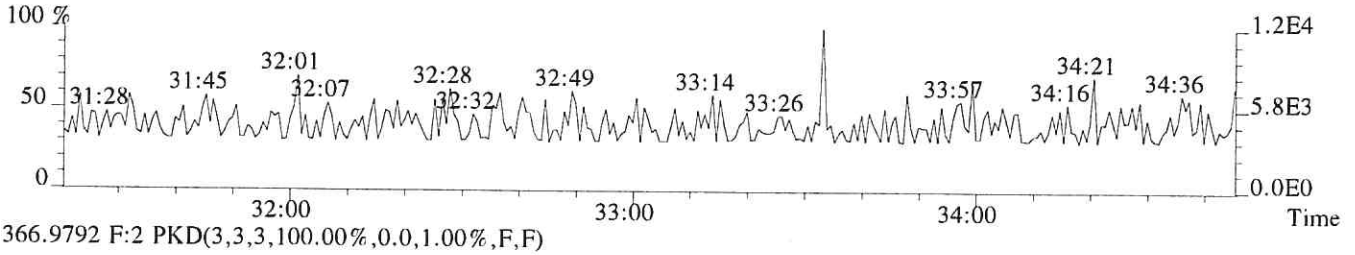
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



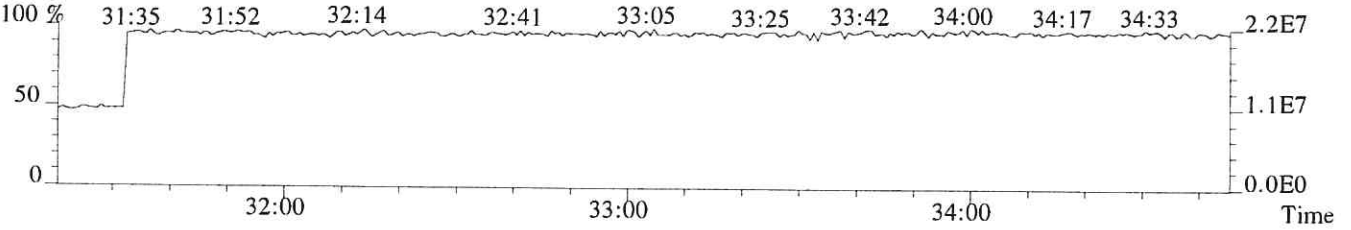
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1788.0,1.00%,F,T)



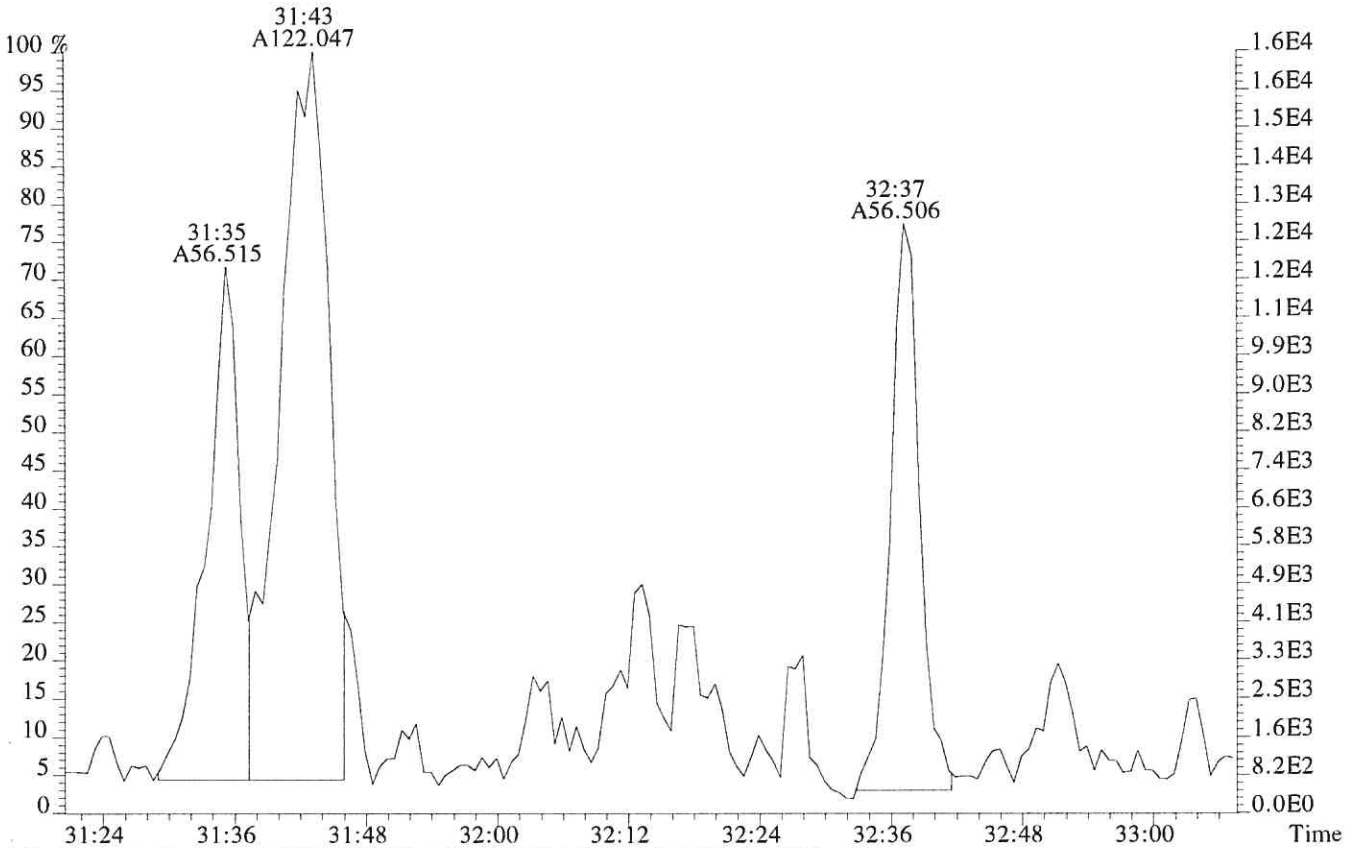
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



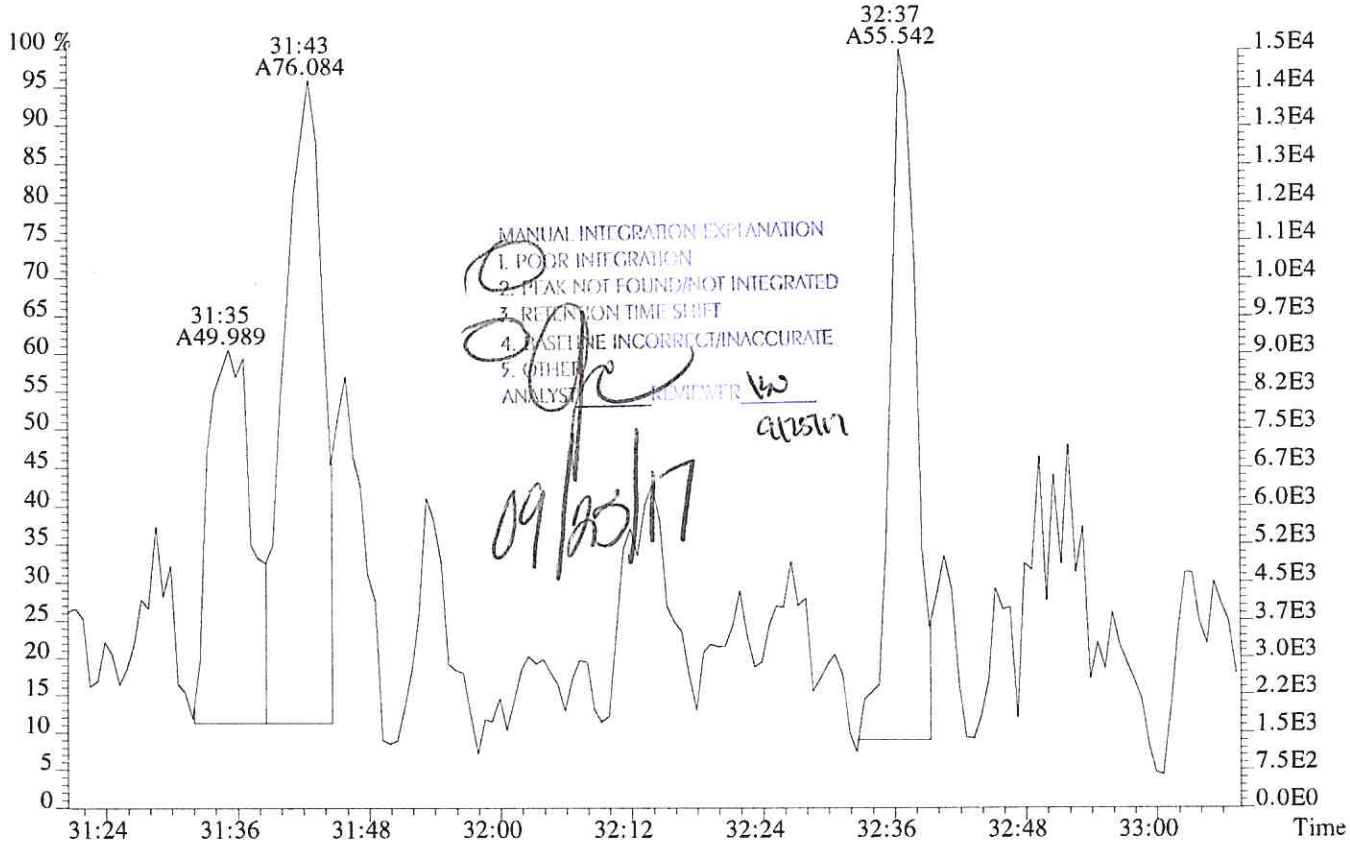
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)

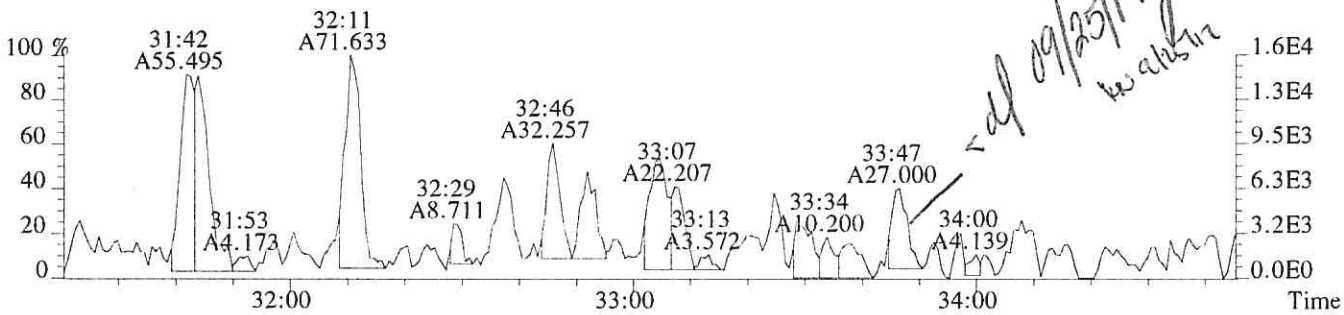


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3920.0,1.00%,F,T)

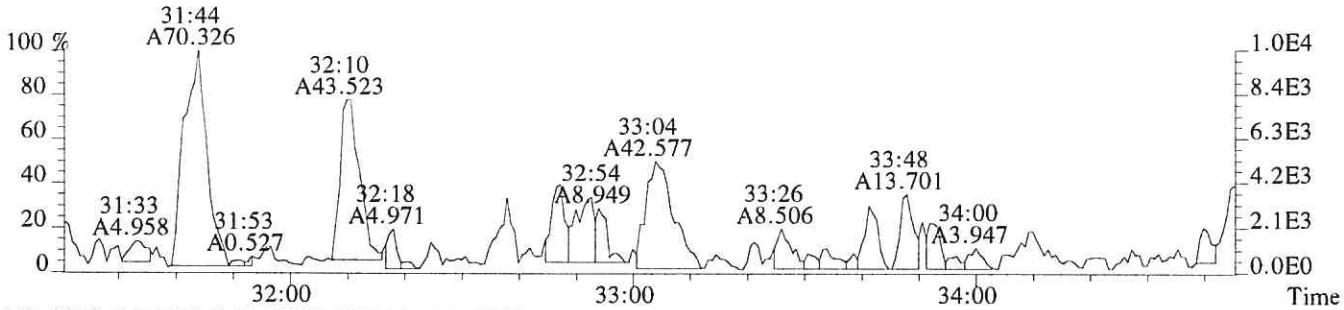


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
09/25/17
09/25/17

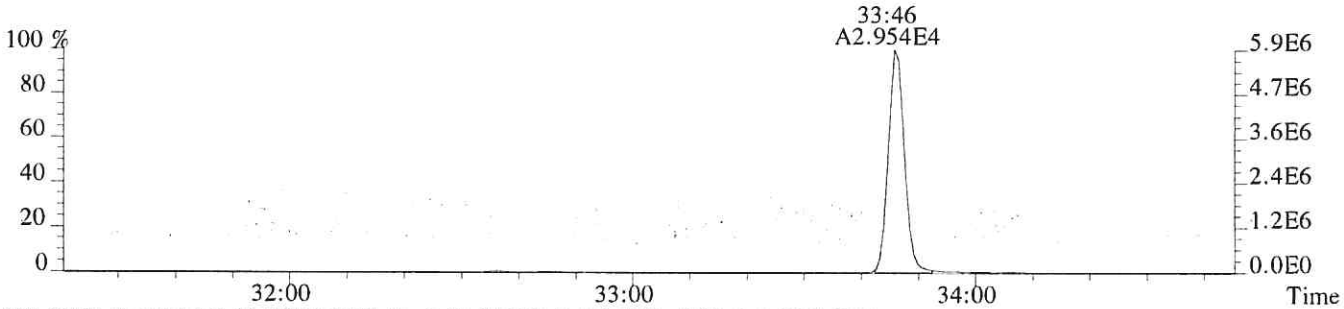
File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2188.0,1.00%,F,T)



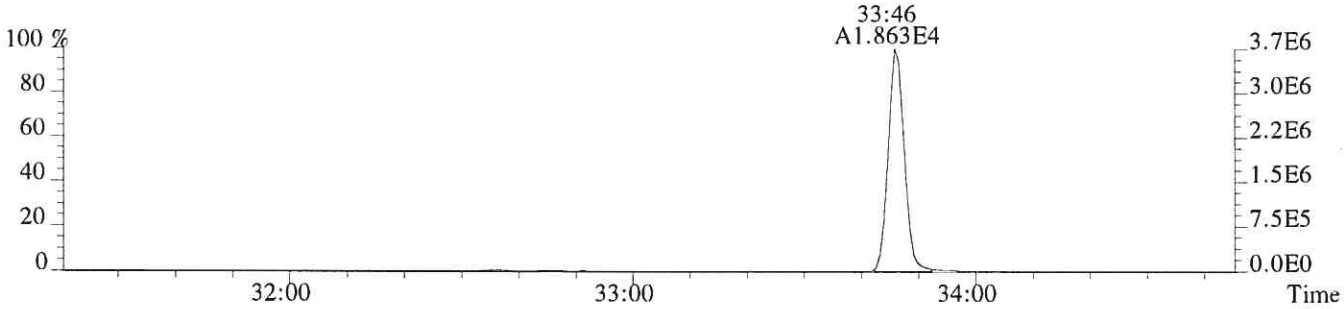
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,T)



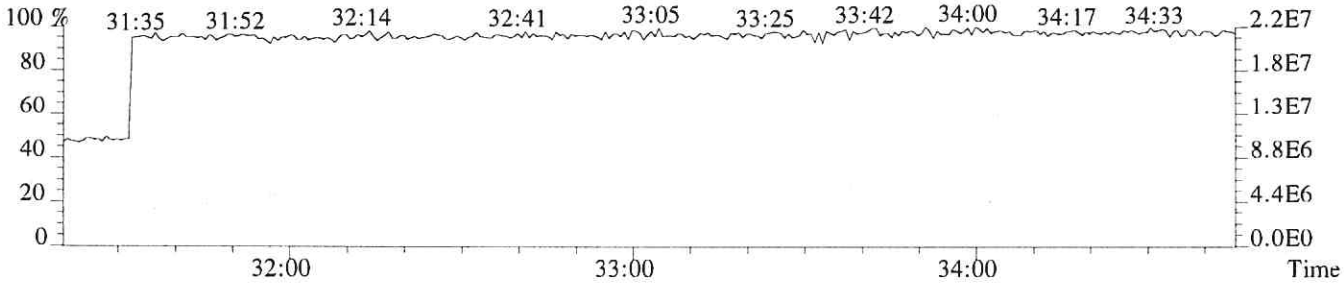
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3148.0,1.00%,F,T)



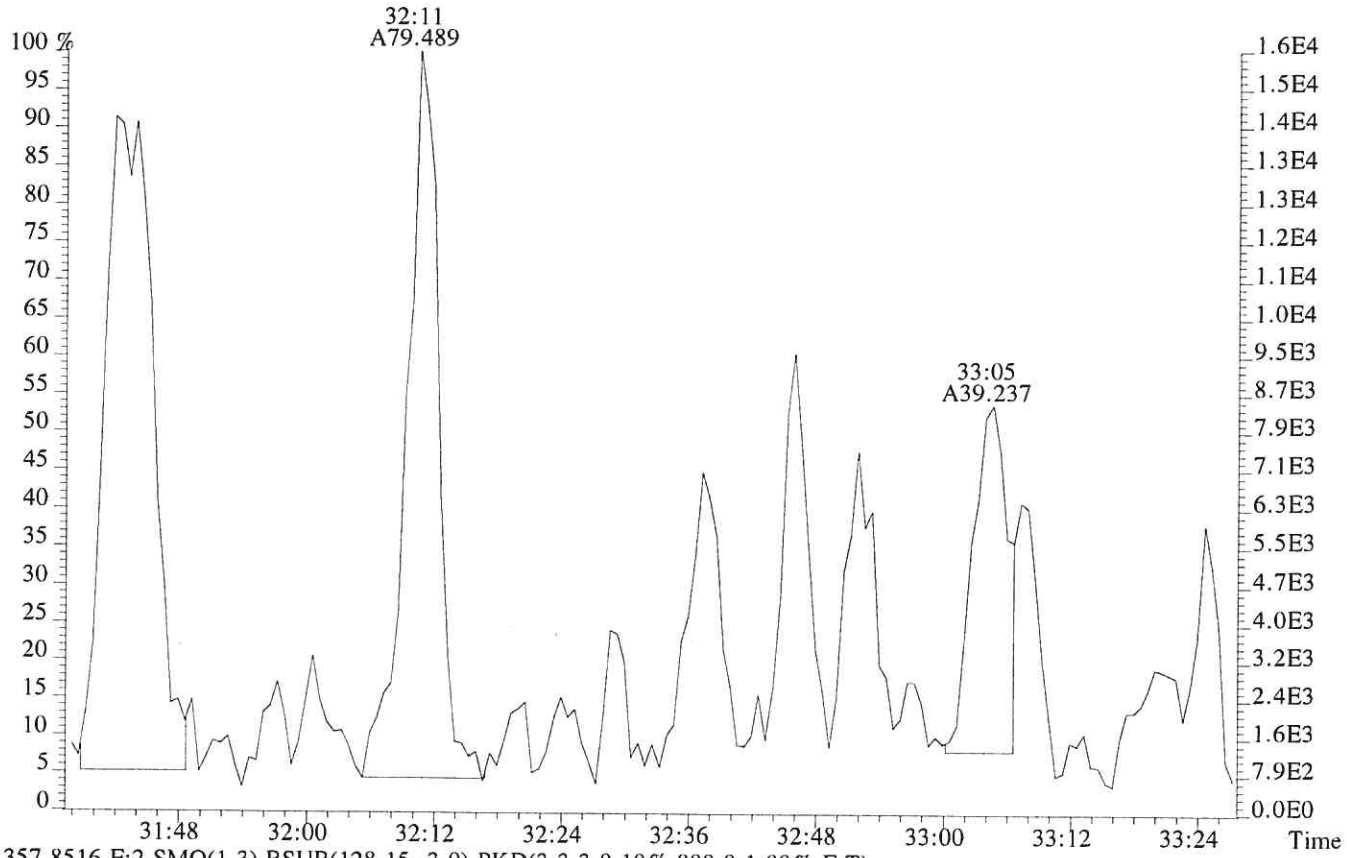
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1860.0,1.00%,F,T)



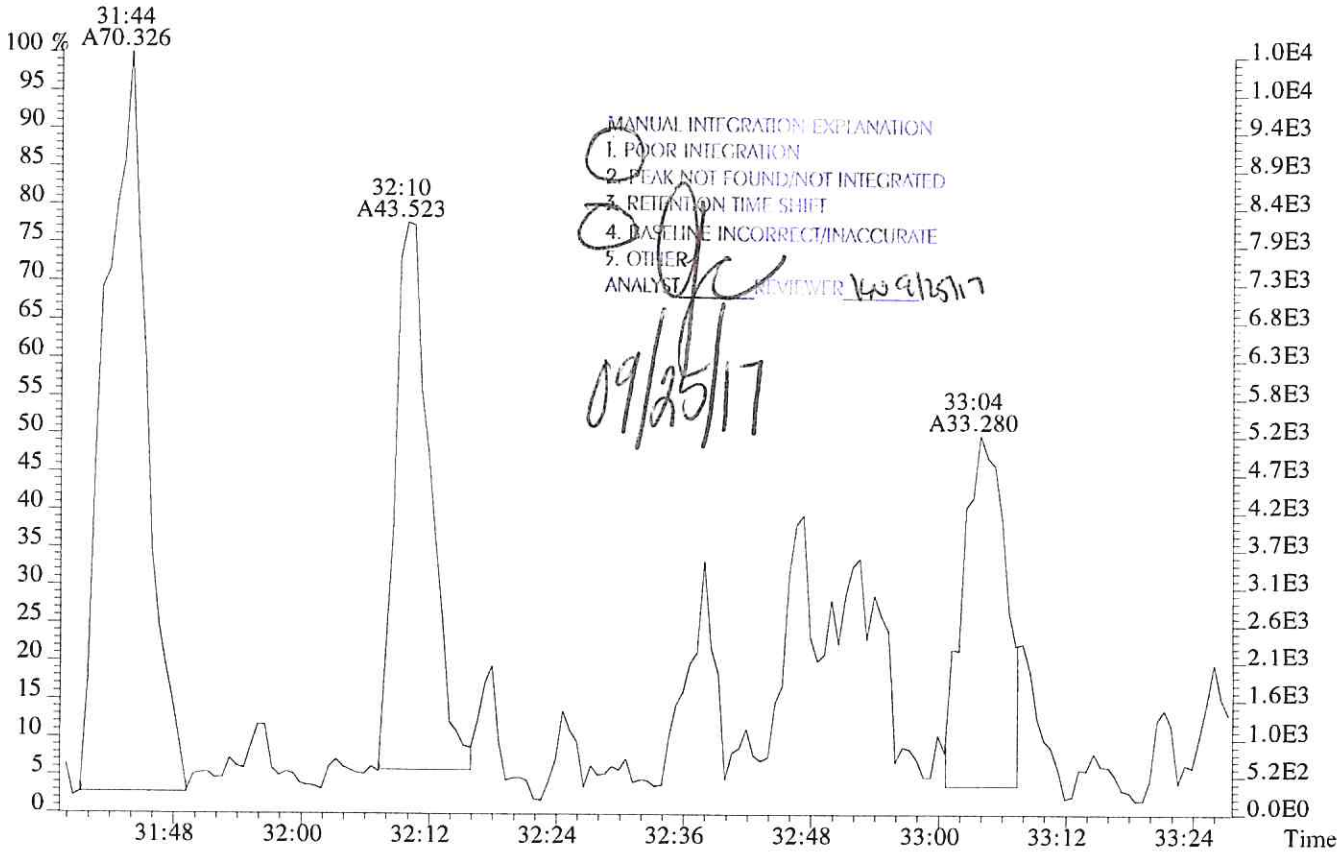
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2188.0,1.00%,F,T)

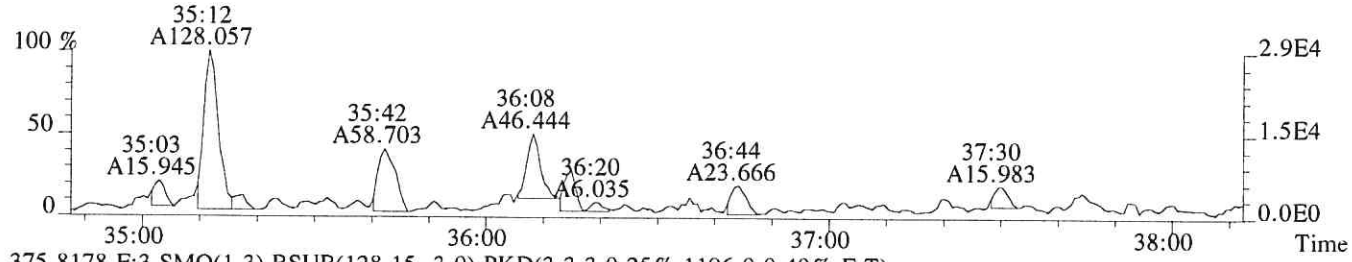


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,T)

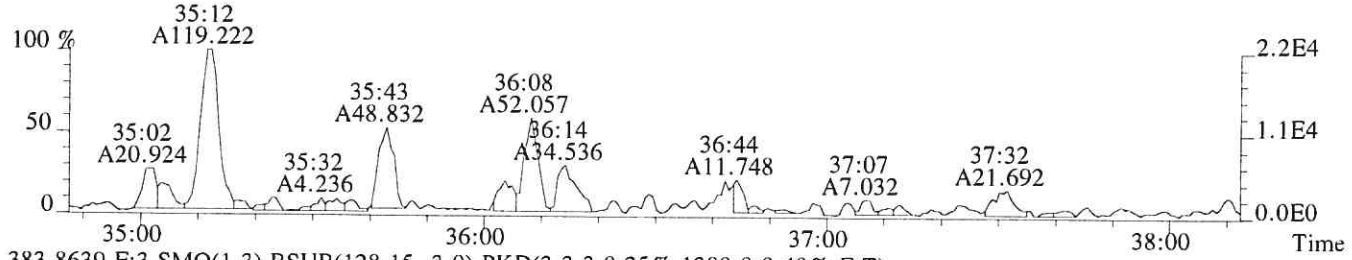


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER 09/25/17
09/25/17

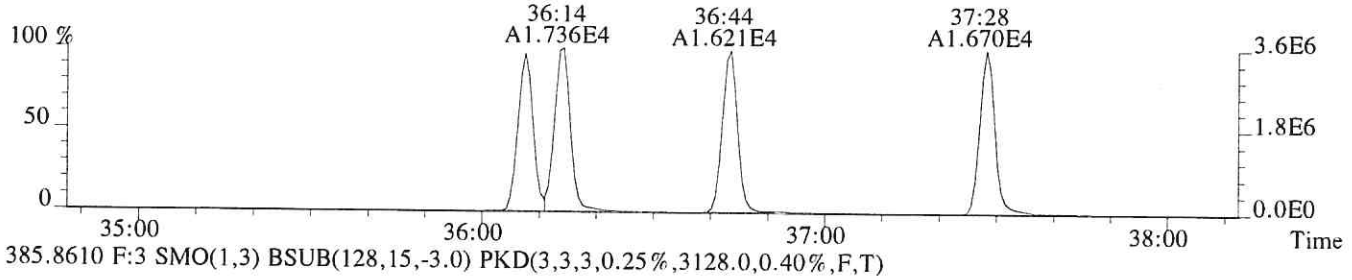
File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2284.0,0.40%,F,T)



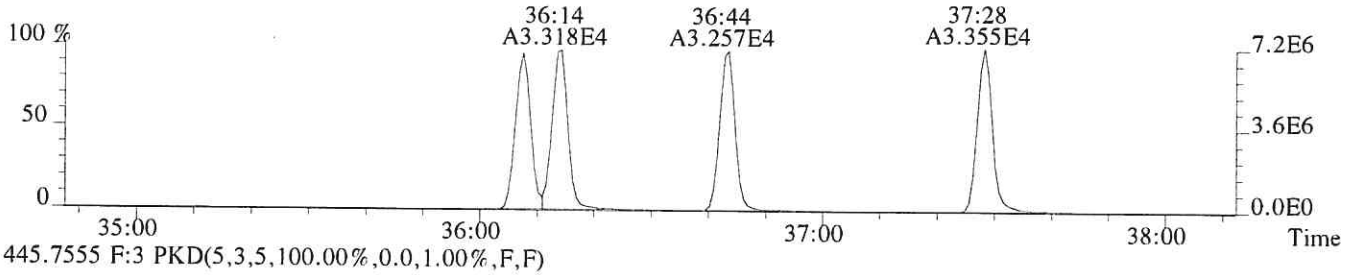
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



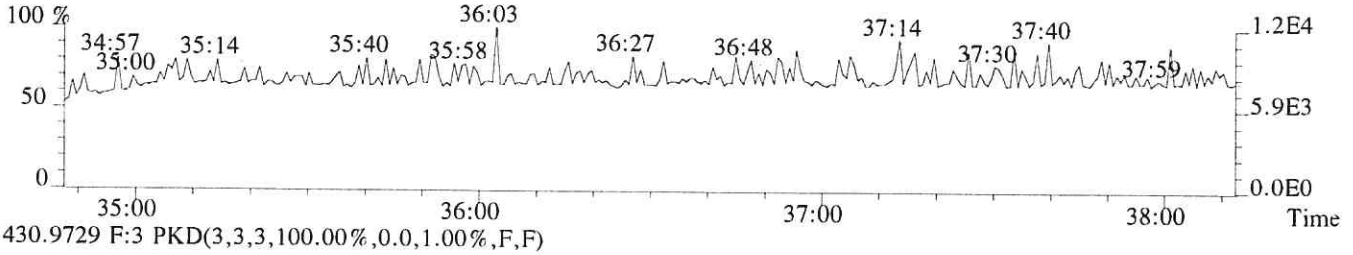
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1380.0,0.40%,F,T)



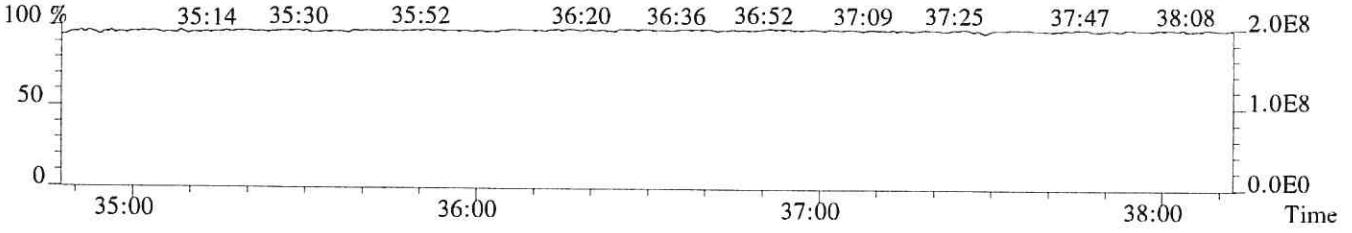
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3128.0,0.40%,F,T)



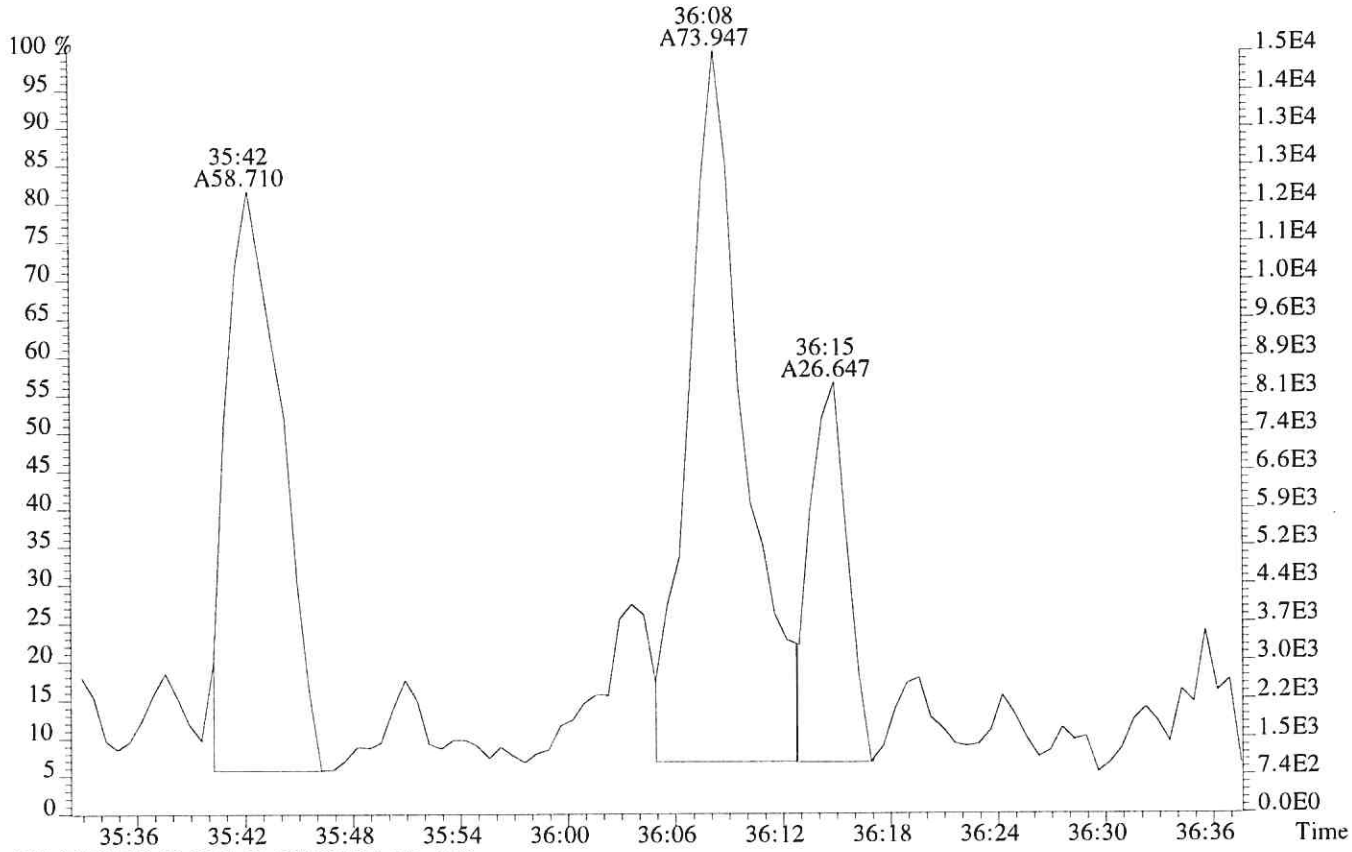
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



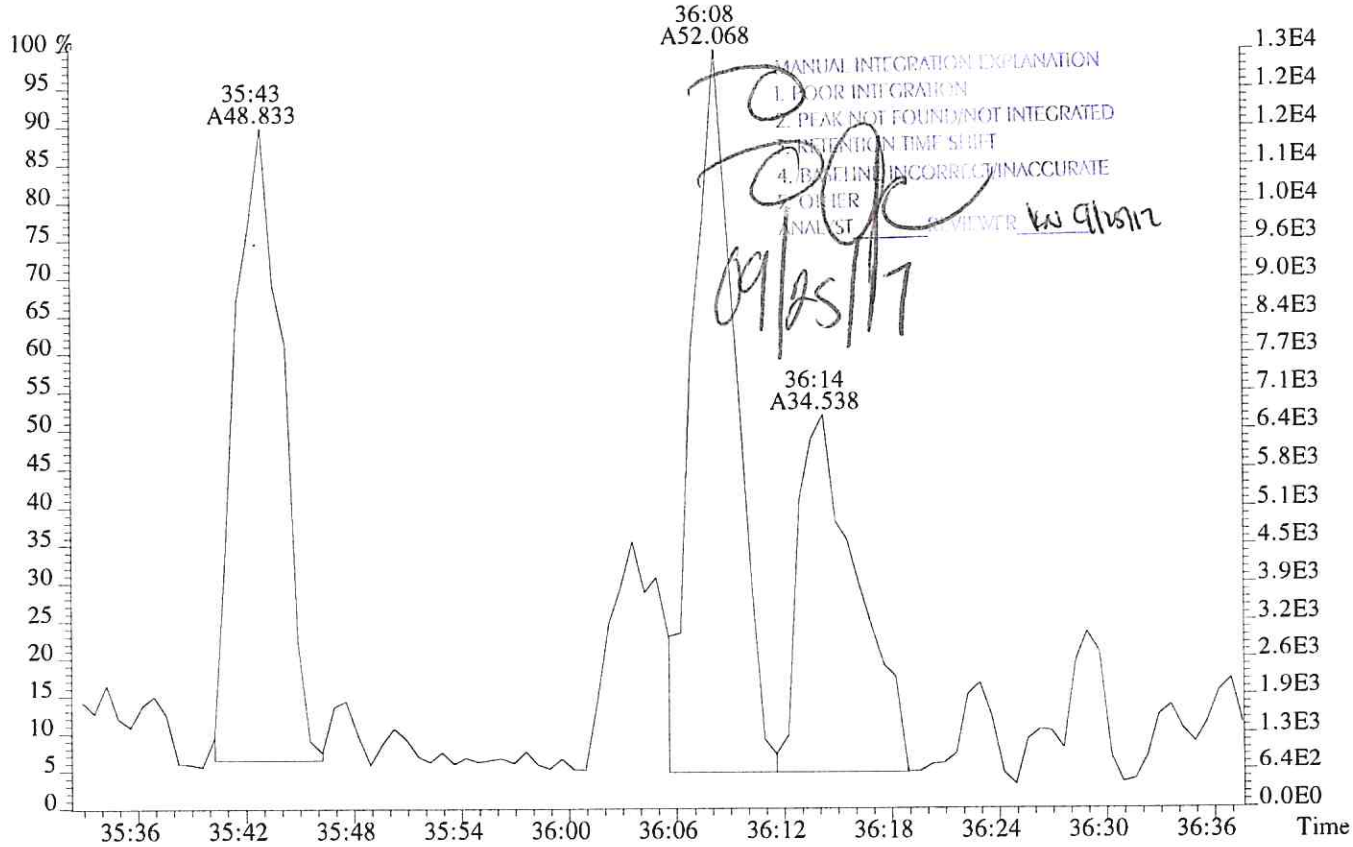
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0)

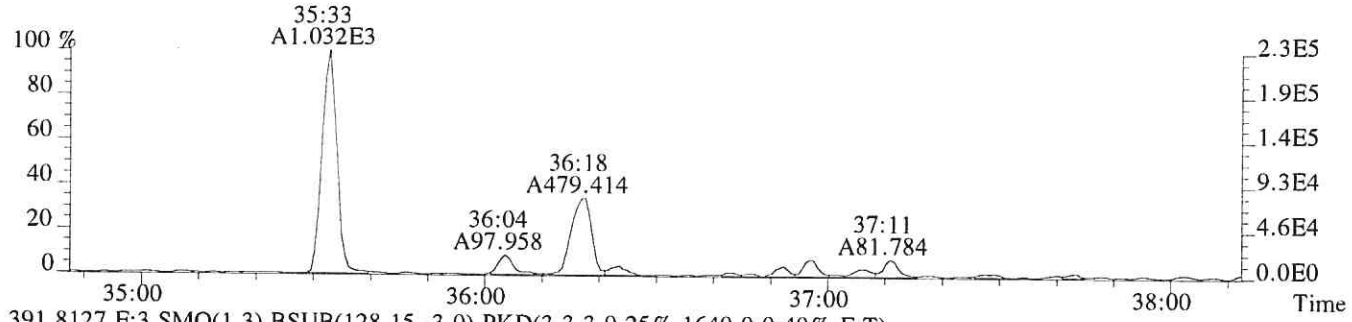


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0)

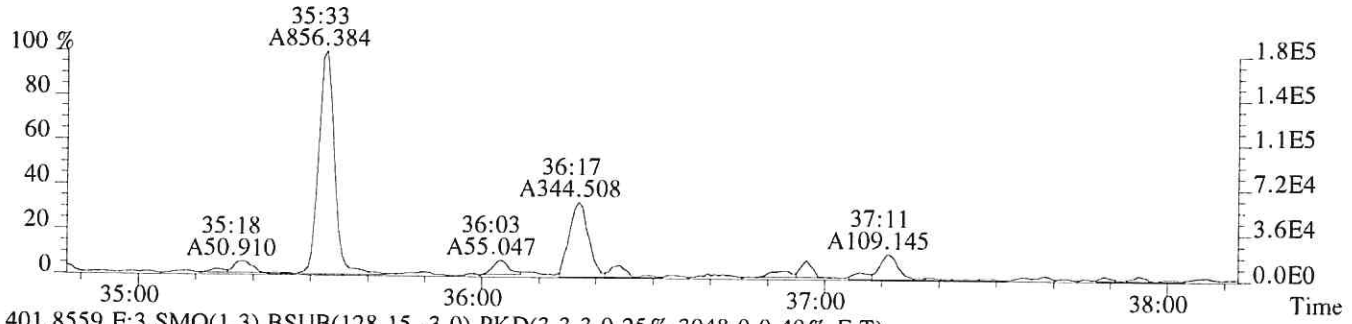


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER KW 9/25/17

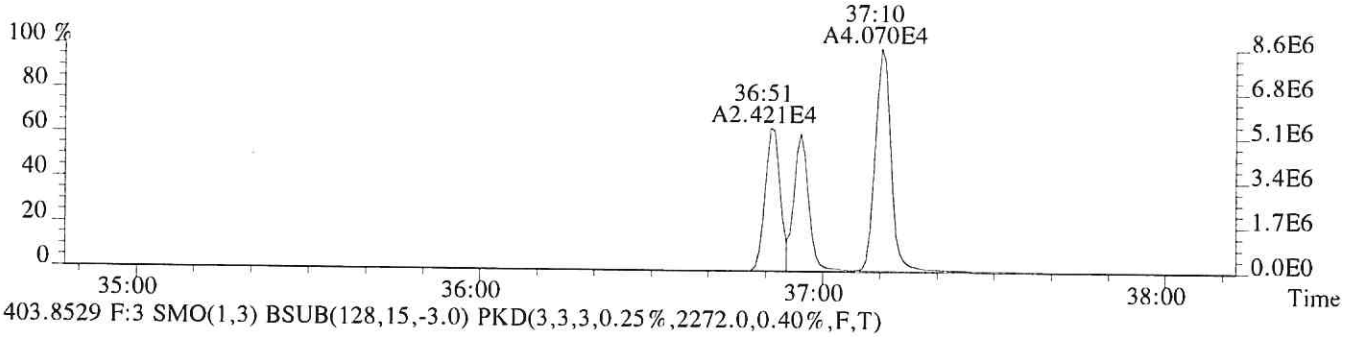
File:P511512 #1-308 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1240.0,0.40%,F,T)



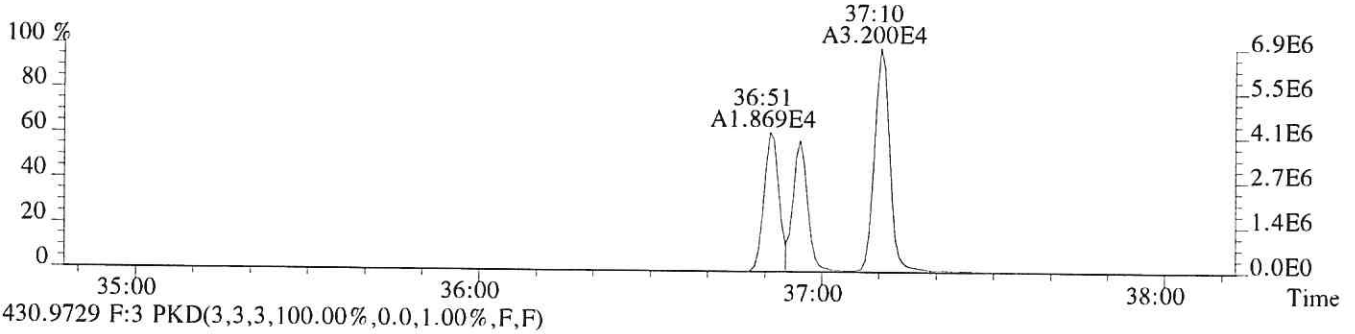
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1640.0,0.40%,F,T)



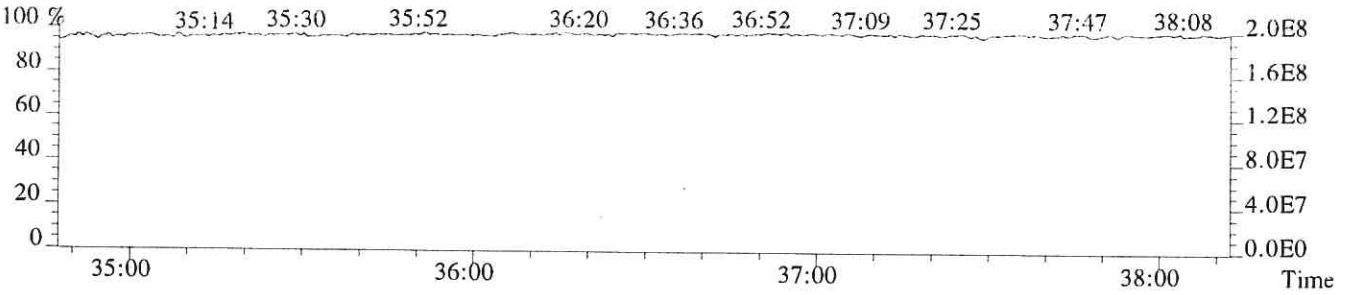
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3048.0,0.40%,F,T)



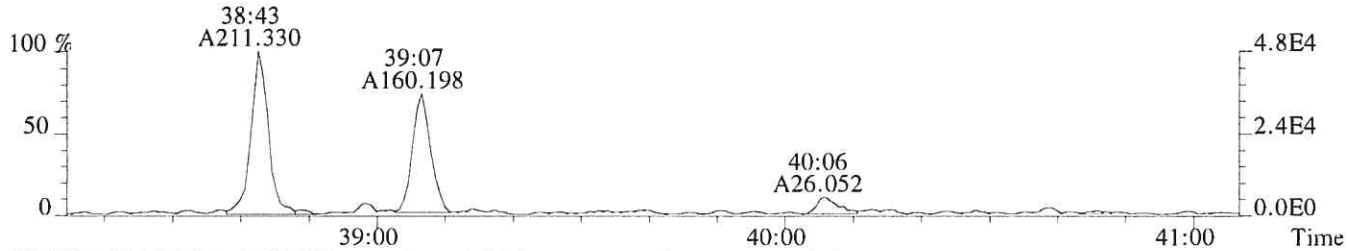
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2272.0,0.40%,F,T)



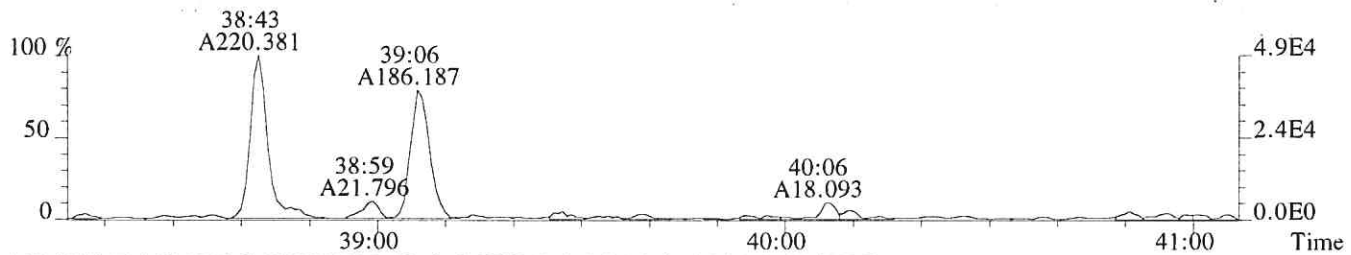
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



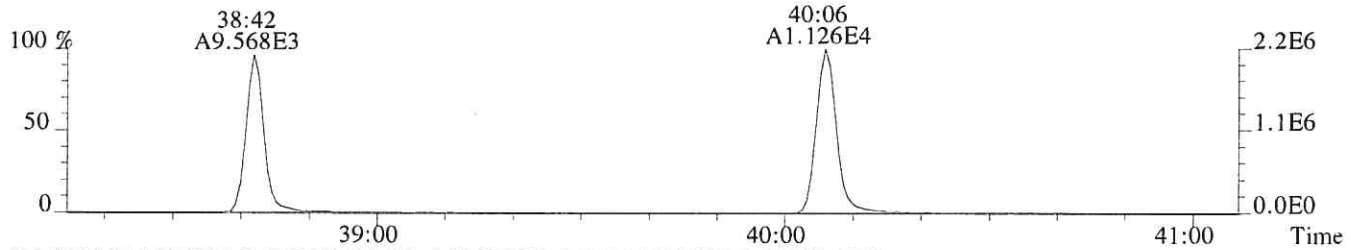
File:P511512 #1-259 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.50%,F,T)



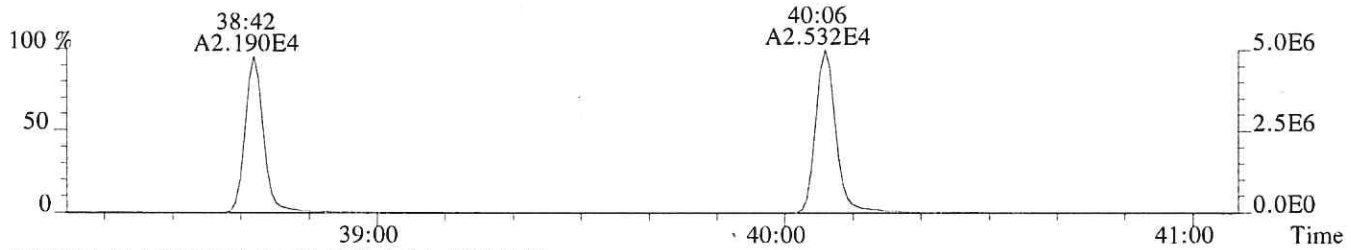
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.50%,F,T)



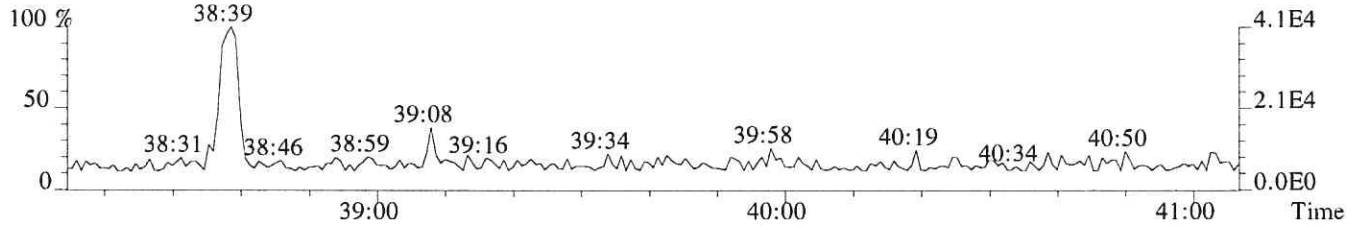
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2856.0,0.50%,F,T)



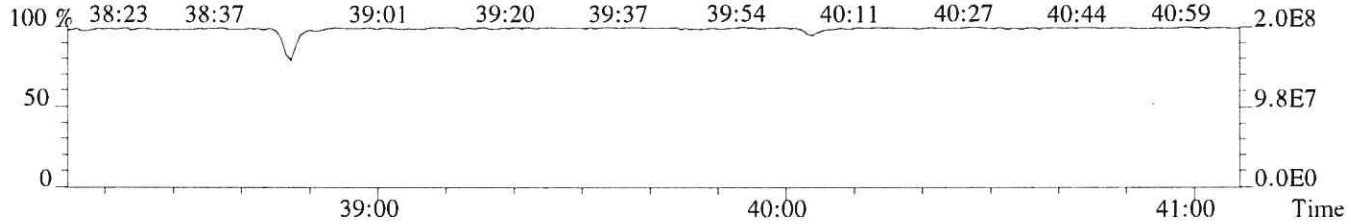
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2180.0,0.50%,F,T)



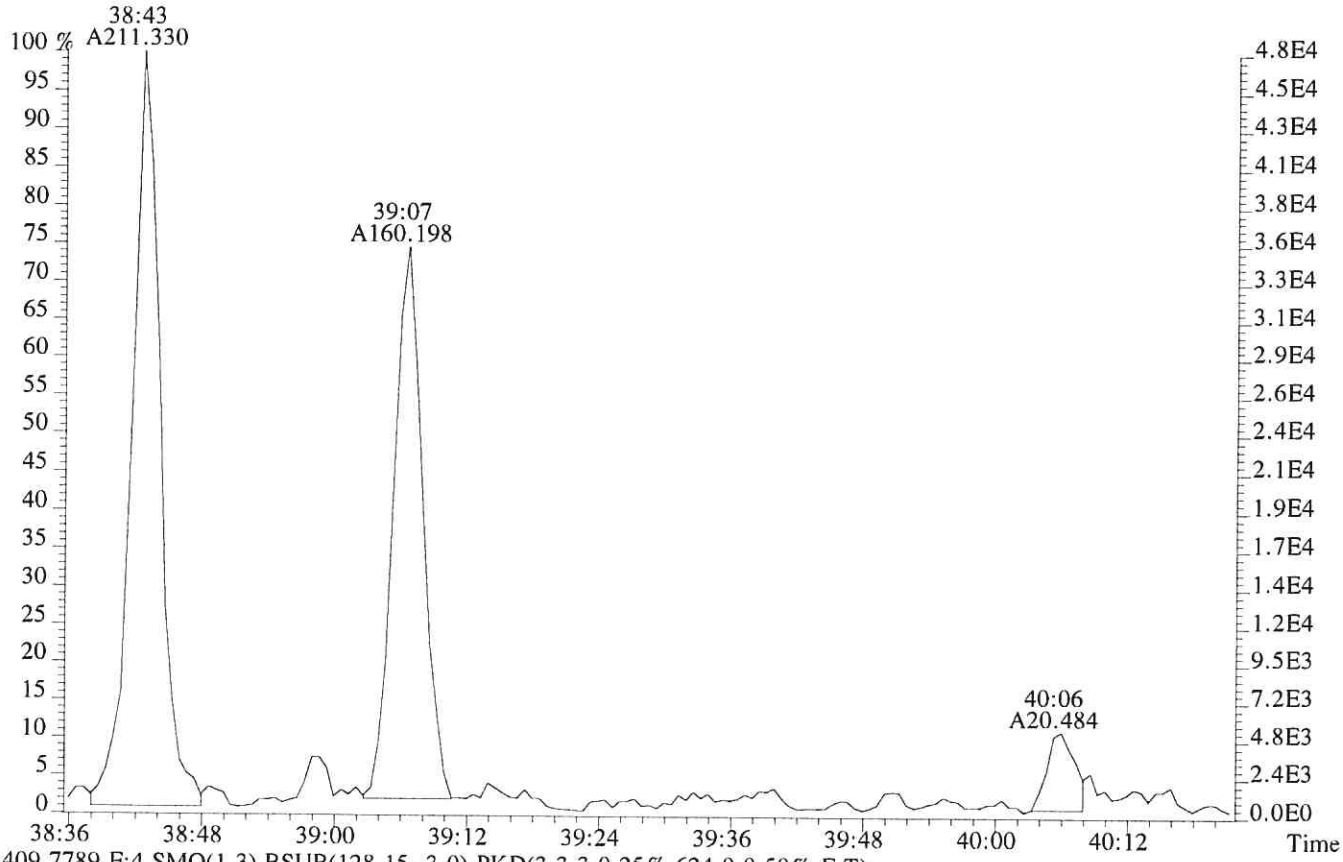
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



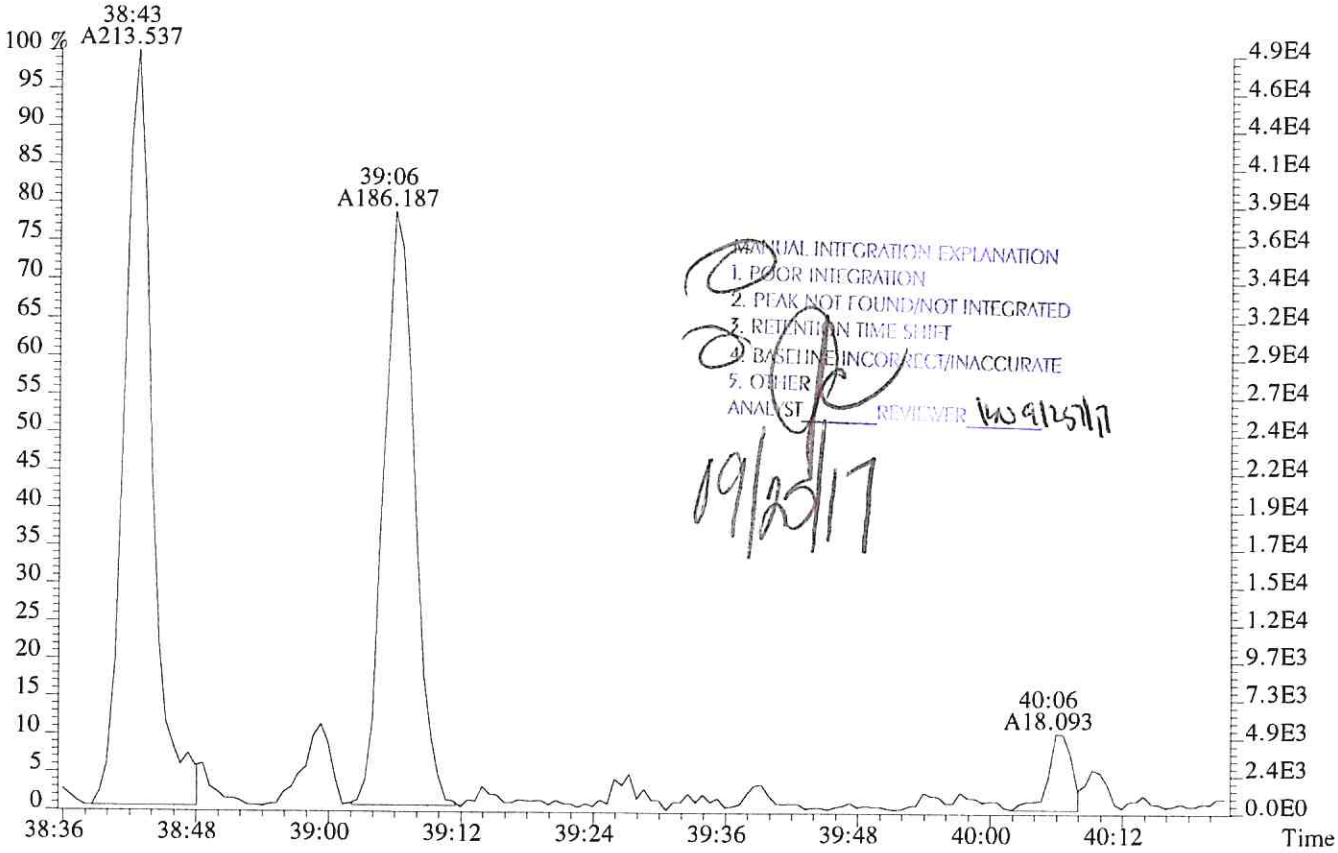
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511512 #1-259 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.50%,F,T)

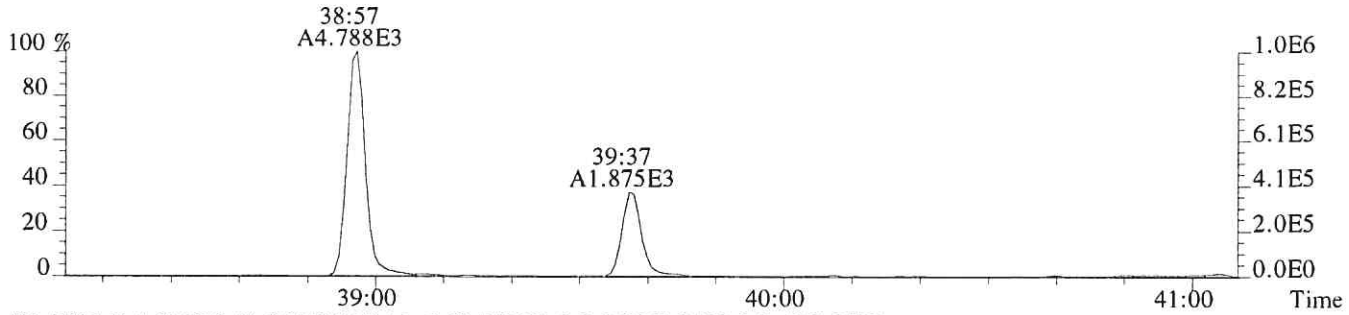


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.50%,F,T)

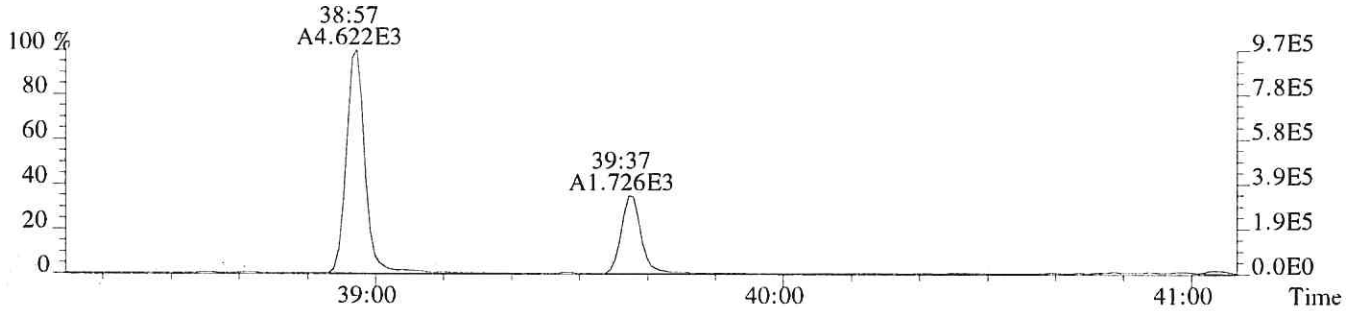


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER KW 9/25/17
09/25/17

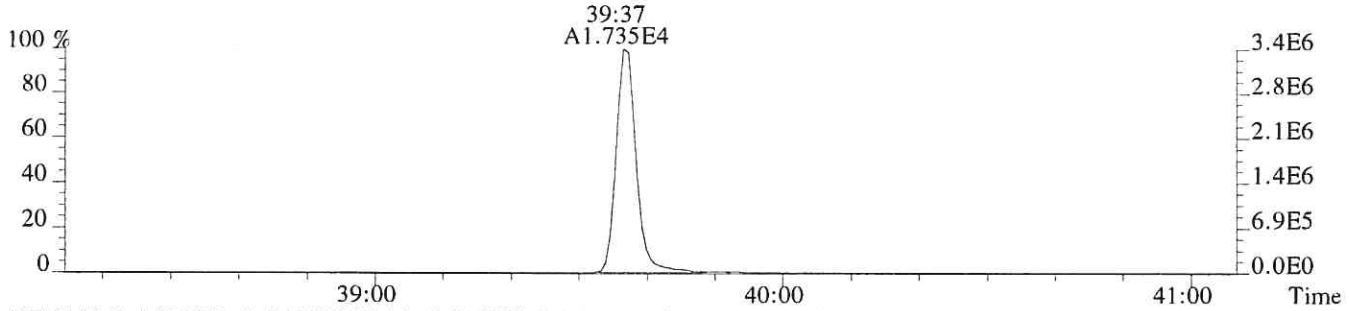
File:P511512 #1-259 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2596.0,0.40%,F,T)



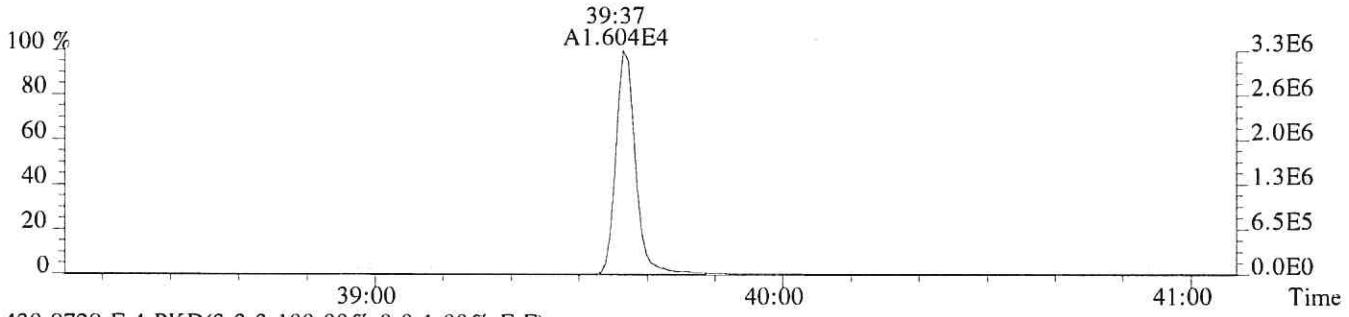
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3428.0,0.40%,F,T)



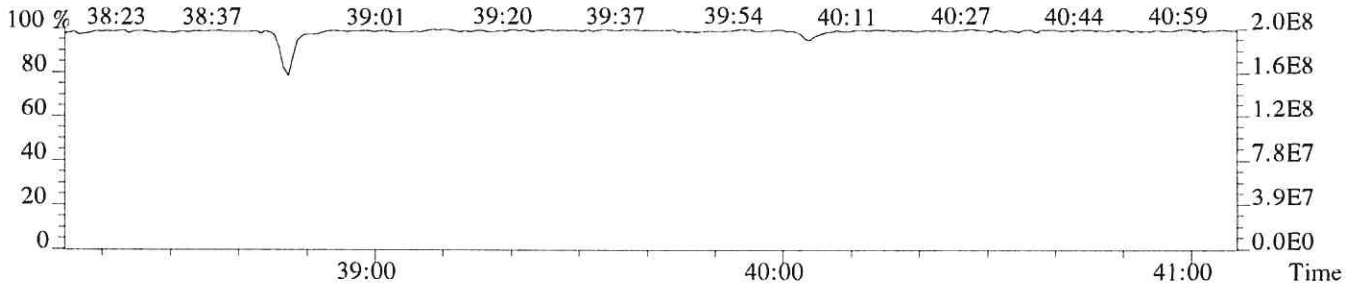
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1948.0,0.40%,F,T)



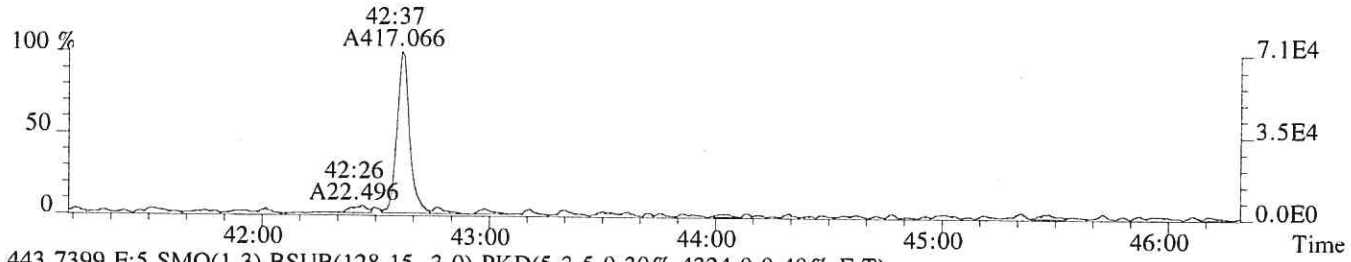
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1340.0,0.40%,F,T)



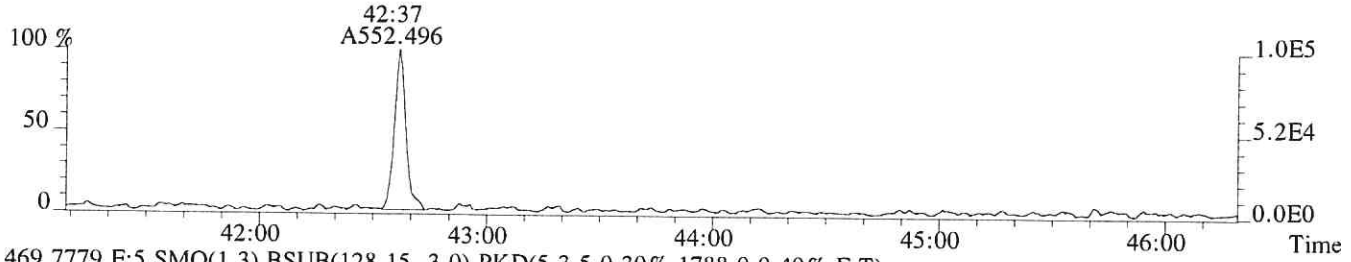
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



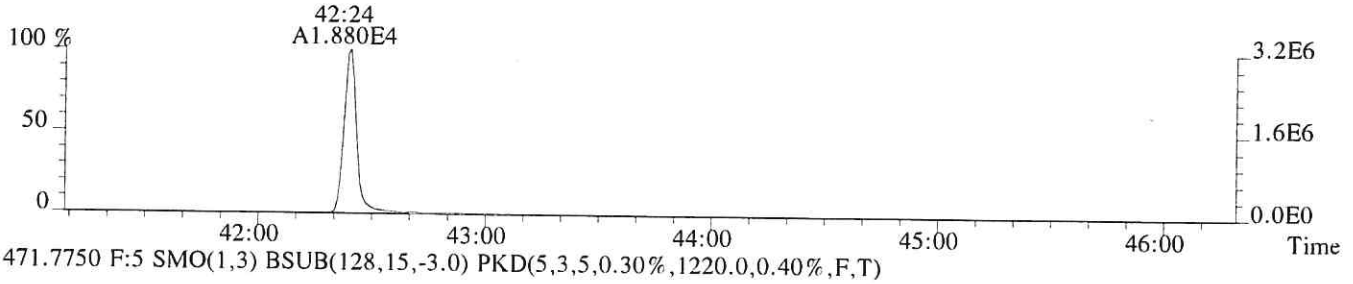
File:P511512 #1-466 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1096.0,0.40%,F,T)



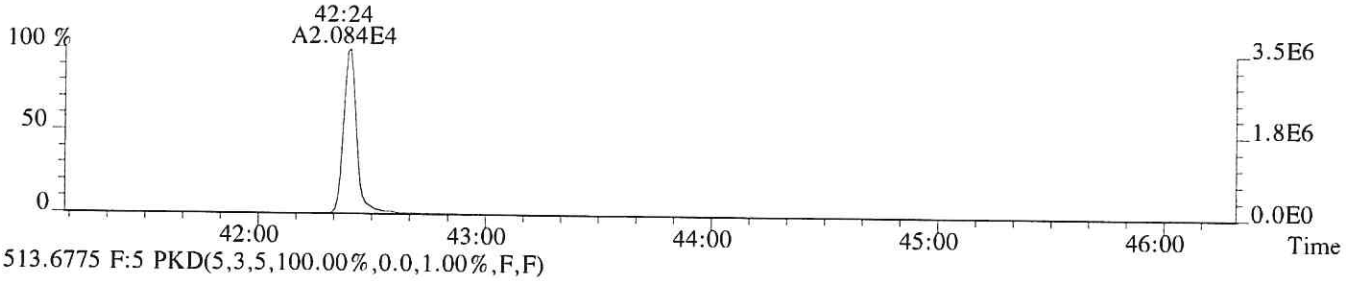
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4324.0,0.40%,F,T)



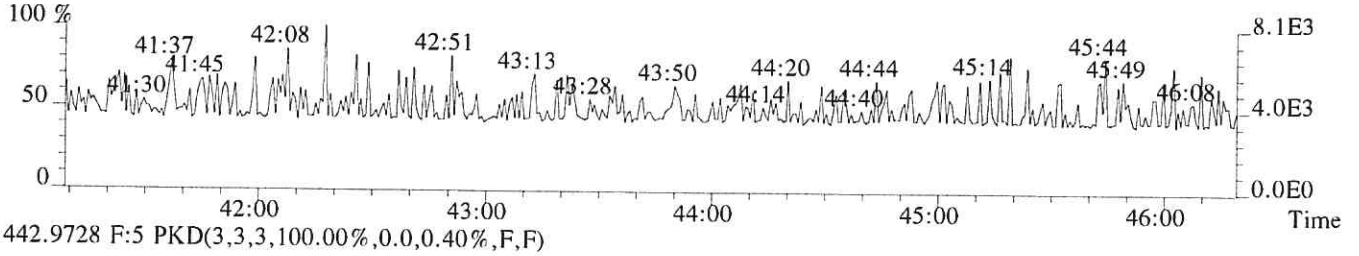
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1788.0,0.40%,F,T)



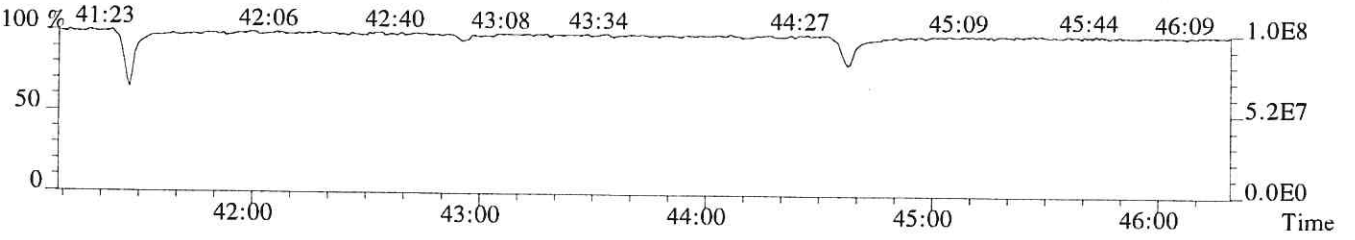
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1220.0,0.40%,F,T)



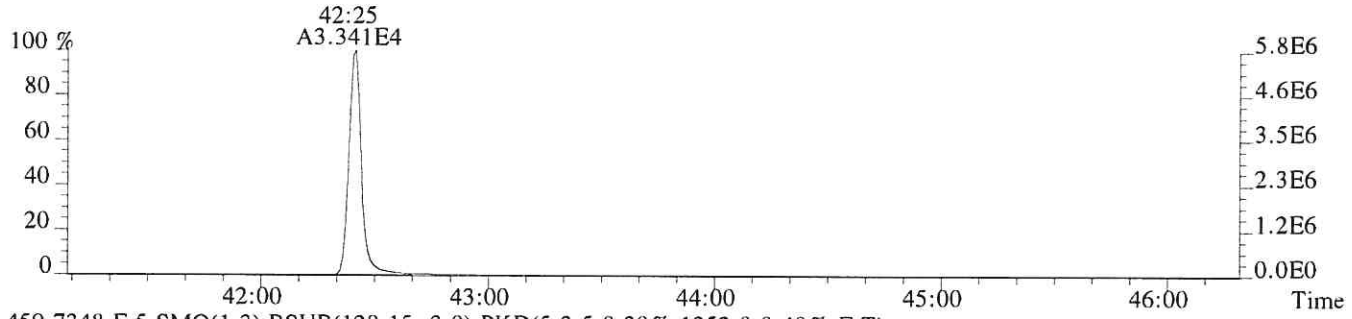
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



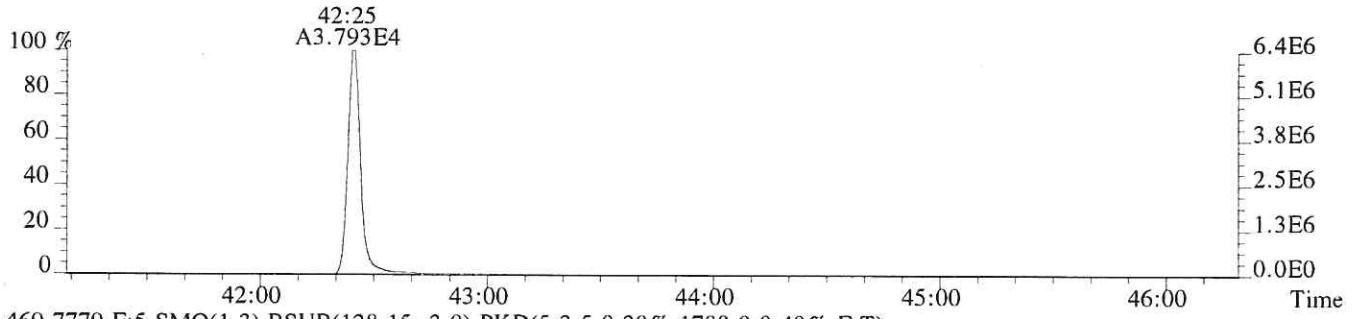
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



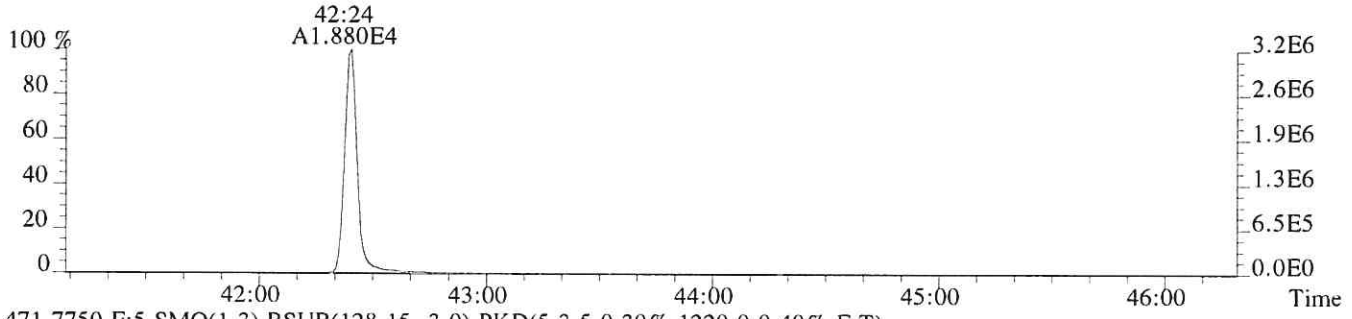
File:P511512 #1-466 Acq:23-SEP-2017 15:03:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-008
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,852.0,0.40%,F,T)



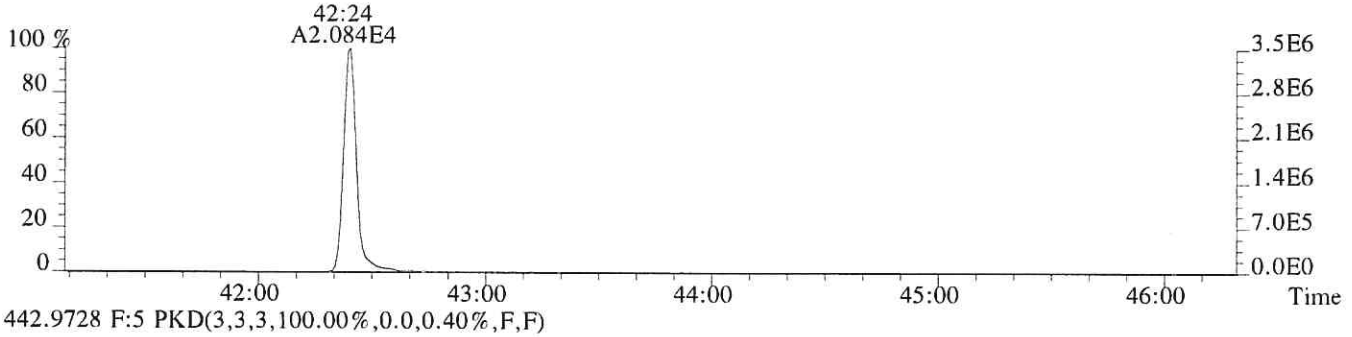
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1352.0,0.40%,F,T)



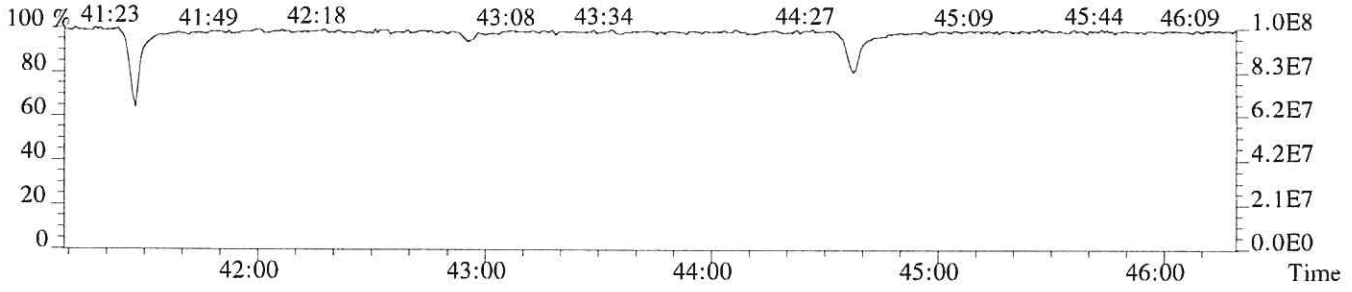
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1788.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1220.0,0.40%,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 P511513 Samp: 1 Inj: 1 Acquired: 23-SEP-17 15:51:55
Processed: 25-SEP-17 10:00:00 Sample ID: E1700973-009

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	3.435e+03	4.939e+03	0.70	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:38	1.498e+02	1.187e+02	1.26	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	1.590e+02	1.088e+02	1.46	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	2.000e+02	1.974e+02	1.01	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	6.563e+01	8.271e+01	0.79	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	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	3.679e+02	3.121e+02	1.18	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	5.407e+01	2.934e+01	1.84	no	no	1.191
10	Unk	OCDF	42:37	1.953e+03	2.453e+03	0.80	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	8.698e+02	1.060e+03	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	36:52	3.323e+01	3.699e+01	0.90	no	yes	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	6.907e+01	6.030e+01	1.15	yes	yes	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	8.769e+01	7.262e+01	1.21	yes	yes	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.074e+03	2.016e+03	1.03	yes	no	0.942
17	Unk	OCDD	42:25	4.457e+04	5.063e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	1.910e+04	2.473e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.496e+04	2.251e+04	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.524e+04	2.219e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.482e+04	2.919e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.661e+04	3.211e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.587e+04	3.050e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.597e+04	3.107e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.033e+04	2.334e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.101e+04	2.453e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.473e+04	1.935e+04	0.76	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.707e+04	1.701e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.400e+04	1.875e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.303e+04	1.773e+04	1.30	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.795e+04	1.710e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	2.131e+04	2.323e+04	0.92	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.748e+04	3.474e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	4.444e+04	3.488e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.641e+04				no	1.033

$$\text{OCDD} = \frac{(4.457e+04 + 5.063e+04) \times 4000 \text{ pg} \times 1}{(2.131e+04 + 2.323e+04) \times 10.069 \text{ g} \times 32.3 / 100 \times 1.051} = 2.352 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-028E

Run #11 Filename P511513 Samp: 1 Inj: 1 Acquired: 23-SEP-17 15:51:55
Processed: 25-SEP-17 10:00:00 LAB. ID: E1700973-009

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.28e+05	1.56e+03	4.0e+02	8.77e+05	4.56e+03	1.9e+02
2	1,2,3,7,8-PeCDF	3.17e+04	2.31e+03	1.4e+01	2.13e+04	4.03e+03	5.3e+00
3	2,3,4,7,8-PeCDF	2.40e+04	2.31e+03	1.0e+01	1.74e+04	4.03e+03	4.3e+00
4	1,2,3,4,7,8-HxCDF	4.28e+04	2.59e+03	1.7e+01	3.54e+04	2.08e+03	1.7e+01
5	1,2,3,6,7,8-HxCDF	1.50e+04	2.59e+03	5.8e+00	1.38e+04	2.08e+03	6.6e+00
6	2,3,4,6,7,8-HxCDF	*	2.59e+03	*	*	2.08e+03	*
7	1,2,3,7,8,9-HxCDF	*	2.59e+03	*	*	2.08e+03	*
8	1,2,3,4,6,7,8-HpCDF	8.26e+04	1.44e+03	5.7e+01	6.83e+04	1.78e+03	3.8e+01
9	1,2,3,4,7,8,9-HpCDF	1.02e+04	1.44e+03	7.1e+00	7.15e+03	1.78e+03	4.0e+00
10	OCDF	3.20e+05	1.22e+03	2.6e+02	4.08e+05	3.21e+03	1.3e+02
11	2,3,7,8-TCDD	1.82e+05	3.57e+03	5.1e+01	2.17e+05	1.91e+03	1.1e+02
12	1,2,3,7,8-PeCDD	*	3.53e+03	*	*	1.19e+03	*
13	1,2,3,4,7,8-HxCDD	6.65e+03	2.17e+03	3.1e+00	8.91e+03	2.80e+03	3.2e+00
14	1,2,3,6,7,8-HxCDD	1.46e+04	2.17e+03	6.7e+00	1.21e+04	2.80e+03	4.3e+00
15	1,2,3,7,8,9-HxCDD	1.92e+04	2.17e+03	8.9e+00	1.19e+04	2.80e+03	4.3e+00
16	1,2,3,4,6,7,8-HpCDD	4.28e+05	2.05e+03	2.1e+02	4.24e+05	2.77e+03	1.5e+02
17	OCDD	7.68e+06	4.76e+02	1.6e+04	8.79e+06	8.04e+02	1.1e+04
18	13C-2,3,7,8-TCDF	3.69e+06	2.70e+04	1.4e+02	4.76e+06	1.25e+04	3.8e+02
19	13C-1,2,3,7,8-PeCDF	6.76e+06	9.64e+02	7.0e+03	4.36e+06	2.20e+03	2.0e+03
20	13C-2,3,4,7,8-PeCDF	7.22e+06	9.64e+02	7.5e+03	4.43e+06	2.20e+03	2.0e+03
21	13C-1,2,3,4,7,8-HxCDF	3.26e+06	8.32e+02	3.9e+03	6.52e+06	4.08e+03	1.6e+03
22	13C-1,2,3,6,7,8-HxCDF	3.56e+06	8.32e+02	4.3e+03	6.90e+06	4.08e+03	1.7e+03
23	13C-2,3,4,6,7,8-HxCDF	3.54e+06	8.32e+02	4.3e+03	6.84e+06	4.08e+03	1.7e+03
24	13C-1,2,3,7,8,9-HxCDF	3.36e+06	8.32e+02	4.0e+03	6.54e+06	4.08e+03	1.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.16e+06	2.71e+03	8.0e+02	4.90e+06	2.50e+03	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.12e+06	2.71e+03	7.8e+02	4.77e+06	2.50e+03	1.9e+03
27	13C-2,3,7,8-TCDD	2.97e+06	9.29e+03	3.2e+02	3.84e+06	4.75e+03	8.1e+02
28	13C-1,2,3,7,8-PeCDD	5.43e+06	3.53e+03	1.5e+03	3.45e+06	2.90e+03	1.2e+03
29	13C-1,2,3,4,7,8-HxCDD	5.48e+06	2.70e+03	2.0e+03	4.28e+06	2.01e+03	2.1e+03
30	13C-1,2,3,6,7,8-HxCDD	4.89e+06	2.70e+03	1.8e+03	3.86e+06	2.01e+03	1.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.63e+06	2.25e+03	1.6e+03	3.43e+06	1.16e+03	3.0e+03
32	13C-OCDD	3.65e+06	1.72e+03	2.1e+03	4.01e+06	9.12e+02	4.4e+03
33	13C-1,2,3,4-TCDD	5.35e+06	9.29e+03	5.8e+02	6.70e+06	4.75e+03	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	9.28e+06	2.70e+03	3.4e+03	7.45e+06	2.01e+03	3.7e+03
35	37Cl-2,3,7,8-TCDD	3.39e+06	2.88e+03	1.2e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 11 File: P511513 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 303.9020 305.8990 Tot Response: 1.44e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:59	1.63e+02	2.24e+02	0.73	yes	3.86e+02		n	n
2	26:39	1.38e+02	2.01e+02	0.68	yes	3.39e+02		n	n
3	27:20	1.57e+02	2.14e+02	0.73	yes	3.71e+02		n	n
4	27:46	1.48e+03	1.99e+03	0.74	yes	3.47e+03		n	n
5	28:32	3.44e+03	4.94e+03	0.70	yes	8.37e+03	2,3,7,8-TCDF	n	n
6	28:50	2.75e+02	3.42e+02	0.81	yes	6.17e+02		n	n
7	29:05	5.91e+01	7.23e+01	0.82	yes	1.31e+02		n	n
8	30:18	3.03e+02	4.24e+02	0.71	yes	7.27e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 11 File: P511513 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 319.8970 321.8940 Tot Response: 2.15e+03 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	8.70e+02	1.06e+03	0.82	yes	1.93e+03	2,3,7,8-TCDD	n	n
2	29:34	9.82e+01	1.17e+02	0.84	yes	2.15e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 11 File: P511513 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 339.8600 341.8570 Tot Response: 2.68e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	33:31	1.59e+02	1.09e+02	1.46	yes	2.68e+02	2,3,4,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.
SJWP-091517-028E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: P511513 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 355.8550 357.8520 Tot Response: 1.96e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:11	1.23e+02	7.33e+01	1.67	yes	1.96e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 11 File: P511513 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 373.8210 375.8180 Tot Response: 4.98e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:04	3.13e+01	2.48e+01	1.26	yes	5.60e+01	n	n
2	35:12	1.24e+02	1.11e+02	1.12	yes	2.35e+02	n	n
3	35:43	1.10e+02	9.73e+01	1.13	yes	2.07e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: P511513 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 389.8160 391.8130 Tot Response: 3.14e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.14e+03	9.38e+02	1.22	yes	2.08e+03		n	n
2	36:17	4.52e+02	3.22e+02	1.40	yes	7.75e+02		n	n
3	36:57	6.91e+01	6.03e+01	1.15	yes	1.29e+02	1,2,3,6,7,8-HxCDD	y	y
4	37:12	8.77e+01	7.26e+01	1.21	yes	1.60e+02	1,2,3,7,8,9-HxCDD	y	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: P511513 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 407.7820 409.7790 Tot Response: 1.44e+03 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	3.68e+02	3.12e+02	1.18	yes	6.80e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:07	3.78e+02	3.83e+02	0.99	yes	7.61e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-028E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P511513 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 15:51:55 Processed: 25-SEP-17 10:00:00

Mass: 423.7770 425.7740 Tot Response: 1.49e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	5.42e+03	5.35e+03	1.01	yes	1.08e+04		n	n
2	39:38	2.07e+03	2.02e+03	1.03	yes	4.09e+03	1,2,3,4,6,7,8-HpCDD	n	n

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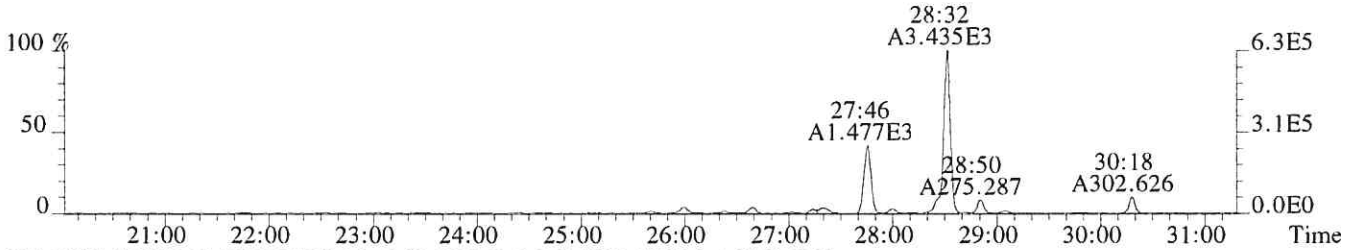
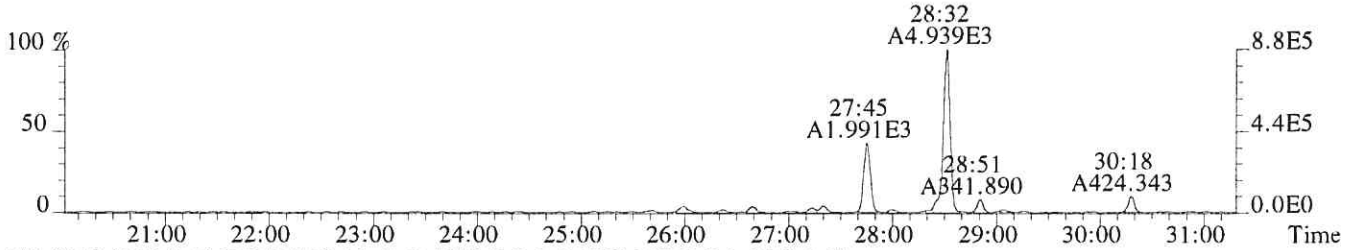
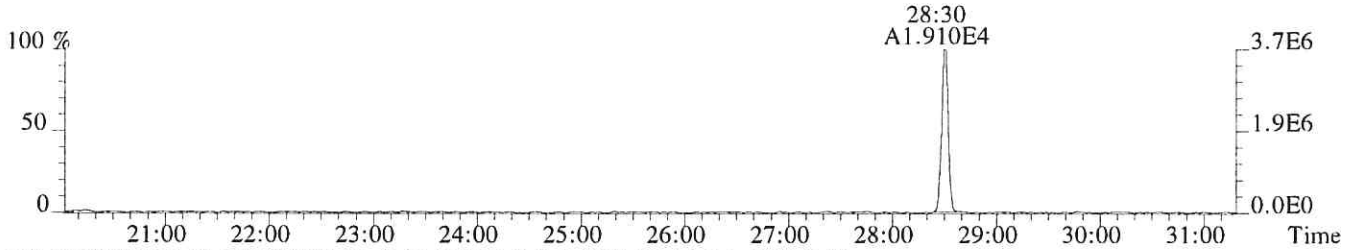
File:P511513 #1-800 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1560.0,1.00%,F,T)



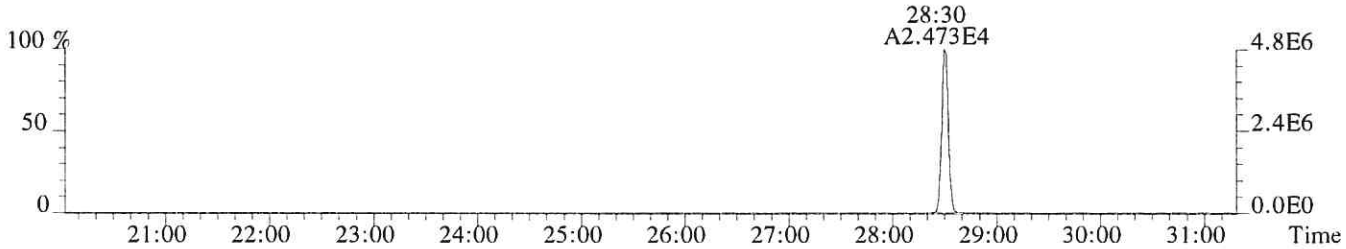
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4560.0,1.00%,F,T)



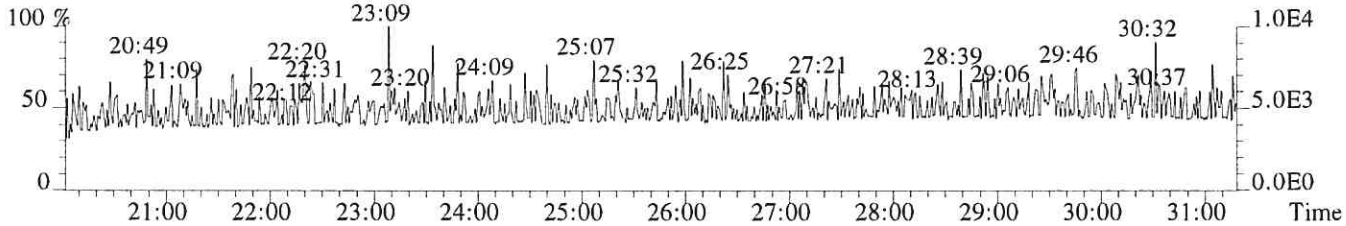
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,26976.0,1.00%,F,T)



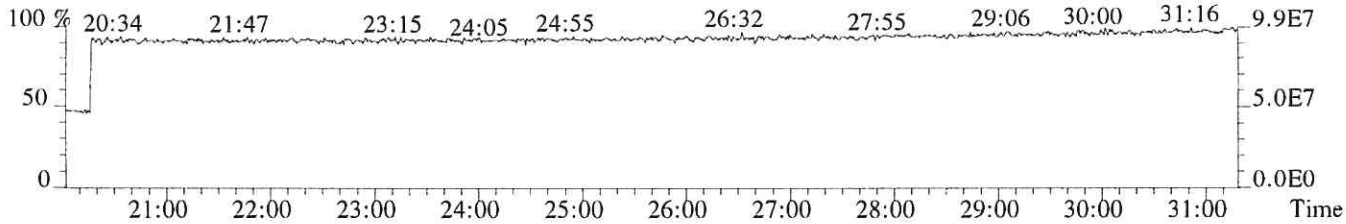
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12516.0,1.00%,F,T)



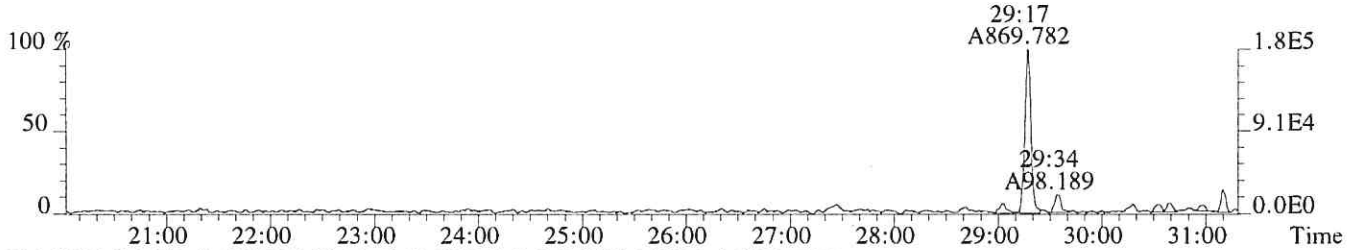
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



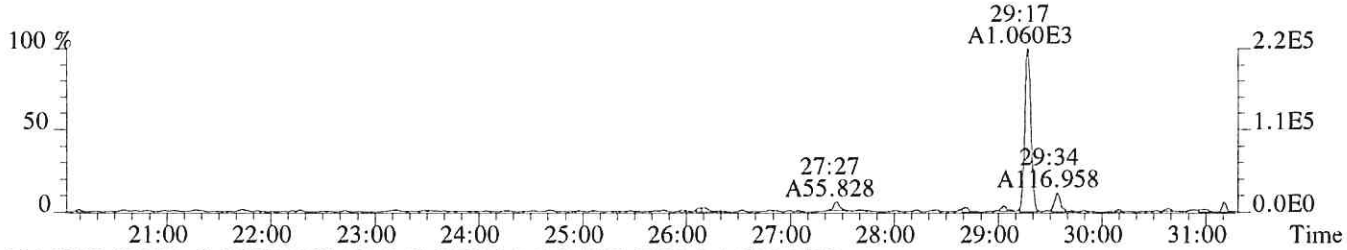
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



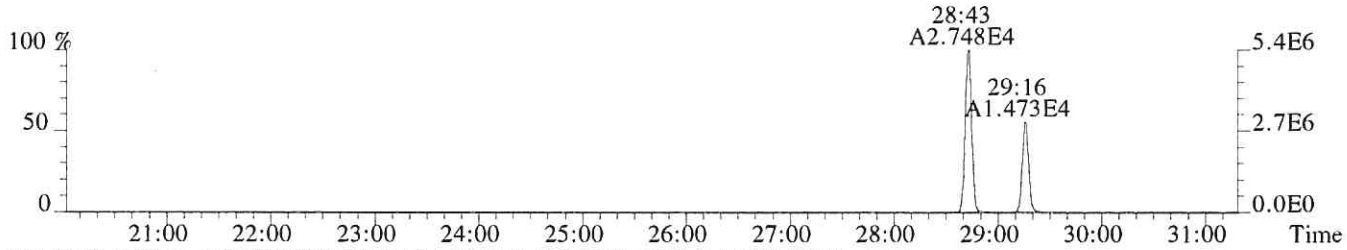
File:P511513 #1-800 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3568.0,1.00%,F,T)



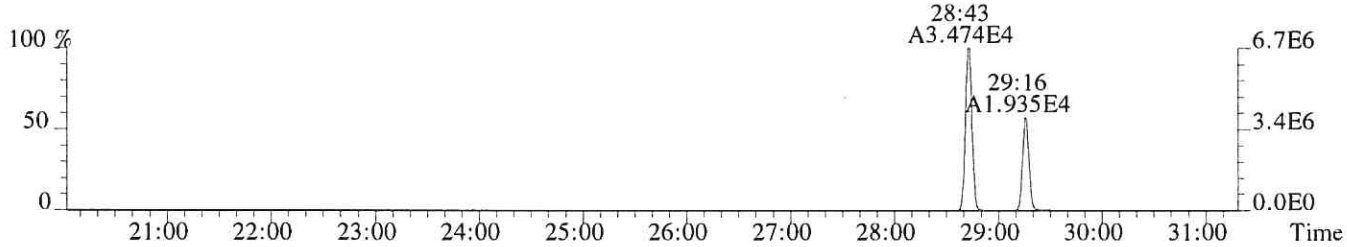
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1908.0,1.00%,F,T)



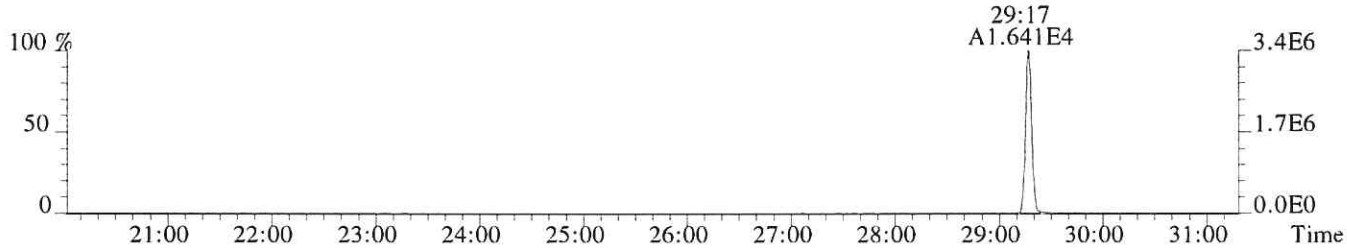
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9292.0,1.00%,F,T)



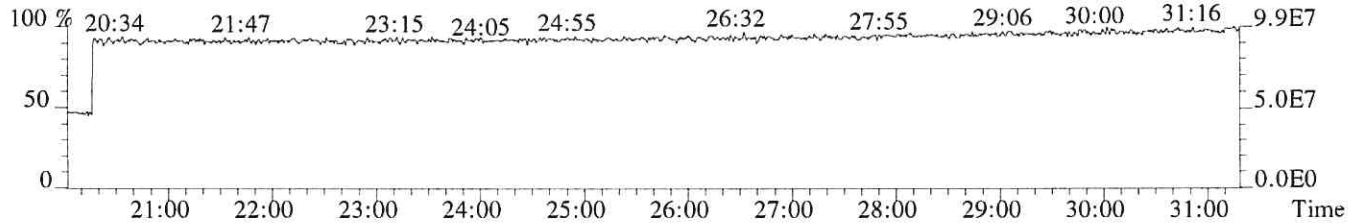
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4748.0,1.00%,F,T)



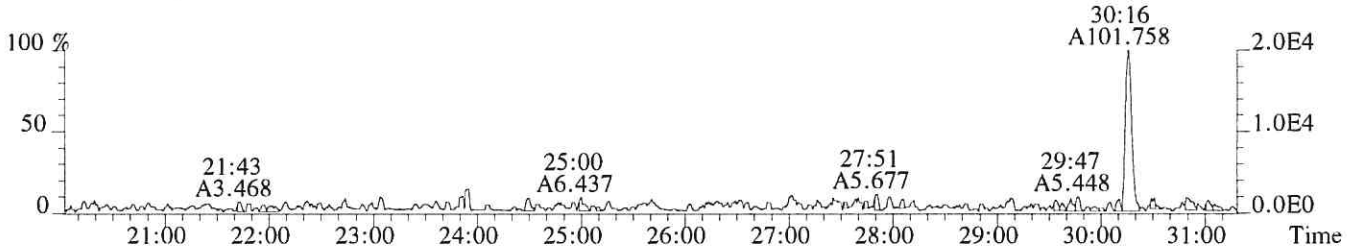
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2880.0,1.00%,F,T)



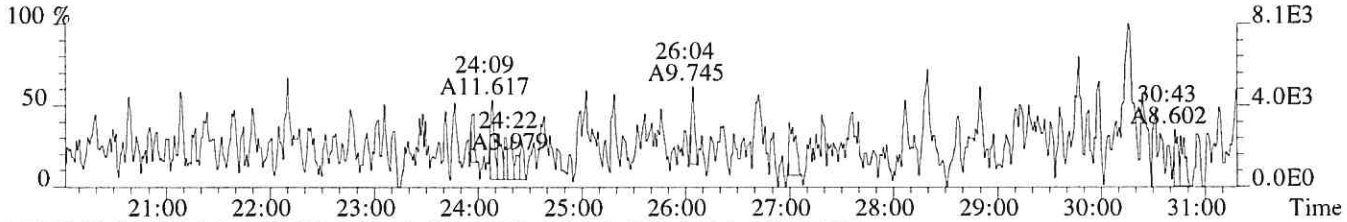
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



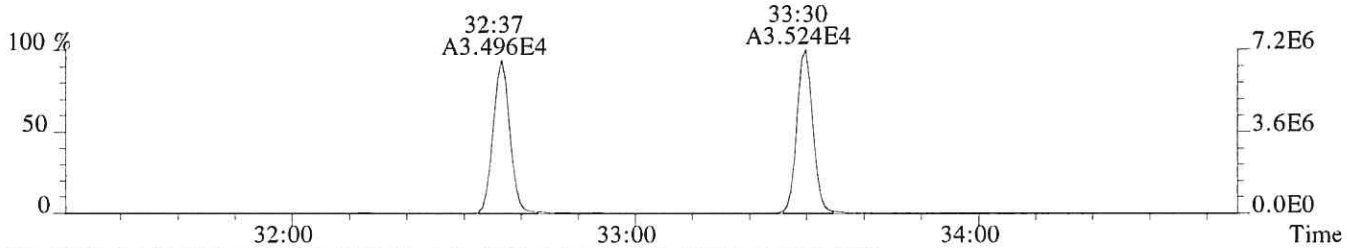
File:P511513 #1-800 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



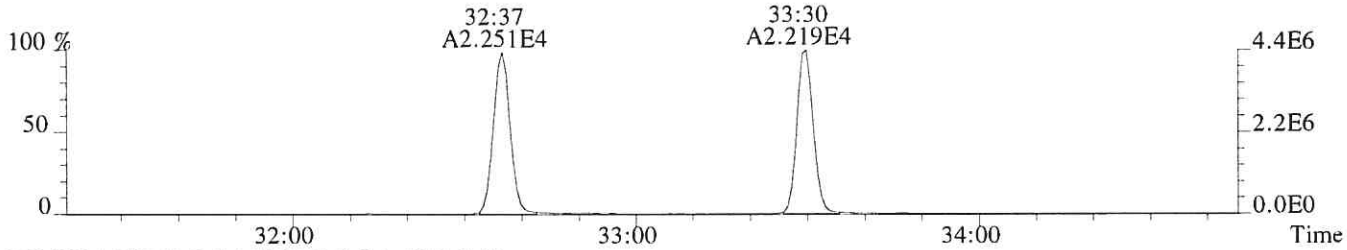
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2360.0,1.00%,F,T)



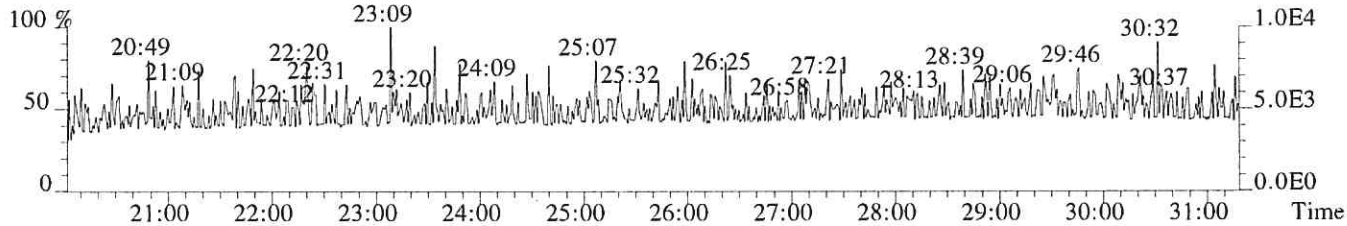
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



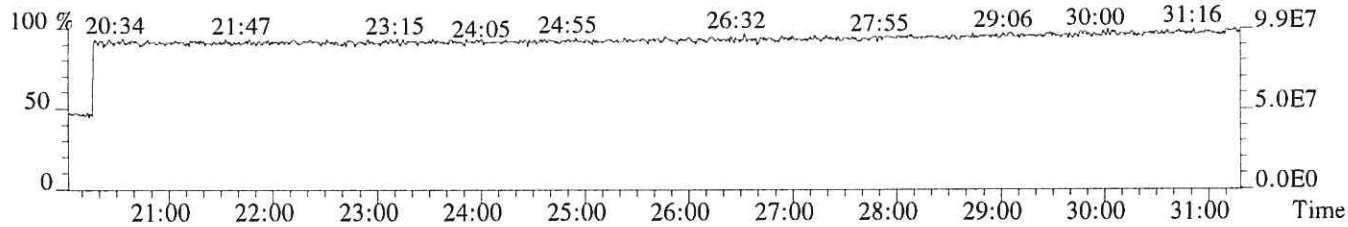
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,T)



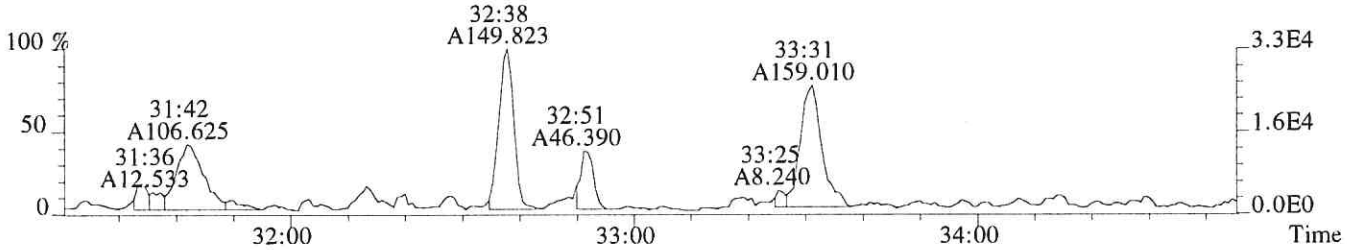
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



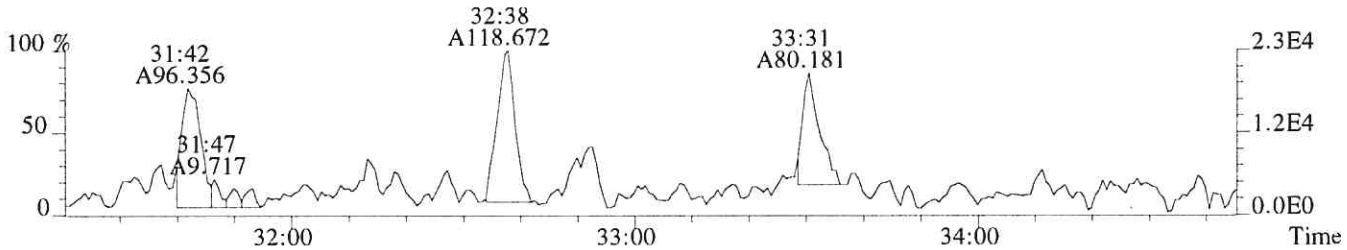
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



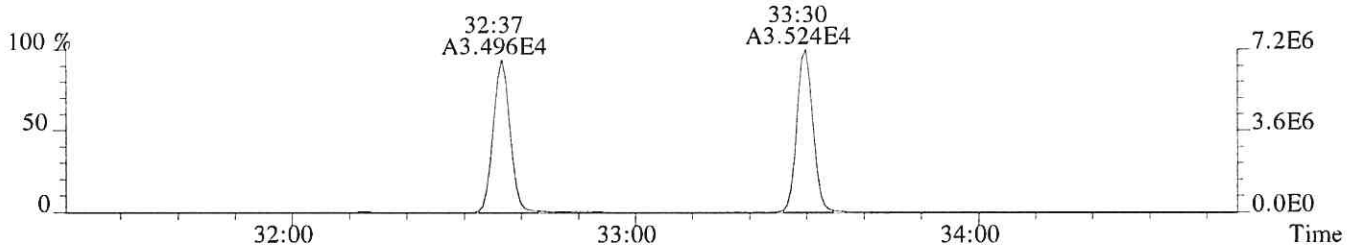
File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2308.0,1.00%,F,T)



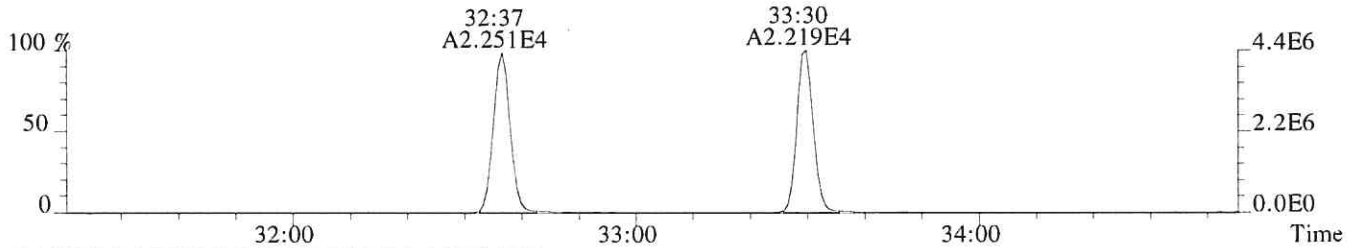
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4028.0,1.00%,F,T)



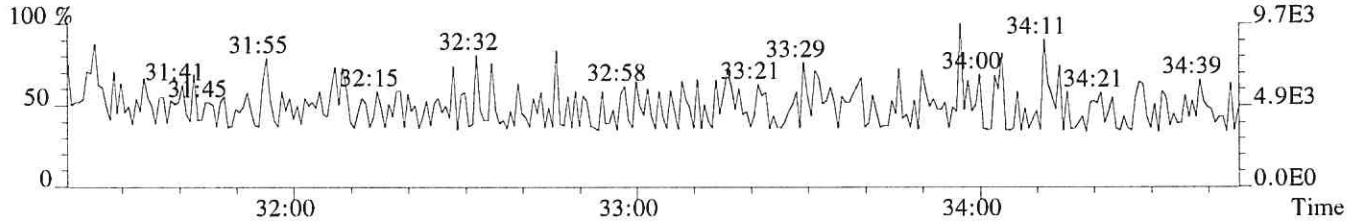
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,964.0,1.00%,F,T)



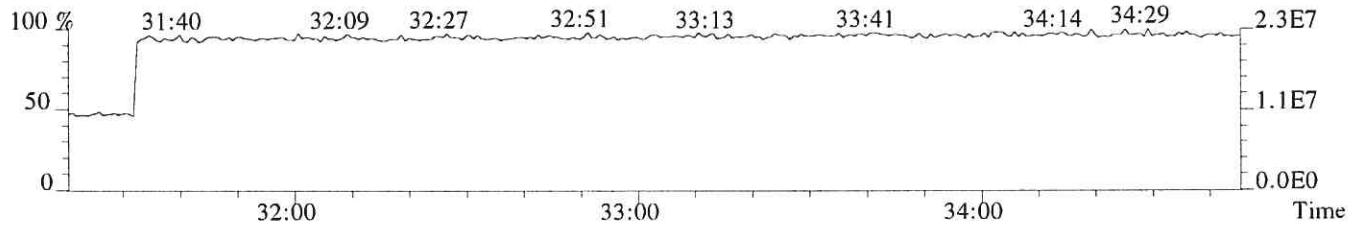
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,T)



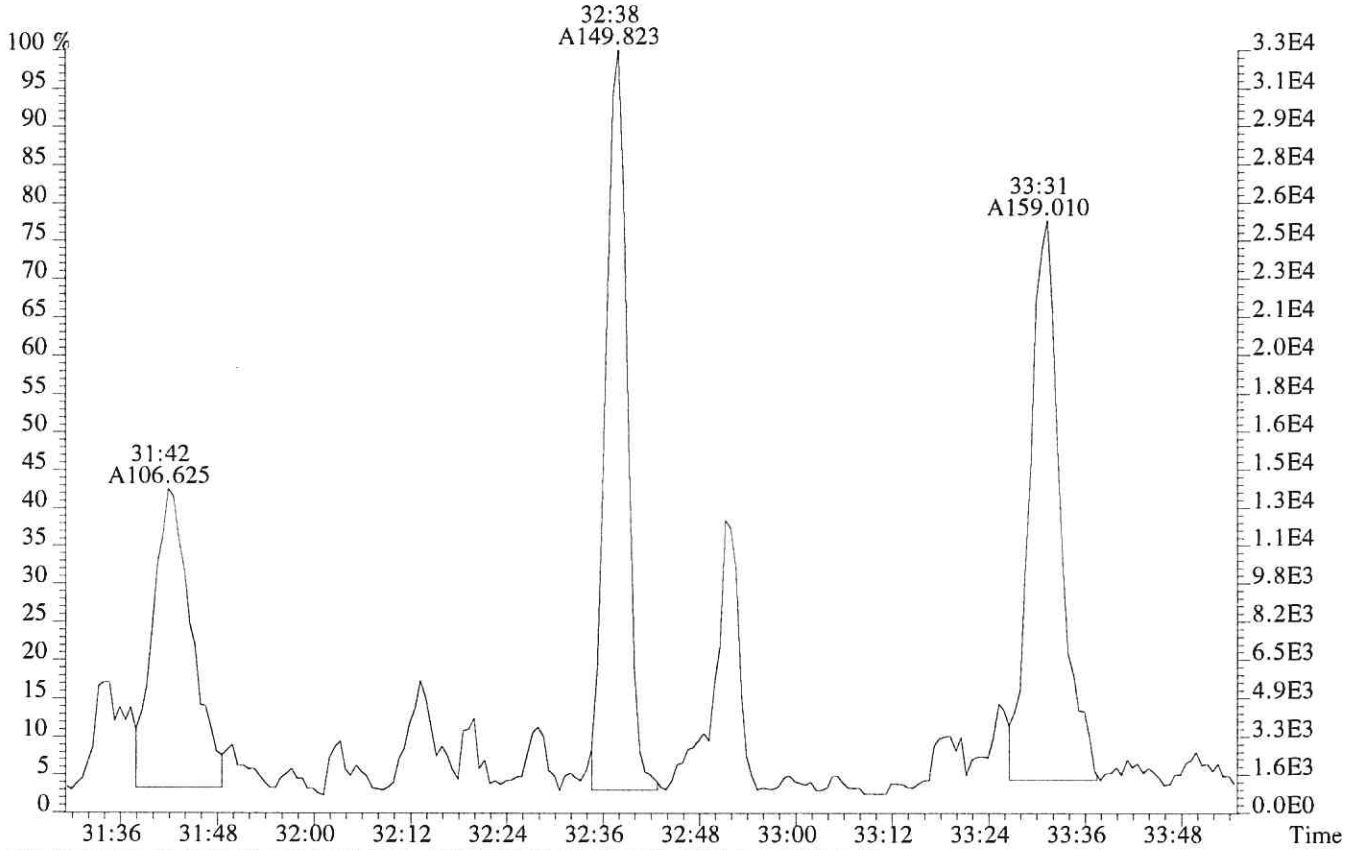
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



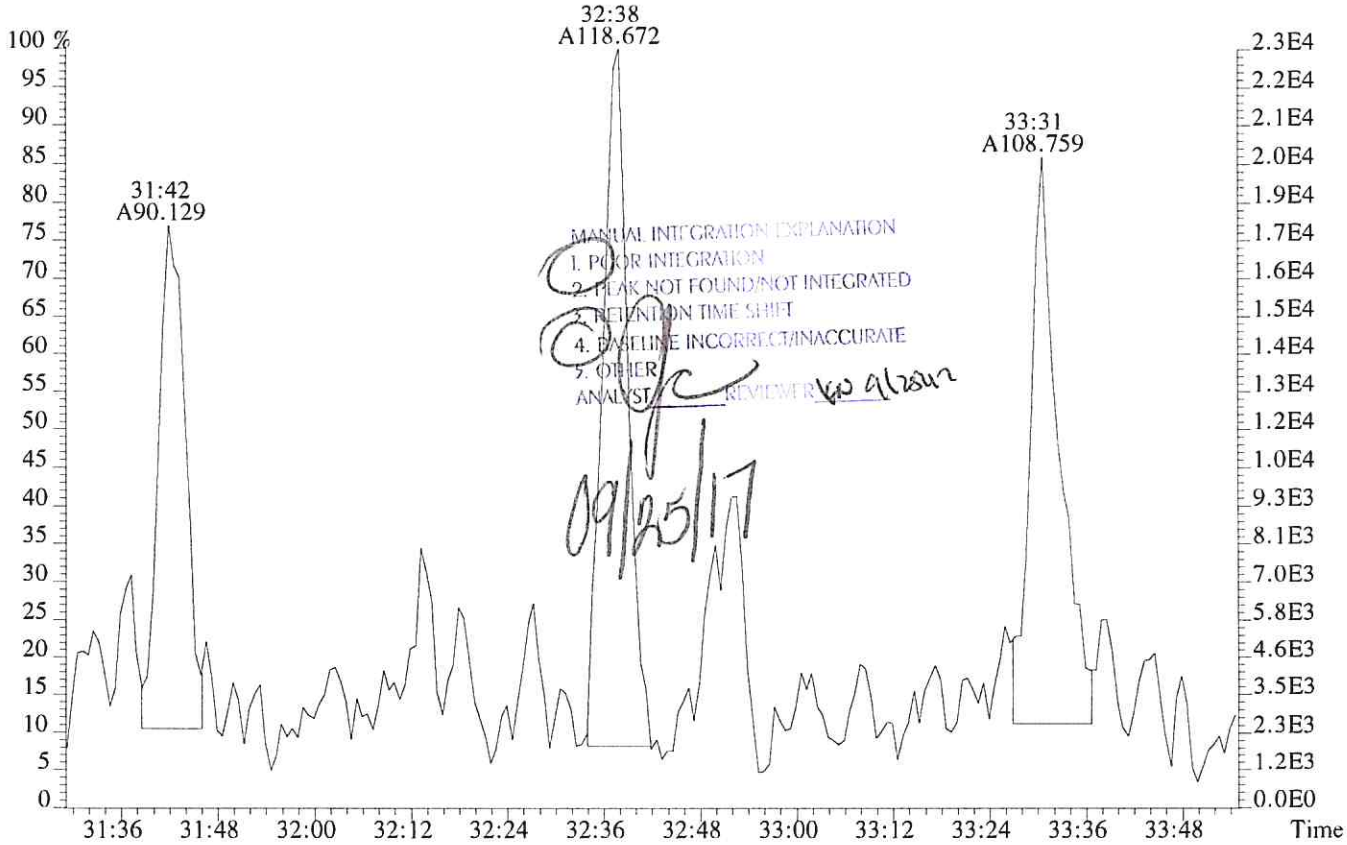
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



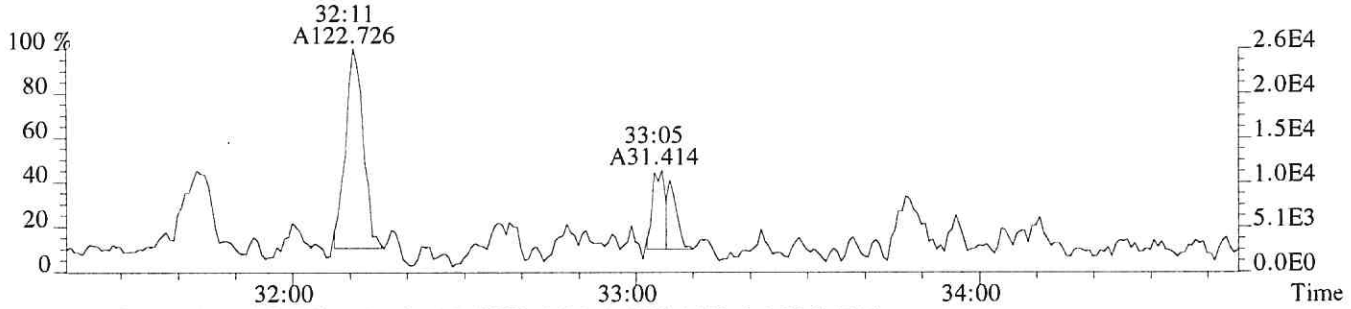
File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2308.0,1.00%,F,T)



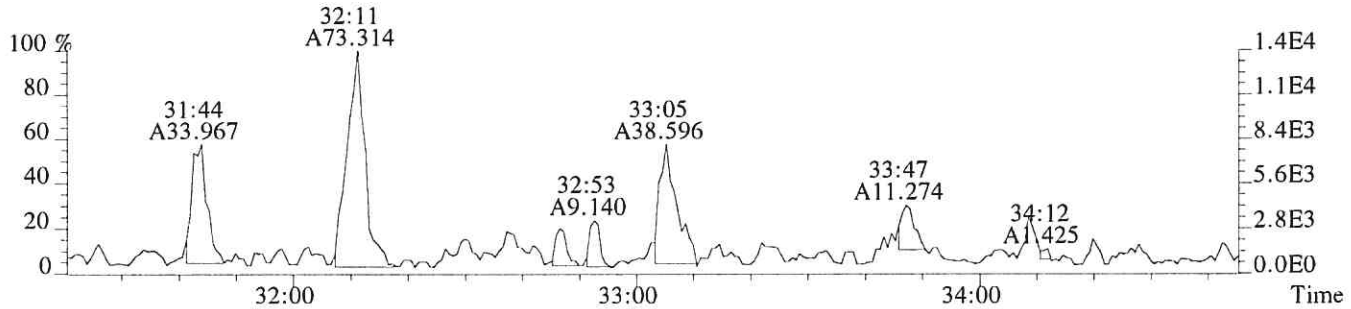
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4028.0,1.00%,F,T)



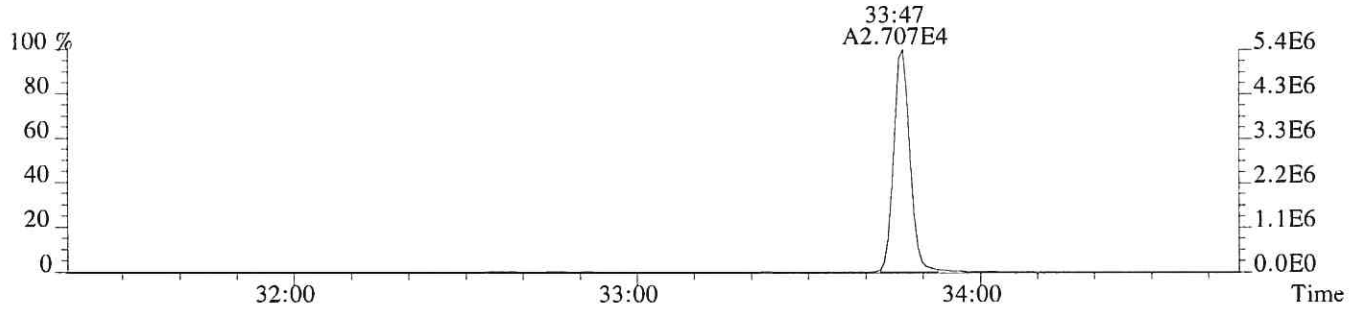
File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3528.0,1.00%,F,T)



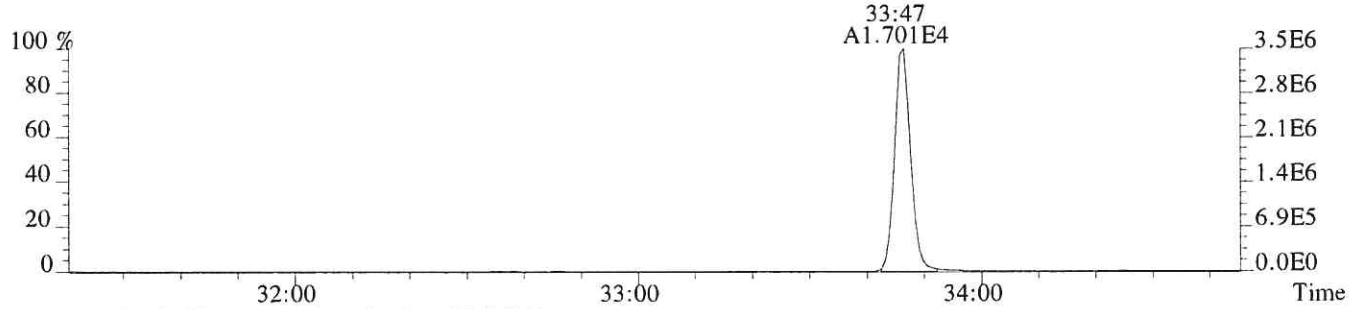
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1192.0,1.00%,F,T)



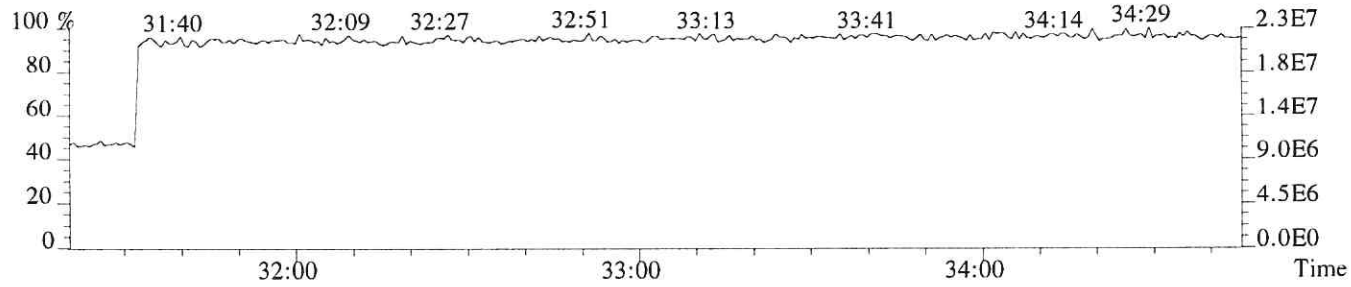
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3528.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2896.0,1.00%,F,T)



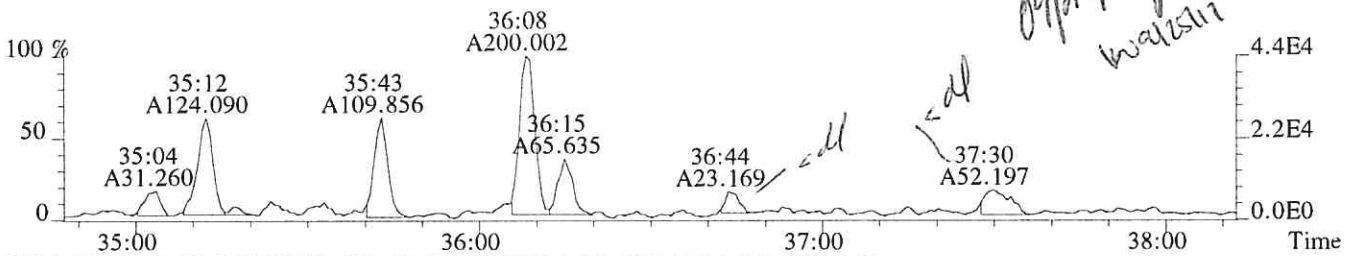
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



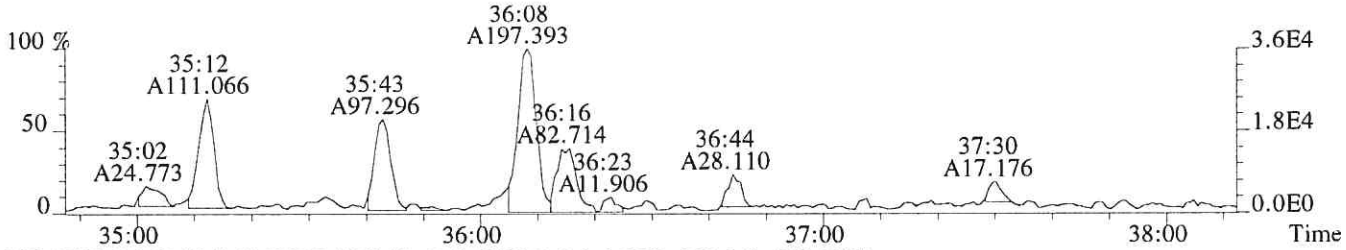
File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009

09/25/17 gc
lw 9/25/17

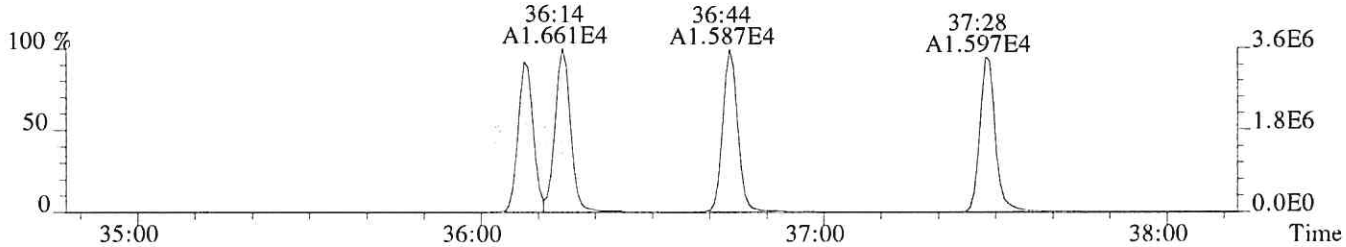
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2592.0,0.40%,F,T)



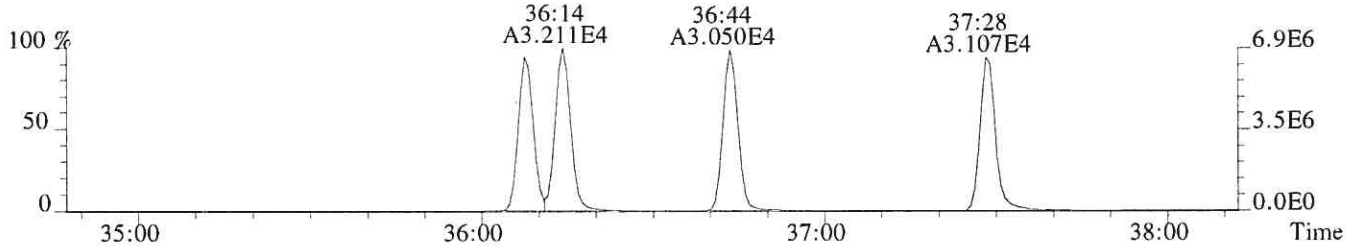
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2076.0,0.40%,F,T)



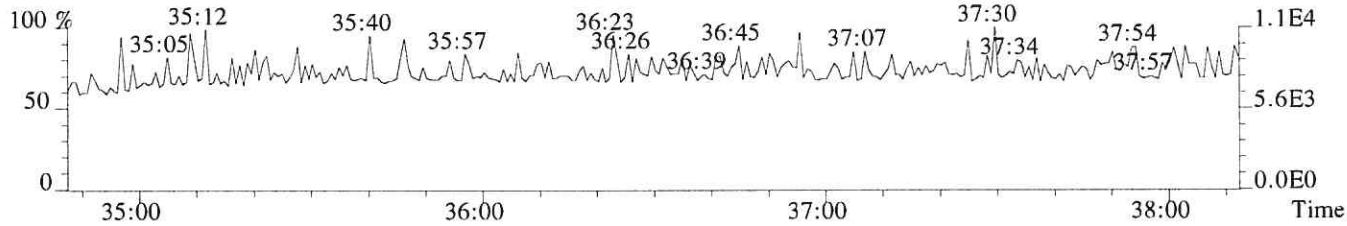
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,T)



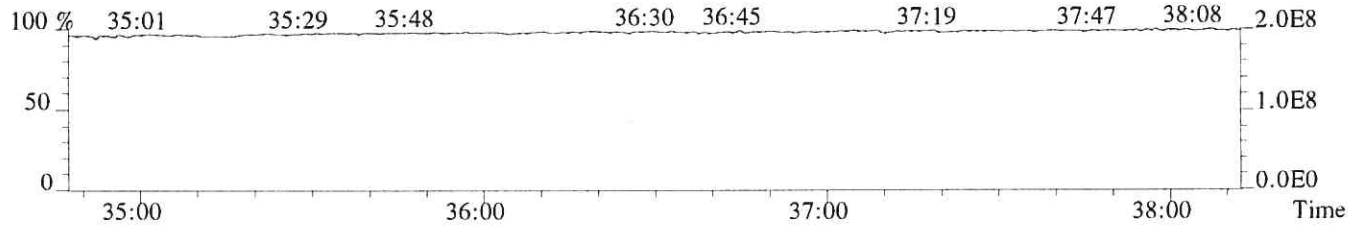
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4076.0,0.40%,F,T)



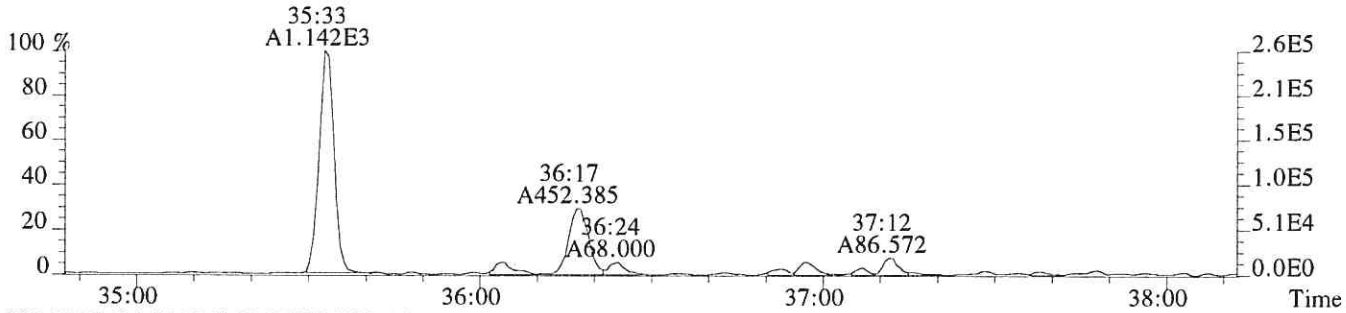
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



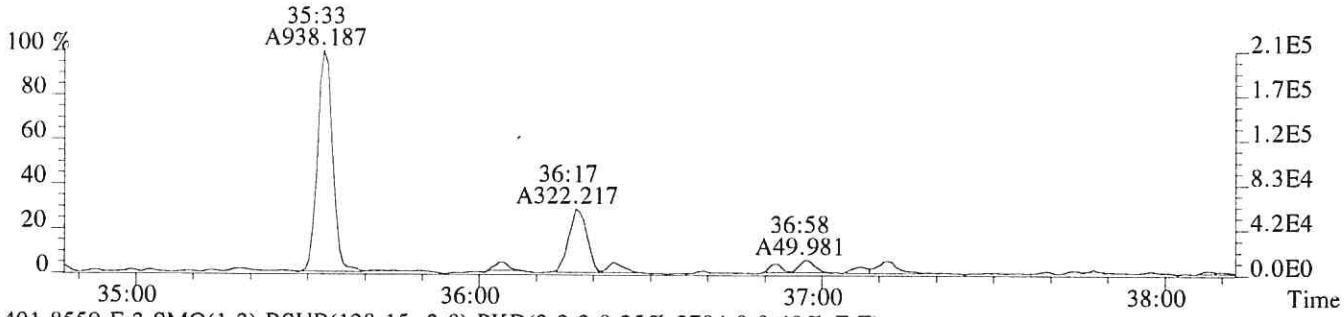
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



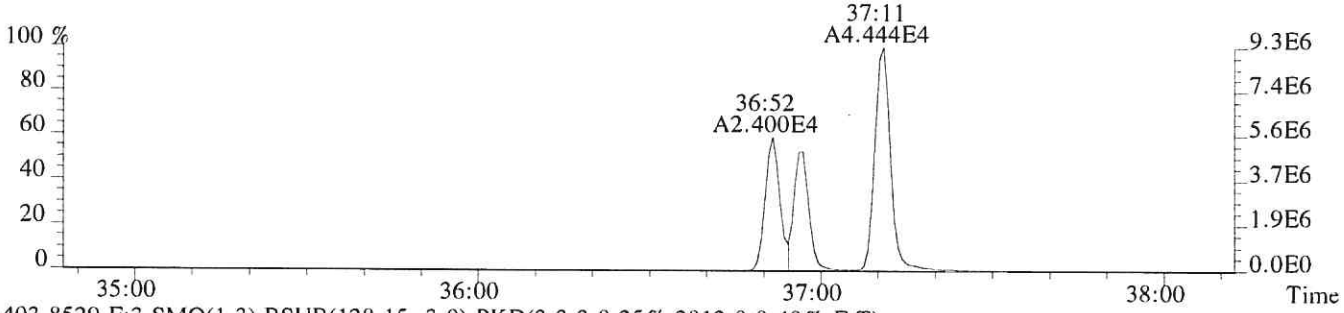
File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2168.0,0.40%,F,T)



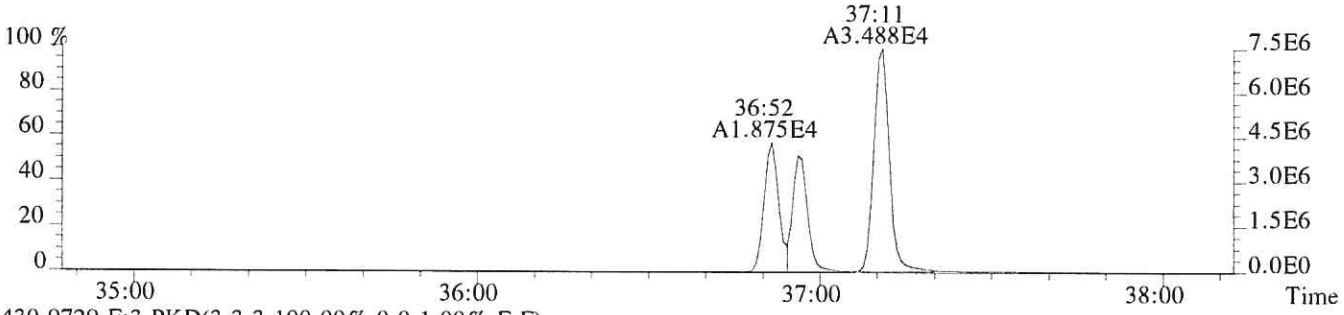
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2796.0,0.40%,F,T)



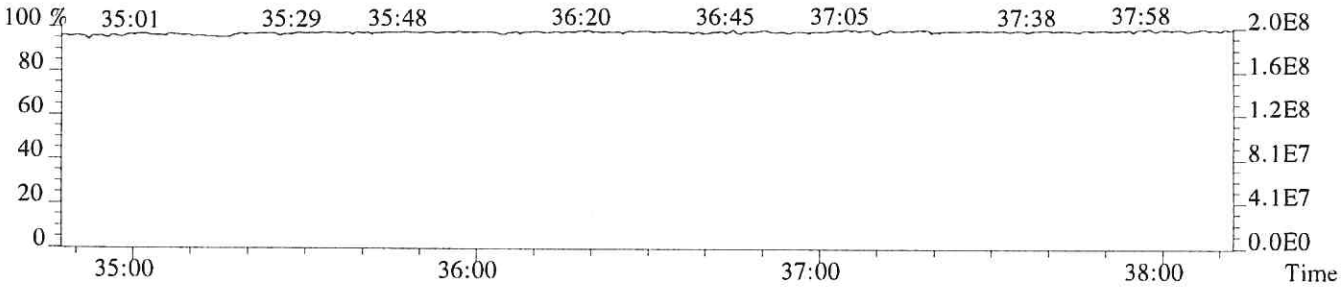
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2704.0,0.40%,F,T)



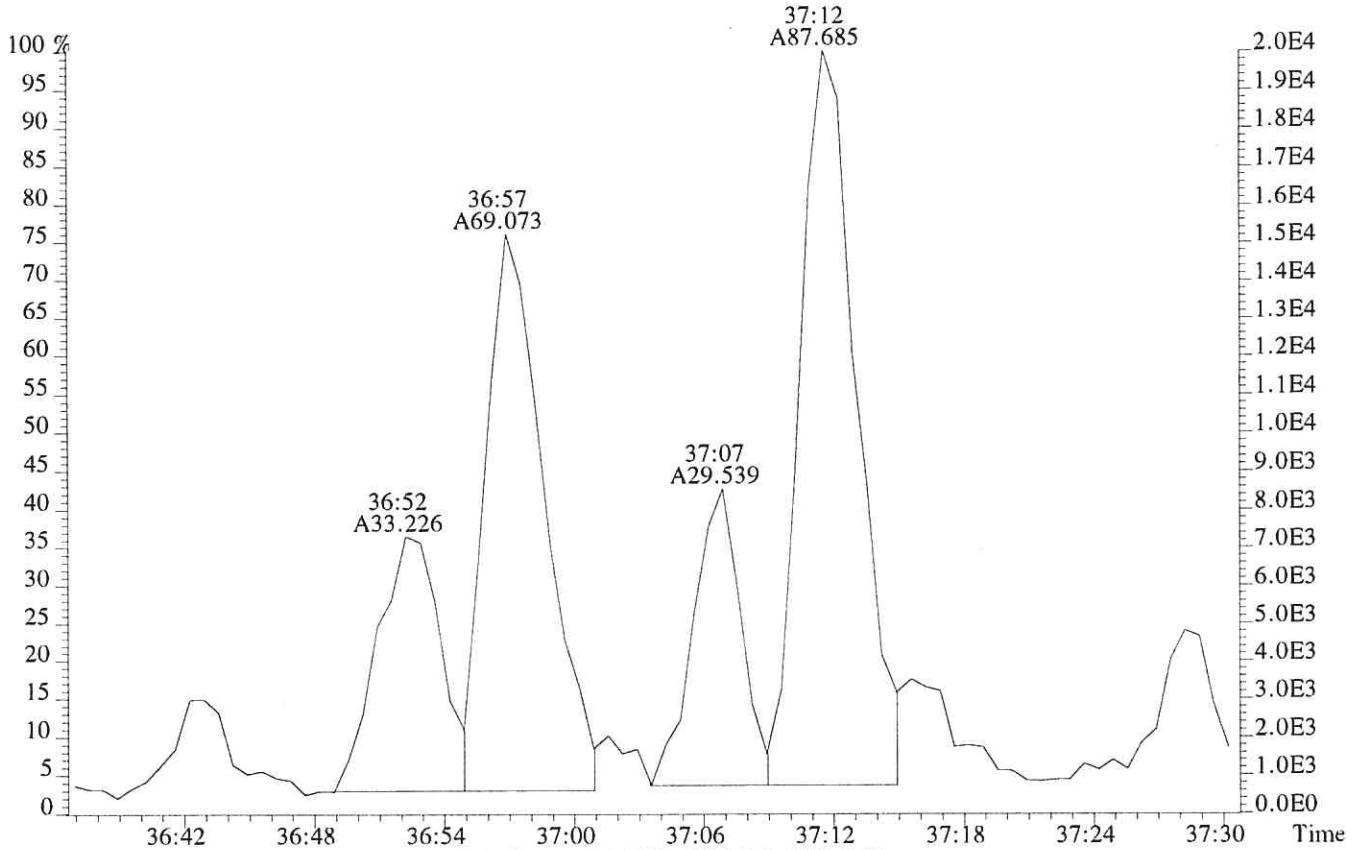
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2012.0,0.40%,F,T)



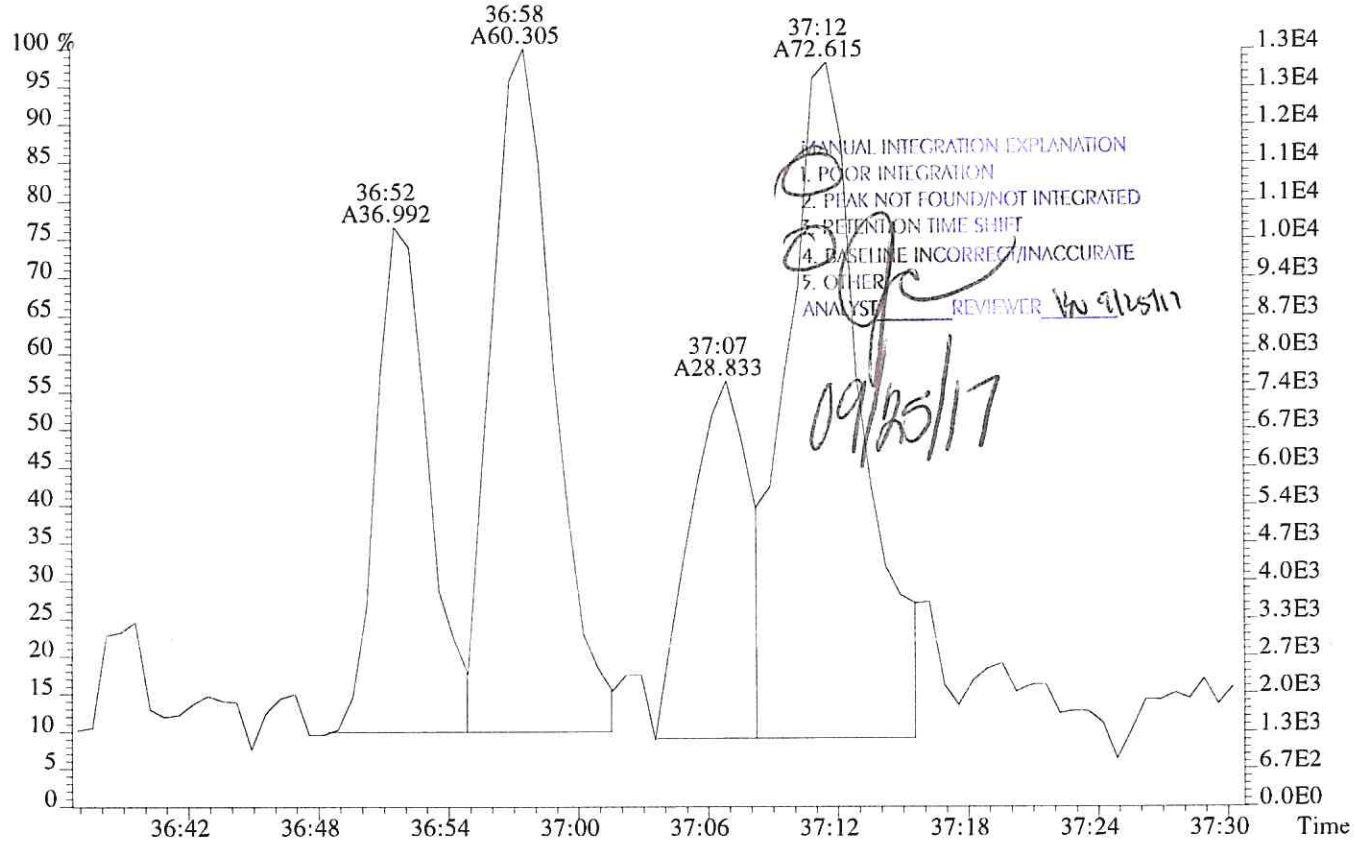
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511513 #1-308 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2168.0,0.40%,F,T)

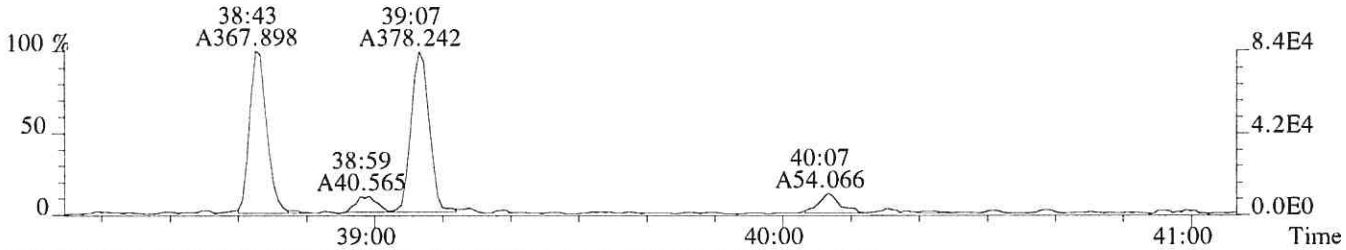


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2796.0,0.40%,F,T)

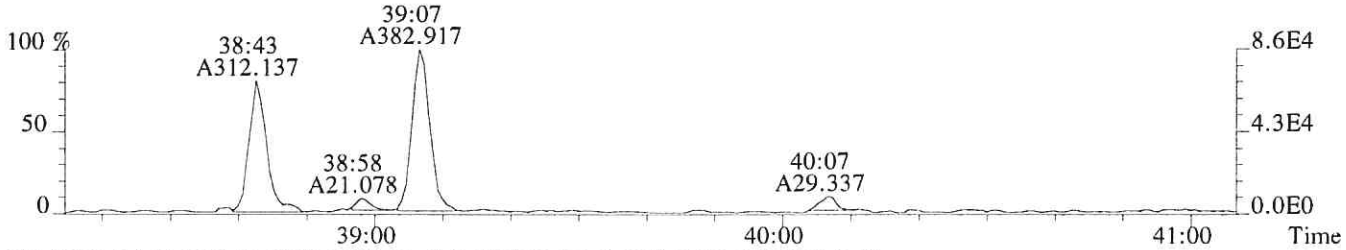


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER HN 9/25/17
09/25/17

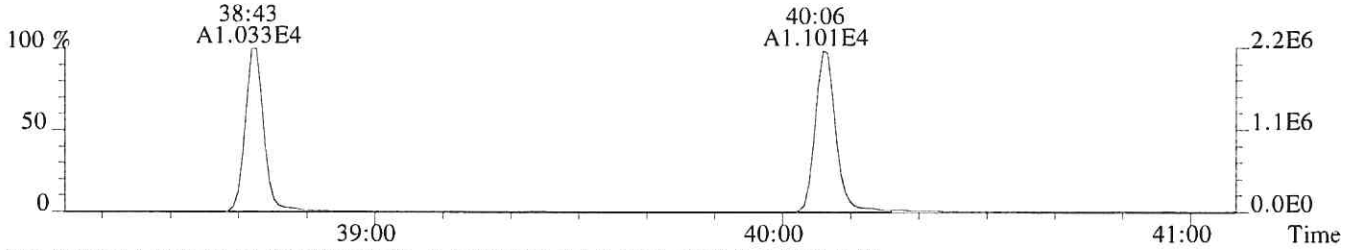
File:P511513 #1-259 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.50%,F,T)



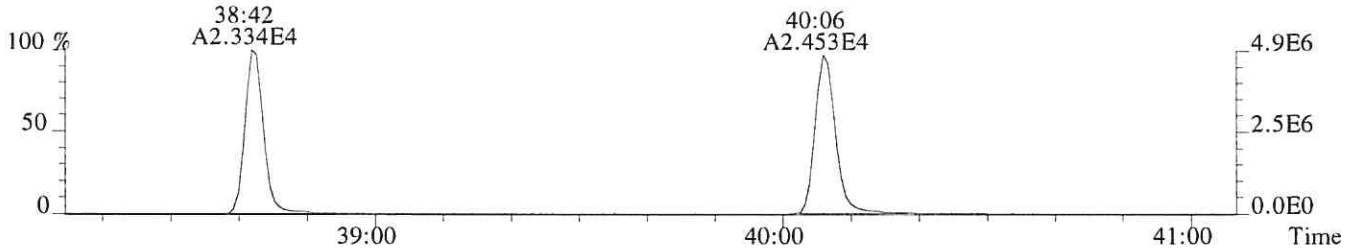
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1776.0,0.50%,F,T)



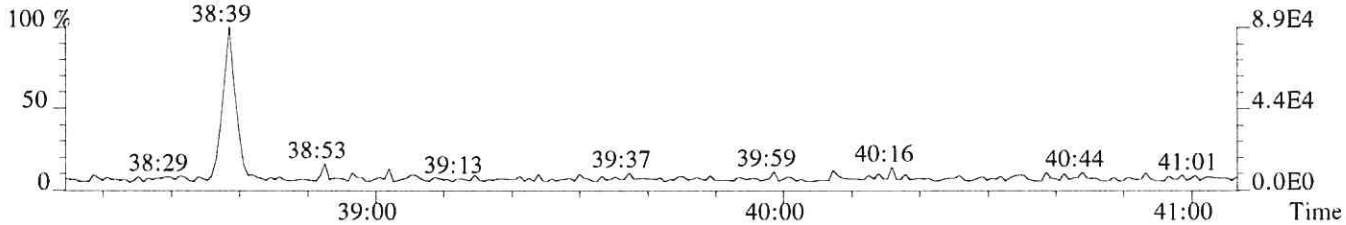
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2712.0,0.50%,F,T)



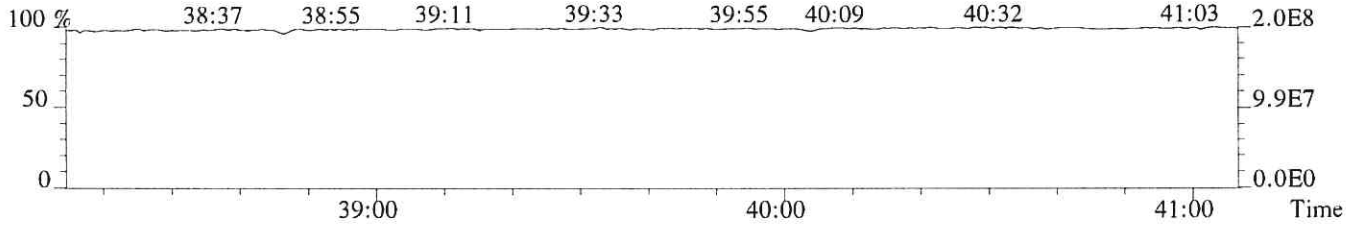
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2504.0,0.50%,F,T)



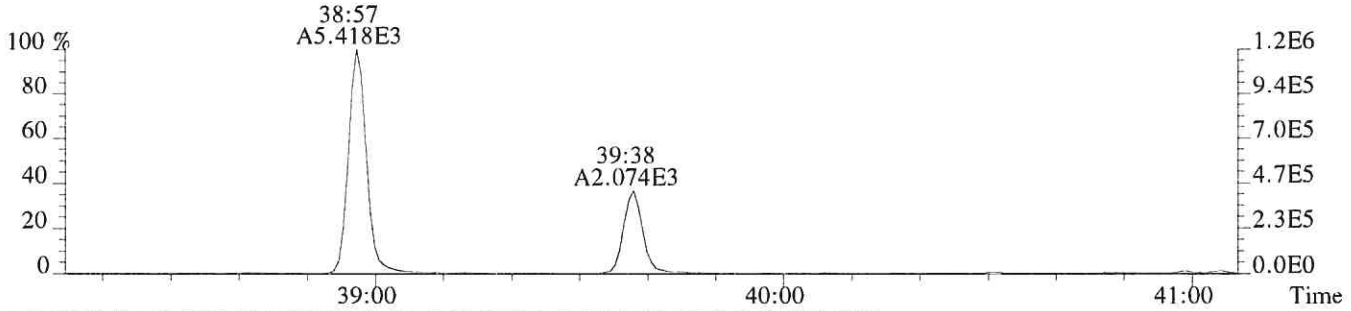
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



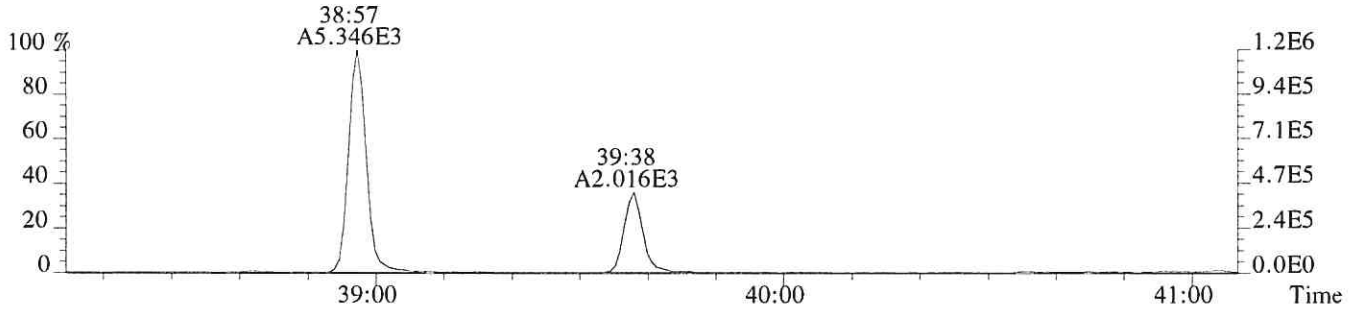
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



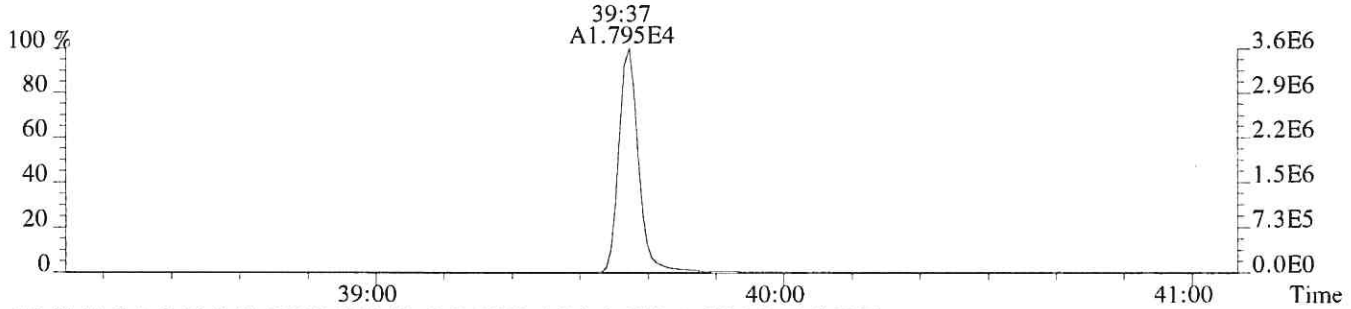
File:P511513 #1-259 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2052.0,0.40%,F,T)



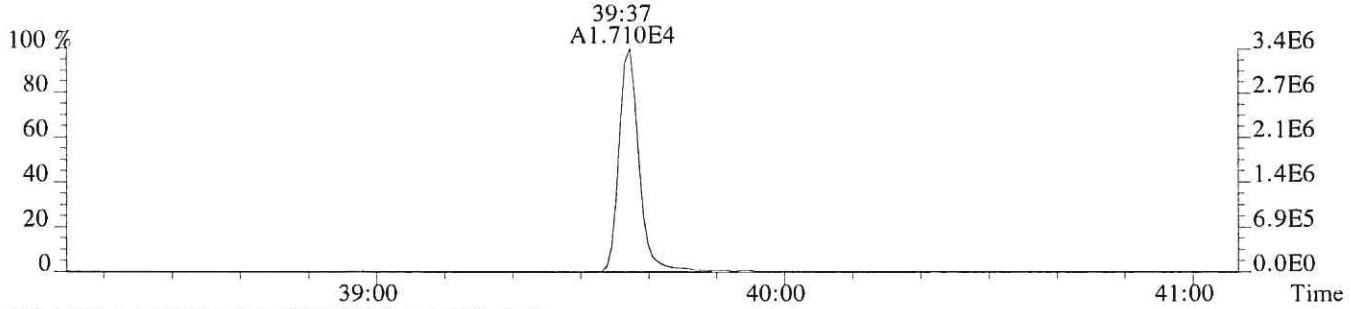
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2768.0,0.40%,F,T)



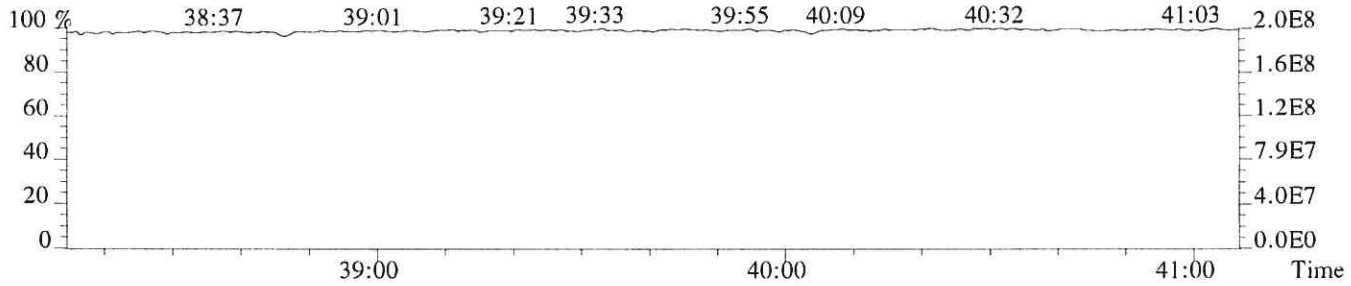
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.40%,F,T)



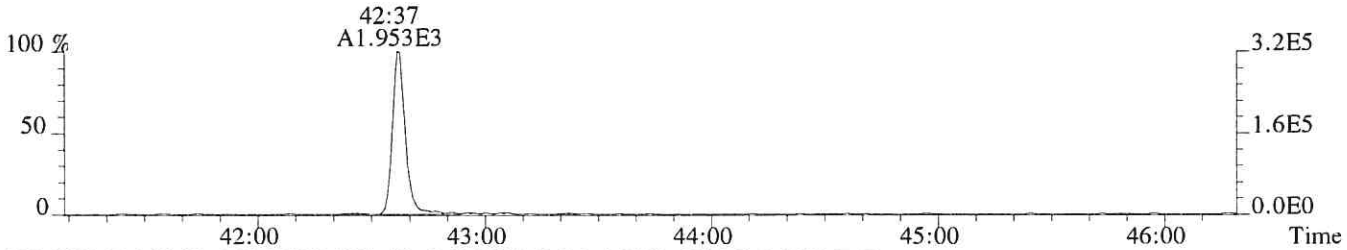
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



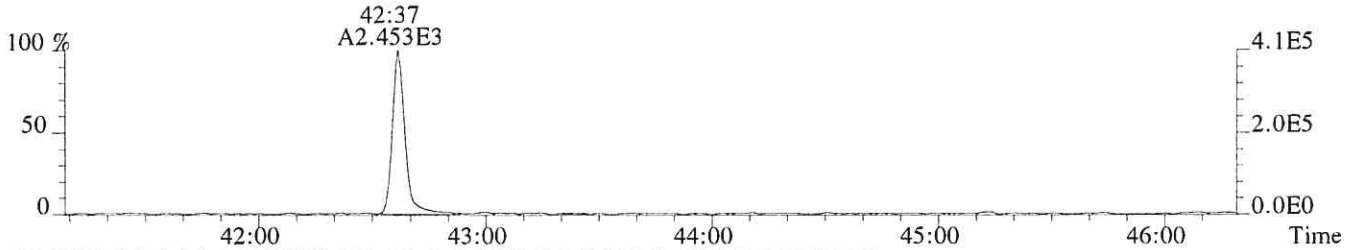
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



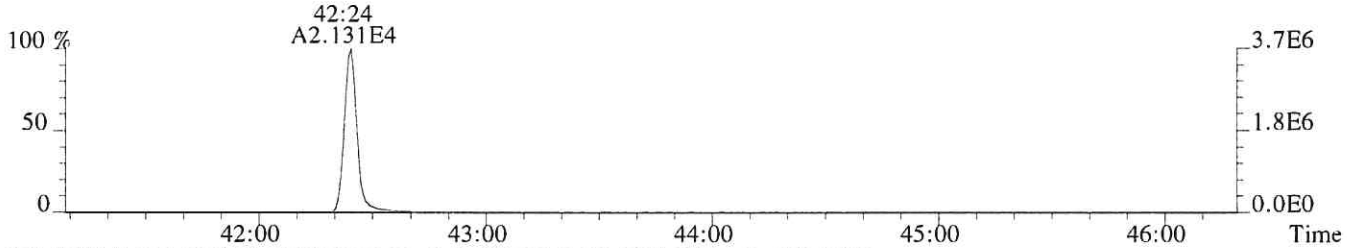
File:P511513 #1-466 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



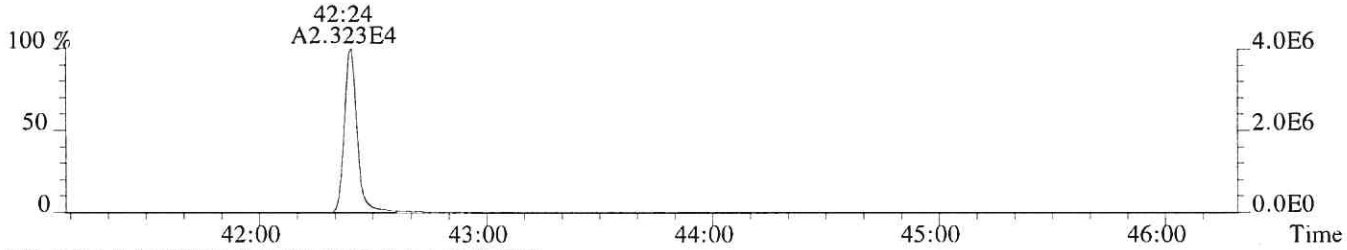
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3212.0,0.40%,F,T)



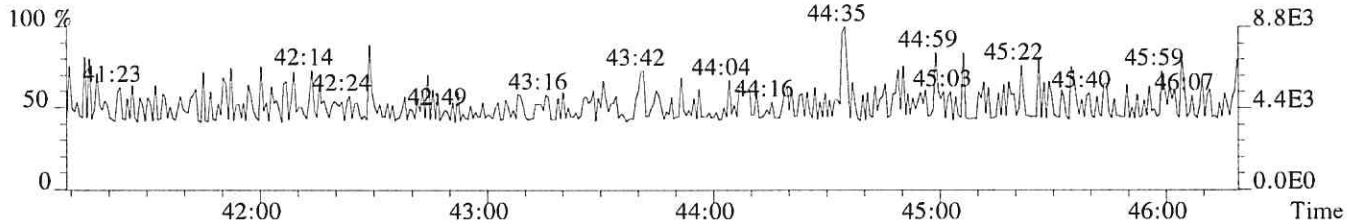
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1716.0,0.40%,F,T)



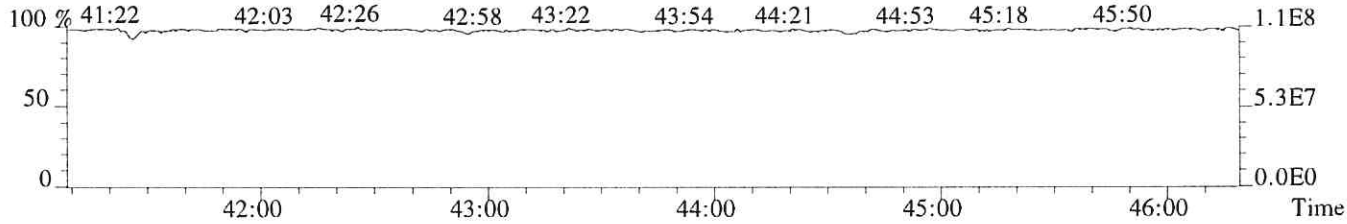
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,912.0,0.40%,F,T)



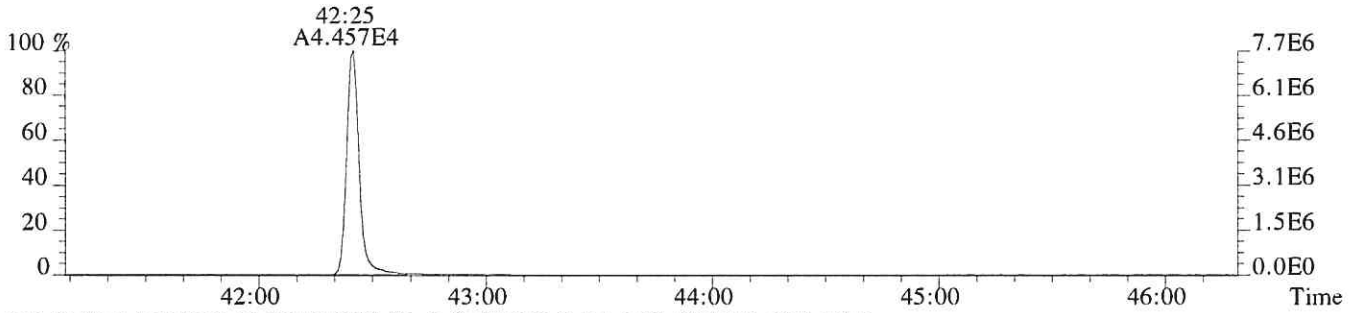
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



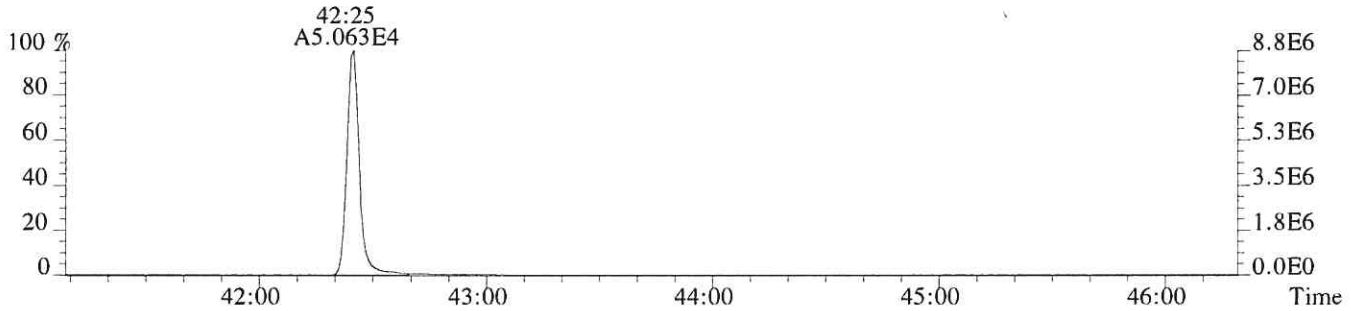
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



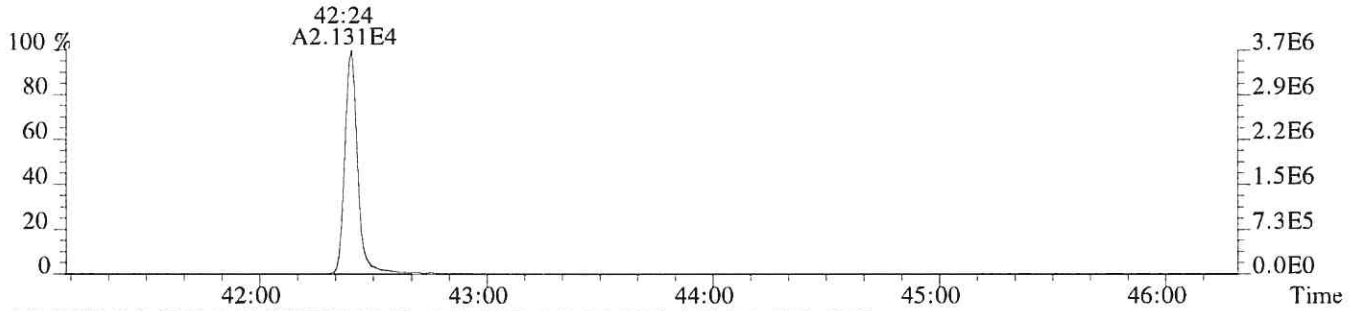
File:P511513 #1-466 Acq:23-SEP-2017 15:51:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-009
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,476.0,0.40%,F,T)



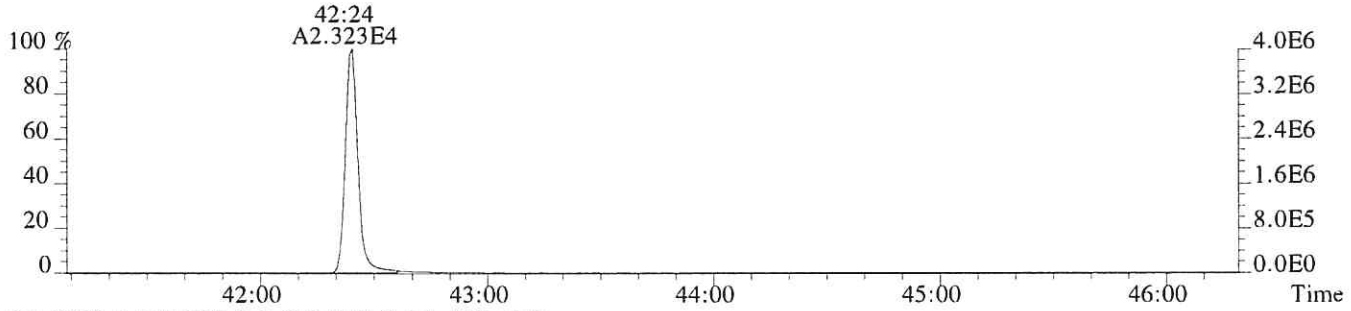
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,804.0,0.40%,F,T)



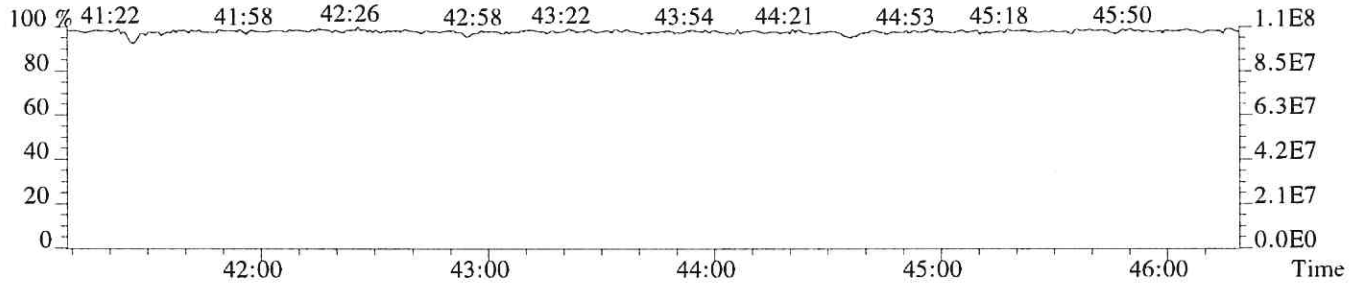
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1716.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,912.0,0.40%,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 P511514 Samp: 1 Inj: 1 Acquired: 23-SEP-17 16:40:35
Processed: 25-SEP-17 10:00:00 Sample ID: E1700973-010

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	6.571e+03	9.082e+03	0.72	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	2.639e+02	1.488e+02	1.77	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	2.625e+02	1.694e+02	1.55	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	3.317e+02	2.787e+02	1.19	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:16	1.153e+02	1.108e+02	1.04	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	4.208e+01	3.460e+01	1.22	yes	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	38:43	3.206e+02	3.860e+02	0.83	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	4.393e+01	5.578e+01	0.79	no	no	1.191
10	Unk	OCDF	42:37	1.777e+03	2.133e+03	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	1.462e+03	1.824e+03	0.80	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	yes	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	6.243e+01	5.429e+01	1.15	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	8.960e+01	7.033e+01	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.086e+03	2.105e+03	0.99	yes	no	0.942
17	Unk	OCDD	42:25	4.800e+04	5.428e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.951e+04	2.552e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.677e+04	2.328e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.783e+04	2.420e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.542e+04	3.019e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.744e+04	3.322e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.660e+04	3.260e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	1.607e+04	3.261e+04	0.49	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.073e+04	2.407e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.151e+04	2.559e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.519e+04	1.982e+04	0.77	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.874e+04	1.799e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.498e+04	1.954e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.427e+04	1.895e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.856e+04	1.777e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:24	2.020e+04	2.267e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.670e+04	3.376e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	4.141e+04	3.362e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.656e+04				no	1.033

$$\text{OCDD} = \frac{(4.800e+04 + 5.428e+04) \times 4000 \text{ pg} \times 1}{(2.020e+04 + 2.267e+04) \times 10.260 \text{ g} \times 39.0 / 100 \times 1.051} = 2209 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-029E

Run #12 Filename P511514 Samp: 1 Inj: 1 Acquired: 23-SEP-17 16:40:35
Processed: 25-SEP-17 10:00:00 LAB. ID: E1700973-010

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.18e+06	1.96e+03	6.0e+02	1.64e+06	4.59e+03	3.6e+02
2	1,2,3,7,8-PeCDF	4.85e+04	2.10e+03	2.3e+01	3.04e+04	4.01e+03	7.6e+00
3	2,3,4,7,8-PeCDF	4.28e+04	2.10e+03	2.0e+01	3.15e+04	4.01e+03	7.8e+00
4	1,2,3,4,7,8-HxCDF	6.91e+04	2.71e+03	2.5e+01	5.83e+04	2.16e+03	2.7e+01
5	1,2,3,6,7,8-HxCDF	2.02e+04	2.71e+03	7.5e+00	2.24e+04	2.16e+03	1.0e+01
6	2,3,4,6,7,8-HxCDF	1.01e+04	2.71e+03	3.7e+00	7.22e+03	2.16e+03	3.3e+00
7	1,2,3,7,8,9-HxCDF	*	2.71e+03	*	*	2.16e+03	*
8	1,2,3,4,6,7,8-HpCDF	7.06e+04	1.41e+03	5.0e+01	8.24e+04	1.30e+03	6.4e+01
9	1,2,3,4,7,8,9-HpCDF	8.31e+03	1.41e+03	5.9e+00	9.84e+03	1.30e+03	7.6e+00
10	OCDF	2.94e+05	1.54e+03	1.9e+02	3.50e+05	4.06e+03	8.6e+01
11	2,3,7,8-TCDD	3.00e+05	4.16e+03	7.2e+01	3.80e+05	2.49e+03	1.5e+02
12	1,2,3,7,8-PeCDD	*	2.88e+03	*	*	8.12e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.55e+03	*	*	2.06e+03	*
14	1,2,3,6,7,8-HxCDD	1.58e+04	1.55e+03	1.0e+01	1.24e+04	2.06e+03	6.0e+00
15	1,2,3,7,8,9-HxCDD	2.01e+04	1.55e+03	1.3e+01	1.35e+04	2.06e+03	6.6e+00
16	1,2,3,4,6,7,8-HpCDD	4.17e+05	1.62e+03	2.6e+02	4.15e+05	2.17e+03	1.9e+02
17	OCDD	8.27e+06	8.00e+02	1.0e+04	9.25e+06	8.36e+02	1.1e+04
18	13C-2,3,7,8-TCDF	3.76e+06	3.09e+04	1.2e+02	4.82e+06	1.15e+04	4.2e+02
19	13C-1,2,3,7,8-PeCDF	7.11e+06	9.08e+02	7.8e+03	4.56e+06	1.74e+03	2.6e+03
20	13C-2,3,4,7,8-PeCDF	7.66e+06	9.08e+02	8.4e+03	4.94e+06	1.74e+03	2.8e+03
21	13C-1,2,3,4,7,8-HxCDF	3.35e+06	1.72e+03	1.9e+03	6.67e+06	3.05e+03	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.71e+06	1.72e+03	2.2e+03	7.14e+06	3.05e+03	2.3e+03
23	13C-2,3,4,6,7,8-HxCDF	3.73e+06	1.72e+03	2.2e+03	7.33e+06	3.05e+03	2.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.30e+06	1.72e+03	1.9e+03	6.70e+06	3.05e+03	2.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.28e+06	3.22e+03	7.1e+02	5.08e+06	3.15e+03	1.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.23e+06	3.22e+03	6.9e+02	4.85e+06	3.15e+03	1.5e+03
27	13C-2,3,7,8-TCDD	3.02e+06	1.15e+04	2.6e+02	3.87e+06	4.91e+03	7.9e+02
28	13C-1,2,3,7,8-PeCDD	5.82e+06	3.69e+03	1.6e+03	3.63e+06	2.70e+03	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	5.61e+06	3.17e+03	1.8e+03	4.37e+06	1.87e+03	2.3e+03
30	13C-1,2,3,6,7,8-HxCDD	5.14e+06	3.17e+03	1.6e+03	4.04e+06	1.87e+03	2.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.83e+06	2.19e+03	1.8e+03	3.66e+06	1.98e+03	1.8e+03
32	13C-OCDD	3.47e+06	1.15e+03	3.0e+03	3.90e+06	1.28e+03	3.1e+03
33	13C-1,2,3,4-TCDD	5.27e+06	1.15e+04	4.6e+02	6.67e+06	4.91e+03	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.92e+06	3.17e+03	2.8e+03	7.09e+06	1.87e+03	3.8e+03
35	37Cl-2,3,7,8-TCDD	3.40e+06	2.99e+03	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 12 File: P511514 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 303.9020 305.8990 Tot Response: 2.51e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:39	2.30e+02	3.50e+02	0.66	yes	5.80e+02		n	n
2	27:14	1.70e+02	2.28e+02	0.75	yes	3.98e+02		n	n
3	27:45	2.82e+03	3.82e+03	0.74	yes	6.64e+03		n	n
4	27:59	1.56e+02	2.02e+02	0.77	yes	3.58e+02		n	n
5	28:32	6.57e+03	9.08e+03	0.72	yes	1.57e+04	2,3,7,8-TCDF	n	n
6	28:51	5.25e+02	6.86e+02	0.77	yes	1.21e+03		n	n
7	29:05	9.59e+01	1.20e+02	0.80	yes	2.16e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 12 File: P511514 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 319.8970 321.8940 Tot Response: 3.65e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	1.46e+03	1.82e+03	0.80	yes	3.29e+03	2,3,7,8-TCDD	n	n
2	29:34	1.72e+02	1.96e+02	0.88	yes	3.69e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 12 File: P511514 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 339.8600 341.8570 Tot Response: 8.45e+02 RRF: 0.8606

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:37	2.64e+02	1.49e+02	1.77	yes	4.13e+02	1,2,3,7,8-PeCDF	y	n
2	33:31	2.62e+02	1.69e+02	1.55	yes	4.32e+02	2,3,4,7,8-PeCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-091517-029E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 12 File: P511514 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 373.8210 375.8180 Tot Response: 1.15e+03 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	1.28e+02	1.20e+02	1.07	yes	2.48e+02		n	n
2	35:43	1.27e+02	9.11e+01	1.40	yes	2.18e+02		n	n
3	36:09	3.32e+02	2.79e+02	1.19	yes	6.10e+02	1,2,3,4,7,8-HxCDF	n	n
4	36:45	4.21e+01	3.46e+01	1.22	yes	7.67e+01	2,3,4,6,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: P511514 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 389.8160 391.8130 Tot Response: 3.14e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.17e+03	9.14e+02	1.28	yes	2.08e+03		n	n
2	36:17	4.25e+02	3.57e+02	1.19	yes	7.82e+02		n	n
3	36:58	6.24e+01	5.43e+01	1.15	yes	1.17e+02	1,2,3,6,7,8-HxCDD	n	n
4	37:12	8.96e+01	7.03e+01	1.27	yes	1.60e+02	1,2,3,7,8,9-HxCDD	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-091517-029E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 12 File: P511514 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 407.7820 409.7790 Tot Response: 7.71e+02 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:58	3.92e+01	3.84e+01	1.02	yes	7.77e+01	n	n
2	39:07	3.41e+02	3.52e+02	0.97	yes	6.93e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-029E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P511514 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 16:40:35 Processed: 25-SEP-17 10:00:00

Mass: 423.7770 425.7740 Tot Response: 1.49e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	5.43e+03	5.30e+03	1.02	yes	1.07e+04	n	n
2	39:38	2.09e+03	2.11e+03	0.99	yes	4.19e+03	1,2,3,4,6,7,8-HpCDD	n	n

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10450 Stancliff Rd., Suite 115
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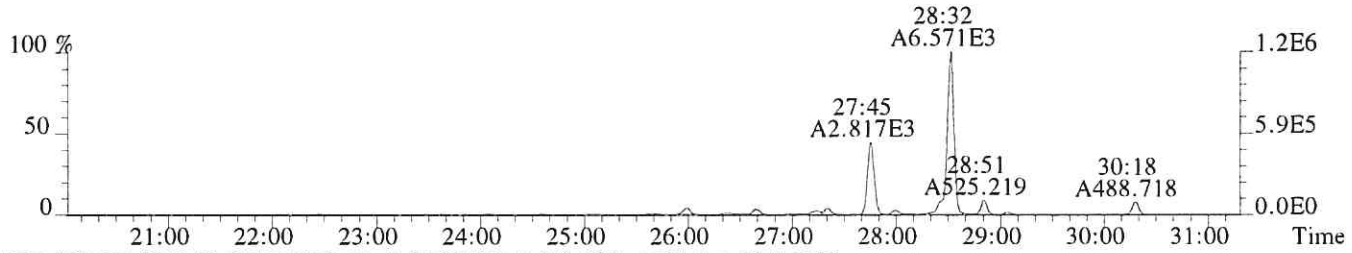
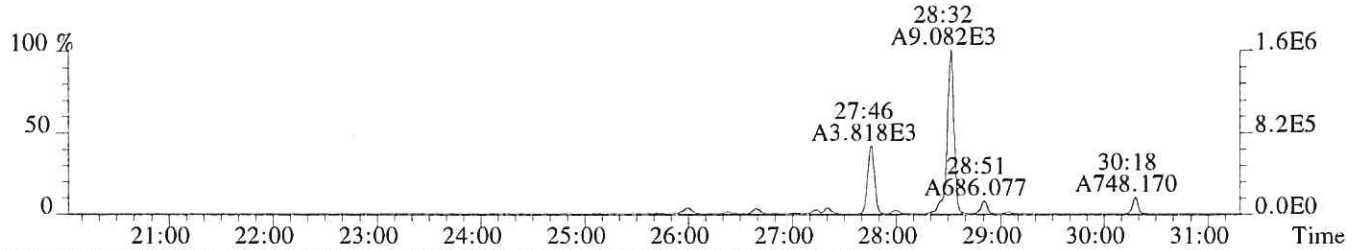
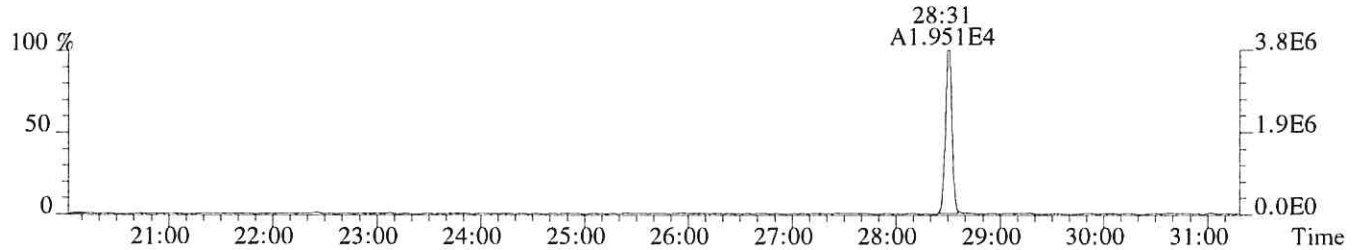
File:P511514 #1-800 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1964.0,1.00%,F,T)



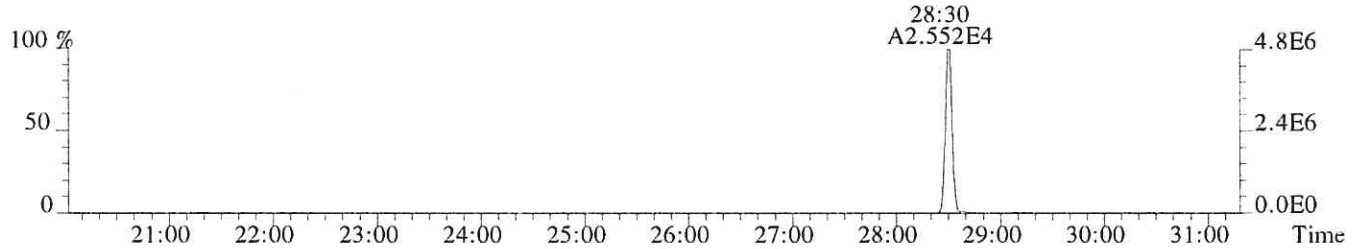
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4588.0,1.00%,F,T)



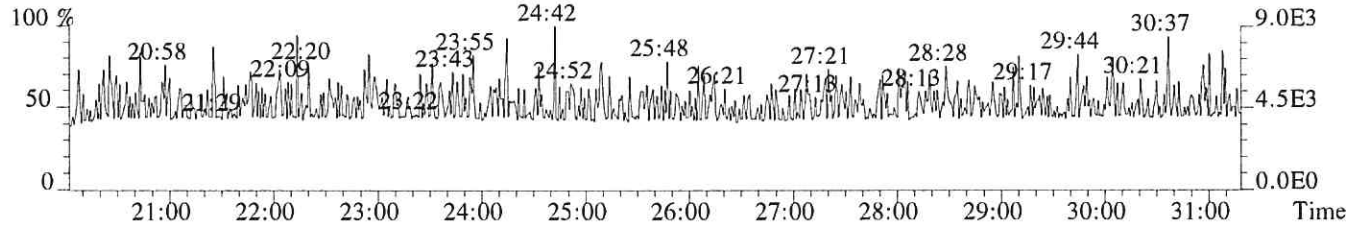
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,30860.0,1.00%,F,T)



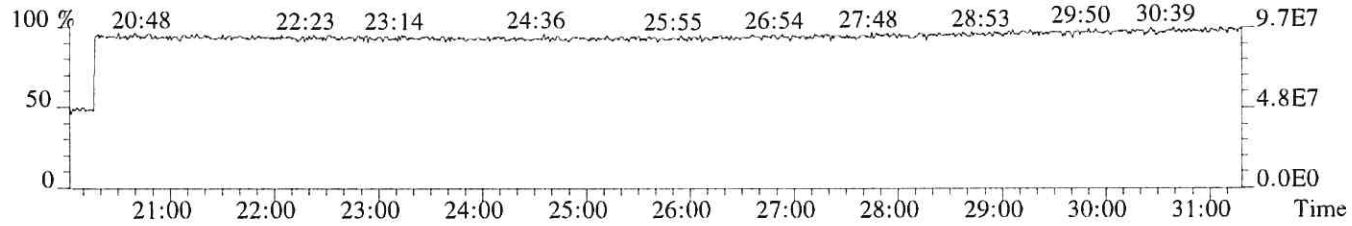
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11456.0,1.00%,F,T)



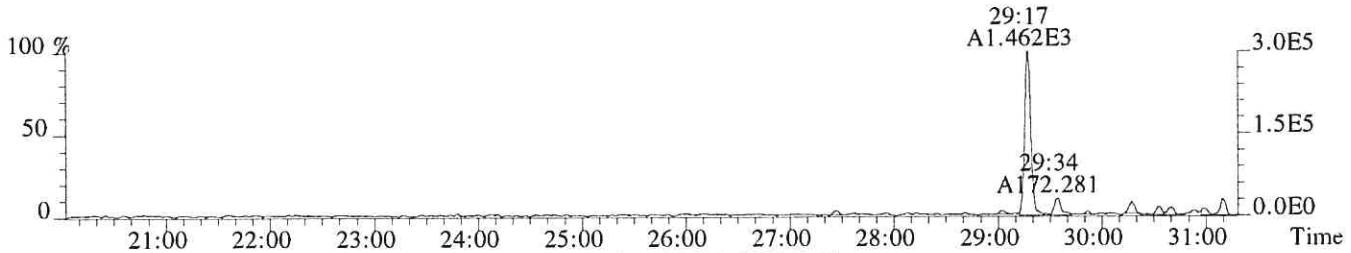
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



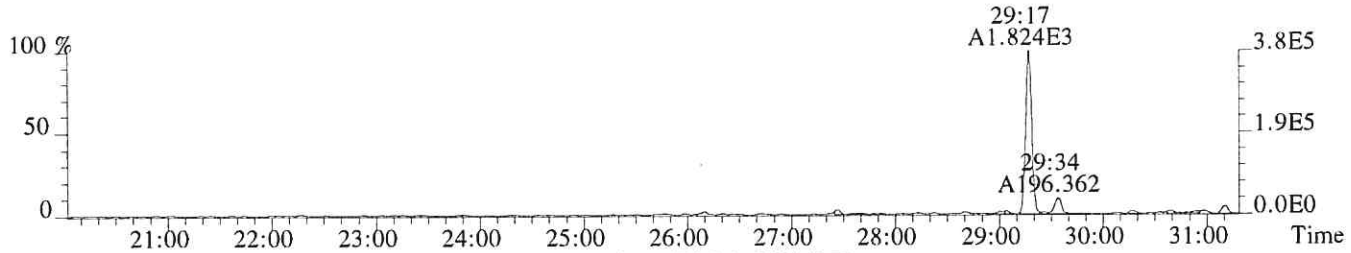
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



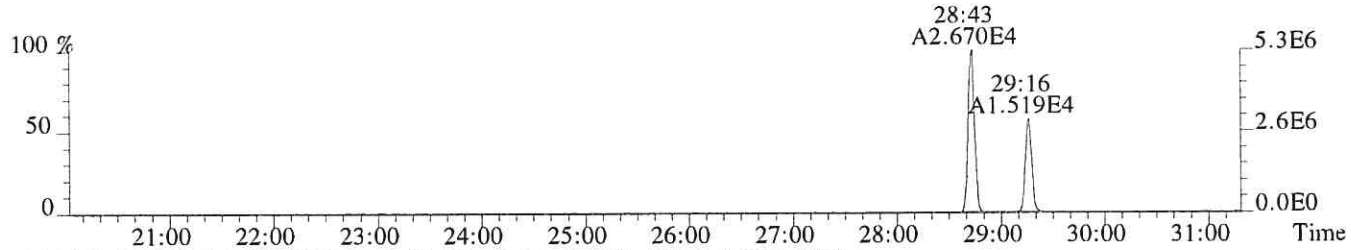
File:P511514 #1-800 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4164.0,1.00%,F,T)



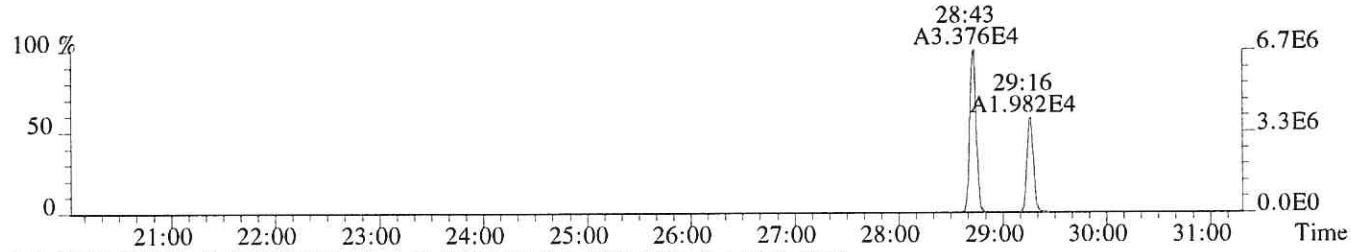
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2488.0,1.00%,F,T)



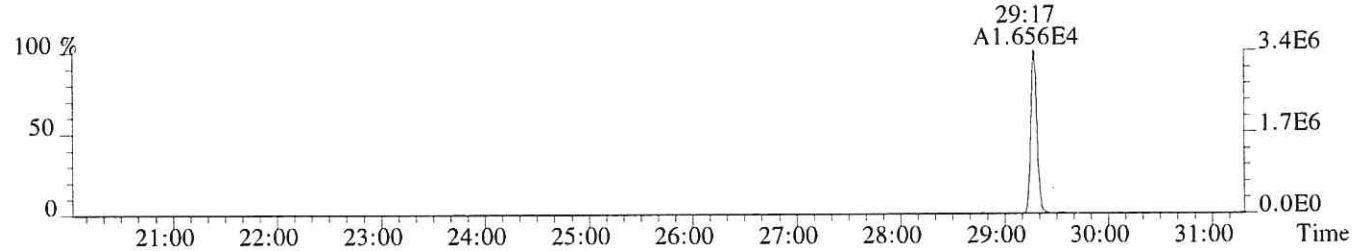
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11476.0,1.00%,F,T)



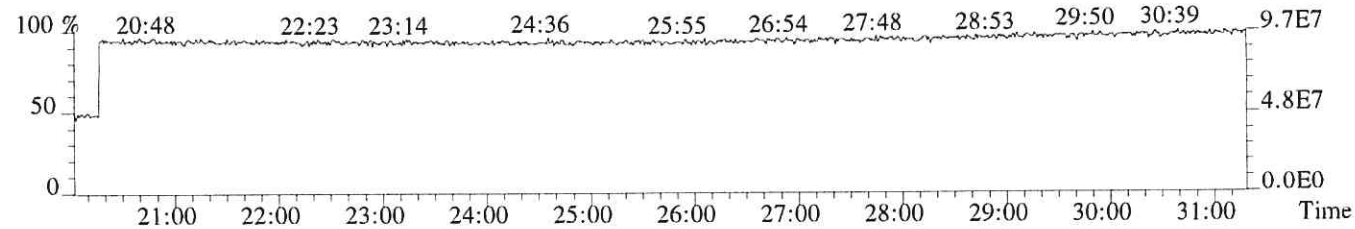
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4908.0,1.00%,F,T)



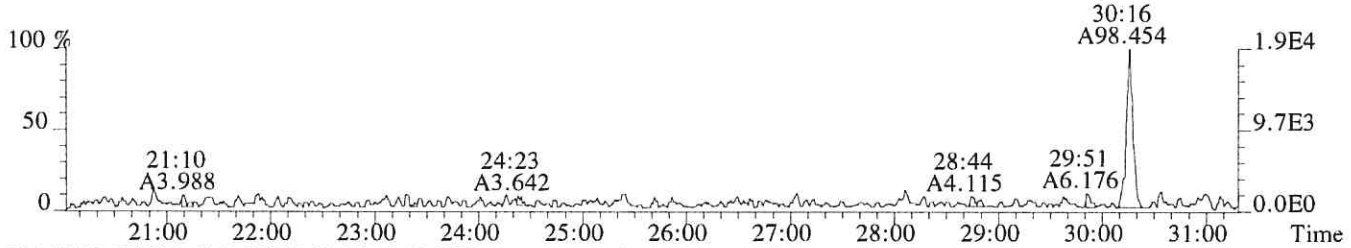
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2992.0,1.00%,F,T)



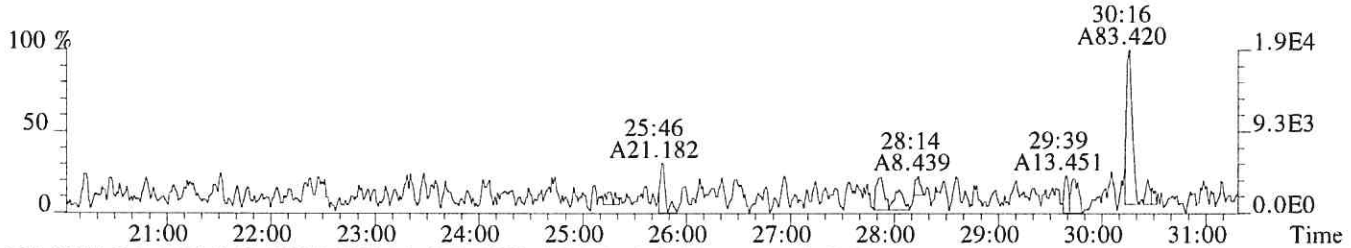
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



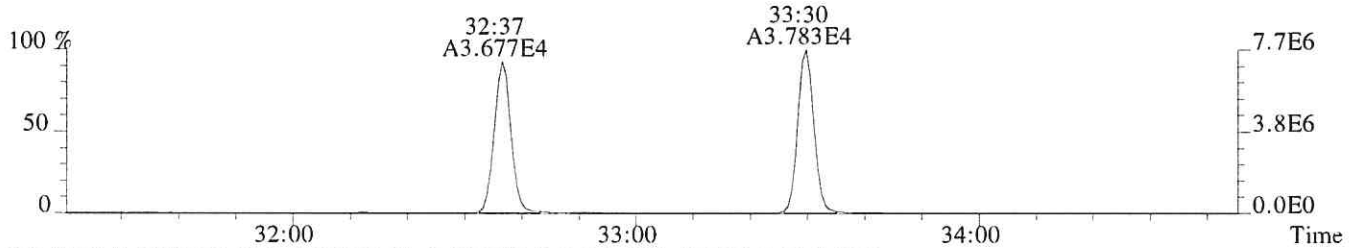
File:P511514 #1-800 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1088.0,1.00%,F,T)



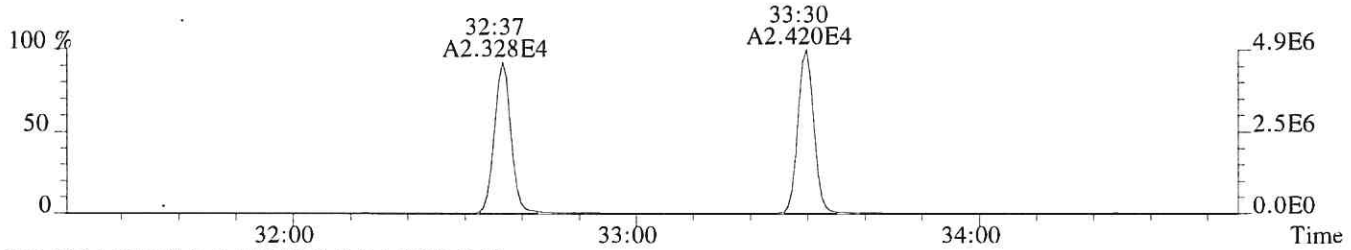
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2304.0,1.00%,F,T)



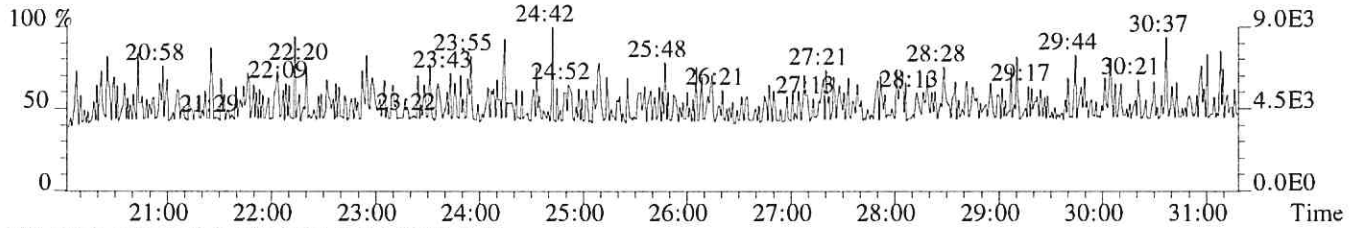
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



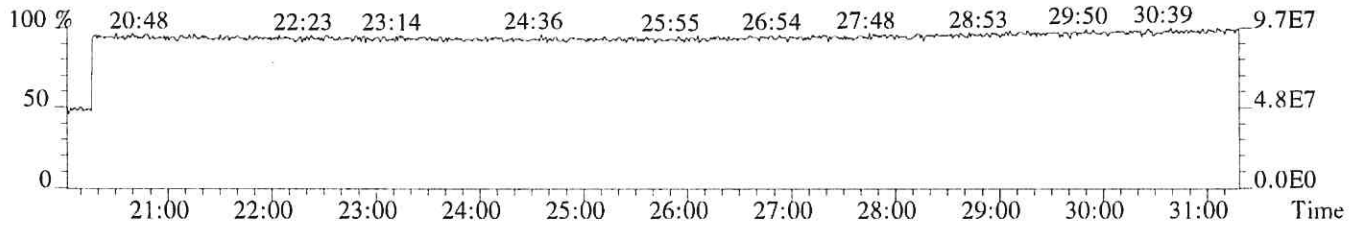
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1736.0,1.00%,F,T)



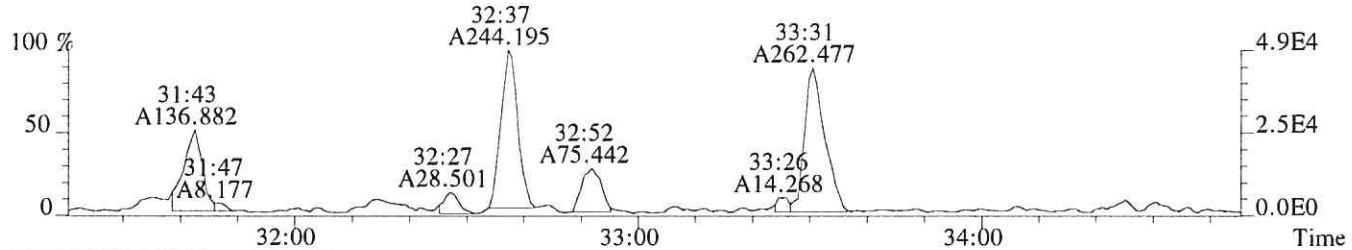
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



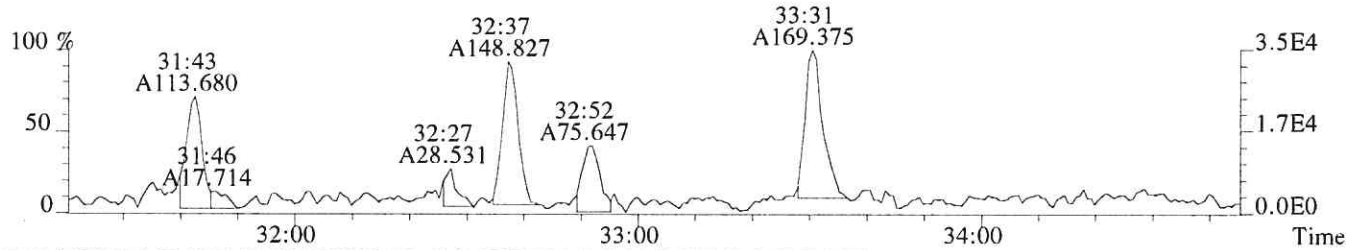
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



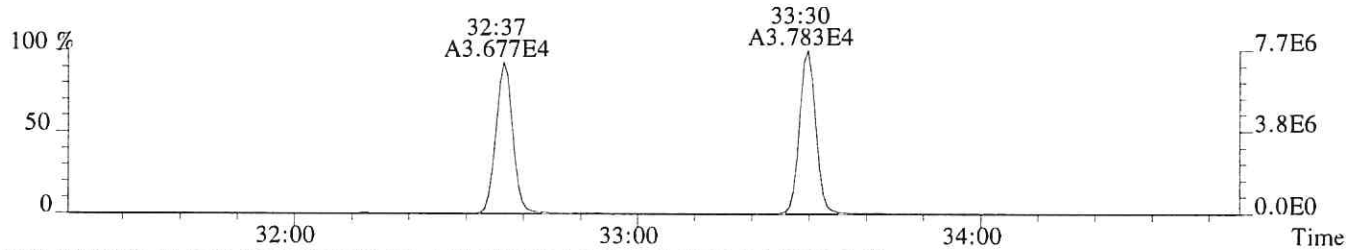
File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2104.0,1.00%,F,T)



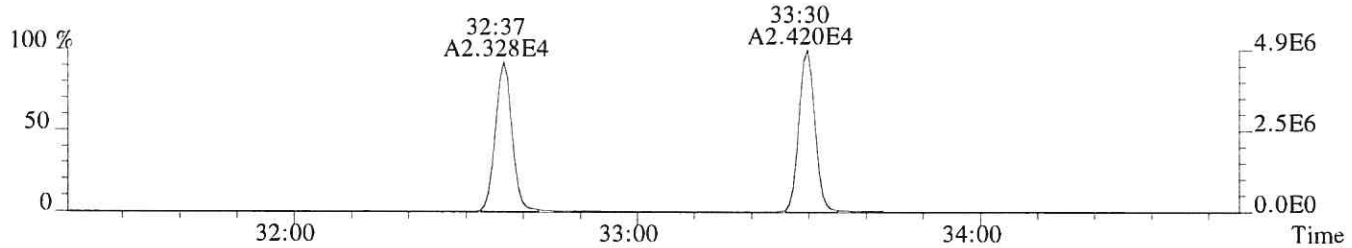
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4012.0,1.00%,F,T)



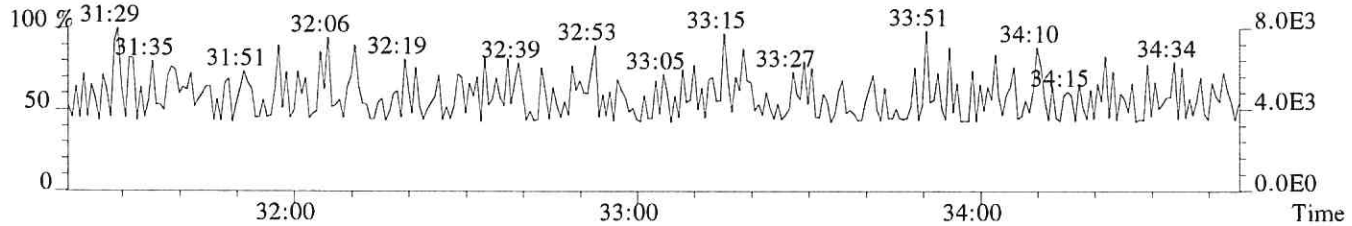
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



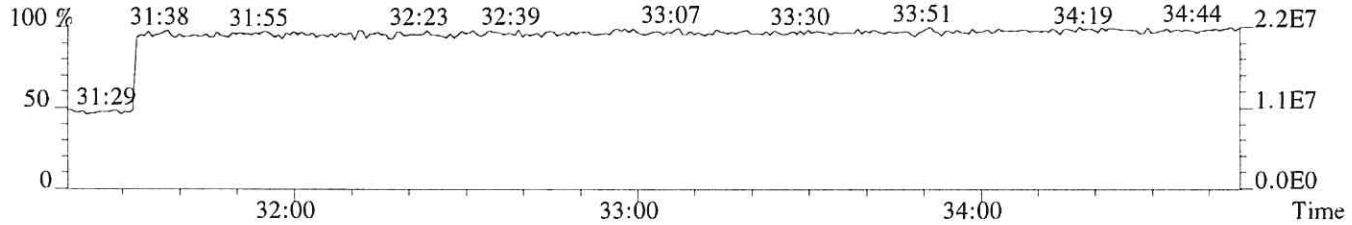
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1736.0,1.00%,F,T)



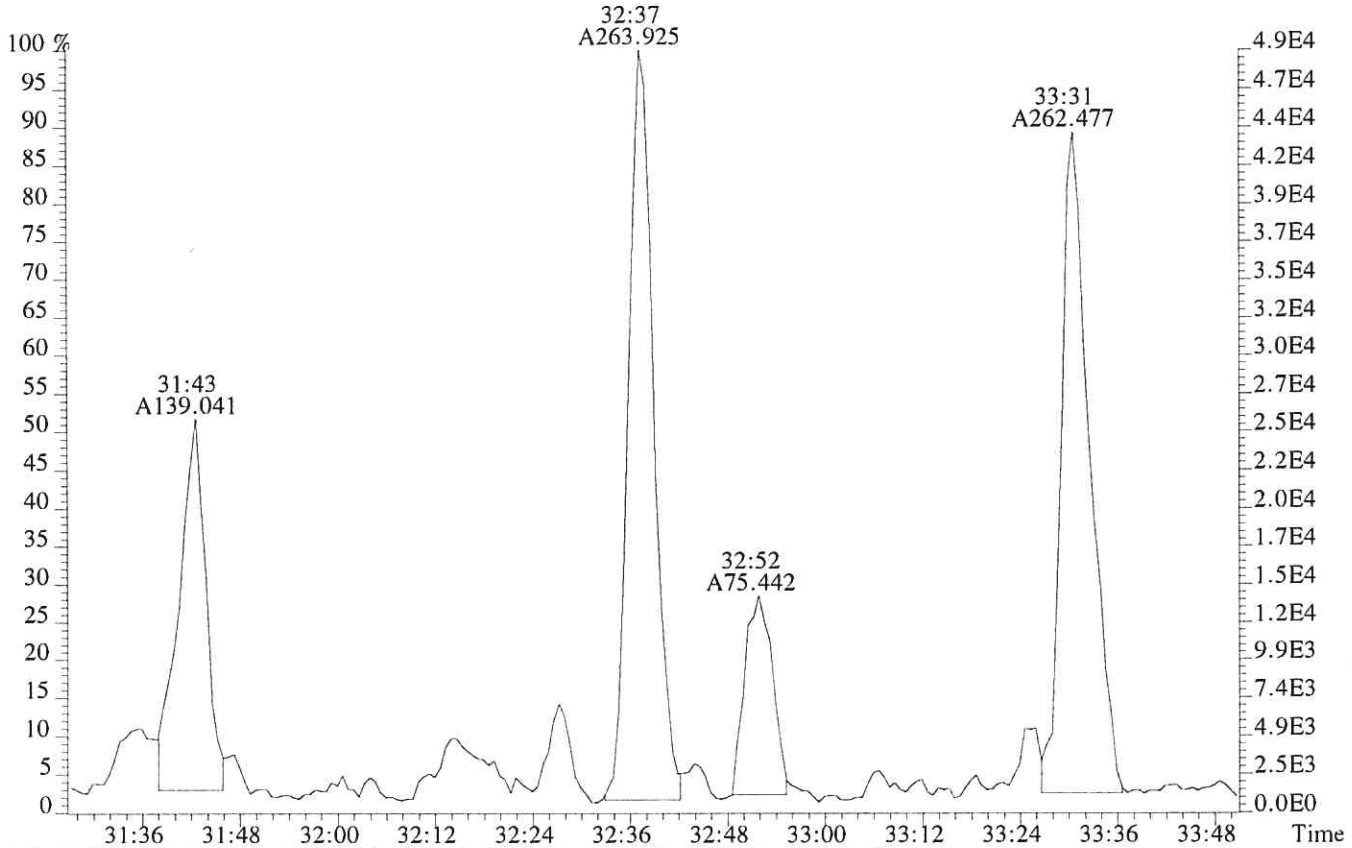
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



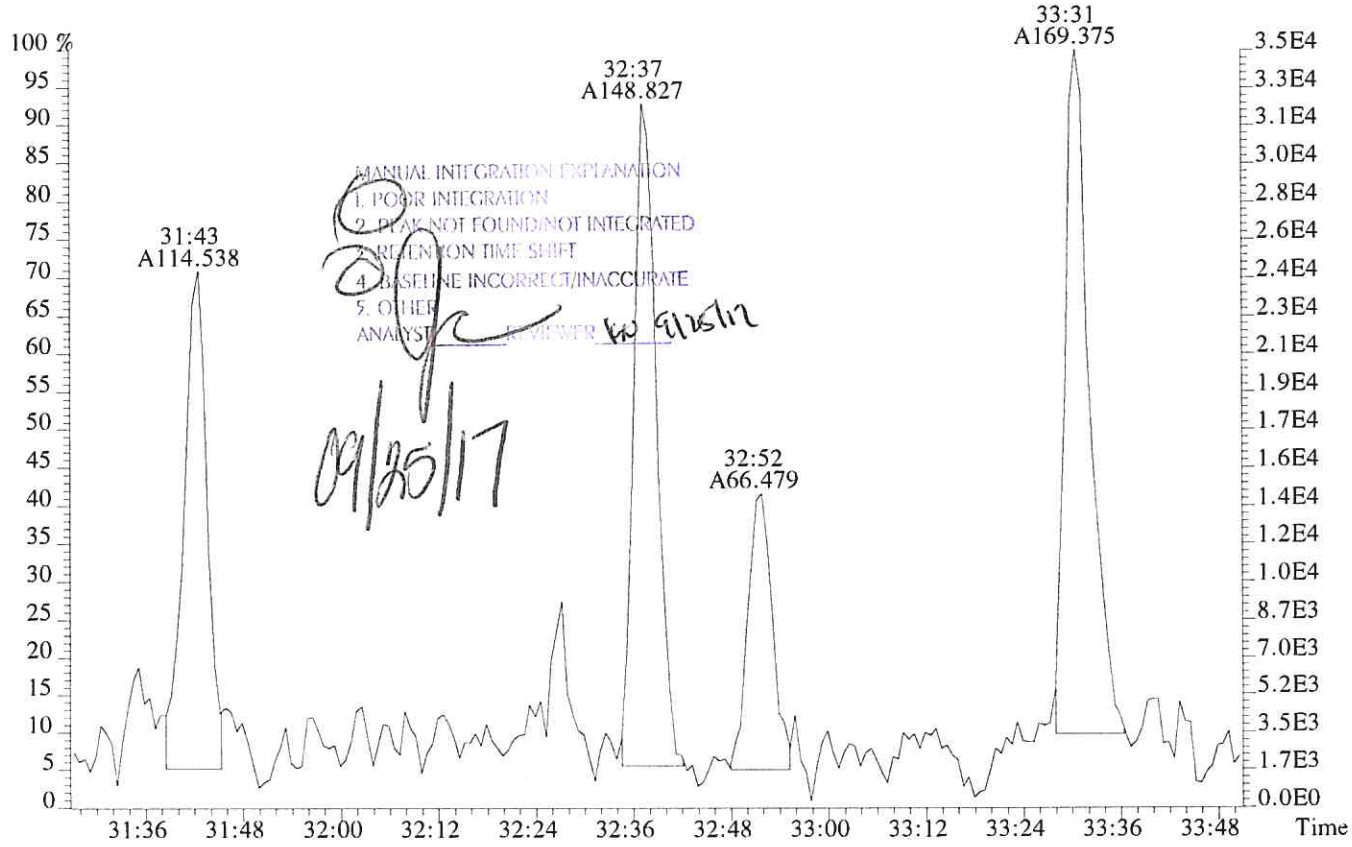
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2104.0,1.00%,F,T)

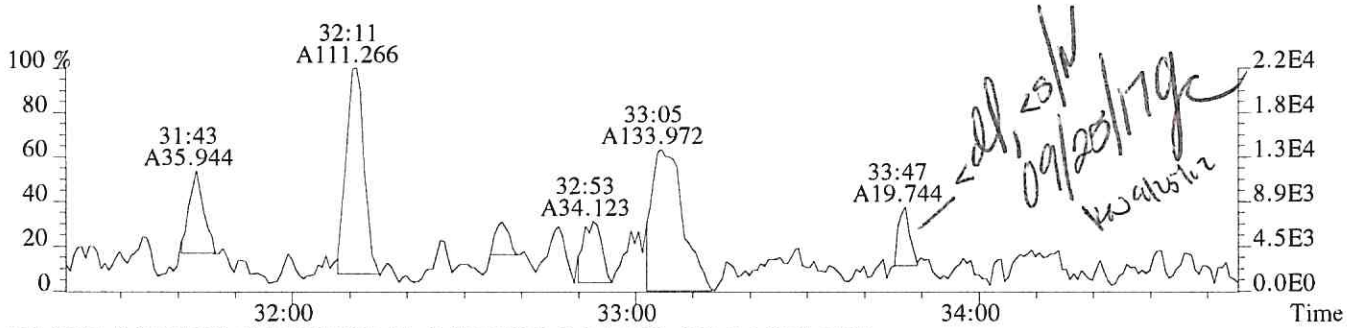


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4012.0,1.00%,F,T)

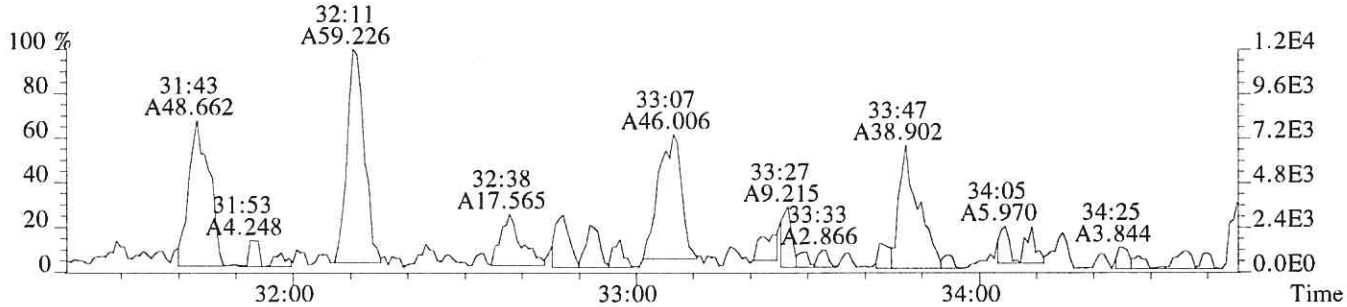


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST [illegible] REVIEWER KW 9/25/17
09/25/17

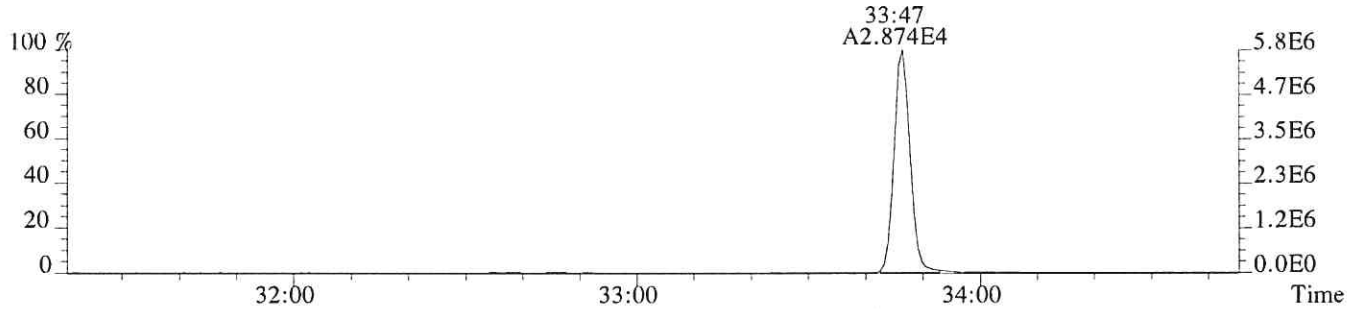
File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2884.0,1.00%,F,T)



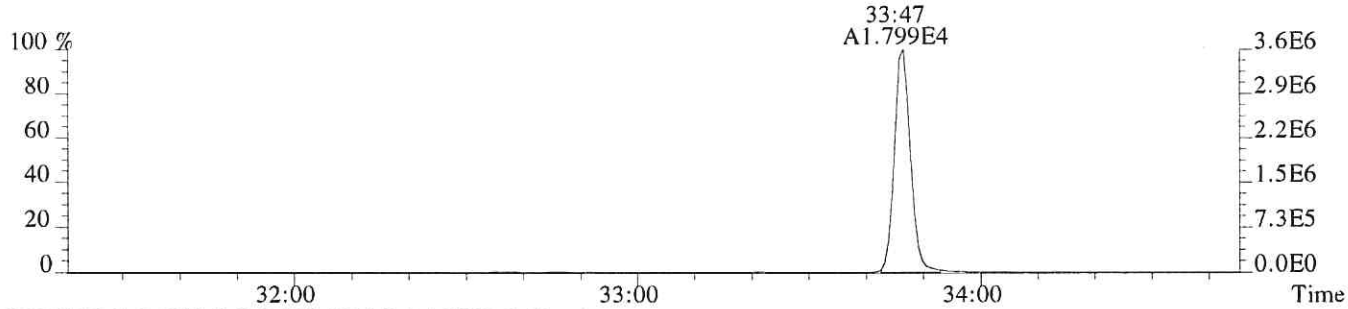
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



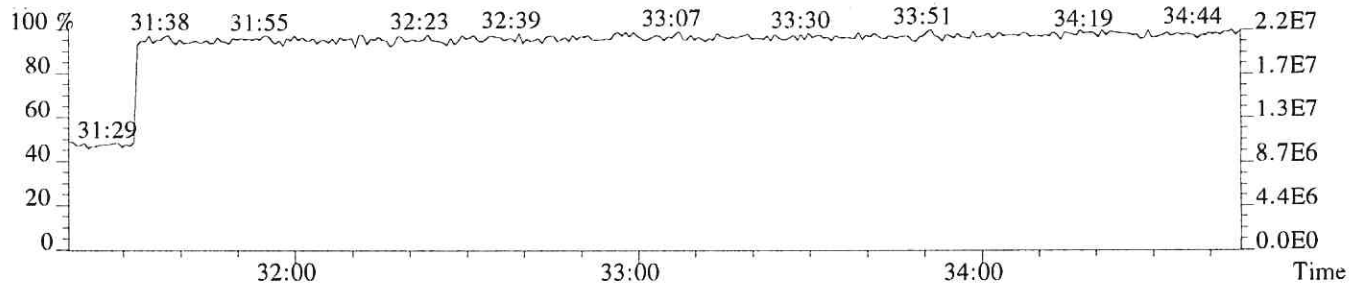
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3692.0,1.00%,F,T)



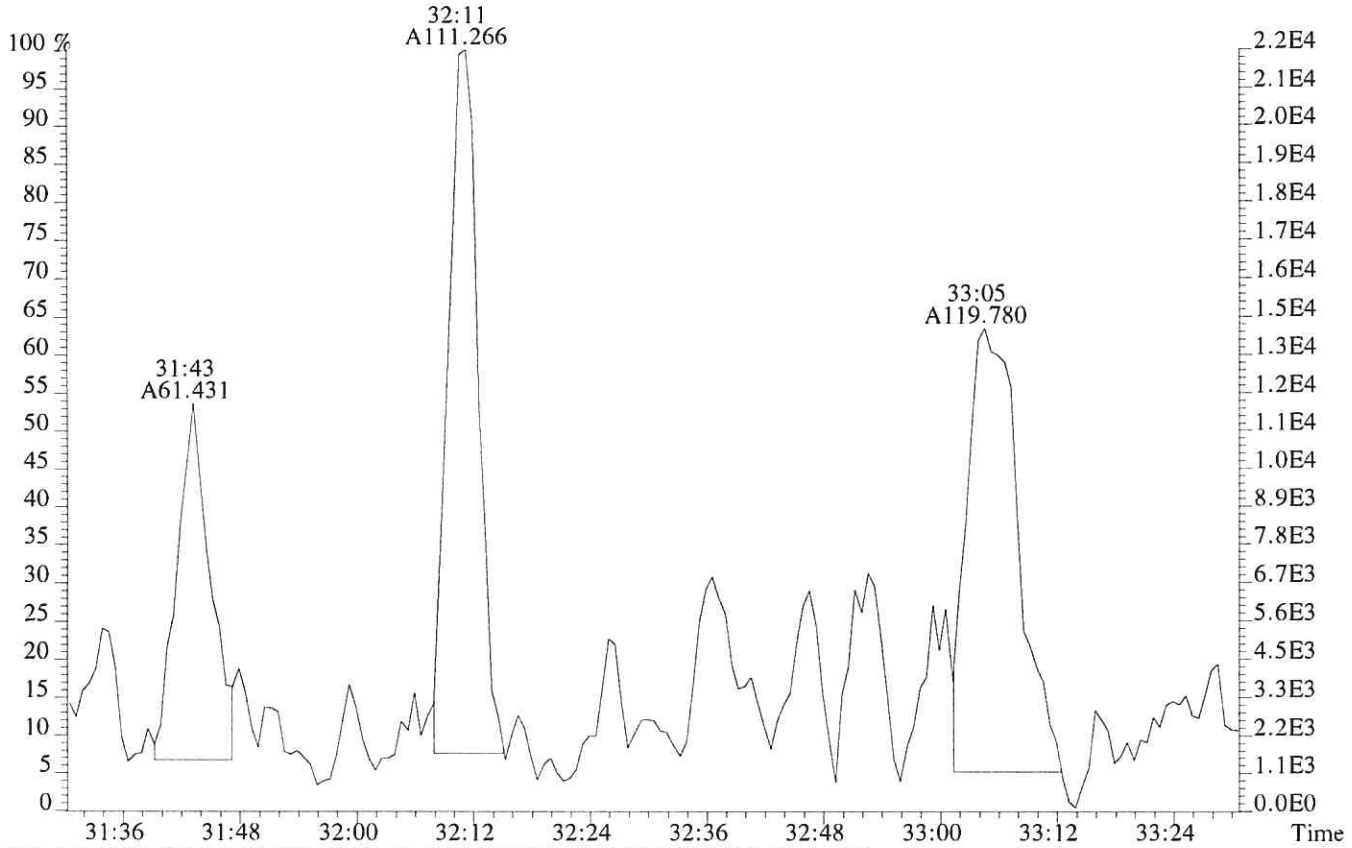
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2696.0,1.00%,F,T)



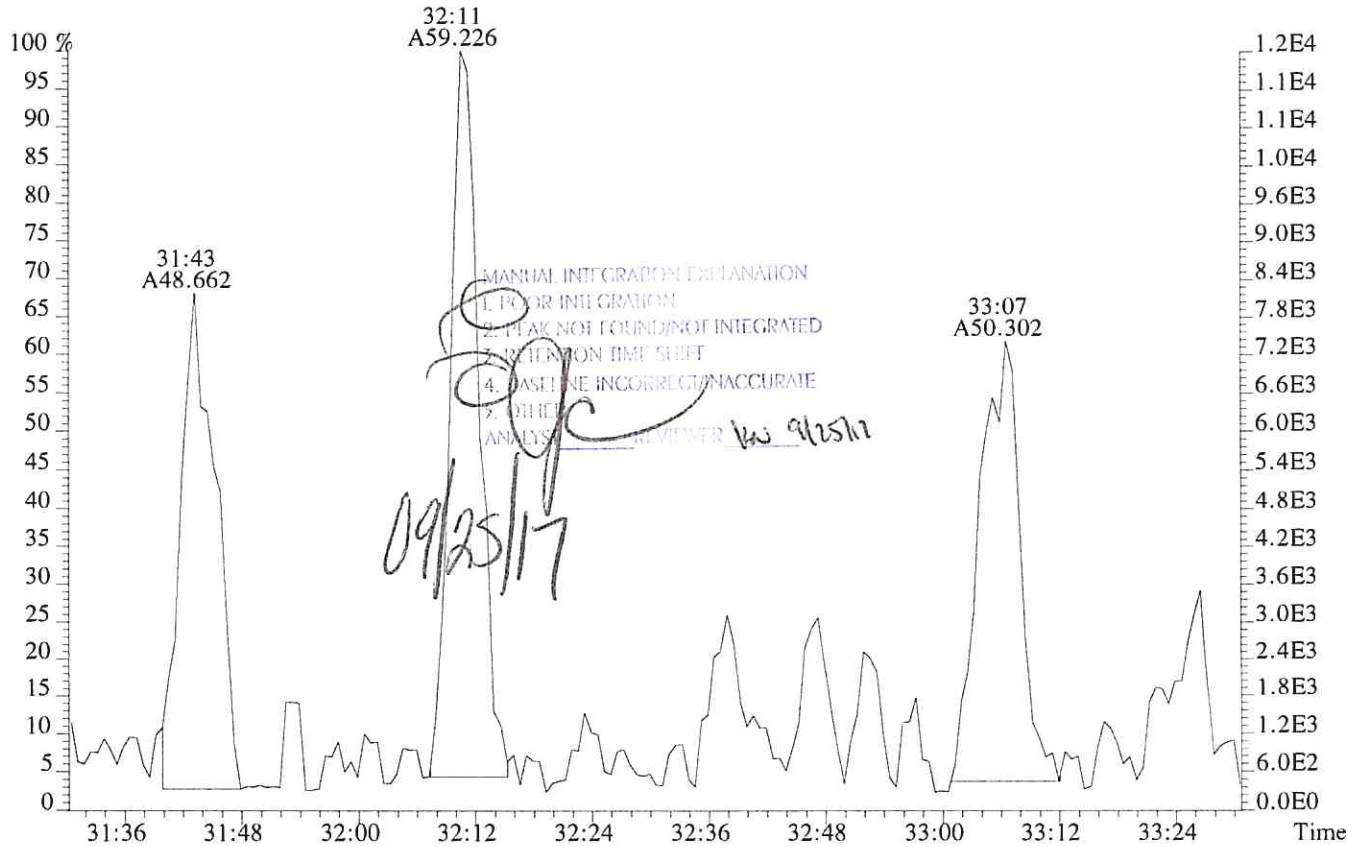
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



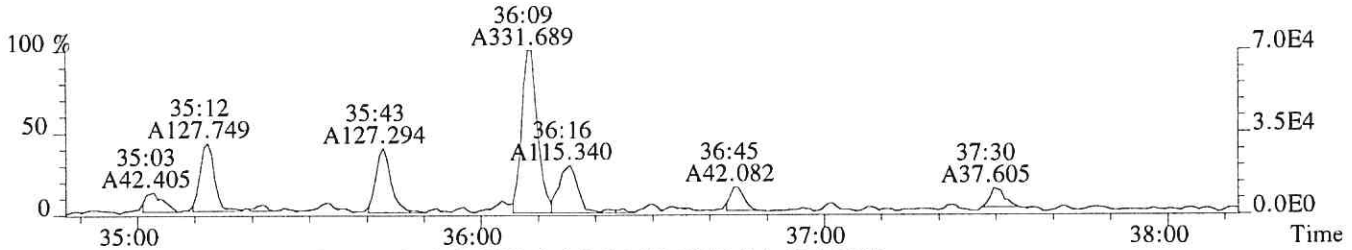
File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2884.0,1.00%,F,T)



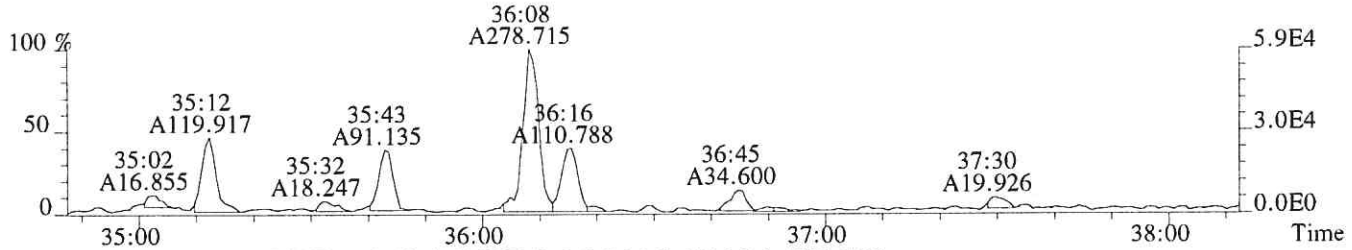
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



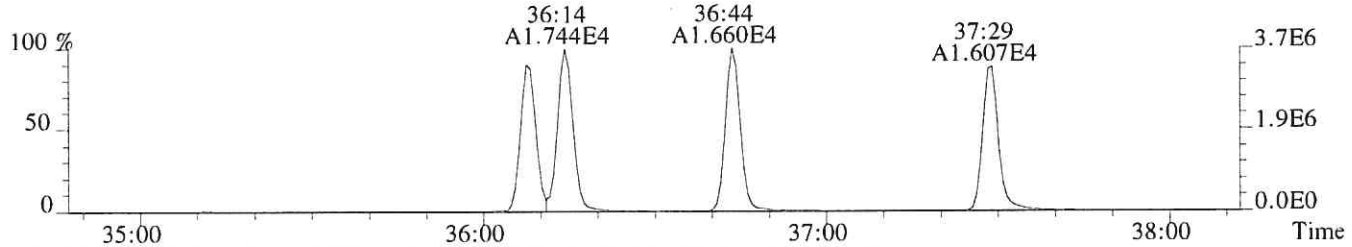
File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2712.0,0.40%,F,T)



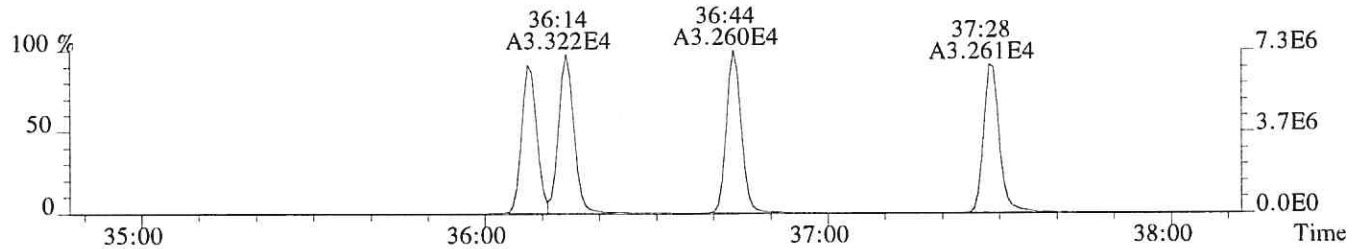
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2156.0,0.40%,F,T)



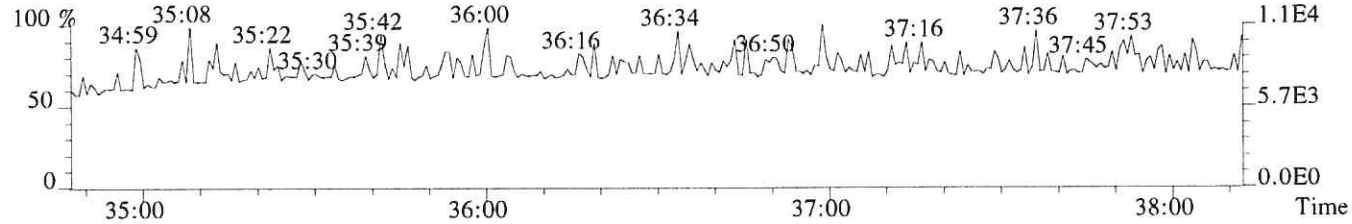
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1716.0,0.40%,F,T)



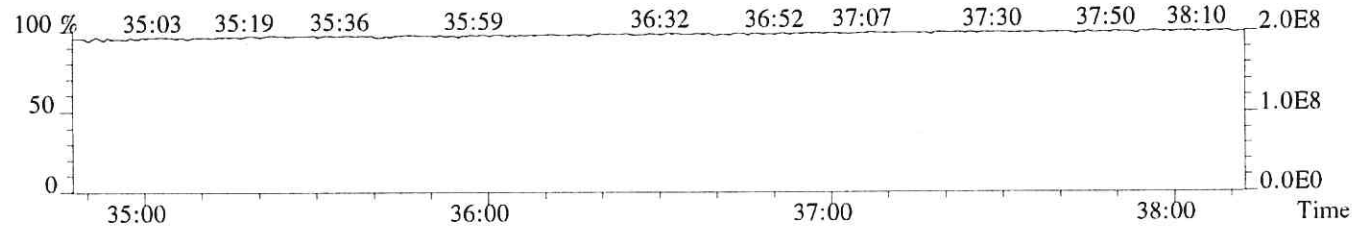
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3052.0,0.40%,F,T)



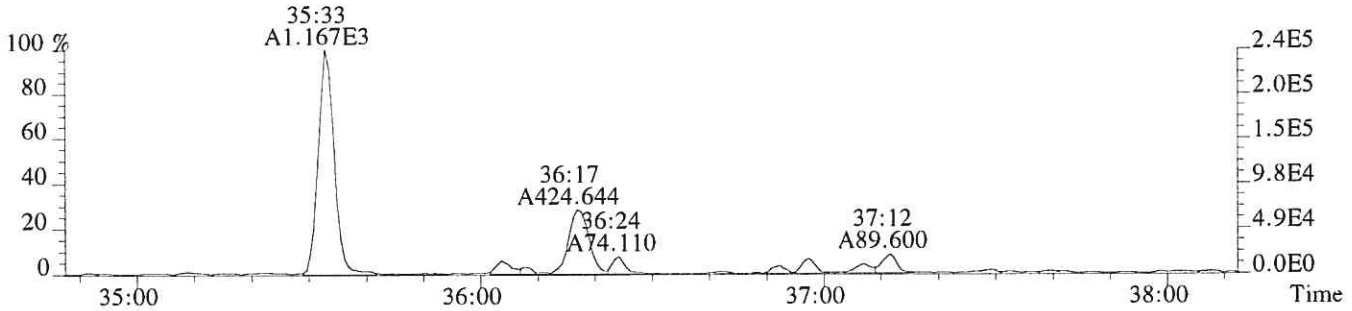
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



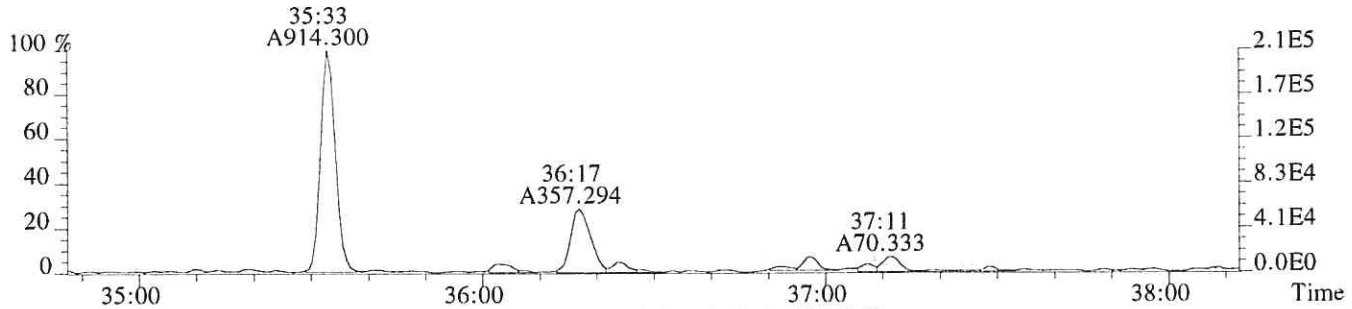
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



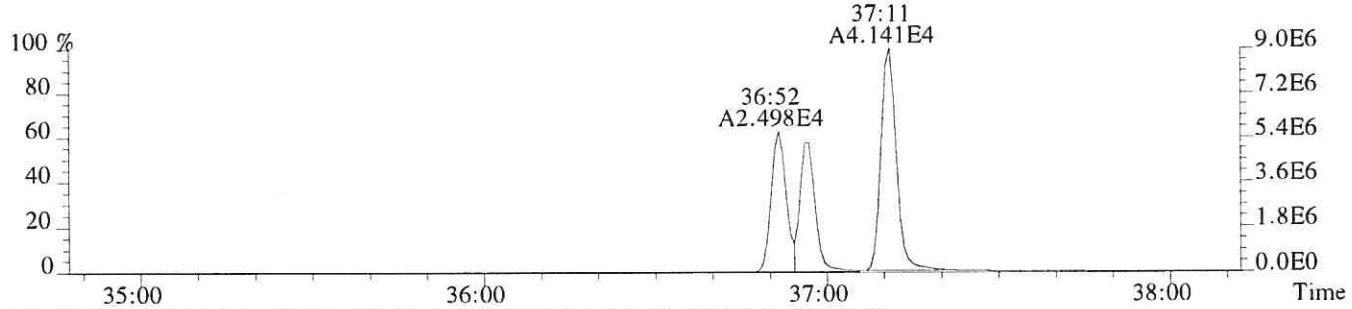
File:P511514 #1-308 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1552.0,0.40%,F,T)



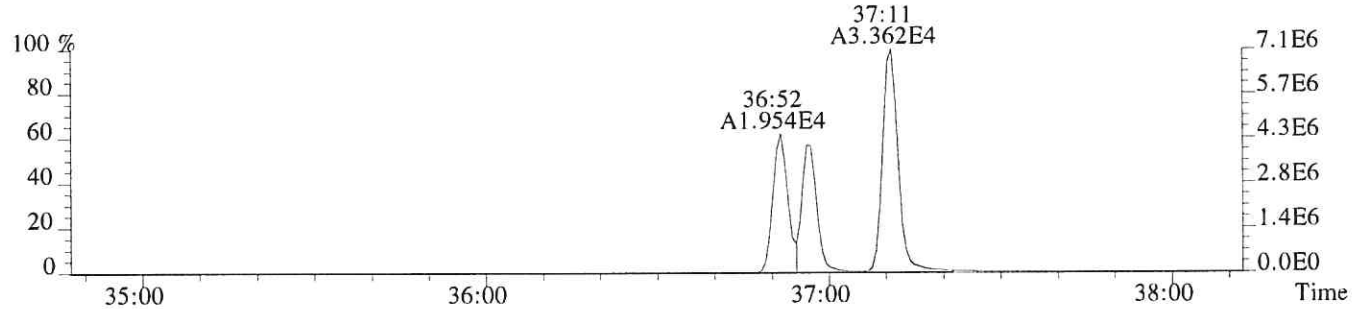
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2056.0,0.40%,F,T)



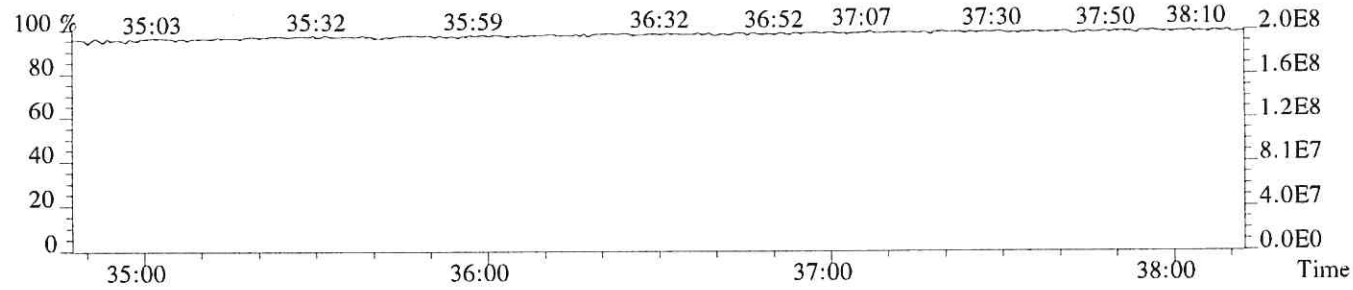
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3168.0,0.40%,F,T)



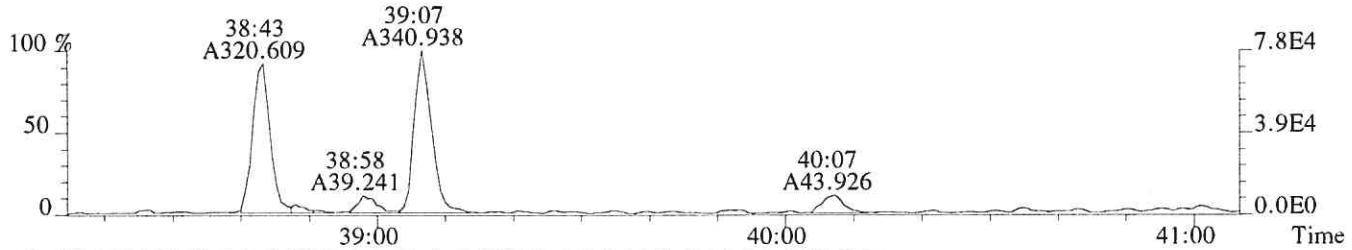
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1868.0,0.40%,F,T)



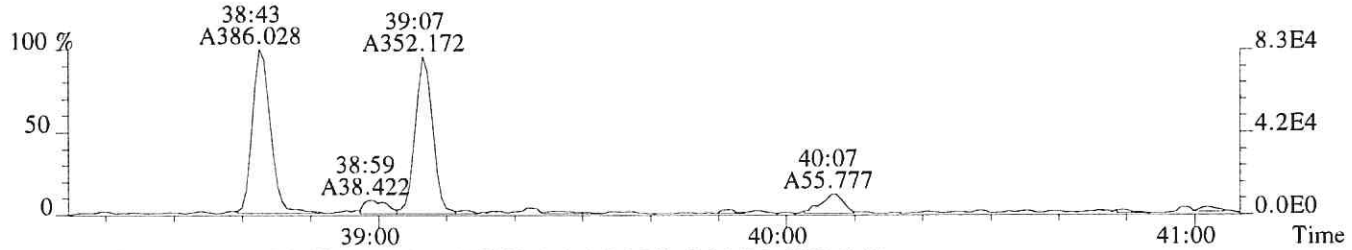
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



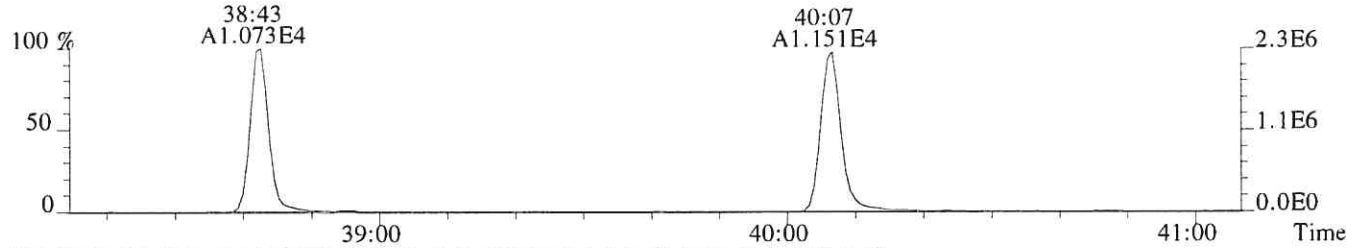
File:P511514 #1-259 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1408.0,0.50%,F,T)



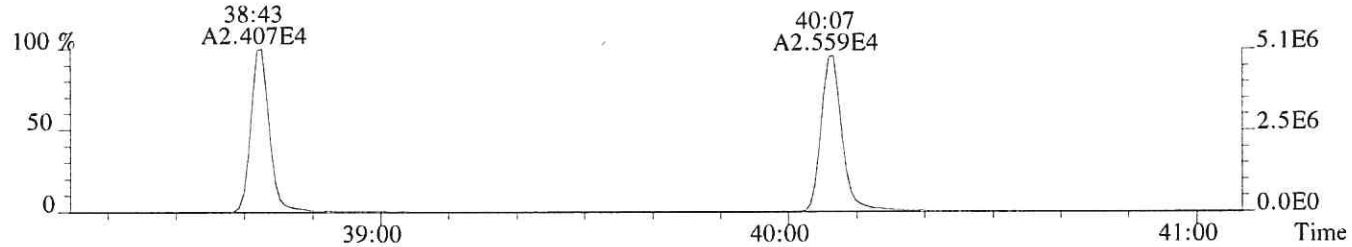
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.50%,F,T)



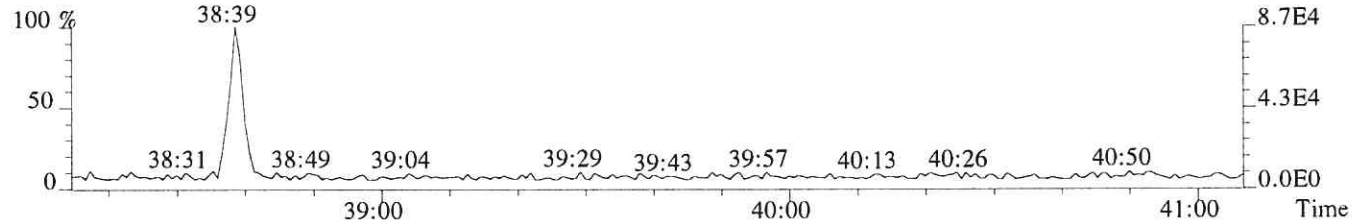
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3224.0,0.50%,F,T)



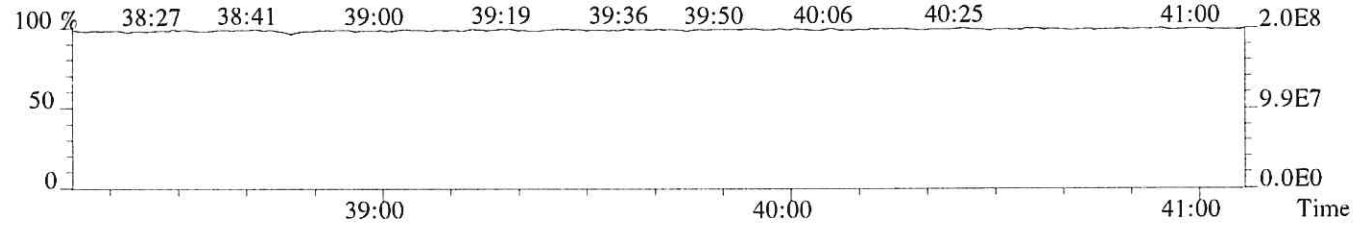
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3152.0,0.50%,F,T)



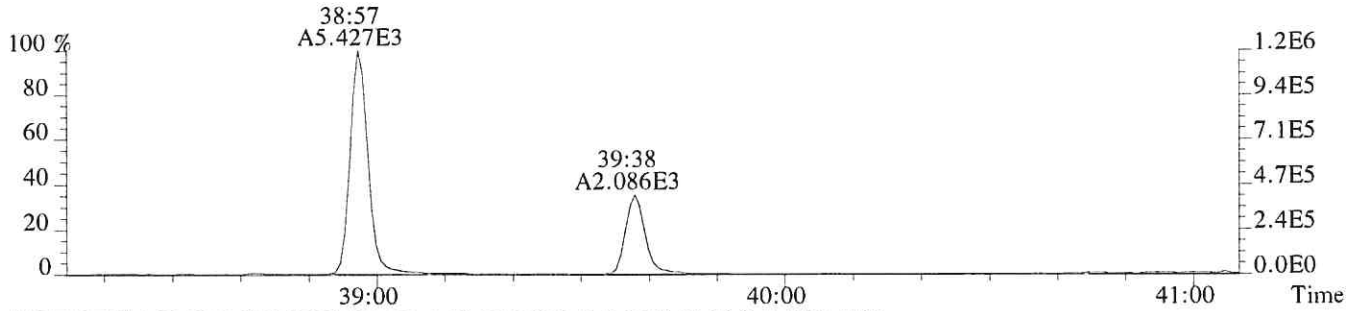
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



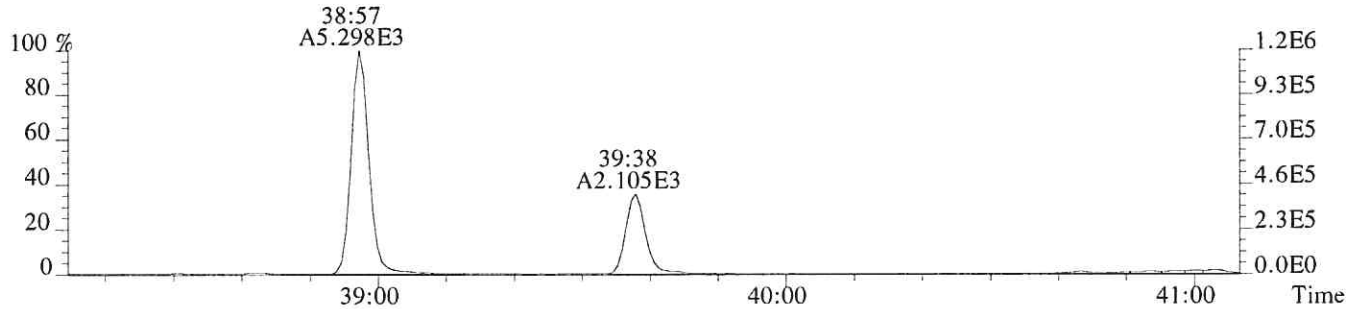
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



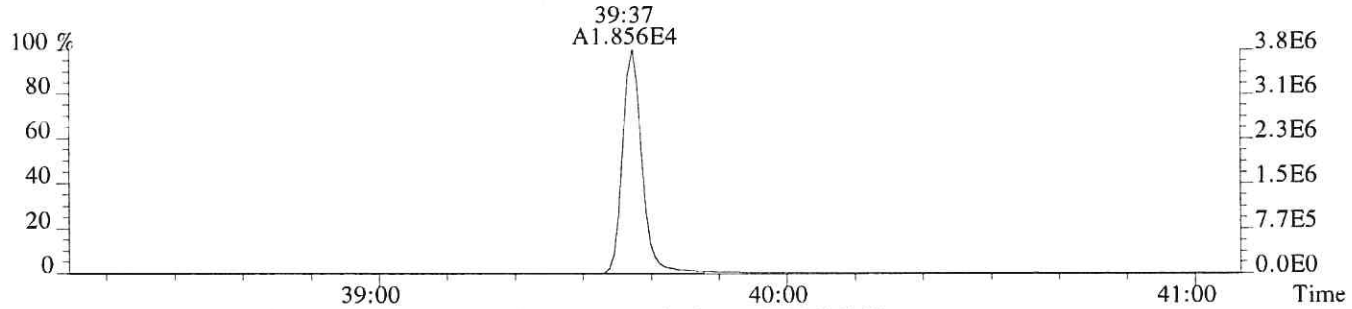
File:P511514 #1-259 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.40%,F,T)



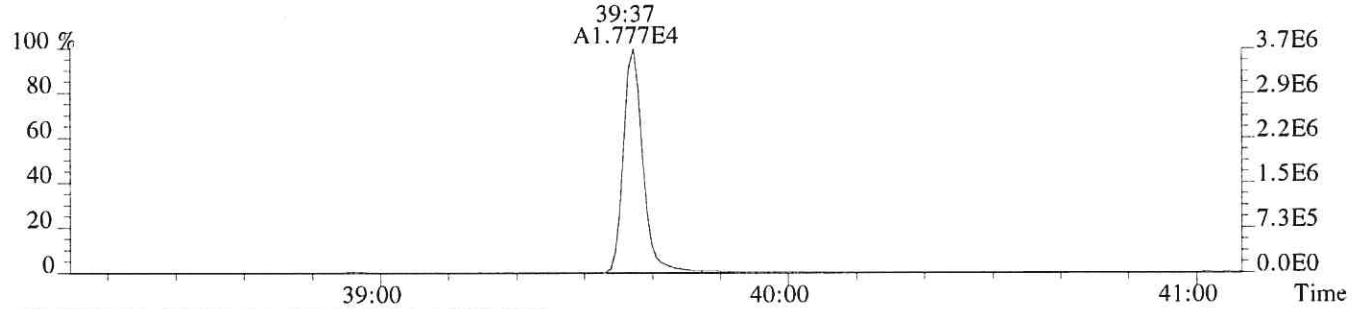
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2168.0,0.40%,F,T)



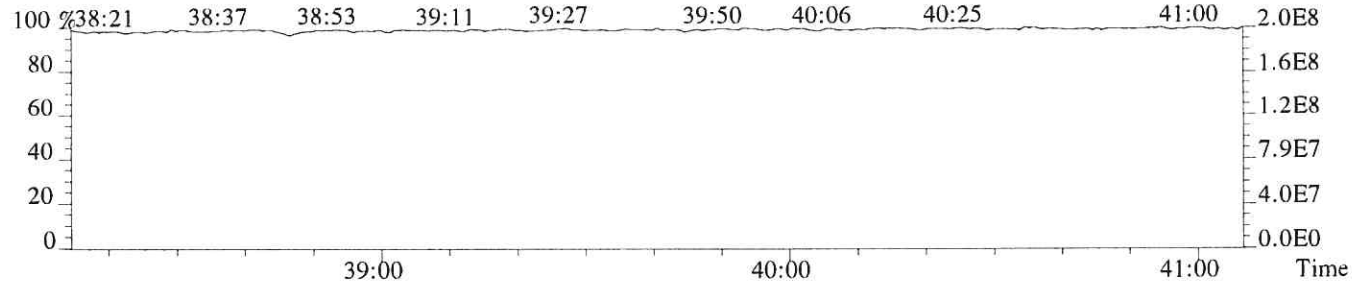
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2188.0,0.40%,F,T)



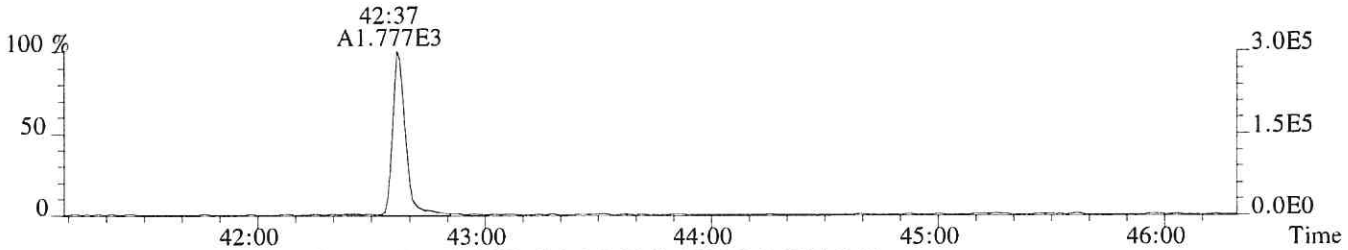
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1984.0,0.40%,F,T)



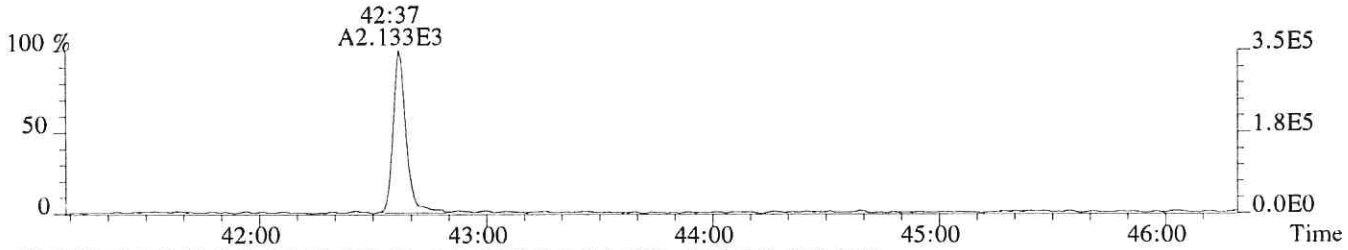
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



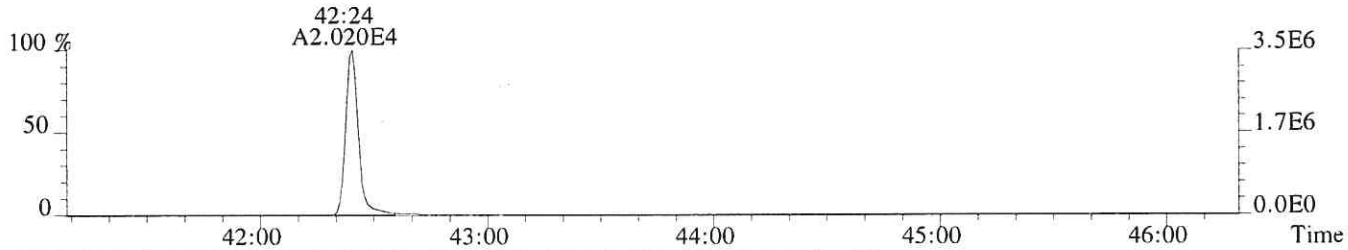
File:P511514 #1-466 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1536.0,0.40%,F,T)



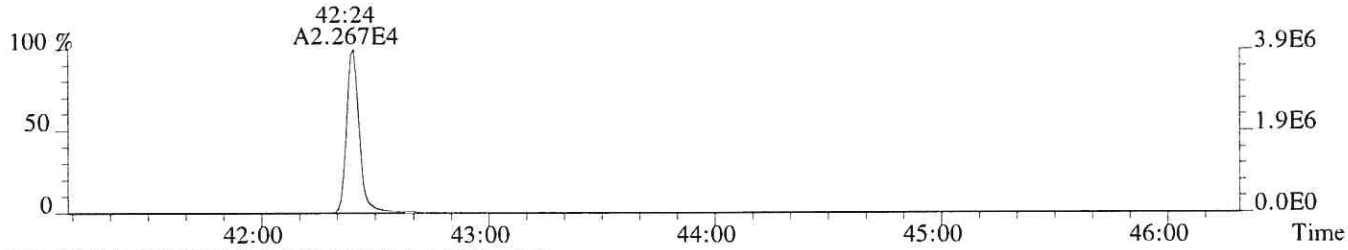
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4064.0,0.40%,F,T)



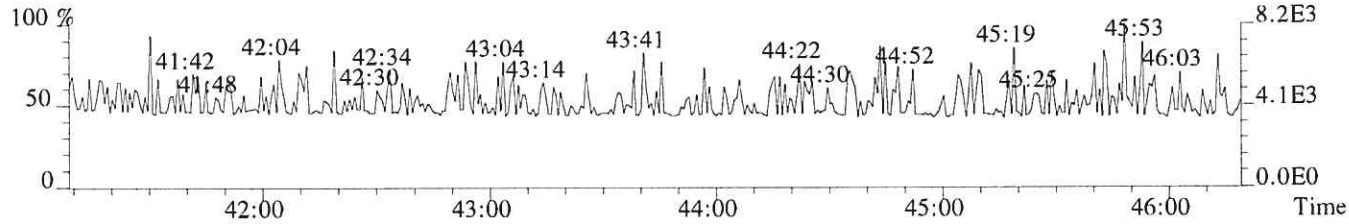
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1148.0,0.40%,F,T)



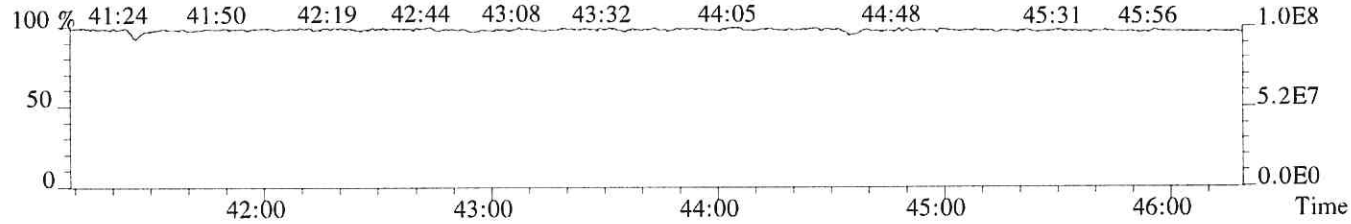
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,F,T)



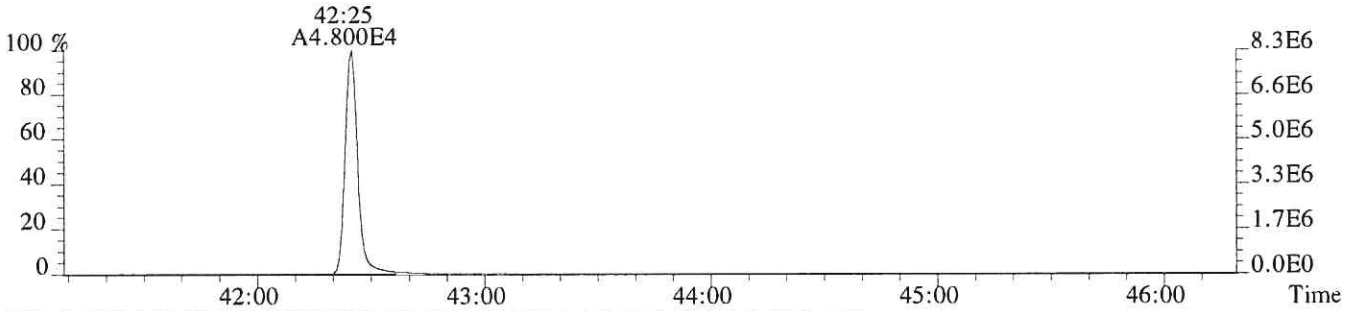
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



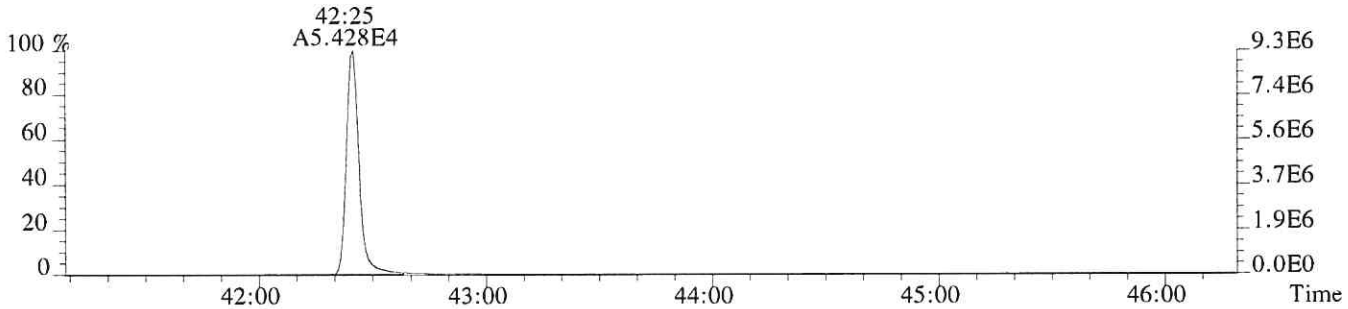
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



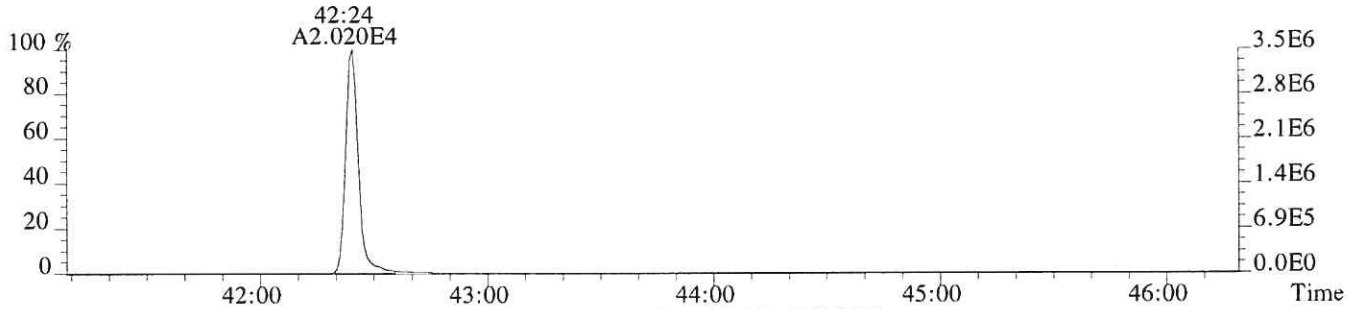
File:P511514 #1-466 Acq:23-SEP-2017 16:40:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-010
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,800.0,0.40%,F,T)



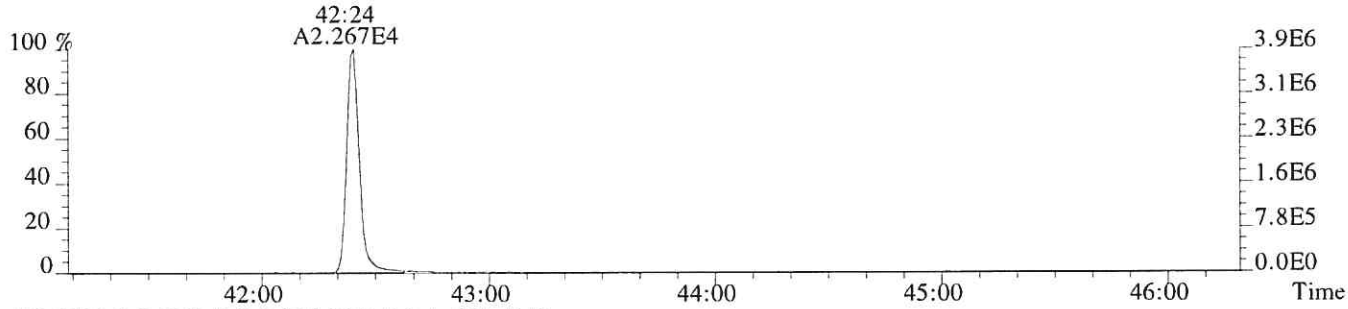
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,T)



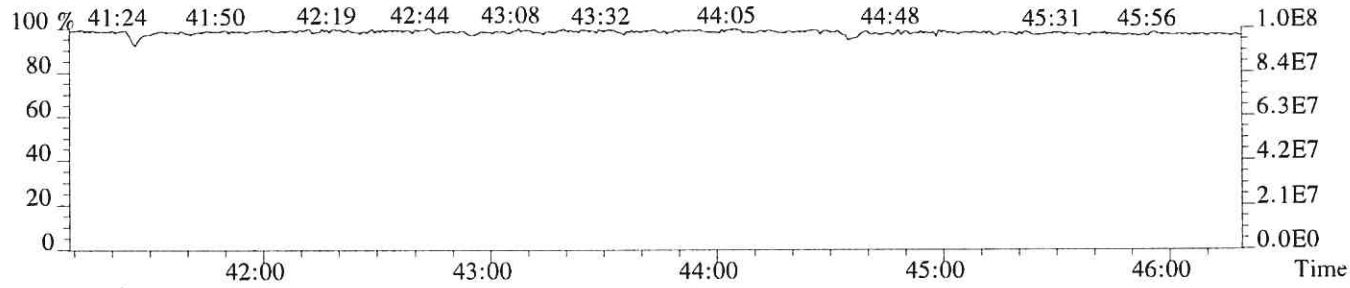
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1148.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,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 #13 Filename P511515 Samp: 1 Inj: 1 Acquired: 23-SEP-17 17:29:16
Processed: 25-SEP-17 10:00:01 Sample ID: E1700973-011

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:39	3.145e+06	4.082e+06	0.77	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:44	1.464e+05	1.006e+05	1.46	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:36	1.150e+05	7.944e+04	1.45	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:12	1.792e+05	1.523e+05	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:18	4.426e+04	3.790e+04	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:47	1.009e+04	8.299e+03	1.22	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:33	1.495e+04	1.307e+04	1.14	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:45	4.089e+04	4.124e+04	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:08	1.703e+04	1.774e+04	0.96	yes	no	1.191
10	Unk	OCDF	42:38	1.177e+04	1.415e+04	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:27	7.181e+05	9.151e+05	0.78	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:52	1.168e+04	7.408e+03	1.58	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:55	1.517e+02	1.337e+02	1.13	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	37:00	9.332e+02	7.348e+02	1.27	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:14	2.599e+02	2.448e+02	1.06	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:39	1.463e+04	1.371e+04	1.07	yes	no	0.942
17	Unk	OCDD	42:26	1.461e+05	1.639e+05	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:38	1.926e+04	2.401e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:43	3.071e+04	1.939e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:35	2.933e+04	1.854e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:11	1.184e+04	2.310e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:18	1.278e+04	2.446e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:46	1.228e+04	2.461e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:31	1.457e+04	2.796e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:44	7.624e+03	1.767e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:08	8.165e+03	1.880e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:26	1.305e+04	1.638e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:51	2.375e+04	1.462e+04	1.62	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:54	1.928e+04	1.549e+04	1.24	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	37:00	1.785e+04	1.411e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:39	1.348e+04	1.292e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:25	1.263e+04	1.382e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:52	2.981e+04	3.802e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:14	4.225e+04	3.432e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:27	2.067e+04				no	1.033

$$\text{OCDD} = \frac{(1.461e+05 + 1.639e+05) \times 4000 \text{ pg} \times 1}{(1.263e+04 + 1.382e+04) \times 10.054 \text{ g} \times 48.9 / 100 \times 1.051} = 9072.0 \text{ ng/kg}$$

KN 9/25/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-030E

Run #13 Filename P511515 Samp: 1 Inj: 1 Acquired: 23-SEP-17 17:29:16
Processed: 25-SEP-17 10:00:01 LAB. ID: E1700973-011

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.25e+08	2.62e+03	2.0e+05	6.78e+08	5.97e+03	1.1e+05
2	1,2,3,7,8-PeCDF	2.75e+07	5.47e+04	5.0e+02	1.90e+07	4.95e+04	3.8e+02
3	2,3,4,7,8-PeCDF	1.90e+07	5.47e+04	3.5e+02	1.30e+07	4.95e+04	2.6e+02
4	1,2,3,4,7,8-HxCDF	3.98e+07	4.38e+03	9.1e+03	3.41e+07	2.66e+03	1.3e+04
5	1,2,3,6,7,8-HxCDF	9.61e+06	4.38e+03	2.2e+03	8.33e+06	2.66e+03	3.1e+03
6	2,3,4,6,7,8-HxCDF	2.15e+06	4.38e+03	4.9e+02	1.81e+06	2.66e+03	6.8e+02
7	1,2,3,7,8,9-HxCDF	3.18e+06	4.38e+03	7.3e+02	2.76e+06	2.66e+03	1.0e+03
8	1,2,3,4,6,7,8-HpCDF	8.98e+06	5.32e+03	1.7e+03	9.13e+06	2.94e+03	3.1e+03
9	1,2,3,4,7,8,9-HpCDF	3.32e+06	5.32e+03	6.3e+02	3.45e+06	2.94e+03	1.2e+03
10	OCDF	2.05e+06	1.91e+03	1.1e+03	2.40e+06	3.20e+03	7.5e+02
11	2,3,7,8-TCDD	1.69e+08	3.07e+03	5.5e+04	2.15e+08	1.97e+03	1.1e+05
12	1,2,3,7,8-PeCDD	2.08e+06	4.31e+03	4.8e+02	1.37e+06	2.20e+03	6.2e+02
13	1,2,3,4,7,8-HxCDD	3.55e+04	1.88e+03	1.9e+01	3.15e+04	2.24e+03	1.4e+01
14	1,2,3,6,7,8-HxCDD	2.07e+05	1.88e+03	1.1e+02	1.57e+05	2.24e+03	7.0e+01
15	1,2,3,7,8,9-HxCDD	5.39e+04	1.88e+03	2.9e+01	5.29e+04	2.24e+03	2.4e+01
16	1,2,3,4,6,7,8-HpCDD	3.09e+06	2.58e+03	1.2e+03	2.91e+06	4.60e+03	6.3e+02
17	OCDD	2.45e+07	1.32e+03	1.9e+04	2.79e+07	1.41e+03	2.0e+04
18	13C-2,3,7,8-TCDF	3.38e+06	2.64e+04	1.3e+02	4.25e+06	1.41e+04	3.0e+02
19	13C-1,2,3,7,8-PeCDF	6.02e+06	8.18e+03	7.4e+02	3.81e+06	7.11e+03	5.4e+02
20	13C-2,3,4,7,8-PeCDF	6.06e+06	8.18e+03	7.4e+02	3.82e+06	7.11e+03	5.4e+02
21	13C-1,2,3,4,7,8-HxCDF	2.65e+06	4.22e+03	6.3e+02	5.23e+06	2.98e+03	1.8e+03
22	13C-1,2,3,6,7,8-HxCDF	2.74e+06	4.22e+03	6.5e+02	5.26e+06	2.98e+03	1.8e+03
23	13C-2,3,4,6,7,8-HxCDF	2.72e+06	4.22e+03	6.5e+02	5.49e+06	2.98e+03	1.8e+03
24	13C-1,2,3,7,8,9-HxCDF	3.15e+06	4.22e+03	7.5e+02	6.18e+06	2.98e+03	2.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.66e+06	3.07e+03	5.4e+02	3.86e+06	3.50e+03	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.56e+06	3.07e+03	5.1e+02	3.61e+06	3.50e+03	1.0e+03
27	13C-2,3,7,8-TCDD	2.84e+06	8.34e+03	3.4e+02	3.61e+06	4.64e+03	7.8e+02
28	13C-1,2,3,7,8-PeCDD	4.76e+06	3.64e+03	1.3e+03	2.91e+06	2.74e+03	1.1e+03
29	13C-1,2,3,4,7,8-HxCDD	4.40e+06	2.94e+03	1.5e+03	3.52e+06	1.96e+03	1.8e+03
30	13C-1,2,3,6,7,8-HxCDD	3.99e+06	2.94e+03	1.4e+03	3.13e+06	1.96e+03	1.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.81e+06	3.04e+03	9.2e+02	2.71e+06	1.46e+03	1.9e+03
32	13C-OCDD	2.14e+06	1.57e+03	1.4e+03	2.32e+06	1.03e+03	2.3e+03
33	13C-1,2,3,4-TCDD	5.09e+06	8.34e+03	6.1e+02	6.51e+06	4.64e+03	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.97e+06	2.94e+03	3.1e+03	7.14e+06	1.96e+03	3.6e+03
35	37Cl-2,3,7,8-TCDD	4.90e+06	3.14e+03	1.6e+03			

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 13 File: P511515 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 303.9020 305.8990 Tot Response: 1.30e+07 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:52	2.20e+04	3.05e+04	0.72	yes	5.25e+04		n	n
2	26:10	1.26e+05	1.70e+05	0.74	yes	2.97e+05		n	n
3	26:32	4.03e+04	4.86e+04	0.83	yes	8.89e+04		n	n
4	26:49	1.08e+05	1.46e+05	0.74	yes	2.54e+05		n	n
5	27:10	2.77e+04	3.95e+04	0.70	yes	6.72e+04		n	n
6	27:22	7.33e+04	1.01e+05	0.72	yes	1.75e+05		n	n
7	27:29	1.40e+05	1.89e+05	0.74	yes	3.28e+05		n	n
8	27:53	1.40e+06	1.83e+06	0.77	yes	3.23e+06		n	n
9	28:07	6.31e+04	8.49e+04	0.74	yes	1.48e+05		n	n
10	28:39	3.15e+06	4.08e+06	0.77	yes	7.23e+06	2,3,7,8-TCDF	n	n
11	29:00	2.02e+05	2.70e+05	0.75	yes	4.72e+05		n	n
12	29:14	2.63e+04	3.87e+04	0.68	yes	6.50e+04		n	n
13	30:26	2.48e+05	3.30e+05	0.75	yes	5.78e+05		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 13 File: P511515 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 319.8970 321.8940 Tot Response: 1.83e+06 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:21	1.43e+03	1.79e+03	0.80	yes	3.23e+03		n	n
2	29:11	1.01e+04	1.29e+04	0.79	yes	2.30e+04		n	n
3	29:27	7.18e+05	9.15e+05	0.78	yes	1.63e+06	2,3,7,8-TCDD	n	n
4	29:41	7.45e+04	9.47e+04	0.79	yes	1.69e+05		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 13 File: P511515 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 339.8600 341.8570 Tot Response: 6.55e+05 RRF: 0.8606

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:42	1.23e+03	7.94e+02	1.54	yes	2.02e+03		n	n
2	31:49	5.97e+04	4.05e+04	1.48	yes	1.00e+05		n	n
3	32:21	2.76e+03	1.63e+03	1.70	yes	4.39e+03		n	n
4	32:27	3.39e+03	2.11e+03	1.60	yes	5.51e+03		n	n
5	32:34	1.43e+04	9.67e+03	1.48	yes	2.40e+04		n	n
6	32:44	1.46e+05	1.01e+05	1.46	yes	2.47e+05	1,2,3,7,8-PeCDF	n	n
7	32:59	3.92e+04	2.64e+04	1.48	yes	6.56e+04		n	n
8	33:36	1.15e+05	7.94e+04	1.45	yes	1.94e+05	2,3,4,7,8-PeCDF	n	n
9	34:29	6.70e+03	4.76e+03	1.41	yes	1.15e+04		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 13 File: P511515 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 355.8550 357.8520 Tot Response: 2.20e+04 RRF: 0.9085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:51	3.67e+02	2.51e+02	1.46	yes	6.18e+02		n	n
2	32:17	7.80e+01	4.88e+01	1.60	yes	1.27e+02		n	n
3	32:44	3.37e+02	2.49e+02	1.35	yes	5.85e+02		n	n
4	32:53	5.34e+02	3.65e+02	1.46	yes	8.99e+02		n	n
5	33:10	1.38e+02	8.33e+01	1.66	yes	2.22e+02		n	n
6	33:29	2.79e+02	1.80e+02	1.55	yes	4.60e+02		n	n
7	33:52	1.17e+04	7.41e+03	1.58	yes	1.91e+04	1,2,3,7,8-PeCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 13 File: P511515 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 373.8210 375.8180 Tot Response: 4.96e+05 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:16	1.20e+04	1.04e+04	1.16	yes	2.23e+04		n	n
2	35:46	7.03e+03	6.29e+03	1.12	yes	1.33e+04		n	n
3	36:12	1.79e+05	1.52e+05	1.18	yes	3.32e+05	1,2,3,4,7,8-HxCDF	n	n
4	36:18	4.43e+04	3.79e+04	1.17	yes	8.22e+04	1,2,3,6,7,8-HxCDF	n	n
5	36:47	1.01e+04	8.30e+03	1.22	yes	1.84e+04	2,3,4,6,7,8-HxCDF	n	n
6	37:33	1.50e+04	1.31e+04	1.14	yes	2.80e+04	1,2,3,7,8,9-HxCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 13 File: P511515 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 389.8160 391.8130 Tot Response: 1.11e+04 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:37	2.10e+03	1.80e+03	1.16	yes	3.91e+03		n	n
2	36:07	3.20e+02	2.62e+02	1.22	yes	5.82e+02		n	n
3	36:20	2.20e+03	1.78e+03	1.24	yes	3.97e+03		n	n
4	36:27	1.14e+02	1.01e+02	1.13	yes	2.16e+02		n	n
5	36:55	1.52e+02	1.34e+02	1.13	yes	2.85e+02	1,2,3,4,7,8-HxCDD	n	n
6	37:00	9.33e+02	7.35e+02	1.27	yes	1.67e+03	1,2,3,6,7,8-HxCDD	n	n
7	37:14	2.60e+02	2.45e+02	1.06	yes	5.05e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-030E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 13 File: P511515 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 407.7820 409.7790 Tot Response: 1.58e+05 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:45	4.09e+04	4.12e+04	0.99	yes	8.21e+04	1,2,3,4,6,7,8-HpCDF	n	n
2	39:01	1.03e+03	9.02e+02	1.14	yes	1.93e+03		n	n
3	39:09	1.97e+04	1.99e+04	0.99	yes	3.96e+04		n	n
4	40:08	1.70e+04	1.77e+04	0.96	yes	3.48e+04	1,2,3,4,7,8,9-HpCDF	n	n

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Peak List Summary

CLIENT ID.
SJWP-091517-030E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 13 File: P511515 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 17:29:16 Processed: 25-SEP-17 10:00:01

Mass: 423.7770 425.7740 Tot Response: 7.12e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:59	2.15e+04	2.13e+04	1.01	yes	4.28e+04		n	n
2	39:39	1.46e+04	1.37e+04	1.07	yes	2.83e+04	1,2,3,4,6,7,8-HpCDD	n	n

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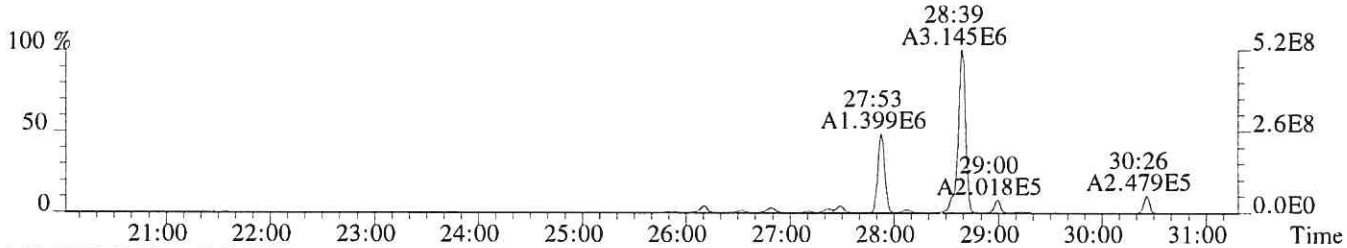
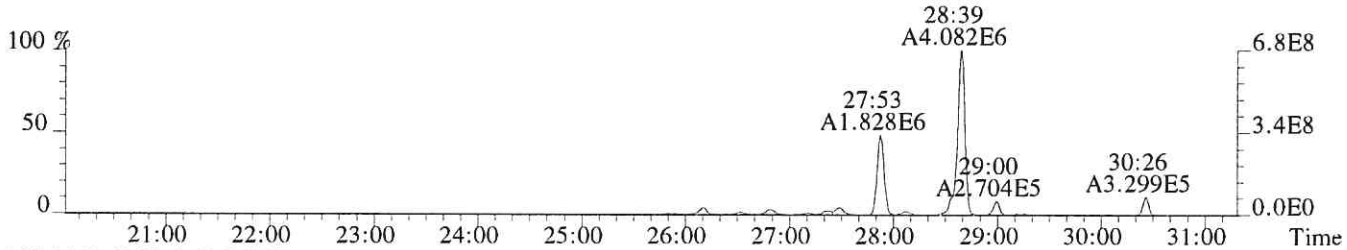
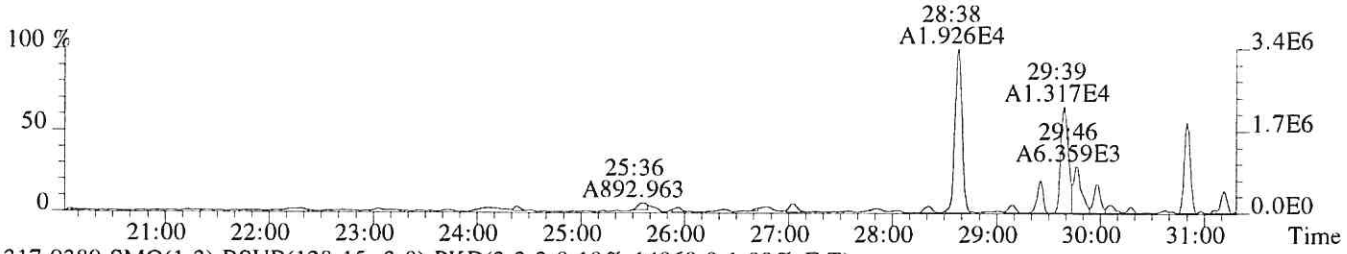
File:P511515 #1-800 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2620.0,1.00%,F,T)



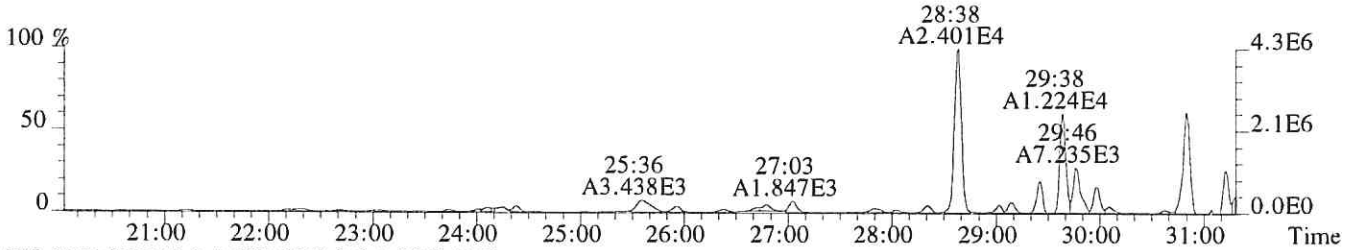
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5972.0,1.00%,F,T)



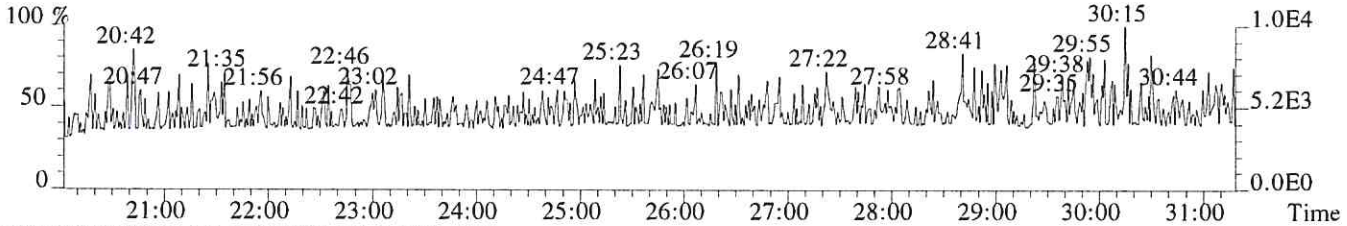
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,26436.0,1.00%,F,T)



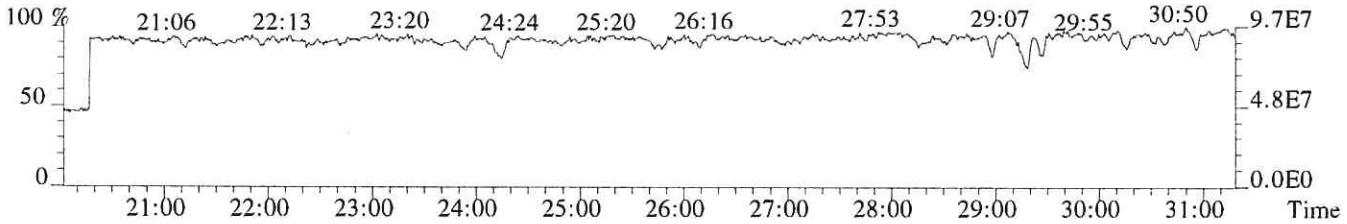
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14068.0,1.00%,F,T)



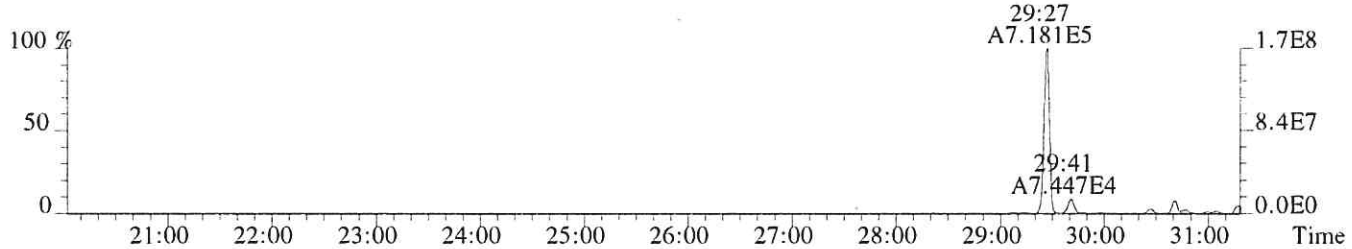
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



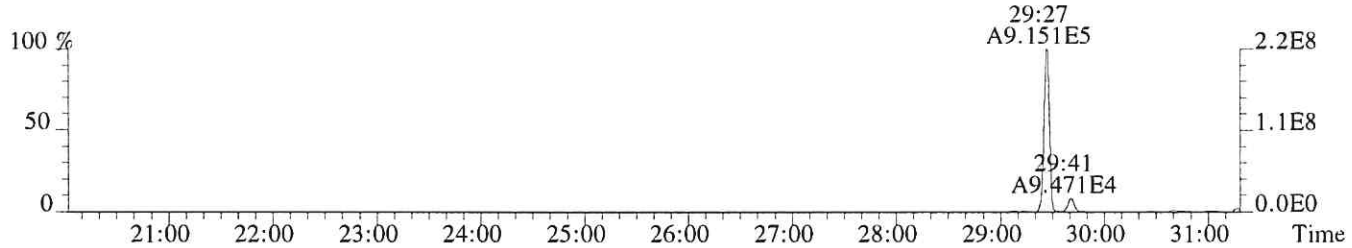
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



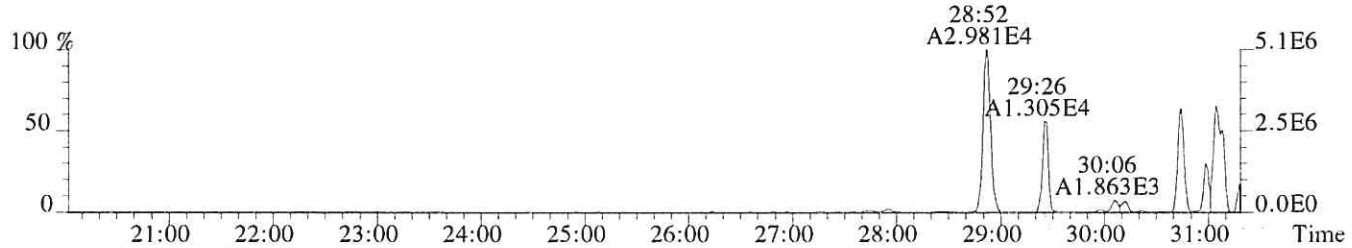
File:P511515 #1-800 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3068.0,1.00%,F,T)



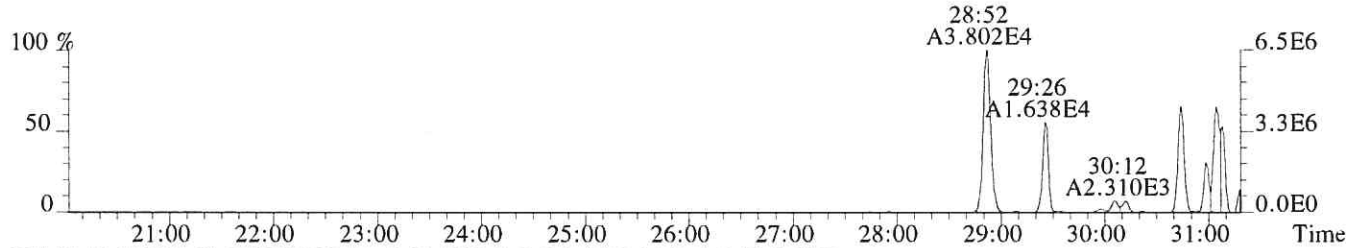
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1968.0,1.00%,F,T)



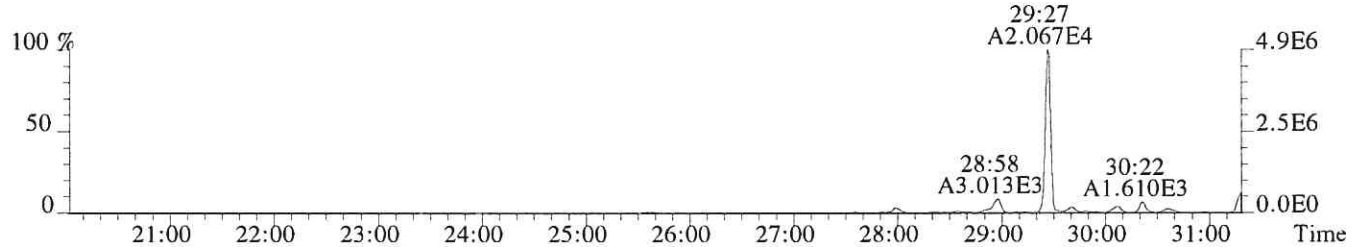
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8344.0,1.00%,F,T)



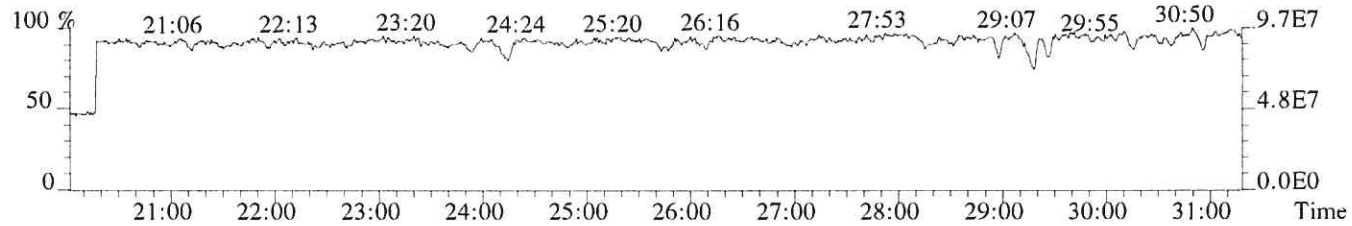
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4644.0,1.00%,F,T)



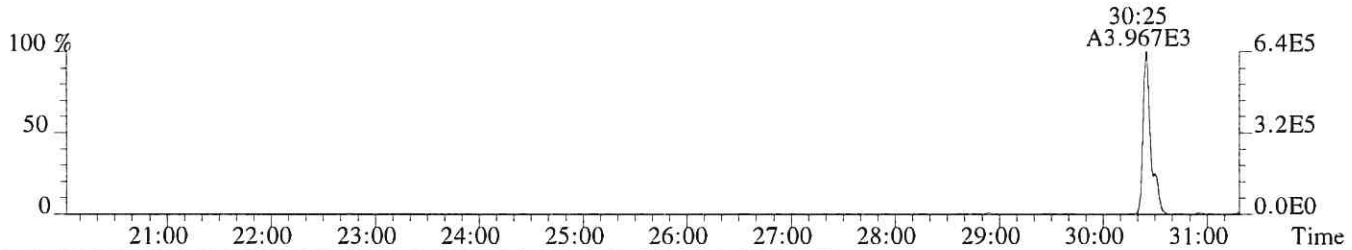
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3144.0,1.00%,F,T)



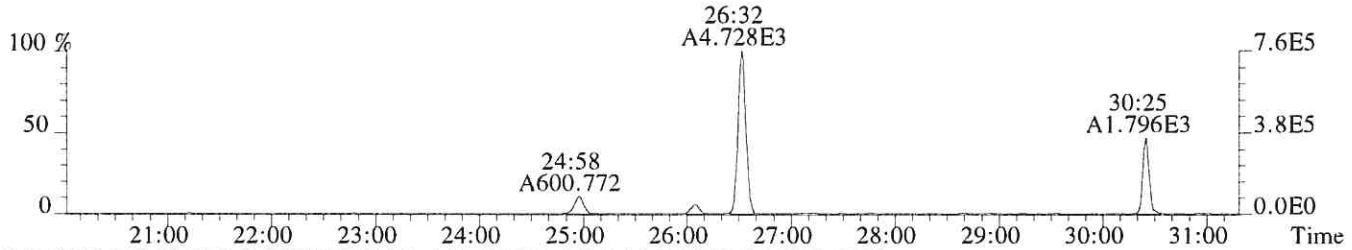
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



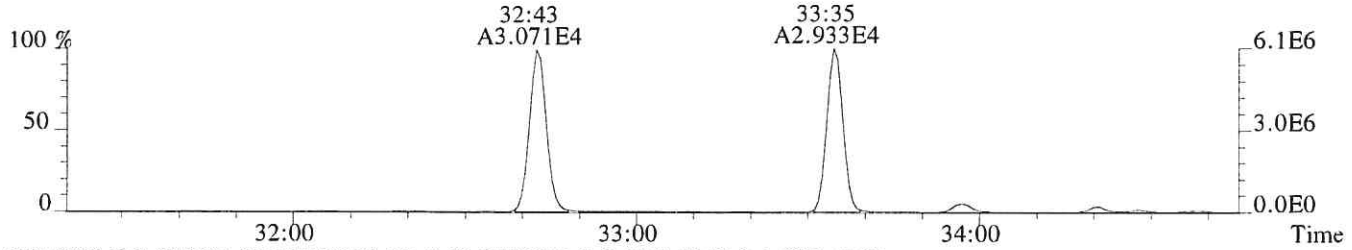
File:P511515 #1-800 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



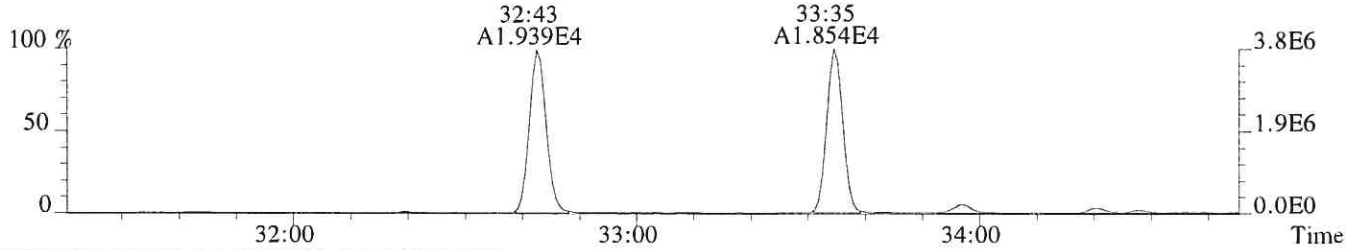
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2520.0,1.00%,F,T)



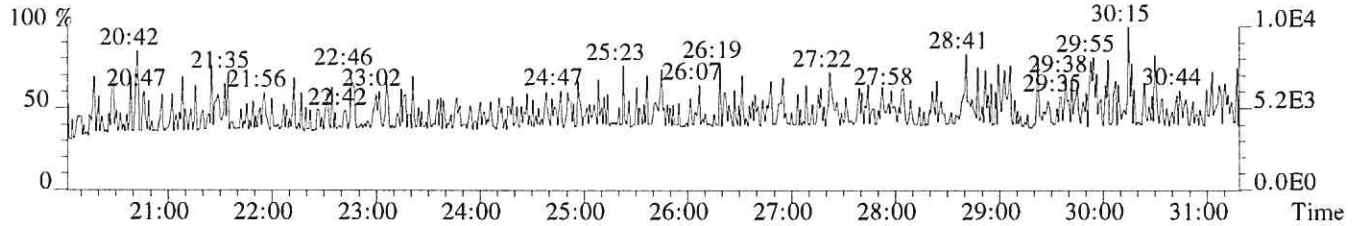
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8180.0,1.00%,F,T)



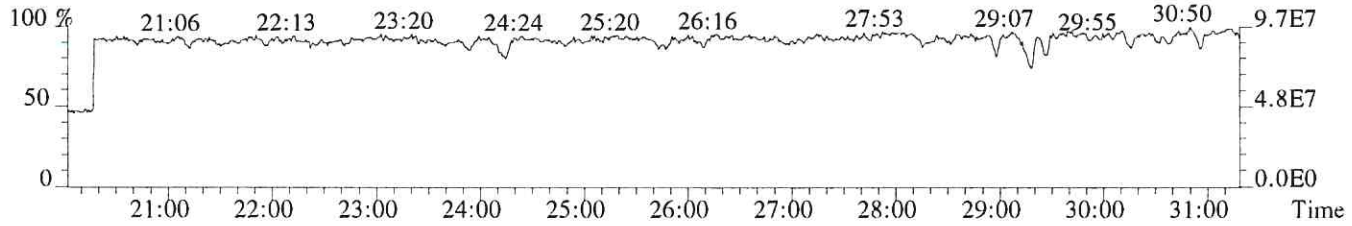
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7112.0,1.00%,F,T)



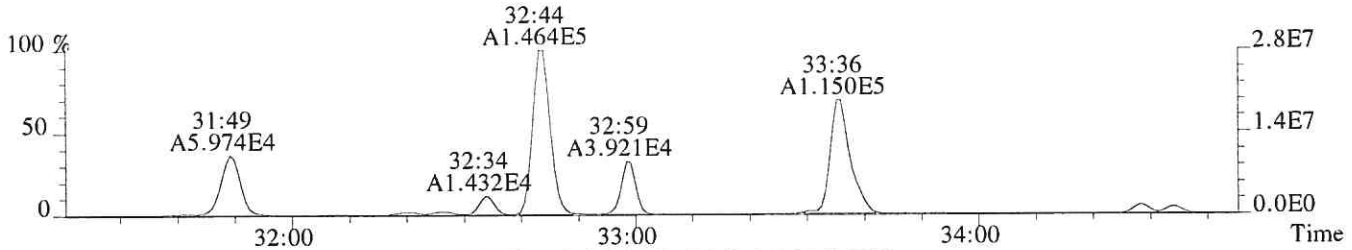
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



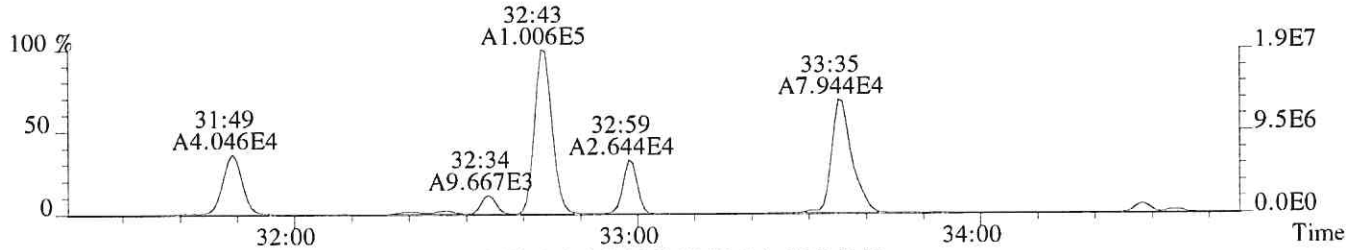
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



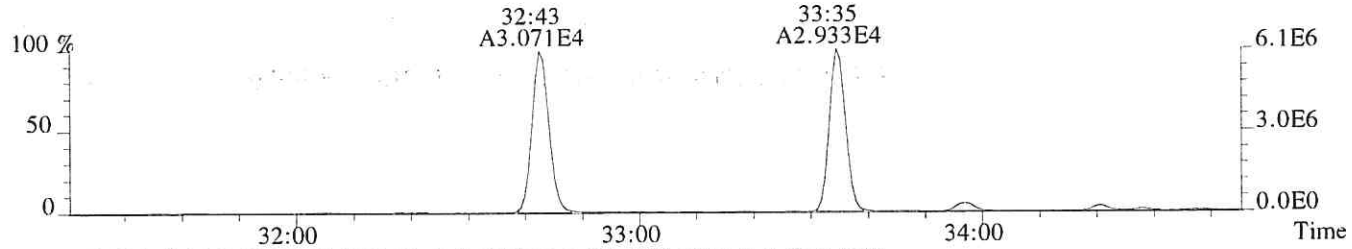
File:P511515 #1-308 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,54652.0,1.00%,F,T)



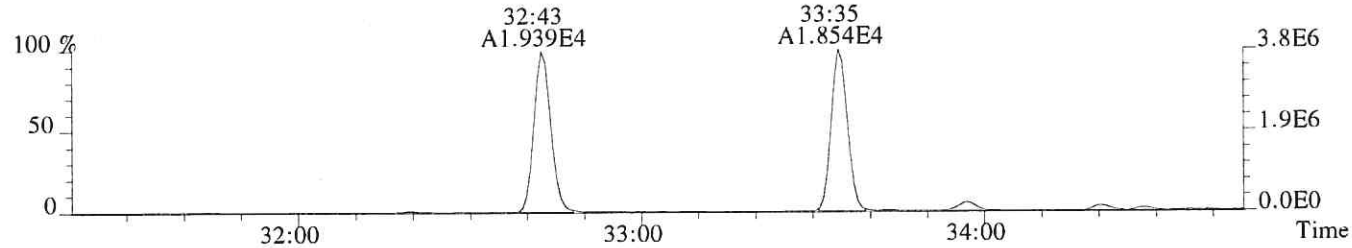
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,49548.0,1.00%,F,T)



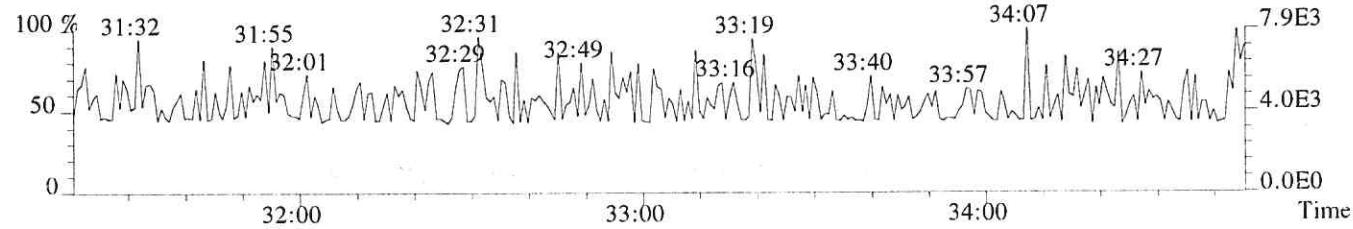
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8180.0,1.00%,F,T)



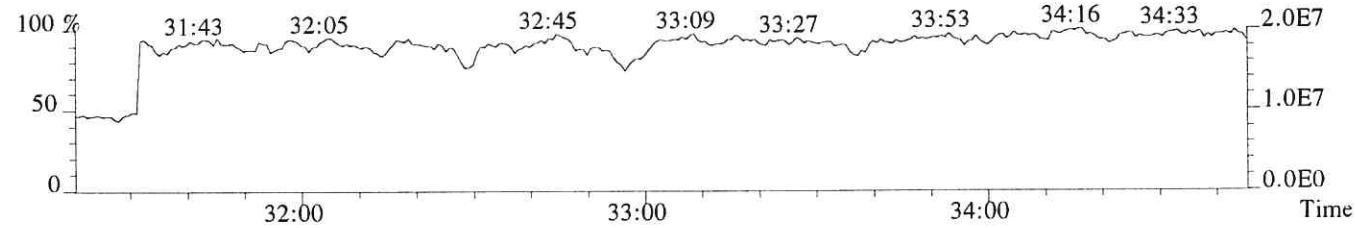
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7112.0,1.00%,F,T)



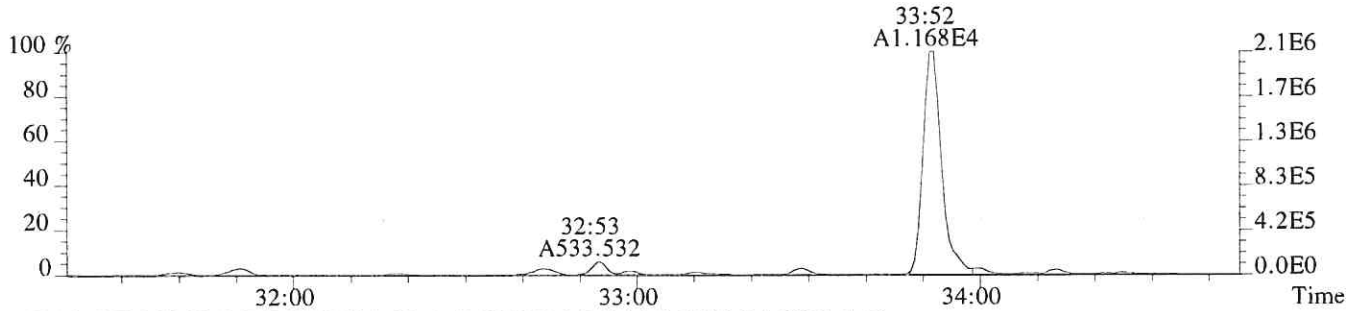
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



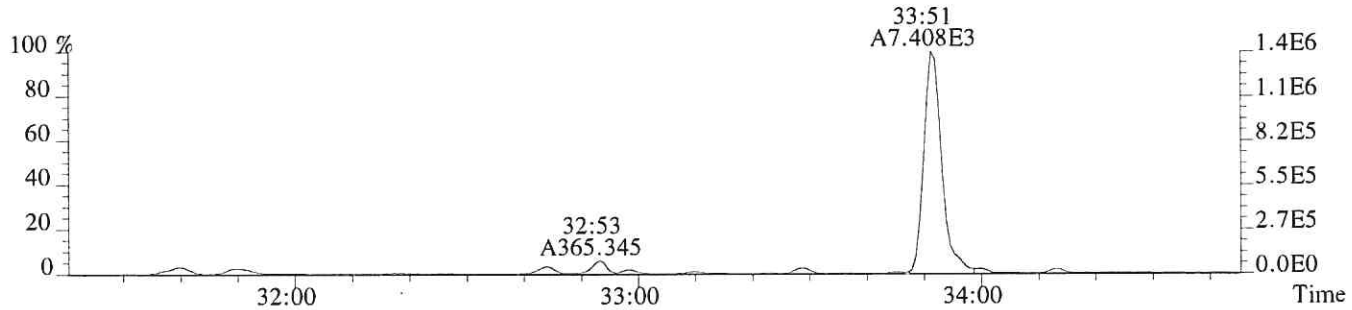
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



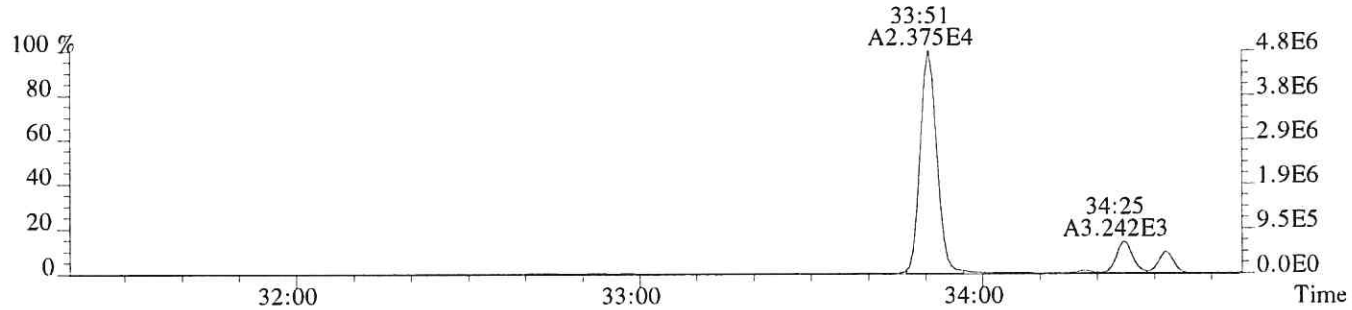
File:P511515 #1-308 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4308.0,1.00%,F,T)



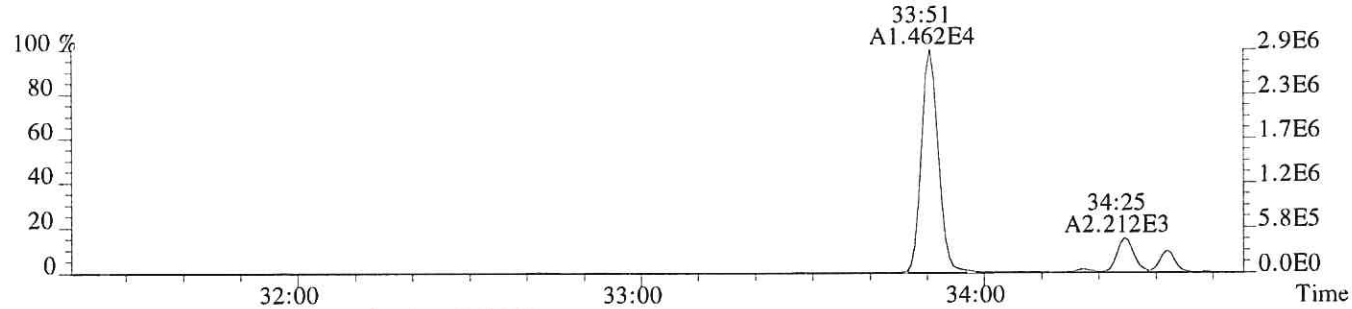
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2200.0,1.00%,F,T)



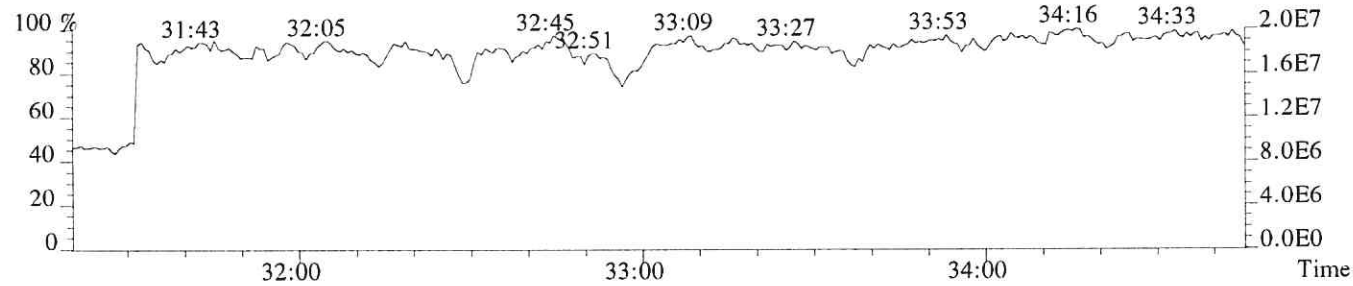
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3636.0,1.00%,F,T)



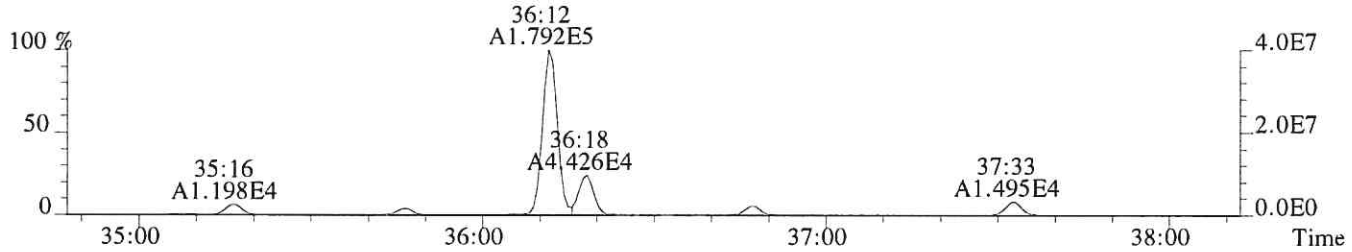
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2744.0,1.00%,F,T)



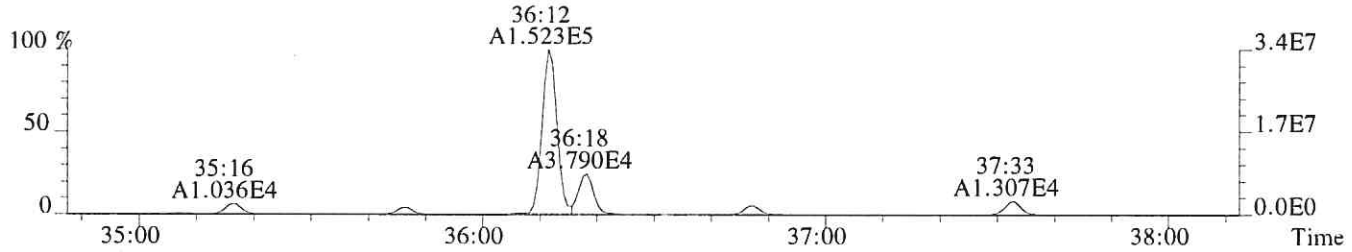
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



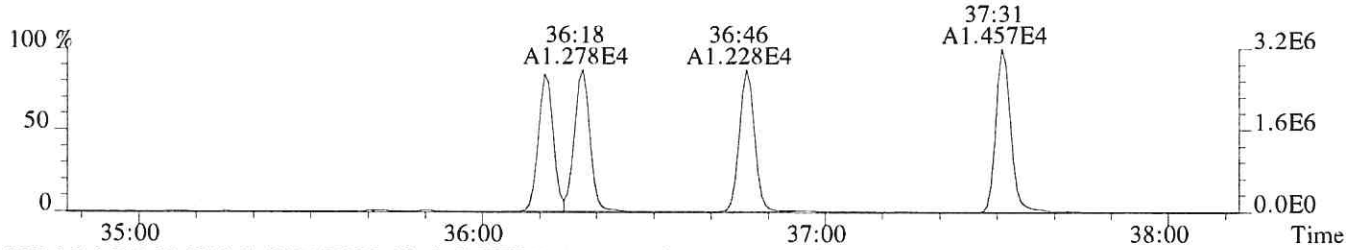
File:P511515 #1-308 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4384.0,0.40%,F,T)



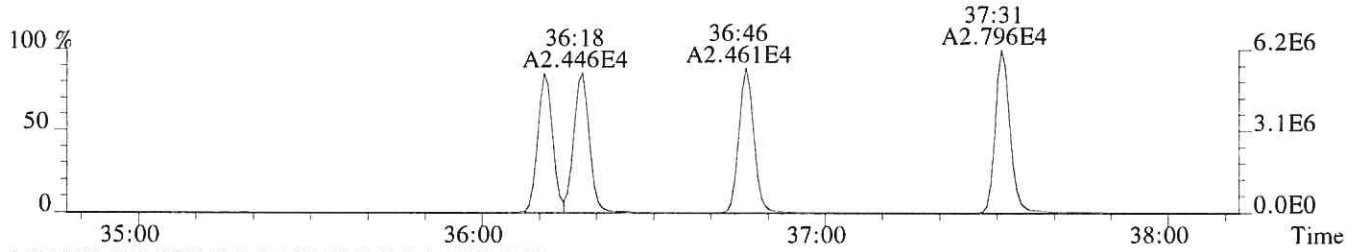
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2656.0,0.40%,F,T)



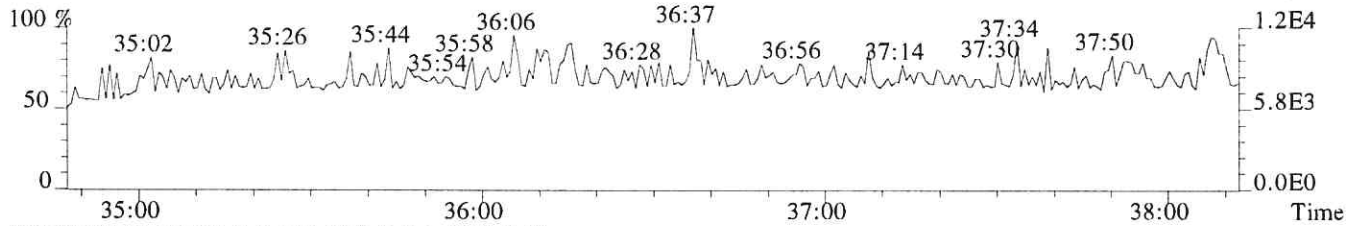
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4216.0,0.40%,F,T)



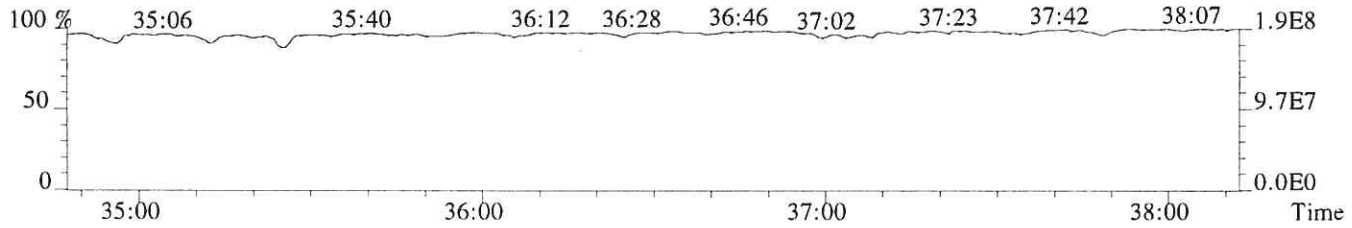
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2980.0,0.40%,F,T)



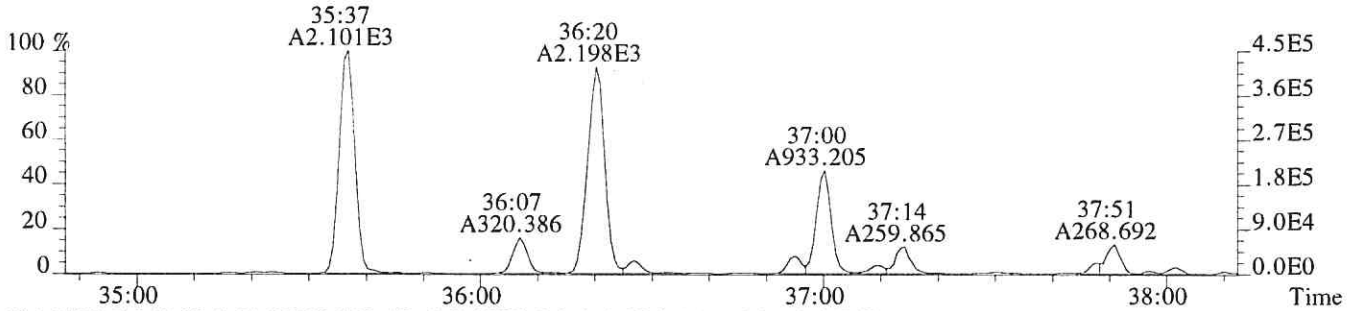
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



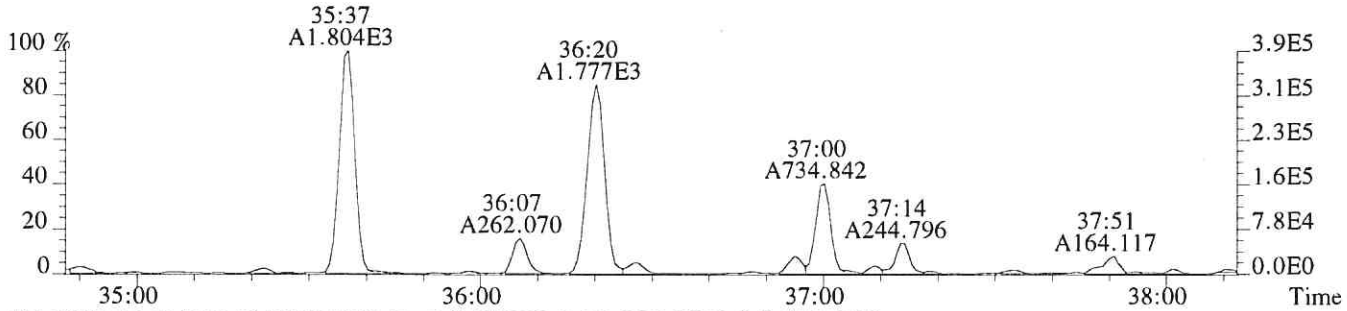
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



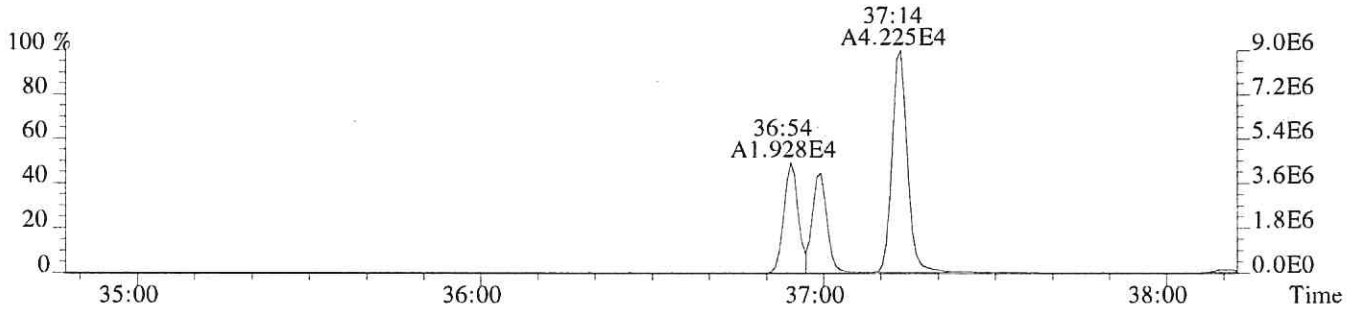
File:P511515 #1-308 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1884.0,0.40%,F,T)



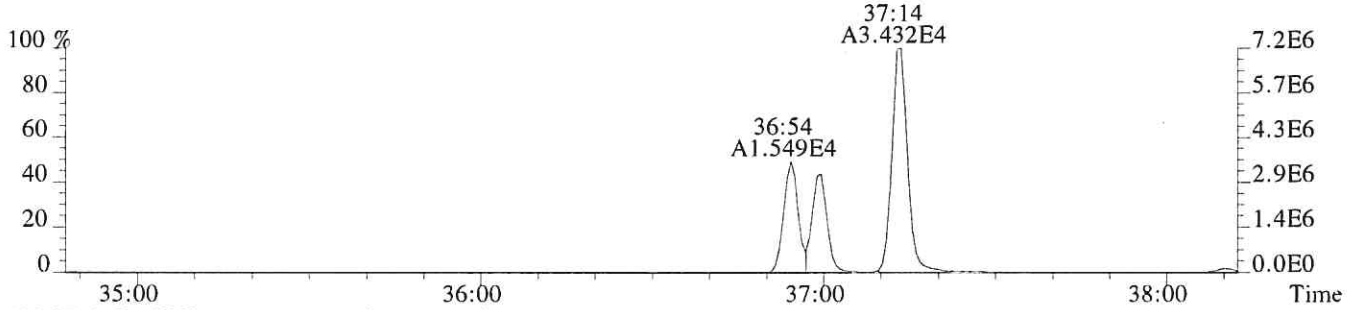
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2244.0,0.40%,F,T)



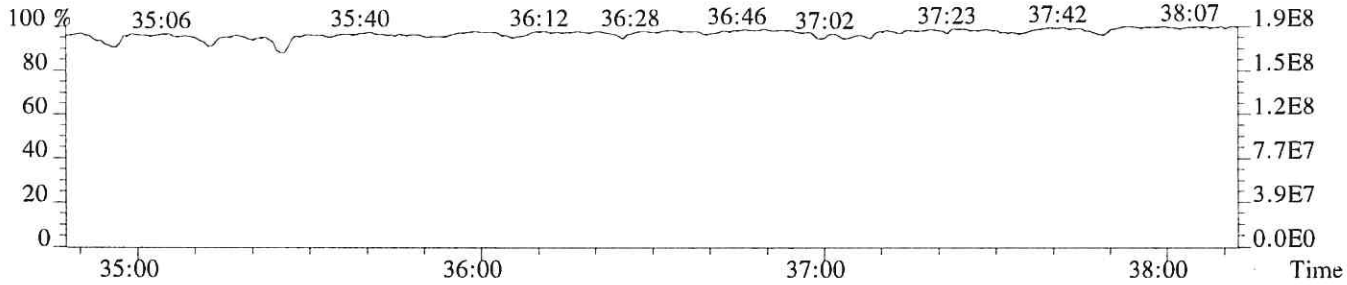
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2940.0,0.40%,F,T)



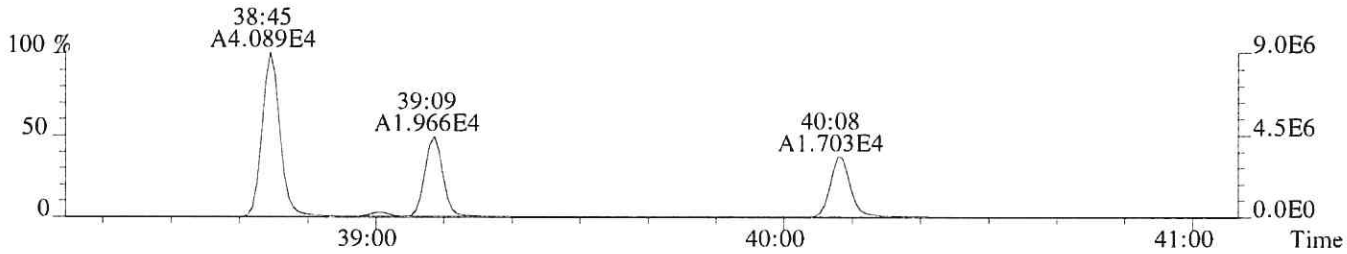
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1960.0,0.40%,F,T)



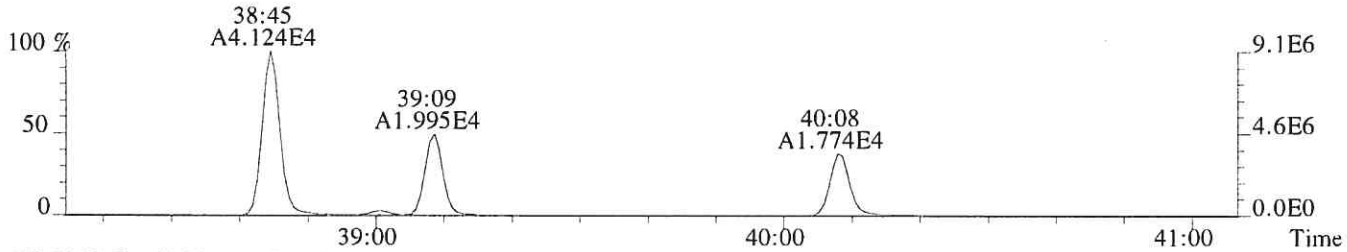
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



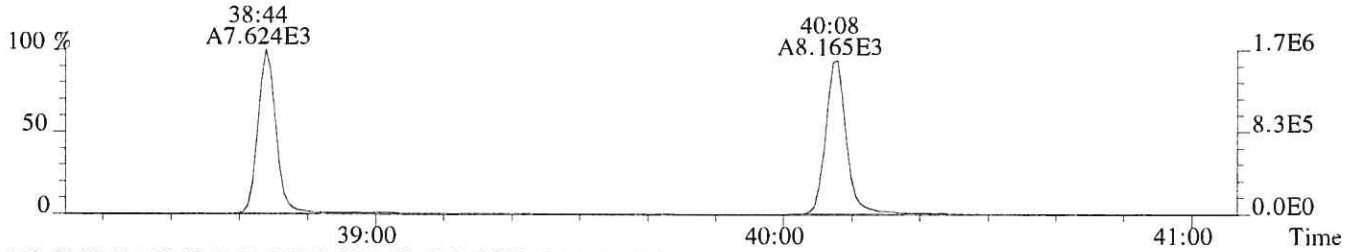
File:P511515 #1-259 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5316.0,0.50%,F,T)



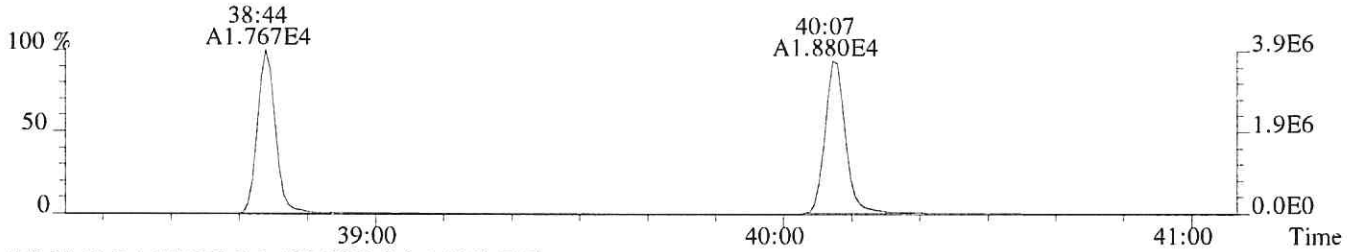
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2940.0,0.50%,F,T)



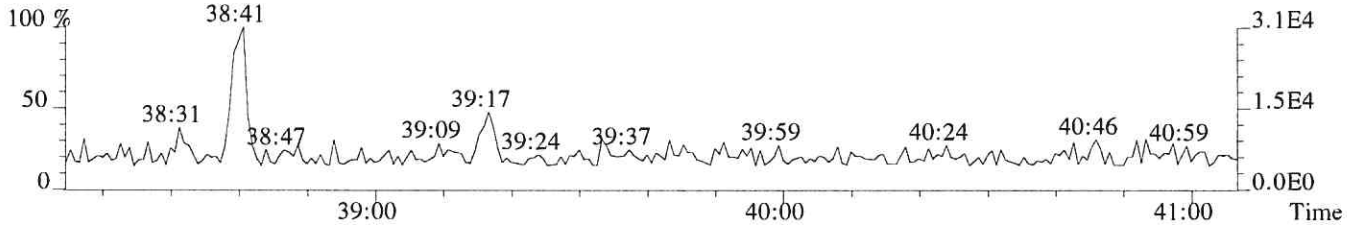
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3072.0,0.50%,F,T)



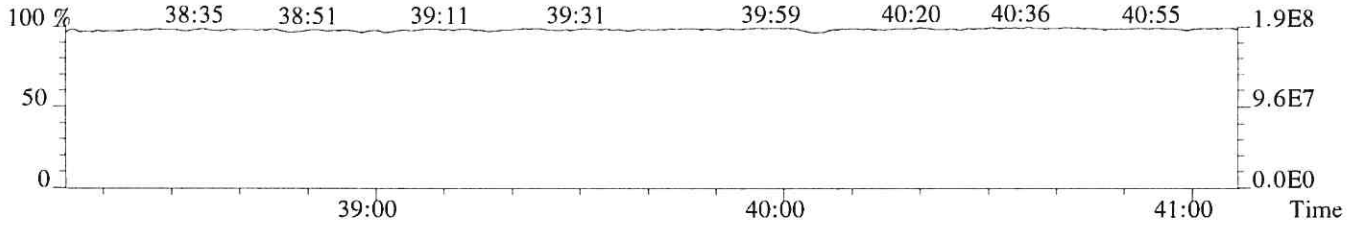
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3504.0,0.50%,F,T)



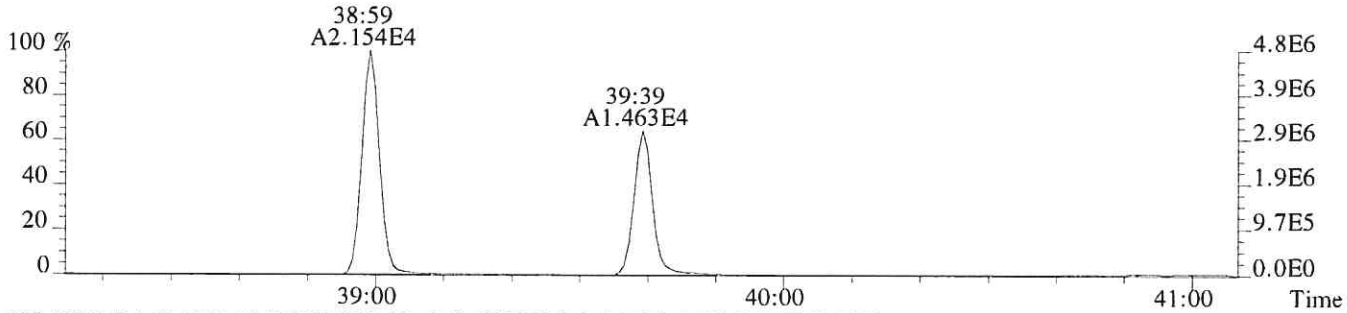
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



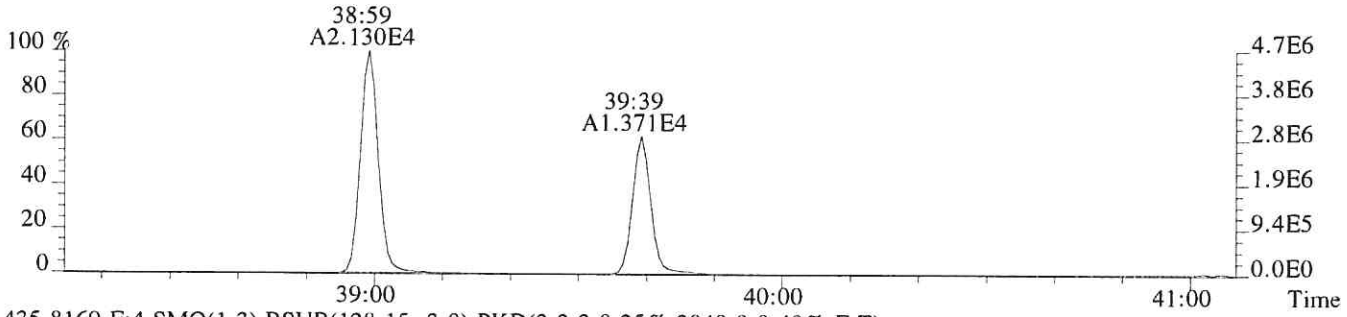
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



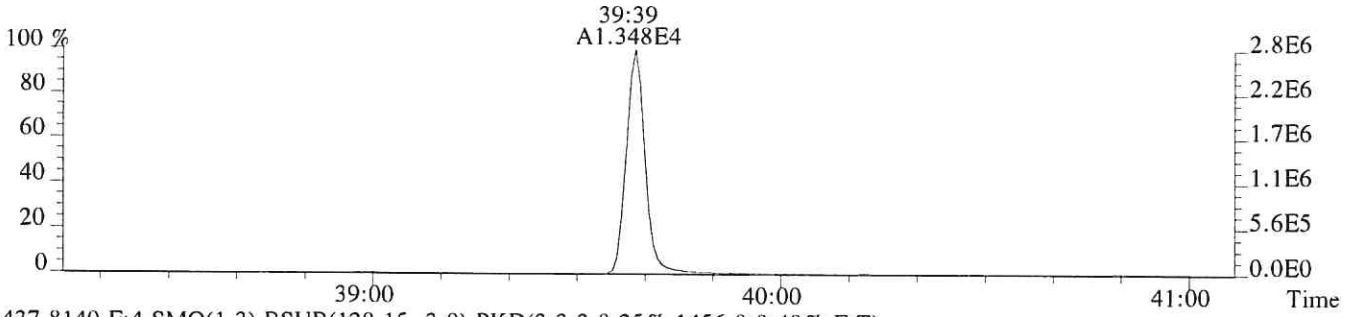
File:P511515 #1-259 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2576.0,0.40%,F,T)



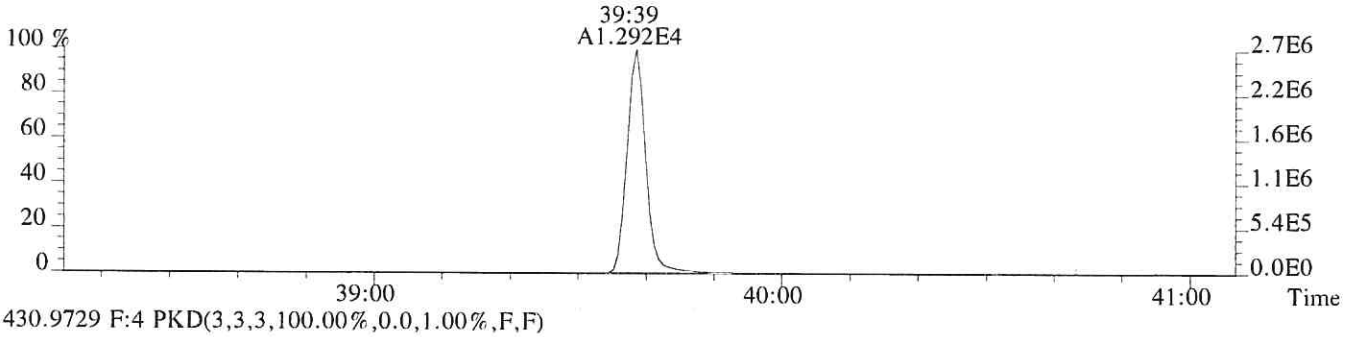
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4600.0,0.40%,F,T)



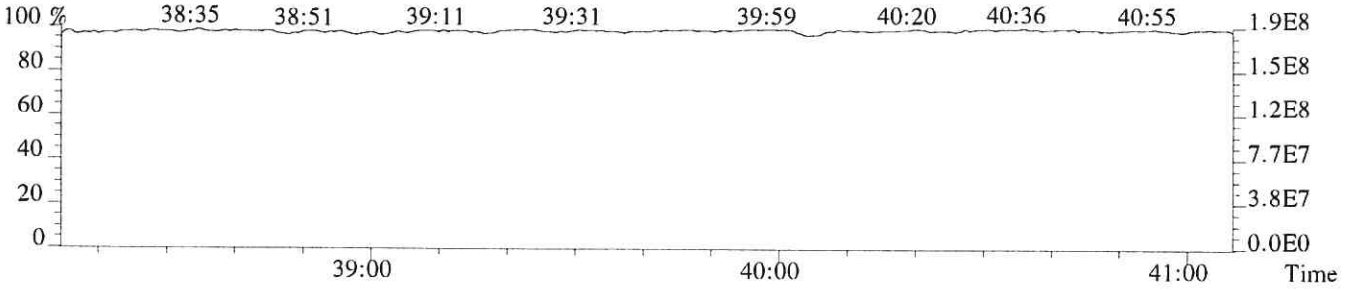
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3040.0,0.40%,F,T)



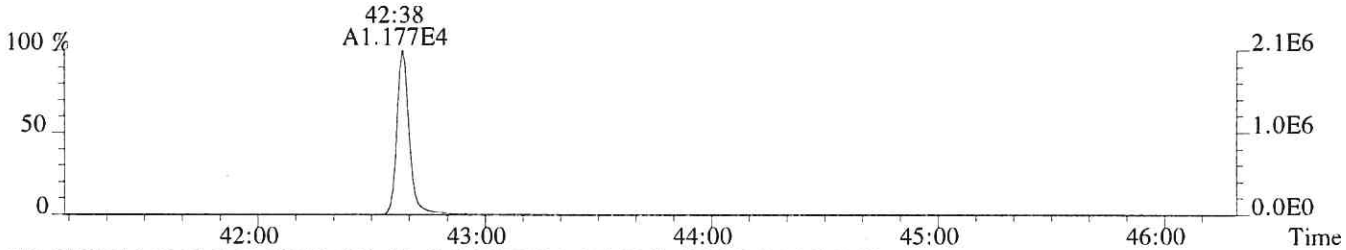
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



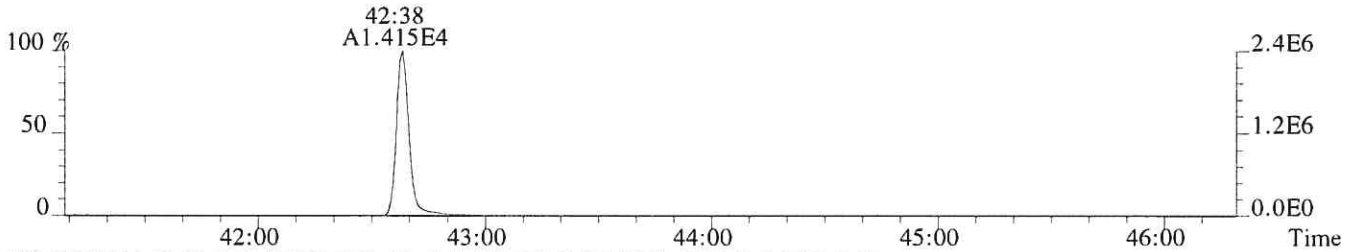
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



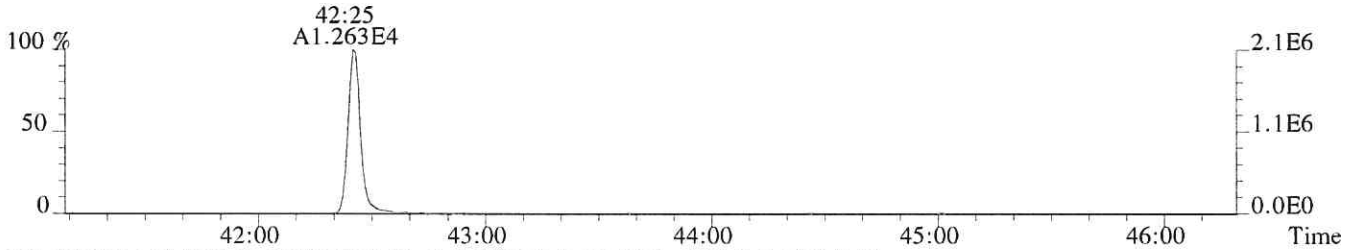
File:P511515 #1-466 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1912.0,0.40%,F,T)



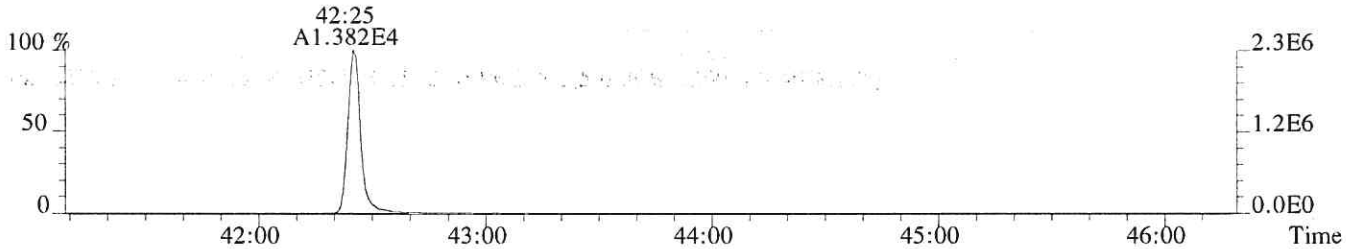
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3200.0,0.40%,F,T)



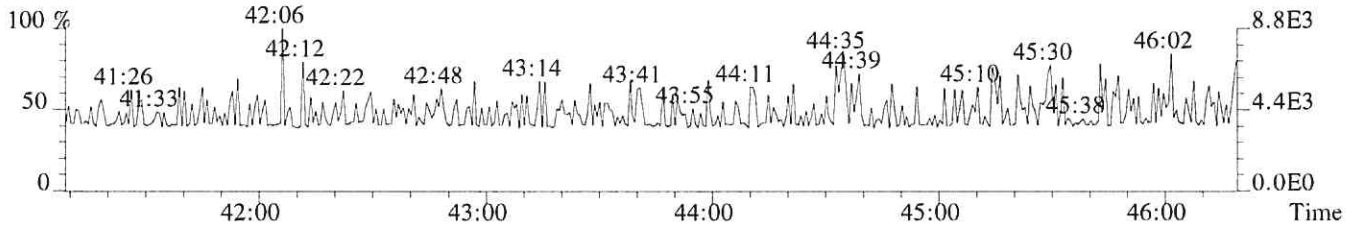
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1568.0,0.40%,F,T)



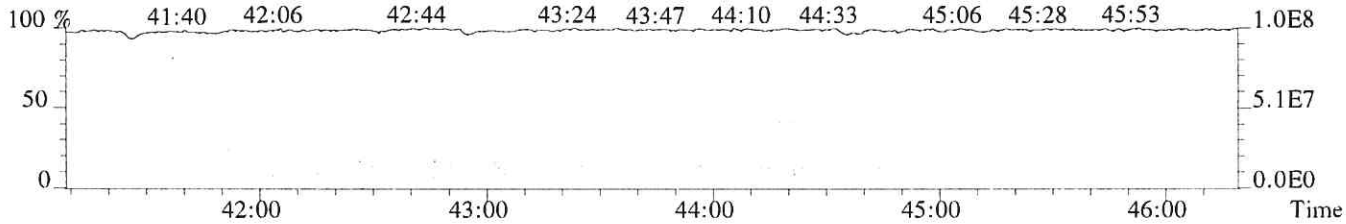
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,T)



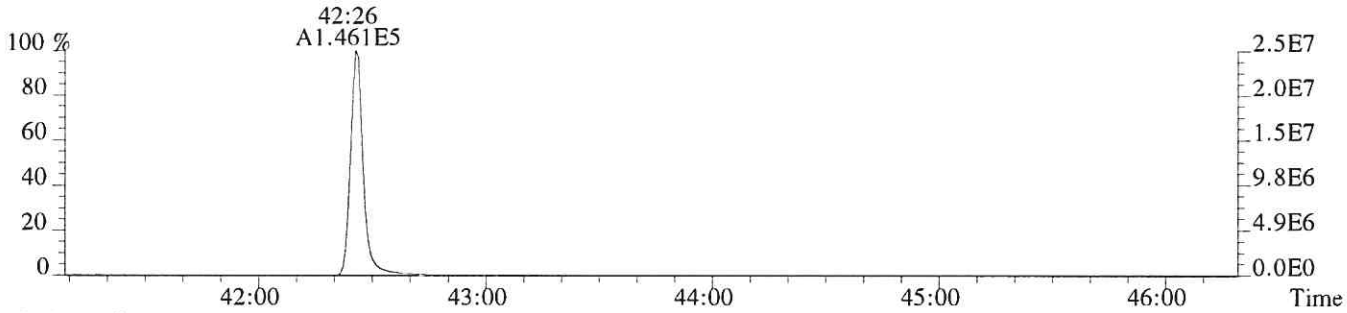
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



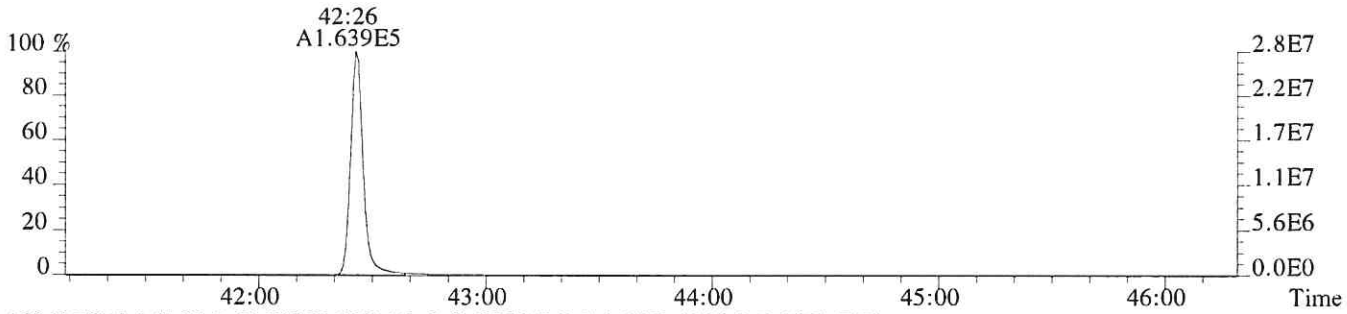
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



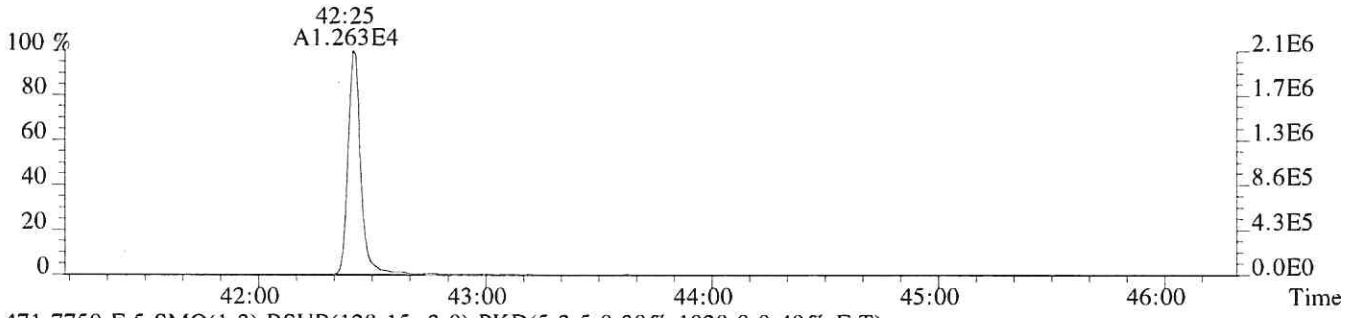
File:P511515 #1-466 Acq:23-SEP-2017 17:29:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1316.0,0.40%,F,T)



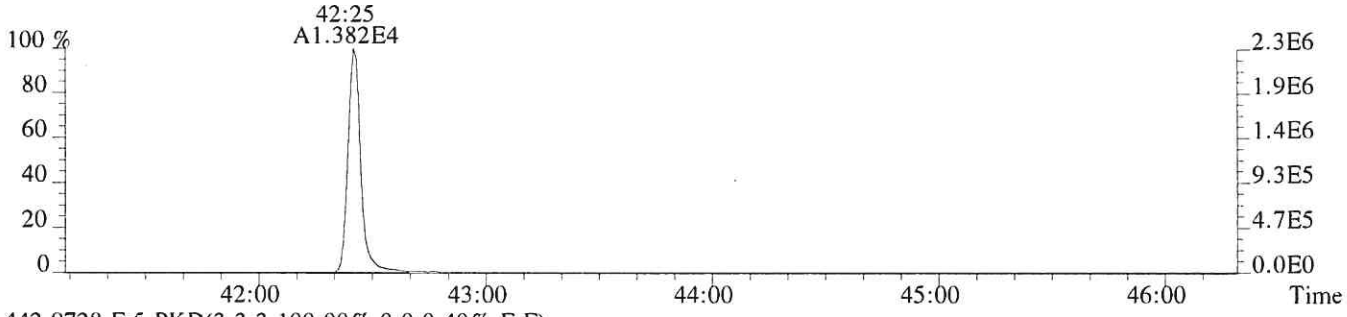
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1412.0,0.40%,F,T)



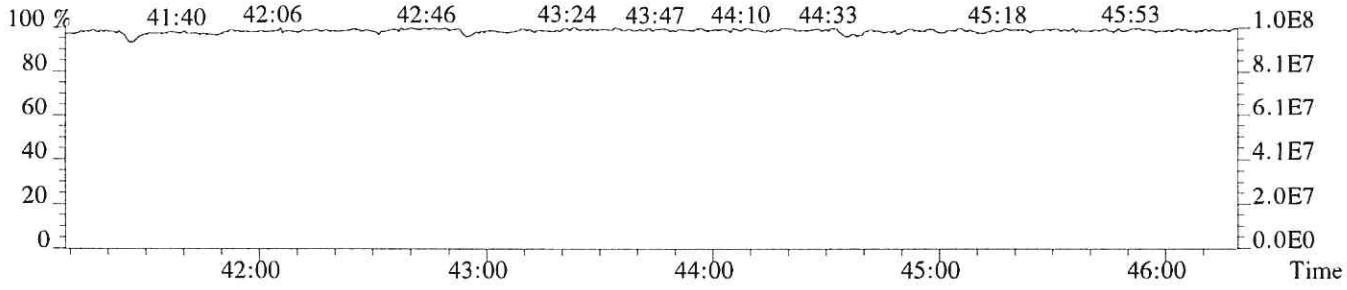
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1568.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,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 #10 Filename P609267 Samp: 1 Inj: 1 Acquired: 25-SEP-17 18:27:57
Processed: 26-SEP-17 08:29:52 Sample ID: E1700973-011DL

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.000e+04	2.574e+04	0.78	yes	yes	1.020
2	Unk	1,2,3,7,8-PeCDF	30:47	9.602e+02	5.569e+02	1.72	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:49	7.465e+02	5.144e+02	1.45	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:41	1.168e+03	1.051e+03	1.11	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:48	3.969e+02	2.988e+02	1.33	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:21	8.000e+01	7.028e+01	1.14	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:10	1.114e+02	9.712e+01	1.15	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:29	2.340e+02	2.827e+02	0.83	no	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:51	1.191e+02	7.636e+01	1.56	no	no	1.341
10	Unk	OCDF	41:17	9.325e+01	1.687e+02	0.55	no	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	4.624e+03	5.961e+03	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:07	7.900e+01	4.786e+01	1.65	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:30	6.907e+00	1.523e+01	0.45	no	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:36	7.292e+00	2.557e+01	0.29	no	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:50	7.462e+00	2.322e+01	0.32	no	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:26	1.629e+02	1.229e+02	1.33	no	no	1.048
17	Unk	OCDD	41:06	1.324e+03	1.408e+03	0.94	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:49	2.704e+04	3.388e+04	0.80	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:46	4.257e+04	2.627e+04	1.62	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:47	4.222e+04	2.643e+04	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:40	1.756e+04	3.321e+04	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:48	2.173e+04	4.034e+04	0.54	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:20	1.983e+04	3.647e+04	0.54	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:08	1.675e+04	3.178e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:28	1.340e+04	3.066e+04	0.44	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:51	1.067e+04	2.410e+04	0.44	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	1.425e+04	1.770e+04	0.81	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:06	2.795e+04	1.731e+04	1.61	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:29	2.119e+04	1.700e+04	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:34	2.503e+04	1.948e+04	1.28	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:25	1.954e+04	1.792e+04	1.09	yes	no	0.884
32	IS	13C-OCDD	41:05	2.517e+04	2.848e+04	0.88	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:04	1.866e+04	2.327e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:50	2.325e+04	1.941e+04	1.20	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	1.955e+02				no	1.072

$$\text{OCDD} = \frac{(1.324e+03 + 1.408e+03) \times 4000 \text{ pg} \times 200}{(2.517e+04 + 2.848e+04) \times 10.054 \text{ g} \times 48.9 / 100 \times 1.120} = 29593 \text{ ng/kg}$$

LW 9/26/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-030E

Run #10 Filename P609267 Samp: 1 Inj: 1 Acquired: 25-SEP-17 18:27:57
Processed: 26-SEP-17 08:29:52 LAB. ID: E1700973-011DL

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.82e+06	2.60e+02	1.1e+04	3.70e+06	3.29e+03	1.1e+03
2	1,2,3,7,8-PeCDF	1.52e+05	1.37e+03	1.1e+02	9.50e+04	3.17e+03	3.0e+01
3	2,3,4,7,8-PeCDF	1.17e+05	1.37e+03	8.6e+01	8.19e+04	3.17e+03	2.6e+01
4	1,2,3,4,7,8-HxCDF	2.11e+05	1.76e+02	1.2e+03	1.95e+05	2.08e+02	9.4e+02
5	1,2,3,6,7,8-HxCDF	6.32e+04	1.76e+02	3.6e+02	5.31e+04	2.08e+02	2.6e+02
6	2,3,4,6,7,8-HxCDF	1.21e+04	1.76e+02	6.9e+01	1.39e+04	2.08e+02	6.7e+01
7	1,2,3,7,8,9-HxCDF	1.49e+04	1.76e+02	8.5e+01	1.87e+04	2.08e+02	9.0e+01
8	1,2,3,4,6,7,8-HpCDF	4.54e+04	2.88e+02	1.6e+02	4.86e+04	3.60e+02	1.3e+02
9	1,2,3,4,7,8,9-HpCDF	2.10e+04	2.88e+02	7.3e+01	1.42e+04	3.60e+02	4.0e+01
10	OCDF	1.28e+04	1.96e+02	6.5e+01	2.29e+04	7.80e+02	2.9e+01
11	2,3,7,8-TCDD	7.07e+05	1.62e+03	4.4e+02	8.78e+05	8.52e+02	1.0e+03
12	1,2,3,7,8-PeCDD	1.62e+04	1.04e+03	1.6e+01	1.15e+04	2.16e+02	5.3e+01
13	1,2,3,4,7,8-HxCDD	2.24e+03	2.28e+02	9.8e+00	2.68e+03	6.16e+02	4.3e+00
14	1,2,3,6,7,8-HxCDD	2.27e+03	2.28e+02	1.0e+01	4.60e+03	6.16e+02	7.5e+00
15	1,2,3,7,8,9-HxCDD	1.97e+03	2.28e+02	8.6e+00	5.60e+03	6.16e+02	9.1e+00
16	1,2,3,4,6,7,8-HpCDD	3.07e+04	8.52e+02	3.6e+01	2.46e+04	3.44e+02	7.1e+01
17	OCDD	1.63e+05	2.80e+02	5.8e+02	1.92e+05	2.28e+02	8.4e+02
18	13C-2,3,7,8-TCDF	3.91e+06	1.24e+04	3.2e+02	4.93e+06	5.24e+03	9.4e+02
19	13C-1,2,3,7,8-PeCDF	6.77e+06	8.92e+02	7.6e+03	4.22e+06	1.72e+02	2.5e+04
20	13C-2,3,4,7,8-PeCDF	7.25e+06	8.92e+02	8.1e+03	4.51e+06	1.72e+02	2.6e+04
21	13C-1,2,3,4,7,8-HxCDF	3.40e+06	9.56e+02	3.6e+03	6.47e+06	1.65e+03	3.9e+03
22	13C-1,2,3,6,7,8-HxCDF	3.75e+06	9.56e+02	3.9e+03	6.95e+06	1.65e+03	4.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.57e+06	9.56e+02	3.7e+03	6.67e+06	1.65e+03	4.0e+03
24	13C-1,2,3,7,8,9-HxCDF	2.71e+06	9.56e+02	2.8e+03	5.17e+06	1.65e+03	3.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.31e+06	3.04e+03	7.6e+02	5.33e+06	4.52e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.62e+06	3.04e+03	5.3e+02	3.71e+06	4.52e+03	8.2e+02
27	13C-2,3,7,8-TCDD	2.19e+06	9.60e+03	2.3e+02	2.77e+06	5.68e+03	4.9e+02
28	13C-1,2,3,7,8-PeCDD	4.67e+06	1.05e+03	4.5e+03	2.89e+06	3.40e+02	8.5e+03
29	13C-1,2,3,4,7,8-HxCDD	4.44e+06	1.12e+03	4.0e+03	3.55e+06	8.36e+02	4.2e+03
30	13C-1,2,3,6,7,8-HxCDD	4.16e+06	1.12e+03	3.7e+03	3.27e+06	8.36e+02	3.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.18e+06	1.05e+03	3.0e+03	2.87e+06	2.48e+02	1.2e+04
32	13C-OCDD	3.12e+06	4.84e+02	6.4e+03	3.56e+06	2.40e+02	1.5e+04
33	13C-1,2,3,4-TCDD	2.88e+06	9.60e+03	3.0e+02	3.65e+06	5.68e+03	6.4e+02
34	13C-1,2,3,7,8,9-HxCDD	3.94e+06	1.12e+03	3.5e+03	3.25e+06	8.36e+02	3.9e+03
35	37Cl-2,3,7,8-TCDD	2.98e+04	9.44e+02	3.2e+01			

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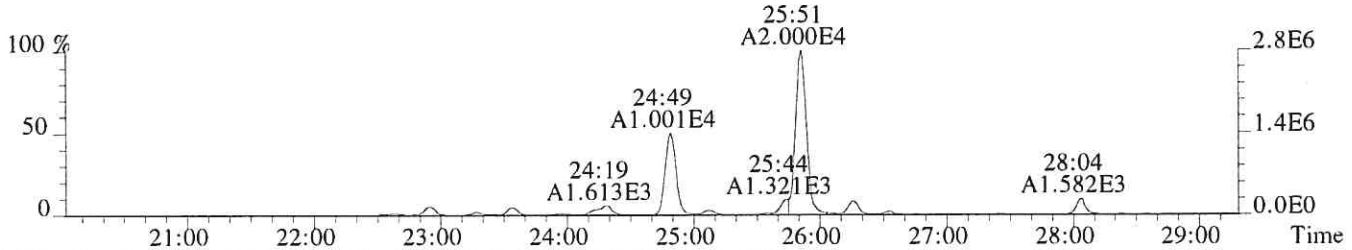
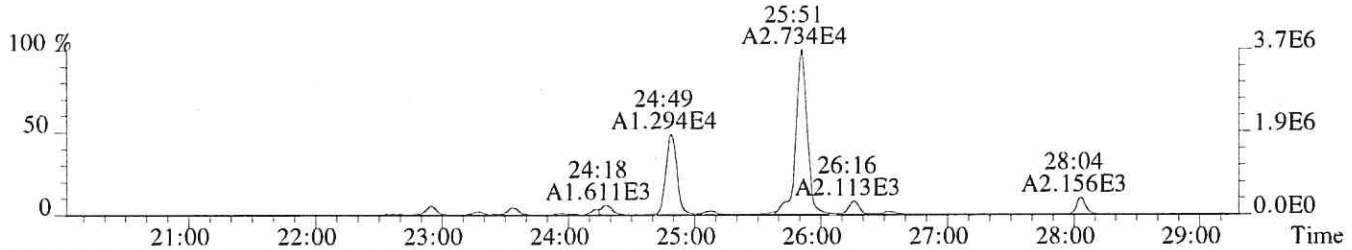
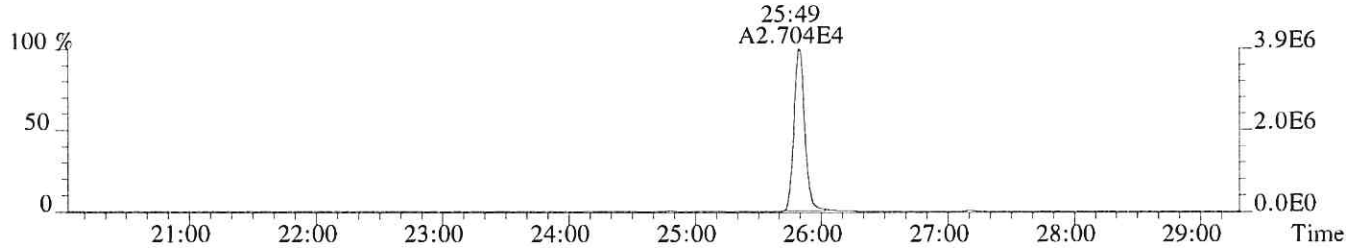
File:P609267 #1-658 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



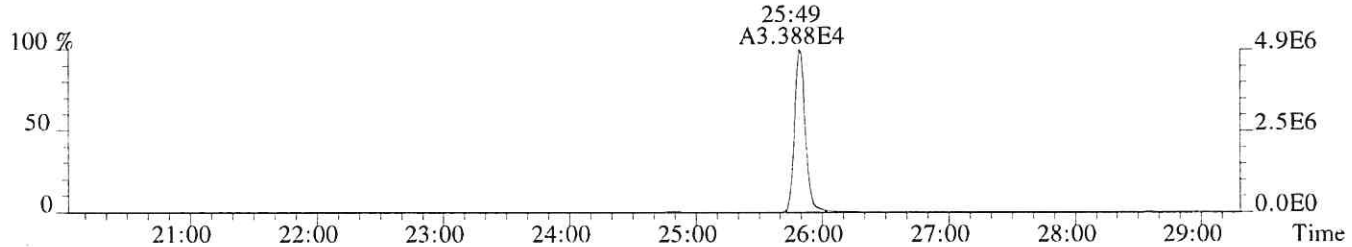
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3292.0,1.00%,F,T)



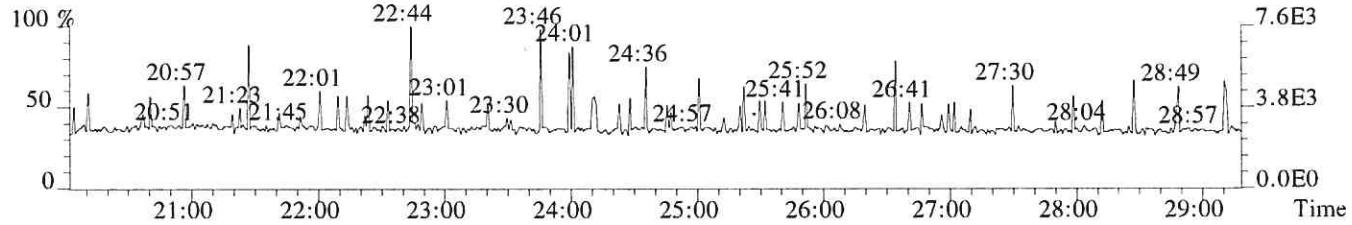
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12396.0,1.00%,F,T)



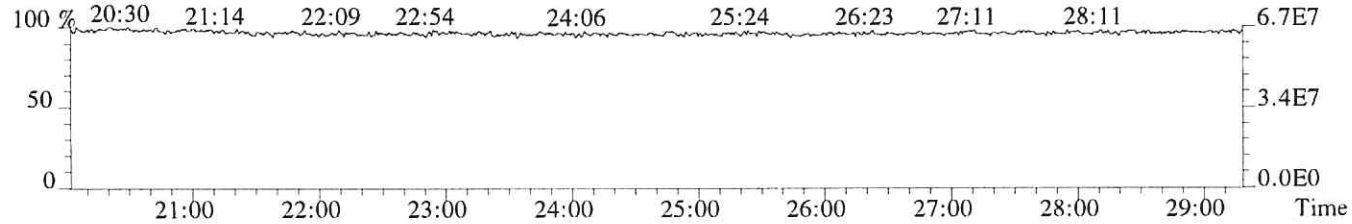
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5244.0,1.00%,F,T)



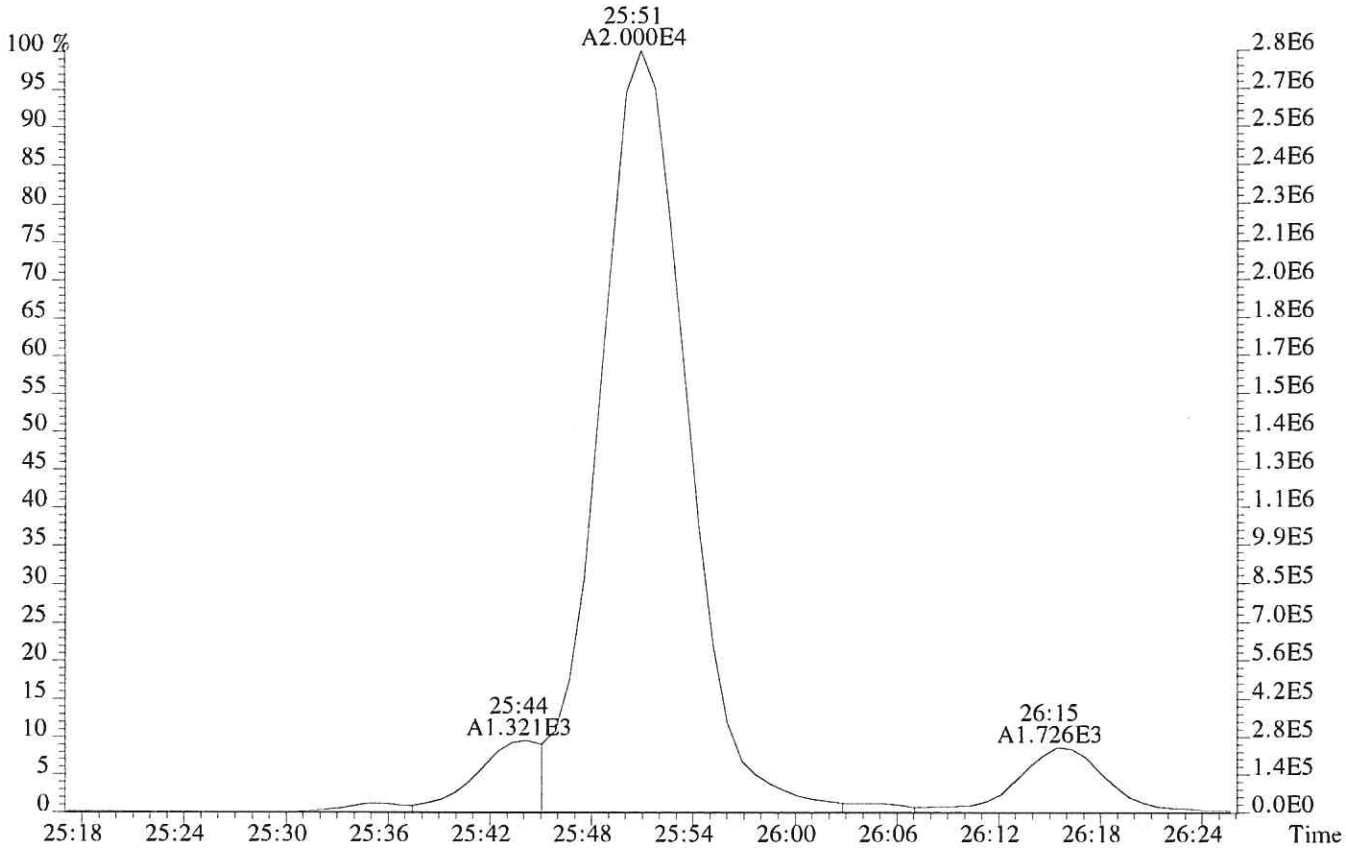
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



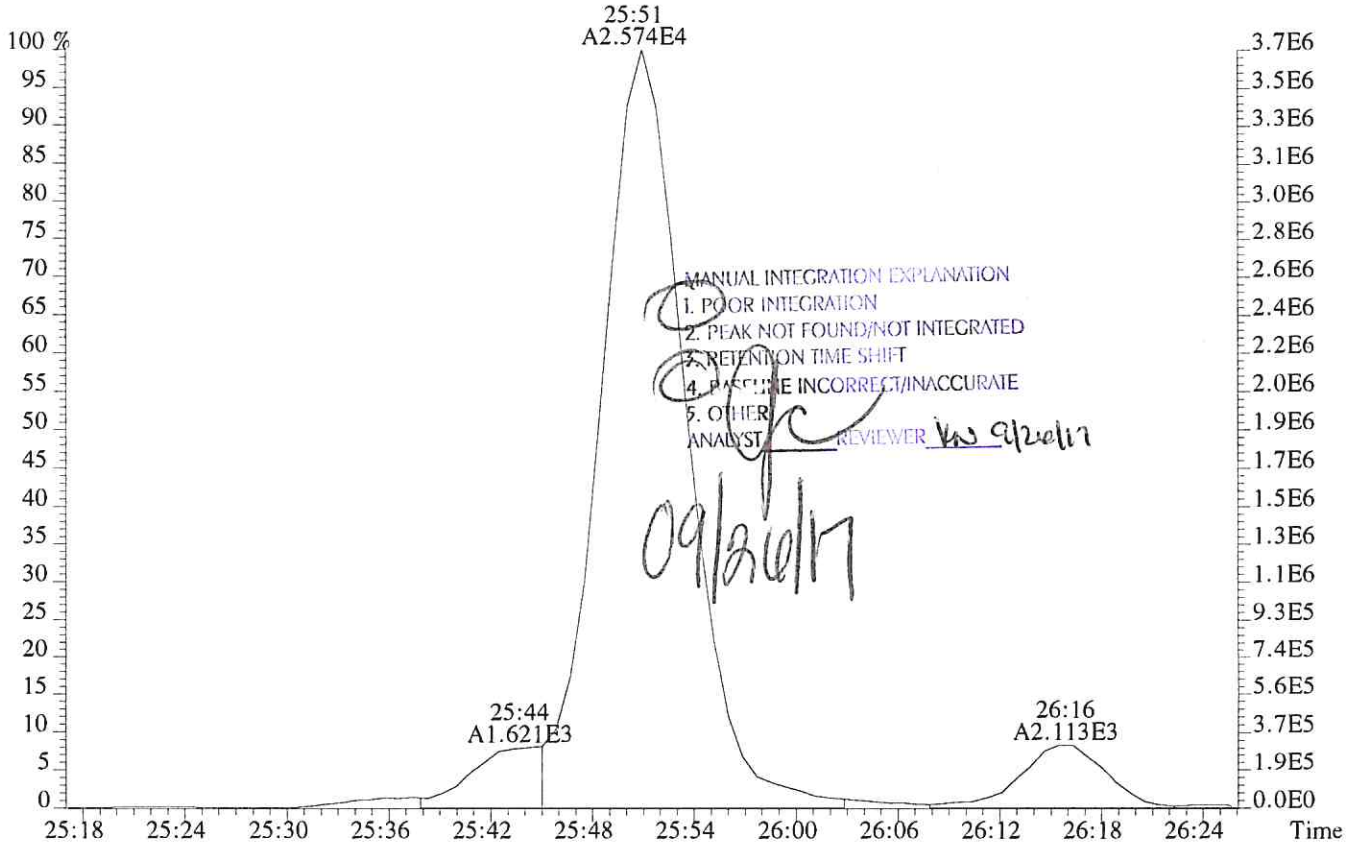
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



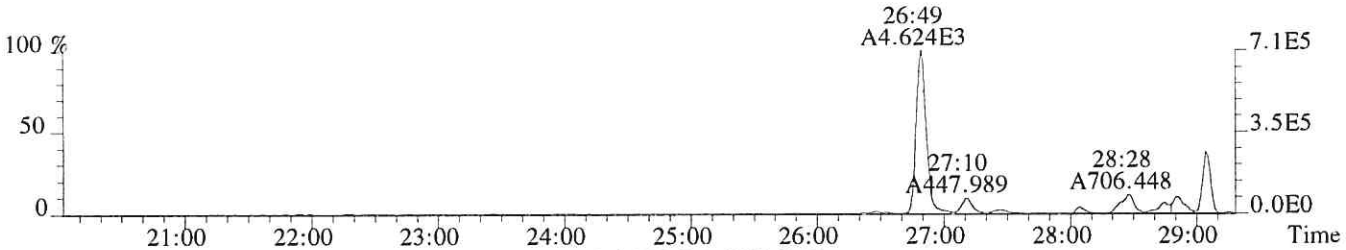
File:P609267 #1-658 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



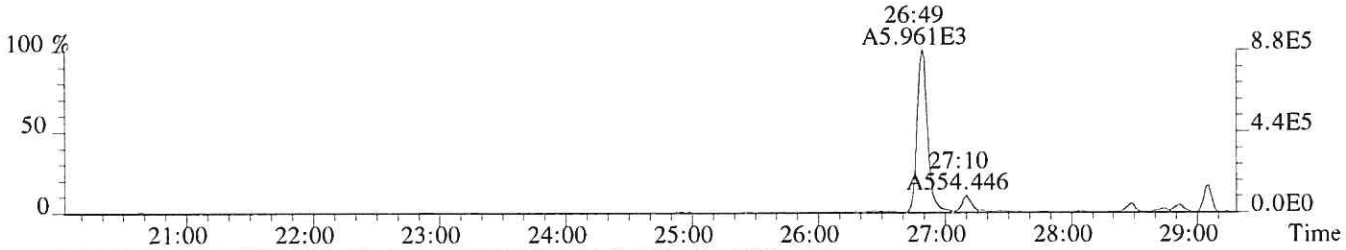
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3292.0,1.00%,F,T)



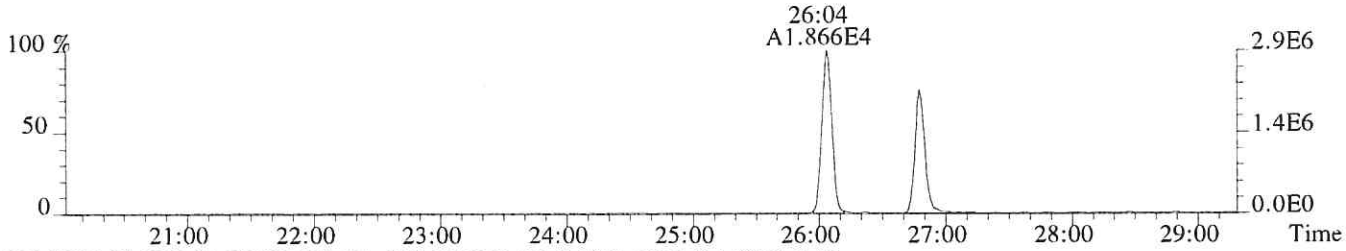
File:P609267 #1-658 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1620.0,1.00%,F,T)



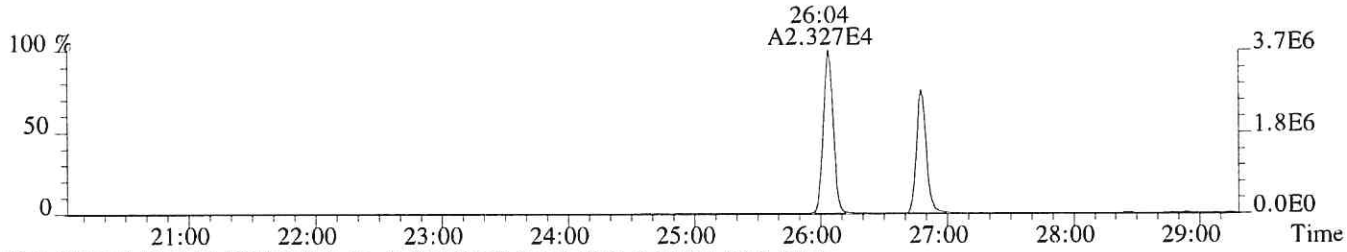
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,T)



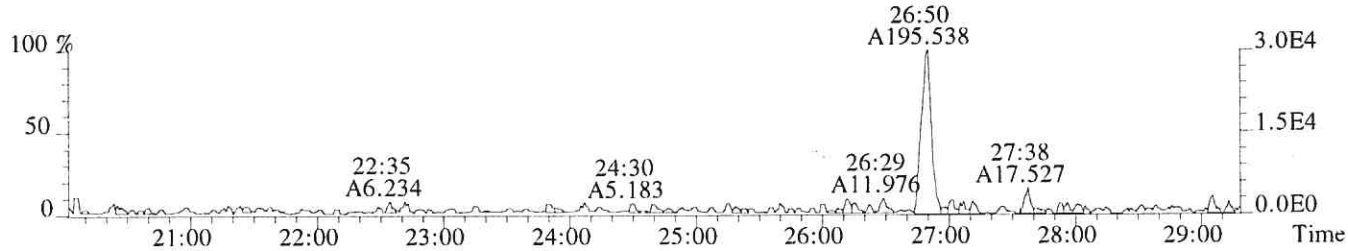
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9604.0,1.00%,F,T)



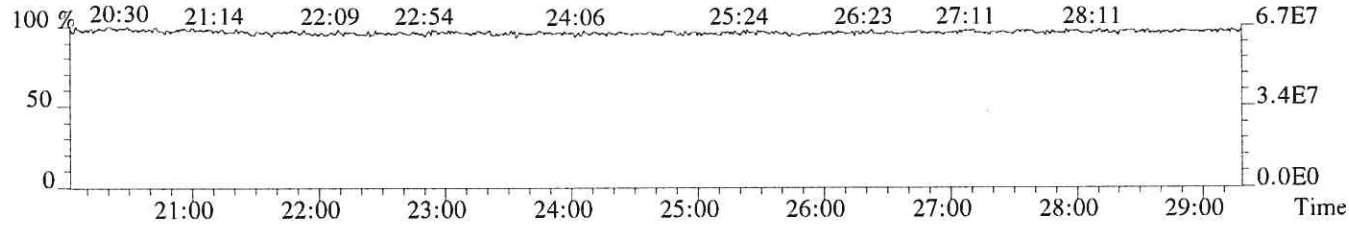
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5676.0,1.00%,F,T)



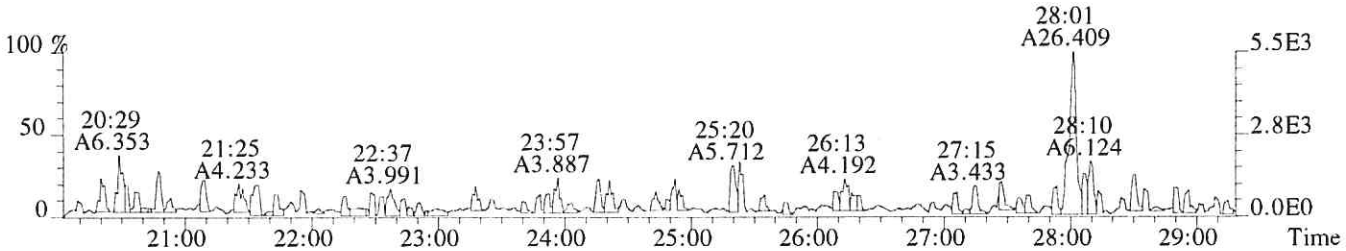
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



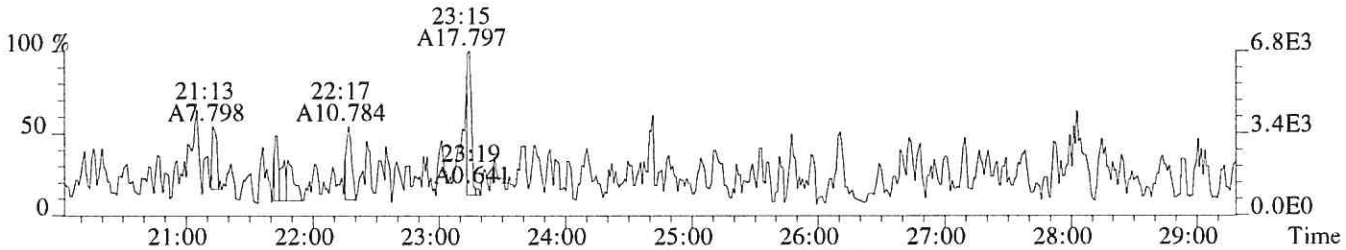
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



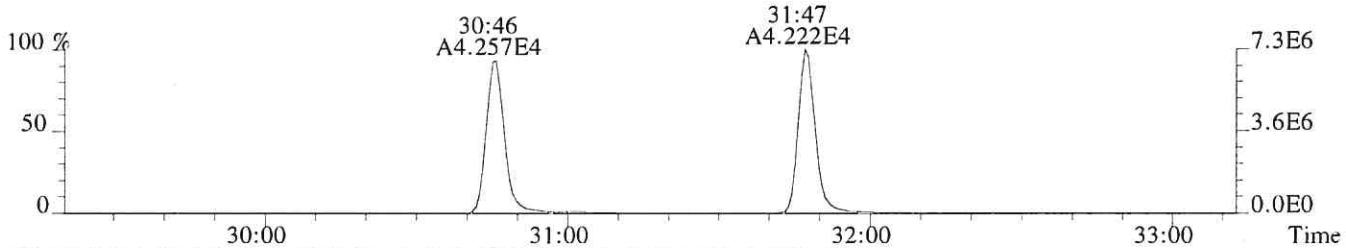
File:P609267 #1-658 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,320.0,1.00%,F,T)



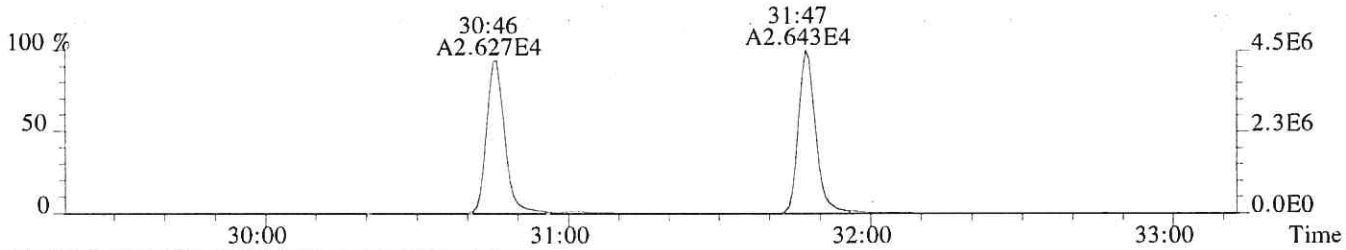
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1952.0,1.00%,F,T)



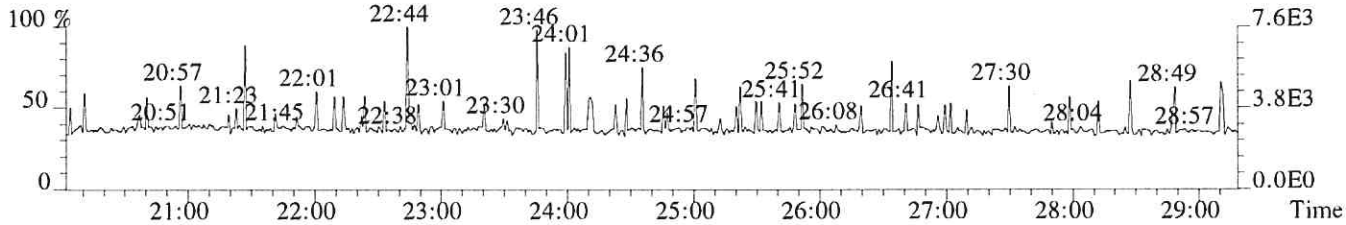
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



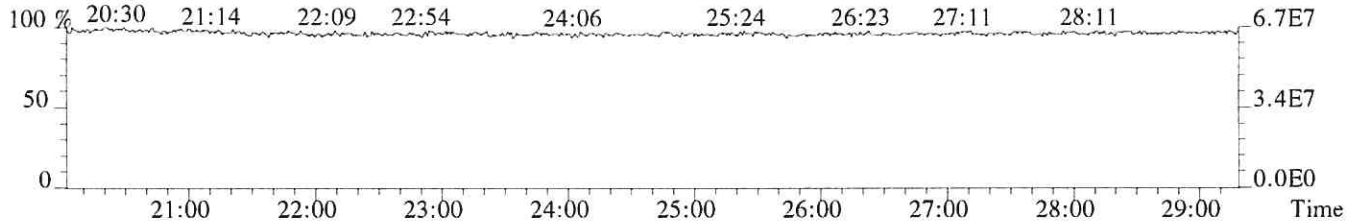
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



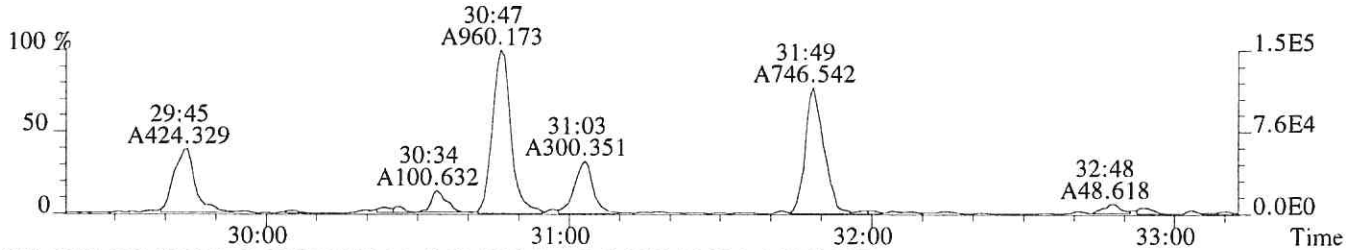
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



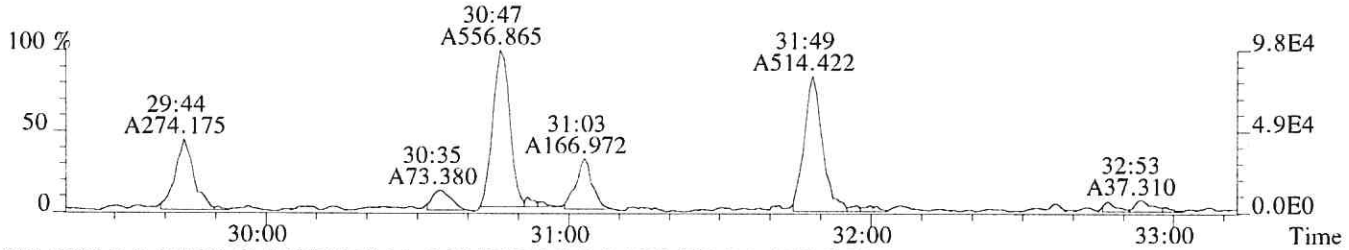
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



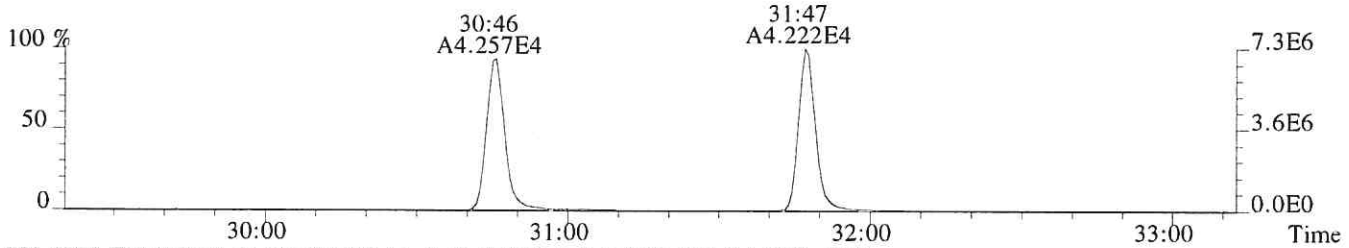
File:P609267 #1-349 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,T)



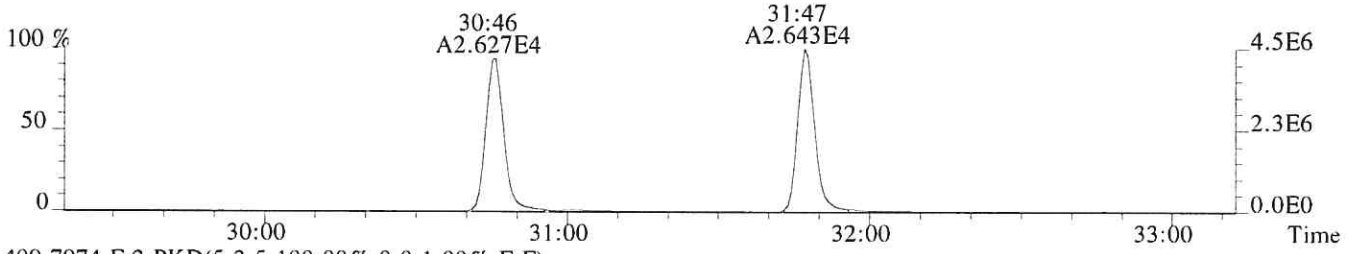
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3168.0,1.00%,F,T)



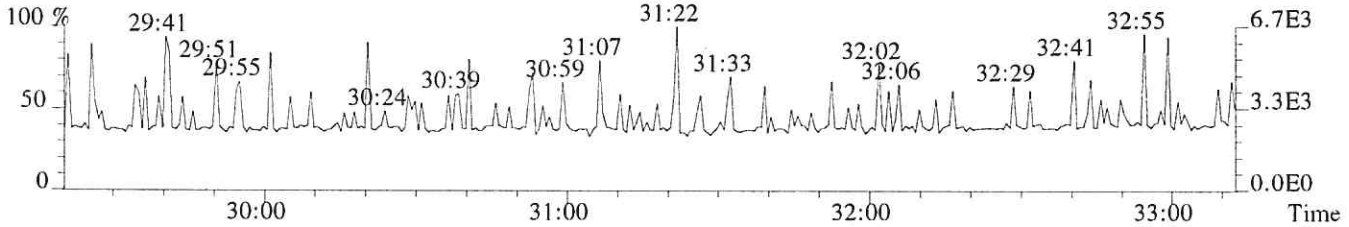
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



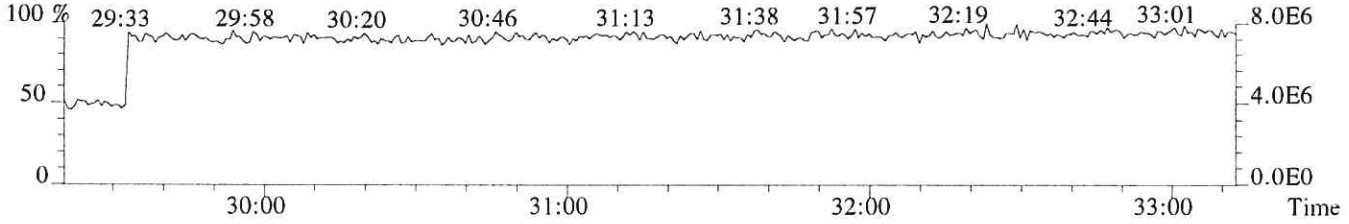
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



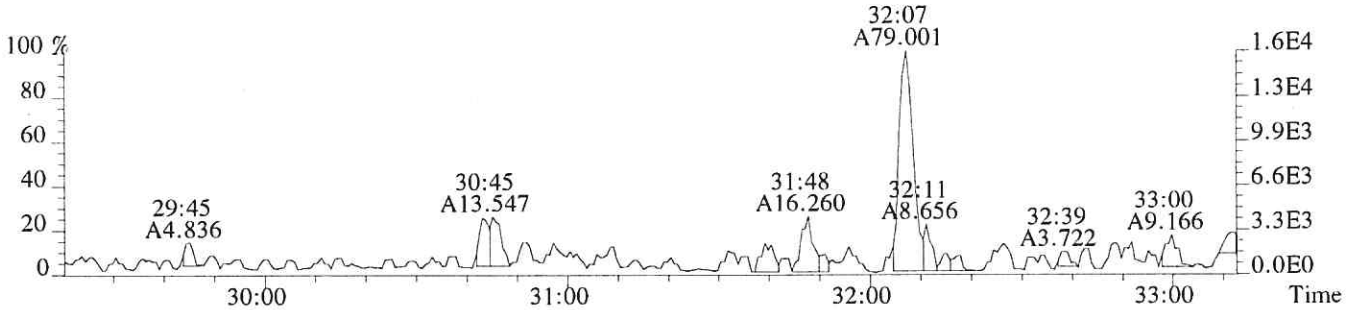
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



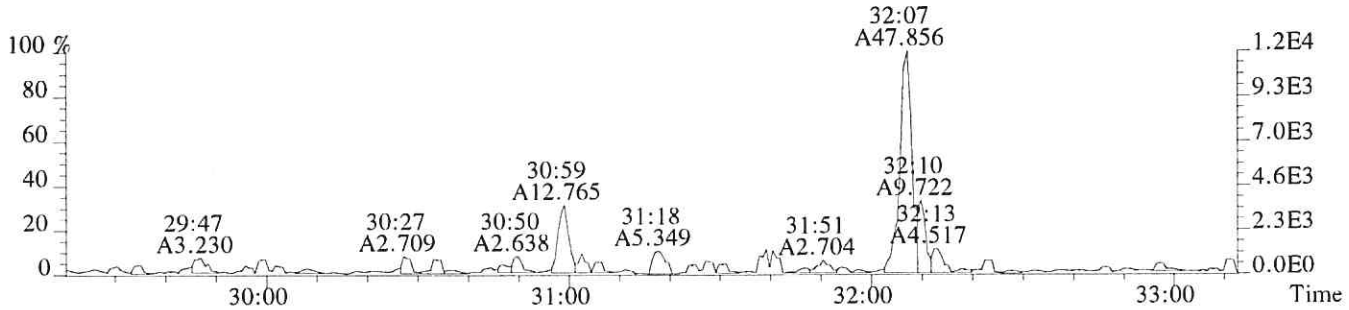
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



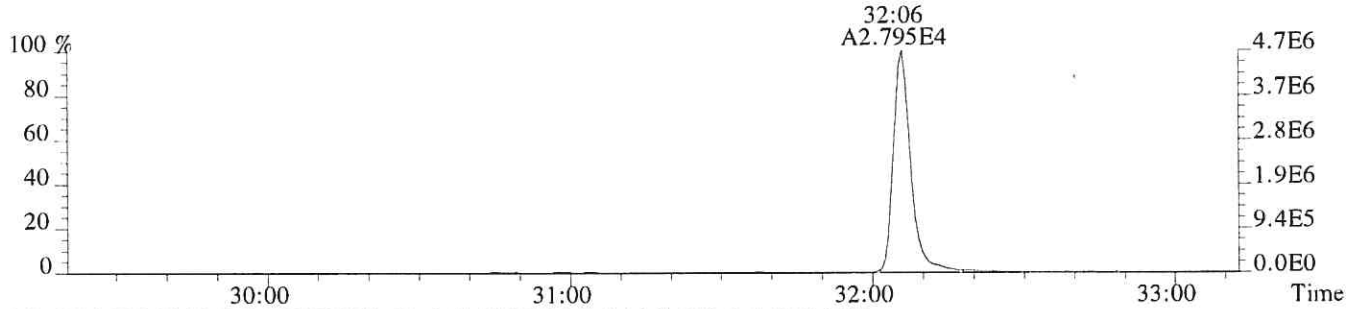
File:P609267 #1-349 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



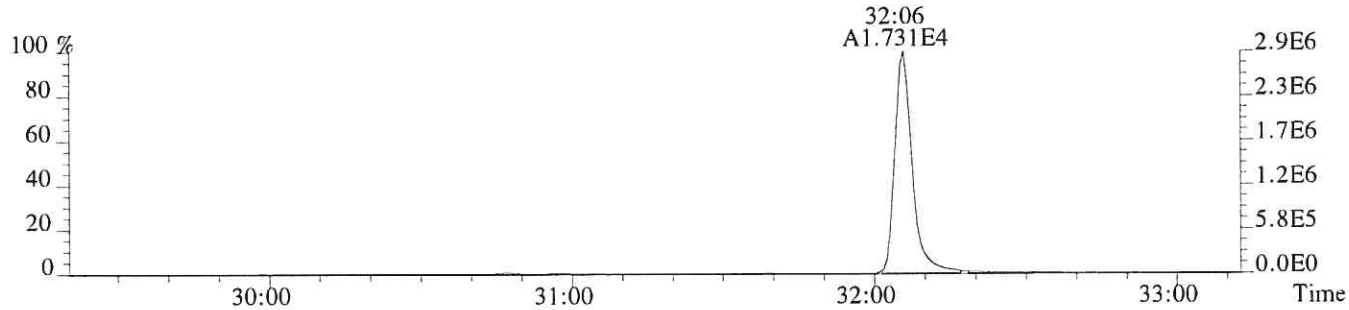
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



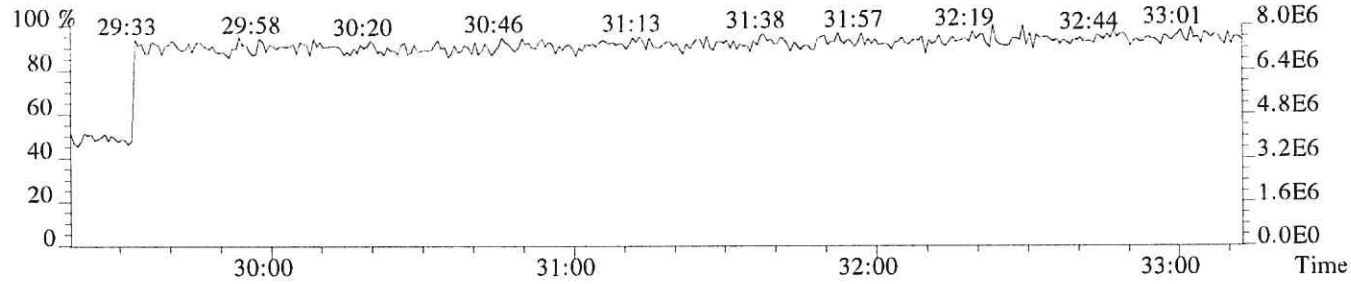
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



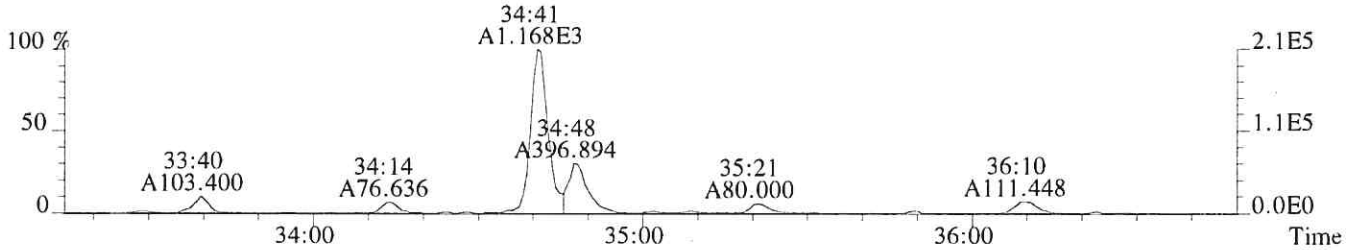
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,340.0,1.00%,F,T)



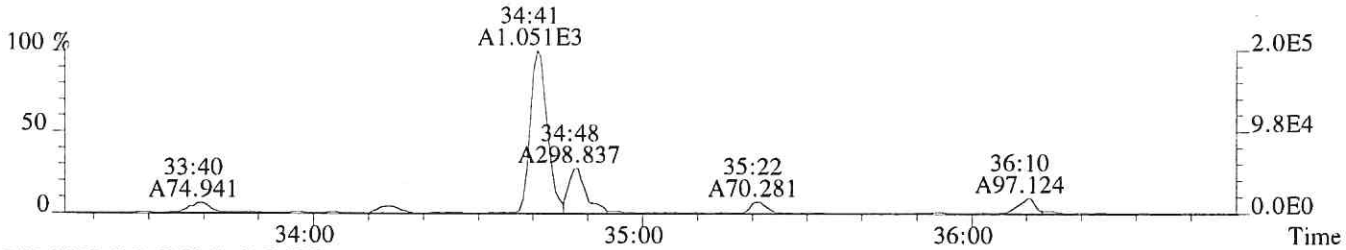
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



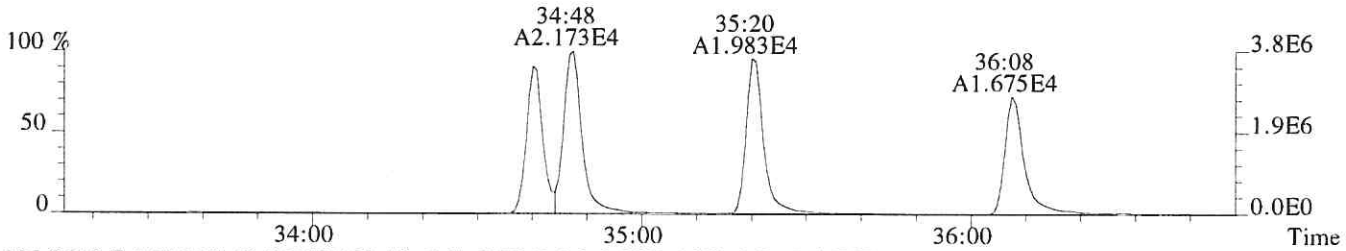
File:P609267 #1-321 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



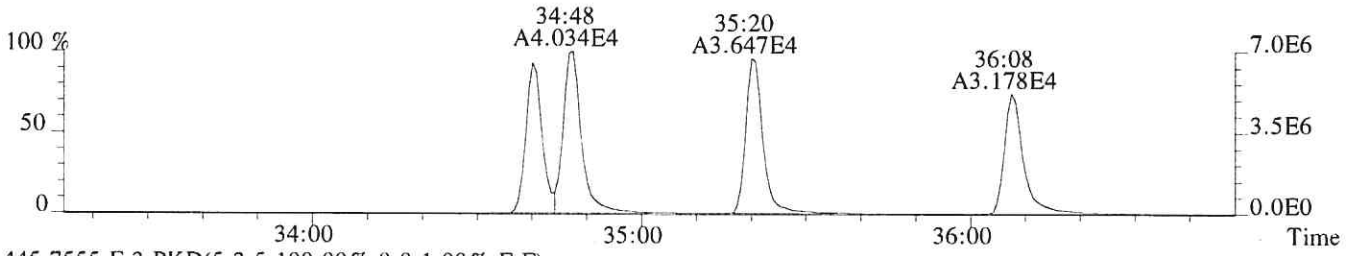
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,T)



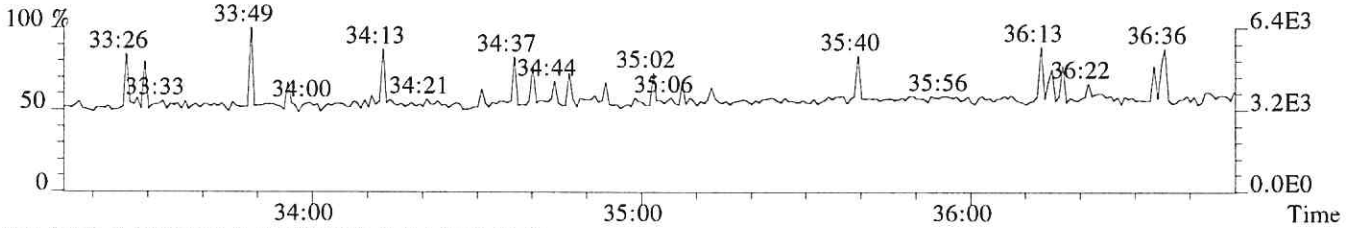
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



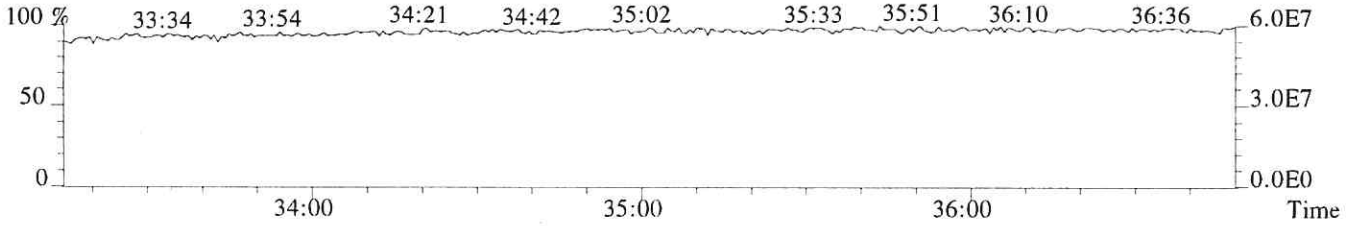
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1652.0,0.40%,F,T)



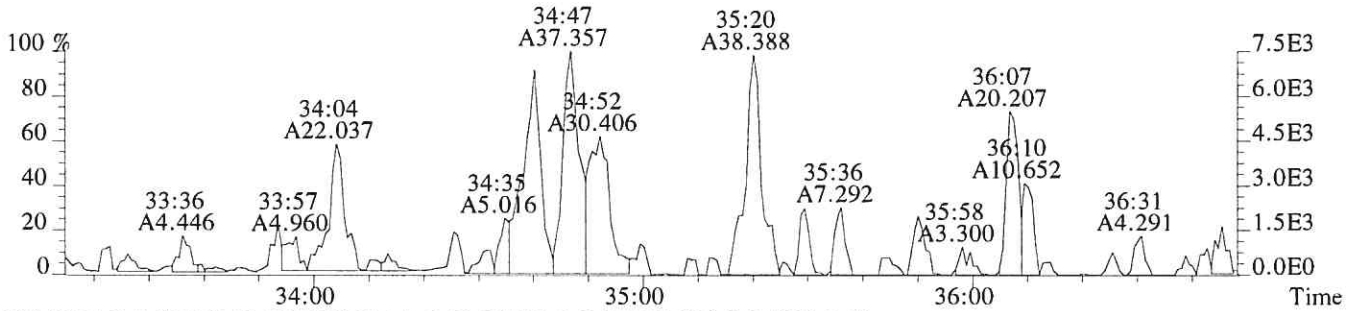
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



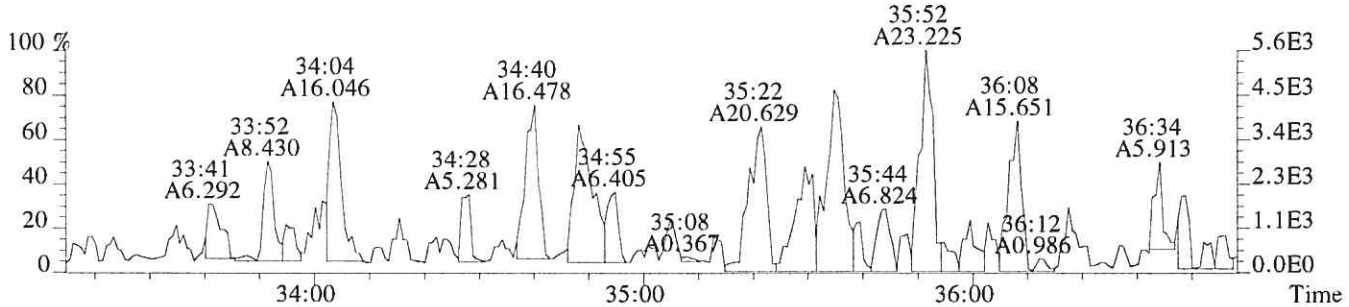
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



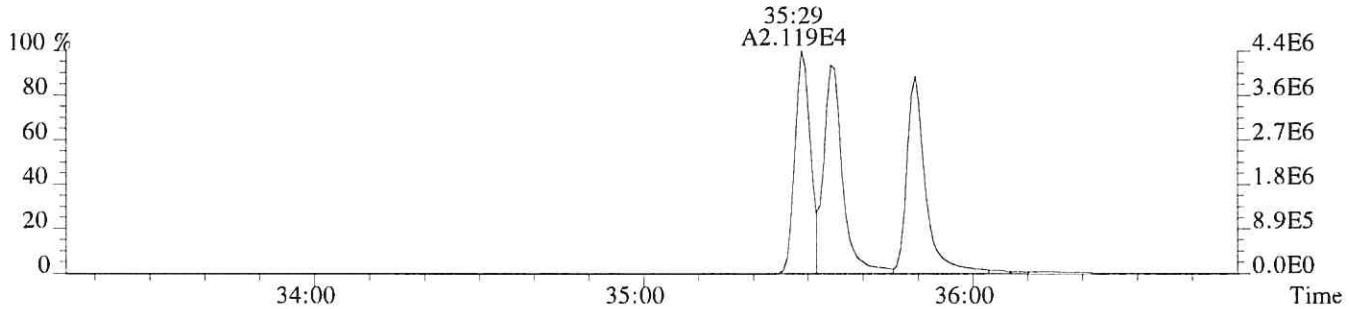
File:P609267 #1-321 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



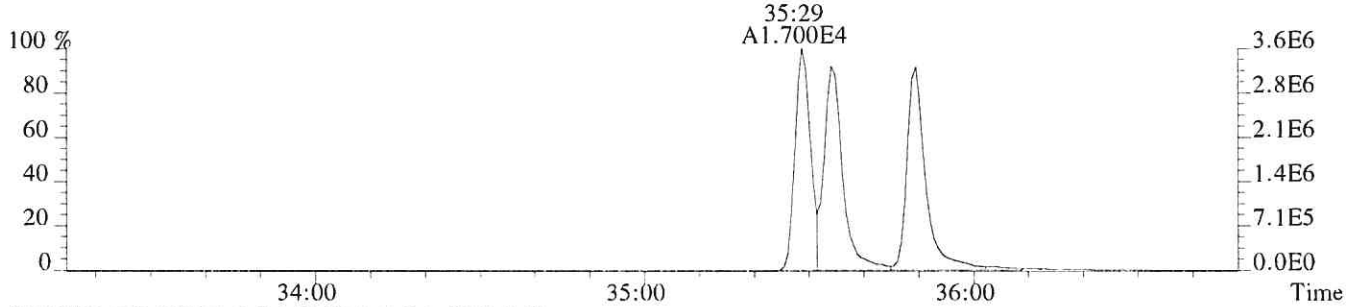
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,616.0,0.40%,F,T)



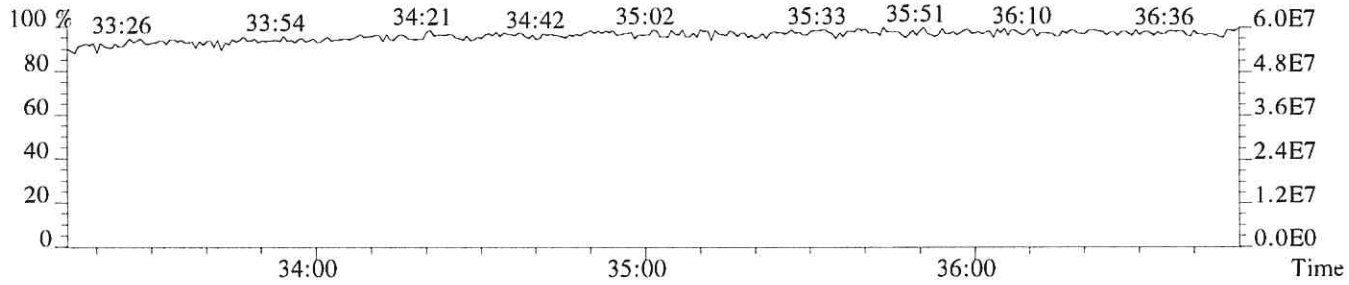
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



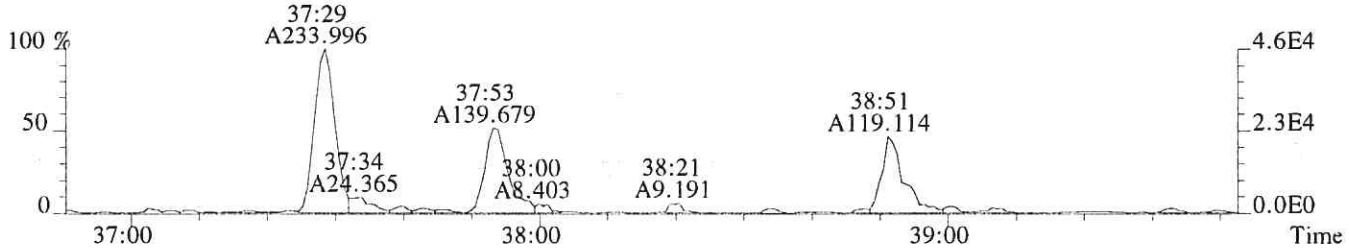
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



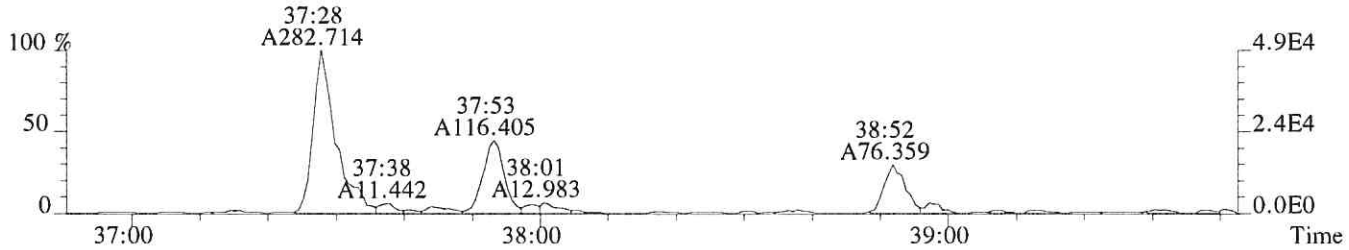
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



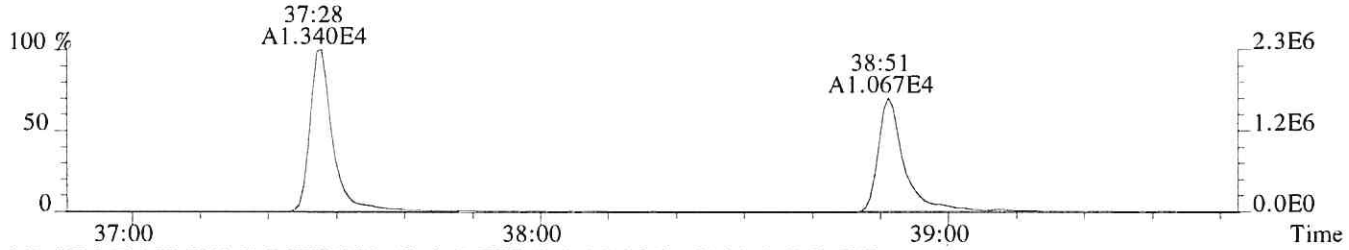
File:P609267 #1-259 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.50%,F,T)



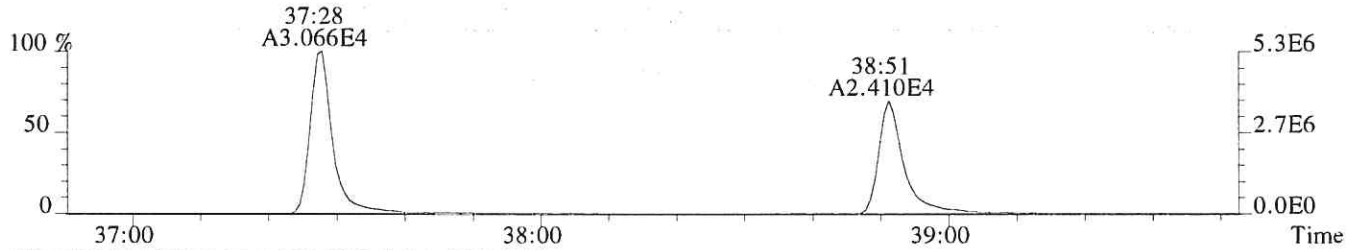
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,360.0,0.50%,F,T)



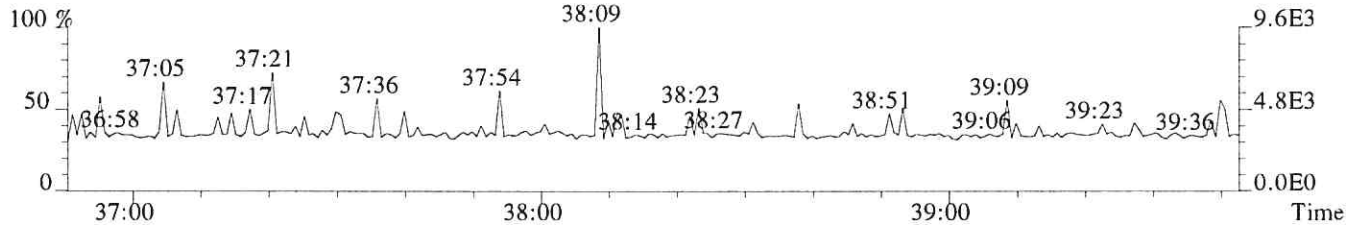
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3044.0,0.50%,F,T)



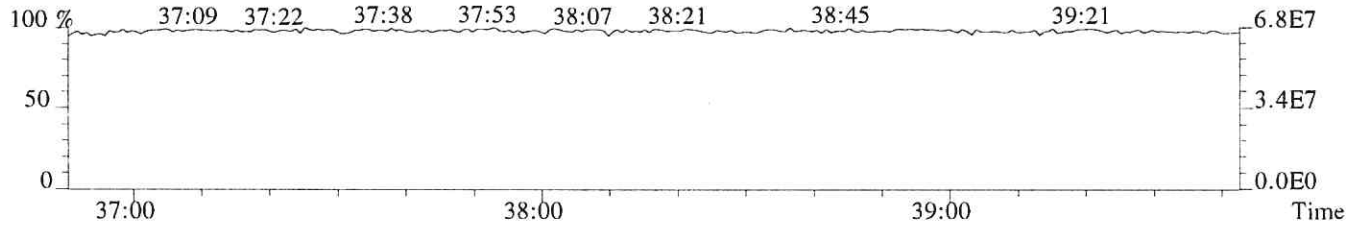
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4516.0,0.50%,F,T)



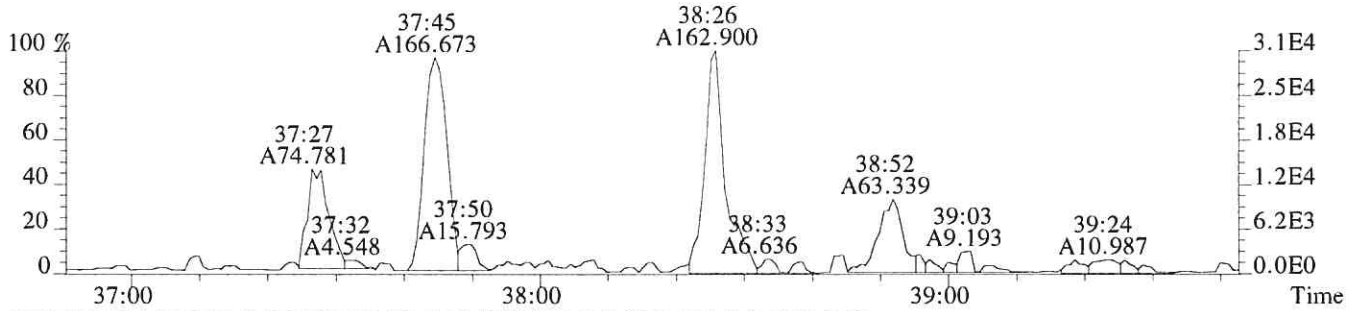
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



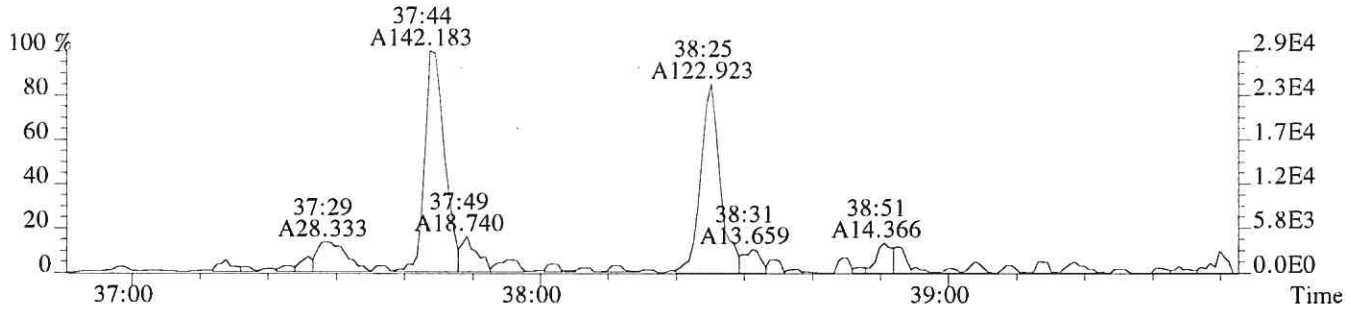
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



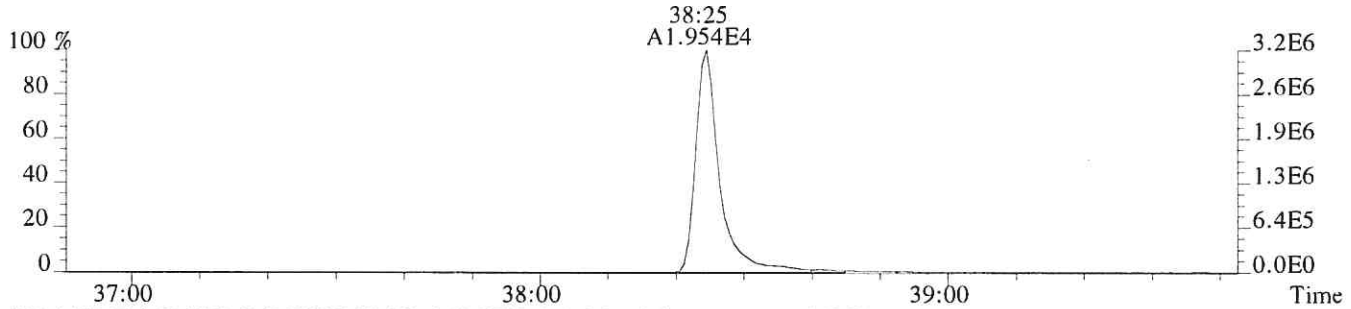
File:P609267 #1-259 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



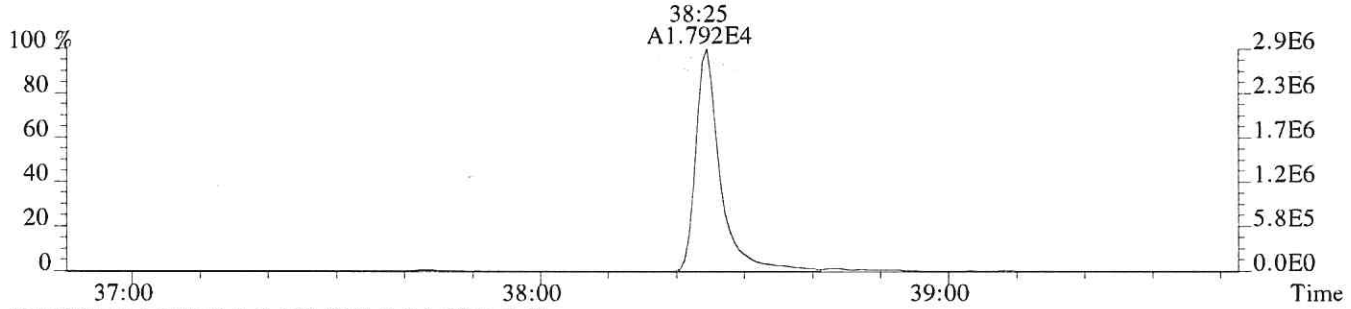
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,T)



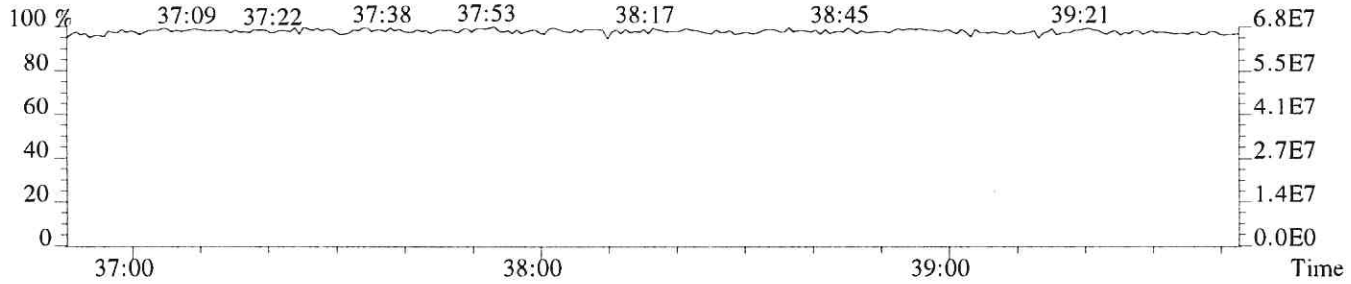
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



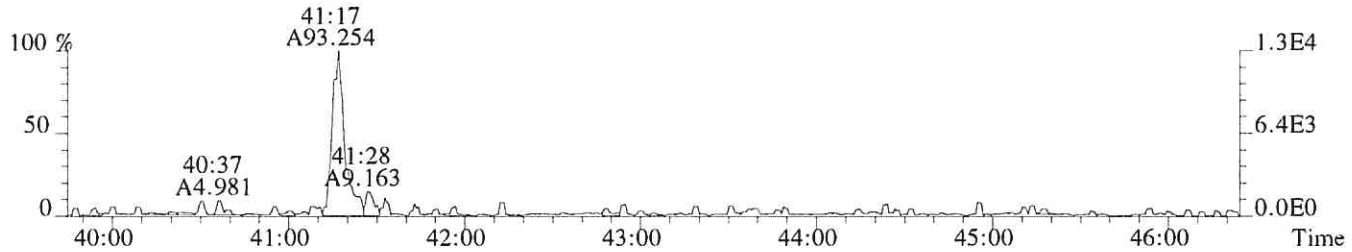
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.40%,F,T)



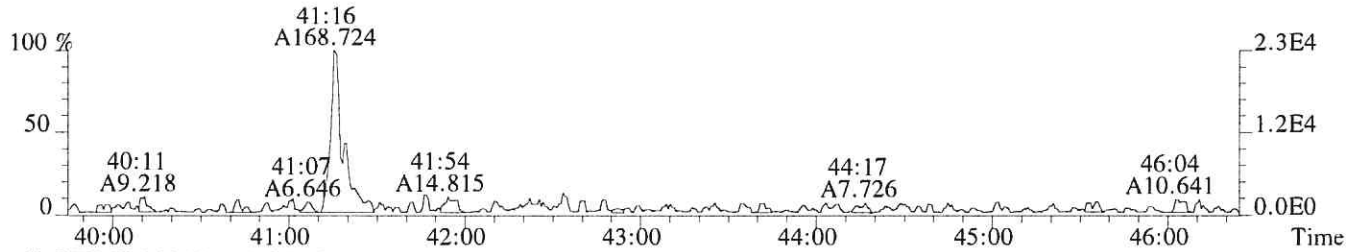
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



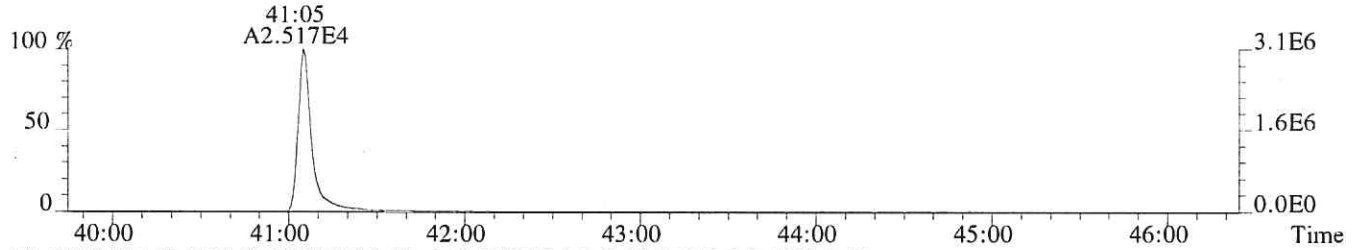
File:P609267 #1-600 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,196.0,0.40%,F,T)



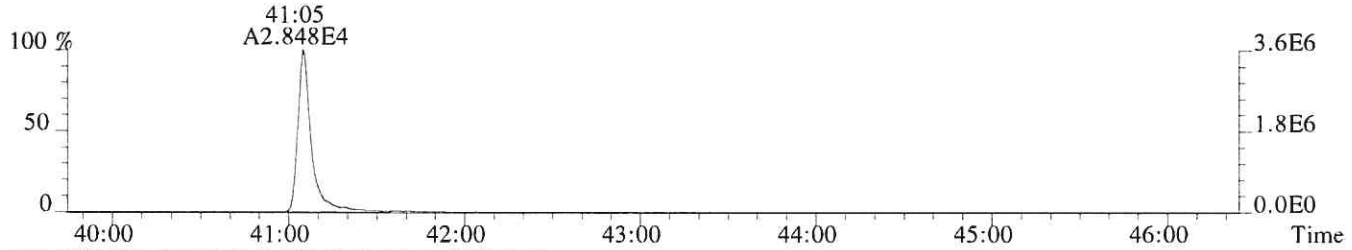
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,T)



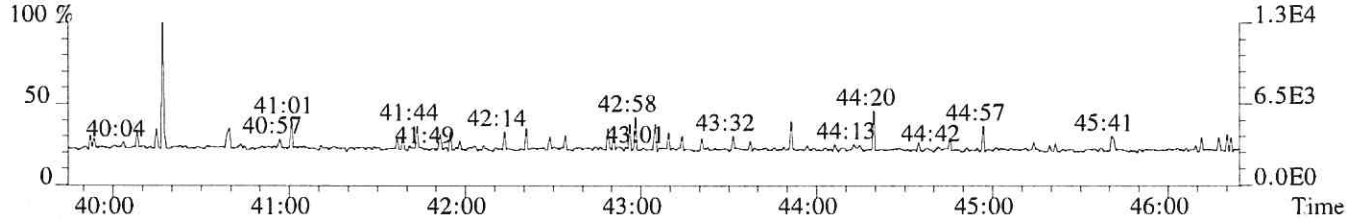
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,484.0,0.40%,F,T)



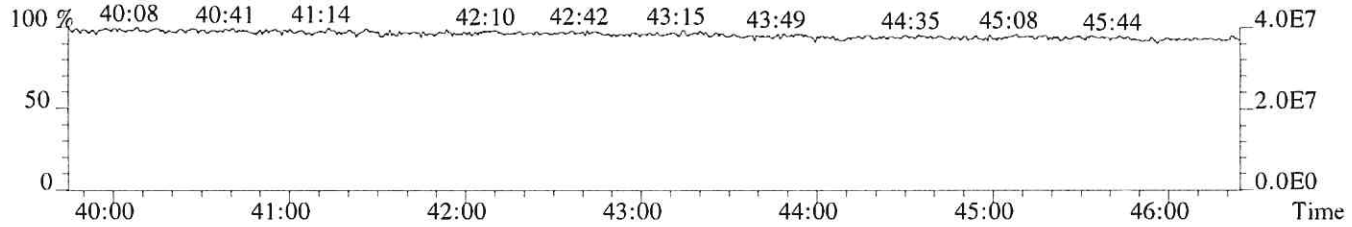
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,F,T)



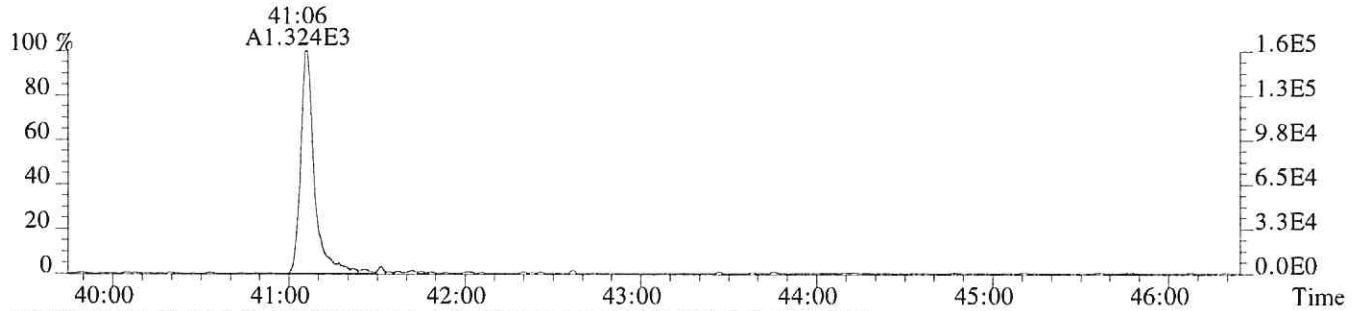
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



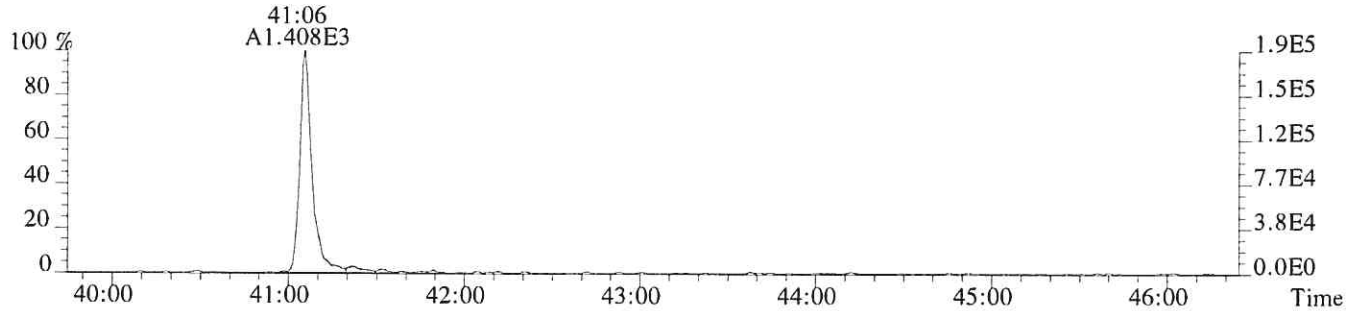
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



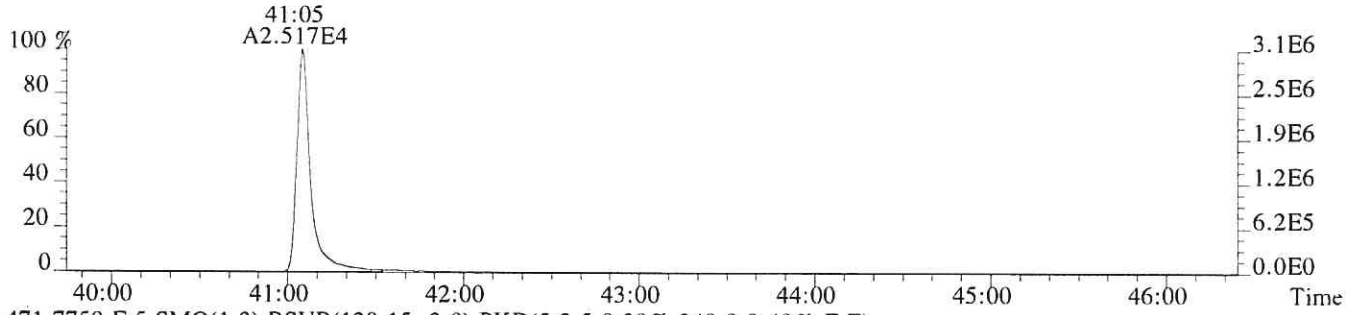
File:P609267 #1-600 Acq:25-SEP-2017 18:27:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-011DL
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,280.0,0.40%,F,T)



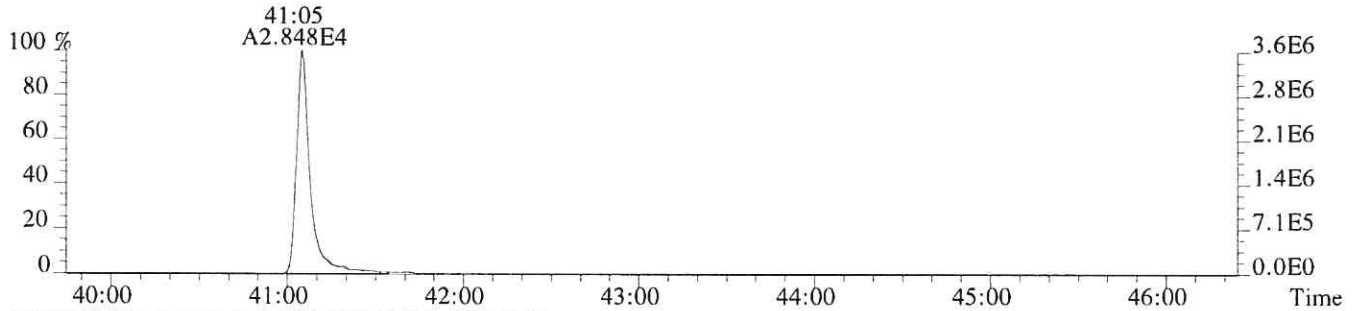
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,228.0,0.40%,F,T)



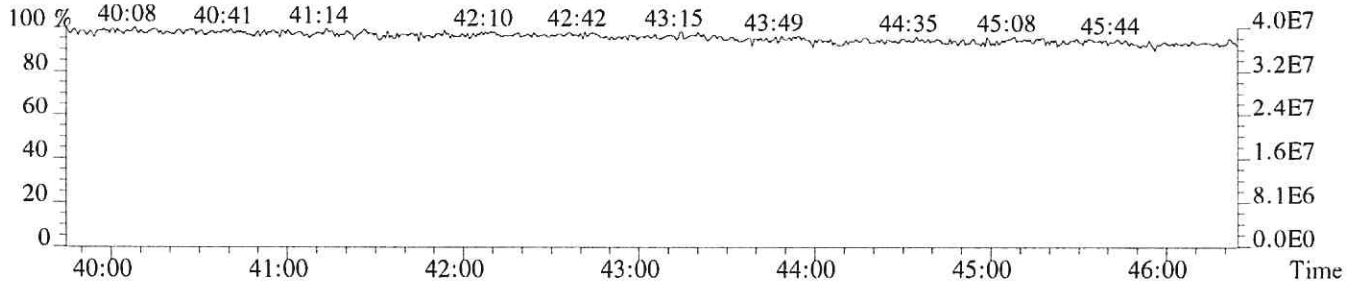
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,484.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,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 P511516 Samp: 1 Inj: 1 Acquired: 23-SEP-17 18:17:56
Processed: 25-SEP-17 10:00:01 Sample ID: E1700973-012

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	4.435e+02	6.333e+02	0.70	yes	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	36:08	3.951e+01	3.216e+01	1.23	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	38:43	3.863e+01	3.199e+01	1.21	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	42:38	6.820e+01	9.238e+01	0.74	no	yes	1.103
11	Unk	2,3,7,8-TCDD	29:18	1.288e+02	1.730e+02	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	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	39:38	7.607e+01	9.492e+01	0.80	no	no	0.942
17	Unk	OCDD	42:25	1.731e+03	2.016e+03	0.86	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.279e+04	1.642e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	3.396e+04	2.118e+04	1.60	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	3.594e+04	2.276e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.720e+04	3.390e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	1.887e+04	3.658e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.918e+04	3.744e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	1.875e+04	3.727e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.335e+04	3.023e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.269e+04	2.902e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.136e+04	1.463e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	2.876e+04	1.802e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.808e+04	2.216e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	2.824e+04	2.201e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	2.311e+04	2.137e+04	1.08	yes	no	0.881
32	IS	13C-OCDD	42:24	2.610e+04	2.900e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.940e+04	3.749e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	4.744e+04	3.728e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.131e+04				no	1.033

$$\text{OCDD} = \frac{(1.731e+03 + 2.016e+03) \times 4000 \text{ pg} \times 1}{(2.610e+04 + 2.900e+04) \times 10.874 \text{ g} \times 75.8 / 100 \times 1.051} = 31.4 \text{ ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-031E

Run #14 Filename P511516 Samp: 1 Inj: 1 Acquired: 23-SEP-17 18:17:56
Processed: 25-SEP-17 10:00:01 LAB. ID: E1700973-012

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.93e+04	1.01e+03	7.9e+01	1.16e+05	4.30e+03	2.7e+01
2	1,2,3,7,8-PeCDF	*	1.32e+03	*	*	4.54e+03	*
3	2,3,4,7,8-PeCDF	*	1.32e+03	*	*	4.54e+03	*
4	1,2,3,4,7,8-HxCDF	7.97e+03	1.53e+03	5.2e+00	6.91e+03	1.34e+03	5.2e+00
5	1,2,3,6,7,8-HxCDF	*	1.53e+03	*	*	1.34e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.53e+03	*	*	1.34e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.53e+03	*	*	1.34e+03	*
8	1,2,3,4,6,7,8-HpCDF	8.69e+03	1.09e+03	8.0e+00	6.58e+03	1.04e+03	6.3e+00
9	1,2,3,4,7,8,9-HpCDF	*	1.09e+03	*	*	1.04e+03	*
10	OCDF	1.21e+04	1.37e+03	8.8e+00	1.54e+04	3.84e+03	4.0e+00
11	2,3,7,8-TCDD	2.79e+04	3.71e+03	7.5e+00	3.34e+04	1.72e+03	1.9e+01
12	1,2,3,7,8-PeCDD	*	2.55e+03	*	*	9.12e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.01e+03	*	*	1.87e+03	*
14	1,2,3,6,7,8-HxCDD	*	1.01e+03	*	*	1.87e+03	*
15	1,2,3,7,8,9-HxCDD	*	1.01e+03	*	*	1.87e+03	*
16	1,2,3,4,6,7,8-HpCDD	1.55e+04	1.56e+03	1.0e+01	2.02e+04	1.35e+03	1.5e+01
17	OCDD	3.05e+05	1.31e+03	2.3e+02	3.33e+05	1.04e+03	3.2e+02
18	13C-2,3,7,8-TCDF	2.54e+06	2.62e+04	9.7e+01	3.21e+06	1.24e+04	2.6e+02
19	13C-1,2,3,7,8-PeCDF	6.54e+06	4.17e+03	1.6e+03	4.11e+06	2.50e+03	1.6e+03
20	13C-2,3,4,7,8-PeCDF	7.16e+06	4.17e+03	1.7e+03	4.53e+06	2.50e+03	1.8e+03
21	13C-1,2,3,4,7,8-HxCDF	3.82e+06	1.02e+03	3.8e+03	7.44e+06	2.84e+03	2.6e+03
22	13C-1,2,3,6,7,8-HxCDF	3.97e+06	1.02e+03	3.9e+03	7.84e+06	2.84e+03	2.8e+03
23	13C-2,3,4,6,7,8-HxCDF	4.14e+06	1.02e+03	4.1e+03	7.97e+06	2.84e+03	2.8e+03
24	13C-1,2,3,7,8,9-HxCDF	3.97e+06	1.02e+03	3.9e+03	7.89e+06	2.84e+03	2.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.92e+06	3.77e+03	7.8e+02	6.58e+06	2.40e+03	2.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.53e+06	3.77e+03	6.7e+02	5.69e+06	2.40e+03	2.4e+03
27	13C-2,3,7,8-TCDD	2.30e+06	1.09e+04	2.1e+02	2.99e+06	6.96e+03	4.3e+02
28	13C-1,2,3,7,8-PeCDD	5.77e+06	4.23e+03	1.4e+03	3.64e+06	2.81e+03	1.3e+03
29	13C-1,2,3,4,7,8-HxCDD	6.42e+06	3.06e+03	2.1e+03	5.07e+06	2.23e+03	2.3e+03
30	13C-1,2,3,6,7,8-HxCDD	6.02e+06	3.06e+03	2.0e+03	4.69e+06	2.23e+03	2.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.62e+06	3.19e+03	1.5e+03	4.29e+06	1.81e+03	2.4e+03
32	13C-OCDD	4.39e+06	2.06e+03	2.1e+03	4.97e+06	1.60e+03	3.1e+03
33	13C-1,2,3,4-TCDD	5.80e+06	1.09e+04	5.3e+02	7.47e+06	6.96e+03	1.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.02e+07	3.06e+03	3.3e+03	8.07e+06	2.23e+03	3.6e+03
35	37Cl-2,3,7,8-TCDD	2.26e+06	2.04e+03	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-031E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 14 File: P511516 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 18:17:56 Processed: 25-SEP-17 10:00:01

Mass: 303.9020 305.8990 Tot Response: 1.19e+03 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:32	4.44e+02	6.33e+02	0.70	yes	1.08e+03	2,3,7,8-TCDF	y	y
2	28:51	4.44e+01	6.40e+01	0.69	yes	1.08e+02		n	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-031E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 14 File: P511516 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 18:17:56 Processed: 25-SEP-17 10:00:01

Mass: 319.8970 321.8940 Tot Response: 3.02e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:18	1.29e+02	1.73e+02	0.74	yes	3.02e+02	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-031E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 14 File: P511516 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 18:17:56 Processed: 25-SEP-17 10:00:01

Mass: 373.8210 375.8180 Tot Response: 7.17e+01 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:08	3.95e+01	3.22e+01	1.23	yes	7.17e+01	1,2,3,4,7,8-HxCDF	y	y

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-031E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 14 File: P511516 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 18:17:56 Processed: 25-SEP-17 10:00:01

Mass: 407.7820 409.7790 Tot Response: 4.20e+01 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	39:07	2.26e+01	1.94e+01	1.17	yes	4.20e+01	n	n

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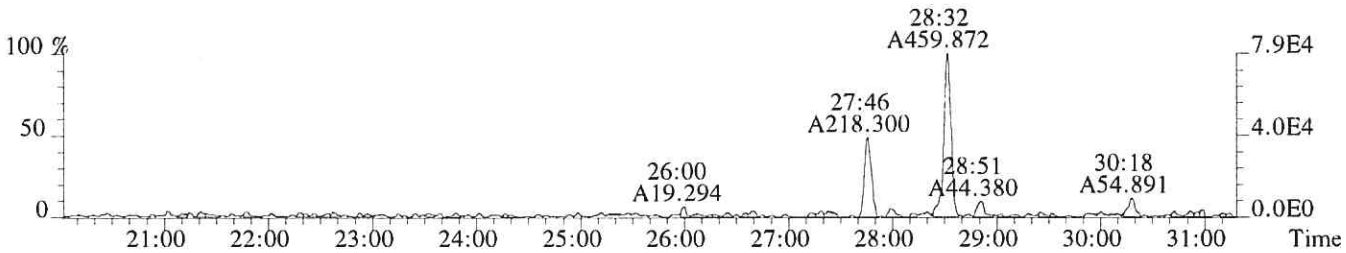
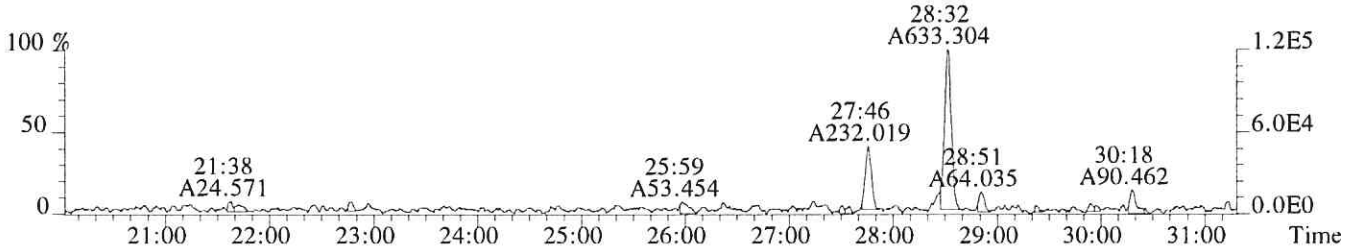
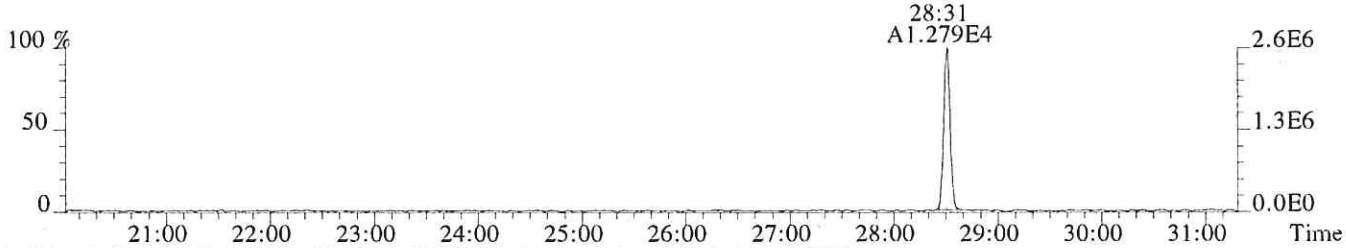
File:P511516 #1-800 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,T)



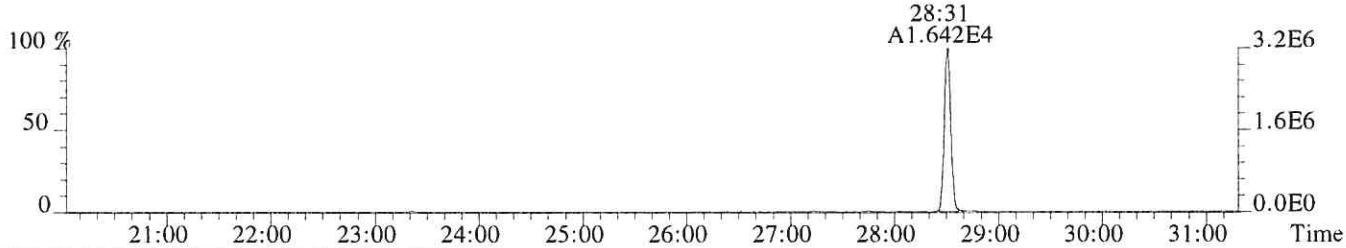
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4300.0,1.00%,F,T)



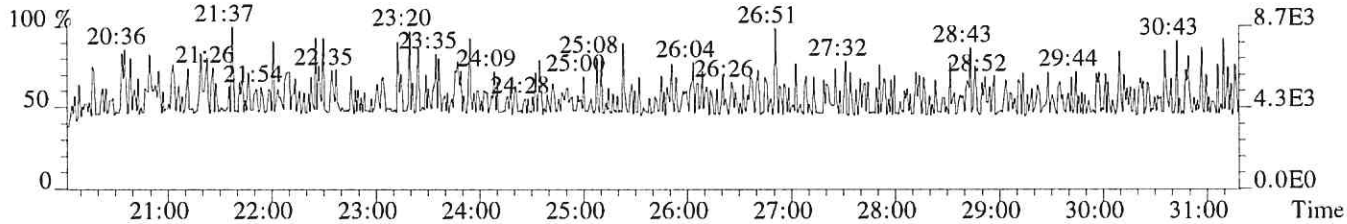
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,26160.0,1.00%,F,T)



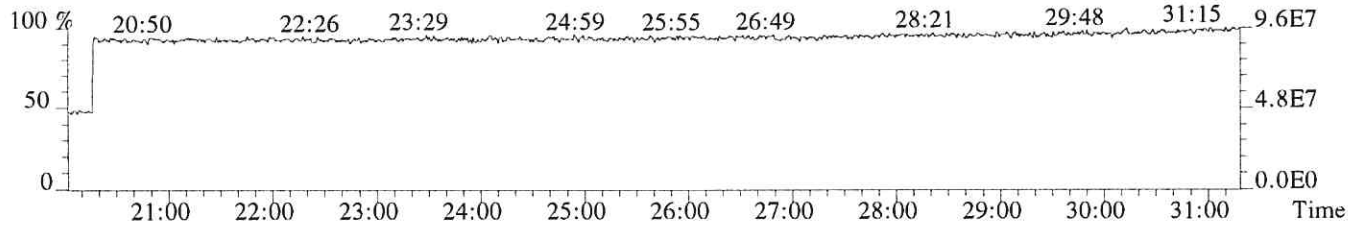
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12368.0,1.00%,F,T)



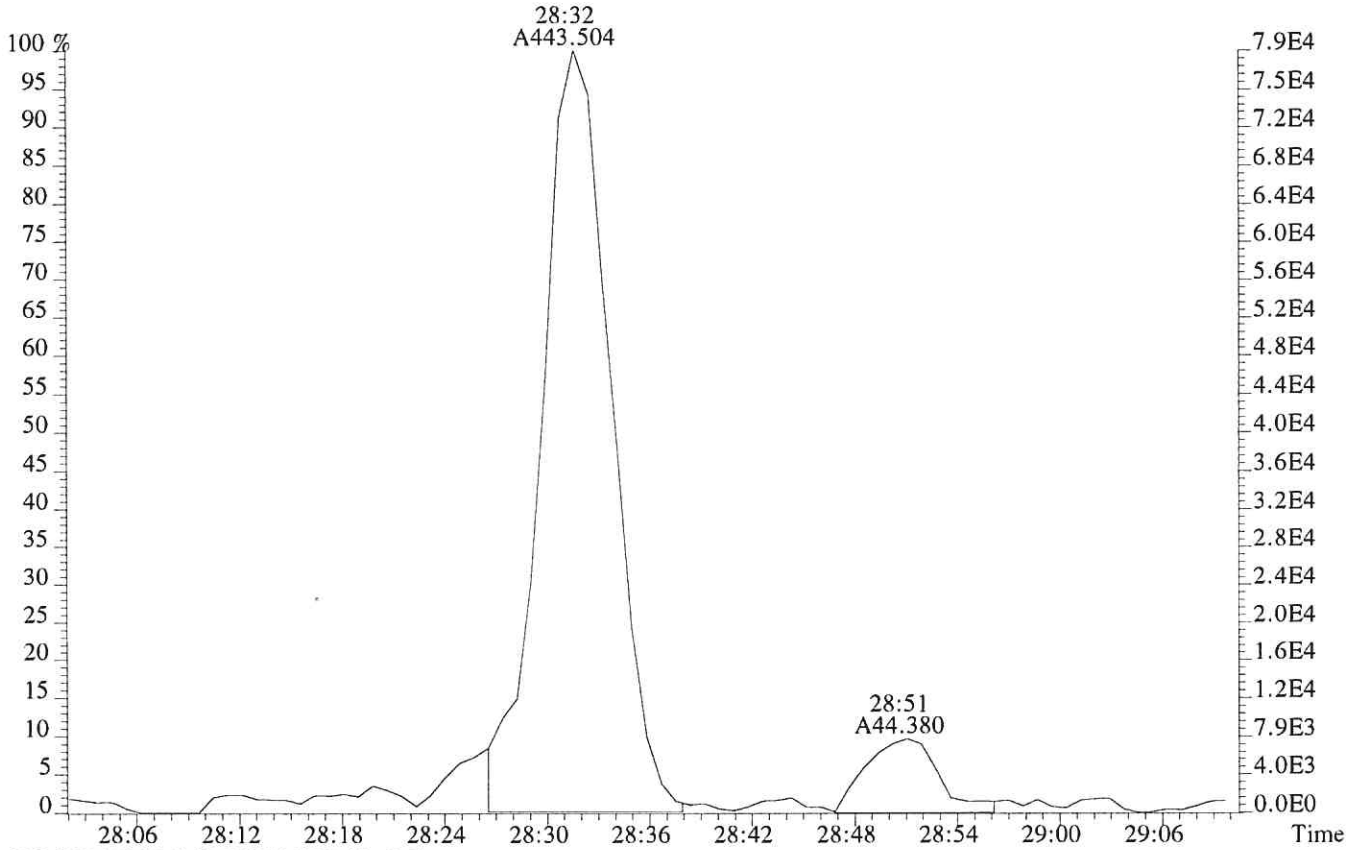
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



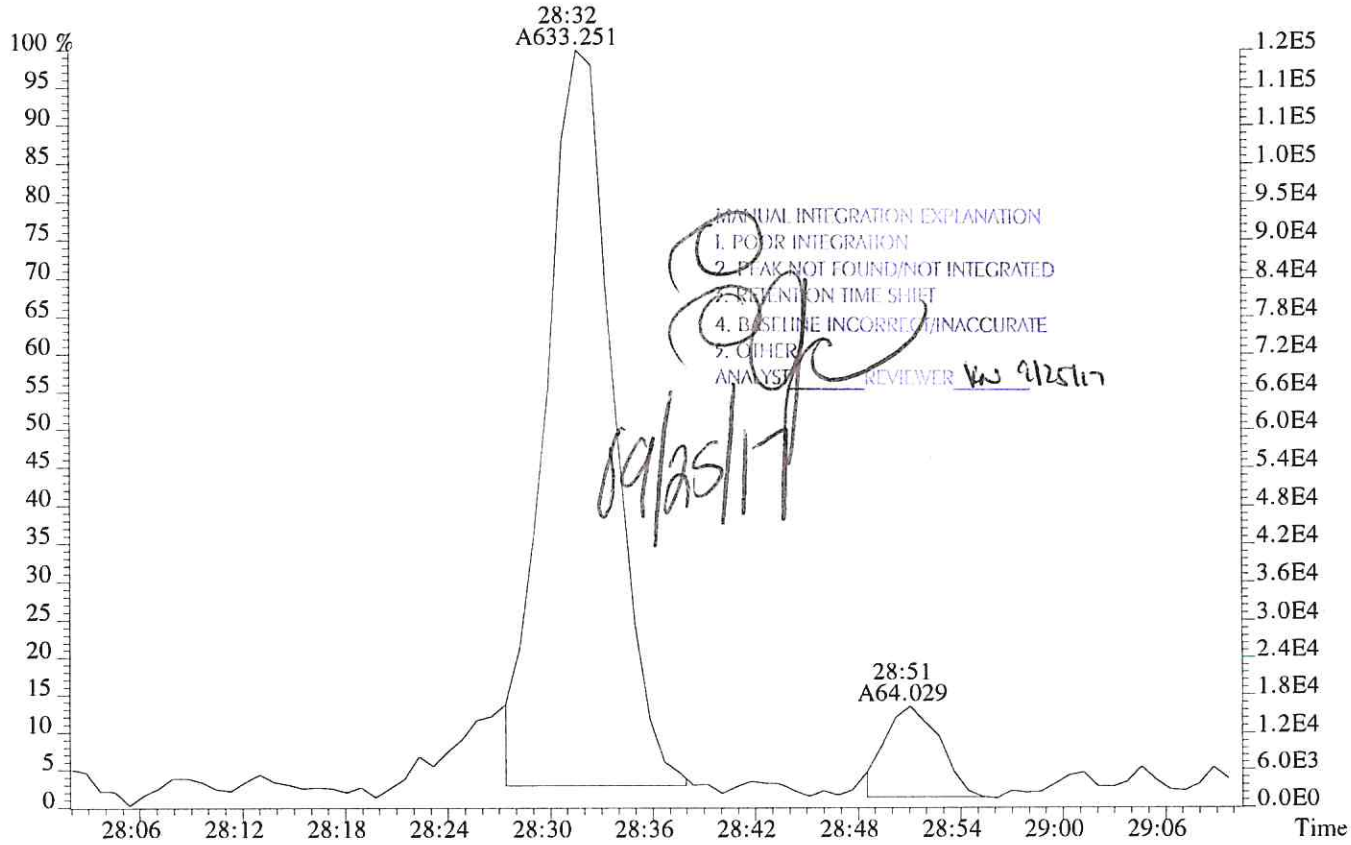
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511516 #1-800 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
303.9016 SMO(1,3) BSUB(128,15,-3.0)

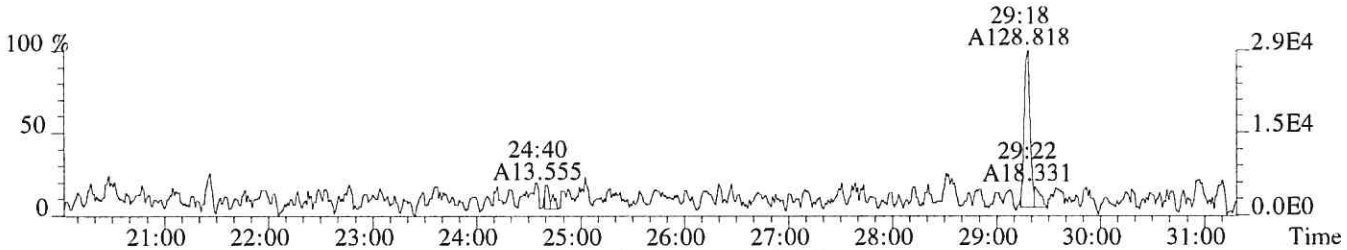


305.8987 SMO(1,3) BSUB(128,15,-3.0)

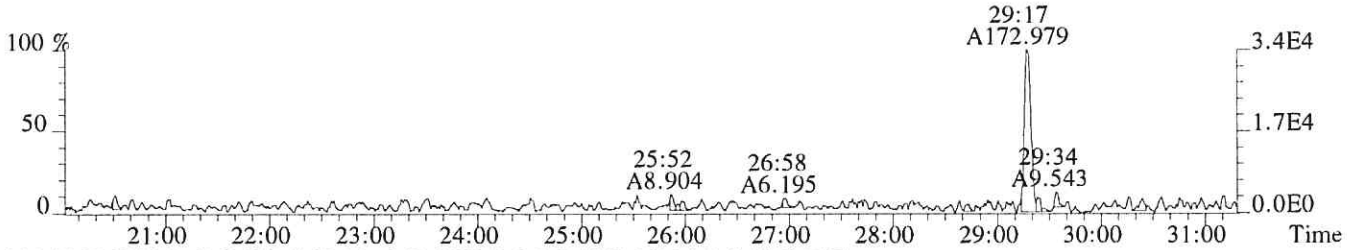


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER KW 9/25/17
09/25/17

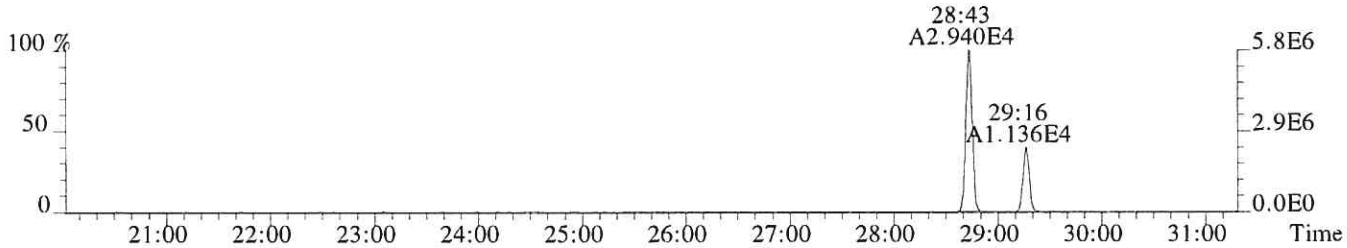
File:P511516 #1-800 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3712.0,1.00%,F,T)



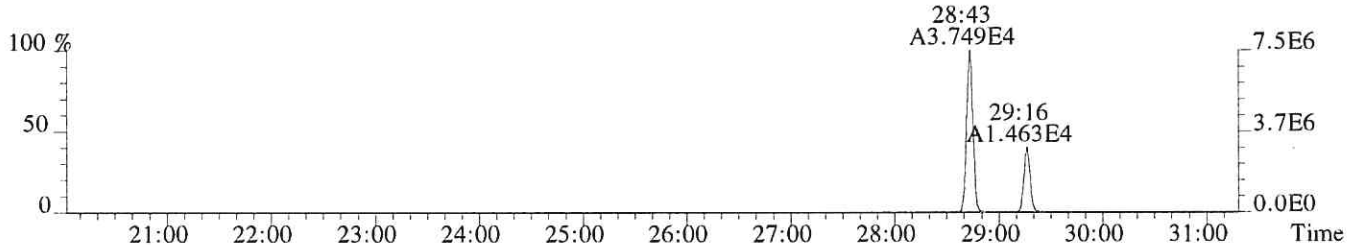
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



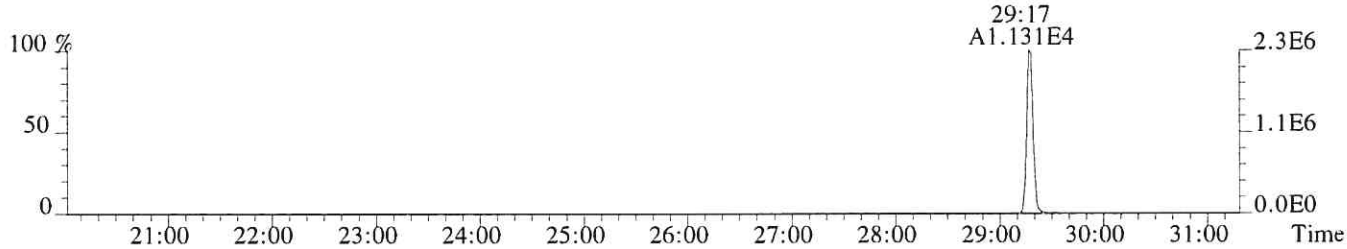
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10928.0,1.00%,F,T)



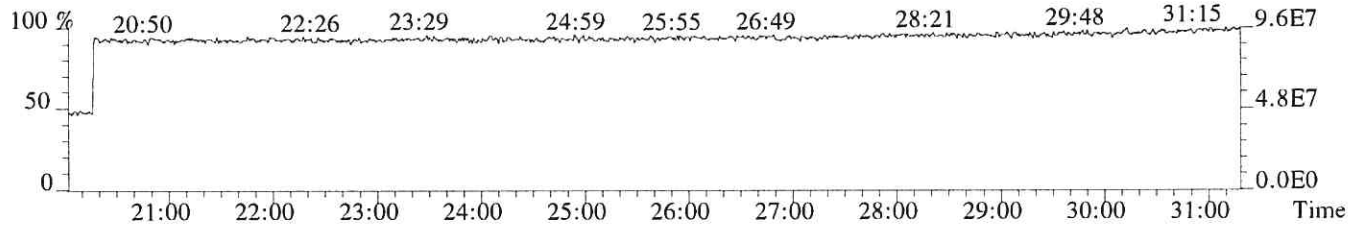
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6956.0,1.00%,F,T)



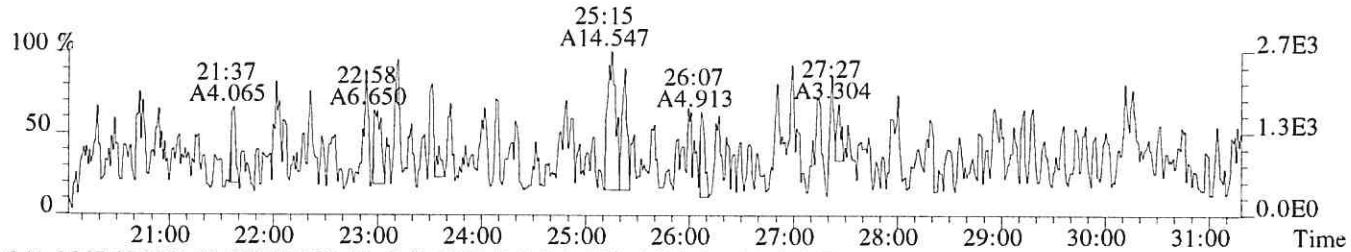
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2040.0,1.00%,F,T)



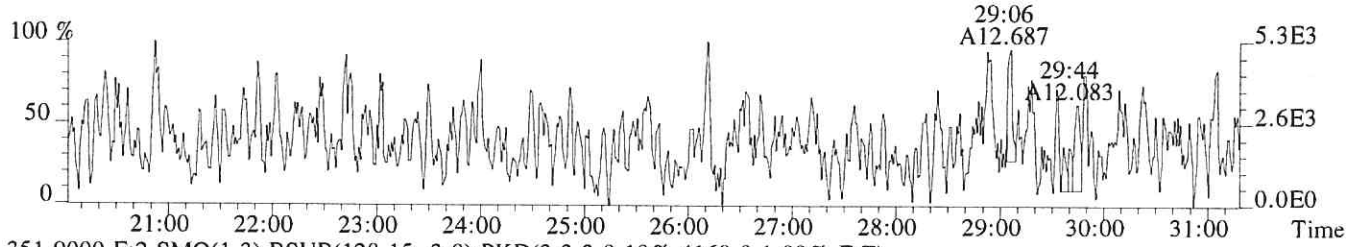
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



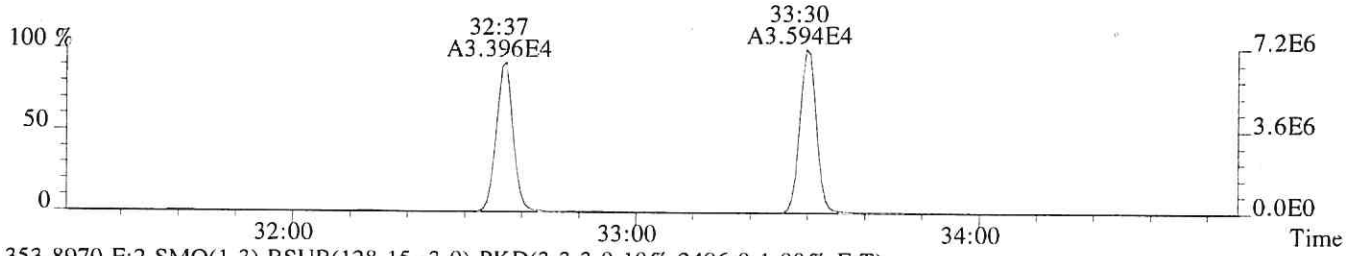
File:P511516 #1-800 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,T)



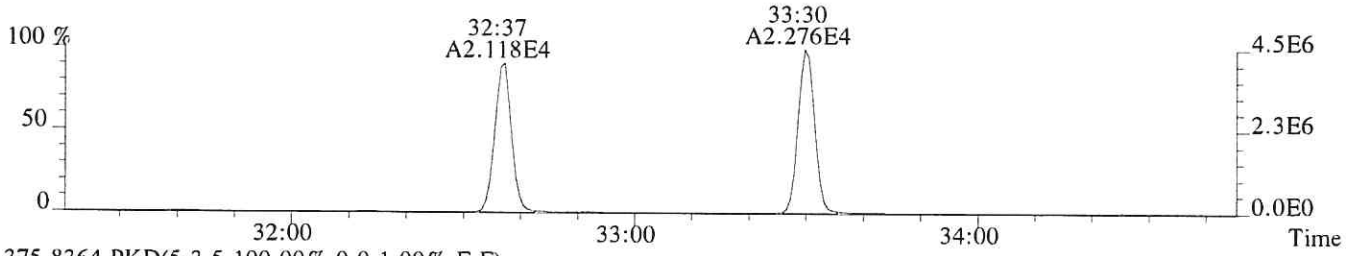
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2612.0,1.00%,F,T)



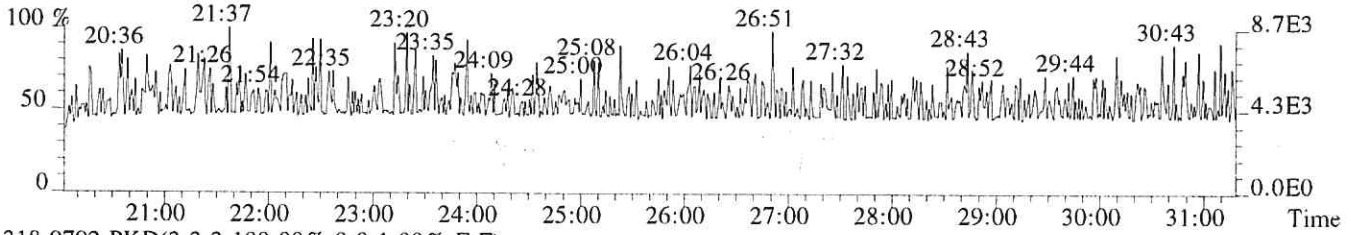
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4168.0,1.00%,F,T)



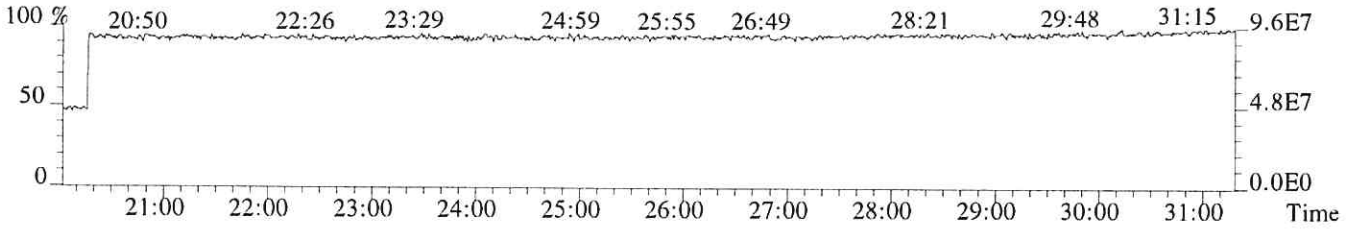
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2496.0,1.00%,F,T)



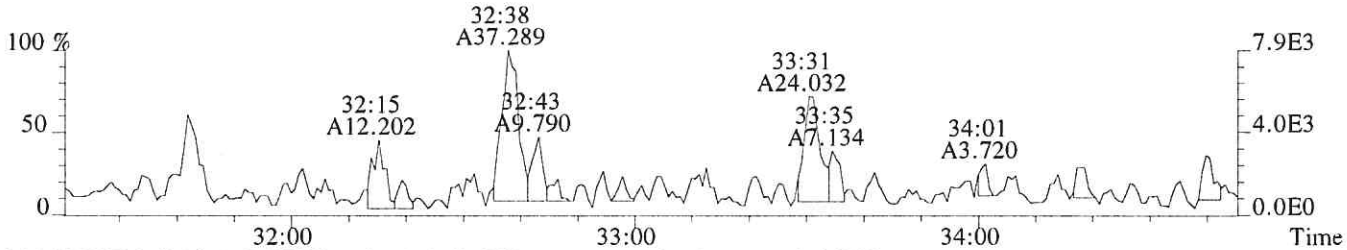
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



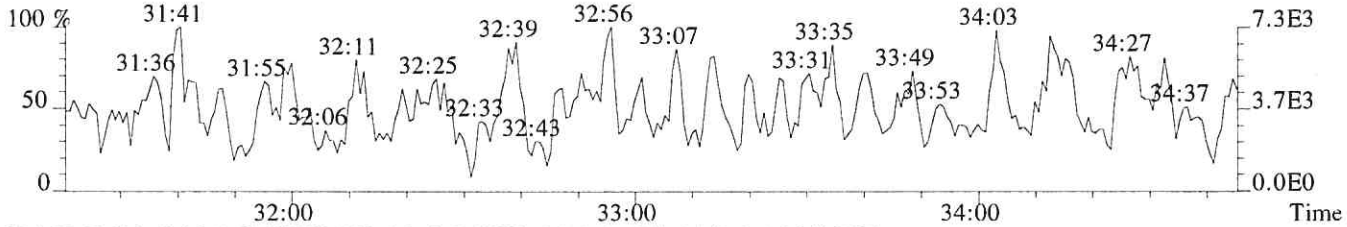
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



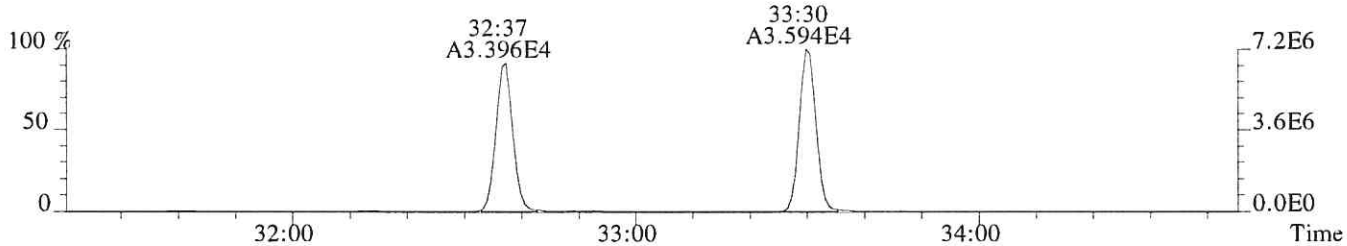
File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



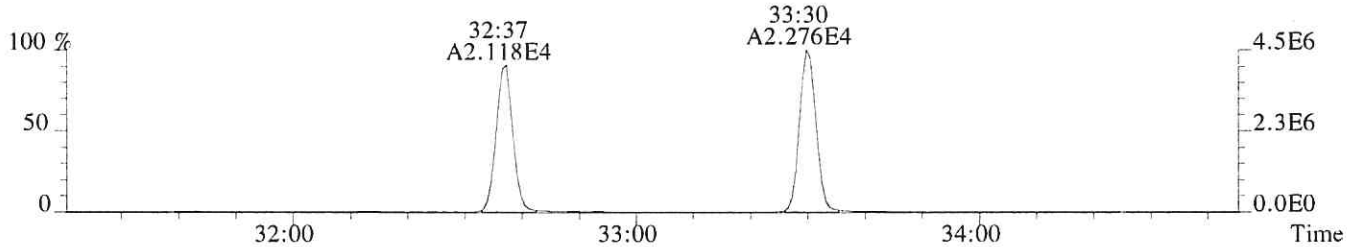
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4544.0,1.00%,F,T)



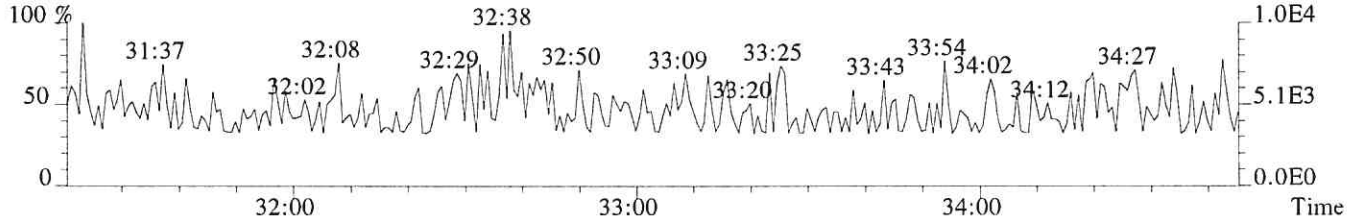
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4168.0,1.00%,F,T)



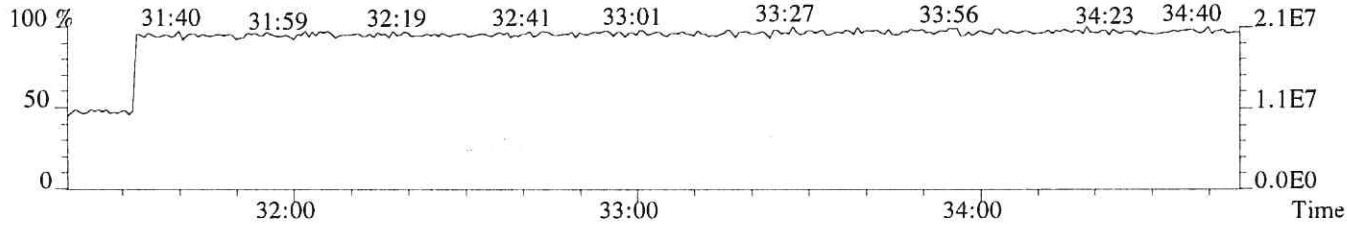
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2496.0,1.00%,F,T)



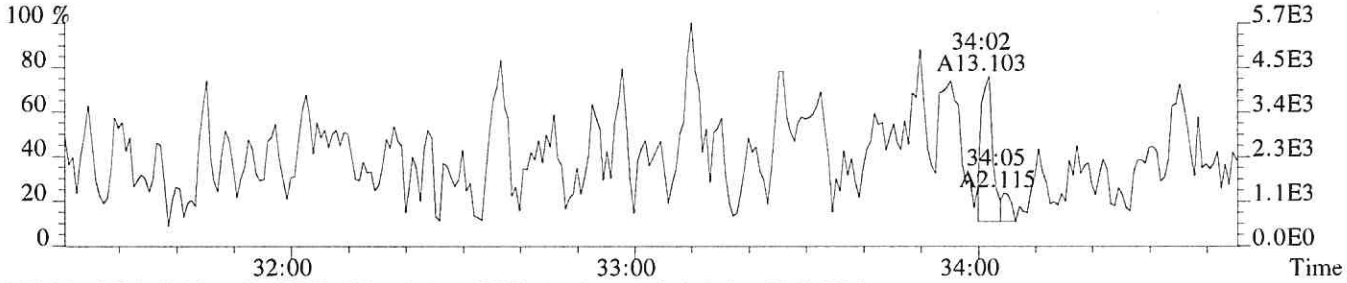
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



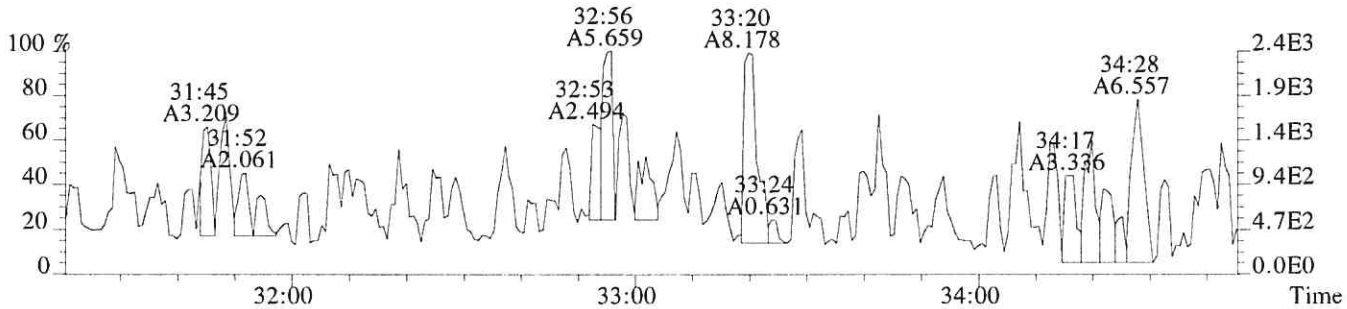
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



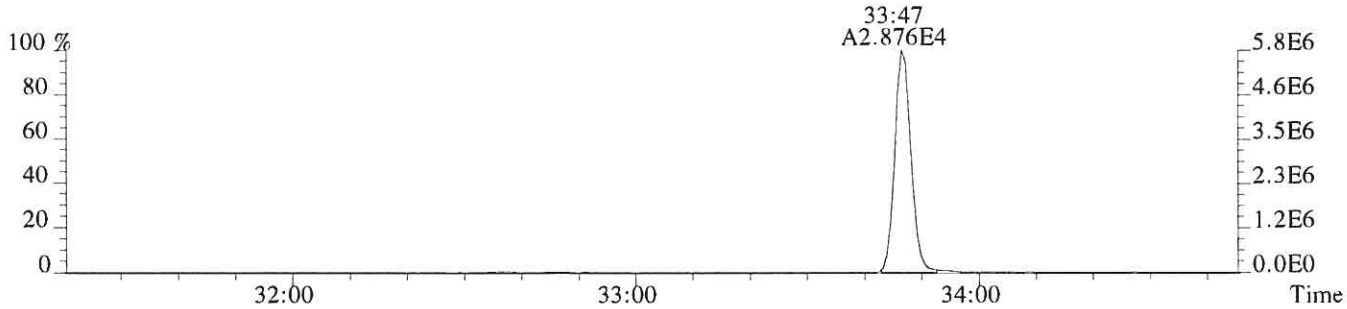
File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2552.0,1.00%,F,T)



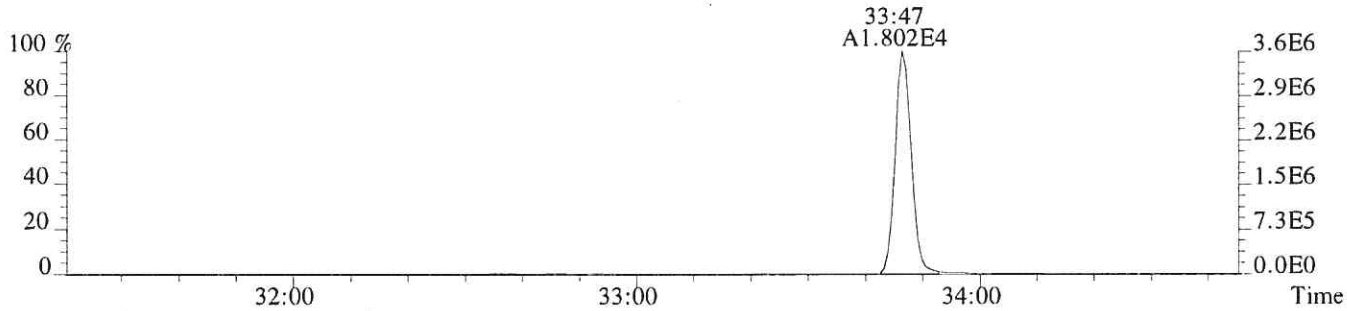
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



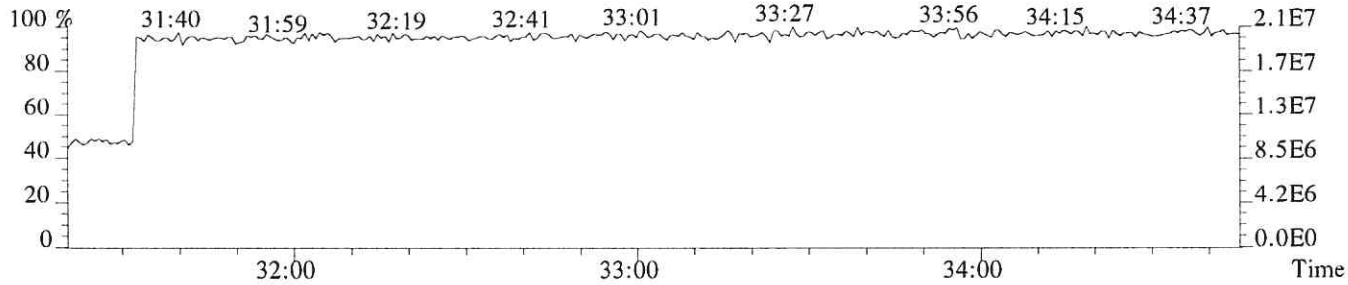
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4228.0,1.00%,F,T)



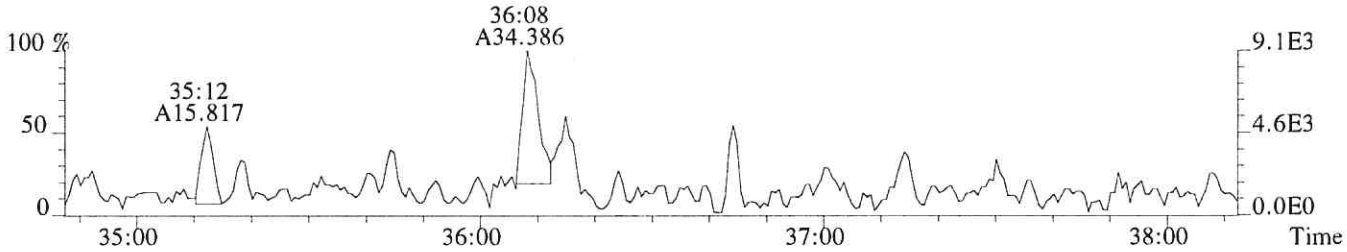
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2812.0,1.00%,F,T)



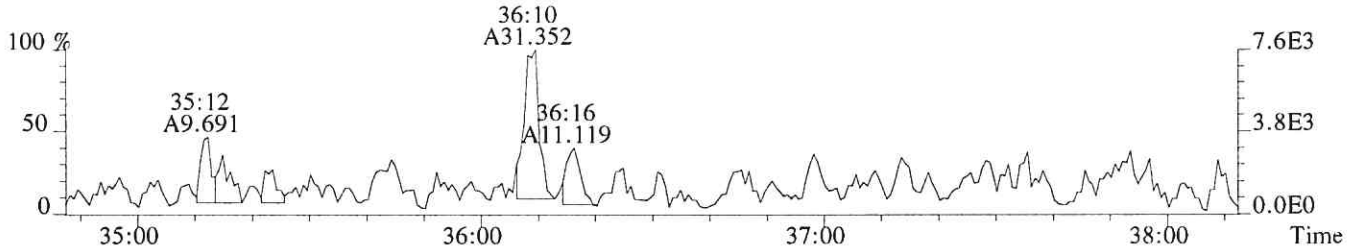
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



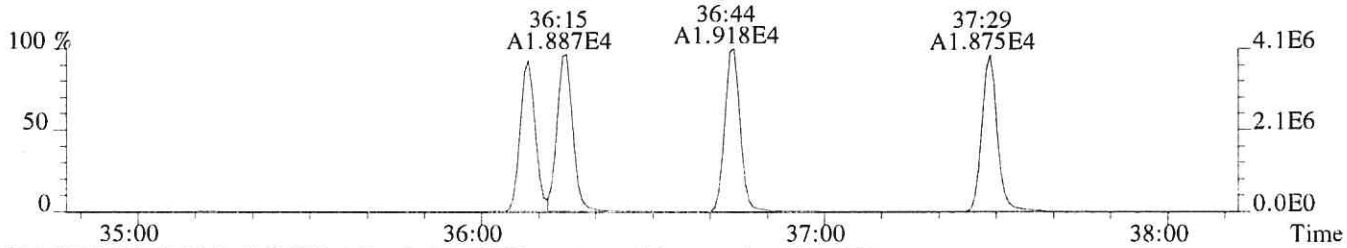
File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1528.0,0.40%,F,T)



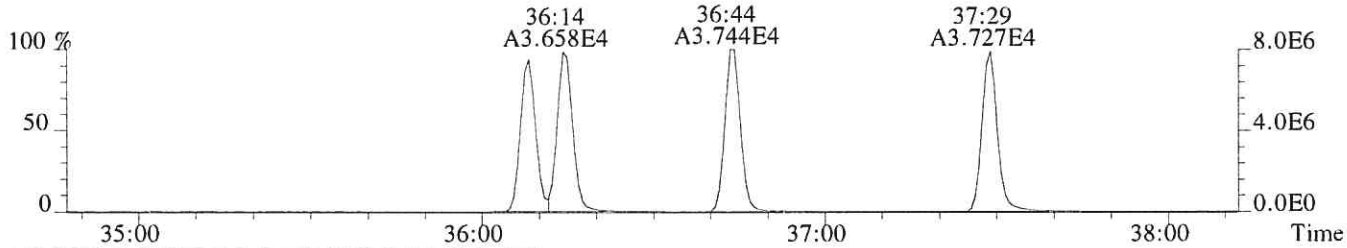
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



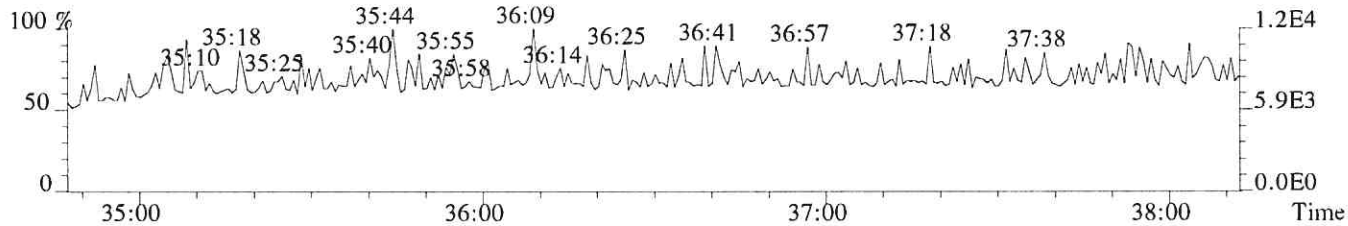
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.40%,F,T)



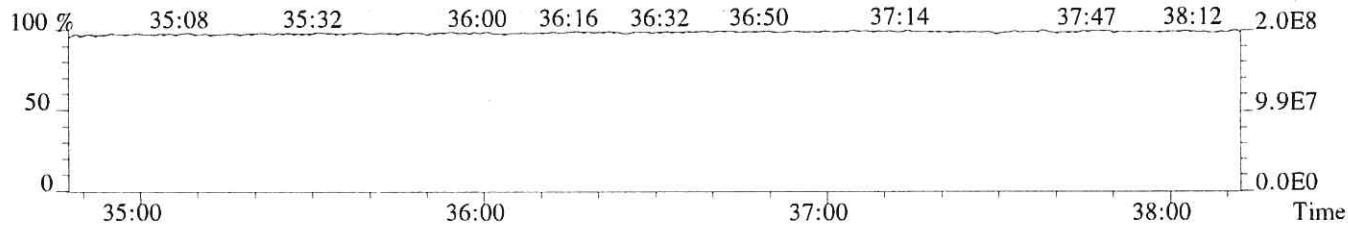
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2840.0,0.40%,F,T)



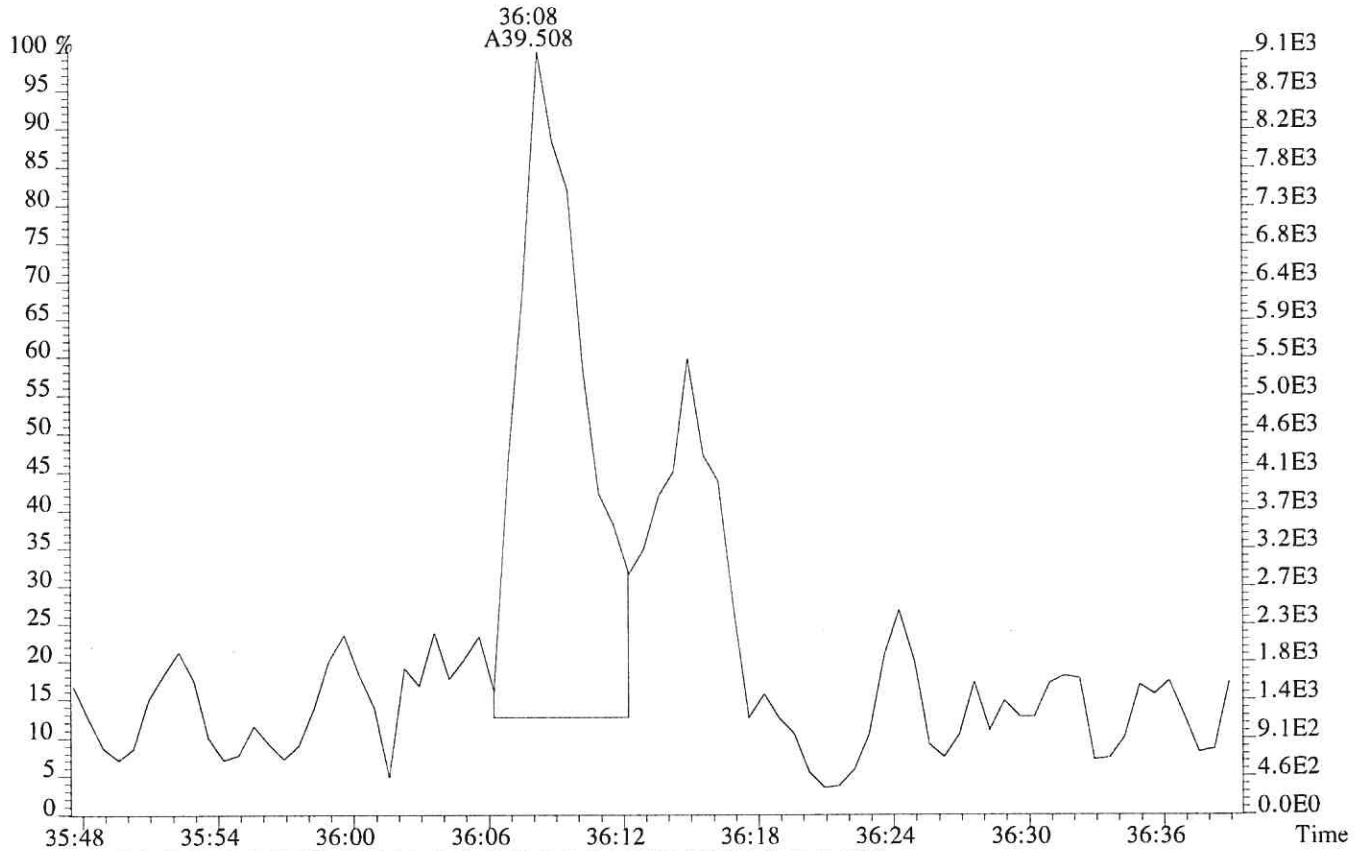
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



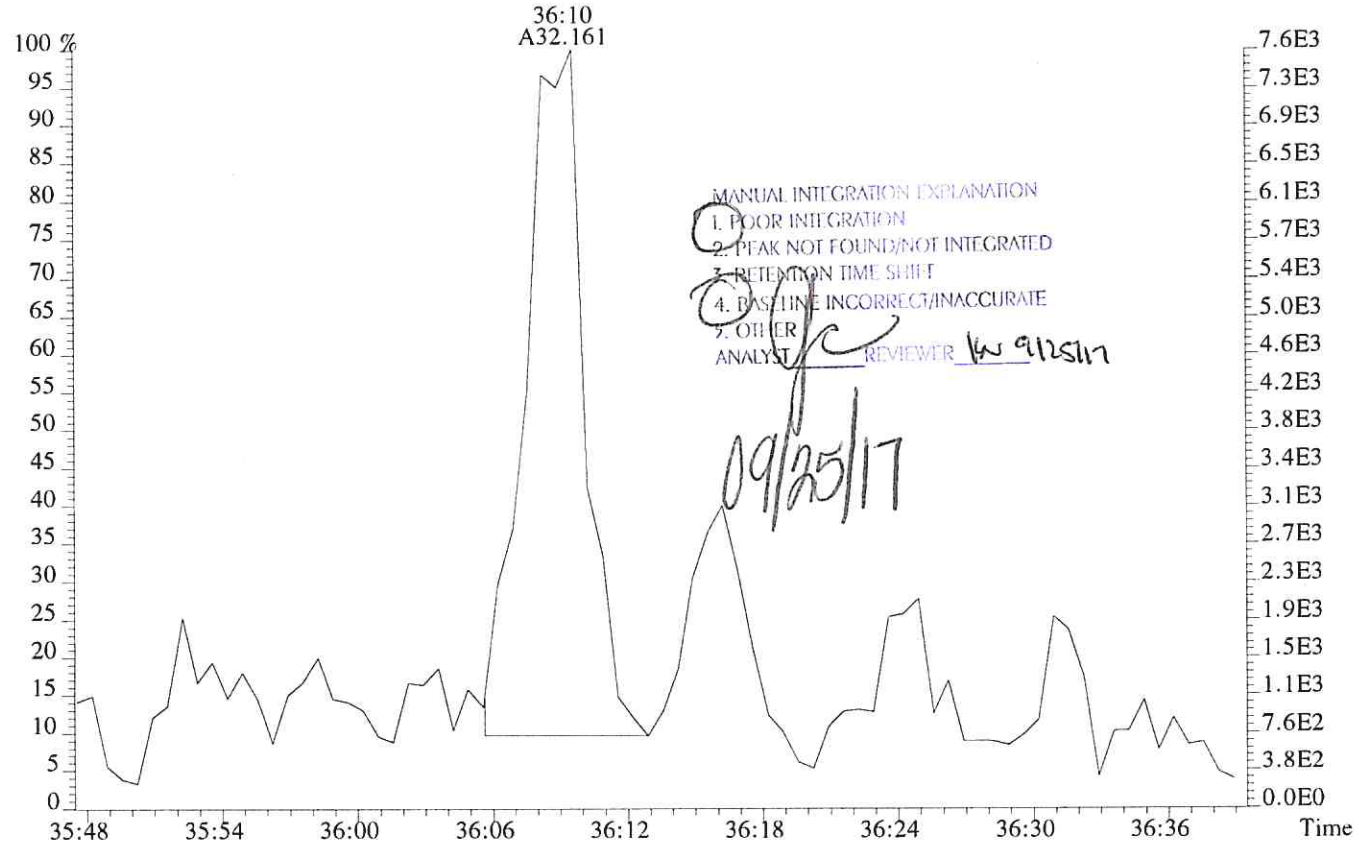
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1528.0,0.40%,F,T)

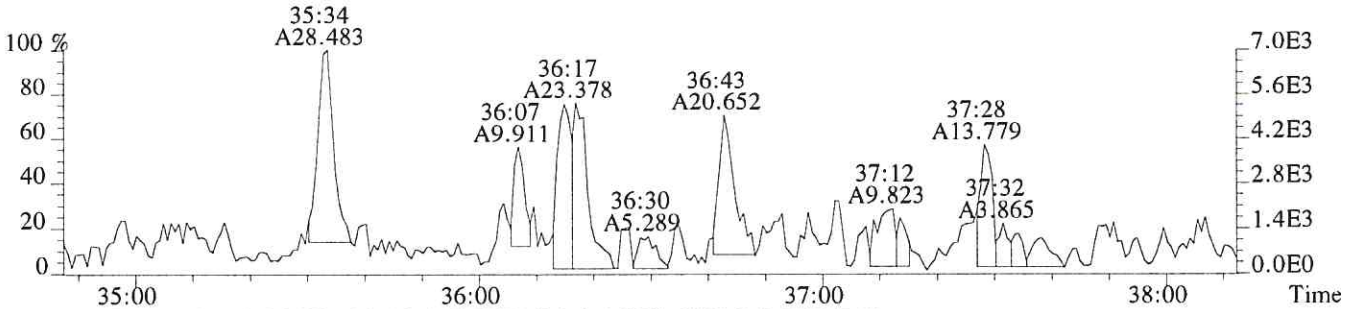


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)

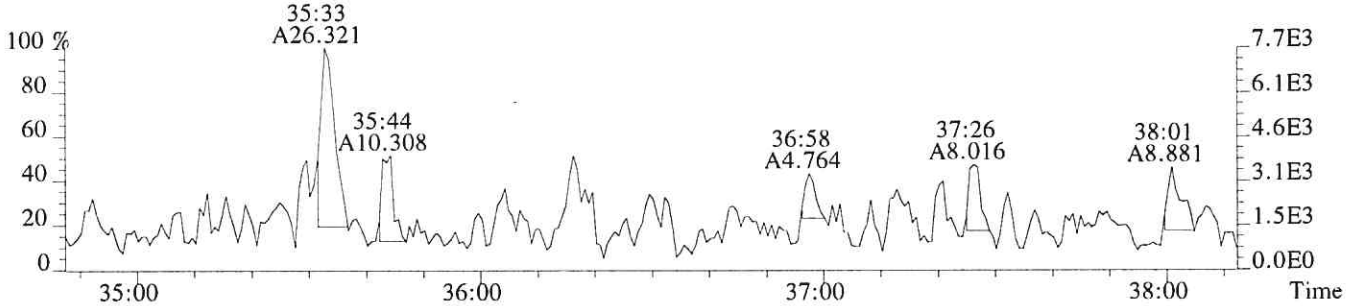


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER KW 9/25/17
09/25/17

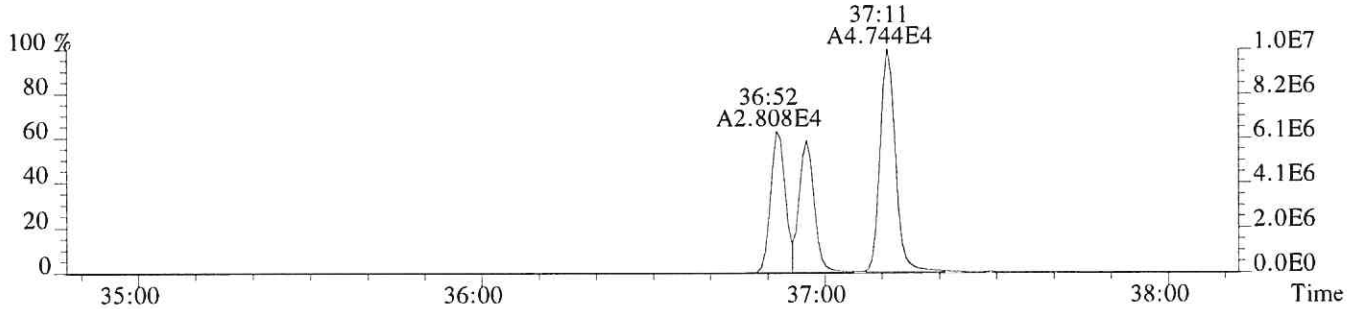
File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



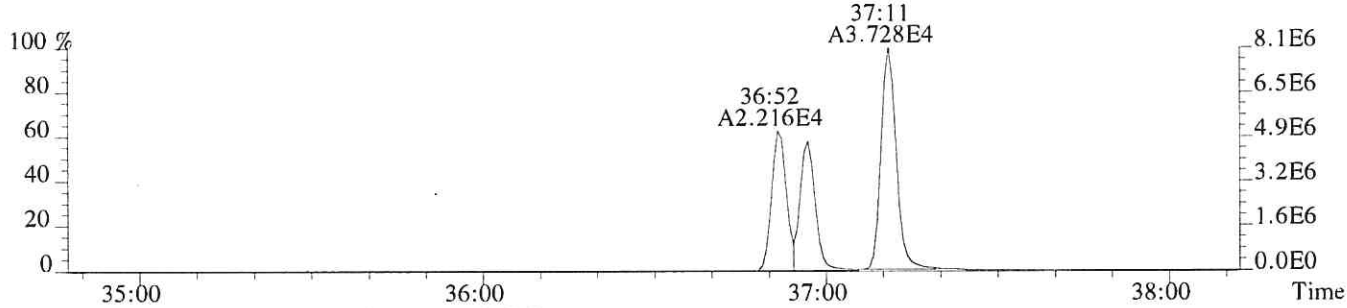
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1868.0,0.40%,F,T)



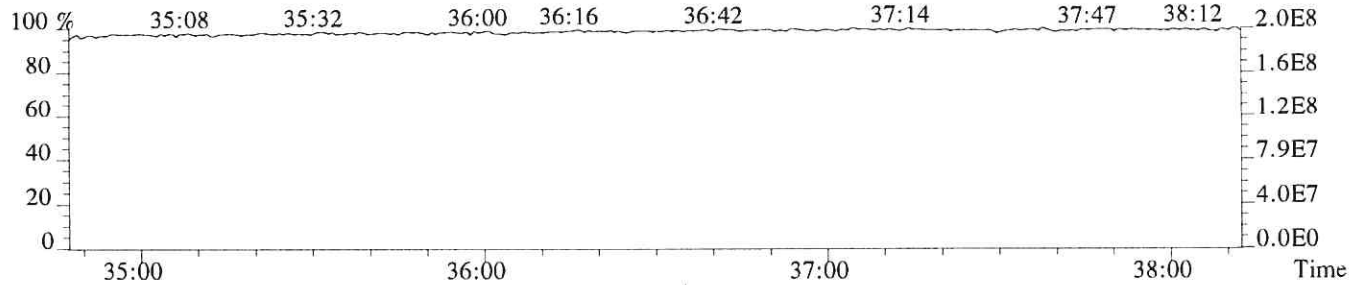
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3064.0,0.40%,F,T)



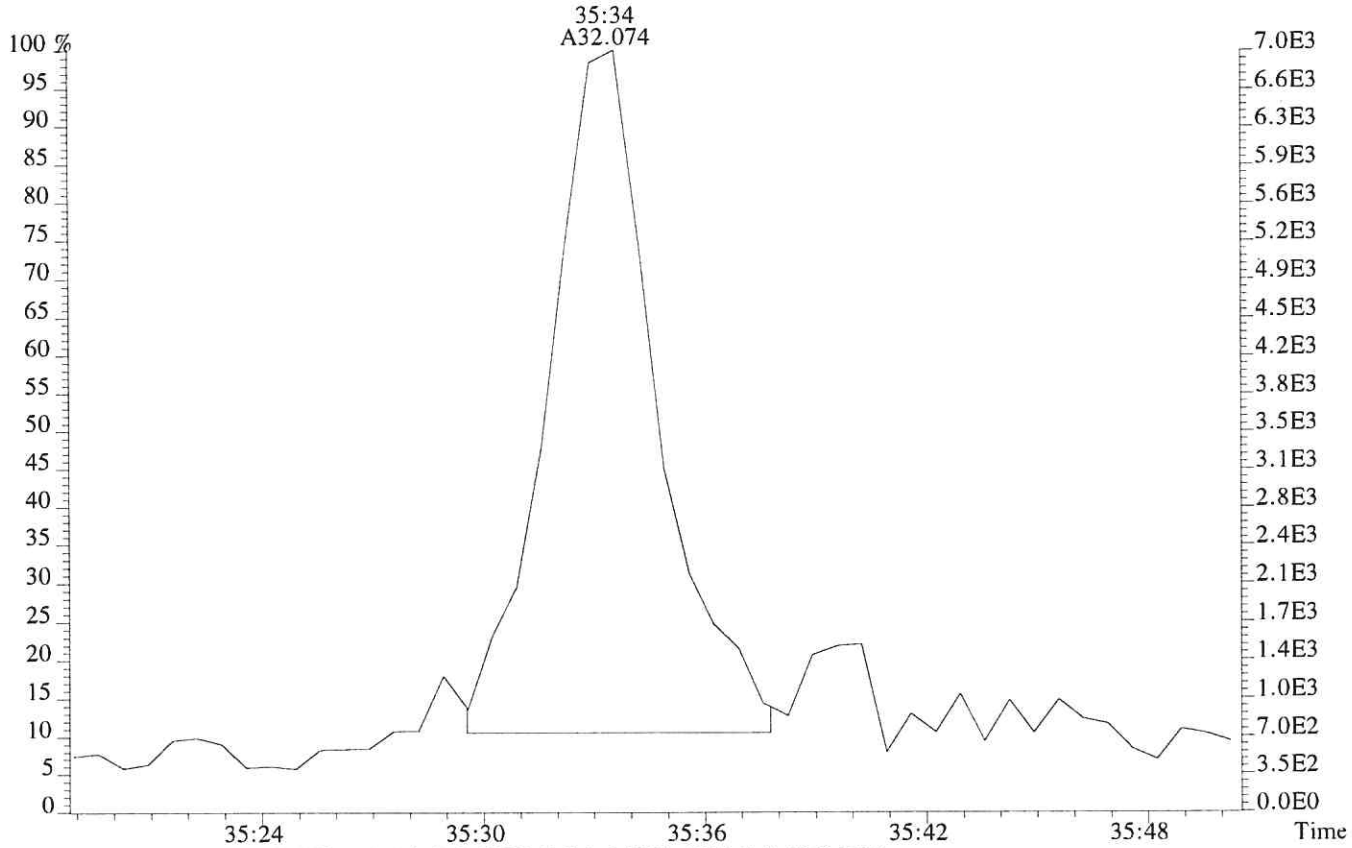
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2232.0,0.40%,F,T)



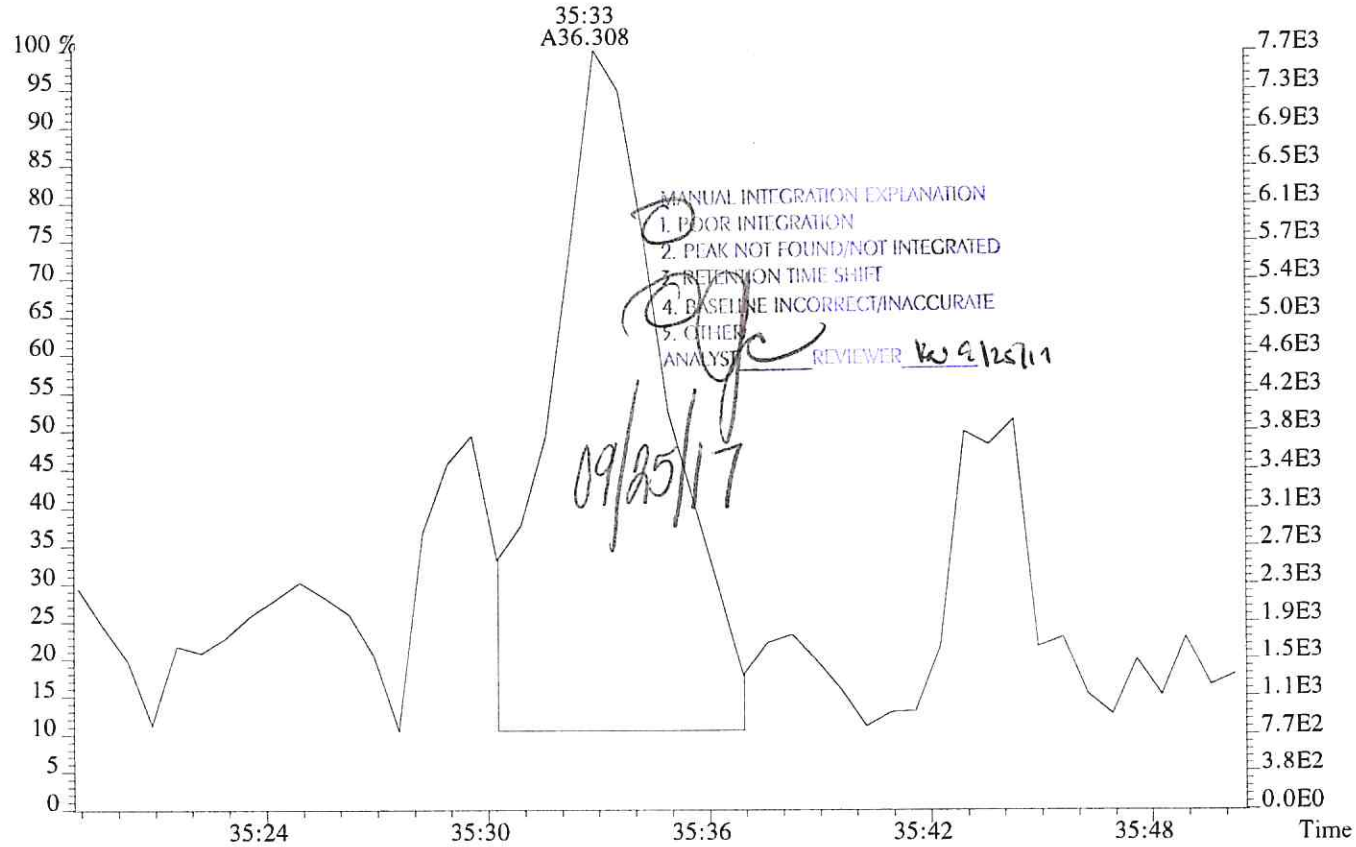
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



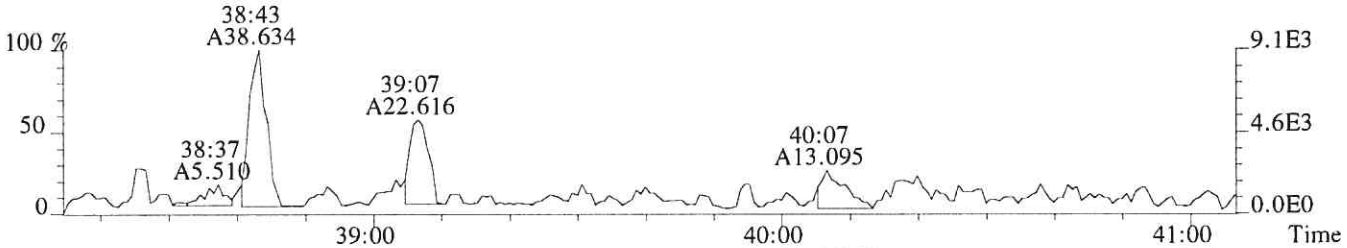
File:P511516 #1-308 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



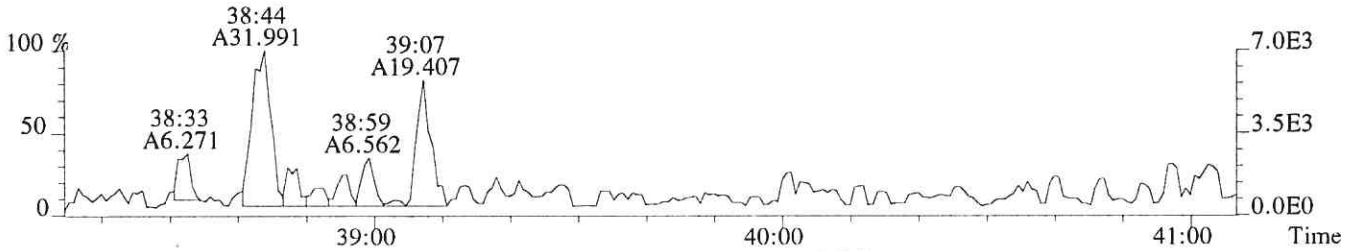
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1868.0,0.40%,F,T)



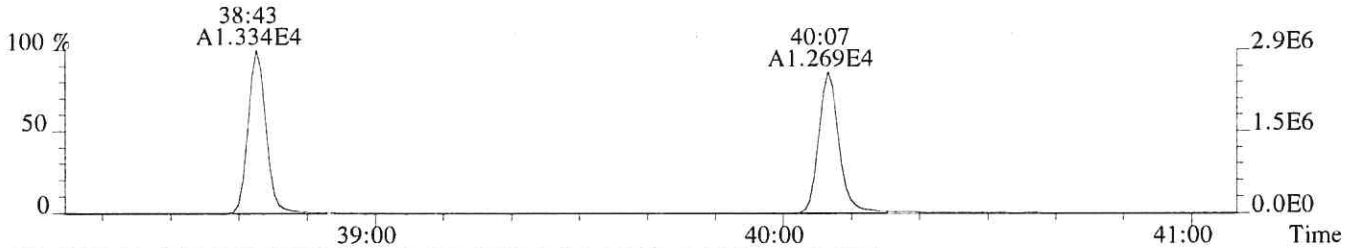
File:P511516 #1-259 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1088.0,0.50%,F,T)



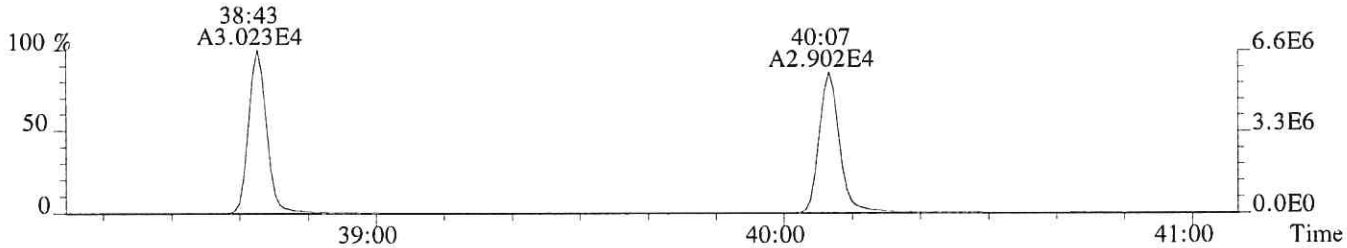
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.50%,F,T)



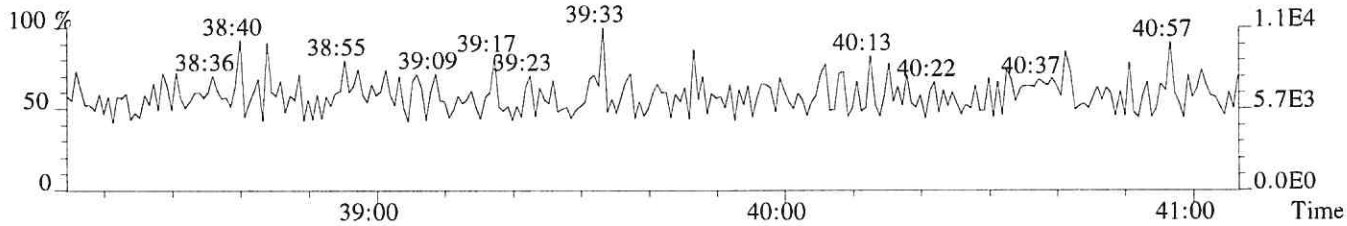
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3768.0,0.50%,F,T)



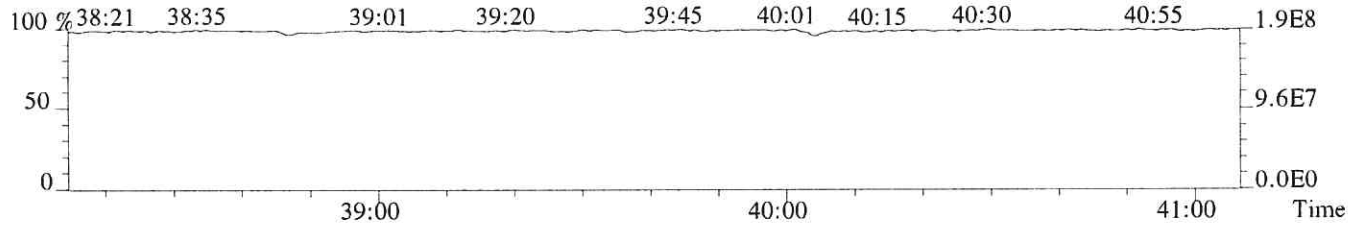
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2396.0,0.50%,F,T)



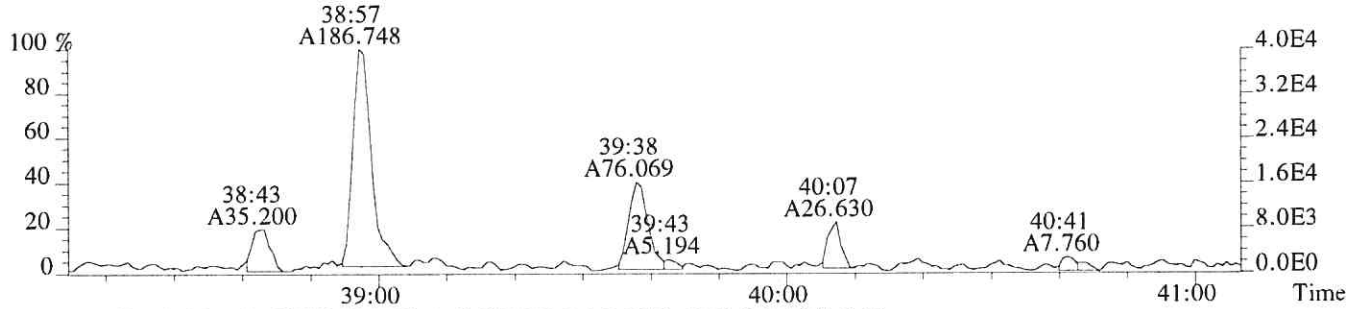
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



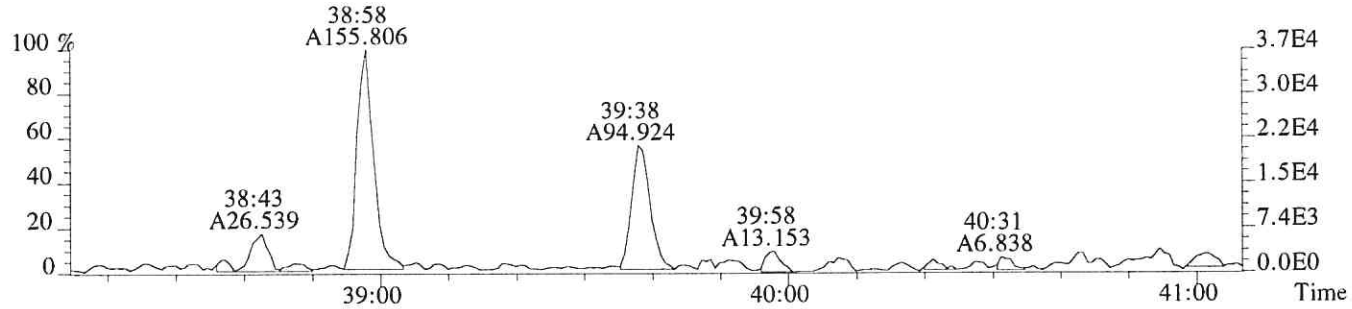
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



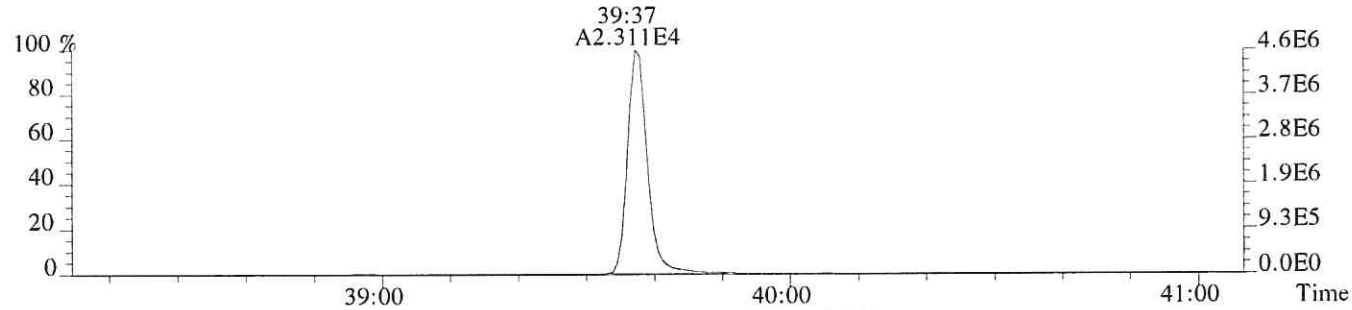
File:P511516 #1-259 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1556.0,0.40%,F,T)



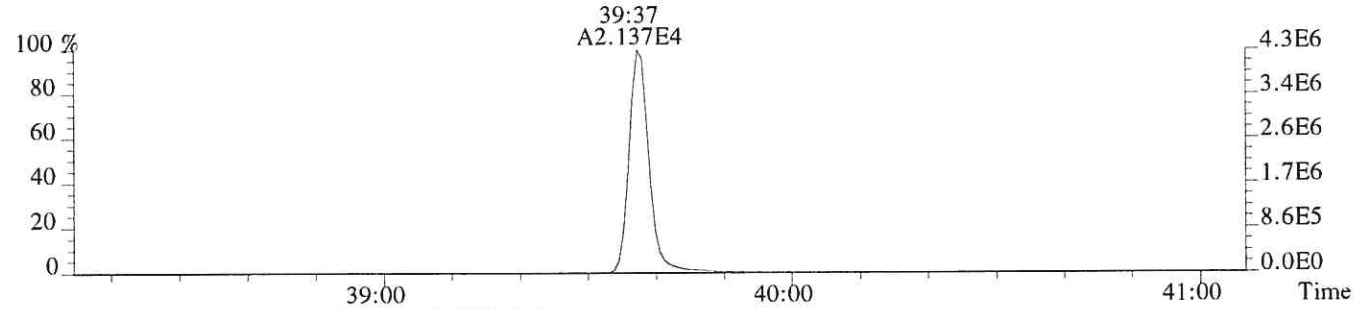
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



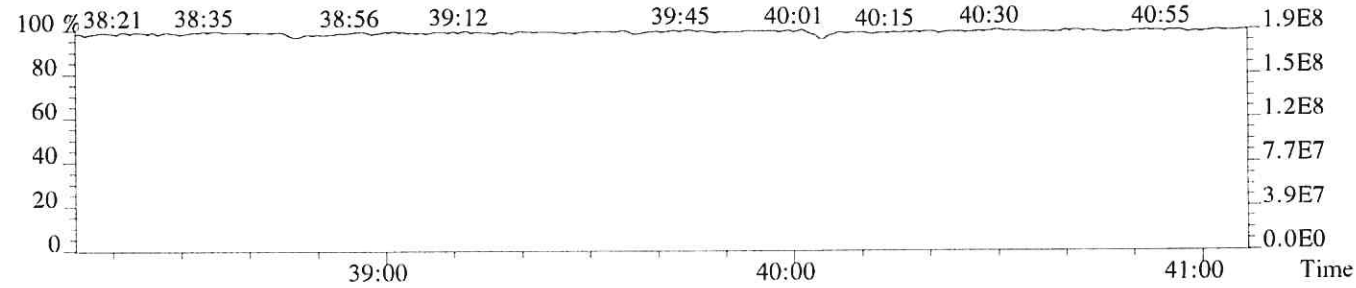
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3188.0,0.40%,F,T)



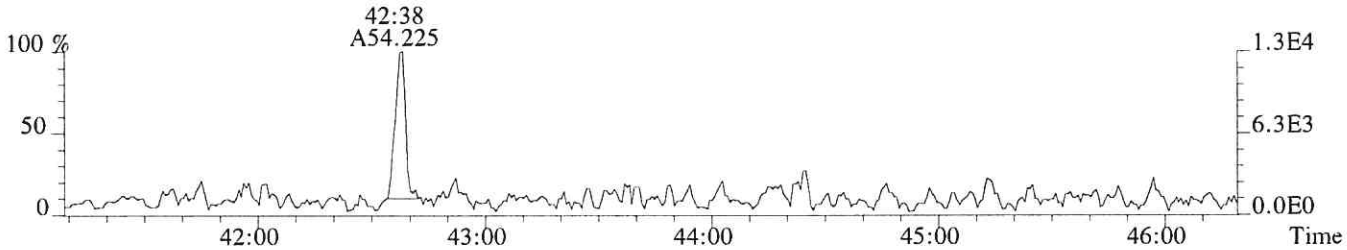
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1808.0,0.40%,F,T)



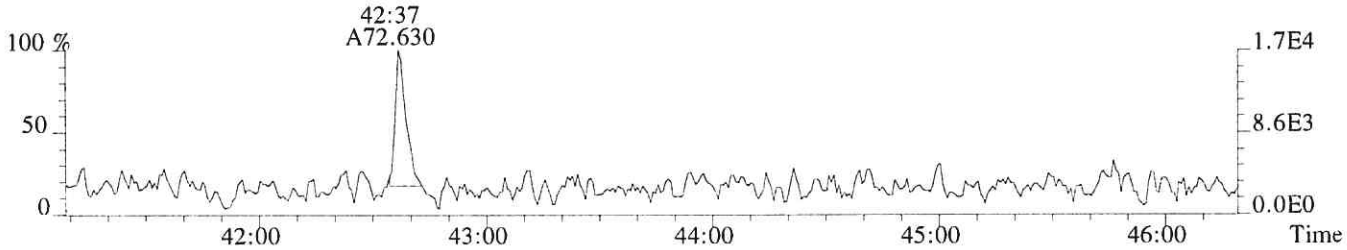
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



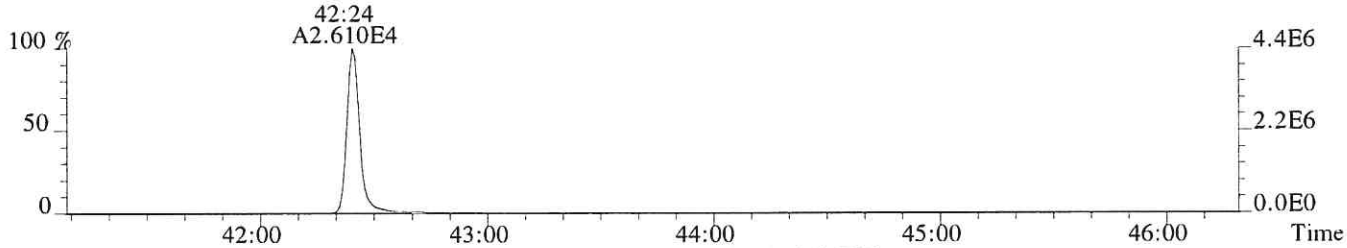
File:P511516 #1-466 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1372.0,0.40%,F,T)



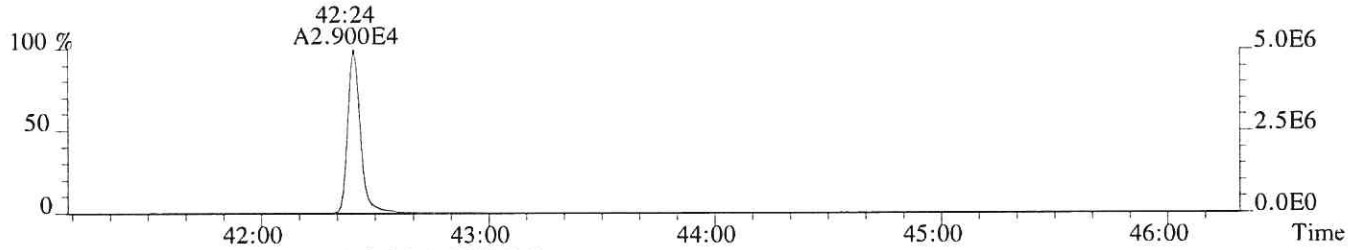
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3844.0,0.40%,F,T)



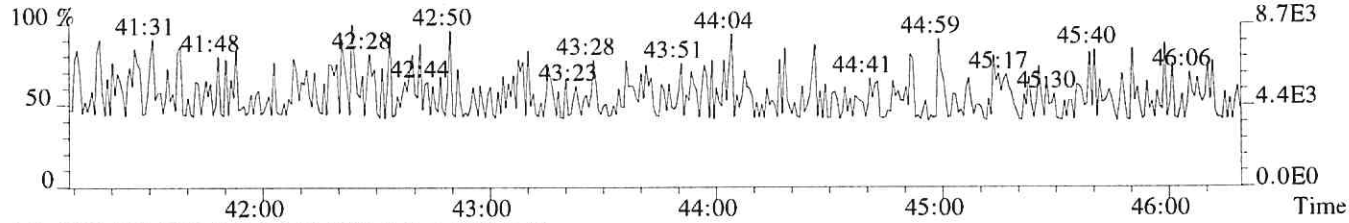
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2056.0,0.40%,F,T)



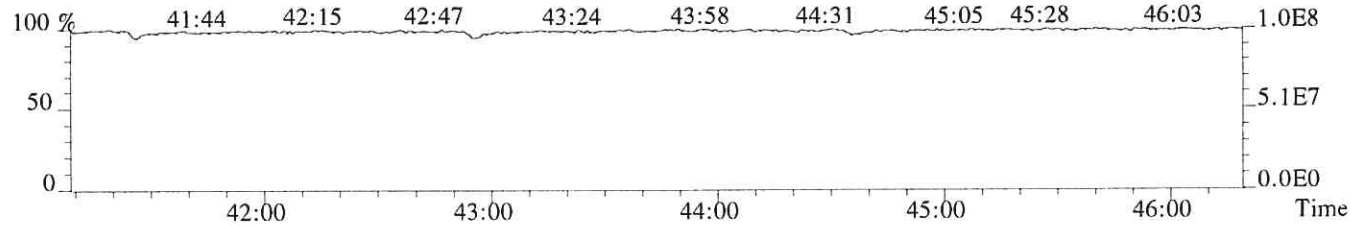
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1596.0,0.40%,F,T)



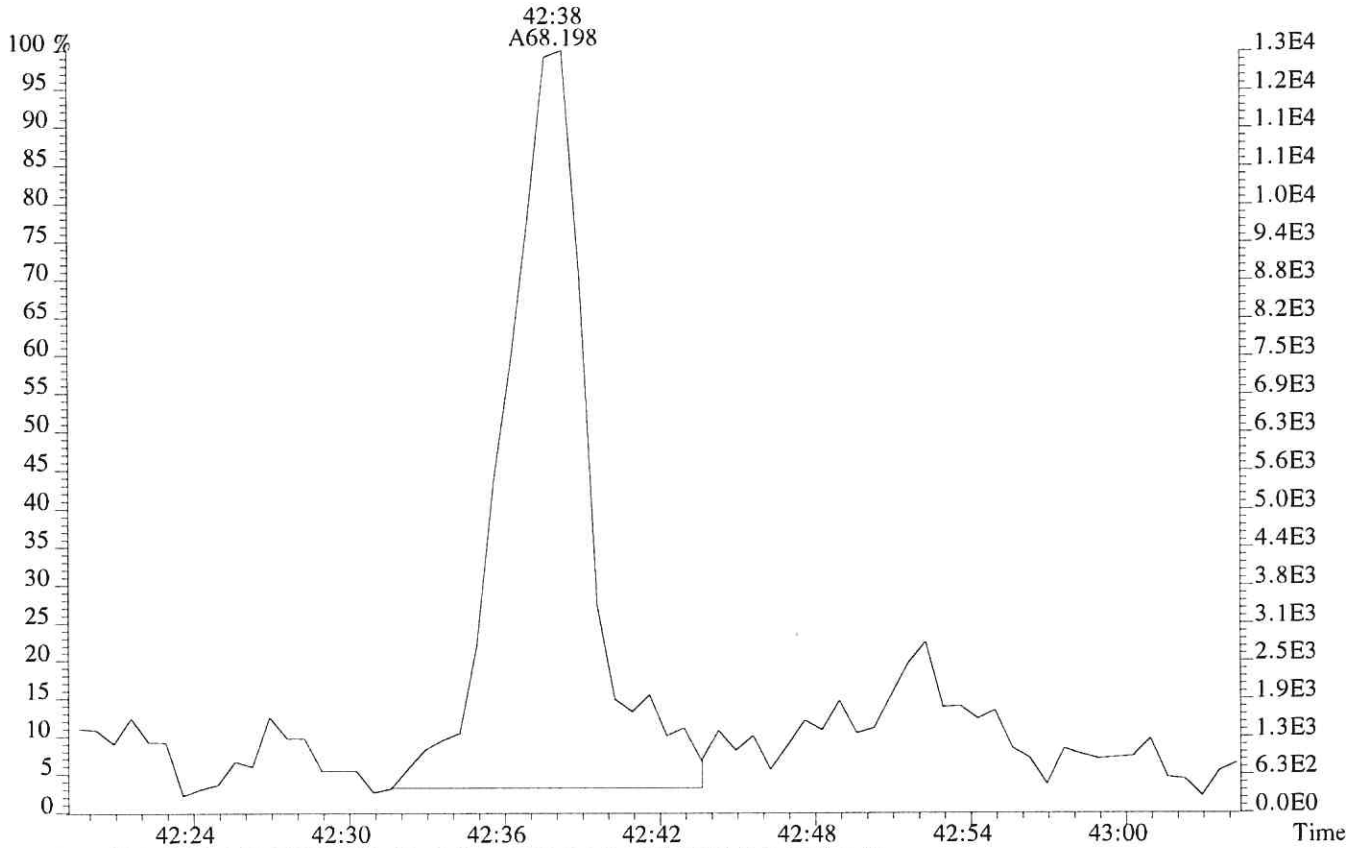
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



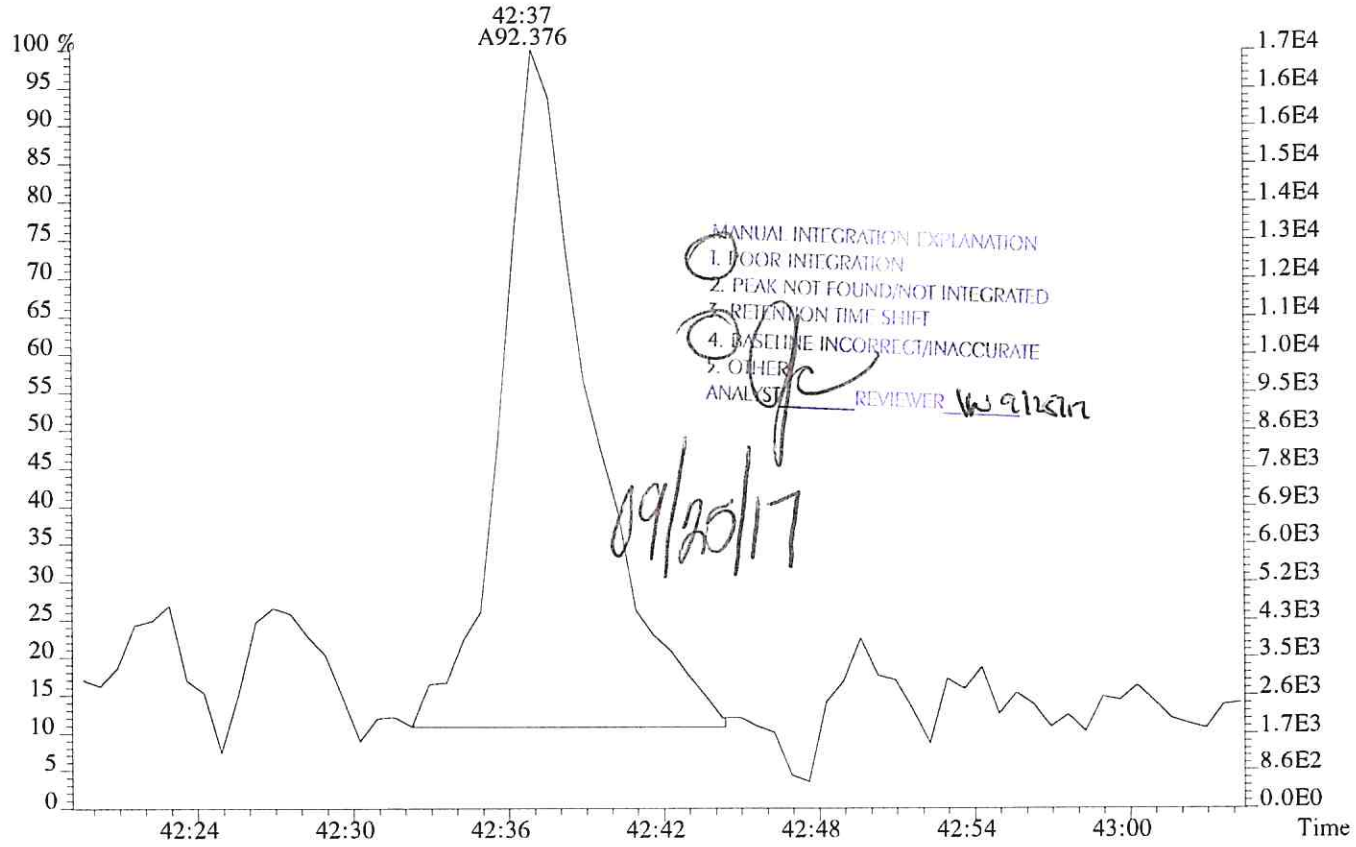
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P511516 #1-466 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1372.0,0.40%,F,T)



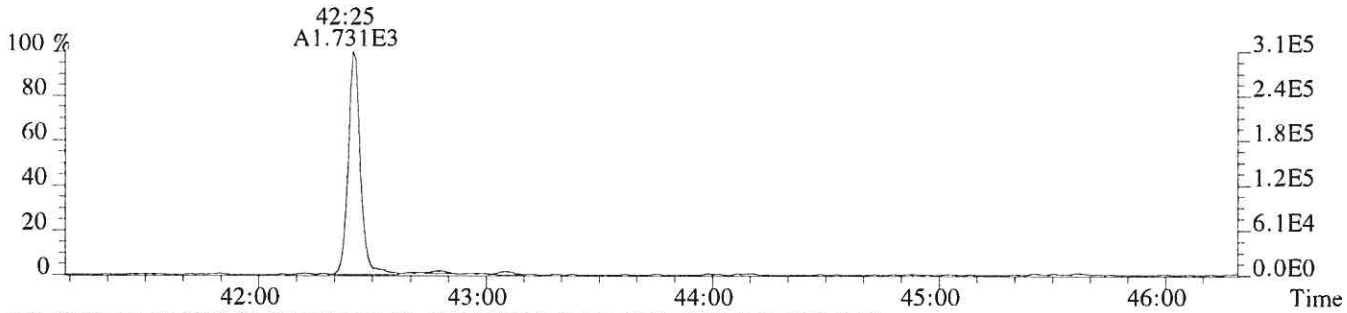
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3844.0,0.40%,F,T)



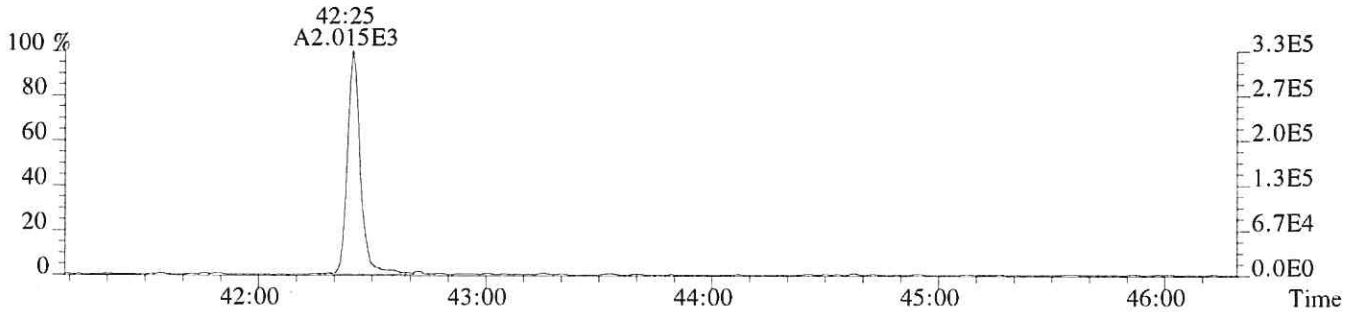
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER 09/26/17

09/20/17

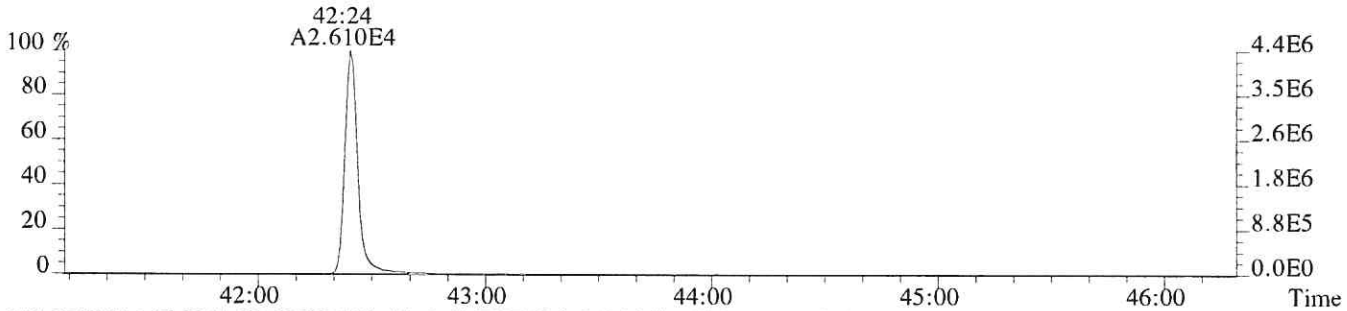
File:P511516 #1-466 Acq:23-SEP-2017 18:17:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-012
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1308.0,0.40%,F,T)



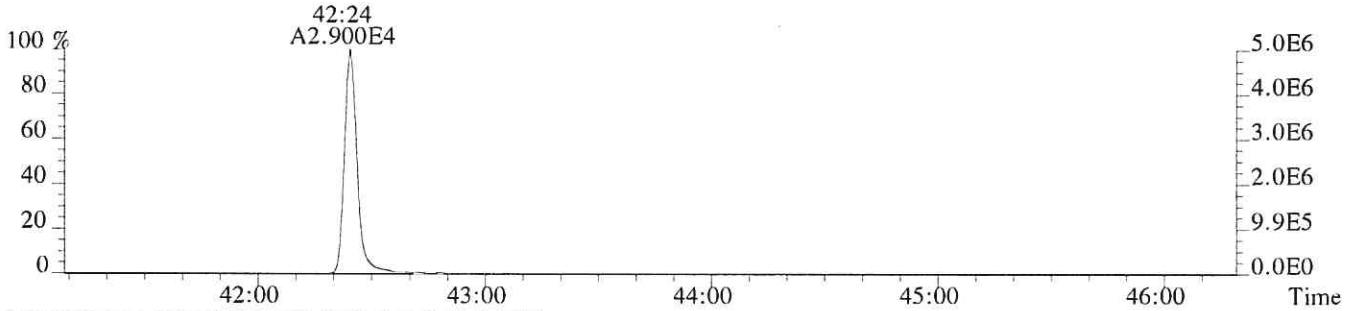
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1044.0,0.40%,F,T)



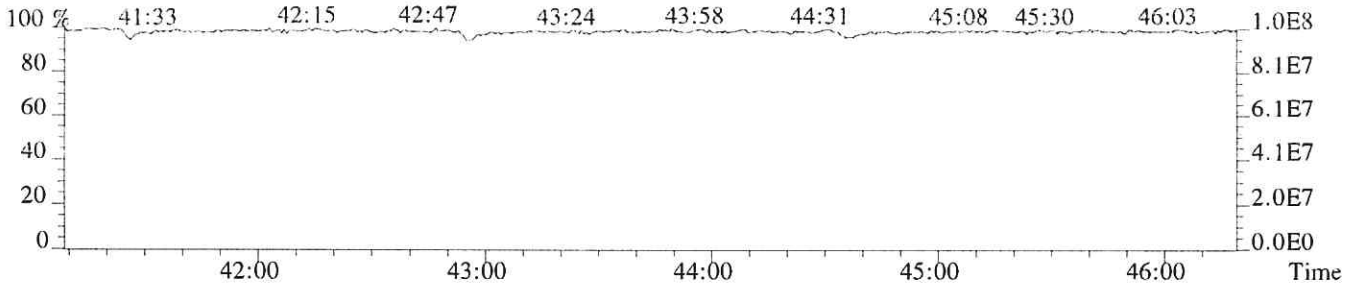
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2056.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1596.0,0.40%,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 P511517 Samp: 1 Inj: 1 Acquired: 23-SEP-17 19:06:36
Processed: 25-SEP-17 10:00:01 Sample ID: E1700973-013

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	2.044e+03	2.922e+03	0.70	yes	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.200e+02	8.945e+01	1.34	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	1.815e+02	1.499e+02	1.21	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	5.746e+01	6.267e+01	0.92	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	3.589e+01	3.893e+01	0.92	no	yes	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	4.230e+01	2.288e+01	1.85	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	3.169e+02	2.999e+02	1.06	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	3.612e+01	4.320e+01	0.84	no	no	1.191
10	Unk	OCDF	42:37	1.624e+03	1.992e+03	0.81	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	5.727e+02	7.579e+02	0.76	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	36:53	3.078e+01	3.579e+01	0.86	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	7.222e+01	6.201e+01	1.16	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	8.519e+01	7.098e+01	1.20	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.219e+03	2.236e+03	0.99	yes	no	0.942
17	Unk	OCDD	42:25	4.801e+04	5.468e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	2.297e+04	2.882e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	4.096e+04	2.617e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	4.283e+04	2.698e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	1.714e+04	3.370e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.917e+04	3.755e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	1.838e+04	3.704e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.805e+04	3.624e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	1.150e+04	2.545e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.161e+04	2.654e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.776e+04	2.221e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	3.202e+04	2.025e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	2.817e+04	2.212e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.624e+04	2.093e+04	1.25	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.989e+04	1.881e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	42:24	2.026e+04	2.279e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.884e+04	3.696e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	4.628e+04	3.601e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	2.065e+04				no	1.033

$$\text{OCDD} = \frac{(4.801e+04 + 5.468e+04) \times 4000 \text{ pg} \times 1}{(2.026e+04 + 2.279e+04) \times 10.198 \text{ g} \times 29.2 / 100 \times 1.051} = 3048.7 \text{ ng/kg}$$

bw 9/25/17

ALS ENVIRONMENTAL -- HOUSTON HRMS
10450 Stancliff Rd., Suite 115
Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-032E

Run #15 Filename P511517 Samp: 1 Inj: 1 Acquired: 23-SEP-17 19:06:36
Processed: 25-SEP-17 10:00:01 LAB. ID: E1700973-013

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.85e+05	1.22e+03	3.1e+02	5.43e+05	4.35e+03	1.2e+02
2	1,2,3,7,8-PeCDF	2.49e+04	2.20e+03	1.1e+01	1.94e+04	5.14e+03	3.8e+00
3	2,3,4,7,8-PeCDF	*	2.20e+03	*	*	5.14e+03	*
4	1,2,3,4,7,8-HxCDF	3.68e+04	2.29e+03	1.6e+01	2.89e+04	1.48e+03	2.0e+01
5	1,2,3,6,7,8-HxCDF	1.04e+04	2.29e+03	4.5e+00	1.20e+04	1.48e+03	8.1e+00
6	2,3,4,6,7,8-HxCDF	8.73e+03	2.29e+03	3.8e+00	7.95e+03	1.48e+03	5.4e+00
7	1,2,3,7,8,9-HxCDF	6.62e+03	2.29e+03	2.9e+00	5.79e+03	1.48e+03	3.9e+00
8	1,2,3,4,6,7,8-HpCDF	6.89e+04	1.18e+03	5.8e+01	5.97e+04	1.82e+03	3.3e+01
9	1,2,3,4,7,8,9-HpCDF	9.11e+03	1.18e+03	7.7e+00	9.75e+03	1.82e+03	5.3e+00
10	OCDF	2.74e+05	1.74e+03	1.6e+02	3.28e+05	3.66e+03	9.0e+01
11	2,3,7,8-TCDD	1.18e+05	3.68e+03	3.2e+01	1.56e+05	1.57e+03	9.9e+01
12	1,2,3,7,8-PeCDD	*	2.50e+03	*	*	5.04e+02	*
13	1,2,3,4,7,8-HxCDD	6.26e+03	1.90e+03	3.3e+00	7.98e+03	1.80e+03	4.4e+00
14	1,2,3,6,7,8-HxCDD	1.44e+04	1.90e+03	7.5e+00	1.44e+04	1.80e+03	8.0e+00
15	1,2,3,7,8,9-HxCDD	1.91e+04	1.90e+03	1.0e+01	1.67e+04	1.80e+03	9.3e+00
16	1,2,3,4,6,7,8-HpCDD	4.67e+05	2.07e+03	2.3e+02	4.60e+05	1.46e+03	3.2e+02
17	OCDD	8.19e+06	9.76e+02	8.4e+03	9.25e+06	1.52e+03	6.1e+03
18	13C-2,3,7,8-TCDF	4.34e+06	2.53e+04	1.7e+02	5.50e+06	9.50e+03	5.8e+02
19	13C-1,2,3,7,8-PeCDF	7.93e+06	1.58e+03	5.0e+03	5.10e+06	1.64e+03	3.1e+03
20	13C-2,3,4,7,8-PeCDF	8.62e+06	1.58e+03	5.4e+03	5.45e+06	1.64e+03	3.3e+03
21	13C-1,2,3,4,7,8-HxCDF	3.79e+06	2.56e+03	1.5e+03	7.48e+06	2.17e+03	3.4e+03
22	13C-1,2,3,6,7,8-HxCDF	4.11e+06	2.56e+03	1.6e+03	7.91e+06	2.17e+03	3.6e+03
23	13C-2,3,4,6,7,8-HxCDF	4.07e+06	2.56e+03	1.6e+03	8.18e+06	2.17e+03	3.8e+03
24	13C-1,2,3,7,8,9-HxCDF	3.74e+06	2.56e+03	1.5e+03	7.61e+06	2.17e+03	3.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.44e+06	3.37e+03	7.2e+02	5.47e+06	2.88e+03	1.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.21e+06	3.37e+03	6.6e+02	5.20e+06	2.88e+03	1.8e+03
27	13C-2,3,7,8-TCDD	3.52e+06	9.72e+03	3.6e+02	4.40e+06	5.41e+03	8.1e+02
28	13C-1,2,3,7,8-PeCDD	6.43e+06	3.28e+03	2.0e+03	4.06e+06	1.64e+03	2.5e+03
29	13C-1,2,3,4,7,8-HxCDD	6.34e+06	3.17e+03	2.0e+03	4.93e+06	2.55e+03	1.9e+03
30	13C-1,2,3,6,7,8-HxCDD	5.59e+06	3.17e+03	1.8e+03	4.59e+06	2.55e+03	1.8e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.10e+06	1.39e+03	2.9e+03	3.83e+06	1.51e+03	2.5e+03
32	13C-OCDD	3.47e+06	1.66e+03	2.1e+03	3.85e+06	8.84e+02	4.4e+03
33	13C-1,2,3,4-TCDD	5.67e+06	9.72e+03	5.8e+02	7.20e+06	5.41e+03	1.3e+03
34	13C-1,2,3,7,8,9-HxCDD	9.57e+06	3.17e+03	3.0e+03	7.57e+06	2.55e+03	3.0e+03
35	37Cl-2,3,7,8-TCDD	4.22e+06	2.31e+03	1.8e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 15 File: P511517 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 303.9020 305.8990 Tot Response: 8.58e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:00	1.07e+02	1.34e+02	0.80	yes	2.41e+02		n	n
2	26:39	8.01e+01	9.62e+01	0.83	yes	1.76e+02		n	n
3	27:21	1.09e+02	1.41e+02	0.77	yes	2.50e+02		n	n
4	27:46	9.32e+02	1.27e+03	0.73	yes	2.21e+03		n	n
5	28:27	1.18e+02	1.48e+02	0.80	yes	2.66e+02		y	n
6	28:32	2.04e+03	2.92e+03	0.70	yes	4.97e+03	2,3,7,8-TCDF	y	n
7	30:18	2.04e+02	2.74e+02	0.75	yes	4.78e+02		n	n

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Houston, TX 77099
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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 15 File: P511517 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 319.8970 321.8940 Tot Response: 1.33e+03 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:17	5.73e+02	7.58e+02	0.76	yes	1.33e+03	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 15 File: P511517 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 339.8600 341.8570 Tot Response: 2.09e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:37	1.20e+02	8.95e+01	1.34	yes	2.09e+02	1,2,3,7,8-PeCDF	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 15 File: P511517 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 355.8550 357.8520 Tot Response: 3.14e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	32:11	1.05e+02	6.43e+01	1.63	yes	1.69e+02	y	y
2	33:06	8.30e+01	6.23e+01	1.33	yes	1.45e+02	y	n

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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 15 File: P511517 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 373.8210 375.8180 Tot Response: 6.10e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:12	1.53e+02	1.26e+02	1.22	yes	2.78e+02		n	n
2	36:09	1.81e+02	1.50e+02	1.21	yes	3.31e+02	1,2,3,4,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 15 File: P511517 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 389.8160 391.8130 Tot Response: 2.45e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:33	1.11e+03	8.83e+02	1.26	yes	2.00e+03		n	n
2	36:24	5.67e+01	4.30e+01	1.32	yes	9.97e+01		n	n
3	36:57	7.22e+01	6.20e+01	1.16	yes	1.34e+02	1,2,3,6,7,8-HxCDD	n	n
4	37:07	3.52e+01	2.59e+01	1.36	yes	6.11e+01		n	n
5	37:11	8.52e+01	7.10e+01	1.20	yes	1.56e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 15 File: P511517 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 407.7820 409.7790 Tot Response: 1.42e+03 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:43	3.17e+02	3.00e+02	1.06	yes	6.17e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	39:07	3.77e+02	4.25e+02	0.89	yes	8.02e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-032E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P511517 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 19:06:36 Processed: 25-SEP-17 10:00:01

Mass: 423.7770 425.7740 Tot Response: 1.58e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	5.73e+03	5.64e+03	1.01	yes	1.14e+04		n	n
2	39:38	2.22e+03	2.24e+03	0.99	yes	4.45e+03	1,2,3,4,6,7,8-HpCDD	n	n

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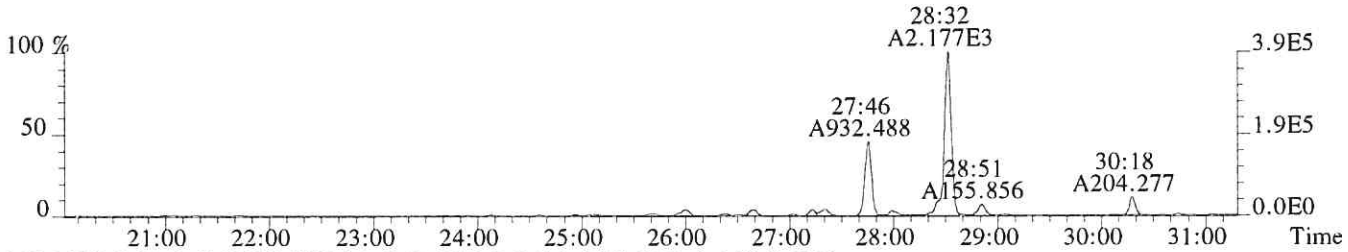
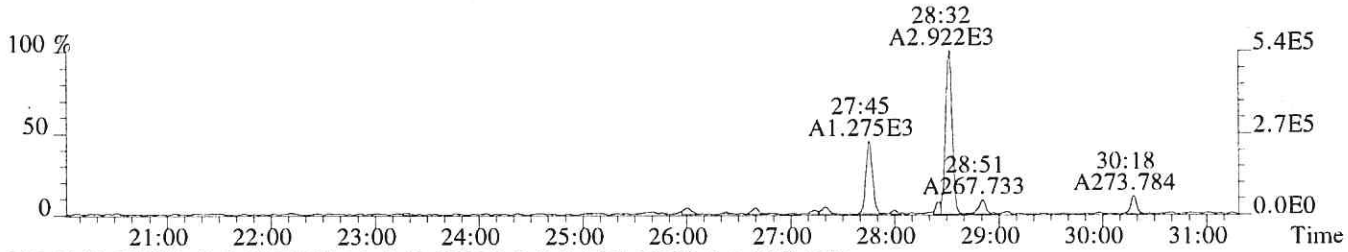
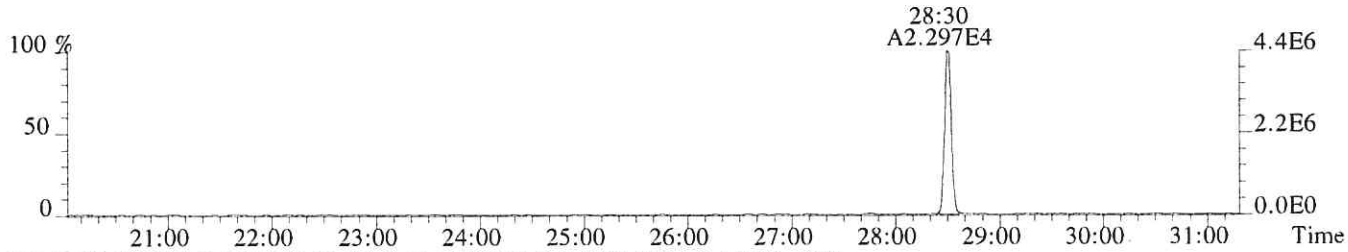
File:P511517 #1-800 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)



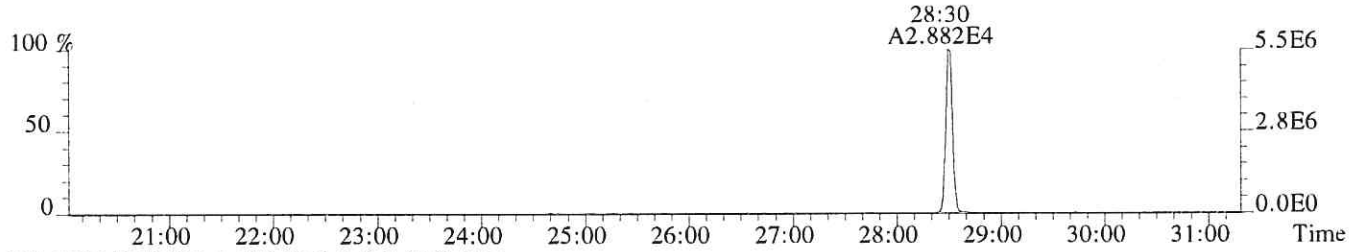
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4352.0,1.00%,F,T)



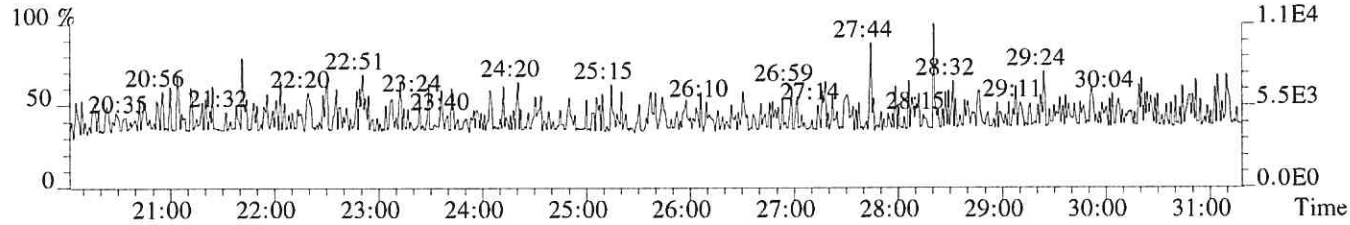
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25292.0,1.00%,F,T)



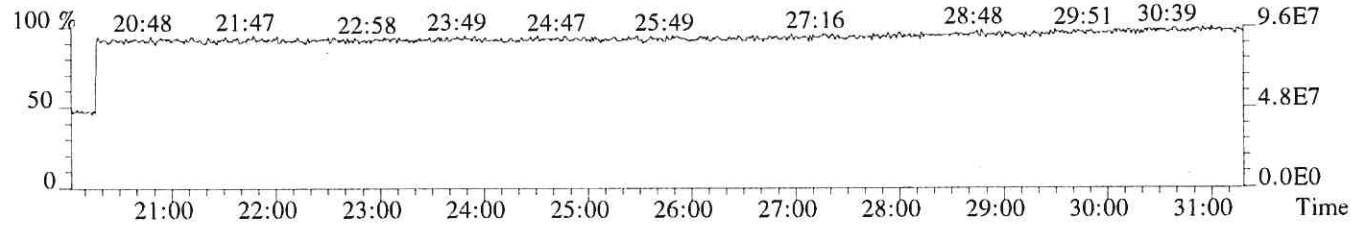
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9504.0,1.00%,F,T)



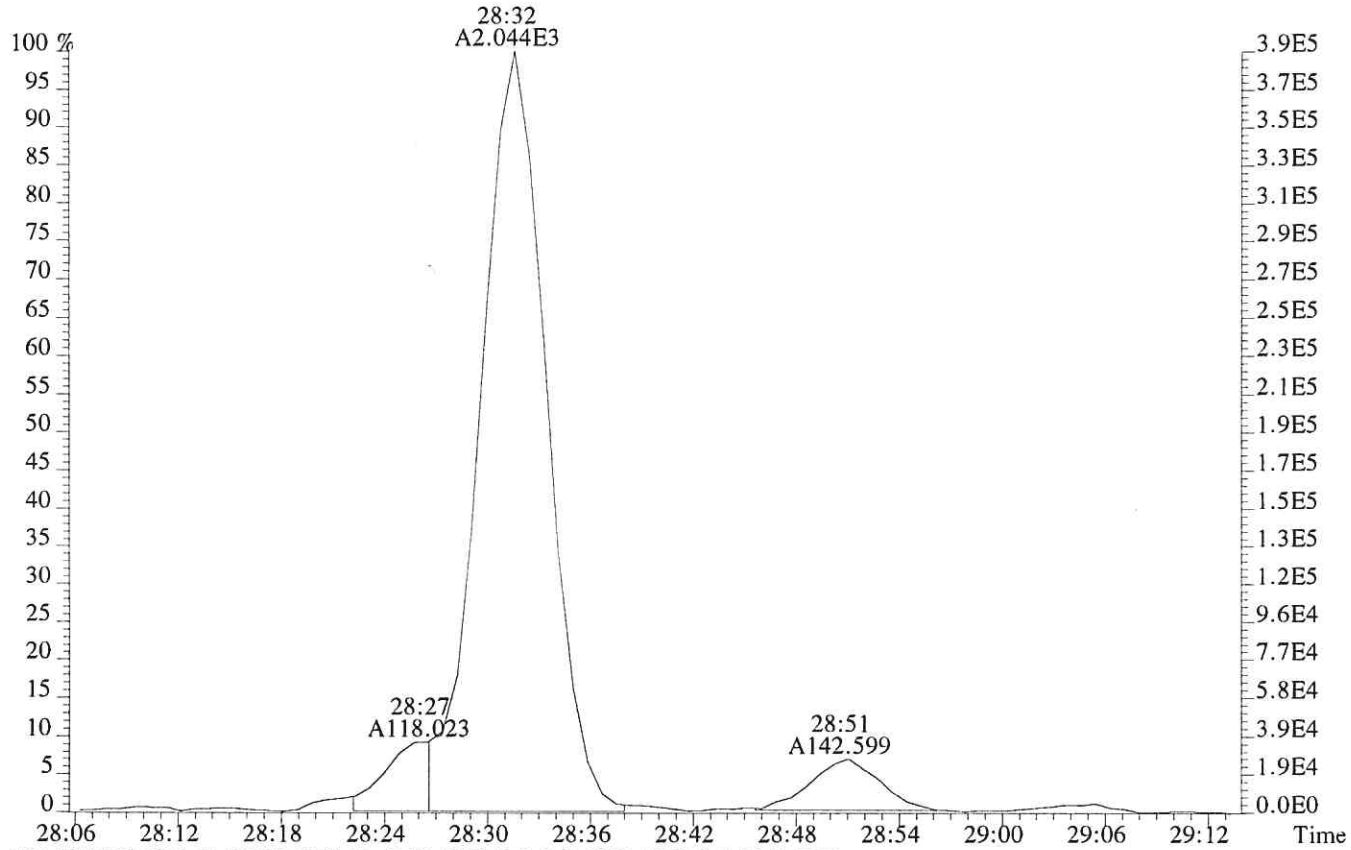
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



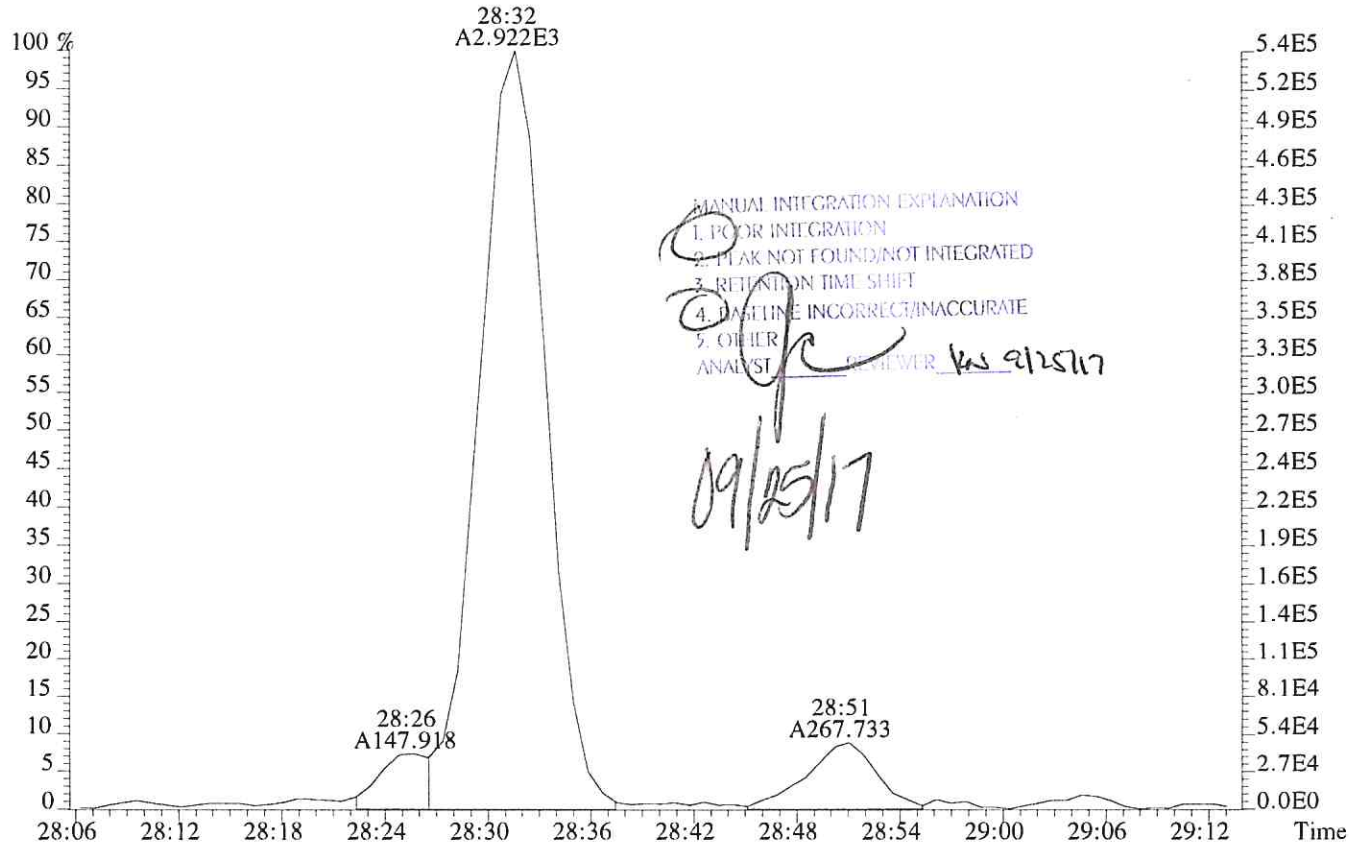
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511517 #1-800 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,T)

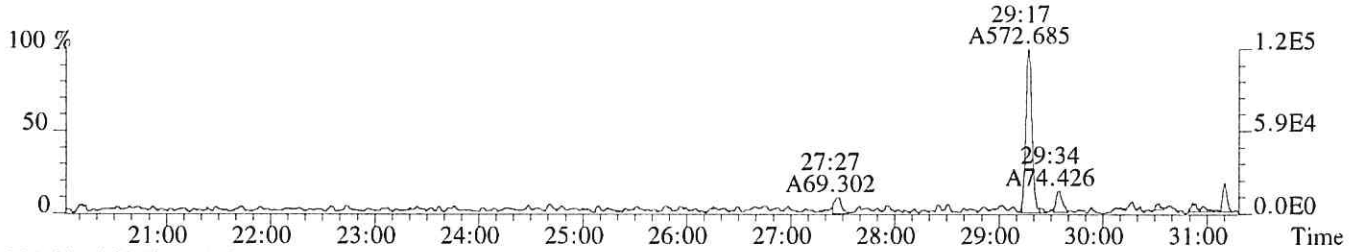


305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4352.0,1.00%,F,T)

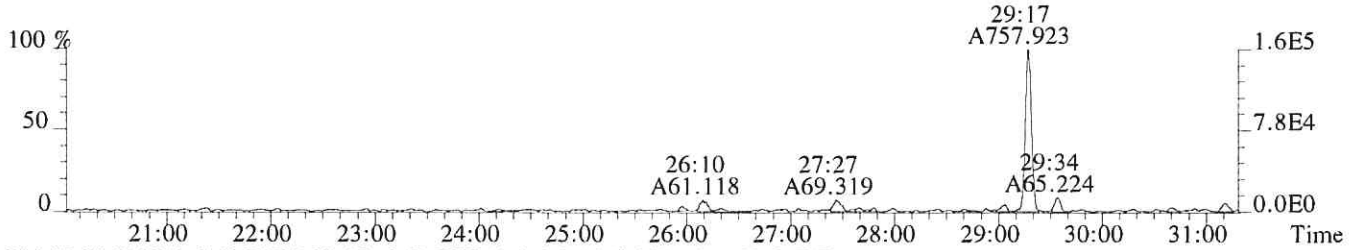


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER KW 9/25/17
09/25/17

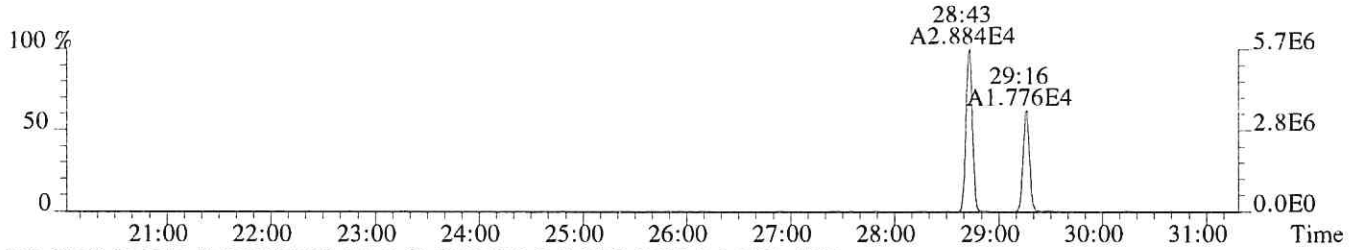
File:P511517 #1-800 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3676.0,1.00%,F,T)



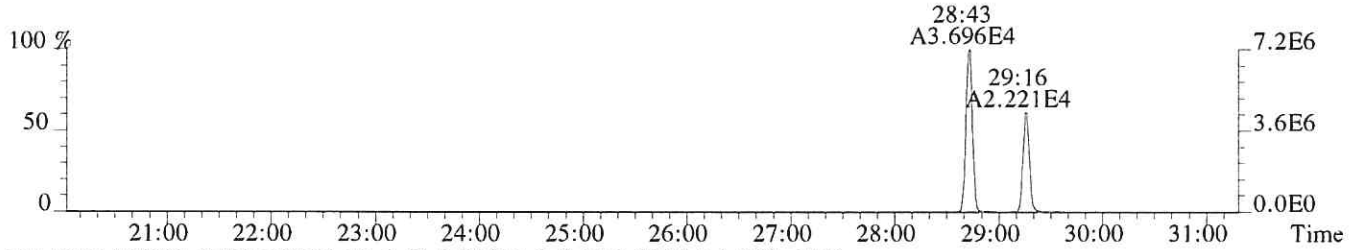
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



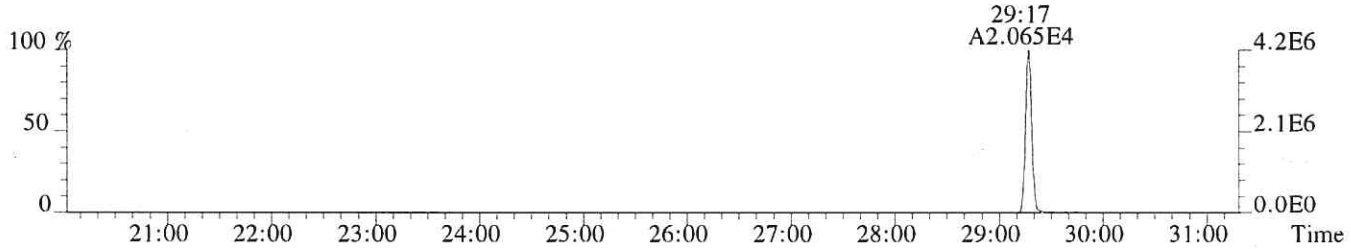
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9724.0,1.00%,F,T)



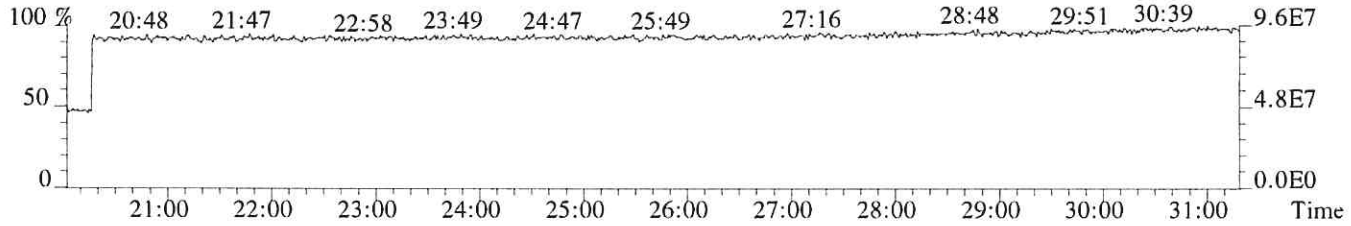
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5408.0,1.00%,F,T)



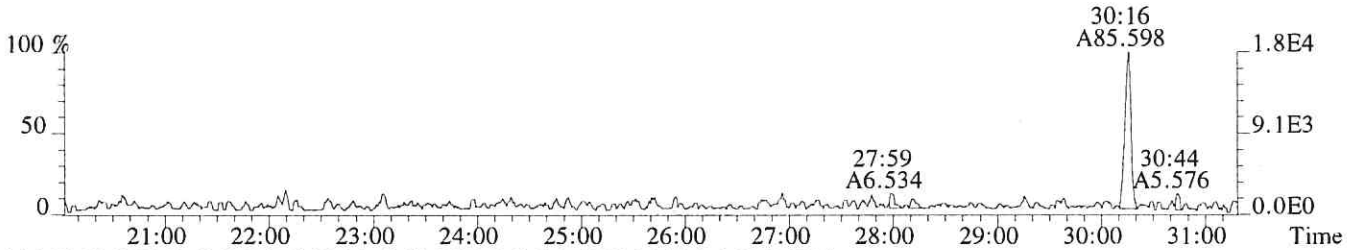
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2308.0,1.00%,F,T)



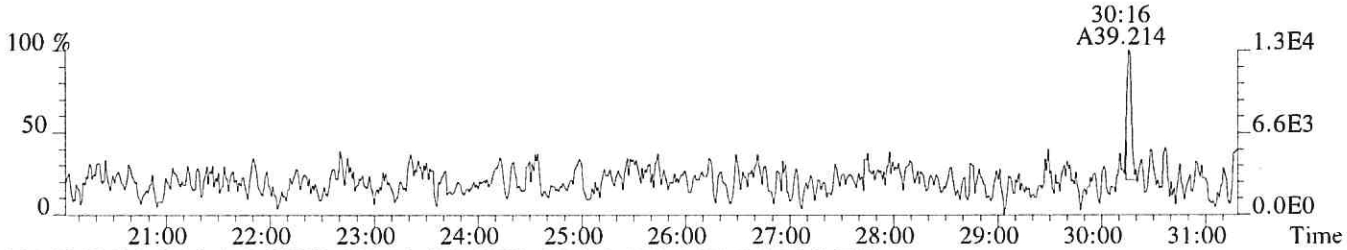
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



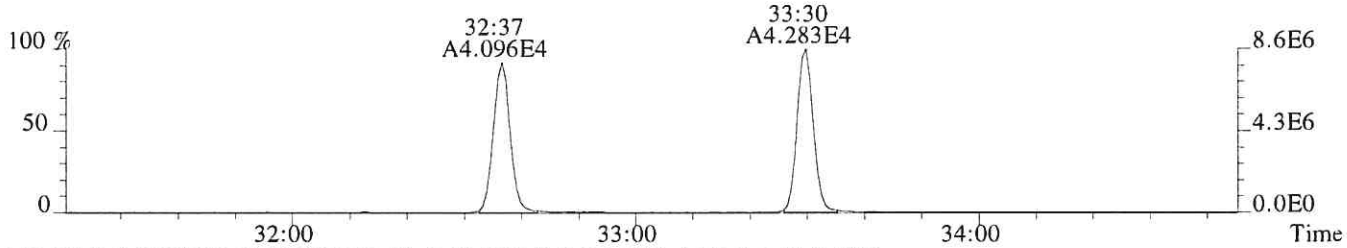
File:P511517 #1-800 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1248.0,1.00%,F,T)



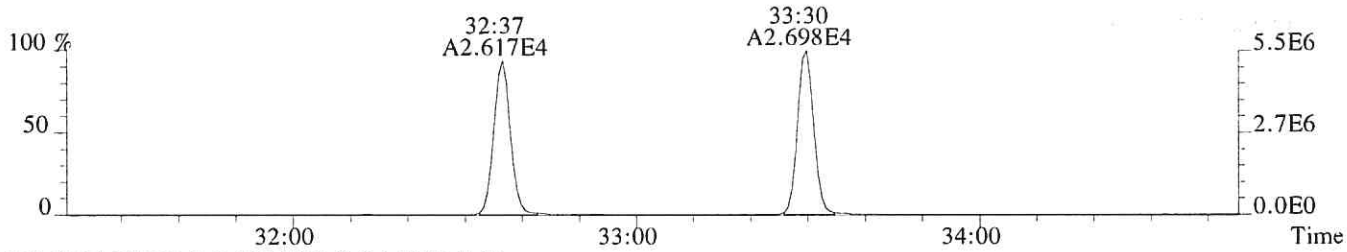
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3440.0,1.00%,F,T)



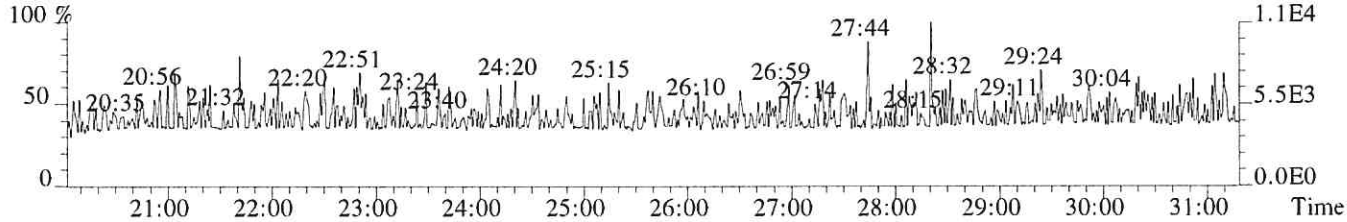
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1584.0,1.00%,F,T)



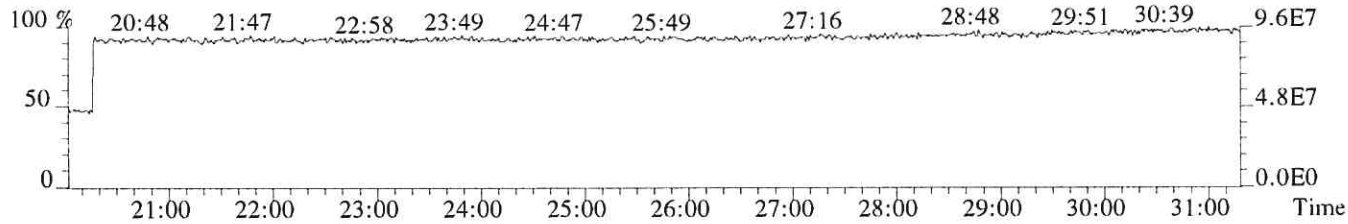
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1640.0,1.00%,F,T)



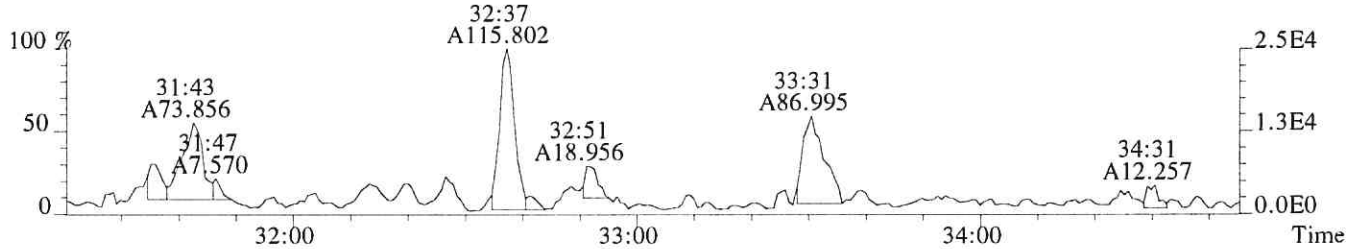
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



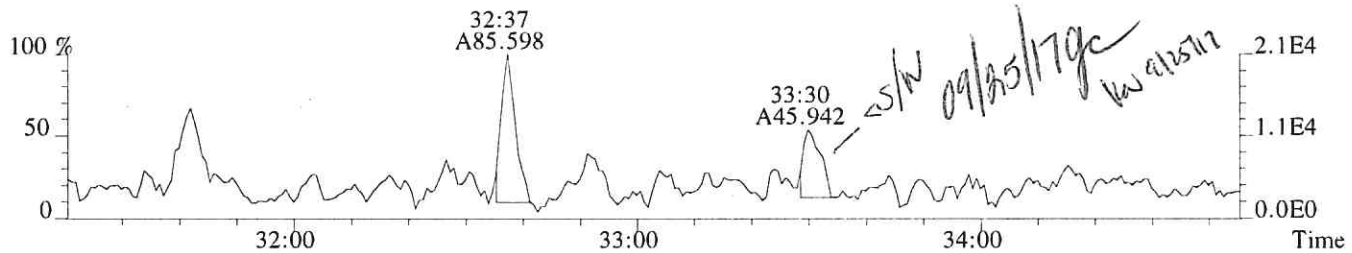
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



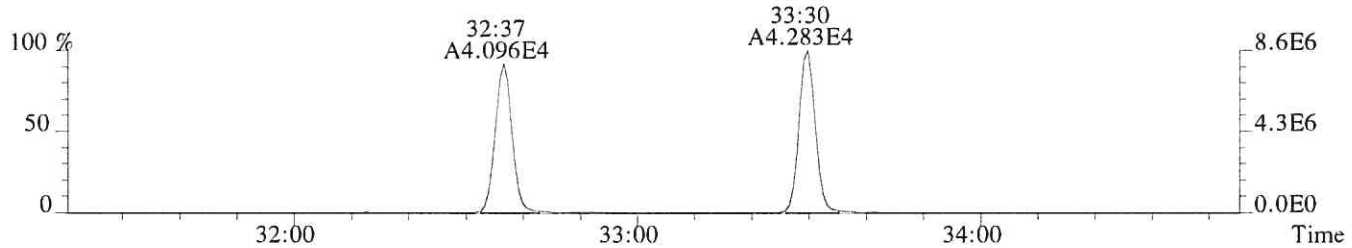
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2200.0,1.00%,F,T)



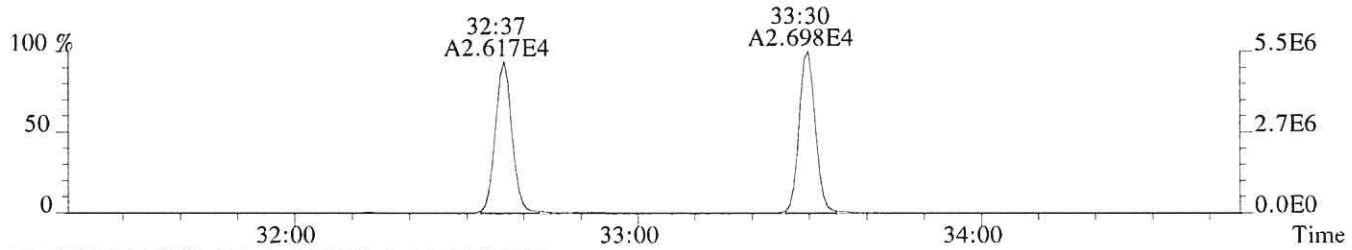
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5136.0,1.00%,F,T)



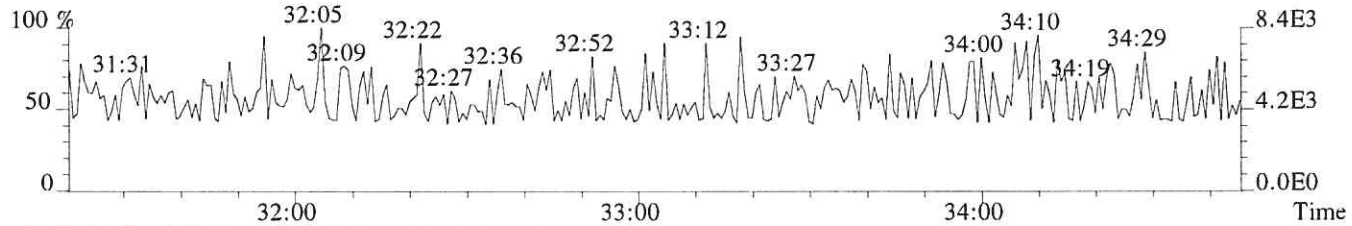
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1584.0,1.00%,F,T)



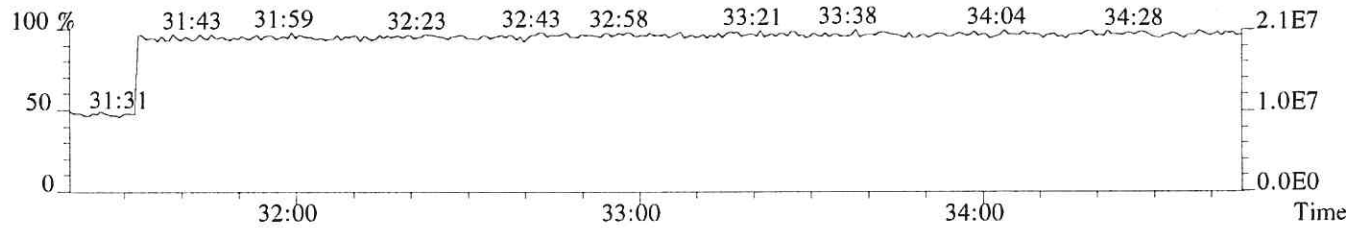
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1640.0,1.00%,F,T)



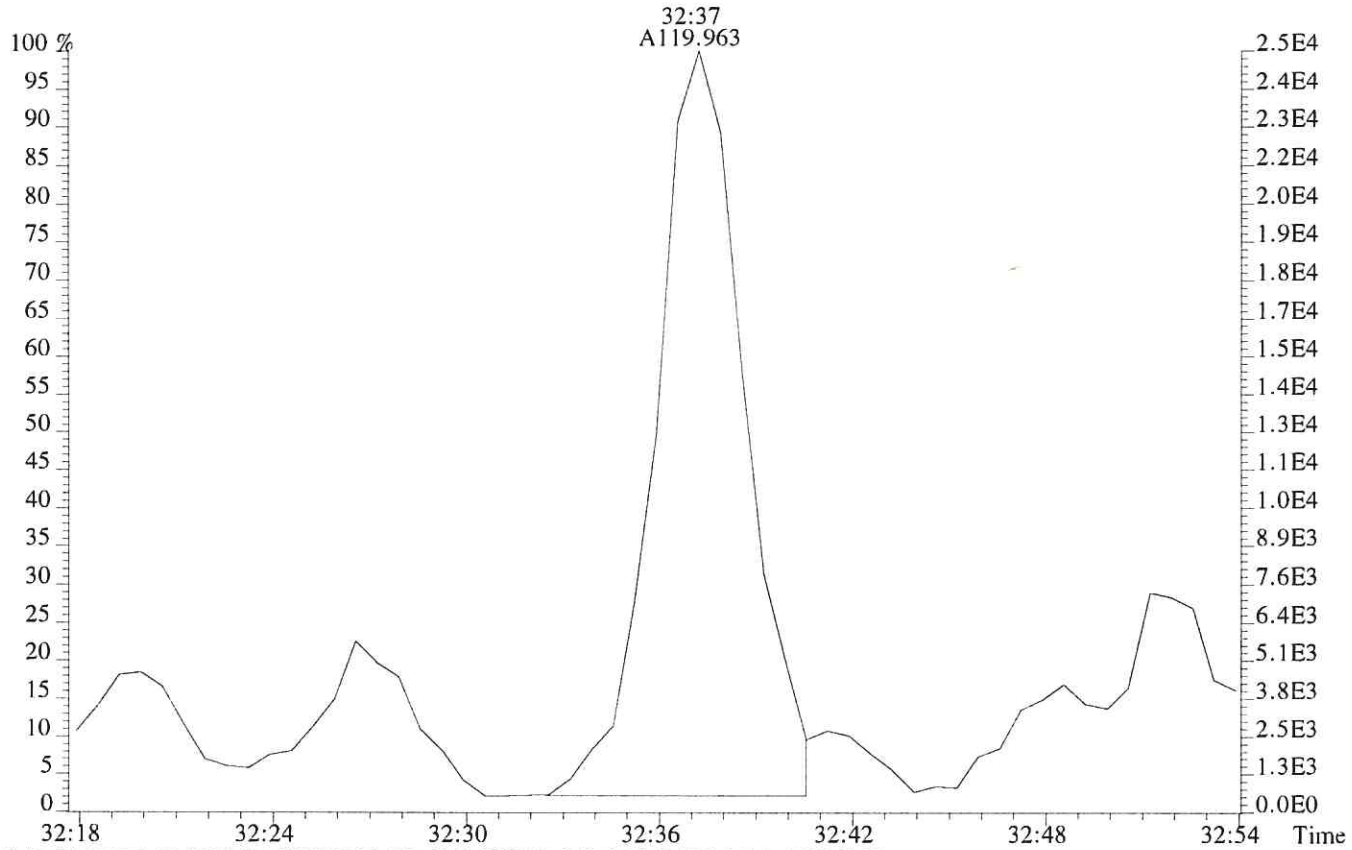
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



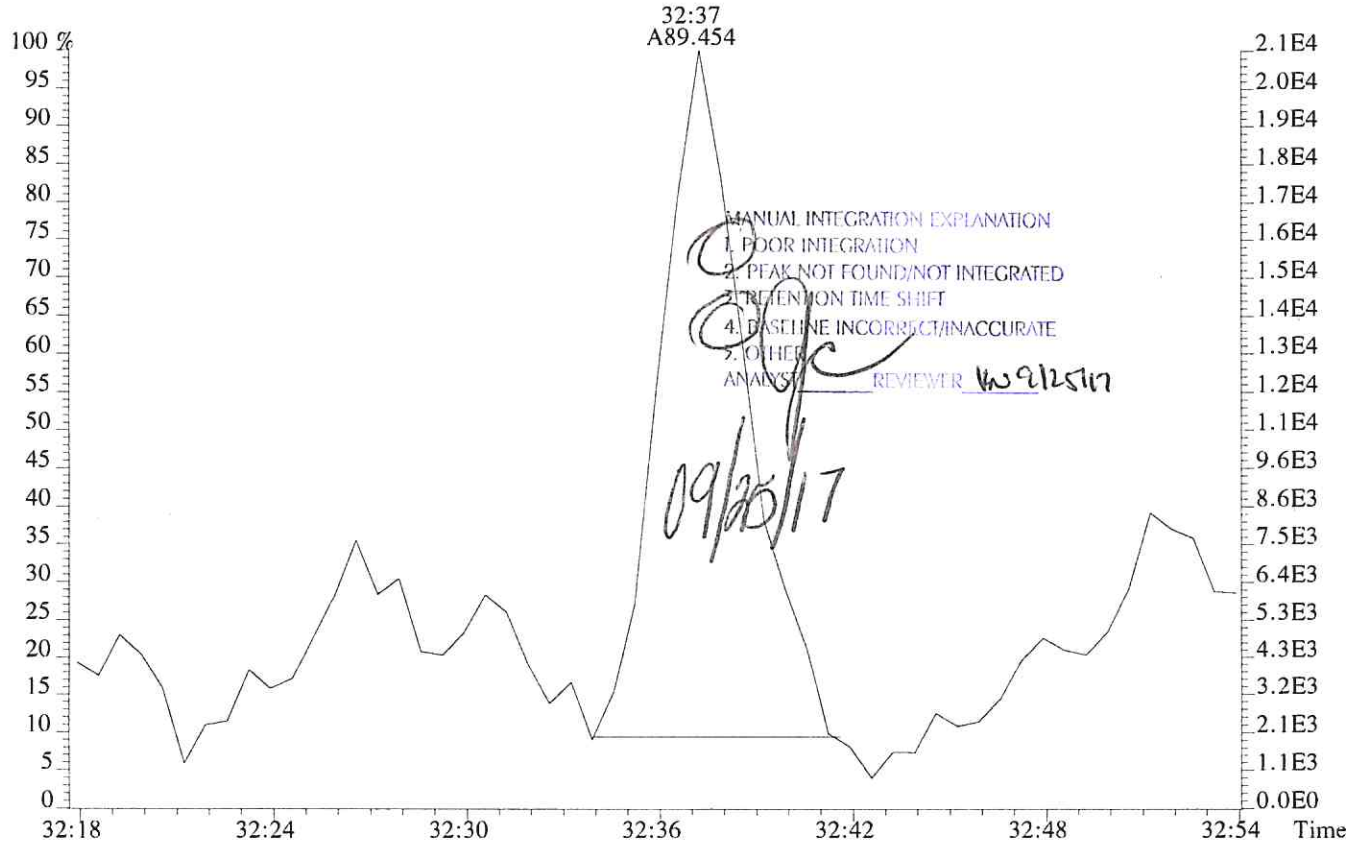
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



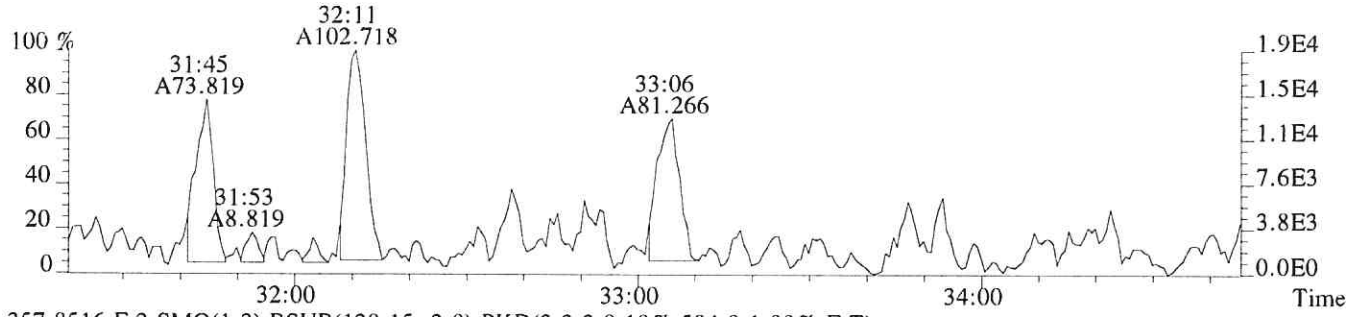
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2200.0,1.00%,F,T)



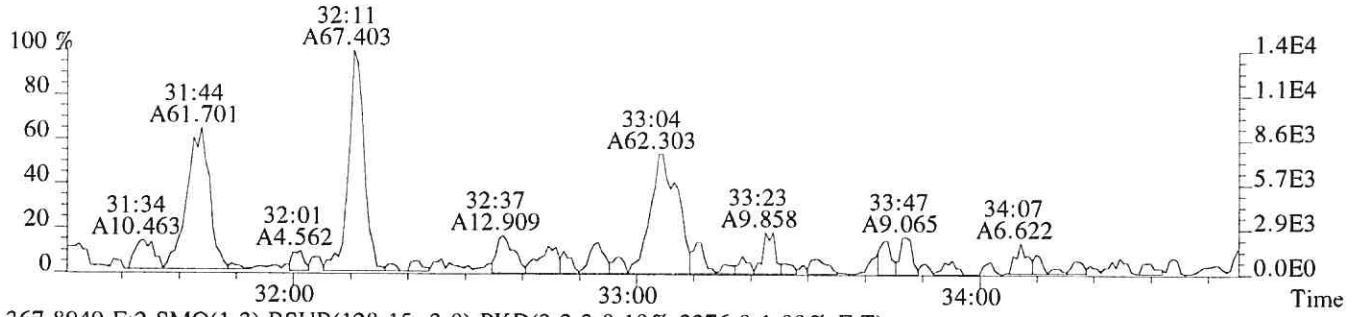
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5136.0,1.00%,F,T)



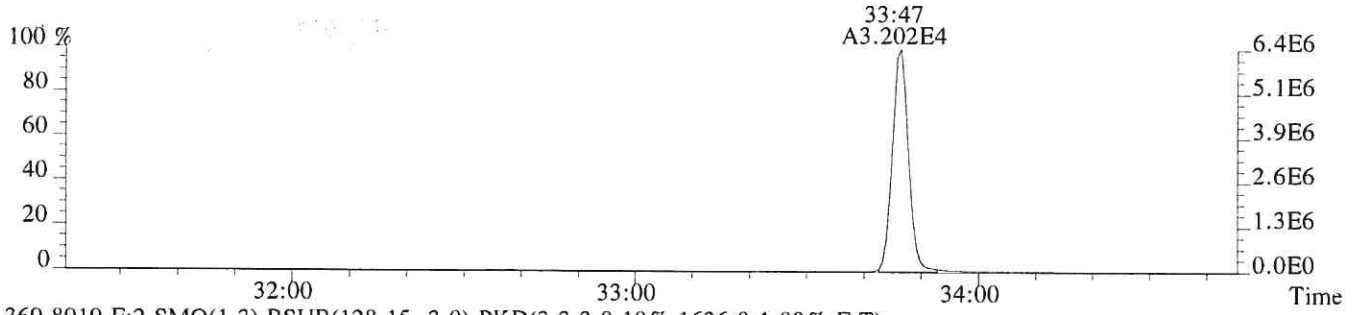
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2500.0,1.00%,F,T)



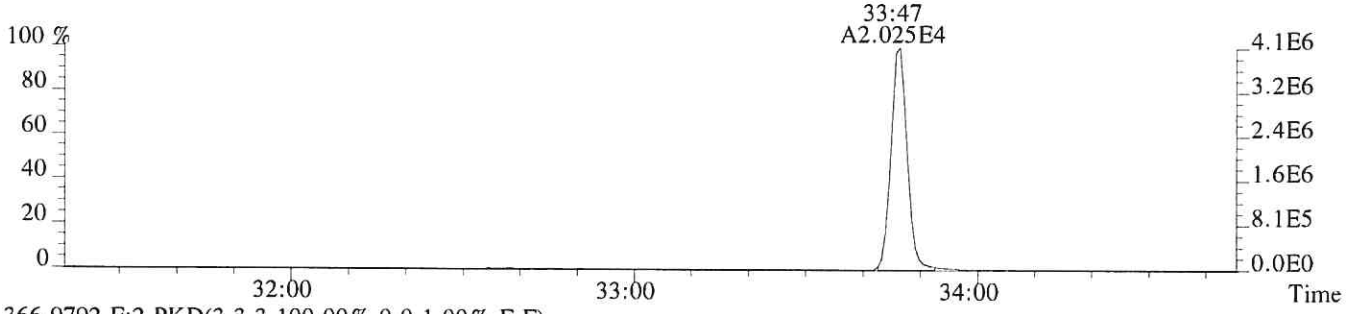
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



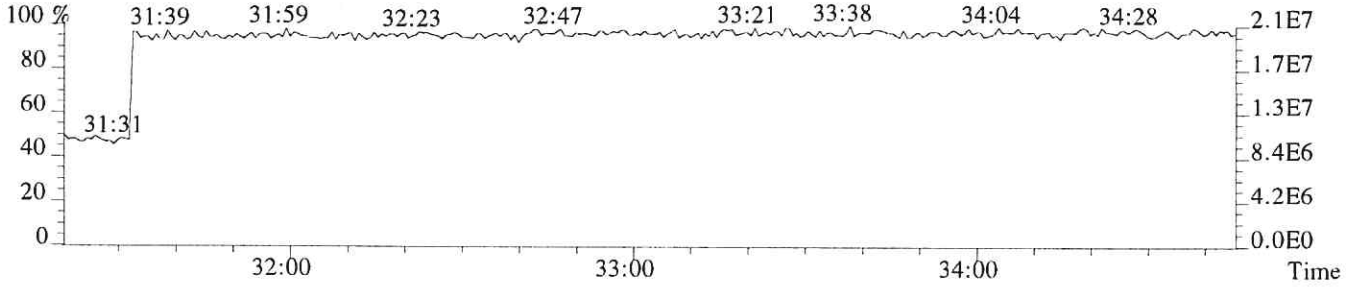
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3276.0,1.00%,F,T)



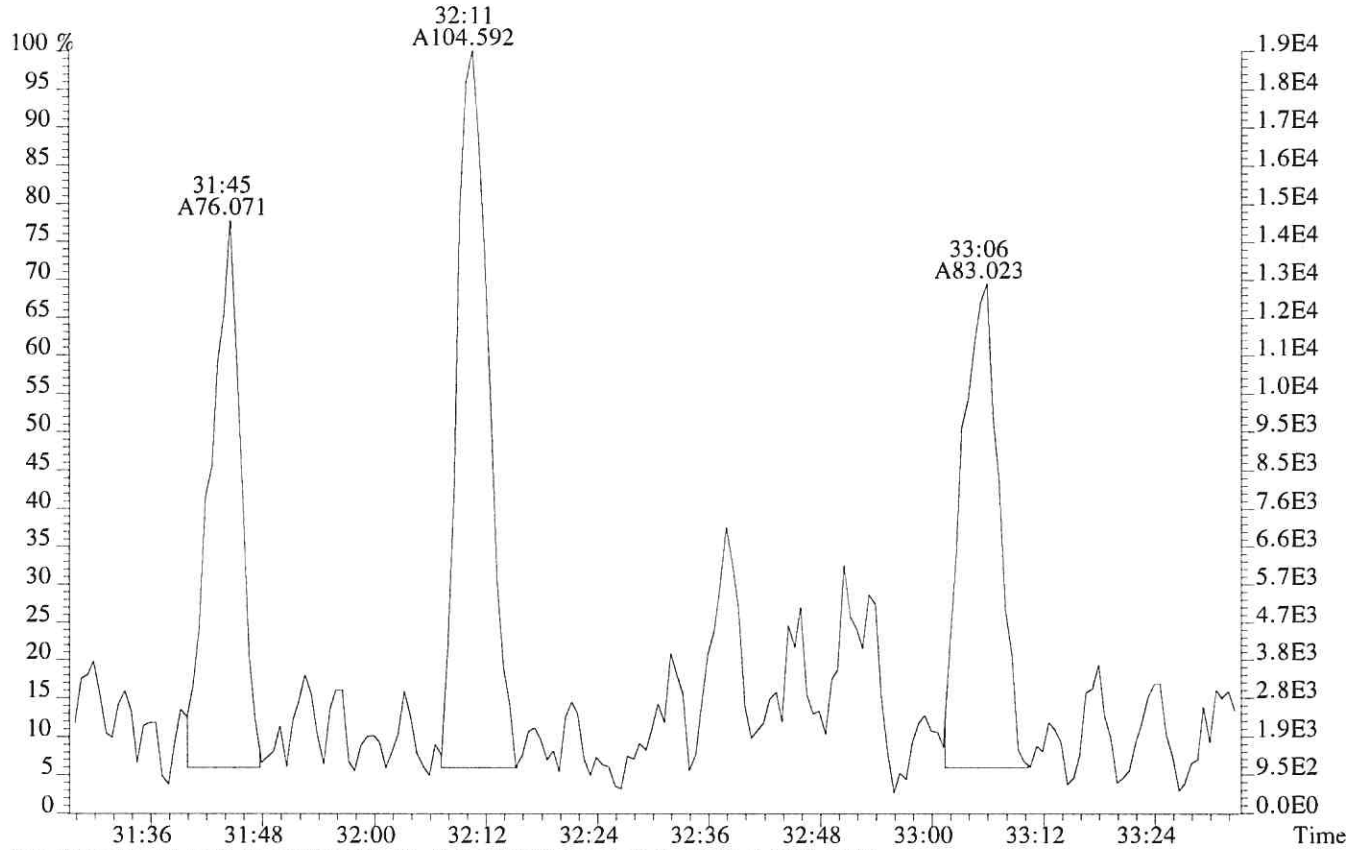
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



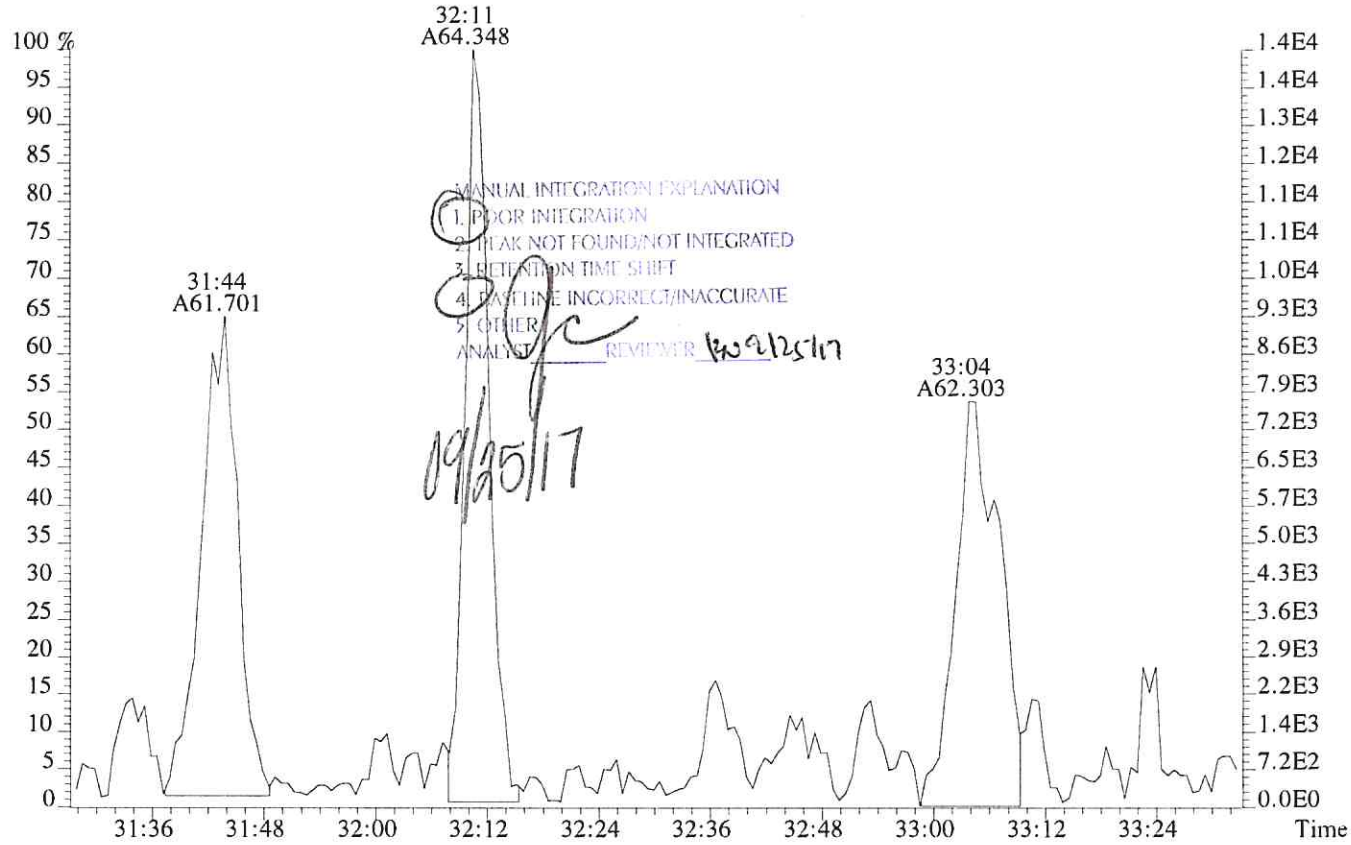
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



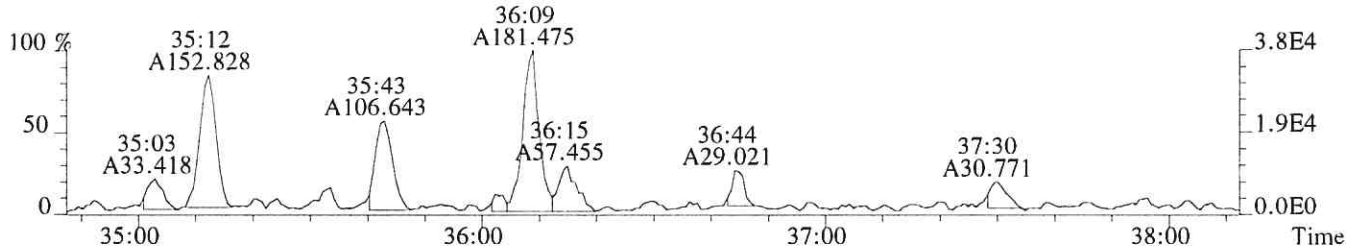
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2500.0,1.00%,F,T)



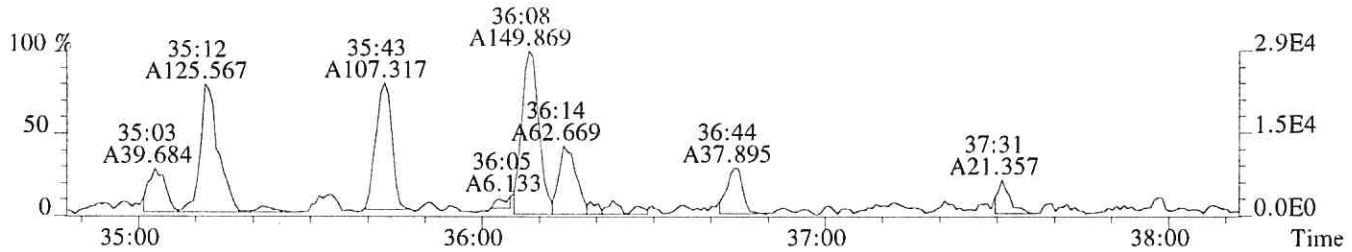
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,504.0,1.00%,F,T)



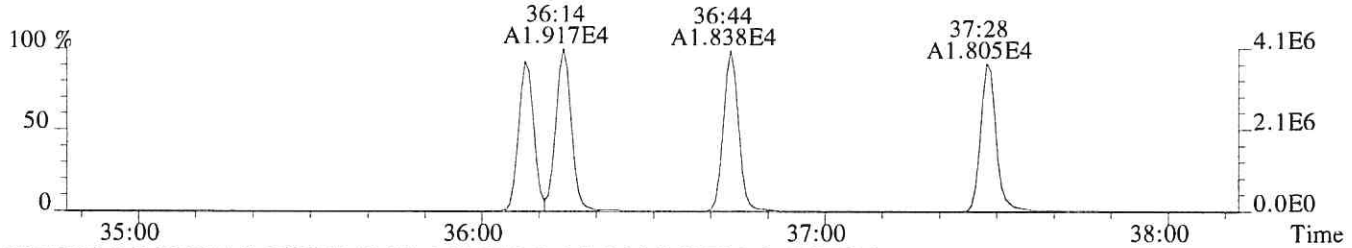
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2292.0,0.40%,F,T)



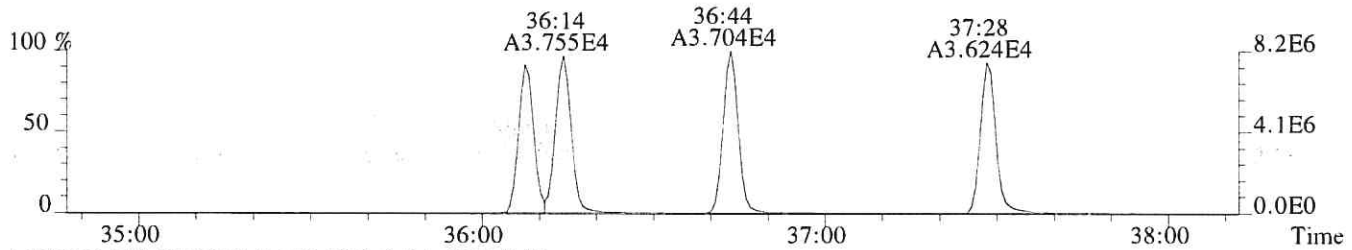
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)



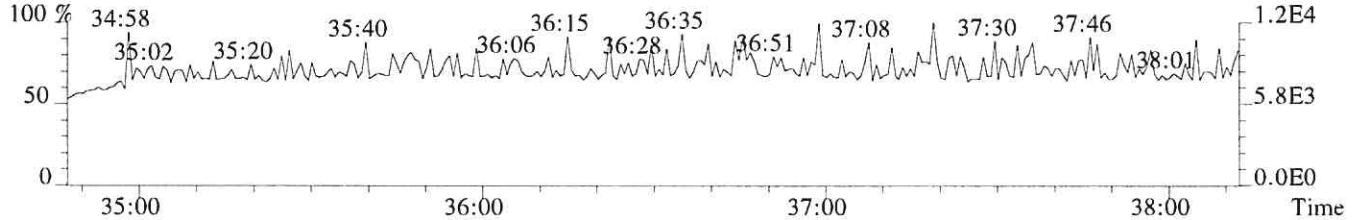
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2560.0,0.40%,F,T)



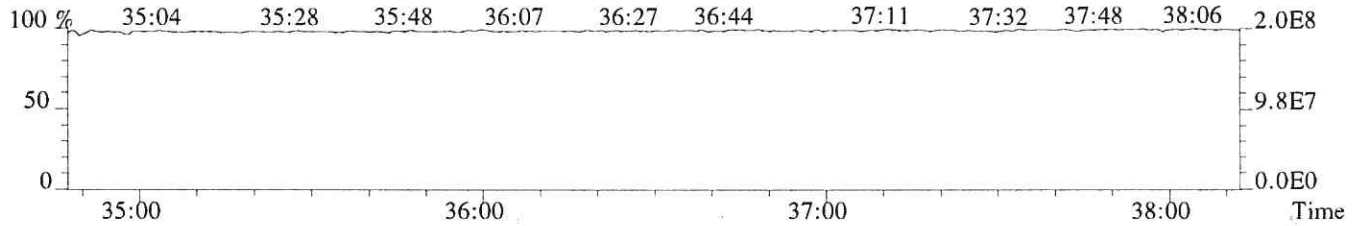
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2172.0,0.40%,F,T)



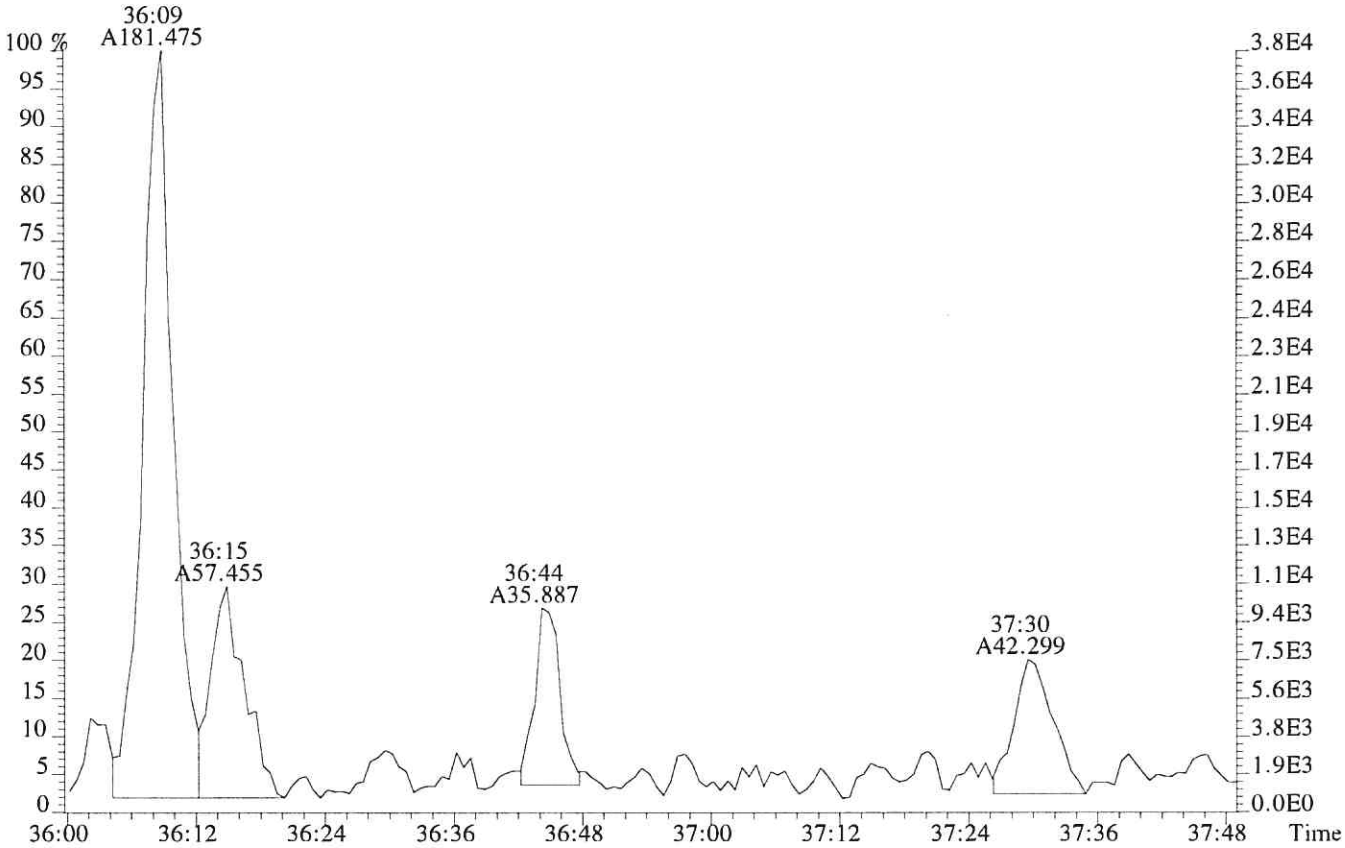
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



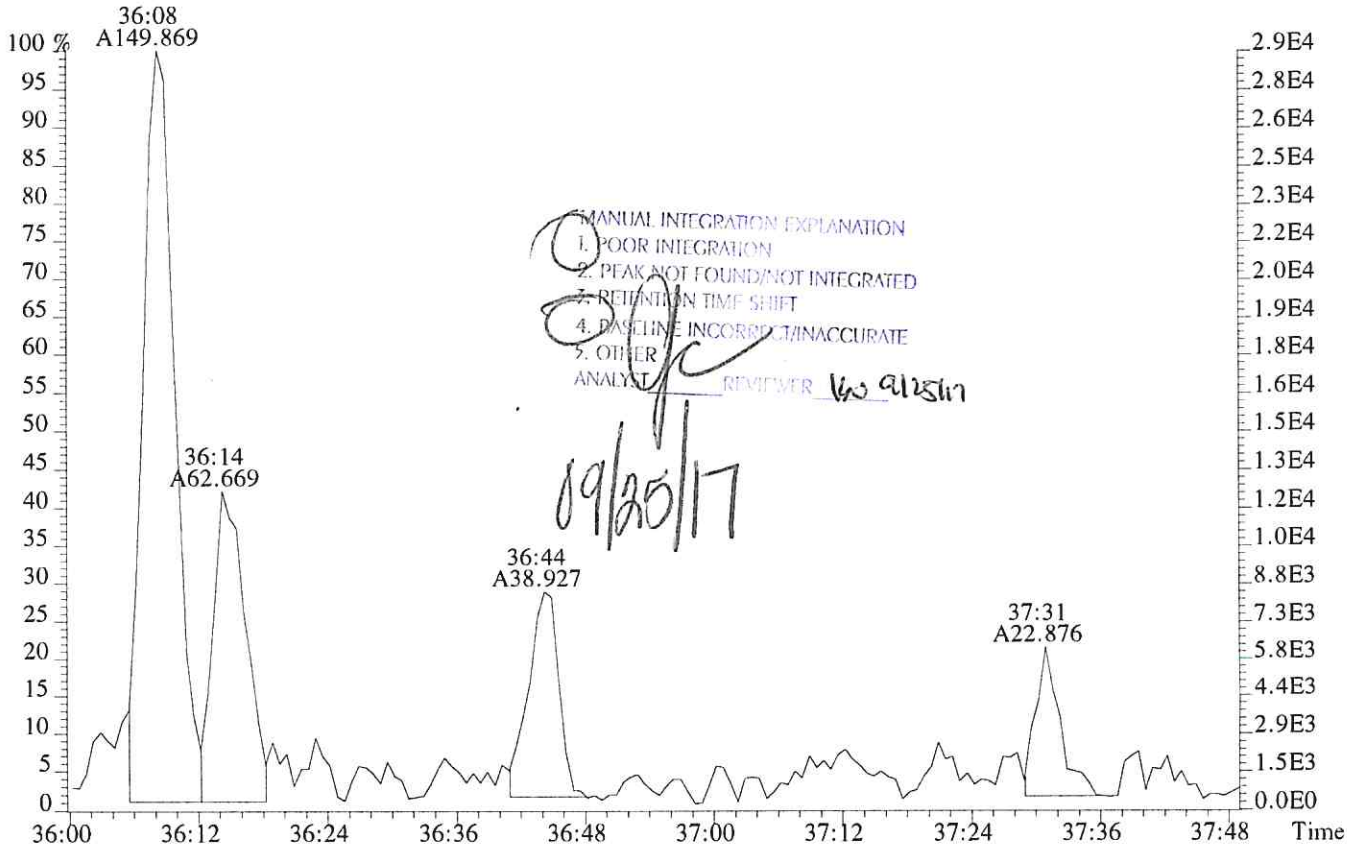
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2292.0,0.40%,F,T)

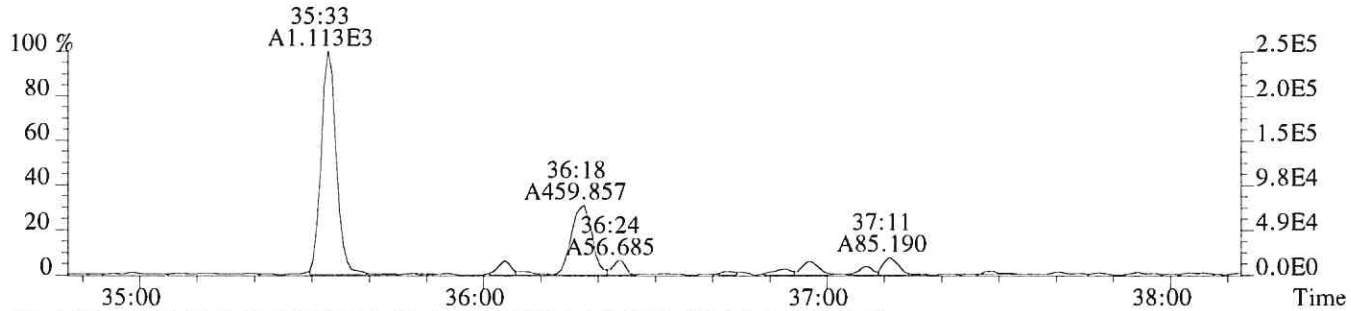


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)

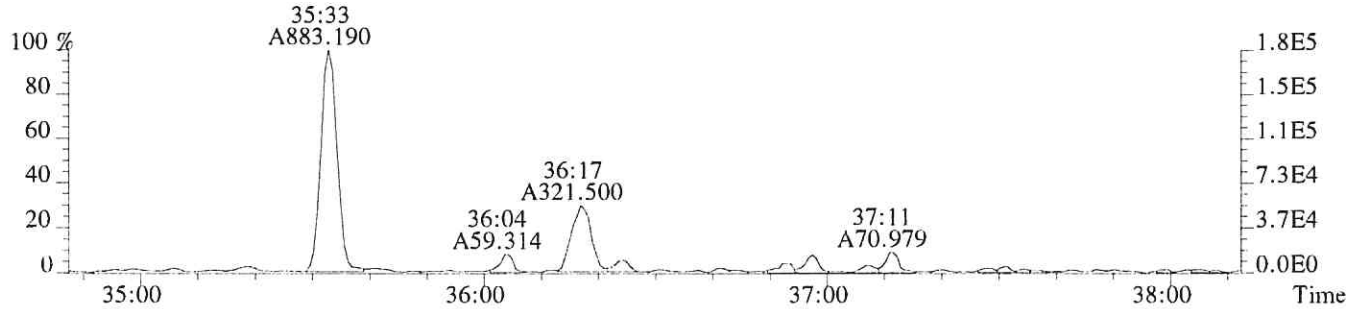


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER KW 9/25/17
09/25/17

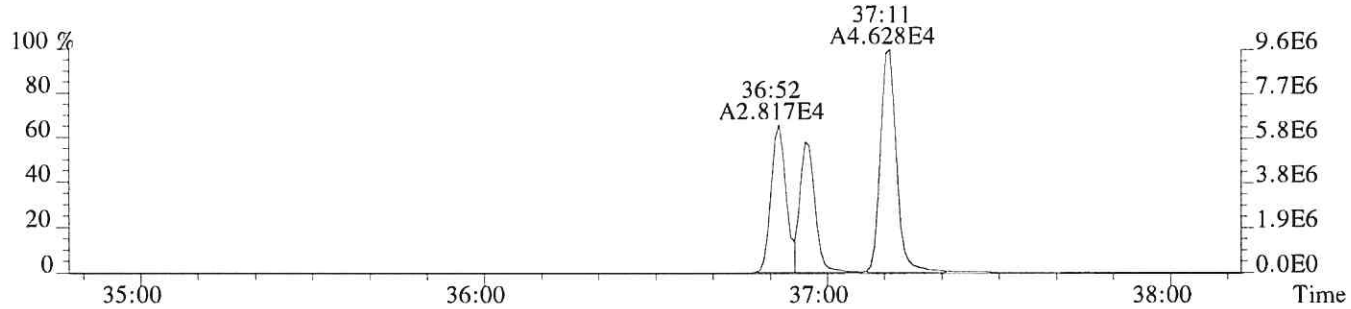
File:P511517 #1-308 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1904.0,0.40%,F,T)



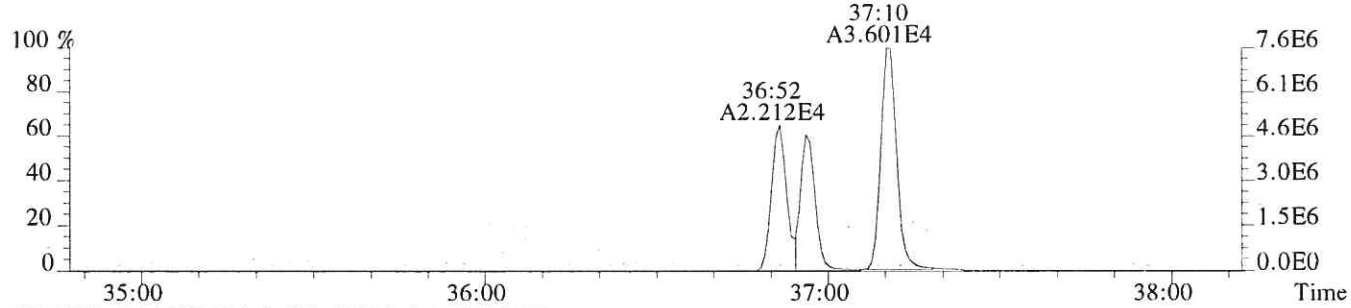
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.40%,F,T)



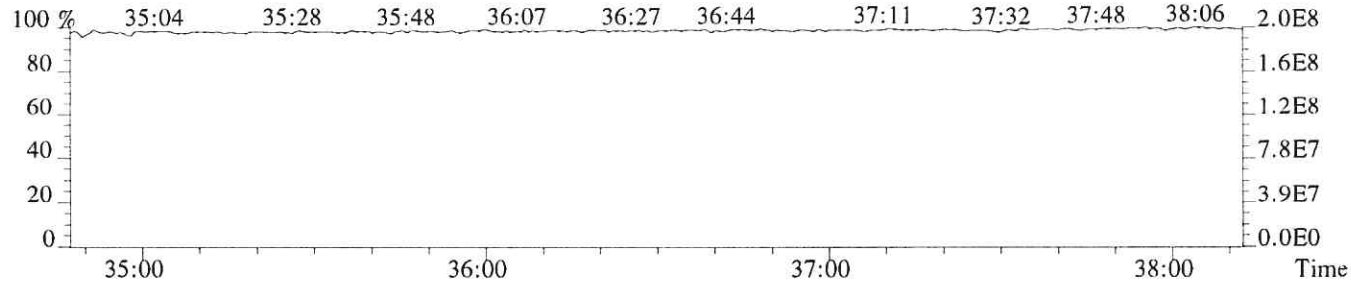
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3168.0,0.40%,F,T)



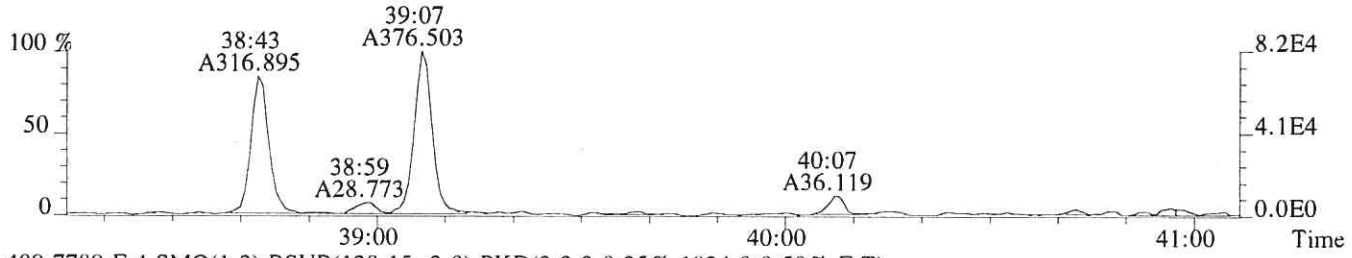
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2552.0,0.40%,F,T)



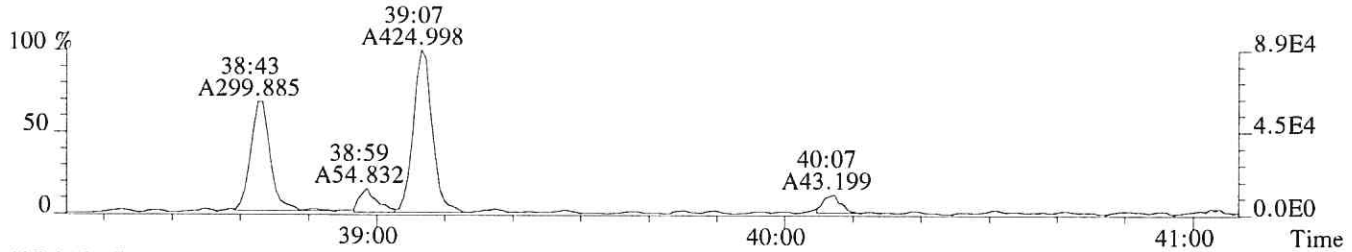
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



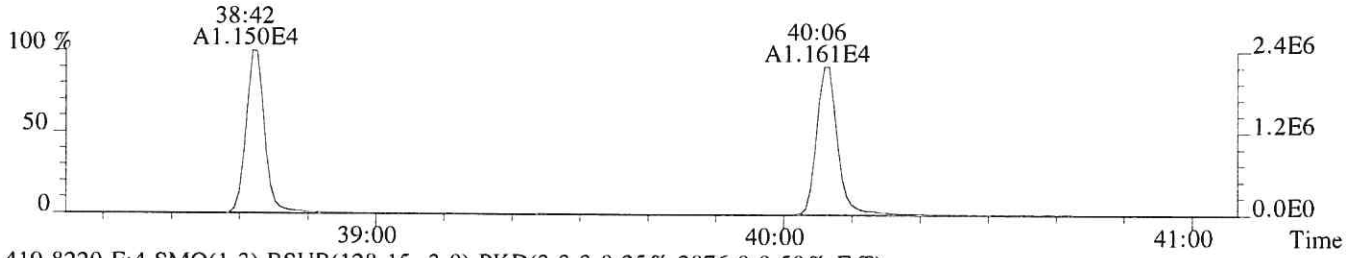
File:P511517 #1-259 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.50%,F,T)



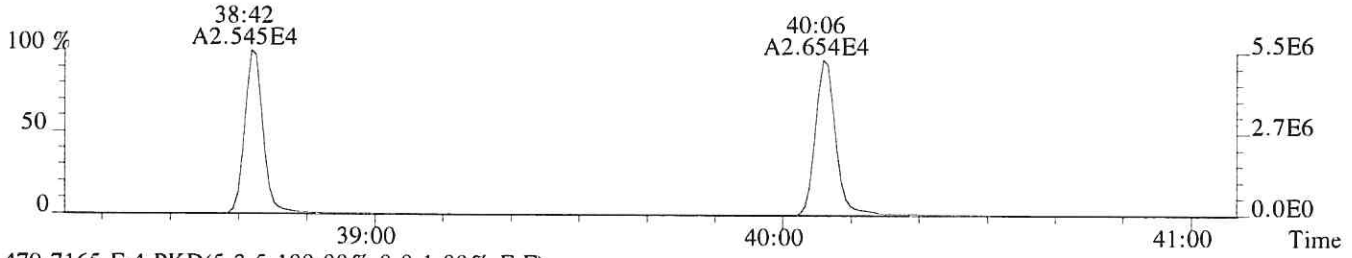
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1824.0,0.50%,F,T)



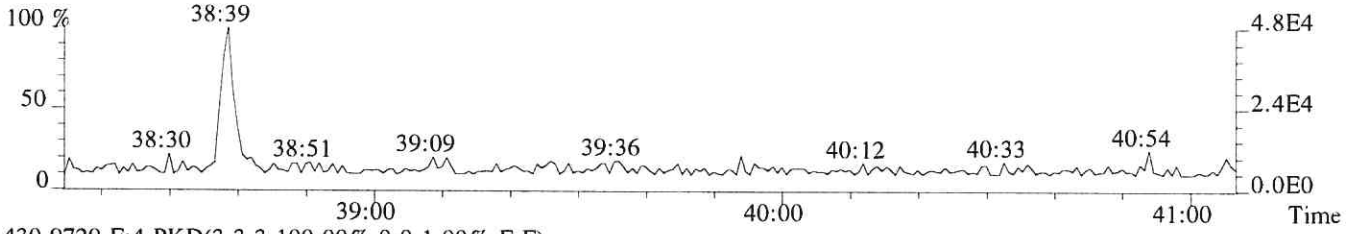
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3372.0,0.50%,F,T)



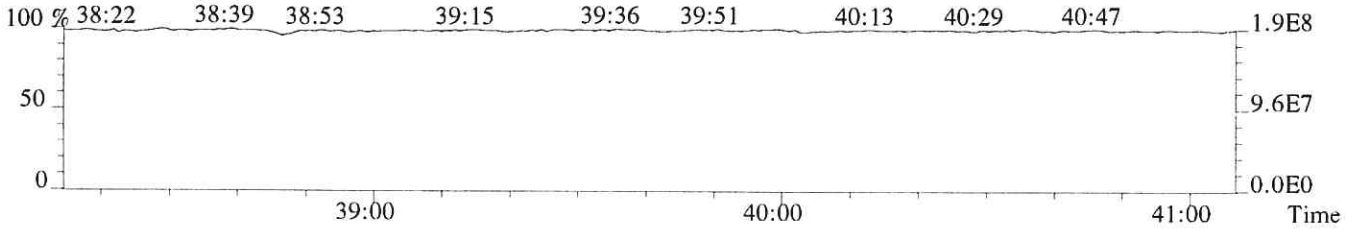
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2876.0,0.50%,F,T)



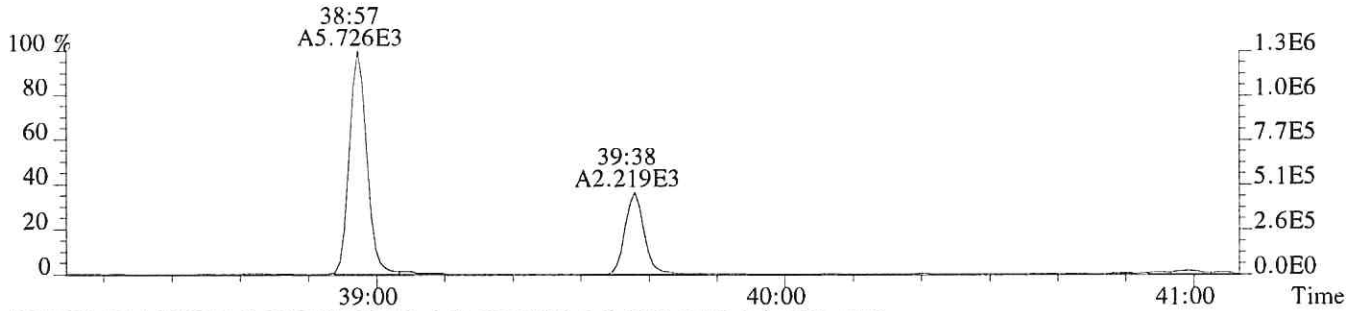
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



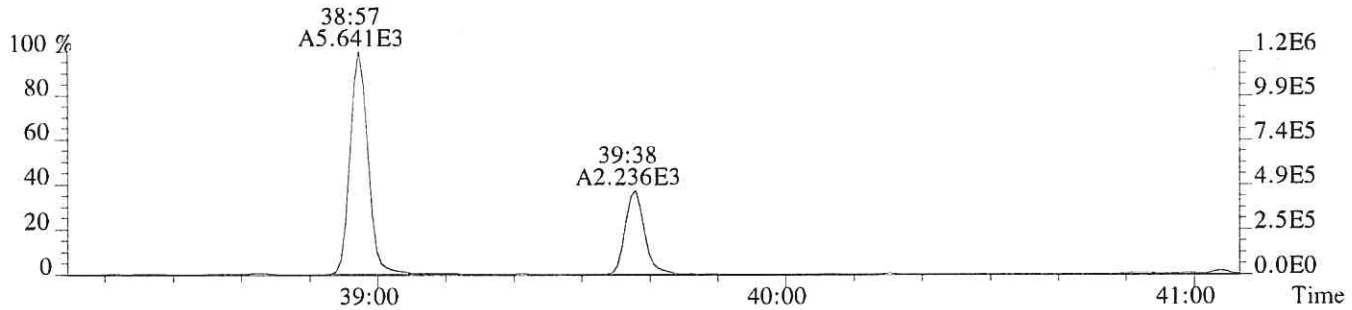
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



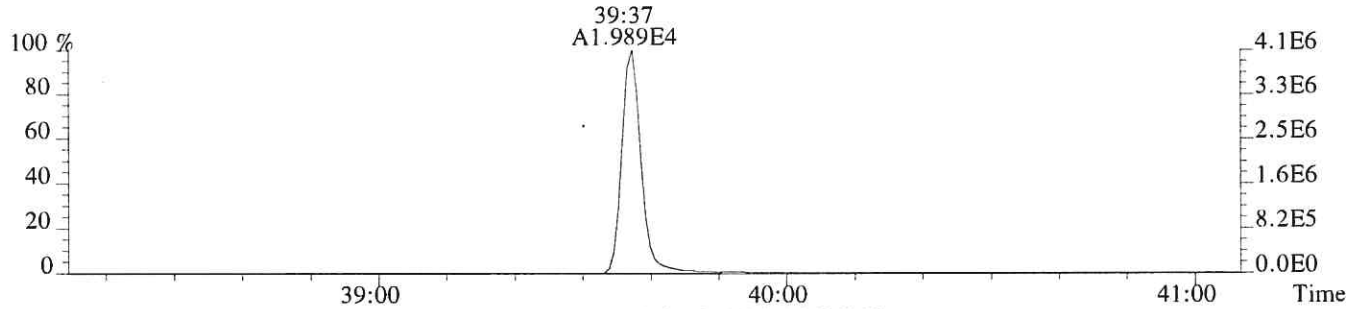
File:P511517 #1-259 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2068.0,0.40%,F,T)



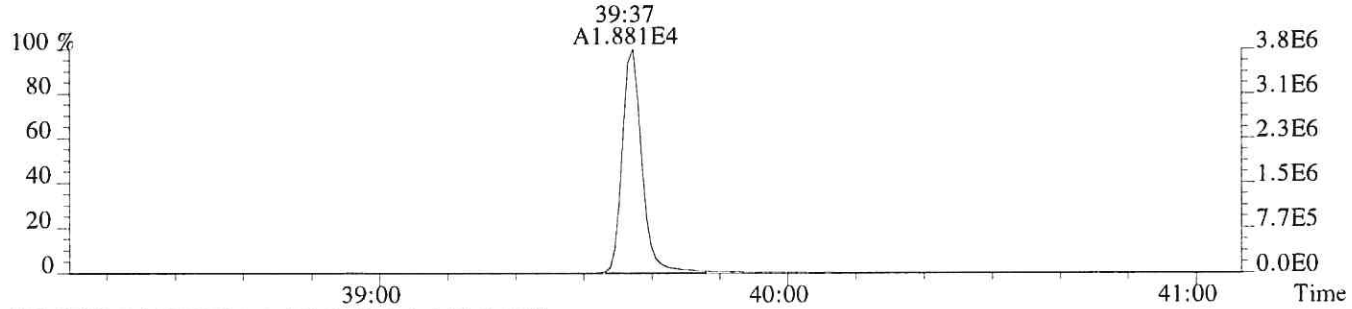
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.40%,F,T)



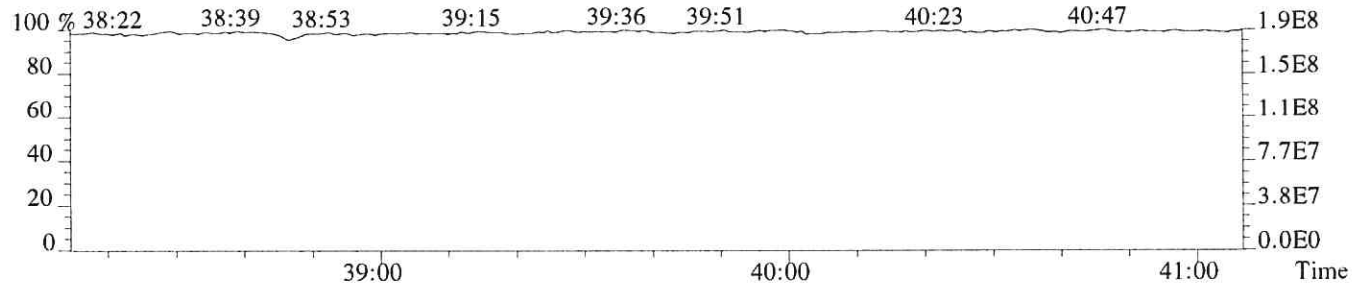
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,T)



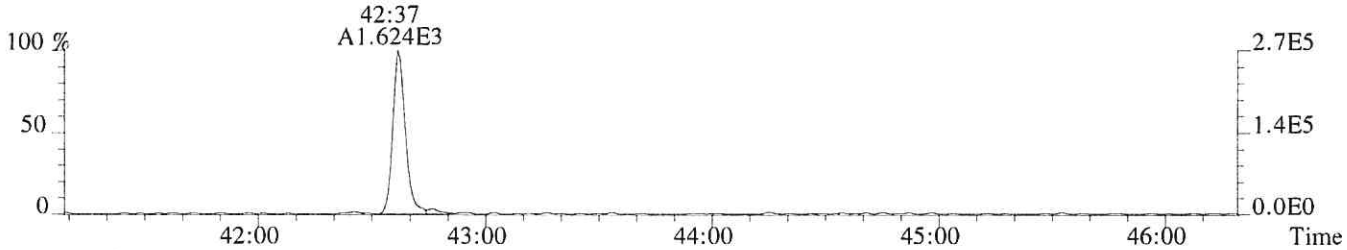
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



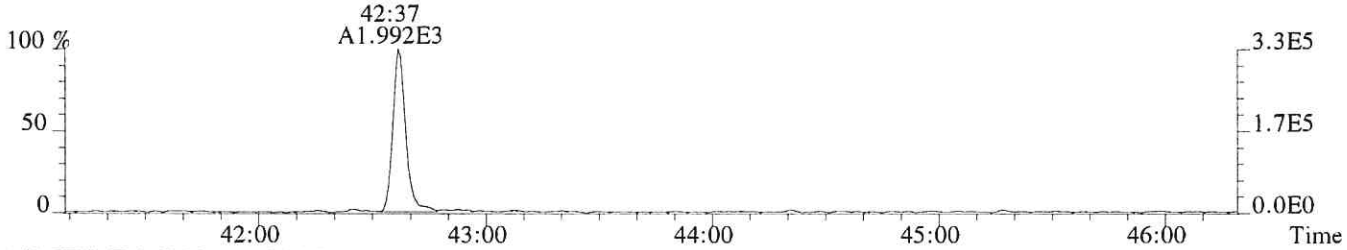
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



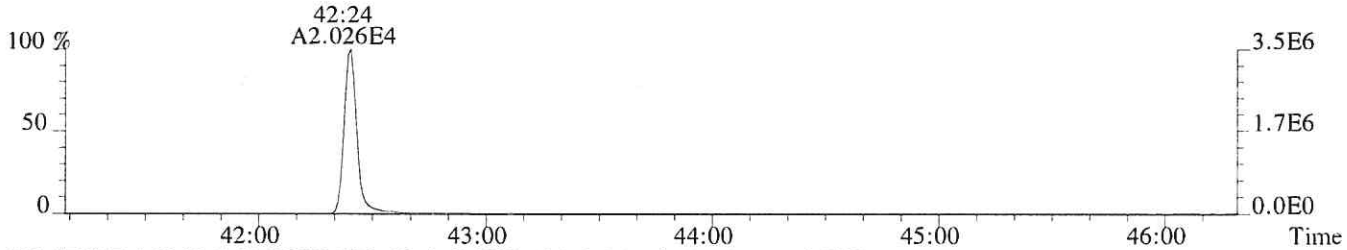
File:P511517 #1-466 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1736.0,0.40%,F,T)



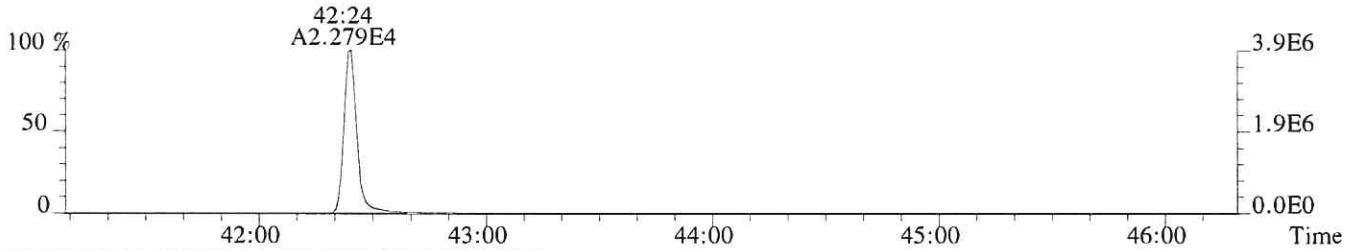
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3664.0,0.40%,F,T)



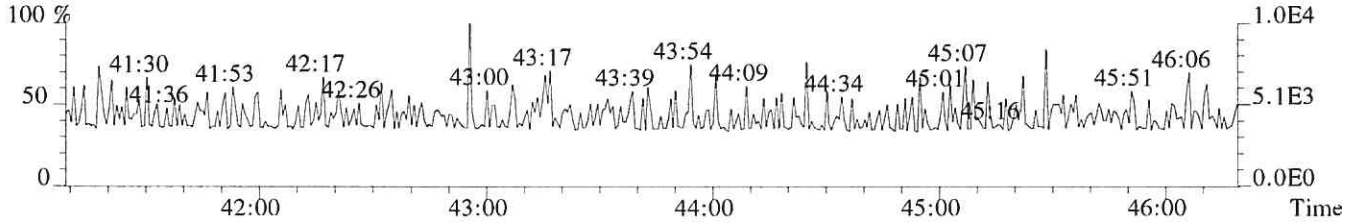
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1664.0,0.40%,F,T)



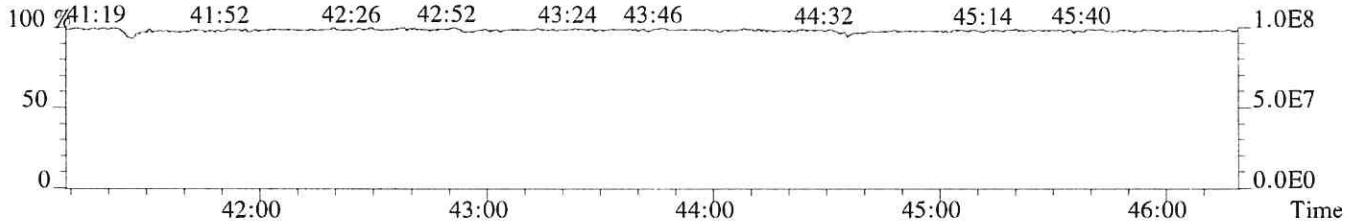
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,884.0,0.40%,F,T)



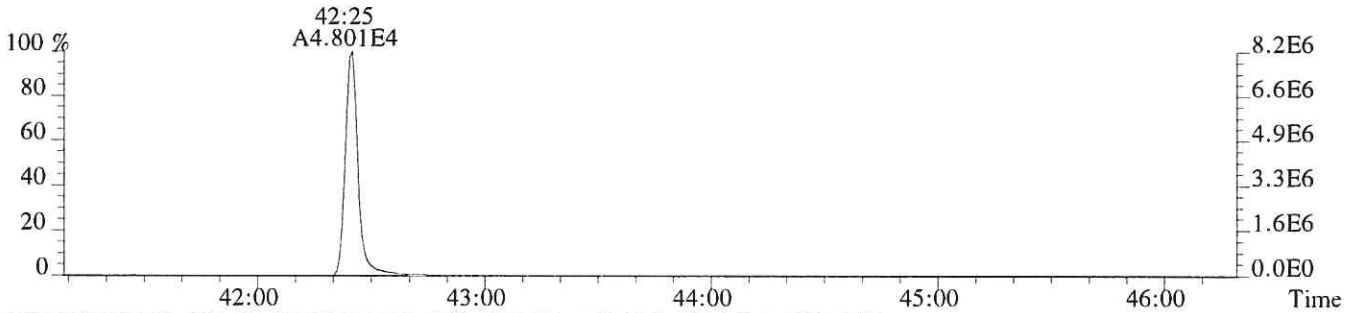
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



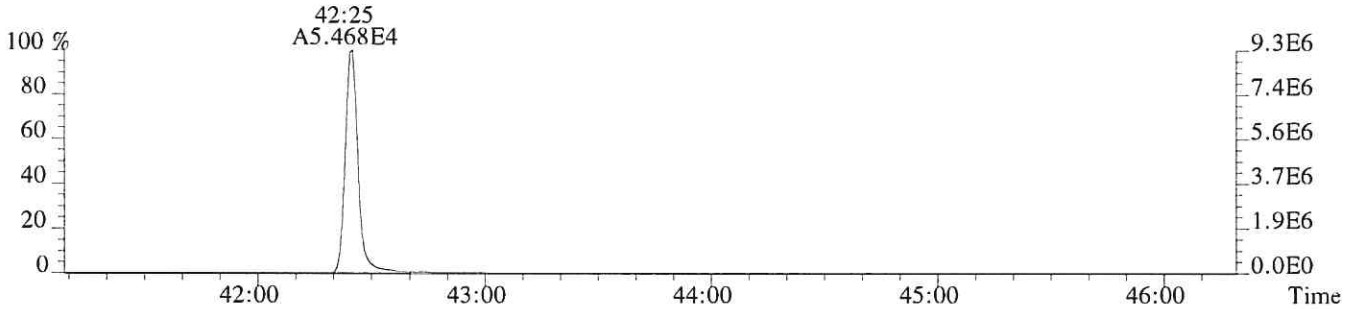
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



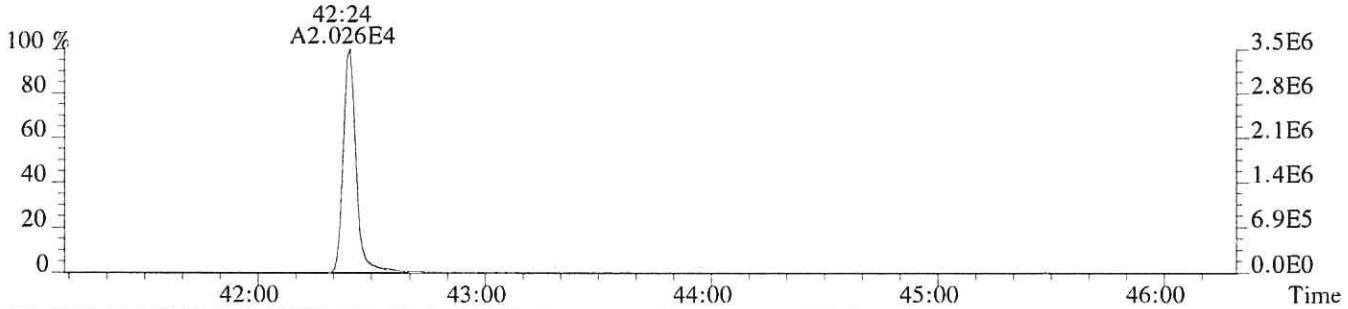
File:P511517 #1-466 Acq:23-SEP-2017 19:06:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-013
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,976.0,0.40%,F,T)



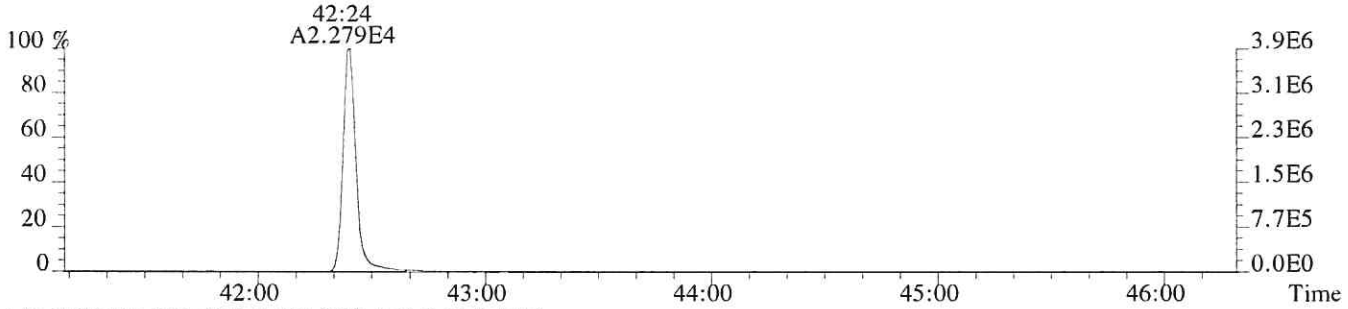
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



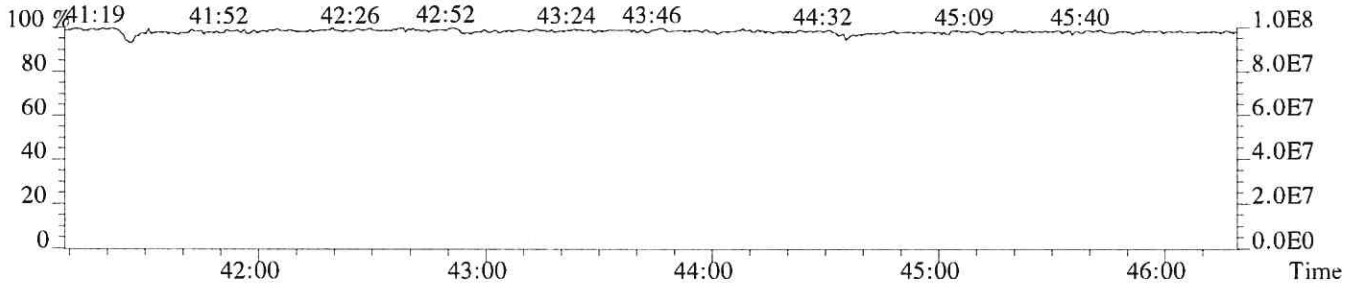
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1664.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,884.0,0.40%,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 P511518 Samp: 1 Inj: 1 Acquired: 23-SEP-17 19:55:17
Processed: 25-SEP-17 10:00:01 Sample ID: E1700973-014

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:31	4.673e+03	6.608e+03	0.71	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	2.244e+02	2.062e+02	1.09	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:30	1.987e+02	1.951e+02	1.02	no	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	4.414e+02	3.701e+02	1.19	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:14	1.153e+02	1.089e+02	1.06	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	6.299e+01	5.295e+01	1.19	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	4.705e+01	5.306e+01	0.89	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:42	8.364e+02	8.968e+02	0.93	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	6.821e+01	7.646e+01	0.89	yes	no	1.191
10	Unk	OCDF	42:36	2.863e+03	3.524e+03	0.81	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:16	1.231e+03	1.462e+03	0.84	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	3.326e+01	2.915e+01	1.14	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	1.241e+02	9.932e+01	1.25	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	1.281e+02	1.044e+02	1.23	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:37	3.882e+03	3.843e+03	1.01	yes	no	0.942
17	Unk	OCDD	42:24	7.144e+04	8.068e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:30	2.318e+04	2.991e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:36	3.996e+04	2.543e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:29	3.913e+04	2.513e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:07	1.604e+04	3.210e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	1.859e+04	3.590e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:43	1.709e+04	3.401e+04	0.50	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	1.674e+04	3.284e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	1.100e+04	2.550e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.103e+04	2.556e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.768e+04	2.264e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:46	3.016e+04	1.889e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:51	2.596e+04	2.053e+04	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	2.497e+04	1.967e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	1.923e+04	1.808e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	42:24	2.103e+04	2.368e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	2.834e+04	3.643e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	4.482e+04	3.522e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:16	2.154e+04				no	1.033

$$\text{OCDD} = \frac{(7.144e{+}04 + 8.068e{+}04)\ \times\ 4000\ \text{pg}\ \times\ 1}{(2.103e{+}04 + 2.368e{+}04)\ \times\ 10.3600\ \text{g}\ \times\ 34.1\ /\ 100\ \times\ 1.051} = 36605.4\ \text{ng/kg}$$

KW 9/25/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-091517-033E

Run #16 Filename P511518 Samp: 1 Inj: 1 Acquired: 23-SEP-17 19:55:17
Processed: 25-SEP-17 10:00:01 LAB. ID: E1700973-014

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	8.47e+05	1.80e+03	4.7e+02	1.22e+06	4.15e+03	2.9e+02
2	1,2,3,7,8-PeCDF	4.20e+04	2.25e+03	1.9e+01	3.53e+04	4.18e+03	8.4e+00
3	2,3,4,7,8-PeCDF	3.40e+04	2.25e+03	1.5e+01	2.66e+04	4.18e+03	6.4e+00
4	1,2,3,4,7,8-HxCDF	9.10e+04	2.39e+03	3.8e+01	8.10e+04	2.33e+03	3.5e+01
5	1,2,3,6,7,8-HxCDF	2.12e+04	2.39e+03	8.9e+00	2.28e+04	2.33e+03	9.8e+00
6	2,3,4,6,7,8-HxCDF	1.23e+04	2.39e+03	5.1e+00	1.28e+04	2.33e+03	5.5e+00
7	1,2,3,7,8,9-HxCDF	1.20e+04	2.39e+03	5.0e+00	8.67e+03	2.33e+03	3.7e+00
8	1,2,3,4,6,7,8-HpCDF	1.77e+05	1.22e+03	1.5e+02	1.84e+05	1.08e+03	1.7e+02
9	1,2,3,4,7,8,9-HpCDF	1.54e+04	1.22e+03	1.3e+01	1.42e+04	1.08e+03	1.3e+01
10	OCDF	4.72e+05	1.25e+03	3.8e+02	6.06e+05	2.92e+03	2.1e+02
11	2,3,7,8-TCDD	2.36e+05	3.70e+03	6.4e+01	3.05e+05	1.40e+03	2.2e+02
12	1,2,3,7,8-PeCDD	*	3.01e+03	*	*	9.76e+02	*
13	1,2,3,4,7,8-HxCDD	8.83e+03	1.98e+03	4.5e+00	7.85e+03	2.28e+03	3.4e+00
14	1,2,3,6,7,8-HxCDD	2.67e+04	1.98e+03	1.4e+01	2.30e+04	2.28e+03	1.0e+01
15	1,2,3,7,8,9-HxCDD	2.62e+04	1.98e+03	1.3e+01	2.24e+04	2.28e+03	9.8e+00
16	1,2,3,4,6,7,8-HpCDD	7.99e+05	2.08e+03	3.8e+02	8.04e+05	7.80e+03	1.0e+02
17	OCDD	1.20e+07	1.16e+03	1.0e+04	1.35e+07	1.44e+03	9.4e+03
18	13C-2,3,7,8-TCDF	4.53e+06	2.64e+04	1.7e+02	5.76e+06	1.18e+04	4.9e+02
19	13C-1,2,3,7,8-PeCDF	7.69e+06	1.06e+03	7.2e+03	4.89e+06	1.40e+03	3.5e+03
20	13C-2,3,4,7,8-PeCDF	7.85e+06	1.06e+03	7.4e+03	4.93e+06	1.40e+03	3.5e+03
21	13C-1,2,3,4,7,8-HxCDF	3.50e+06	1.79e+03	2.0e+03	7.10e+06	3.20e+03	2.2e+03
22	13C-1,2,3,6,7,8-HxCDF	3.99e+06	1.79e+03	2.2e+03	7.65e+06	3.20e+03	2.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.78e+06	1.79e+03	2.1e+03	7.53e+06	3.20e+03	2.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.42e+06	1.79e+03	1.9e+03	6.81e+06	3.20e+03	2.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.31e+06	2.65e+03	8.7e+02	5.41e+06	3.74e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.16e+06	2.65e+03	8.1e+02	4.94e+06	3.74e+03	1.3e+03
27	13C-2,3,7,8-TCDD	3.56e+06	8.38e+03	4.3e+02	4.53e+06	3.64e+03	1.2e+03
28	13C-1,2,3,7,8-PeCDD	6.00e+06	2.56e+03	2.3e+03	3.73e+06	2.63e+03	1.4e+03
29	13C-1,2,3,4,7,8-HxCDD	5.83e+06	3.68e+03	1.6e+03	4.51e+06	1.79e+03	2.5e+03
30	13C-1,2,3,6,7,8-HxCDD	5.38e+06	3.68e+03	1.5e+03	4.25e+06	1.79e+03	2.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.92e+06	2.78e+03	1.4e+03	3.63e+06	1.32e+03	2.8e+03
32	13C-OCDD	3.58e+06	1.43e+03	2.5e+03	3.98e+06	1.10e+03	3.6e+03
33	13C-1,2,3,4-TCDD	5.58e+06	8.38e+03	6.7e+02	7.23e+06	3.64e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	9.43e+06	3.68e+03	2.6e+03	7.42e+06	1.79e+03	4.2e+03
35	37Cl-2,3,7,8-TCDD	4.41e+06	2.17e+03	2.0e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 36 Totals Name: Total Tetra-Furans

Run: 16 File: P511518 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 303.9020 305.8990 Tot Response: 1.92e+04 RRF: 0.8249

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:59	2.16e+02	3.21e+02	0.67	yes	5.37e+02	n	n
2	26:38	1.90e+02	2.65e+02	0.71	yes	4.55e+02	n	n
3	27:21	1.85e+02	2.26e+02	0.82	yes	4.10e+02	n	n
4	27:45	1.99e+03	2.89e+03	0.69	yes	4.88e+03	n	n
5	28:31	4.67e+03	6.61e+03	0.71	yes	1.13e+04	2,3,7,8-TCDF	n	n
6	28:50	3.41e+02	4.78e+02	0.71	yes	8.19e+02	n	n
7	30:17	3.60e+02	4.86e+02	0.74	yes	8.46e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 16 File: P511518 Sample:1 Injection:1 Function:1

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 319.8970 321.8940 Tot Response: 2.99e+03 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:16	1.23e+03	1.46e+03	0.84	yes	2.69e+03	2,3,7,8-TCDD	n	n
2	30:23	1.27e+02	1.68e+02	0.76	yes	2.94e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 39 Totals Name: Total Penta-Furans2

Run: 16 File: P511518 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 339.8600 341.8570 Tot Response: 3.86e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:41	2.27e+02	1.58e+02	1.44	yes	3.86e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 16 File: P511518 Sample:1 Injection:1 Function:2

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 355.8550 357.8520 Tot Response: 4.15e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:43	1.08e+02	6.51e+01	1.65	yes	1.73e+02	y	n
2	32:10	1.50e+02	9.22e+01	1.62	yes	2.42e+02	y	y

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Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 41 Totals Name: Total Hexa-Furans

Run: 16 File: P511518 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 373.8210 375.8180 Tot Response: 2.29e+03 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:02	7.73e+01	6.19e+01	1.25	yes	1.39e+02		n	n
2	35:12	2.58e+02	2.45e+02	1.06	yes	5.03e+02		n	n
3	35:42	2.64e+02	2.28e+02	1.16	yes	4.92e+02		n	n
4	36:08	4.41e+02	3.70e+02	1.19	yes	8.11e+02	1,2,3,4,7,8-HxCDF	n	n
5	36:14	1.15e+02	1.09e+02	1.06	yes	2.24e+02	1,2,3,6,7,8-HxCDF	n	n
6	36:44	6.30e+01	5.30e+01	1.19	yes	1.16e+02	2,3,4,6,7,8-HxCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 16 File: P511518 Sample:1 Injection:1 Function:3

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 389.8160 391.8130 Tot Response: 4.52e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	35:32	1.60e+03	1.31e+03	1.22	yes	2.91e+03		n	n
2	36:17	6.19e+02	4.76e+02	1.30	yes	1.09e+03		n	n
3	36:52	3.33e+01	2.91e+01	1.14	yes	6.24e+01	1,2,3,4,7,8-HxCDD	n	n
4	36:57	1.24e+02	9.93e+01	1.25	yes	2.23e+02	1,2,3,6,7,8-HxCDD	n	n
5	37:11	1.28e+02	1.04e+02	1.23	yes	2.32e+02	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 43 Totals Name: Total Hepta-Furans

Run: 16 File: P511518 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 407.7820 409.7790 Tot Response: 3.86e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:42	8.36e+02	8.97e+02	0.93	yes	1.73e+03	1,2,3,4,6,7,8-HpCDF	n	n
2	39:06	1.00e+03	9.84e+02	1.02	yes	1.98e+03		n	n
3	40:07	6.82e+01	7.65e+01	0.89	yes	1.45e+02	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-091517-033E

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 16 File: P511518 Sample:1 Injection:1 Function:4

Acquired: 23-SEP-17 19:55:17 Processed: 25-SEP-17 10:00:01

Mass: 423.7770 425.7740 Tot Response: 2.56e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:57	9.22e+03	8.65e+03	1.07	yes	1.79e+04	n	n
2	39:37	3.88e+03	3.84e+03	1.01	yes	7.73e+03	1,2,3,4,6,7,8-HpCDD	n	n

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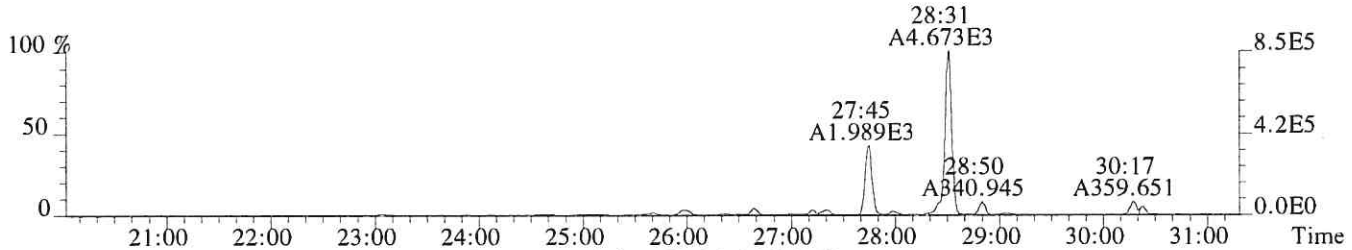
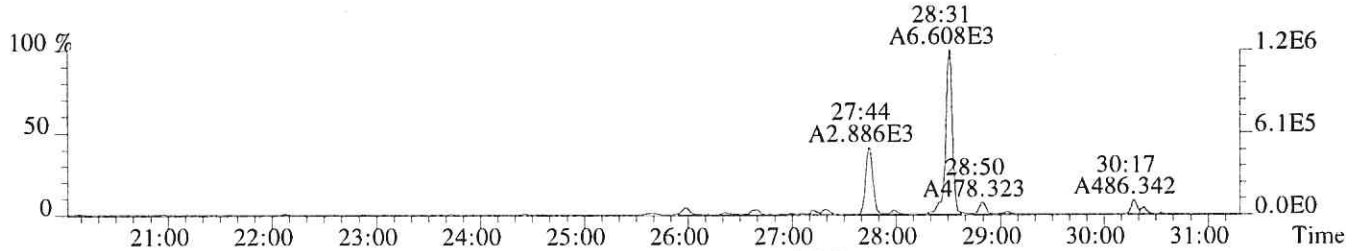
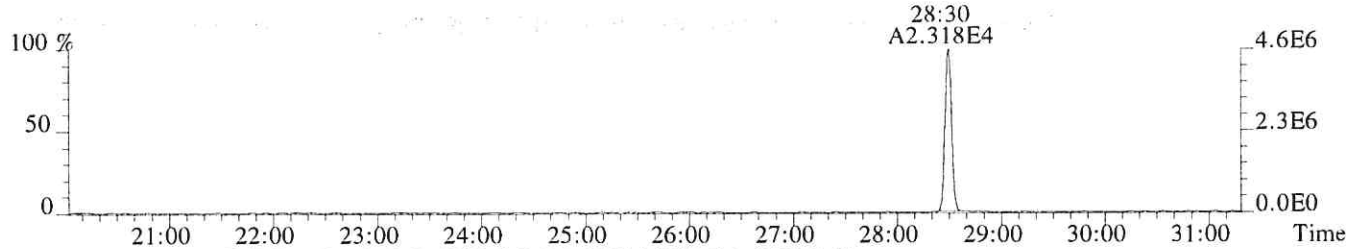
File:P511518 #1-800 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spectÉ
Sample#1 Exp:E1700973-014
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



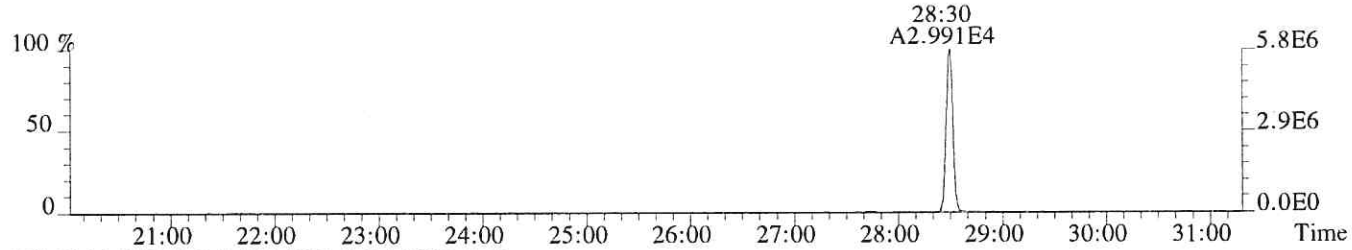
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4152.0,1.00%,F,T)



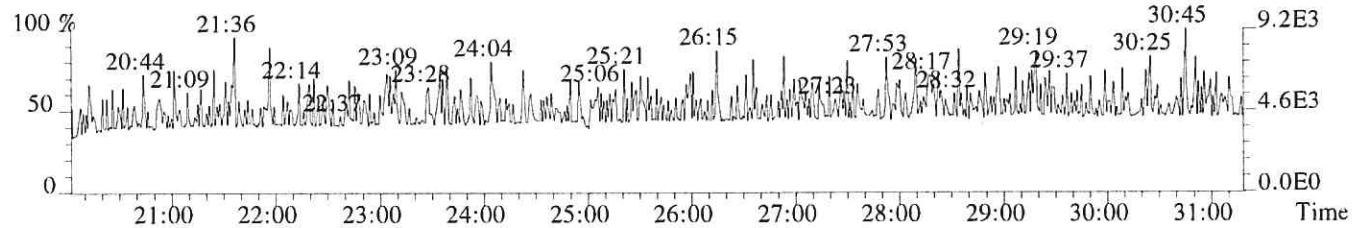
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,26368.0,1.00%,F,T)



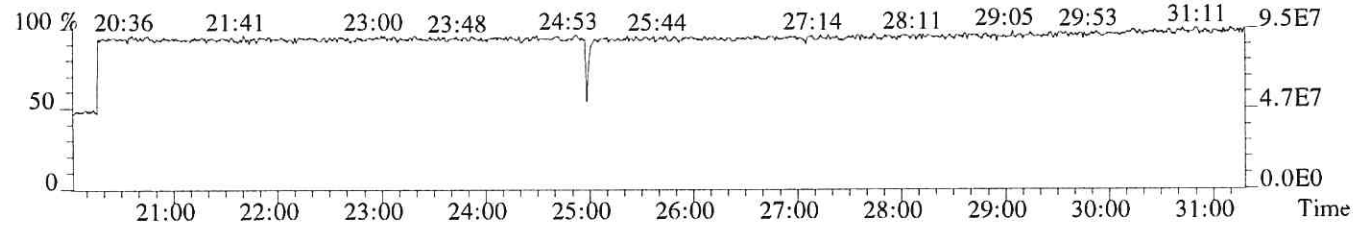
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11812.0,1.00%,F,T)



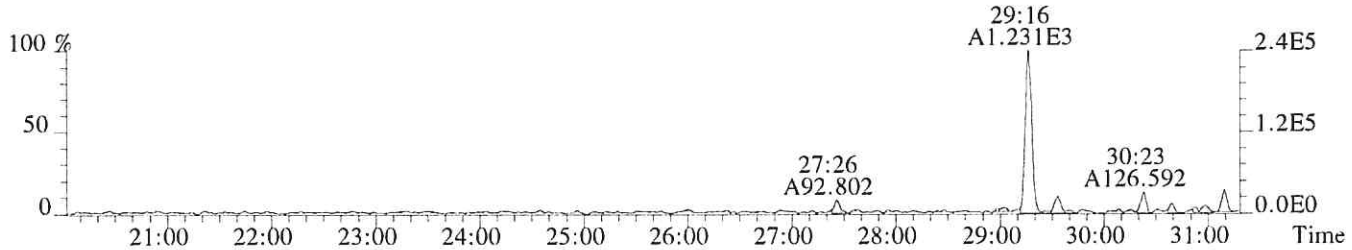
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



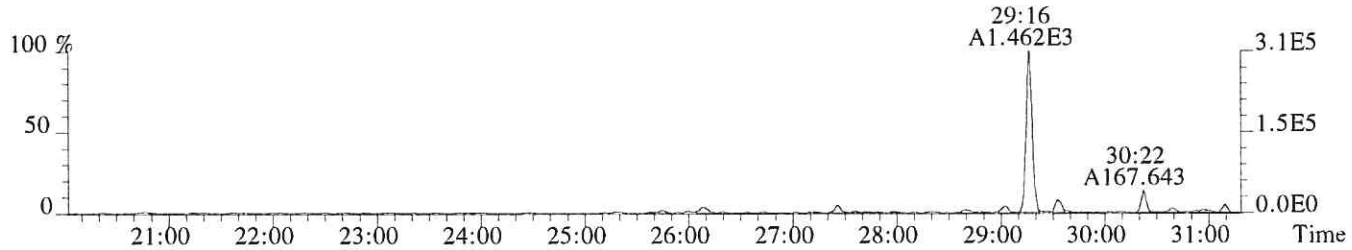
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



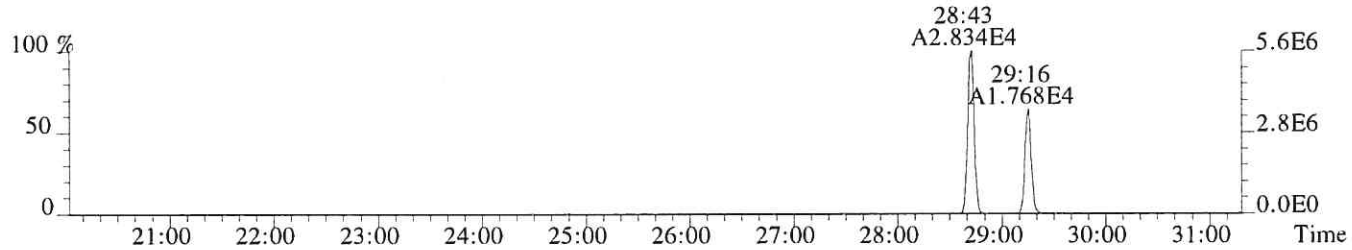
File:P511518 #1-800 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3700.0,1.00%,F,T)



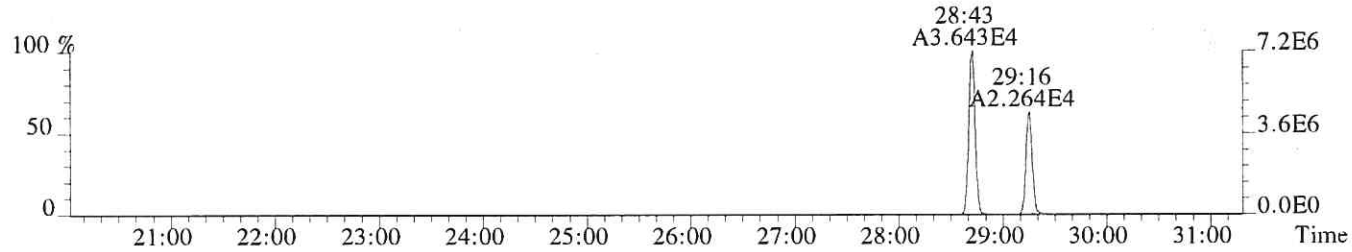
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,T)



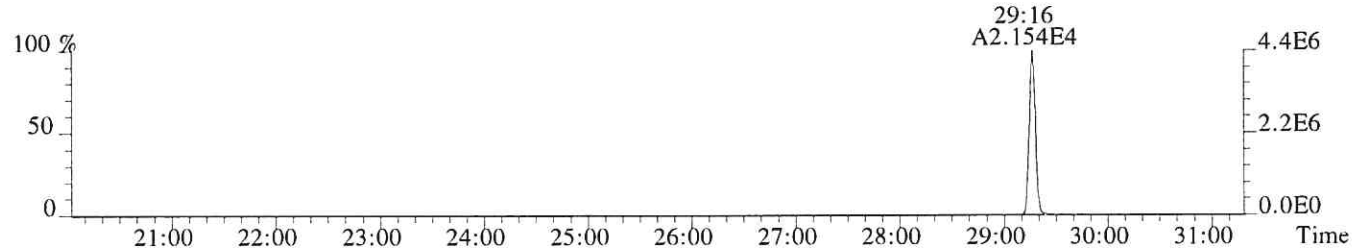
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8376.0,1.00%,F,T)



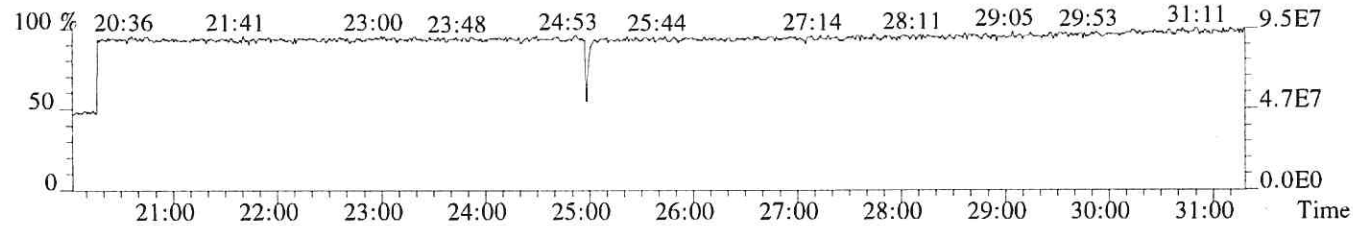
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3640.0,1.00%,F,T)



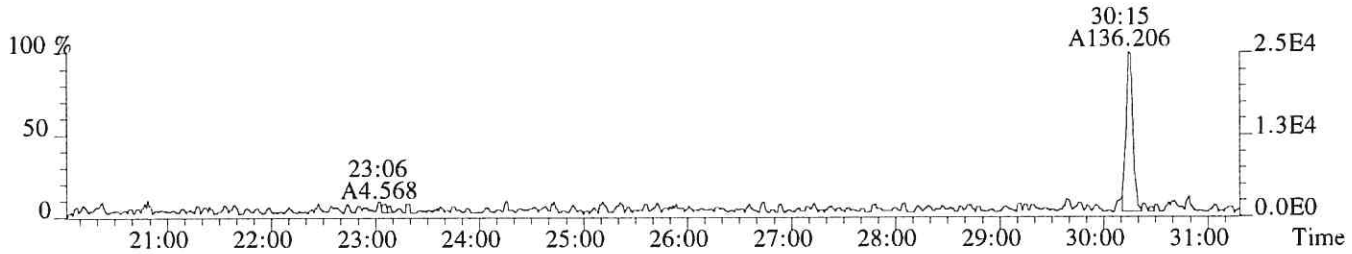
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2172.0,1.00%,F,T)



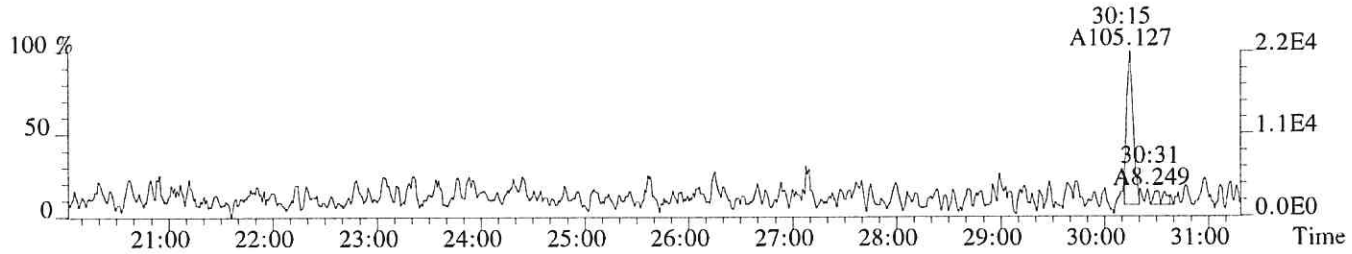
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



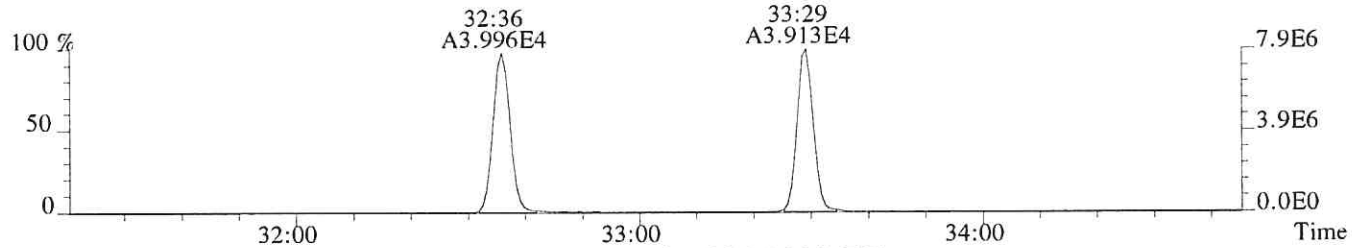
File:P511518 #1-800 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



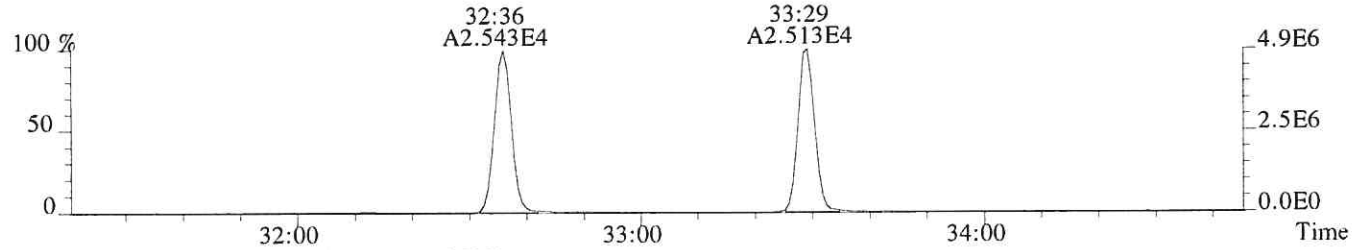
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3240.0,1.00%,F,T)



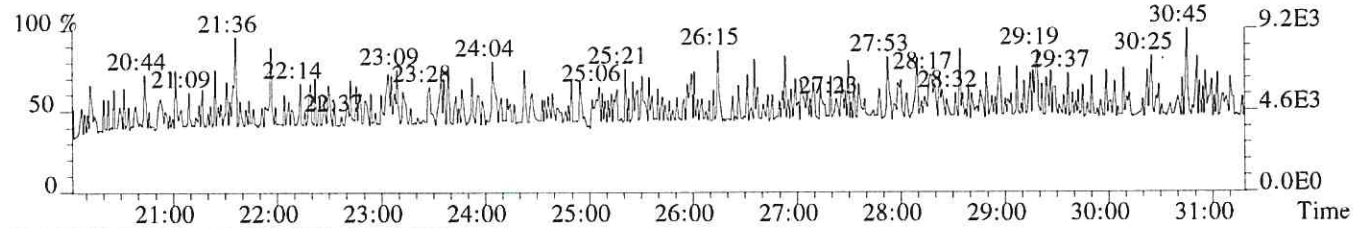
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



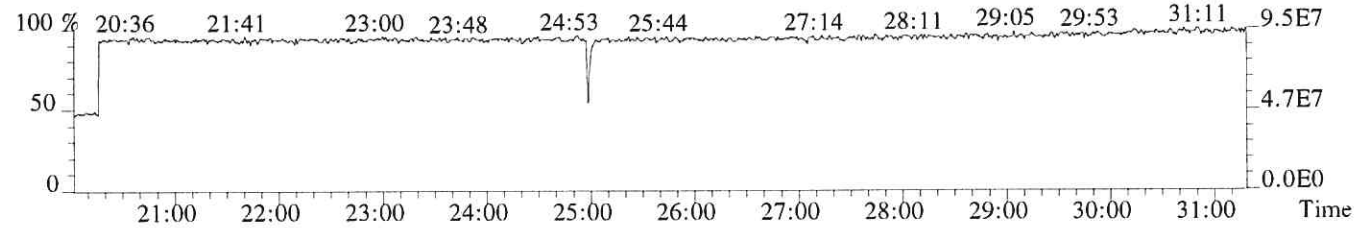
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



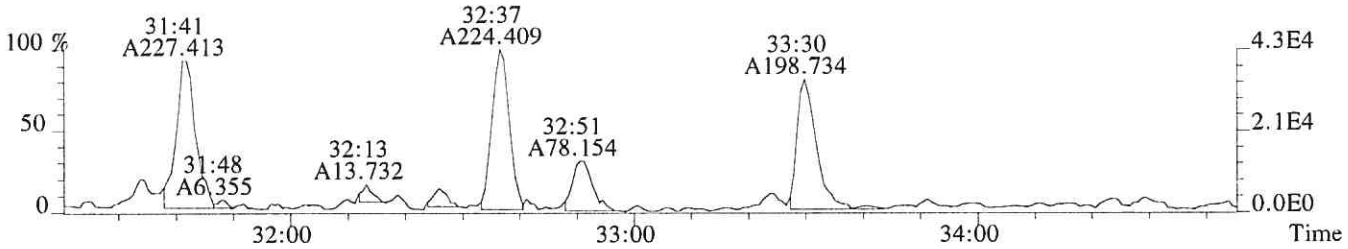
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



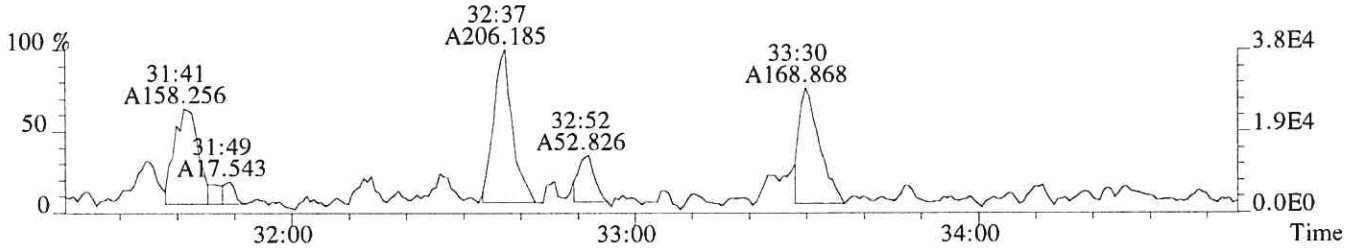
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



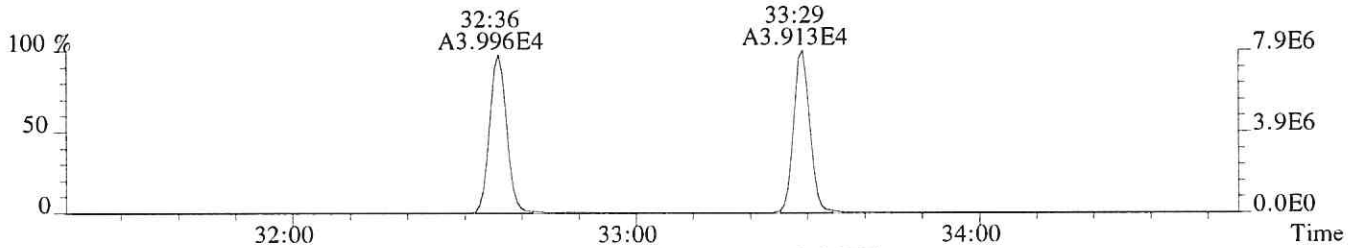
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2248.0,1.00%,F,T)



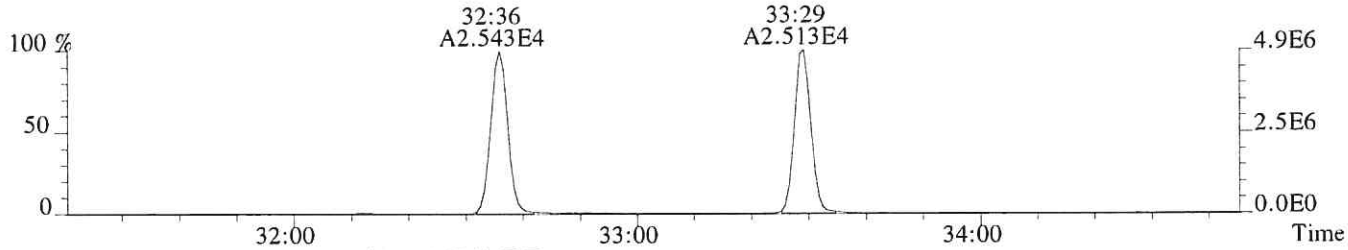
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4180.0,1.00%,F,T)



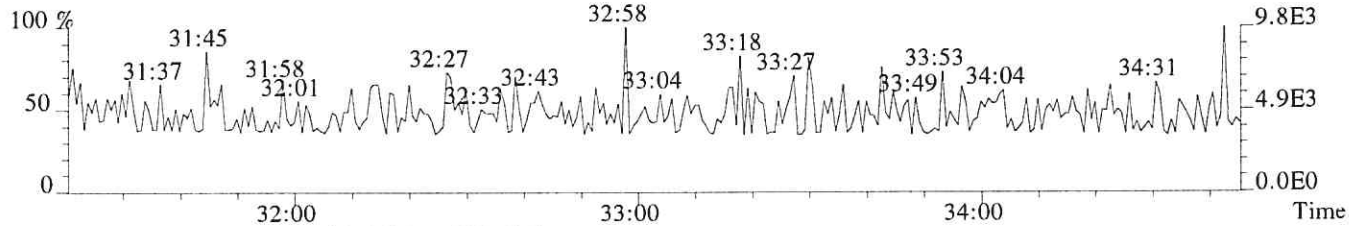
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



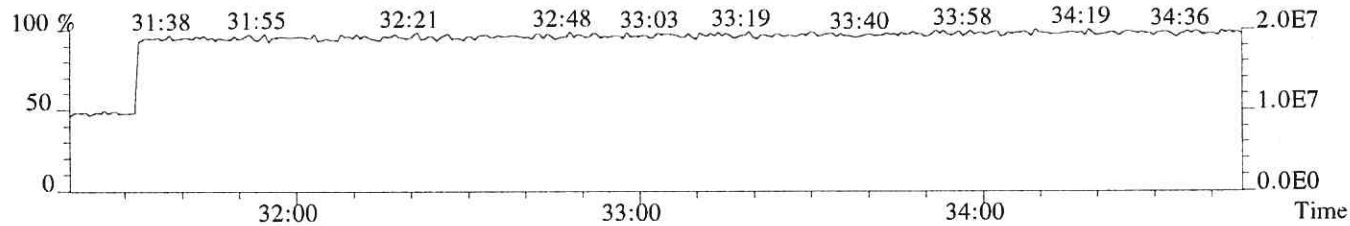
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



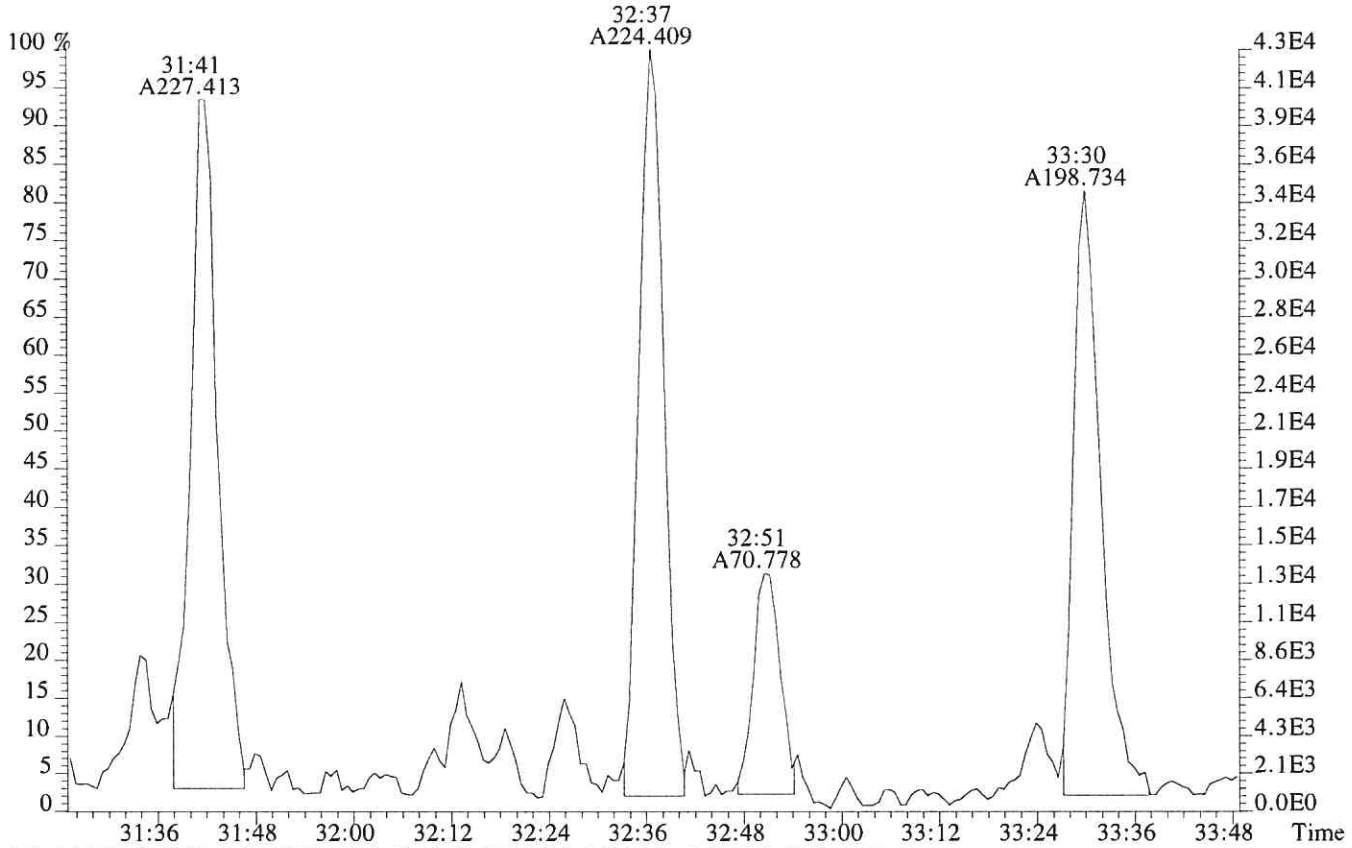
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



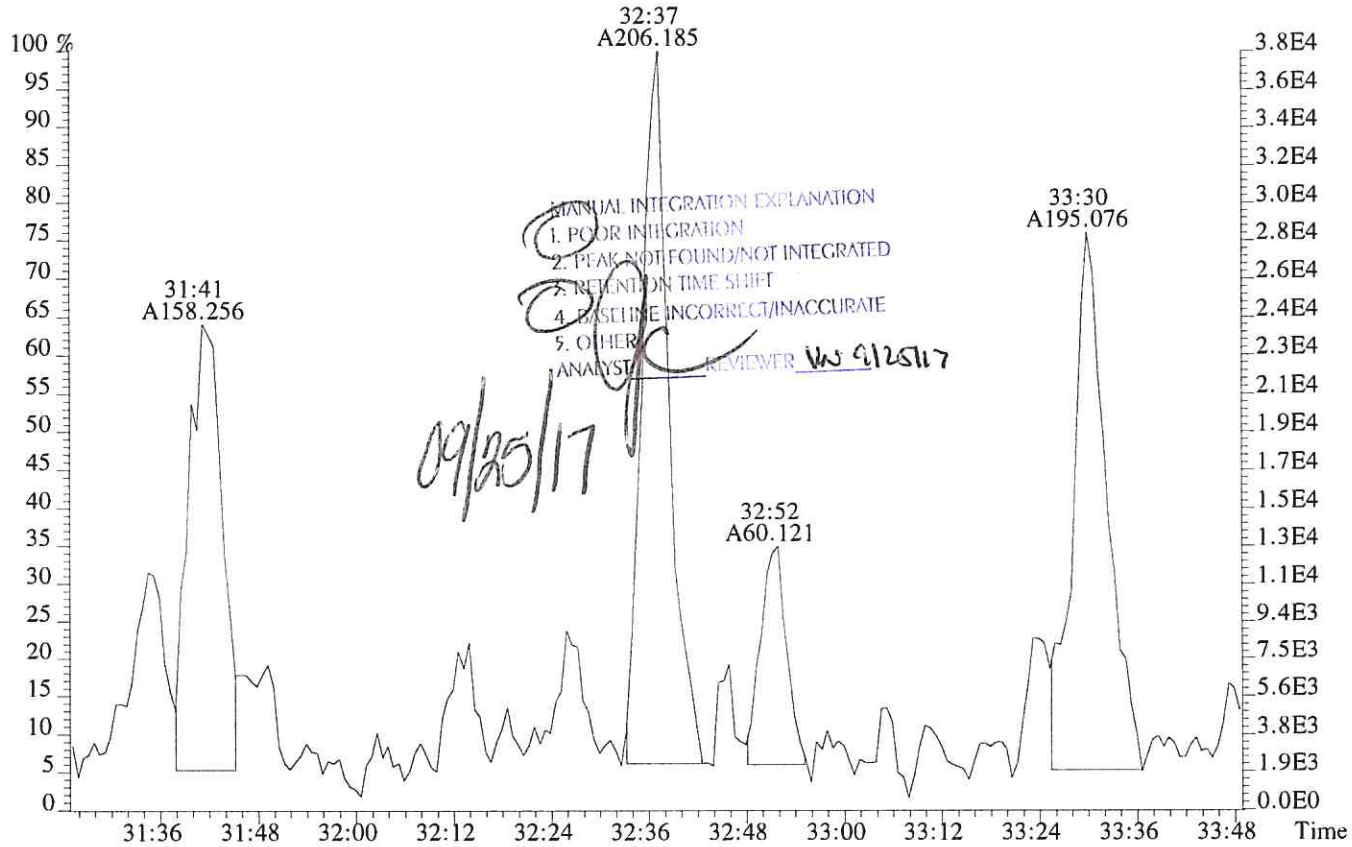
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2248.0,1.00%,F,T)

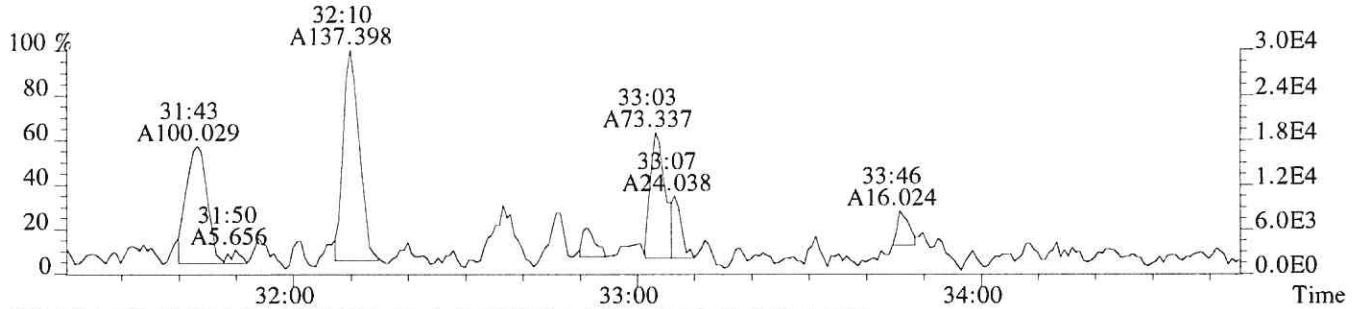


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4180.0,1.00%,F,T)

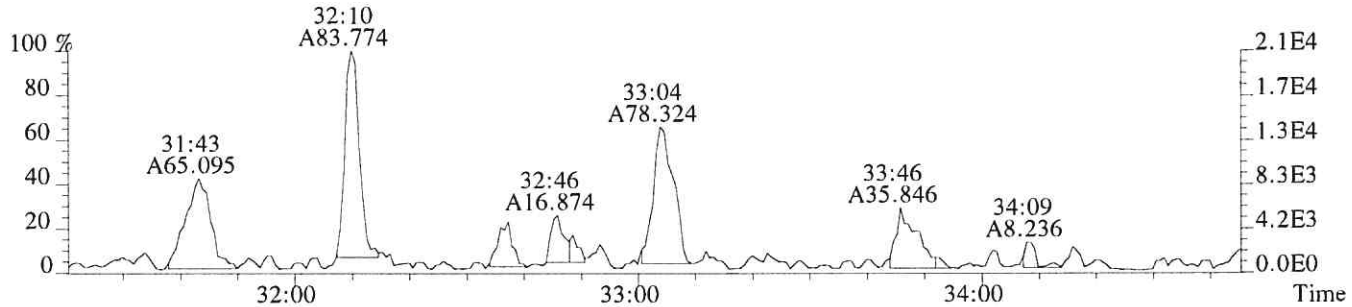


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 09/25/17 REVIEWER VW 9/25/17

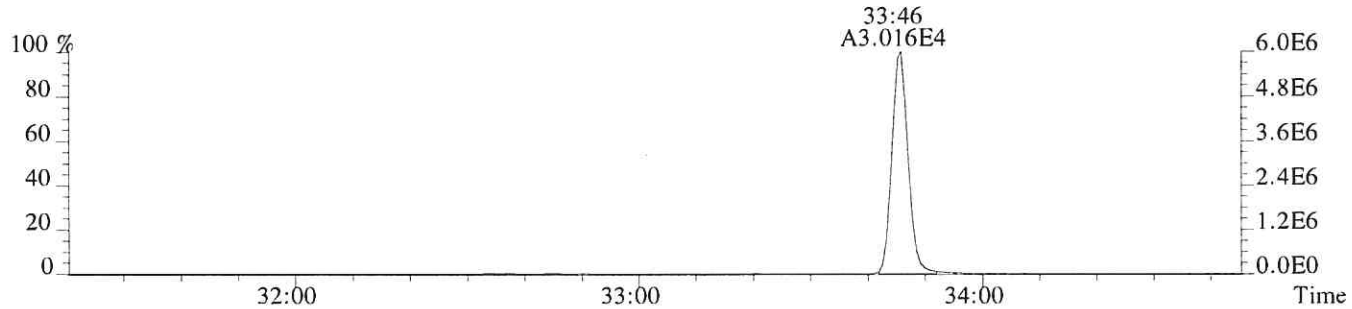
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3008.0,1.00%,F,T)



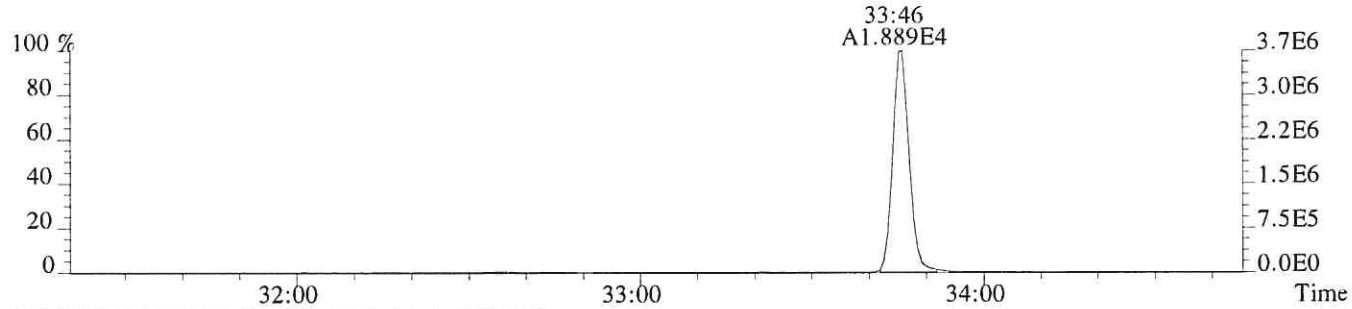
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



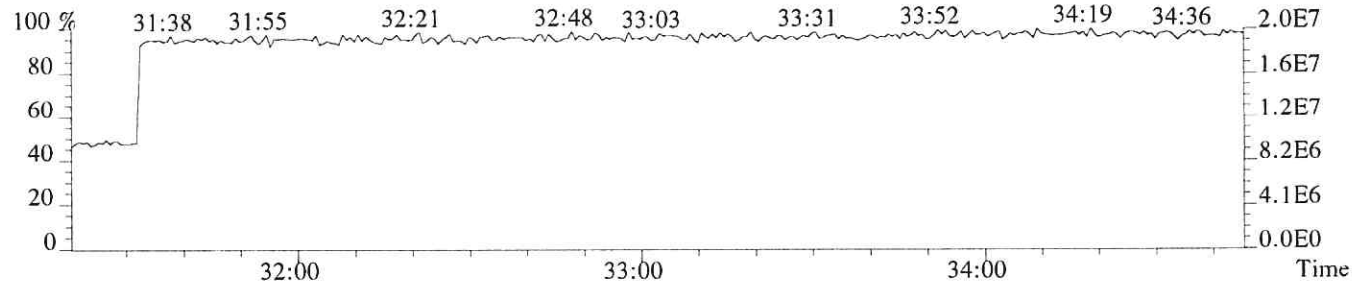
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2556.0,1.00%,F,T)



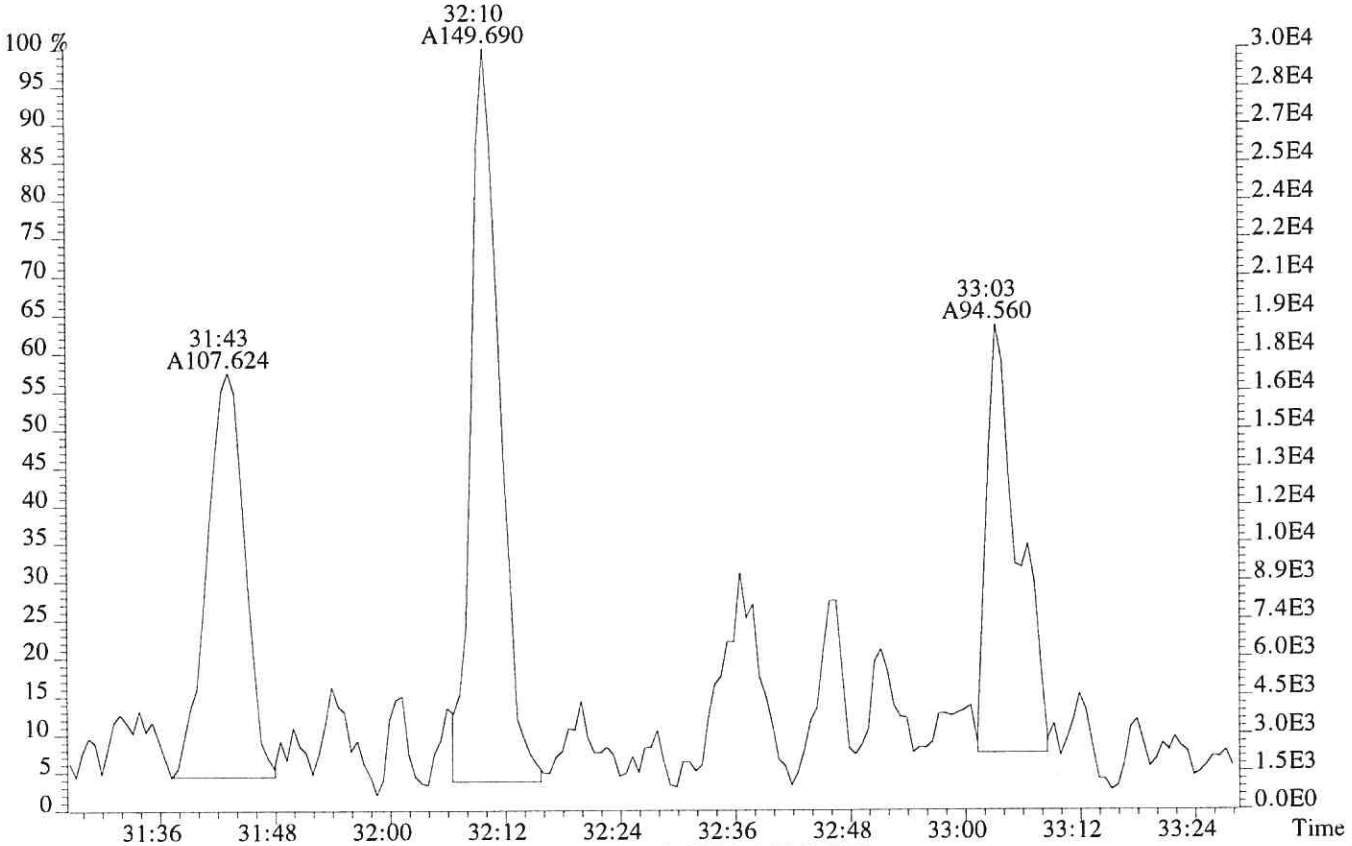
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2632.0,1.00%,F,T)



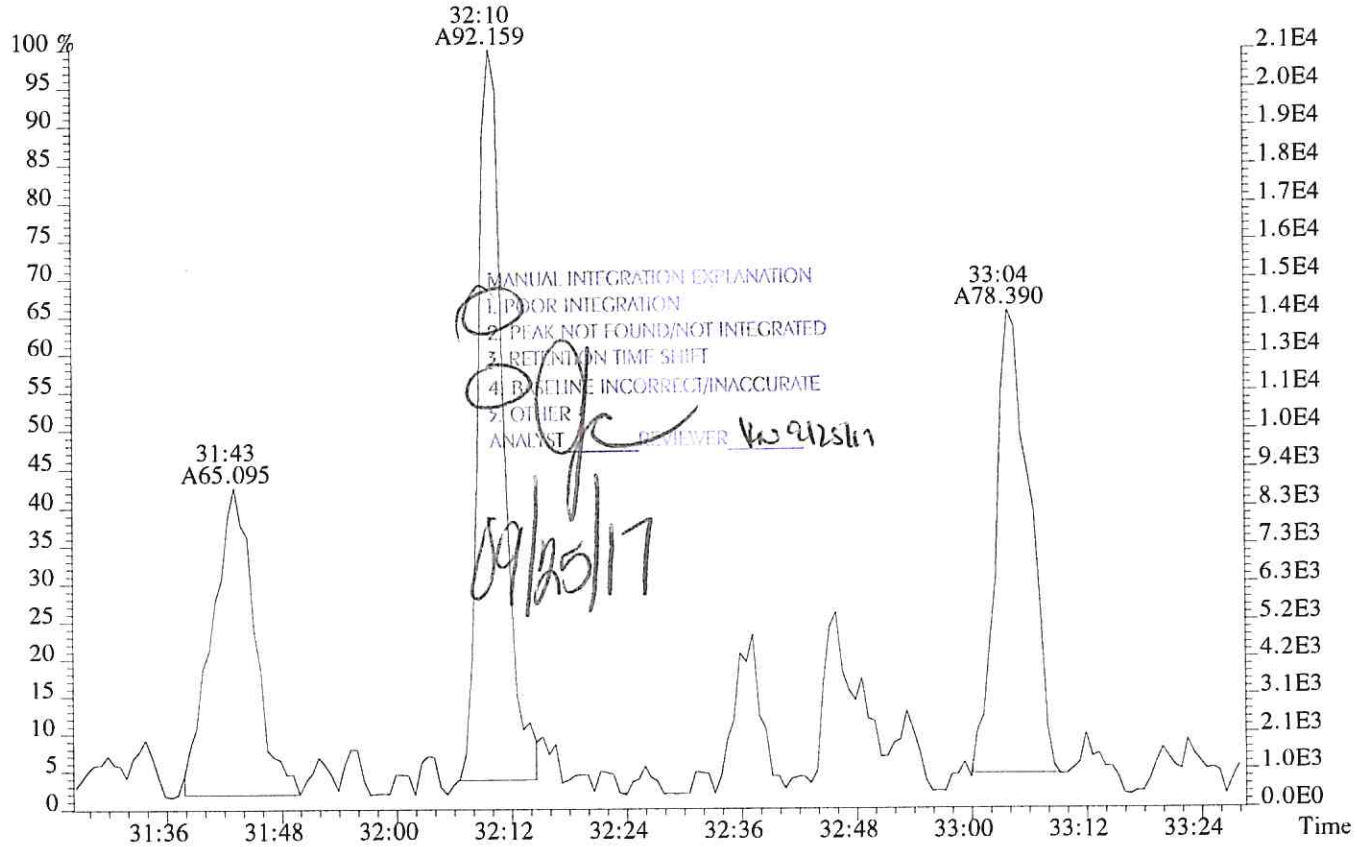
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



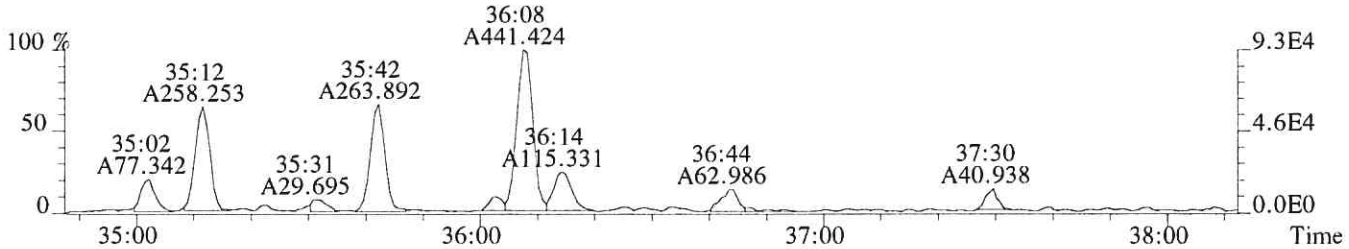
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3008.0,1.00%,F,T)



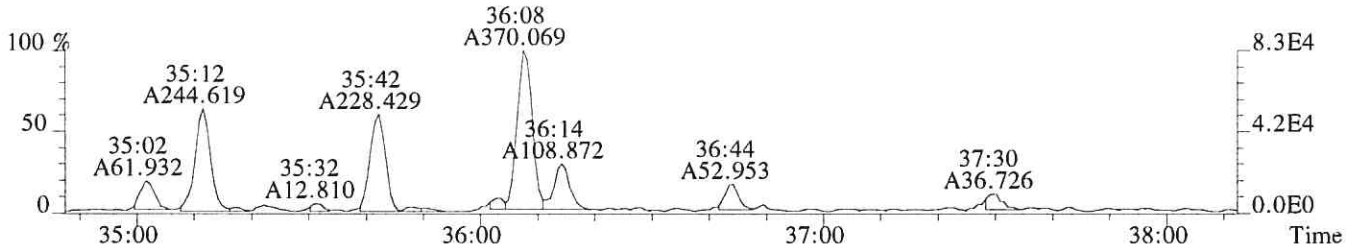
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,T)



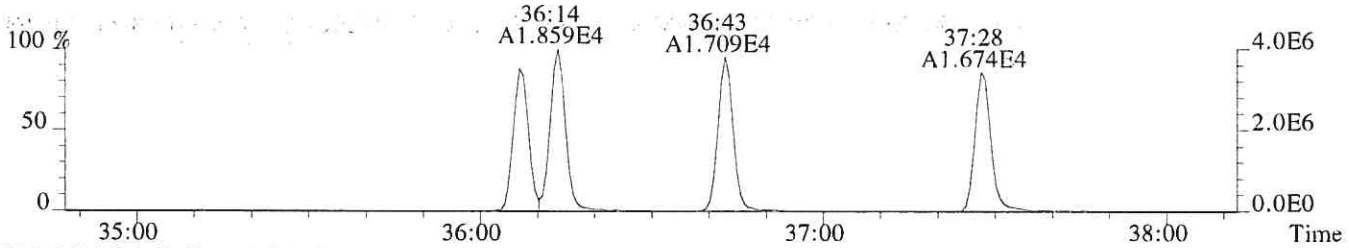
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2388.0,0.40%,F,T)



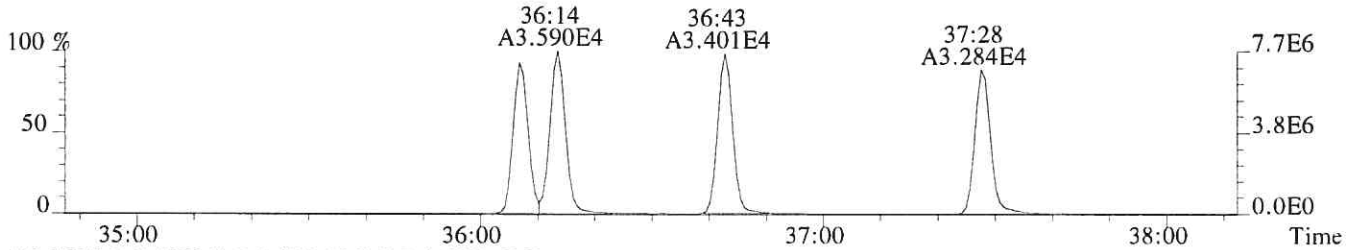
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2332.0,0.40%,F,T)



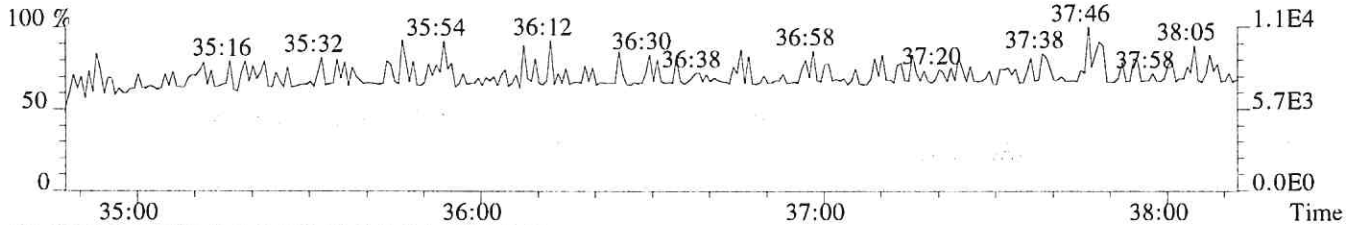
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



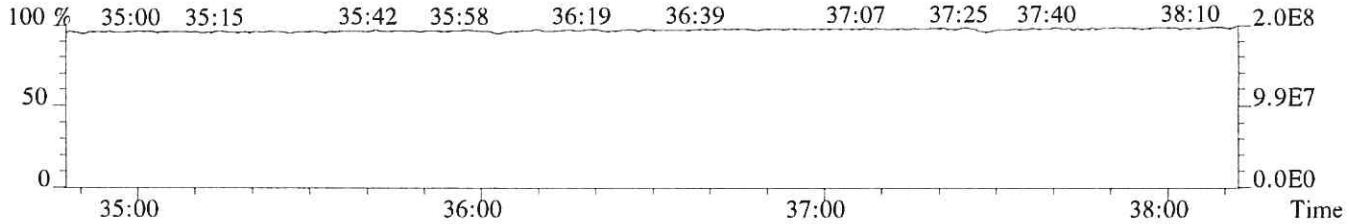
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3196.0,0.40%,F,T)



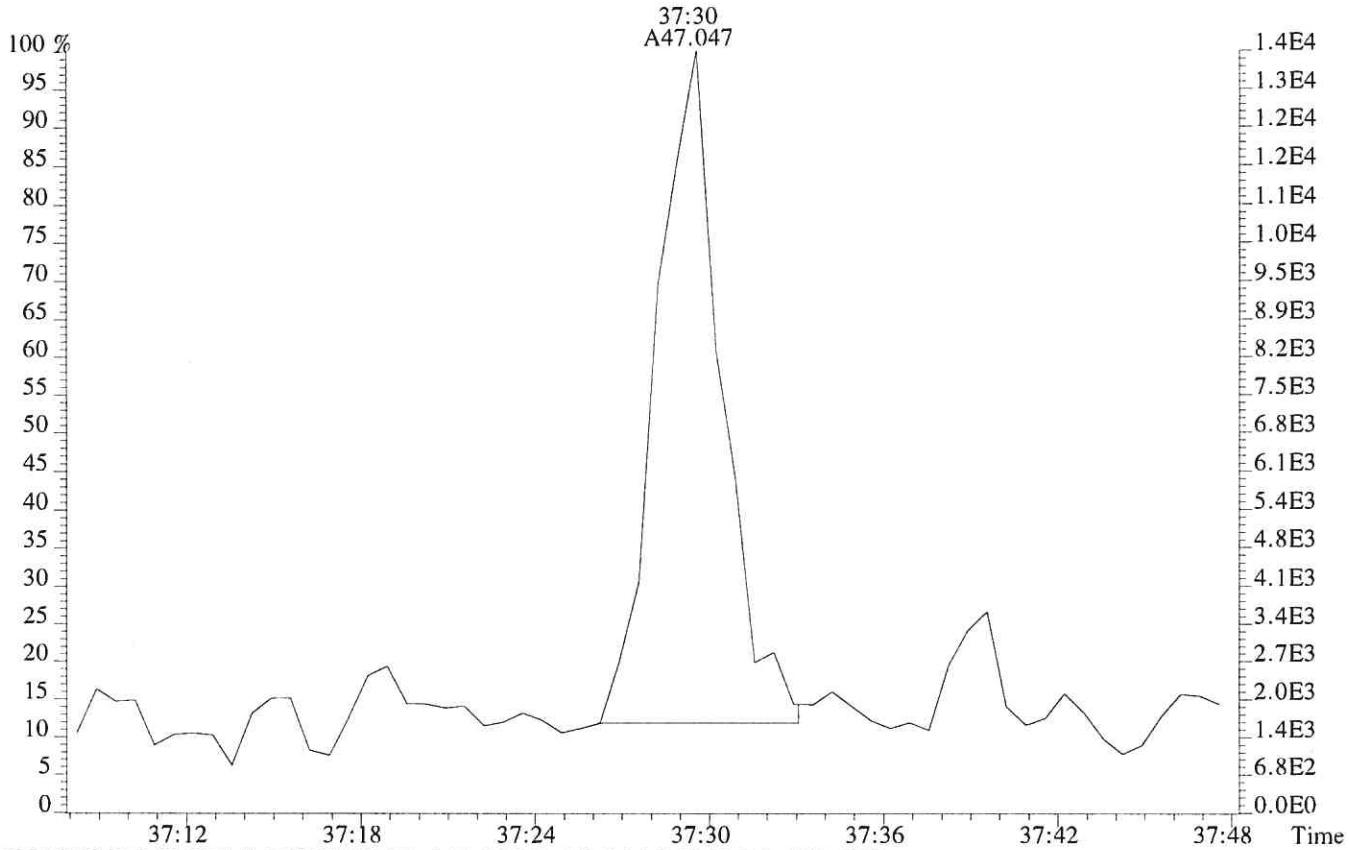
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



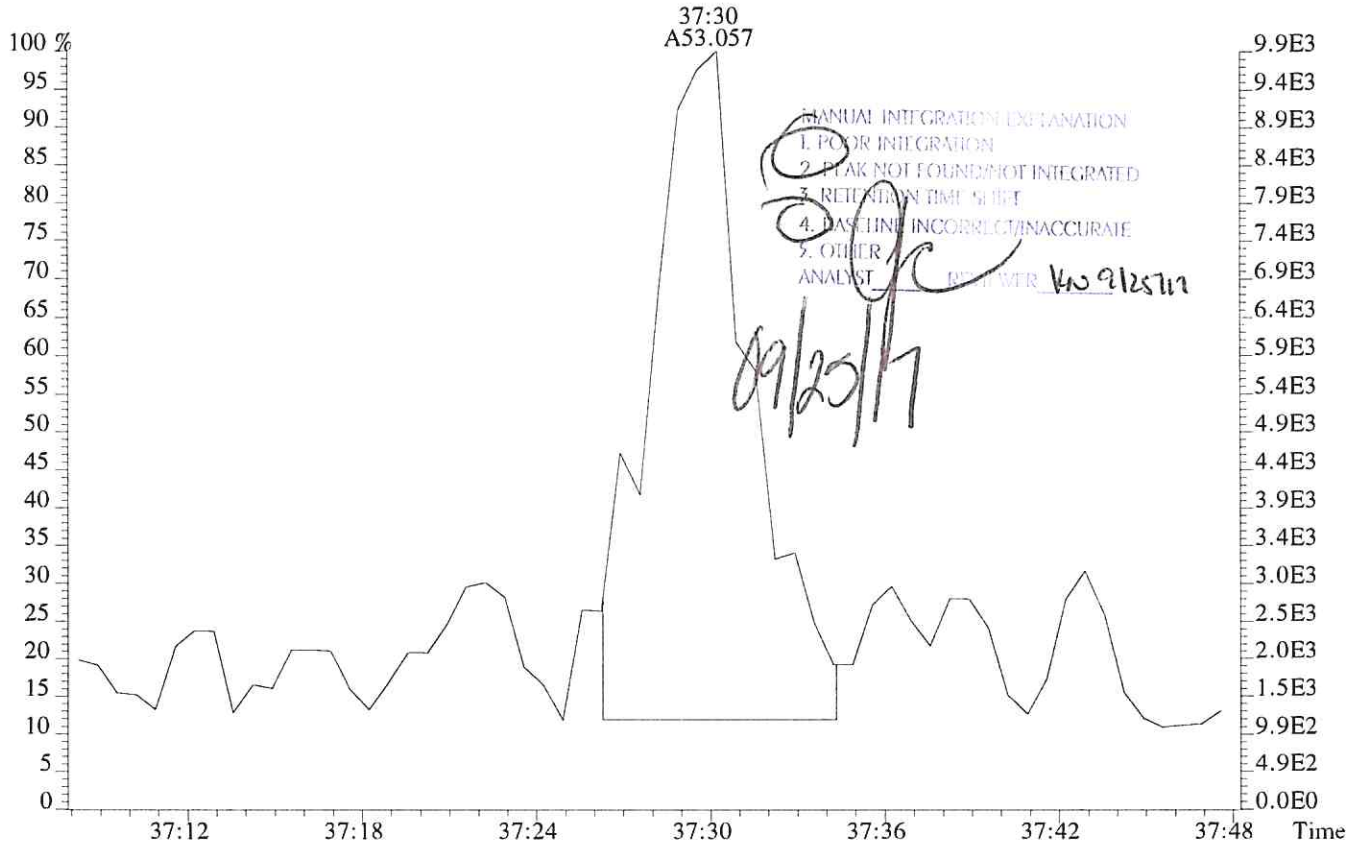
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



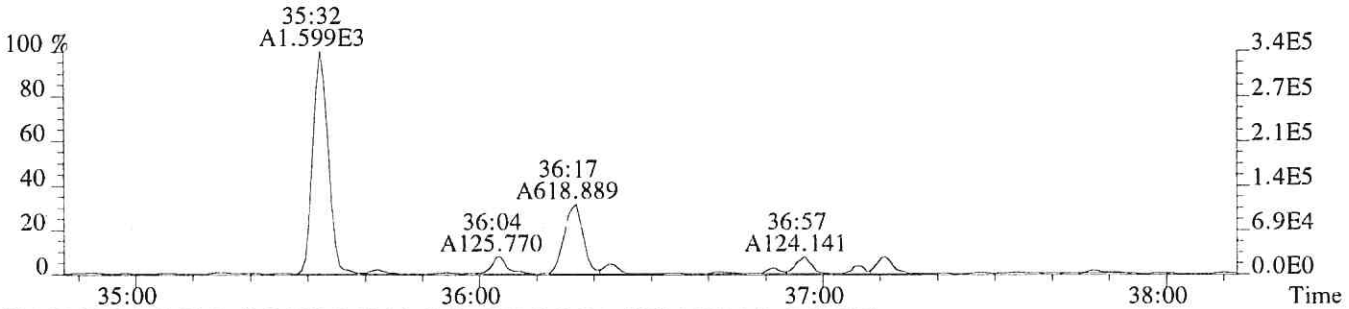
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2388.0,0.40%,F,T)



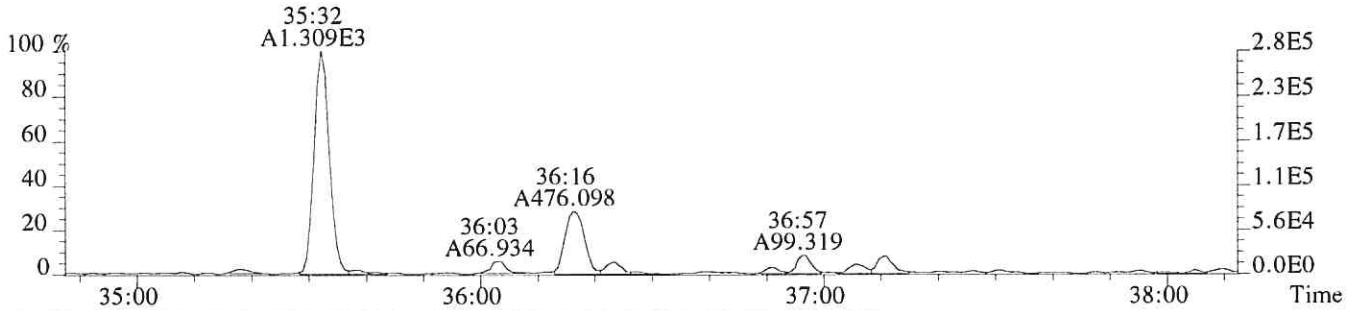
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2332.0,0.40%,F,T)



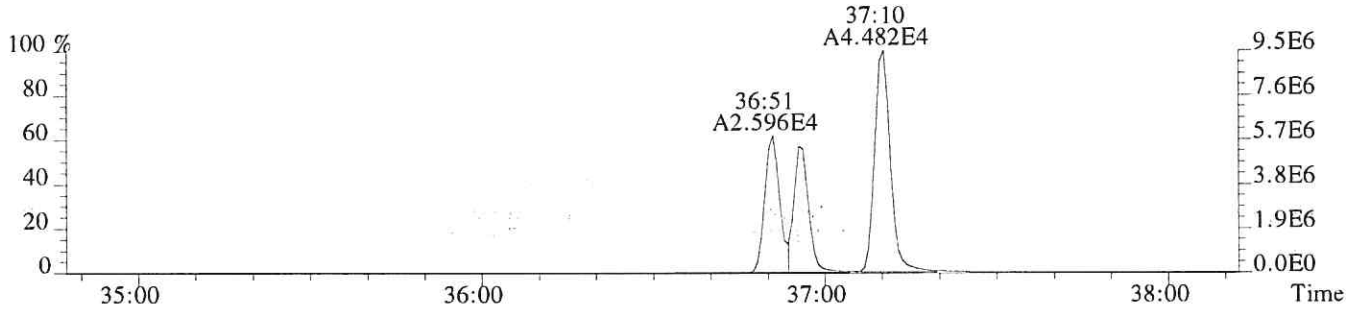
File:P511518 #1-308 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1976.0,0.40%,F,T)



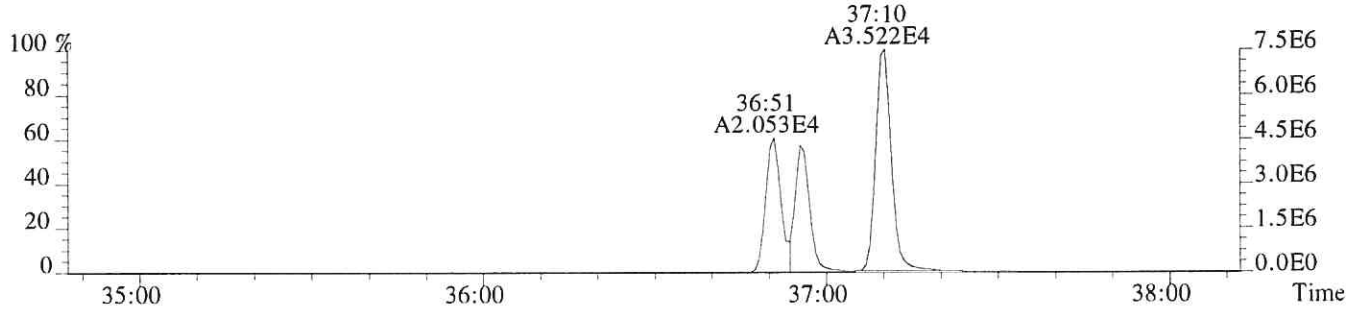
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2280.0,0.40%,F,T)



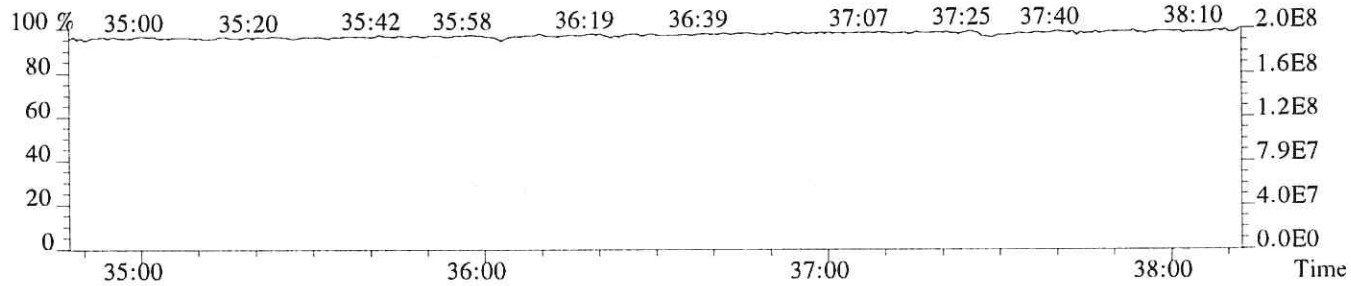
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3676.0,0.40%,F,T)



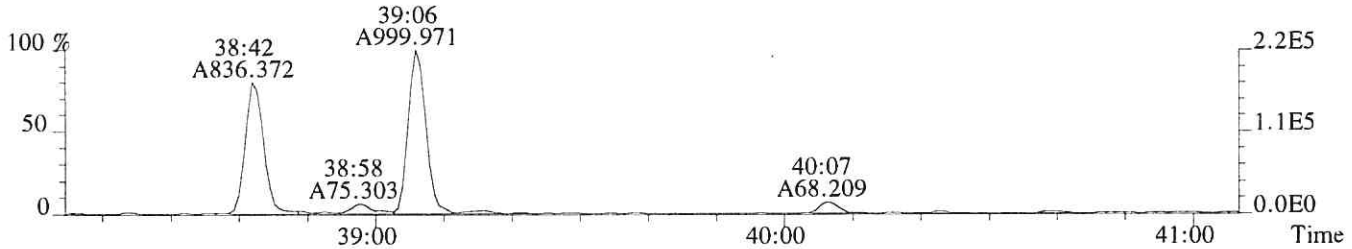
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1788.0,0.40%,F,T)



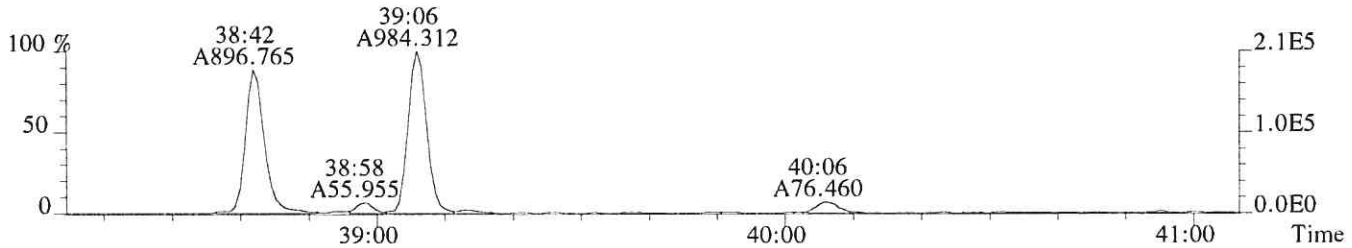
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



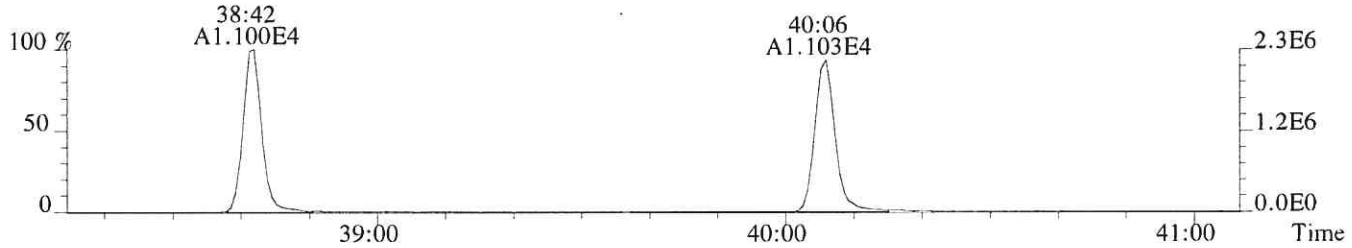
File:P511518 #1-259 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.50%,F,T)



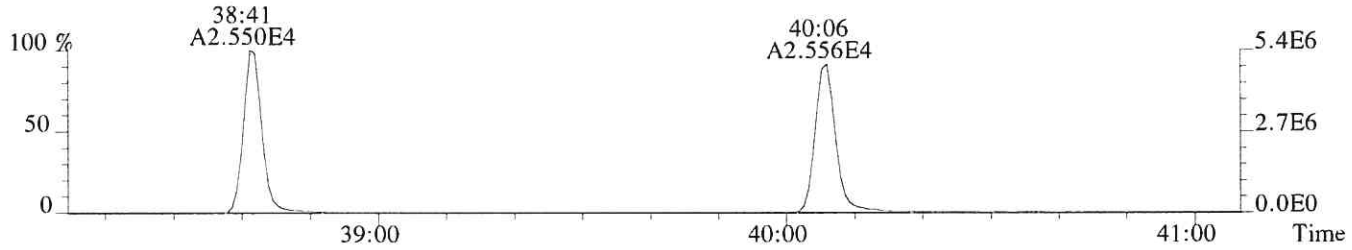
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.50%,F,T)



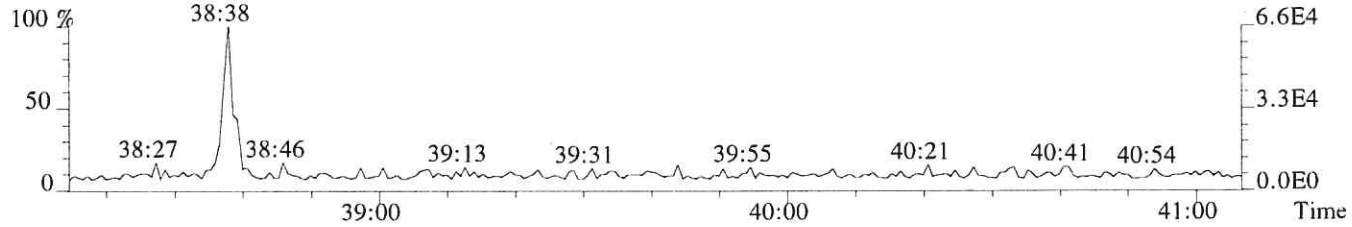
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2652.0,0.50%,F,T)



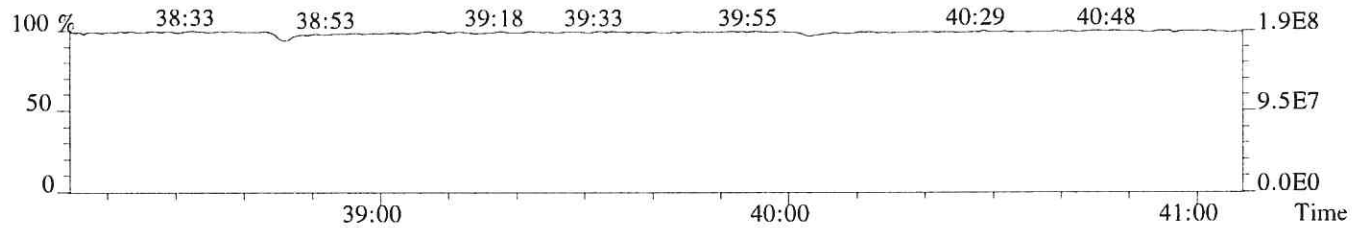
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3744.0,0.50%,F,T)



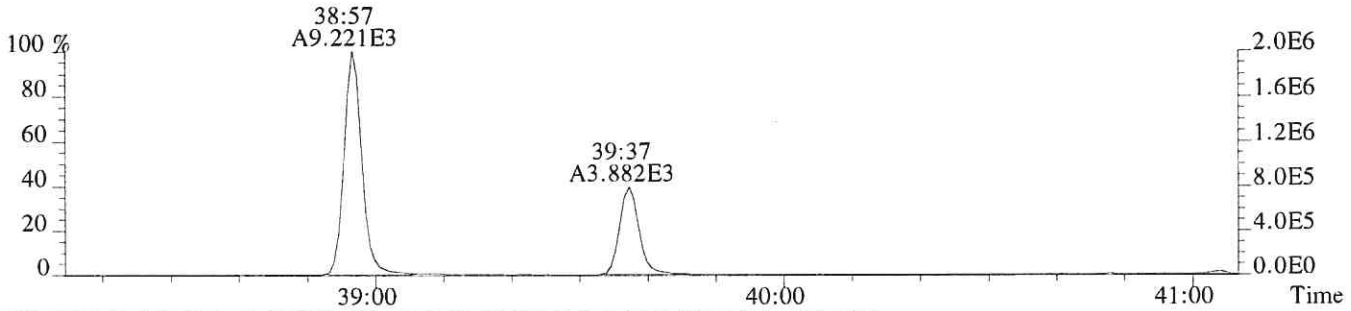
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



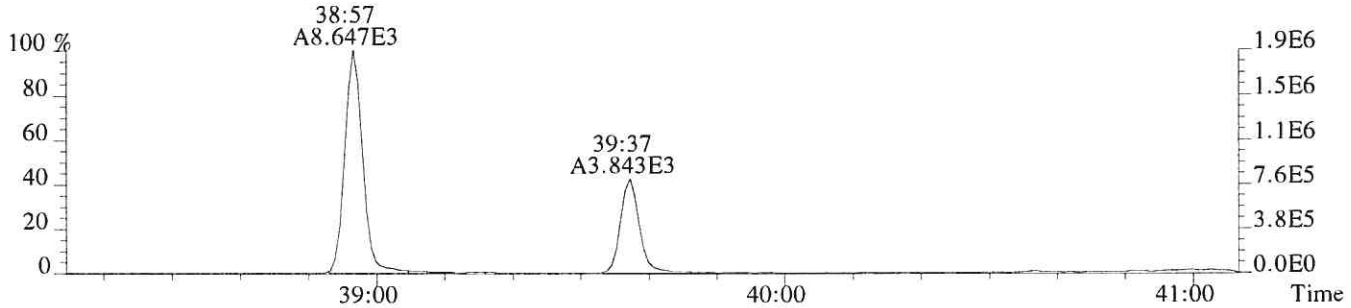
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



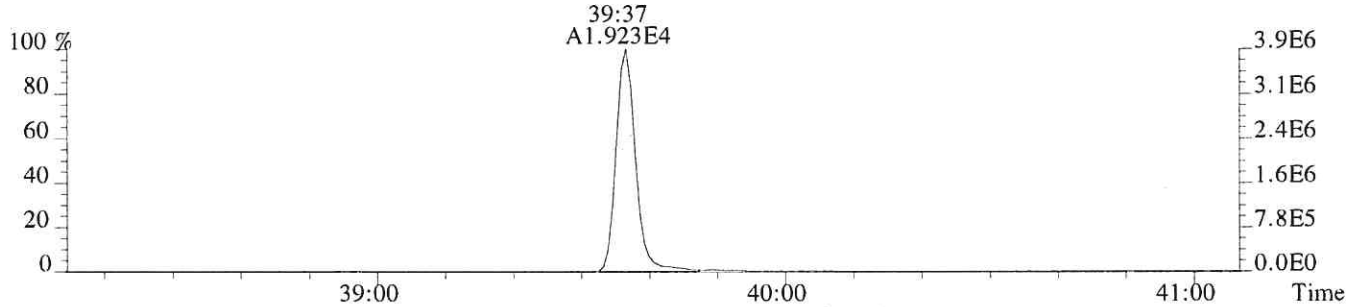
File:P511518 #1-259 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2080.0,0.40%,F,T)



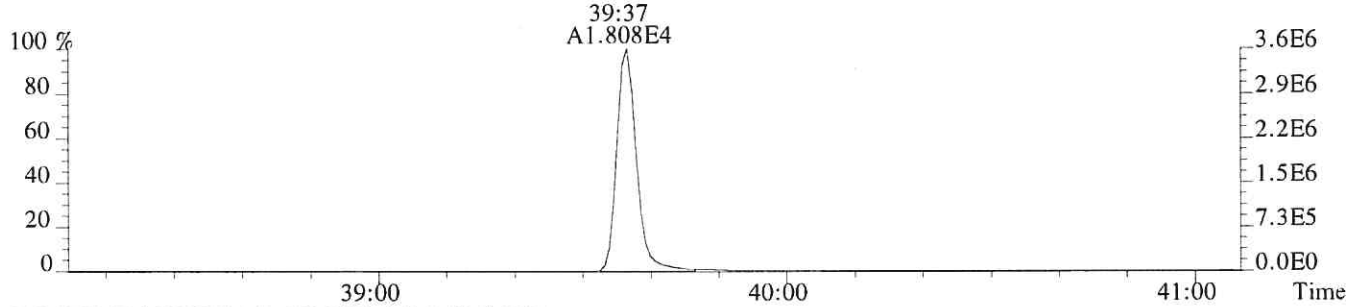
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7804.0,0.40%,F,T)



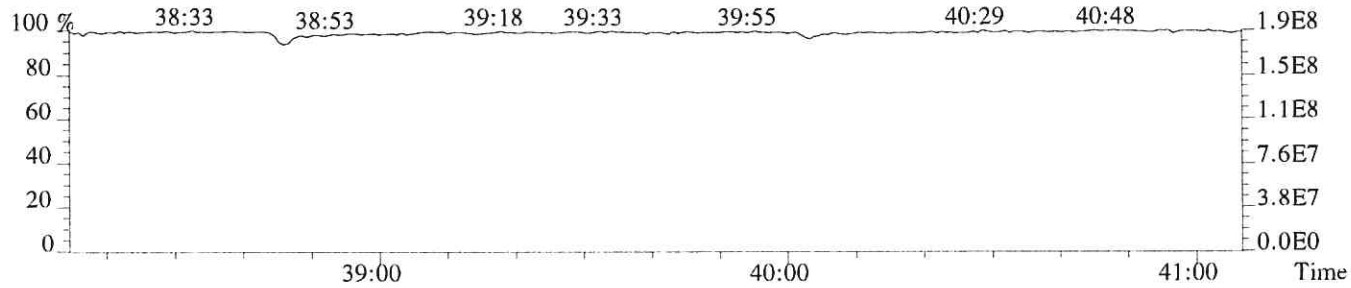
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2776.0,0.40%,F,T)



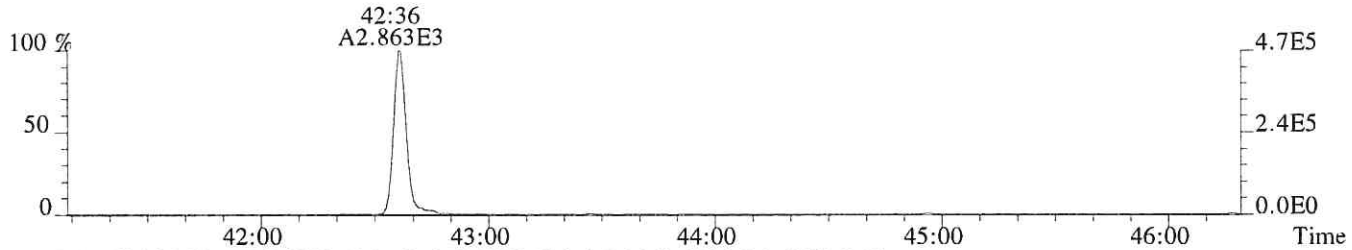
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1320.0,0.40%,F,T)



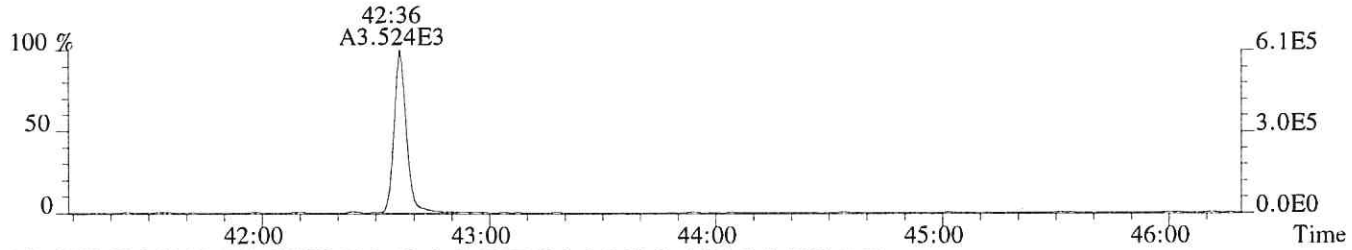
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



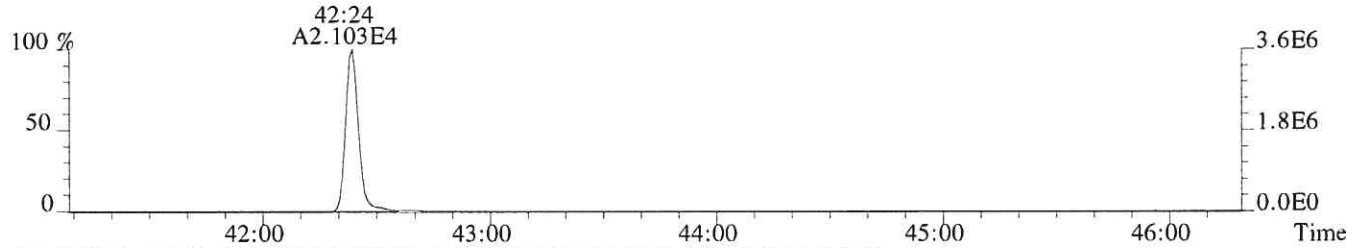
File:P511518 #1-466 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1248.0,0.40%,F,T)



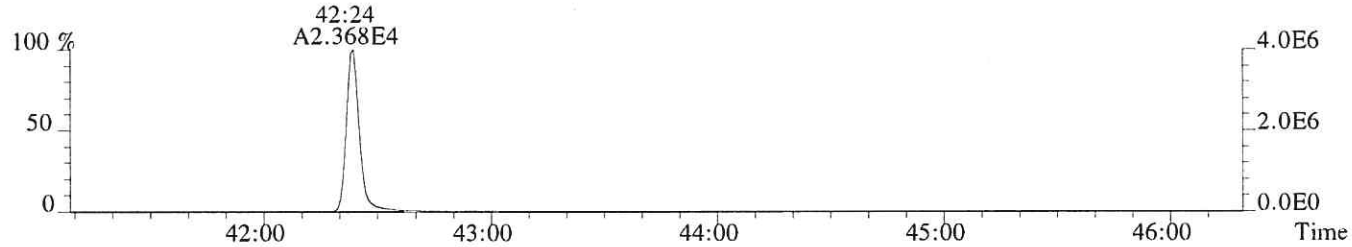
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2924.0,0.40%,F,T)



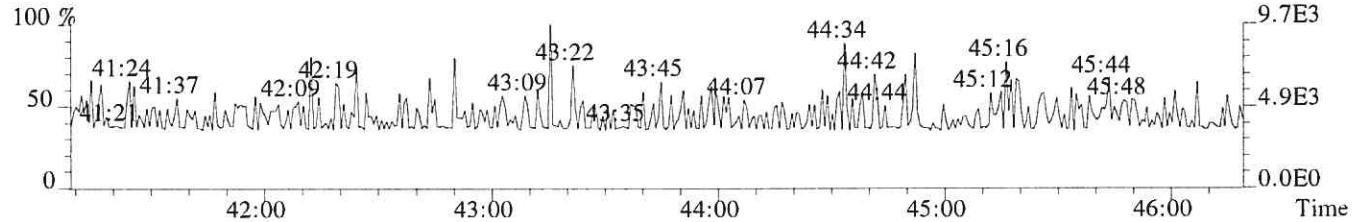
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1428.0,0.40%,F,T)



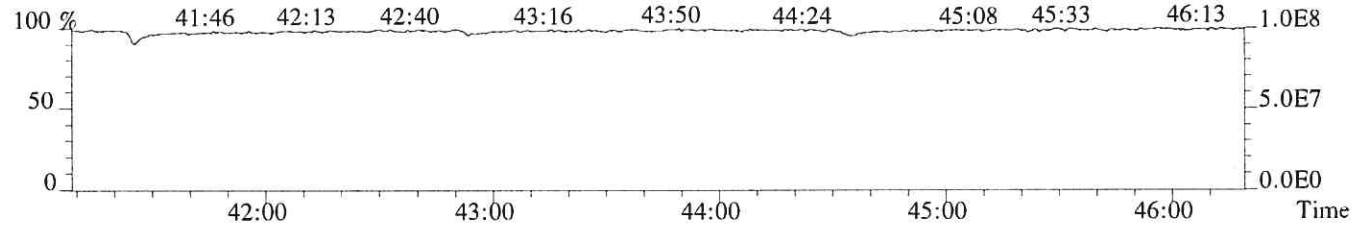
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1100.0,0.40%,F,T)



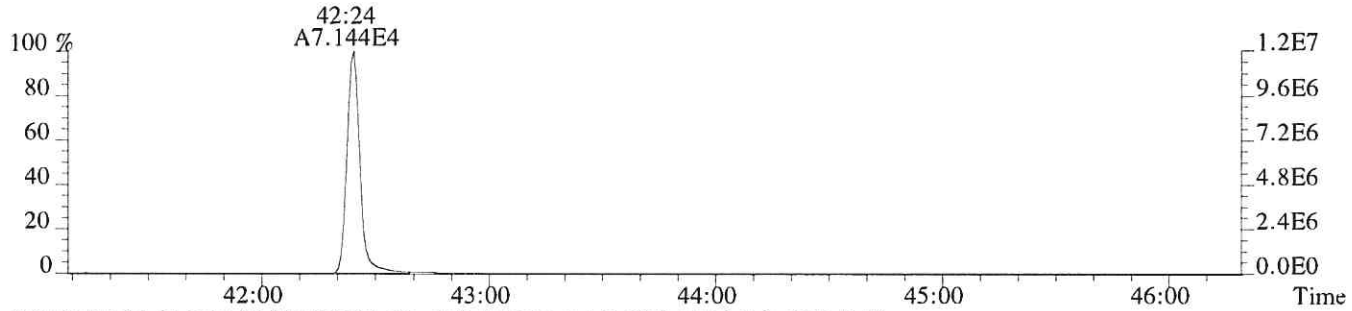
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



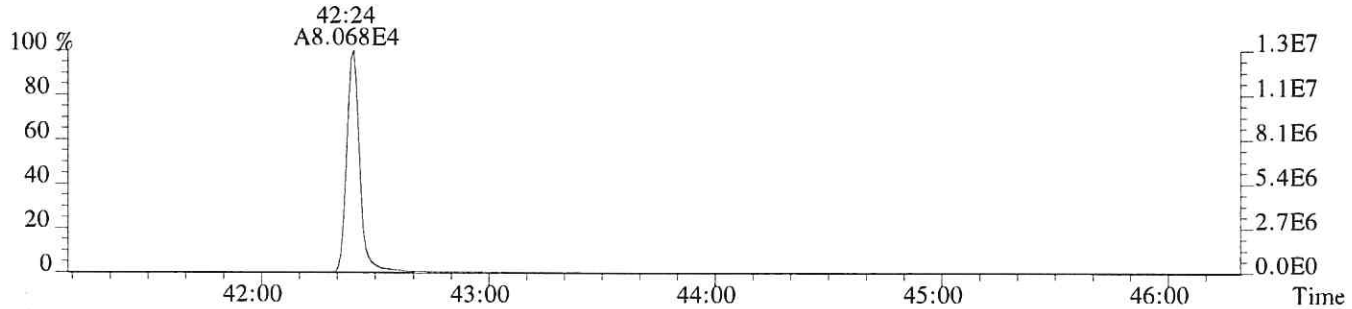
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



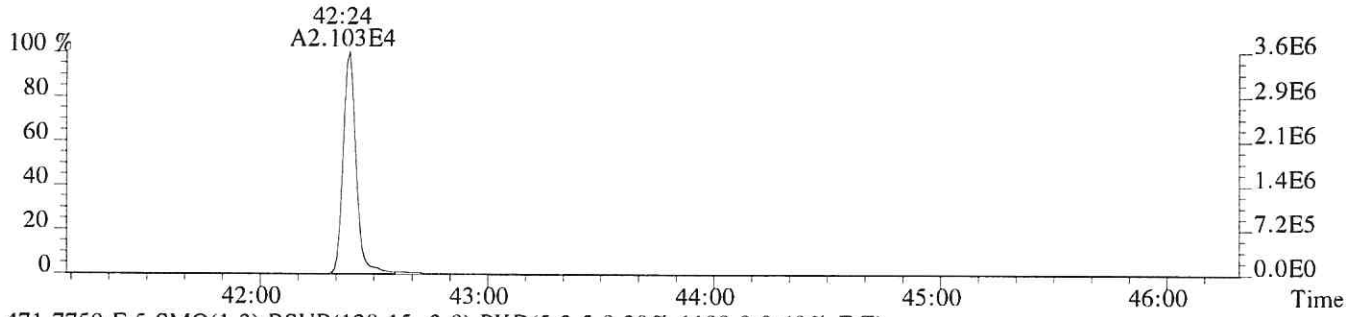
File:P511518 #1-466 Acq:23-SEP-2017 19:55:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1700973-014
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1164.0,0.40%,F,T)



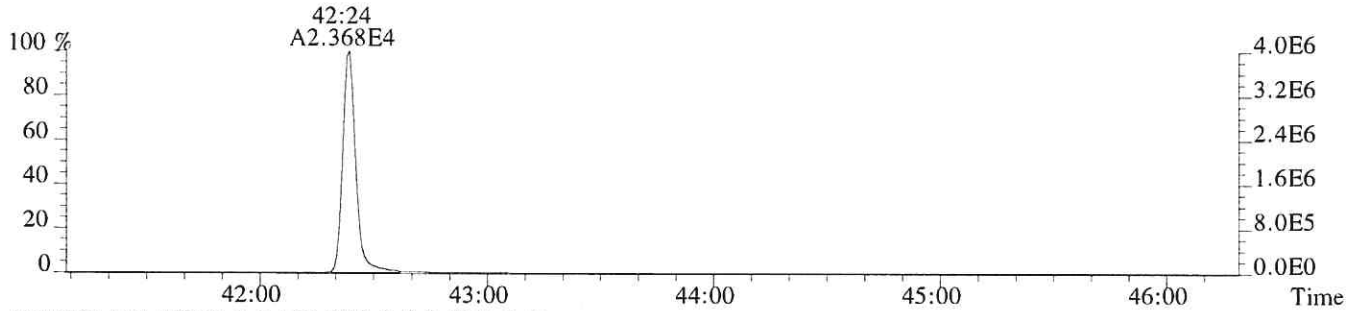
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1436.0,0.40%,F,T)



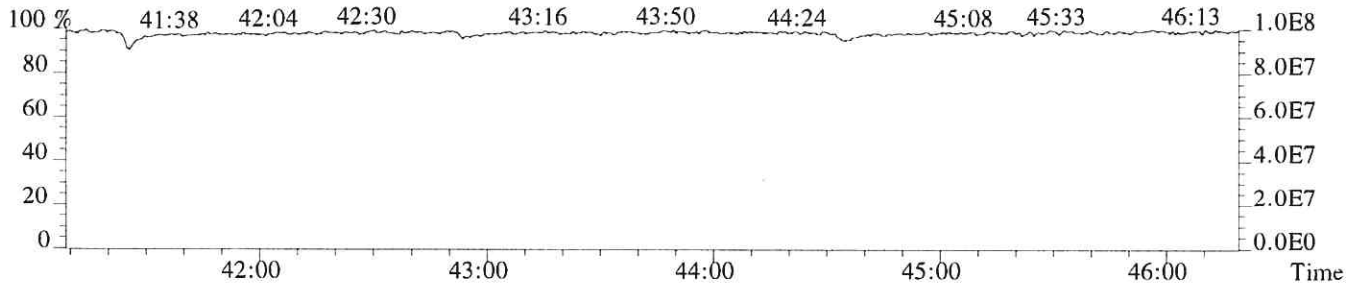
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1428.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1100.0,0.40%,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 #15 Filename P609286 Samp: 1 Inj: 1 Acquired: 26-SEP-17 11:36:01
Processed: 26-SEP-17 15:03:57 Sample ID: EQ1700417-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	1.020
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	1.058
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.192
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.176
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:27	1.864e+01	1.322e+01	1.41	no	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.341
10	Unk	OCDF	41:18	4.724e+01	6.135e+01	0.77	yes	no	1.337
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.055
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	yes	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:25	3.313e+01	3.996e+01	0.83	no	yes	1.048
17	Unk	OCDD	41:07	1.293e+02	1.126e+02	1.15	no	yes	1.120
18	IS	13C-2,3,7,8-TCDF	25:51	8.683e+03	1.106e+04	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:47	2.292e+04	1.417e+04	1.62	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:48	2.613e+04	1.657e+04	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:41	1.012e+04	1.886e+04	0.54	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:48	1.569e+04	2.947e+04	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:21	1.369e+04	2.609e+04	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:08	1.104e+04	2.053e+04	0.54	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:28	8.098e+03	1.895e+04	0.43	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:52	7.553e+03	1.722e+04	0.44	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	6.300e+03	8.078e+03	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:07	1.853e+04	1.144e+04	1.62	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:30	1.298e+04	1.057e+04	1.23	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:35	1.856e+04	1.480e+04	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:25	1.226e+04	1.122e+04	1.09	yes	no	0.884
32	IS	13C-OCDD	41:06	1.526e+04	1.686e+04	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:05	2.114e+04	2.672e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:50	2.737e+04	2.173e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	6.389e+03				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #15 Filename P609286 Samp: 1 Inj: 1 Acquired: 26-SEP-17 11:36:01
Processed: 26-SEP-17 15:03:57 LAB. ID: EQ1700417-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	3.86e+02	*	*	1.76e+03	*
2	1,2,3,7,8-PeCDF	*	1.60e+02	*	*	1.58e+03	*
3	2,3,4,7,8-PeCDF	*	1.60e+02	*	*	1.58e+03	*
4	1,2,3,4,7,8-HxCDF	*	3.44e+02	*	*	2.72e+02	*
5	1,2,3,6,7,8-HxCDF	*	3.44e+02	*	*	2.72e+02	*
6	2,3,4,6,7,8-HxCDF	*	3.44e+02	*	*	2.72e+02	*
7	1,2,3,7,8,9-HxCDF	*	3.44e+02	*	*	2.72e+02	*
8	1,2,3,4,6,7,8-HpCDF	5.06e+03	3.60e+02	1.4e+01	3.93e+03	1.72e+02	2.3e+01
9	1,2,3,4,7,8,9-HpCDF	*	3.60e+02	*	*	1.72e+02	*
10	OCDF	9.05e+03	2.32e+02	3.9e+01	8.83e+03	1.53e+03	5.8e+00
11	2,3,7,8-TCDD	*	1.57e+03	*	*	1.06e+03	*
12	1,2,3,7,8-PeCDD	*	1.69e+03	*	*	2.16e+02	*
13	1,2,3,4,7,8-HxCDD	*	2.04e+02	*	*	9.00e+02	*
14	1,2,3,6,7,8-HxCDD	*	2.04e+02	*	*	9.00e+02	*
15	1,2,3,7,8,9-HxCDD	*	2.04e+02	*	*	9.00e+02	*
16	1,2,3,4,6,7,8-HpCDD	6.74e+03	2.16e+02	3.1e+01	1.13e+04	1.12e+03	1.0e+01
17	OCDD	1.95e+04	2.24e+02	8.7e+01	2.04e+04	8.84e+02	2.3e+01
18	13C-2,3,7,8-TCDF	1.10e+06	1.06e+04	1.0e+02	1.42e+06	6.34e+03	2.2e+02
19	13C-1,2,3,7,8-PeCDF	3.03e+06	1.82e+03	1.7e+03	1.85e+06	2.03e+03	9.1e+02
20	13C-2,3,4,7,8-PeCDF	3.75e+06	1.82e+03	2.1e+03	2.38e+06	2.03e+03	1.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.85e+06	7.24e+02	2.6e+03	3.38e+06	1.28e+03	2.6e+03
22	13C-1,2,3,6,7,8-HxCDF	2.07e+06	7.24e+02	2.9e+03	3.82e+06	1.28e+03	3.0e+03
23	13C-2,3,4,6,7,8-HxCDF	2.05e+06	7.24e+02	2.8e+03	3.91e+06	1.28e+03	3.1e+03
24	13C-1,2,3,7,8,9-HxCDF	1.48e+06	7.24e+02	2.0e+03	2.61e+06	1.28e+03	2.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.25e+06	4.69e+03	2.7e+02	2.85e+06	7.52e+03	3.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	9.53e+05	4.69e+03	2.0e+02	2.10e+06	7.52e+03	2.8e+02
27	13C-2,3,7,8-TCDD	8.40e+05	1.22e+04	6.9e+01	1.08e+06	5.64e+03	1.9e+02
28	13C-1,2,3,7,8-PeCDD	2.55e+06	9.56e+02	2.7e+03	1.58e+06	3.76e+02	4.2e+03
29	13C-1,2,3,4,7,8-HxCDD	2.48e+06	1.74e+03	1.4e+03	2.03e+06	8.16e+02	2.5e+03
30	13C-1,2,3,6,7,8-HxCDD	2.62e+06	1.74e+03	1.5e+03	2.10e+06	8.16e+02	2.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.67e+06	1.02e+03	1.6e+03	1.58e+06	2.00e+02	7.9e+03
32	13C-OCDD	1.64e+06	2.60e+02	6.3e+03	1.77e+06	2.32e+02	7.6e+03
33	13C-1,2,3,4-TCDD	3.20e+06	1.22e+04	2.6e+02	3.91e+06	5.64e+03	6.9e+02
34	13C-1,2,3,7,8,9-HxCDD	3.19e+06	1.74e+03	1.8e+03	2.64e+06	8.16e+02	3.2e+03
35	37Cl-2,3,7,8-TCDD	8.49e+05	3.12e+02	2.7e+03			

---Sample Calculation---

$$\text{D/L TCDD} = \frac{2.5 \times (1.568e{+}03 + 1.056e{+}03) \times 2000}{(8.399e{+}05 + 1.076e{+}06) \times (\qquad) \times 1.055} =$$

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P609286 Sample:1 Injection:1 Function:4

Acquired: 26-SEP-17 11:36:01 Processed: 26-SEP-17 15:03:57

Mass: 423.7770 425.7740 Tot Response: 6.33e+01 RRF: 1.048

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:45	3.28e+01	3.04e+01	1.08	yes	6.33e+01	n	n

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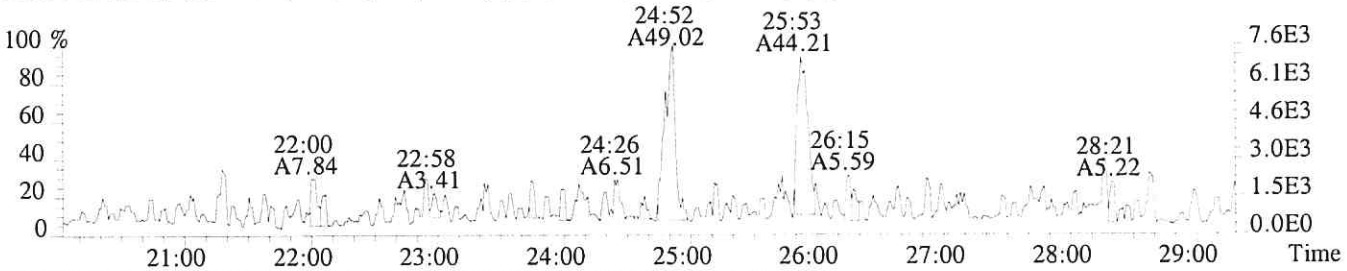
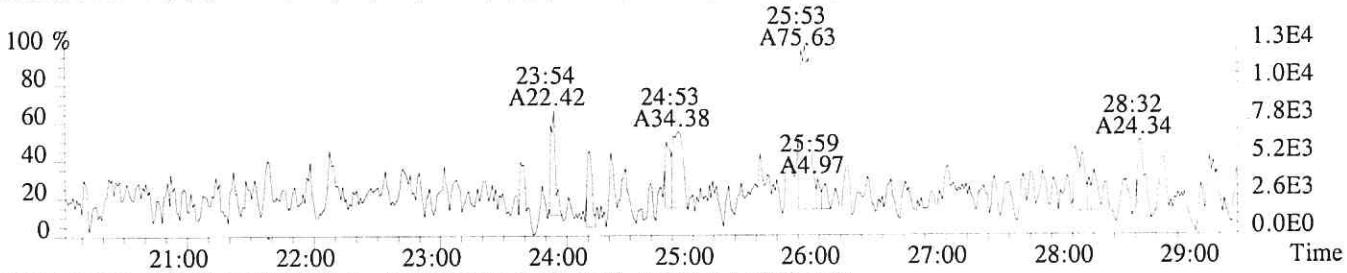
Office(281)530-5656. Fax(281)530-5887

File:P609286 #1-658 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

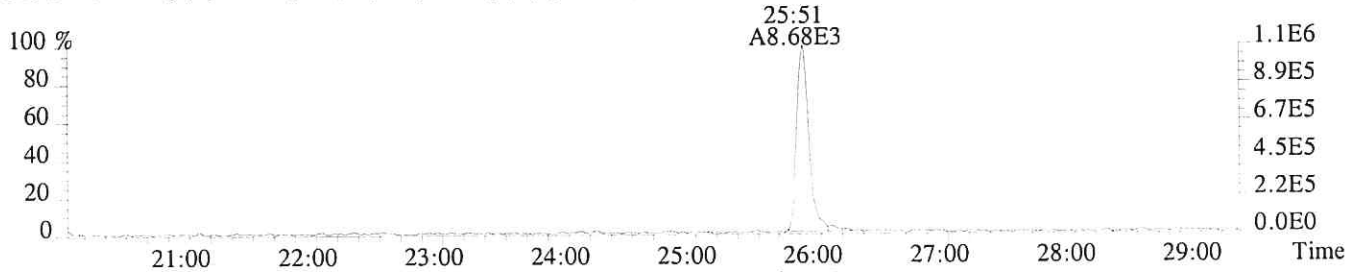
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1028.0,1.00%,F,T)



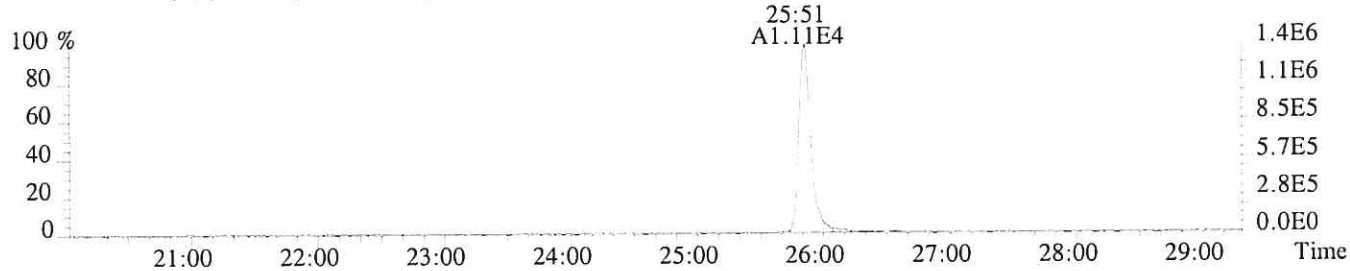
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3360.0,1.00%,F,T)



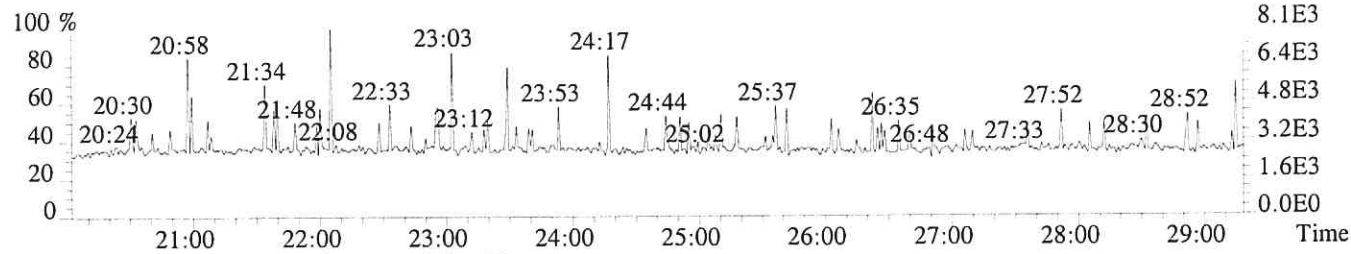
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10584.0,1.00%,F,T)



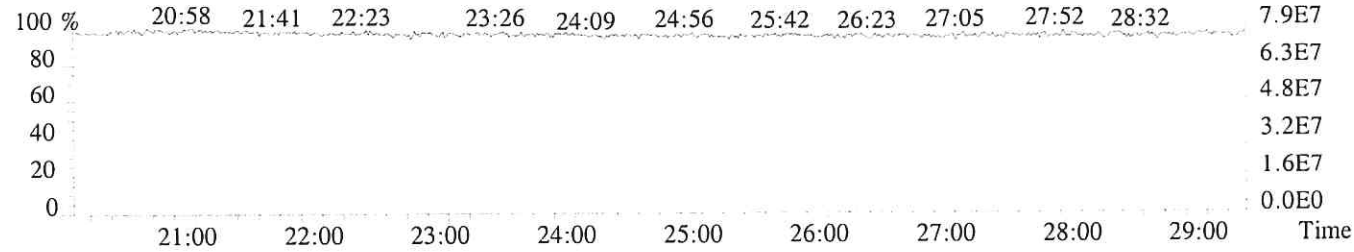
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6336.0,1.00%,F,T)



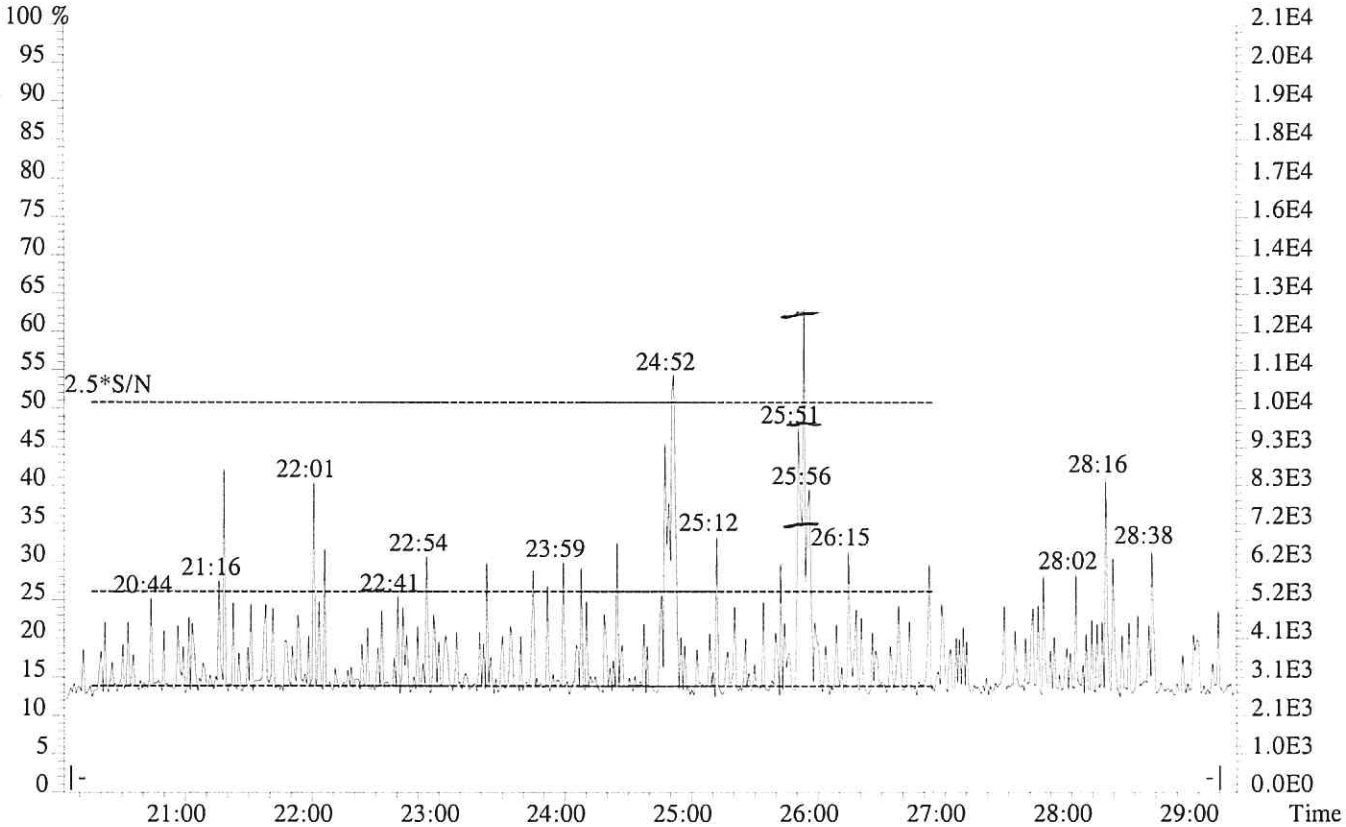
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



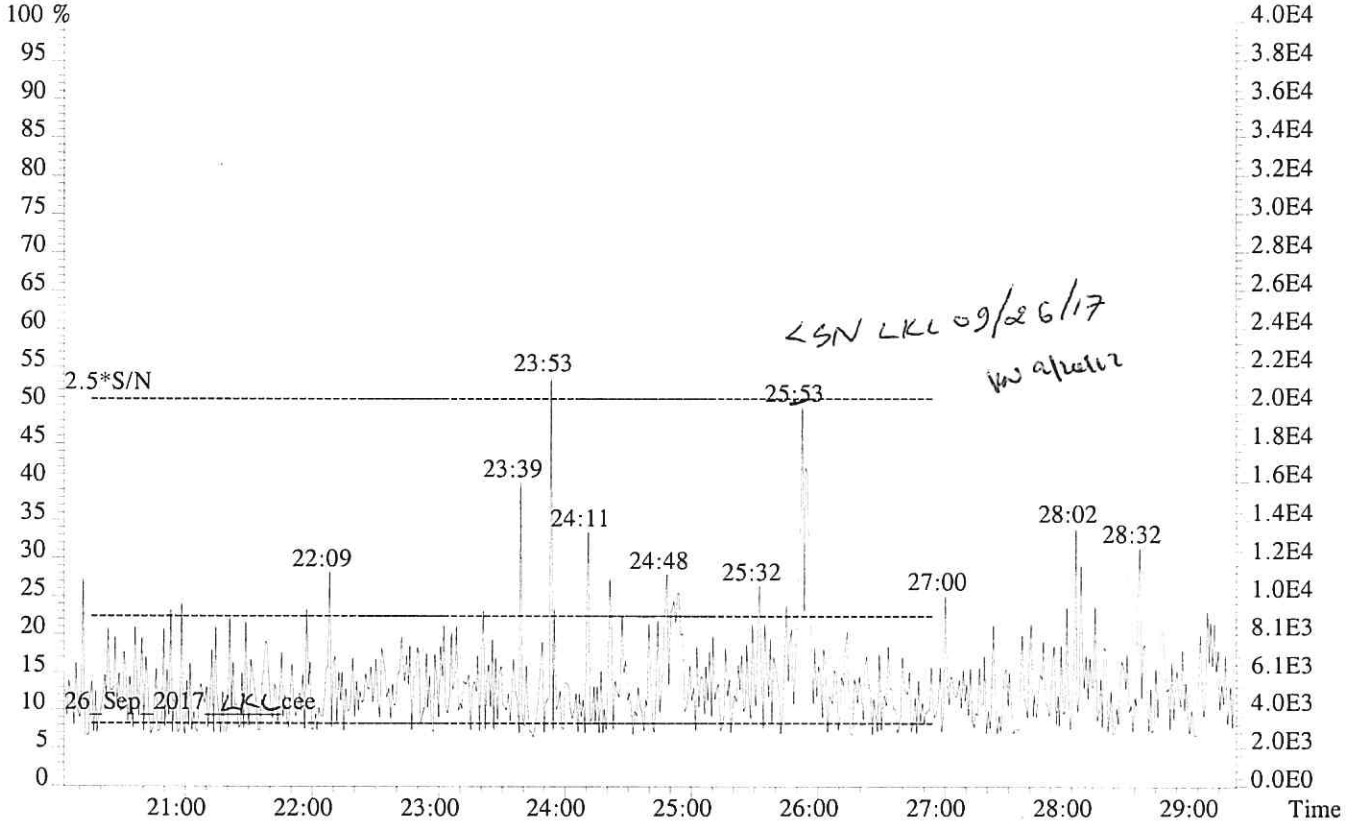
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



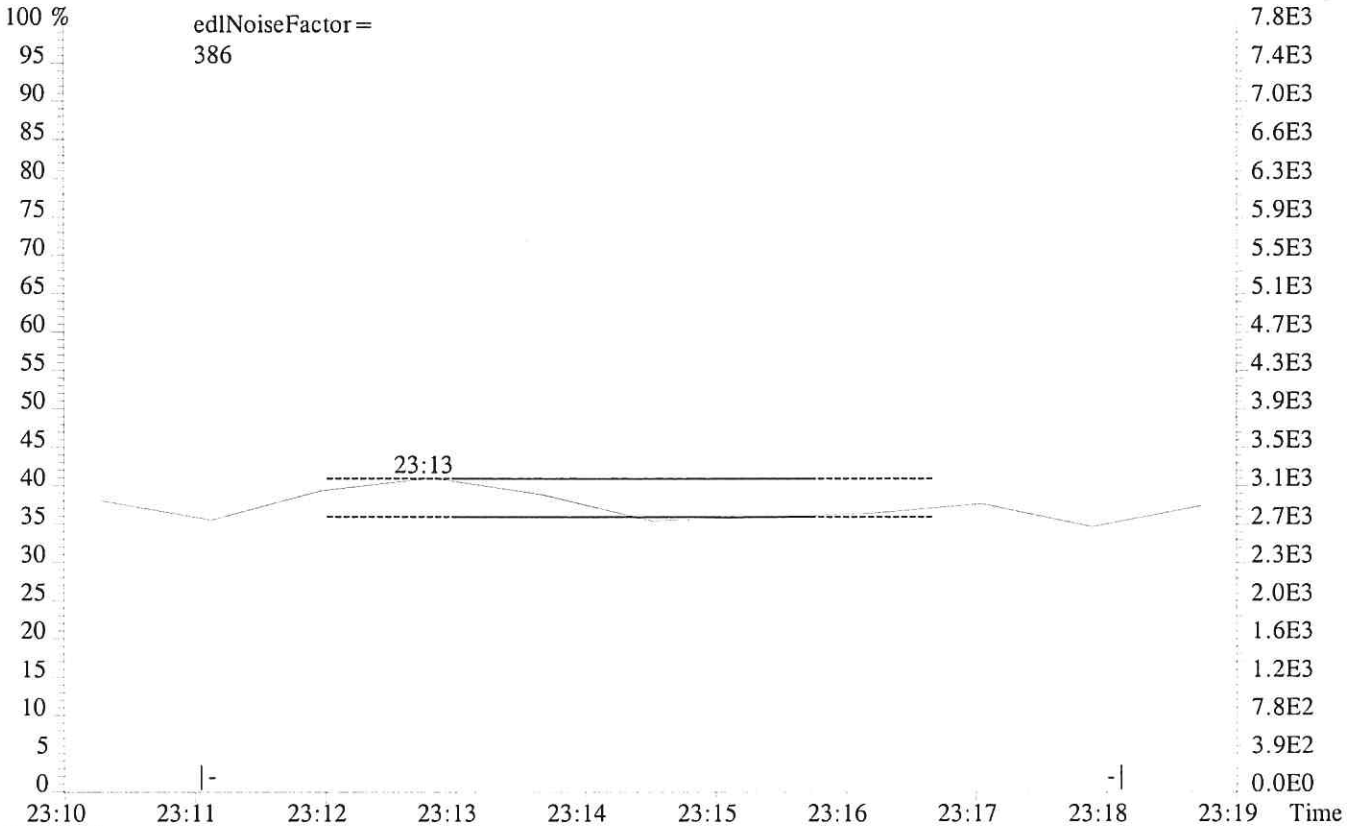
File:P609286 #1-658 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
303.9016



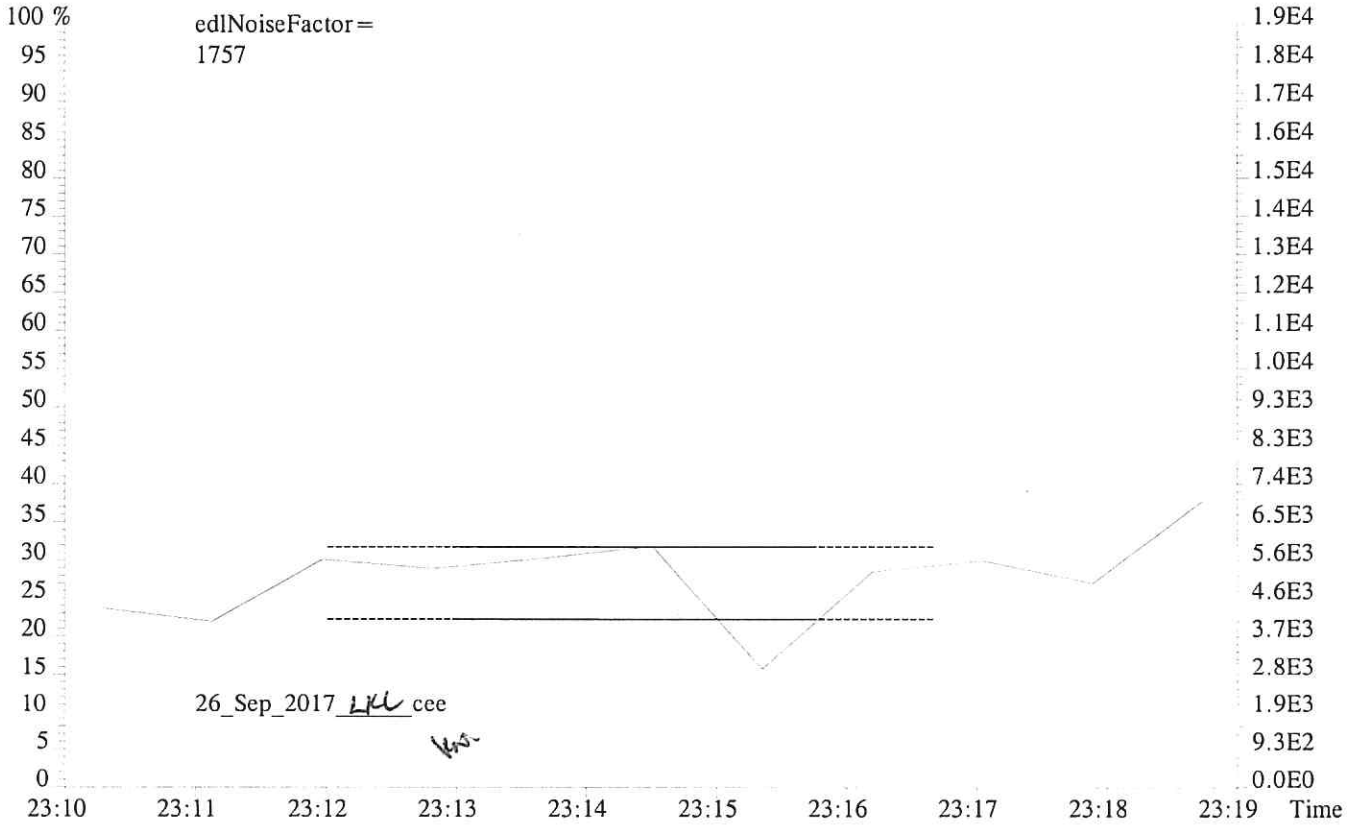
305.8987



File:P609286 #1-658 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
303.9016

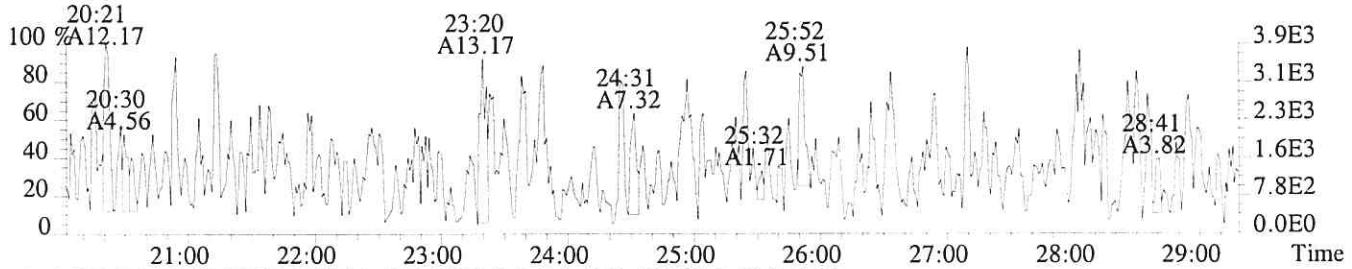


305.8987

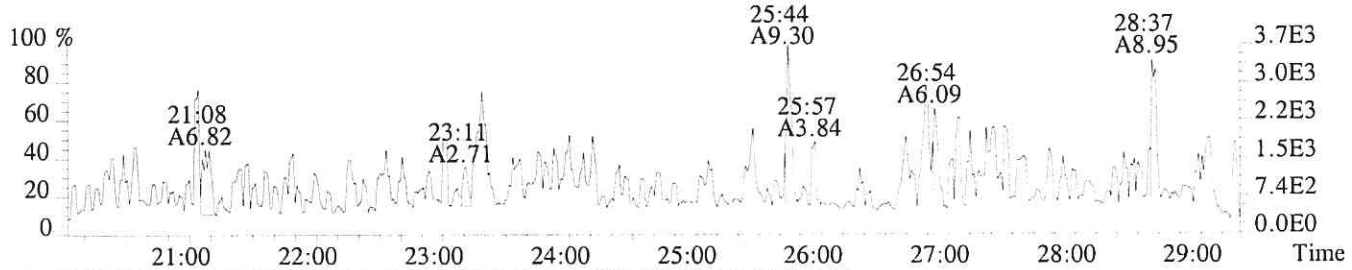


File:P609286 #1-658 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

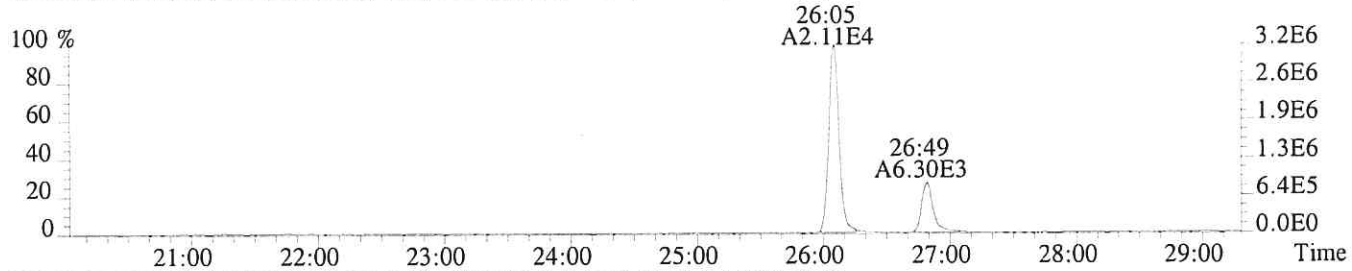
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,T)



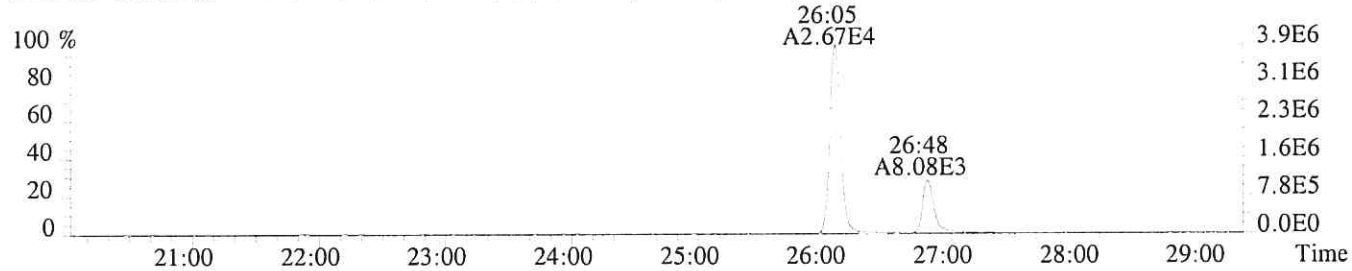
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)



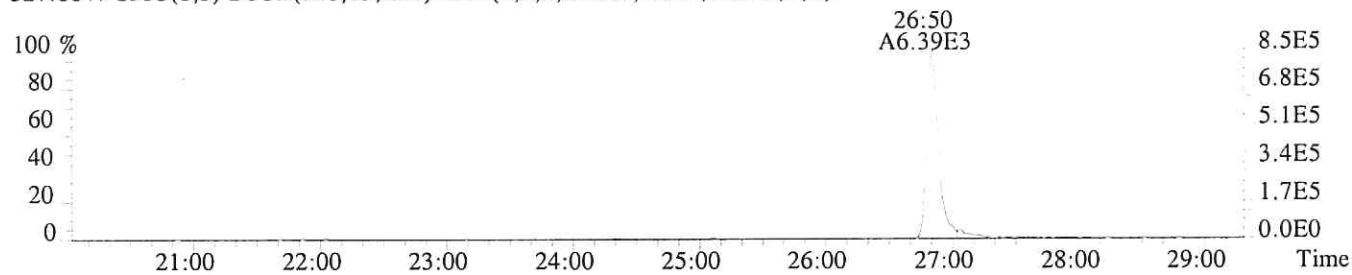
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12156.0,1.00%,F,T)



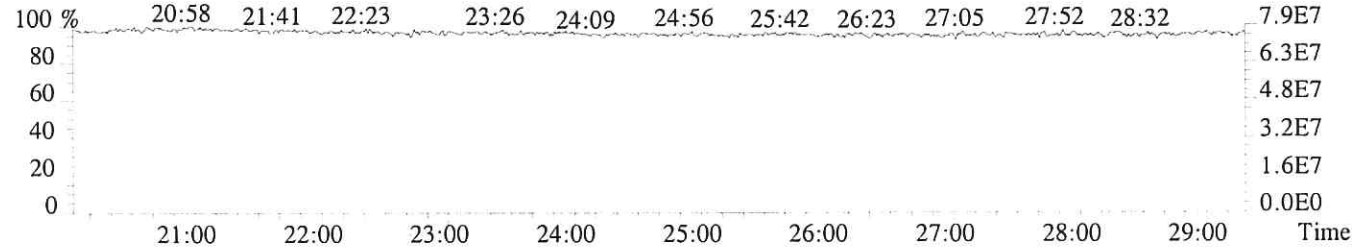
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5644.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)

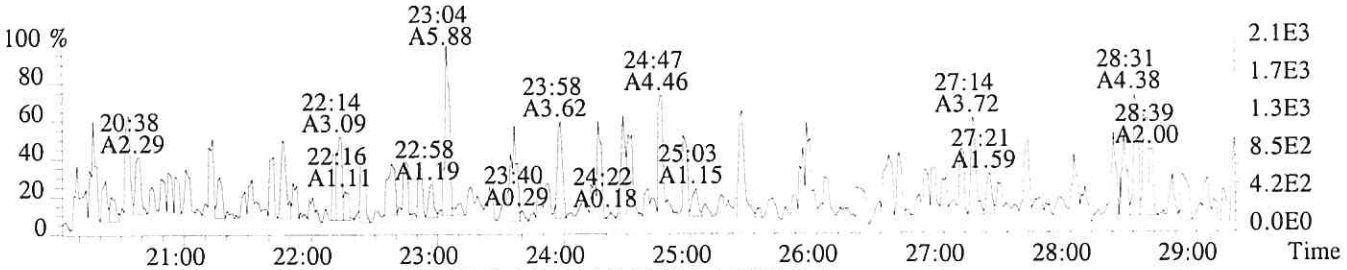


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

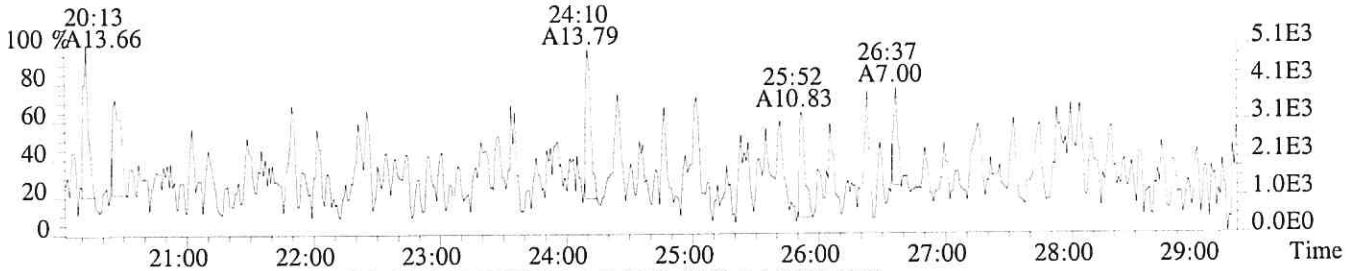


File:P609286 #1-658 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

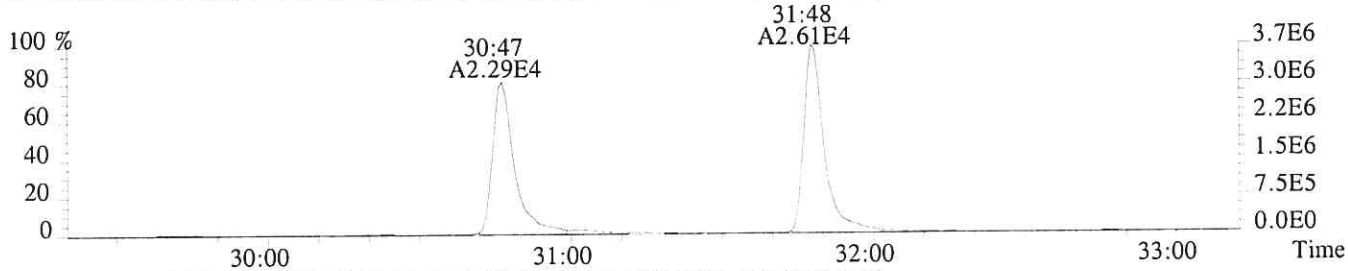
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



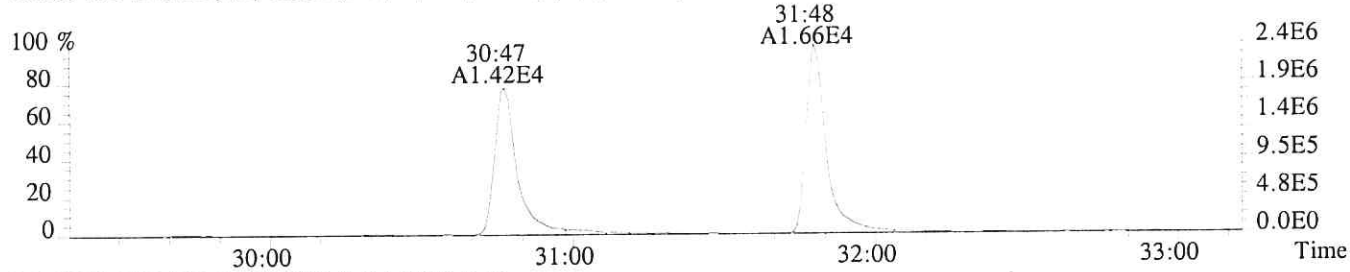
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1828.0,1.00%,F,T)



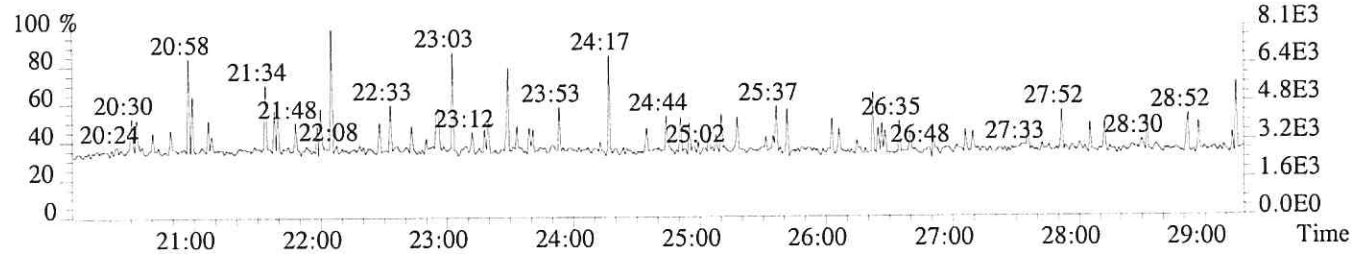
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1820.0,1.00%,F,T)



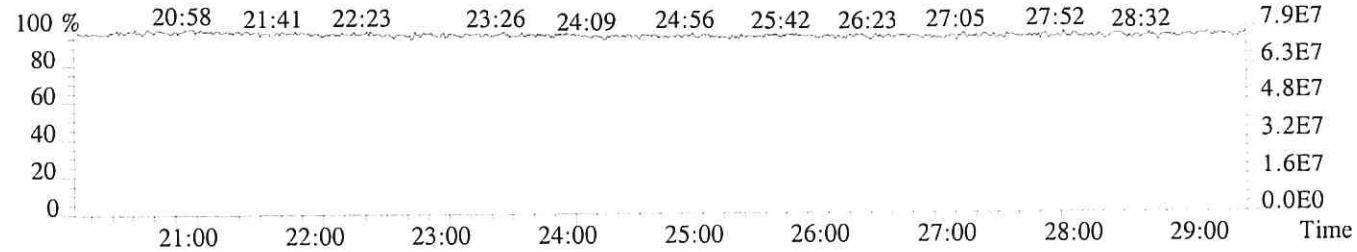
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2028.0,1.00%,F,T)



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

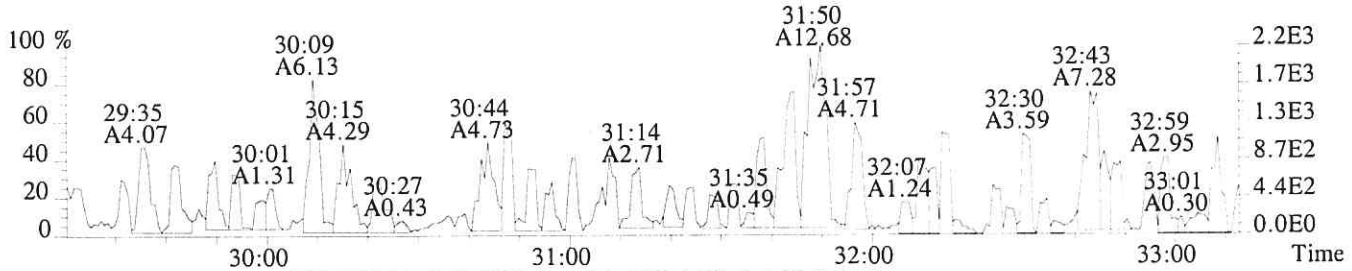


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

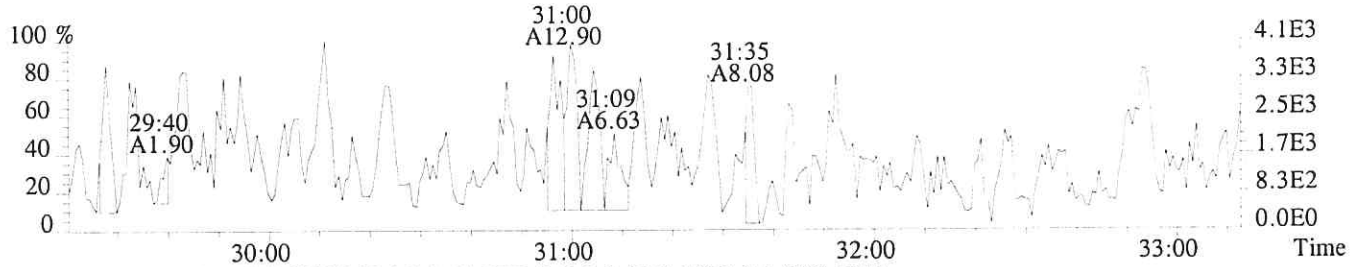


File:P609286 #1-349 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

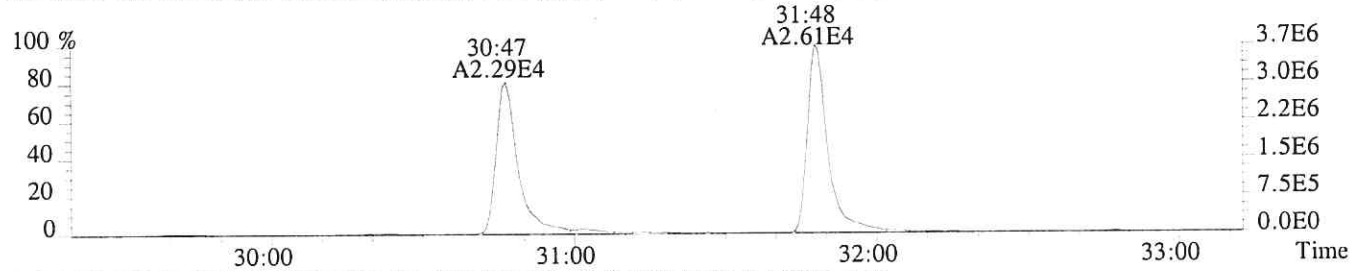
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,T)



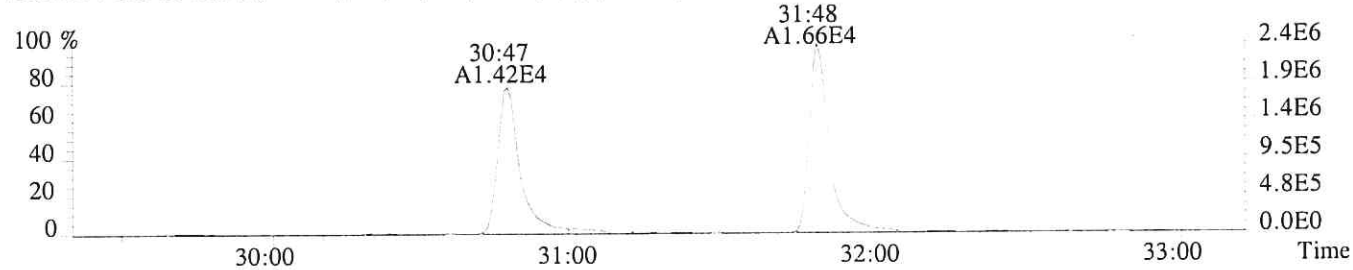
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1584.0,1.00%,F,T)



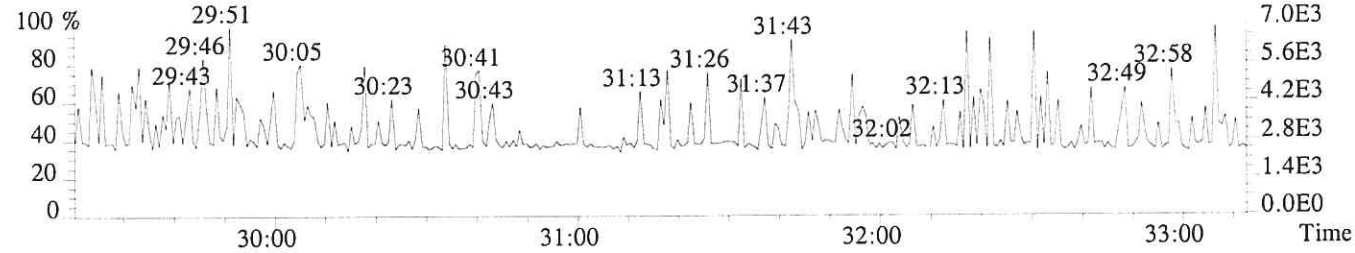
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1820.0,1.00%,F,T)



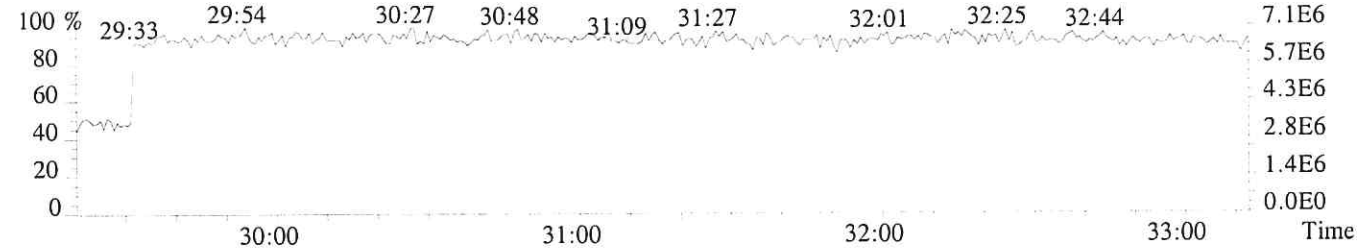
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2028.0,1.00%,F,T)



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

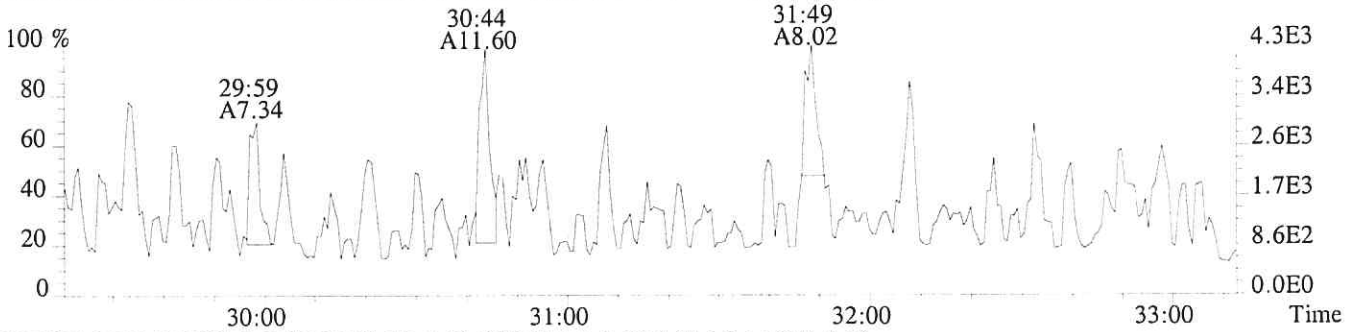


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

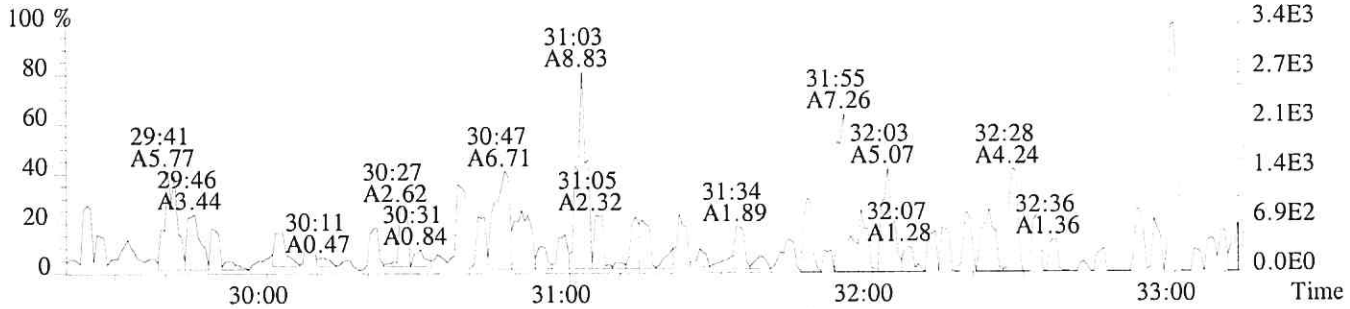


File:P609286 #1-349 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

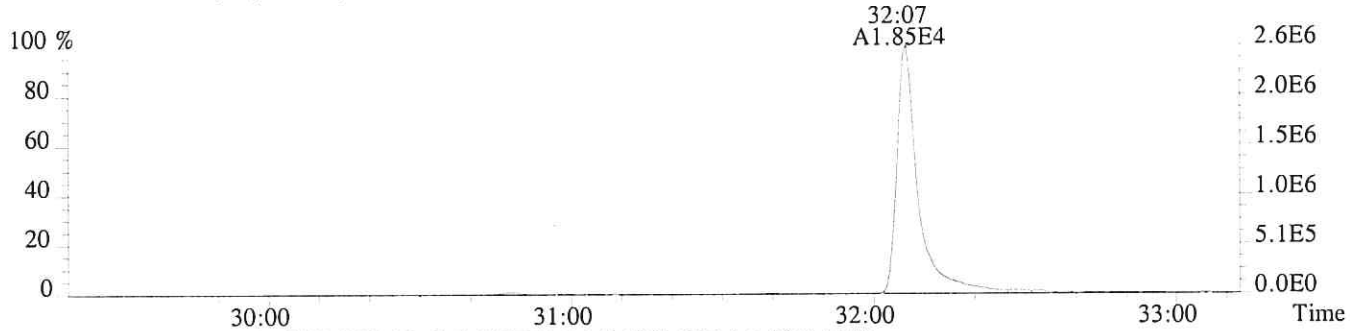
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1692.0,1.00%,F,T)



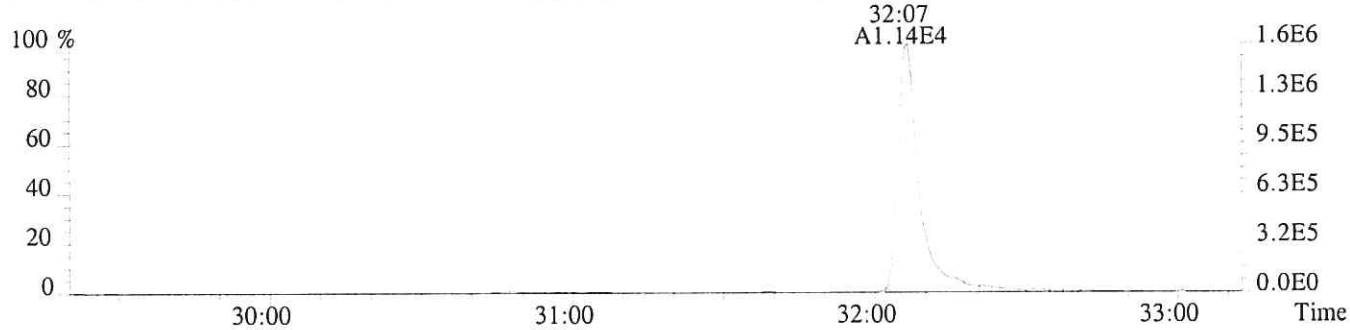
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



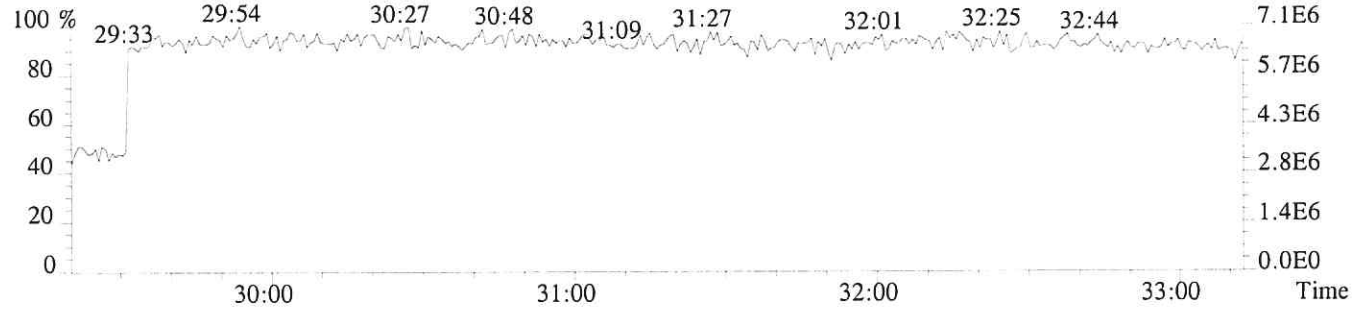
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,T)



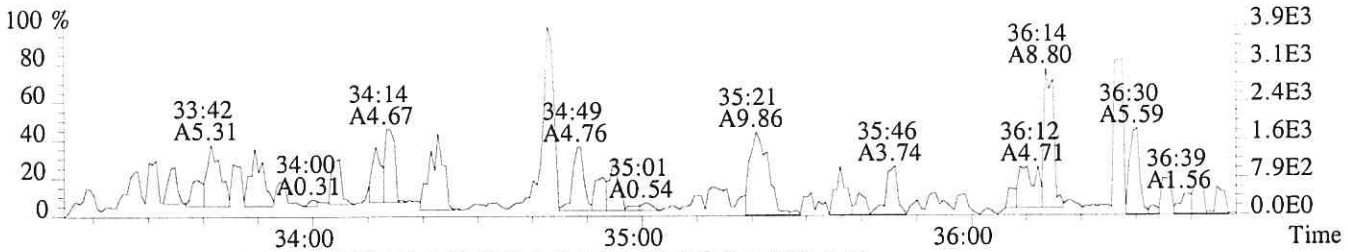
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



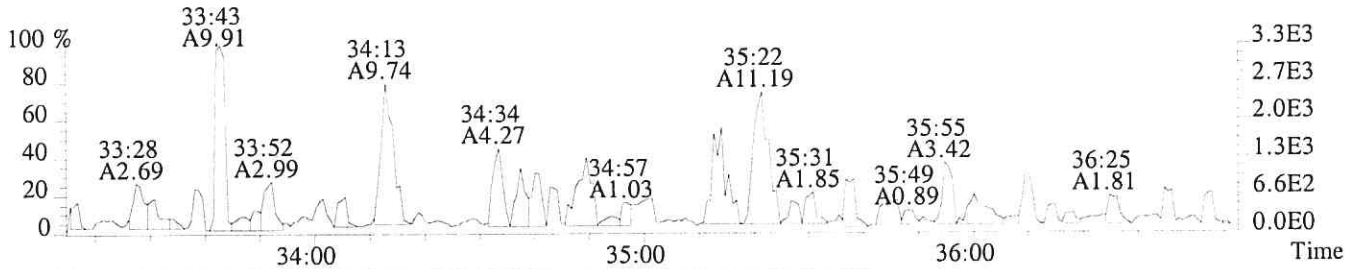
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



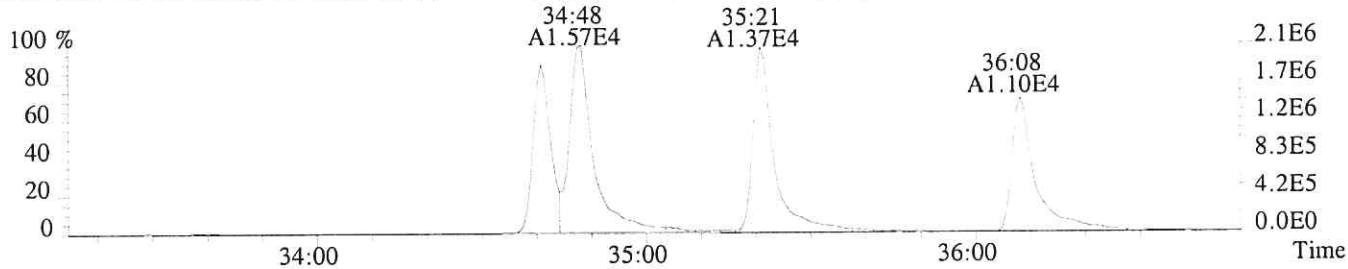
File:P609286 #1-321 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,T)



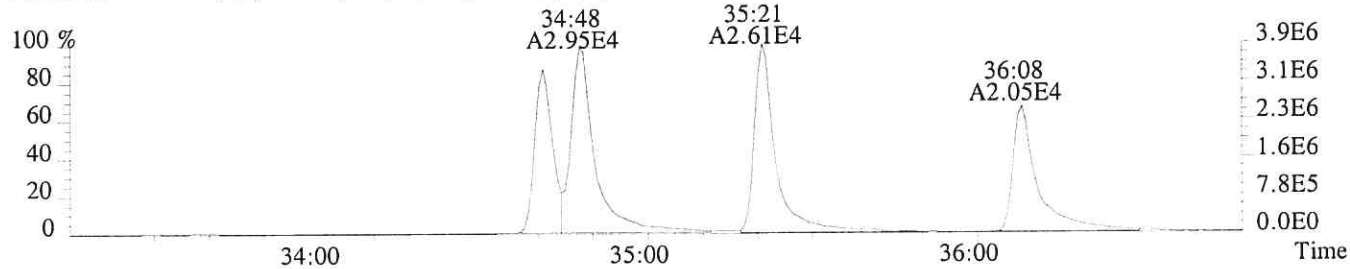
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,T)



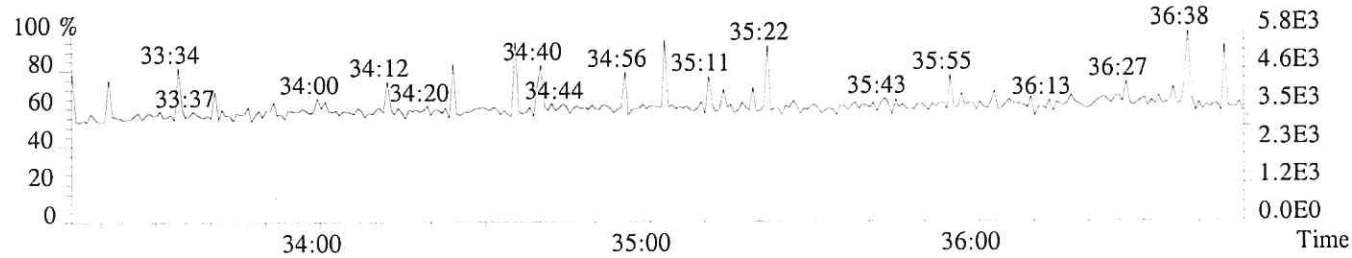
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



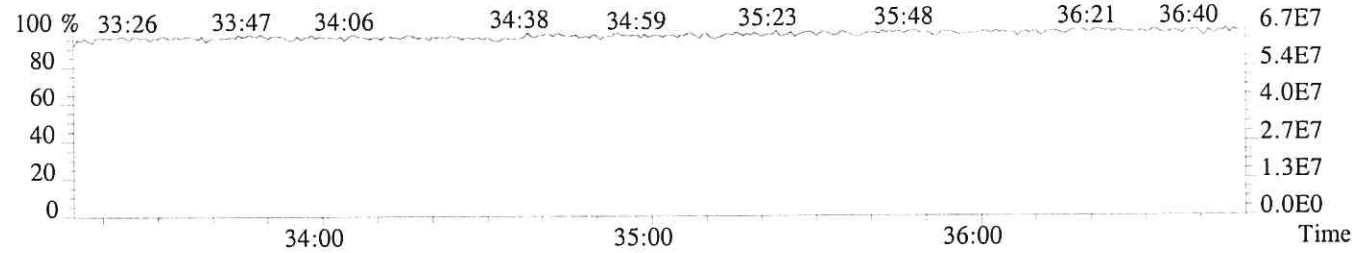
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1280.0,0.40%,F,T)



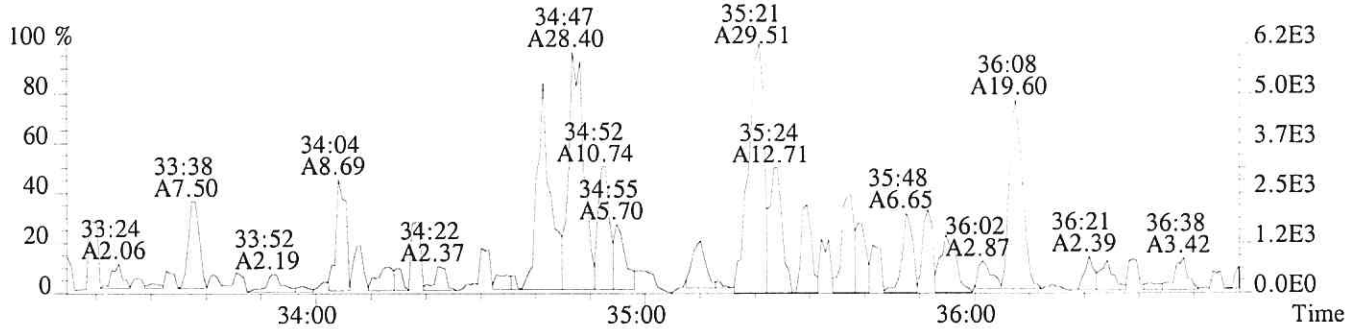
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



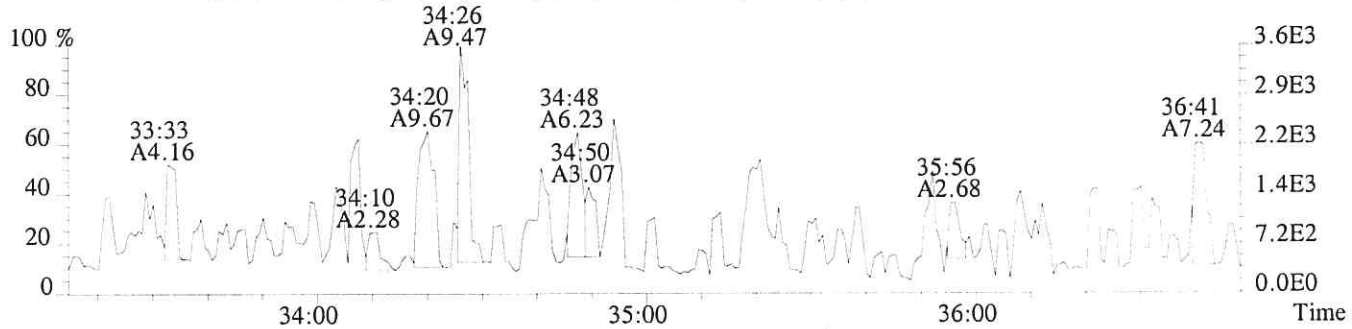
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



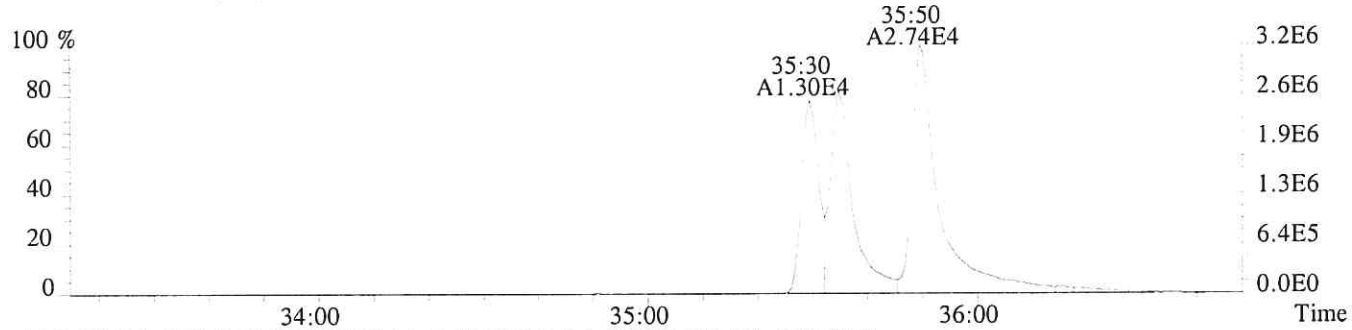
File:P609286 #1-321 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,204.0,0.40%,F,T)



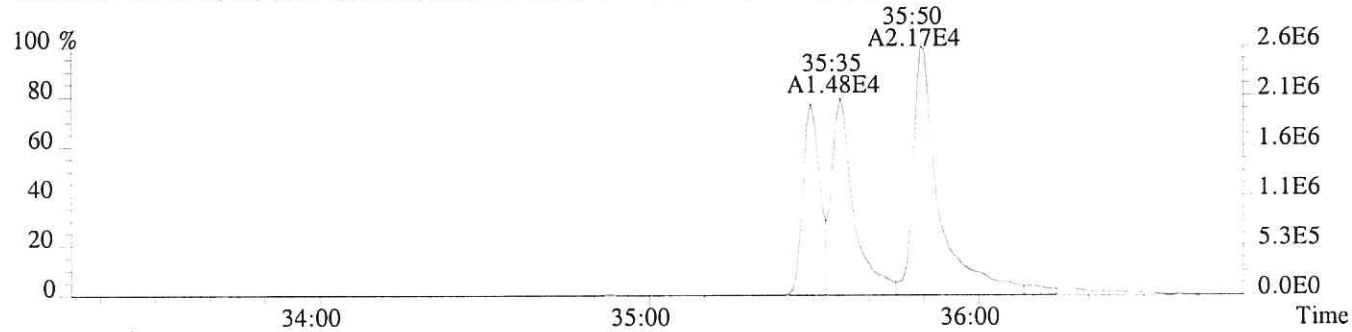
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,900.0,0.40%,F,T)



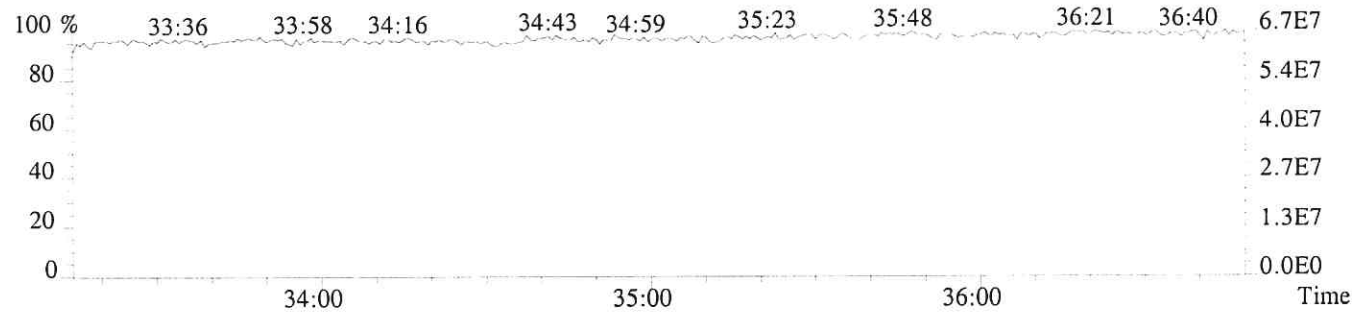
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1736.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.40%,F,T)

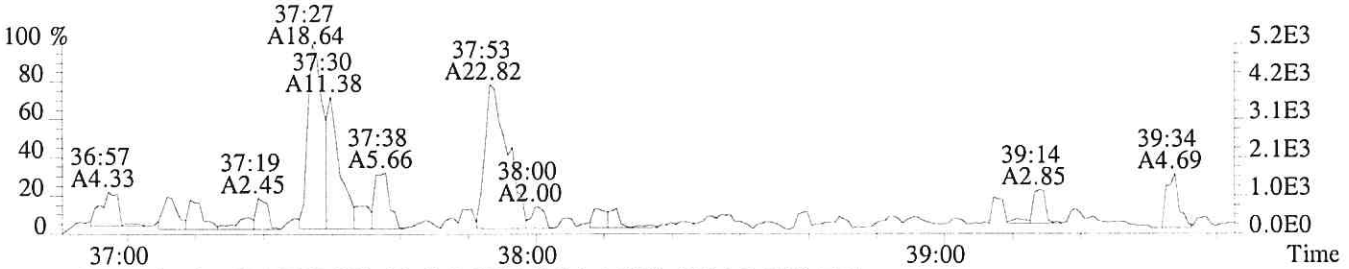


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

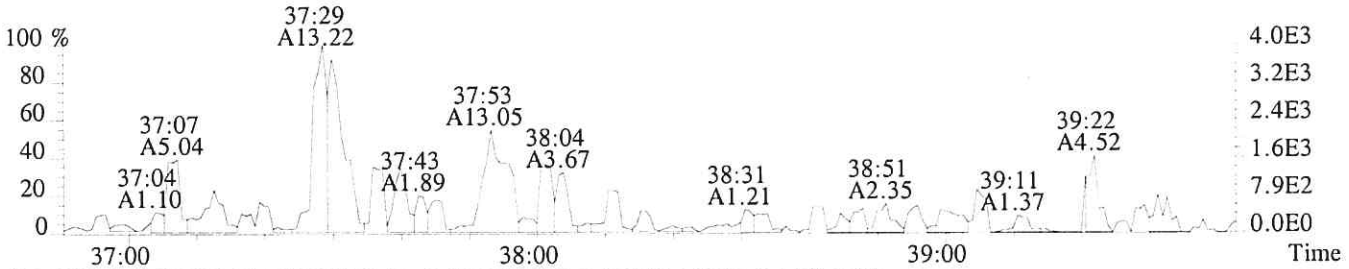


File:P609286 #1-259 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

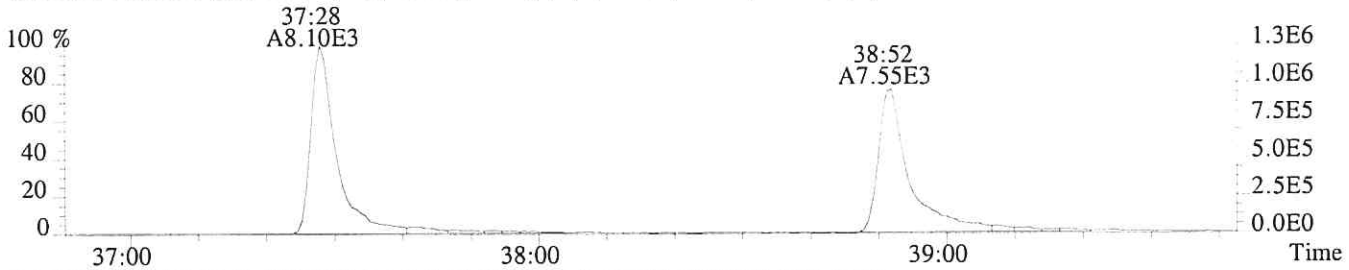
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,360.0,0.50%,F,T)



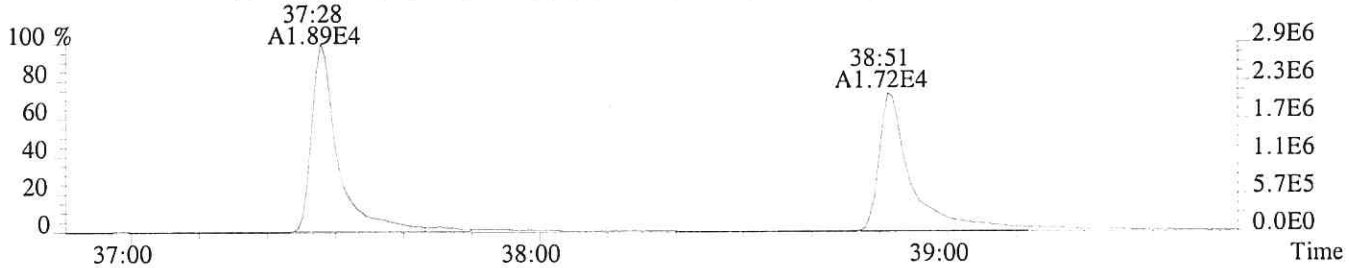
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,172.0,0.50%,F,T)



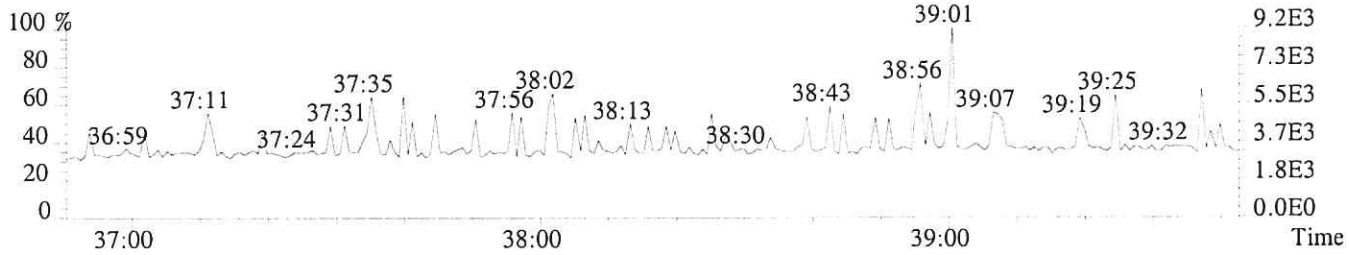
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4692.0,0.50%,F,T)



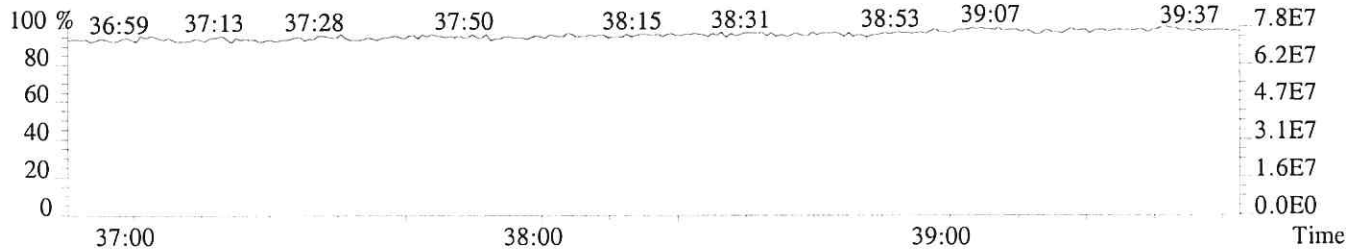
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7520.0,0.50%,F,T)



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

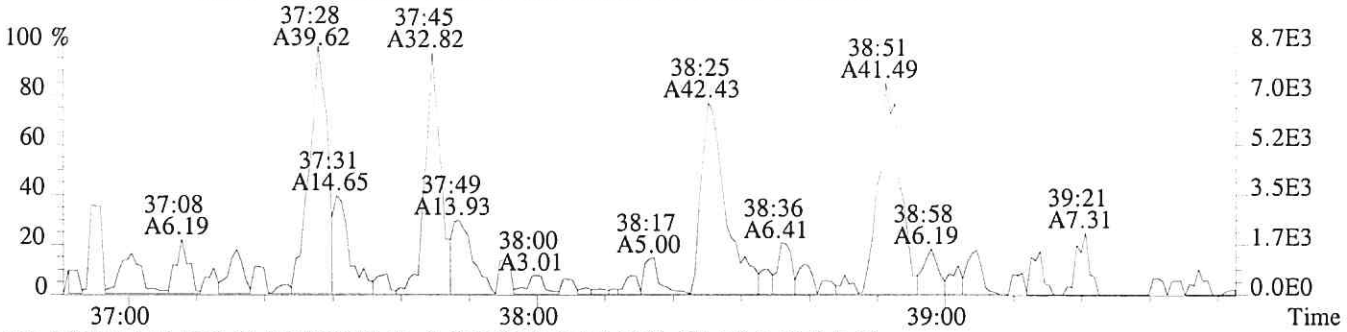


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

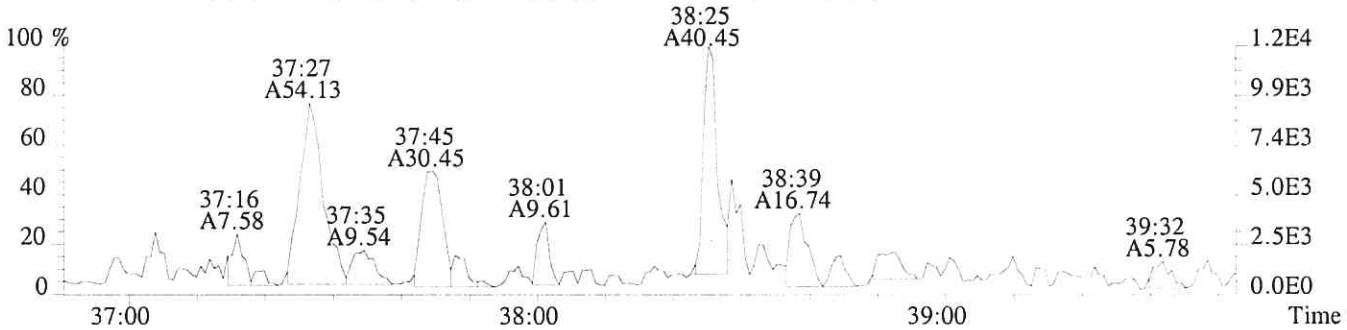


File:P609286 #1-259 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

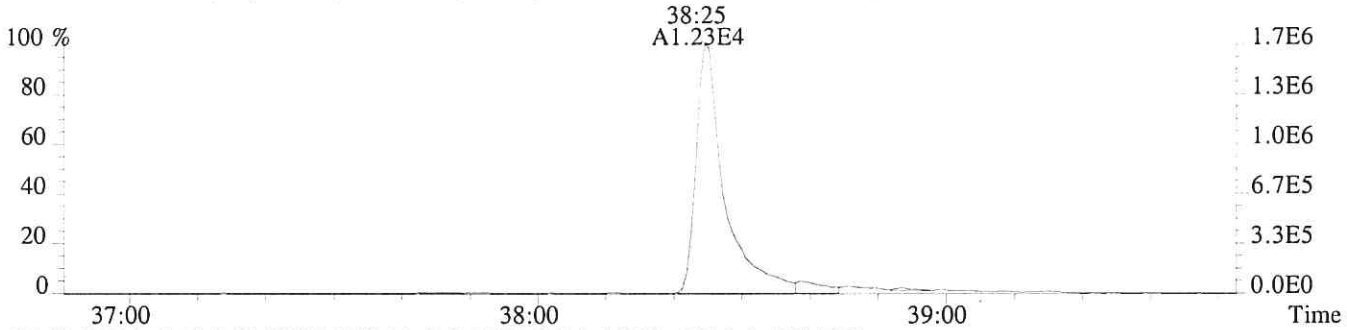
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



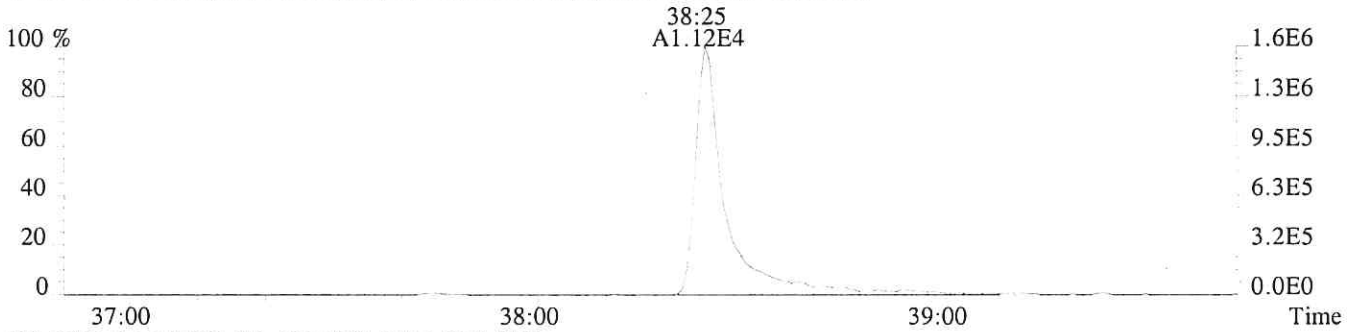
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,T)



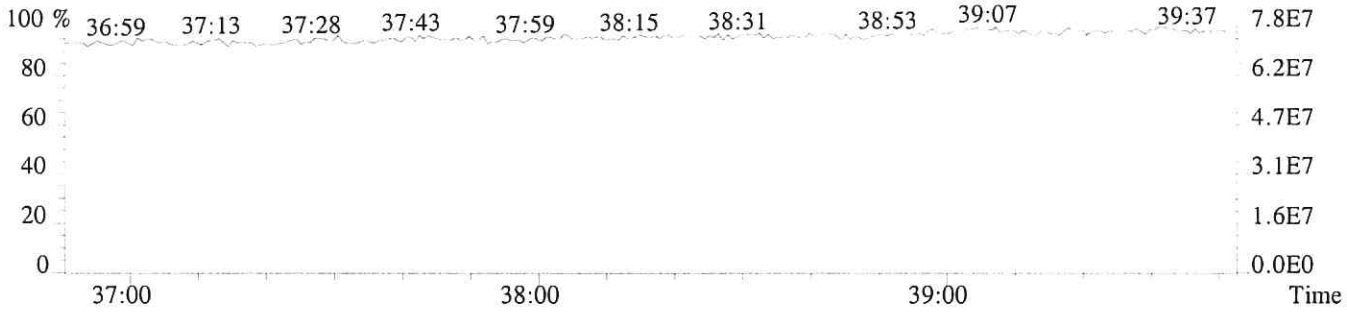
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.40%,F,T)



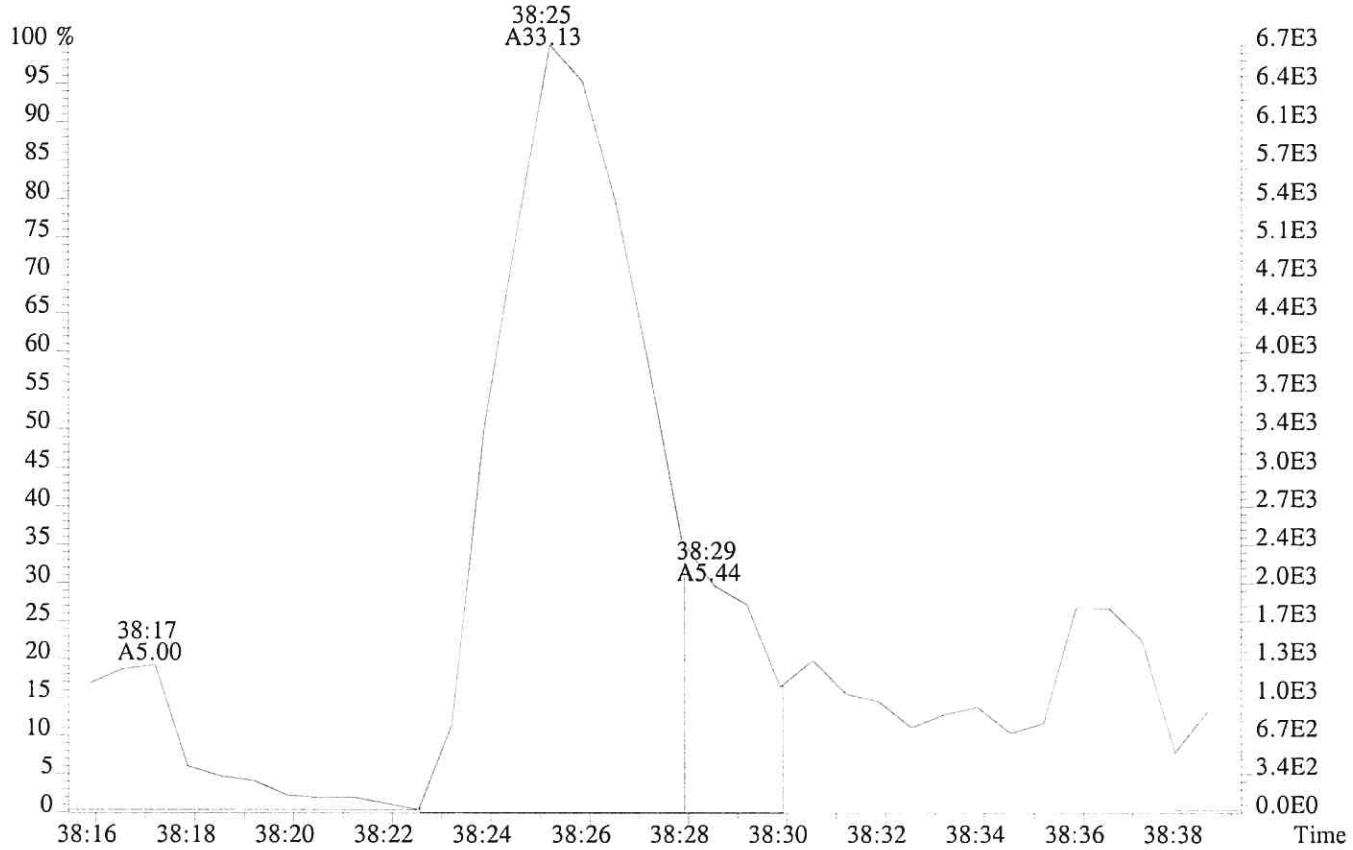
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,T)



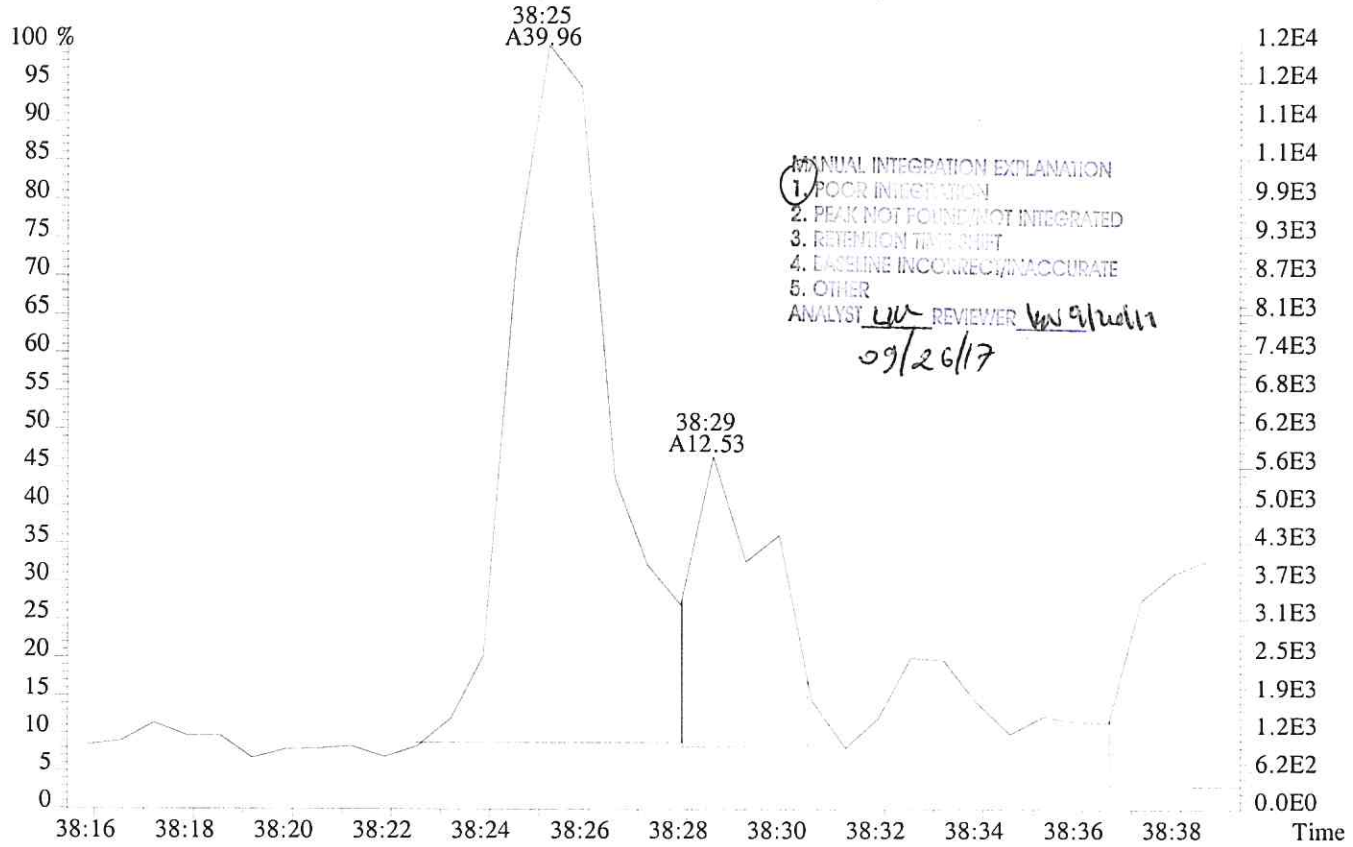
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P609286 #1-259 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)

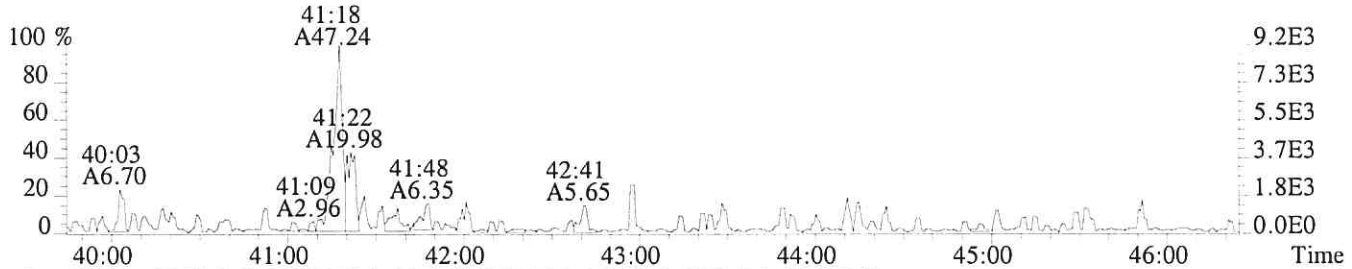


425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,T)

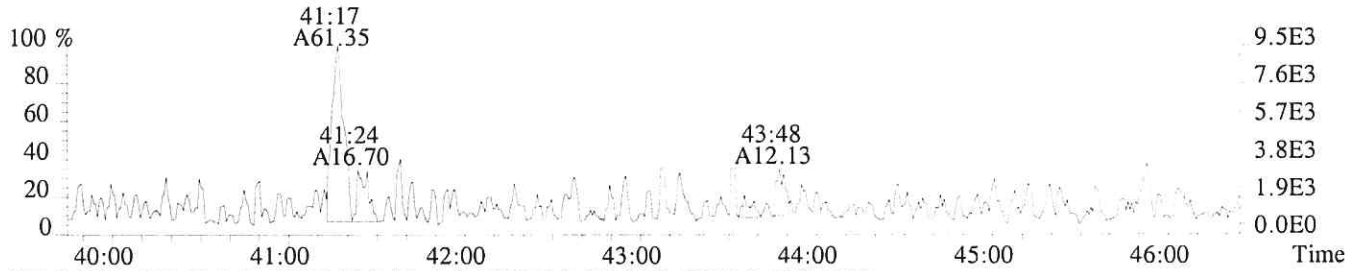


File:P609286 #1-600 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

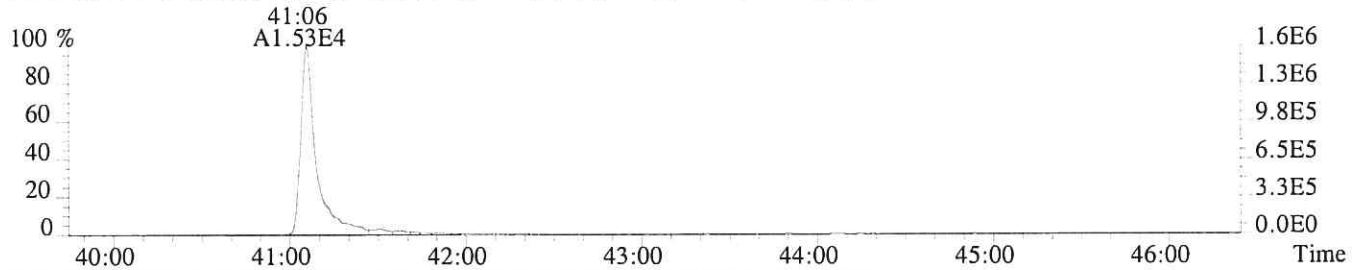
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



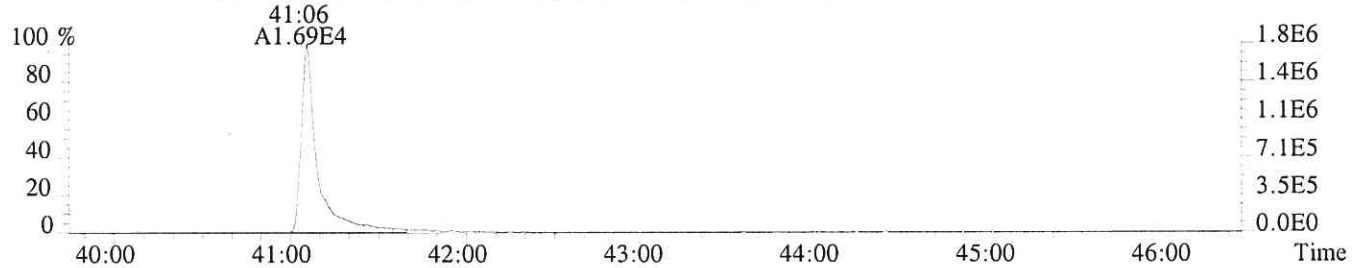
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1528.0,0.40%,F,T)



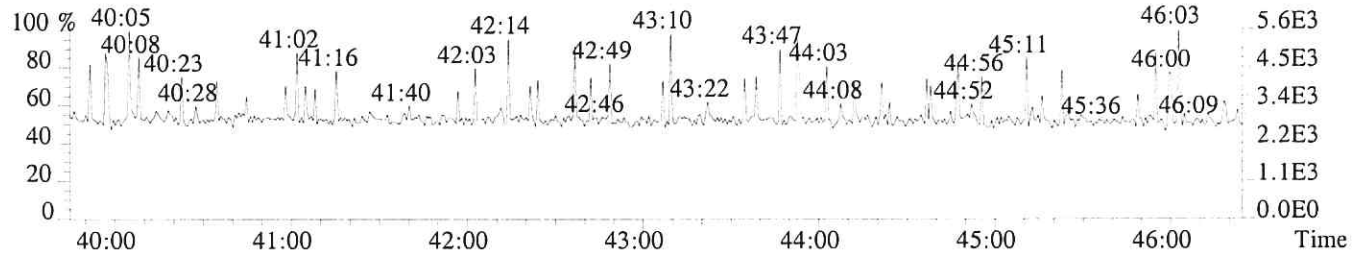
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,260.0,0.40%,F,T)



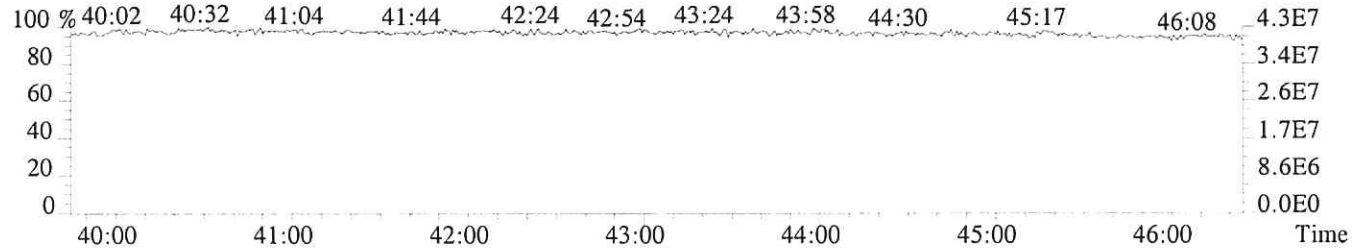
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



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

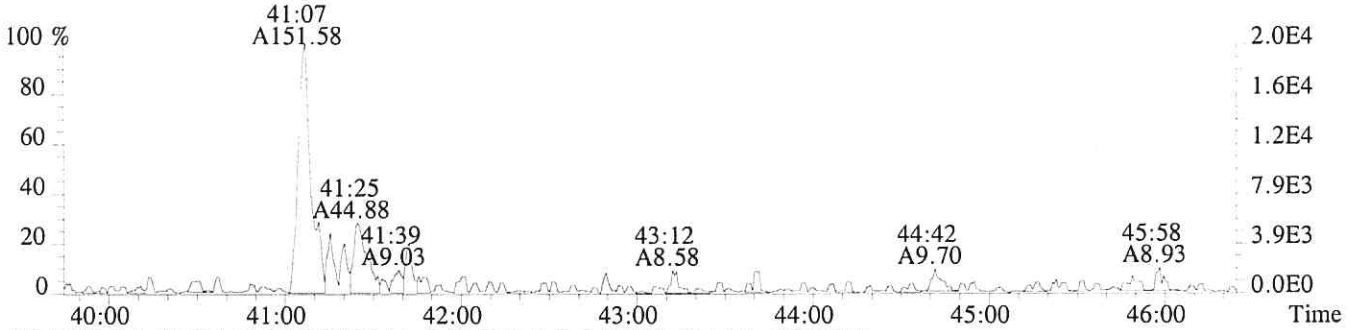


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

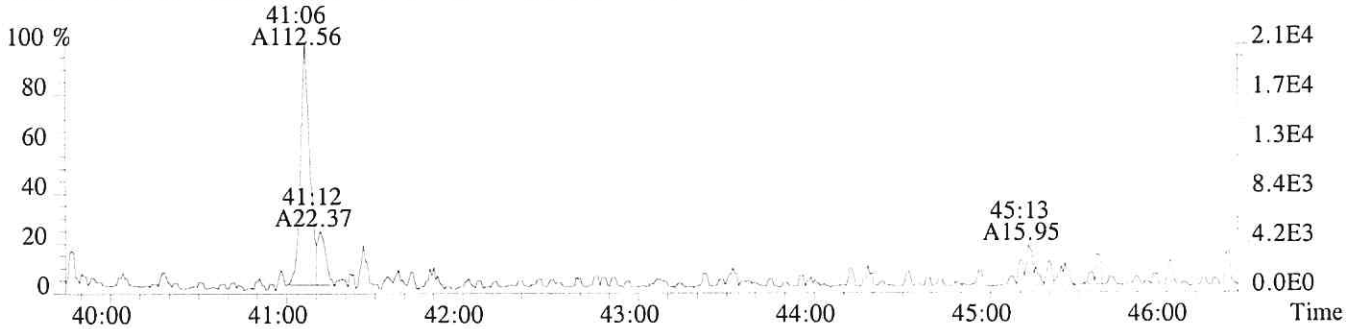


File:P609286 #1-600 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB

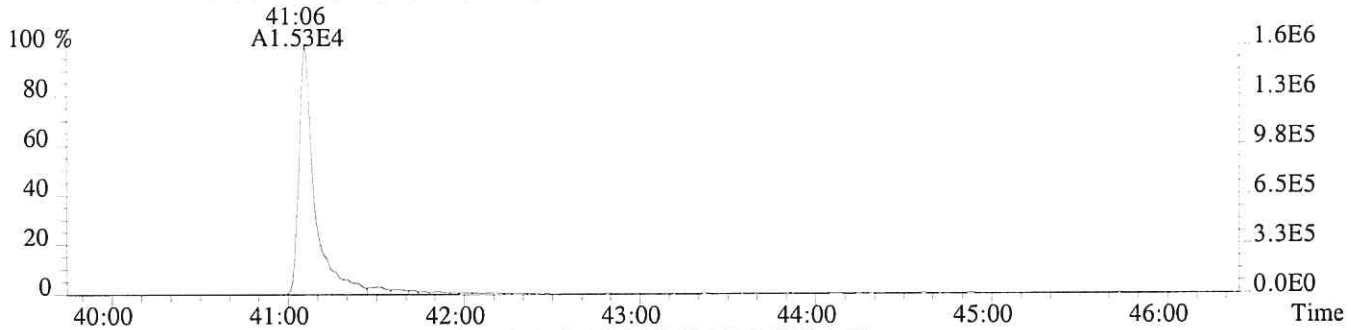
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



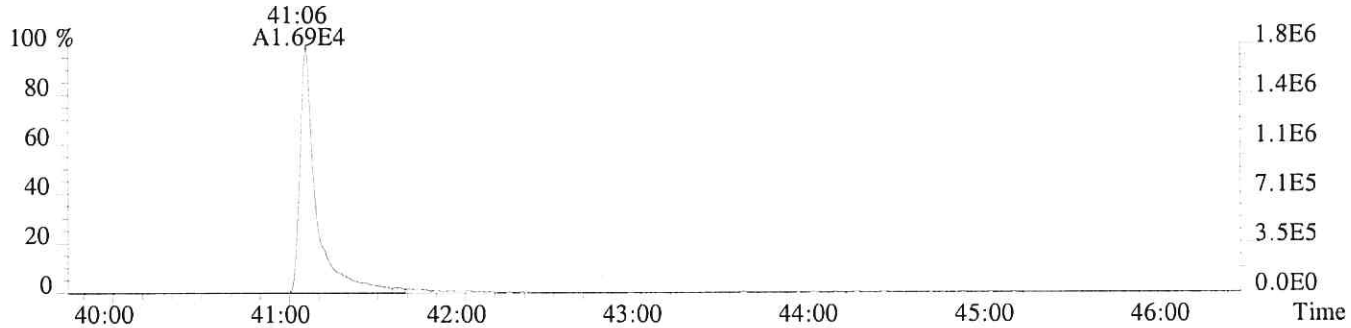
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,884.0,0.40%,F,T)



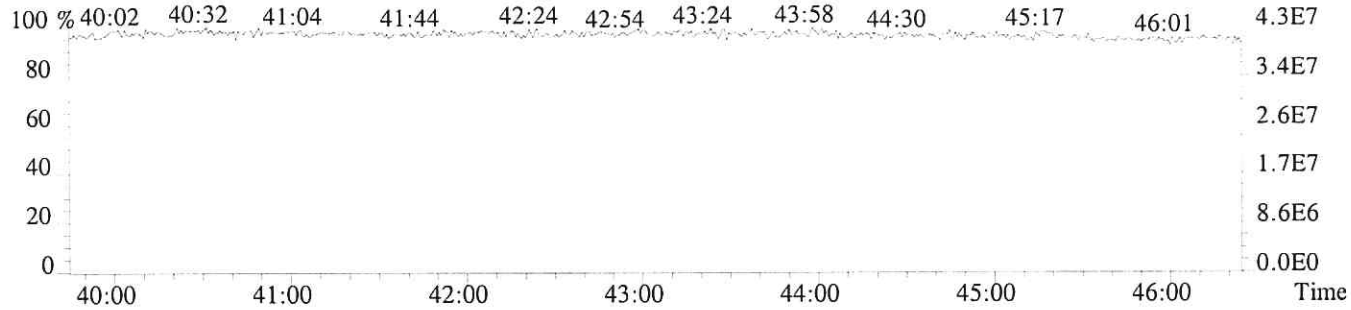
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,260.0,0.40%,F,T)



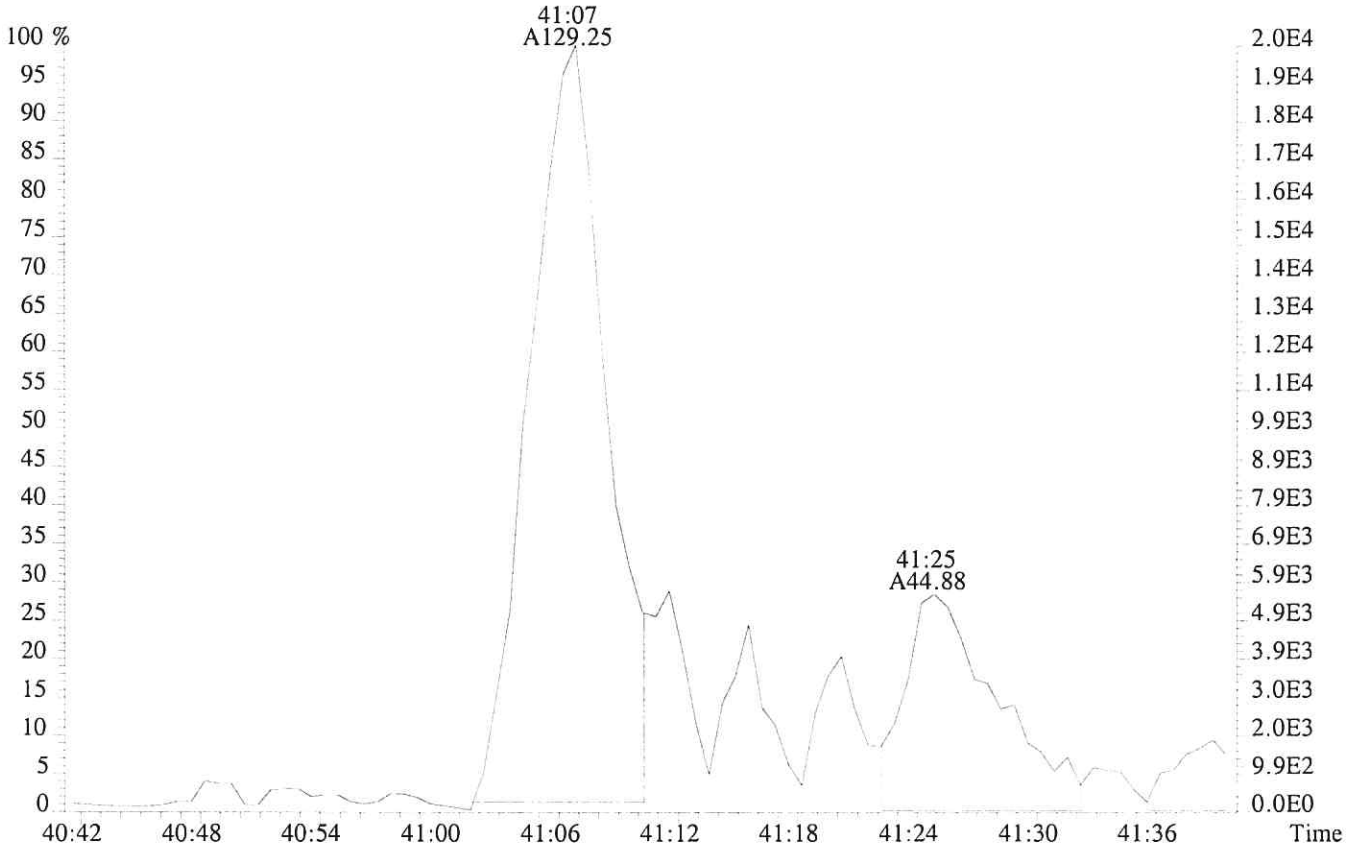
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



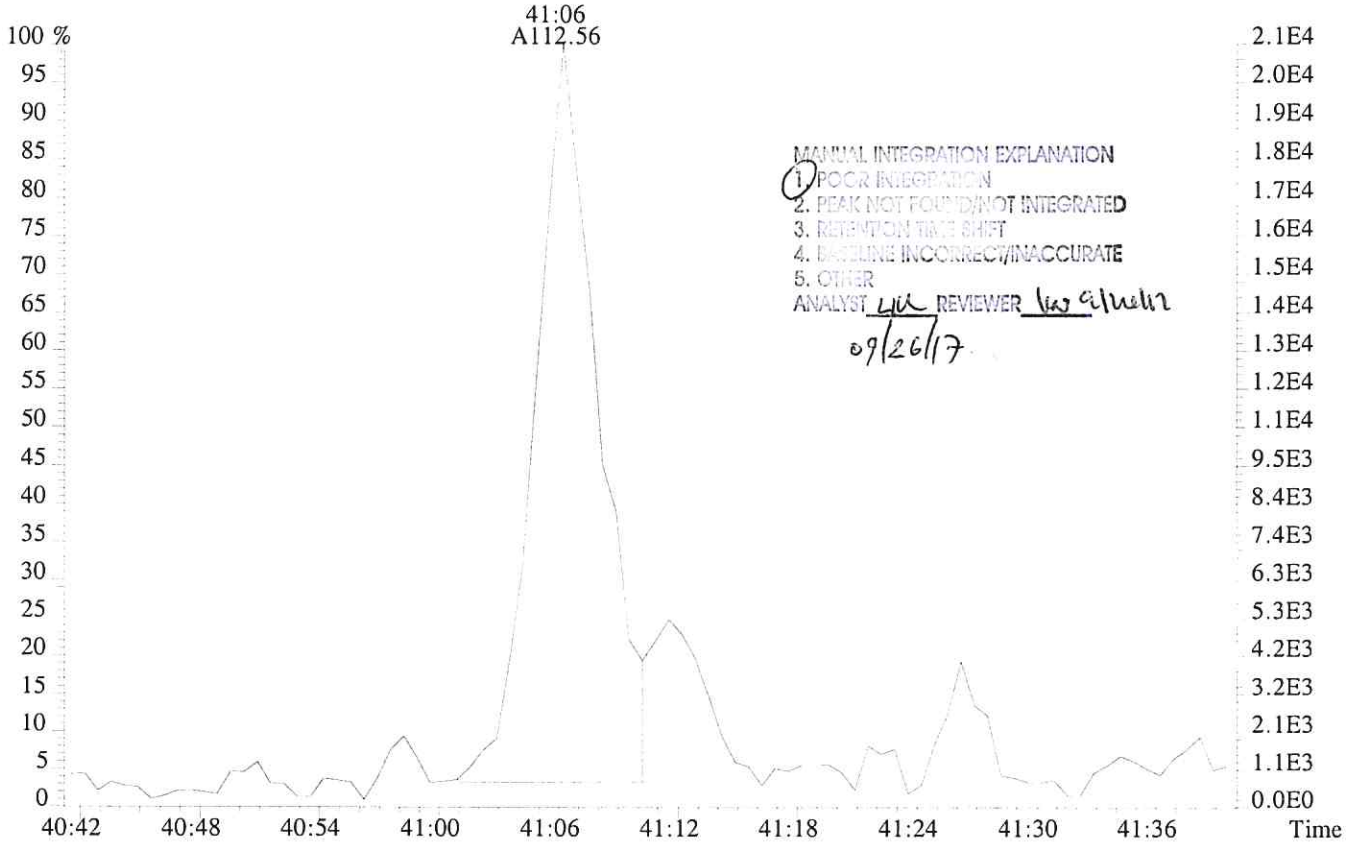
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P609286 #1-600 Acq:26-SEP-2017 11:36:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:MB
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,884.0,0.40%,F,T)



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
LCS

Run #18 Filename P511493 Samp: 1 Inj: 1 Acquired: 22-SEP-17 21:39:23
Processed: 25-SEP-17 07:52:15 Sample ID: EQ1700417-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	2.093e+03	2.813e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:38	2.533e+04	1.682e+04	1.51	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	2.559e+04	1.747e+04	1.47	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	2.515e+04	2.121e+04	1.19	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:16	2.676e+04	2.221e+04	1.21	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	2.457e+04	2.097e+04	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	2.404e+04	2.066e+04	1.16	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	2.041e+04	1.992e+04	1.02	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	1.983e+04	2.043e+04	0.97	yes	no	1.191
10	Unk	OCDF	42:38	2.455e+04	2.846e+04	0.86	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	2.003e+03	2.471e+03	0.81	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:48	2.034e+04	1.279e+04	1.59	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	1.920e+04	1.490e+04	1.29	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	1.986e+04	1.607e+04	1.24	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	2.055e+04	1.656e+04	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	1.549e+04	1.507e+04	1.03	yes	no	0.942
17	Unk	OCDD	42:25	1.818e+04	2.014e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	2.412e+04	3.059e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	5.591e+04	3.563e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	5.685e+04	3.589e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.643e+04	5.155e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	3.010e+04	5.697e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.926e+04	5.531e+04	0.53	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	2.950e+04	5.624e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	1.930e+04	4.263e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	1.947e+04	4.492e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.888e+04	2.406e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	4.114e+04	2.579e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	3.865e+04	3.006e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	3.835e+04	2.980e+04	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	3.067e+04	2.909e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	3.286e+04	3.609e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	4.130e+04	5.191e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.834e+04	5.383e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	1.885e+04				no	1.033

$$\text{OCDD} = \frac{(1.818e+04 + 2.014e+04) \times 4000 \text{ pg} \times 1}{(3.286e+04 + 3.609e+04) \times \quad \text{g} \times \quad / 100 \times 1.051} =$$

ALS ENVIRONMENTAL -- HOUSTON HRMS
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Houston, TX 77099
Telephone: (713)266-1599. Fax(713)266-0130

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
LCS

Run #18 Filename P511493 Samp: 1 Inj: 1 Acquired: 22-SEP-17 21:39:23
Processed: 25-SEP-17 07:52:15 LAB. ID: EQ1700417-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.15e+05	2.13e+03	1.9e+02	5.65e+05	6.17e+03	9.2e+01
2	1,2,3,7,8-PeCDF	4.99e+06	1.34e+03	3.7e+03	3.32e+06	4.95e+03	6.7e+02
3	2,3,4,7,8-PeCDF	5.31e+06	1.34e+03	3.9e+03	3.57e+06	4.95e+03	7.2e+02
4	1,2,3,4,7,8-HxCDF	5.66e+06	3.11e+03	1.8e+03	4.77e+06	2.52e+03	1.9e+03
5	1,2,3,6,7,8-HxCDF	5.75e+06	3.11e+03	1.8e+03	4.74e+06	2.52e+03	1.9e+03
6	2,3,4,6,7,8-HxCDF	5.44e+06	3.11e+03	1.7e+03	4.52e+06	2.52e+03	1.8e+03
7	1,2,3,7,8,9-HxCDF	5.05e+06	3.11e+03	1.6e+03	4.38e+06	2.52e+03	1.7e+03
8	1,2,3,4,6,7,8-HpCDF	4.49e+06	2.73e+03	1.6e+03	4.40e+06	2.13e+03	2.1e+03
9	1,2,3,4,7,8,9-HpCDF	4.07e+06	2.73e+03	1.5e+03	4.11e+06	2.13e+03	1.9e+03
10	OCDF	4.33e+06	1.82e+03	2.4e+03	4.95e+06	3.45e+03	1.4e+03
11	2,3,7,8-TCDD	4.08e+05	4.28e+03	9.5e+01	4.90e+05	1.72e+03	2.8e+02
12	1,2,3,7,8-PeCDD	4.20e+06	3.82e+03	1.1e+03	2.67e+06	6.28e+02	4.3e+03
13	1,2,3,4,7,8-HxCDD	4.37e+06	1.79e+03	2.4e+03	3.40e+06	2.53e+03	1.3e+03
14	1,2,3,6,7,8-HxCDD	4.32e+06	1.79e+03	2.4e+03	3.49e+06	2.53e+03	1.4e+03
15	1,2,3,7,8,9-HxCDD	4.56e+06	1.79e+03	2.5e+03	3.66e+06	2.53e+03	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	3.18e+06	2.08e+03	1.5e+03	3.09e+06	1.97e+03	1.6e+03
17	OCDD	3.12e+06	1.32e+03	2.4e+03	3.47e+06	1.67e+03	2.1e+03
18	13C-2,3,7,8-TCDF	4.64e+06	2.81e+04	1.7e+02	5.94e+06	1.10e+04	5.4e+02
19	13C-1,2,3,7,8-PeCDF	1.09e+07	1.47e+03	7.4e+03	6.91e+06	1.63e+03	4.2e+03
20	13C-2,3,4,7,8-PeCDF	1.15e+07	1.47e+03	7.8e+03	7.19e+06	1.63e+03	4.4e+03
21	13C-1,2,3,4,7,8-HxCDF	5.83e+06	1.27e+03	4.6e+03	1.14e+07	2.82e+03	4.1e+03
22	13C-1,2,3,6,7,8-HxCDF	6.47e+06	1.27e+03	5.1e+03	1.20e+07	2.82e+03	4.3e+03
23	13C-2,3,4,6,7,8-HxCDF	6.32e+06	1.27e+03	5.0e+03	1.21e+07	2.82e+03	4.3e+03
24	13C-1,2,3,7,8,9-HxCDF	6.39e+06	1.27e+03	5.0e+03	1.20e+07	2.82e+03	4.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	4.30e+06	2.50e+03	1.7e+03	9.40e+06	5.57e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.01e+06	2.50e+03	1.6e+03	9.05e+06	5.57e+03	1.6e+03
27	13C-2,3,7,8-TCDD	3.81e+06	1.22e+04	3.1e+02	4.91e+06	5.83e+03	8.4e+02
28	13C-1,2,3,7,8-PeCDD	8.24e+06	2.90e+03	2.8e+03	5.12e+06	2.95e+03	1.7e+03
29	13C-1,2,3,4,7,8-HxCDD	8.78e+06	3.95e+03	2.2e+03	6.82e+06	2.16e+03	3.2e+03
30	13C-1,2,3,6,7,8-HxCDD	8.28e+06	3.95e+03	2.1e+03	6.48e+06	2.16e+03	3.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.30e+06	2.72e+03	2.3e+03	6.02e+06	1.91e+03	3.2e+03
32	13C-OCDD	5.68e+06	1.74e+03	3.3e+03	6.26e+06	1.78e+03	3.5e+03
33	13C-1,2,3,4-TCDD	8.00e+06	1.22e+04	6.5e+02	1.02e+07	5.83e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.50e+07	3.95e+03	3.8e+03	1.18e+07	2.16e+03	5.5e+03
35	37Cl-2,3,7,8-TCDD	3.77e+06	4.04e+03	9.3e+02			

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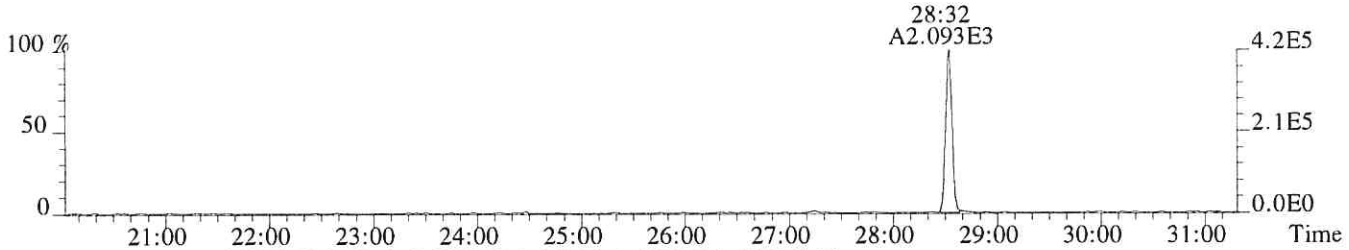
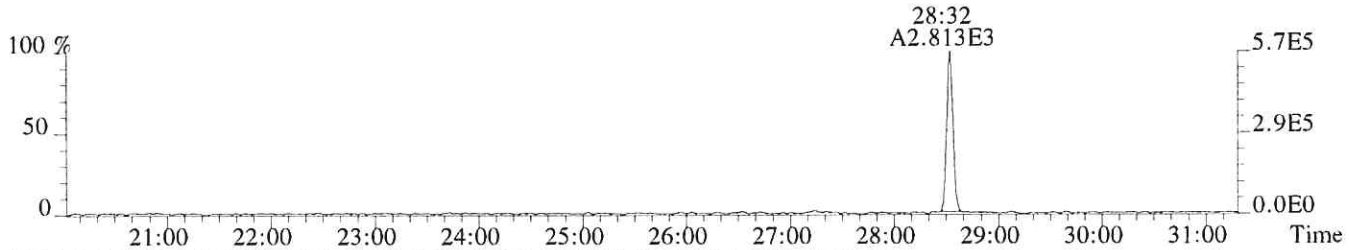
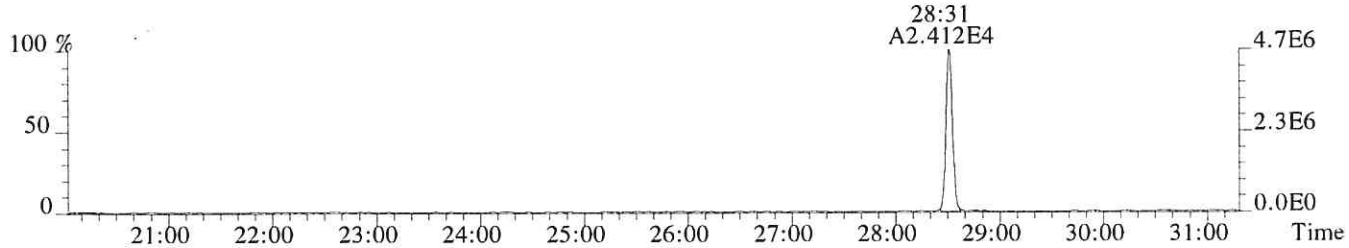
File:P511493 #1-800 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2128.0,1.00%,F,T)



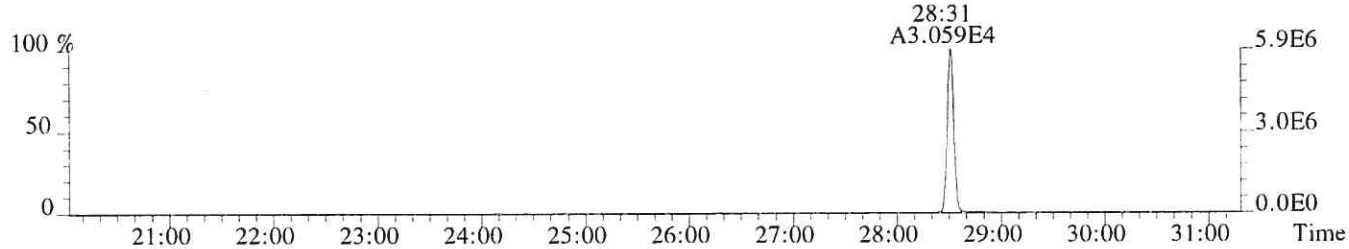
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6172.0,1.00%,F,T)



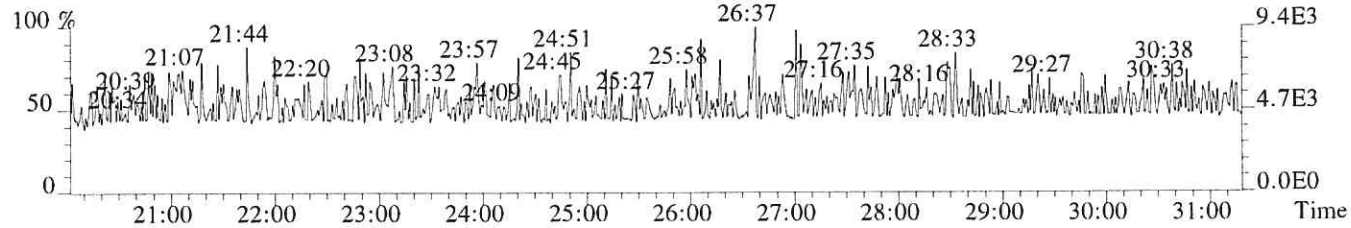
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,28112.0,1.00%,F,T)



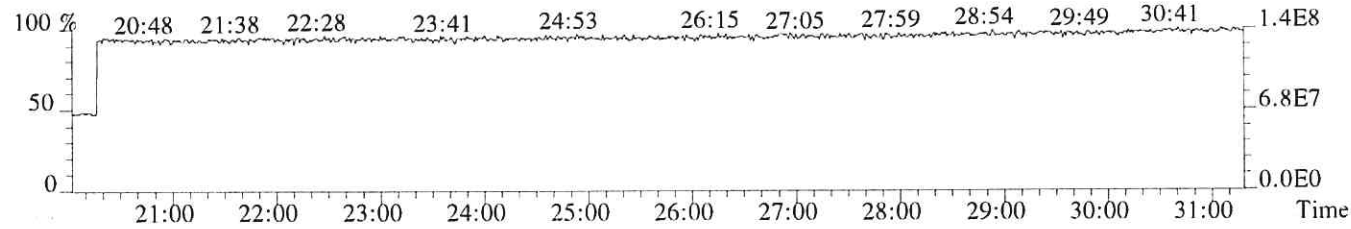
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11036.0,1.00%,F,T)



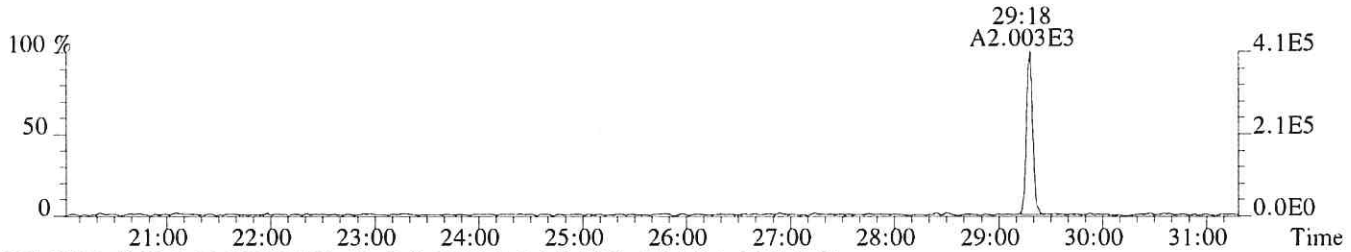
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



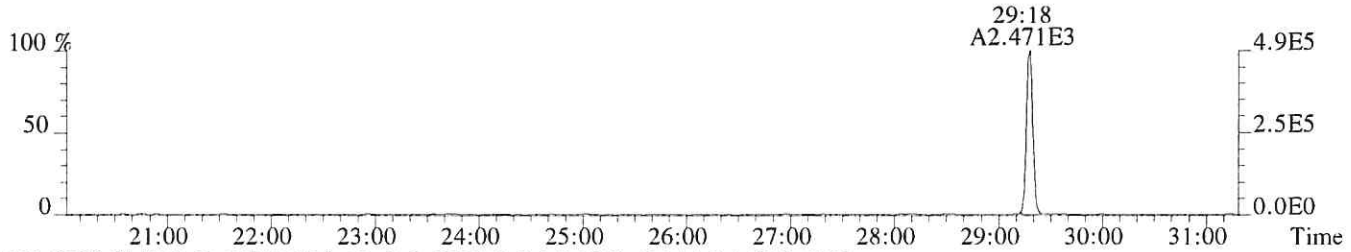
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



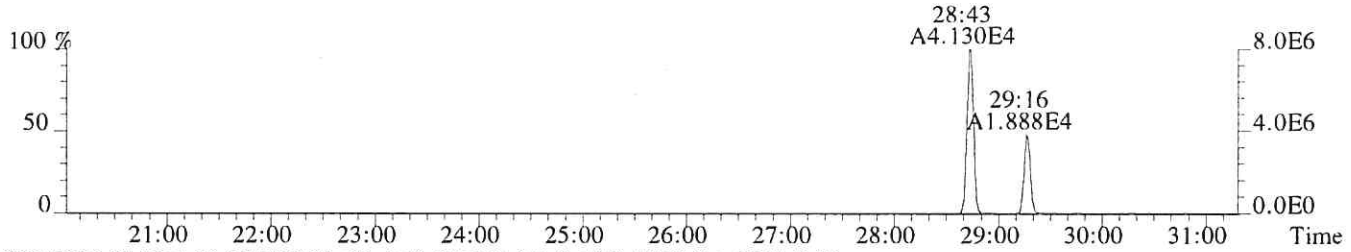
File:P511493 #1-800 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4276.0,1.00%,F,T)



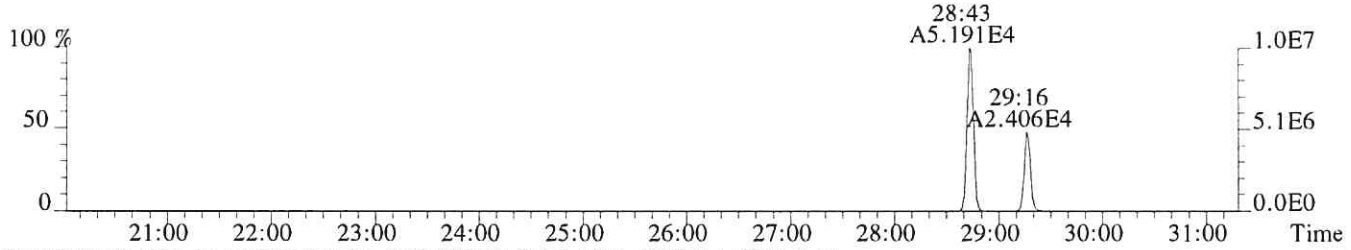
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



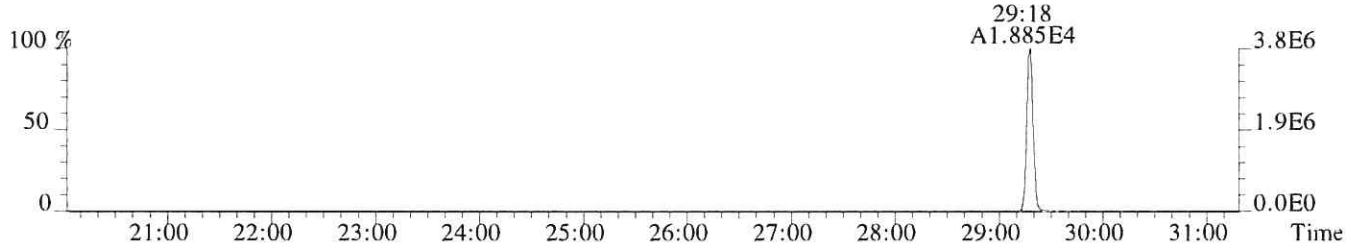
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12244.0,1.00%,F,T)



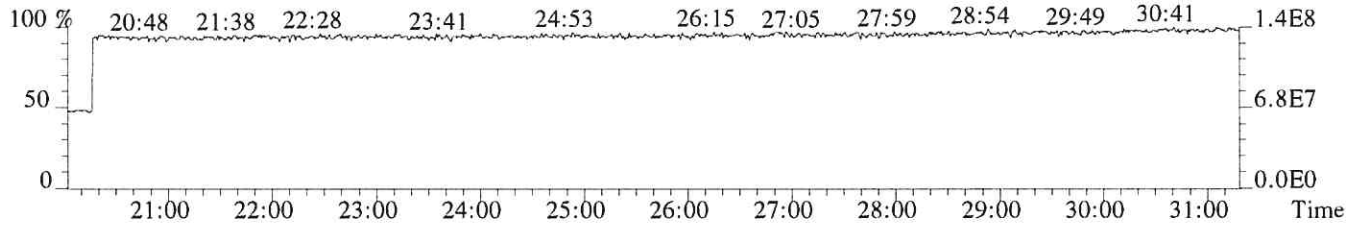
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5828.0,1.00%,F,T)



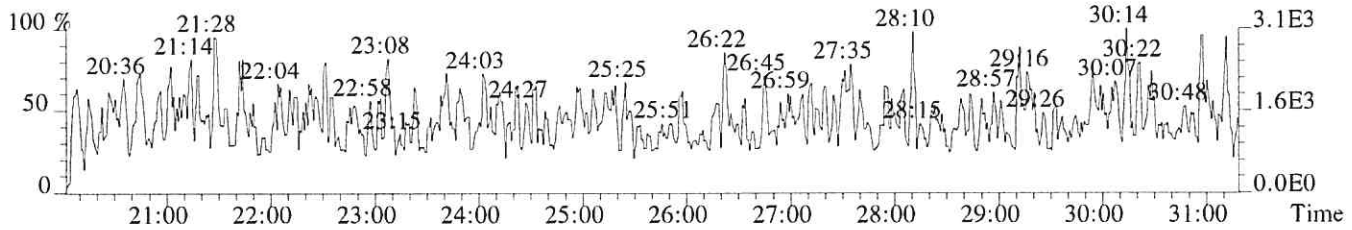
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4040.0,1.00%,F,T)



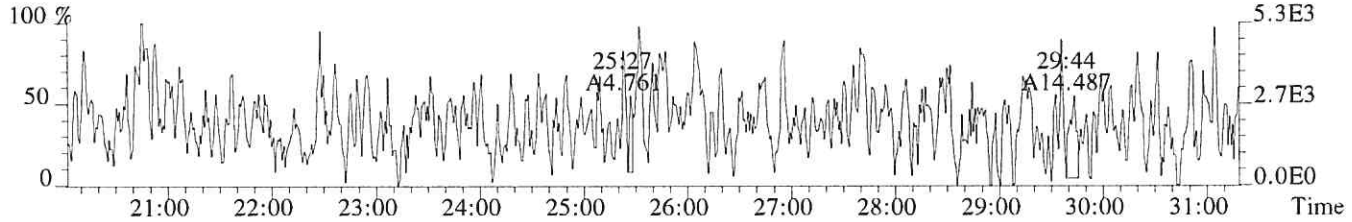
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



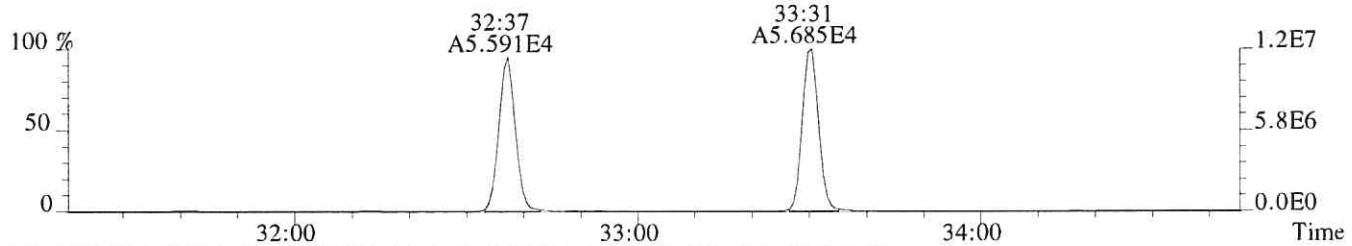
File:P511493 #1-800 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1836.0,1.00%,F,T)



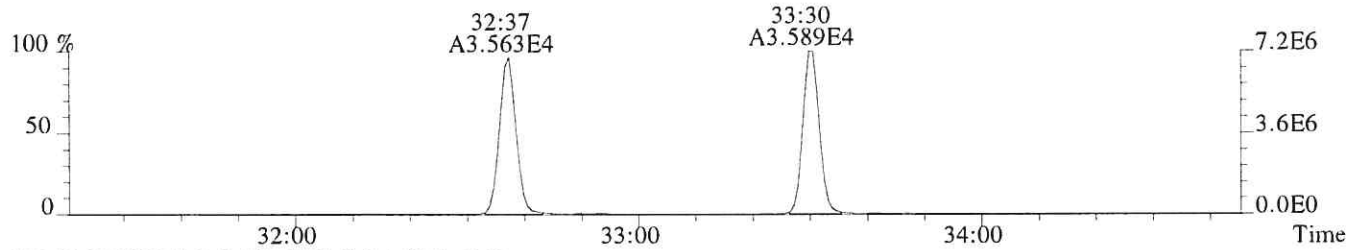
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2612.0,1.00%,F,T)



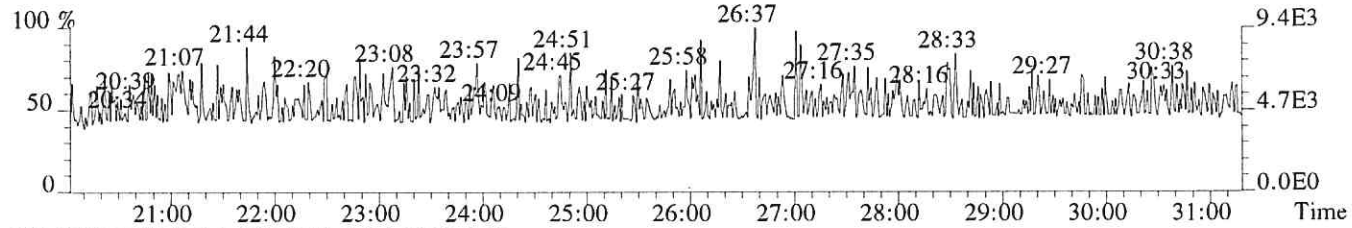
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



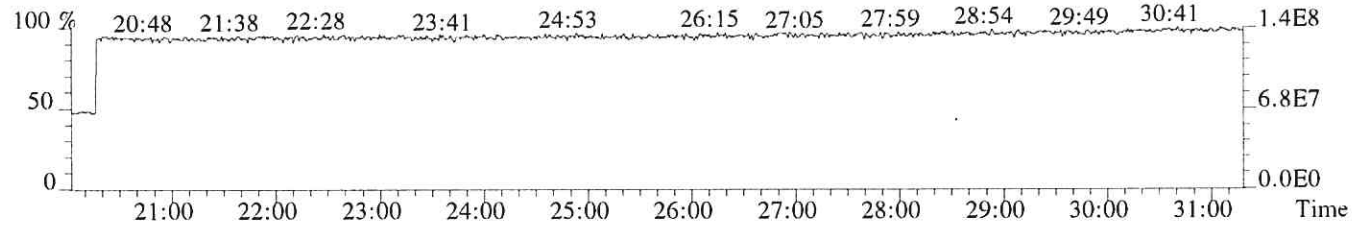
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)



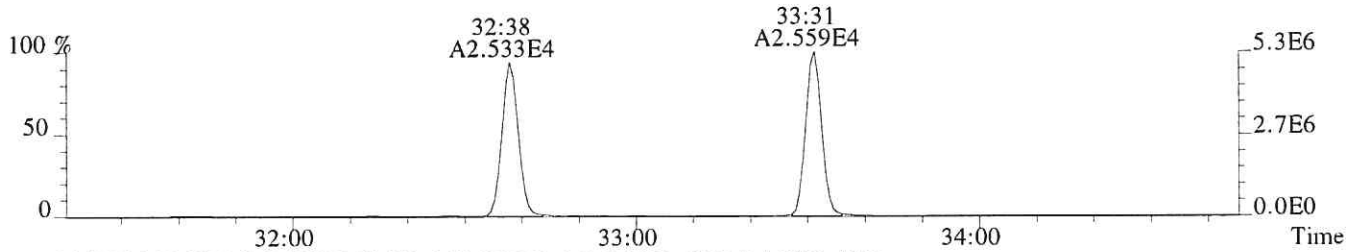
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



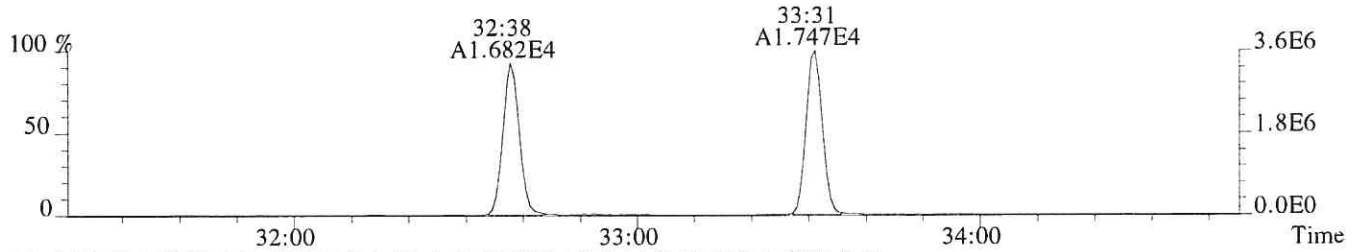
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



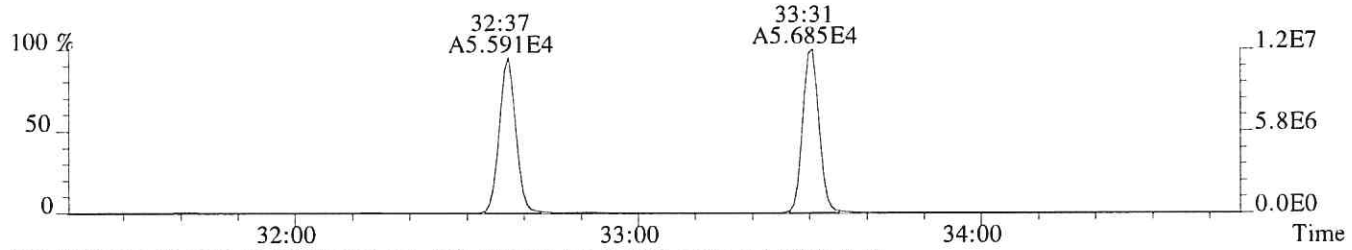
File:P511493 #1-308 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1344.0,1.00%,F,T)



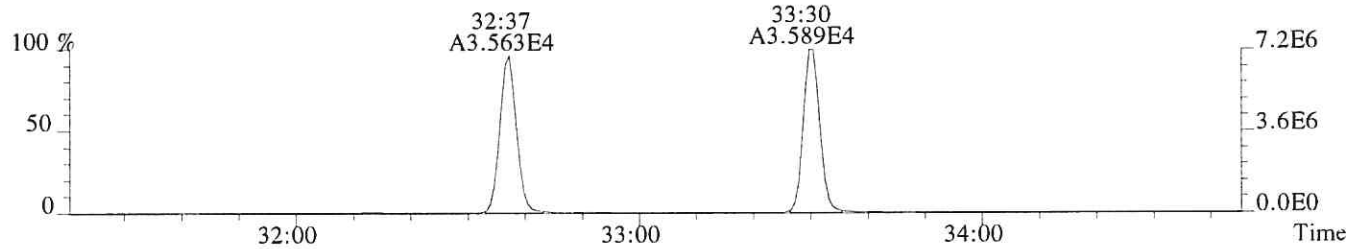
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4952.0,1.00%,F,T)



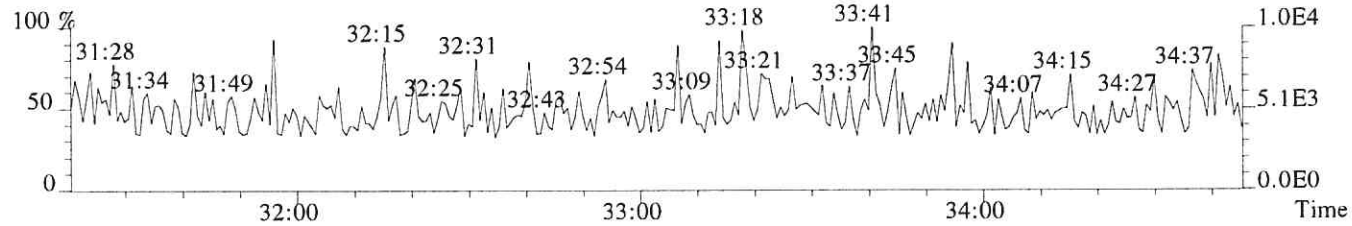
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1472.0,1.00%,F,T)



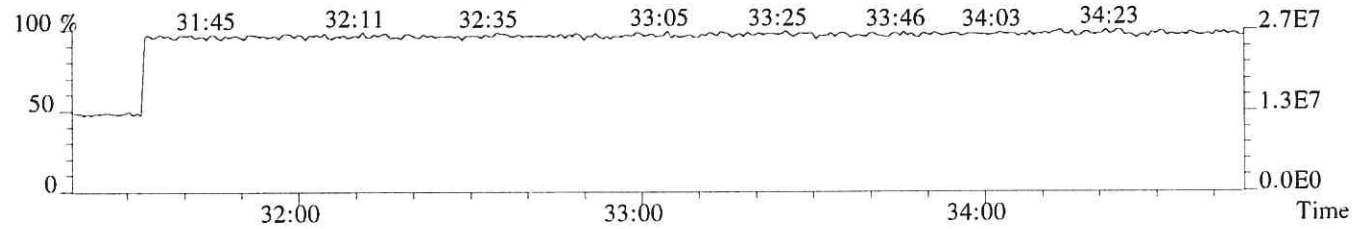
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1632.0,1.00%,F,T)



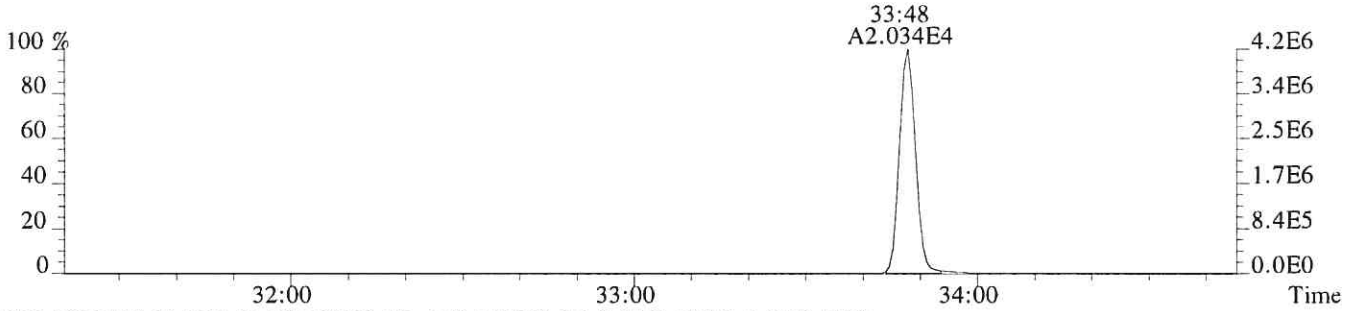
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



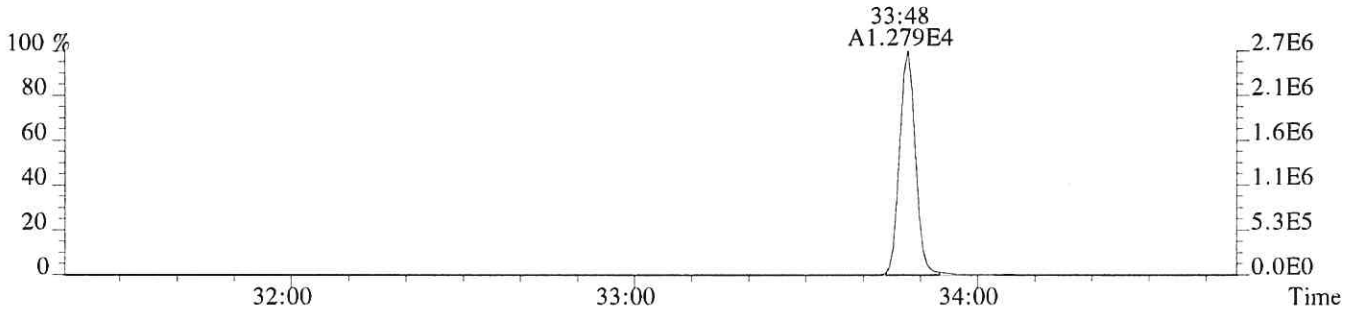
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



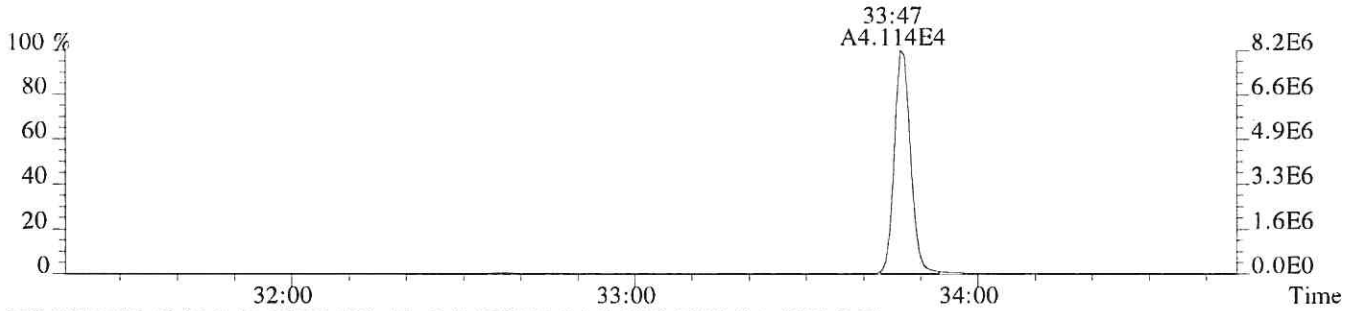
File:P511493 #1-308 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3820.0,1.00%,F,T)



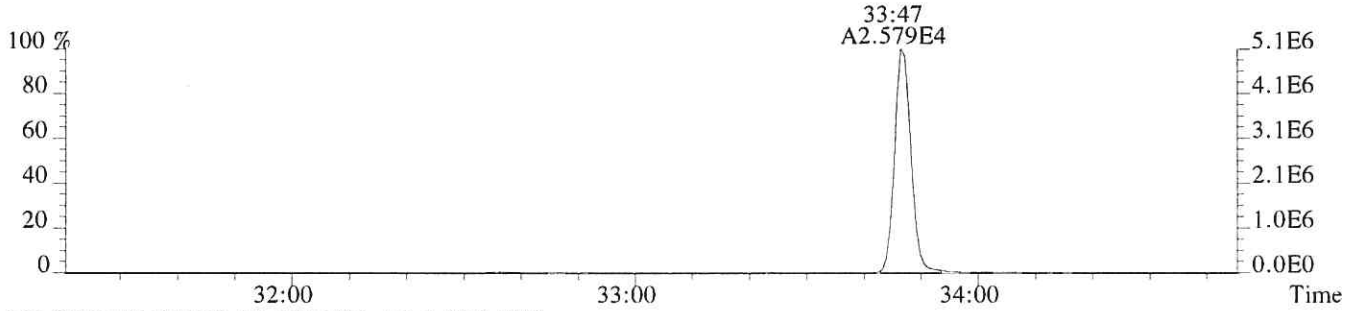
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,T)



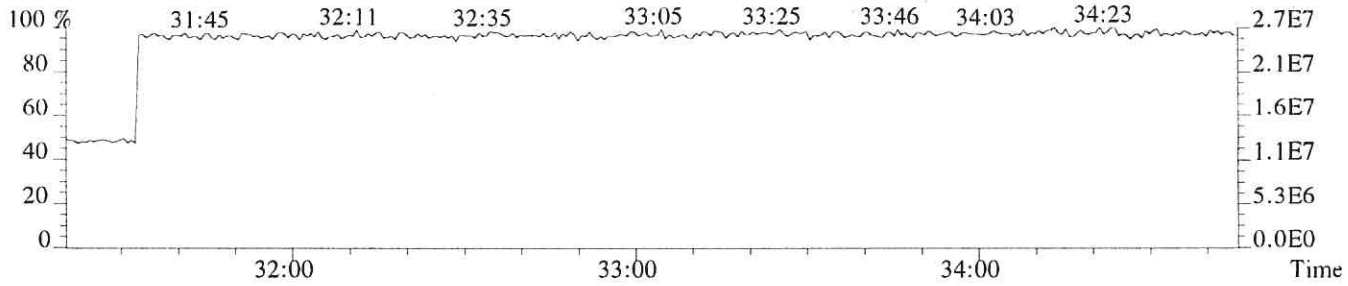
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2900.0,1.00%,F,T)



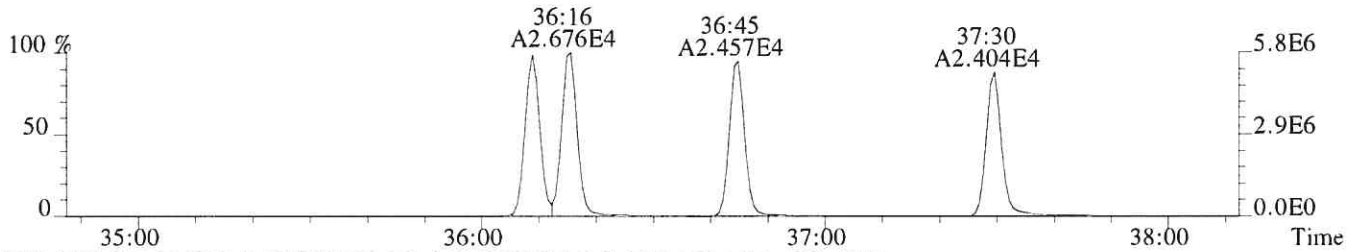
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2948.0,1.00%,F,T)



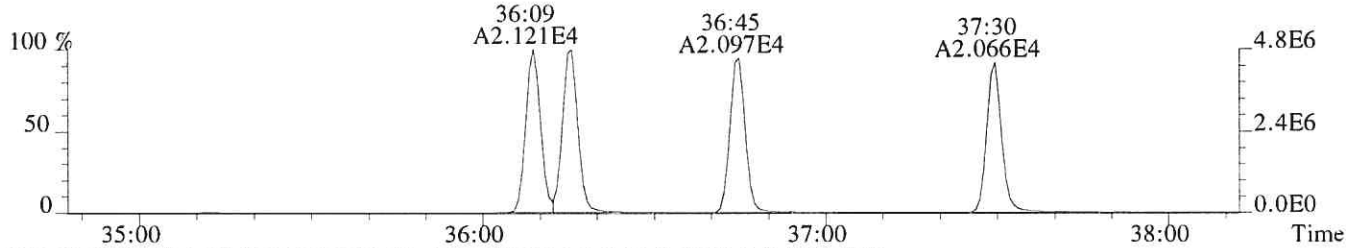
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



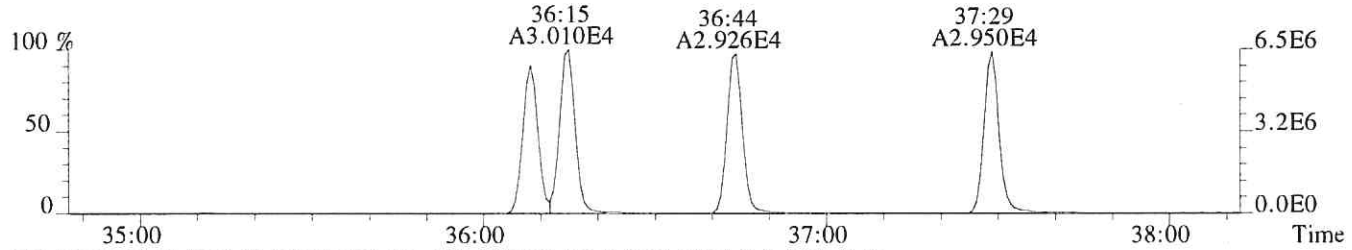
File:P511493 #1-308 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3108.0,0.40%,F,T)



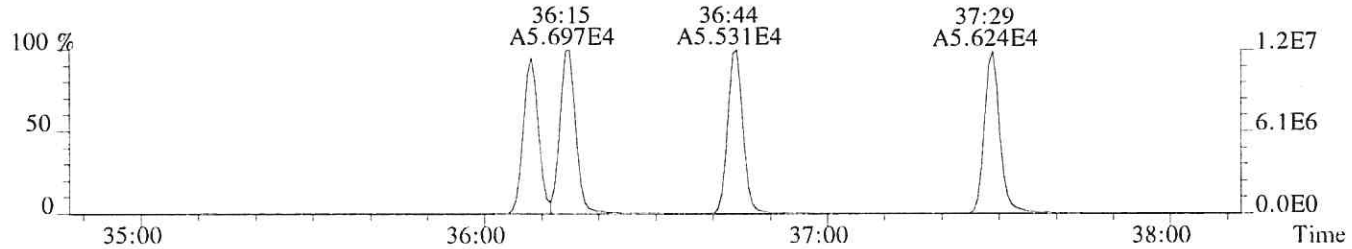
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2524.0,0.40%,F,T)



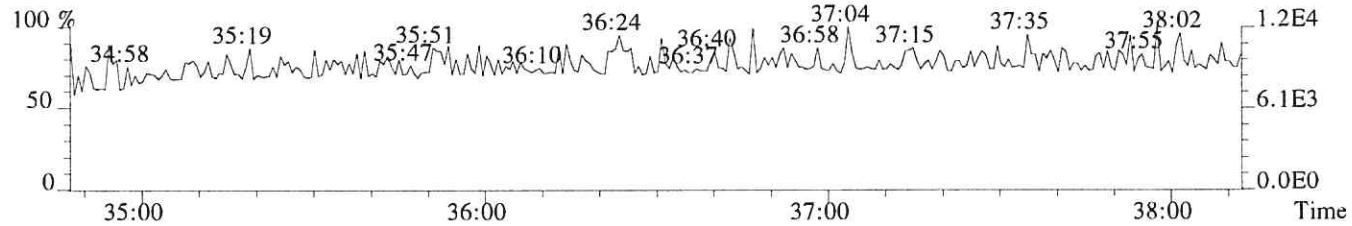
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,T)



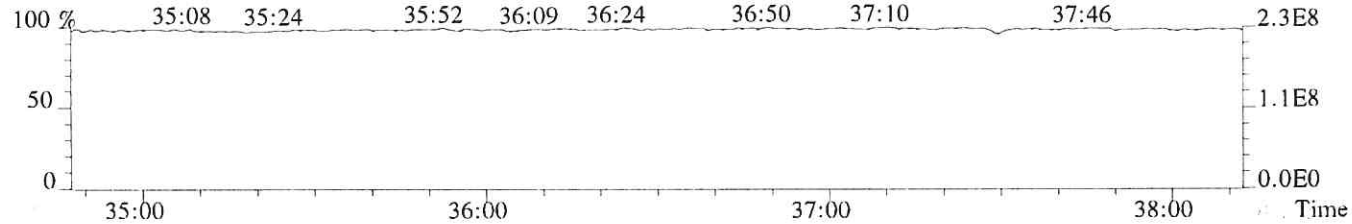
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2824.0,0.40%,F,T)



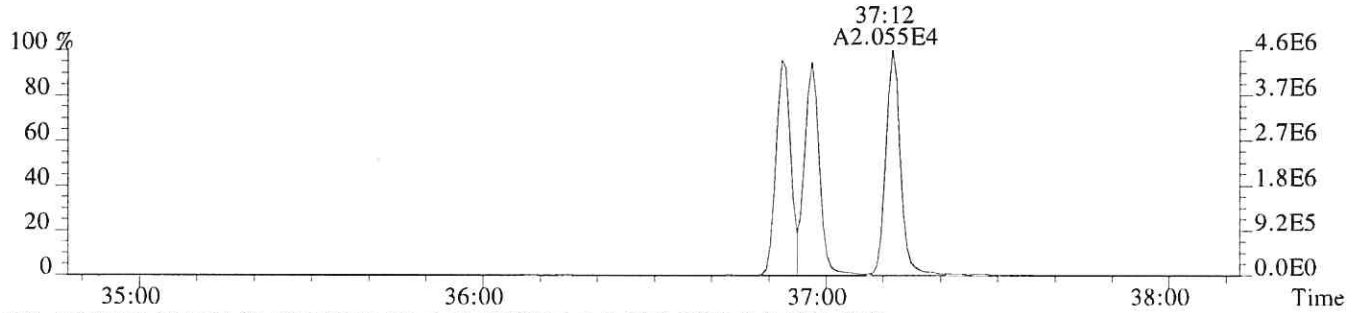
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



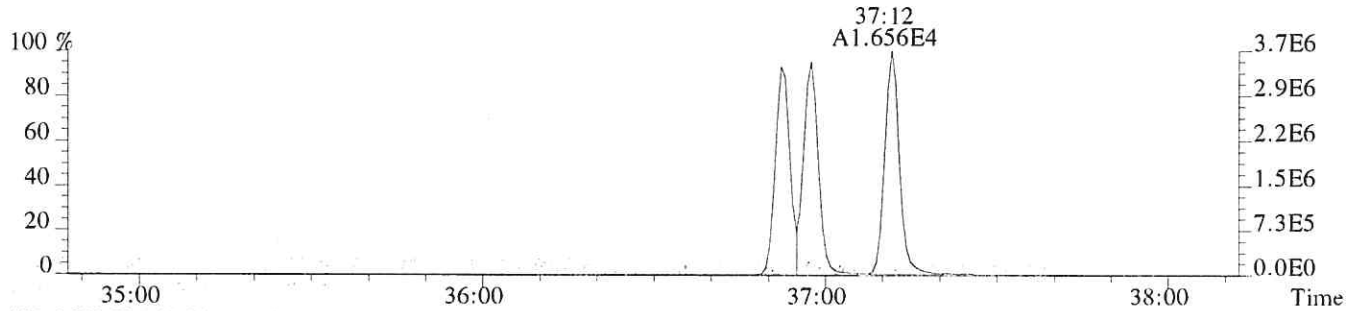
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



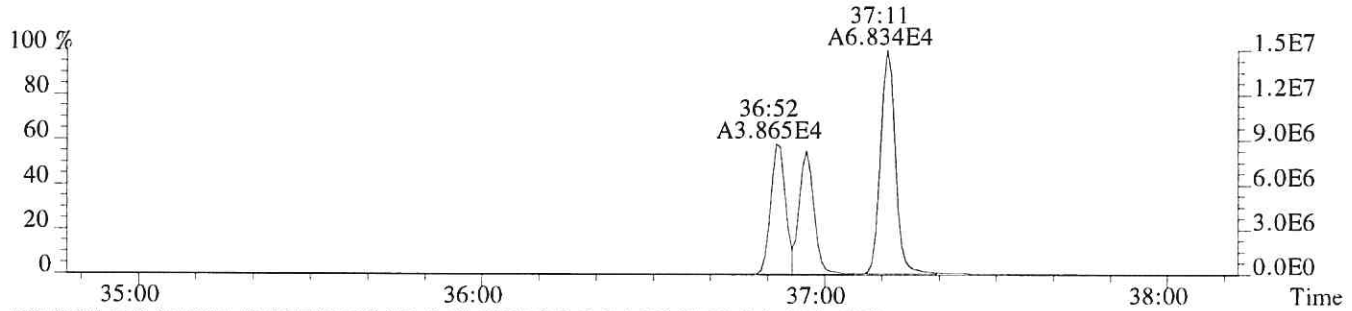
File:P511493 #1-308 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spectt
Sample#1 Exp:EQ1700417-02
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



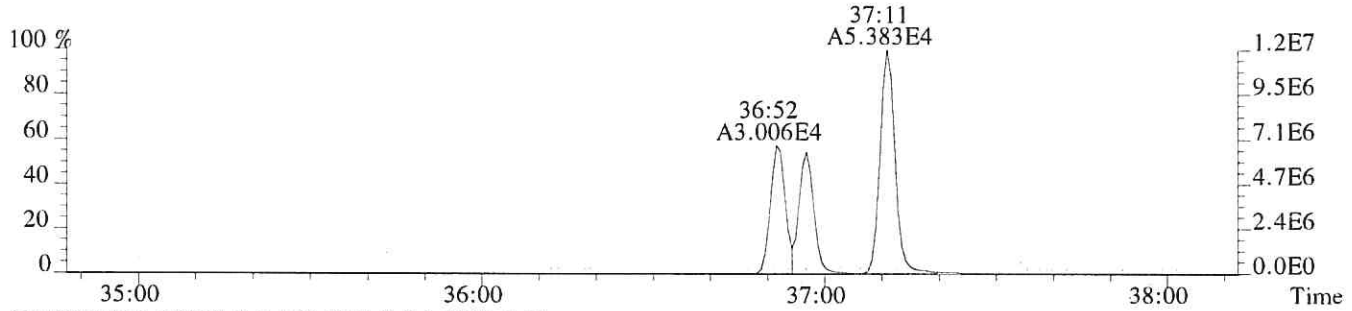
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2528.0,0.40%,F,T)



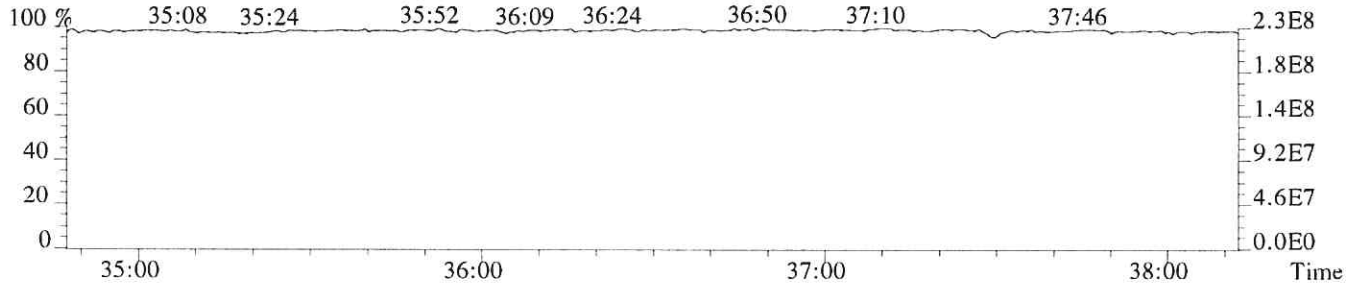
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3948.0,0.40%,F,T)



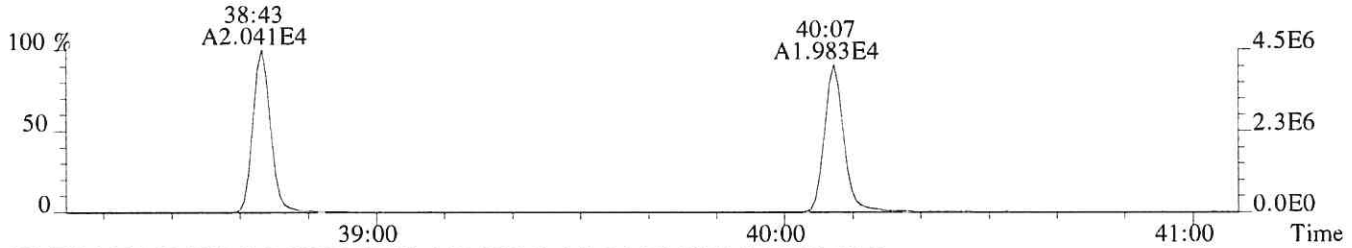
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2156.0,0.40%,F,T)



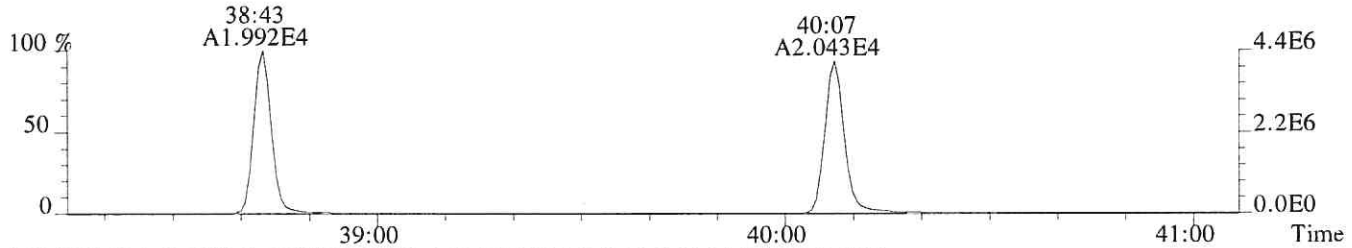
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



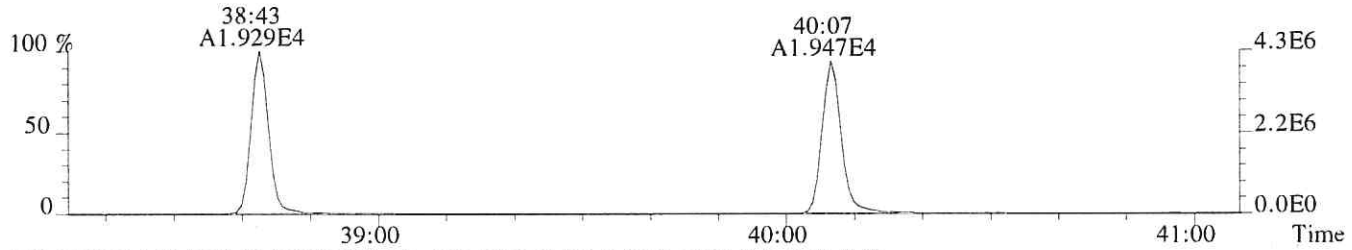
File:P511493 #1-259 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2732.0,0.50%,F,T)



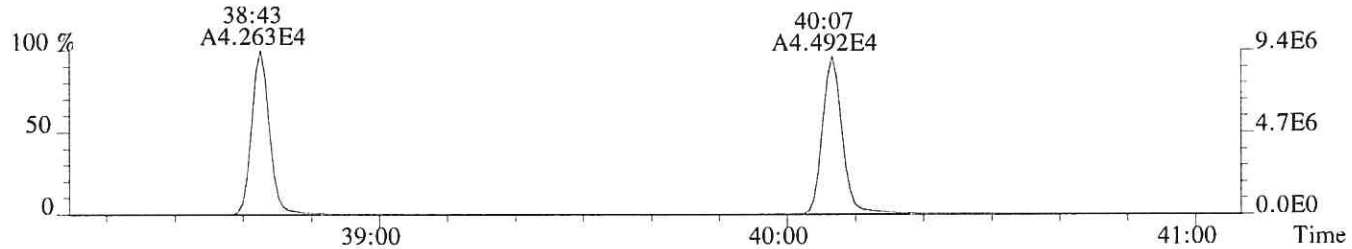
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2128.0,0.50%,F,T)



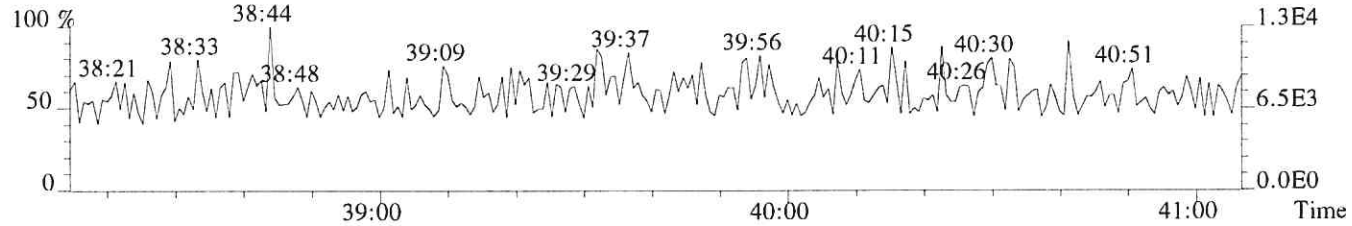
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2504.0,0.50%,F,T)



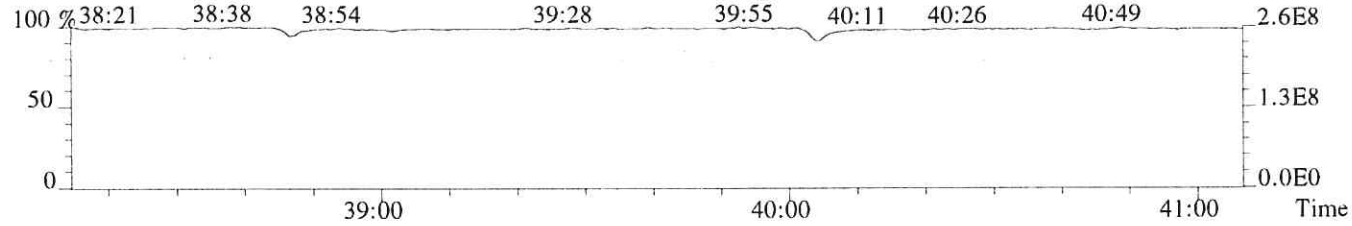
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5568.0,0.50%,F,T)



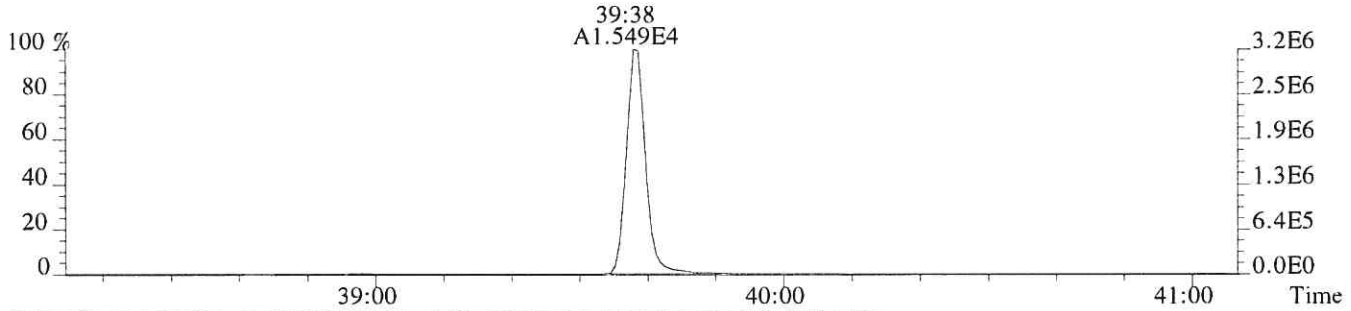
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



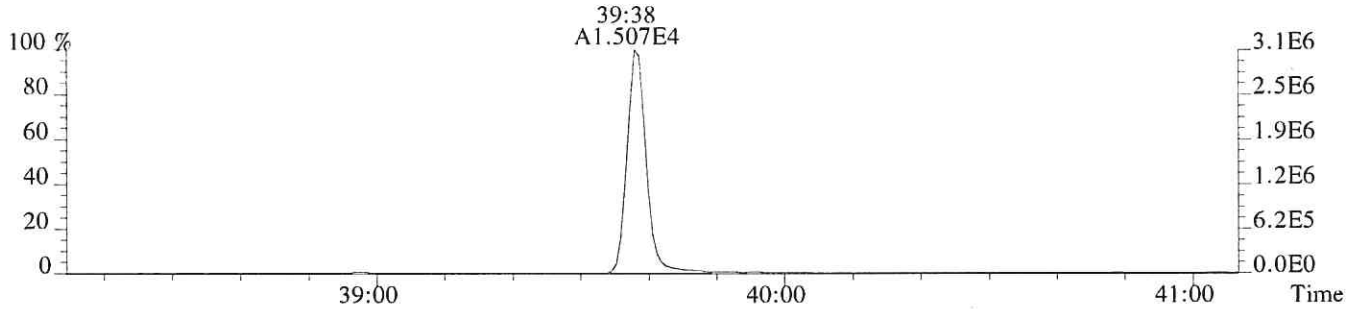
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



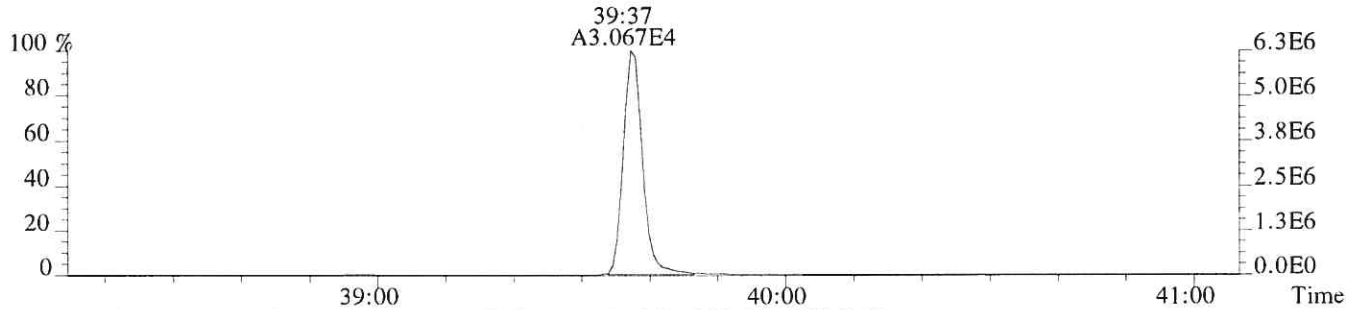
File:P511493 #1-259 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2084.0,0.40%,F,T)



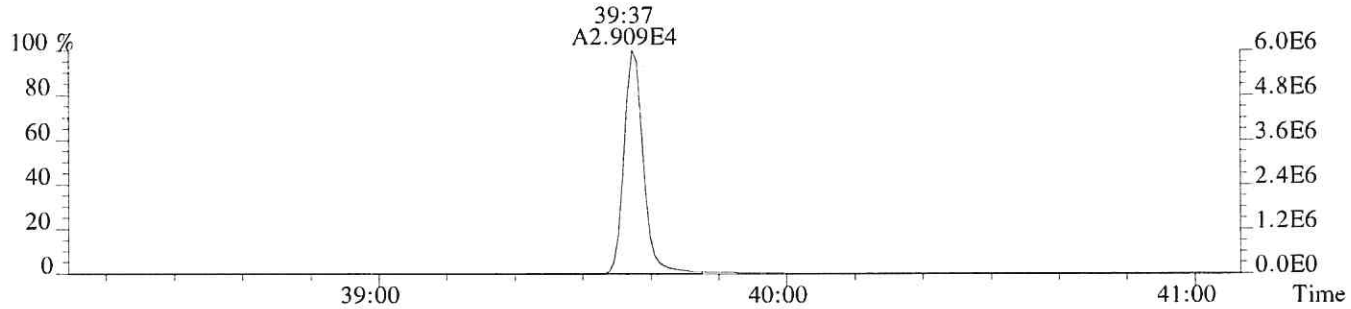
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1968.0,0.40%,F,T)



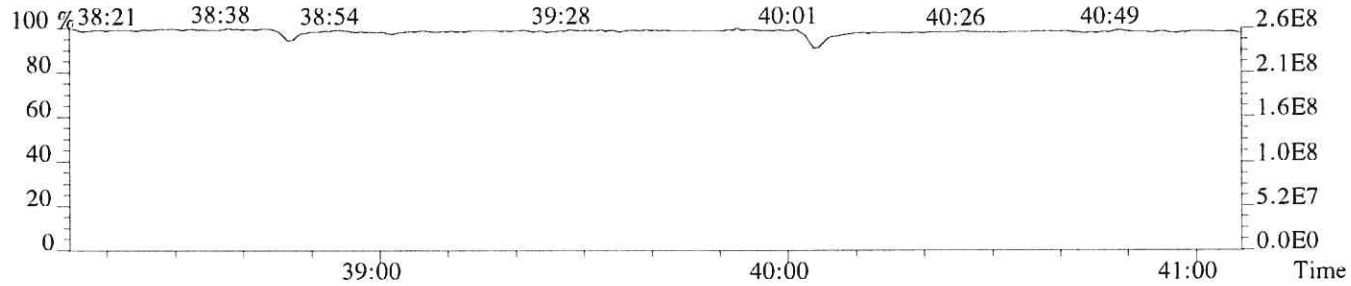
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2720.0,0.40%,F,T)



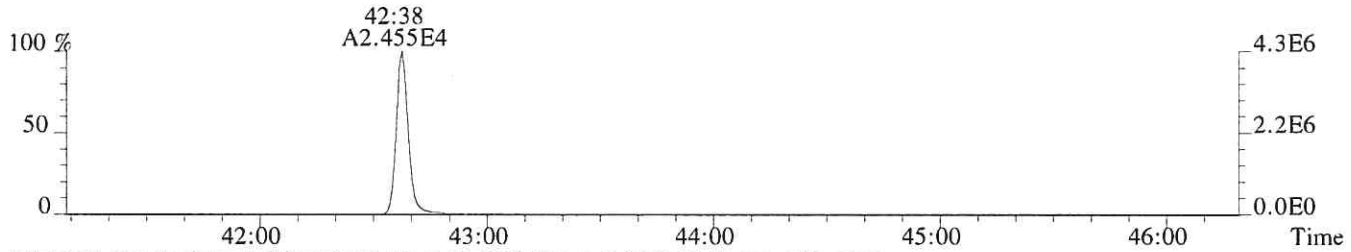
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1908.0,0.40%,F,T)



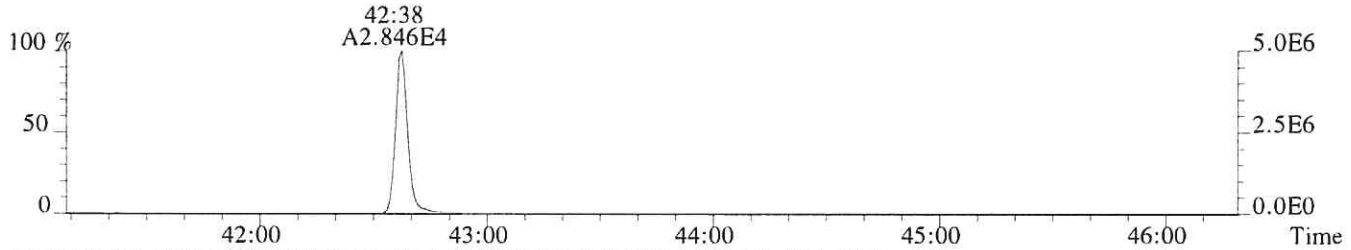
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



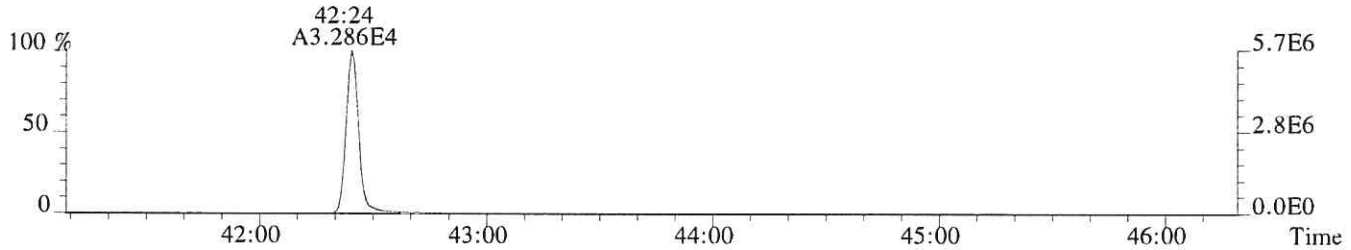
File:P511493 #1-466 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1816.0,0.40%,F,T)



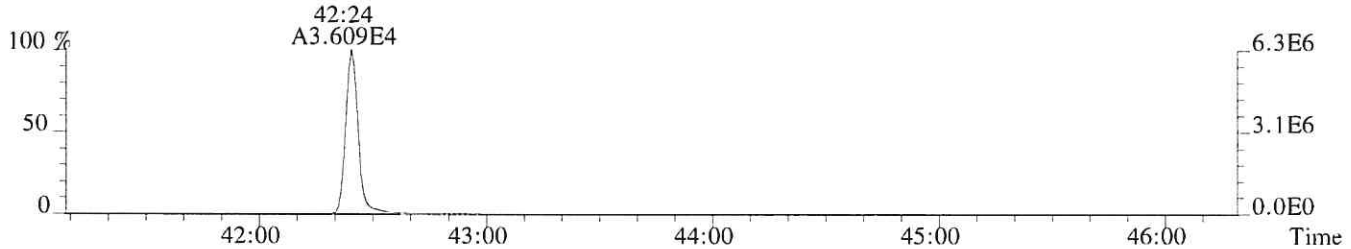
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3448.0,0.40%,F,T)



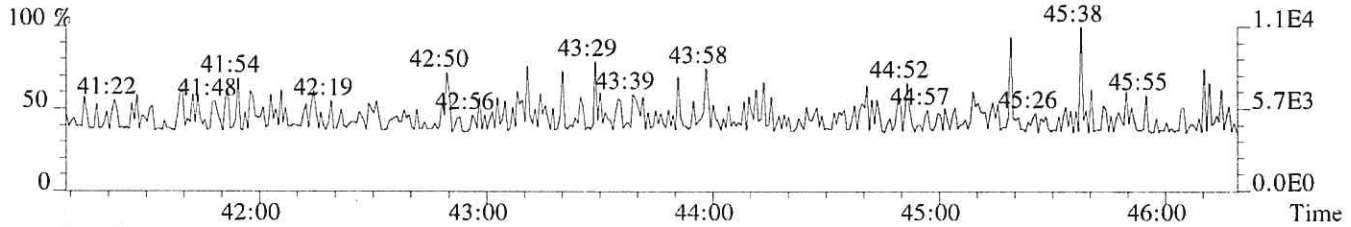
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1744.0,0.40%,F,T)



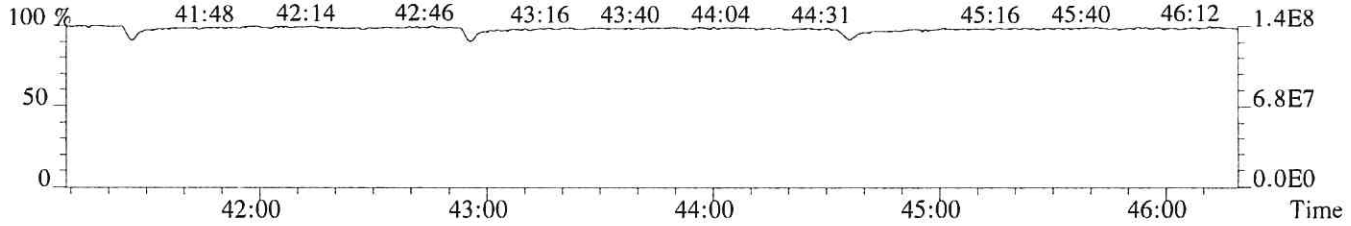
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1776.0,0.40%,F,T)



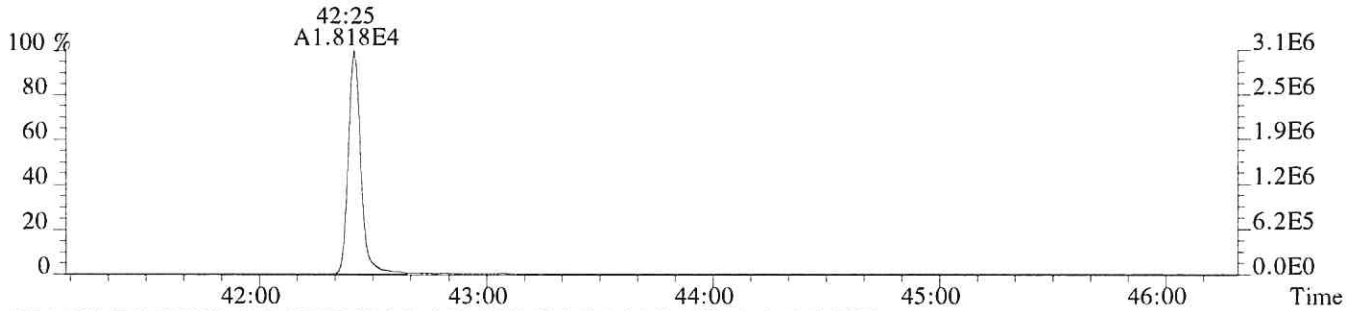
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



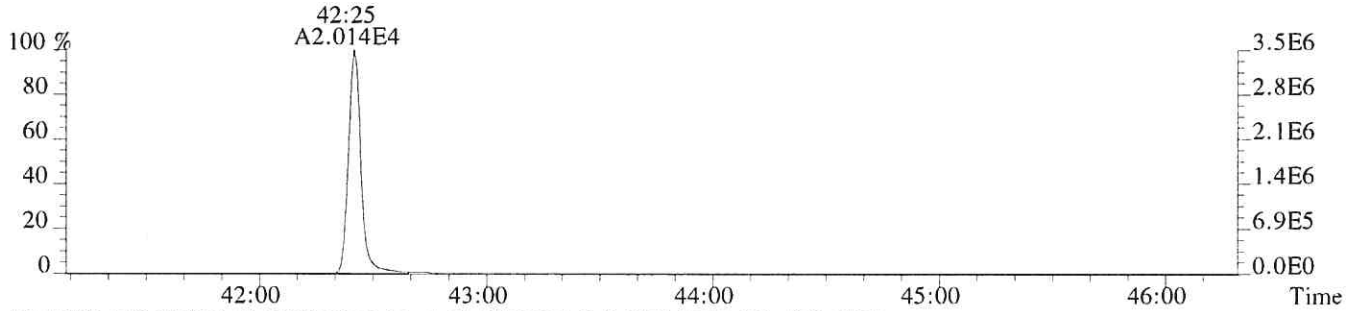
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



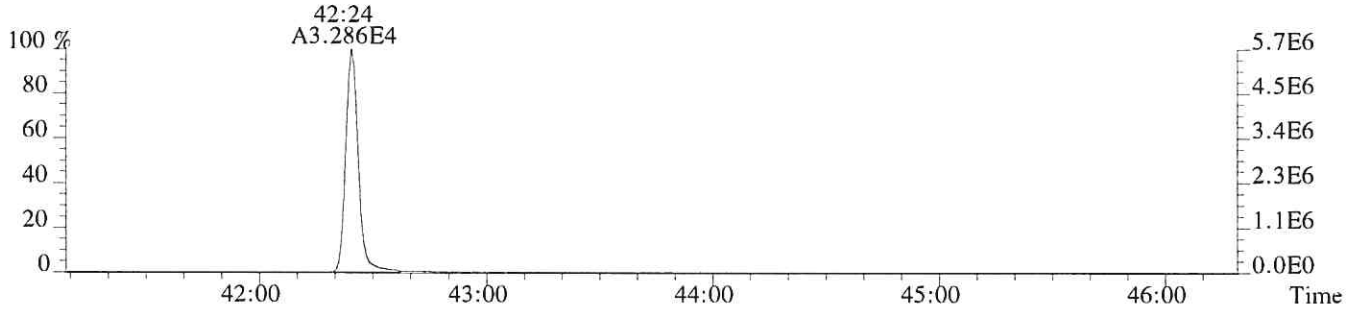
File:P511493 #1-466 Acq:22-SEP-2017 21:39:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-02
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1316.0,0.40%,F,T)



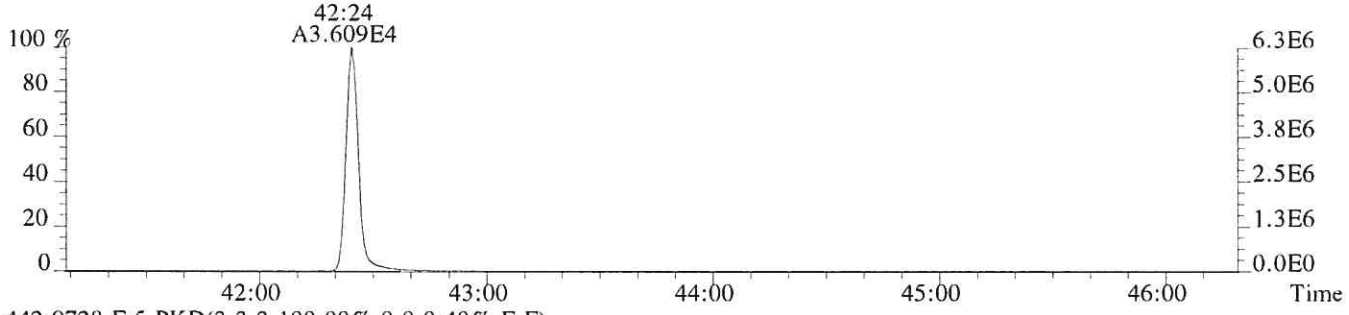
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1668.0,0.40%,F,T)



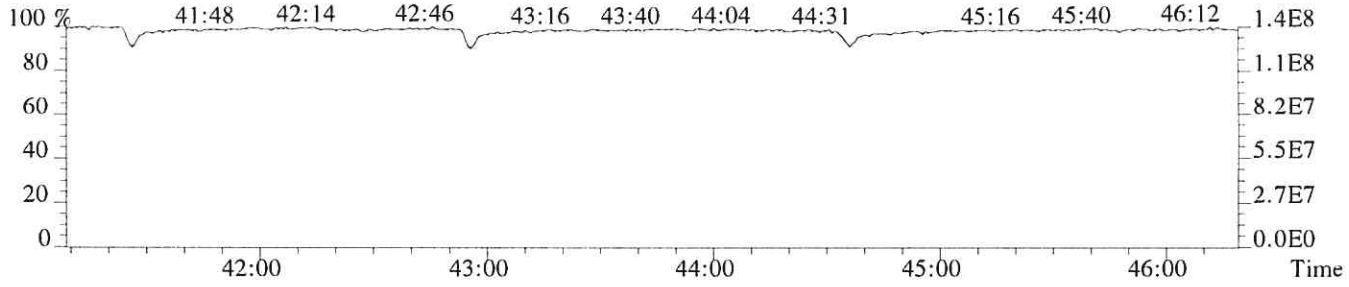
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1744.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1776.0,0.40%,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 #19 Filename P511494 Samp: 1 Inj: 1 Acquired: 22-SEP-17 22:28:00
Processed: 25-SEP-17 07:52:15 Sample ID: EQ1700417-03

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	1.506e+03	2.029e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	1.770e+04	1.212e+04	1.46	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	1.926e+04	1.316e+04	1.46	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	1.961e+04	1.690e+04	1.16	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	2.130e+04	1.782e+04	1.20	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.022e+04	1.719e+04	1.18	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:29	1.845e+04	1.509e+04	1.22	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	1.643e+04	1.631e+04	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	1.661e+04	1.683e+04	0.99	yes	no	1.191
10	Unk	OCDF	42:37	1.943e+04	2.269e+04	0.86	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	1.287e+03	1.618e+03	0.80	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:47	1.542e+04	9.993e+03	1.54	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	1.570e+04	1.229e+04	1.28	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	1.697e+04	1.335e+04	1.27	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	1.653e+04	1.334e+04	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	1.288e+04	1.251e+04	1.03	yes	no	0.942
17	Unk	OCDD	42:24	1.509e+04	1.678e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	1.551e+04	1.999e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	4.041e+04	2.503e+04	1.61	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	4.294e+04	2.673e+04	1.61	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.071e+04	4.053e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	2.357e+04	4.598e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	2.334e+04	4.498e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	2.164e+04	4.197e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	1.541e+04	3.410e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	1.633e+04	3.556e+04	0.46	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	1.265e+04	1.565e+04	0.81	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	3.127e+04	1.956e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	3.097e+04	2.440e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	3.146e+04	2.502e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	2.578e+04	2.370e+04	1.09	yes	no	0.881
32	IS	13C-OCDD	42:24	2.755e+04	3.008e+04	0.92	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	3.944e+04	4.929e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	6.369e+04	4.952e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	1.233e+04				no	1.033

$$\text{OCDD} = \frac{(1.509e{+}04 + 1.678e{+}04\ ) \times 4000\ \text{pg} \times 1}{(2.755e{+}04 + 3.008e{+}04) \times \quad \text{g} \times \quad / 100 \times 1.051} =$$

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
DLCS

Run #19 Filename P511494 Samp: 1 Inj: 1 Acquired: 22-SEP-17 22:28:00
Processed: 25-SEP-17 07:52:15 LAB. ID: EQ1700417-03

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.95e+05	1.88e+03	1.6e+02	3.83e+05	6.10e+03	6.3e+01
2	1,2,3,7,8-PeCDF	3.46e+06	7.96e+02	4.3e+03	2.37e+06	4.13e+03	5.7e+02
3	2,3,4,7,8-PeCDF	3.97e+06	7.96e+02	5.0e+03	2.68e+06	4.13e+03	6.5e+02
4	1,2,3,4,7,8-HxCDF	4.44e+06	1.76e+03	2.5e+03	3.85e+06	1.32e+03	2.9e+03
5	1,2,3,6,7,8-HxCDF	4.64e+06	1.76e+03	2.6e+03	3.77e+06	1.32e+03	2.9e+03
6	2,3,4,6,7,8-HxCDF	4.55e+06	1.76e+03	2.6e+03	3.84e+06	1.32e+03	2.9e+03
7	1,2,3,7,8,9-HxCDF	4.00e+06	1.76e+03	2.3e+03	3.26e+06	1.32e+03	2.5e+03
8	1,2,3,4,6,7,8-HpCDF	3.66e+06	2.81e+03	1.3e+03	3.63e+06	3.16e+03	1.1e+03
9	1,2,3,4,7,8,9-HpCDF	3.37e+06	2.81e+03	1.2e+03	3.44e+06	3.16e+03	1.1e+03
10	OCDF	3.39e+06	1.88e+03	1.8e+03	3.86e+06	3.98e+03	9.7e+02
11	2,3,7,8-TCDD	2.56e+05	4.83e+03	5.3e+01	3.39e+05	2.04e+03	1.7e+02
12	1,2,3,7,8-PeCDD	3.16e+06	3.24e+03	9.7e+02	2.04e+06	9.04e+02	2.3e+03
13	1,2,3,4,7,8-HxCDD	3.56e+06	1.07e+03	3.3e+03	2.77e+06	2.24e+03	1.2e+03
14	1,2,3,6,7,8-HxCDD	3.61e+06	1.07e+03	3.4e+03	2.87e+06	2.24e+03	1.3e+03
15	1,2,3,7,8,9-HxCDD	3.50e+06	1.07e+03	3.3e+03	2.83e+06	2.24e+03	1.3e+03
16	1,2,3,4,6,7,8-HpCDD	2.62e+06	1.56e+03	1.7e+03	2.50e+06	2.07e+03	1.2e+03
17	OCDD	2.64e+06	1.48e+03	1.8e+03	2.90e+06	1.76e+03	1.7e+03
18	13C-2,3,7,8-TCDF	3.02e+06	2.10e+04	1.4e+02	3.86e+06	1.47e+04	2.6e+02
19	13C-1,2,3,7,8-PeCDF	7.86e+06	2.40e+03	3.3e+03	4.91e+06	2.08e+03	2.4e+03
20	13C-2,3,4,7,8-PeCDF	8.74e+06	2.40e+03	3.6e+03	5.37e+06	2.08e+03	2.6e+03
21	13C-1,2,3,4,7,8-HxCDF	4.66e+06	1.44e+03	3.2e+03	9.11e+06	3.30e+03	2.8e+03
22	13C-1,2,3,6,7,8-HxCDF	5.11e+06	1.44e+03	3.6e+03	9.77e+06	3.30e+03	3.0e+03
23	13C-2,3,4,6,7,8-HxCDF	5.24e+06	1.44e+03	3.6e+03	9.87e+06	3.30e+03	3.0e+03
24	13C-1,2,3,7,8,9-HxCDF	4.70e+06	1.44e+03	3.3e+03	9.07e+06	3.30e+03	2.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.39e+06	3.06e+03	1.1e+03	7.56e+06	4.66e+03	1.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.37e+06	3.06e+03	1.1e+03	7.25e+06	4.66e+03	1.6e+03
27	13C-2,3,7,8-TCDD	2.49e+06	9.87e+03	2.5e+02	3.17e+06	5.08e+03	6.2e+02
28	13C-1,2,3,7,8-PeCDD	6.27e+06	2.90e+03	2.2e+03	3.91e+06	2.83e+03	1.4e+03
29	13C-1,2,3,4,7,8-HxCDD	7.01e+06	2.36e+03	3.0e+03	5.47e+06	3.24e+03	1.7e+03
30	13C-1,2,3,6,7,8-HxCDD	6.73e+06	2.36e+03	2.9e+03	5.44e+06	3.24e+03	1.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.17e+06	1.79e+03	2.9e+03	4.79e+06	2.62e+03	1.8e+03
32	13C-OCDD	4.79e+06	2.94e+03	1.6e+03	5.27e+06	1.51e+03	3.5e+03
33	13C-1,2,3,4-TCDD	7.82e+06	9.87e+03	7.9e+02	9.78e+06	5.08e+03	1.9e+03
34	13C-1,2,3,7,8,9-HxCDD	1.36e+07	2.36e+03	5.7e+03	1.07e+07	3.24e+03	3.3e+03
35	37Cl-2,3,7,8-TCDD	2.50e+06	3.57e+03	7.0e+02			

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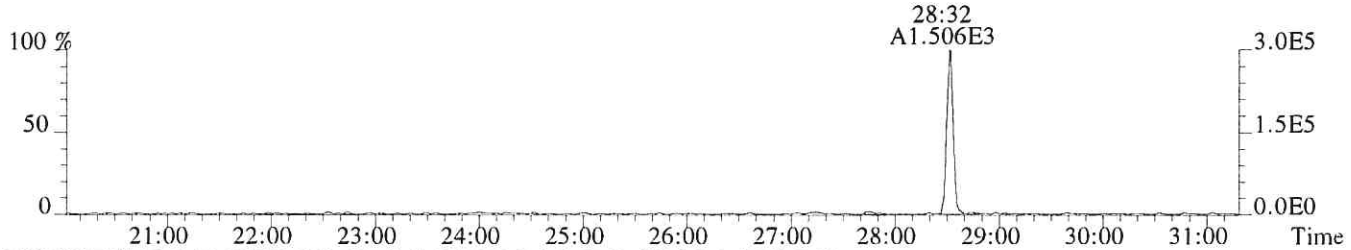
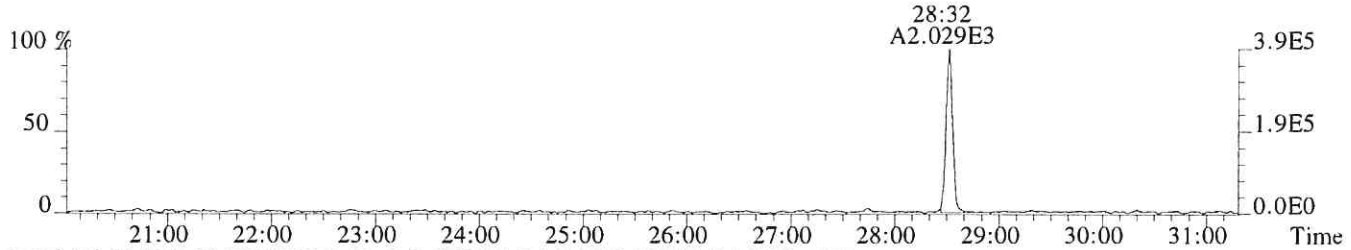
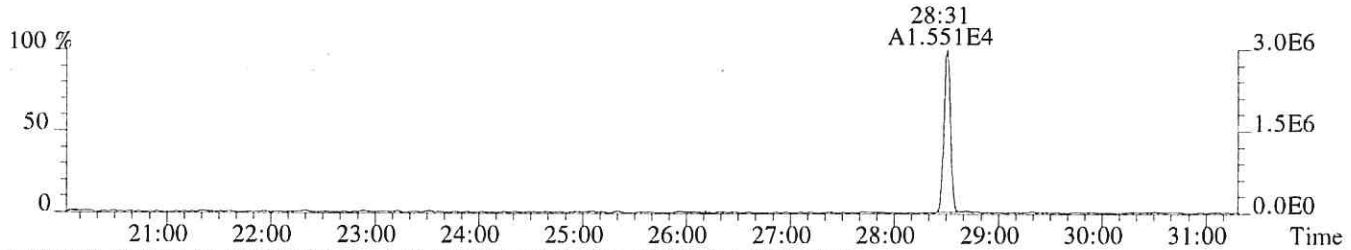
File:P511494 #1-800 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1876.0,1.00%,F,T)



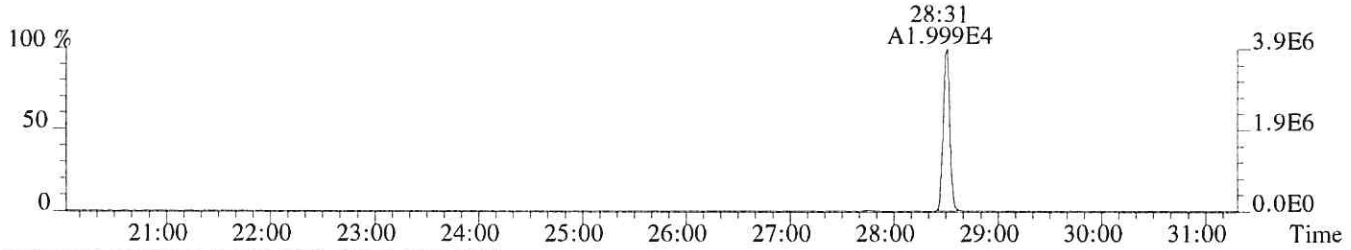
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6096.0,1.00%,F,T)



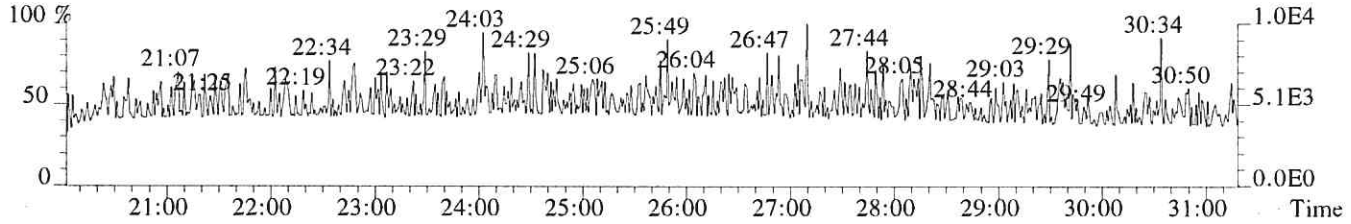
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,21000.0,1.00%,F,T)



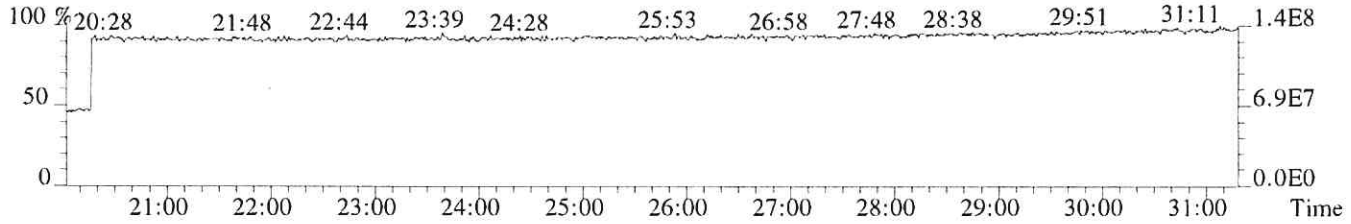
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14684.0,1.00%,F,T)



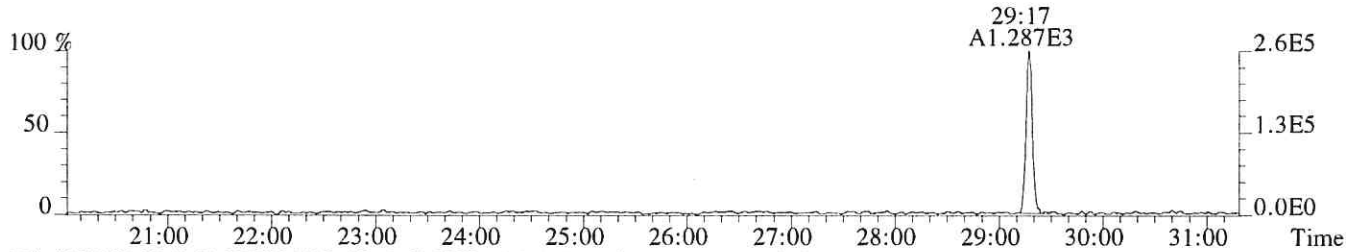
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



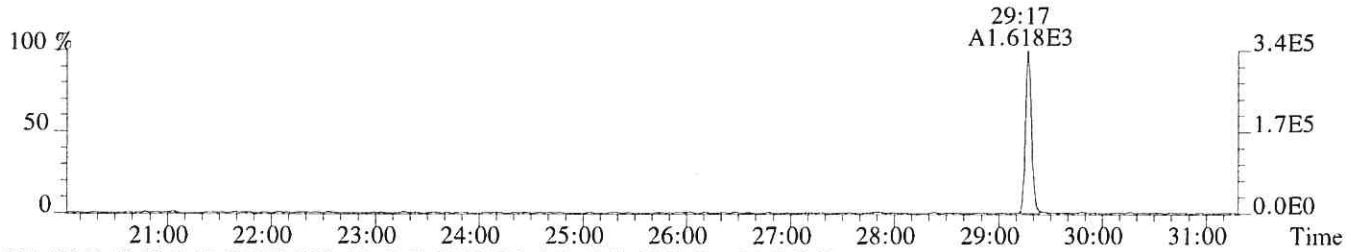
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



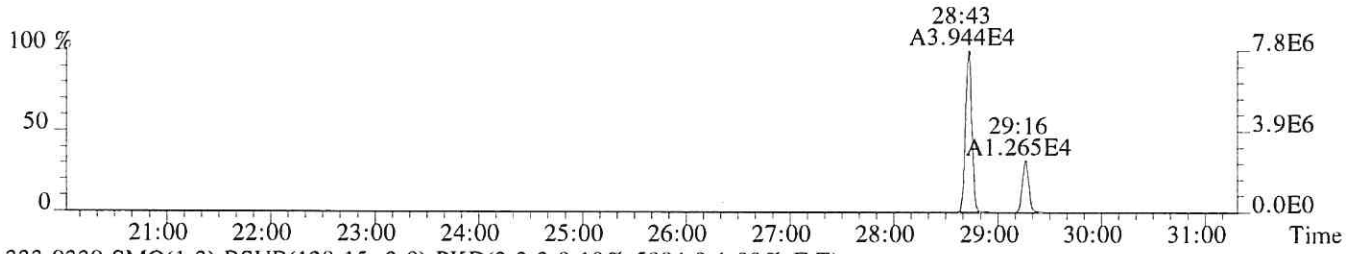
File:P511494 #1-800 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4832.0,1.00%,F,T)



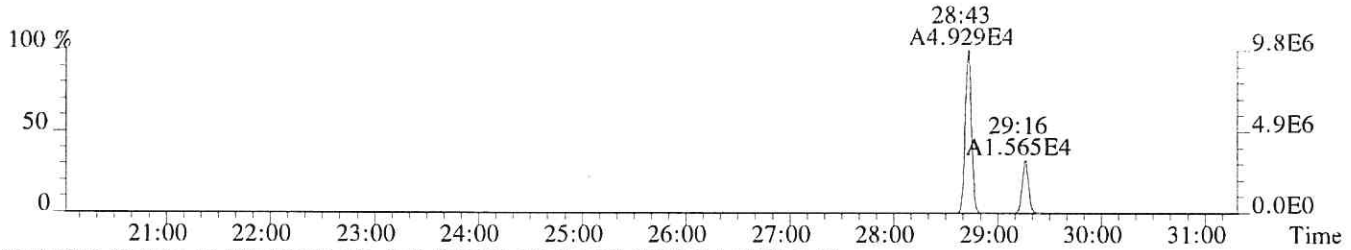
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2044.0,1.00%,F,T)



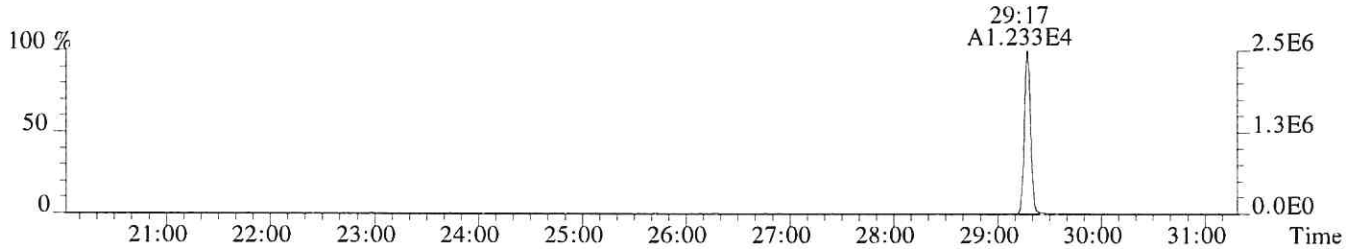
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9868.0,1.00%,F,T)



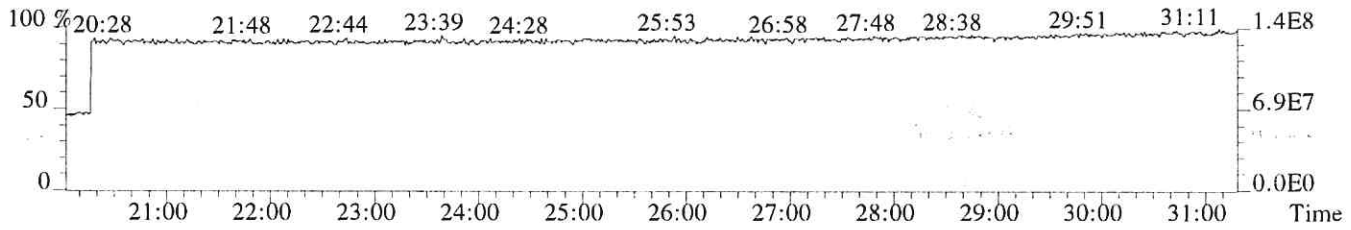
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5084.0,1.00%,F,T)



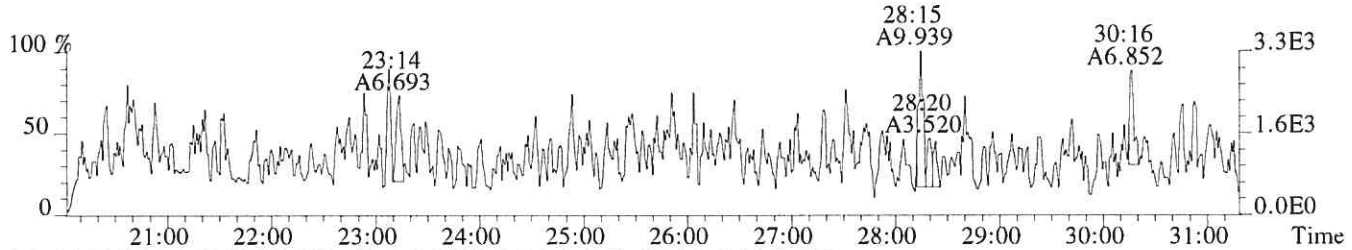
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3572.0,1.00%,F,T)



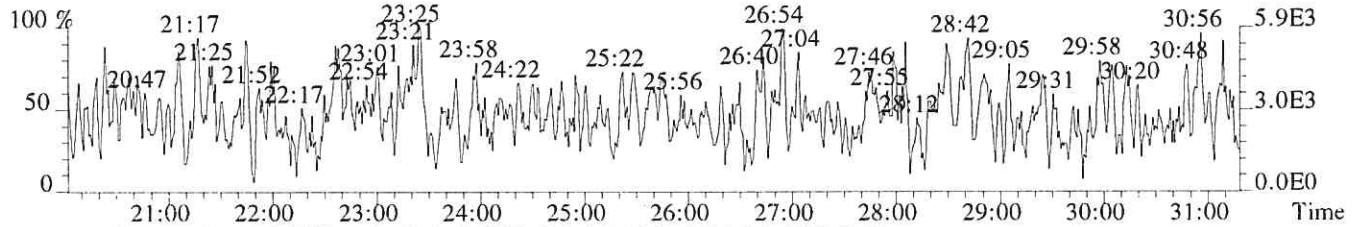
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



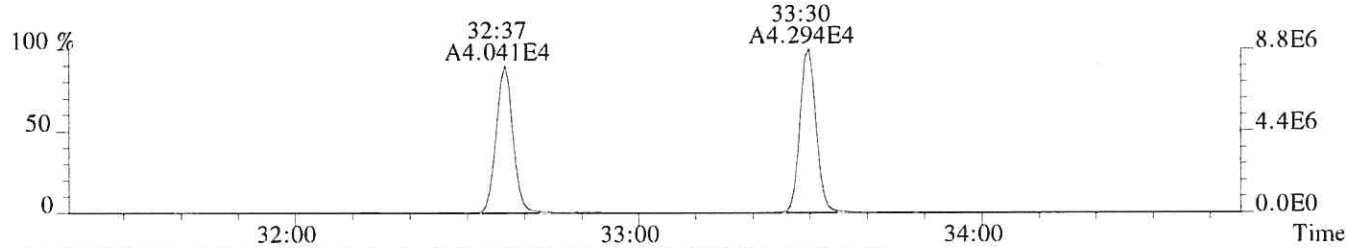
File:P511494 #1-800 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,T)



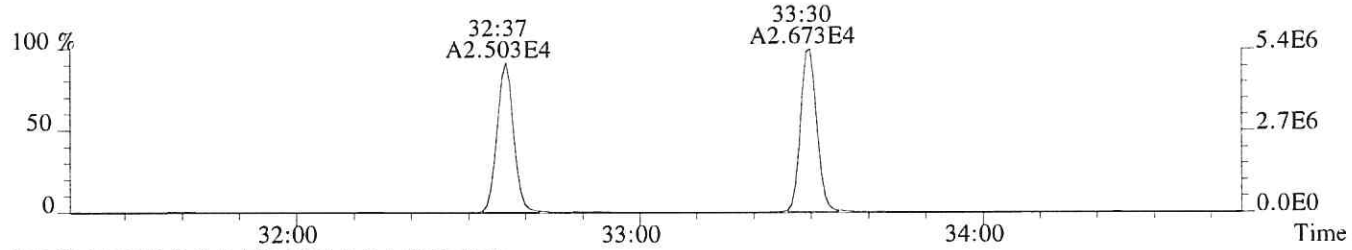
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3724.0,1.00%,F,T)



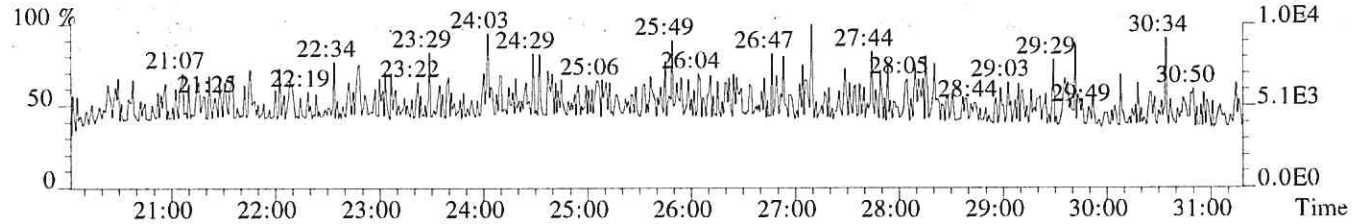
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



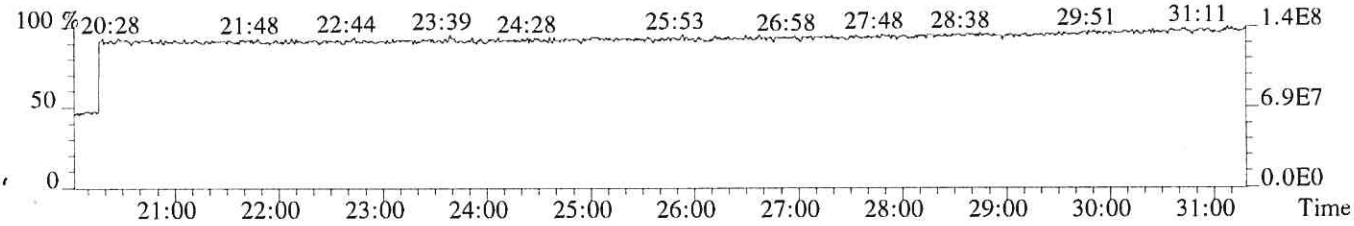
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2084.0,1.00%,F,T)



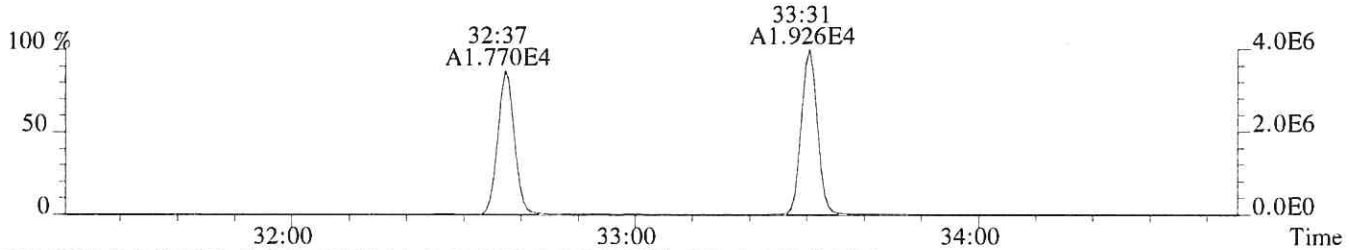
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



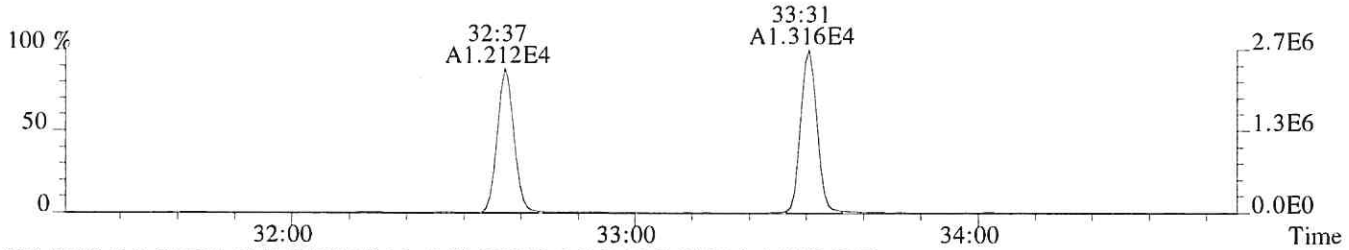
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



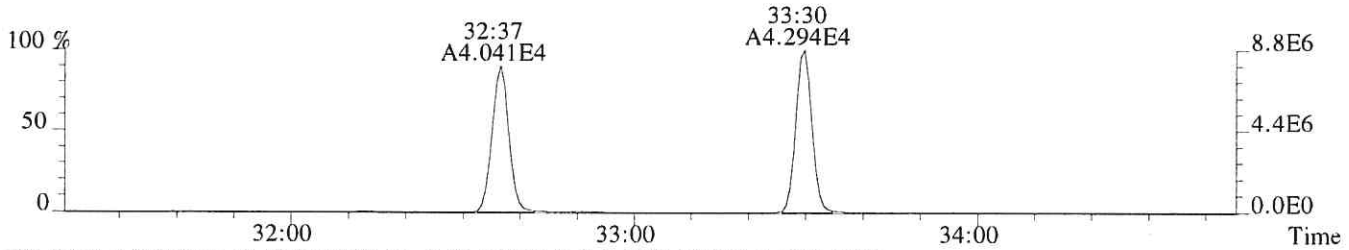
File:P511494 #1-308 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,T)



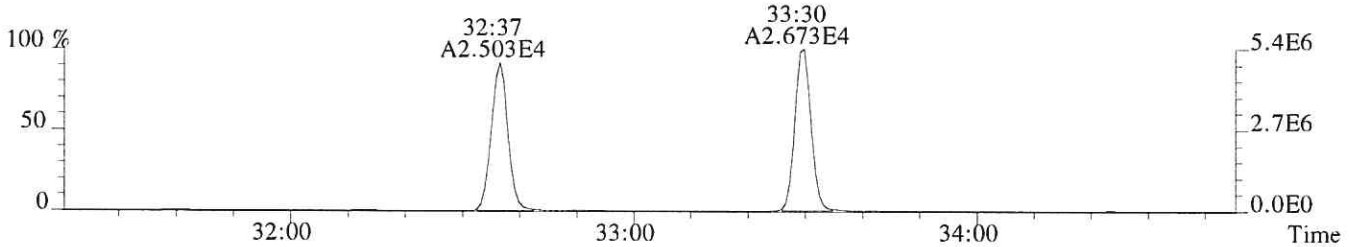
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4132.0,1.00%,F,T)



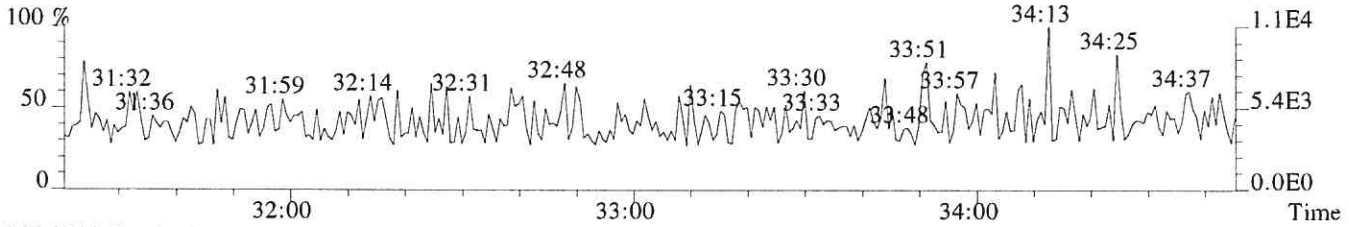
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



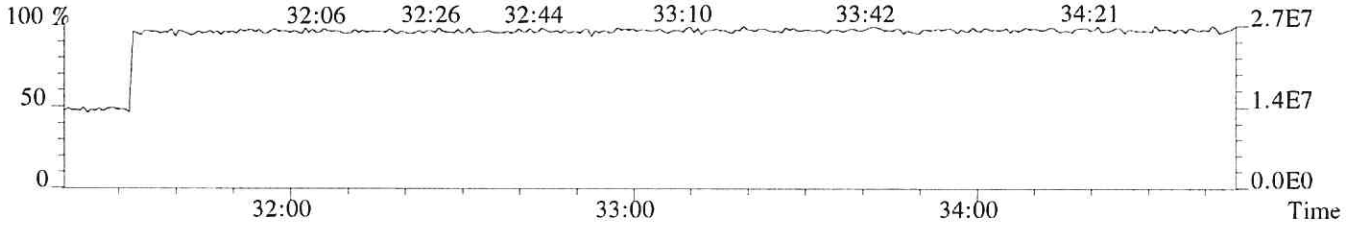
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2084.0,1.00%,F,T)



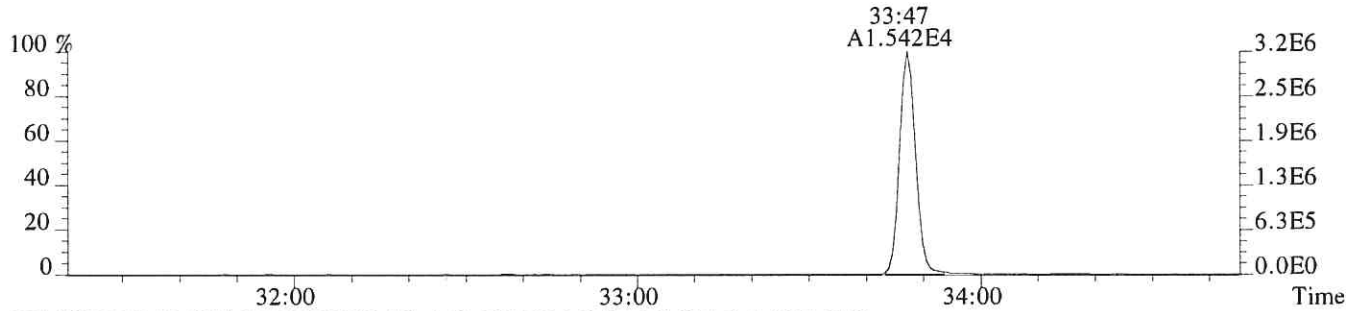
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



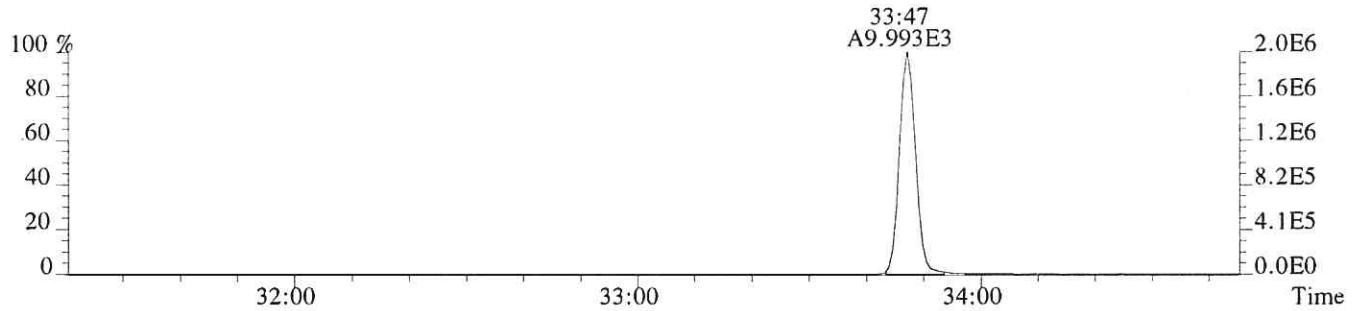
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



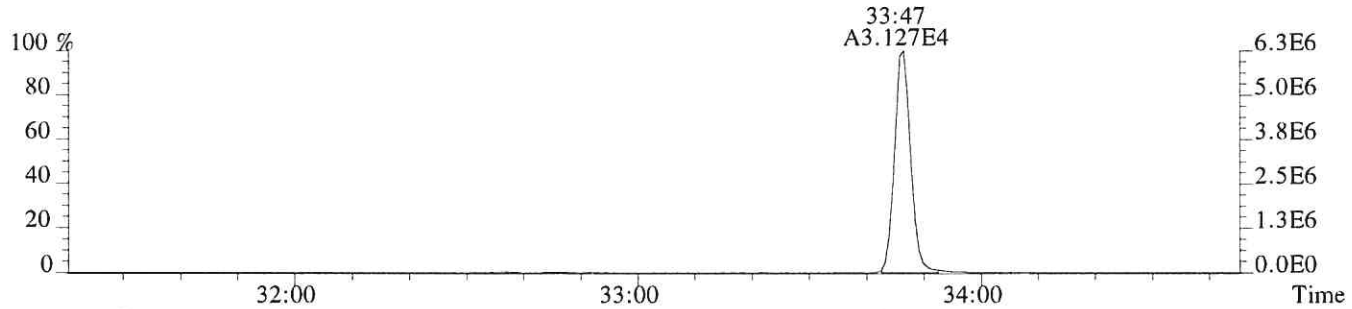
File:P511494 #1-308 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3244.0,1.00%,F,T)



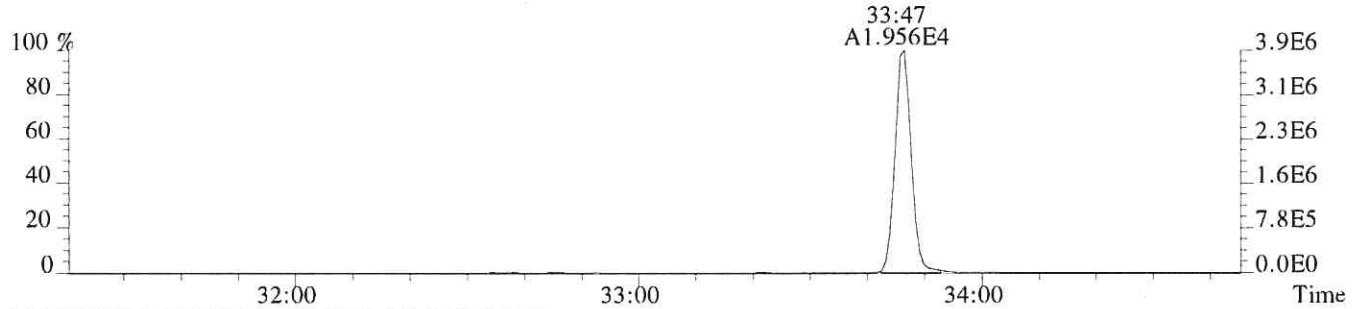
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,T)



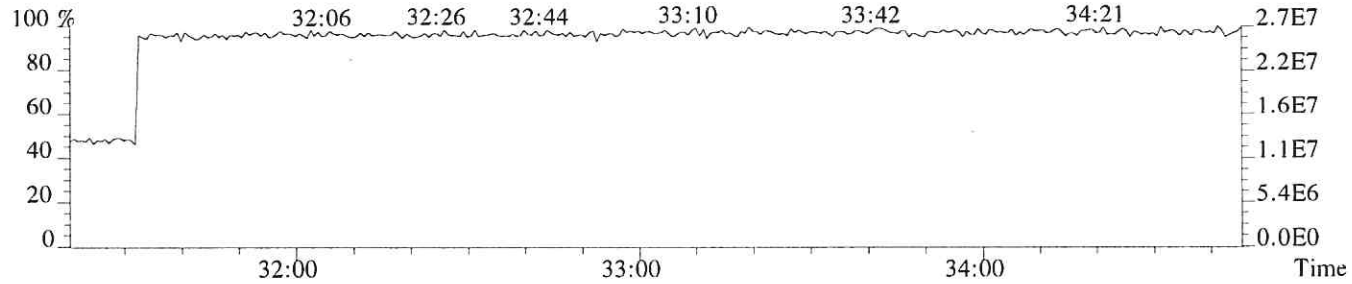
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2904.0,1.00%,F,T)



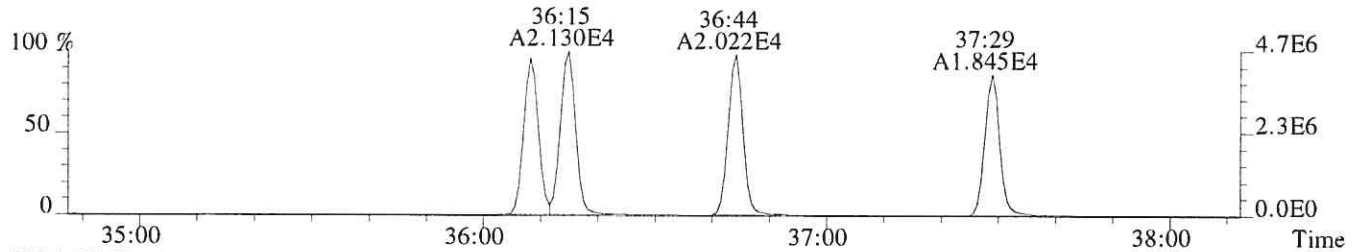
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2828.0,1.00%,F,T)



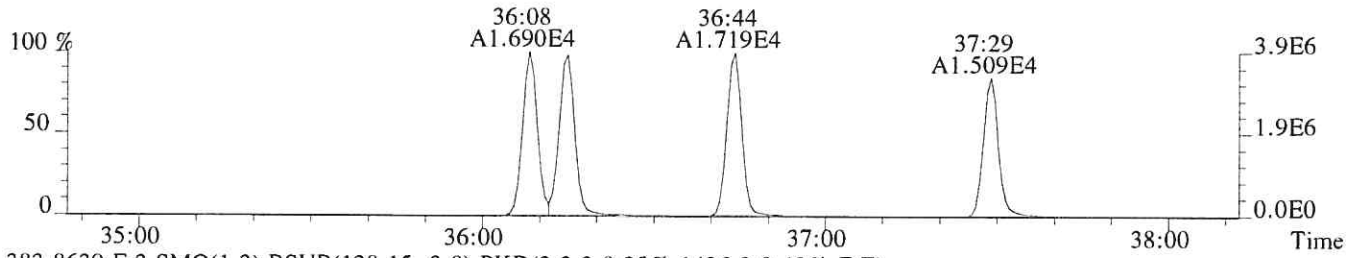
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



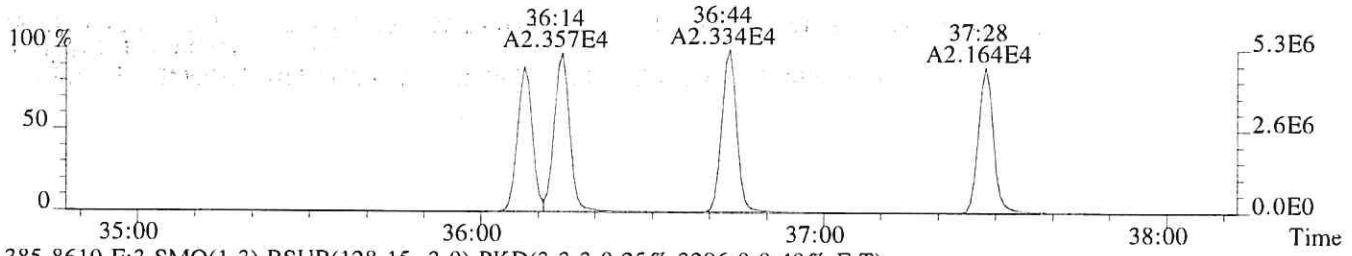
File:P511494 #1-308 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1760.0,0.40%,F,T)



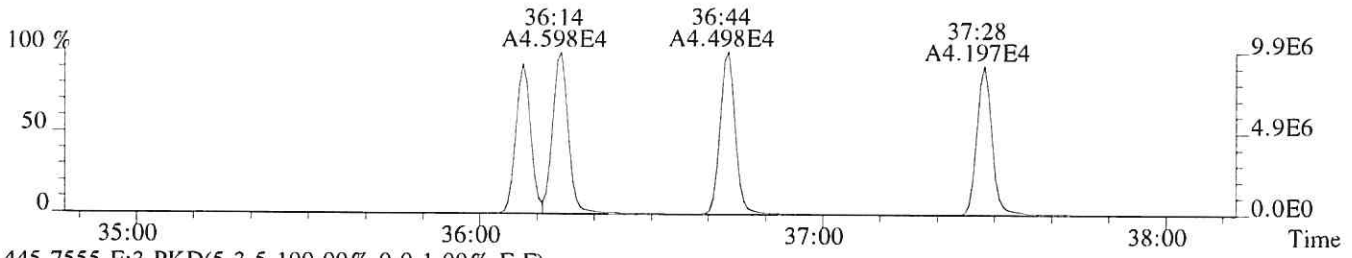
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,T)



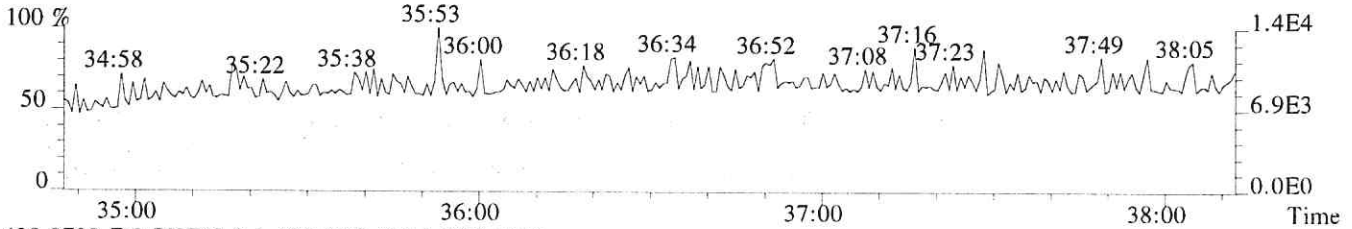
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1436.0,0.40%,F,T)



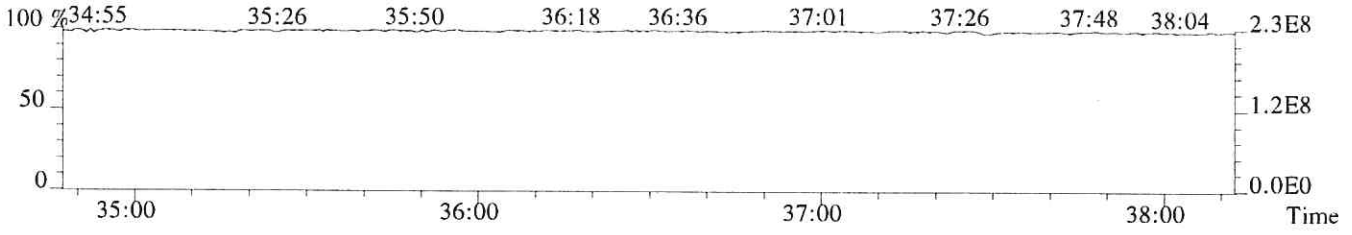
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3296.0,0.40%,F,T)



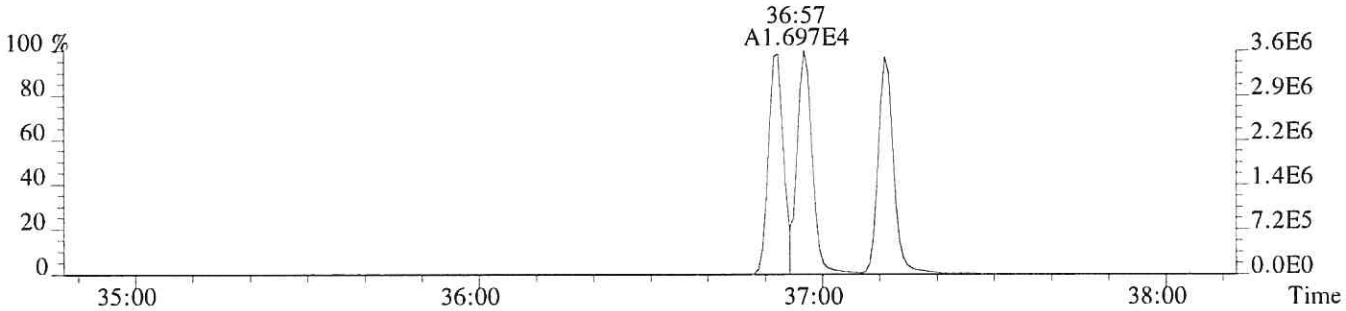
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



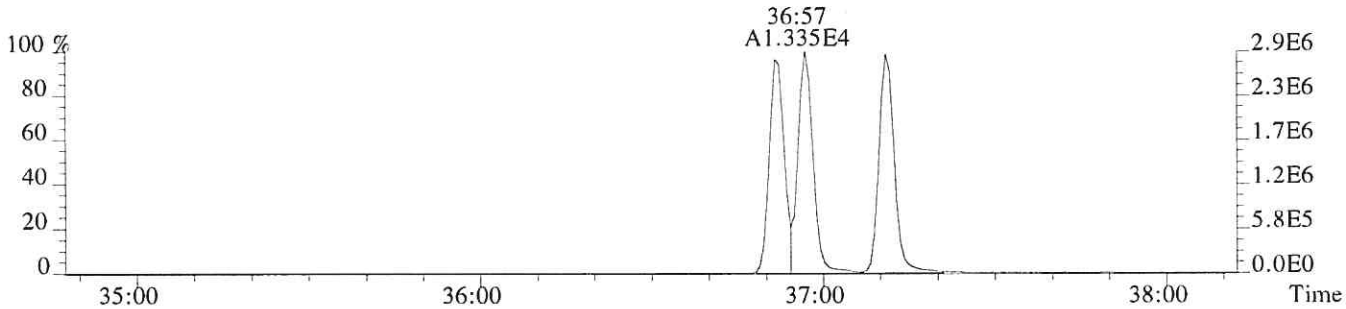
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



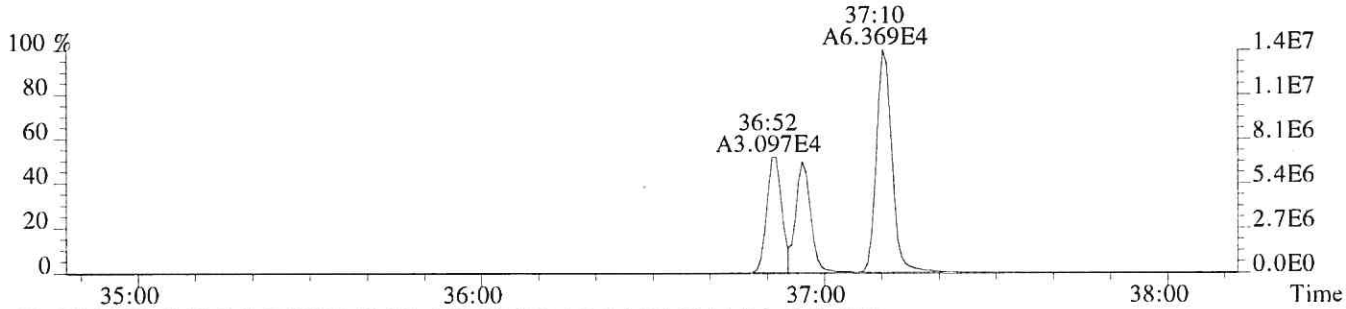
File:P511494 #1-308 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1072.0,0.40%,F,T)



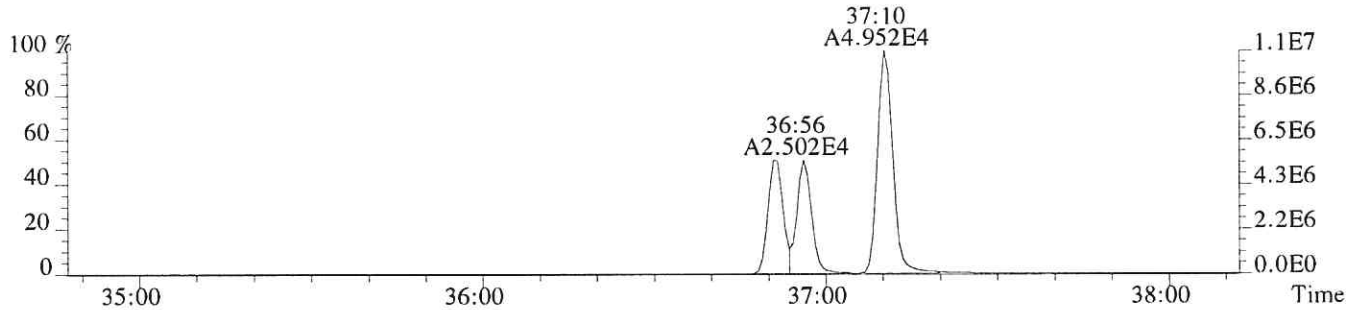
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2240.0,0.40%,F,T)



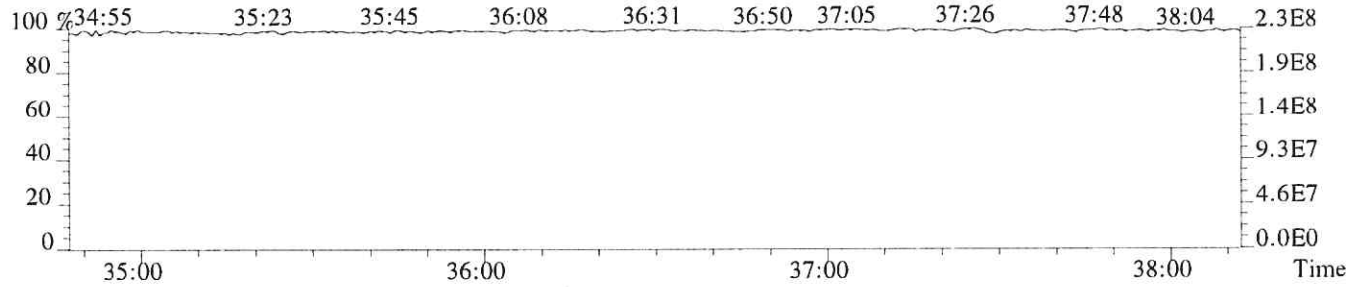
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2360.0,0.40%,F,T)



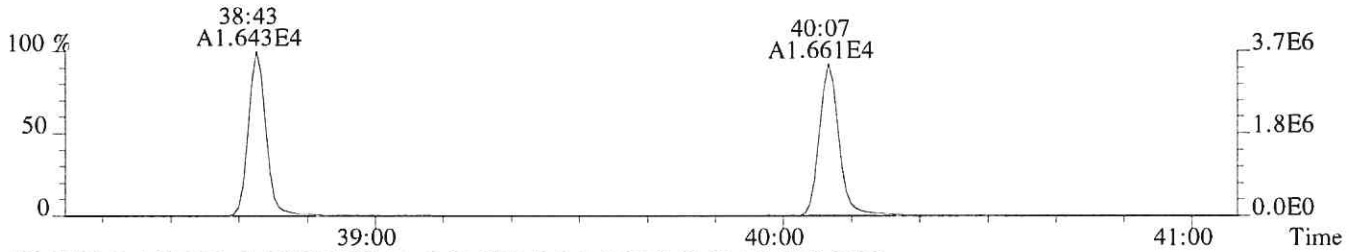
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3244.0,0.40%,F,T)



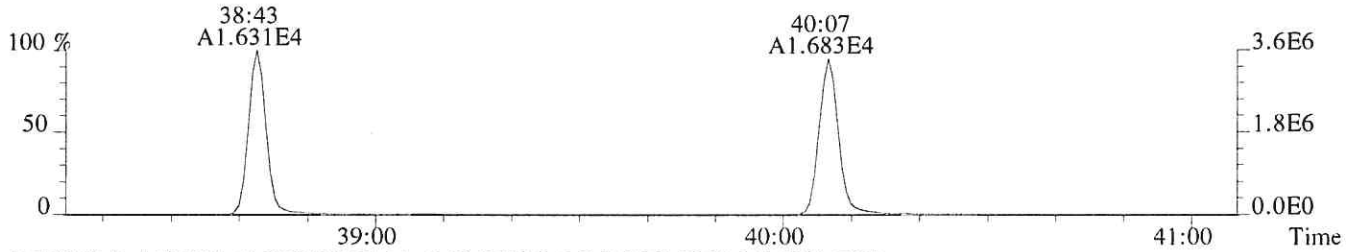
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



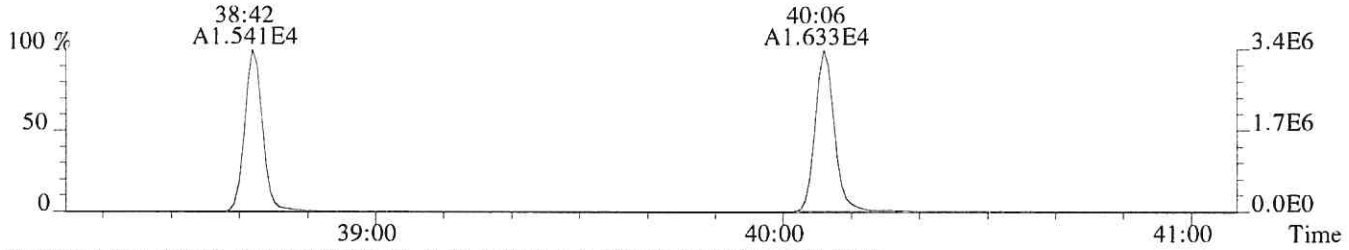
File:P511494 #1-259 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2812.0,0.50%,F,T)



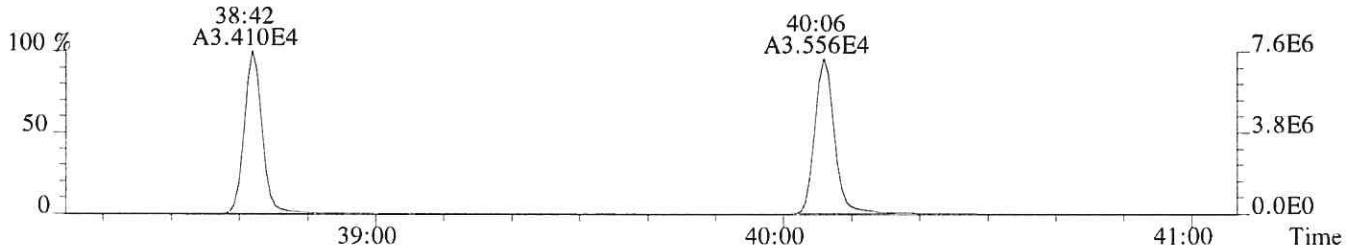
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3164.0,0.50%,F,T)



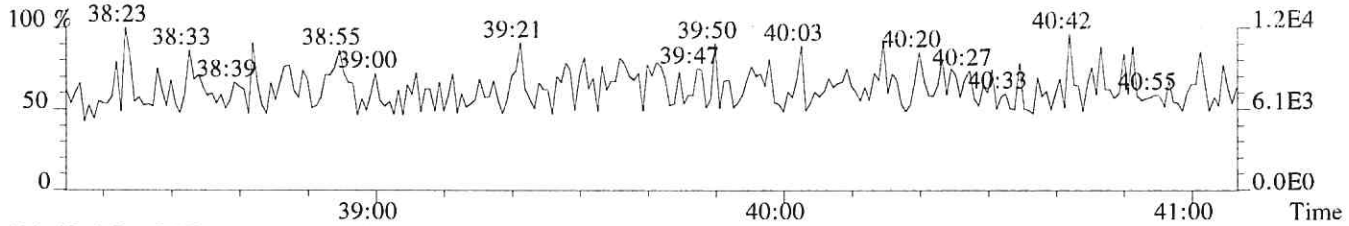
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3064.0,0.50%,F,T)



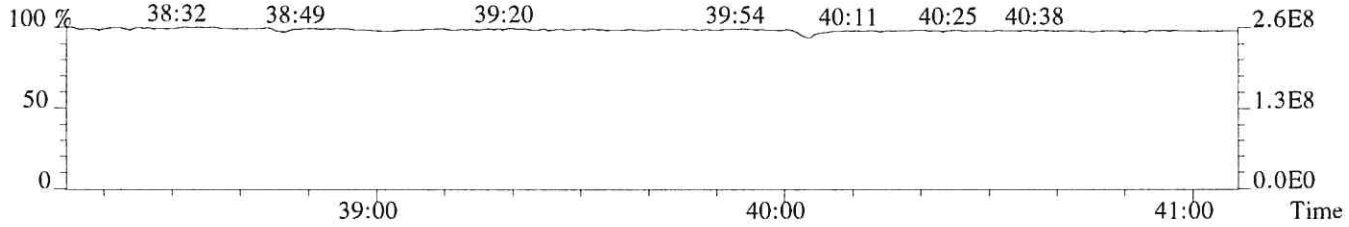
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4664.0,0.50%,F,T)



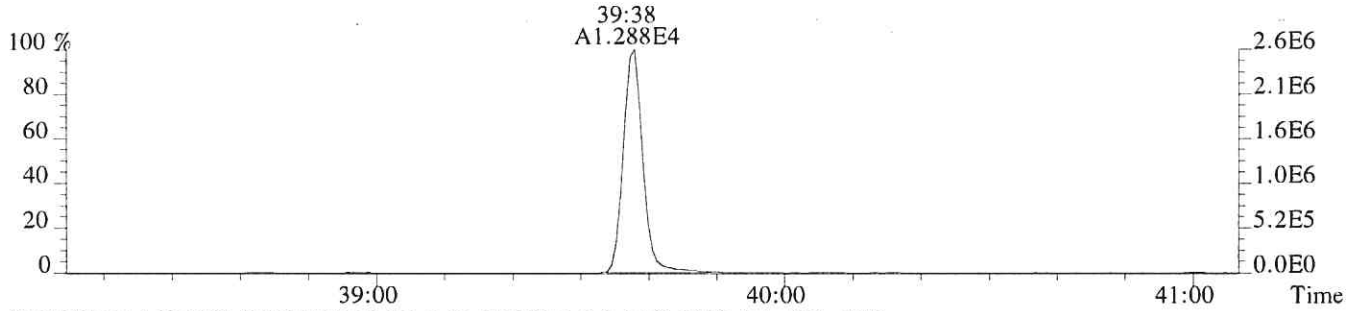
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



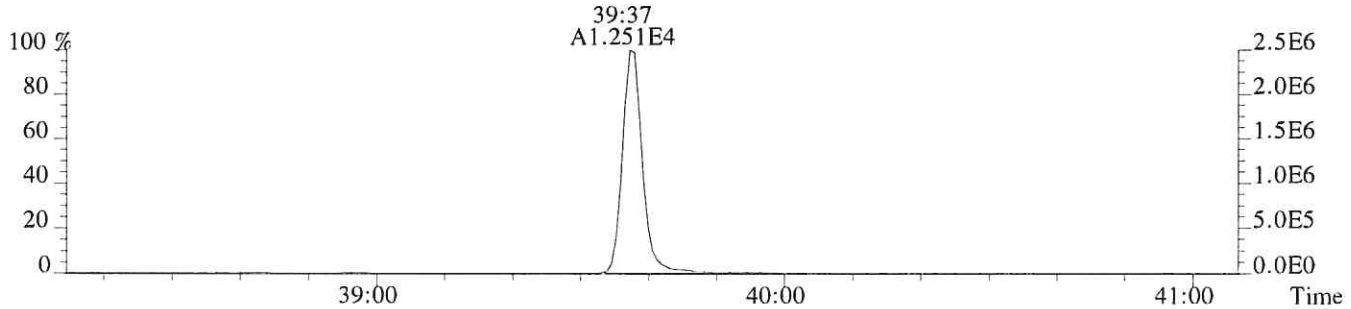
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



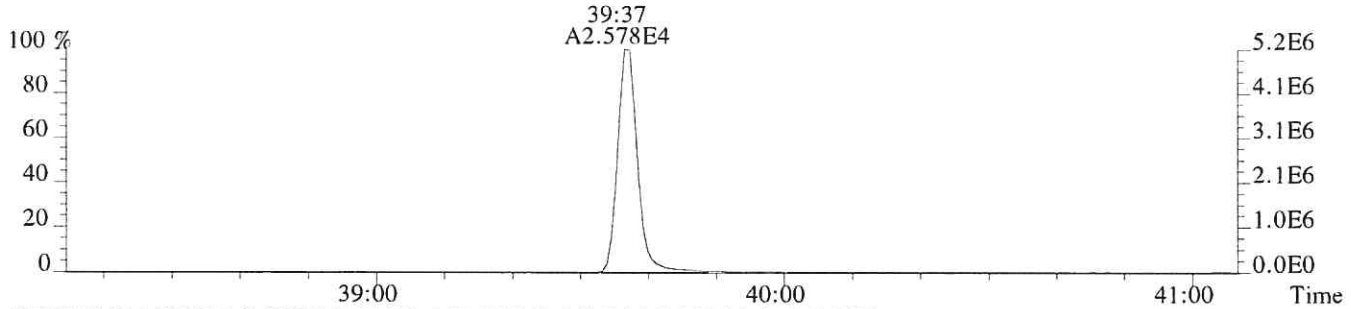
File:P511494 #1-259 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1556.0,0.40%,F,T)



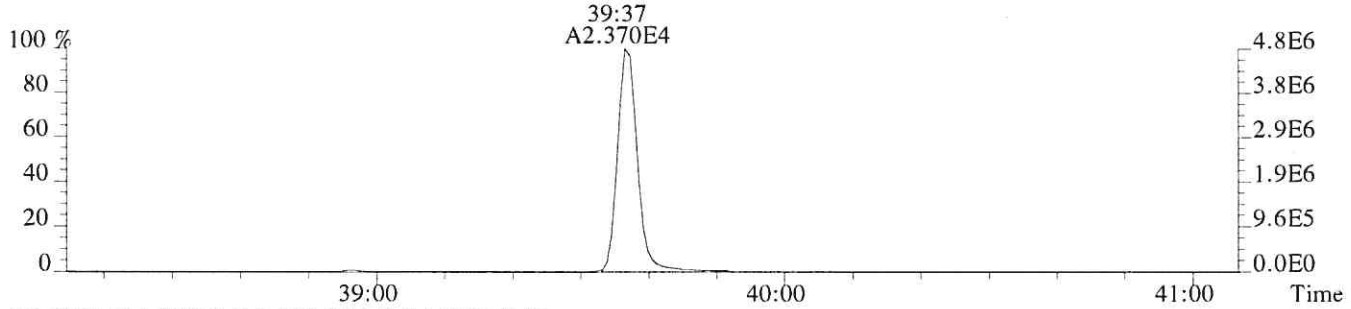
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2072.0,0.40%,F,T)



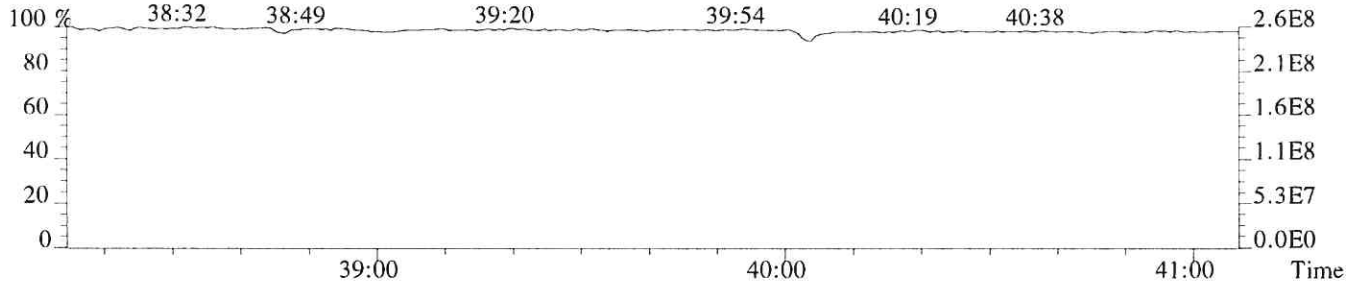
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1792.0,0.40%,F,T)



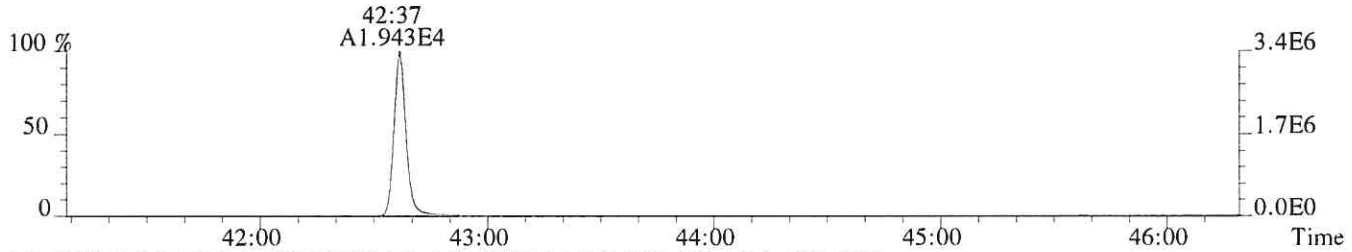
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2616.0,0.40%,F,T)



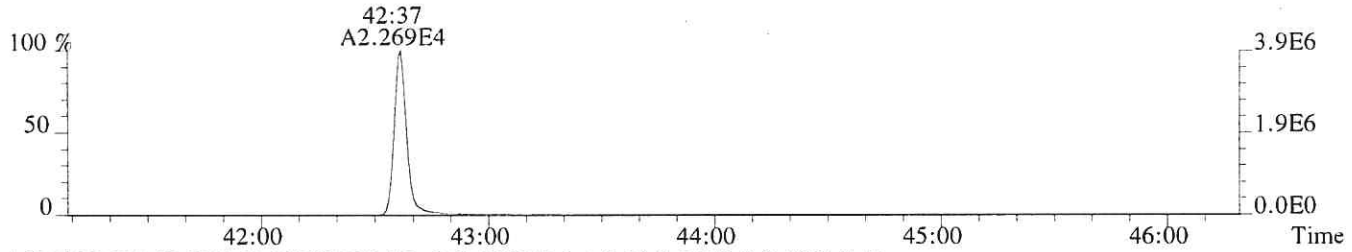
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



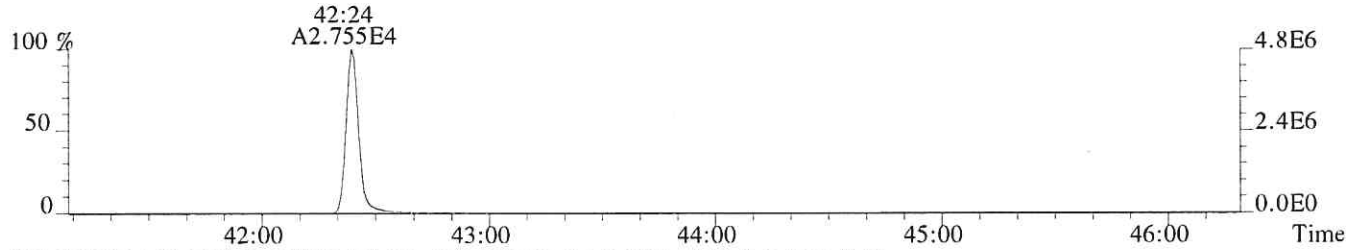
File:P511494 #1-466 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1876.0,0.40%,F,T)



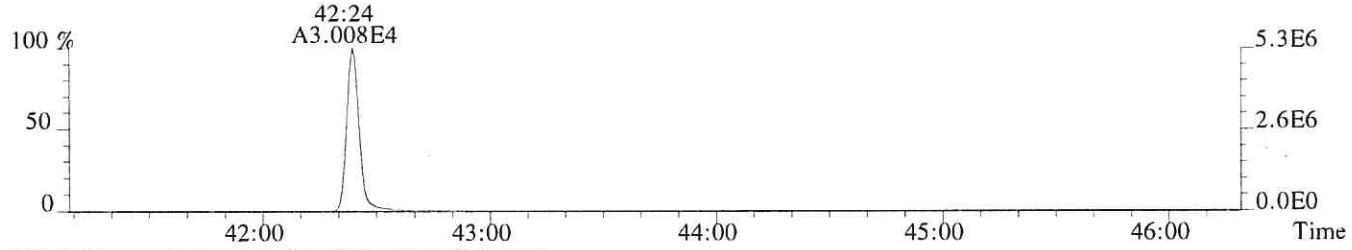
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3984.0,0.40%,F,T)



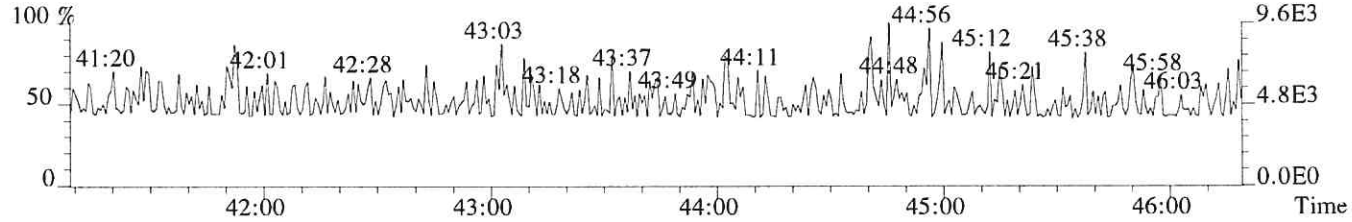
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2940.0,0.40%,F,T)



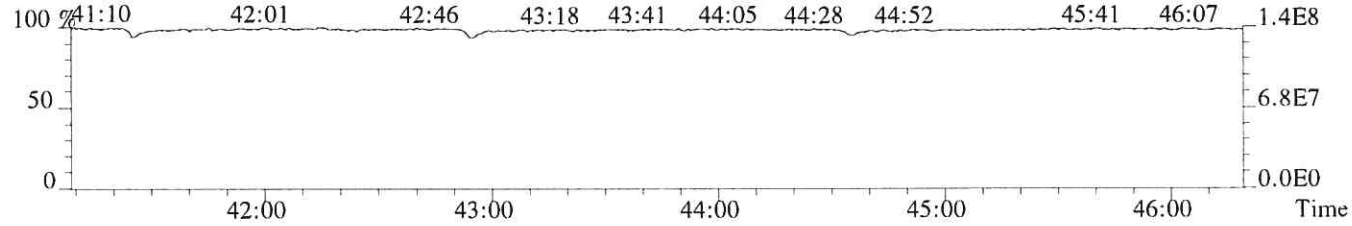
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1512.0,0.40%,F,T)



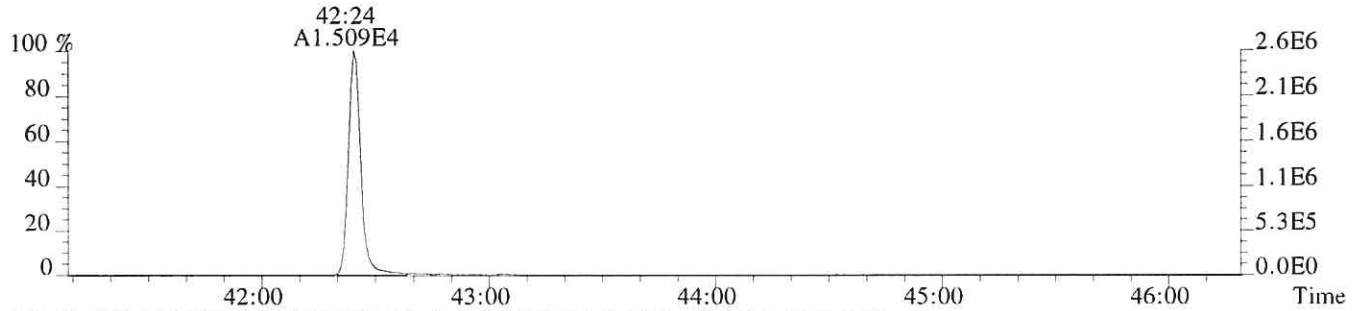
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



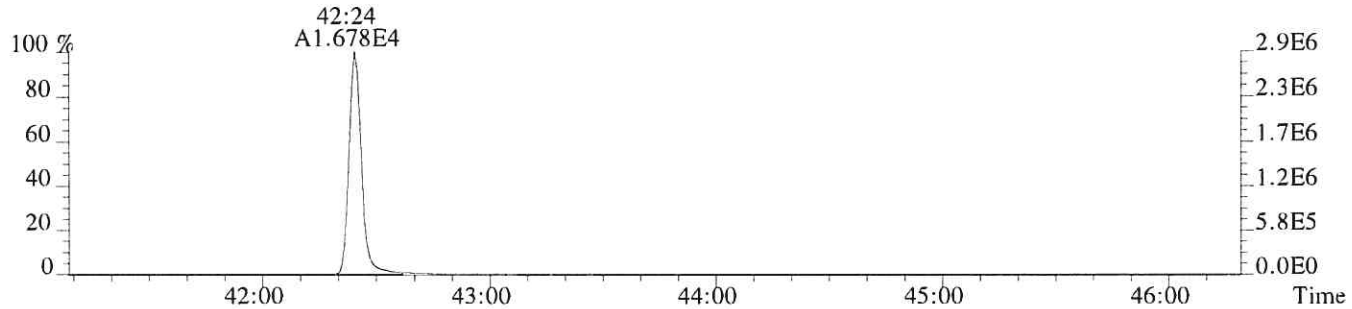
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



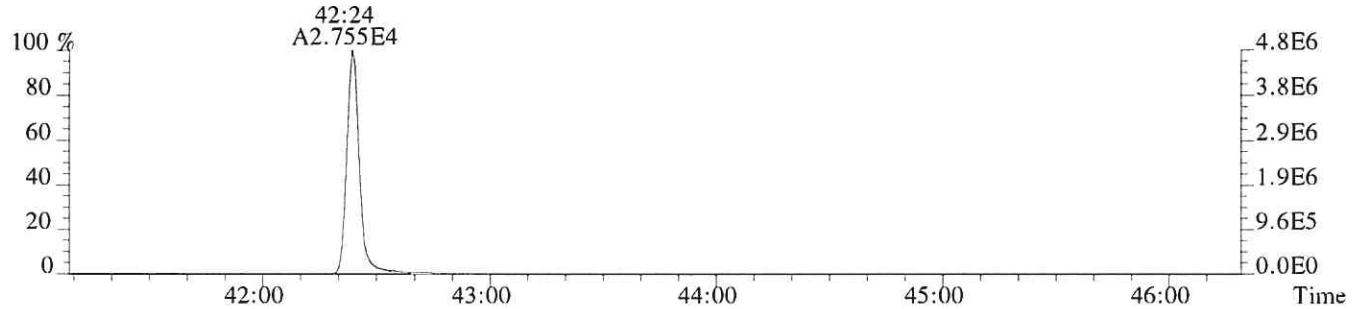
File:P511494 #1-466 Acq:22-SEP-2017 22:28:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700417-03
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1476.0,0.40%,F,T)



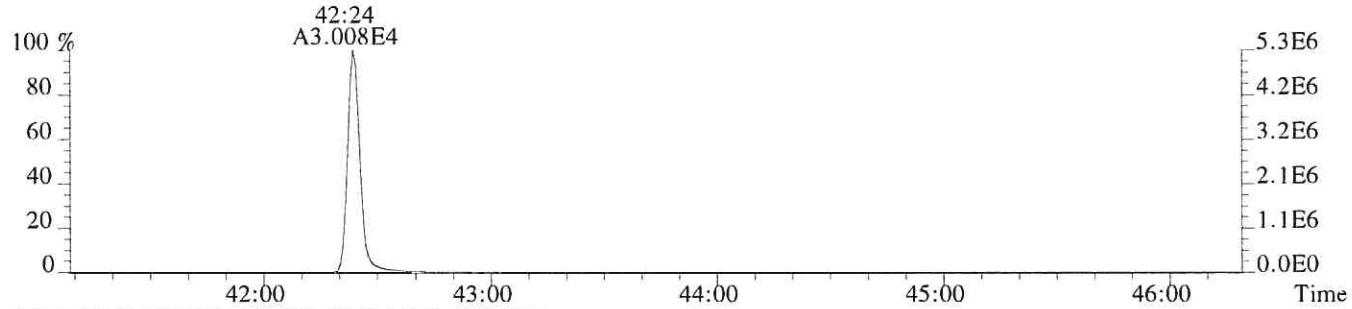
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1760.0,0.40%,F,T)



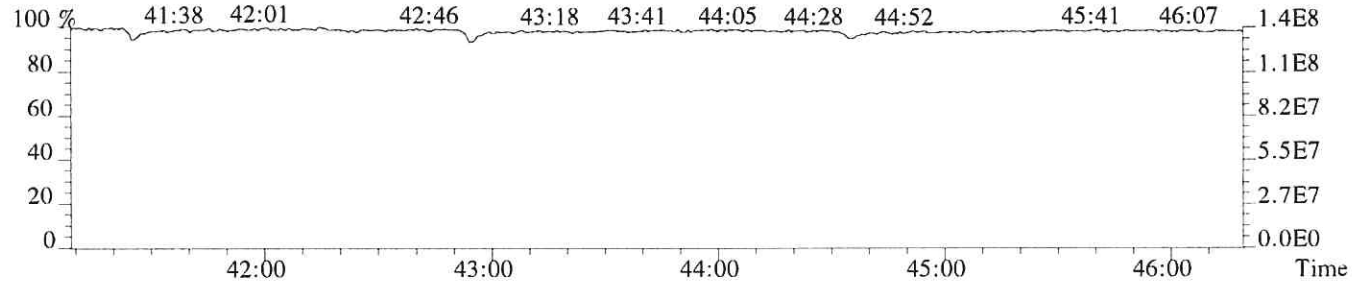
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2940.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1512.0,0.40%,F,T)



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: P609264

Date: 09/25/17-09/26/17

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	N/A	N/A

Analyst: gc

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: 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	P609262	25-SEP-17	14:09:42
178519	CS3	P609264	25-SEP-17	15:55:52
METHOD BLANK	EQ1700415-01	P609265	25-SEP-17	16:50:42
METHOD BLANK	EQ1700417-01	P609266	25-SEP-17	17:38:57
SJWP-091517-030EPA	E1700973-011DL	P609267	25-SEP-17	18:27:57
OUTFALL 005	E1700905-002	P609268	25-SEP-17	19:16:59
2257226 001	E1700948-001	P609269	25-SEP-17	20:06:01
BLEACH PLANT A	E1700919-001	P609270	25-SEP-17	20:55:05
2258000 001	E1700923-001	P609271	25-SEP-17	21:44:07
2257789 001	E1700931-001	P609272	25-SEP-17	22:33:09
2257789 002	E1700931-002	P609273	25-SEP-17	23:22:11
2255838 001	E1700932-001	P609274	26-SEP-17	00:11:13
2255838 002	E1700932-002	P609275	26-SEP-17	01:00:14

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20170923A.SPL
Last Modified: Tuesday, September 26, 2017 07:31:08 Central Daylight Time
Printed: Tuesday, September 26, 2017 07:31:11 Central Daylight Time

Page Position (1, 1)

Opus 4: P609264res

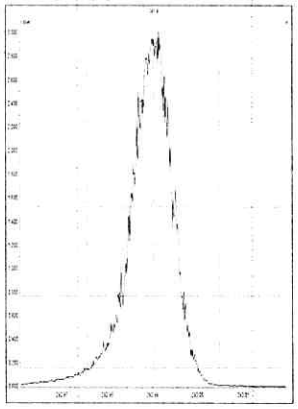
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	9/25/17	14:09	P609262	178397	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	DY	HRMS check 13:58
2			P609263	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		bad injection
3		15:55	P609264	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		
4		16:50	P609265	EQ1700415-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		
5		17:38	P609266	EQ1700417-01	MB	Tray1:4	EPA1613_ALS	Dioxin_ALS		
6		18:27	P609267	E1700973-011DL	E1700973-011DL	Tray1:5	EPA1613_ALS	Dioxin_ALS		1:200
7		19:16	P609268	E1700905-002	E1700905-002	Tray1:6	EPA1613_ALS	Dioxin_ALS		
8		20:06	P609269	E1700948-001	E1700948-001	Tray1:7	EPA1613_ALS	Dioxin_ALS		
9		20:55	P609270	E1700919-001	E1700919-001	Tray1:8	EPA1613_ALS	Dioxin_ALS		
10		21:44	P609271	E1700923-001	E1700923-001	Tray1:9	EPA1613_ALS	Dioxin_ALS		
11		22:33	P609272	E1700931-001	E1700931-001	Tray1:10	EPA1613_ALS	Dioxin_ALS		
12		23:22	P609273	E1700931-02	E1700931-02	Tray1:11	EPA1613_ALS	Dioxin_ALS		
13	9/26/17	00:11	P609274	E1700932-001	E1700932-001	Tray1:12	EPA1613_ALS	Dioxin_ALS		
14		01:00	P609275	E1700932-002	E1700932-002	Tray1:13	EPA1613_ALS	Dioxin_ALS		
15		01:57	P609276	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		HRMS check 01:57
16	---	---	---	---	---	Tray1:2	EPA1613_ALS	Dioxin_ALS	---	---
17	---	---	---	---	---	Tray1:1	EPA1613_ALS	Dioxin_ALS	---	---
18	---	---	---	---	---	Tray1:17	EPA1613_ALS	Dioxin_ALS	---	---
19	---	---	---	---	---	Tray1:18	EPA1613_ALS	Dioxin_ALS	---	---
20	---	---	---	---	---	Tray1:19	EPA1613_ALS	Dioxin_ALS	---	---
21	---	---	---	---	---	Tray1:20	EPA1613_ALS	Dioxin_ALS	---	---
22	---	---	---	---	---	Tray1:21	EPA1613_ALS	Dioxin_ALS	---	---
23	---	---	---	---	---	Tray1:22	EPA1613_ALS	Dioxin_ALS	---	---
24	---	---	---	---	---	Tray1:23	EPA1613_ALS	Dioxin_ALS	---	---
25	---	---	---	---	---	Tray1:24	EPA1613_ALS	Dioxin_ALS	---	---
26	---	---	---	---	---	Tray1:25	EPA1613_ALS	Dioxin_ALS	---	---
27	---	---	---	---	---	Tray1:26	EPA1613_ALS	Dioxin_ALS	---	---
28	---	---	---	---	---	Tray1:27	EPA1613_ALS	Dioxin_ALS	---	---
29	---	---	---	---	---	Tray1:28	EPA1613_ALS	Dioxin_ALS	---	---
30	---	---	---	---	---	Tray1:29	EPA1613_ALS	Dioxin_ALS	---	---
31	---	---	---	---	---	Tray1:30	EPA1613_ALS	Dioxin_ALS	---	---
32	---	---	---	---	---	Tray1:31	EPA1613_ALS	Dioxin_ALS	---	---
33	---	---	---	---	---	Tray1:32	EPA1613_ALS	Dioxin_ALS	---	---
34	---	---	---	---	---	Tray1:33	EPA1613_ALS	Dioxin_ALS	---	---
35	---	---	---	---	---	Tray1:34	EPA1613_ALS	Dioxin_ALS	---	---
36	---	---	---	---	---	Tray1:35	EPA1613_ALS	Dioxin_ALS	---	---
37	---	---	---	---	---	Tray1:36	EPA1613_ALS	Dioxin_ALS	---	---
38	---	---	---	---	---	Tray1:37	EPA1613_ALS	Dioxin_ALS	---	---
39	---	---	---	---	---	Tray1:38	EPA1613_ALS	Dioxin_ALS	---	---

9c 09/26/17

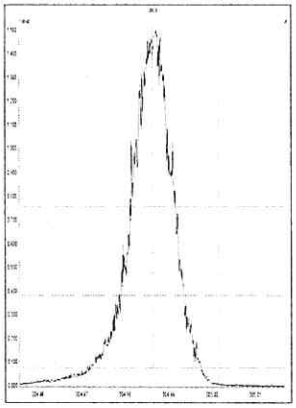
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, September 25, 2017 13:58:52 Central Daylight Time

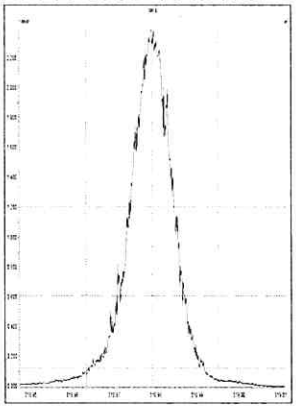
M 292.9824 R 12249



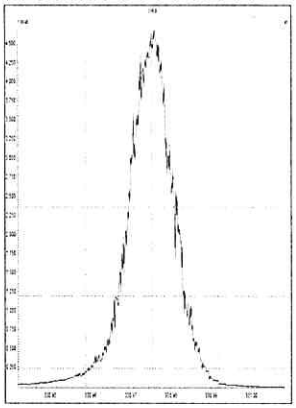
M 304.9824 R 11903



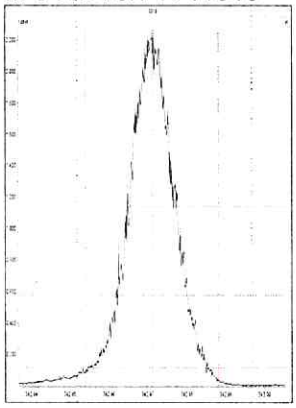
M 318.9792 R 12138



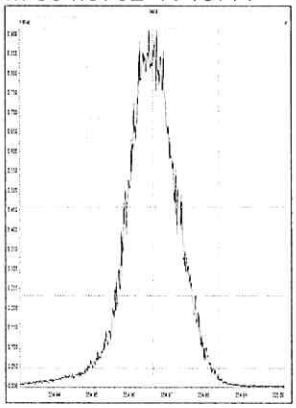
M 330.9792 R 11905



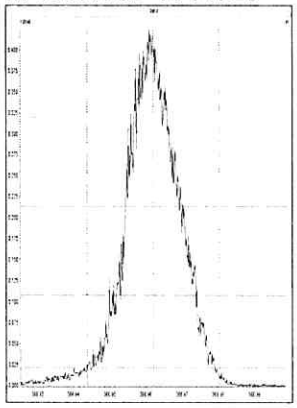
M 342.9792 R 11310



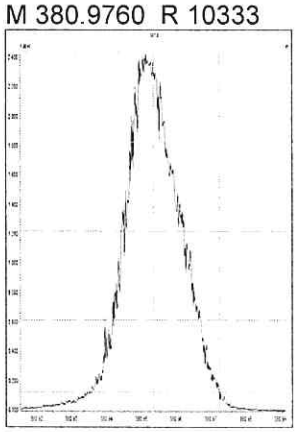
M 354.9792 R 10777



M 366.9792 R 10729



M 380.9760 R 10333



File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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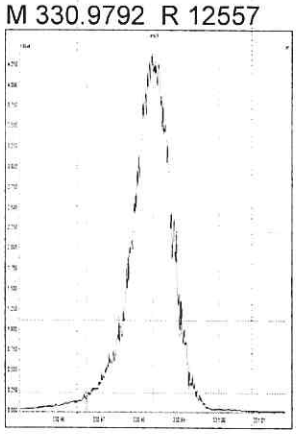
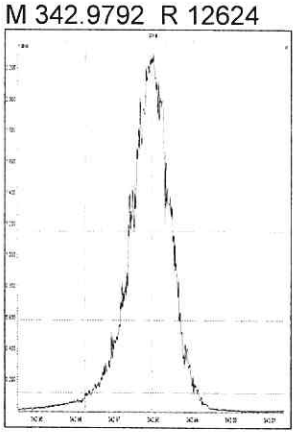
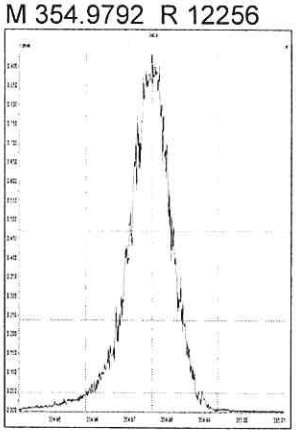
M 330.9792 R 12557



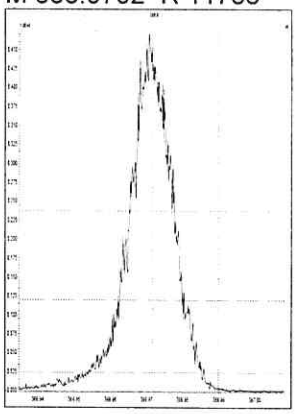
M 342.9792 R 12624



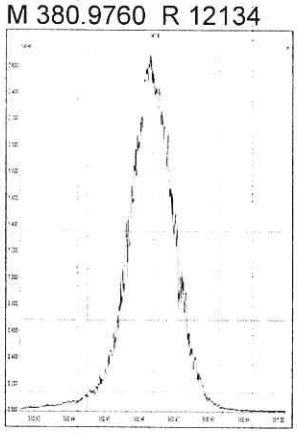
M 354.9792 R 12256



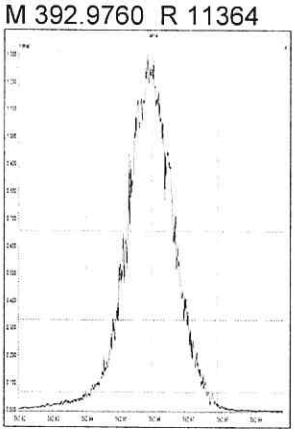
M 366.9792 R 11736



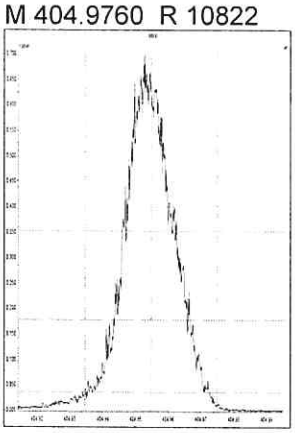
M 380.9760 R 12134



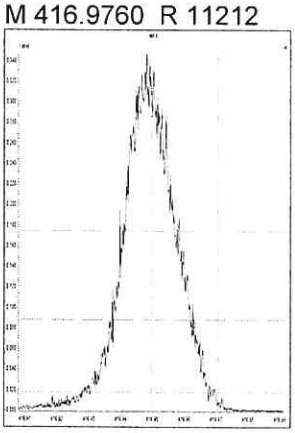
M 392.9760 R 11364



M 404.9760 R 10822



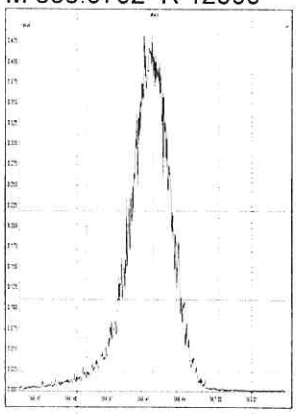
M 416.9760 R 11212



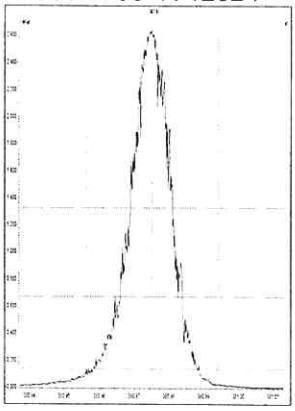
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, September 25, 2017 14:01:22 Central Daylight Time

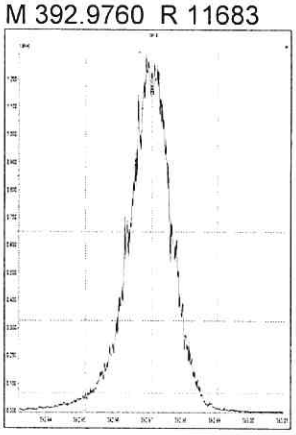
M 366.9792 R 12500



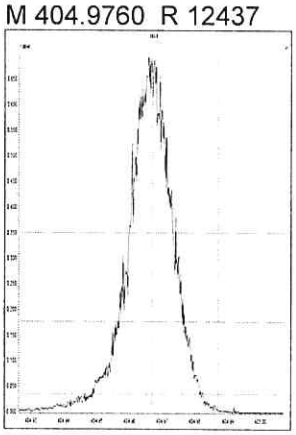
M 380.9760 R 12624



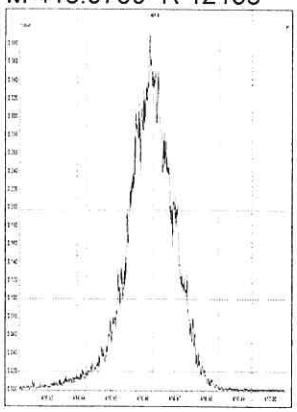
M 392.9760 R 11683



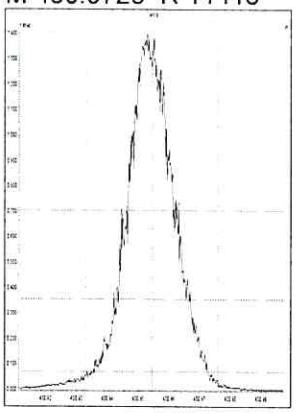
M 404.9760 R 12437



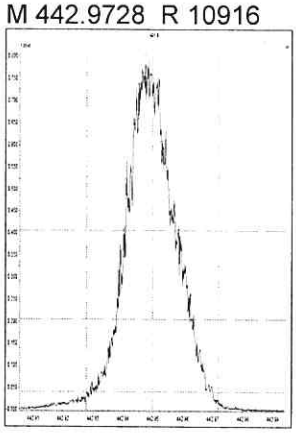
M 416.9760 R 12138



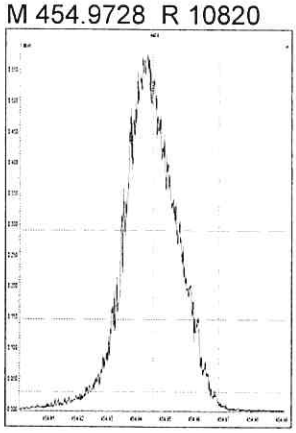
M 430.9728 R 11416



M 442.9728 R 10916



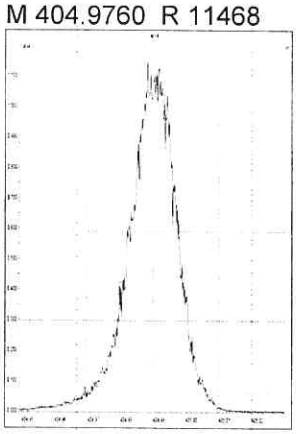
M 454.9728 R 10820



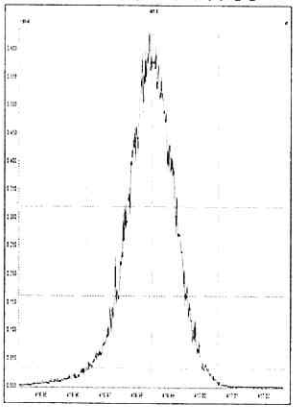
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, September 25, 2017 14:02:50 Central Daylight Time

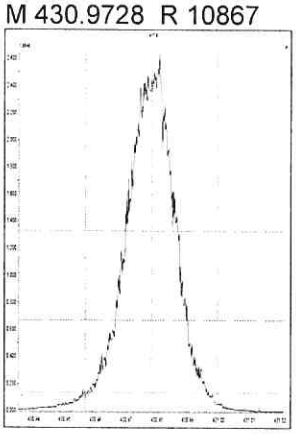
M 404.9760 R 11468



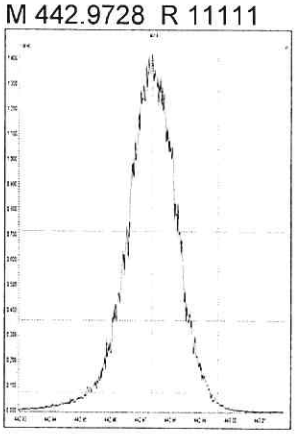
M 416.9760 R 11735



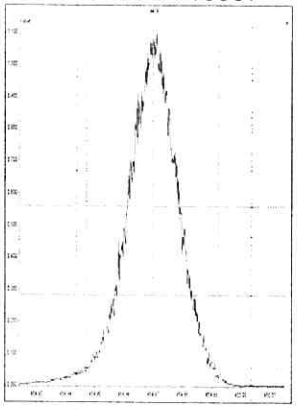
M 430.9728 R 10867



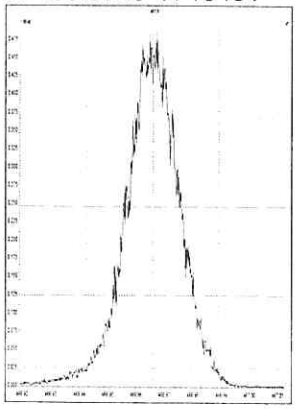
M 442.9728 R 11111



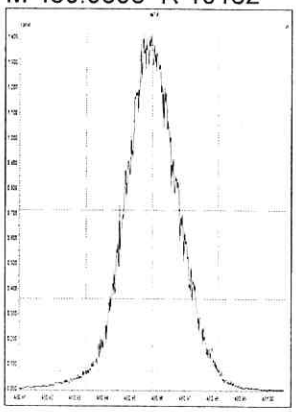
M 454.9728 R 10637



M 466.9728 R 10461



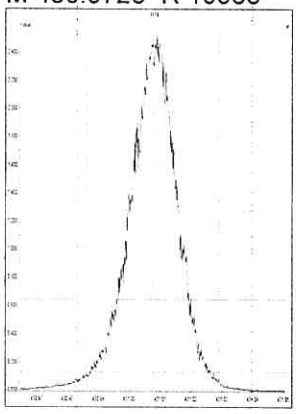
M 480.9696 R 10162



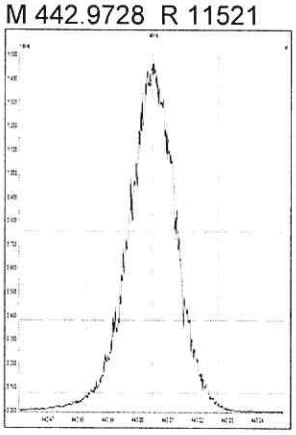
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Monday, September 25, 2017 14:04:10 Central Daylight Time

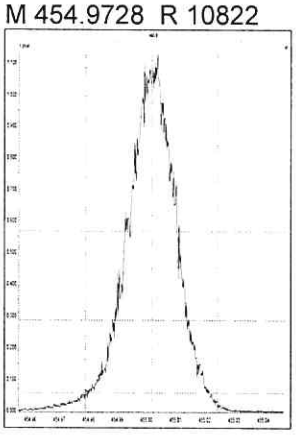
M 430.9728 R 10963



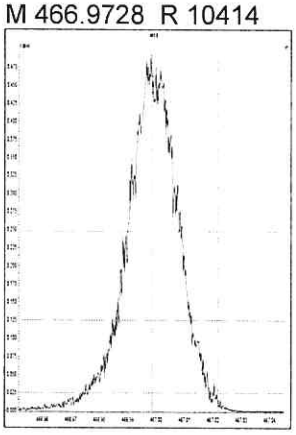
M 442.9728 R 11521



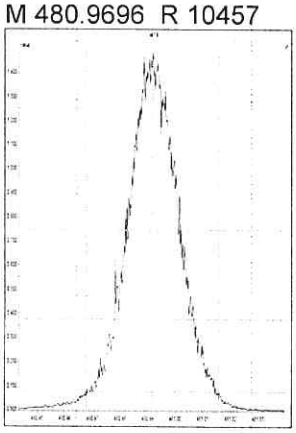
M 454.9728 R 10822



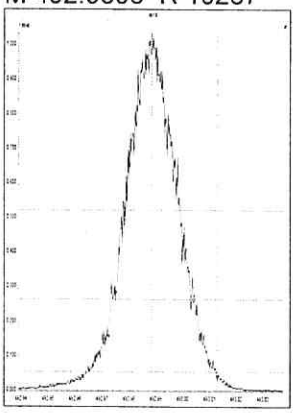
M 466.9728 R 10414



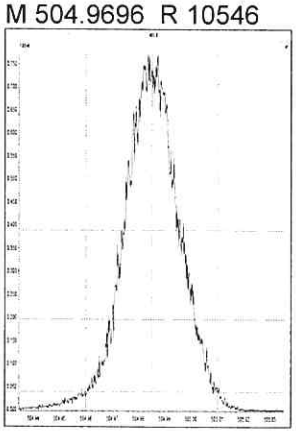
M 480.9696 R 10457



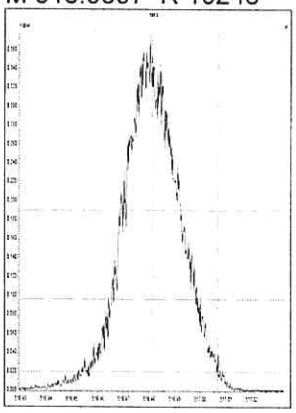
M 492.9696 R 10287



M 504.9696 R 10546

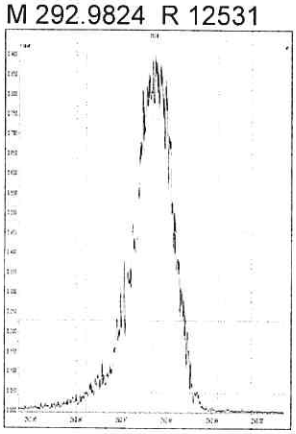


M 516.9697 R 10246

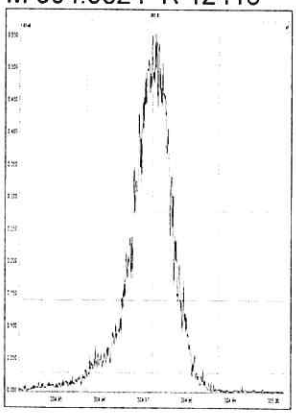


Printed: Tuesday, September 26, 2017 01:57:29 Central Daylight Time

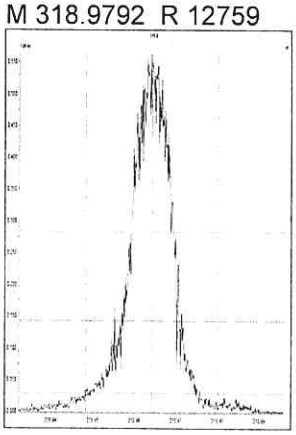
M 292.9824 R 12531



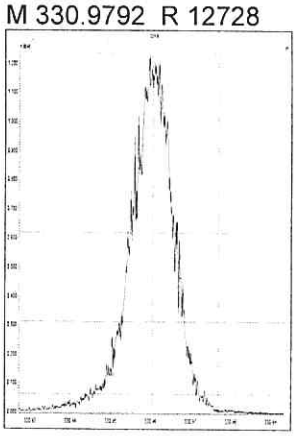
M 304.9824 R 12415



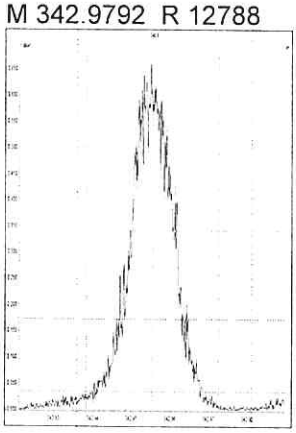
M 318.9792 R 12759



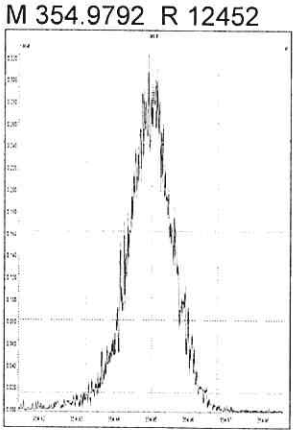
M 330.9792 R 12728



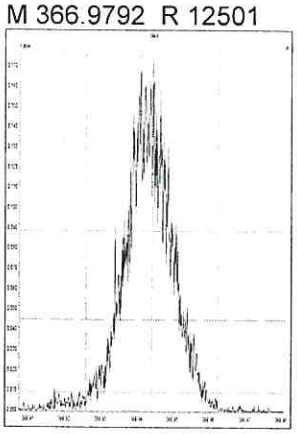
M 342.9792 R 12788



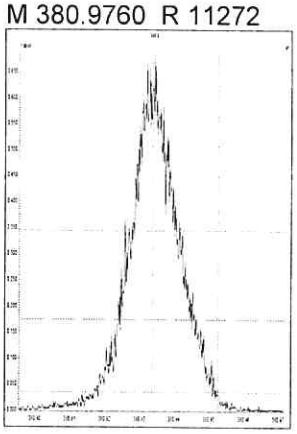
M 354.9792 R 12452



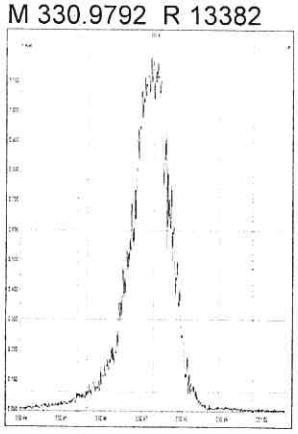
M 366.9792 R 12501



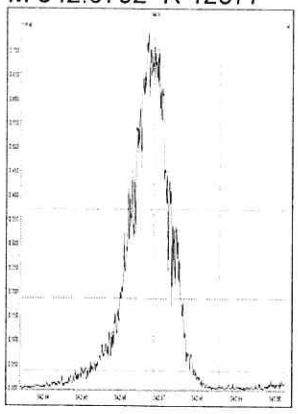
M 380.9760 R 11272



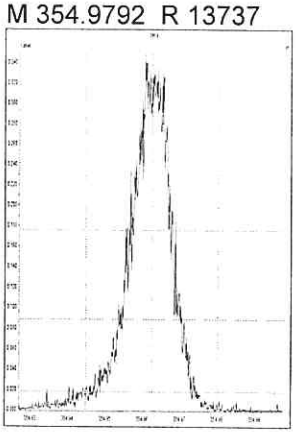
M 330.9792 R 13382



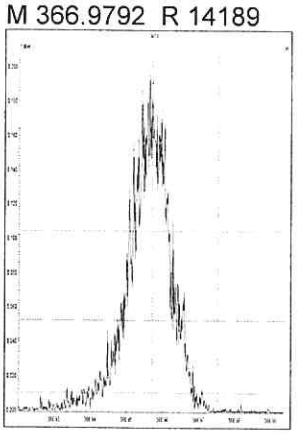
M 342.9792 R 12577



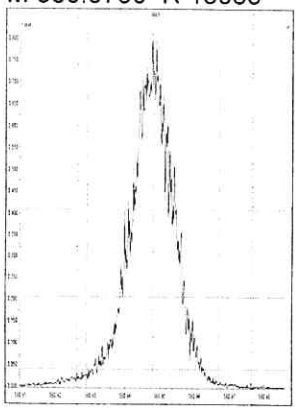
M 354.9792 R 13737



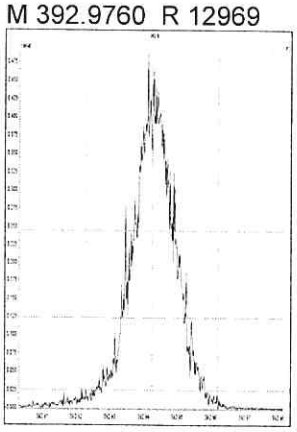
M 366.9792 R 14189



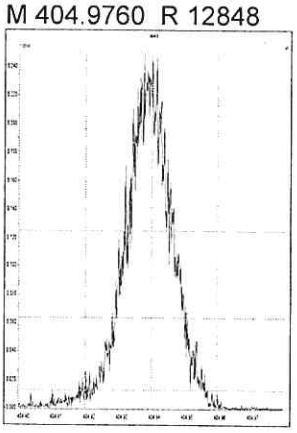
M 380.9760 R 13065



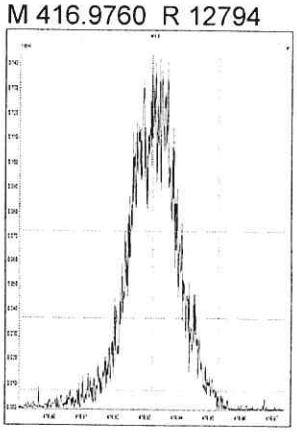
M 392.9760 R 12969



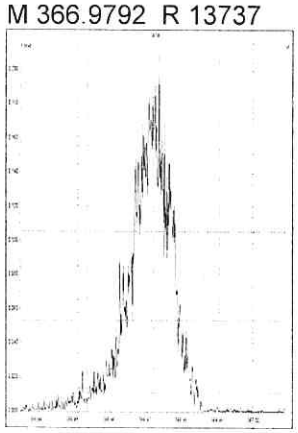
M 404.9760 R 12848



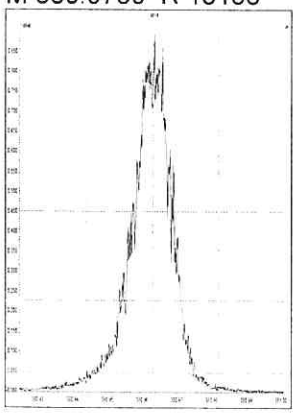
M 416.9760 R 12794



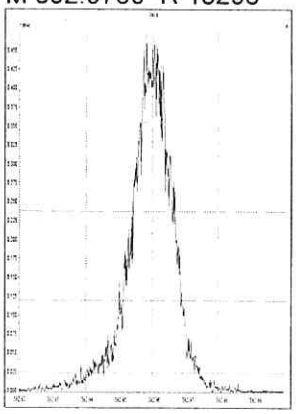
M 366.9792 R 13737



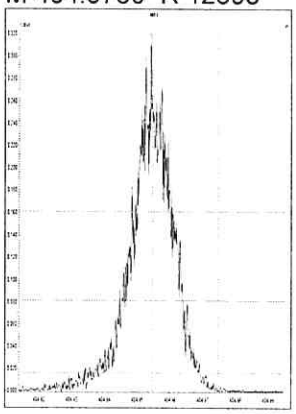
M 380.9760 R 13158



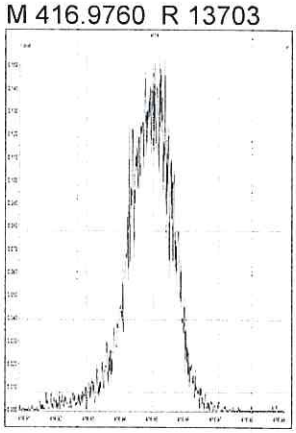
M 392.9760 R 13296



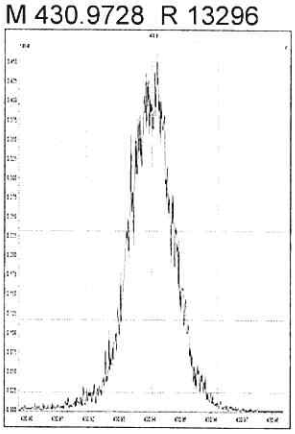
M 404.9760 R 12698



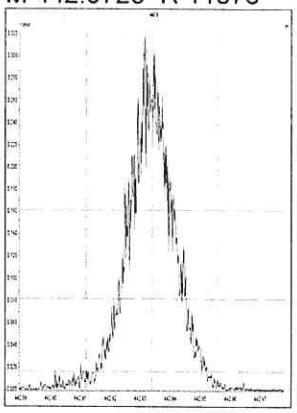
M 416.9760 R 13703



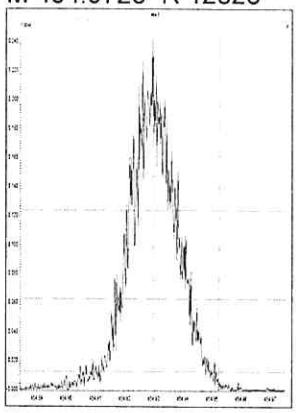
M 430.9728 R 13296



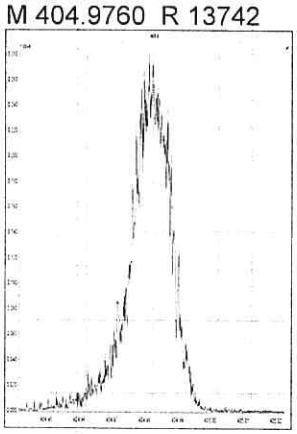
M 442.9728 R 11876



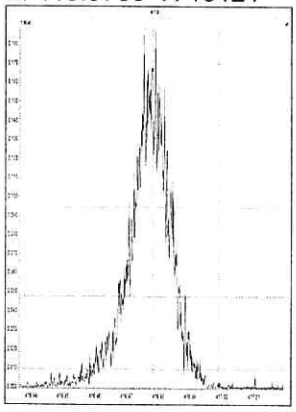
M 454.9728 R 12823



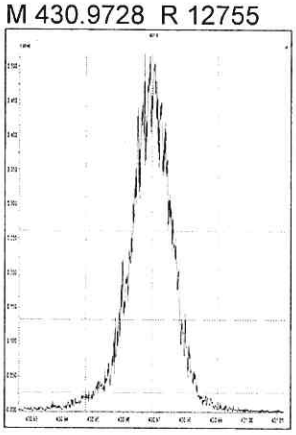
M 404.9760 R 13742



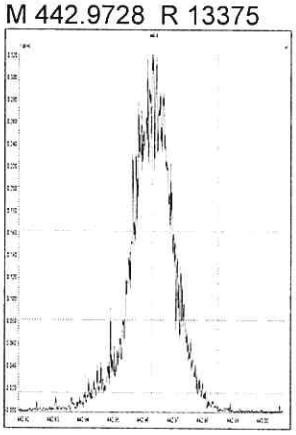
M 416.9760 R 15121



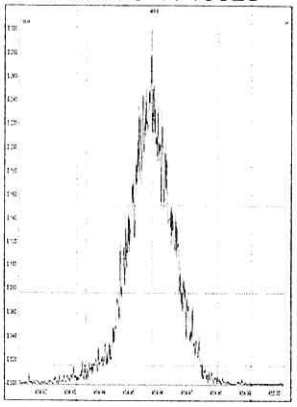
M 430.9728 R 12755



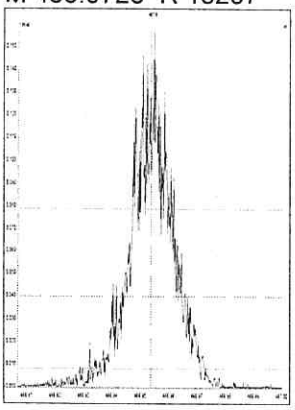
M 442.9728 R 13375



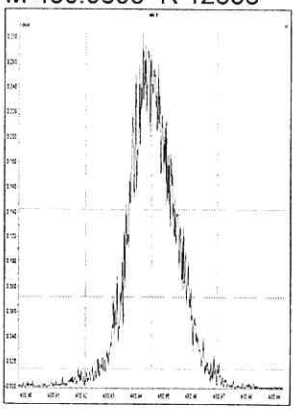
M 454.9728 R 13328



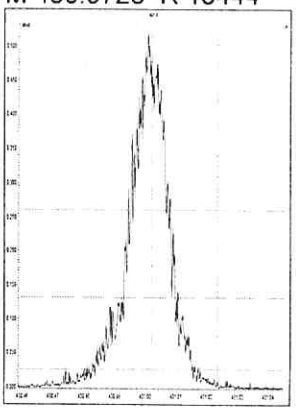
M 466.9728 R 13257



M 480.9696 R 12658

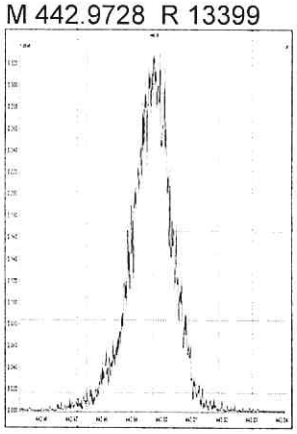


M 430.9728 R 13444

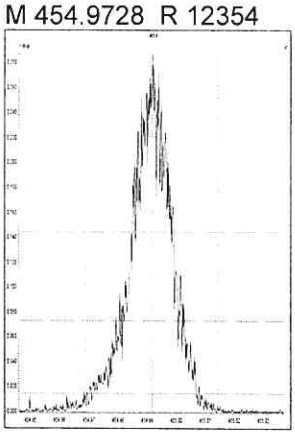


Printed: Tuesday, September 26, 2017 01:57:29 Central Daylight Time

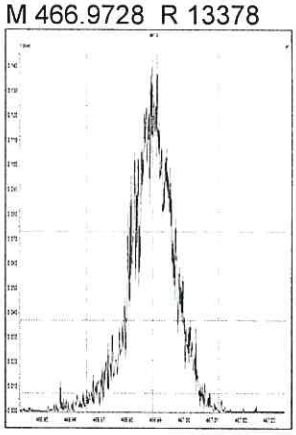
M 442.9728 R 13399



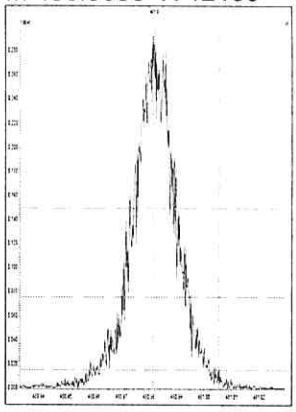
M 454.9728 R 12354



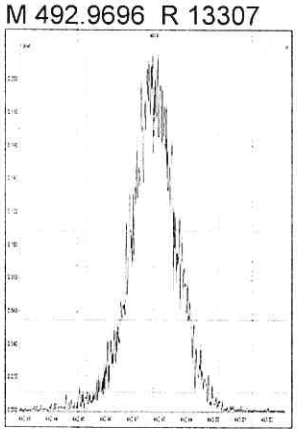
M 466.9728 R 13378



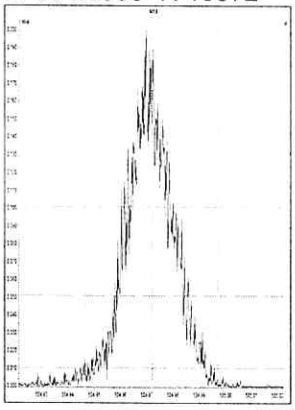
M 480.9696 R 12165



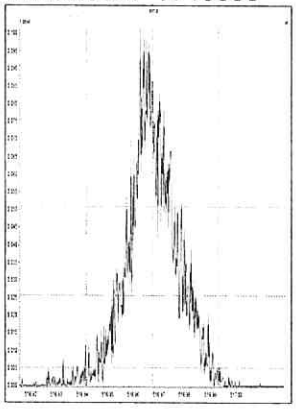
M 492.9696 R 13307



M 504.9696 R 13572



M 516.9697 R 13338



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

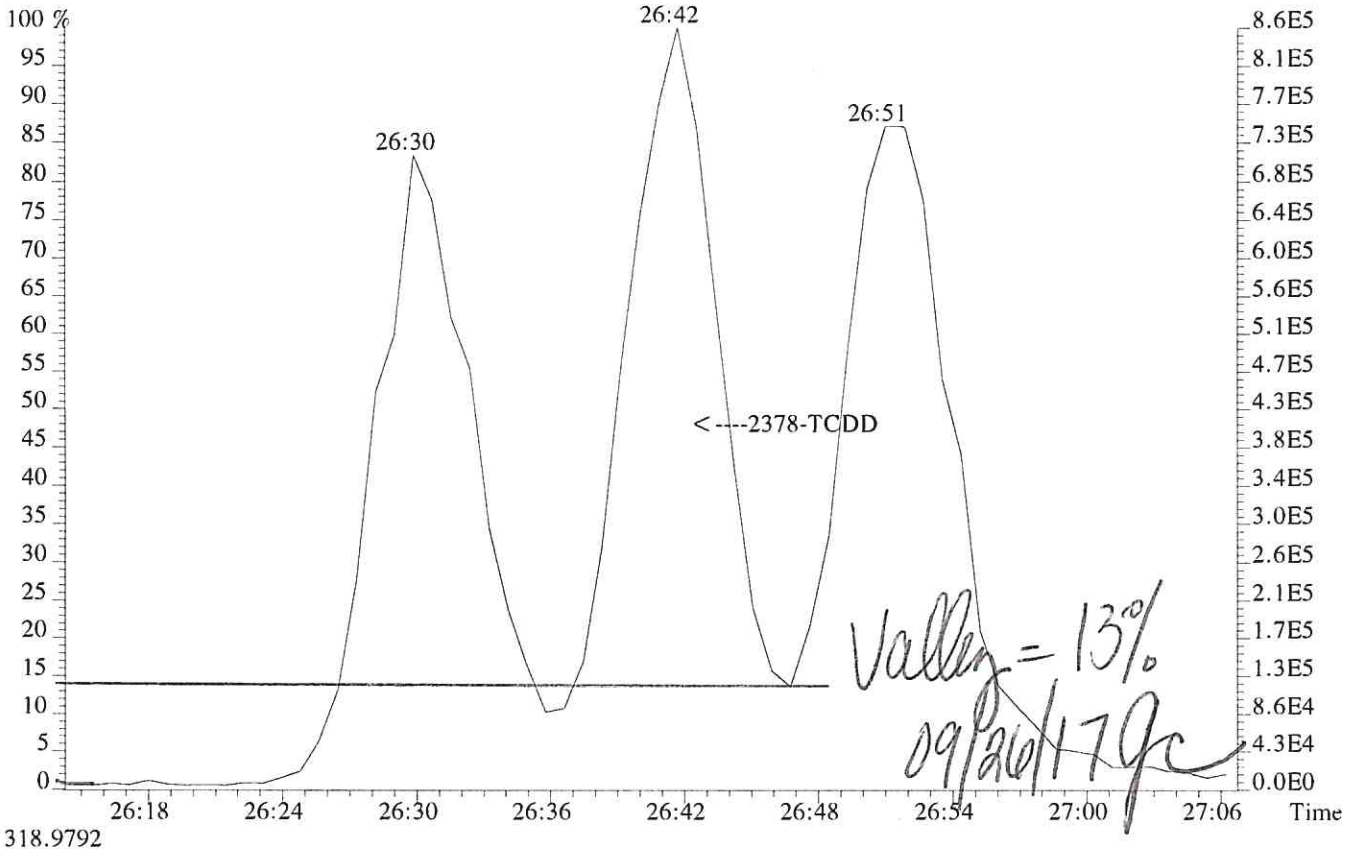
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P609262
Date Analyzed: 25-SEP-17
Time Analyzed: 14:09:42

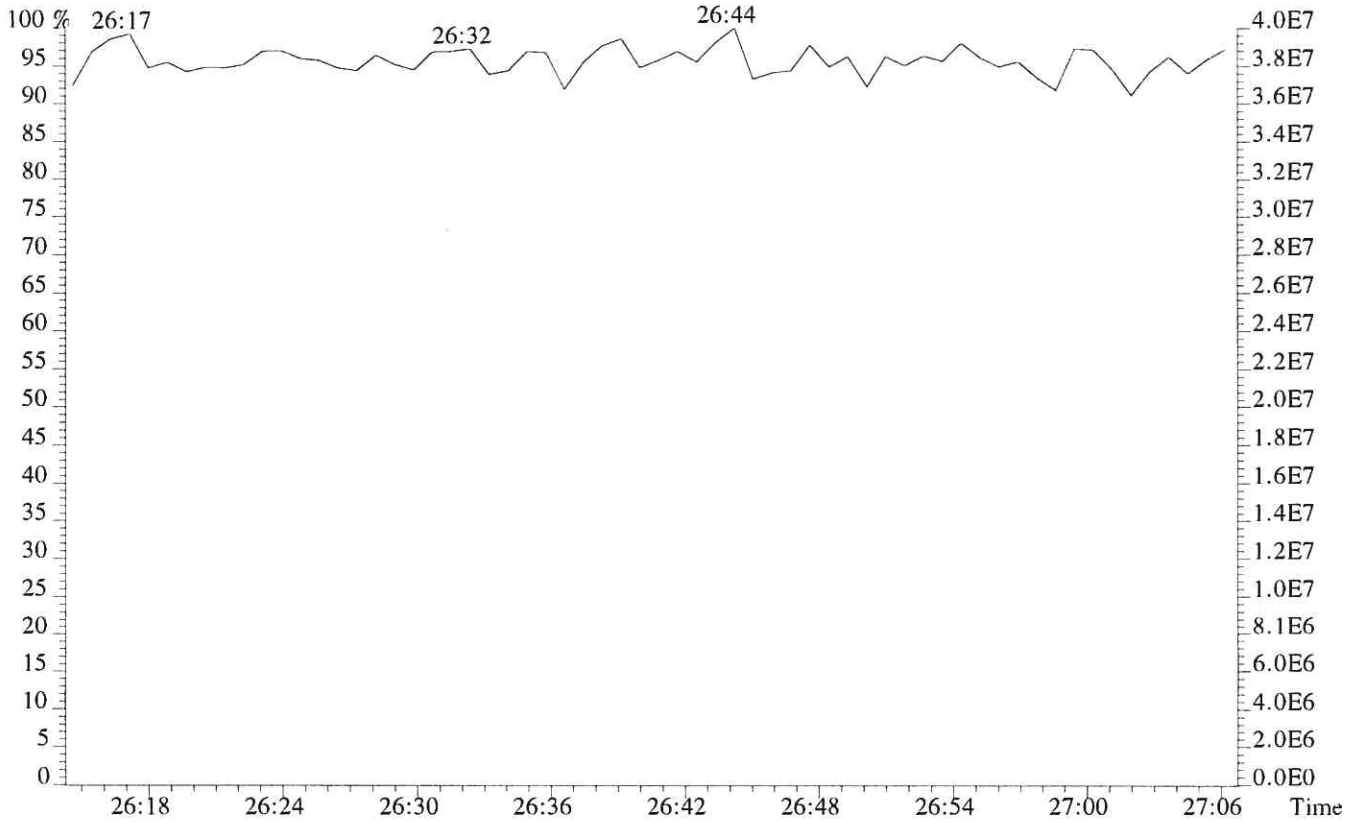
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:20	28:05
TCDD	22:57	27:54
PeCDF	28:01	32:49
PeCDD	29:49	32:32
HxCDF	33:30	36:12
HxCDD	34:04	35:46
HpCDF	37:29	38:53
HpCDD	37:46	38:26

% Valley 2378-TCDD: 13 %

File:P609262 #1-658 Acq:25-SEP-2017 14:09:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
319.8965



318.9792



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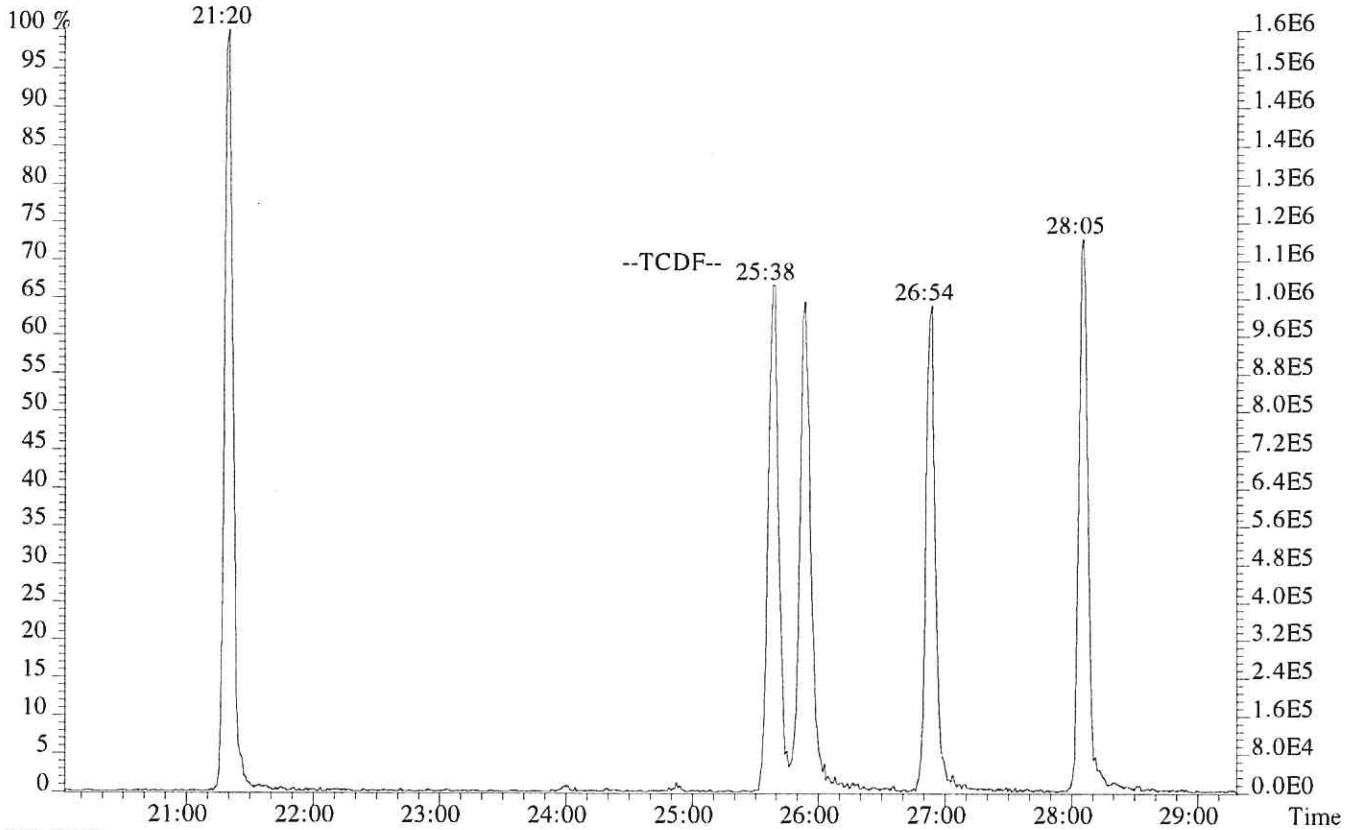
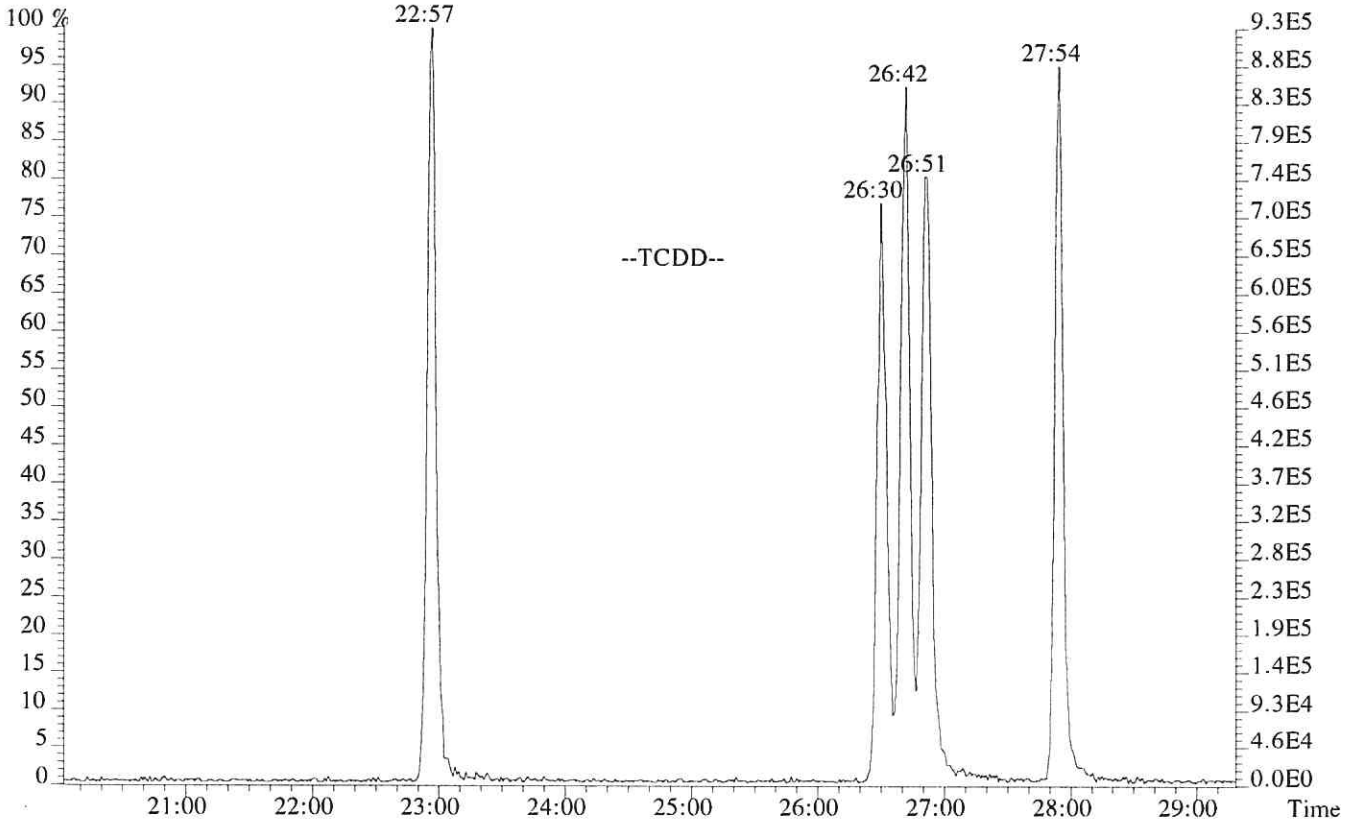
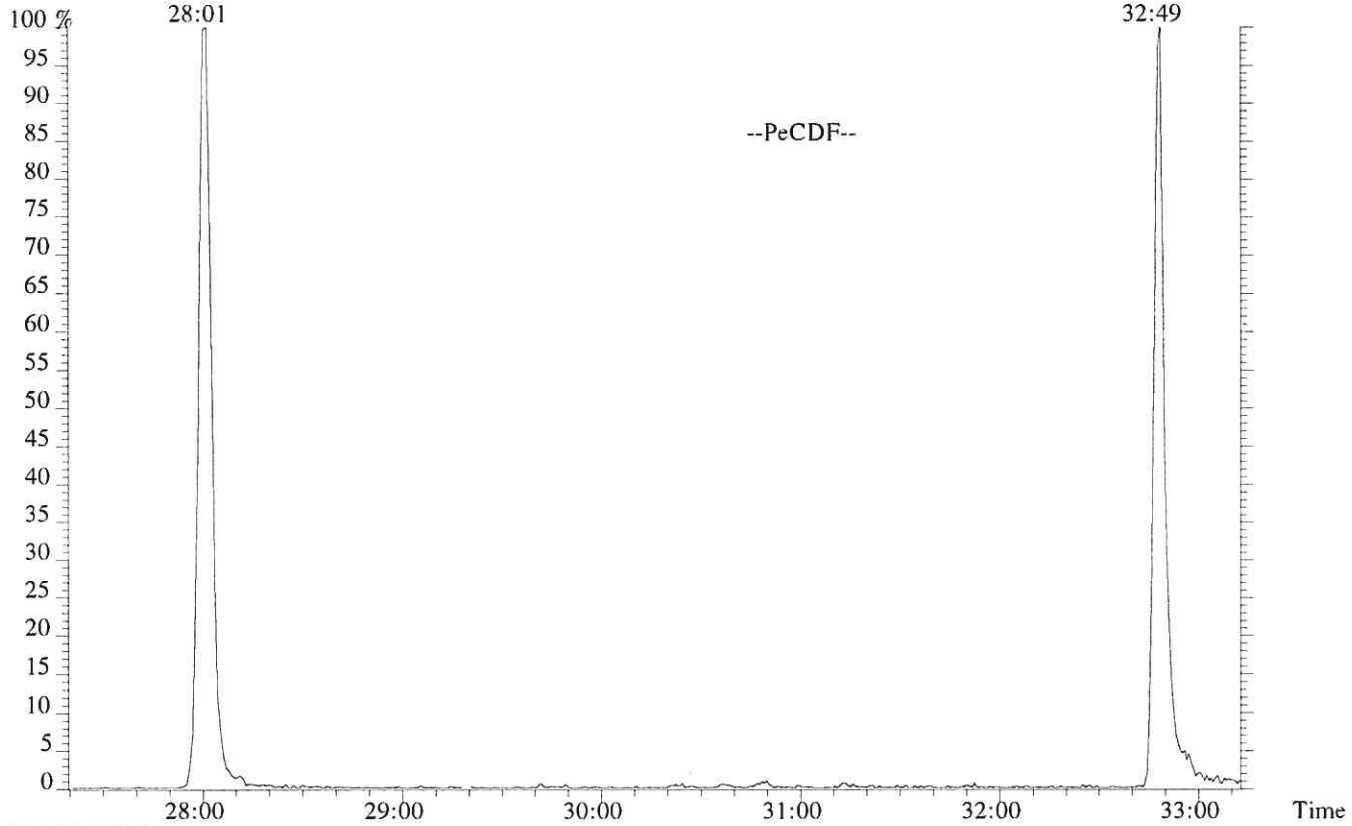
Sample#1 Exp:WINDOW DEFINE
303.9016



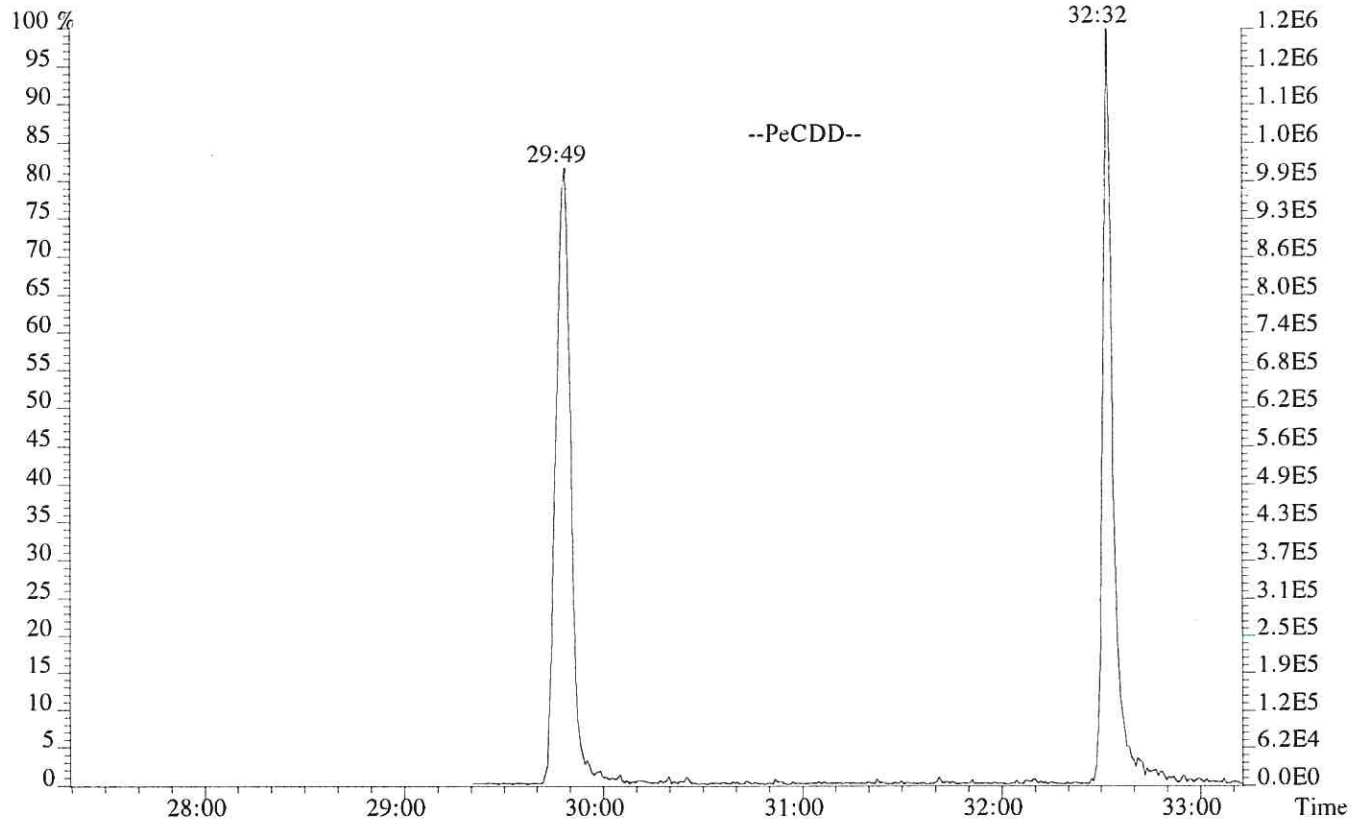
319.8965



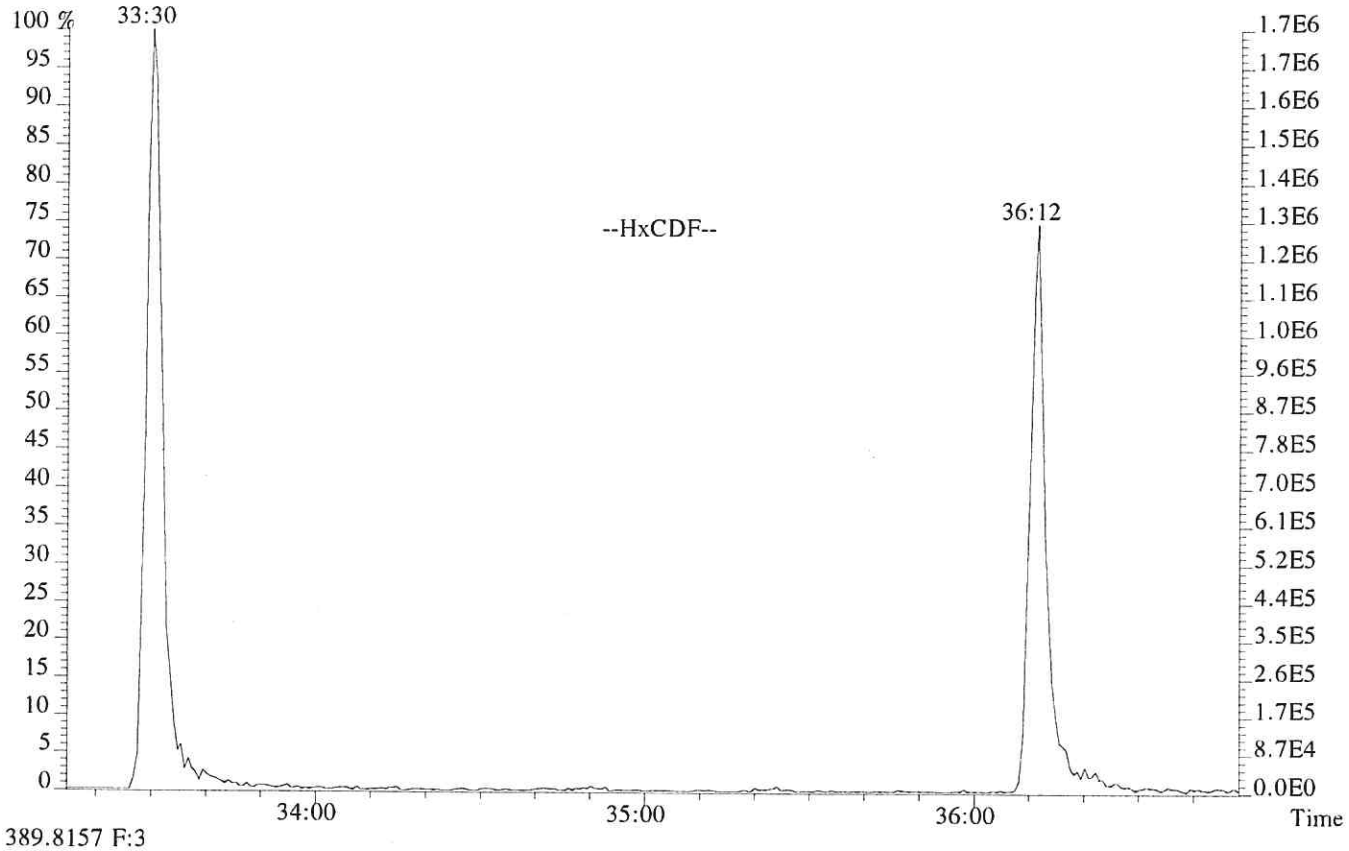
File:P609262 #1-658 Acq:25-SEP-2017 14:09:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



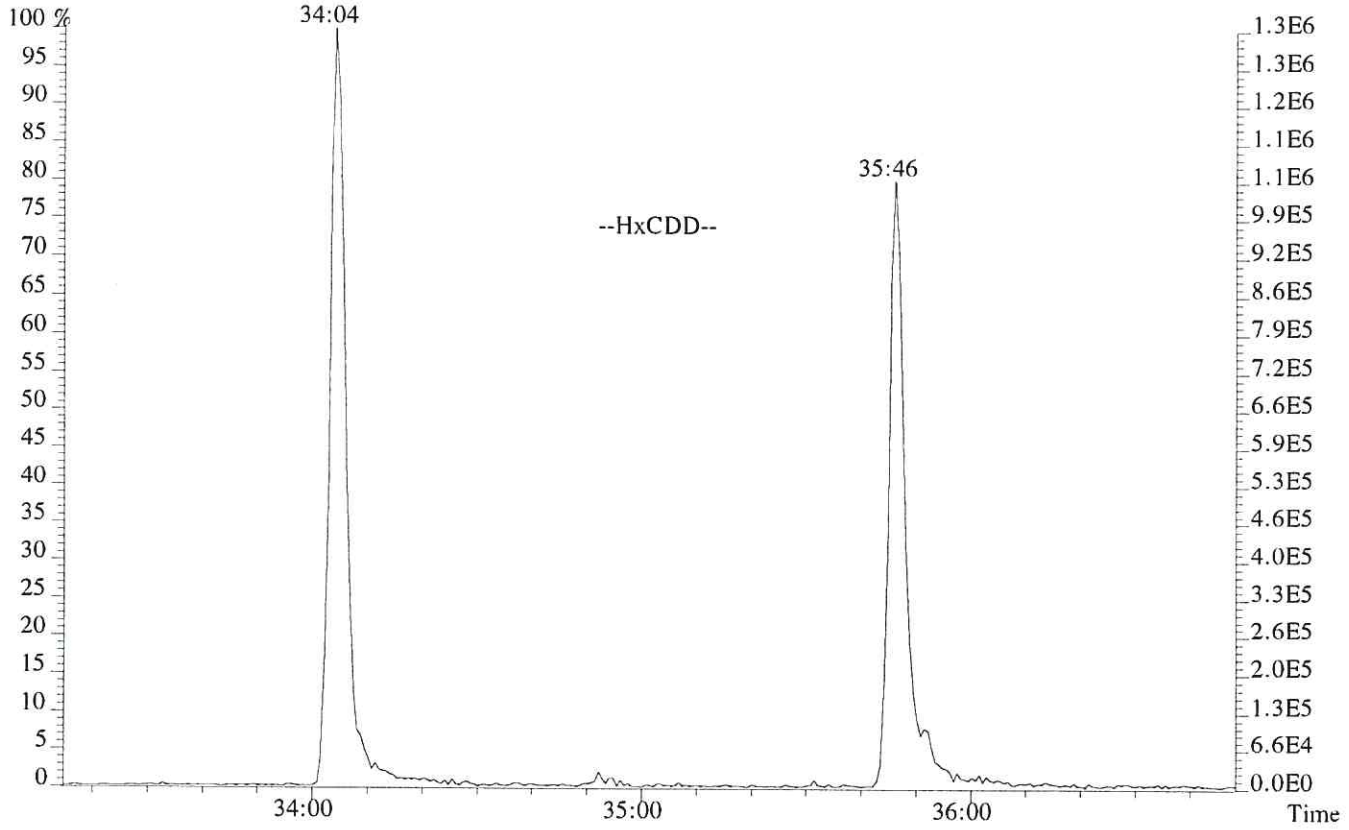
355.8546 F:2



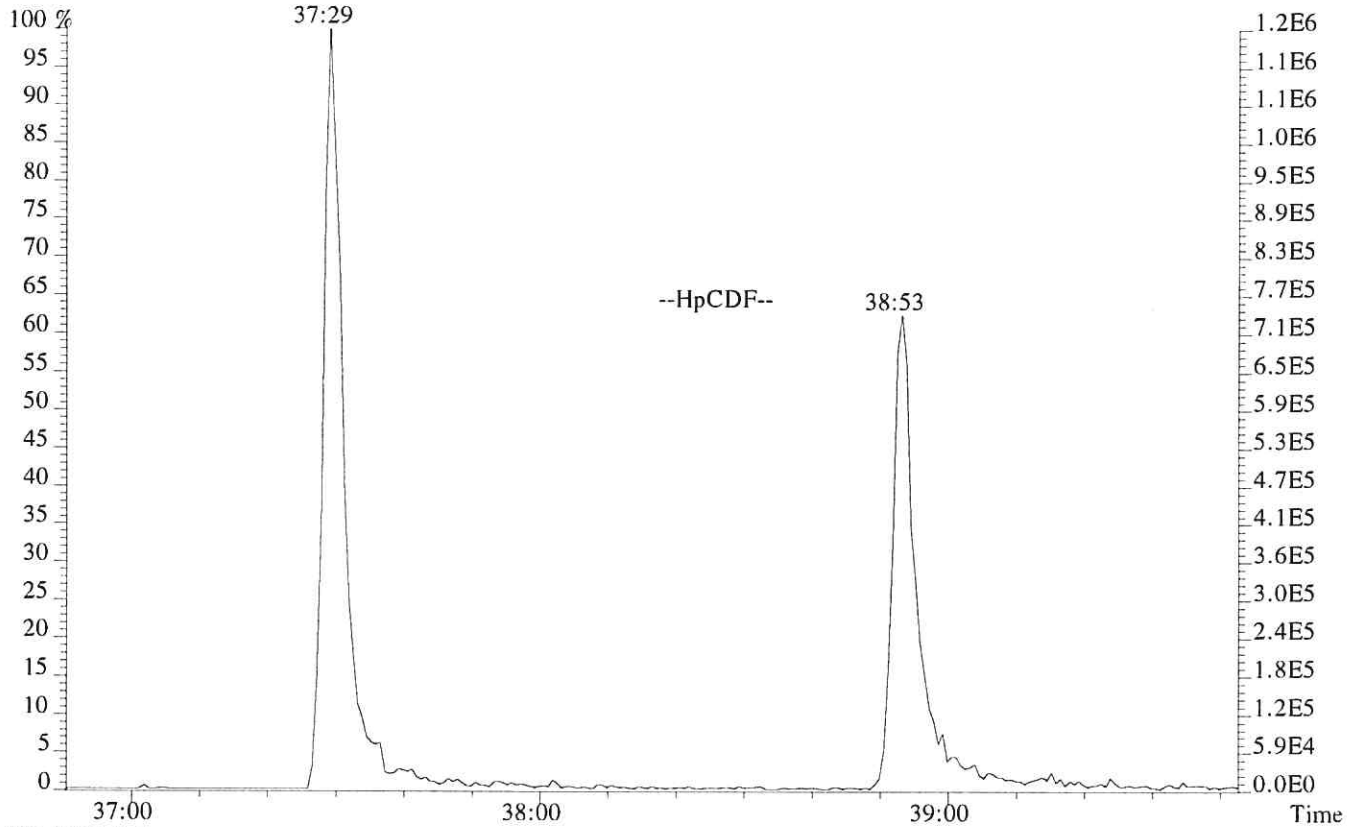
File:P609262 #1-321 Acq:25-SEP-2017 14:09:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



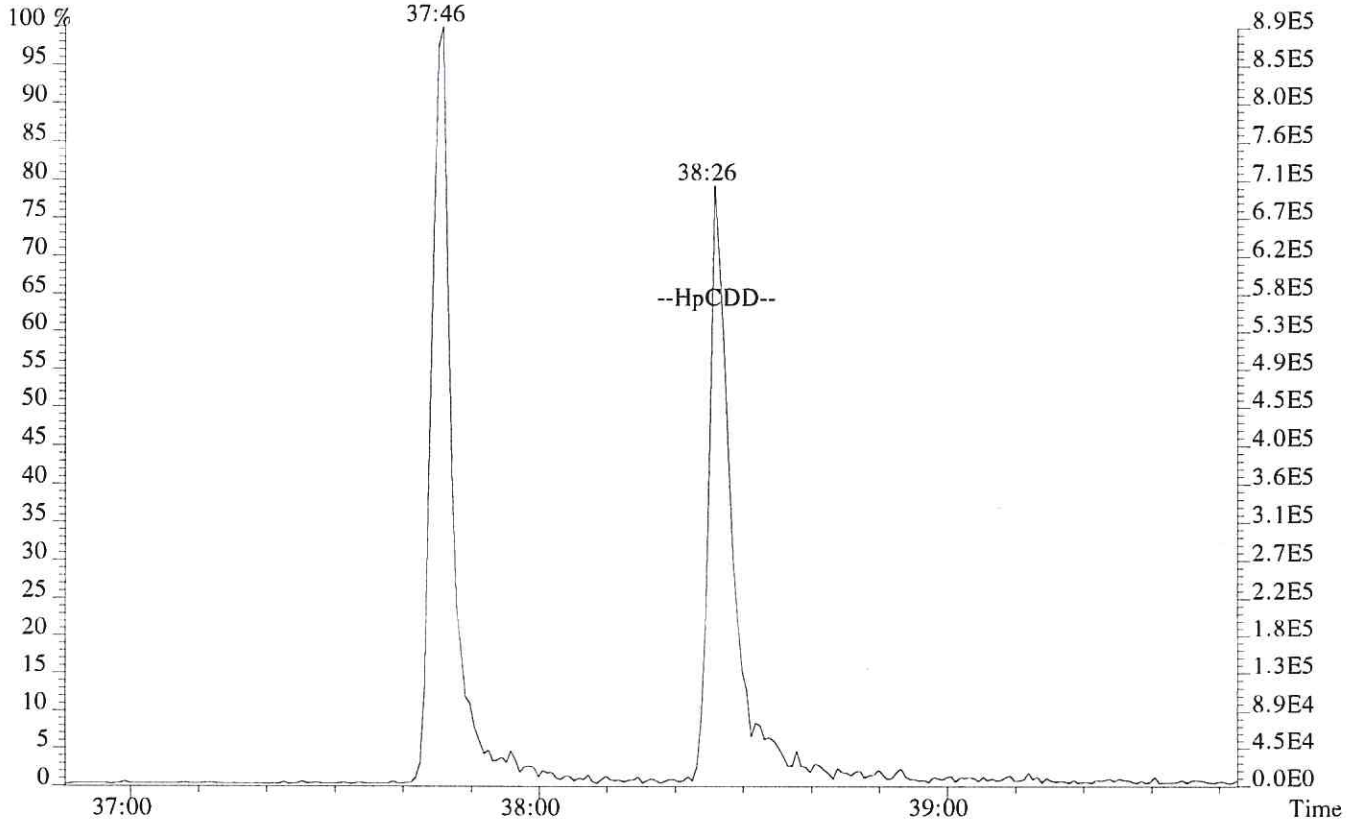
389.8157 F:3



File:P609262 #1-259 Acq:25-SEP-2017 14:09:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
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: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P609264 Analysis Date: 25-SEP-17 Time: 15:55:52

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	10.1	7.8 - 12.9	1.5
1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	51	39 - 65	1.7
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	51	39 - 64	1.3
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	53	39 - 64	6.5
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	50	41 - 61	-0.1
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88-1.20	52	43 - 58	4.2
OCDD	M+2/M+4	0.87	0.76-1.02	105	79 - 126	5.0
2,3,7,8-TCDF	M/M+2	0.82	0.65-0.89	10.1	8.4 - 12.0	1.2
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	50	41 - 60	-0.4
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	49	41 - 61	-2.4
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	49	45 - 56	-1.8
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	49	44 - 57	-2.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	48	45 - 56	-4.6
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	49	44 - 57	-2.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	48	45 - 55	-4.8
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	49	43 - 58	-3.0
OCDF	M+2/M+4	0.91	0.76-1.02	107	63 - 159	7.1

(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: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P609264 Analysis Date: 25-SEP-17 Time: 15:55:52

	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	0.77	0.65-0.89	94	82 - 121	-6.1
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	90	62 - 160	-9.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	92	85 - 117	-8.1
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	106	85 - 118	5.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	94	72 - 138	-5.9
13C-OCDD	M+2/M+4	0.90	0.76-1.02	174	96 - 415	-12.8
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	102	71 - 140	1.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	97	76 - 130	-3.2
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	95	77 - 130	-5.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	101	76 - 131	0.5
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	111	70 - 143	11.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43-0.59	94	74 - 135	-5.7
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	105	73 - 137	4.9
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	105	78 - 129	4.6
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.42	0.37-0.51	92	77 - 129	-7.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				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 P609264 Samp: 1 Inj: 1 Acquired: 25-SEP-17 15:55:52
Processed: 26-SEP-17 08:29:48 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:53	5.241e+03	6.372e+03	0.82	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:48	3.792e+04	2.443e+04	1.55	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:49	3.488e+04	2.273e+04	1.53	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:42	2.735e+04	2.250e+04	1.22	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:48	3.470e+04	2.780e+04	1.25	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:22	2.893e+04	2.407e+04	1.20	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:09	2.359e+04	1.889e+04	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:29	2.415e+04	2.311e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:52	1.838e+04	1.822e+04	1.01	yes	no	1.341
10	Unk	OCDF	41:16	2.988e+04	3.300e+04	0.91	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:51	3.559e+03	4.505e+03	0.79	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:08	2.396e+04	1.530e+04	1.57	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:30	1.904e+04	1.497e+04	1.27	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:36	2.193e+04	1.745e+04	1.26	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:50	2.155e+04	1.682e+04	1.28	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:25	1.728e+04	1.587e+04	1.09	yes	no	1.048
17	Unk	OCDD	41:05	2.402e+04	2.768e+04	0.87	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:52	5.034e+04	6.224e+04	0.81	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:47	7.320e+04	4.516e+04	1.62	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:49	7.102e+04	4.527e+04	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:41	2.814e+04	5.263e+04	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:48	3.739e+04	6.968e+04	0.54	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:21	3.183e+04	6.018e+04	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:08	2.582e+04	4.770e+04	0.54	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:28	2.161e+04	4.967e+04	0.44	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:51	1.659e+04	3.966e+04	0.42	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	3.286e+04	4.245e+04	0.77	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:07	4.934e+04	3.082e+04	1.60	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:30	3.480e+04	2.777e+04	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:35	3.988e+04	3.146e+04	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:25	3.105e+04	2.963e+04	1.05	yes	no	0.884
32	IS	13C-OCDD	41:05	4.166e+04	4.624e+04	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:05	3.590e+04	4.535e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:50	4.070e+04	3.226e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:51	8.085e+03				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
178519

Run #7 Filename P609264 Samp: 1 Inj: 1 Acquired: 25-SEP-17 15:55:52
Processed: 26-SEP-17 08:29:48 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	7.07e+05	6.44e+02	1.1e+03	8.69e+05	3.76e+03	2.3e+02
2	1,2,3,7,8-PeCDF	5.79e+06	1.21e+03	4.8e+03	3.78e+06	2.70e+03	1.4e+03
3	2,3,4,7,8-PeCDF	5.69e+06	1.21e+03	4.7e+03	3.76e+06	2.70e+03	1.4e+03
4	1,2,3,4,7,8-HxCDF	5.45e+06	1.96e+02	2.8e+04	4.49e+06	1.32e+02	3.4e+04
5	1,2,3,6,7,8-HxCDF	5.57e+06	1.96e+02	2.8e+04	4.48e+06	1.32e+02	3.4e+04
6	2,3,4,6,7,8-HxCDF	5.33e+06	1.96e+02	2.7e+04	4.36e+06	1.32e+02	3.3e+04
7	1,2,3,7,8,9-HxCDF	3.78e+06	1.96e+02	1.9e+04	3.08e+06	1.32e+02	2.3e+04
8	1,2,3,4,6,7,8-HpCDF	4.22e+06	2.68e+03	1.6e+03	3.97e+06	5.14e+03	7.7e+02
9	1,2,3,4,7,8,9-HpCDF	2.83e+06	2.68e+03	1.1e+03	2.73e+06	5.14e+03	5.3e+02
10	OCDF	3.74e+06	1.96e+02	1.9e+04	4.19e+06	7.56e+02	5.5e+03
11	2,3,7,8-TCDD	5.00e+05	2.10e+03	2.4e+02	6.46e+05	5.52e+02	1.2e+03
12	1,2,3,7,8-PeCDD	3.88e+06	1.12e+03	3.4e+03	2.44e+06	1.96e+02	1.2e+04
13	1,2,3,4,7,8-HxCDD	3.91e+06	2.24e+02	1.7e+04	3.06e+06	2.92e+02	1.0e+04
14	1,2,3,6,7,8-HxCDD	3.84e+06	2.24e+02	1.7e+04	3.06e+06	2.92e+02	1.0e+04
15	1,2,3,7,8,9-HxCDD	3.49e+06	2.24e+02	1.6e+04	2.74e+06	2.92e+02	9.4e+03
16	1,2,3,4,6,7,8-HpCDD	2.84e+06	3.04e+02	9.3e+03	2.59e+06	2.56e+02	1.0e+04
17	OCDD	3.02e+06	2.12e+02	1.4e+04	3.42e+06	2.52e+02	1.4e+04
18	13C-2,3,7,8-TCDF	6.66e+06	1.11e+04	6.0e+02	8.35e+06	6.33e+03	1.3e+03
19	13C-1,2,3,7,8-PeCDF	1.09e+07	4.08e+02	2.7e+04	6.72e+06	1.69e+03	4.0e+03
20	13C-2,3,4,7,8-PeCDF	1.21e+07	4.08e+02	3.0e+04	7.76e+06	1.69e+03	4.6e+03
21	13C-1,2,3,4,7,8-HxCDF	5.72e+06	1.04e+03	5.5e+03	1.06e+07	1.31e+03	8.1e+03
22	13C-1,2,3,6,7,8-HxCDF	6.17e+06	1.04e+03	6.0e+03	1.17e+07	1.31e+03	8.9e+03
23	13C-2,3,4,6,7,8-HxCDF	6.05e+06	1.04e+03	5.8e+03	1.14e+07	1.31e+03	8.7e+03
24	13C-1,2,3,7,8,9-HxCDF	4.09e+06	1.04e+03	4.0e+03	7.57e+06	1.31e+03	5.8e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.80e+06	2.84e+03	1.3e+03	8.57e+06	7.74e+03	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.65e+06	2.84e+03	9.3e+02	5.94e+06	7.74e+03	7.7e+02
27	13C-2,3,7,8-TCDD	4.87e+06	9.85e+03	4.9e+02	6.26e+06	4.85e+03	1.3e+03
28	13C-1,2,3,7,8-PeCDD	7.93e+06	1.04e+03	7.6e+03	4.97e+06	7.28e+02	6.8e+03
29	13C-1,2,3,4,7,8-HxCDD	7.16e+06	1.10e+03	6.5e+03	5.74e+06	9.32e+02	6.2e+03
30	13C-1,2,3,6,7,8-HxCDD	7.00e+06	1.10e+03	6.3e+03	5.55e+06	9.32e+02	6.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	5.08e+06	6.24e+02	8.1e+03	4.78e+06	2.36e+02	2.0e+04
32	13C-OCDD	5.14e+06	4.52e+02	1.1e+04	5.81e+06	2.84e+02	2.0e+04
33	13C-1,2,3,4-TCDD	5.28e+06	9.85e+03	5.4e+02	6.61e+06	4.85e+03	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	6.71e+06	1.10e+03	6.1e+03	5.40e+06	9.32e+02	5.8e+03
35	37Cl-2,3,7,8-TCDD	1.15e+06	1.48e+03	7.8e+02			

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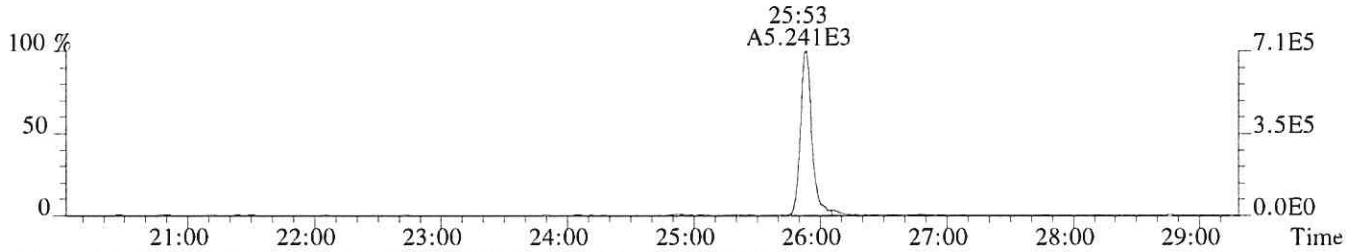
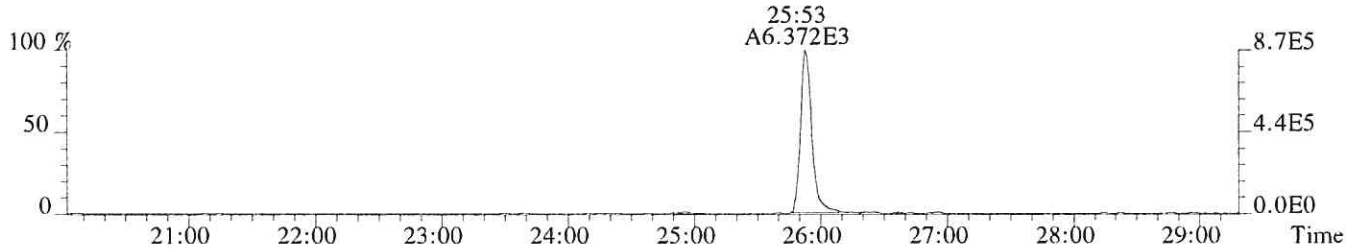
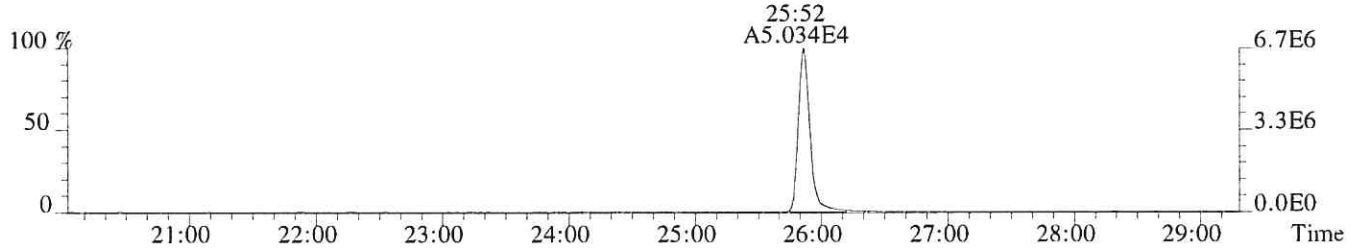
File:P609264 #1-658 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



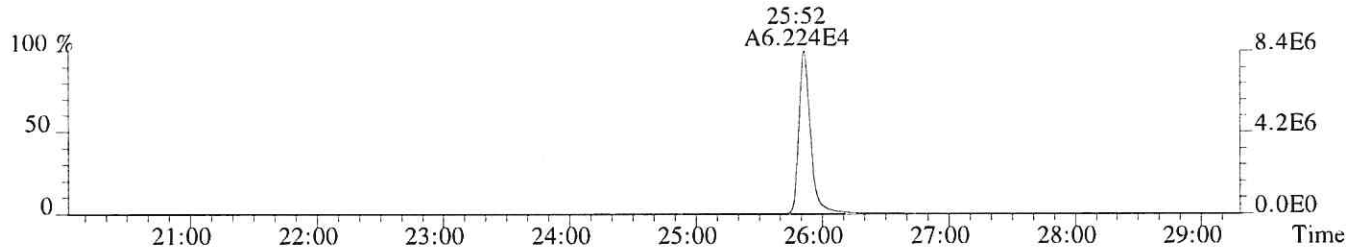
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3764.0,1.00%,F,T)



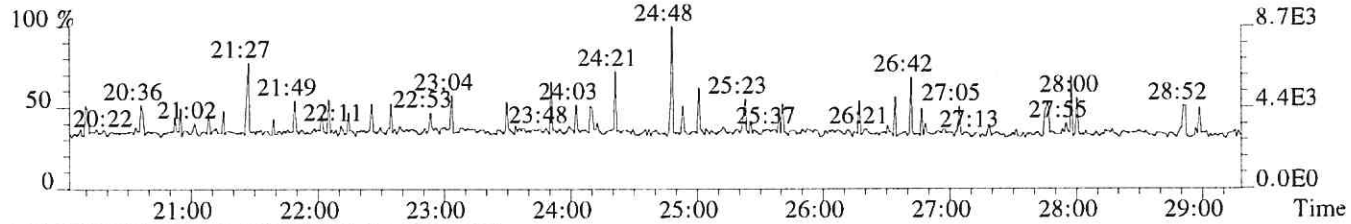
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11108.0,1.00%,F,T)



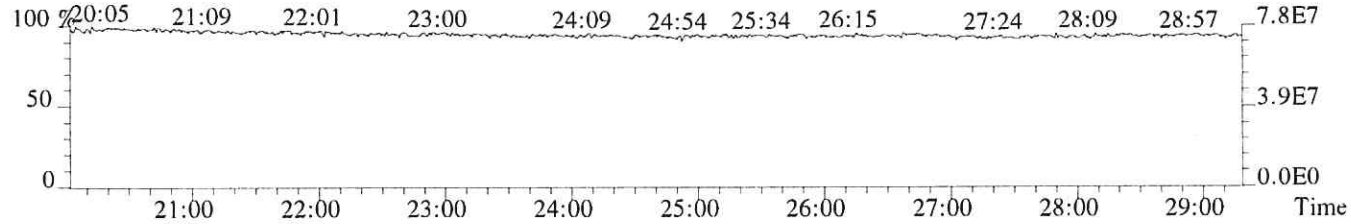
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6328.0,1.00%,F,T)



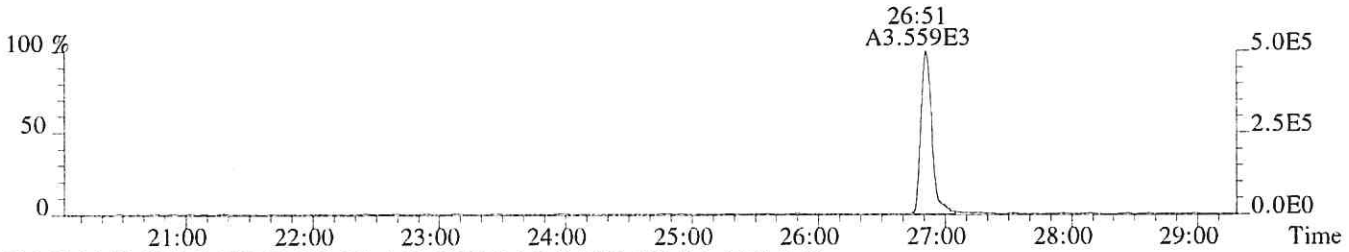
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



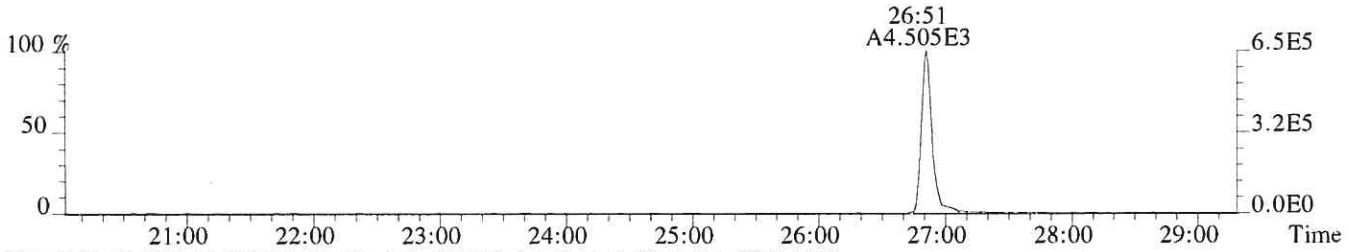
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



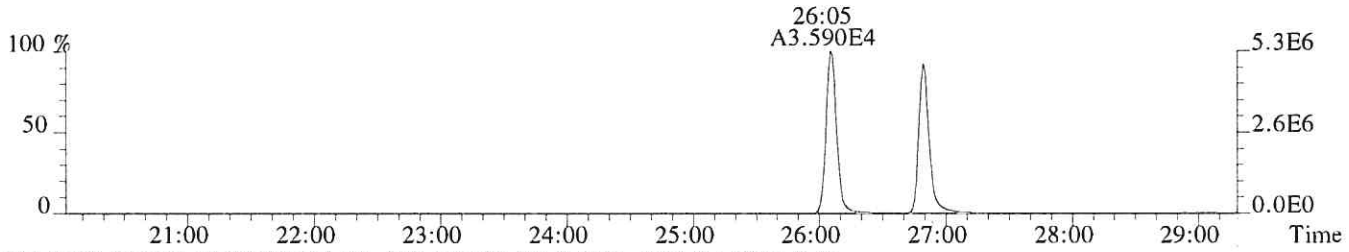
File:P609264 #1-658 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2100.0,1.00%,F,T)



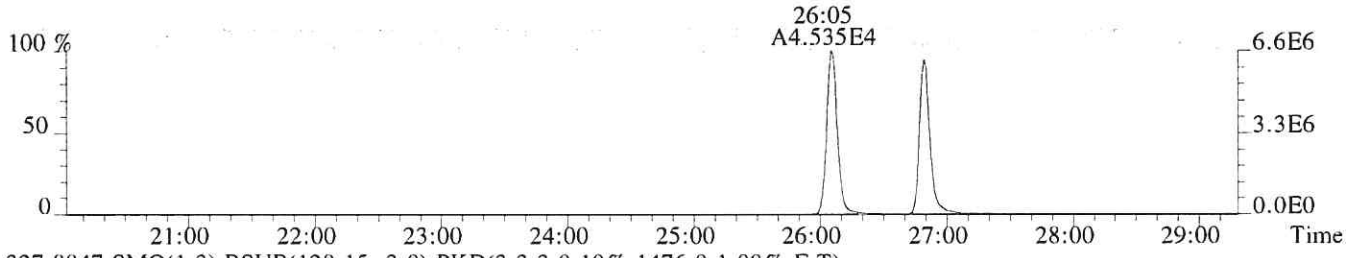
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,T)



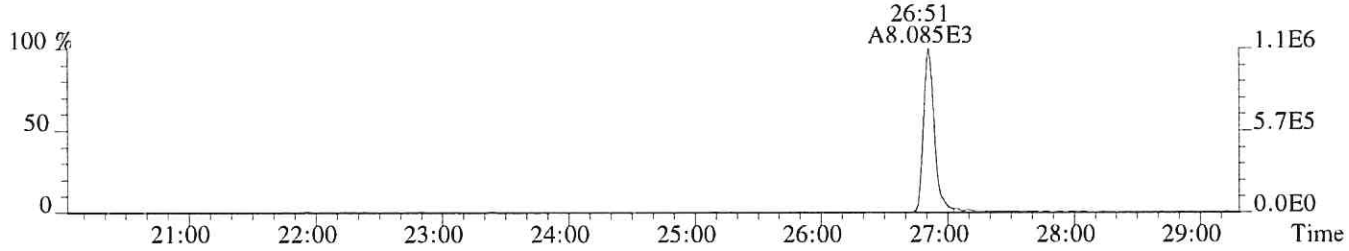
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9852.0,1.00%,F,T)



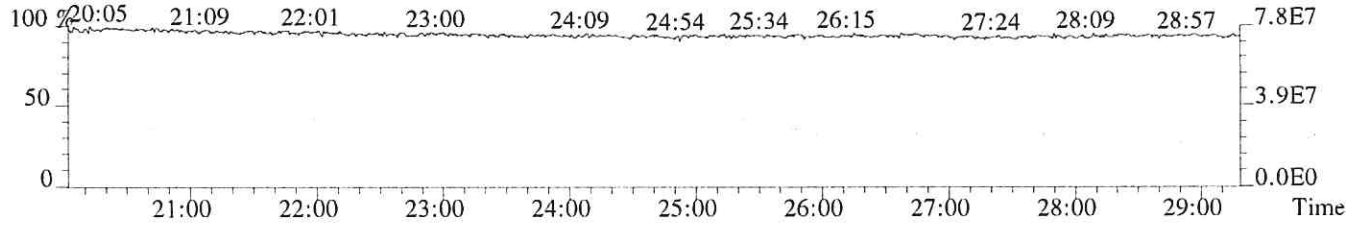
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4848.0,1.00%,F,T)



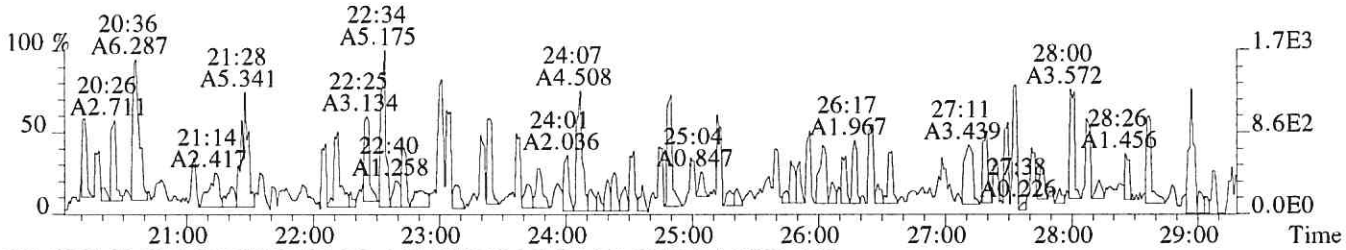
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1476.0,1.00%,F,T)



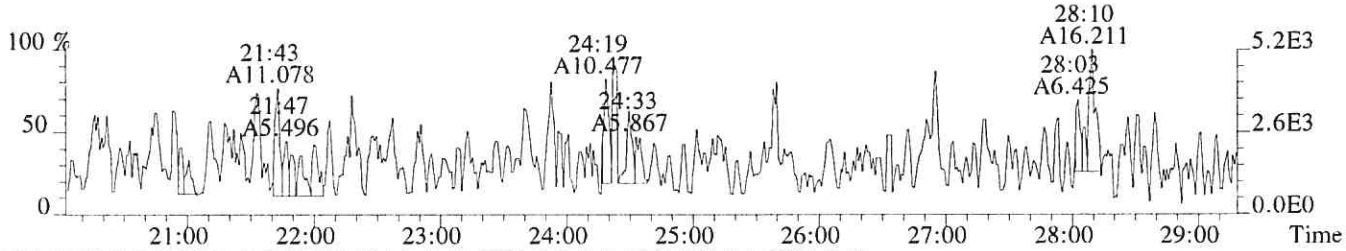
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



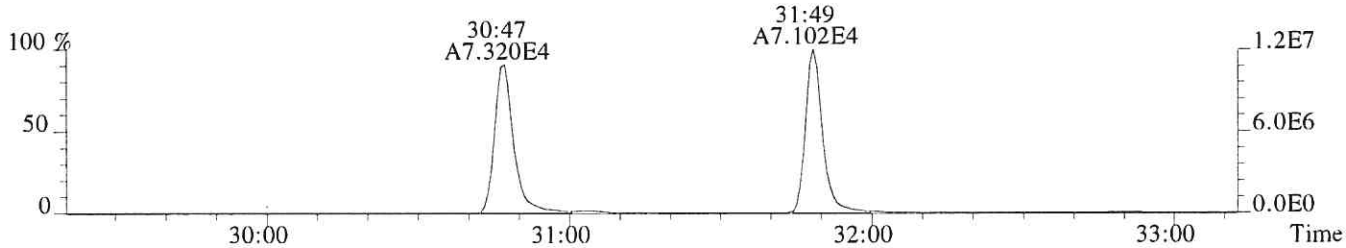
File:P609264 #1-658 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



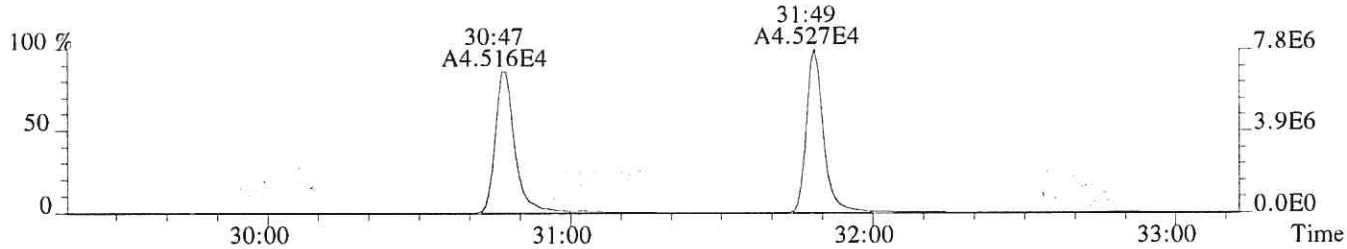
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2052.0,1.00%,F,T)



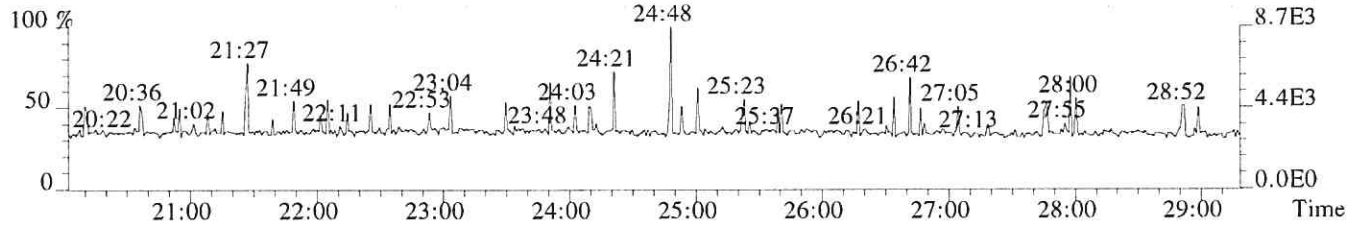
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



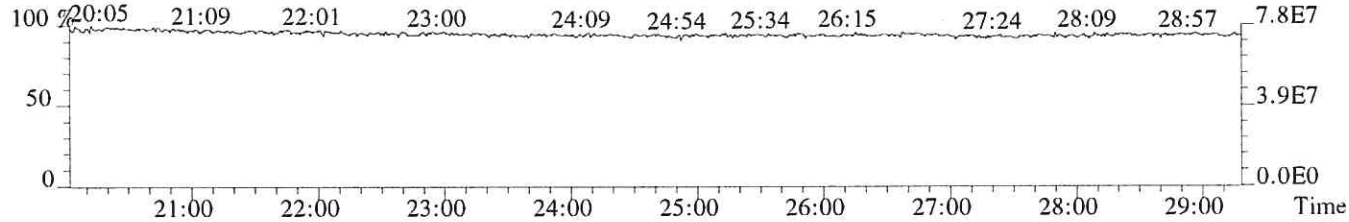
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1692.0,1.00%,F,T)



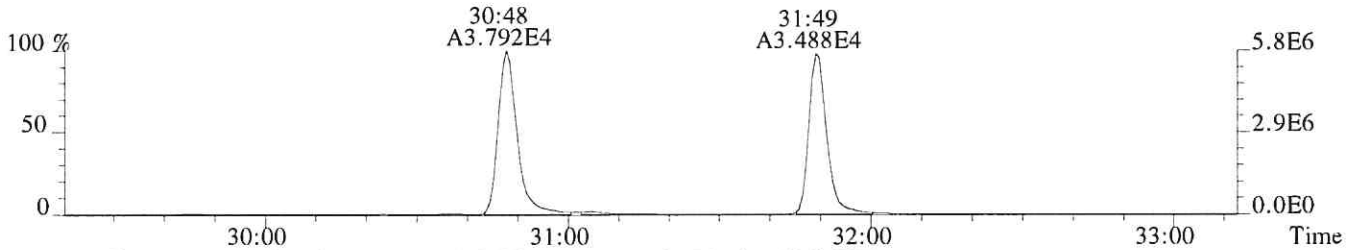
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



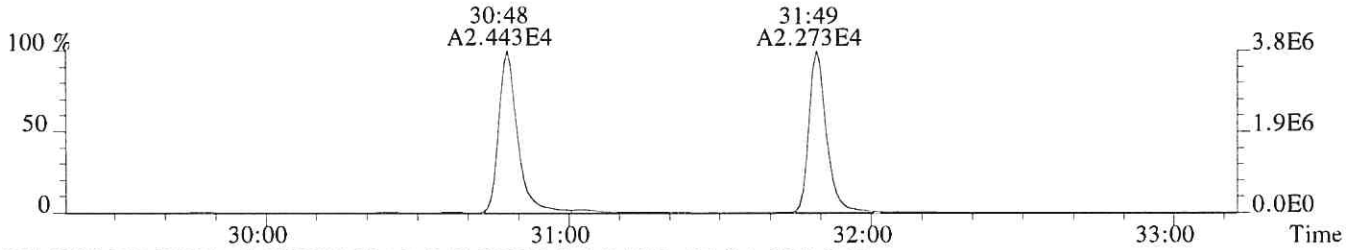
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



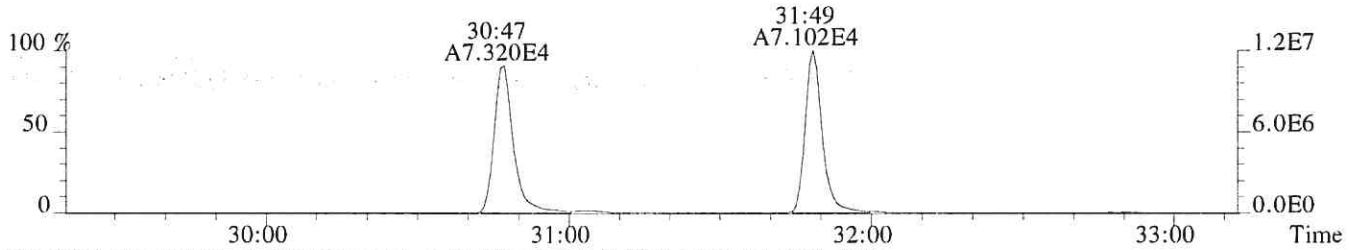
File:P609264 #1-349 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



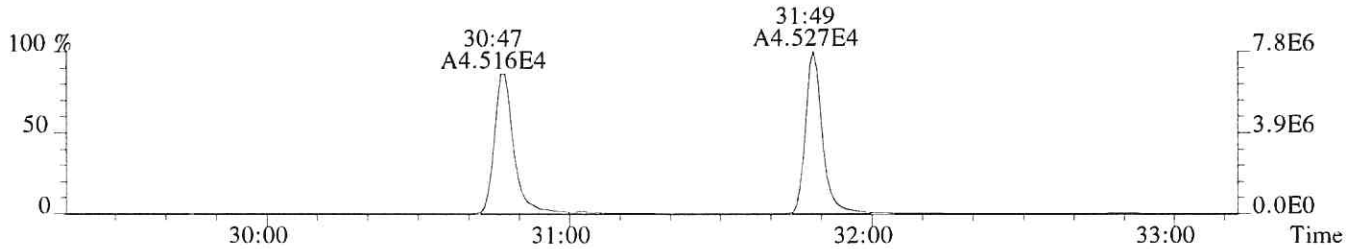
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2704.0,1.00%,F,T)



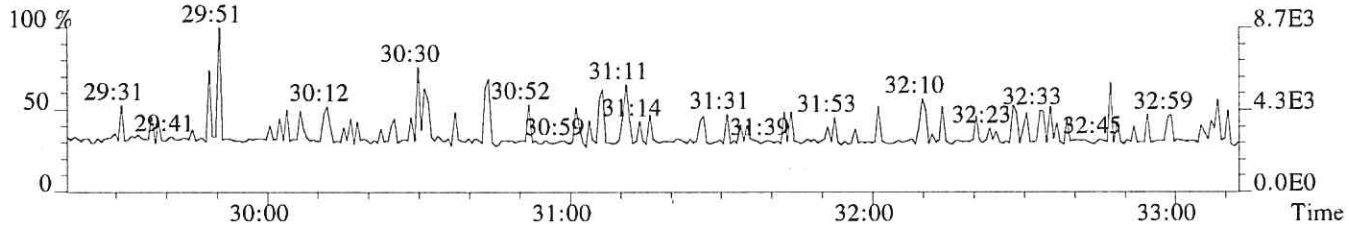
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



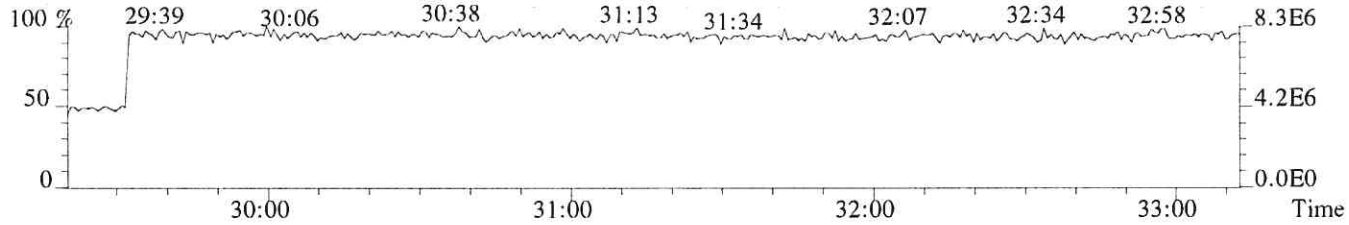
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1692.0,1.00%,F,T)



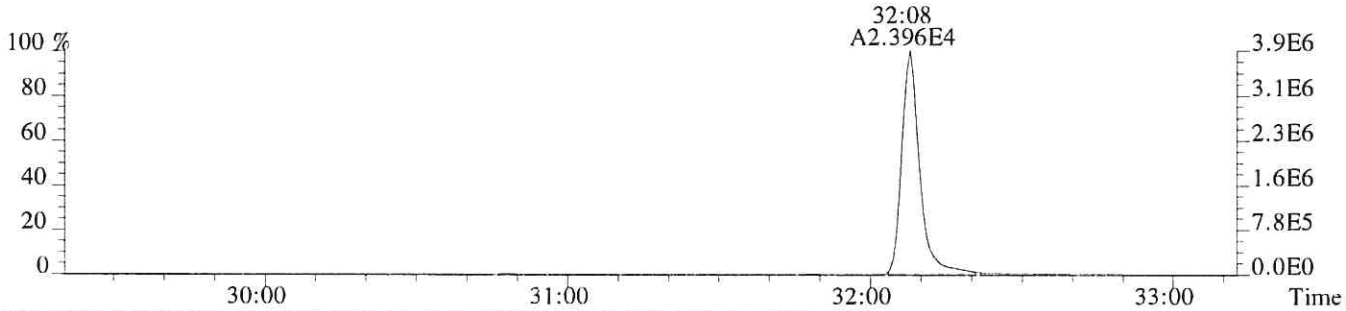
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



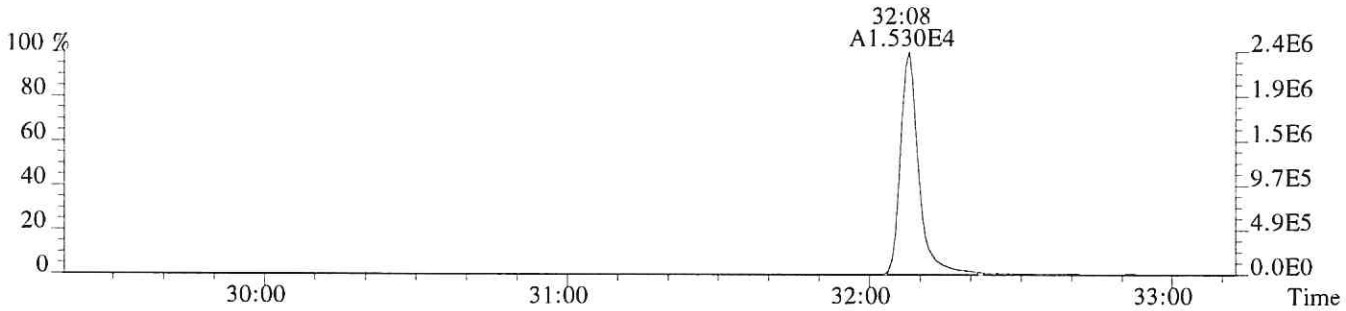
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



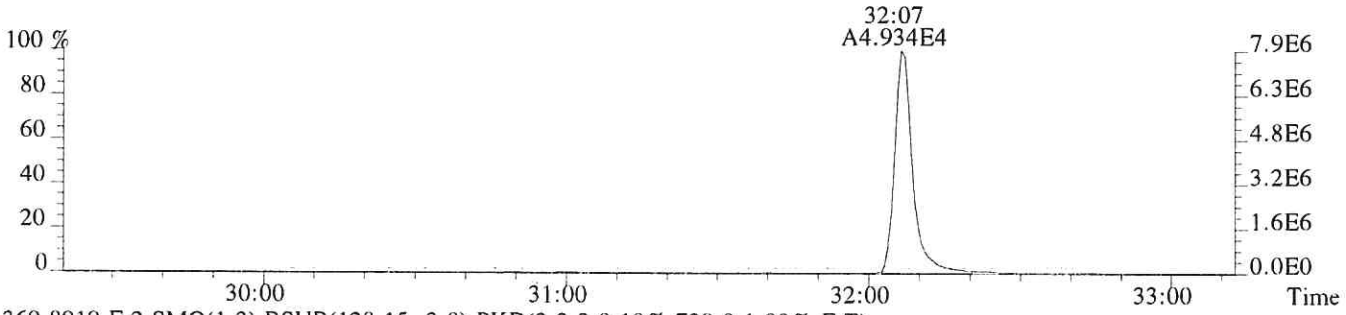
File:P609264 #1-349 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



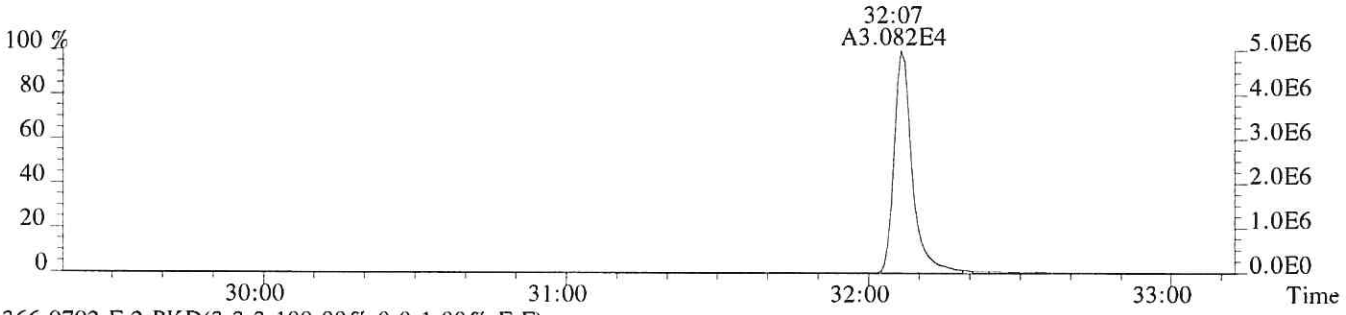
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



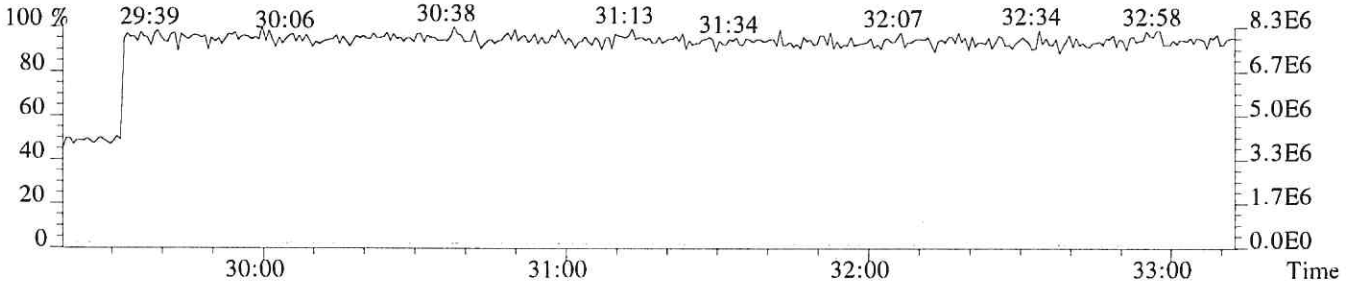
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,T)



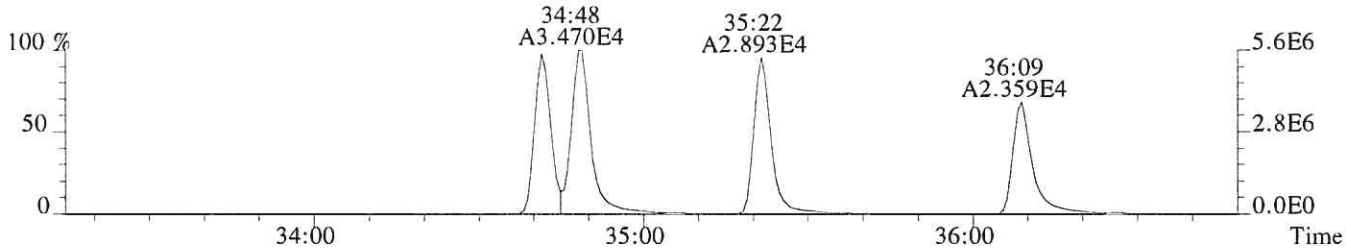
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,T)



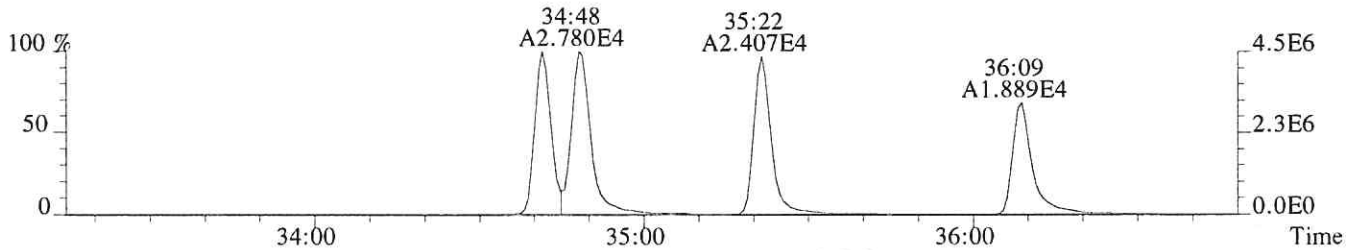
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



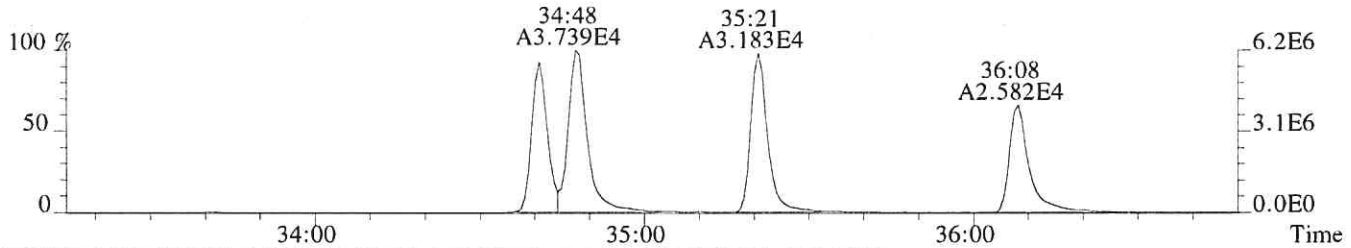
File:P609264 #1-321 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,T)



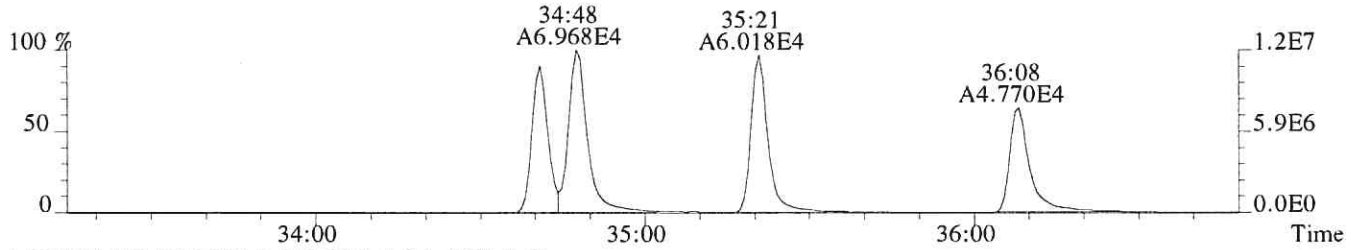
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



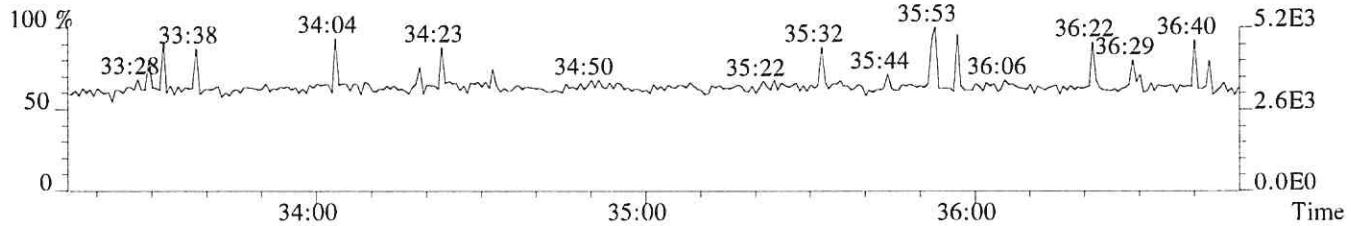
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1036.0,0.40%,F,T)



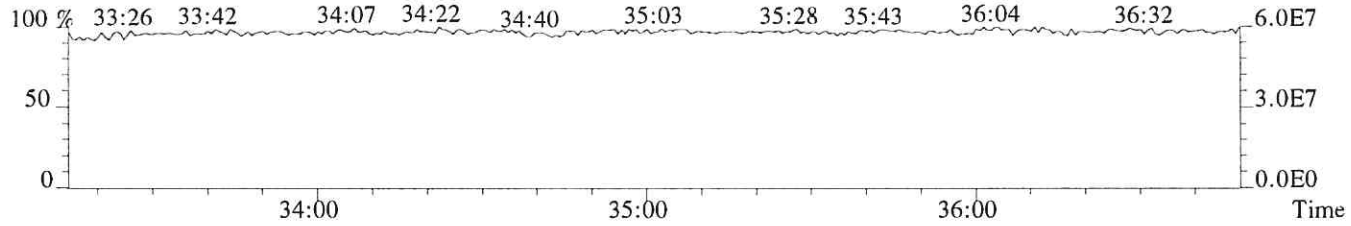
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



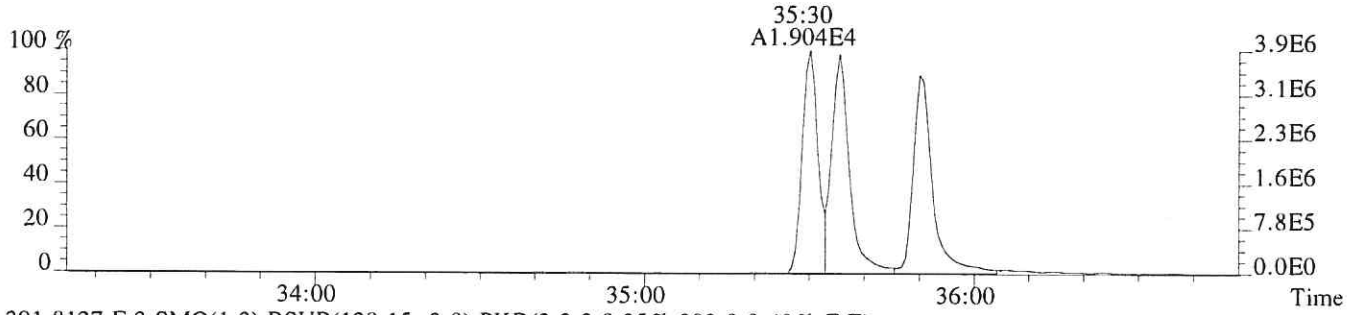
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



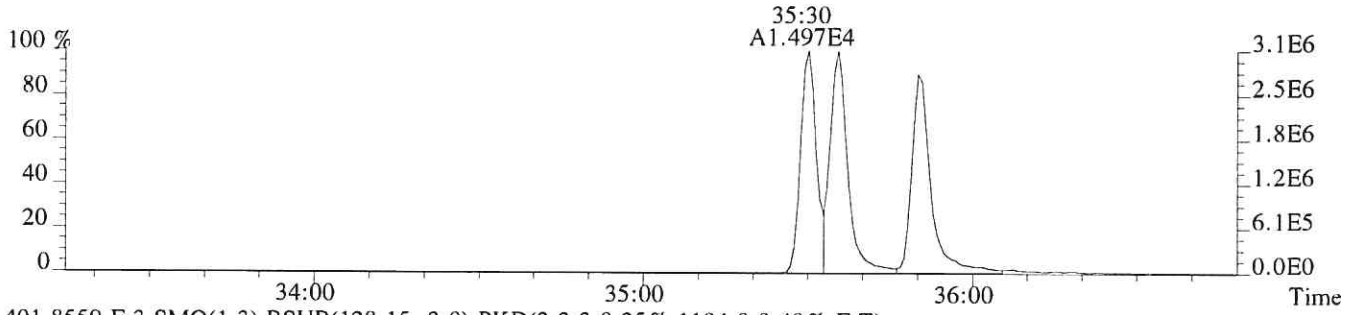
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



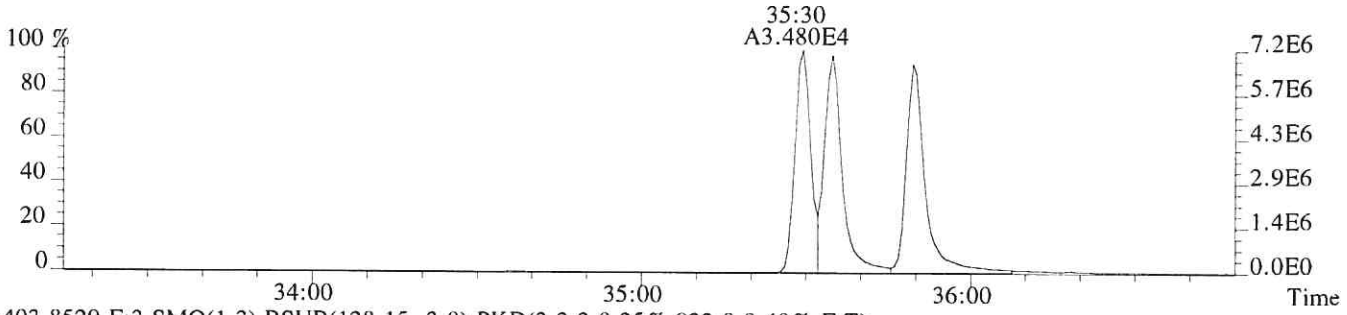
File:P609264 #1-321 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



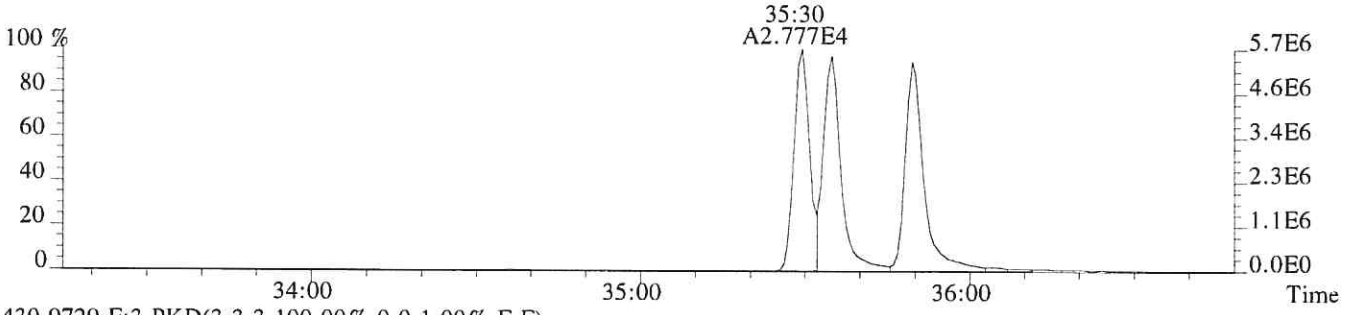
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,292.0,0.40%,F,T)



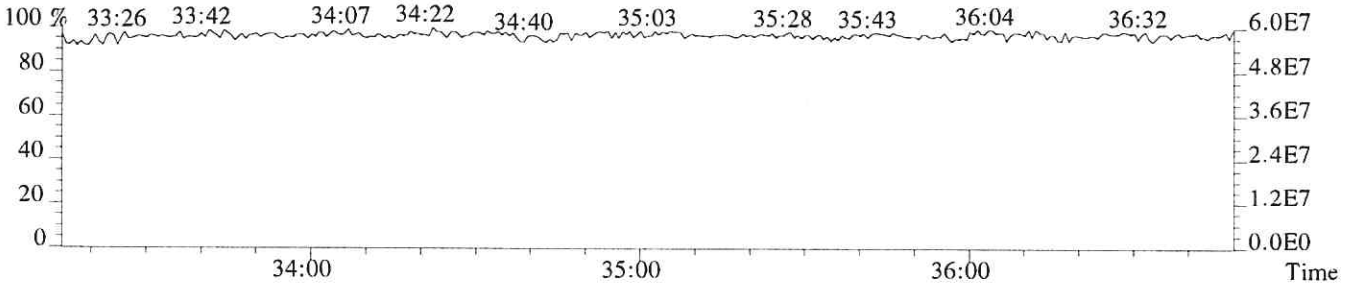
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)



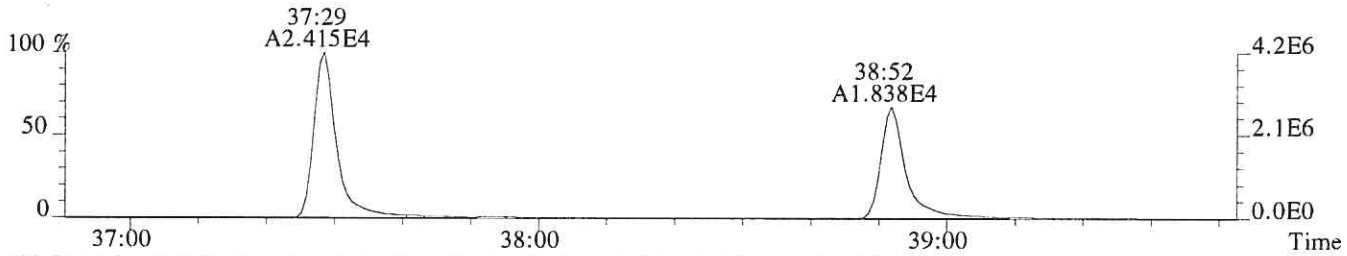
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



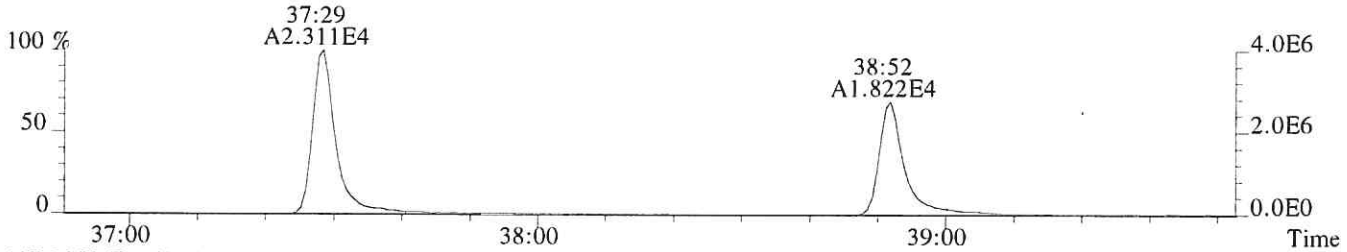
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



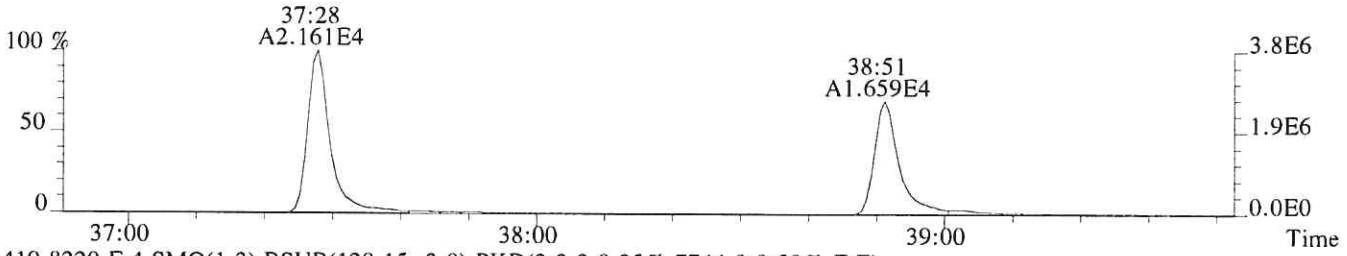
File:P609264 #1-259 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2680.0,0.50%,F,T)



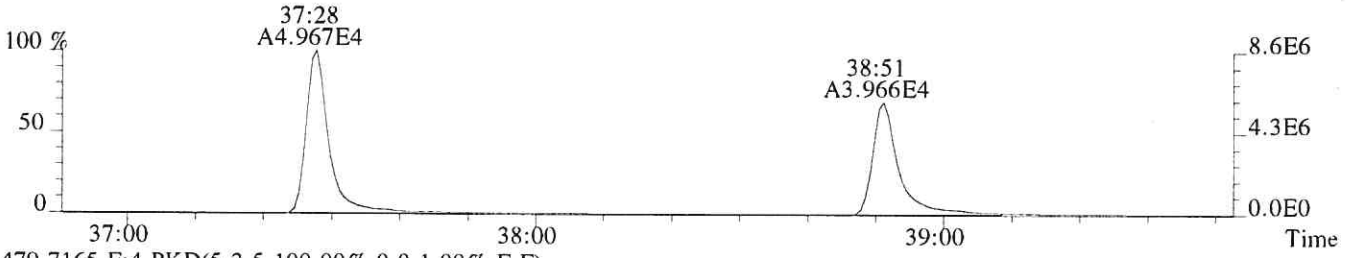
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5136.0,0.50%,F,T)



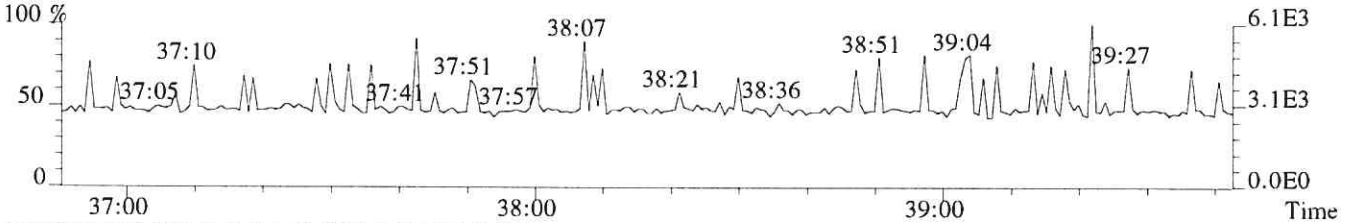
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2836.0,0.50%,F,T)



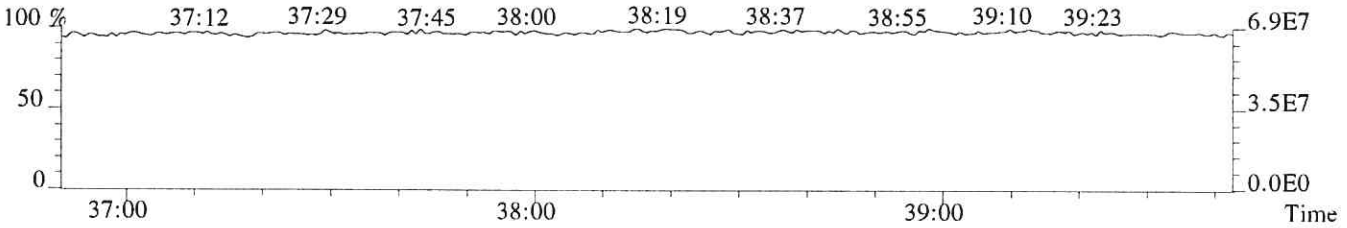
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7744.0,0.50%,F,T)



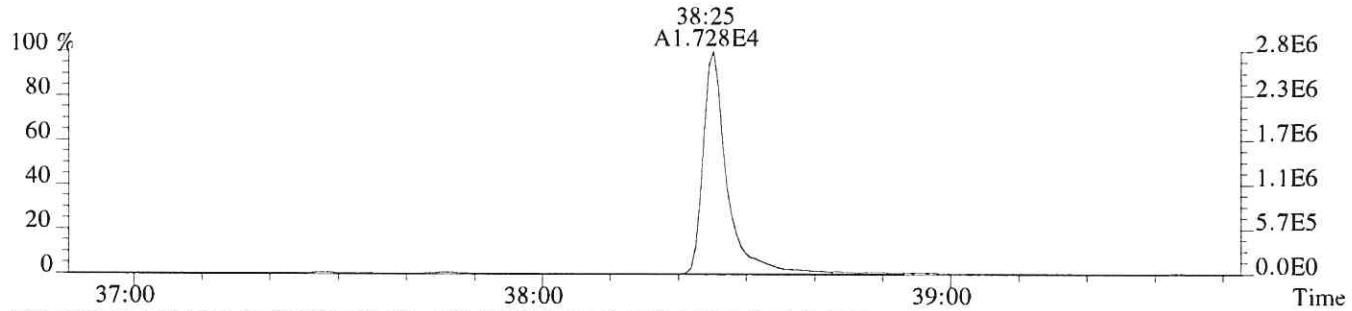
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



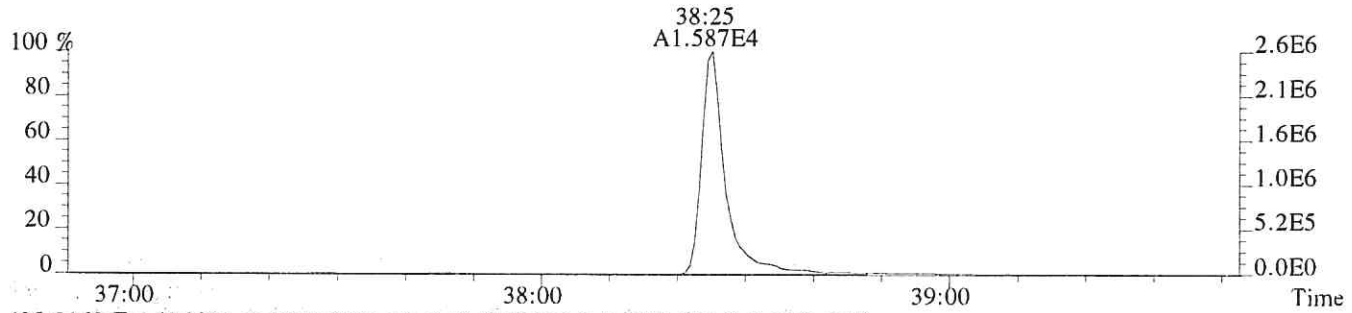
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



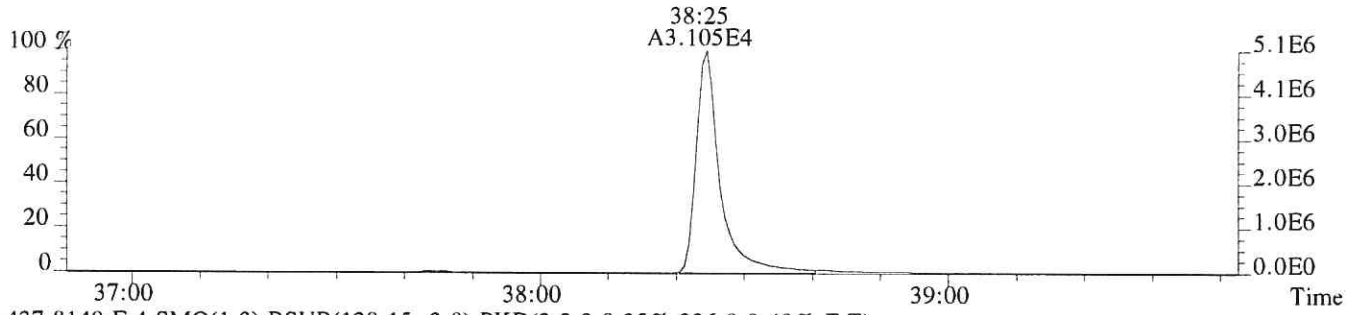
File:P609264 #1-259 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



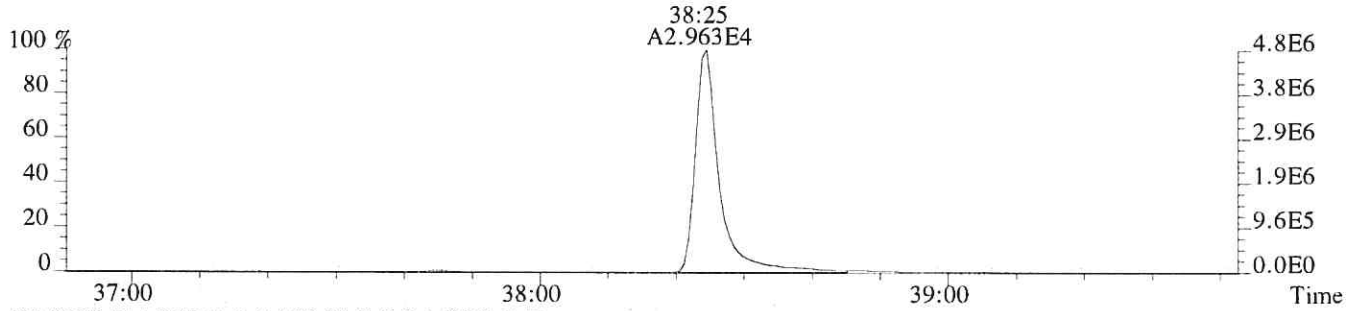
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



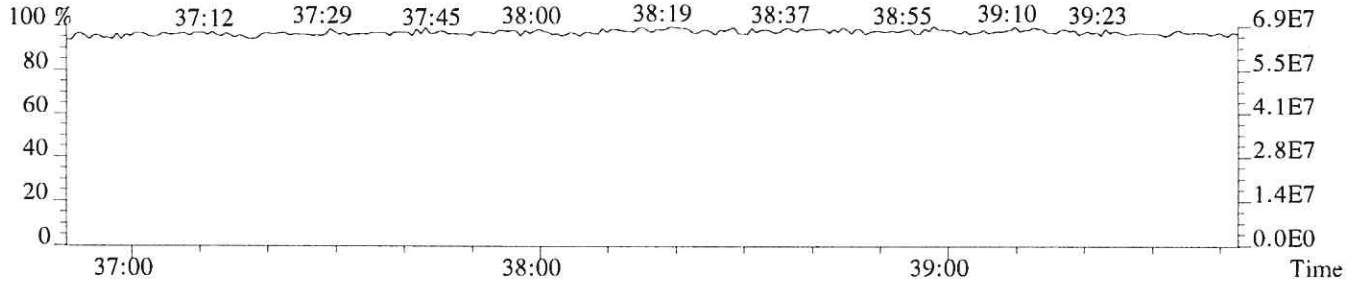
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,T)



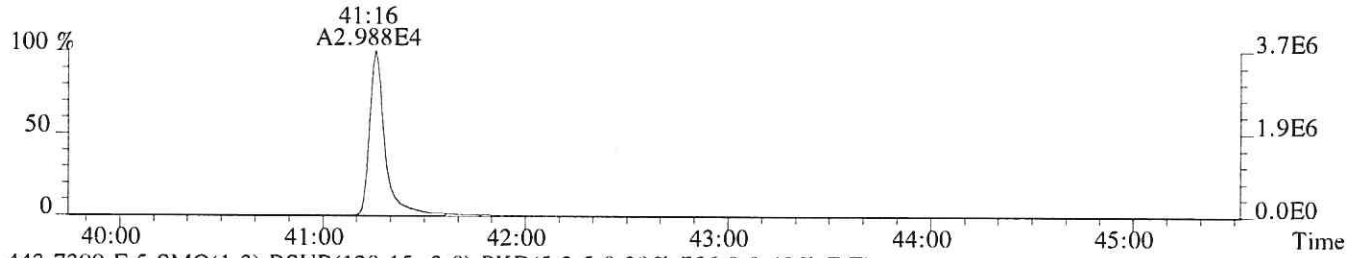
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,T)



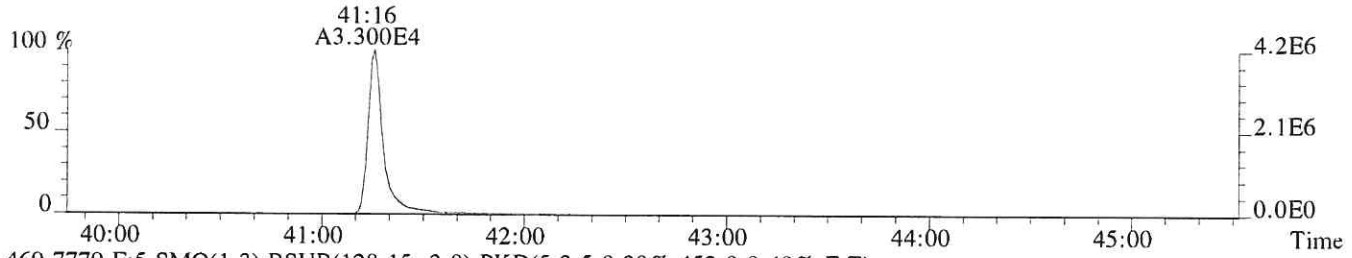
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



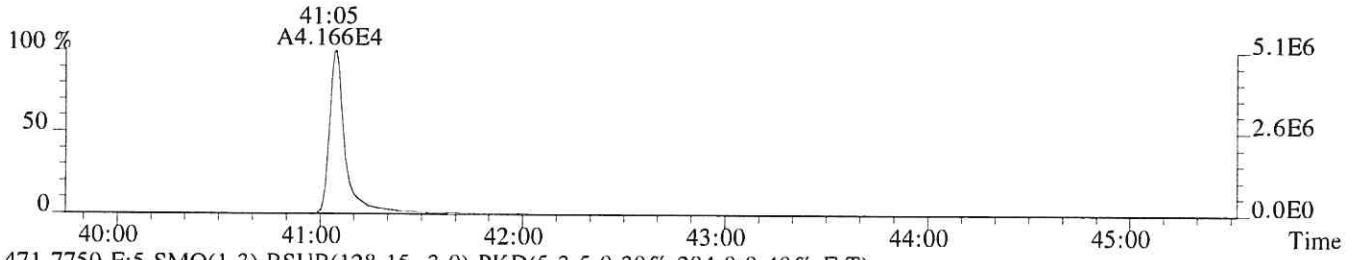
File:P609264 #1-521 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,196.0,0.40%,F,T)



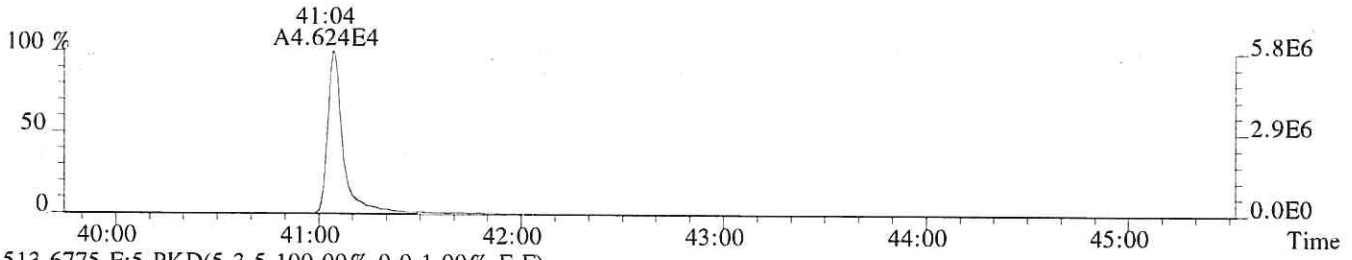
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,756.0,0.40%,F,T)



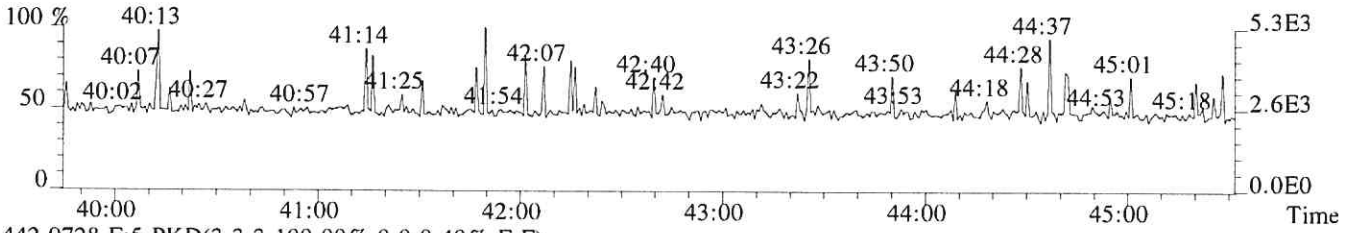
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



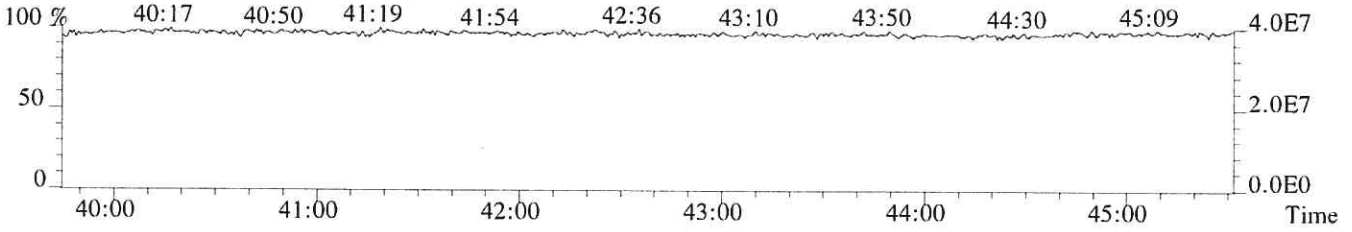
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,284.0,0.40%,F,T)



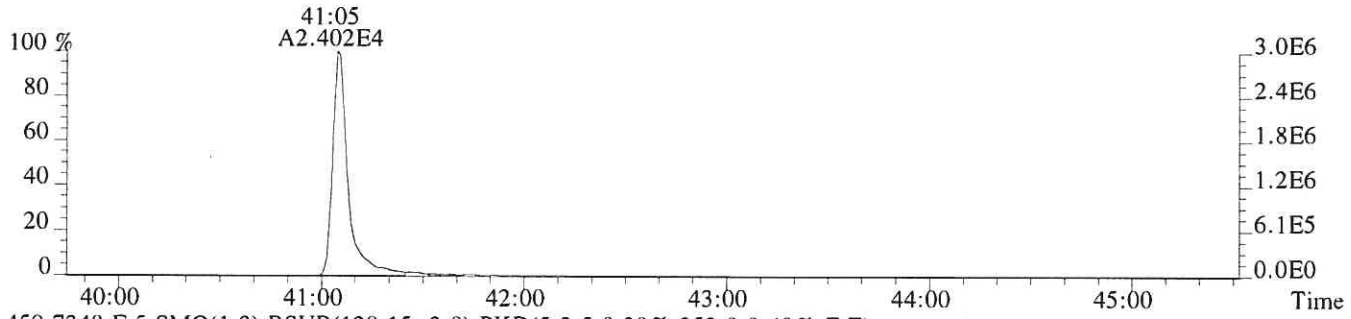
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



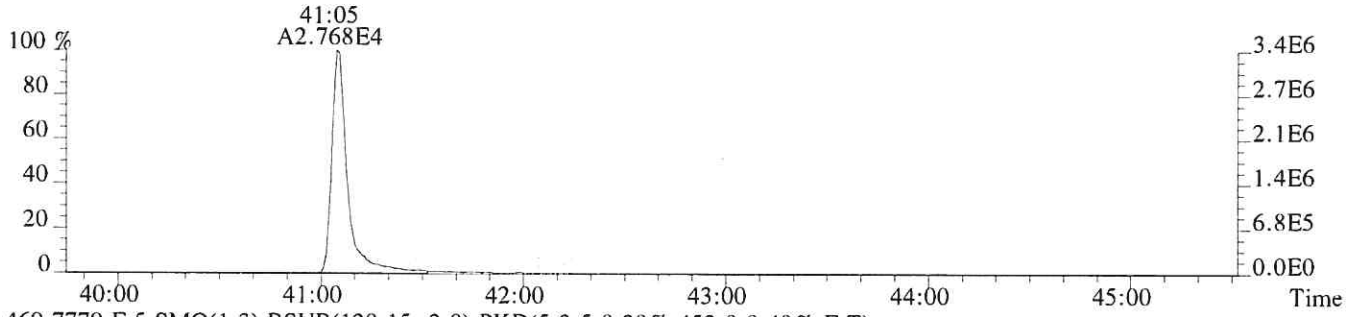
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



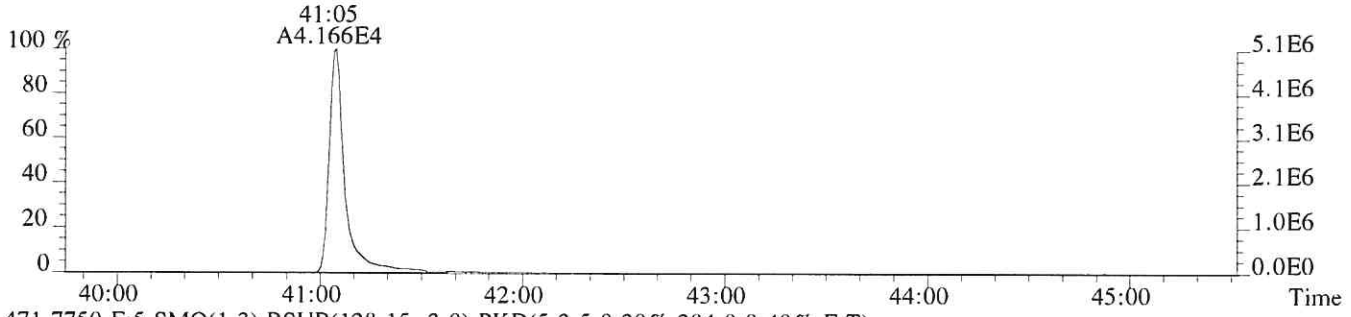
File:P609264 #1-521 Acq:25-SEP-2017 15:55:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,212.0,0.40%,F,T)



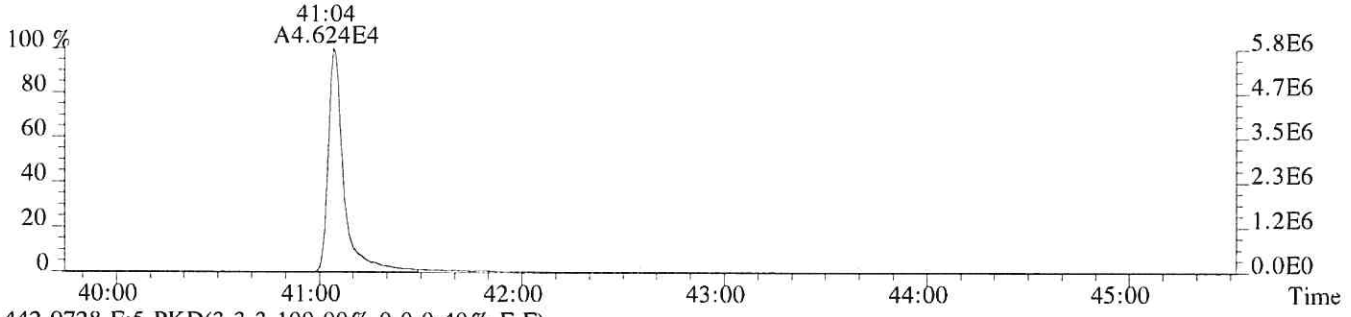
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,252.0,0.40%,F,T)



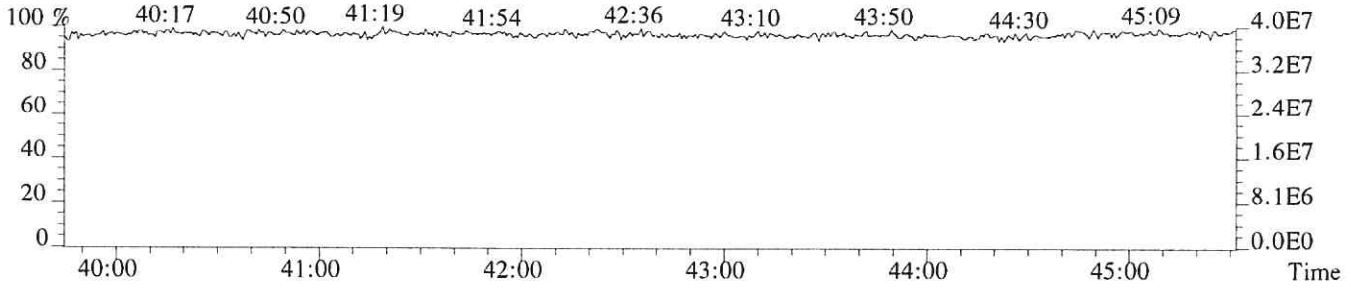
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,284.0,0.40%,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: E609277

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	N/A	N/A

Analyst: LKL

Second QC: [illegible]

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	P609278	26-SEP-17	03:42:12
178519	CS3	P609277	26-SEP-17	02:53:58
METHOD BLANK	EQ1700368-01	P609279	26-SEP-17	04:31:16
2257655 001	E1700933-001	P609280	26-SEP-17	05:20:18
2255751 001	E1700934-001	P609281	26-SEP-17	06:09:07
2256496 001	E1700935-001	P609282	26-SEP-17	06:58:11
17H1152-01	E1700936-001	P609283	26-SEP-17	07:47:15
1919221	E1700937-001	P609284	26-SEP-17	08:36:19
1619206	E1700938-001	P609285	26-SEP-17	09:31:57
METHOD BLANK	EQ1700417-01	P609286	26-SEP-17	11:36:01

Sample List Report

MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20170923B.SPL

Last Modified: Tuesday, September 26, 2017 14:45:38 Central Daylight Time

Printed: Tuesday, September 26, 2017 14:45:39 Central Daylight Time

Page Position (1, 1)

OPUS 5 NET: P609277 RES

	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	9/26/17	02:53	P609277	178519	CS3	Tray1:1	EPA1613_ALS	Dioxin_ALS	BJS	HRMS check 02:53
2		03:42	P609278	178397	WINDOW DEFINE	Tray1:2	EPA1613_ALS	Dioxin_ALS		
3		04:31	P609279	EQ1700368-01	MB	Tray1:2	EPA1613_ALS	Dioxin_ALS		
4		05:20	P609280	E1700933-001	E1700933-001	Tray1:3	EPA1613_ALS	Dioxin_ALS		
5		06:09	P609281	E1700934-001	E1700934-001	Tray1:4	EPA1613_ALS	Dioxin_ALS		
6		06:58	P609282	E1700935-001	E1700935-001	Tray1:5	EPA1613_ALS	Dioxin_ALS		bad injection
7		07:47	P609283	E1700936-001	E1700936-001	Tray1:6	EPA1613_ALS	Dioxin_ALS		
8		08:36	P609284	E1700937-001	E1700937-001	Tray1:7	EPA1613_ALS	Dioxin_ALS		
9		09:31	P609285	E1700938-001	E1700938-001	Tray1:8	EPA1613_ALS	Dioxin_ALS		
10		11:36	P609286	EQ1700417-01	MB	Tray1:9	EPA1613_ALS	Dioxin_ALS		
11		12:25	P609287	EQ1700417-01	MB	Tray1:10	EPA1613_ALS	Dioxin_ALS		HRMS check 12:01
12	---	---	---	---	---	Tray1:11	EPA1613_ALS	Dioxin_ALS	---	DO NOT USE
13	---	---	---	---	---	Tray1:12	EPA1613_ALS	Dioxin_ALS	---	---
14	---	---	---	---	---	Tray1:13	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	---	---	---	---	---	Tray1:17	EPA1613_ALS	Dioxin_ALS	---	---
19	---	---	---	---	---	Tray1:18	EPA1613_ALS	Dioxin_ALS	---	---
20	---	---	---	---	---	Tray1:19	EPA1613_ALS	Dioxin_ALS	---	---
21	---	---	LKL 09/26/17	---	---	Tray1:20	EPA1613_ALS	Dioxin_ALS	---	---
22	---	---	---	---	---	Tray1:21	EPA1613_ALS	Dioxin_ALS	---	---
23	---	---	---	---	---	Tray1:22	EPA1613_ALS	Dioxin_ALS	---	---
24	---	---	---	---	---	Tray1:23	EPA1613_ALS	Dioxin_ALS	---	---
25	---	---	---	---	---	Tray1:24	EPA1613_ALS	Dioxin_ALS	---	---
26	---	---	---	---	---	Tray1:25	EPA1613_ALS	Dioxin_ALS	---	---
27	---	---	---	---	---	Tray1:26	EPA1613_ALS	Dioxin_ALS	---	---
28	---	---	---	---	---	Tray1:27	EPA1613_ALS	Dioxin_ALS	---	---
29	---	---	---	---	---	Tray1:28	EPA1613_ALS	Dioxin_ALS	---	---
30	---	---	---	---	---	Tray1:29	EPA1613_ALS	Dioxin_ALS	---	---
31	---	---	---	---	---	Tray1:30	EPA1613_ALS	Dioxin_ALS	---	---
32	---	---	---	---	---	Tray1:31	EPA1613_ALS	Dioxin_ALS	---	---
33	---	---	---	---	---	Tray1:32	EPA1613_ALS	Dioxin_ALS	---	---
34	---	---	---	---	---	Tray1:33	EPA1613_ALS	Dioxin_ALS	---	---
35	---	---	---	---	---	Tray1:34	EPA1613_ALS	Dioxin_ALS	---	---
36	---	---	---	---	---	Tray1:35	EPA1613_ALS	Dioxin_ALS	---	---
37	---	---	---	---	---	Tray1:36	EPA1613_ALS	Dioxin_ALS	---	---
38	---	---	---	---	---	Tray1:37	EPA1613_ALS	Dioxin_ALS	---	---
39	---	---	---	---	---	Tray1:38	EPA1613_ALS	Dioxin_ALS	---	---

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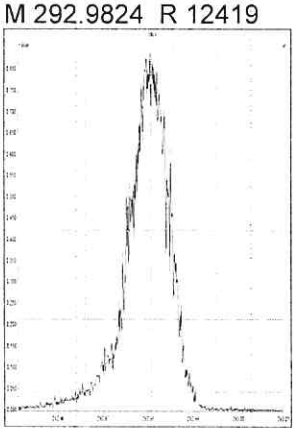
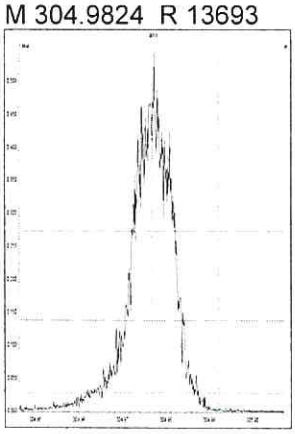
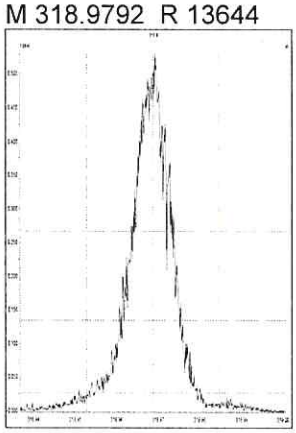
M 292.9824 R 12419



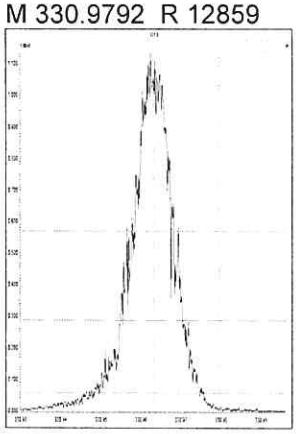
M 304.9824 R 13693



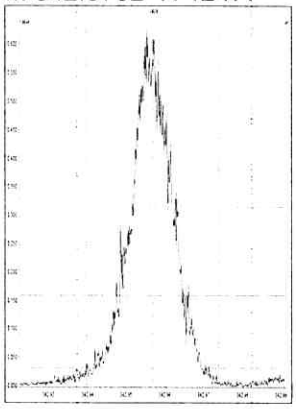
M 318.9792 R 13644



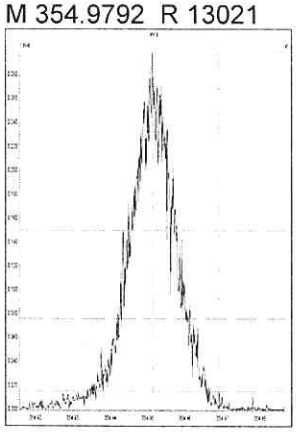
M 330.9792 R 12859



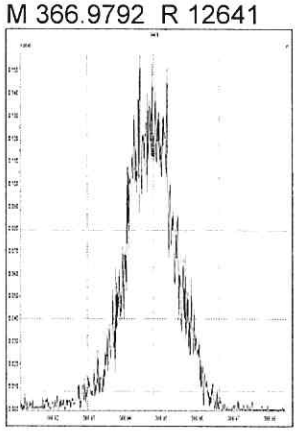
M 342.9792 R 12477



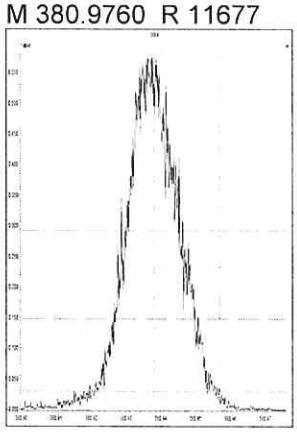
M 354.9792 R 13021



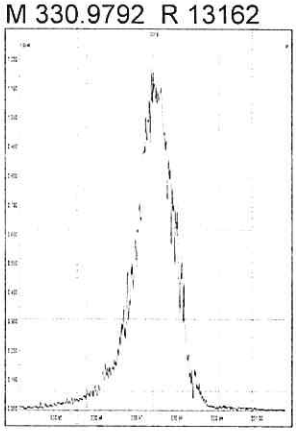
M 366.9792 R 12641



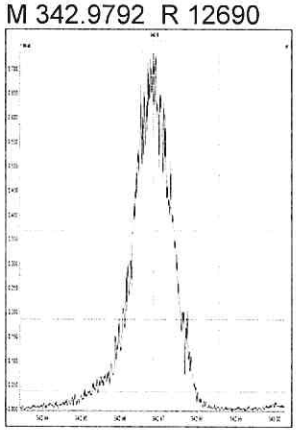
M 380.9760 R 11677



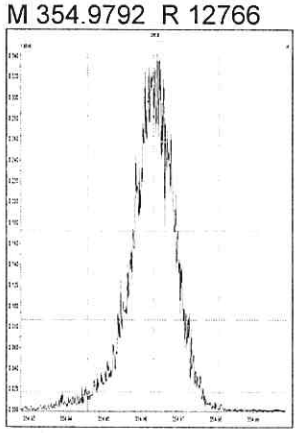
M 330.9792 R 13162



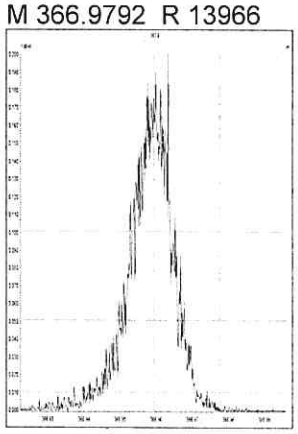
M 342.9792 R 12690



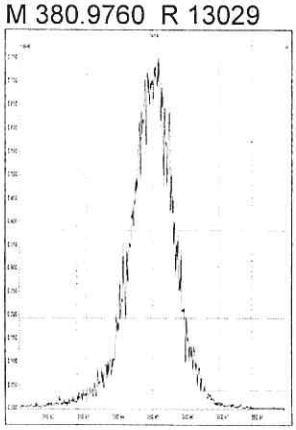
M 354.9792 R 12766



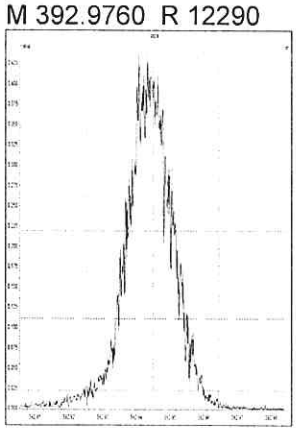
M 366.9792 R 13966



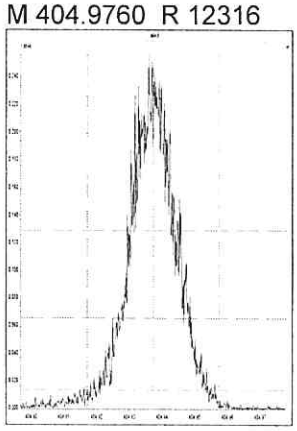
M 380.9760 R 13029



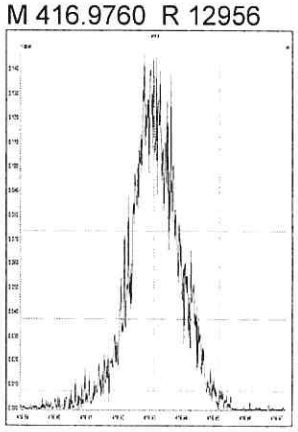
M 392.9760 R 12290



M 404.9760 R 12316



M 416.9760 R 12956



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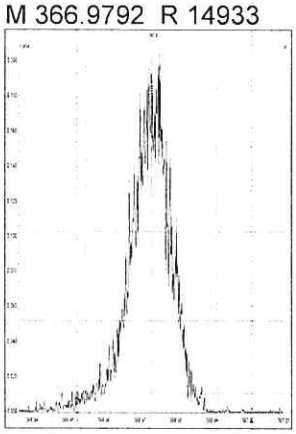
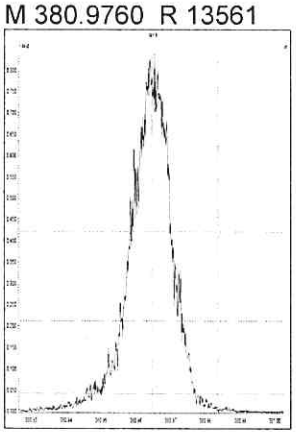
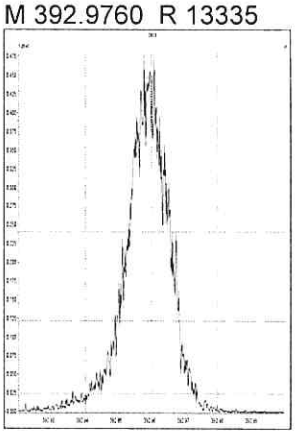
M 366.9792 R 14933



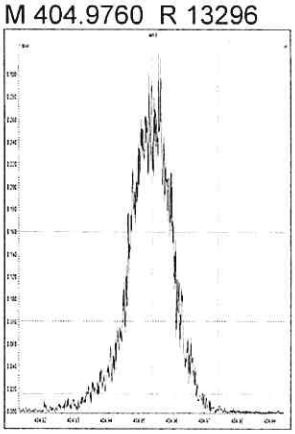
M 380.9760 R 13561



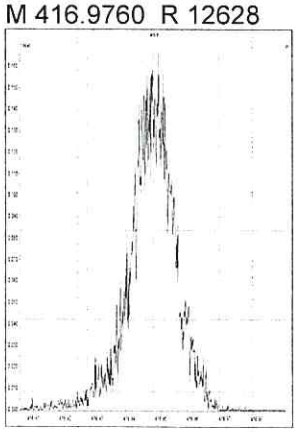
M 392.9760 R 13335



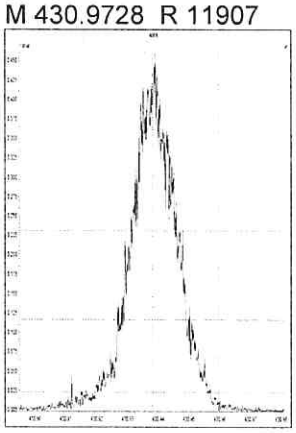
M 404.9760 R 13296



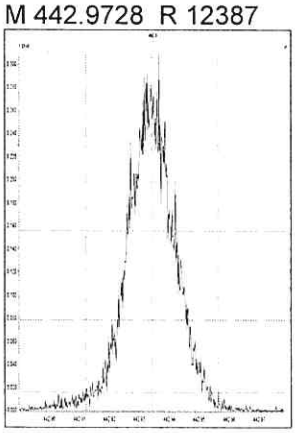
M 416.9760 R 12628



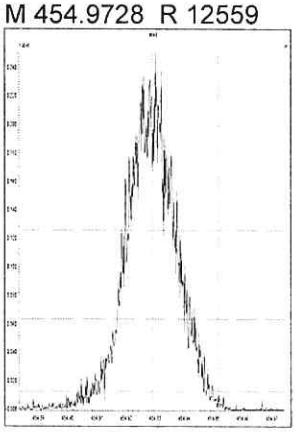
M 430.9728 R 11907



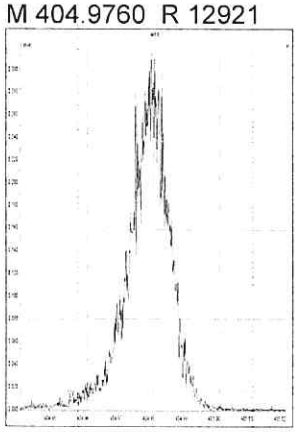
M 442.9728 R 12387



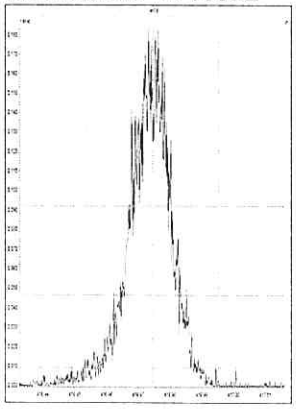
M 454.9728 R 12559



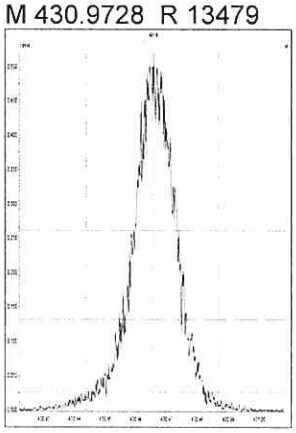
M 404.9760 R 12921



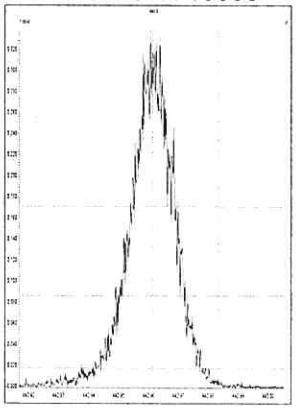
M 416.9760 R 13822



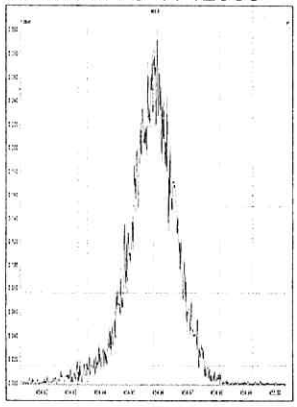
M 430.9728 R 13479



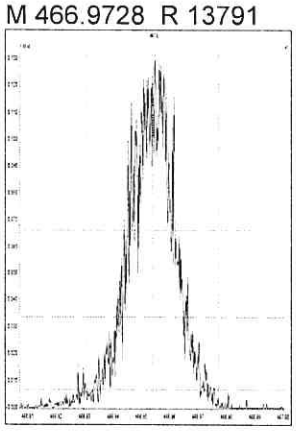
M 442.9728 R 13333



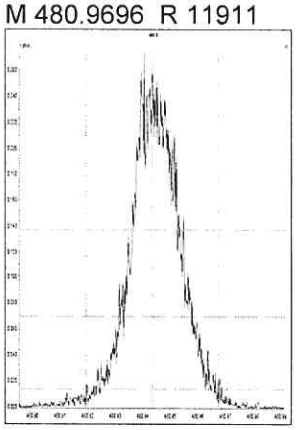
M 454.9728 R 12963



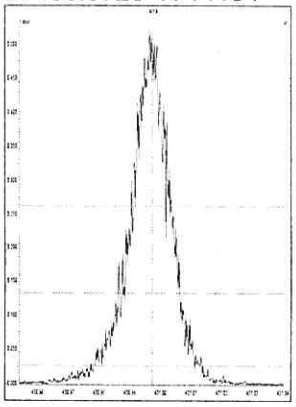
M 466.9728 R 13791



M 480.9696 R 11911



M 430.9728 R 14164



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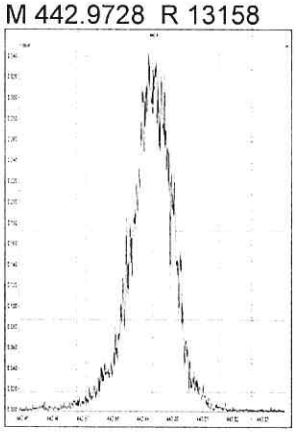
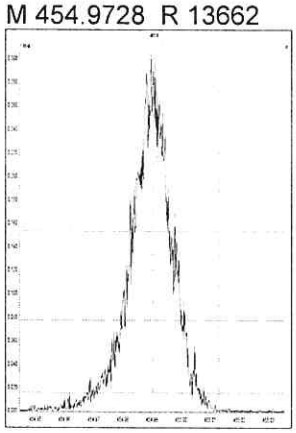
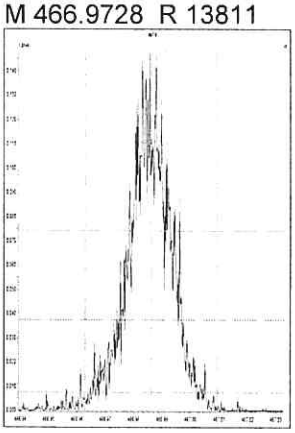
M 442.9728 R 13158



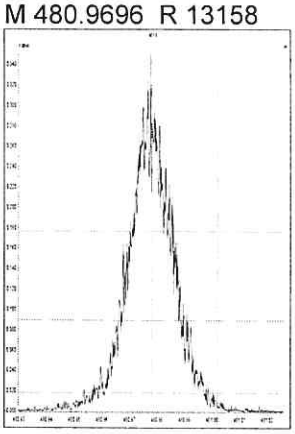
M 454.9728 R 13662



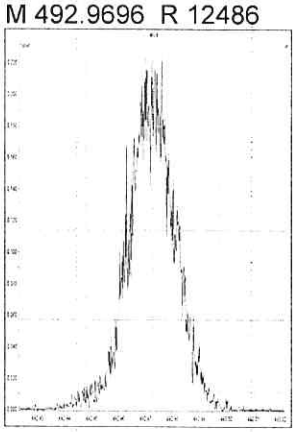
M 466.9728 R 13811



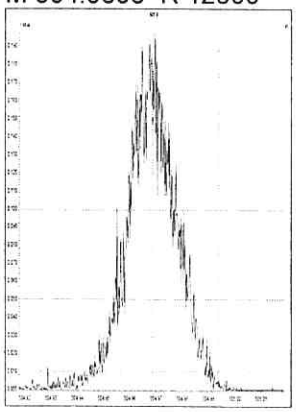
M 480.9696 R 13158



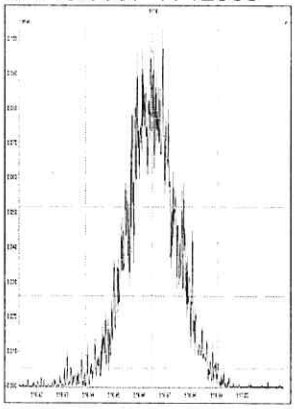
M 492.9696 R 12486



M 504.9696 R 12600



M 516.9697 R 12903



File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

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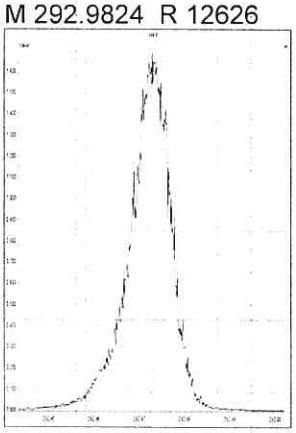
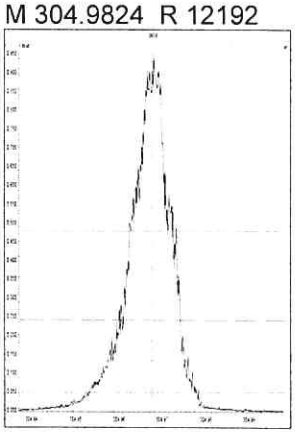
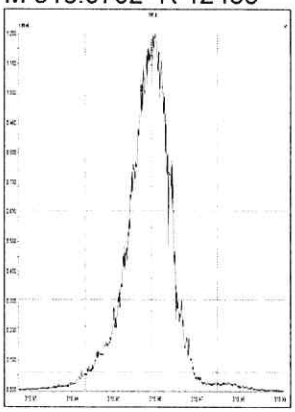
M 292.9824 R 12626



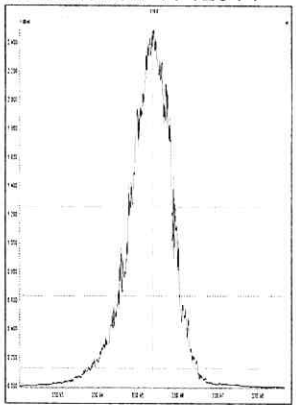
M 304.9824 R 12192



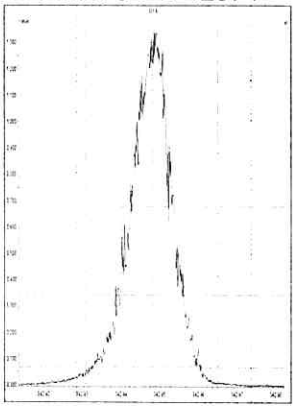
M 318.9792 R 12433



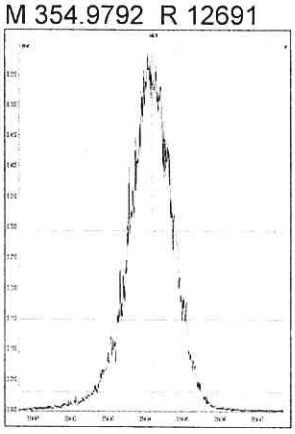
M 330.9792 R 12314



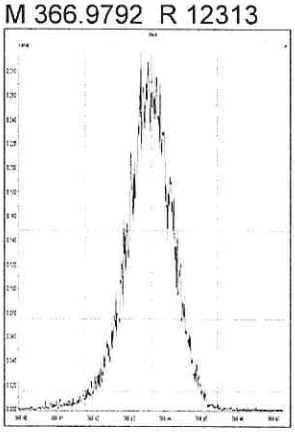
M 342.9792 R 12074



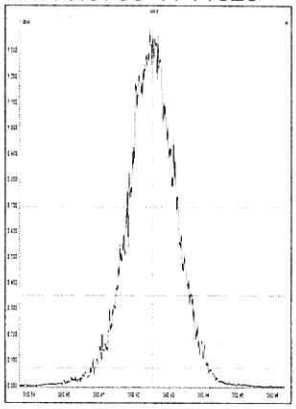
M 354.9792 R 12691



M 366.9792 R 12313



M 380.9760 R 11629



File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

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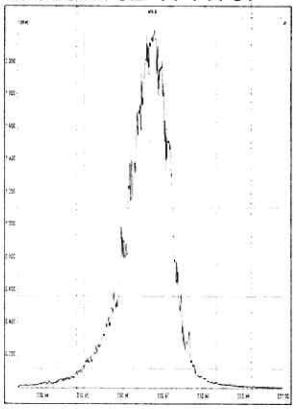
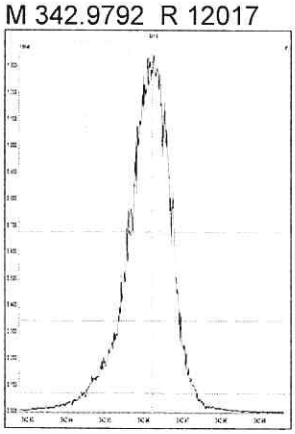
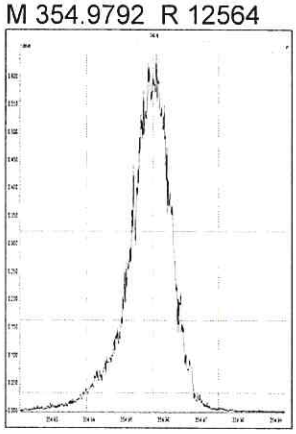
M 330.9792 R 11737



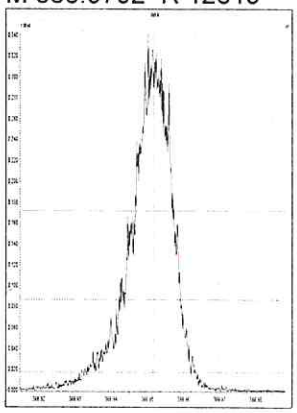
M 342.9792 R 12017



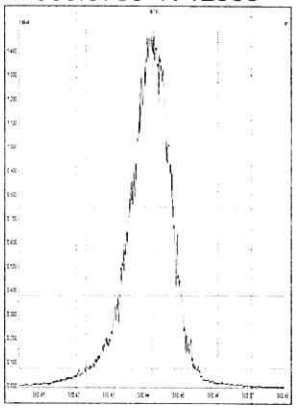
M 354.9792 R 12564



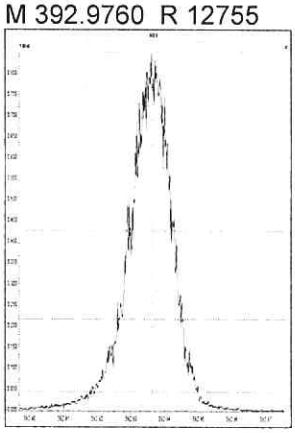
M 366.9792 R 12819



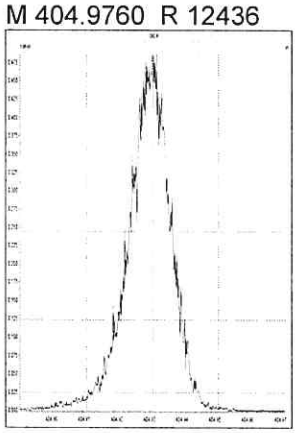
M 380.9760 R 12950



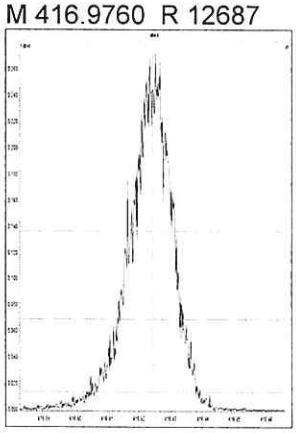
M 392.9760 R 12755



M 404.9760 R 12436



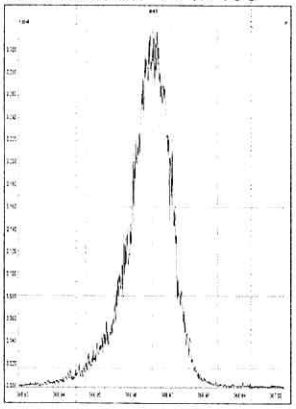
M 416.9760 R 12687



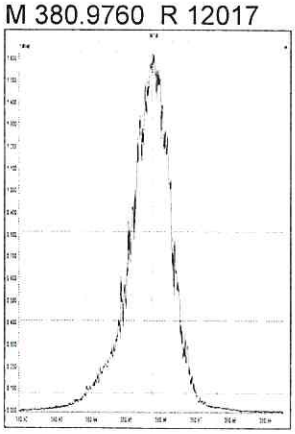
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, September 26, 2017 14:03:17 Central Daylight Time

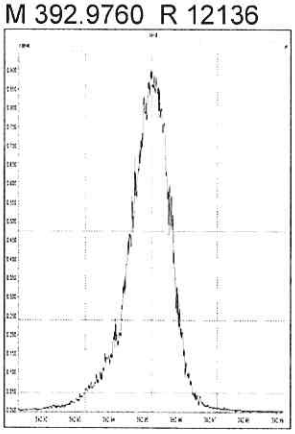
M 366.9792 R 12499



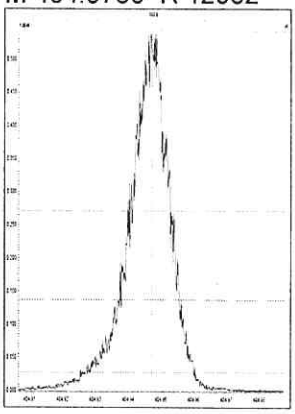
M 380.9760 R 12017



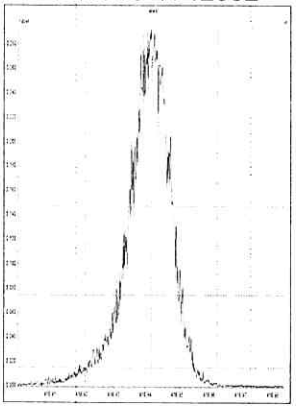
M 392.9760 R 12136



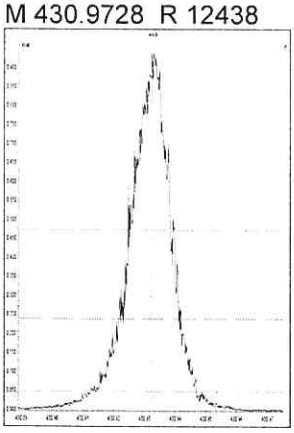
M 404.9760 R 12952



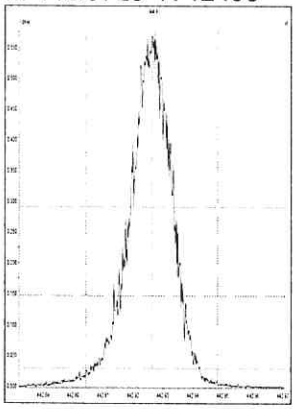
M 416.9760 R 12502



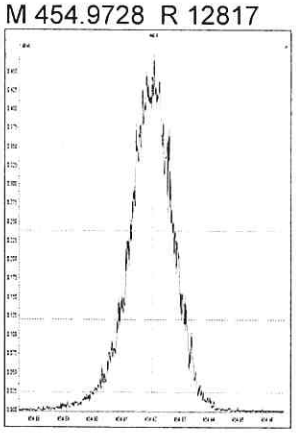
M 430.9728 R 12438



M 442.9728 R 12498



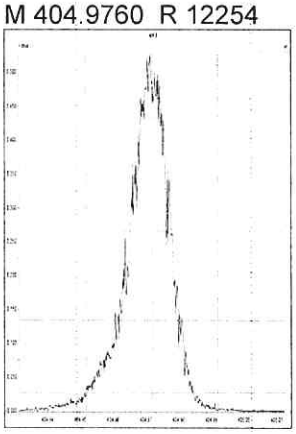
M 454.9728 R 12817



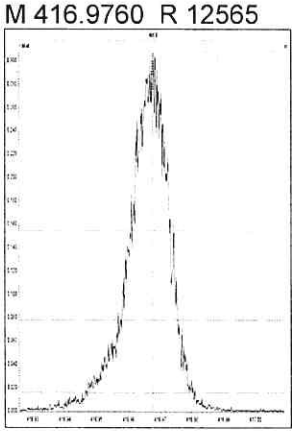
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, September 26, 2017 14:04:01 Central Daylight Time

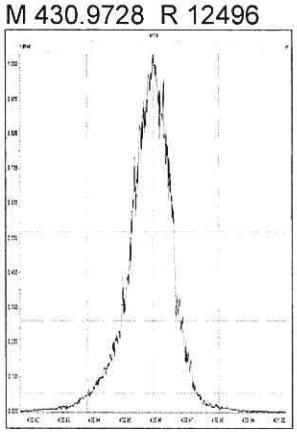
M 404.9760 R 12254



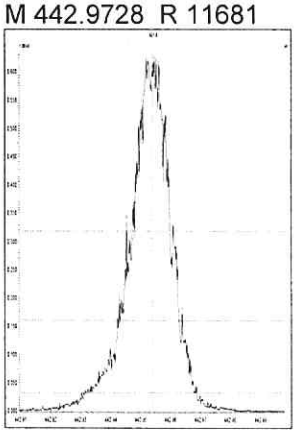
M 416.9760 R 12565



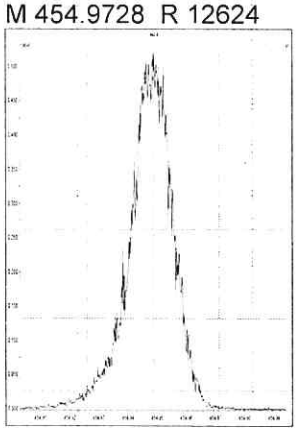
M 430.9728 R 12496



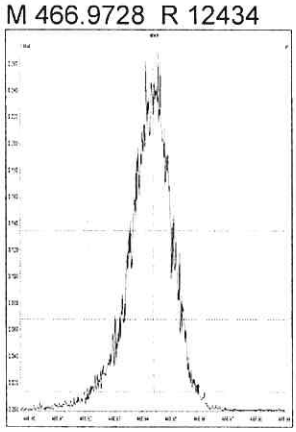
M 442.9728 R 11681



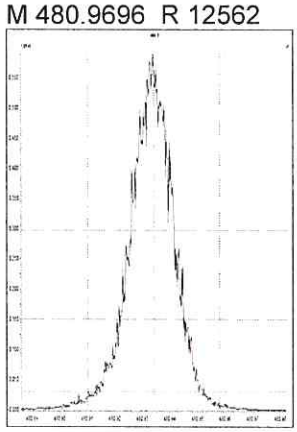
M 454.9728 R 12624



M 466.9728 R 12434



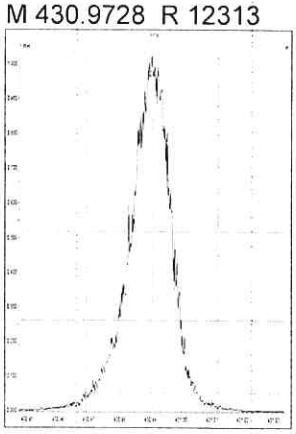
M 480.9696 R 12562



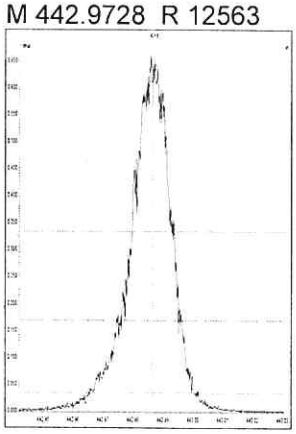
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, September 26, 2017 14:04:47 Central Daylight Time

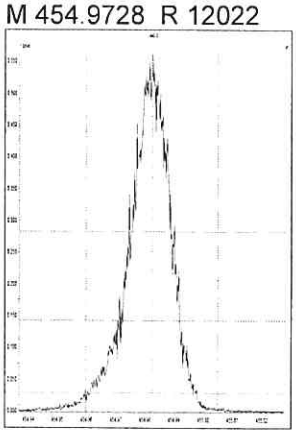
M 430.9728 R 12313



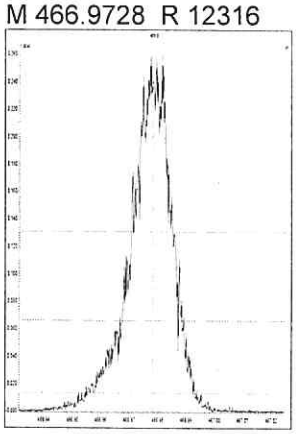
M 442.9728 R 12563



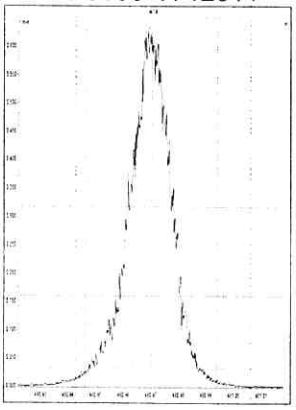
M 454.9728 R 12022



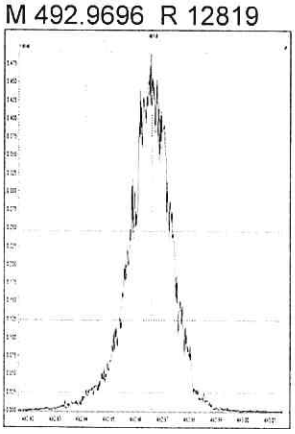
M 466.9728 R 12316



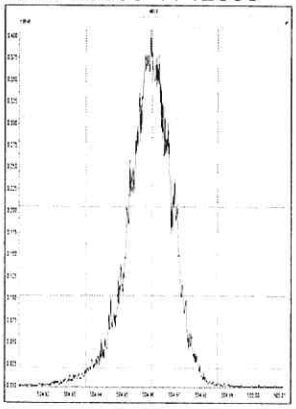
M 480.9696 R 12311



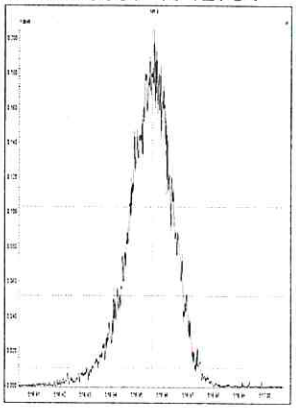
M 492.9696 R 12819



M 504.9696 R 12563



M 516.9697 R 12754



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

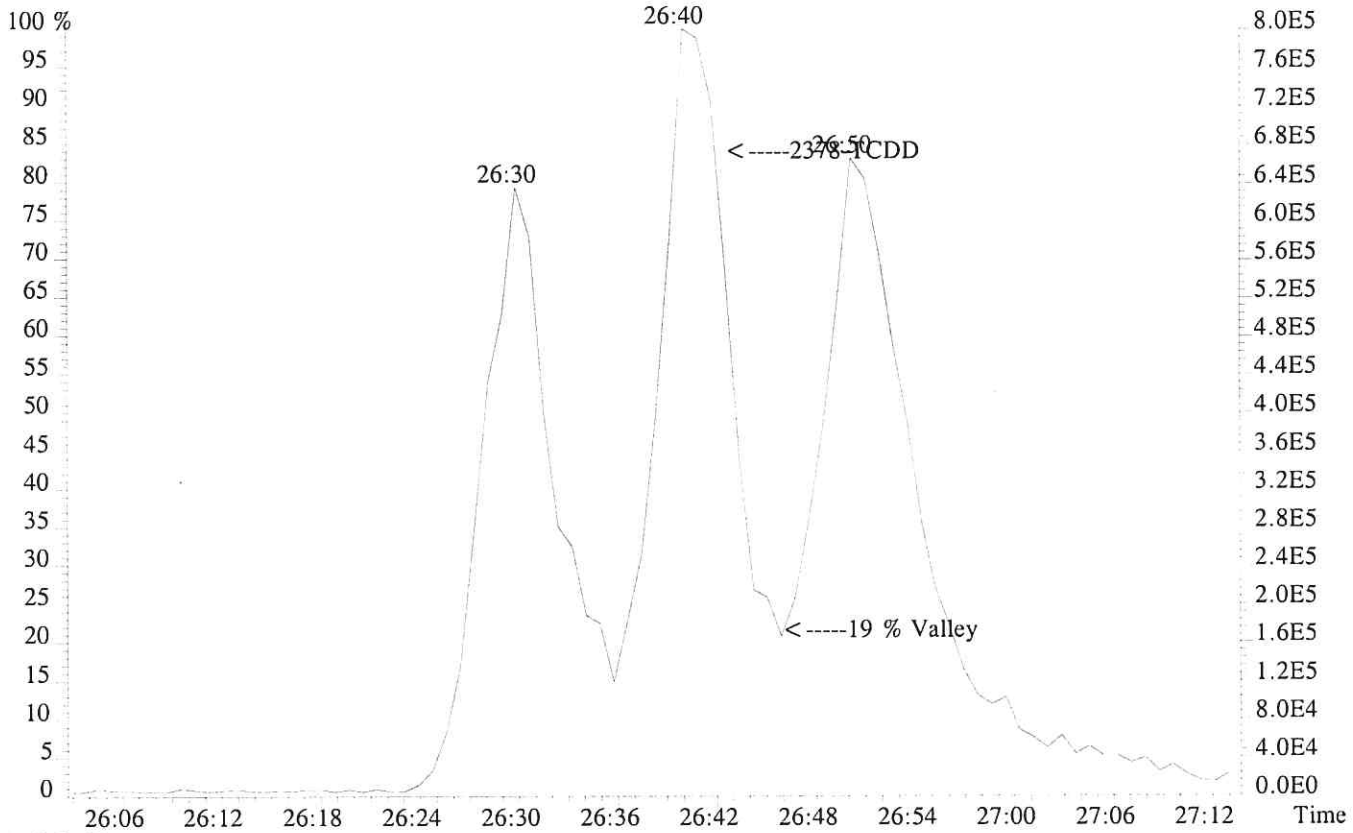
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P609278
Date Analyzed: 26-SEP-17
Time Analyzed: 03:42:12

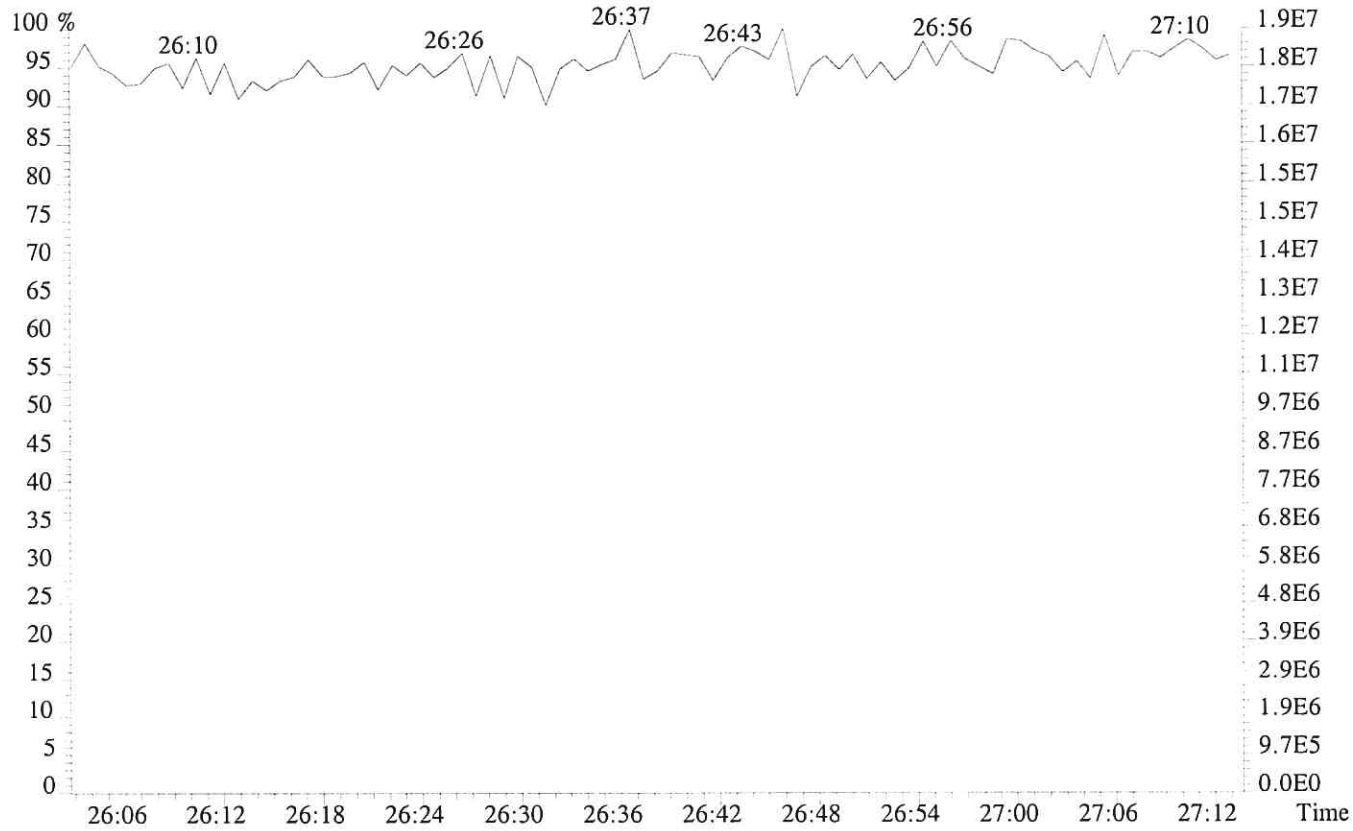
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:20	28:05
TCDD	22:56	27:54
PeCDF	28:00	32:49
PeCDD	29:49	32:33
HxCDF	33:30	36:11
HxCDD	34:04	35:46
HpCDF	37:29	38:53
HpCDD	37:45	38:27

% Valley 2378-TCDD: 19 %

File:P609278 #1-658 Acq:26-SEP-2017 03:42:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
319.8965



318.9792



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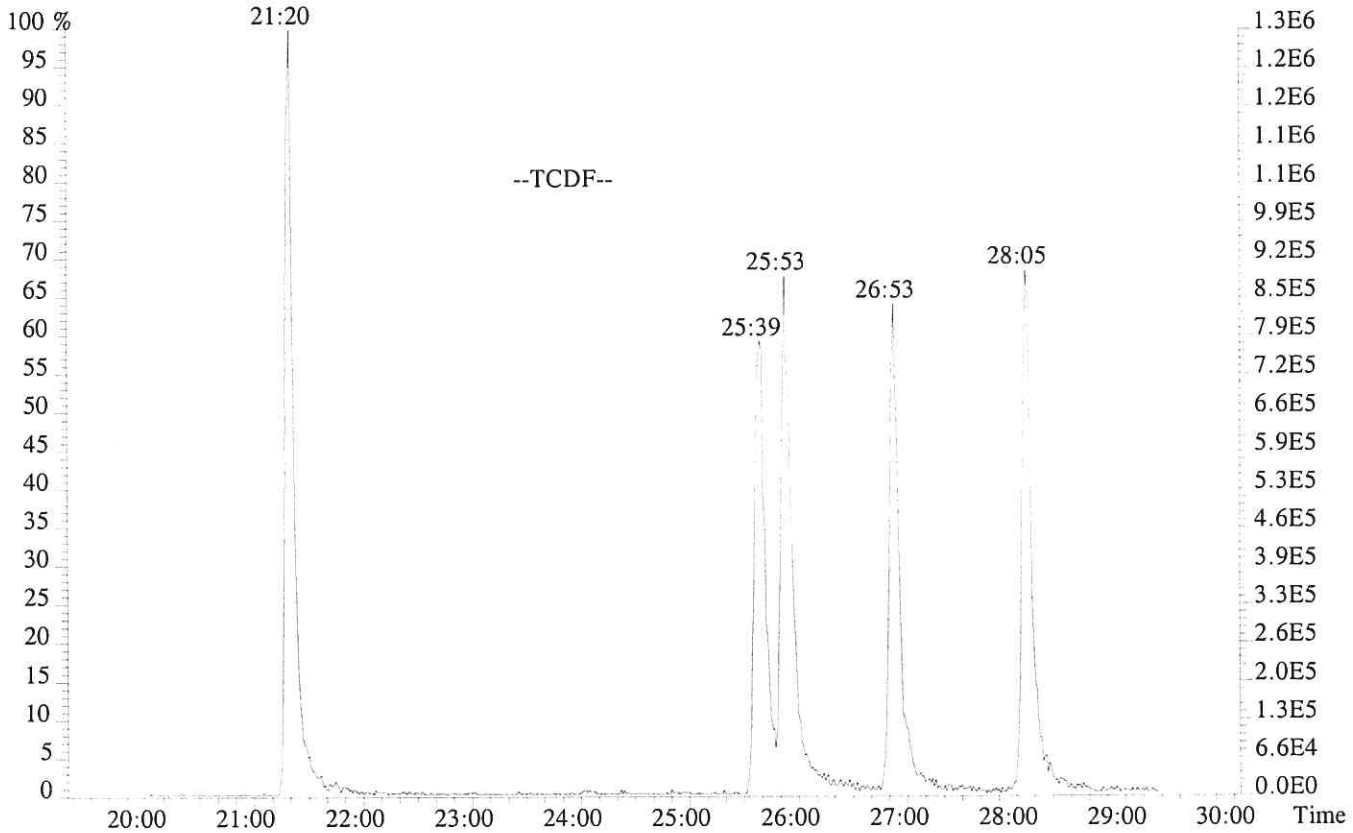
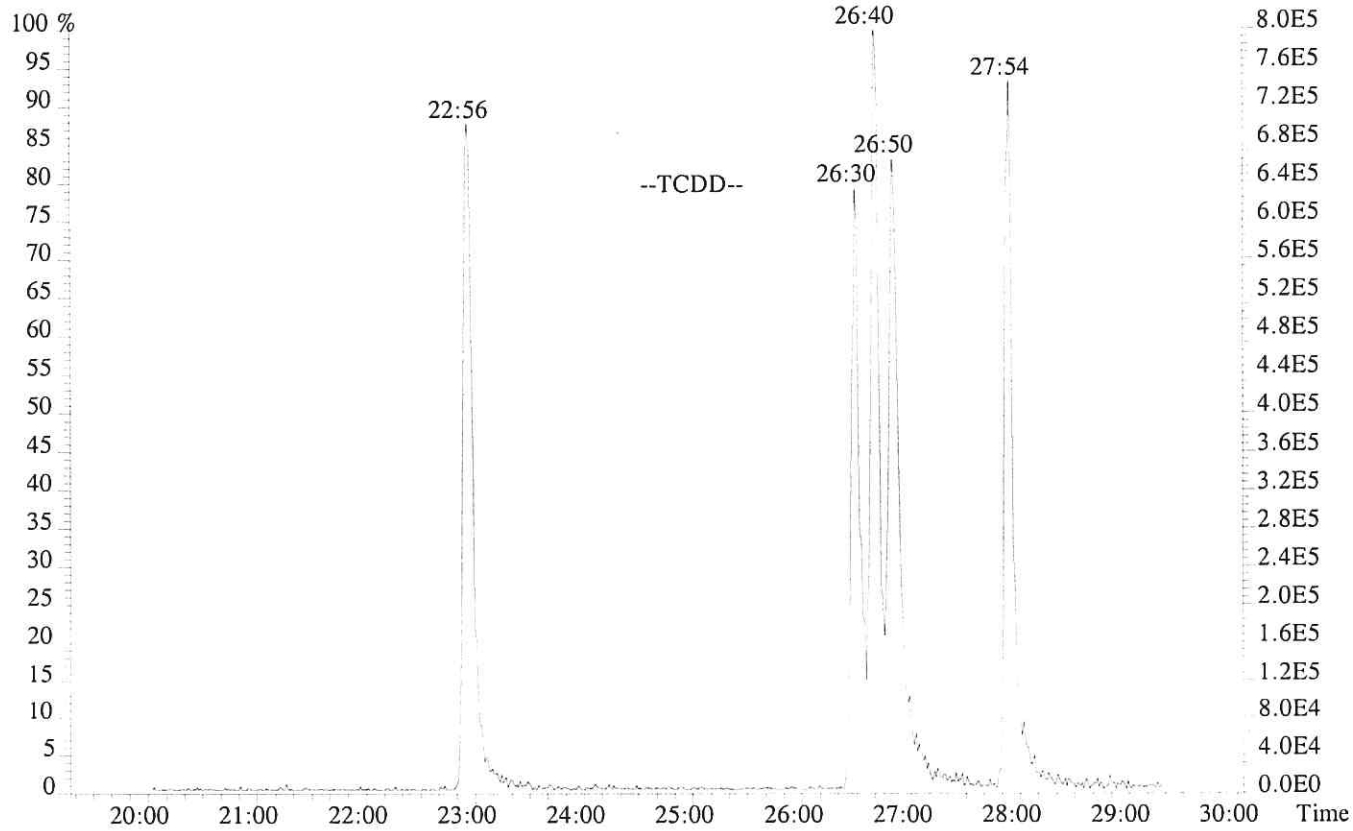
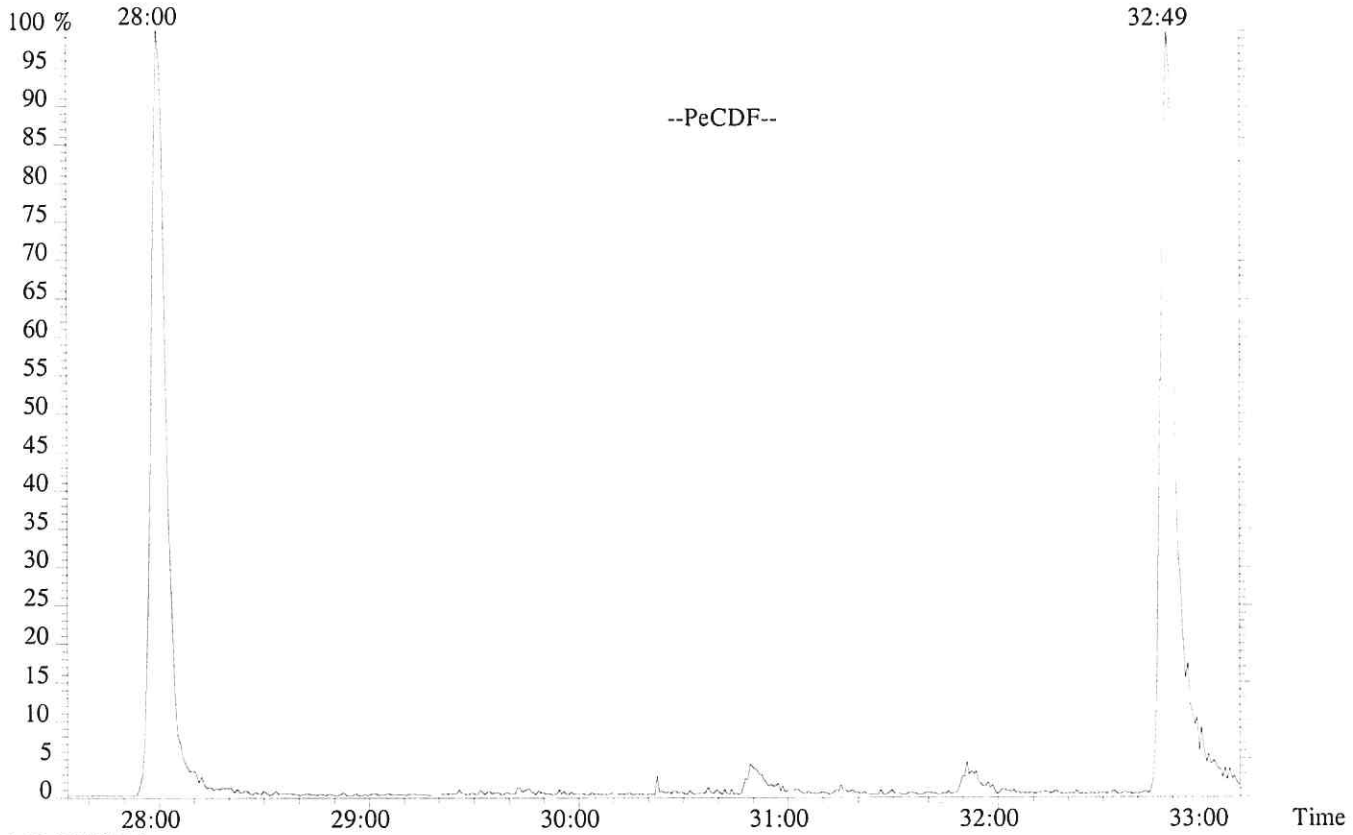
Sample#1 Exp:WINDOW DEFINE
303.9016



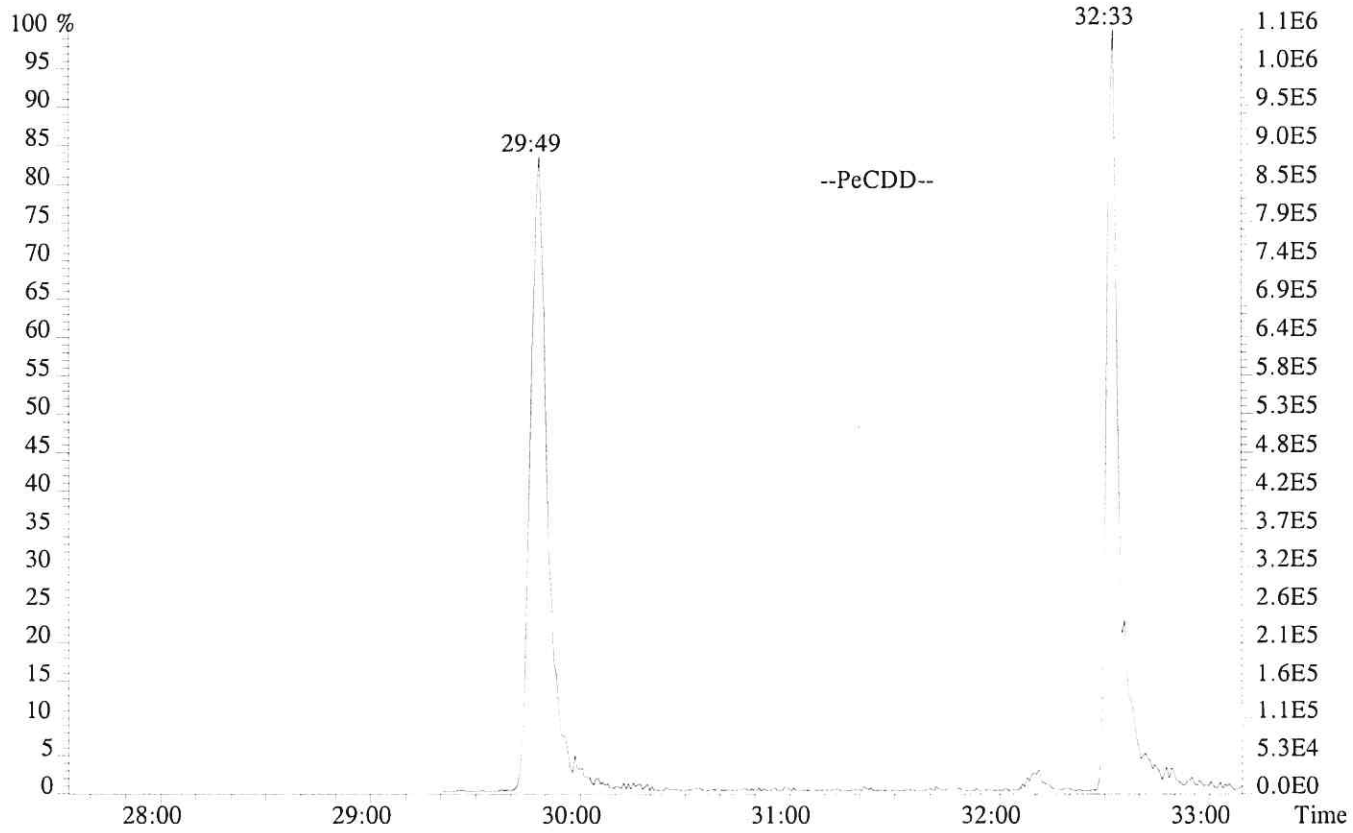
319.8965



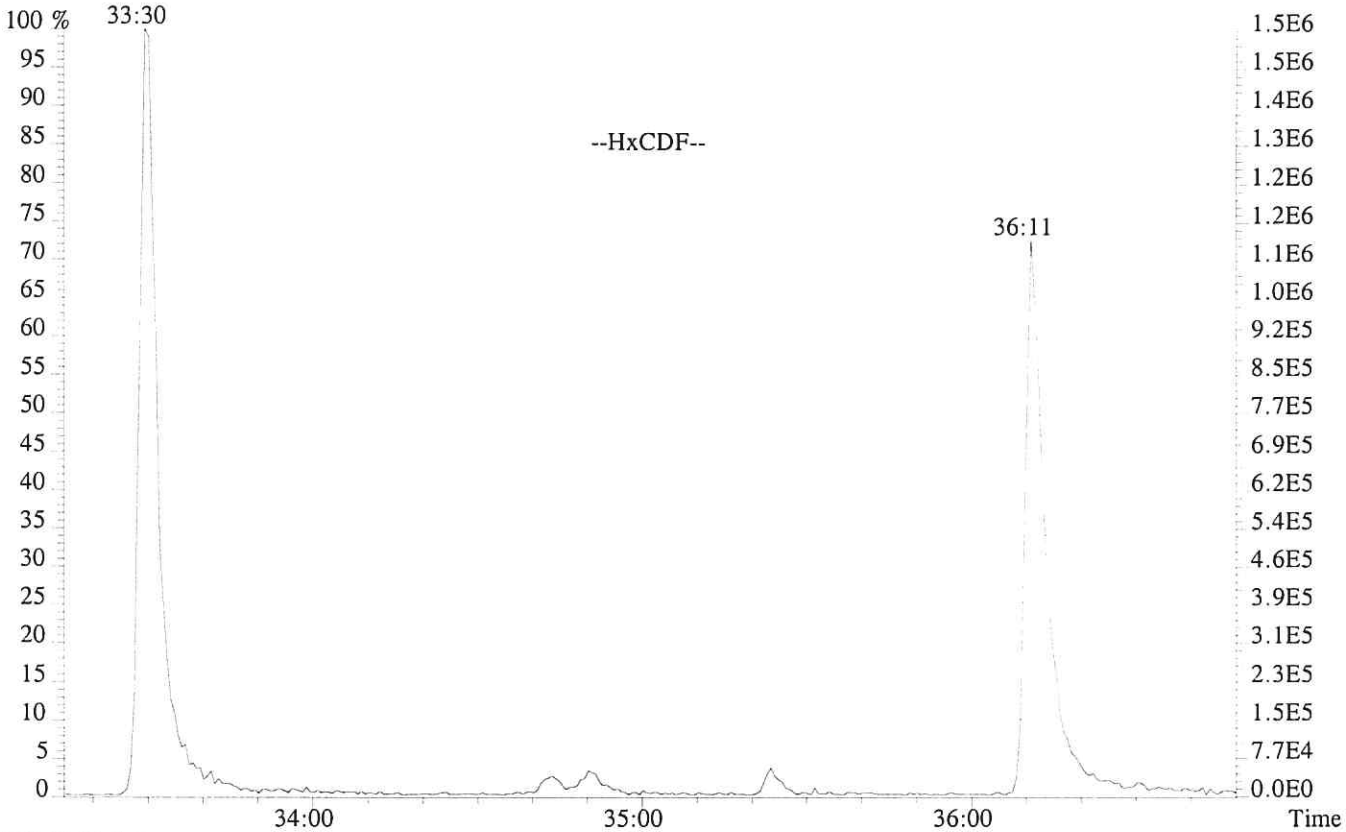
File:P609278 #1-658 Acq:26-SEP-2017 03:42:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



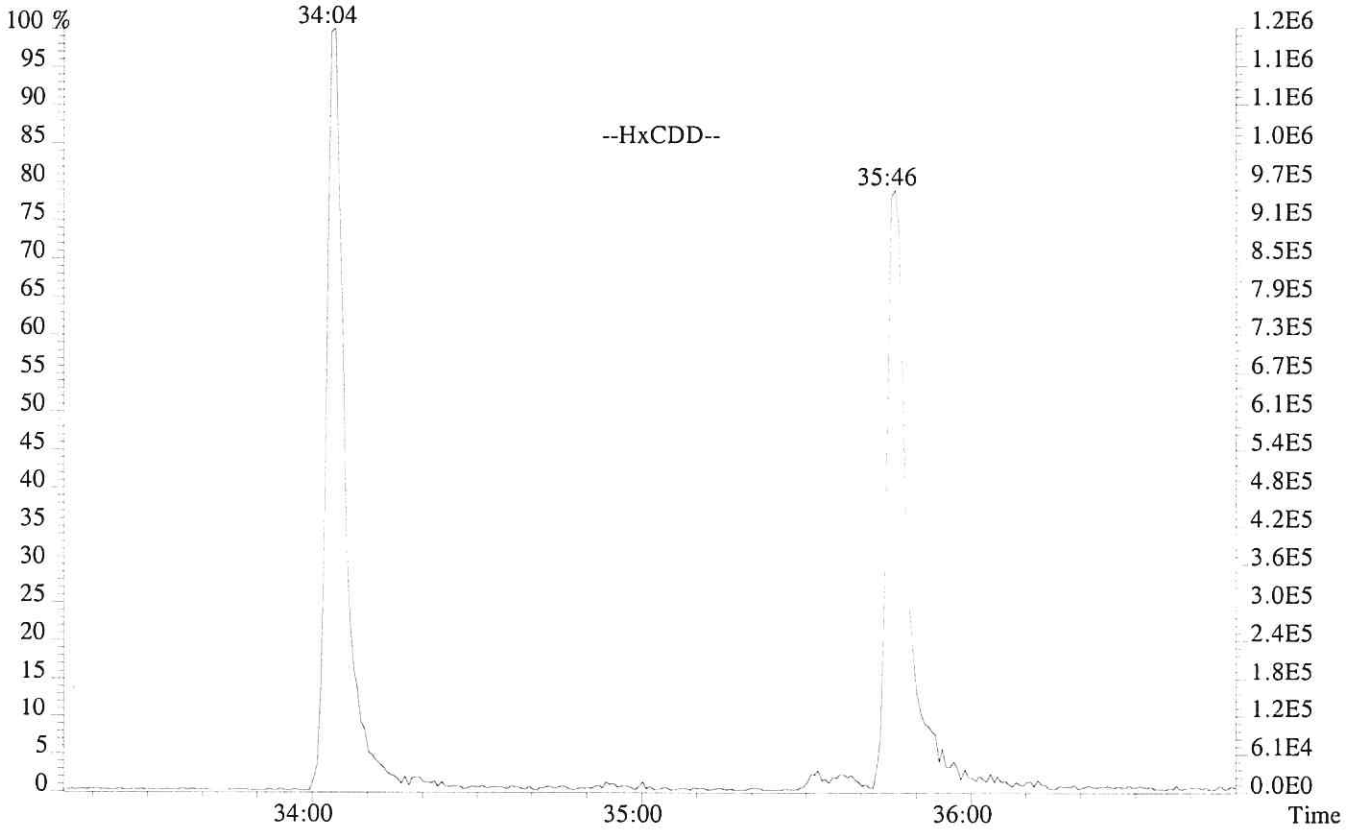
355.8546 F:2



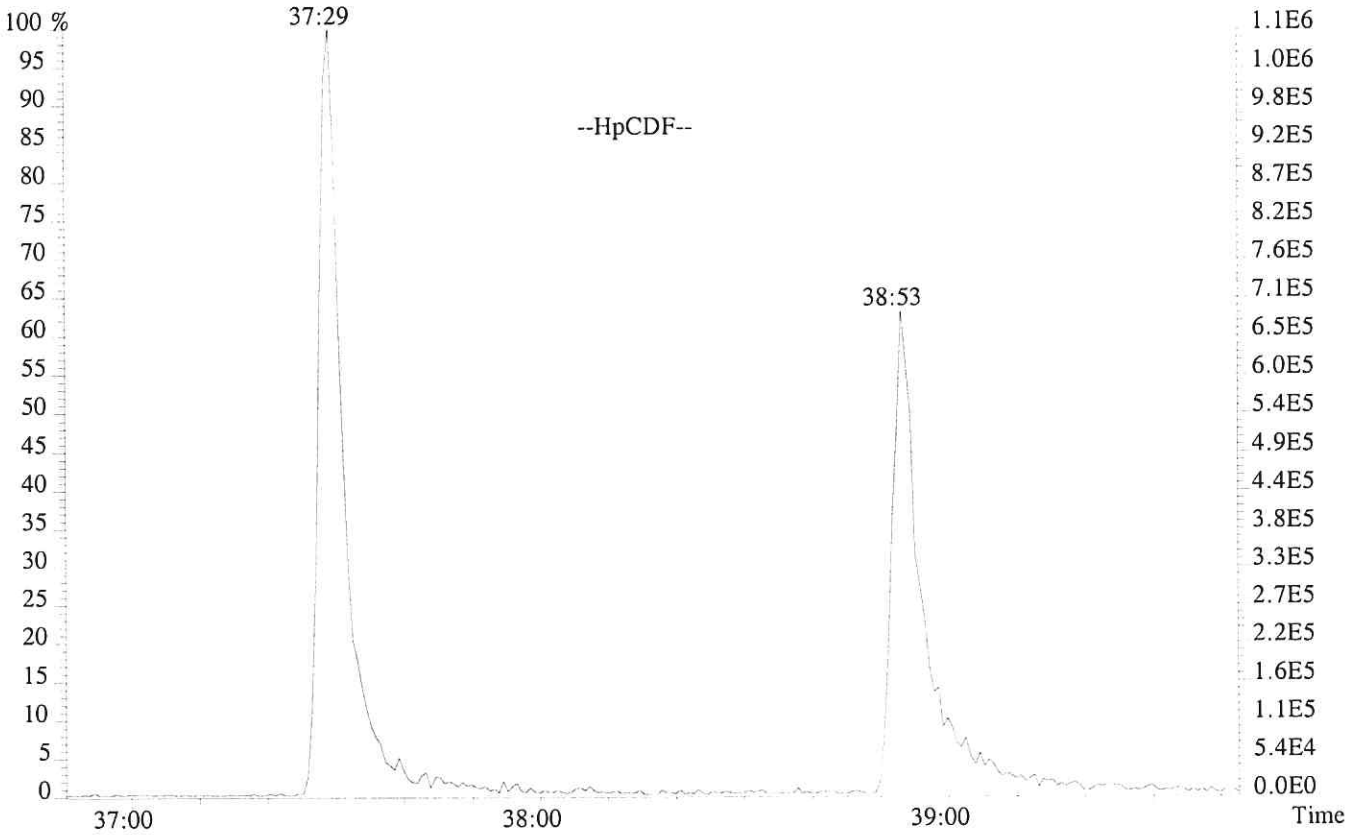
File:P609278 #1-658 Acq:26-SEP-2017 03:42:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



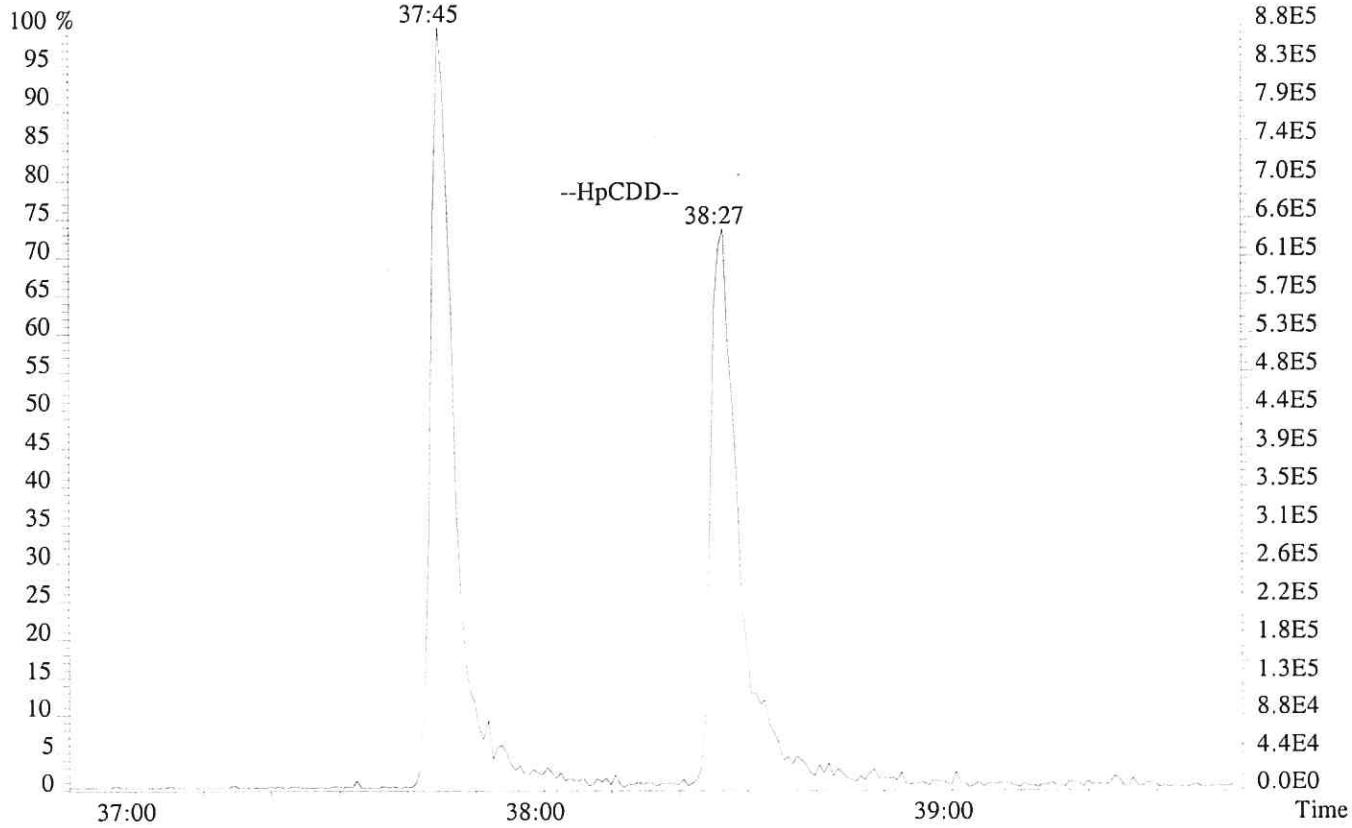
389.8157 F:3



File:P609278 #1-658 Acq:26-SEP-2017 03:42:12 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
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: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P609277 Analysis Date: 26-SEP-17 Time: 02:53:58

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	-1.0
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	50	39 - 65	-0.7
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	51	39 - 64	1.4
1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	53	39 - 64	5.5
1,2,3,7,8,9-HxCDD	M+2/M+4	1.18	1.05-1.43	50	41 - 61	-0.4
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	53	43 - 58	5.3
OCDD	M+2/M+4	0.91	0.76-1.02	105	79 - 126	5.2
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	10.1	8.4 - 12.0	1.2
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	49	41 - 60	-1.7
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	49	41 - 61	-1.2
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	49	45 - 56	-1.8
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	48	44 - 57	-3.9
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	48	45 - 56	-4.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	48	44 - 57	-3.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	49	45 - 55	-2.7
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	48	43 - 58	-4.9
OCDF	M+2/M+4	0.89	0.76-1.02	107	63 - 159	6.7

(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: P609277 Analysis Date: 26-SEP-17 Time: 02:53:58

	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	0.81	0.65-0.89	95	82 - 121	-5.5
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	96	62 - 160	-3.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	90	85 - 117	-10.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	106	85 - 118	5.8
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88-1.20	97	72 - 138	-3.4
13C-OCDD	M+2/M+4	0.91	0.76-1.02	190	96 - 415	-5.1
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	99	71 - 140	-0.7
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	101	76 - 130	1.5
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	101	77 - 130	1.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	102	76 - 131	2.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	108	70 - 143	7.5
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	96	74 - 135	-3.8
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	104	73 - 137	3.8
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	106	78 - 129	5.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.44	0.37-0.51	97	77 - 129	-3.2
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD	M+2/M+4			9.7	7.8 - 12.7	-2.8

(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 P609277 Samp: 1 Inj: 1 Acquired: 26-SEP-17 02:53:58
Processed: 26-SEP-17 14:55:10 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:53	5.025e+03	6.304e+03	0.80	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:47	3.919e+04	2.519e+04	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:49	3.771e+04	2.427e+04	1.55	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:41	3.169e+04	2.557e+04	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:48	3.705e+04	2.982e+04	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:21	3.201e+04	2.637e+04	1.21	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	36:08	2.699e+04	2.204e+04	1.22	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:28	2.804e+04	2.692e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:51	2.172e+04	2.078e+04	1.05	yes	no	1.341
10	Unk	OCDF	41:16	3.629e+04	4.065e+04	0.89	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:50	3.438e+03	4.458e+03	0.77	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:07	2.502e+04	1.578e+04	1.58	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:30	2.077e+04	1.673e+04	1.24	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:35	2.478e+04	1.929e+04	1.28	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:50	2.314e+04	1.960e+04	1.18	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:25	1.986e+04	1.891e+04	1.05	yes	no	1.048
17	Unk	OCDD	41:05	3.023e+04	3.330e+04	0.91	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:51	4.865e+04	6.113e+04	0.80	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:47	7.675e+04	4.700e+04	1.63	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:48	7.607e+04	4.749e+04	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:40	3.188e+04	6.090e+04	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:48	4.052e+04	7.626e+04	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:20	3.565e+04	6.701e+04	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	36:08	2.922e+04	5.540e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:27	2.513e+04	5.602e+04	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:51	2.028e+04	4.634e+04	0.44	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	3.386e+04	4.175e+04	0.81	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:06	5.209e+04	3.316e+04	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:29	3.854e+04	3.037e+04	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:34	4.475e+04	3.588e+04	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:24	3.667e+04	3.358e+04	1.09	yes	no	0.884
32	IS	13C-OCDD	41:04	5.130e+04	5.657e+04	0.91	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:05	3.619e+04	4.485e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:50	4.619e+04	3.614e+04	1.28	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	8.445e+03				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
178519

Run #7 Filename P609277 Samp: 1 Inj: 1 Acquired: 26-SEP-17 02:53:58
Processed: 26-SEP-17 14:55:10 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	6.42e+05	3.12e+02	2.1e+03	8.32e+05	1.89e+03	4.4e+02
2	1,2,3,7,8-PeCDF	5.87e+06	1.43e+03	4.1e+03	3.74e+06	2.11e+03	1.8e+03
3	2,3,4,7,8-PeCDF	6.03e+06	1.43e+03	4.2e+03	3.99e+06	2.11e+03	1.9e+03
4	1,2,3,4,7,8-HxCDF	6.12e+06	1.22e+03	5.0e+03	4.88e+06	3.04e+02	1.6e+04
5	1,2,3,6,7,8-HxCDF	6.36e+06	1.22e+03	5.2e+03	4.94e+06	3.04e+02	1.6e+04
6	2,3,4,6,7,8-HxCDF	5.86e+06	1.22e+03	4.8e+03	4.78e+06	3.04e+02	1.6e+04
7	1,2,3,7,8,9-HxCDF	4.03e+06	1.22e+03	3.3e+03	3.39e+06	3.04e+02	1.1e+04
8	1,2,3,4,6,7,8-HpCDF	4.82e+06	2.30e+03	2.1e+03	4.63e+06	2.49e+03	1.9e+03
9	1,2,3,4,7,8,9-HpCDF	3.25e+06	2.30e+03	1.4e+03	3.13e+06	2.49e+03	1.3e+03
10	OCDF	4.60e+06	2.12e+02	2.2e+04	4.99e+06	3.12e+02	1.6e+04
11	2,3,7,8-TCDD	4.54e+05	1.46e+03	3.1e+02	5.99e+05	1.26e+03	4.8e+02
12	1,2,3,7,8-PeCDD	3.98e+06	7.88e+02	5.1e+03	2.41e+06	2.24e+02	1.1e+04
13	1,2,3,4,7,8-HxCDD	4.41e+06	2.44e+02	1.8e+04	3.48e+06	7.64e+02	4.6e+03
14	1,2,3,6,7,8-HxCDD	4.20e+06	2.44e+02	1.7e+04	3.29e+06	7.64e+02	4.3e+03
15	1,2,3,7,8,9-HxCDD	4.00e+06	2.44e+02	1.6e+04	3.22e+06	7.64e+02	4.2e+03
16	1,2,3,4,6,7,8-HpCDD	3.24e+06	6.20e+02	5.2e+03	2.99e+06	4.04e+02	7.4e+03
17	OCDD	3.92e+06	1.32e+02	3.0e+04	4.12e+06	2.08e+02	2.0e+04
18	13C-2,3,7,8-TCDF	6.21e+06	1.10e+04	5.7e+02	7.82e+06	4.06e+03	1.9e+03
19	13C-1,2,3,7,8-PeCDF	1.15e+07	2.14e+03	5.4e+03	7.08e+06	3.10e+03	2.3e+03
20	13C-2,3,4,7,8-PeCDF	1.27e+07	2.14e+03	5.9e+03	7.88e+06	3.10e+03	2.5e+03
21	13C-1,2,3,4,7,8-HxCDF	6.26e+06	9.72e+02	6.4e+03	1.20e+07	1.68e+03	7.1e+03
22	13C-1,2,3,6,7,8-HxCDF	6.83e+06	9.72e+02	7.0e+03	1.30e+07	1.68e+03	7.7e+03
23	13C-2,3,4,6,7,8-HxCDF	6.56e+06	9.72e+02	6.7e+03	1.25e+07	1.68e+03	7.4e+03
24	13C-1,2,3,7,8,9-HxCDF	4.66e+06	9.72e+02	4.8e+03	8.74e+06	1.68e+03	5.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	4.30e+06	5.76e+03	7.5e+02	9.69e+06	1.28e+04	7.6e+02
26	13C-1,2,3,4,7,8,9-HpCDF	3.10e+06	5.76e+03	5.4e+02	7.05e+06	1.28e+04	5.5e+02
27	13C-2,3,7,8-TCDD	4.85e+06	8.40e+03	5.8e+02	5.78e+06	5.48e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	8.20e+06	2.24e+02	3.7e+04	5.23e+06	2.24e+02	2.3e+04
29	13C-1,2,3,4,7,8-HxCDD	8.22e+06	1.57e+03	5.2e+03	6.44e+06	3.48e+02	1.9e+04
30	13C-1,2,3,6,7,8-HxCDD	7.63e+06	1.57e+03	4.9e+03	6.20e+06	3.48e+02	1.8e+04
31	13C-1,2,3,4,6,7,8-HpCDD	6.06e+06	2.56e+02	2.4e+04	5.61e+06	1.72e+02	3.3e+04
32	13C-OCDD	6.52e+06	2.20e+02	3.0e+04	7.30e+06	2.76e+02	2.6e+04
33	13C-1,2,3,4-TCDD	5.08e+06	8.40e+03	6.0e+02	6.36e+06	5.48e+03	1.2e+03
34	13C-1,2,3,7,8,9-HxCDD	7.69e+06	1.57e+03	4.9e+03	6.15e+06	3.48e+02	1.8e+04
35	37Cl-2,3,7,8-TCDD	1.15e+06	8.24e+02	1.4e+03			

---Sample Calculation---

$$D/L\ TCDD = \frac{2.5 \times (1.460e+03 + 1.260e+03\ ) \times 100}{(4.853e+06 + 5.780e+06\ ) \times (\qquad\qquad) \times 1.055} =$$

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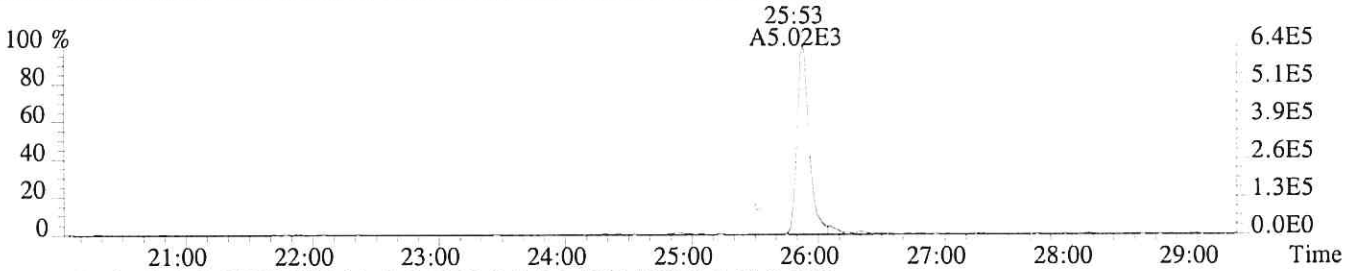
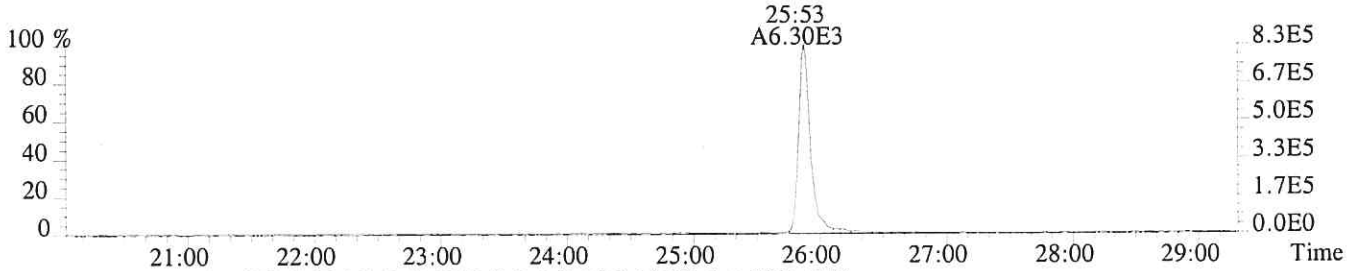
File:P609277 #1-658 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

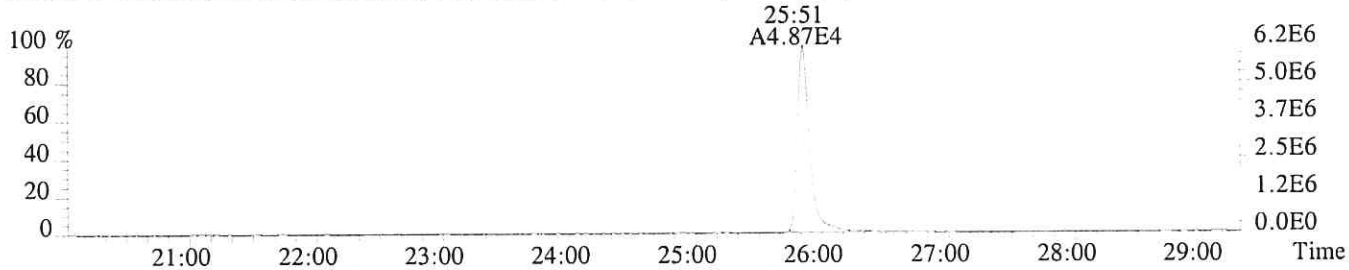
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)



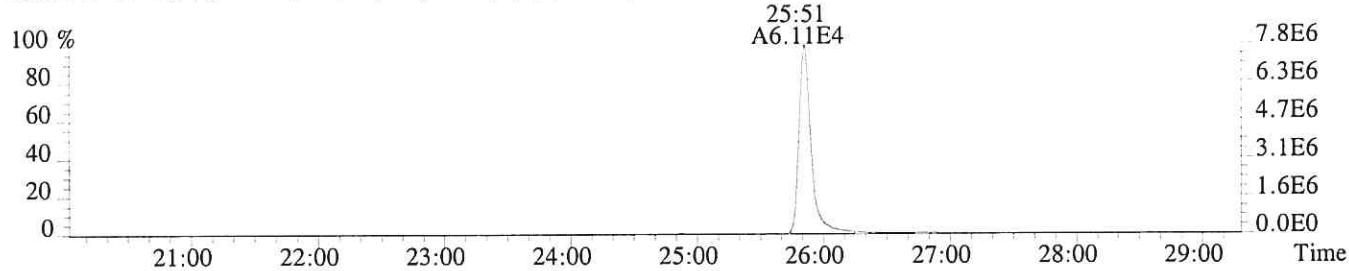
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1892.0,1.00%,F,T)



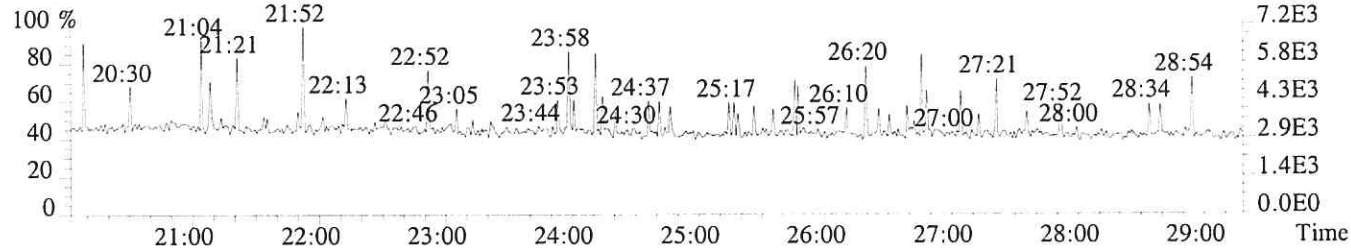
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10984.0,1.00%,F,T)



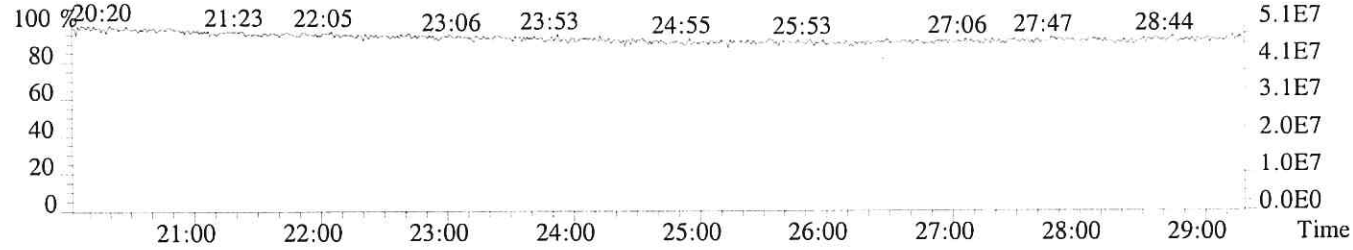
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4060.0,1.00%,F,T)



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

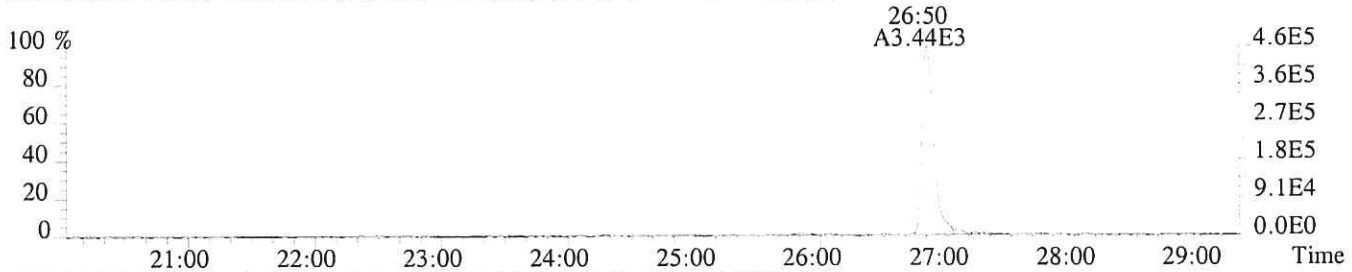


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

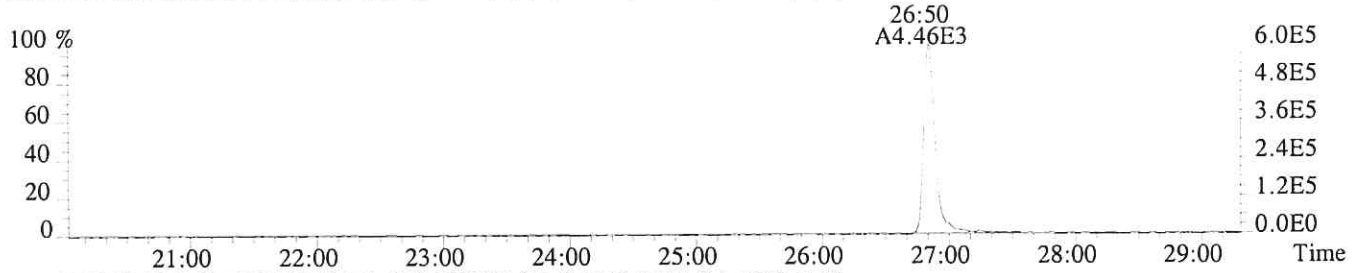


File:P609277 #1-658 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

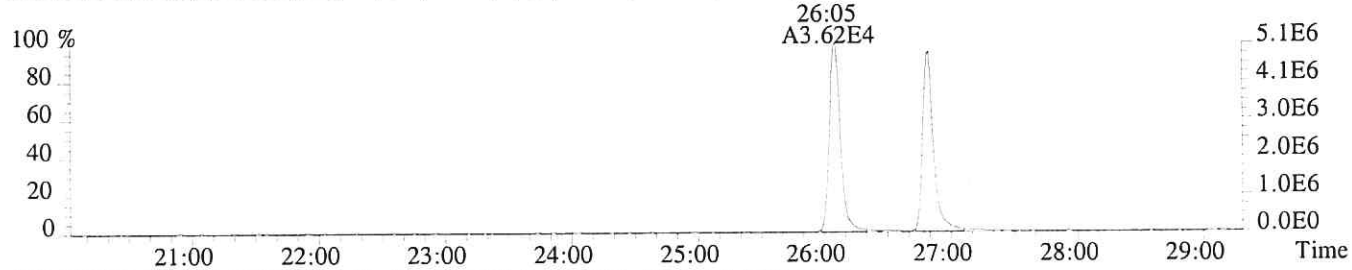
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



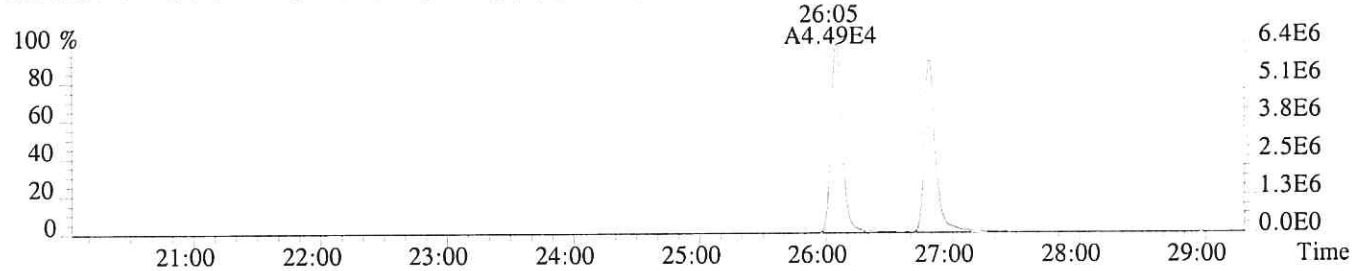
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



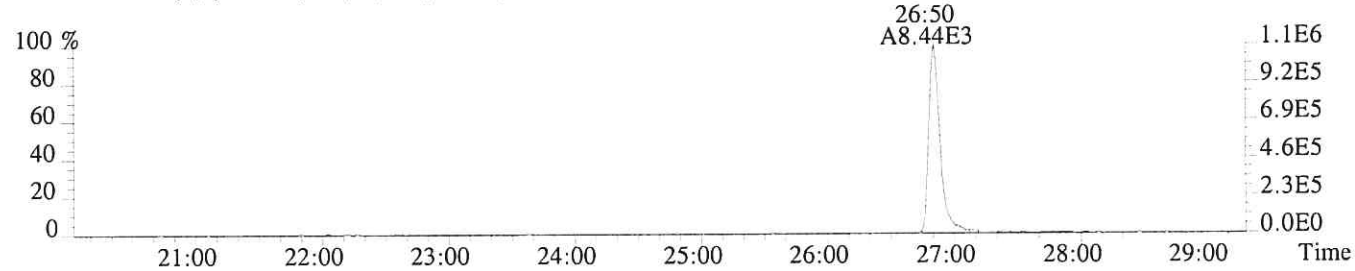
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8404.0,1.00%,F,T)



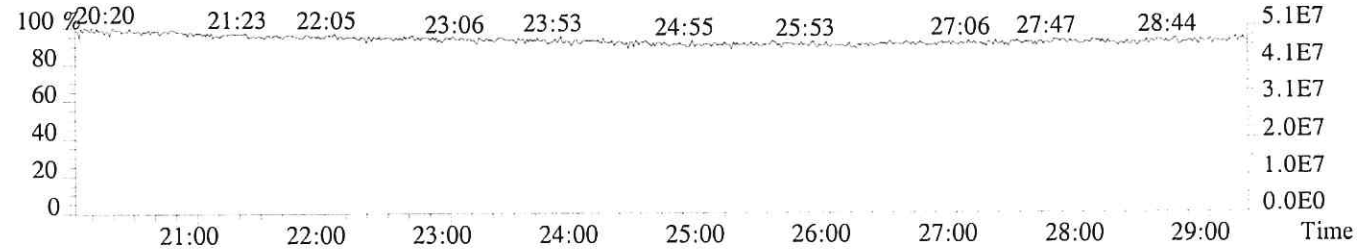
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5480.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)

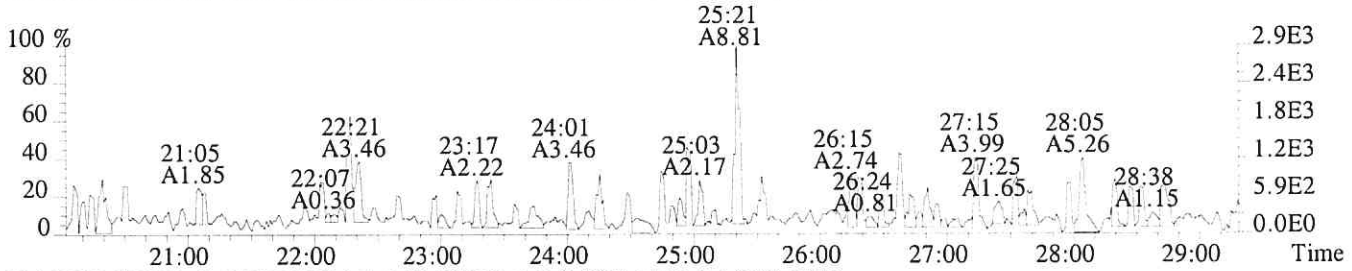


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

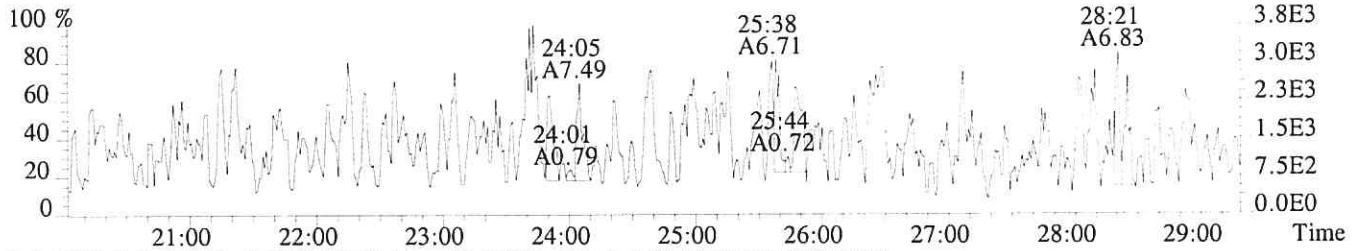


File:P609277 #1-658 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

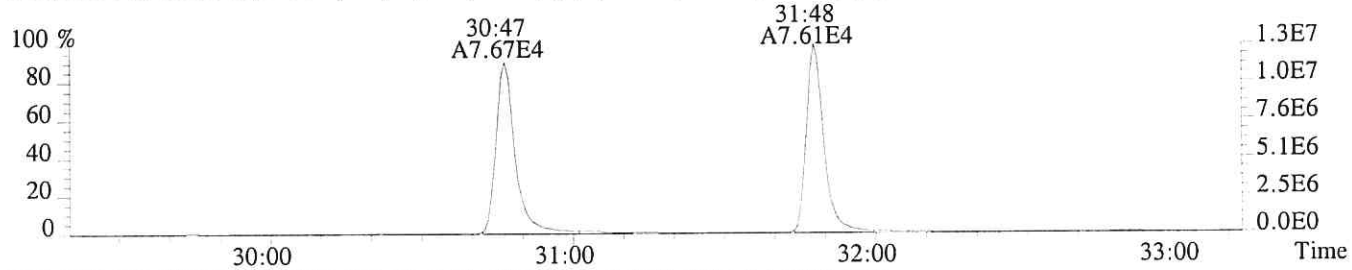
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



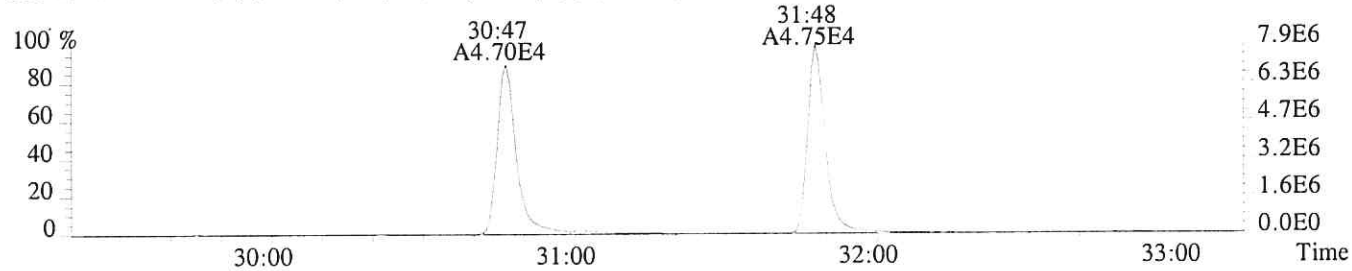
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



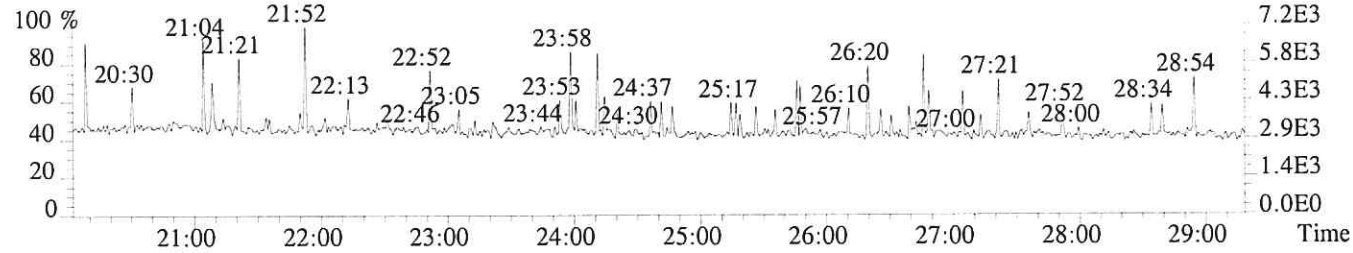
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,T)



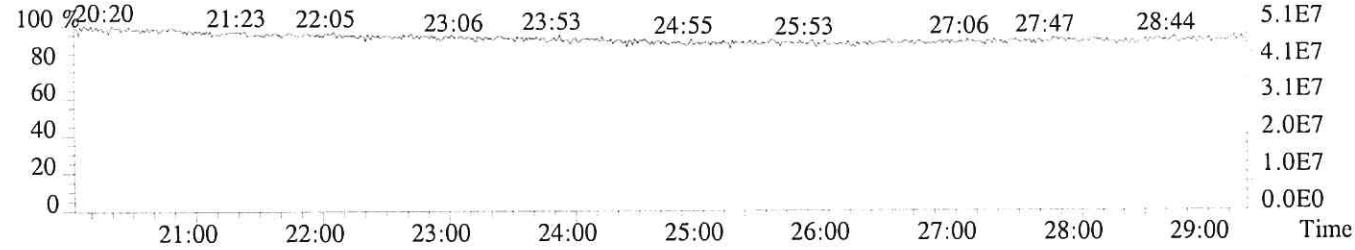
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3104.0,1.00%,F,T)



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

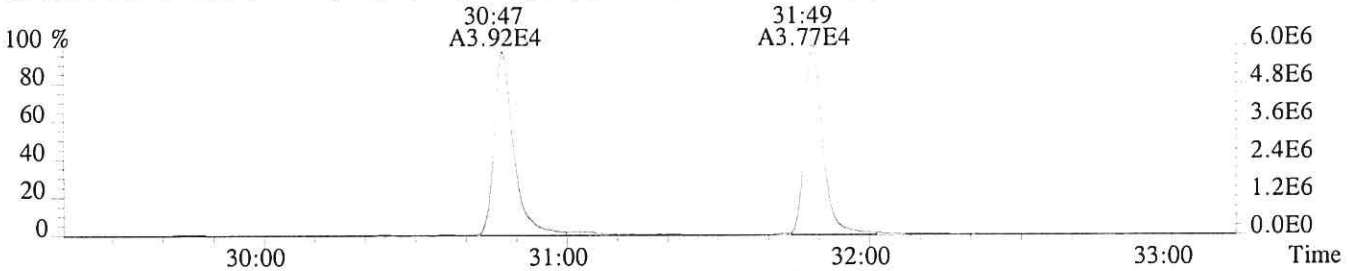


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

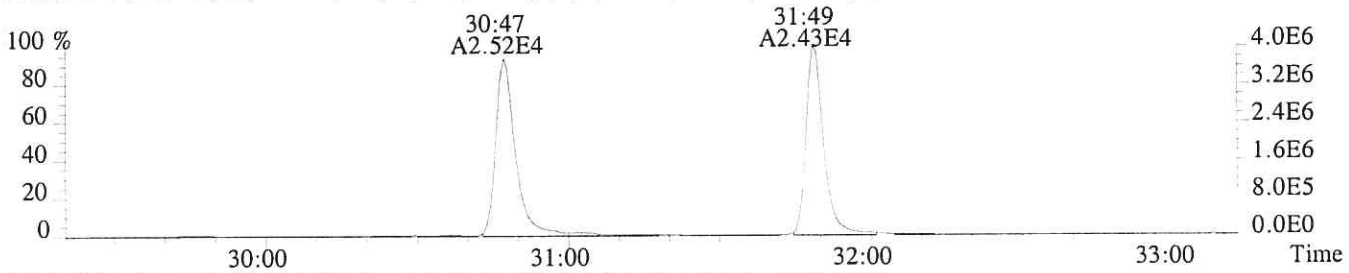


File:P609277 #1-349 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

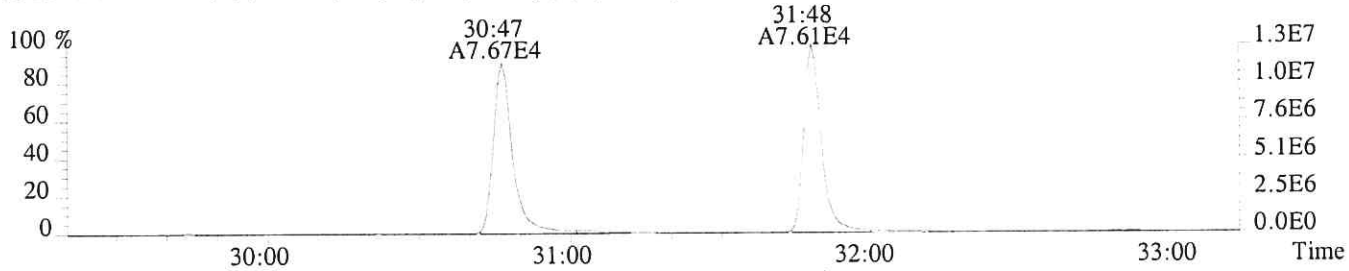
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1428.0,1.00%,F,T)



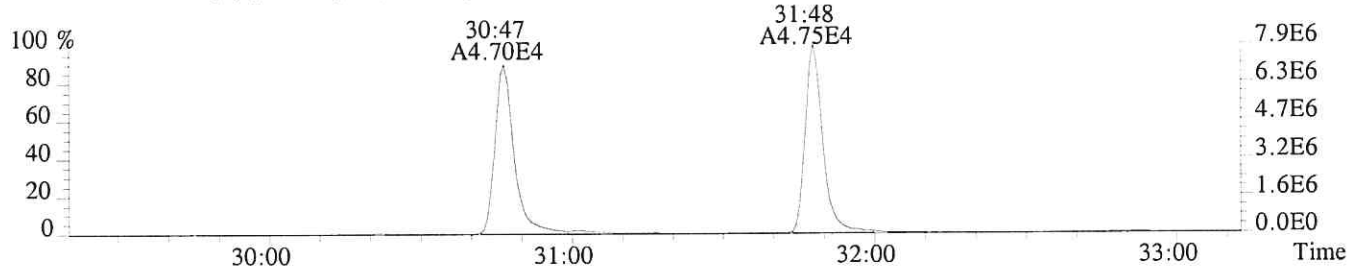
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



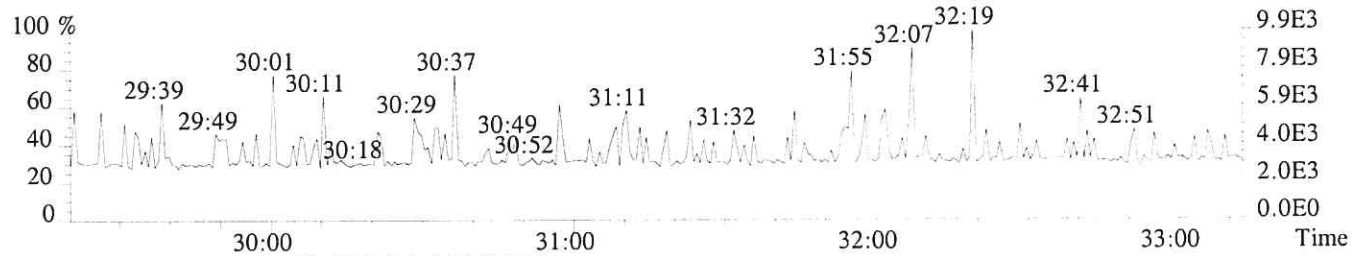
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,T)



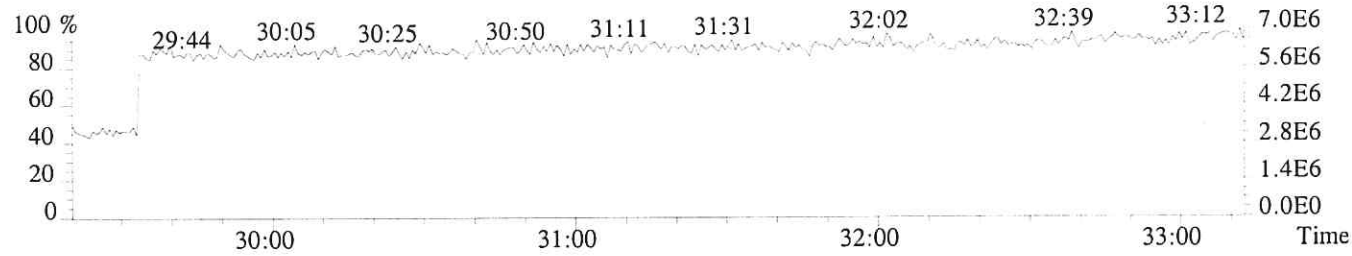
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3104.0,1.00%,F,T)



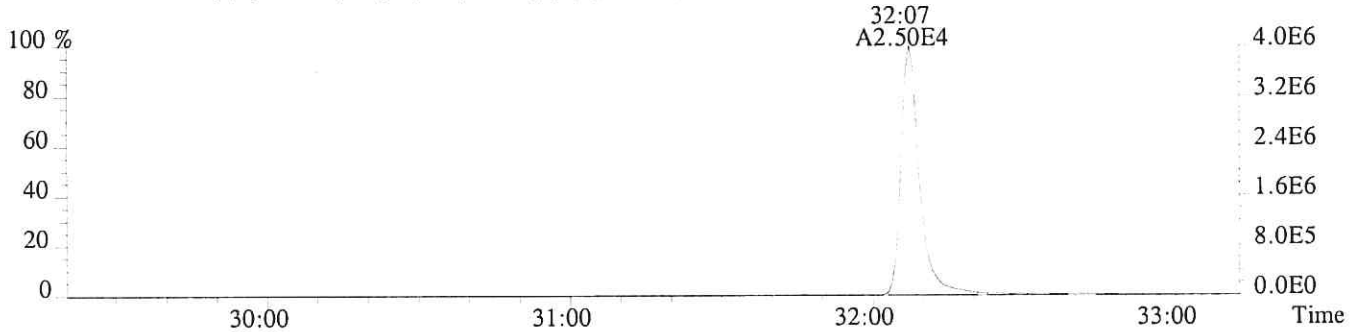
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



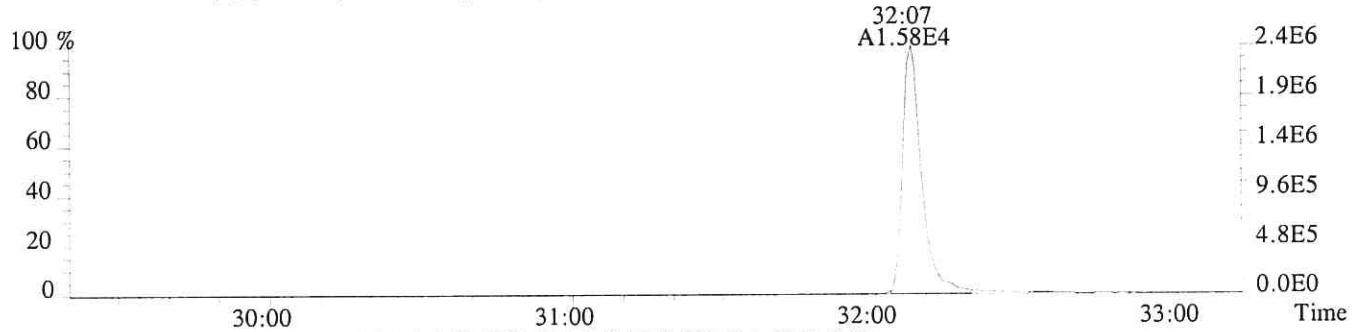
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



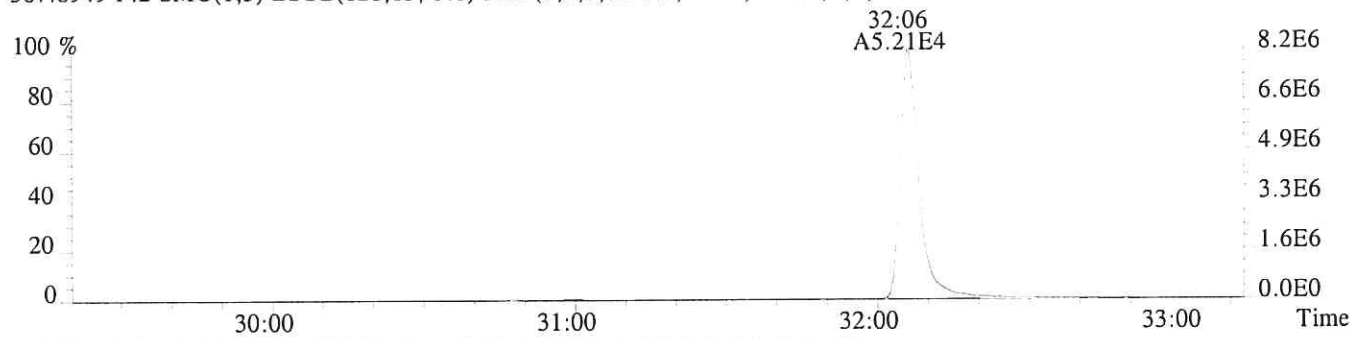
File:P609277 #1-349 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,T)



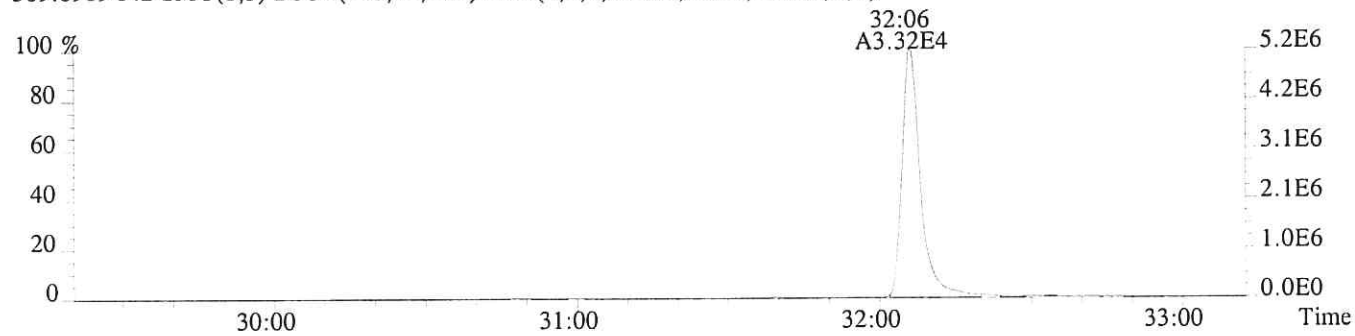
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



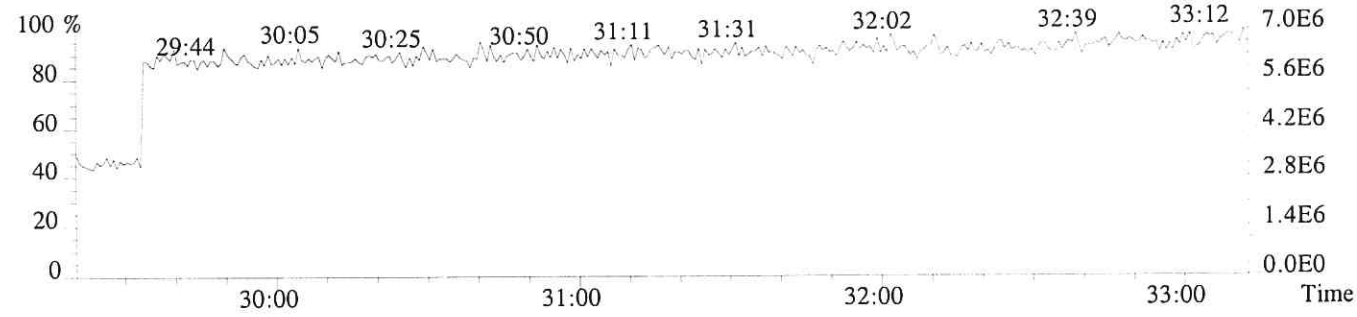
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)

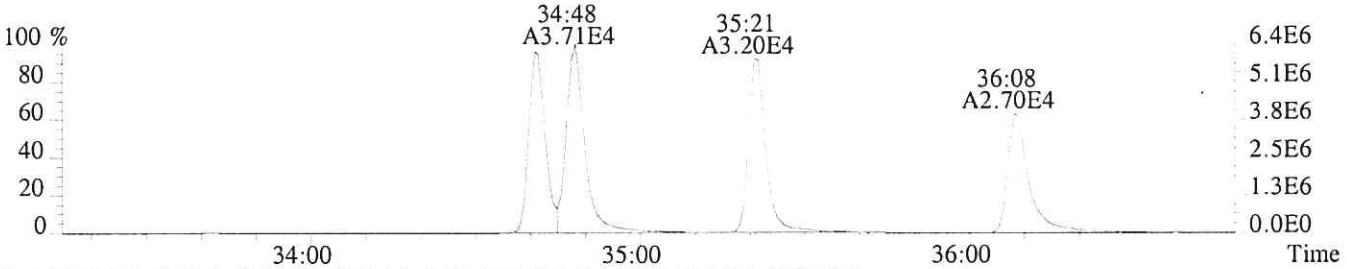


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

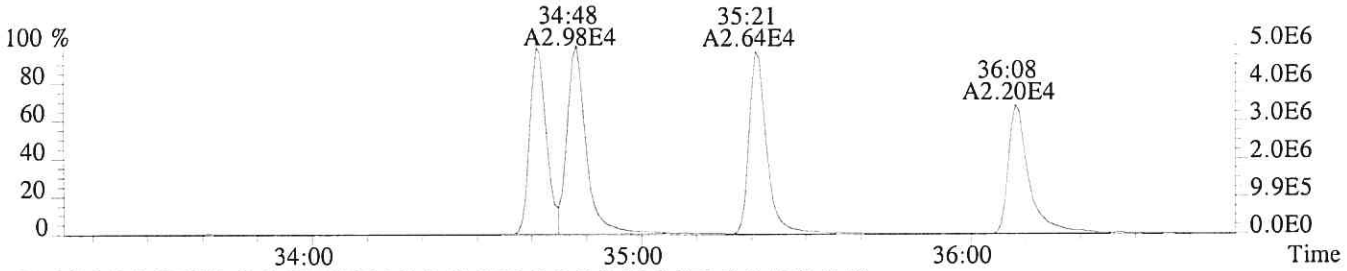


File:P609277 #1-321 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

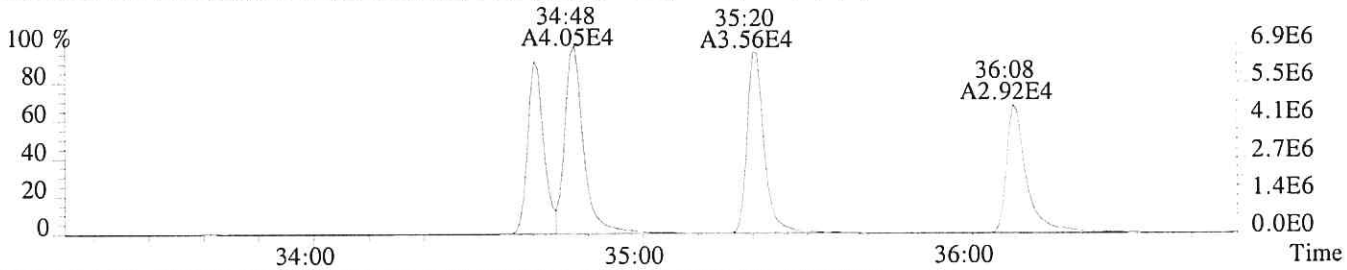
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,T)



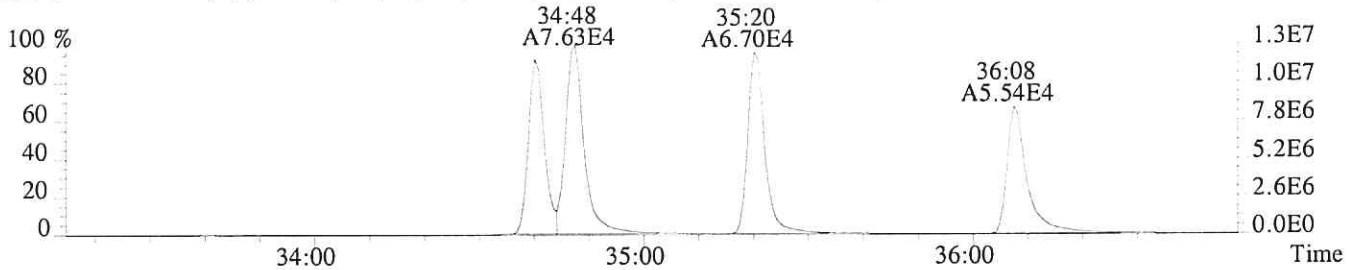
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)

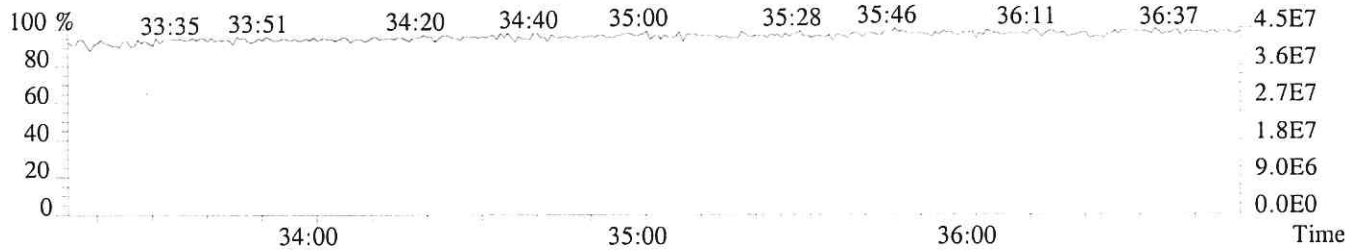


385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1680.0,0.40%,F,T)



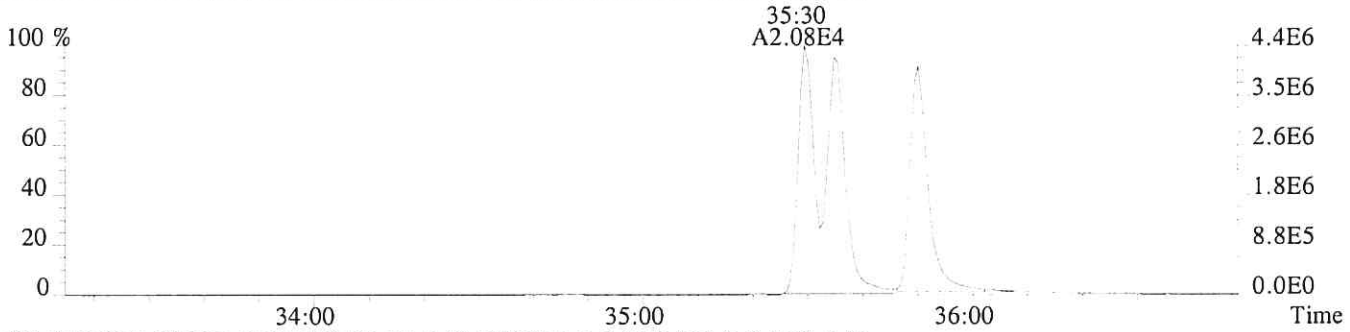
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

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

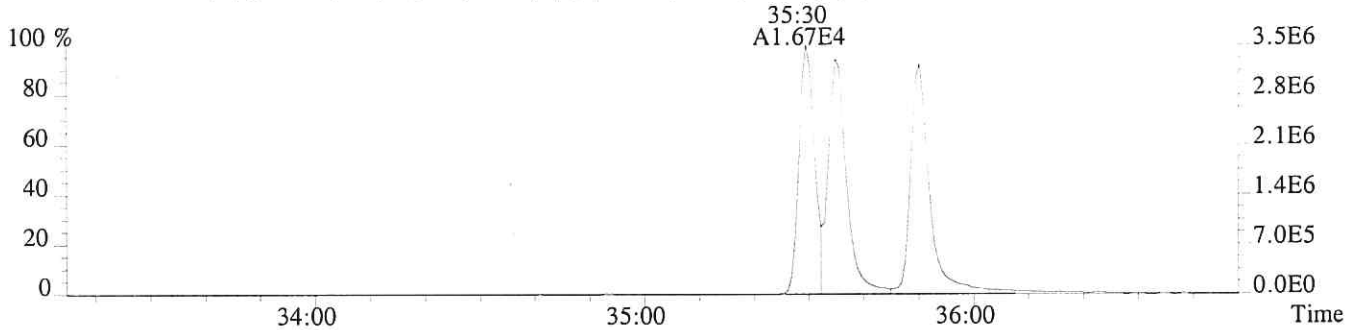


File:P609277 #1-321 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

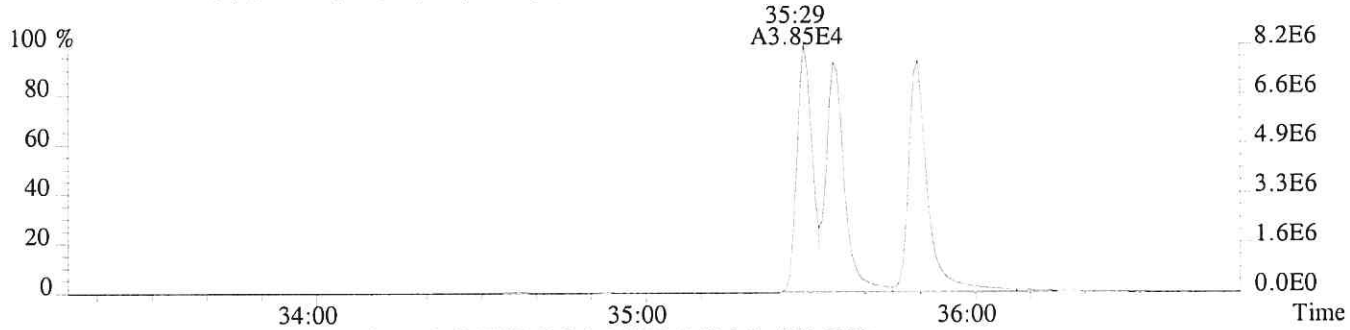
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



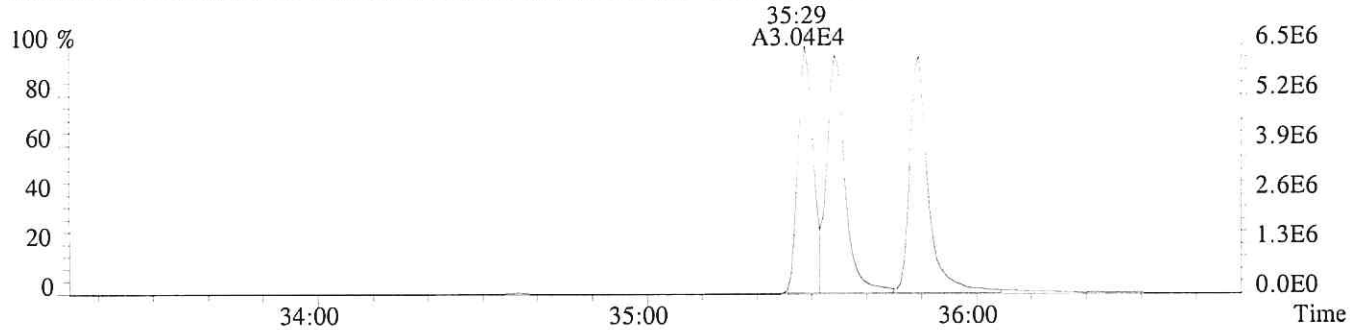
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,764.0,0.40%,F,T)



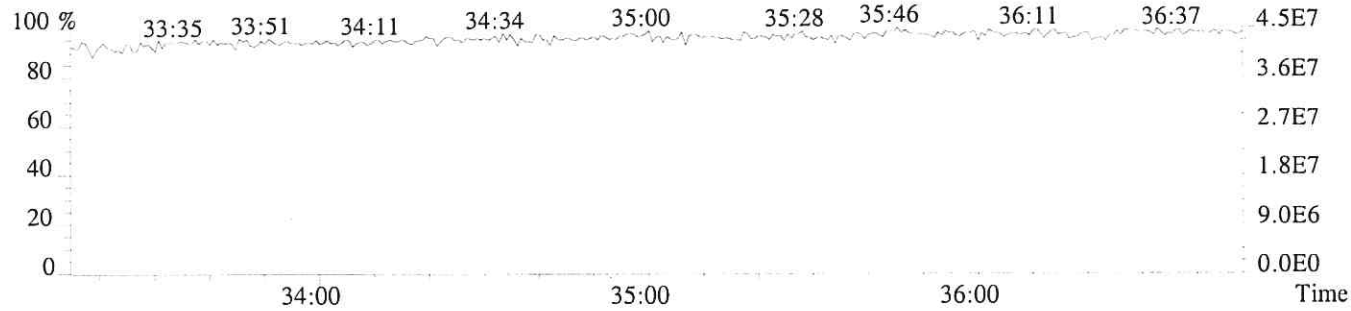
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,T)

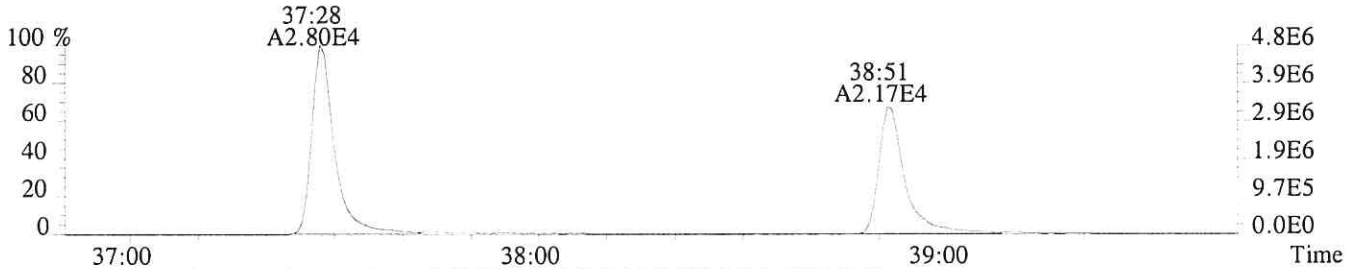


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

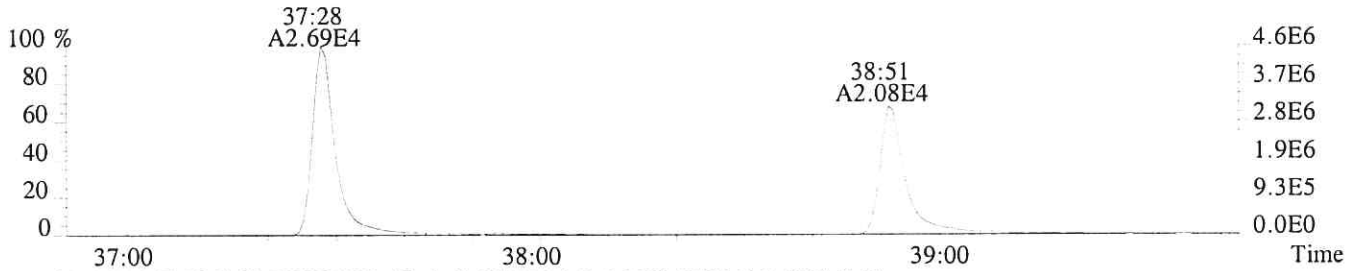


File:P609277 #1-259 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

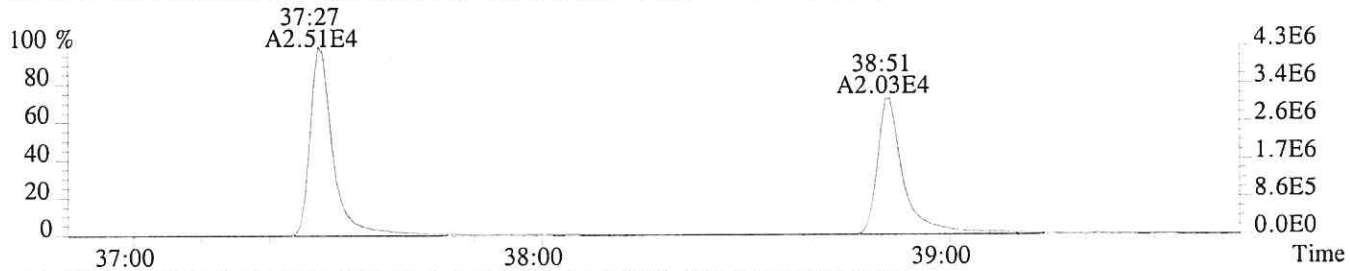
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2300.0,0.50%,F,T)



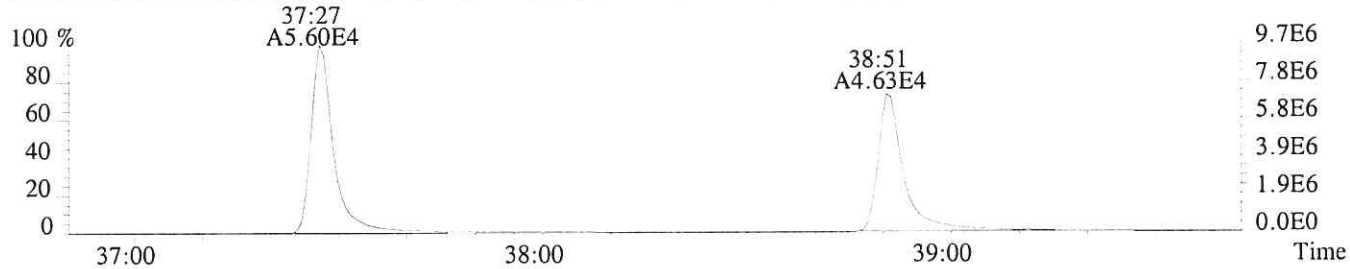
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2488.0,0.50%,F,T)



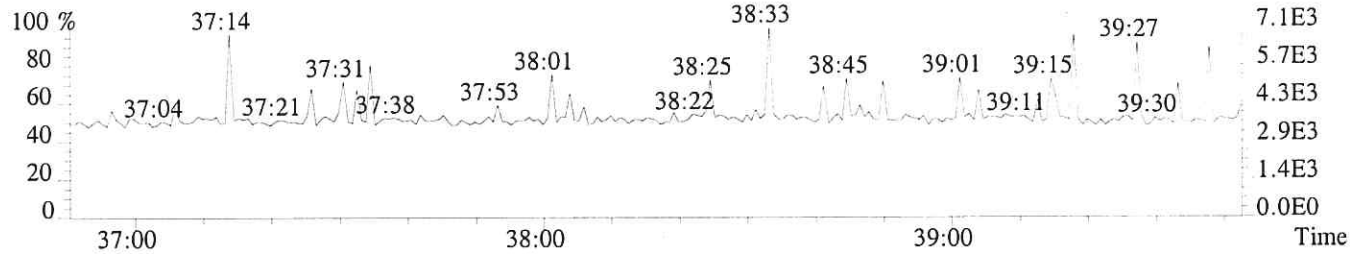
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5756.0,0.50%,F,T)



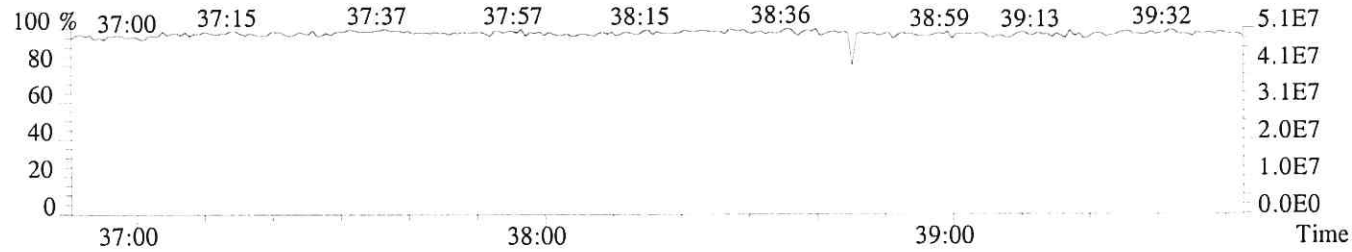
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12780.0,0.50%,F,T)



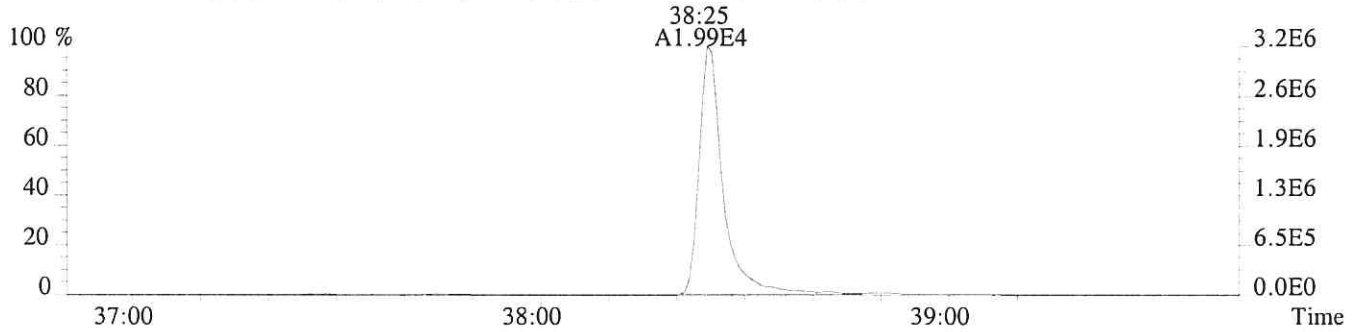
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



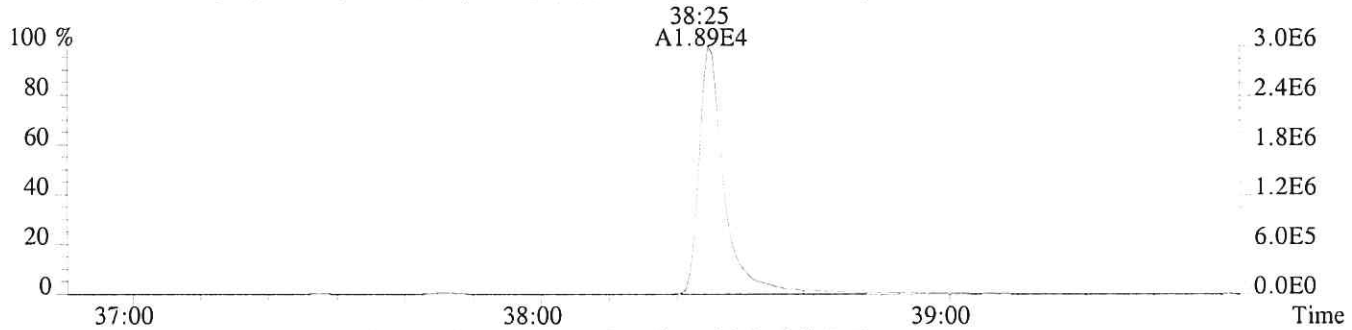
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



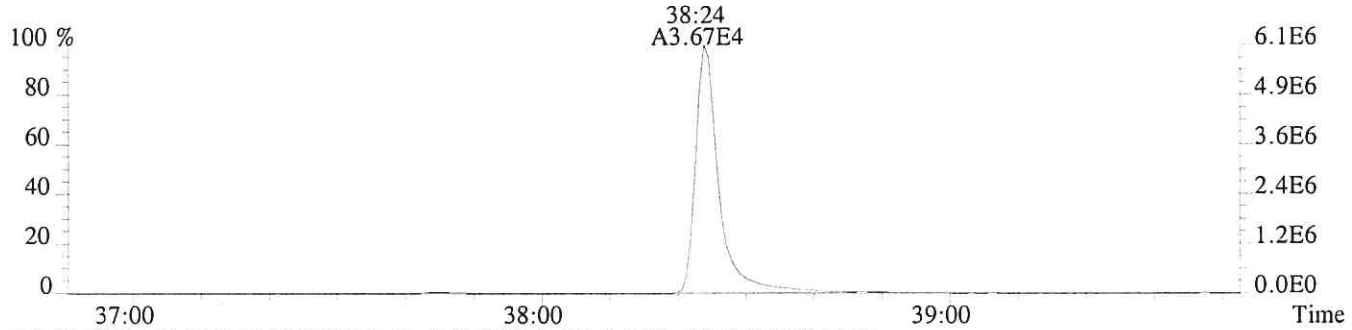
File:P609277 #1-259 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



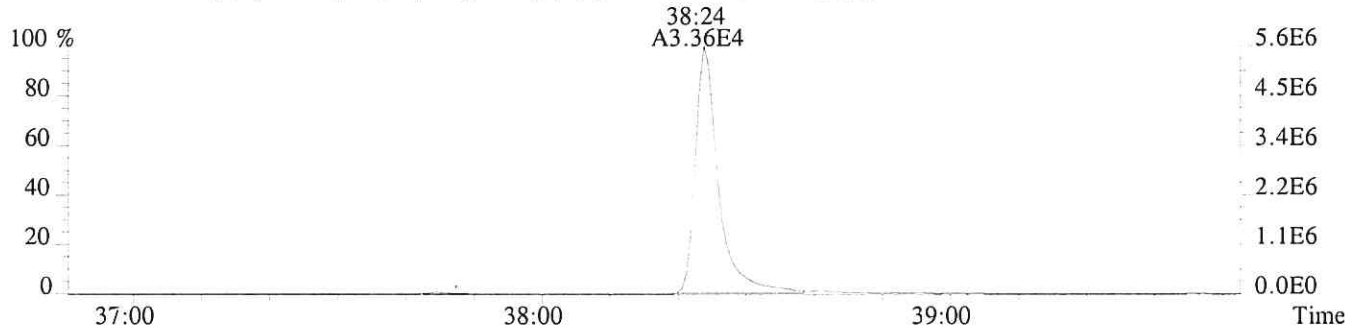
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,404.0,0.40%,F,T)



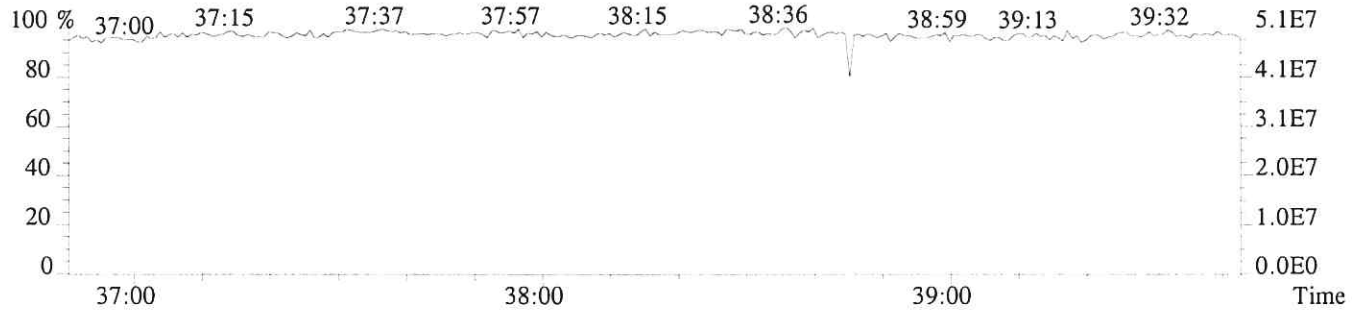
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,172.0,0.40%,F,T)

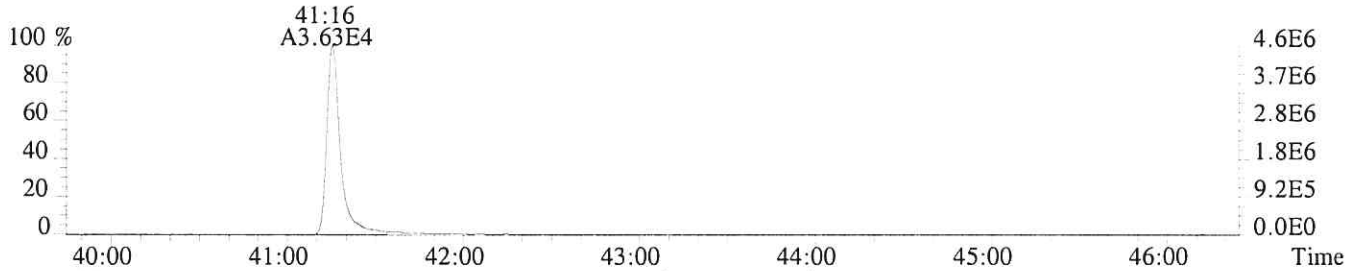


430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

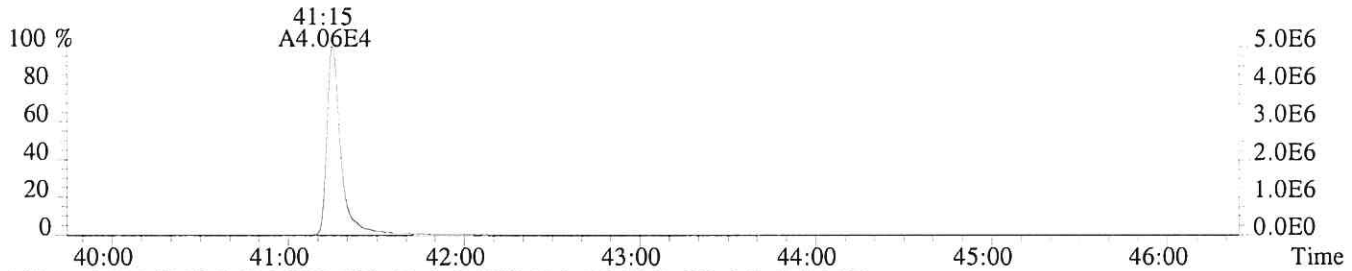


File:P609277 #1-600 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

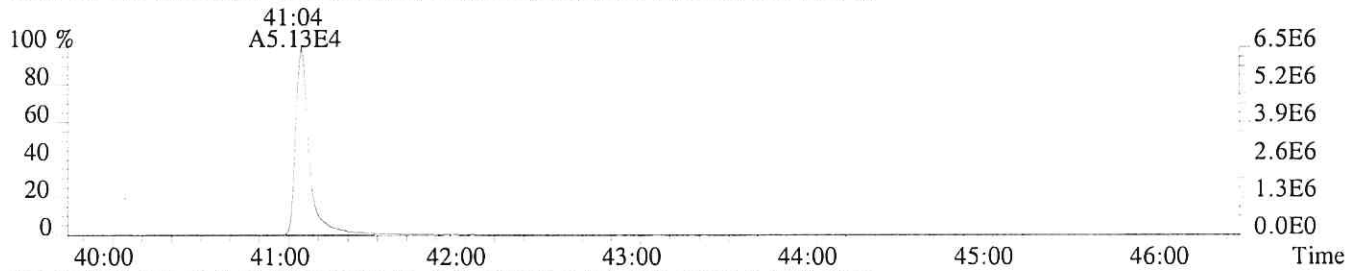
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,212.0,0.40%,F,T)



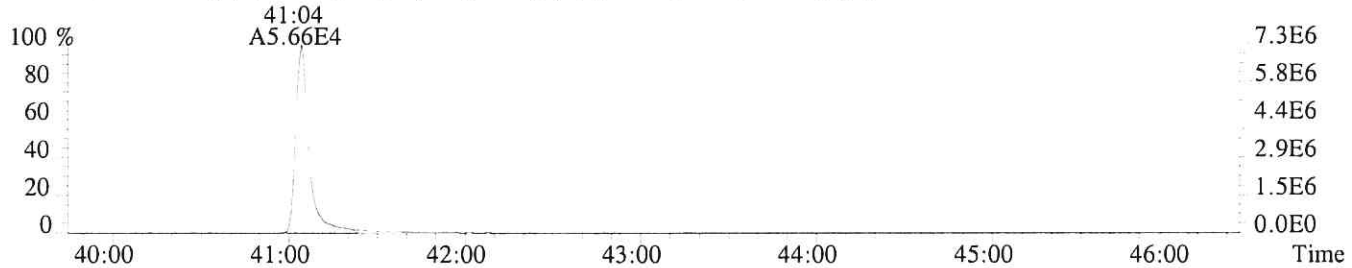
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,312.0,0.40%,F,T)



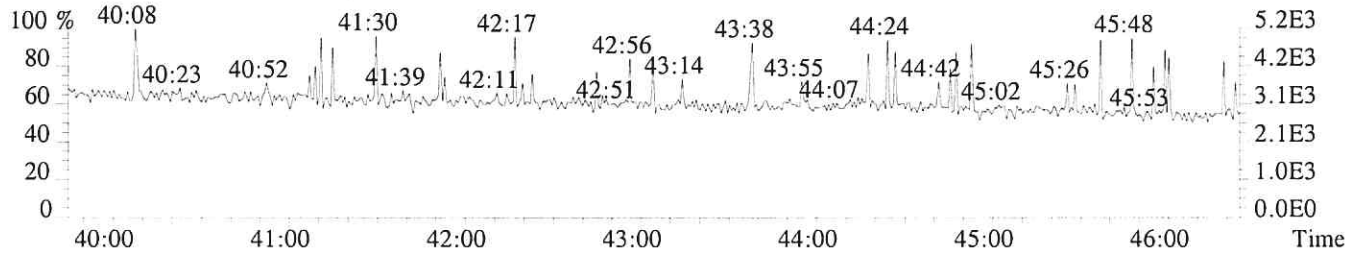
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,T)



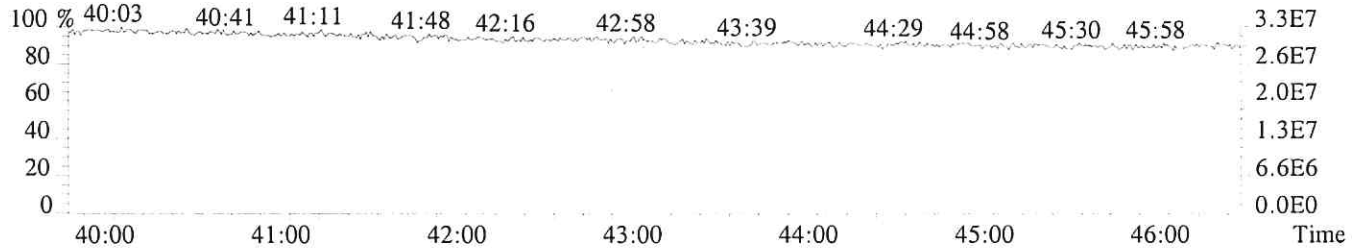
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



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

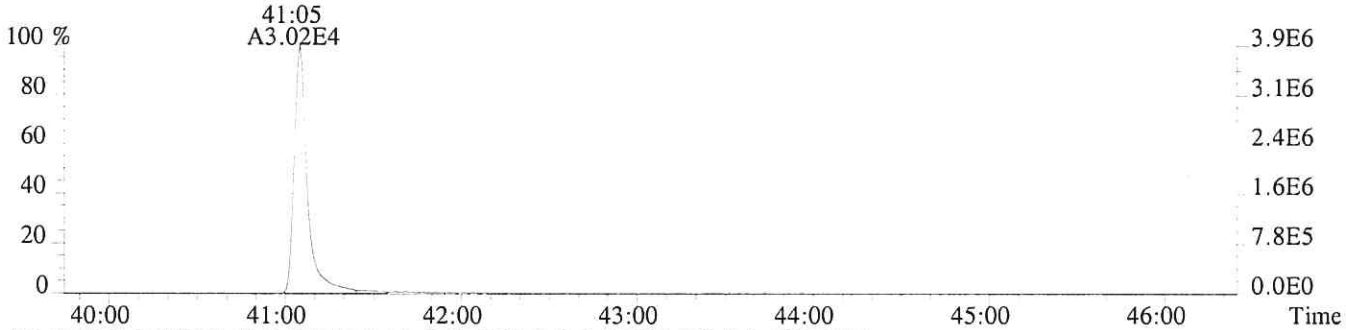


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

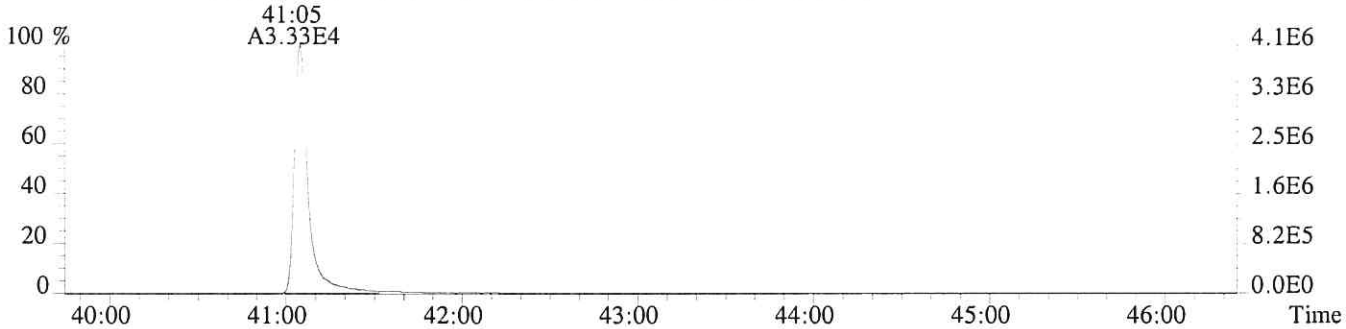


File:P609277 #1-600 Acq:26-SEP-2017 02:53:58 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

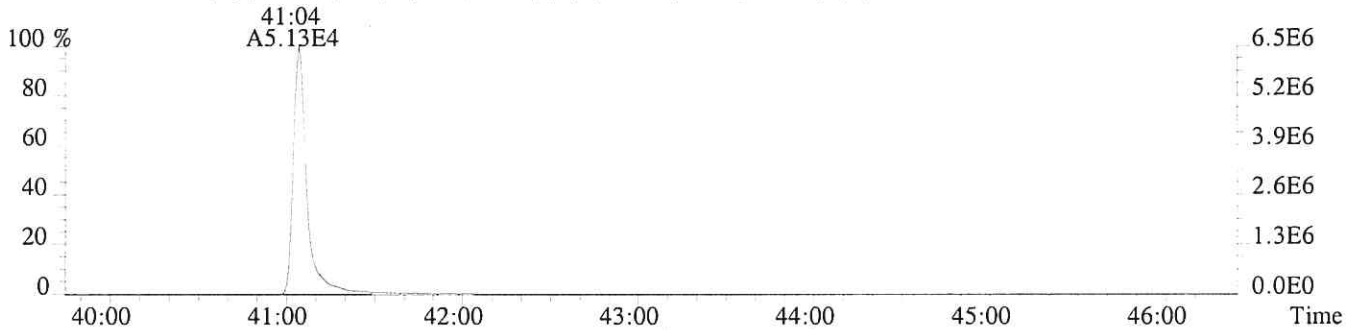
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,132.0,0.40%,F,T)



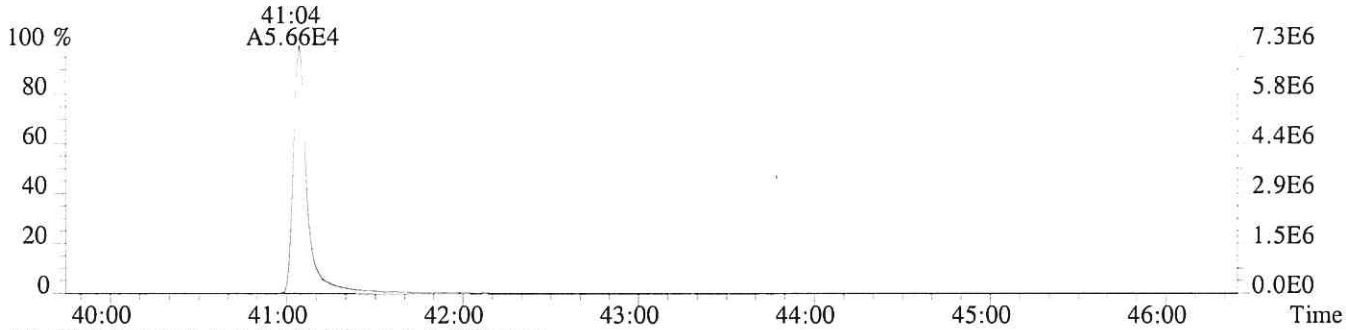
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,208.0,0.40%,F,T)



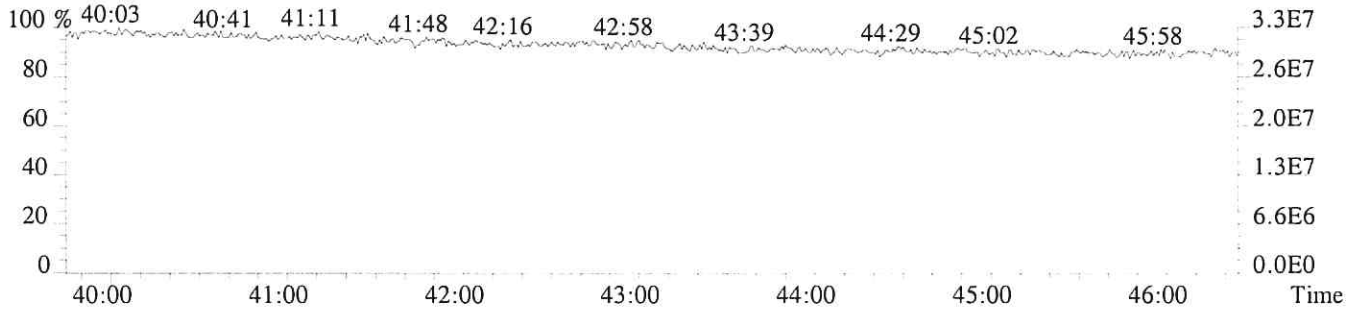
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,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: P51148 1

Date: 09/22/17

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: JC

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: 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	P511482	22-SEP-17	12:40:25
180102	CS3	P511481	22-SEP-17	11:34:50
METHOD BLANK	EQ1700390-01	P511483	22-SEP-17	13:28:14
METHOD BLANK	EQ1700417-01	P511484	22-SEP-17	14:16:47
OUTFALL 004	E1700905-001	P511485	22-SEP-17	15:10:54
OUTFALL 005	E1700905-002	P511486	22-SEP-17	15:58:39
SJWP-091517-020EPA	E1700973-001	P511487	22-SEP-17	16:47:43
SJWP-091517-021EPA	E1700973-002	P511488	22-SEP-17	17:36:03
SJWP-091517-022EPA	E1700973-003	P511489	22-SEP-17	18:24:43
SJWP-091517-023EPA	E1700973-004	P511490	22-SEP-17	19:13:24
SJWP-091517-024EPA	E1700973-005	P511491	22-SEP-17	20:02:05
SJWP-091517-025EPA	E1700973-006	P511492	22-SEP-17	20:50:41
LCS	EQ1700417-02	P511493	22-SEP-17	21:39:23
DLCS	EQ1700417-03	P511494	22-SEP-17	22:28:00

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20170922A.SPL
Last Modified: Saturday, September 23, 2017 10:54:07 Eastern Daylight Time
Printed: Saturday, September 23, 2017 10:54:16 Eastern Daylight Time

1613

Page Position (1, 1)

Opus 4: P511481/res

	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	09/22/17	11:34	P511481	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LG	HRMS check 12:33
2		12:40	P511482	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		13:28	P511483	MB	EQ1700390-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		14:16	P511484	MB	EQ1700417-01	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		15:10	P511485	E1700905-001	E1700905-001	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		15:58	P511486	E1700905-002	E1700905-002	EPA1613_ALS	Dioxin_ALS	Tray1:6		needs reinjection
7		16:47	P511487	E1700973-001	E1700973-001	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		17:36	P511488	E1700973-002	E1700973-002	EPA1613_ALS	Dioxin_ALS	Tray1:8		
9		18:24	P511489	E1700973-003	E1700973-003	EPA1613_ALS	Dioxin_ALS	Tray1:9		
10		19:13	P511490	E1700973-004	E1700973-004	EPA1613_ALS	Dioxin_ALS	Tray1:10		
11		20:02	P511491	E1700973-005	E1700973-005	EPA1613_ALS	Dioxin_ALS	Tray1:11		
12		20:50	P511492	E1700973-006	E1700973-006	EPA1613_ALS	Dioxin_ALS	Tray1:12		
13		21:39	P511493	LCS	EQ1700417-02	EPA1613_ALS	Dioxin_ALS	Tray1:13		
14		22:28	P511494	DLCS	EQ1700417-03	EPA1613_ALS	Dioxin_ALS	Tray1:14		
15		23:24	P511495	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		HRMS check 23:24
16			---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2		
17			---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1		
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	Tray1:26	---	---
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	Tray1:2	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
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	---	---

09/25/17

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

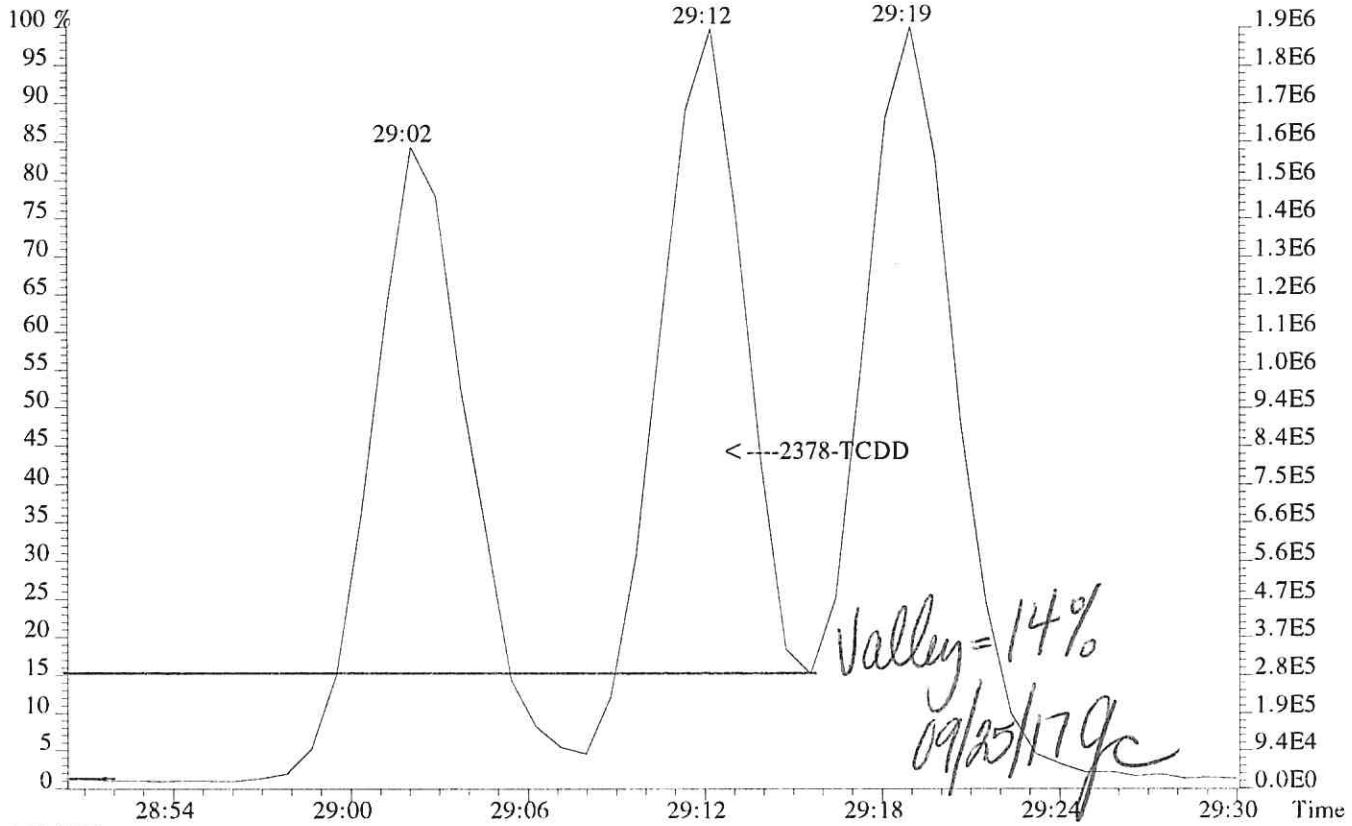
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P511482
Date Analyzed: 22-SEP-2017
Time Analyzed: 12:40:25

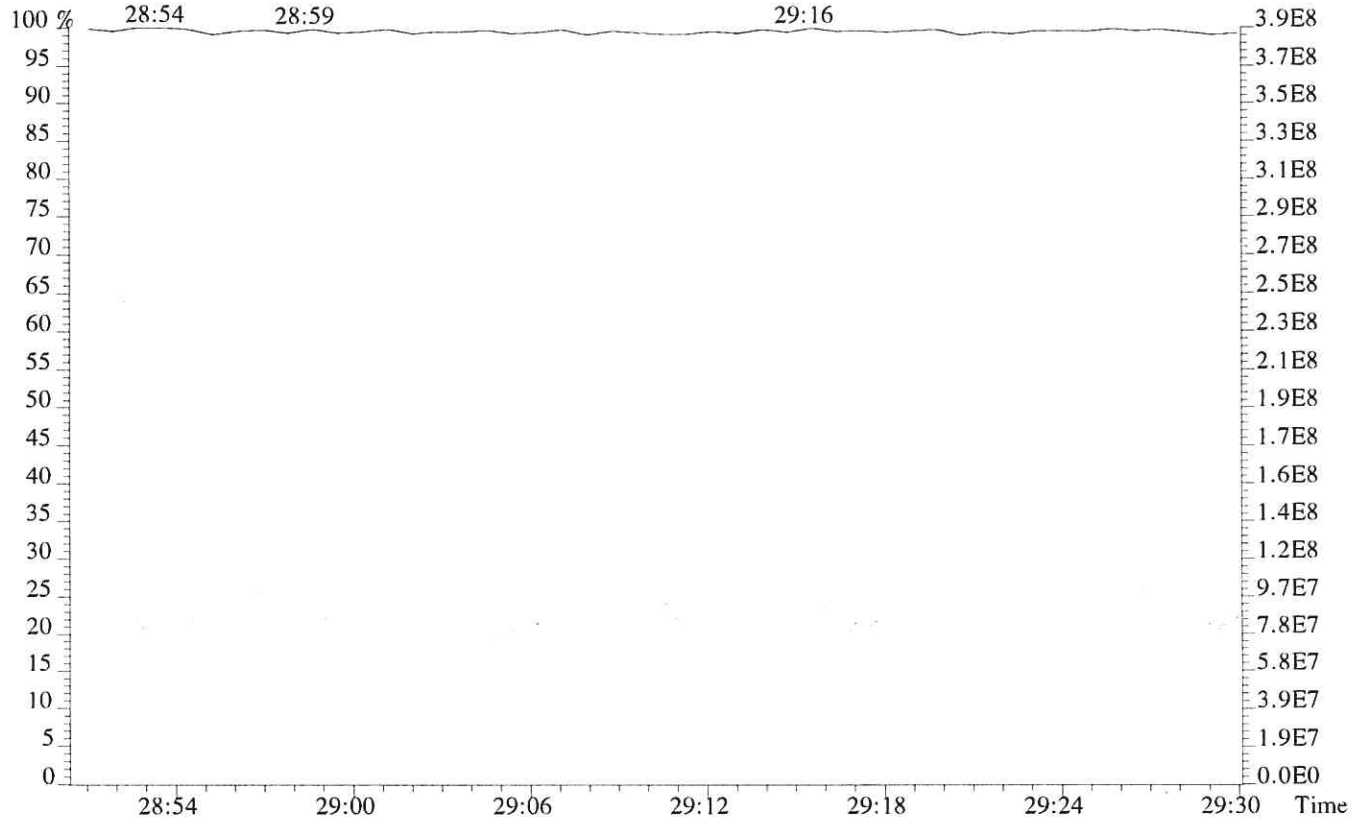
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:09	30:20
TCDD	26:01	30:10
PeCDF	30:16	34:25
PeCDD	31:45	34:11
HxCDF	35:04	37:32
HxCDD	35:34	37:08
HpCDF	38:44	40:08
HpCDD	38:58	39:39

% Valley 2378-TCDD: 14 %

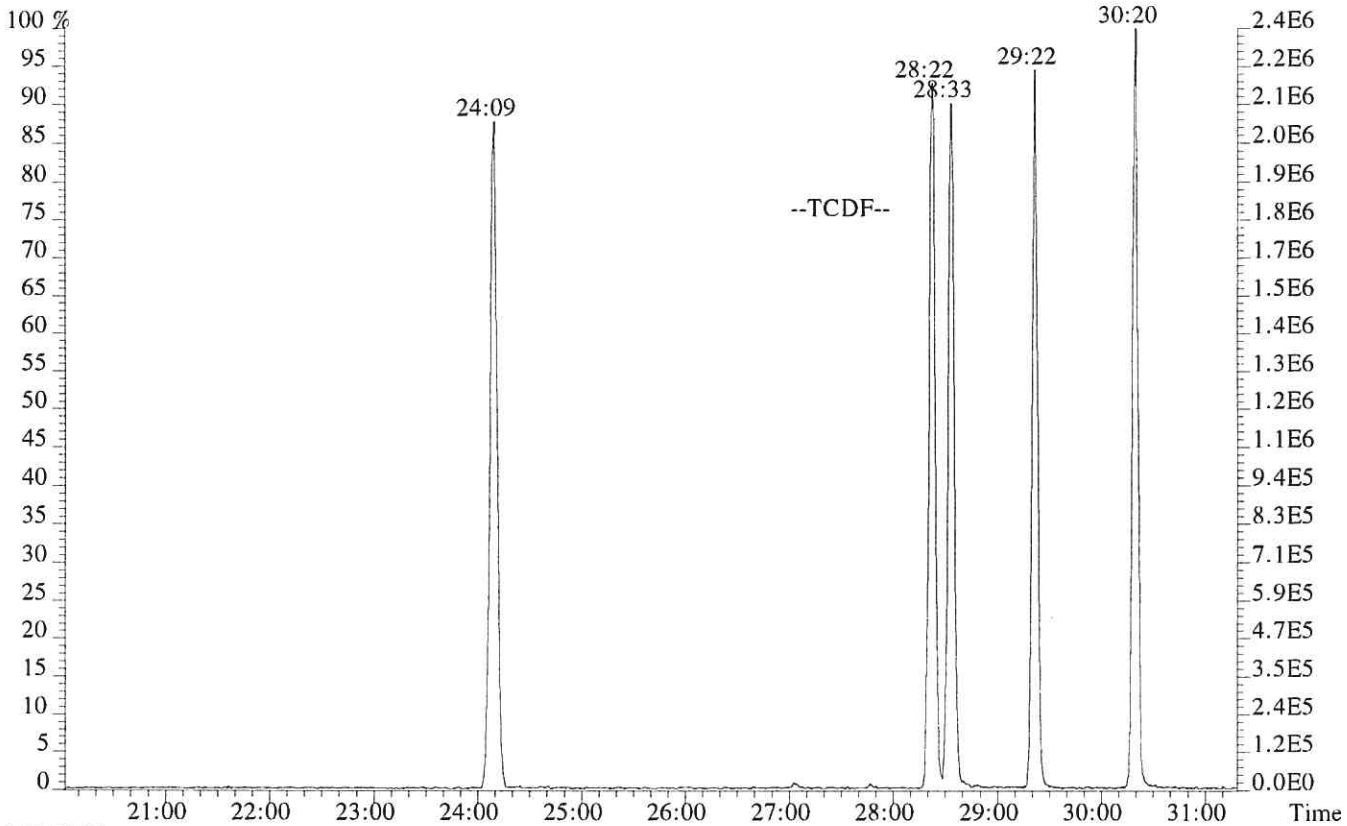
File:P511482 #1-800 Acq:22-SEP-2017 12:40:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965



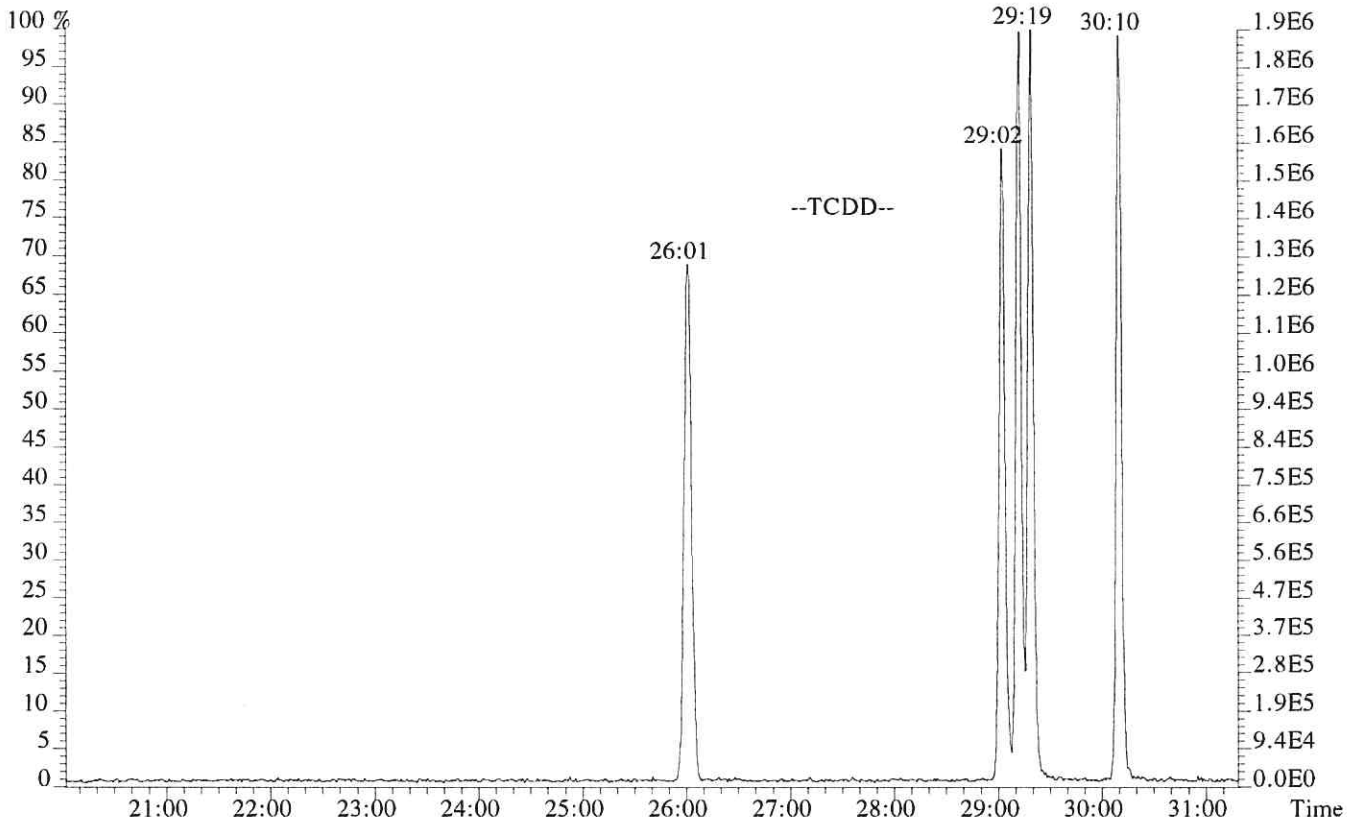
318.9792



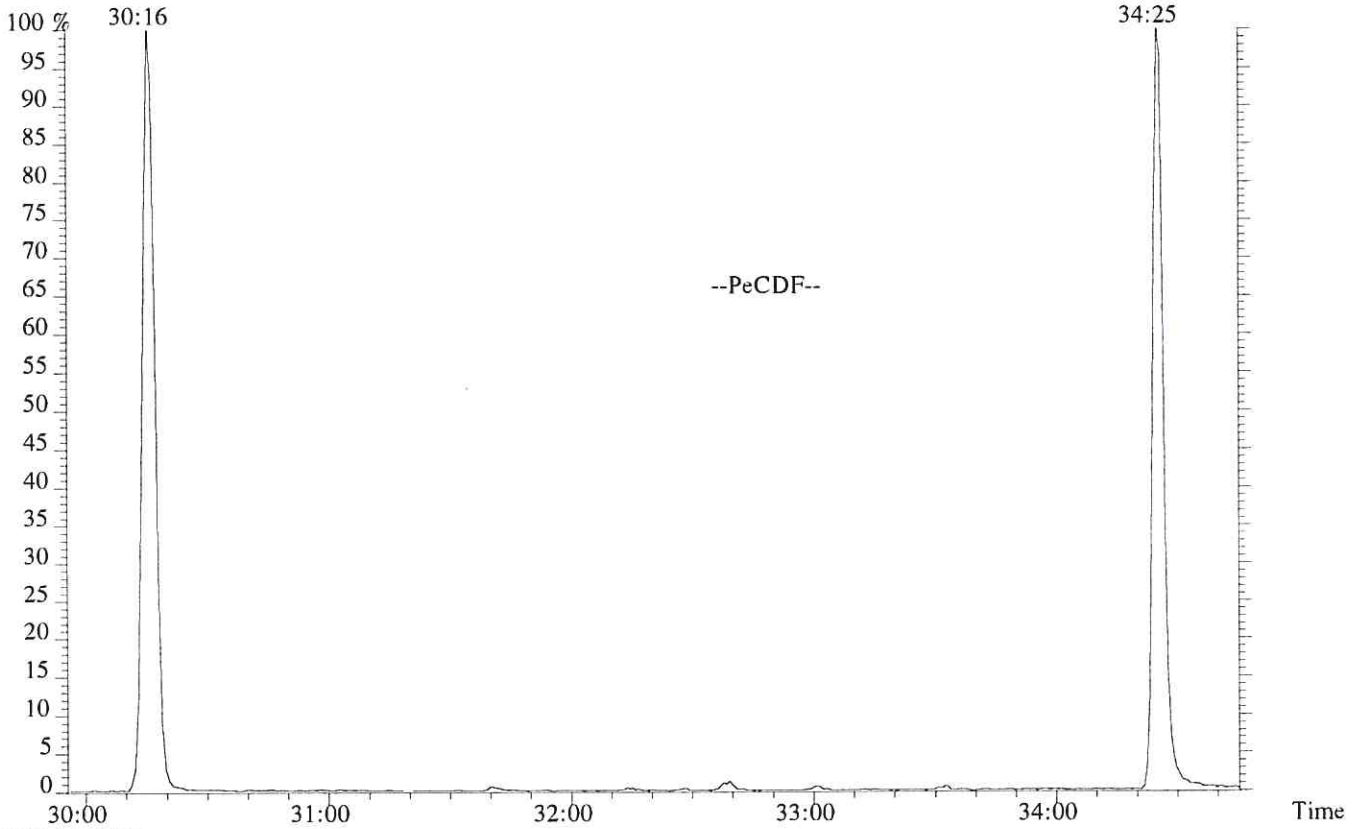
File:P511482 #1-800 Acq:22-SEP-2017 12:40:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
303.9016



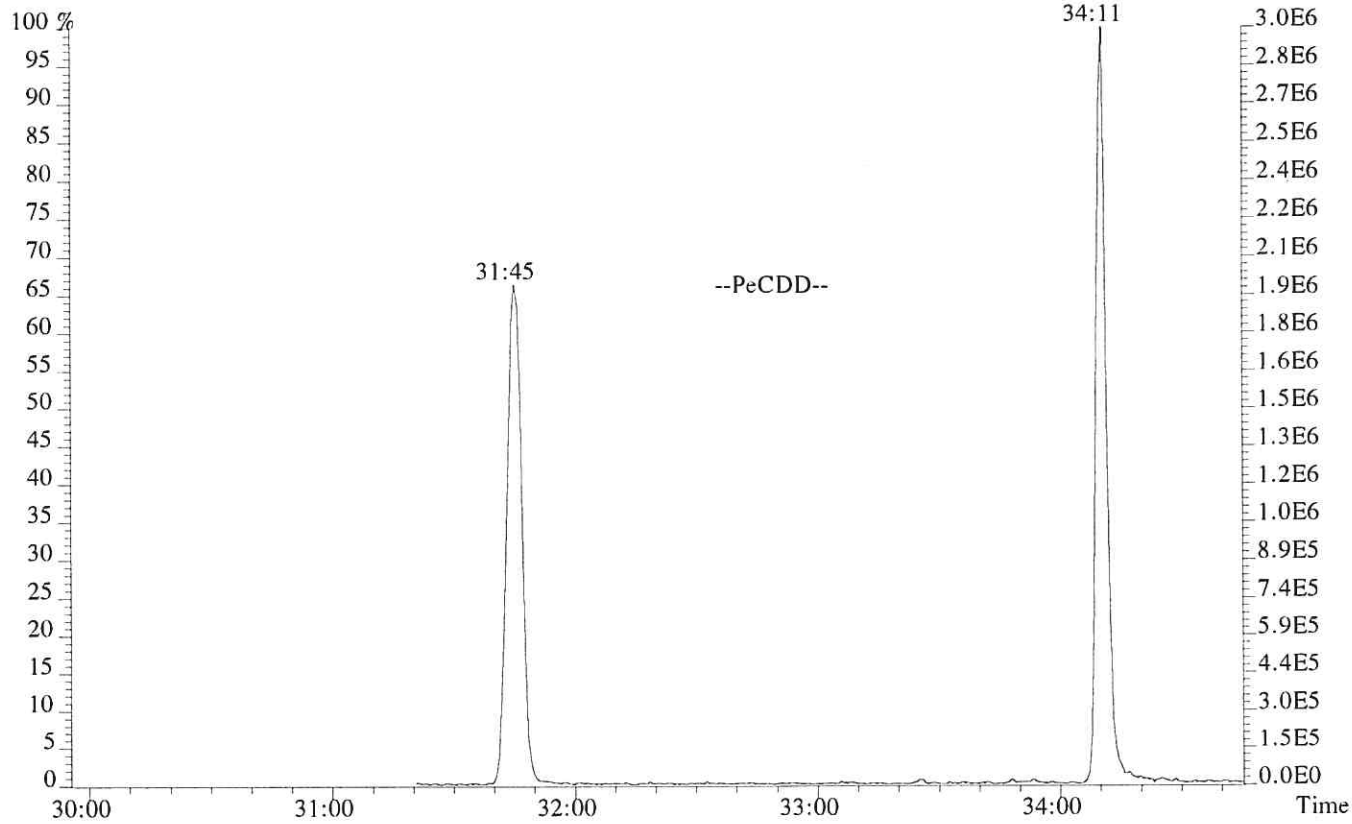
319.8965



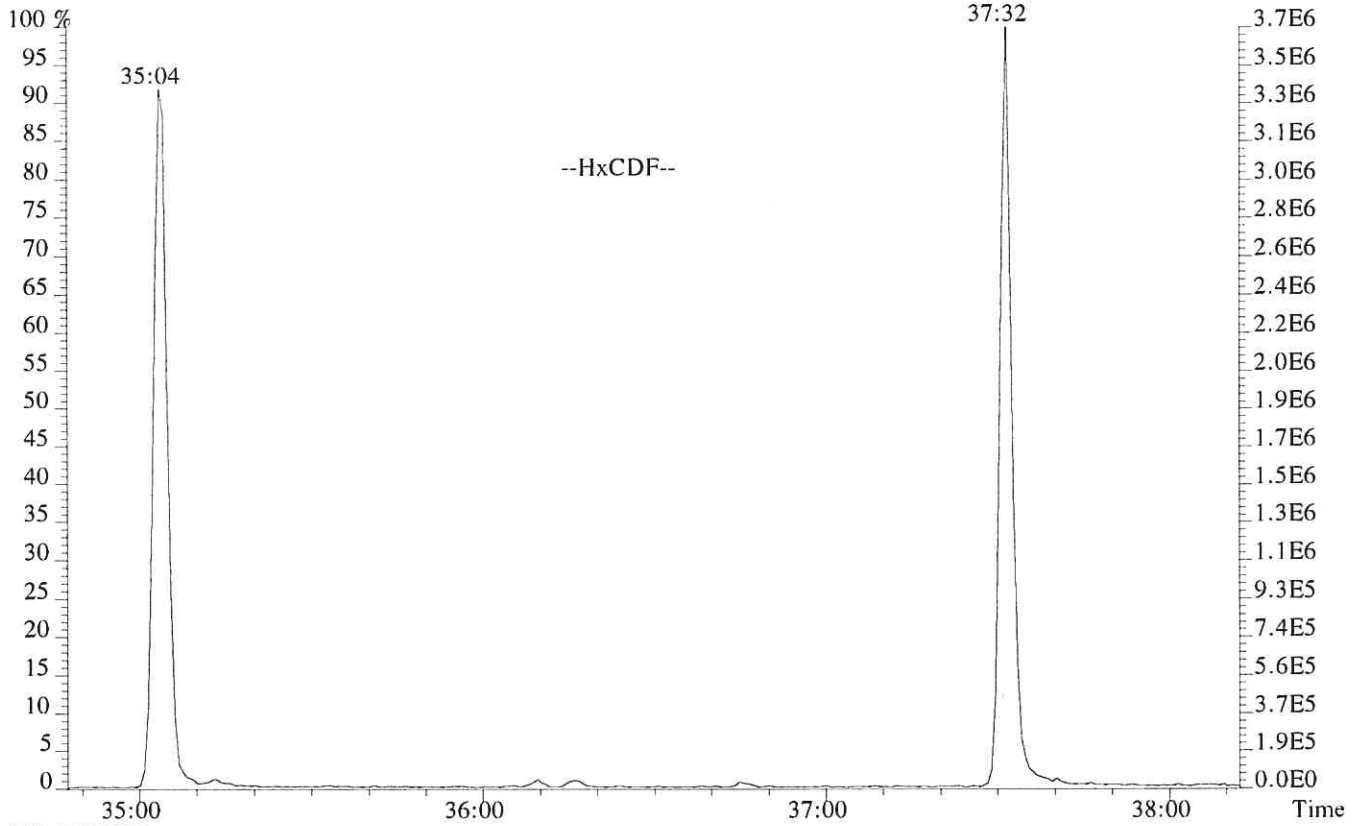
File:P511482 #1-800 Acq:22-SEP-2017 12:40:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



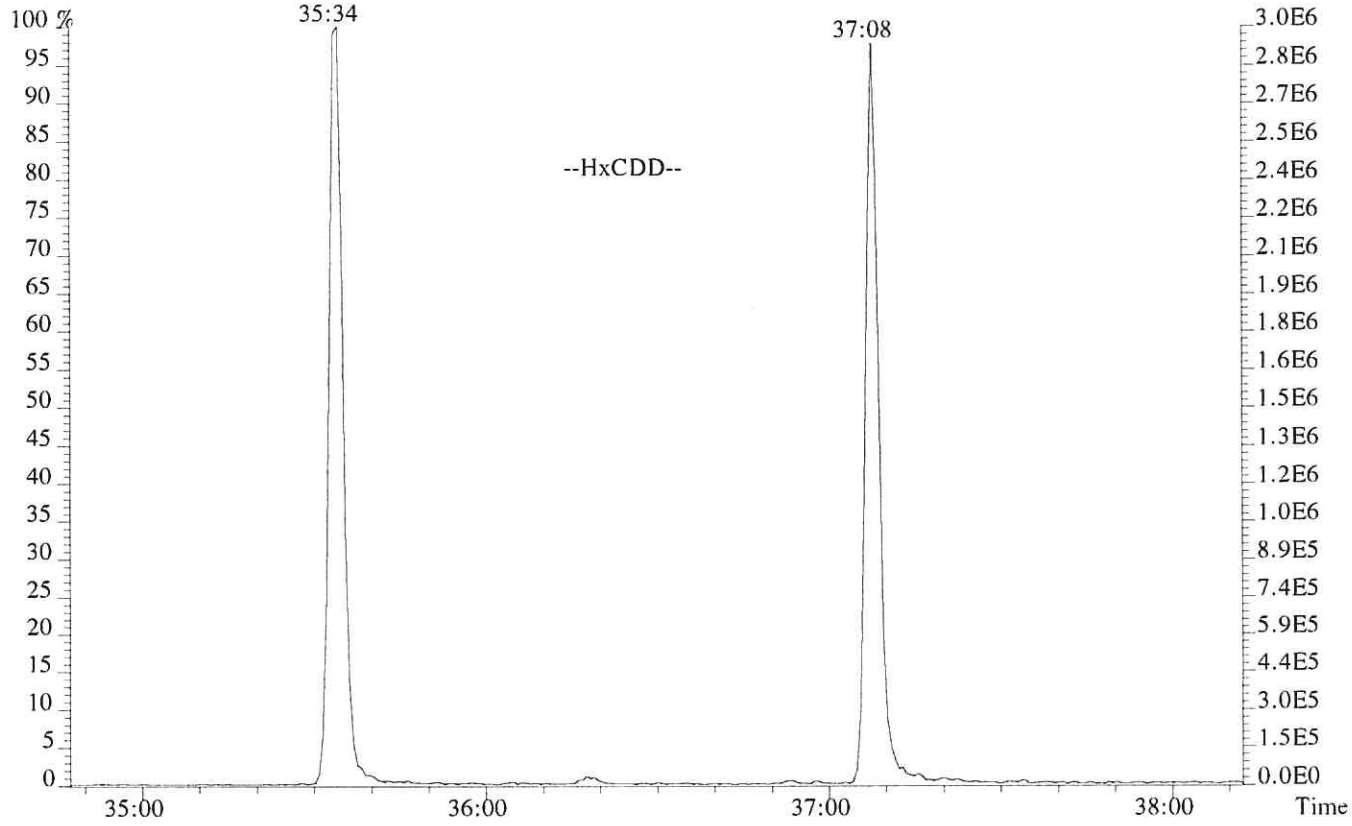
355.8546 F:2



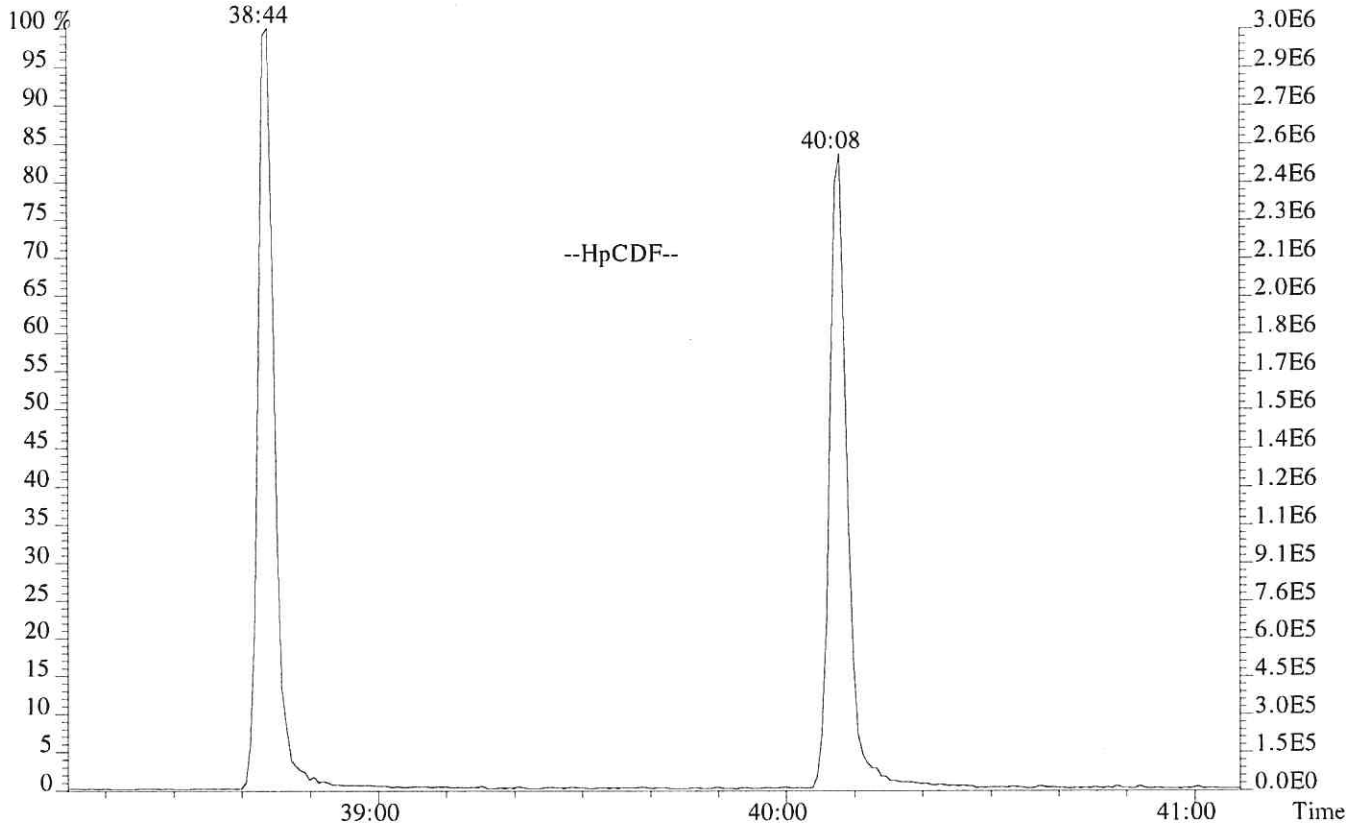
File:P511482 #1-308 Acq:22-SEP-2017 12:40:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
373.8208 F:3



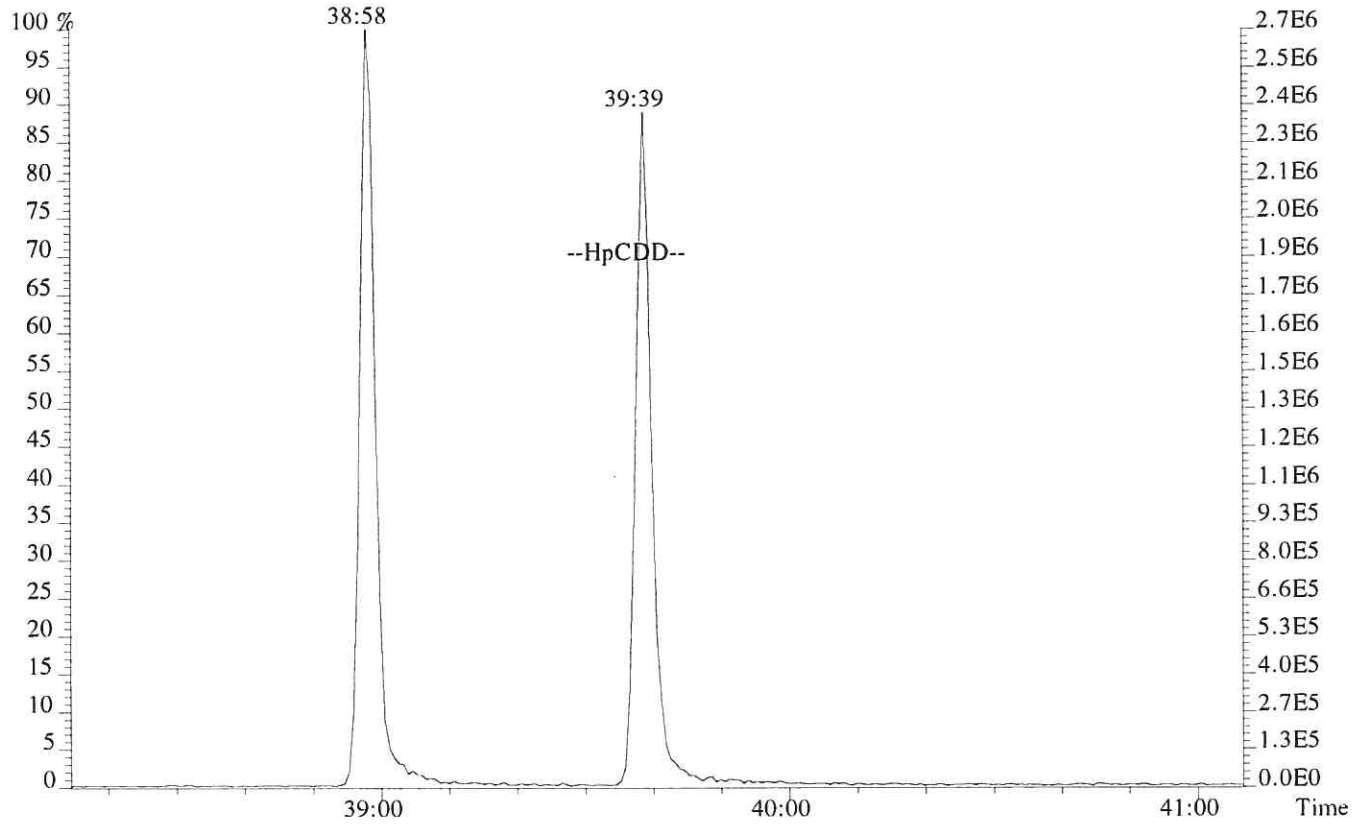
389.8157 F:3



File:P511482 #1-259 Acq:22-SEP-2017 12:40:25 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
407.7818 F:4



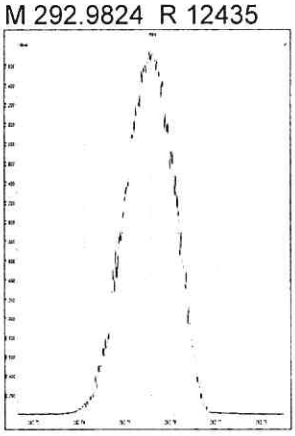
423.7766 F:4



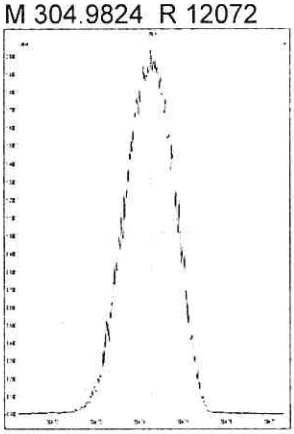
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, September 22, 2017 12:33:55 Eastern Daylight Time

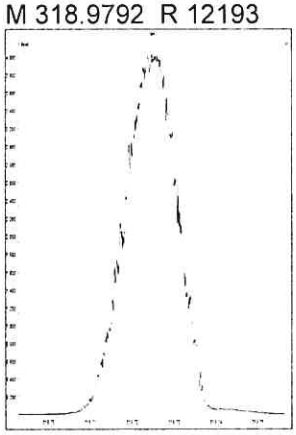
M 292.9824 R 12435



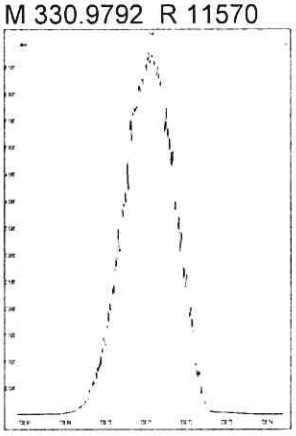
M 304.9824 R 12072



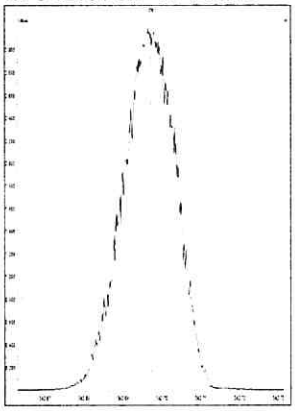
M 318.9792 R 12193



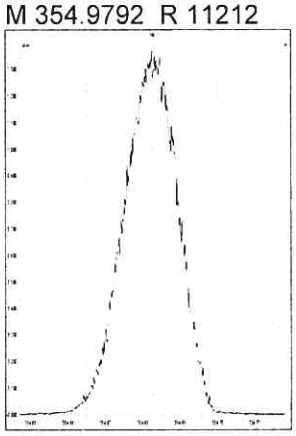
M 330.9792 R 11570



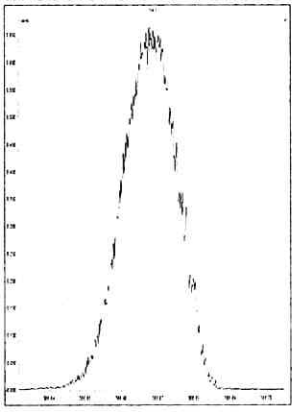
M 342.9792 R 11520



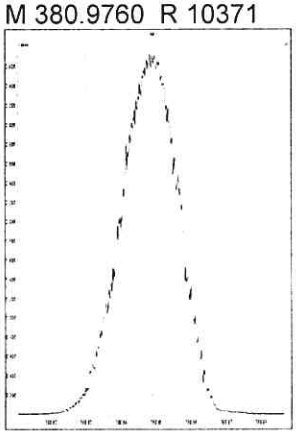
M 354.9792 R 11212



M 366.9792 R 11013



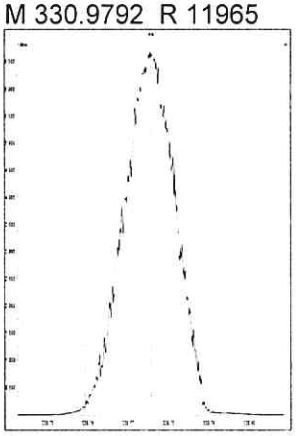
M 380.9760 R 10371



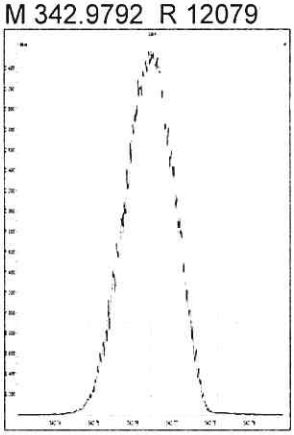
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Friday, September 22, 2017 12:35:29 Eastern Daylight Time

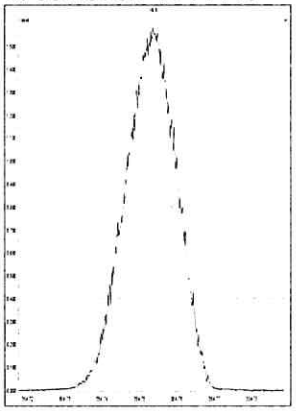
M 330.9792 R 11965



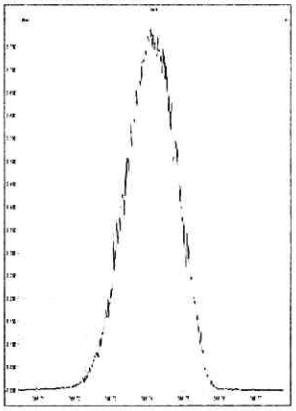
M 342.9792 R 12079



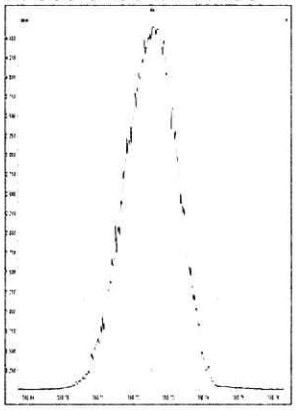
M 354.9792 R 11415



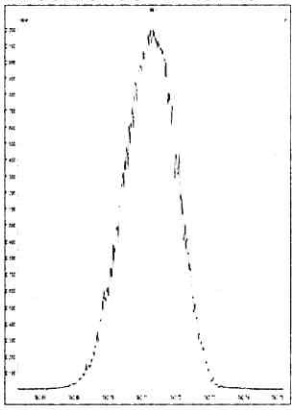
M 366.9792 R 11413



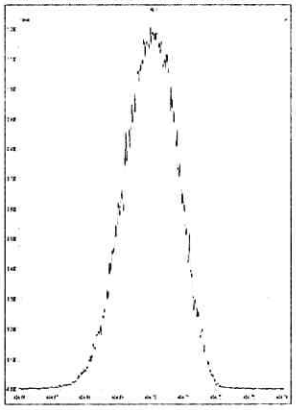
M 380.9760 R 11468



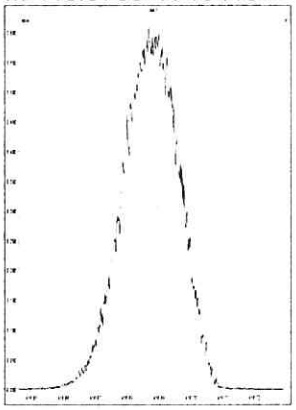
M 392.9760 R 10728



M 404.9760 R 10505



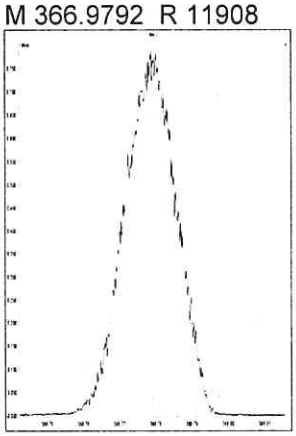
M 416.9760 R 10415



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Friday, September 22, 2017 12:36:34 Eastern Daylight Time

M 366.9792 R 11908



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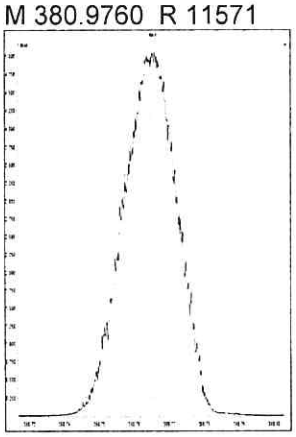
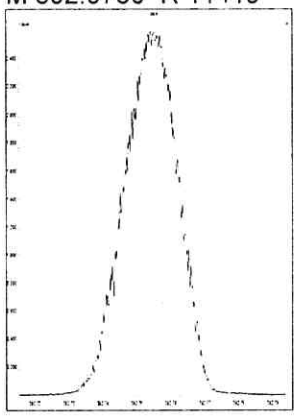
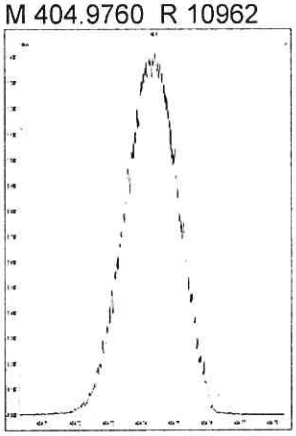


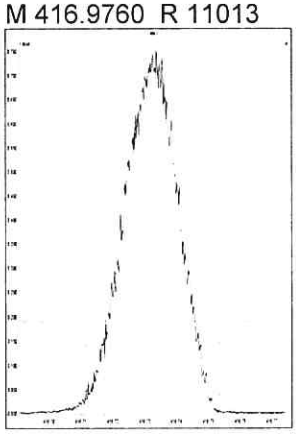
M 392.9760 R 11419



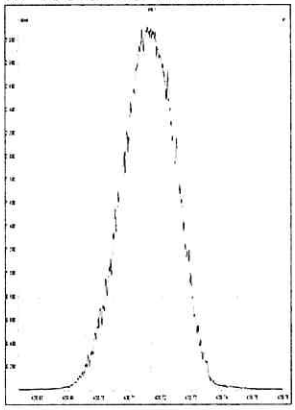
M 404.9760 R 10962



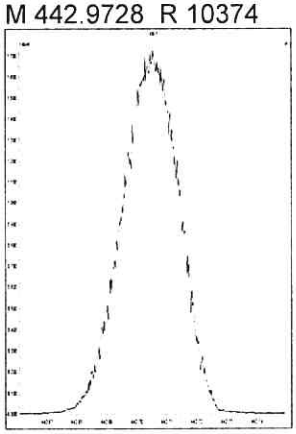
M 416.9760 R 11013



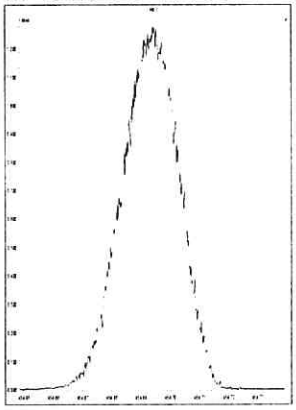
M 430.9728 R 10774



M 442.9728 R 10374



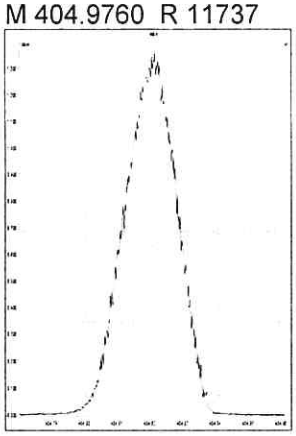
M 454.9728 R 10372



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Friday, September 22, 2017 12:38:15 Eastern Daylight Time

M 404.9760 R 11737



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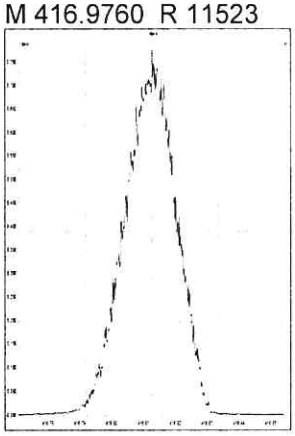
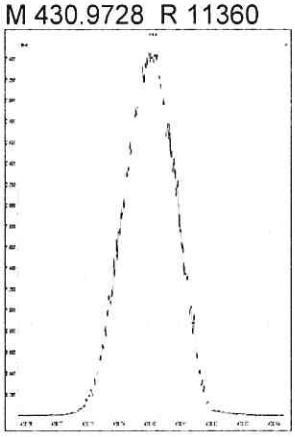


M 430.9728 R 11360



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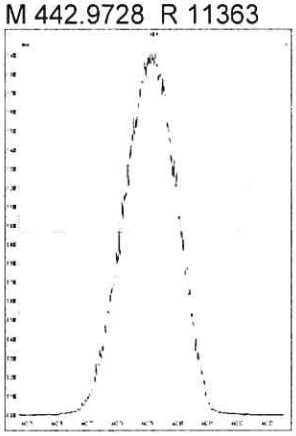

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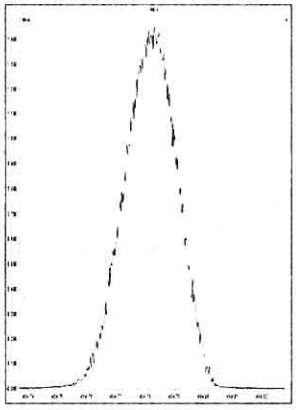

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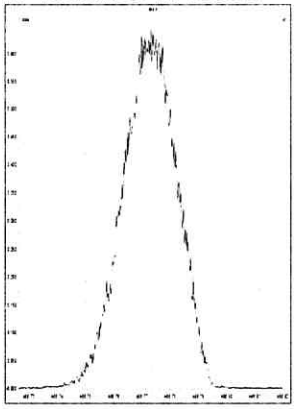

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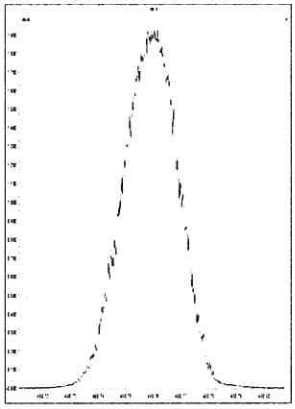

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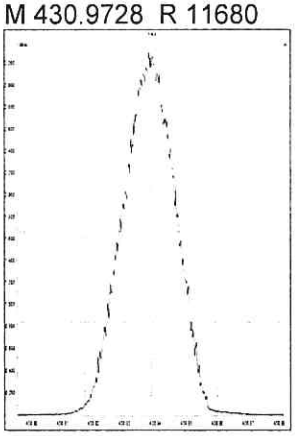

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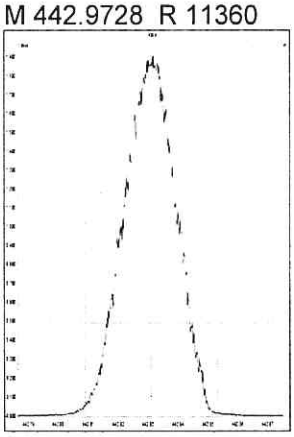

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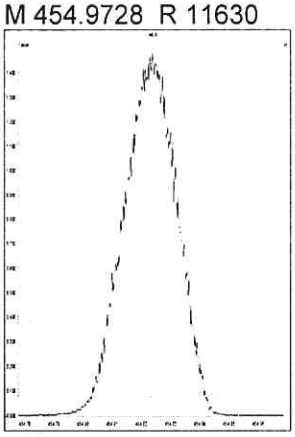

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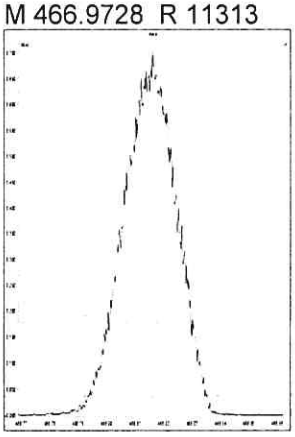

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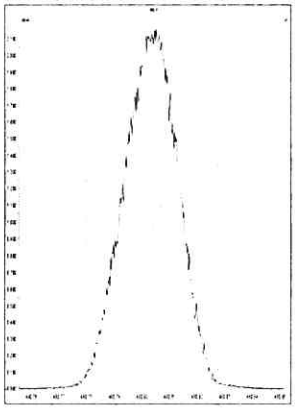

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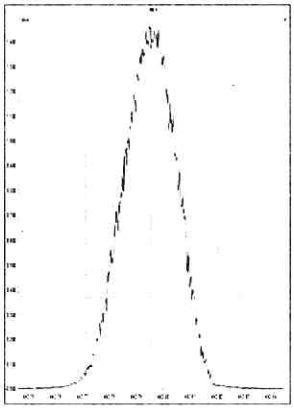

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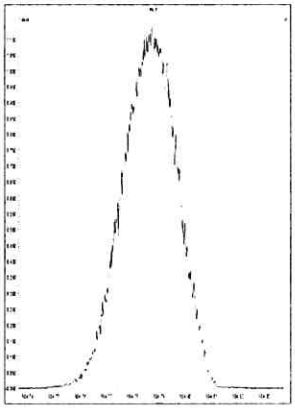

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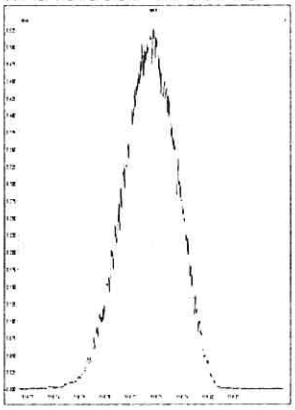

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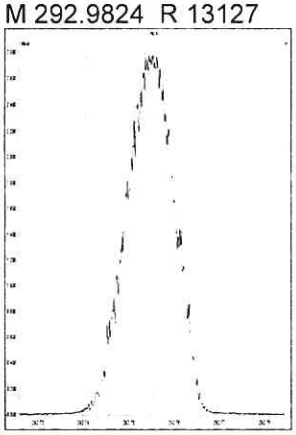

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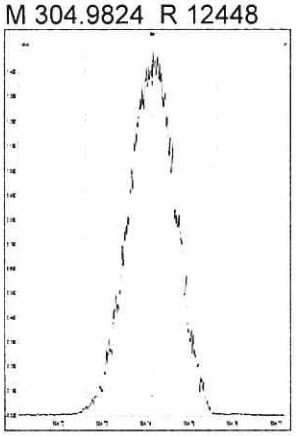

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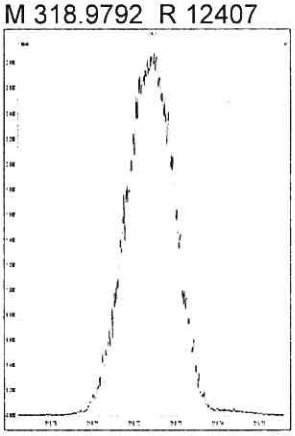

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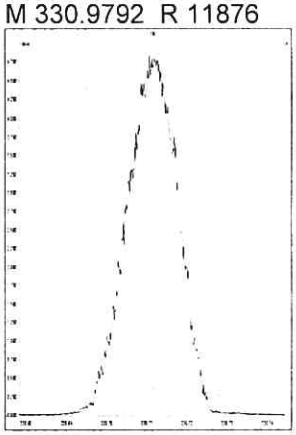

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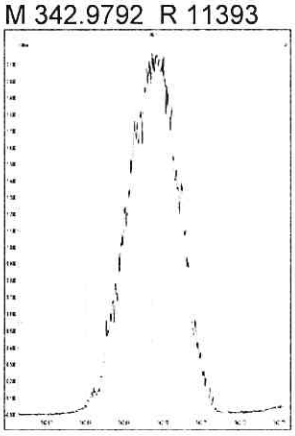

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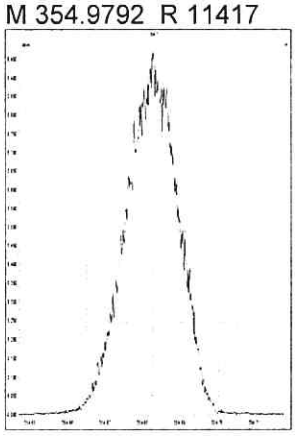

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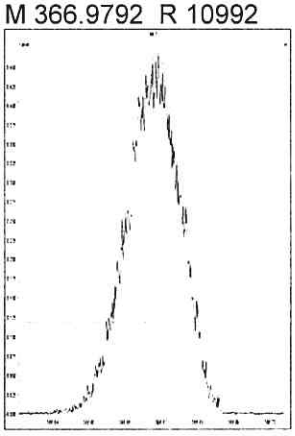

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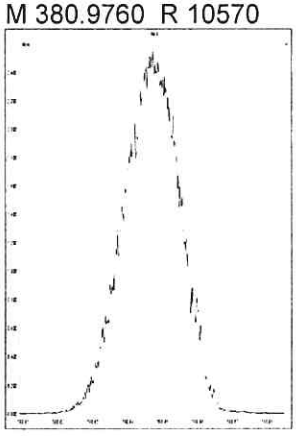

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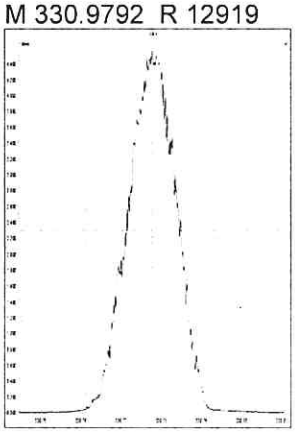

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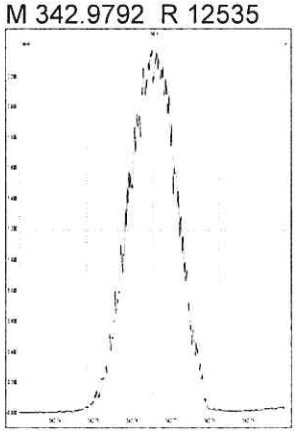

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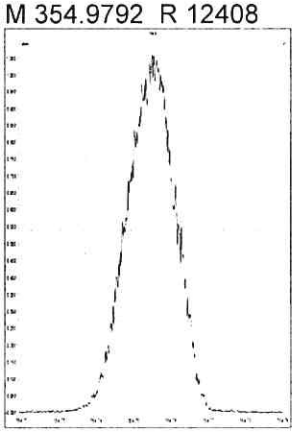

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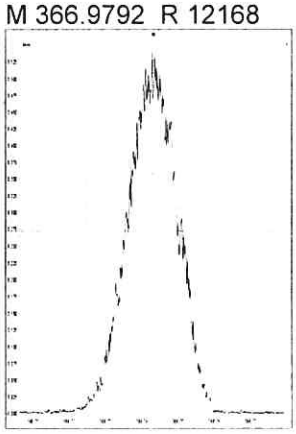

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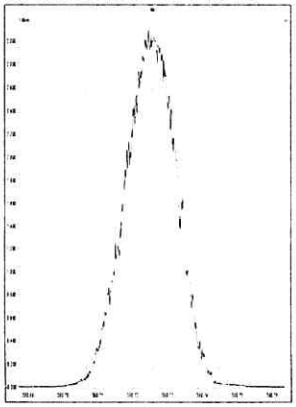

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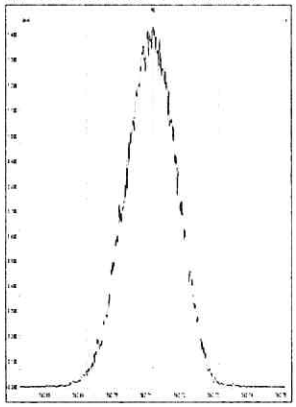

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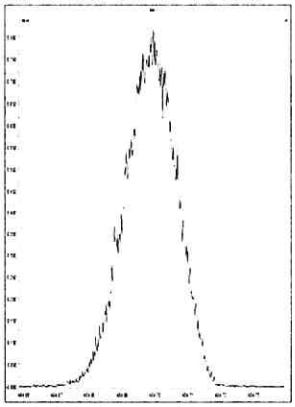

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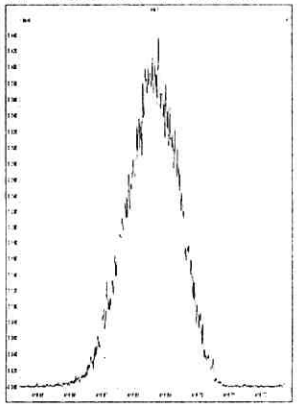

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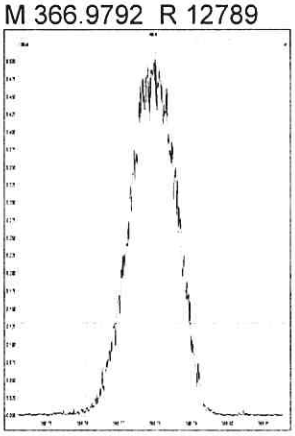

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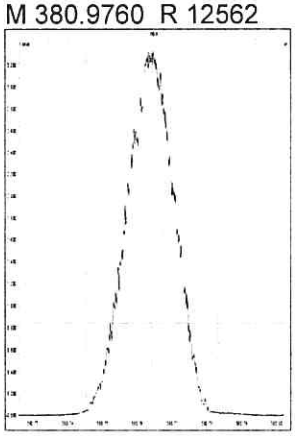

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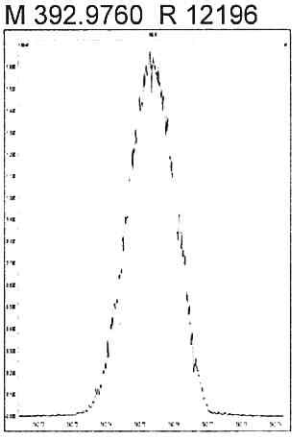

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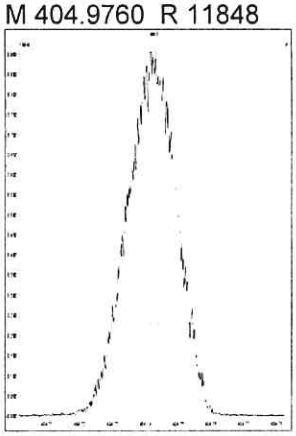

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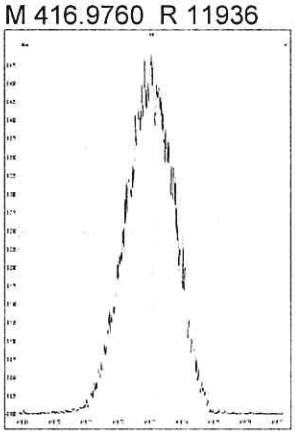

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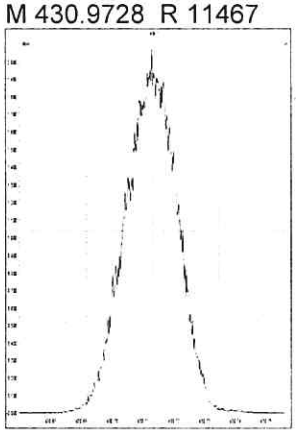
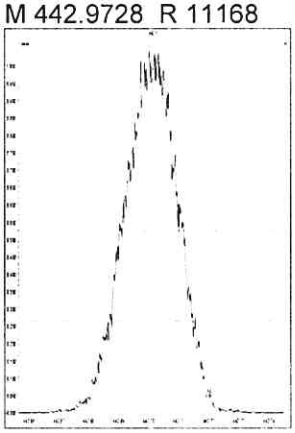


M 442.9728 R 11168



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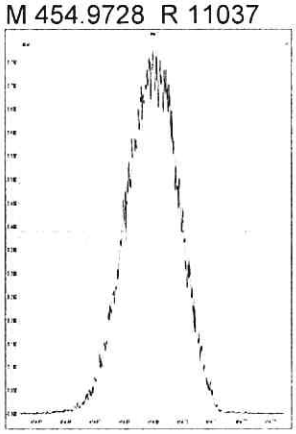

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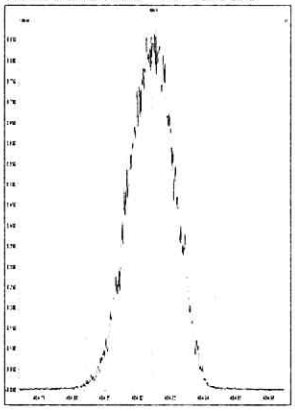

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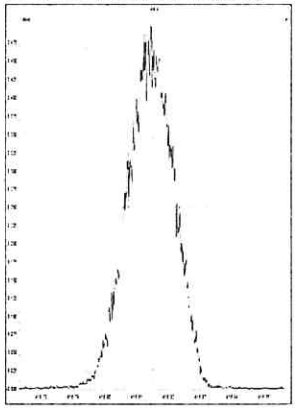

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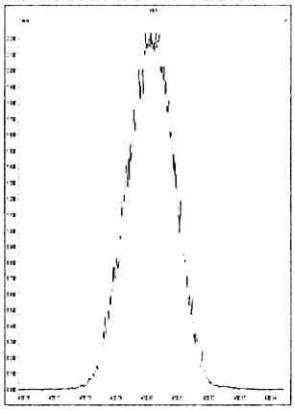

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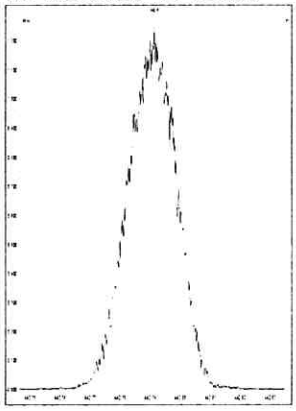

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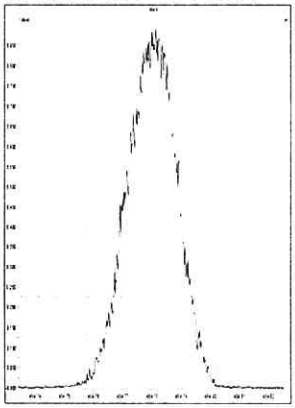

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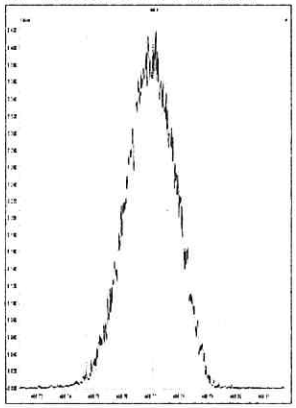

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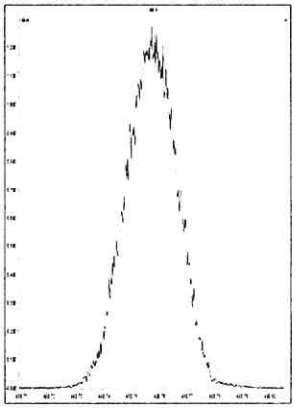

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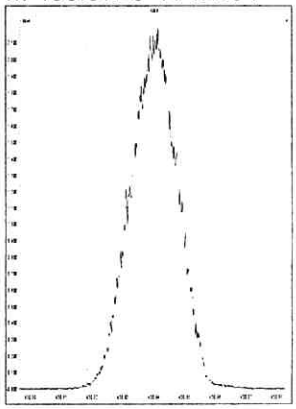

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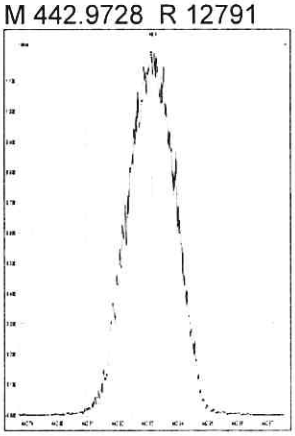

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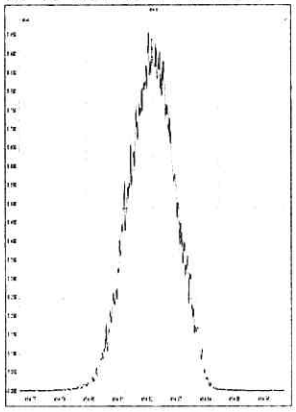

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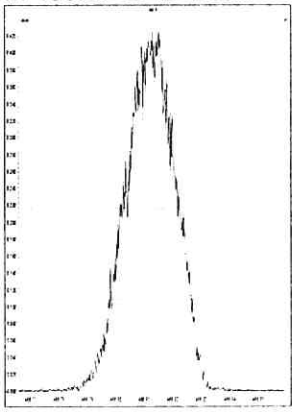

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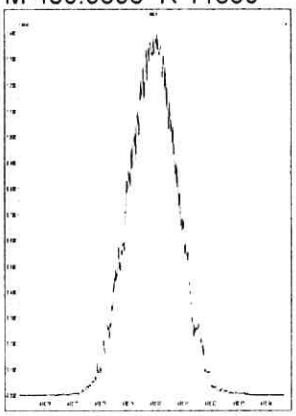

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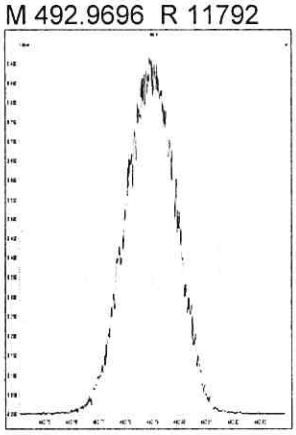

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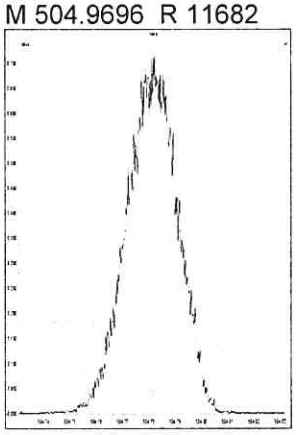

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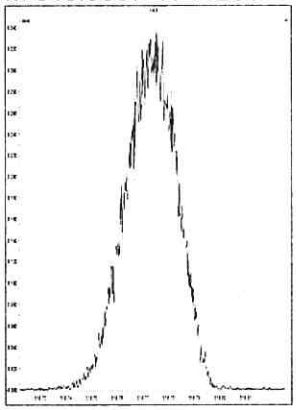

USEPA - ITD

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: P511481 Analysis Date: 22-SEP-17 Time: 11:34:50

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	0.82	0.65-0.89	9.6	7.8 - 12.9	-4.2
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	53	39 - 65	5.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	53	39 - 64	5.4
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	54	39 - 64	8.8
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	55	41 - 61	10.8
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	53	43 - 58	6.1
OCDD	M+2/M+4	0.90	0.76-1.02	105	79 - 126	5.5
2,3,7,8-TCDF	M/M+2	0.74	0.65-0.89	10.8	8.4 - 12.0	7.6
1,2,3,7,8-PeCDF	M+2/M+4	1.45	1.32-1.78	55	41 - 60	10.3
2,3,4,7,8-PeCDF	M+2/M+4	1.49	1.32-1.78	54	41 - 61	8.1
1,2,3,4,7,8-HxCDF	M+2/M+4	1.17	1.05-1.43	54	45 - 56	8.7
1,2,3,6,7,8-HxCDF	M+2/M+4	1.12	1.05-1.43	53	44 - 57	6.7
1,2,3,7,8,9-HxCDF	M+2/M+4	1.18	1.05-1.43	54	45 - 56	8.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.17	1.05-1.43	55	44 - 57	10.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.99	0.88-1.20	52	45 - 55	3.1
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	51	43 - 58	2.1
OCDF	M+2/M+4	0.87	0.76-1.02	115	63 - 159	14.9

(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: P511481 Analysis Date: 22-SEP-17 Time: 11:34:50

	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	106	82 - 121	6.3
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	103	62 - 160	2.9
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	100	85 - 117	0.1
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	95	85 - 118	-5.1
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	107	72 - 138	7.3
13C-OCDD	M+2/M+4	0.91	0.76-1.02	207	96 - 415	3.3
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	107	71 - 140	7.5
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	104	76 - 130	3.9
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	108	77 - 130	7.6
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	104	76 - 131	4.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	70 - 143	1.4
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	114	74 - 135	13.7
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	104	73 - 137	4.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	109	78 - 129	8.6
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	123	77 - 129	23.2
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.3	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 #7 Filename P511481 Samp: 1 Inj: 1 Acquired: 22-SEP-17 11:34:50
Processed: 25-SEP-17 07:52:14 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	4.827e+03	6.490e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:38	3.944e+04	2.724e+04	1.45	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	3.833e+04	2.575e+04	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:09	3.503e+04	2.983e+04	1.17	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:16	3.505e+04	3.132e+04	1.12	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:45	3.472e+04	2.974e+04	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:30	3.386e+04	2.860e+04	1.18	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	3.203e+04	3.236e+04	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	2.956e+04	2.996e+04	0.99	yes	no	1.191
10	Unk	OCDF	42:38	4.684e+04	5.365e+04	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:18	4.086e+03	4.987e+03	0.82	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:48	2.976e+04	1.887e+04	1.58	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	2.769e+04	2.204e+04	1.26	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:58	2.808e+04	2.250e+04	1.25	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:12	3.002e+04	2.443e+04	1.23	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.657e+04	2.518e+04	1.06	yes	no	0.942
17	Unk	OCDD	42:25	4.161e+04	4.626e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:32	5.617e+04	7.134e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	8.453e+04	5.353e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:31	8.579e+04	5.441e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	3.775e+04	7.442e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:15	4.318e+04	8.256e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	4.080e+04	7.927e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:29	3.907e+04	7.605e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:43	3.026e+04	6.933e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:07	3.017e+04	6.779e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:17	3.950e+04	4.947e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	6.258e+04	3.902e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	5.474e+04	4.324e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:57	5.611e+04	4.394e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	5.299e+04	5.048e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	7.538e+04	8.313e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:44	3.864e+04	4.908e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:11	6.202e+04	4.748e+04	1.31	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:18	9.326e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511481 Samp: 1 Inj: 1 Acquired: 22-SEP-17 11:34:50
Processed: 25-SEP-17 07:52:14 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	9.71e+05	1.42e+03	6.9e+02	1.29e+06	3.79e+03	3.4e+02
2	1,2,3,7,8-PeCDF	7.80e+06	9.16e+02	8.5e+03	5.33e+06	2.62e+03	2.0e+03
3	2,3,4,7,8-PeCDF	8.07e+06	9.16e+02	8.8e+03	5.39e+06	2.62e+03	2.1e+03
4	1,2,3,4,7,8-HxCDF	7.84e+06	1.13e+03	6.9e+03	6.67e+06	4.80e+02	1.4e+04
5	1,2,3,6,7,8-HxCDF	7.37e+06	1.13e+03	6.5e+03	6.72e+06	4.80e+02	1.4e+04
6	2,3,4,6,7,8-HxCDF	7.72e+06	1.13e+03	6.8e+03	6.47e+06	4.80e+02	1.3e+04
7	1,2,3,7,8,9-HxCDF	7.40e+06	1.13e+03	6.5e+03	6.09e+06	4.80e+02	1.3e+04
8	1,2,3,4,6,7,8-HpCDF	7.23e+06	1.66e+03	4.4e+03	7.19e+06	3.42e+03	2.1e+03
9	1,2,3,4,7,8,9-HpCDF	6.11e+06	1.66e+03	3.7e+03	6.02e+06	3.42e+03	1.8e+03
10	OCDF	8.19e+06	1.02e+03	8.0e+03	9.26e+06	2.35e+03	3.9e+03
11	2,3,7,8-TCDD	8.37e+05	2.90e+03	2.9e+02	1.02e+06	1.42e+03	7.2e+02
12	1,2,3,7,8-PeCDD	6.10e+06	2.88e+03	2.1e+03	3.89e+06	4.40e+02	8.8e+03
13	1,2,3,4,7,8-HxCDD	6.39e+06	6.76e+02	9.4e+03	5.09e+06	1.05e+03	4.8e+03
14	1,2,3,6,7,8-HxCDD	6.07e+06	6.76e+02	9.0e+03	4.93e+06	1.05e+03	4.7e+03
15	1,2,3,7,8,9-HxCDD	6.63e+06	6.76e+02	9.8e+03	5.41e+06	1.05e+03	5.1e+03
16	1,2,3,4,6,7,8-HpCDD	5.58e+06	1.34e+03	4.2e+03	5.25e+06	9.28e+02	5.7e+03
17	OCDD	7.46e+06	8.60e+02	8.7e+03	8.35e+06	6.64e+02	1.3e+04
18	13C-2,3,7,8-TCDF	1.09e+07	1.56e+04	7.0e+02	1.39e+07	6.30e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	1.66e+07	6.04e+02	2.7e+04	1.04e+07	1.62e+03	6.4e+03
20	13C-2,3,4,7,8-PeCDF	1.73e+07	6.04e+02	2.9e+04	1.09e+07	1.62e+03	6.7e+03
21	13C-1,2,3,4,7,8-HxCDF	8.44e+06	1.44e+03	5.9e+03	1.65e+07	2.20e+03	7.5e+03
22	13C-1,2,3,6,7,8-HxCDF	9.23e+06	1.44e+03	6.4e+03	1.75e+07	2.20e+03	7.9e+03
23	13C-2,3,4,6,7,8-HxCDF	8.97e+06	1.44e+03	6.2e+03	1.73e+07	2.20e+03	7.8e+03
24	13C-1,2,3,7,8,9-HxCDF	8.36e+06	1.44e+03	5.8e+03	1.62e+07	2.20e+03	7.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.74e+06	4.20e+03	1.6e+03	1.55e+07	7.08e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.10e+06	4.20e+03	1.5e+03	1.37e+07	7.08e+03	1.9e+03
27	13C-2,3,7,8-TCDD	7.99e+06	7.40e+03	1.1e+03	9.96e+06	3.78e+03	2.6e+03
28	13C-1,2,3,7,8-PeCDD	1.25e+07	1.16e+03	1.1e+04	7.94e+06	2.41e+03	3.3e+03
29	13C-1,2,3,4,7,8-HxCDD	1.25e+07	2.18e+03	5.7e+03	9.95e+06	1.18e+03	8.5e+03
30	13C-1,2,3,6,7,8-HxCDD	1.22e+07	2.18e+03	5.6e+03	9.62e+06	1.18e+03	8.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.10e+07	1.16e+03	9.5e+03	1.06e+07	1.12e+03	9.5e+03
32	13C-OCDD	1.35e+07	9.04e+02	1.5e+04	1.49e+07	6.84e+02	2.2e+04
33	13C-1,2,3,4-TCDD	7.69e+06	7.40e+03	1.0e+03	9.72e+06	3.78e+03	2.6e+03
34	13C-1,2,3,7,8,9-HxCDD	1.35e+07	2.18e+03	6.2e+03	1.06e+07	1.18e+03	9.0e+03
35	37Cl-2,3,7,8-TCDD	1.92e+06	1.57e+03	1.2e+03			

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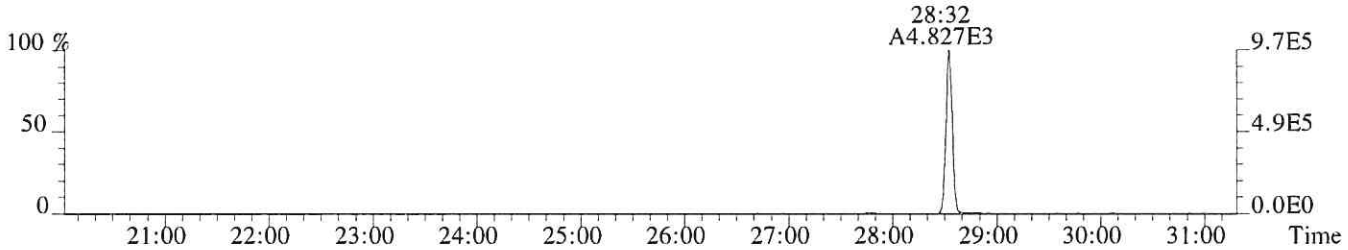
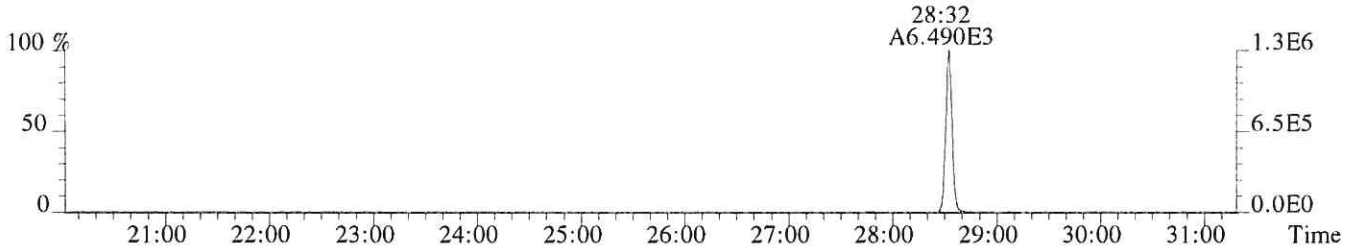
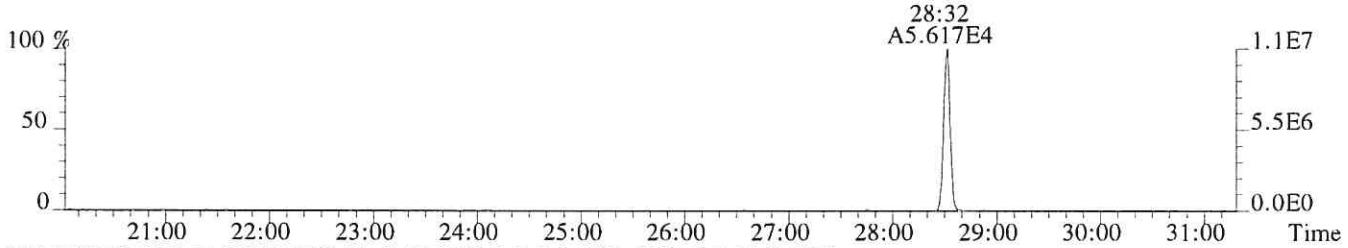
File:P511481 #1-800 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



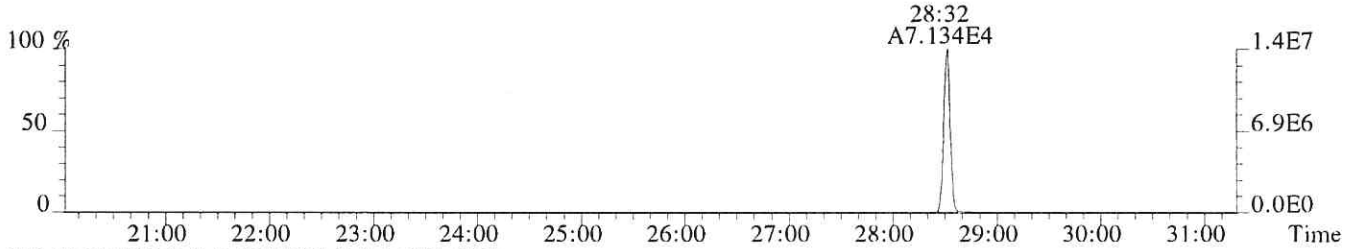
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3788.0,1.00%,F,T)



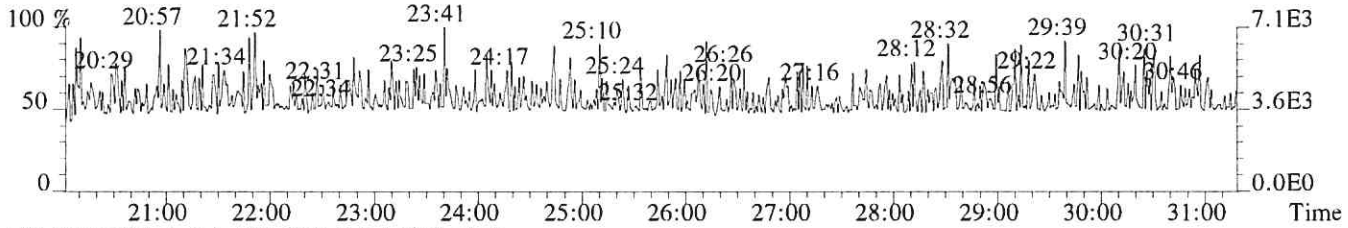
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15588.0,1.00%,F,T)



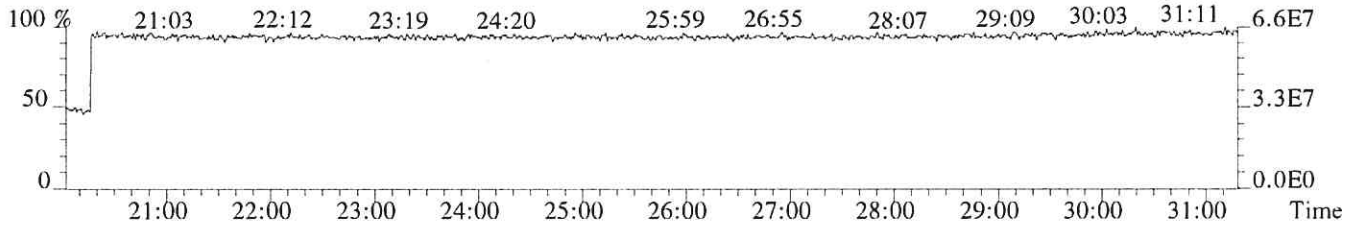
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6304.0,1.00%,F,T)



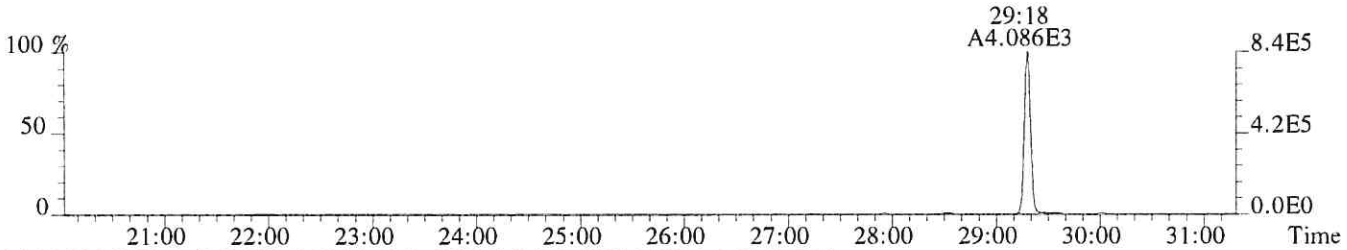
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



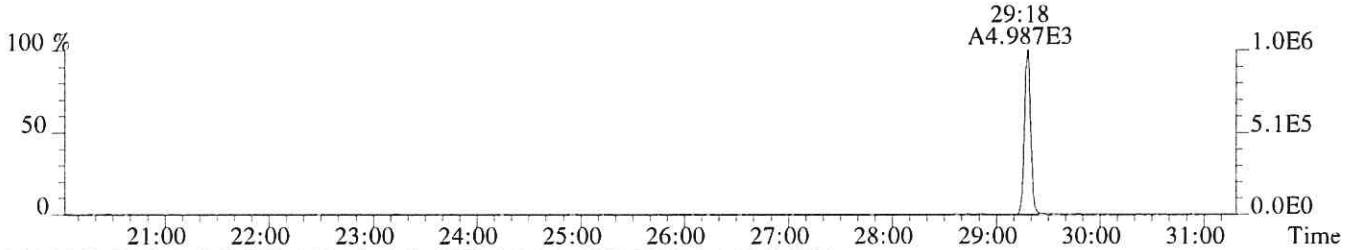
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



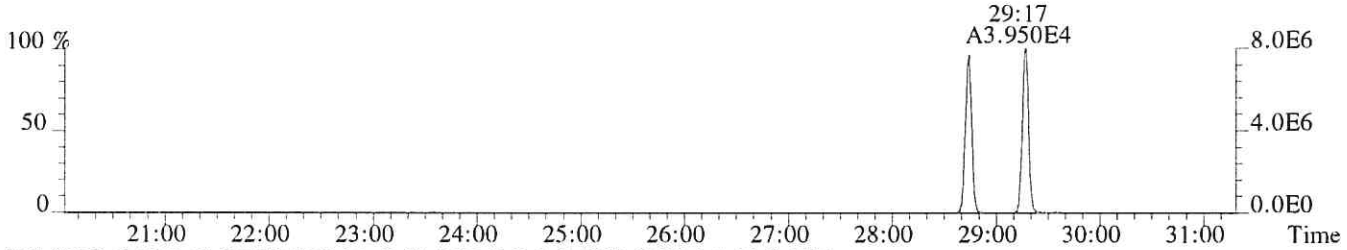
File:P511481 #1-800 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2904.0,1.00%,F,T)



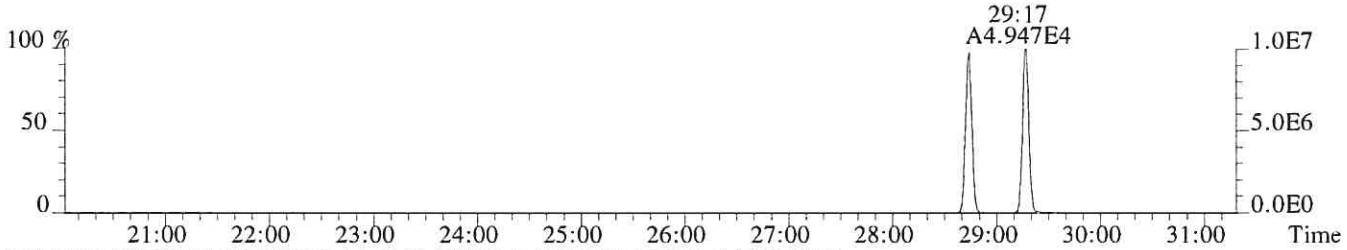
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1424.0,1.00%,F,T)



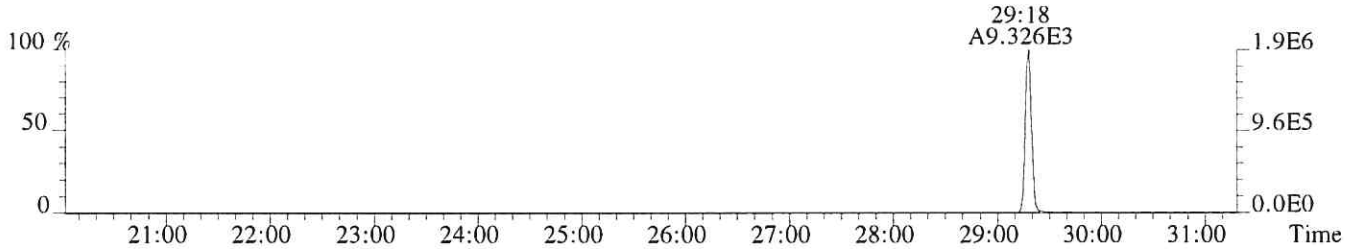
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7396.0,1.00%,F,T)



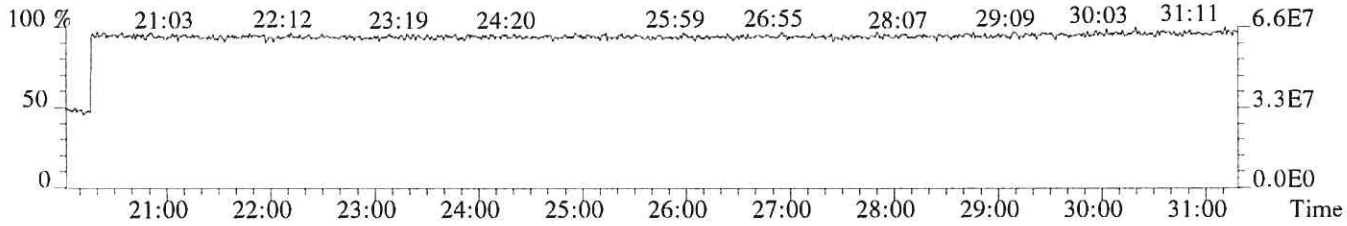
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3780.0,1.00%,F,T)



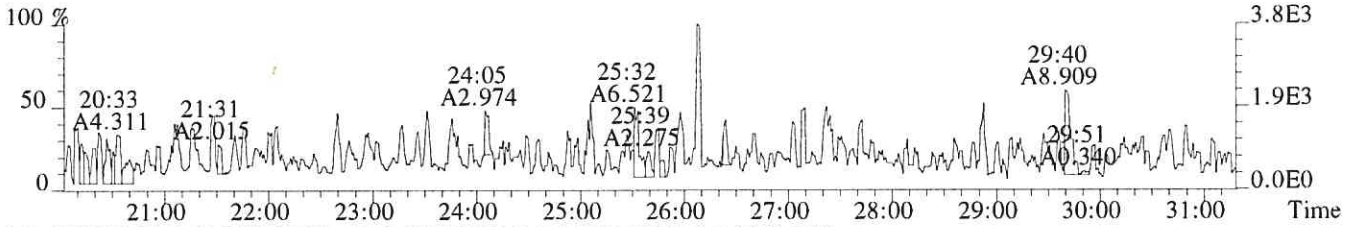
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,T)



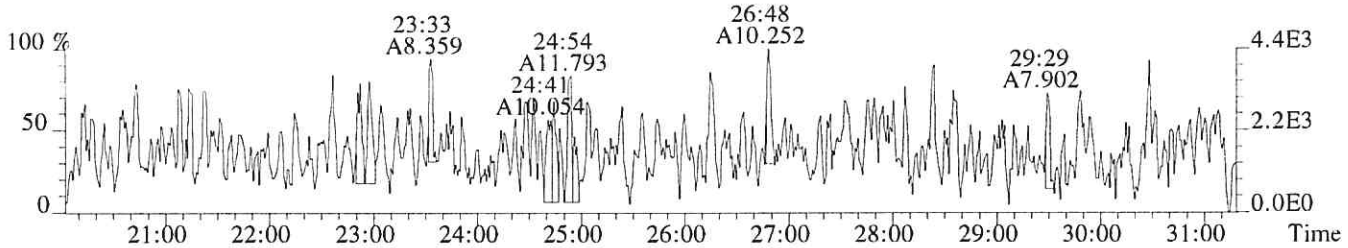
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



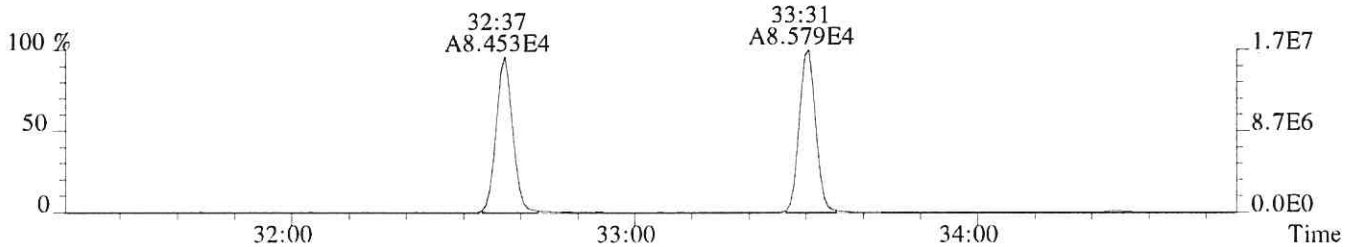
File:P511481 #1-800 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,T)



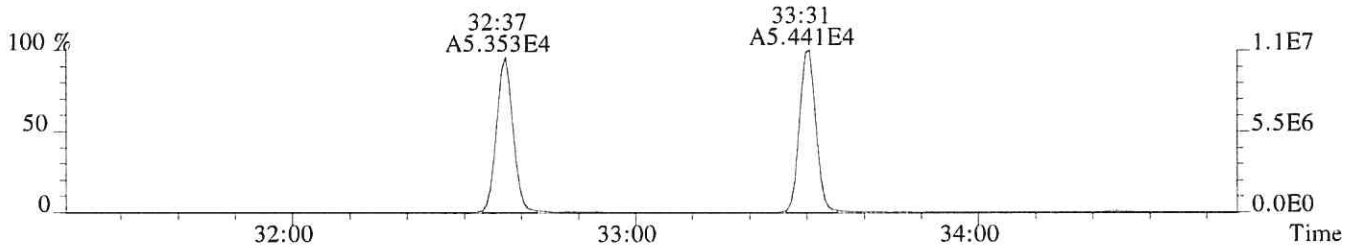
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



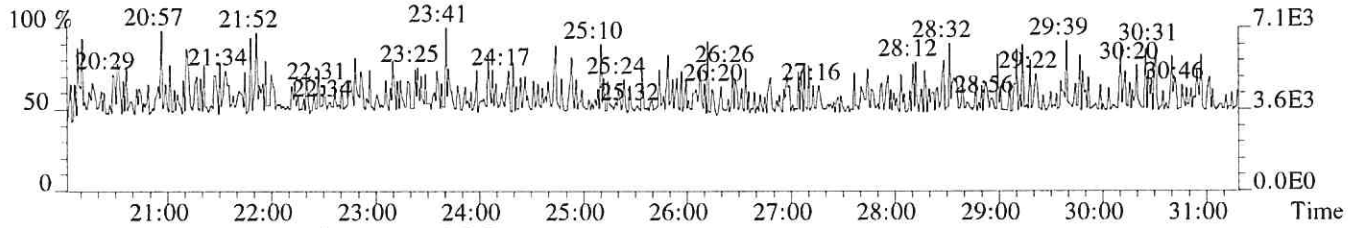
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,T)



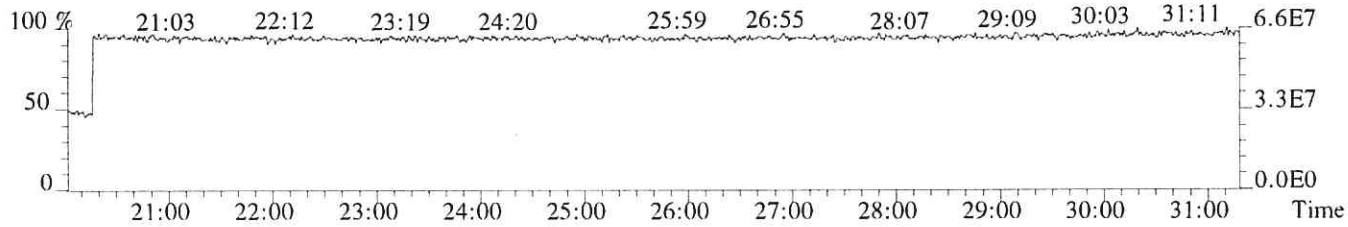
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1620.0,1.00%,F,T)



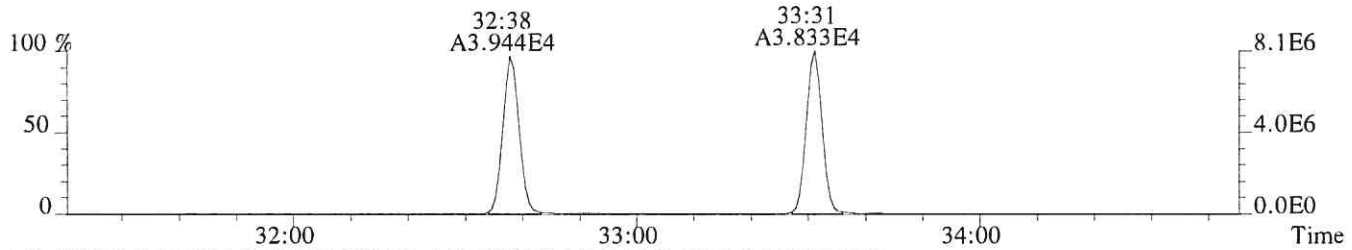
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



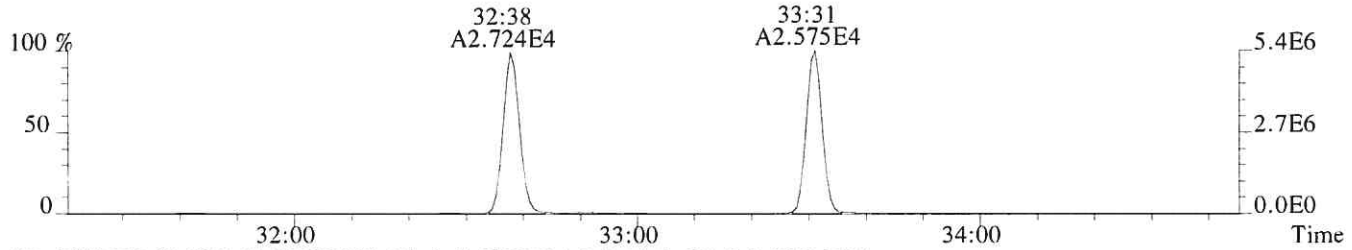
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



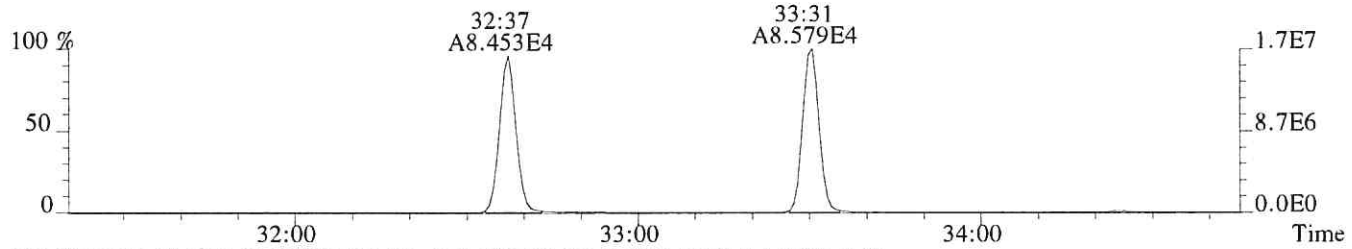
File:P511481 #1-308 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,916.0,1.00%,F,T)



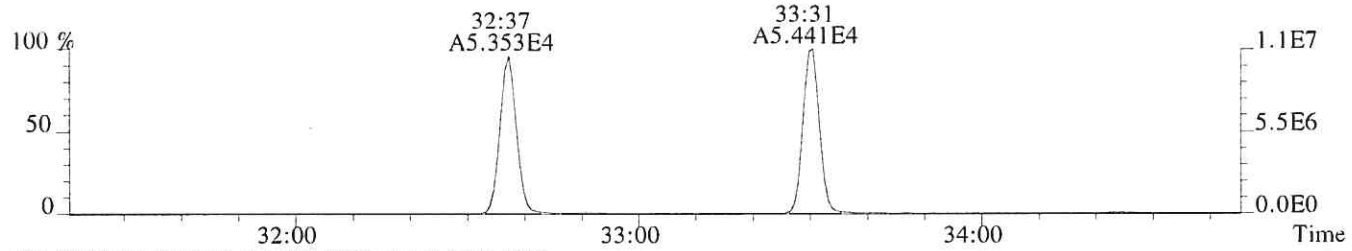
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2620.0,1.00%,F,T)



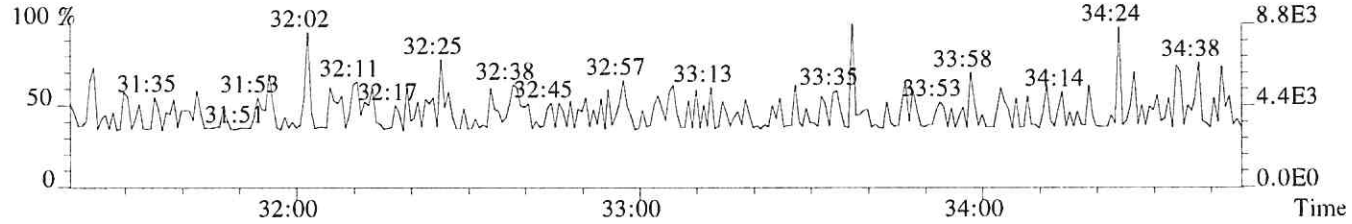
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,T)



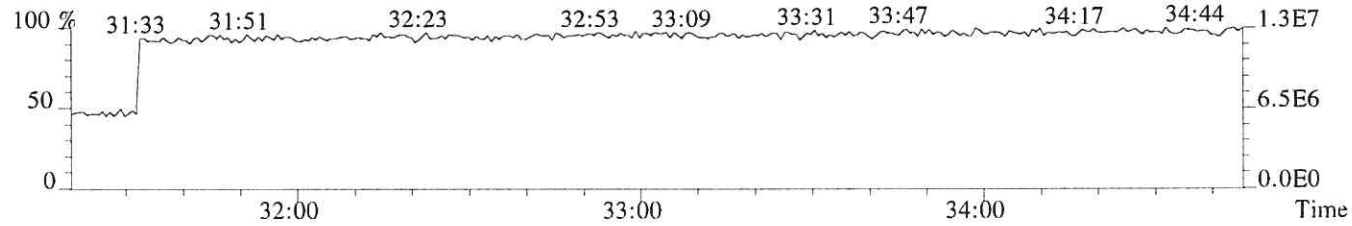
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1620.0,1.00%,F,T)



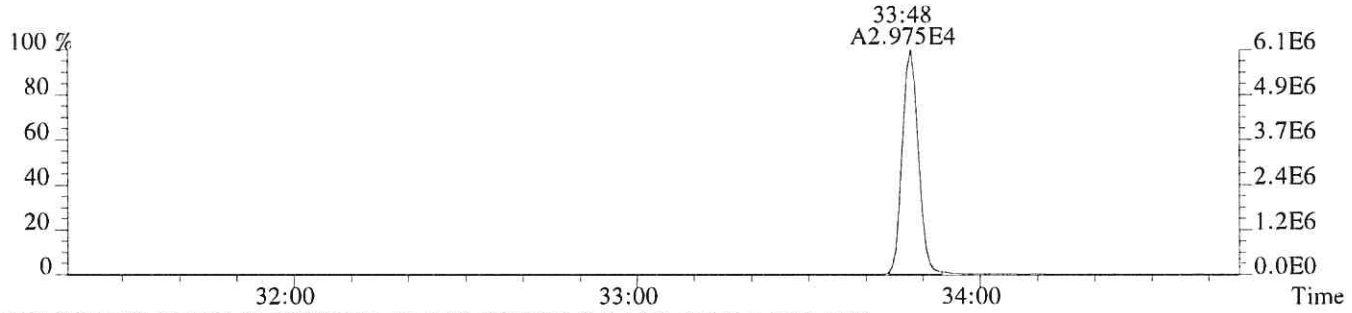
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



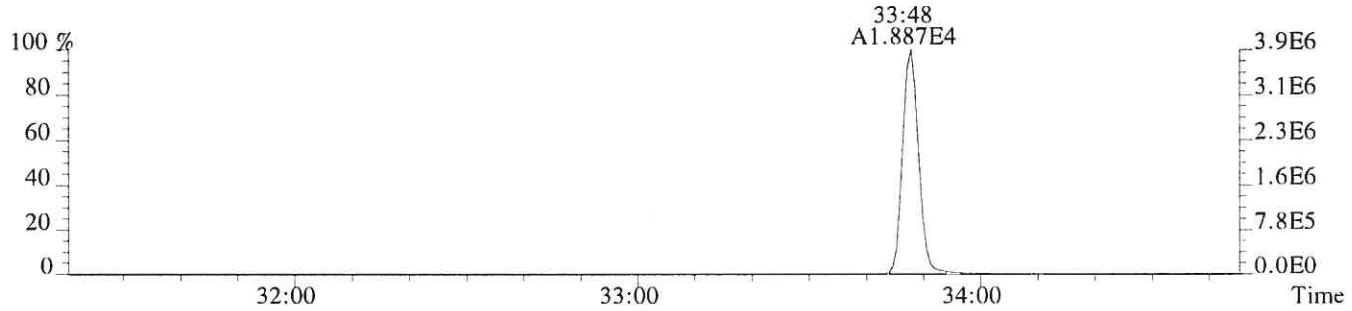
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



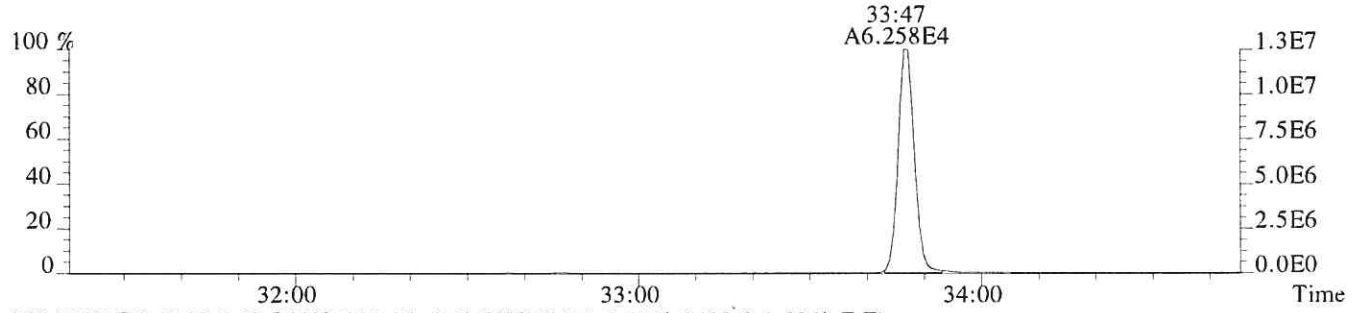
File:P511481 #1-308 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2876.0,1.00%,F,T)



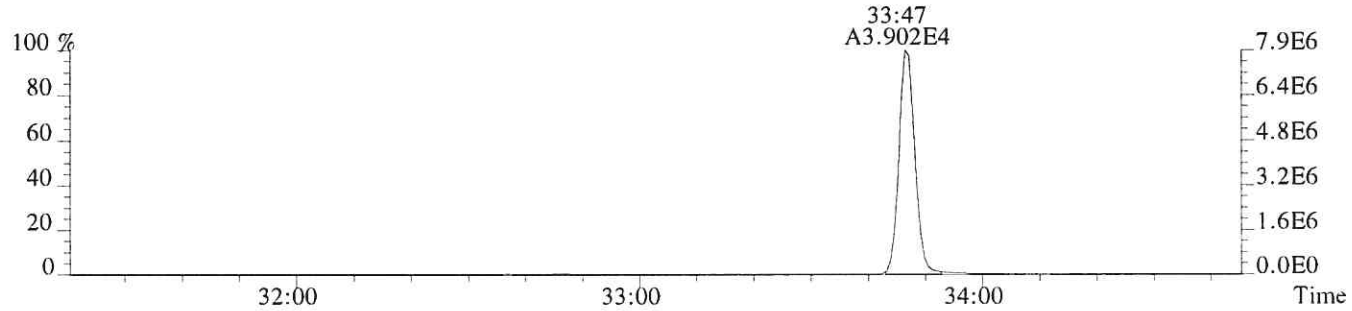
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



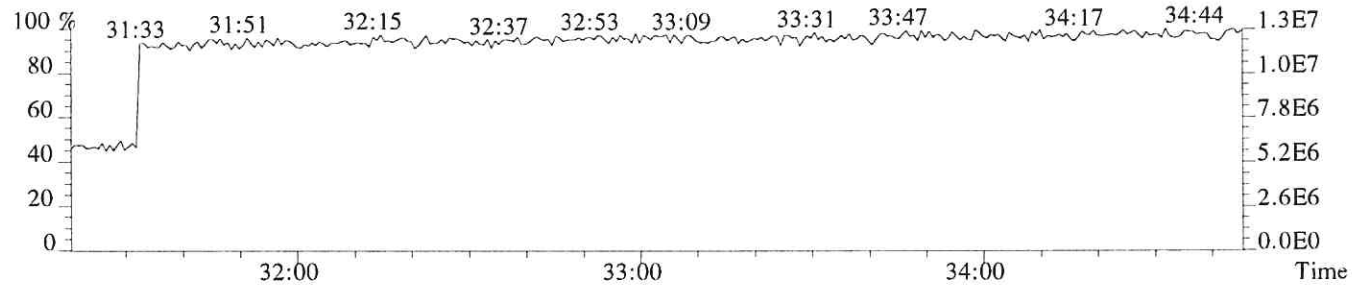
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)



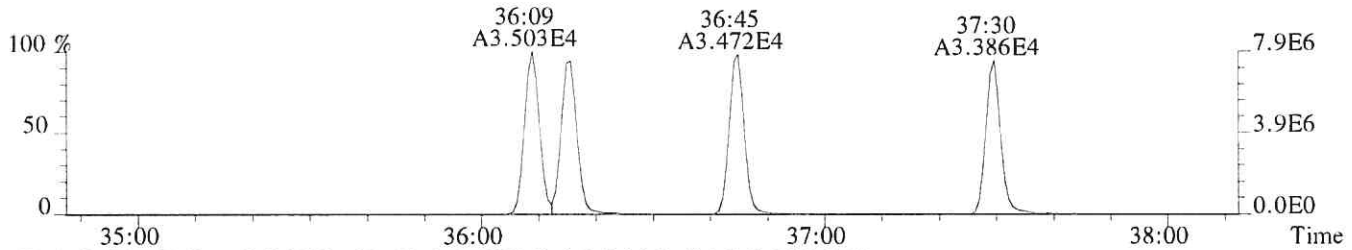
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2408.0,1.00%,F,T)



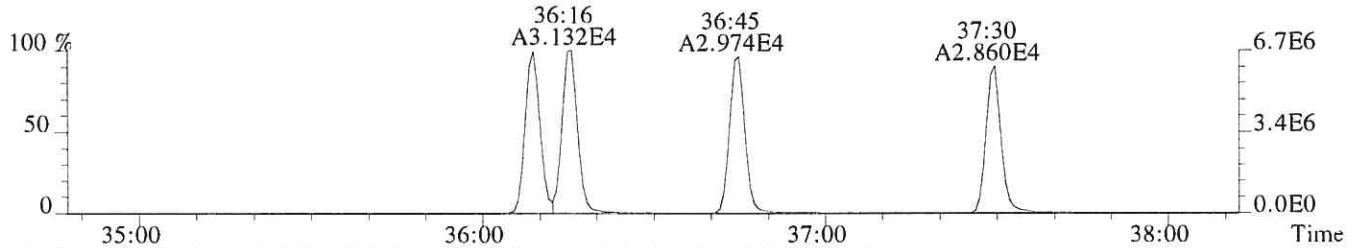
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



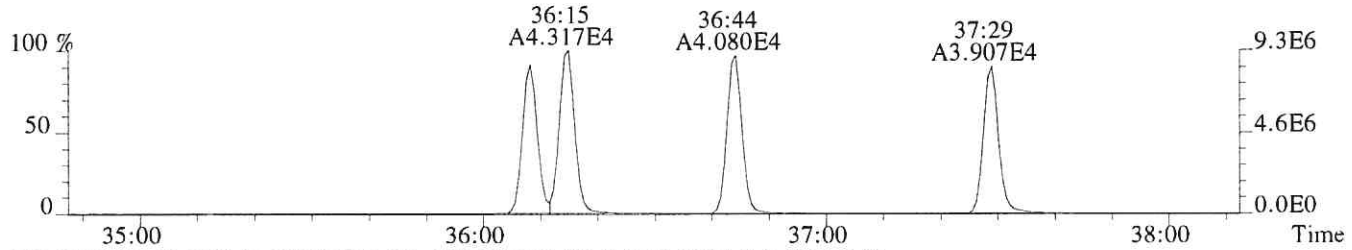
File:P511481 #1-308 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



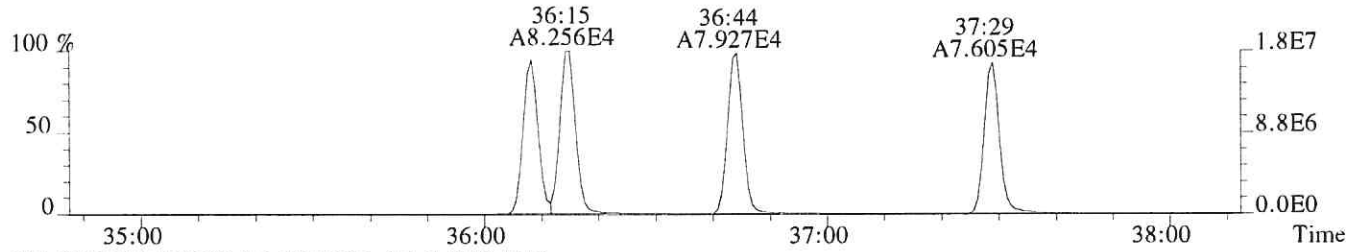
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,480.0,0.40%,F,T)



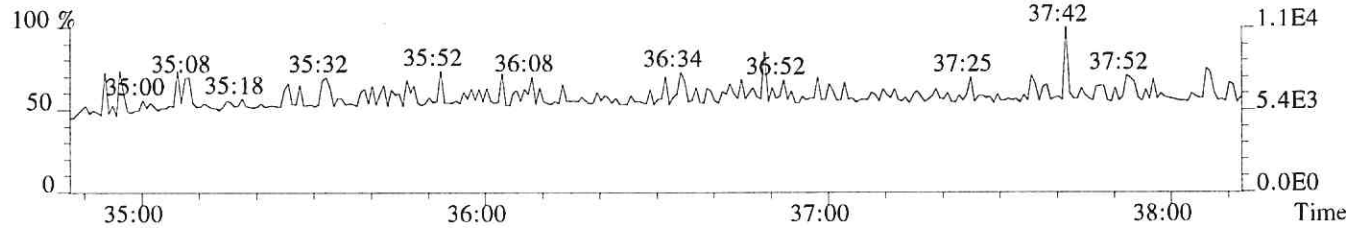
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



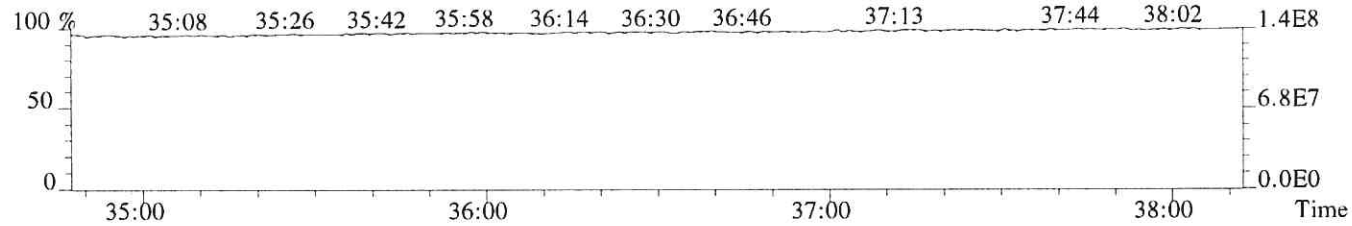
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2204.0,0.40%,F,T)



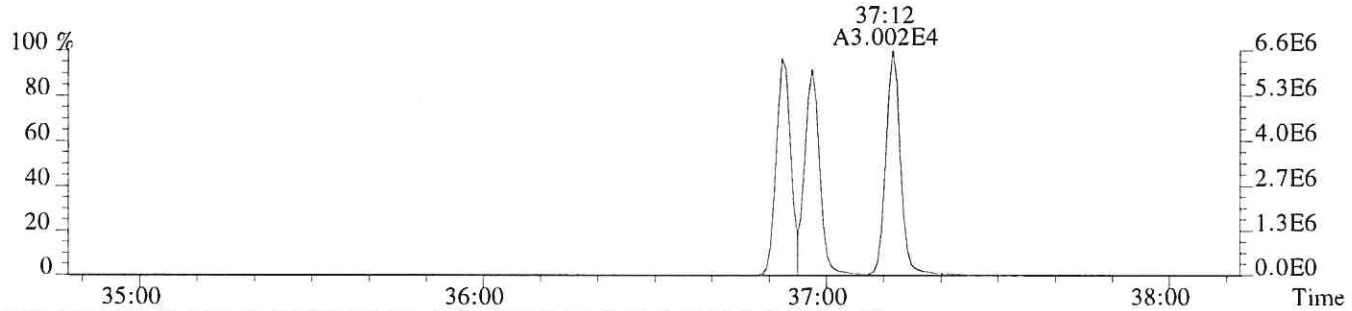
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



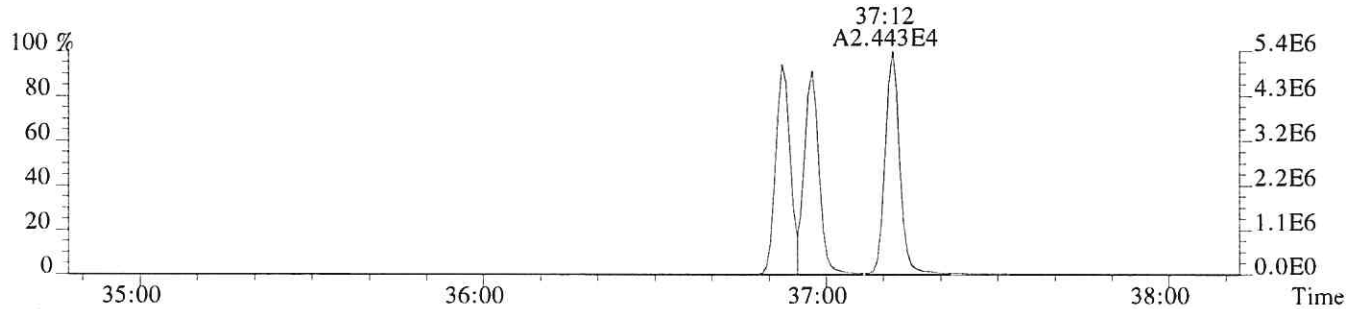
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



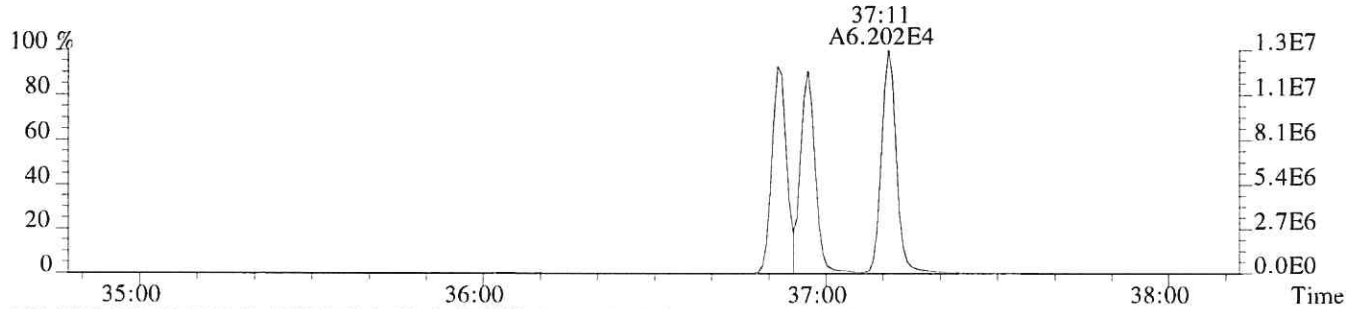
File:P511481 #1-308 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,T)



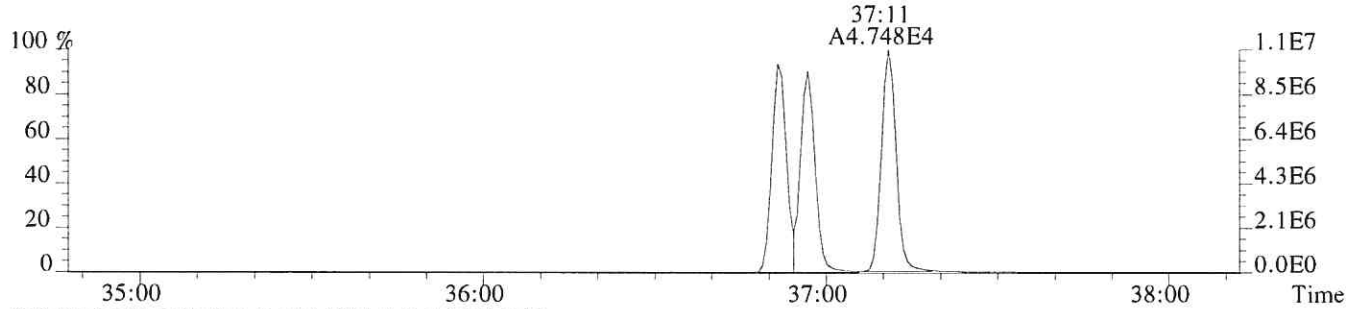
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



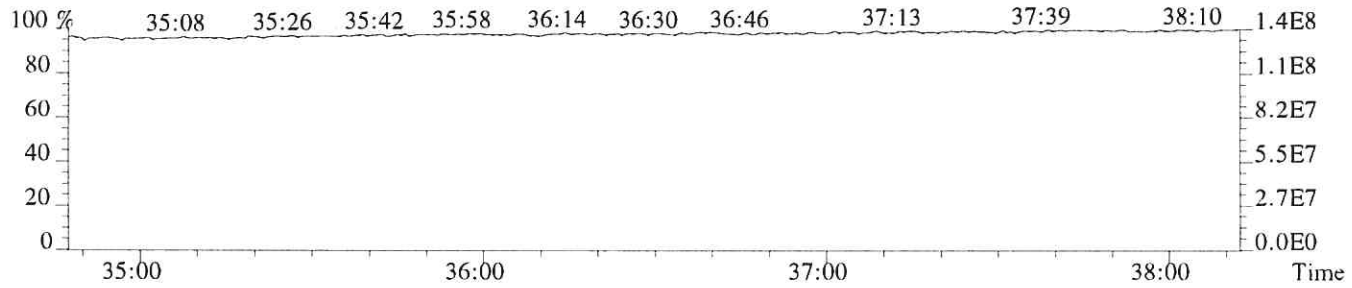
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2180.0,0.40%,F,T)



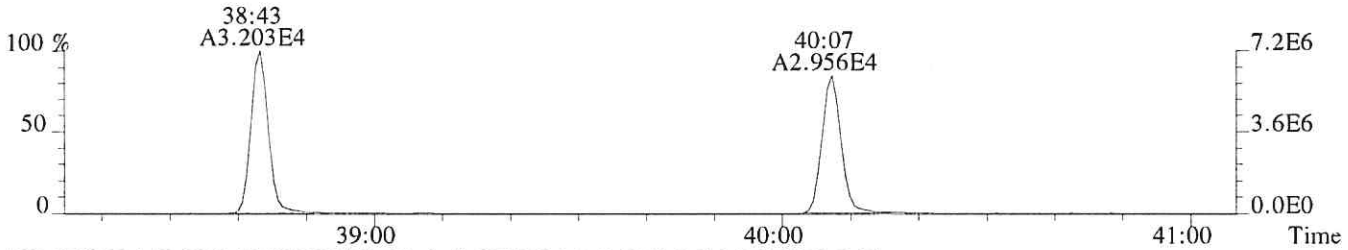
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



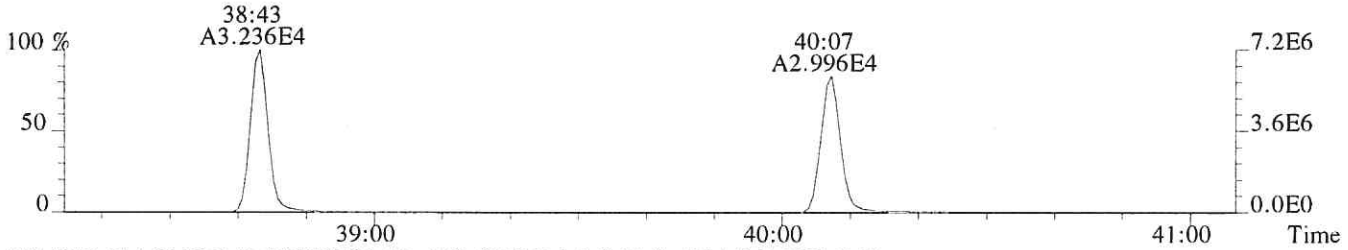
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



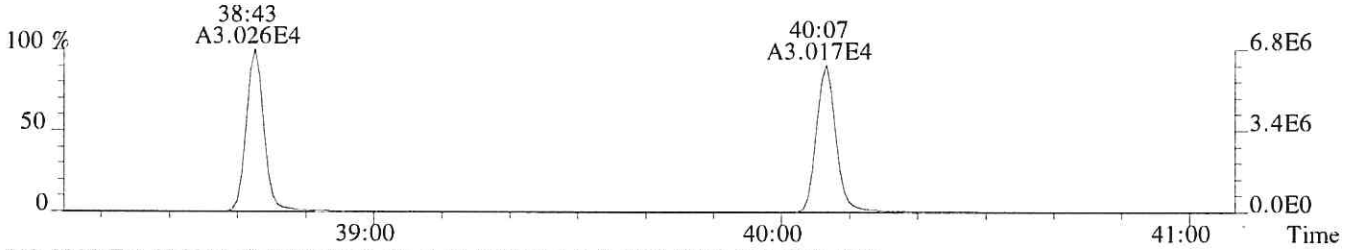
File:P511481 #1-259 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1656.0,0.50%,F,T)



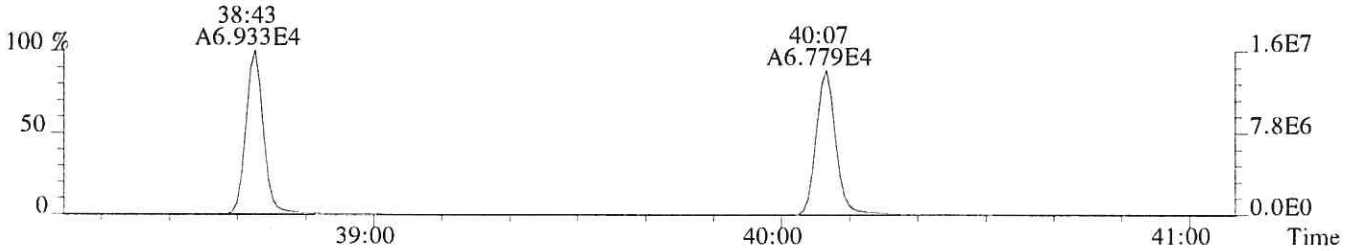
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3416.0,0.50%,F,T)



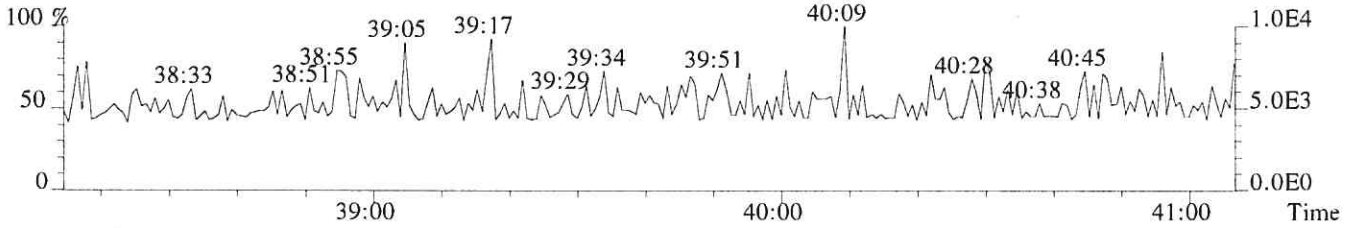
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4204.0,0.50%,F,T)



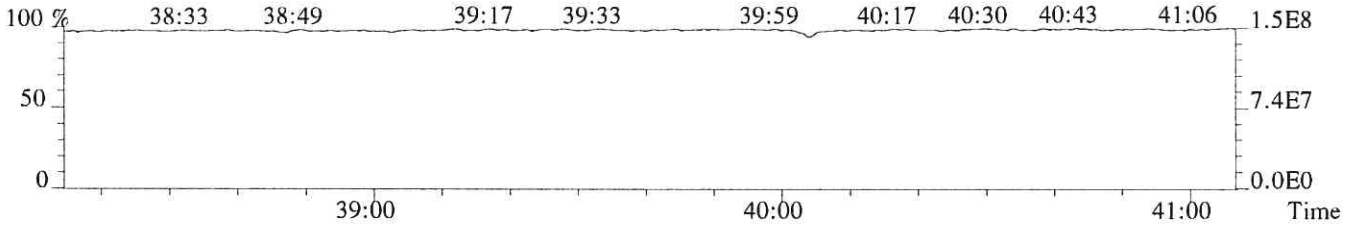
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7080.0,0.50%,F,T)



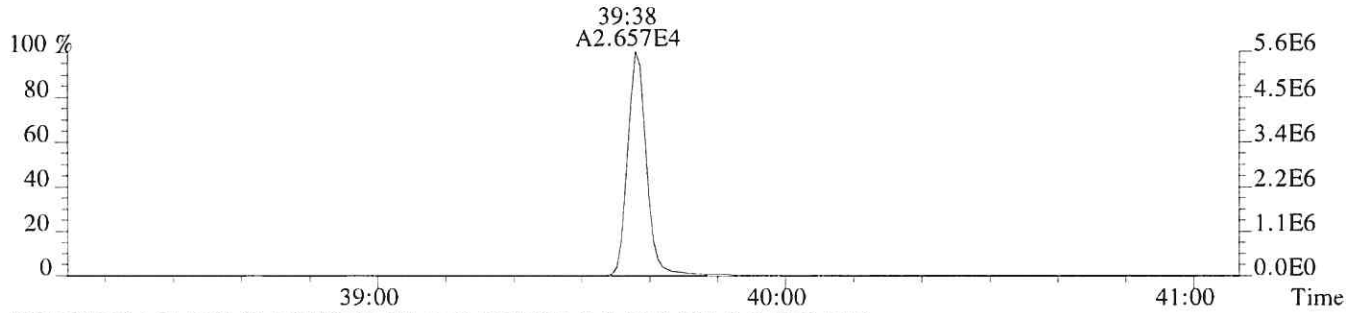
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



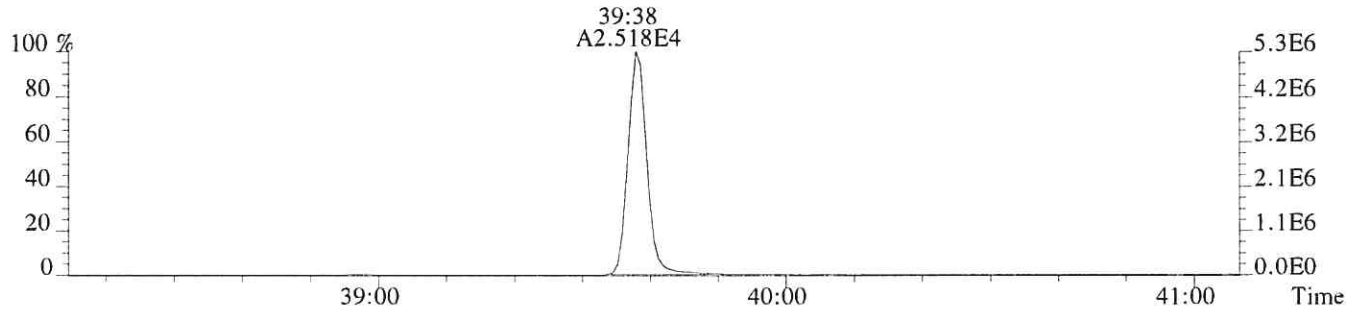
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



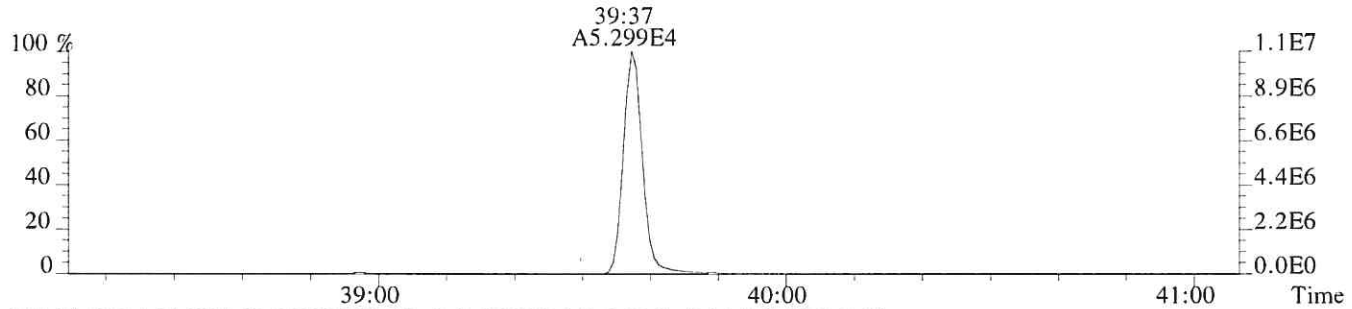
File:P511481 #1-259 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1340.0,0.40%,F,T)



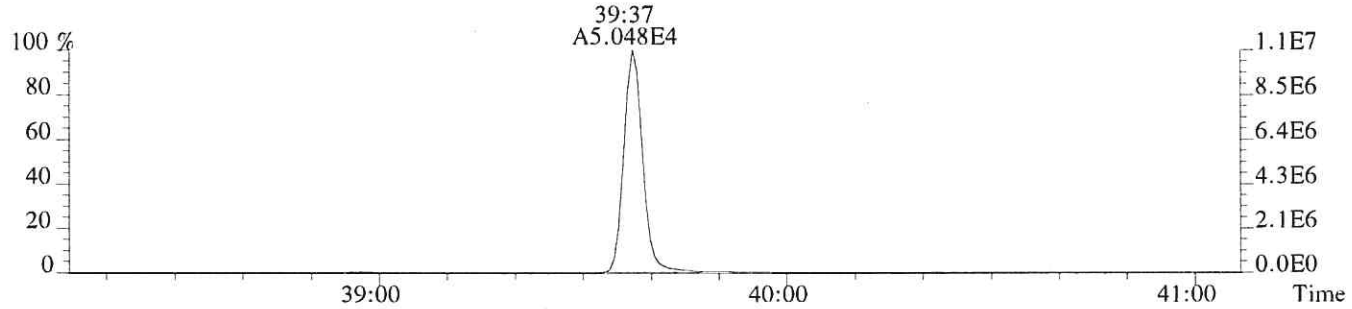
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,T)



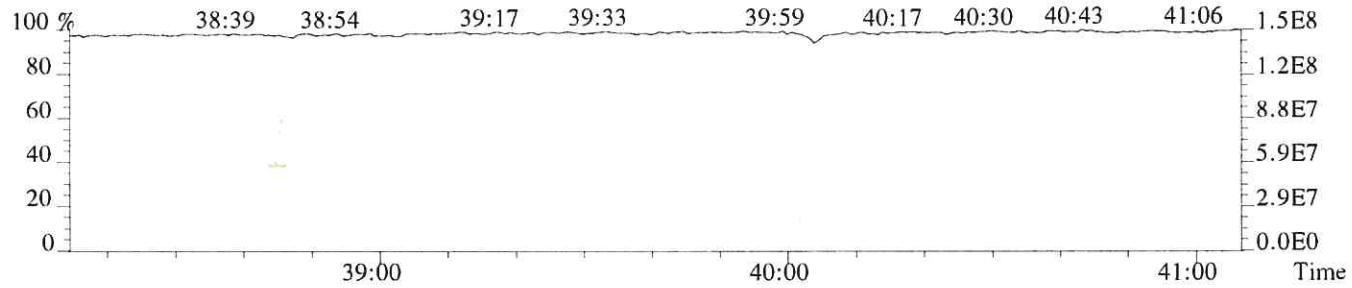
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1164.0,0.40%,F,T)



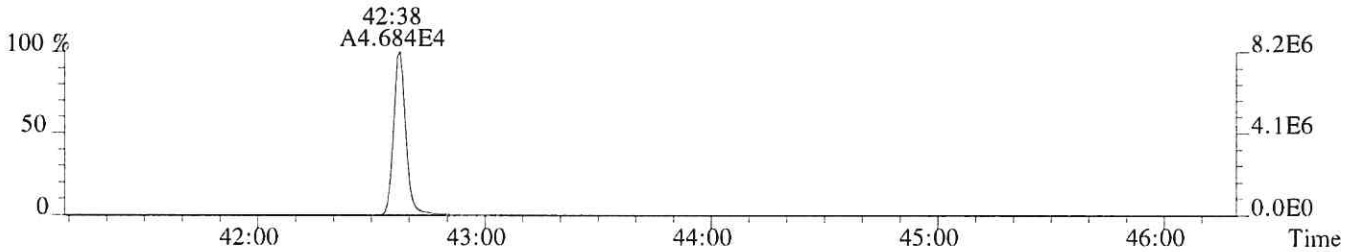
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



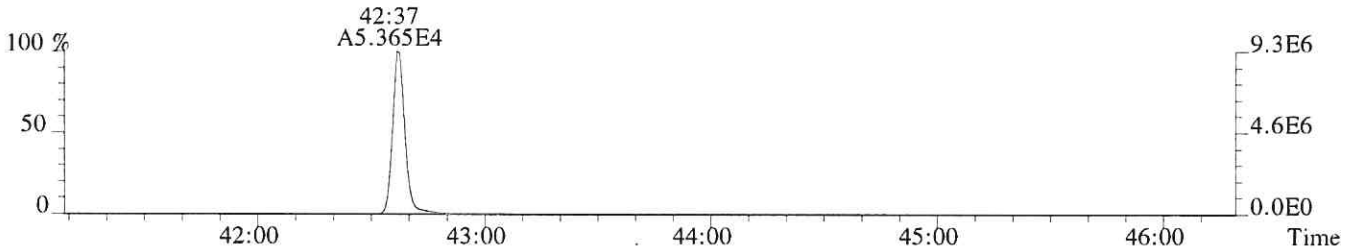
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



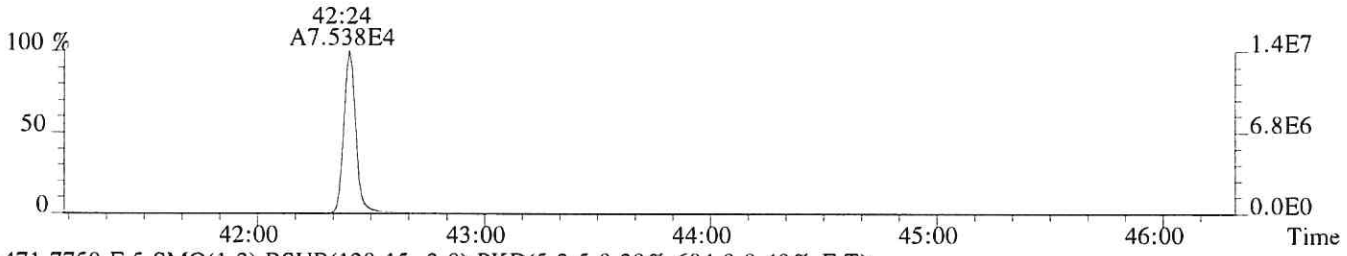
File:P511481 #1-466 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



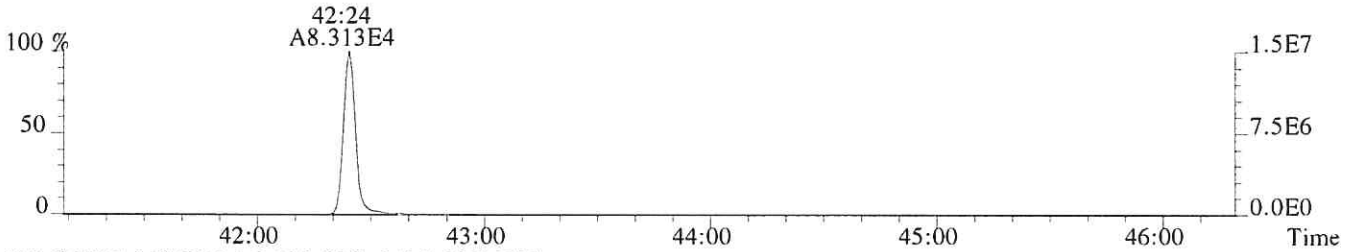
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2348.0,0.40%,F,T)



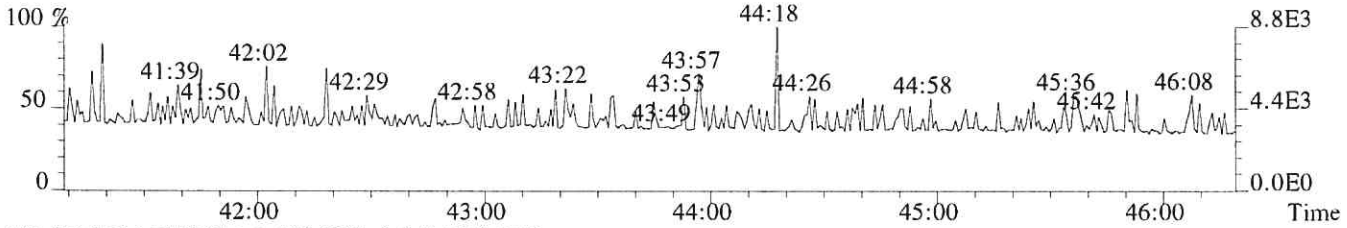
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,904.0,0.40%,F,T)



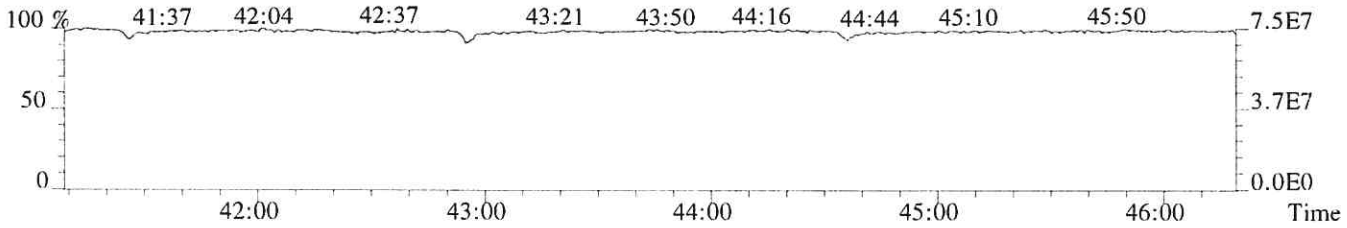
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,684.0,0.40%,F,T)



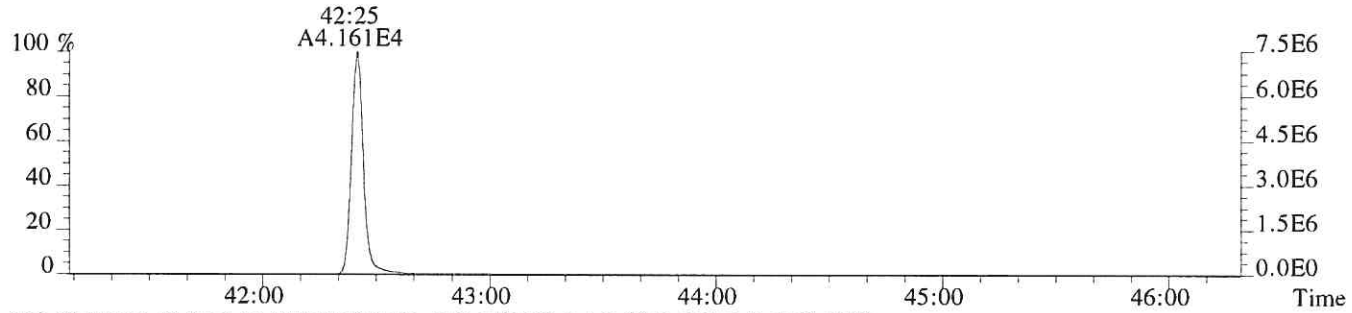
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



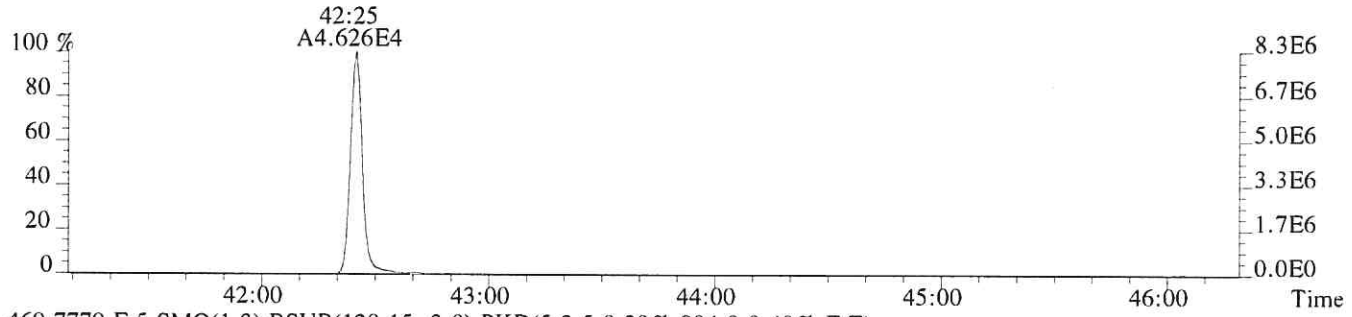
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



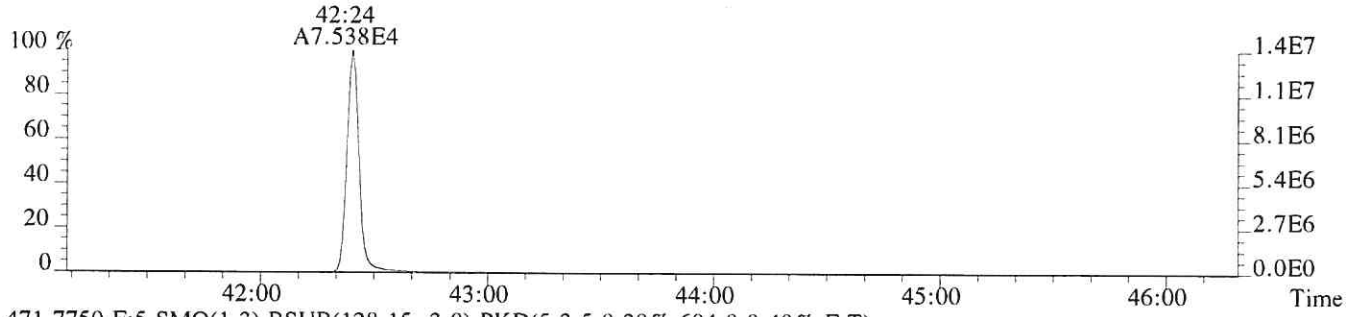
File:P511481 #1-466 Acq:22-SEP-2017 11:34:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



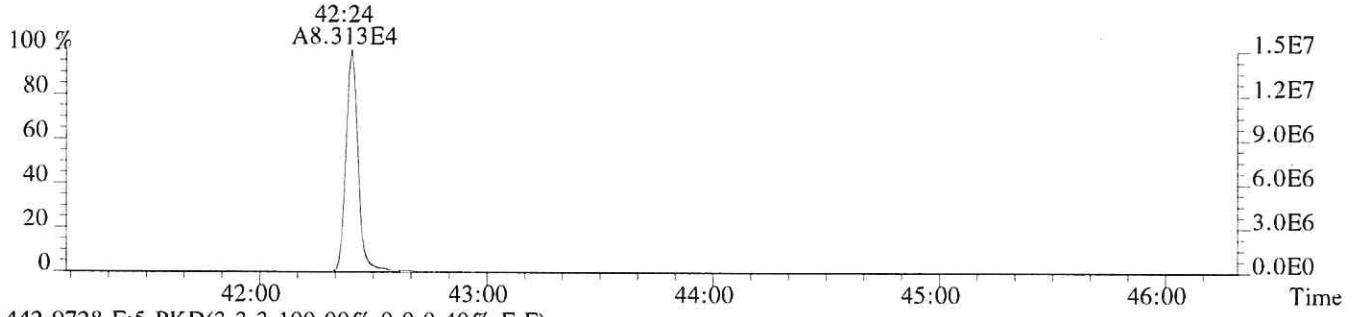
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,664.0,0.40%,F,T)



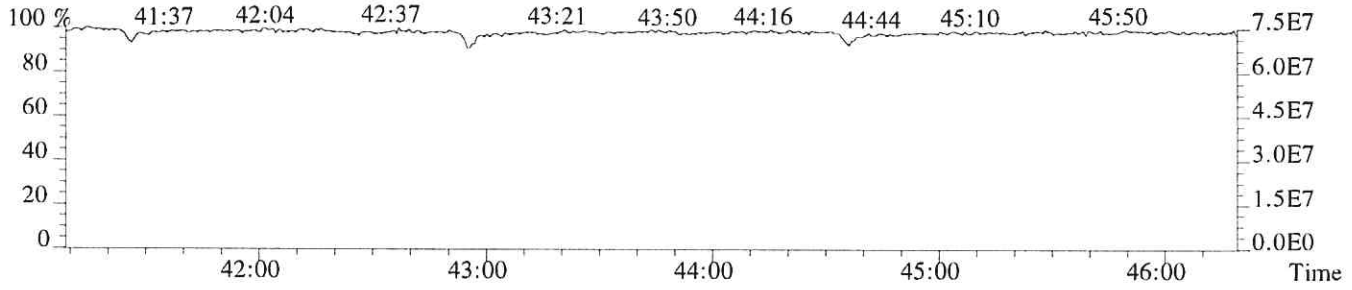
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,904.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,684.0,0.40%,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: P511508

Date: 09/23/17

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: [signature]

Second QC: WW.

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	P511509	23-SEP-17	11:49:40
180102	CS3	P511508	23-SEP-17	10:49:47
METHOD BLANK	EQ1700417-01	P511510	23-SEP-17	13:26:09
SJWP-091517-026EPA	E1700973-007	P511511	23-SEP-17	14:14:34
SJWP-091517-027EPA	E1700973-008	P511512	23-SEP-17	15:03:14
SJWP-091517-028EPA	E1700973-009	P511513	23-SEP-17	15:51:55
SJWP-091517-029EPA	E1700973-010	P511514	23-SEP-17	16:40:35
SJWP-091517-030EPA	E1700973-011	P511515	23-SEP-17	17:29:16
SJWP-091517-031EPA	E1700973-012	P511516	23-SEP-17	18:17:56
SJWP-091517-032EPA	E1700973-013	P511517	23-SEP-17	19:06:36
SJWP-091517-033EPA	E1700973-014	P511518	23-SEP-17	19:55:17
2257226 001	E1700948-001	P511519	23-SEP-17	20:44:03
2256903 001	E1700949-001	P511520	23-SEP-17	21:32:32

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20170923A.SPL
Last Modified: Monday, September 25, 2017 07:50:03 Eastern Daylight Time
Printed: Monday, September 25, 2017 07:50:05 Eastern Daylight Time

Page Position (1, 1)

Opus 4: P511508 res

	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	9/23/17	10:49	P511508	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LM	HRMS check 10:24
2		11:49	P511509	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		13:26	P511510	MB	EQ1700417-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		14:14	P511511	E1700973-007	E1700973-007	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		15:03	P511512	E1700973-008	E1700973-008	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		15:51	P511513	E1700973-009	E1700973-009	EPA1613_ALS	Dioxin_ALS	Tray1:6		
7		16:40	P511514	E1700973-010	E1700973-010	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		17:29	P511515	E1700973-011	E1700973-011	EPA1613_ALS	Dioxin_ALS	Tray1:8		
9		18:17	P511516	E1700973-012	E1700973-012	EPA1613_ALS	Dioxin_ALS	Tray1:9		
10		19:06	P511517	E1700973-013	E1700973-013	EPA1613_ALS	Dioxin_ALS	Tray1:10		
11		19:55	P511518	E1700973-014	E1700973-014	EPA1613_ALS	Dioxin_ALS	Tray1:11		
12		20:44	P511519	E1700948-001	E1700948-001	EPA1613_ALS	Dioxin_ALS	Tray1:12		needs reinjection
13		21:32	P511520	E1700949-001	E1700949-001	EPA1613_ALS	Dioxin_ALS	Tray1:13		
14		22:29	P511521	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		HRMS check 22:29
15	—	—	—	—	—	EPA1613_ALS	Dioxin_ALS	Tray1:2	—	—
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	—	—	—	—	—	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	—	—

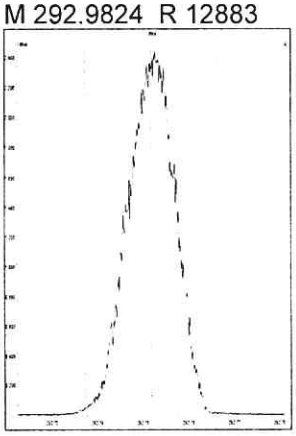
gc 09/25/17

Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Saturday, September 23, 2017 10:24:09 Eastern Daylight Time

M 292.9824 R 12883



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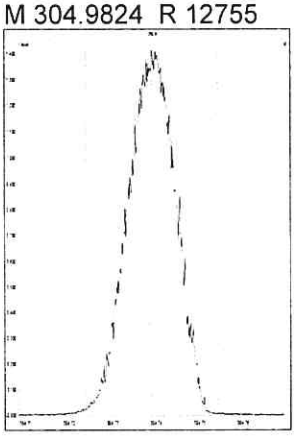
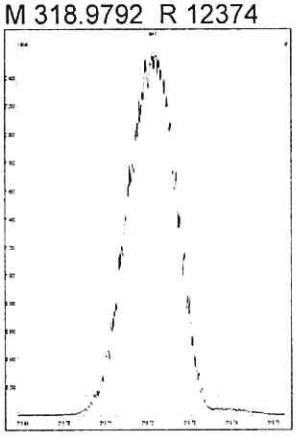
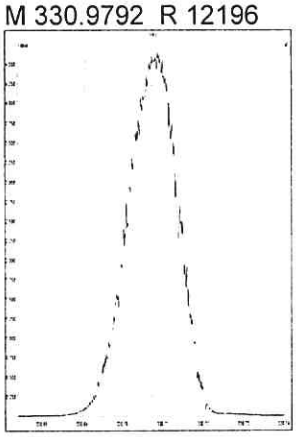


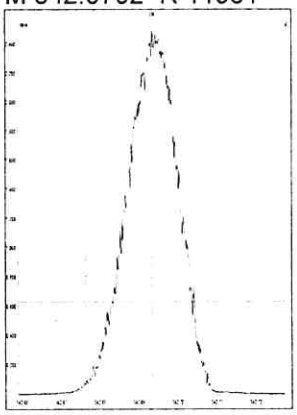
M 318.9792 R 12374



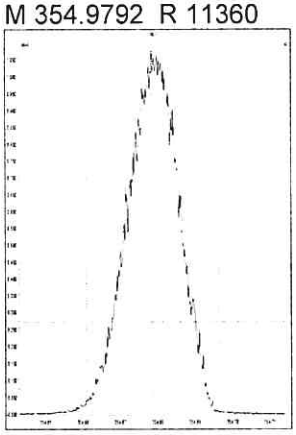
M 330.9792 R 12196



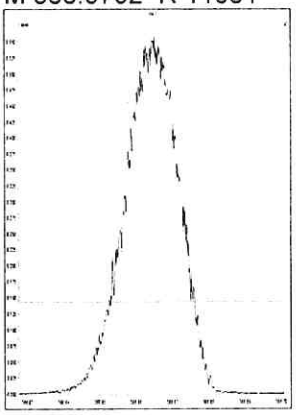
M 342.9792 R 11961



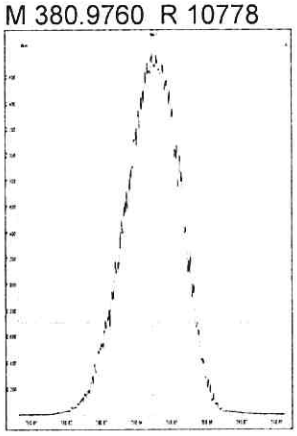
M 354.9792 R 11360



M 366.9792 R 11061



M 380.9760 R 10778



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

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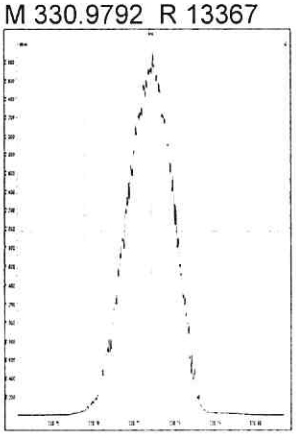
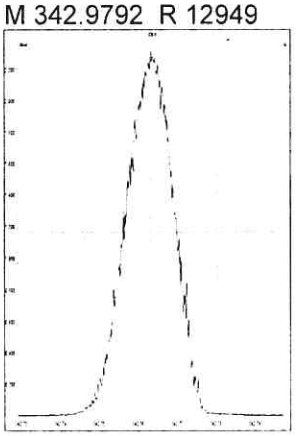
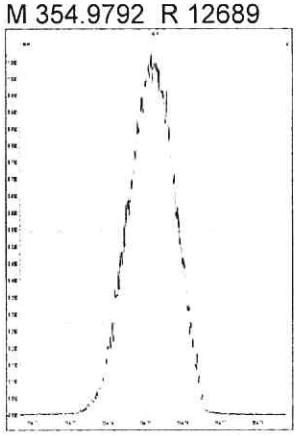
M 330.9792 R 13367



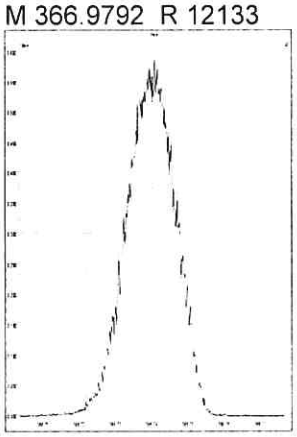
M 342.9792 R 12949



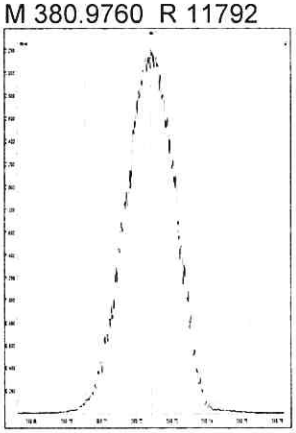
M 354.9792 R 12689



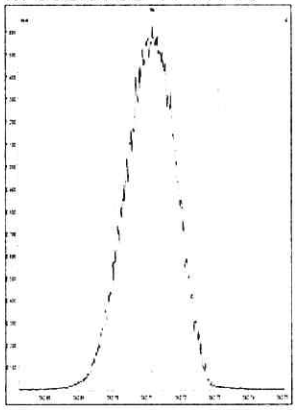
M 366.9792 R 12133



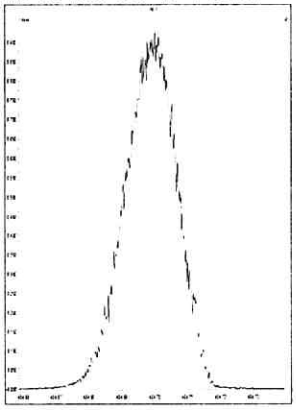
M 380.9760 R 11792



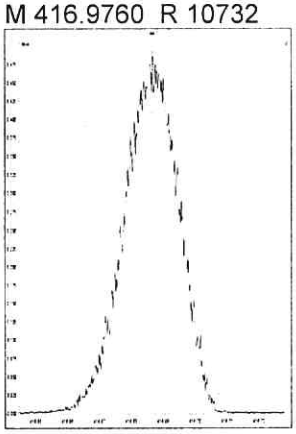
M 392.9760 R 11740



M 404.9760 R 11211



M 416.9760 R 10732

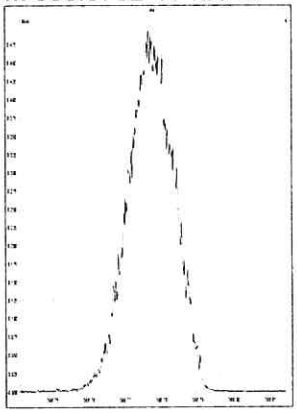


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

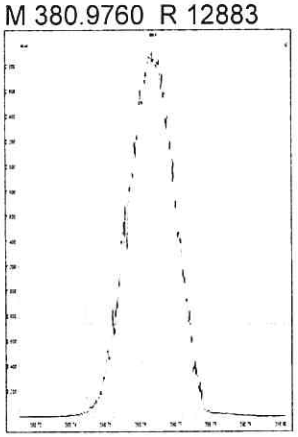
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Saturday, September 23, 2017 10:26:56 Eastern Daylight Time

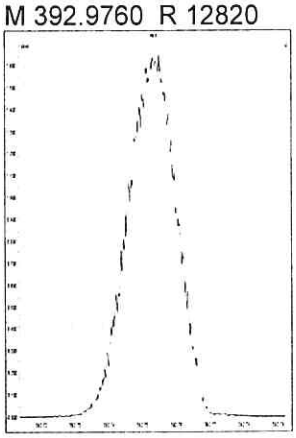
M 366.9792 R 12624



M 380.9760 R 12883



M 392.9760 R 12820



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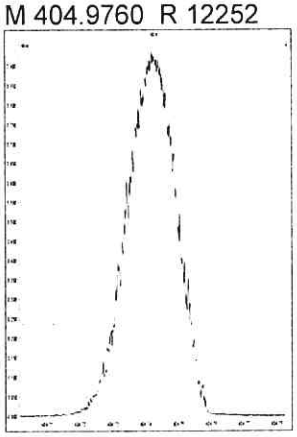
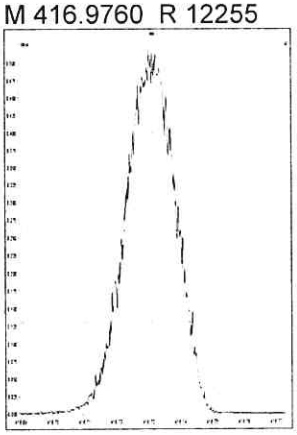
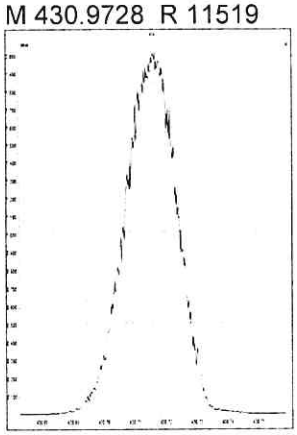


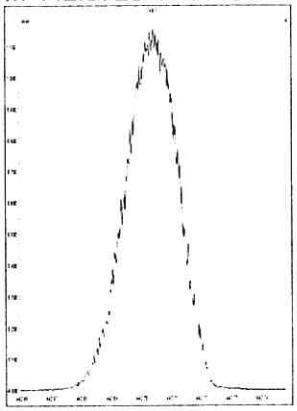
M 416.9760 R 12255



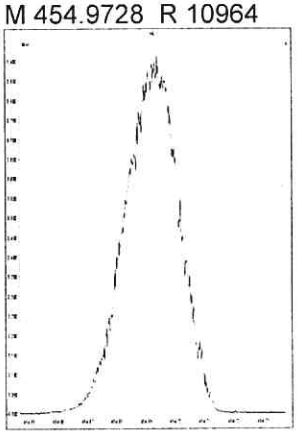
M 430.9728 R 11519



M 442.9728 R 11161



M 454.9728 R 10964



Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Saturday, September 23, 2017 10:28:25 Eastern Daylight Time

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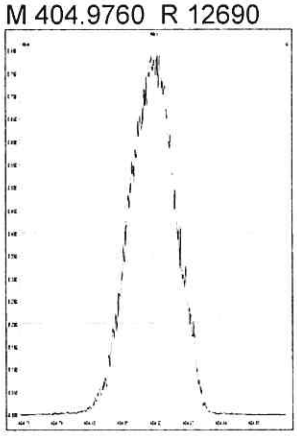

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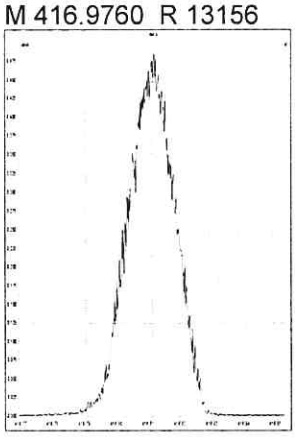

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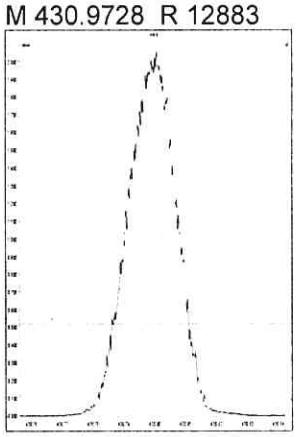
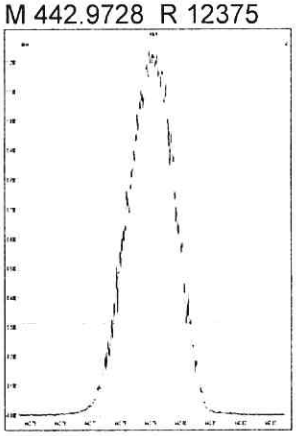


M 442.9728 R 12375



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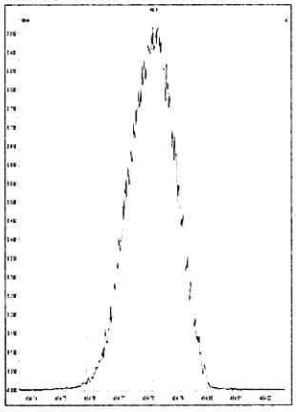

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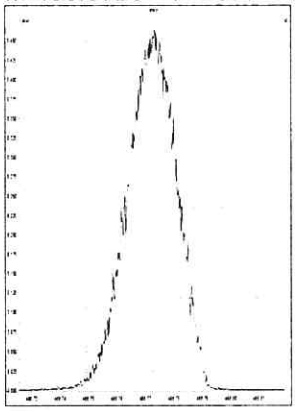

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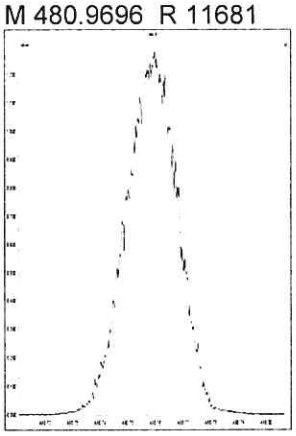

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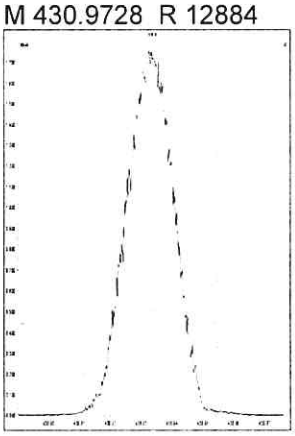
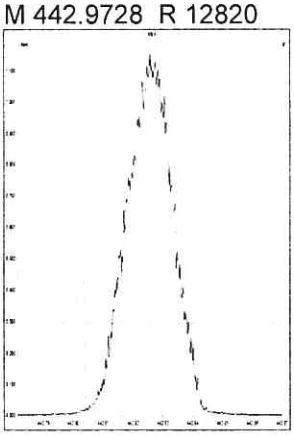
M 430.9728 R 12884



M 442.9728 R 12820



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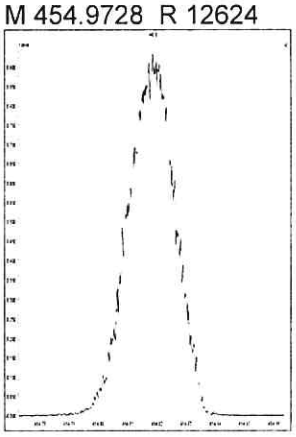

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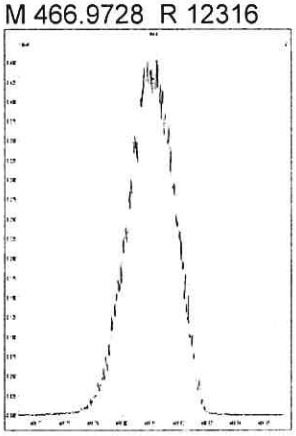

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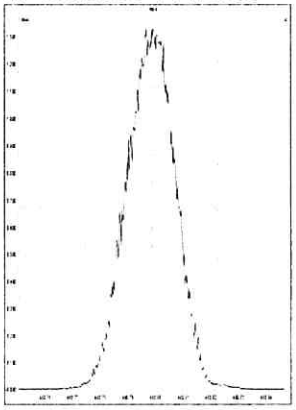
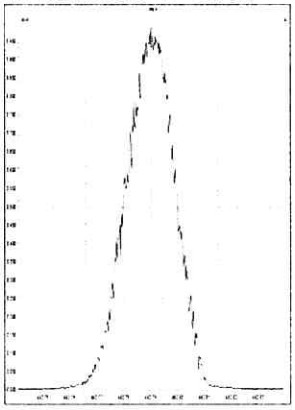
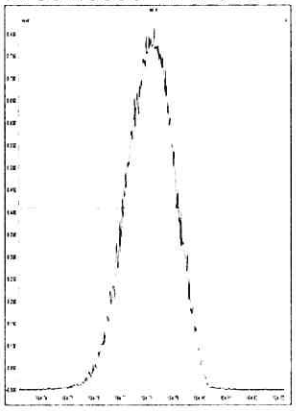


M 492.9696 R 12757



M 504.9696 R 12019



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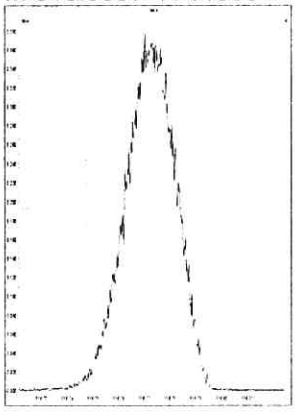

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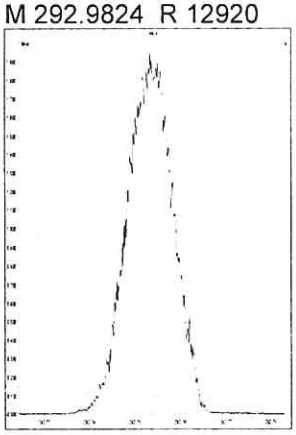

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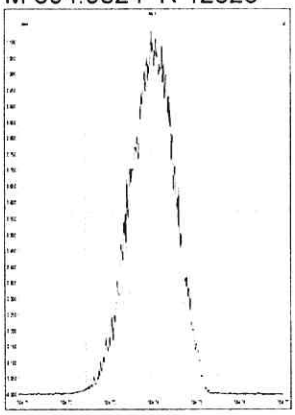

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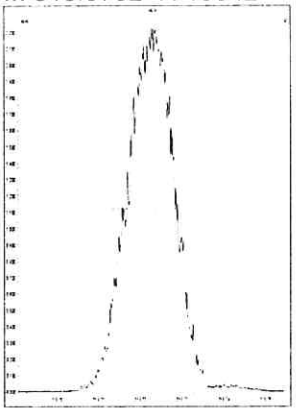

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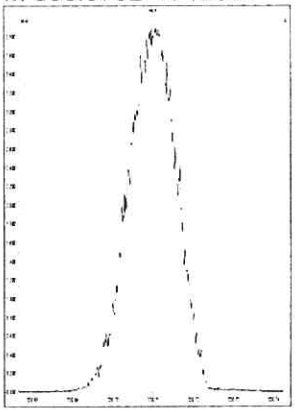

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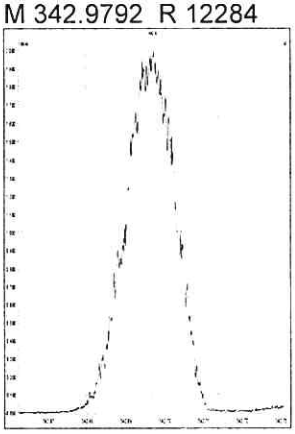

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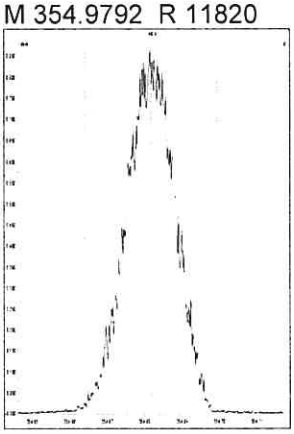

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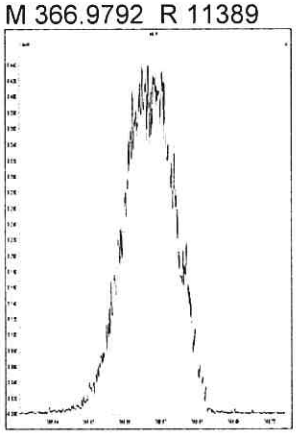

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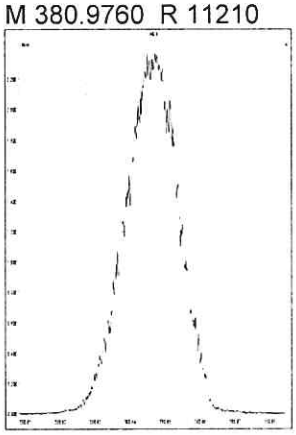

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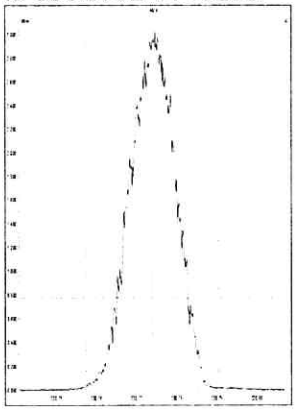

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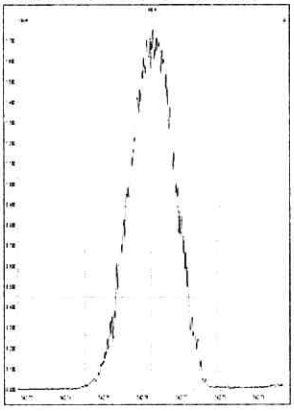

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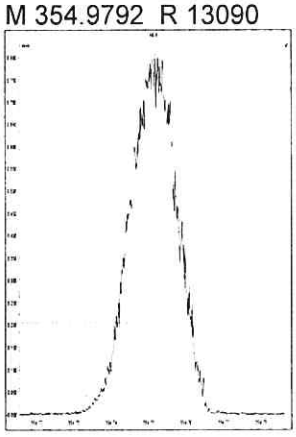

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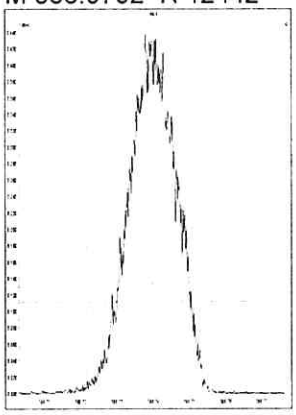

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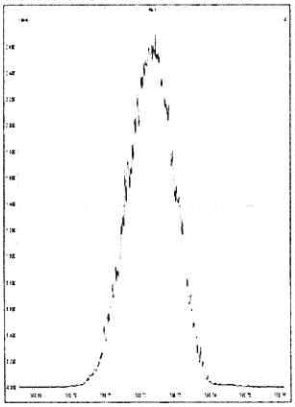

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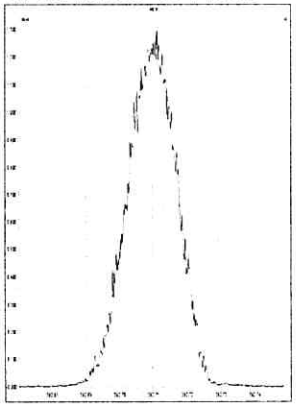

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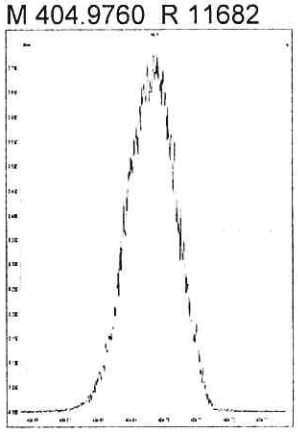

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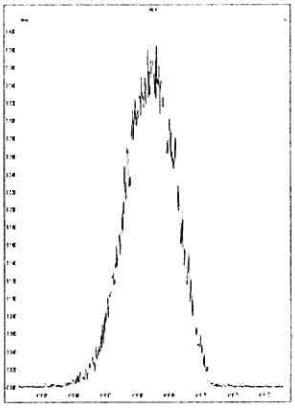

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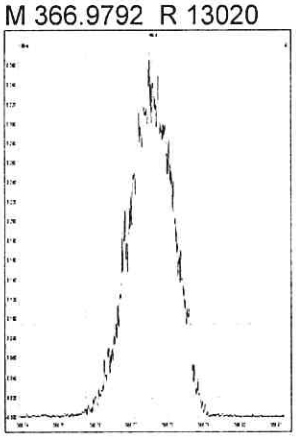

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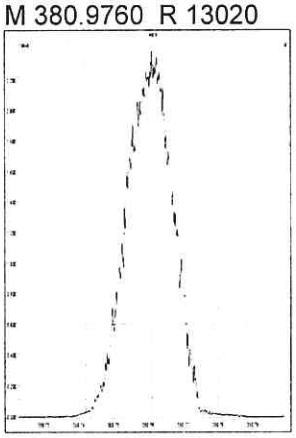

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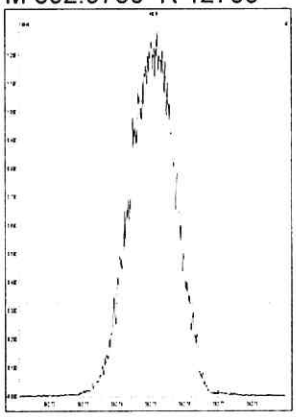

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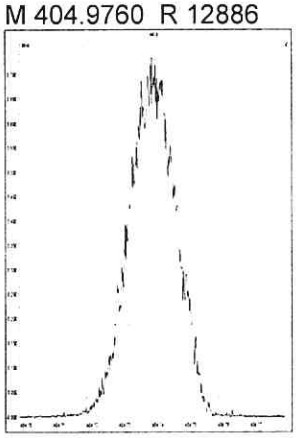

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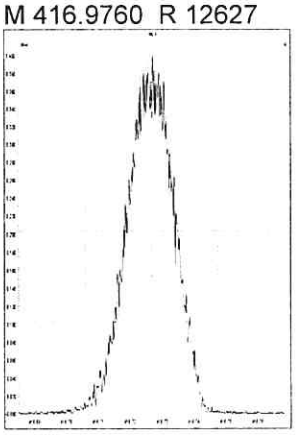

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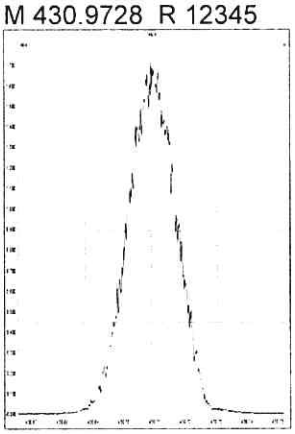

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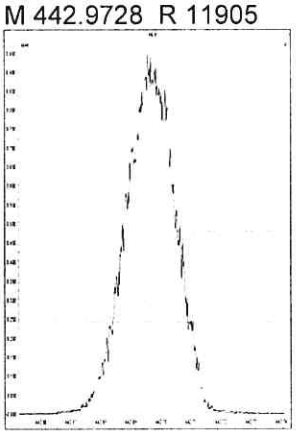

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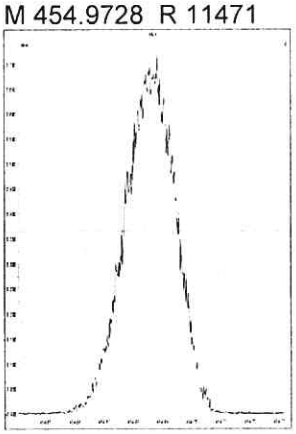

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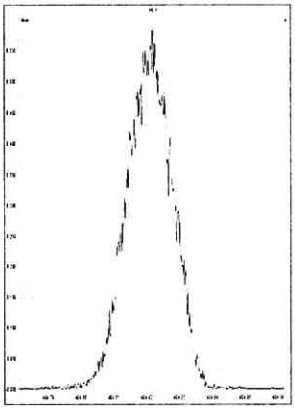

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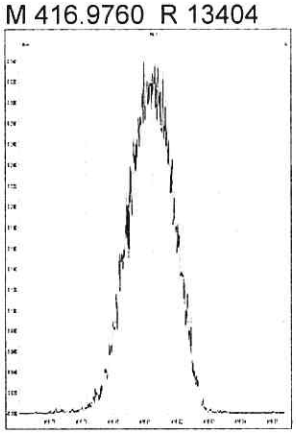

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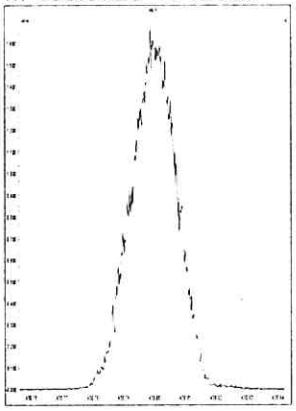

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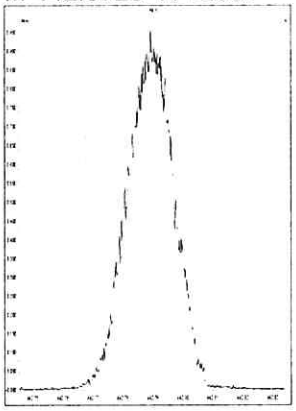

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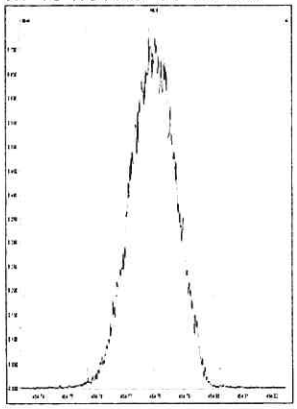

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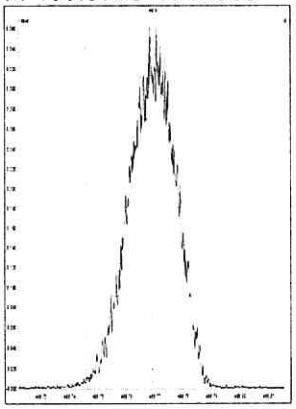

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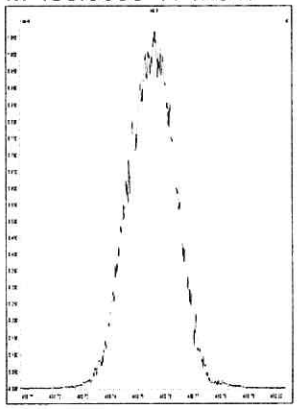

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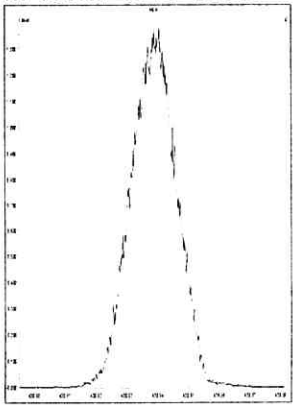

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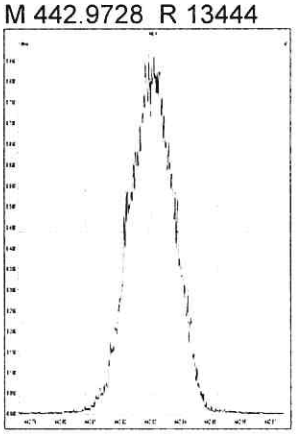

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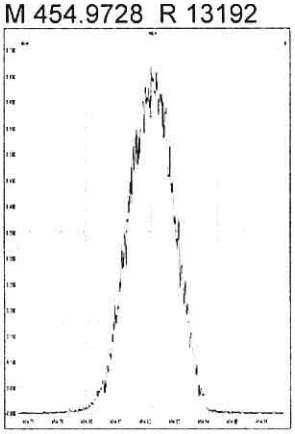

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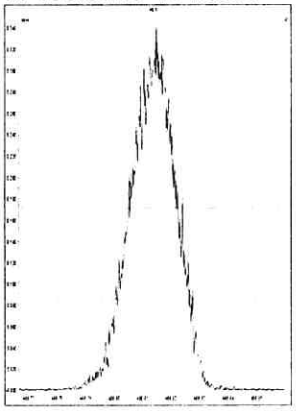

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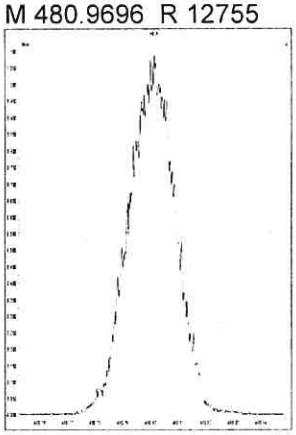

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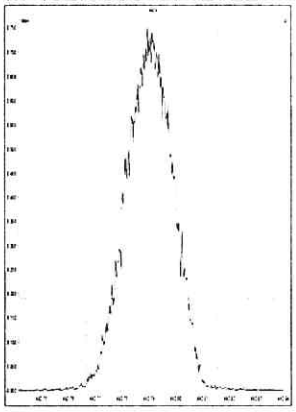

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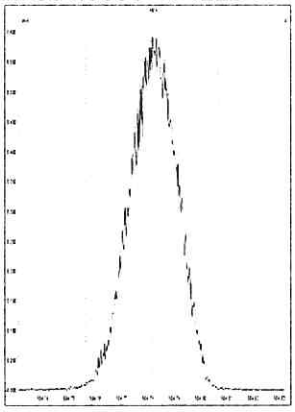

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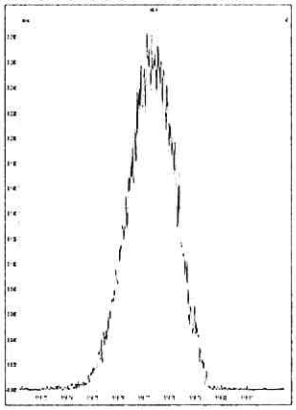


5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

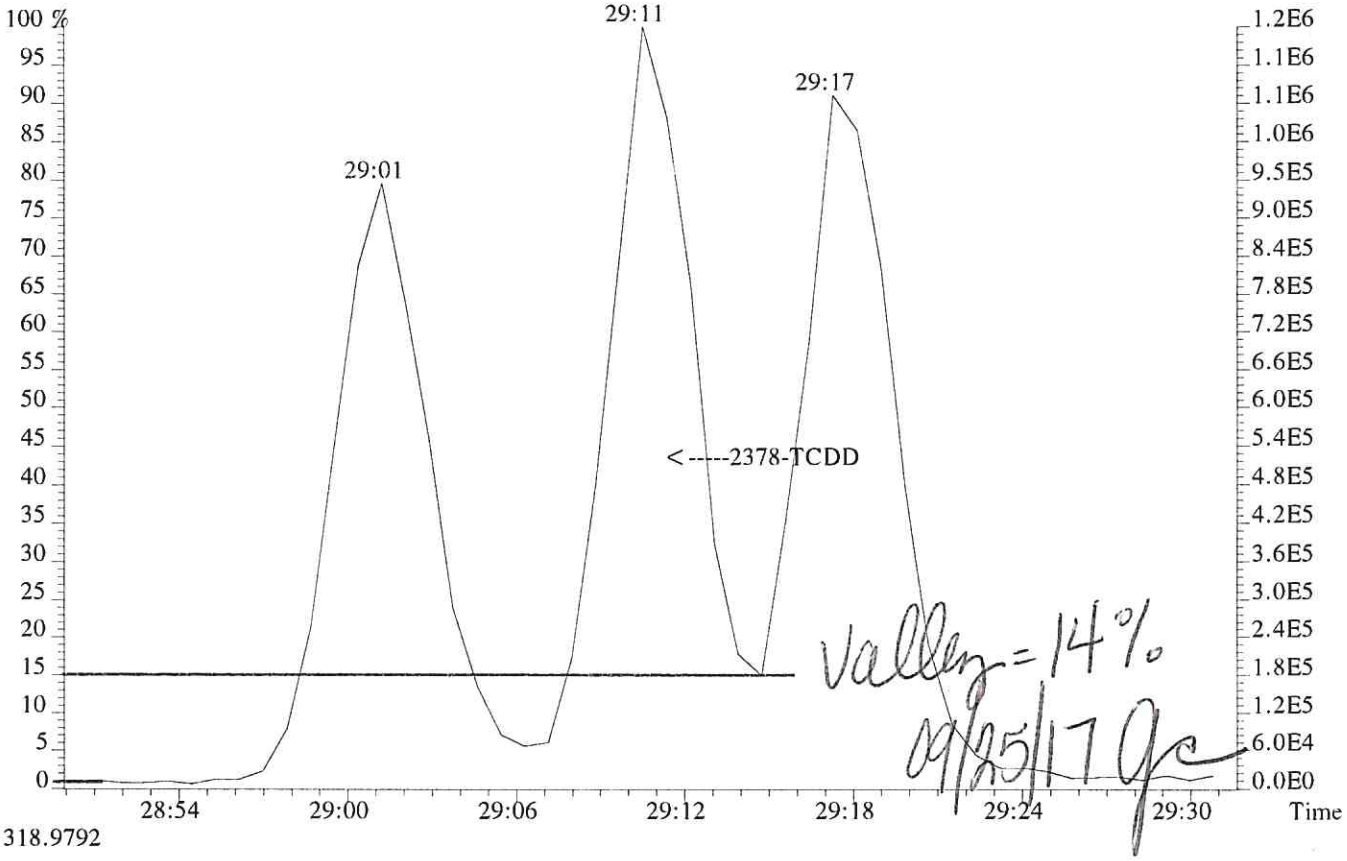
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P511509
Date Analyzed: 23-SEP-2017
Time Analyzed: 11:49:40

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:07	30:18
TCDD	25:59	30:09
PeCDF	30:15	34:25
PeCDD	31:45	34:10
HxCDF	35:04	37:31
HxCDD	35:34	37:07
HpCDF	38:43	40:07
HpCDD	38:58	39:38

% Valley 2378-TCDD: 14 %

File:P511509 #1-800 Acq:23-SEP-2017 11:49:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965



318.9792

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Sample#1 Exp:178397
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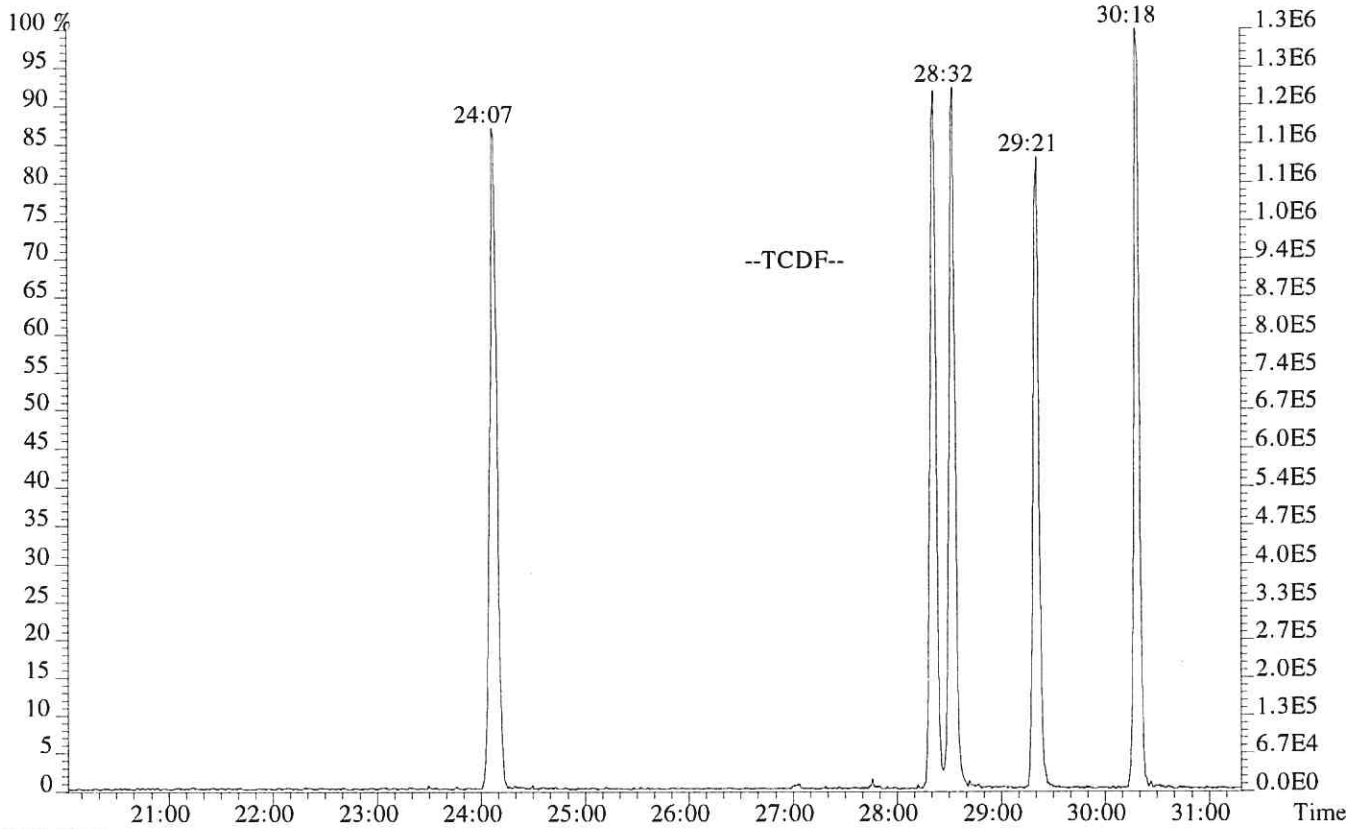

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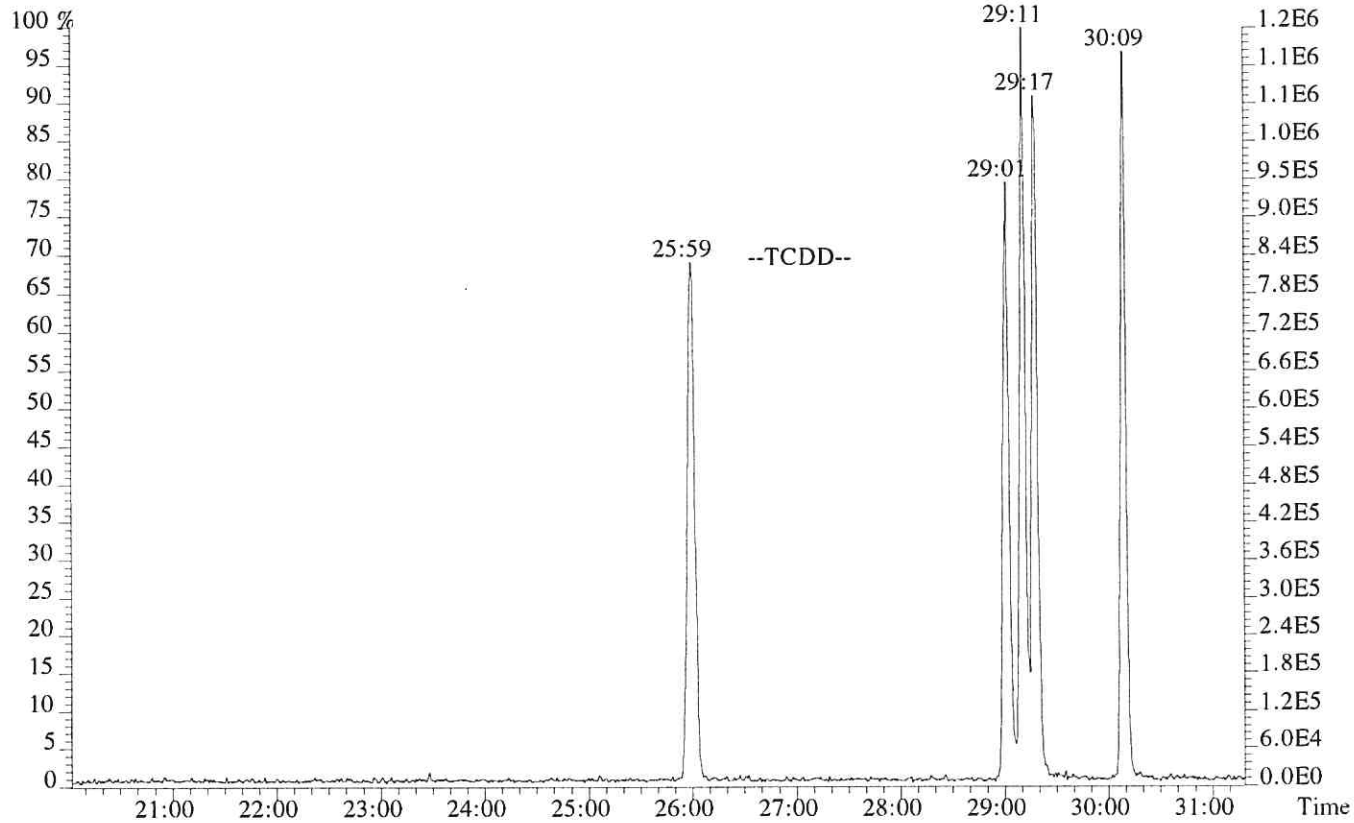

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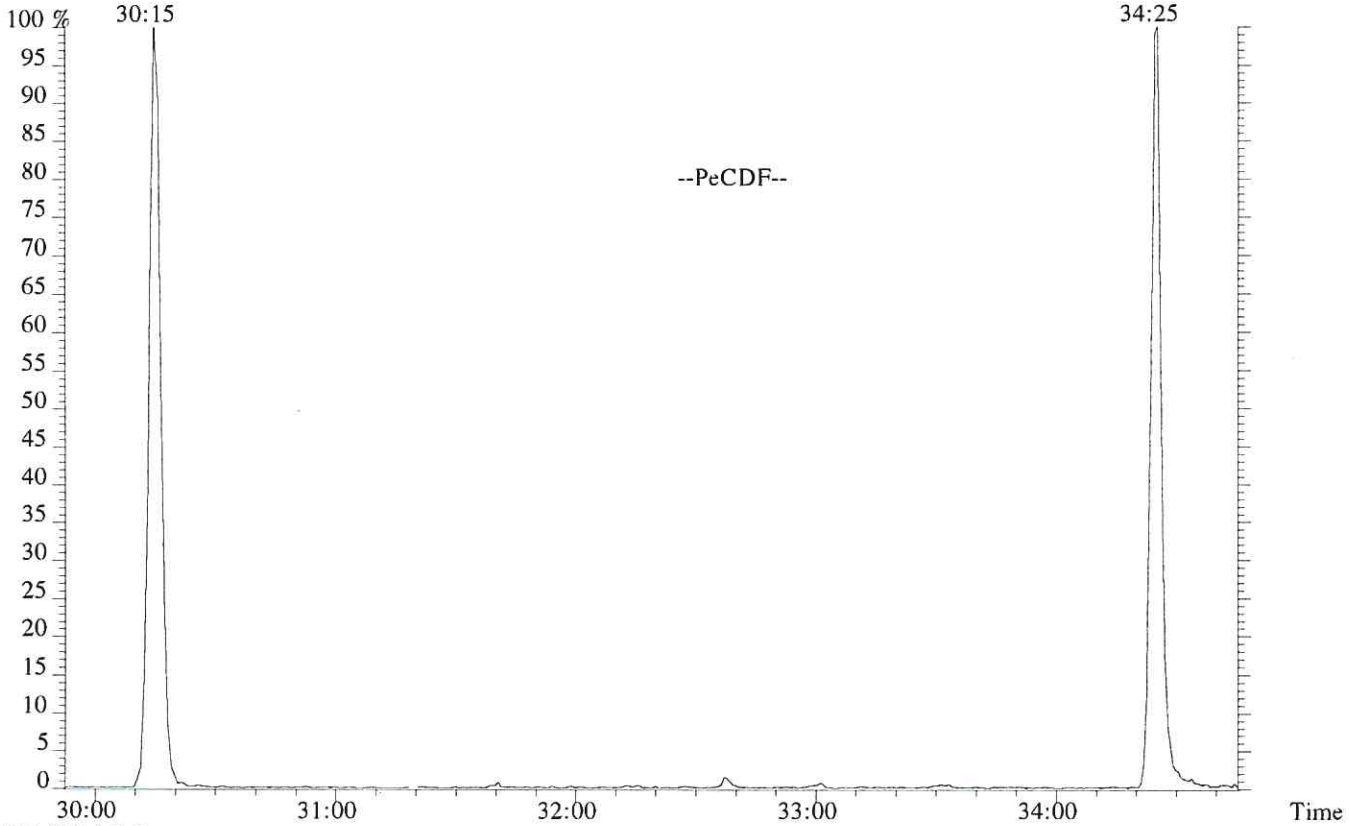
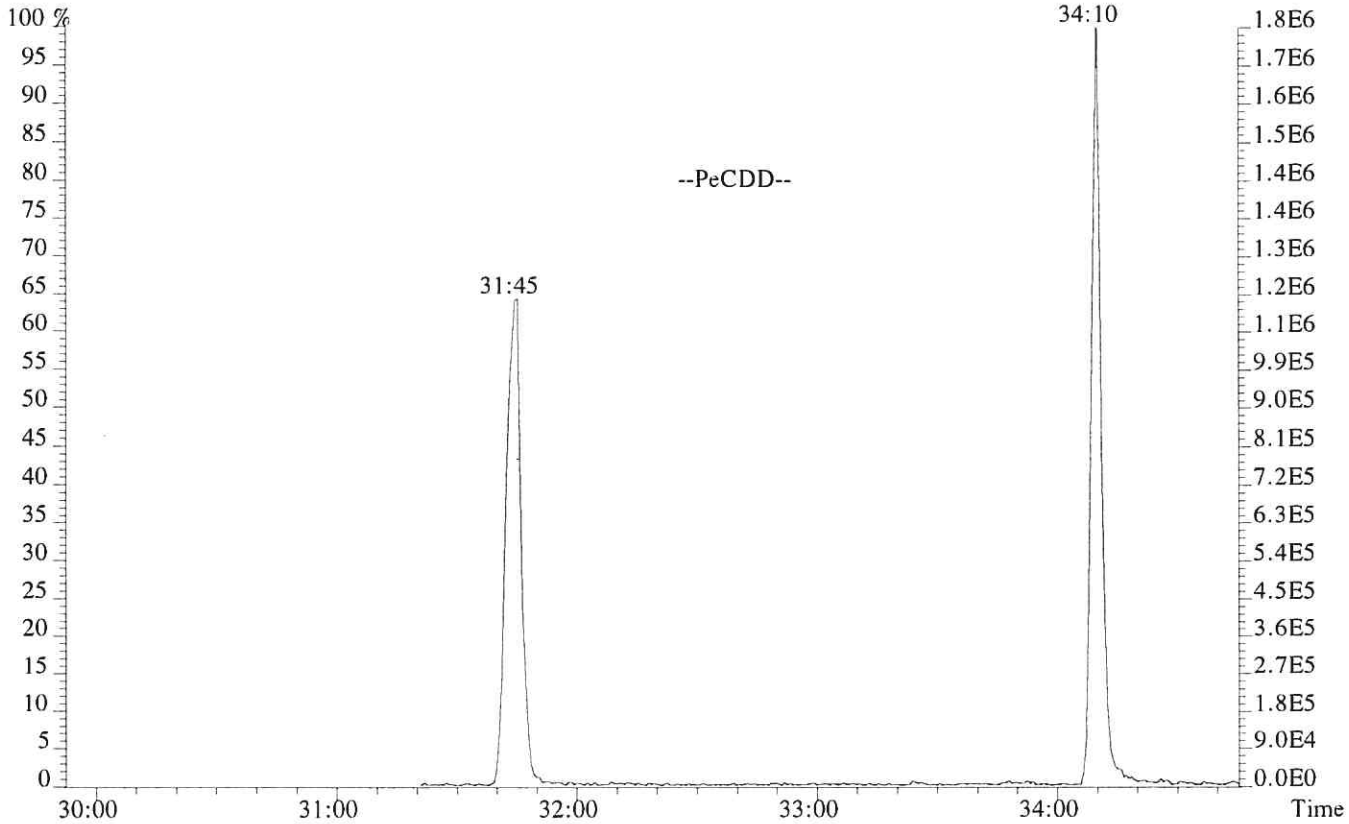


355.8546 F:2



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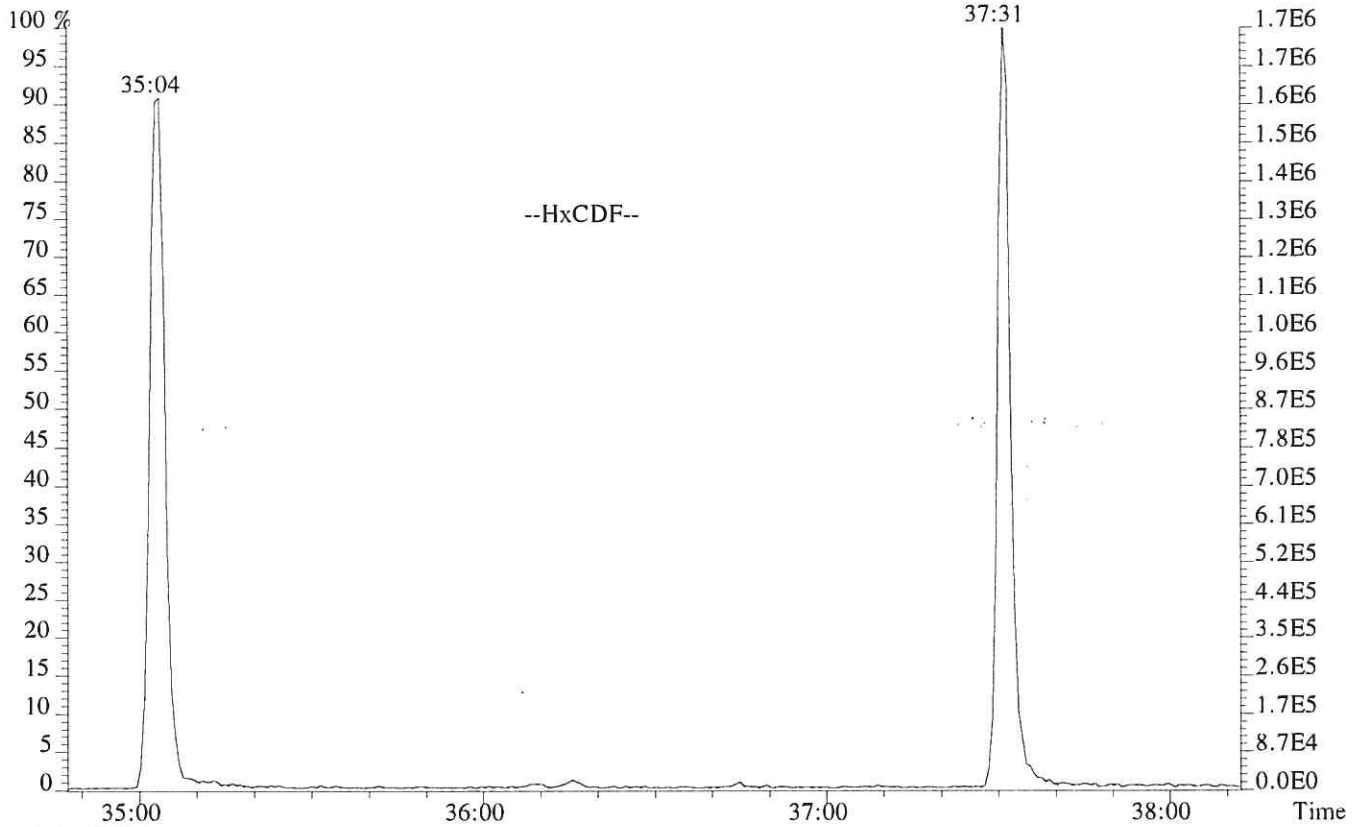
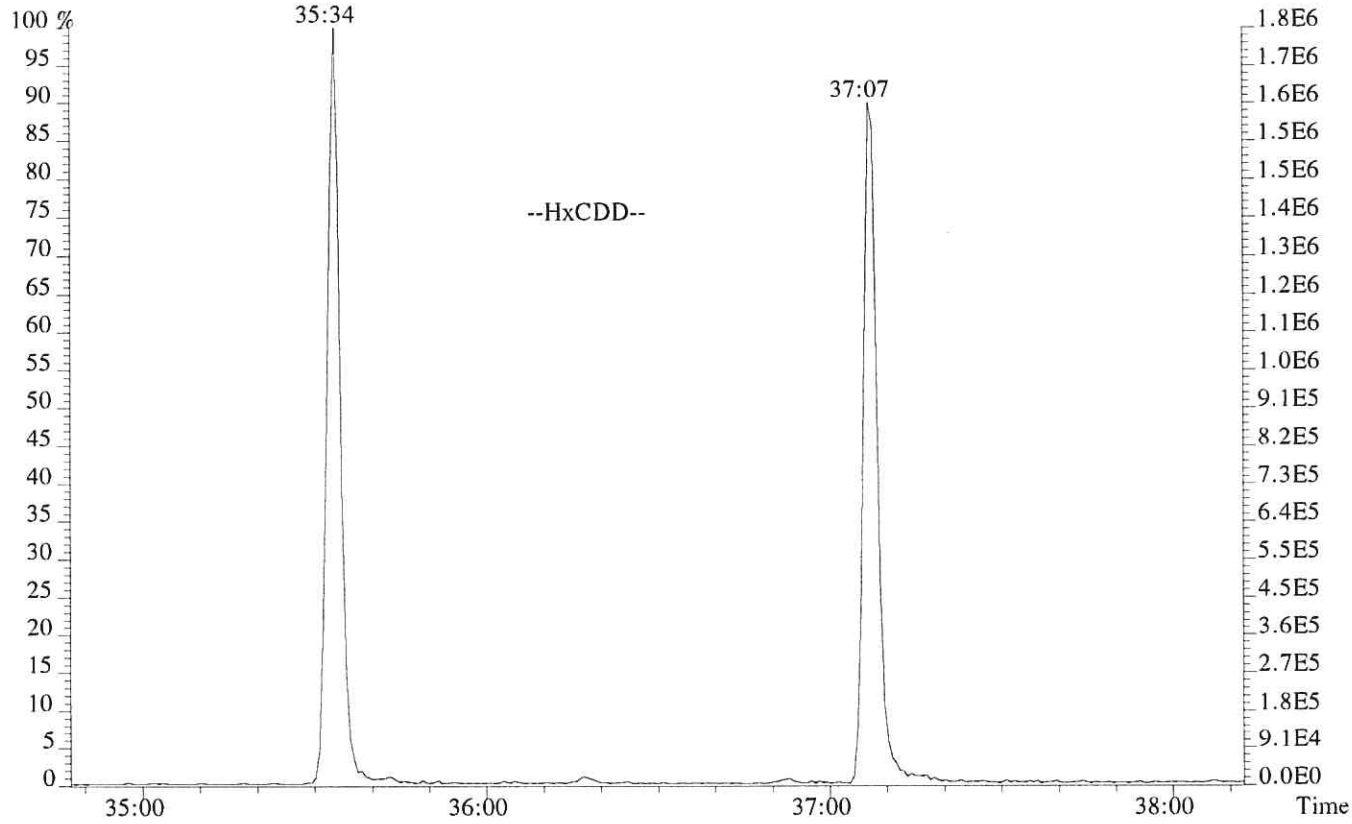
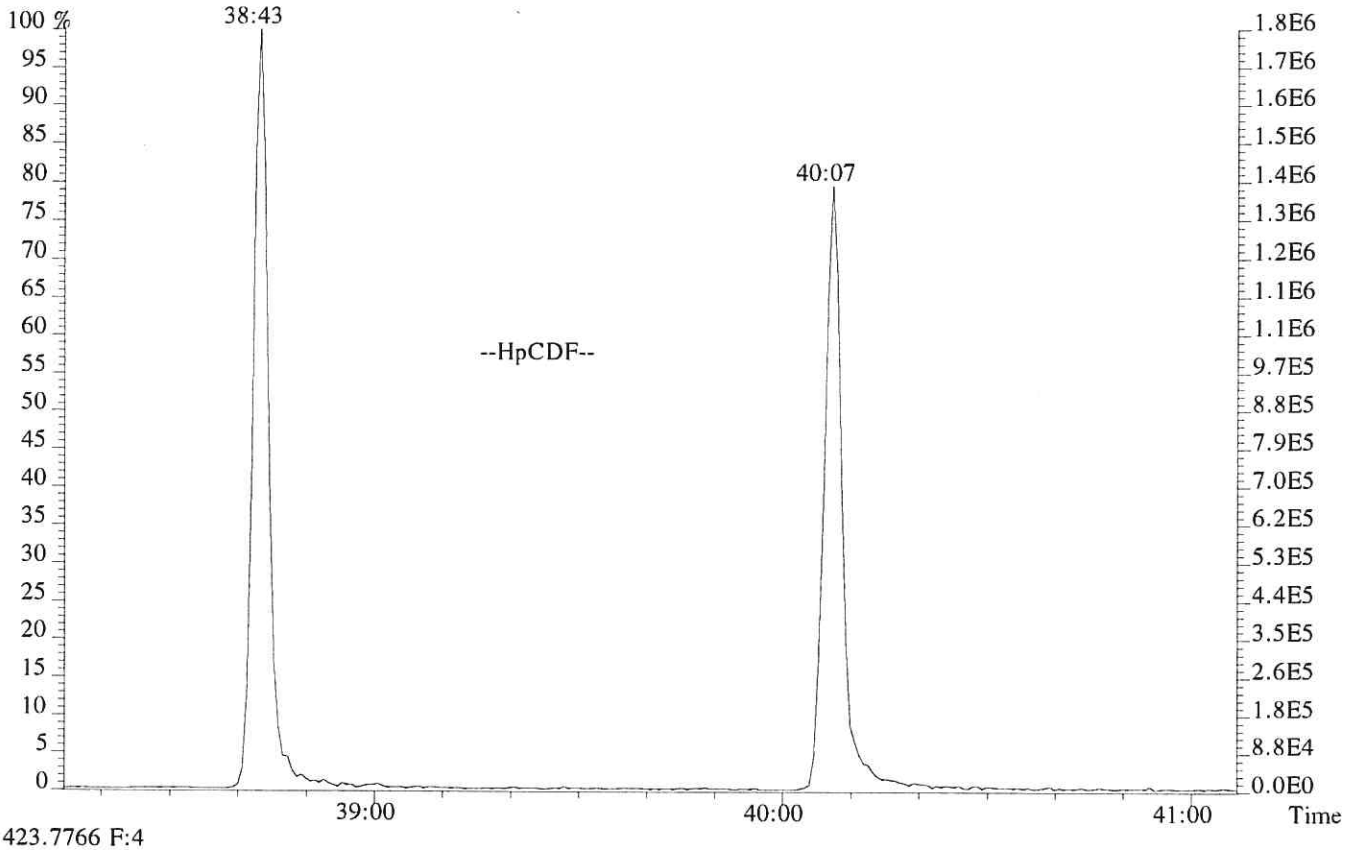
Sample#1 Exp:178397
373.8208 F:3



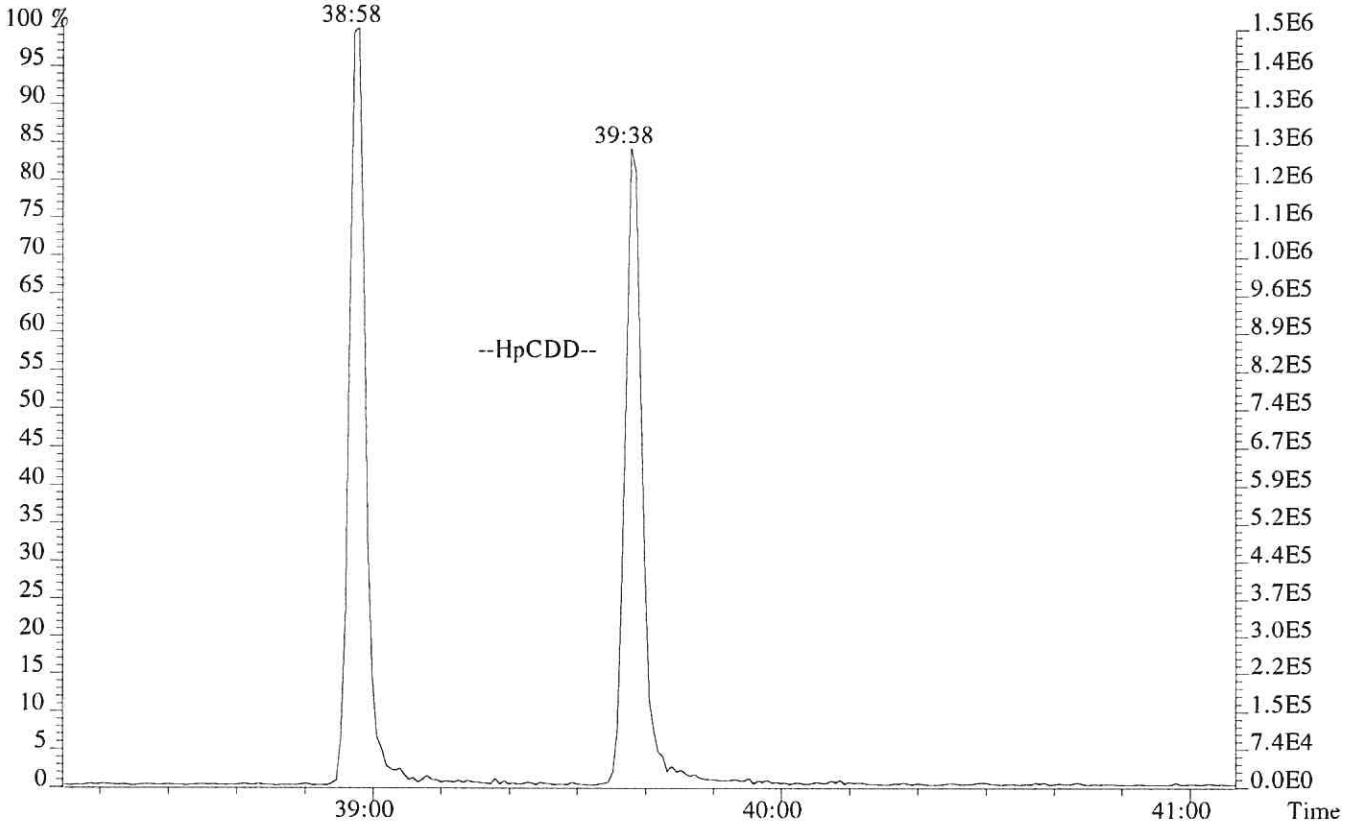
389.8157 F:3



File:P511509 #1-259 Acq:23-SEP-2017 11:49:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
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: P511508 Analysis Date: 23-SEP-17 Time: 10:49:47

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	0.77	0.65-0.89	9.2	7.8 - 12.9	-7.9
1,2,3,7,8-PeCDD	M+2/M+4	1.60	1.32-1.78	51	39 - 65	2.7
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	51	39 - 64	2.6
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	52	39 - 64	4.9
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	53	41 - 61	5.7
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	52	43 - 58	4.6
OCDD	M+2/M+4	0.87	0.76-1.02	103	79 - 126	3.4
2,3,7,8-TCDF	M/M+2	0.70	0.65-0.89	10.2	8.4 - 12.0	2.1
1,2,3,7,8-PeCDF	M+2/M+4	1.47	1.32-1.78	53	41 - 60	5.9
2,3,4,7,8-PeCDF	M+2/M+4	1.44	1.32-1.78	52	41 - 61	3.6
1,2,3,4,7,8-HxCDF	M+2/M+4	1.15	1.05-1.43	54	45 - 56	7.1
1,2,3,6,7,8-HxCDF	M+2/M+4	1.16	1.05-1.43	54	44 - 57	7.7
1,2,3,7,8,9-HxCDF	M+2/M+4	1.18	1.05-1.43	53	45 - 56	5.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.15	1.05-1.43	54	44 - 57	7.8
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.98	0.88-1.20	51	45 - 55	3.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	50	43 - 58	0.7
OCDF	M+2/M+4	0.88	0.76-1.02	109	63 - 159	9.2

(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) 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: P511508 Analysis Date: 23-SEP-17 Time: 10:49:47

	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	0.81	0.65-0.89	108	82 - 121	7.6
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	98	62 - 160	-2.4
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	94	85 - 117	-6.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	99	85 - 118	-0.7
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	103	72 - 138	3.5
13C-OCDD	M+2/M+4	0.90	0.76-1.02	200	96 - 415	0.2
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	97	71 - 140	-2.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	97	76 - 130	-2.6
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	99	77 - 130	-0.5
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	90	76 - 131	-10.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	94	70 - 143	-5.7
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	102	74 - 135	2.3
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	100	73 - 137	0.1
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	106	78 - 129	6.0
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	114	77 - 129	14.2
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.2	7.8 - 12.7	1.6

(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 P511508 Samp: 1 Inj: 1 Acquired: 23-SEP-17 10:49:47
Processed: 25-SEP-17 09:59:50 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:32	3.668e+03	5.225e+03	0.70	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:37	3.257e+04	2.221e+04	1.47	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:31	3.064e+04	2.123e+04	1.44	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	36:08	2.618e+04	2.277e+04	1.15	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	36:15	2.986e+04	2.575e+04	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:44	2.894e+04	2.510e+04	1.15	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:29	2.646e+04	2.238e+04	1.18	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:43	2.774e+04	2.819e+04	0.98	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	40:07	2.414e+04	2.442e+04	0.99	yes	no	1.191
10	Unk	OCDF	42:37	3.856e+04	4.404e+04	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	29:17	3.496e+03	4.568e+03	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:47	2.526e+04	1.580e+04	1.60	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:52	2.263e+04	1.788e+04	1.27	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:57	2.495e+04	2.053e+04	1.22	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	37:11	2.538e+04	2.061e+04	1.23	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:38	2.244e+04	2.144e+04	1.05	yes	no	0.942
17	Unk	OCDD	42:24	3.459e+04	3.992e+04	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	28:31	4.638e+04	5.919e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:37	7.239e+04	4.579e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:30	7.217e+04	4.626e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	36:08	2.863e+04	5.723e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	36:14	3.562e+04	6.871e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:44	3.514e+04	6.790e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:28	3.167e+04	6.073e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:42	2.665e+04	5.999e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:06	2.510e+04	5.590e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	29:16	3.677e+04	4.550e+04	0.81	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:47	5.405e+04	3.396e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:52	4.597e+04	3.605e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:56	5.269e+04	4.062e+04	1.30	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:37	4.567e+04	4.333e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:24	6.495e+04	7.218e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:43	3.534e+04	4.477e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:10	5.508e+04	4.258e+04	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	29:17	8.410e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511508 Samp: 1 Inj: 1 Acquired: 23-SEP-17 10:49:47
Processed: 25-SEP-17 09:59:50 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	7.02e+05	2.02e+03	3.5e+02	9.92e+05	6.00e+03	1.7e+02
2	1,2,3,7,8-PeCDF	5.88e+06	1.11e+03	5.3e+03	4.05e+06	5.09e+03	8.0e+02
3	2,3,4,7,8-PeCDF	6.08e+06	1.11e+03	5.5e+03	4.21e+06	5.09e+03	8.3e+02
4	1,2,3,4,7,8-HxCDF	5.62e+06	2.25e+03	2.5e+03	4.95e+06	1.54e+03	3.2e+03
5	1,2,3,6,7,8-HxCDF	6.14e+06	2.25e+03	2.7e+03	5.23e+06	1.54e+03	3.4e+03
6	2,3,4,6,7,8-HxCDF	6.29e+06	2.25e+03	2.8e+03	5.36e+06	1.54e+03	3.5e+03
7	1,2,3,7,8,9-HxCDF	5.47e+06	2.25e+03	2.4e+03	4.54e+06	1.54e+03	2.9e+03
8	1,2,3,4,6,7,8-HpCDF	5.98e+06	6.30e+03	9.5e+02	6.05e+06	4.24e+03	1.4e+03
9	1,2,3,4,7,8,9-HpCDF	4.64e+06	6.30e+03	7.4e+02	4.73e+06	4.24e+03	1.1e+03
10	OCDF	6.52e+06	1.55e+03	4.2e+03	7.30e+06	2.92e+03	2.5e+03
11	2,3,7,8-TCDD	6.81e+05	4.18e+03	1.6e+02	8.98e+05	2.10e+03	4.3e+02
12	1,2,3,7,8-PeCDD	4.91e+06	2.86e+03	1.7e+03	3.08e+06	4.28e+02	7.2e+03
13	1,2,3,4,7,8-HxCDD	5.27e+06	7.44e+02	7.1e+03	4.08e+06	1.76e+03	2.3e+03
14	1,2,3,6,7,8-HxCDD	5.14e+06	7.44e+02	6.9e+03	4.23e+06	1.76e+03	2.4e+03
15	1,2,3,7,8,9-HxCDD	5.13e+06	7.44e+02	6.9e+03	4.15e+06	1.76e+03	2.4e+03
16	1,2,3,4,6,7,8-HpCDD	4.43e+06	1.76e+03	2.5e+03	4.24e+06	1.75e+03	2.4e+03
17	OCDD	5.88e+06	8.40e+02	7.0e+03	6.63e+06	1.52e+03	4.4e+03
18	13C-2,3,7,8-TCDF	8.78e+06	2.67e+04	3.3e+02	1.11e+07	1.32e+04	8.4e+02
19	13C-1,2,3,7,8-PeCDF	1.33e+07	2.08e+03	6.4e+03	8.43e+06	2.96e+03	2.8e+03
20	13C-2,3,4,7,8-PeCDF	1.42e+07	2.08e+03	6.8e+03	9.11e+06	2.96e+03	3.1e+03
21	13C-1,2,3,4,7,8-HxCDF	6.20e+06	2.40e+03	2.6e+03	1.23e+07	2.38e+03	5.2e+03
22	13C-1,2,3,6,7,8-HxCDF	7.18e+06	2.40e+03	3.0e+03	1.38e+07	2.38e+03	5.8e+03
23	13C-2,3,4,6,7,8-HxCDF	7.72e+06	2.40e+03	3.2e+03	1.47e+07	2.38e+03	6.2e+03
24	13C-1,2,3,7,8,9-HxCDF	6.41e+06	2.40e+03	2.7e+03	1.23e+07	2.38e+03	5.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.63e+06	7.05e+03	8.0e+02	1.27e+07	9.24e+03	1.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.80e+06	7.05e+03	6.8e+02	1.08e+07	9.24e+03	1.2e+03
27	13C-2,3,7,8-TCDD	7.24e+06	9.42e+03	7.7e+02	8.96e+06	5.29e+03	1.7e+03
28	13C-1,2,3,7,8-PeCDD	1.05e+07	2.72e+03	3.9e+03	6.49e+06	2.34e+03	2.8e+03
29	13C-1,2,3,4,7,8-HxCDD	1.05e+07	3.06e+03	3.4e+03	8.09e+06	2.72e+03	3.0e+03
30	13C-1,2,3,6,7,8-HxCDD	1.05e+07	3.06e+03	3.4e+03	8.07e+06	2.72e+03	3.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	8.69e+06	2.48e+03	3.5e+03	8.31e+06	1.77e+03	4.7e+03
32	13C-OCDD	1.08e+07	1.98e+03	5.4e+03	1.20e+07	1.06e+03	1.1e+04
33	13C-1,2,3,4-TCDD	7.04e+06	9.42e+03	7.5e+02	8.85e+06	5.29e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	1.07e+07	3.06e+03	3.5e+03	8.38e+06	2.72e+03	3.1e+03
35	37Cl-2,3,7,8-TCDD	1.62e+06	2.36e+03	6.8e+02			

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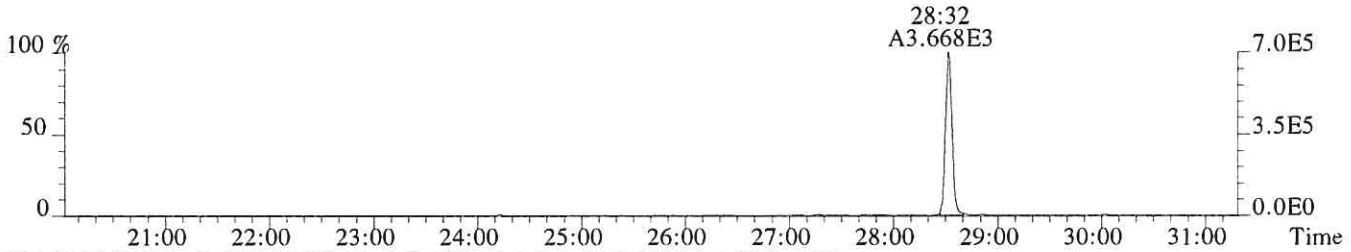
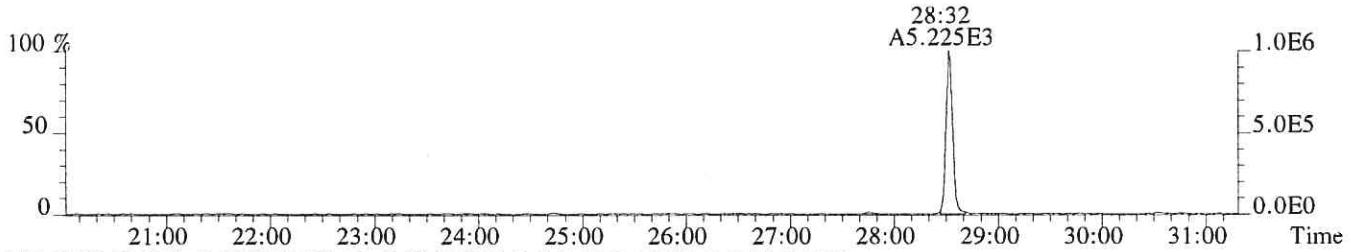
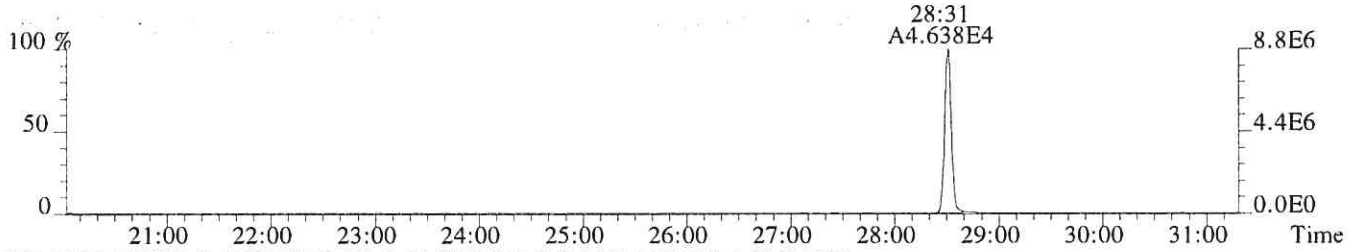
File:P511508 #1-800 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2020.0,1.00%,F,T)



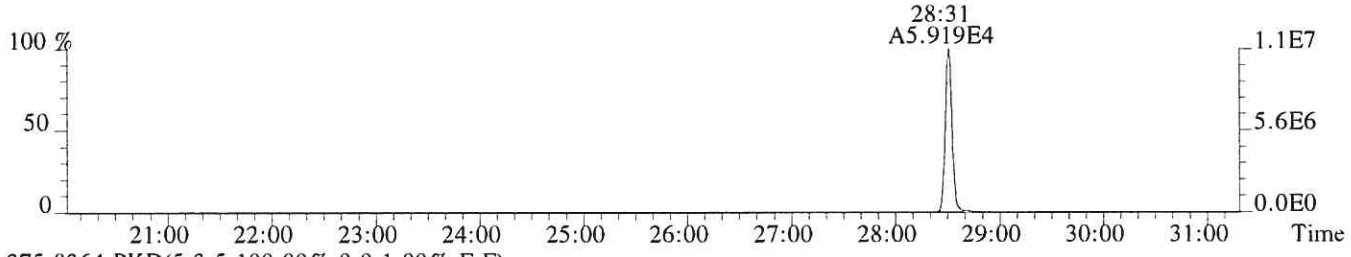
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5996.0,1.00%,F,T)



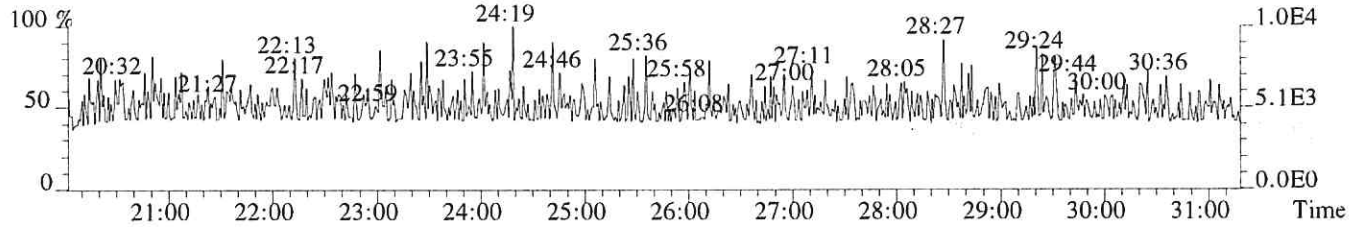
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,26692.0,1.00%,F,T)



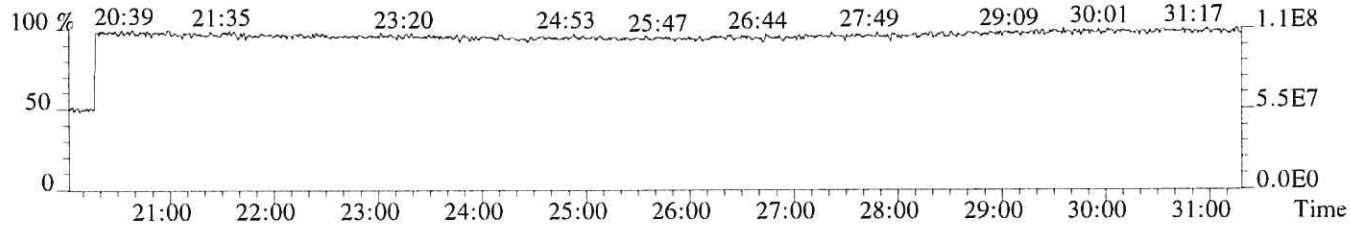
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13212.0,1.00%,F,T)



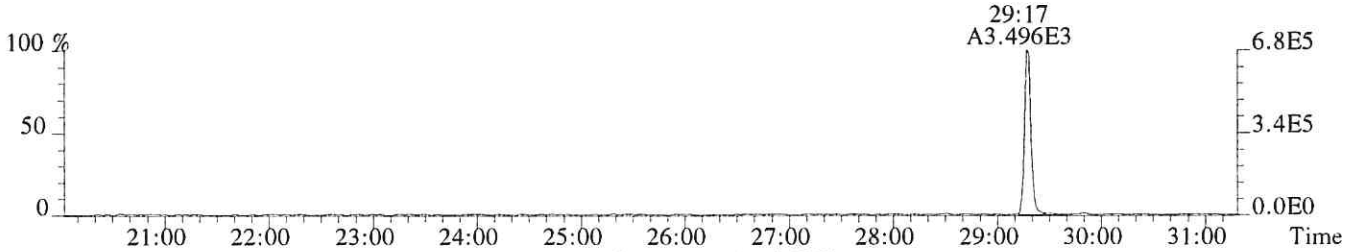
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



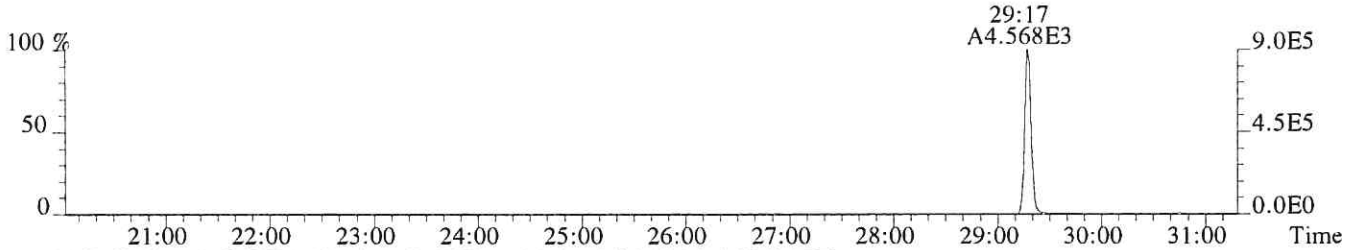
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



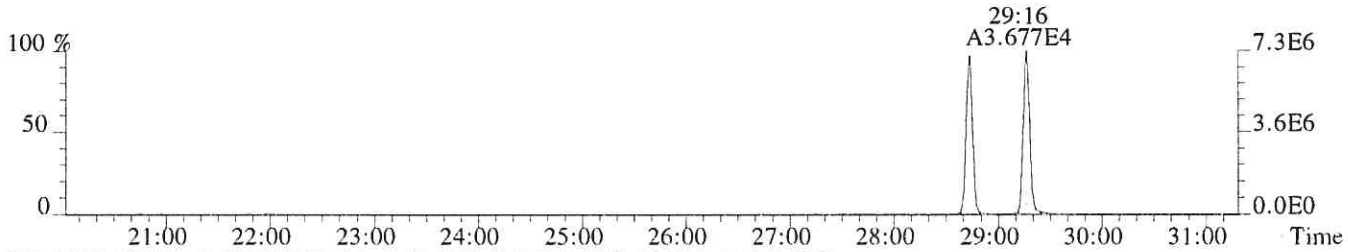
File:P511508 #1-800 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4184.0,1.00%,F,T)



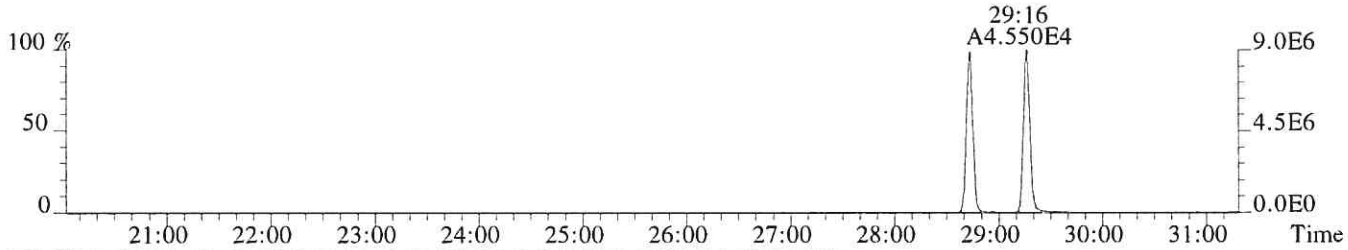
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2104.0,1.00%,F,T)



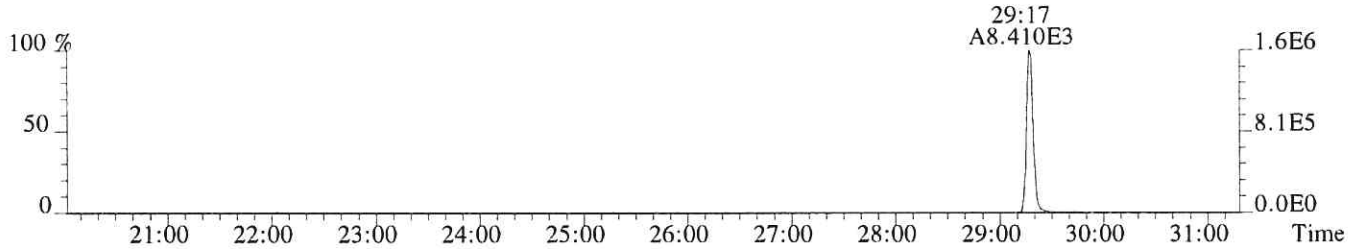
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9424.0,1.00%,F,T)



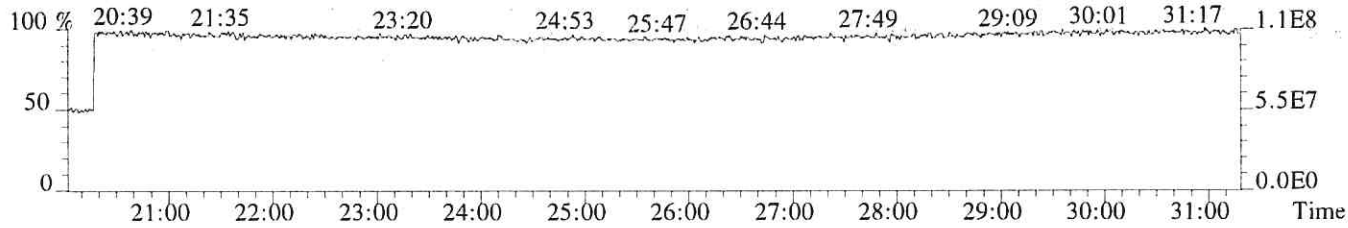
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5288.0,1.00%,F,T)



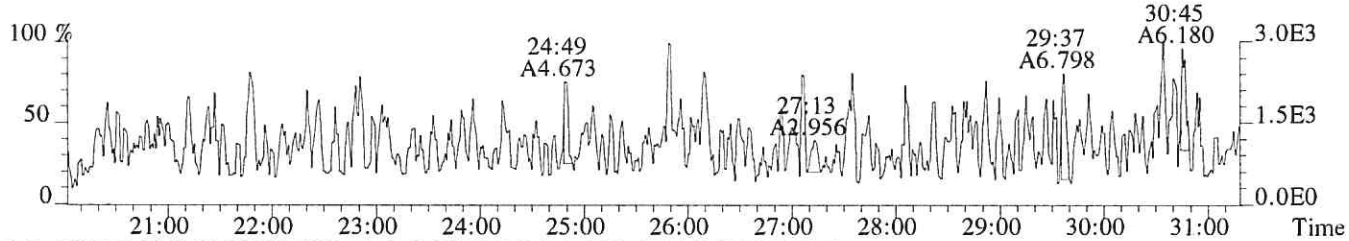
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2364.0,1.00%,F,T)



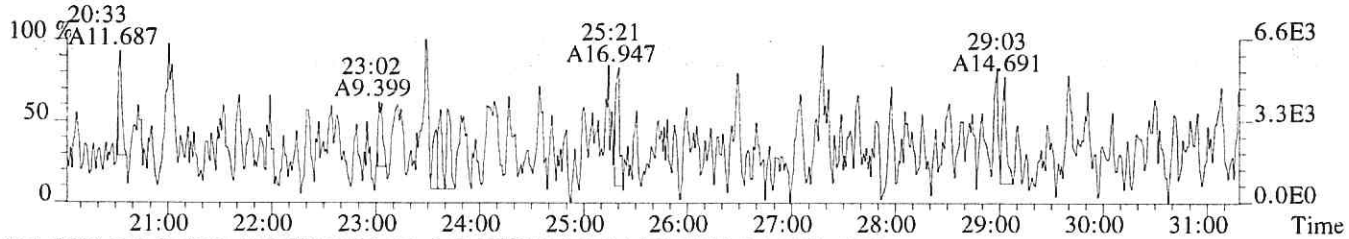
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



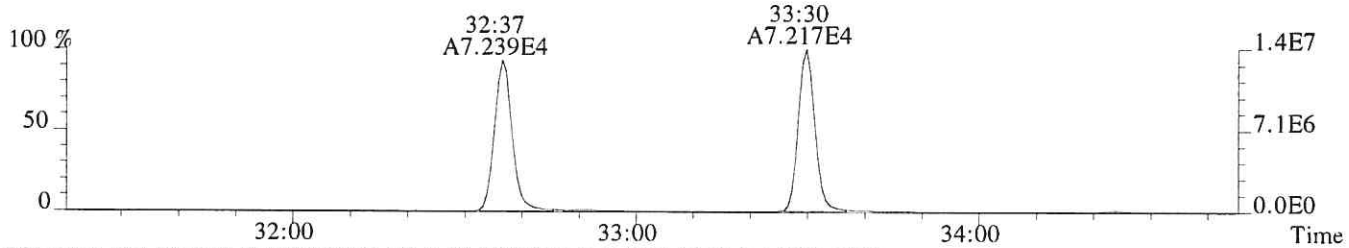
File:P511508 #1-800 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,T)



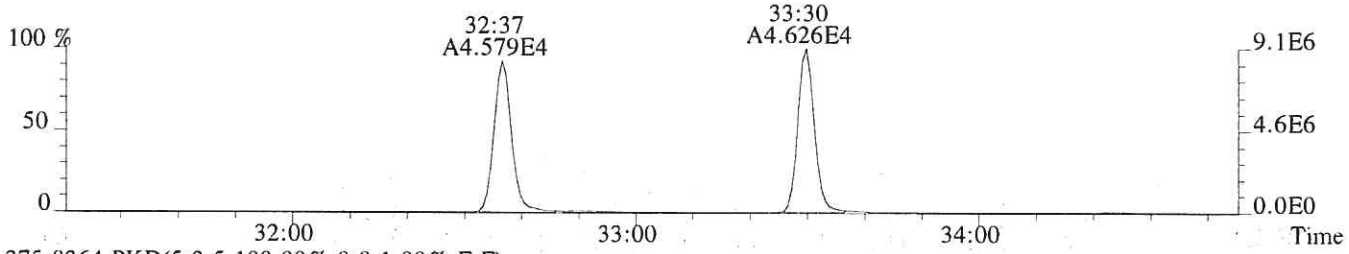
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2712.0,1.00%,F,T)



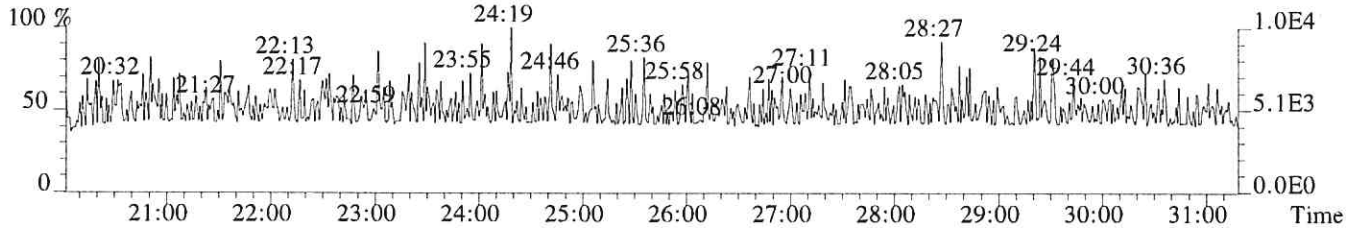
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2080.0,1.00%,F,T)



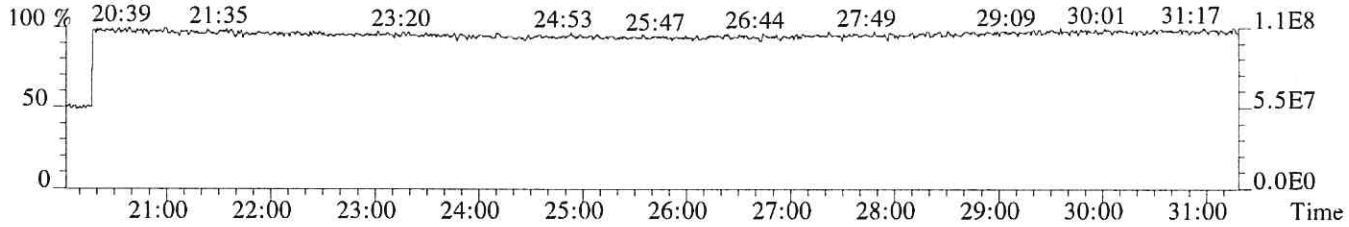
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2960.0,1.00%,F,T)



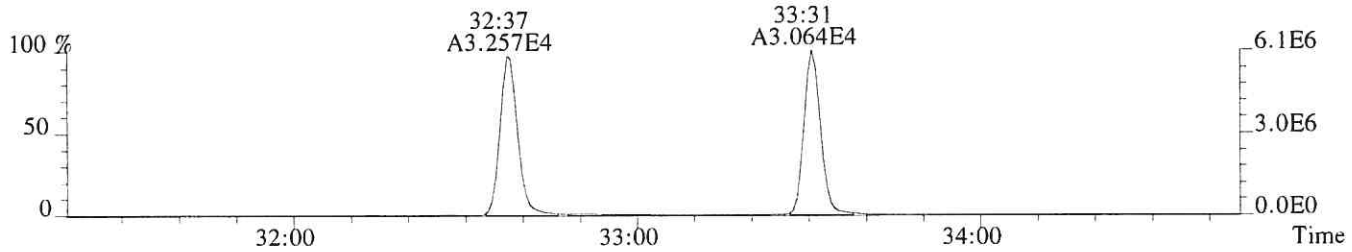
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



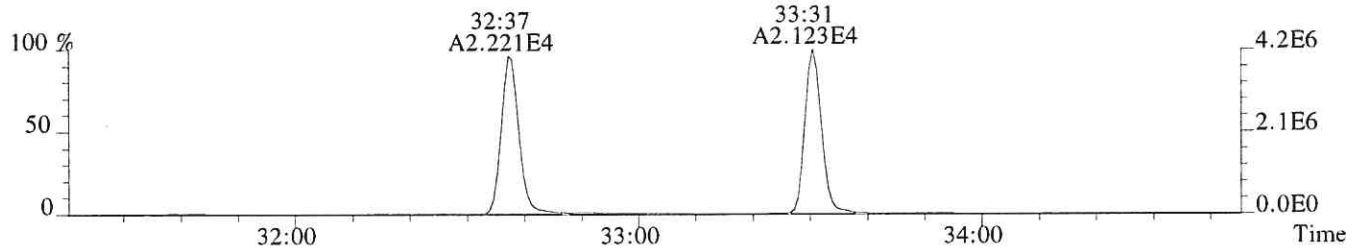
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



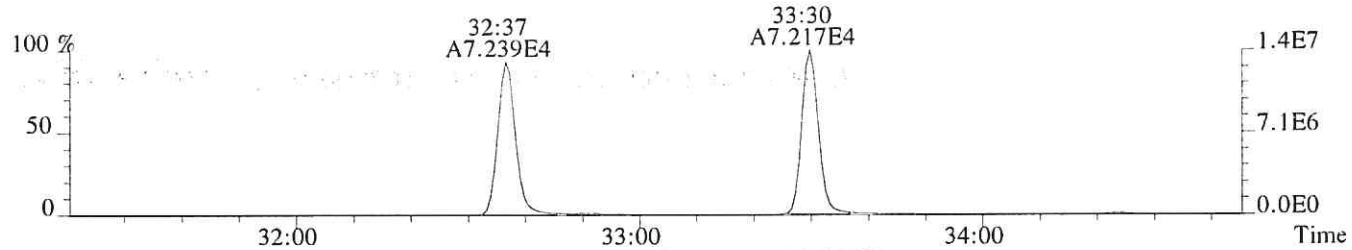
File:P511508 #1-308 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1112.0,1.00%,F,T)



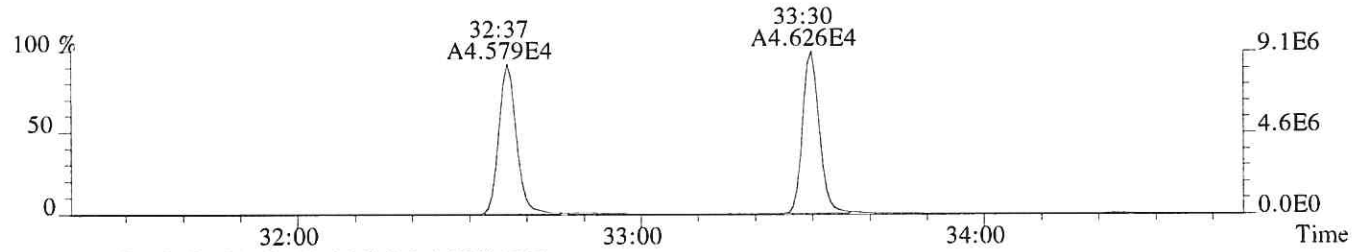
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5092.0,1.00%,F,T)



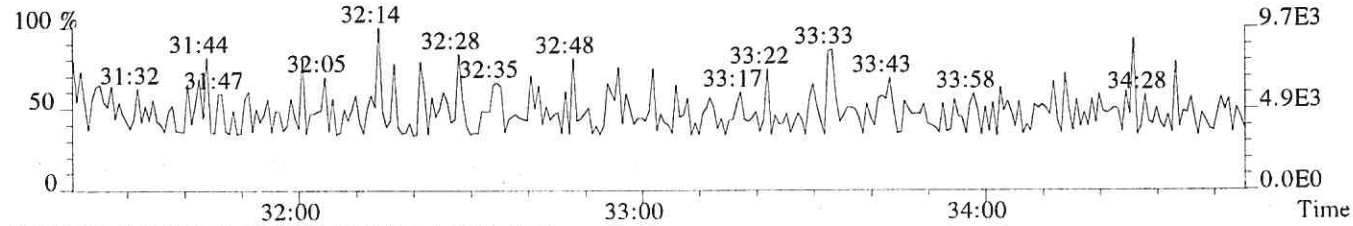
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2080.0,1.00%,F,T)



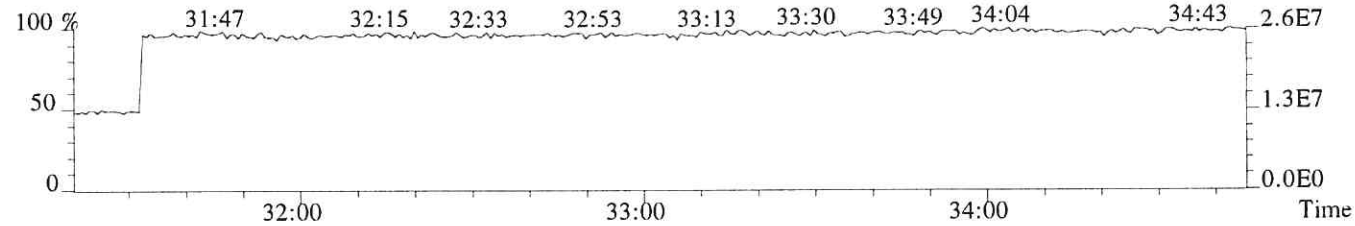
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2960.0,1.00%,F,T)



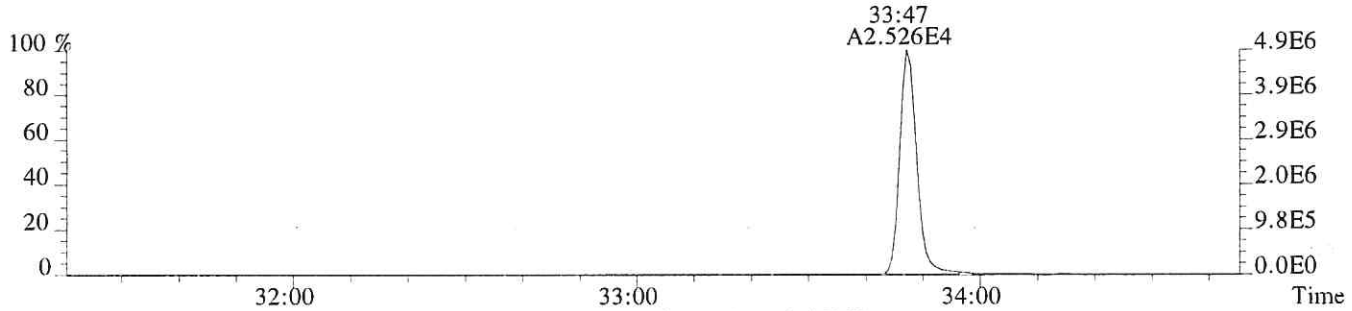
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



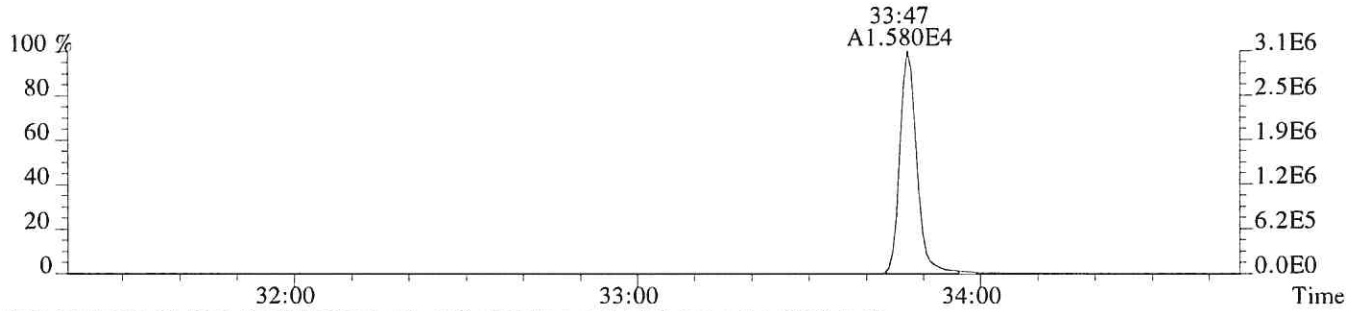
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



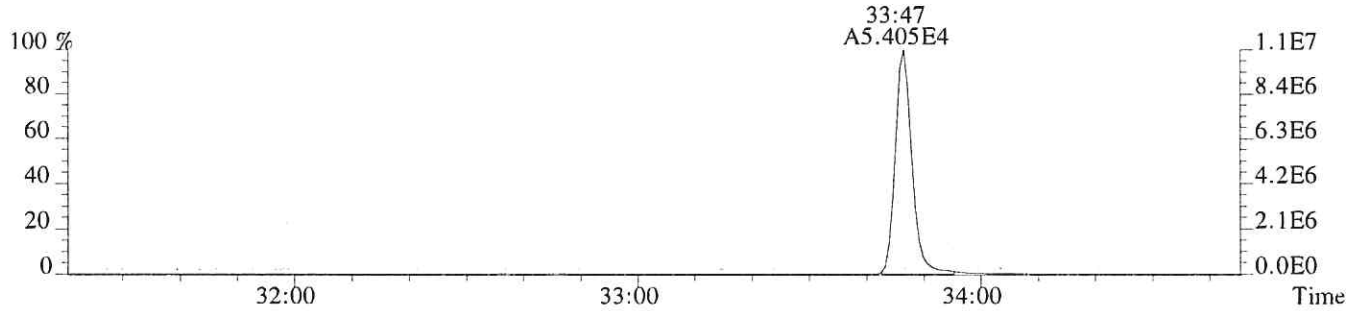
File:P511508 #1-308 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2864.0,1.00%,F,T)



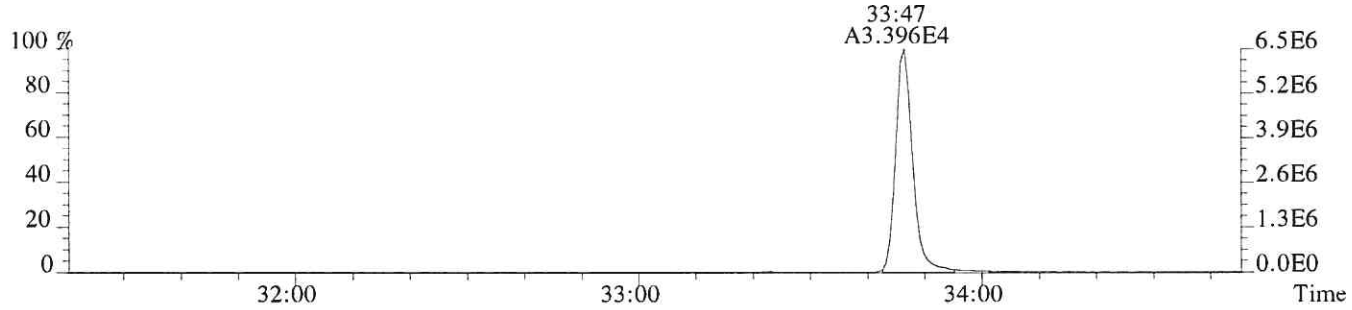
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,428.0,1.00%,F,T)



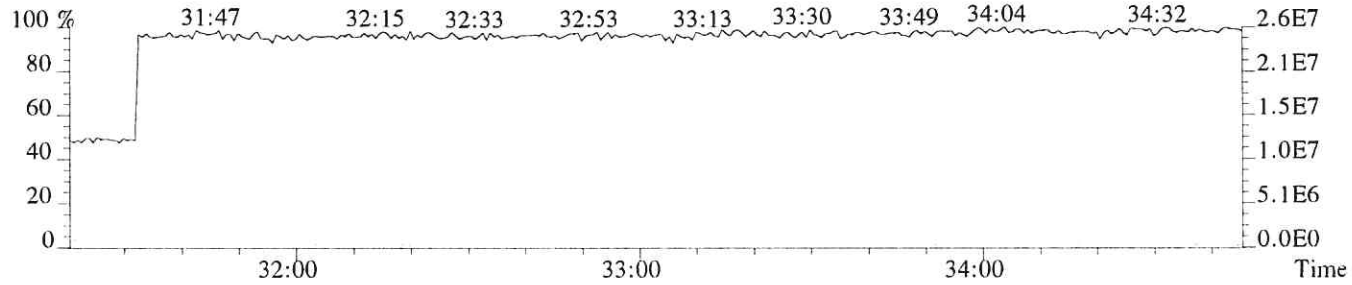
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2724.0,1.00%,F,T)



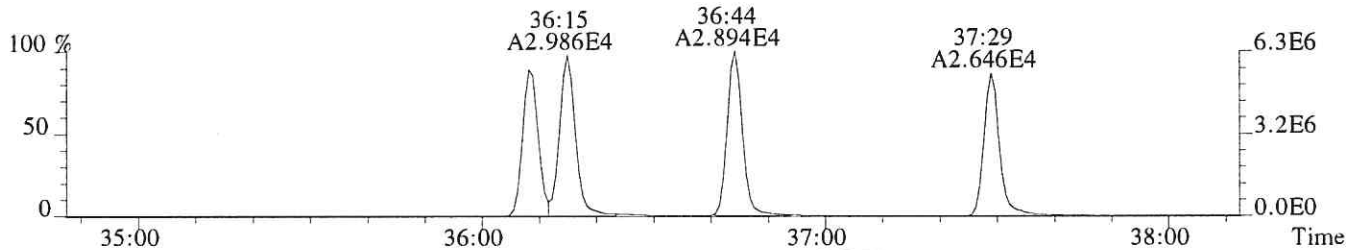
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2340.0,1.00%,F,T)



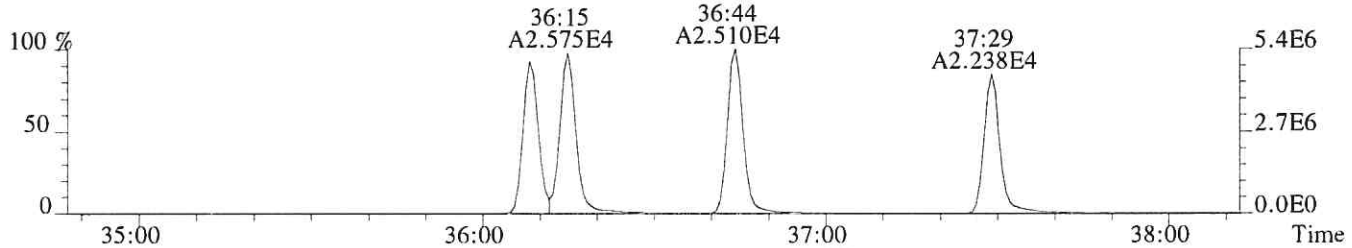
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



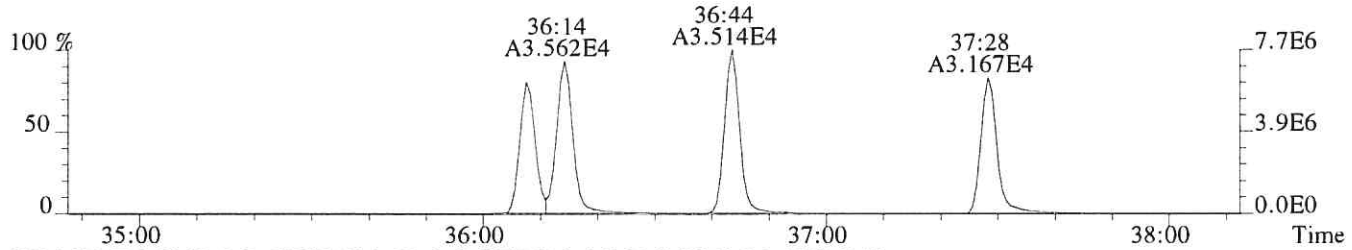
File:P511508 #1-308 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2252.0,0.40%,F,T)



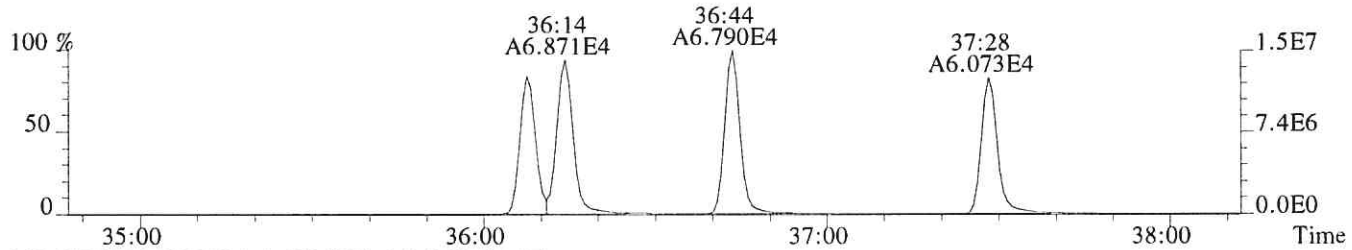
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1540.0,0.40%,F,T)



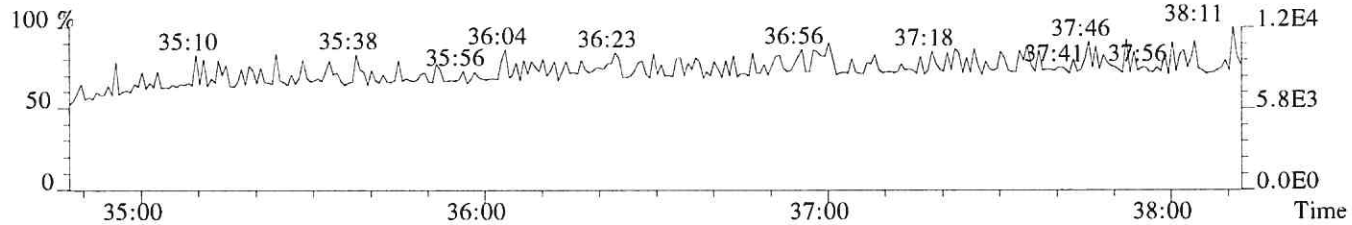
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2400.0,0.40%,F,T)



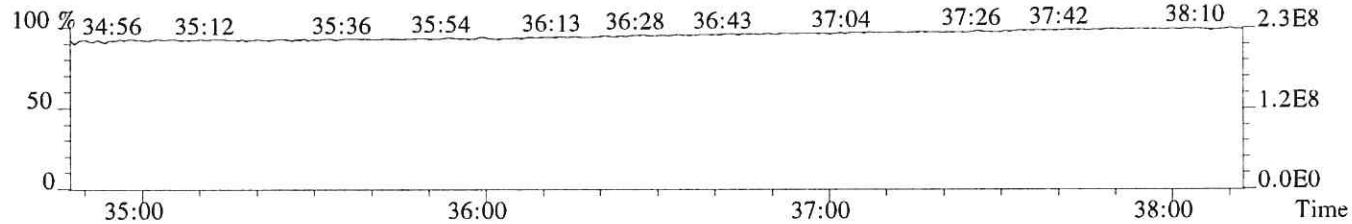
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2376.0,0.40%,F,T)



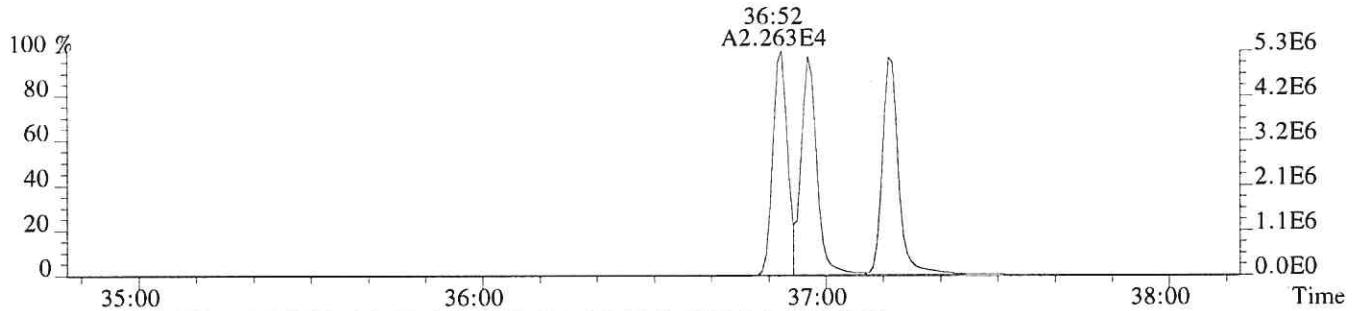
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



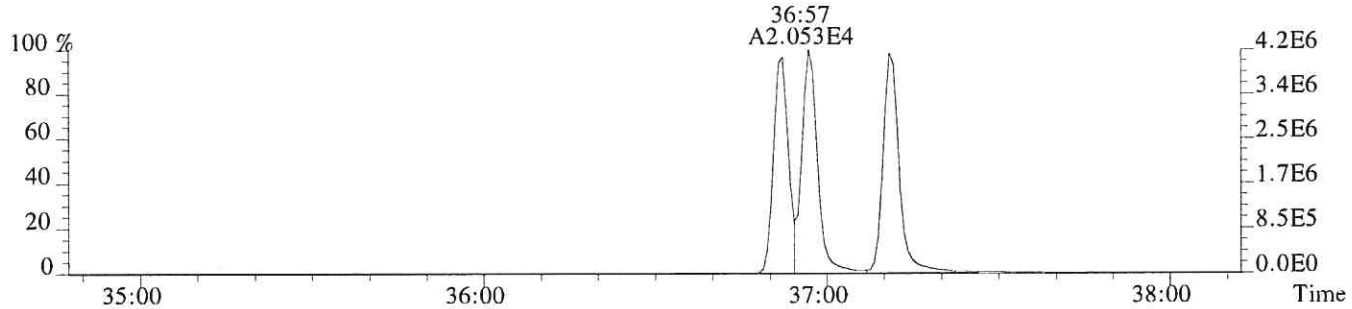
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



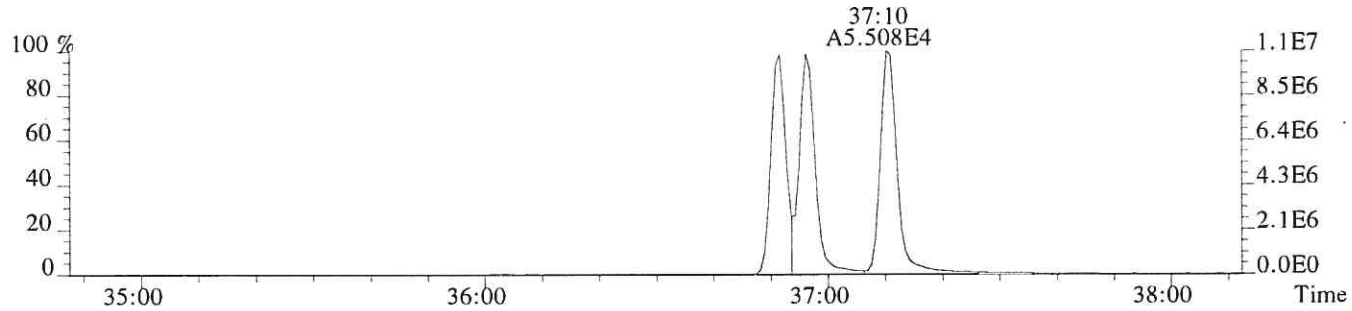
File:P511508 #1-308 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,T)



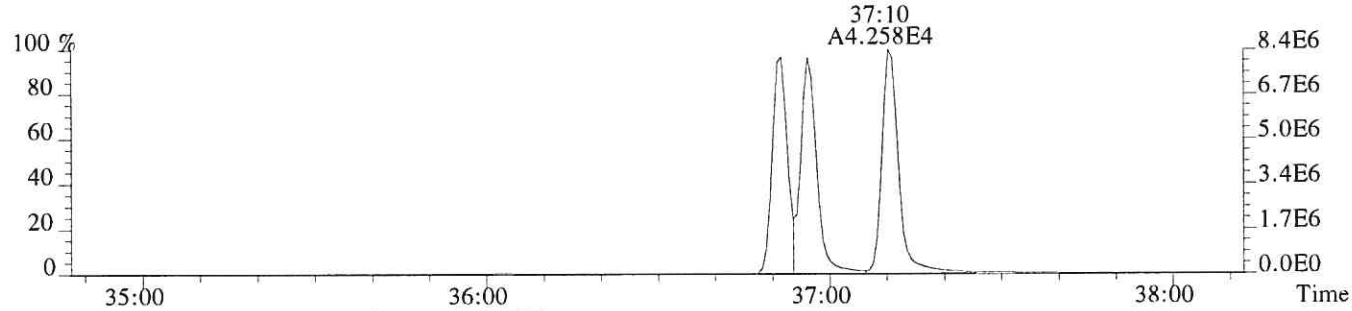
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1764.0,0.40%,F,T)



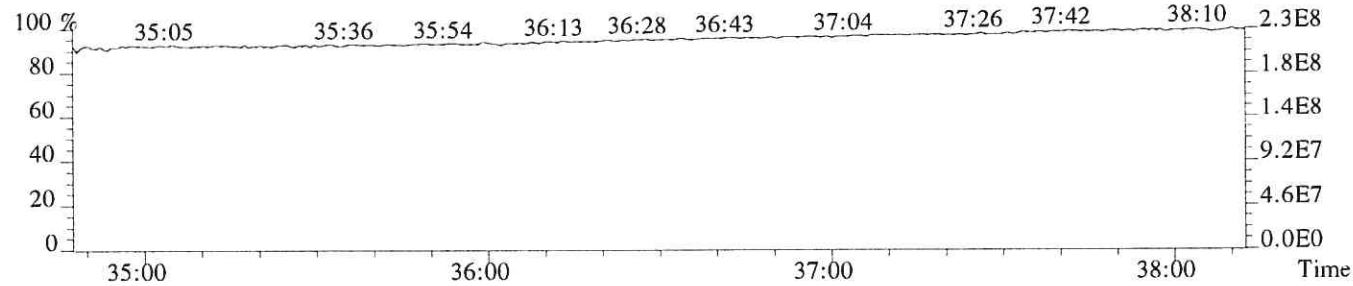
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3064.0,0.40%,F,T)



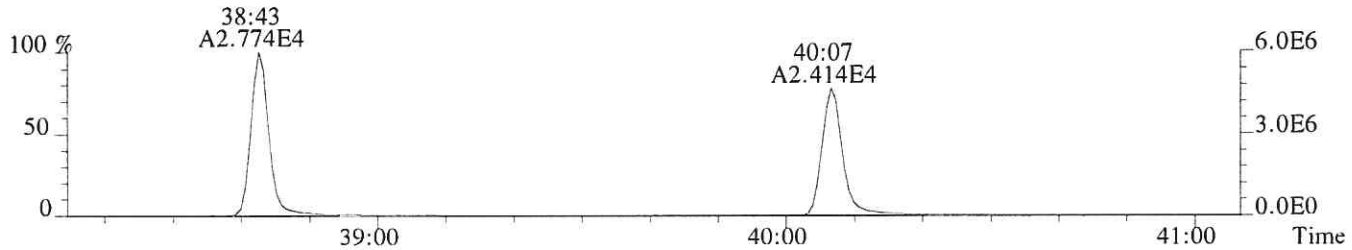
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2724.0,0.40%,F,T)



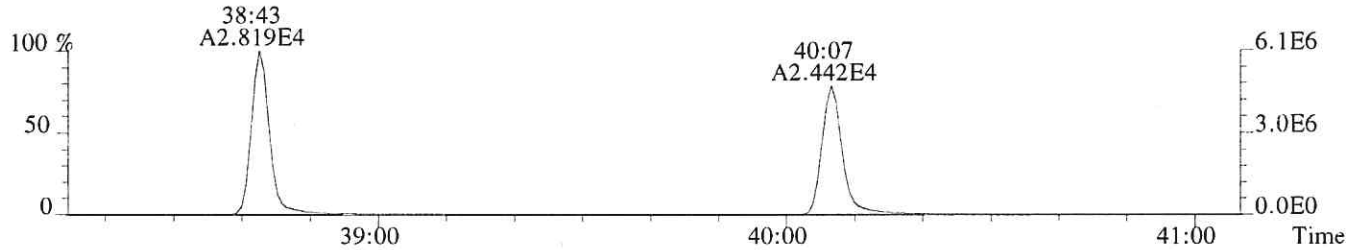
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



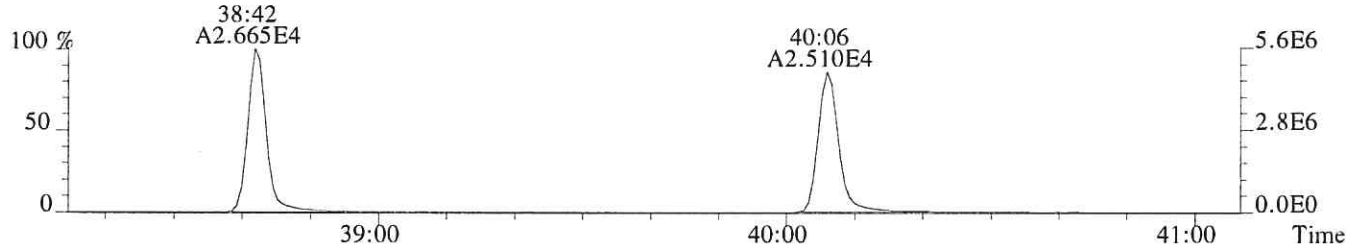
File:P511508 #1-259 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6296.0,0.50%,F,T)



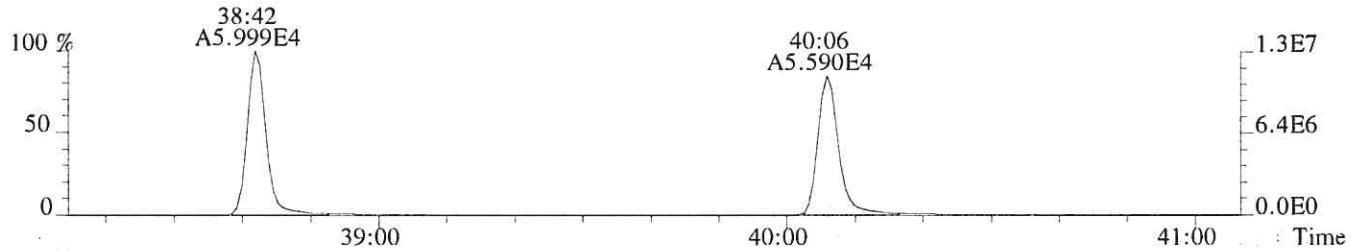
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4236.0,0.50%,F,T)



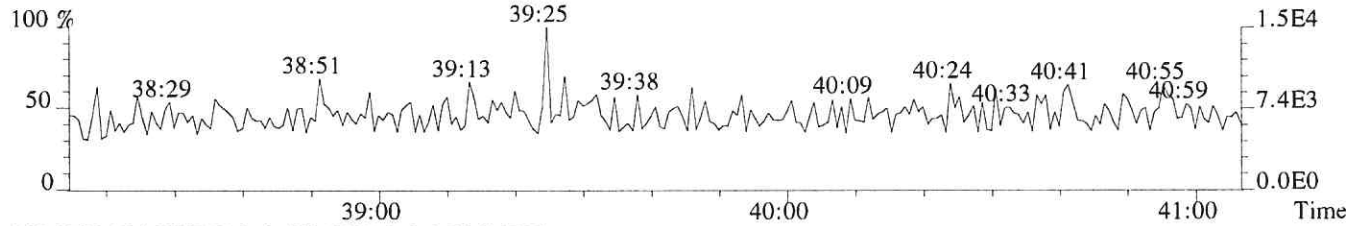
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7052.0,0.50%,F,T)



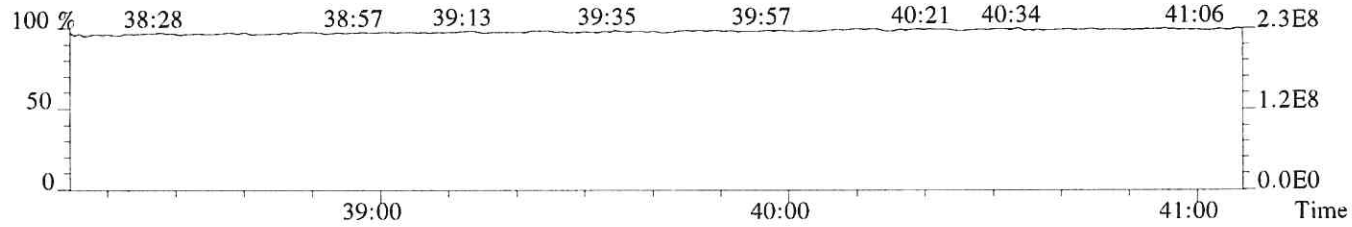
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9236.0,0.50%,F,T)



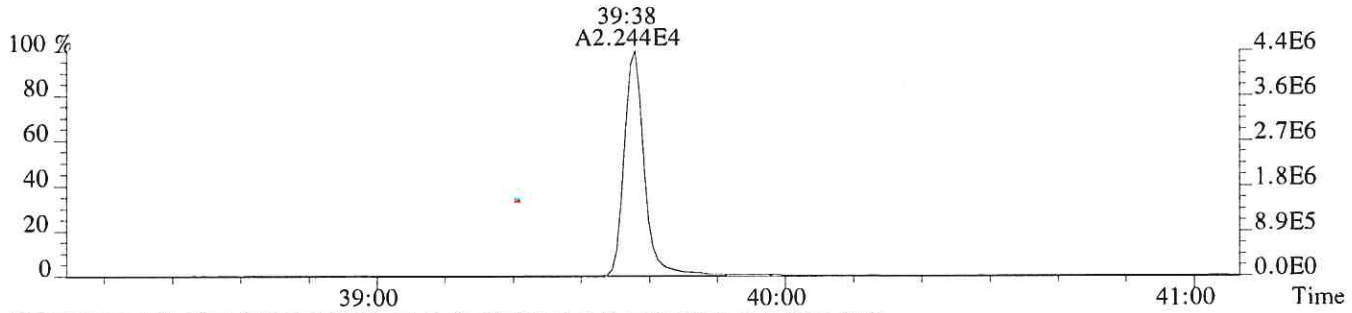
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



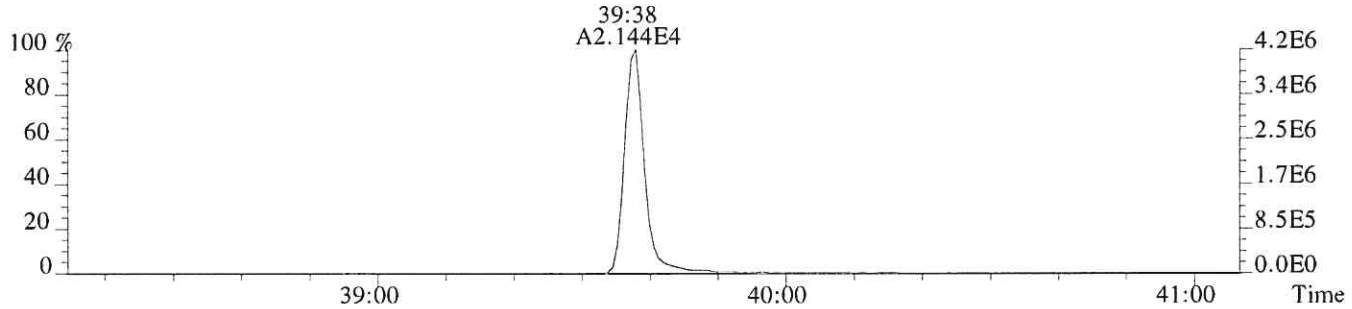
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



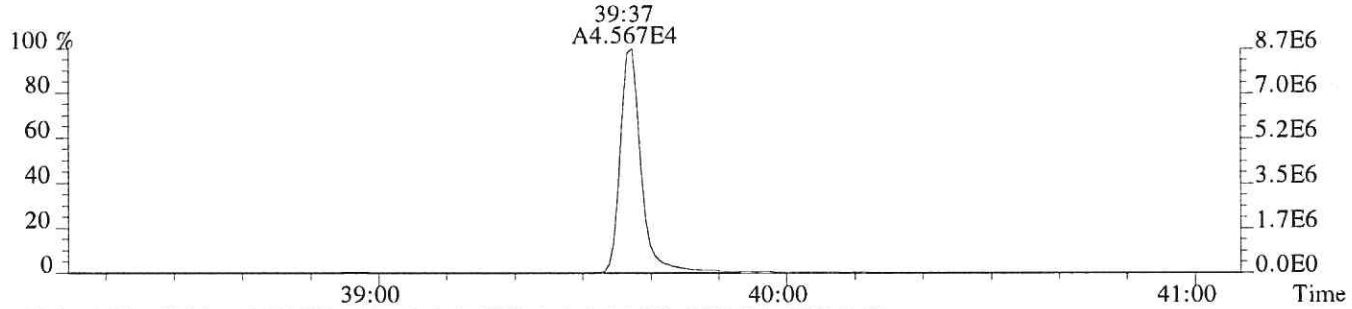
File:P511508 #1-259 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1760.0,0.40%,F,T)



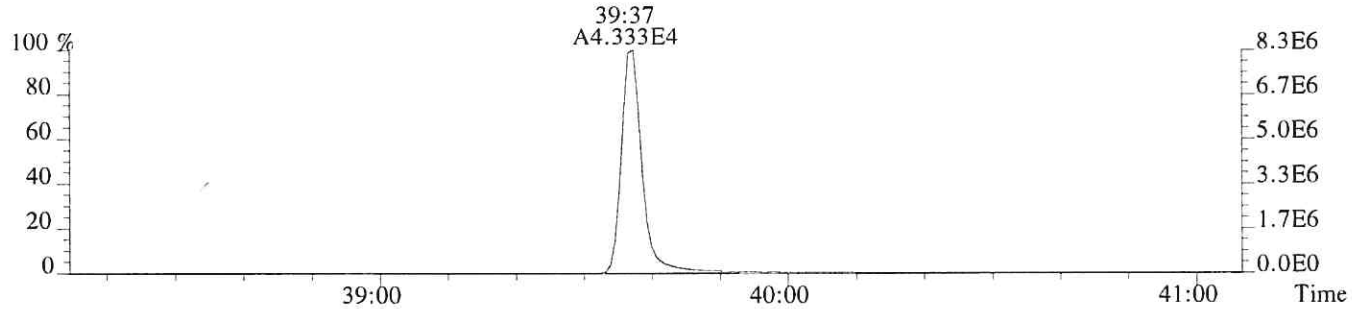
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



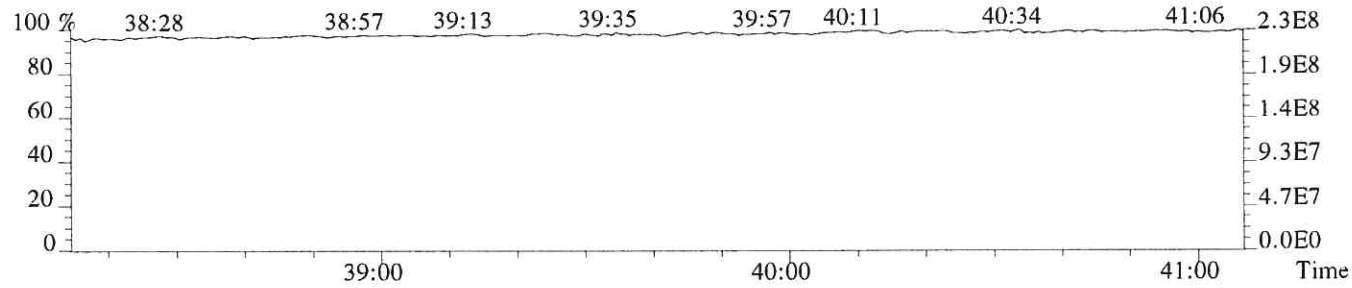
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2476.0,0.40%,F,T)



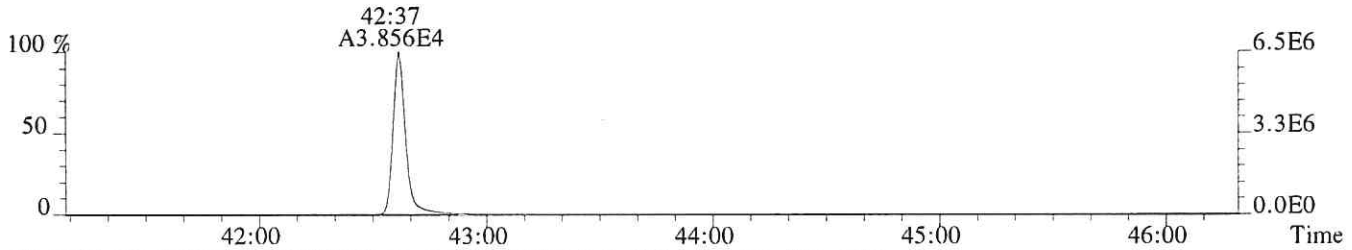
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1768.0,0.40%,F,T)



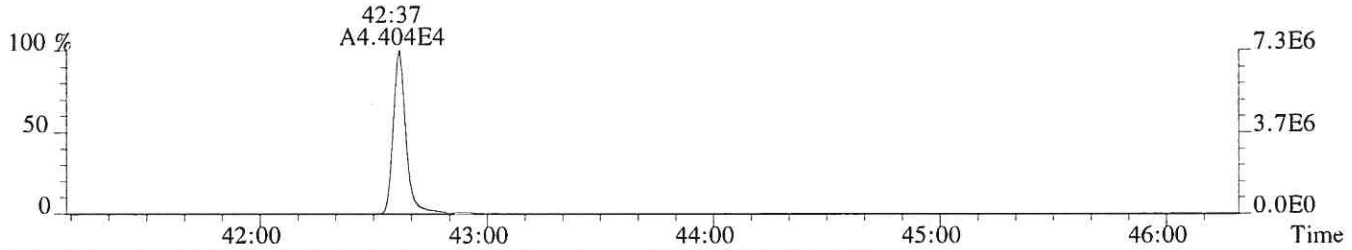
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



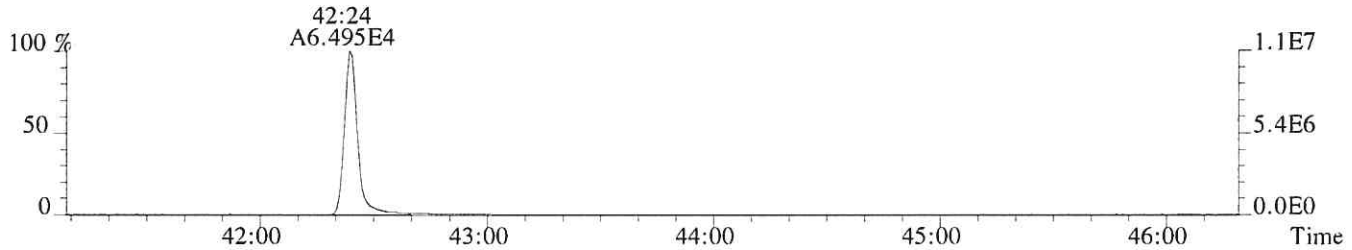
File:P511508 #1-466 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1548.0,0.40%,F,T)



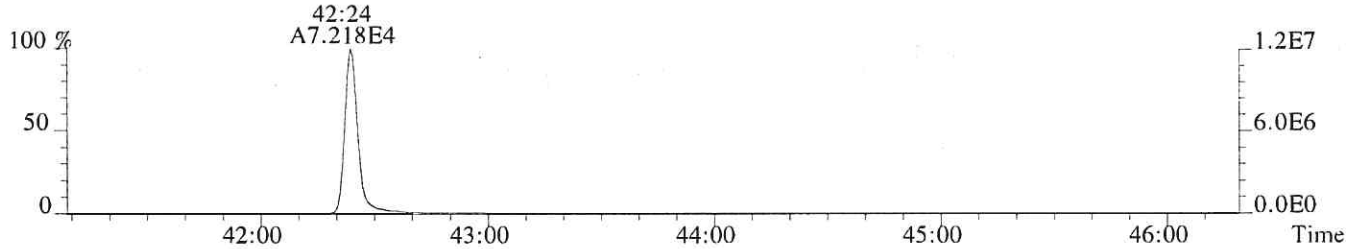
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2920.0,0.40%,F,T)



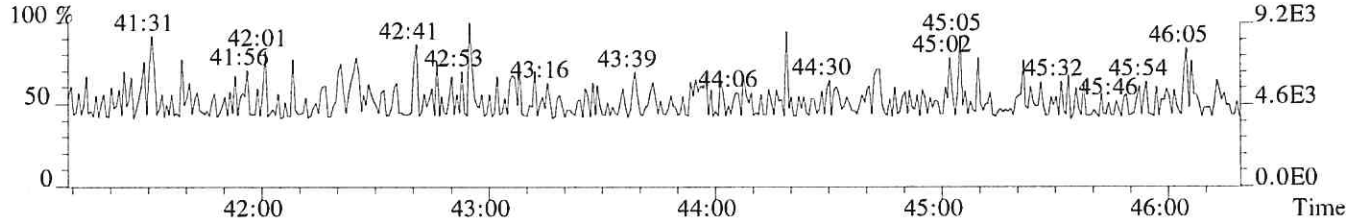
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1980.0,0.40%,F,T)



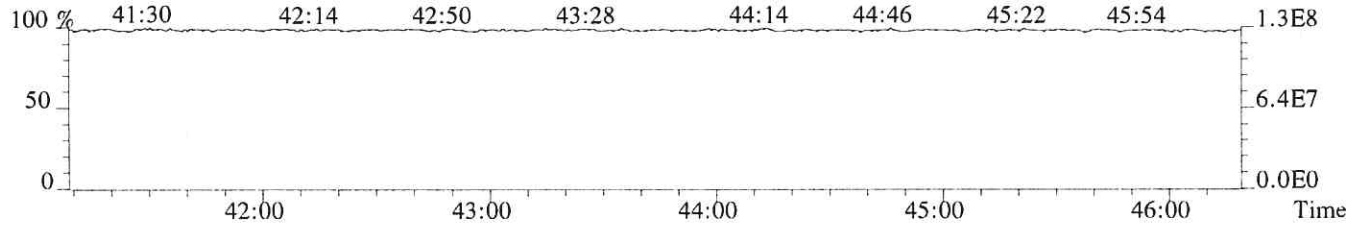
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



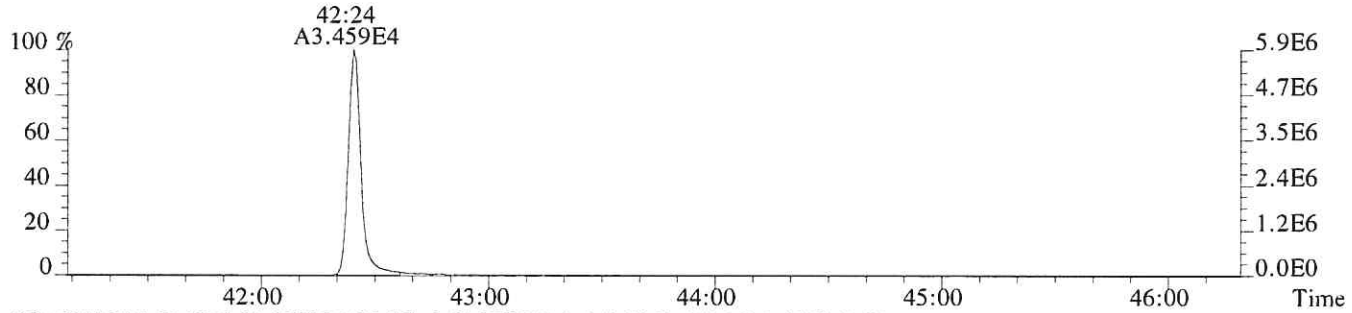
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



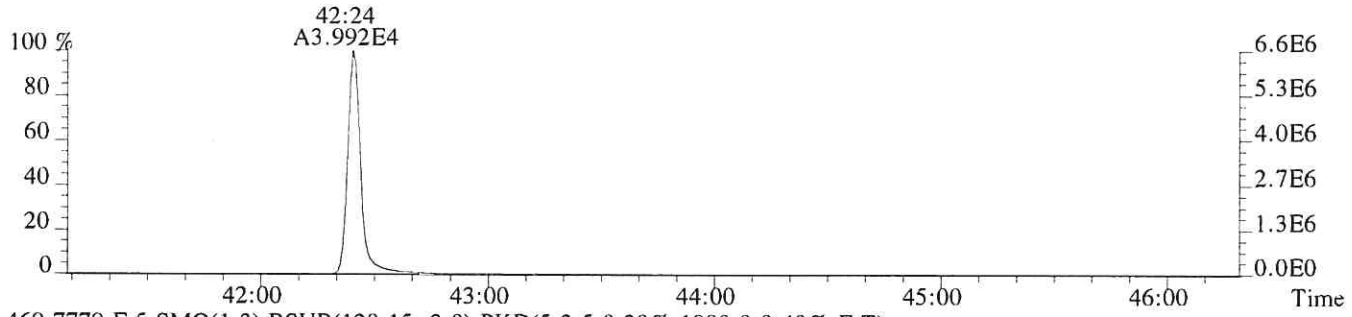
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



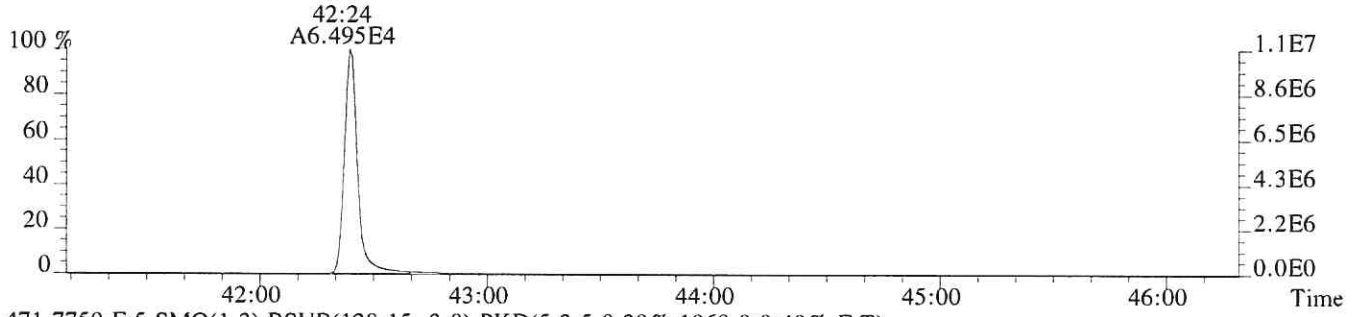
File:P511508 #1-466 Acq:23-SEP-2017 10:49:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,840.0,0.40%,F,T)



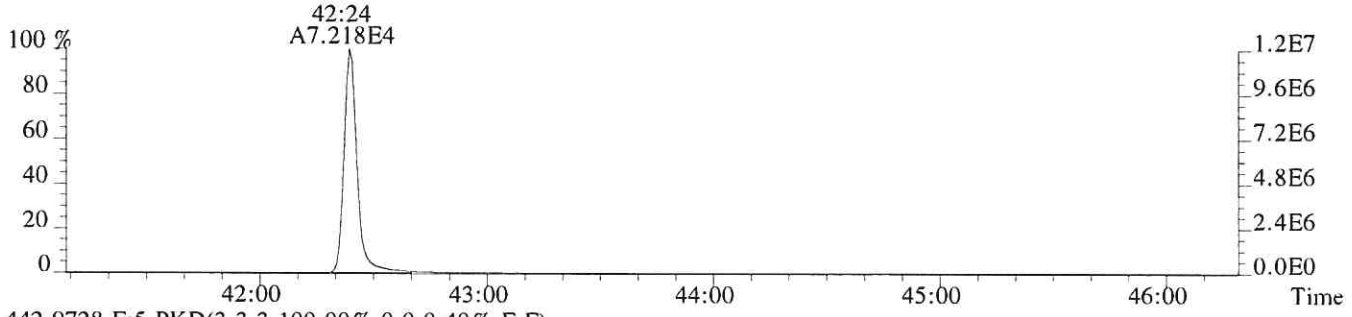
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,T)



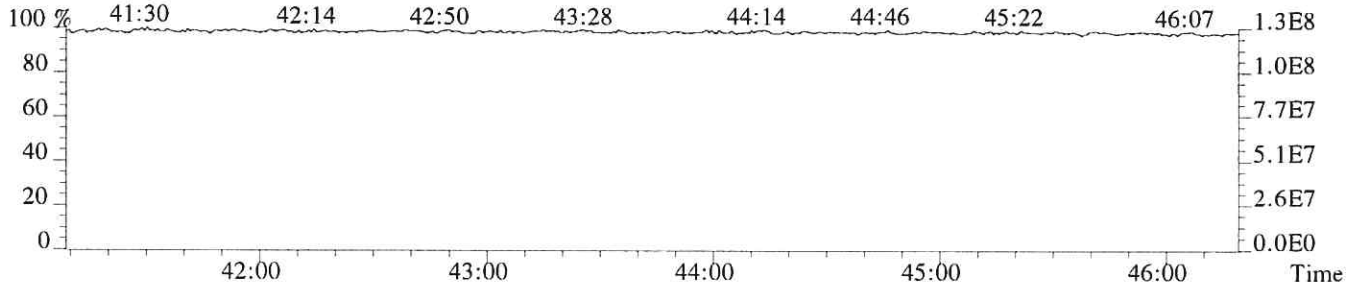
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1980.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,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

OPUS4: P5-1707261613I ; P510641res

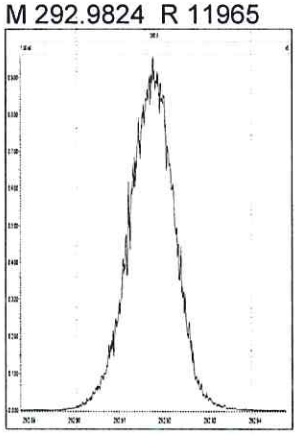
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	7/26/17	08:03	P510631	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LJS	not used
2		09:10	P510632	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		not used
3		10:27	P510633	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		HRMS 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

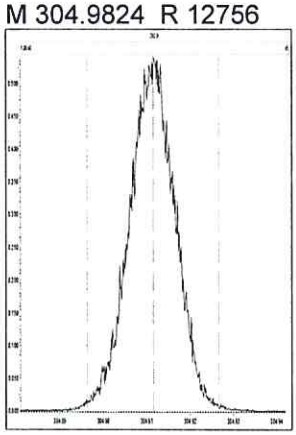
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:22:08 Central Daylight Time

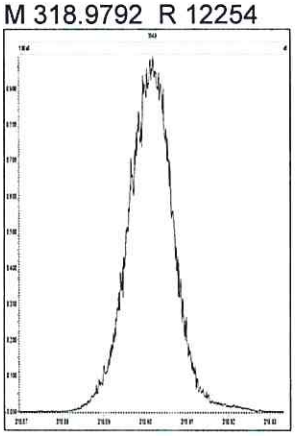
M 292.9824 R 11965



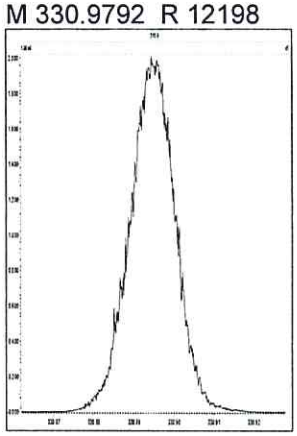
M 304.9824 R 12756



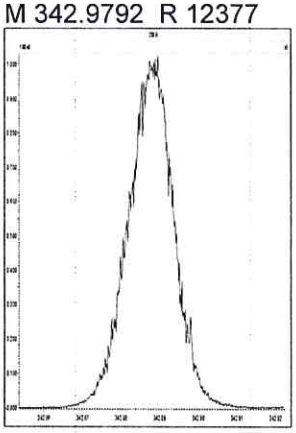
M 318.9792 R 12254



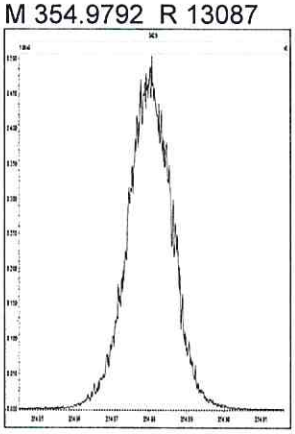
M 330.9792 R 12198



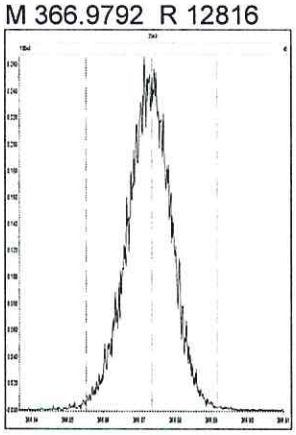
M 342.9792 R 12377



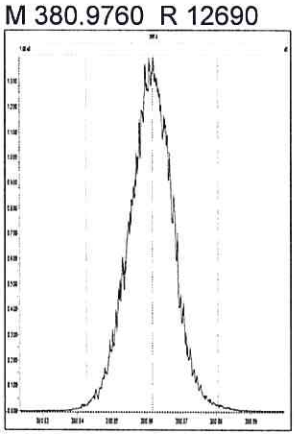
M 354.9792 R 13087



M 366.9792 R 12816



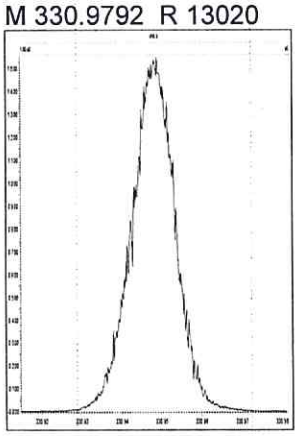
M 380.9760 R 12690



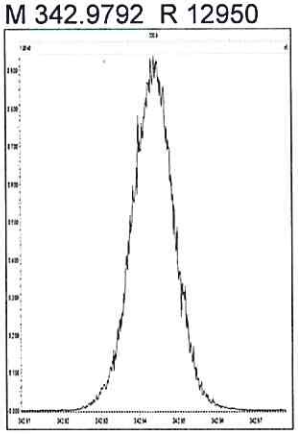
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:24:24 Central Daylight Time

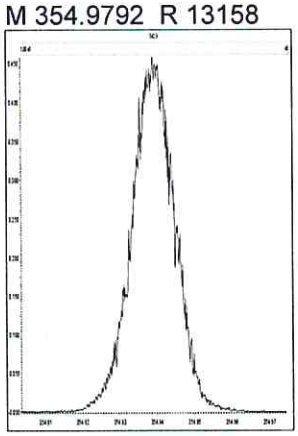
M 330.9792 R 13020



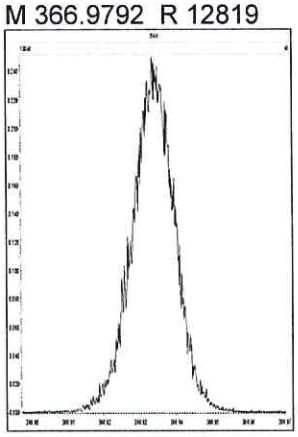
M 342.9792 R 12950



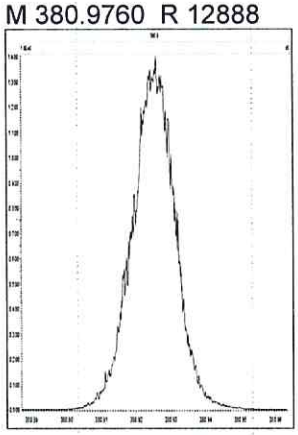
M 354.9792 R 13158



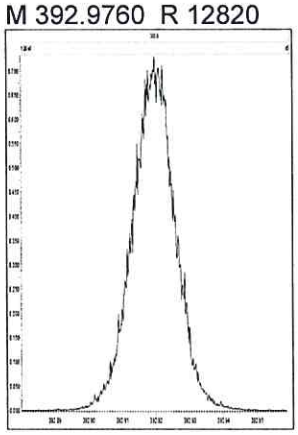
M 366.9792 R 12819



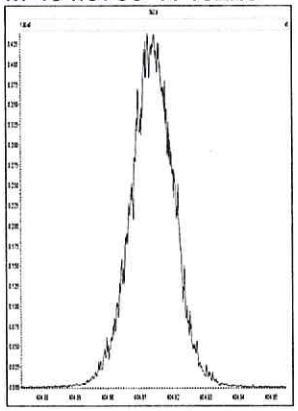
M 380.9760 R 12888



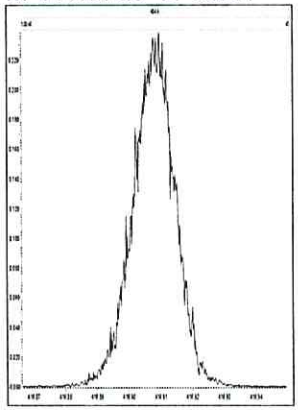
M 392.9760 R 12820



M 404.9760 R 13225



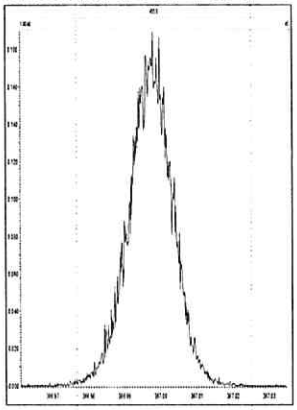
M 416.9760 R 13967



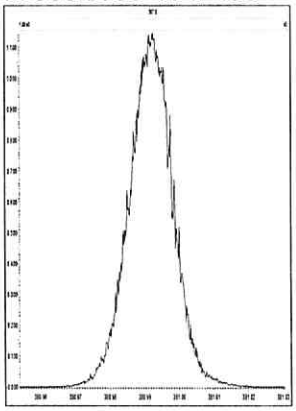
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:25:29 Central Daylight Time

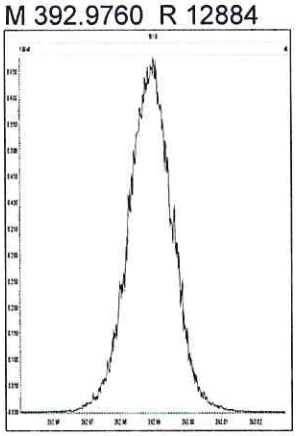
M 366.9792 R 12627



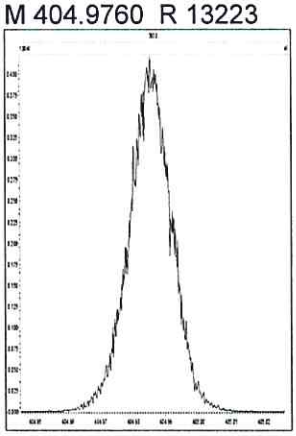
M 380.9760 R 12499



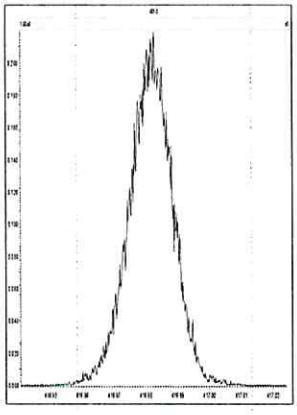
M 392.9760 R 12884



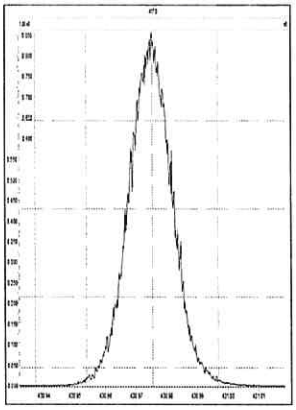
M 404.9760 R 13223



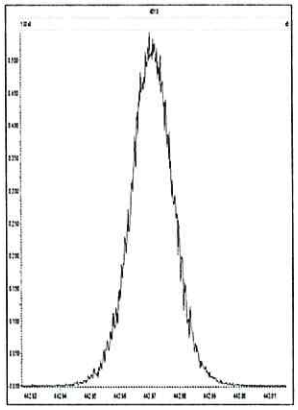
M 416.9760 R 12758



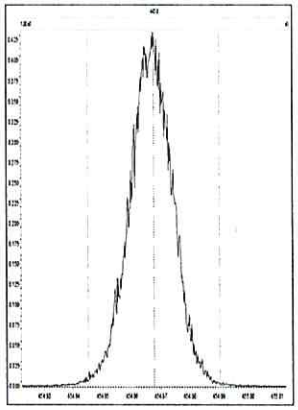
M 430.9728 R 12435



M 442.9728 R 12953



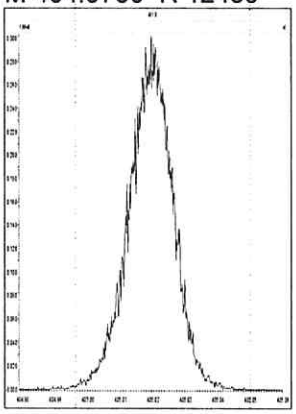
M 454.9728 R 12819



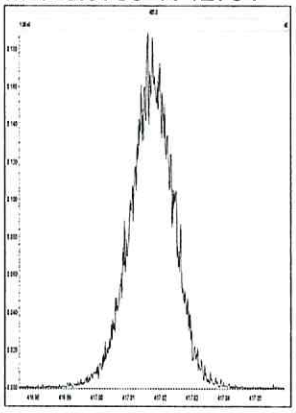
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:26:17 Central Daylight Time

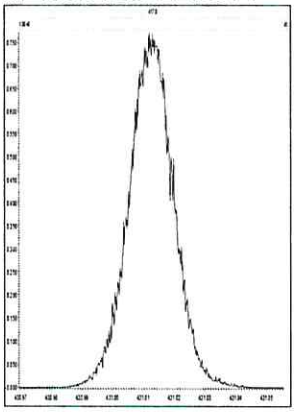
M 404.9760 R 12439



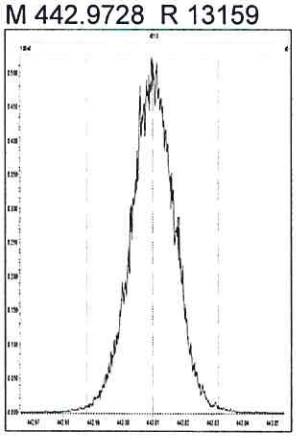
M 416.9760 R 12754



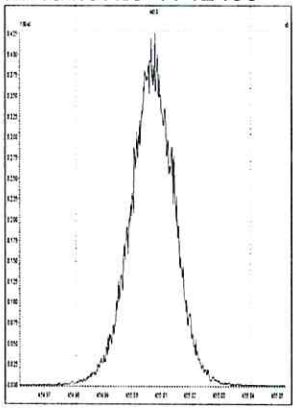
M 430.9728 R 12374



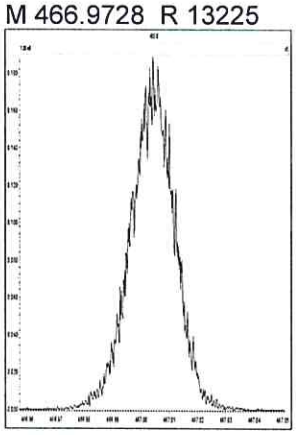
M 442.9728 R 13159



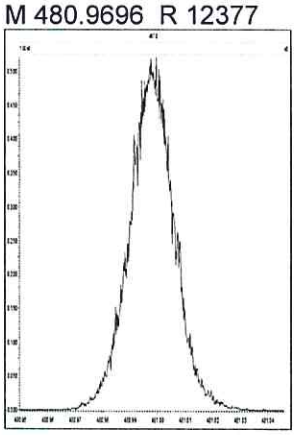
M 454.9728 R 12499



M 466.9728 R 13225



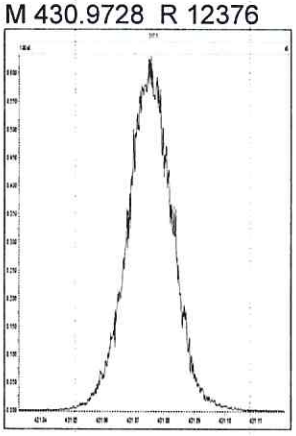
M 480.9696 R 12377



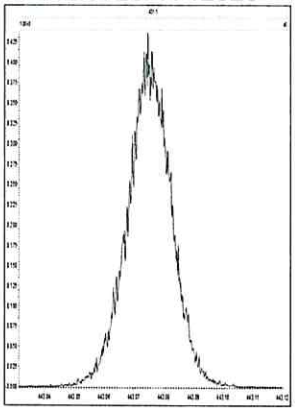
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:27:11 Central Daylight Time

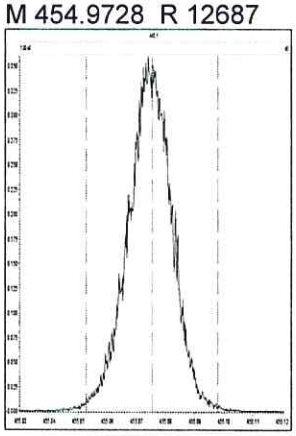
M 430.9728 R 12376



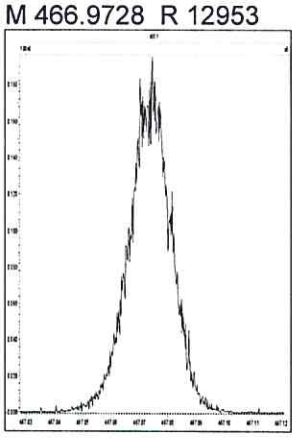
M 442.9728 R 12823



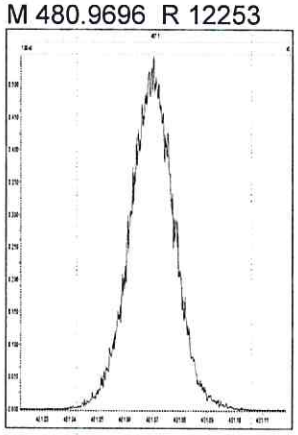
M 454.9728 R 12687



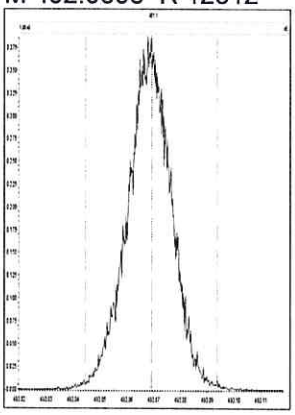
M 466.9728 R 12953



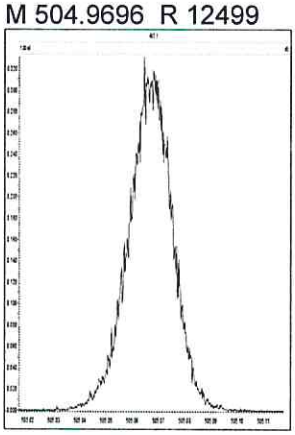
M 480.9696 R 12253



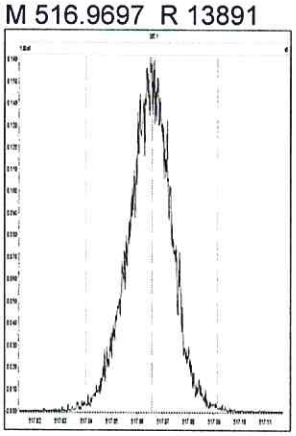
M 492.9696 R 12312



M 504.9696 R 12499



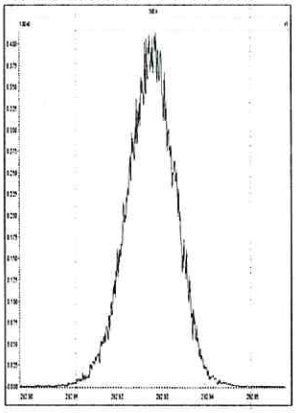
M 516.9697 R 13891



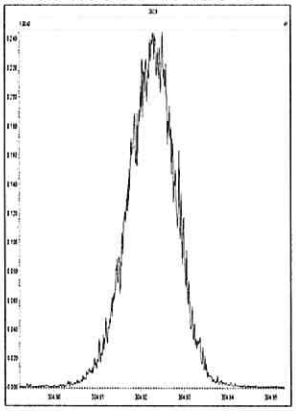
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:18:58 Central Daylight Time

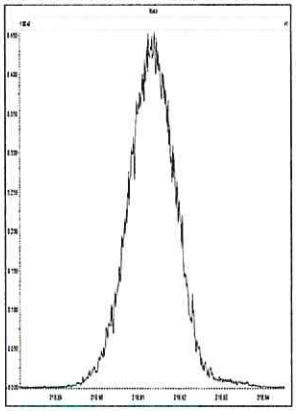
M 292.9824 R 11316



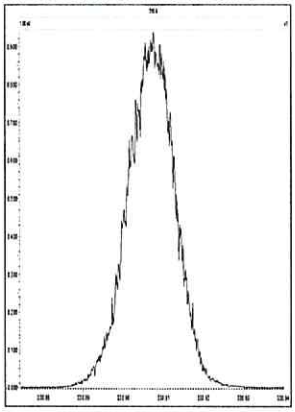
M 304.9824 R 12015



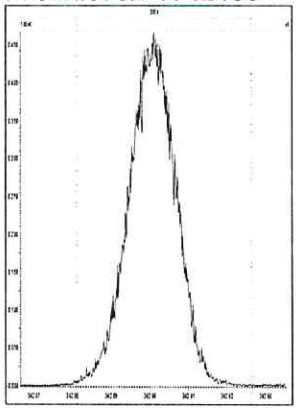
M 318.9792 R 12562



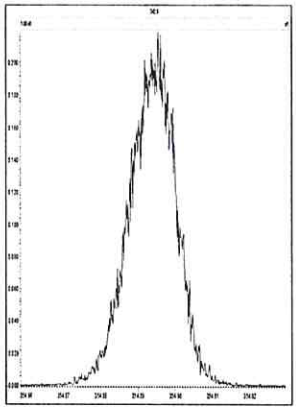
M 330.9792 R 12379



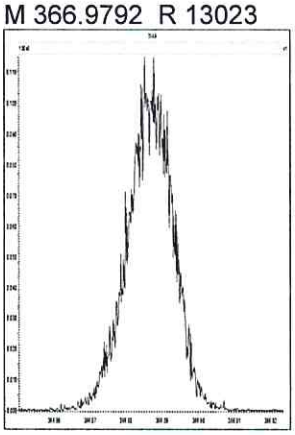
M 342.9792 R 12196



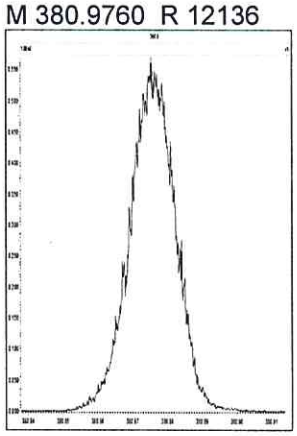
M 354.9792 R 12952



M 366.9792 R 13023



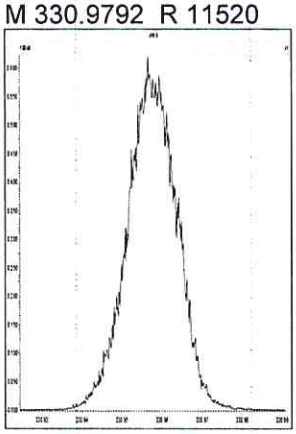
M 380.9760 R 12136



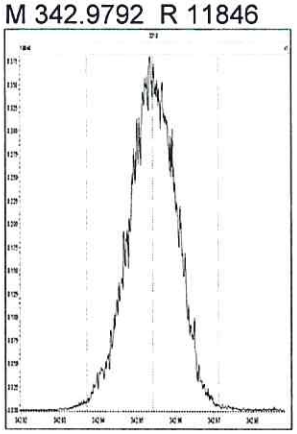
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:20:36 Central Daylight Time

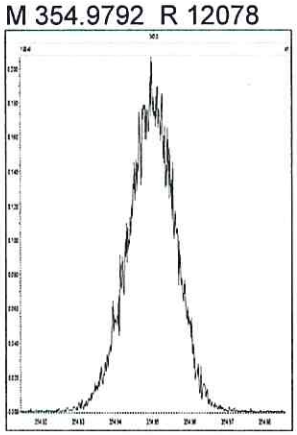
M 330.9792 R 11520



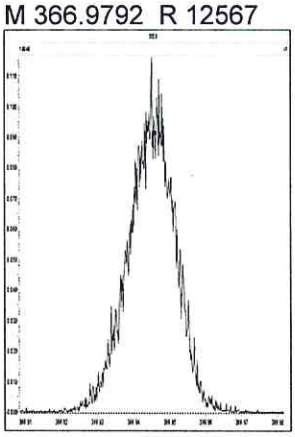
M 342.9792 R 11846



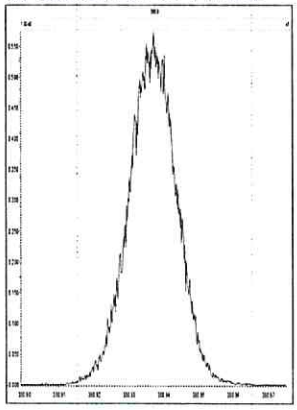
M 354.9792 R 12078



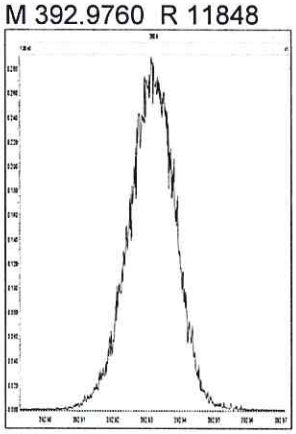
M 366.9792 R 12567



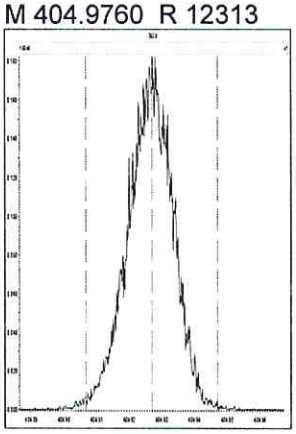
M 380.9760 R 11964



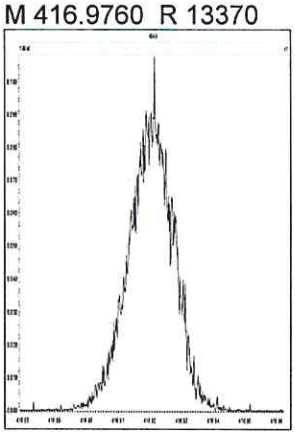
M 392.9760 R 11848



M 404.9760 R 12313



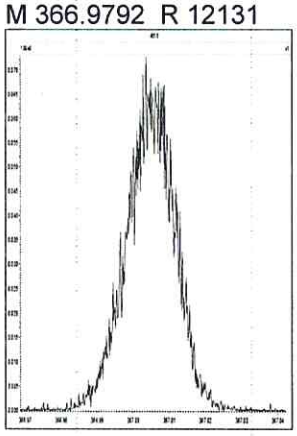
M 416.9760 R 13370



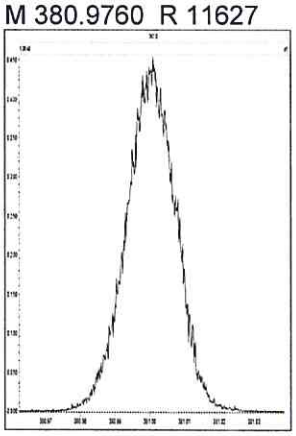
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:22:10 Central Daylight Time

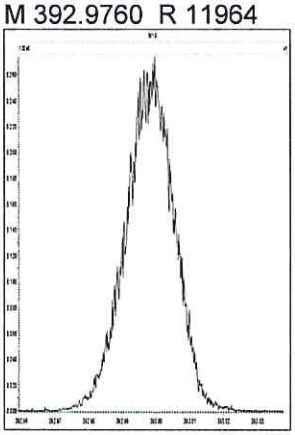
M 366.9792 R 12131



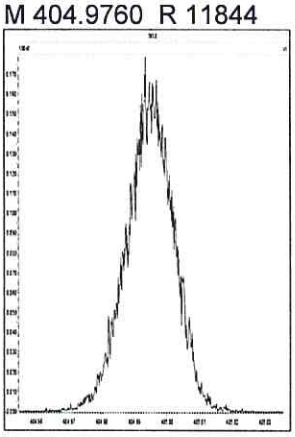
M 380.9760 R 11627



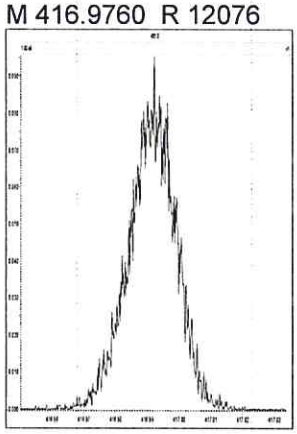
M 392.9760 R 11964



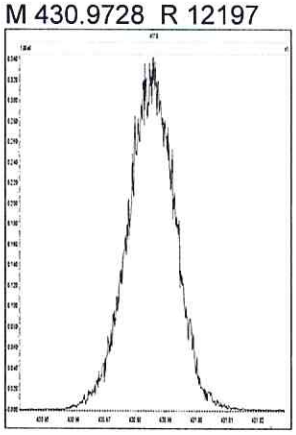
M 404.9760 R 11844



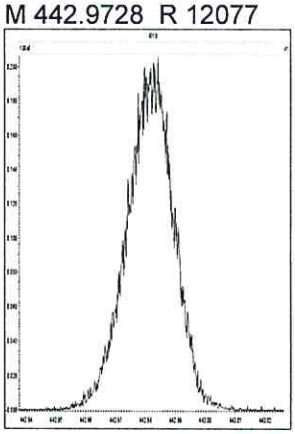
M 416.9760 R 12076



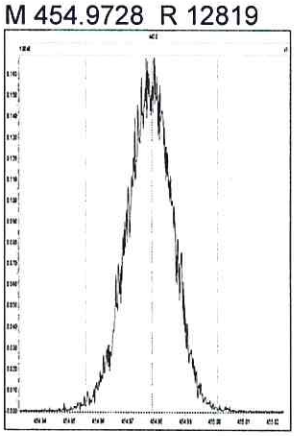
M 430.9728 R 12197



M 442.9728 R 12077



M 454.9728 R 12819



File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

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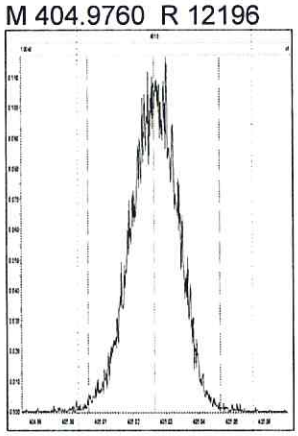
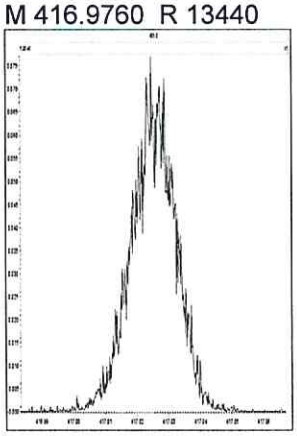
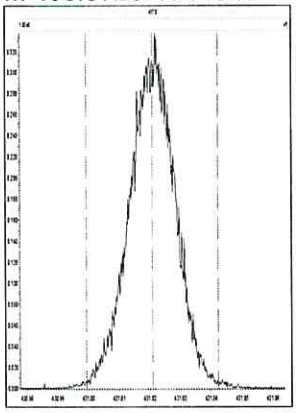
M 404.9760 R 12196



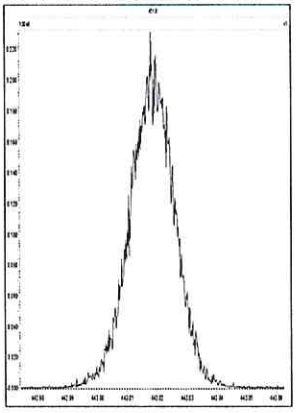
M 416.9760 R 13440



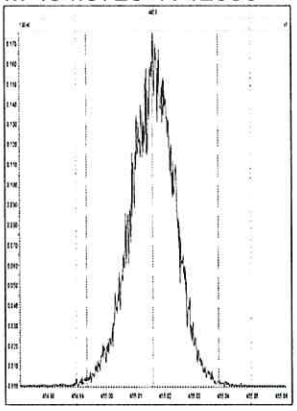
M 430.9728 R 11847



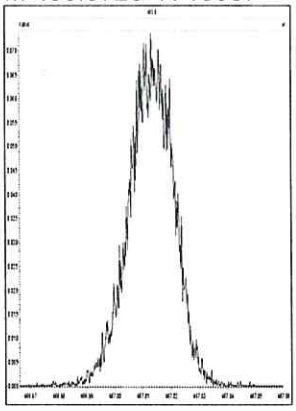
M 442.9728 R 12691



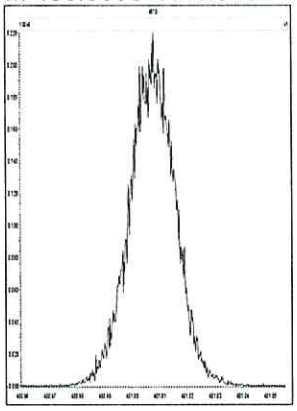
M 454.9728 R 12953



M 466.9728 R 13367



M 480.9696 R 12316



File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

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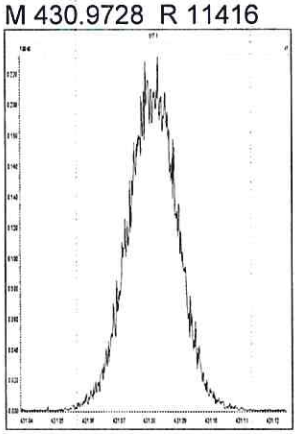
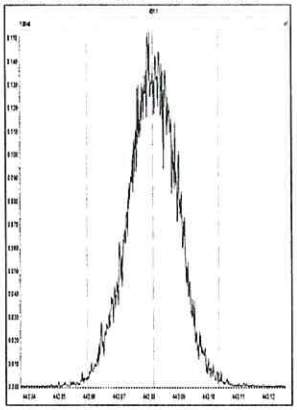
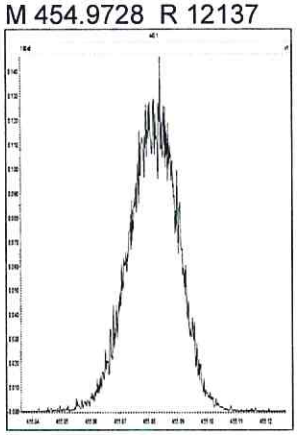
M 430.9728 R 11416



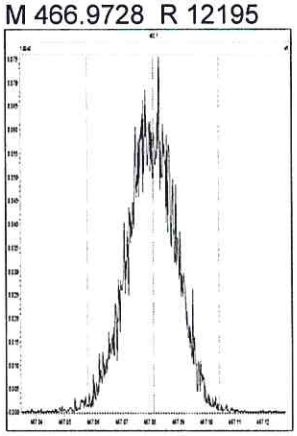
M 442.9728 R 11418



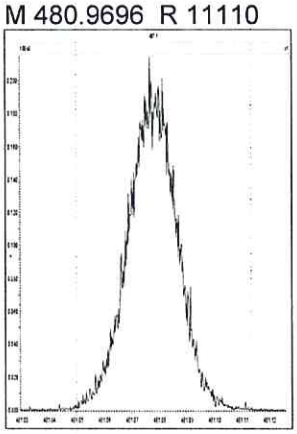
M 454.9728 R 12137



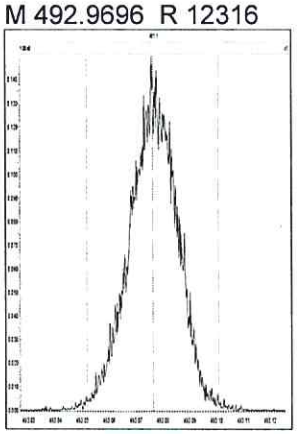
M 466.9728 R 12195



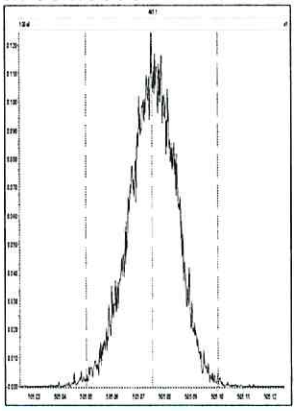
M 480.9696 R 11110



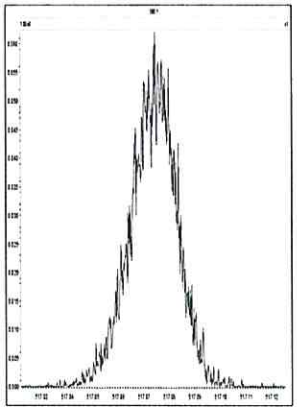
M 492.9696 R 12316



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

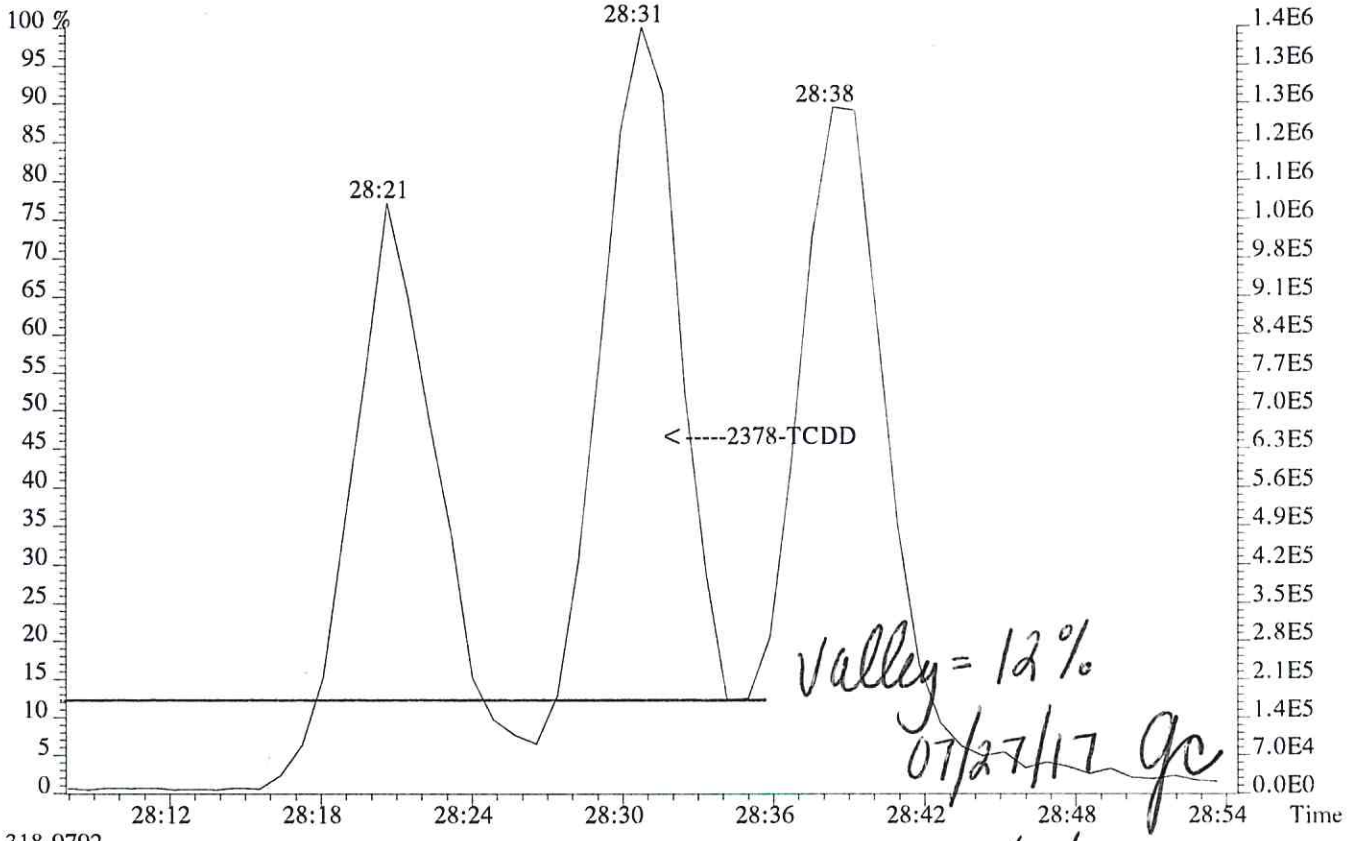
Case No.: _____ SDG No.:
ID: 0.25 (mm)

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

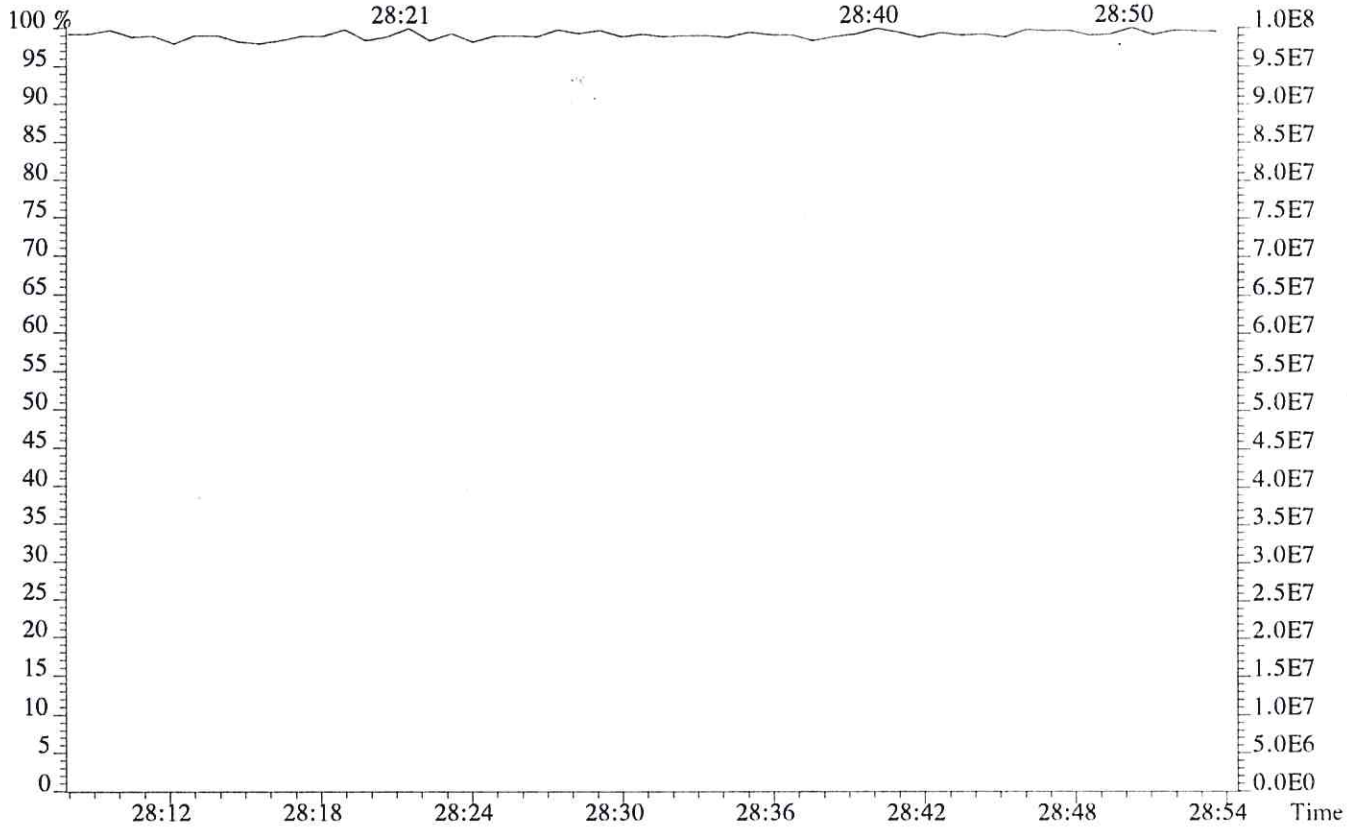
% Valley 2378-TCDD: 12 %

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

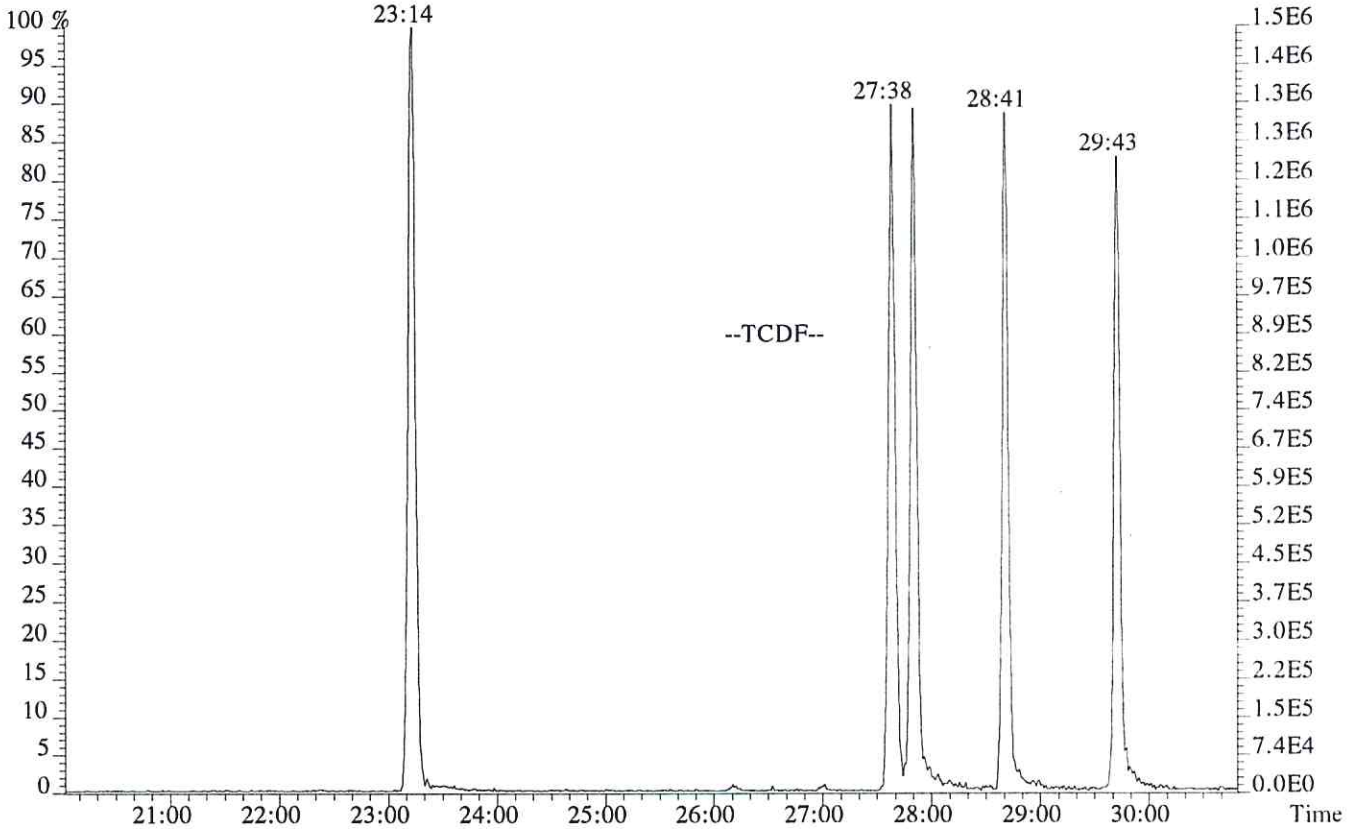


318.9792

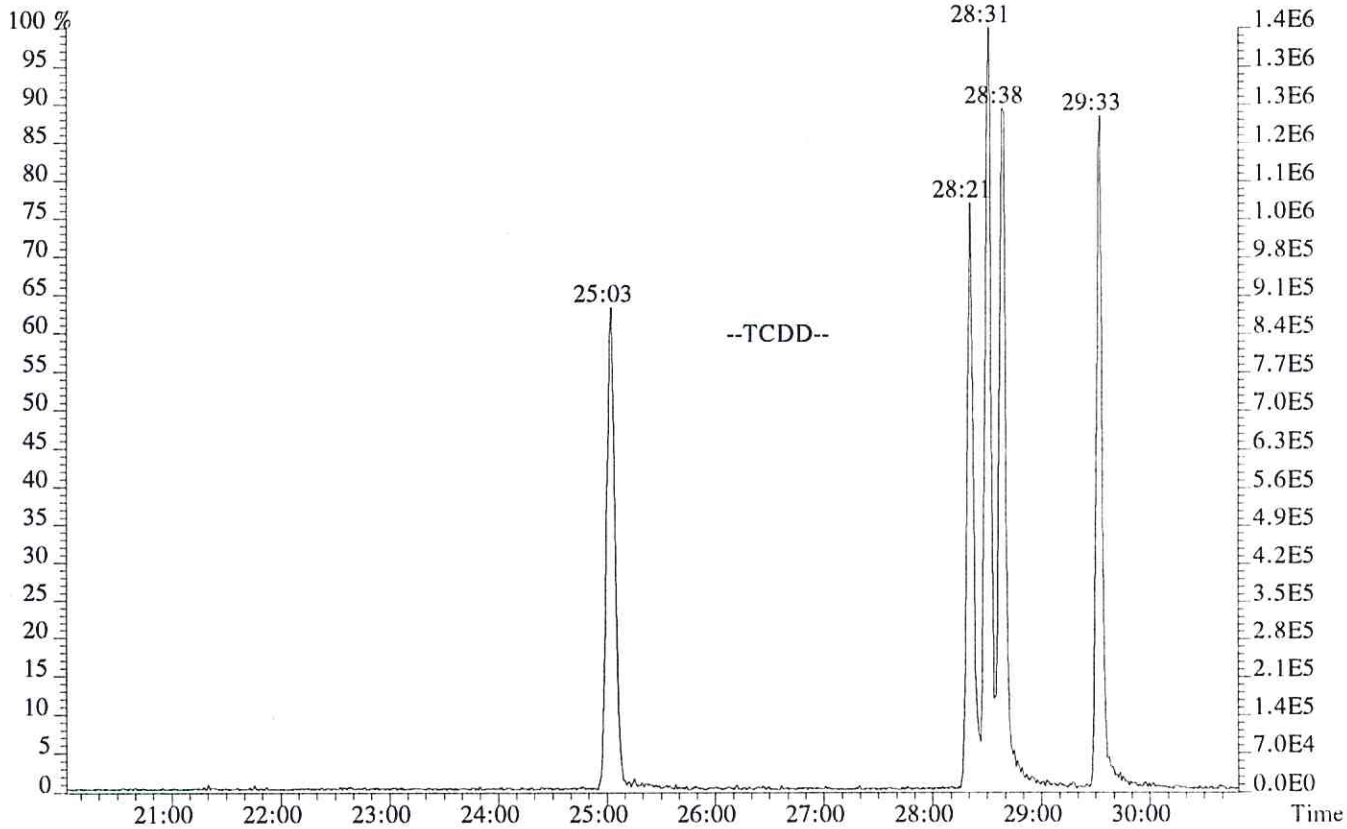
LKL 07/27/17



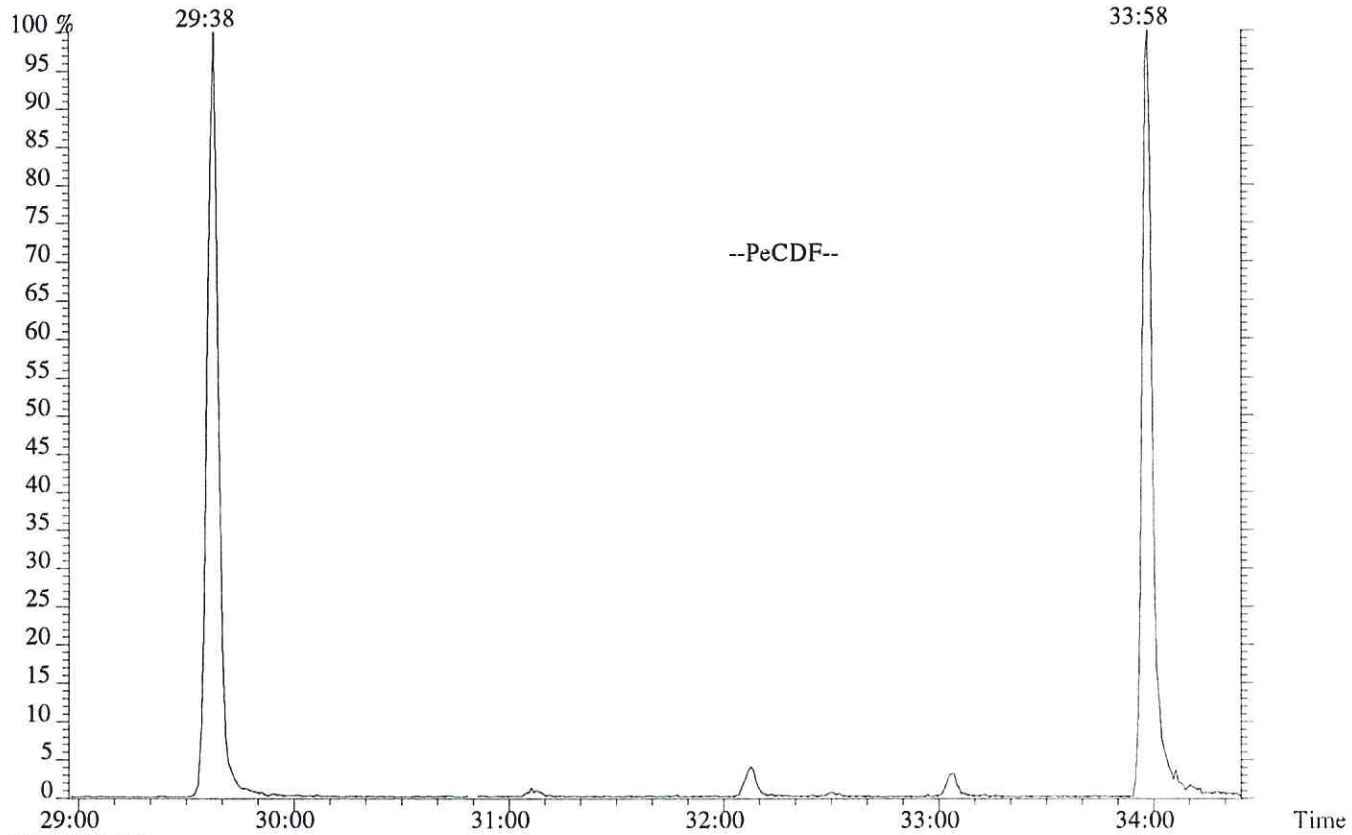
File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
303.9016



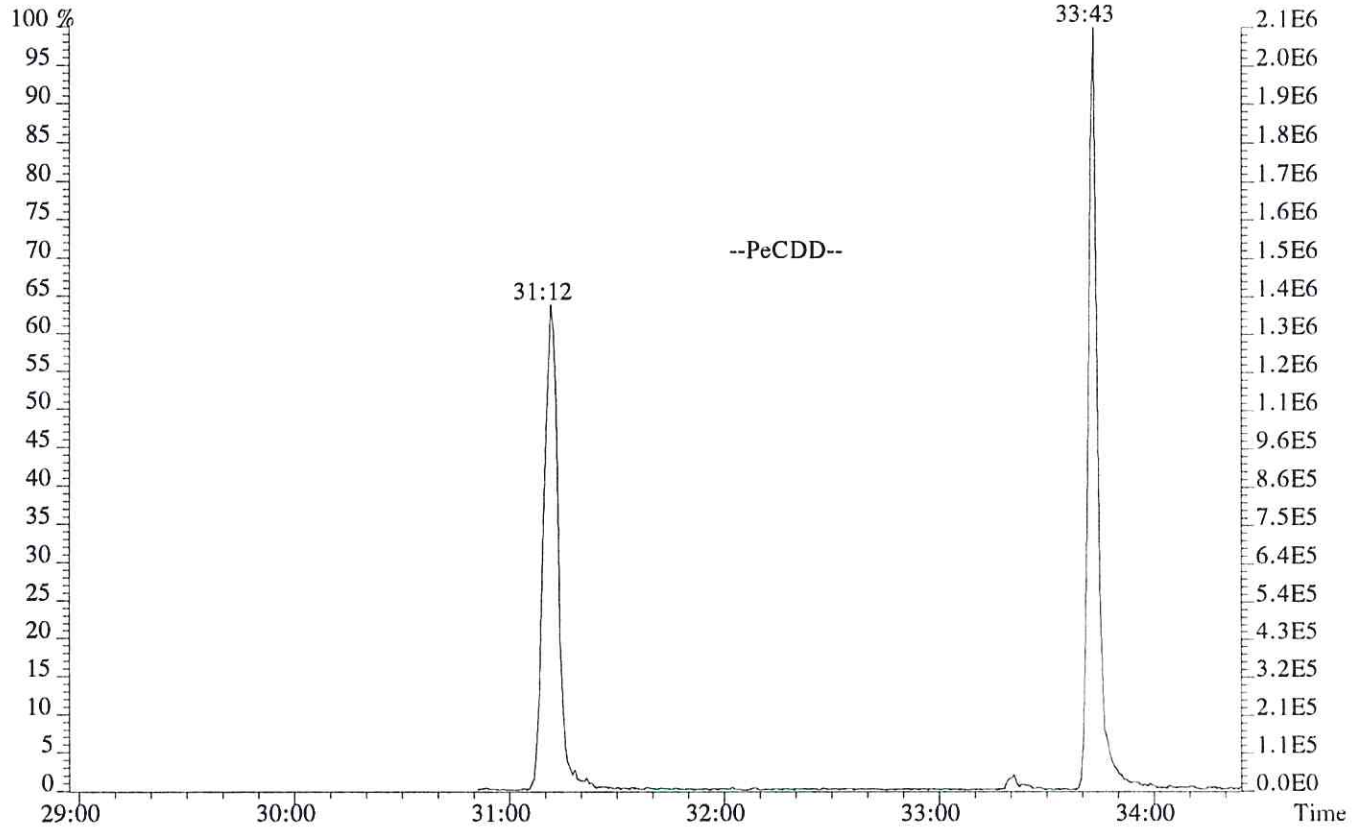
319.8965



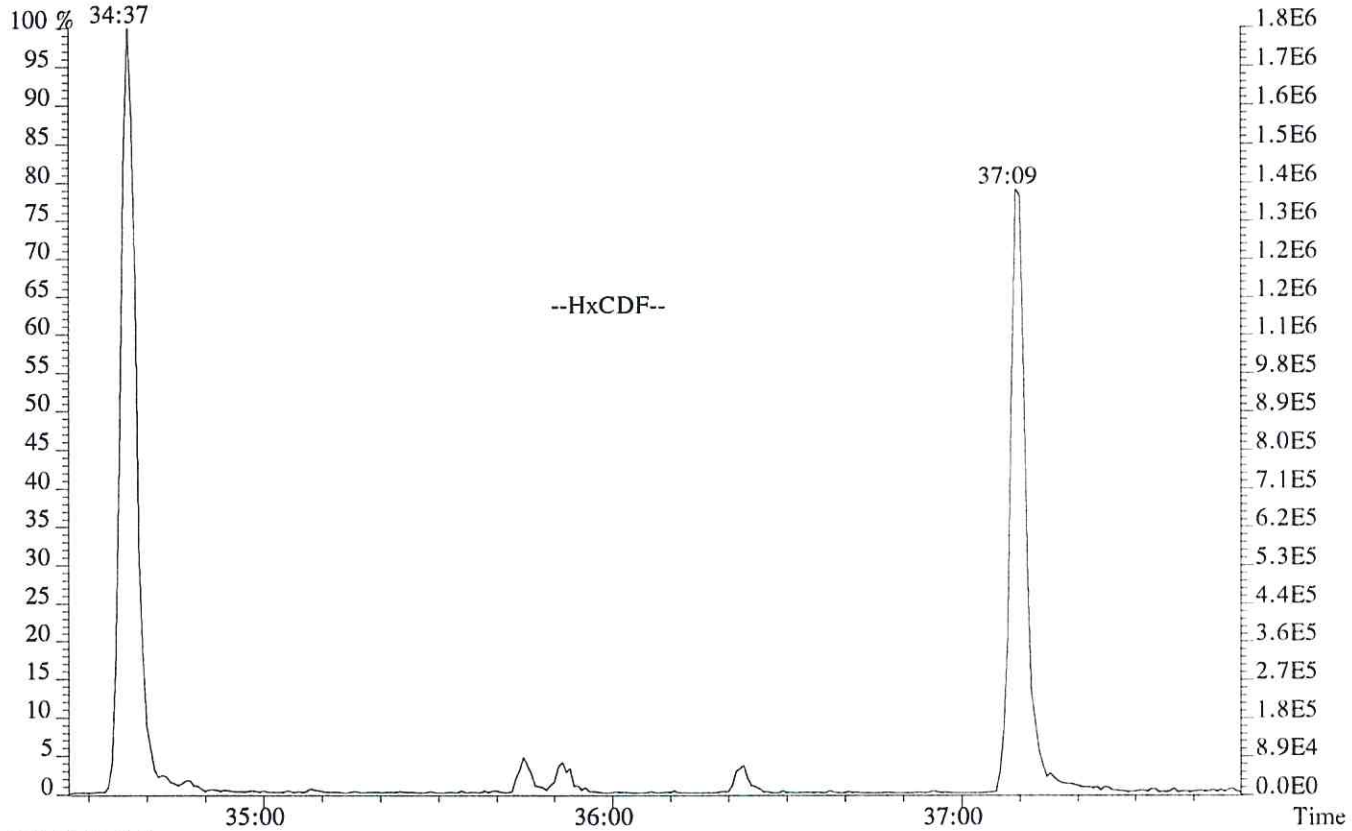
File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



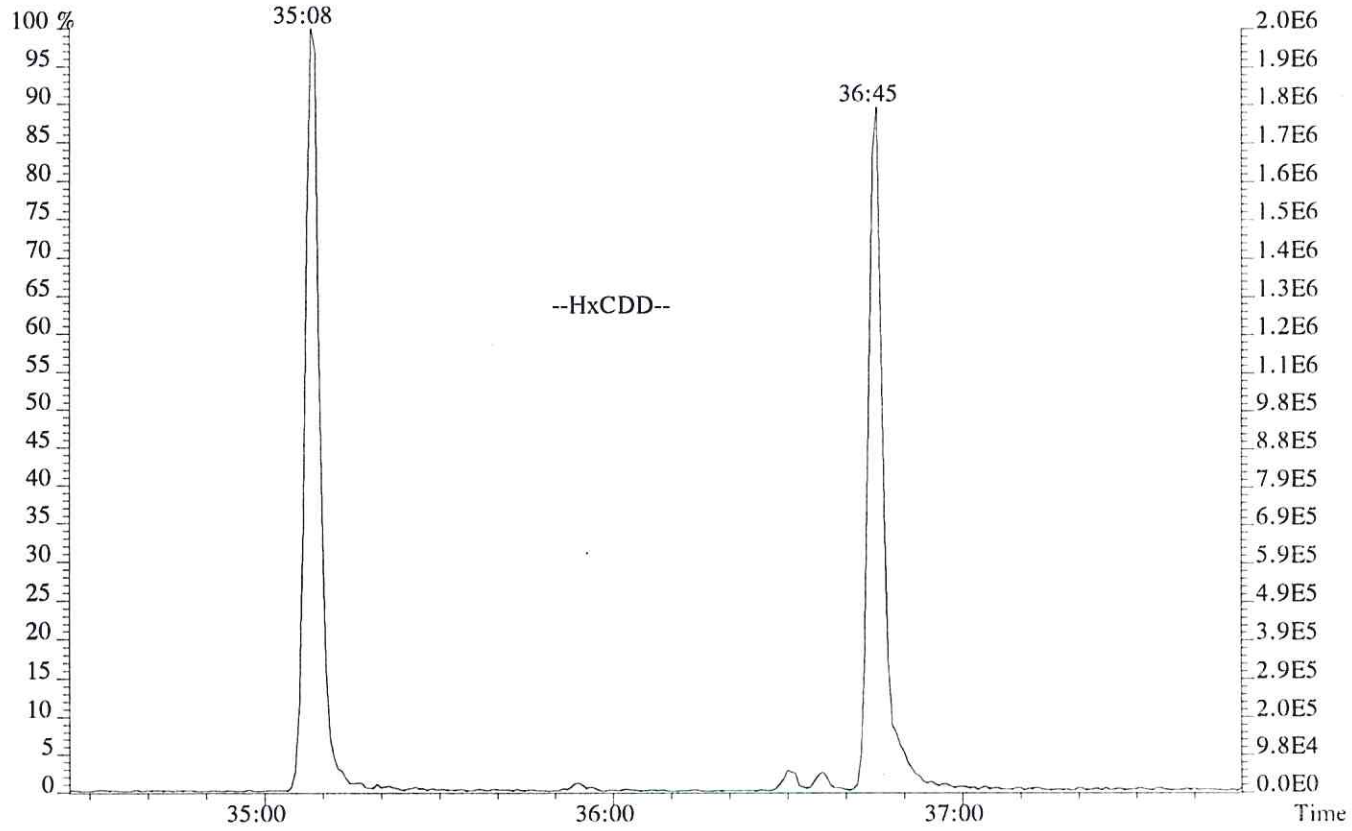
355.8546 F:2



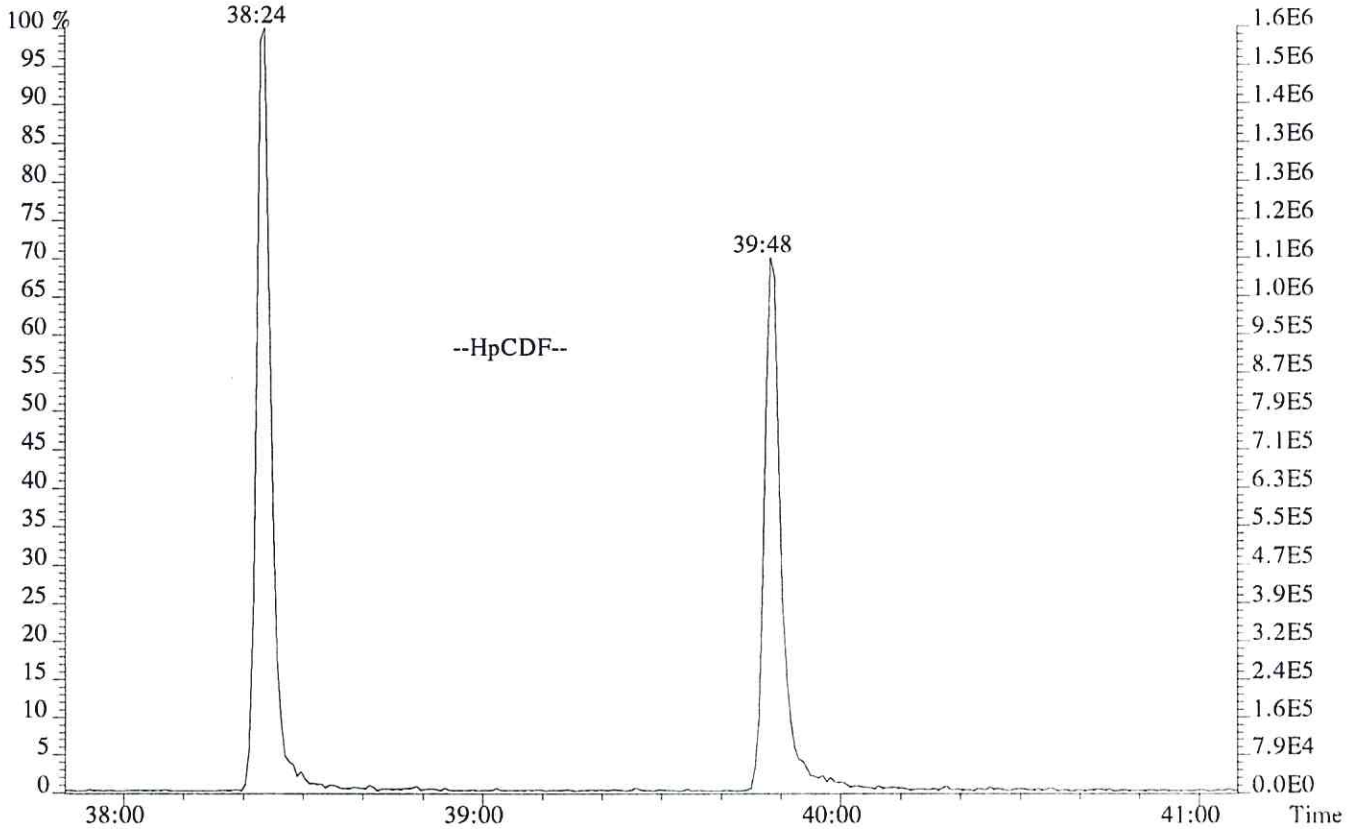
File:P510633 #1-303 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
373.8208 F:3



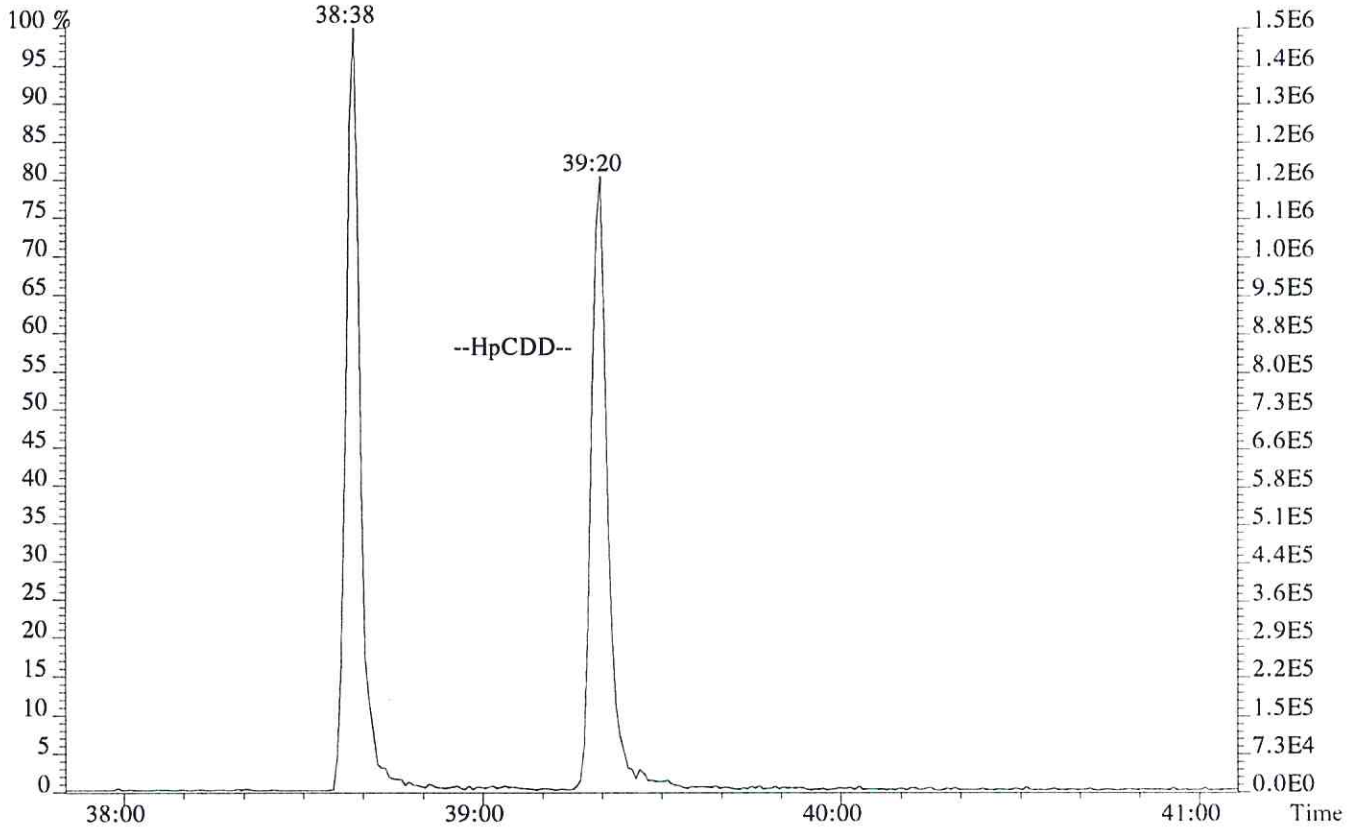
389.8157 F:3



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
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

	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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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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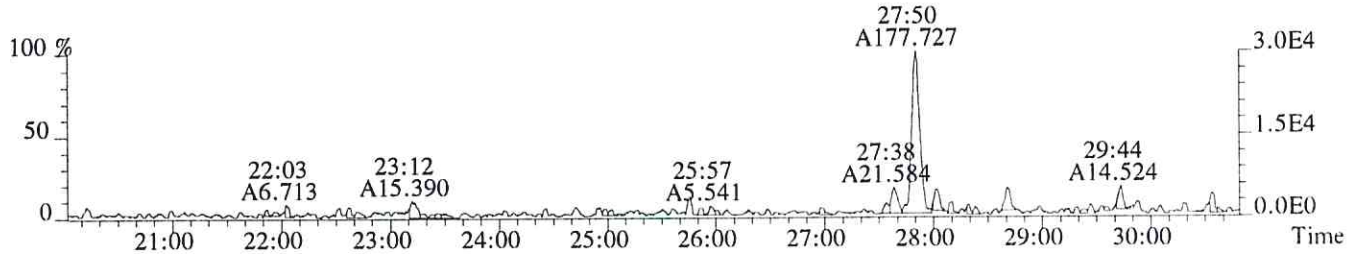
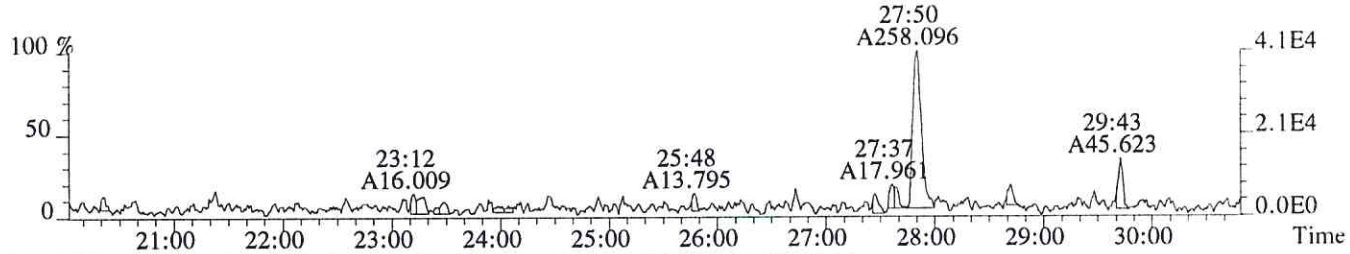
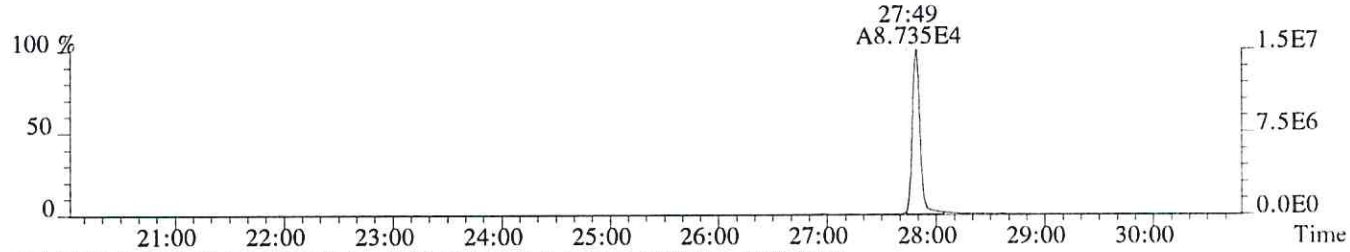
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



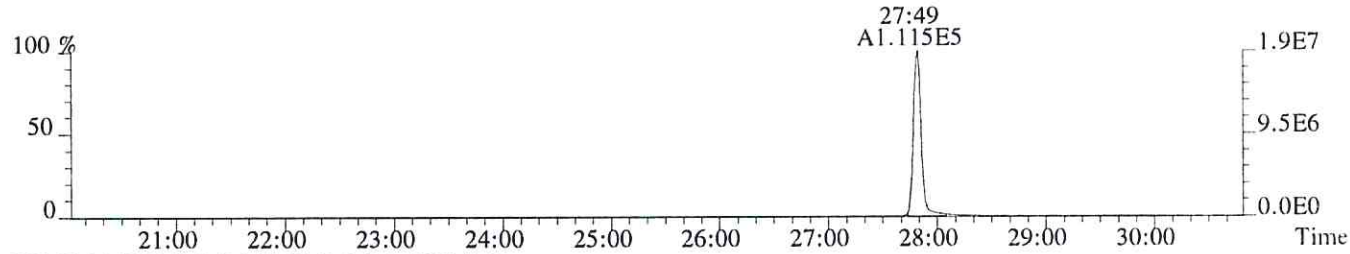
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2884.0,1.00%,F,T)



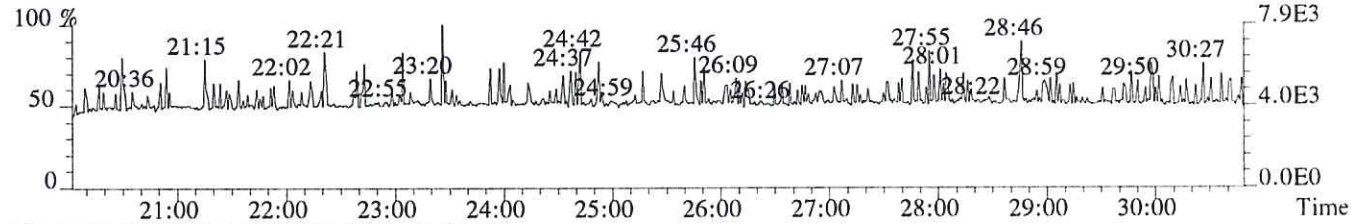
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13996.0,1.00%,F,T)



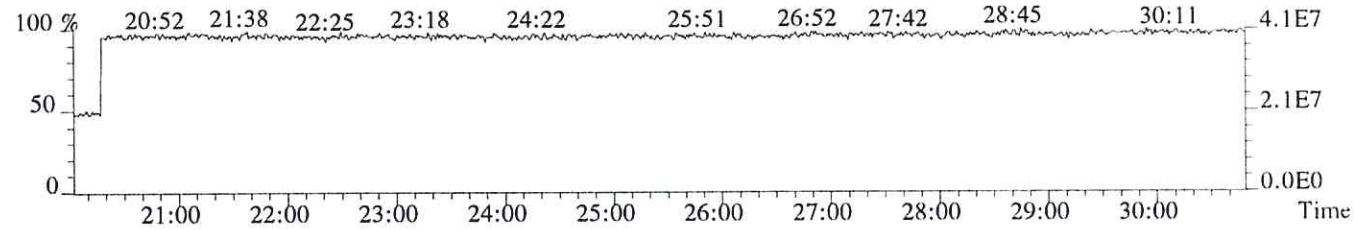
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6172.0,1.00%,F,T)



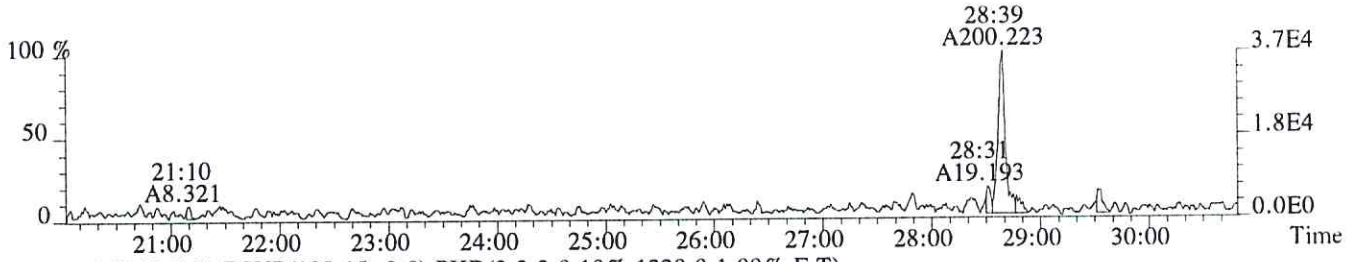
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



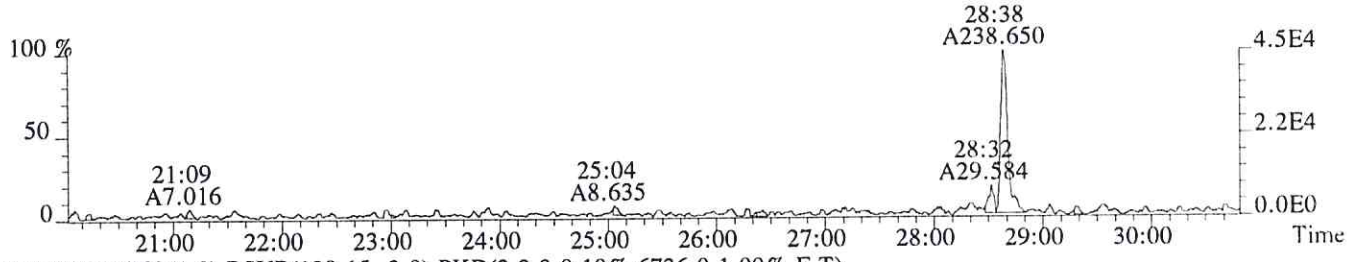
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



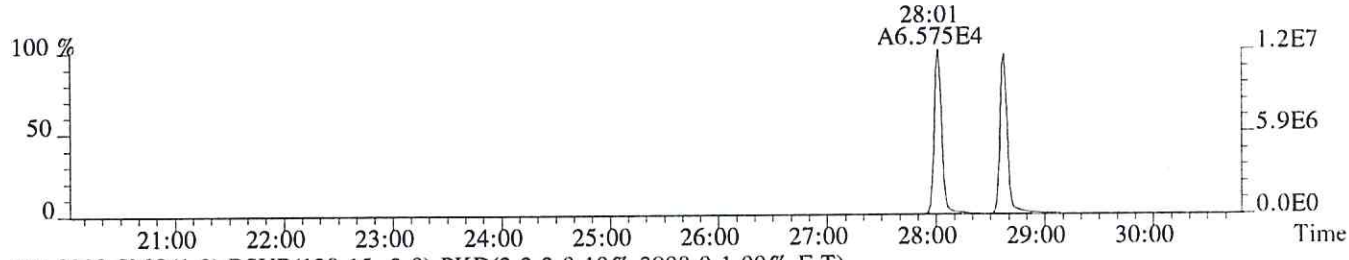
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2324.0,1.00%,F,T)



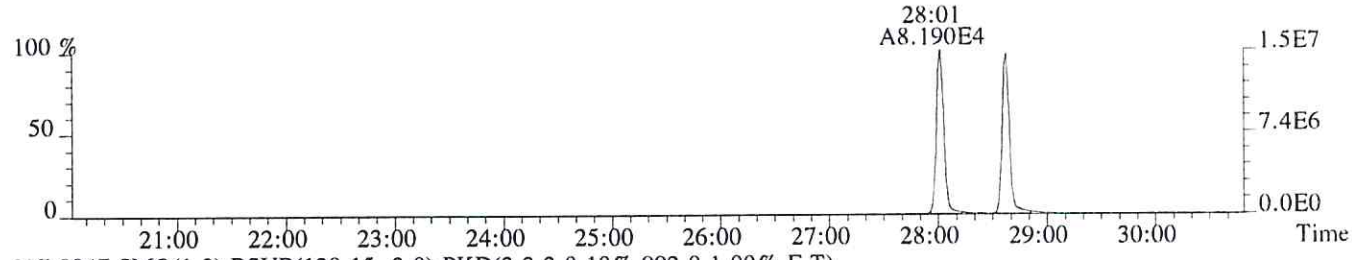
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



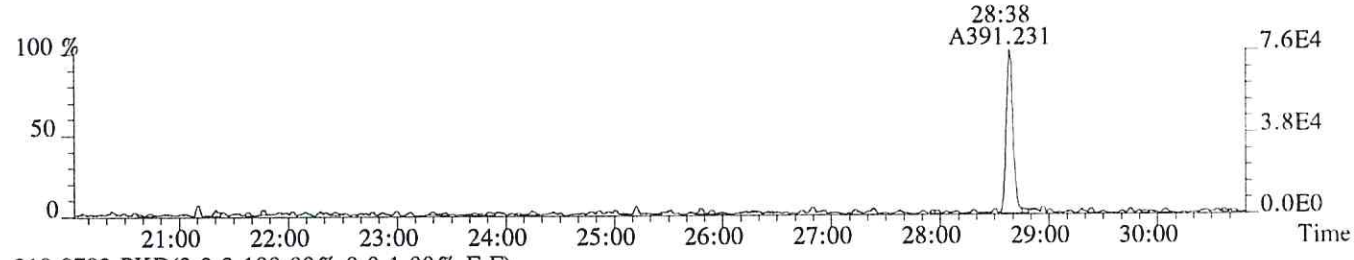
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6736.0,1.00%,F,T)



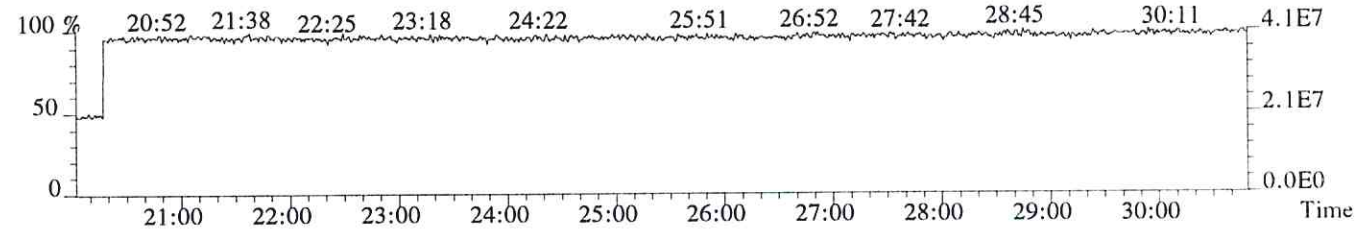
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3908.0,1.00%,F,T)



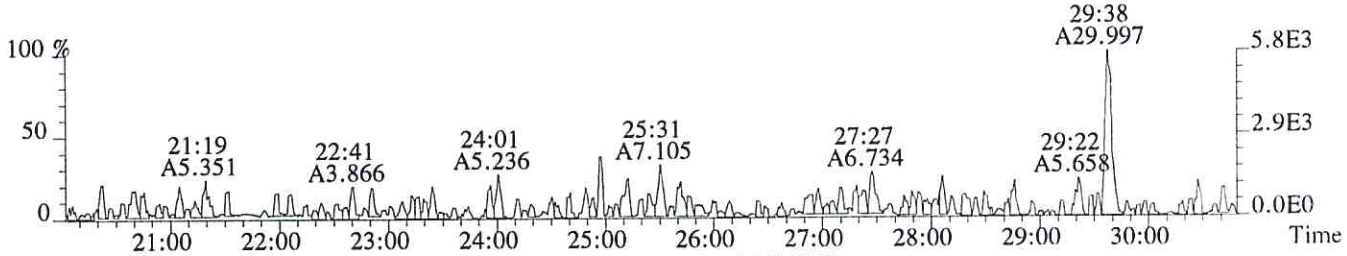
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



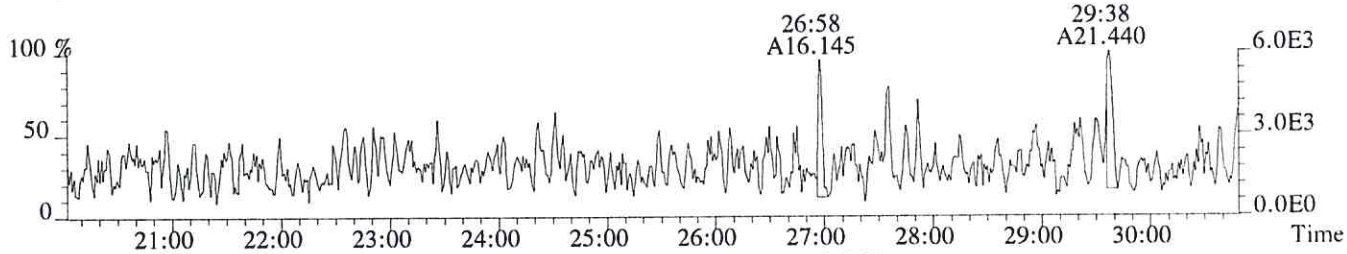
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



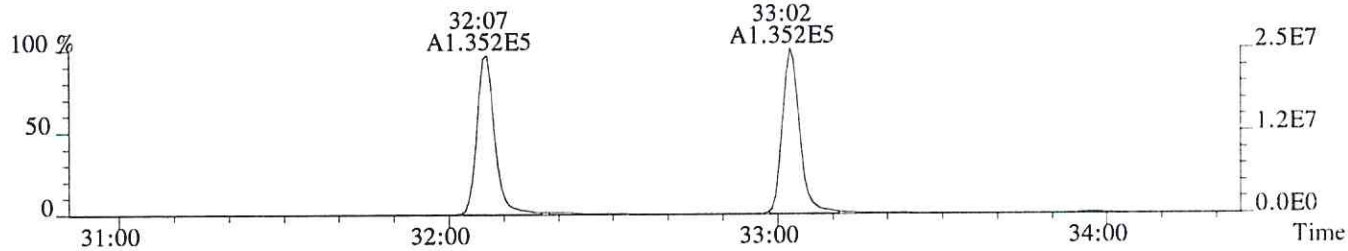
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



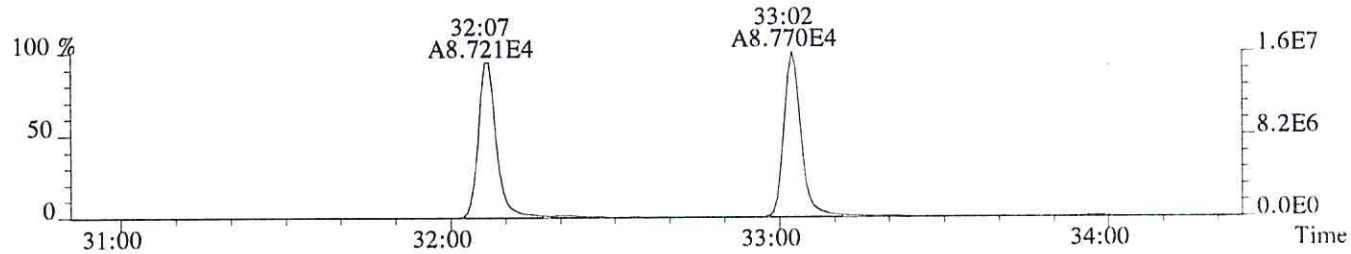
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2232.0,1.00%,F,T)



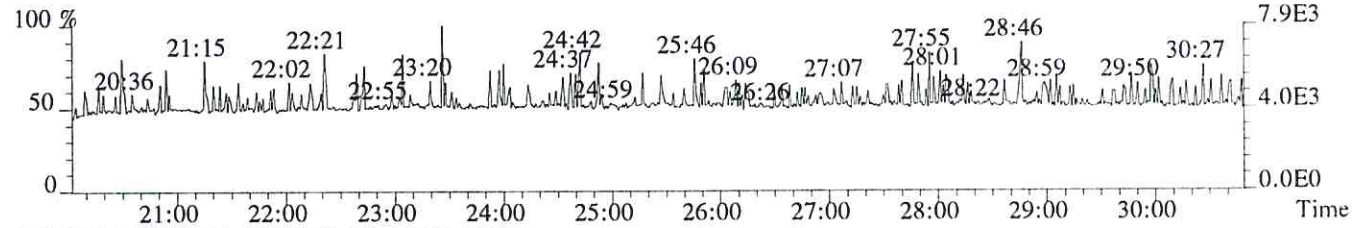
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



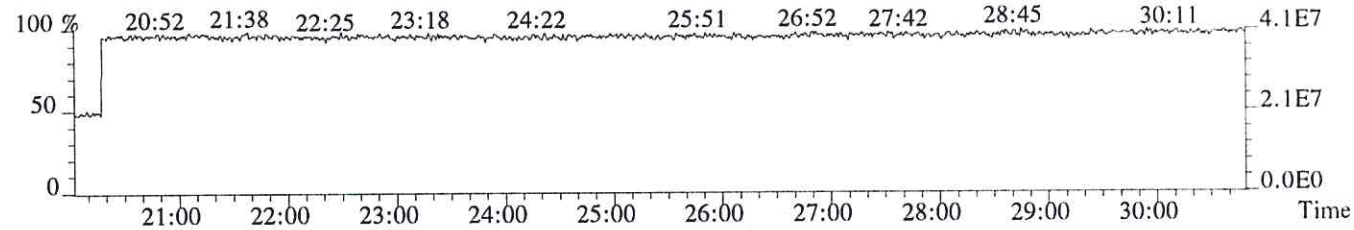
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



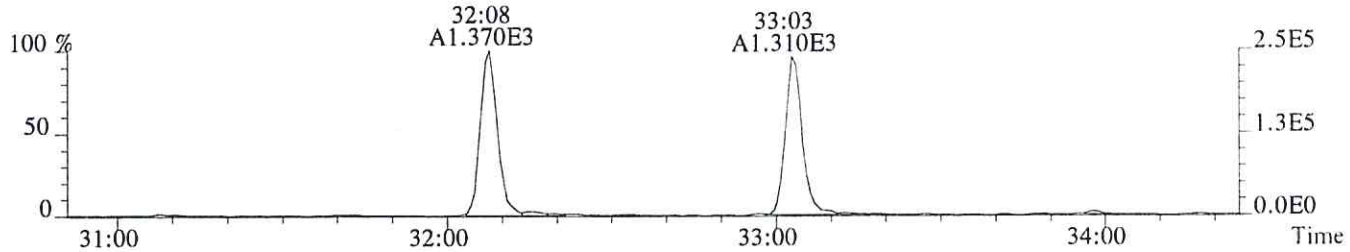
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



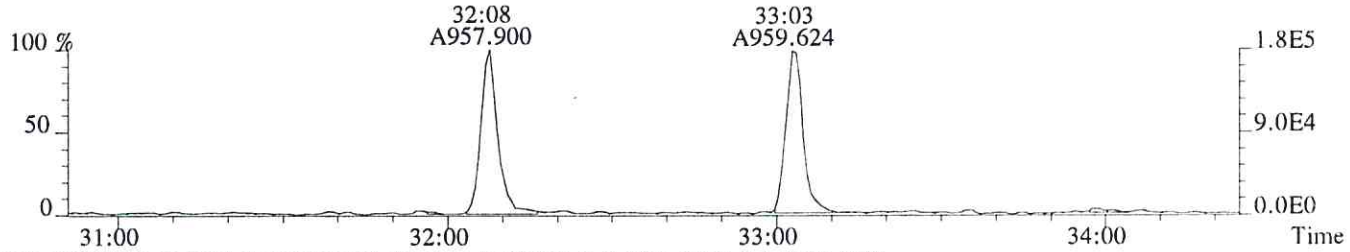
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



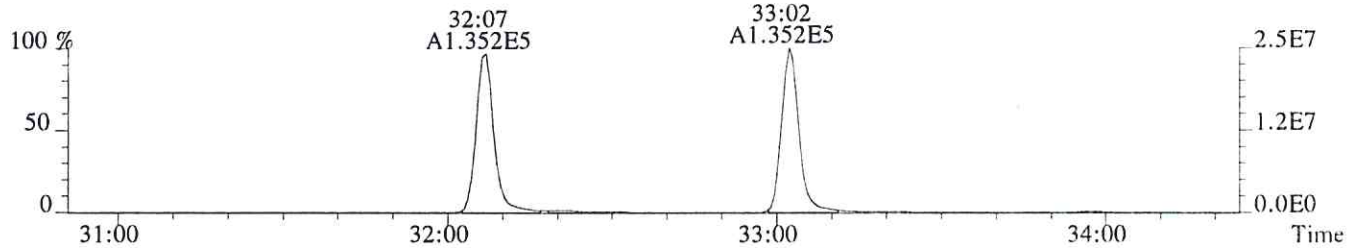
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



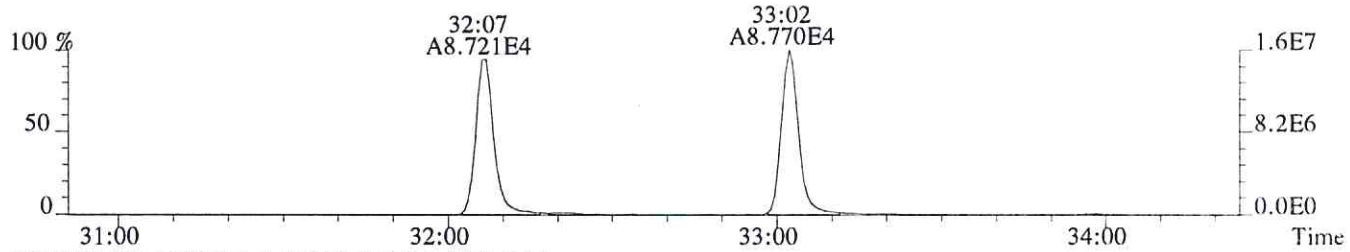
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



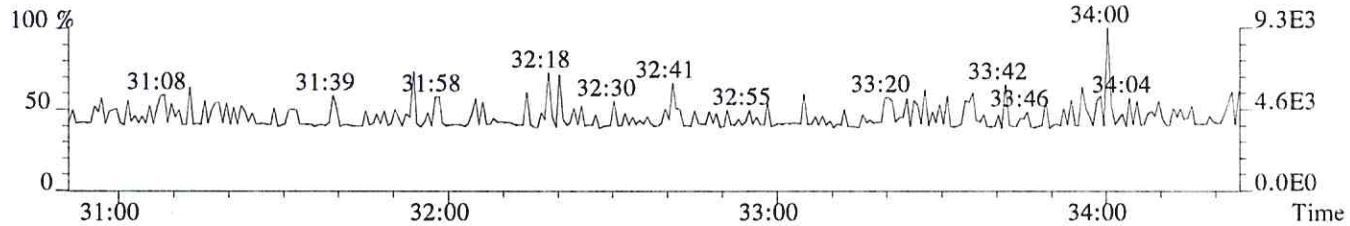
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



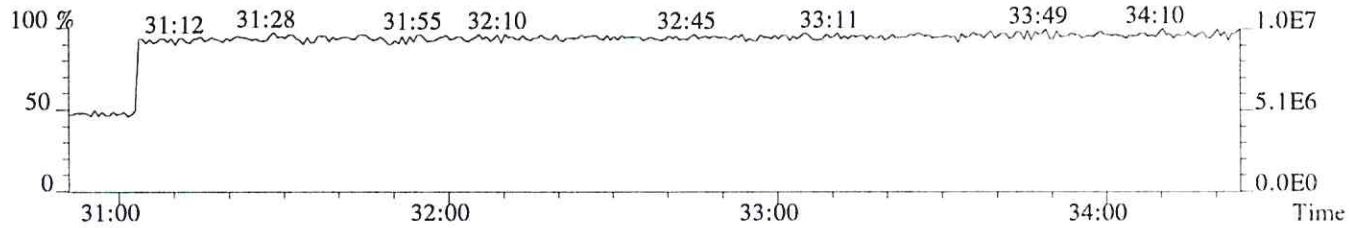
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



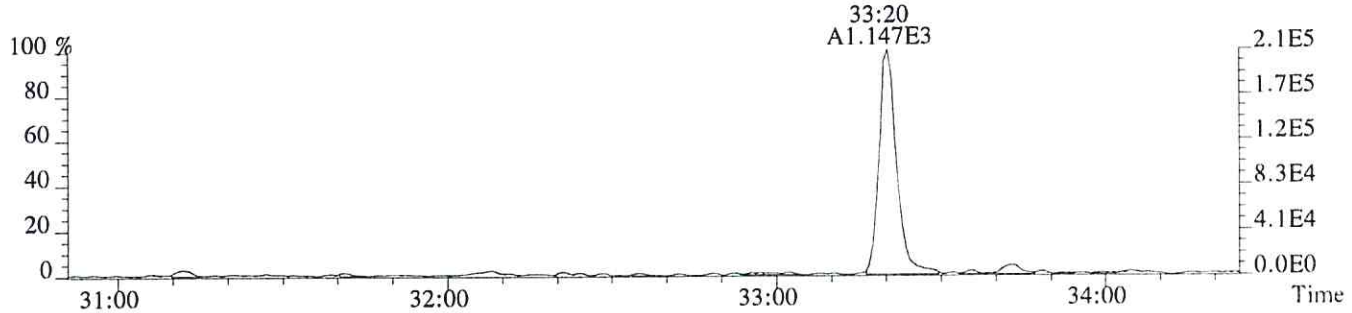
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



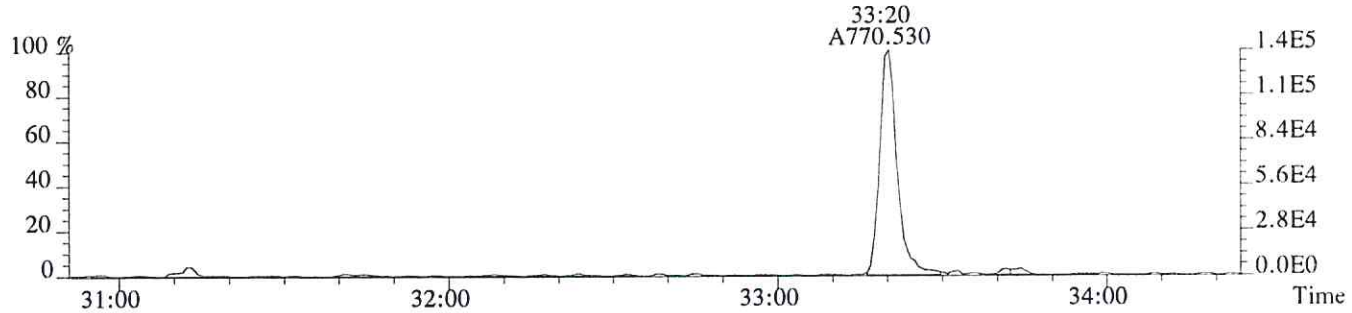
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



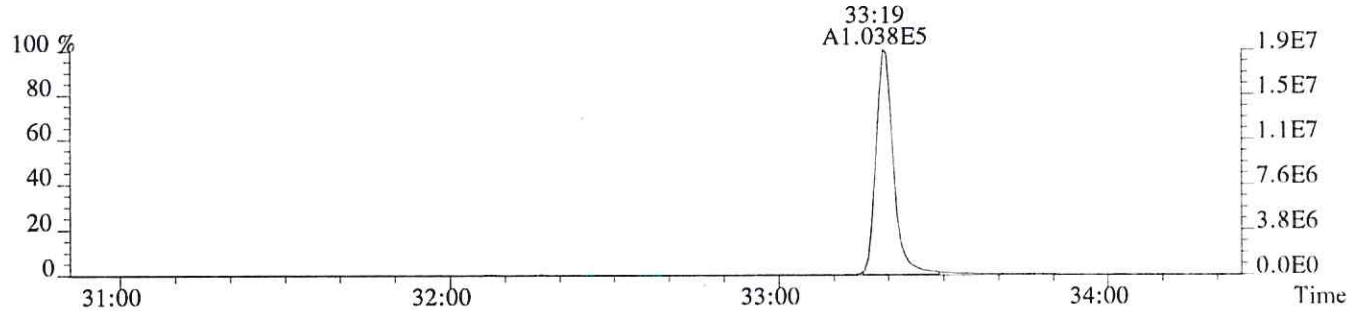
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



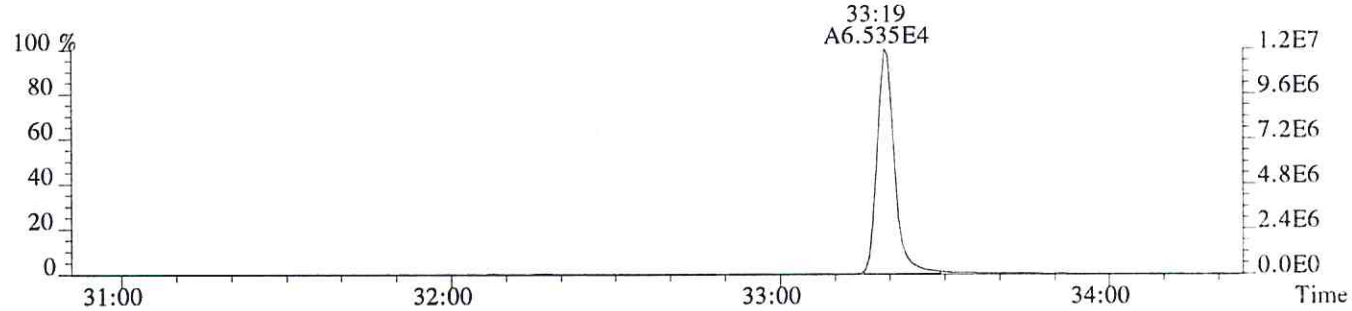
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



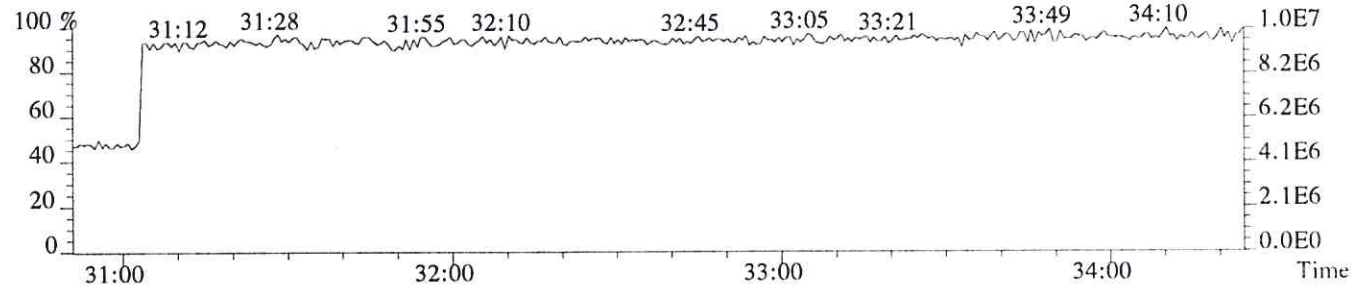
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1868.0,1.00%,F,T)



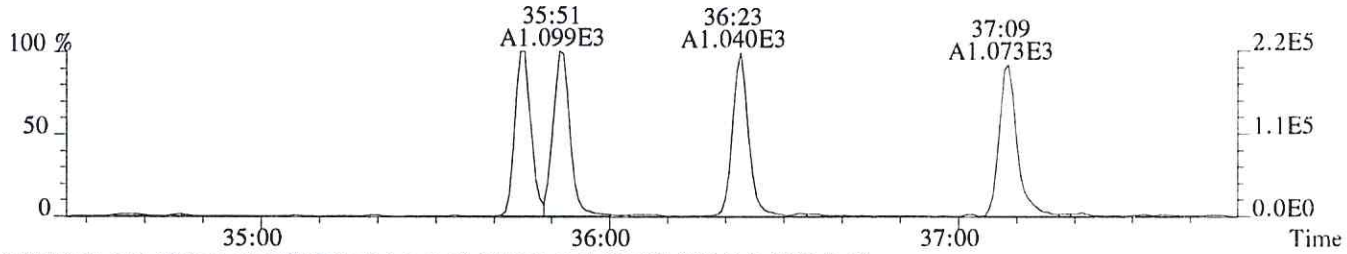
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



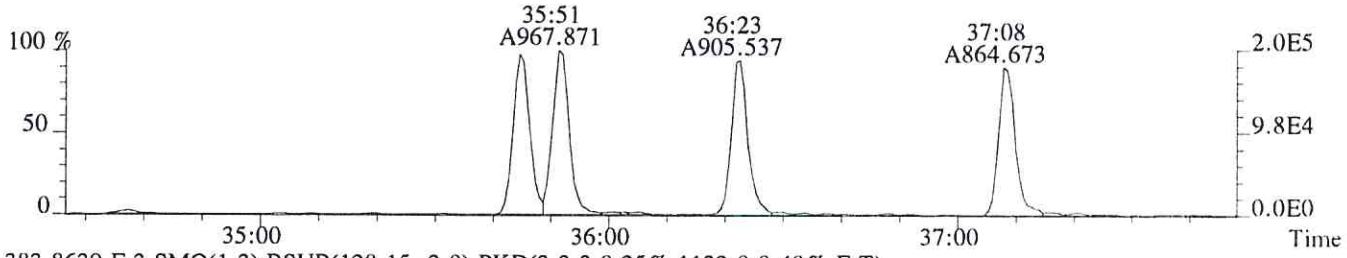
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



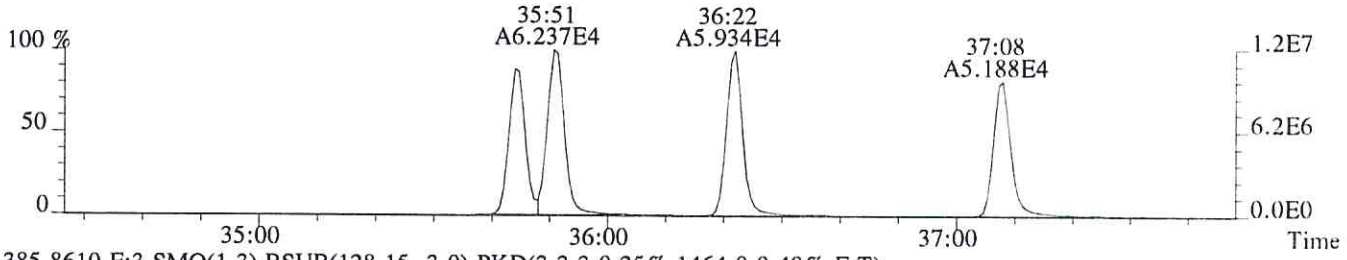
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



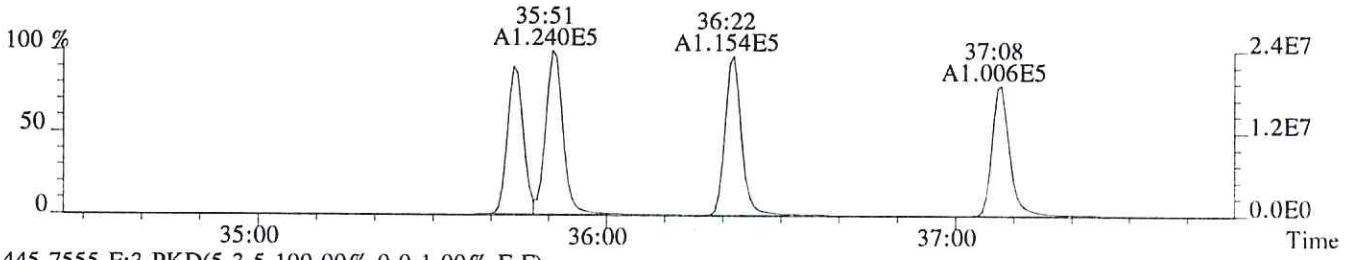
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



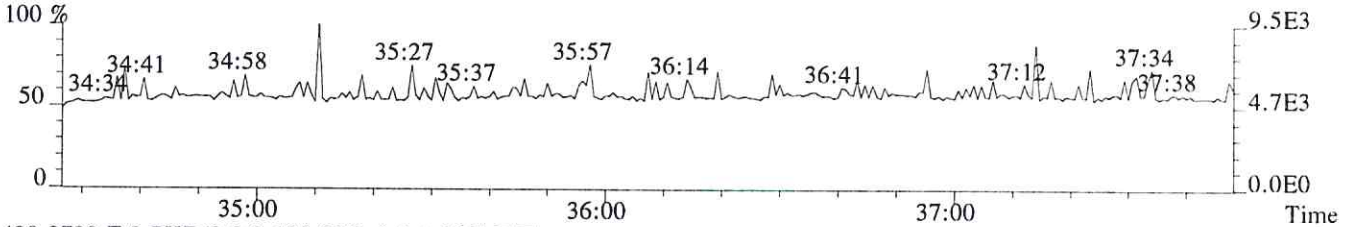
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



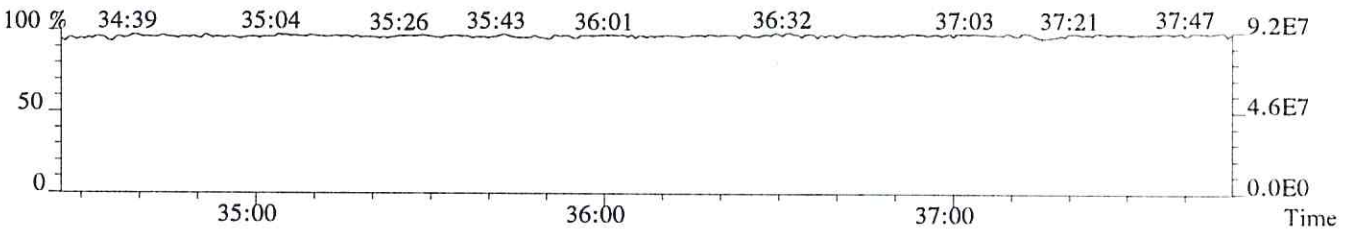
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



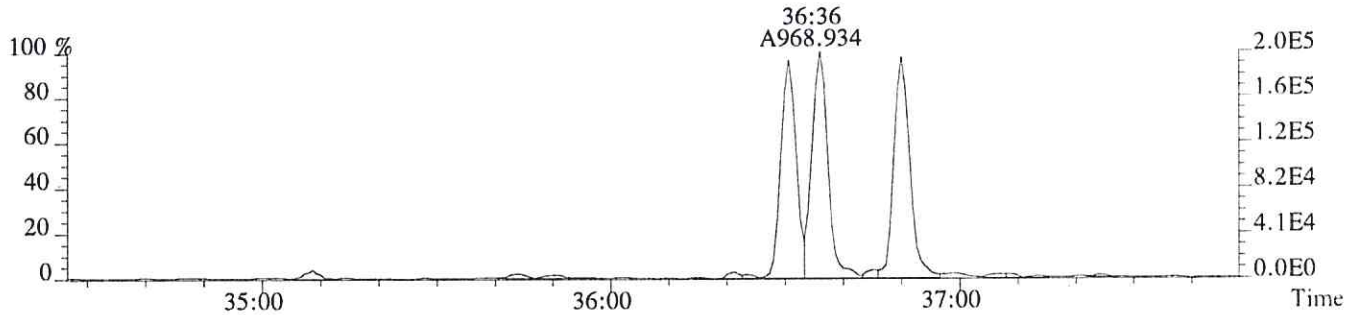
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



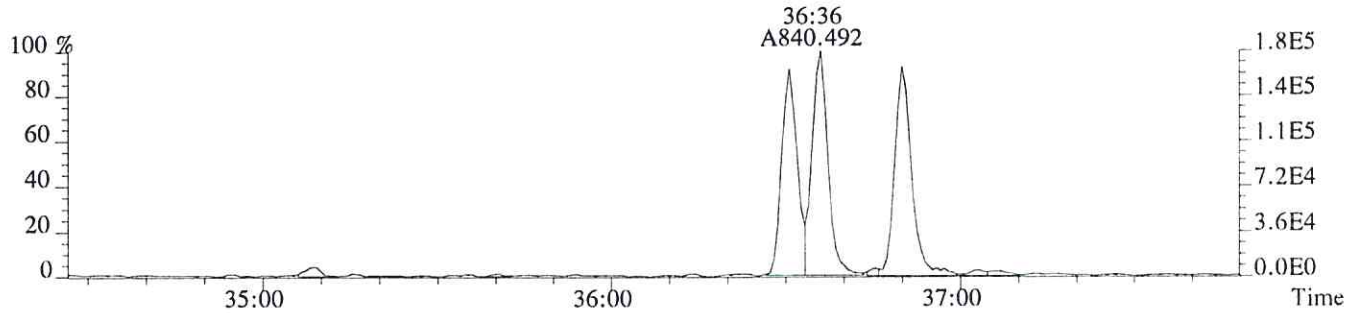
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



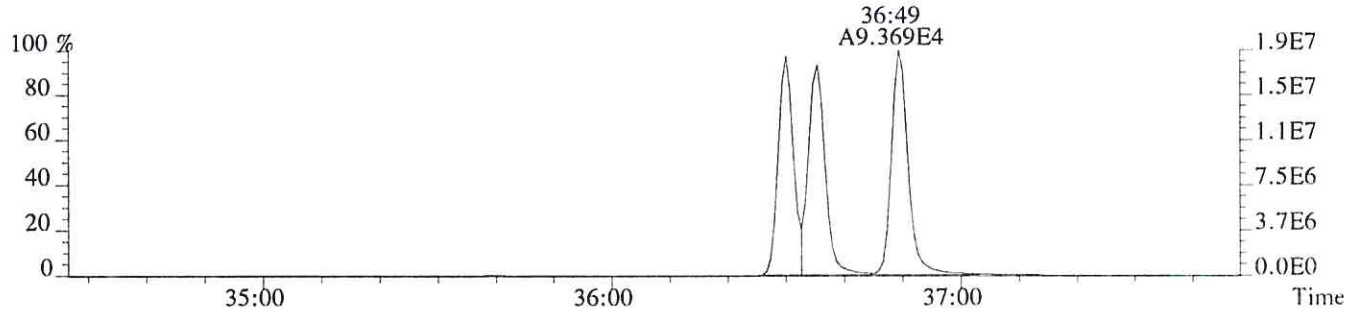
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



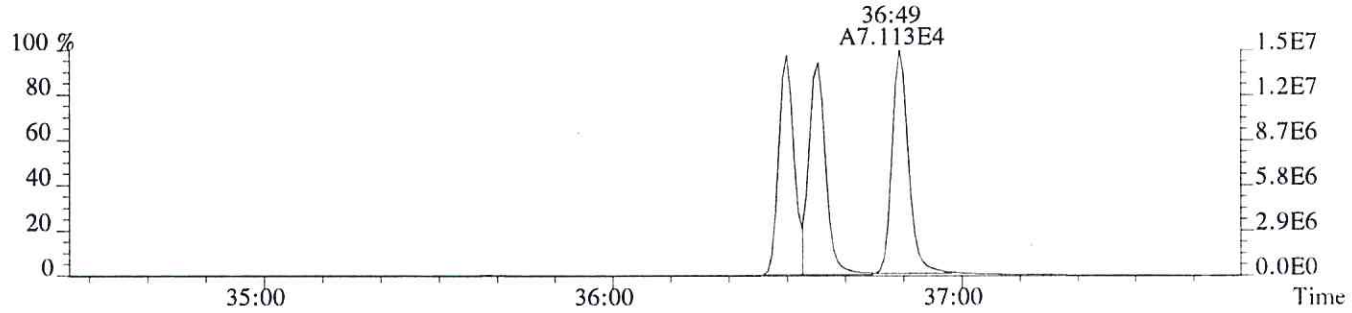
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



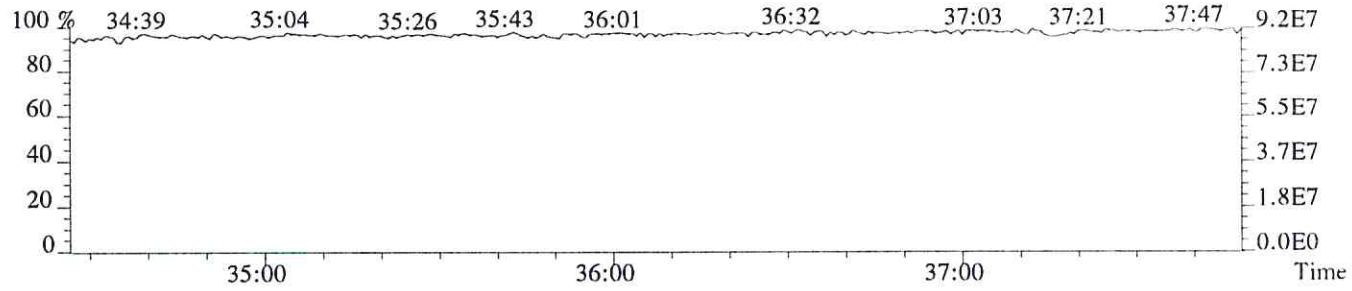
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3332.0,0.40%,F,T)



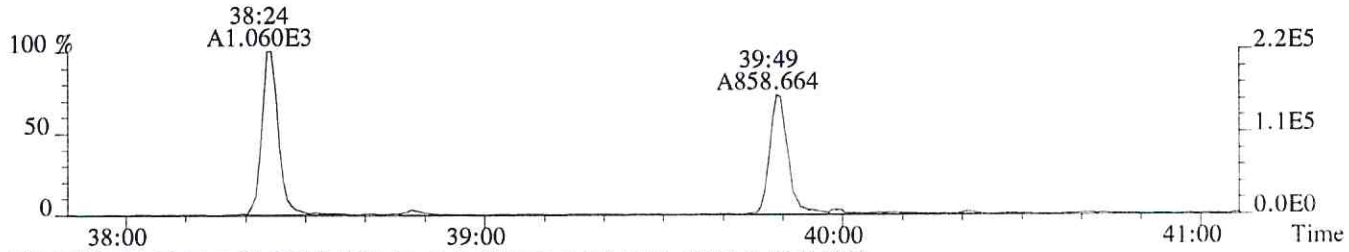
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



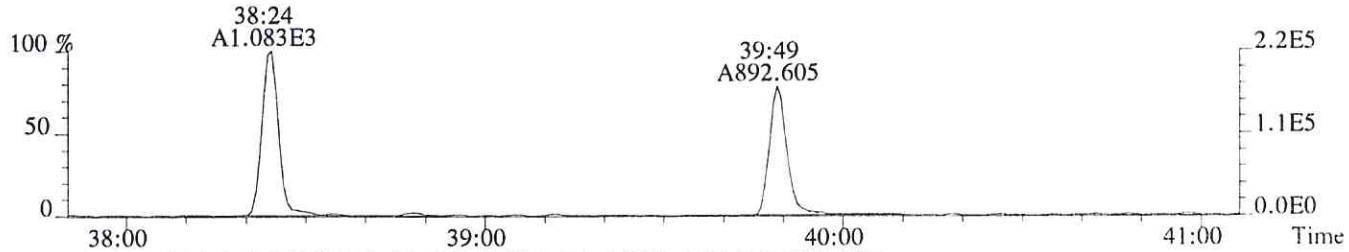
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



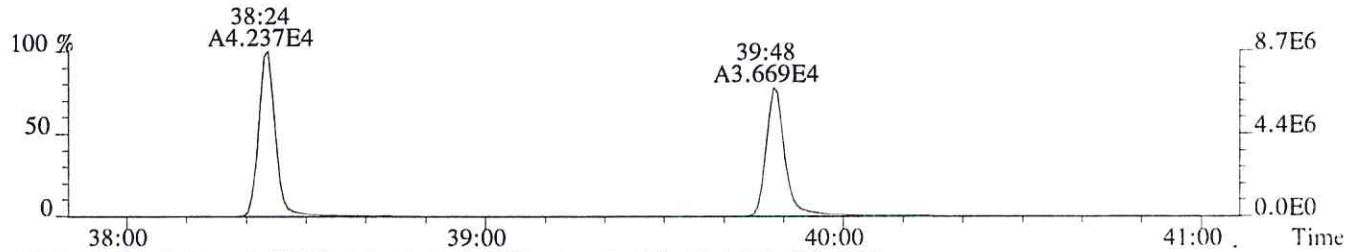
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.50%,F,T)



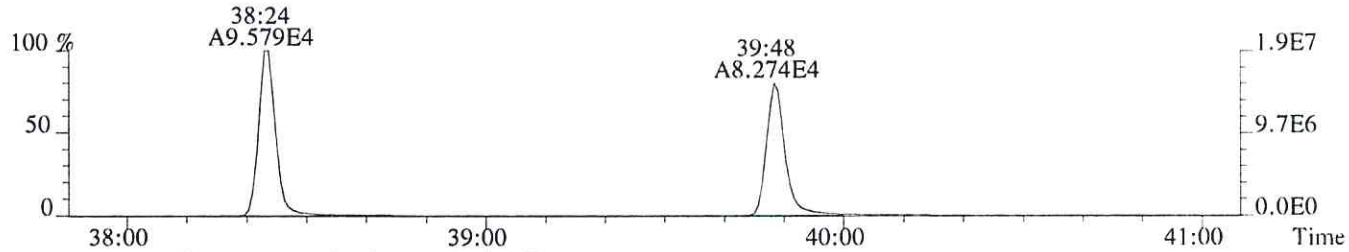
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.50%,F,T)



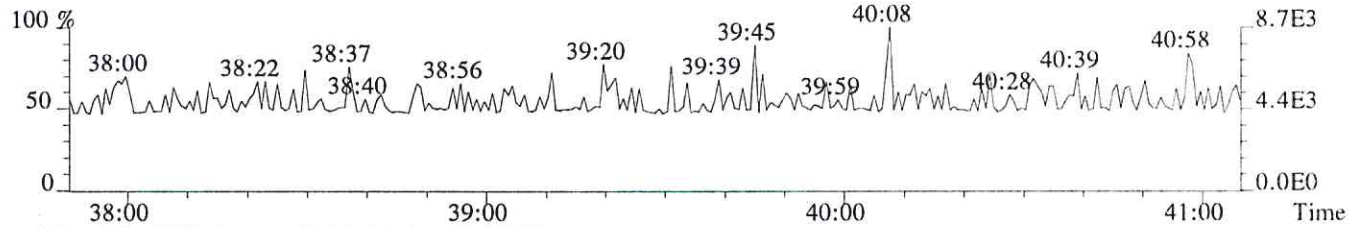
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4120.0,0.50%,F,T)



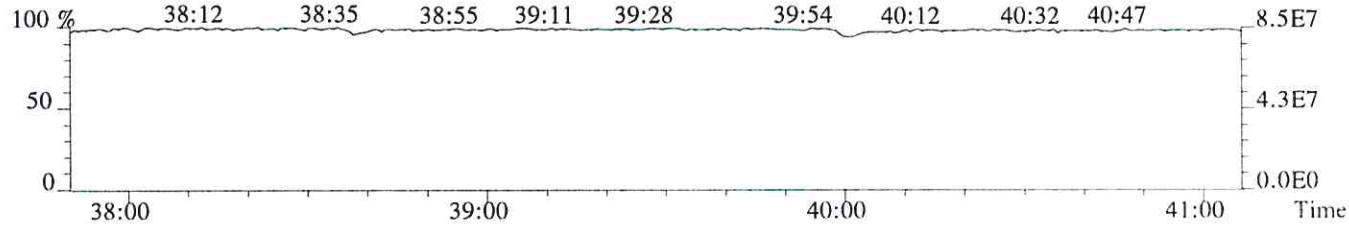
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8724.0,0.50%,F,T)



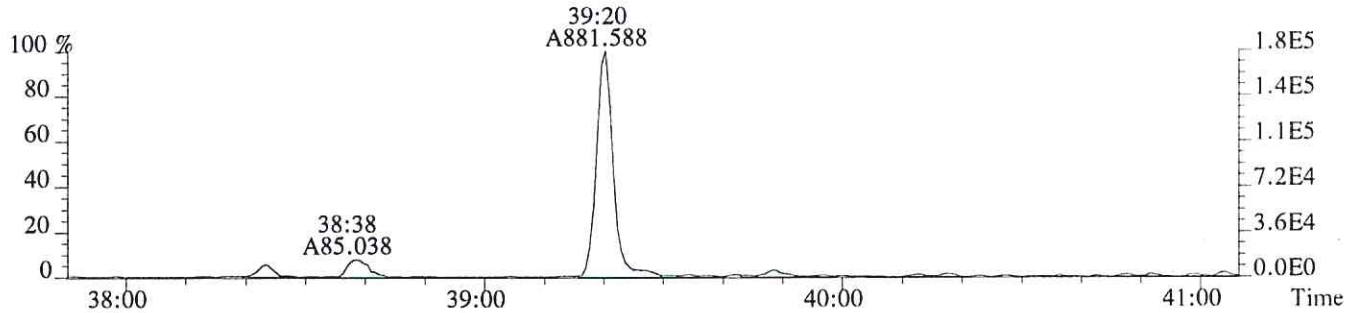
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



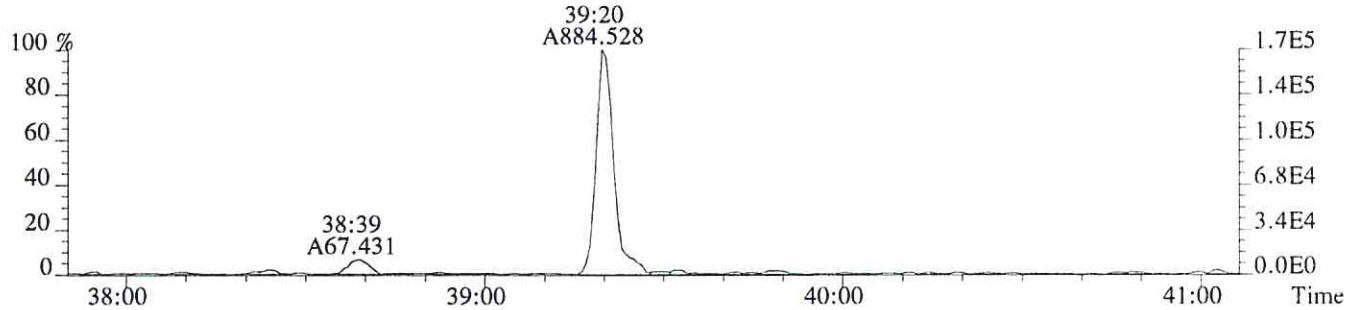
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



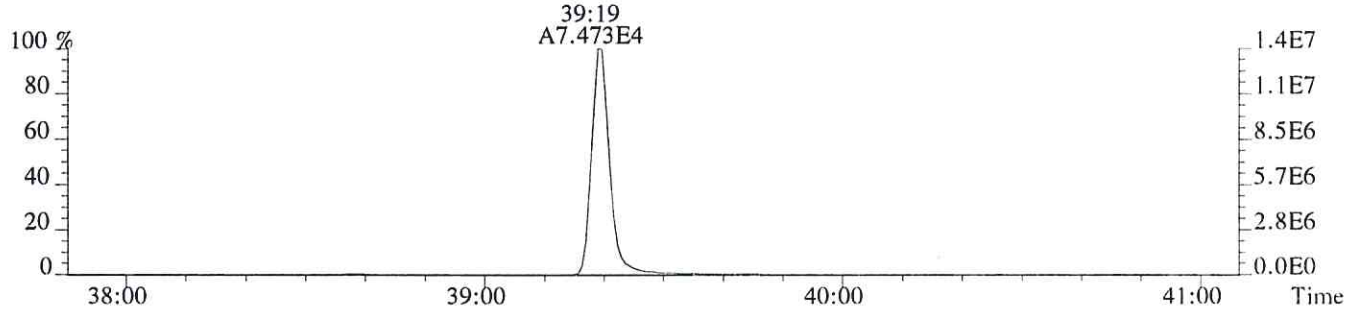
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



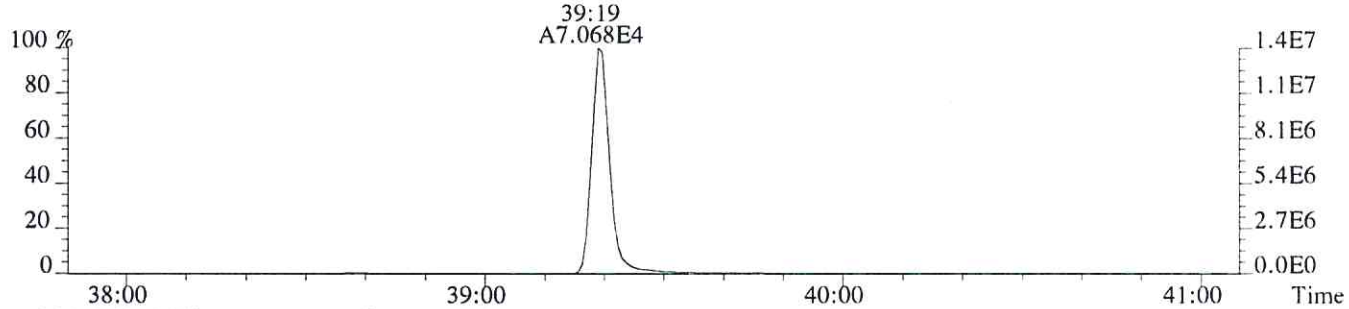
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



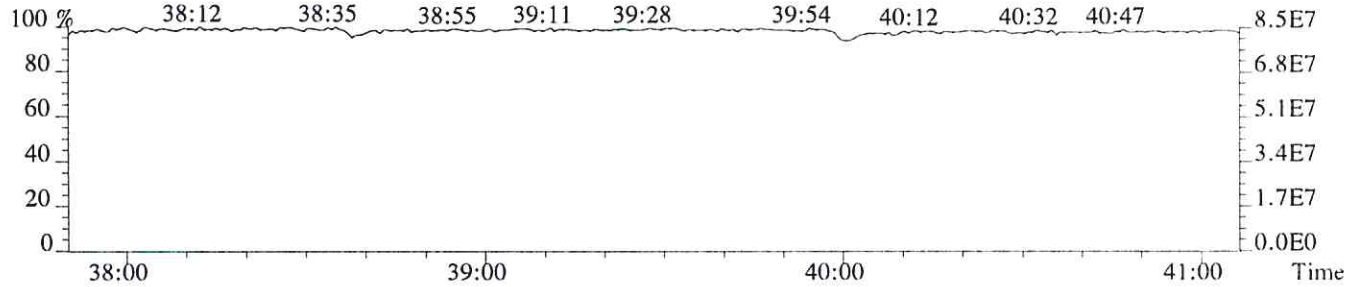
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.40%,F,T)



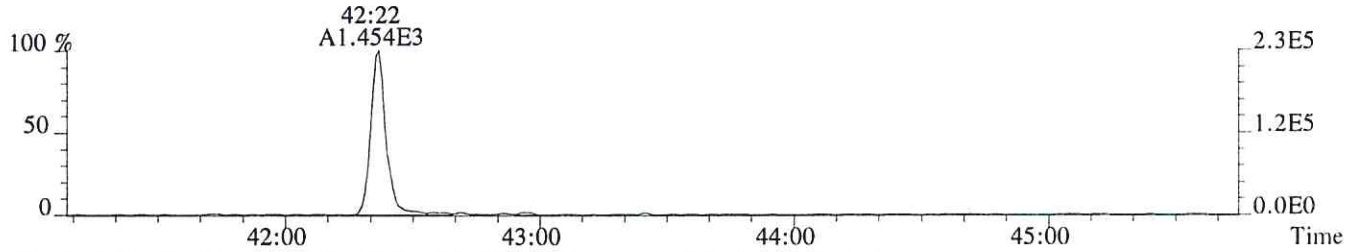
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



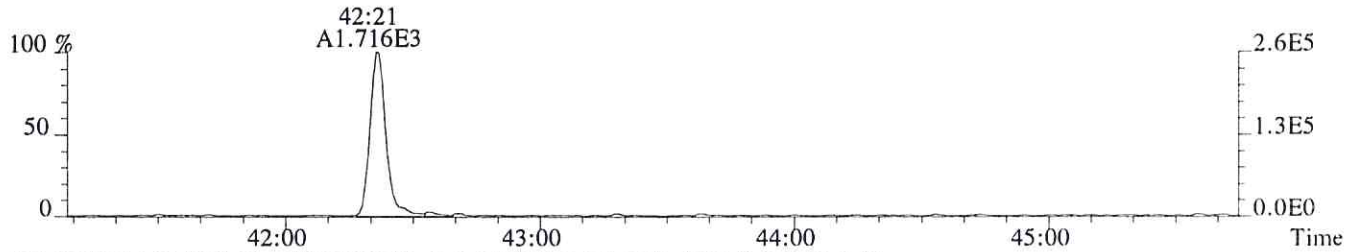
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



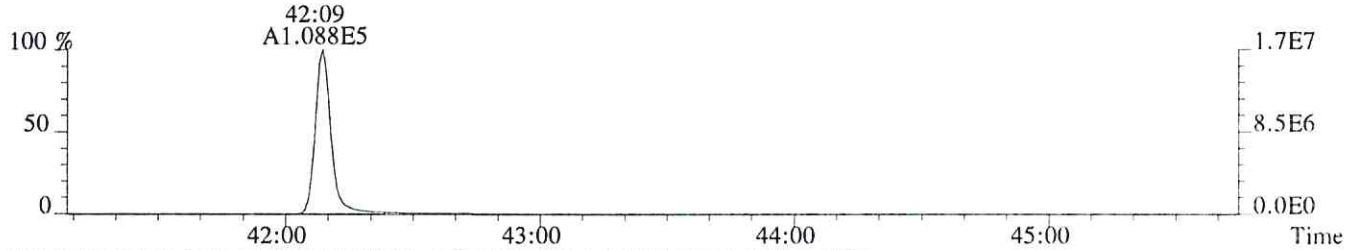
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,384.0,0.40%,F,T)



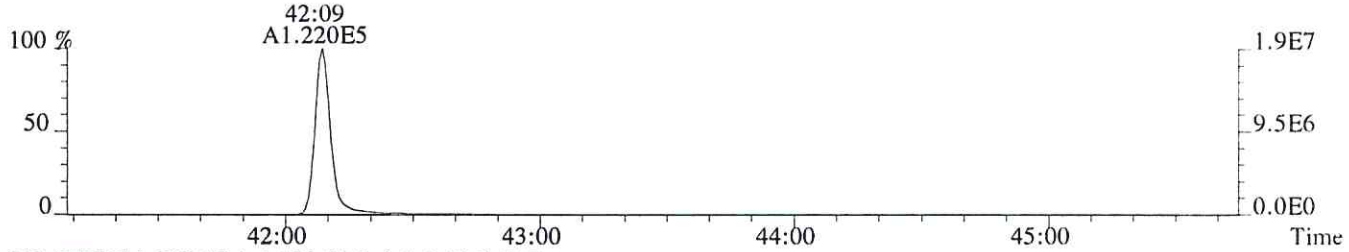
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1648.0,0.40%,F,T)



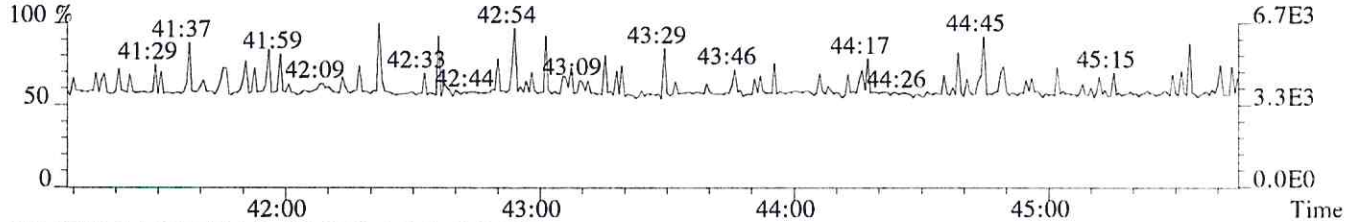
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



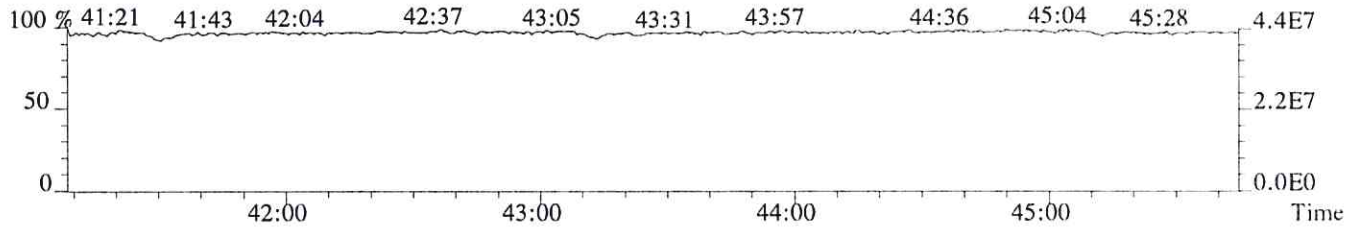
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



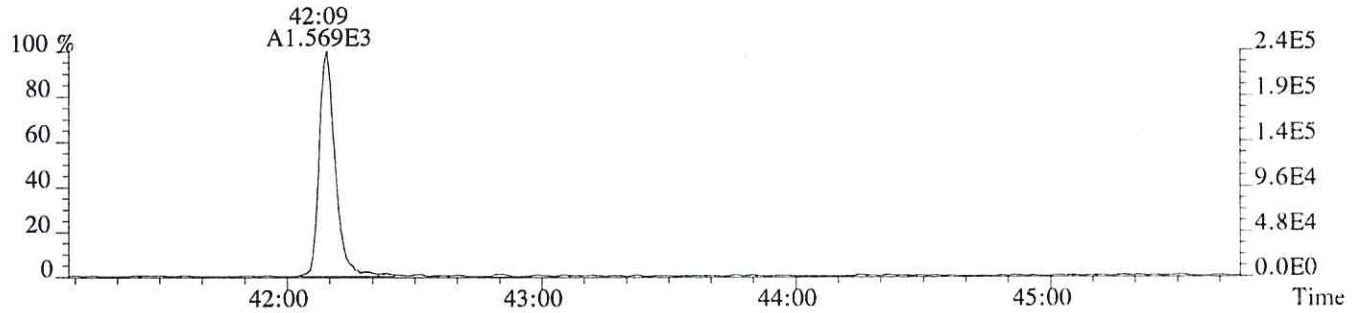
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



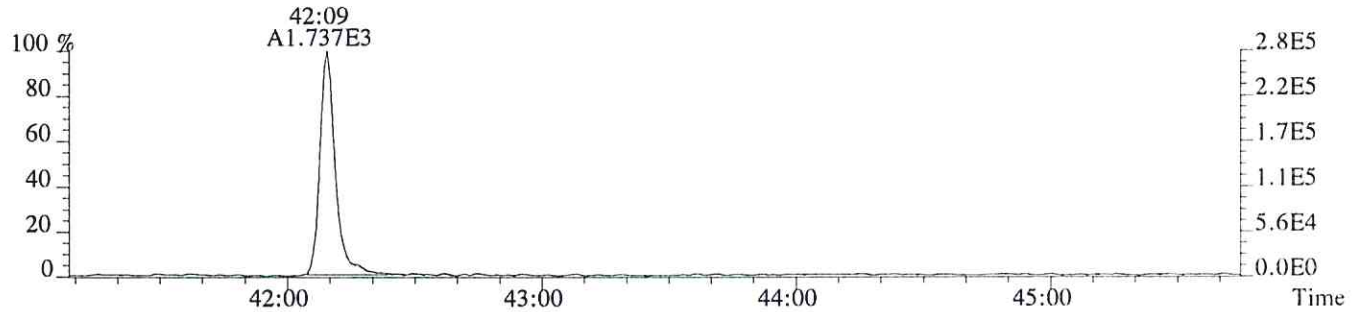
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



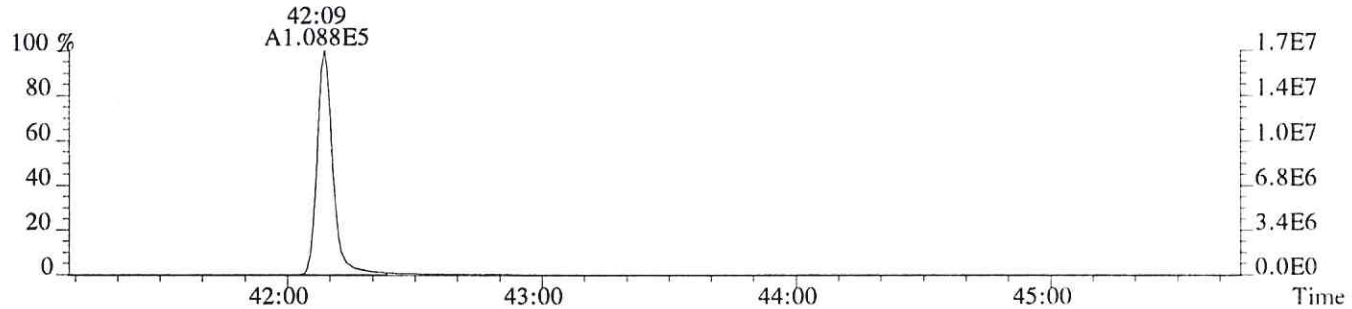
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1228.0,0.40%,F,T)



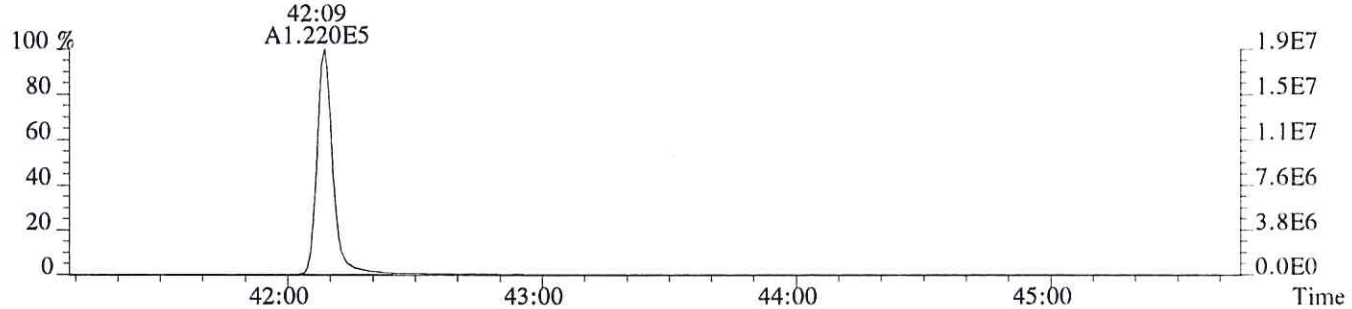
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2664.0,0.40%,F,T)



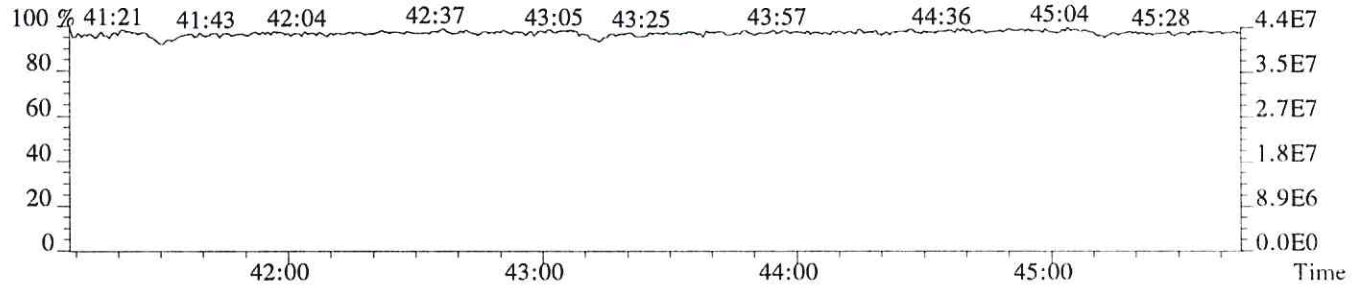
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



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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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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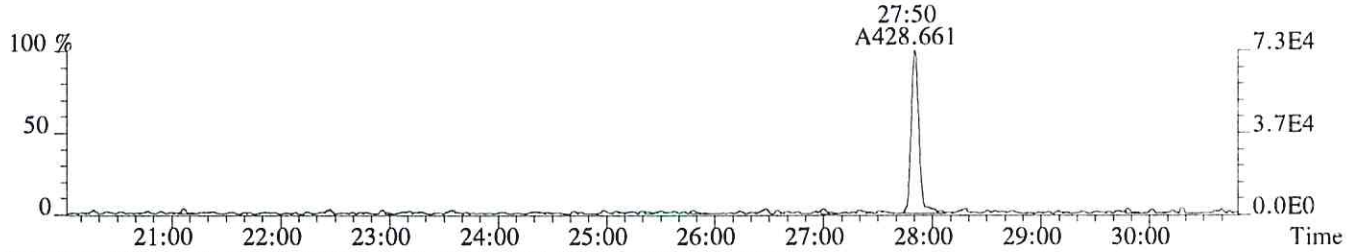
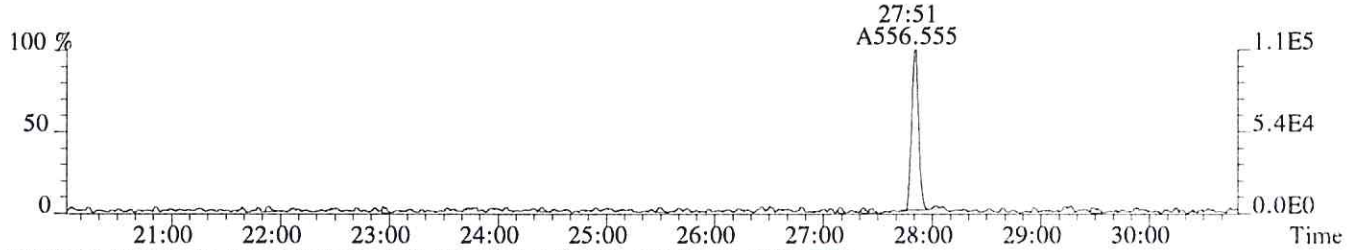
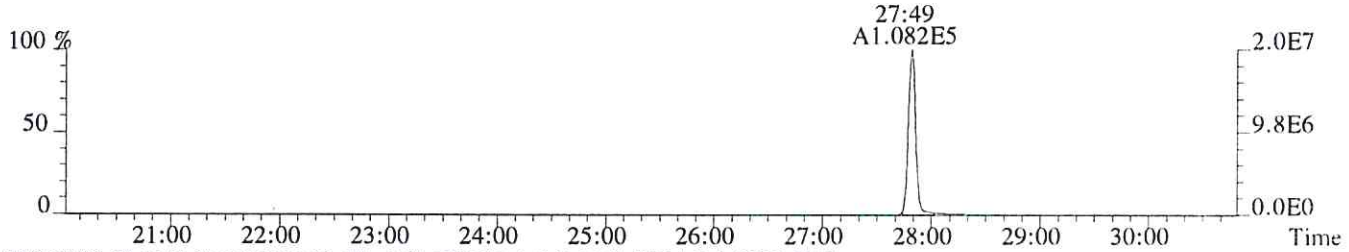
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



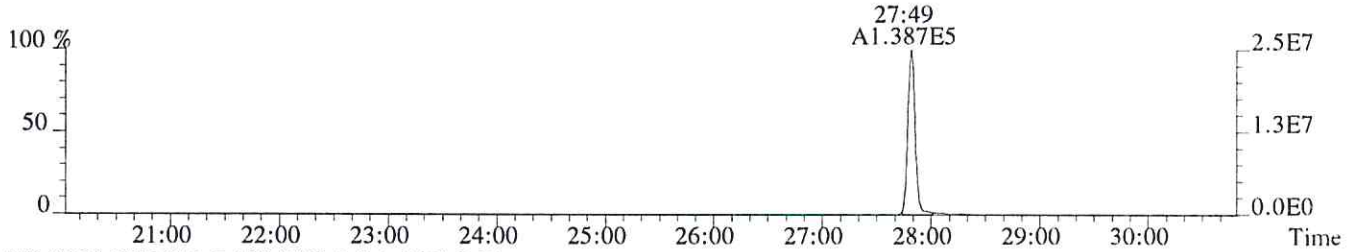
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2392.0,1.00%,F,T)



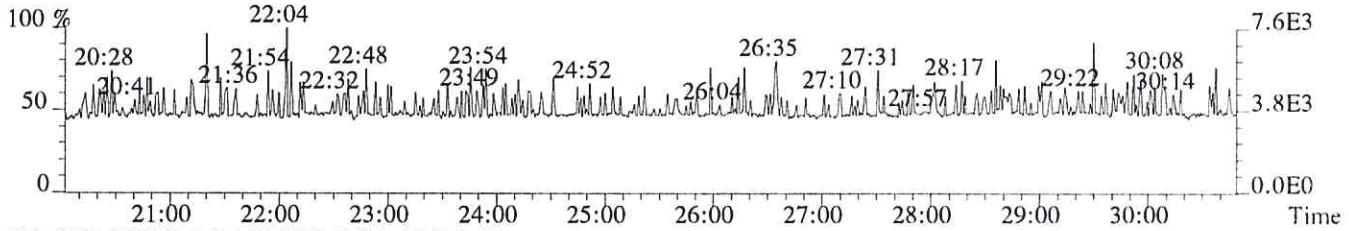
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11348.0,1.00%,F,T)



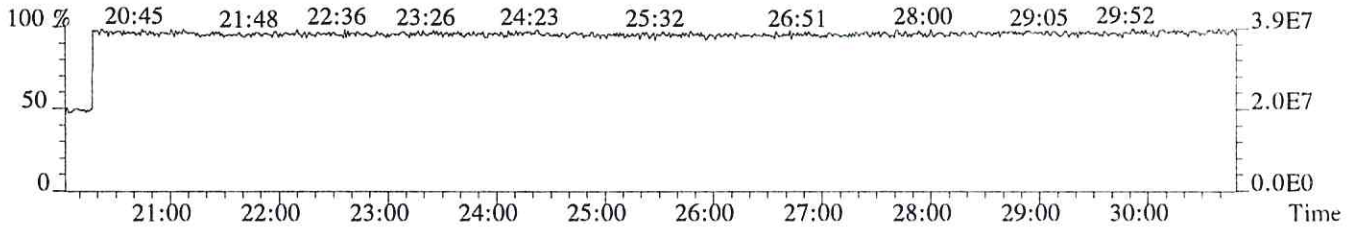
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7724.0,1.00%,F,T)



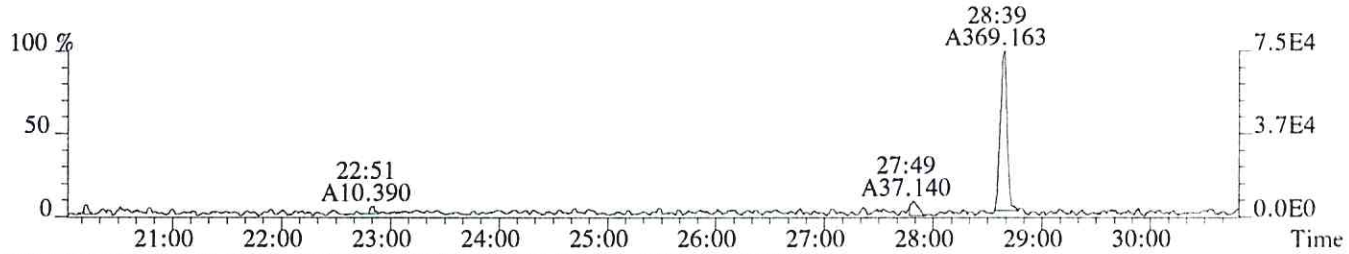
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



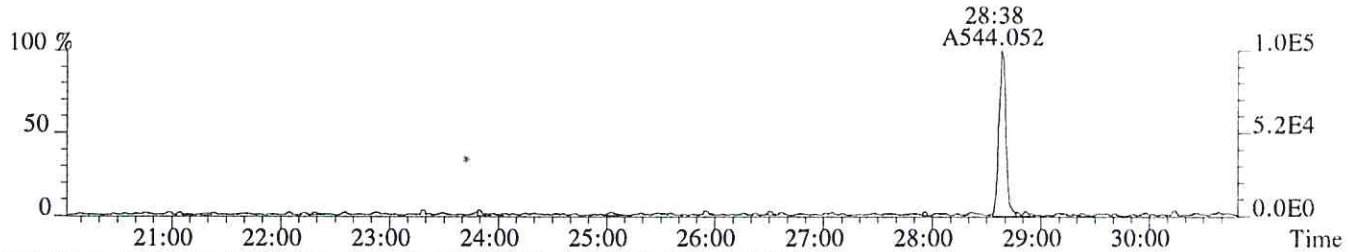
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



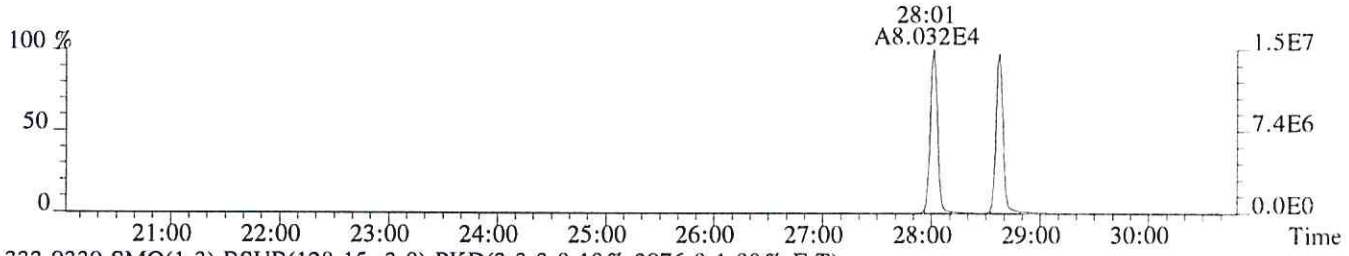
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



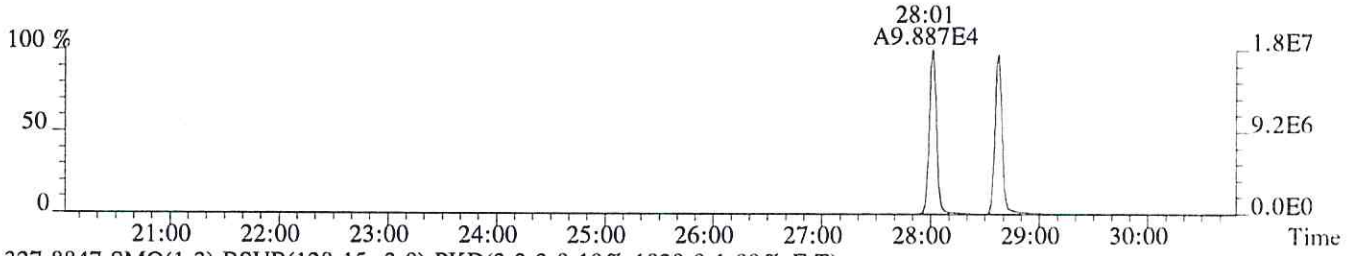
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



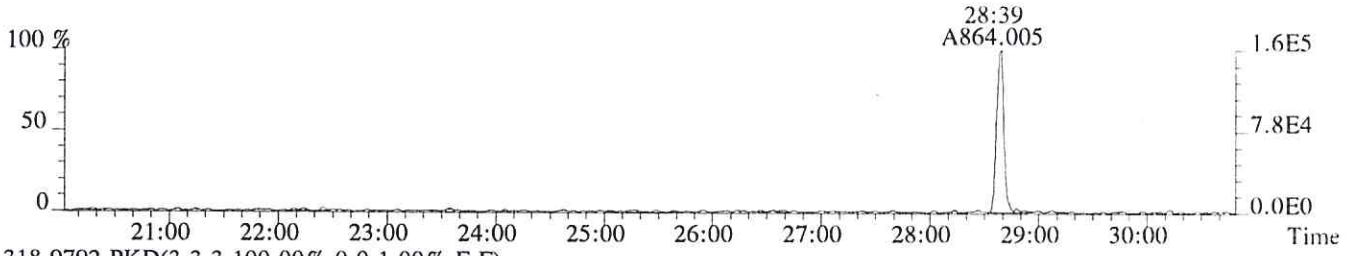
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7644.0,1.00%,F,T)



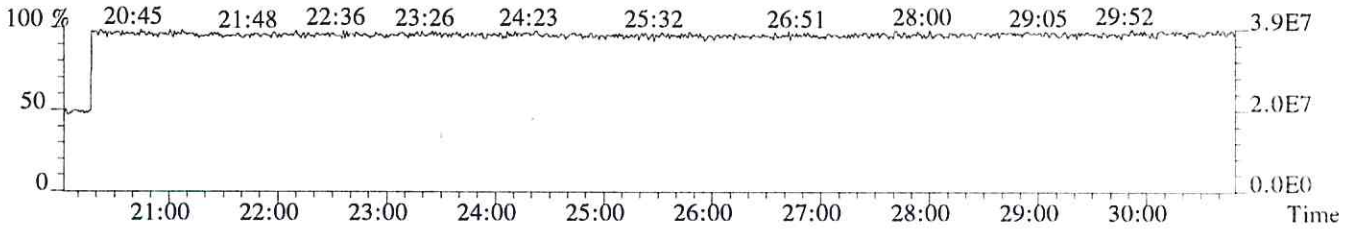
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3976.0,1.00%,F,T)



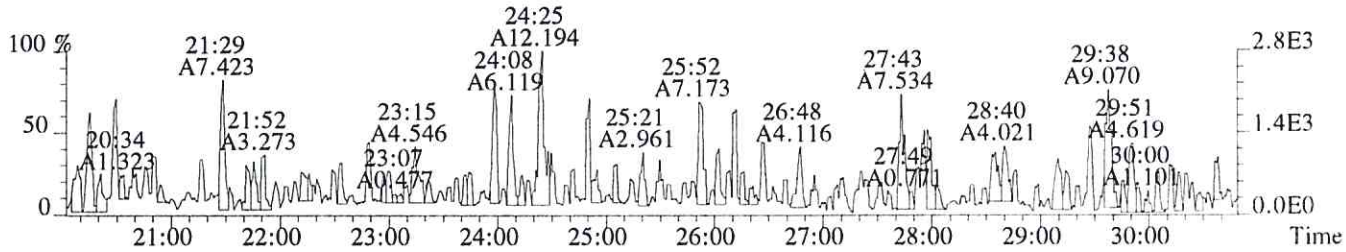
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



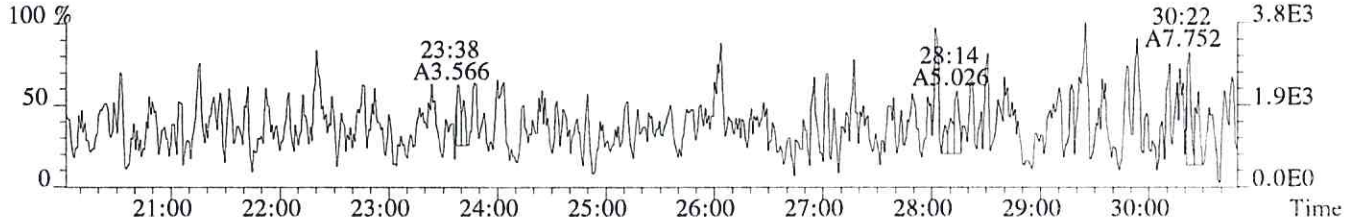
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



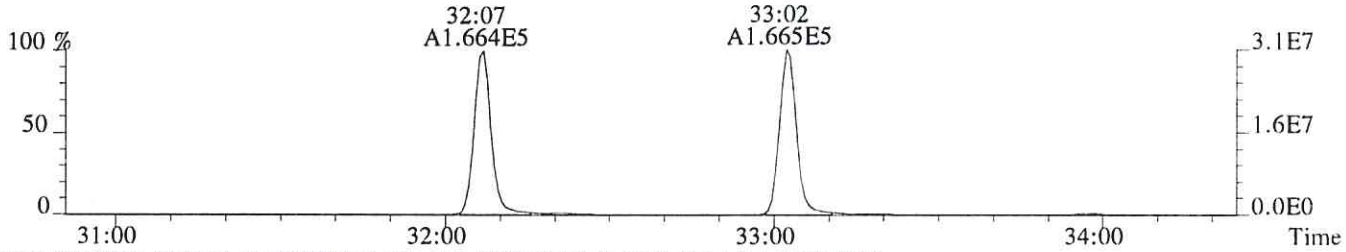
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



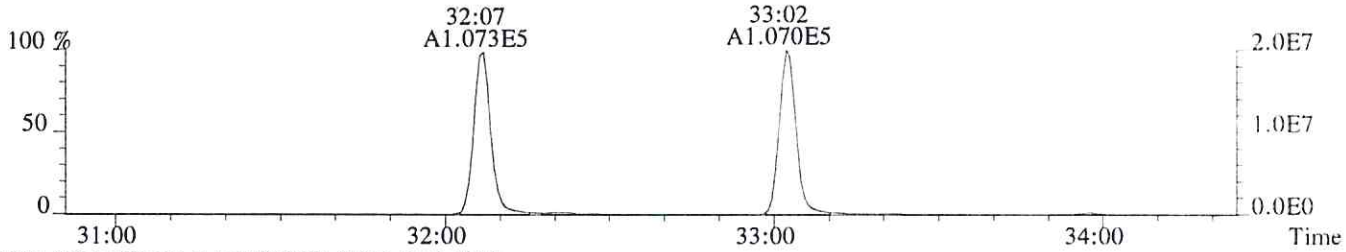
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1732.0,1.00%,F,T)



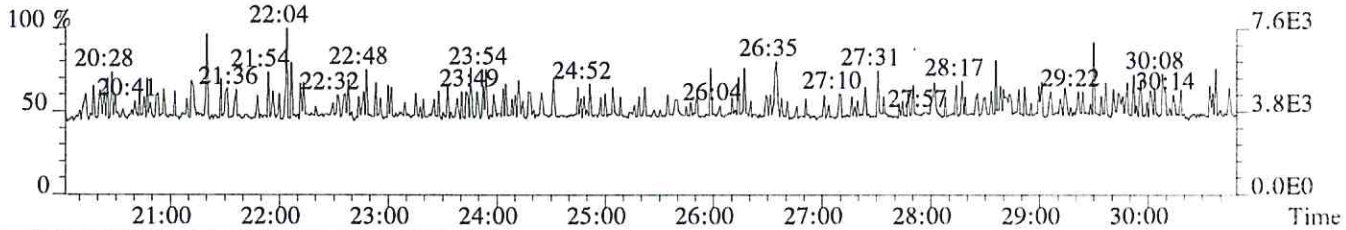
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



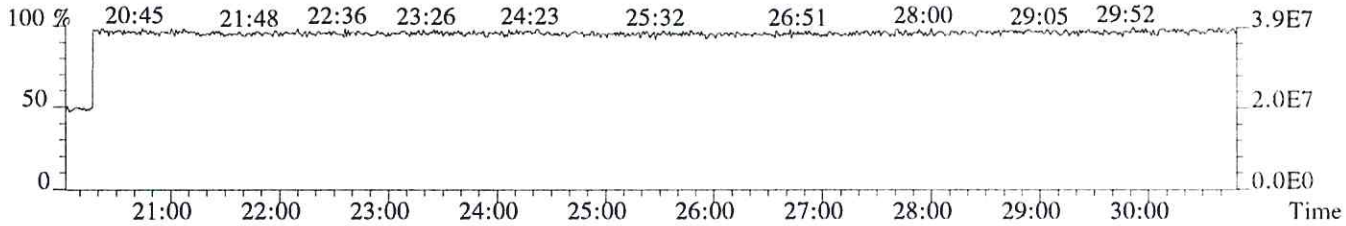
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



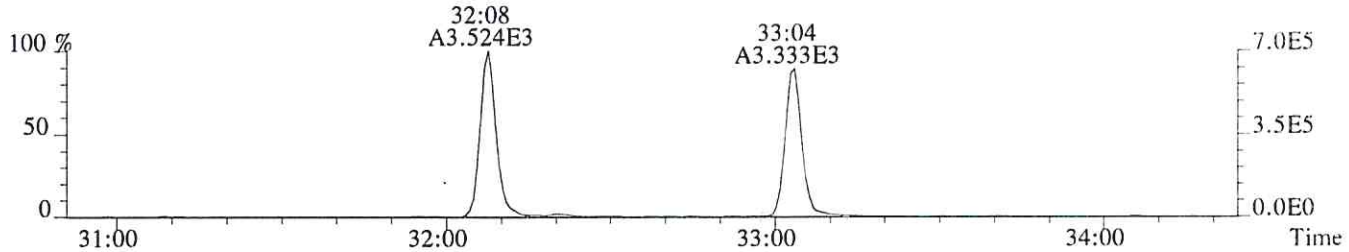
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



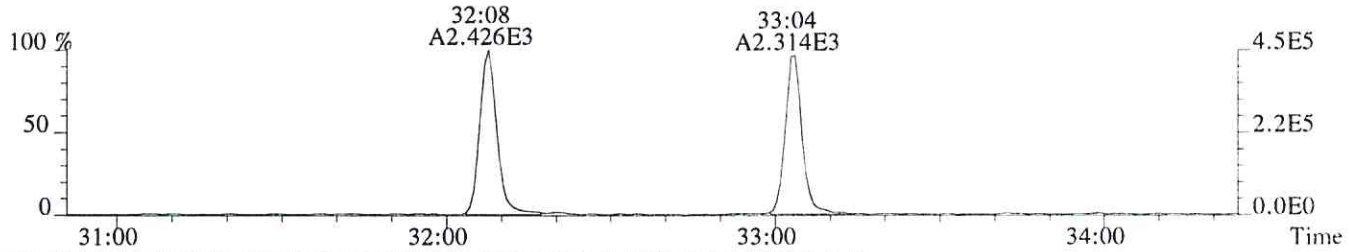
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



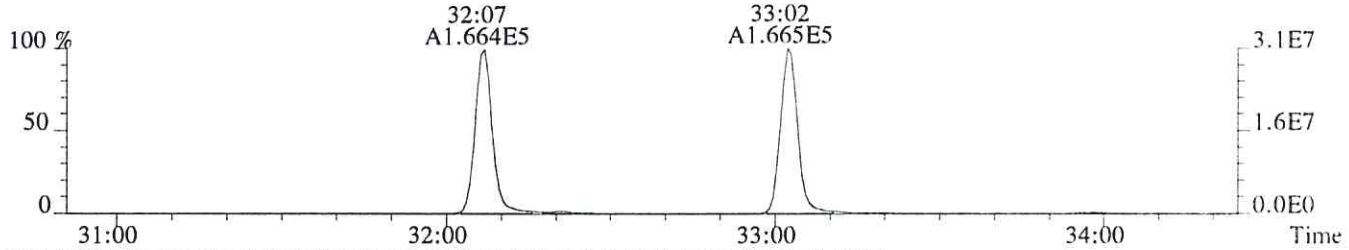
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



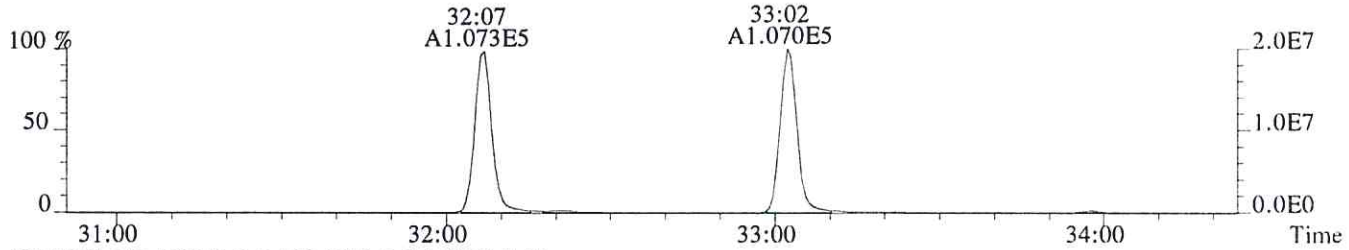
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2764.0,1.00%,F,T)



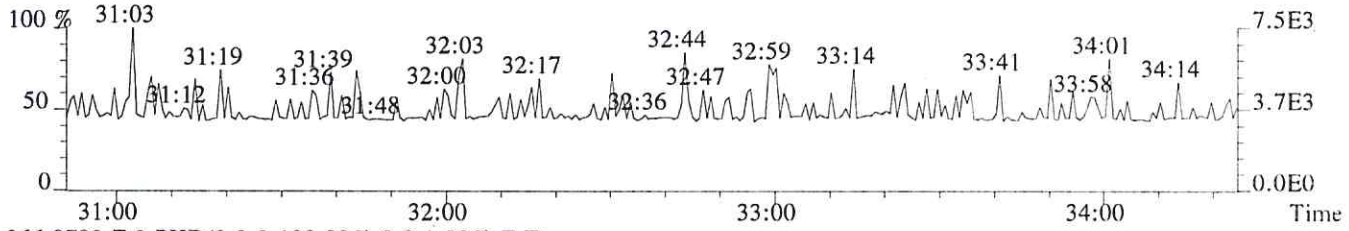
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



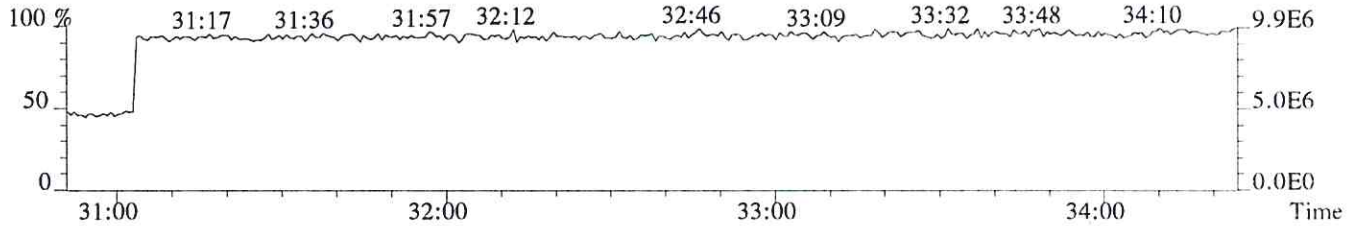
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



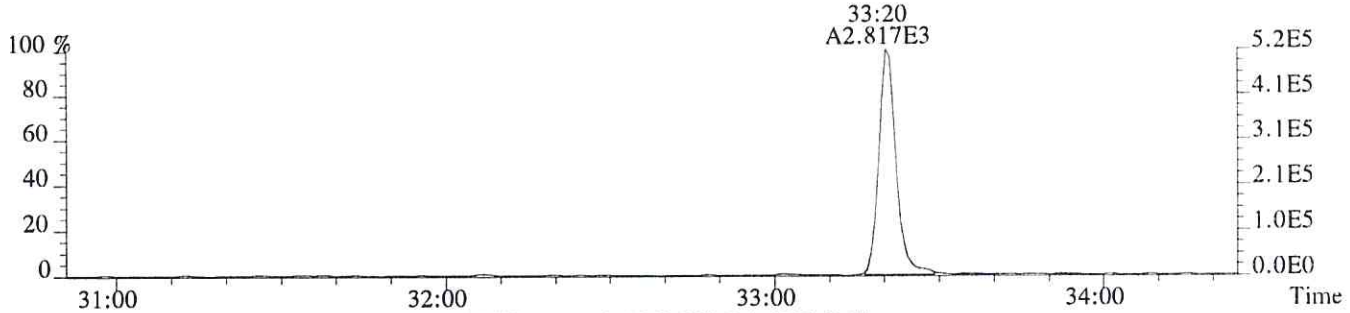
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



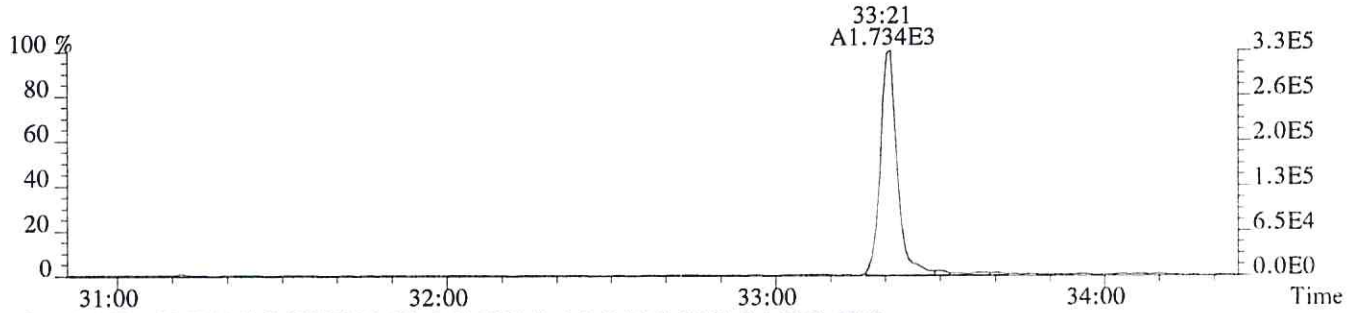
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



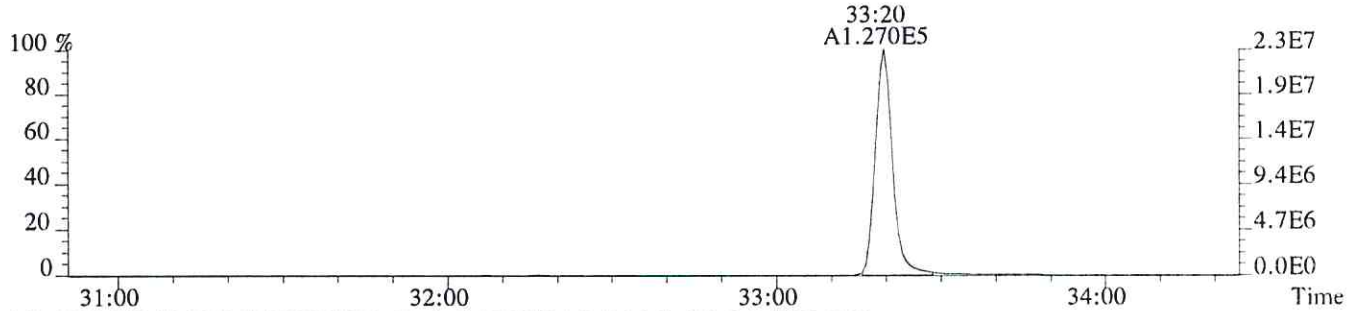
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:76555
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



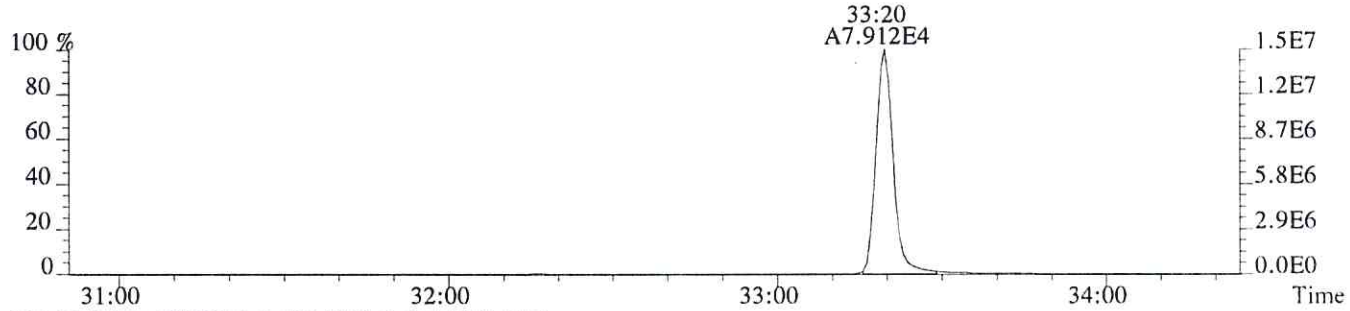
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,T)



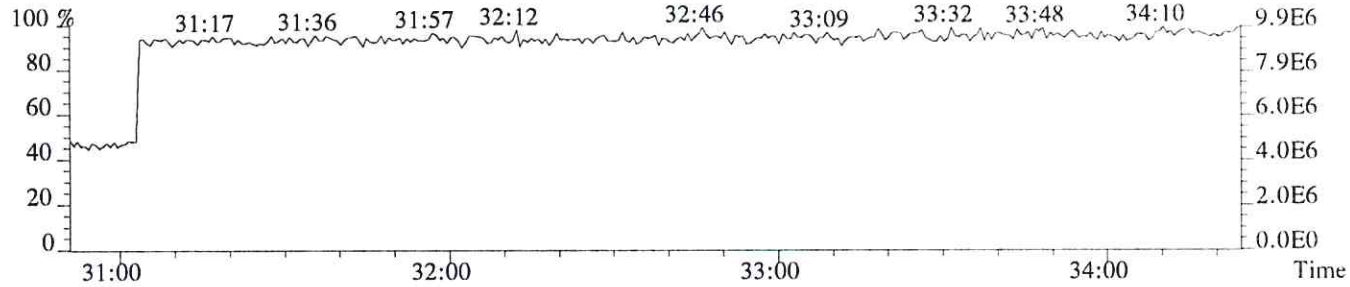
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,T)



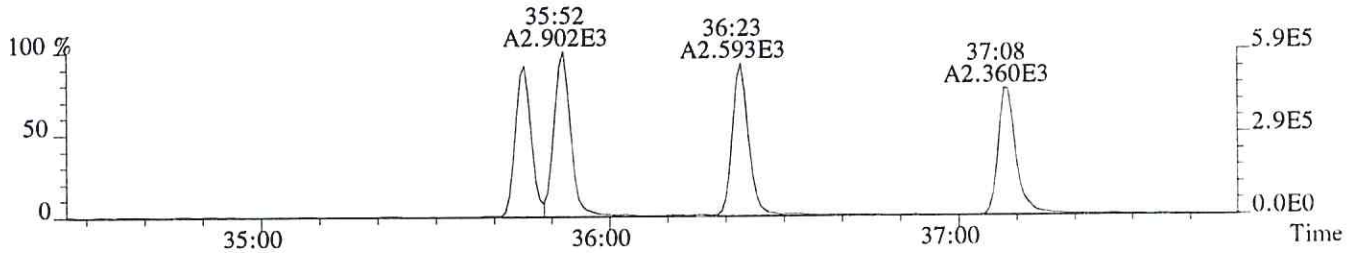
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



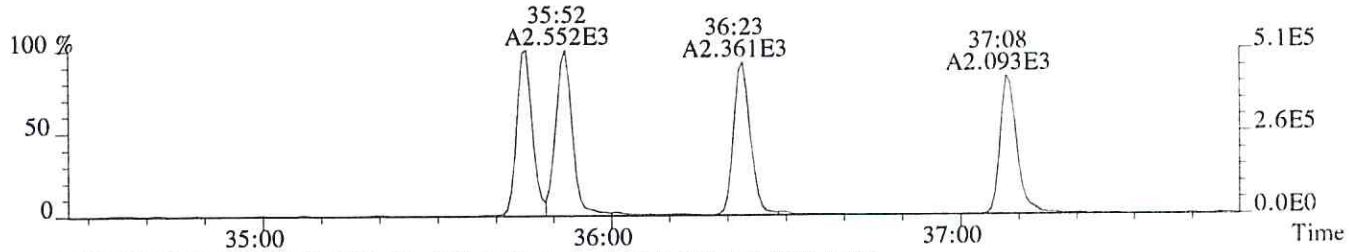
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



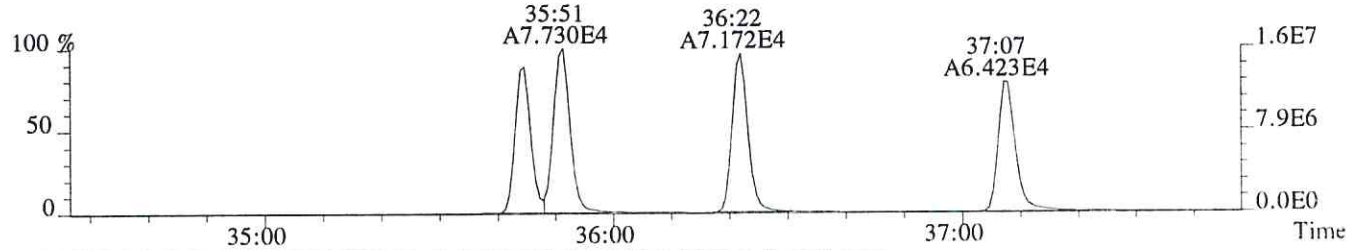
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



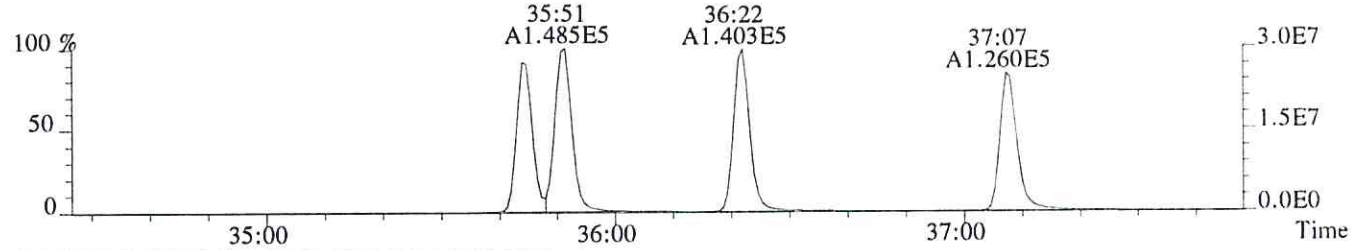
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



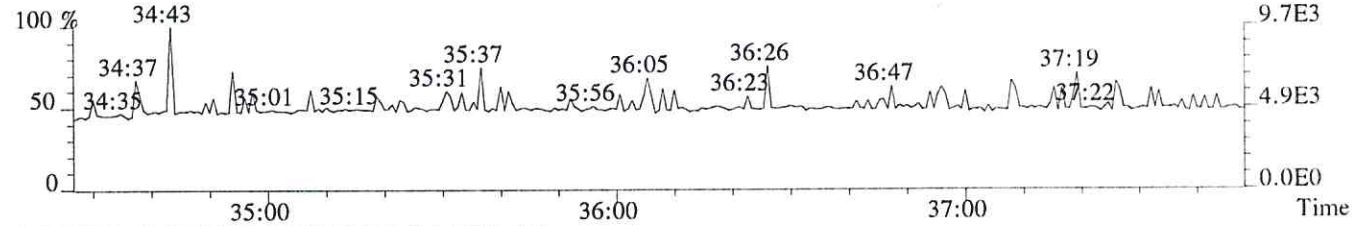
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,T)



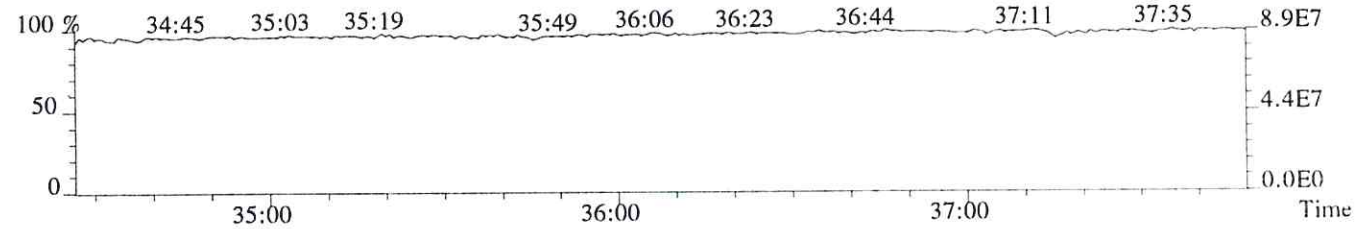
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2212.0,0.40%,F,T)



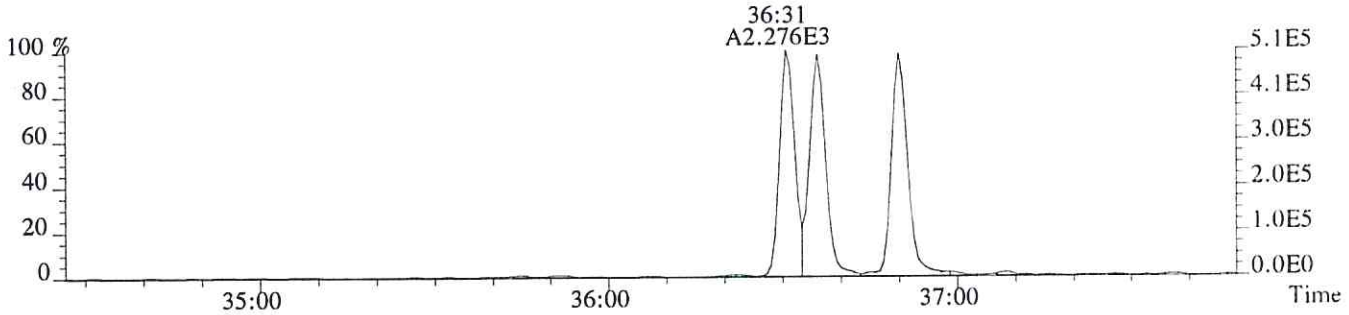
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



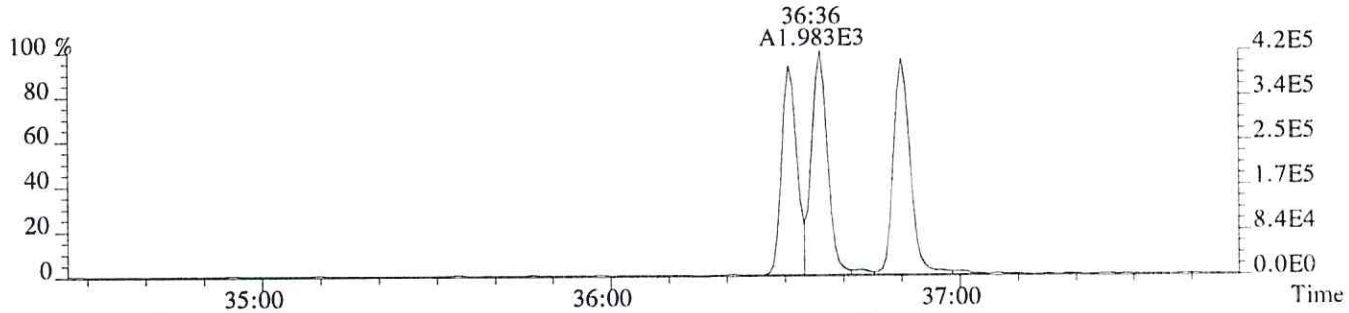
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



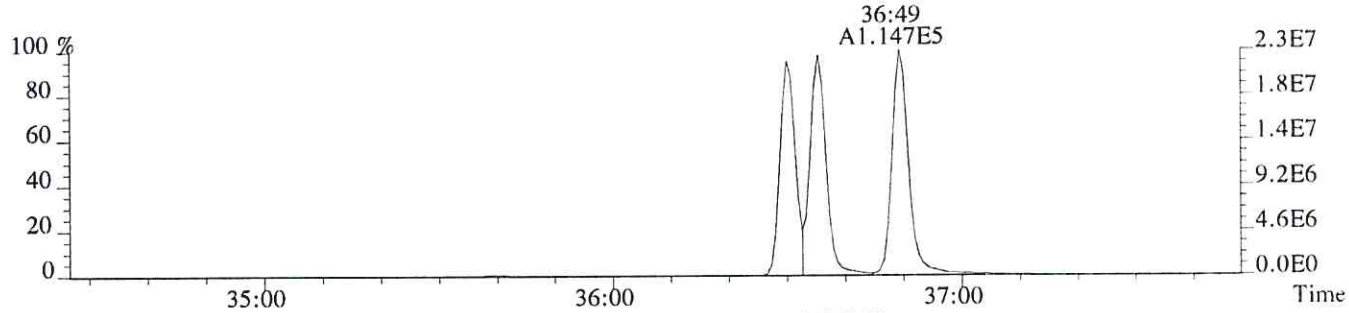
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



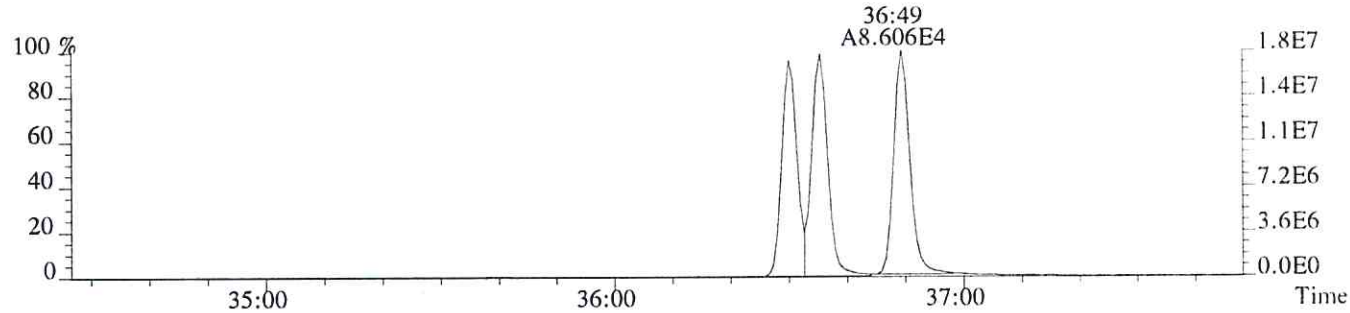
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



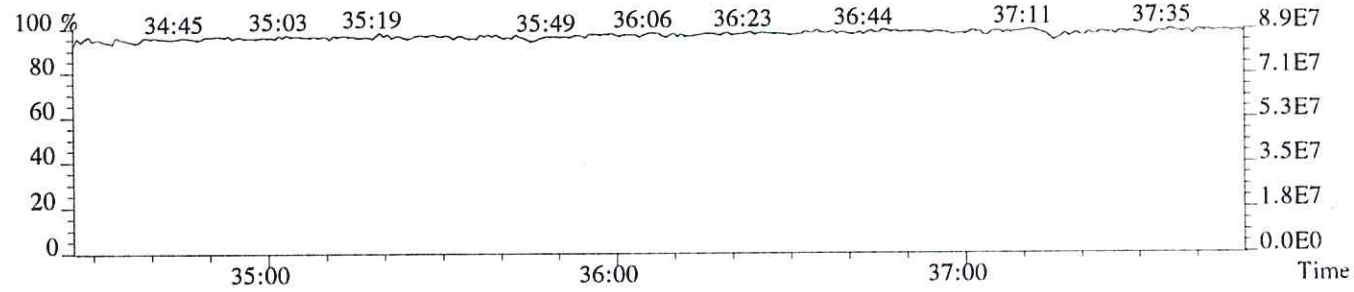
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



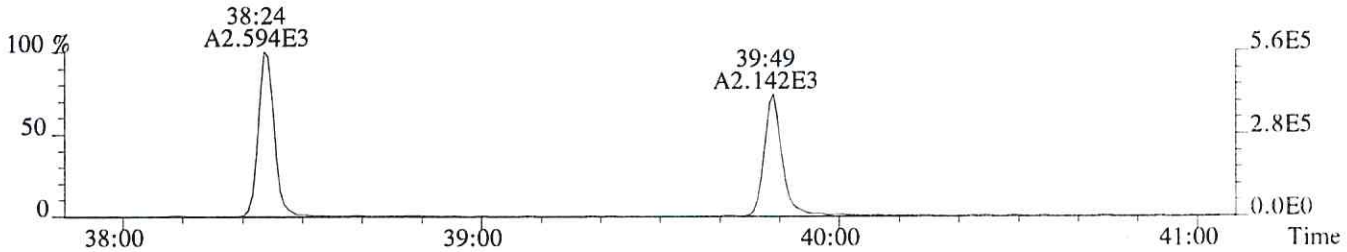
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



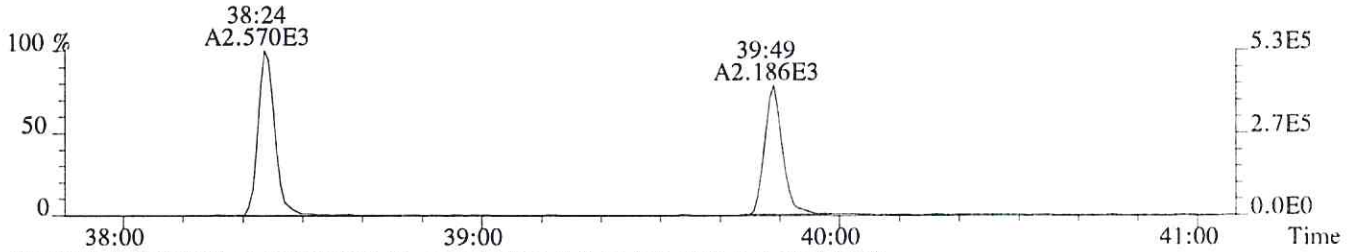
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



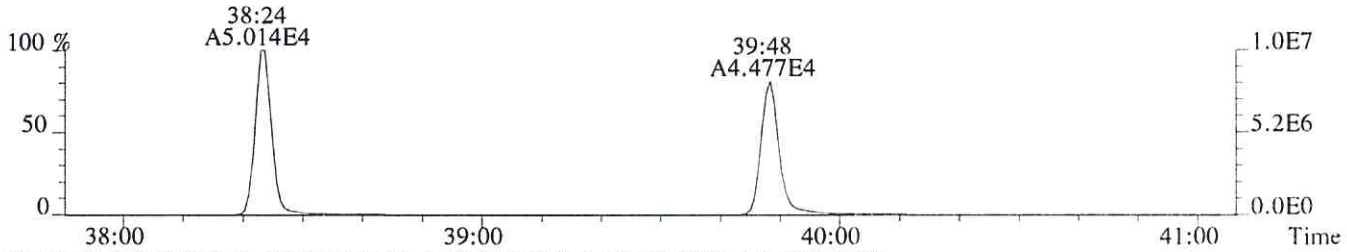
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.50%,F,T)



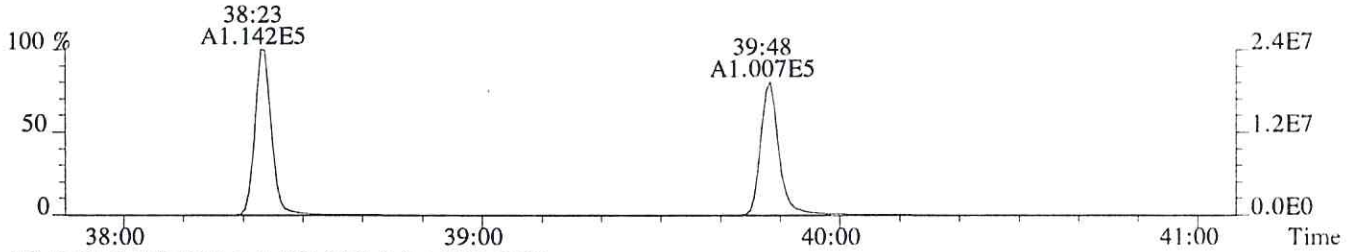
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.50%,F,T)



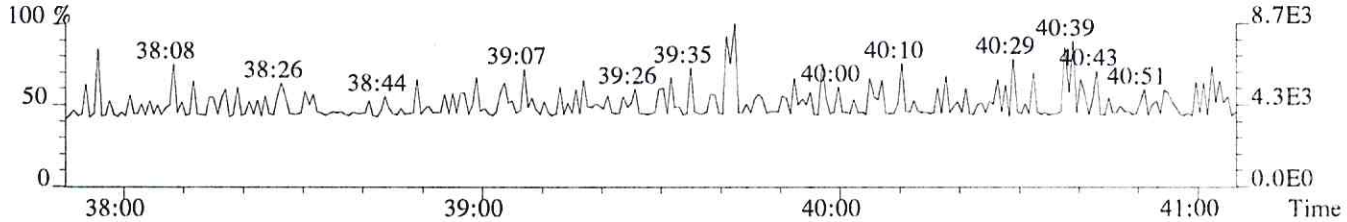
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3452.0,0.50%,F,T)



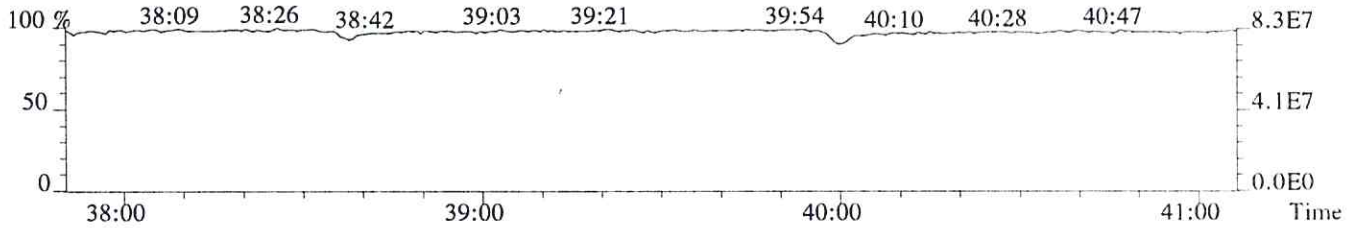
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5620.0,0.50%,F,T)



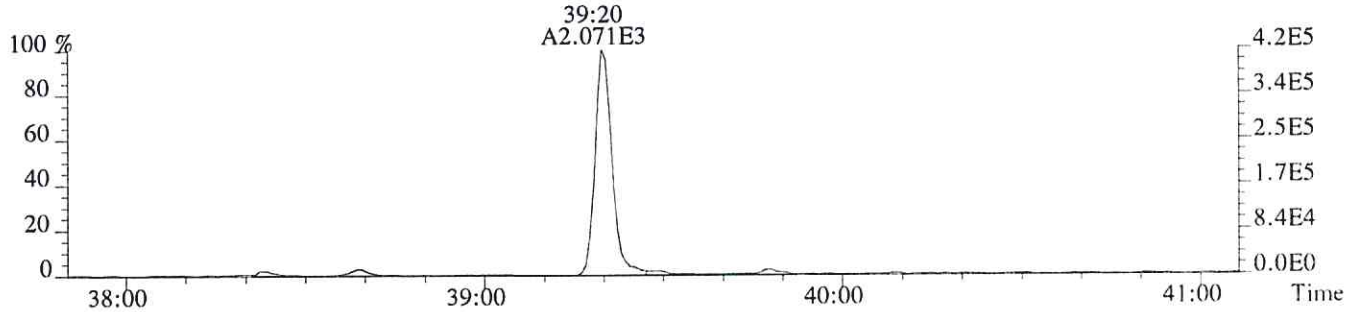
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



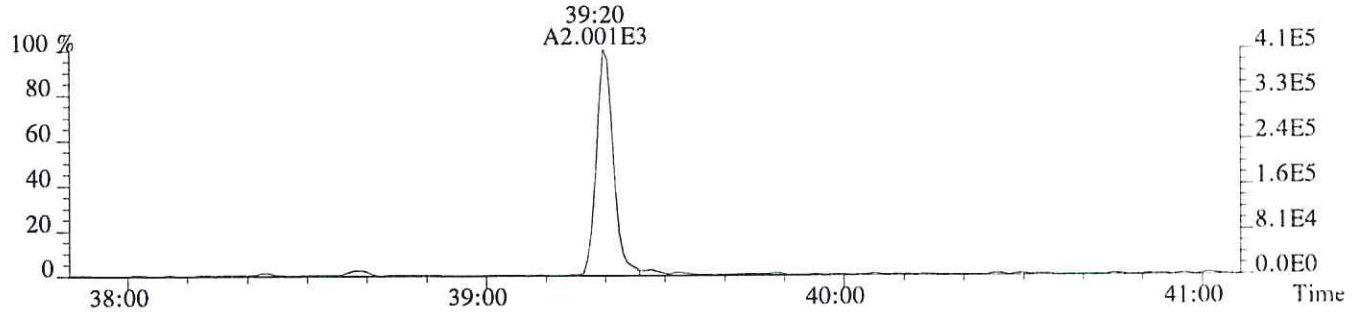
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



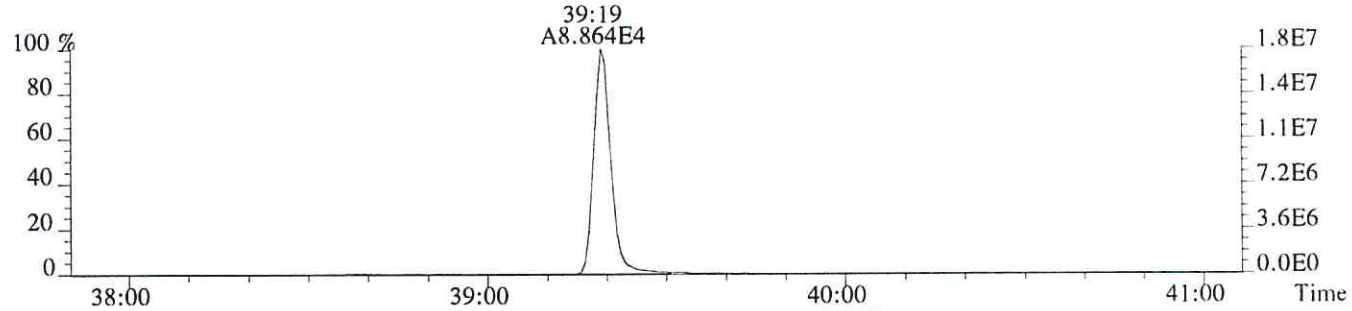
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



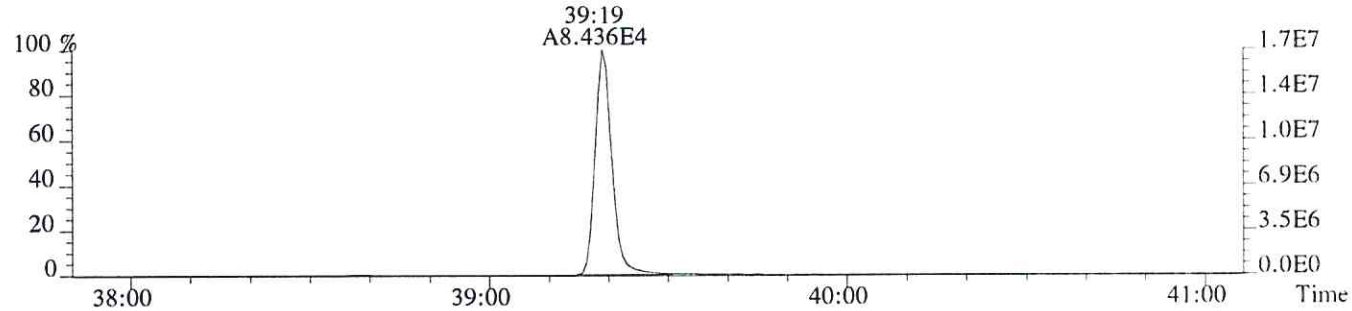
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



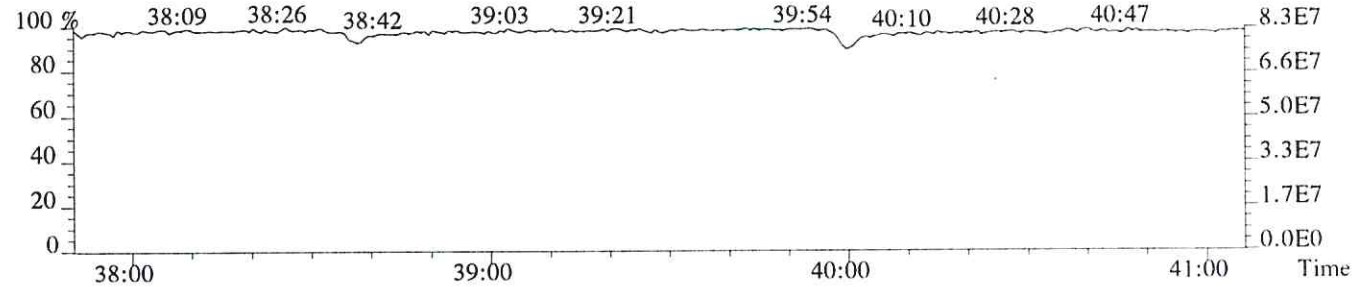
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



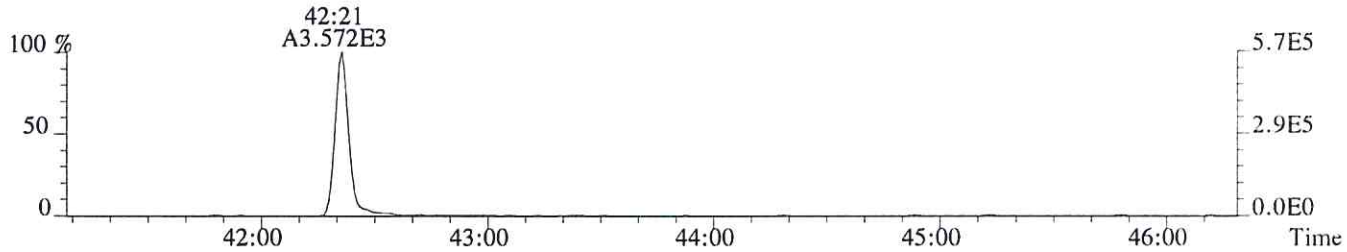
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1724.0,0.40%,F,T)



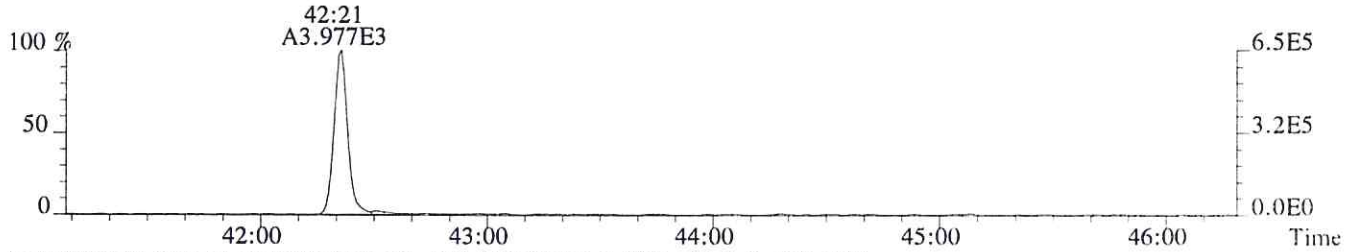
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



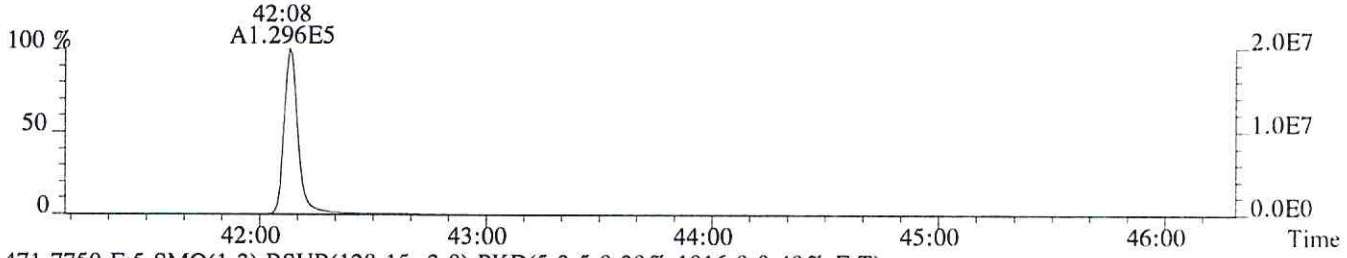
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



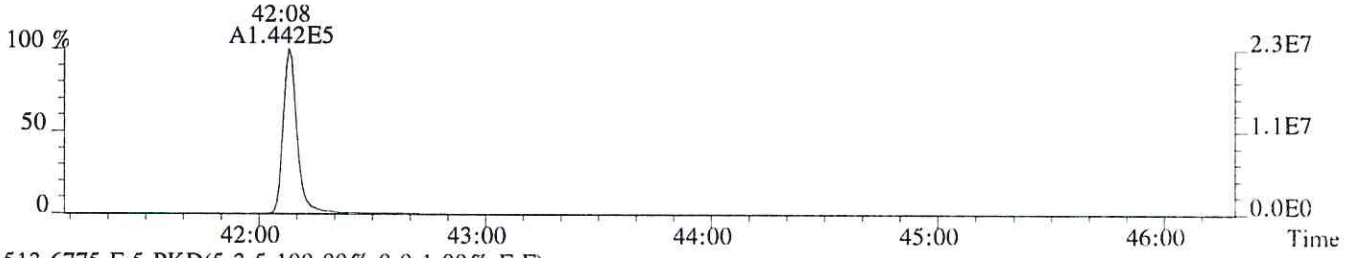
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1256.0,0.40%,F,T)



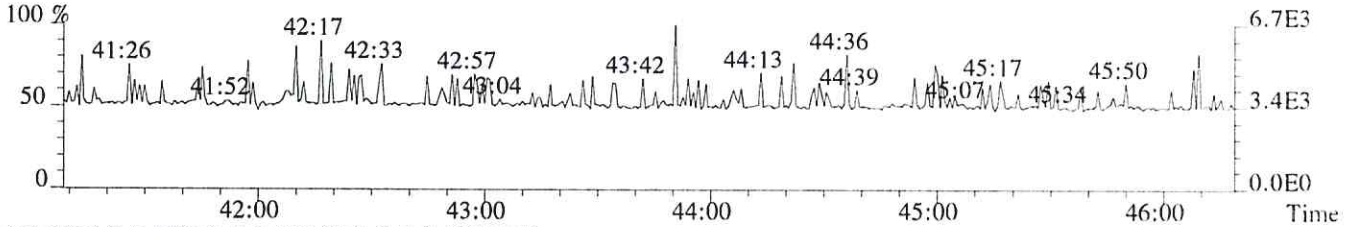
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



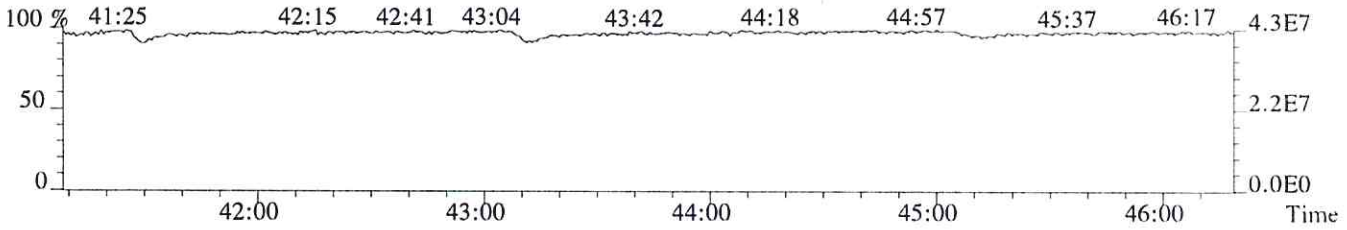
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



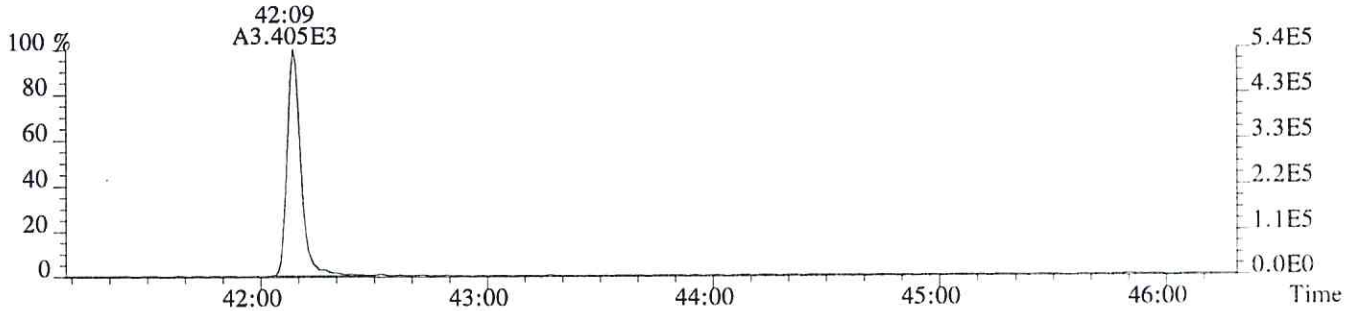
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



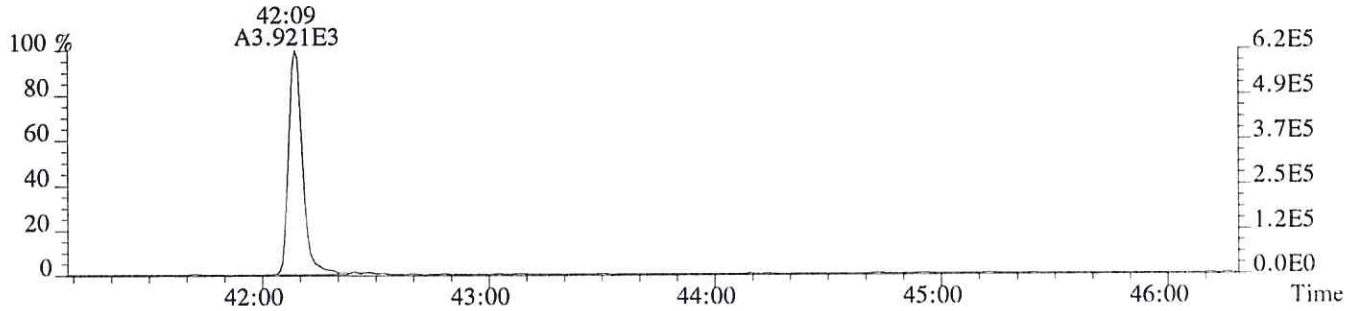
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



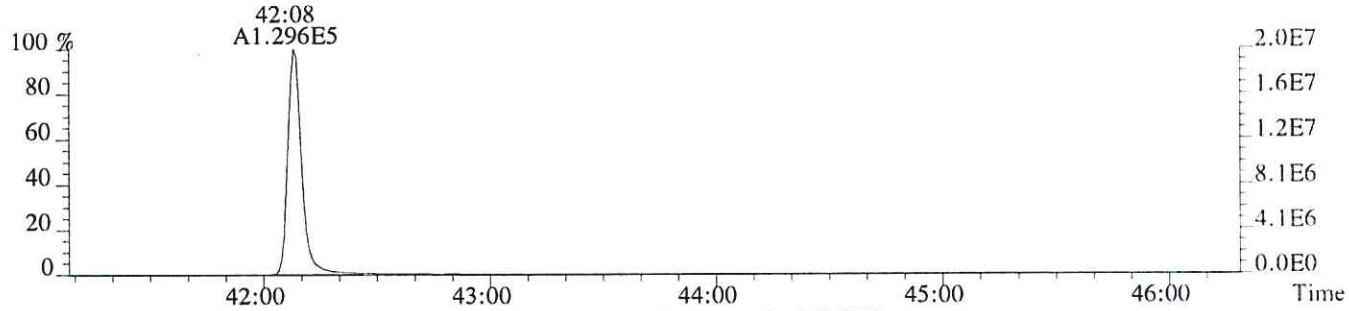
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76555
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



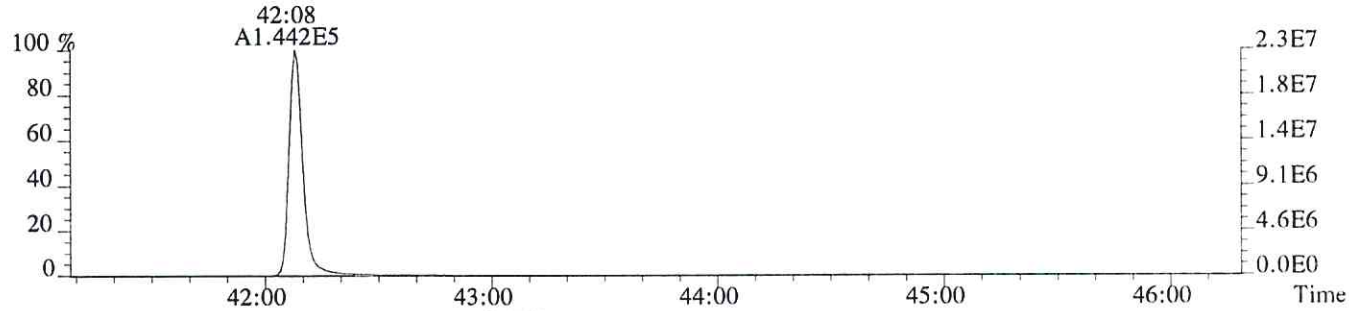
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2040.0,0.40%,F,T)



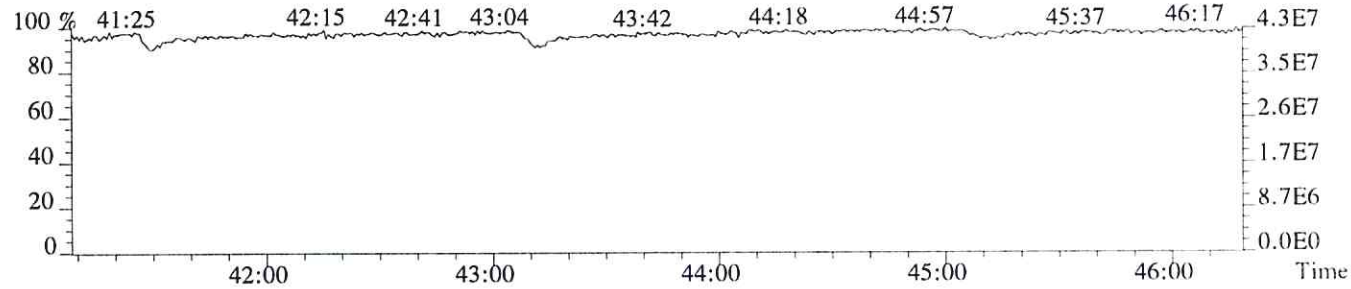
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



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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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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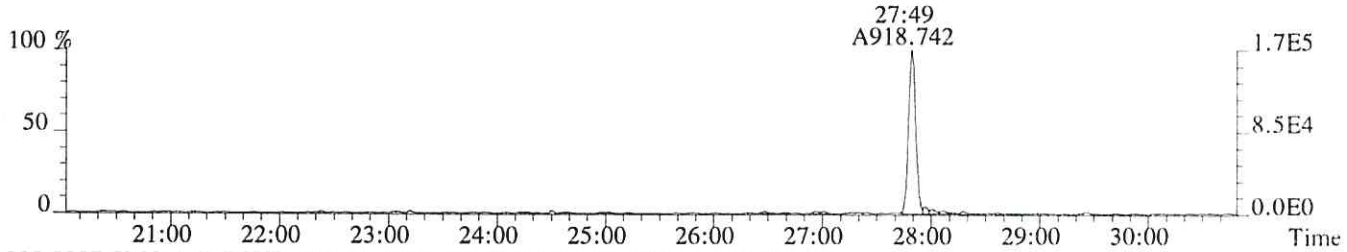
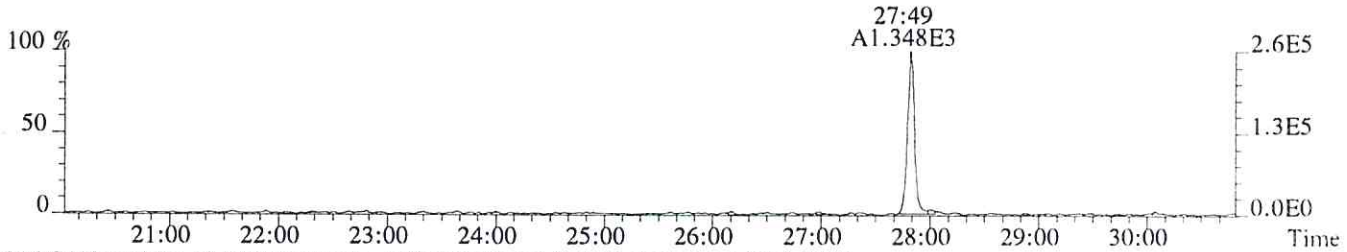
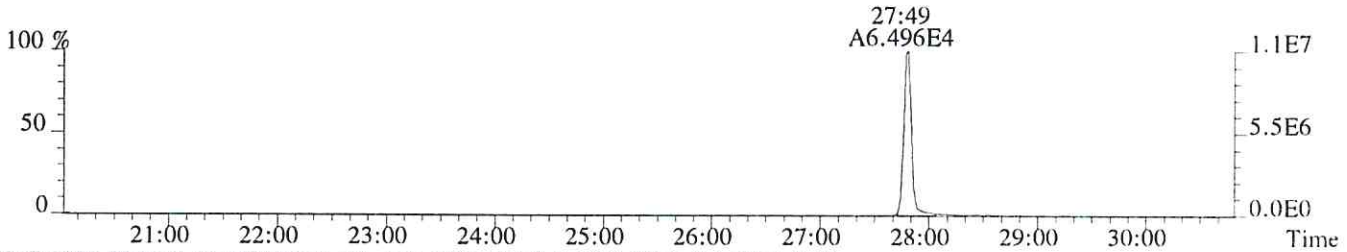
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



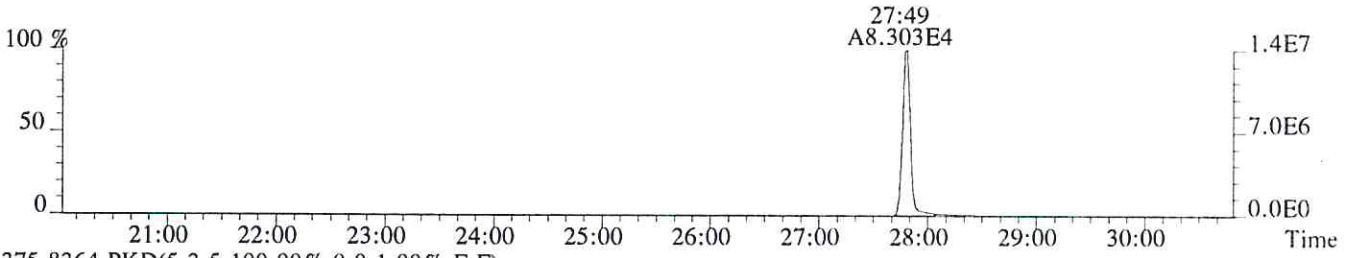
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2088.0,1.00%,F,T)



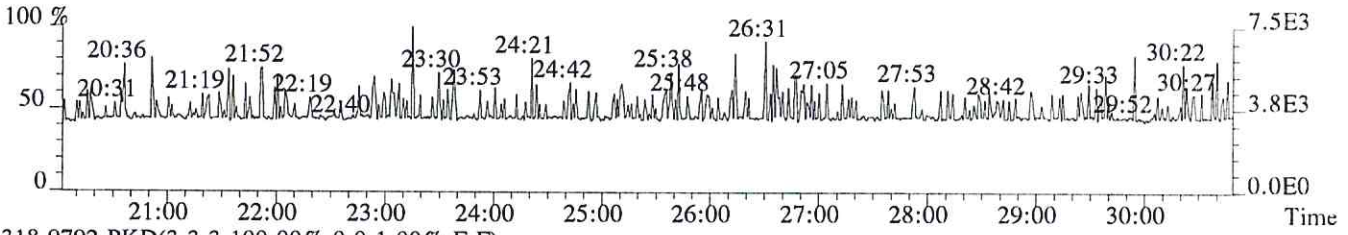
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12432.0,1.00%,F,T)



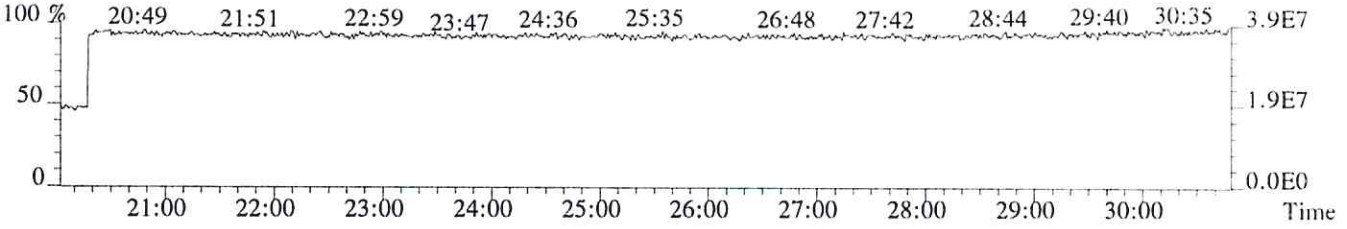
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7872.0,1.00%,F,T)



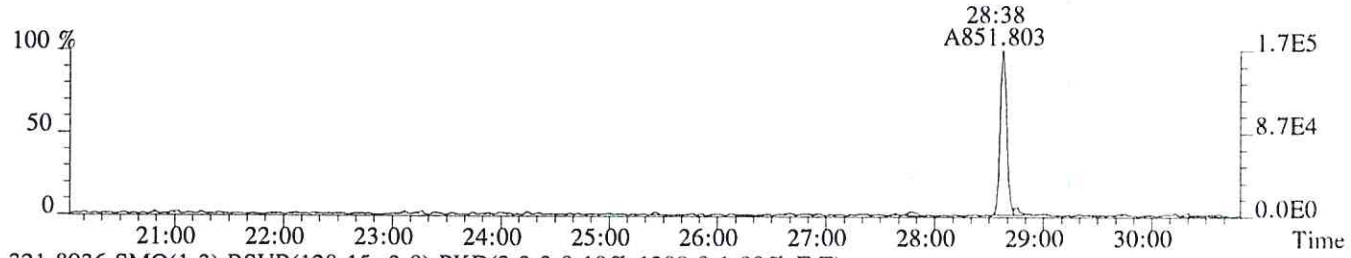
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



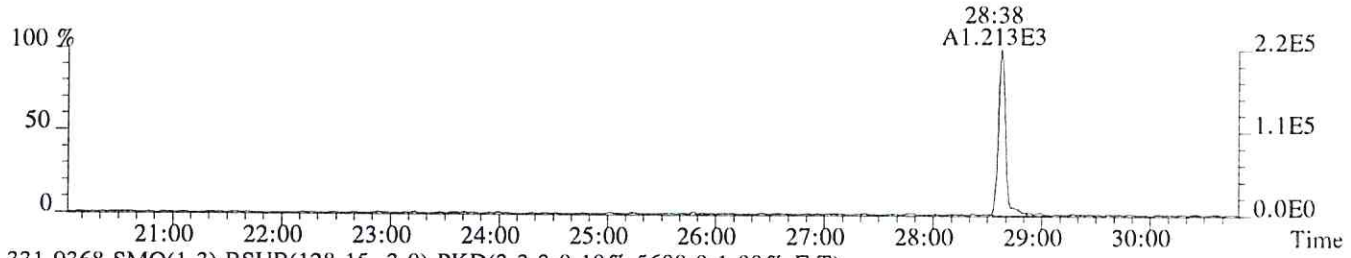
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



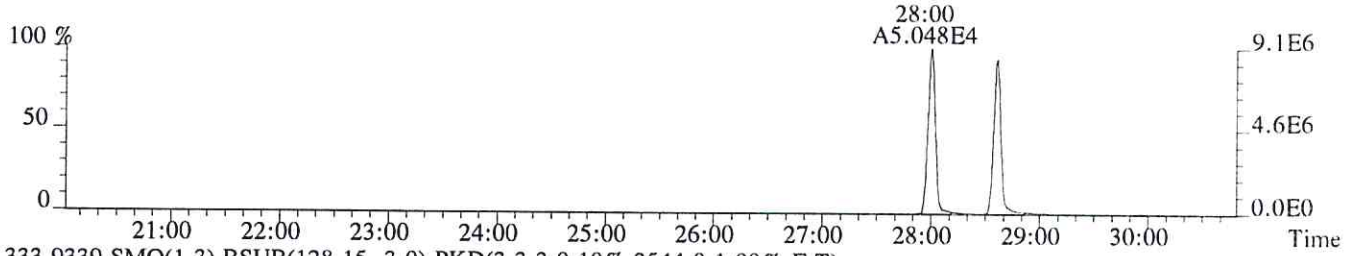
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1928.0,1.00%,F,T)



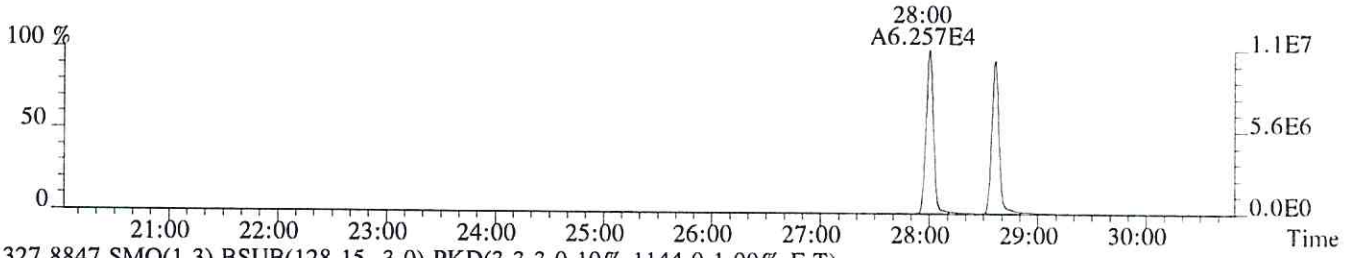
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



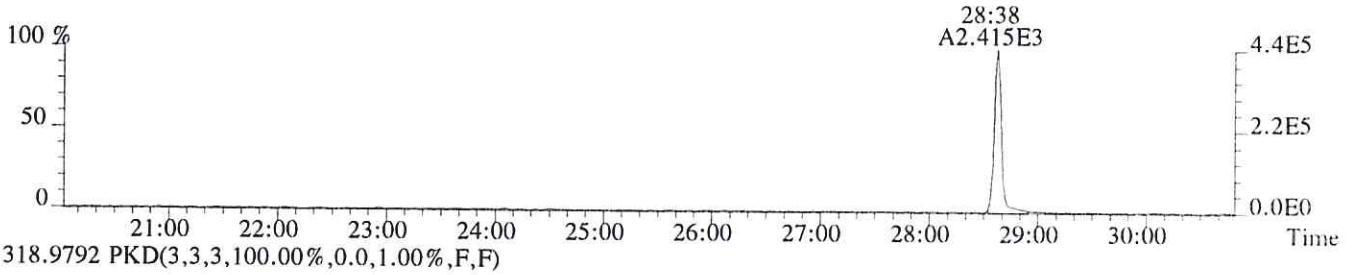
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5608.0,1.00%,F,T)



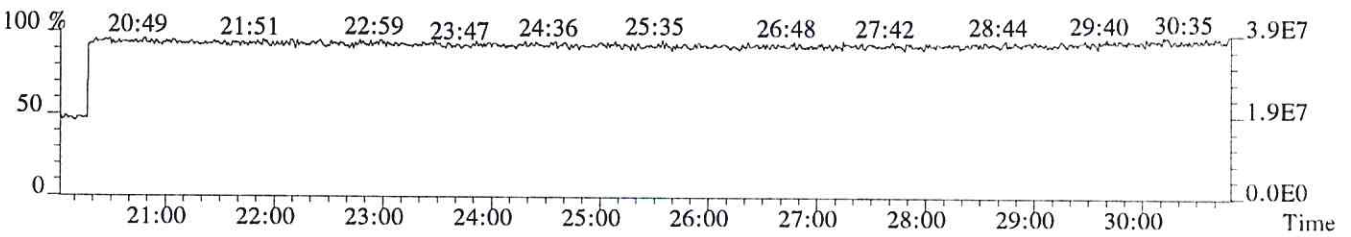
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3544.0,1.00%,F,T)



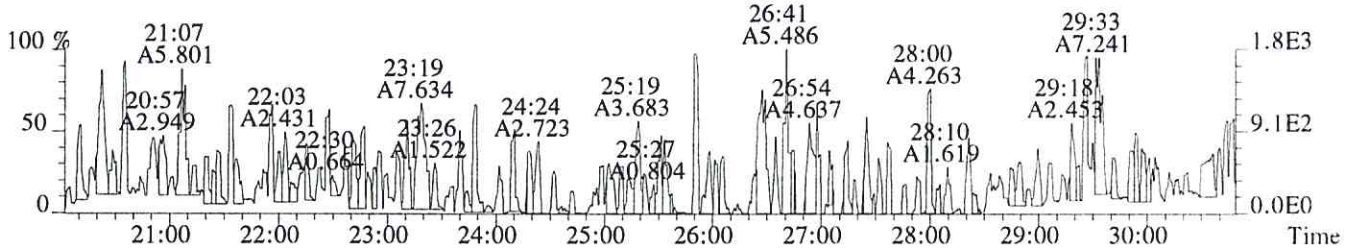
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



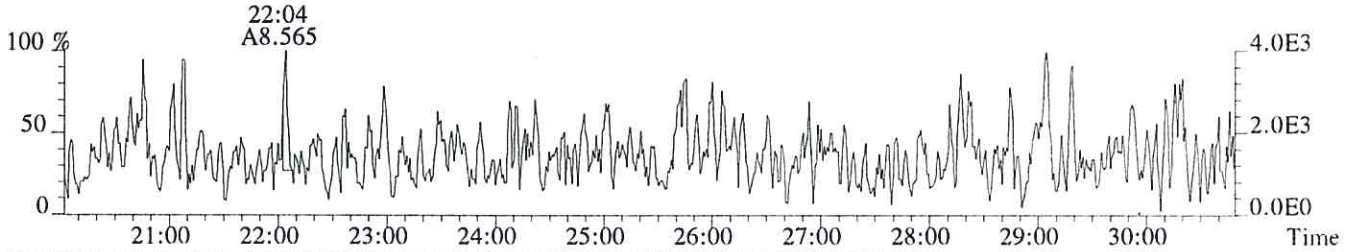
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



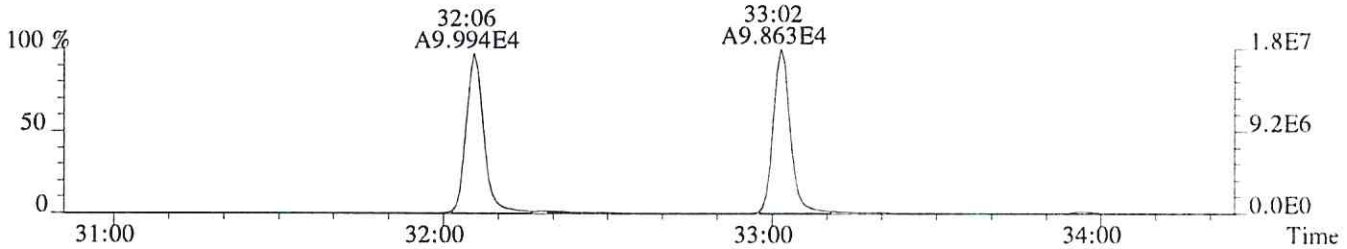
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



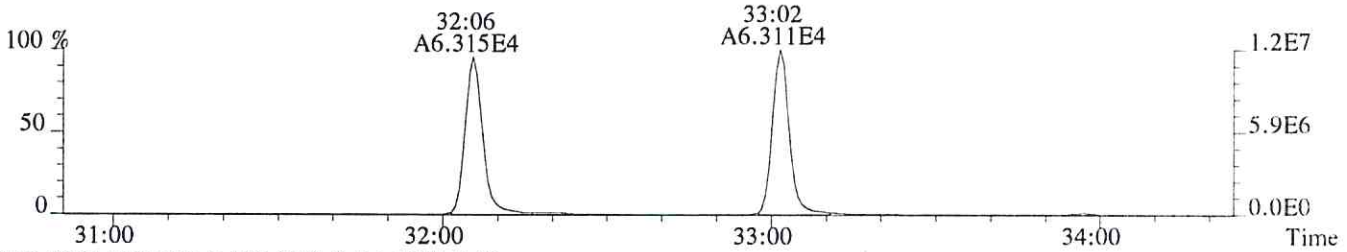
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



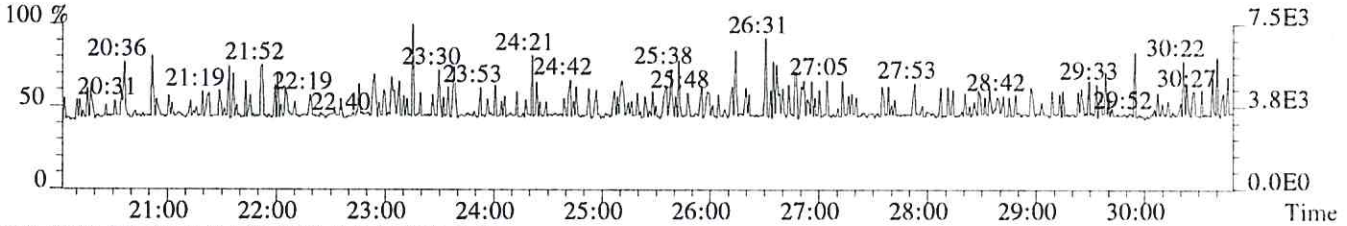
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



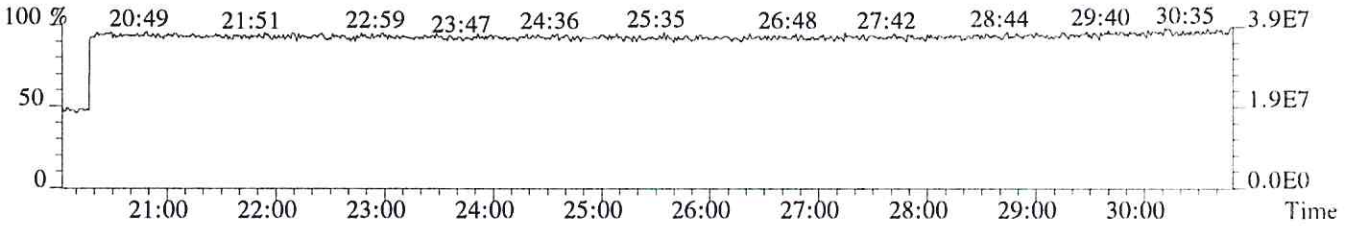
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



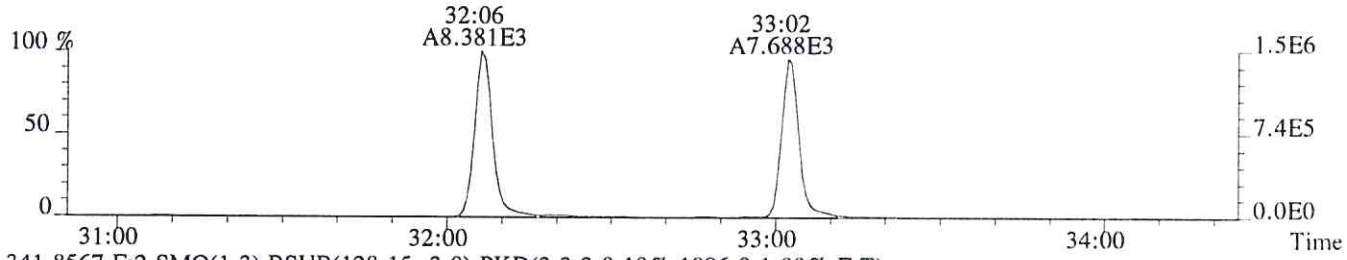
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



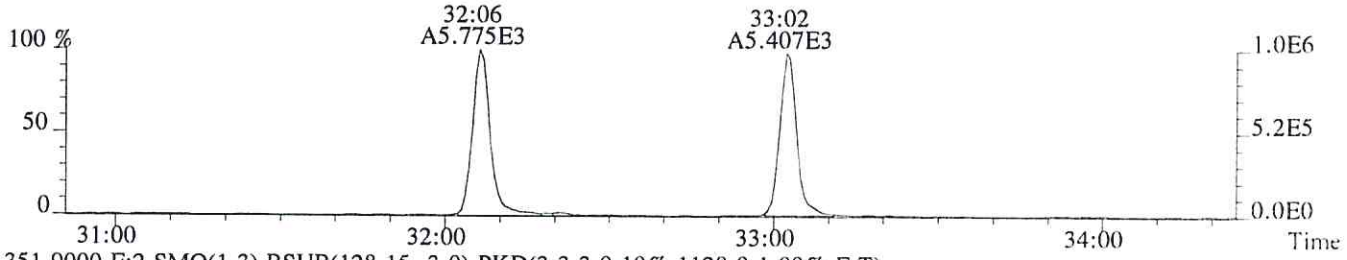
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



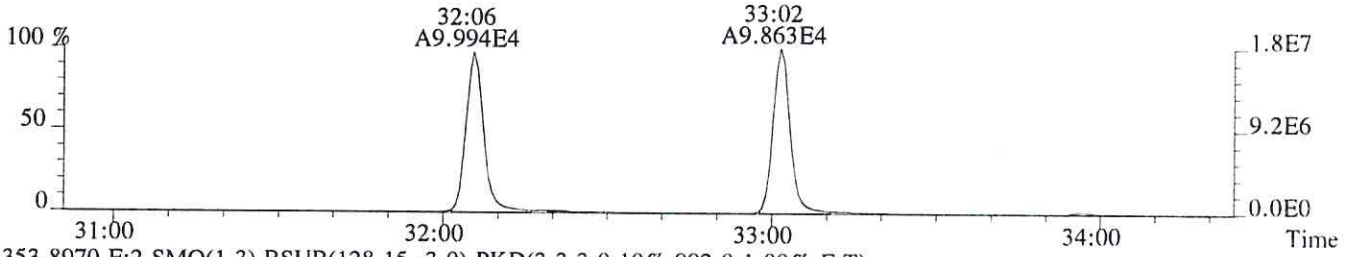
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



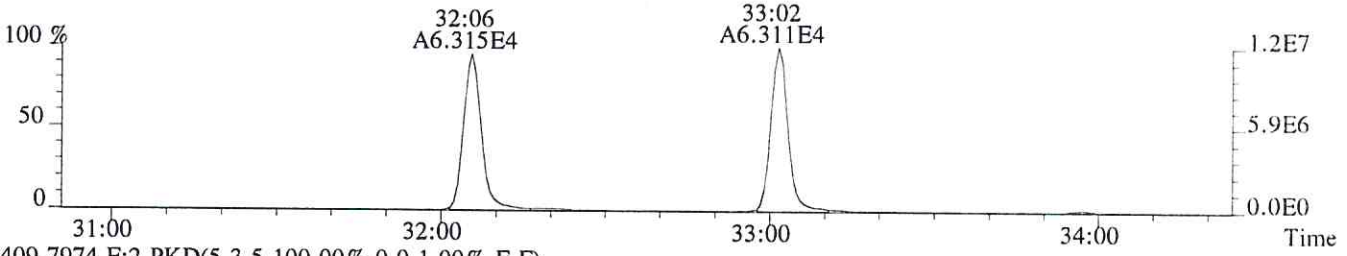
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



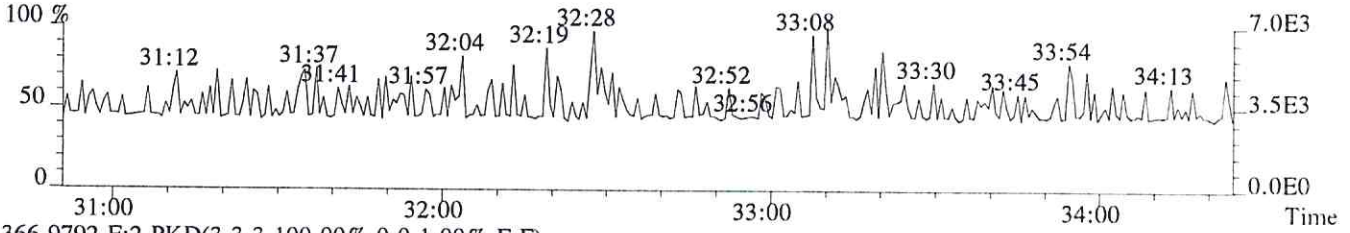
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



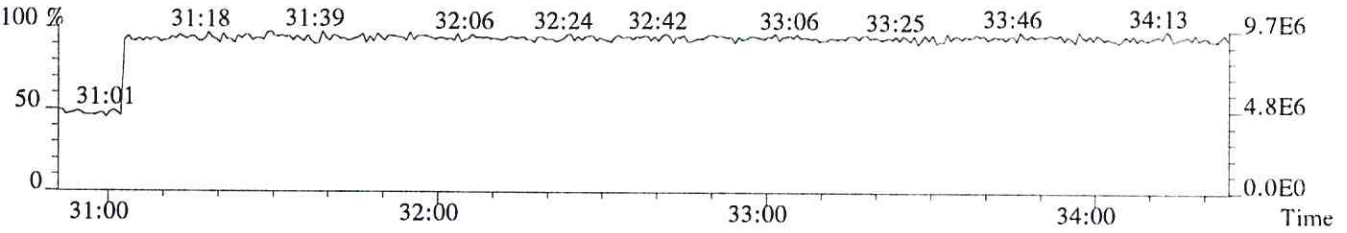
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



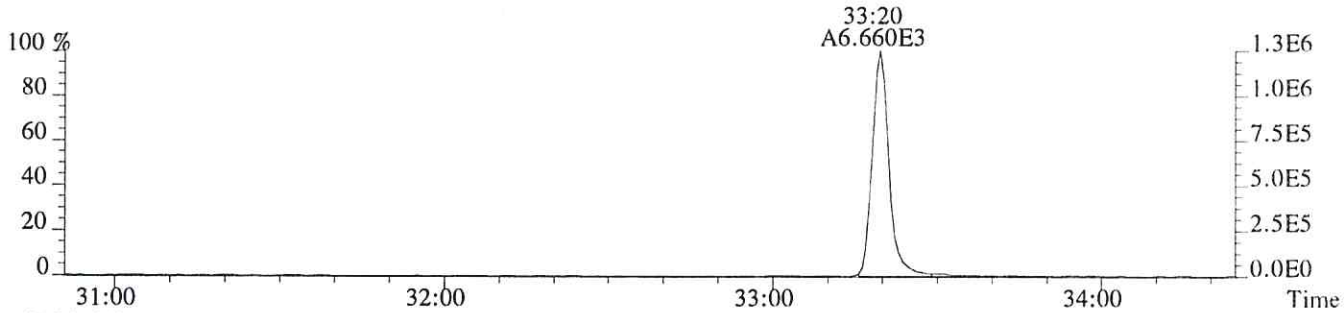
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



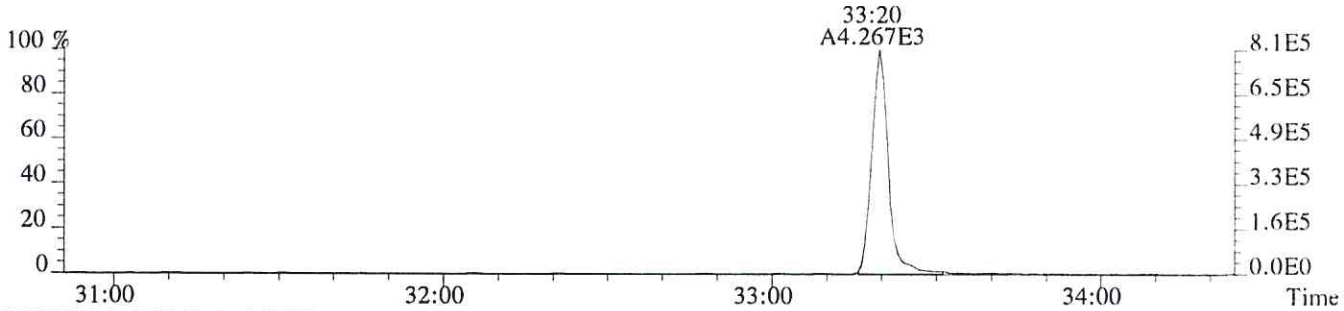
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



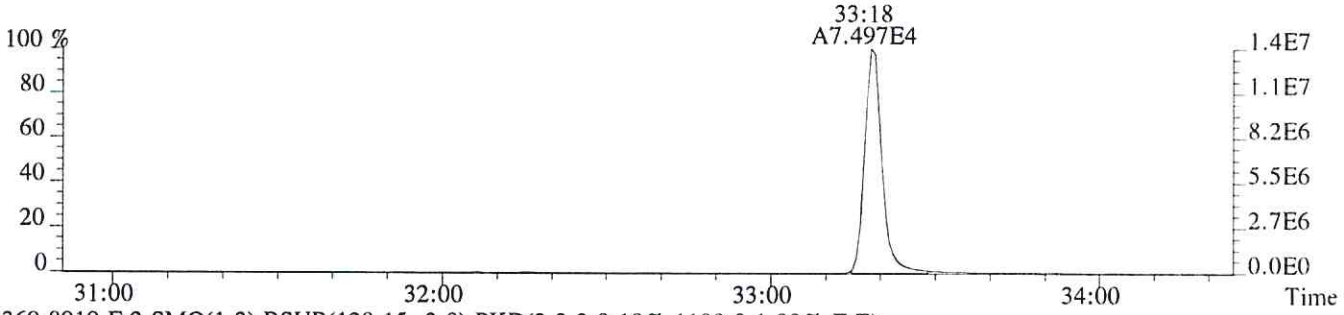
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



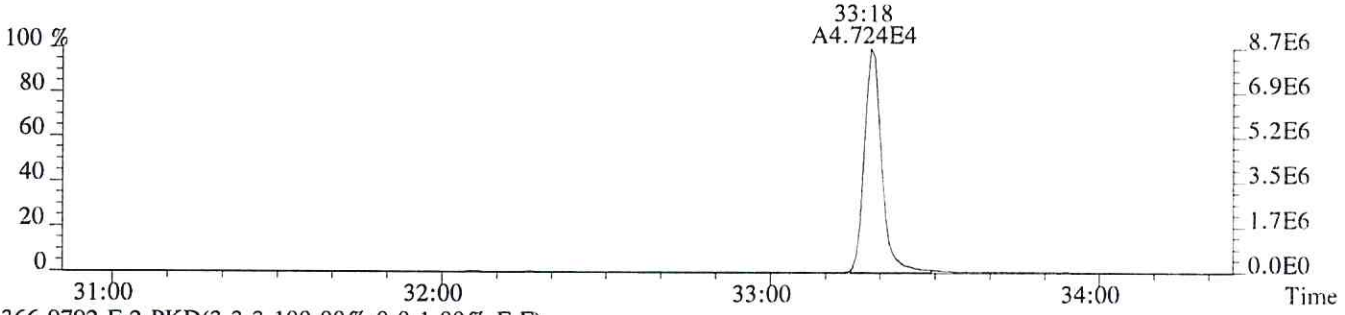
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



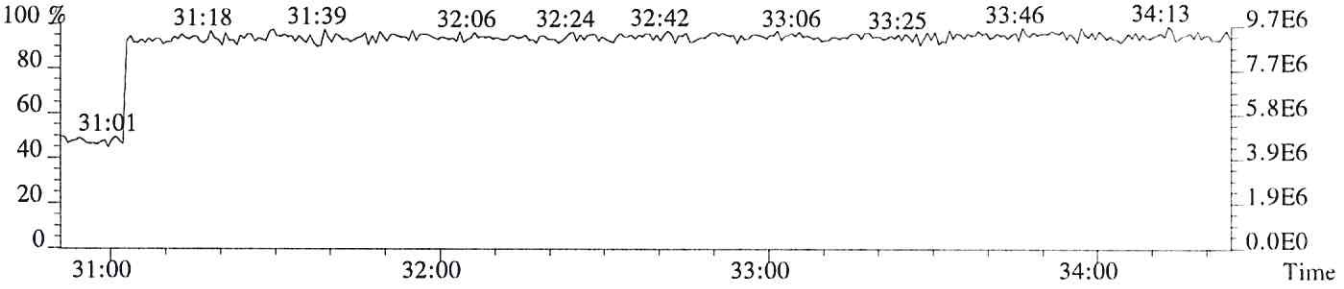
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



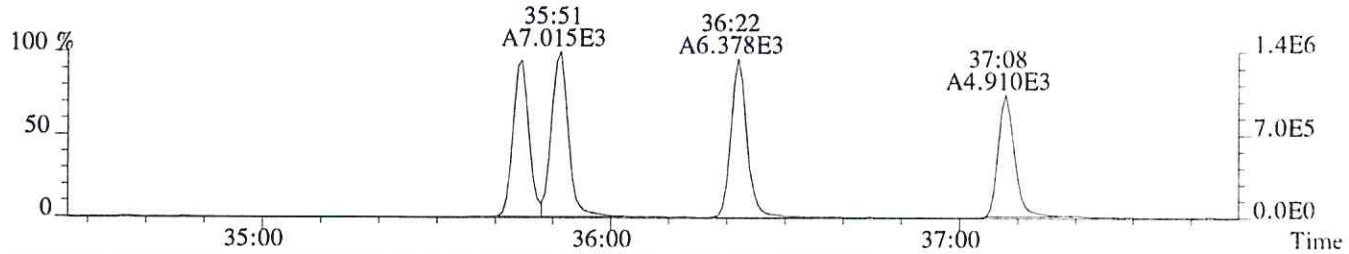
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



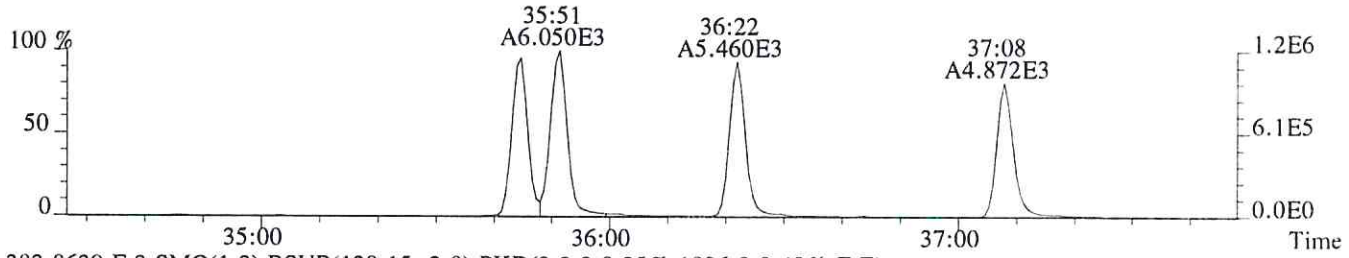
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



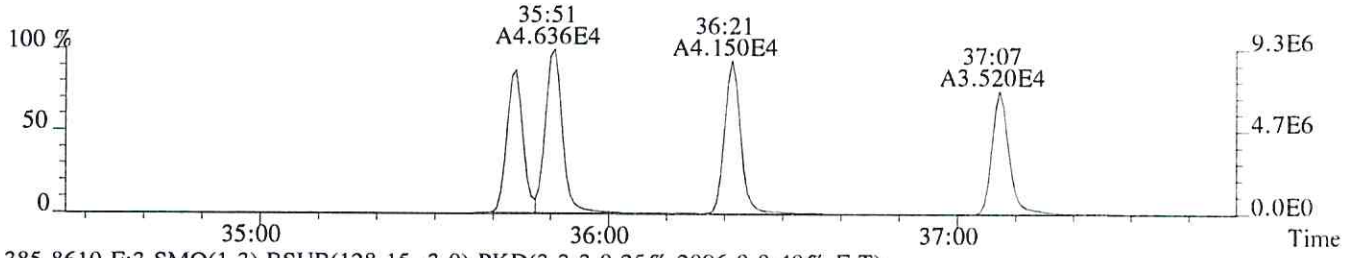
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



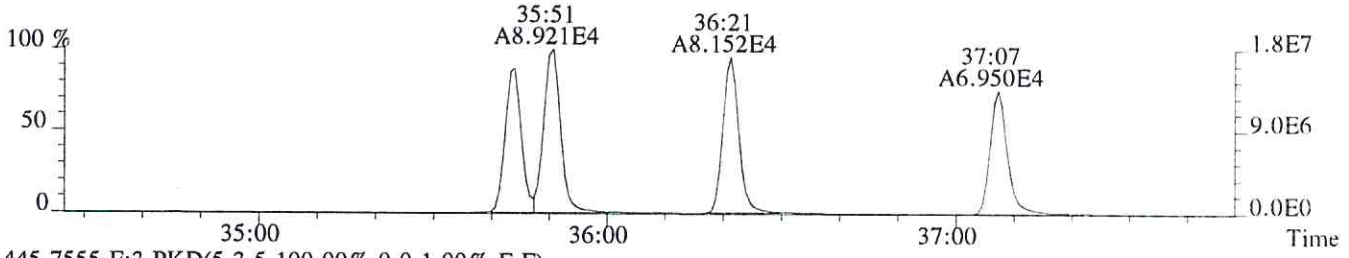
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



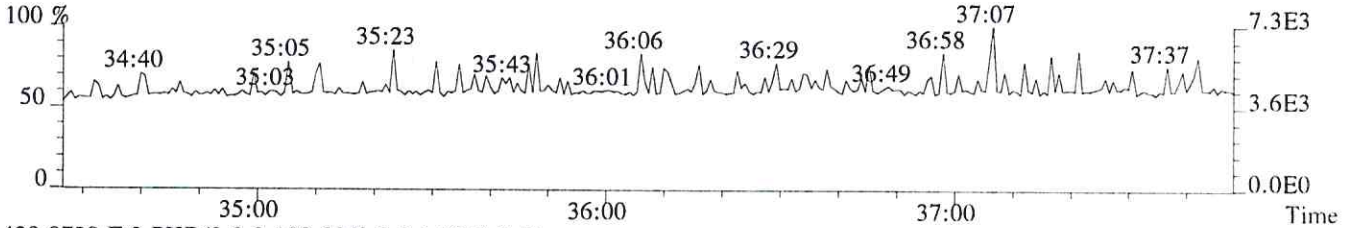
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1096.0,0.40%,F,T)



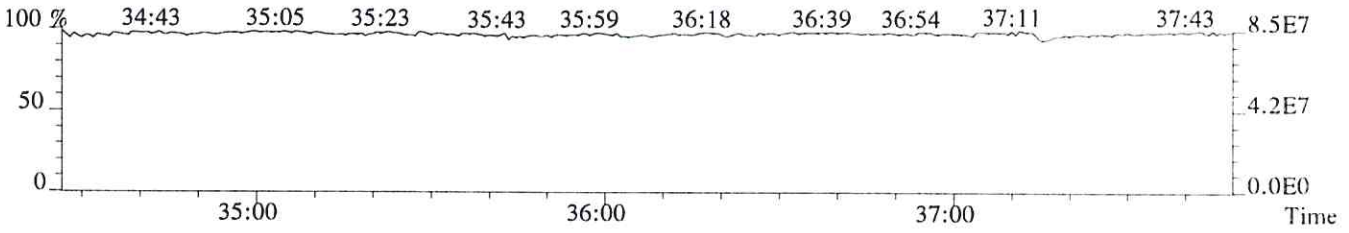
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



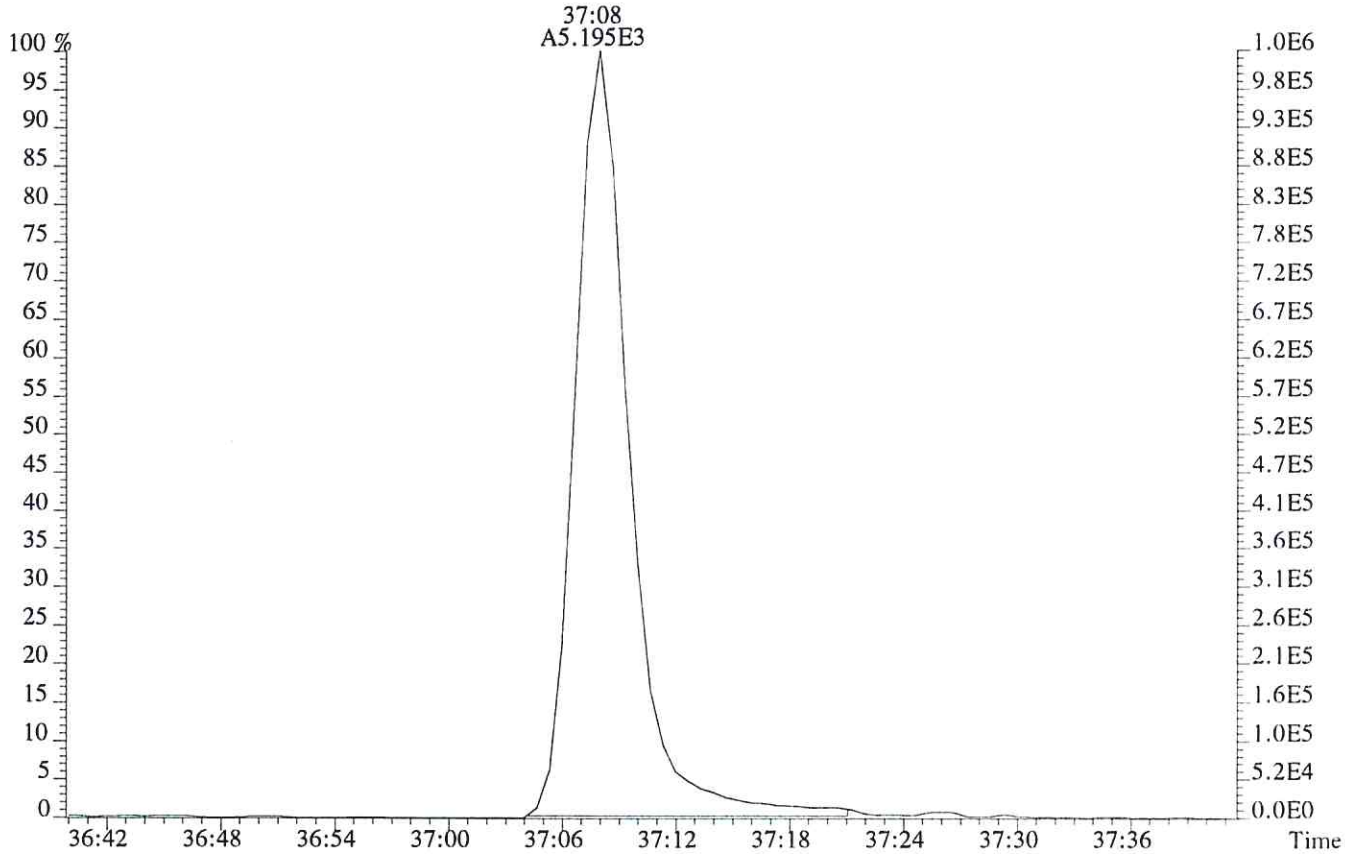
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



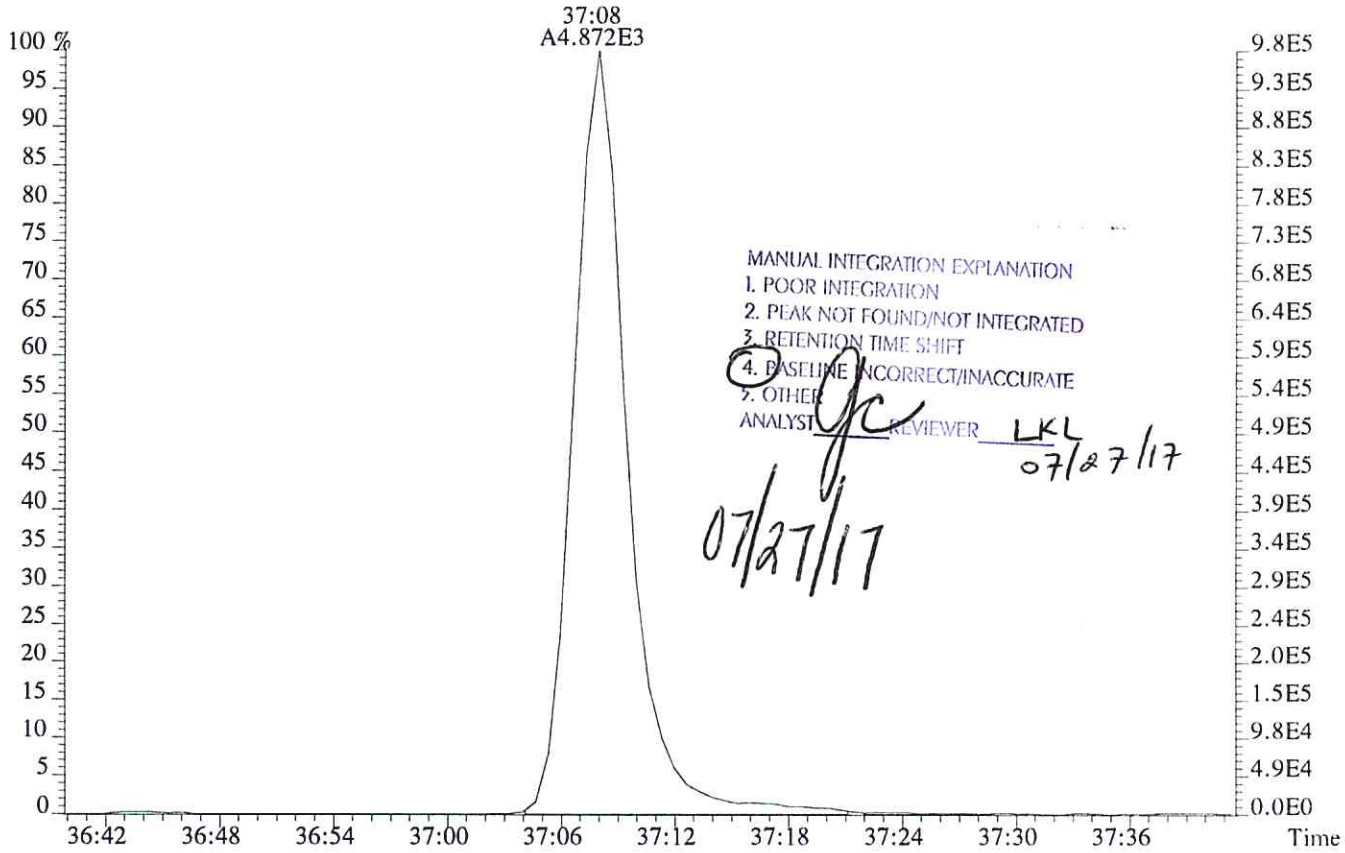
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



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)

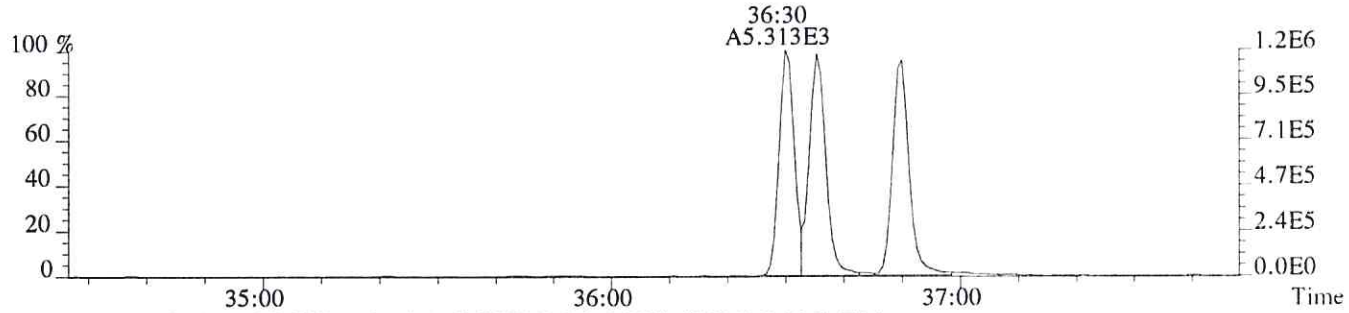


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)

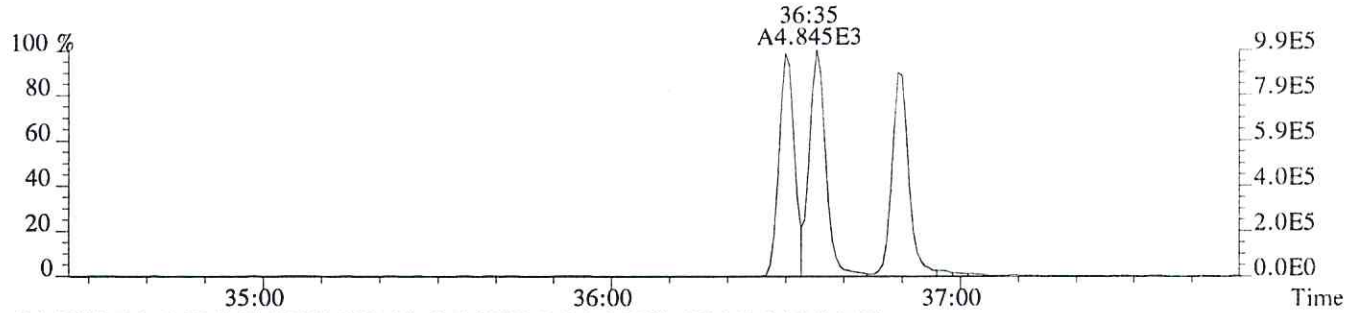


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 07/27/17 REVIEWER LKL 07/27/17

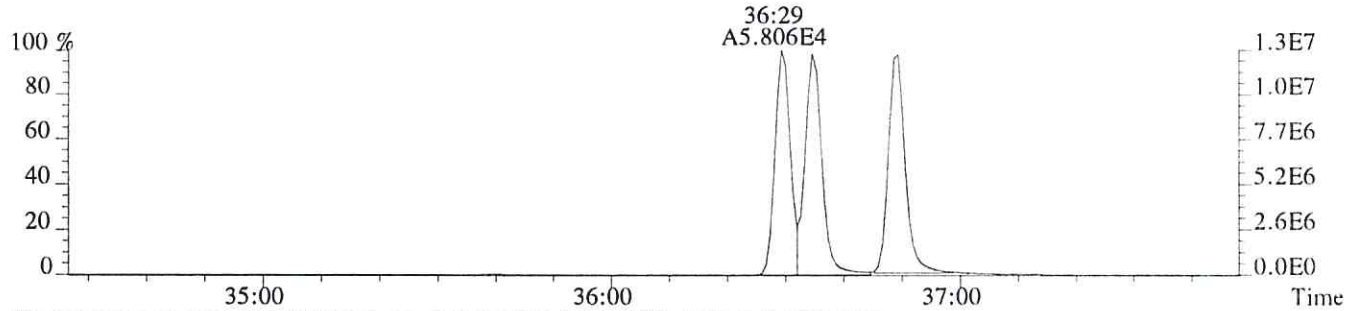
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,444.0,0.40%,F,T)



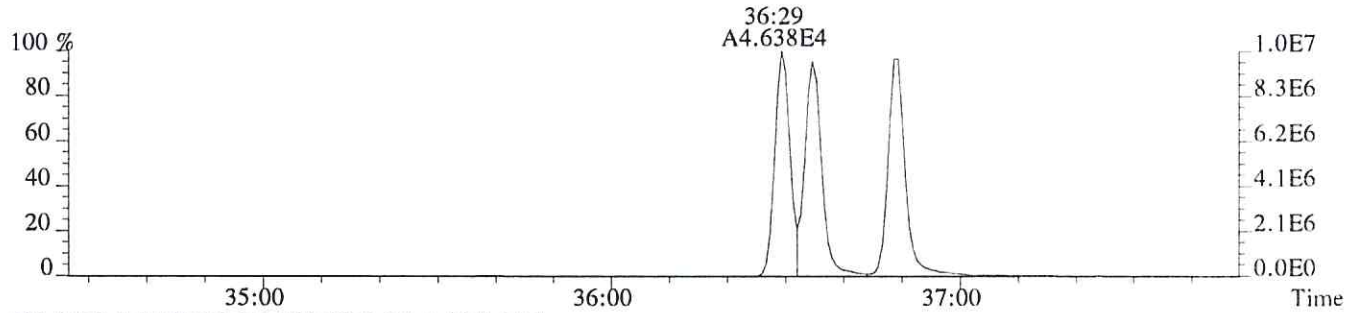
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



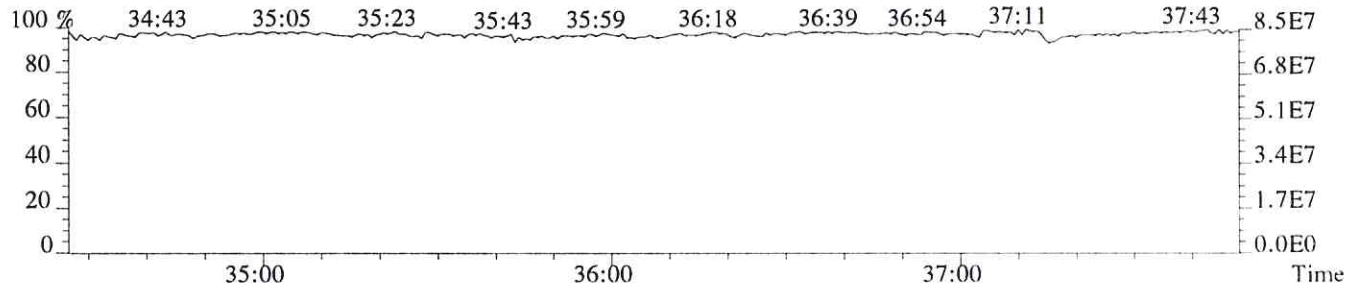
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2232.0,0.40%,F,T)



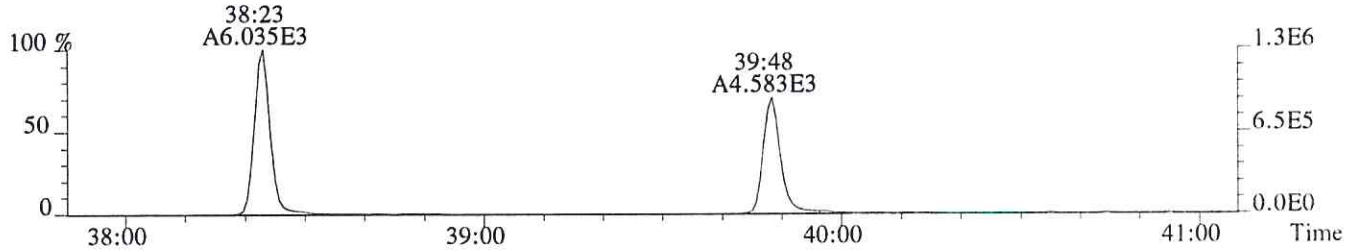
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.40%,F,T)



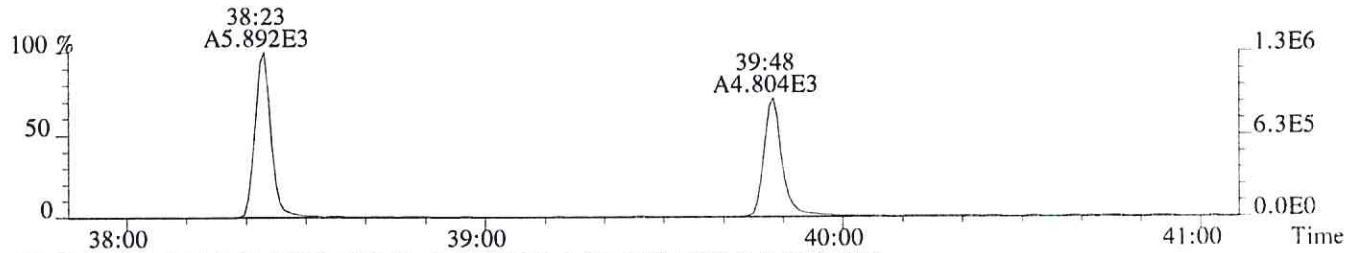
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



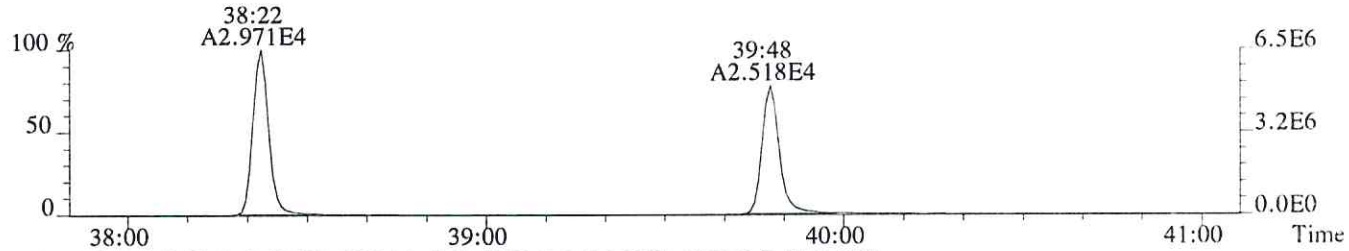
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.50%,F,T)



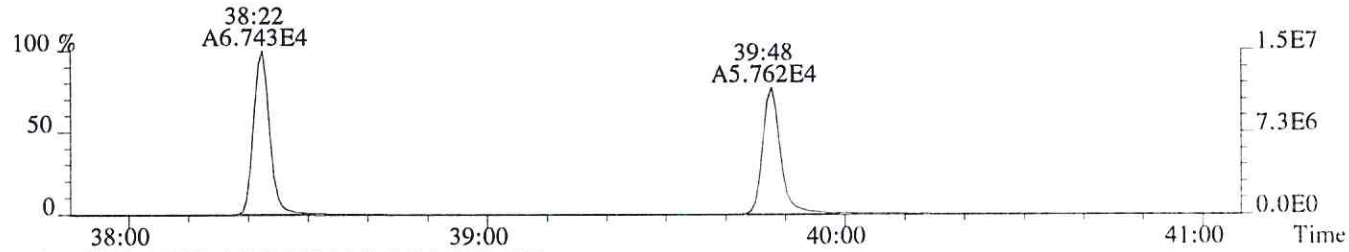
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2024.0,0.50%,F,T)



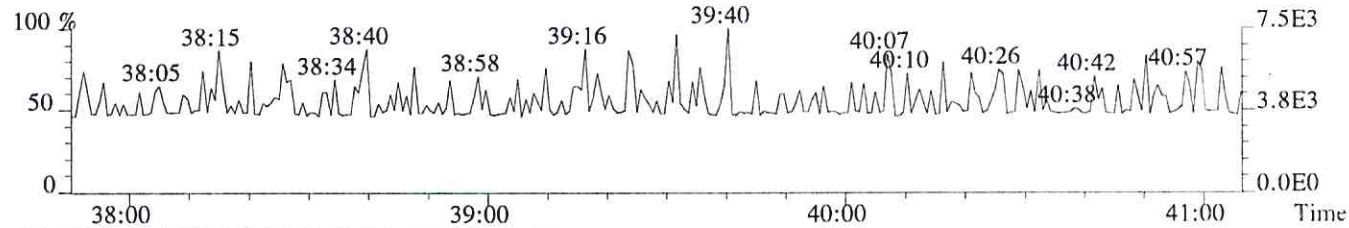
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3984.0,0.50%,F,T)



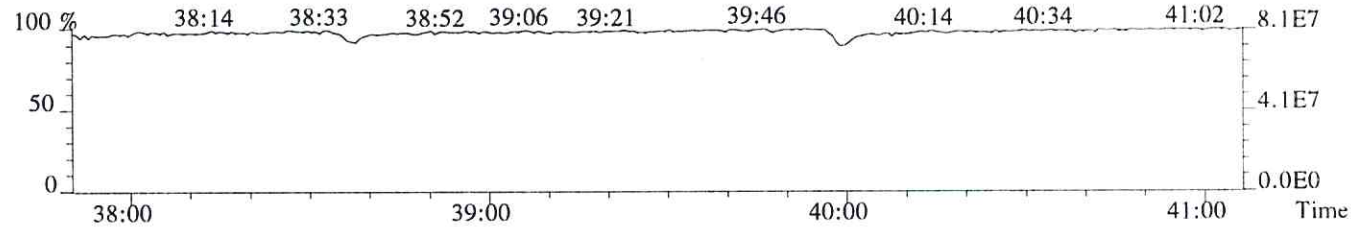
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5068.0,0.50%,F,T)



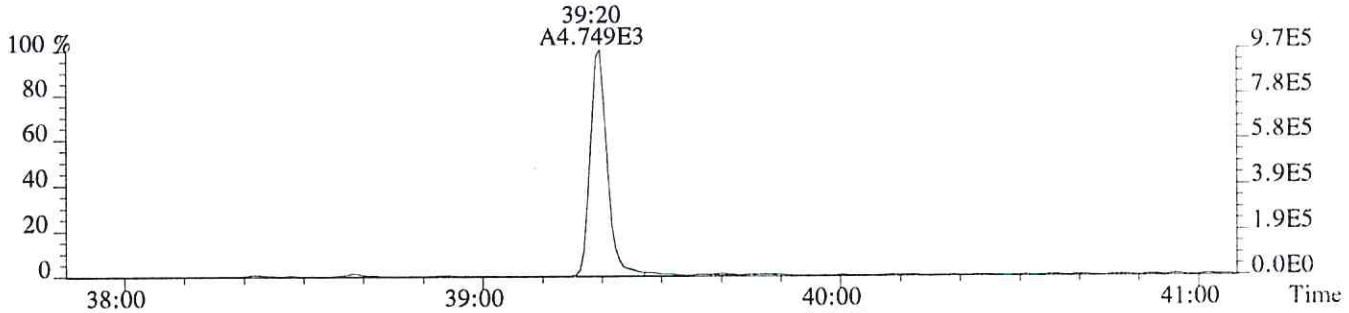
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



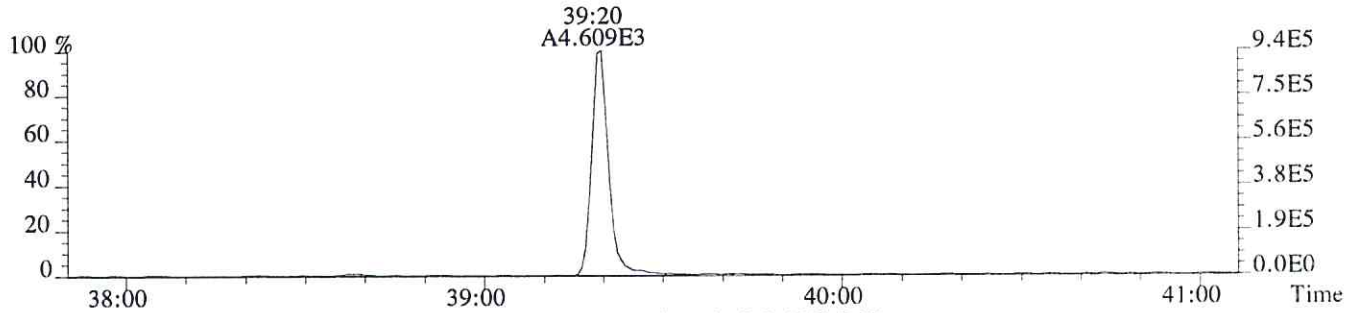
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



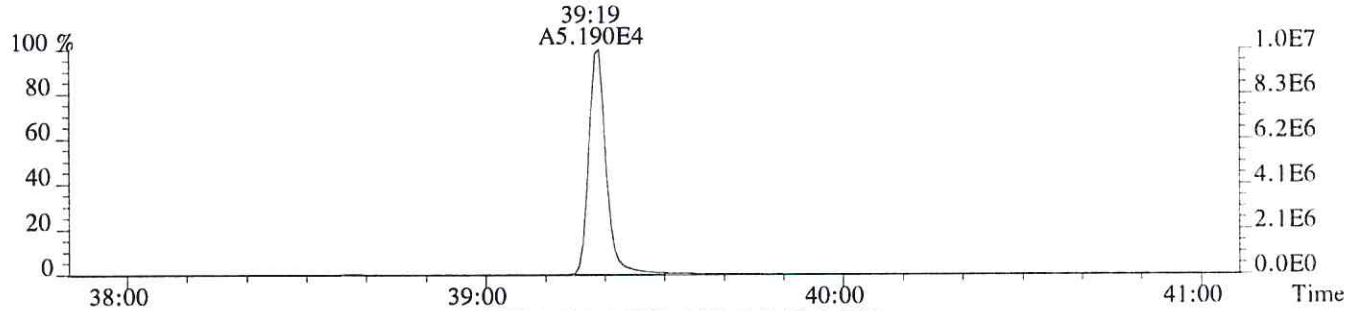
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



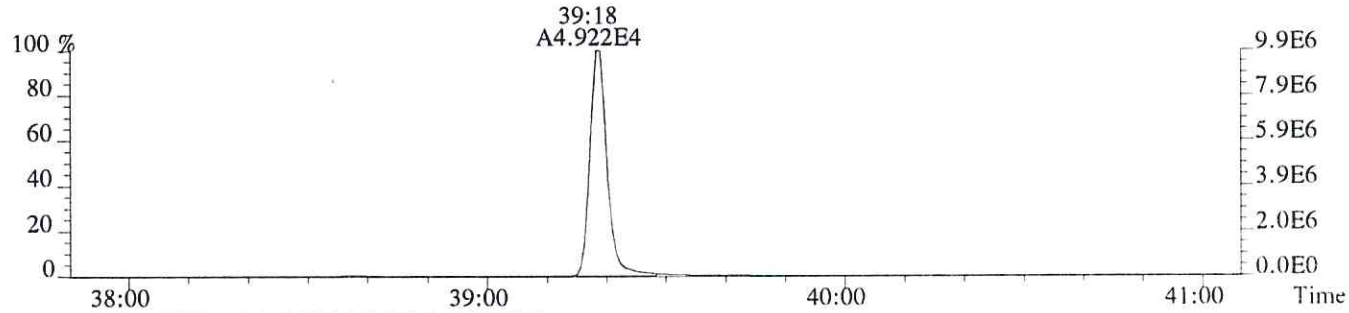
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)



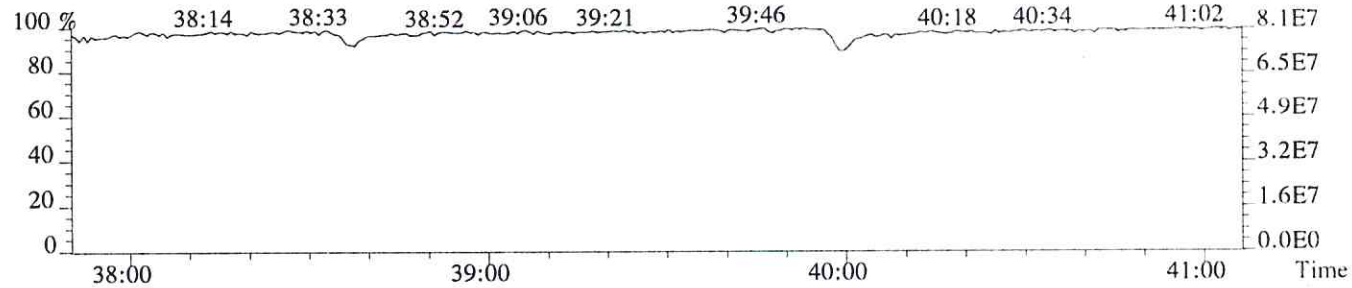
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1352.0,0.40%,F,T)



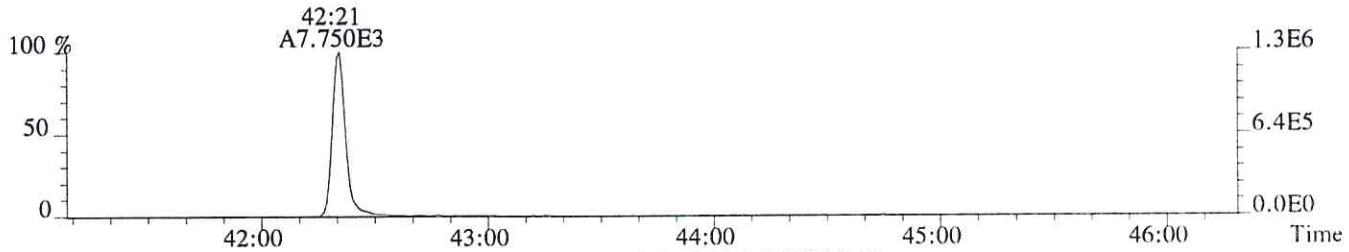
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,T)



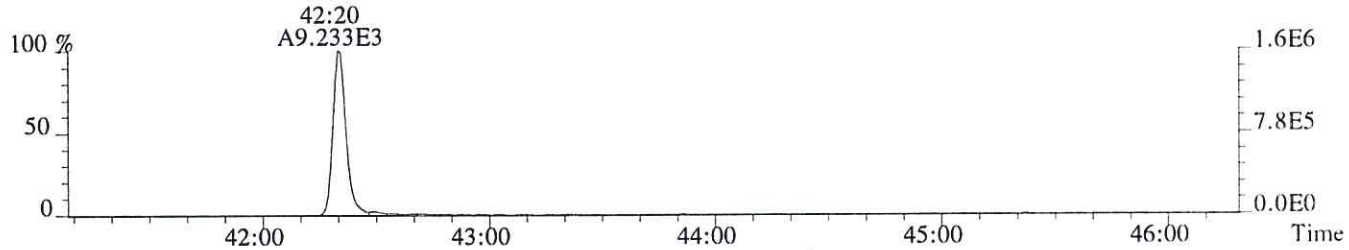
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



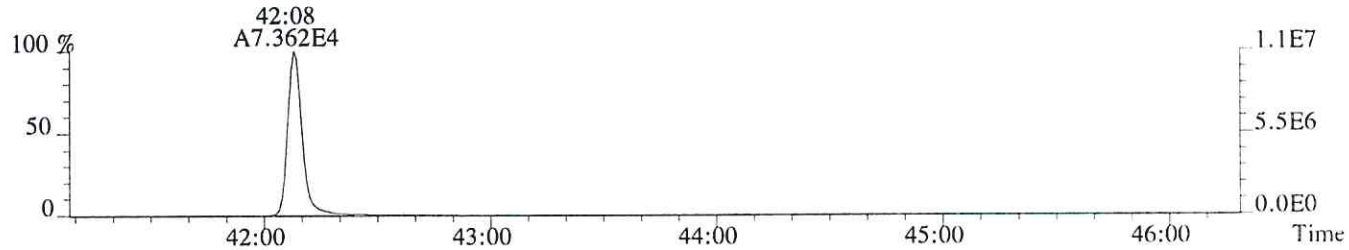
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



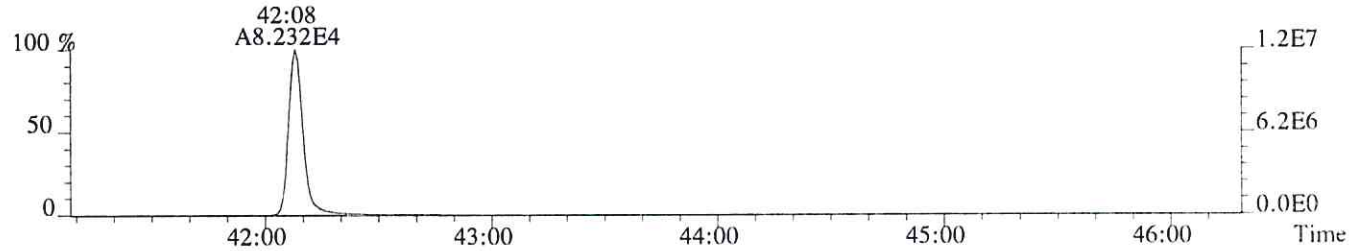
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



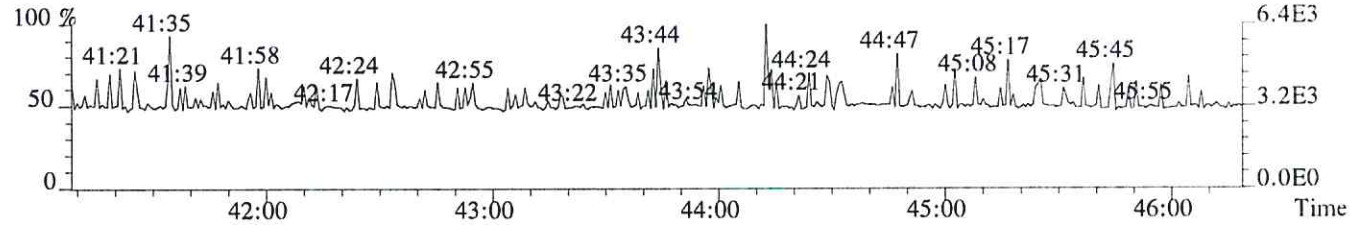
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



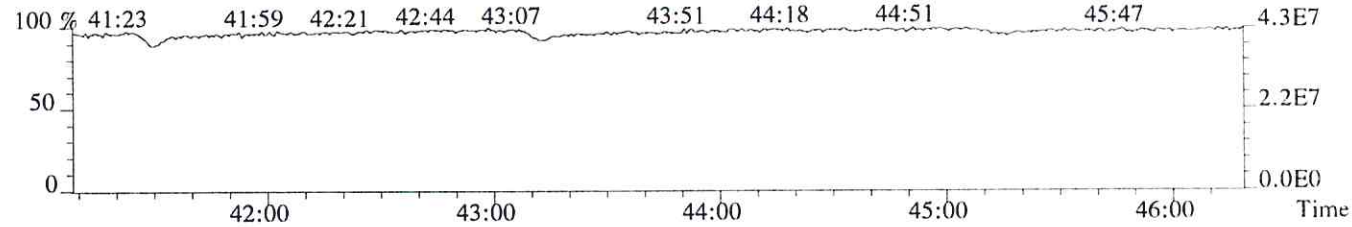
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



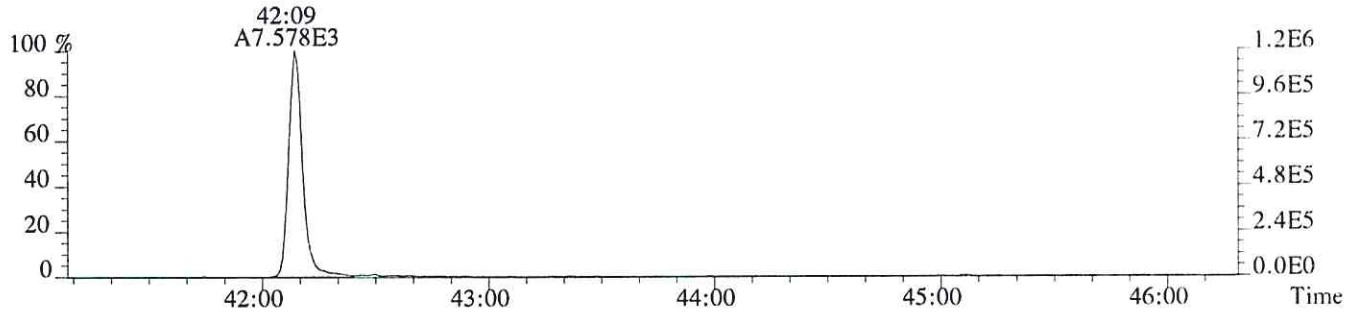
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



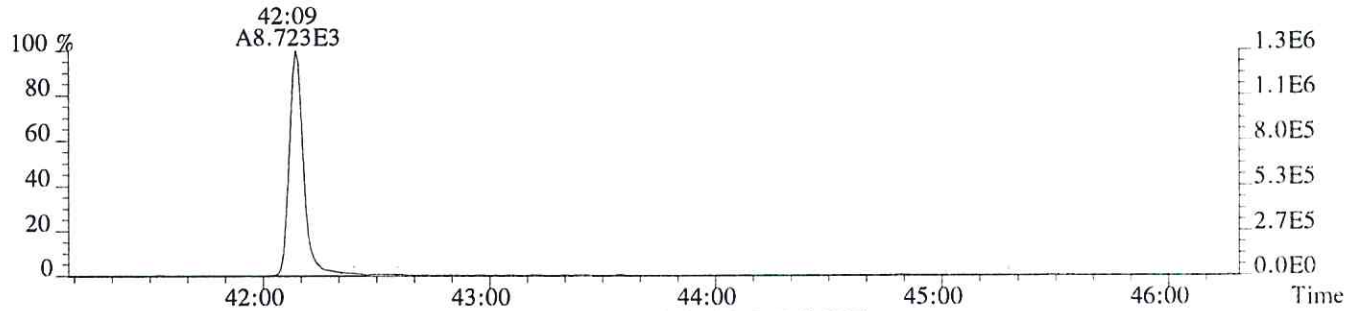
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



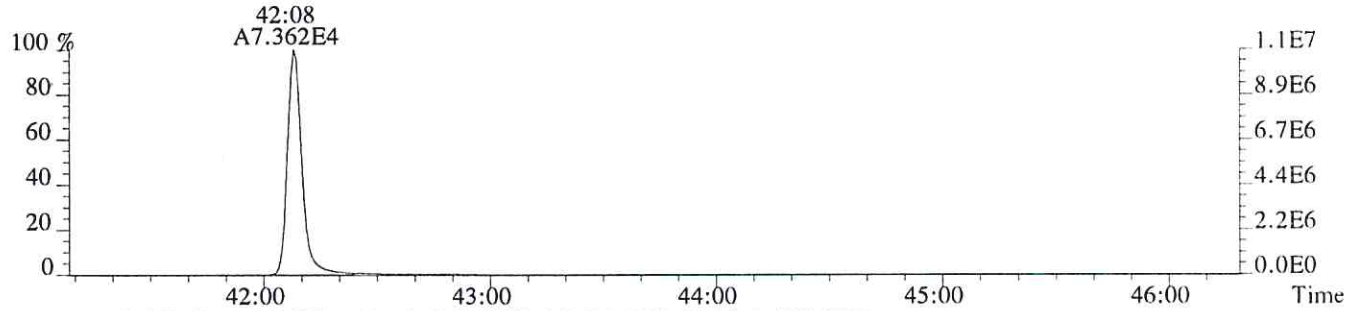
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,392.0,0.40%,F,T)



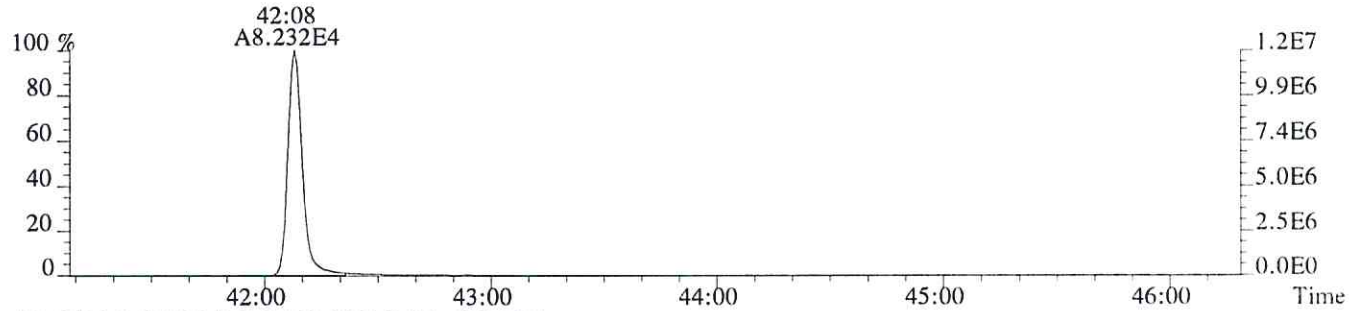
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



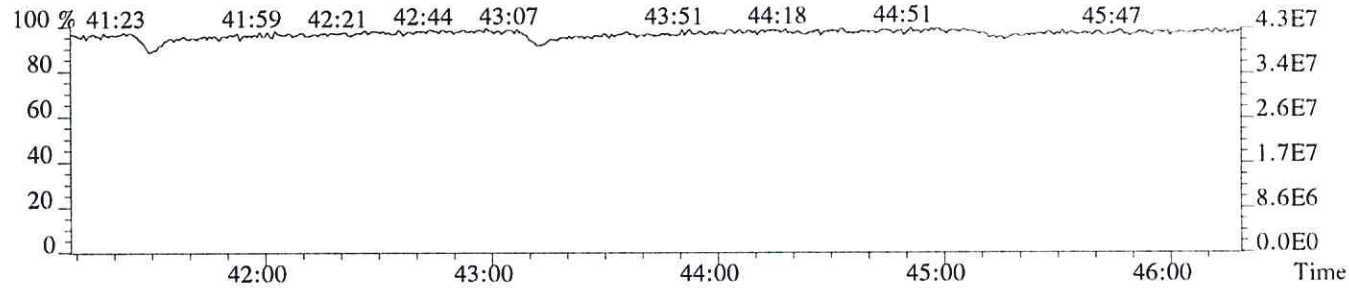
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



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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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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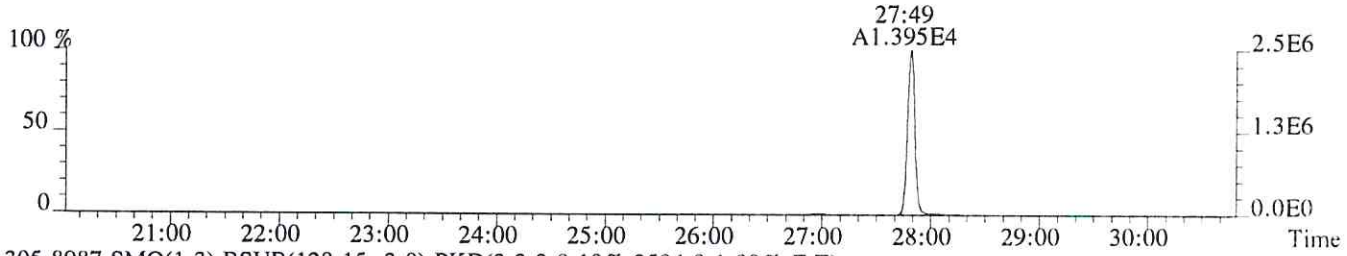
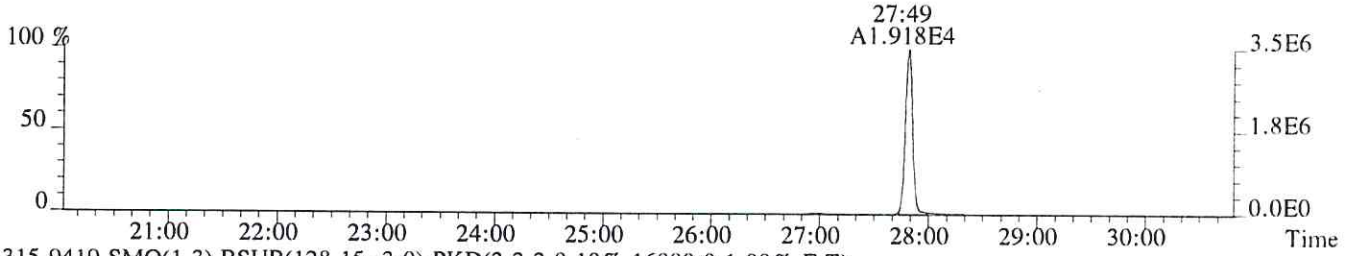
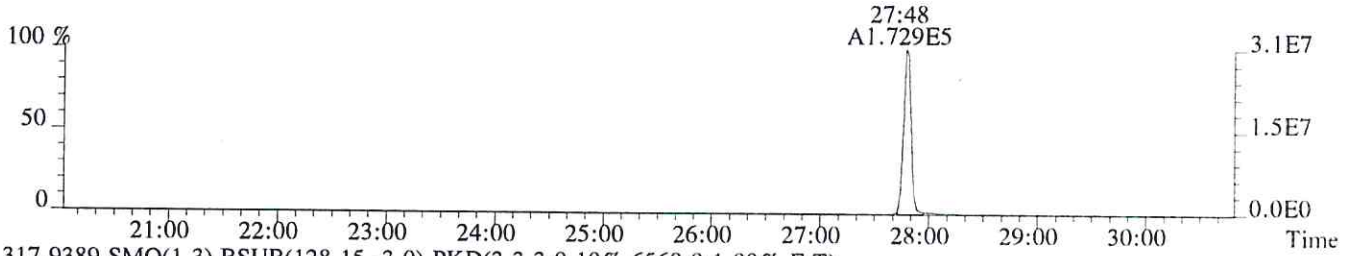
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



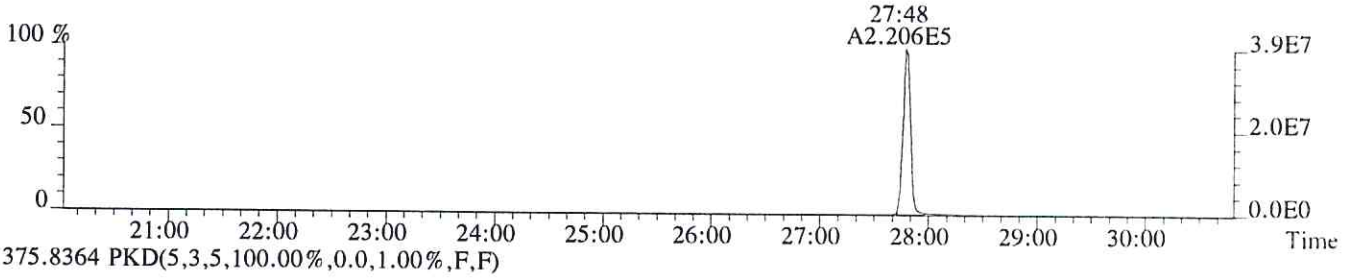
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



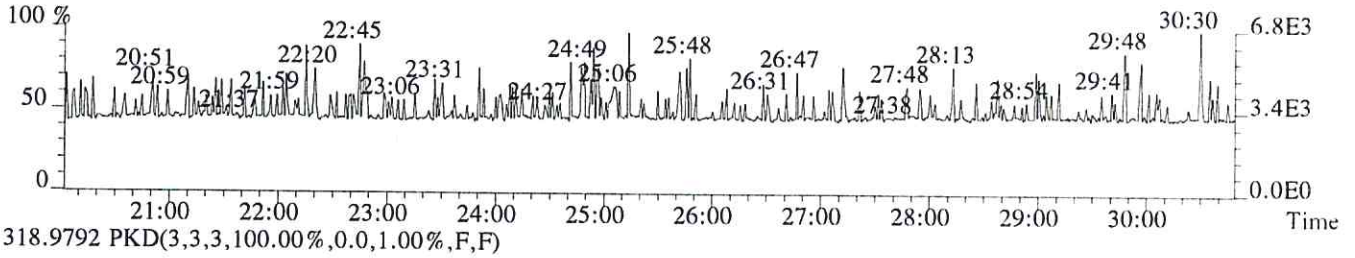
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16080.0,1.00%,F,T)



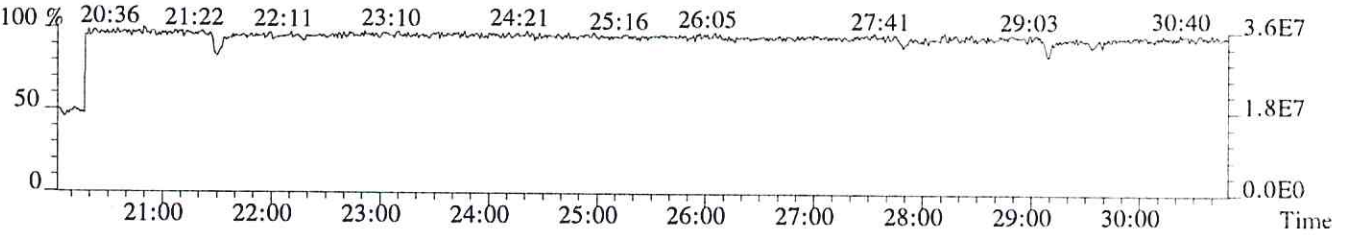
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6568.0,1.00%,F,T)



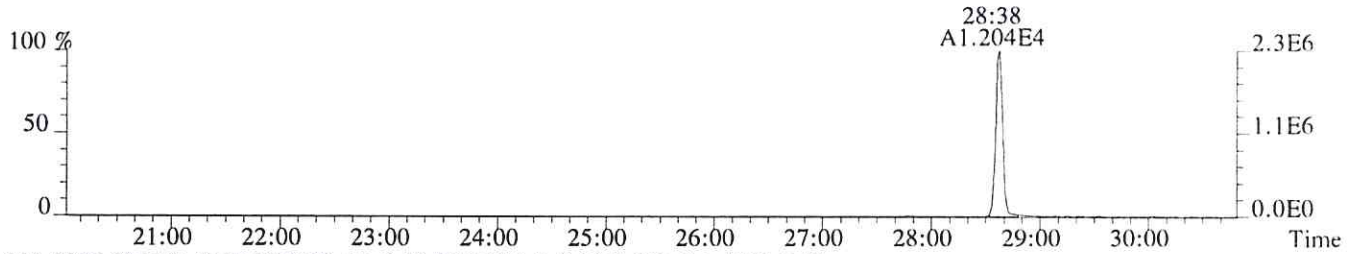
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



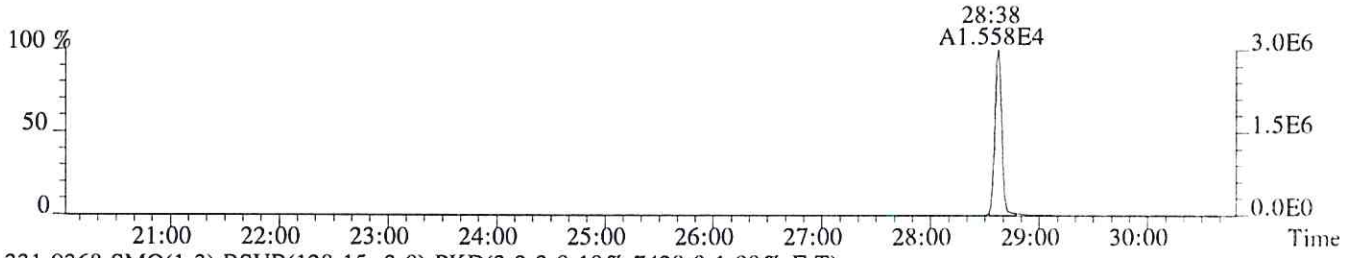
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



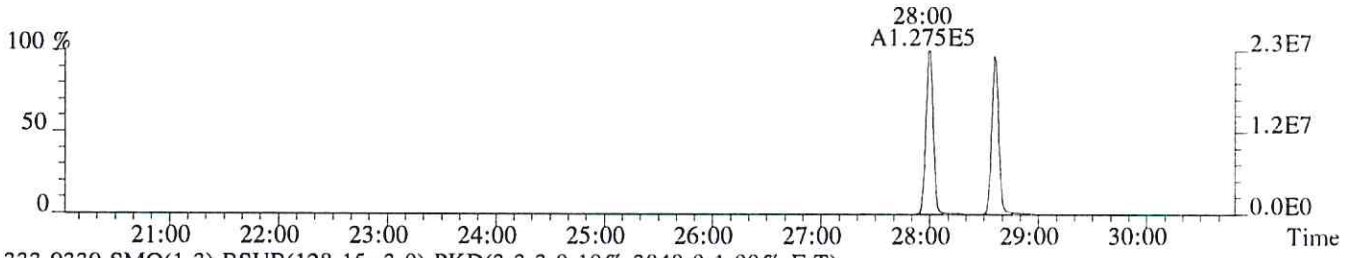
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



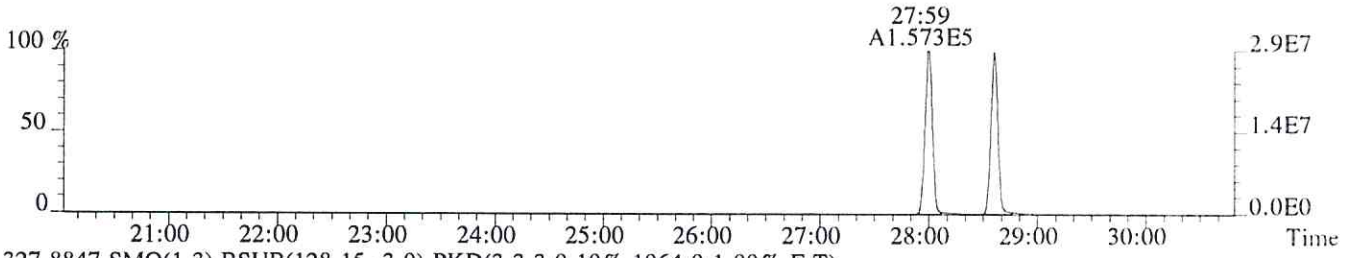
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



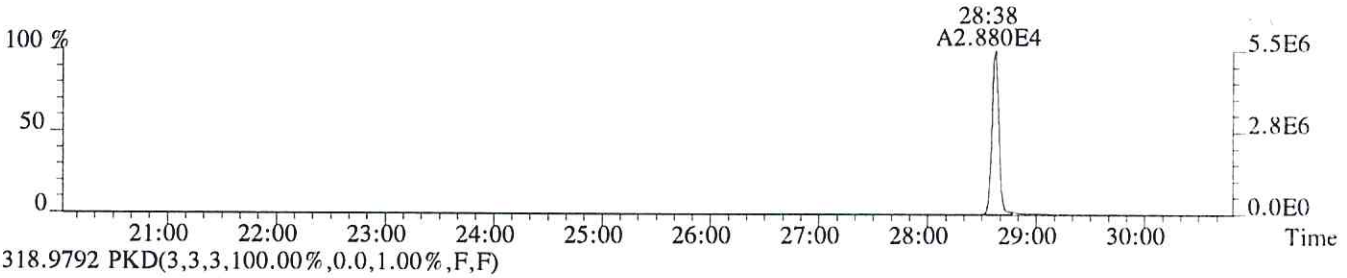
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7428.0,1.00%,F,T)



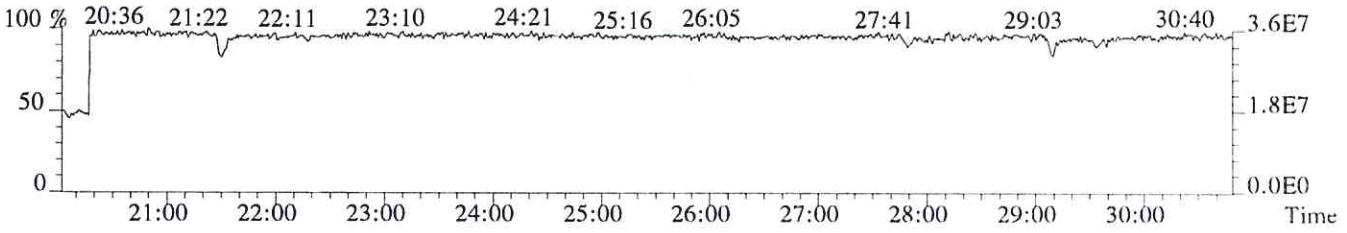
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3848.0,1.00%,F,T)



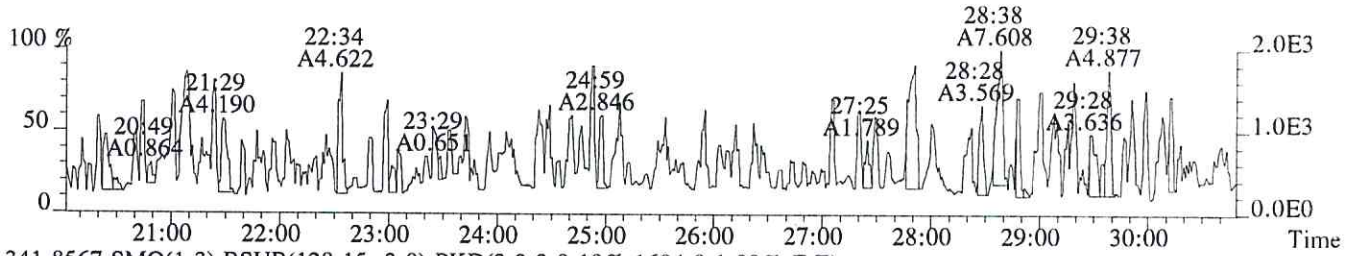
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



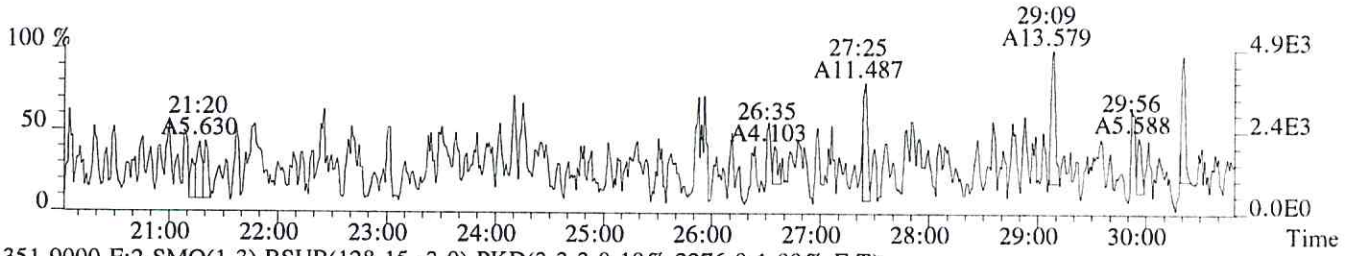
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



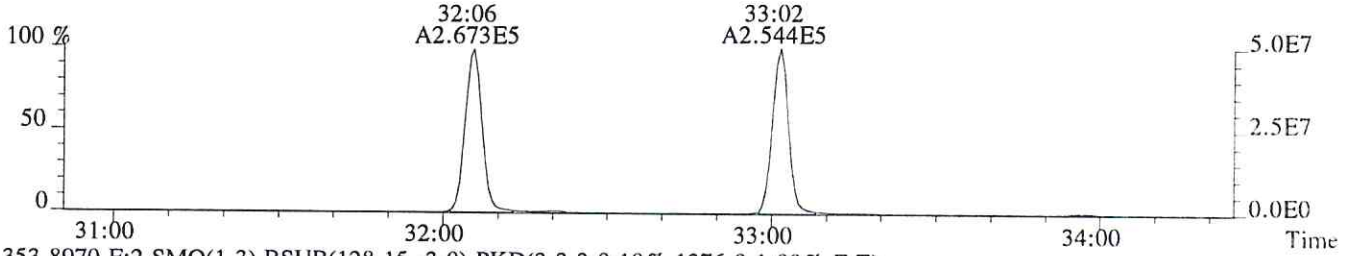
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



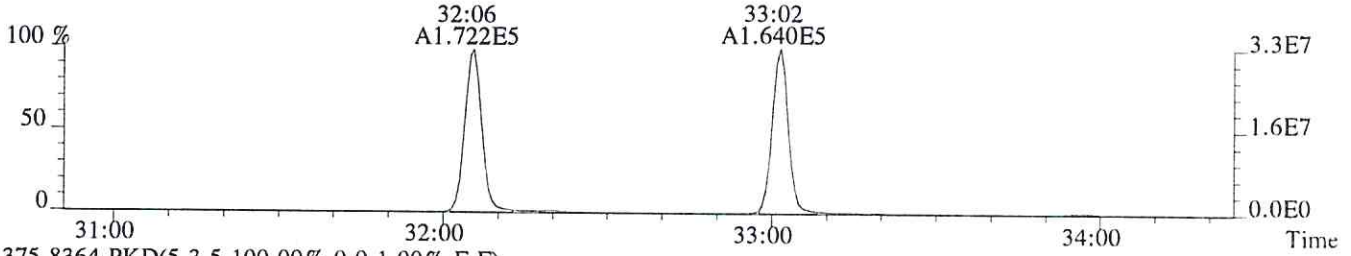
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



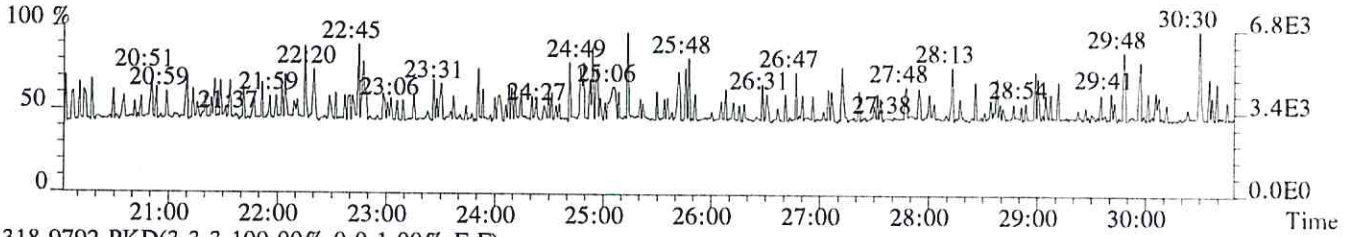
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



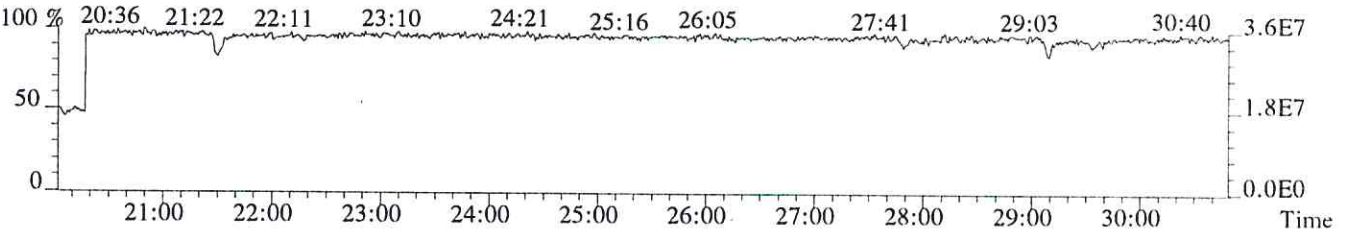
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



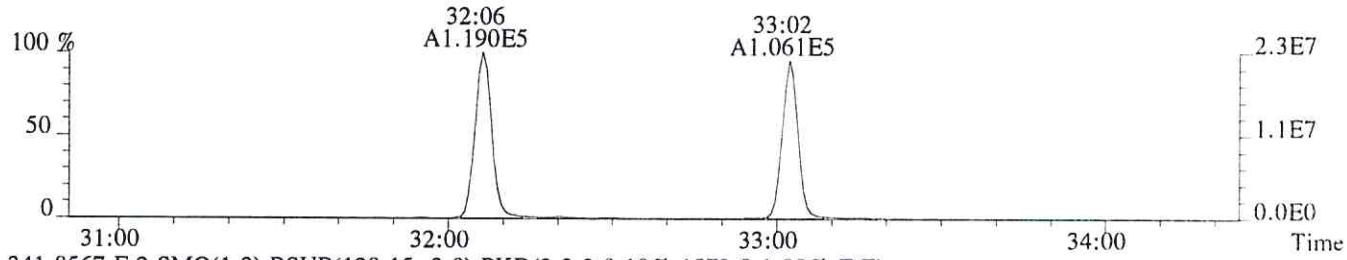
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



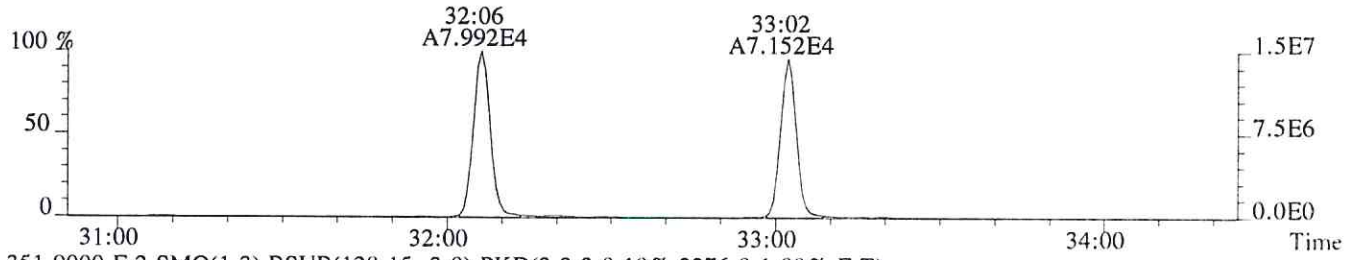
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



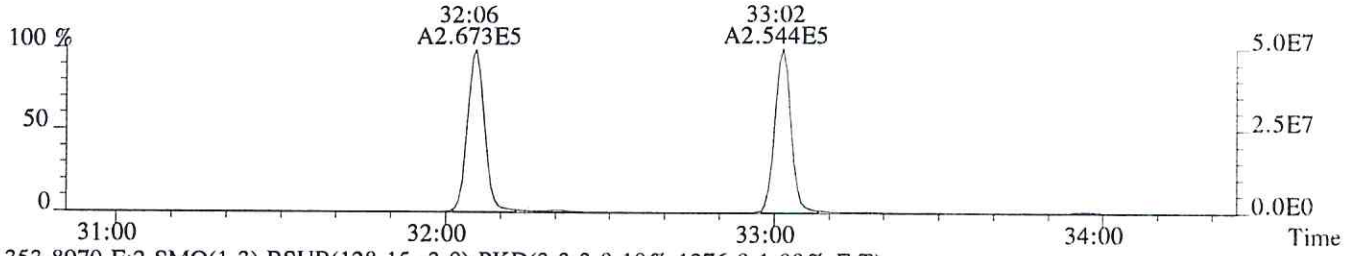
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



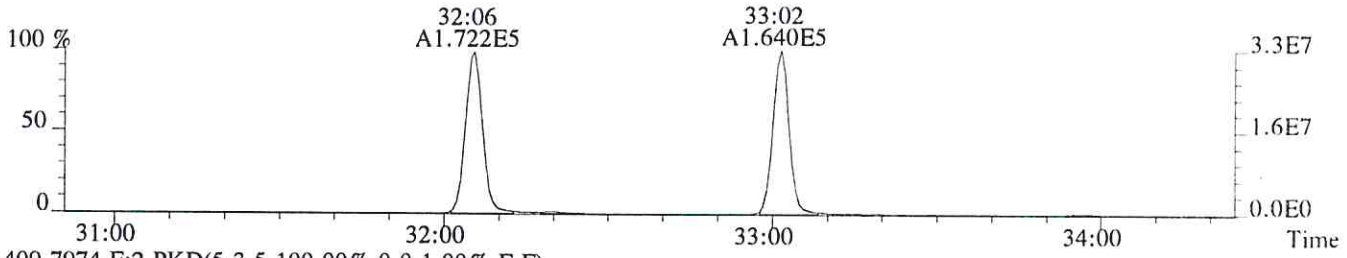
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



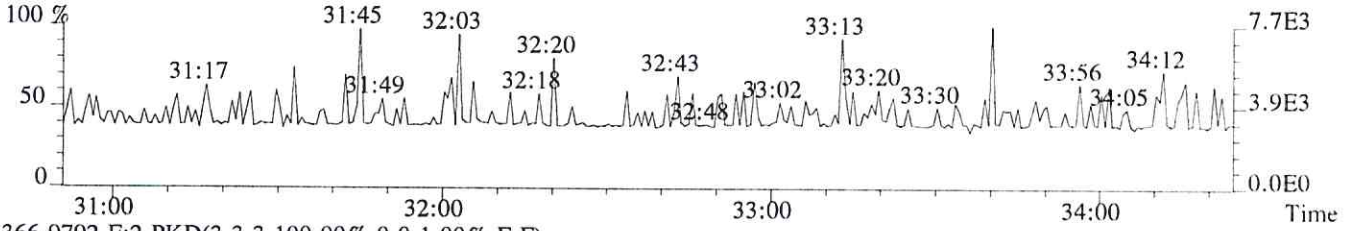
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



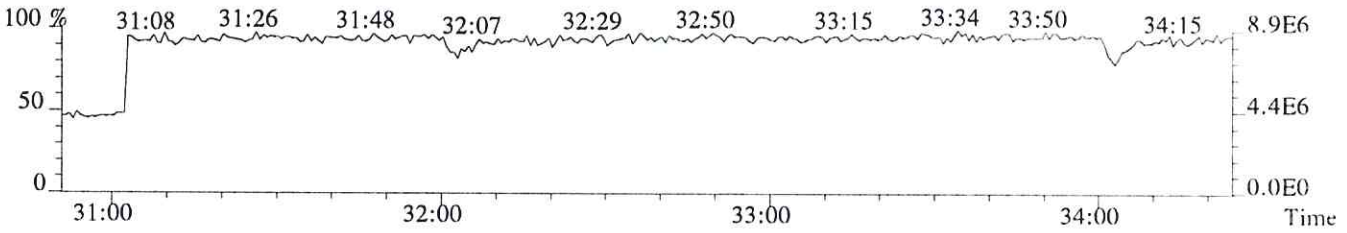
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



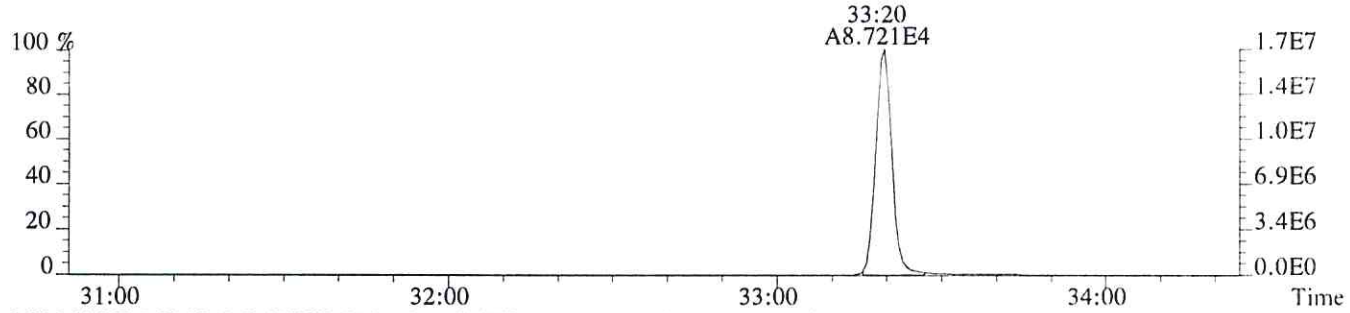
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



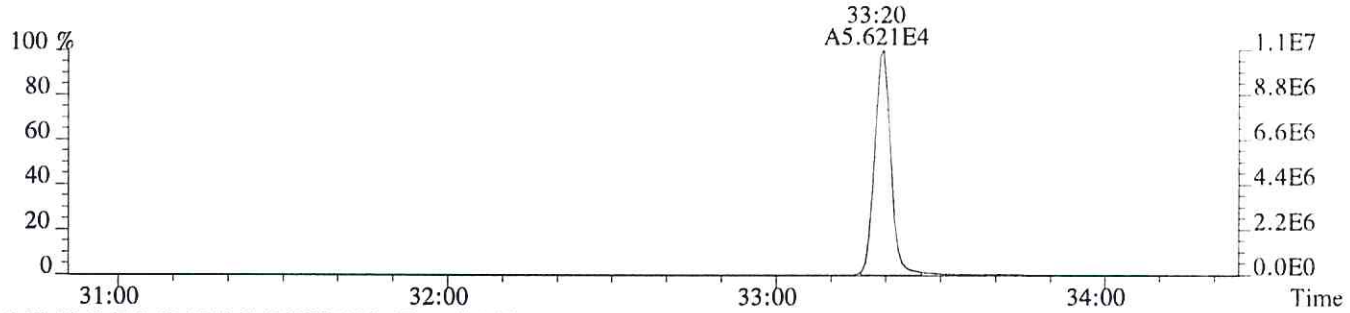
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



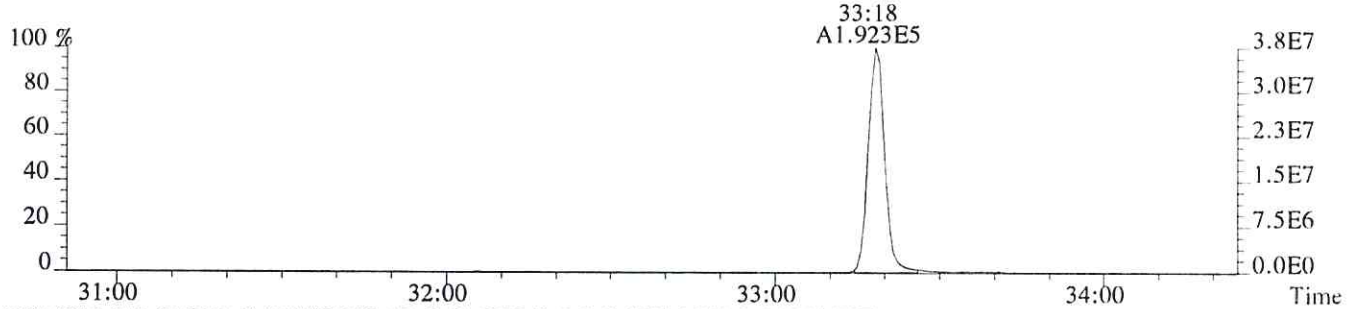
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



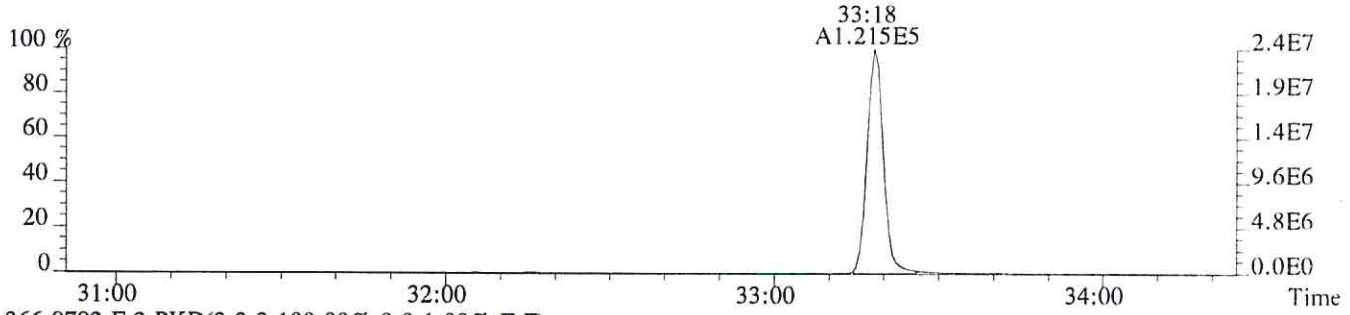
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



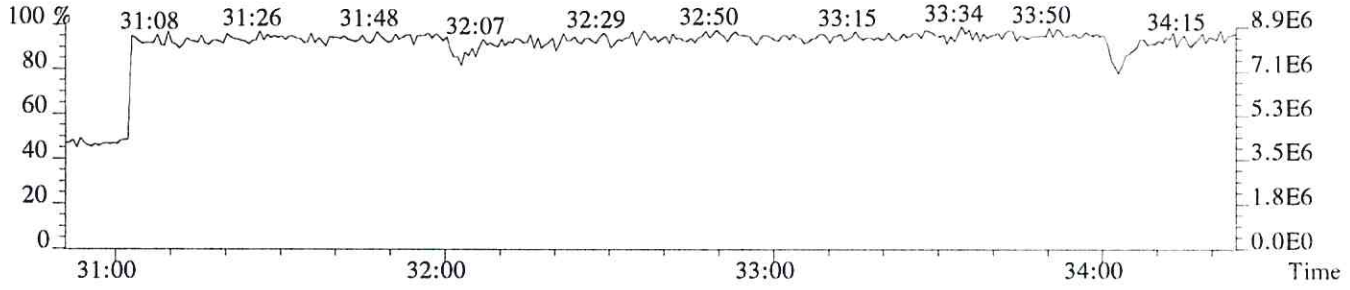
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



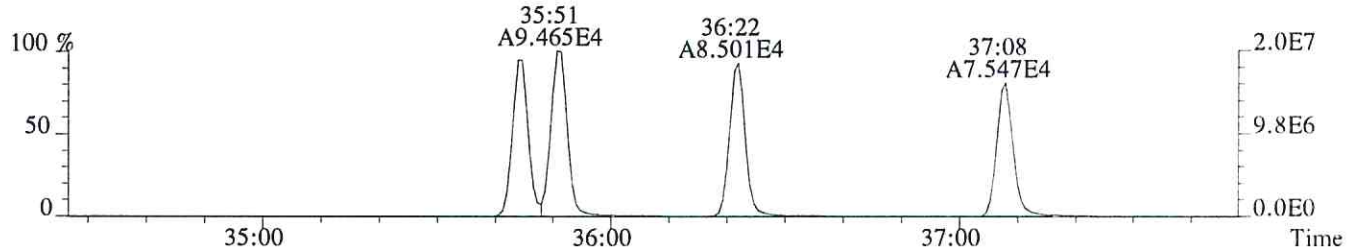
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



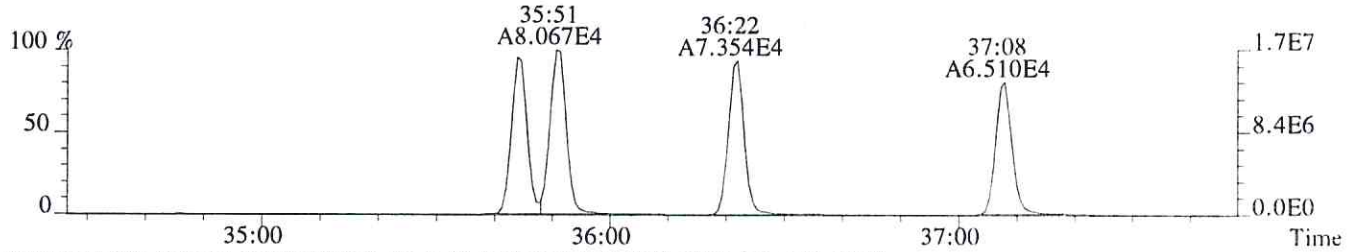
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



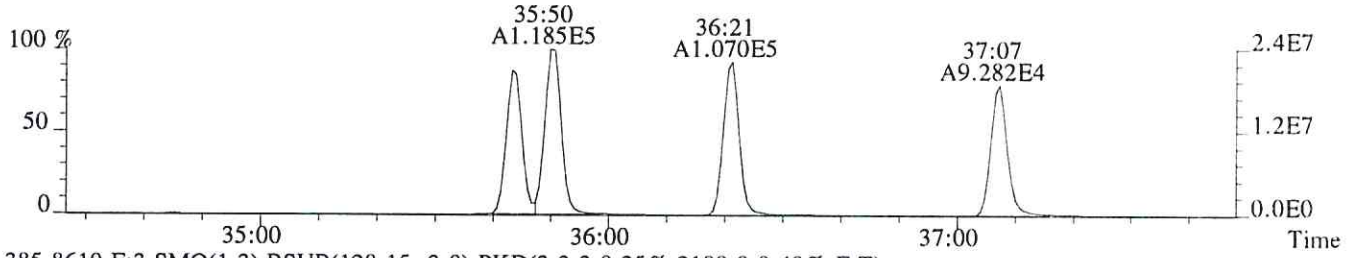
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



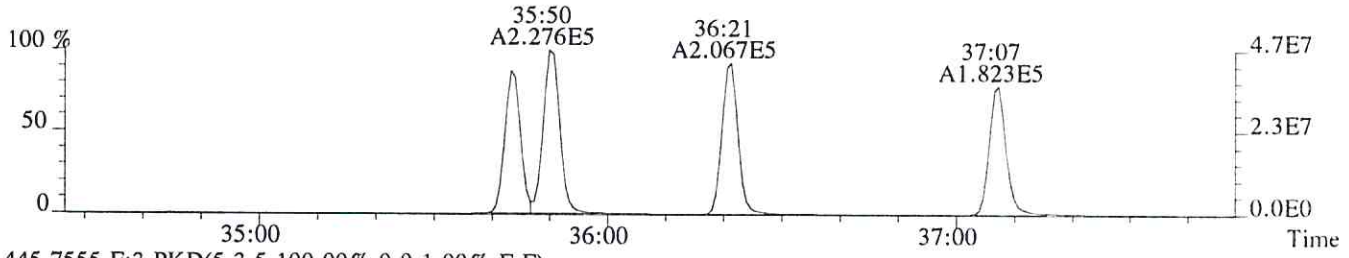
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)



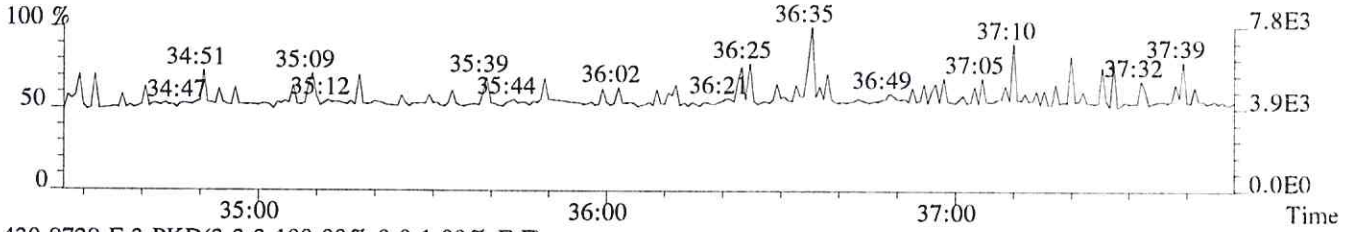
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



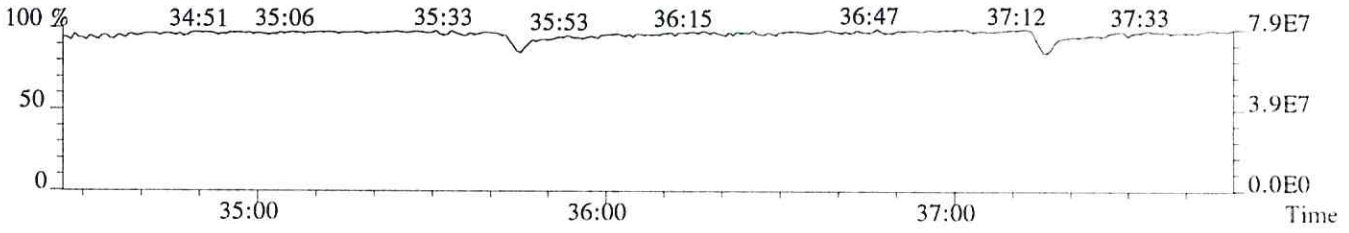
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2188.0,0.40%,F,T)



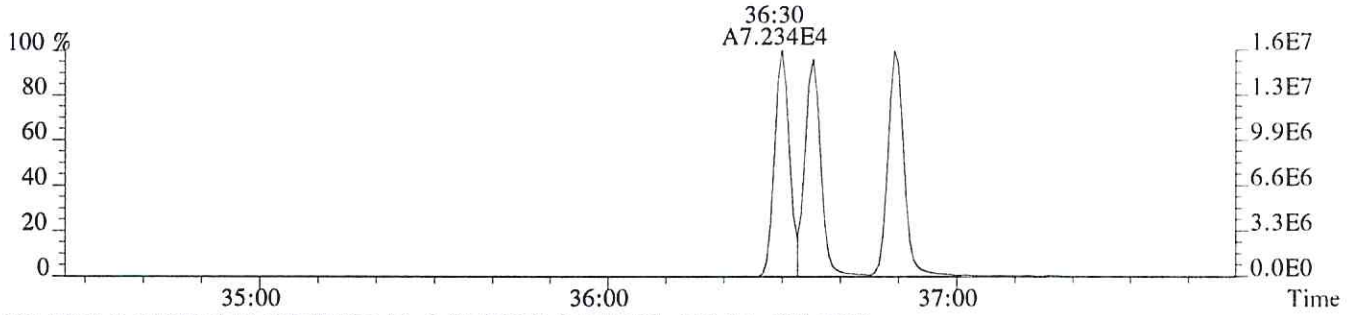
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



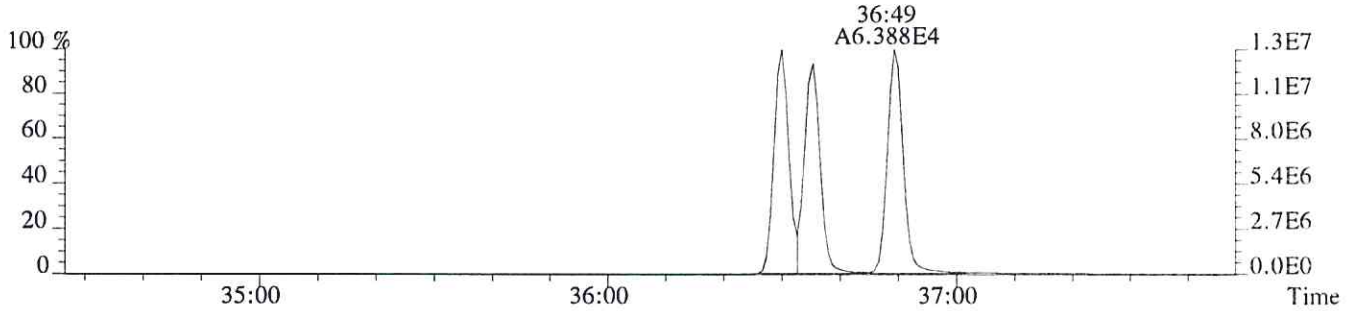
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



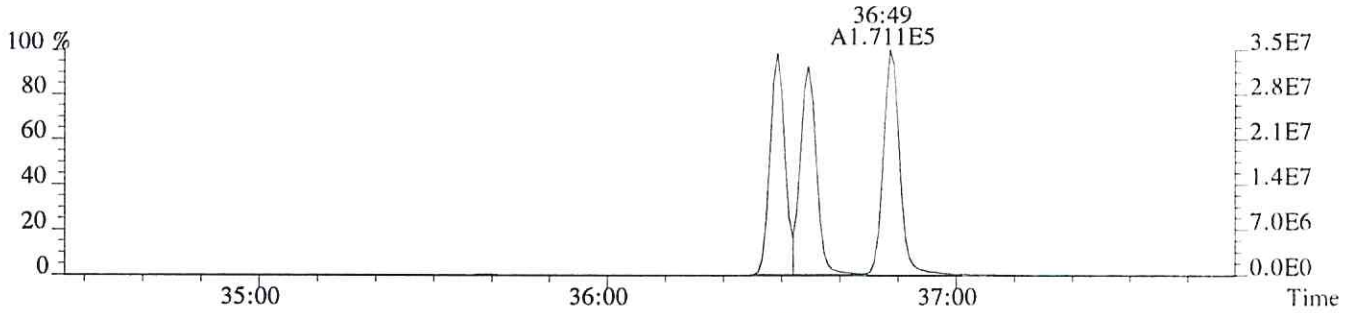
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



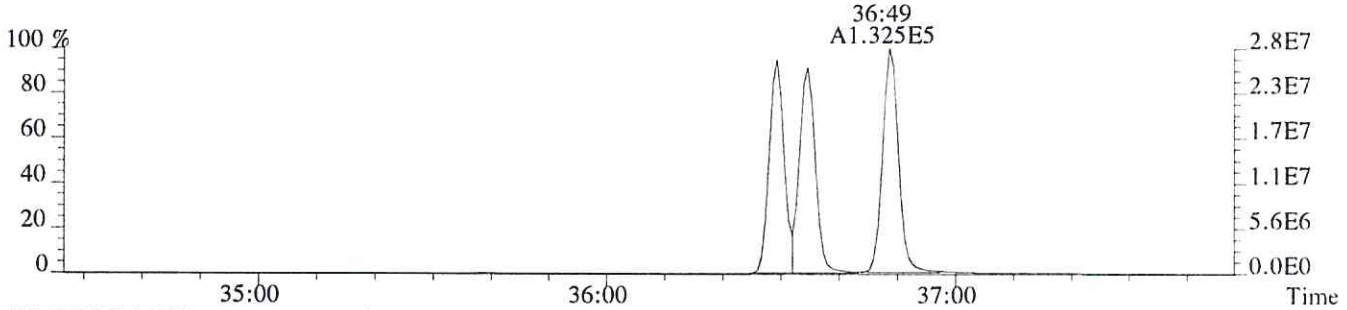
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



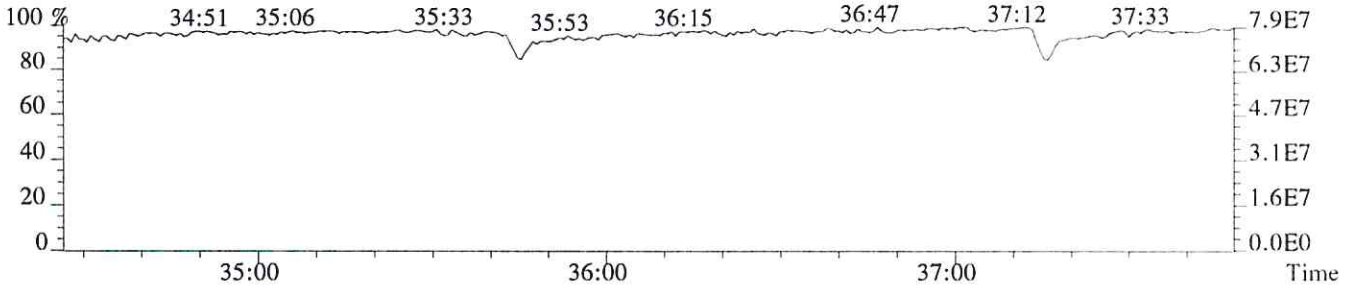
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.40%,F,T)



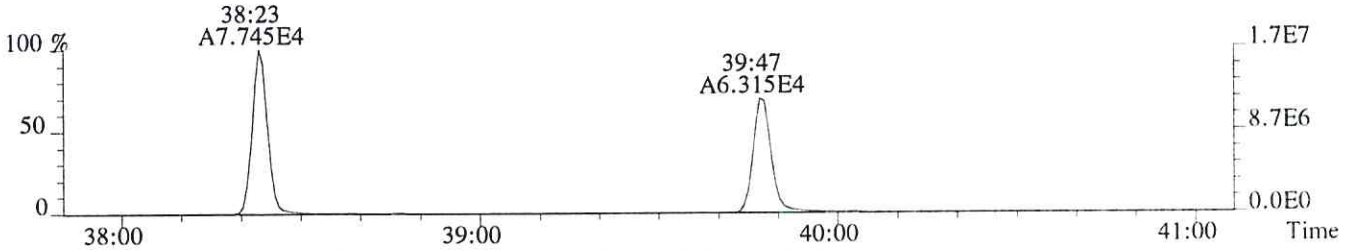
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



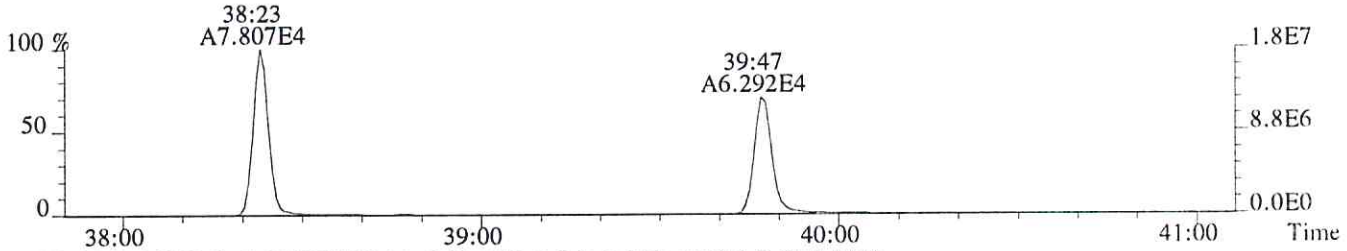
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



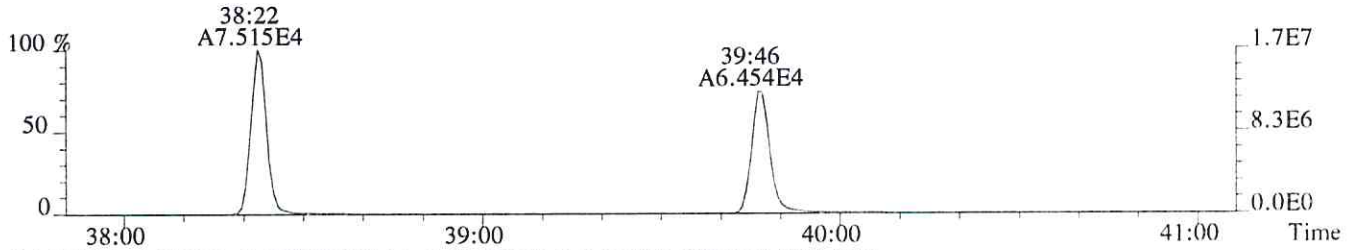
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6208.0,0.50%,F,T)



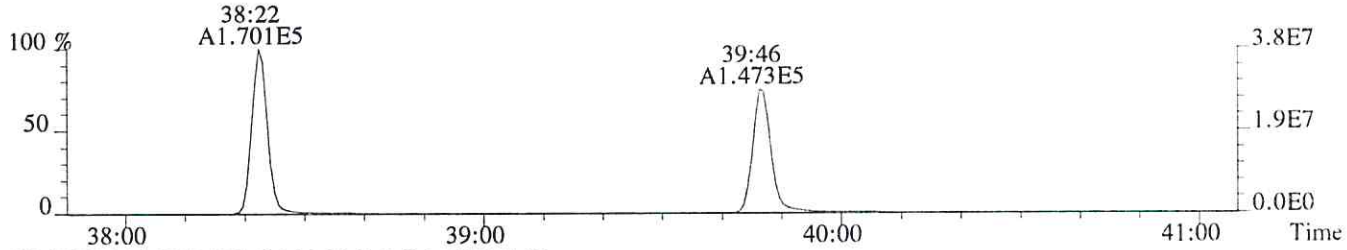
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4924.0,0.50%,F,T)



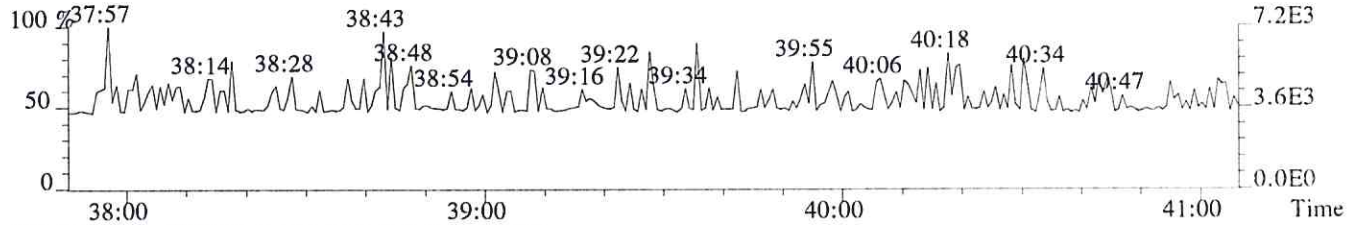
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3128.0,0.50%,F,T)



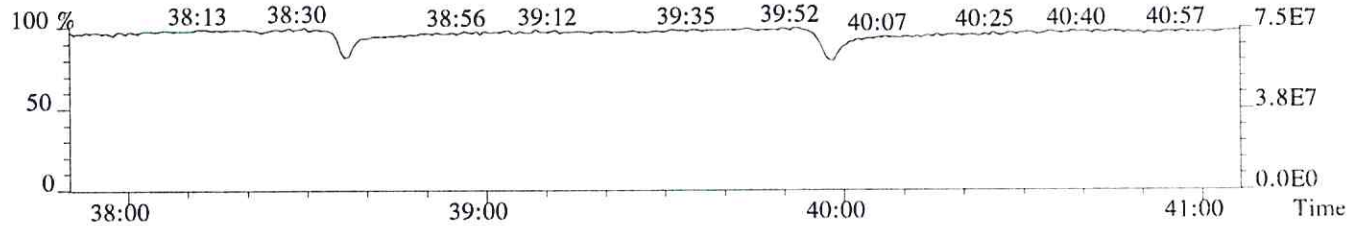
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2996.0,0.50%,F,T)



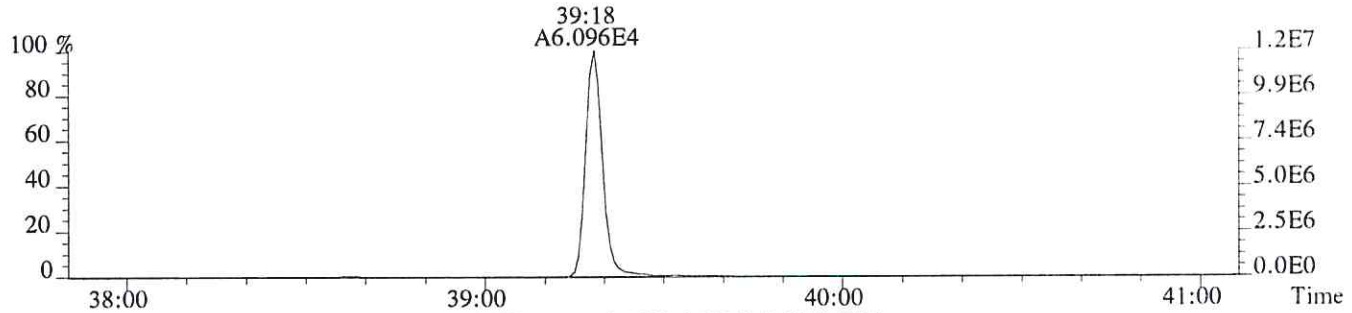
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



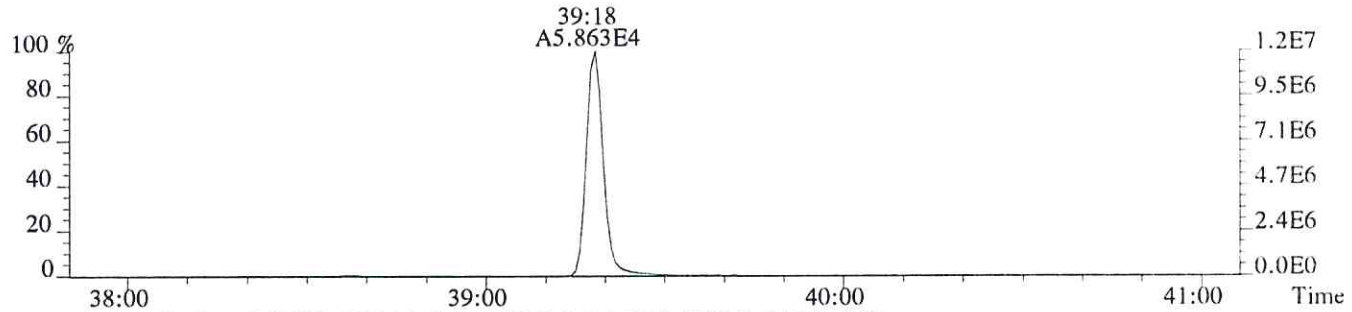
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



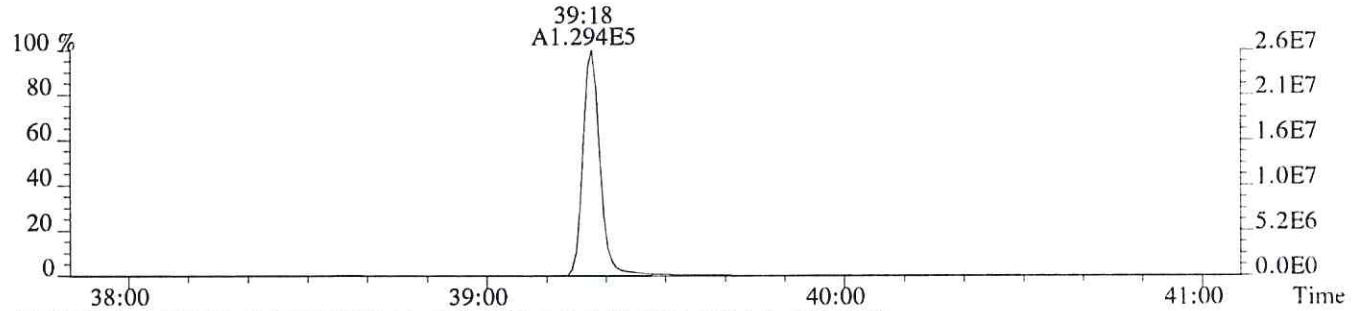
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



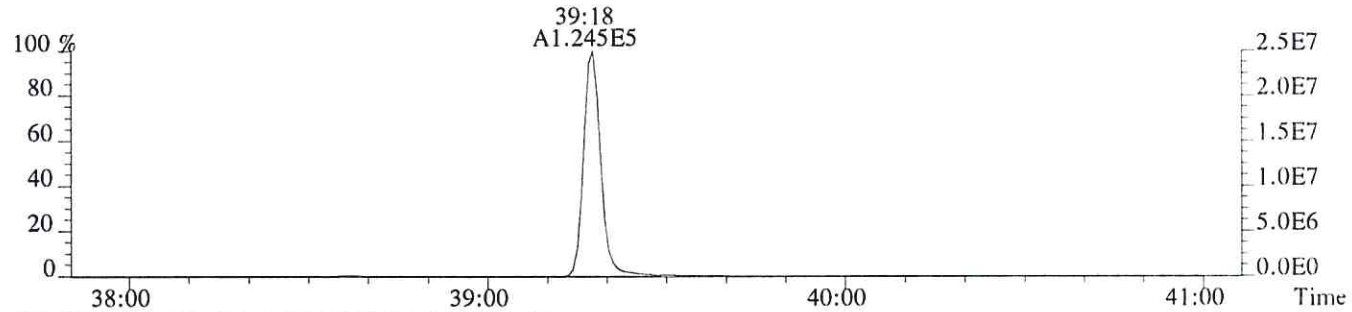
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



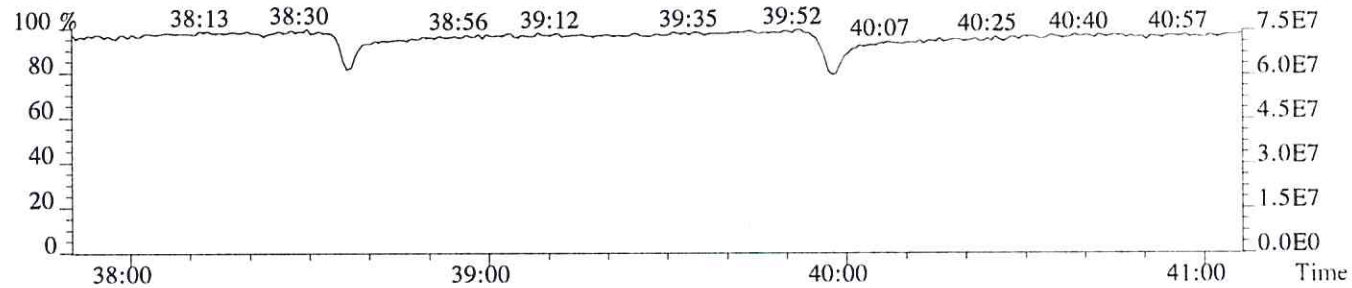
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



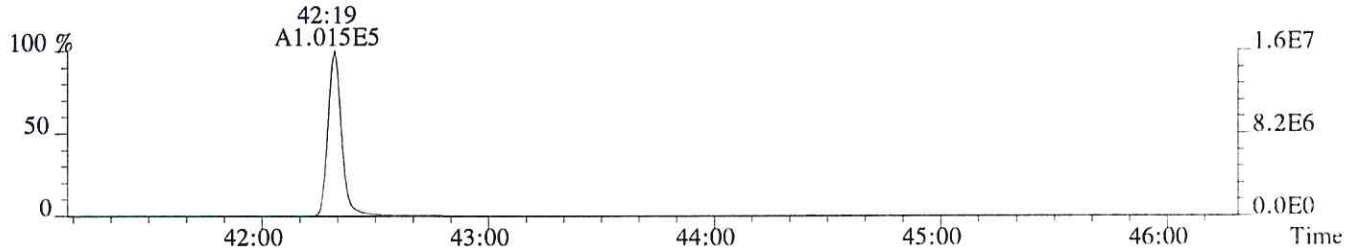
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



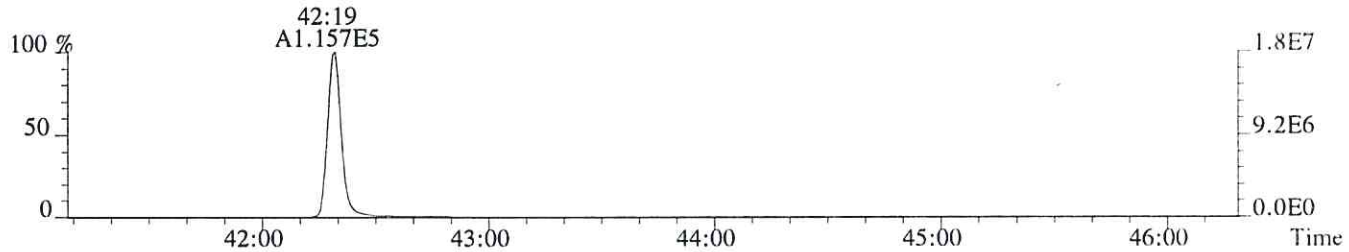
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



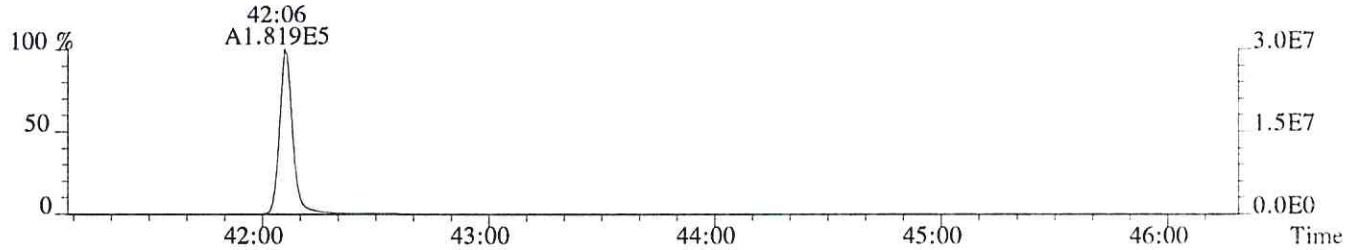
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



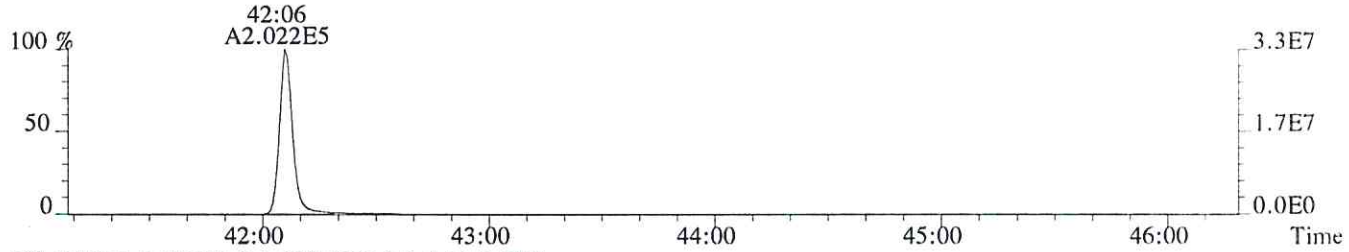
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1416.0,0.40%,F,T)



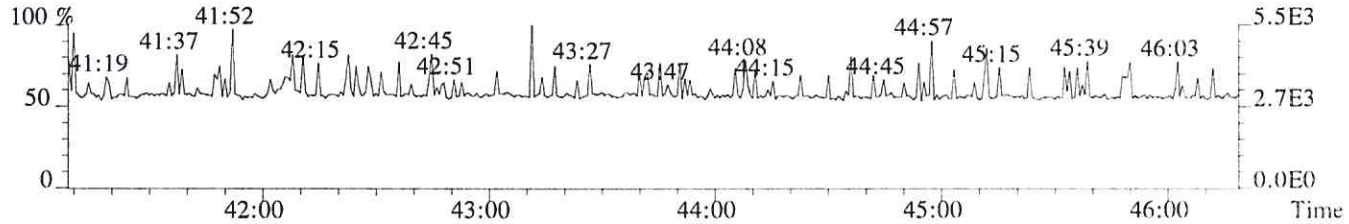
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



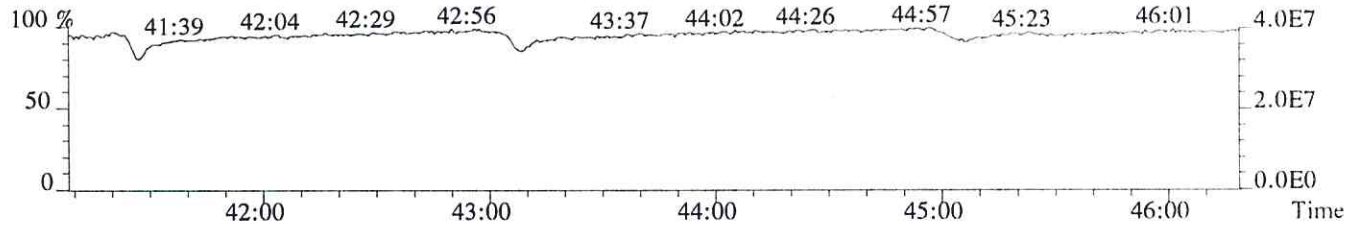
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



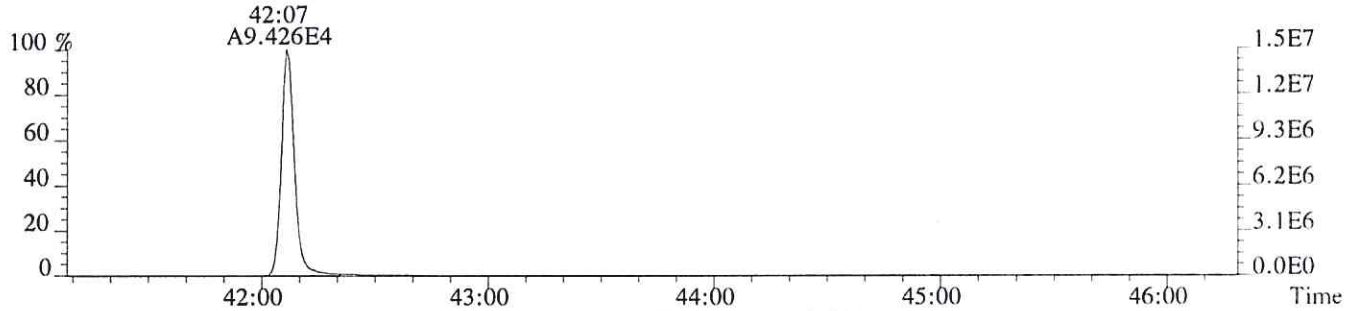
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



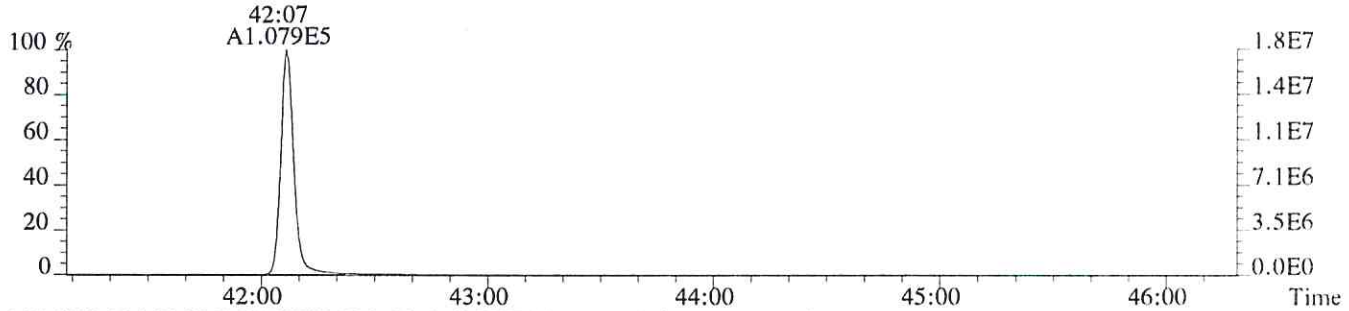
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



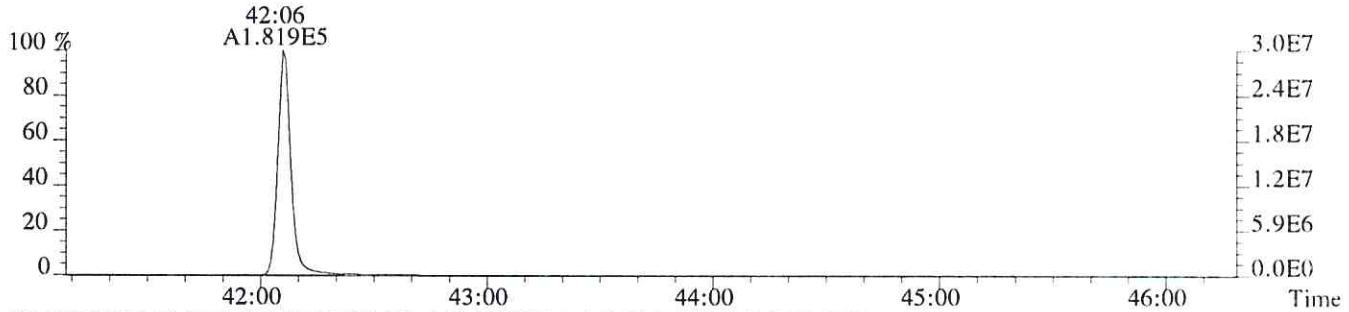
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



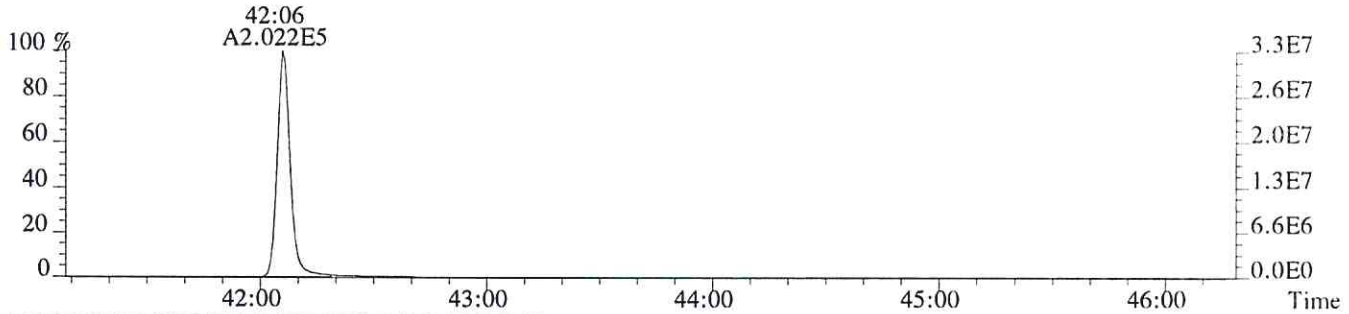
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,804.0,0.40%,F,T)



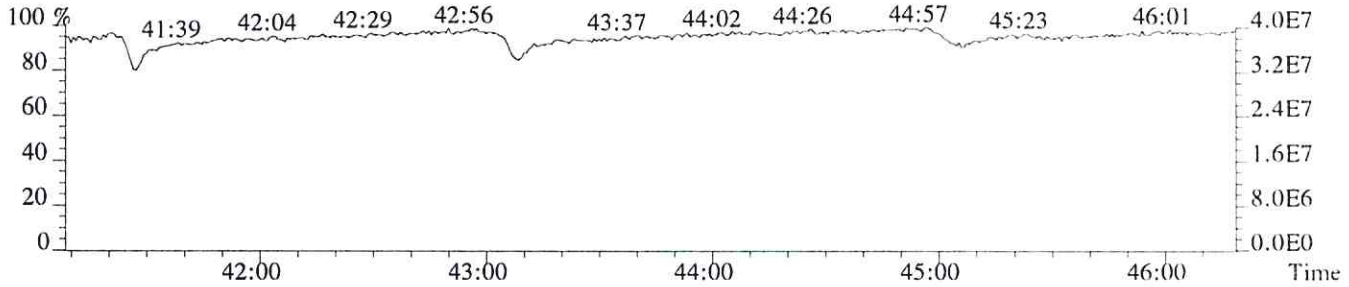
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



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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www.alsglobal.com

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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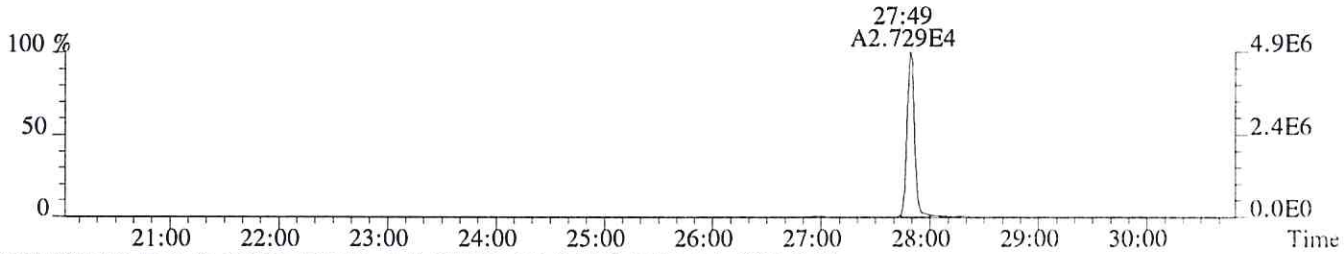
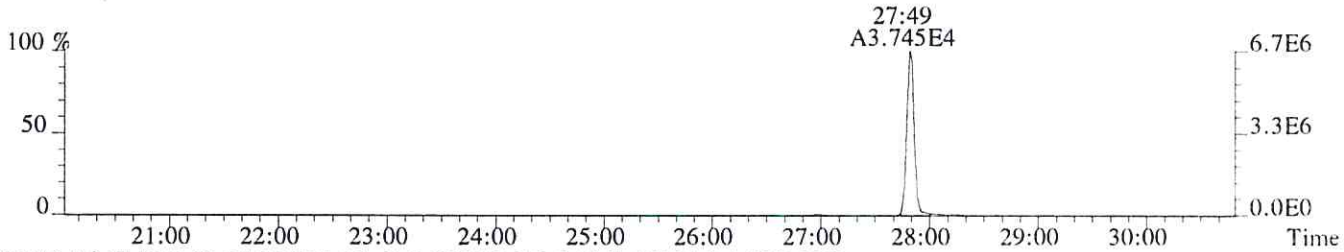
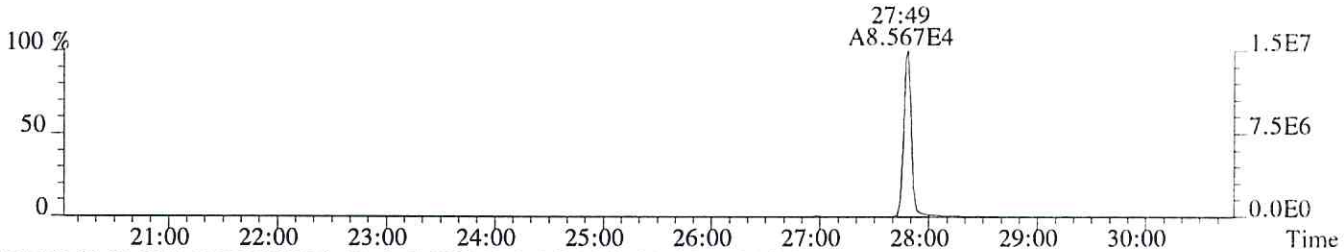
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



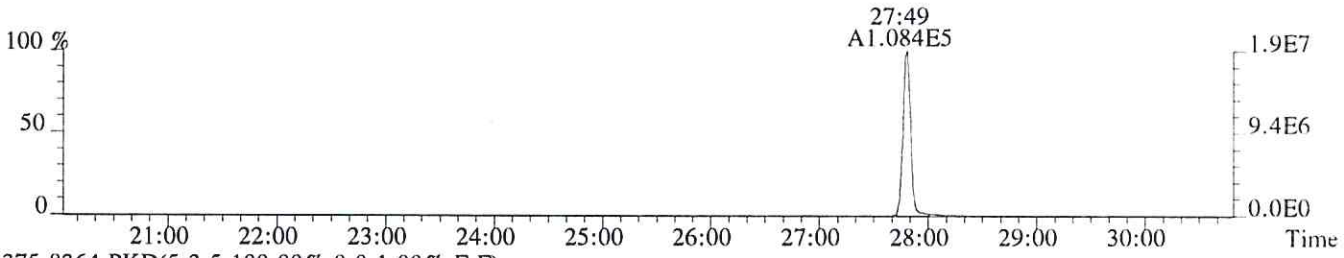
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



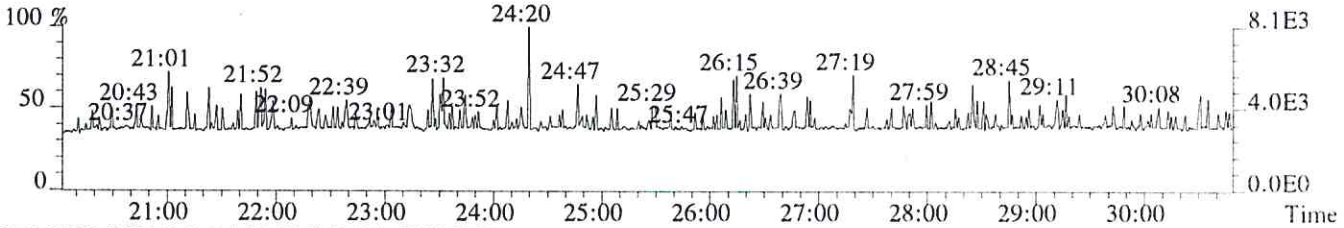
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15004.0,1.00%,F,T)



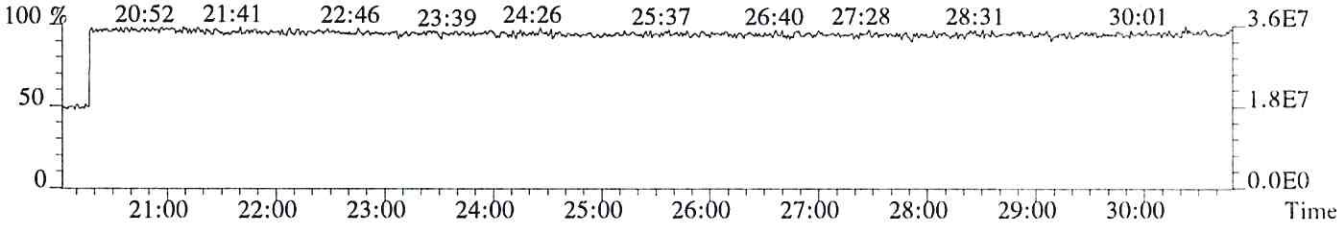
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6416.0,1.00%,F,T)



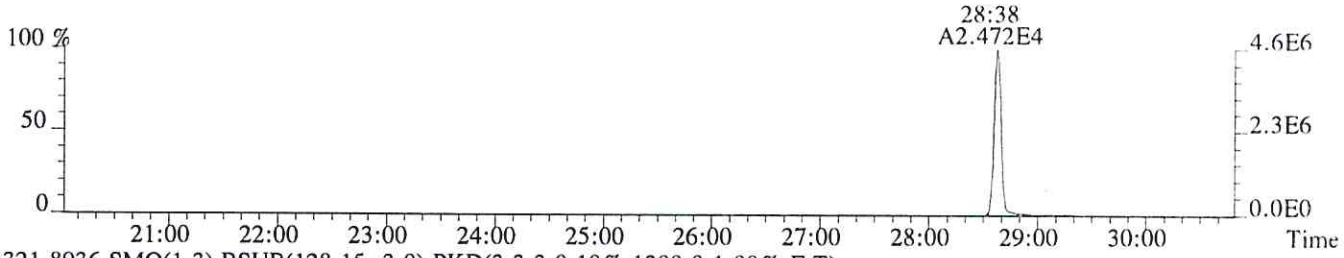
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



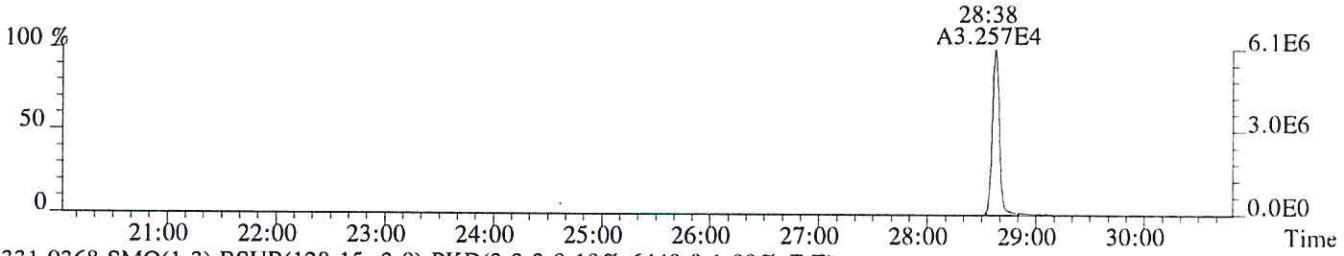
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



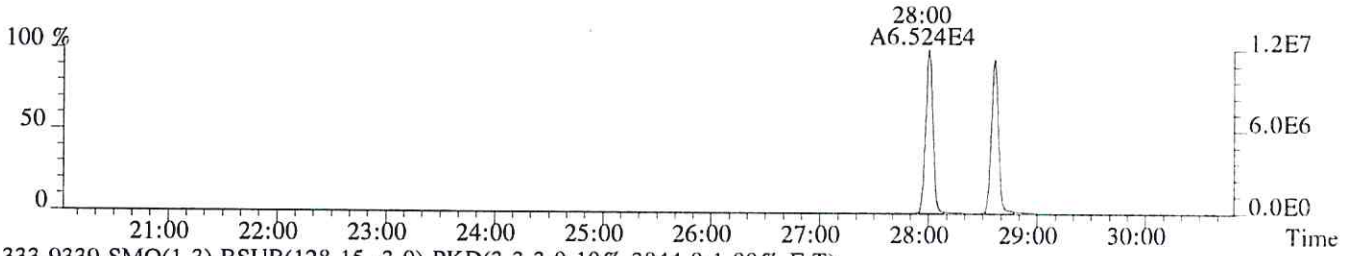
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1980.0,1.00%,F,T)



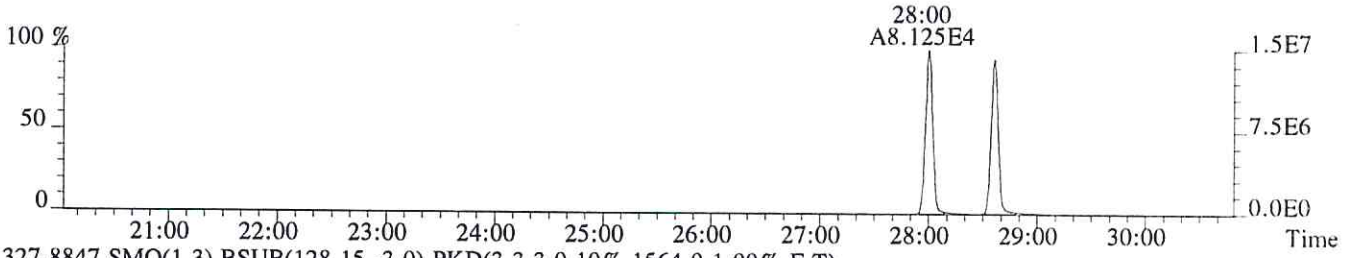
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



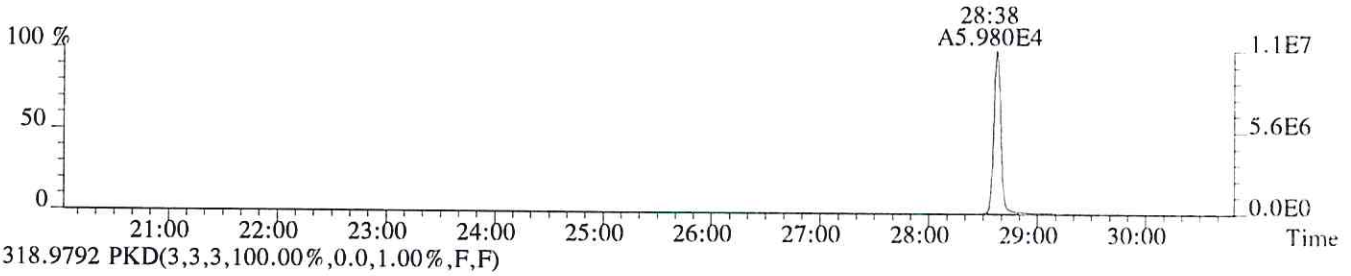
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



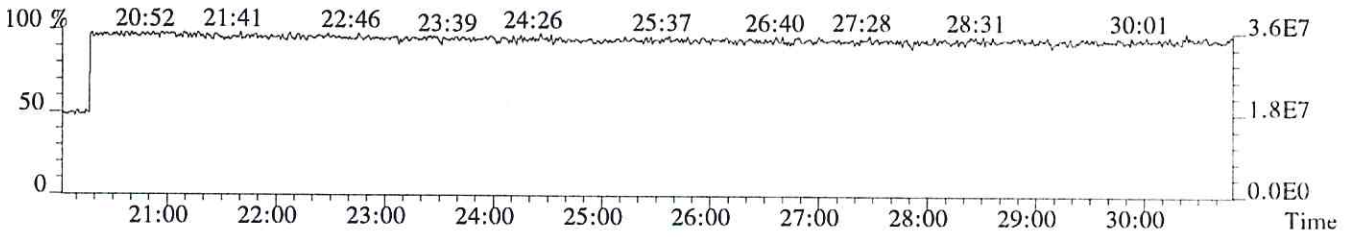
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3844.0,1.00%,F,T)



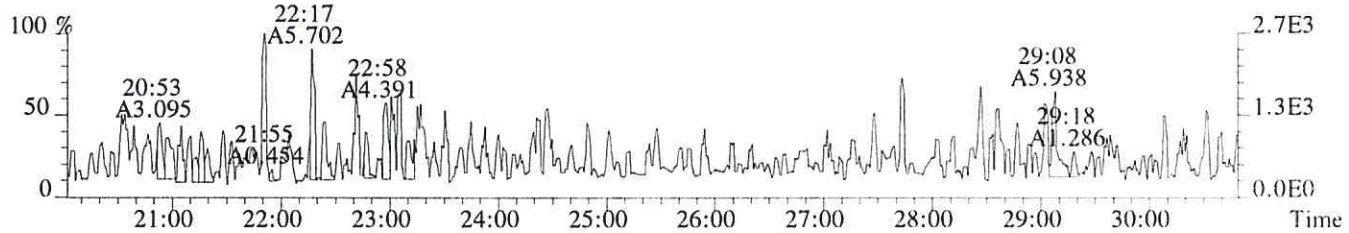
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1564.0,1.00%,F,T)



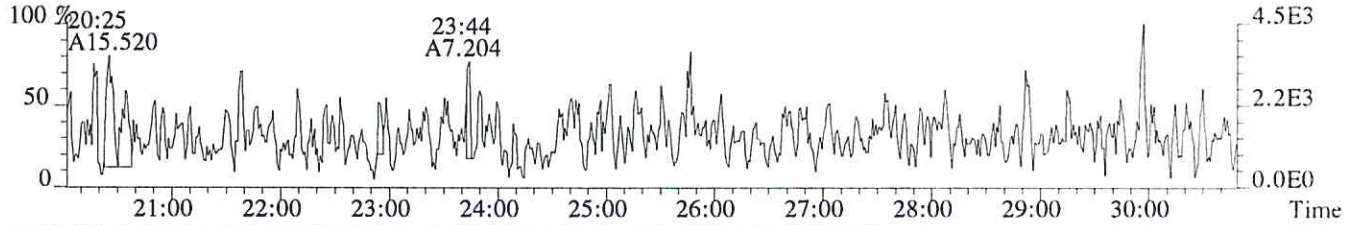
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



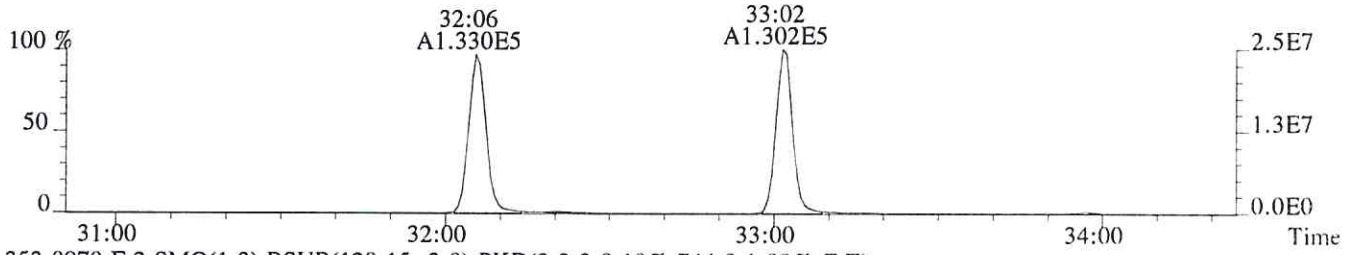
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)



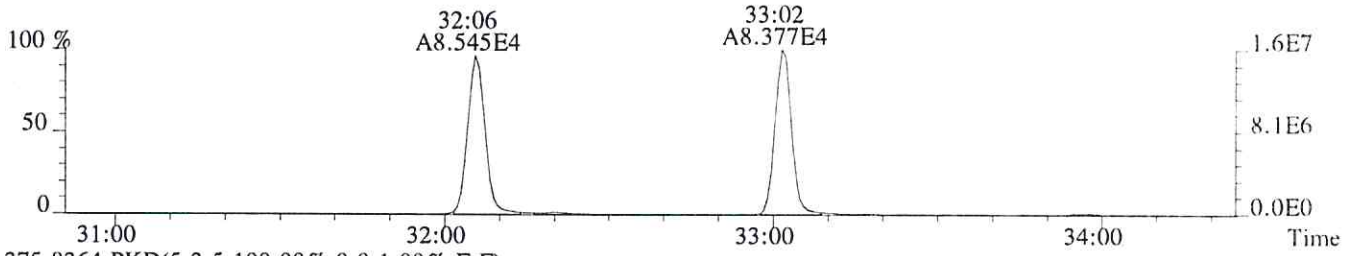
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1680.0,1.00%,F,T)



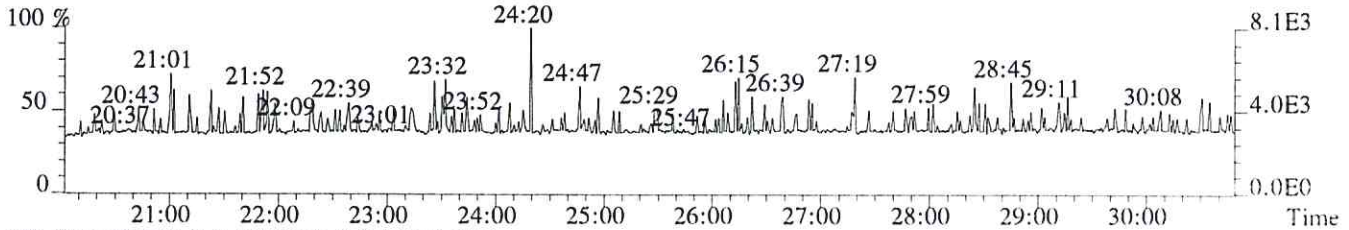
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



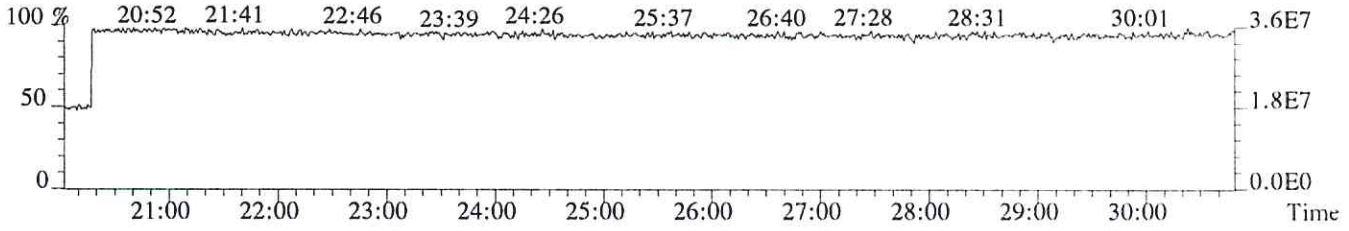
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



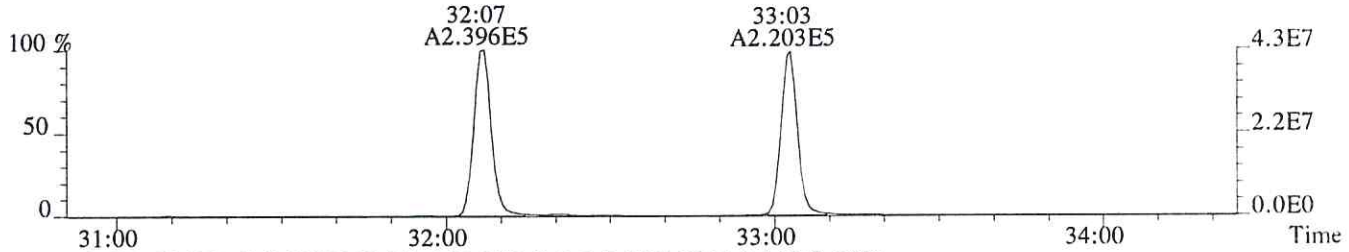
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



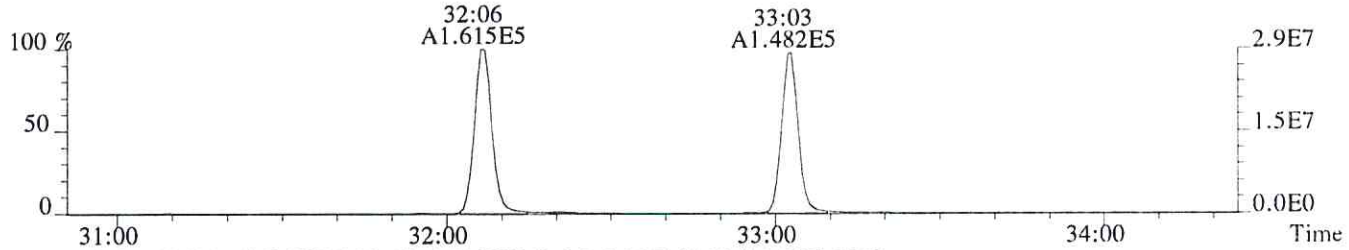
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



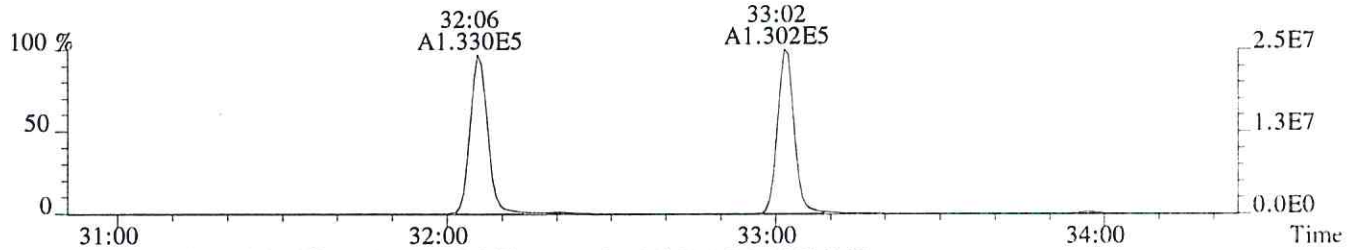
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,T)



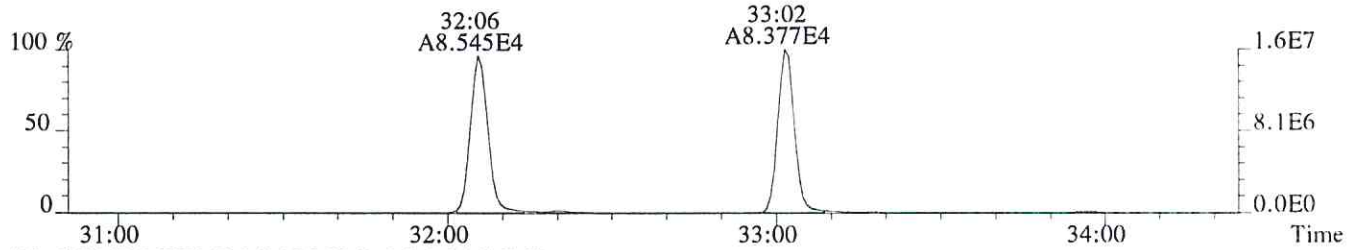
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2644.0,1.00%,F,T)



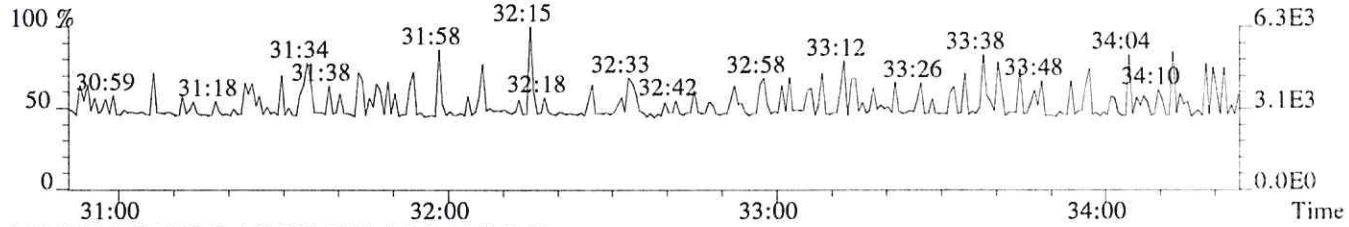
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



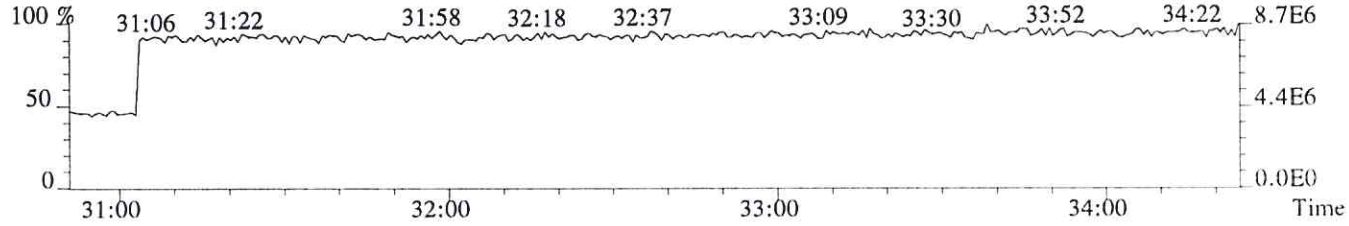
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



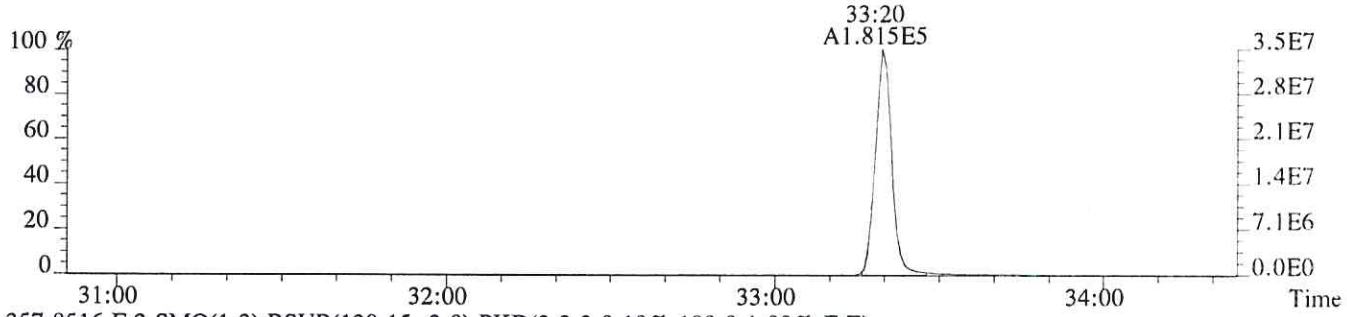
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



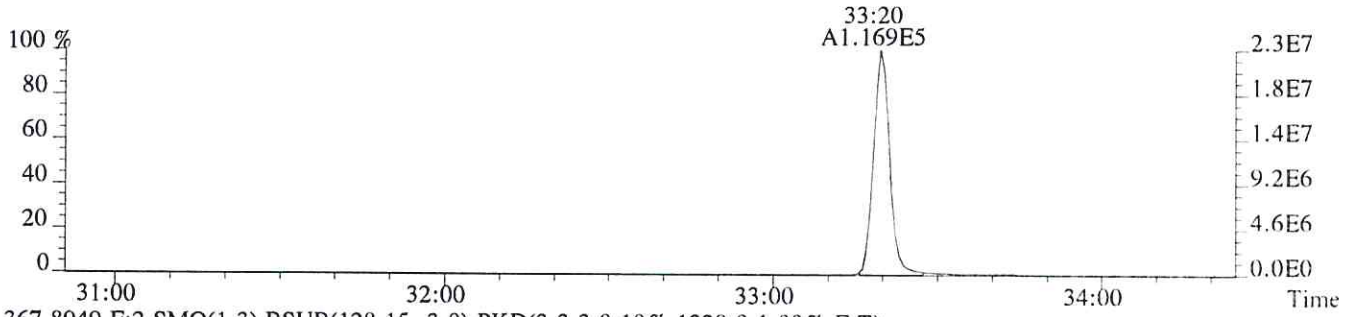
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



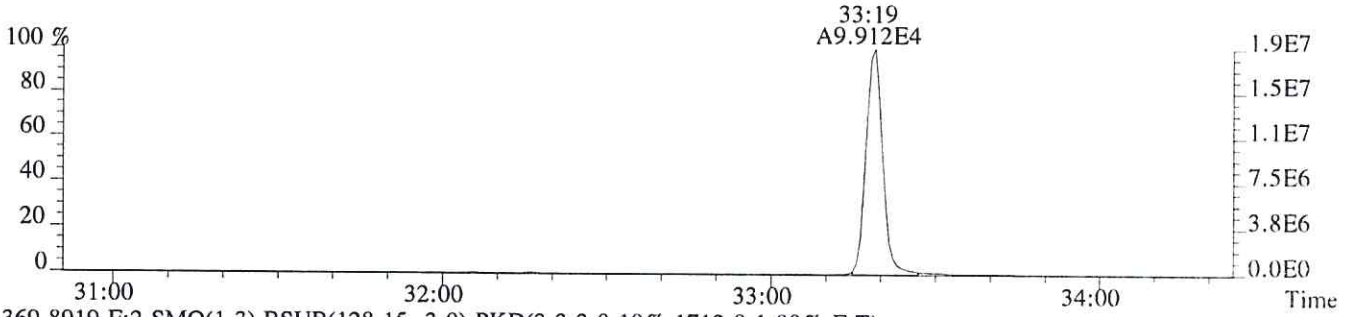
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



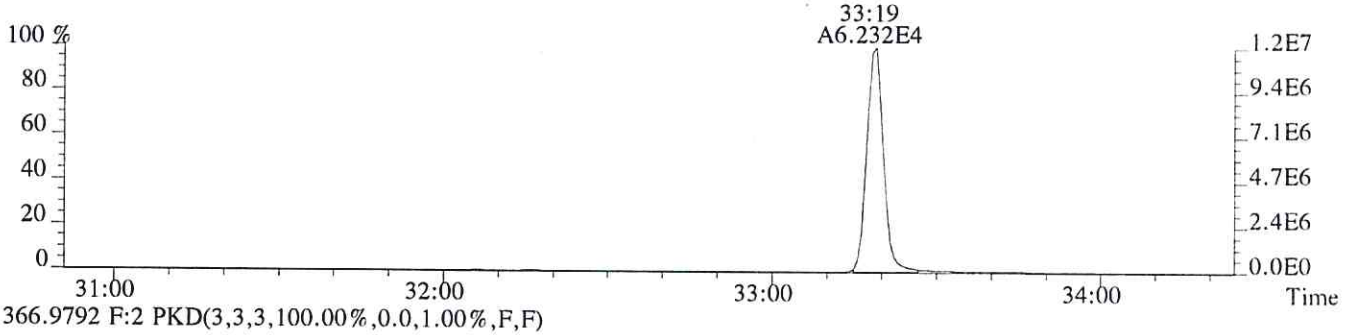
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



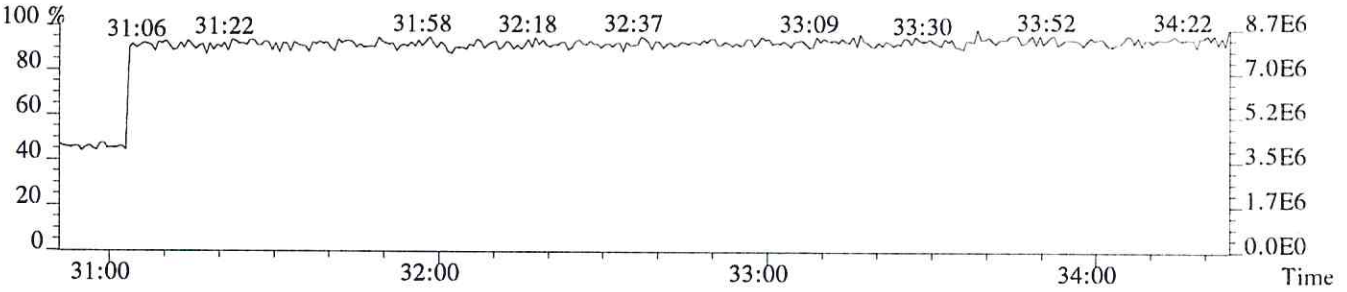
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1328.0,1.00%,F,T)



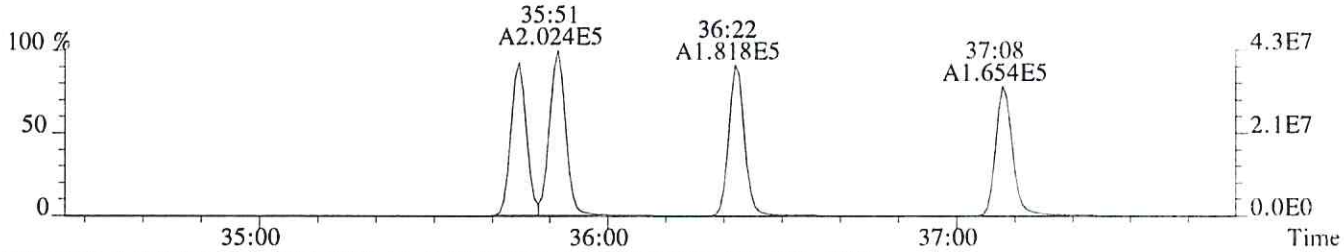
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,T)



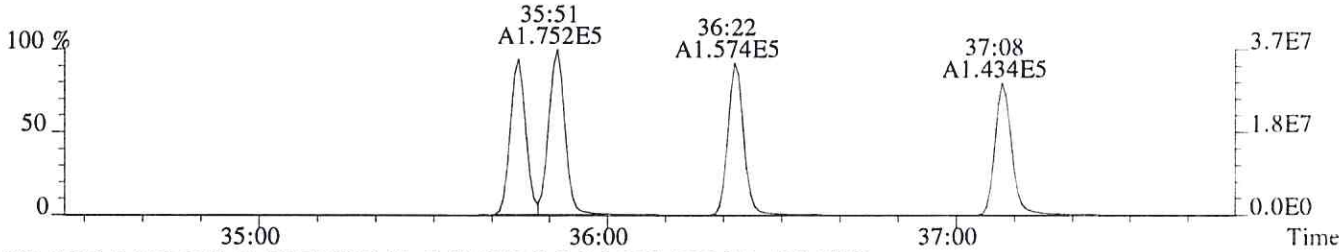
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



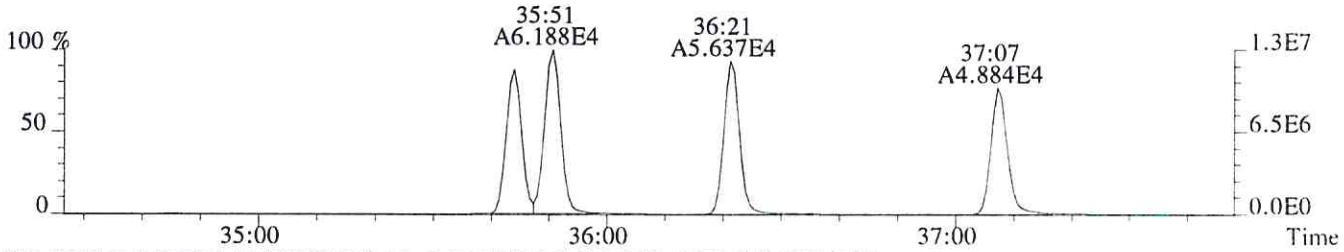
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,T)



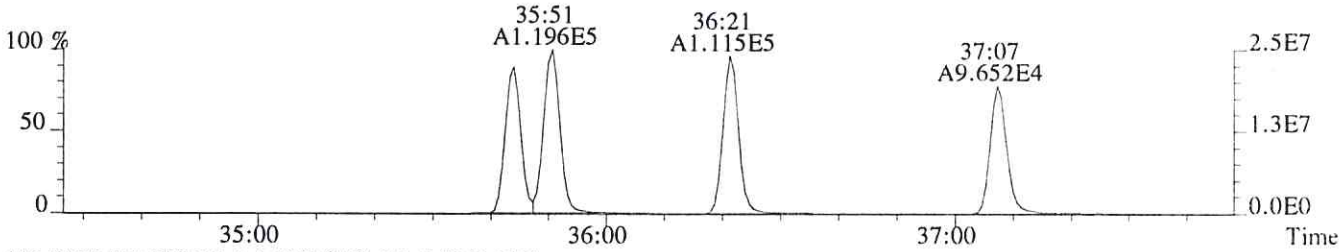
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



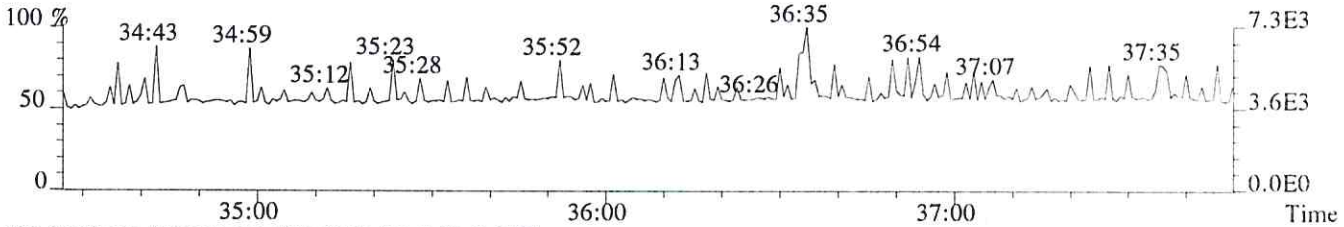
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



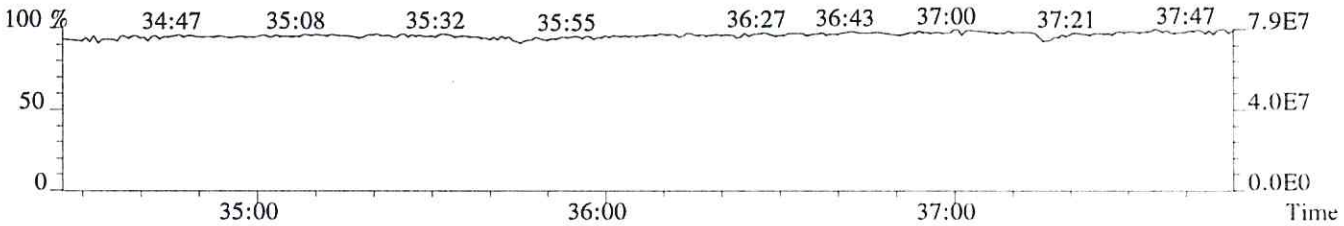
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1548.0,0.40%,F,T)



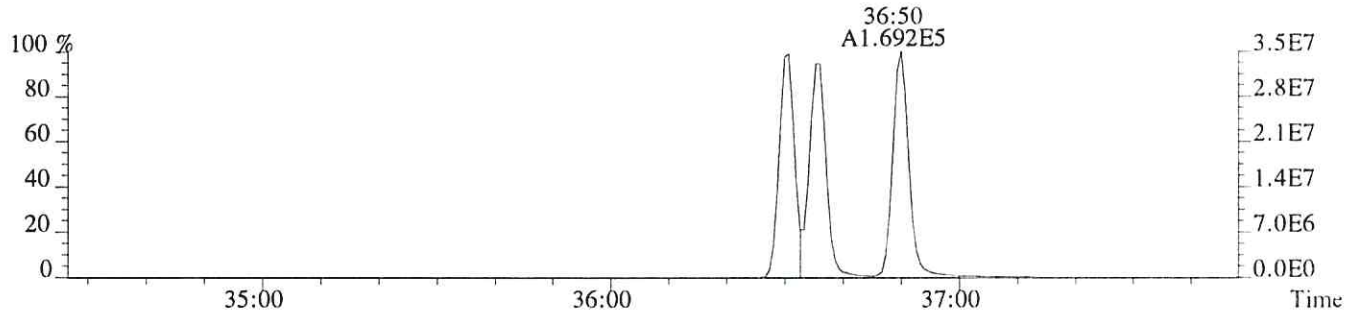
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



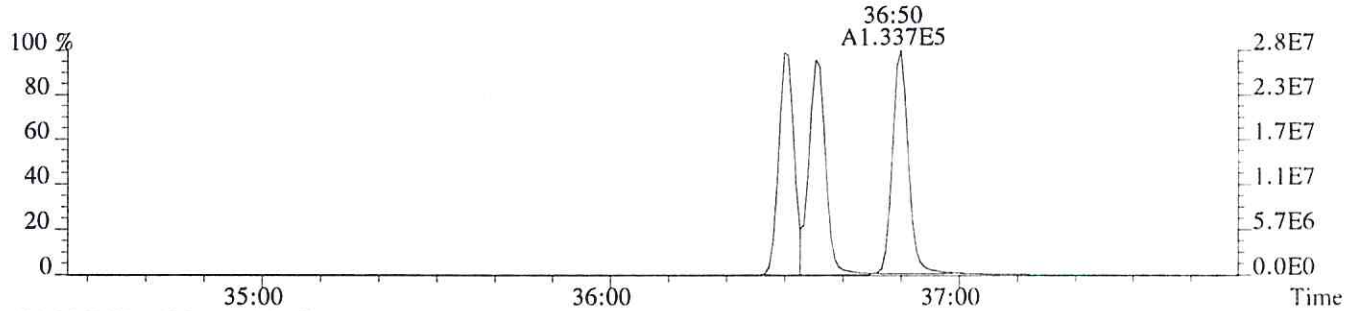
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



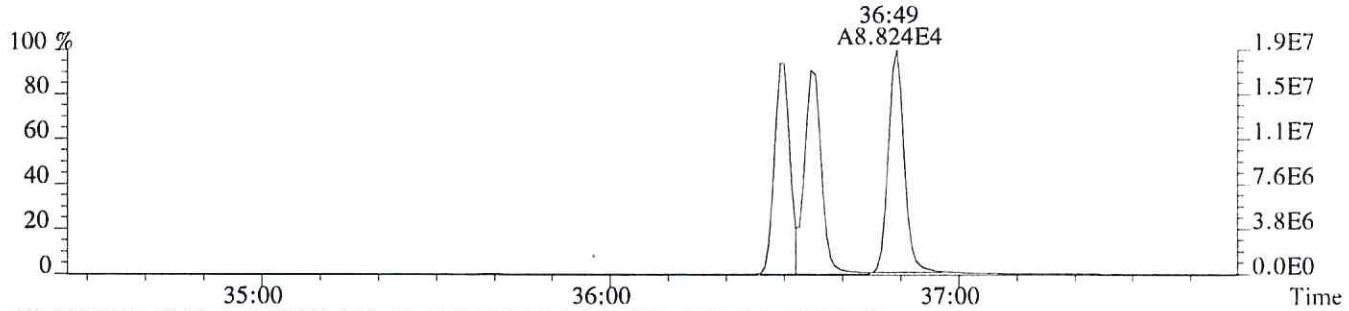
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,572.0,0.40%,F,T)



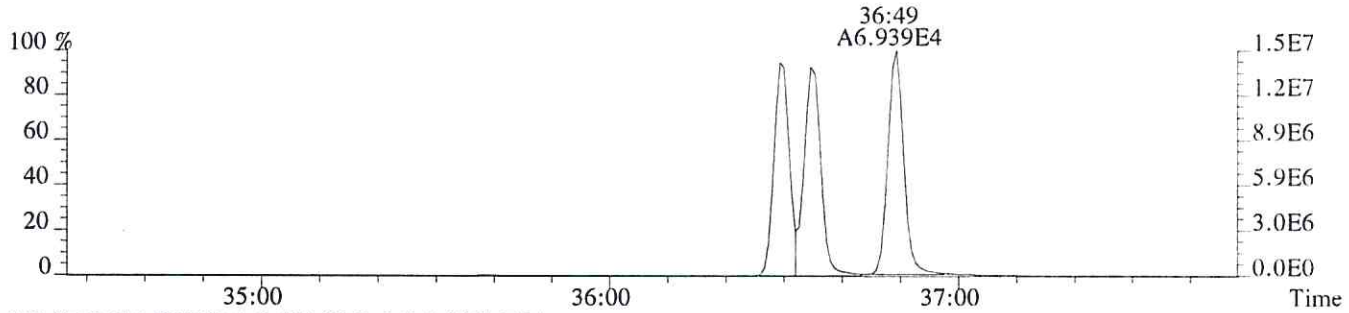
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



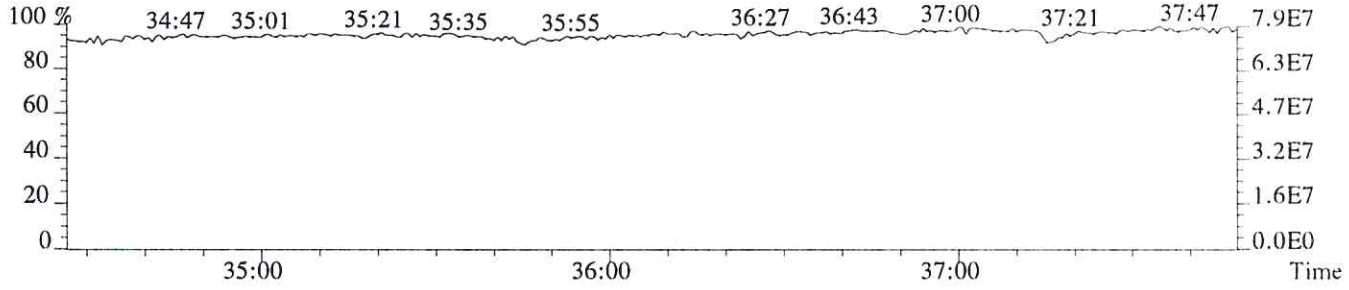
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2200.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)

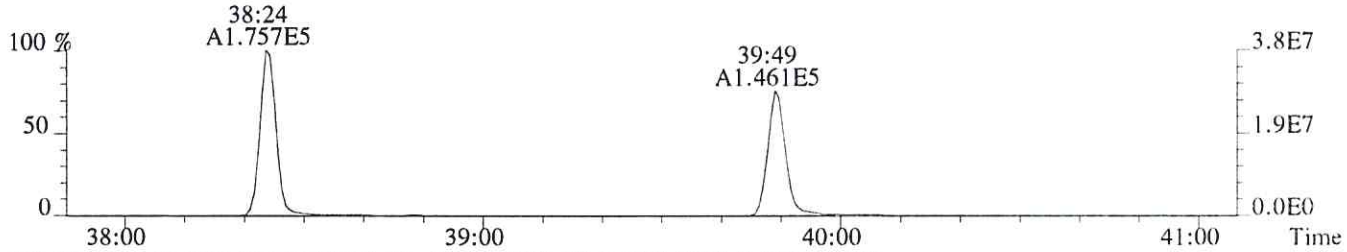


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

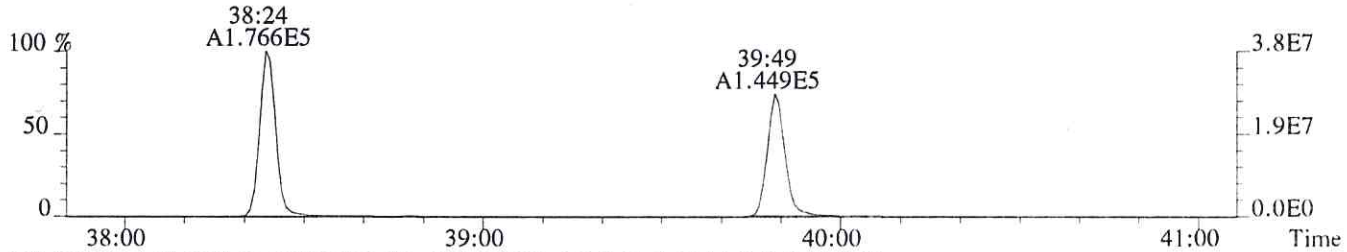


File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76558

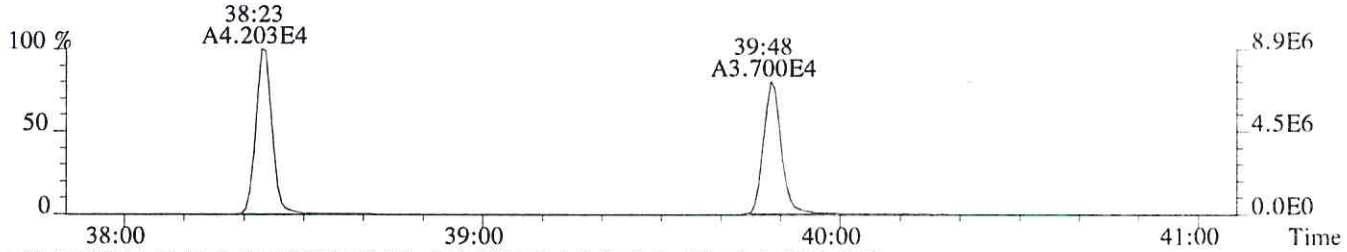
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11464.0,0.50%,F,T)



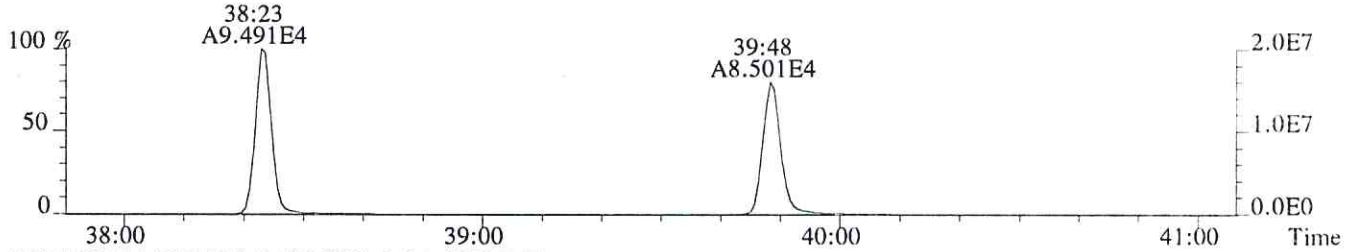
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7060.0,0.50%,F,T)



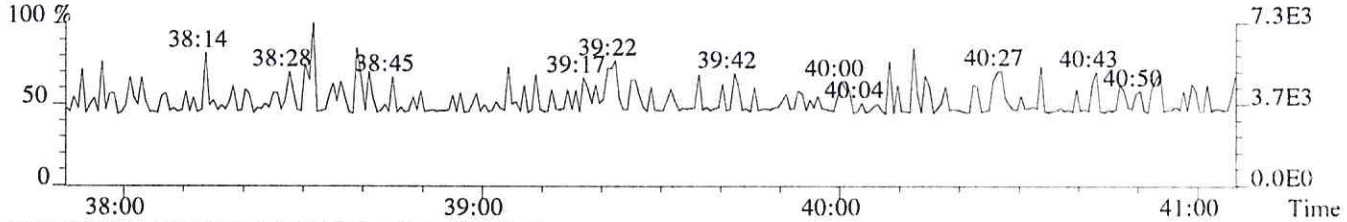
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5044.0,0.50%,F,T)



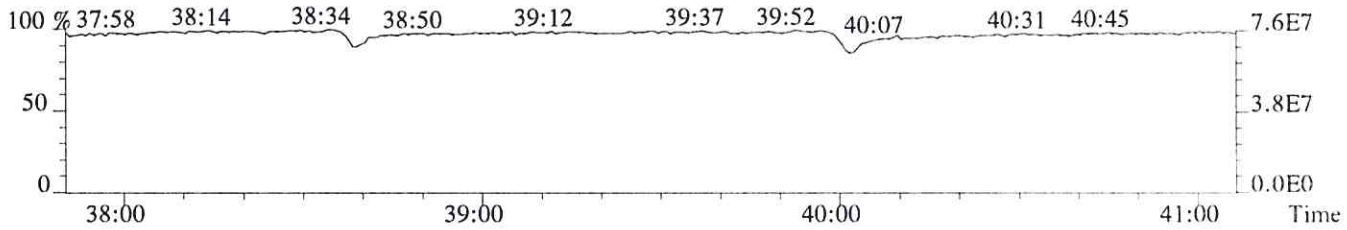
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4524.0,0.50%,F,T)



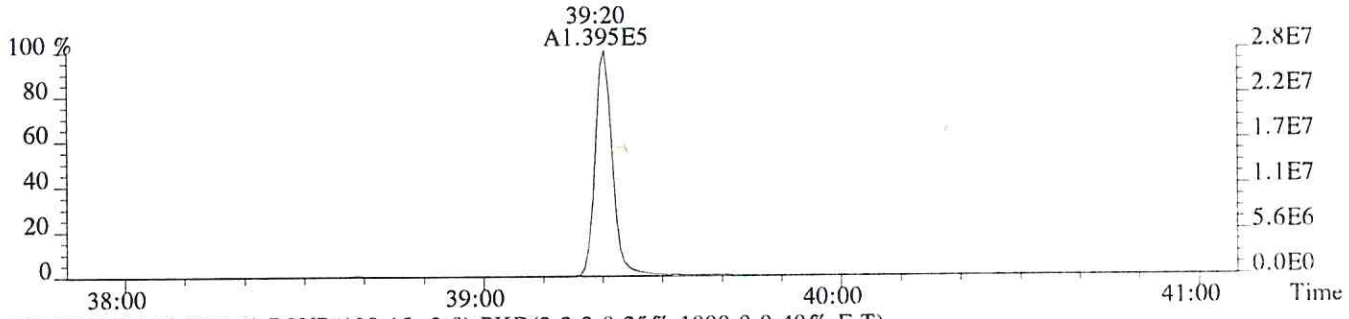
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



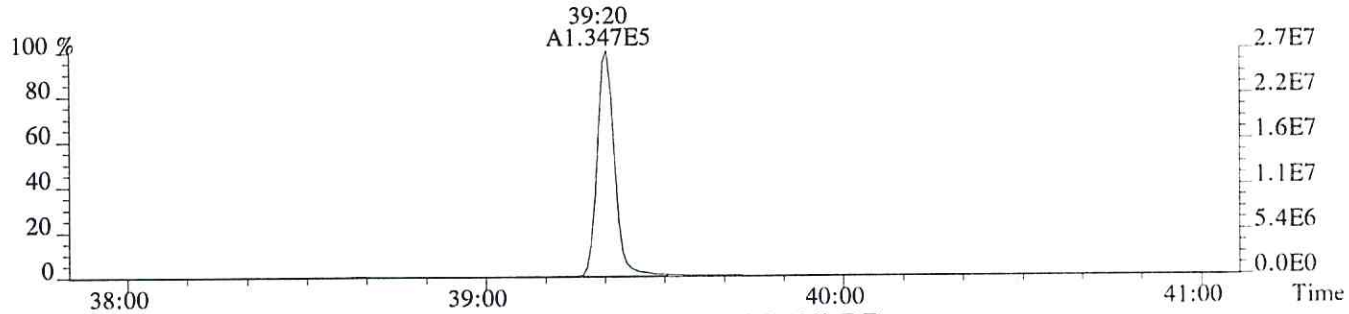
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



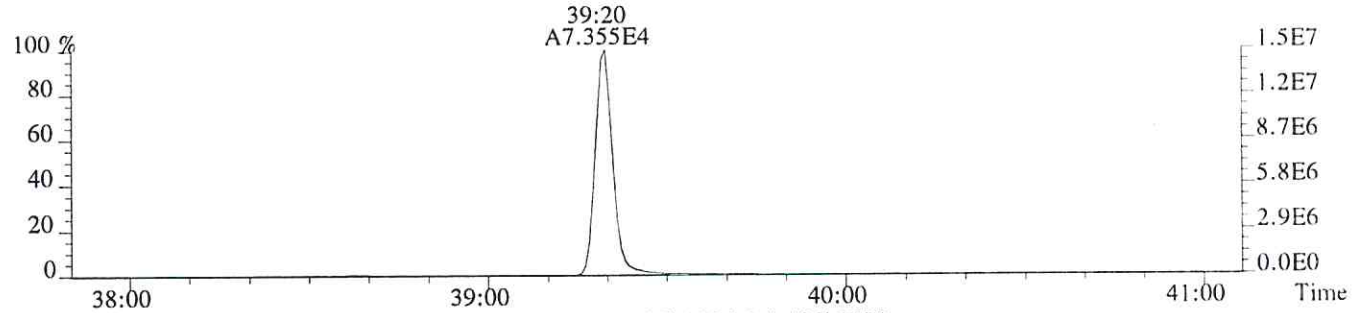
File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



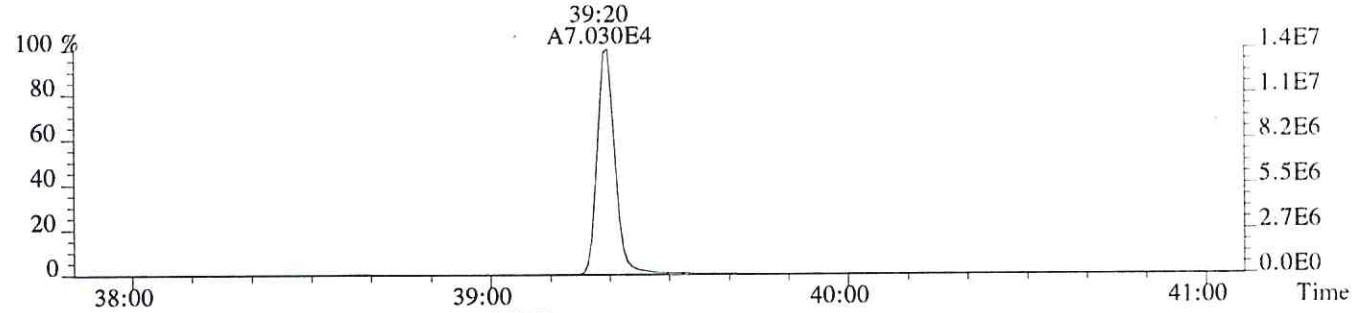
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



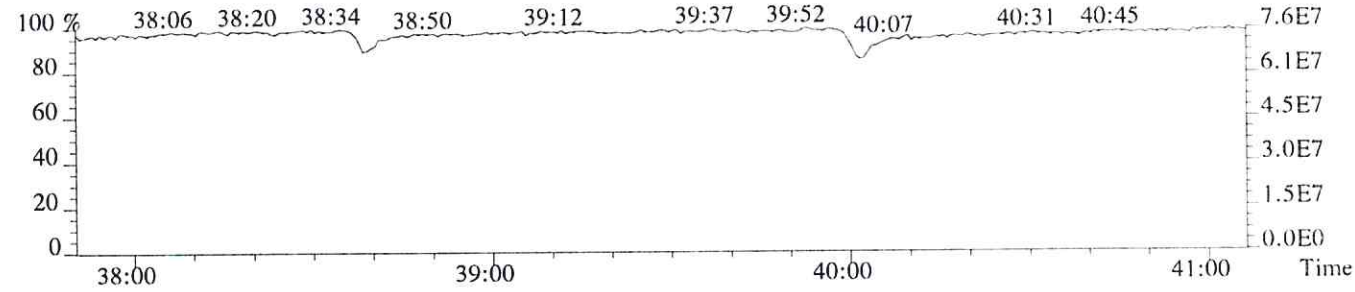
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



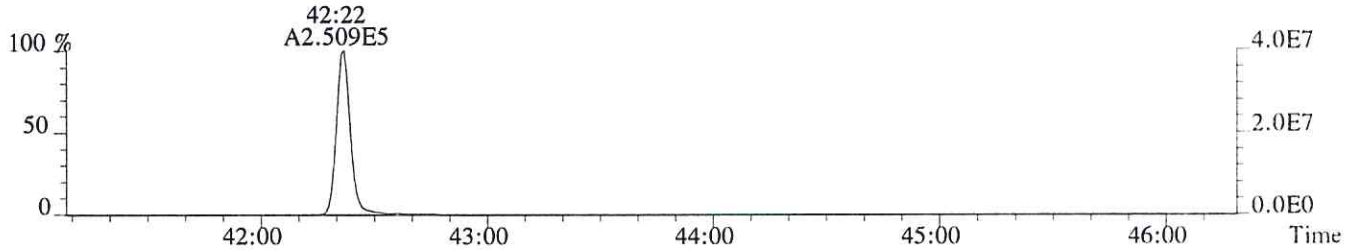
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



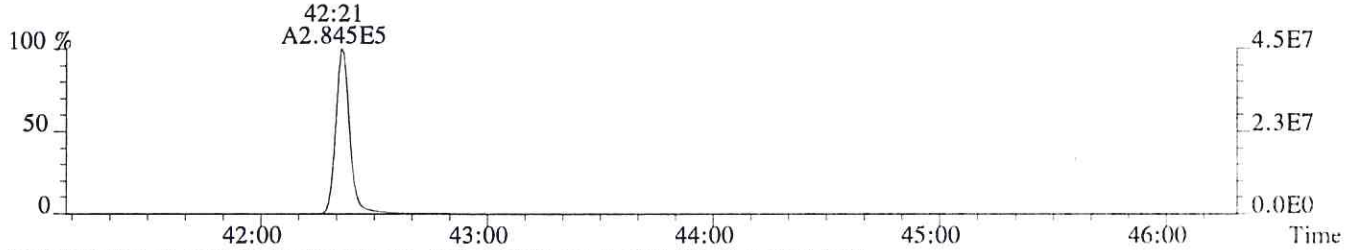
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



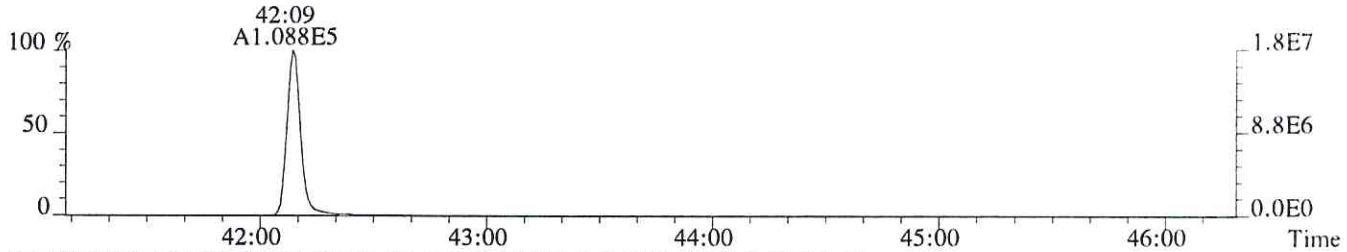
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



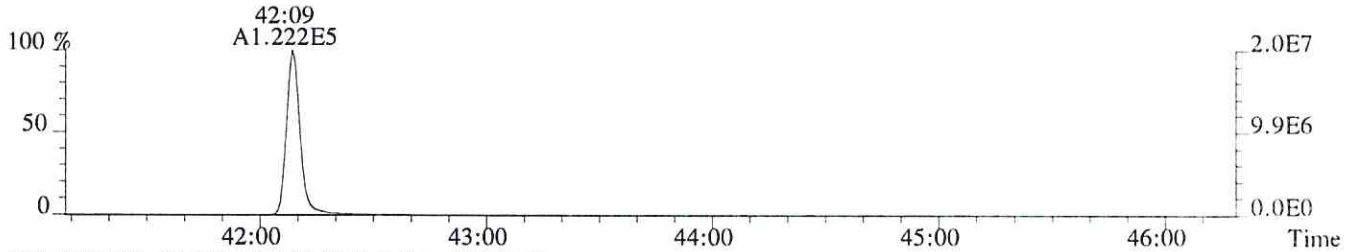
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



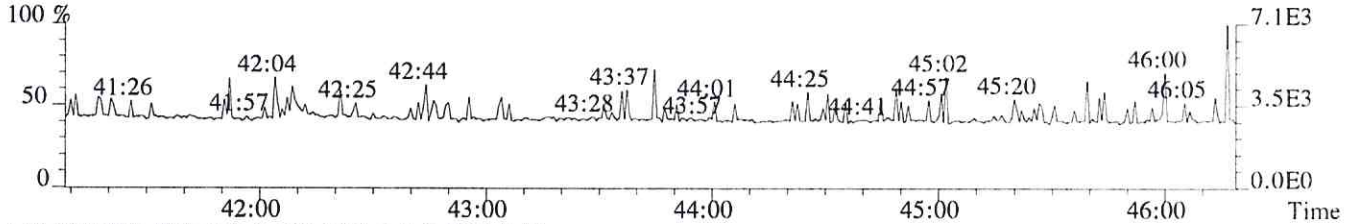
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



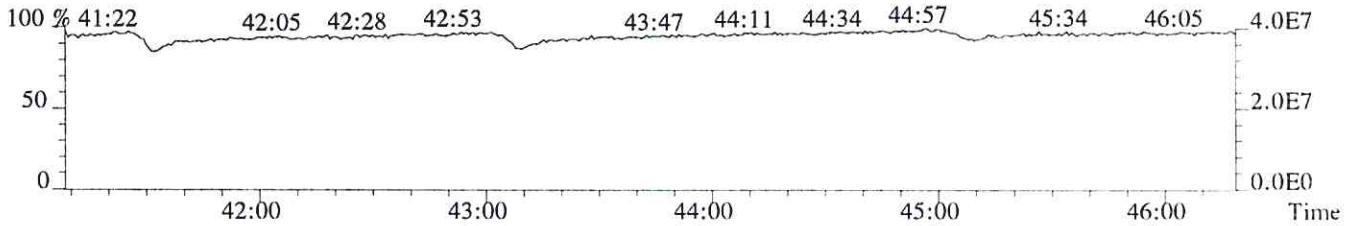
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



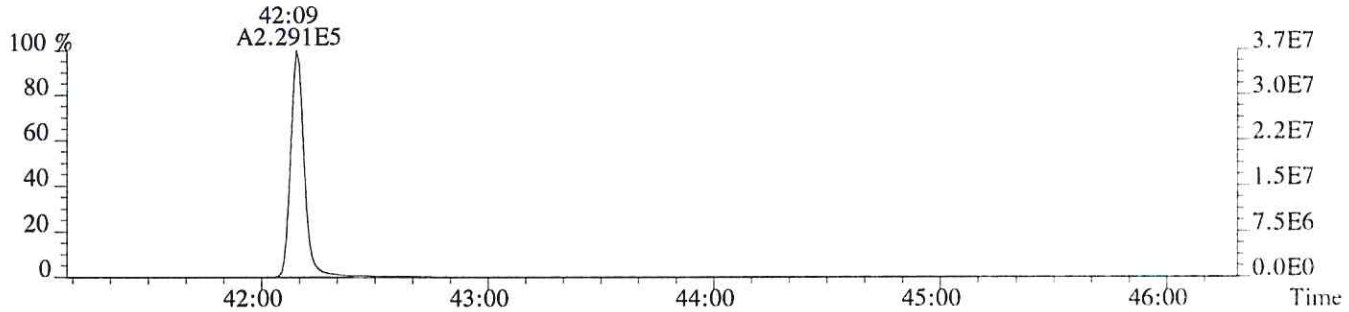
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



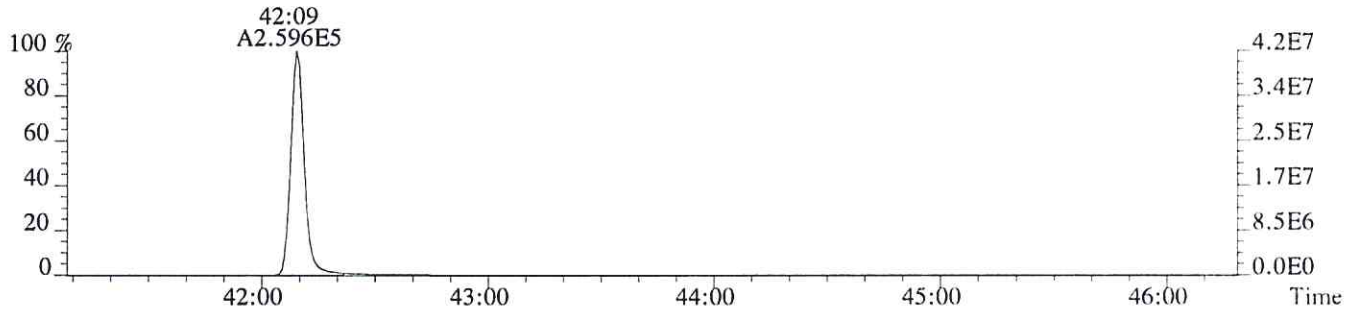
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



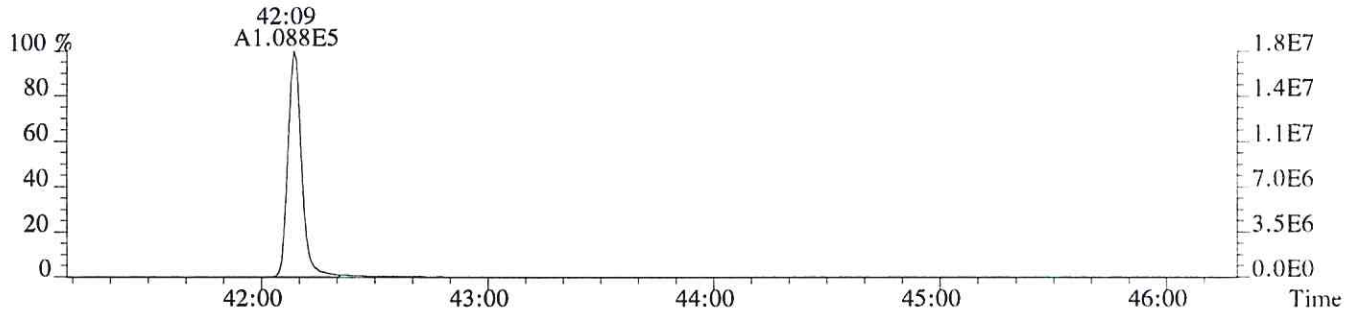
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,544.0,0.40%,F,T)



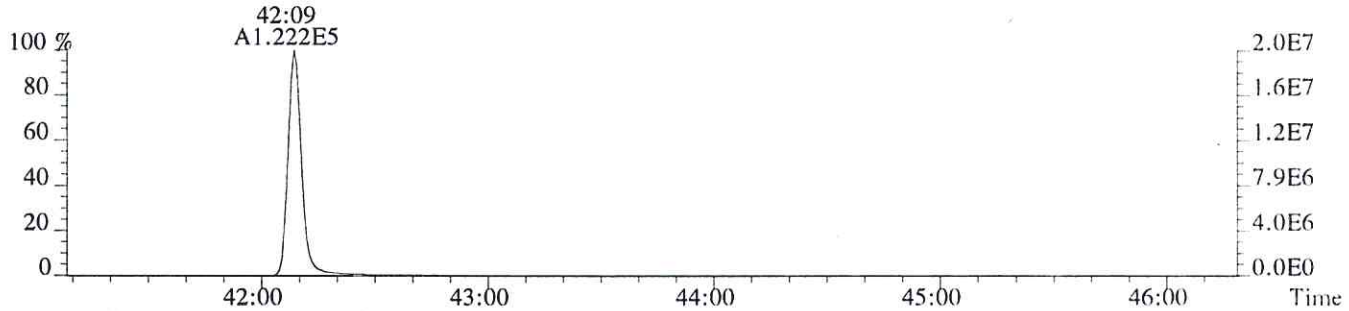
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



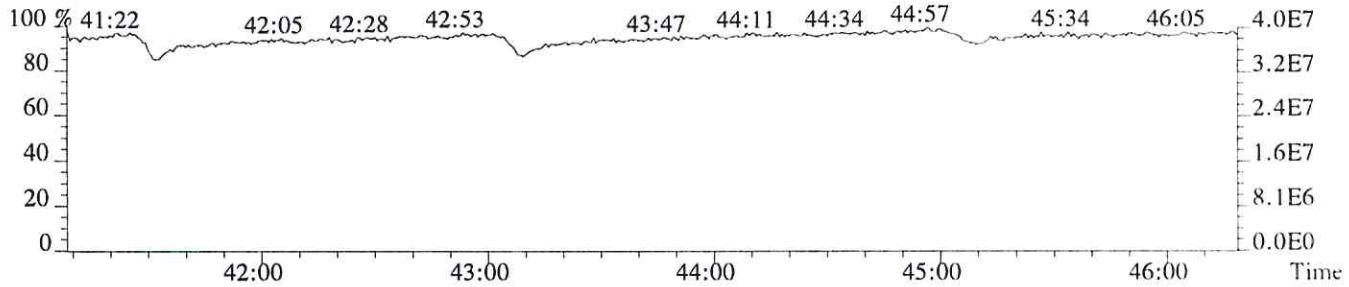
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



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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www.alsglobal.com

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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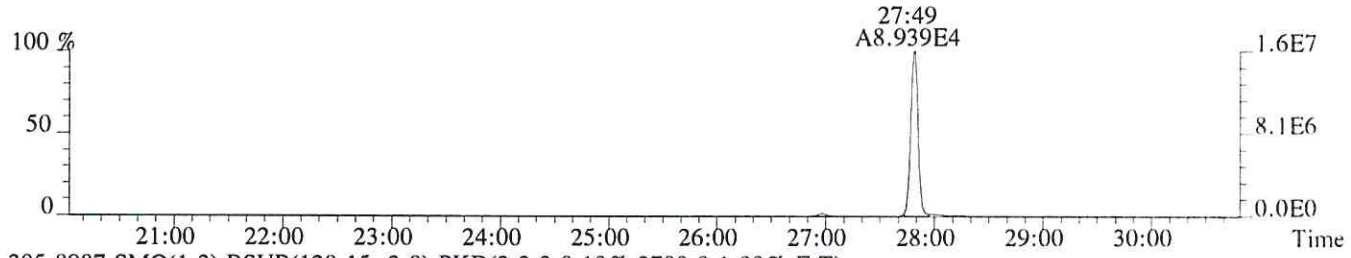
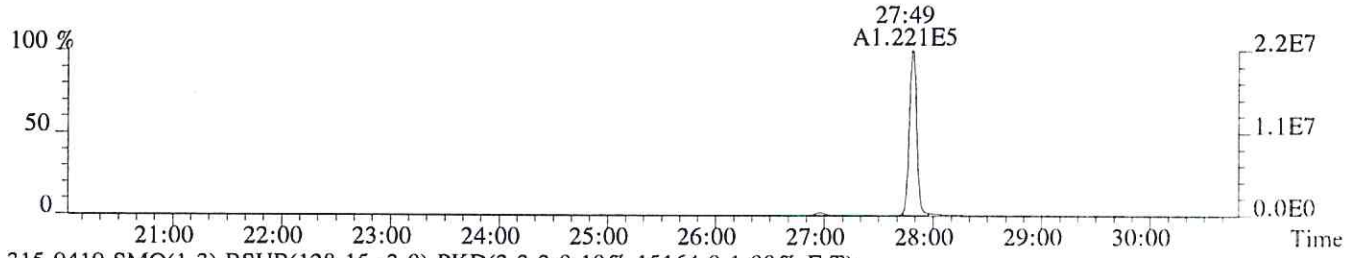
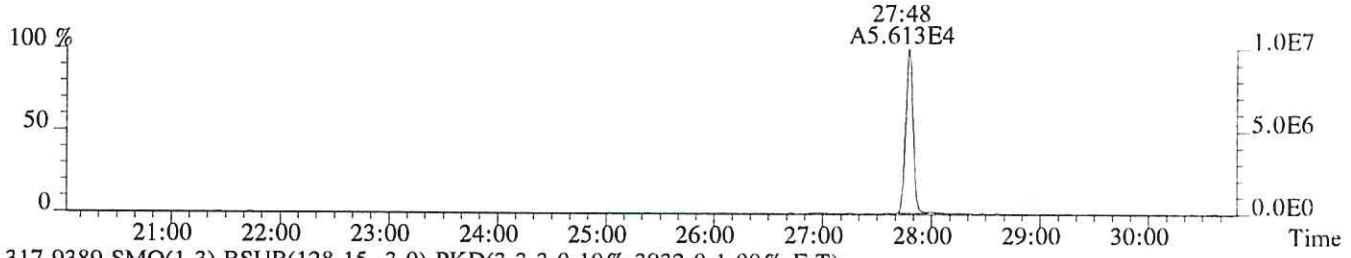
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



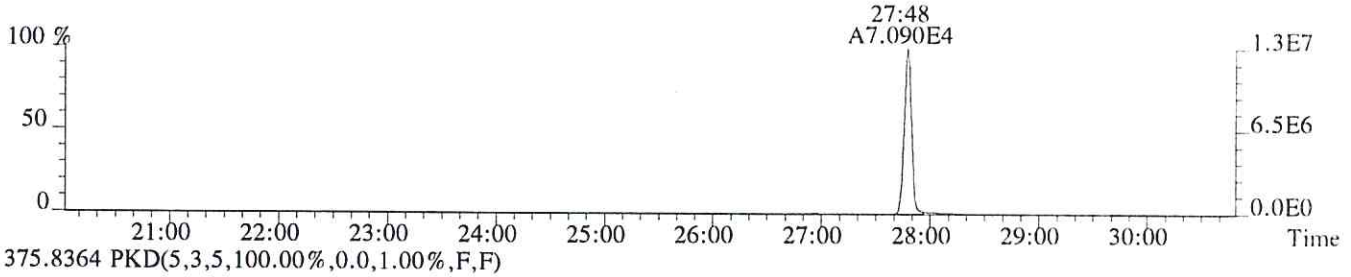
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2700.0,1.00%,F,T)



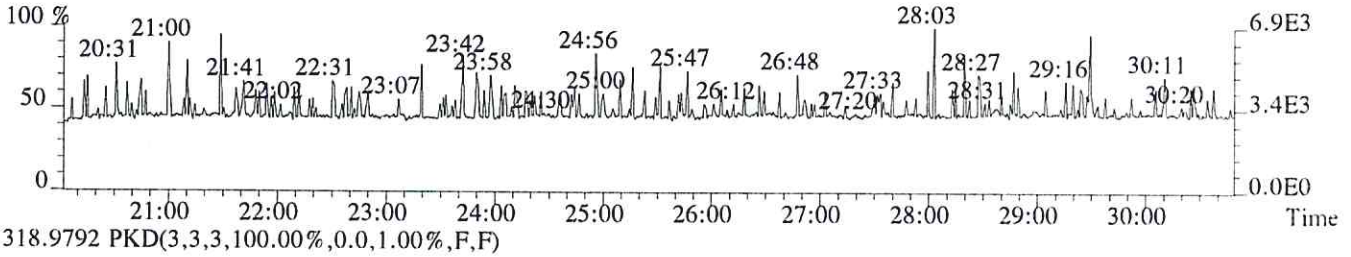
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15164.0,1.00%,F,T)



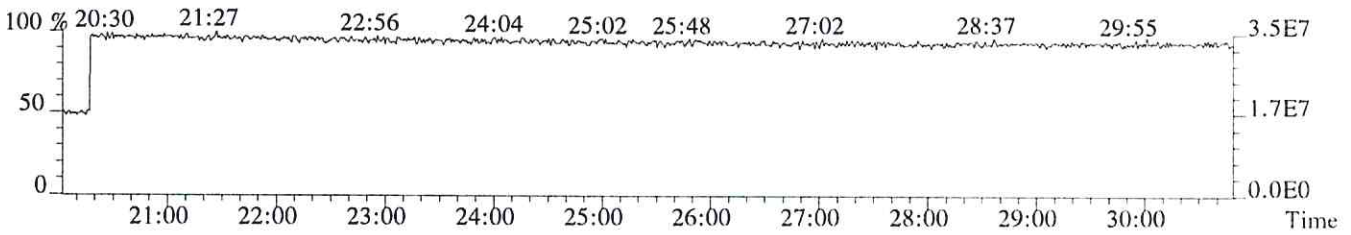
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3932.0,1.00%,F,T)



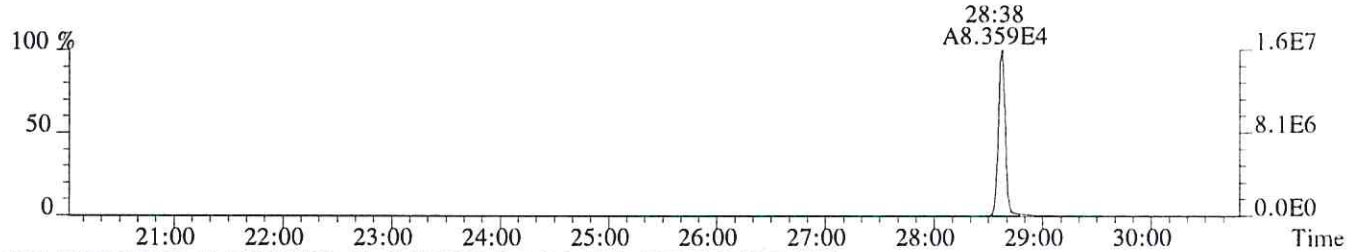
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



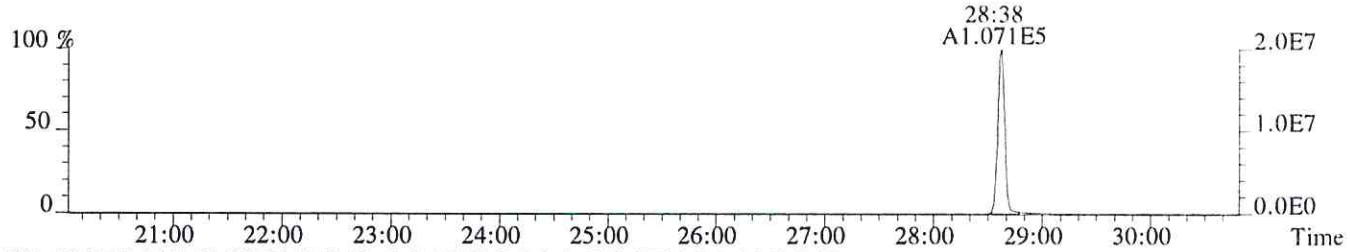
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



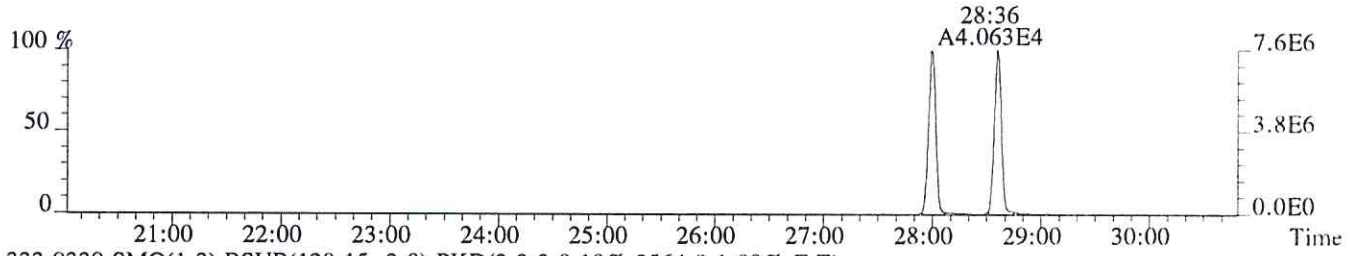
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2420.0,1.00%,F,T)



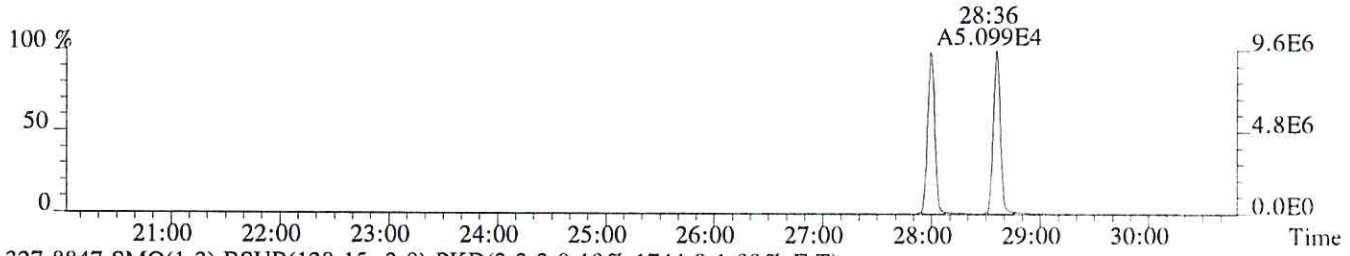
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



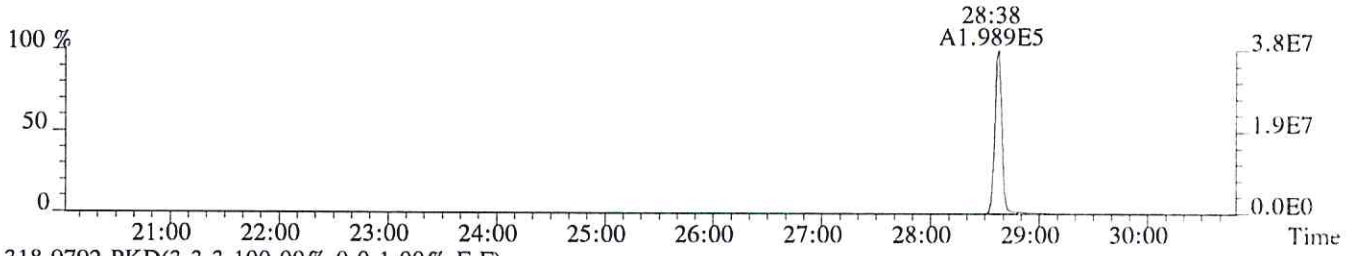
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7380.0,1.00%,F,T)



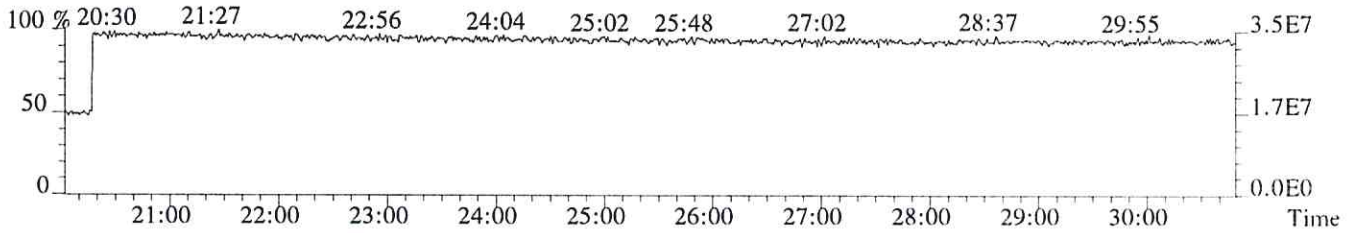
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3564.0,1.00%,F,T)



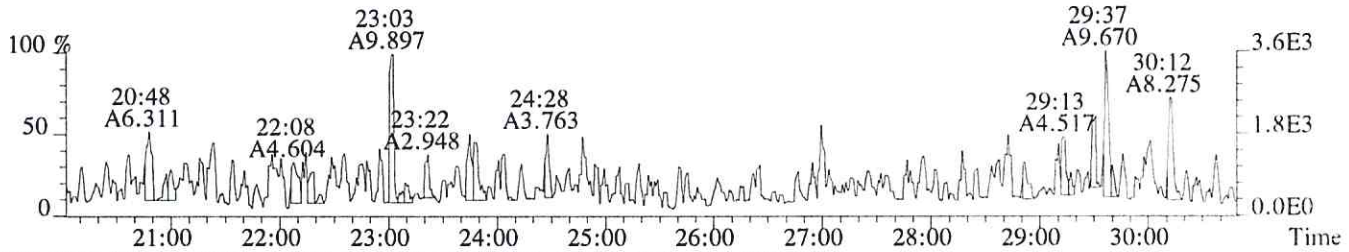
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1744.0,1.00%,F,T)



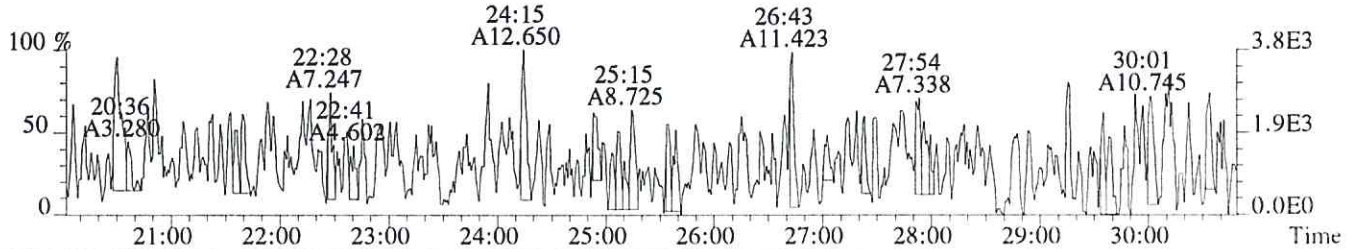
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



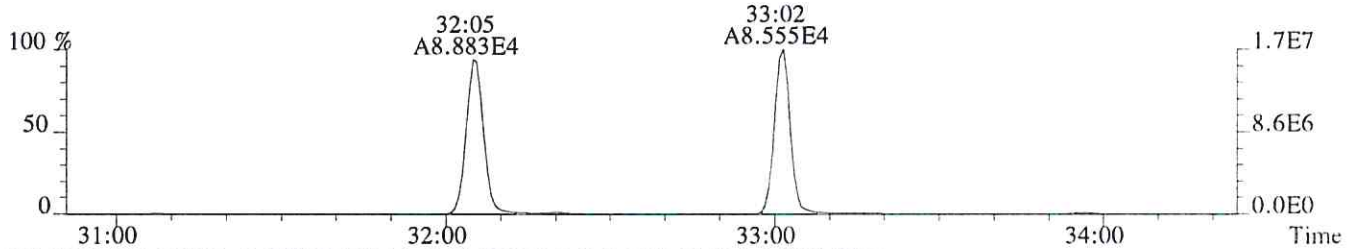
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



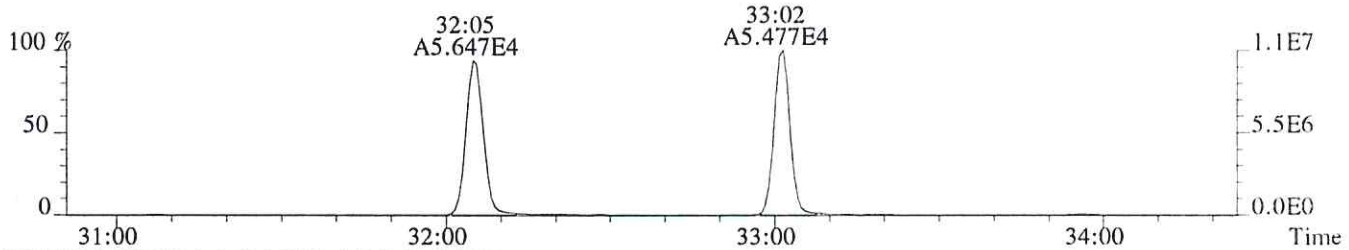
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



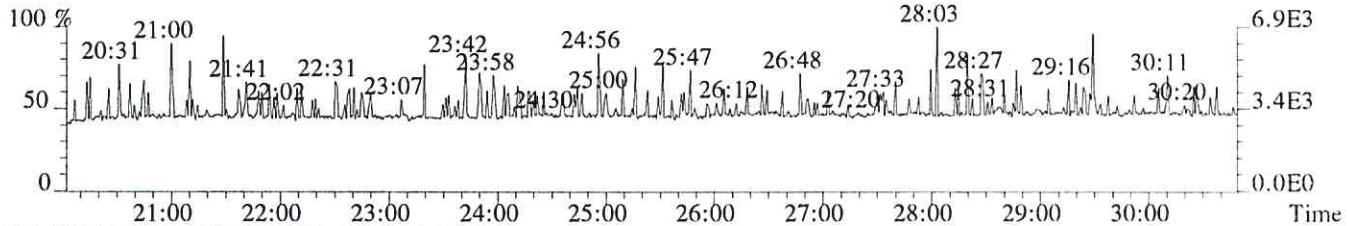
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



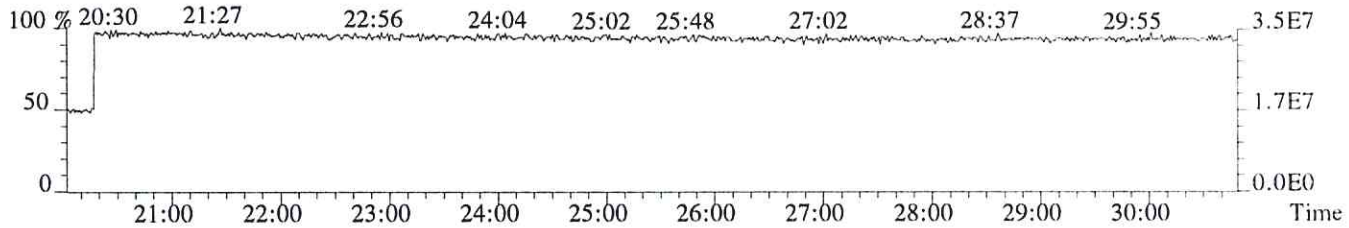
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



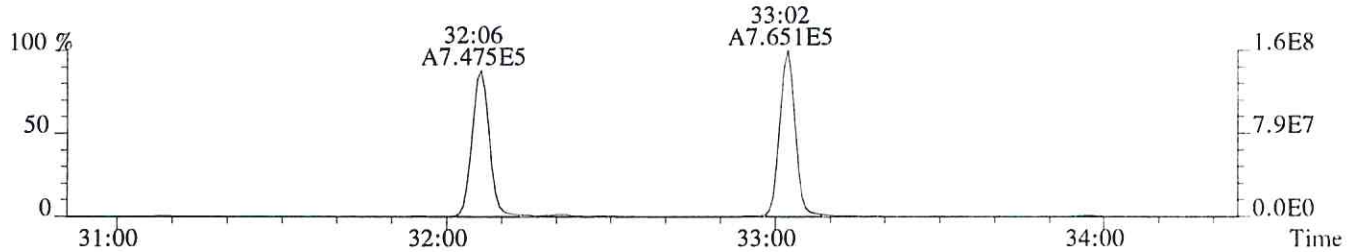
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



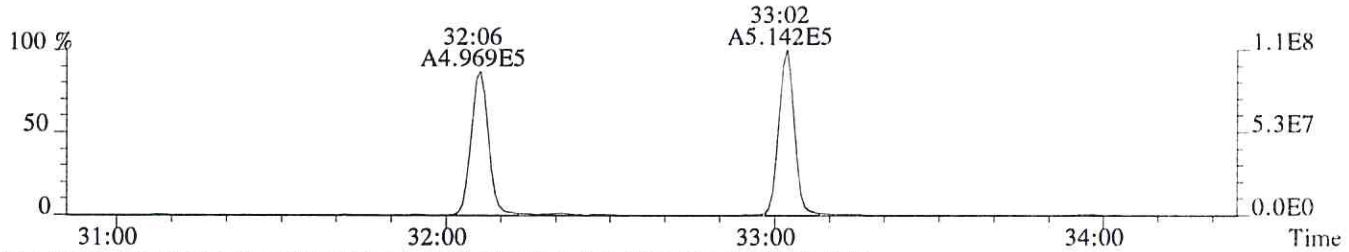
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



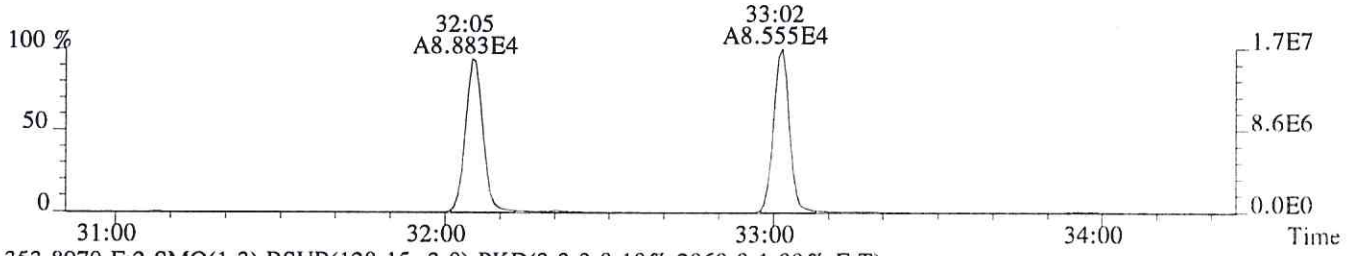
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5544.0,1.00%,F,T)



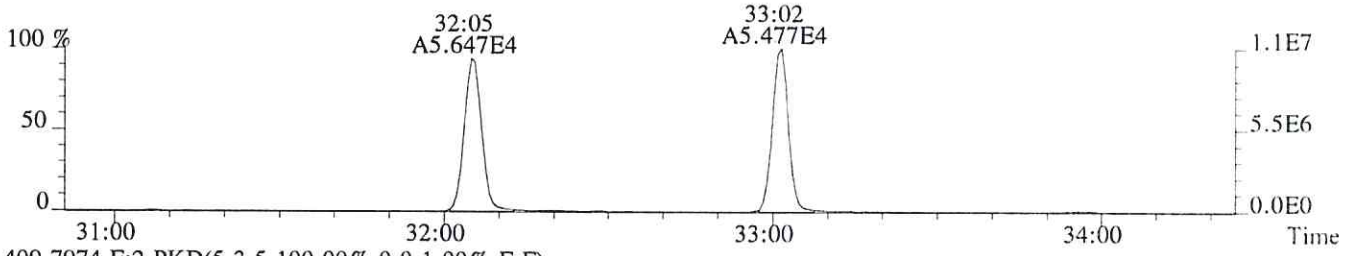
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3000.0,1.00%,F,T)



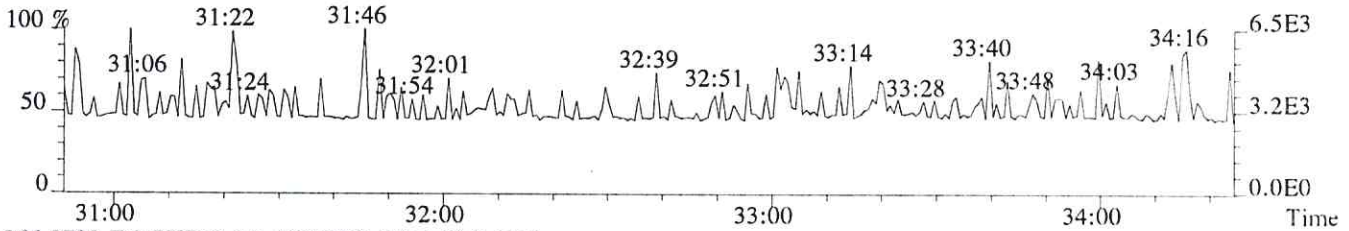
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



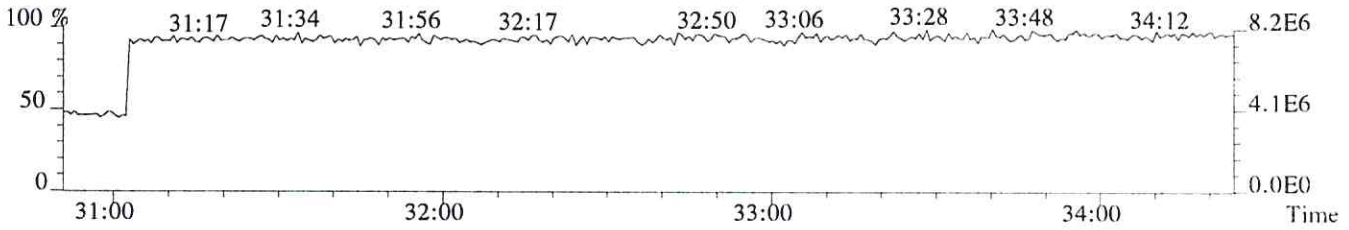
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



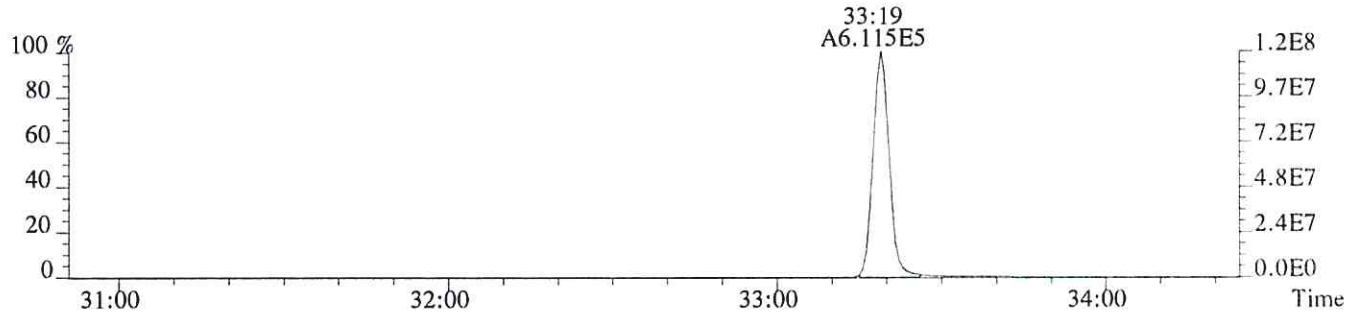
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



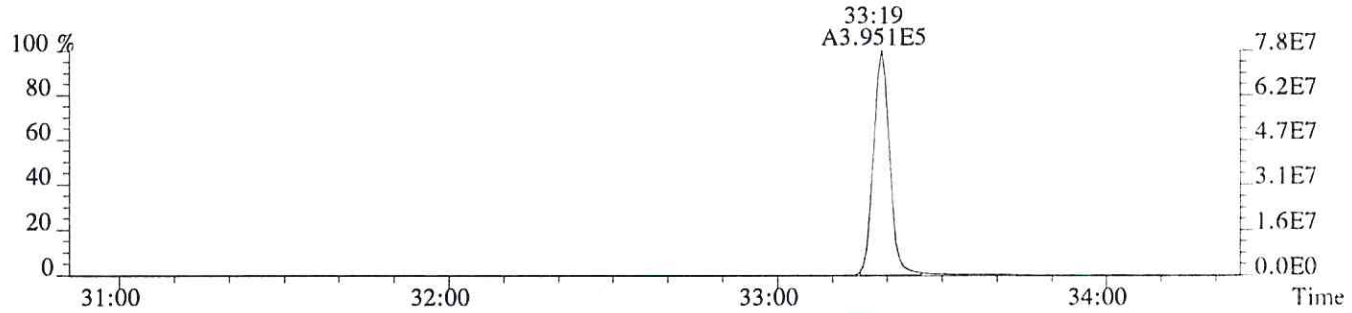
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



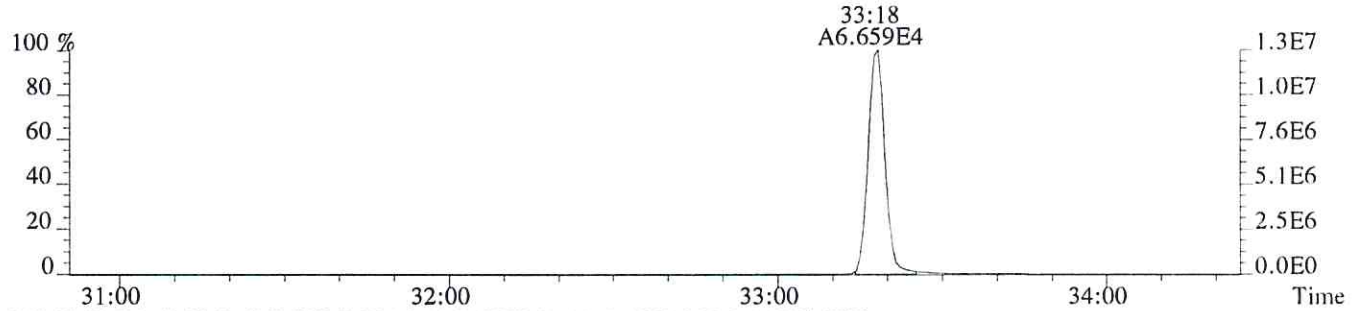
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



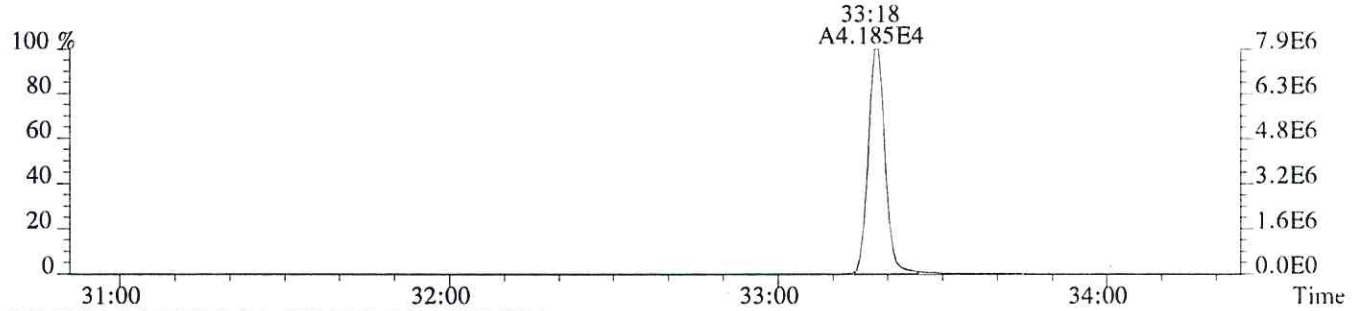
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,T)



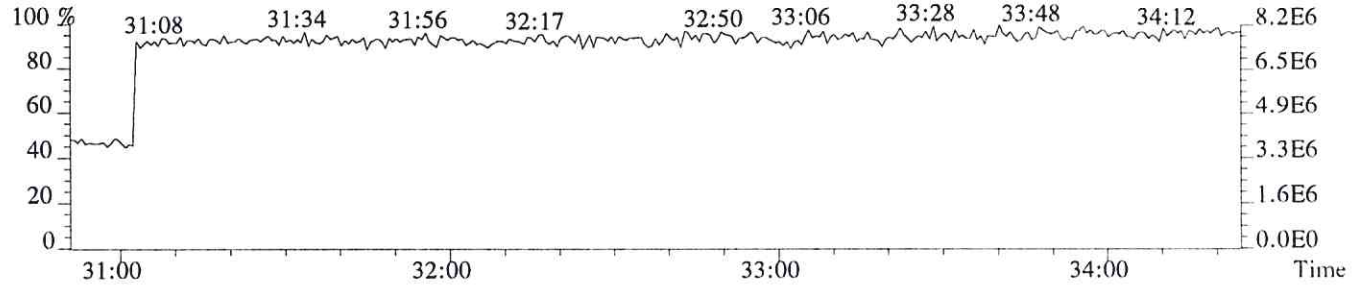
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



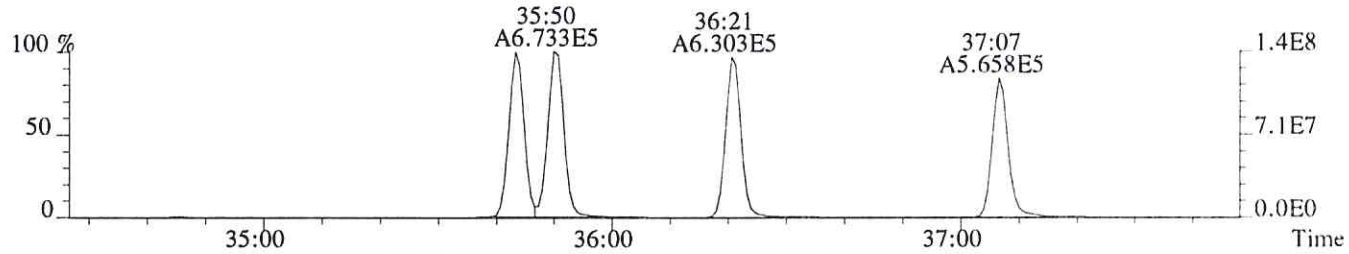
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



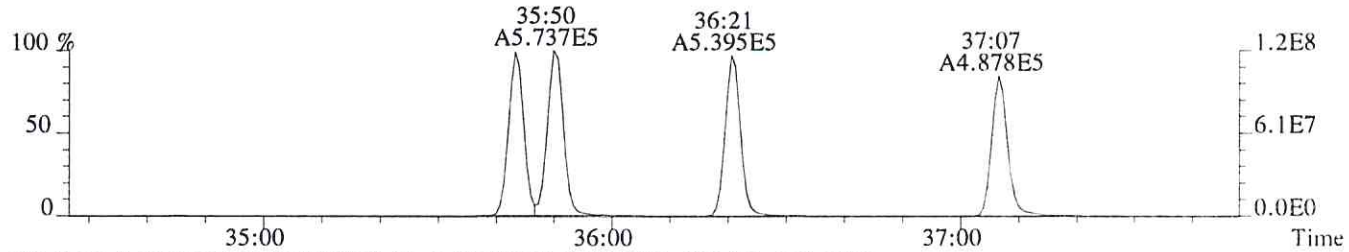
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



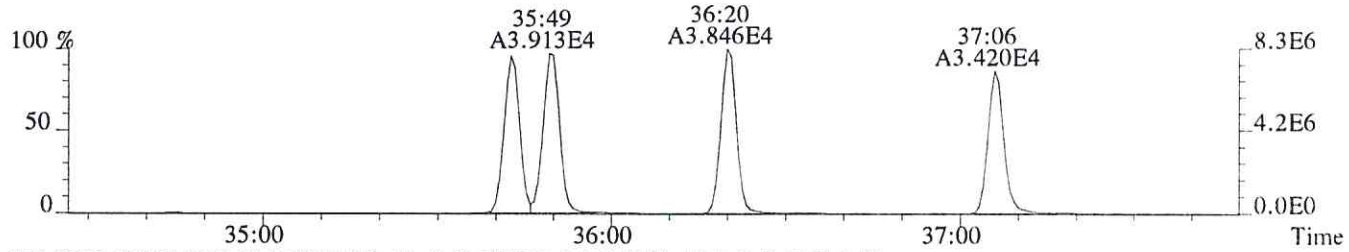
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3200.0,0.40%,F,T)



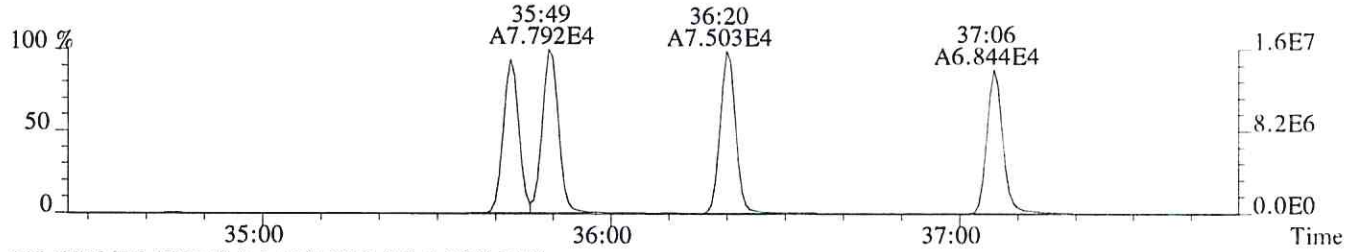
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2764.0,0.40%,F,T)



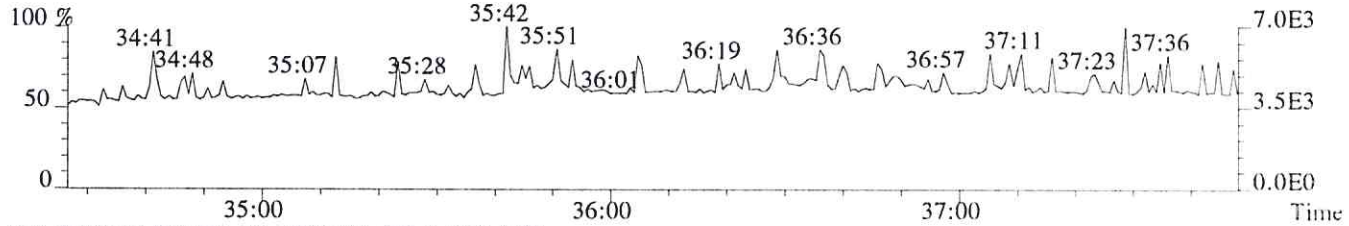
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



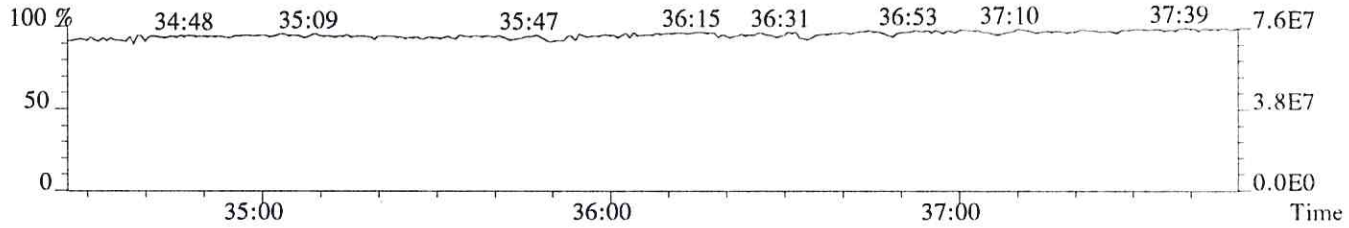
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1644.0,0.40%,F,T)



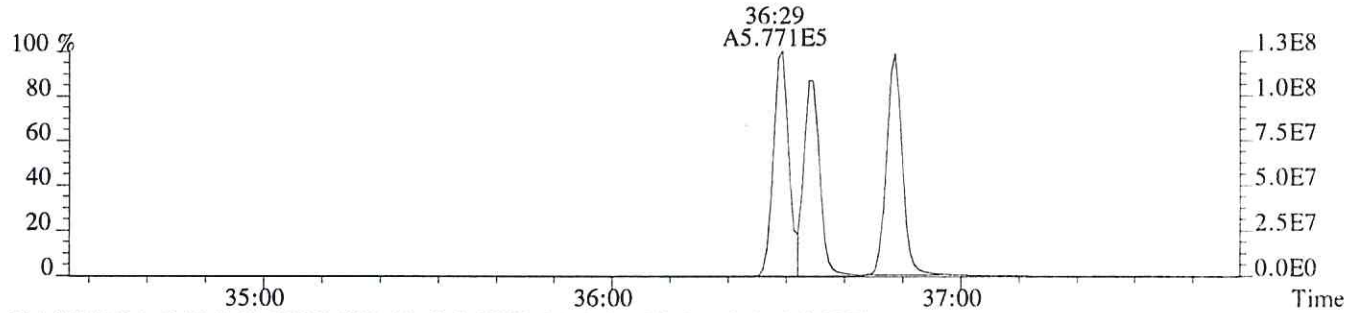
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



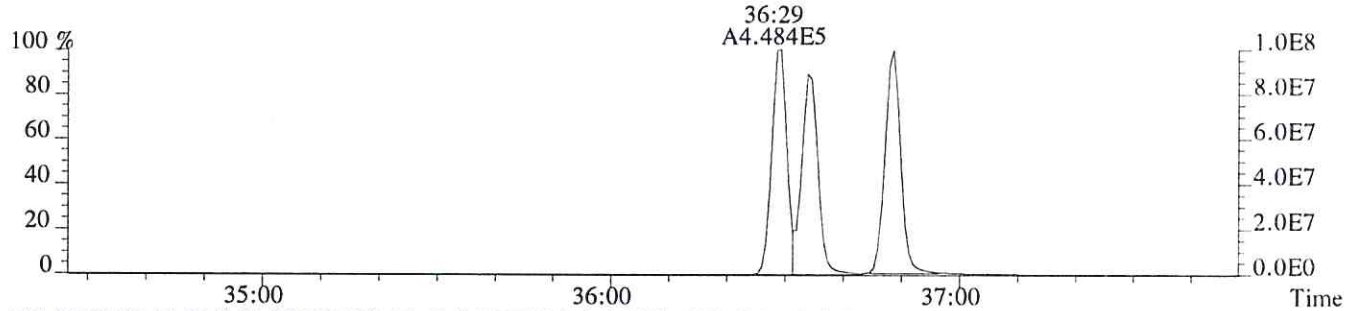
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



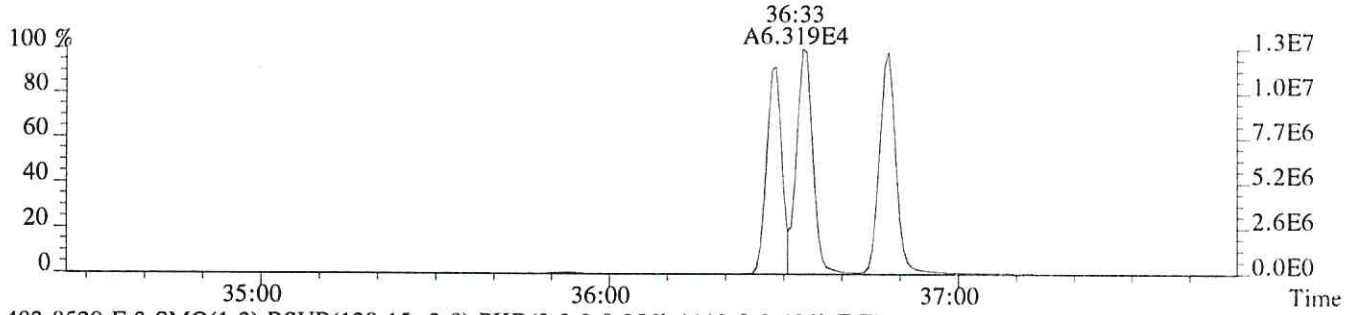
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



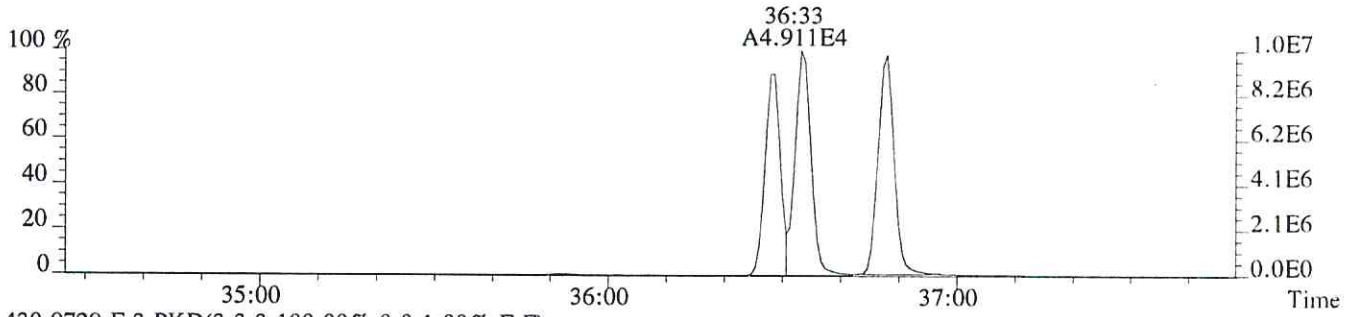
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



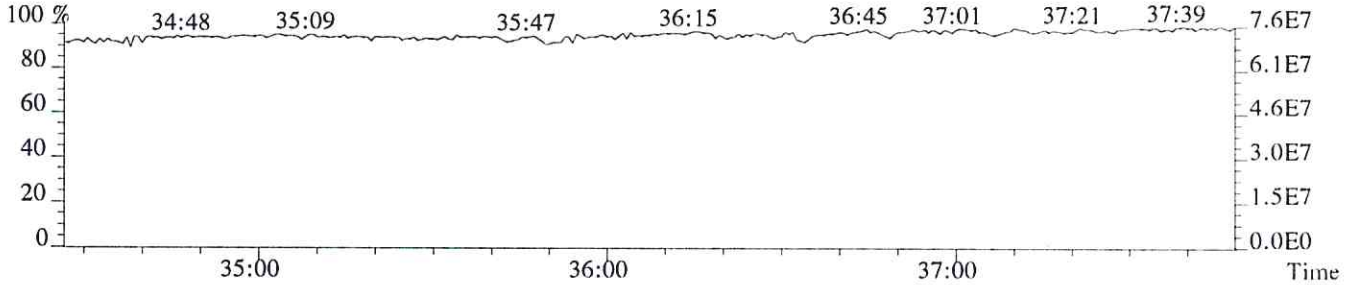
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



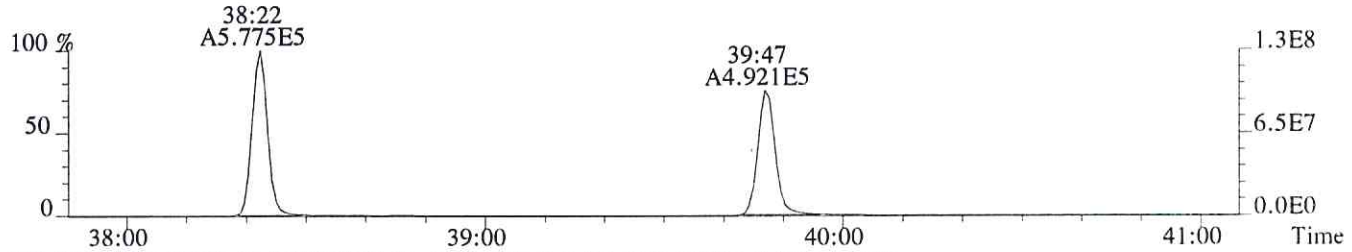
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



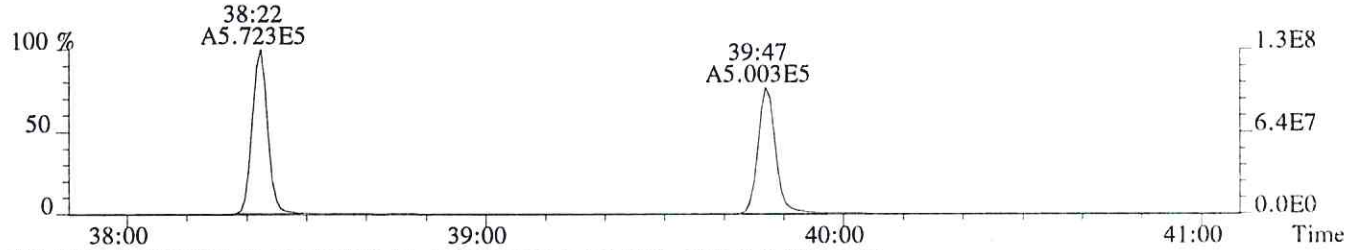
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



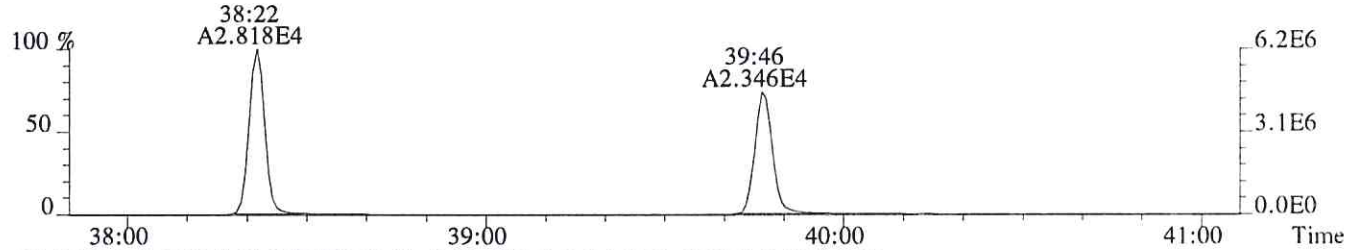
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22964.0,0.50%,F,T)



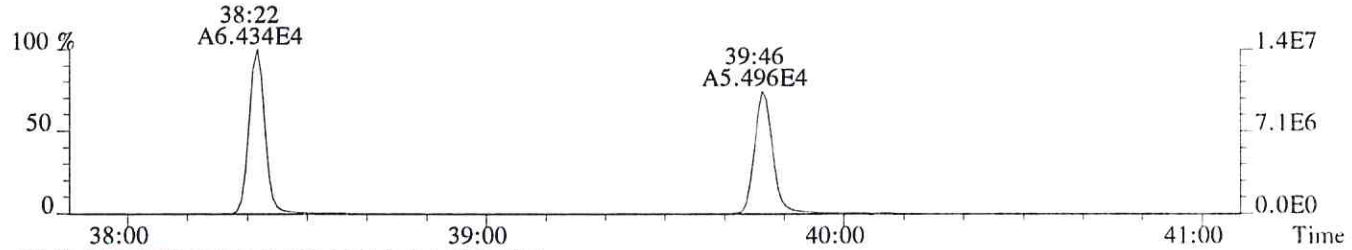
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,20988.0,0.50%,F,T)



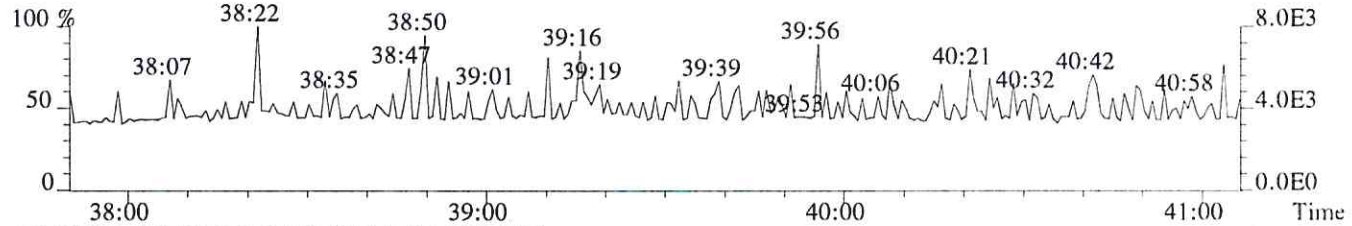
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8132.0,0.50%,F,T)



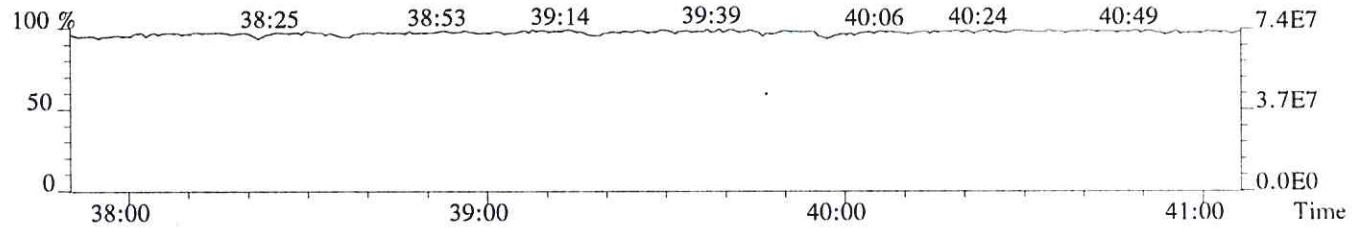
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6368.0,0.50%,F,T)



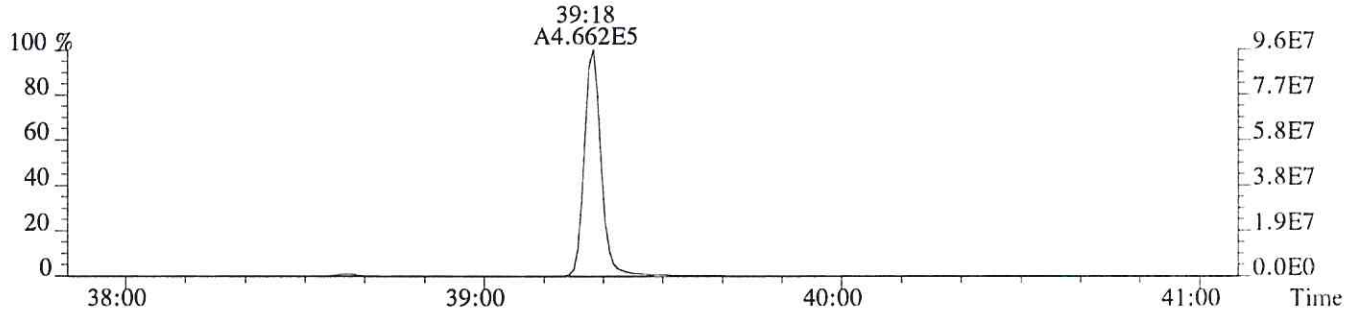
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



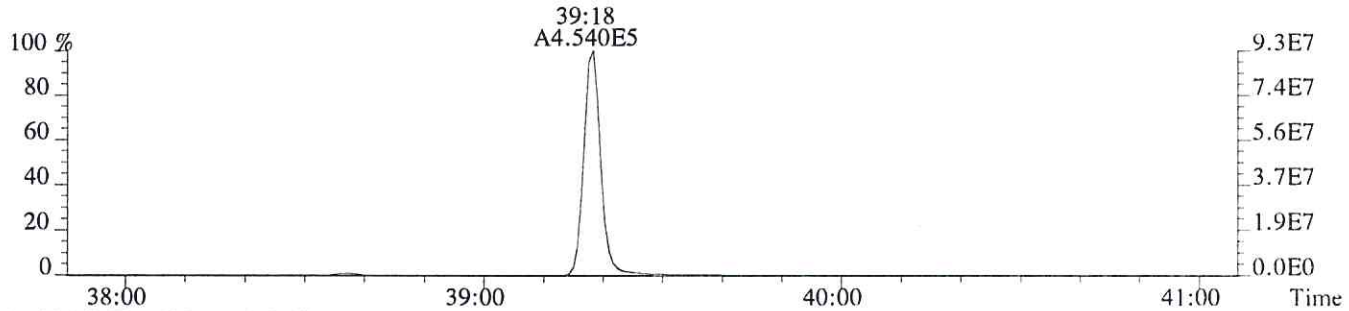
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



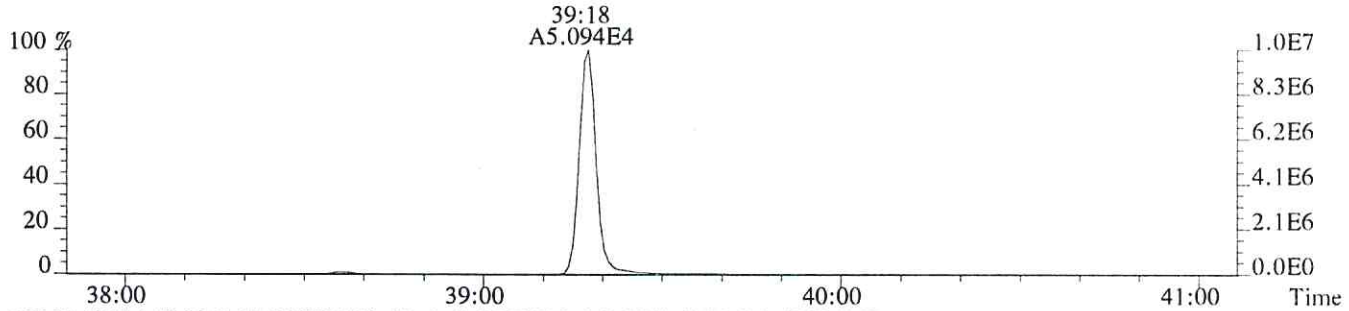
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4364.0,0.40%,F,T)



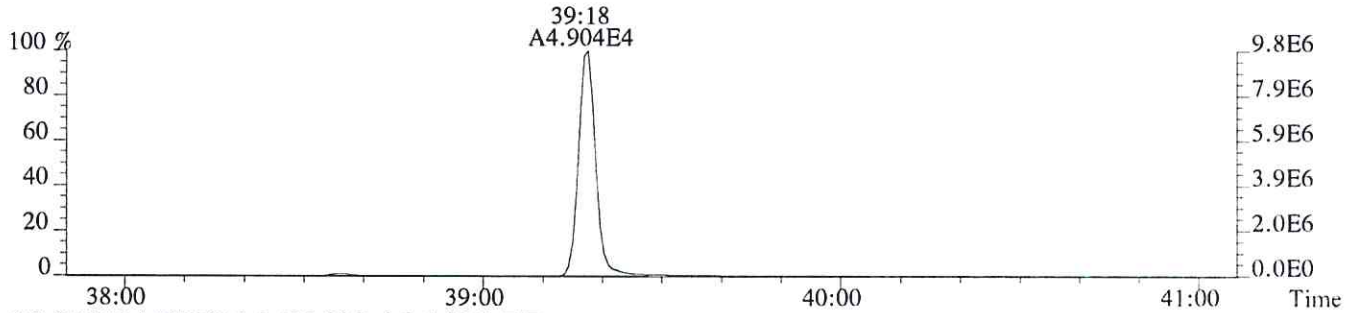
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4752.0,0.40%,F,T)



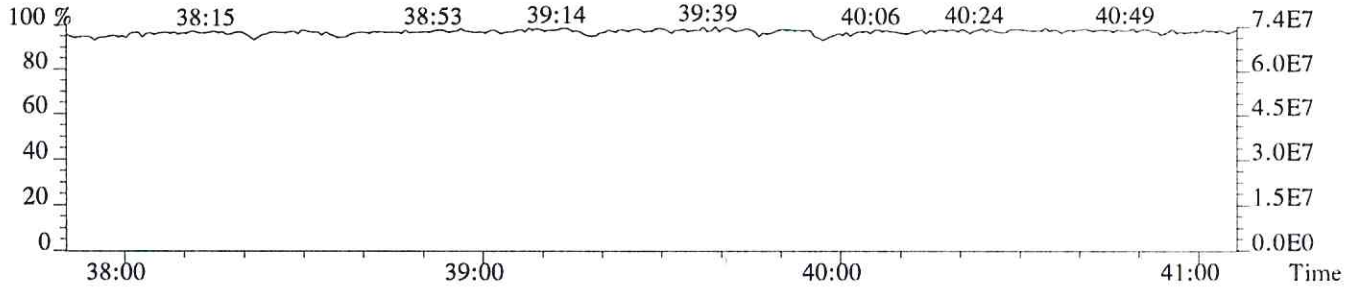
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



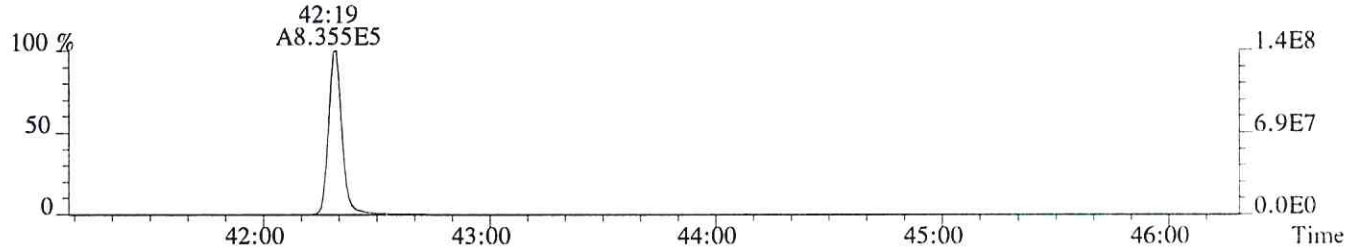
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.40%,F,T)



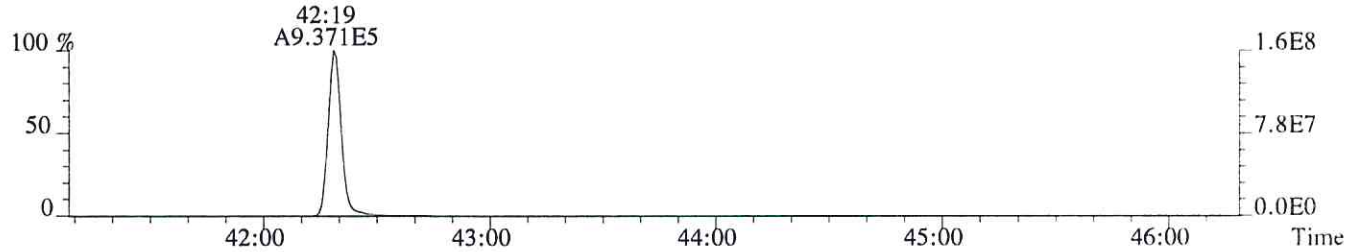
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



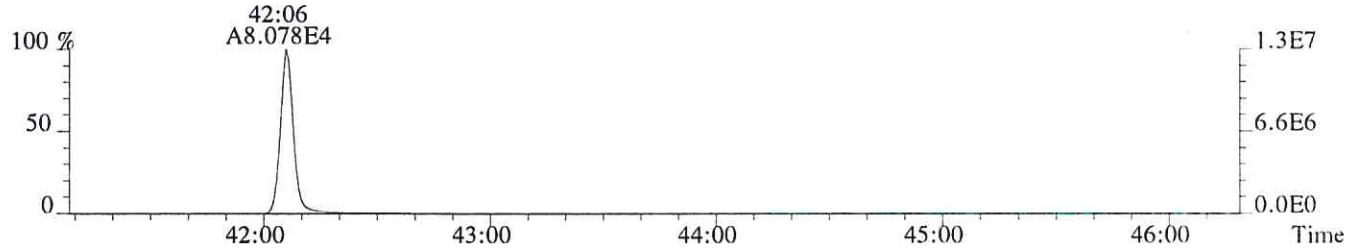
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



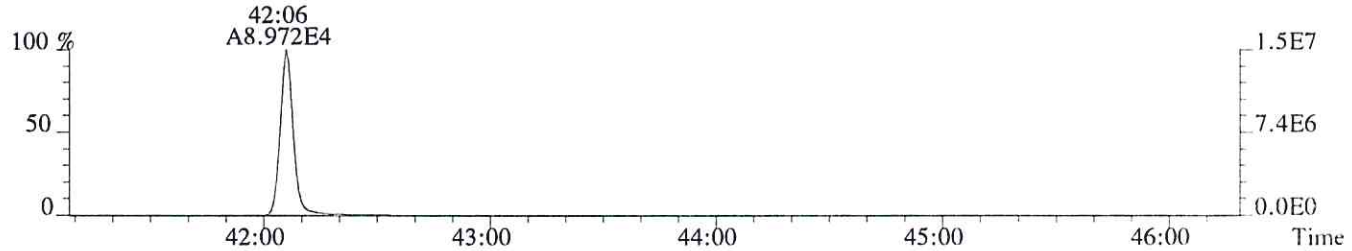
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1152.0,0.40%,F,T)



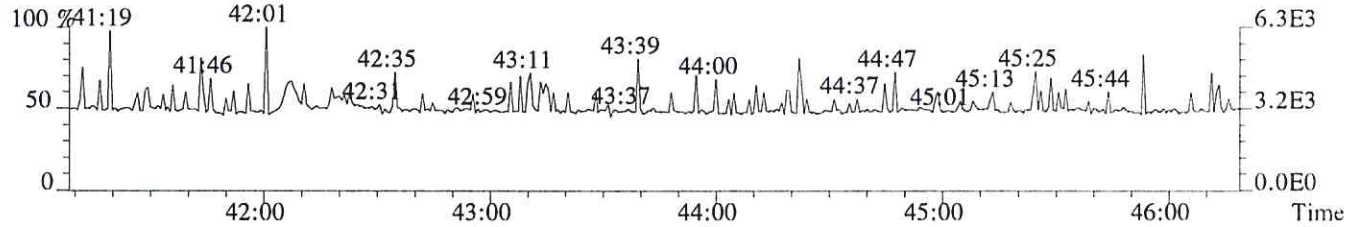
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



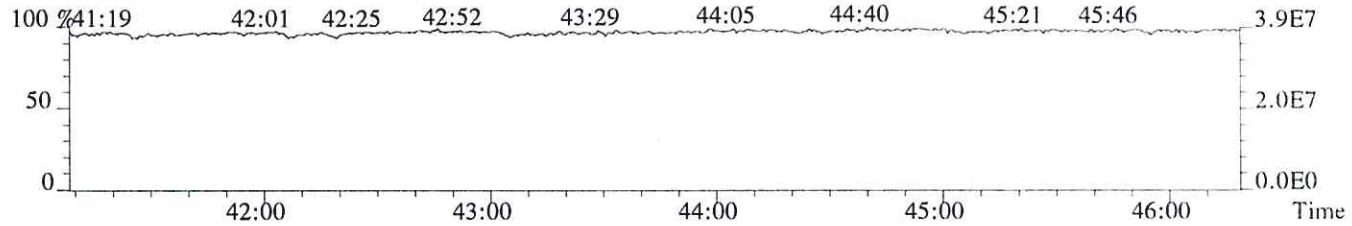
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,944.0,0.40%,F,T)



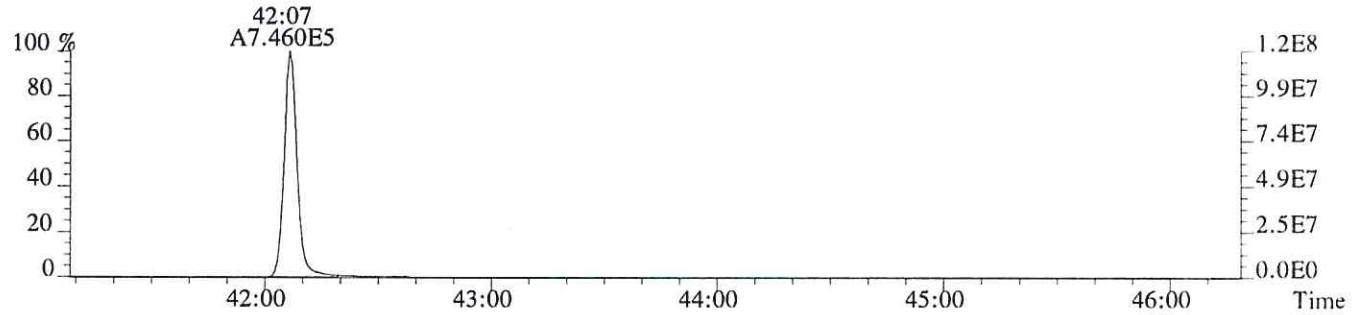
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



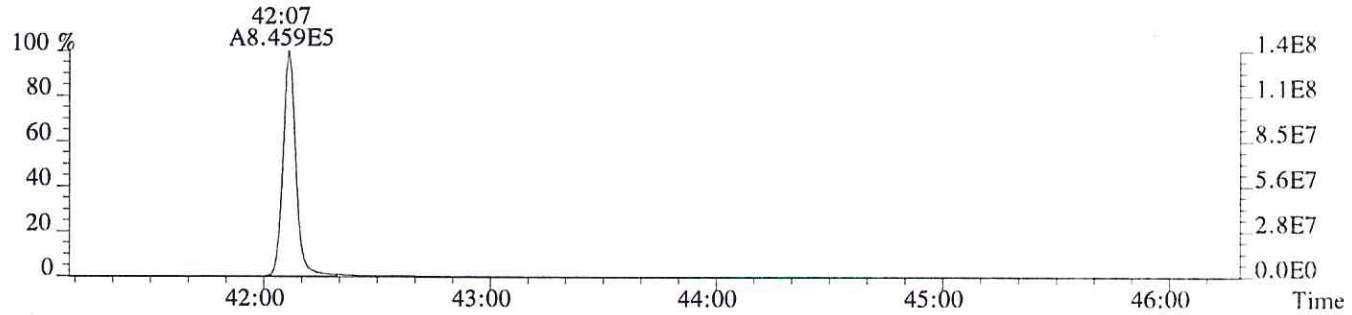
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



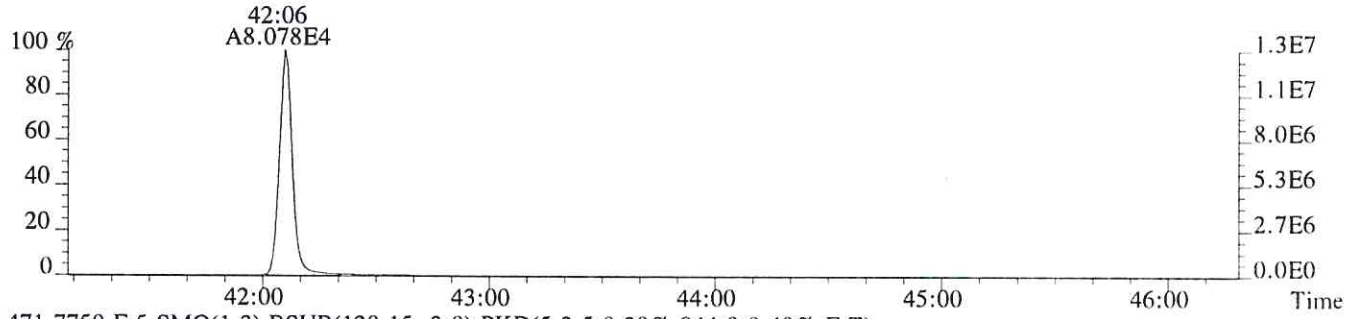
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



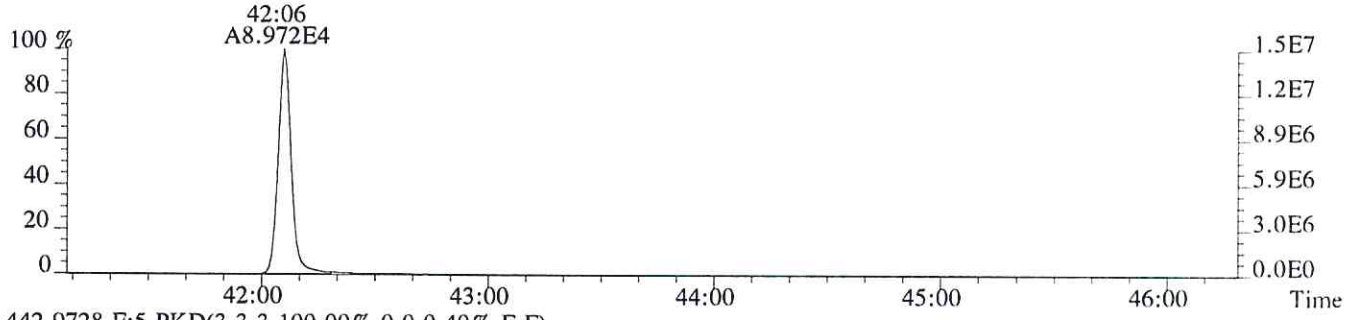
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,500.0,0.40%,F,T)



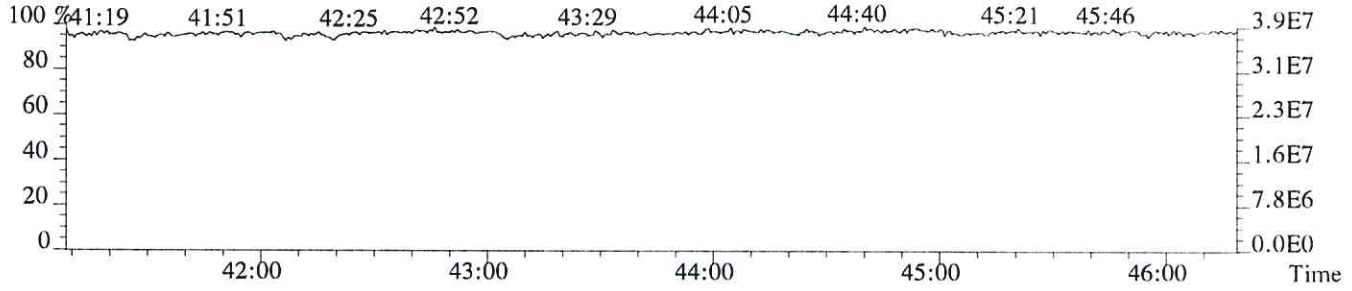
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



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

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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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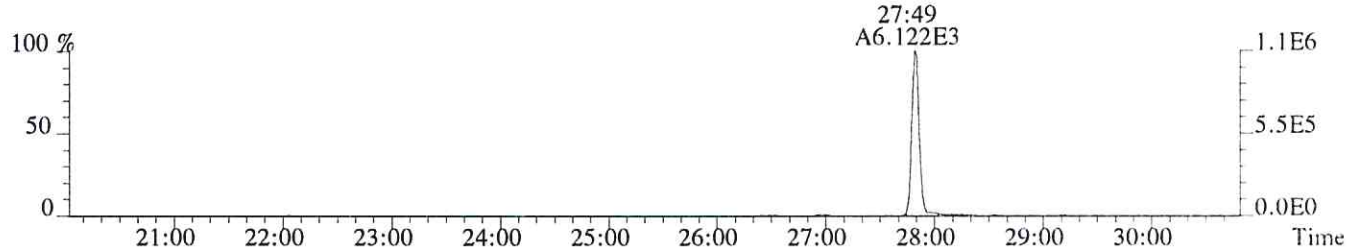
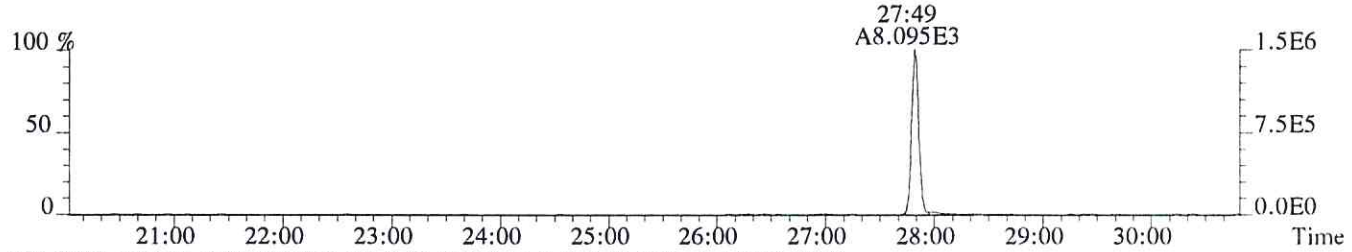
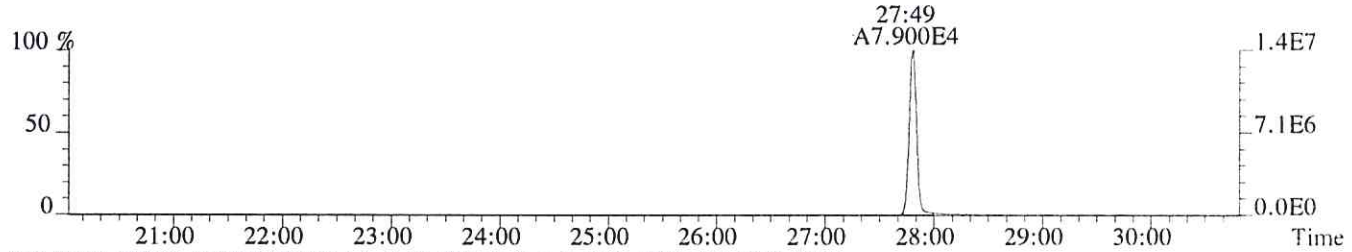
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



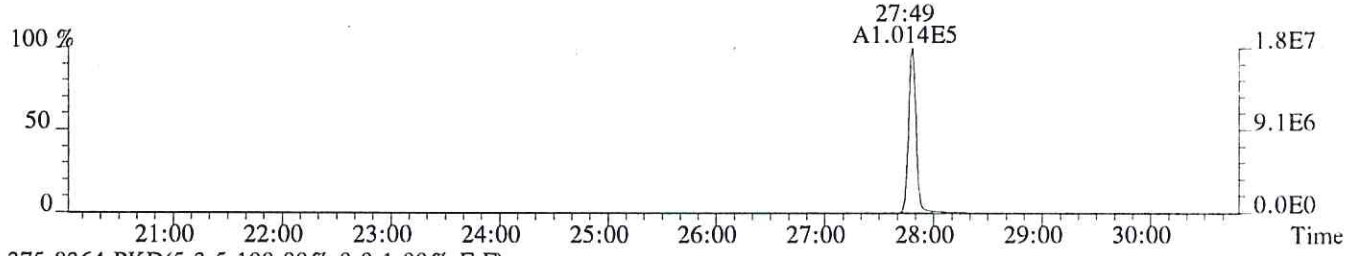
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



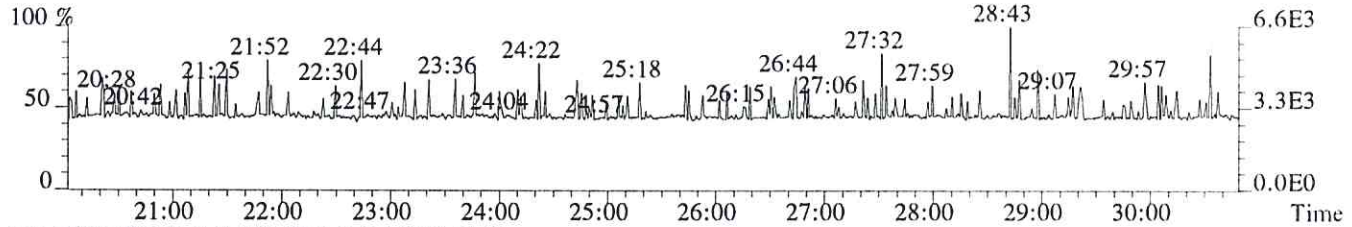
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9712.0,1.00%,F,T)



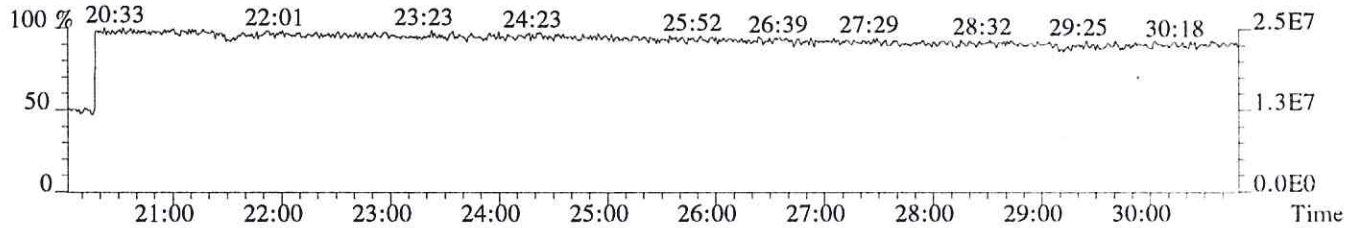
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4932.0,1.00%,F,T)



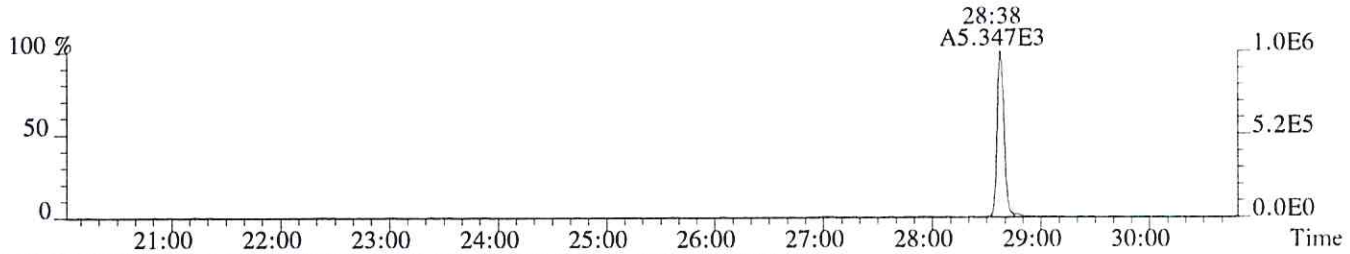
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



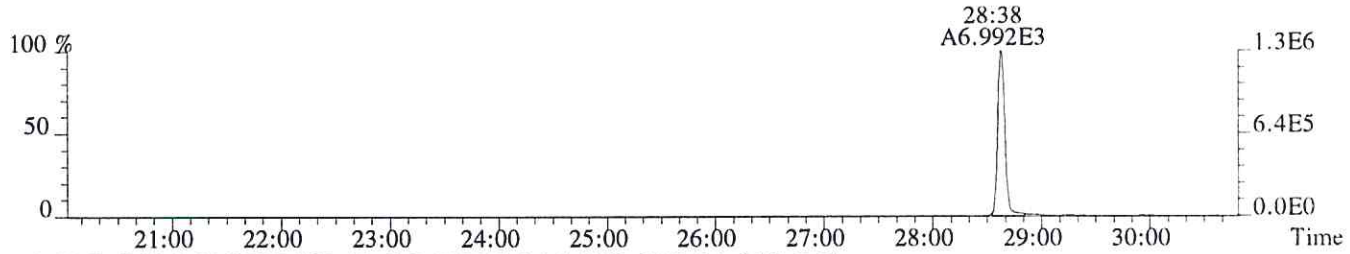
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



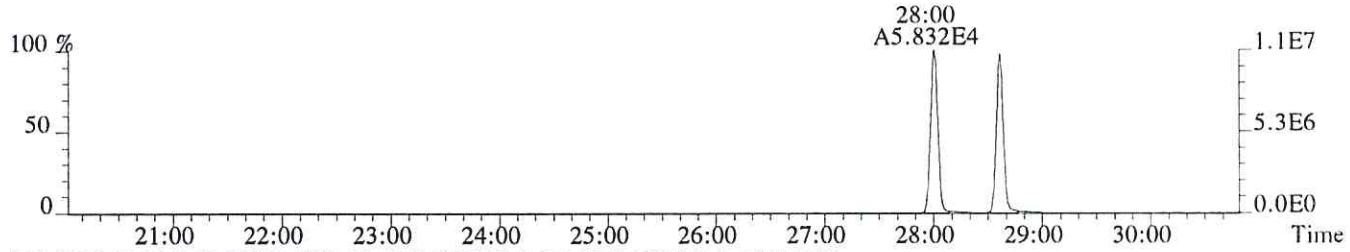
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



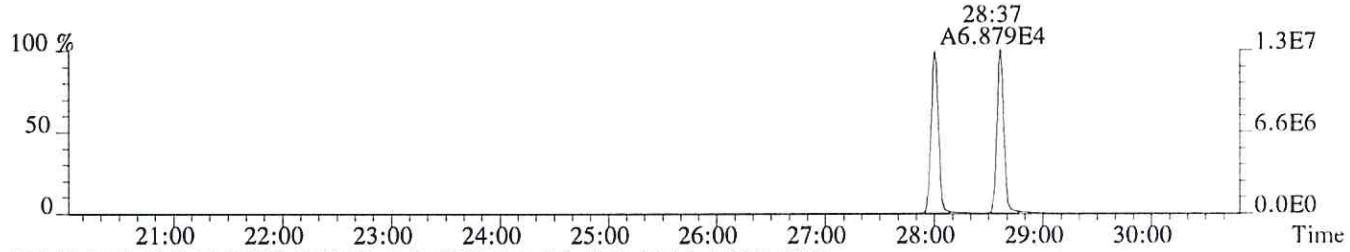
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



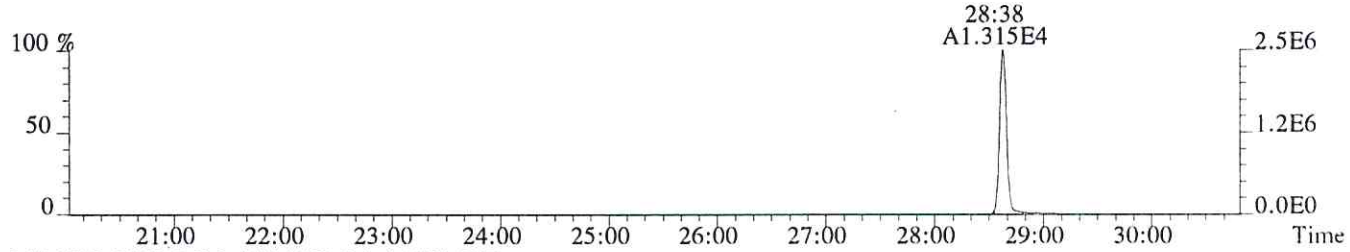
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6140.0,1.00%,F,T)



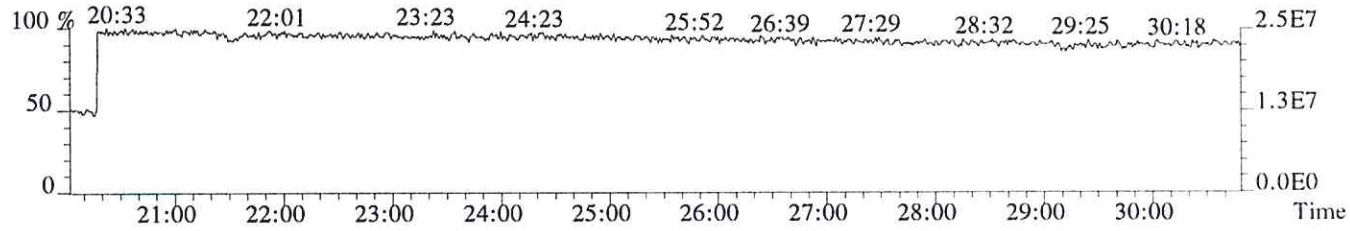
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,T)



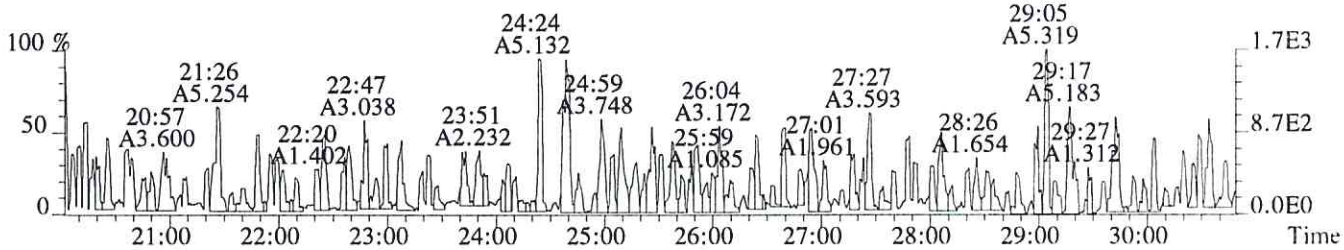
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



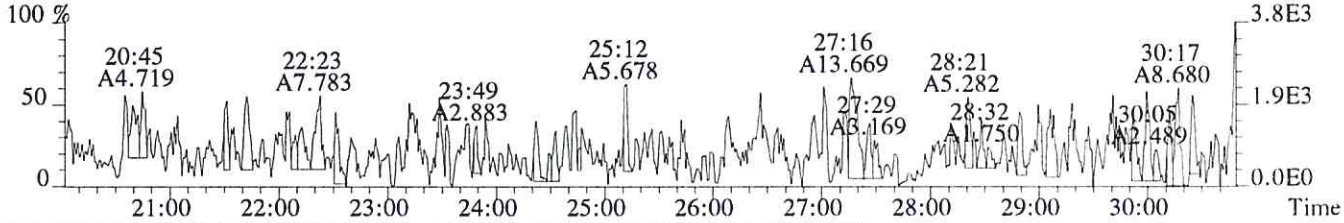
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



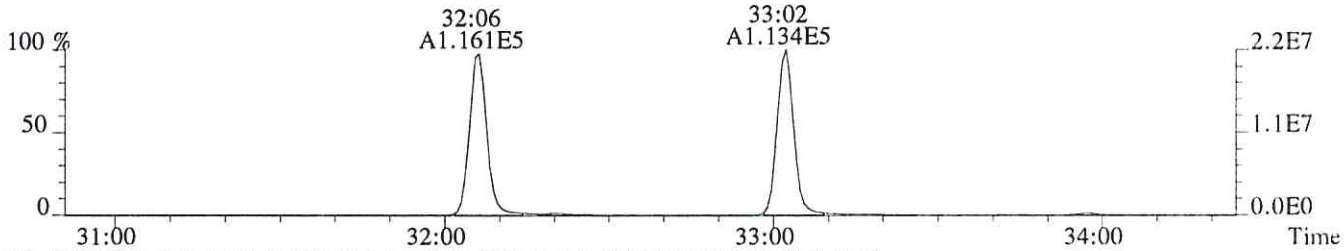
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



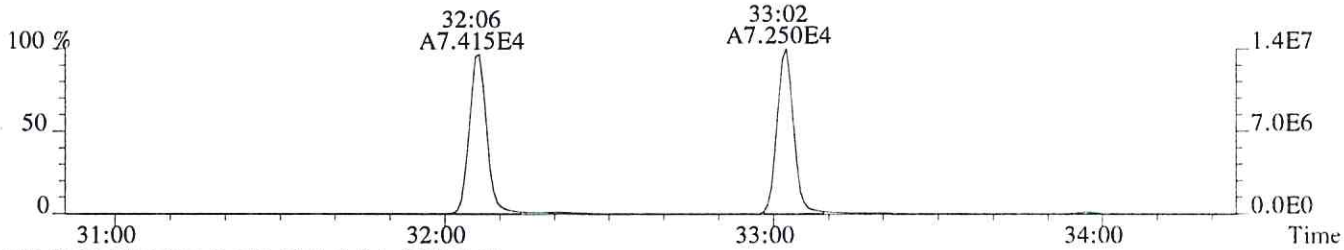
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



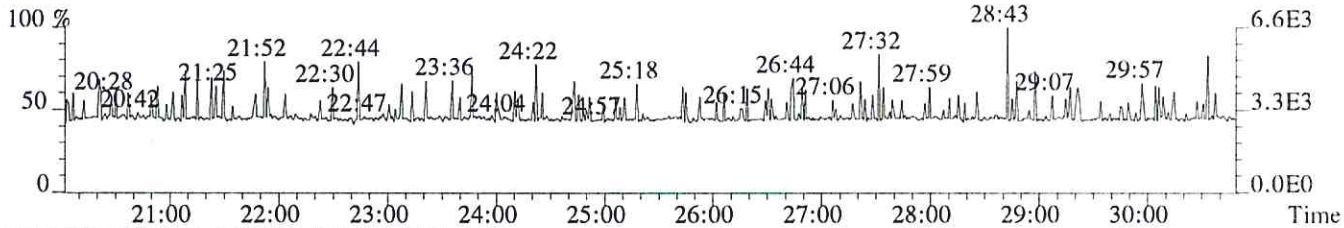
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



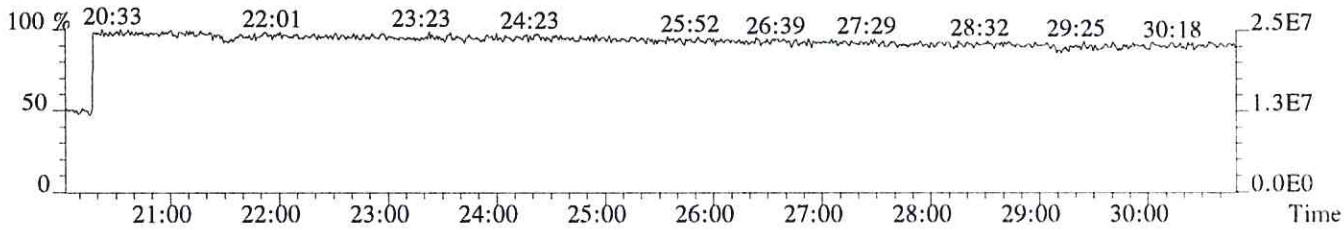
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



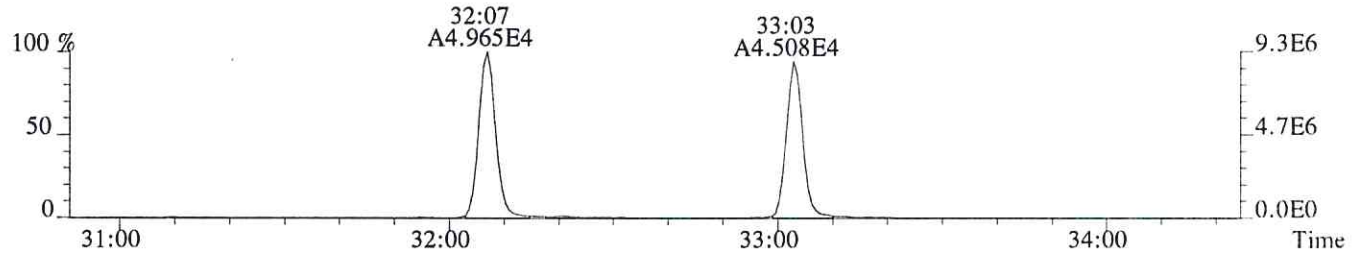
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



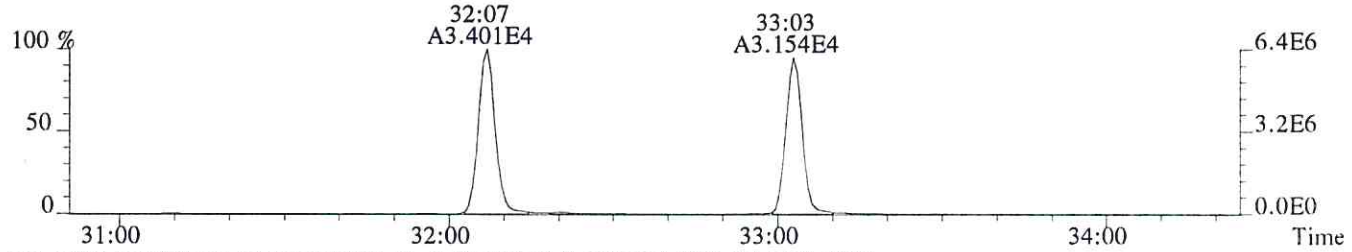
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



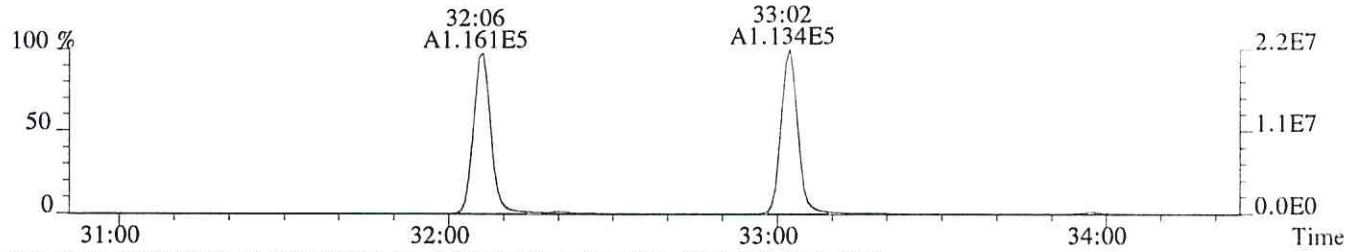
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



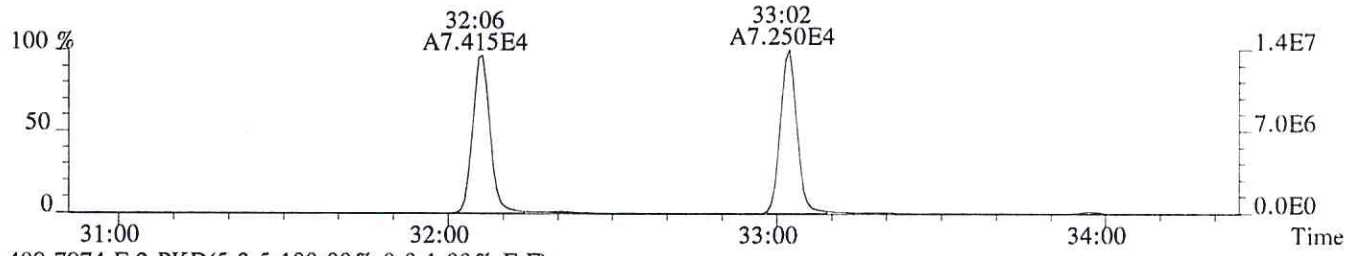
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



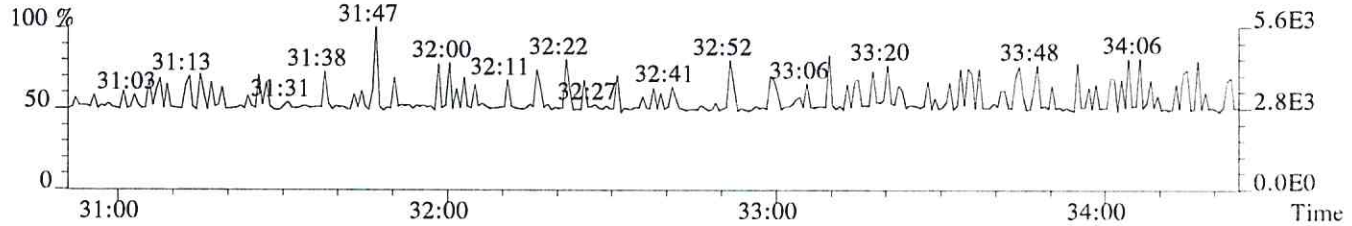
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



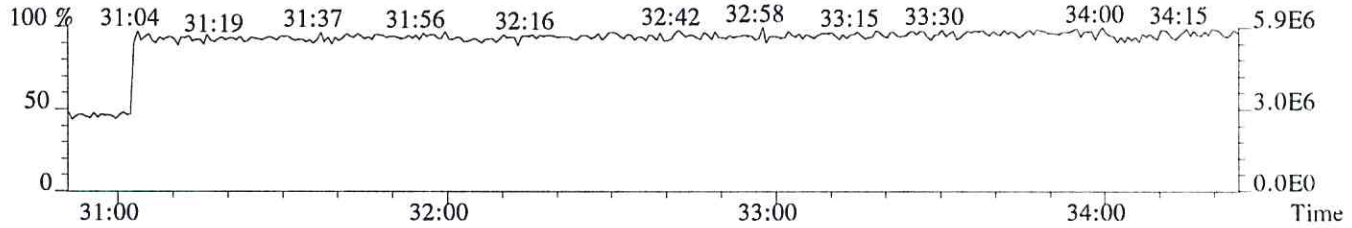
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



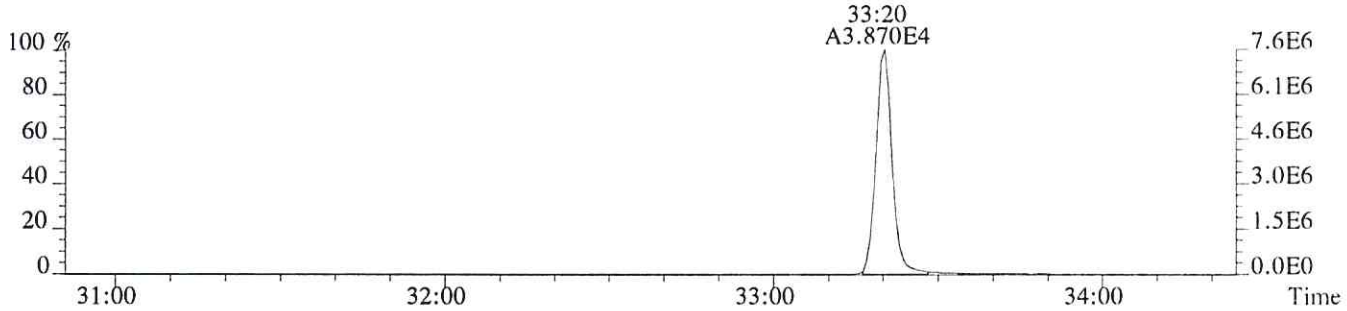
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



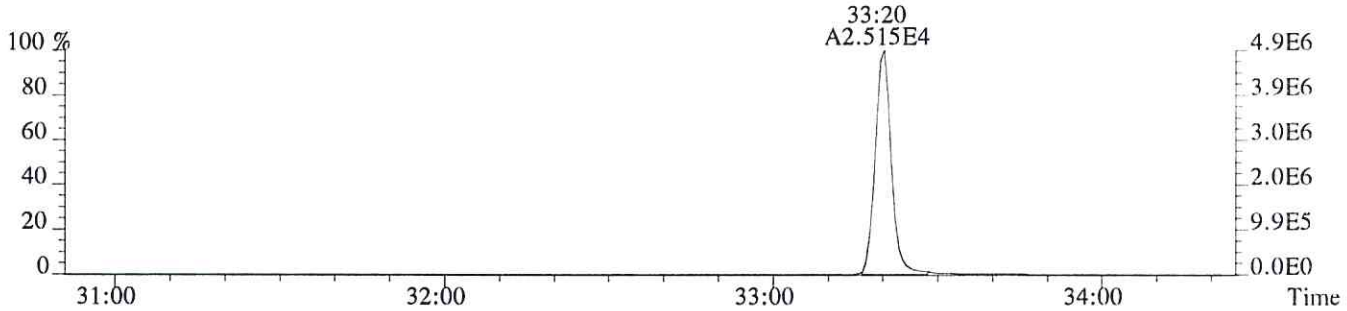
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



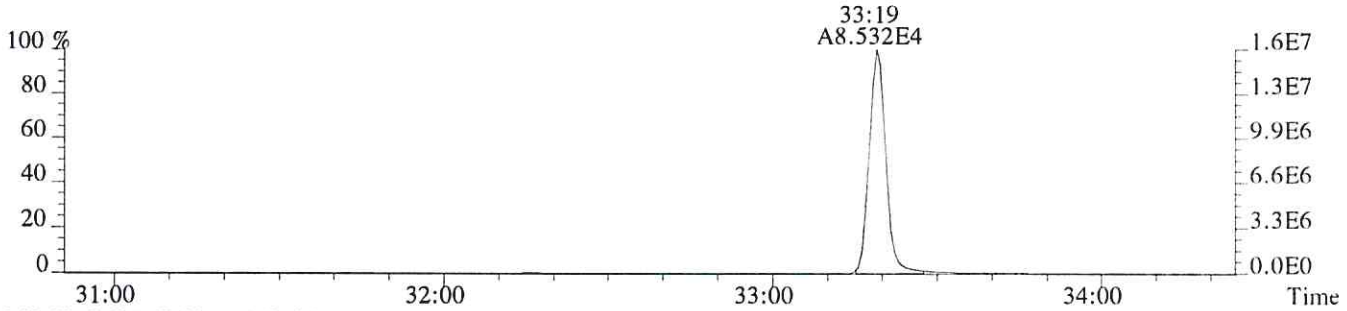
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



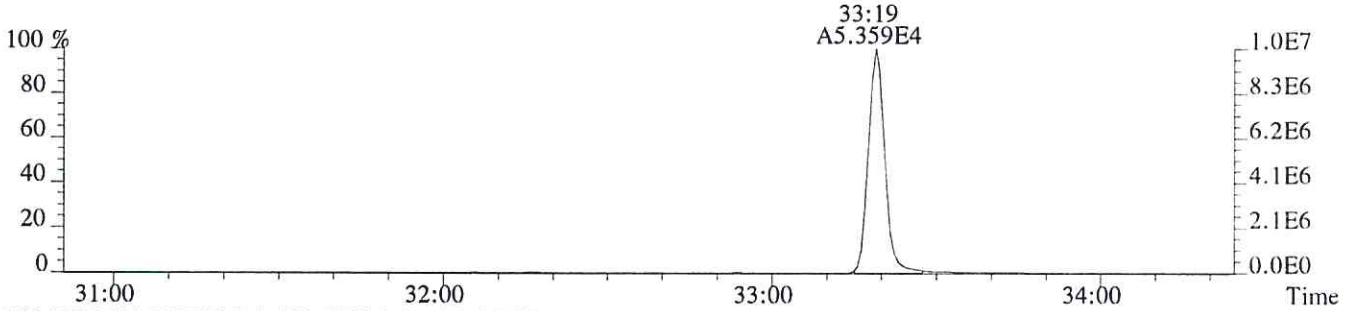
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



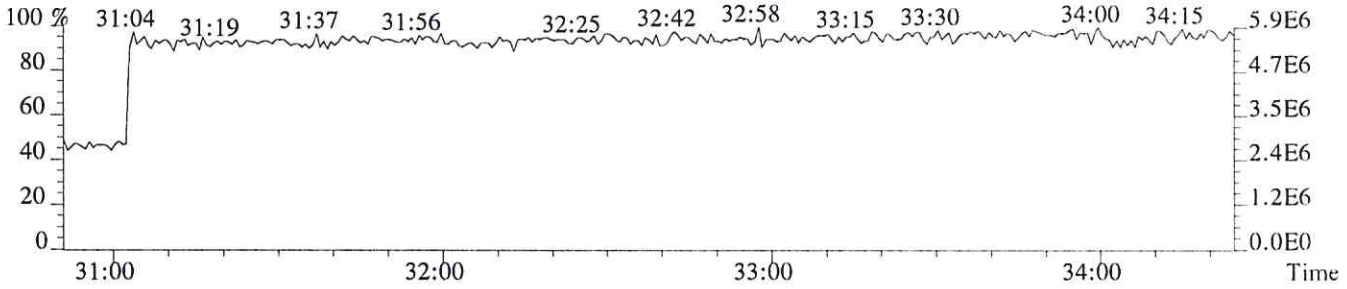
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



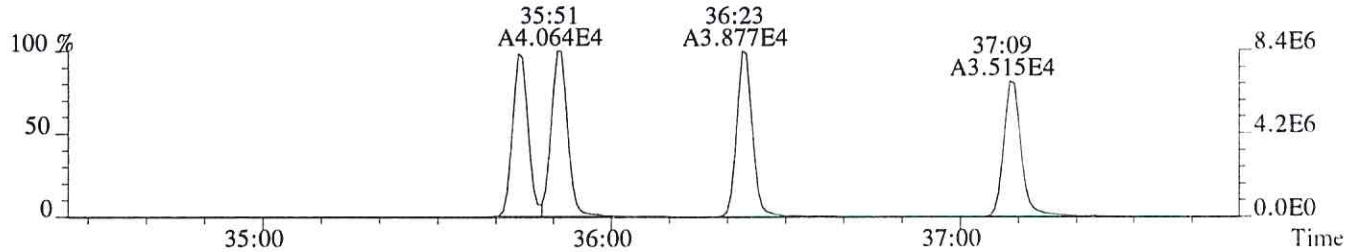
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



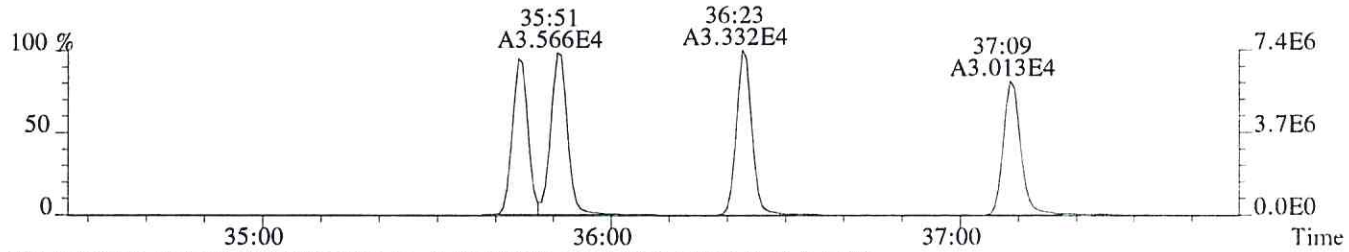
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



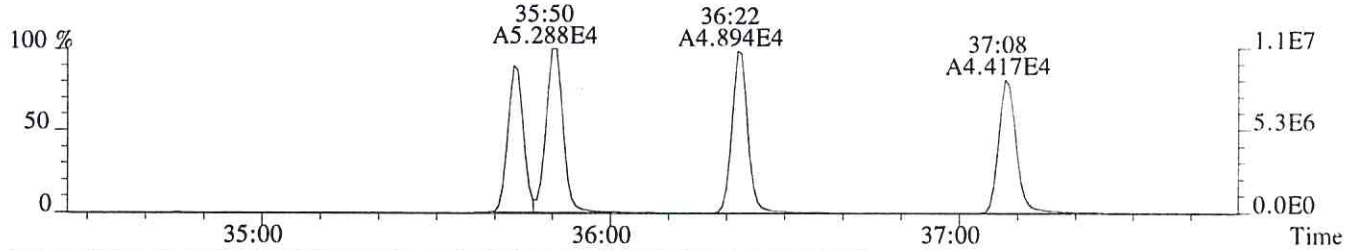
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



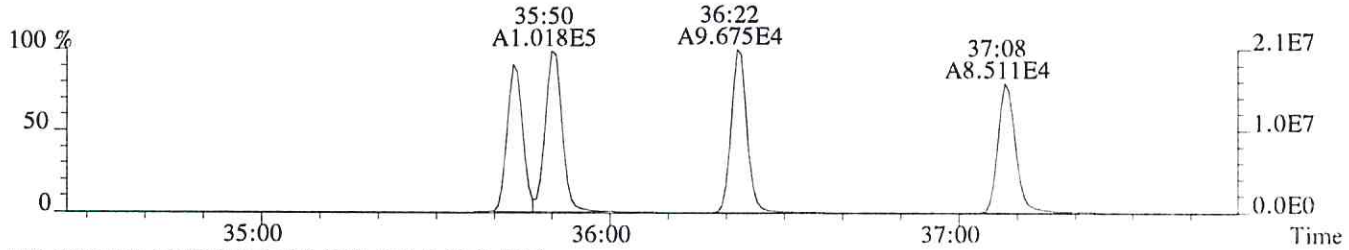
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,556.0,0.40%,F,T)



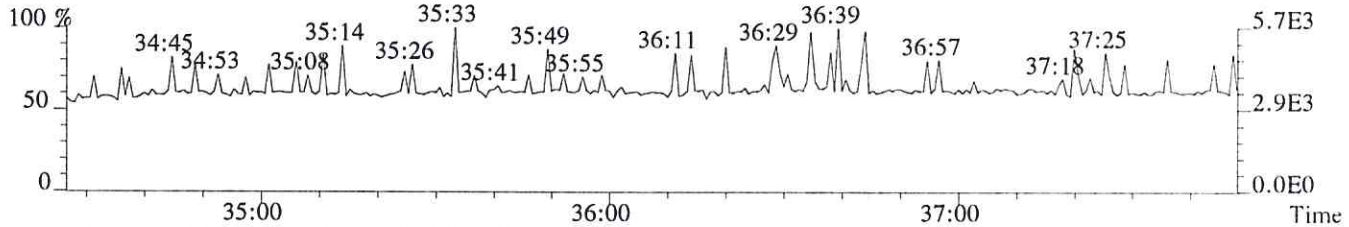
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



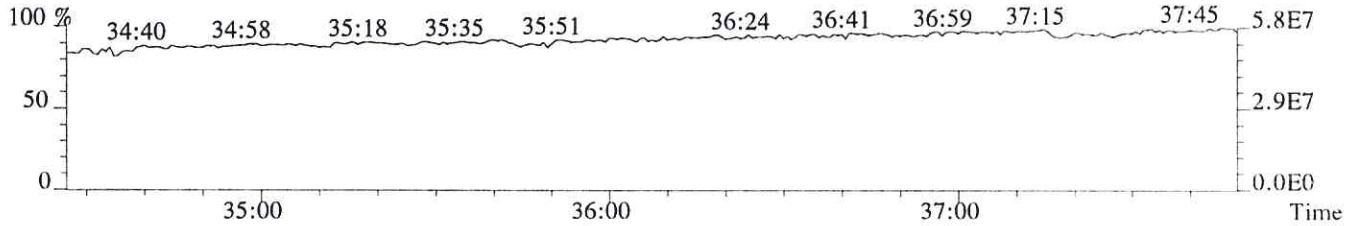
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,T)



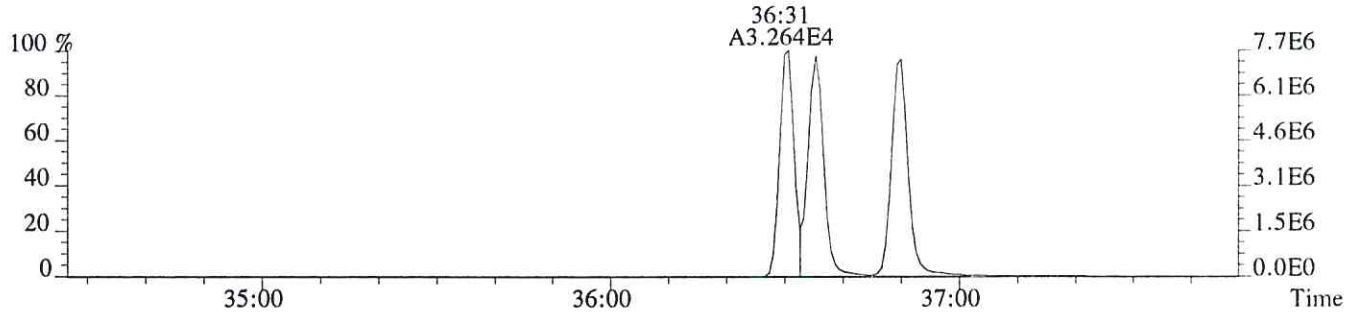
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



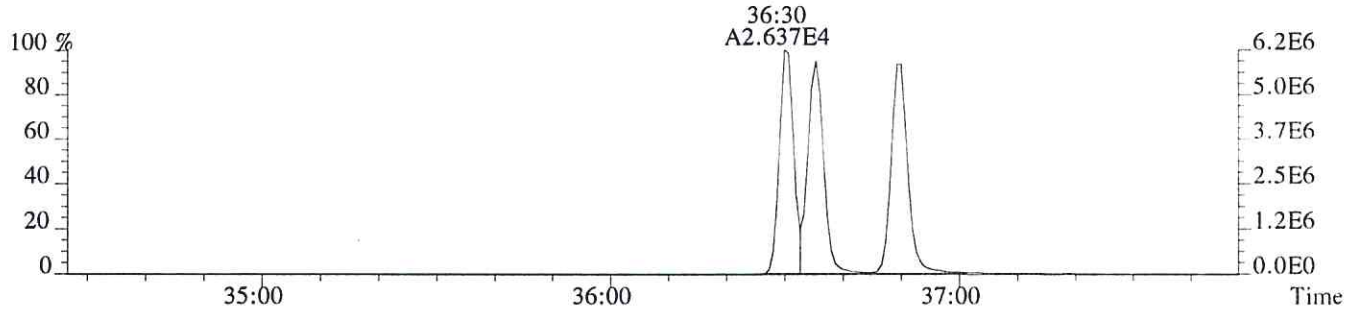
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



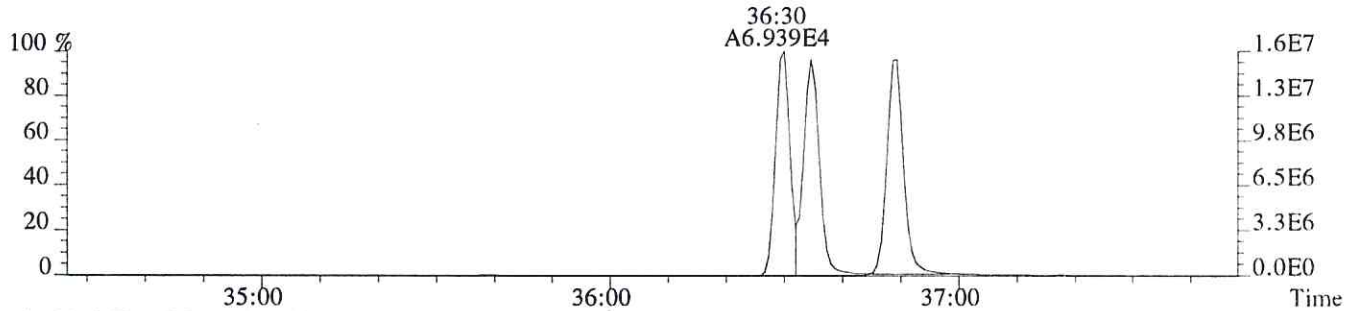
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



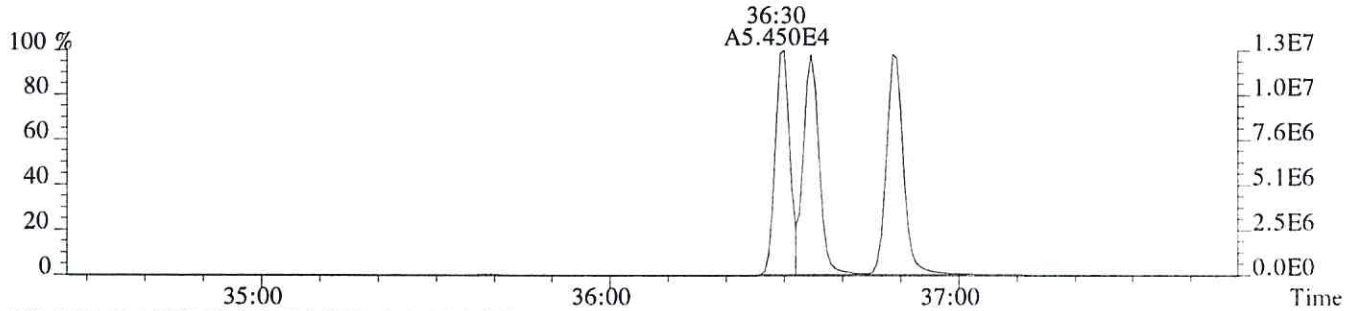
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



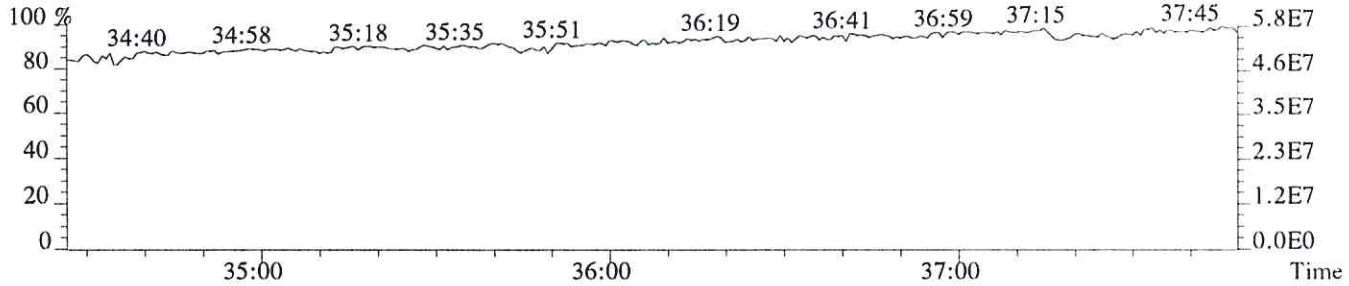
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2164.0,0.40%,F,T)



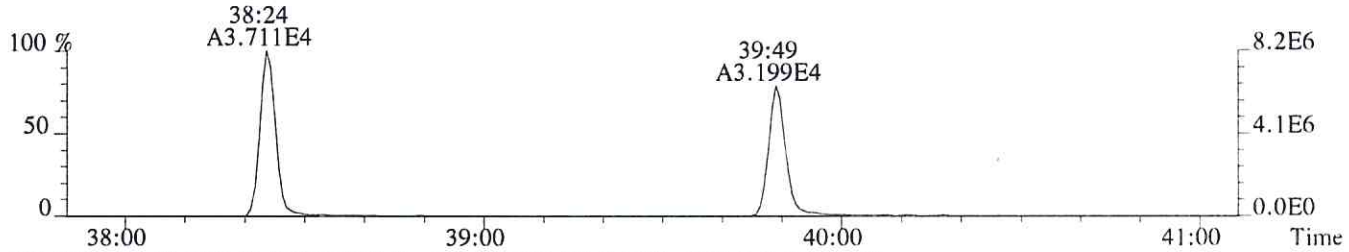
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



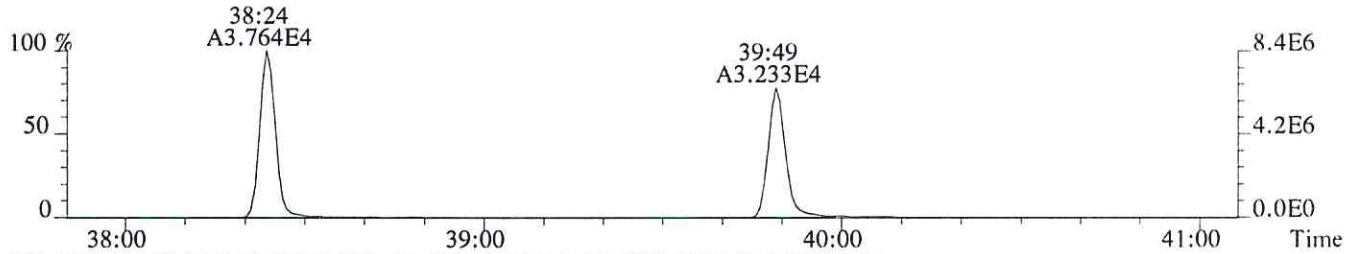
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



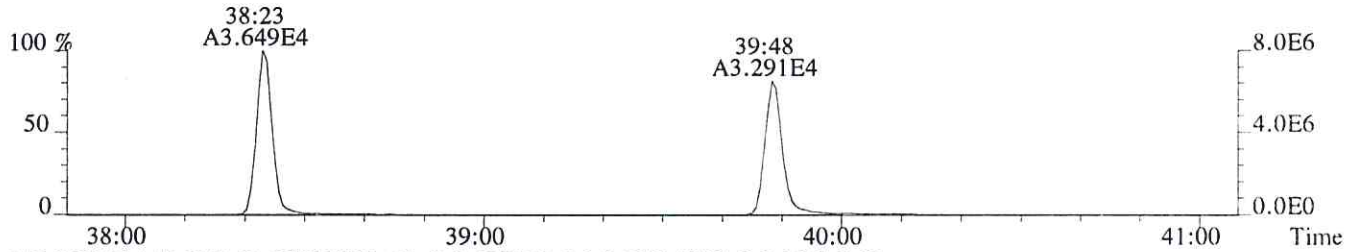
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4456.0,0.50%,F,T)



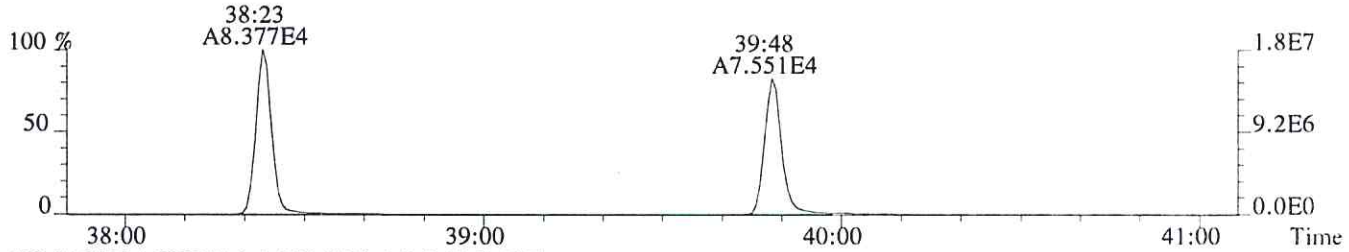
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1664.0,0.50%,F,T)



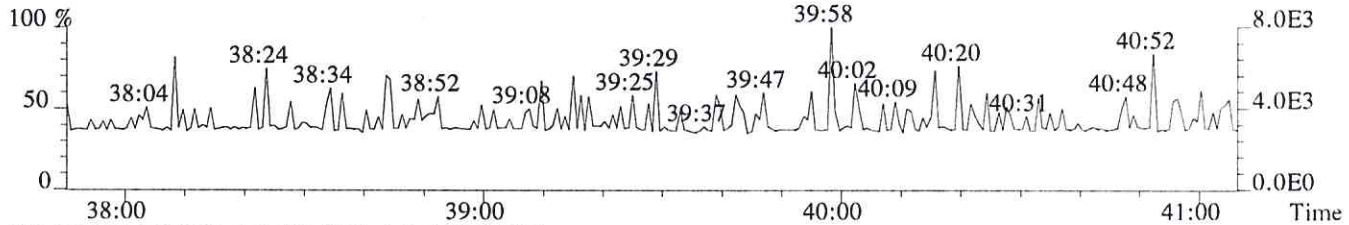
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.50%,F,T)



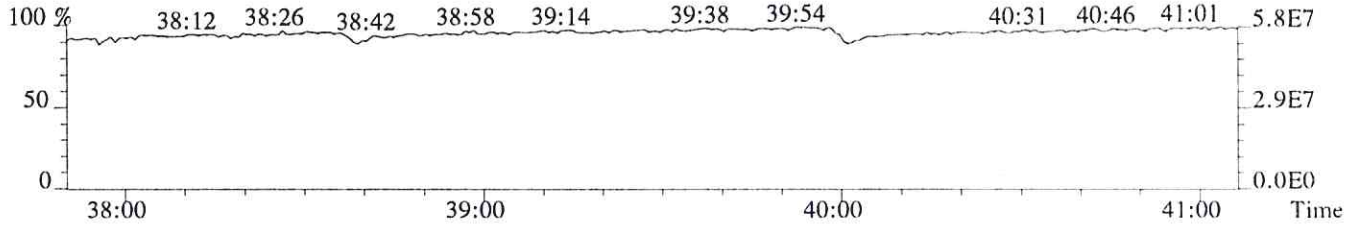
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7064.0,0.50%,F,T)



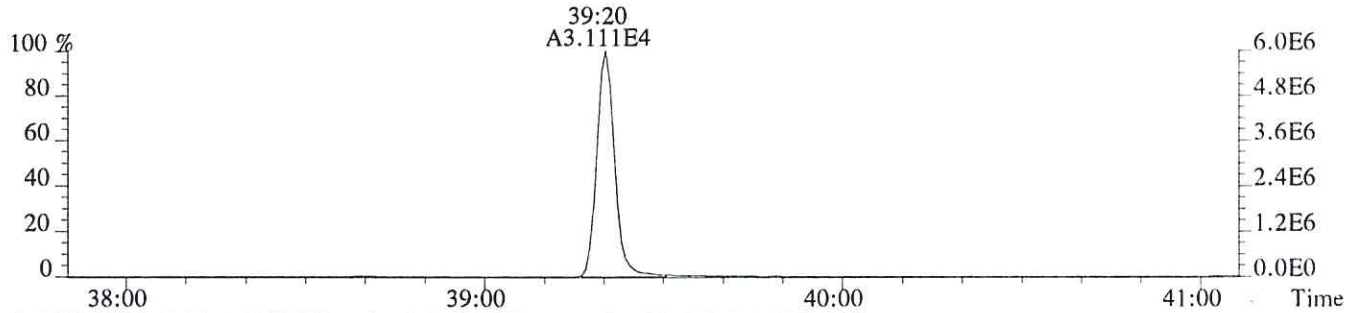
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



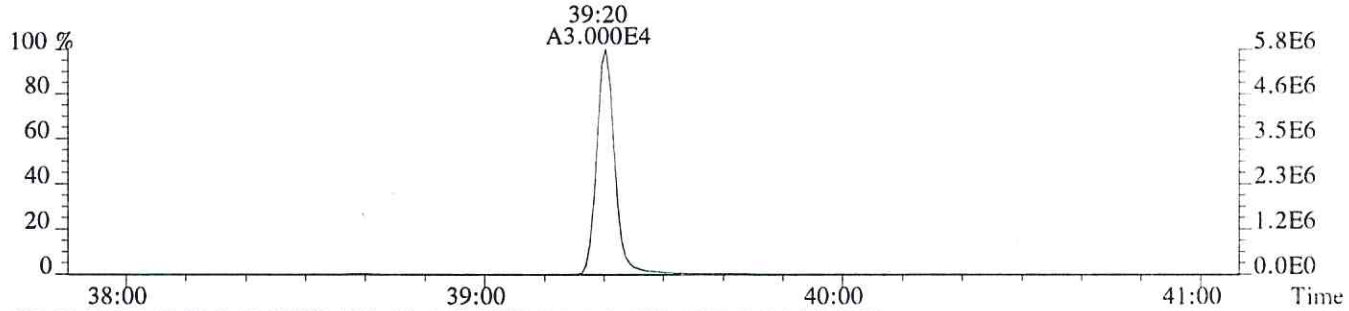
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



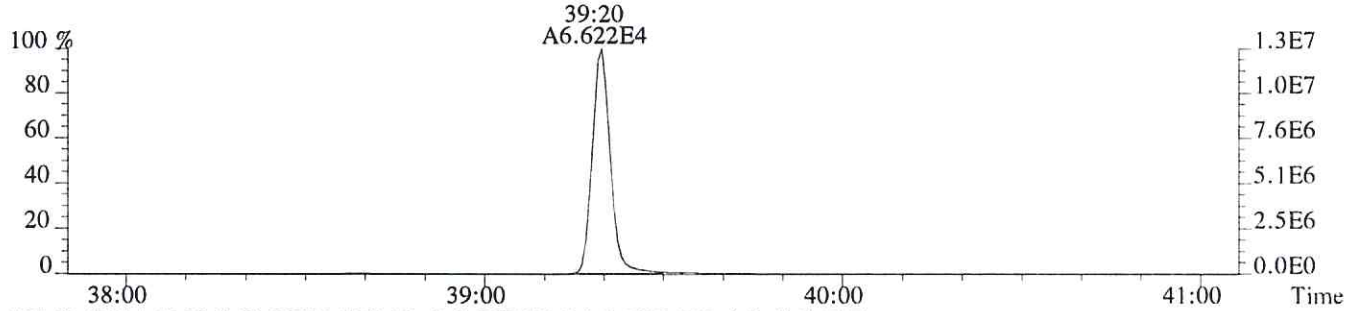
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



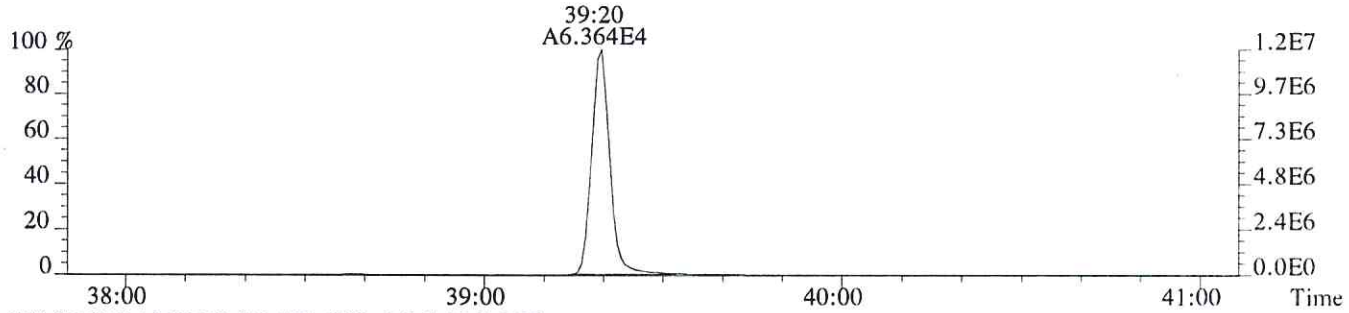
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



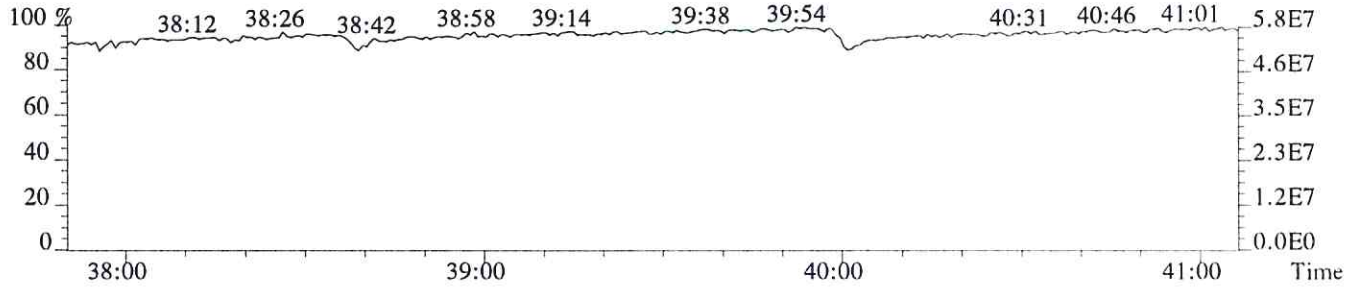
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



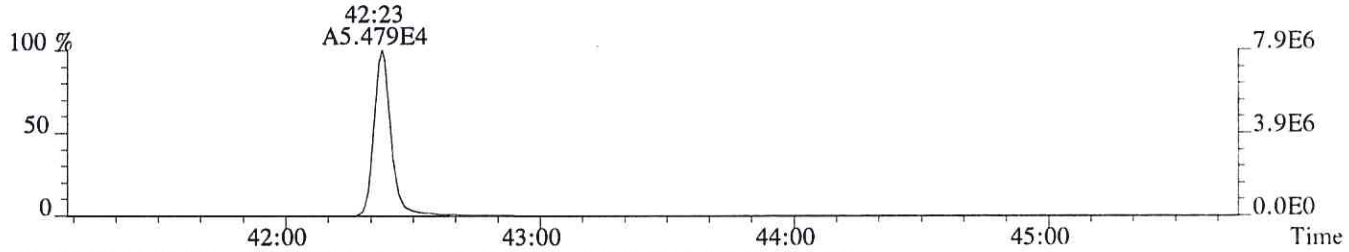
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,T)



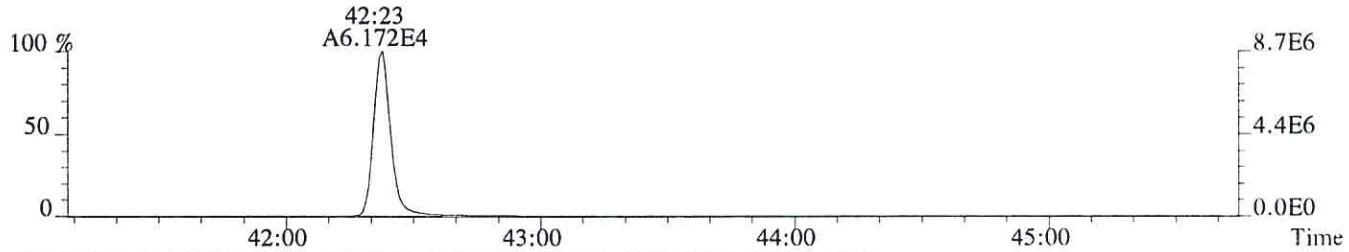
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



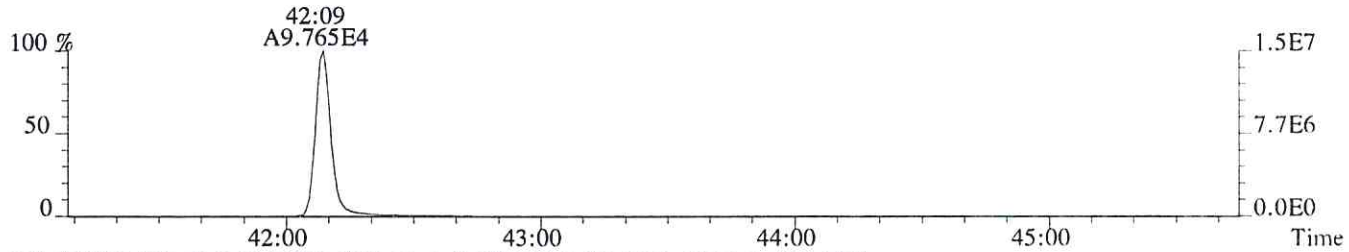
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



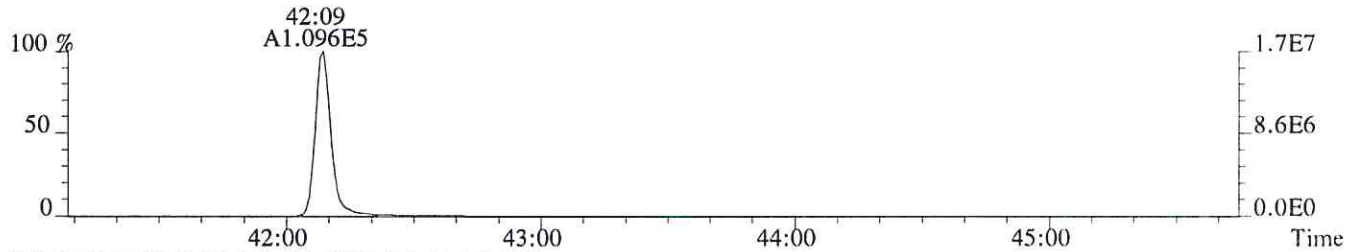
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,T)



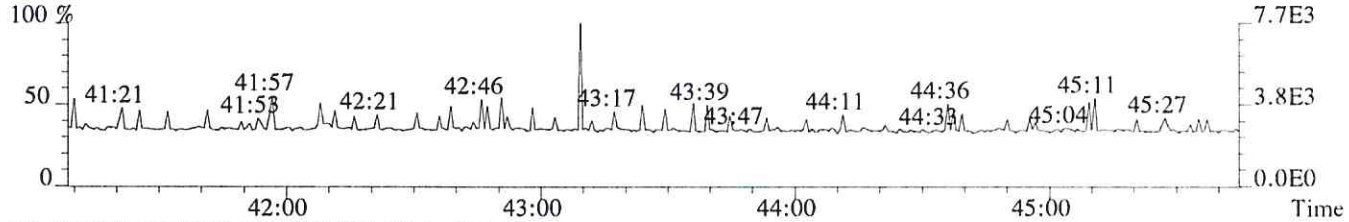
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



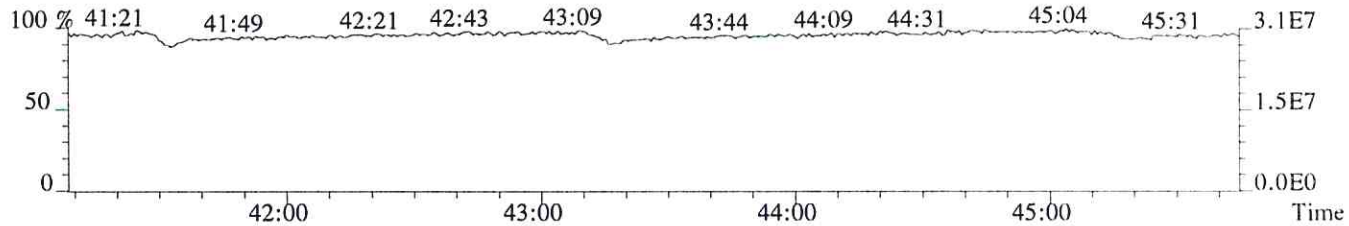
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



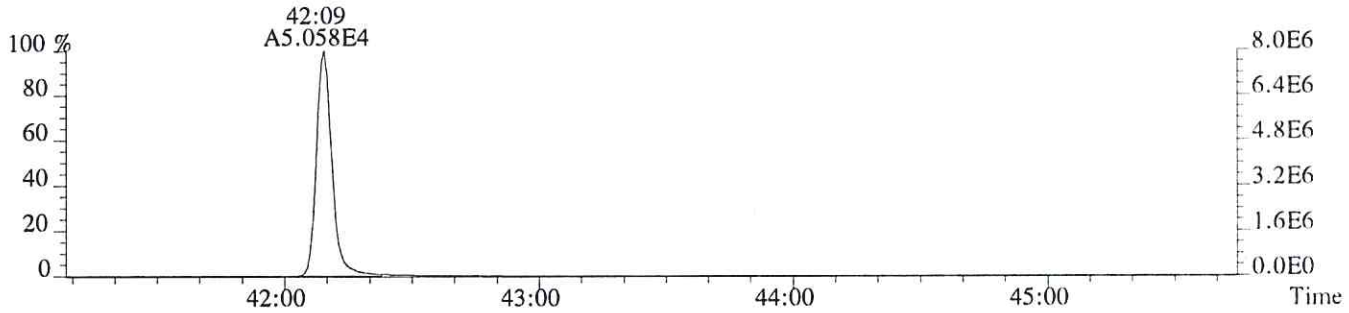
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



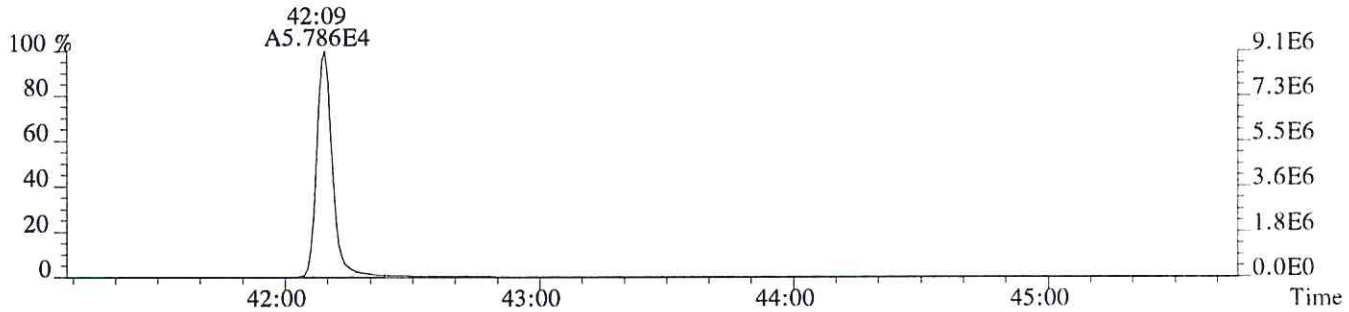
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



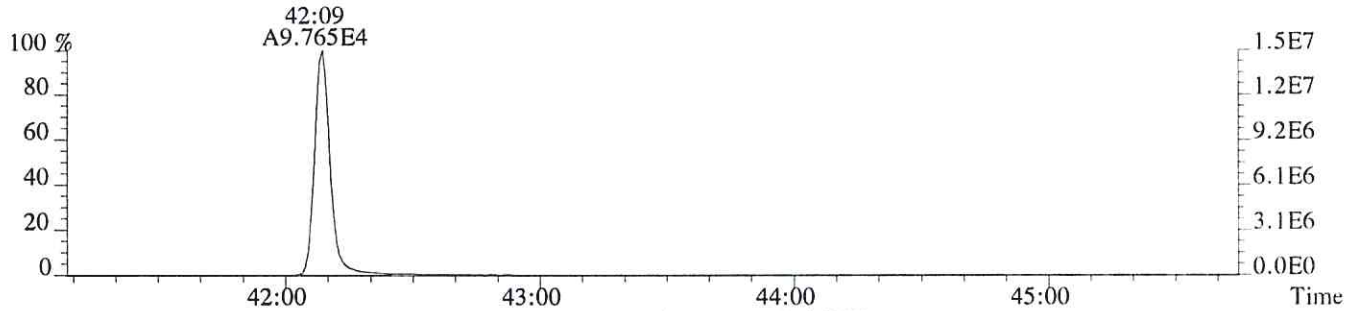
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,76.0,0.40%,F,T)



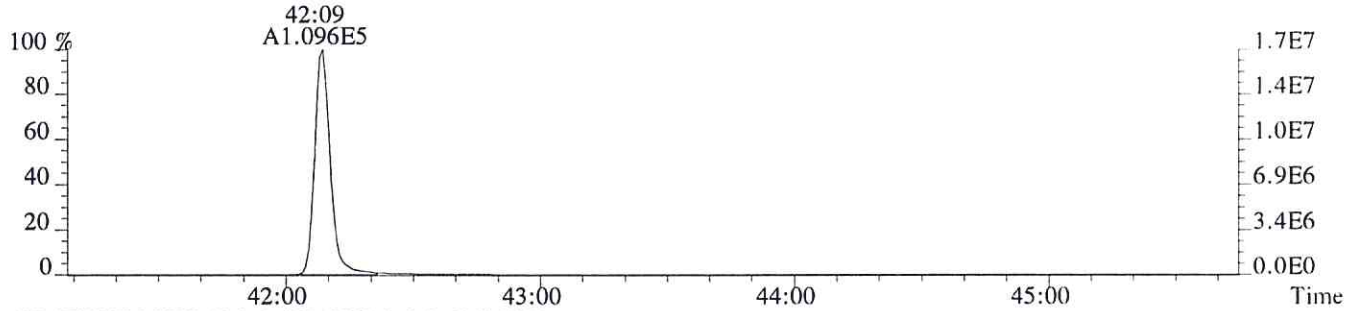
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



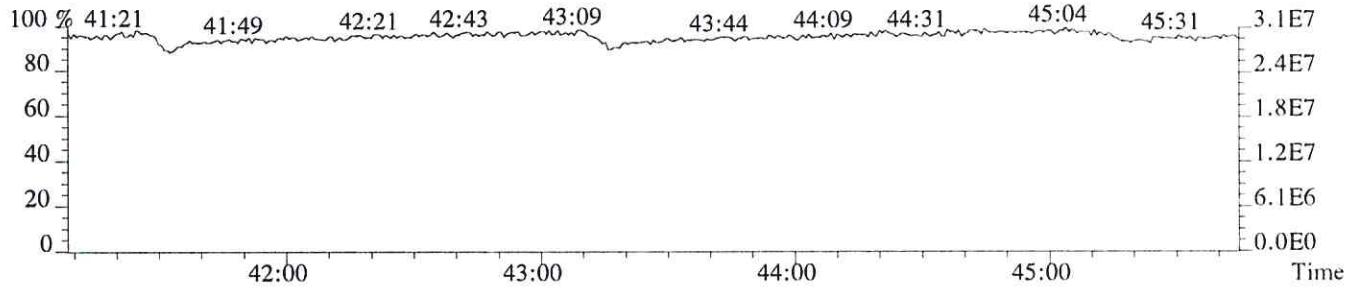
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



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

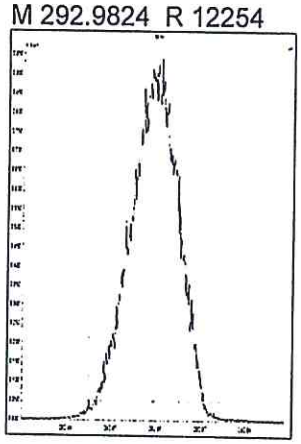
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	5/16/17	11:03	P607178	178397	WINDOWDEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS	LG	HRMScheck 10:00
2		12:44	P607179	76554	CS0.5	Tray1:3	EPA1613_ALS	Dioxin_ALS		
3		13:34	P607180	76555	CS1	Tray1:4	EPA1613_ALS	Dioxin_ALS		
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

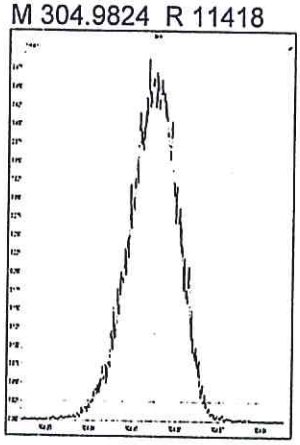
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:00:51 Central Daylight Time

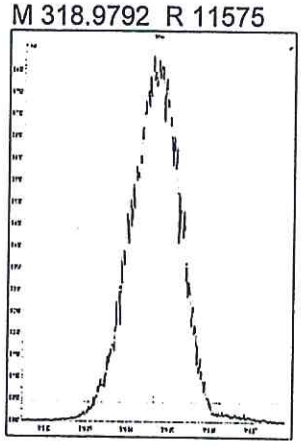
M 292.9824 R 12254



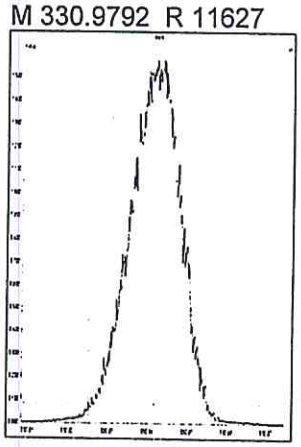
M 304.9824 R 11418



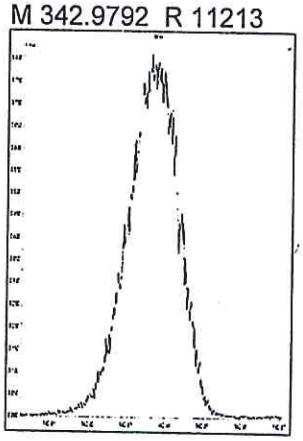
M 318.9792 R 11575



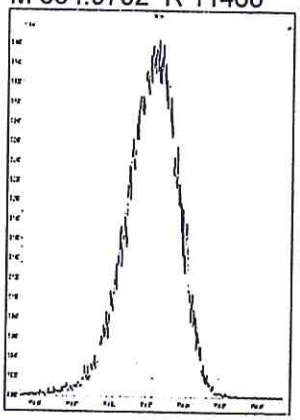
M 330.9792 R 11627



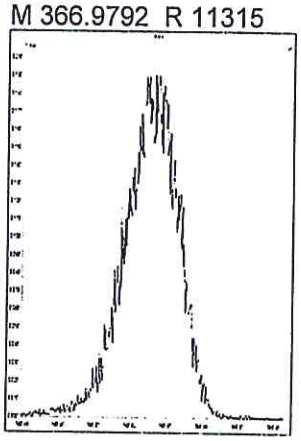
M 342.9792 R 11213



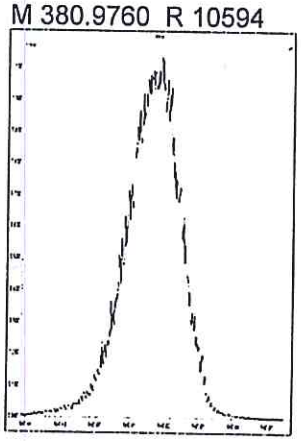
M 354.9792 R 11468



M 366.9792 R 11315



M 380.9760 R 10594

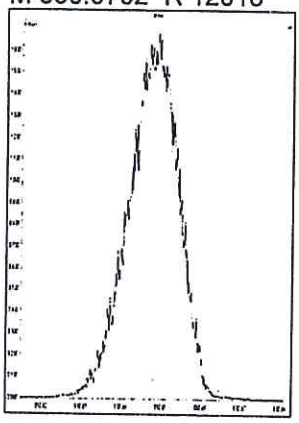


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

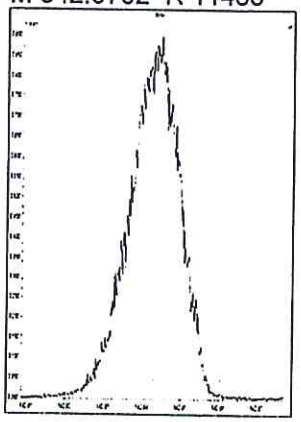
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:02:42 Central Daylight Time

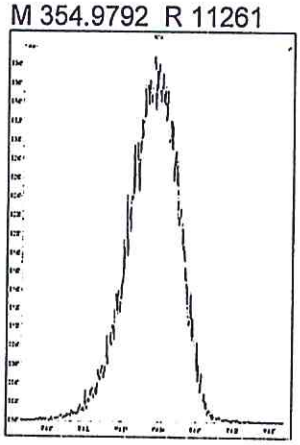
M 330.9792 R 12018



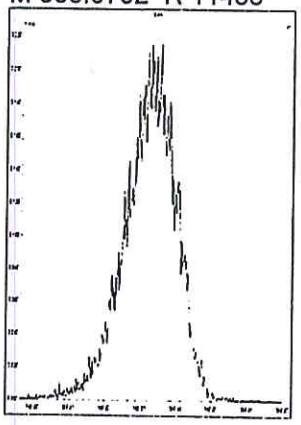
M 342.9792 R 11465



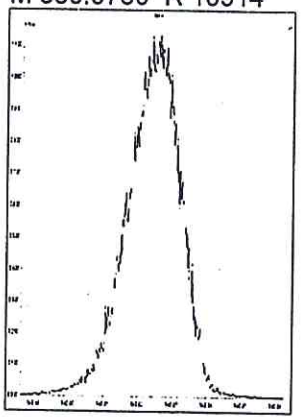
M 354.9792 R 11261



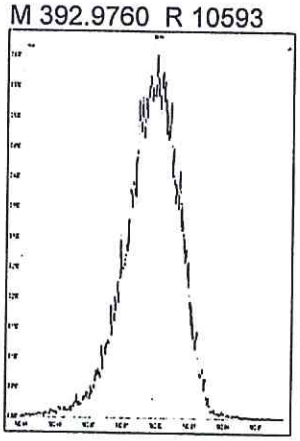
M 366.9792 R 11466



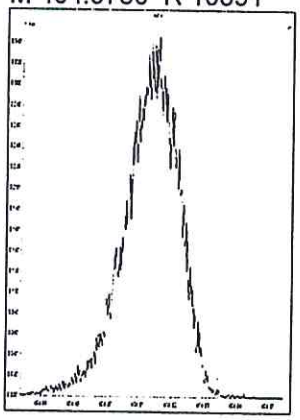
M 380.9760 R 10914



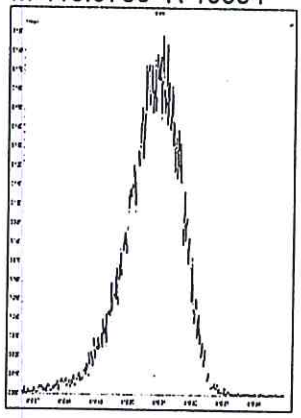
M 392.9760 R 10593



M 404.9760 R 10591



M 416.9760 R 10594

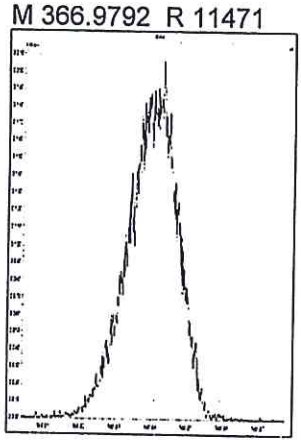


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

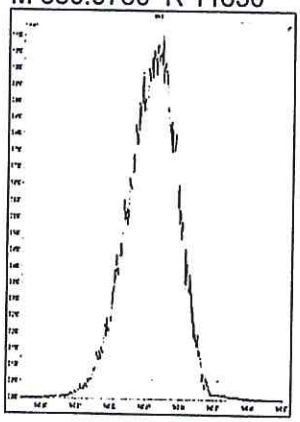
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:03:51 Central Daylight Time

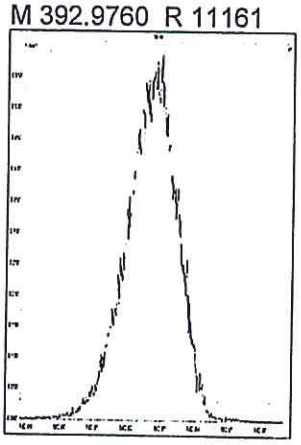
M 366.9792 R 11471



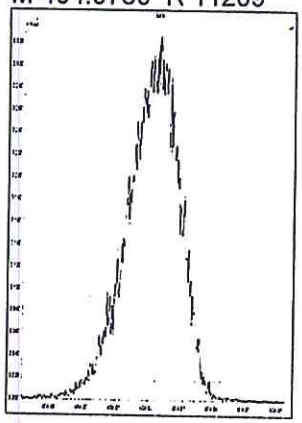
M 380.9760 R 11630



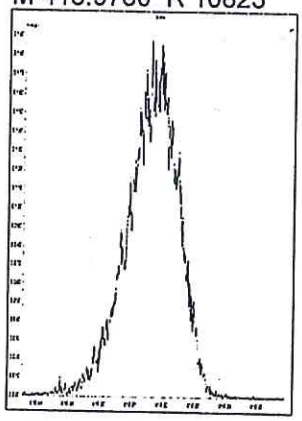
M 392.9760 R 11161



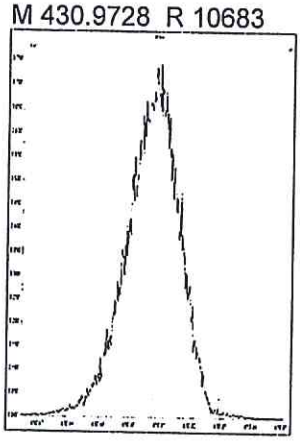
M 404.9760 R 11209



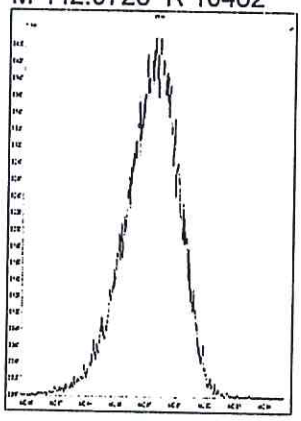
M 416.9760 R 10823



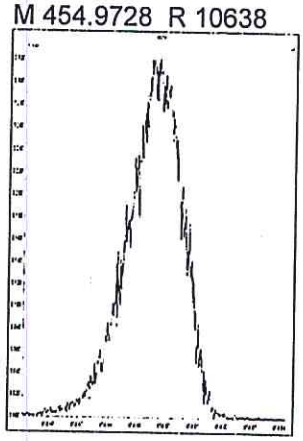
M 430.9728 R 10683



M 442.9728 R 10462



M 454.9728 R 10638

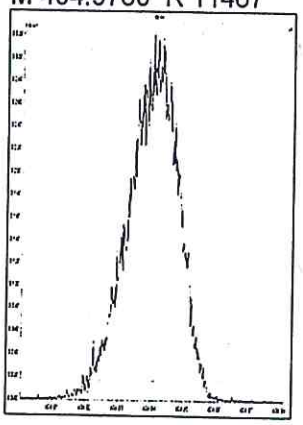


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

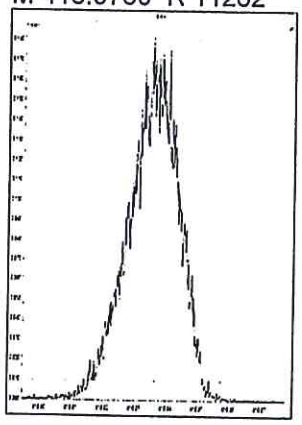
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:05:27 Central Daylight Time

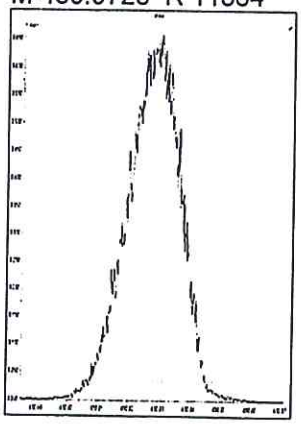
M 404.9760 R 11467



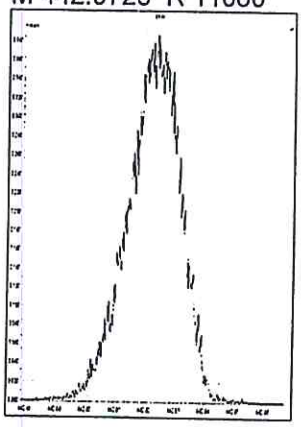
M 416.9760 R 11262



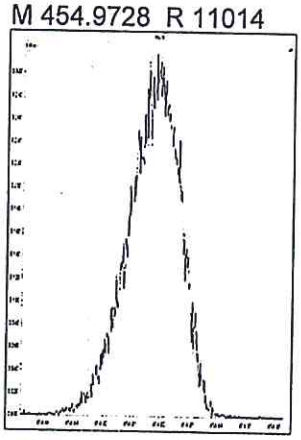
M 430.9728 R 11364



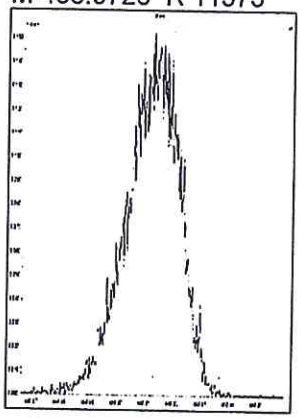
M 442.9728 R 11060



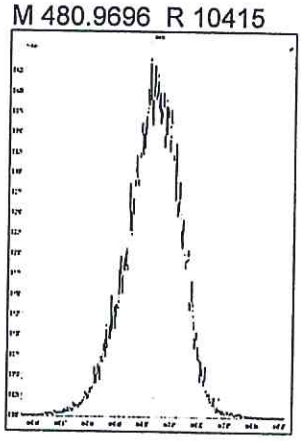
M 454.9728 R 11014



M 466.9728 R 11573



M 480.9696 R 10415

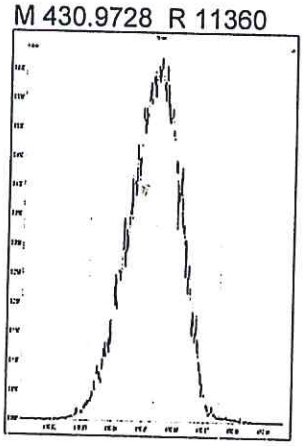


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

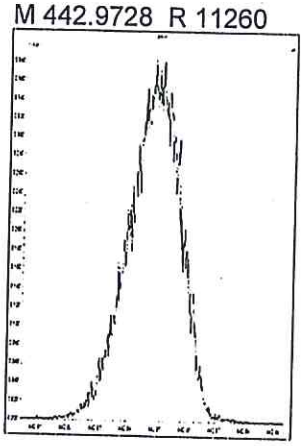
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:07:03 Central Daylight Time

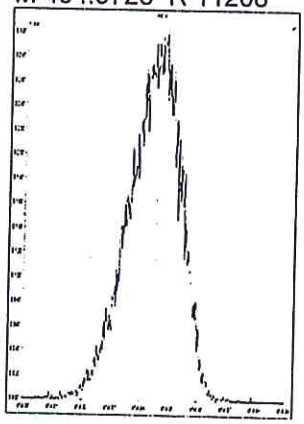
M 430.9728 R 11360



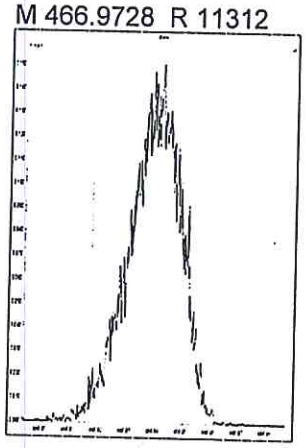
M 442.9728 R 11260



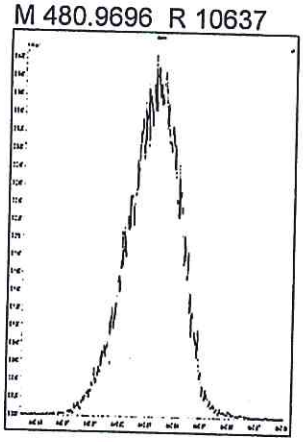
M 454.9728 R 11208



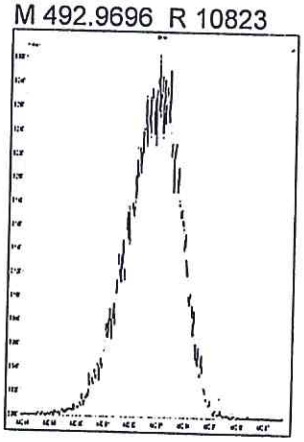
M 466.9728 R 11312



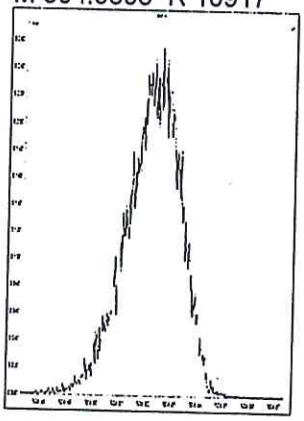
M 480.9696 R 10637



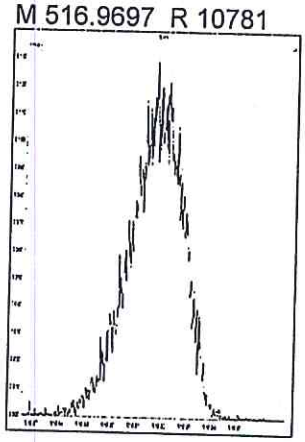
M 492.9696 R 10823



M 504.9696 R 10917

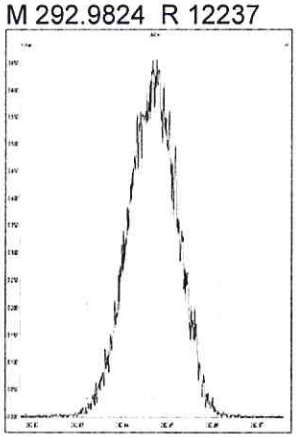


M 516.9697 R 10781

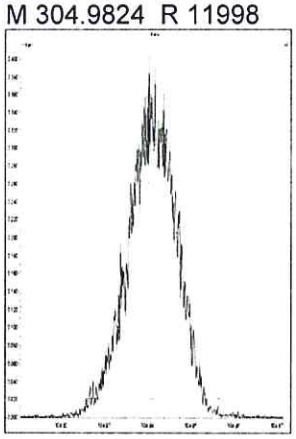


Printed: Tuesday, May 16, 2017 19:43:37 Central Daylight Time

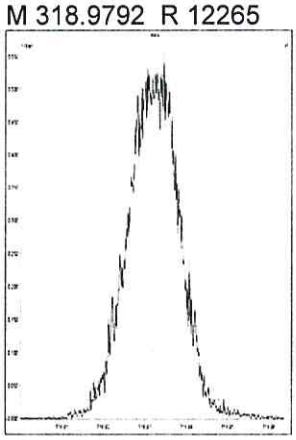
M 292.9824 R 12237



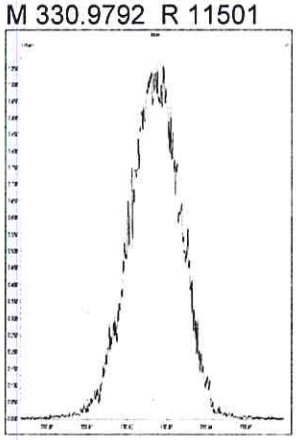
M 304.9824 R 11998



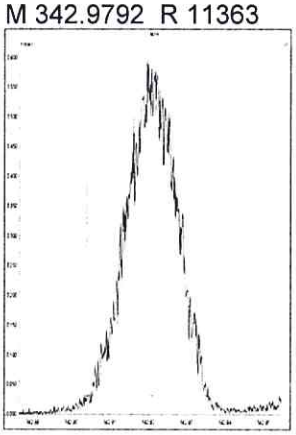
M 318.9792 R 12265



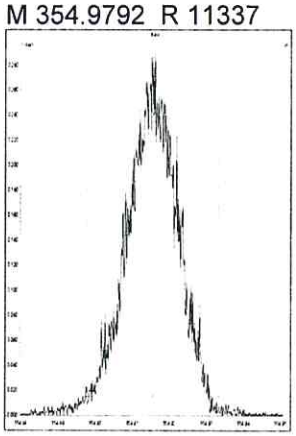
M 330.9792 R 11501



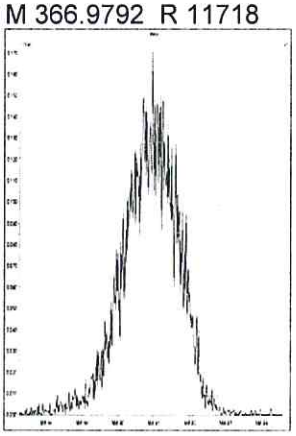
M 342.9792 R 11363



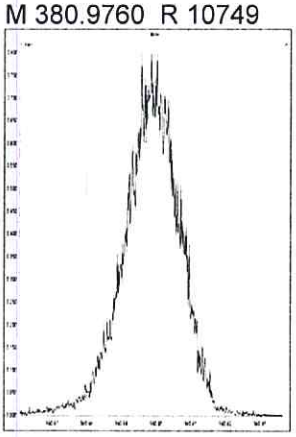
M 354.9792 R 11337



M 366.9792 R 11718



M 380.9760 R 10749



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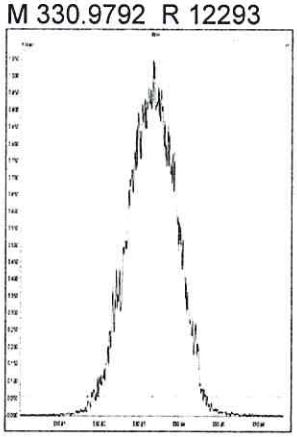
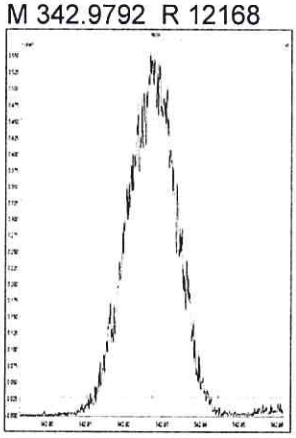


M 342.9792 R 12168



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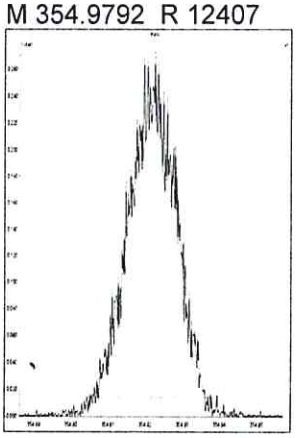
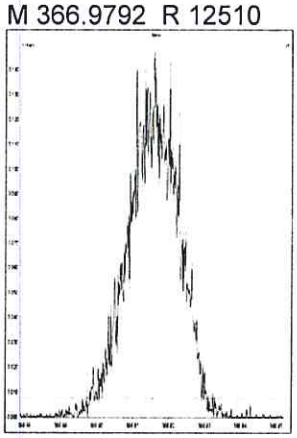
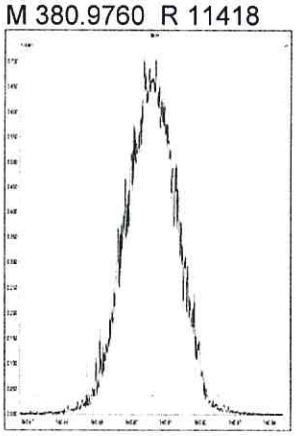


M 366.9792 R 12510



M 380.9760 R 11418



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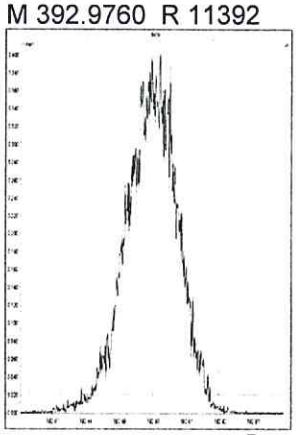
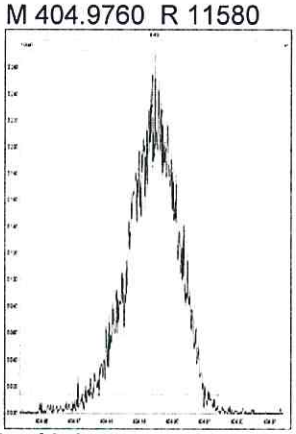
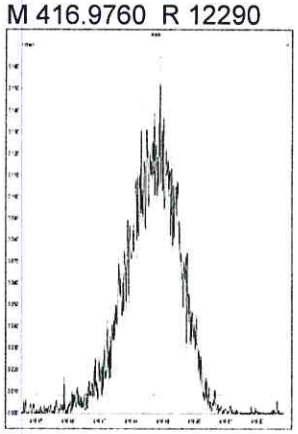


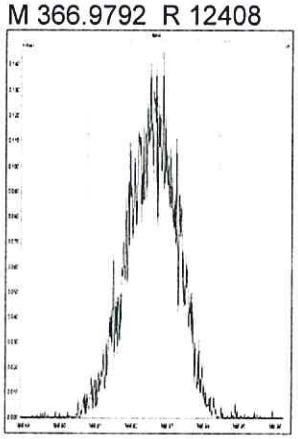
M 404.9760 R 11580



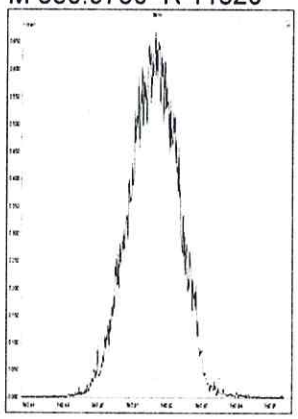
M 416.9760 R 12290



M 366.9792 R 12408



M 380.9760 R 11820



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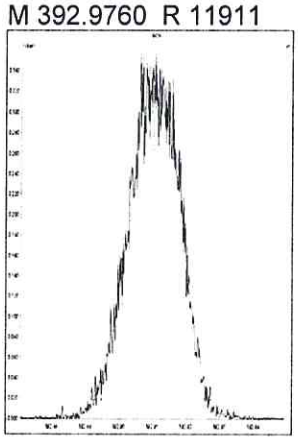

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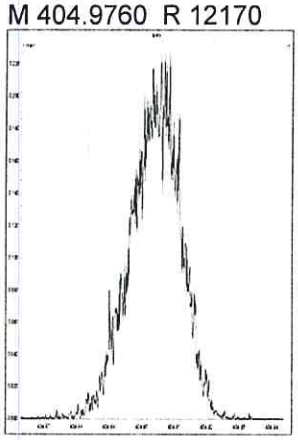

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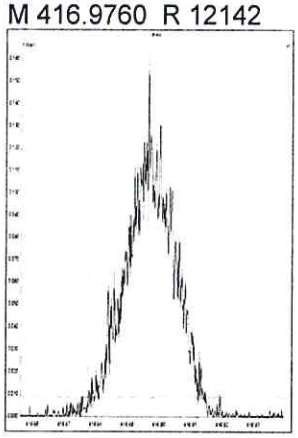
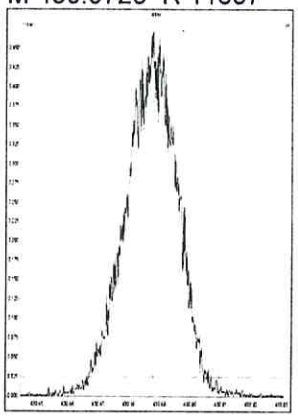
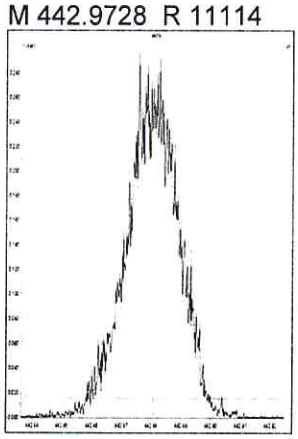


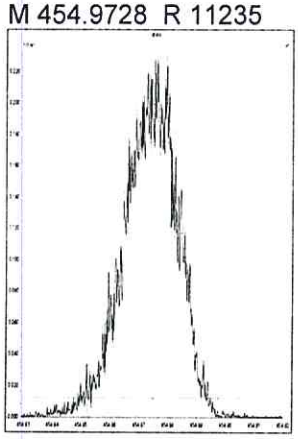
M 430.9728 R 11657



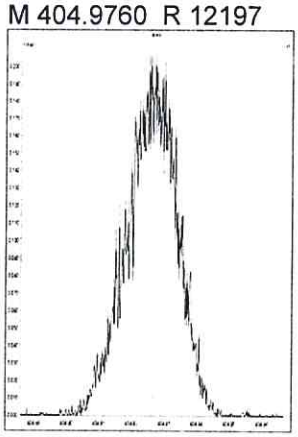
M 442.9728 R 11114



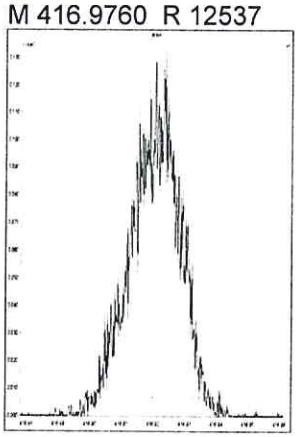
M 454.9728 R 11235



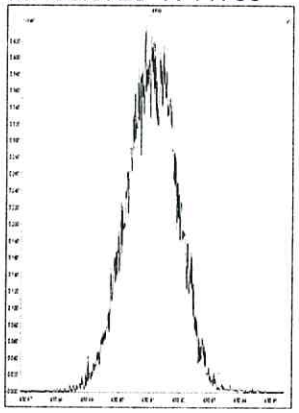
M 404.9760 R 12197



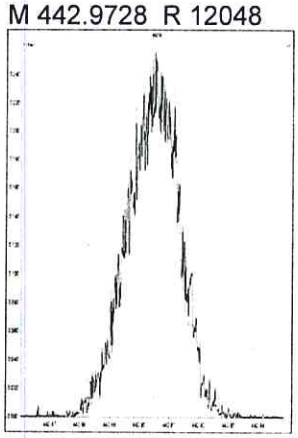
M 416.9760 R 12537



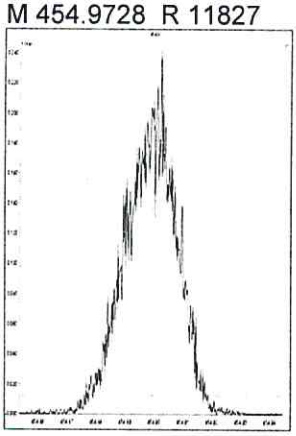
M 430.9728 R 11788



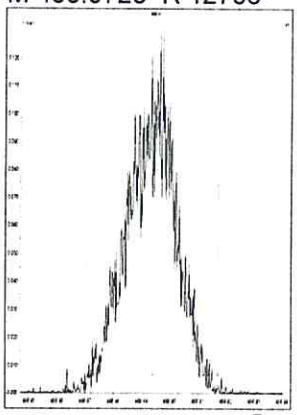
M 442.9728 R 12048



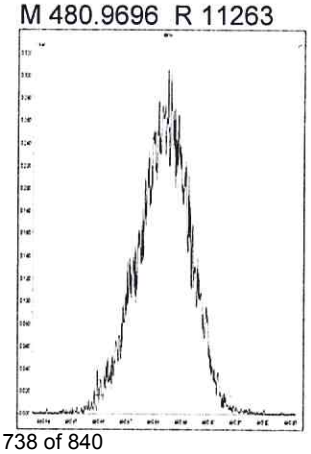
M 454.9728 R 11827



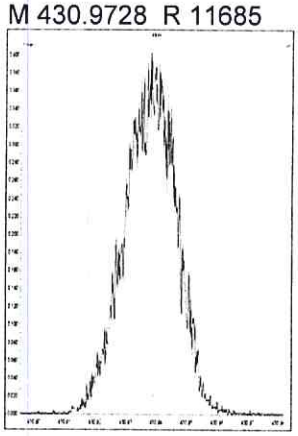
M 466.9728 R 12756



M 480.9696 R 11263



M 430.9728 R 11685



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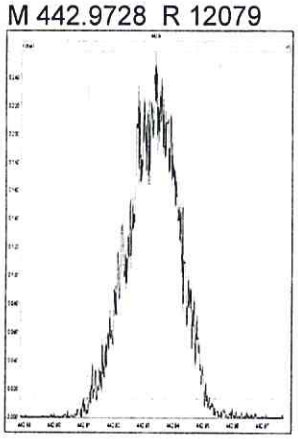

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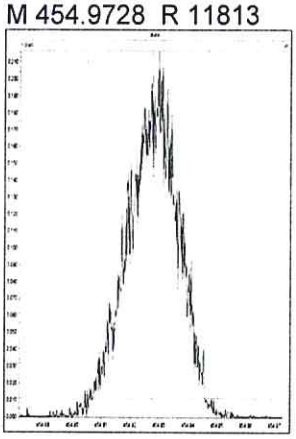
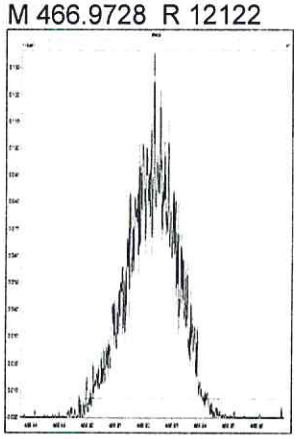
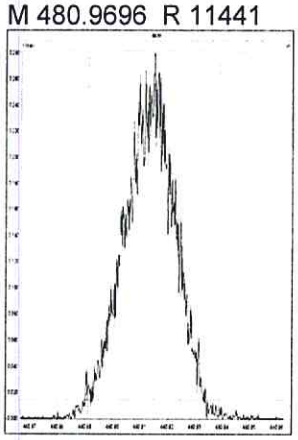


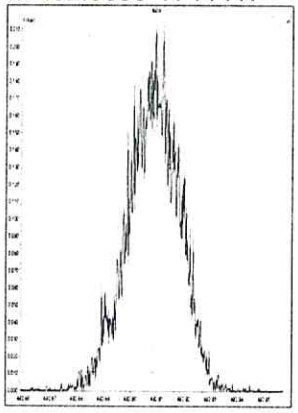
M 466.9728 R 12122



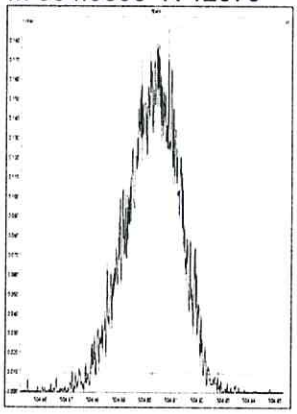
M 480.9696 R 11441



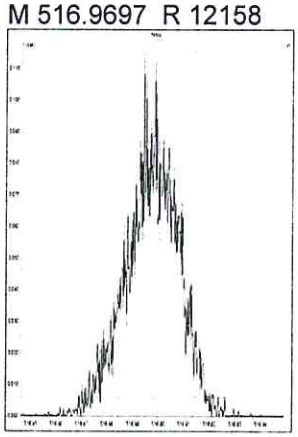
M 492.9696 R 11417



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

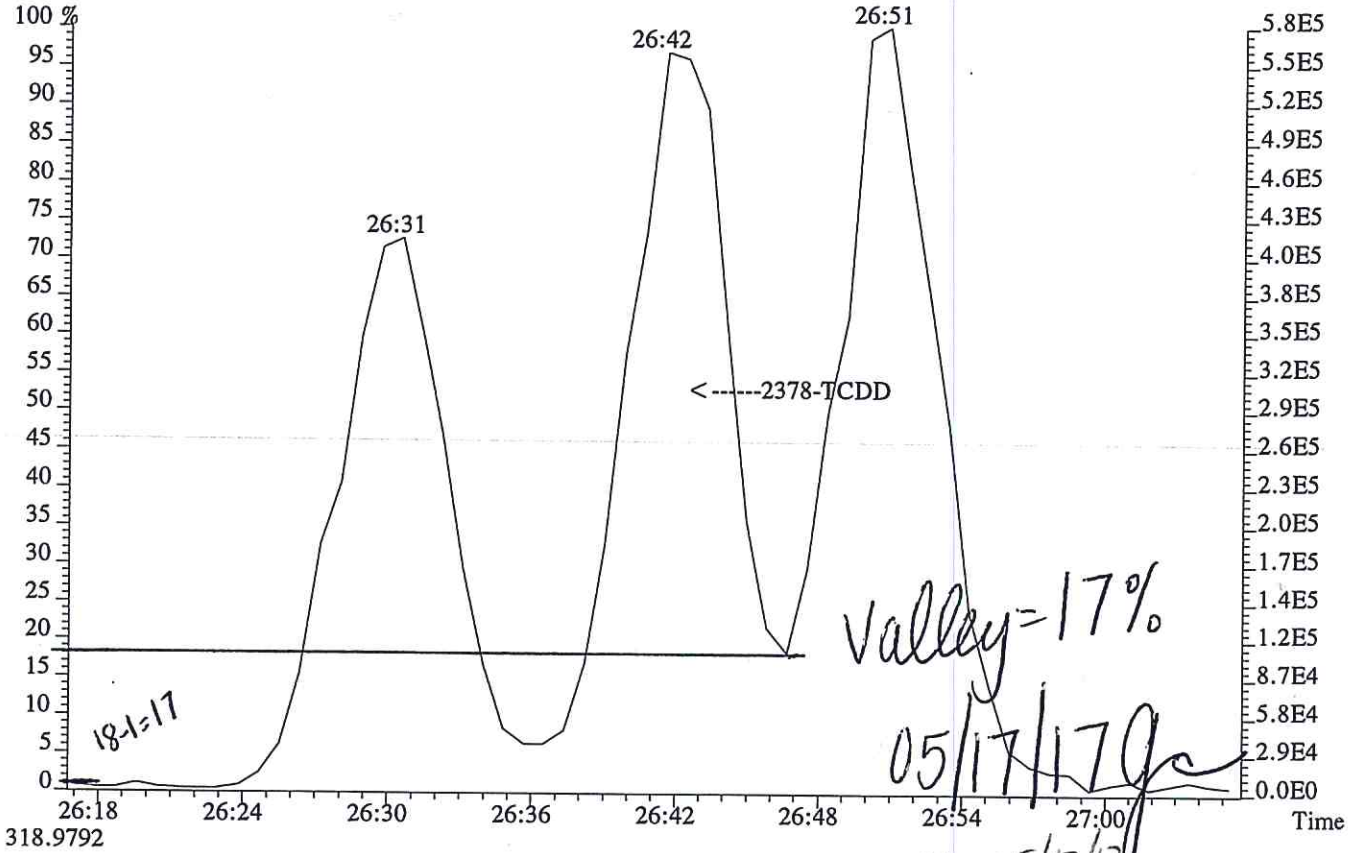
Case No.:
ID: 0.25 (mm)

SDG No.:
Lab File ID: P607178
Date Analyzed: 16-MAY-17
Time Analyzed: 11:03:07

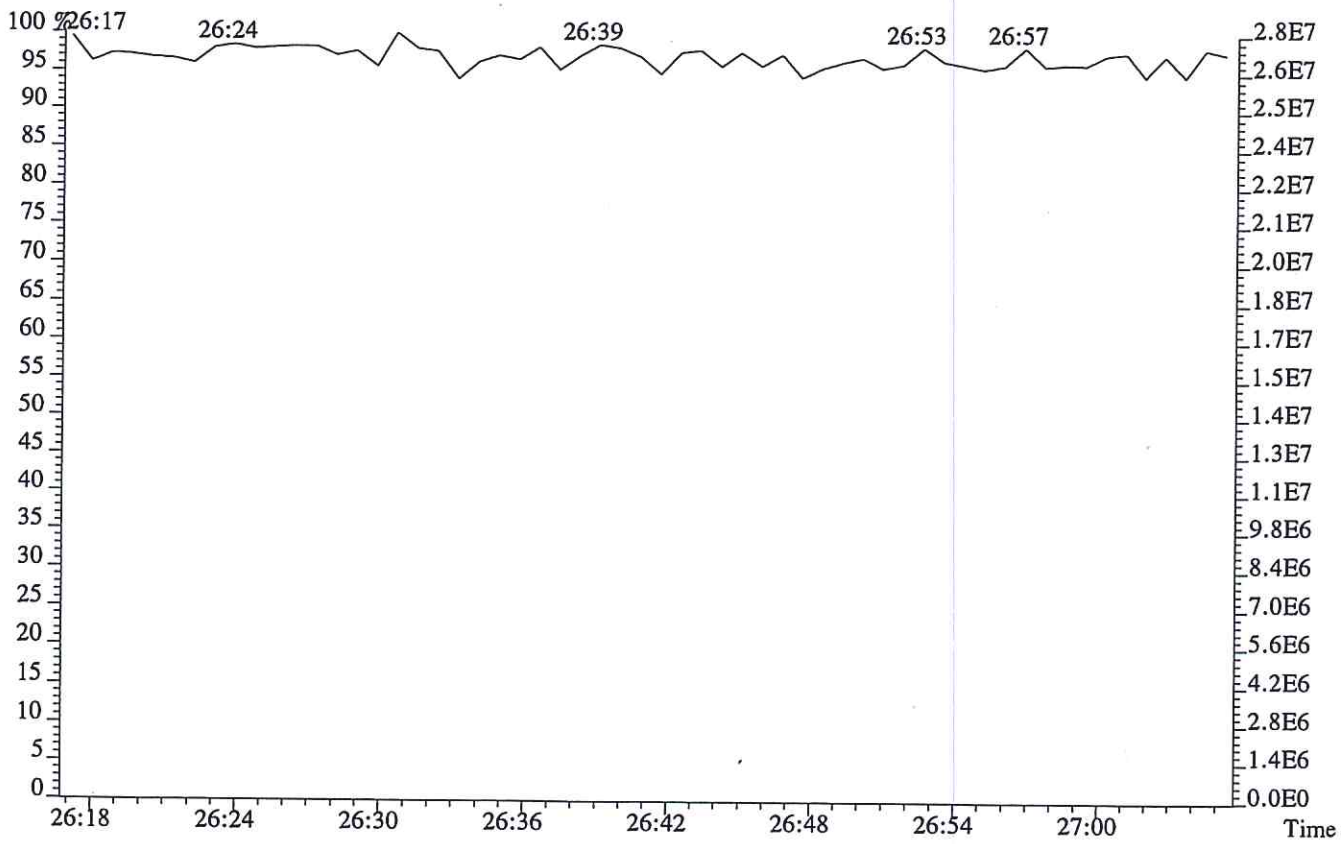
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:22	28:03
TCDD	22:58	27:53
PeCDF	28:02	32:42
PeCDD	29:47	32:28
HxCDF	33:25	36:01
HxCDD	33:59	35:37
HpCDF	37:17	38:35
HpCDD	37:32	38:10

% Valley 2378-TCDD: 17 %

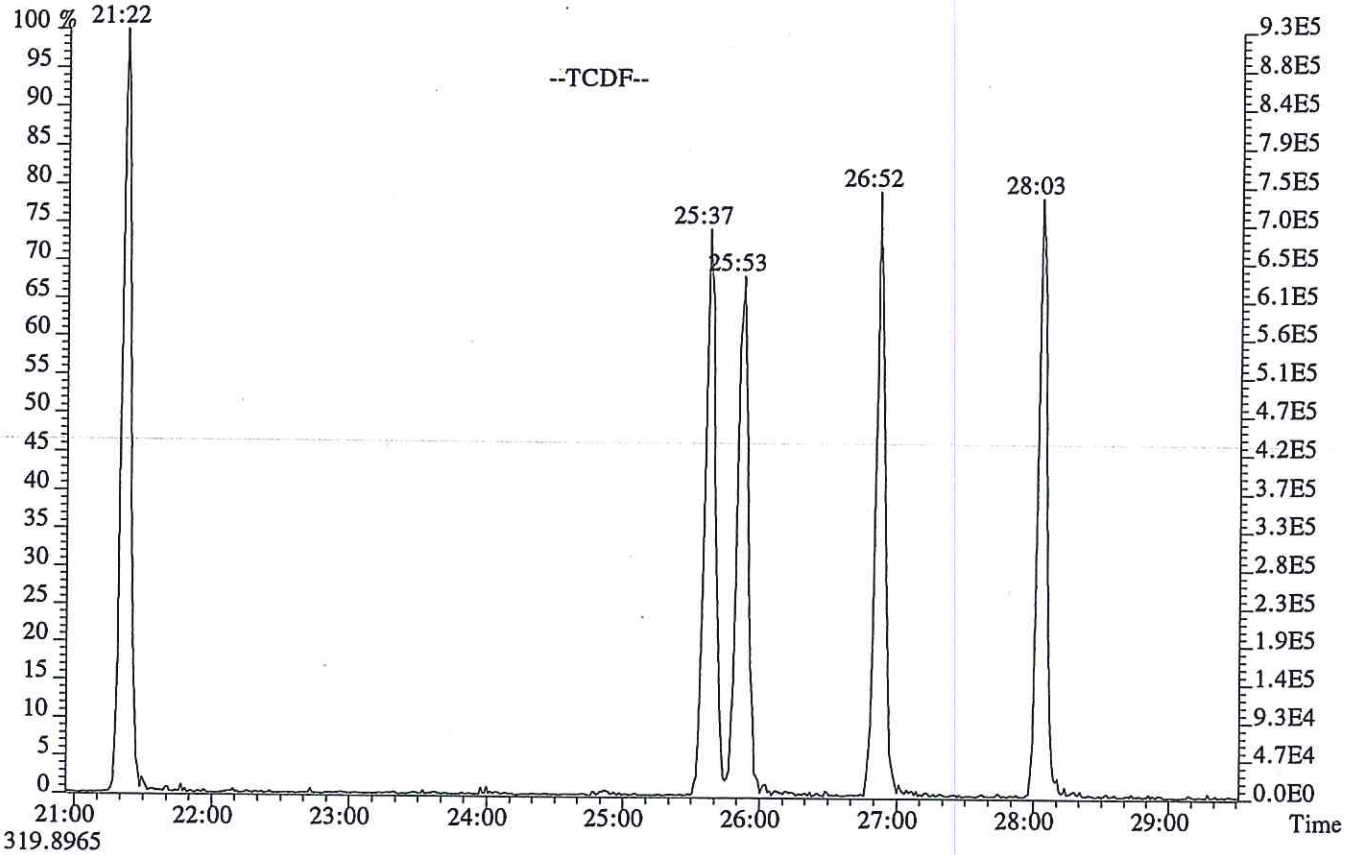
File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
319.8965

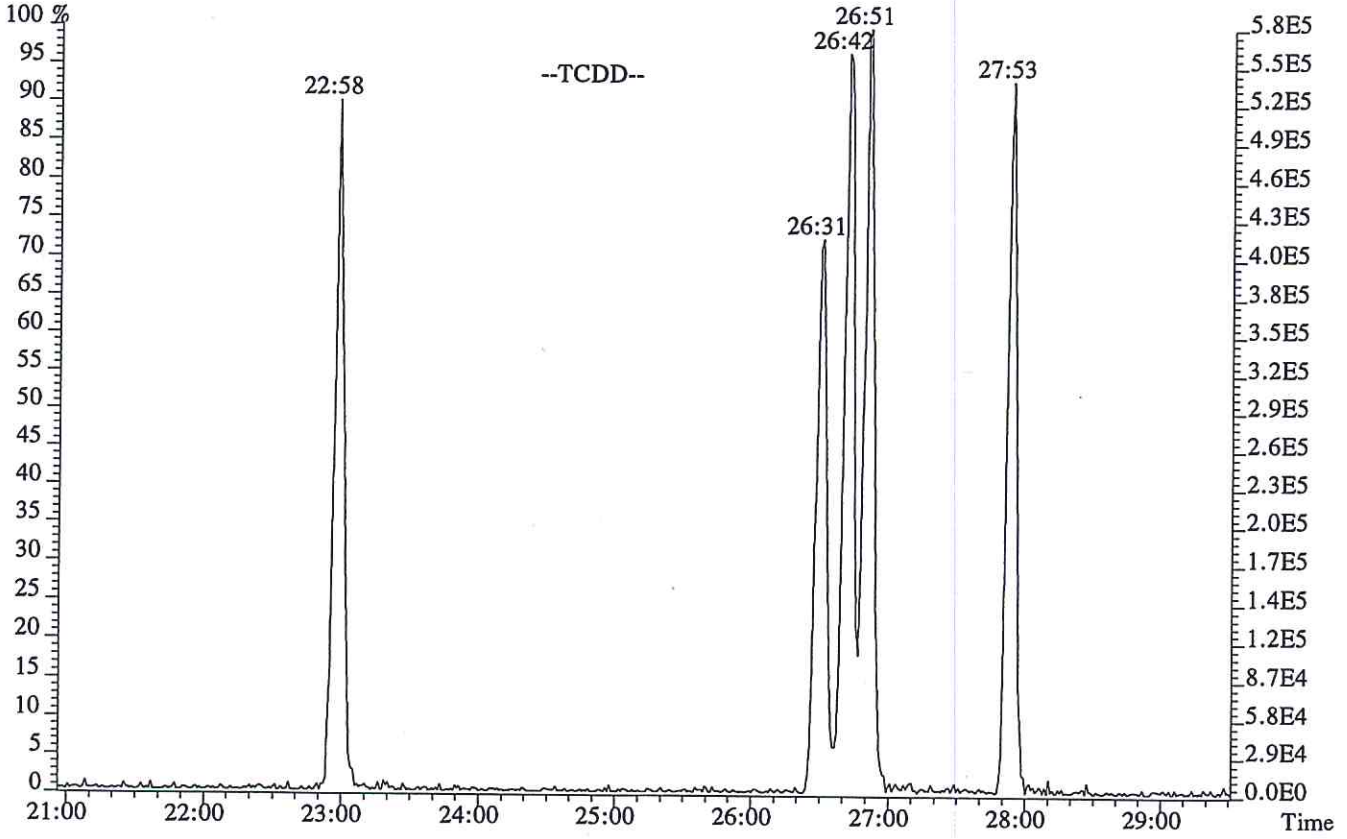


318.9792

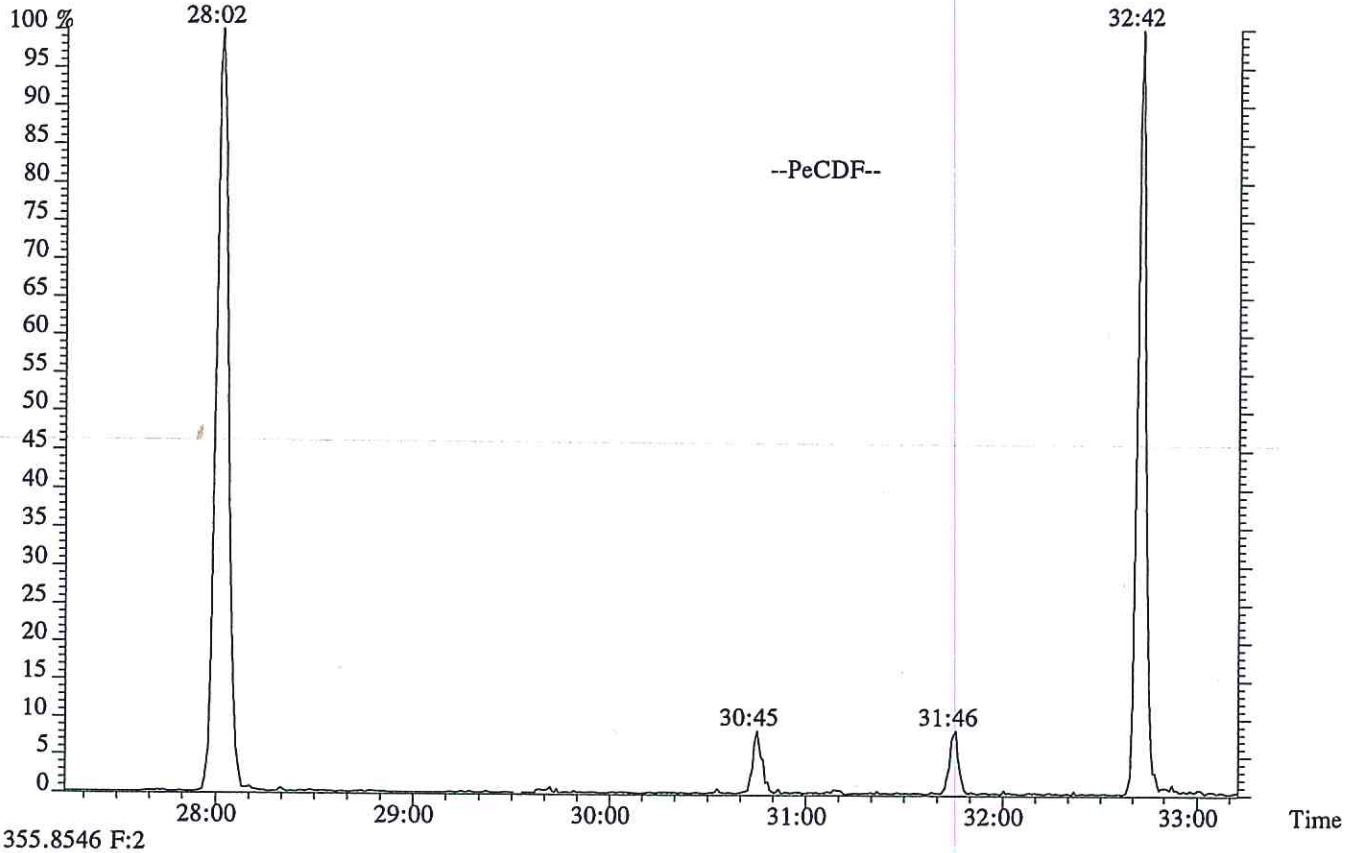


File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
303.9016

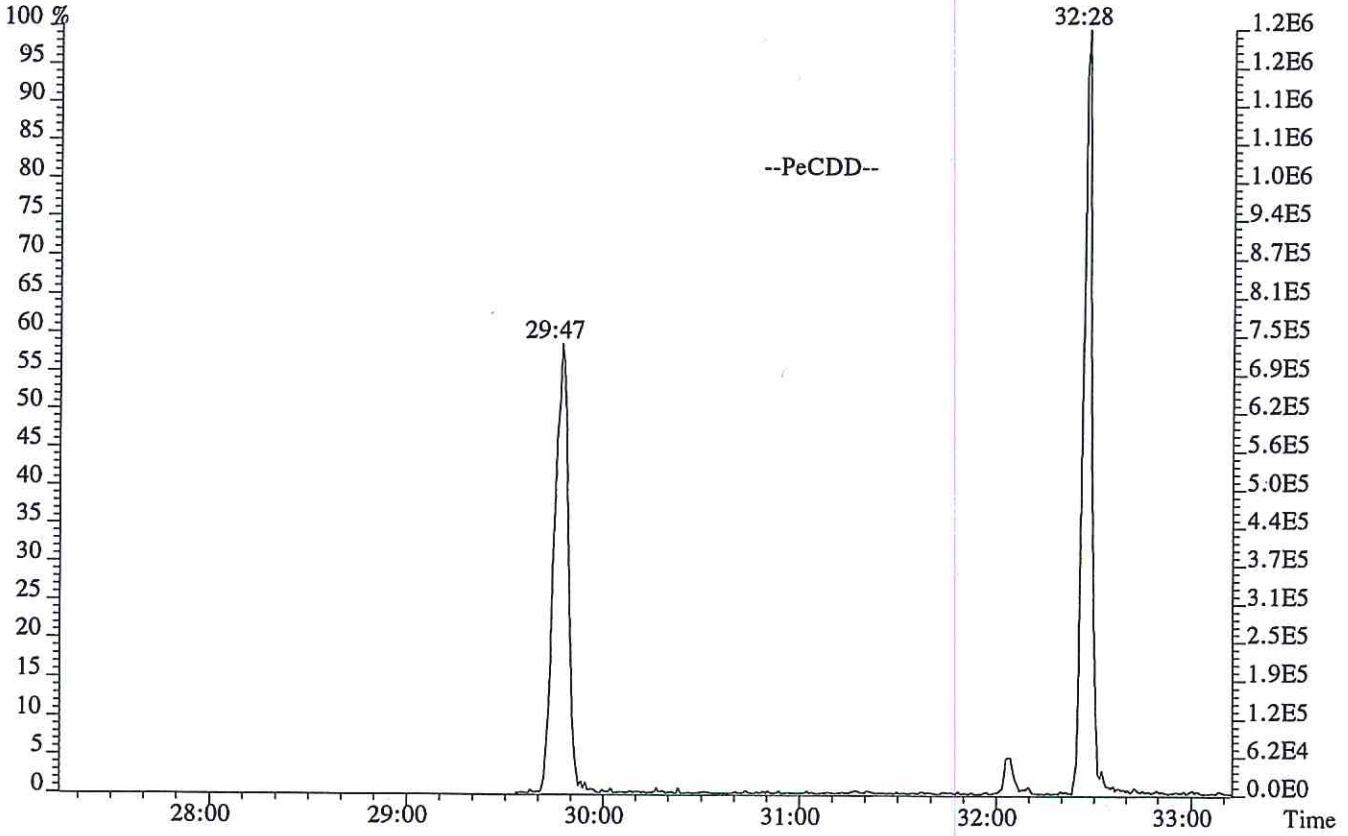




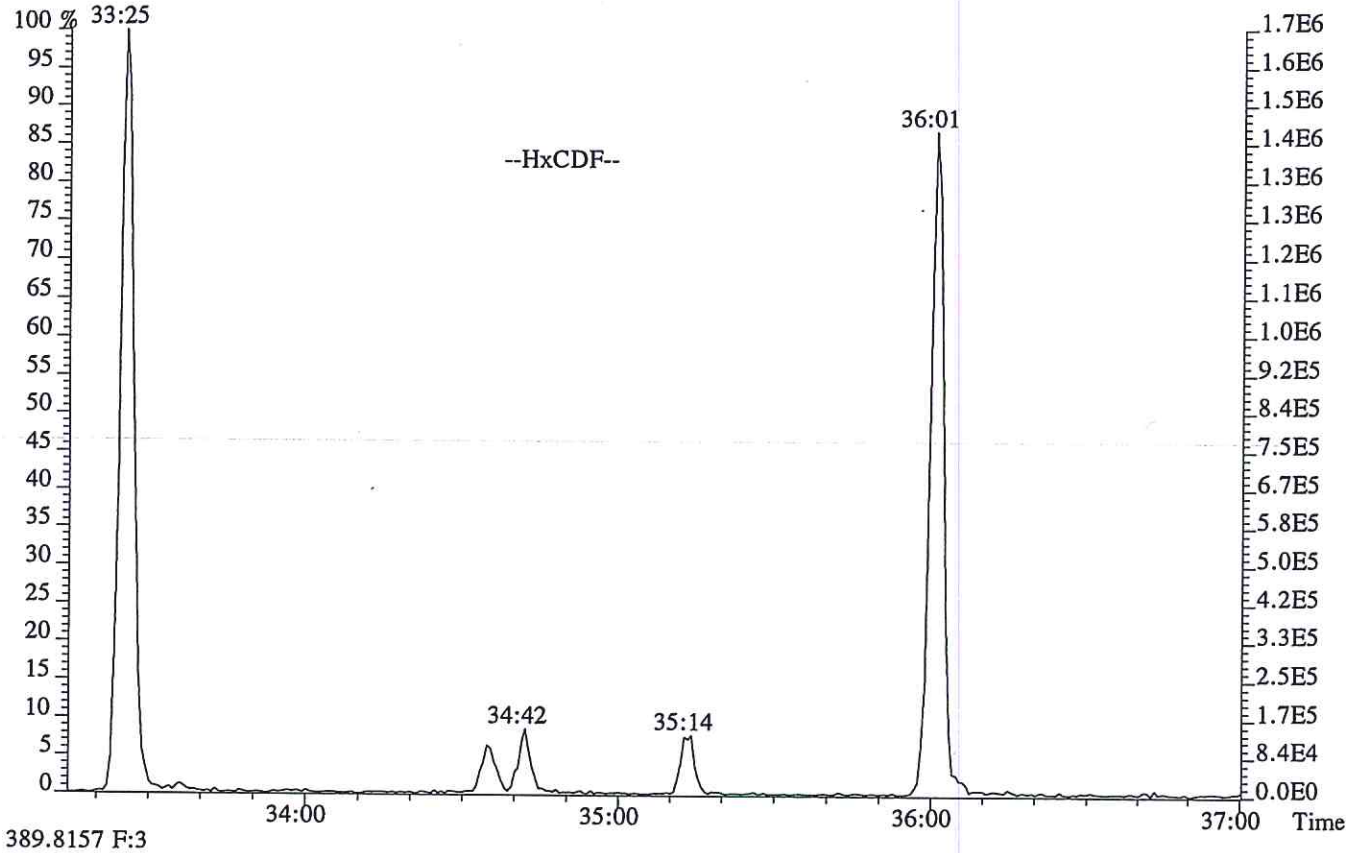
File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
339.8597,339.8597 F:2



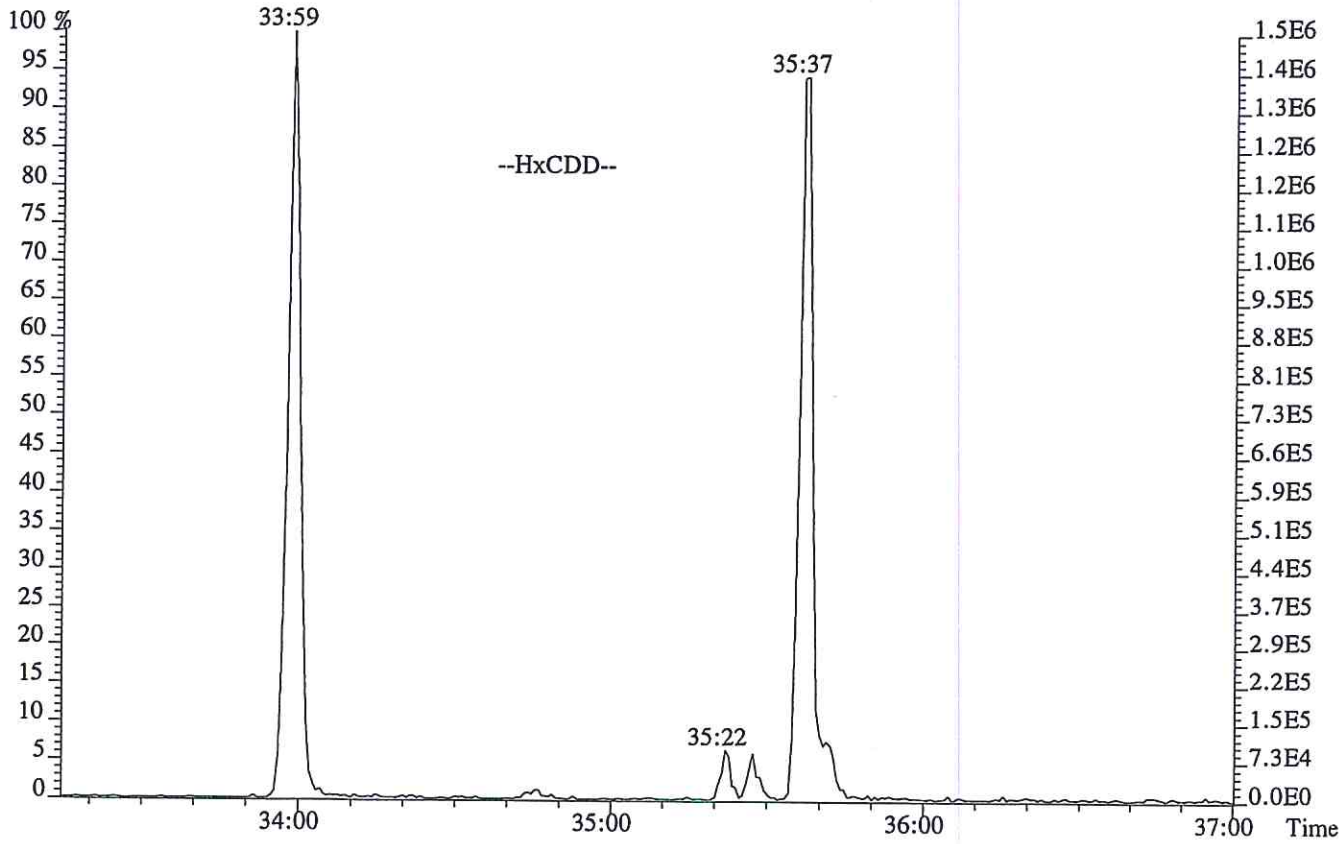
355.8546 F:2



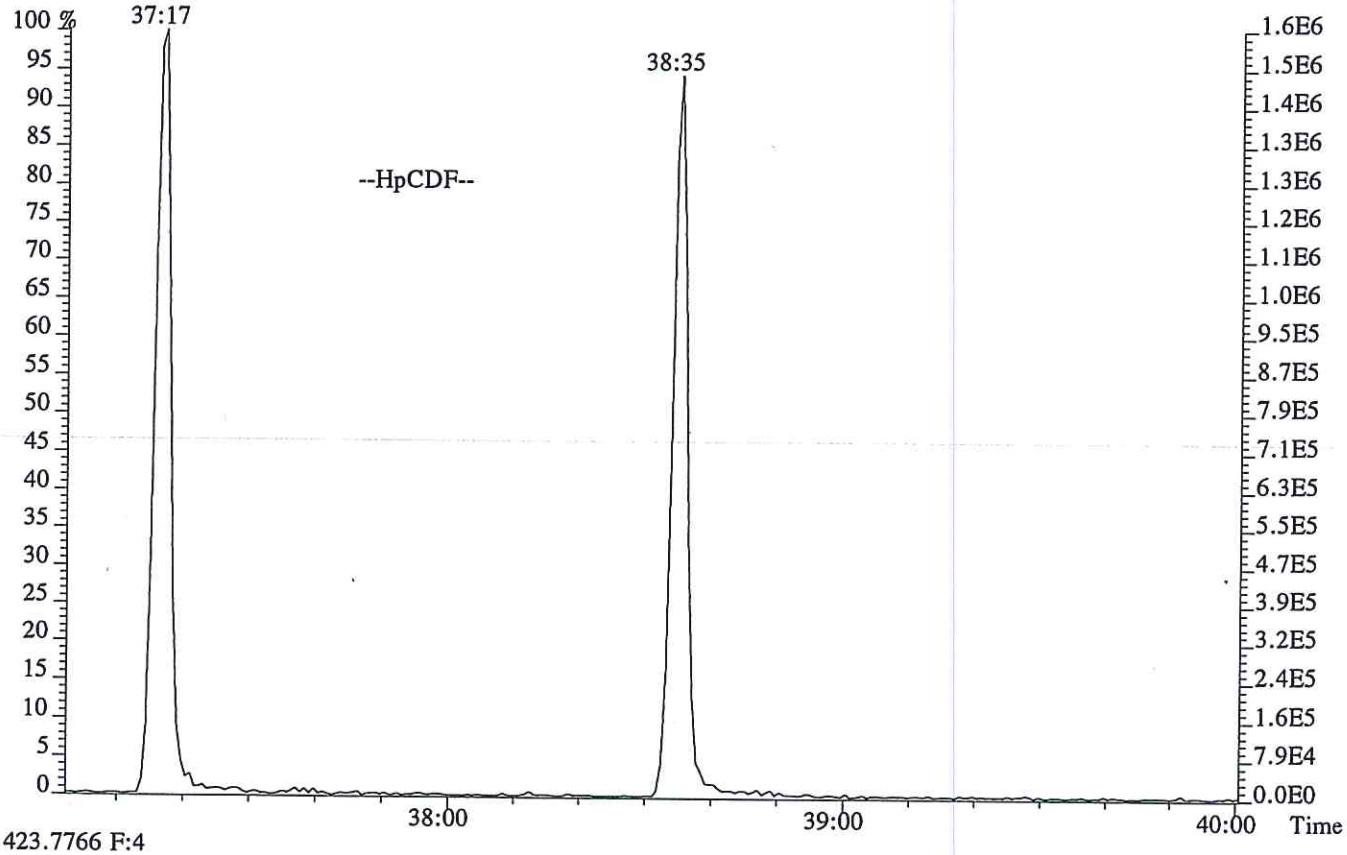
File:P607178 #1-339 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
373.8208 F:3



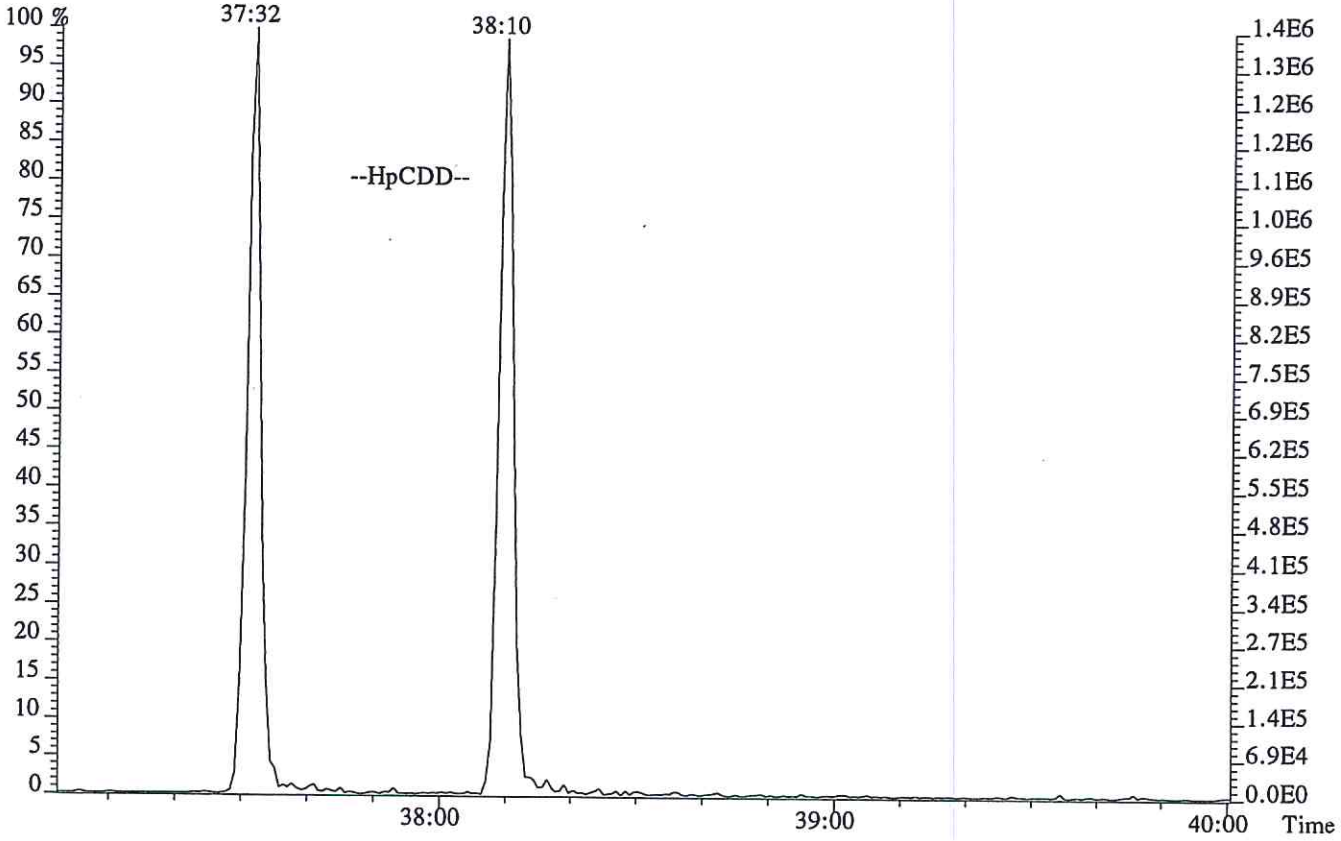
389.8157 F:3



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

	RR/RRF								
Target Analytes	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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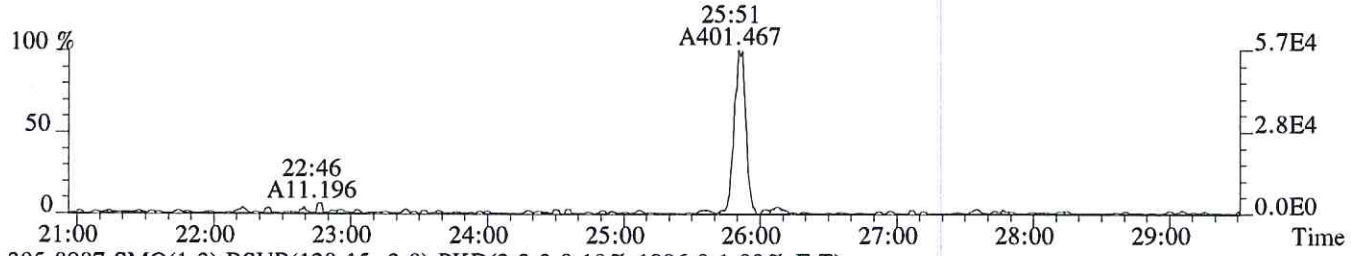
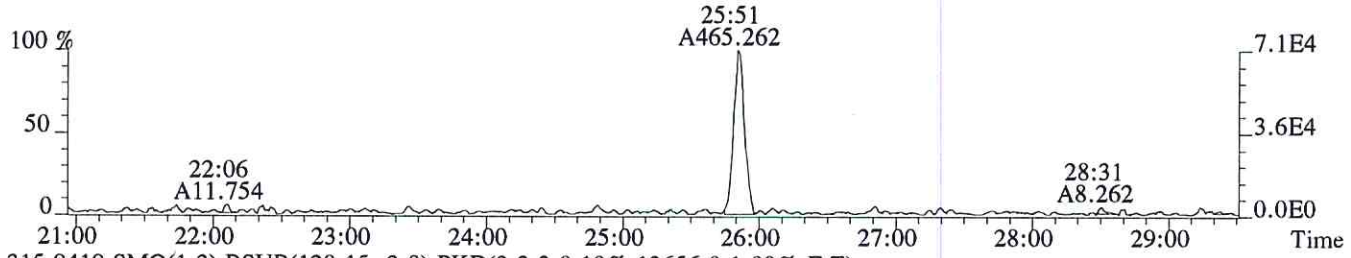
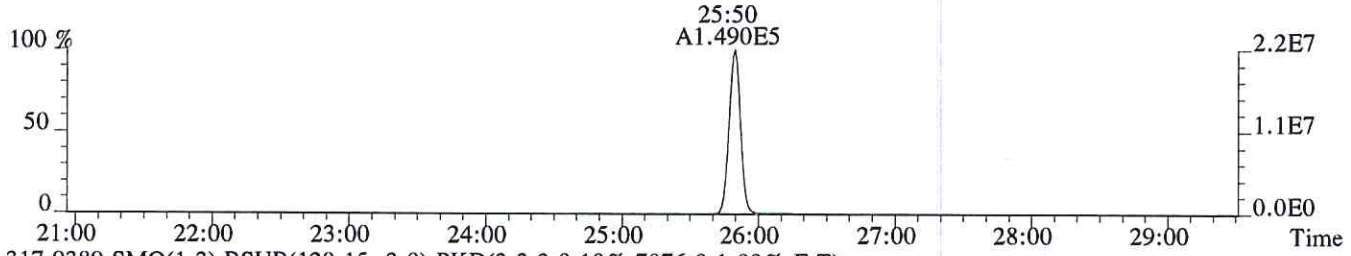
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



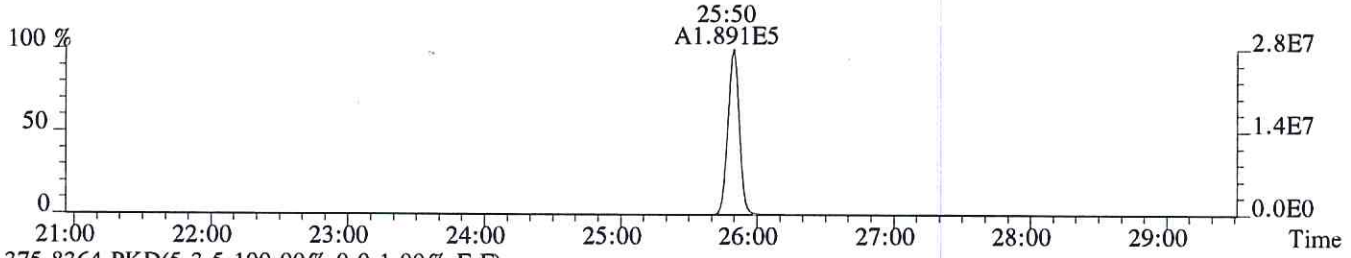
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1996.0,1.00%,F,T)



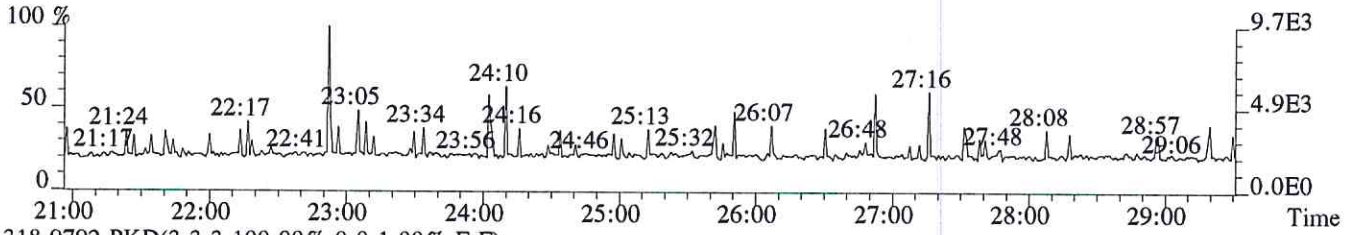
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12656.0,1.00%,F,T)



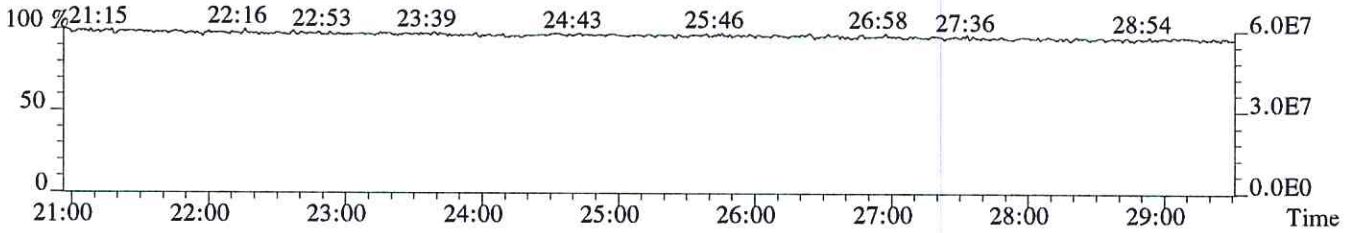
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7076.0,1.00%,F,T)



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

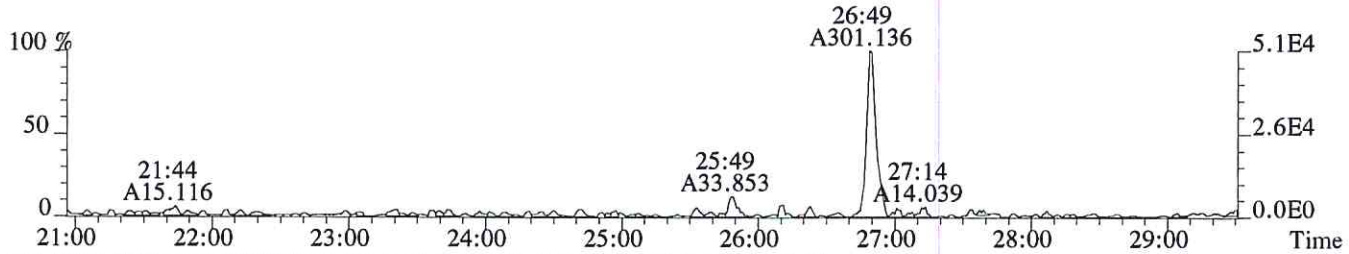


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

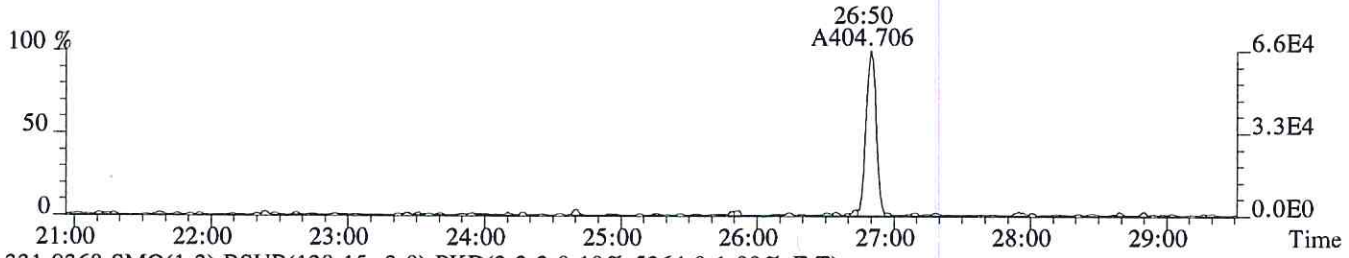


File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5

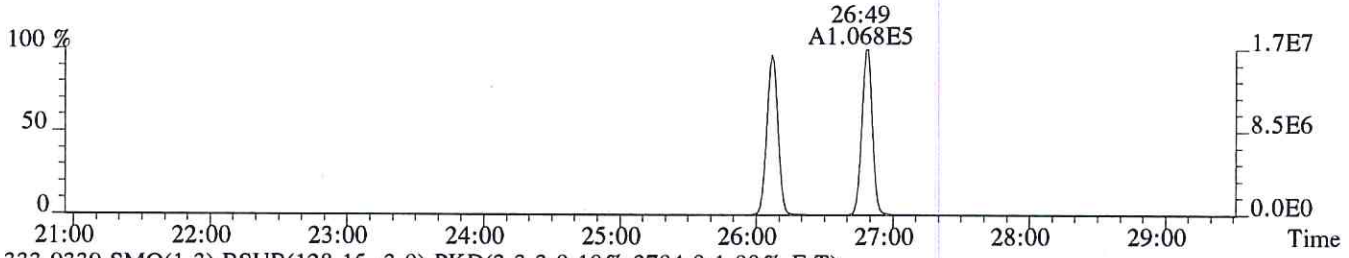
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



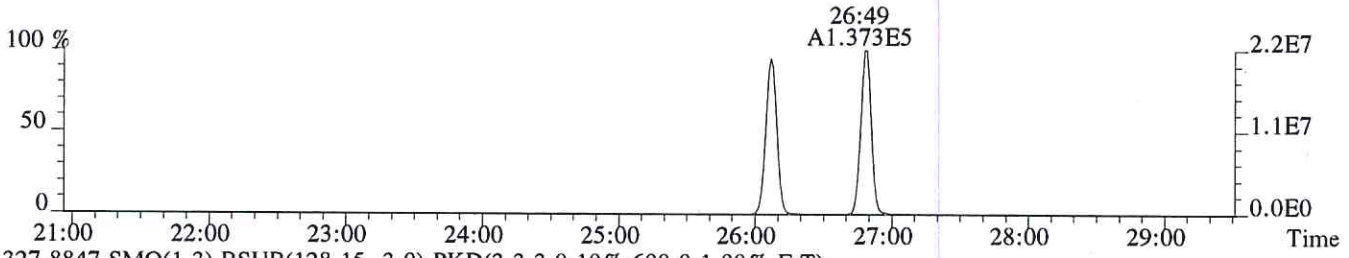
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



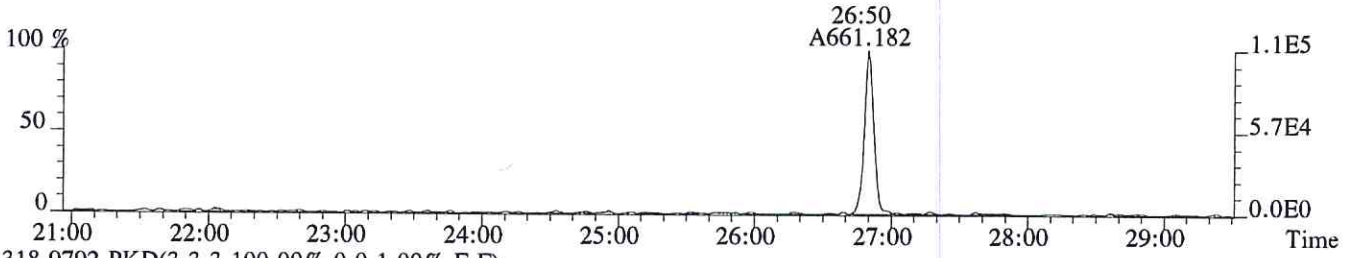
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5264.0,1.00%,F,T)



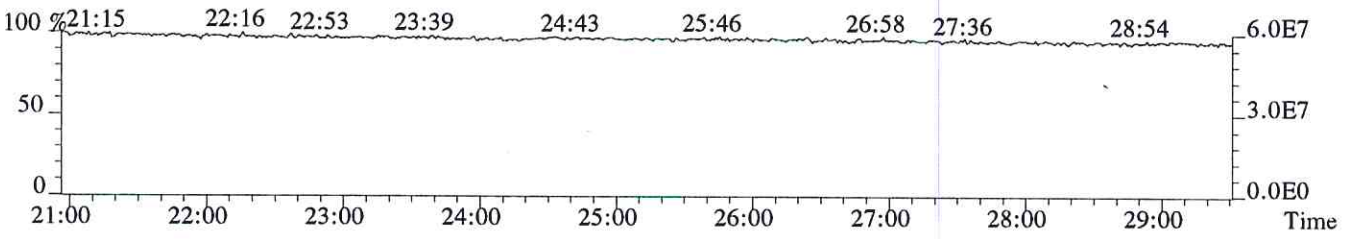
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3704.0,1.00%,F,T)



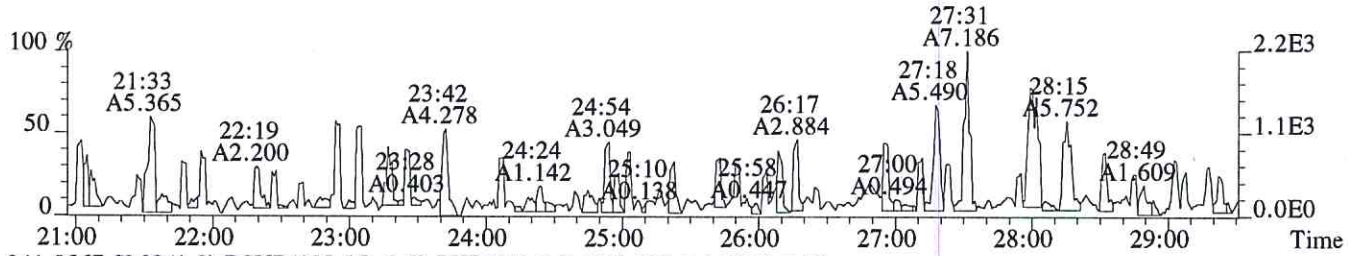
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



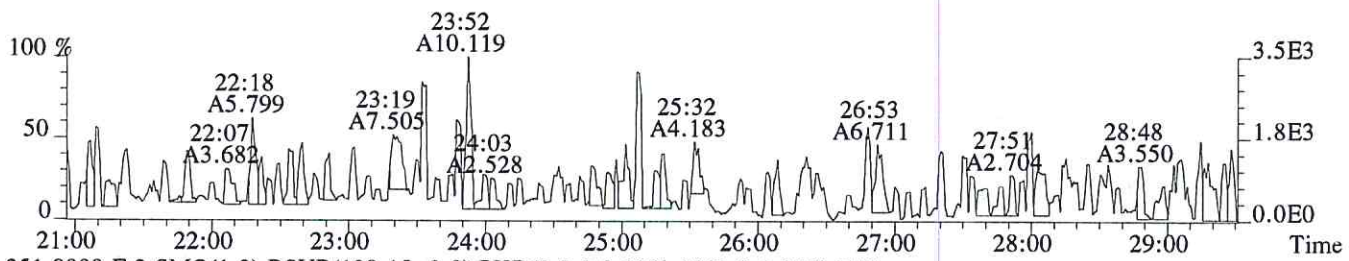
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



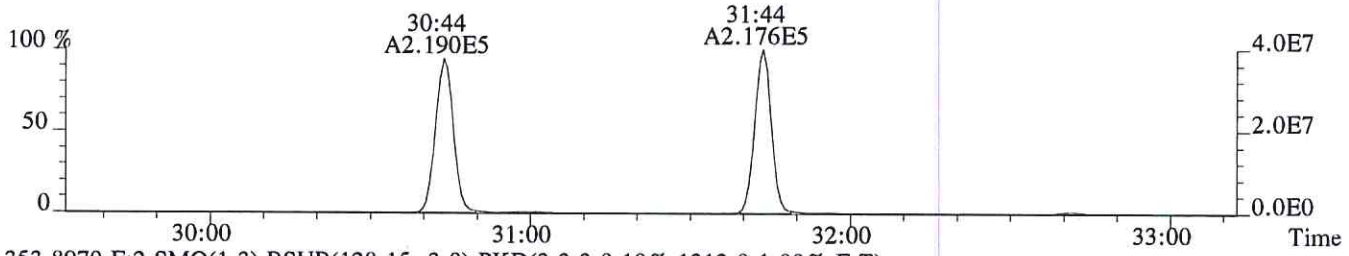
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



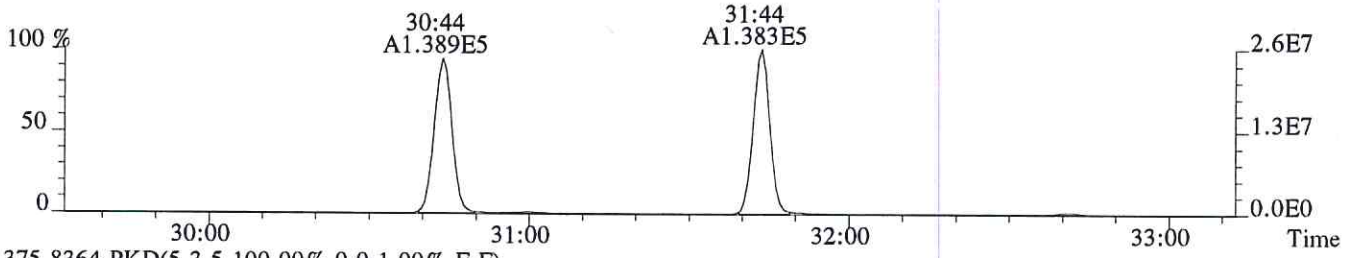
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



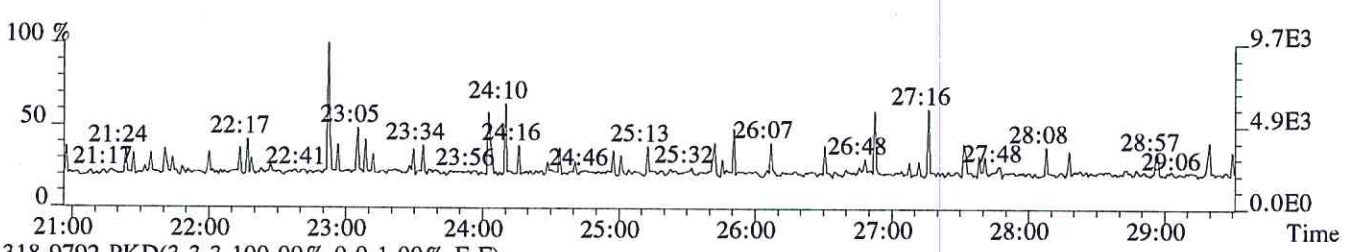
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



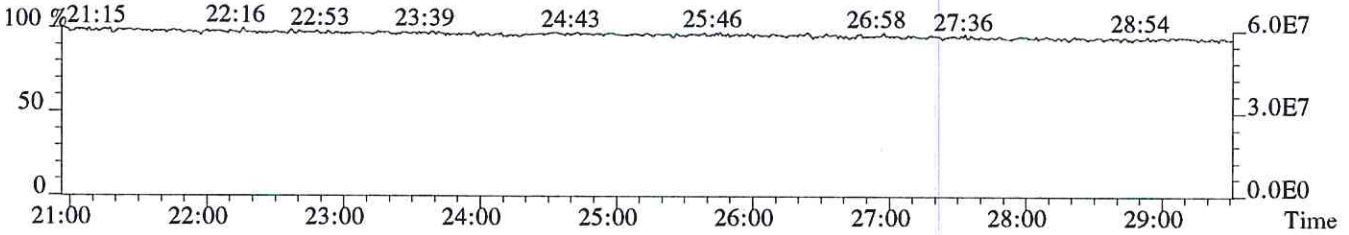
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



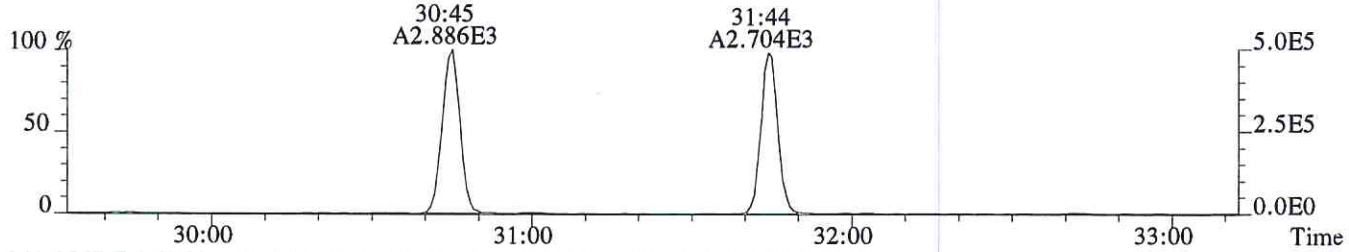
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



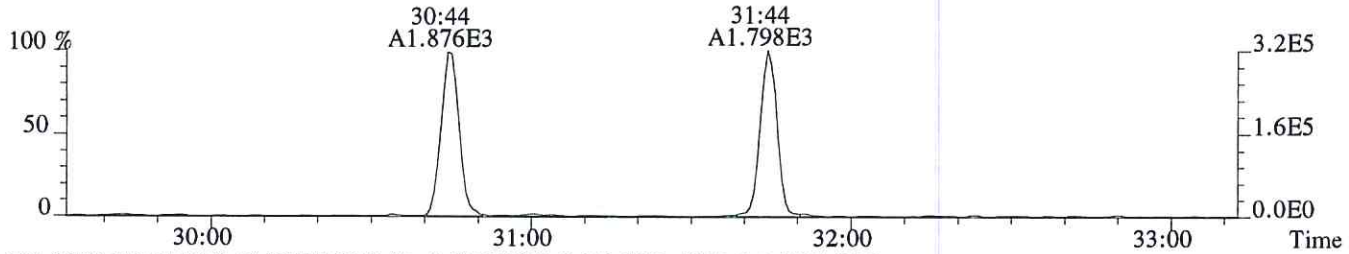
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



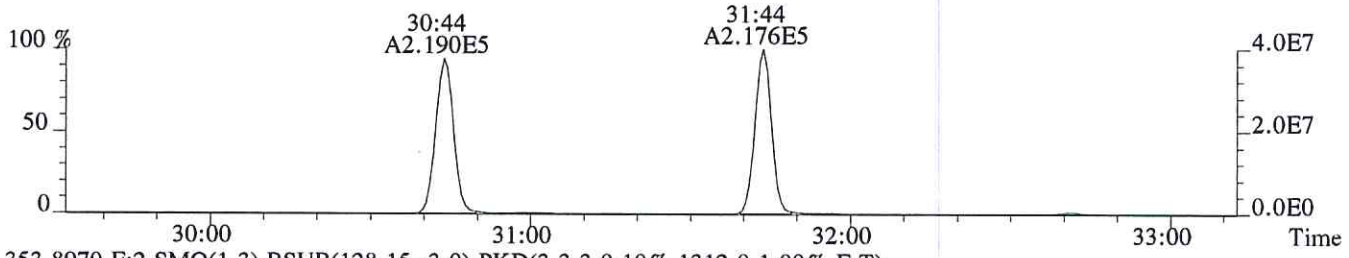
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



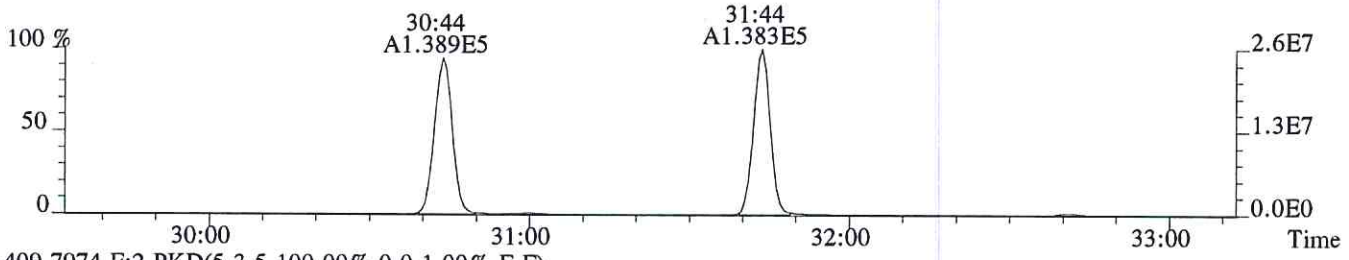
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



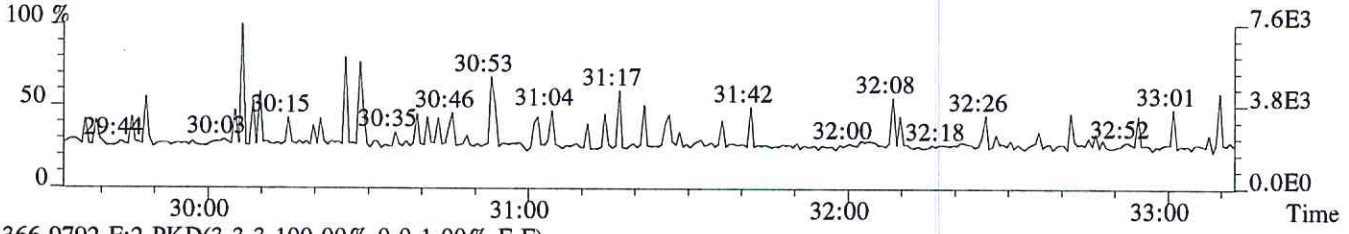
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



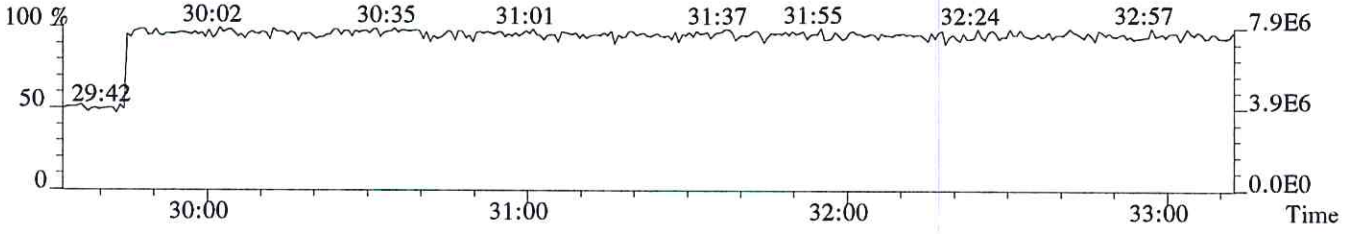
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



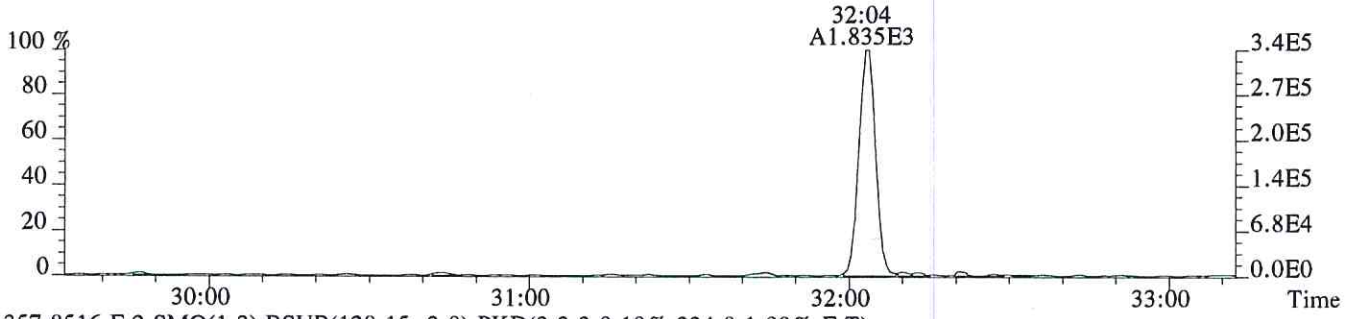
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



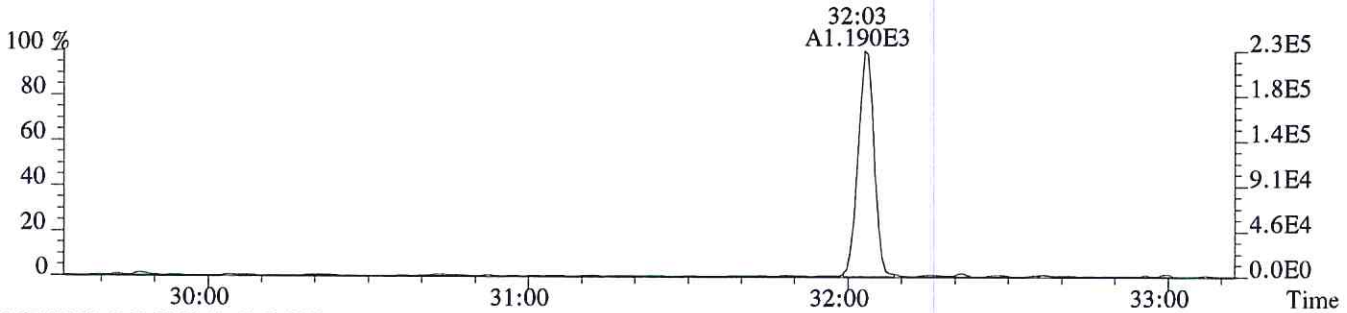
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



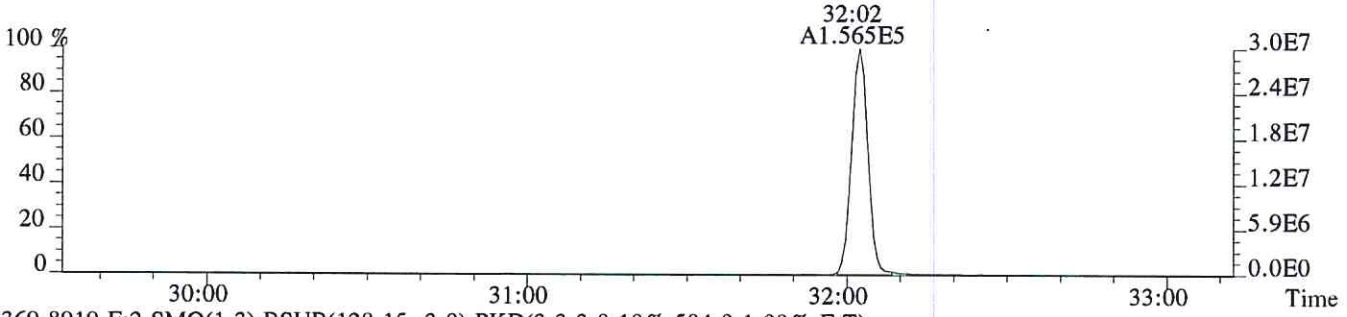
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,T)



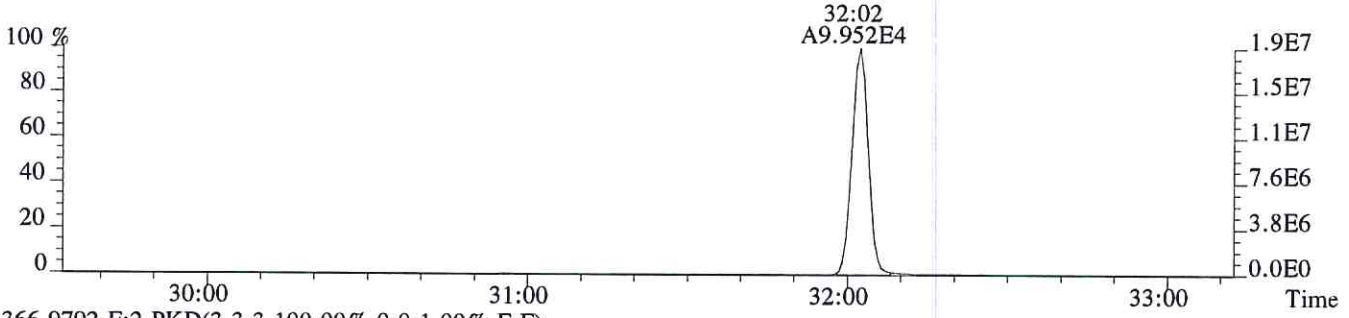
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



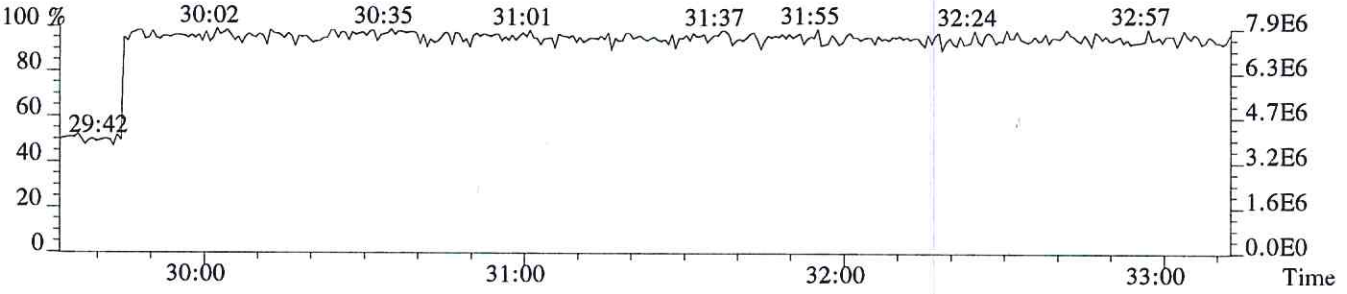
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)

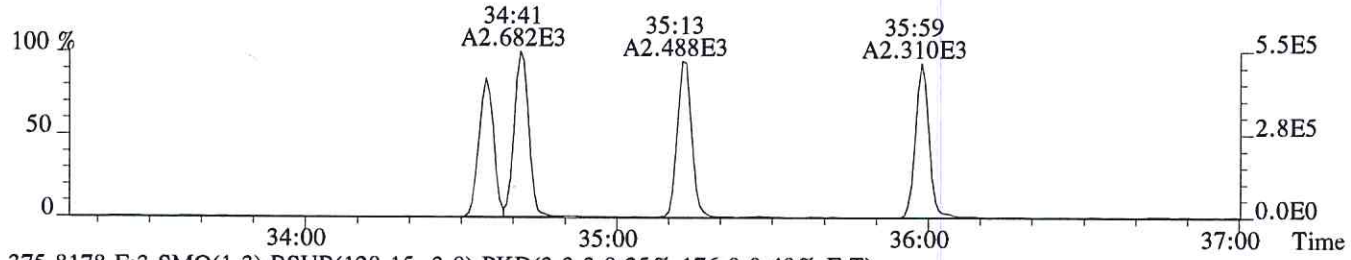


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

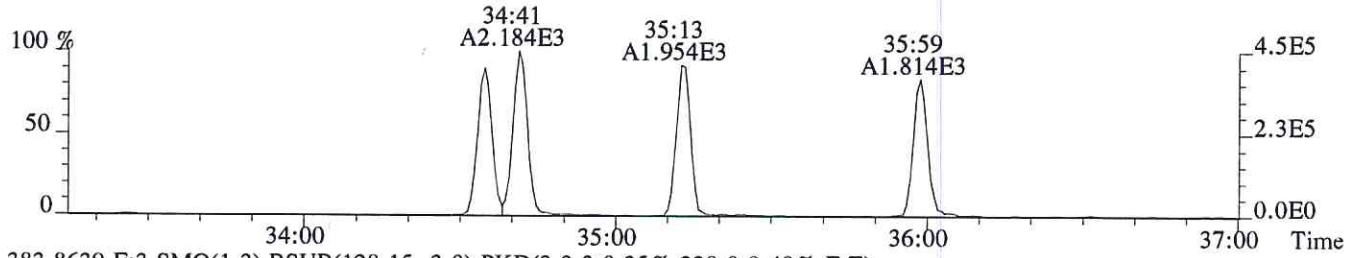


File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5

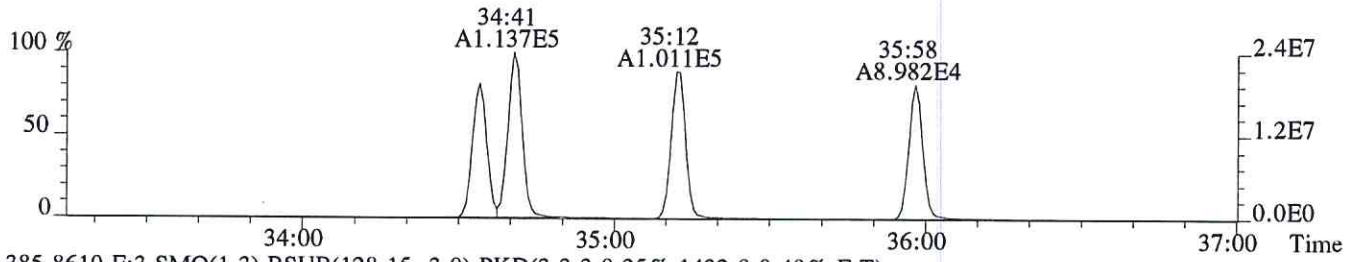
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,T)



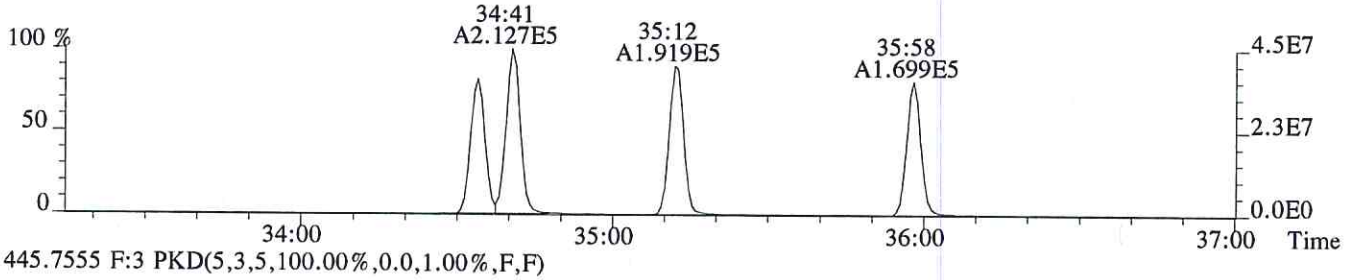
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



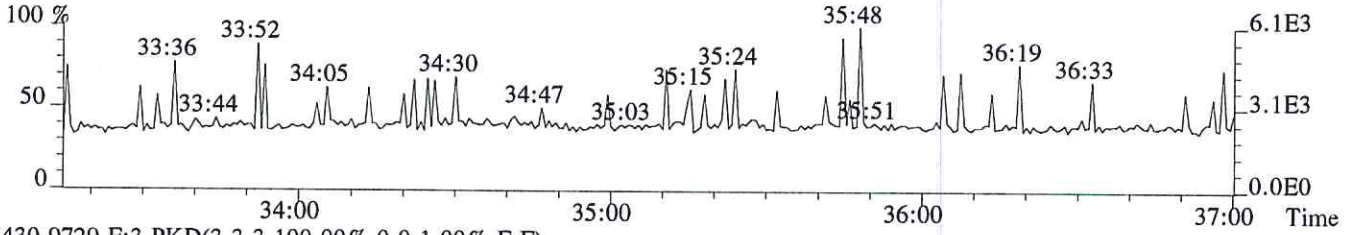
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



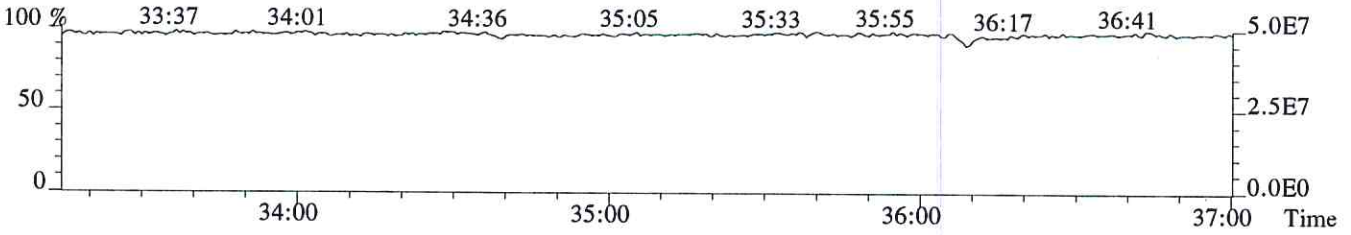
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



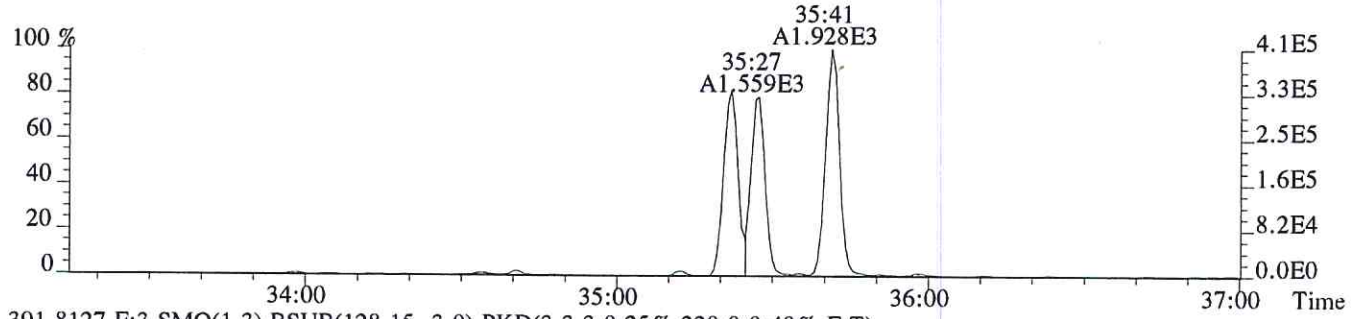
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



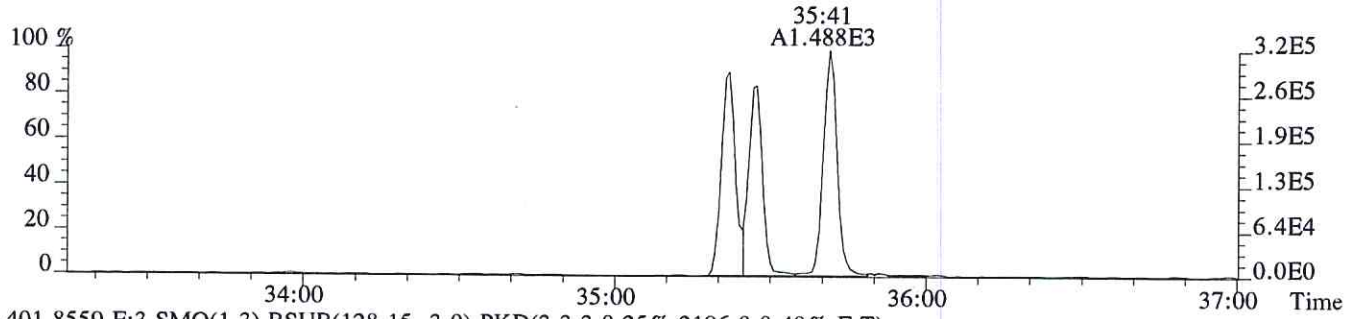
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



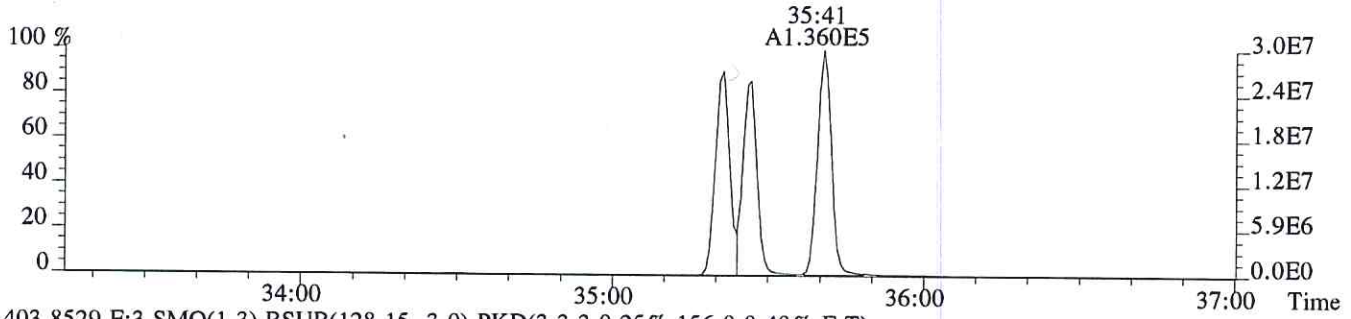
File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



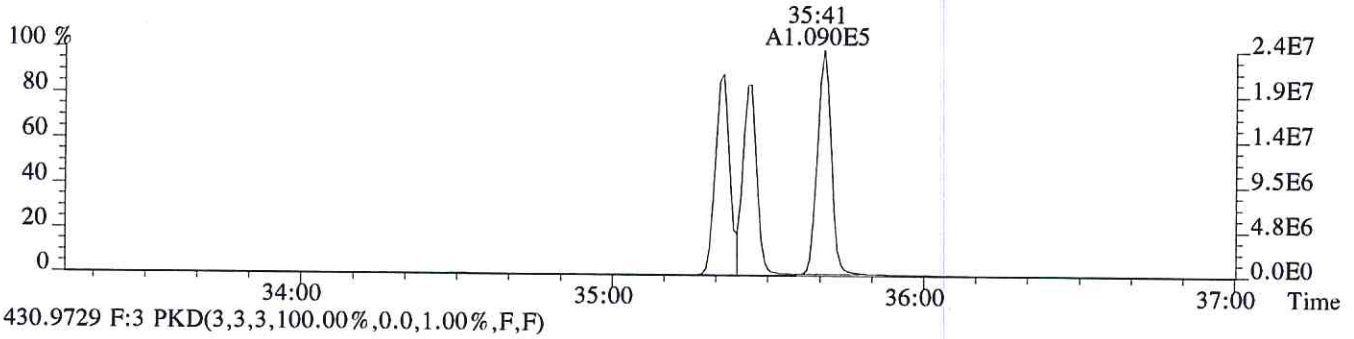
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



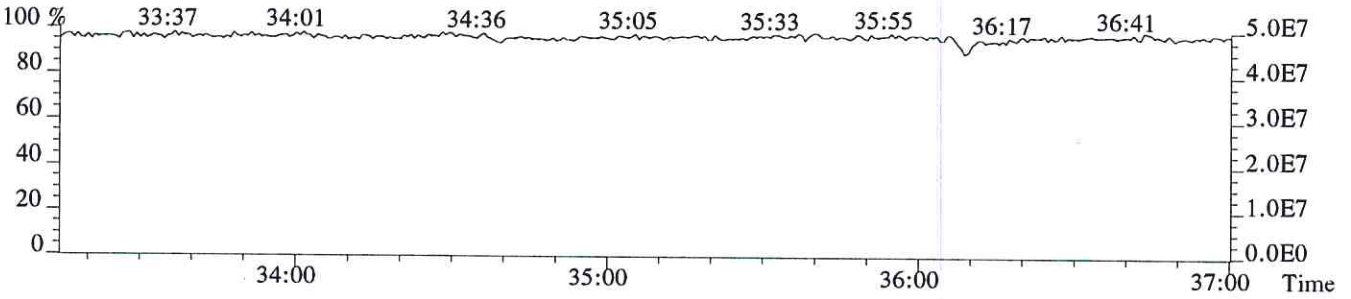
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2196.0,0.40%,F,T)



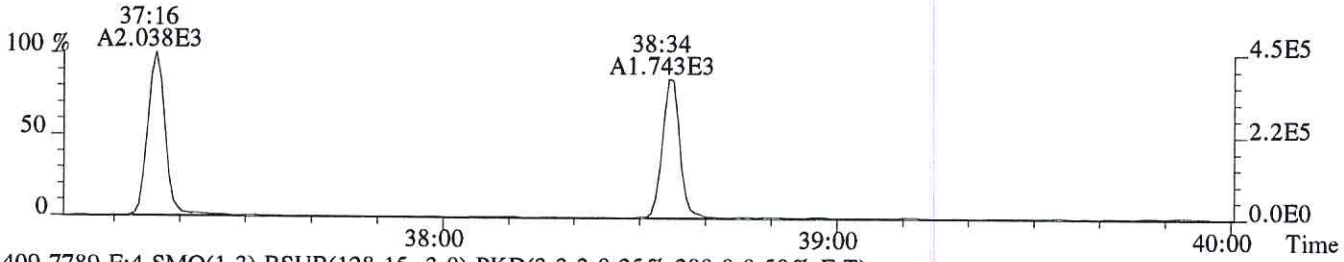
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



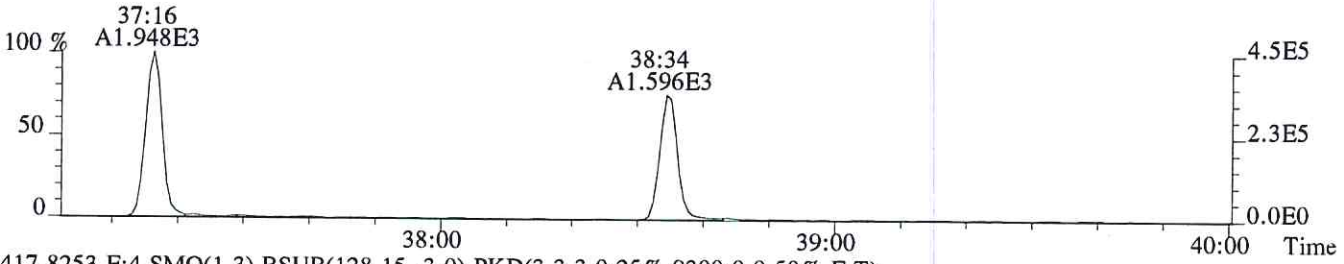
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



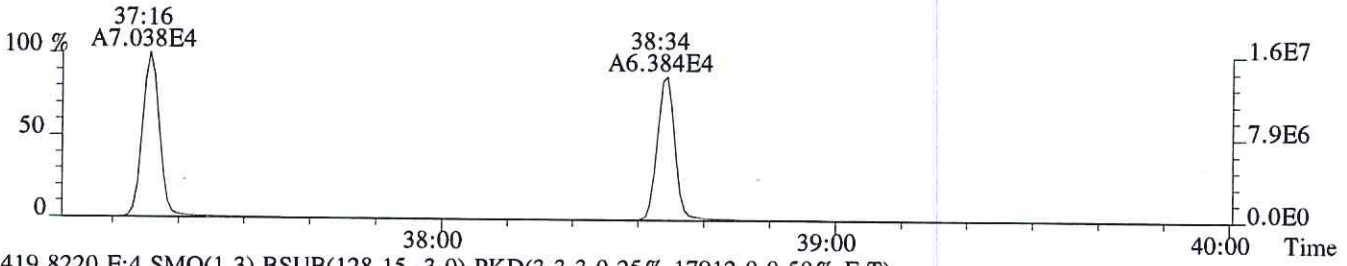
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.50%,F,T)



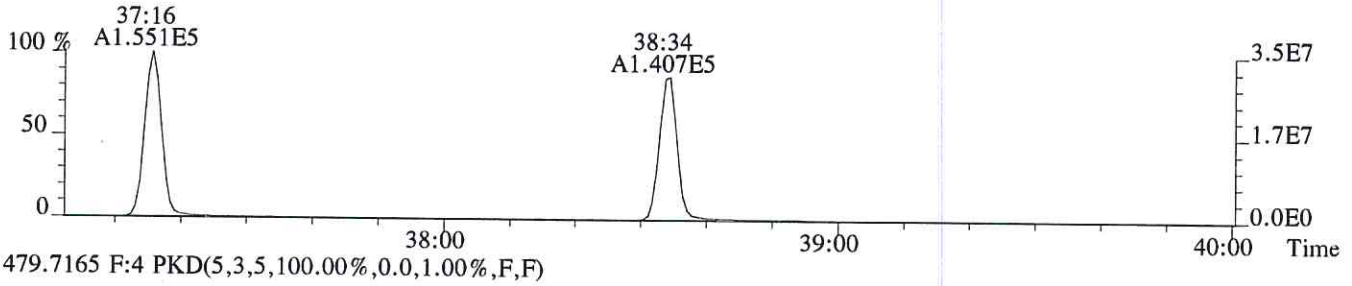
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.50%,F,T)



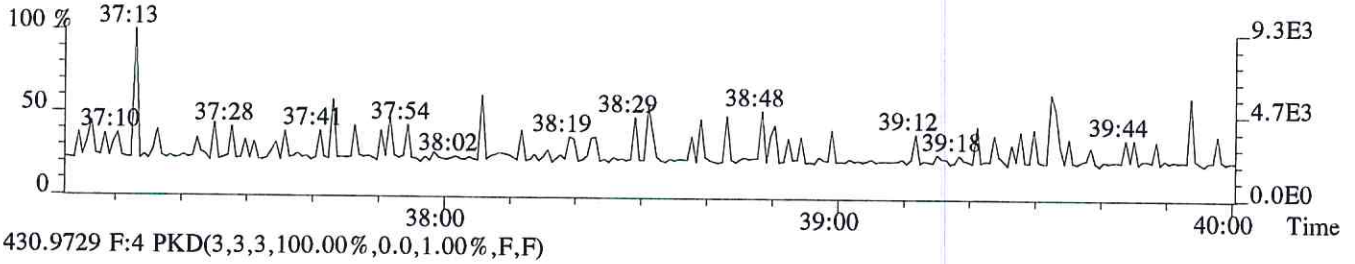
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9300.0,0.50%,F,T)



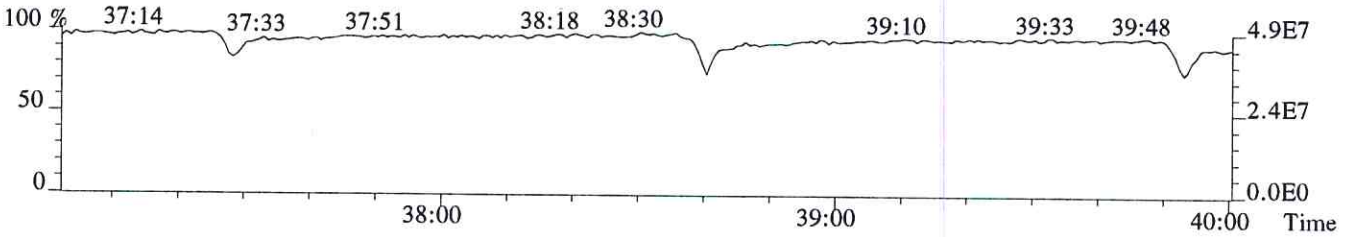
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17912.0,0.50%,F,T)



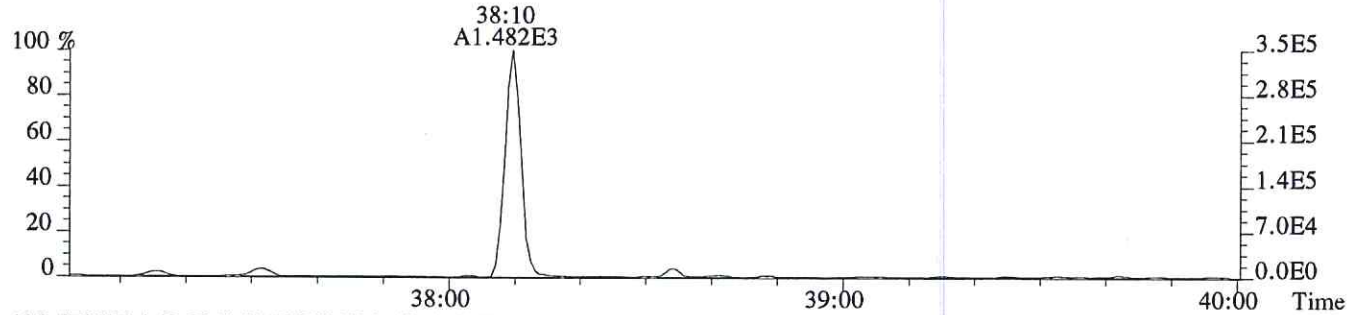
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



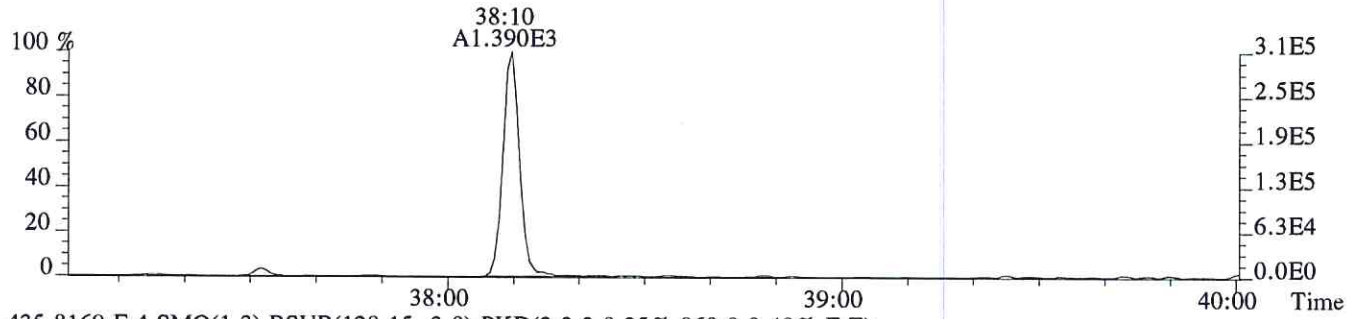
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



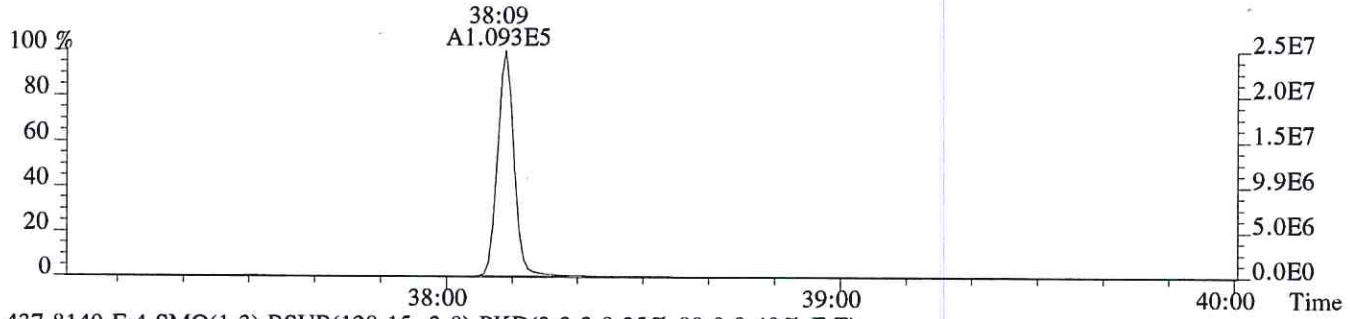
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1244.0,0.40%,F,T)



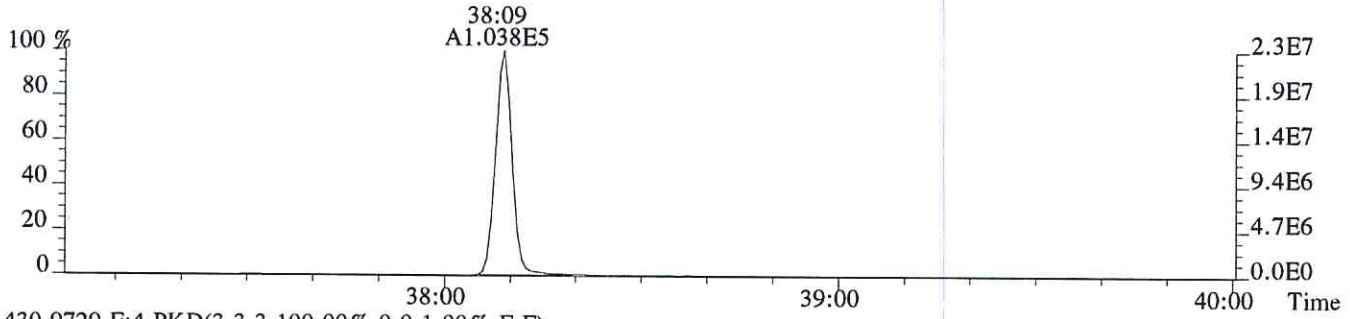
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



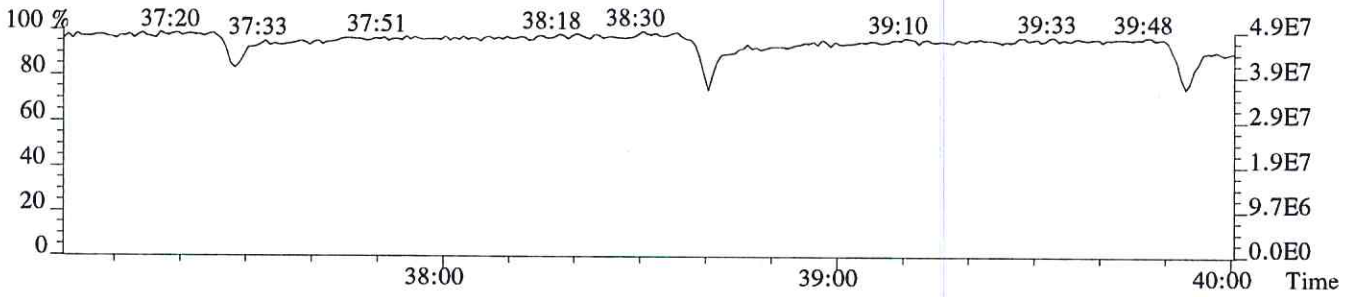
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



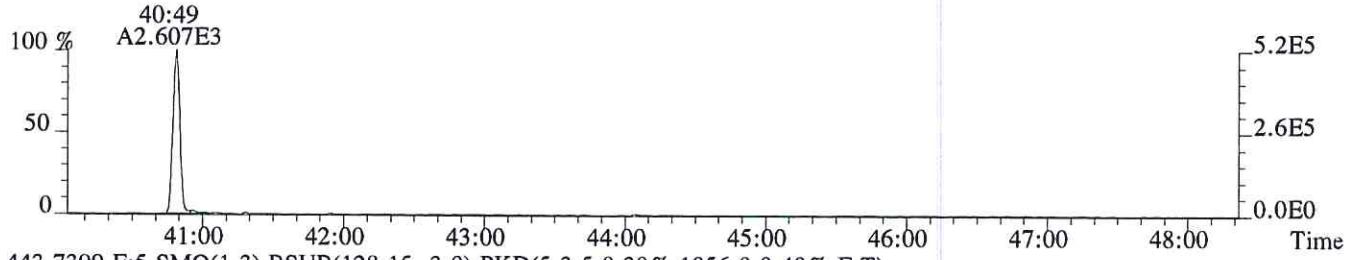
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,T)



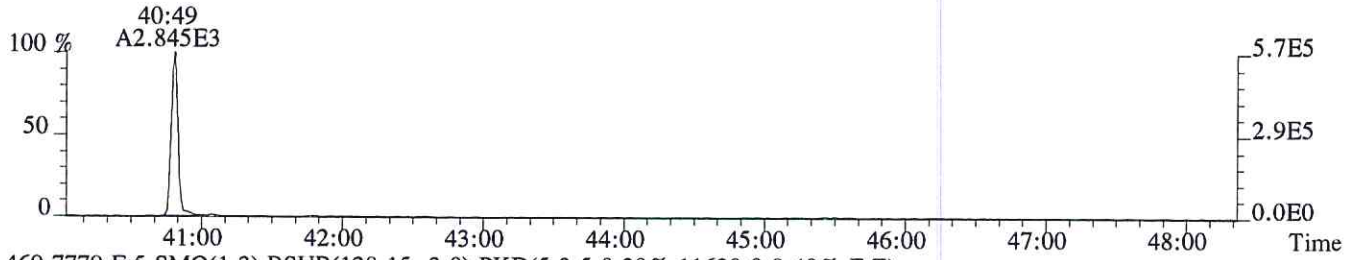
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



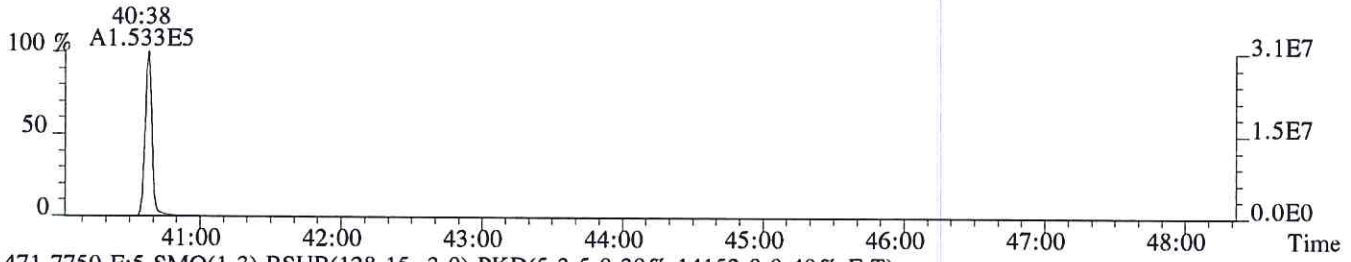
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1444.0,0.40%,F,T)



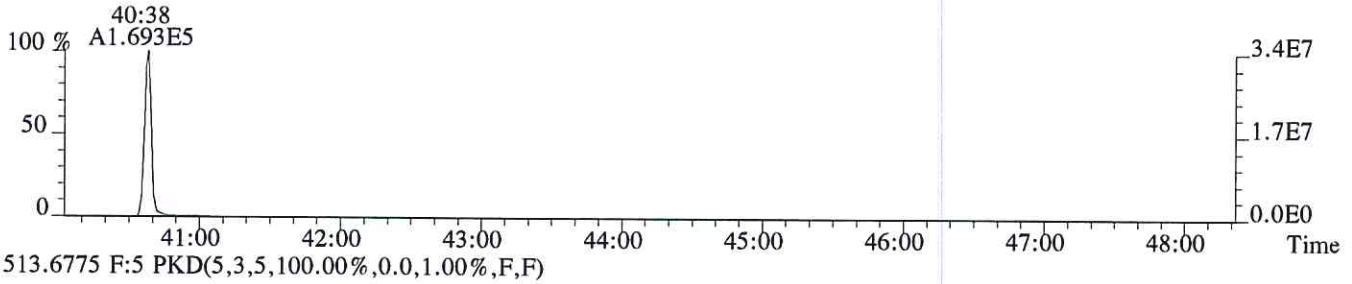
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)



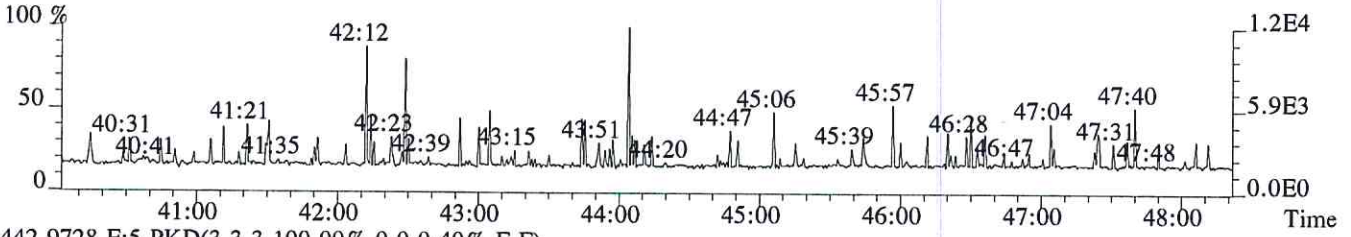
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



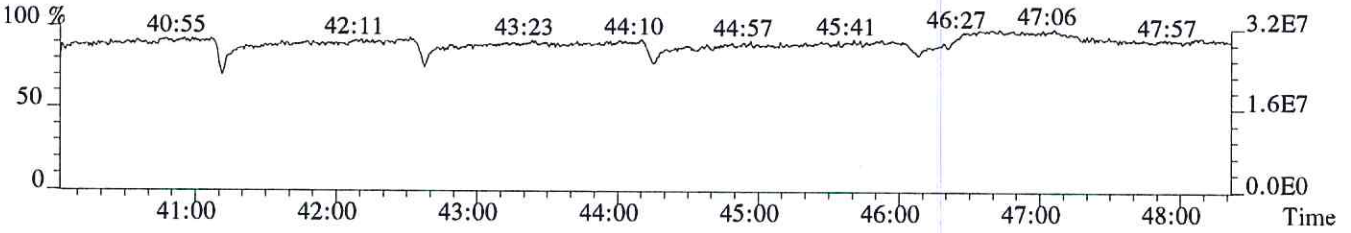
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14152.0,0.40%,F,T)



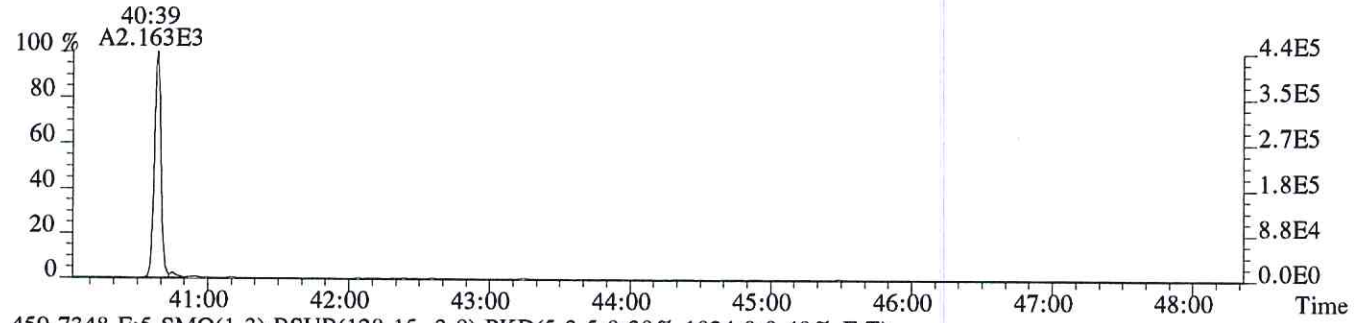
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



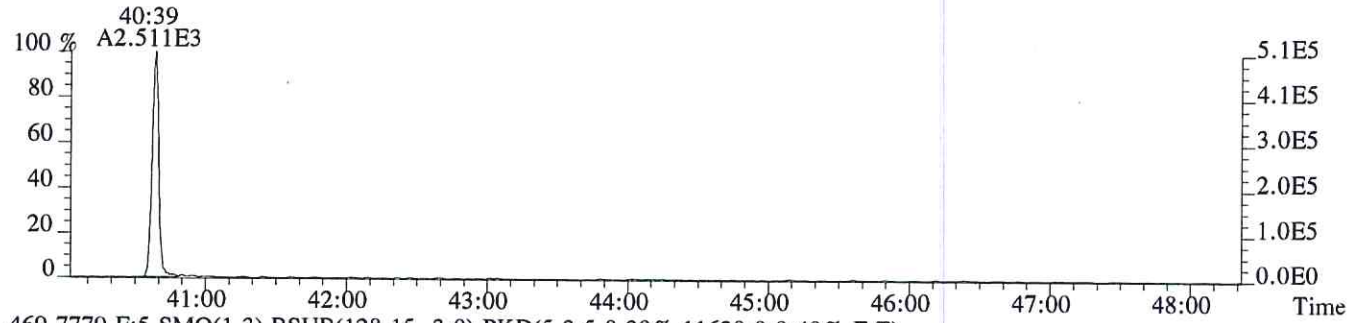
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



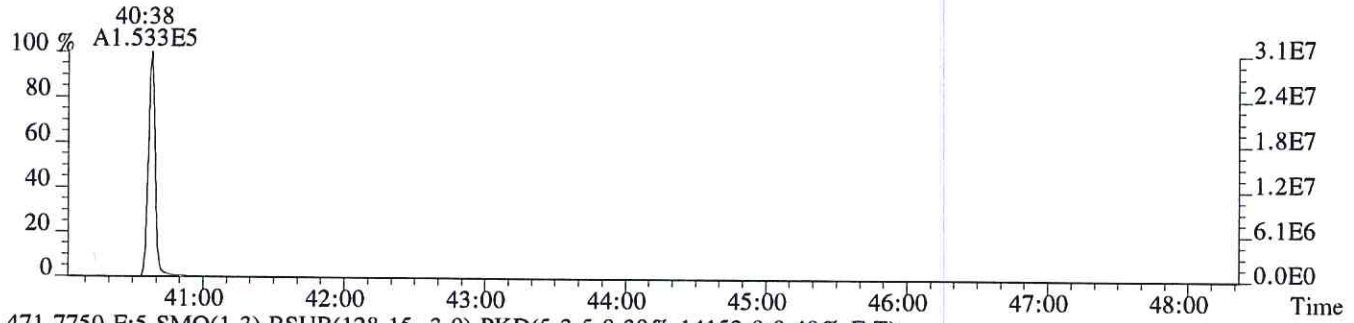
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1188.0,0.40%,F,T)



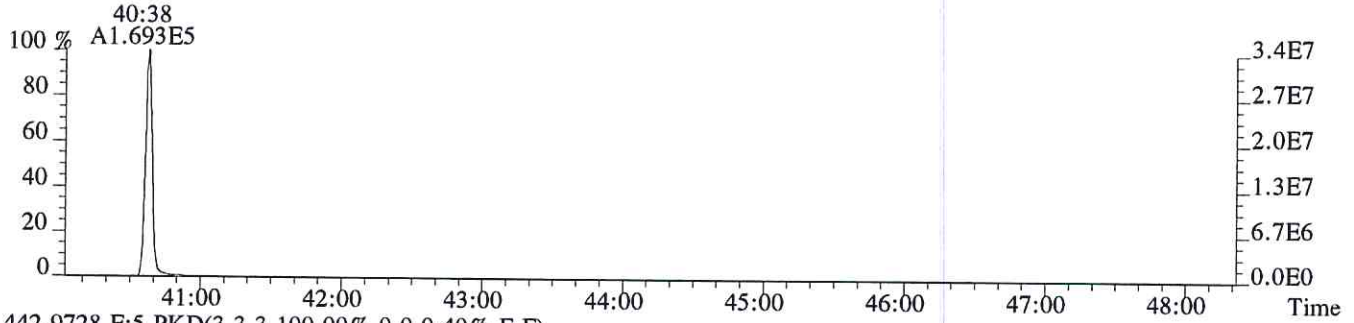
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



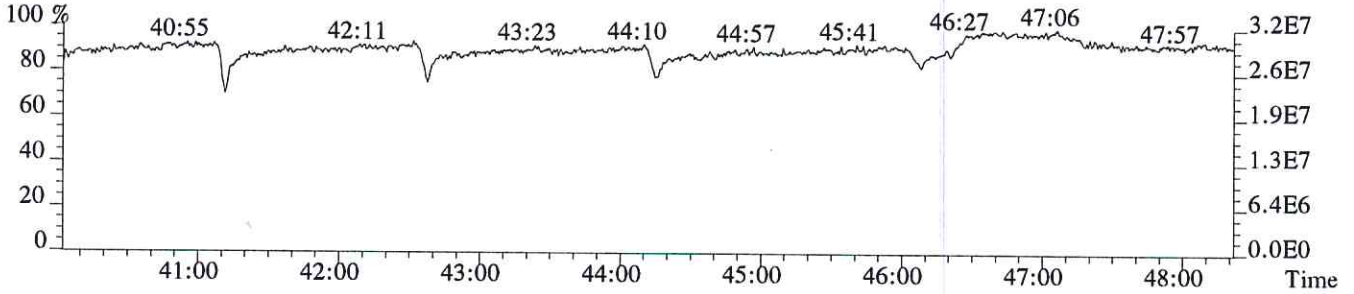
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



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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ALS ENVIRONMENTAL
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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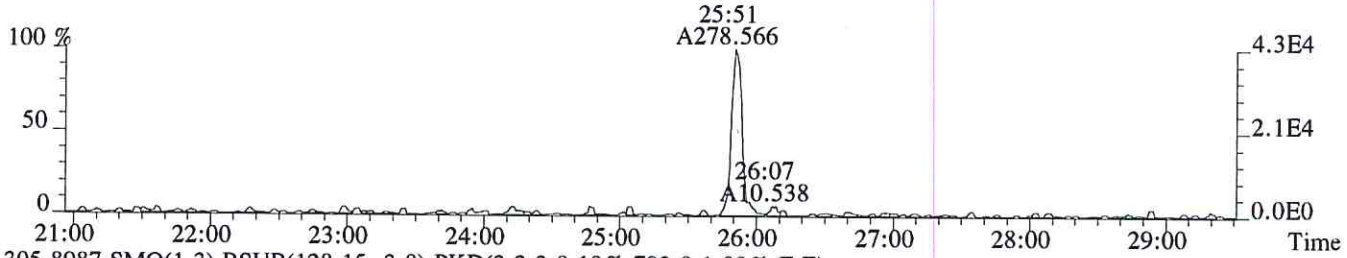
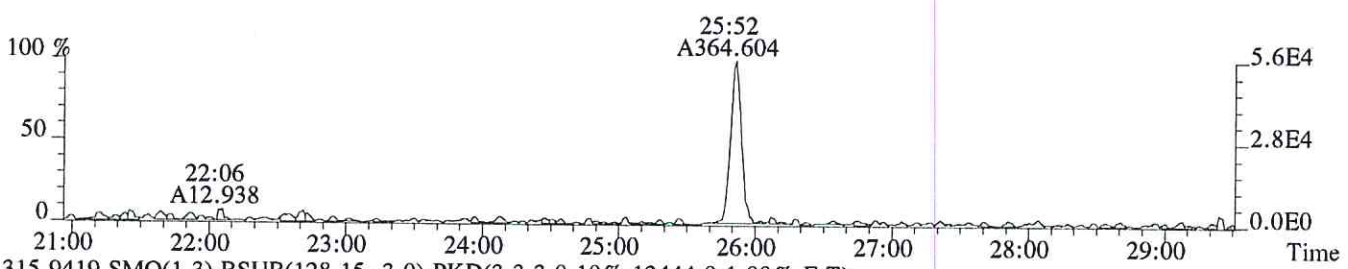
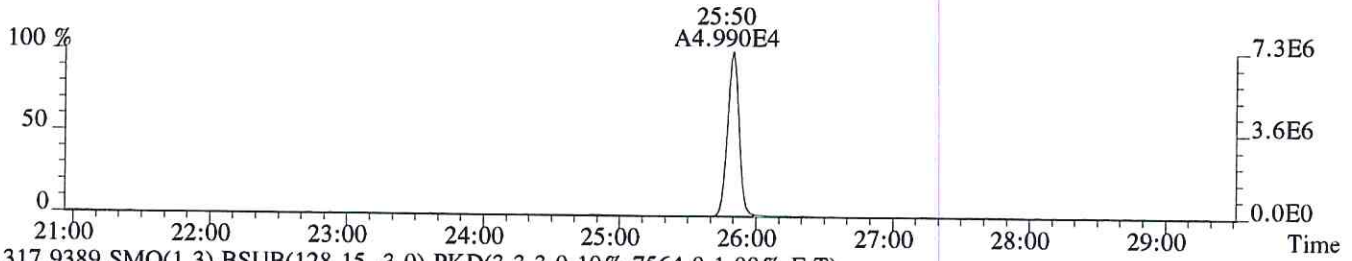
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



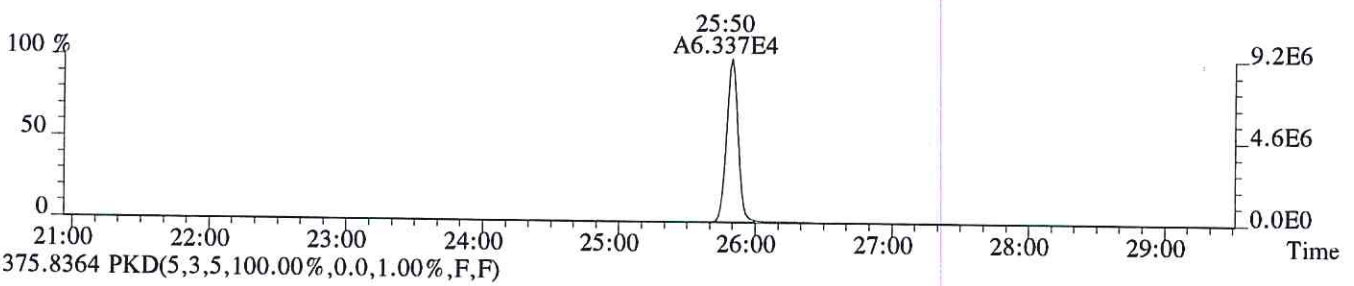
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



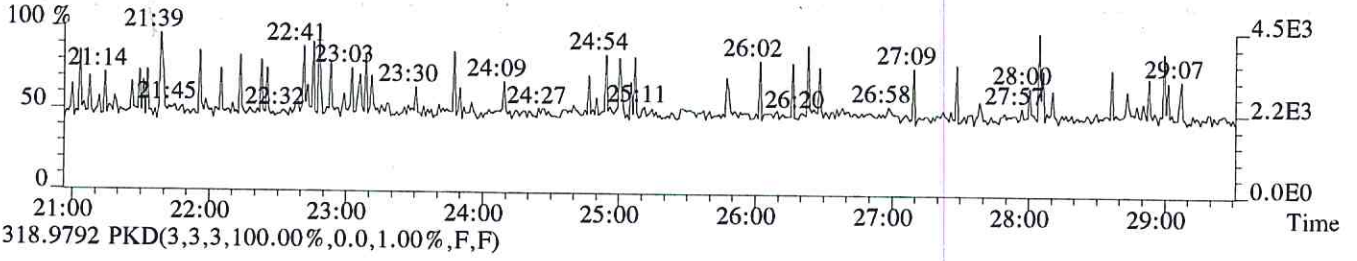
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12444.0,1.00%,F,T)



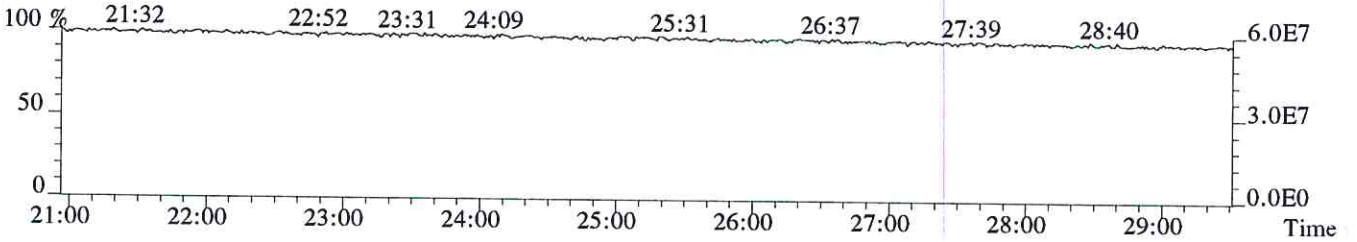
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7564.0,1.00%,F,T)



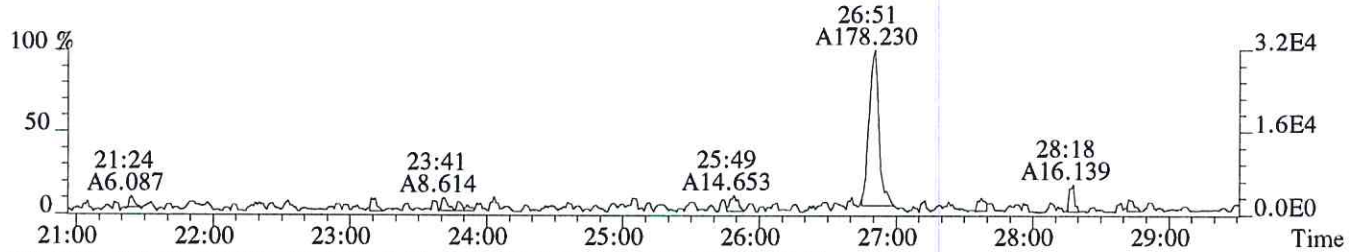
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



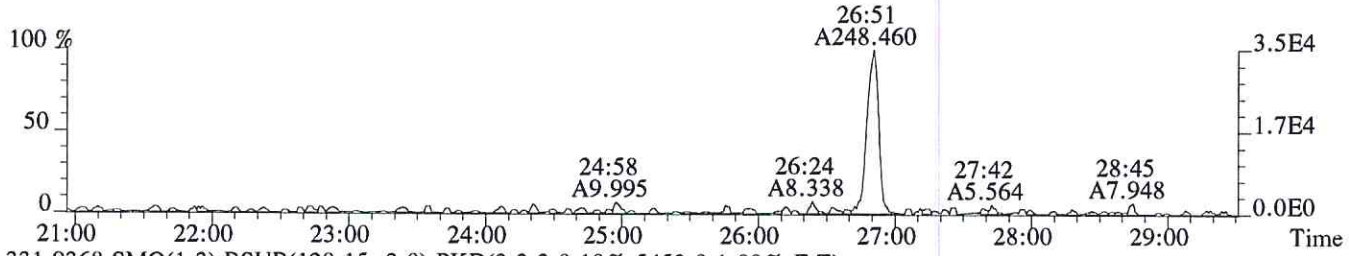
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



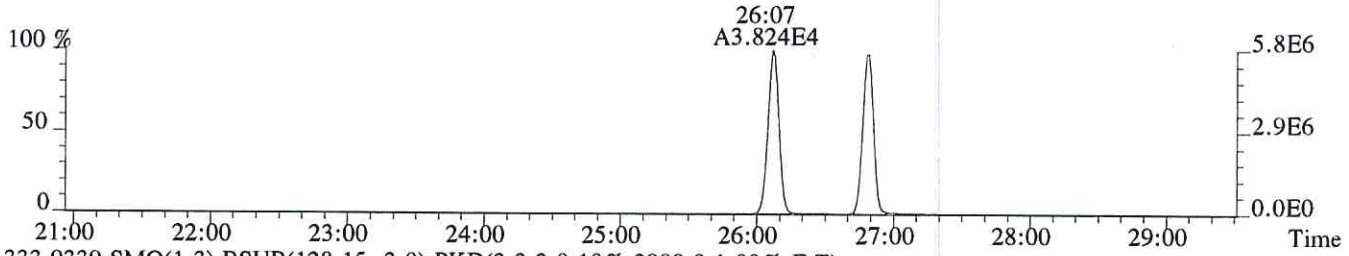
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



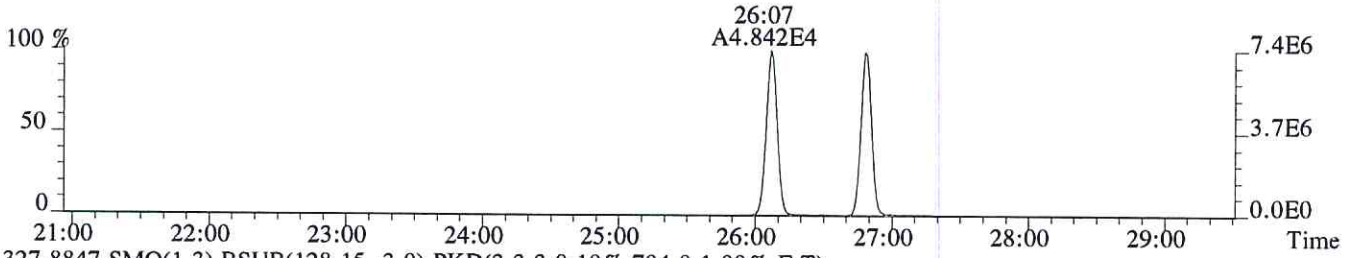
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



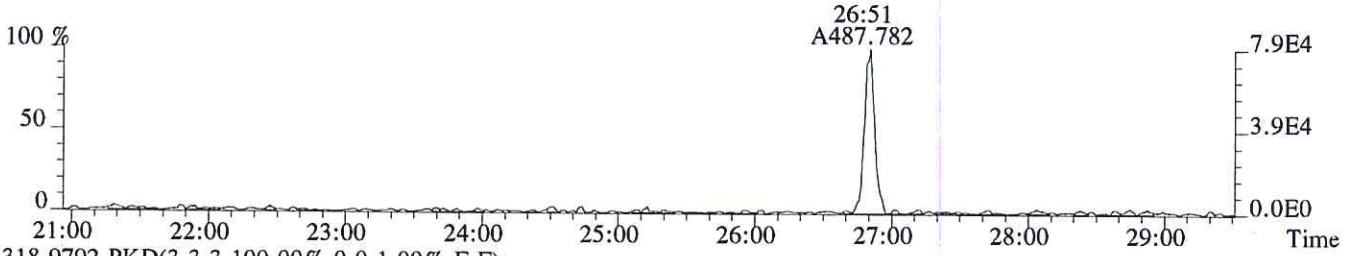
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5452.0,1.00%,F,T)



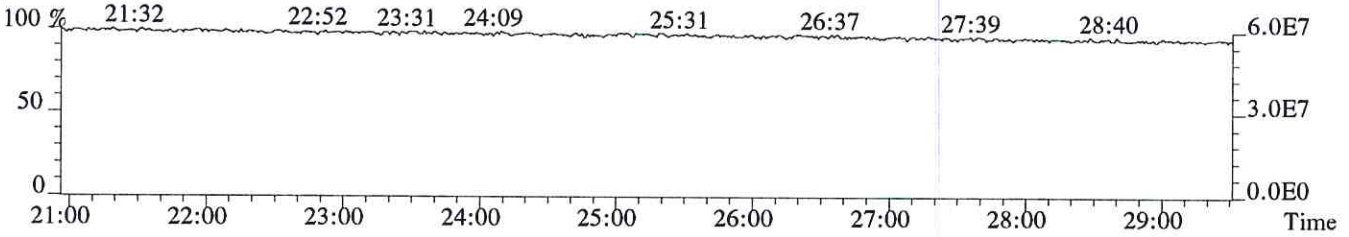
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



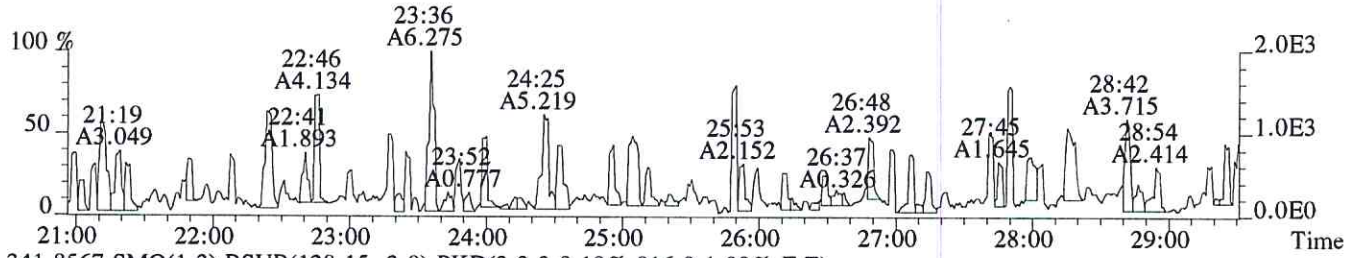
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



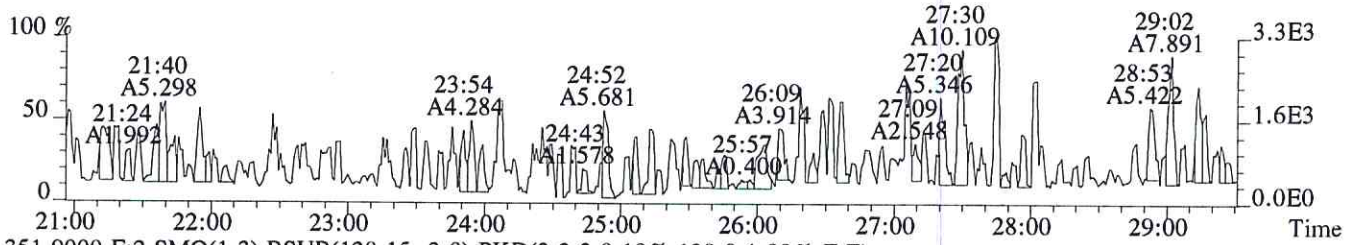
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



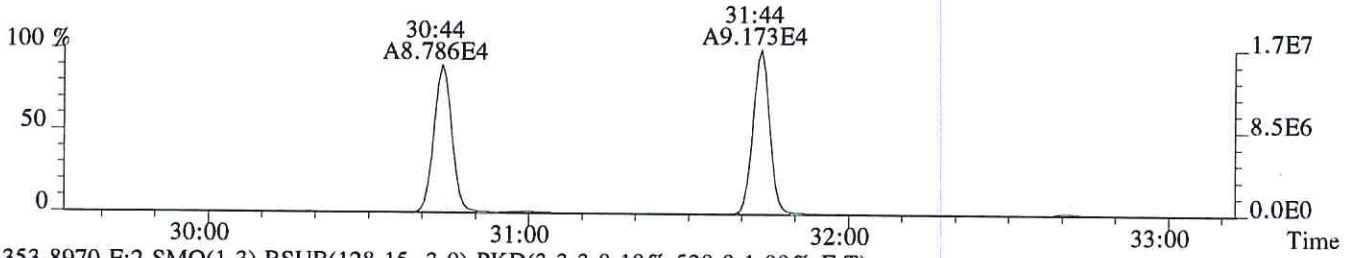
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



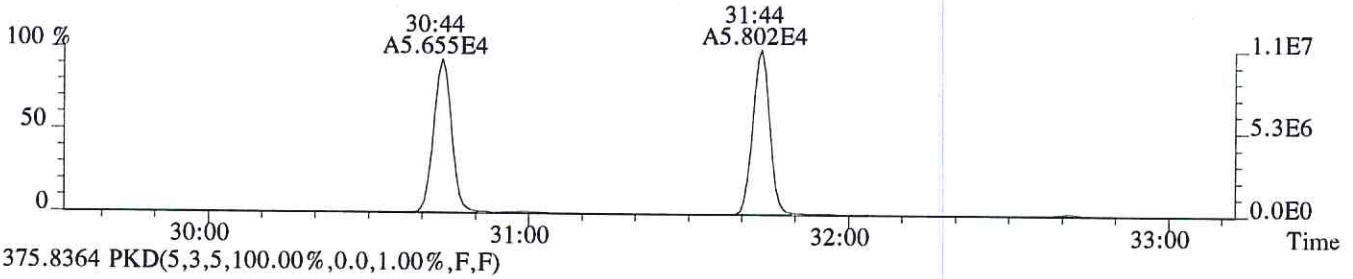
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



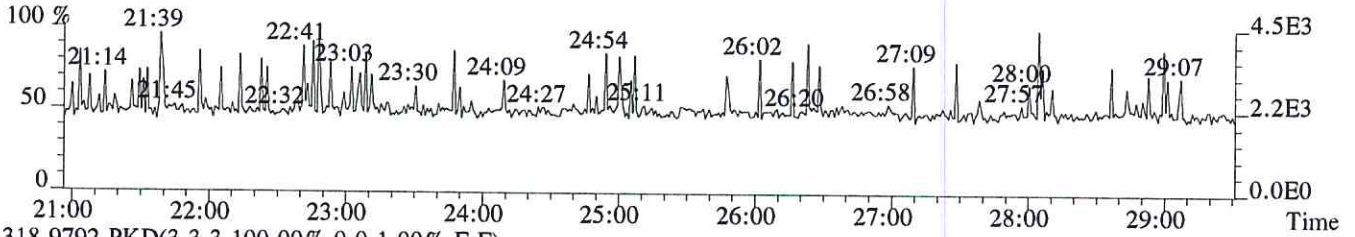
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



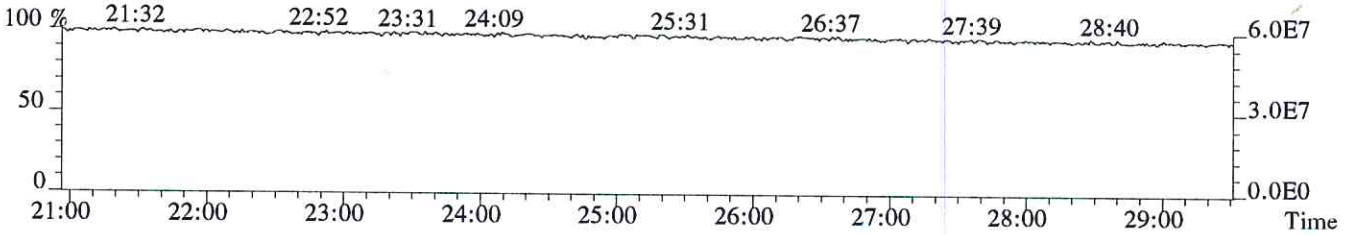
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



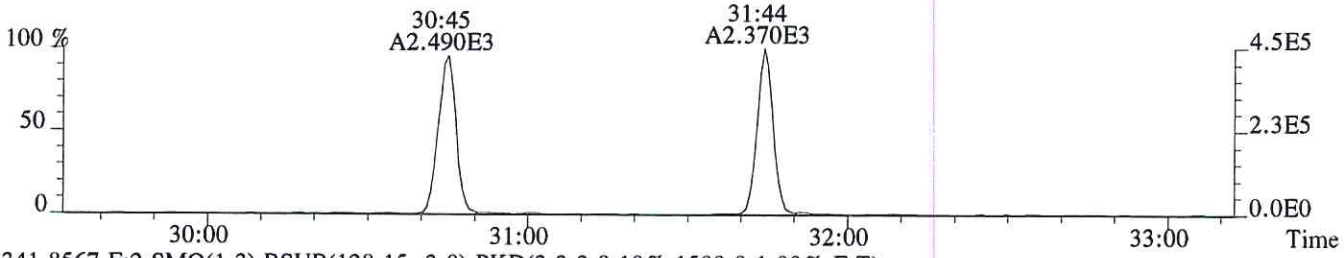
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



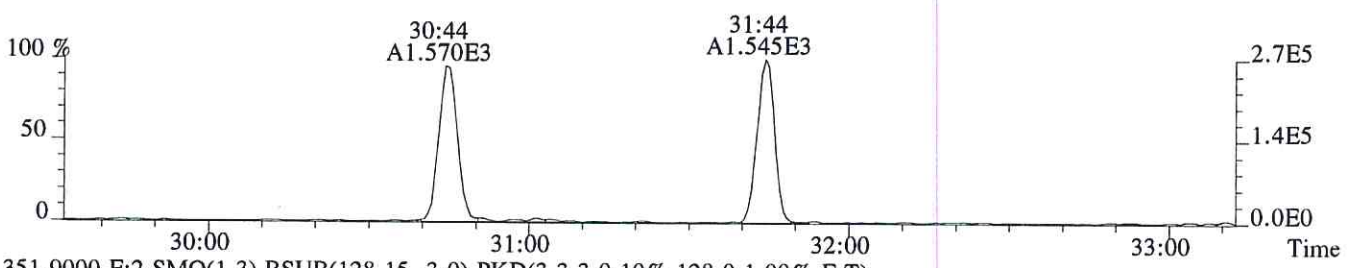
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



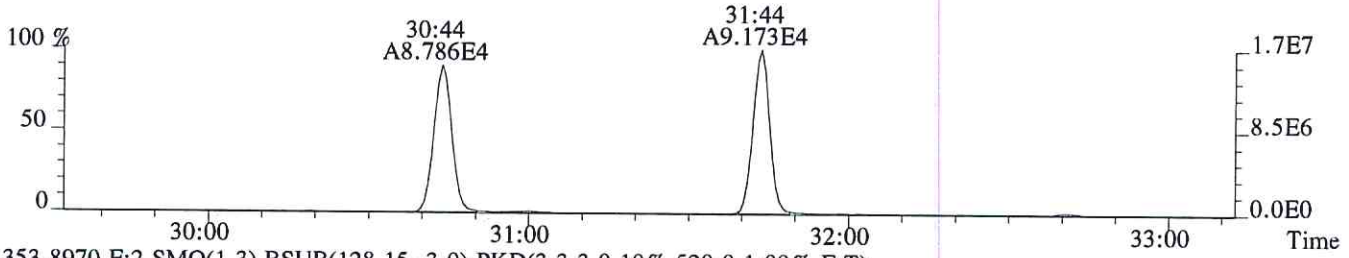
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,164.0,1.00%,F,T)



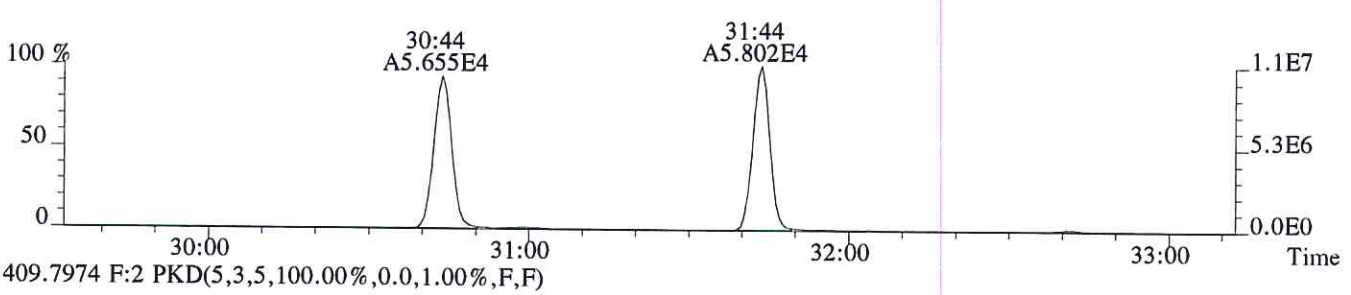
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



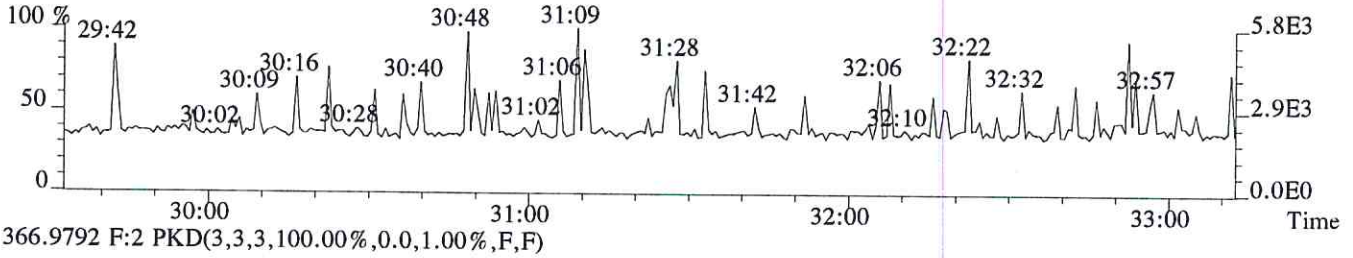
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



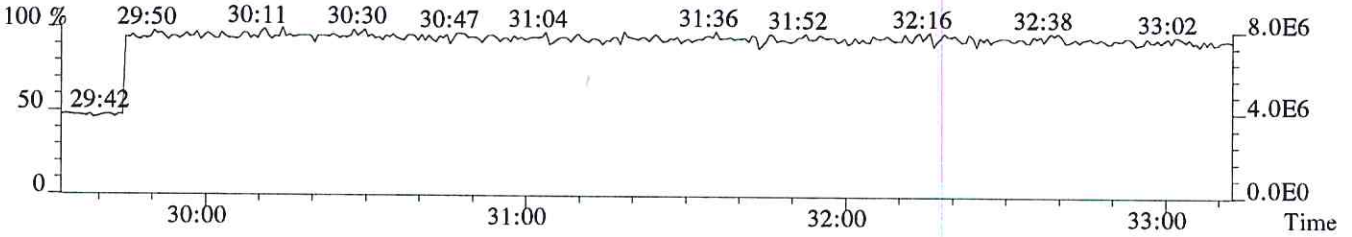
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



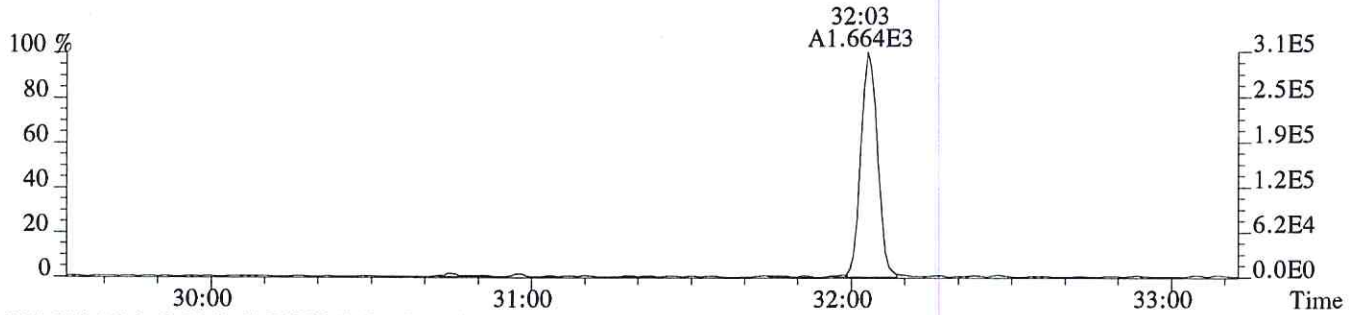
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



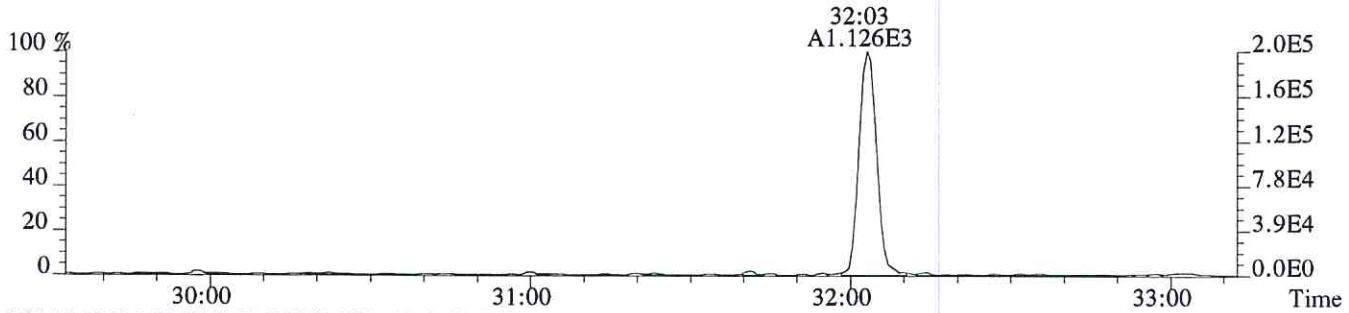
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



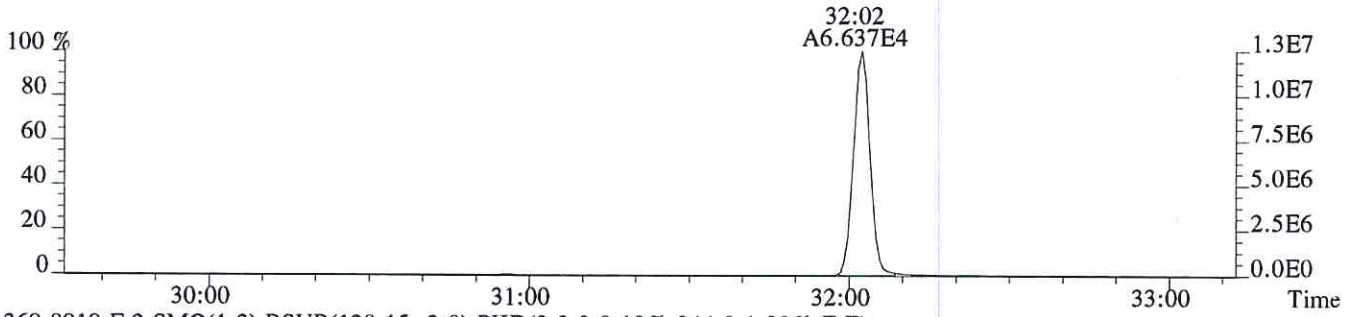
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



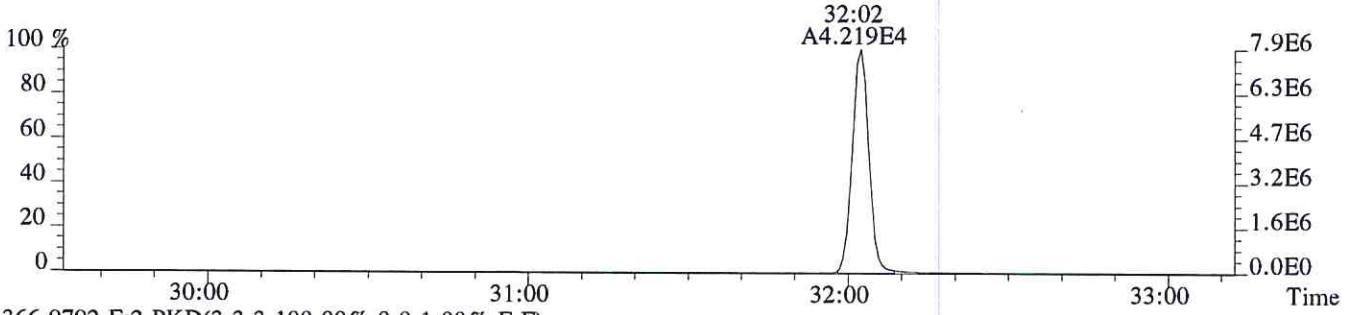
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



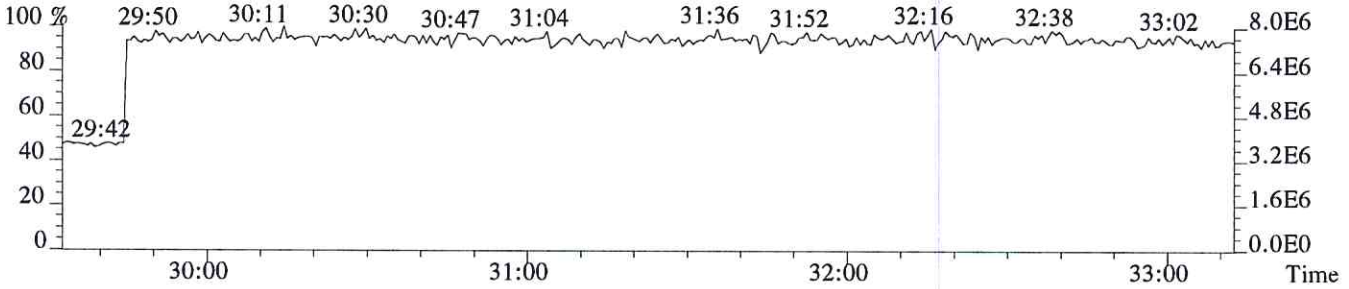
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



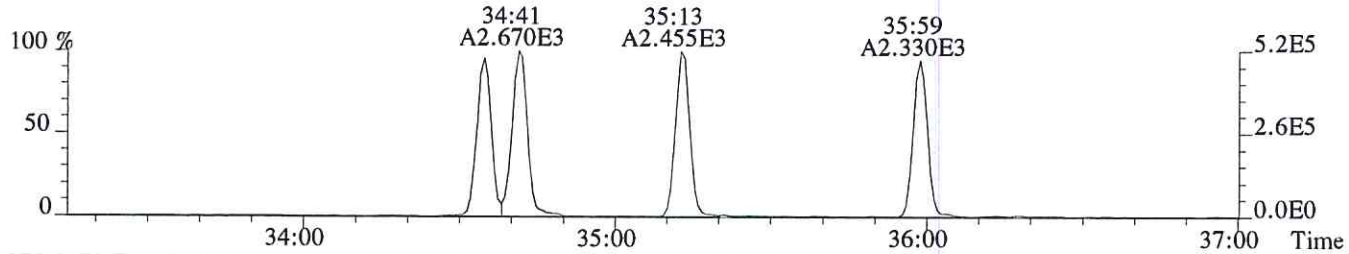
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



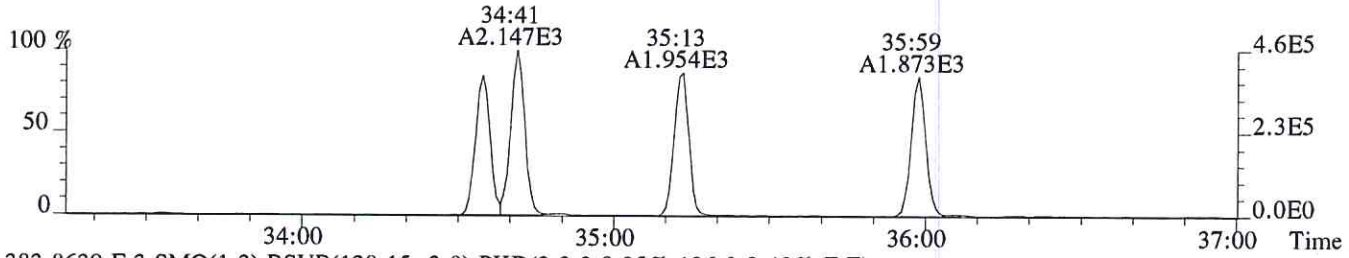
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



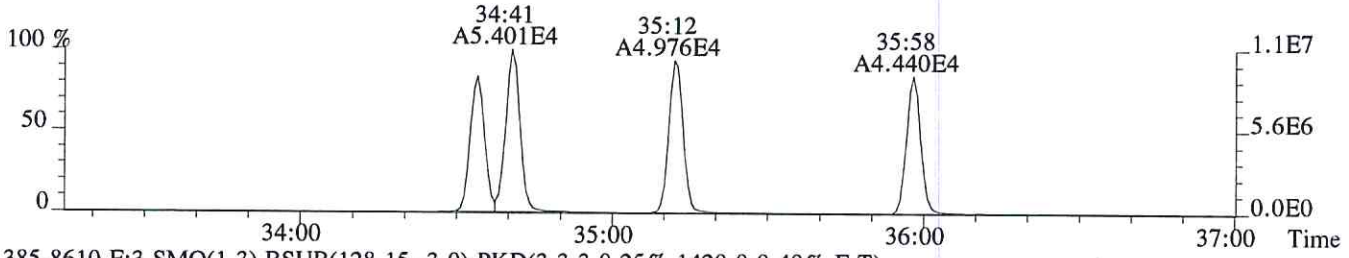
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



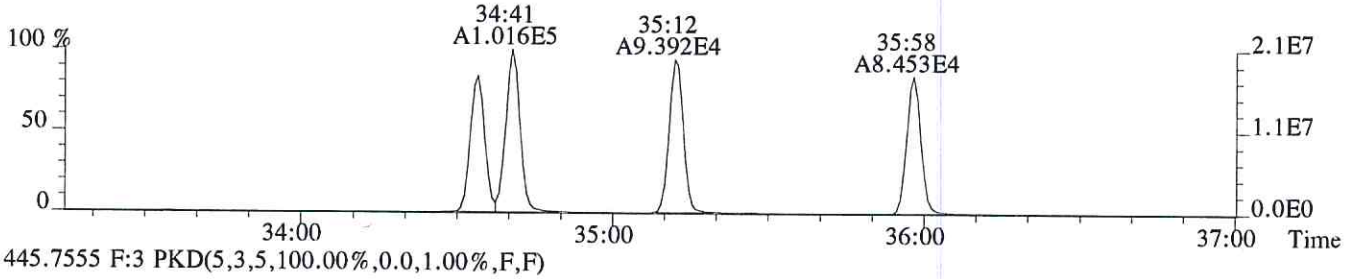
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



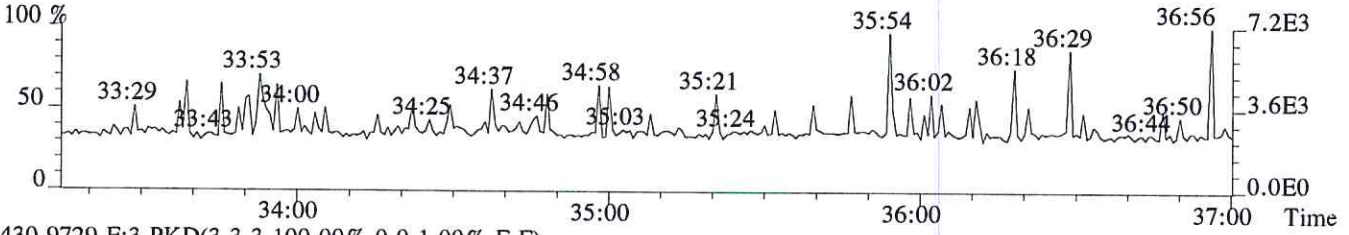
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



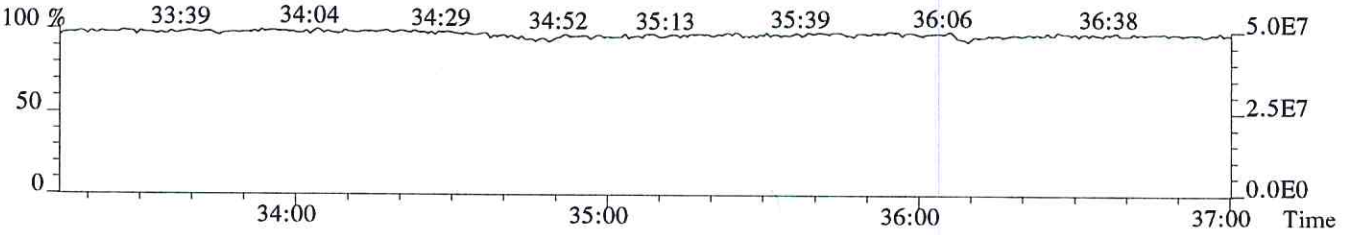
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,T)



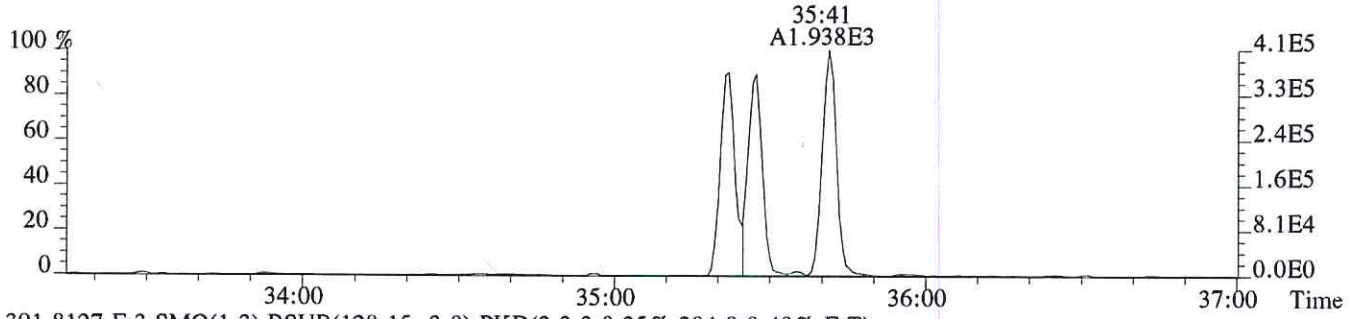
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



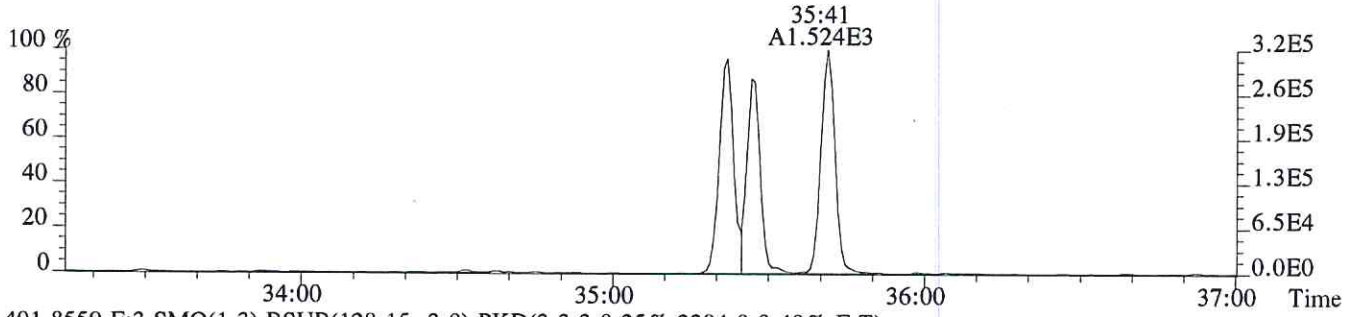
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



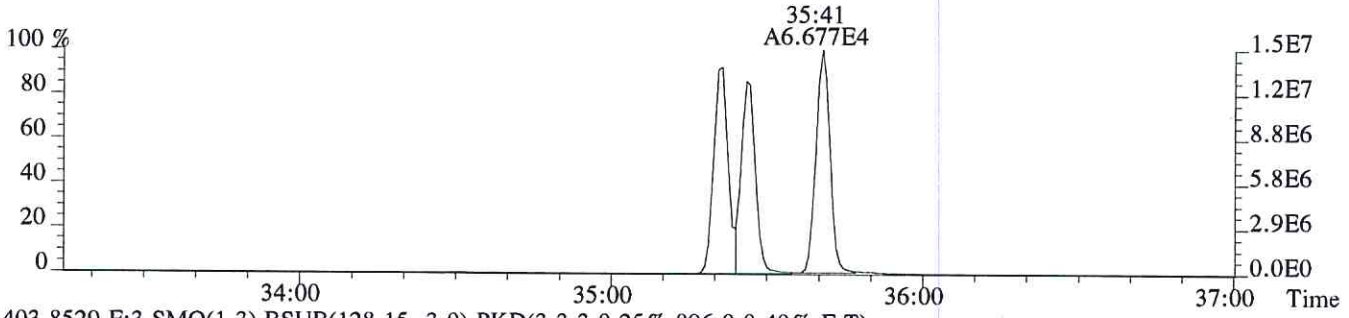
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,T)



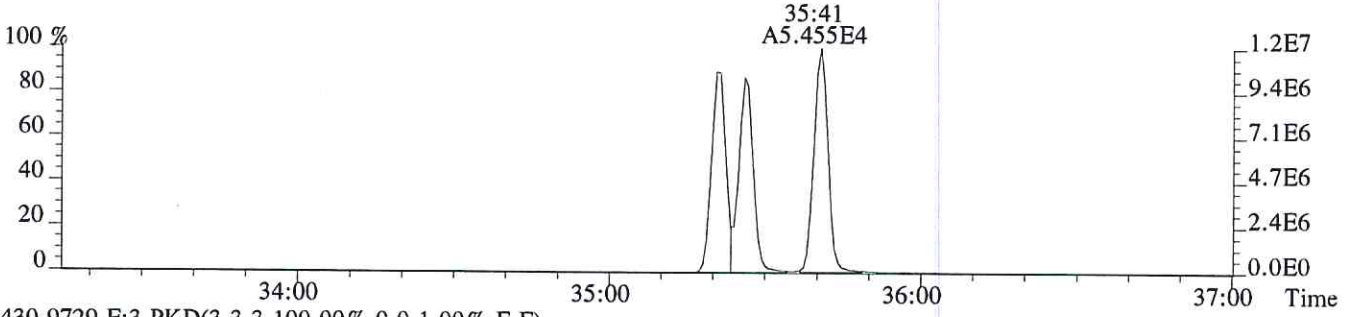
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



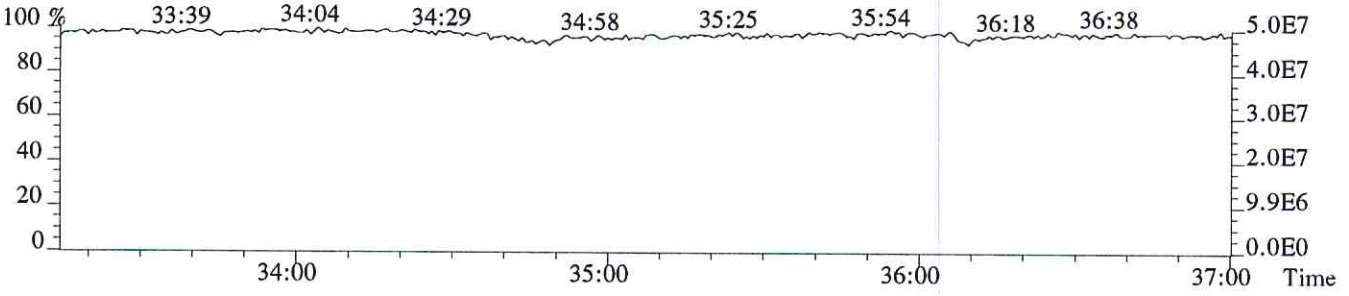
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2384.0,0.40%,F,T)



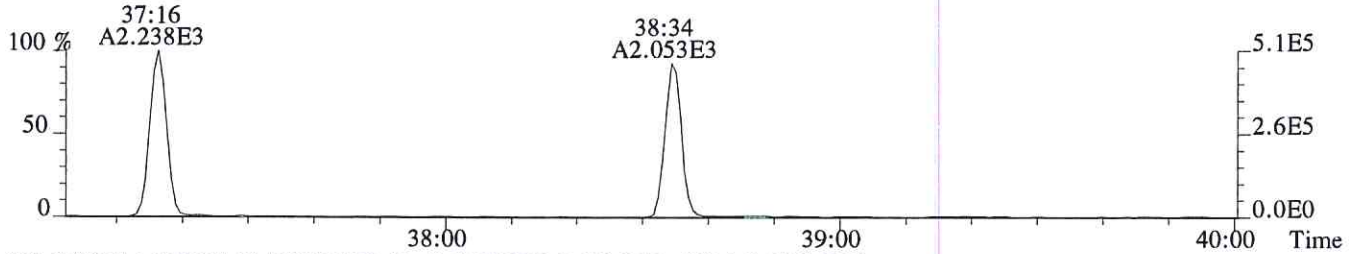
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



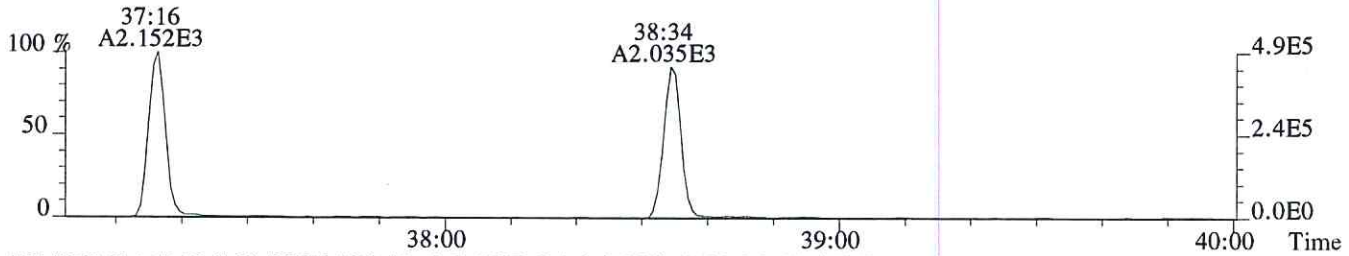
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



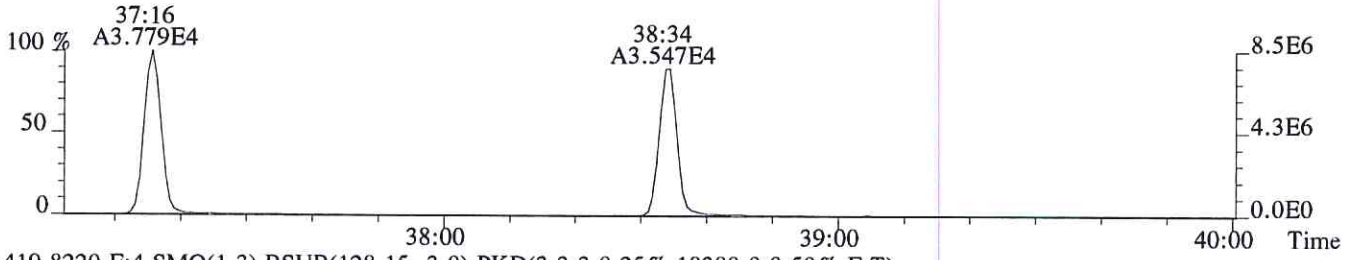
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.50%,F,T)



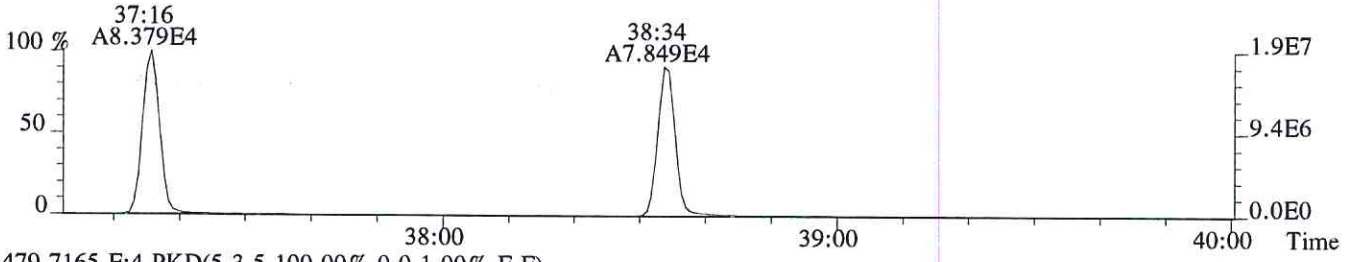
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.50%,F,T)



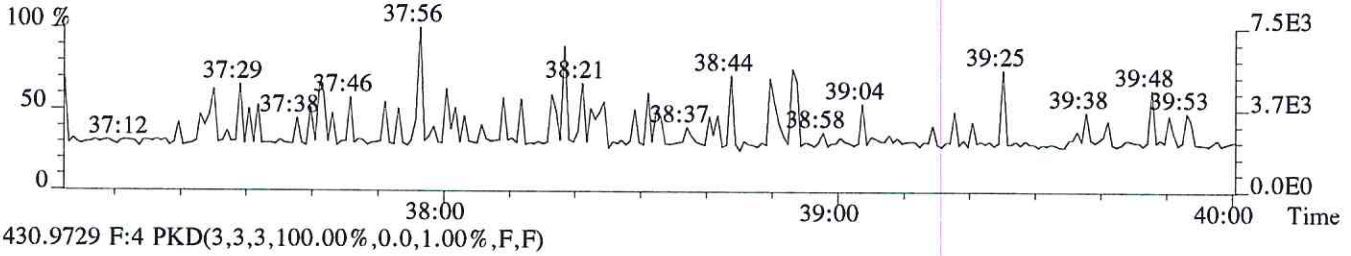
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5356.0,0.50%,F,T)



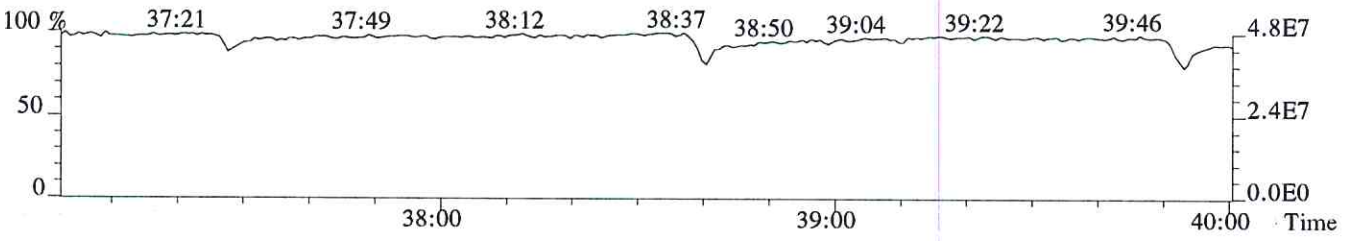
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18380.0,0.50%,F,T)



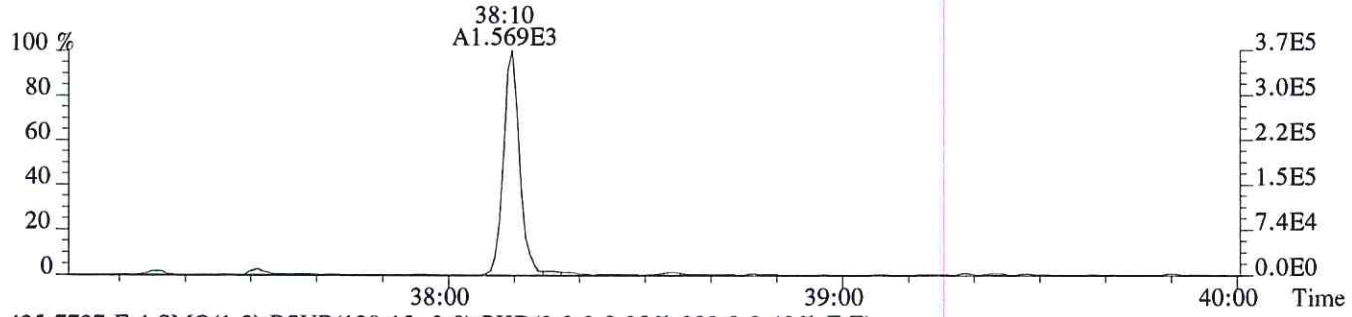
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



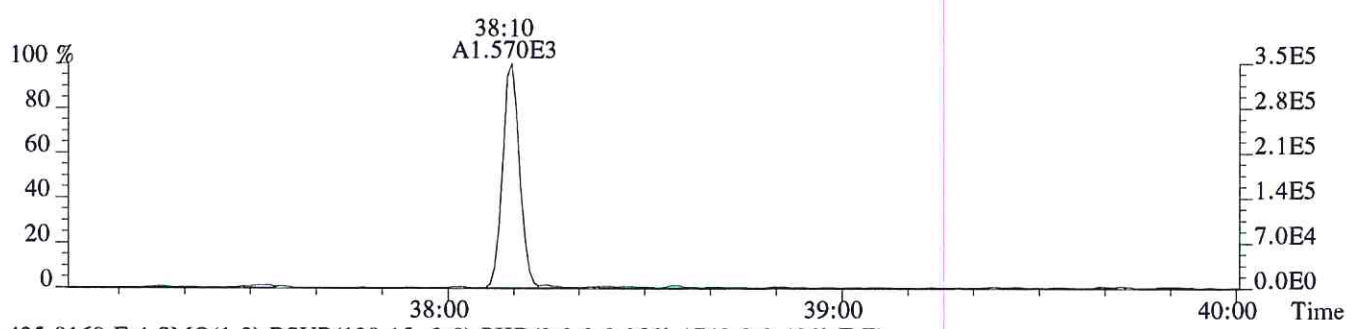
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



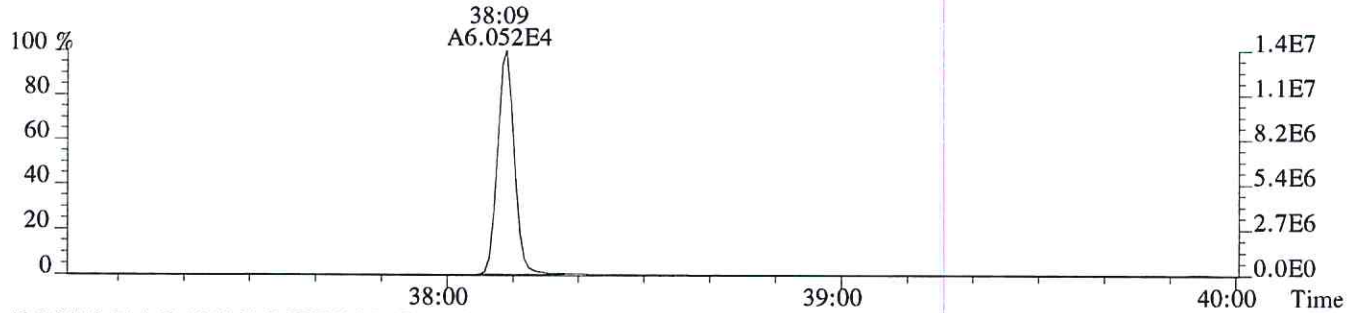
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



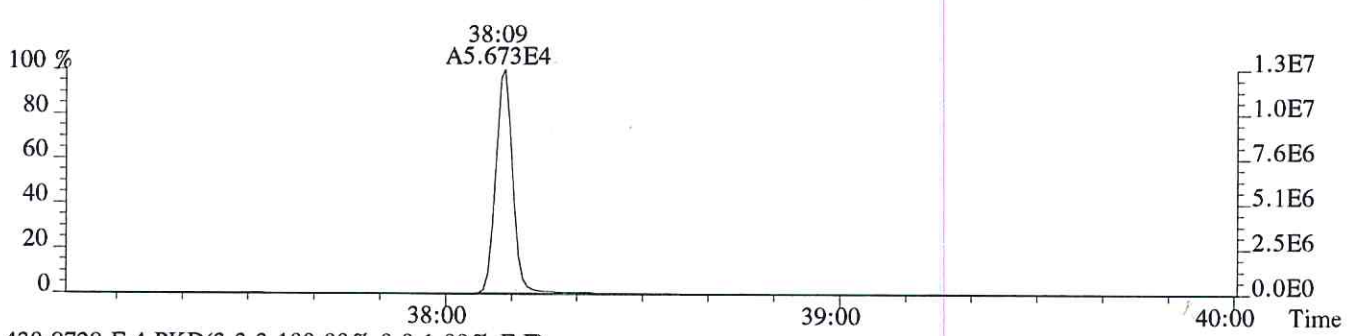
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



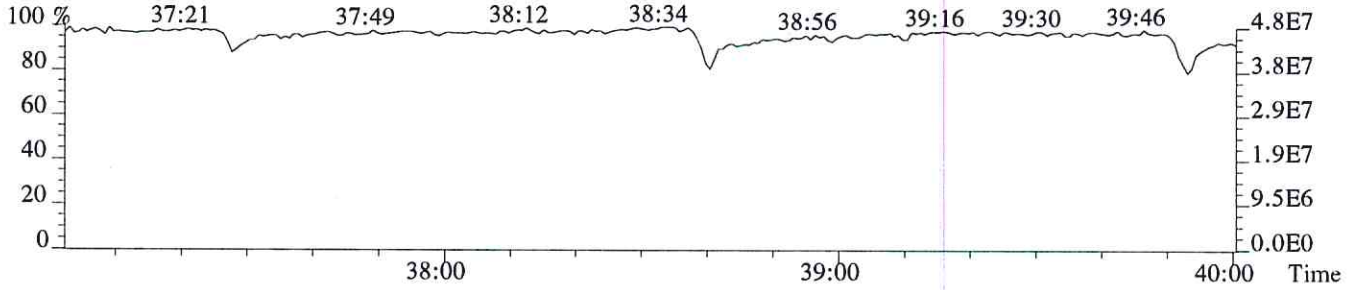
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



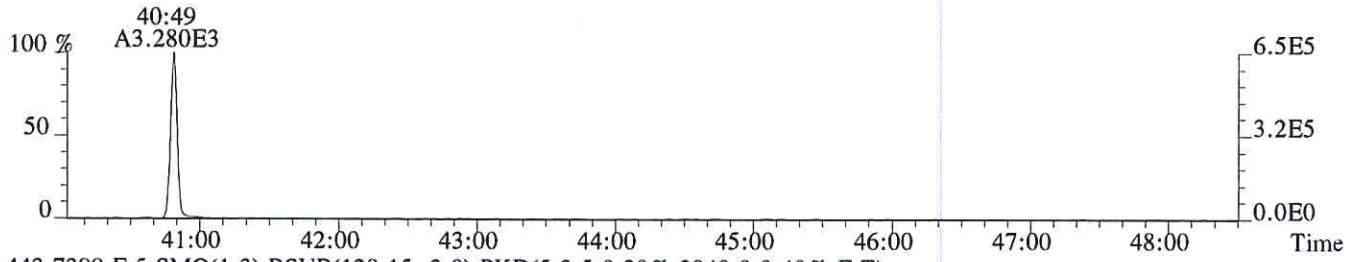
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



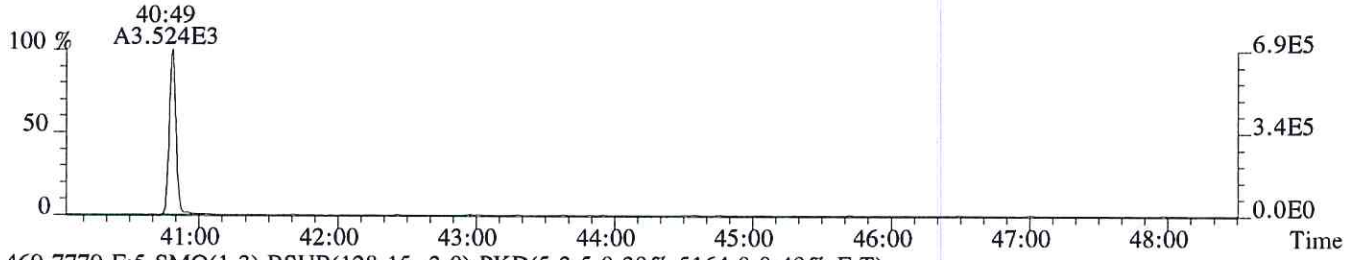
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



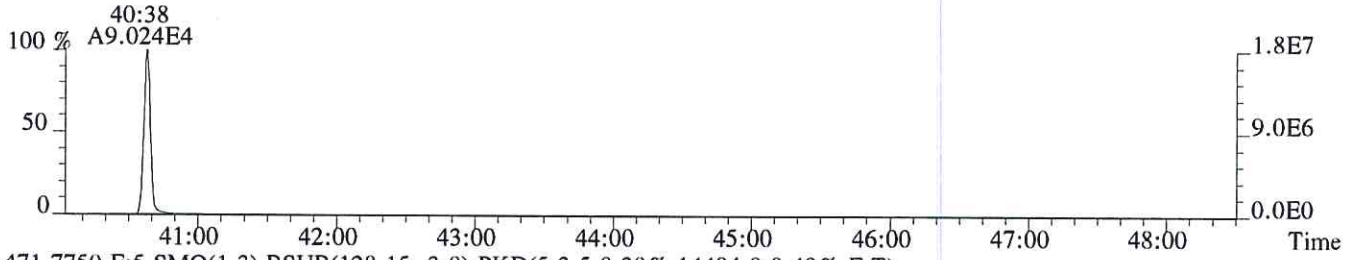
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,896.0,0.40%,F,T)



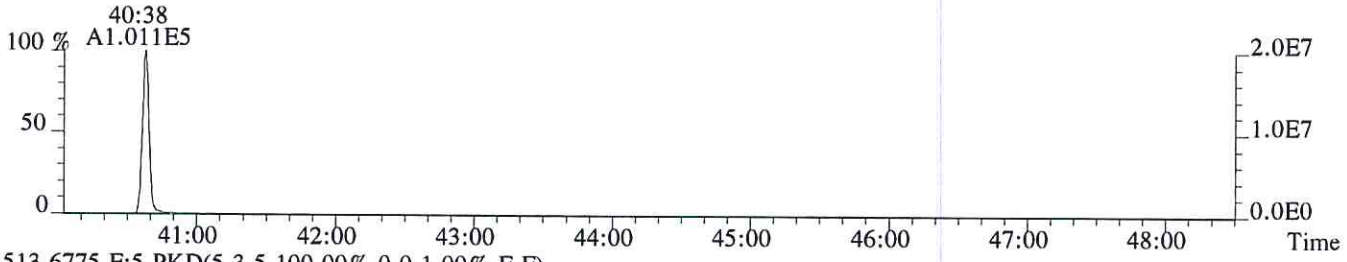
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2940.0,0.40%,F,T)



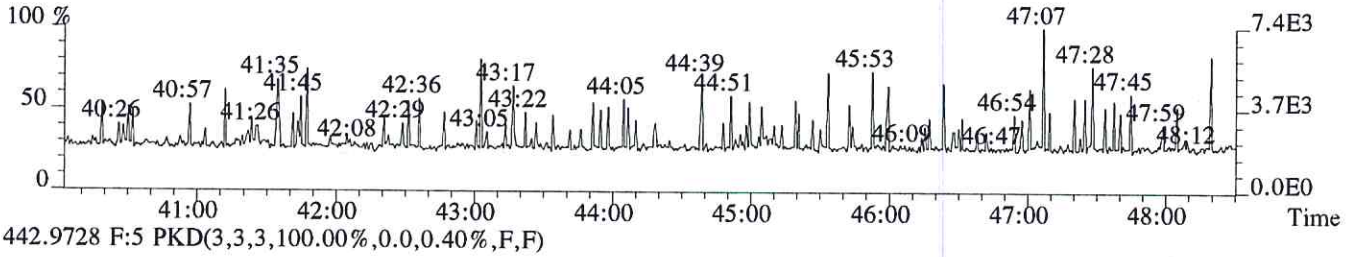
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



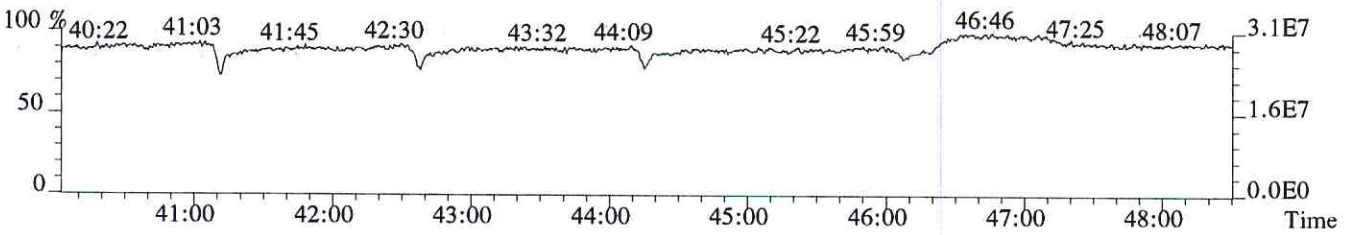
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14484.0,0.40%,F,T)



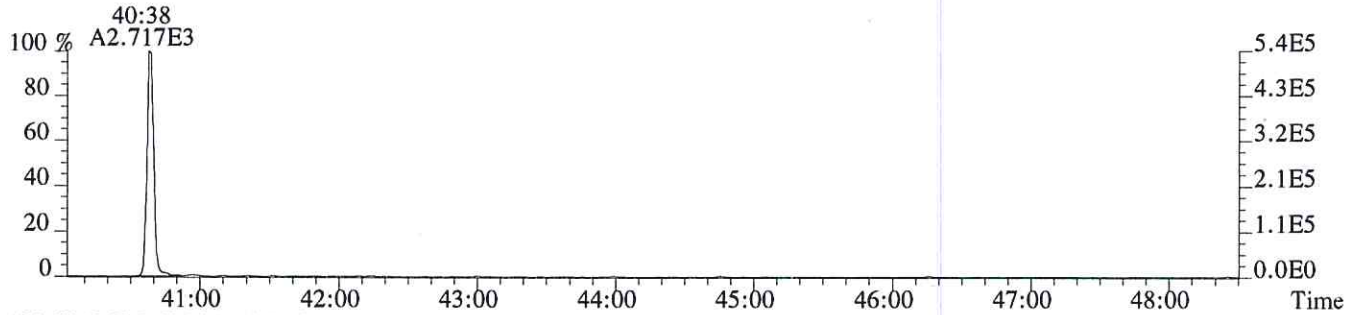
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



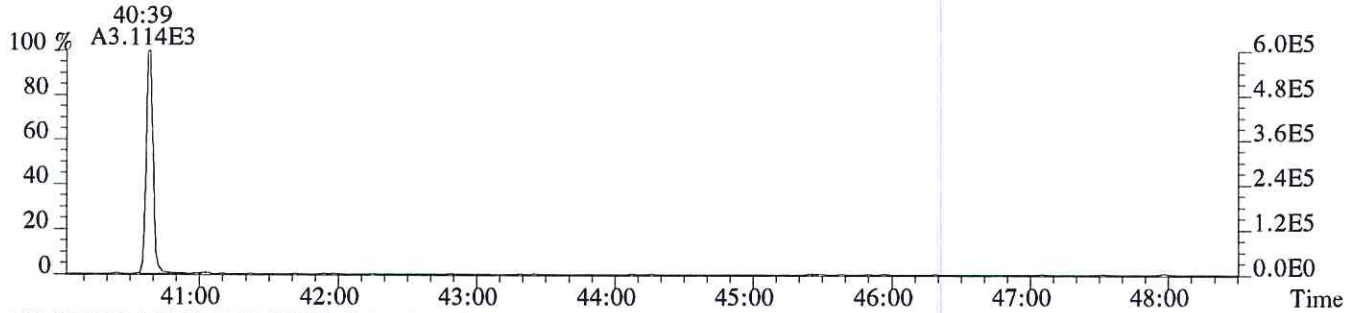
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



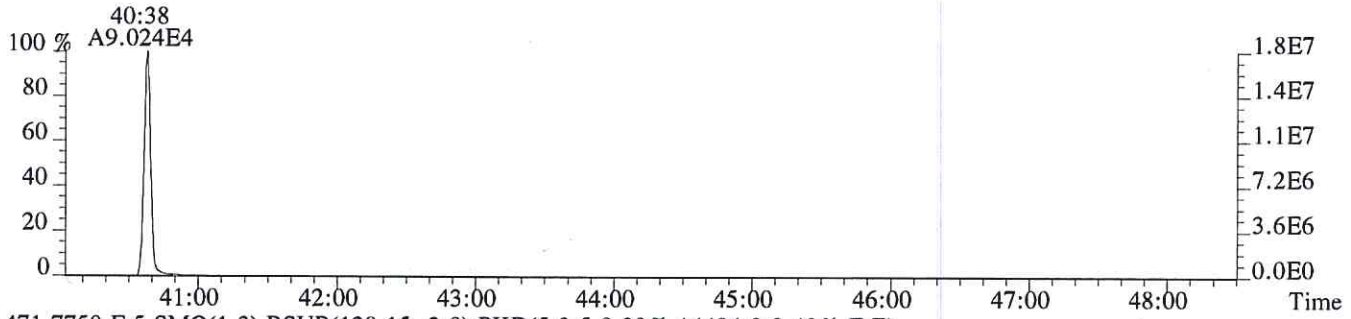
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



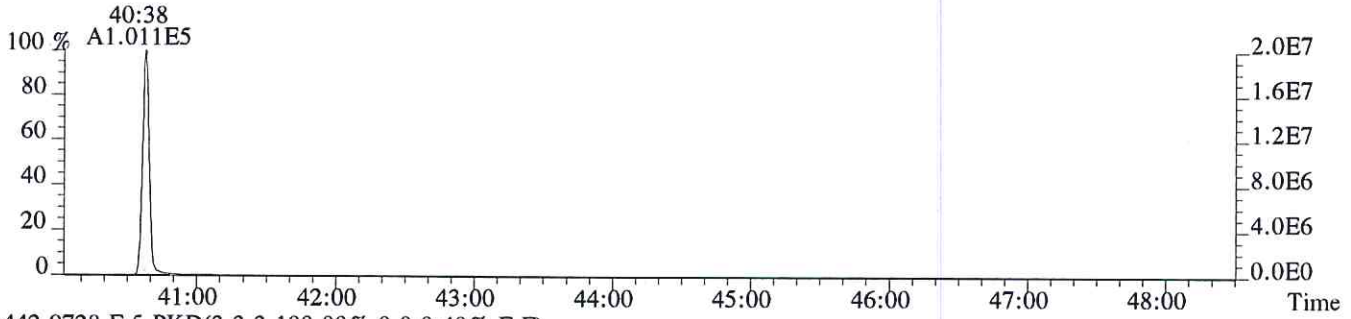
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1900.0,0.40%,F,T)



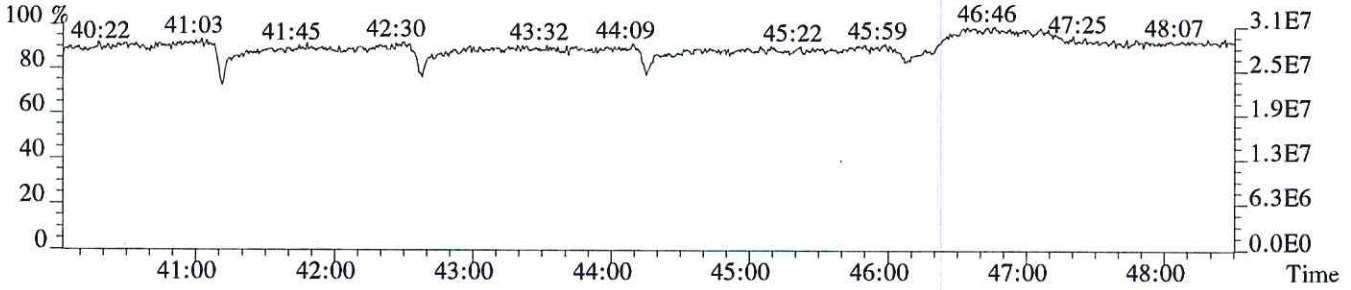
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



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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ALS ENVIRONMENTAL
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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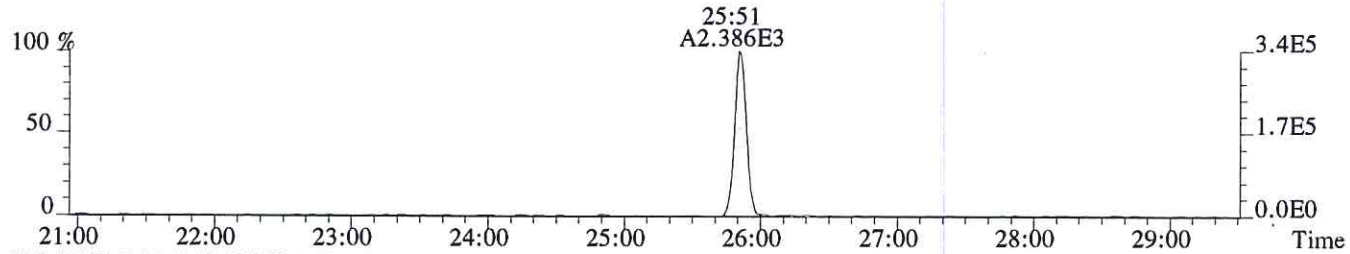
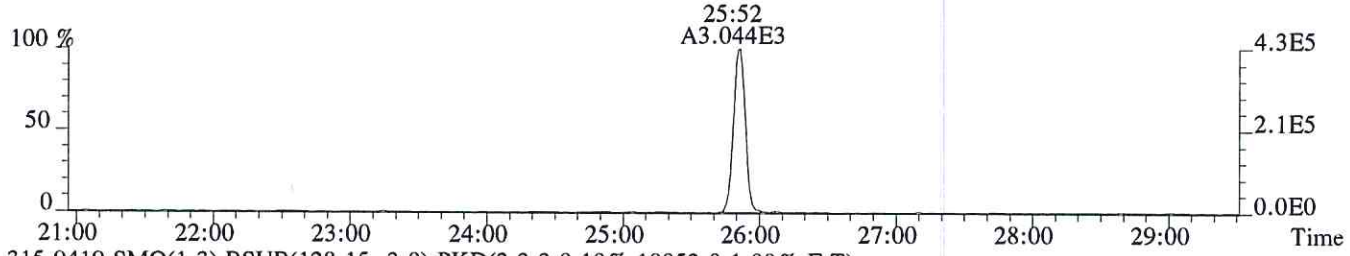
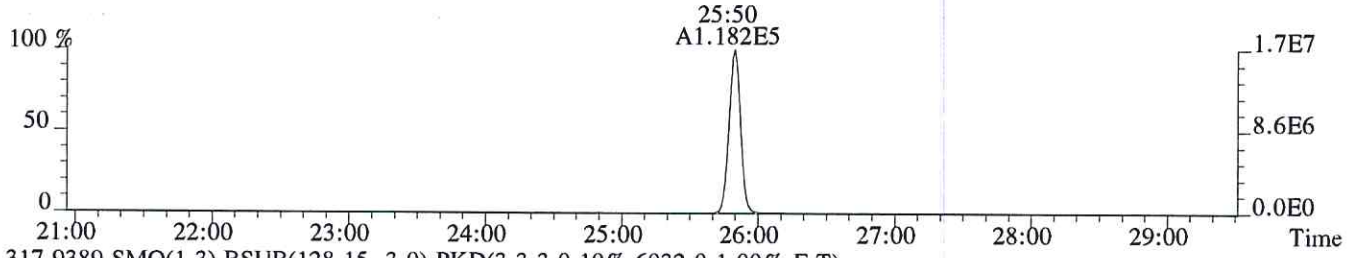
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



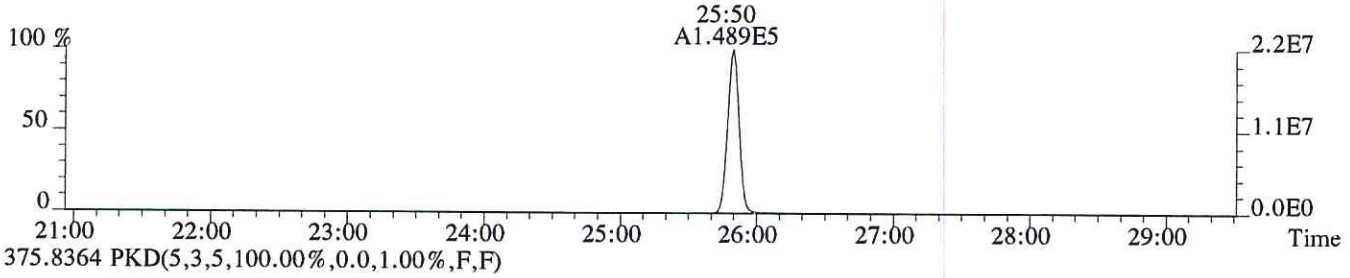
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1236.0,1.00%,F,T)



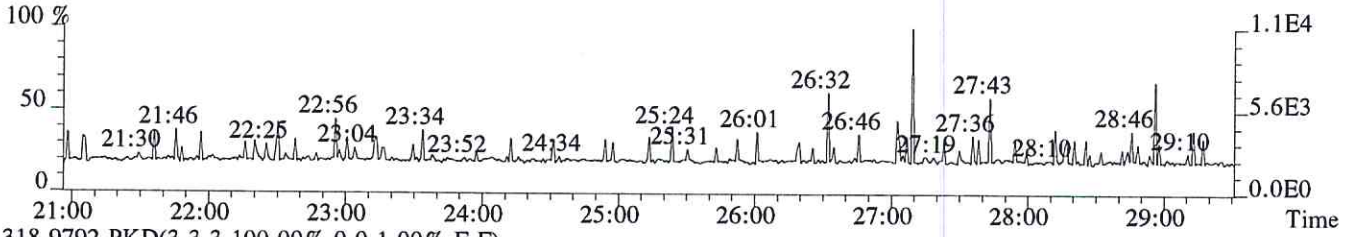
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18052.0,1.00%,F,T)



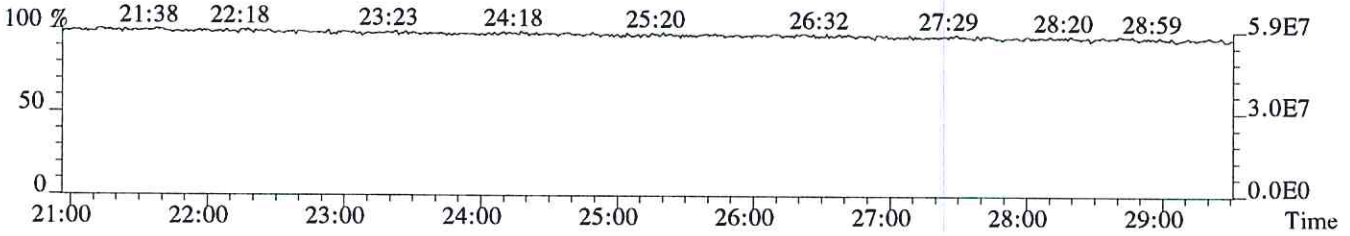
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6032.0,1.00%,F,T)



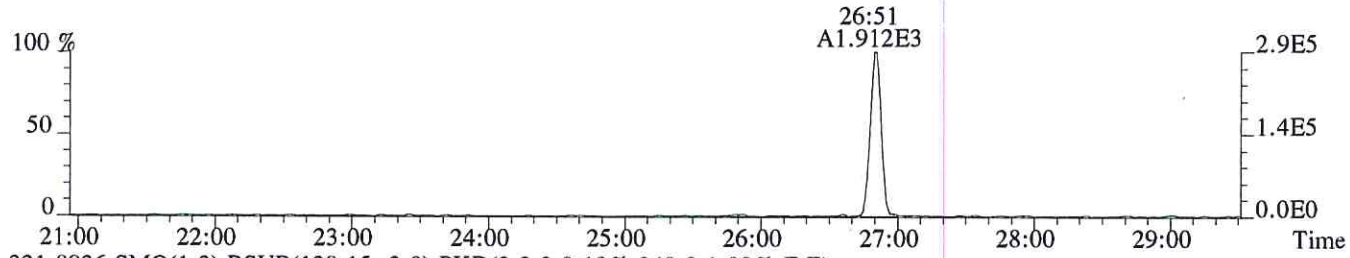
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



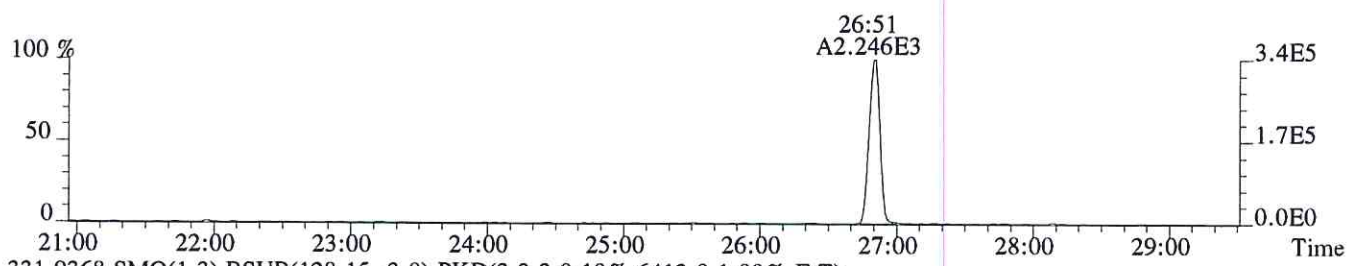
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



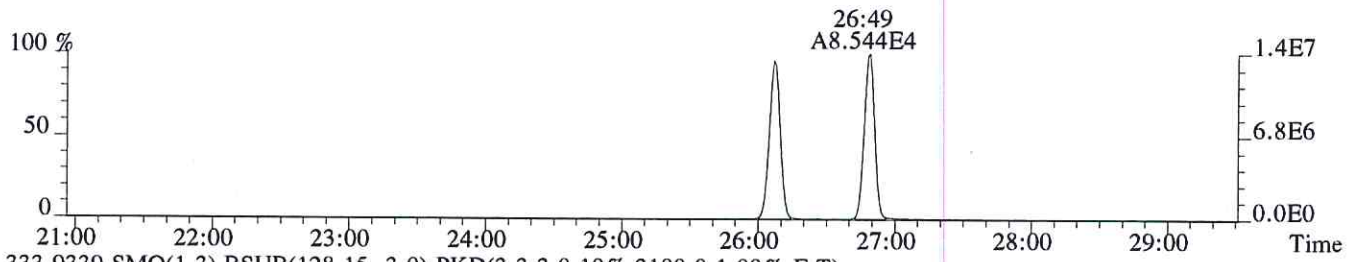
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



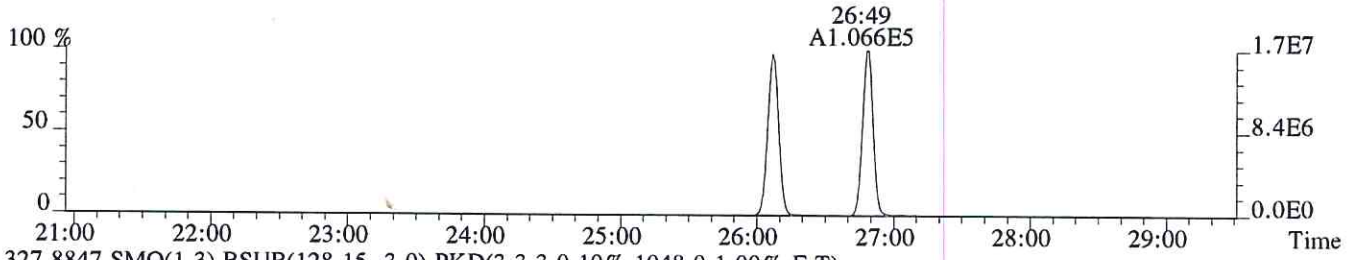
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,248.0,1.00%,F,T)



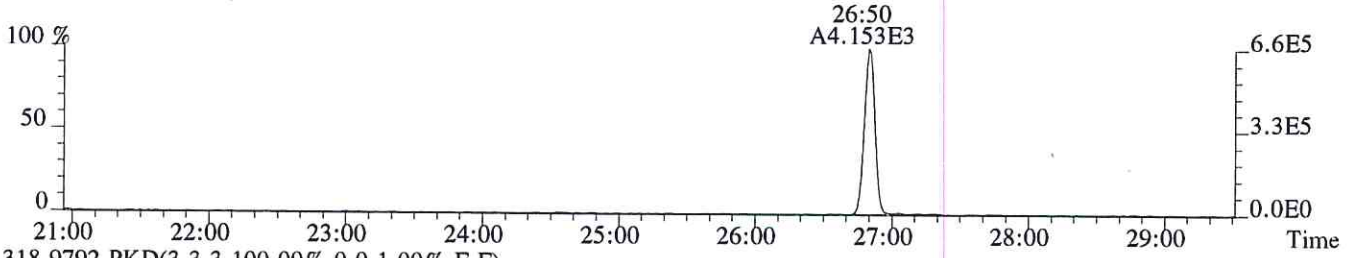
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6412.0,1.00%,F,T)



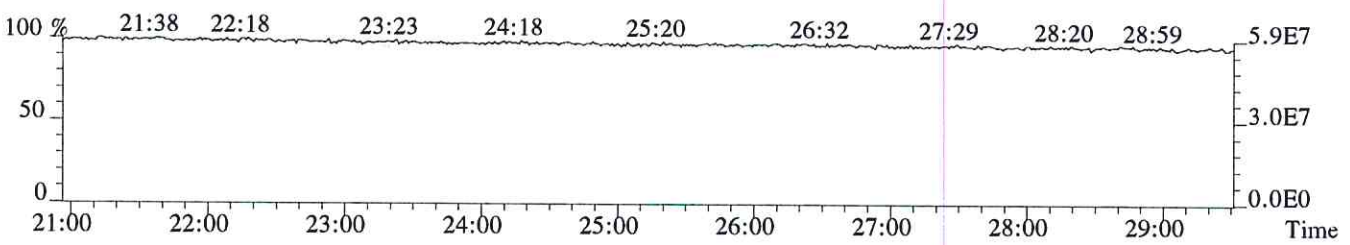
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3180.0,1.00%,F,T)



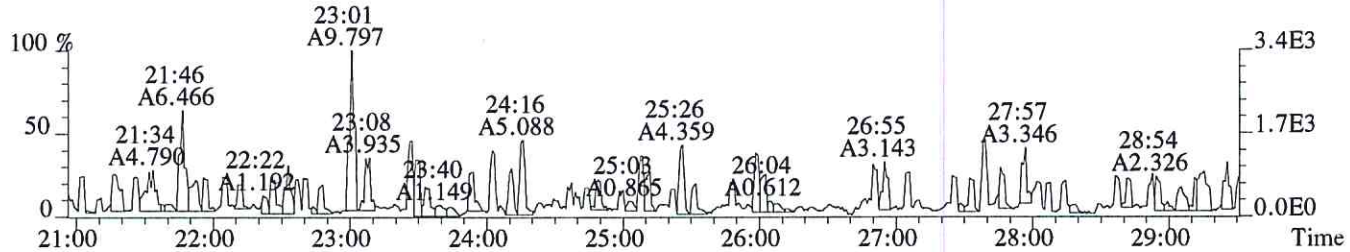
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



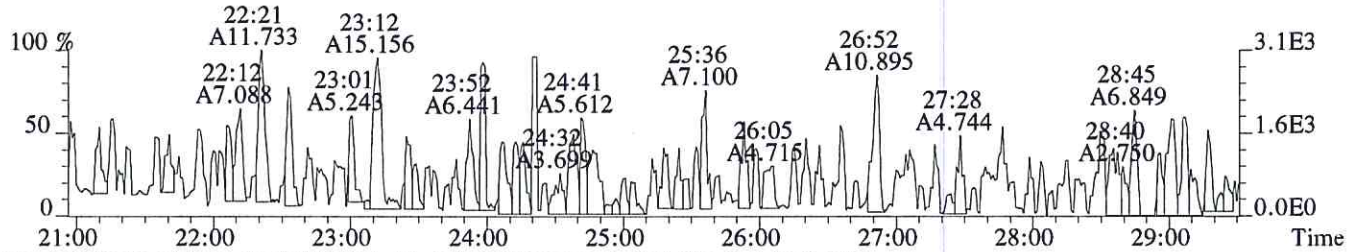
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



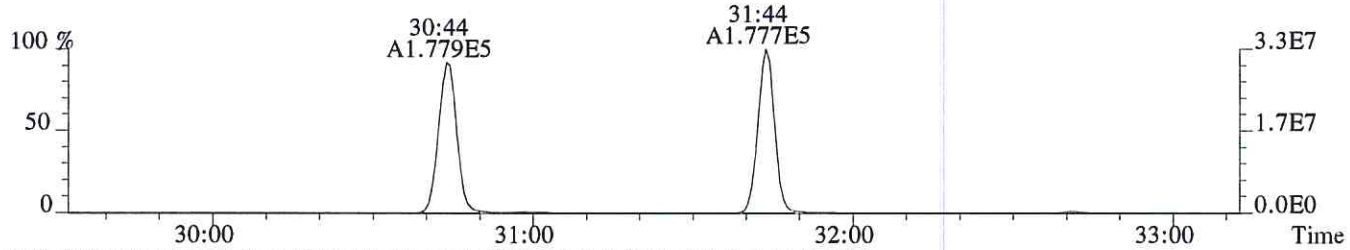
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



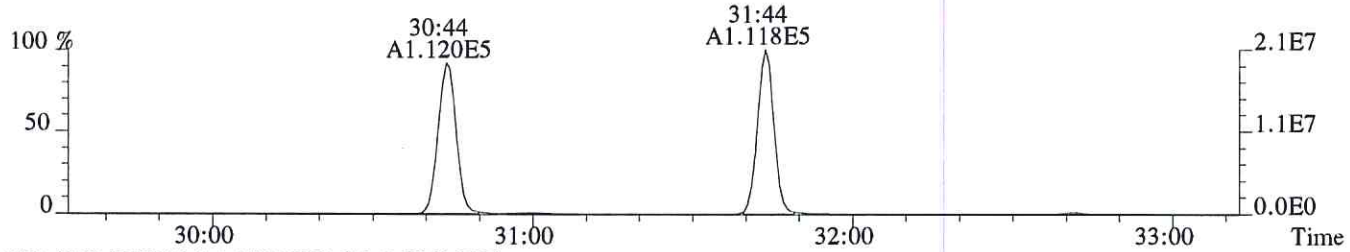
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



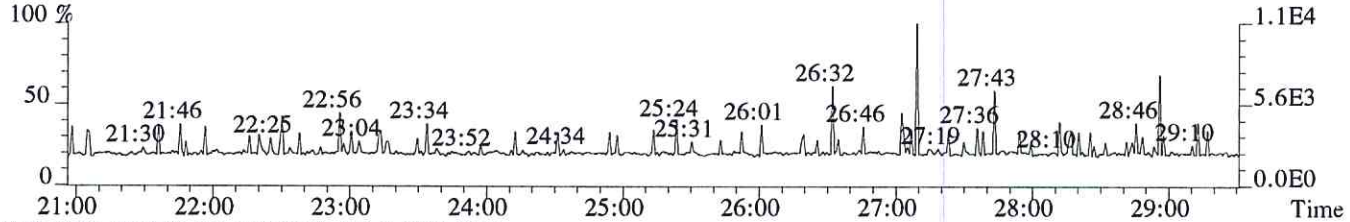
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



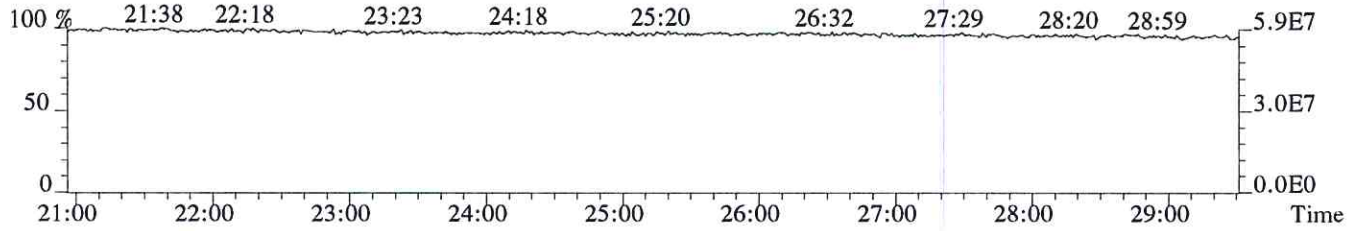
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



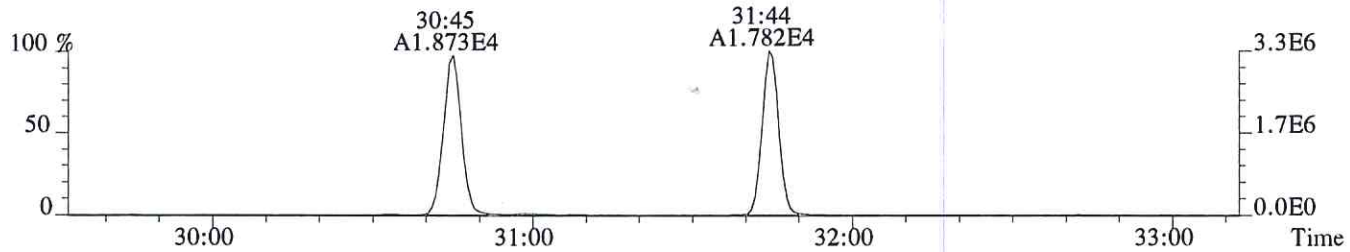
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



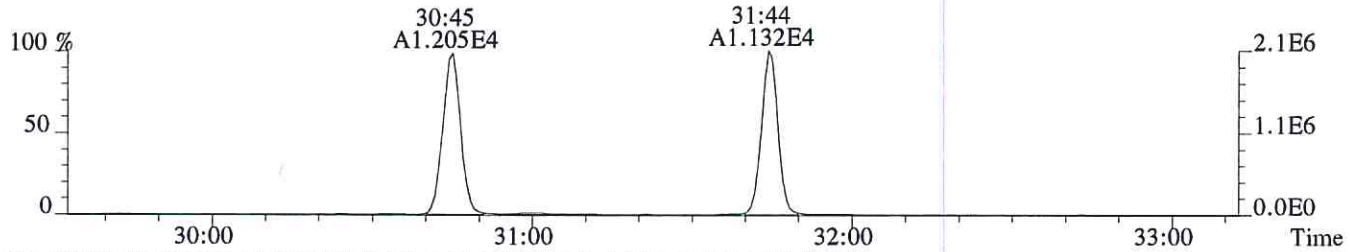
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



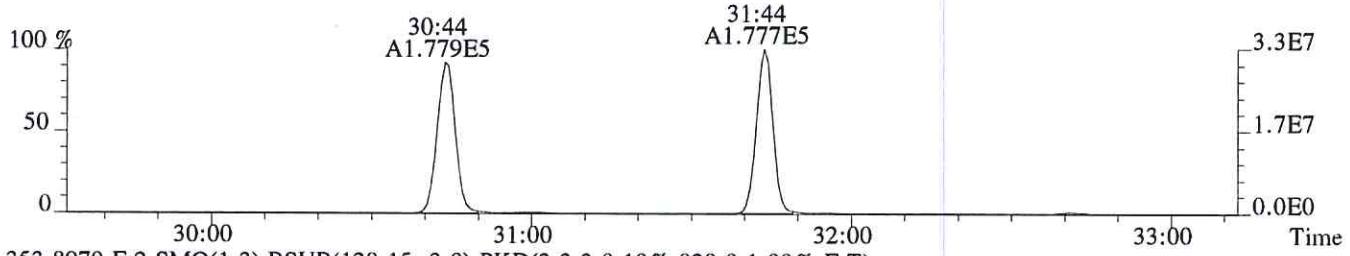
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



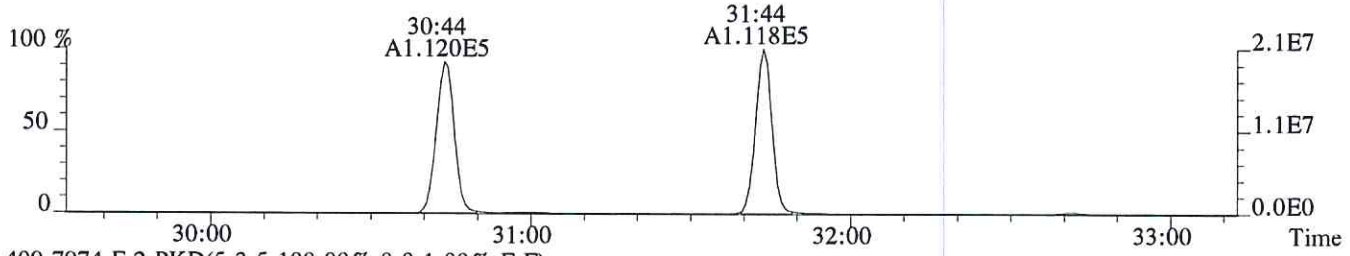
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,T)



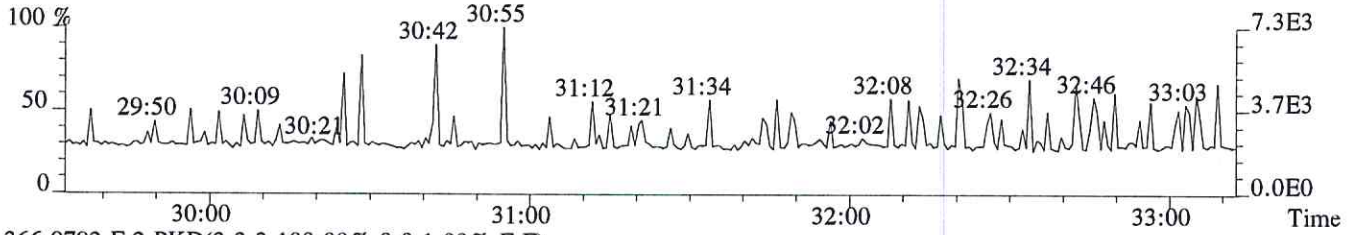
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



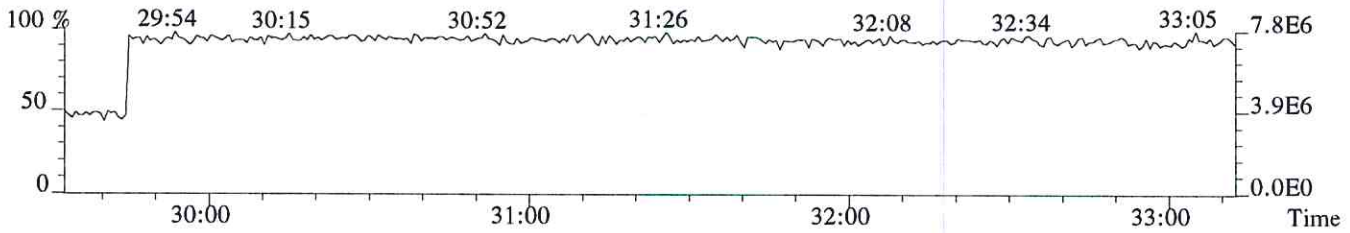
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



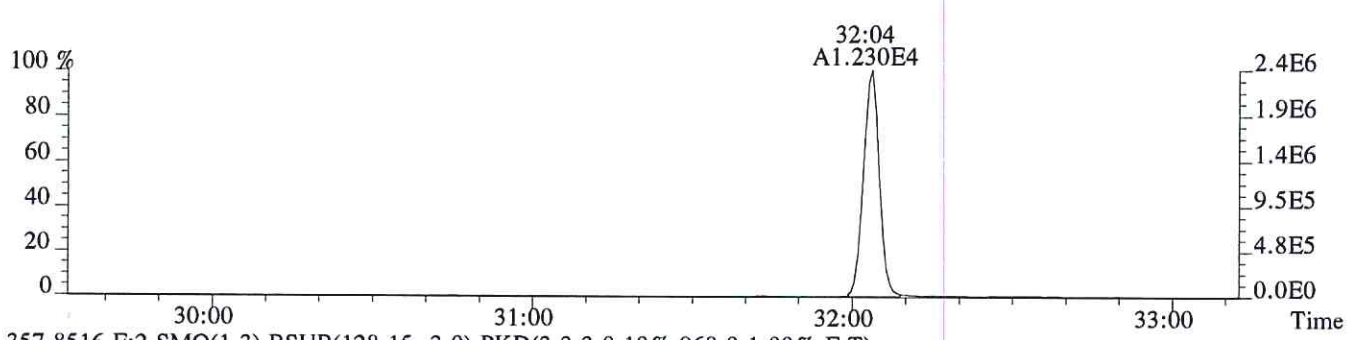
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



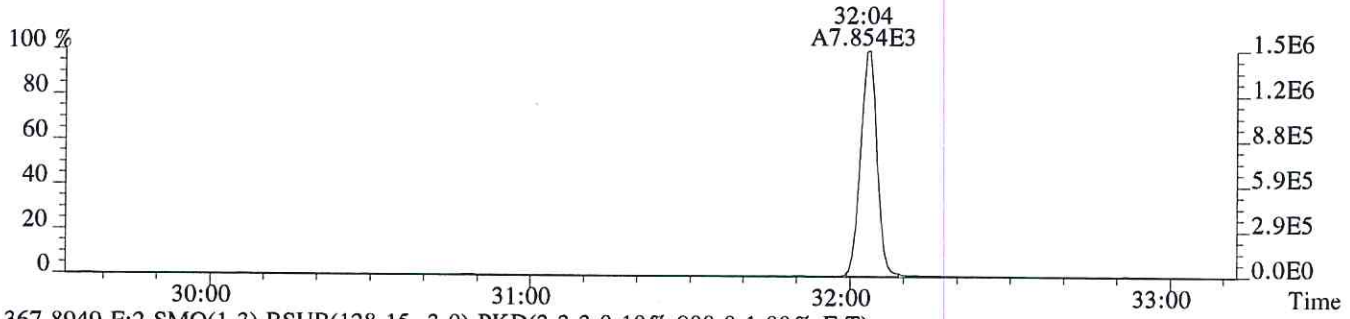
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



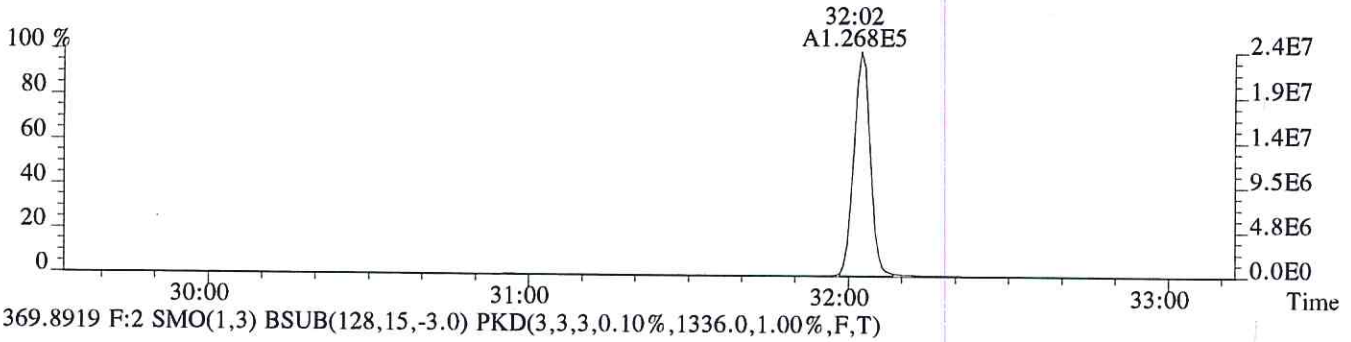
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1264.0,1.00%,F,T)



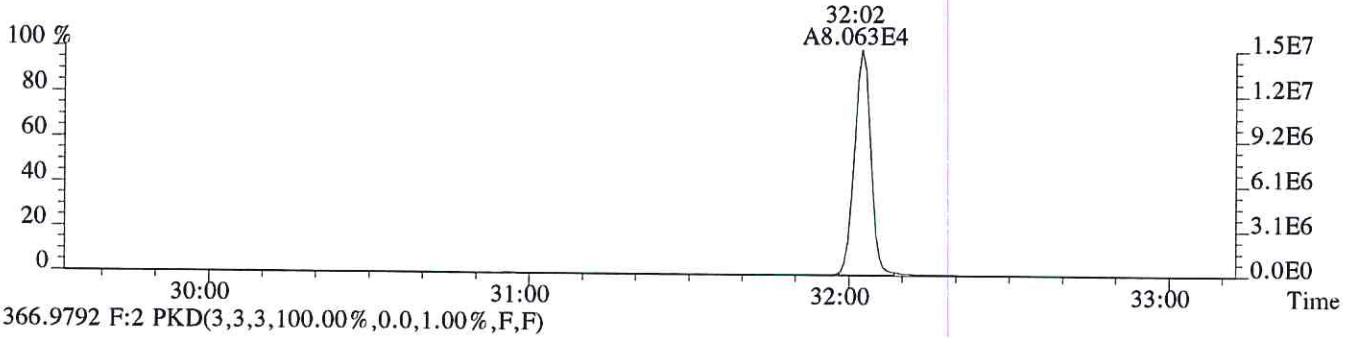
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



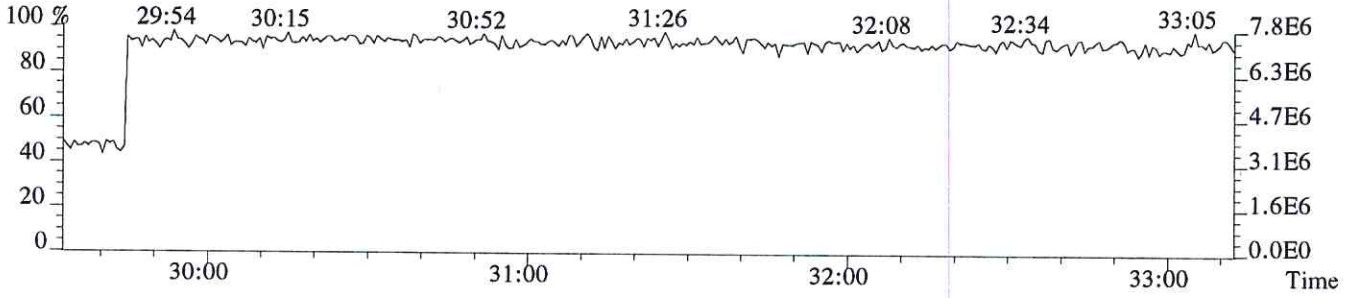
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



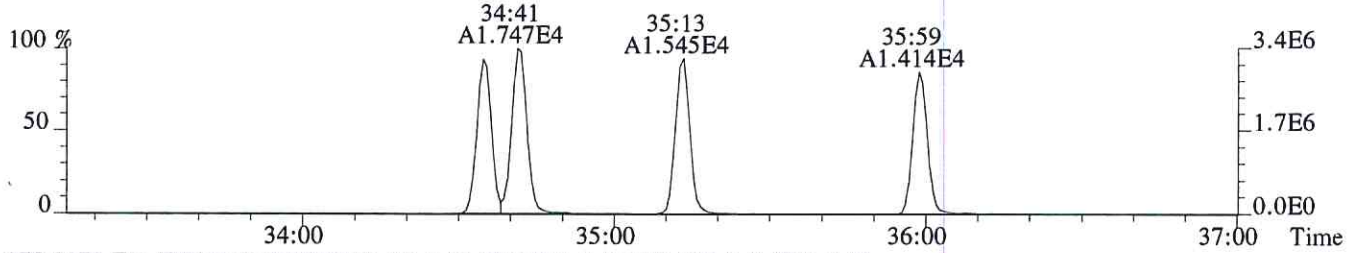
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



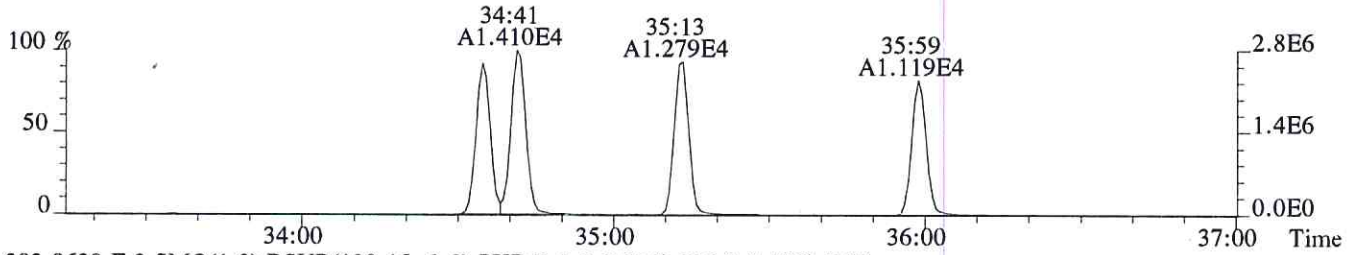
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



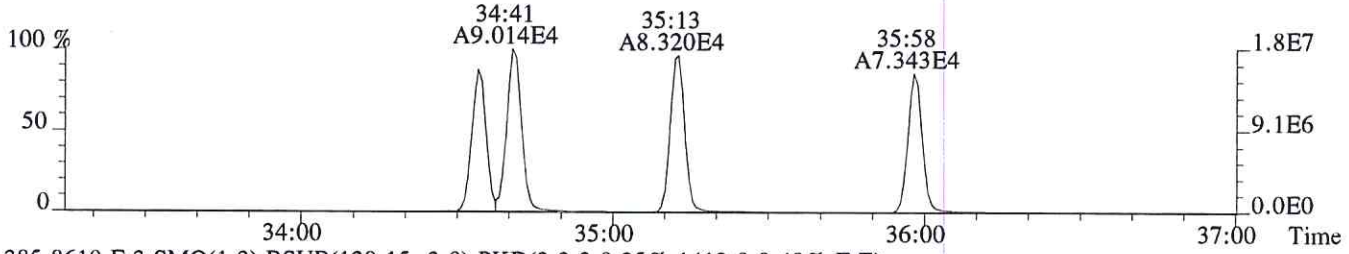
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



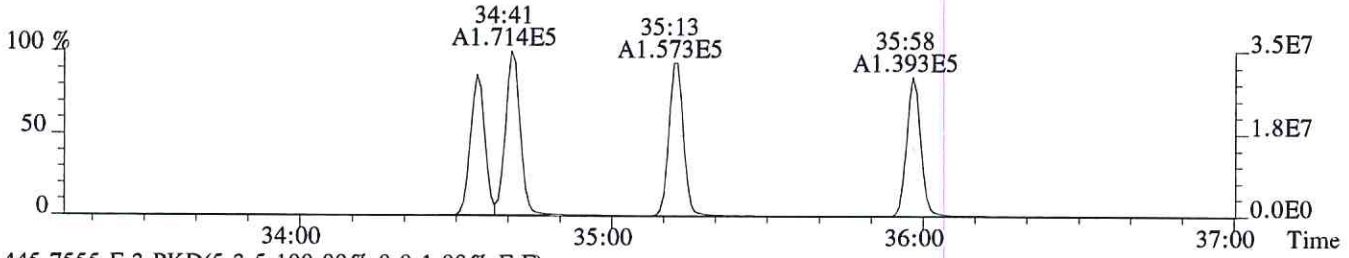
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



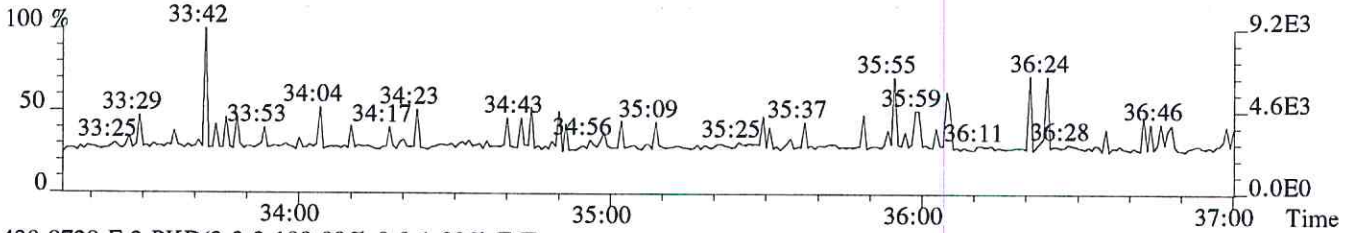
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



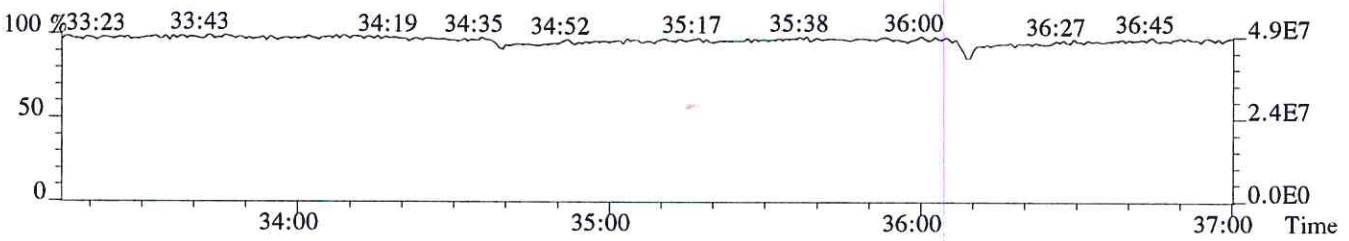
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



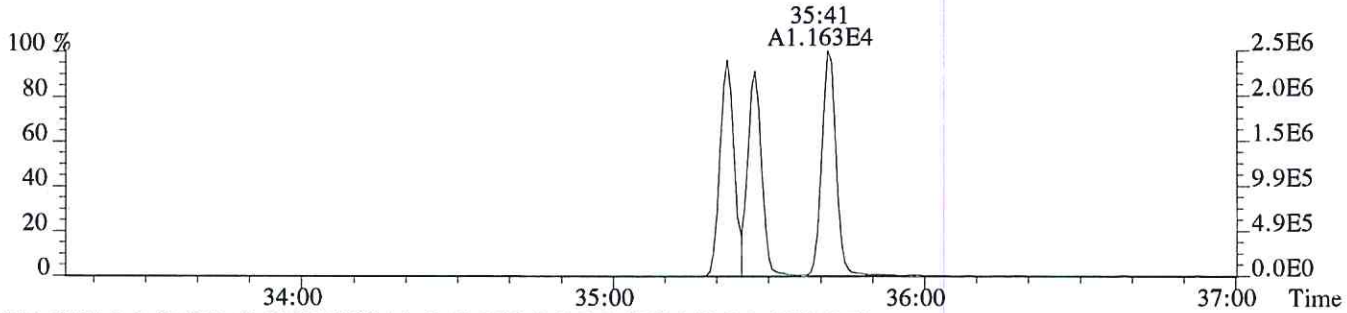
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



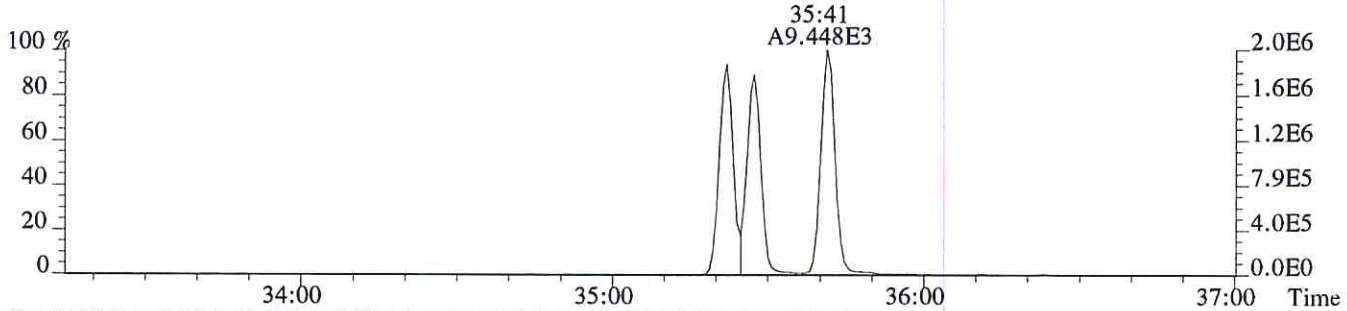
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



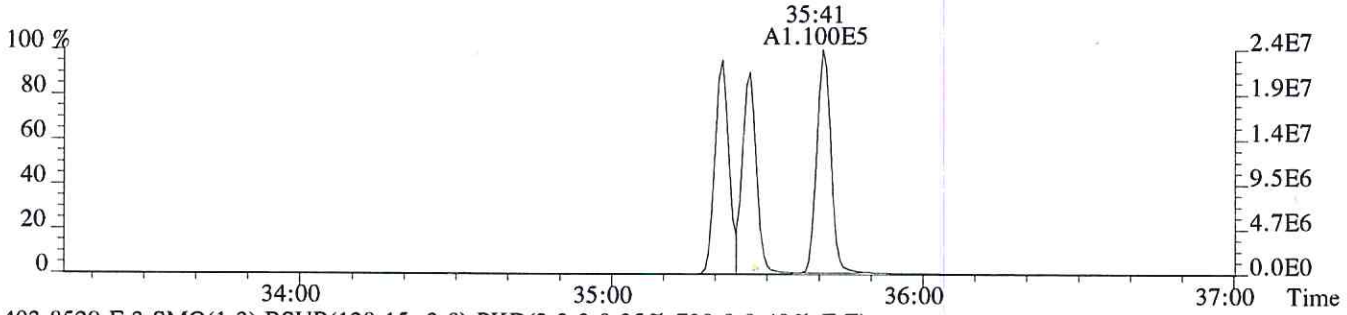
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



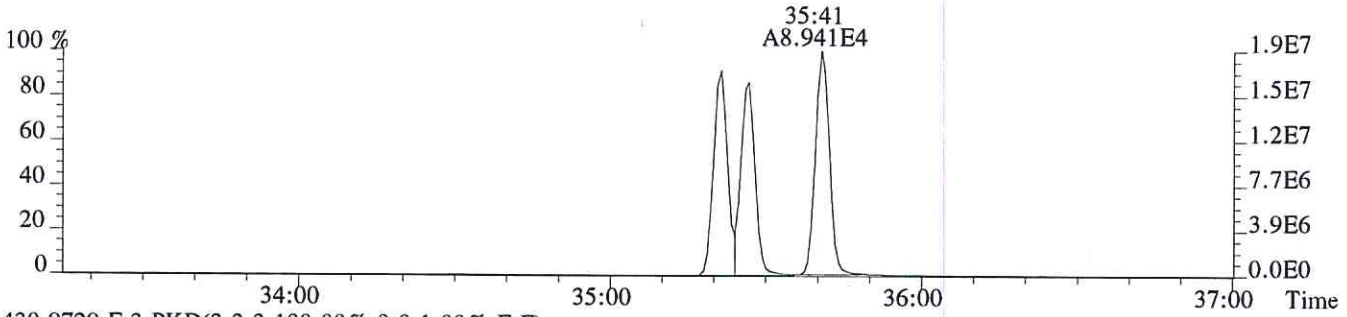
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,252.0,0.40%,F,T)



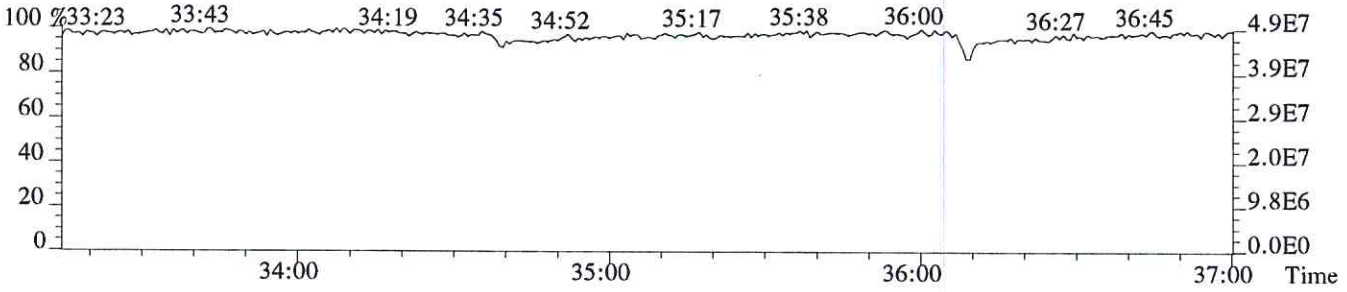
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2500.0,0.40%,F,T)



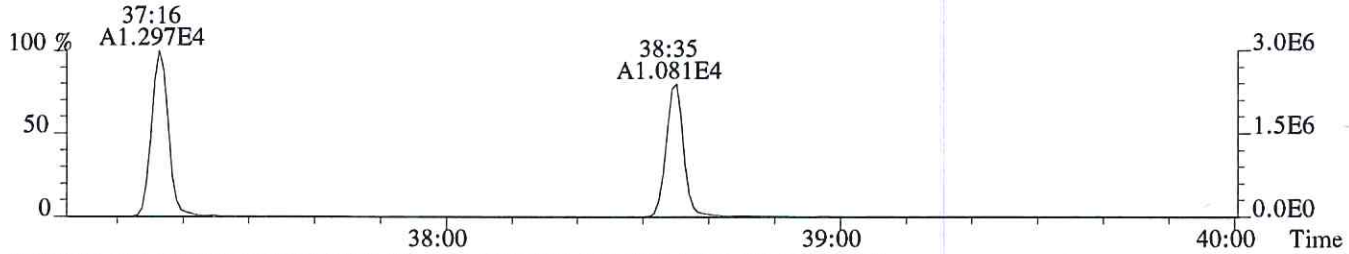
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



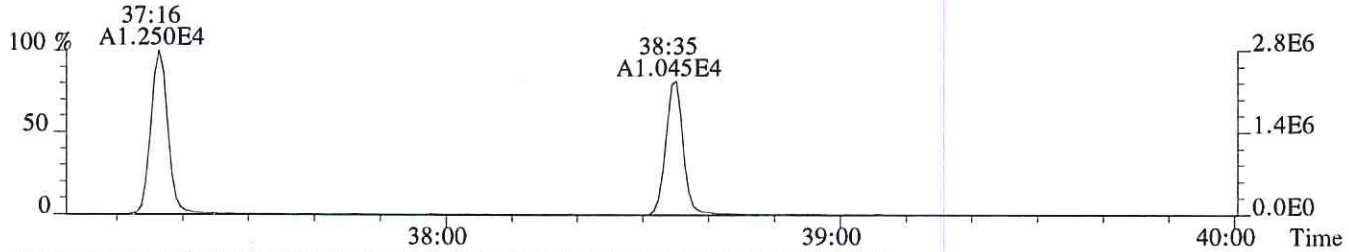
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



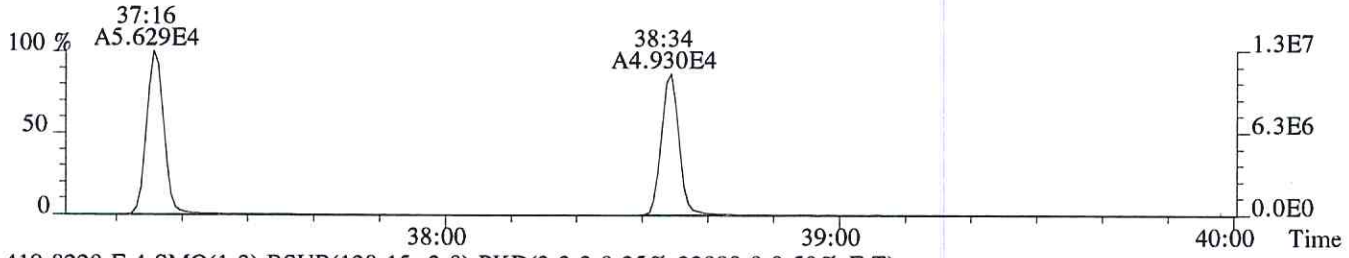
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.50%,F,T)



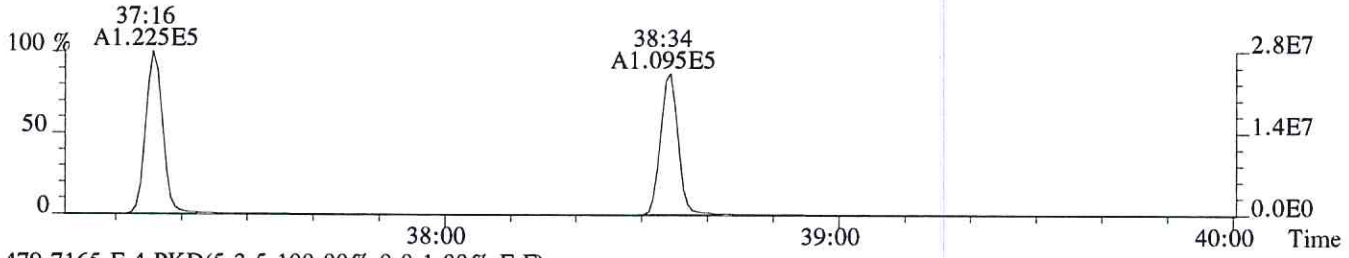
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2916.0,0.50%,F,T)



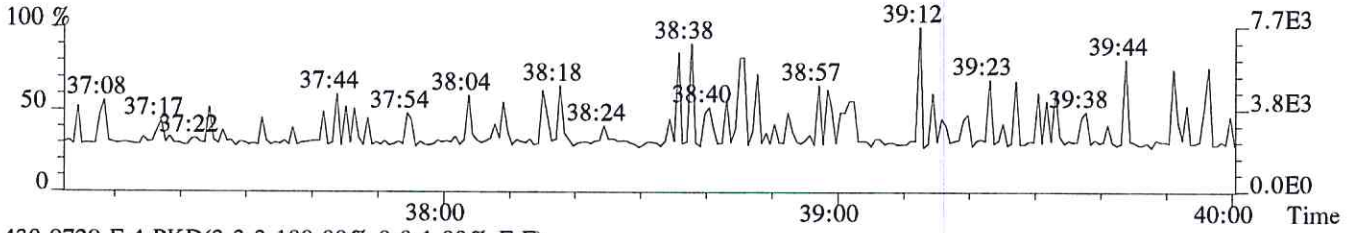
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,13056.0,0.50%,F,T)



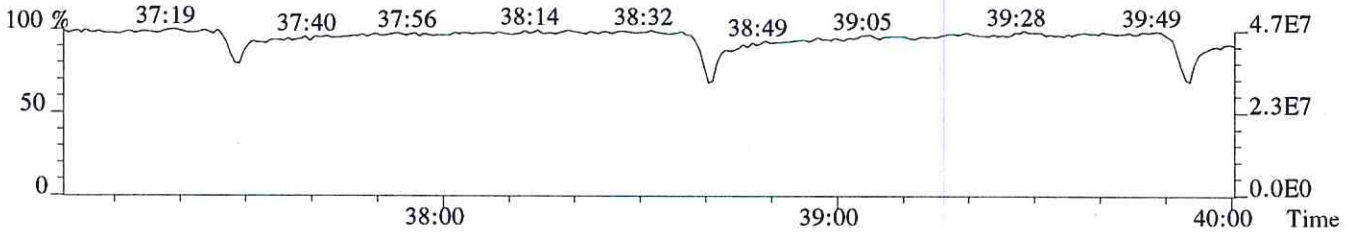
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22080.0,0.50%,F,T)



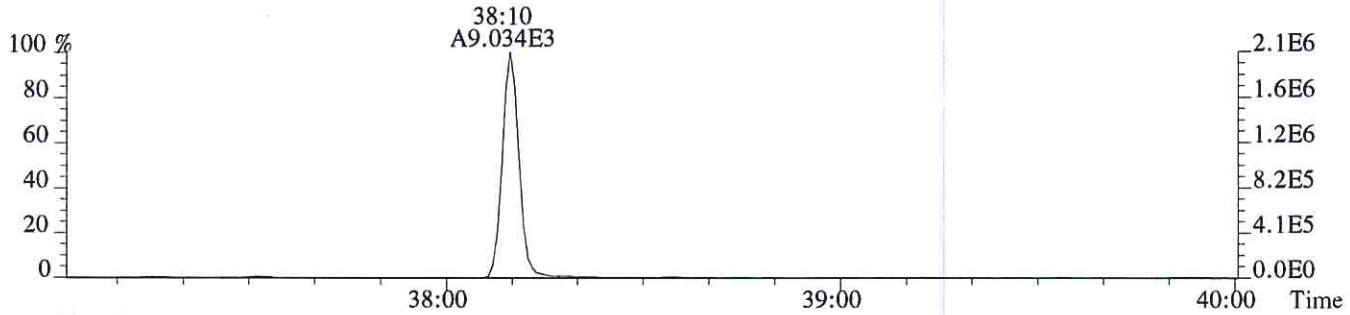
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



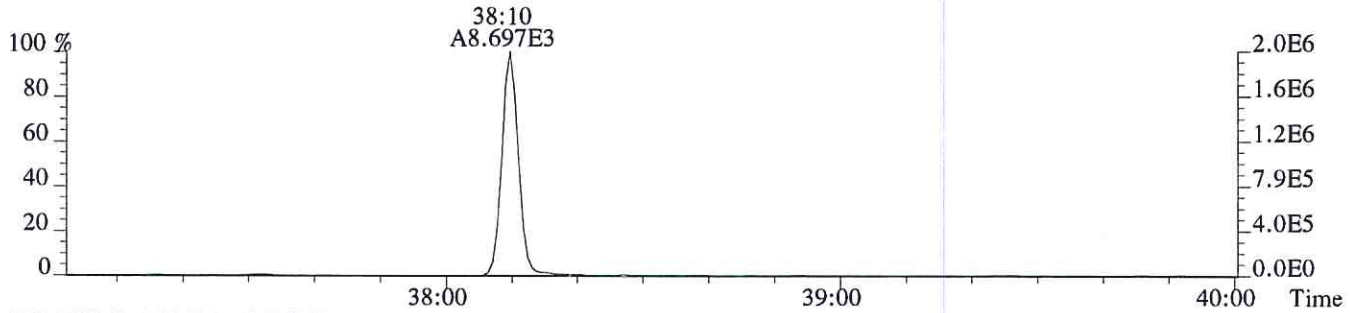
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



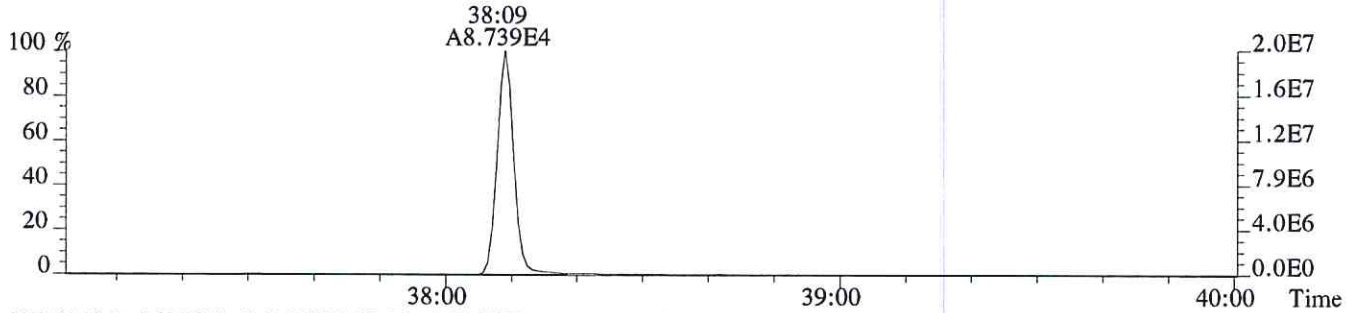
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



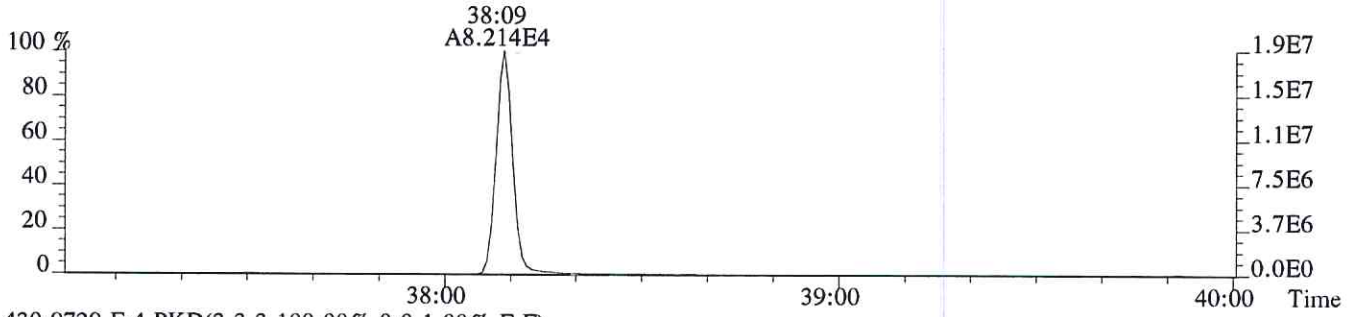
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



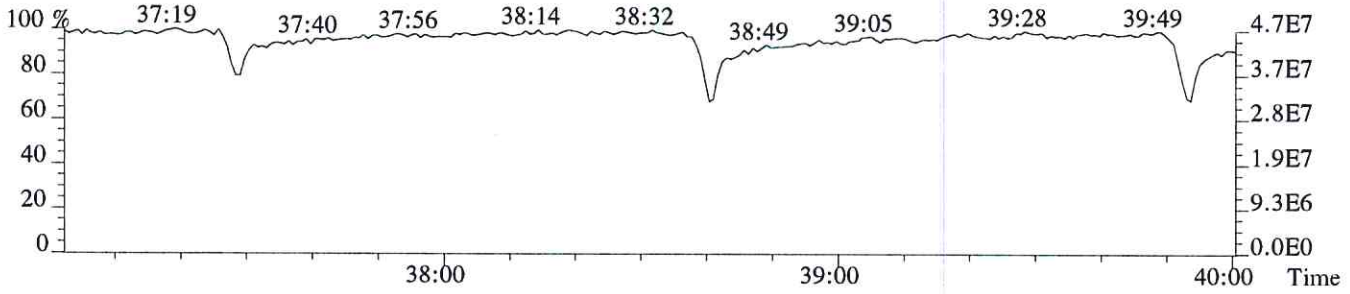
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



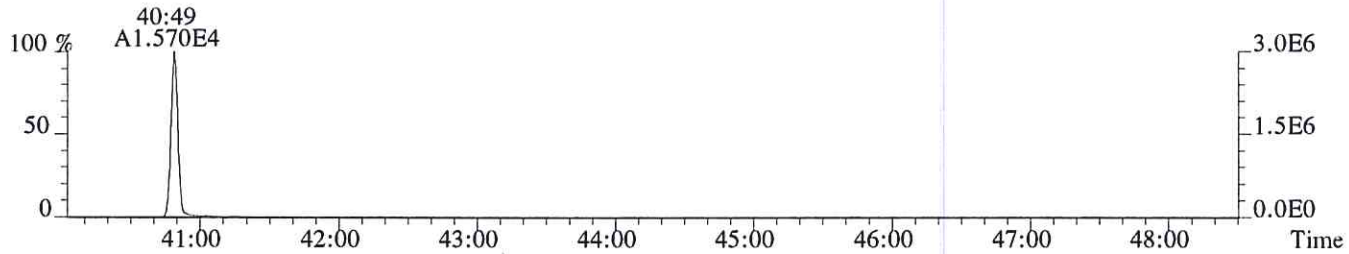
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1940.0,0.40%,F,T)



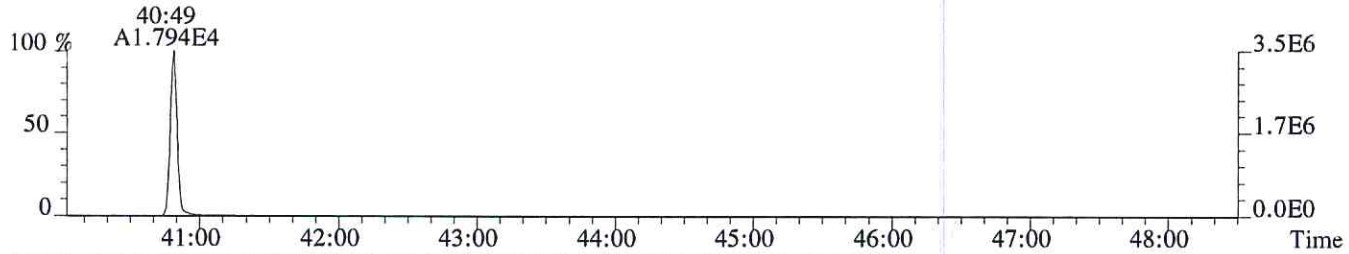
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



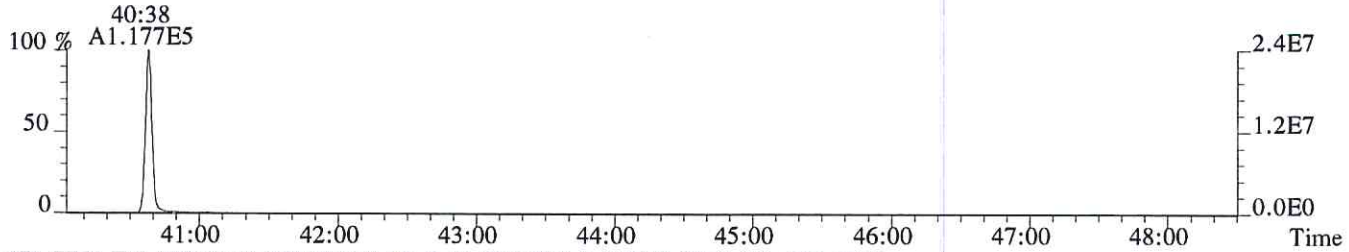
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1308.0,0.40%,F,T)



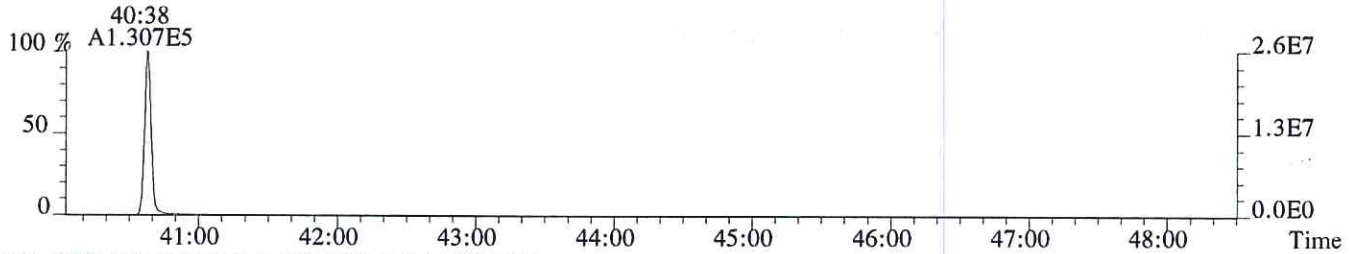
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3736.0,0.40%,F,T)



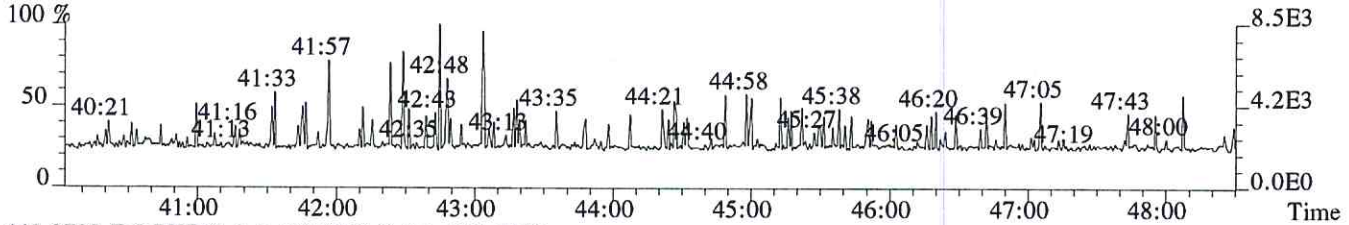
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



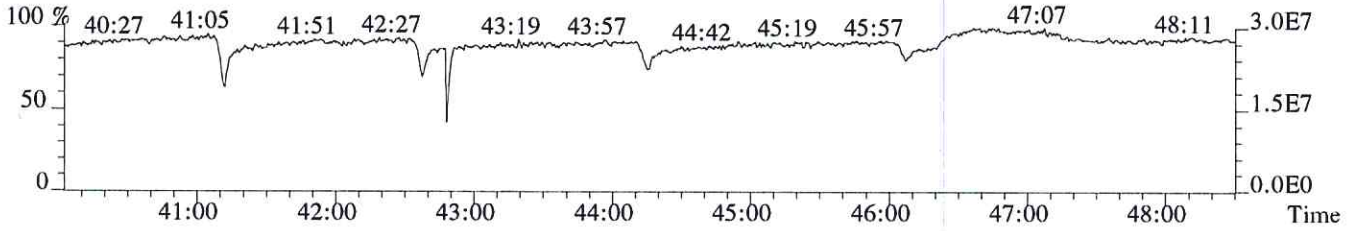
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8060.0,0.40%,F,T)



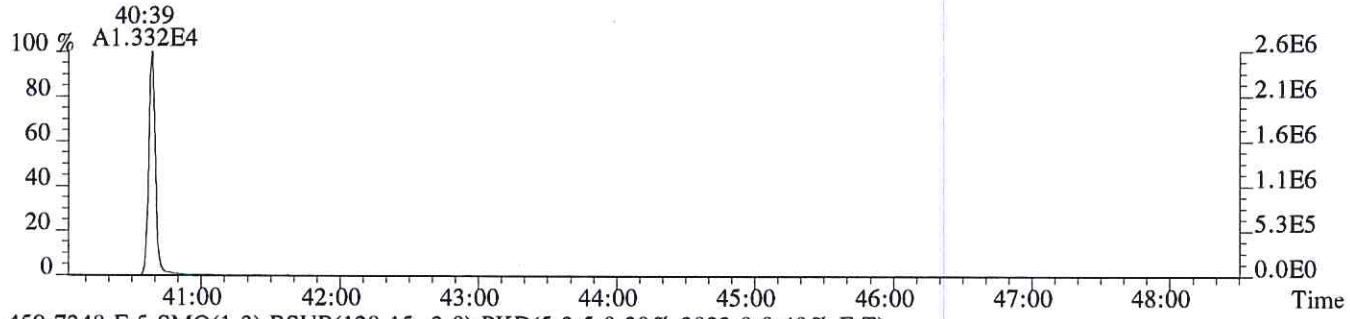
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



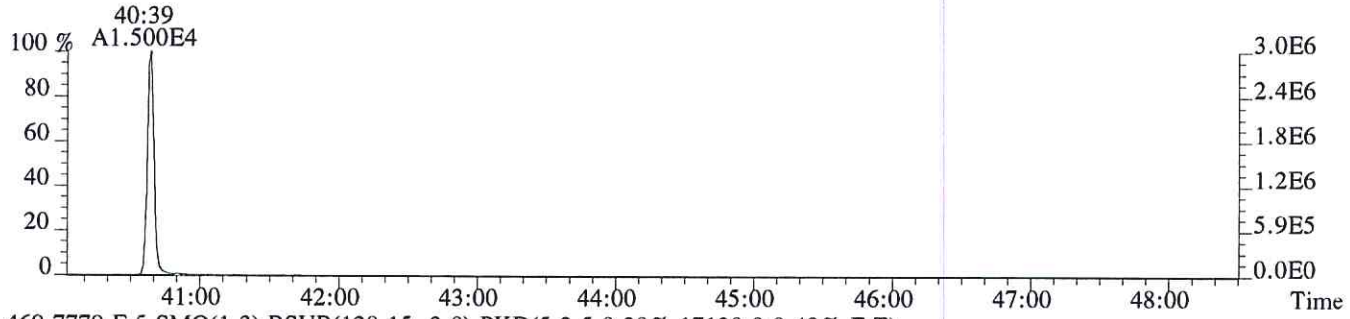
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



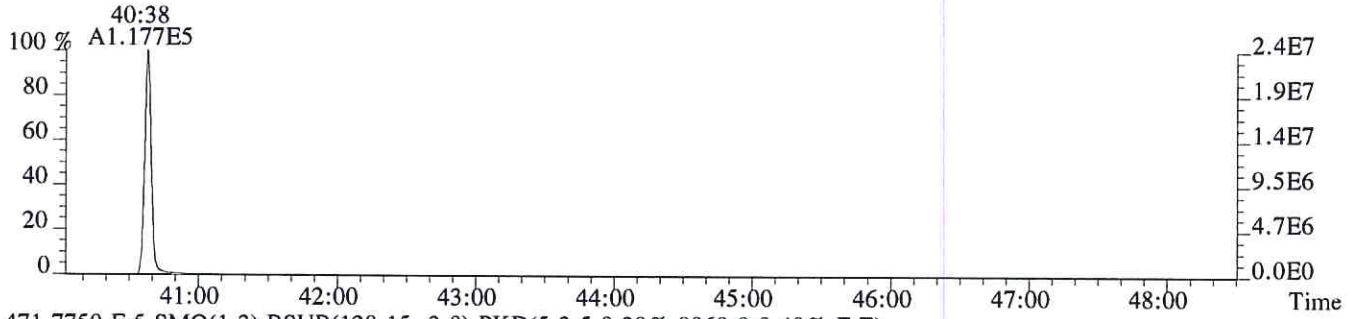
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2520.0,0.40%,F,T)



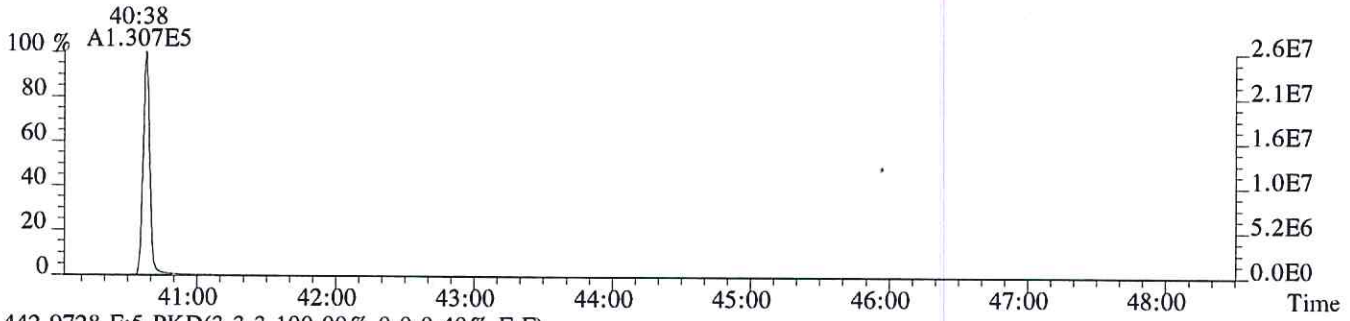
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2032.0,0.40%,F,T)



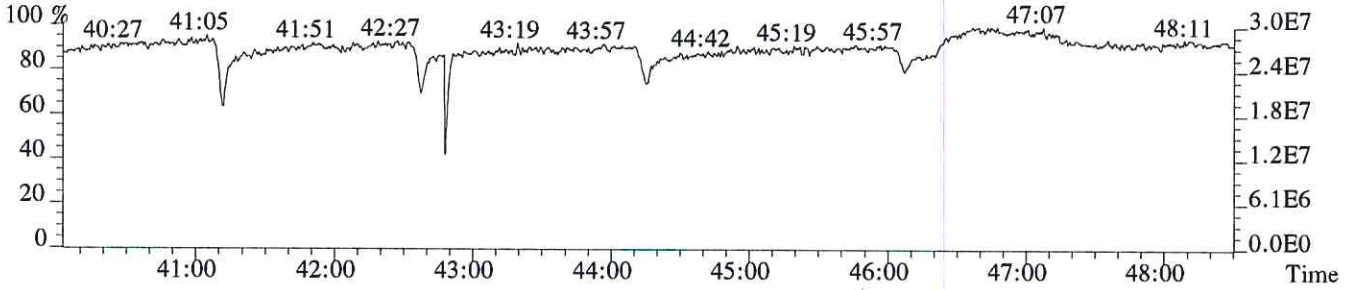
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



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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ALS ENVIRONMENTAL
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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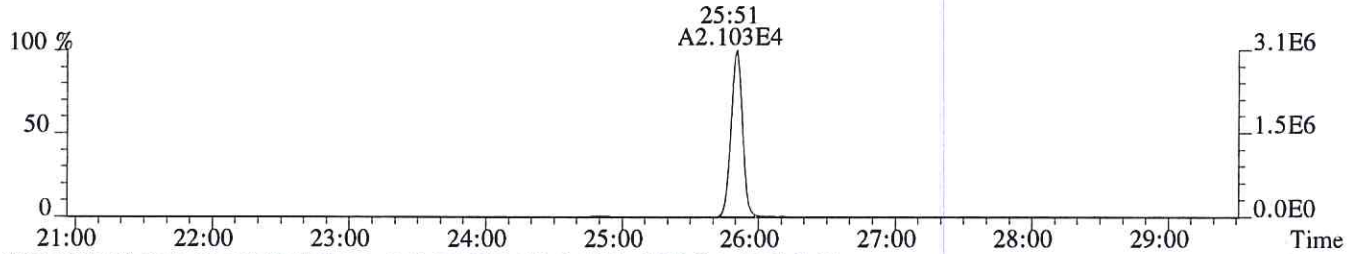
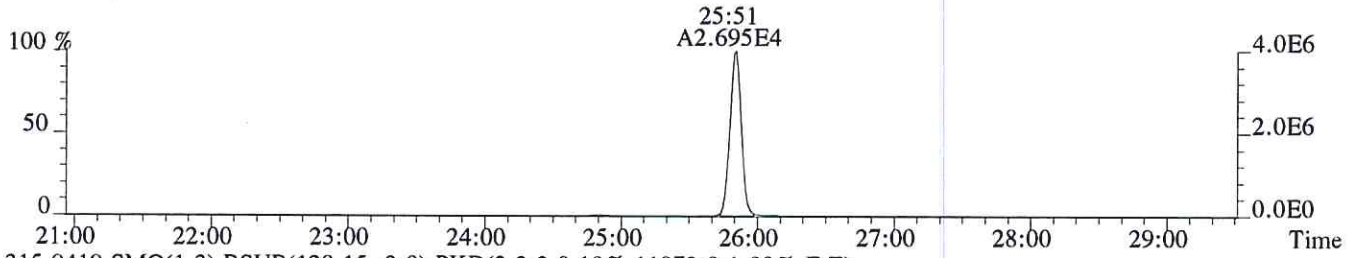
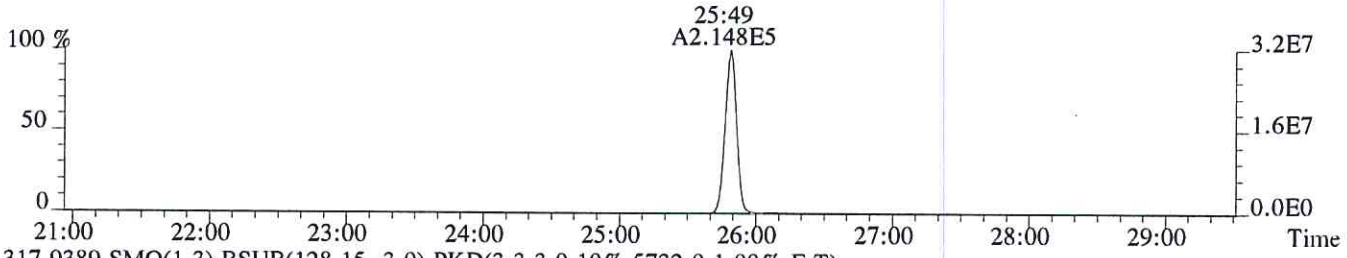
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



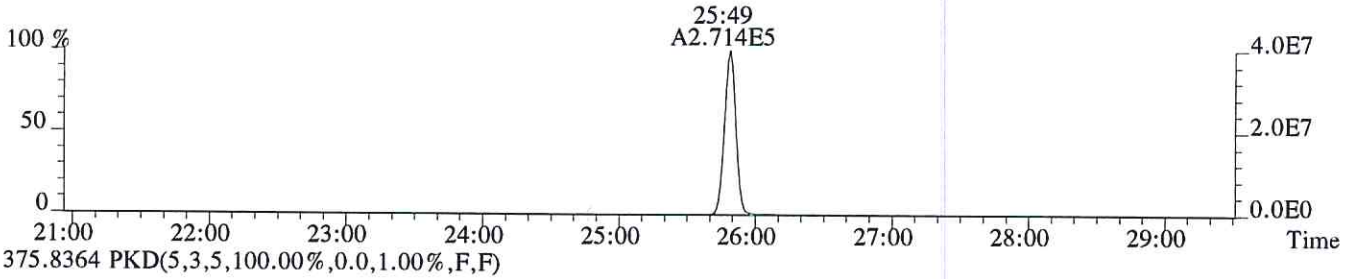
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



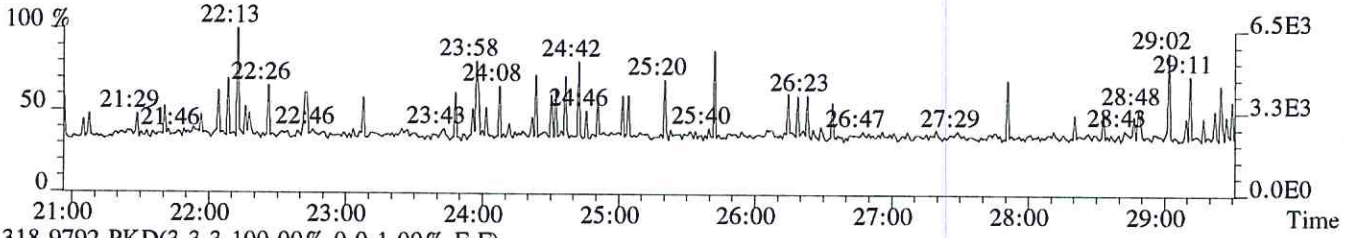
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11972.0,1.00%,F,T)



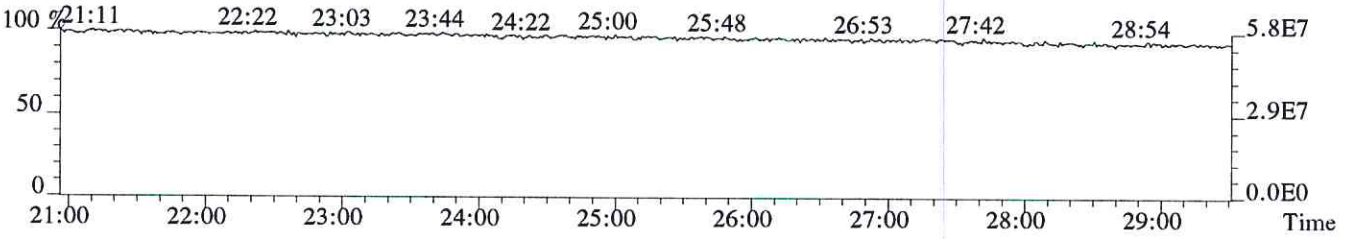
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5732.0,1.00%,F,T)



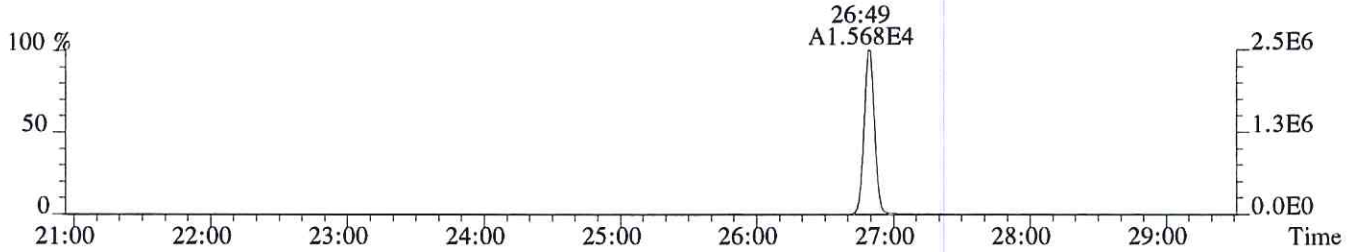
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



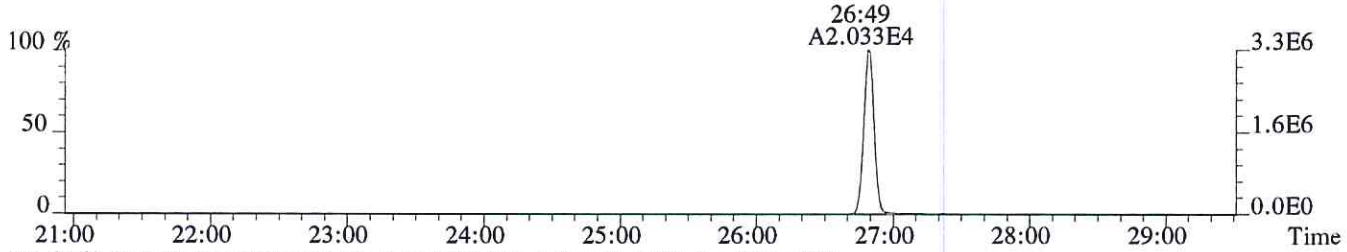
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



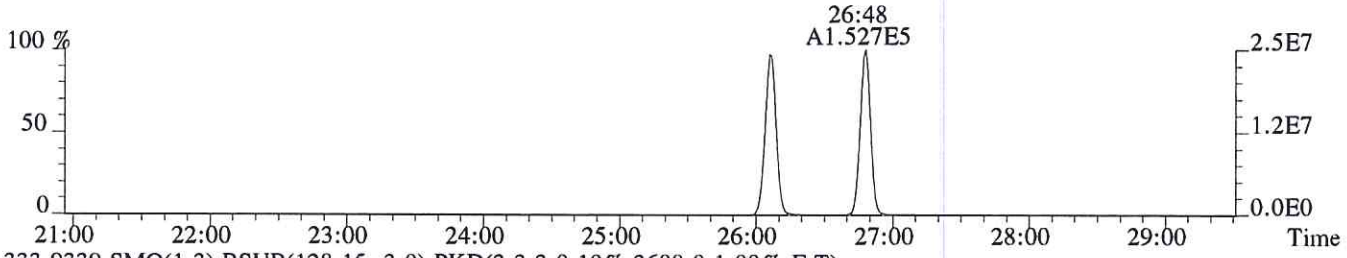
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



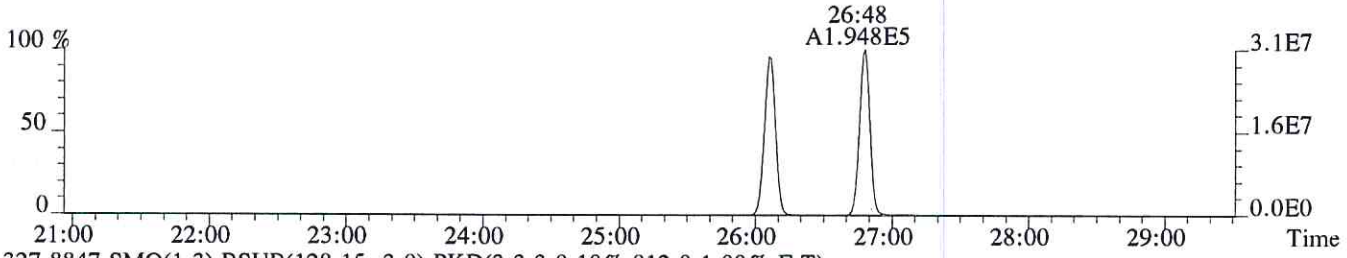
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



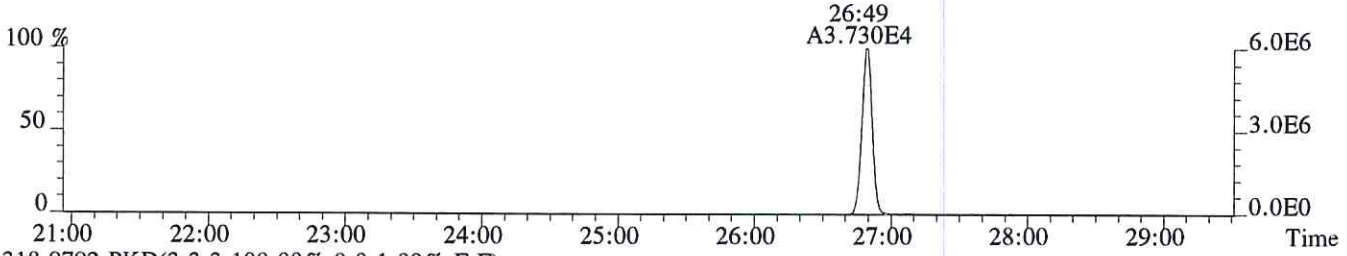
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



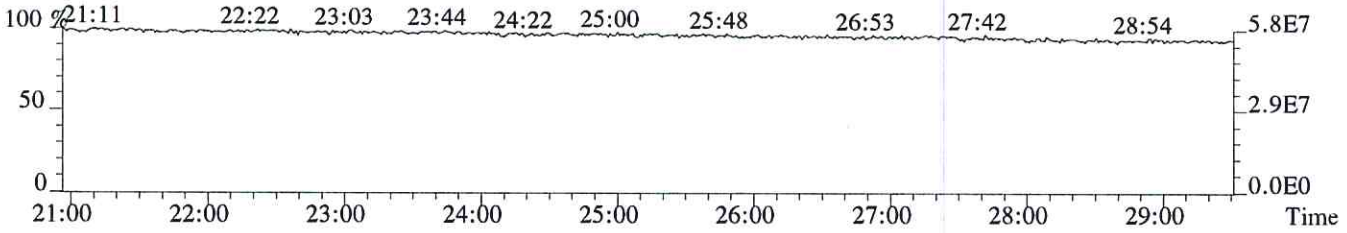
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3688.0,1.00%,F,T)



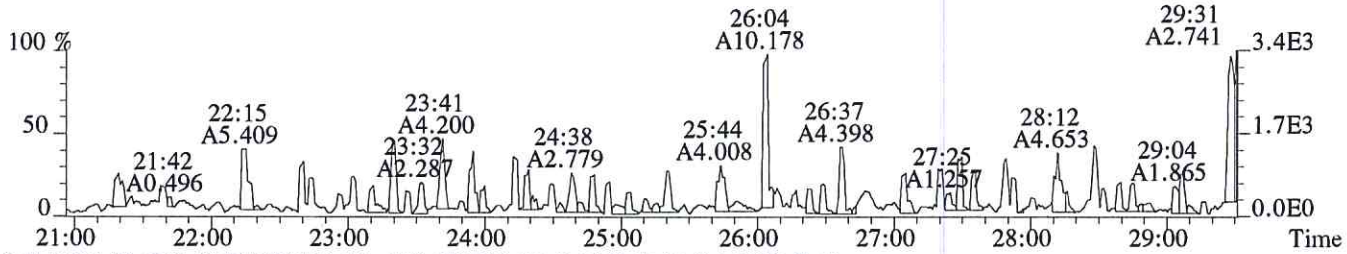
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



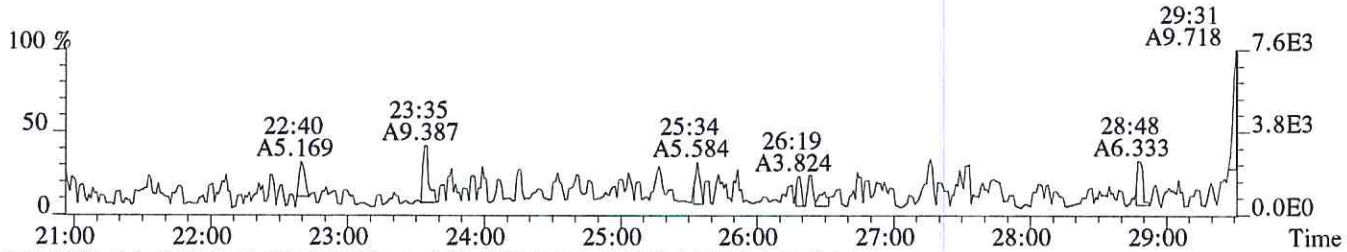
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



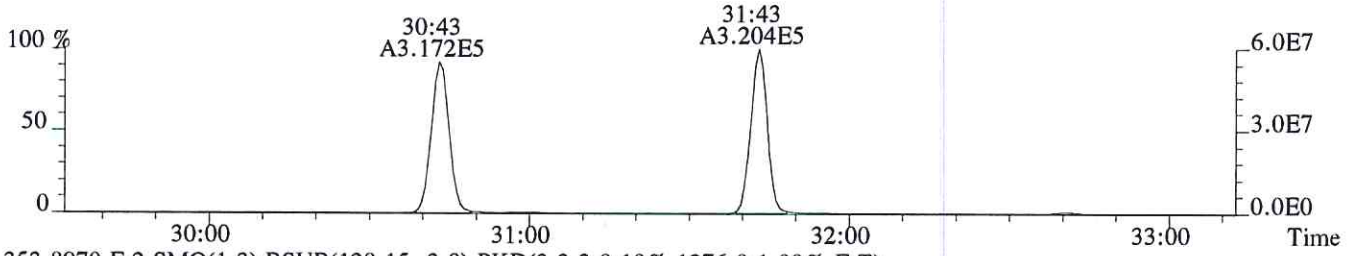
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



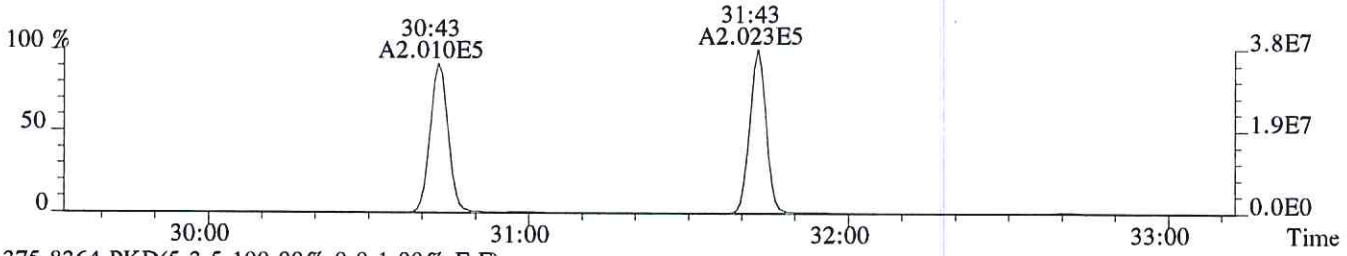
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1112.0,1.00%,F,T)



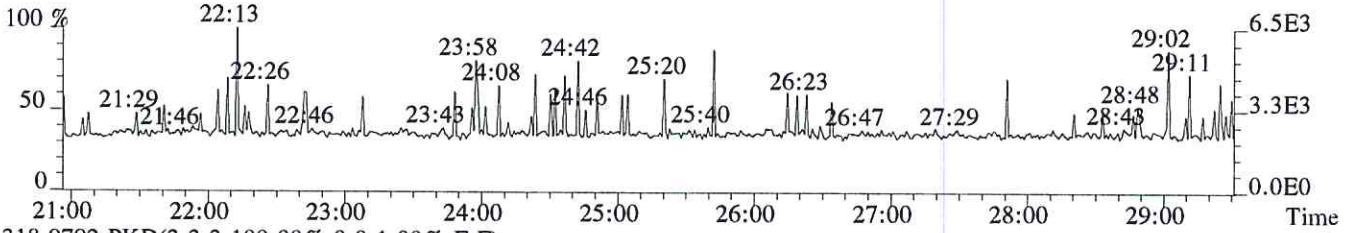
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



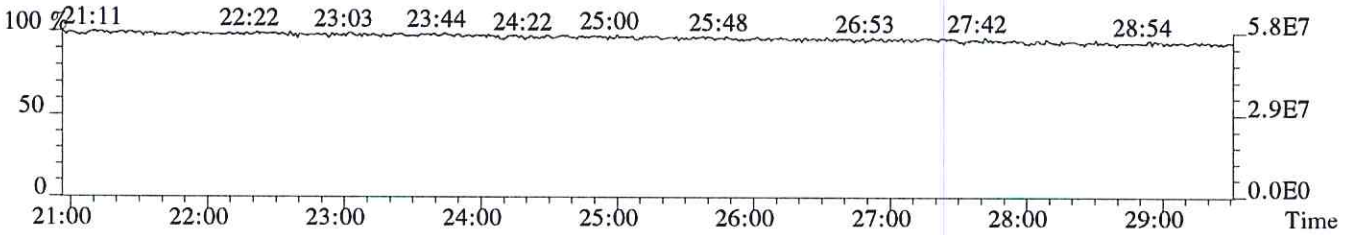
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



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

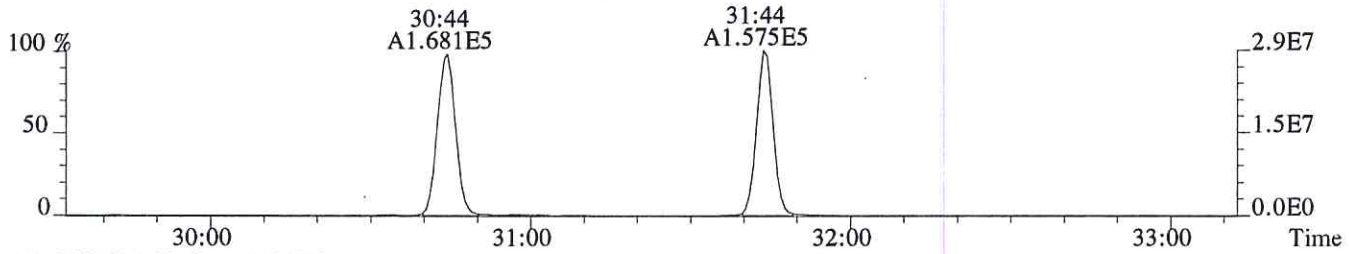


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

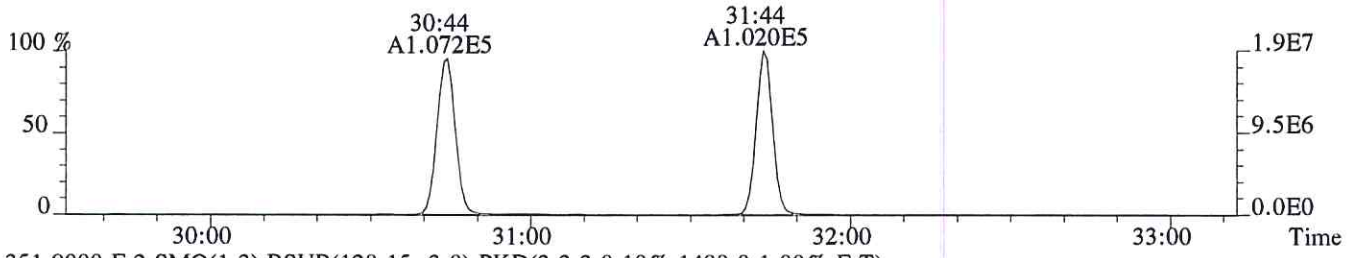


File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

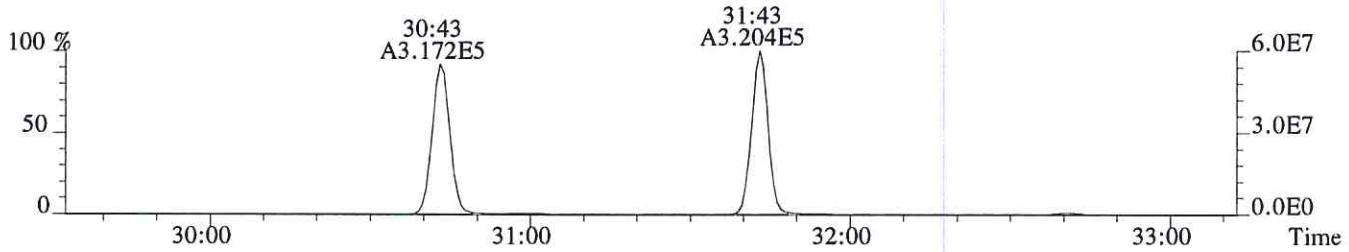
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



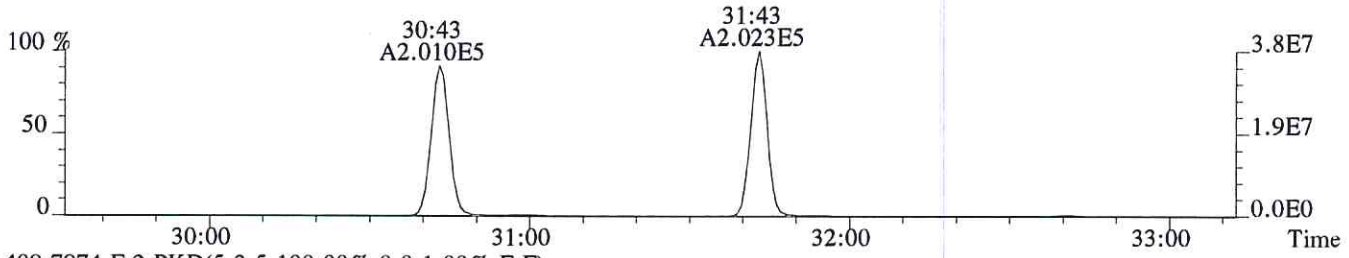
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3268.0,1.00%,F,T)



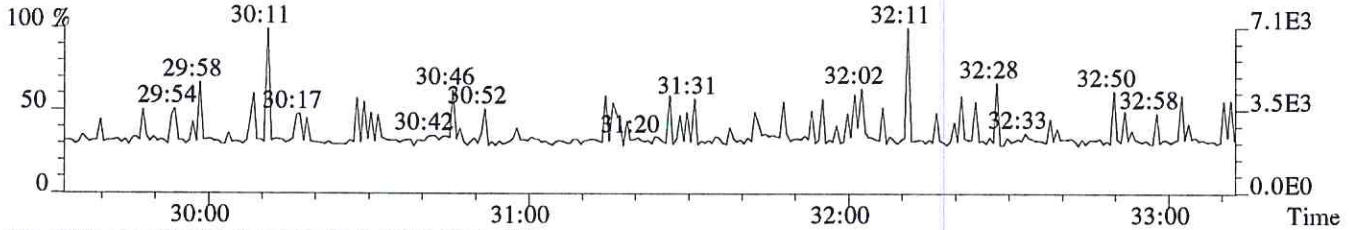
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



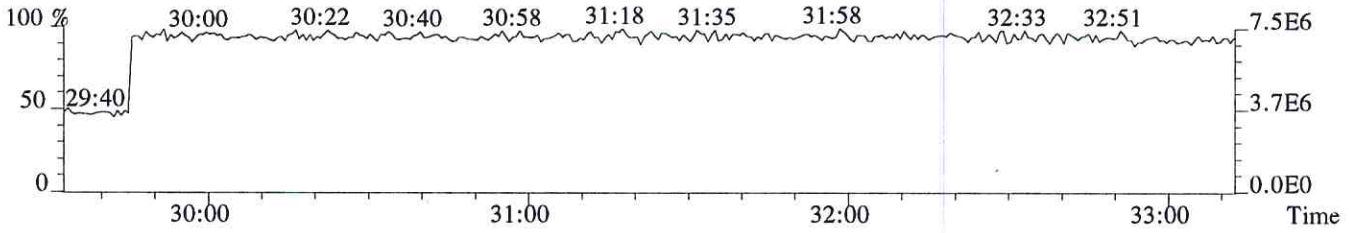
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



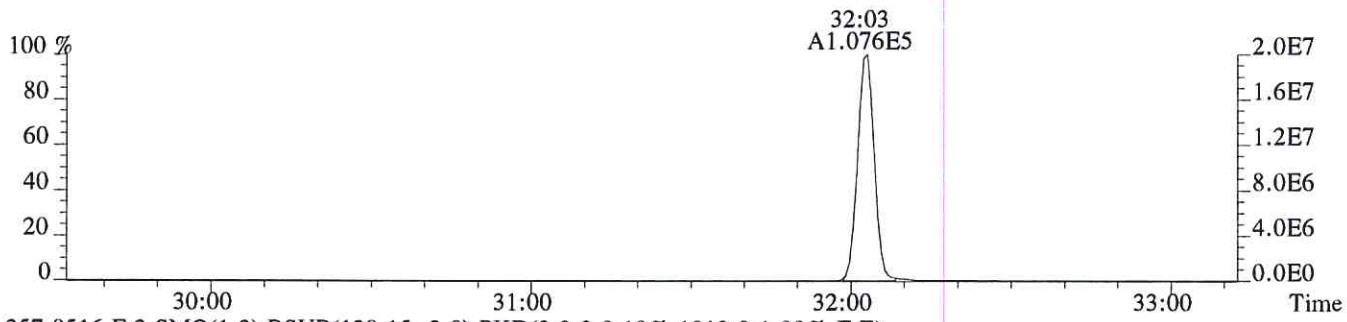
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



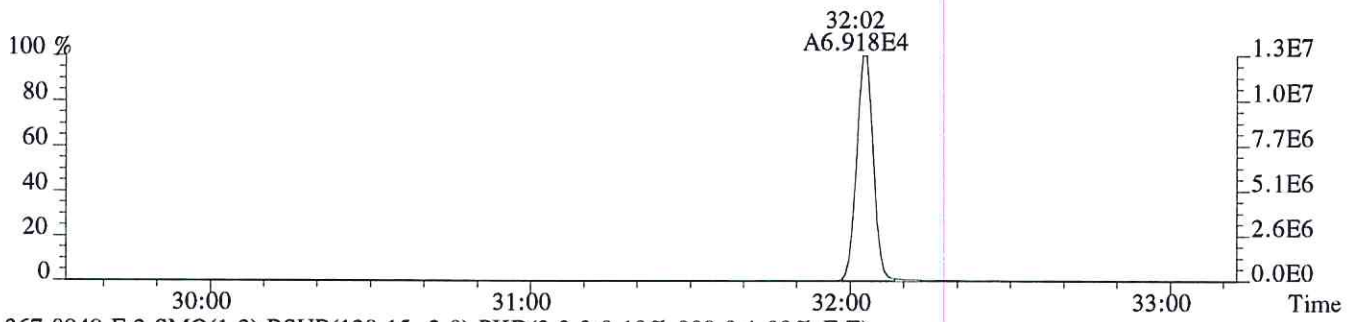
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



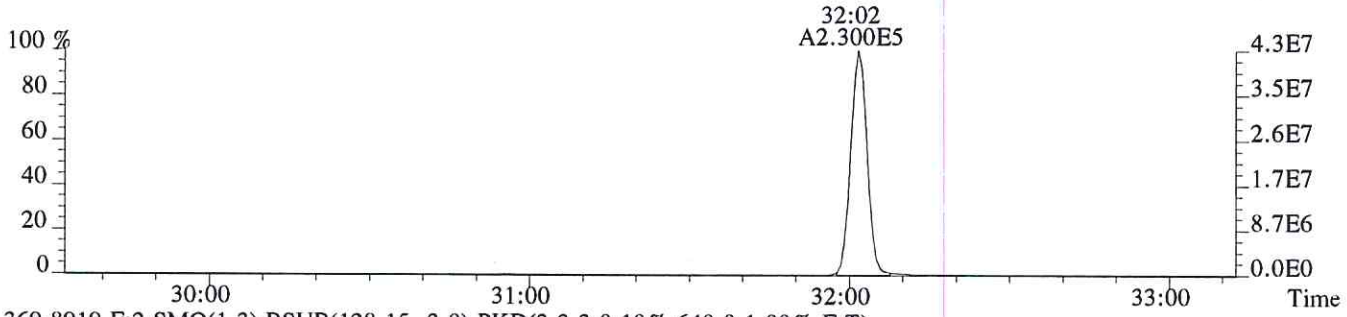
File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



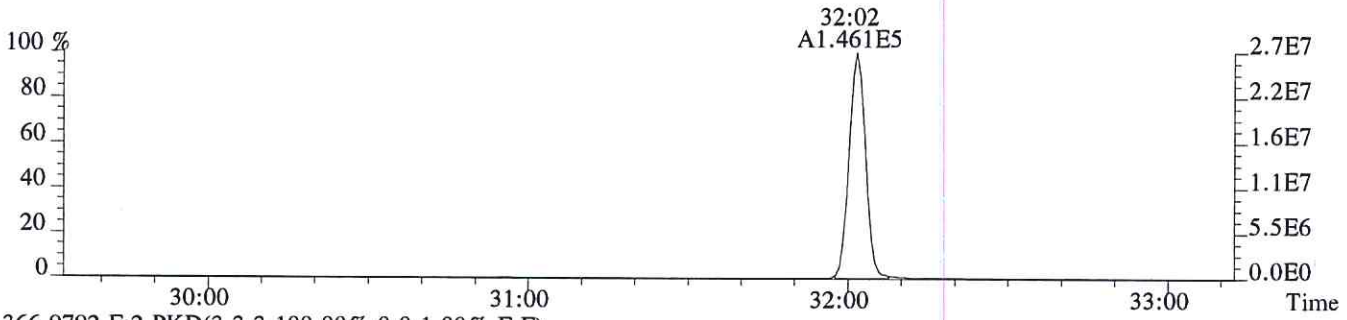
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



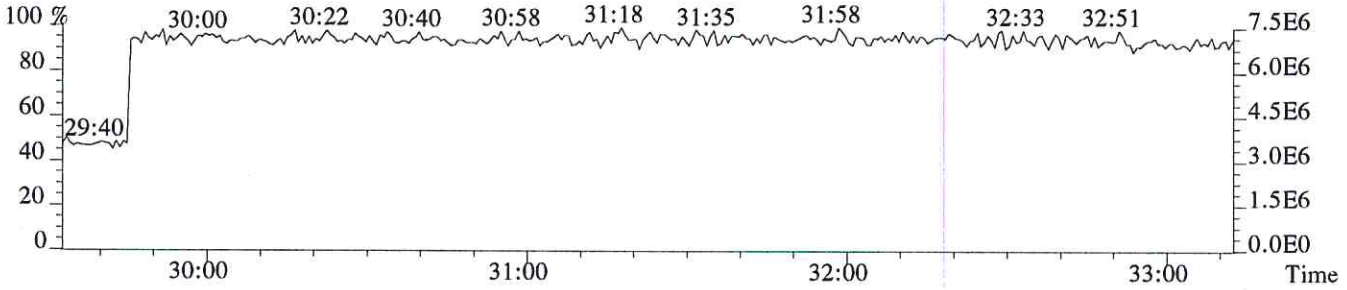
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



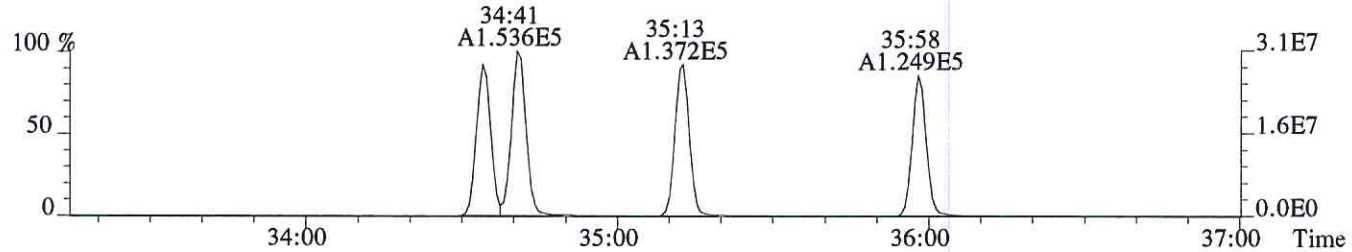
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



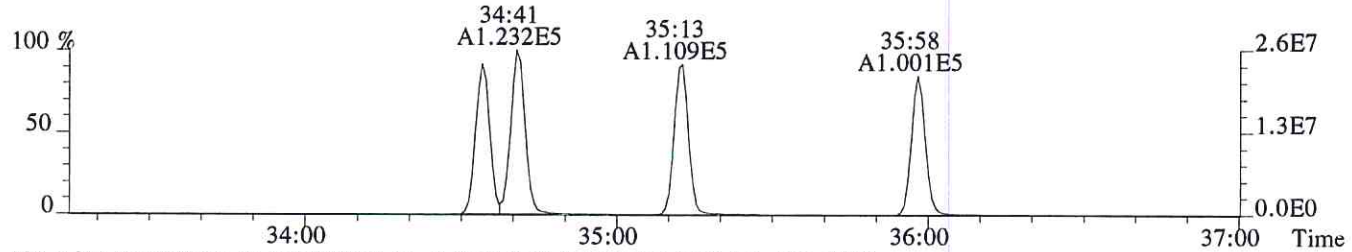
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



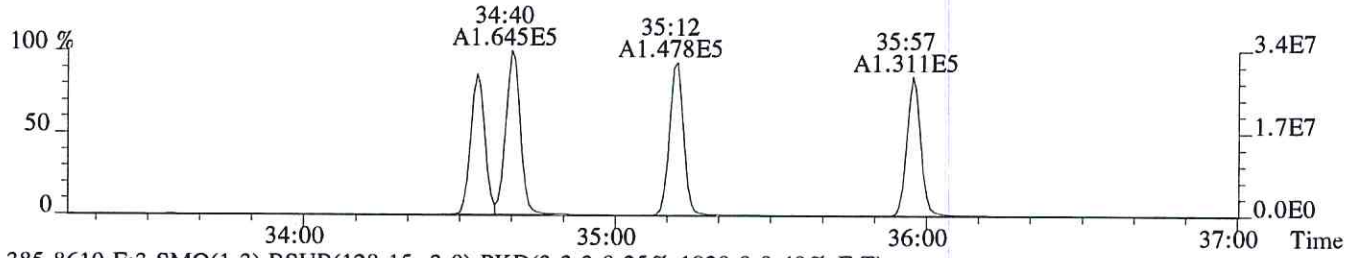
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



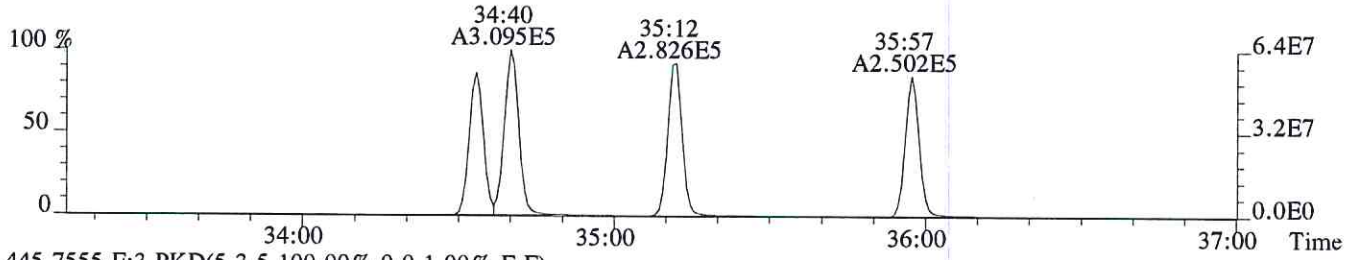
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



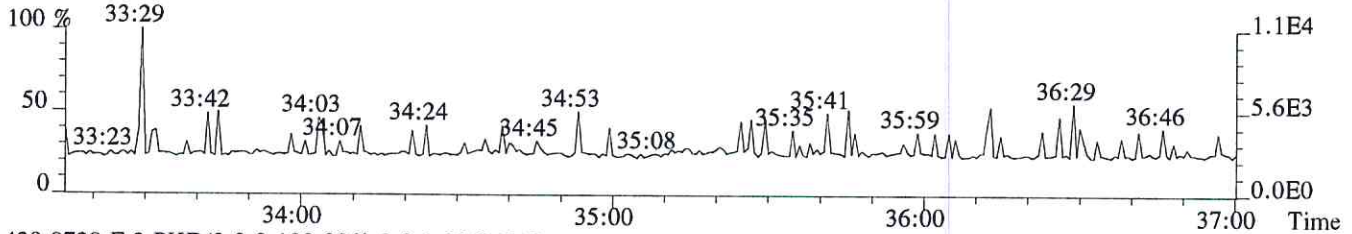
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



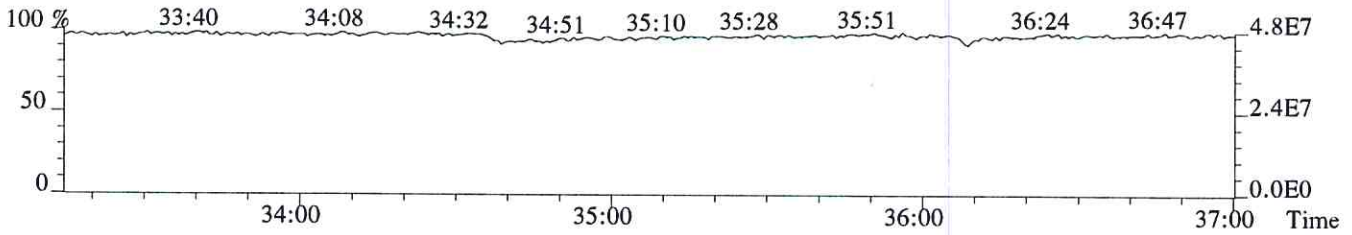
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.40%,F,T)



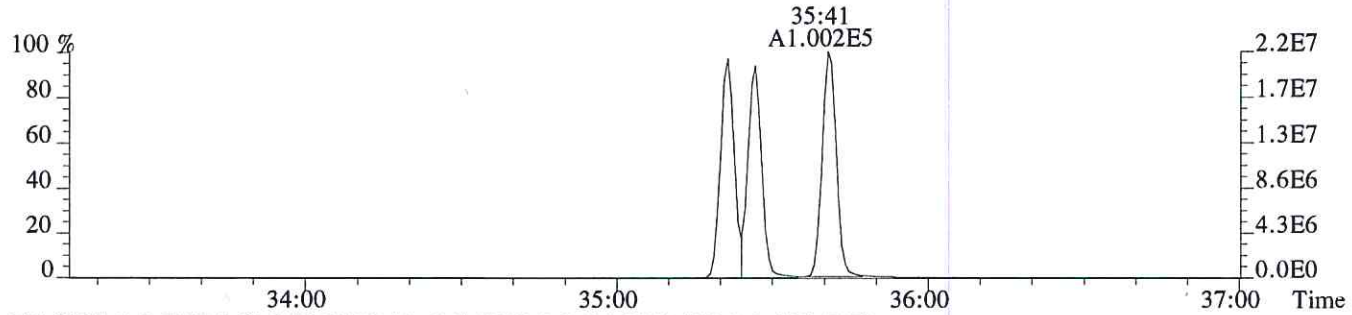
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



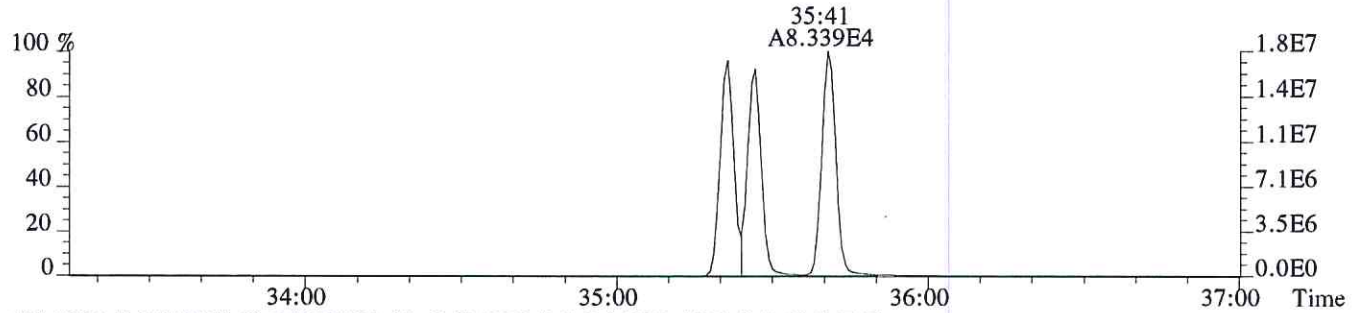
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



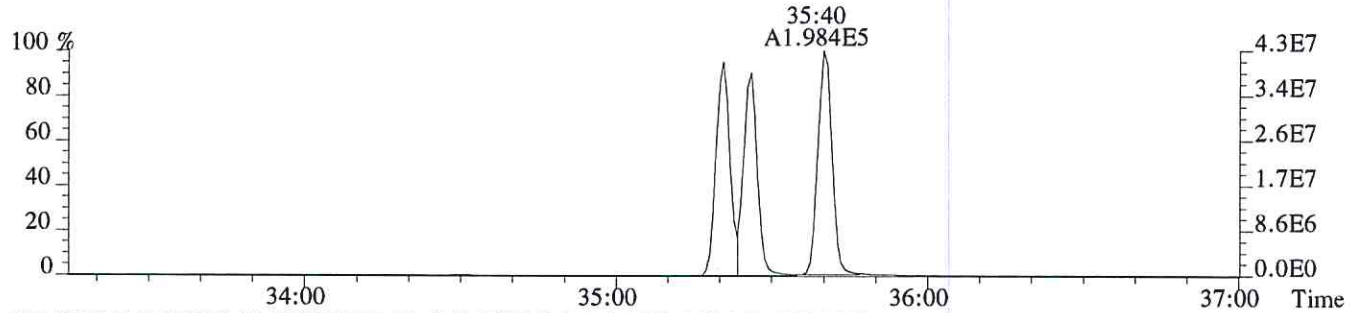
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



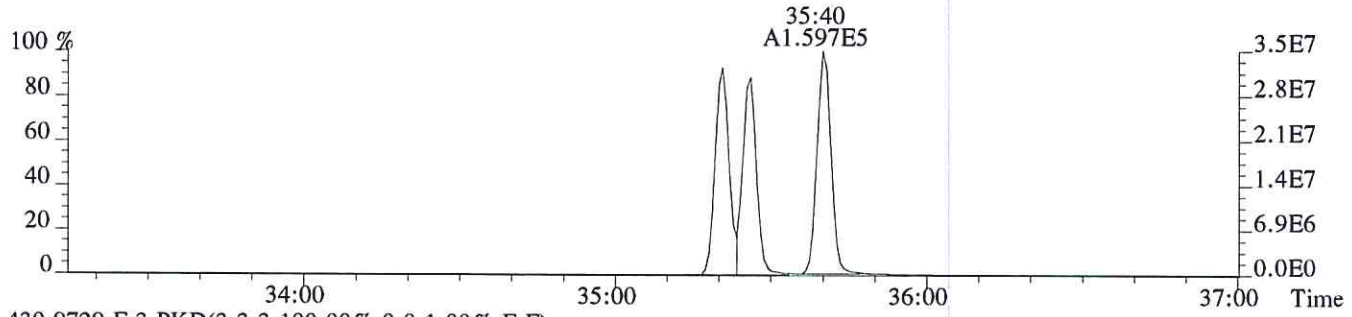
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



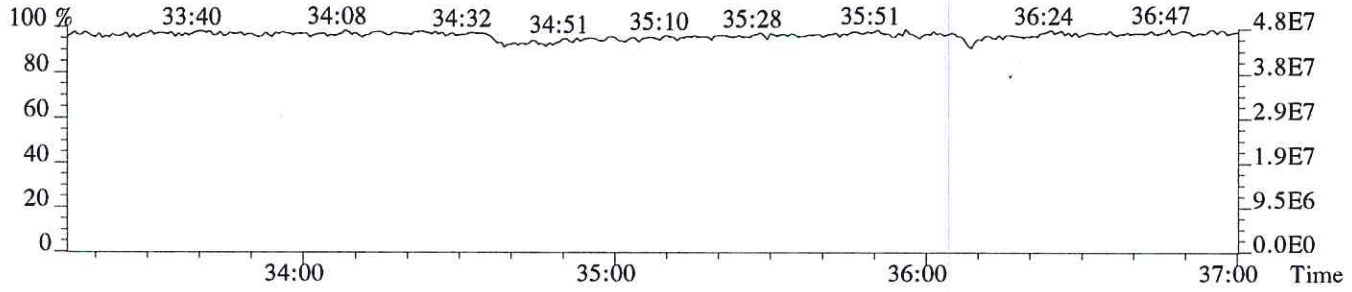
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



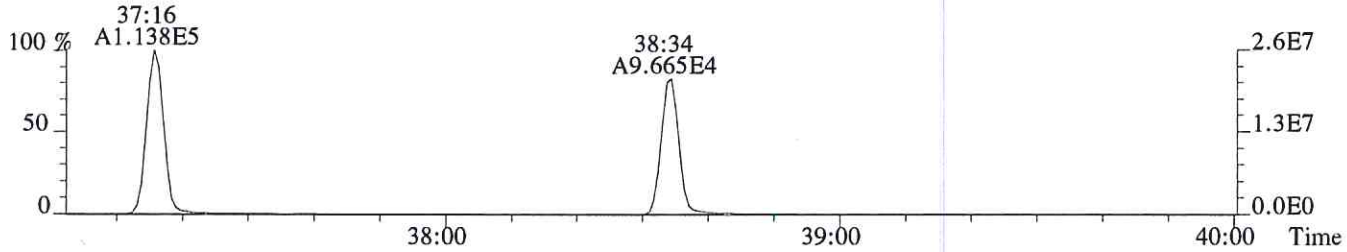
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



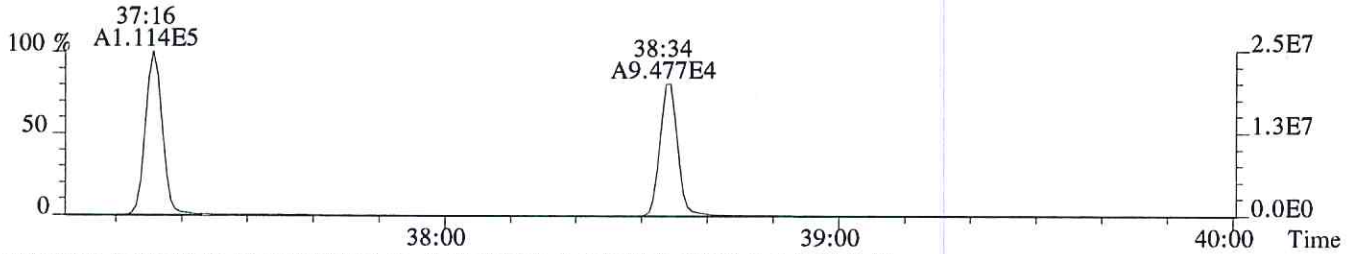
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



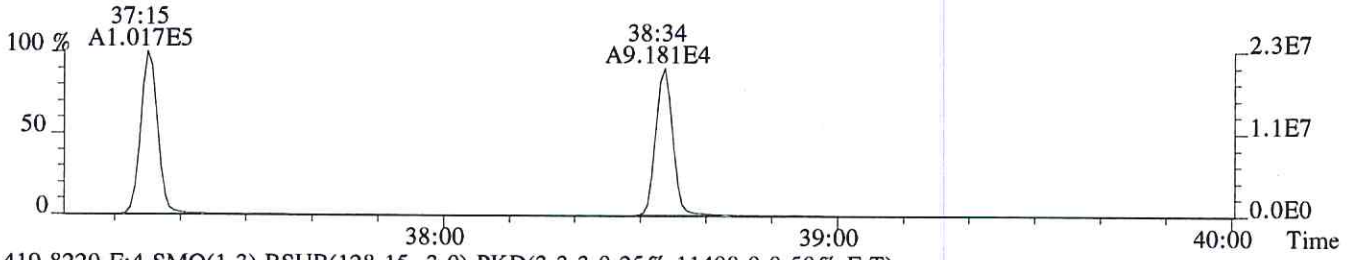
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.50%,F,T)



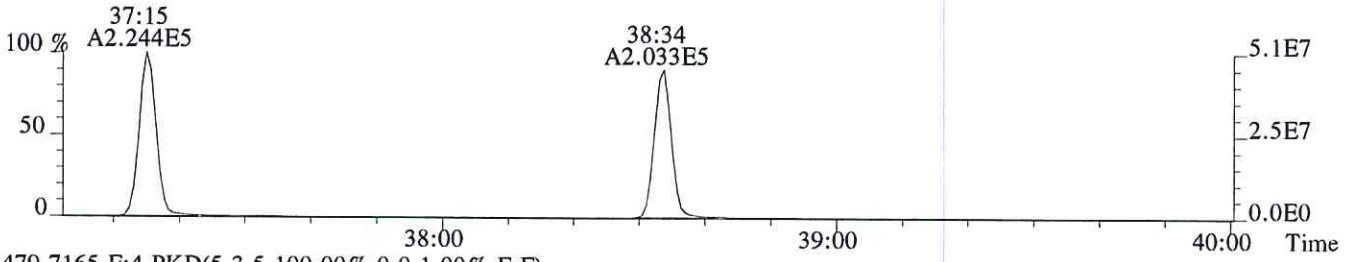
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6976.0,0.50%,F,T)



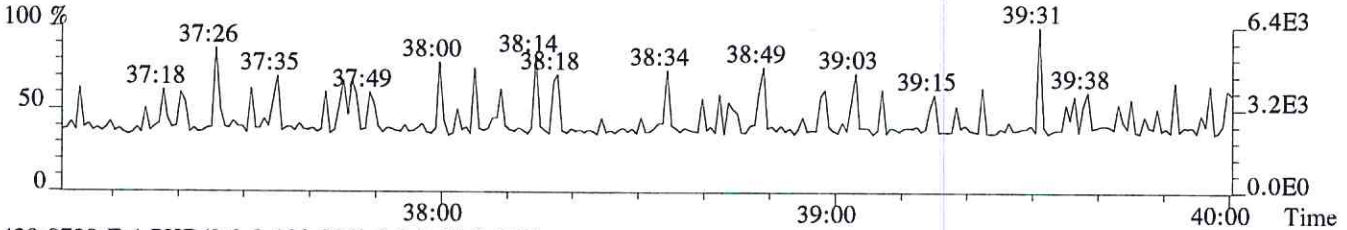
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17904.0,0.50%,F,T)



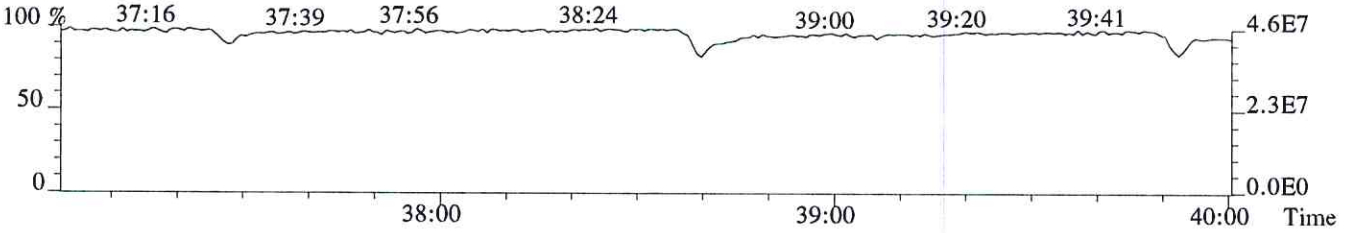
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11408.0,0.50%,F,T)



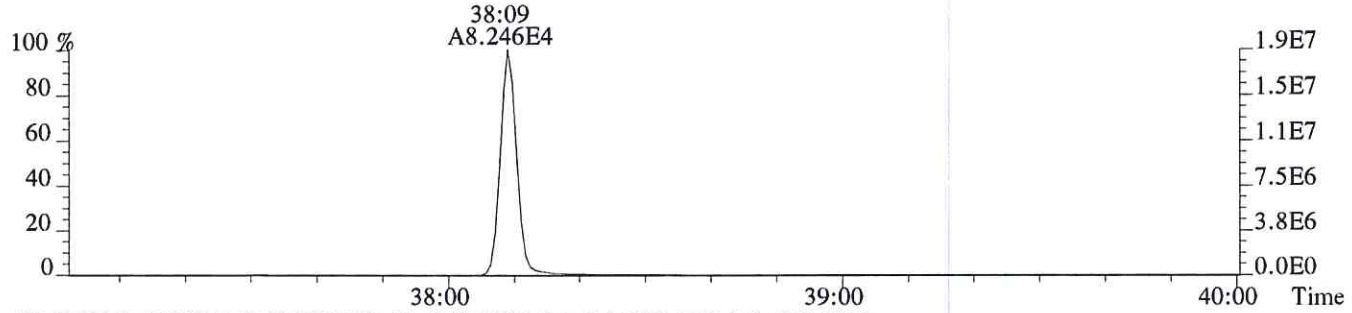
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



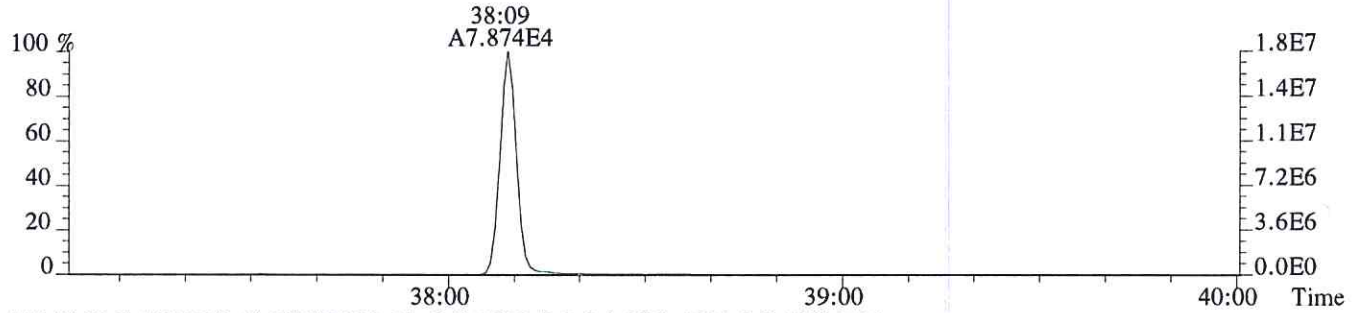
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



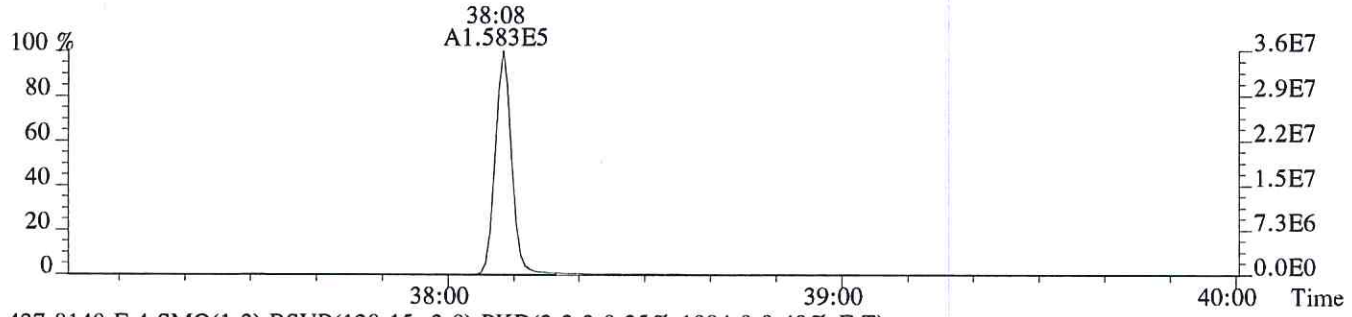
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1148.0,0.40%,F,T)



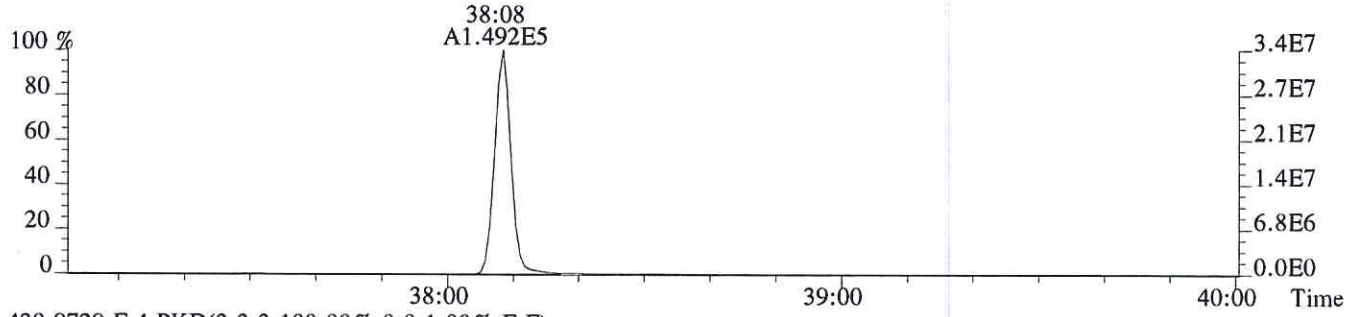
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



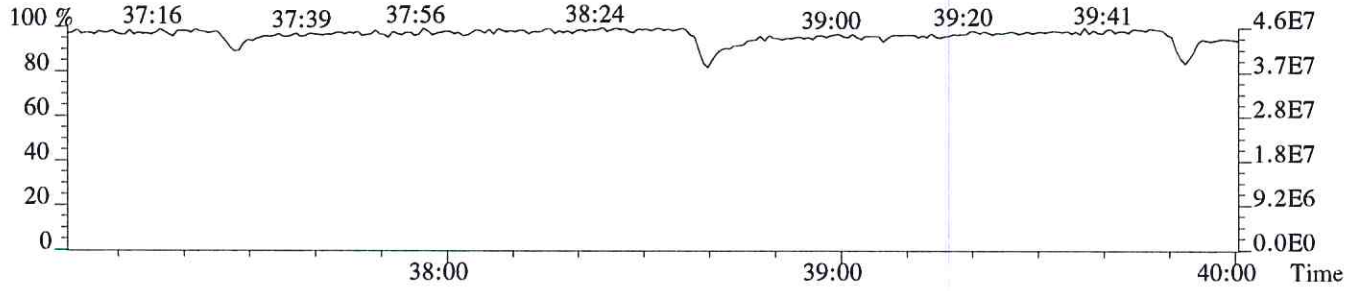
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



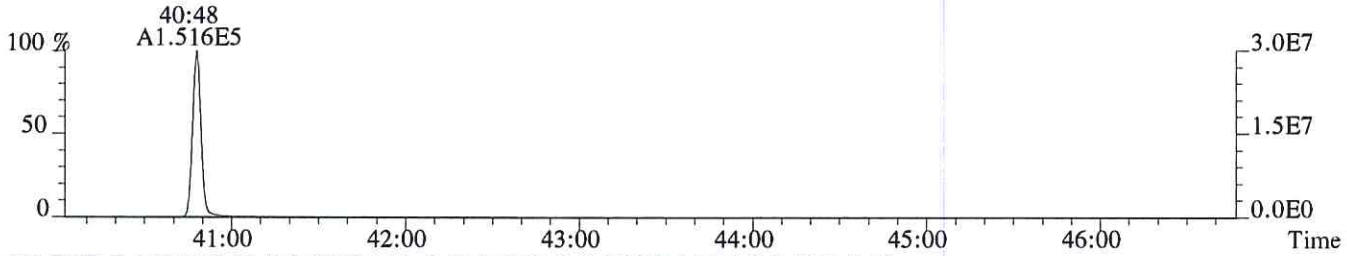
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.40%,F,T)



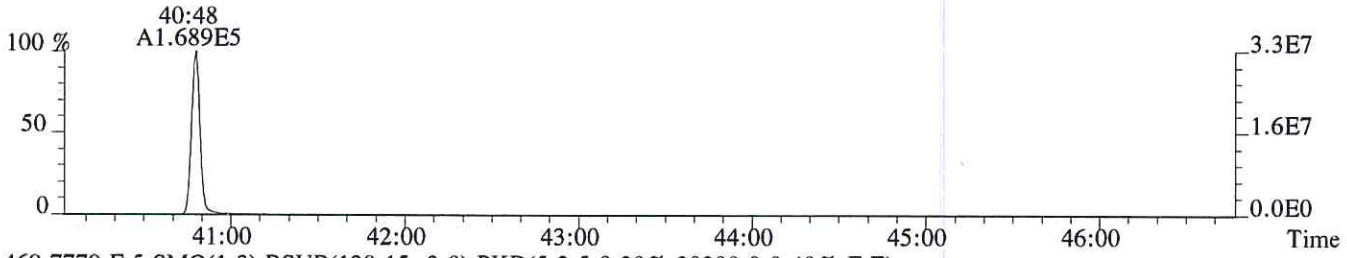
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



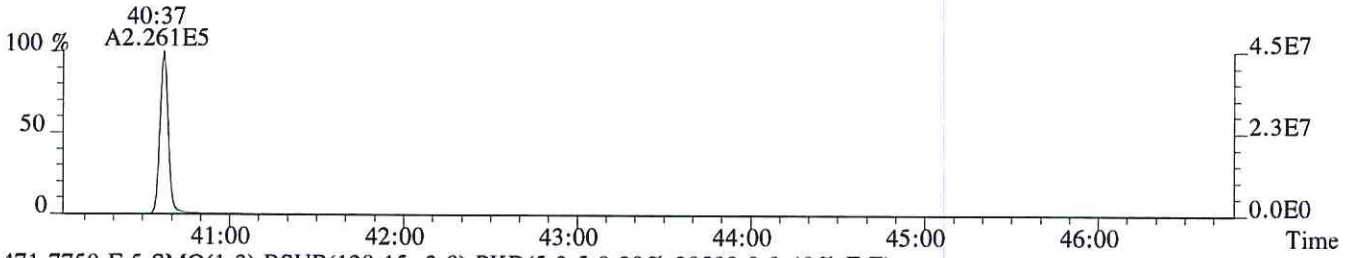
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9756.0,0.40%,F,T)



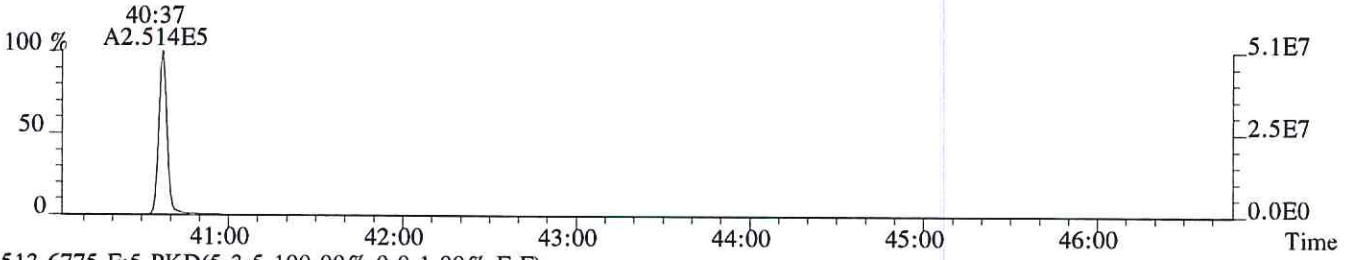
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14120.0,0.40%,F,T)



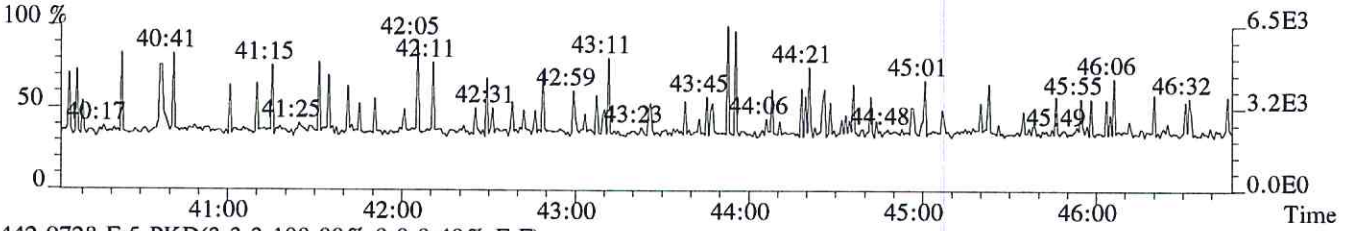
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



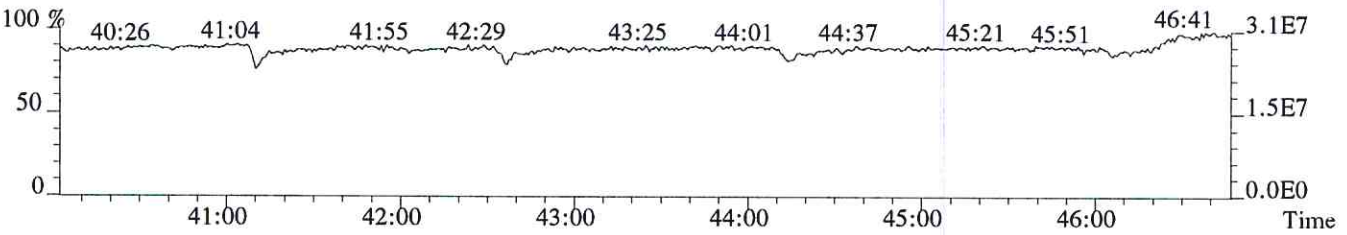
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,20500.0,0.40%,F,T)



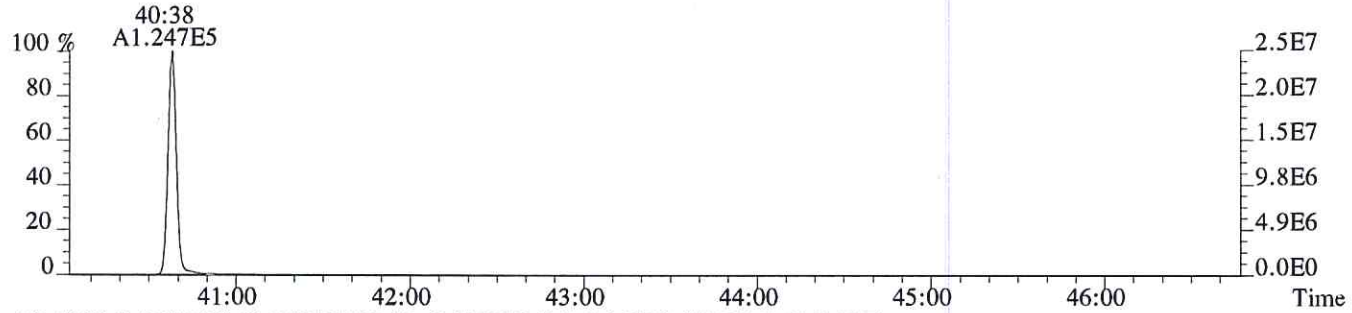
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



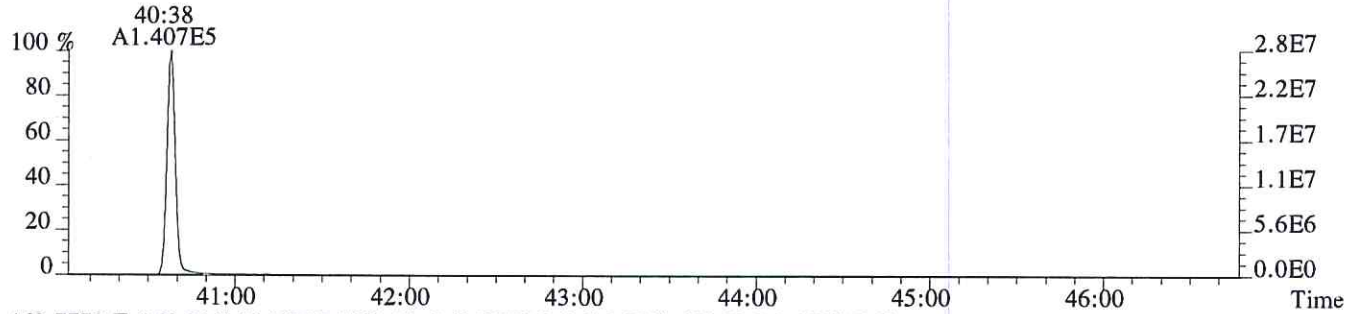
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



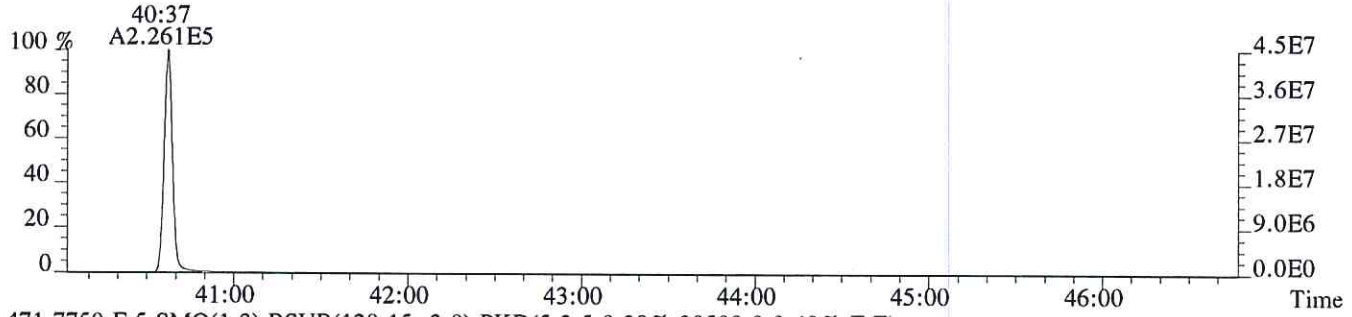
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,6924.0,0.40%,F,T)



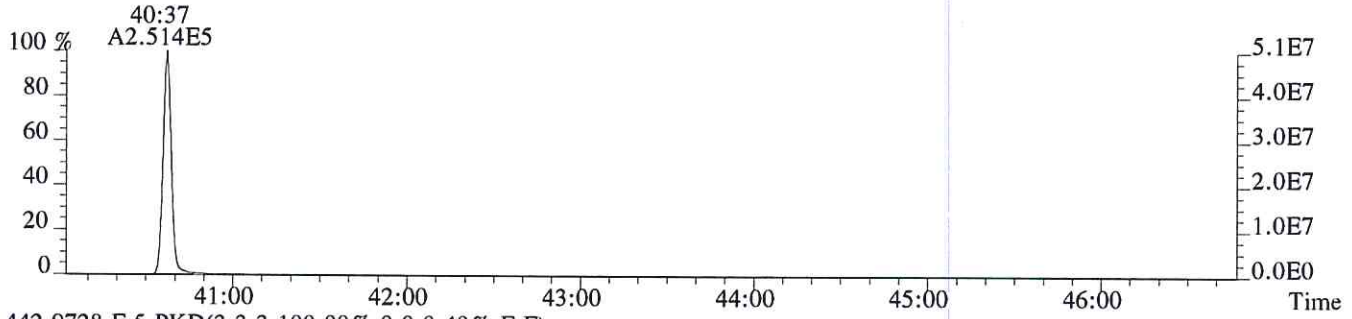
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8756.0,0.40%,F,T)



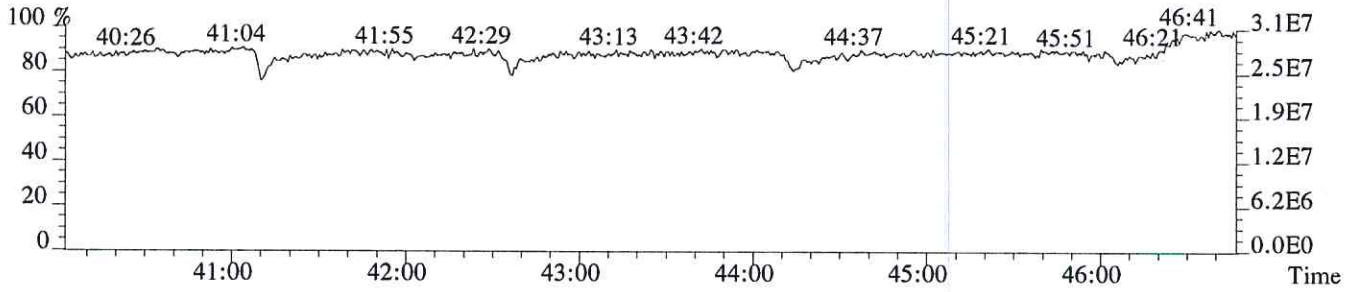
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



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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ALS ENVIRONMENTAL
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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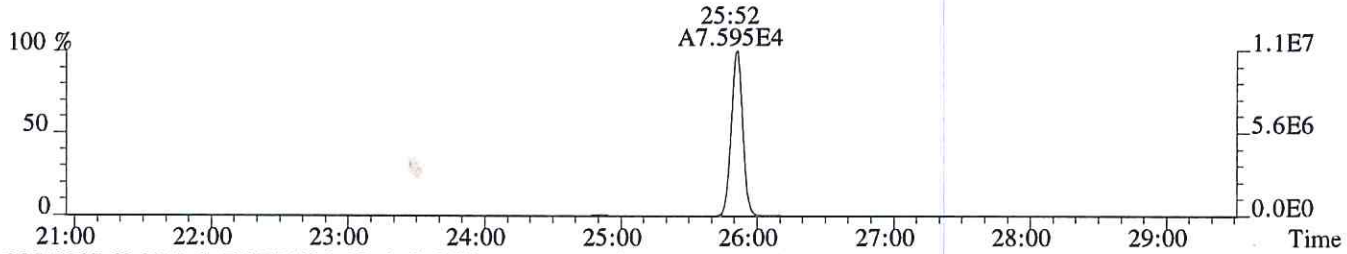
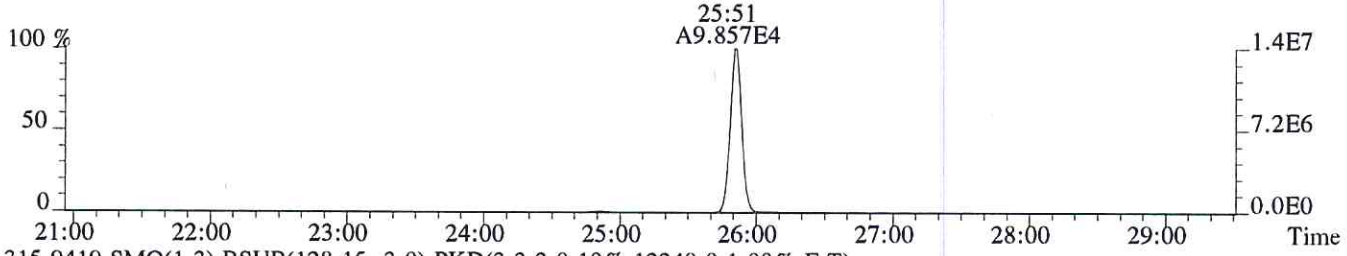
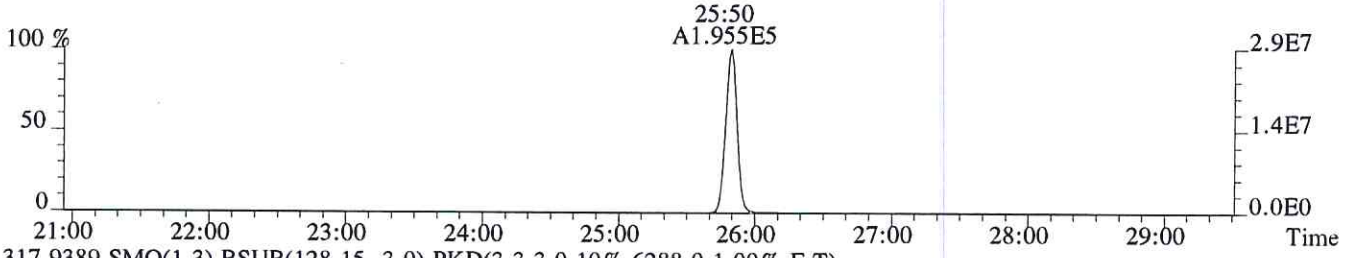
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



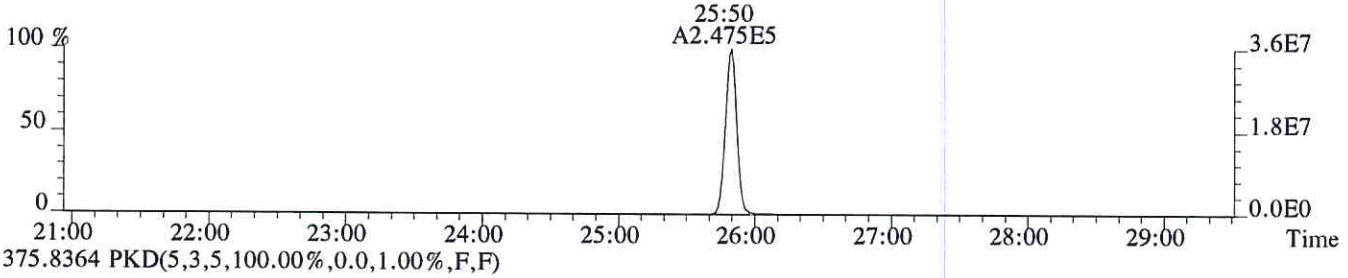
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



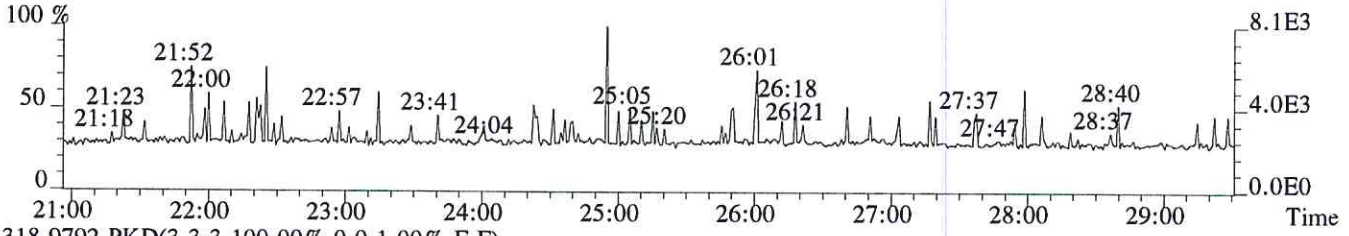
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12248.0,1.00%,F,T)



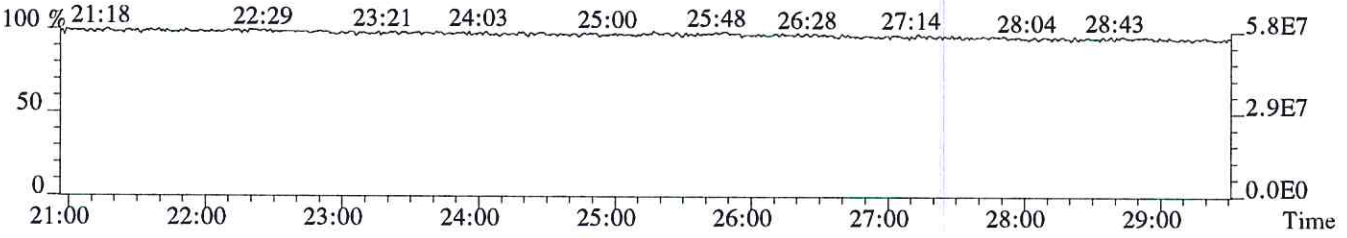
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6288.0,1.00%,F,T)



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

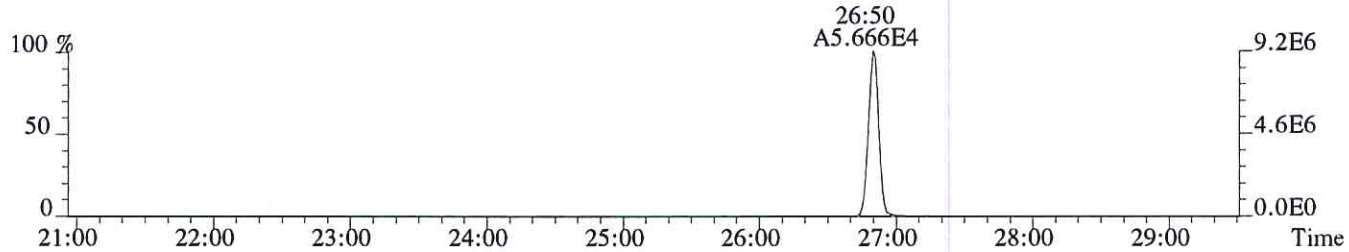


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

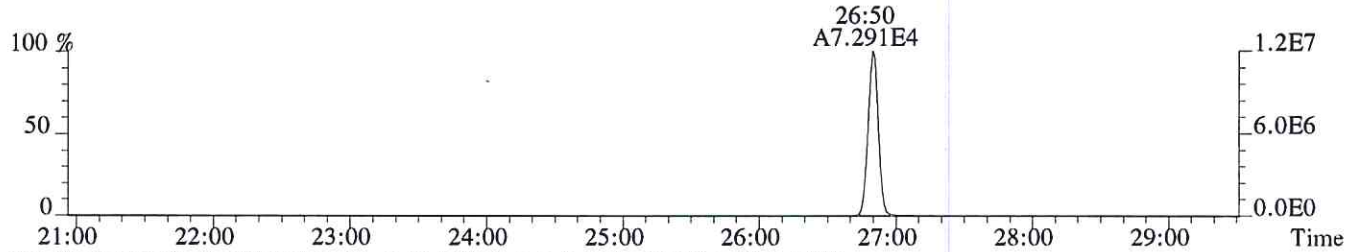


File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4

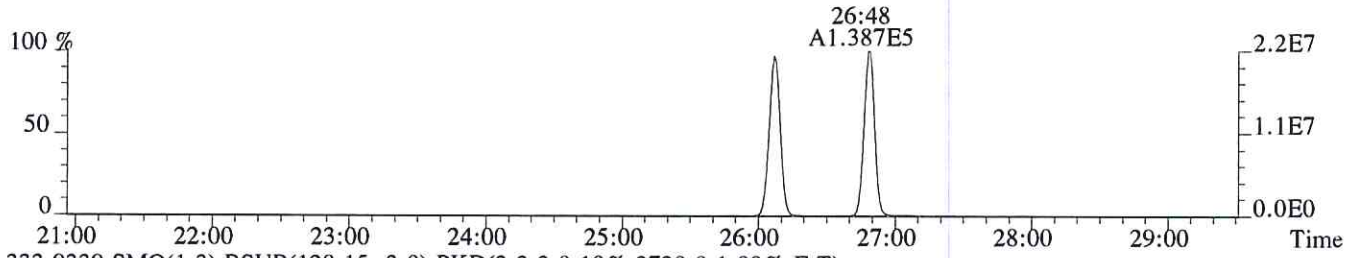
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



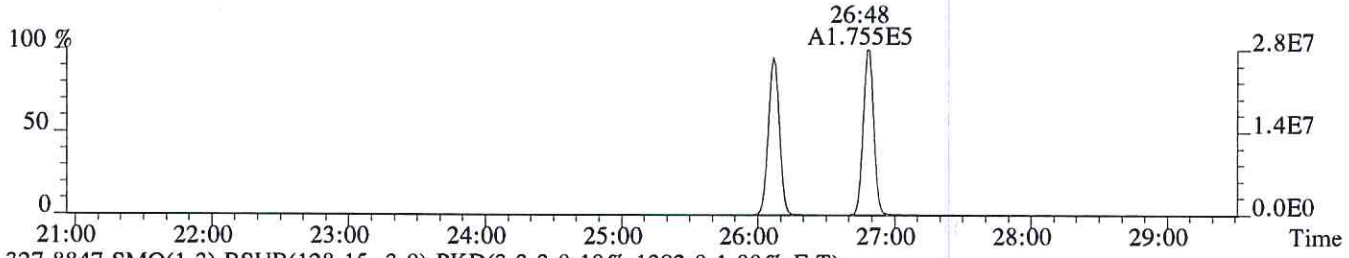
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



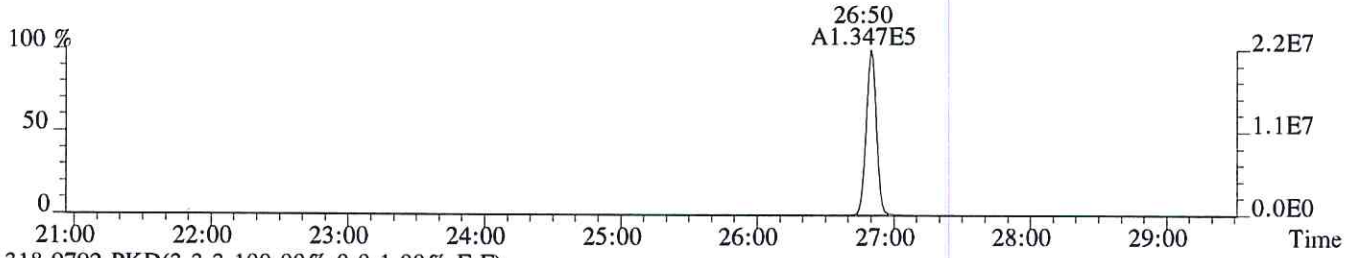
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5384.0,1.00%,F,T)



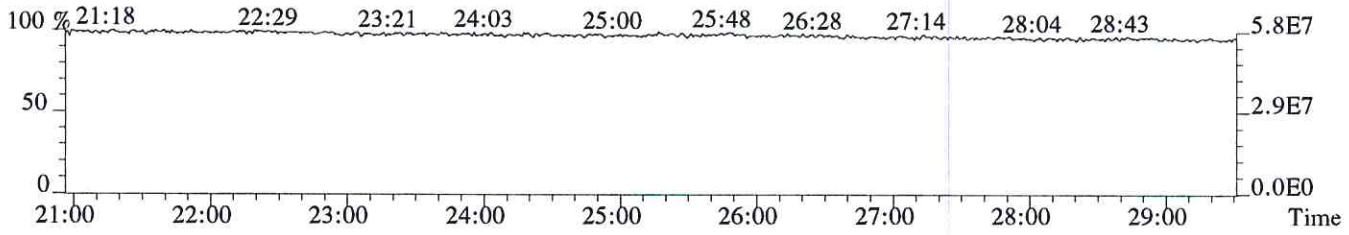
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3720.0,1.00%,F,T)



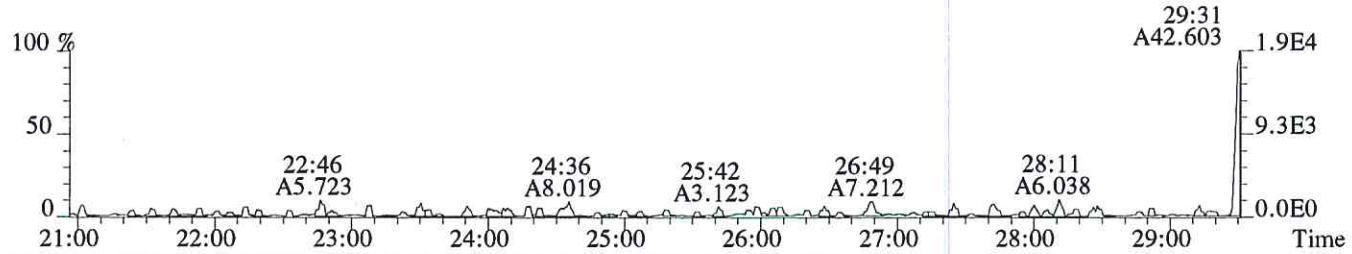
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



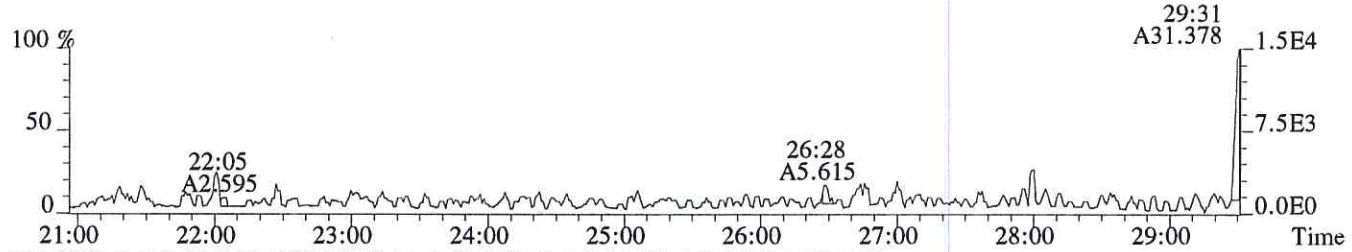
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



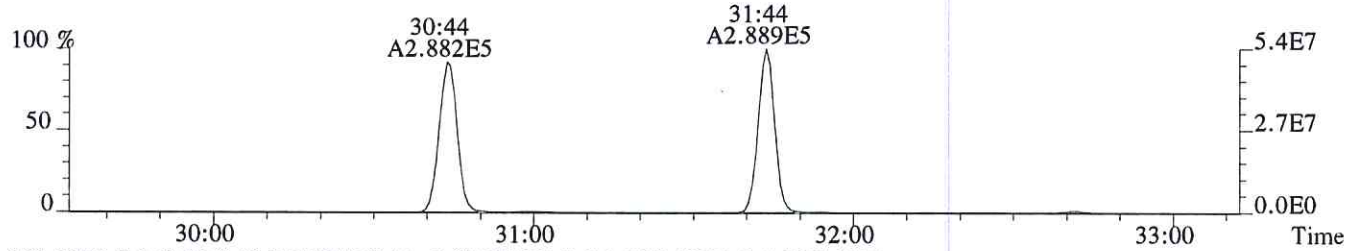
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,T)



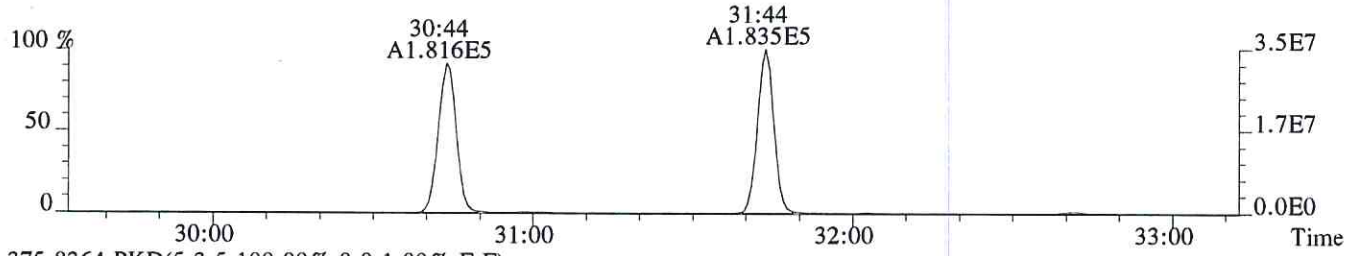
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



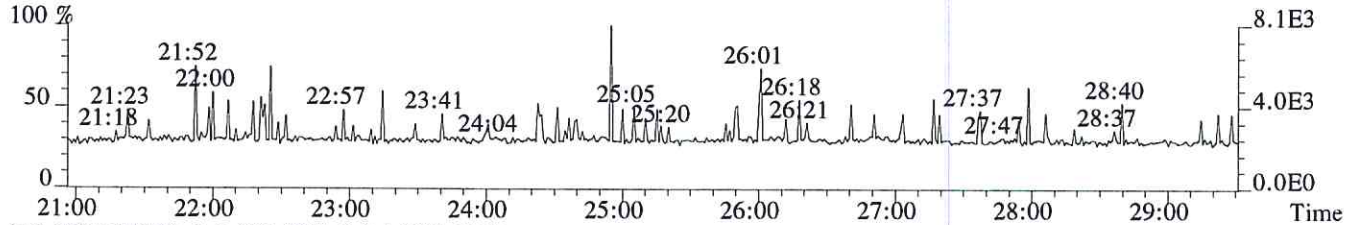
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



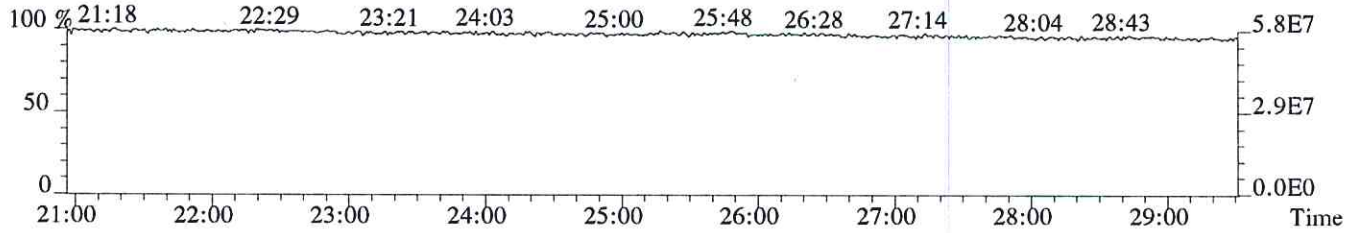
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



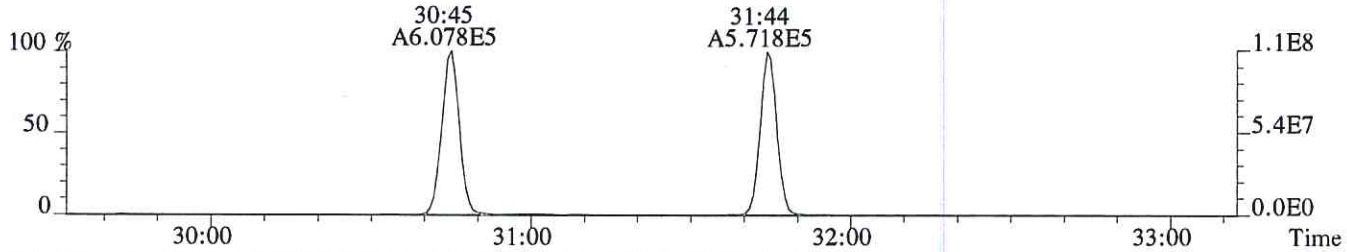
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



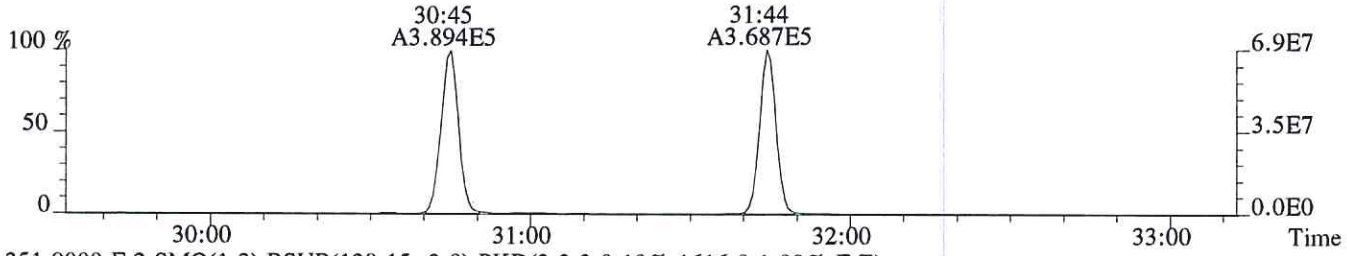
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



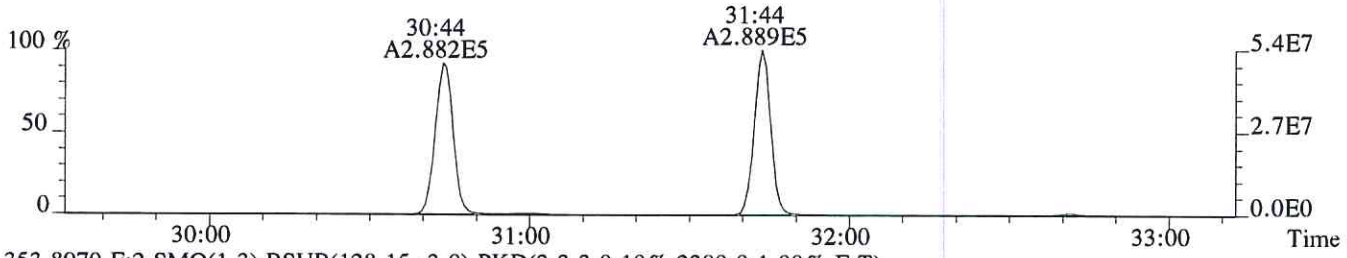
File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



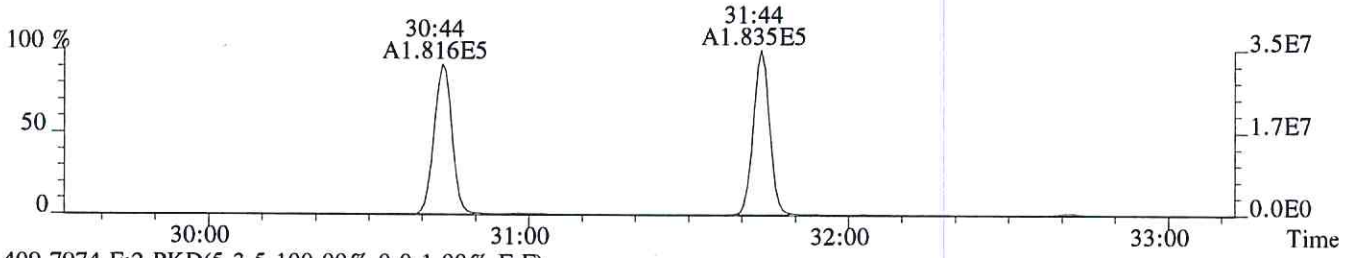
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2584.0,1.00%,F,T)



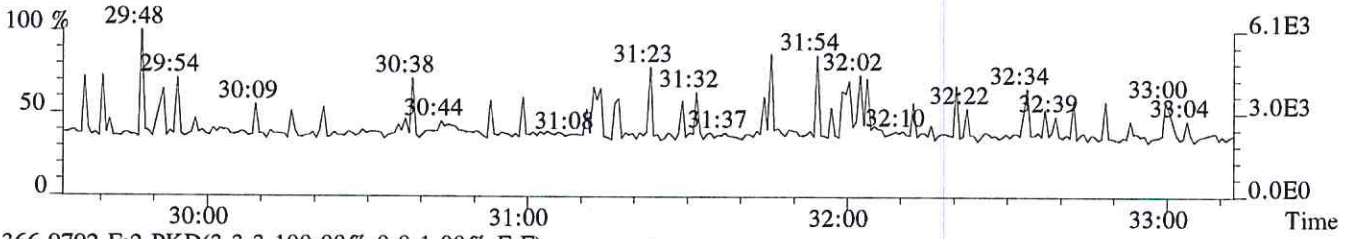
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



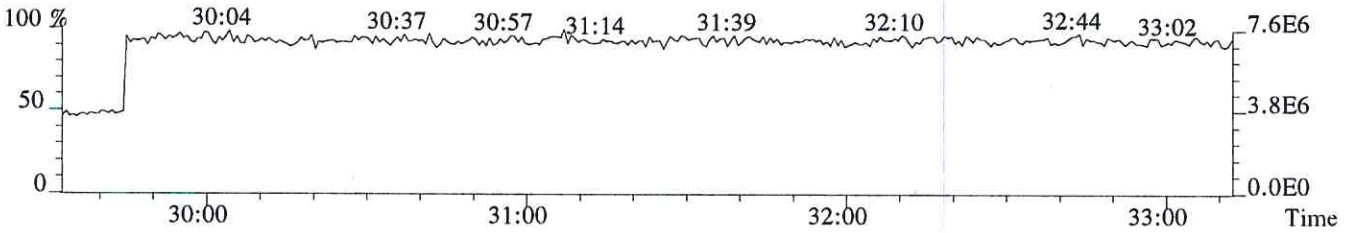
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



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

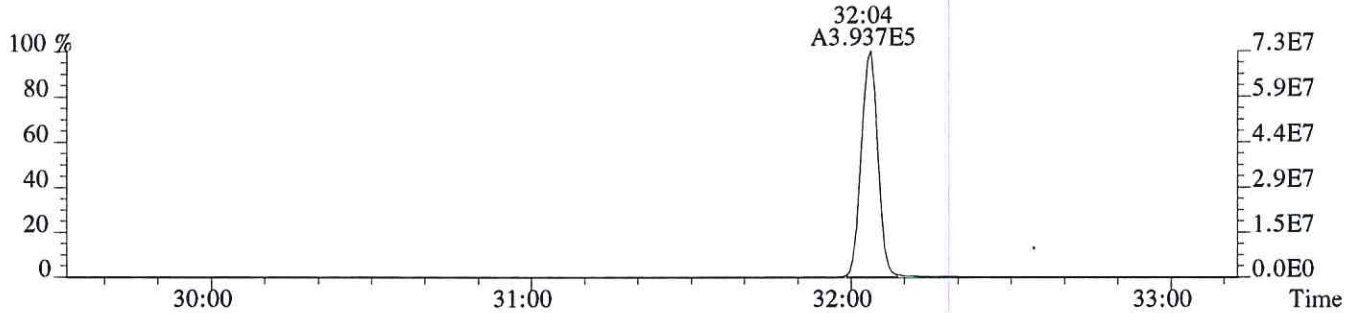


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

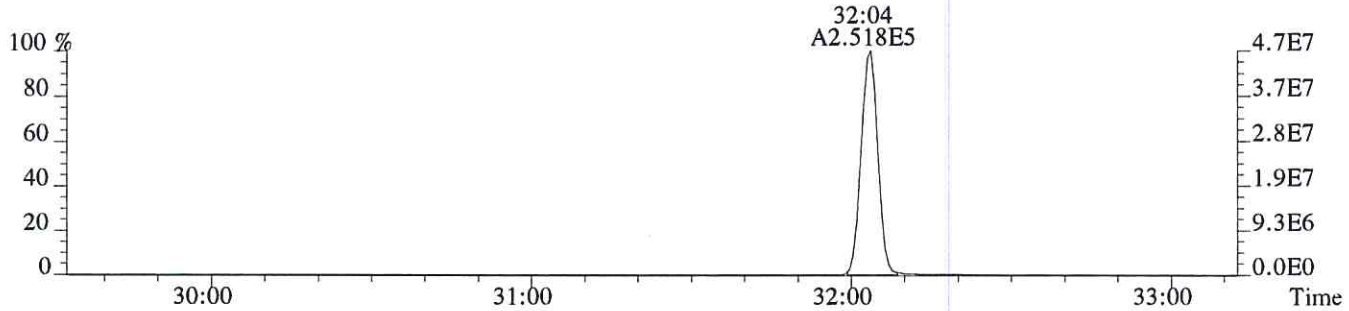


File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4

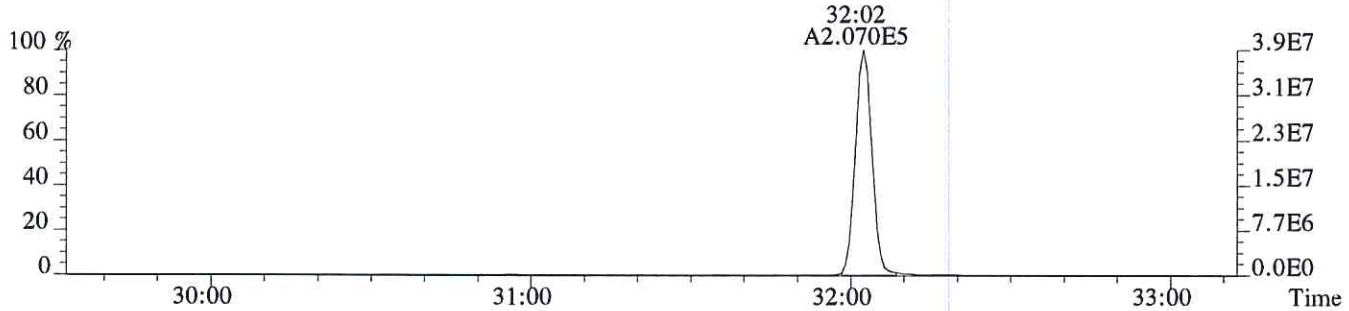
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



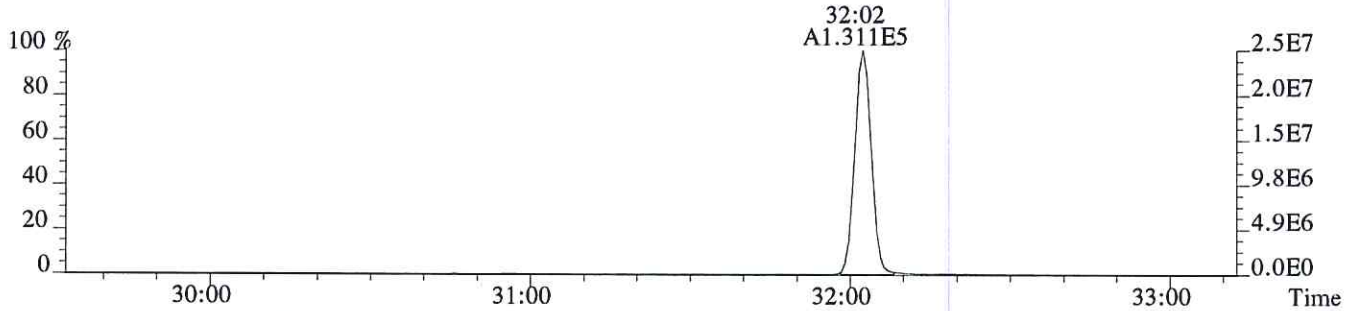
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1044.0,1.00%,F,T)



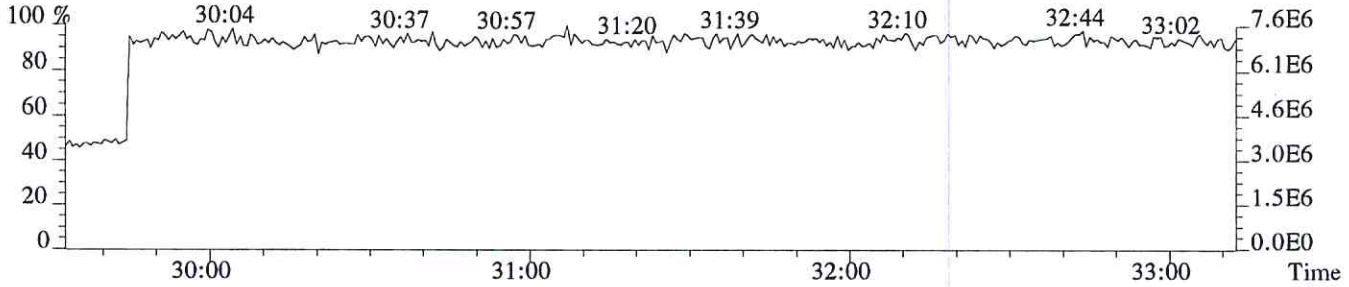
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



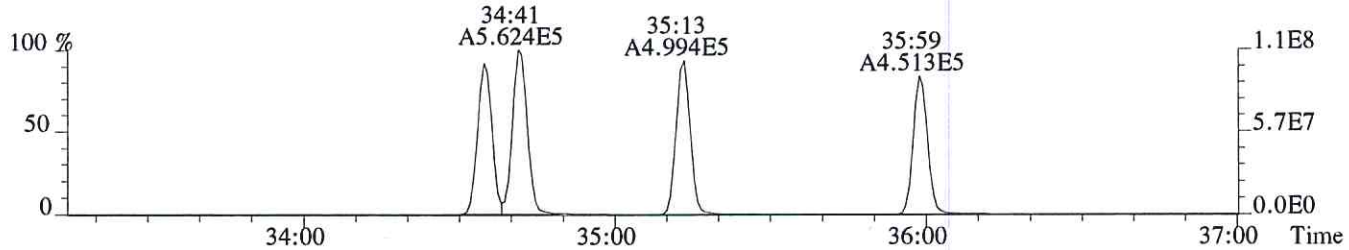
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



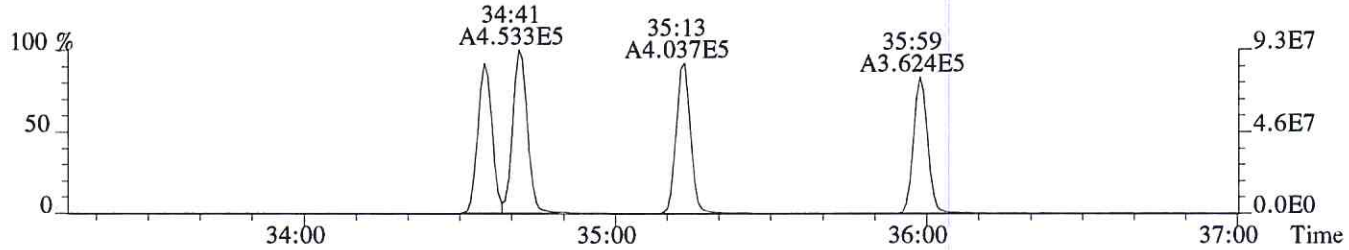
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



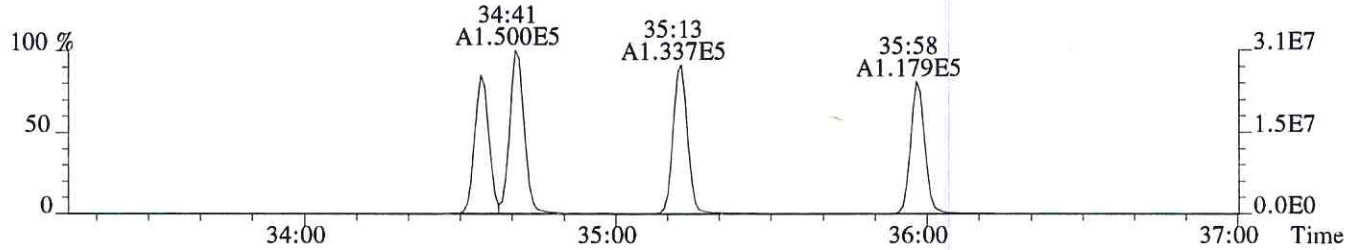
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



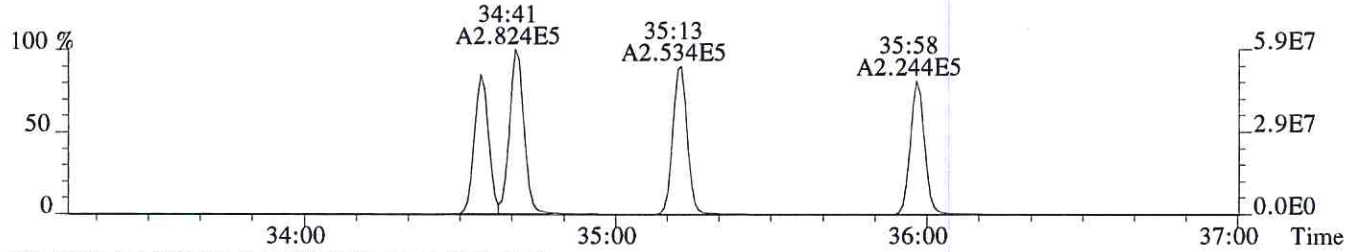
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



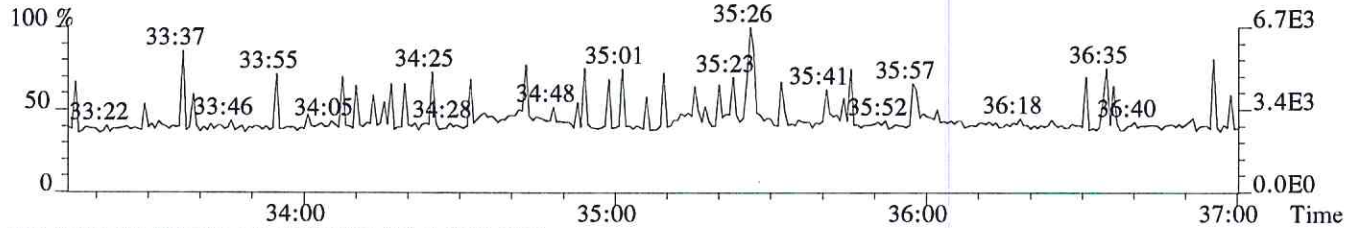
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.40%,F,T)



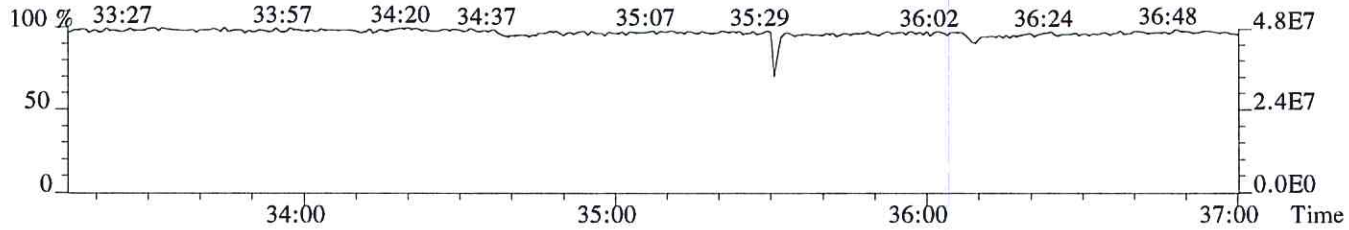
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



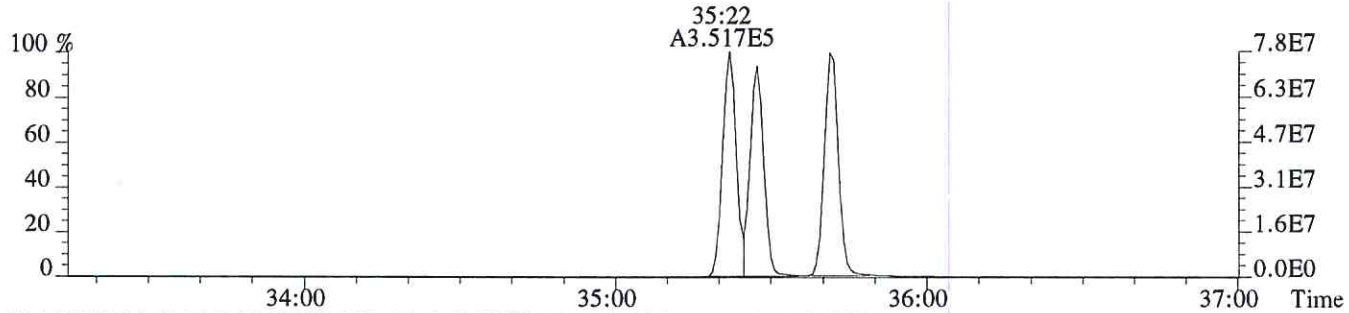
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



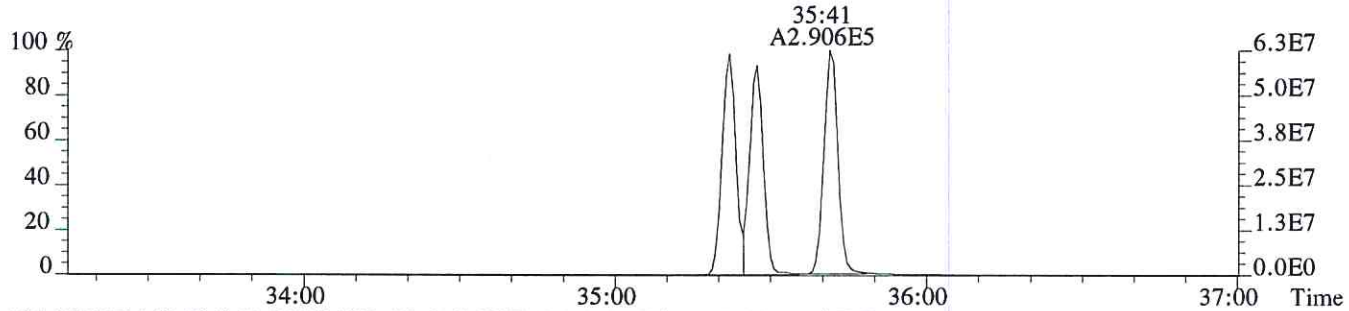
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



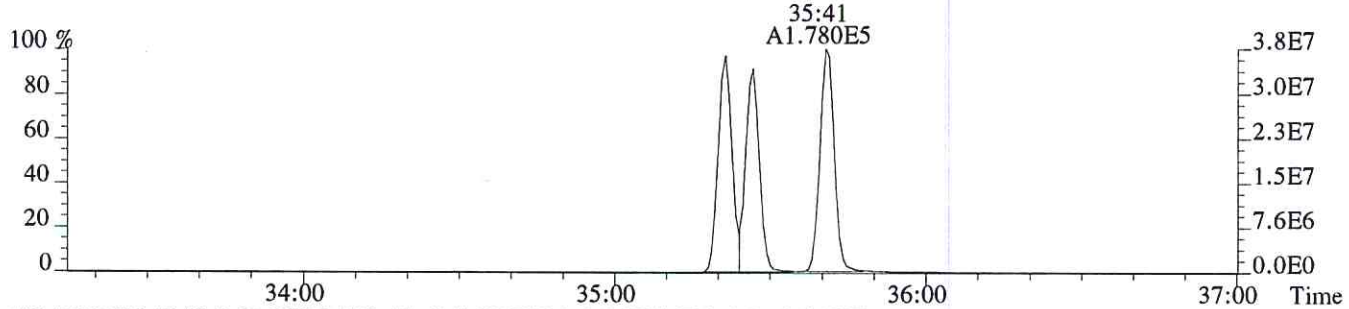
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



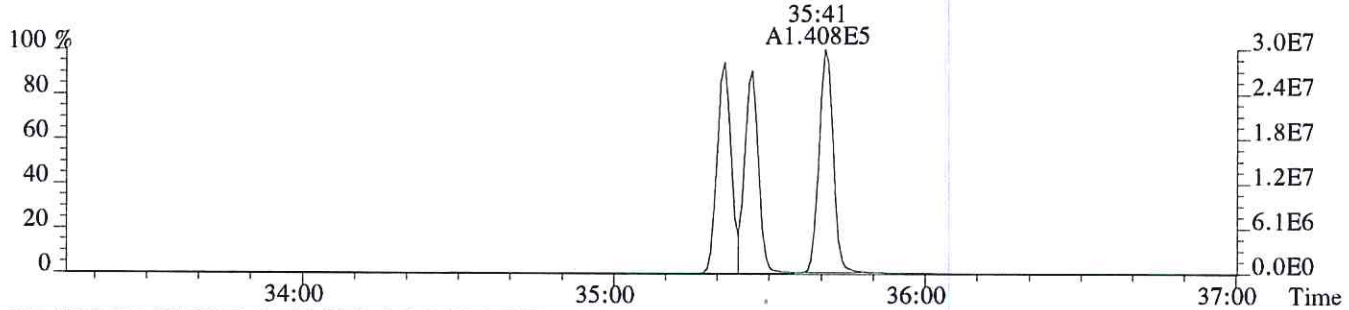
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.40%,F,T)



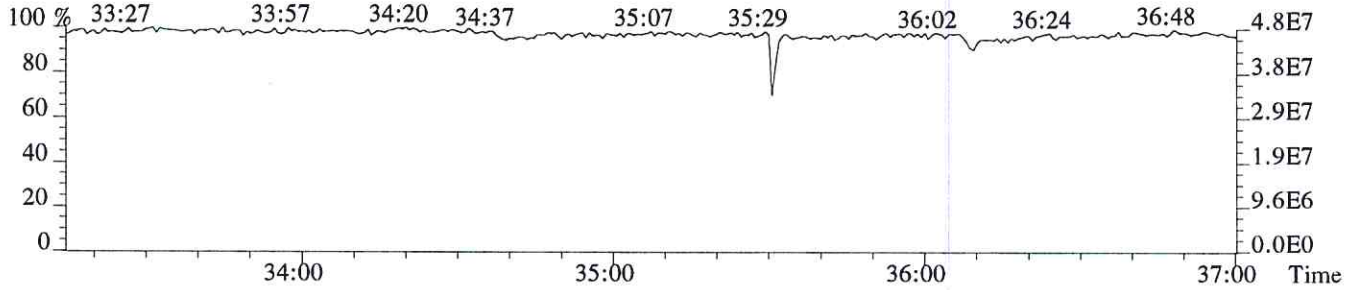
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)



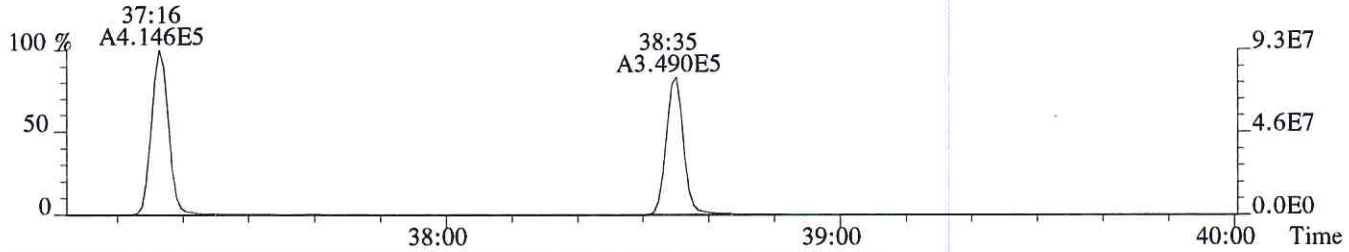
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



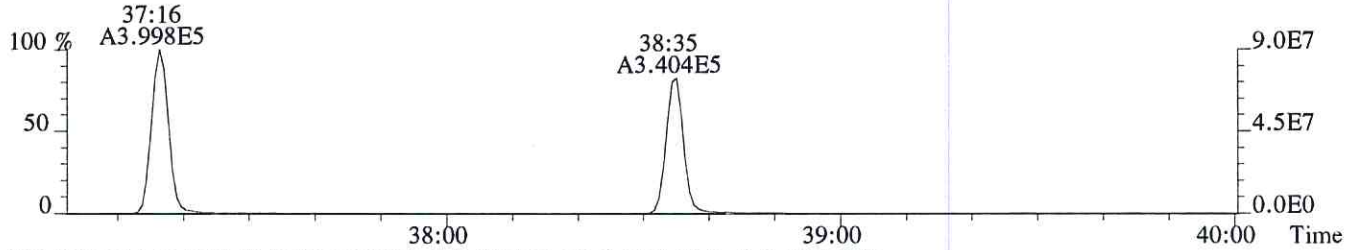
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



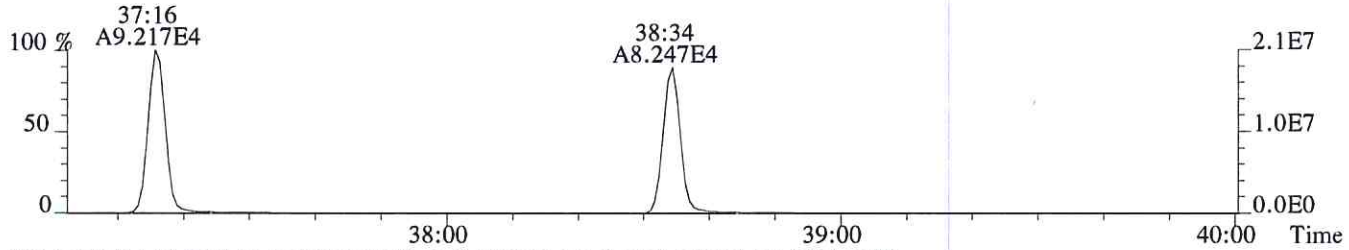
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21144.0,0.50%,F,T)



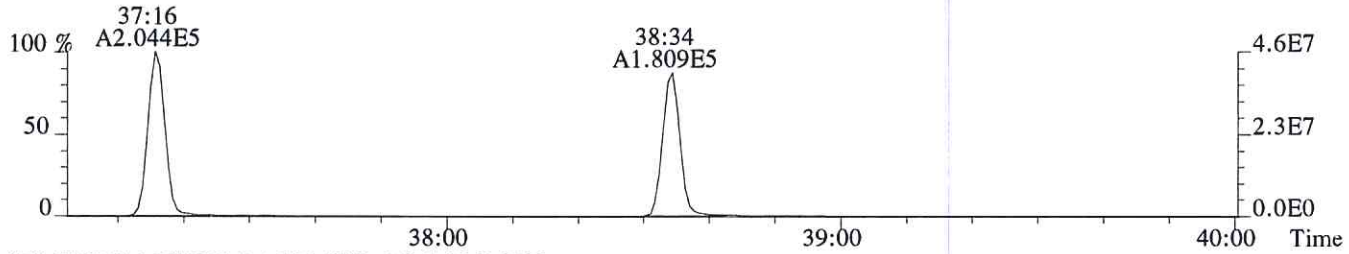
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4368.0,0.50%,F,T)



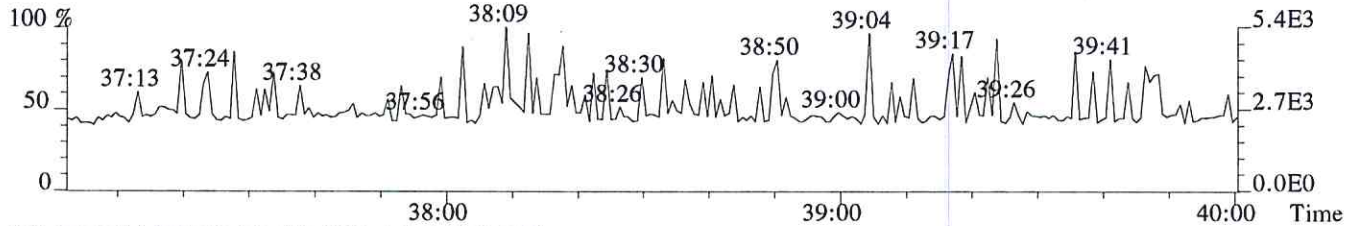
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3096.0,0.50%,F,T)



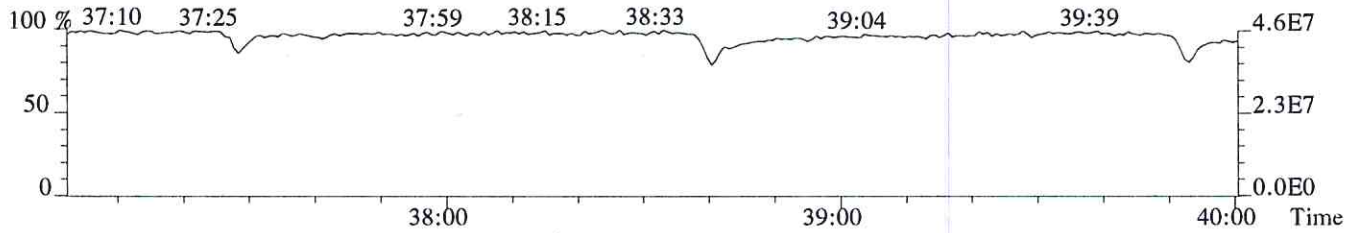
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21224.0,0.50%,F,T)



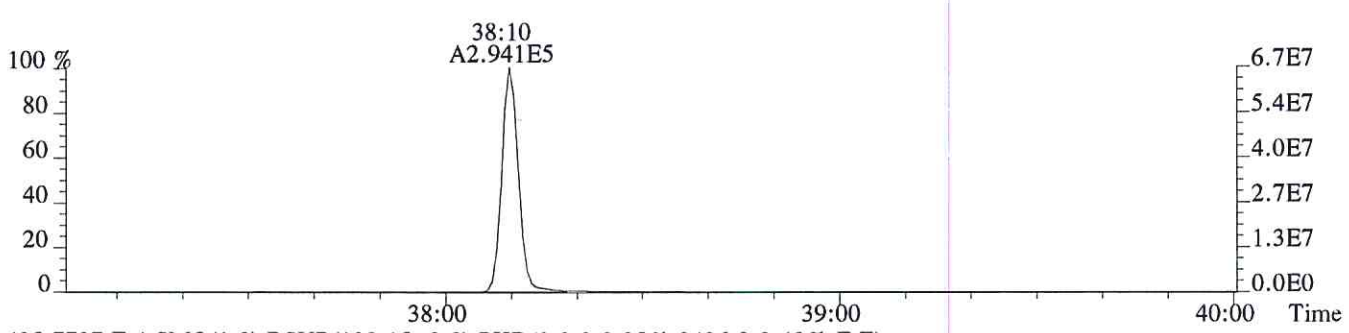
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



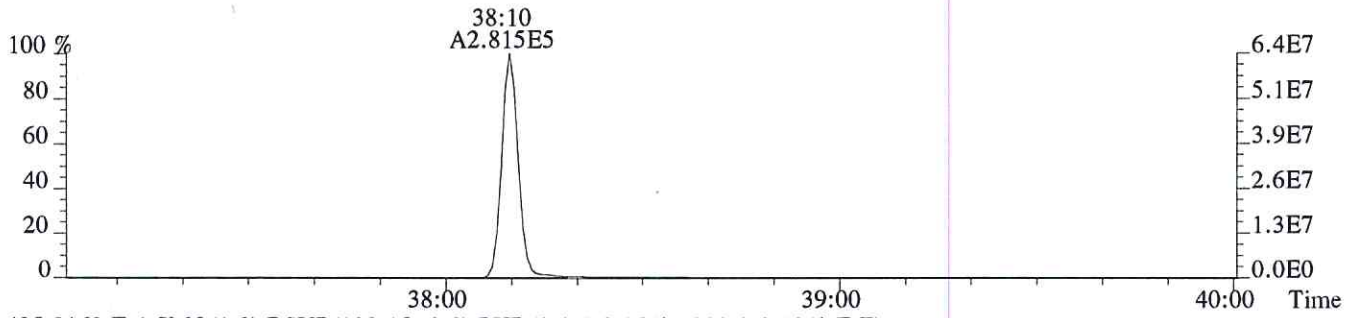
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



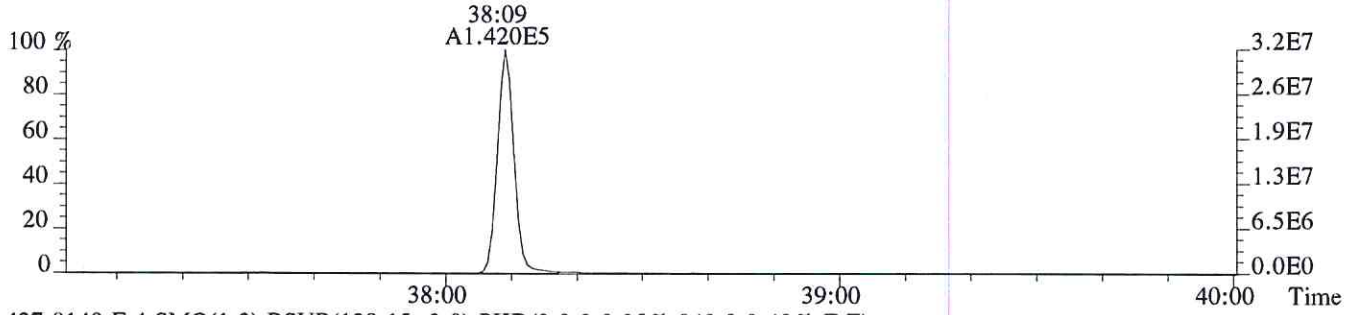
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2904.0,0.40%,F,T)



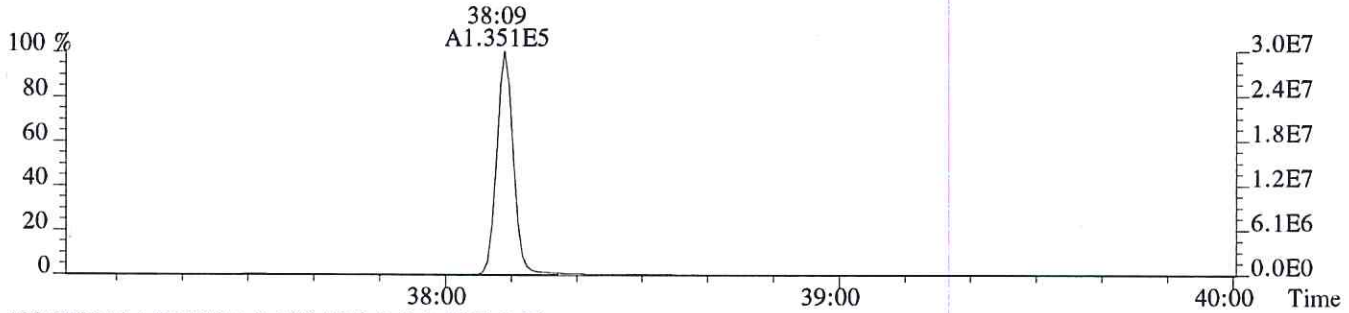
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.40%,F,T)



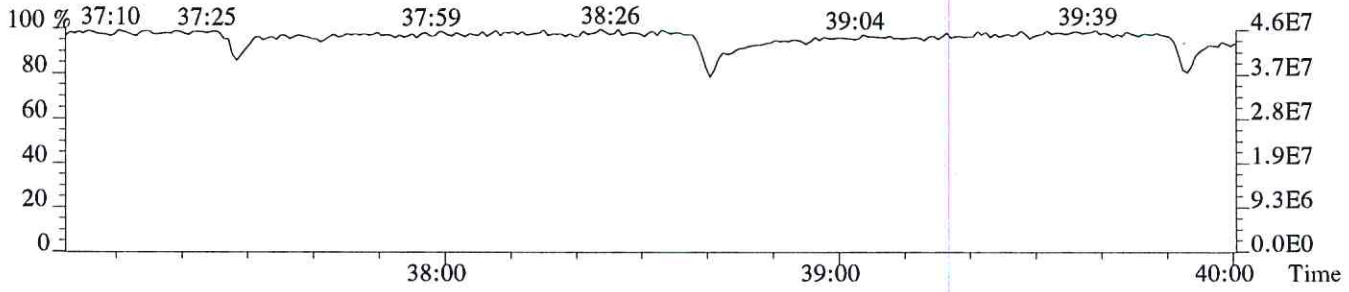
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1988.0,0.40%,F,T)



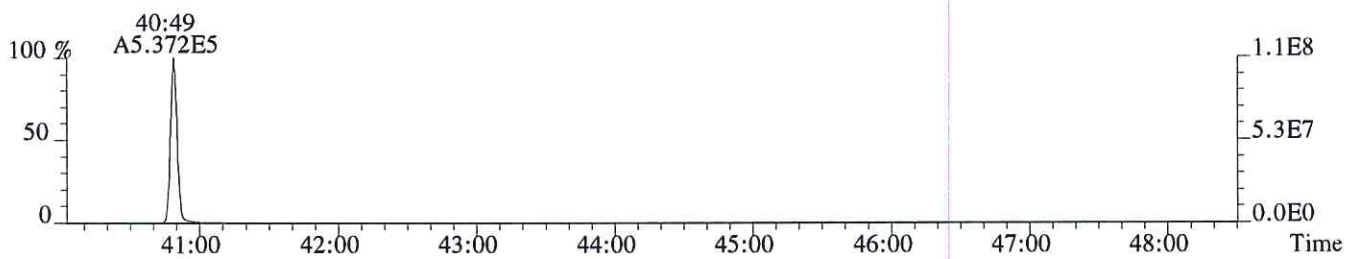
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



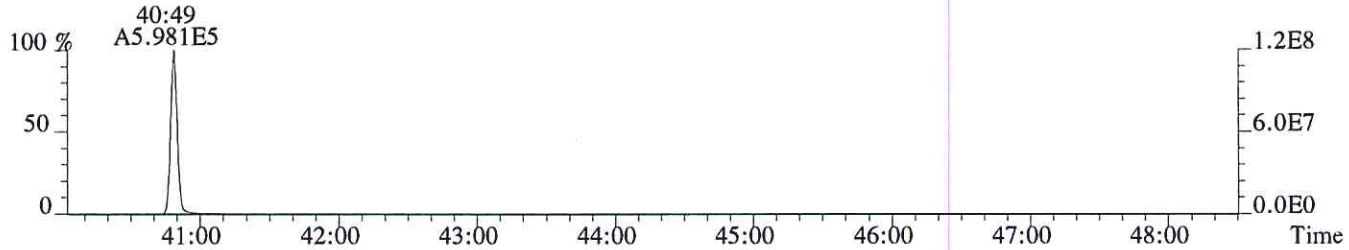
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



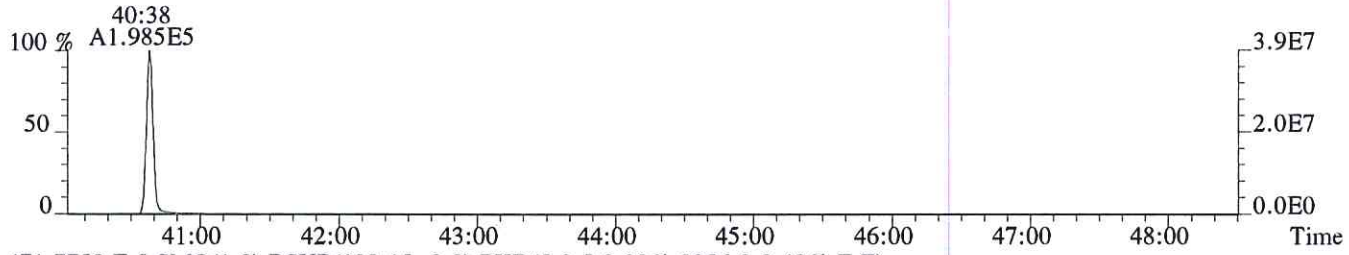
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,25616.0,0.40%,F,T)



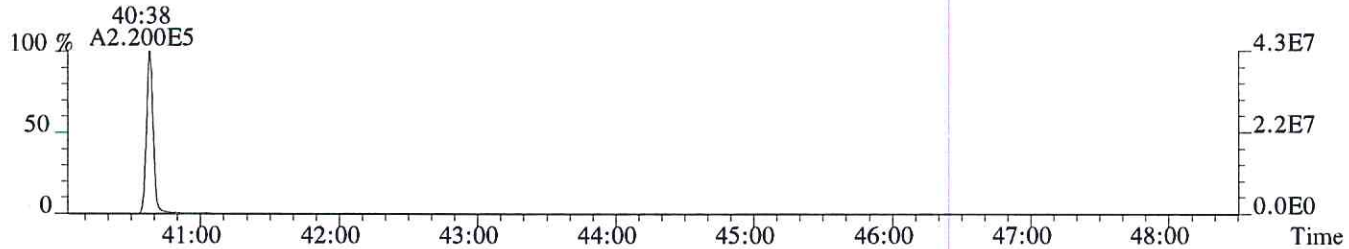
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,38344.0,0.40%,F,T)



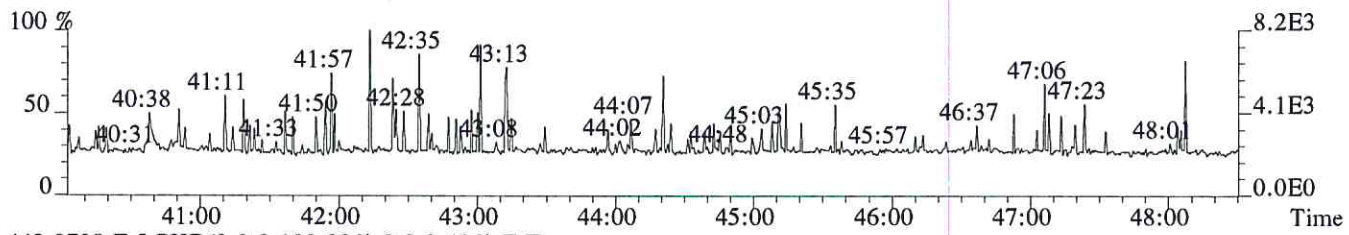
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



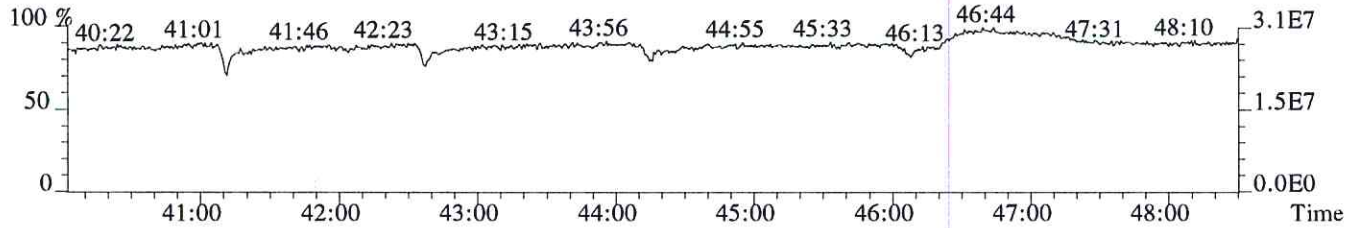
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8956.0,0.40%,F,T)



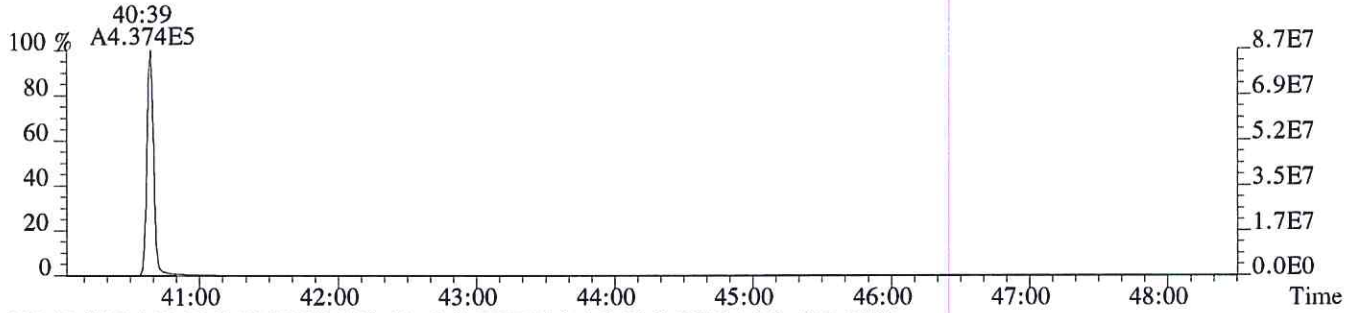
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



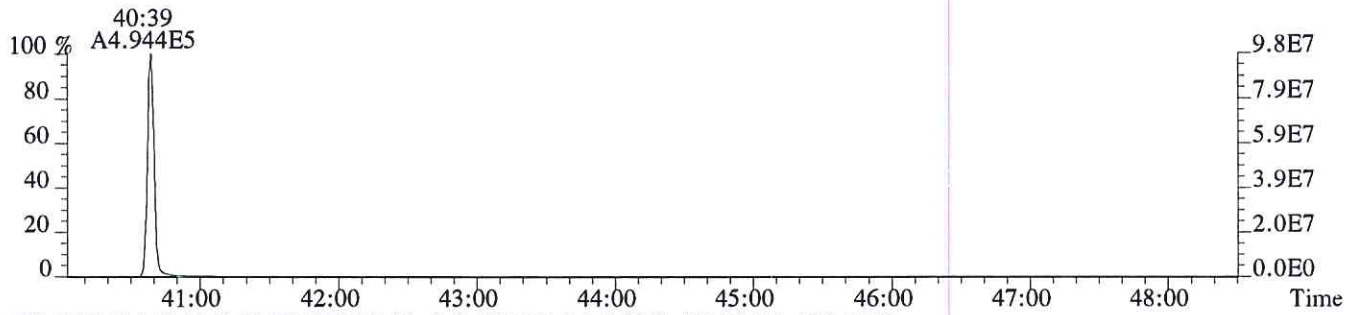
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



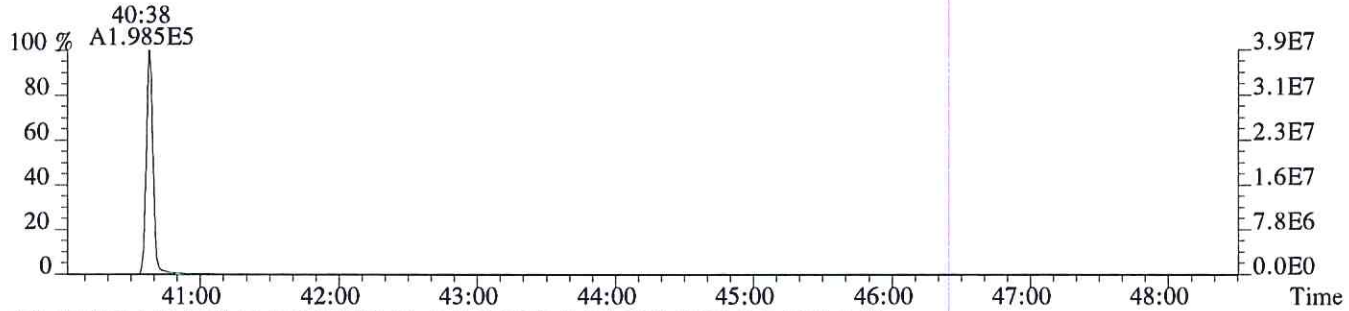
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,16144.0,0.40%,F,T)



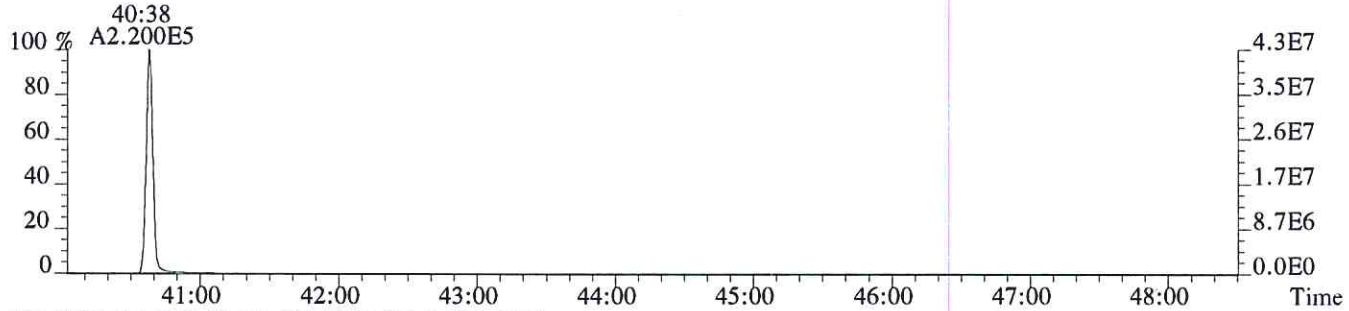
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,35104.0,0.40%,F,T)



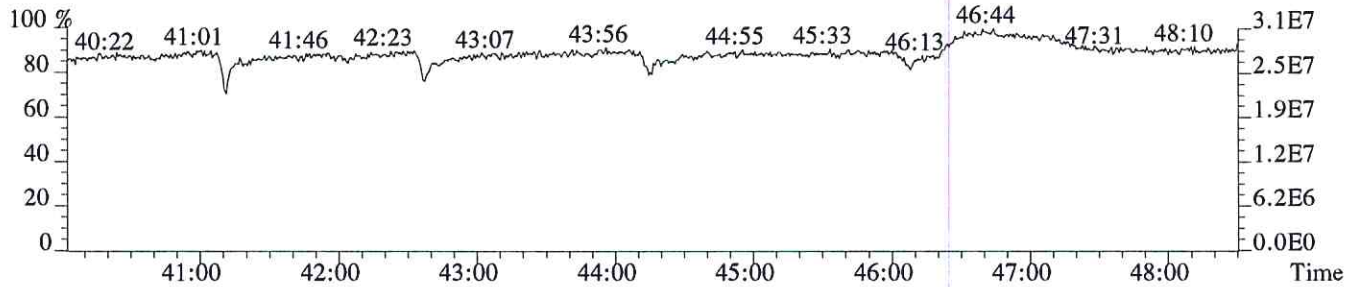
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



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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ALS ENVIRONMENTAL
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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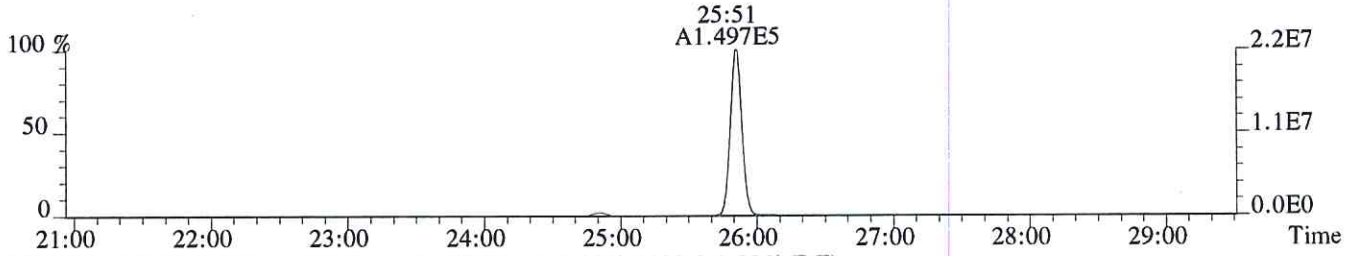
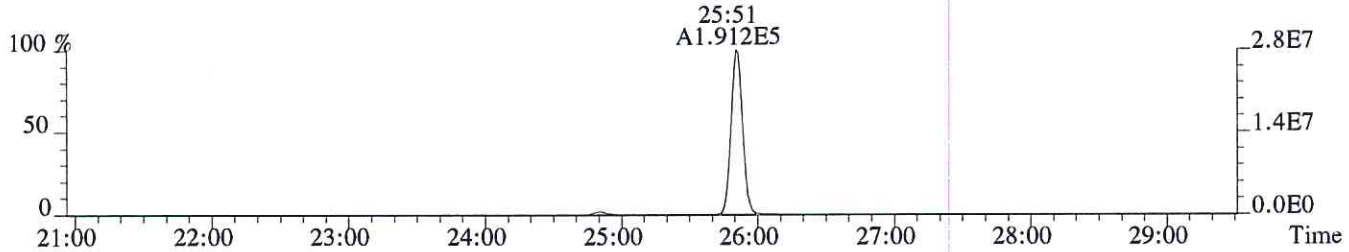
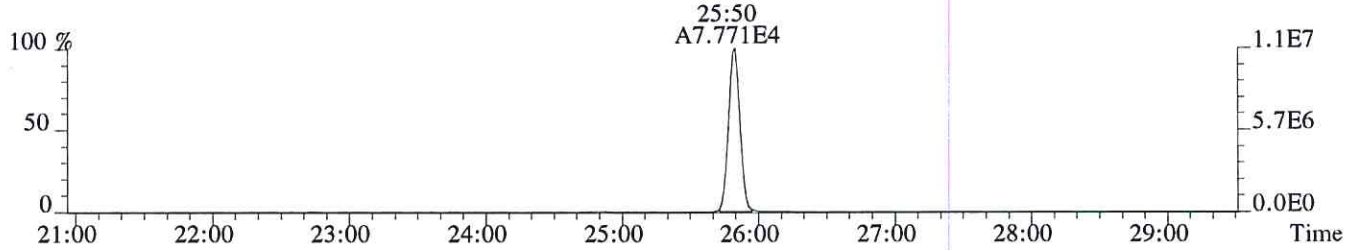
File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



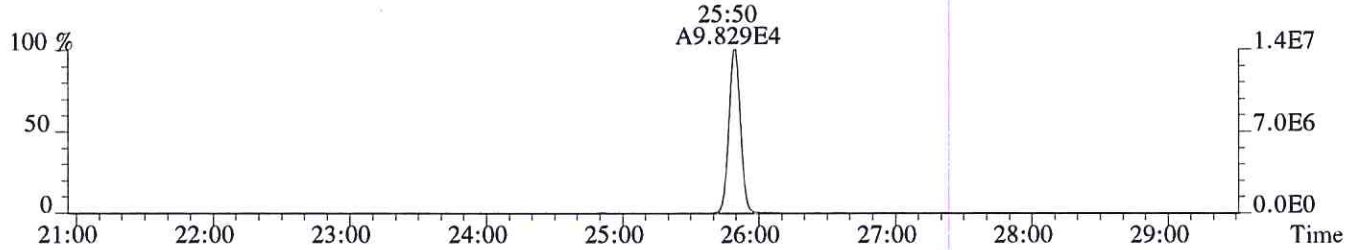
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



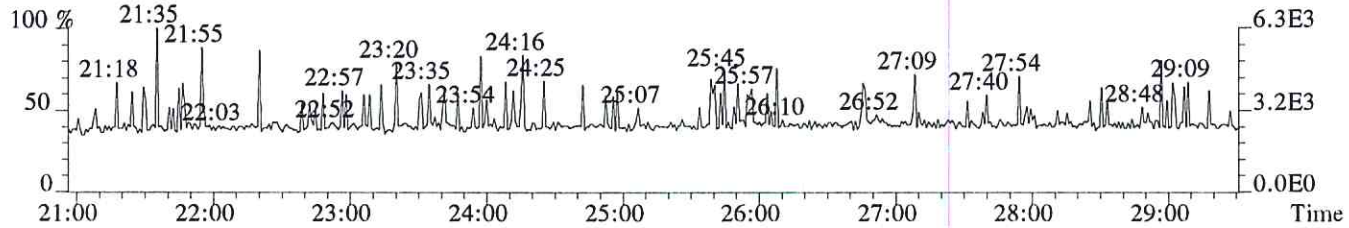
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16952.0,1.00%,F,T)



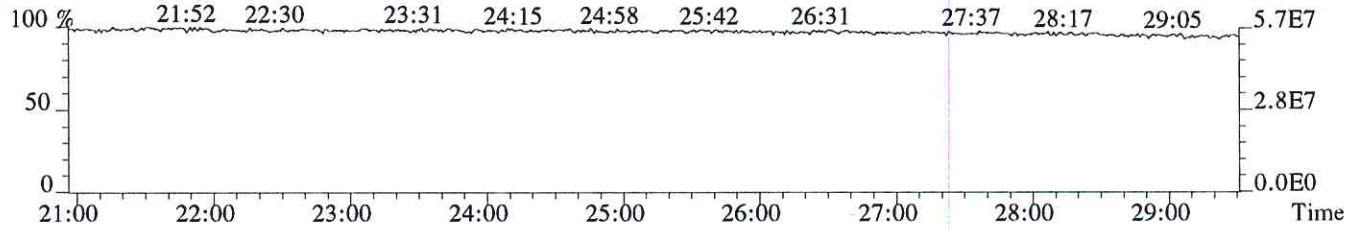
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5628.0,1.00%,F,T)



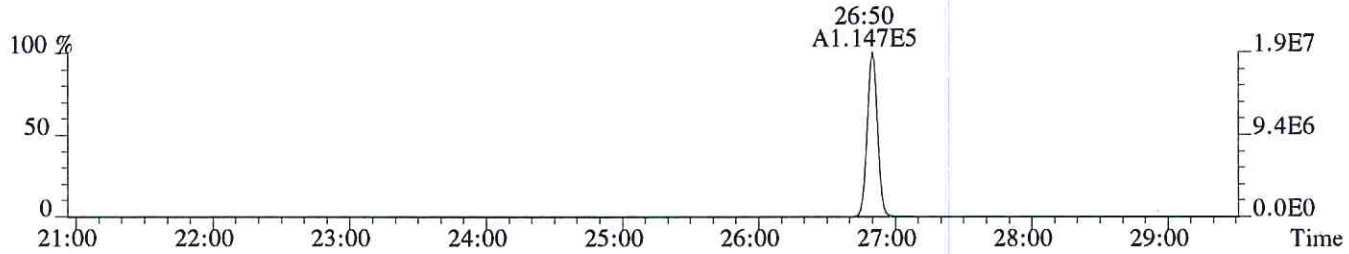
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



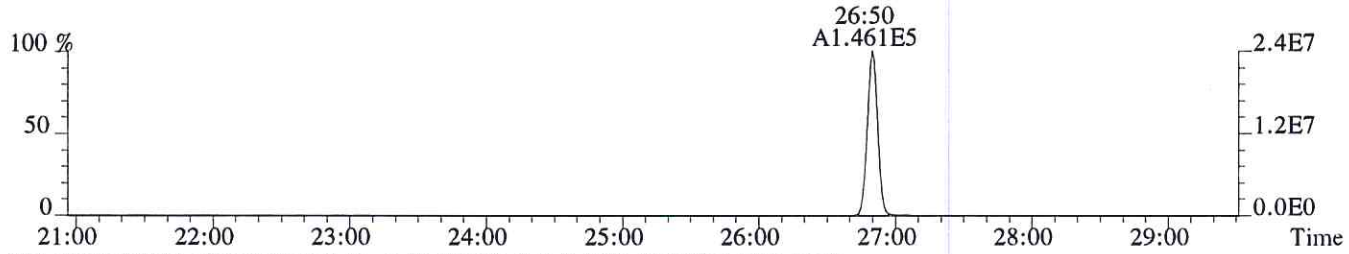
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



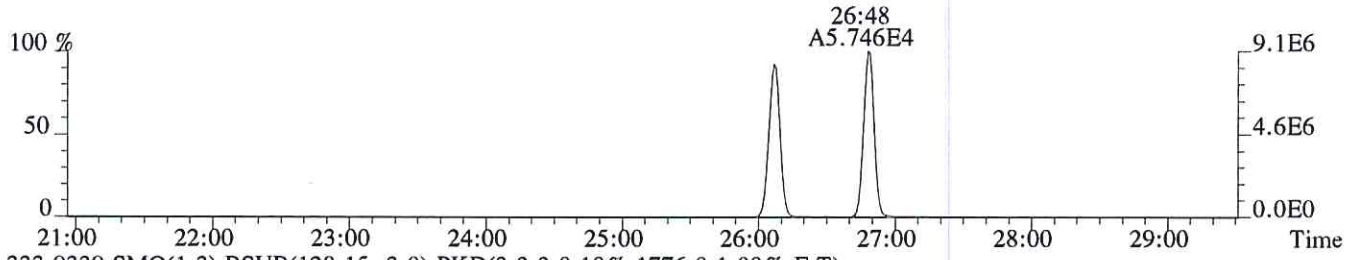
File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



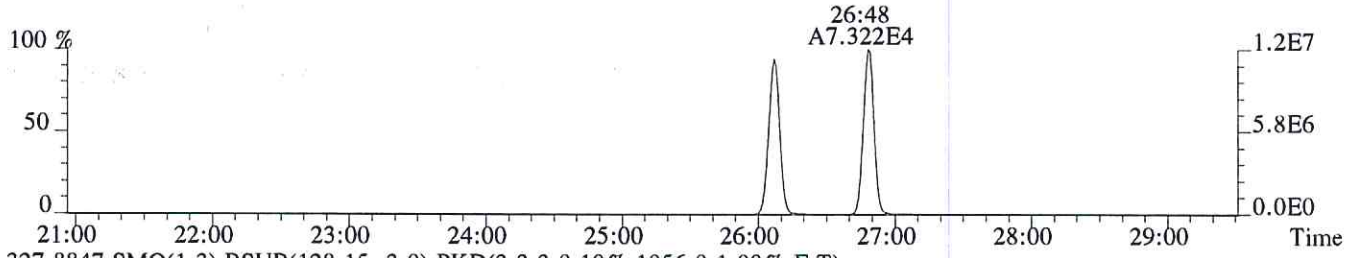
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



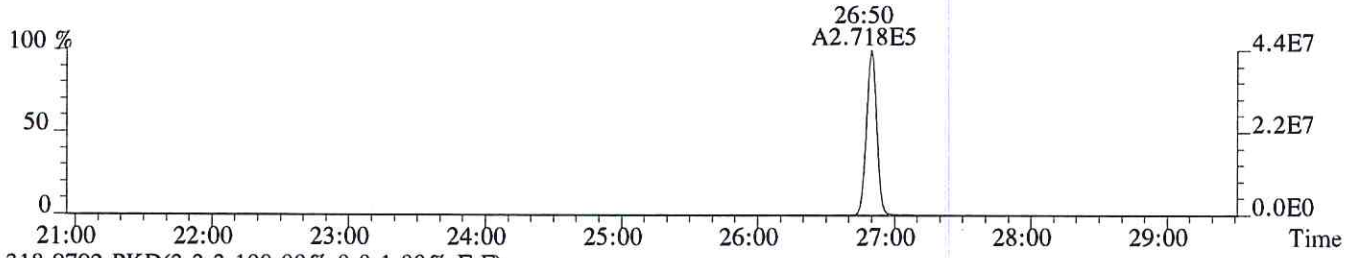
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5940.0,1.00%,F,T)



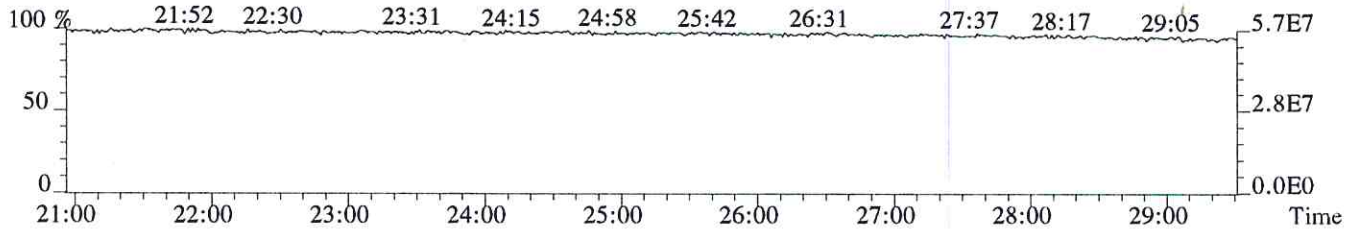
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)

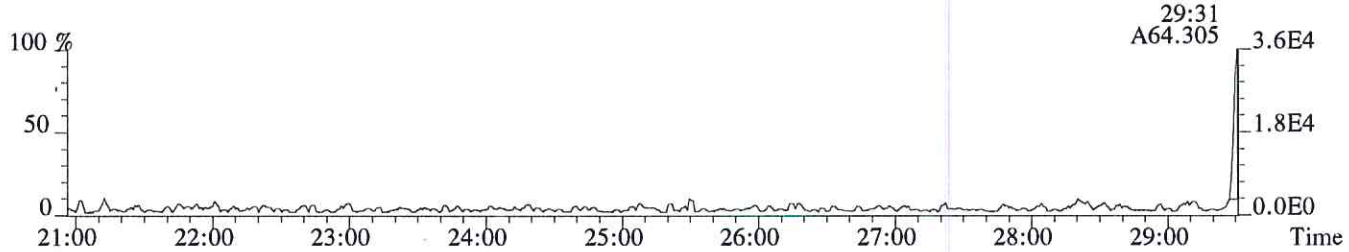


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

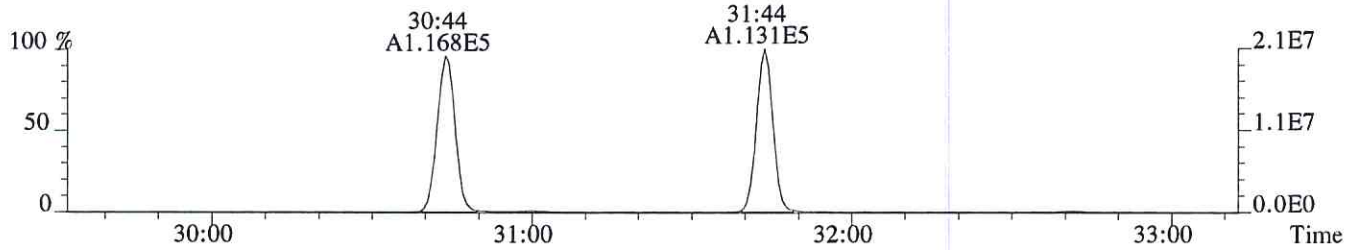


File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)

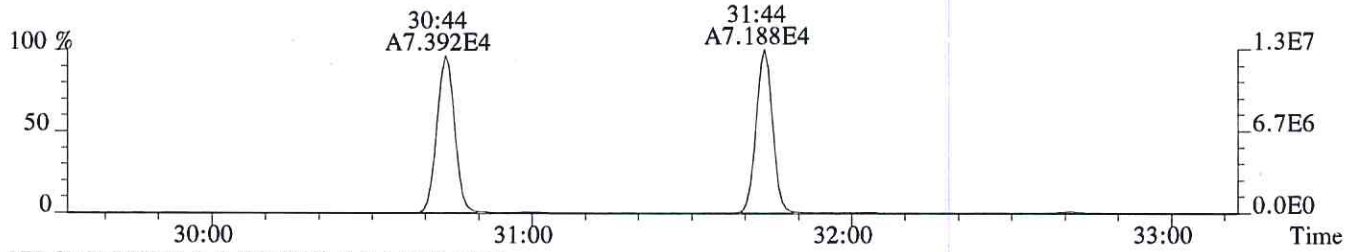
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



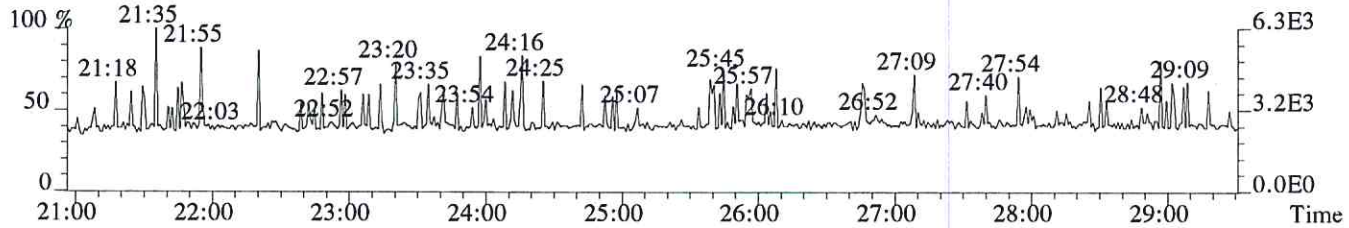
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



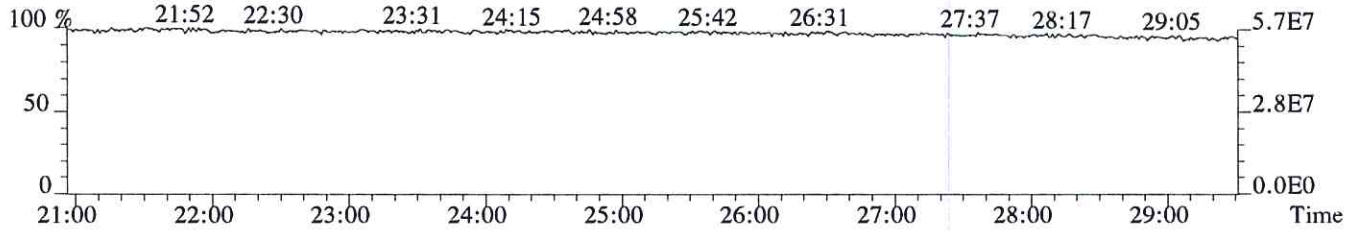
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



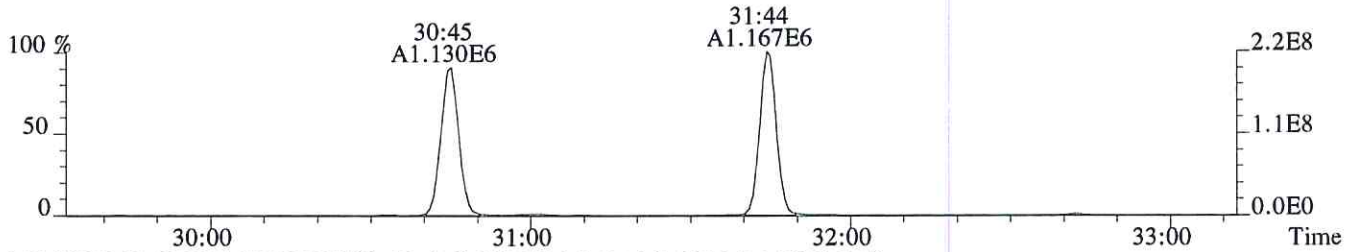
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



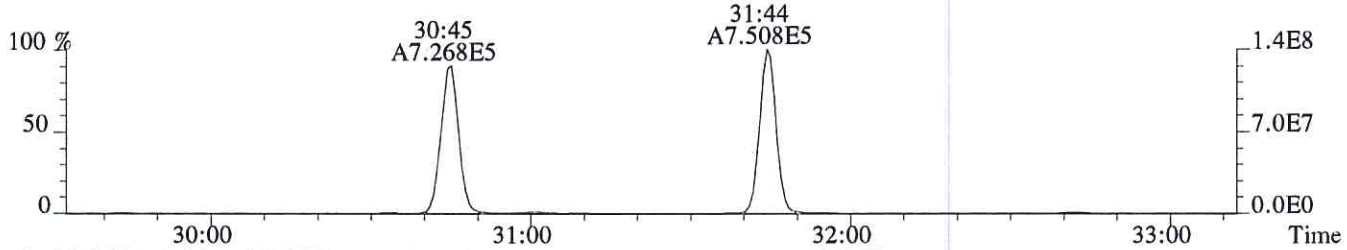
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



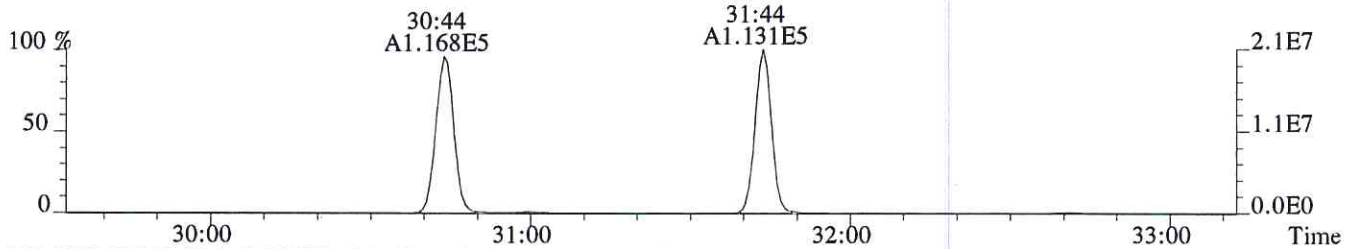
File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16496.0,1.00%,F,T)



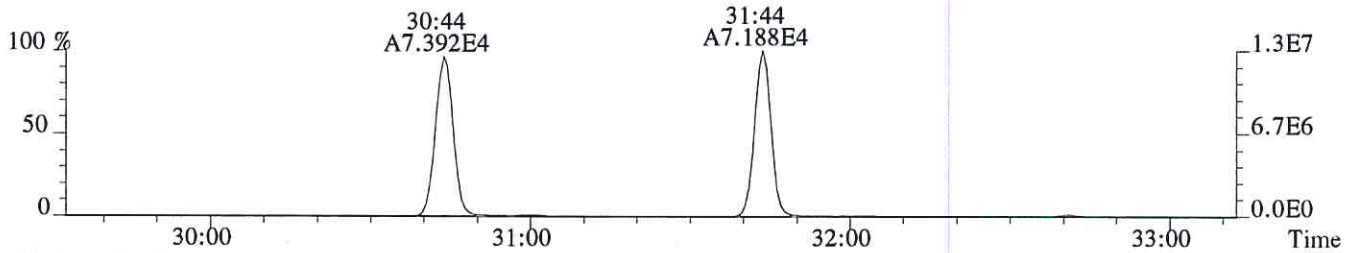
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9812.0,1.00%,F,T)



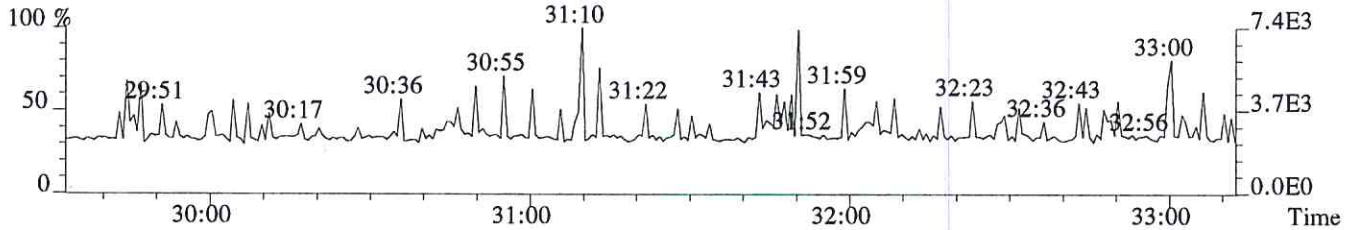
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



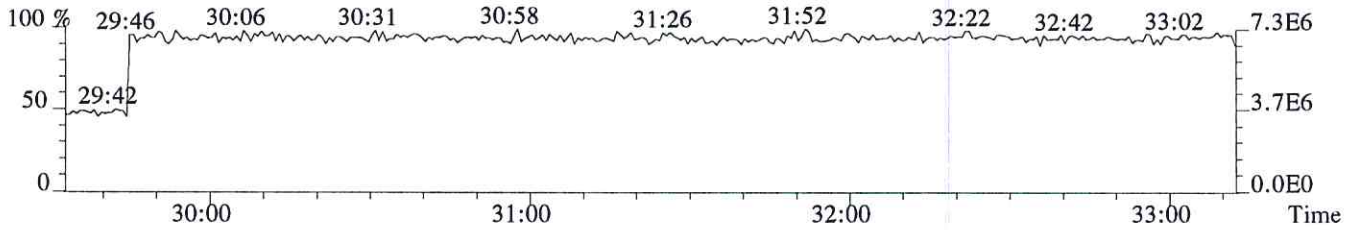
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



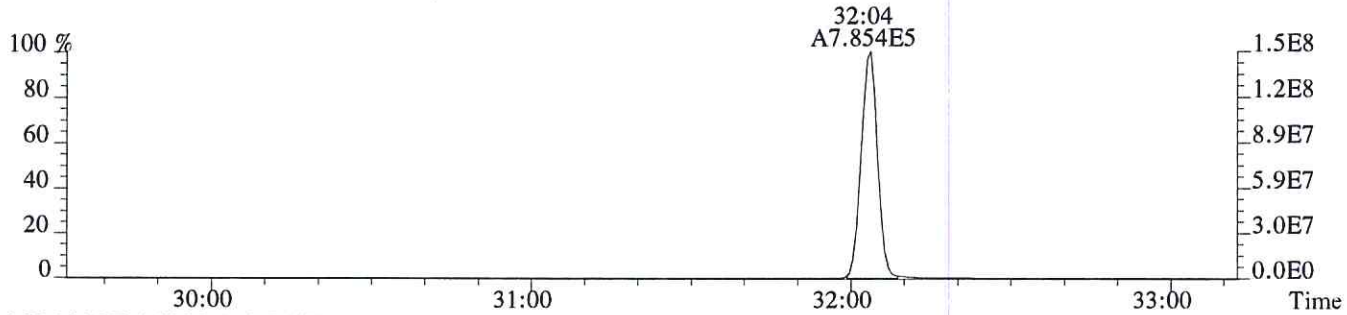
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



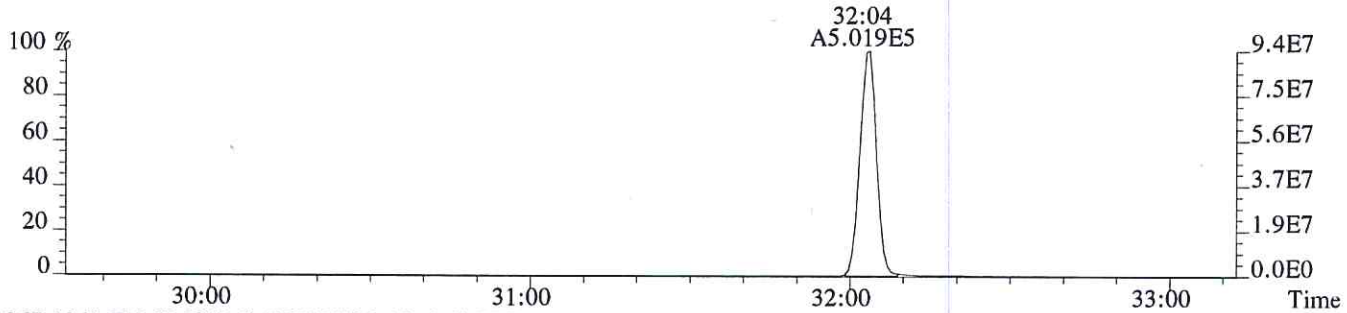
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



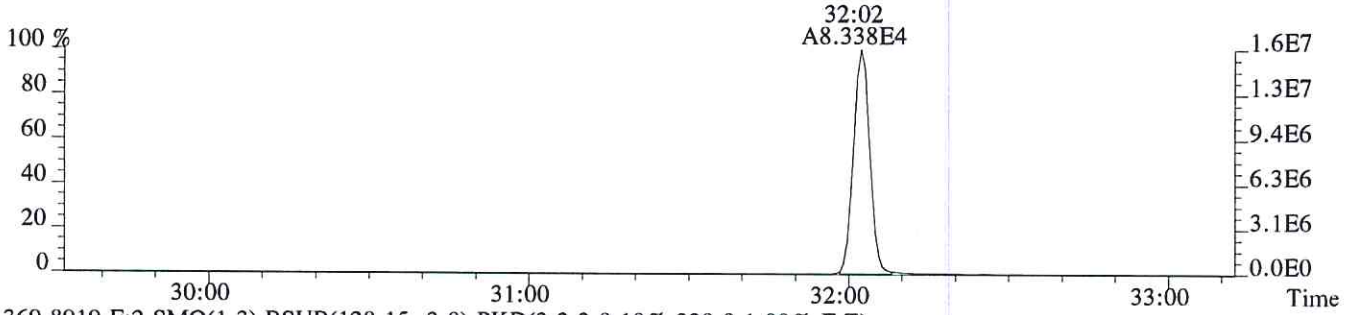
File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1200.0,1.00%,F,T)



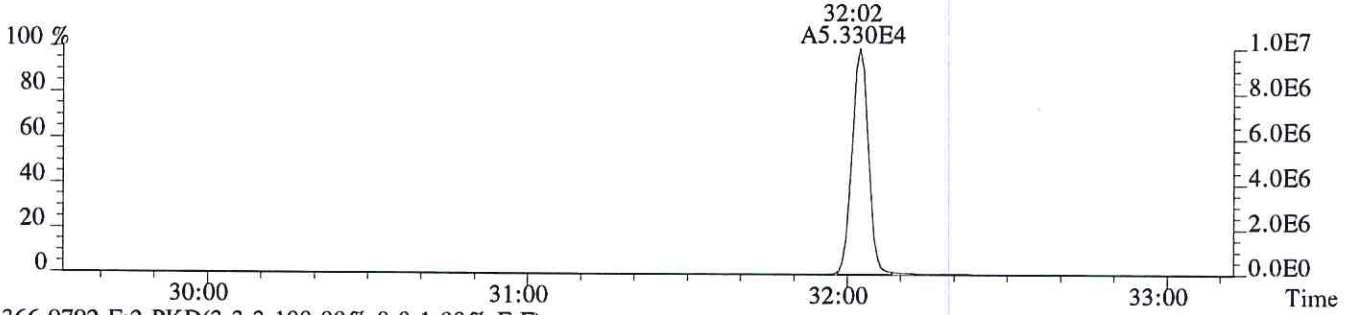
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



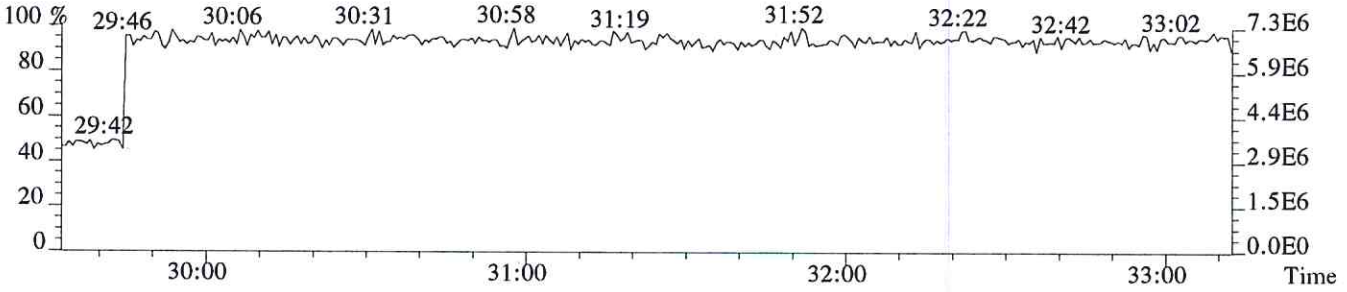
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



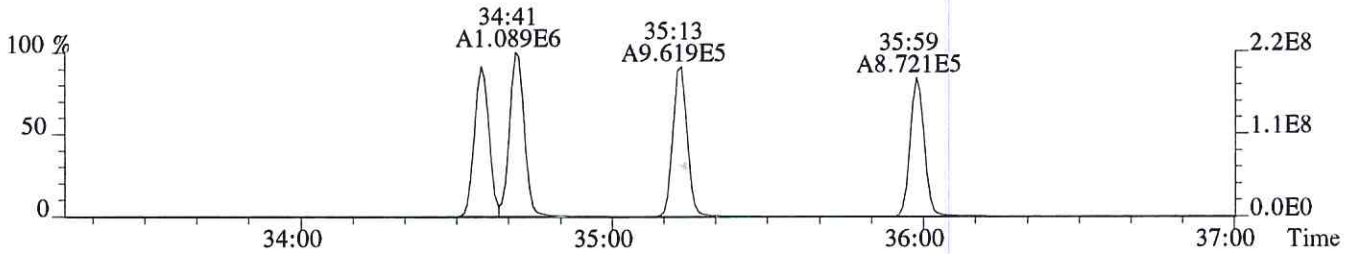
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



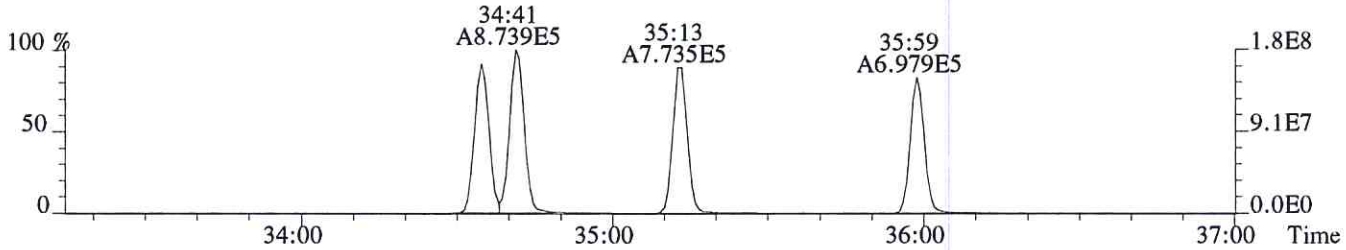
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



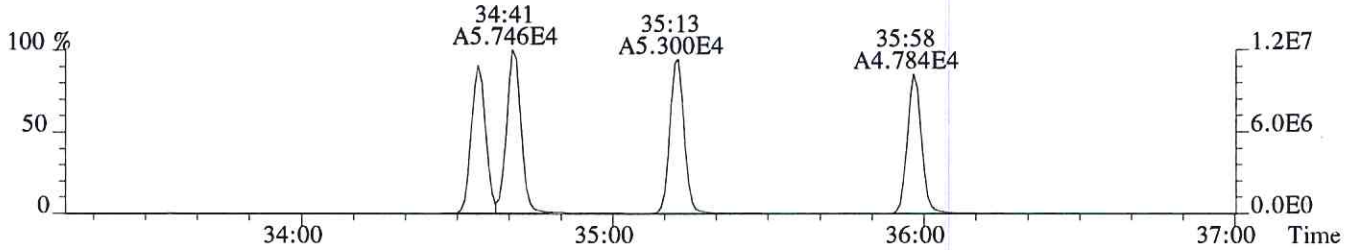
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4584.0,0.40%,F,T)



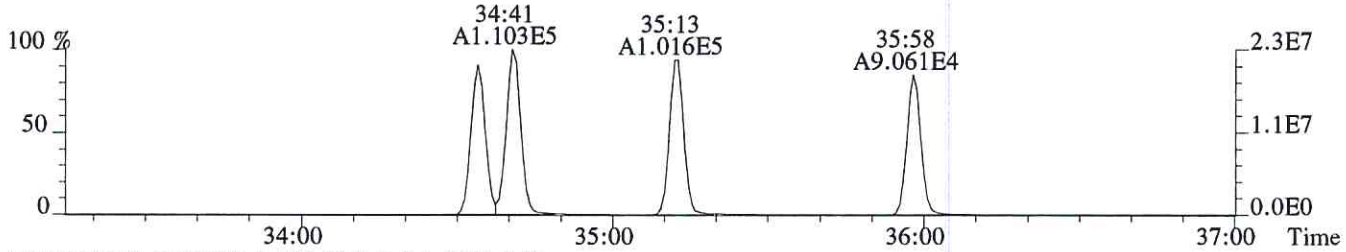
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2352.0,0.40%,F,T)



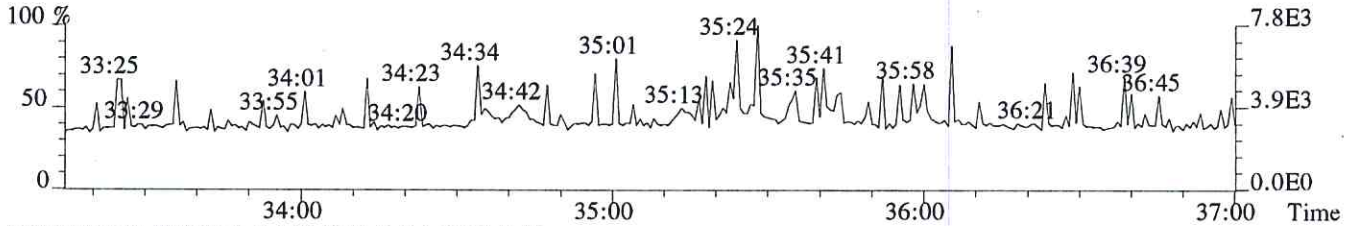
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)



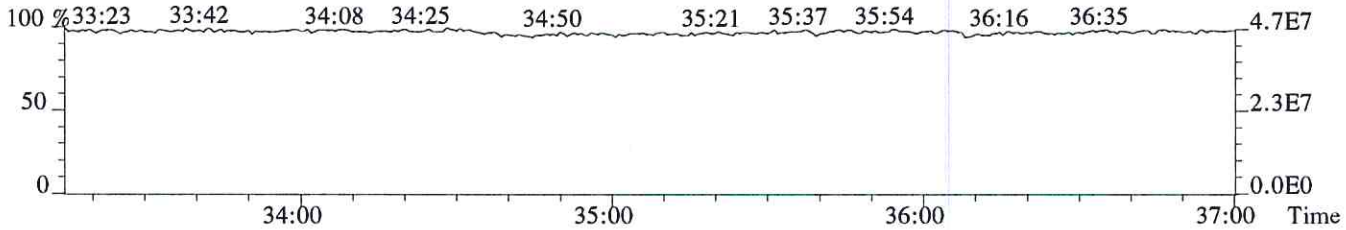
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



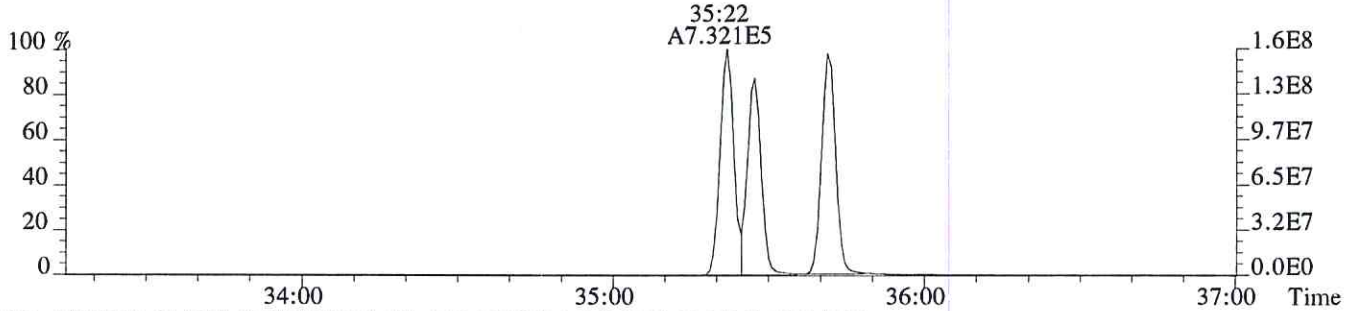
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



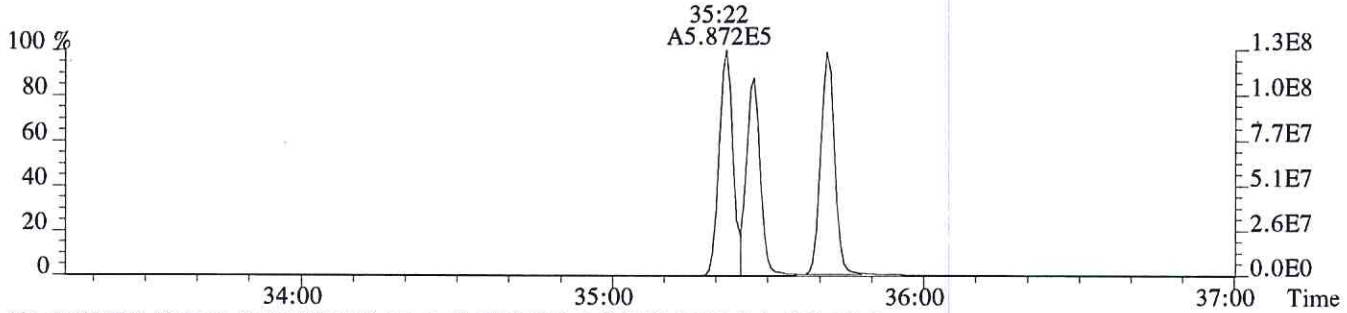
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



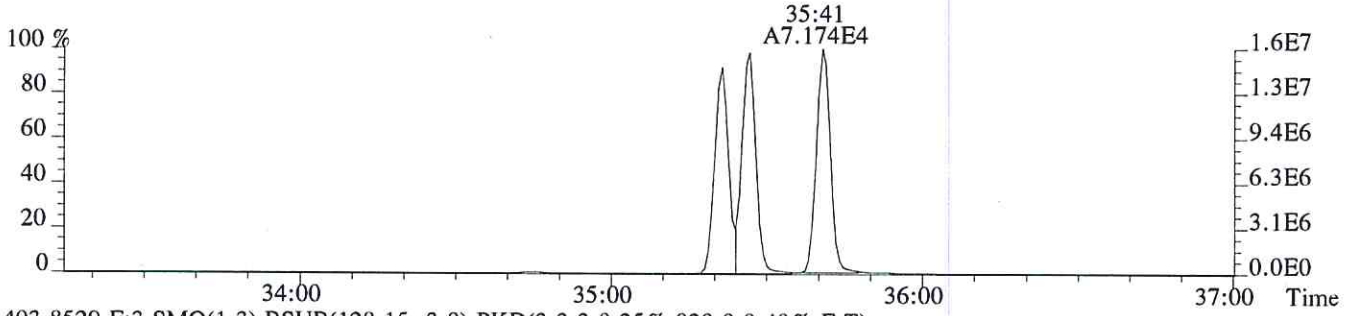
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



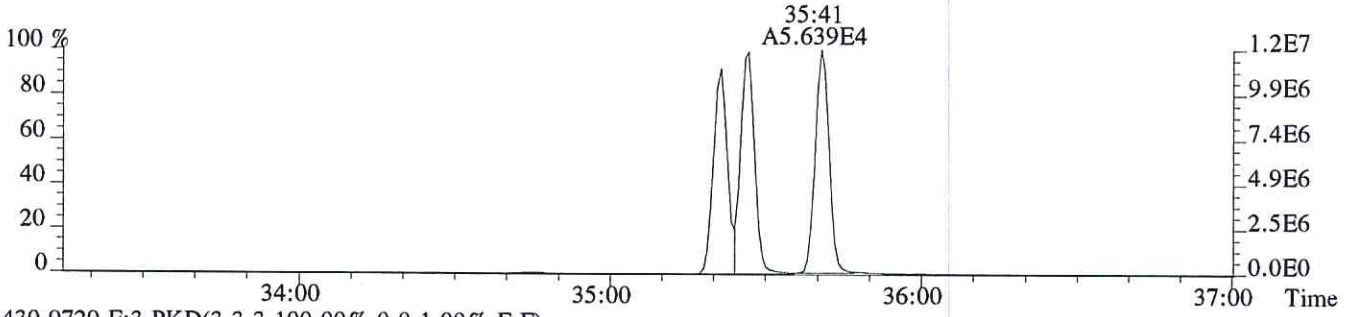
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



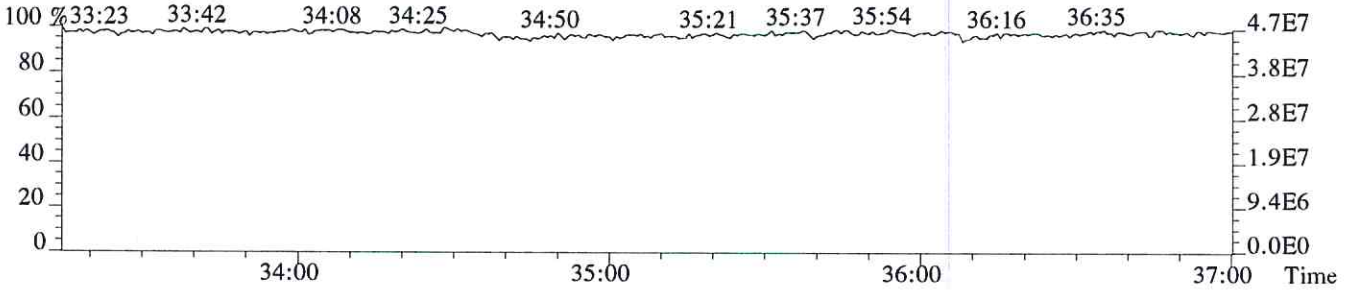
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2456.0,0.40%,F,T)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)

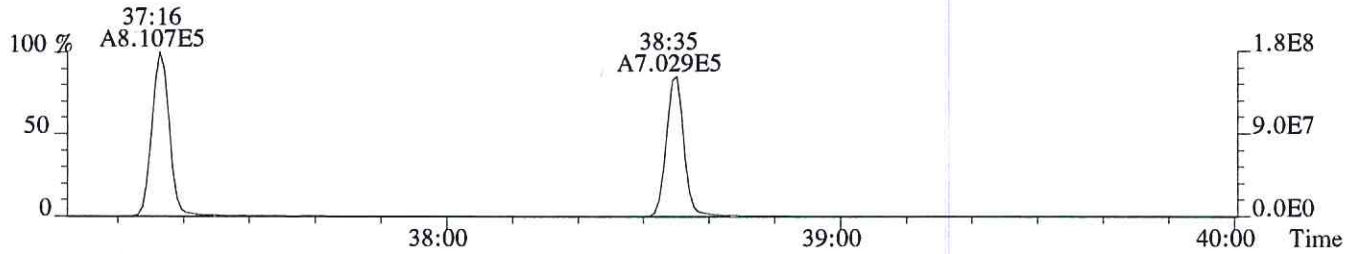


430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

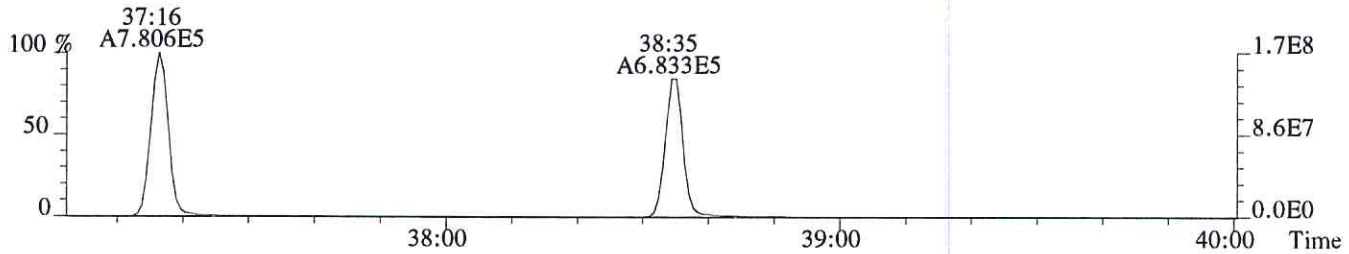


File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5

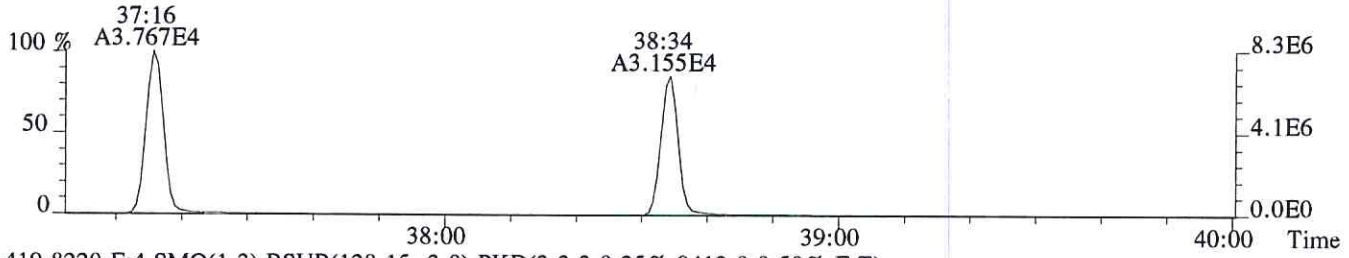
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18456.0,0.50%,F,T)



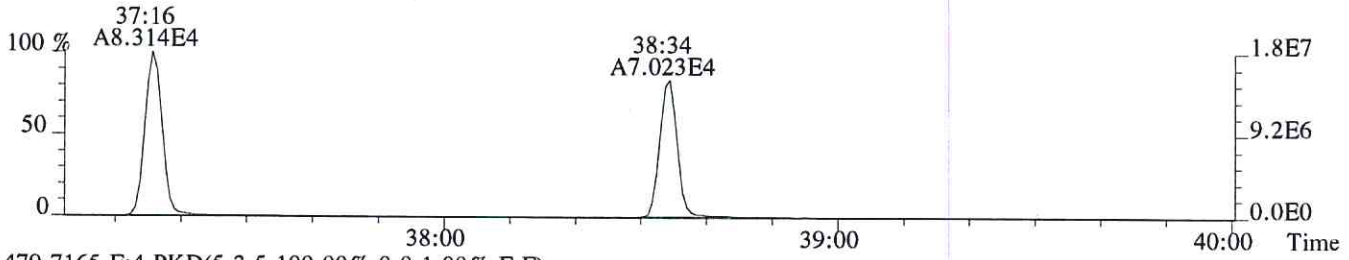
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,54876.0,0.50%,F,T)



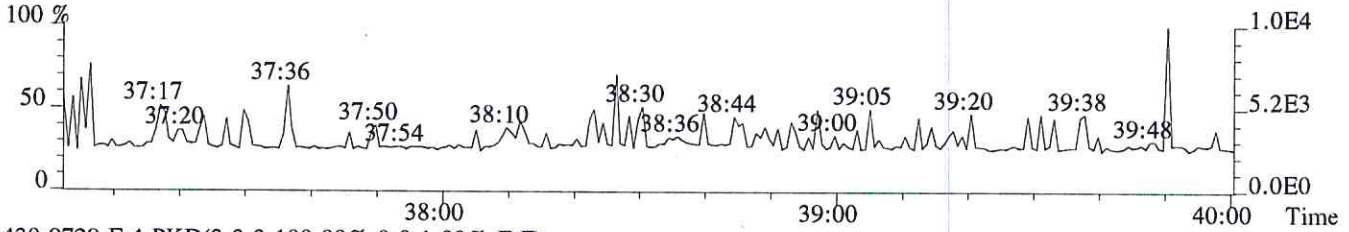
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4424.0,0.50%,F,T)



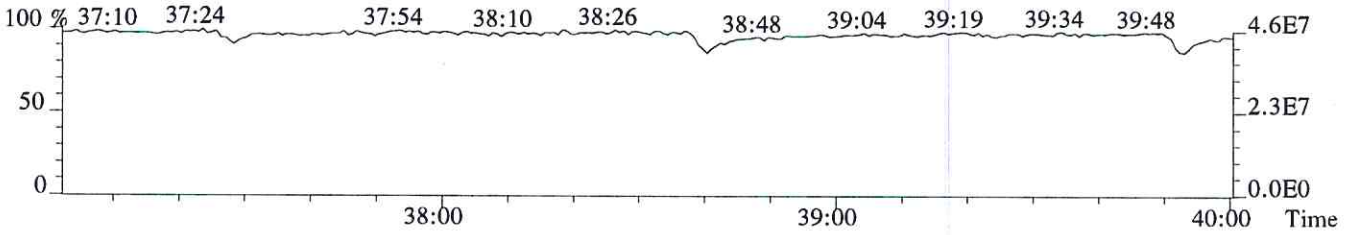
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9412.0,0.50%,F,T)



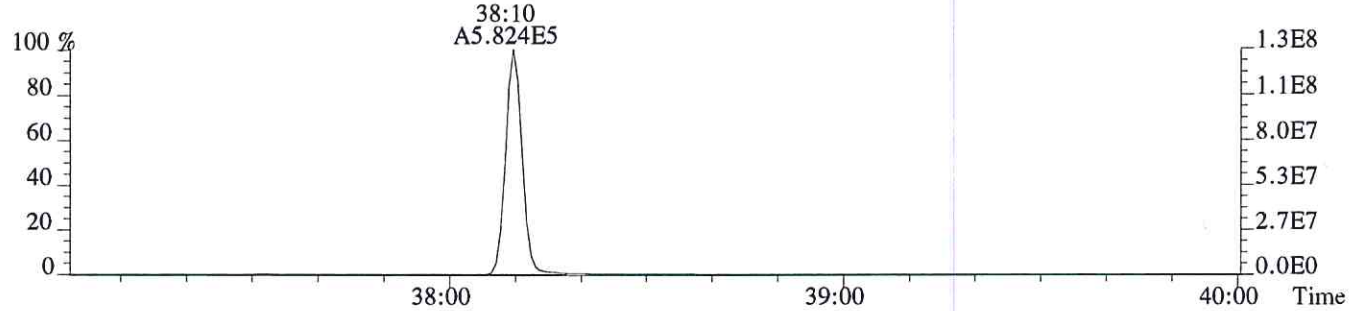
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



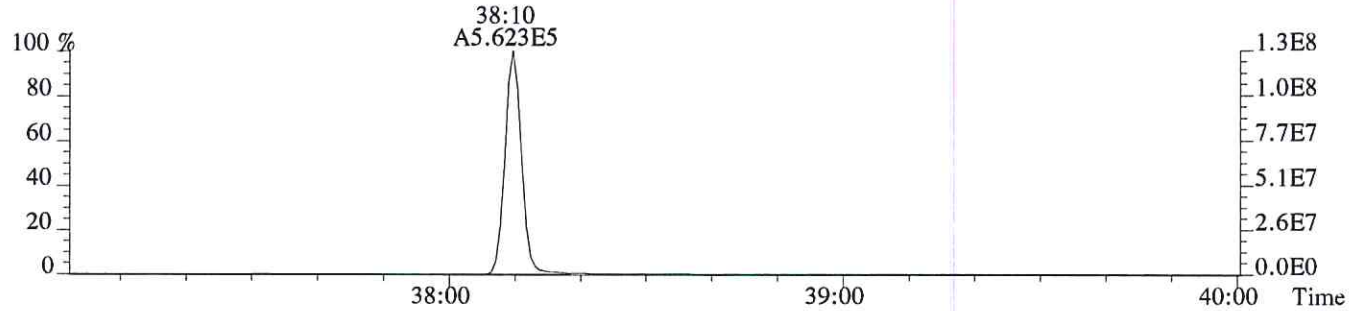
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



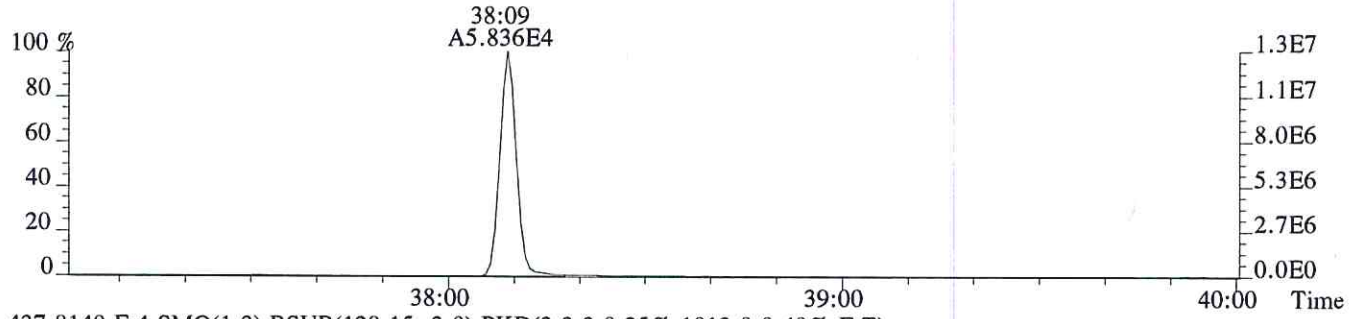
File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6684.0,0.40%,F,T)



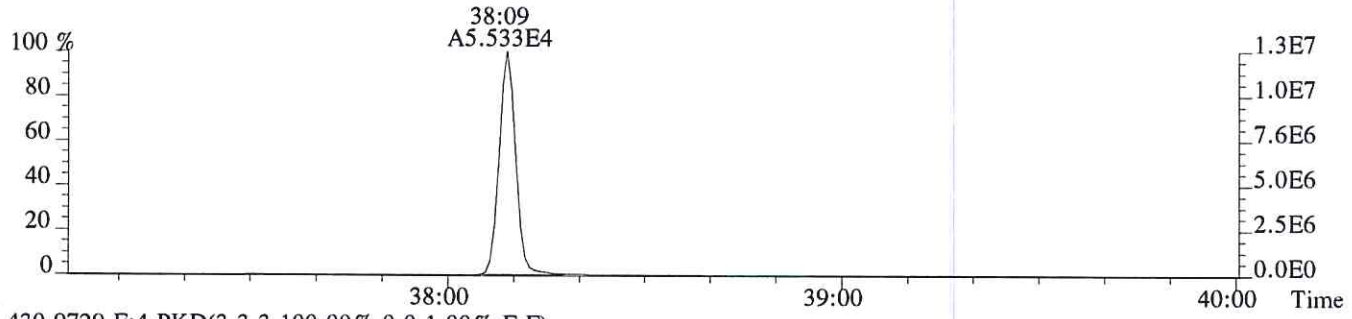
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3036.0,0.40%,F,T)



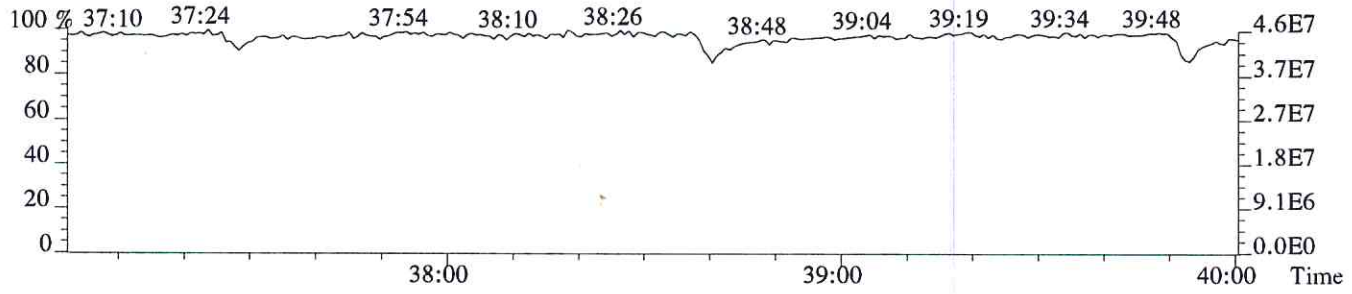
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1896.0,0.40%,F,T)



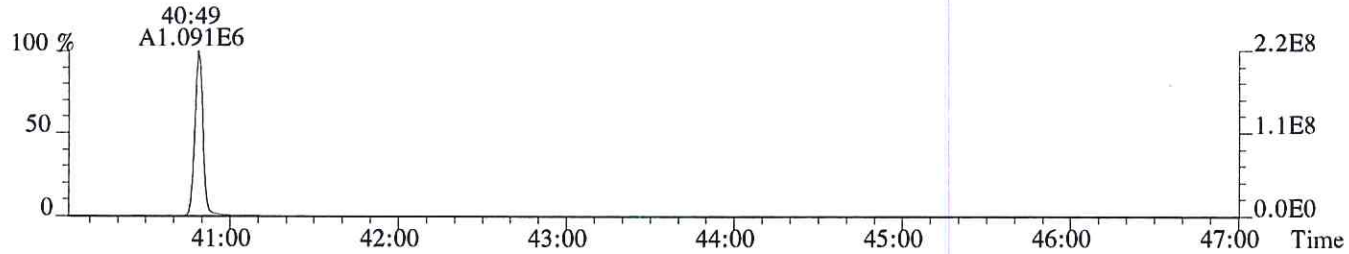
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



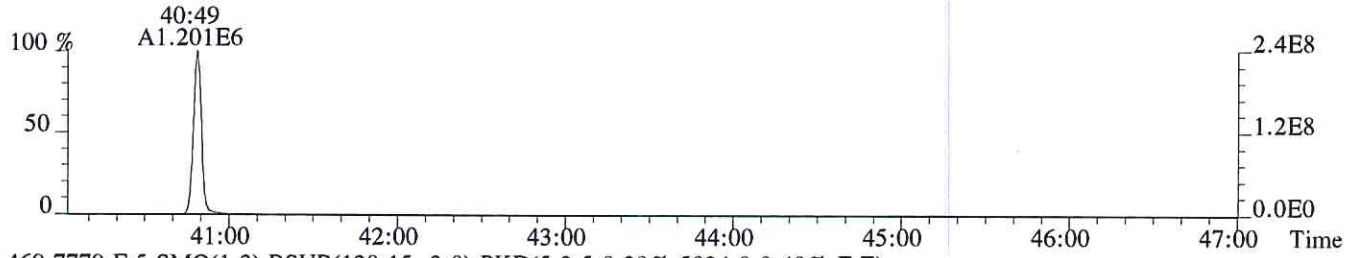
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



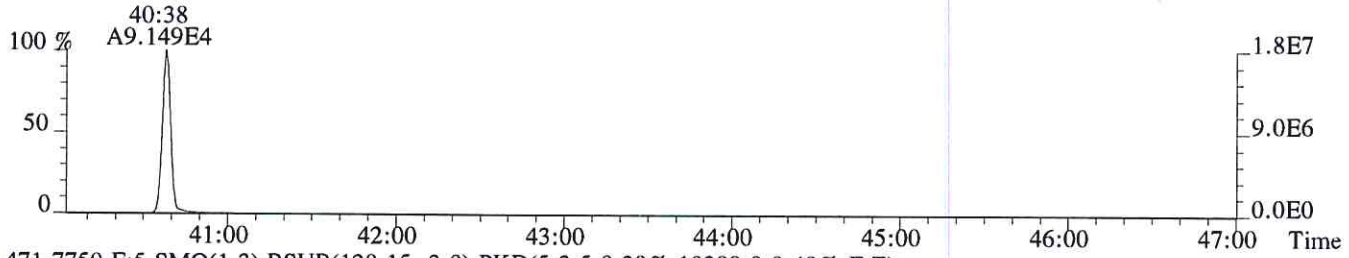
File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136040.0,0.40%,F,T)



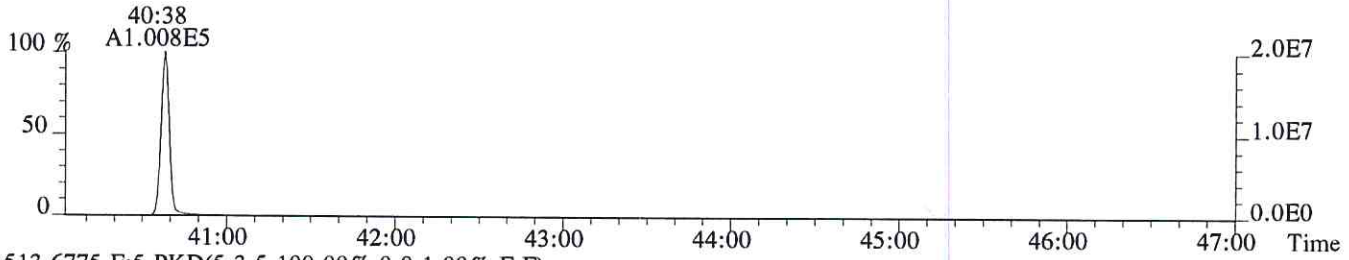
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,62728.0,0.40%,F,T)



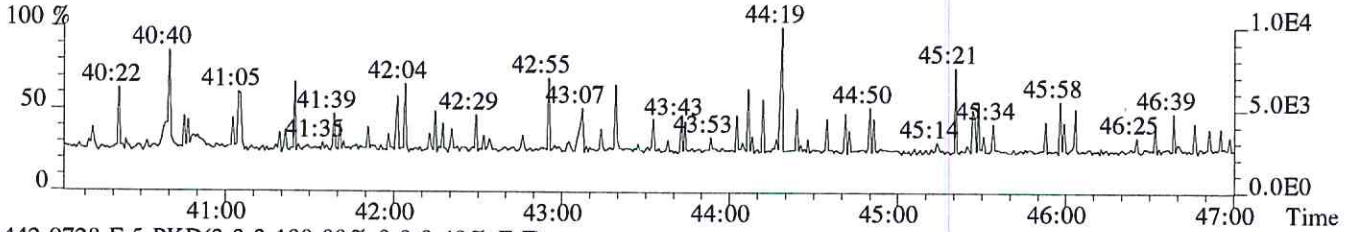
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



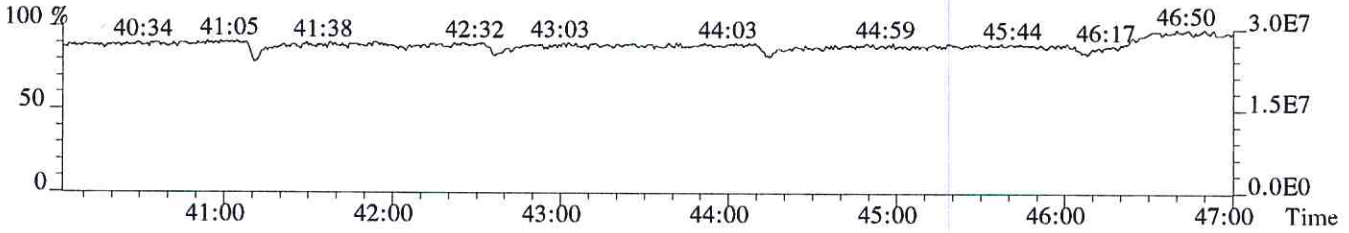
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10388.0,0.40%,F,T)



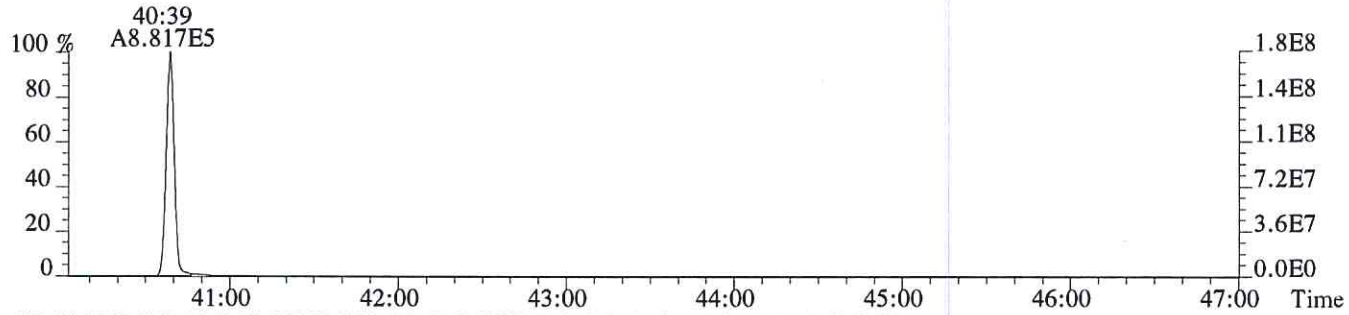
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



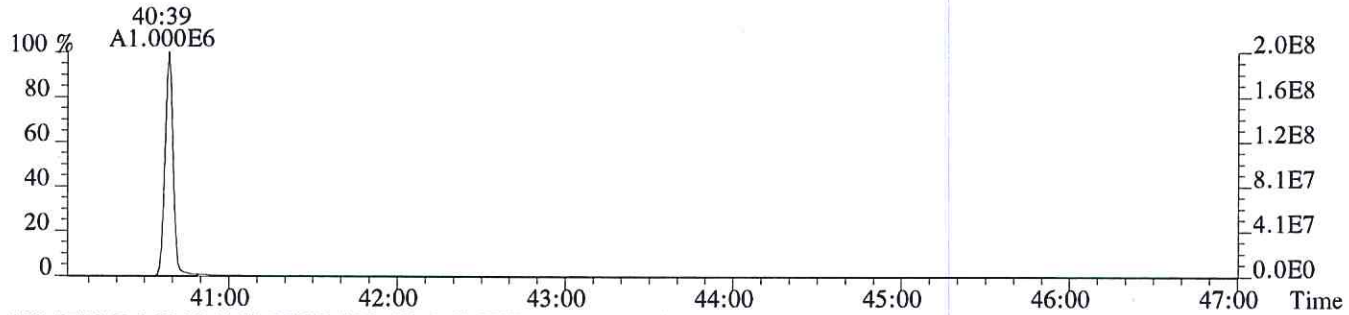
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



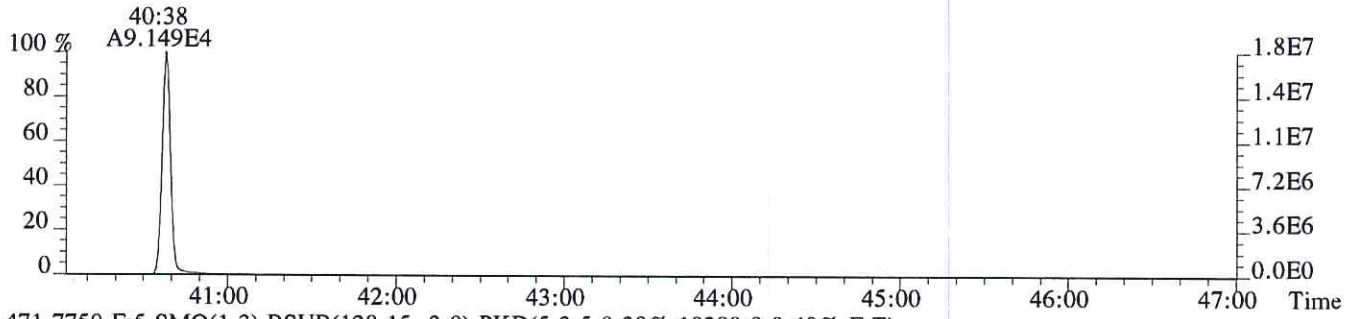
File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,57044.0,0.40%,F,T)



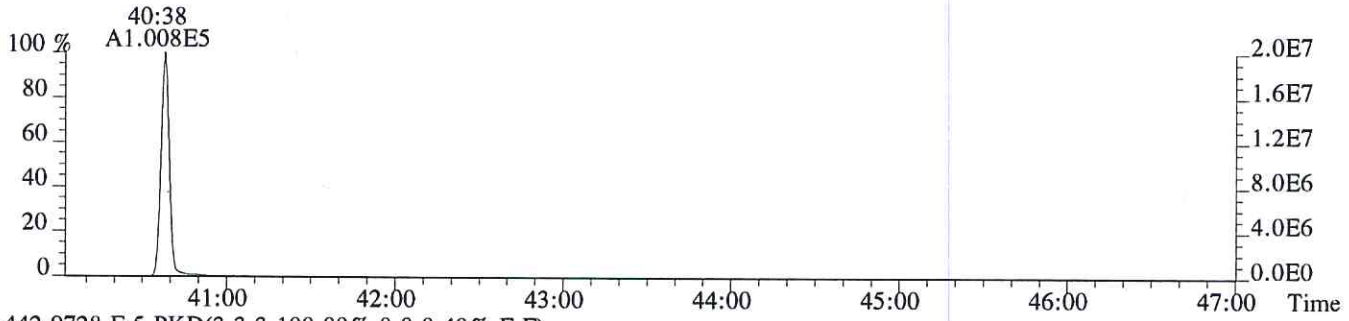
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,41804.0,0.40%,F,T)



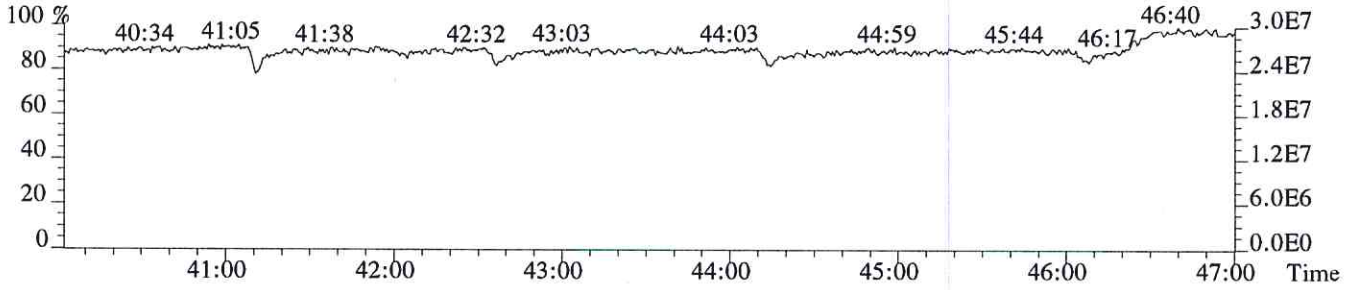
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



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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www.alsglobal.com

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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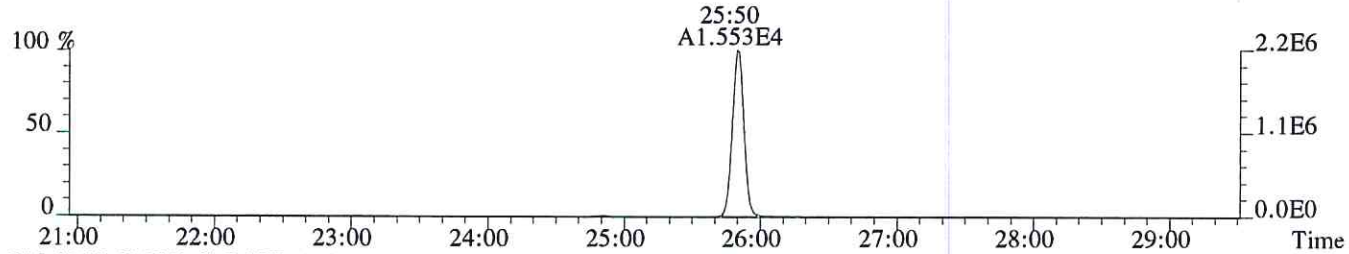
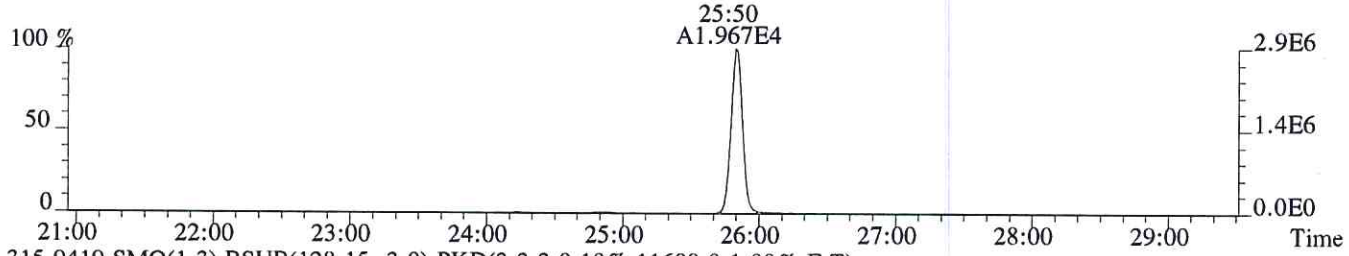
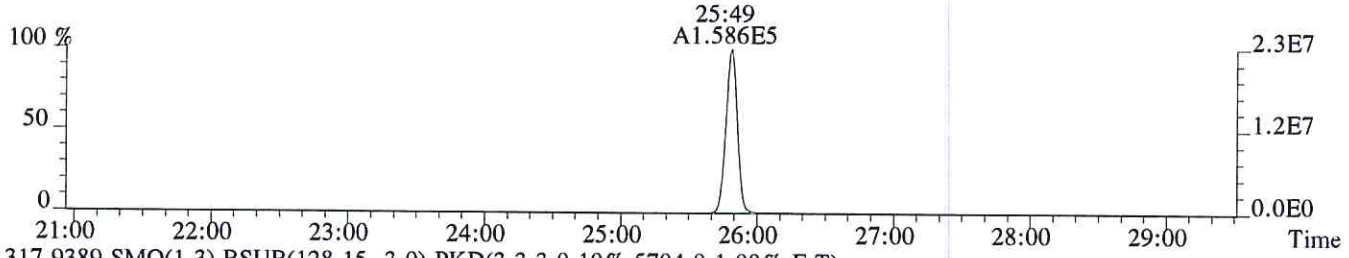
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



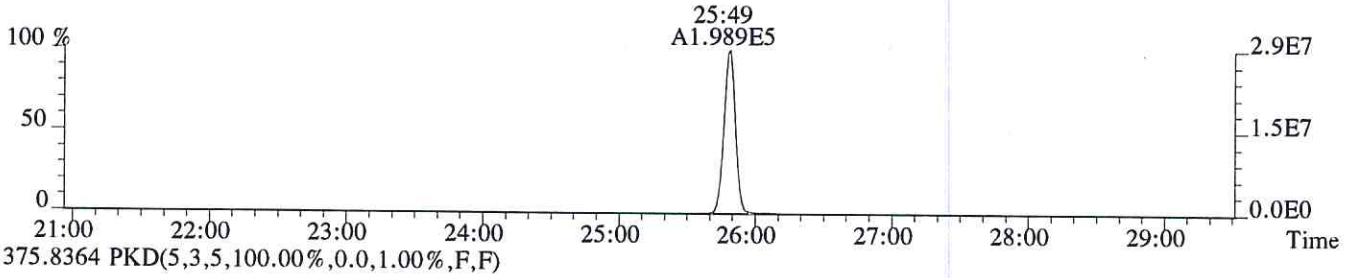
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1968.0,1.00%,F,T)



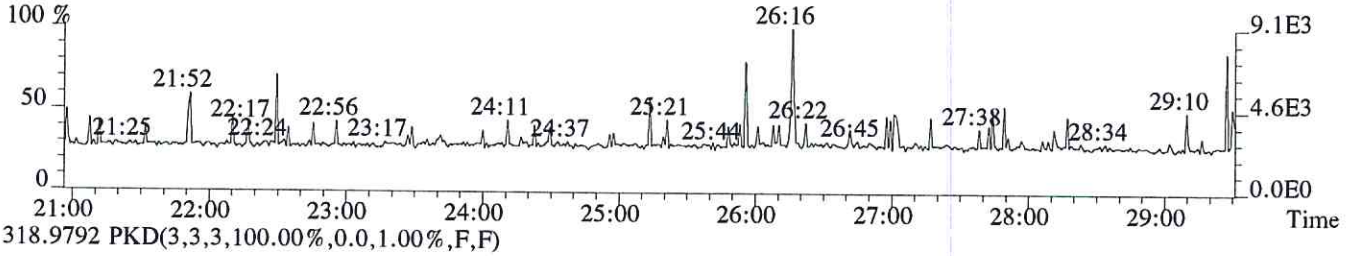
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11688.0,1.00%,F,T)



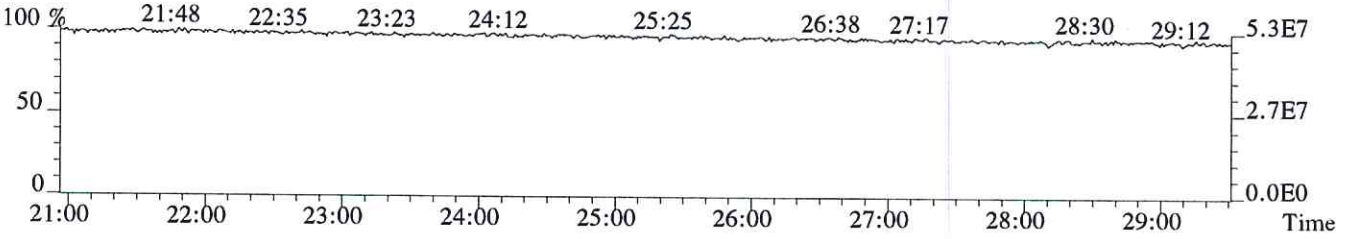
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5704.0,1.00%,F,T)



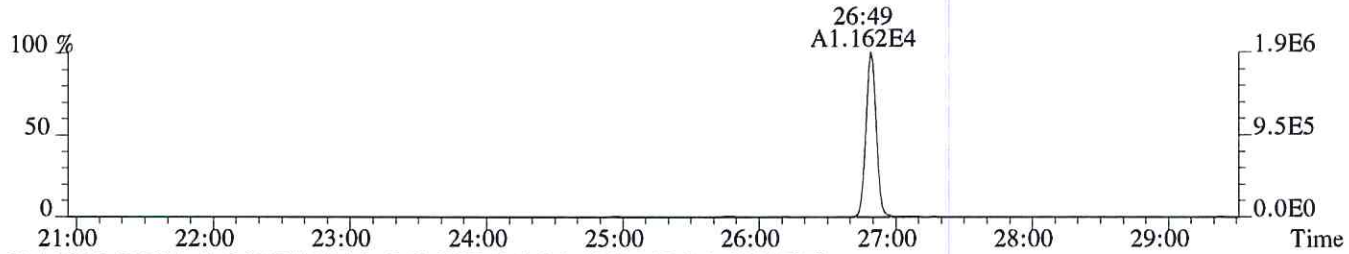
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



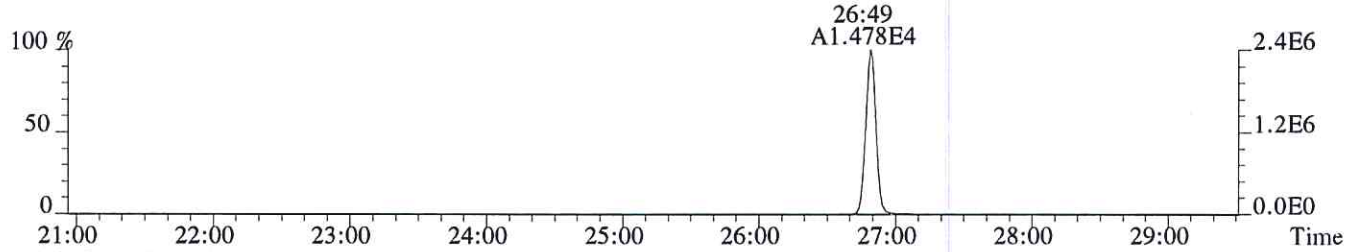
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



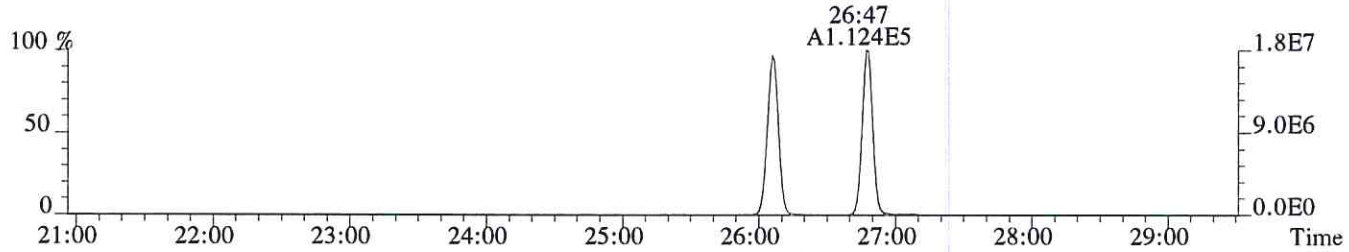
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



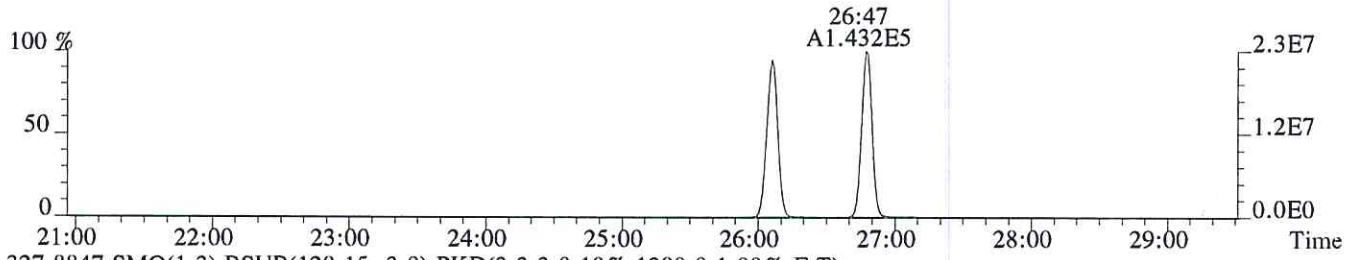
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



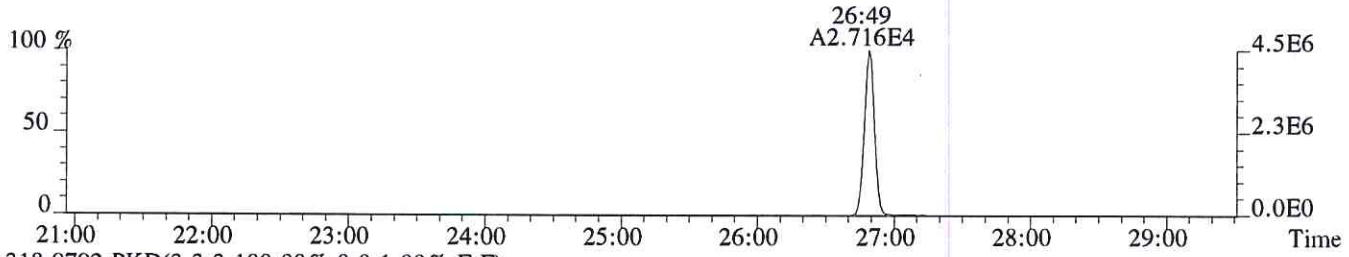
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5524.0,1.00%,F,T)



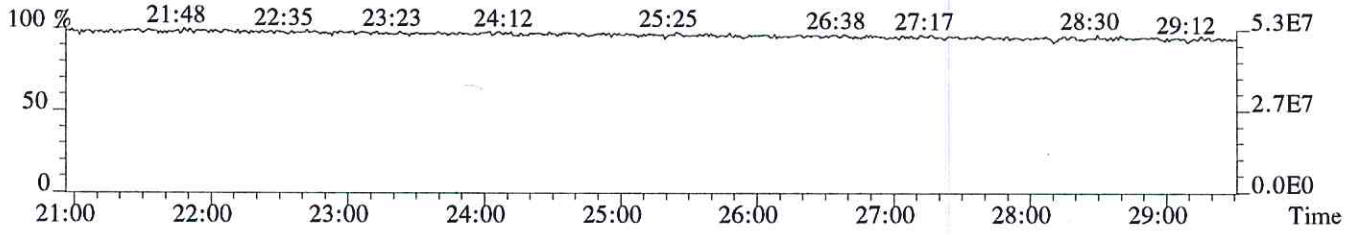
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3632.0,1.00%,F,T)



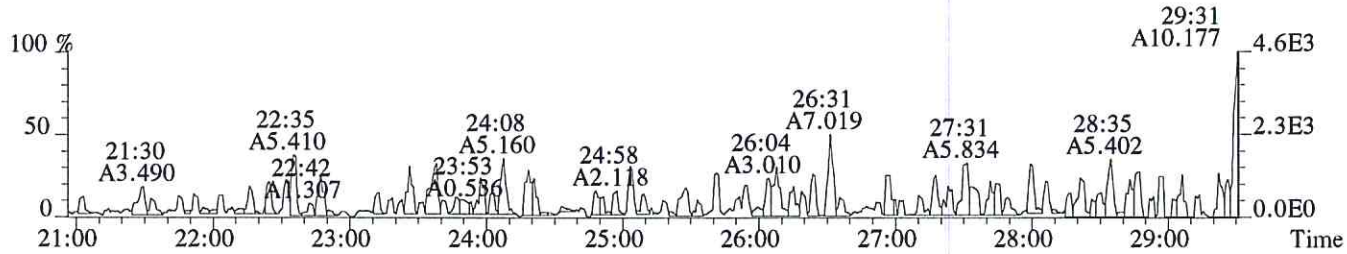
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



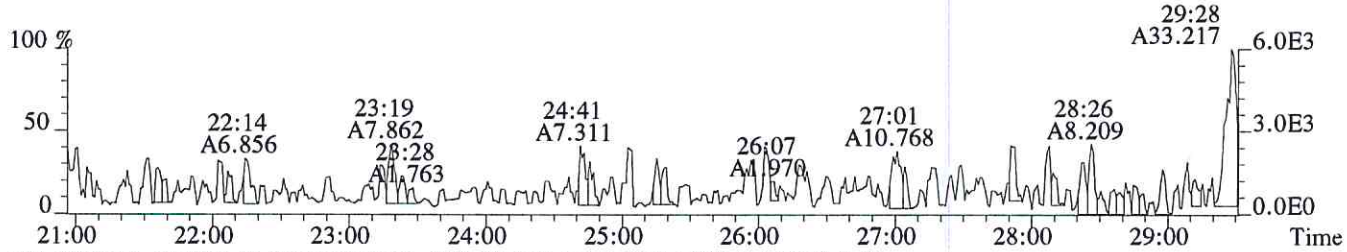
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



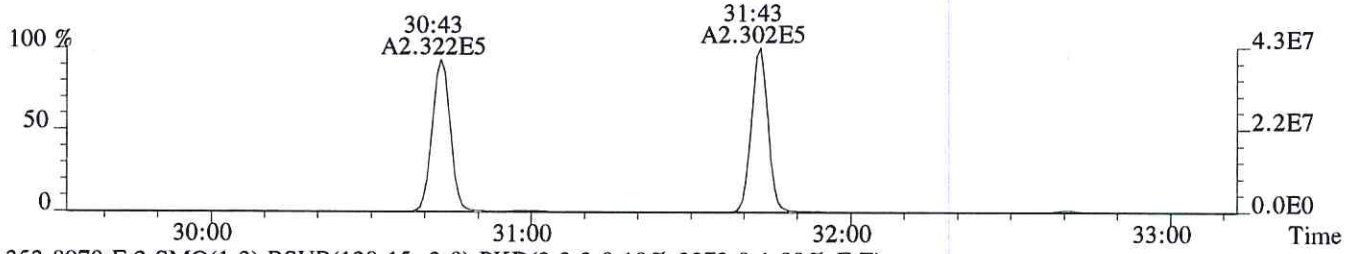
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



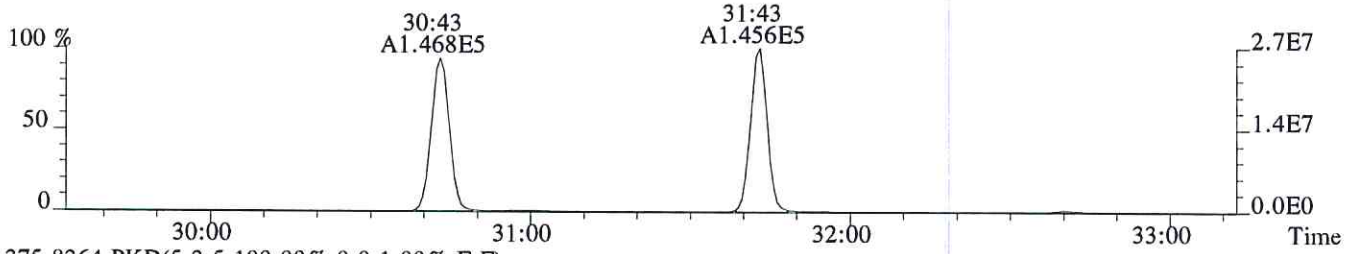
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,T)



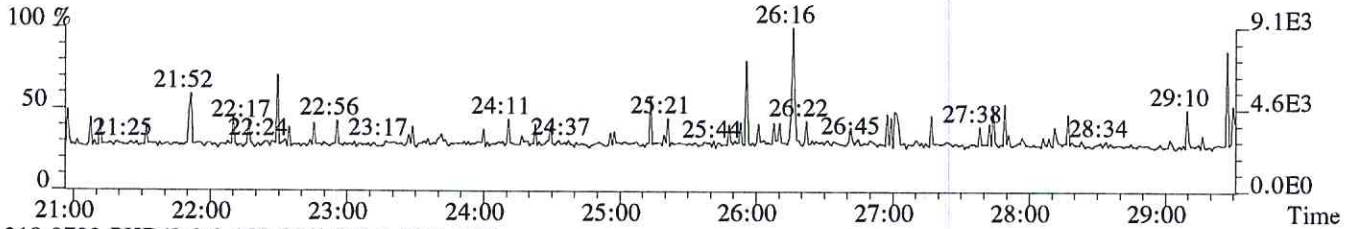
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



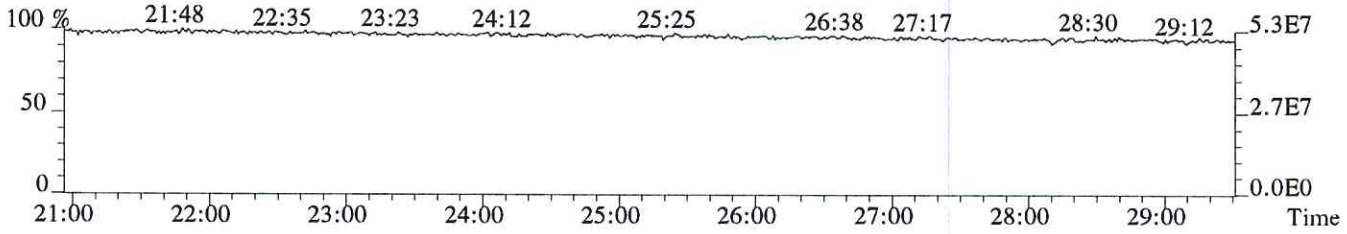
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



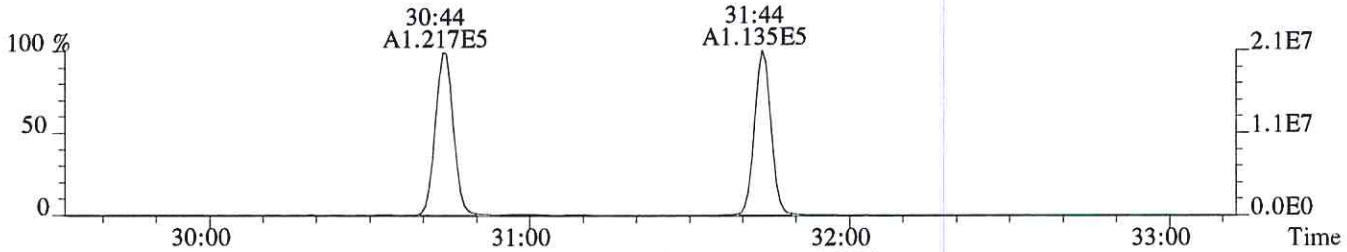
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



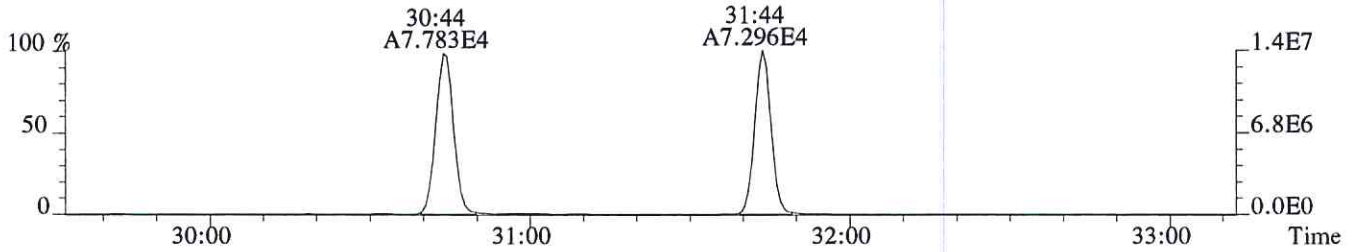
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



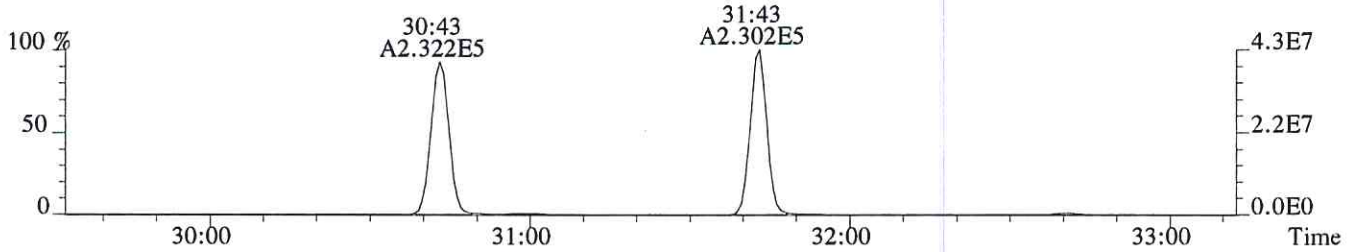
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



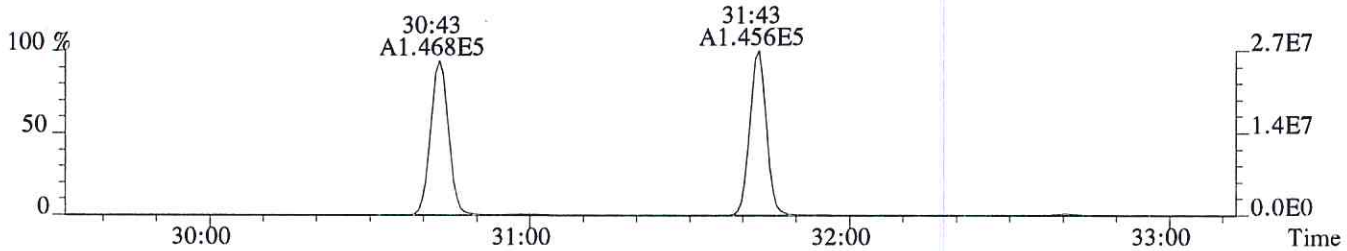
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2456.0,1.00%,F,T)



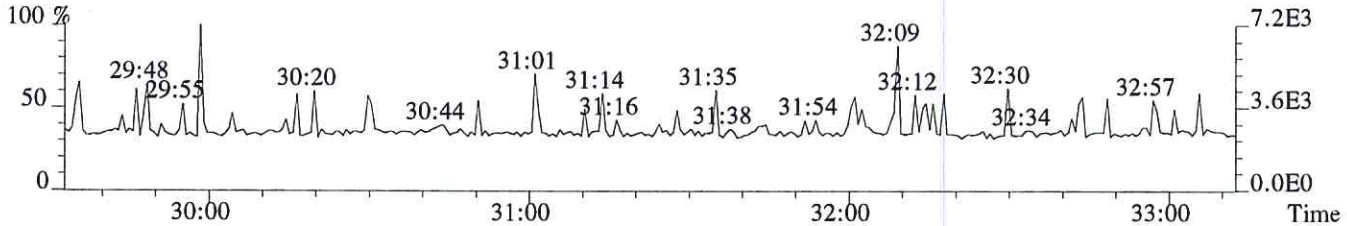
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



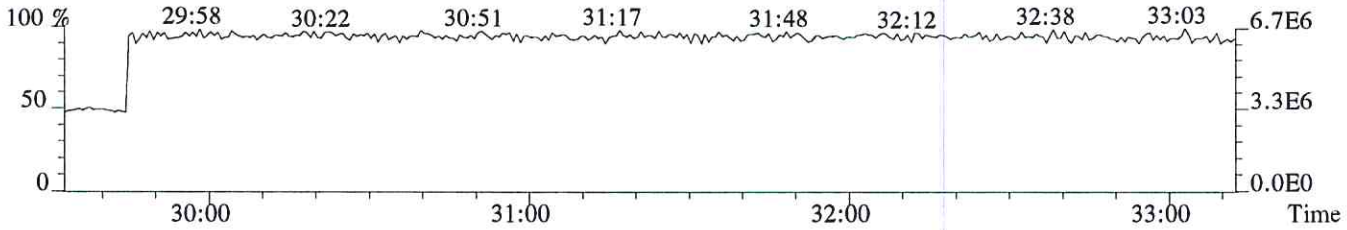
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



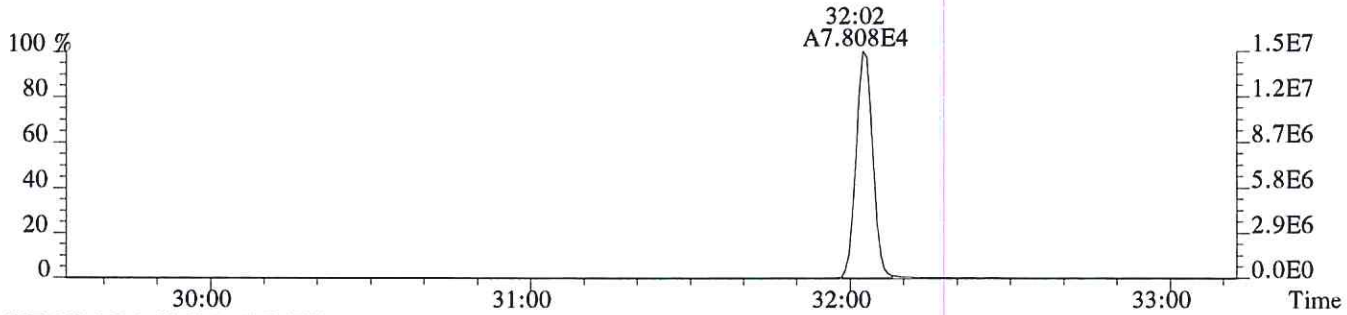
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



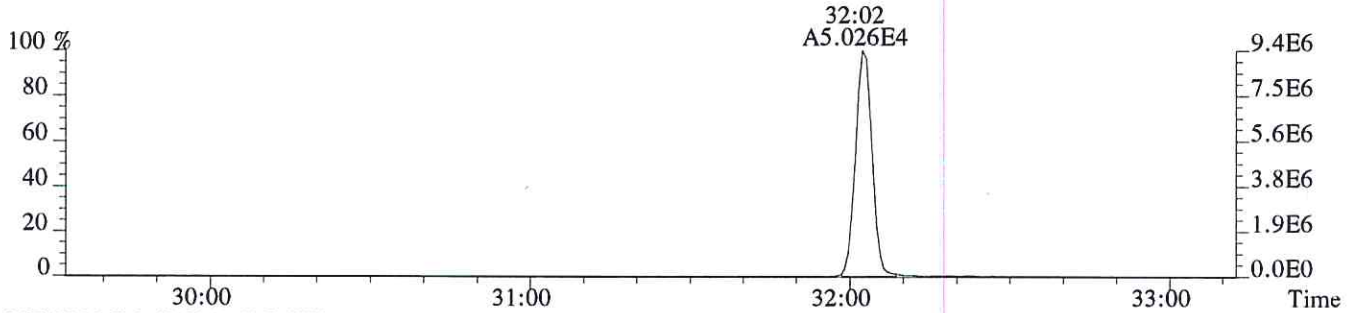
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



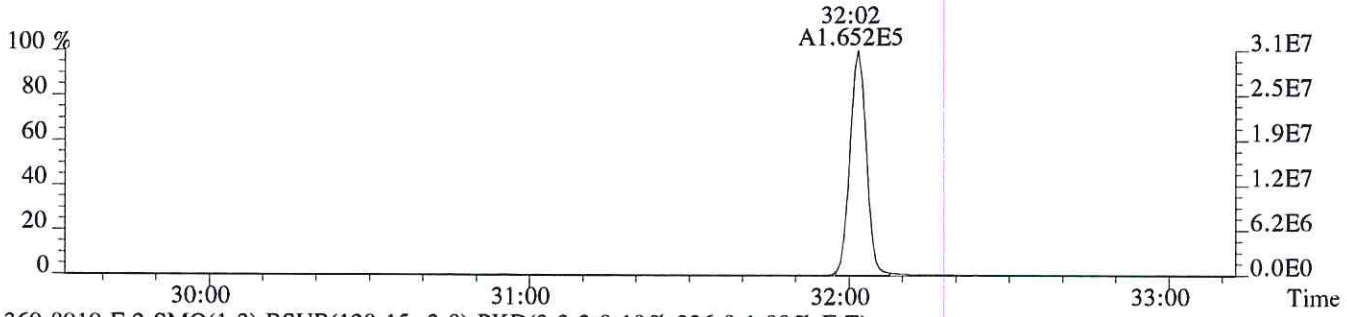
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



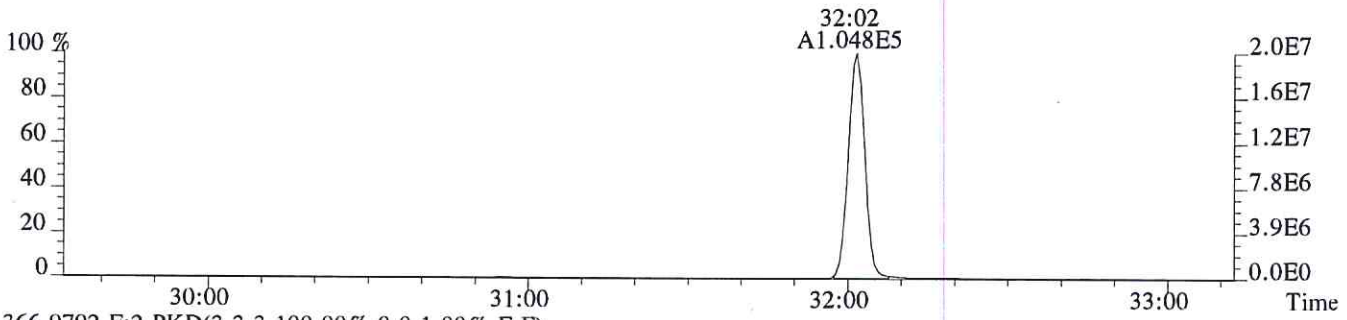
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



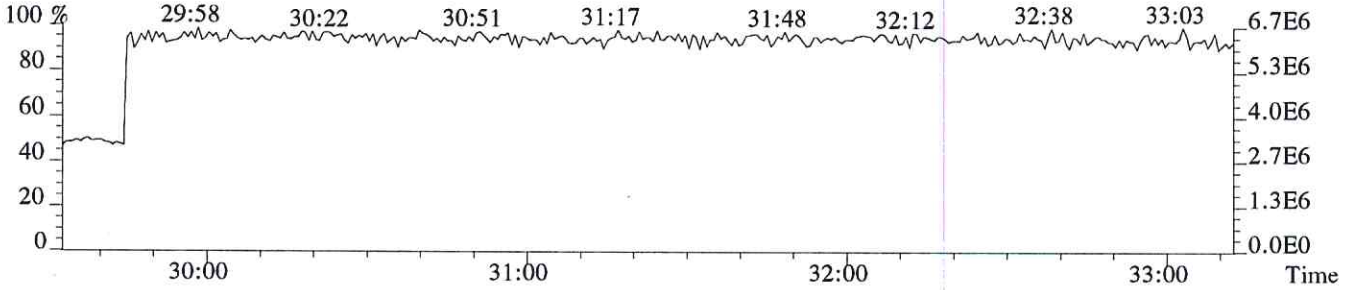
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,T)



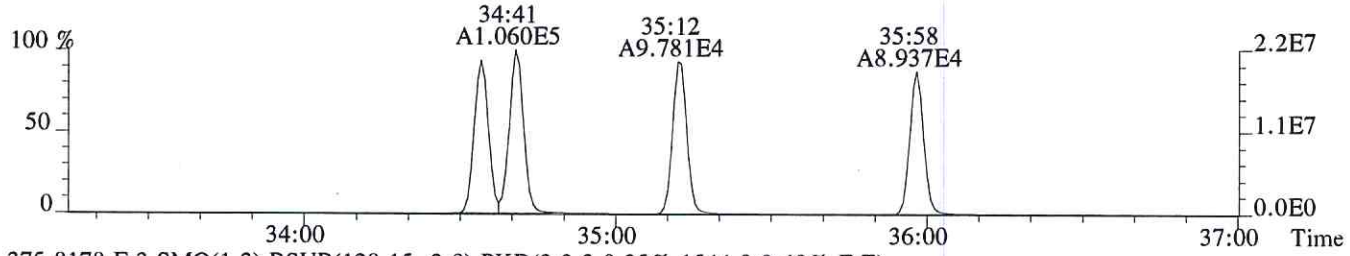
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



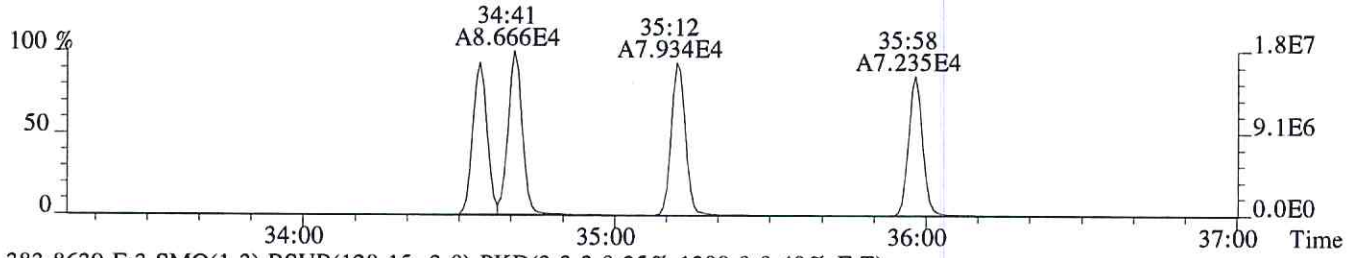
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



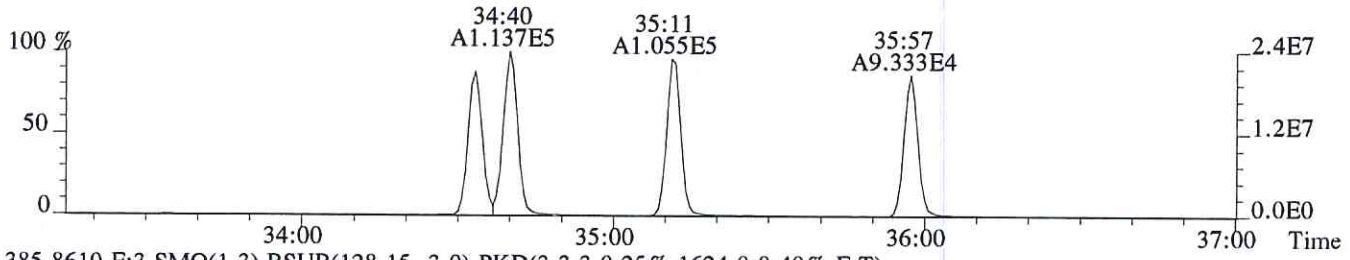
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



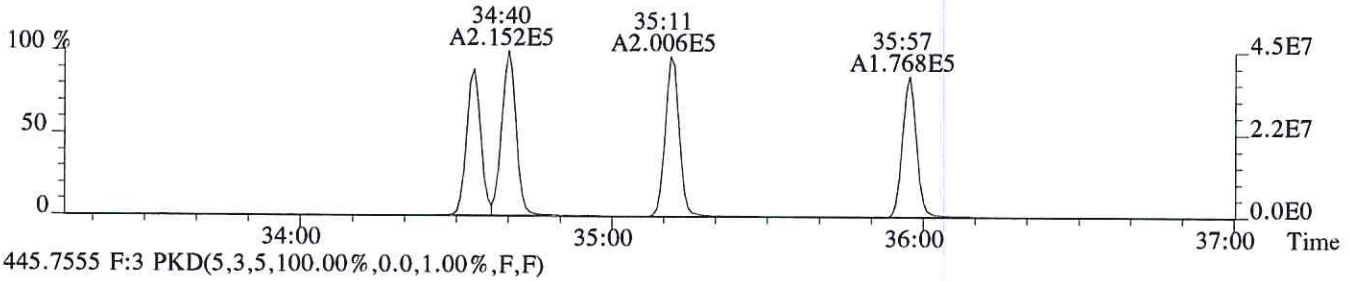
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



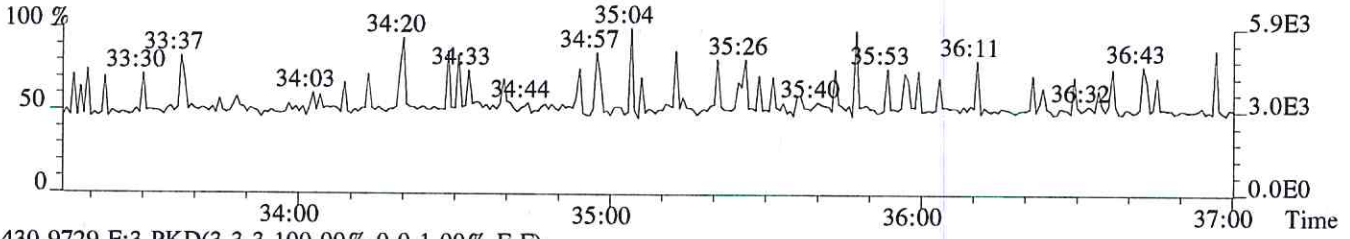
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



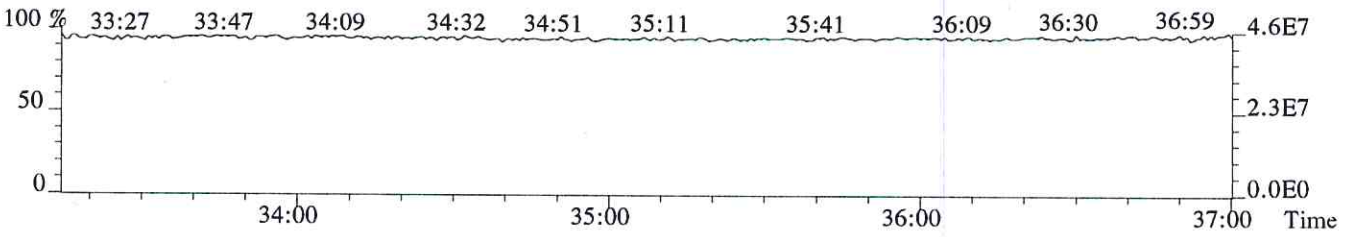
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1624.0,0.40%,F,T)



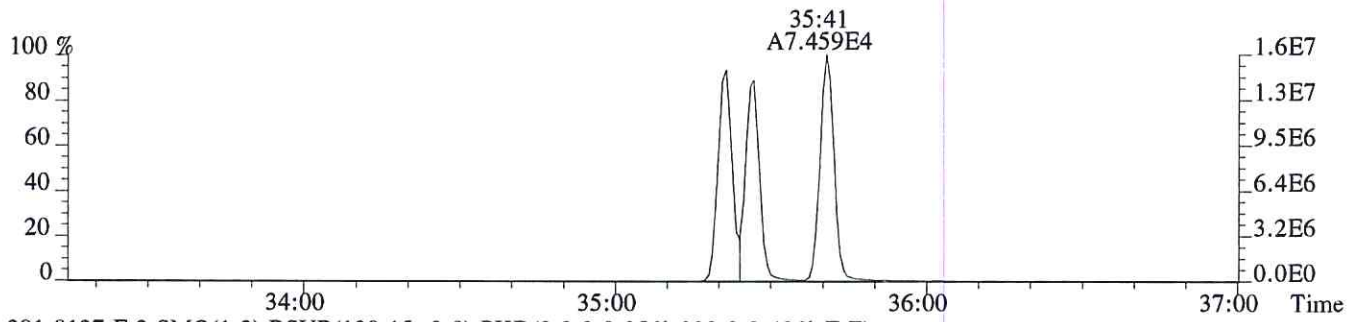
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



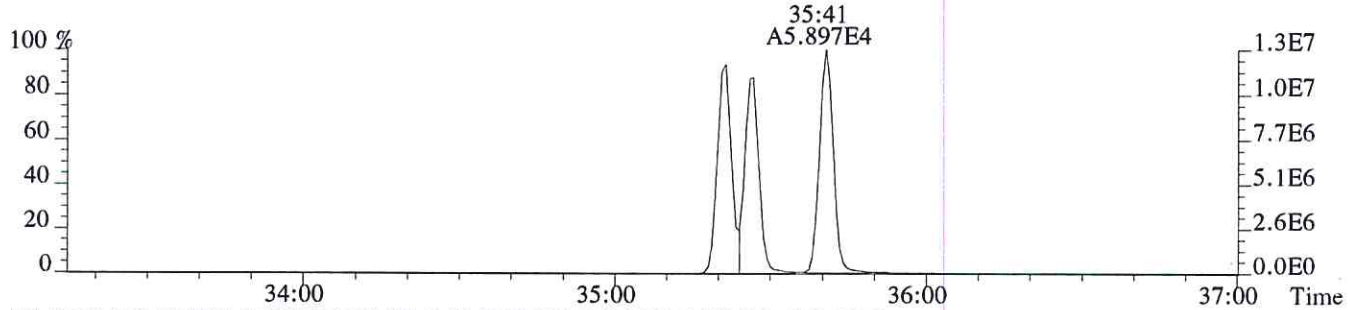
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



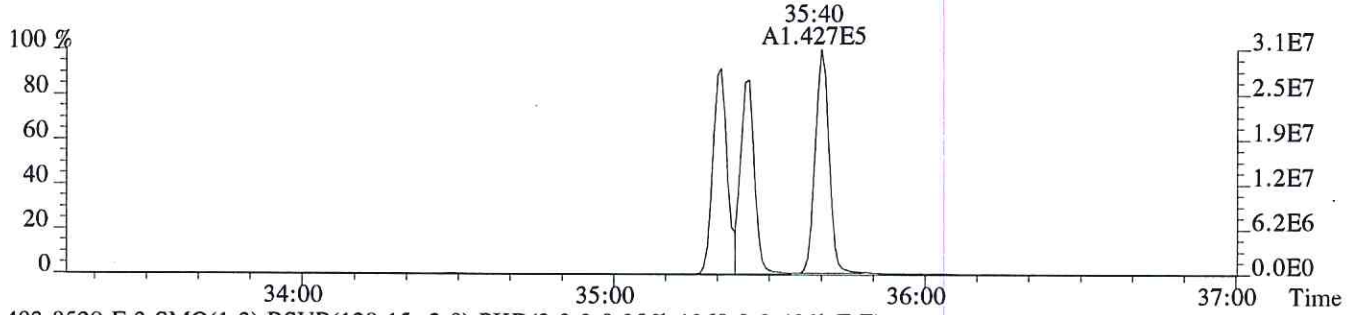
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,T)



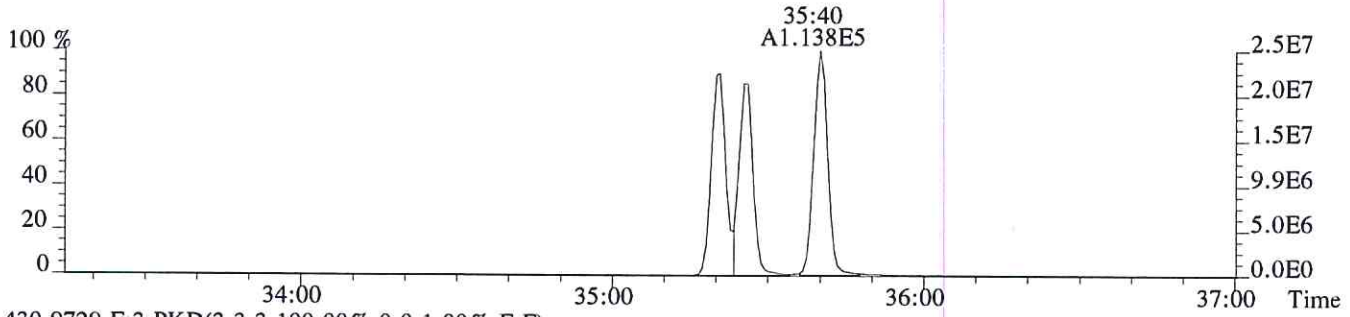
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



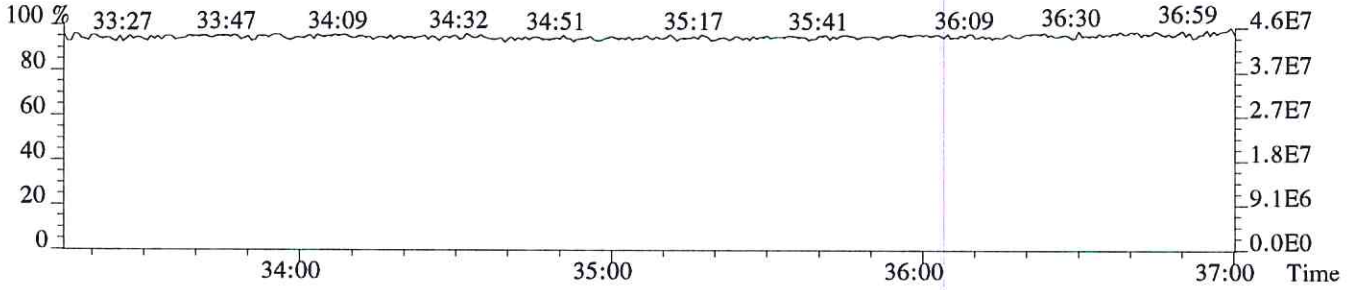
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



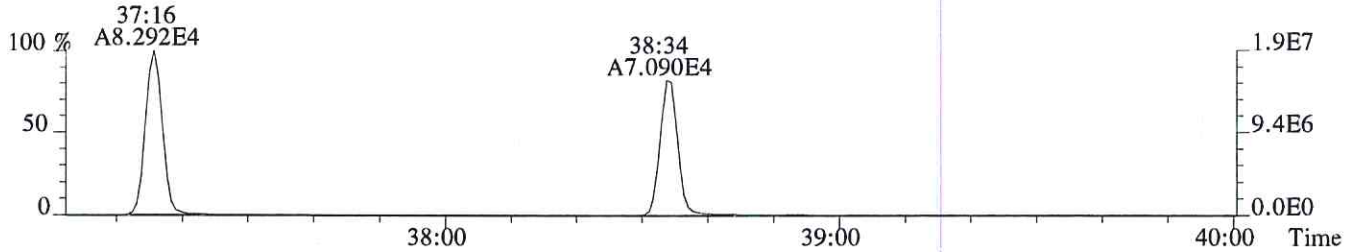
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,T)



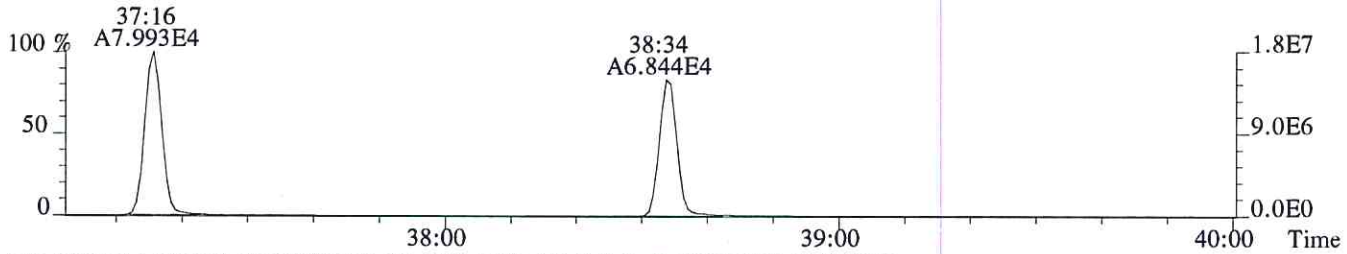
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



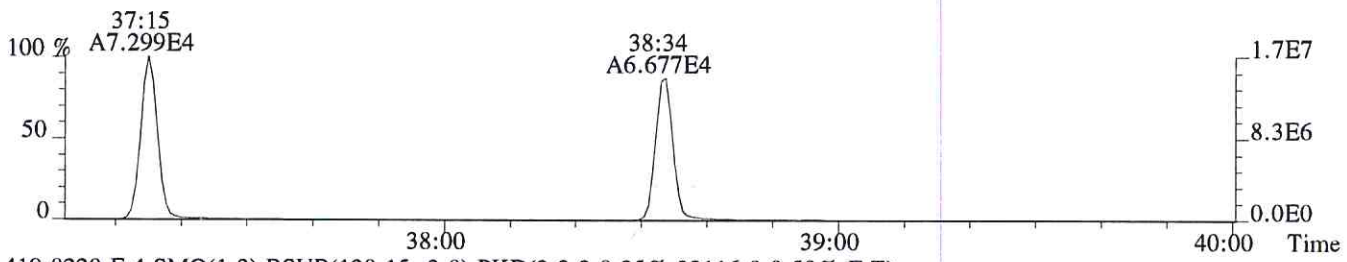
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8428.0,0.50%,F,T)



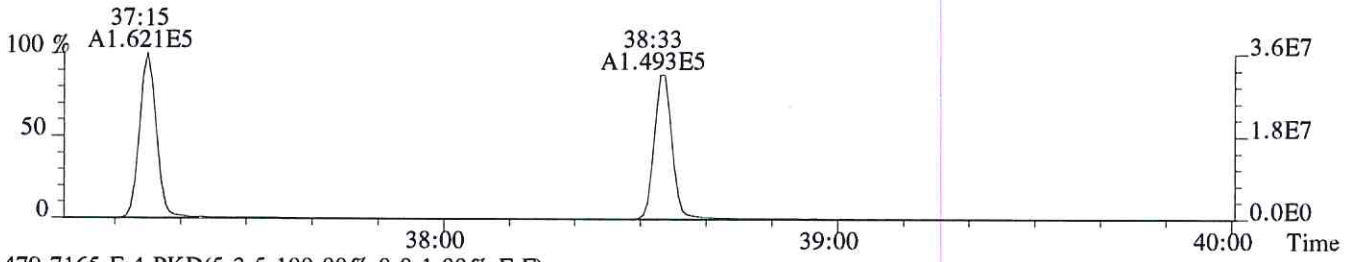
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8372.0,0.50%,F,T)



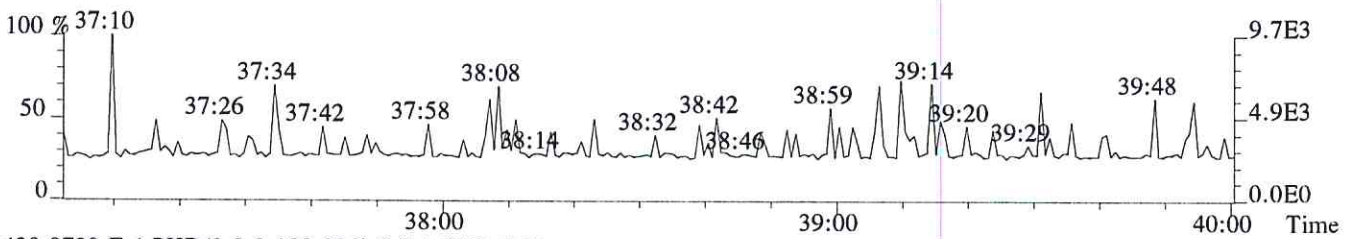
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11848.0,0.50%,F,T)



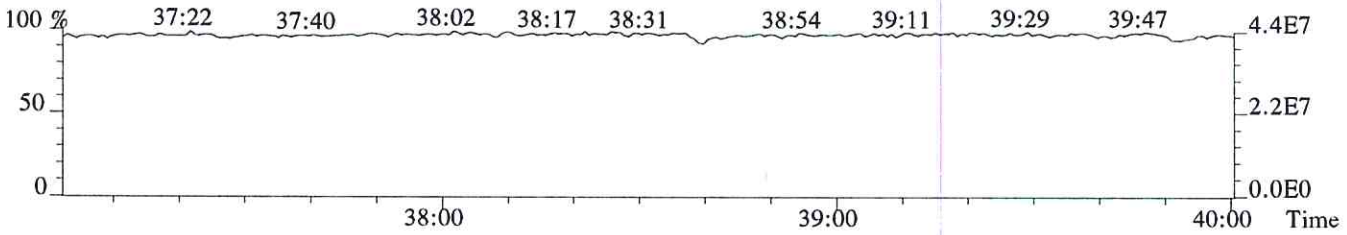
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,33116.0,0.50%,F,T)



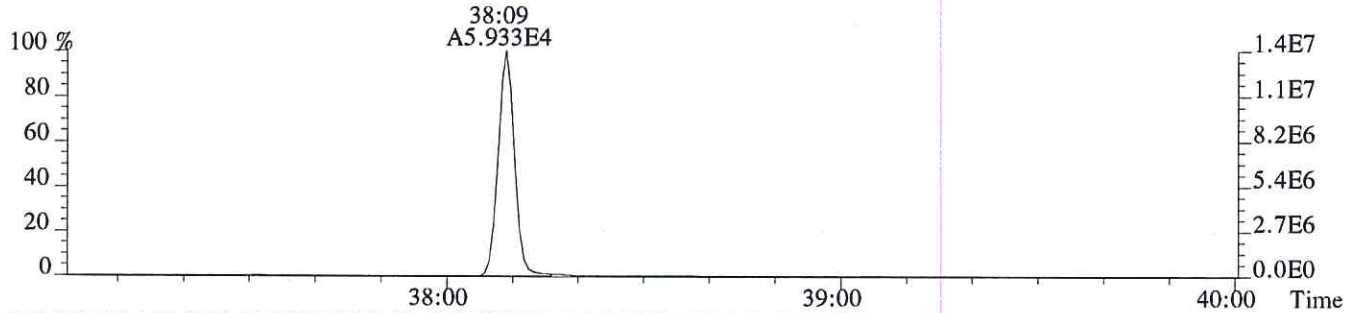
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



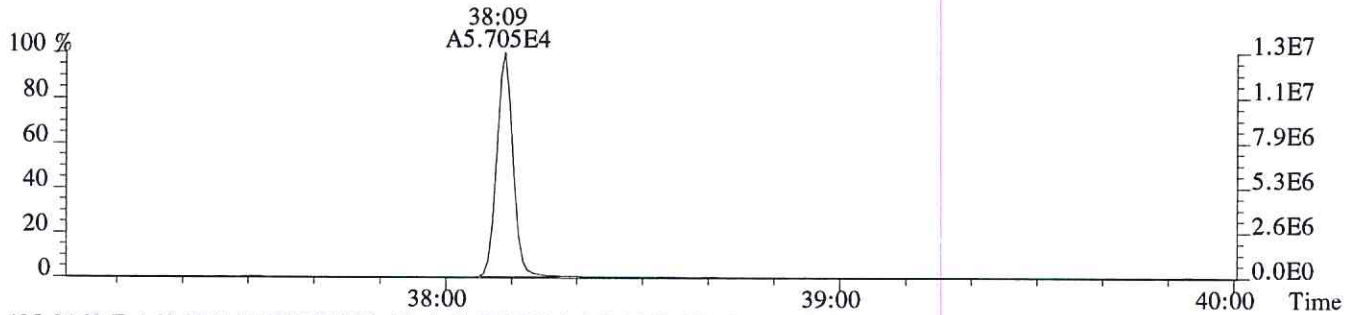
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



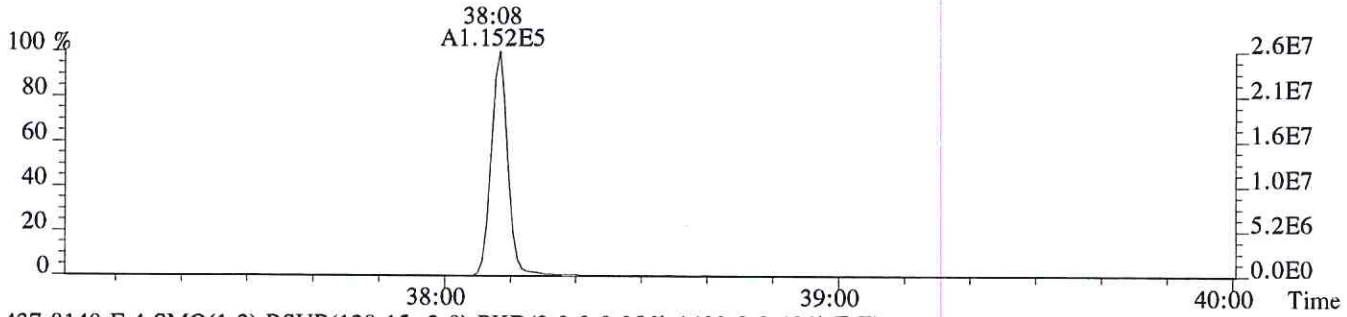
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1880.0,0.40%,F,T)



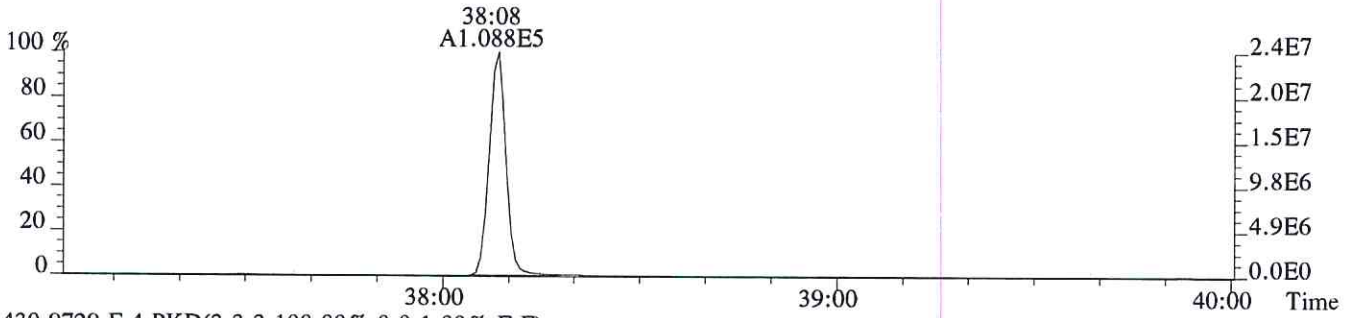
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.40%,F,T)



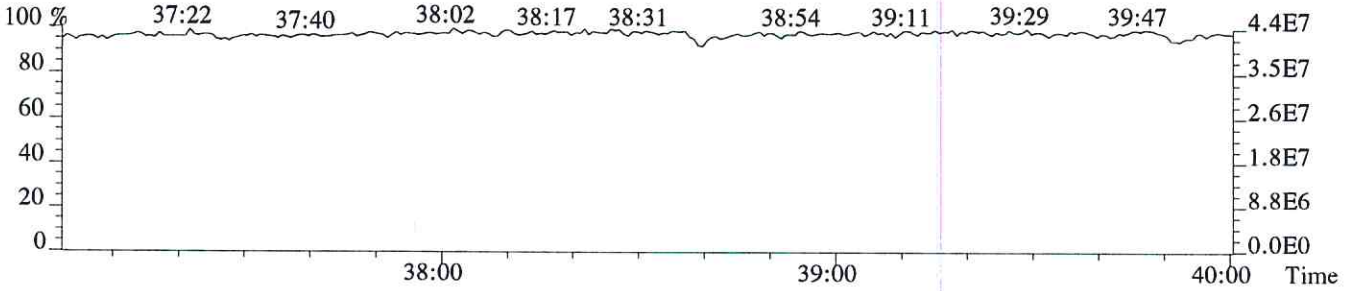
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



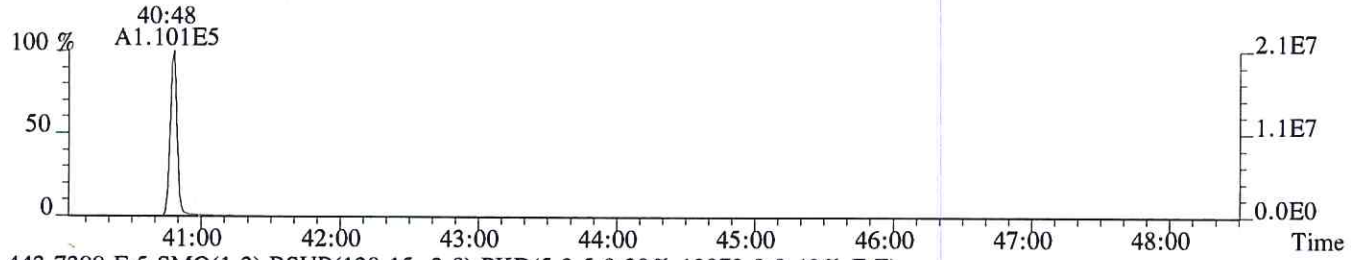
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



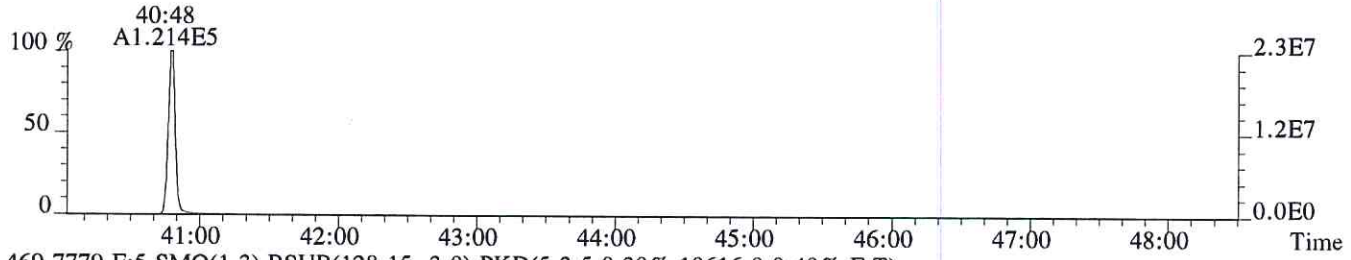
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



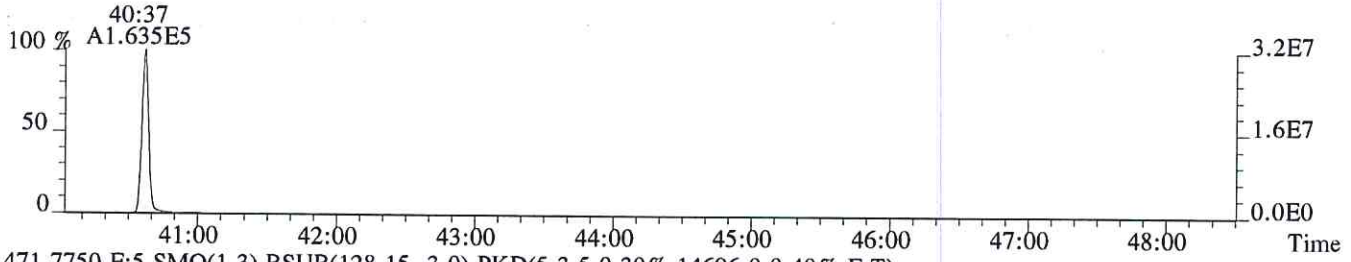
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8596.0,0.40%,F,T)



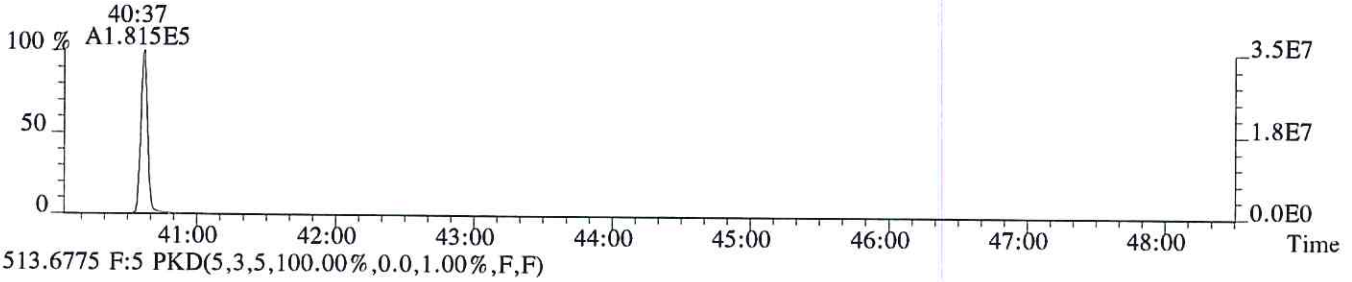
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12972.0,0.40%,F,T)



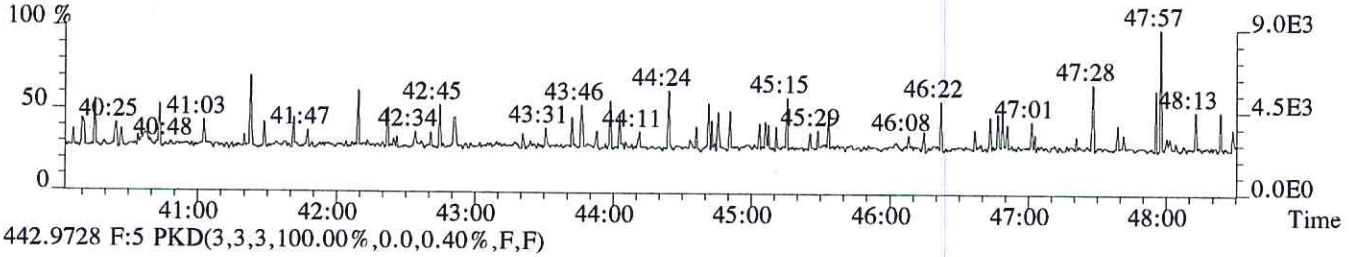
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10616.0,0.40%,F,T)



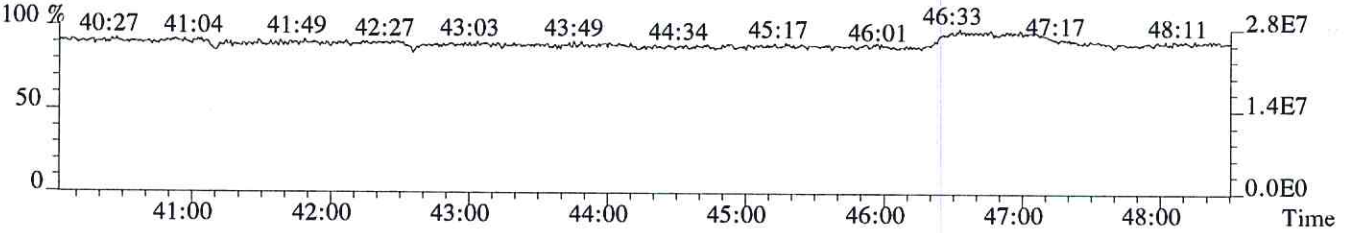
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14696.0,0.40%,F,T)



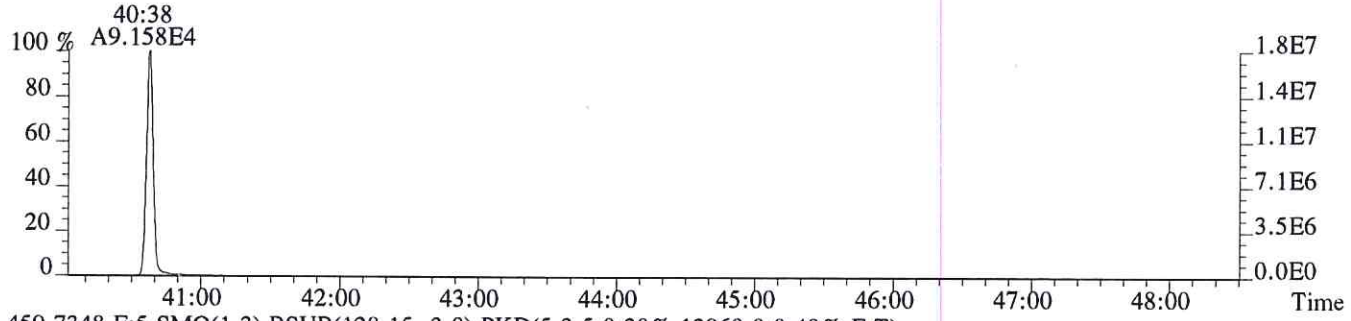
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



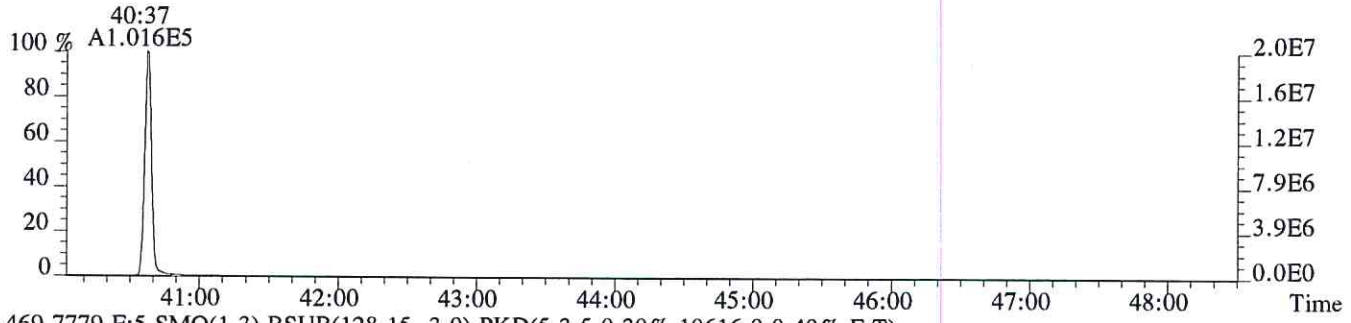
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



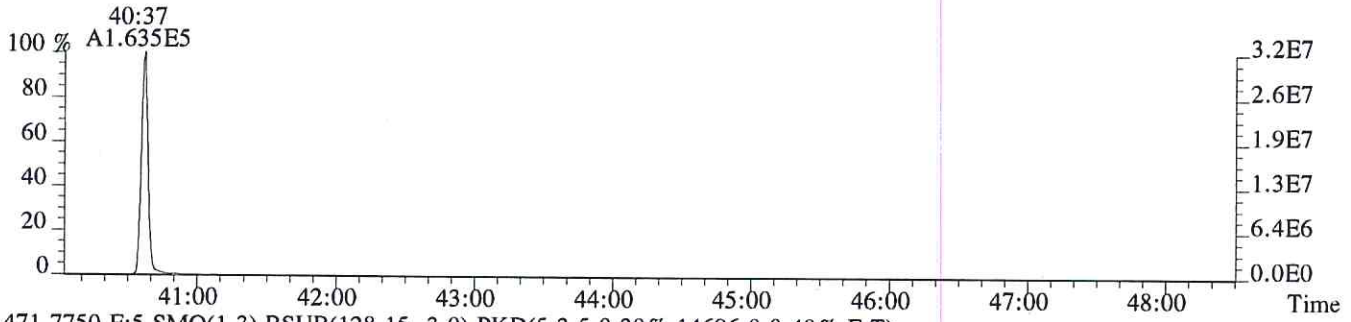
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9668.0,0.40%,F,T)



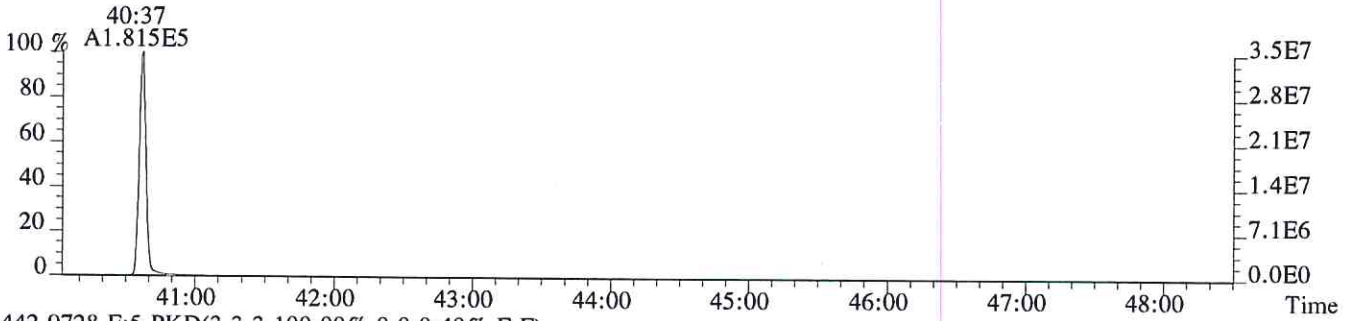
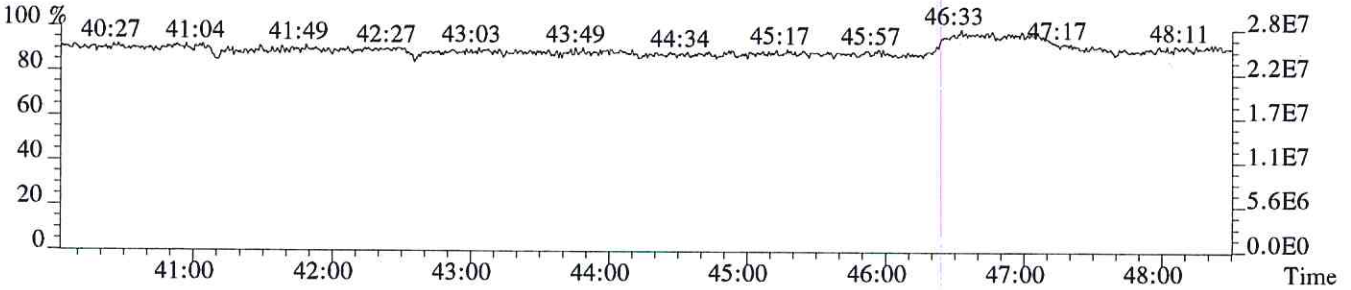
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12960.0,0.40%,F,T)



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)