ALS Environmental
ALS Group USA, Corp
10450 Stancliff Rd, Suite 210
Houston, TX 77099
T: 281-530-5656
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October 16, 2017

Analytical Report for Service Request No: E1701038

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 on October 4, 2017. For your reference, these analyses have been assigned our service request number **E1701038**.

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. The phone number is 281-530-5656 extension 2284.
You may also contact me via email at Nicole.Brown@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Nicole Brown

Nicole Brown
Project Manager

Page 1 of _____

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com.

Certificate of Analysis

ALS Environmental - Houston HRMS
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ALS Environmental

Client:	Integral Consulting, Inc.	**Service Request No.:**	E1701038
Project:	San Jacinto Waste Pits	**Date Received:**	10/04/17
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

Seven sediment samples were received for analysis at ALS Environmental in Houston on 10/04/17.

The samples were received at 0.6 °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

B flags – Method Blanks

The Method Blank EQ1700450-01 contained low levels of 1234678-HpCDD, OCDD, 1234678-HpCDF and OCDF 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.

The Method Blank EQ1700461-01 contained low levels of 1234678-HpCDD, OCDD, 1234678-HpCDF, 1234789-HpCDF and OCDF 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.

MS/MSD

EQ1700450: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch.

EQ1700461: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/MSD for this extraction batch.

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.

Y flags – Clean up Standard

The recoveries for the clean up standard, 37Cl-2,3,7,8-TCDD, for sample E1701038-005 / SJWP-100317-038 and the DLCS EQ1700450-03 are below control limits. The sample results are not affected since 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.

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.

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.

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
E1701038-001	SJWP-100317-034	10/3/2017	1735
E1701038-002	SJWP-100317-035	10/3/2017	1705
E1701038-003	SJWP-100317-036	10/3/2017	1605
E1701038-004	SJWP-100317-037	10/3/2017	1125
E1701038-005	SJWP-100317-038	10/3/2017	1010
E1701038-006	SJWP-100317-039	10/3/2017	0925
E1701038-007	SJWP-100317-041	10/3/2017	1035

Service Request Summary

Folder #: **E1701038**
Client Name: Integral Consulting, Incorporated
Project Name: San Jacinto Waste Pits
Project Number:

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: JGHOSH
Date Received: 10/04/17
Internal Due Date: 10/11/2017
QAP: LAB QAP
Qualifier Set: HRMS Qualifier Set
Formset: Lab Standard
Merged?: Y
Report to MDL?: N, Y
P.O. Number:
EDD: Integral-UCR

7 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:
Rush

				HOUSTON	
Lab Samp No.	**Client Samp No**	**Matrix**	**Collected**	Dioxins Furans/1613B	Total Solids/ALS SOP
E1701038-001	SJWP-100317-034	Sediment	10/03/17 1735	**IV**	**IV**
E1701038-002	SJWP-100317-035	Sediment	10/03/17 1705	**IV**	**IV**
E1701038-003	SJWP-100317-036	Sediment	10/03/17 1605	**IV**	**IV**
E1701038-004	SJWP-100317-037	Sediment	10/03/17 1125	**IV**	**IV**
E1701038-005	SJWP-100317-038	Sediment	10/03/17 1010	**IV**	**IV**
E1701038-006	SJWP-100317-039	Sediment	10/03/17 0925	**IV**	**IV**
E1701038-007	SJWP-100317-041	Sediment	10/03/17 1035	**IV**	**IV**

Superset Summary

Service Request: E1701038 **SuperSet Reference:** 17-0000439491 rev 00

Analytical Method: **1613B**

Calibrations: 05/16/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P609586	P609581	P511866	E1701038-004

Calibrations: 07/26/17

Data Files:

Raw Data	Begin CCAL	Method Blank	Lab ID
P511867	P511862	P511866	E1701038-001
P511868	P511862	P511866	E1701038-002
P511941	P511938	P511940	E1701038-003
P511871	P511862	P511866	E1701038-005
P511872	P511862	P511866	E1701038-006
P511873	P511862	P511866	E1701038-007
P511866	P511862	P511866	EQ1700450-01
P511874	P511862	P511866	EQ1700450-02
P511875	P511862	P511866	EQ1700450-03
P511940	P511938	P511940	EQ1700461-01
P511949	P511938	P511940	EQ1700461-02
P511950	P511938	P511940	EQ1700461-03

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.

ALS Laboratory Group

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
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

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 146010

Houston, TX
Spring City, PA
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

E1701038 5
Integral Consulting, Inc.
San Jacinto Waste Pits

ALS Project Manager:
ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	San Jacinto Waste Pits	A	Dioxin / Furans EPA method 1613B
Work Order		Project Number		B	
Company Name	Integral Consulting	Bill To Company	Integral Consulting	C	
Send Report To	Craig Hutchings	Invoice Attn	Craig Hutchings	D	
Address	1205 W. Bay Drive NW. Olympia, WA 98501	Address	1205 W. Bay Drive NW Olympia, WA 98501	E	
				F	
City/State/Zip		City/State/Zip		G	
Phone	360-485-3679	Phone	360-485-3679	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-100317-034	10/03/17	1735	Sed	8	1	X										
2	SJWP-100317-035		1705				X										
3	SJWP-100317-036		1605				X										
4	SJWP-100317-037		1125				X										
5	SJWP-10317-038		1010				X										
6	SJWP-100317-039		0925				X										
7	SJWP-100317-041		1035				X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Kevin Kichline

Shipment Method: Delivered

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

Results Due Date:

Relinquished by: Kevin Kichline	Date: 10/04/17	Time: 0855	Received by:
Relinquished by:	Date: 10/04/17	Time: 08:55	Received by (Laboratory): J. [illegible]
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp
Blue	0.6
	IR11
	CF0.3

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

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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Cooler Receipt Form

Project Chemist: CG

Client/Project: INTEGRAL

Thermometer ID: IR11

Date/Time Received: 10/4/17 0855 Initials: CG Date/Time Logged in: 10/4/17 Initials CG

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? —

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?
—		10/4/17	0900	JM	0.6/0.4	☐
						☐
						☐
						☐

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: E1701038 5
Integral Consulting, Inc.
San Jacinto Waste Pits

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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 299688 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 10/4/17 02:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1701033-001	WOODASHAGED0917	.01	1613B/Dioxins Furans			Ash	10.582g	Black Ash
2	E1701033-002	WOODASHNEW0917	.01	1613B/Dioxins Furans			Ash	10.684g	Black Ash
3	E1701033-003	SLUDGESECD0917	.01	1613B/Dioxins Furans			Sludge, Solid	10.388g	Black Clay
4	E1701033-004	SLUDGEPRIM0917	.01	1613B/Dioxins Furans			Sludge, Solid	10.685g	Brown Sludge
5	E1701038-001	SJWP-100317-034	.01	1613B/Dioxins Furans			Sediment	10.976g	Wet Brown Soil
6	E1701038-002	SJWP-100317-035	.01	1613B/Dioxins Furans			Sediment	10.252g	Brown Gravel
7	E1701038-003	SJWP-100317-036	.01	1613B/Dioxins Furans			Sediment	10.508g	Wet brown Soil
8	E1701038-004	SJWP-100317-037	.01	1613B/Dioxins Furans			Sediment	10.135g	Wet Brown Soil
9	E1701038-005	SJWP-100317-038	.01	1613B/Dioxins Furans			Sediment	10.572g	Brown Gravel
10	E1701038-006	SJWP-100317-039	.01	1613B/Dioxins Furans			Sediment	10.706g	Wet brown Soil
11	E1701038-007	SJWP-100317-041	.01	1613B/Dioxins Furans			Sediment	10.313g	Brown Gravel
12	EQ1700450-01	MB		1613B/Dioxins Furans			Solid	10.163g	
13	EQ1700450-02	LCS		1613B/Dioxins Furans			Solid	10.899g	
14	EQ1700450-03	DLCS		1613B/Dioxins Furans			Solid	10.243g	
15	J1706265-001	LBP HAVI Cookie Tote	.01	1613B/Dioxins Furans			Paper	10.839g	Brown Shredded Paper

Spiking Solutions

Name: 1613B Matrix Working Standard Inventory ID 184167 Logbook Ref: 184167 JG 921/17 2-20 ng/mL Expires On: 03/20/2018

EQ1700450-02	100.00µL	EQ1700450-03	100.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 184424 Logbook Ref: 184424 TW 10/02/17 8NG/ML Expires On: 10/29/2017

E1701033-001	100.00µL	E1701033-002	100.00µL	E1701033-003	100.00µL	E1701033-004	100.00µL	E1701038-001	100.00µL	E1701038-002	100.00µL
E1701038-003	100.00µL	E1701038-004	100.00µL	E1701038-005	100.00µL	E1701038-006	100.00µL	E1701038-007	100.00µL	EQ1700450-01	100.00µL
EQ1700450-02	100.00µL	EQ1700450-03	100.00µL	J1706265-001	100.00µL						

Name: 1613B Labeled Working Standard Inventory ID 184515 Logbook Ref: 184515 JR 2-4ng/ml 10/4/17 Expires On: 10/31/2017

E1701033-001	1,000.00µL	E1701033-002	1,000.00µL	E1701033-003	1,000.00µL	E1701033-004	1,000.00µL	E1701038-001	1,000.00µL	E1701038-002	1,000.00µL
E1701038-003	1,000.00µL	E1701038-004	1,000.00µL	E1701038-005	1,000.00µL	E1701038-006	1,000.00µL	E1701038-007	1,000.00µL	EQ1700450-01	1,000.00µL
EQ1700450-02	1,000.00µL	EQ1700450-03	1,000.00µL	J1706265-001	1,000.00µL						

Preparation Information Benchsheet

Prep Run#: 299688 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JGHOSH **Prep Method:** Method Soxhlet **Prep Date/Time:** 10/4/17 02:00 PM

Preparation Materials

Carbon, High Purity	JR7/18/2017 (182733)	Ethyl Acetate 99.9% Minimum EtOAc	AL 3/3/17 (179750)	Glass Wool	JG 9/25/17 (184230)
Hexanes 95%	JG 9/25/17 (184231)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	JG 9/28/17 (184340)	Sodium Hydroxide 1N NaOH	sodium hydroxide (180303)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 8/23/17 (183590)	Tridecane (n-Tridecane)	AL 6/23/17 (182162)	Silica Gel	JG 9/21/17 (184159)
sulfuric acid	JG 7/20/17 (182760)	Toluene 99.9% Minimum	AL 9/6/17 (183870)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	10/4/17 14:00	Started:	10/9/17 10:00	Started:	10/9/17 12:00	Started:	10/10/17 09:00
Finished:	10/5/17 12:00	Finished:	10/9/17 11:00	Finished:	10/9/17 15:00	Finished:	10/10/17 12:00
By:	JGHOSH	By:	TWOODS	By:	TWOODS	By:	TWOODS
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: tw Date: 10/11/17

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

E1701038 17 of 643

Preparation Information Benchsheet

Prep Run#: 300374 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JRAMIREZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 10/11/17 03:30 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E1701038-003RE	SJWP-100317-036	.01	1613B/Dioxins Furans	x	x	Sediment	10.333g	Wet brown Soil
2	E1701055-001	70834-M1. - Harina de Pescado	.02	1613B/Dioxins Furans	x	x	Solid	10.886g	brown soil
3	EQ1700461-01	MB		1613B/Dioxins Furans	x	x	Solid	10.165g	
4	EQ1700461-02	LCS		1613B/Dioxins Furans	x	x	Solid	10.243g	
5	EQ1700461-03	DLCS		1613B/Dioxins Furans	x	x	Solid	10.783g	
6	K1710882-001	Geotech	.02	1613B/Dioxins Furans	x	x	Soil	10.803g	brown soil

Spiking Solutions

Name: 1613B Matrix Working Standard Inventory ID 184167 Logbook Ref: 184167 JG 921/17 2-20 ng/mL Expires On: 03/20/2018

EQ1700461-02	100.00µL	EQ1700461-03	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 184201 Logbook Ref: 184201 JR 9/22/17 2-4ng/ml Expires On: 10/31/2017

E1701038-003	1,000.00µL	E1701055-001	1,000.00µL	EQ1700461-01	1,000.00µL	EQ1700461-02	1,000.00µL	EQ1700461-03	1,000.00µL	K1710882-001	1,000.00µL

Name: 8290/1613B Cleanup Working Standard Inventory ID 184749 Logbook Ref: 184749 tw 101217 8ng/ml Expires On: 10/29/2017

E1701038-003	100.00µL	E1701055-001	100.00µL	EQ1700461-01	100.00µL	EQ1700461-02	100.00µL	EQ1700461-03	100.00µL	K1710882-001	100.00µL

Preparation Materials

Carbon, High Purity	JR7/18/2017 (182733)	Ethyl Acetate 99.9% Minimum EtOAc	AL 3/3/17 (179750)	Glass Wool	JG 9/25/17 (184230)
Hexanes 95%	JG (184383)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	JG 9/28/17 (184340)	Sodium Hydroxide 1N NaOH	sodium hydroxide (180303)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	AL 8/23/17 (183590)	Tridecane (n-Tridecane)	AL 9/27/17 (184311)	Silica Gel	AL 10/9/17 (184623)
sulfuric acid	AL 10/11/17 (184727)	Toluene 99.9% Minimum	JG 10/3/17 (184524)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	10/11/17 15:30	Started:	10/12/17 10:00	Started:	10/12/17 11:00	Started:	10/12/17 16:00
Finished:	10/12/17 10:30	Finished:	10/12/17 11:00	Finished:	10/12/17 14:00	Finished:	10/12/17 19:00
By:	JRAMIREZ	By:	JRAMIREZ	By:	JRAMIREZ	By:	JRAMIREZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: JG Date: 10/16/17

Preparation Information Benchsheet

Prep Run#: 300374 **Prep WorkFlow:** OrgExtS(365) **Status:** Prepped
Team: Semivoa GCMS/JRAMIREZ **Prep Method:** Method Soxhlet **Prep Date/Time:** 10/11/17 03:30 PM

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

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

SR# Unique ID E1701038 DB-5MSUI SPB-Octyl

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

Date: 10/11/17	Analyst: JC	Samples: 001, 002, 005-007

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

Date: 10/11/17	Analyst: KW	Samples: 001, 002, 005-007

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

SR# Unique ID E1701038 DB-5MSUI SPB-Octyl

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

Date: 10/13/17	Analyst: JC	Samples: 004

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

Date: 10/13/17	Analyst: KW	Samples: 004

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

SR# Unique ID E1701038 DB-5MSUI SPB-Octyl

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

Date:	Analyst:	Samples:
10/13/17	Gc	003RE

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

Date:	Analyst:	Samples:
10/13/17	VN	003RE

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-034	**Units:**	ng/Kg
Lab Code:	E1701038-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 21:13
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.976g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511867	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	3.49		0.333	0.734	0.83	1.000	1
1,2,3,7,8-PeCDD	ND	U	0.210	3.67			1
1,2,3,4,7,8-HxCDD	0.362**J**		0.177	3.67	1.35	1.000	1
1,2,3,6,7,8-HxCDD	0.663**JK**		0.196	3.67	0.79	1.000	1
1,2,3,7,8,9-HxCDD	0.817**J**		0.178	3.67	1.18	1.006	1
1,2,3,4,6,7,8-HpCDD	32.9		0.627	3.67	1.06	1.000	1
OCDD	1370		1.81	7.34	0.88	1.000	1
2,3,7,8-TCDF	13.0		0.397	0.734	0.75	1.001	1
1,2,3,7,8-PeCDF	0.460**JK**		0.295	3.67	1.06	1.001	1
2,3,4,7,8-PeCDF	ND	U	0.296	3.67			1
1,2,3,4,7,8-HxCDF	0.811**J**		0.214	3.67	1.18	1.000	1
1,2,3,6,7,8-HxCDF	0.463**J**		0.190	3.67	1.25	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.219	3.67			1
2,3,4,6,7,8-HxCDF	0.245**JK**		0.192	3.67	1.72	1.000	1
1,2,3,4,6,7,8-HpCDF	3.90		0.128	3.67	0.98	1.000	1
1,2,3,4,7,8,9-HpCDF	0.341**J**		0.154	3.67	1.15	1.000	1
OCDF	40.1		0.646	7.34	0.87	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-034	**Units:**	ng/Kg
Lab Code:	E1701038-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 21:13
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.976g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511867	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	3.78		0.333	0.734	0.83		1
Total Penta-Dioxins	1.45**J**		0.210	3.67	1.53		1
Total Hexa-Dioxins	20.2		0.187	3.67	1.18		1
Total Hepta-Dioxins	114		0.627	3.67	1.09		1
Total Tetra-Furans	21.1		0.397	0.734	0.86		1
Total Penta-Furans	ND	U	0.296	3.67			1
Total Hexa-Furans	3.59**J**		0.203	3.67	1.16		1
Total Hepta-Furans	9.09		0.137	3.67	0.98		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-034	**Units:**	Percent
Lab Code:	E1701038-001	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 21:13
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.976g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511867	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1244.258	62		25-164	0.80	1.023
13C-1,2,3,7,8-PeCDD	2000	1350.404	68		25-181	1.59	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1453.667	73		32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1363.970	68		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1305.581	65		23-140	1.06	1.067
13C-OCDD	4000	2243.075	56		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	1129.581	56		24-169	0.80	0.991
13C-1,2,3,7,8-PeCDF	2000	1434.965	72		24-185	1.58	1.155
13C-2,3,4,7,8-PeCDF	2000	1402.357	70		21-178	1.60	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1411.697	71		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1509.966	75		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1623.034	81		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1529.751	76		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1393.741	70		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1553.102	78		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	428.816	54		35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-034	**Units:**	ng/Kg
Lab Code:	E1701038-001	**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	**3.49**	0.333	0.734	1	1	3.49
1,2,3,7,8-PeCDD	ND	0.210	3.67	1	1	
1,2,3,4,7,8-HxCDD	**0.362**	0.177	3.67	1	0.1	0.0362
1,2,3,6,7,8-HxCDD	**0.663**	0.196	3.67	1	0.1	0.0663
1,2,3,7,8,9-HxCDD	**0.817**	0.178	3.67	1	0.1	0.0817
1,2,3,4,6,7,8-HpCDD	**32.9**	0.627	3.67	1	0.01	0.329
OCDD	**1370**	1.81	7.34	1	0.0003	0.411
2,3,7,8-TCDF	**13.0**	0.397	0.734	1	0.1	1.30
1,2,3,7,8-PeCDF	**0.460**	0.295	3.67	1	0.03	0.0138
2,3,4,7,8-PeCDF	ND	0.296	3.67	1	0.3	
1,2,3,4,7,8-HxCDF	**0.811**	0.214	3.67	1	0.1	0.0811
1,2,3,6,7,8-HxCDF	**0.463**	0.190	3.67	1	0.1	0.0463
1,2,3,7,8,9-HxCDF	ND	0.219	3.67	1	0.1	
2,3,4,6,7,8-HxCDF	**0.245**	0.192	3.67	1	0.1	0.0245
1,2,3,4,6,7,8-HpCDF	**3.90**	0.128	3.67	1	0.01	0.0390
1,2,3,4,7,8,9-HpCDF	**0.341**	0.154	3.67	1	0.01	0.00341
OCDF	**40.1**	0.646	7.34	1	0.0003	0.0120
		Total TEQ				5.93

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-034	**Units:**	Percent
Lab Code:	E1701038-001	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	5.922g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	62.1		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-035	**Units:**	ng/Kg
Lab Code:	E1701038-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 22:02
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.252g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511868	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.243	0.605			1
1,2,3,7,8-PeCDD	ND	U	0.169	3.03			1
1,2,3,4,7,8-HxCDD	ND	U	0.118	3.03			1
1,2,3,6,7,8-HxCDD	ND	U	0.133	3.03			1
1,2,3,7,8,9-HxCDD	ND	U	0.120	3.03			1
1,2,3,4,6,7,8-HpCDD	1.03**BJK**		0.124	3.03	1.23	1.000	1
OCDD	48.5		0.368	6.05	0.85	1.000	1
2,3,7,8-TCDF	ND	U	0.359	0.605			1
1,2,3,7,8-PeCDF	ND	U	0.155	3.03			1
2,3,4,7,8-PeCDF	ND	U	0.152	3.03			1
1,2,3,4,7,8-HxCDF	ND	U	0.105	3.03			1
1,2,3,6,7,8-HxCDF	ND	U	0.103	3.03			1
1,2,3,7,8,9-HxCDF	ND	U	0.120	3.03			1
2,3,4,6,7,8-HxCDF	ND	U	0.103	3.03			1
1,2,3,4,6,7,8-HpCDF	0.238**BJK**		0.102	3.03	1.43	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.126	3.03			1
OCDF	0.974**BJ**		0.279	6.05	0.88	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-035	**Units:**	ng/Kg
Lab Code:	E1701038-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 22:02
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.252g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511868	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.243	0.605			1
Total Penta-Dioxins	ND	U	0.169	3.03			1
Total Hexa-Dioxins	0.634**J**		0.126	3.03	1.41		1
Total Hepta-Dioxins	2.52**J**		0.124	3.03	1.11		1
Total Tetra-Furans	ND	U	0.359	0.605			1
Total Penta-Furans	ND	U	0.153	3.03			1
Total Hexa-Furans	ND	U	0.107	3.03			1
Total Hepta-Furans	ND	U	0.111	3.03			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-035	**Units:**	Percent
Lab Code:	E1701038-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 22:02
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.252g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511868	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1250.469	63		25-164	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	1389.725	69		25-181	1.58	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1566.186	78		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1448.138	72		28-130	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1442.592	72		23-140	1.03	1.067
13C-OCDD	4000	2537.380	63		17-157	0.93	1.139
13C-2,3,7,8-TCDF	2000	1074.776	54		24-169	0.77	0.991
13C-1,2,3,7,8-PeCDF	2000	1420.009	71		24-185	1.59	1.155
13C-2,3,4,7,8-PeCDF	2000	1429.329	71		21-178	1.59	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1549.136	77		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1561.632	78		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1672.267	84		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1632.928	82		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1578.543	79		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1708.906	85		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	416.054	52		35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-035	**Units:**	ng/Kg
Lab Code:	E1701038-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 1613B

Prep Method: Method Soxhlet

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.243	0.605	1	1	
1,2,3,7,8-PeCDD	ND	0.169	3.03	1	1	
1,2,3,4,7,8-HxCDD	ND	0.118	3.03	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.133	3.03	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.120	3.03	1	0.1	
1,2,3,4,6,7,8-HpCDD	**1.03**	0.124	3.03	1	0.01	0.0103
OCDD	**48.5**	0.368	6.05	1	0.0003	0.0146
2,3,7,8-TCDF	ND	0.359	0.605	1	0.1	
1,2,3,7,8-PeCDF	ND	0.155	3.03	1	0.03	
2,3,4,7,8-PeCDF	ND	0.152	3.03	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.105	3.03	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.103	3.03	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.120	3.03	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.103	3.03	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.238**	0.102	3.03	1	0.01	0.00238
1,2,3,4,7,8,9-HpCDF	ND	0.126	3.03	1	0.01	
OCDF	**0.974**	0.279	6.05	1	0.0003	0.000292
		Total TEQ				0.0276

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 17:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-035	**Units:**	Percent
Lab Code:	E1701038-002	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	5.235g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	80.6		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 16:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-036	**Units:**	ng/Kg
Lab Code:	E1701038-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 16:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511941	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	15.8		0.867	1.39	0.75	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.602	6.93			1
1,2,3,4,7,8-HxCDD	1.19**JK**		0.276	6.93	0.93	1.000	1
1,2,3,6,7,8-HxCDD	2.57**JK**		0.295	6.93	0.95	1.000	1
1,2,3,7,8,9-HxCDD	3.77**J**		0.272	6.93	1.40	1.007	1
1,2,3,4,6,7,8-HpCDD	132		0.790	6.93	1.12	1.000	1
OCDD	5250		8.51	13.9	0.90	1.000	1
2,3,7,8-TCDF	51.0		1.04	1.39	0.76	1.001	1
1,2,3,7,8-PeCDF	1.78**JK**		0.820	6.93	1.30	1.001	1
2,3,4,7,8-PeCDF	1.88**J**		0.824	6.93	1.50	1.000	1
1,2,3,4,7,8-HxCDF	2.79**J**		0.243	6.93	1.06	1.000	1
1,2,3,6,7,8-HxCDF	1.28**JK**		0.249	6.93	0.81	1.000	1
1,2,3,7,8,9-HxCDF	0.468**JK**		0.274	6.93	1.83	1.001	1
2,3,4,6,7,8-HxCDF	1.00**J**		0.255	6.93	1.20	1.000	1
1,2,3,4,6,7,8-HpCDF	10.4**K**		0.323	6.93	0.85	1.000	1
1,2,3,4,7,8,9-HpCDF	1.08**JK**		0.356	6.93	1.40	1.000	1
OCDF	111		1.13	13.9	0.85	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 16:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-036	**Units:**	ng/Kg
Lab Code:	E1701038-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 16:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511941	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	15.8		0.867	1.39	0.75		1
Total Penta-Dioxins	6.75**J**		0.602	6.93	1.61		1
Total Hexa-Dioxins	74.2		0.286	6.93	1.20		1
Total Hepta-Dioxins	475		0.790	6.93	1.02		1
Total Tetra-Furans	78.5		1.04	1.39	0.69		1
Total Penta-Furans	3.92**J**		0.822	6.93	1.47		1
Total Hexa-Furans	11.9		0.255	6.93	1.08		1
Total Hepta-Furans	14.9		0.331	6.93	1.08		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 16:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-036	**Units:**	Percent
Lab Code:	E1701038-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 16:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.333g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511941	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

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	839.967	42		25-164	0.78	1.023
13C-1,2,3,7,8-PeCDD	2000	899.585	45		25-181	1.60	1.201
13C-1,2,3,4,7,8-HxCDD	2000	916.188	46		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	896.223	45		28-130	1.31	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	893.466	45		23-140	1.04	1.067
13C-OCDD	4000	1705.498	43		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	811.791	41		24-169	0.77	0.991
13C-1,2,3,7,8-PeCDF	2000	955.527	48		24-185	1.58	1.156
13C-2,3,4,7,8-PeCDF	2000	954.415	48		21-178	1.61	1.190
13C-1,2,3,4,7,8-HxCDF	2000	995.013	50		26-152	0.53	0.970
13C-1,2,3,6,7,8-HxCDF	2000	969.121	48		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1078.200	54		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	976.032	49		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	952.818	48		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1141.076	57		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	378.261	47		35-197	NA	1.024

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 16:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-036	**Units:**	ng/Kg
Lab Code:	E1701038-003	**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	**15.8**	0.867	1.39	1	1	15.8
1,2,3,7,8-PeCDD	ND	0.602	6.93	1	1	
1,2,3,4,7,8-HxCDD	**1.19**	0.276	6.93	1	0.1	0.119
1,2,3,6,7,8-HxCDD	**2.57**	0.295	6.93	1	0.1	0.257
1,2,3,7,8,9-HxCDD	**3.77**	0.272	6.93	1	0.1	0.377
1,2,3,4,6,7,8-HpCDD	**132**	0.790	6.93	1	0.01	1.32
OCDD	**5250**	8.51	13.9	1	0.0003	1.58
2,3,7,8-TCDF	**51.0**	1.04	1.39	1	0.1	5.10
1,2,3,7,8-PeCDF	**1.78**	0.820	6.93	1	0.03	0.0534
2,3,4,7,8-PeCDF	**1.88**	0.824	6.93	1	0.3	0.564
1,2,3,4,7,8-HxCDF	**2.79**	0.243	6.93	1	0.1	0.279
1,2,3,6,7,8-HxCDF	**1.28**	0.249	6.93	1	0.1	0.128
1,2,3,7,8,9-HxCDF	**0.468**	0.274	6.93	1	0.1	0.0468
2,3,4,6,7,8-HxCDF	**1.00**	0.255	6.93	1	0.1	0.100
1,2,3,4,6,7,8-HpCDF	**10.4**	0.323	6.93	1	0.01	0.104
1,2,3,4,7,8,9-HpCDF	**1.08**	0.356	6.93	1	0.01	0.0108
OCDF	**111**	1.13	13.9	1	0.0003	0.0333
		Total TEQ				25.9

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 16:05
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-036	**Units:**	Percent
Lab Code:	E1701038-003	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	5.801g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	34.9		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 11:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-037	**Units:**	ng/Kg
Lab Code:	E1701038-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 13:15
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.135g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609586	**Blank File Name:**	P511866
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609581

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	8.28**K**		0.688	0.956	1.08	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.398	4.78			1
1,2,3,4,7,8-HxCDD	ND	U	0.417	4.78			1
1,2,3,6,7,8-HxCDD	ND	U	0.444	4.78			1
1,2,3,7,8,9-HxCDD	ND	U	0.396	4.78			1
1,2,3,4,6,7,8-HpCDD	56.4		0.420	4.78	1.18	1.001	1
OCDD	2310		0.956	9.56	0.93	1.000	1
2,3,7,8-TCDF	17.5		1.56	1.56	0.70	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.887	4.78			1
2,3,4,7,8-PeCDF	ND	U	0.858	4.78			1
1,2,3,4,7,8-HxCDF	ND	U	0.286	4.78			1
1,2,3,6,7,8-HxCDF	ND	U	0.286	4.78			1
1,2,3,7,8,9-HxCDF	ND	U	0.311	4.78			1
2,3,4,6,7,8-HxCDF	ND	U	0.284	4.78			1
1,2,3,4,6,7,8-HpCDF	5.42		0.293	4.78	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.344	4.78			1
OCDF	54.2		0.745	9.56	0.85	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 11:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-037	**Units:**	ng/Kg
Lab Code:	E1701038-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 13:15
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.135g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609586	**Blank File Name:**	P511866
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609581

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.688	0.956			1
Total Penta-Dioxins	1.89**J**		0.398	4.78	1.50		1
Total Hexa-Dioxins	6.33		0.419	4.78	1.19		1
Total Hepta-Dioxins	184		0.420	4.78	0.95		1
Total Tetra-Furans	26.7		1.56	1.56	0.77		1
Total Penta-Furans	ND	U	0.872	4.78			1
Total Hexa-Furans	ND	U	0.291	4.78			1
Total Hepta-Furans	5.42		0.318	4.78	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 11:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-037	**Units:**	Percent
Lab Code:	E1701038-004	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 13:15
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.135g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P609586	**Blank File Name:**	P511866
ICAL Date:	05/16/17	**Cal Ver. File Name:**	P609581

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	1311.611	66		25-164	0.82	1.021
13C-1,2,3,7,8-PeCDD	2000	1610.898	81		25-181	1.54	1.185
13C-1,2,3,4,7,8-HxCDD	2000	1482.448	74		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1528.420	76		28-130	1.38	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1438.622	72		23-140	1.09	1.068
13C-OCDD	4000	2424.960	61		17-157	0.81	1.146
13C-2,3,7,8-TCDF	2000	1266.099	63		24-169	0.75	0.994
13C-1,2,3,7,8-PeCDF	2000	1622.384	81		24-185	1.70	1.143
13C-2,3,4,7,8-PeCDF	2000	1733.683	87		21-178	1.57	1.176
13C-1,2,3,4,7,8-HxCDF	2000	1600.080	80		26-152	0.55	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1530.568	77		26-123	0.54	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1666.525	83		29-147	0.53	1.009
13C-2,3,4,6,7,8-HxCDF	2000	1635.785	82		28-136	0.58	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1489.167	74		28-143	0.47	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1664.182	83		26-138	0.43	1.081
37Cl-2,3,7,8-TCDD	800	491.203	61		35-197	NA	1.022

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 11:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-037	**Units:**	ng/Kg
Lab Code:	E1701038-004	**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	**8.28**	0.688	0.956	1	1	8.28
1,2,3,7,8-PeCDD	ND	0.398	4.78	1	1	
1,2,3,4,7,8-HxCDD	ND	0.417	4.78	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.444	4.78	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.396	4.78	1	0.1	
1,2,3,4,6,7,8-HpCDD	**56.4**	0.420	4.78	1	0.01	0.564
OCDD	**2310**	0.956	9.56	1	0.0003	0.693
2,3,7,8-TCDF	**17.5**	1.56	1.56	1	0.1	1.75
1,2,3,7,8-PeCDF	ND	0.887	4.78	1	0.03	
2,3,4,7,8-PeCDF	ND	0.858	4.78	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.286	4.78	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.286	4.78	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.311	4.78	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.284	4.78	1	0.1	
1,2,3,4,6,7,8-HpCDF	**5.42**	0.293	4.78	1	0.01	0.0542
1,2,3,4,7,8,9-HpCDF	ND	0.344	4.78	1	0.01	
OCDF	**54.2**	0.745	9.56	1	0.0003	0.0163
		Total TEQ				11.4

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 11:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-037	**Units:**	Percent
Lab Code:	E1701038-004	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	5.351g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	51.6		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:10
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-038	**Units:**	ng/Kg
Lab Code:	E1701038-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 00:28
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.572g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511871	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.867		0.425	0.593	0.82	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.240	2.96			1
1,2,3,4,7,8-HxCDD	ND	U	0.225	2.96			1
1,2,3,6,7,8-HxCDD	ND	U	0.248	2.96			1
1,2,3,7,8,9-HxCDD	ND	U	0.225	2.96			1
1,2,3,4,6,7,8-HpCDD	1.36**BJ**		0.171	2.96	0.94	1.000	1
OCDD	25.7		0.269	5.93	0.92	1.000	1
2,3,7,8-TCDF	ND	U	0.482	0.593			1
1,2,3,7,8-PeCDF	ND	U	0.254	2.96			1
2,3,4,7,8-PeCDF	ND	U	0.234	2.96			1
1,2,3,4,7,8-HxCDF	ND	U	0.149	2.96			1
1,2,3,6,7,8-HxCDF	ND	U	0.147	2.96			1
1,2,3,7,8,9-HxCDF	ND	U	0.171	2.96			1
2,3,4,6,7,8-HxCDF	ND	U	0.144	2.96			1
1,2,3,4,6,7,8-HpCDF	0.347**BJK**		0.0961	2.96	0.69	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.118	2.96			1
OCDF	1.17**BJ**		0.312	5.93	0.83	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:10
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-038	**Units:**	ng/Kg
Lab Code:	E1701038-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 00:28
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.572g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511871	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.867		0.425	0.593	0.82		1
Total Penta-Dioxins	ND	U	0.240	2.96			1
Total Hexa-Dioxins	0.525**J**		0.237	2.96	1.23		1
Total Hepta-Dioxins	3.90		0.171	2.96	1.16		1
Total Tetra-Furans	ND	U	0.482	0.593			1
Total Penta-Furans	ND	U	0.244	2.96			1
Total Hexa-Furans	ND	U	0.152	2.96			1
Total Hepta-Furans	ND	U	0.104	2.96			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:10
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-038	**Units:**	Percent
Lab Code:	E1701038-005	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 00:28
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.572g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511871	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	757.509	38		25-164	0.80	1.023
13C-1,2,3,7,8-PeCDD	2000	926.463	46		25-181	1.61	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1064.982	53		32-141	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1047.493	52		28-130	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1053.693	53		23-140	1.05	1.067
13C-OCDD	4000	1917.665	48		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	699.663	35		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	912.093	46		24-185	1.59	1.155
13C-2,3,4,7,8-PeCDF	2000	984.651	49		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1081.423	54		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1100.723	55		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1155.585	58		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1136.646	57		28-136	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1100.820	55		28-143	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1218.859	61		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	272.686	34	**Y**	35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:10
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-038	**Units:**	ng/Kg
Lab Code:	E1701038-005	**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	**0.867**	0.425	0.593	1	1	0.867
1,2,3,7,8-PeCDD	ND	0.240	2.96	1	1	
1,2,3,4,7,8-HxCDD	ND	0.225	2.96	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.248	2.96	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.225	2.96	1	0.1	
1,2,3,4,6,7,8-HpCDD	**1.36**	0.171	2.96	1	0.01	0.0136
OCDD	**25.7**	0.269	5.93	1	0.0003	0.00771
2,3,7,8-TCDF	ND	0.482	0.593	1	0.1	
1,2,3,7,8-PeCDF	ND	0.254	2.96	1	0.03	
2,3,4,7,8-PeCDF	ND	0.234	2.96	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.149	2.96	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.147	2.96	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.171	2.96	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.144	2.96	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.347**	0.0961	2.96	1	0.01	0.00347
1,2,3,4,7,8,9-HpCDF	ND	0.118	2.96	1	0.01	
OCDF	**1.17**	0.312	5.93	1	0.0003	0.000351
		Total TEQ				0.892

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:10
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-038	**Units:**	Percent
Lab Code:	E1701038-005	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	7.213g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	79.8		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 09:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-039	**Units:**	ng/Kg
Lab Code:	E1701038-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 01:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.706g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511872	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	22.8		0.675	1.44	0.88	1.000	1
1,2,3,7,8-PeCDD	ND	U	0.301	7.21			1
1,2,3,4,7,8-HxCDD	1.56**J**		0.432	7.21	1.20	1.000	1
1,2,3,6,7,8-HxCDD	3.64**J**		0.475	7.21	1.15	1.000	1
1,2,3,7,8,9-HxCDD	3.78**J**		0.432	7.21	1.26	1.006	1
1,2,3,4,6,7,8-HpCDD	150		1.32	7.21	1.02	1.000	1
OCDD	6240		15.9	15.9	0.89	1.000	1
2,3,7,8-TCDF	101		0.850	1.44	0.72	1.001	1
1,2,3,7,8-PeCDF	2.50**J**		0.753	7.21	1.36	1.000	1
2,3,4,7,8-PeCDF	2.46**J**		0.772	7.21	1.57	1.000	1
1,2,3,4,7,8-HxCDF	4.10**J**		0.389	7.21	1.20	1.000	1
1,2,3,6,7,8-HxCDF	1.74**JK**		0.345	7.21	0.97	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.449	7.21			1
2,3,4,6,7,8-HxCDF	0.997**JK**		0.377	7.21	0.92	1.001	1
1,2,3,4,6,7,8-HpCDF	14.5		0.547	7.21	0.96	1.000	1
1,2,3,4,7,8,9-HpCDF	1.17**JK**		0.701	7.21	0.68	1.000	1
OCDF	174		1.84	14.4	0.85	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 09:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-039	**Units:**	ng/Kg
Lab Code:	E1701038-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 01:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.706g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511872	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	30.4		0.675	1.44	0.70		1
Total Penta-Dioxins	8.47		0.301	7.21	1.46		1
Total Hexa-Dioxins	99.5		0.454	7.21	1.27		1
Total Hepta-Dioxins	531		1.32	7.21	1.03		1
Total Tetra-Furans	181		0.850	1.44	0.81		1
Total Penta-Furans	7.47		0.181	7.21	1.36		1
Total Hexa-Furans	14.4		0.386	7.21	1.09		1
Total Hepta-Furans	33.4		0.605	7.21	0.96		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 09:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-039	**Units:**	Percent
Lab Code:	E1701038-006	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 01:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.706g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511872	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1274.527	64		25-164	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	1240.996	62		25-181	1.61	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1303.266	65		32-141	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1285.815	64		28-130	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1063.499	53		23-140	1.03	1.067
13C-OCDD	4000	1566.989	39		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	1201.777	60		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	1341.047	67		24-185	1.57	1.155
13C-2,3,4,7,8-PeCDF	2000	1323.347	66		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1312.333	66		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1423.503	71		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1340.986	67		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1351.985	68		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1181.109	59		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1301.984	65		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	413.010	52		35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 09:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-039	**Units:**	ng/Kg
Lab Code:	E1701038-006	**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	**22.8**	0.675	1.44	1	1	22.8
1,2,3,7,8-PeCDD	ND	0.301	7.21	1	1	
1,2,3,4,7,8-HxCDD	**1.56**	0.432	7.21	1	0.1	0.156
1,2,3,6,7,8-HxCDD	**3.64**	0.475	7.21	1	0.1	0.364
1,2,3,7,8,9-HxCDD	**3.78**	0.432	7.21	1	0.1	0.378
1,2,3,4,6,7,8-HpCDD	**150**	1.32	7.21	1	0.01	1.50
OCDD	**6240**	15.9	15.9	1	0.0003	1.87
2,3,7,8-TCDF	**101**	0.850	1.44	1	0.1	10.1
1,2,3,7,8-PeCDF	**2.50**	0.753	7.21	1	0.03	0.0750
2,3,4,7,8-PeCDF	**2.46**	0.772	7.21	1	0.3	0.738
1,2,3,4,7,8-HxCDF	**4.10**	0.389	7.21	1	0.1	0.410
1,2,3,6,7,8-HxCDF	**1.74**	0.345	7.21	1	0.1	0.174
1,2,3,7,8,9-HxCDF	ND	0.449	7.21	1	0.1	
2,3,4,6,7,8-HxCDF	**0.997**	0.377	7.21	1	0.1	0.0997
1,2,3,4,6,7,8-HpCDF	**14.5**	0.547	7.21	1	0.01	0.145
1,2,3,4,7,8,9-HpCDF	**1.17**	0.701	7.21	1	0.01	0.0117
OCDF	**174**	1.84	14.4	1	0.0003	0.0522
		Total TEQ				38.9

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 09:25
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-039	**Units:**	Percent
Lab Code:	E1701038-006	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	6.968g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	32.4		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-041	**Units:**	ng/Kg
Lab Code:	E1701038-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.313g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511873	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.296	0.627			1
1,2,3,7,8-PeCDD	ND	U	0.157	3.14			1
1,2,3,4,7,8-HxCDD	ND	U	0.154	3.14			1
1,2,3,6,7,8-HxCDD	ND	U	0.166	3.14			1
1,2,3,7,8,9-HxCDD	ND	U	0.152	3.14			1
1,2,3,4,6,7,8-HpCDD	0.878**BJ**		0.279	3.14	0.98	1.000	1
OCDD	29.2		0.338	6.27	0.93	1.000	1
2,3,7,8-TCDF	ND	U	0.508	0.627			1
1,2,3,7,8-PeCDF	ND	U	0.171	3.14			1
2,3,4,7,8-PeCDF	ND	U	0.174	3.14			1
1,2,3,4,7,8-HxCDF	ND	U	0.122	3.14			1
1,2,3,6,7,8-HxCDF	ND	U	0.117	3.14			1
1,2,3,7,8,9-HxCDF	ND	U	0.144	3.14			1
2,3,4,6,7,8-HxCDF	ND	U	0.122	3.14			1
1,2,3,4,6,7,8-HpCDF	0.228**BJ**		0.163	3.14	1.07	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.200	3.14			1
OCDF	1.04**BJ**		0.408	6.27	0.76	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-041	**Units:**	ng/Kg
Lab Code:	E1701038-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.313g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511873	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.296	0.627			1
Total Penta-Dioxins	ND	U	0.157	3.14			1
Total Hexa-Dioxins	ND	U	0.160	3.14			1
Total Hepta-Dioxins	3.20		0.279	3.14	0.89		1
Total Tetra-Furans	ND	U	0.508	0.627			1
Total Penta-Furans	ND	U	0.173	3.14			1
Total Hexa-Furans	ND	U	0.126	3.14			1
Total Hepta-Furans	0.228**J**		0.176	3.14	1.07		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-041	**Units:**	Percent
Lab Code:	E1701038-007	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:05
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.313g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511873	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1190.001	60		25-164	0.80	1.023
13C-1,2,3,7,8-PeCDD	2000	1260.182	63		25-181	1.60	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1373.147	69		32-141	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1361.183	68		28-130	1.30	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1267.955	63		23-140	1.06	1.067
13C-OCDD	4000	2079.468	52		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	1047.043	52		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	1319.599	66		24-185	1.56	1.155
13C-2,3,4,7,8-PeCDF	2000	1307.488	65		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1385.811	69		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1424.578	71		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1473.044	74		29-147	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1458.372	73		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1351.710	68		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1478.593	74		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	409.970	51		35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-041	**Units:**	ng/Kg
Lab Code:	E1701038-007	**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	ND	0.296	0.627	1	1	
1,2,3,7,8-PeCDD	ND	0.157	3.14	1	1	
1,2,3,4,7,8-HxCDD	ND	0.154	3.14	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.166	3.14	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.152	3.14	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.878**	0.279	3.14	1	0.01	0.00878
OCDD	**29.2**	0.338	6.27	1	0.0003	0.00876
2,3,7,8-TCDF	ND	0.508	0.627	1	0.1	
1,2,3,7,8-PeCDF	ND	0.171	3.14	1	0.03	
2,3,4,7,8-PeCDF	ND	0.174	3.14	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.122	3.14	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.117	3.14	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.144	3.14	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.122	3.14	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.228**	0.163	3.14	1	0.01	0.00228
1,2,3,4,7,8,9-HpCDF	ND	0.200	3.14	1	0.01	
OCDF	**1.04**	0.408	6.27	1	0.0003	0.000312
		Total TEQ				0.0201

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	10/03/17 10:35
Sample Matrix:	Sediment	**Date Received:**	10/04/17 08:55
Sample Name:	SJWP-100317-041	**Units:**	Percent
Lab Code:	E1701038-007	**Basis:**	As Received

Total Solids

Analysis Method:	ALS SOP	**Date Analyzed:**	10/05/17 19:27
	9.191g		NA
			E-Balance-01

Native Analyte Results

Analyte Name	Result	Q	MRL	Dilution Factor
Total Solids	77.3		-	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700450-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 20:25
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.163g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511866	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.234	0.492			1
1,2,3,7,8-PeCDD	ND	U	0.0981	2.46			1
1,2,3,4,7,8-HxCDD	ND	U	0.0743	2.46			1
1,2,3,6,7,8-HxCDD	ND	U	0.0833	2.46			1
1,2,3,7,8,9-HxCDD	ND	U	0.0750	2.46			1
1,2,3,4,6,7,8-HpCDD	0.141**J**		0.0698	2.46	1.16	1.000	1
OCDD	1.04**JK**		0.117	4.92	0.64	1.000	1
2,3,7,8-TCDF	ND	U	0.189	0.492			1
1,2,3,7,8-PeCDF	ND	U	0.153	2.46			1
2,3,4,7,8-PeCDF	ND	U	0.154	2.46			1
1,2,3,4,7,8-HxCDF	ND	U	0.0771	2.46			1
1,2,3,6,7,8-HxCDF	ND	U	0.0773	2.46			1
1,2,3,7,8,9-HxCDF	ND	U	0.0891	2.46			1
2,3,4,6,7,8-HxCDF	ND	U	0.0777	2.46			1
1,2,3,4,6,7,8-HpCDF	0.209**JK**		0.0696	2.46	0.71	1.001	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0828	2.46			1
OCDF	0.447**JK**		0.215	4.92	0.69	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700450-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 20:25
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.163g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511866	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.234	0.492			1
Total Penta-Dioxins	ND	U	0.0981	2.46			1
Total Hexa-Dioxins	ND	U	0.0789	2.46			1
Total Hepta-Dioxins	0.141**J**		0.0698	2.46	1.16		1
Total Tetra-Furans	ND	U	0.189	0.492			1
Total Penta-Furans	ND	U	0.154	2.46			1
Total Hexa-Furans	ND	U	0.0800	2.46			1
Total Hepta-Furans	ND	U	0.0740	2.46			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1700450-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/10/17 20:25
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.163g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511866	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1292.725	65		25-164	0.78	1.023
13C-1,2,3,7,8-PeCDD	2000	1279.052	64		25-181	1.60	1.201
13C-1,2,3,4,7,8-HxCDD	2000	1449.700	72		32-141	1.37	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1353.024	68		28-130	1.23	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1299.975	65		23-140	1.06	1.067
13C-OCDD	4000	2232.678	56		17-157	0.91	1.139
13C-2,3,7,8-TCDF	2000	1167.772	58		24-169	0.78	0.991
13C-1,2,3,7,8-PeCDF	2000	1351.629	68		24-185	1.59	1.155
13C-2,3,4,7,8-PeCDF	2000	1336.553	67		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1460.998	73		26-152	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1475.381	74		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1574.564	79		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1514.540	76		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1393.906	70		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1561.523	78		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	425.072	53		35-197	NA	1.024

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700461-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 15:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.165g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511940	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.356	0.492			1
1,2,3,7,8-PeCDD	ND	U	0.129	2.46			1
1,2,3,4,7,8-HxCDD	ND	U	0.103	2.46			1
1,2,3,6,7,8-HxCDD	ND	U	0.110	2.46			1
1,2,3,7,8,9-HxCDD	ND	U	0.101	2.46			1
1,2,3,4,6,7,8-HpCDD	0.301**JK**		0.0988	2.46	1.22	1.000	1
OCDD	1.08**JK**		0.148	4.92	0.66	1.000	1
2,3,7,8-TCDF	ND	U	0.348	0.492			1
1,2,3,7,8-PeCDF	ND	U	0.180	2.46			1
2,3,4,7,8-PeCDF	ND	U	0.165	2.46			1
1,2,3,4,7,8-HxCDF	ND	U	0.0679	2.46			1
1,2,3,6,7,8-HxCDF	ND	U	0.0667	2.46			1
1,2,3,7,8,9-HxCDF	ND	U	0.0764	2.46			1
2,3,4,6,7,8-HxCDF	ND	U	0.0668	2.46			1
1,2,3,4,6,7,8-HpCDF	0.121**JK**		0.0444	2.46	0.65	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0892**JK**		0.0532	2.46	1.67	1.000	1
OCDF	0.239**JK**		0.194	4.92	0.66	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1700461-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 15:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.165g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511940	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.356	0.492			1
Total Penta-Dioxins	ND	U	0.129	2.46			1
Total Hexa-Dioxins	ND	U	0.106	2.46			1
Total Hepta-Dioxins	0.240**J**		0.0988	2.46	1.01		1
Total Tetra-Furans	ND	U	0.348	0.492			1
Total Penta-Furans	ND	U	0.173	2.46			1
Total Hexa-Furans	ND	U	0.0693	2.46			1
Total Hepta-Furans	ND	U	0.0474	2.46			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1700461-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 15:17
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.165g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511940	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

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	916.005	46		25-164	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	1078.501	54		25-181	1.59	1.201
13C-1,2,3,4,7,8-HxCDD	2000	1228.965	61		32-141	1.32	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1132.963	57		28-130	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1185.745	59		23-140	1.06	1.067
13C-OCDD	4000	2035.704	51		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	932.511	47		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1101.234	55		24-185	1.59	1.156
13C-2,3,4,7,8-PeCDF	2000	1171.300	59		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1188.030	59		26-152	0.50	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1207.758	60		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1360.038	68		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1268.211	63		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1274.592	64		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1417.024	71		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	371.813	46		35-197	NA	1.024

Accuracy & Precision

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

QA/QC Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Analyzed:**	10/11/17
Sample Matrix:	Sediment	**Date Extracted:**	10/04/17

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:	565420

	Lab Control Sample EQ1700450-02			Duplicate Lab Control Sample EQ1700450-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	92.5	91.8	101	97.9	97.6	100	70-140	6	50
1,2,3,4,7,8-HxCDD	87.4	91.8	95	90.8	97.6	93	70-164	4	50
1,2,3,6,7,8-HxCDD	92.1	91.8	100	101	97.6	103	76-134	9	50
1,2,3,7,8,9-HxCDD	92.7	91.8	101	98.3	97.6	101	64-162	6	50
1,2,3,7,8-PeCDD	90.8	91.8	99	98.6	97.6	101	70-142	8	50
2,3,7,8-TCDD	15.6	18.4	85	15.9	19.5	81	67-158	2	50
OCDD	221	184	121	212	195	108	78-144	5	50
1,2,3,4,6,7,8-HpCDF	90.6	91.8	99	96.5	97.6	99	82-122	6	50
1,2,3,4,7,8,9-HpCDF	91.6	91.8	100	96.9	97.6	99	78-138	6	50
1,2,3,4,7,8-HxCDF	98.6	91.8	107	105	97.6	107	72-134	6	50
1,2,3,6,7,8-HxCDF	95.5	91.8	104	101	97.6	103	84-130	6	50
1,2,3,7,8,9-HxCDF	89.0	91.8	97	95.4	97.6	98	78-130	7	50
1,2,3,7,8-PeCDF	89.3	91.8	97	96.7	97.6	99	80-134	8	50
2,3,4,6,7,8-HxCDF	94.5	91.8	103	99.5	97.6	102	70-156	5	50
2,3,4,7,8-PeCDF	94.6	91.8	103	96.7	97.6	99	68-160	2	50
2,3,7,8-TCDF	18.9	18.4	103	19.7	19.5	101	75-158	4	50
OCDF	213	184	116	224	195	115	63-170	5	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700450-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:54
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.899g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511874	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	15.6		0.188	0.459	0.81	1.001	1
1,2,3,7,8-PeCDD	90.8		0.104	2.29	1.59	1.001	1
1,2,3,4,7,8-HxCDD	87.4		0.120	2.29	1.25	1.000	1
1,2,3,6,7,8-HxCDD	92.1		0.132	2.29	1.30	1.000	1
1,2,3,7,8,9-HxCDD	92.7		0.120	2.29	1.27	1.007	1
1,2,3,4,6,7,8-HpCDD	92.5		0.161	2.29	1.07	1.001	1
OCDD	221		0.831	4.59	0.89	1.000	1
2,3,7,8-TCDF	18.9		0.187	0.459	0.73	1.001	1
1,2,3,7,8-PeCDF	89.3		0.121	2.29	1.53	1.001	1
2,3,4,7,8-PeCDF	94.6		0.123	2.29	1.49	1.001	1
1,2,3,4,7,8-HxCDF	98.6		0.0754	2.29	1.26	1.000	1
1,2,3,6,7,8-HxCDF	95.5		0.0707	2.29	1.18	1.000	1
1,2,3,7,8,9-HxCDF	89.0		0.0839	2.29	1.19	1.000	1
2,3,4,6,7,8-HxCDF	94.5		0.0734	2.29	1.19	1.000	1
1,2,3,4,6,7,8-HpCDF	90.6		0.110	2.29	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	91.6		0.131	2.29	1.00	1.000	1
OCDF	213		0.403	4.59	0.88	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700450-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:54
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.899g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511874	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	15.6		0.188	0.459	0.81		1
Total Penta-Dioxins	90.8		0.104	2.29	1.59		1
Total Hexa-Dioxins	272		0.126	2.29	1.25		1
Total Hepta-Dioxins	92.5		0.161	2.29	1.07		1
Total Tetra-Furans	18.9		0.187	0.459	0.73		1
Total Penta-Furans	186		0.122	2.29	1.60		1
Total Hexa-Furans	378		0.0756	2.29	1.26		1
Total Hepta-Furans	182		0.117	2.29	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700450-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 02:54
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.899g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511874	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	1402.433	70		25-164	0.78	1.023
13C-1,2,3,7,8-PeCDD	2000	1362.154	68		25-181	1.58	1.200
13C-1,2,3,4,7,8-HxCDD	2000	1383.511	69		32-141	1.33	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1307.401	65		28-130	1.18	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1256.296	63		23-140	1.06	1.066
13C-OCDD	4000	2142.597	54		17-157	0.90	1.138
13C-2,3,7,8-TCDF	2000	1301.016	65		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1447.064	72		24-185	1.56	1.155
13C-2,3,4,7,8-PeCDF	2000	1412.687	71		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	1391.549	70		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	1447.108	72		26-123	0.53	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1522.120	76		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1450.566	73		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1377.595	69		28-143	0.43	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1508.176	75		26-138	0.45	1.079
37Cl-2,3,7,8-TCDD	800	465.164	58		35-197	NA	1.023

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700450-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 03:43
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511875	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	15.9		0.368	0.488	0.79	1.001	1
1,2,3,7,8-PeCDD	98.6		0.204	2.44	1.56	1.001	1
1,2,3,4,7,8-HxCDD	90.8		0.117	2.44	1.23	1.000	1
1,2,3,6,7,8-HxCDD	101		0.128	2.44	1.26	1.000	1
1,2,3,7,8,9-HxCDD	98.3		0.117	2.44	1.24	1.007	1
1,2,3,4,6,7,8-HpCDD	97.9		0.169	2.44	1.03	1.000	1
OCDD	212		0.609	4.88	0.88	1.000	1
2,3,7,8-TCDF	19.7		0.443	0.488	0.71	1.001	1
1,2,3,7,8-PeCDF	96.7		0.243	2.44	1.48	1.001	1
2,3,4,7,8-PeCDF	96.7		0.244	2.44	1.51	1.001	1
1,2,3,4,7,8-HxCDF	105		0.165	2.44	1.18	1.000	1
1,2,3,6,7,8-HxCDF	101		0.157	2.44	1.23	1.000	1
1,2,3,7,8,9-HxCDF	95.4		0.188	2.44	1.26	1.000	1
2,3,4,6,7,8-HxCDF	99.5		0.163	2.44	1.20	1.000	1
1,2,3,4,6,7,8-HpCDF	96.5		0.307	2.44	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	96.9		0.382	2.44	1.02	1.000	1
OCDF	224		0.754	4.88	0.88	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700450-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 03:43
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511875	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	15.9		0.368	0.488	0.79		1
Total Penta-Dioxins	99.0		0.204	2.44	1.56		1
Total Hexa-Dioxins	290		0.123	2.44	1.23		1
Total Hepta-Dioxins	100		0.169	2.44	0.95		1
Total Tetra-Furans	19.8		0.443	0.488	0.71		1
Total Penta-Furans	194		0.243	2.44	1.36		1
Total Hexa-Furans	401		0.168	2.44	1.18		1
Total Hepta-Furans	195		0.334	2.44	1.03		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700450-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/11/17 03:43
Prep Method:	Method Soxhlet	**Date Extracted:**	10/4/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511875	**Blank File Name:**	P511866
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511862

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	807.484	40		25-164	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	773.014	39		25-181	1.59	1.200
13C-1,2,3,4,7,8-HxCDD	2000	837.582	42		32-141	1.24	0.991
13C-1,2,3,6,7,8-HxCDD	2000	779.689	39		28-130	1.33	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	781.553	39		23-140	1.09	1.067
13C-OCDD	4000	1420.309	36		17-157	0.91	1.138
13C-2,3,7,8-TCDF	2000	716.472	36		24-169	0.76	0.991
13C-1,2,3,7,8-PeCDF	2000	819.385	41		24-185	1.57	1.155
13C-2,3,4,7,8-PeCDF	2000	814.683	41		21-178	1.60	1.190
13C-1,2,3,4,7,8-HxCDF	2000	841.060	42		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	873.994	44		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	904.711	45		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	876.799	44		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	863.347	43		28-143	0.44	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	925.387	46		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	266.612	33	**Y**	35-197	NA	1.023

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Analyzed:**	10/13/17
Sample Matrix:	Sediment	**Date Extracted:**	10/11/17

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:	566072

	Lab Control Sample EQ1700461-02			Duplicate Lab Control Sample EQ1700461-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	100	97.6	103	92.3	92.7	100	70-140	8	50
1,2,3,4,7,8-HxCDD	92.6	97.6	95	87.6	92.7	95	70-164	6	50
1,2,3,6,7,8-HxCDD	101	97.6	103	96.2	92.7	104	76-134	5	50
1,2,3,7,8,9-HxCDD	102	97.6	104	98.4	92.7	106	64-162	3	50
1,2,3,7,8-PeCDD	99.8	97.6	102	94.7	92.7	102	70-142	5	50
2,3,7,8-TCDD	18.3	19.5	94	17.4	18.5	94	67-158	5	50
OCDD	190	195	97	179	185	97	78-144	6	50
1,2,3,4,6,7,8-HpCDF	97.4	97.6	100	89.5	92.7	97	82-122	8	50
1,2,3,4,7,8,9-HpCDF	96.1	97.6	98	93.0	92.7	100	78-138	3	50
1,2,3,4,7,8-HxCDF	98.9	97.6	101	96.3	92.7	104	72-134	3	50
1,2,3,6,7,8-HxCDF	103	97.6	105	94.9	92.7	102	84-130	8	50
1,2,3,7,8,9-HxCDF	94.1	97.6	96	89.5	92.7	97	78-130	5	50
1,2,3,7,8-PeCDF	96.7	97.6	99	90.7	92.7	98	80-134	6	50
2,3,4,6,7,8-HxCDF	101	97.6	104	95.6	92.7	103	70-156	6	50
2,3,4,7,8-PeCDF	102	97.6	104	95.6	92.7	103	68-160	6	50
2,3,7,8-TCDF	20.2	19.5	103	18.6	18.5	100	75-158	8	50
OCDF	227	195	116	209	185	113	63-170	8	50

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700461-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 22:34
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511949	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.3		0.332	0.488	0.74	1.001	1
1,2,3,7,8-PeCDD	99.8		0.139	2.44	1.56	1.001	1
1,2,3,4,7,8-HxCDD	92.6		0.147	2.44	1.20	1.000	1
1,2,3,6,7,8-HxCDD	101		0.158	2.44	1.22	1.000	1
1,2,3,7,8,9-HxCDD	102		0.145	2.44	1.26	1.007	1
1,2,3,4,6,7,8-HpCDD	100		0.141	2.44	1.06	1.000	1
OCDD	190		0.506	4.88	0.92	1.001	1
2,3,7,8-TCDF	20.2		0.360	0.488	0.74	1.001	1
1,2,3,7,8-PeCDF	96.7		0.317	2.44	1.47	1.001	1
2,3,4,7,8-PeCDF	102		0.297	2.44	1.56	1.001	1
1,2,3,4,7,8-HxCDF	98.9		0.104	2.44	1.19	1.000	1
1,2,3,6,7,8-HxCDF	103		0.107	2.44	1.17	1.000	1
1,2,3,7,8,9-HxCDF	94.1		0.127	2.44	1.20	1.000	1
2,3,4,6,7,8-HxCDF	101		0.106	2.44	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	97.4		0.294	2.44	0.95	1.000	1
1,2,3,4,7,8,9-HpCDF	96.1		0.320	2.44	1.02	1.000	1
OCDF	227		0.257	4.88	0.84	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700461-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 22:34
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511949	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.3		0.332	0.488	0.74		1
Total Penta-Dioxins	99.8		0.139	2.44	1.56		1
Total Hexa-Dioxins	295		0.153	2.44	1.20		1
Total Hepta-Dioxins	100		0.141	2.44	1.06		1
Total Tetra-Furans	20.5		0.360	0.488	0.74		1
Total Penta-Furans	199		0.307	2.44	1.47		1
Total Hexa-Furans	397		0.111	2.44	1.19		1
Total Hepta-Furans	193		0.299	2.44	0.95		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700461-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 22:34
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.243g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511949	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

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	823.481	41		25-164	0.76	1.023
13C-1,2,3,7,8-PeCDD	2000	897.334	45		25-181	1.56	1.201
13C-1,2,3,4,7,8-HxCDD	2000	848.388	42		32-141	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	897.558	45		28-130	1.31	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	774.253	39		23-140	1.06	1.067
13C-OCDD	4000	1233.858	31		17-157	0.91	1.138
13C-2,3,7,8-TCDF	2000	838.712	42		24-169	0.80	0.991
13C-1,2,3,7,8-PeCDF	2000	939.348	47		24-185	1.57	1.155
13C-2,3,4,7,8-PeCDF	2000	993.769	50		21-178	1.58	1.190
13C-1,2,3,4,7,8-HxCDF	2000	908.816	45		26-152	0.52	0.970
13C-1,2,3,6,7,8-HxCDF	2000	918.058	46		26-123	0.52	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1000.271	50		29-147	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	957.029	48		28-136	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	822.853	41		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1028.687	51		26-138	0.44	1.079
37Cl-2,3,7,8-TCDD	800	325.981	41		35-197	NA	1.024

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700461-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 23:23
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.783g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511950	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	17.4		0.310	0.464	0.80	1.001	1
1,2,3,7,8-PeCDD	94.7		0.195	2.32	1.59	1.000	1
1,2,3,4,7,8-HxCDD	87.6		0.0643	2.32	1.32	1.000	1
1,2,3,6,7,8-HxCDD	96.2		0.0690	2.32	1.30	1.000	1
1,2,3,7,8,9-HxCDD	98.4		0.0635	2.32	1.27	1.007	1
1,2,3,4,6,7,8-HpCDD	92.3		0.148	2.32	1.03	1.000	1
OCDD	179		0.193	4.64	0.90	1.000	1
2,3,7,8-TCDF	18.6		0.317	0.464	0.69	1.001	1
1,2,3,7,8-PeCDF	90.7		0.284	2.32	1.51	1.001	1
2,3,4,7,8-PeCDF	95.6		0.277	2.32	1.52	1.000	1
1,2,3,4,7,8-HxCDF	96.3		0.0705	2.32	1.16	1.000	1
1,2,3,6,7,8-HxCDF	94.9		0.0690	2.32	1.17	1.000	1
1,2,3,7,8,9-HxCDF	89.5		0.0800	2.32	1.18	1.000	1
2,3,4,6,7,8-HxCDF	95.6		0.0706	2.32	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	89.5		0.280	2.32	1.00	1.000	1
1,2,3,4,7,8,9-HpCDF	93.0		0.339	2.32	0.99	1.000	1
OCDF	209		0.216	4.64	0.87	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1700461-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 23:23
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.783g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511950	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	17.4		0.310	0.464	0.80		1
Total Penta-Dioxins	94.7		0.195	2.32	1.59		1
Total Hexa-Dioxins	282		0.0667	2.32	1.32		1
Total Hepta-Dioxins	92.3		0.148	2.32	1.03		1
Total Tetra-Furans	18.6		0.317	0.464	0.69		1
Total Penta-Furans	186		0.280	2.32	1.51		1
Total Hexa-Furans	376		0.0724	2.32	1.16		1
Total Hepta-Furans	182		0.300	2.32	1.00		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Integral Consulting, Incorporated	**Service Request:**	E1701038
Project:	San Jacinto Waste Pits	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1700461-03	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	1613B	**Date Analyzed:**	10/13/17 23:23
Prep Method:	Method Soxhlet	**Date Extracted:**	10/11/17
Sample Amount:	10.783g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P511950	**Blank File Name:**	P511940
ICAL Date:	07/26/17	**Cal Ver. File Name:**	P511938

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	812.745	41		25-164	0.79	1.023
13C-1,2,3,7,8-PeCDD	2000	880.011	44		25-181	1.59	1.201
13C-1,2,3,4,7,8-HxCDD	2000	866.077	43		32-141	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	887.688	44		28-130	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	872.855	44		23-140	1.03	1.067
13C-OCDD	4000	1565.115	39		17-157	0.88	1.139
13C-2,3,7,8-TCDF	2000	819.869	41		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	934.212	47		24-185	1.59	1.156
13C-2,3,4,7,8-PeCDF	2000	957.501	48		21-178	1.59	1.190
13C-1,2,3,4,7,8-HxCDF	2000	921.668	46		26-152	0.51	0.970
13C-1,2,3,6,7,8-HxCDF	2000	947.655	47		26-123	0.51	0.973
13C-1,2,3,7,8,9-HxCDF	2000	1024.871	51		29-147	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	987.340	49		28-136	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	965.859	48		28-143	0.45	1.043
13C-1,2,3,4,7,8,9-HpCDF	2000	1049.738	52		26-138	0.43	1.079
37Cl-2,3,7,8-TCDD	800	343.305	43		35-197	NA	1.023

Chromatograms and Selected Ion Monitoring

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ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
SJWP-100317-0

Run #11 Filename P511867 Samp: 1 Inj: 1 Acquired: 10-OCT-17 21:13:56
Processed: 11-OCT-17 08:47:09 Sample ID: E1701038-001

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:08	8.601e+02	1.145e+03	0.75	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:37	6.496e+01	6.128e+01	1.06	no	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	35:18	8.886e+01	7.556e+01	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	5.982e+01	4.804e+01	1.25	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	4.056e+01	2.355e+01	1.72	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	37:56	3.896e+02	3.961e+02	0.98	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	3.368e+01	2.934e+01	1.15	yes	no	1.191
10	Unk	OCDF	41:36	2.216e+03	2.562e+03	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	2.451e+02	2.938e+02	0.83	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	36:03	3.574e+01	2.654e+01	1.35	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	6.160e+01	7.825e+01	0.79	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	7.879e+01	6.686e+01	1.18	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	2.524e+03	2.385e+03	1.06	yes	no	0.942
17	Unk	OCDD	41:26	7.294e+04	8.249e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	2.427e+04	3.047e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	4.770e+04	3.015e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:32	4.592e+04	2.874e+04	1.60	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.880e+04	3.711e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	2.348e+04	4.555e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.214e+04	4.291e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	2.049e+04	4.010e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.446e+04	3.263e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.407e+04	3.146e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	1.886e+04	2.370e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	3.340e+04	2.107e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.903e+04	2.340e+04	1.24	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.967e+04	2.331e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	2.390e+04	2.252e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:25	3.031e+04	3.313e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.185e+04	3.981e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.392e+04	3.680e+04	1.19	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.588e+04				no	1.033

$$\text{OCDD} = \frac{(7.294e+04 + 8.249e+04) \times 4000 \text{ pg} \times 1}{(3.031e+04 + 3.313e+04) \times 10.9\text{ g} \times 62.1 / 100 \times 1.051} = 1370 \text{ ng/kg}$$

KW 10/11/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-100317-034

Run #11 Filename P511867 Samp: 1 Inj: 1 Acquired: 10-OCT-17 21:13:56
Processed: 11-OCT-17 08:47:09 LAB. ID: E1701038-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.33e+05	1.45e+03	9.2e+01	1.82e+05	2.74e+03	6.6e+01
2	1,2,3,7,8-PeCDF	1.26e+04	1.72e+03	7.3e+00	9.06e+03	3.26e+03	2.8e+00
3	2,3,4,7,8-PeCDF	*	1.72e+03	*	*	3.26e+03	*
4	1,2,3,4,7,8-HxCDF	1.66e+04	1.35e+03	1.2e+01	1.88e+04	2.09e+03	9.0e+00
5	1,2,3,6,7,8-HxCDF	1.18e+04	1.35e+03	8.7e+00	8.15e+03	2.09e+03	3.9e+00
6	2,3,4,6,7,8-HxCDF	9.04e+03	1.35e+03	6.7e+00	6.04e+03	2.09e+03	2.9e+00
7	1,2,3,7,8,9-HxCDF	*	1.35e+03	*	*	2.09e+03	*
8	1,2,3,4,6,7,8-HpCDF	7.73e+04	1.04e+03	7.4e+01	8.08e+04	1.08e+03	7.5e+01
9	1,2,3,4,7,8,9-HpCDF	8.73e+03	1.04e+03	8.4e+00	5.44e+03	1.08e+03	5.0e+00
10	OCDF	3.64e+05	2.13e+03	1.7e+02	4.24e+05	2.79e+03	1.5e+02
11	2,3,7,8-TCDD	4.79e+04	2.34e+03	2.0e+01	5.47e+04	1.34e+03	4.1e+01
12	1,2,3,7,8-PeCDD	*	1.71e+03	*	*	1.02e+03	*
13	1,2,3,4,7,8-HxCDD	8.45e+03	7.68e+02	1.1e+01	6.39e+03	1.88e+03	3.4e+00
14	1,2,3,6,7,8-HxCDD	1.38e+04	7.68e+02	1.8e+01	1.50e+04	1.88e+03	8.0e+00
15	1,2,3,7,8,9-HxCDD	1.60e+04	7.68e+02	2.1e+01	1.59e+04	1.88e+03	8.4e+00
16	1,2,3,4,6,7,8-HpCDD	4.95e+05	4.57e+03	1.1e+02	4.66e+05	2.78e+03	1.7e+02
17	OCDD	1.17e+07	1.30e+03	9.0e+03	1.31e+07	1.18e+04	1.1e+03
18	13C-2,3,7,8-TCDF	4.16e+06	1.49e+04	2.8e+02	5.21e+06	5.99e+03	8.7e+02
19	13C-1,2,3,7,8-PeCDF	8.66e+06	1.53e+03	5.7e+03	5.46e+06	2.29e+03	2.4e+03
20	13C-2,3,4,7,8-PeCDF	8.97e+06	1.53e+03	5.9e+03	5.59e+06	2.29e+03	2.4e+03
21	13C-1,2,3,4,7,8-HxCDF	3.72e+06	1.17e+03	3.2e+03	7.31e+06	1.68e+03	4.3e+03
22	13C-1,2,3,6,7,8-HxCDF	4.53e+06	1.17e+03	3.9e+03	8.86e+06	1.68e+03	5.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.56e+06	1.17e+03	3.9e+03	8.94e+06	1.68e+03	5.3e+03
24	13C-1,2,3,7,8,9-HxCDF	3.91e+06	1.17e+03	3.3e+03	7.53e+06	1.68e+03	4.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.98e+06	2.98e+03	1.0e+03	6.70e+06	1.80e+03	3.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.62e+06	2.98e+03	8.8e+02	5.91e+06	1.80e+03	3.3e+03
27	13C-2,3,7,8-TCDD	3.35e+06	7.80e+03	4.3e+02	4.25e+06	4.73e+03	9.0e+02
28	13C-1,2,3,7,8-PeCDD	6.42e+06	2.07e+03	3.1e+03	4.06e+06	1.37e+03	3.0e+03
29	13C-1,2,3,4,7,8-HxCDD	6.35e+06	1.92e+03	3.3e+03	5.05e+06	1.70e+03	3.0e+03
30	13C-1,2,3,6,7,8-HxCDD	5.98e+06	1.92e+03	3.1e+03	4.66e+06	1.70e+03	2.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.69e+06	8.52e+02	5.5e+03	4.41e+06	1.42e+03	3.1e+03
32	13C-OCDD	4.85e+06	5.44e+03	8.9e+02	5.25e+06	4.70e+03	1.1e+03
33	13C-1,2,3,4-TCDD	5.72e+06	7.80e+03	7.3e+02	7.01e+06	4.73e+03	1.5e+03
34	13C-1,2,3,7,8,9-HxCDD	8.90e+06	1.92e+03	4.6e+03	7.17e+06	1.70e+03	4.2e+03
35	37Cl-2,3,7,8-TCDD	2.93e+06	1.78e+03	1.6e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 36 Totals Name: Total Tetra-Furans

Run: 11 File: P511867 Sample:1 Injection:1 Function:1

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 303.9020 305.8990 Tot Response: 3.25e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:15	4.16e+02	4.84e+02	0.86	yes	9.00e+02		n	n
2	27:08	8.60e+02	1.14e+03	0.75	yes	2.00e+03	2,3,7,8-TCDF	n	n
3	27:31	7.51e+01	9.67e+01	0.78	yes	1.72e+02		n	n
4	29:05	7.90e+01	9.25e+01	0.85	yes	1.71e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 11 File: P511867 Sample:1 Injection:1 Function:1

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 319.8970 321.8940 Tot Response: 5.83e+02 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:59	2.45e+02	2.94e+02	0.83	yes	5.39e+02	2,3,7,8-TCDD	n	n
2	28:19	1.97e+01	2.44e+01	0.81	yes	4.41e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: P511867 Sample:1 Injection:1 Function:2

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 355.8550 357.8520 Tot Response: 2.45e+02 RRF: 0.9085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:09	8.84e+01	5.78e+01	1.53	yes	1.46e+02		n	n
2	31:47	2.72e+01	1.84e+01	1.48	yes	4.57e+01		n	n
3	32:05	3.32e+01	1.99e+01	1.67	yes	5.32e+01		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 41 Totals Name: Total Hexa-Furans

Run: 11 File: P511867 Sample:1 Injection:1 Function:3

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 373.8210 375.8180 Tot Response: 7.70e+02 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:20	1.43e+02	1.23e+02	1.16	yes	2.66e+02	n	n
2	34:51	1.32e+02	9.98e+01	1.32	yes	2.32e+02	n	n
3	35:18	8.89e+01	7.56e+01	1.18	yes	1.64e+02	1,2,3,4,7,8-HxCDF n	n
4	35:24	5.98e+01	4.80e+01	1.25	yes	1.08e+02	1,2,3,6,7,8-HxCDF n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: P511867 Sample:1 Injection:1 Function:3

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 389.8160 391.8130 Tot Response: 3.44e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:42	1.21e+03	1.03e+03	1.18	yes	2.24e+03		n	n
2	35:13	4.78e+01	3.68e+01	1.30	yes	8.46e+01		n	n
3	35:27	4.44e+02	3.52e+02	1.26	yes	7.96e+02		n	n
4	35:33	6.86e+01	4.86e+01	1.41	yes	1.17e+02		n	n
5	36:03	3.57e+01	2.65e+01	1.35	yes	6.23e+01	1,2,3,4,7,8-HxCDD	n	n
6	36:22	7.88e+01	6.69e+01	1.18	yes	1.46e+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-100317-034

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: P511867 Sample:1 Injection:1 Function:4

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 407.7820 409.7790 Tot Response: 1.81e+03 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:56	3.90e+02	3.96e+02	0.98	yes	7.86e+02	1,2,3,4,6,7,8-HpCDF	n	n
2	38:19	4.67e+02	4.92e+02	0.95	yes	9.59e+02		n	n
3	39:15	3.37e+01	2.93e+01	1.15	yes	6.30e+01	1,2,3,4,7,8,9-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-034

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P511867 Sample:1 Injection:1 Function:4

Acquired: 10-OCT-17 21:13:56 Processed: 11-OCT-17 08:47:09

Mass: 423.7770 425.7740 Tot Response: 1.70e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:10	6.30e+03	5.75e+03	1.09	yes	1.20e+04		n	n
2	38:49	2.52e+03	2.39e+03	1.06	yes	4.91e+03	1,2,3,4,6,7,8-HpCDD	n	n

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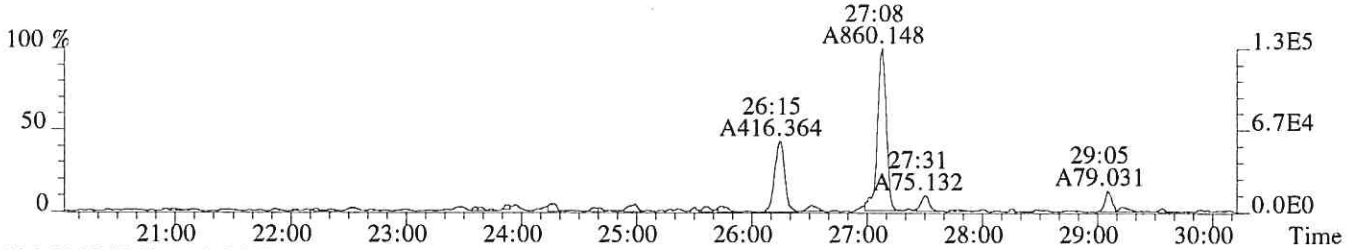
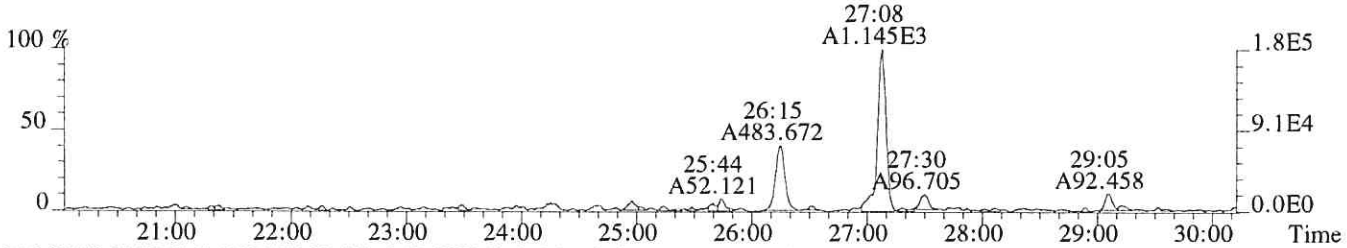
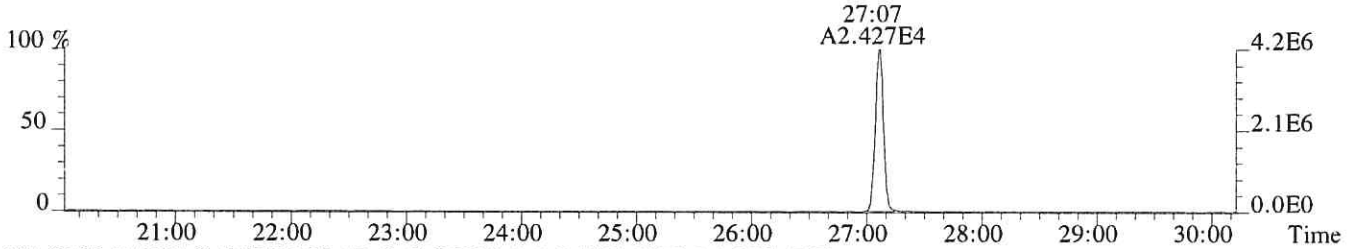
File:P511867 #1-722 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



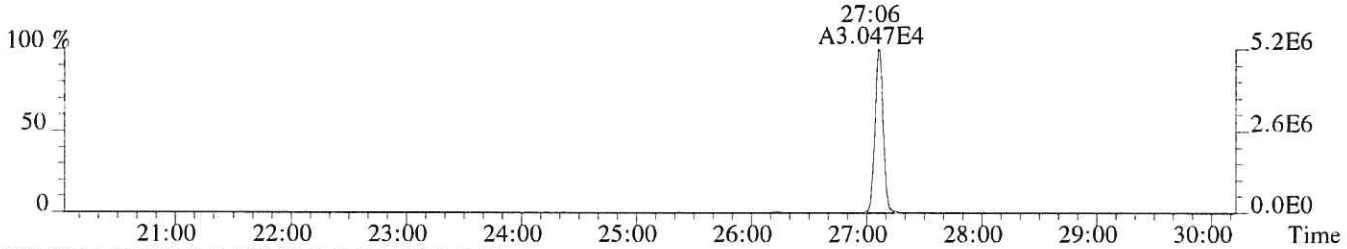
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2744.0,1.00%,F,T)



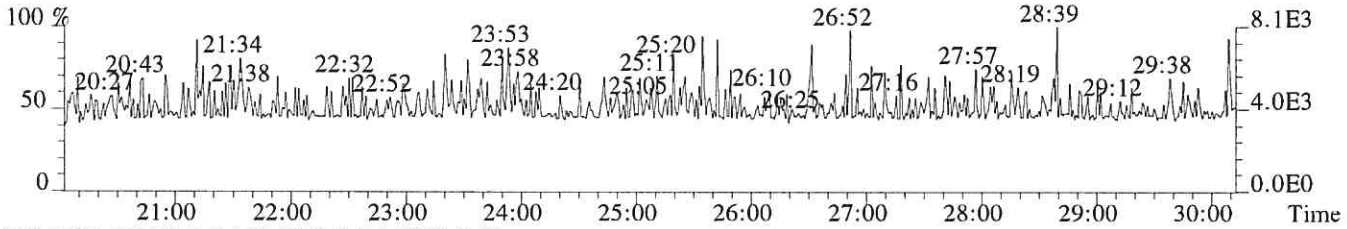
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14948.0,1.00%,F,T)



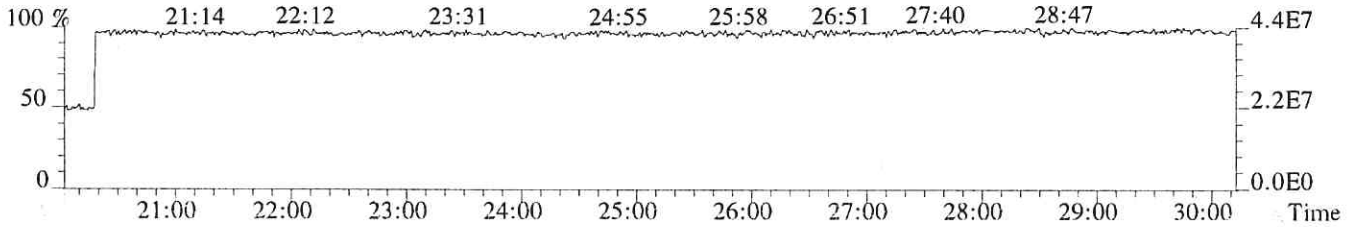
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5992.0,1.00%,F,T)



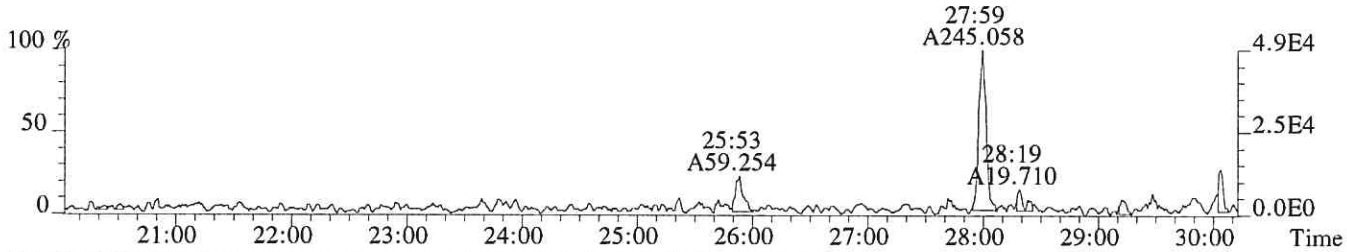
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



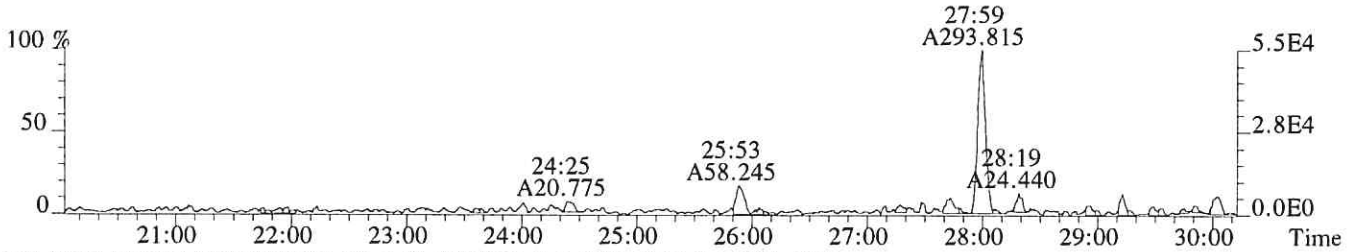
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



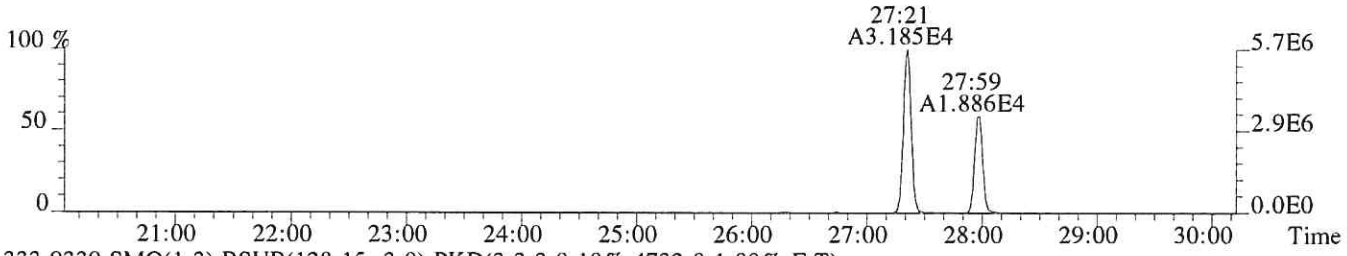
File:P511867 #1-722 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2344.0,1.00%,F,T)



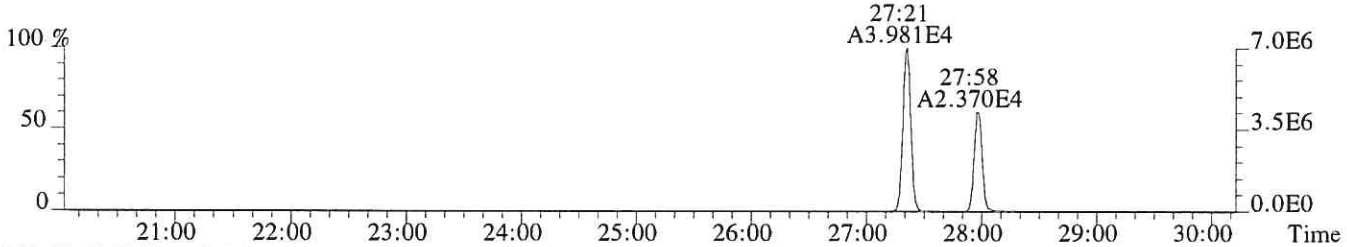
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



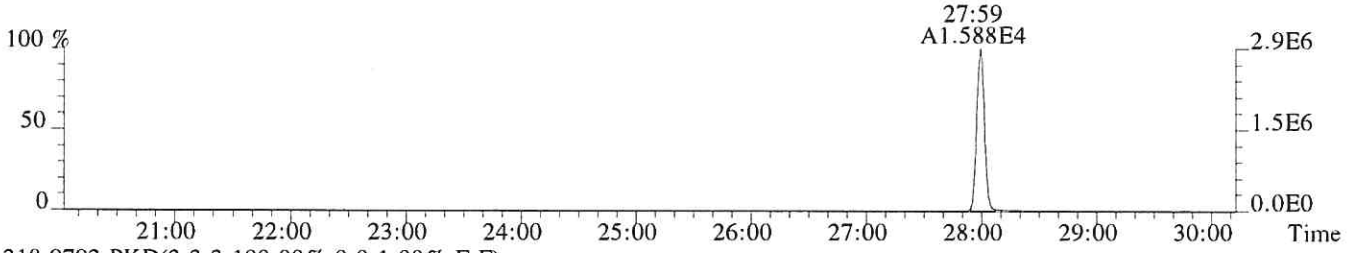
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7804.0,1.00%,F,T)



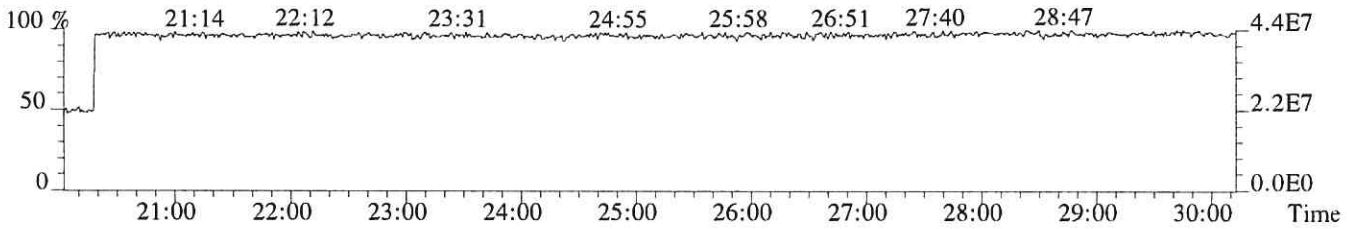
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4732.0,1.00%,F,T)



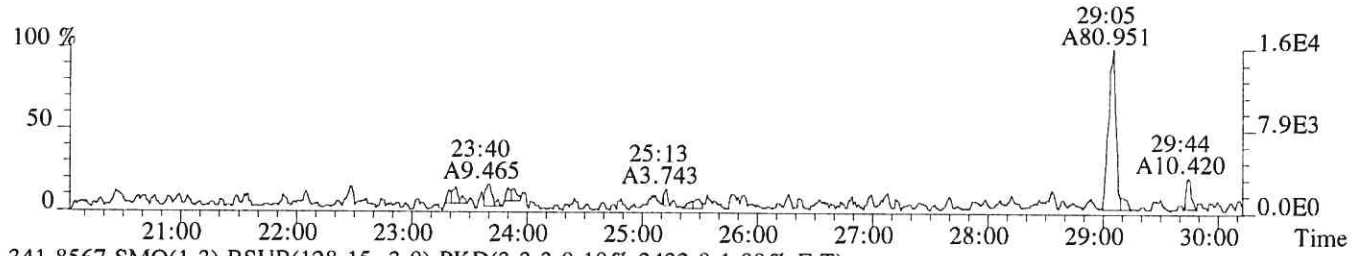
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



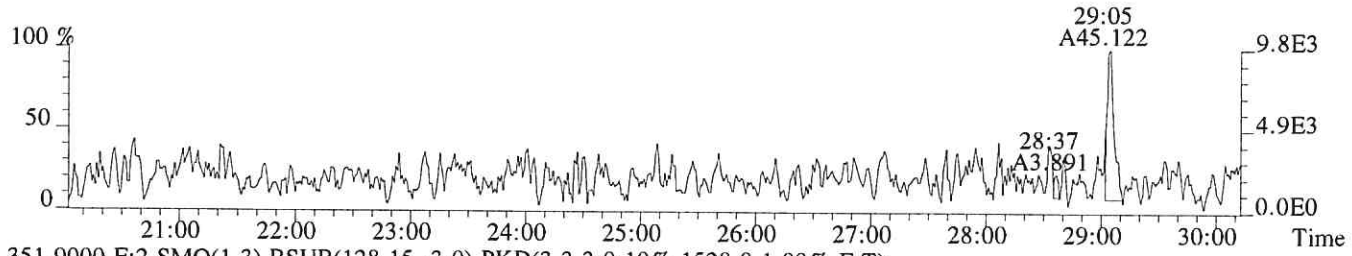
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



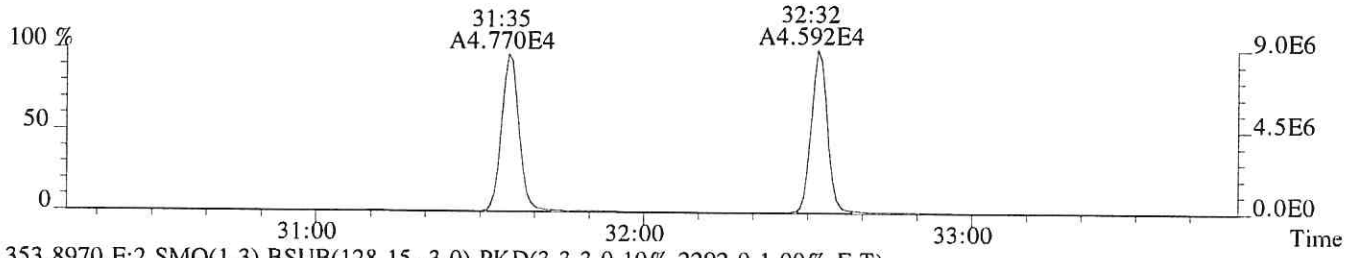
File:P511867 #1-722 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



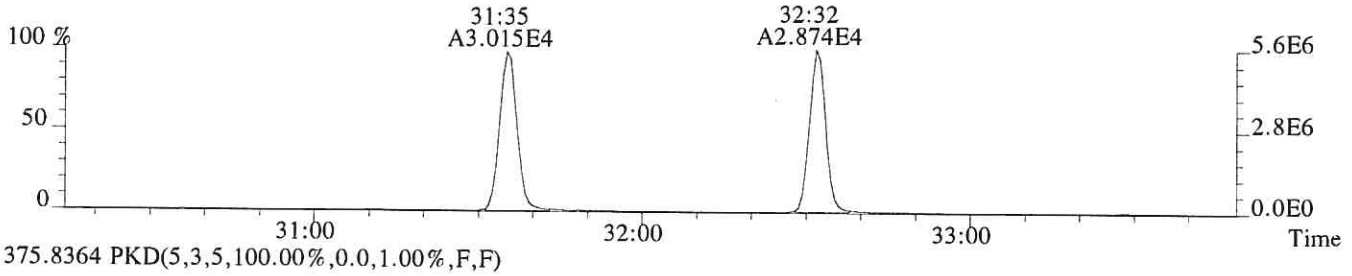
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2432.0,1.00%,F,T)



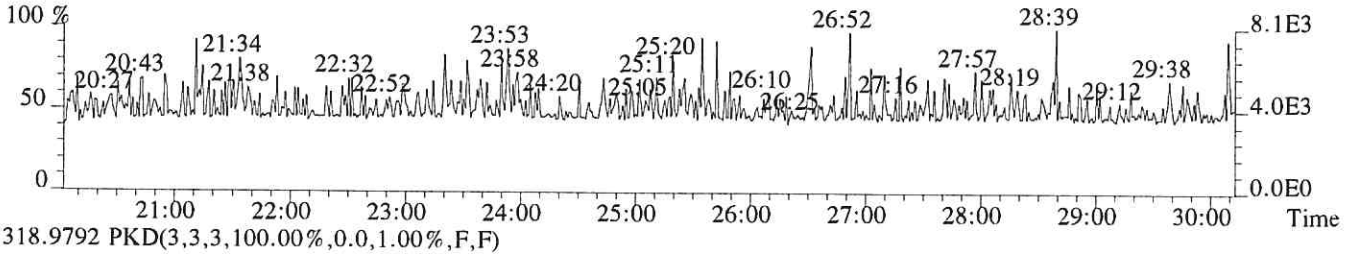
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



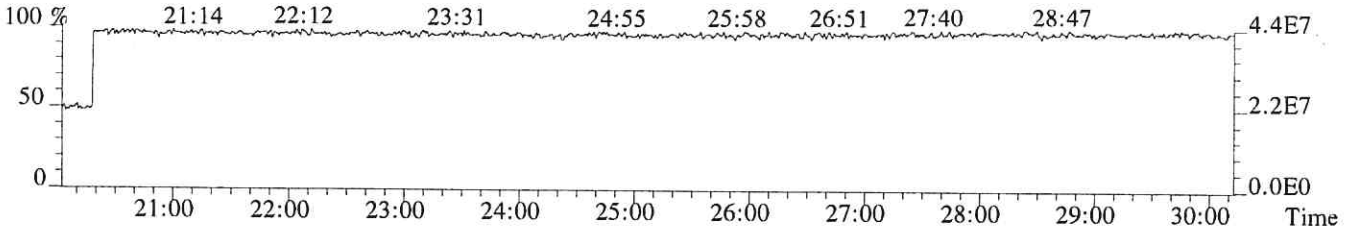
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2292.0,1.00%,F,T)



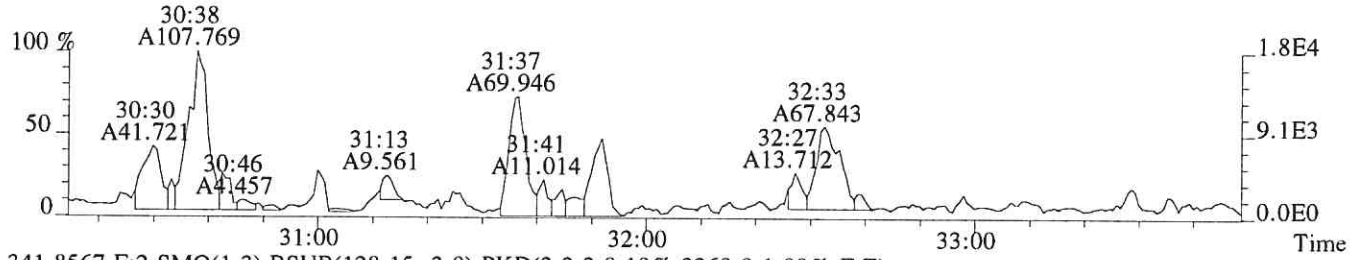
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



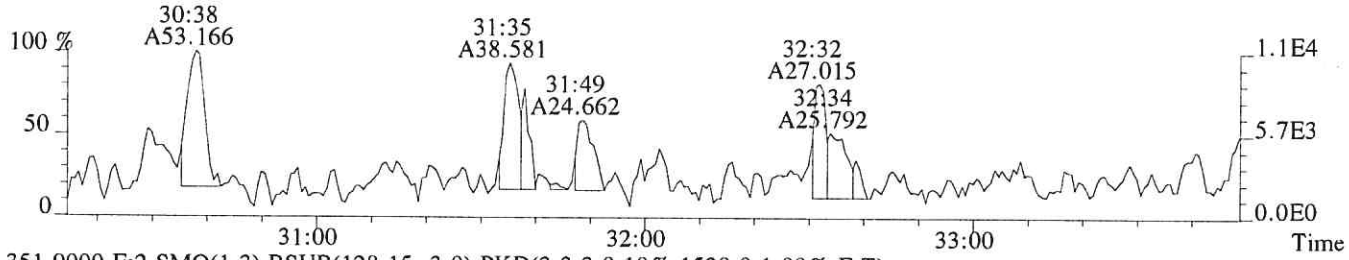
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



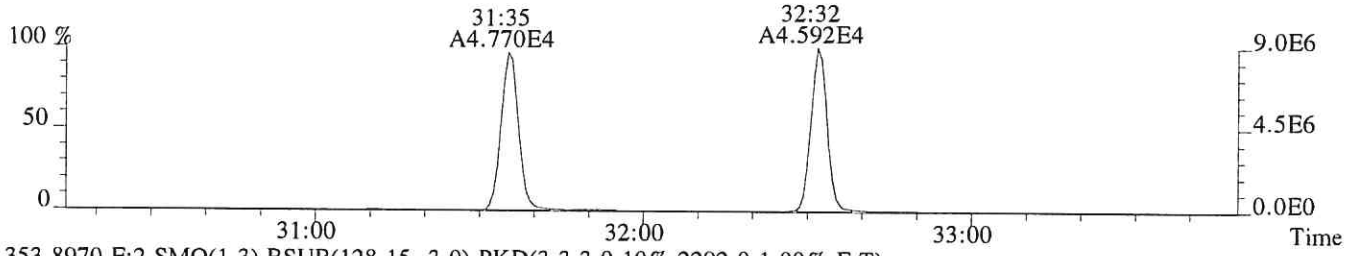
File:P511867 #1-322 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,T)



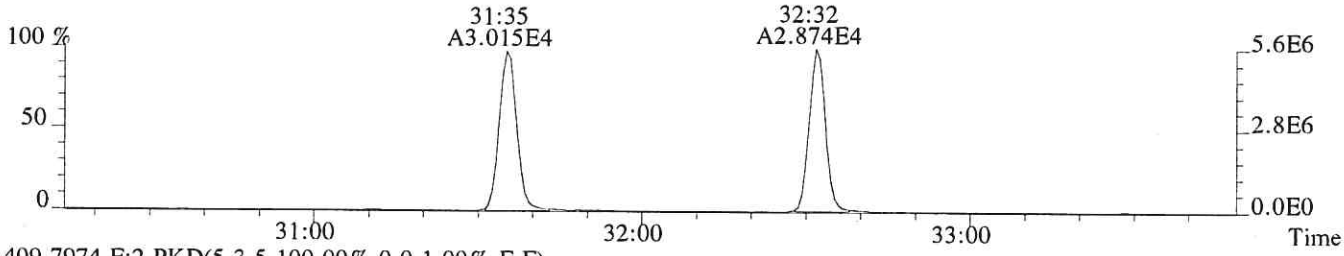
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3260.0,1.00%,F,T)



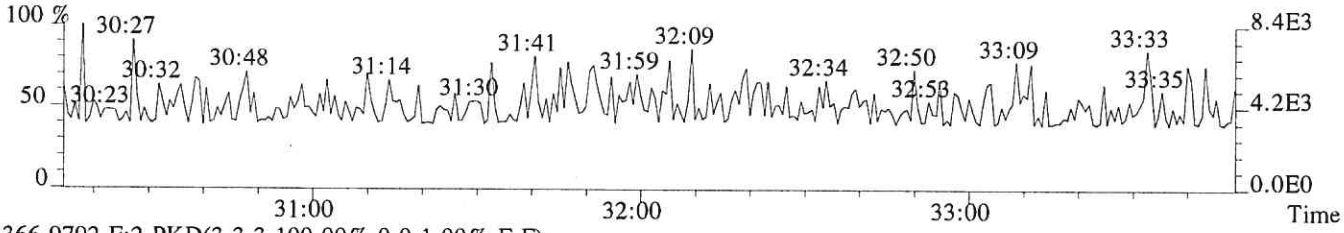
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



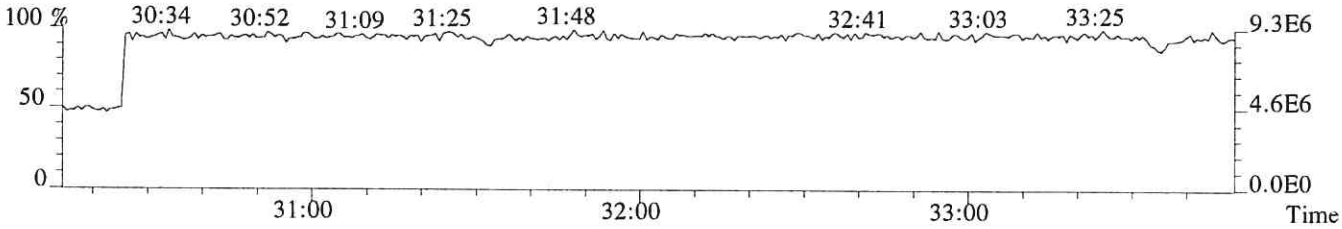
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2292.0,1.00%,F,T)



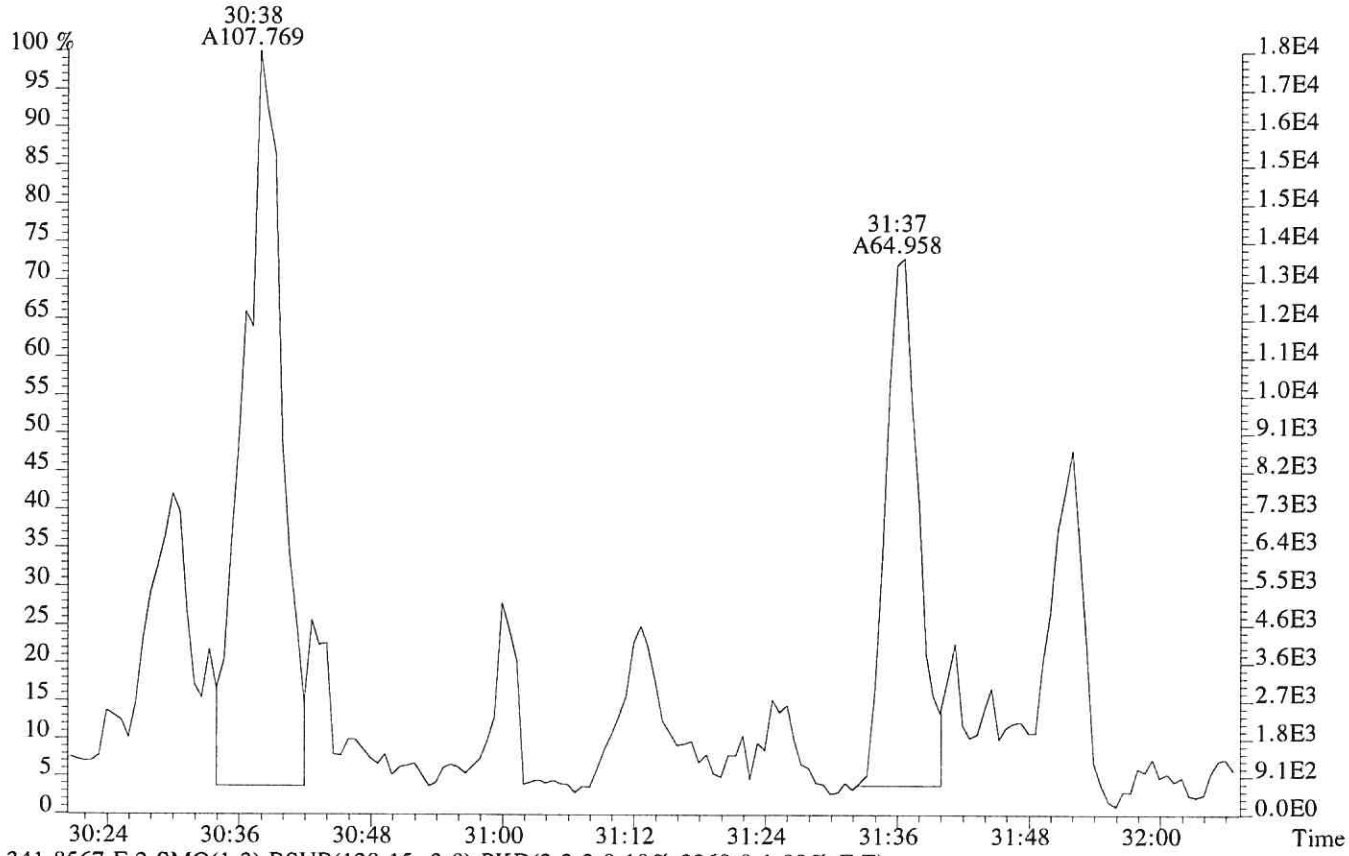
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



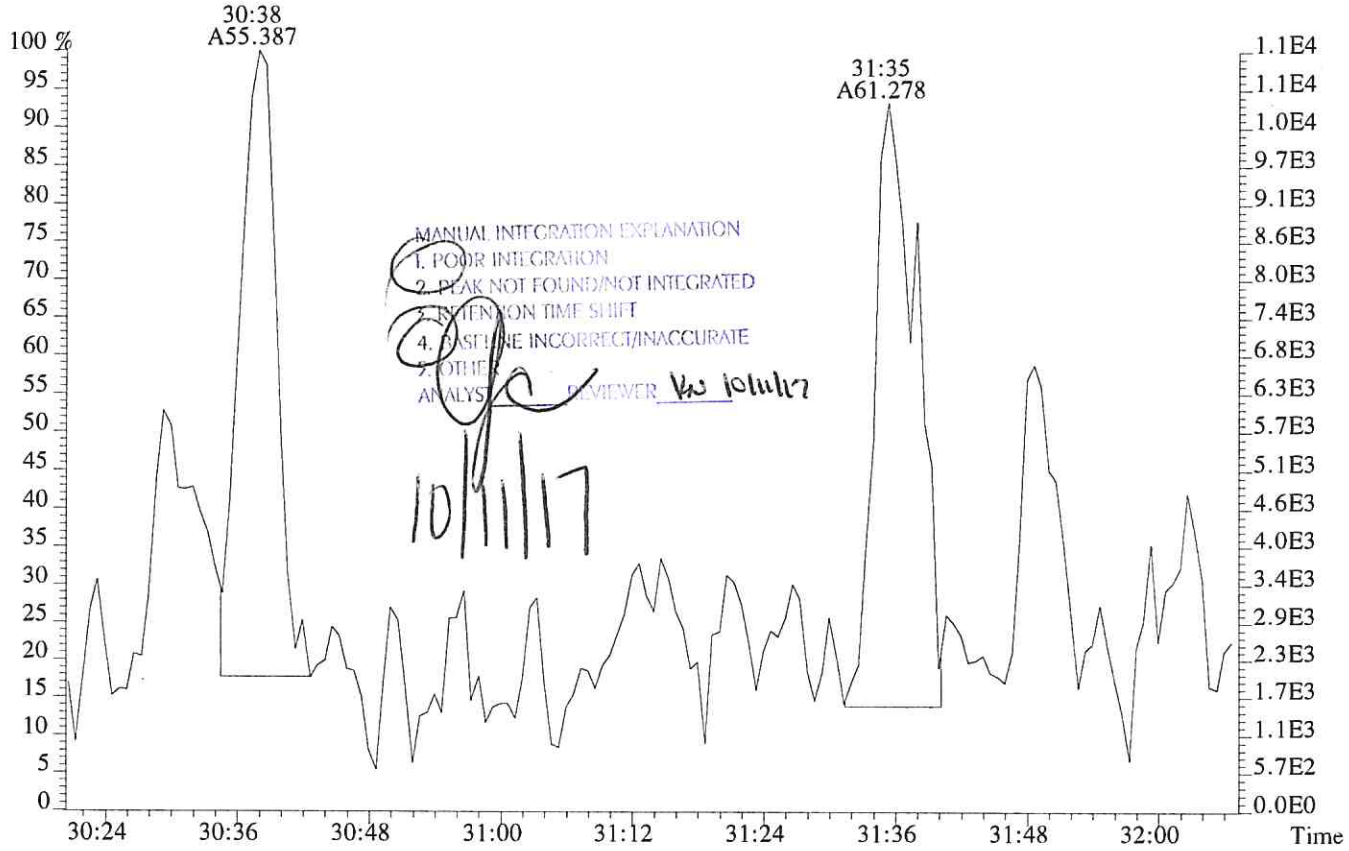
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511867 #1-322 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,T)

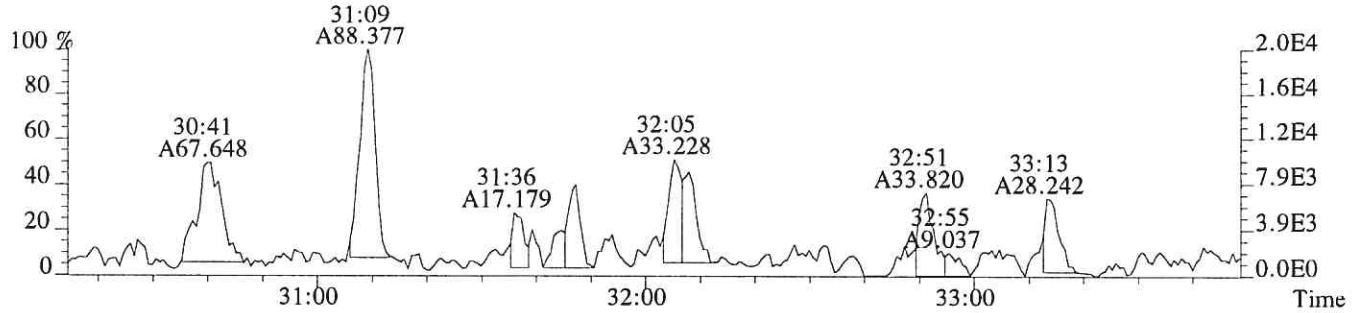


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3260.0,1.00%,F,T)

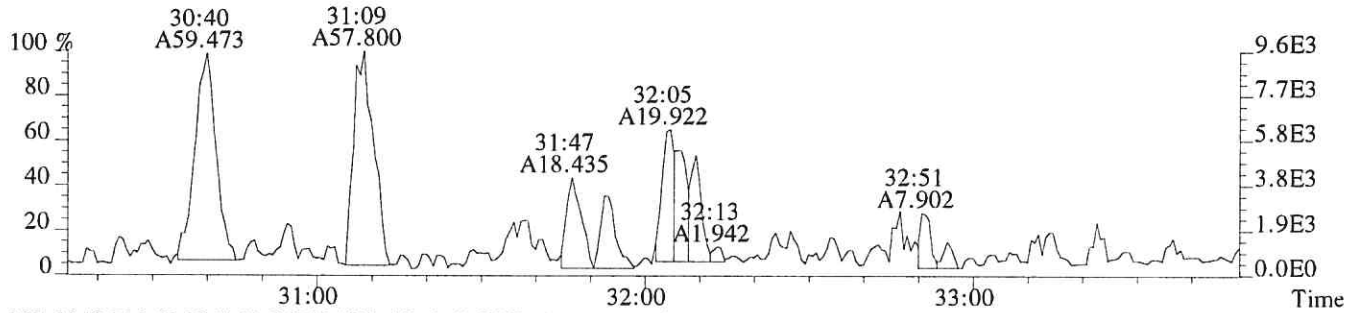


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER KW 10/11/17
10/11/17

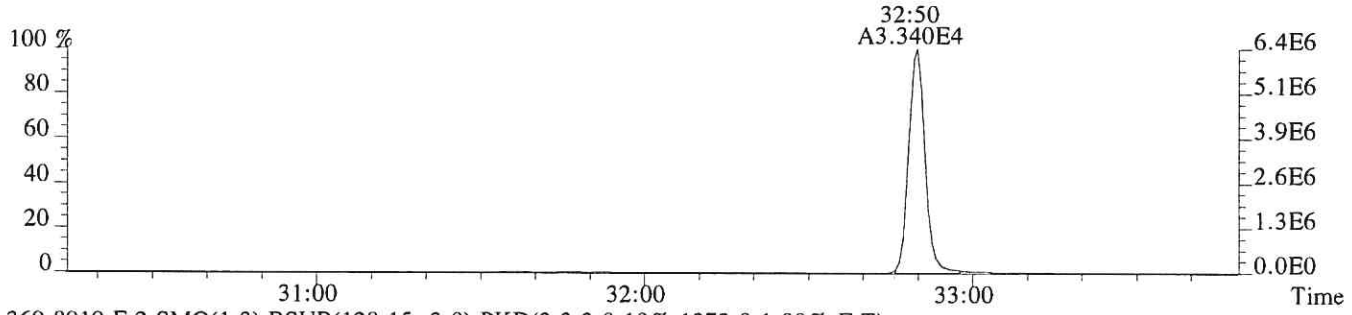
File:P511867 #1-322 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1708.0,1.00%,F,T)



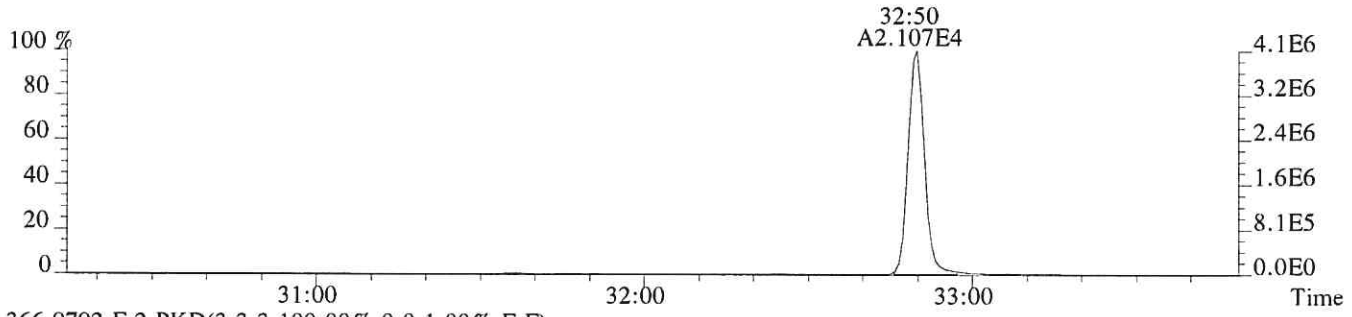
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



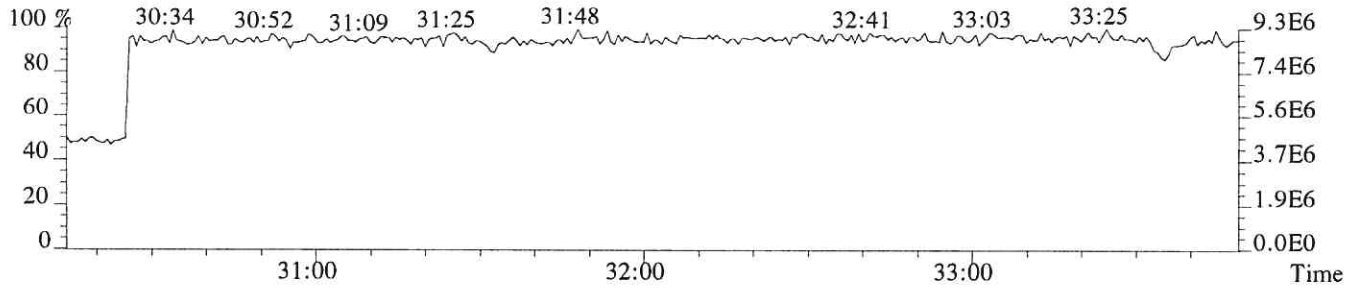
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



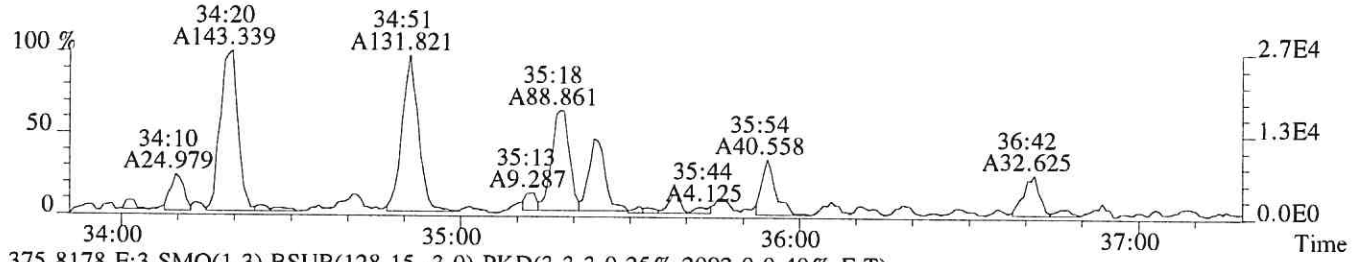
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,T)



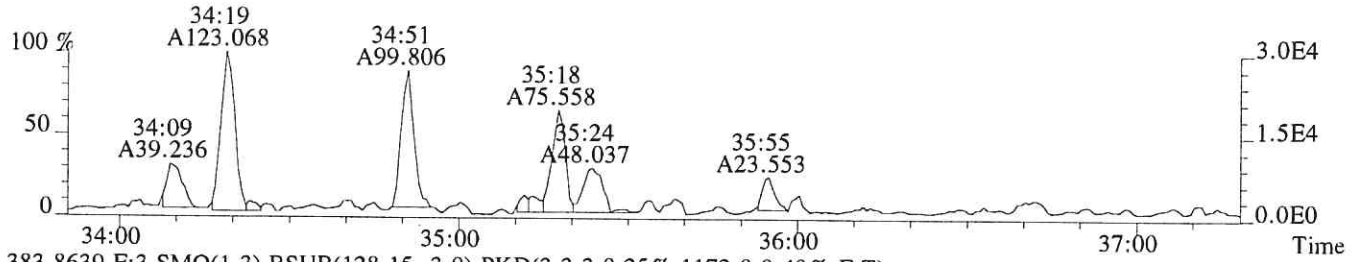
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



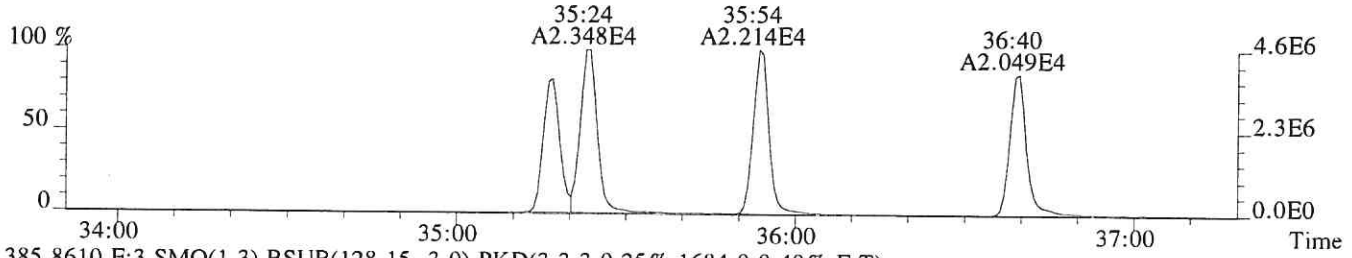
File:P511867 #1-312 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1348.0,0.40%,F,T)



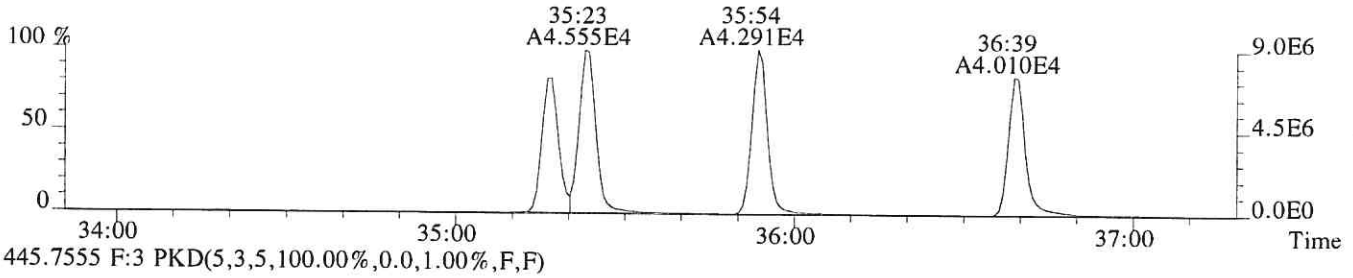
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2092.0,0.40%,F,T)



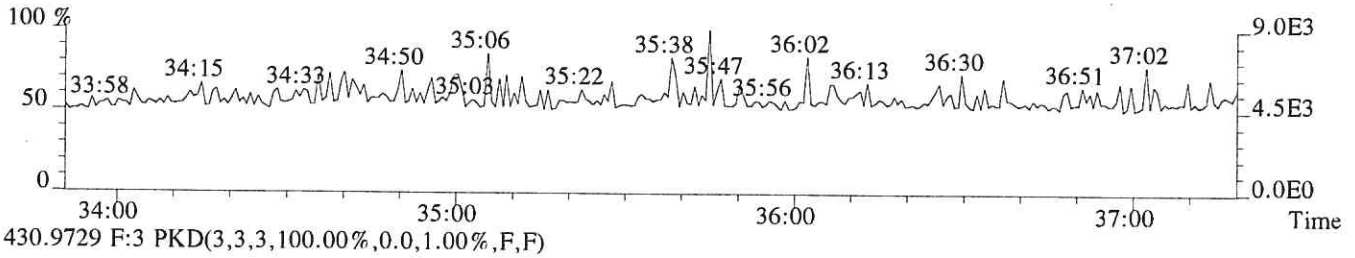
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,T)



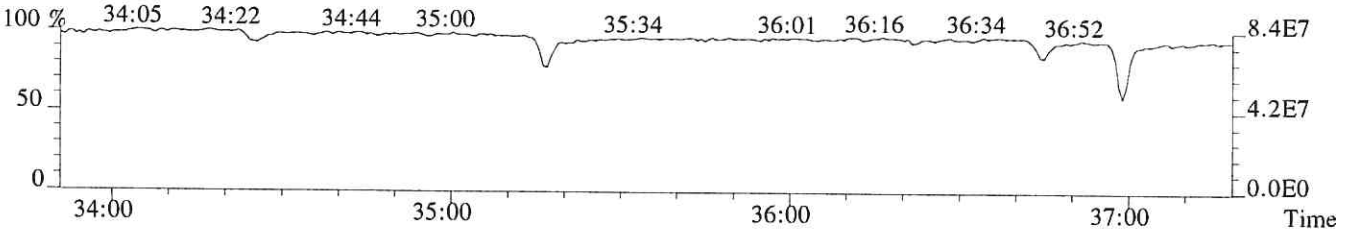
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1684.0,0.40%,F,T)



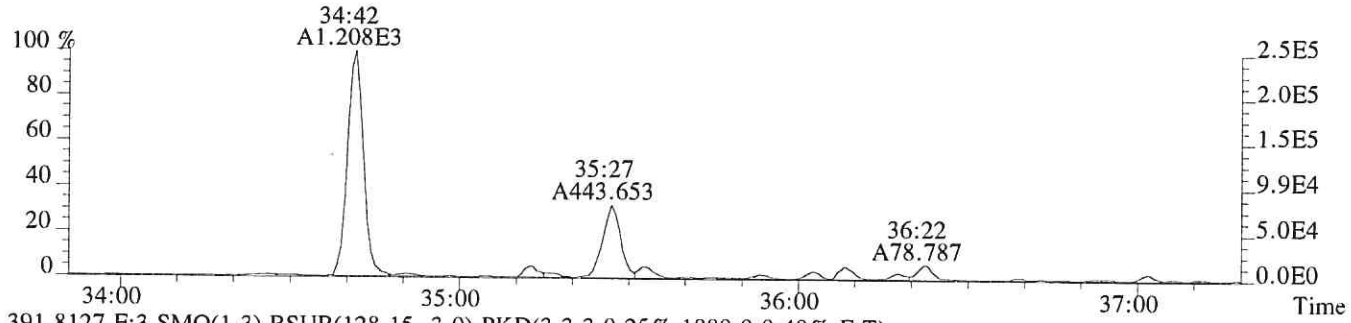
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



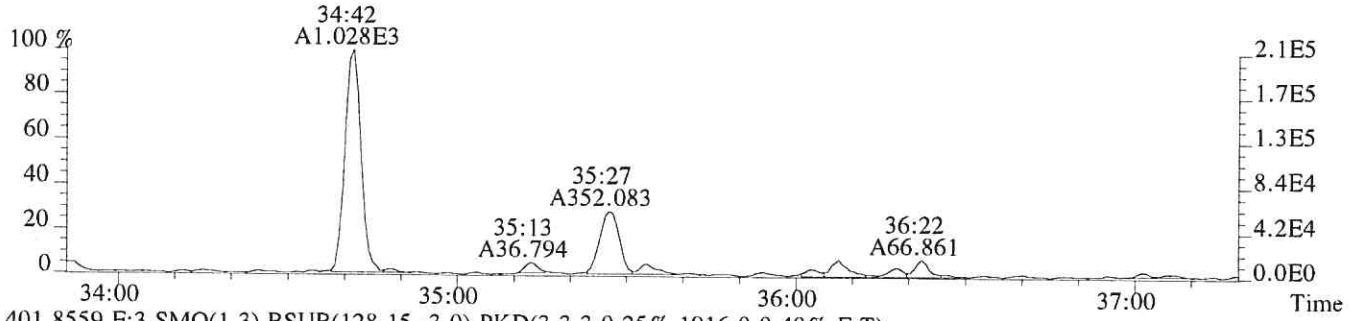
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



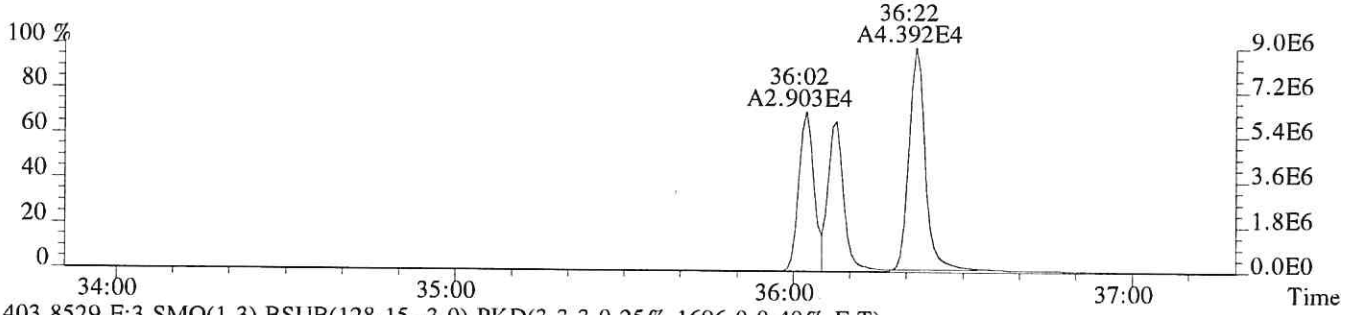
File:P511867 #1-312 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



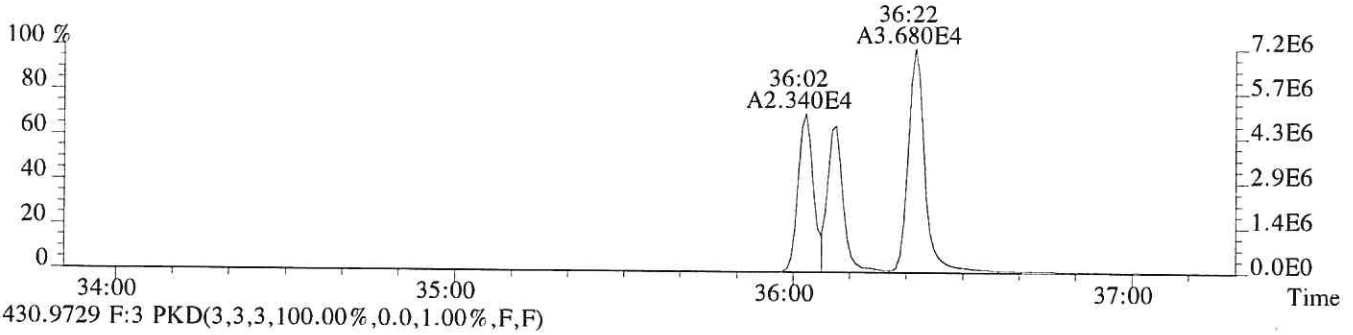
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1880.0,0.40%,F,T)



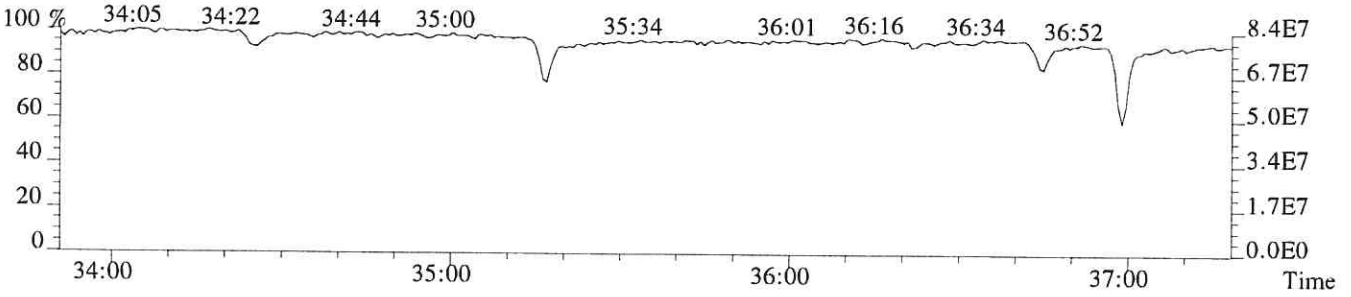
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1916.0,0.40%,F,T)



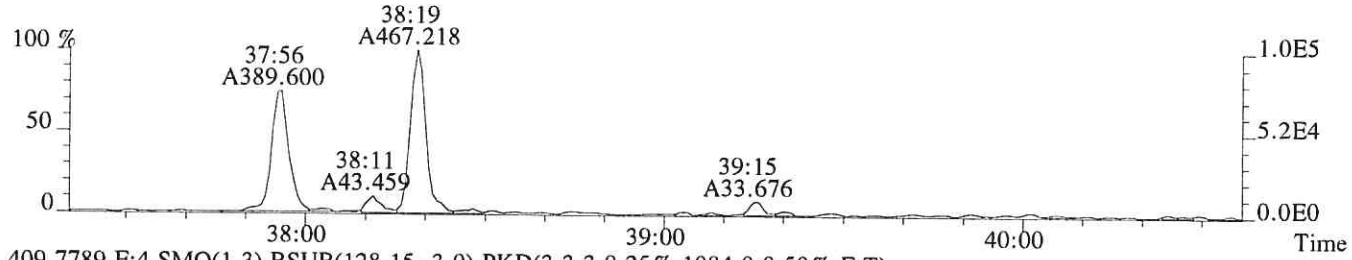
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1696.0,0.40%,F,T)



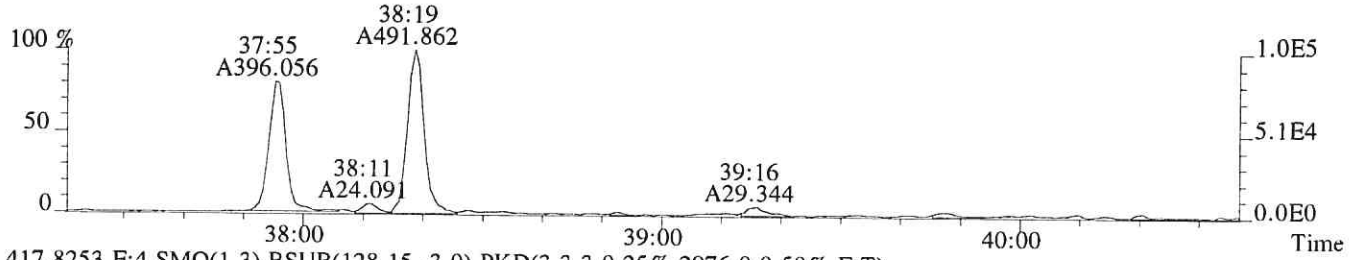
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



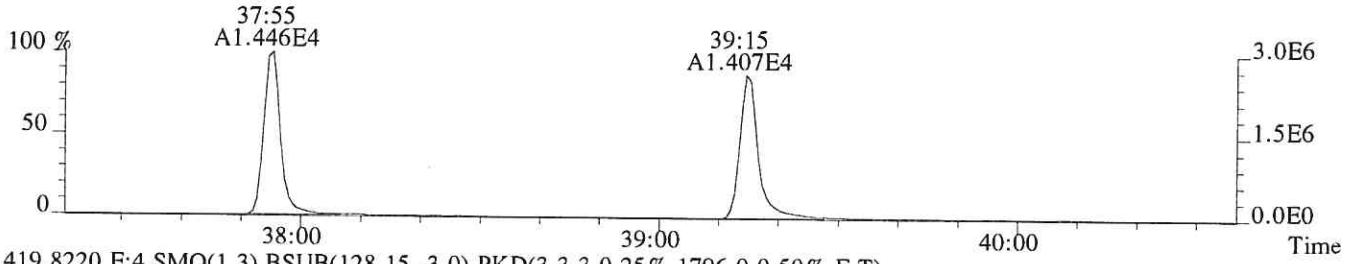
File:P511867 #1-295 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.50%,F,T)



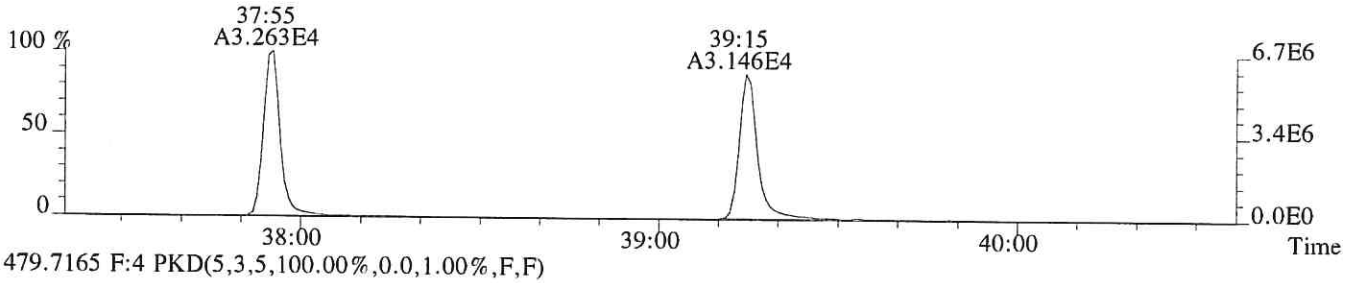
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.50%,F,T)



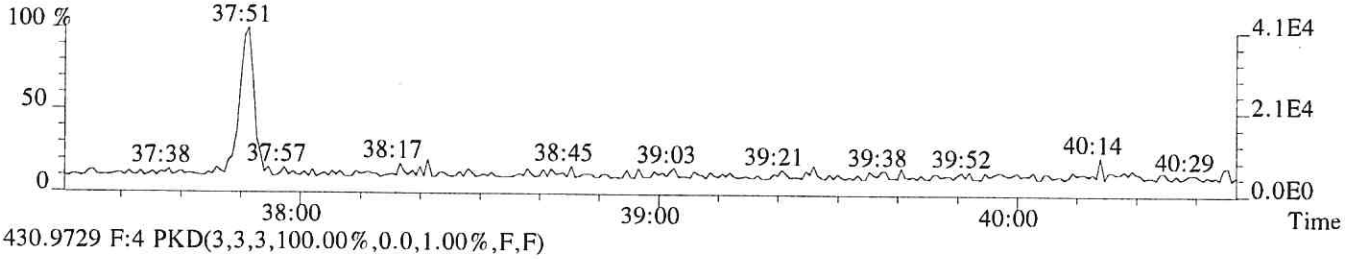
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2976.0,0.50%,F,T)



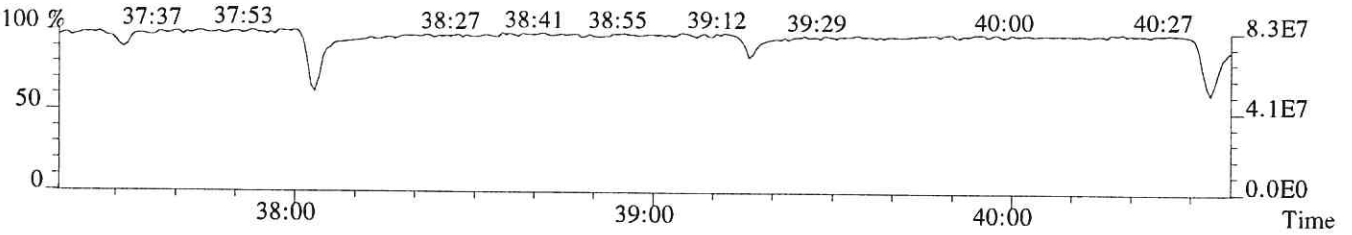
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.50%,F,T)



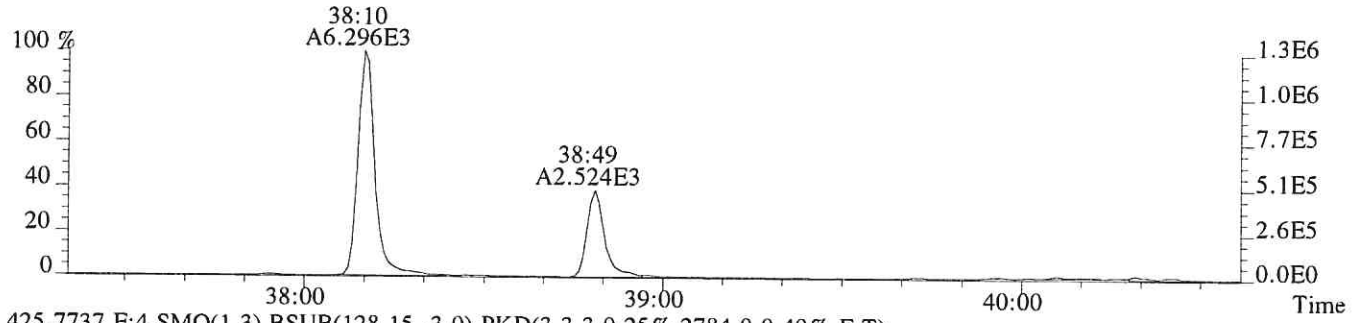
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



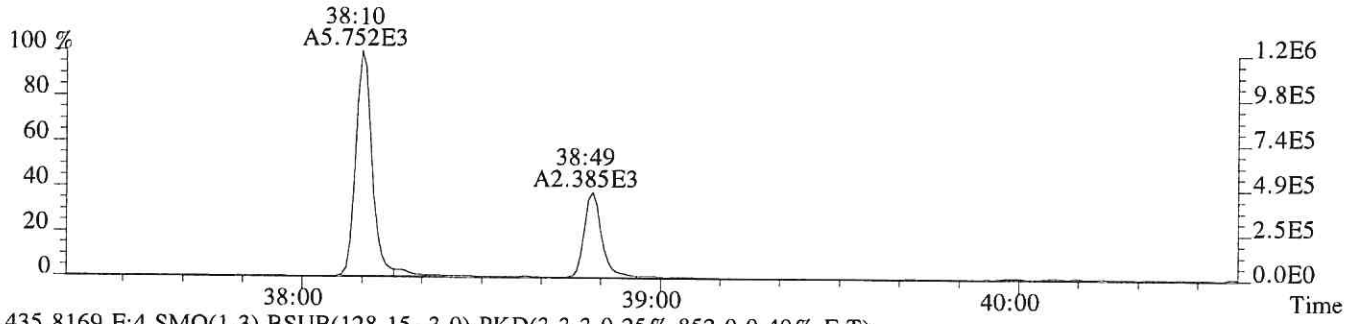
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



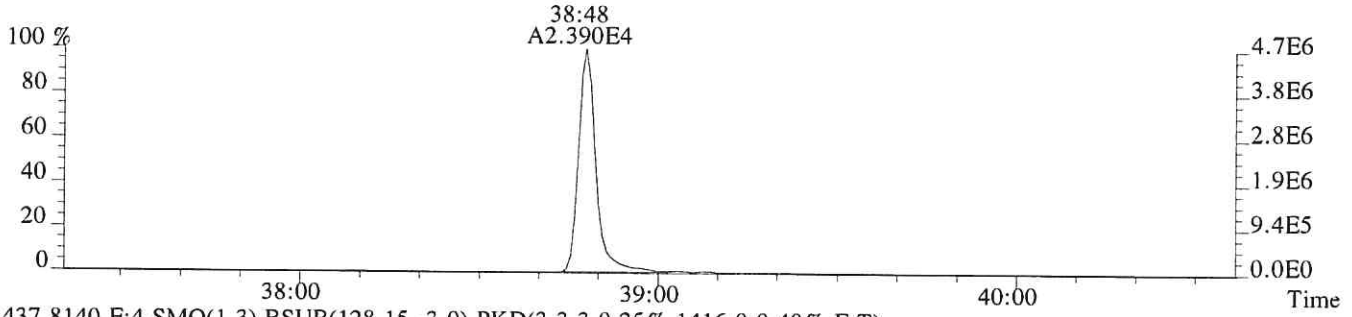
File:P511867 #1-295 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4572.0,0.40%,F,T)



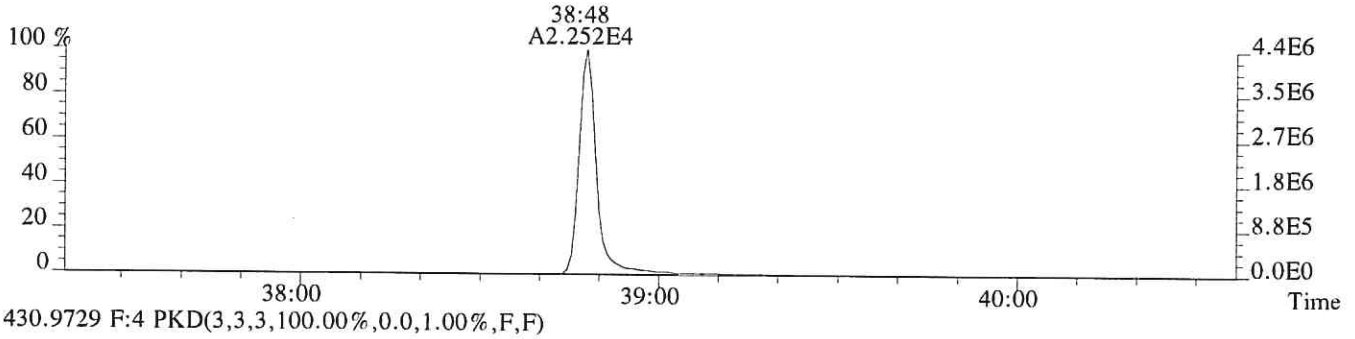
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2784.0,0.40%,F,T)



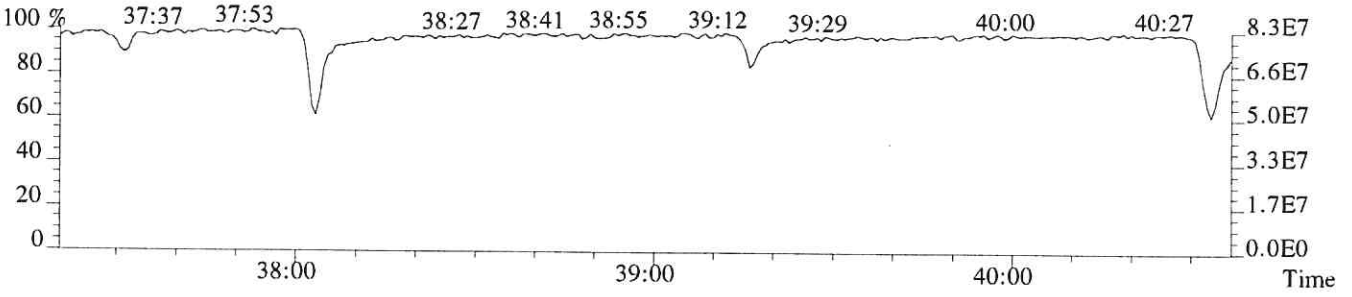
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



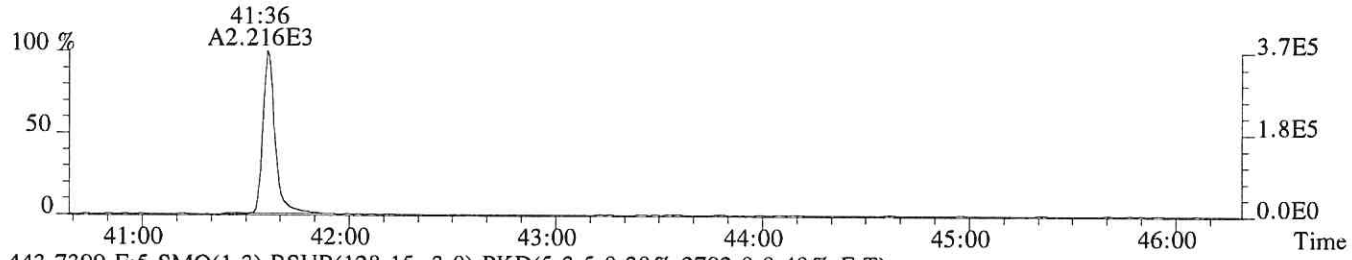
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1416.0,0.40%,F,T)



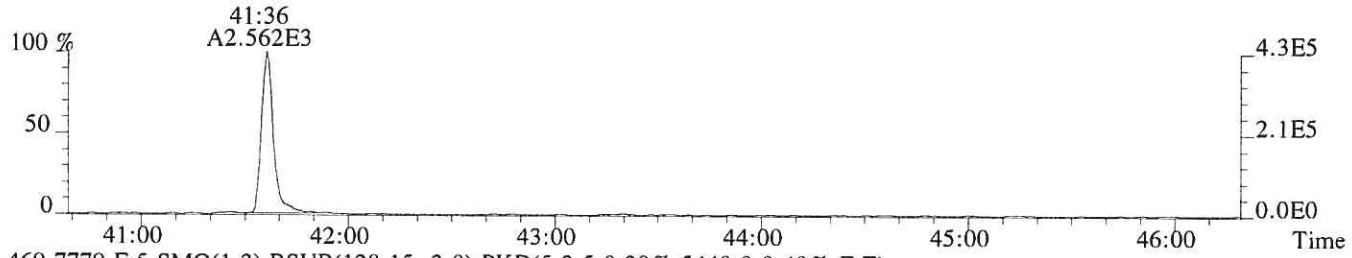
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



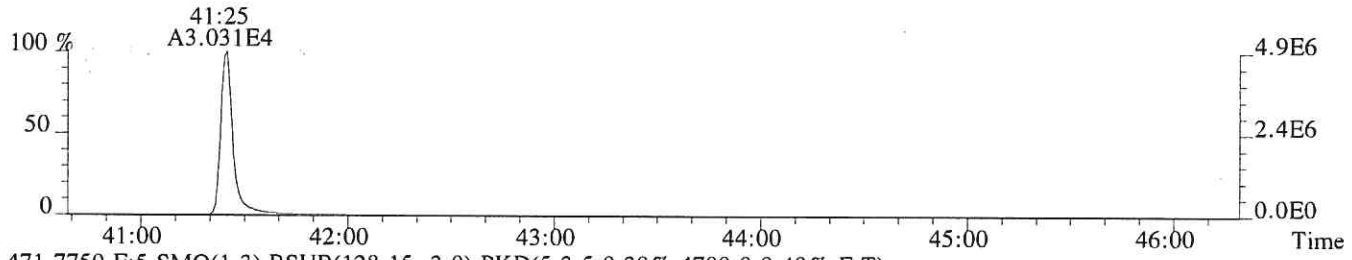
File:P511867 #1-511 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2132.0,0.40%,F,T)



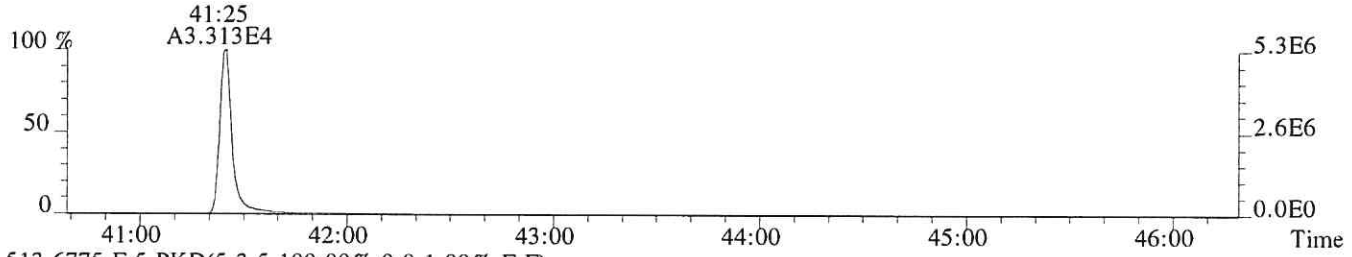
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2792.0,0.40%,F,T)



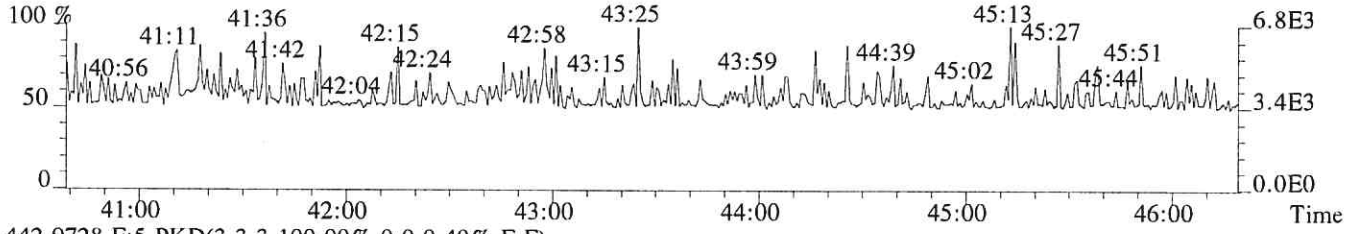
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5440.0,0.40%,F,T)



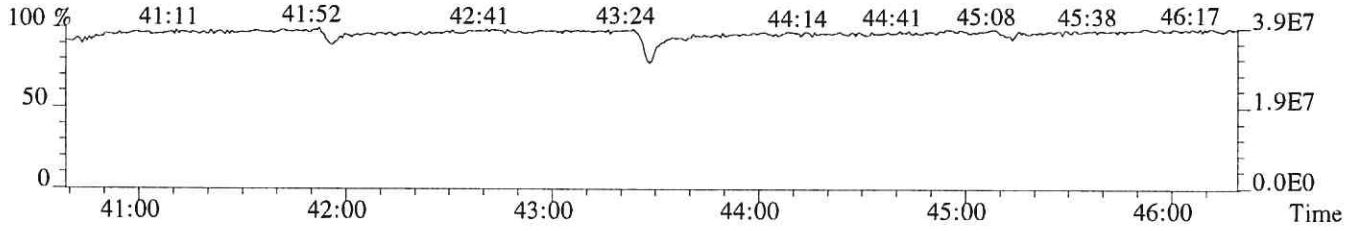
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4700.0,0.40%,F,T)



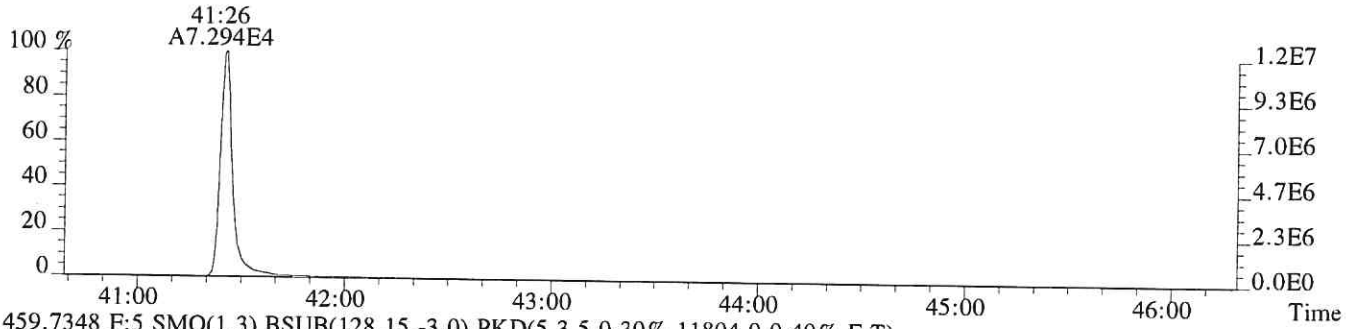
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



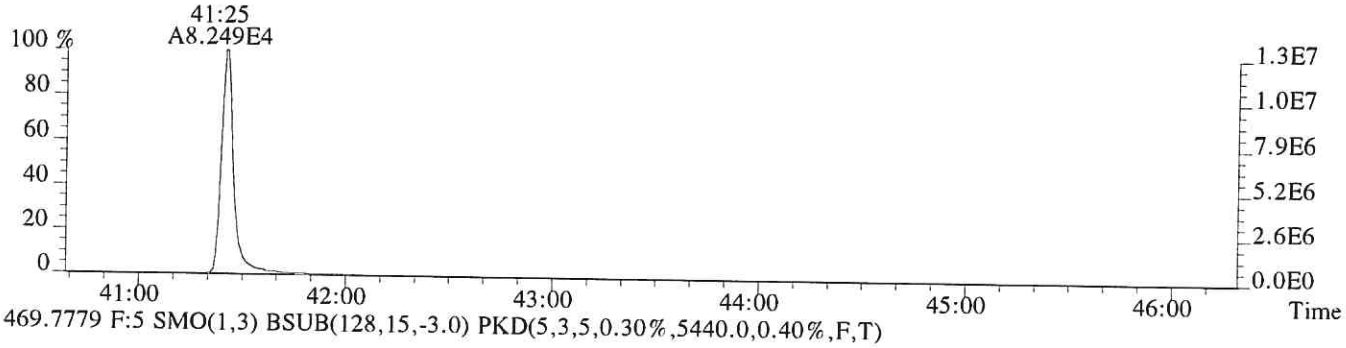
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



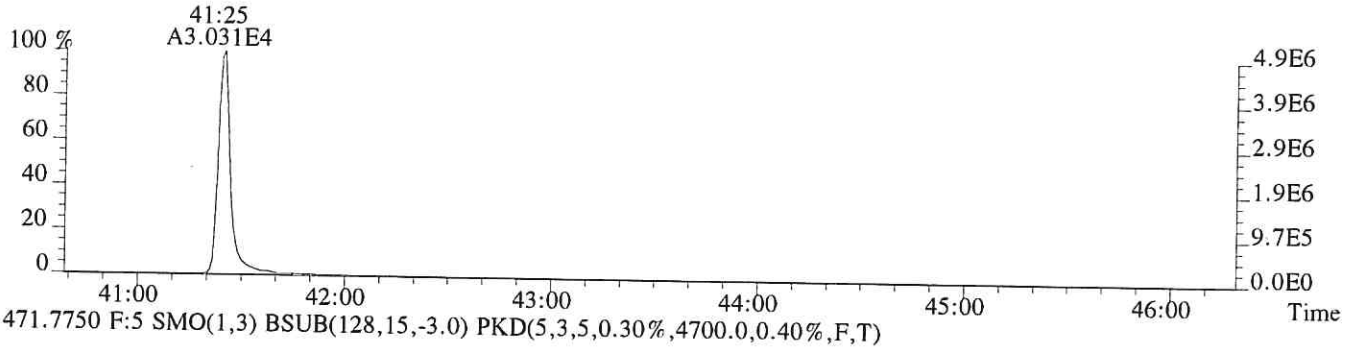
File:P511867 #1-511 Acq:10-OCT-2017 21:13:56 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-001
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



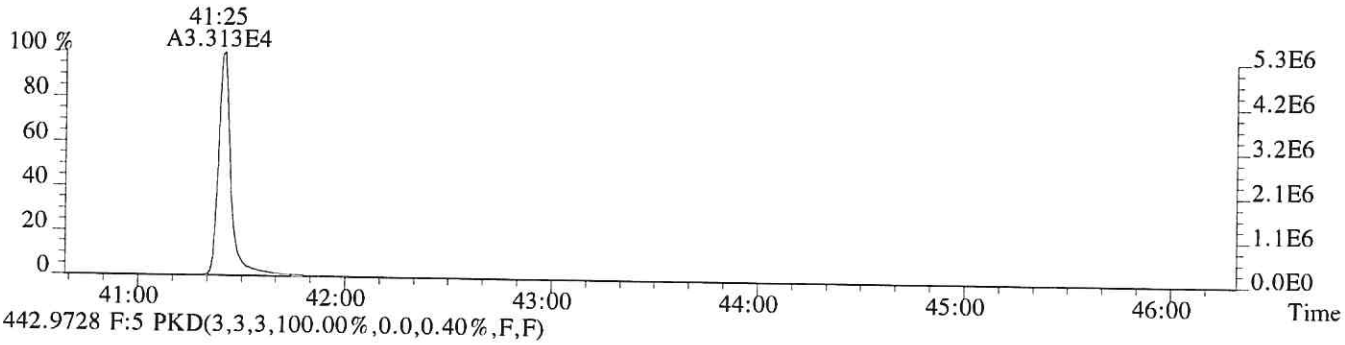
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11804.0,0.40%,F,T)



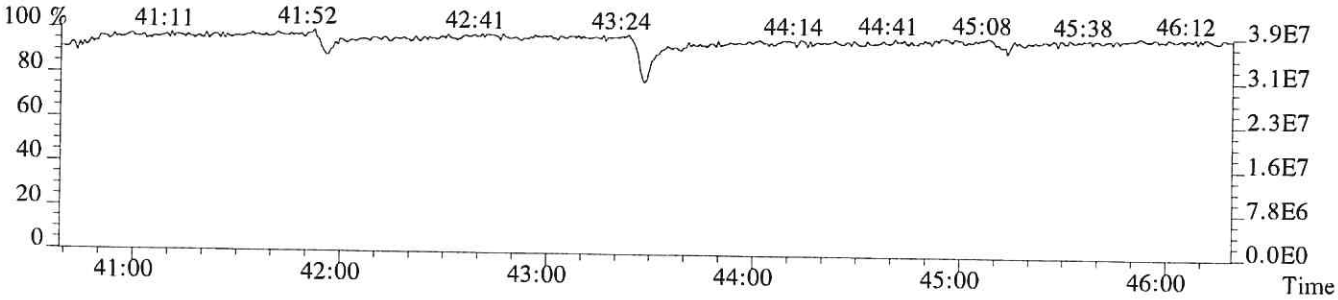
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5440.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4700.0,0.40%,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-100317-0

Run #12 Filename P511868 Samp: 1 Inj: 1 Acquired: 10-OCT-17 22:02:36
Processed: 11-OCT-17 08:47:09 Sample ID: E1701038-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	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	37:56	4.404e+01	3.076e+01	1.43	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	41:36	7.136e+01	8.076e+01	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	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	38:49	1.179e+02	9.581e+01	1.23	no	no	0.942
17	Unk	OCDD	41:26	3.314e+03	3.894e+03	0.85	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	2.212e+04	2.872e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	4.616e+04	2.905e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:32	4.558e+04	2.871e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.996e+04	3.859e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	2.344e+04	4.468e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.224e+04	4.402e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	2.032e+04	3.925e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.574e+04	3.517e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.464e+04	3.316e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	1.846e+04	2.329e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	3.352e+04	2.121e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	3.037e+04	2.354e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	3.012e+04	2.355e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	2.488e+04	2.407e+04	1.03	yes	no	0.881
32	IS	13C-OCDD	41:25	3.299e+04	3.550e+04	0.93	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.131e+04	3.865e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.314e+04	3.389e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.504e+04				no	1.033

$$\text{OCDD} = \frac{(3.314e+03 + 3.894e+03) \times 4000 \text{ pg} \times 1}{(3.299e+04 + 3.550e+04) \times 10.252 \text{ g} \times 80.6 / 100 \times 1.051} = 48.5 \text{ ng/kg}$$

KW 10/11/17

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-100317-035

Run #12 Filename P511868 Samp: 1 Inj: 1 Acquired: 10-OCT-17 22:02:36
Processed: 11-OCT-17 08:47:09 LAB. ID: E1701038-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.04e+03	*	*	3.14e+03	*
2	1,2,3,7,8-PeCDF	*	8.36e+02	*	*	2.17e+03	*
3	2,3,4,7,8-PeCDF	*	8.36e+02	*	*	2.17e+03	*
4	1,2,3,4,7,8-HxCDF	*	7.68e+02	*	*	1.48e+03	*
5	1,2,3,6,7,8-HxCDF	*	7.68e+02	*	*	1.48e+03	*
6	2,3,4,6,7,8-HxCDF	*	7.68e+02	*	*	1.48e+03	*
7	1,2,3,7,8,9-HxCDF	*	7.68e+02	*	*	1.48e+03	*
8	1,2,3,4,6,7,8-HpCDF	7.99e+03	9.96e+02	8.0e+00	7.30e+03	1.19e+03	6.1e+00
9	1,2,3,4,7,8,9-HpCDF	*	9.96e+02	*	*	1.19e+03	*
10	OCDF	1.40e+04	9.80e+02	1.4e+01	1.46e+04	1.78e+03	8.2e+00
11	2,3,7,8-TCDD	*	1.90e+03	*	*	1.34e+03	*
12	1,2,3,7,8-PeCDD	*	2.21e+03	*	*	4.40e+02	*
13	1,2,3,4,7,8-HxCDD	*	8.56e+02	*	*	1.37e+03	*
14	1,2,3,6,7,8-HxCDD	*	8.56e+02	*	*	1.37e+03	*
15	1,2,3,7,8,9-HxCDD	*	8.56e+02	*	*	1.37e+03	*
16	1,2,3,4,6,7,8-HpCDD	2.13e+04	6.44e+02	3.3e+01	2.25e+04	1.22e+03	1.8e+01
17	OCDD	5.15e+05	1.56e+03	3.3e+02	6.05e+05	1.90e+03	3.2e+02
18	13C-2,3,7,8-TCDF	3.78e+06	1.26e+04	3.0e+02	4.73e+06	7.12e+03	6.6e+02
19	13C-1,2,3,7,8-PeCDF	8.17e+06	1.06e+03	7.7e+03	5.24e+06	1.39e+03	3.8e+03
20	13C-2,3,4,7,8-PeCDF	8.64e+06	1.06e+03	8.1e+03	5.49e+06	1.39e+03	3.9e+03
21	13C-1,2,3,4,7,8-HxCDF	4.18e+06	1.05e+03	4.0e+03	7.97e+06	1.21e+03	6.6e+03
22	13C-1,2,3,6,7,8-HxCDF	4.61e+06	1.05e+03	4.4e+03	8.79e+06	1.21e+03	7.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.52e+06	1.05e+03	4.3e+03	9.00e+06	1.21e+03	7.4e+03
24	13C-1,2,3,7,8,9-HxCDF	3.87e+06	1.05e+03	3.7e+03	7.43e+06	1.21e+03	6.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.25e+06	4.32e+03	7.5e+02	7.04e+06	4.01e+03	1.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.67e+06	4.32e+03	6.2e+02	6.18e+06	4.01e+03	1.5e+03
27	13C-2,3,7,8-TCDD	3.34e+06	7.51e+03	4.4e+02	4.19e+06	3.97e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	6.36e+06	1.38e+03	4.6e+03	4.05e+06	1.31e+03	3.1e+03
29	13C-1,2,3,4,7,8-HxCDD	6.69e+06	2.36e+03	2.8e+03	5.17e+06	1.44e+03	3.6e+03
30	13C-1,2,3,6,7,8-HxCDD	6.10e+06	2.36e+03	2.6e+03	4.77e+06	1.44e+03	3.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.97e+06	1.28e+03	3.9e+03	4.69e+06	6.72e+02	7.0e+03
32	13C-OCDD	5.13e+06	4.96e+03	1.0e+03	5.68e+06	1.28e+03	4.4e+03
33	13C-1,2,3,4-TCDD	5.56e+06	7.51e+03	7.4e+02	6.77e+06	3.97e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	8.51e+06	2.36e+03	3.6e+03	6.80e+06	1.44e+03	4.7e+03
35	37Cl-2,3,7,8-TCDD	2.76e+06	1.52e+03	1.8e+03			

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Peak List Summary

CLIENT ID.

SJWP-100317-035

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 12 File: P511868 Sample:1 Injection:1 Function:3

Acquired: 10-OCT-17 22:02:36 Processed: 11-OCT-17 08:47:09

Mass: 389.8160 391.8130 Tot Response: 1.33e+02 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:42	5.99e+01	4.25e+01	1.41	yes	1.02e+02	n	n
2	35:26	1.71e+01	1.36e+01	1.26	yes	3.07e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-035

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 12 File: P511868 Sample:1 Injection:1 Function:4

Acquired: 10-OCT-17 22:02:36 Processed: 11-OCT-17 08:47:09

Mass: 423.7770 425.7740 Tot Response: 4.80e+02 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:11	2.52e+02	2.28e+02	1.11	yes	4.80e+02	n	n

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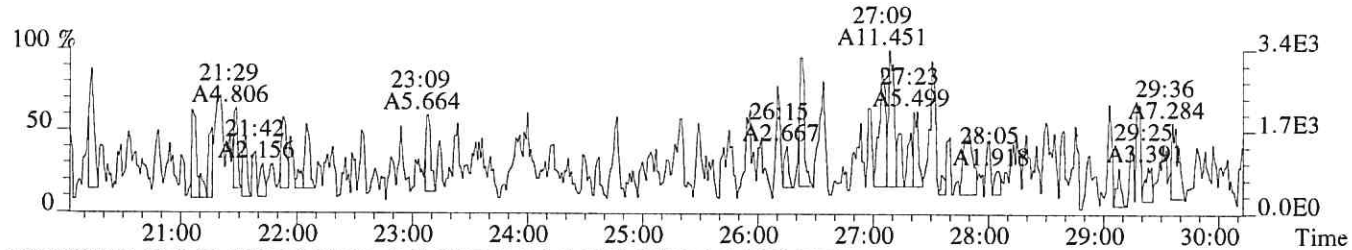
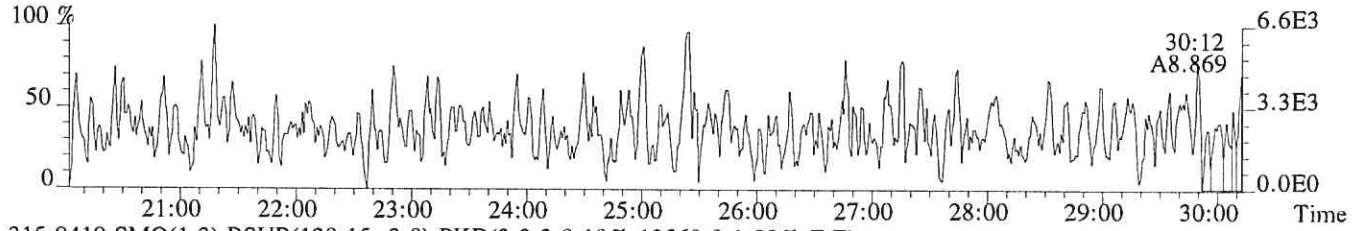
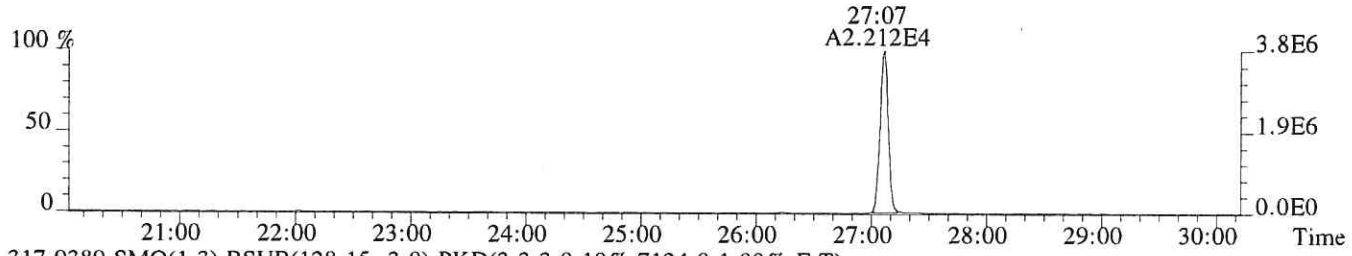
File:P511868 #1-722 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1044.0,1.00%,F,T)



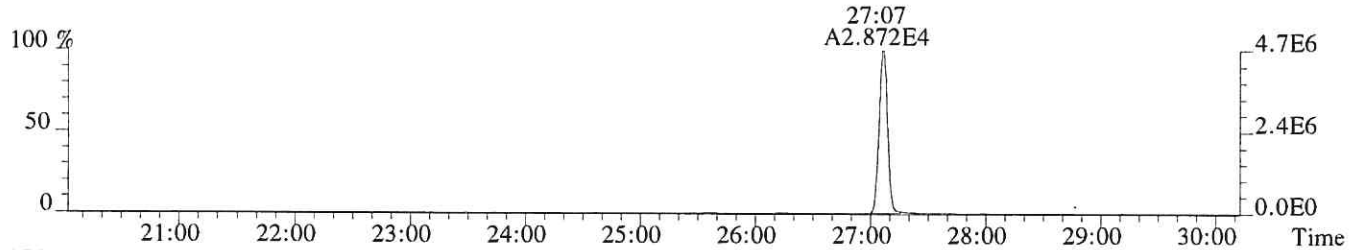
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3136.0,1.00%,F,T)



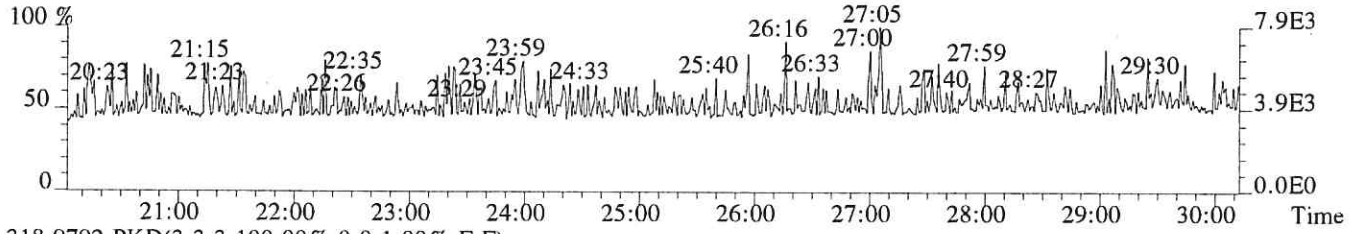
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12560.0,1.00%,F,T)



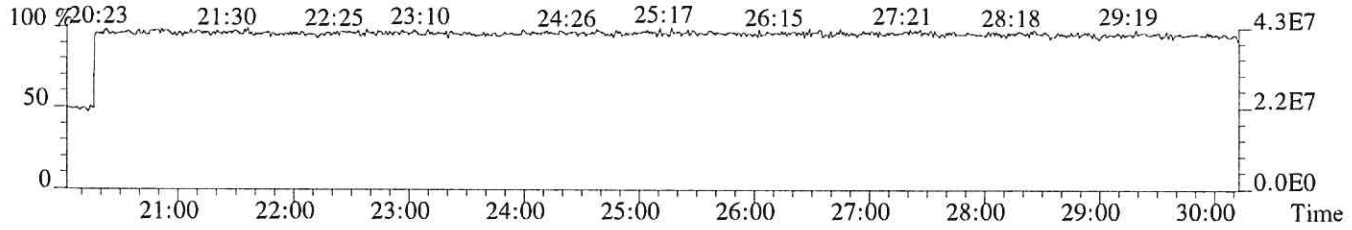
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7124.0,1.00%,F,T)



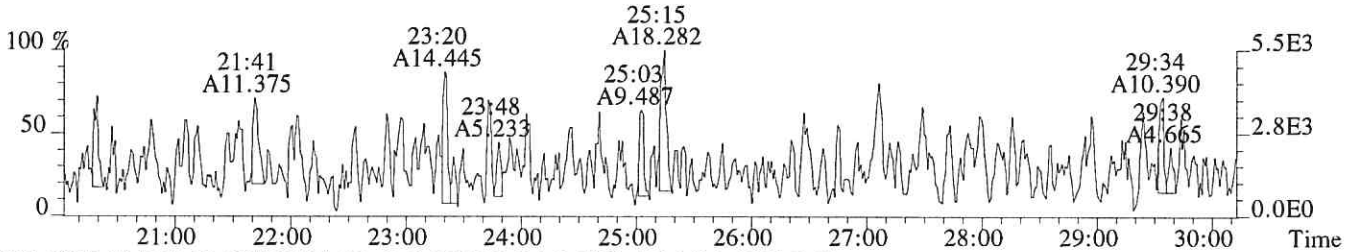
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



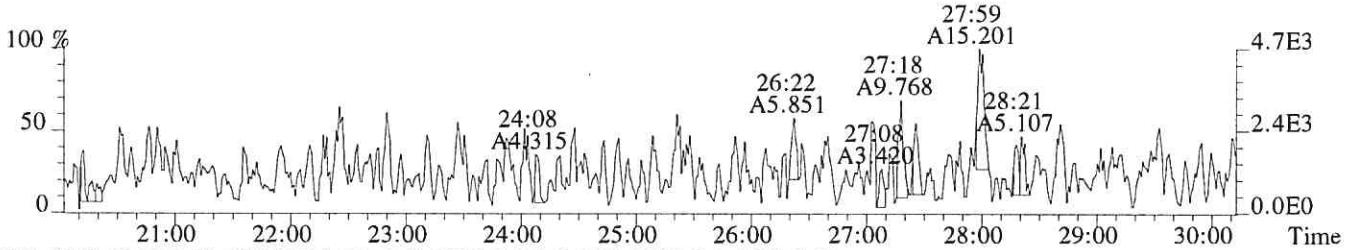
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



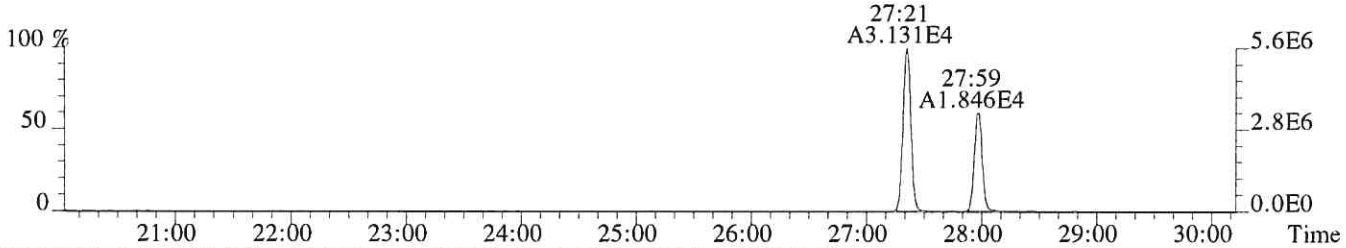
File:P511868 #1-722 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



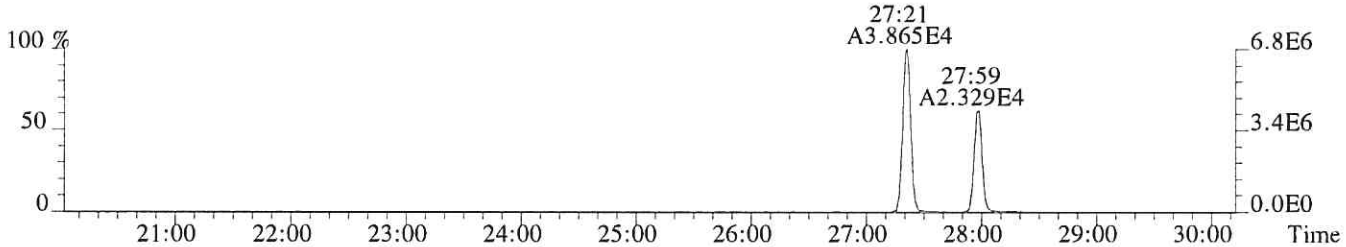
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



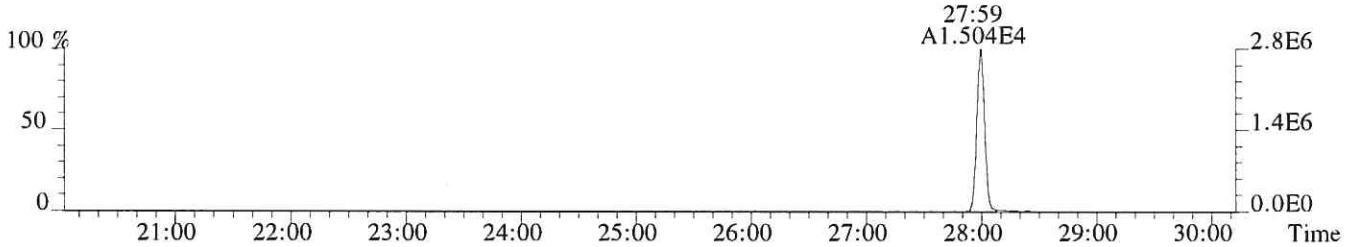
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7508.0,1.00%,F,T)



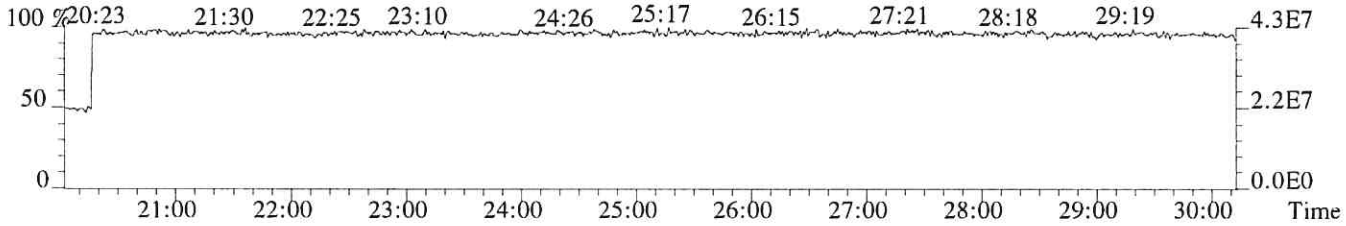
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3968.0,1.00%,F,T)



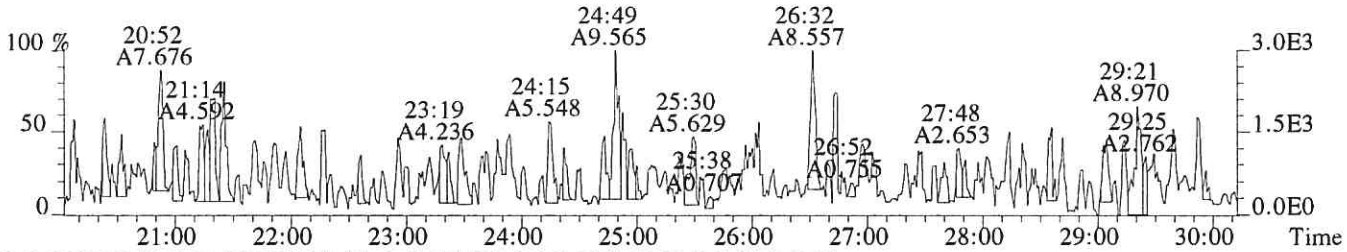
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)



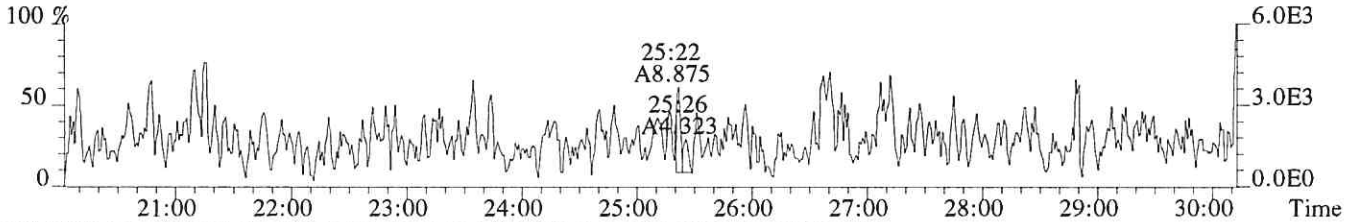
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



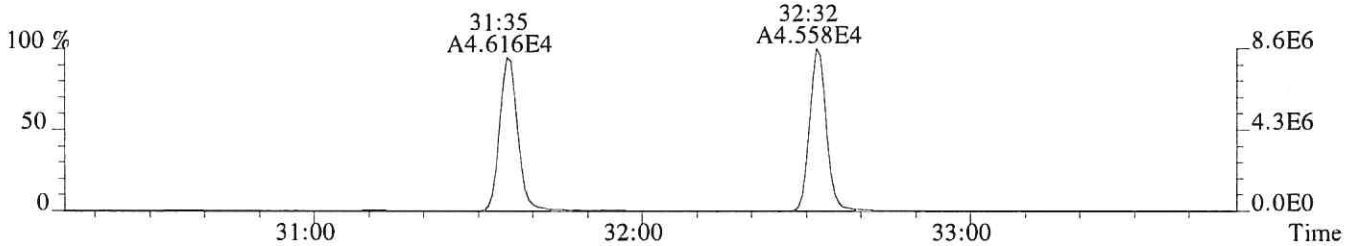
File:P511868 #1-722 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



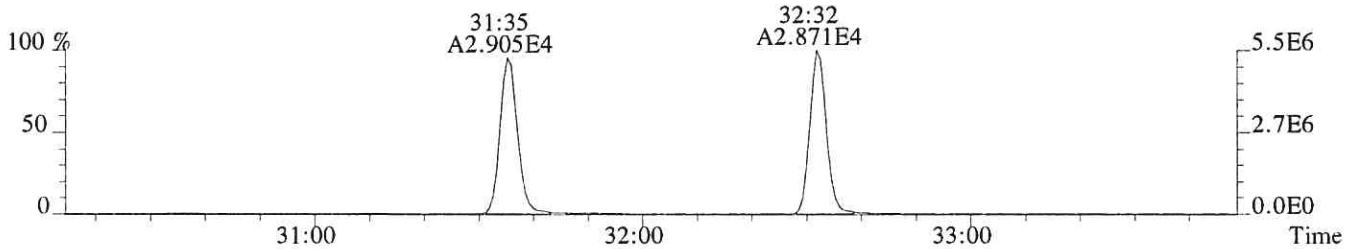
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2152.0,1.00%,F,T)



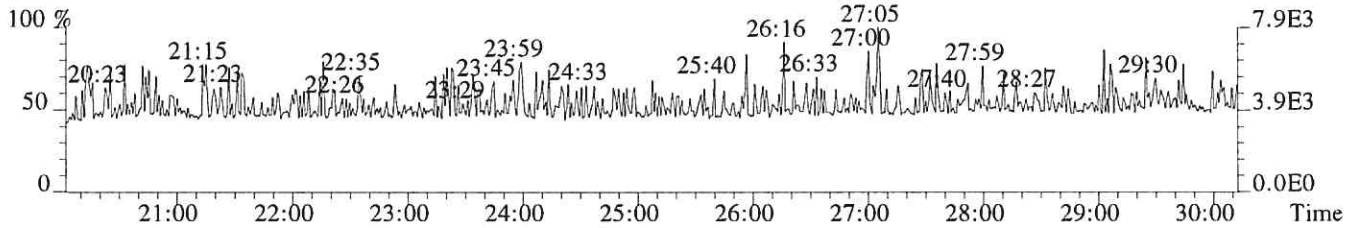
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



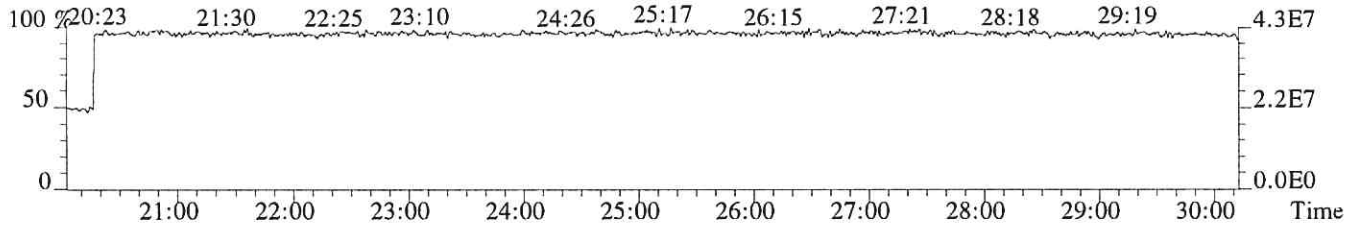
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



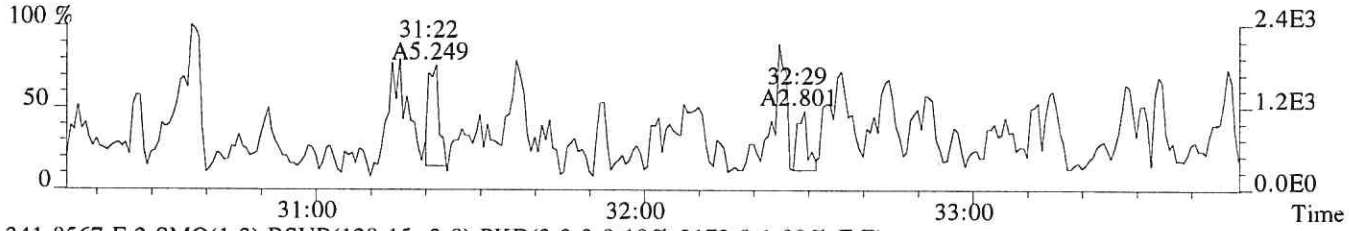
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



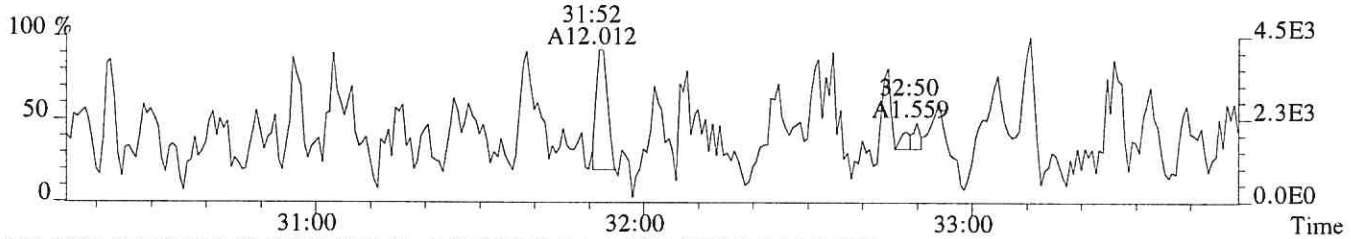
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



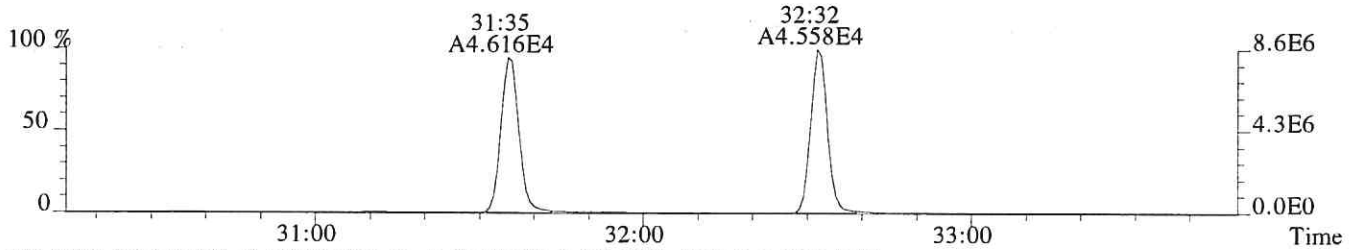
File:P511868 #1-322 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,T)



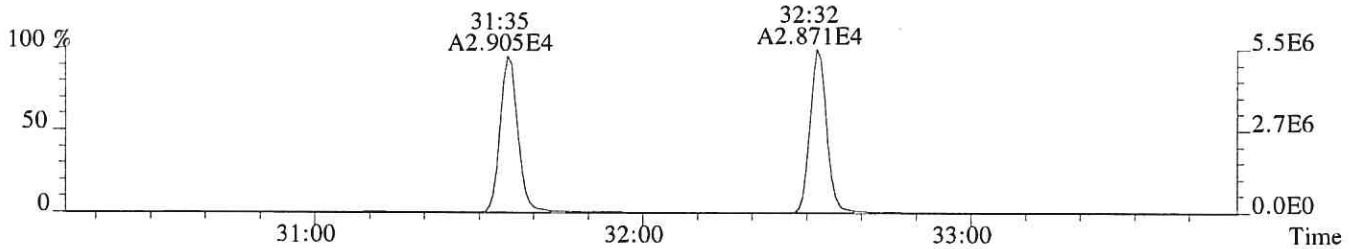
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2172.0,1.00%,F,T)



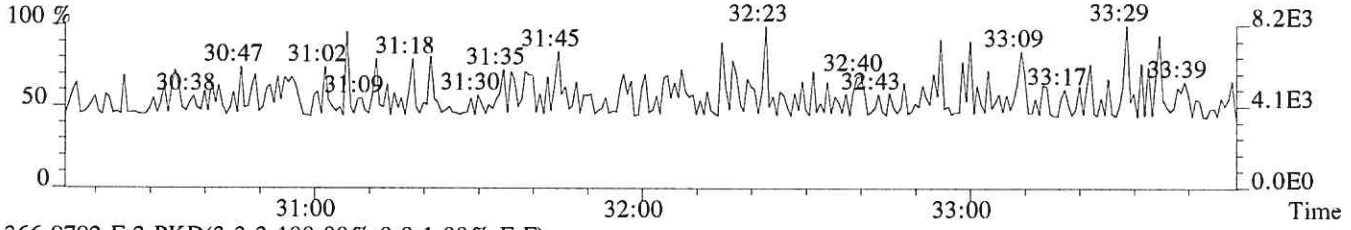
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



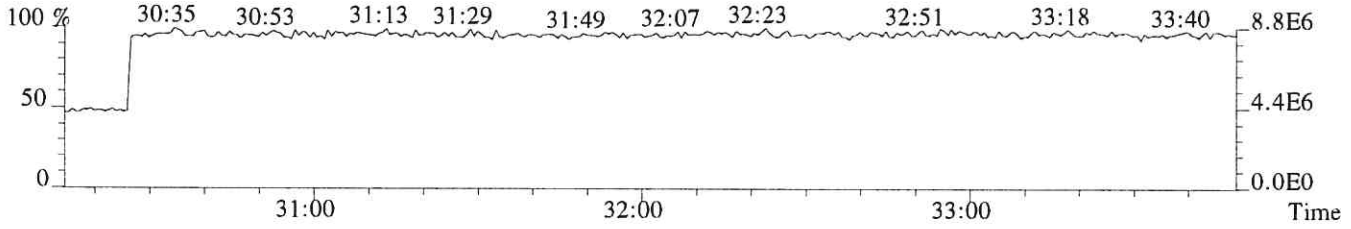
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



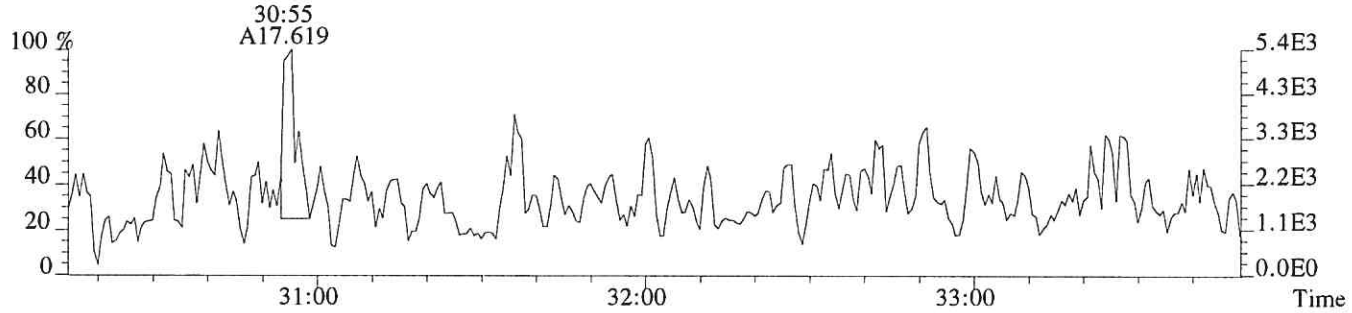
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



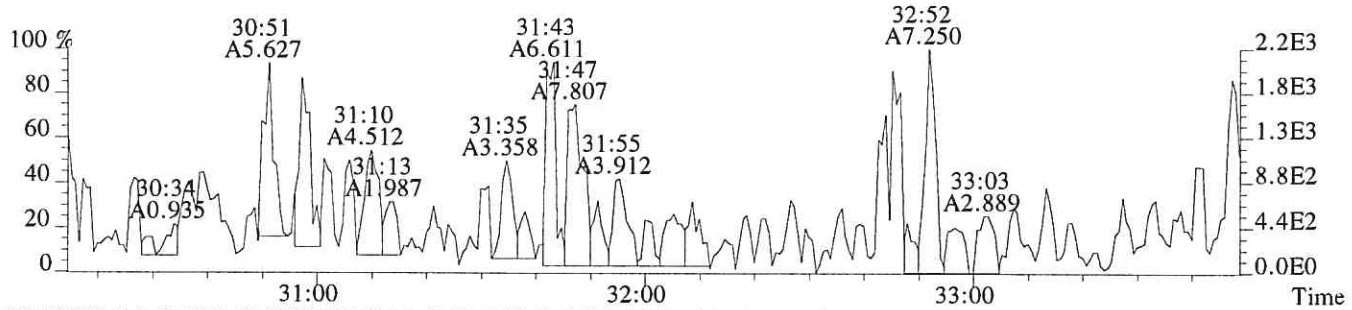
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



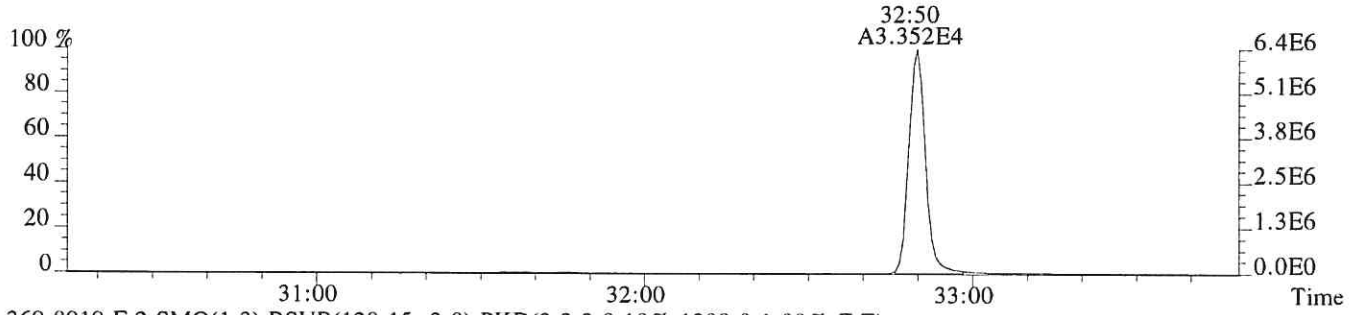
File:P511868 #1-322 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2208.0,1.00%,F,T)



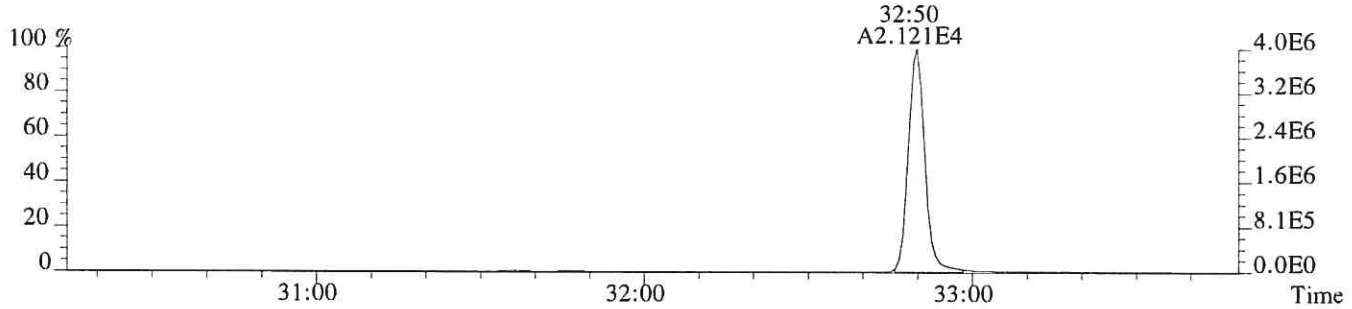
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,T)



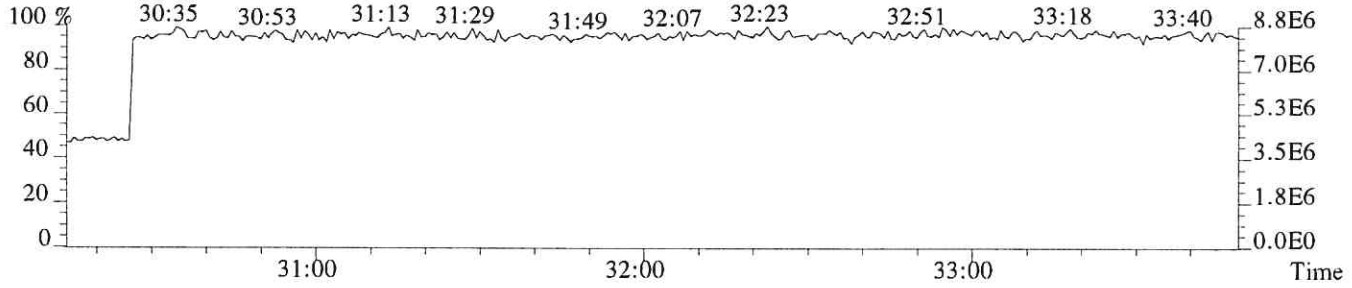
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



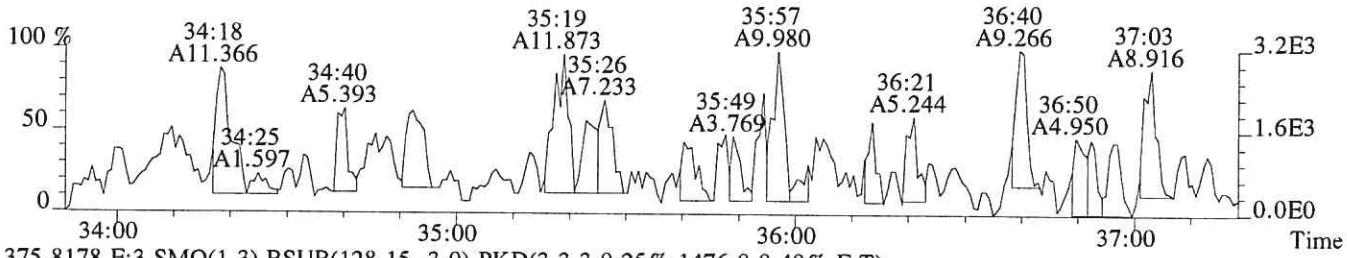
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,T)



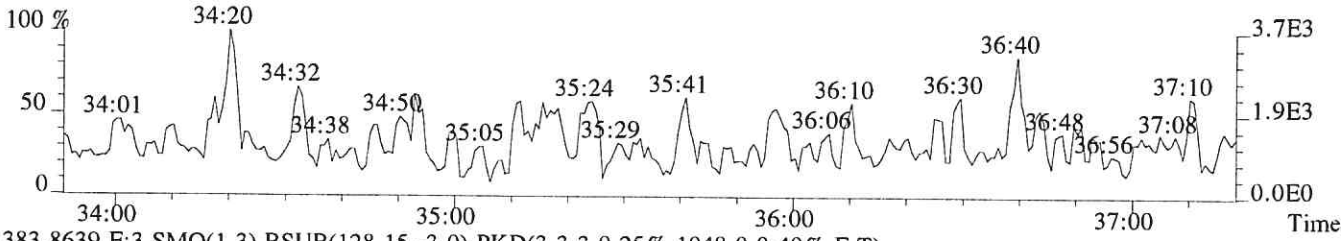
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



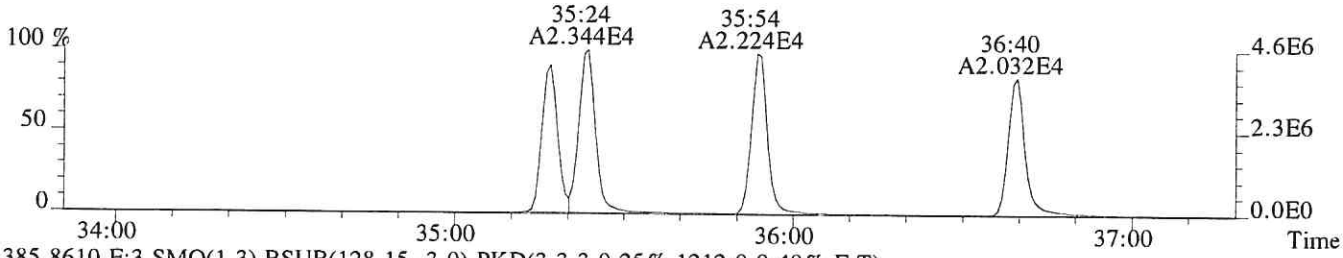
File:P511868 #1-312 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,768.0,0.40%,F,T)



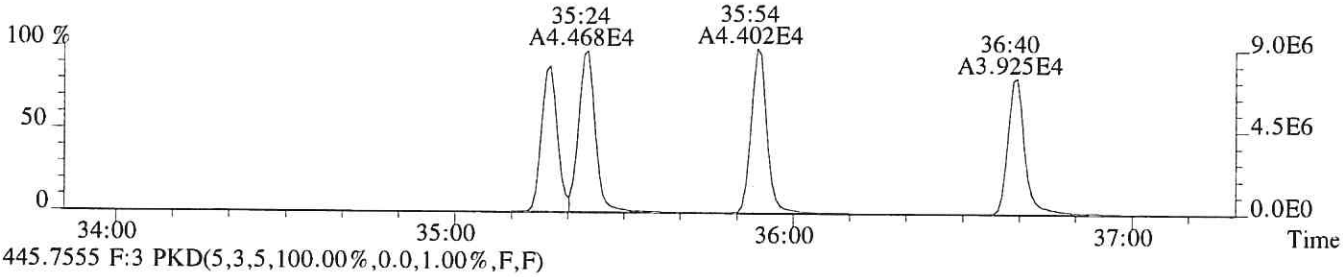
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1476.0,0.40%,F,T)



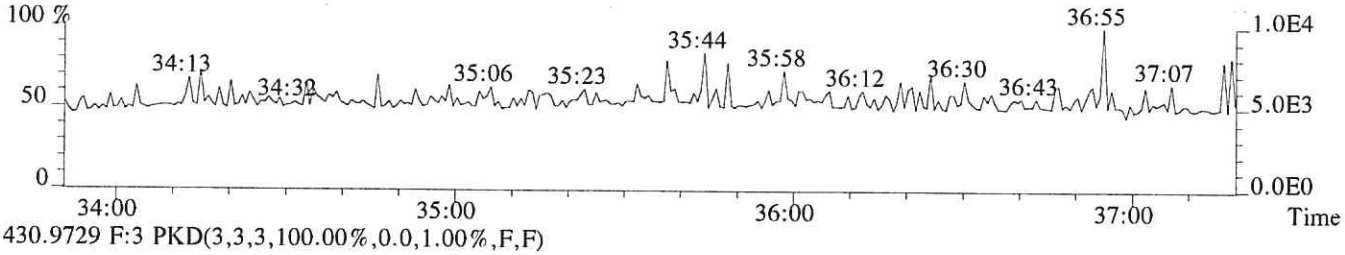
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



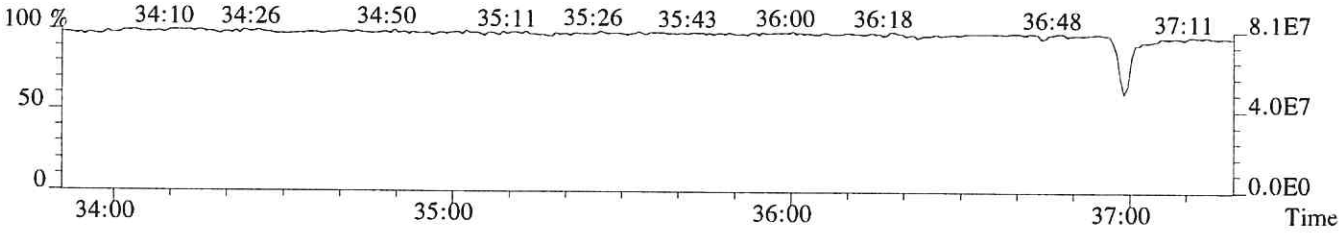
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,T)



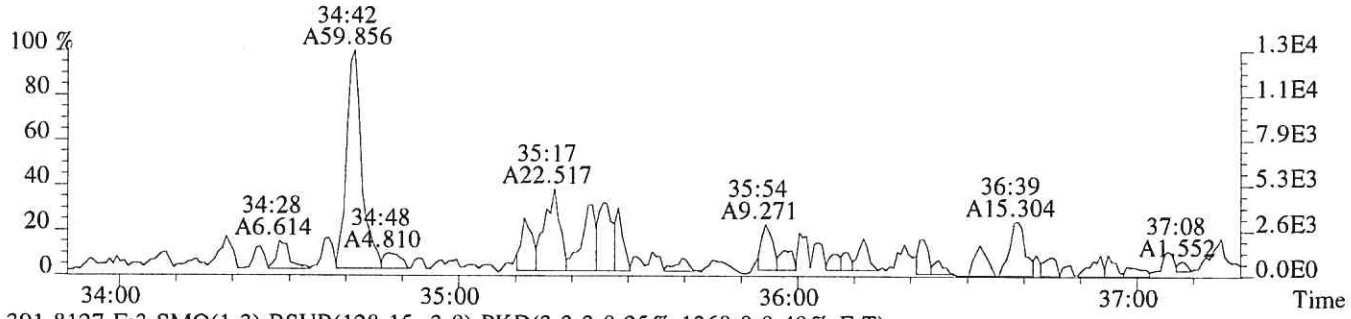
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



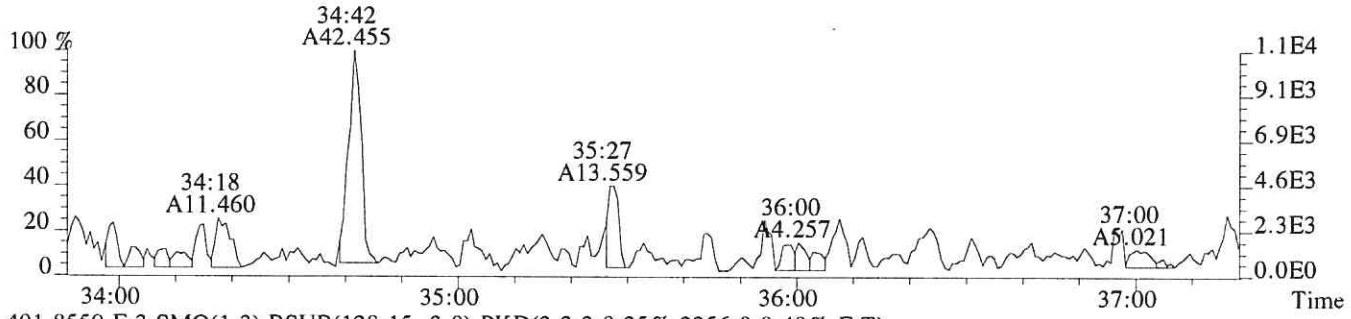
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



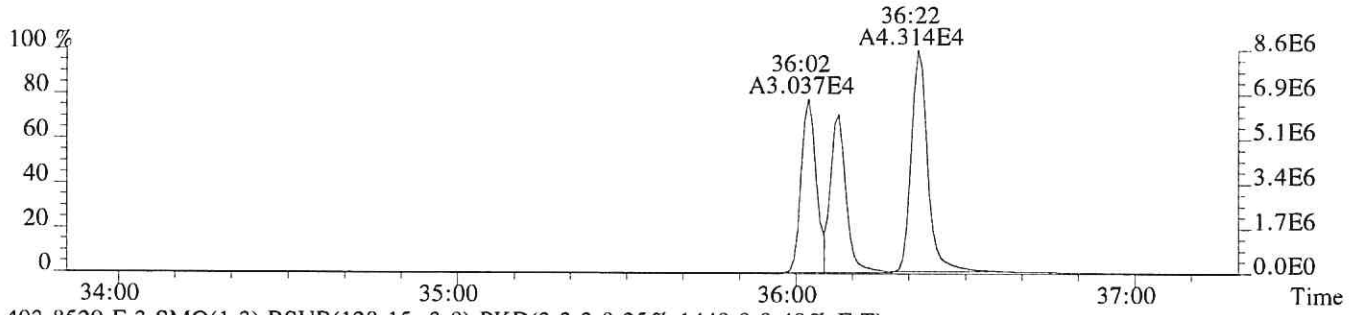
File:P511868 #1-312 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



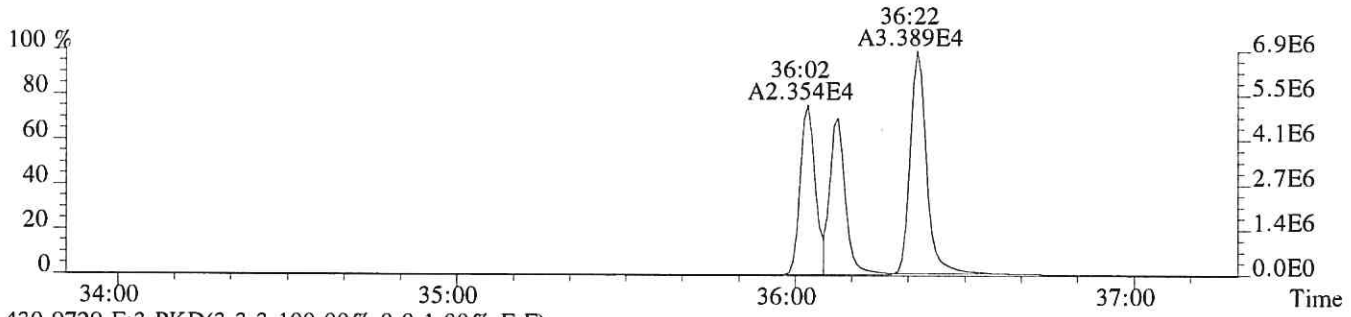
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



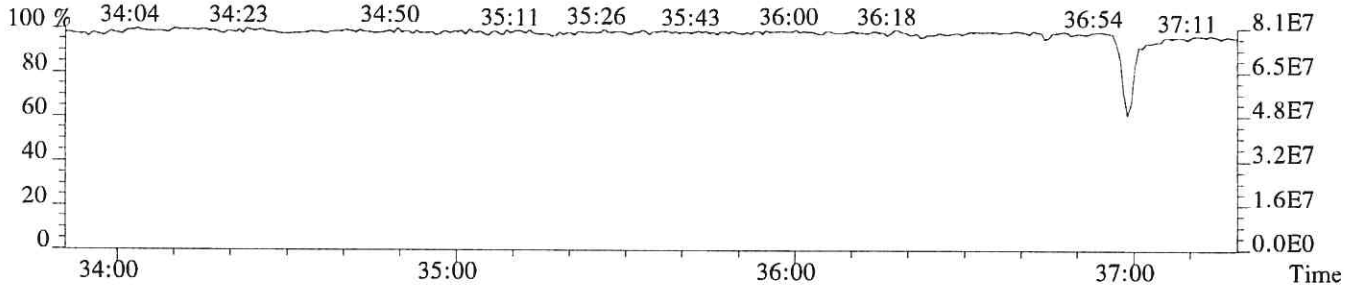
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2356.0,0.40%,F,T)



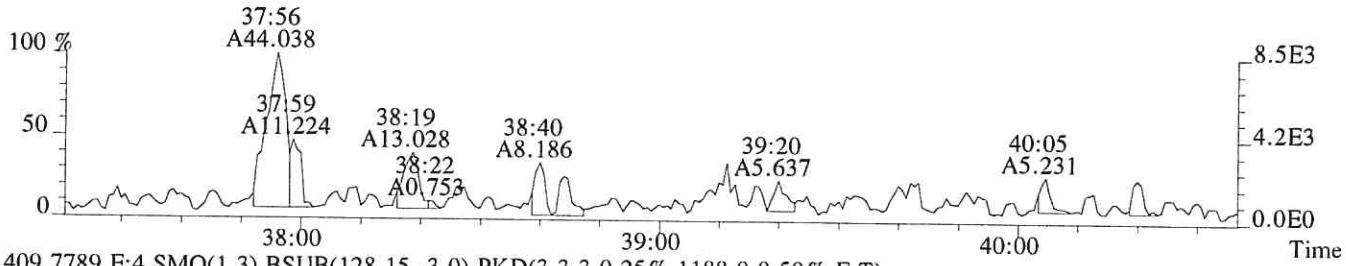
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



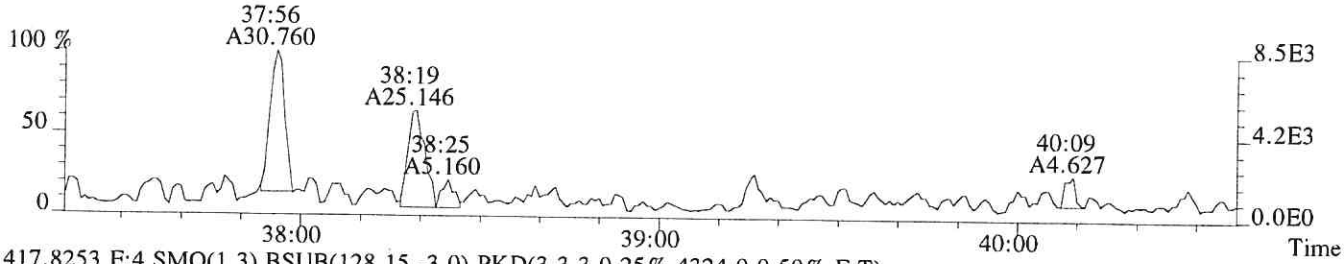
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



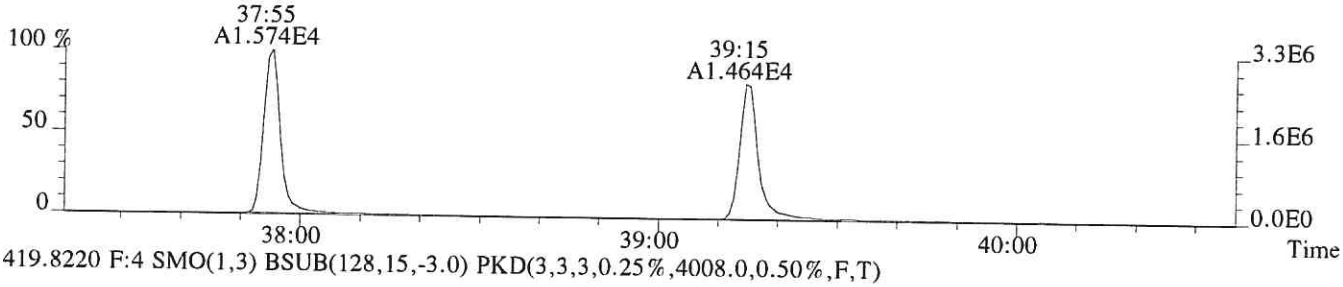
File:P511868 #1-295 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,T)



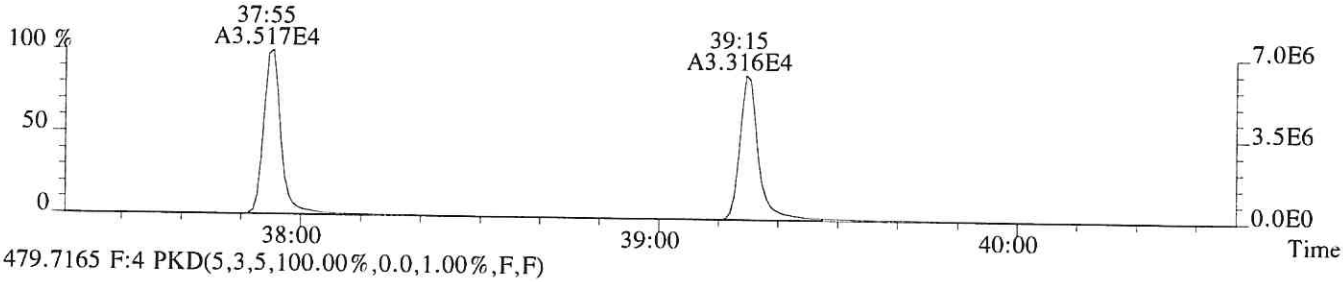
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1188.0,0.50%,F,T)



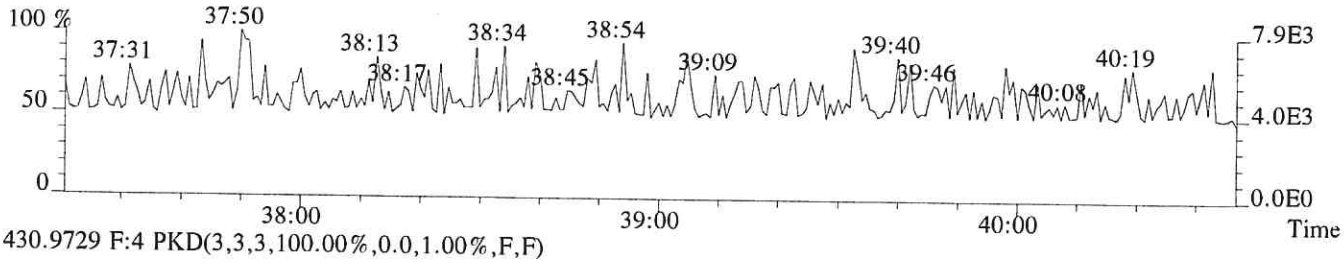
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4324.0,0.50%,F,T)



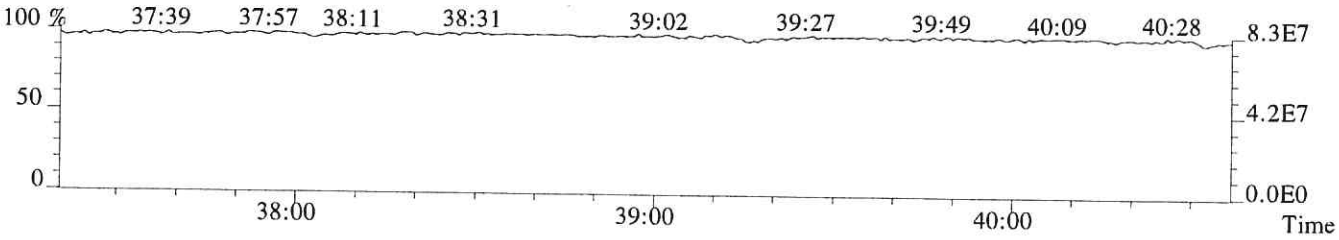
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4008.0,0.50%,F,T)



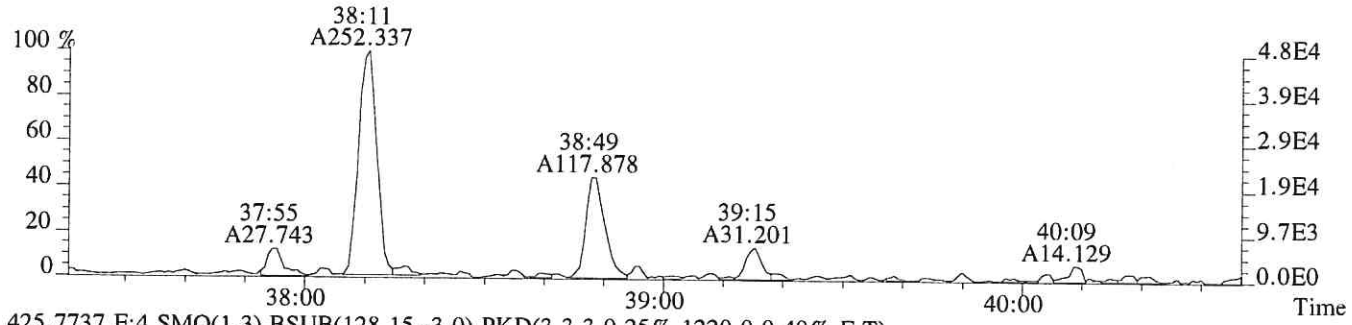
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



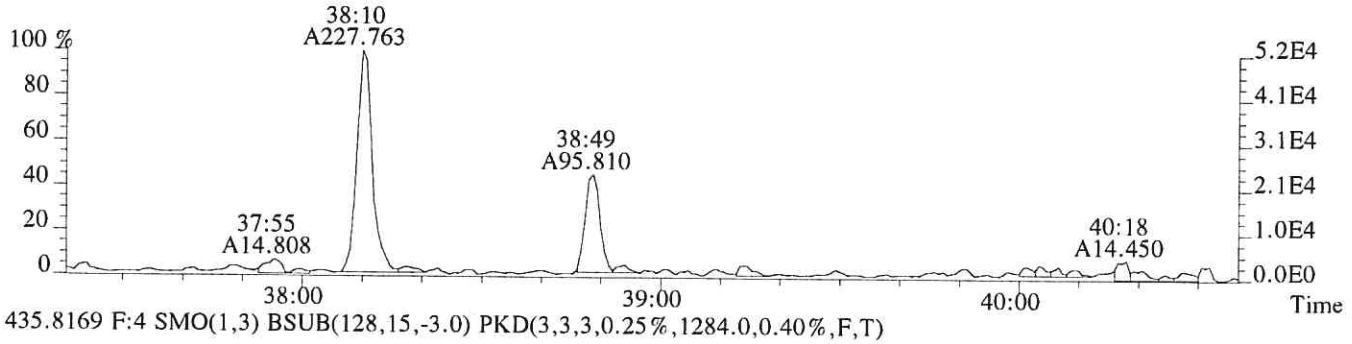
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



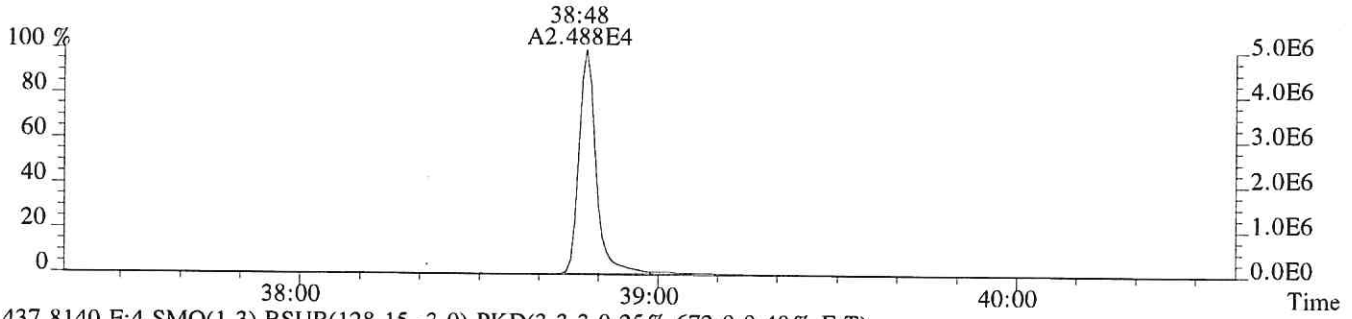
File:P511868 #1-295 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,644.0,0.40%,F,T)



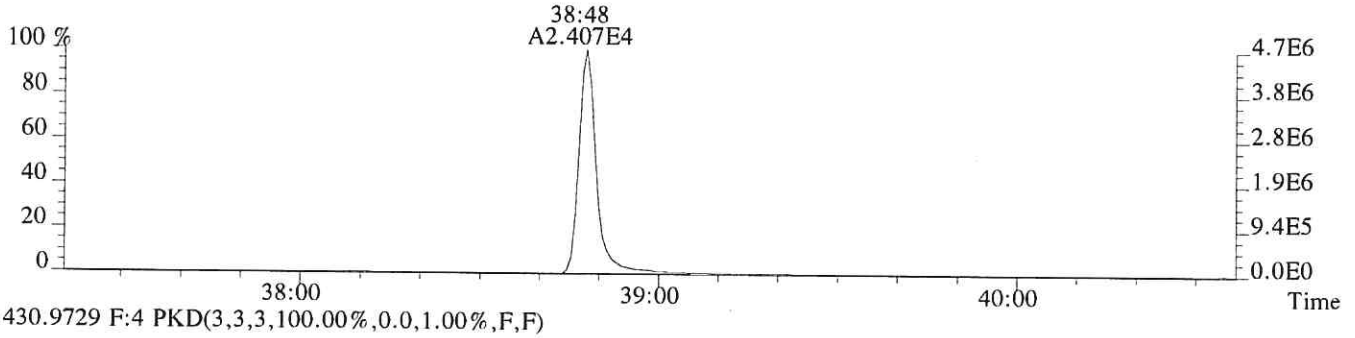
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



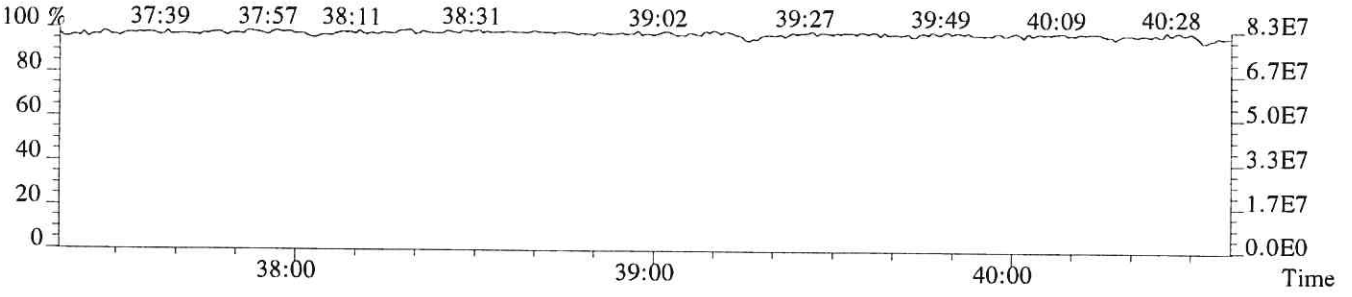
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.40%,F,T)



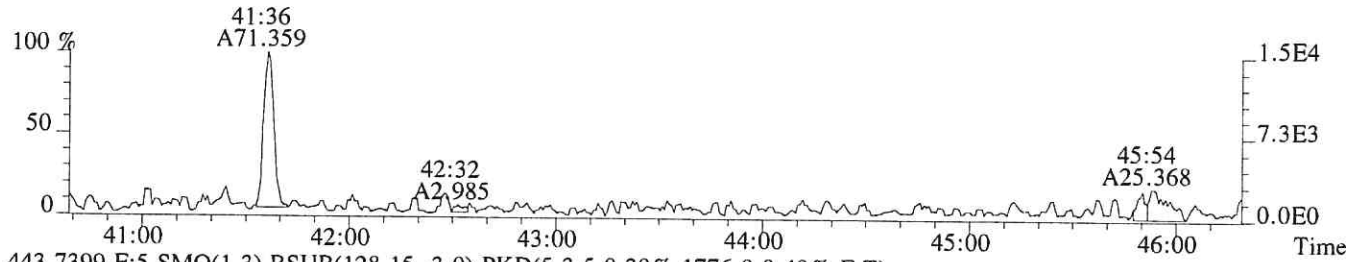
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,T)



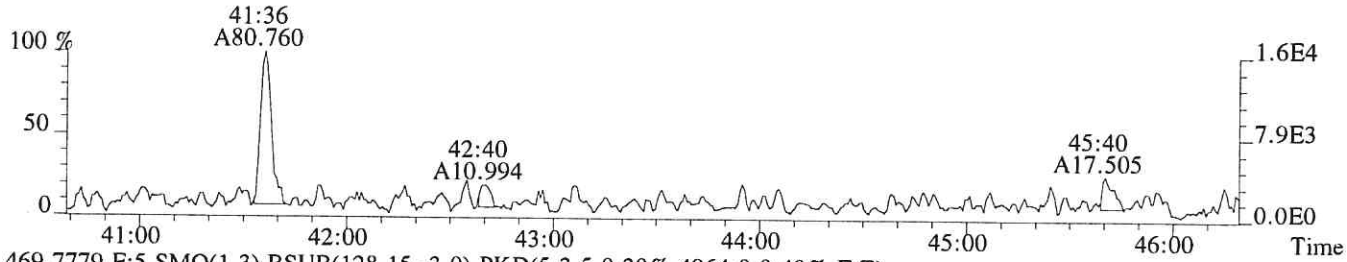
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



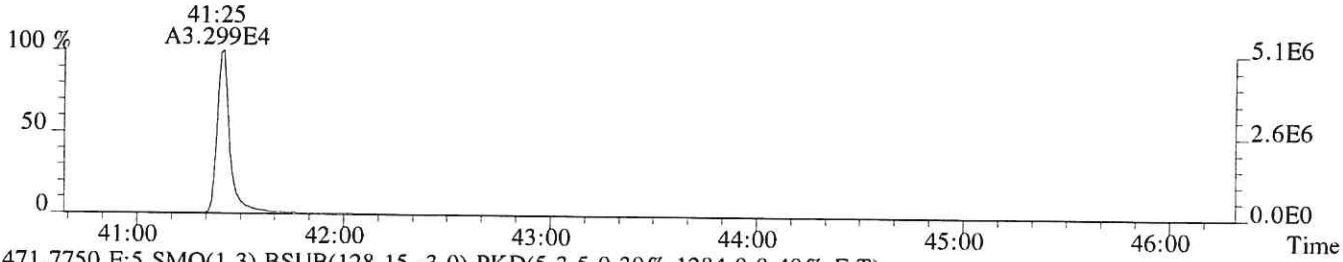
File:P511868 #1-511 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,980.0,0.40%,F,T)



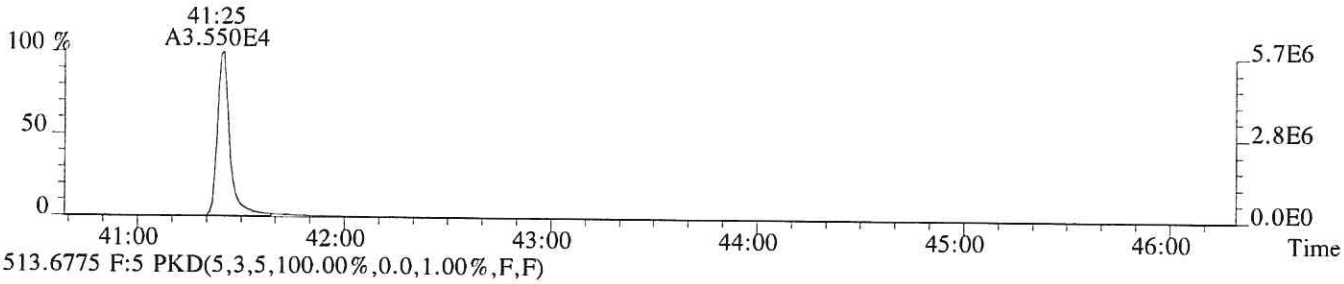
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1776.0,0.40%,F,T)



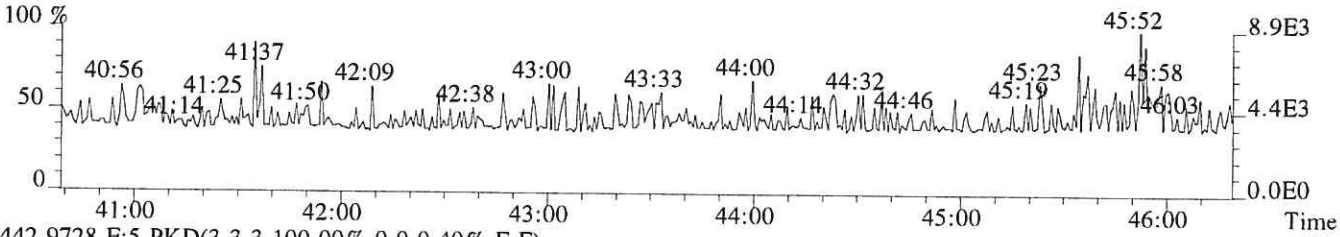
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4964.0,0.40%,F,T)



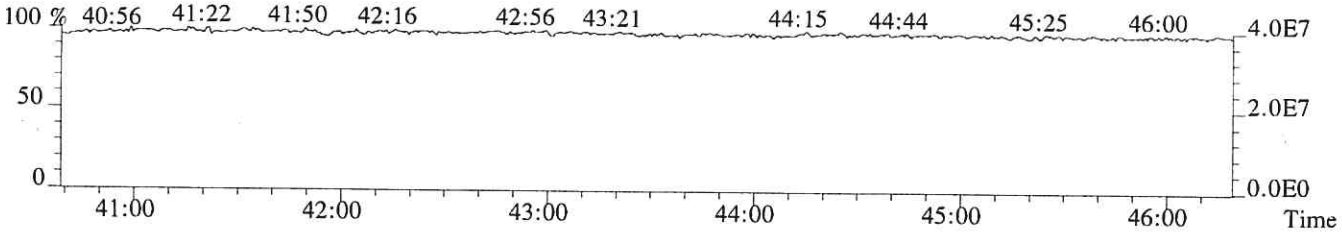
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1284.0,0.40%,F,T)



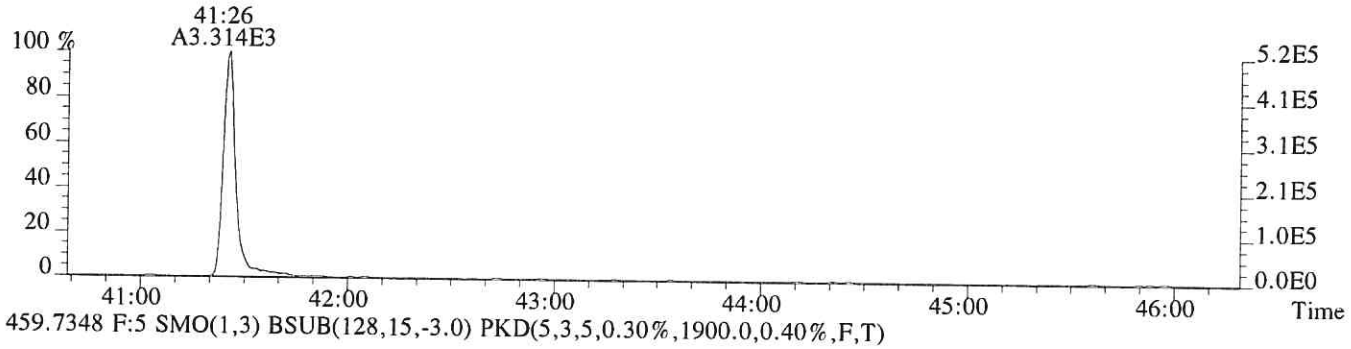
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



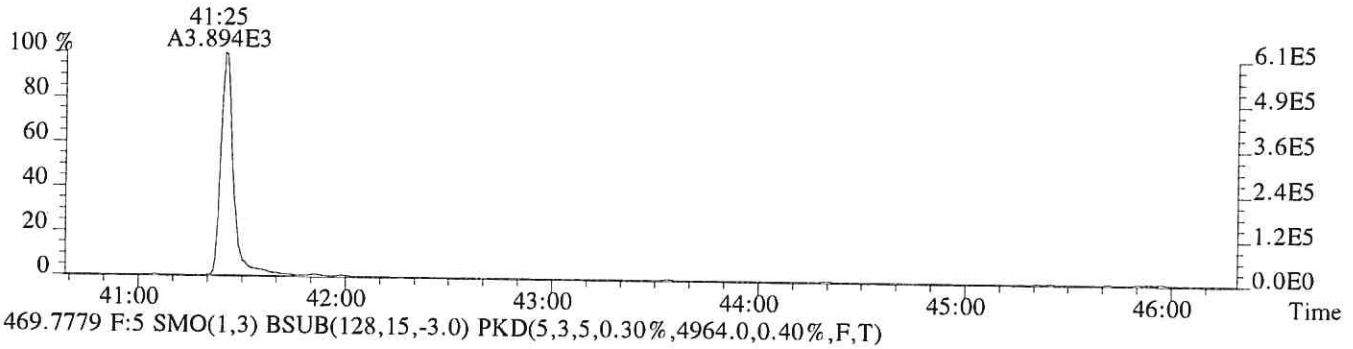
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



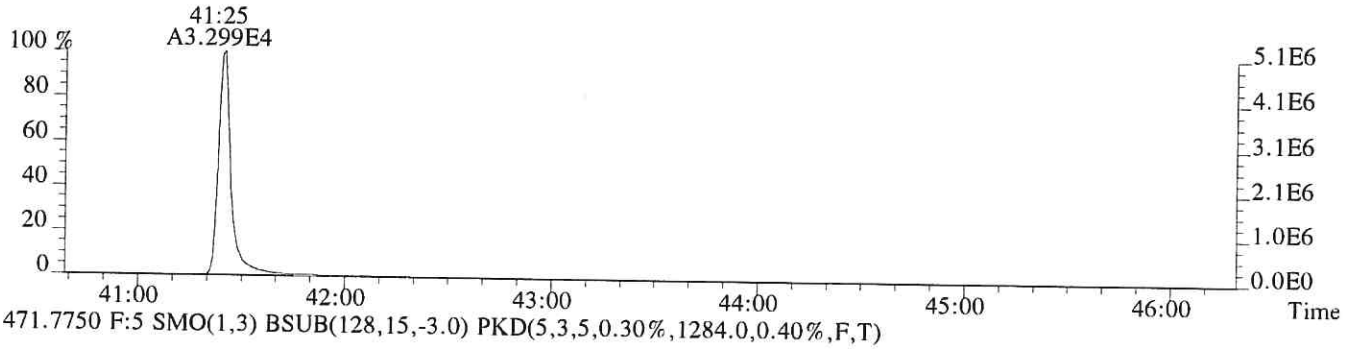
File:P511868 #1-511 Acq:10-OCT-2017 22:02:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-002
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1564.0,0.40%,F,T)



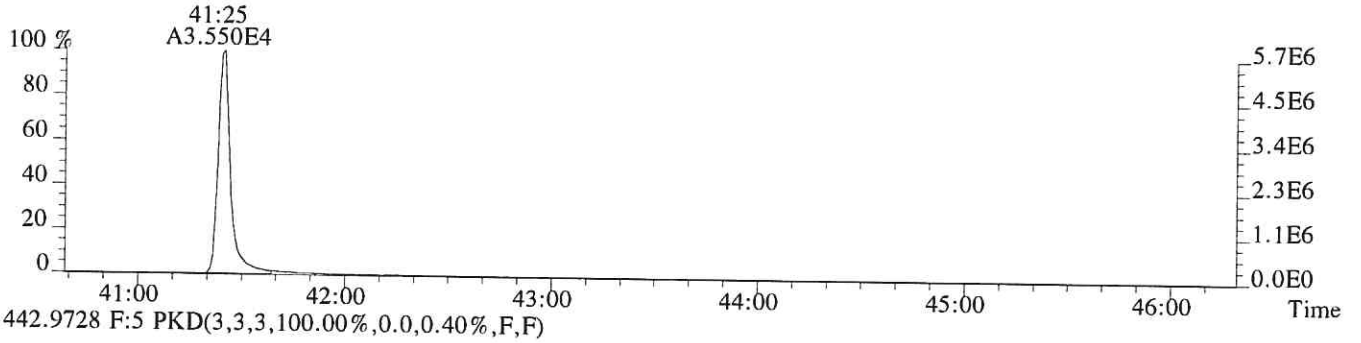
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1900.0,0.40%,F,T)



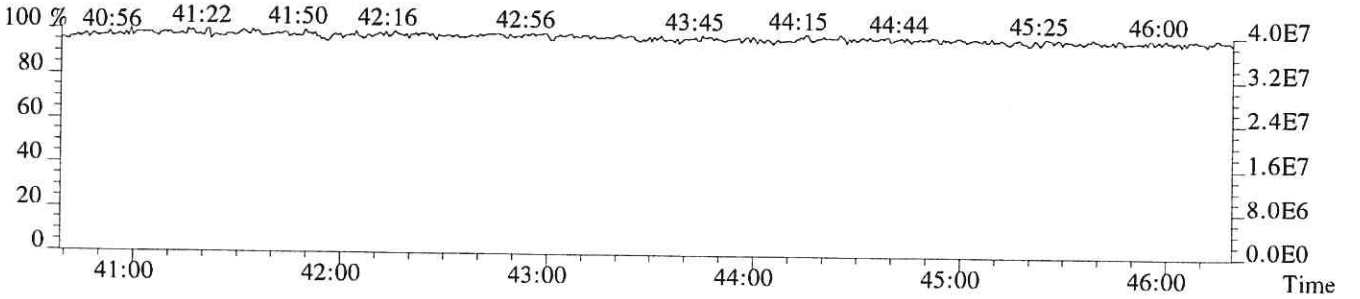
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4964.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1284.0,0.40%,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-100317-0

Run #9 Filename P511941 Samp: 1 Inj: 1 Acquired: 13-OCT-17 16:05:20
Processed: 13-OCT-17 16:04:09 Sample ID: E1701038-003RE

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:06	1.379e+03	1.822e+03	0.76	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:35	9.500e+01	7.322e+01	1.30	no	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	32:31	9.381e+01	6.269e+01	1.50	yes	yes	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:16	1.215e+02	1.143e+02	1.06	yes	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:22	6.257e+01	7.764e+01	0.81	no	yes	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	4.459e+01	3.704e+01	1.20	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	3.104e+01	1.700e+01	1.83	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	4.297e+02	5.048e+02	0.85	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	5.989e+01	4.264e+01	1.40	no	no	1.191
10	Unk	OCDF	41:36	2.734e+03	3.208e+03	0.85	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:58	4.001e+02	5.336e+02	0.75	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	36:02	4.224e+01	4.565e+01	0.93	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:07	9.282e+01	9.793e+01	0.95	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.493e+02	1.065e+02	1.40	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:48	4.190e+03	3.748e+03	1.12	yes	no	0.942
17	Unk	OCDD	41:24	1.266e+05	1.414e+05	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	1.840e+04	2.383e+04	0.77	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:34	3.411e+04	2.153e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	3.365e+04	2.089e+04	1.61	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.527e+04	2.873e+04	0.53	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:22	1.697e+04	3.249e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:53	1.555e+04	3.078e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:38	1.534e+04	2.960e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:54	1.091e+04	2.503e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:14	1.137e+04	2.598e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:56	1.352e+04	1.731e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	2.397e+04	1.498e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:01	2.060e+04	1.630e+04	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:06	2.206e+04	1.681e+04	1.31	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	1.809e+04	1.738e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	41:24	2.557e+04	2.829e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:19	3.401e+04	4.290e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:21	5.090e+04	3.923e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:58	1.503e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-100317-036

Run #9 Filename P511941 Samp: 1 Inj: 1 Acquired: 13-OCT-17 16:05:20
Processed: 13-OCT-17 16:04:09 LAB. ID: E1701038-003RE

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.09e+05	1.14e+03	1.8e+02	2.89e+05	3.16e+03	9.1e+01
2	1,2,3,7,8-PeCDF	1.75e+04	1.75e+03	1.0e+01	1.38e+04	3.28e+03	4.2e+00
3	2,3,4,7,8-PeCDF	1.46e+04	1.75e+03	8.4e+00	1.15e+04	3.28e+03	3.5e+00
4	1,2,3,4,7,8-HxCDF	2.67e+04	9.04e+02	3.0e+01	2.35e+04	8.24e+02	2.8e+01
5	1,2,3,6,7,8-HxCDF	1.22e+04	9.04e+02	1.4e+01	1.67e+04	8.24e+02	2.0e+01
6	2,3,4,6,7,8-HxCDF	1.24e+04	9.04e+02	1.4e+01	1.04e+04	8.24e+02	1.3e+01
7	1,2,3,7,8,9-HxCDF	6.35e+03	9.04e+02	7.0e+00	3.79e+03	8.24e+02	4.6e+00
8	1,2,3,4,6,7,8-HpCDF	8.95e+04	7.00e+02	1.3e+02	9.69e+04	1.37e+03	7.1e+01
9	1,2,3,4,7,8,9-HpCDF	1.21e+04	7.00e+02	1.7e+01	8.12e+03	1.37e+03	5.9e+00
10	OCDF	4.22e+05	2.22e+03	1.9e+02	5.07e+05	1.47e+03	3.5e+02
11	2,3,7,8-TCDD	7.60e+04	2.07e+03	3.7e+01	9.48e+04	1.58e+03	6.0e+01
12	1,2,3,7,8-PeCDD	*	2.06e+03	*	*	7.32e+02	*
13	1,2,3,4,7,8-HxCDD	9.48e+03	4.12e+02	2.3e+01	9.27e+03	1.10e+03	8.4e+00
14	1,2,3,6,7,8-HxCDD	2.11e+04	4.12e+02	5.1e+01	2.02e+04	1.10e+03	1.8e+01
15	1,2,3,7,8,9-HxCDD	3.19e+04	4.12e+02	7.8e+01	1.93e+04	1.10e+03	1.8e+01
16	1,2,3,4,6,7,8-HpCDD	7.91e+05	2.67e+03	3.0e+02	7.31e+05	9.48e+02	7.7e+02
17	OCDD	1.93e+07	1.03e+04	1.9e+03	2.19e+07	1.61e+04	1.4e+03
18	13C-2,3,7,8-TCDF	3.04e+06	9.71e+03	3.1e+02	3.92e+06	4.61e+03	8.5e+02
19	13C-1,2,3,7,8-PeCDF	5.90e+06	1.96e+03	3.0e+03	3.77e+06	1.44e+03	2.6e+03
20	13C-2,3,4,7,8-PeCDF	6.16e+06	1.96e+03	3.1e+03	3.83e+06	1.44e+03	2.7e+03
21	13C-1,2,3,4,7,8-HxCDF	3.21e+06	1.32e+03	2.4e+03	6.03e+06	1.23e+03	4.9e+03
22	13C-1,2,3,6,7,8-HxCDF	3.31e+06	1.32e+03	2.5e+03	6.42e+06	1.23e+03	5.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.24e+06	1.32e+03	2.5e+03	6.42e+06	1.23e+03	5.2e+03
24	13C-1,2,3,7,8,9-HxCDF	2.95e+06	1.32e+03	2.2e+03	5.75e+06	1.23e+03	4.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.17e+06	2.80e+03	7.7e+02	4.89e+06	2.71e+03	1.8e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.08e+06	2.80e+03	7.4e+02	4.64e+06	2.71e+03	1.7e+03
27	13C-2,3,7,8-TCDD	2.43e+06	7.13e+03	3.4e+02	3.02e+06	5.11e+03	5.9e+02
28	13C-1,2,3,7,8-PeCDD	4.34e+06	1.46e+03	3.0e+03	2.72e+06	1.07e+03	2.5e+03
29	13C-1,2,3,4,7,8-HxCDD	4.38e+06	2.02e+03	2.2e+03	3.50e+06	1.74e+03	2.0e+03
30	13C-1,2,3,6,7,8-HxCDD	4.29e+06	2.02e+03	2.1e+03	3.33e+06	1.74e+03	1.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.45e+06	1.06e+03	3.2e+03	3.26e+06	8.40e+02	3.9e+03
32	13C-OCDD	3.87e+06	6.00e+03	6.4e+02	4.31e+06	5.07e+03	8.5e+02
33	13C-1,2,3,4-TCDD	5.99e+06	7.13e+03	8.4e+02	7.61e+06	5.11e+03	1.5e+03
34	13C-1,2,3,7,8,9-HxCDD	9.72e+06	2.02e+03	4.8e+03	7.58e+06	1.74e+03	4.4e+03
35	37Cl-2,3,7,8-TCDD	2.71e+06	1.80e+03	1.5e+03			

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 36 Totals Name: Total Tetra-Furans

Run: 9 File: P511941 Sample:1 Injection:1 Function:1

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 303.9020 305.8990 Tot Response: 4.93e+03 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	26:12	5.90e+02	8.50e+02	0.69	yes	1.44e+03		n	n
2	27:06	1.38e+03	1.82e+03	0.76	yes	3.20e+03	2,3,7,8-TCDF	n	n
3	29:04	1.30e+02	1.61e+02	0.81	yes	2.91e+02		n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 9 File: P511941 Sample:1 Injection:1 Function:1

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 319.8970 321.8940 Tot Response: 9.34e+02 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:58	4.00e+02	5.34e+02	0.75	yes	9.34e+02	2,3,7,8-TCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 38 Totals Name: Total Penta-Furans1

Run: 9 File: P511941 Sample:1 Injection:1 Function:1

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 339.8600 341.8570 Tot Response: 1.62e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:02	1.02e+02	5.98e+01	1.70	yes	1.62e+02	n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 39 Totals Name: Total Penta-Furans2

Run: 9 File: P511941 Sample:1 Injection:1 Function:2

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 339.8600 341.8570 Tot Response: 3.31e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:37	1.04e+02	7.05e+01	1.47	yes	1.74e+02		y	y
2	32:31	9.38e+01	6.27e+01	1.50	yes	1.57e+02	2,3,4,7,8-PeCDF	n	y

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 9 File: P511941 Sample:1 Injection:1 Function:2

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 355.8550 357.8520 Tot Response: 4.31e+02 RRF: 0.9085

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:39	1.25e+02	7.78e+01	1.61	yes	2.03e+02		n	n
2	32:05	1.46e+02	8.23e+01	1.77	yes	2.28e+02		y	n

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Peak List Summary

CLIENT ID.
SJWP-100317-036

Entry: 41 Totals Name: Total Hexa-Furans

Run: 9 File: P511941 Sample:1 Injection:1 Function:3

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 373.8210 375.8180 Tot Response: 9.95e+02 RRF: 1.007

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:08	4.99e+01	4.64e+01	1.08	yes	9.63e+01		n	n
2	34:18	1.99e+02	1.53e+02	1.30	yes	3.52e+02		n	n
3	34:50	1.19e+02	1.10e+02	1.08	yes	2.29e+02		n	n
4	35:16	1.22e+02	1.14e+02	1.06	yes	2.36e+02	1,2,3,4,7,8-HxCDF	y	n
5	35:54	4.46e+01	3.70e+01	1.20	yes	8.16e+01	2,3,4,6,7,8-HxCDF	n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 9 File: P511941 Sample:1 Injection:1 Function:3

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 389.8160 391.8130 Tot Response: 4.80e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:40	1.84e+03	1.53e+03	1.20	yes	3.37e+03		n	n
2	35:26	6.22e+02	5.49e+02	1.13	yes	1.17e+03		n	n
3	36:22	1.49e+02	1.07e+02	1.40	yes	2.56e+02	1,2,3,7,8,9-HxCDD	n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-036

Entry: 43 Totals Name: Total Hepta-Furans

Run: 9 File: P511941 Sample:1 Injection:1 Function:4

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 407.7820 409.7790 Tot Response: 1.23e+03 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:18	6.39e+02	5.92e+02	1.08	yes	1.23e+03	n	n

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Peak List Summary

CLIENT ID.
SJWP-100317-036

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 9 File: P511941 Sample:1 Injection:1 Function:4

Acquired: 13-OCT-17 16:05:20 Processed: 13-OCT-17 16:04:09

Mass: 423.7770 425.7740 Tot Response: 2.86e+04 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:09	1.04e+04	1.02e+04	1.02	yes	2.07e+04		n	n
2	38:48	4.19e+03	3.75e+03	1.12	yes	7.94e+03	1,2,3,4,6,7,8-HpCDD	n	n

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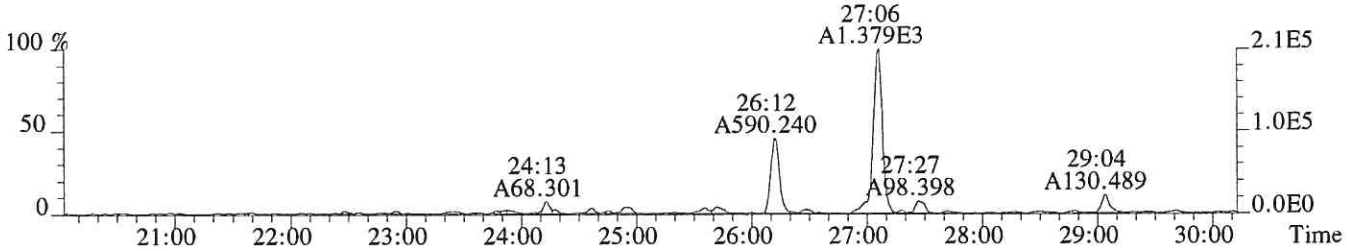
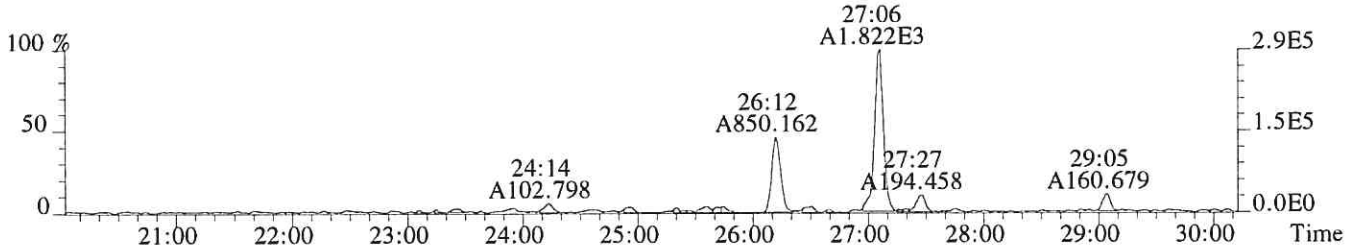
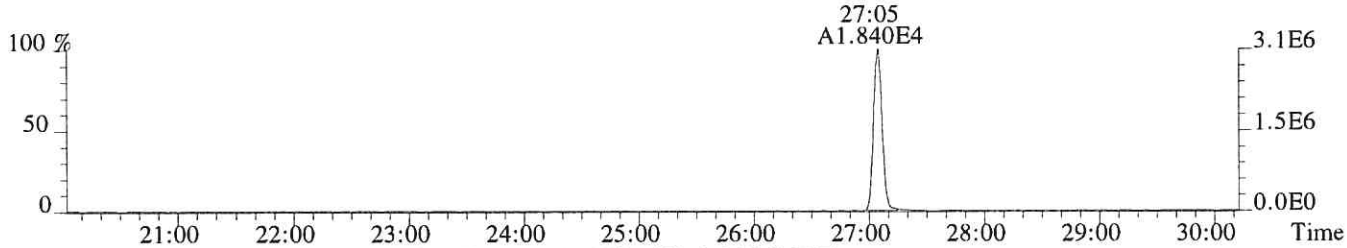
File:P511941 #1-722 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



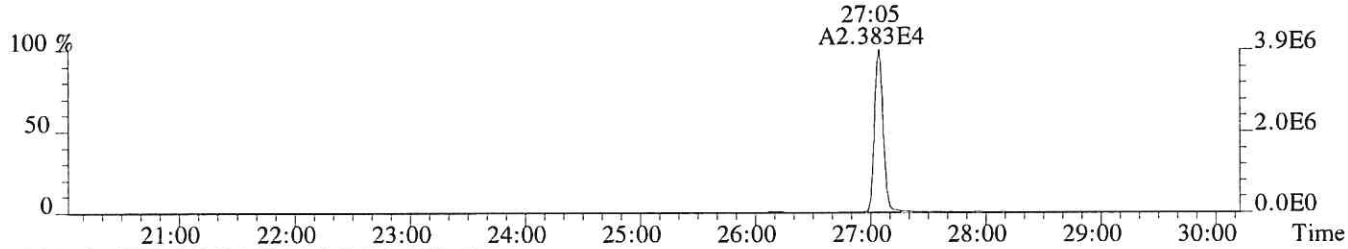
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3160.0,1.00%,F,T)



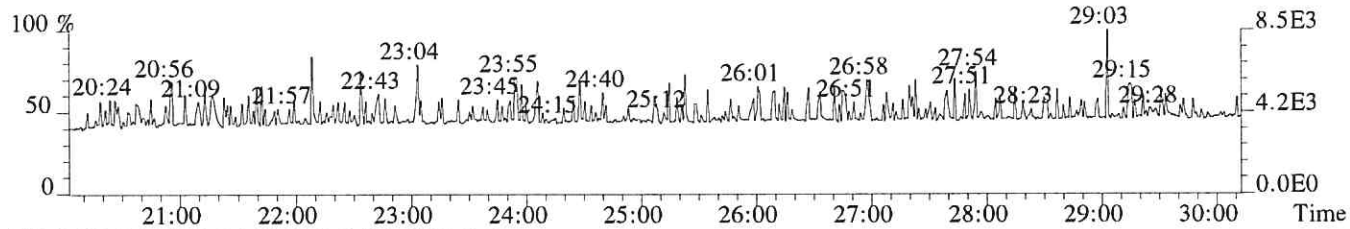
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9708.0,1.00%,F,T)



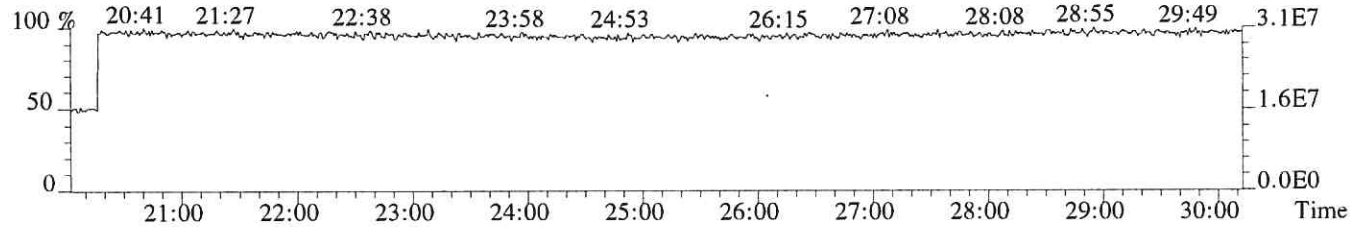
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4608.0,1.00%,F,T)



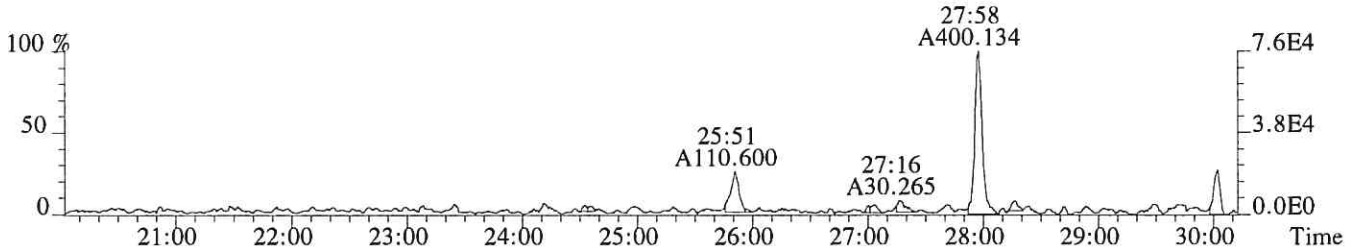
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



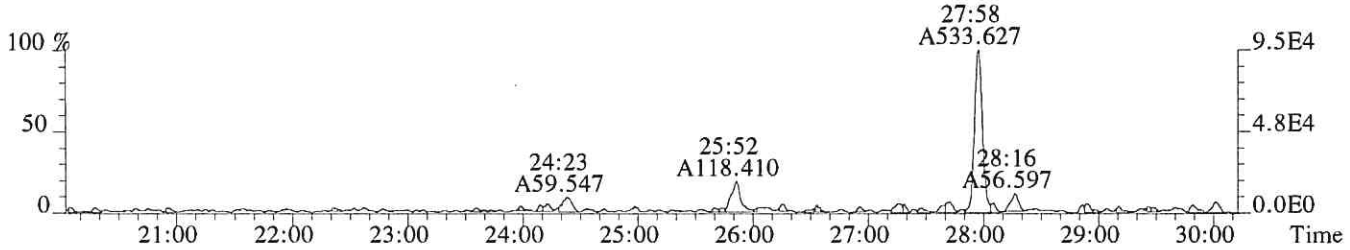
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



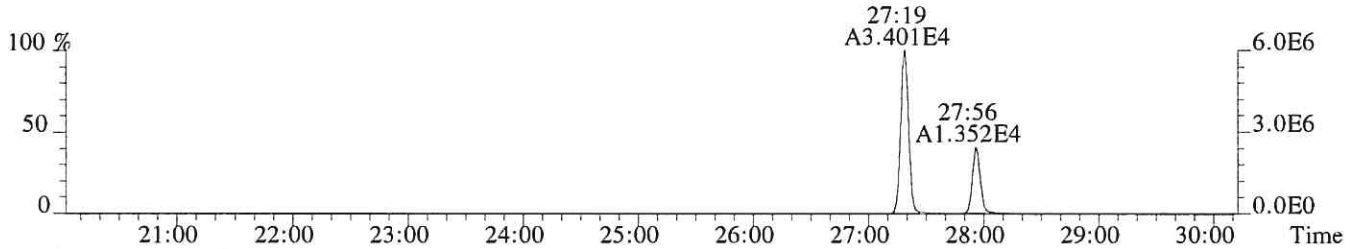
File:P511941 #1-722 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2072.0,1.00%,F,T)



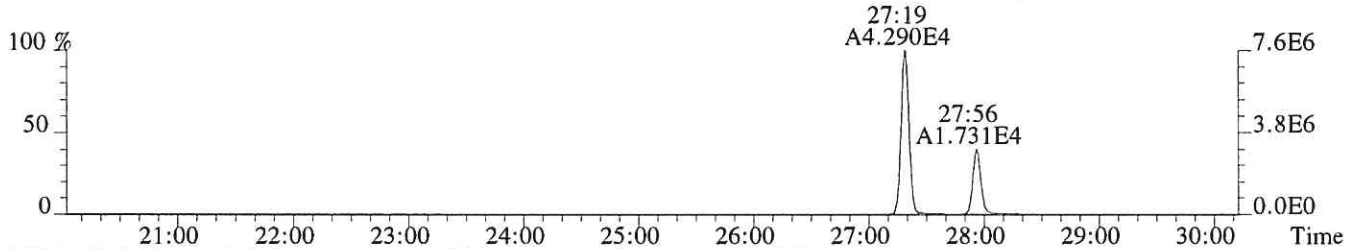
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1576.0,1.00%,F,T)



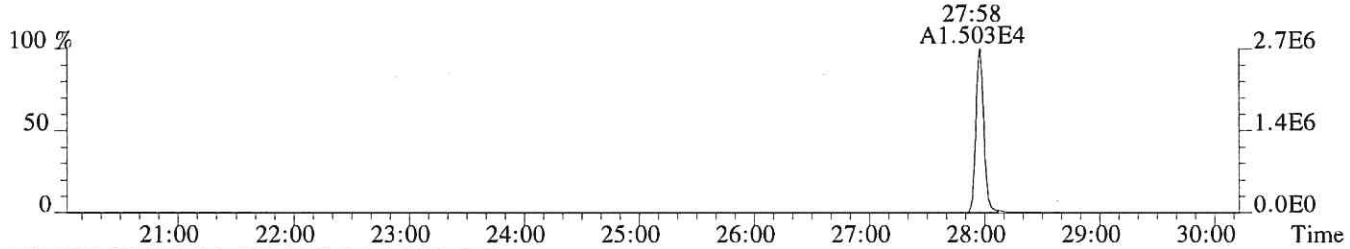
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7132.0,1.00%,F,T)



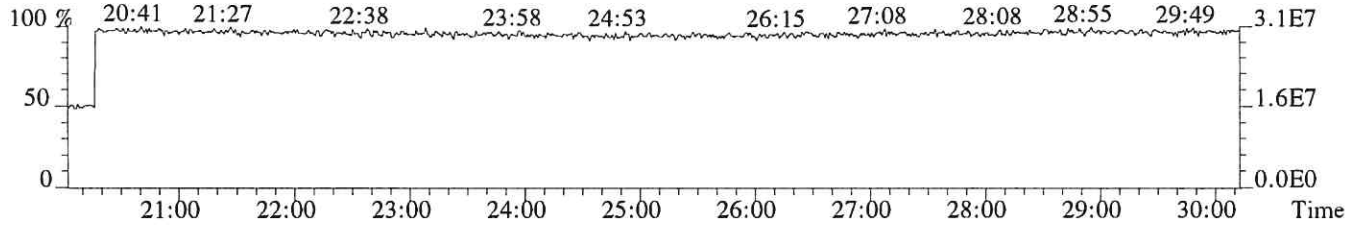
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5108.0,1.00%,F,T)



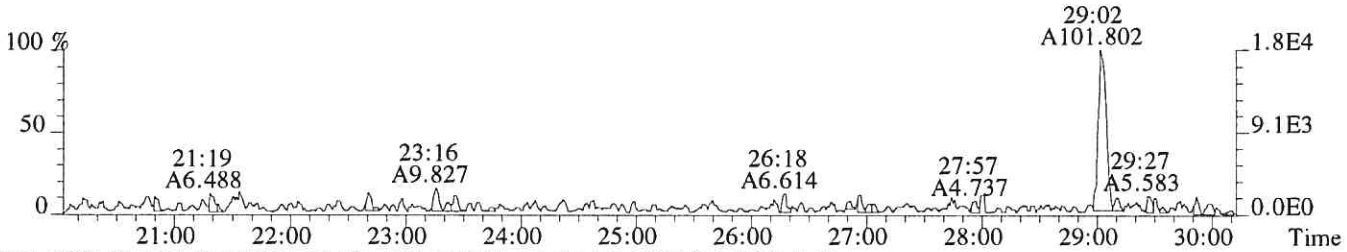
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1800.0,1.00%,F,T)



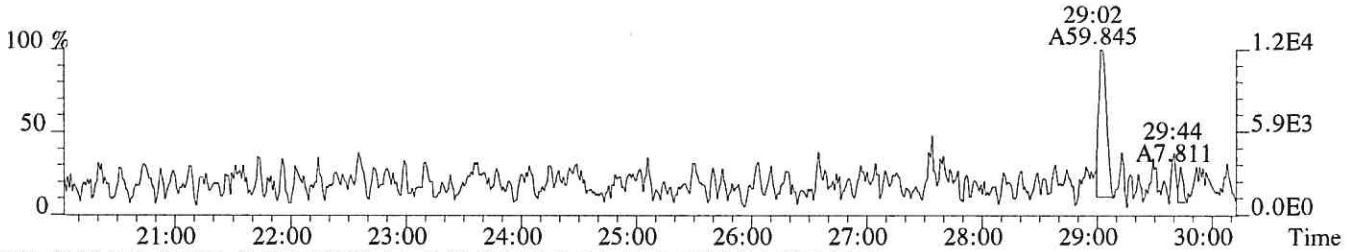
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



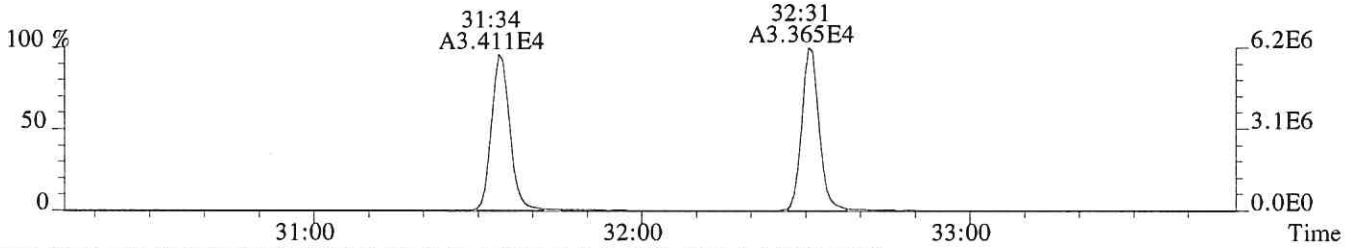
File:P511941 #1-722 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



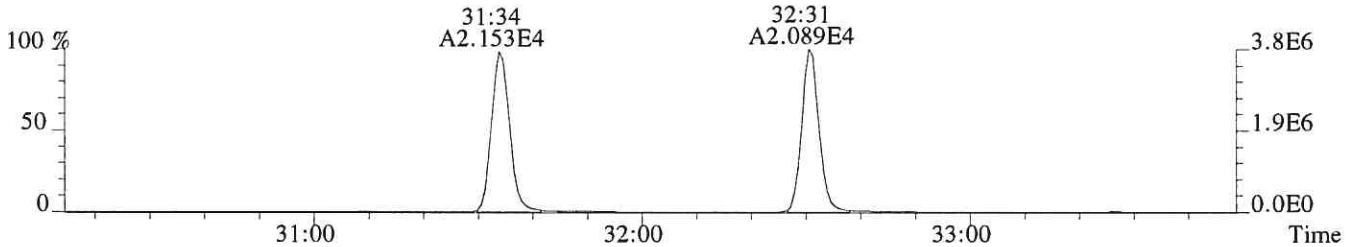
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2880.0,1.00%,F,T)



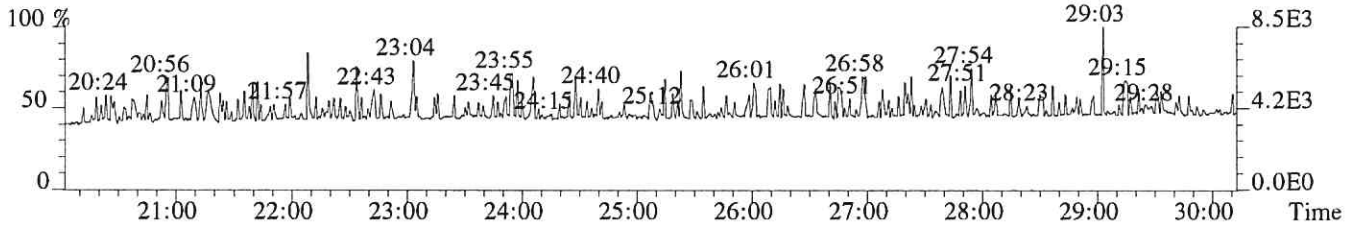
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1956.0,1.00%,F,T)



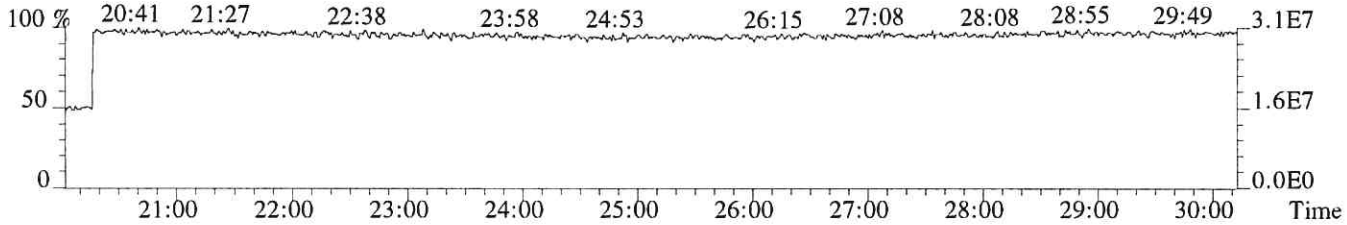
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



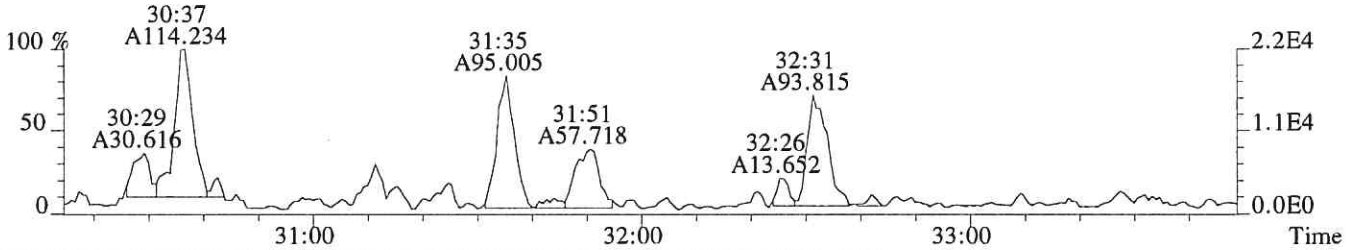
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



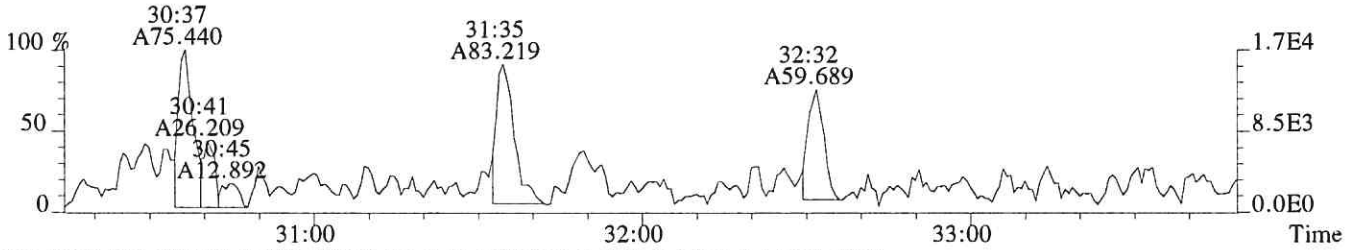
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



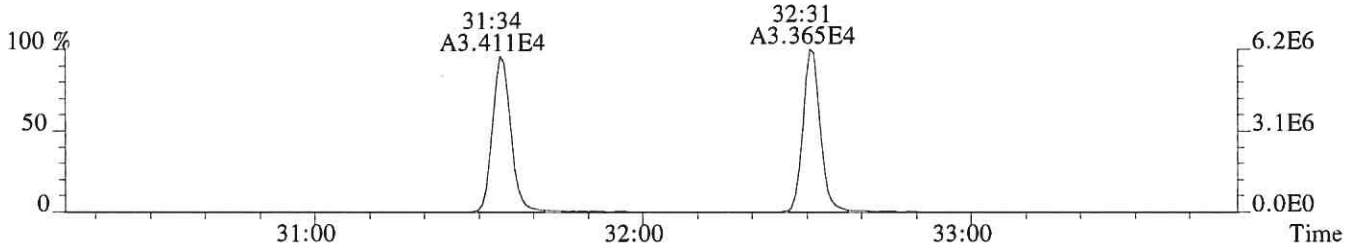
File:P511941 #1-322 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1748.0,1.00%,F,T)



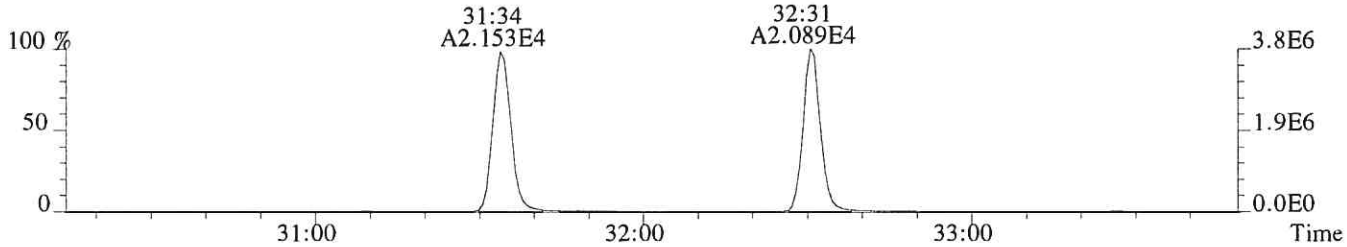
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3284.0,1.00%,F,T)



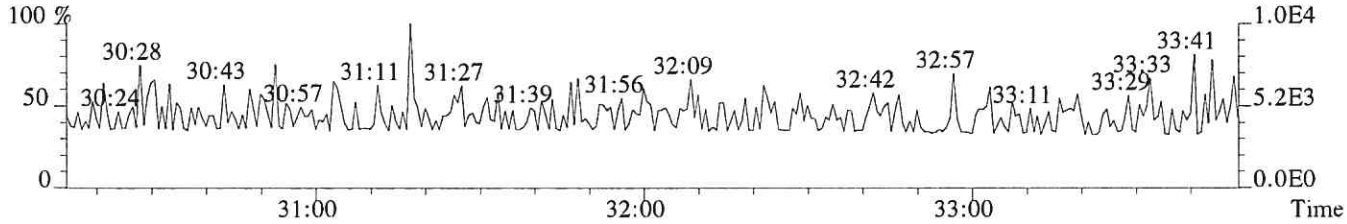
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1956.0,1.00%,F,T)



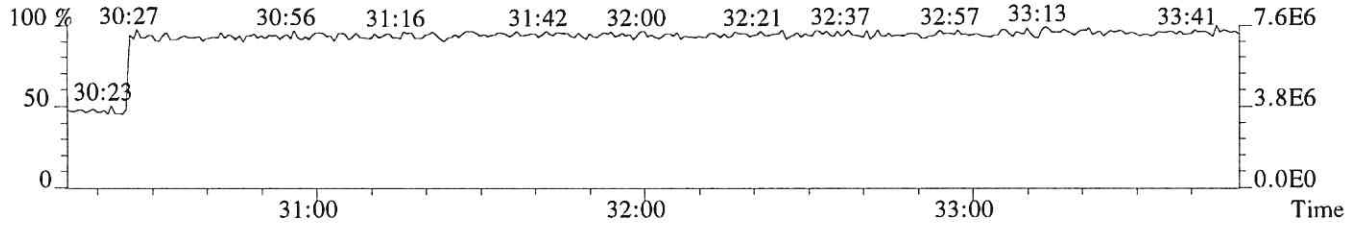
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



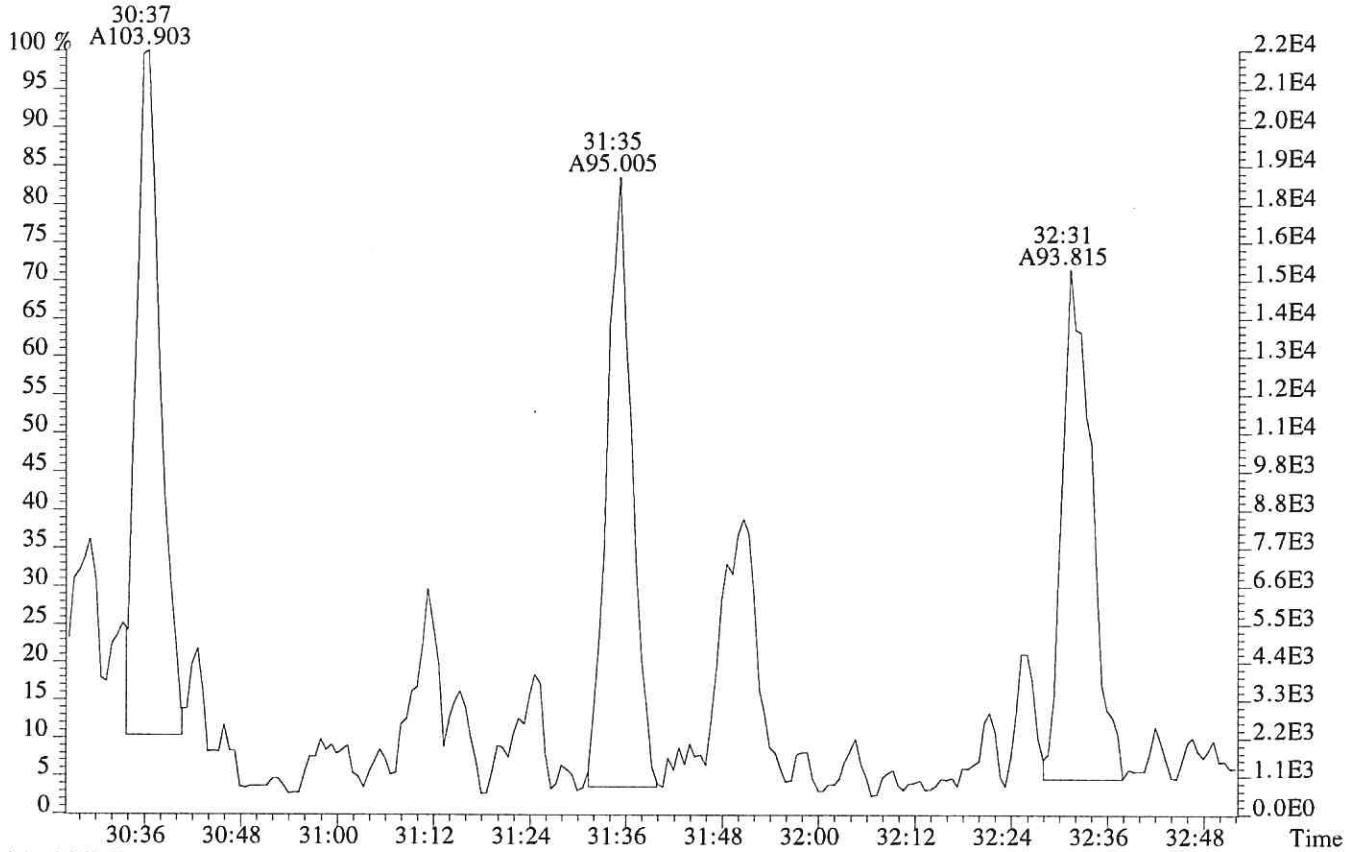
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



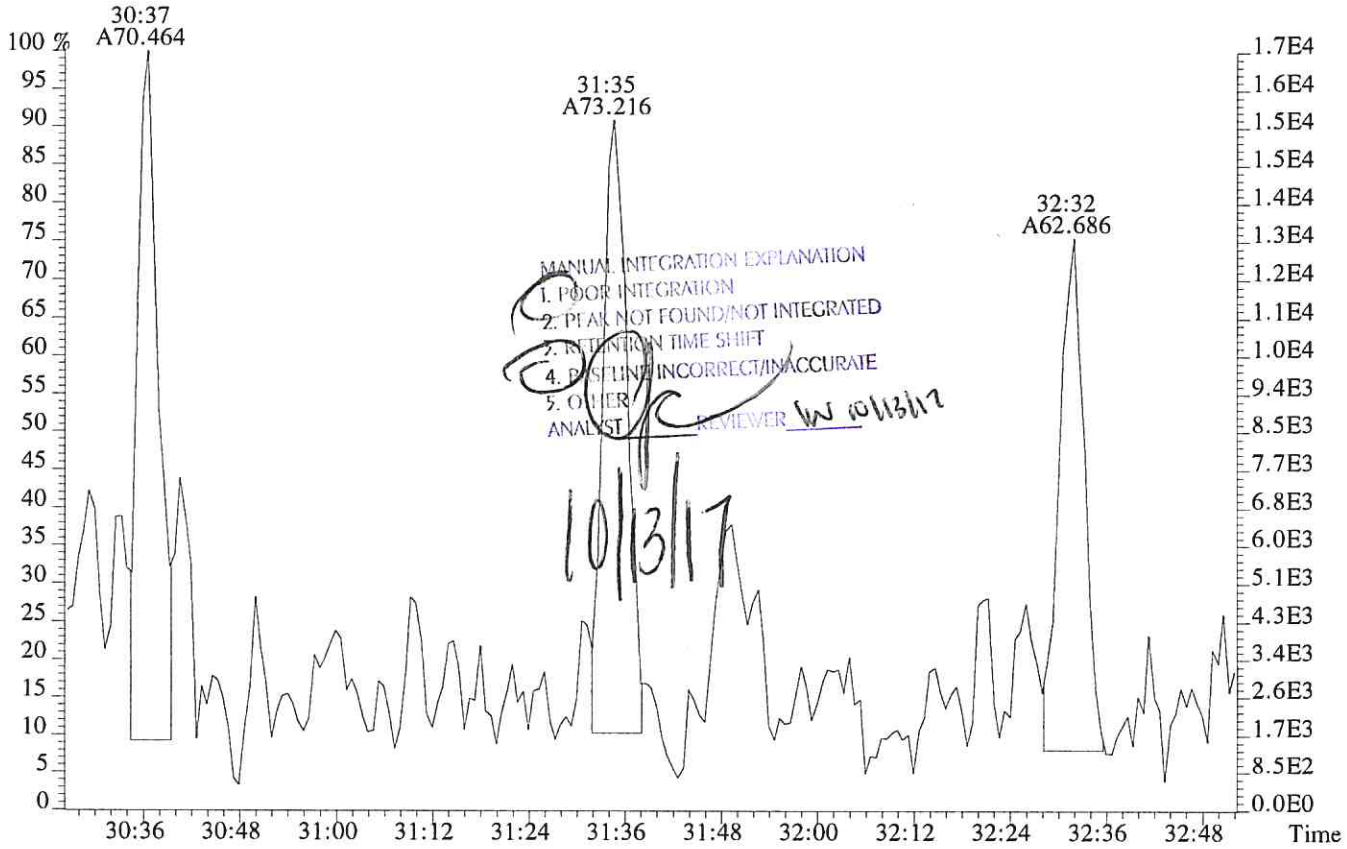
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511941 #1-322 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1748.0,1.00%,F,T)

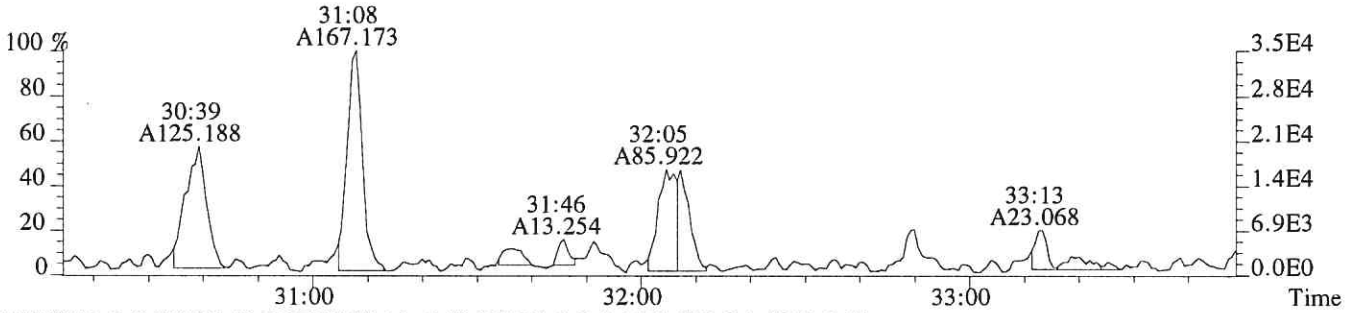


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3284.0,1.00%,F,T)

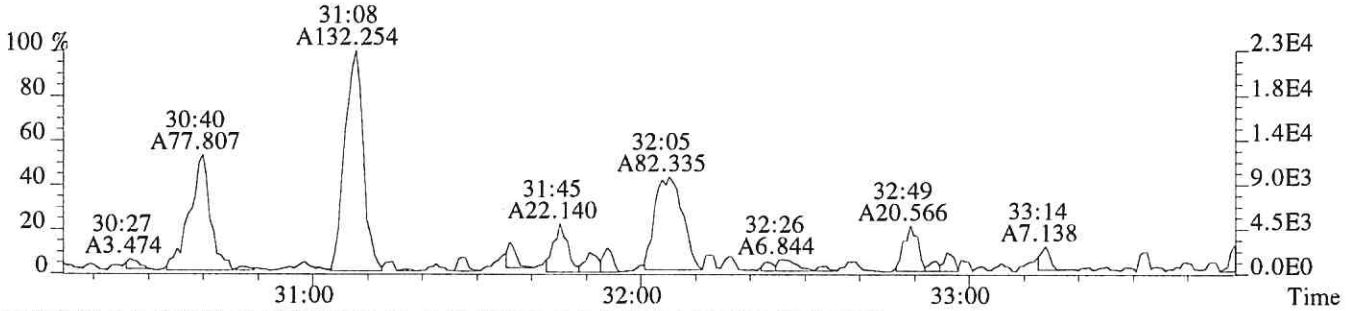


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 10/13/17 REVIEWER LW 10/13/17

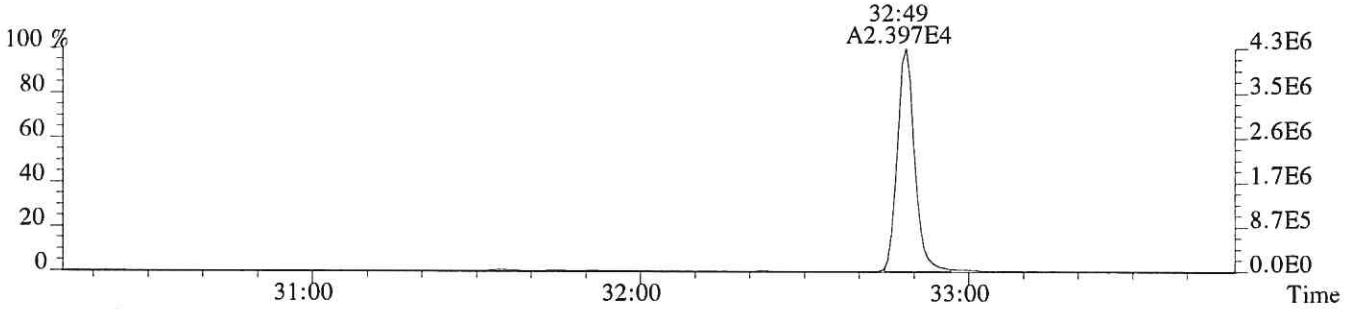
File:P511941 #1-322 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



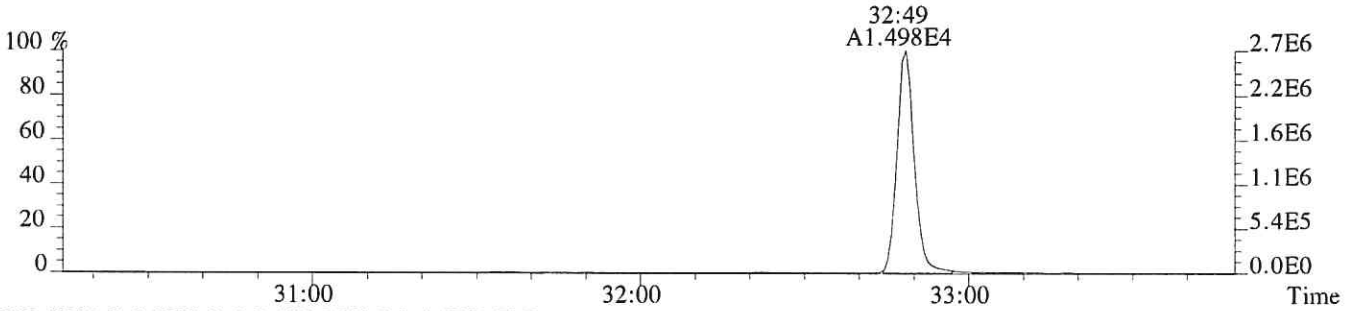
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)



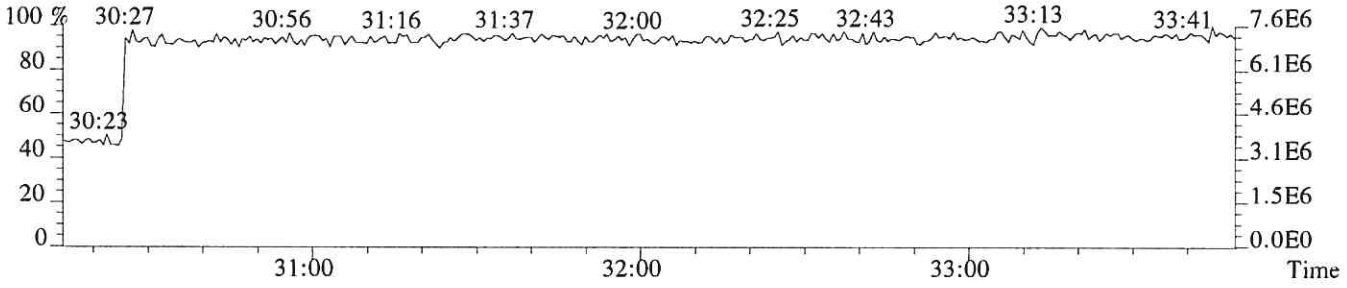
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1464.0,1.00%,F,T)



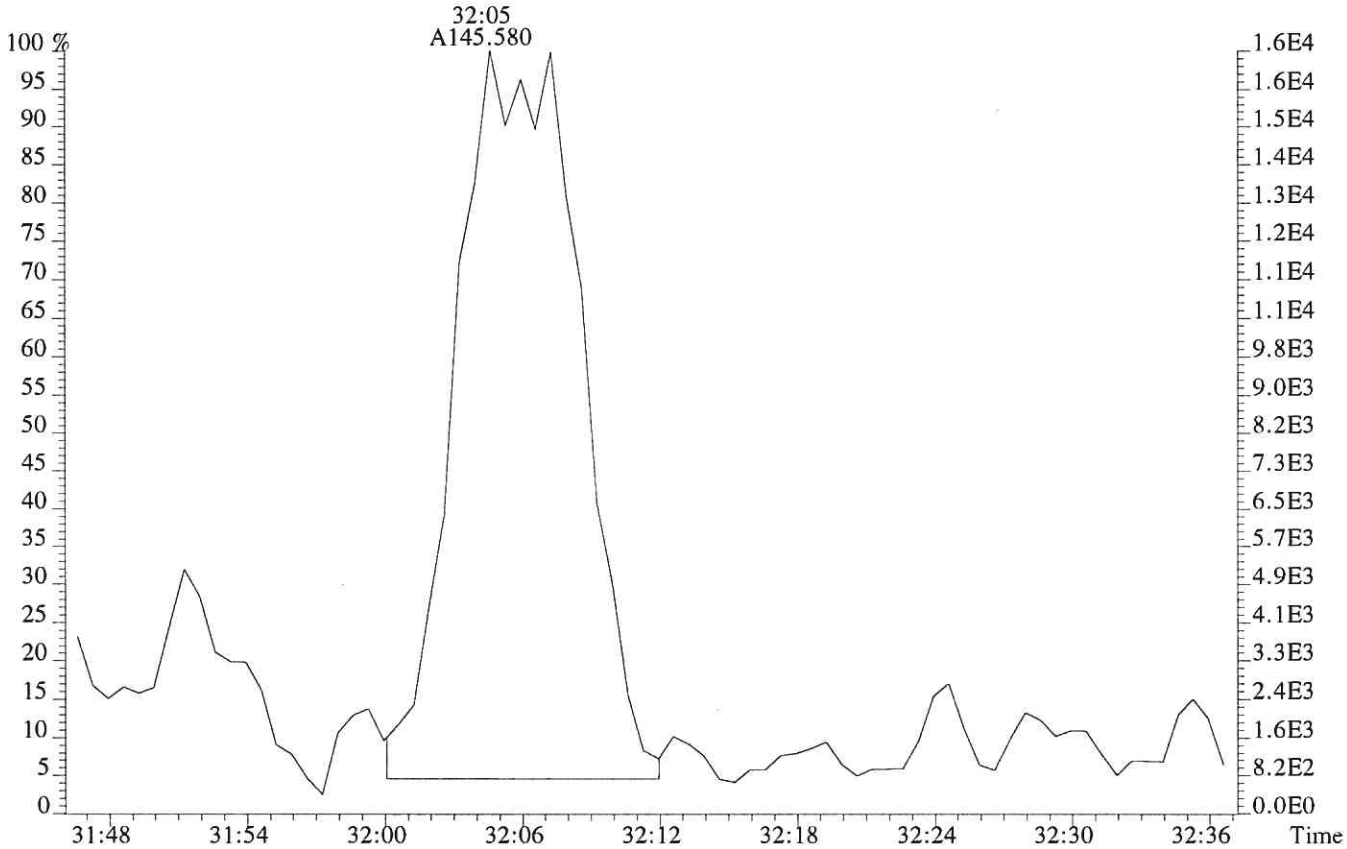
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



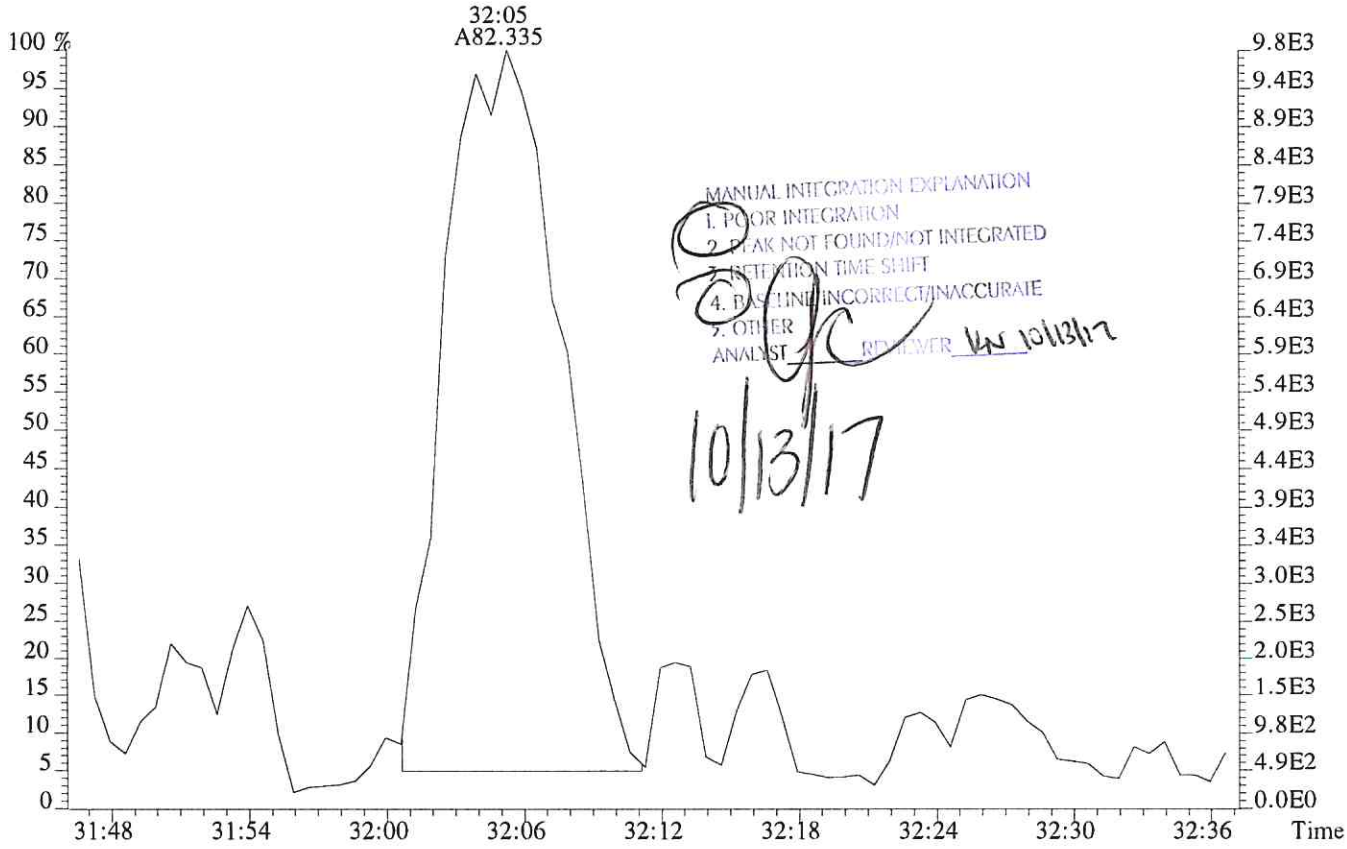
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511941 #1-322 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)

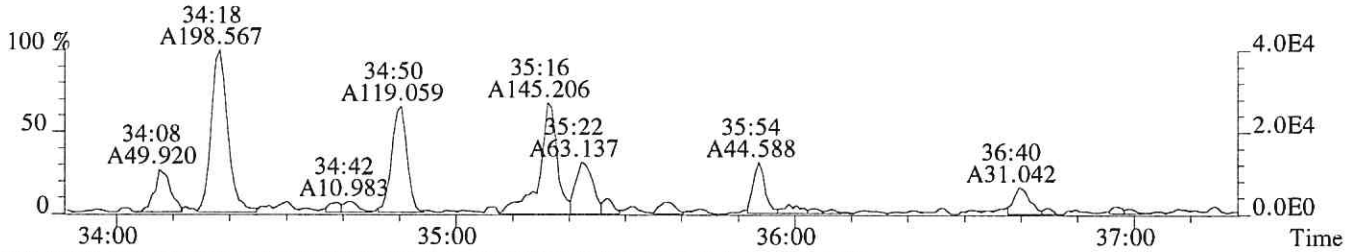


357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,T)

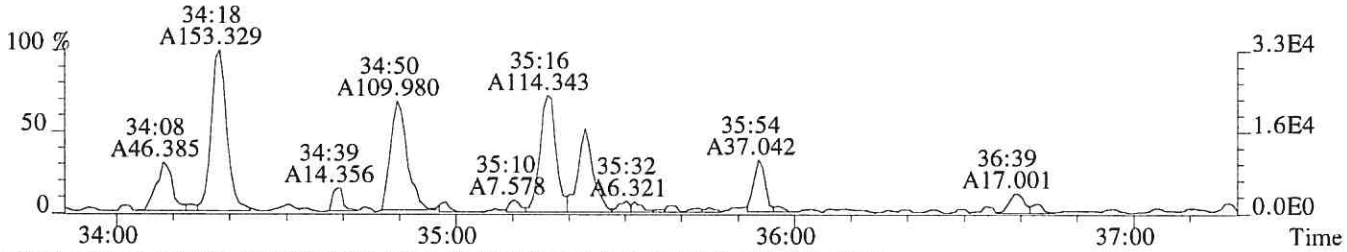


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER 10/13/17
10/13/17

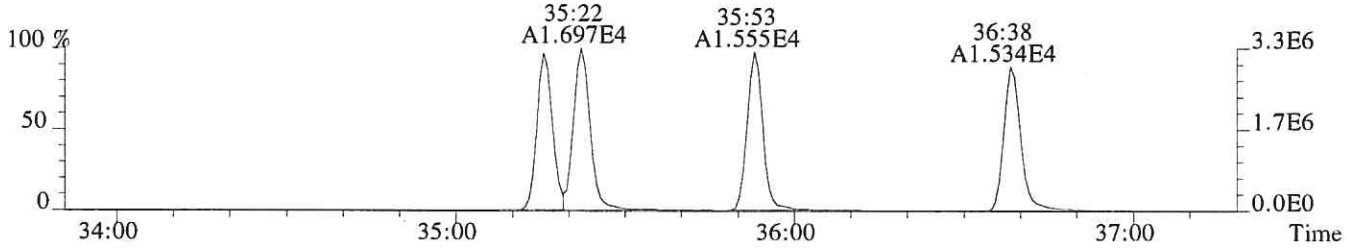
File:P511941 #1-312 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



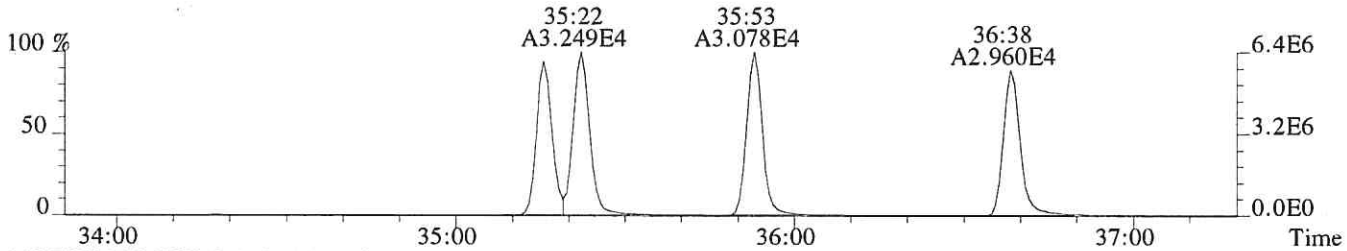
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



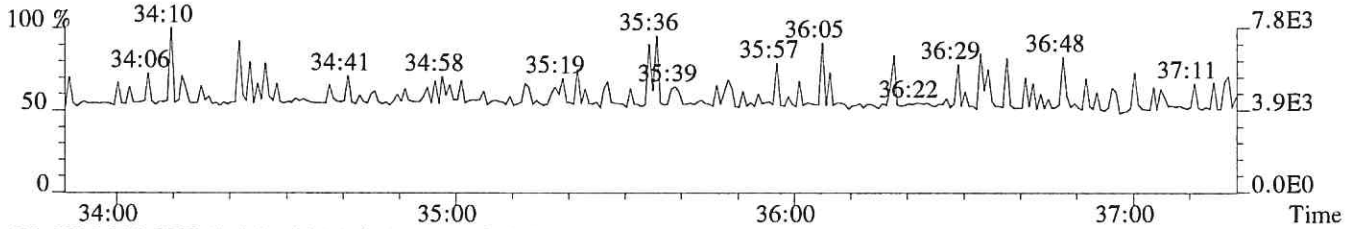
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1320.0,0.40%,F,T)



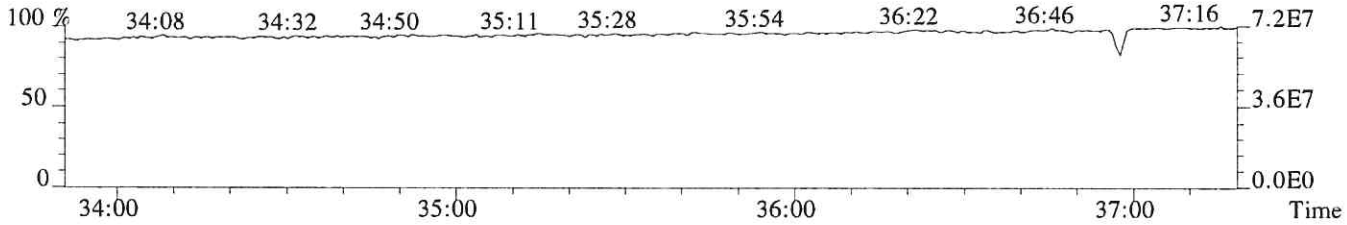
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



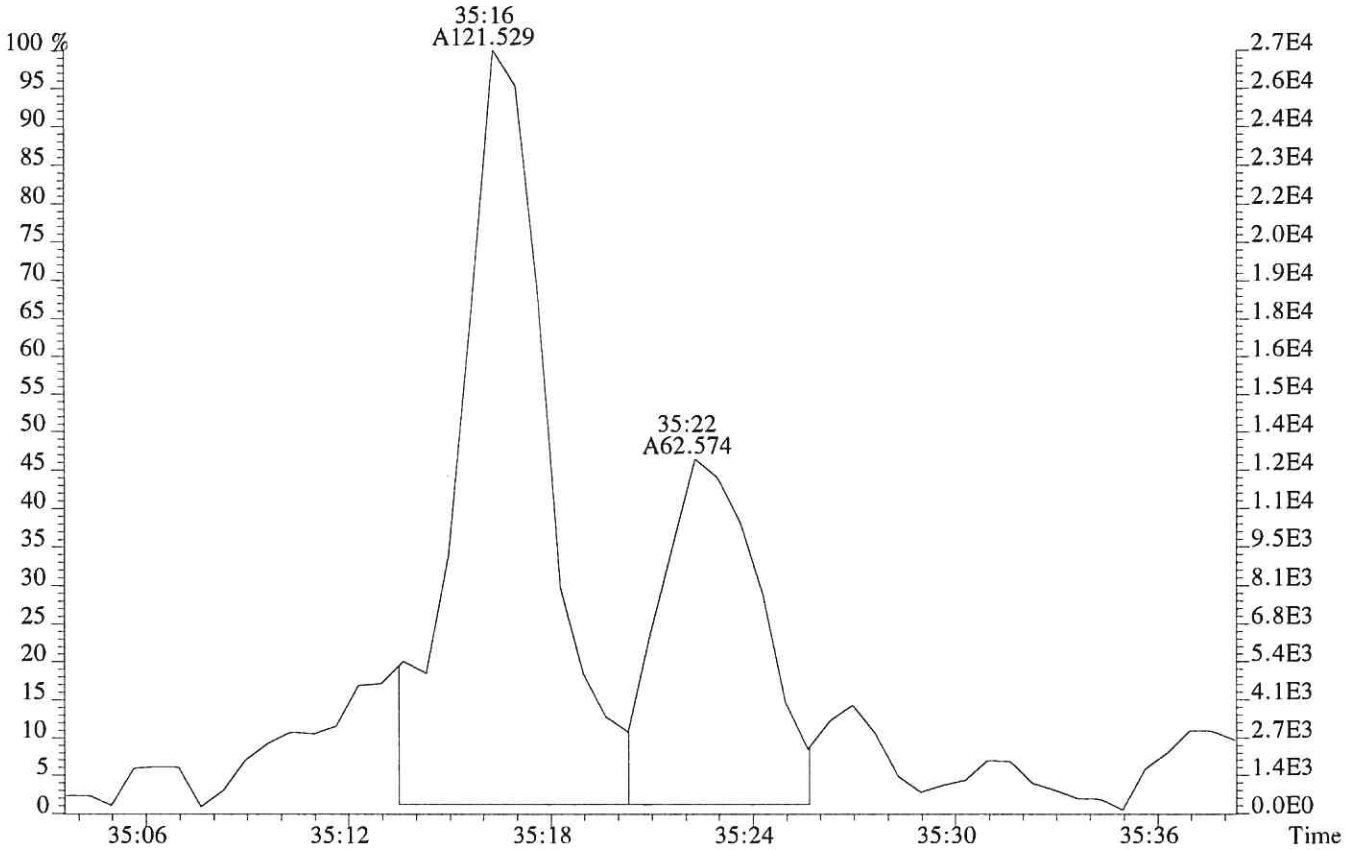
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



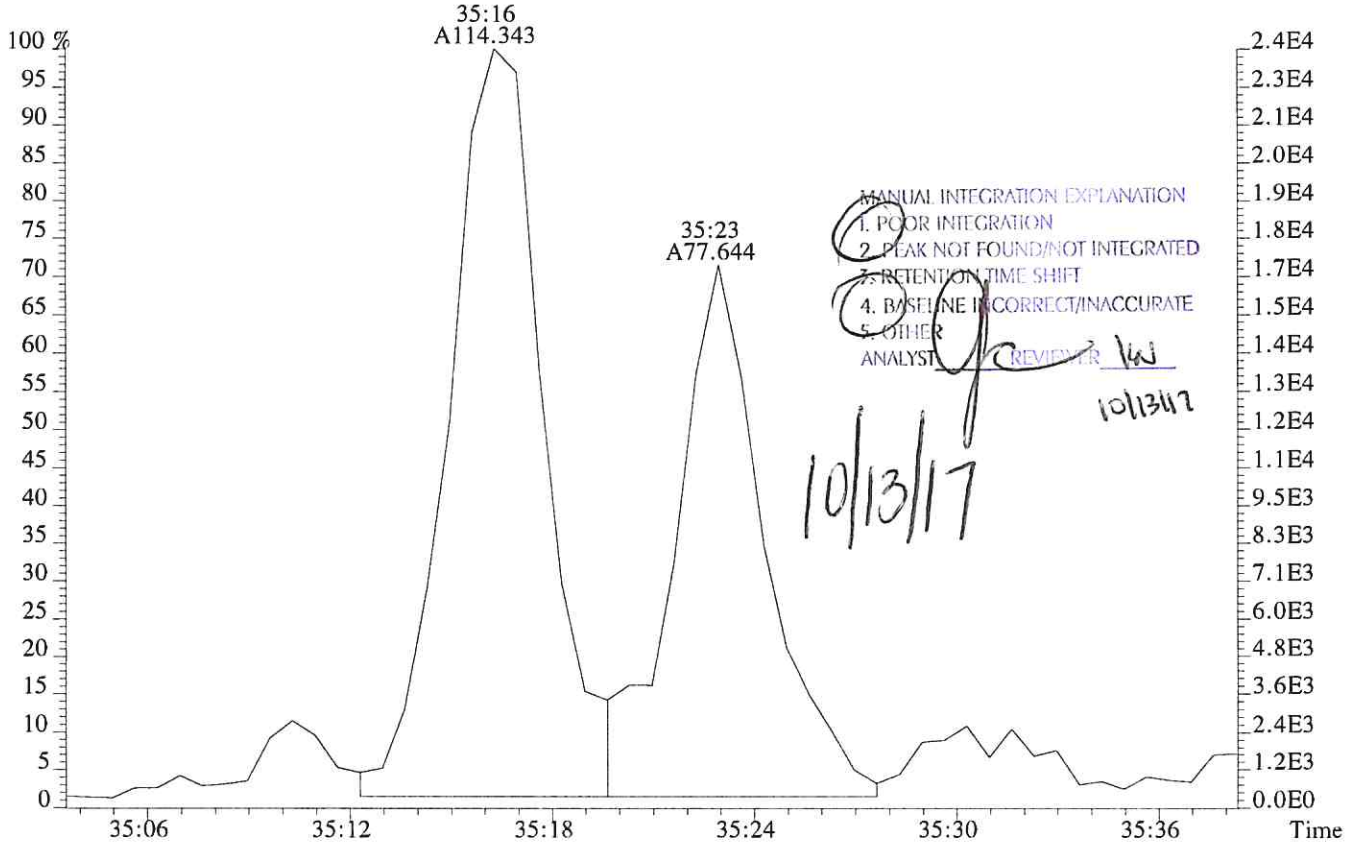
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511941 #1-312 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)

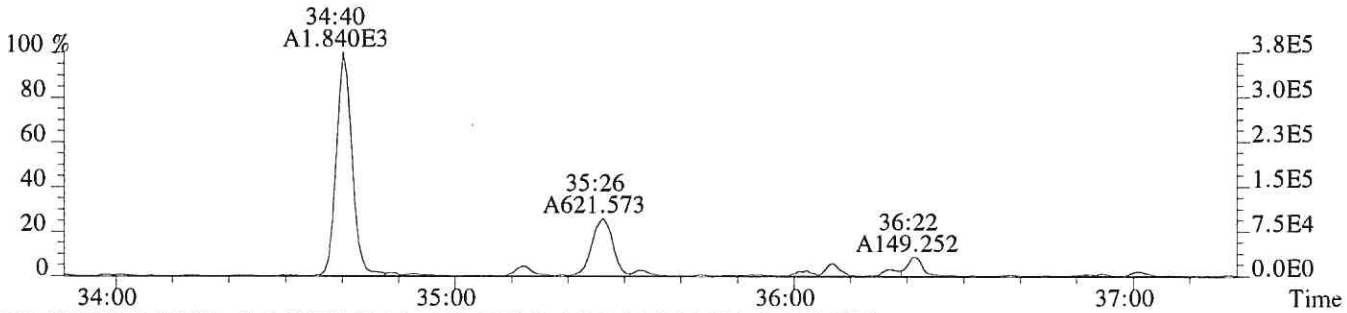


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)

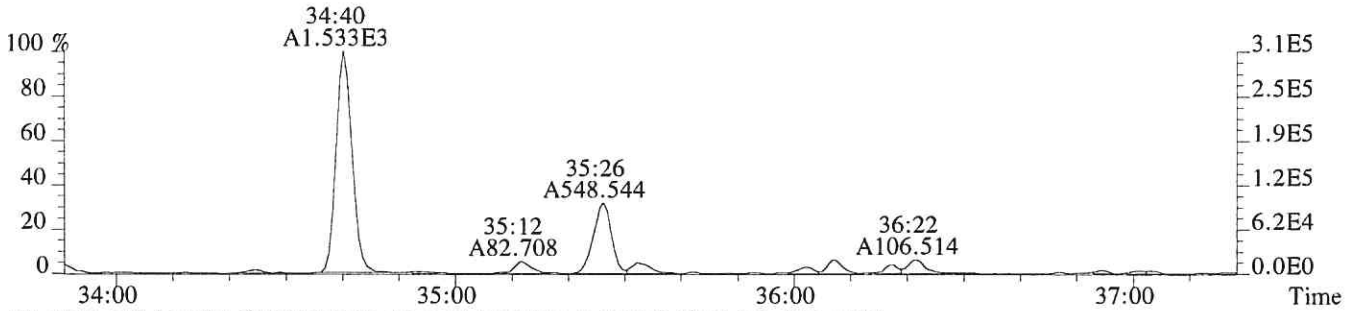


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER IW
10/13/17
10/13/17

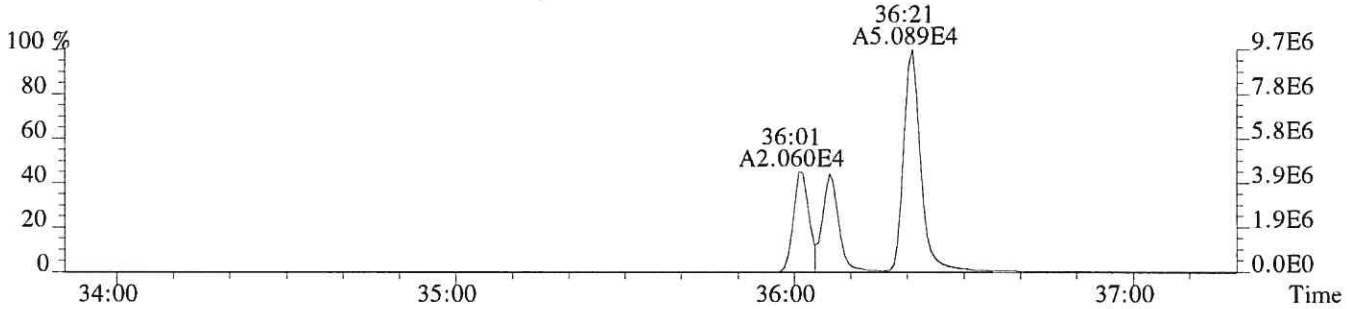
File:P511941 #1-312 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,412.0,0.40%,F,T)



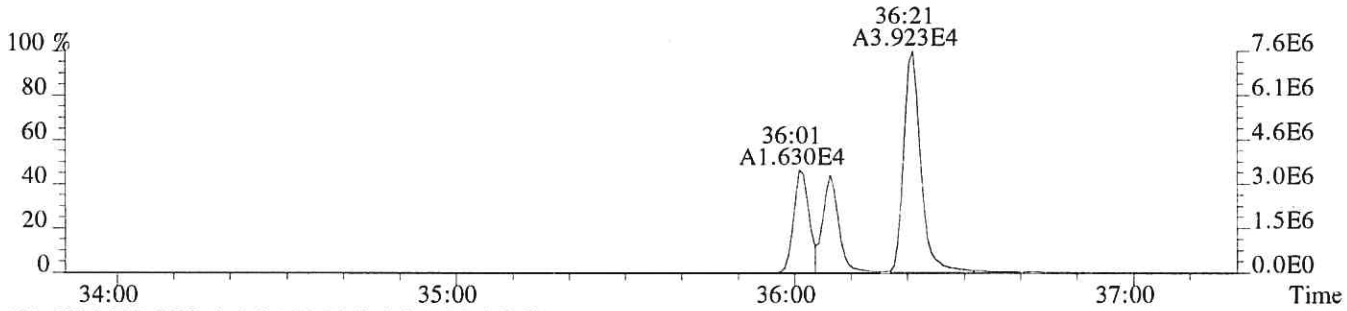
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,T)



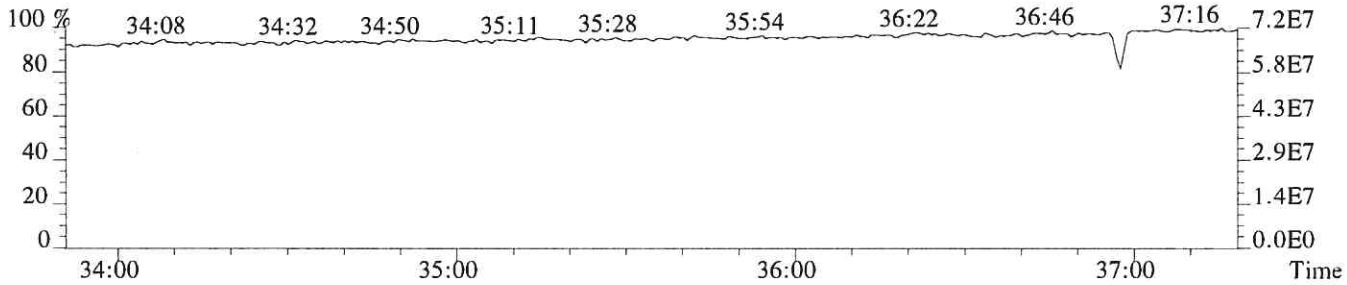
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2016.0,0.40%,F,T)



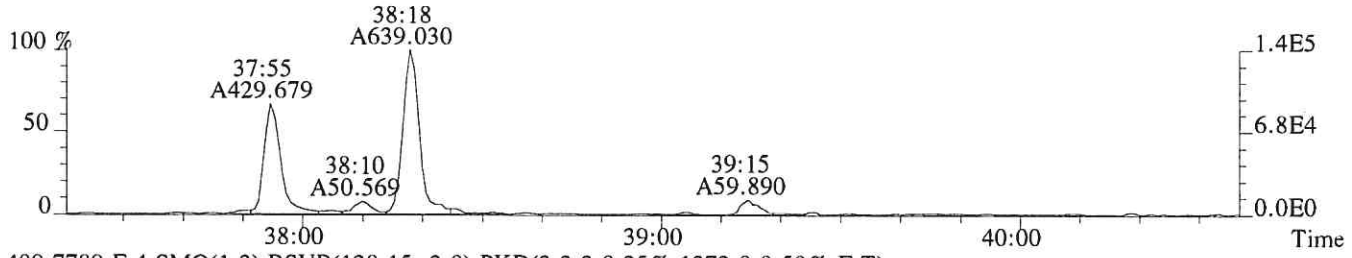
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1736.0,0.40%,F,T)



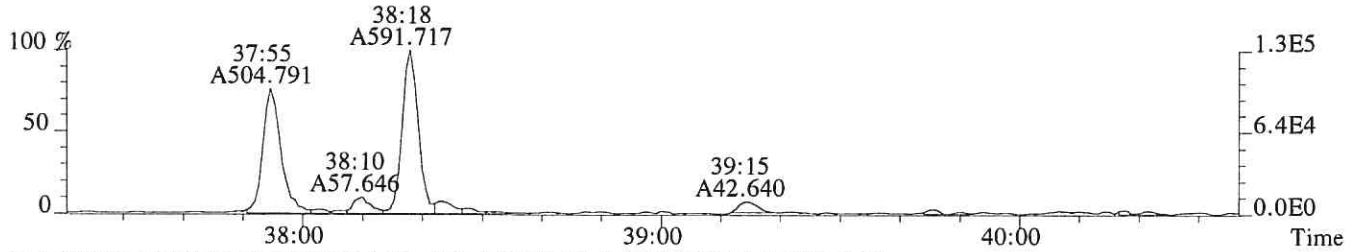
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



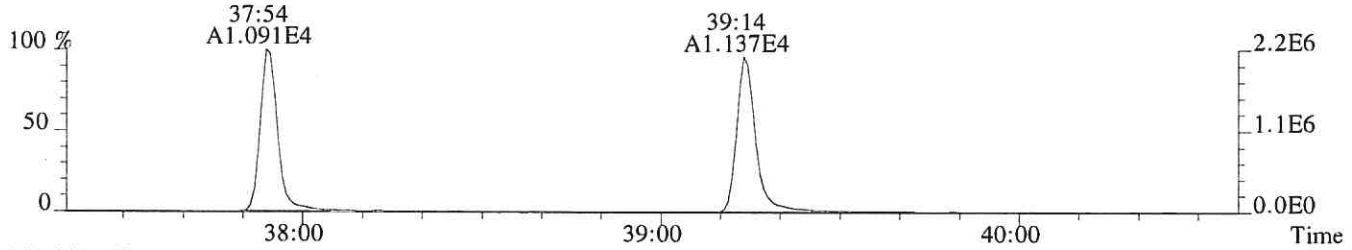
File:P511941 #1-295 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.50%,F,T)



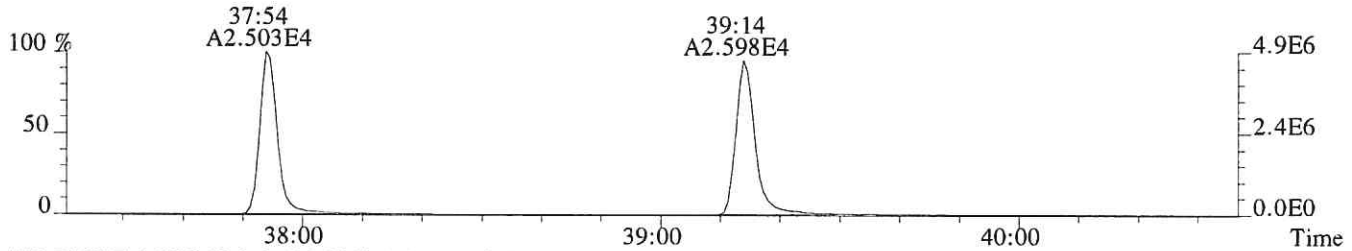
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1372.0,0.50%,F,T)



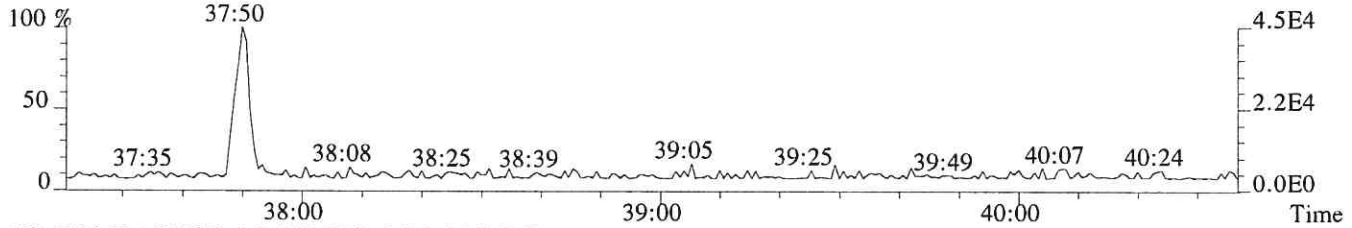
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2800.0,0.50%,F,T)



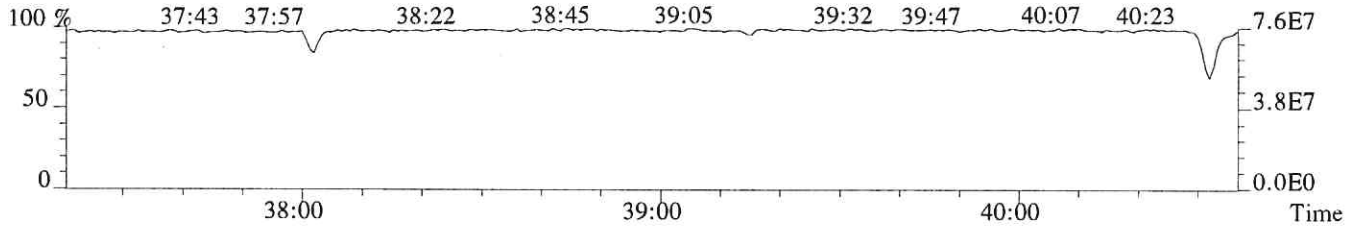
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2708.0,0.50%,F,T)



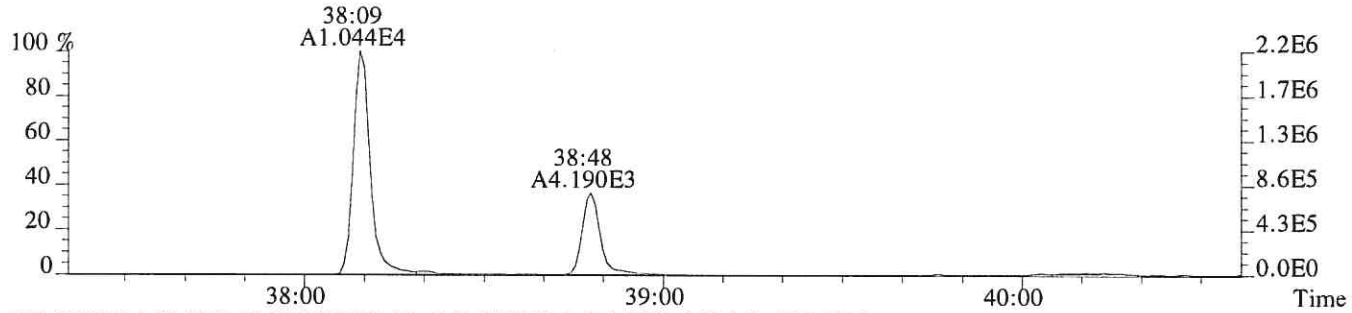
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



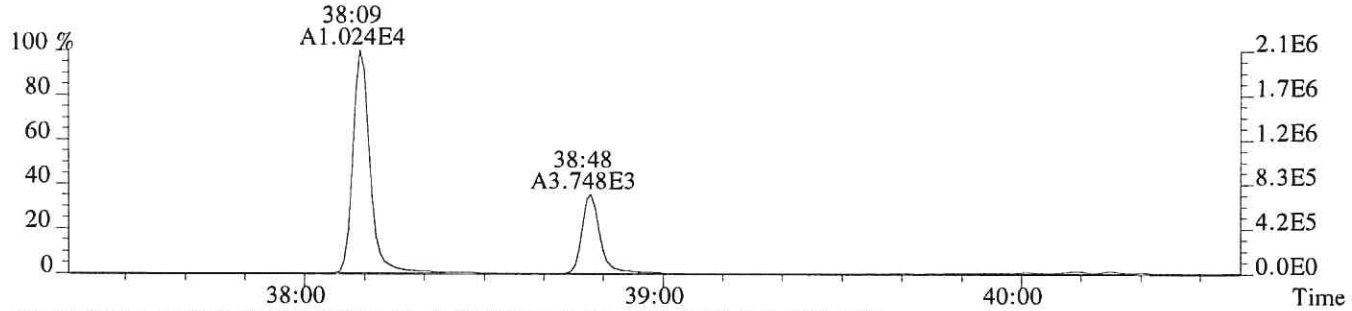
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



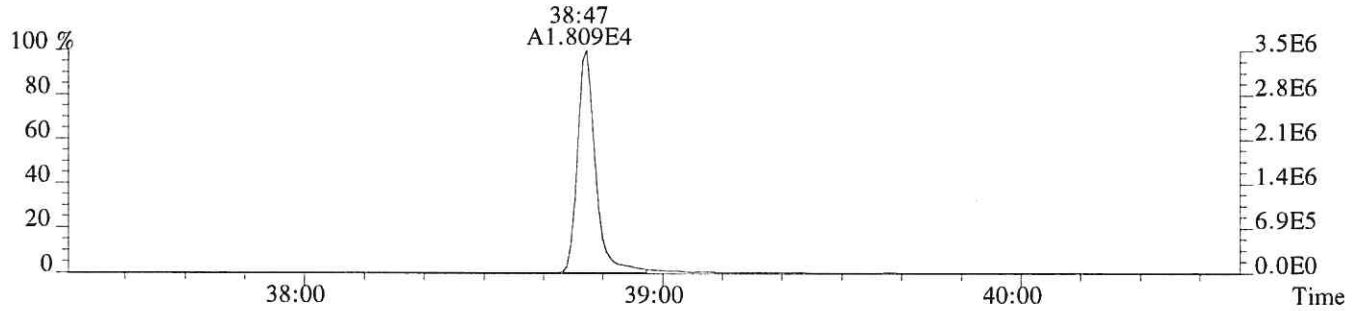
File:P511941 #1-295 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2668.0,0.40%,F,T)



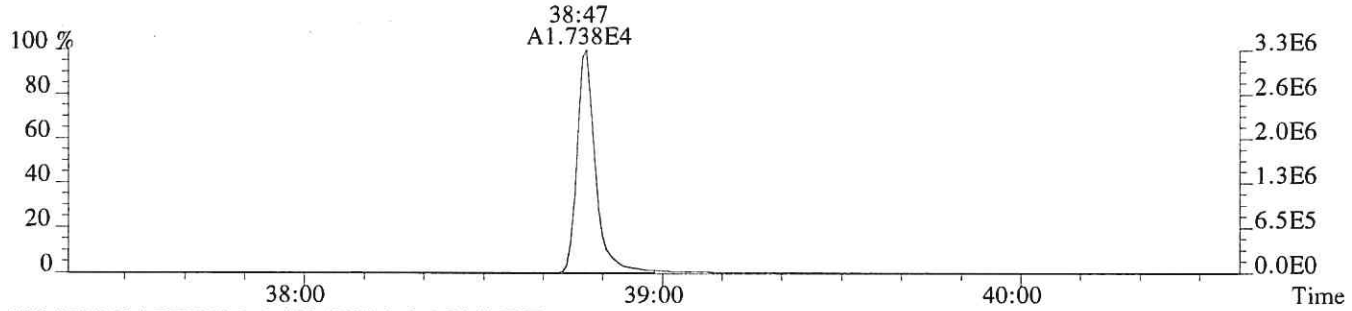
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)



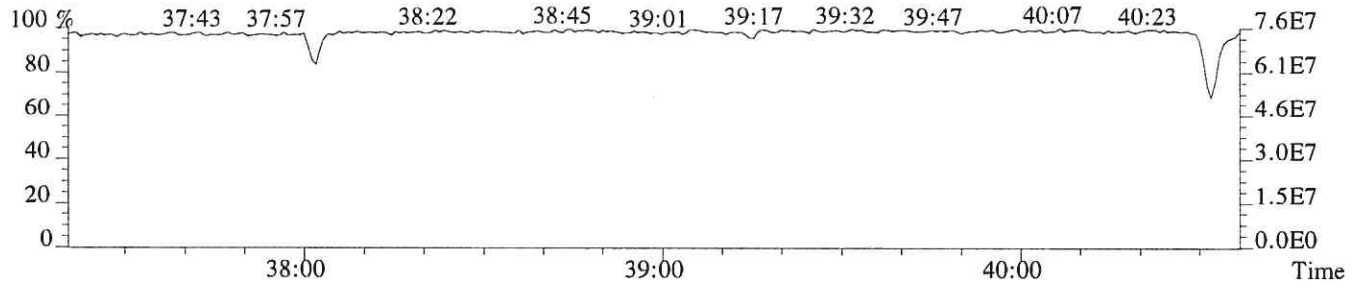
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



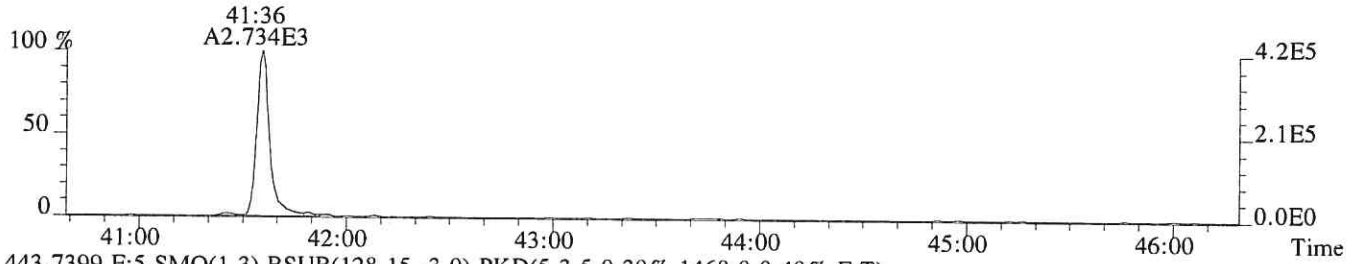
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



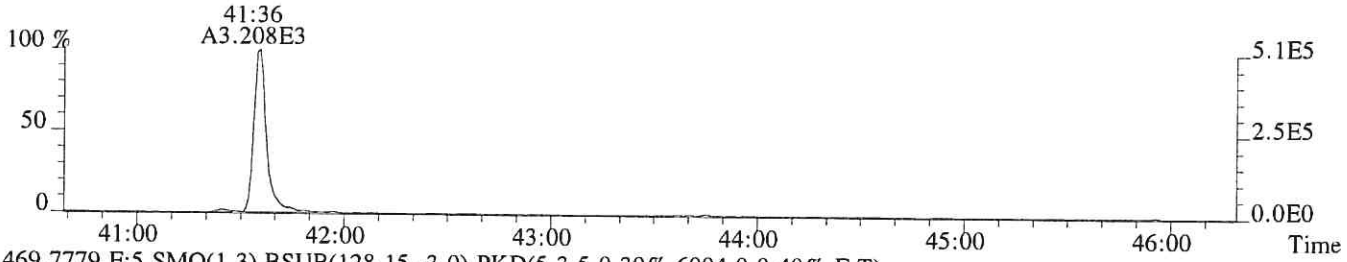
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



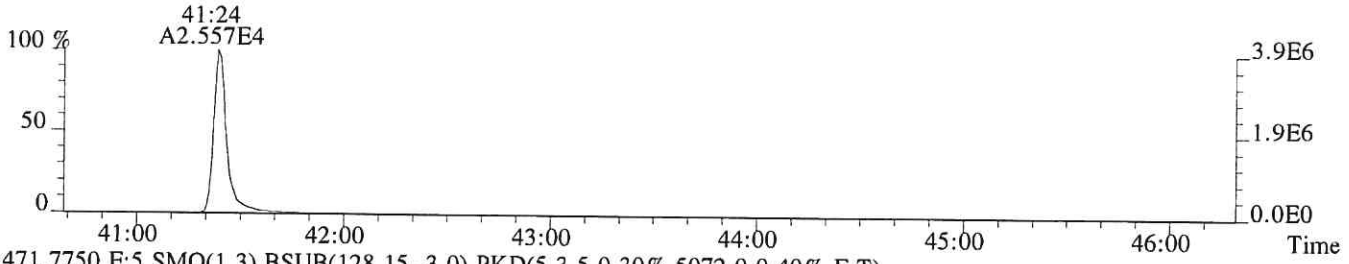
File:P511941 #1-511 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2220.0,0.40%,F,T)



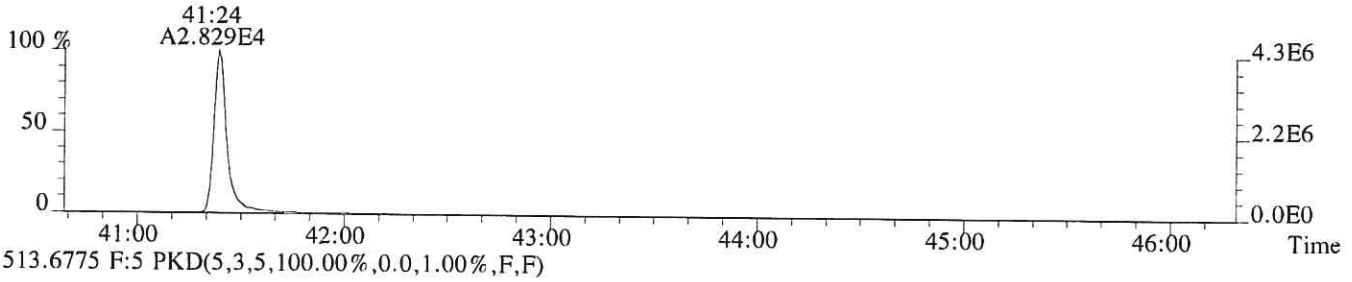
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1468.0,0.40%,F,T)



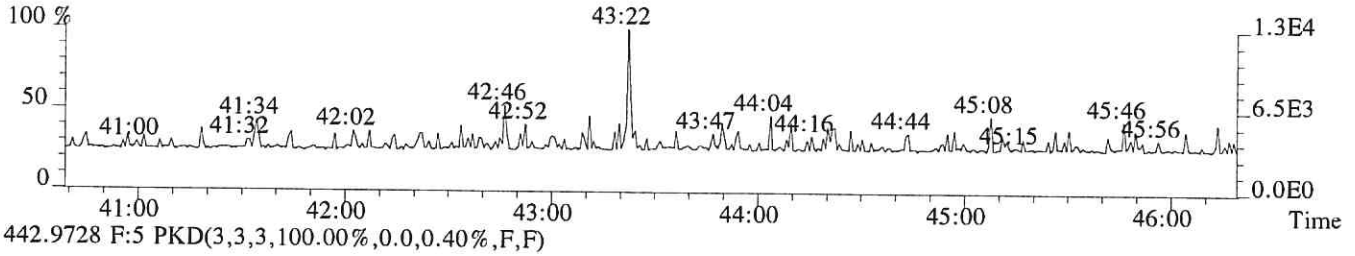
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,6004.0,0.40%,F,T)



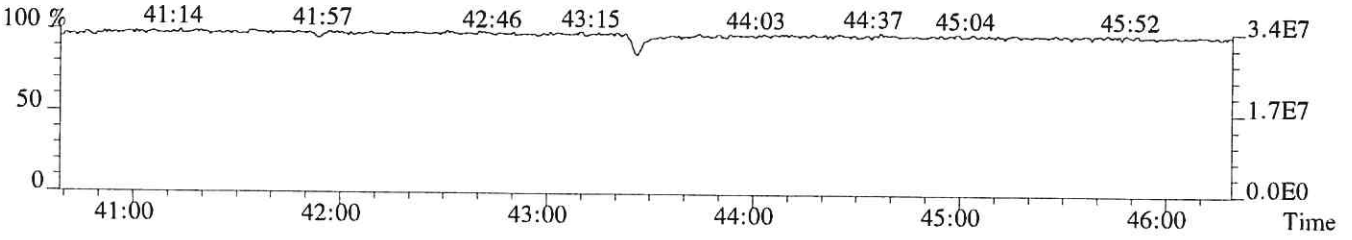
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5072.0,0.40%,F,T)



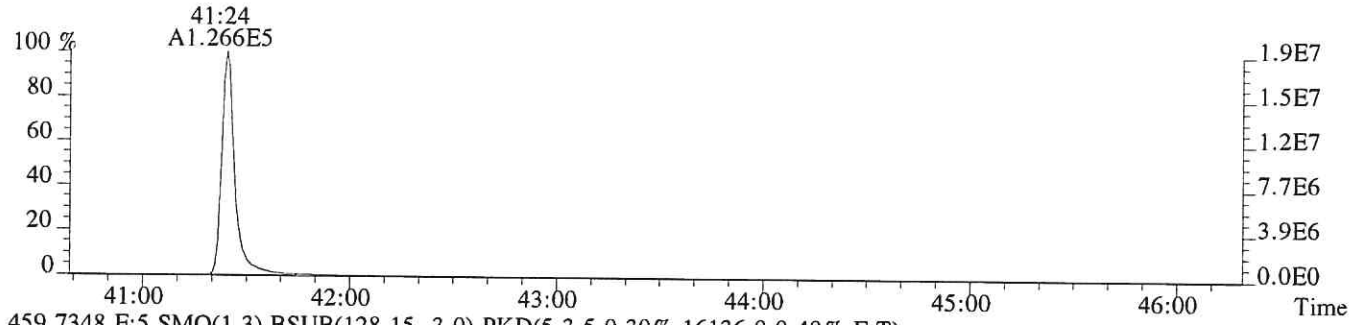
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



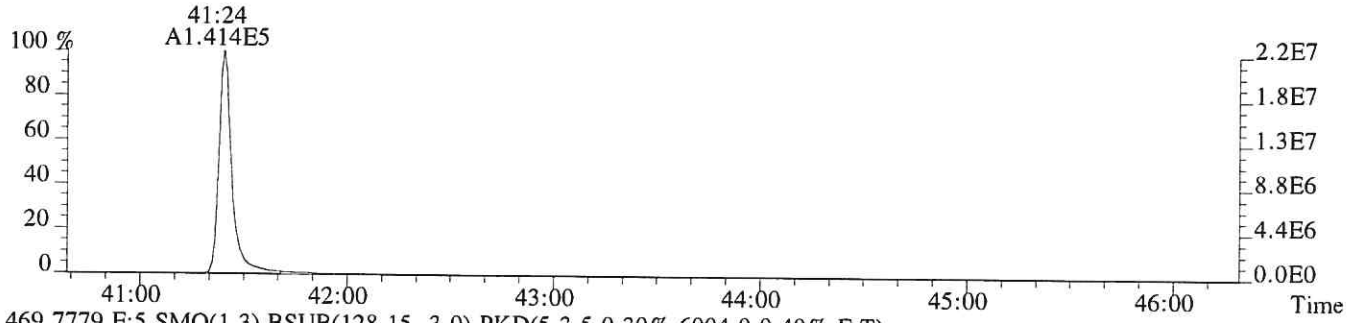
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



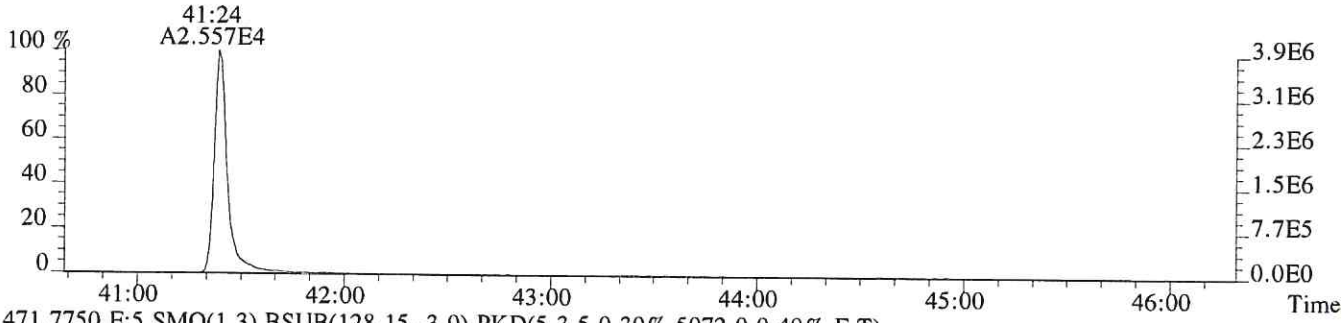
File:P511941 #1-511 Acq:13-OCT-2017 16:05:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-003RE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10300.0,0.40%,F,T)



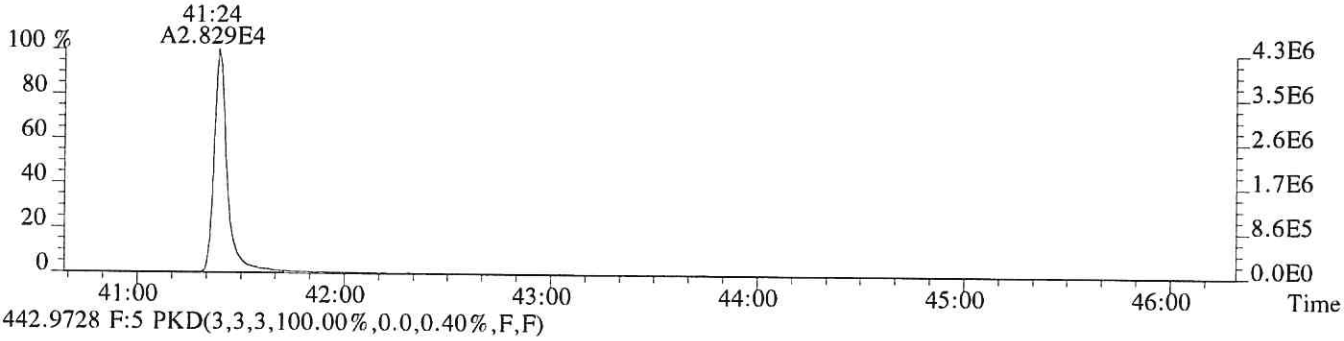
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,16136.0,0.40%,F,T)



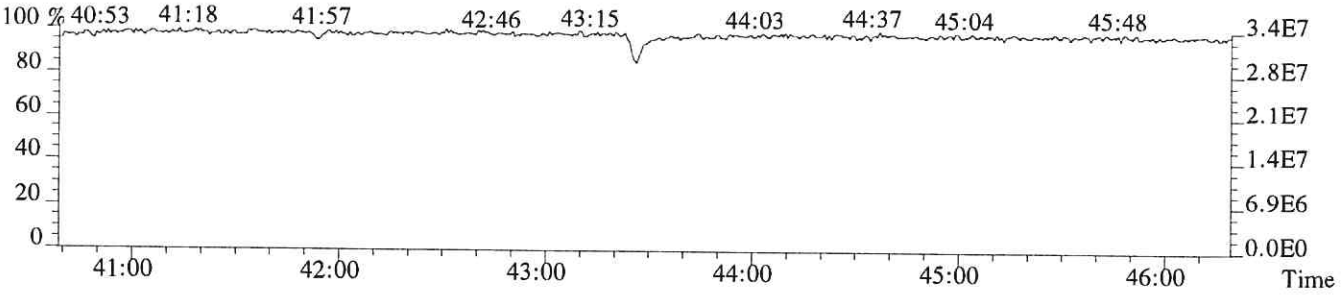
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,6004.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5072.0,0.40%,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-100317-0

Run #11 Filename P609586 Samp: 1 Inj: 1 Acquired: 11-OCT-17 13:15:54
Processed: 12-OCT-17 11:21:39 Sample ID: E1701038-004

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:07	9.007e+01	1.284e+02	0.70	yes	no	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	yes	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	38:33	4.694e+01	4.965e+01	0.95	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.341
10	Unk	OCDF	42:35	2.557e+02	3.024e+02	0.85	yes	no	1.337
11	Unk	2,3,7,8-TCDD	28:54	4.888e+01	4.521e+01	1.08	no	no	1.055
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	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	yes	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	39:31	3.749e+02	3.168e+02	1.18	yes	no	1.048
17	Unk	OCDD	42:23	9.607e+03	1.032e+04	0.93	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	28:05	2.005e+03	2.670e+03	0.75	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	32:18	4.165e+03	2.446e+03	1.70	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	33:14	4.326e+03	2.759e+03	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	35:54	2.203e+03	3.995e+03	0.55	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	36:01	2.500e+03	4.605e+03	0.54	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	36:32	2.552e+03	4.364e+03	0.58	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	2.179e+03	4.085e+03	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:33	1.572e+03	3.321e+03	0.47	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:59	1.475e+03	3.419e+03	0.43	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	28:52	1.580e+03	1.926e+03	0.82	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	33:30	2.884e+03	1.873e+03	1.54	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	36:40	2.723e+03	2.143e+03	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	36:45	2.886e+03	2.094e+03	1.38	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:29	2.332e+03	2.141e+03	1.09	yes	no	0.884
32	IS	13C-OCDD	42:22	2.628e+03	3.263e+03	0.81	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	28:16	2.467e+03	2.947e+03	0.84	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:59	3.853e+03	3.183e+03	1.21	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:54	1.426e+03				no	1.072

$$\text{OCDD} = \frac{(9.607e+03 + 1.032e+04) \times 4000 \text{ pg} \times 1}{(2.628e+03 + 3.263e+03) \times 10.135 \text{ g} \times 51.0 / 100 \times 1.120} = 2310 \text{ ng/kg}$$

KW 10/13/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-100317-037

Run #11 Filename P609586 Samp: 1 Inj: 1 Acquired: 11-OCT-17 13:15:54
Processed: 12-OCT-17 11:21:39 LAB. ID: E1701038-004

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.44e+04	1.84e+02	7.8e+01	2.12e+04	1.14e+03	1.9e+01
2	1,2,3,7,8-PeCDF	*	1.44e+02	*	*	9.96e+02	*
3	2,3,4,7,8-PeCDF	*	1.44e+02	*	*	9.96e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.44e+02	*	*	2.44e+02	*
5	1,2,3,6,7,8-HxCDF	*	2.44e+02	*	*	2.44e+02	*
6	2,3,4,6,7,8-HxCDF	*	2.44e+02	*	*	2.44e+02	*
7	1,2,3,7,8,9-HxCDF	*	2.44e+02	*	*	2.44e+02	*
8	1,2,3,4,6,7,8-HpCDF	1.04e+04	2.32e+02	4.5e+01	9.92e+03	2.00e+02	5.0e+01
9	1,2,3,4,7,8,9-HpCDF	*	2.32e+02	*	*	2.00e+02	*
10	OCDF	4.50e+04	2.60e+02	1.7e+02	4.89e+04	2.20e+02	2.2e+02
11	2,3,7,8-TCDD	8.96e+03	2.72e+02	3.3e+01	8.19e+03	1.96e+02	4.2e+01
12	1,2,3,7,8-PeCDD	*	1.56e+02	*	*	1.92e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.96e+02	*	*	2.88e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.96e+02	*	*	2.88e+02	*
15	1,2,3,7,8,9-HxCDD	*	1.96e+02	*	*	2.88e+02	*
16	1,2,3,4,6,7,8-HpCDD	6.96e+04	2.16e+02	3.2e+02	6.56e+04	1.80e+02	3.6e+02
17	OCDD	1.47e+06	2.52e+02	5.8e+03	1.56e+06	2.64e+02	5.9e+03
18	13C-2,3,7,8-TCDF	3.54e+05	8.05e+03	4.4e+01	4.38e+05	3.79e+03	1.2e+02
19	13C-1,2,3,7,8-PeCDF	7.19e+05	1.56e+02	4.6e+03	4.34e+05	2.16e+02	2.0e+03
20	13C-2,3,4,7,8-PeCDF	7.51e+05	1.56e+02	4.8e+03	4.93e+05	2.16e+02	2.3e+03
21	13C-1,2,3,4,7,8-HxCDF	4.63e+05	2.88e+02	1.6e+03	8.28e+05	1.56e+02	5.3e+03
22	13C-1,2,3,6,7,8-HxCDF	4.75e+05	2.88e+02	1.6e+03	8.99e+05	1.56e+02	5.8e+03
23	13C-2,3,4,6,7,8-HxCDF	5.05e+05	2.88e+02	1.8e+03	8.98e+05	1.56e+02	5.8e+03
24	13C-1,2,3,7,8,9-HxCDF	4.41e+05	2.88e+02	1.5e+03	7.85e+05	1.56e+02	5.0e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.28e+05	6.04e+02	5.4e+02	6.79e+05	1.32e+02	5.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.78e+05	6.04e+02	4.6e+02	6.04e+05	1.32e+02	4.6e+03
27	13C-2,3,7,8-TCDD	2.85e+05	6.53e+03	4.4e+01	3.29e+05	1.96e+03	1.7e+02
28	13C-1,2,3,7,8-PeCDD	5.07e+05	3.76e+02	1.3e+03	3.53e+05	1.72e+02	2.1e+03
29	13C-1,2,3,4,7,8-HxCDD	5.92e+05	1.76e+02	3.4e+03	4.42e+05	1.92e+02	2.3e+03
30	13C-1,2,3,6,7,8-HxCDD	5.81e+05	1.76e+02	3.3e+03	4.21e+05	1.92e+02	2.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.38e+05	1.84e+02	2.4e+03	4.21e+05	1.80e+02	2.3e+03
32	13C-OCDD	4.21e+05	2.24e+02	1.9e+03	4.95e+05	2.64e+02	1.9e+03
33	13C-1,2,3,4-TCDD	4.53e+05	6.53e+03	6.9e+01	5.16e+05	1.96e+03	2.6e+02
34	13C-1,2,3,7,8,9-HxCDD	7.67e+05	1.76e+02	4.4e+03	6.18e+05	1.92e+02	3.2e+03
35	37Cl-2,3,7,8-TCDD	2.45e+05	2.60e+02	9.4e+02			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-037

Entry: 36 Totals Name: Total Tetra-Furans

Run: 11 File: P609586 Sample:1 Injection:1 Function:1

Acquired: 11-OCT-17 13:15:54 Processed: 12-OCT-17 11:21:39

Mass: 303.9020 305.8990 Tot Response: 3.32e+02 RRF: 1.020

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	27:16	4.96e+01	6.43e+01	0.77	yes	1.14e+02		n	n
2	28:07	9.01e+01	1.28e+02	0.70	yes	2.19e+02	2,3,7,8-TCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-037

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 11 File: P609586 Sample:1 Injection:1 Function:2

Acquired: 11-OCT-17 13:15:54 Processed: 12-OCT-17 11:21:39

Mass: 355.8550 357.8520 Tot Response: 2.26e+01 RRF: 0.9636

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:51	1.36e+01	9.05e+00	1.50	yes	2.26e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-037

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 11 File: P609586 Sample:1 Injection:1 Function:3

Acquired: 11-OCT-17 13:15:54 Processed: 12-OCT-17 11:21:39

Mass: 389.8160 391.8130 Tot Response: 8.84e+01 RRF: 1.085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	36:04	4.80e+01	4.04e+01	1.19	yes	8.84e+01	n	n

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Peak List Summary

CLIENT ID.

SJWP-100317-037

Entry: 43 Totals Name: Total Hepta-Furans

Run: 11 File: P609586 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 13:15:54 Processed: 12-OCT-17 11:21:39

Mass: 407.7820 409.7790 Tot Response: 9.66e+01 RRF: 1.368

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:33	4.69e+01	4.97e+01	0.95	yes	9.66e+01	1,2,3,4,6,7,8-HpCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-037

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 11 File: P609586 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 13:15:54 Processed: 12-OCT-17 11:21:39

Mass: 423.7770 425.7740 Tot Response: 2.25e+03 RRF: 1.048

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:49	7.59e+02	7.99e+02	0.95	yes	1.56e+03	n	n
2	39:31	3.75e+02	3.17e+02	1.18	yes	6.92e+02	1,2,3,4;6,7,8-HpCDD	n	n

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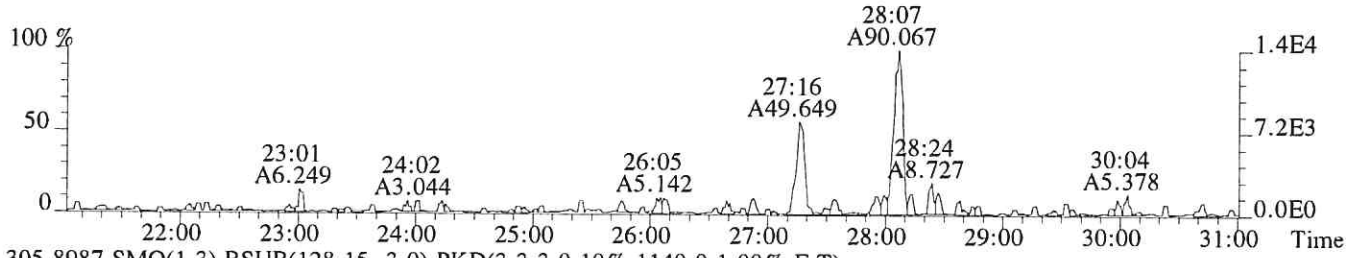
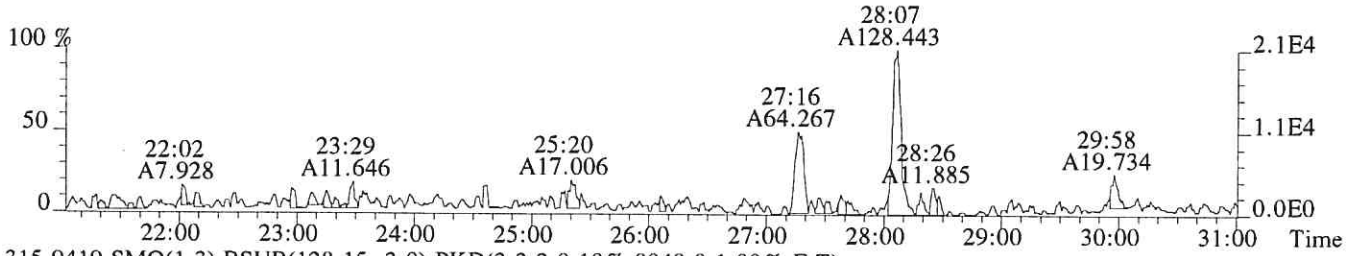
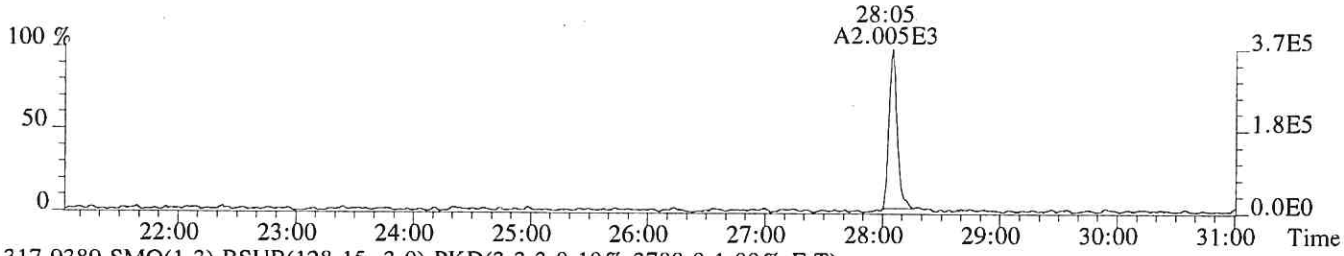
File:P609586 #1-708 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



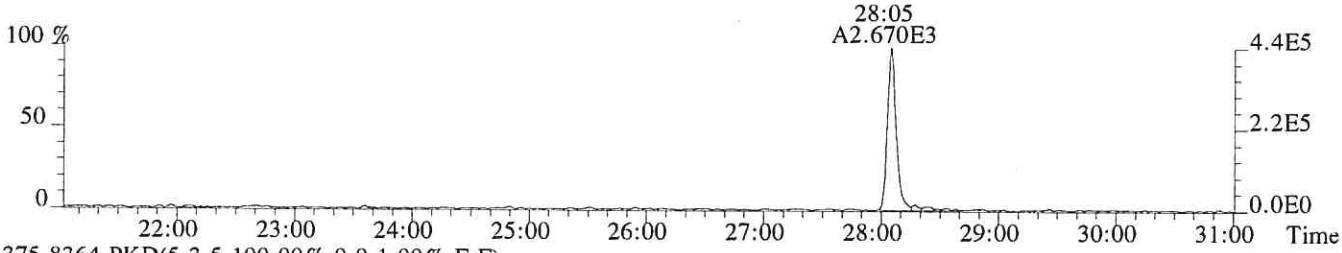
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



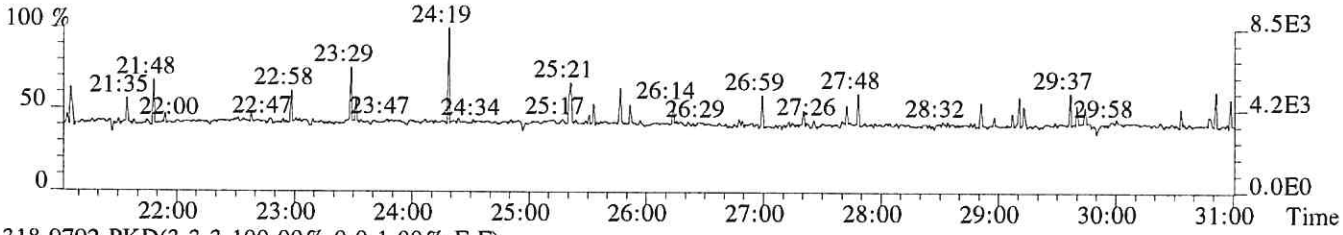
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8048.0,1.00%,F,T)



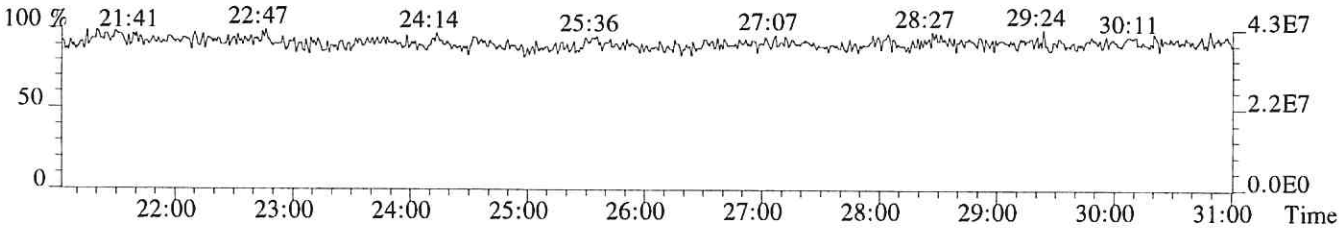
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3788.0,1.00%,F,T)



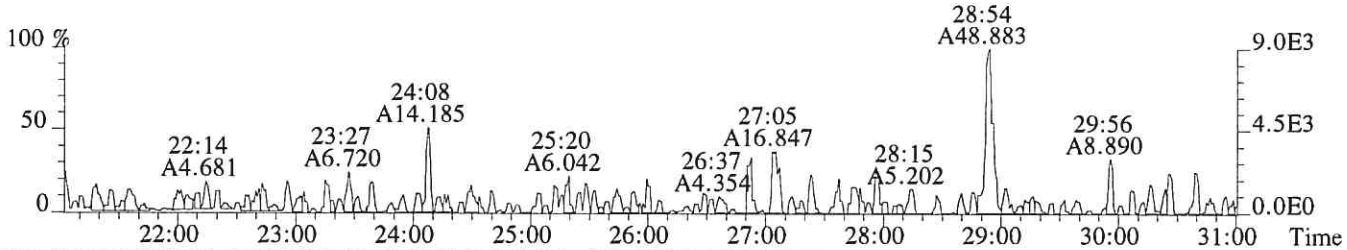
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



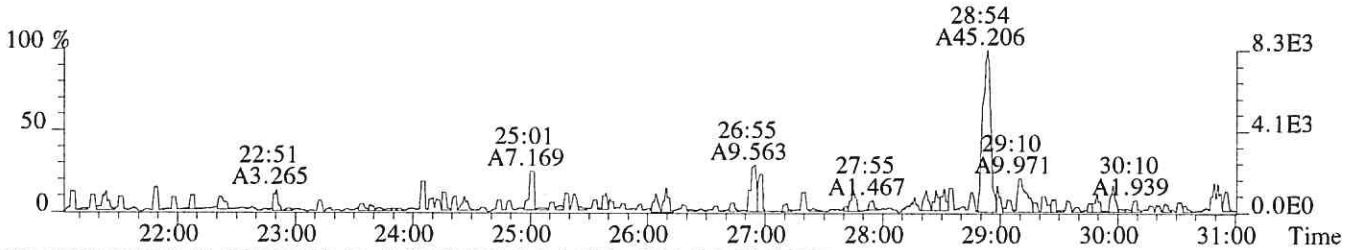
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



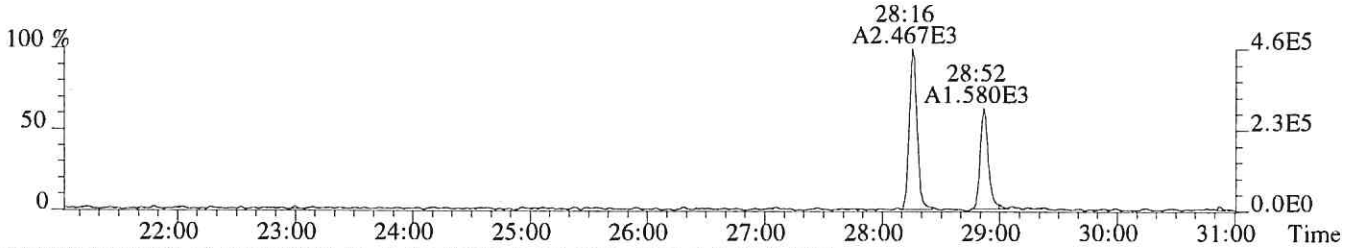
File:P609586 #1-708 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,272.0,1.00%,F,T)



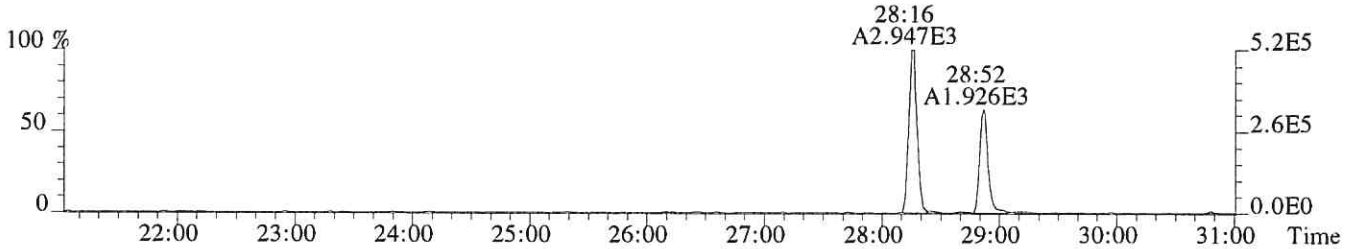
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



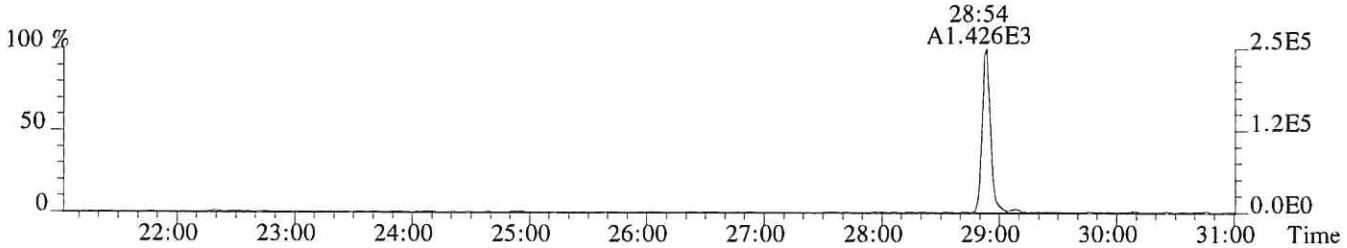
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6532.0,1.00%,F,T)



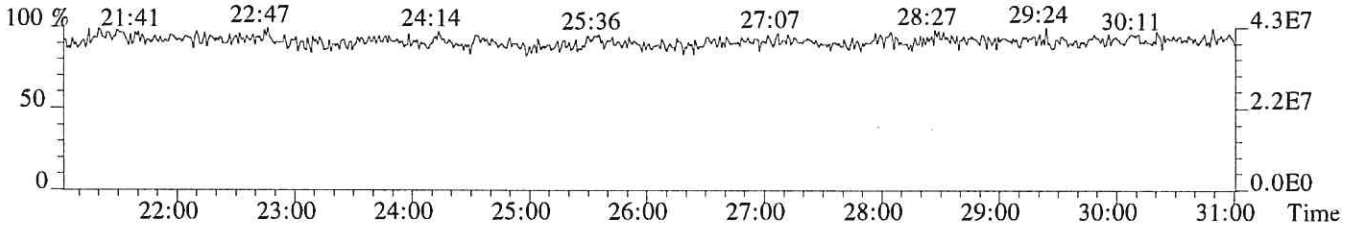
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1964.0,1.00%,F,T)



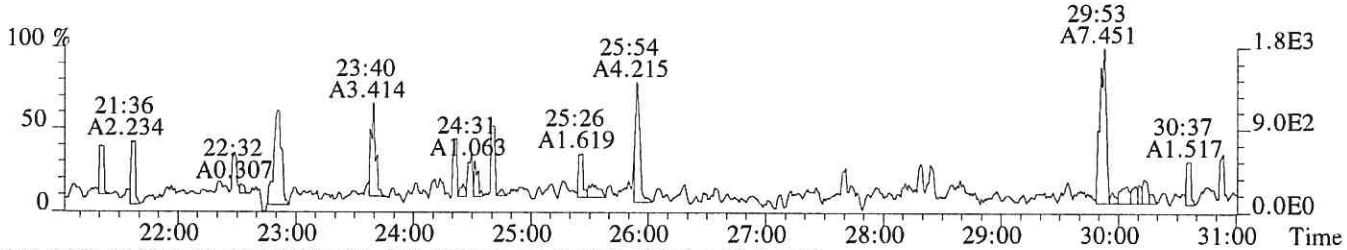
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



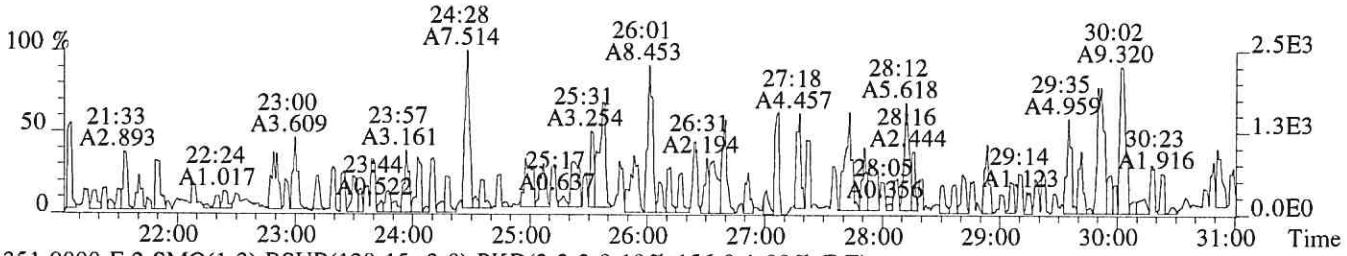
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



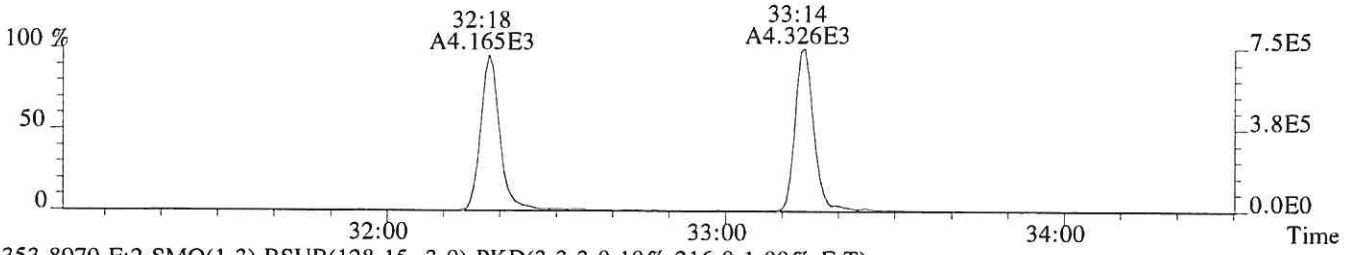
File:P609586 #1-708 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,T)



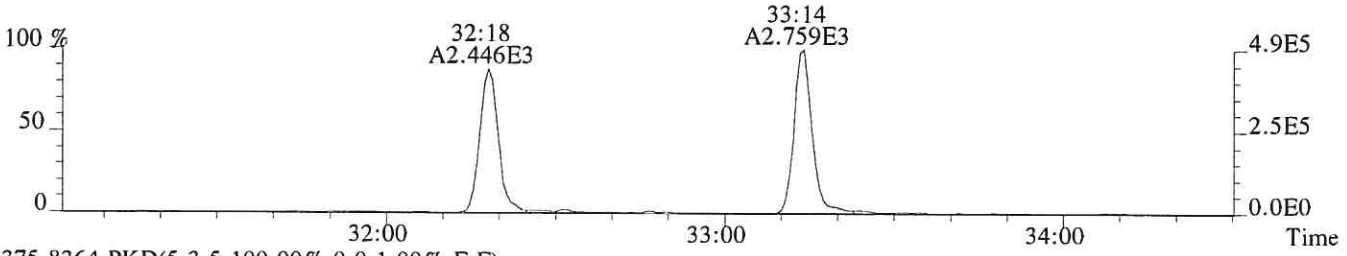
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



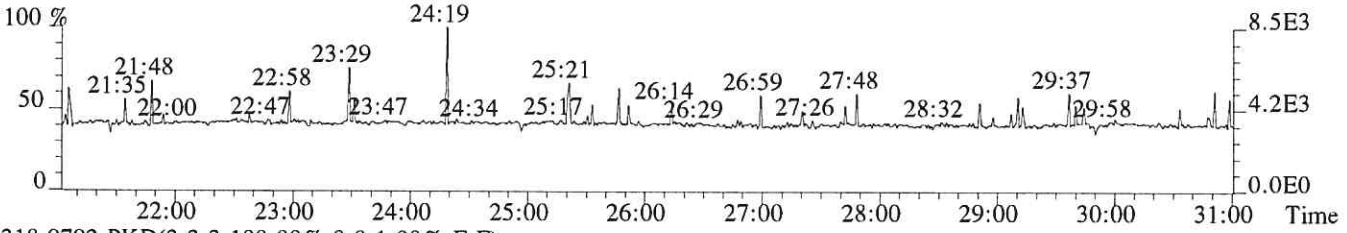
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,156.0,1.00%,F,T)



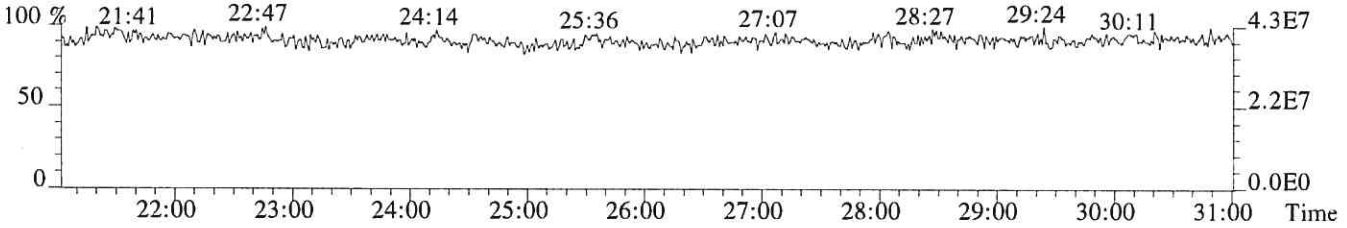
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



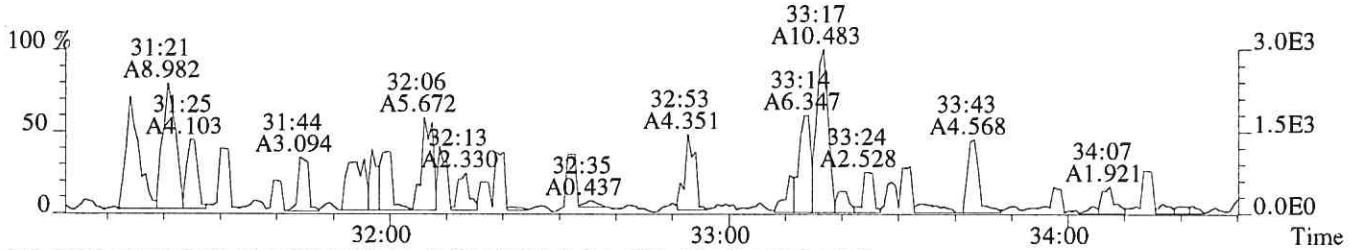
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



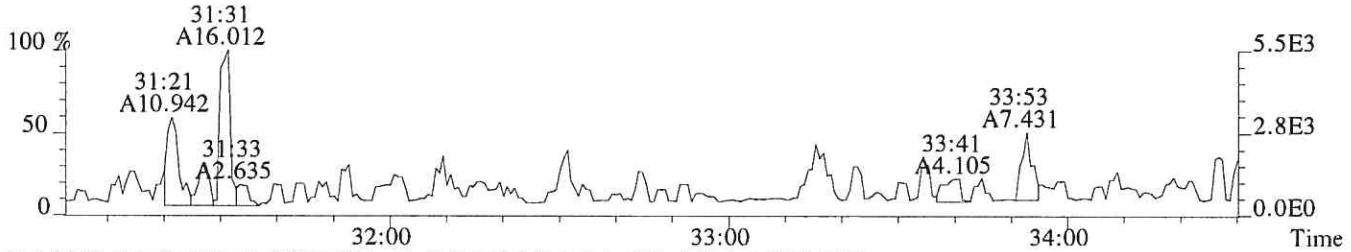
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



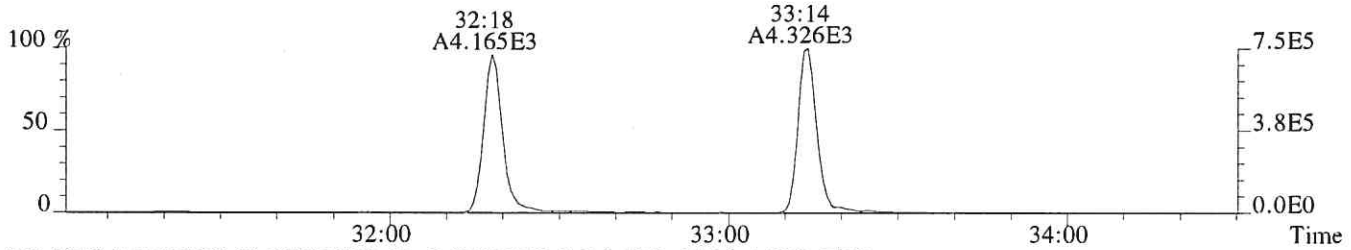
File:P609586 #1-312 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,144.0,1.00%,F,T)



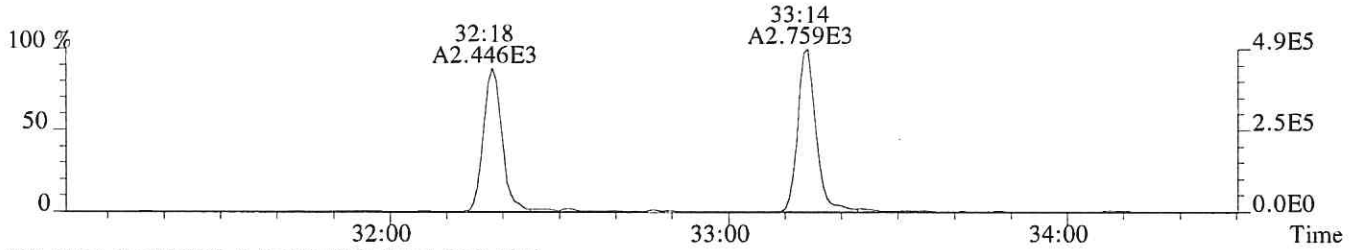
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,T)



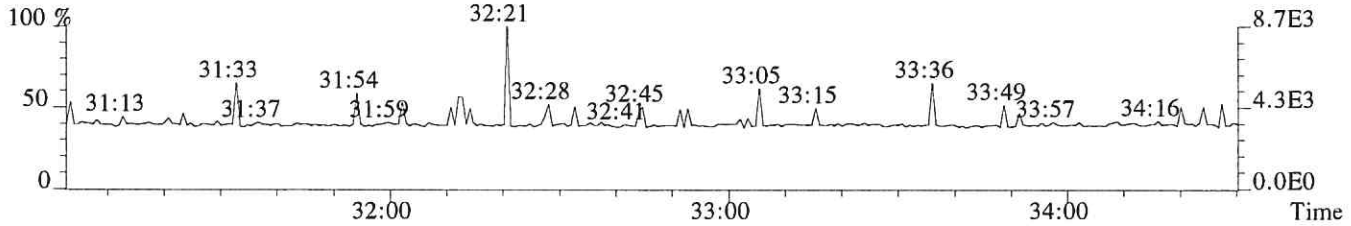
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,156.0,1.00%,F,T)



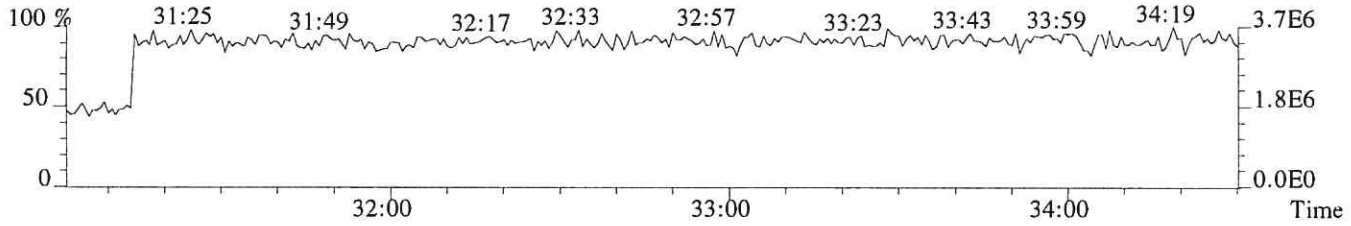
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



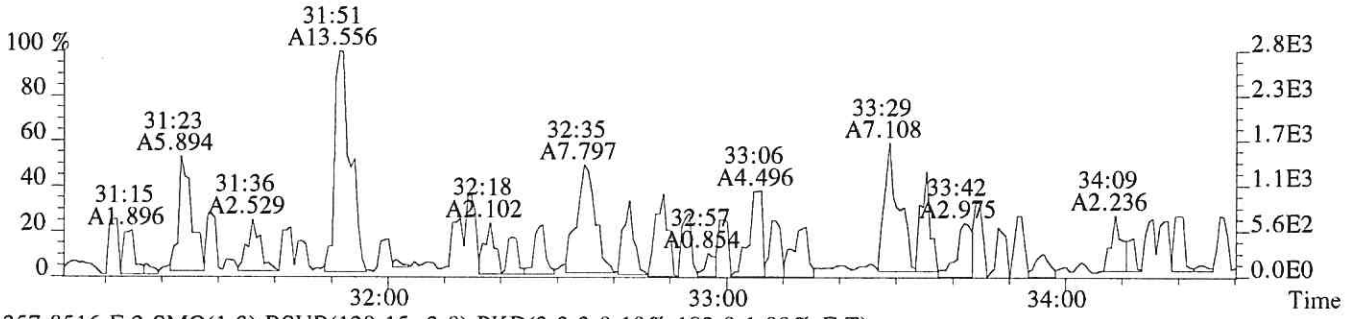
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



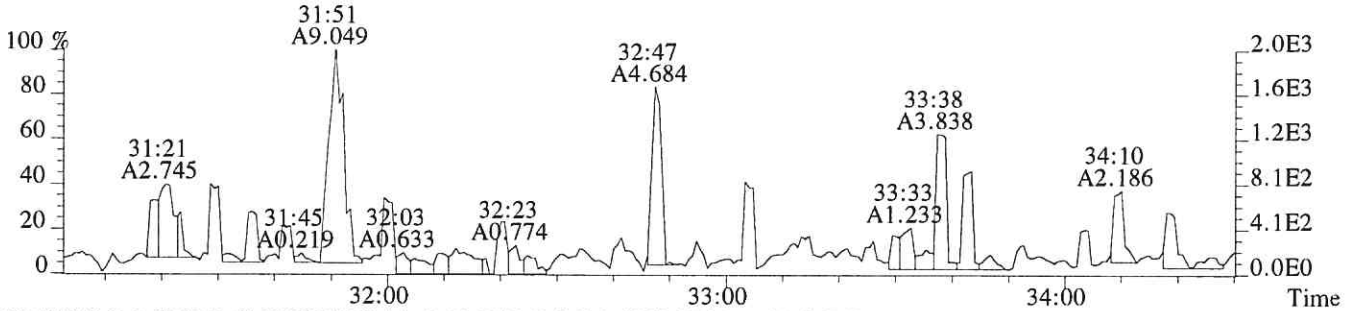
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



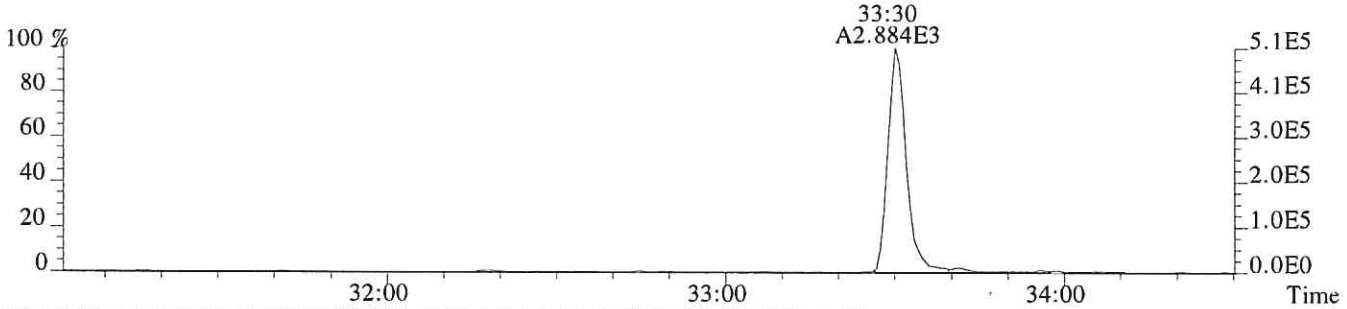
File:P609586 #1-312 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,156.0,1.00%,F,T)



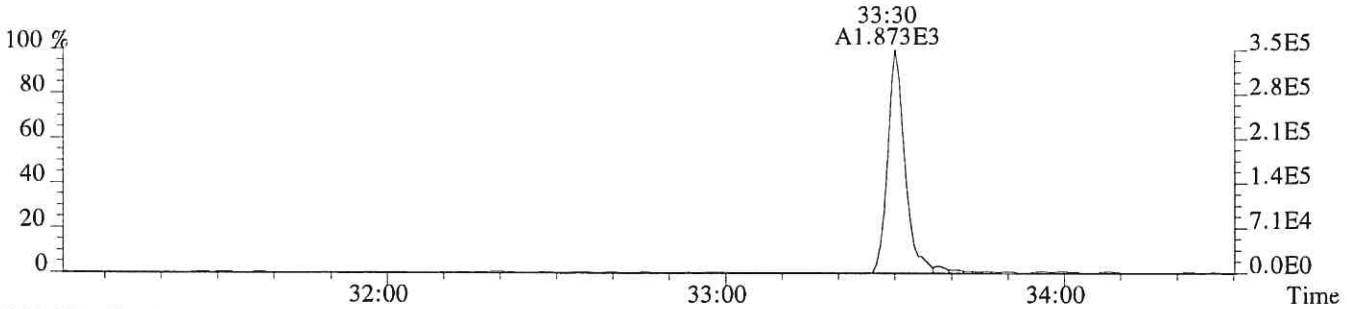
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



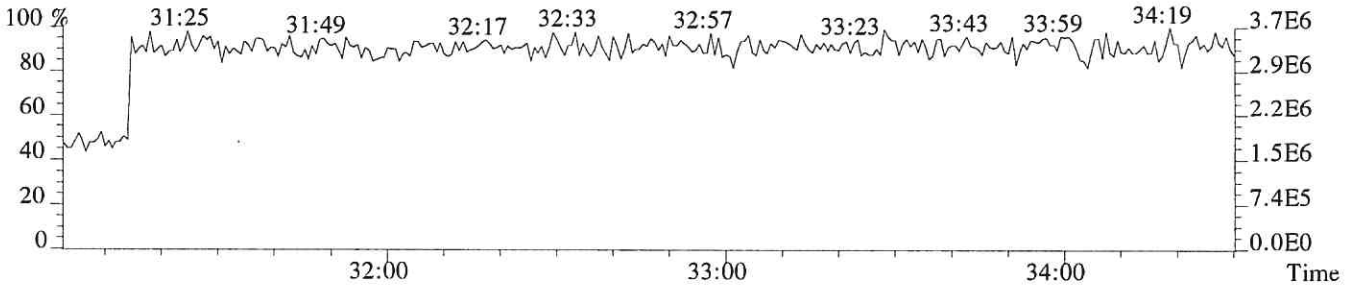
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,T)



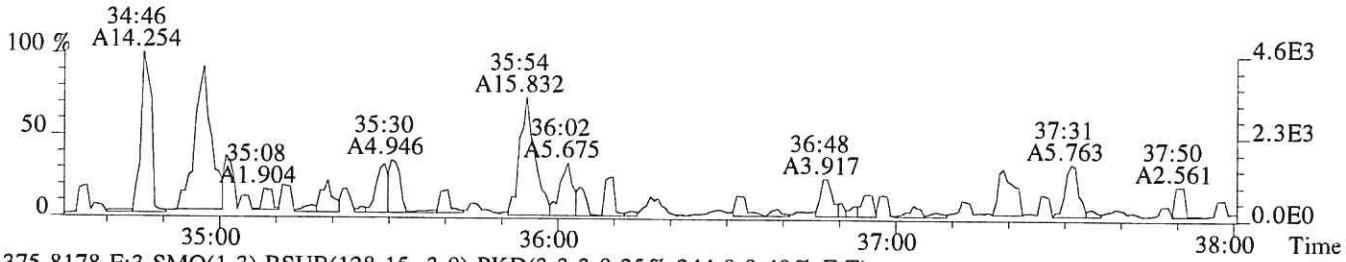
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,172.0,1.00%,F,T)



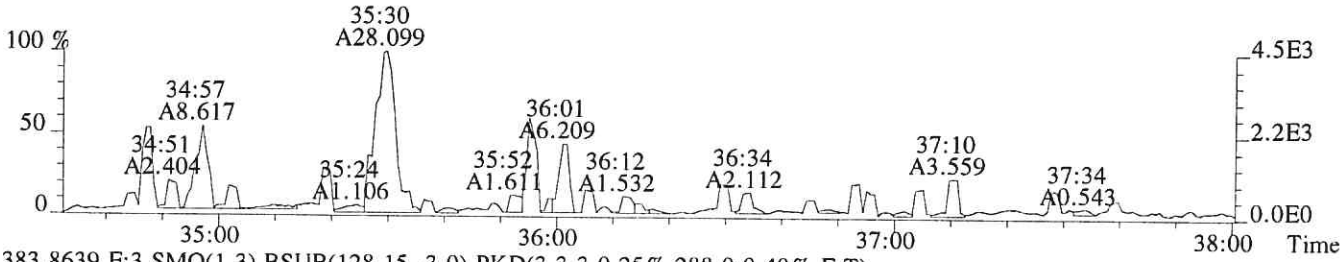
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



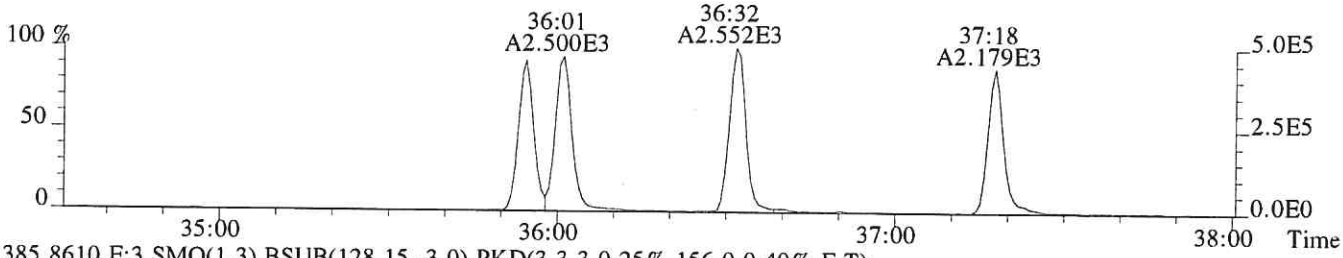
File:P609586 #1-313 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



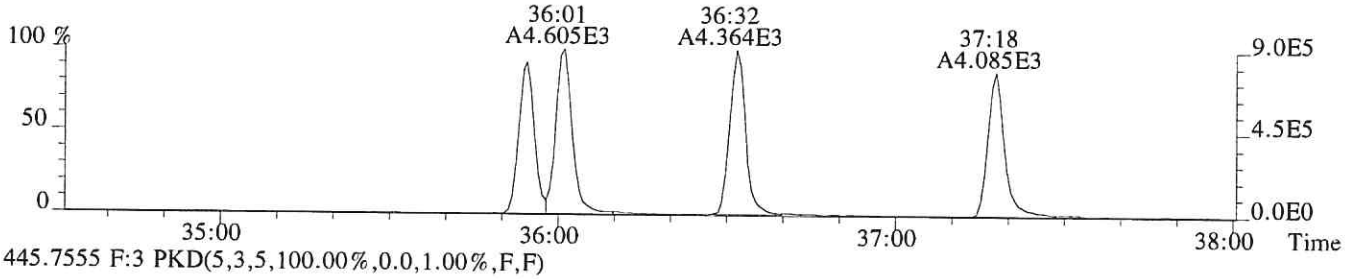
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,T)



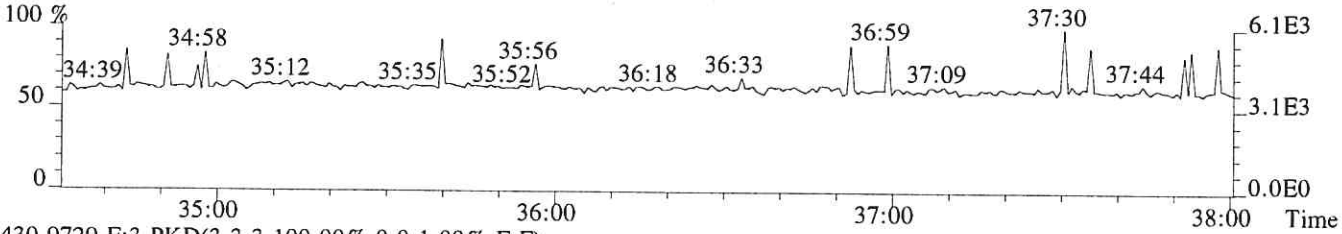
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



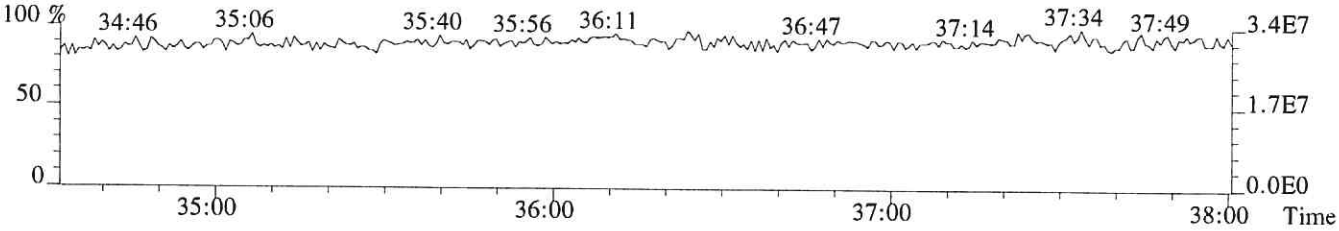
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



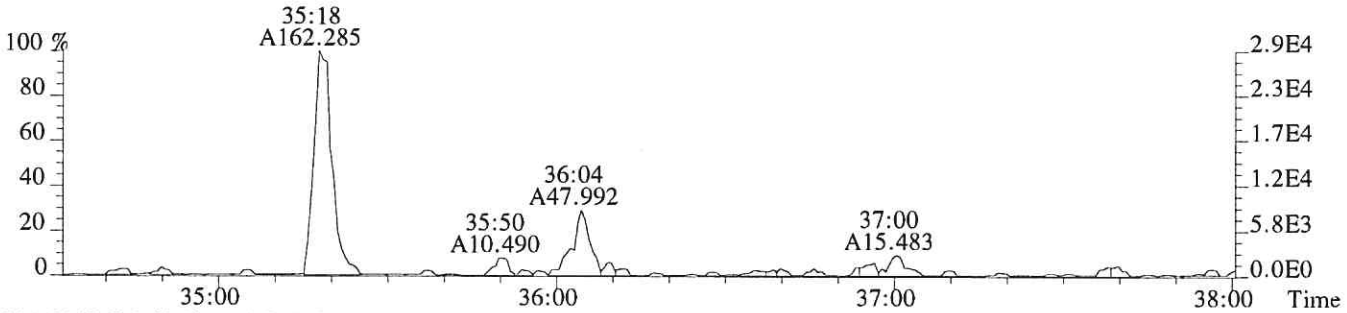
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



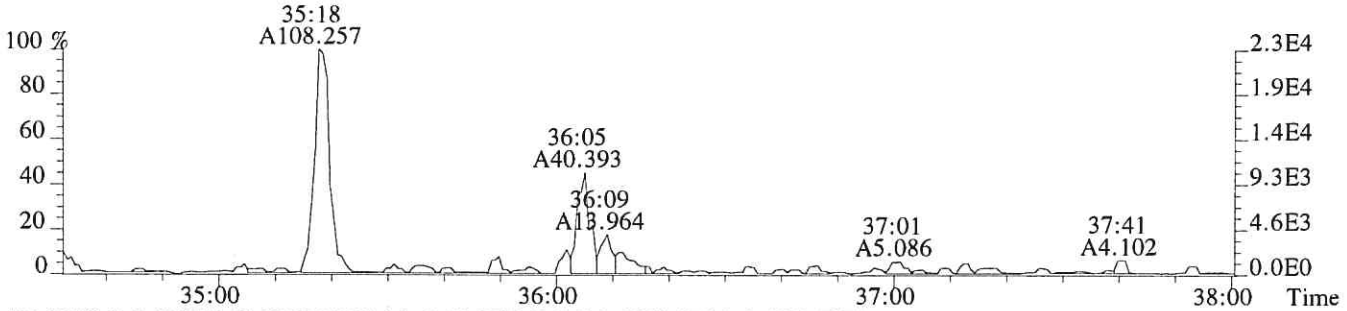
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



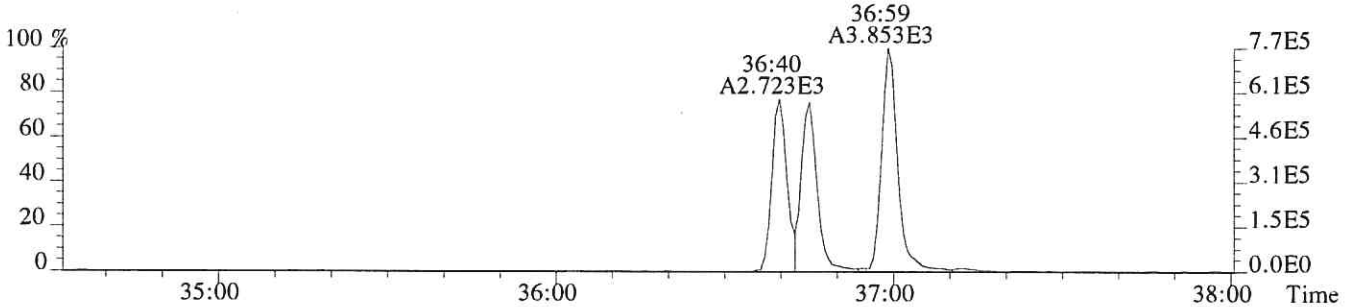
File:P609586 #1-313 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,T)



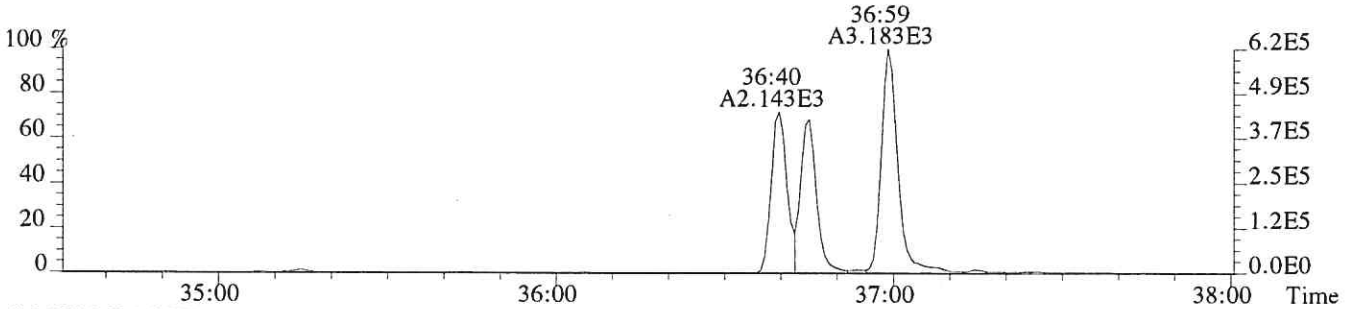
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,T)



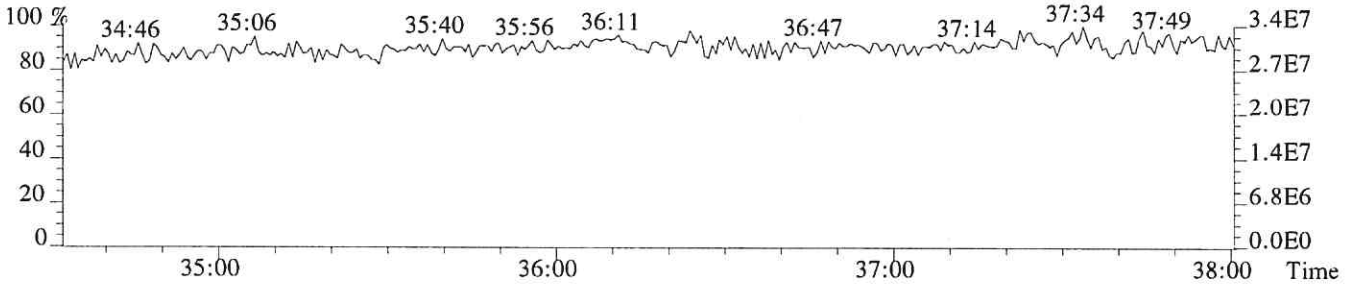
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



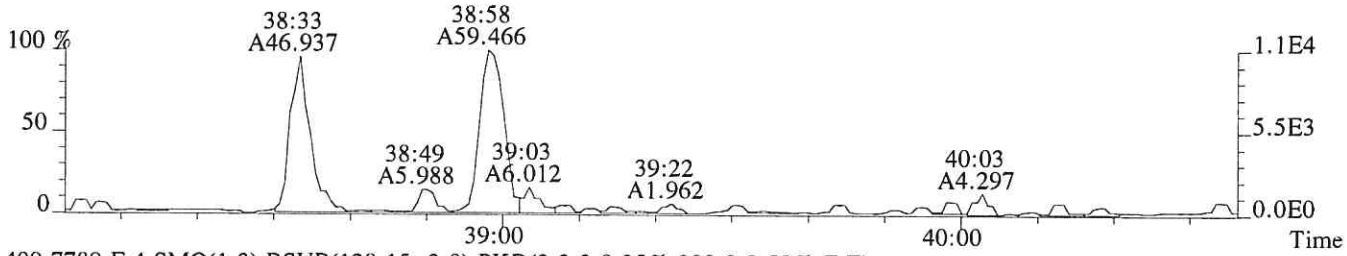
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,T)



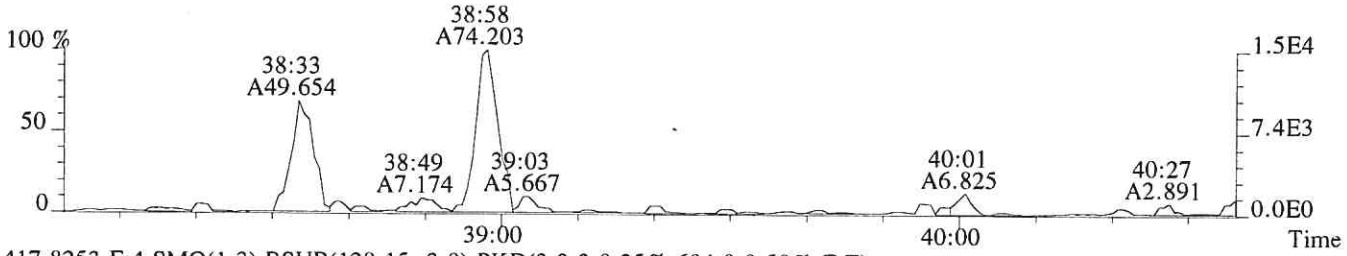
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



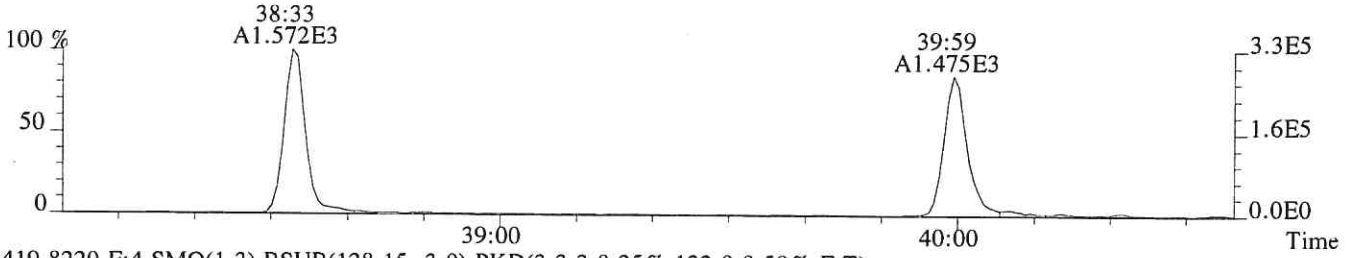
File:P609586 #1-231 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.50%,F,T)



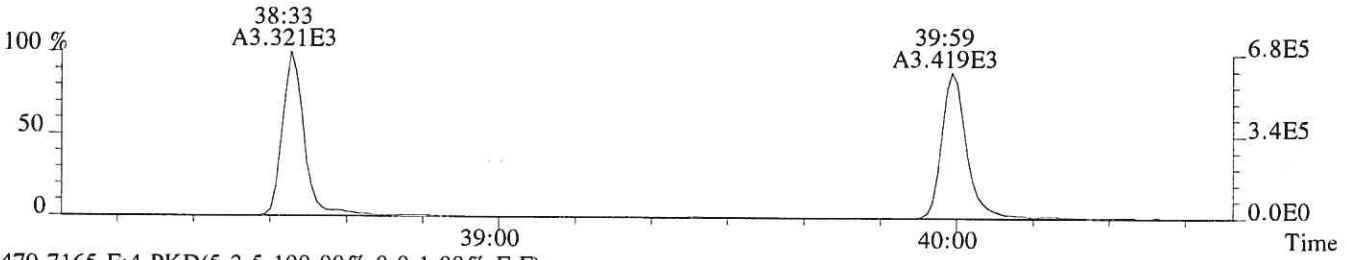
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.50%,F,T)



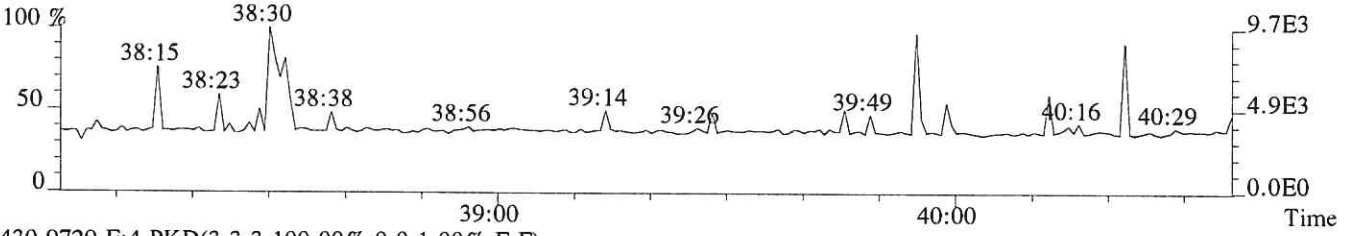
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,604.0,0.50%,F,T)



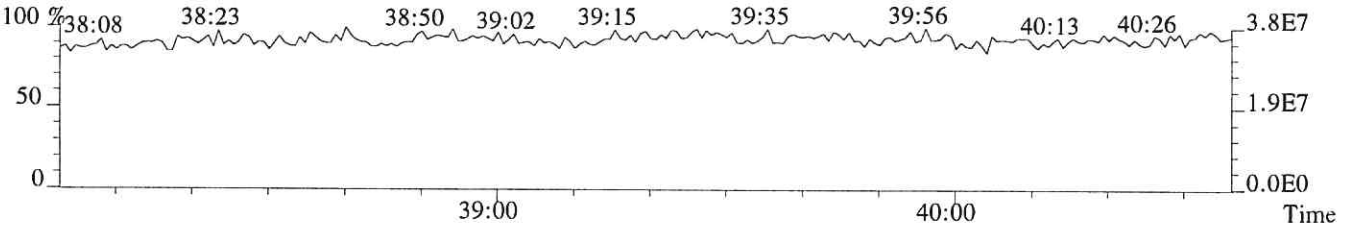
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.50%,F,T)



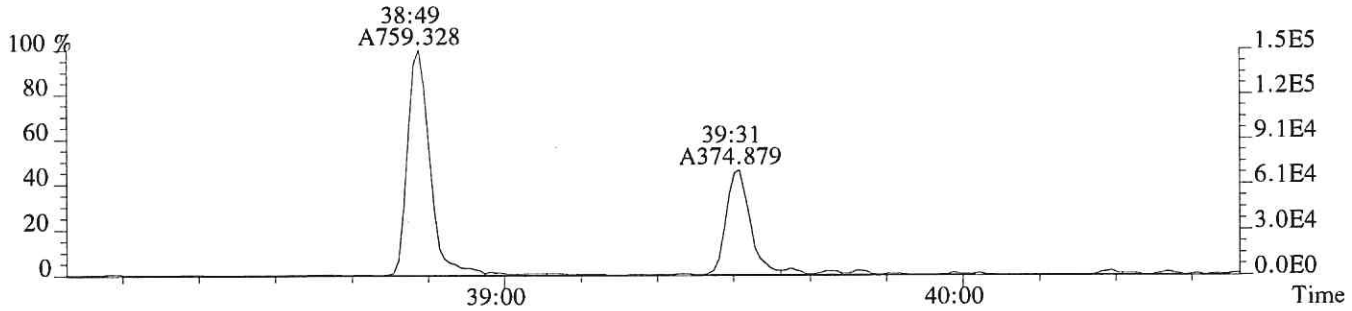
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



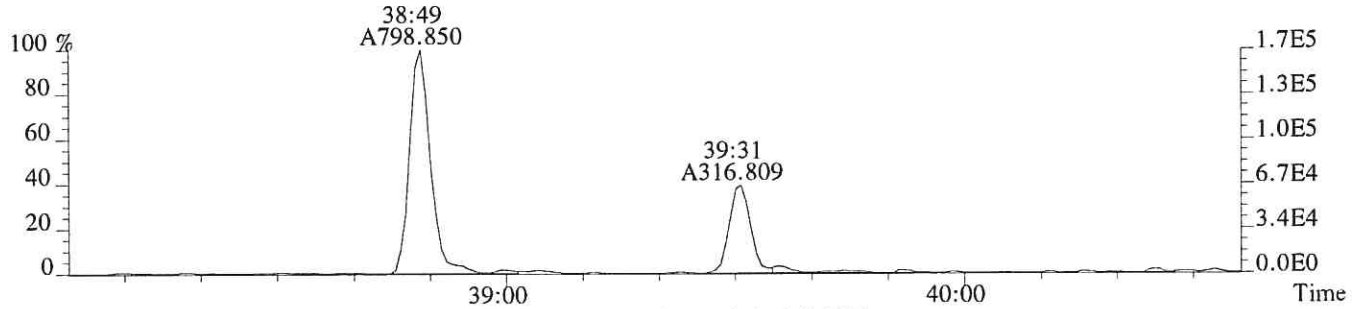
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



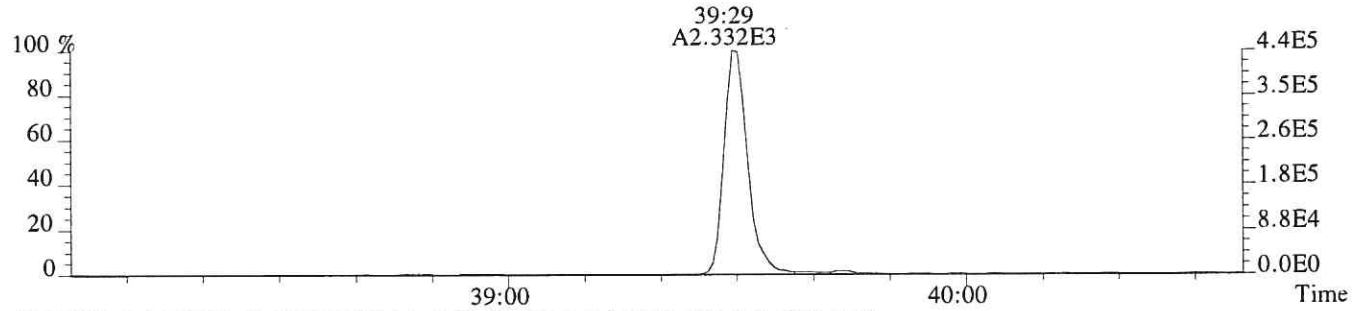
File:P609586 #1-231 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



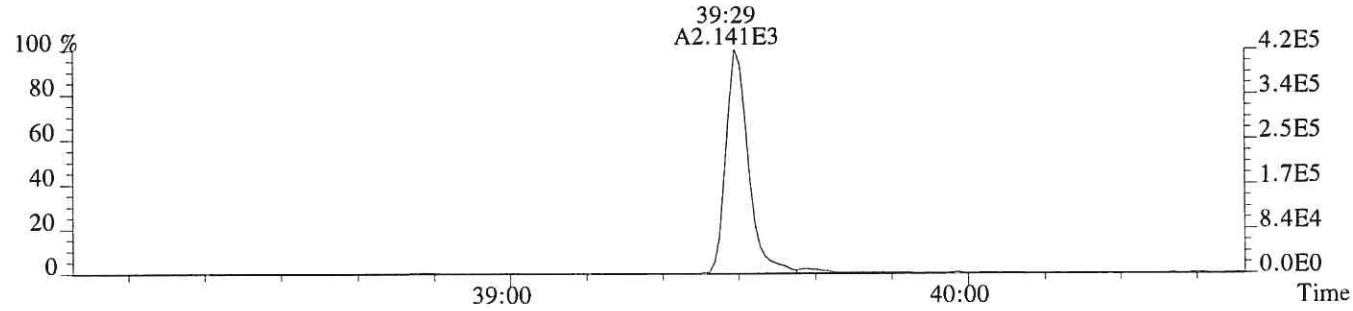
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



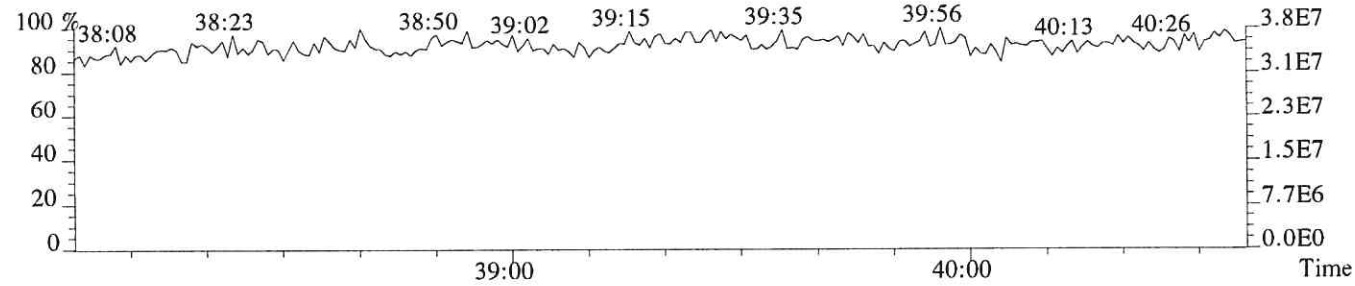
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,T)



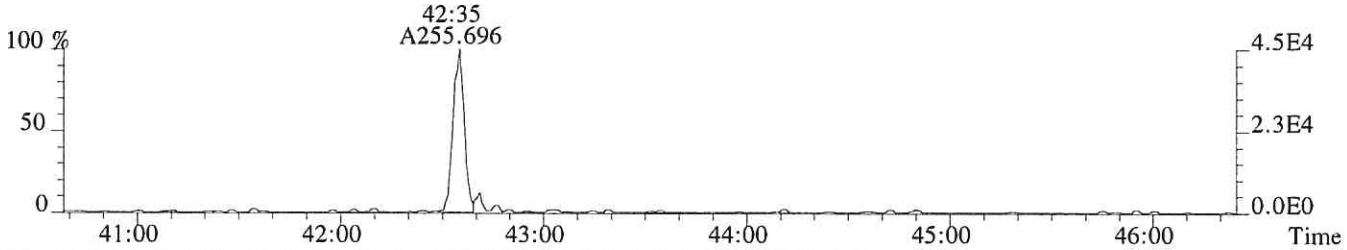
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



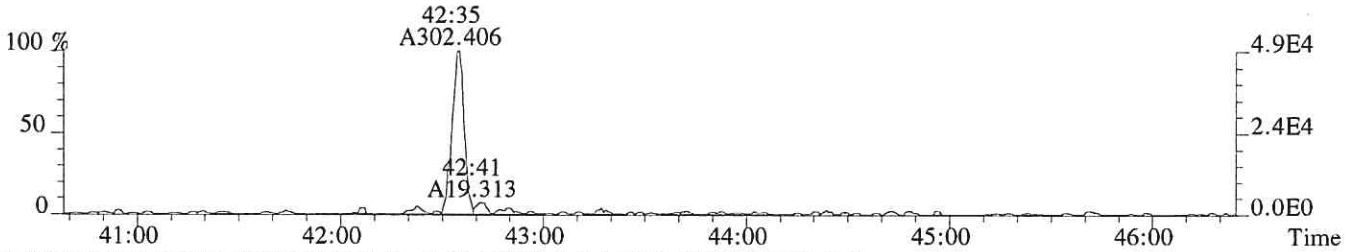
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



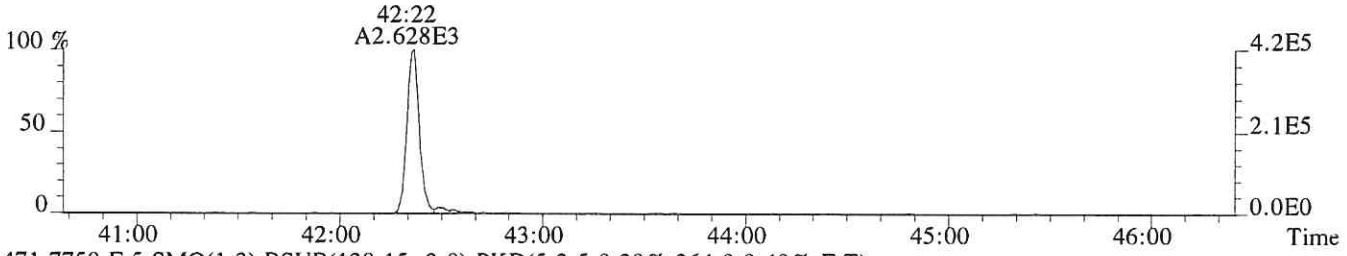
File:P609586 #1-520 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,260.0,0.40%,F,T)



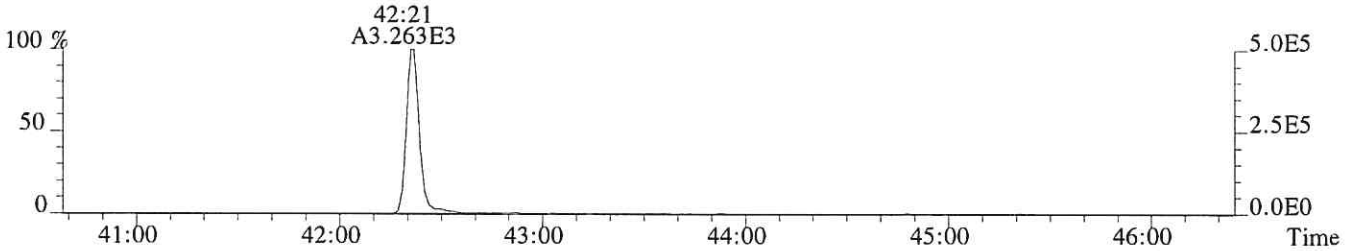
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,T)



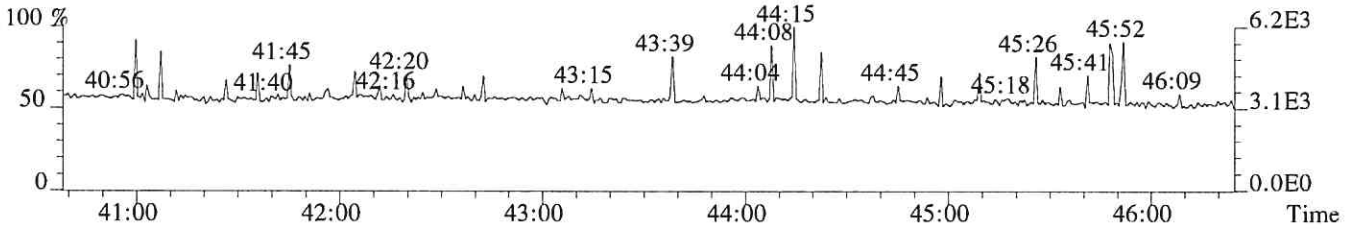
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



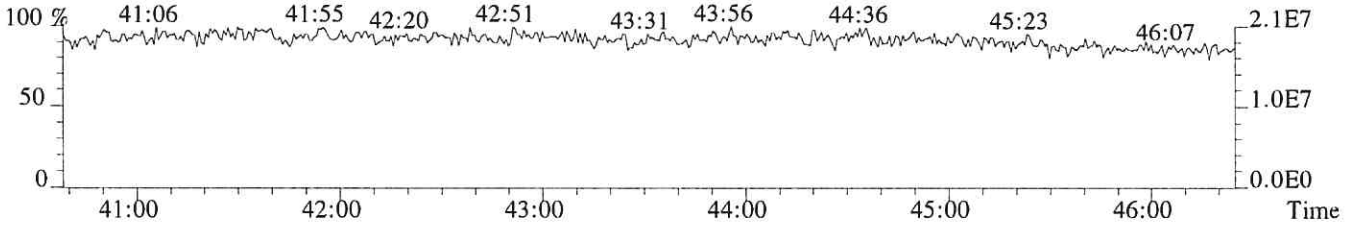
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,264.0,0.40%,F,T)



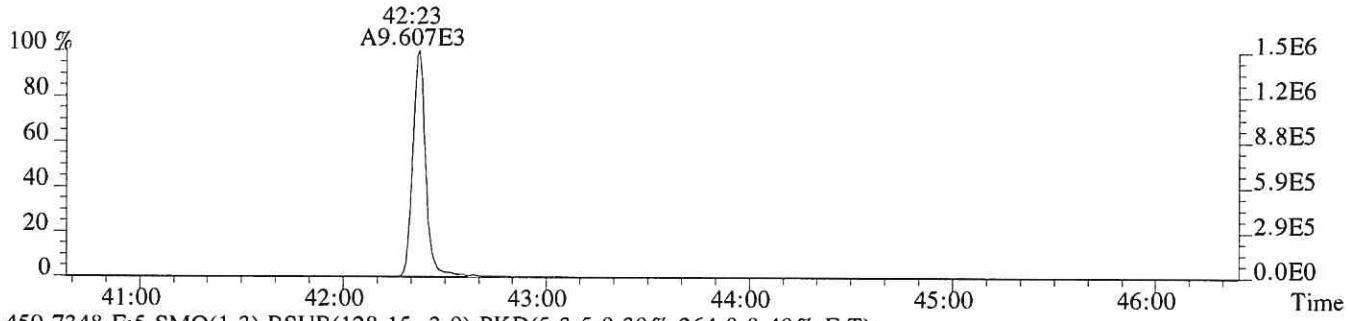
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



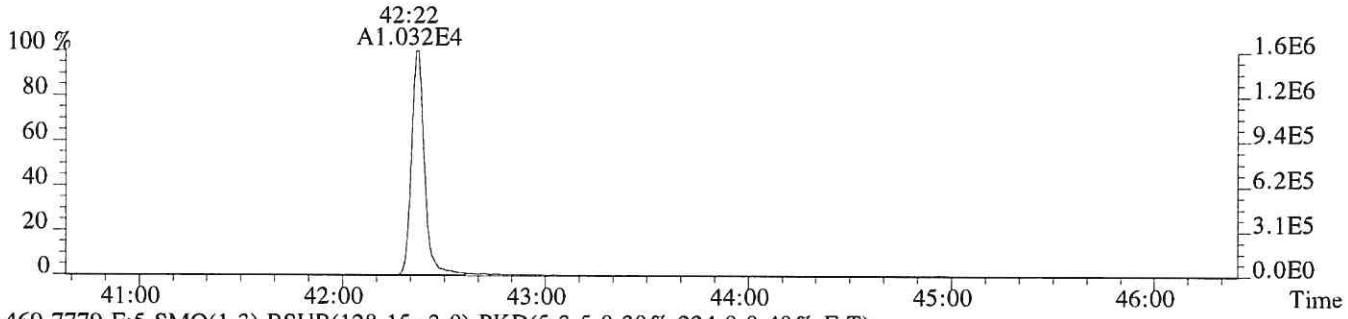
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



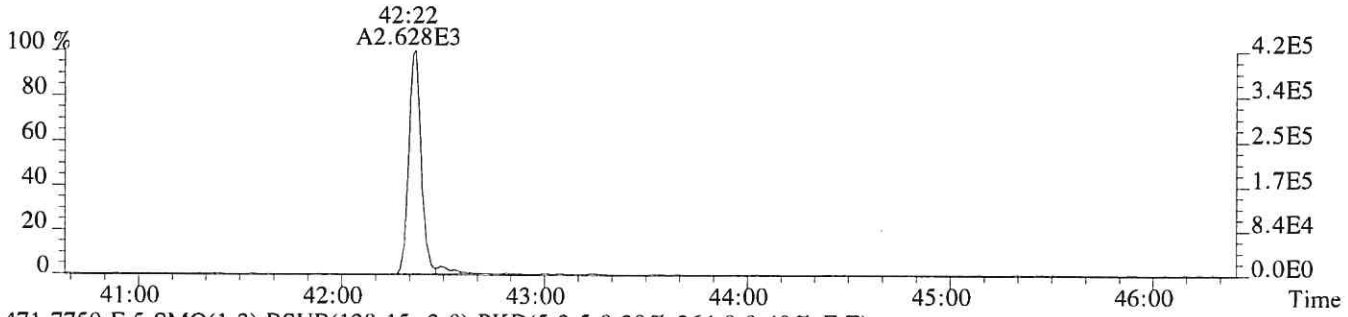
File:P609586 #1-520 Acq:11-OCT-2017 13:15:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-004
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,252.0,0.40%,F,T)



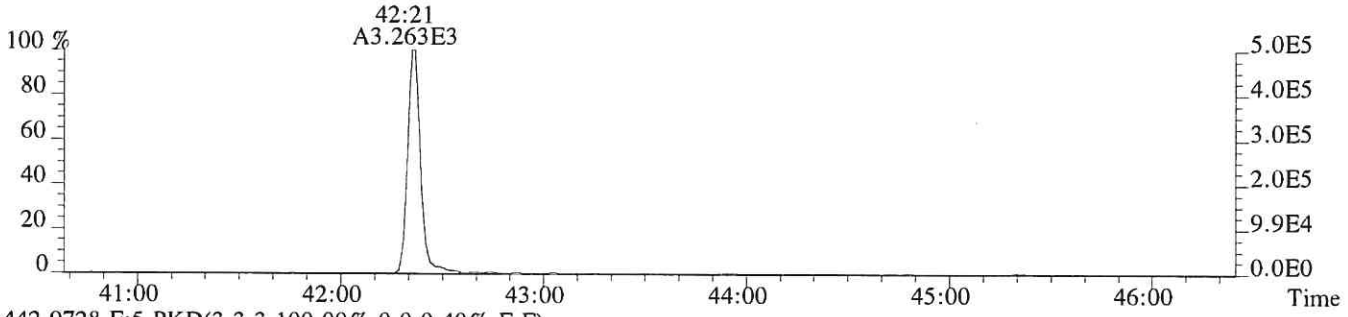
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,264.0,0.40%,F,T)



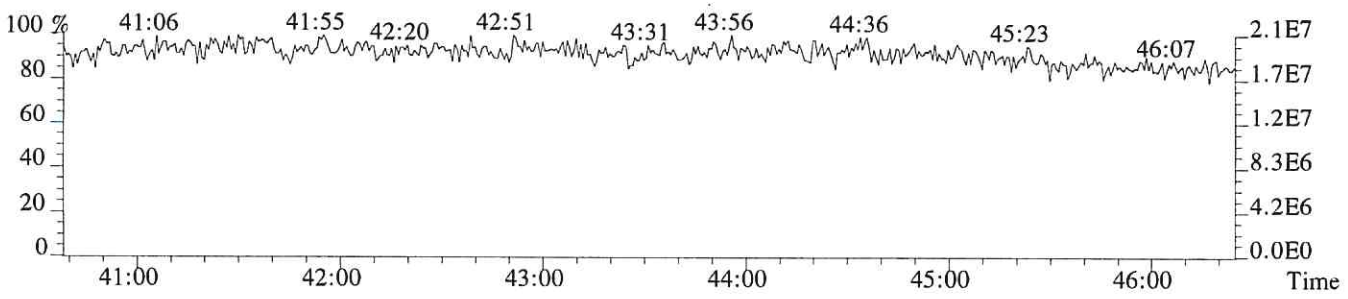
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,224.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,264.0,0.40%,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-100317-0

Run #15 Filename P511871 Samp: 1 Inj: 1 Acquired: 11-OCT-17 00:28:36
Processed: 11-OCT-17 08:47:11 Sample ID: E1701038-005

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	3.174e+01	4.573e+01	0.69	no	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.191
10	Unk	OCDF	41:36	6.100e+01	7.332e+01	0.83	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:00	4.318e+01	5.295e+01	0.82	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	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	38:49	8.951e+01	9.517e+01	0.94	yes	no	0.942
17	Unk	OCDD	41:26	1.348e+03	1.467e+03	0.92	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	1.427e+04	1.805e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:36	2.896e+04	1.821e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:33	3.061e+04	1.937e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.311e+04	2.596e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	1.552e+04	3.038e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	1.520e+04	2.888e+04	0.53	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	1.329e+04	2.606e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.027e+04	2.366e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	9.920e+03	2.267e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	1.095e+04	1.375e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	2.195e+04	1.368e+04	1.61	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	1.957e+04	1.547e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.066e+04	1.645e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	1.750e+04	1.667e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	41:25	2.363e+04	2.585e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.017e+04	3.815e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.082e+04	3.281e+04	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	9.625e+03				no	1.033

$$\text{OCDD} = \frac{(1.348e+03 + 1.467e+03) \times 4000 \text{ pg} \times 1}{(2.363e+04 + 2.585e+04) \times 10.572 \text{ g} \times 79.8 / 100 \times 1.051} = 25.7 \text{ ng/kg}$$

KW 10/11/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-100317-038

Run #15 Filename P511871 Samp: 1 Inj: 1 Acquired: 11-OCT-17 00:28:36
Processed: 11-OCT-17 08:47:11 LAB. ID: E1701038-005

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.04e+03	*	*	2.69e+03	*
2	1,2,3,7,8-PeCDF	*	6.32e+02	*	*	2.58e+03	*
3	2,3,4,7,8-PeCDF	*	6.32e+02	*	*	2.58e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.03e+03	*	*	1.17e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.03e+03	*	*	1.17e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.03e+03	*	*	1.17e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.03e+03	*	*	1.17e+03	*
8	1,2,3,4,6,7,8-HpCDF	9.69e+03	4.68e+02	2.1e+01	8.71e+03	9.76e+02	8.9e+00
9	1,2,3,4,7,8,9-HpCDF	*	4.68e+02	*	*	9.76e+02	*
10	OCDF	1.05e+04	8.20e+02	1.3e+01	1.34e+04	1.48e+03	9.1e+00
11	2,3,7,8-TCDD	9.15e+03	1.98e+03	4.6e+00	1.08e+04	1.50e+03	7.2e+00
12	1,2,3,7,8-PeCDD	*	1.55e+03	*	*	9.44e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.13e+03	*	*	1.72e+03	*
14	1,2,3,6,7,8-HxCDD	*	1.13e+03	*	*	1.72e+03	*
15	1,2,3,7,8,9-HxCDD	*	1.13e+03	*	*	1.72e+03	*
16	1,2,3,4,6,7,8-HpCDD	1.96e+04	1.00e+03	2.0e+01	1.81e+04	7.84e+02	2.3e+01
17	OCDD	2.03e+05	2.92e+02	7.0e+02	2.44e+05	1.59e+03	1.5e+02
18	13C-2,3,7,8-TCDF	2.44e+06	1.34e+04	1.8e+02	3.10e+06	6.09e+03	5.1e+02
19	13C-1,2,3,7,8-PeCDF	5.25e+06	4.52e+02	1.2e+04	3.30e+06	1.09e+03	3.0e+03
20	13C-2,3,4,7,8-PeCDF	5.90e+06	4.52e+02	1.3e+04	3.71e+06	1.09e+03	3.4e+03
21	13C-1,2,3,4,7,8-HxCDF	2.75e+06	1.02e+03	2.7e+03	5.49e+06	1.64e+03	3.3e+03
22	13C-1,2,3,6,7,8-HxCDF	3.04e+06	1.02e+03	3.0e+03	5.95e+06	1.64e+03	3.6e+03
23	13C-2,3,4,6,7,8-HxCDF	3.21e+06	1.02e+03	3.2e+03	6.06e+06	1.64e+03	3.7e+03
24	13C-1,2,3,7,8,9-HxCDF	2.54e+06	1.02e+03	2.5e+03	5.04e+06	1.64e+03	3.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.13e+06	3.36e+03	6.3e+02	4.97e+06	3.02e+03	1.6e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.87e+06	3.36e+03	5.6e+02	4.21e+06	3.02e+03	1.4e+03
27	13C-2,3,7,8-TCDD	1.99e+06	5.49e+03	3.6e+02	2.57e+06	3.85e+03	6.7e+02
28	13C-1,2,3,7,8-PeCDD	4.22e+06	1.42e+03	3.0e+03	2.57e+06	1.44e+03	1.8e+03
29	13C-1,2,3,4,7,8-HxCDD	4.35e+06	2.35e+03	1.9e+03	3.44e+06	1.64e+03	2.1e+03
30	13C-1,2,3,6,7,8-HxCDD	4.07e+06	2.35e+03	1.7e+03	3.23e+06	1.64e+03	2.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.34e+06	1.10e+03	3.0e+03	3.22e+06	8.88e+02	3.6e+03
32	13C-OCDD	3.76e+06	3.75e+03	1.0e+03	4.14e+06	5.80e+03	7.1e+02
33	13C-1,2,3,4-TCDD	5.36e+06	5.49e+03	9.8e+02	6.78e+06	3.85e+03	1.8e+03
34	13C-1,2,3,7,8,9-HxCDD	7.90e+06	2.35e+03	3.4e+03	6.17e+06	1.64e+03	3.8e+03
35	37Cl-2,3,7,8-TCDD	1.72e+06	1.52e+03	1.1e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-038

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 15 File: P511871 Sample:1 Injection:1 Function:1

Acquired: 11-OCT-17 00:28:36 Processed: 11-OCT-17 08:47:11

Mass: 319.8970 321.8940 Tot Response: 9.61e+01 RRF: 1.065

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	28:00	4.32e+01	5.29e+01	0.82	yes	9.61e+01	2,3,7,8-TCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-038

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 15 File: P511871 Sample:1 Injection:1 Function:3

Acquired: 11-OCT-17 00:28:36 Processed: 11-OCT-17 08:47:11

Mass: 389.8160 391.8130 Tot Response: 7.54e+01 RRF: 0.9445

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:42	4.17e+01	3.37e+01	1.23	yes	7.54e+01	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-038

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 15 File: P511871 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 00:28:36 Processed: 11-OCT-17 08:47:11

Mass: 423.7770 425.7740 Tot Response: 5.30e+02 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:11	1.86e+02	1.60e+02	1.16	yes	3.45e+02		n	n
2	38:49	8.95e+01	9.52e+01	0.94	yes	1.85e+02	1,2,3,4,6,7,8-HpCDD	n	n

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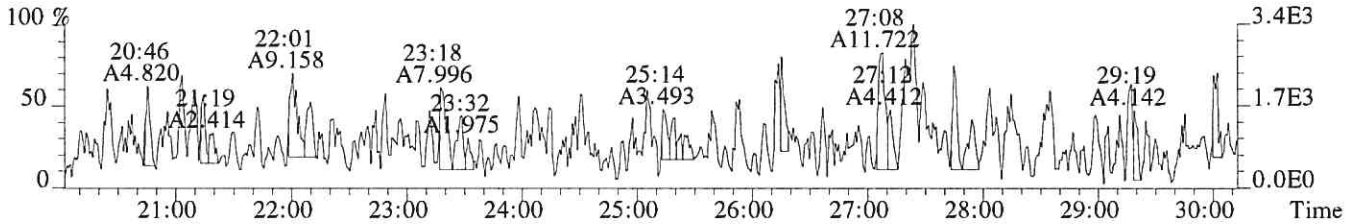
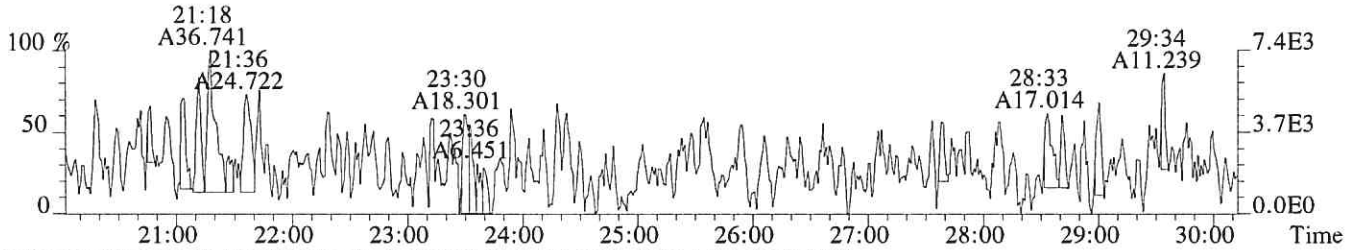
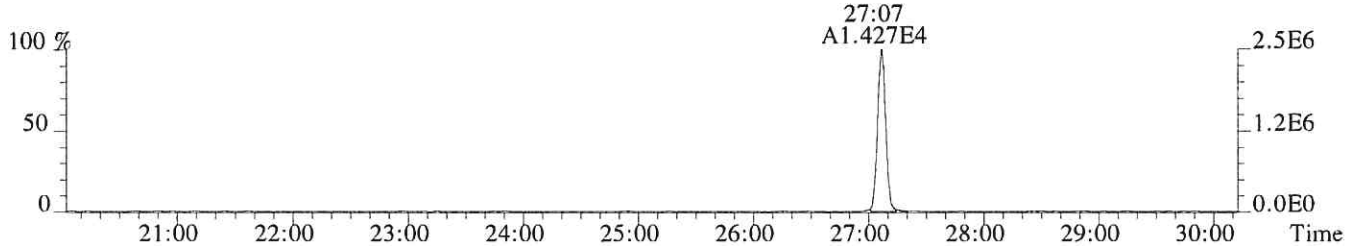
File:P511871 #1-722 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



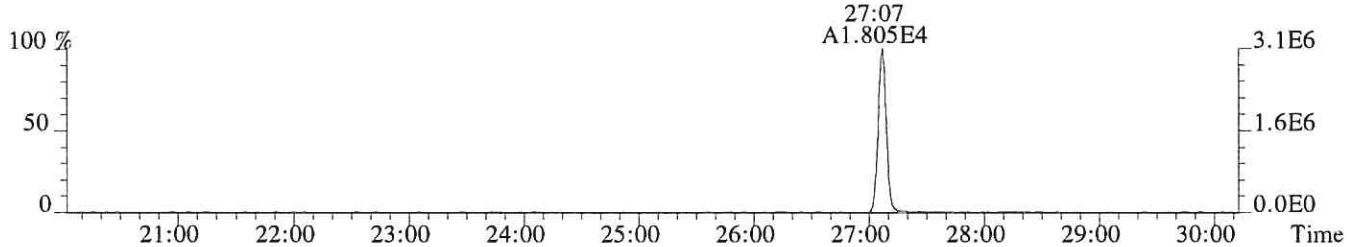
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2692.0,1.00%,F,T)



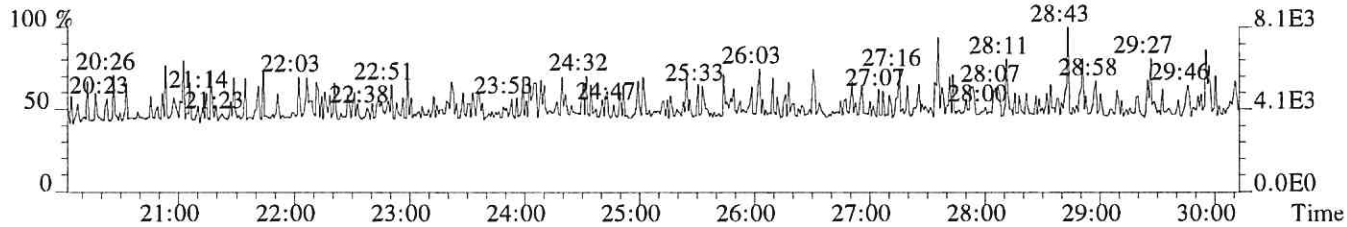
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13384.0,1.00%,F,T)



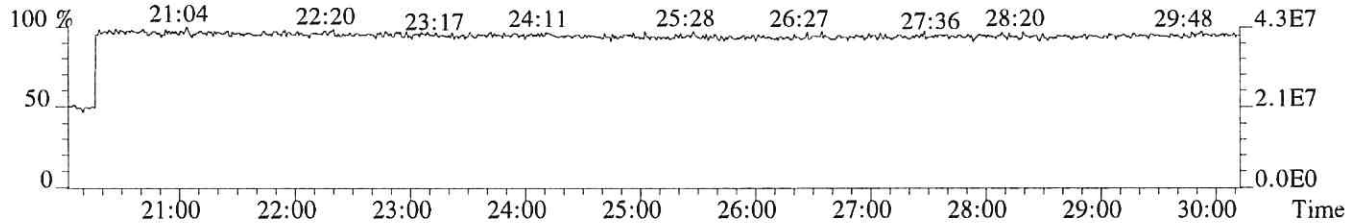
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6088.0,1.00%,F,T)



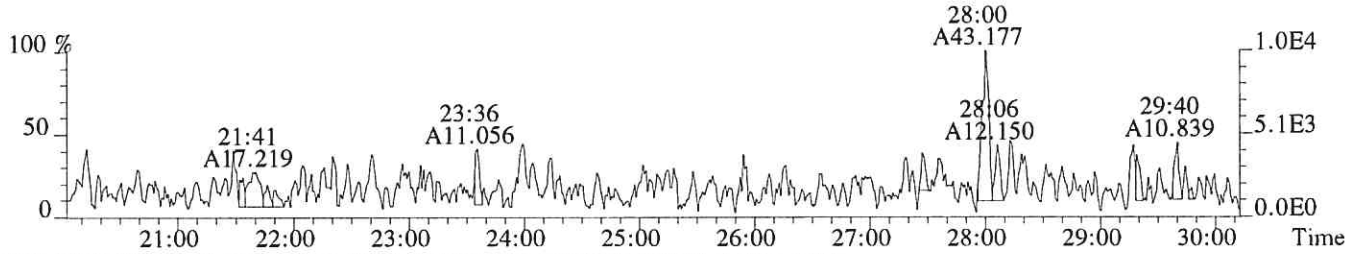
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



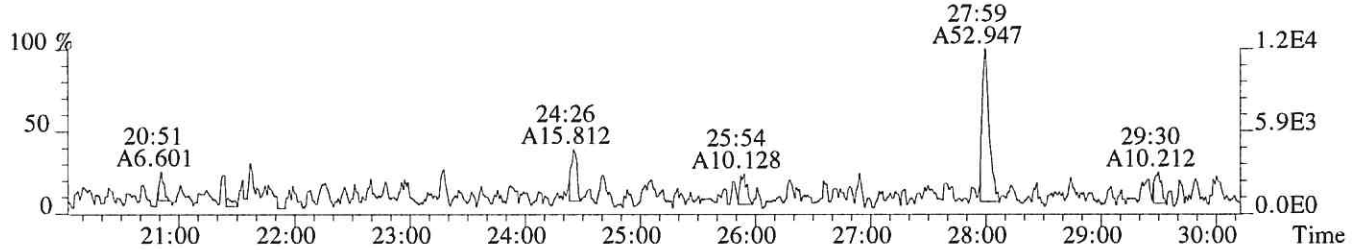
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



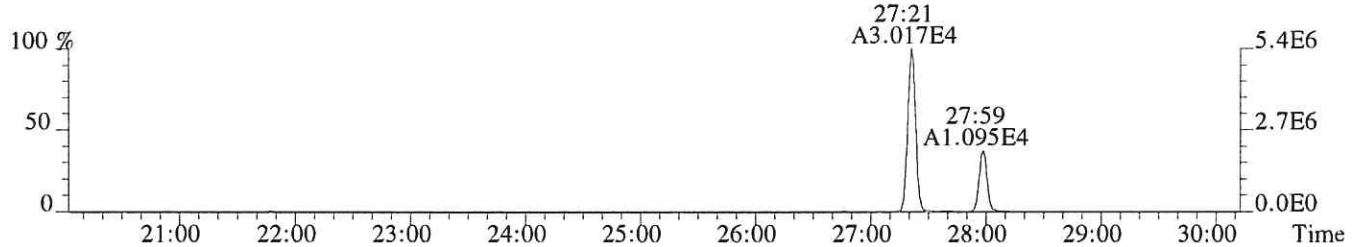
File:P511871 #1-722 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1984.0,1.00%,F,T)



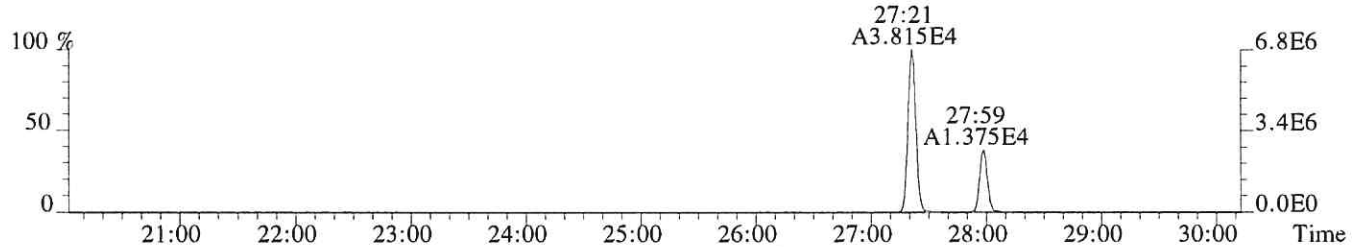
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



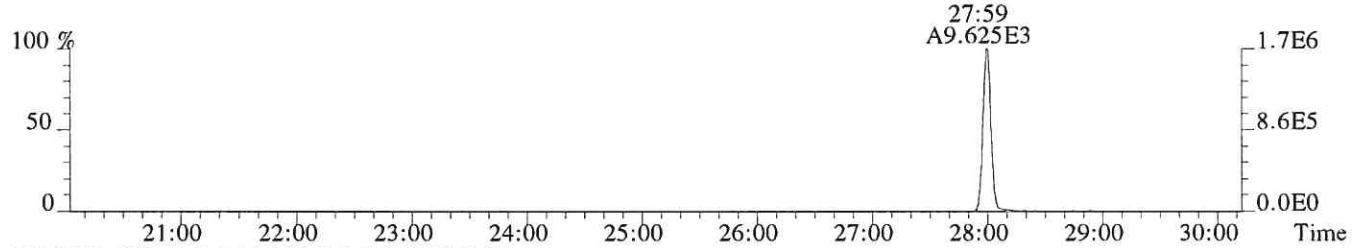
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5492.0,1.00%,F,T)



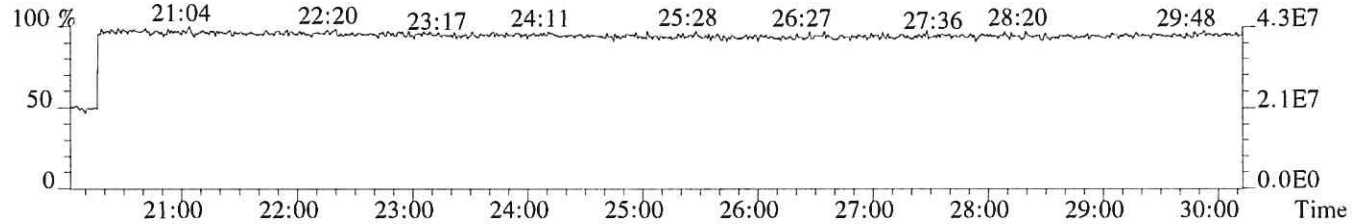
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3852.0,1.00%,F,T)



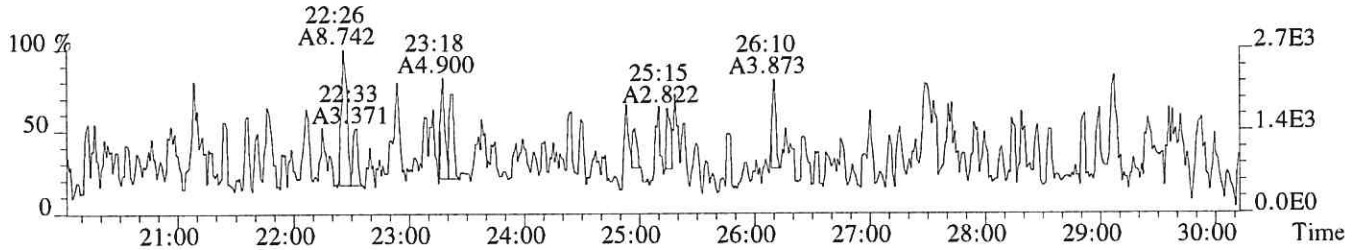
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1516.0,1.00%,F,T)



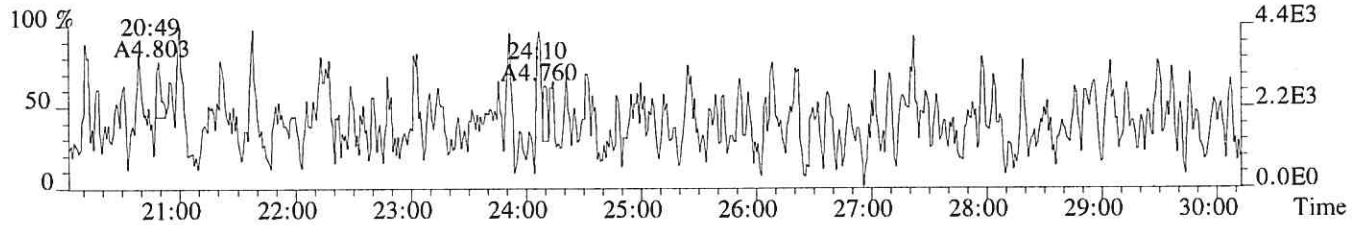
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



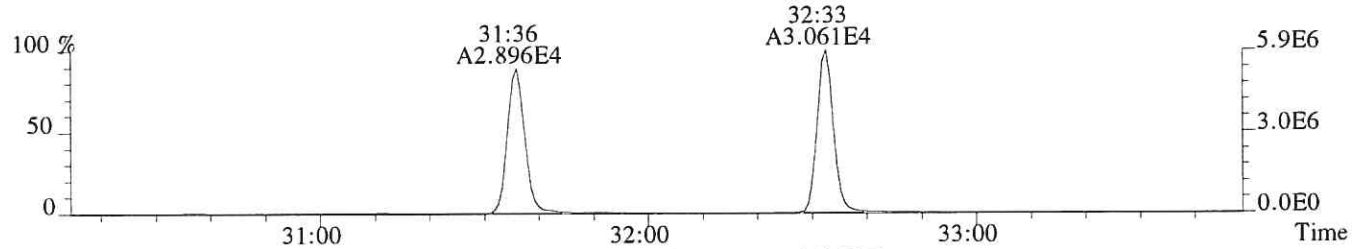
File:P511871 #1-722 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,T)



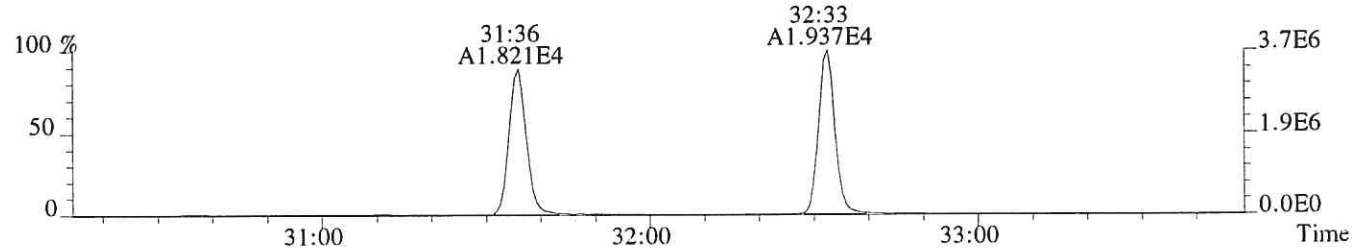
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2148.0,1.00%,F,T)



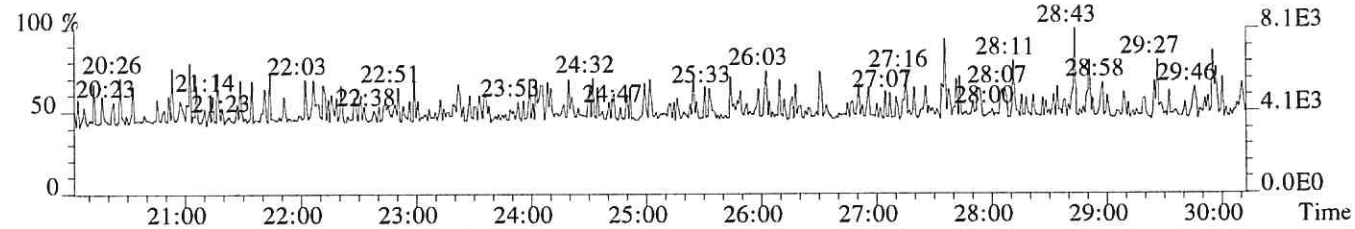
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



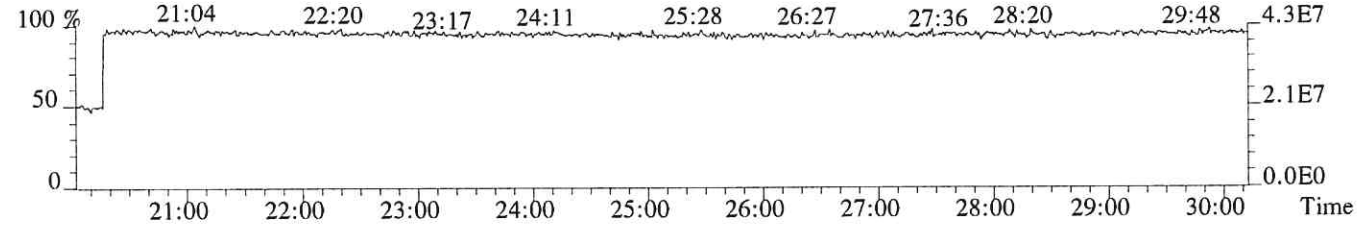
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



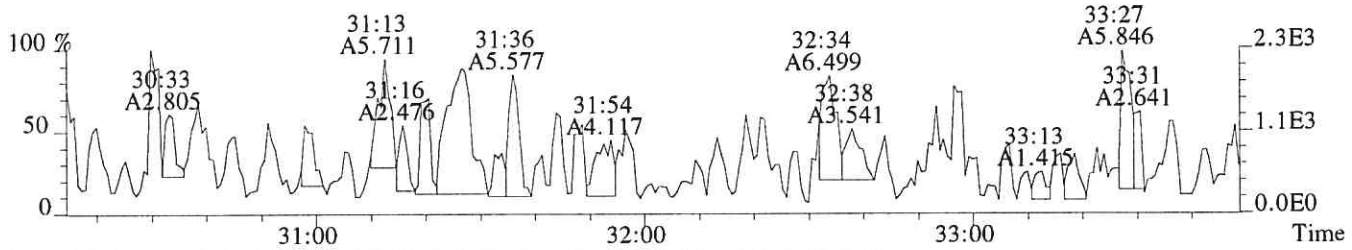
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



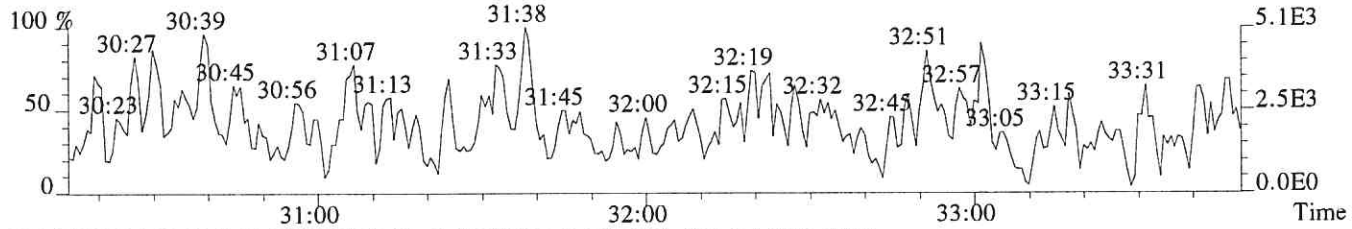
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



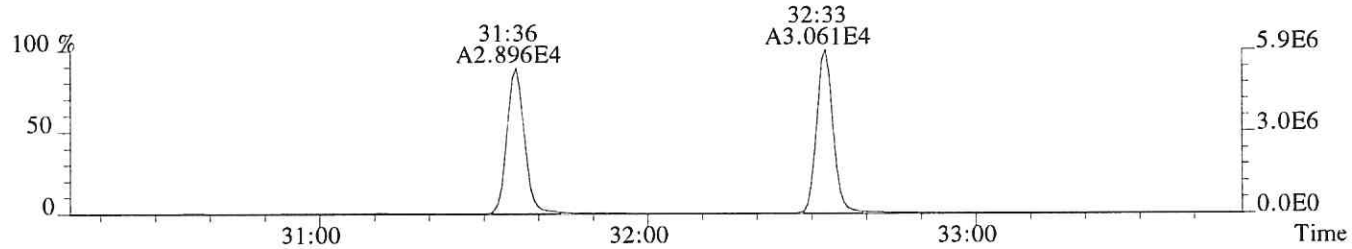
File:P511871 #1-322 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



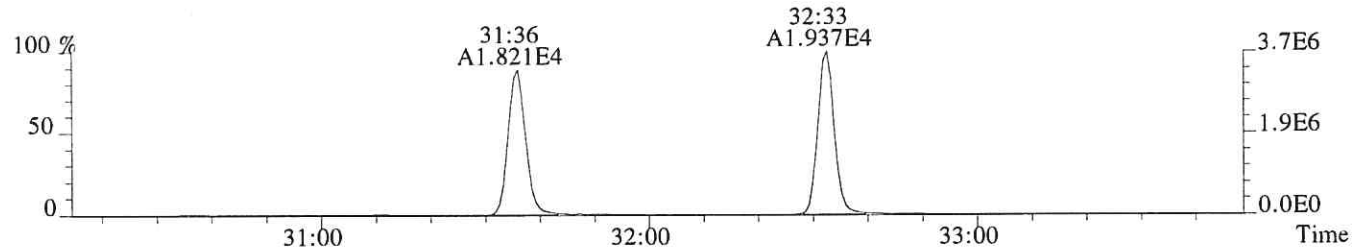
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2580.0,1.00%,F,T)



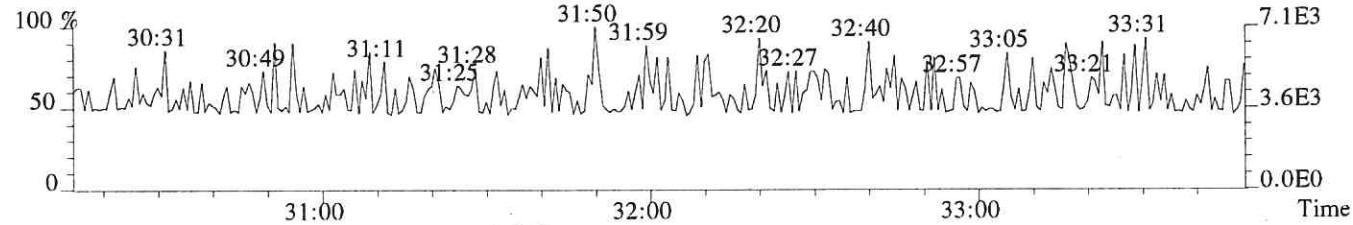
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,T)



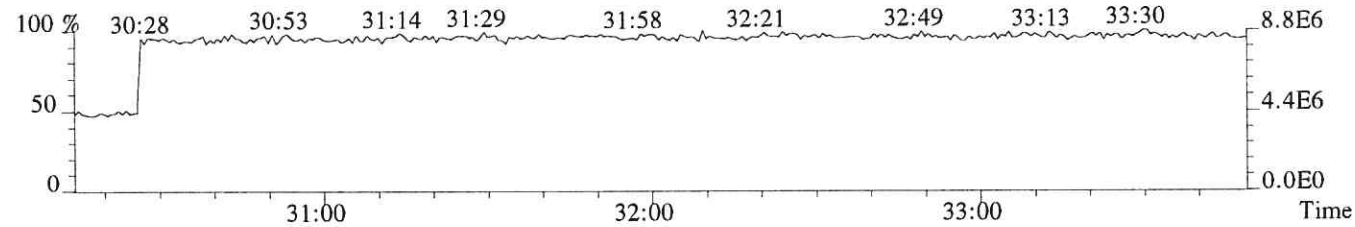
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



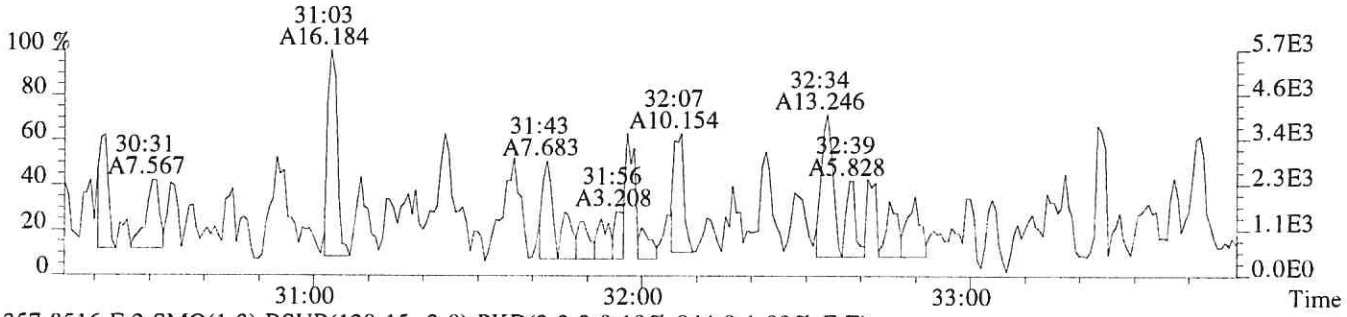
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



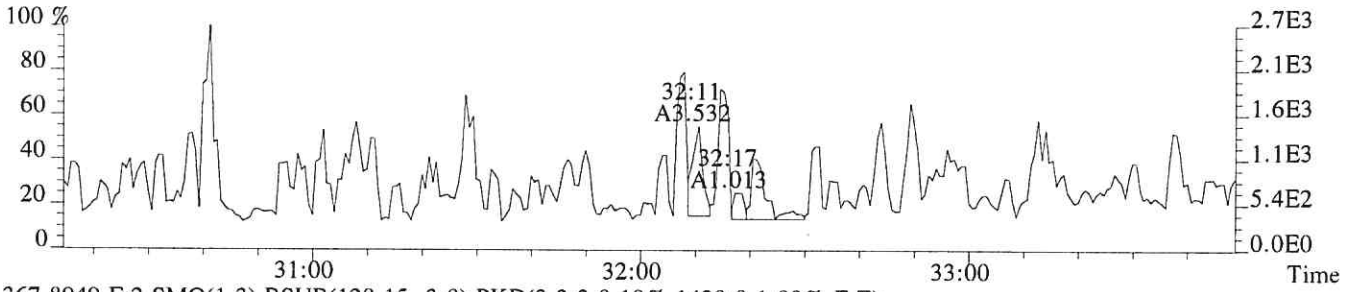
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



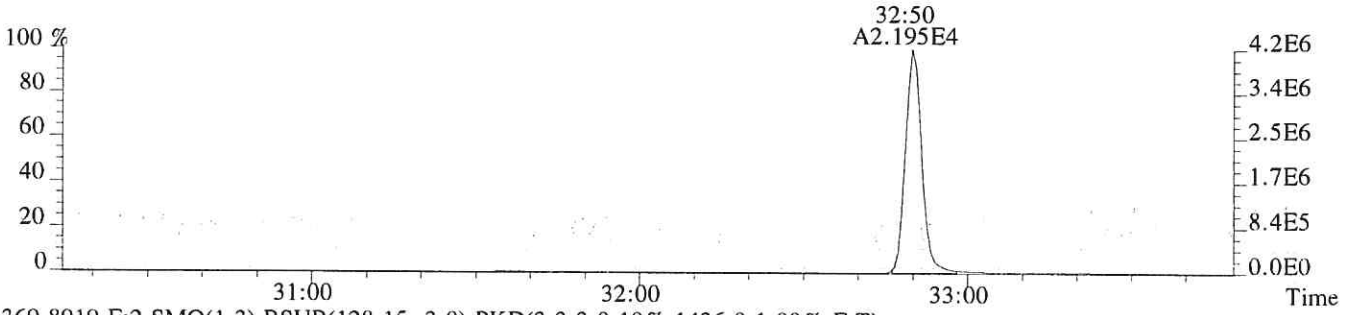
File:P511871 #1-322 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1552.0,1.00%,F,T)



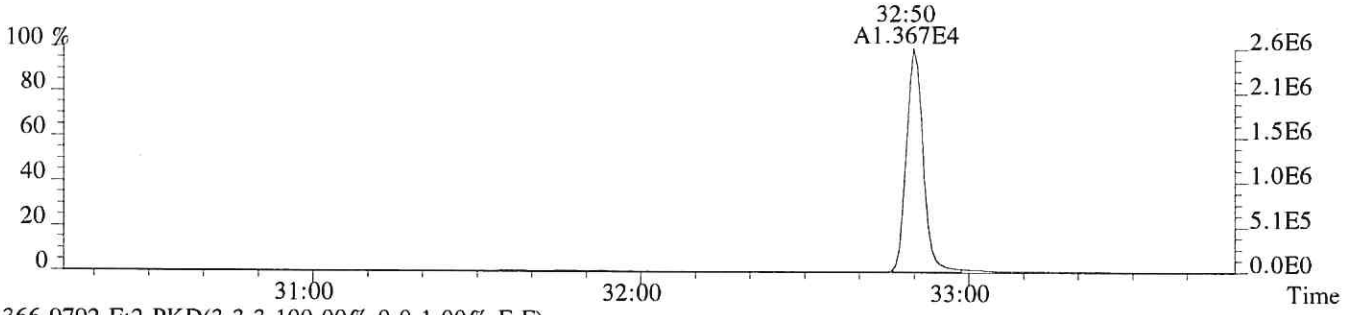
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



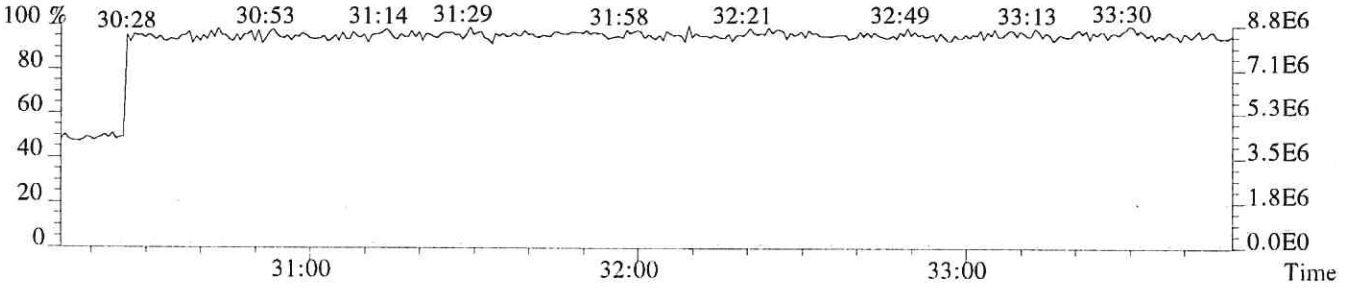
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1420.0,1.00%,F,T)



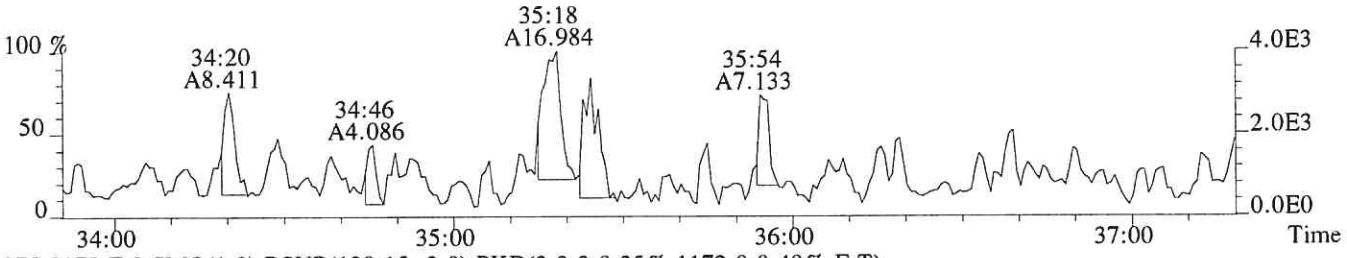
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



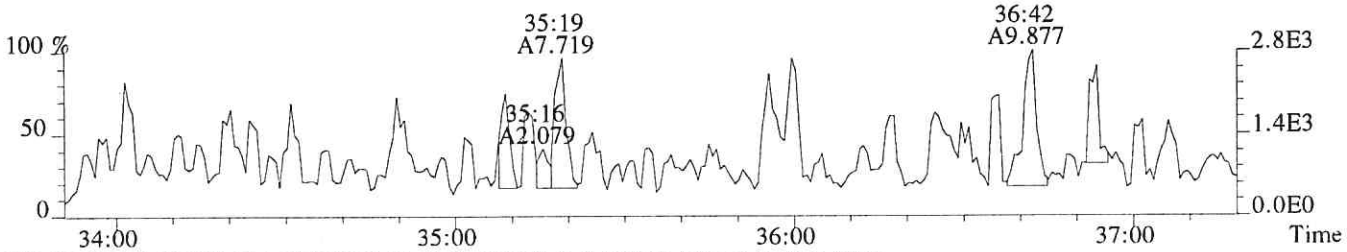
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



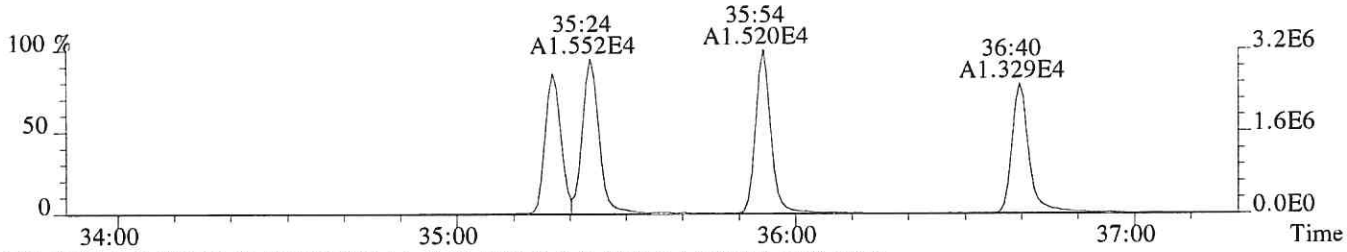
File:P511871 #1-312 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



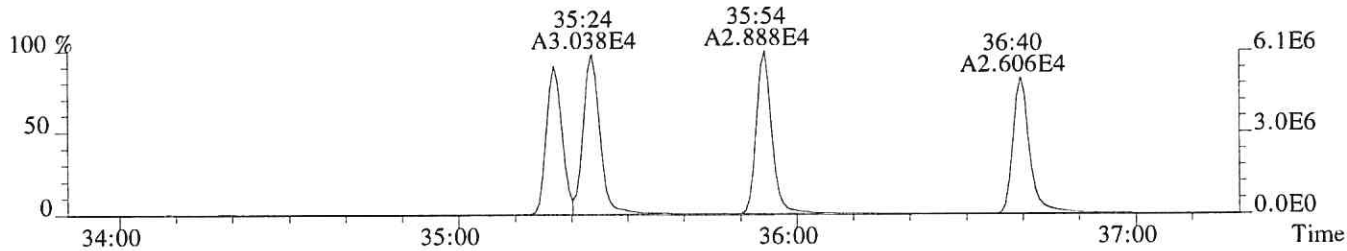
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,T)



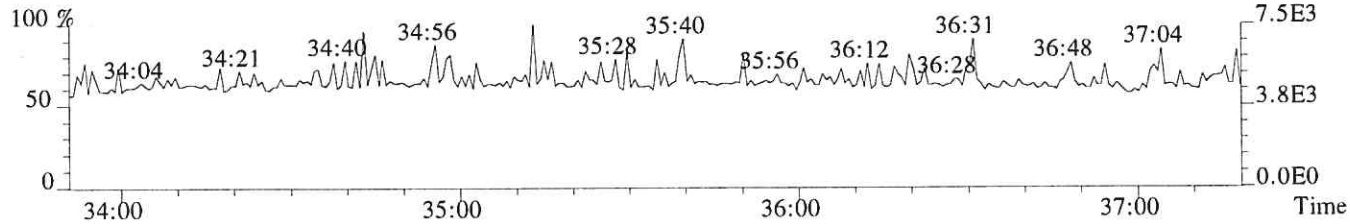
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.40%,F,T)



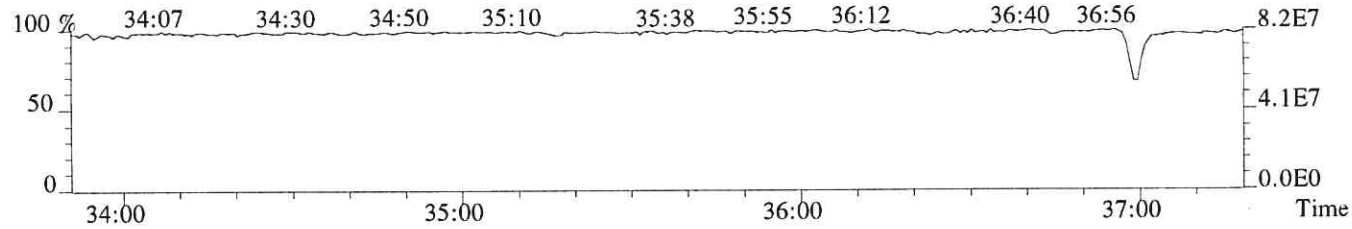
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1640.0,0.40%,F,T)



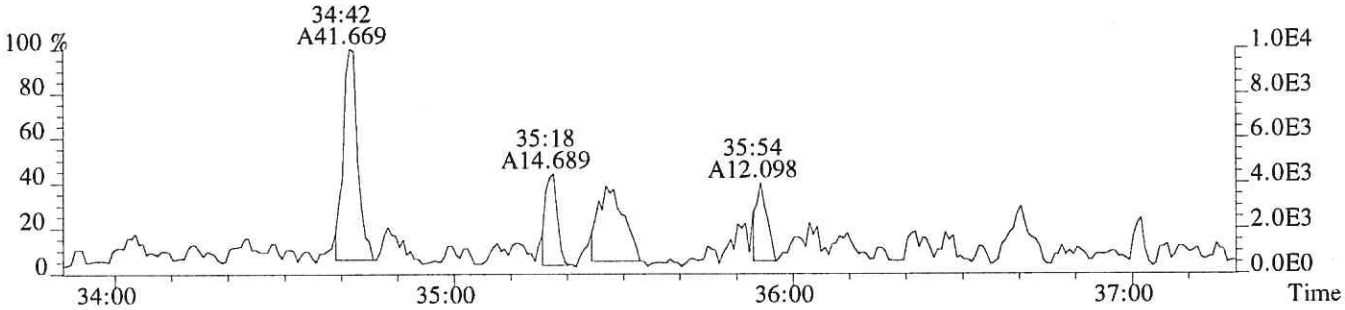
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



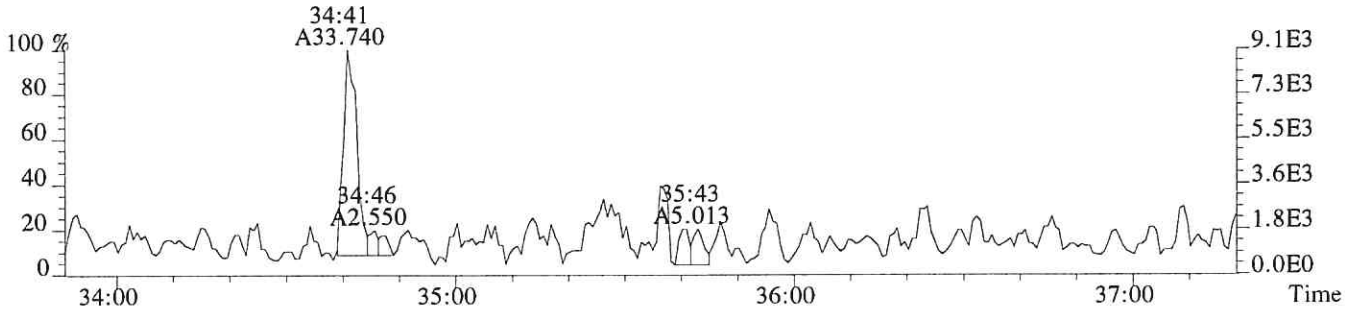
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



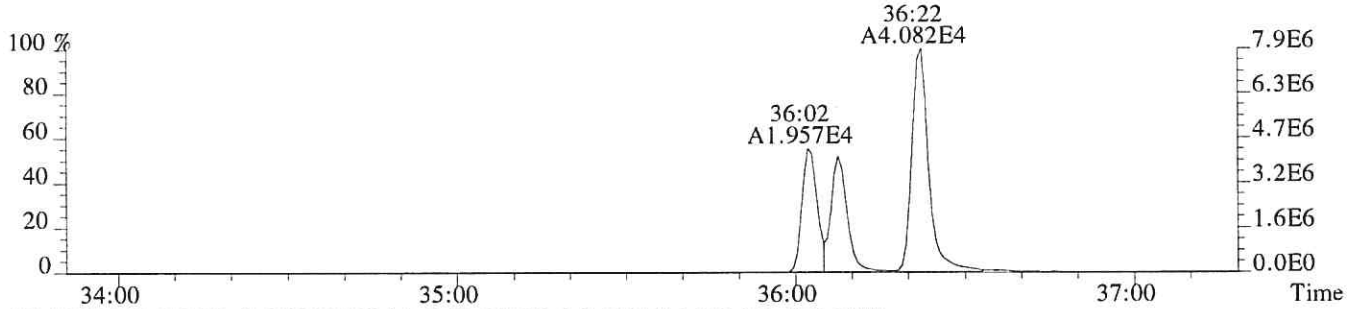
File:P511871 #1-312 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



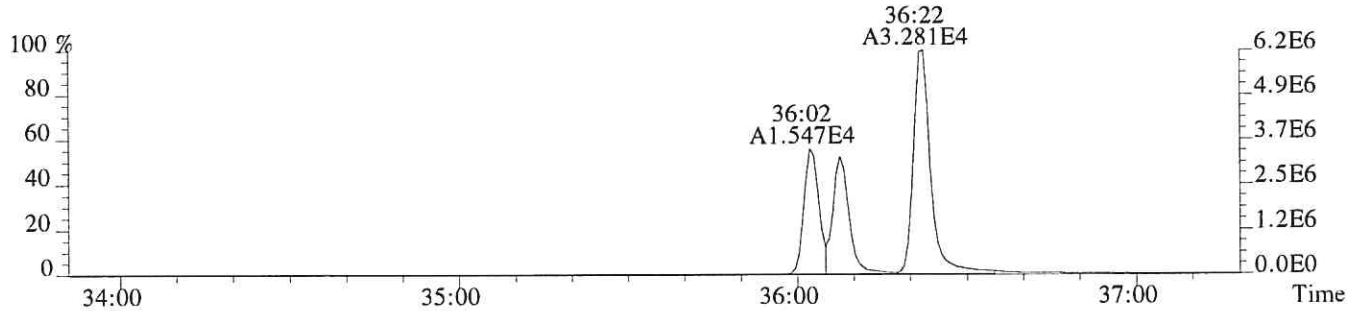
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1716.0,0.40%,F,T)



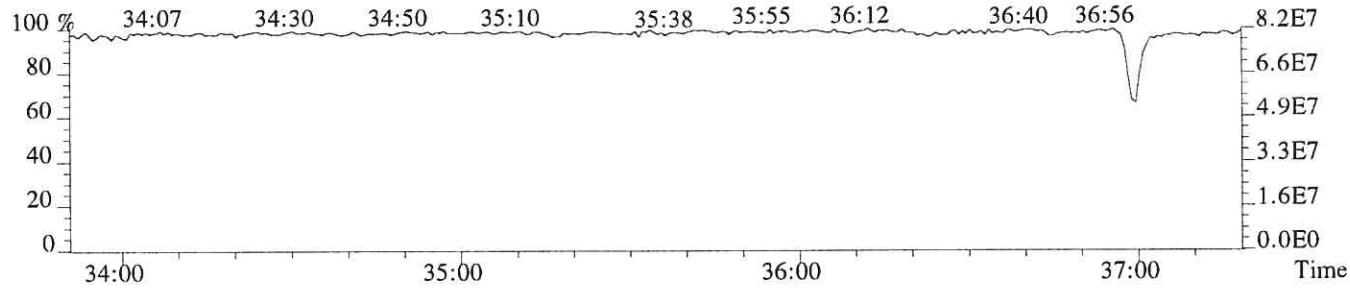
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



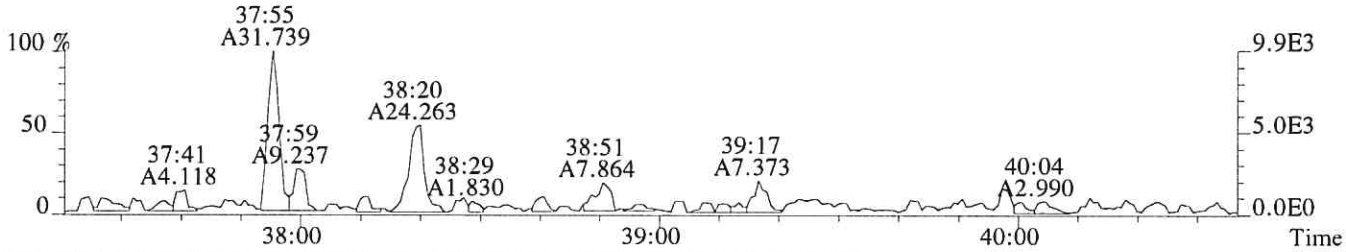
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1640.0,0.40%,F,T)



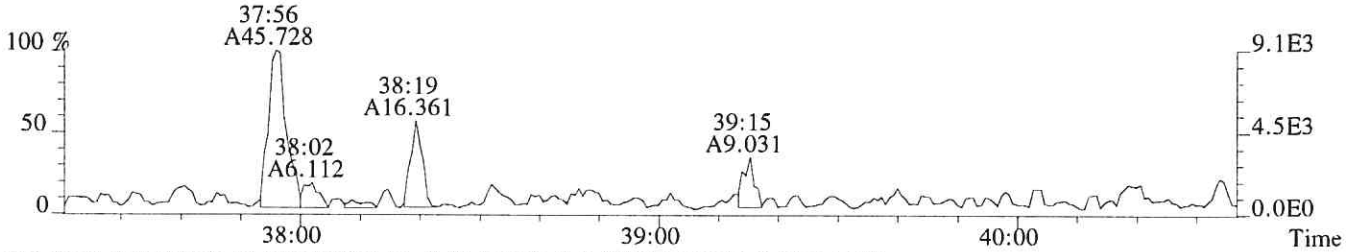
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



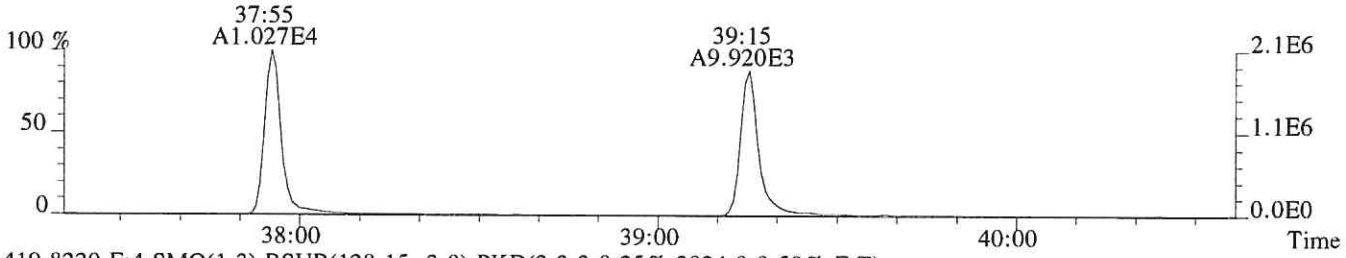
File:P511871 #1-295 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.50%,F,T)



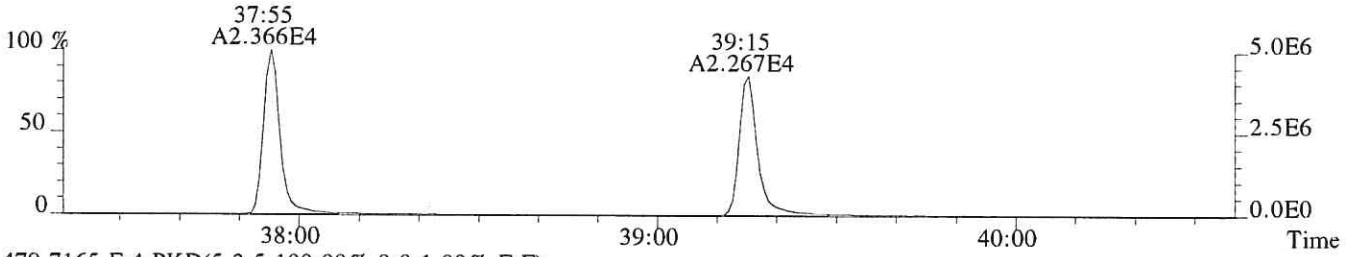
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,976.0,0.50%,F,T)



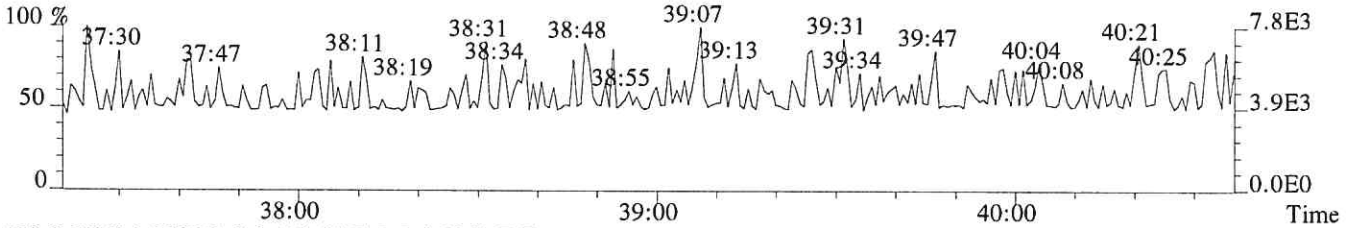
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3360.0,0.50%,F,T)



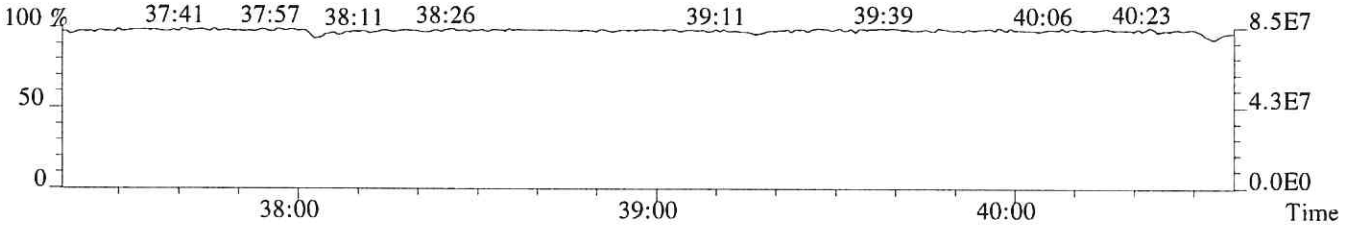
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3024.0,0.50%,F,T)



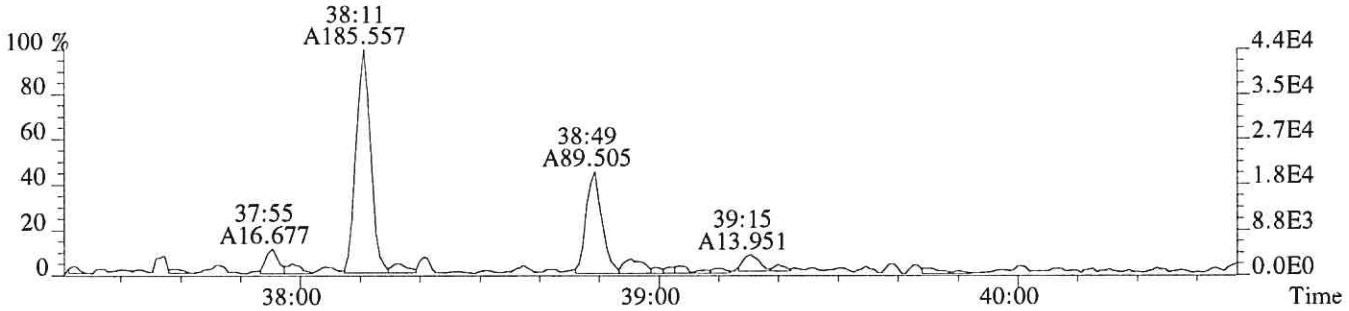
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



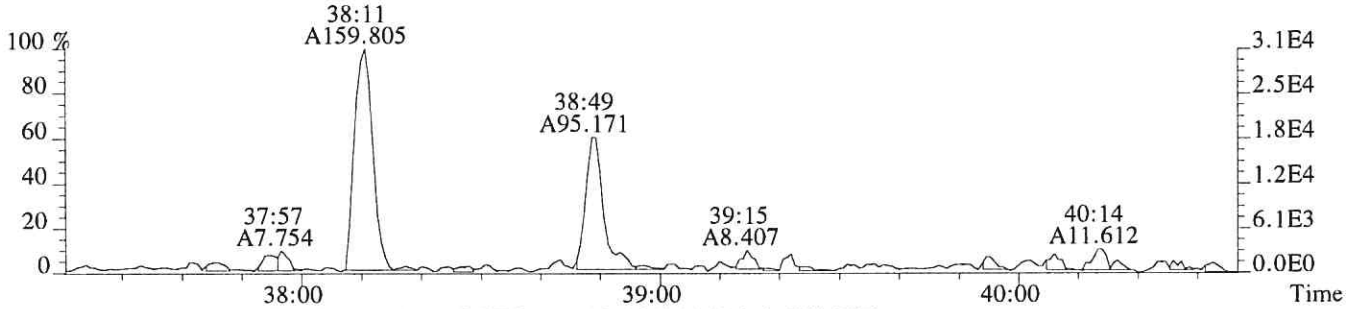
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



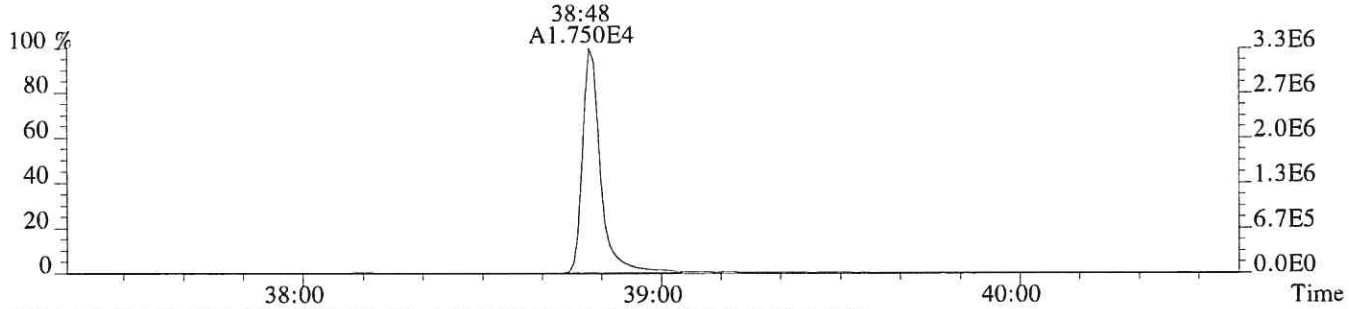
File:P511871 #1-295 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



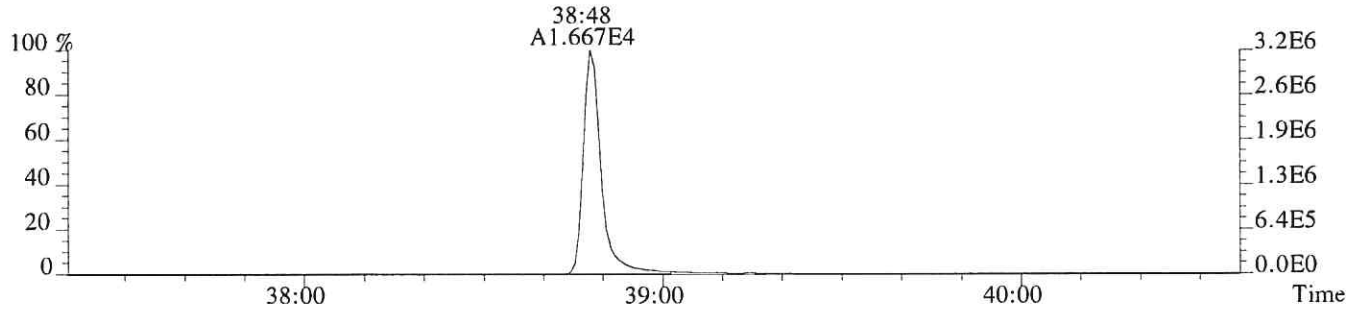
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.40%,F,T)



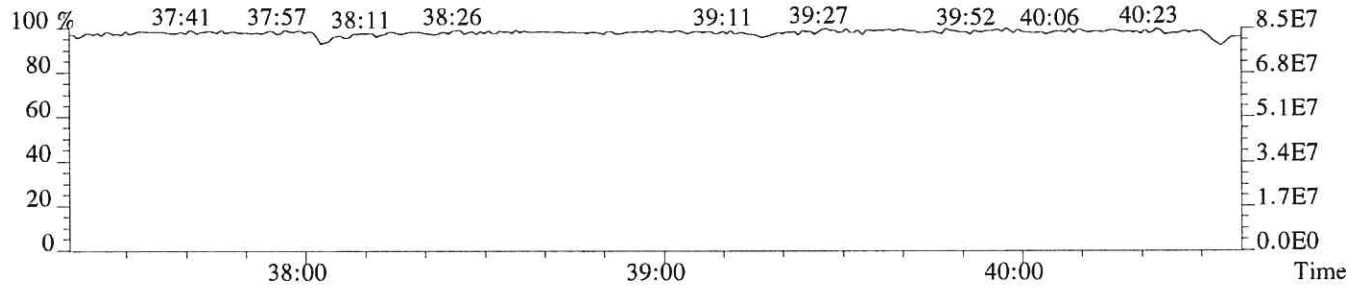
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,T)



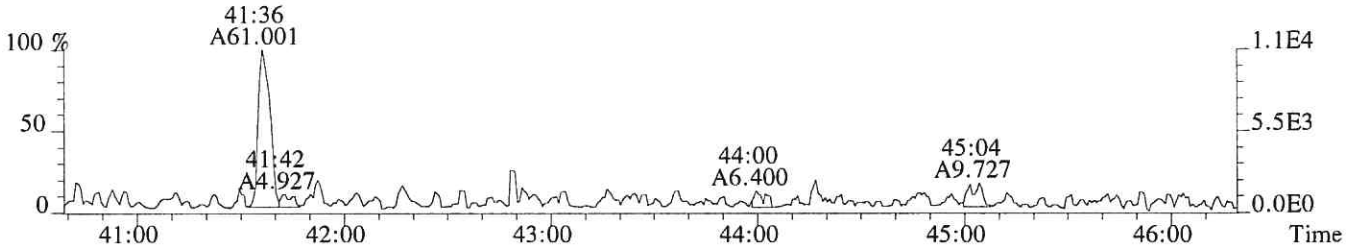
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,T)



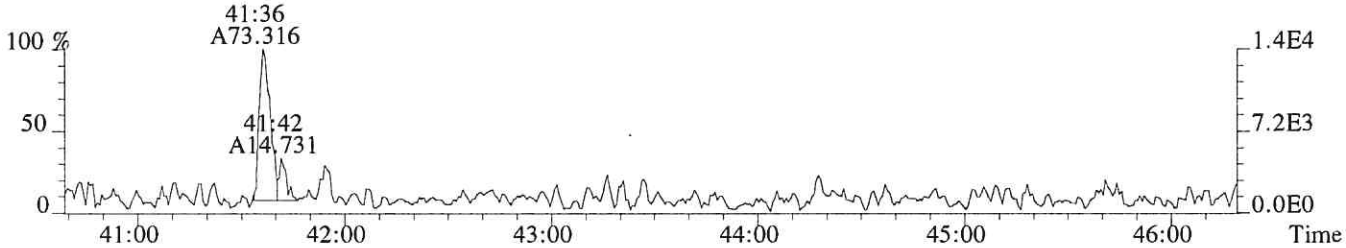
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



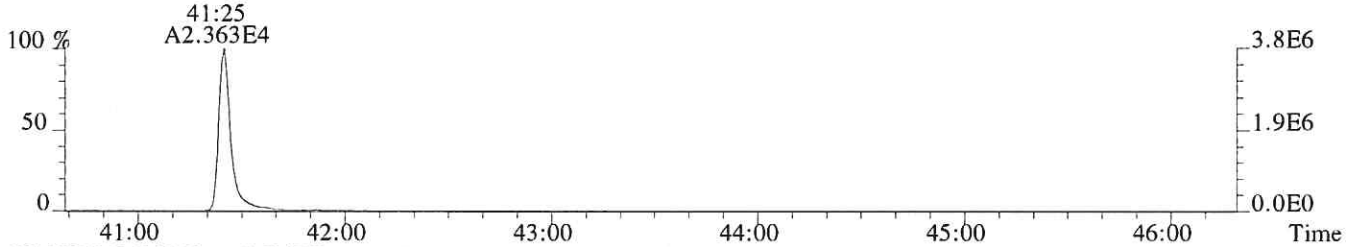
File:P511871 #1-511 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,820.0,0.40%,F,T)



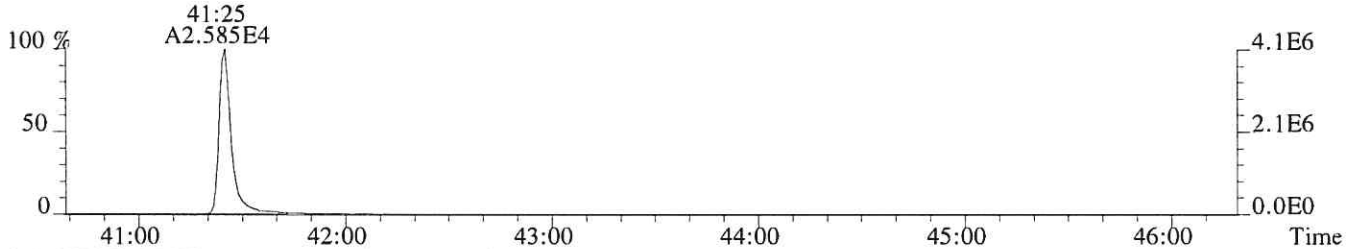
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1476.0,0.40%,F,T)



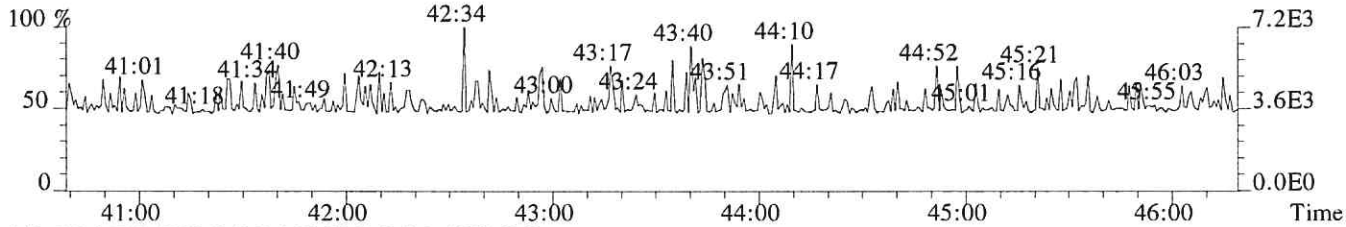
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3748.0,0.40%,F,T)



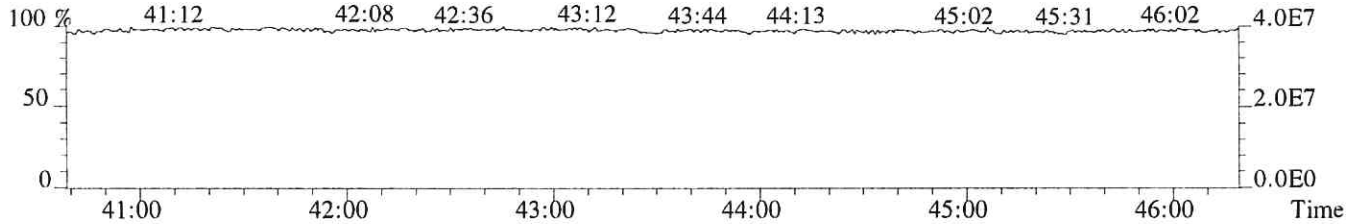
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5804.0,0.40%,F,T)



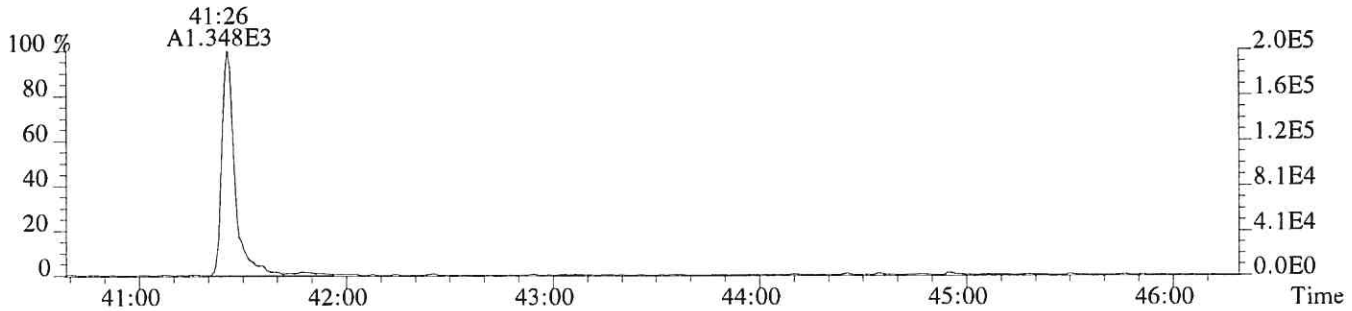
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



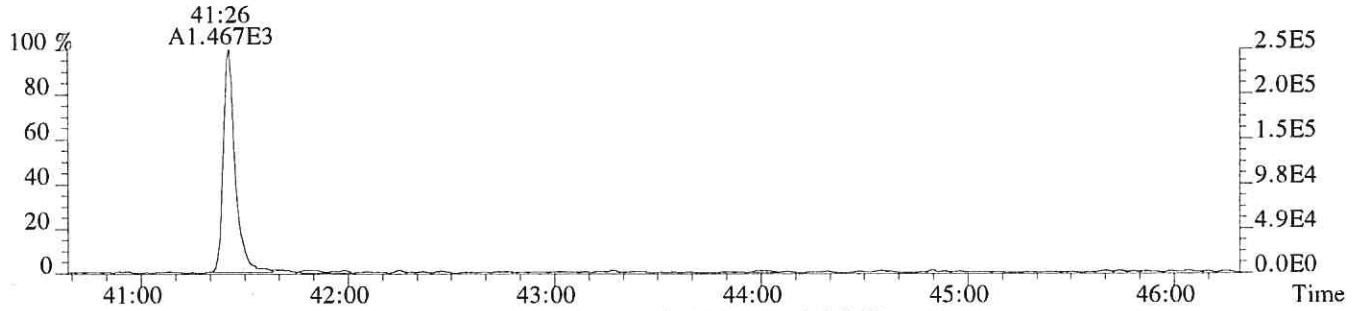
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



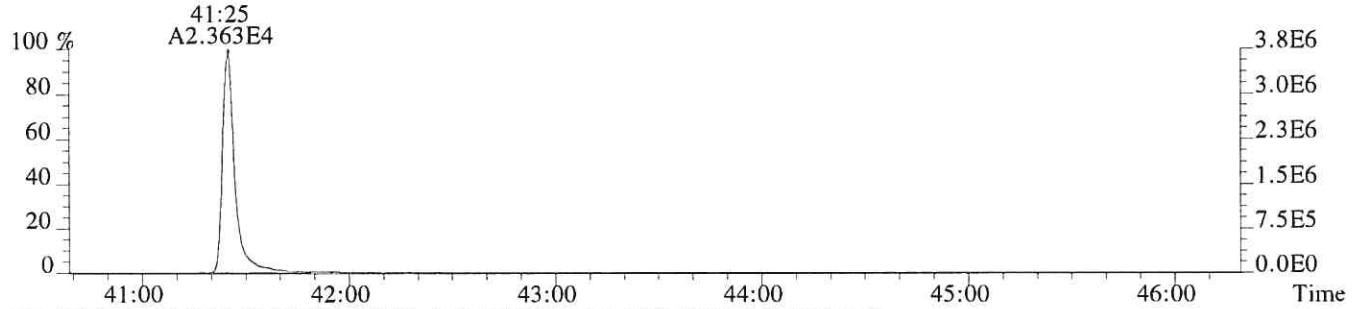
File:P511871 #1-511 Acq:11-OCT-2017 00:28:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-005
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,292.0,0.40%,F,T)



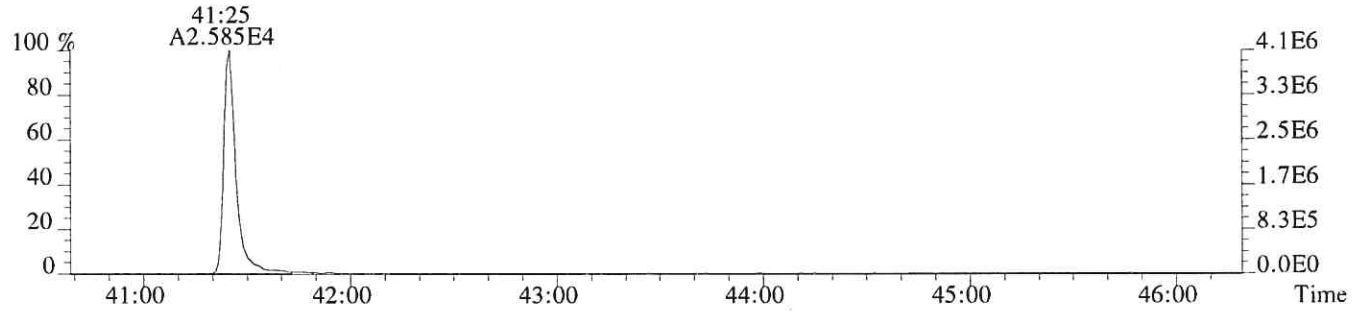
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1592.0,0.40%,F,T)



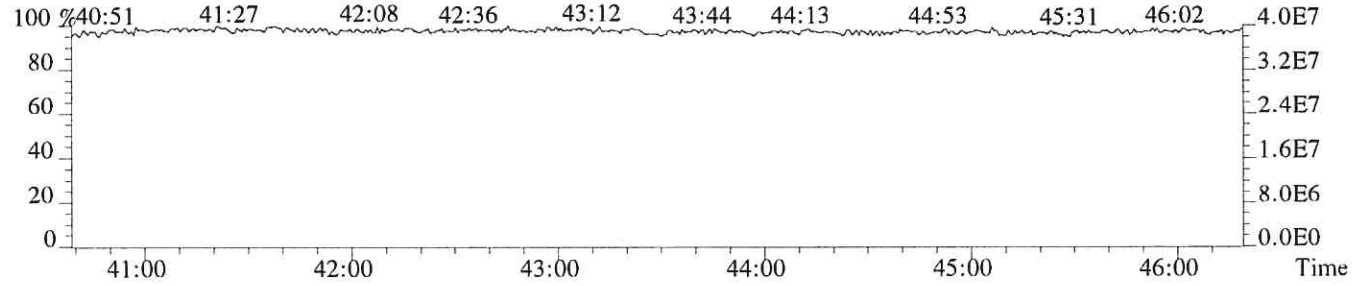
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3748.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5804.0,0.40%,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-100317-0

Run #16 Filename P511872 Samp: 1 Inj: 1 Acquired: 11-OCT-17 01:17:16
Processed: 11-OCT-17 08:47:11 Sample ID: E1701038-006

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:08	3.411e+03	4.721e+03	0.72	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:36	1.537e+02	1.133e+02	1.36	yes	yes	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	1.503e+02	9.548e+01	1.57	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:18	1.977e+02	1.652e+02	1.20	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	9.935e+01	1.022e+02	0.97	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:56	4.938e+01	5.376e+01	0.92	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:56	5.699e+02	5.920e+02	0.96	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:16	4.347e+01	6.403e+01	0.68	no	no	1.191
10	Unk	OCDF	41:37	3.120e+03	3.689e+03	0.85	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	8.302e+02	9.384e+02	0.88	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	36:03	6.139e+01	5.119e+01	1.20	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:09	1.449e+02	1.255e+02	1.15	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.623e+02	1.285e+02	1.26	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	4.333e+03	4.236e+03	1.02	yes	no	0.942
17	Unk	OCDD	41:26	1.092e+05	1.231e+05	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	2.456e+04	3.168e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:36	4.293e+04	2.732e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:33	4.167e+04	2.637e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.645e+04	3.147e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	2.031e+04	3.969e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	1.808e+04	3.493e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	1.563e+04	3.053e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.130e+04	2.550e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.075e+04	2.444e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	1.863e+04	2.347e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	2.979e+04	1.855e+04	1.61	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.415e+04	1.920e+04	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.579e+04	2.026e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	1.771e+04	1.716e+04	1.03	yes	no	0.881
32	IS	13C-OCDD	41:25	1.931e+04	2.156e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.067e+04	3.853e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.207e+04	3.236e+04	1.30	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.477e+04				no	1.033

$$\text{OCDD} = \frac{(1.092e+05 + 1.231e+05) \times 4000 \text{ pg} \times 1}{(1.931e+04 + 2.156e+04) \times 10.006 \text{ g} \times 32.4 / 100 \times 1.051} = 6240 \text{ ng/kg}$$

KW 10/11/17

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
SJWP-100317-039

Run #16 Filename P511872 Samp: 1 Inj: 1 Acquired: 11-OCT-17 01:17:16
Processed: 11-OCT-17 08:47:11 LAB. ID: E1701038-006

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.46e+05	1.27e+03	4.3e+02	7.58e+05	3.45e+03	2.2e+02
2	1,2,3,7,8-PeCDF	2.75e+04	2.18e+03	1.3e+01	2.36e+04	3.63e+03	6.5e+00
3	2,3,4,7,8-PeCDF	2.28e+04	2.18e+03	1.0e+01	1.37e+04	3.63e+03	3.8e+00
4	1,2,3,4,7,8-HxCDF	3.78e+04	1.92e+03	2.0e+01	3.04e+04	8.56e+02	3.6e+01
5	1,2,3,6,7,8-HxCDF	2.10e+04	1.92e+03	1.1e+01	2.00e+04	8.56e+02	2.3e+01
6	2,3,4,6,7,8-HxCDF	8.46e+03	1.92e+03	4.4e+00	1.24e+04	8.56e+02	1.4e+01
7	1,2,3,7,8,9-HxCDF	*	1.92e+03	*	*	8.56e+02	*
8	1,2,3,4,6,7,8-HpCDF	1.18e+05	2.05e+03	5.7e+01	1.28e+05	1.62e+03	7.9e+01
9	1,2,3,4,7,8,9-HpCDF	1.27e+04	2.05e+03	6.2e+00	1.06e+04	1.62e+03	6.6e+00
10	OCDF	5.27e+05	2.88e+03	1.8e+02	5.87e+05	1.72e+03	3.4e+02
11	2,3,7,8-TCDD	1.54e+05	2.30e+03	6.7e+01	1.74e+05	1.56e+03	1.1e+02
12	1,2,3,7,8-PeCDD	*	1.29e+03	*	*	4.72e+02	*
13	1,2,3,4,7,8-HxCDD	1.36e+04	1.13e+03	1.2e+01	1.25e+04	1.64e+03	7.6e+00
14	1,2,3,6,7,8-HxCDD	2.66e+04	1.13e+03	2.4e+01	2.67e+04	1.64e+03	1.6e+01
15	1,2,3,7,8,9-HxCDD	3.13e+04	1.13e+03	2.8e+01	2.68e+04	1.64e+03	1.6e+01
16	1,2,3,4,6,7,8-HpCDD	8.65e+05	2.65e+03	3.3e+02	8.33e+05	3.10e+03	2.7e+02
17	OCDD	1.78e+07	1.61e+04	1.1e+03	1.99e+07	2.17e+04	9.1e+02
18	13C-2,3,7,8-TCDF	4.23e+06	1.24e+04	3.4e+02	5.44e+06	4.92e+03	1.1e+03
19	13C-1,2,3,7,8-PeCDF	7.74e+06	1.09e+03	7.1e+03	4.93e+06	1.10e+03	4.5e+03
20	13C-2,3,4,7,8-PeCDF	7.85e+06	1.09e+03	7.2e+03	4.95e+06	1.10e+03	4.5e+03
21	13C-1,2,3,4,7,8-HxCDF	3.30e+06	1.26e+03	2.6e+03	6.38e+06	1.74e+03	3.7e+03
22	13C-1,2,3,6,7,8-HxCDF	3.97e+06	1.26e+03	3.2e+03	7.73e+06	1.74e+03	4.4e+03
23	13C-2,3,4,6,7,8-HxCDF	3.71e+06	1.26e+03	3.0e+03	7.19e+06	1.74e+03	4.1e+03
24	13C-1,2,3,7,8,9-HxCDF	3.01e+06	1.26e+03	2.4e+03	5.85e+06	1.74e+03	3.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.36e+06	3.14e+03	7.5e+02	5.33e+06	3.19e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.93e+06	3.14e+03	6.2e+02	4.38e+06	3.19e+03	1.4e+03
27	13C-2,3,7,8-TCDD	3.42e+06	7.50e+03	4.6e+02	4.30e+06	3.96e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	5.74e+06	1.60e+03	3.6e+03	3.54e+06	1.35e+03	2.6e+03
29	13C-1,2,3,4,7,8-HxCDD	5.35e+06	3.30e+03	1.6e+03	4.22e+06	1.29e+03	3.3e+03
30	13C-1,2,3,6,7,8-HxCDD	5.04e+06	3.30e+03	1.5e+03	3.98e+06	1.29e+03	3.1e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.44e+06	1.82e+03	1.9e+03	3.21e+06	8.12e+02	4.0e+03
32	13C-OCDD	3.07e+06	4.29e+03	7.2e+02	3.46e+06	2.94e+03	1.2e+03
33	13C-1,2,3,4-TCDD	5.45e+06	7.50e+03	7.3e+02	6.89e+06	3.96e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	7.80e+06	3.30e+03	2.4e+03	6.13e+06	1.29e+03	4.7e+03
35	37Cl-2,3,7,8-TCDD	2.70e+06	1.74e+03	1.6e+03			

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 36 Totals Name: Total Tetra-Furans

Run: 16 File: P511872 Sample:1 Injection:1 Function:1

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 303.9020 305.8990 Tot Response: 1.45e+04 RRF: 0.8249

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	23:27	6.67e+01	8.26e+01	0.81	yes	1.49e+02		n	n
2	24:15	2.32e+02	3.36e+02	0.69	yes	5.68e+02		n	n
3	24:25	3.76e+00	4.34e+00	0.87	yes	8.10e+00		n	n
4	24:39	5.93e+01	6.86e+01	0.87	yes	1.28e+02		n	n
5	25:39	1.23e+02	1.57e+02	0.78	yes	2.80e+02		n	n
6	26:15	1.56e+03	2.18e+03	0.71	yes	3.74e+03		n	n
7	26:32	9.09e+01	1.11e+02	0.82	yes	2.02e+02		n	n
8	27:08	3.41e+03	4.72e+03	0.72	yes	8.13e+03	2,3,7,8-TCDF	n	n
9	27:30	2.91e+02	3.77e+02	0.77	yes	6.68e+02		n	n
10	29:06	2.58e+02	3.93e+02	0.66	yes	6.52e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 37 Totals Name: Total Tetra-Dioxins

Run: 16 File: P511872 Sample:1 Injection:1 Function:1

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 319.8970 321.8940 Tot Response: 2.36e+03 RRF: 1.065

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	25:54	1.26e+02	1.81e+02	0.70	yes	3.07e+02		n	n
2	27:20	3.37e+01	5.03e+01	0.67	yes	8.40e+01		n	n
3	27:59	8.30e+02	9.38e+02	0.88	yes	1.77e+03	2,3,7,8-TCDD	n	n
4	28:19	9.23e+01	1.11e+02	0.83	yes	2.03e+02		n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 38 Totals Name: Total Penta-Furans1

Run: 16 File: P511872 Sample:1 Injection:1 Function:1

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 339.8600 341.8570 Tot Response: 2.58e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	29:05	1.56e+02	1.03e+02	1.52	yes	2.58e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 39 Totals Name: Total Penta-Furans2

Run: 16 File: P511872 Sample:1 Injection:1 Function:2

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 339.8600 341.8570 Tot Response: 5.13e+02 RRF: 0.8606

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	31:36	1.54e+02	1.13e+02	1.36	yes	2.67e+02	1,2,3,7,8-PeCDF	y	y
2	32:33	1.50e+02	9.55e+01	1.57	yes	2.46e+02	2,3,4,7,8-PeCDF	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 40 Totals Name: Total Penta-Dioxins

Run: 16 File: P511872 Sample:1 Injection:1 Function:2

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 355.8550 357.8520 Tot Response: 6.45e+02 RRF: 0.9085

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	30:41	1.72e+02	1.18e+02	1.46	yes	2.90e+02	n	n
2	32:07	2.14e+02	1.41e+02	1.52	yes	3.55e+02	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 41 Totals Name: Total Hexa-Furans

Run: 16 File: P511872 Sample:1 Injection:1 Function:3

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 373.8210 375.8180 Tot Response: 1.29e+03 RRF: 1.007

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:20	2.66e+02	2.45e+02	1.09	yes	5.11e+02	n	n
2	34:40	3.08e+01	2.31e+01	1.33	yes	5.39e+01	n	n
3	34:52	2.02e+02	1.64e+02	1.23	yes	3.66e+02	n	n
4	35:18	1.98e+02	1.65e+02	1.20	yes	3.63e+02	1,2,3,4,7,8-HxCDF n	n

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

ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.
SJWP-100317-039

Entry: 42 Totals Name: Total Hexa-Dioxins

Run: 16 File: P511872 Sample:1 Injection:1 Function:3

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 389.8160 391.8130 Tot Response: 7.30e+03 RRF: 0.9445

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	34:42	2.50e+03	1.98e+03	1.27	yes	4.48e+03		n	n
2	35:13	1.30e+02	1.02e+02	1.28	yes	2.32e+02		n	n
3	35:27	9.14e+02	6.78e+02	1.35	yes	1.59e+03		n	n
4	35:34	1.03e+02	8.74e+01	1.18	yes	1.91e+02		n	n
5	36:03	6.14e+01	5.12e+01	1.20	yes	1.13e+02	1,2,3,4,7,8-HxCDD	n	n
6	36:09	1.45e+02	1.26e+02	1.15	yes	2.70e+02	1,2,3,6,7,8-HxCDD	n	n
7	36:18	7.74e+01	5.97e+01	1.30	yes	1.37e+02		n	n
8	36:22	1.62e+02	1.28e+02	1.26	yes	2.91e+02	1,2,3,7,8,9-HxCDD	n	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 43 Totals Name: Total Hepta-Furans

Run: 16 File: P511872 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 407.7820 409.7790 Tot Response: 2.64e+03 RRF: 1.254

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:56	5.70e+02	5.92e+02	0.96	yes	1.16e+03	1,2,3,4,6,7,8-HpCDF	n	n
2	38:19	7.49e+02	7.28e+02	1.03	yes	1.48e+03		y	n

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ALS ENVIRONMENTAL
Peak List Summary

CLIENT ID.

SJWP-100317-039

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 16 File: P511872 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 01:17:16 Processed: 11-OCT-17 08:47:11

Mass: 423.7770 425.7740 Tot Response: 3.03e+04 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:11	1.10e+04	1.07e+04	1.03	yes	2.17e+04	n	n
2	38:49	4.33e+03	4.24e+03	1.02	yes	8.57e+03	1,2,3,4,6,7,8-HpCDD n	n

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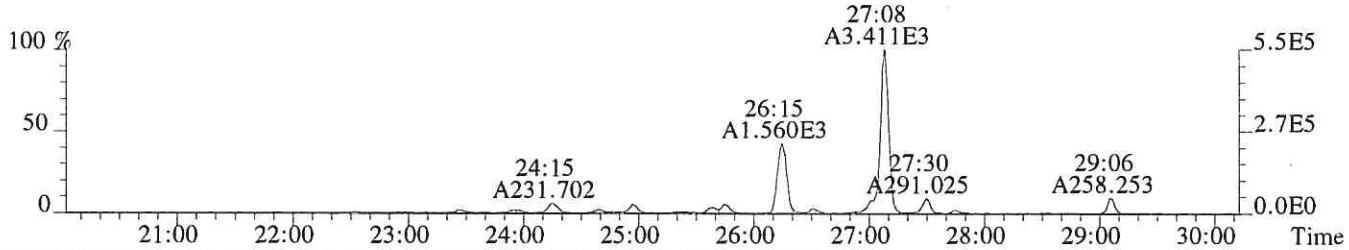
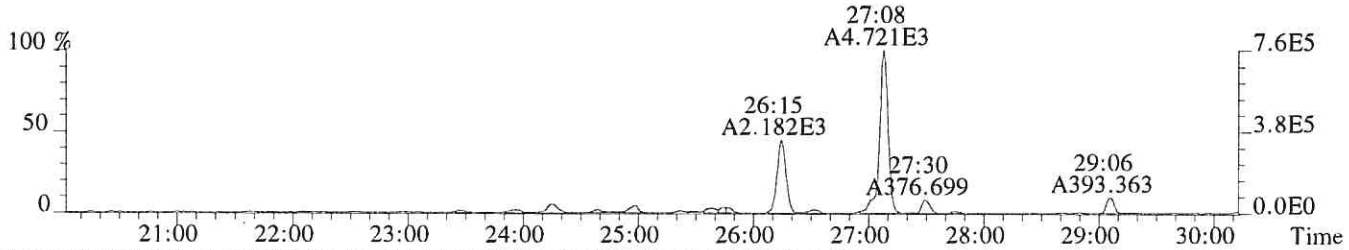
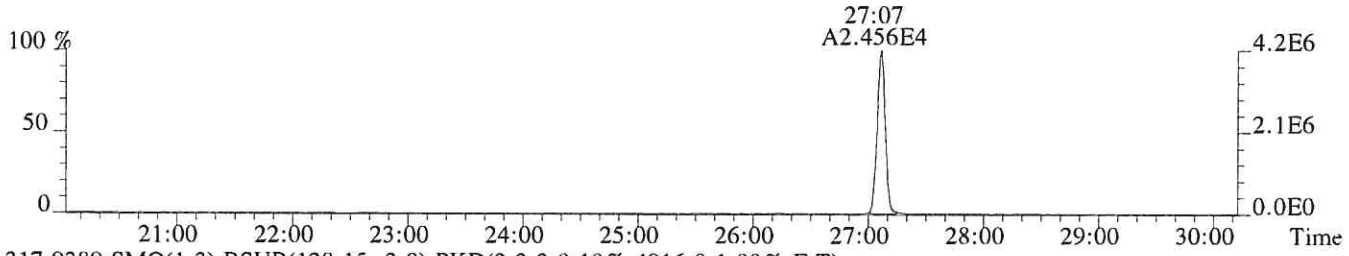
File:P511872 #1-722 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1272.0,1.00%,F,T)



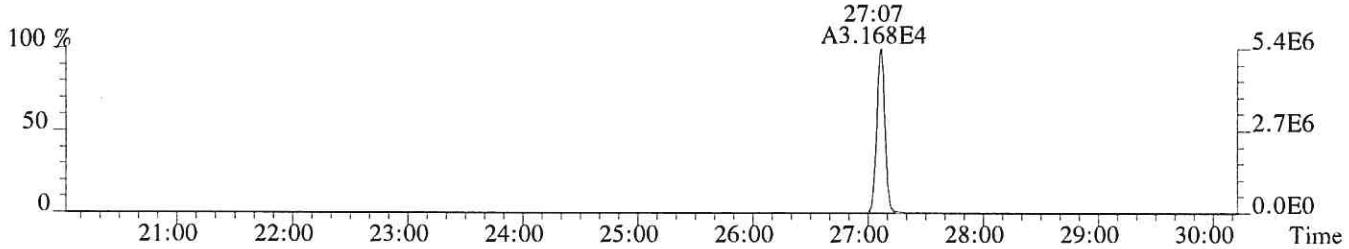
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3448.0,1.00%,F,T)



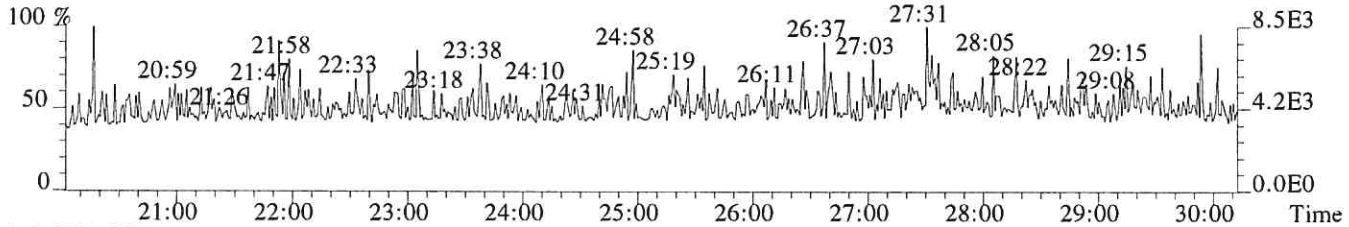
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12448.0,1.00%,F,T)



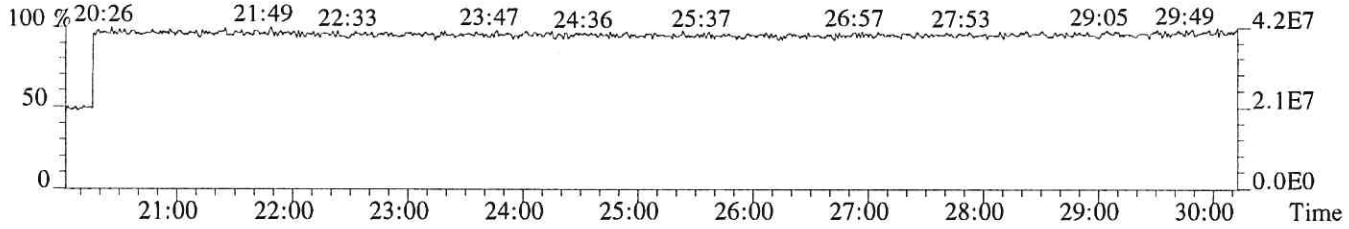
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4916.0,1.00%,F,T)



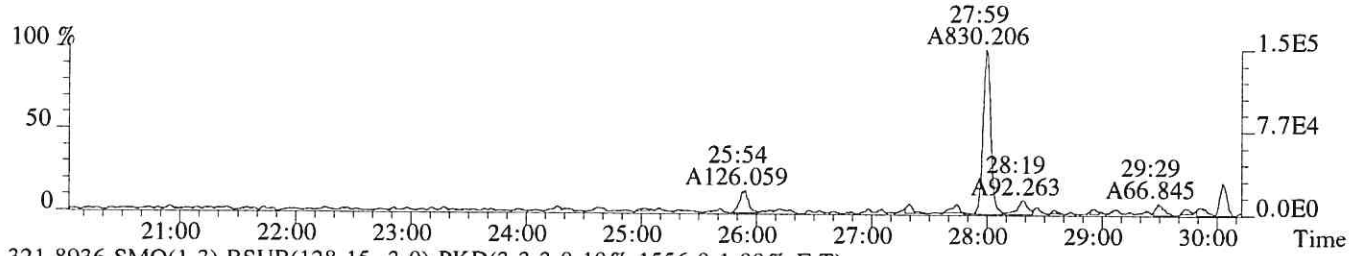
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



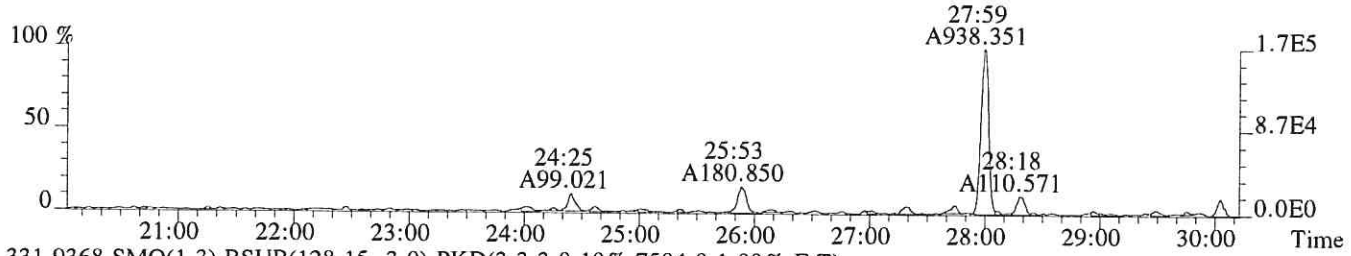
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



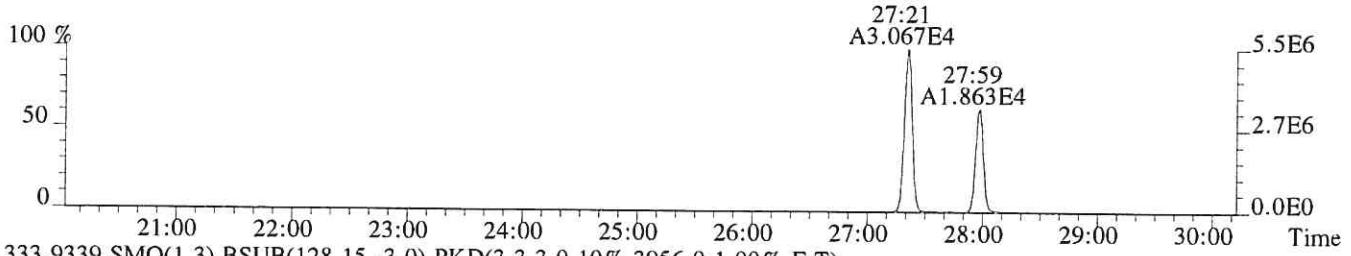
File:P511872 #1-722 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2304.0,1.00%,F,T)



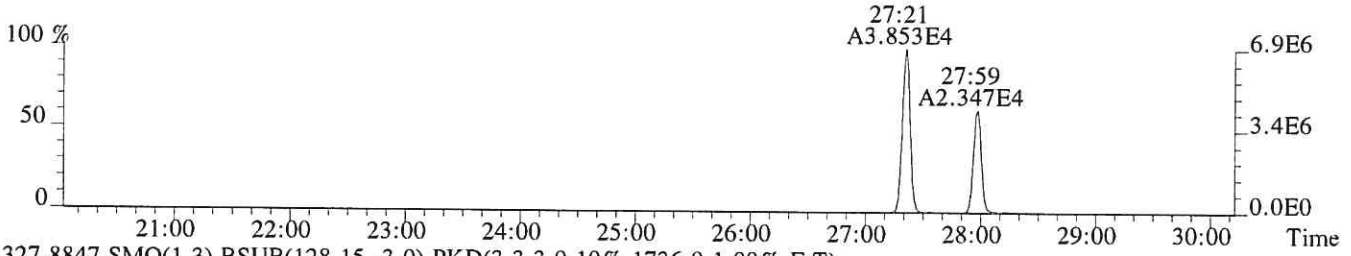
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1556.0,1.00%,F,T)



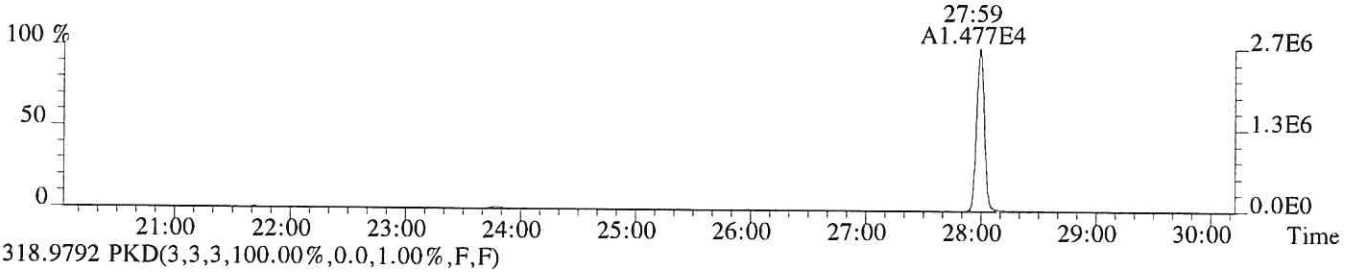
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7504.0,1.00%,F,T)



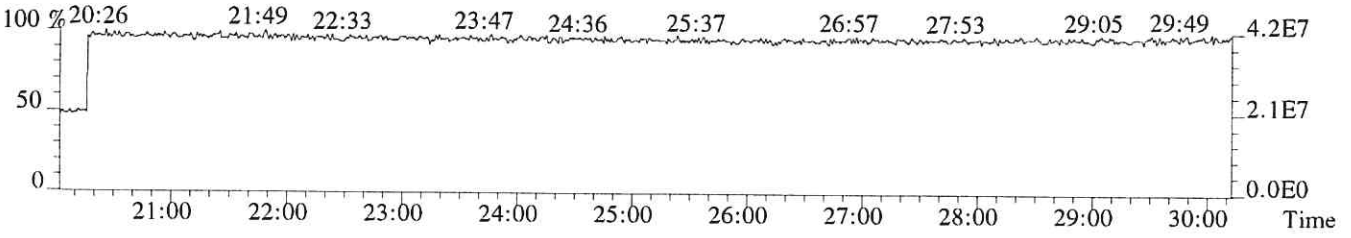
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3956.0,1.00%,F,T)



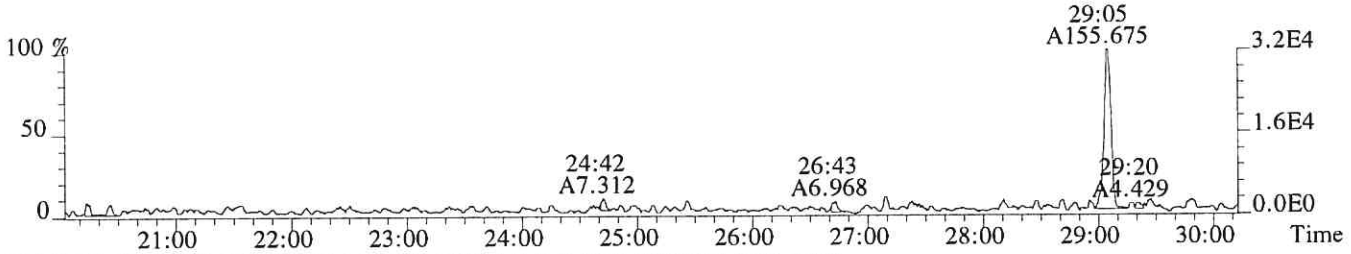
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1736.0,1.00%,F,T)



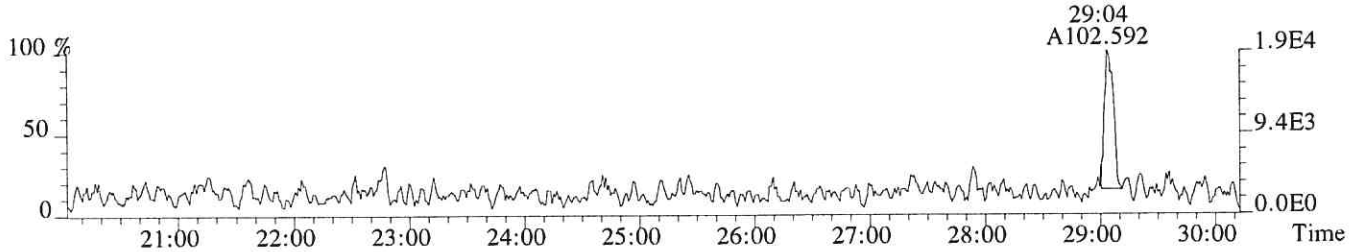
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



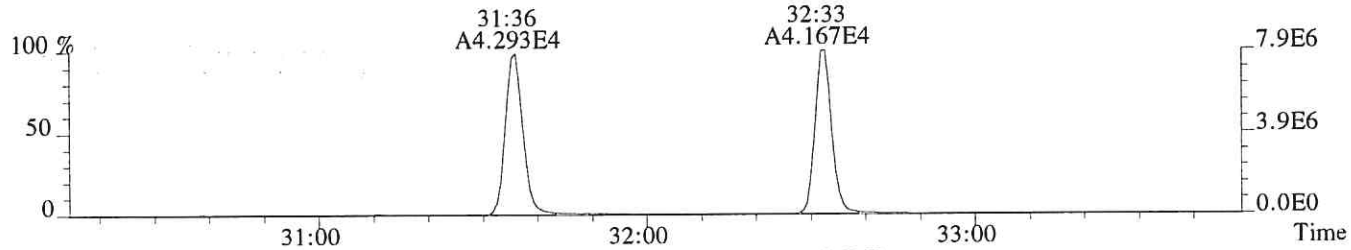
File:P511872 #1-722 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



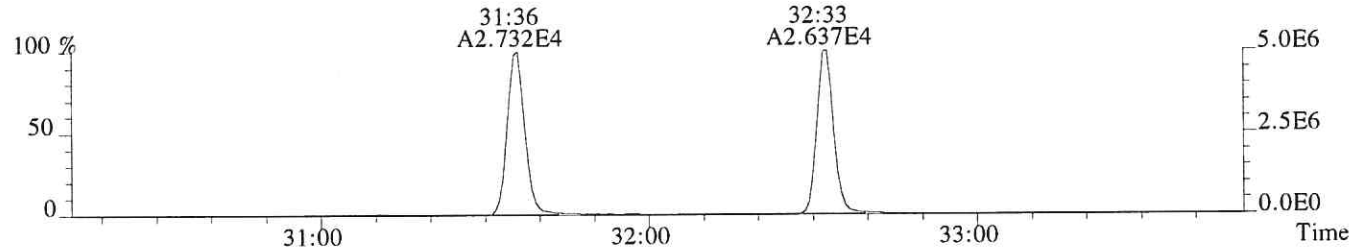
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3308.0,1.00%,F,T)



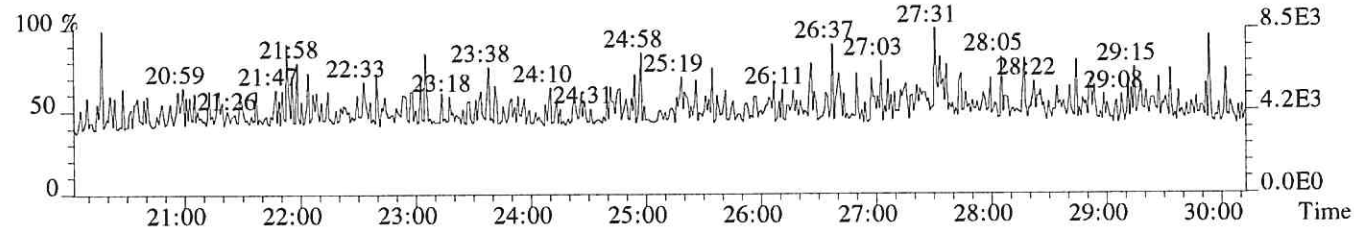
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



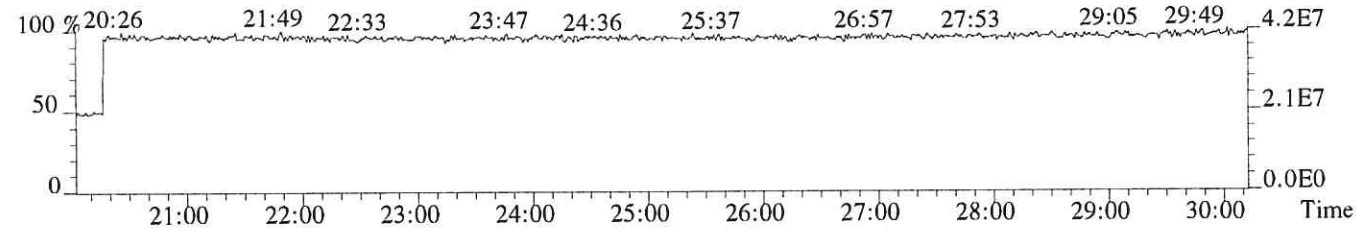
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,T)



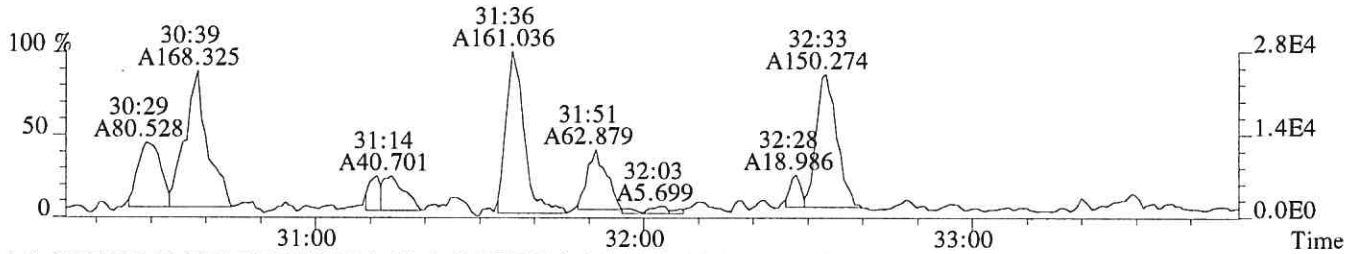
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



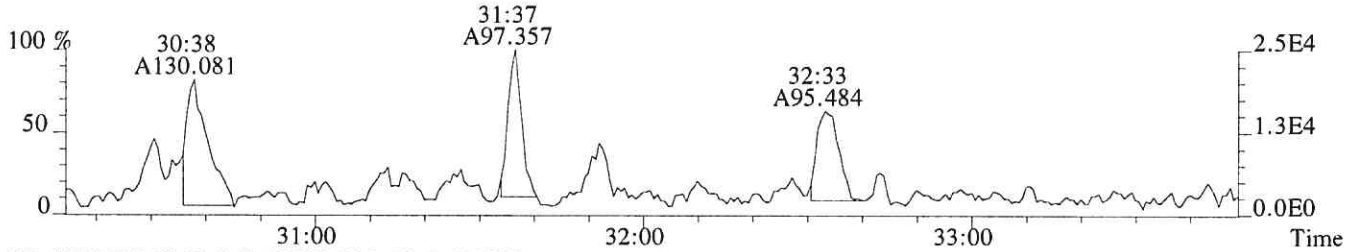
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



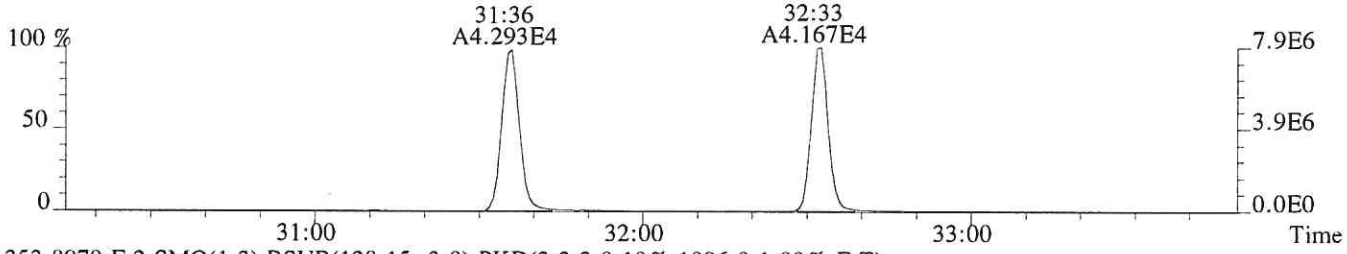
File:P511872 #1-322 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2184.0,1.00%,F,T)



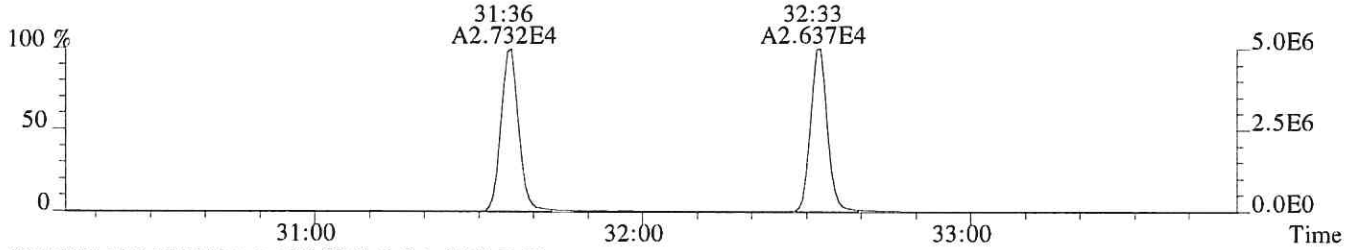
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3628.0,1.00%,F,T)



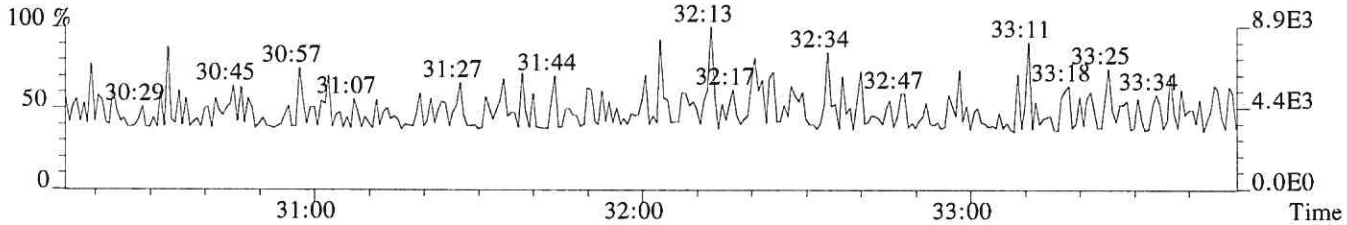
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,T)



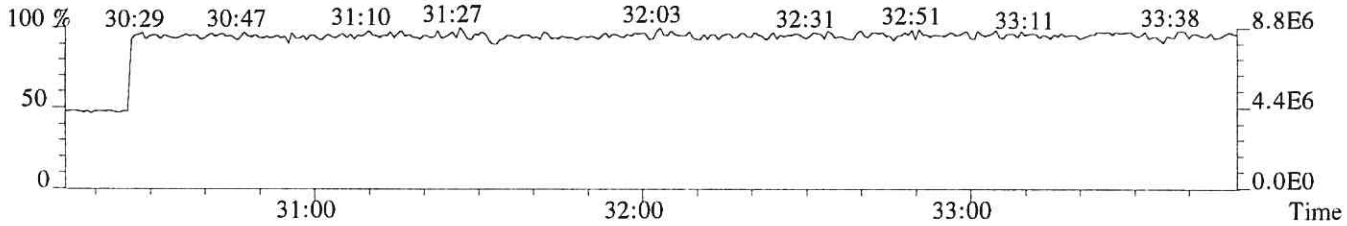
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,T)



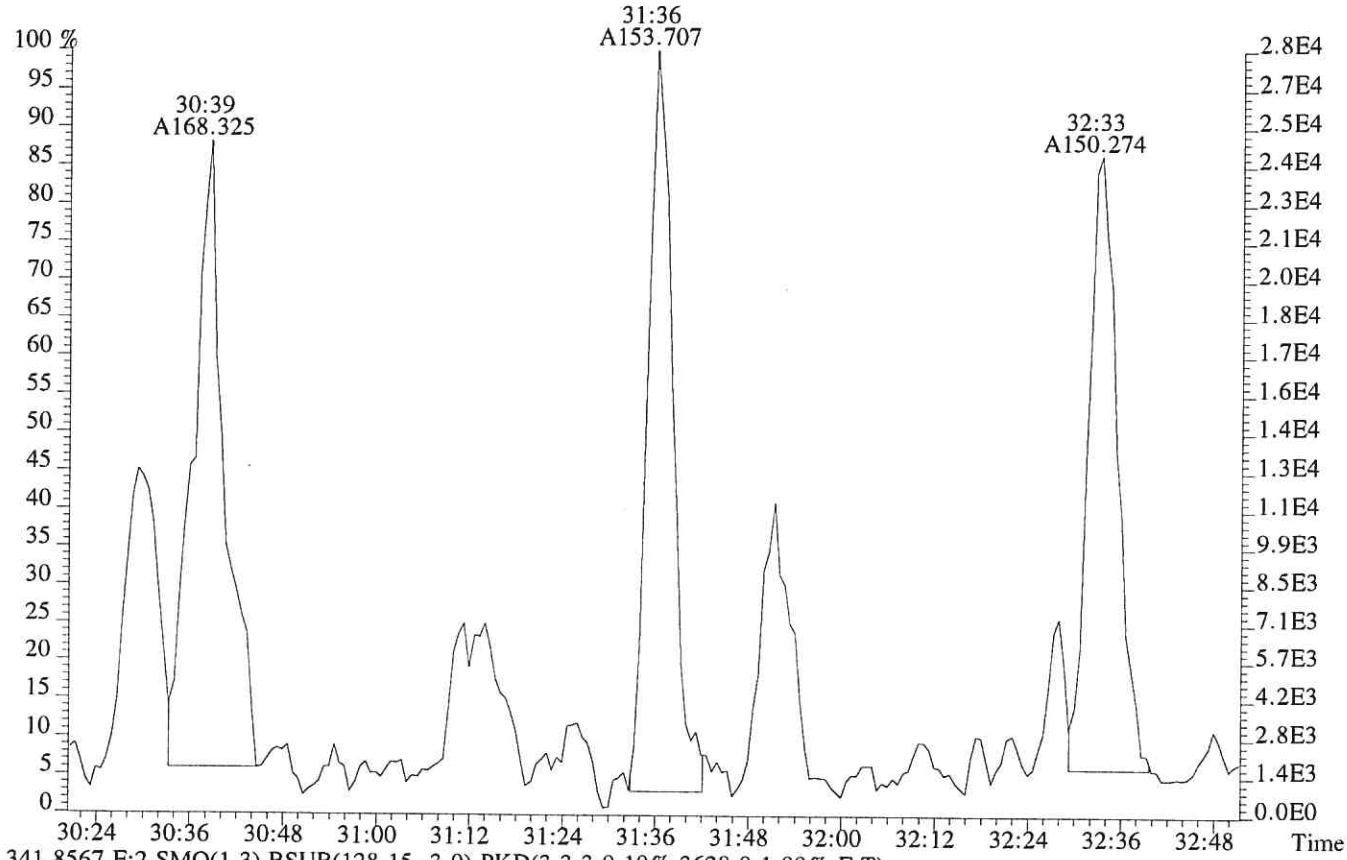
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



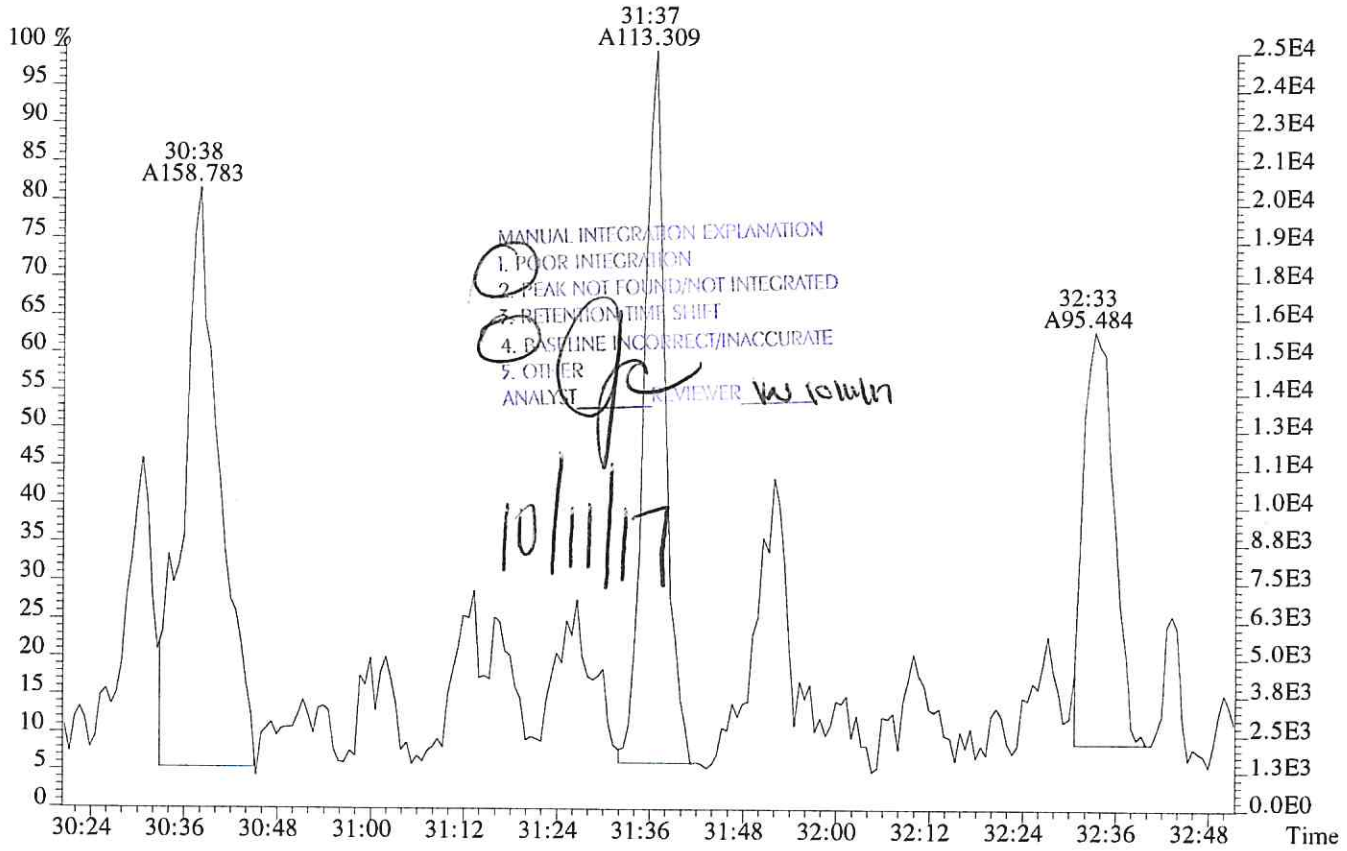
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511872 #1-322 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2184.0,1.00%,F,T)

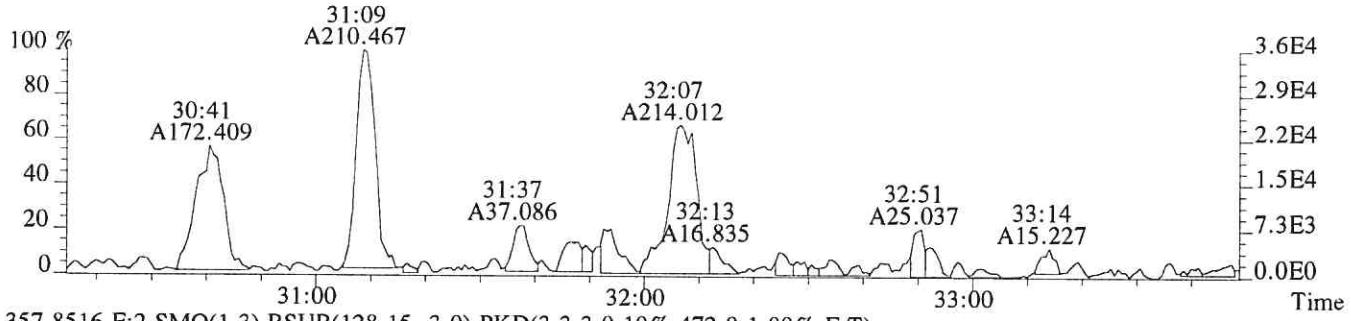


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3628.0,1.00%,F,T)

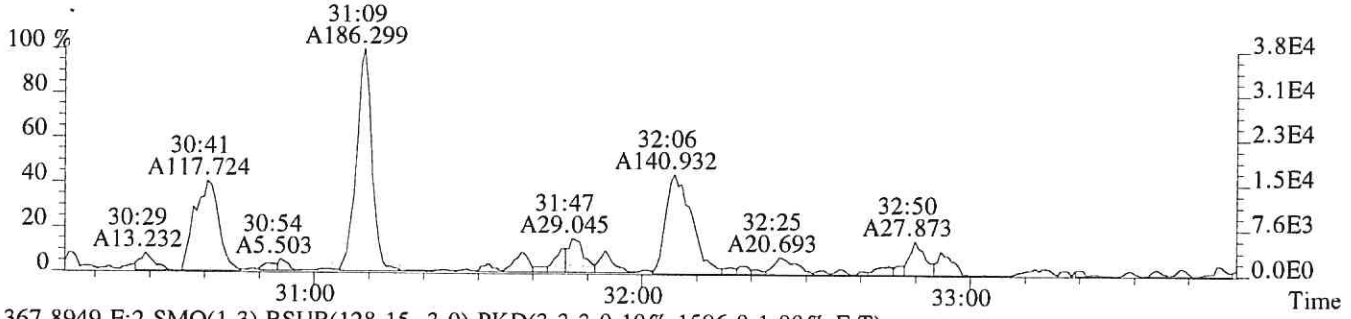


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST JC REVIEWER KW 10/11/17
10/11/17

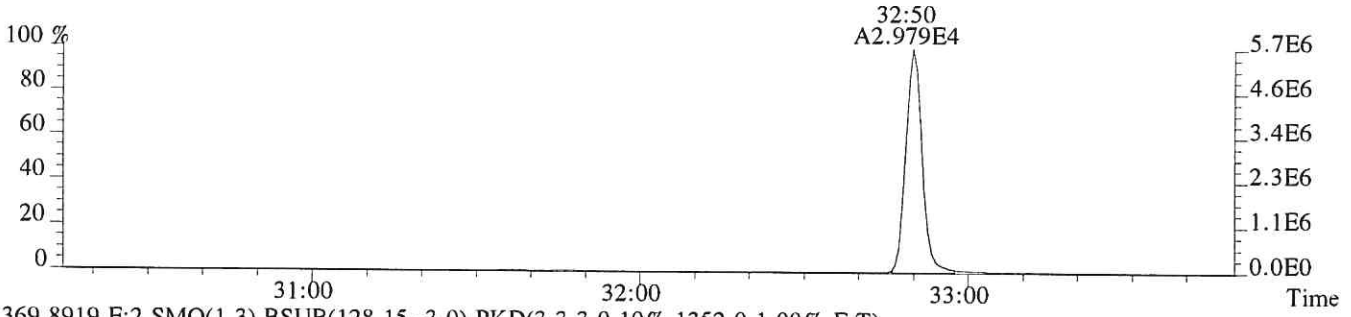
File:P511872 #1-322 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



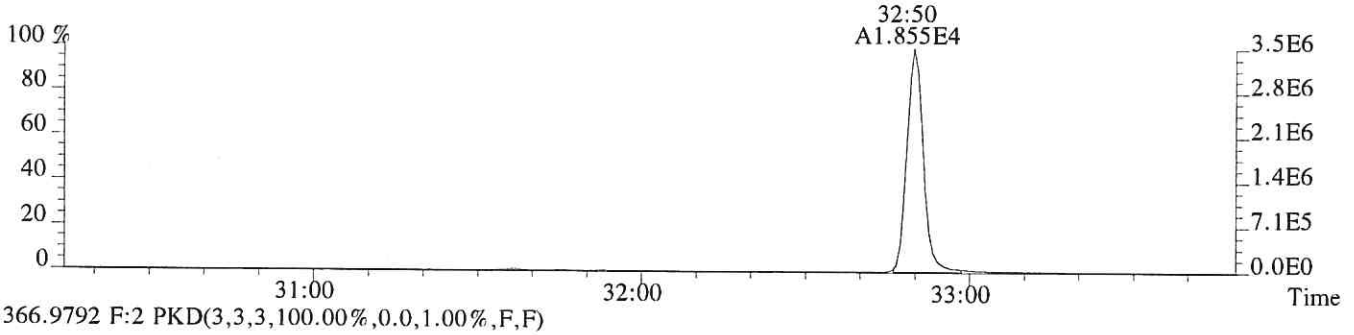
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,T)



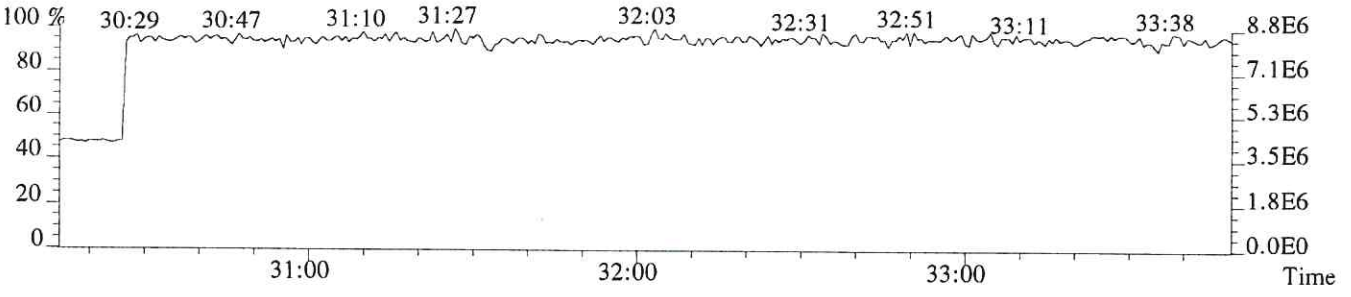
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)



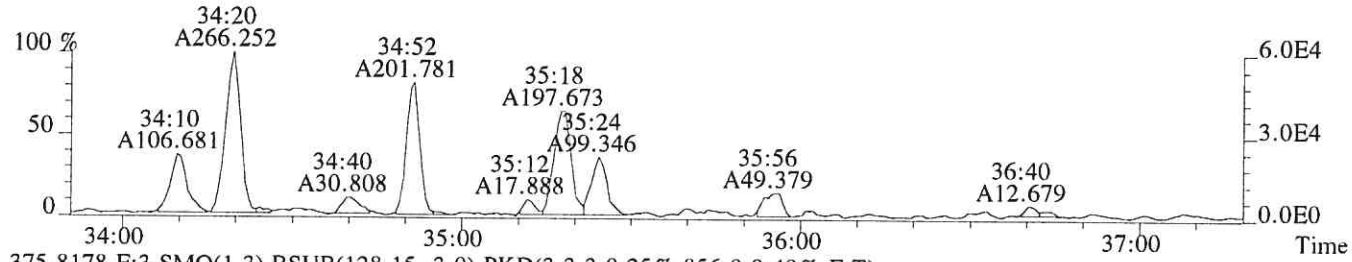
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,T)



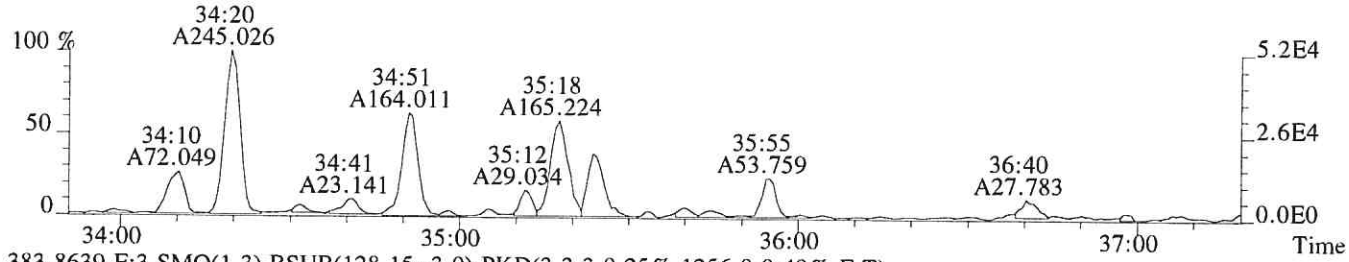
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



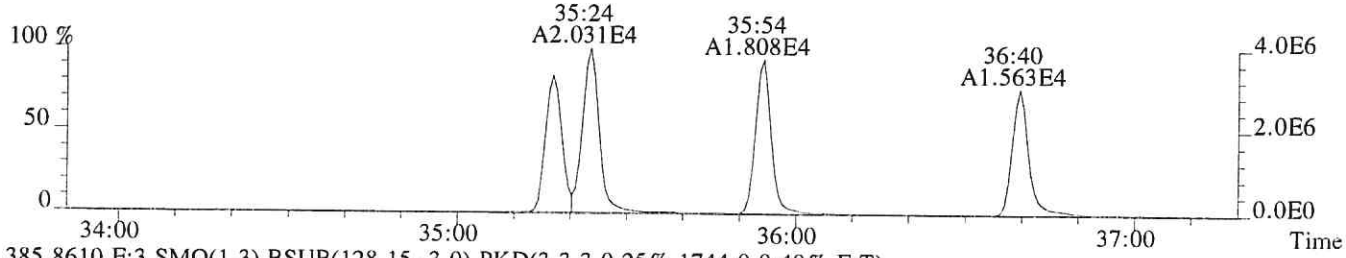
File:P511872 #1-312 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1924.0,0.40%,F,T)



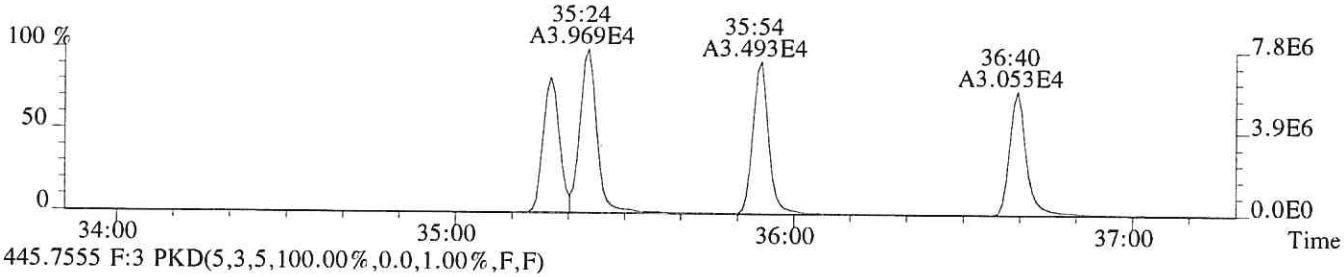
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



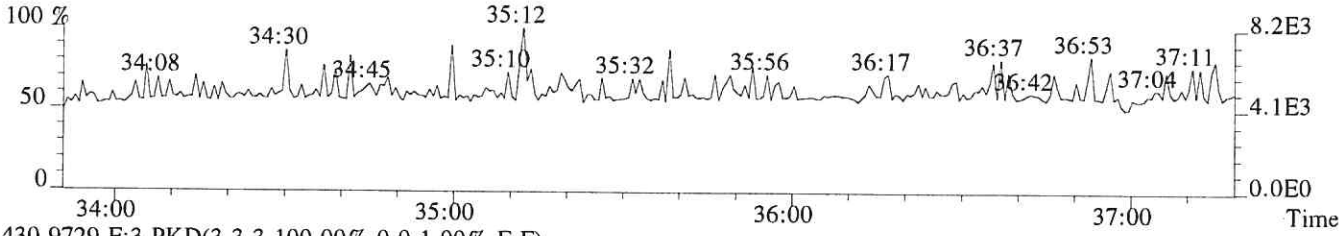
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,T)



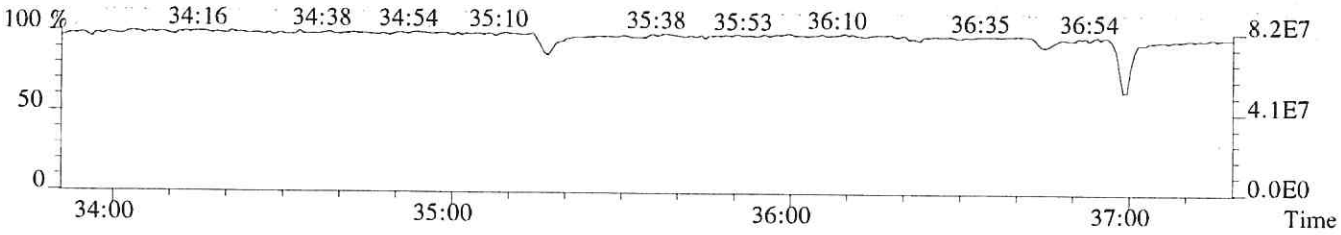
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1744.0,0.40%,F,T)



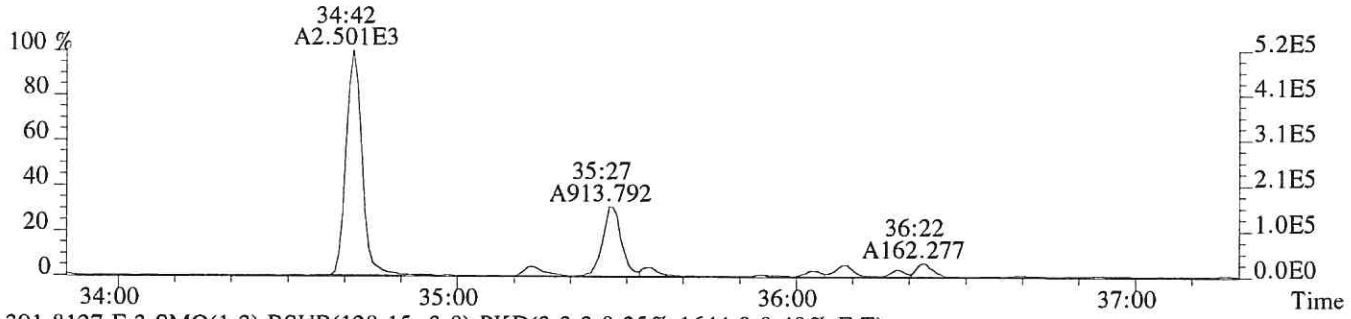
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



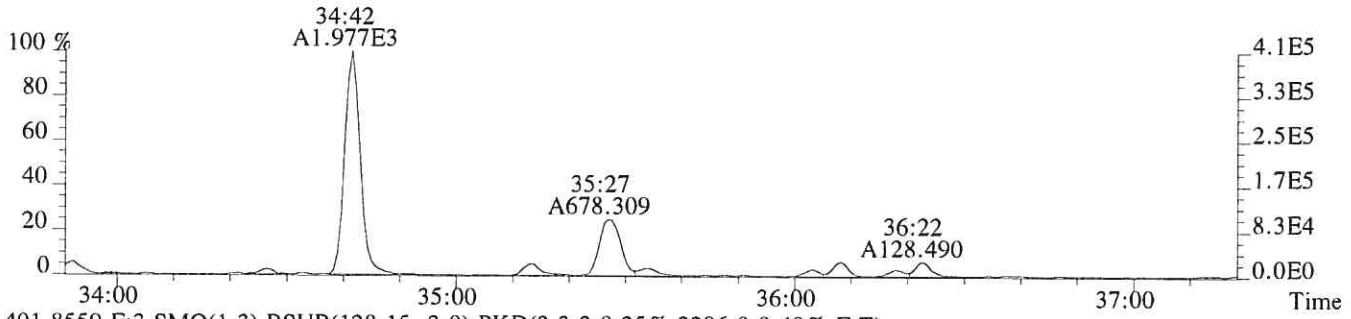
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



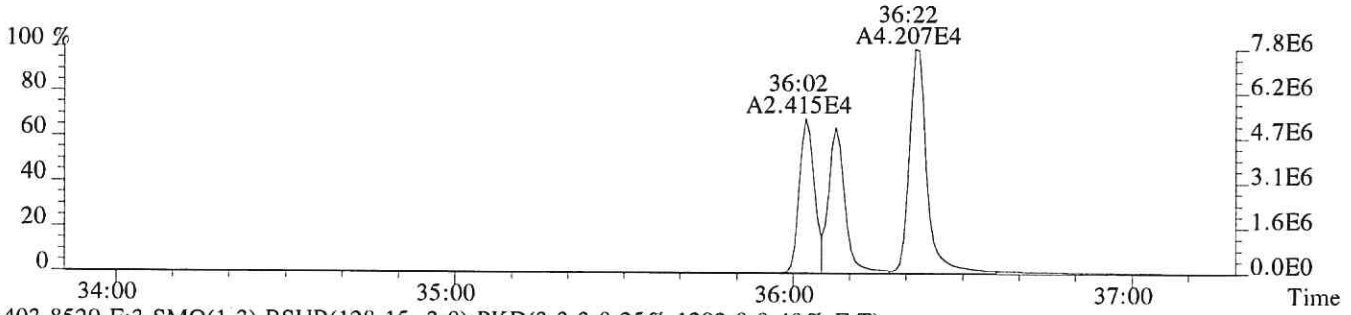
File:P511872 #1-312 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.40%,F,T)



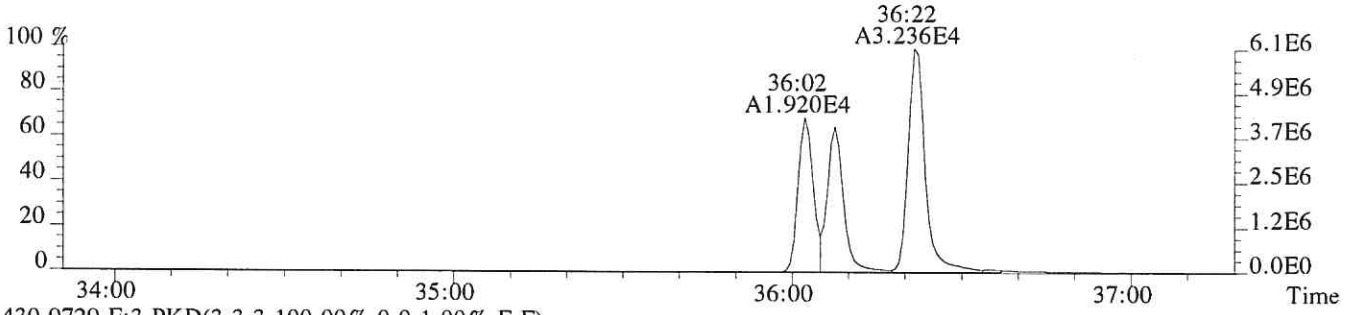
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1644.0,0.40%,F,T)



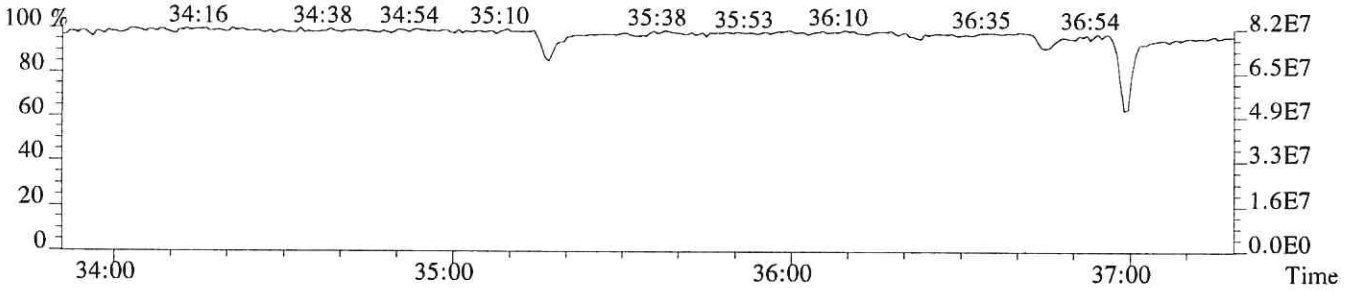
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3296.0,0.40%,F,T)



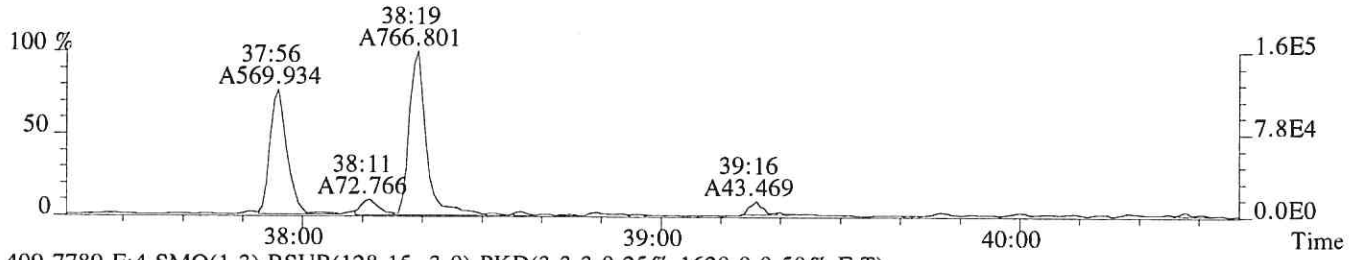
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.40%,F,T)



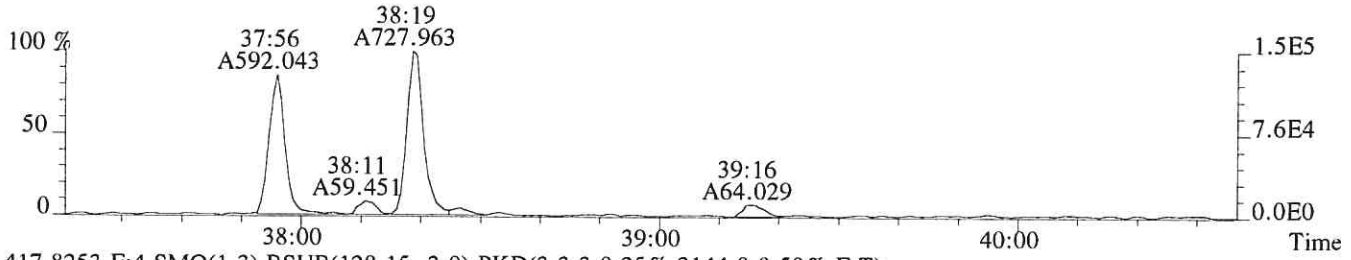
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



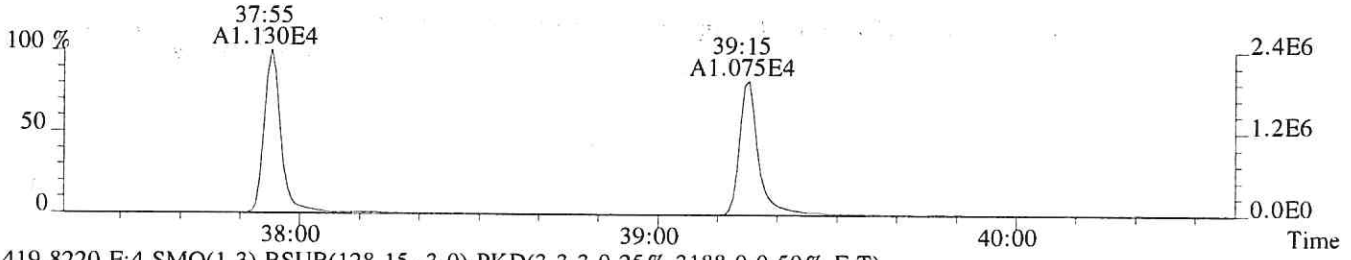
File:P511872 #1-295 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2052.0,0.50%,F,T)



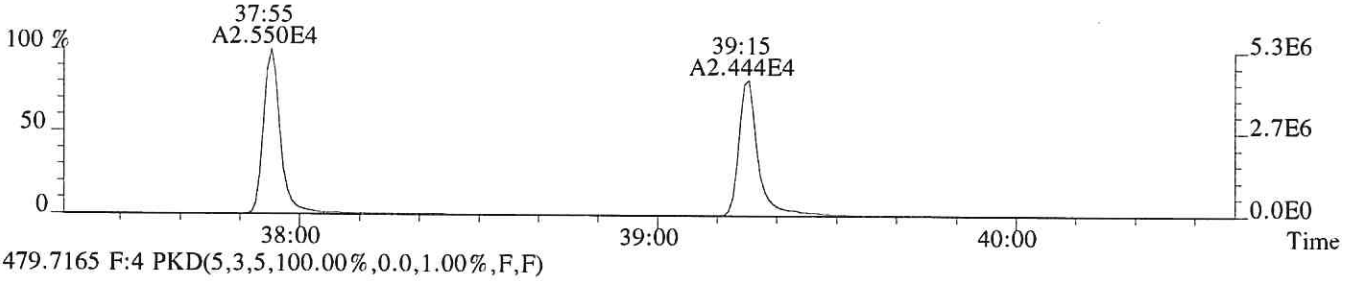
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.50%,F,T)



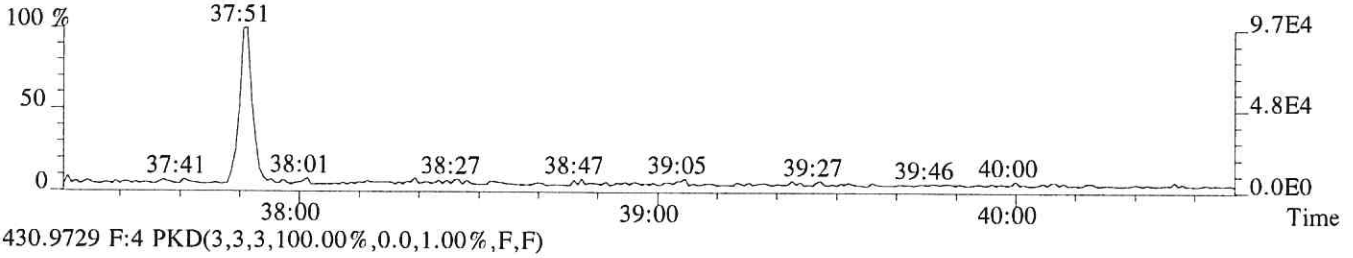
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3144.0,0.50%,F,T)



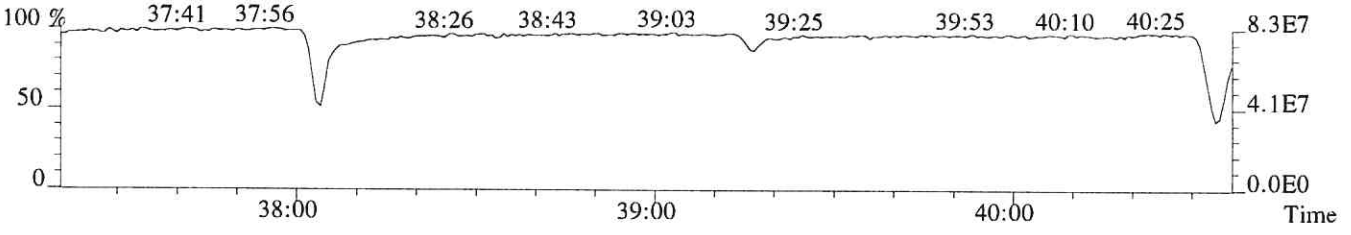
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3188.0,0.50%,F,T)



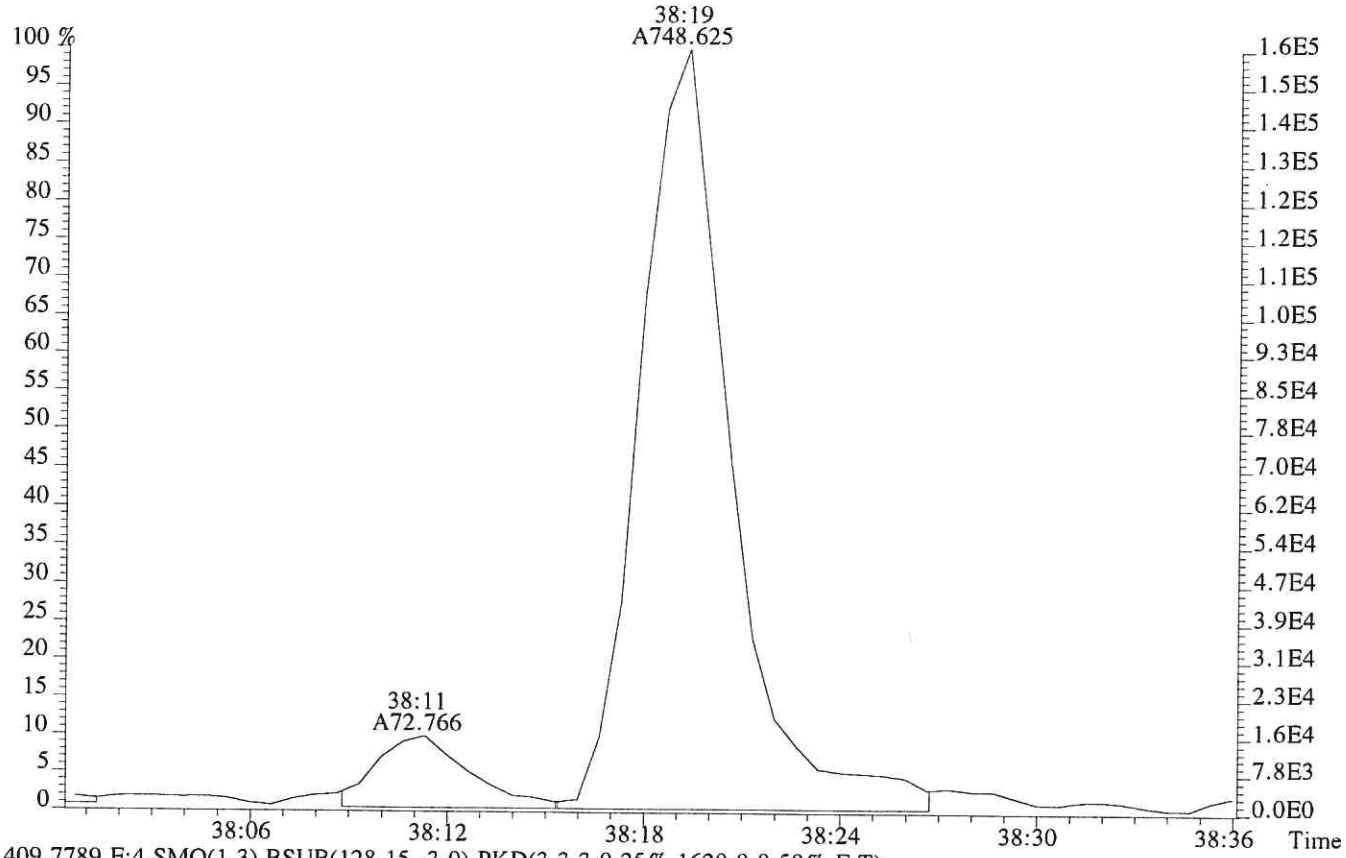
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



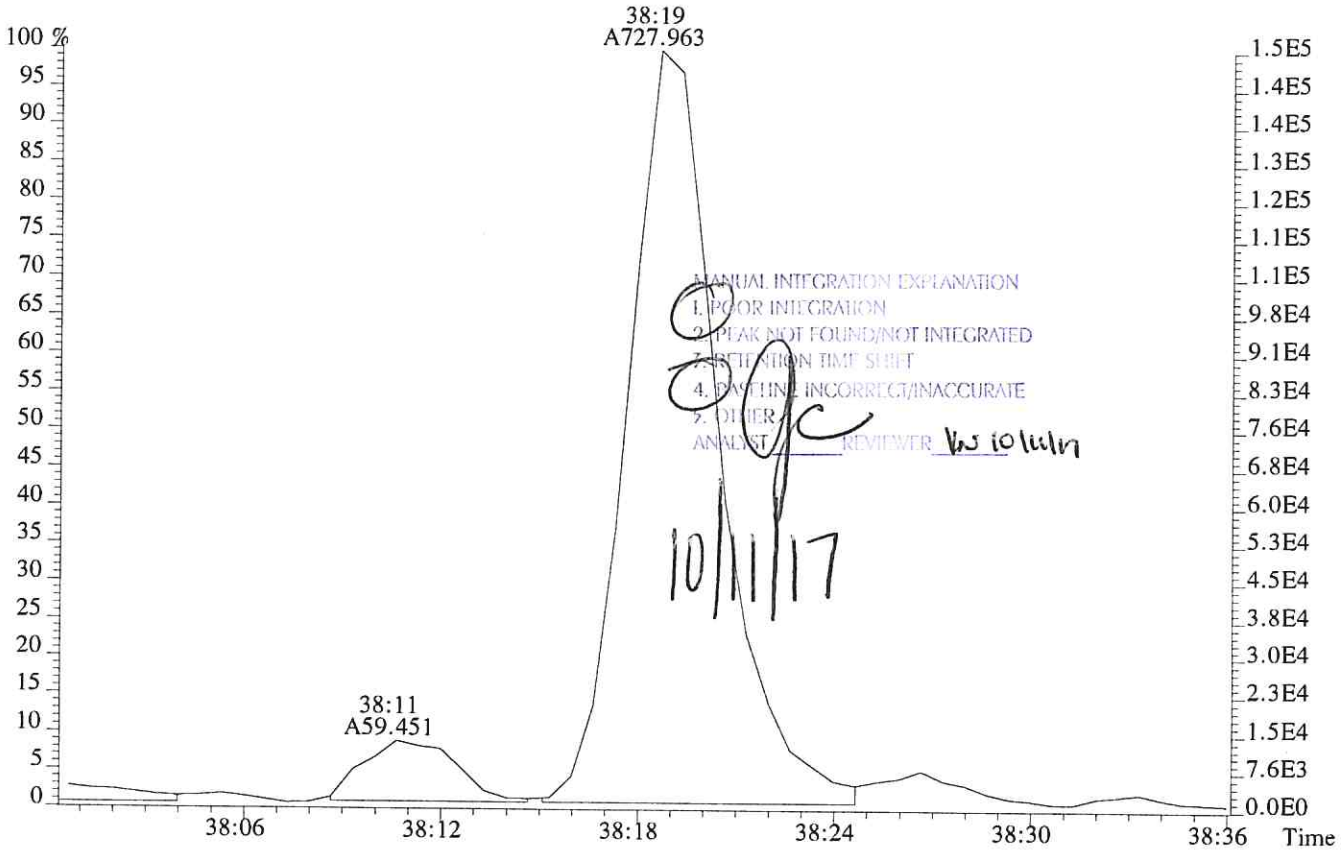
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511872 #1-295 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2052.0,0.50%,F,T)



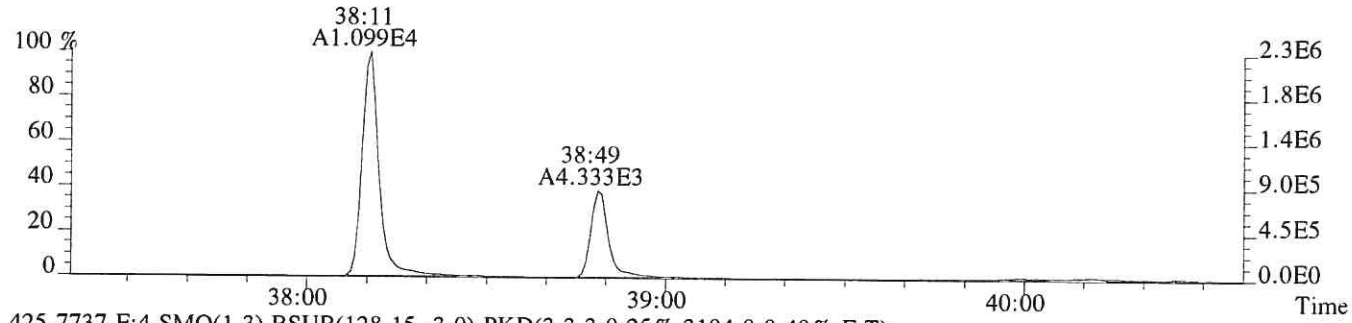
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.50%,F,T)



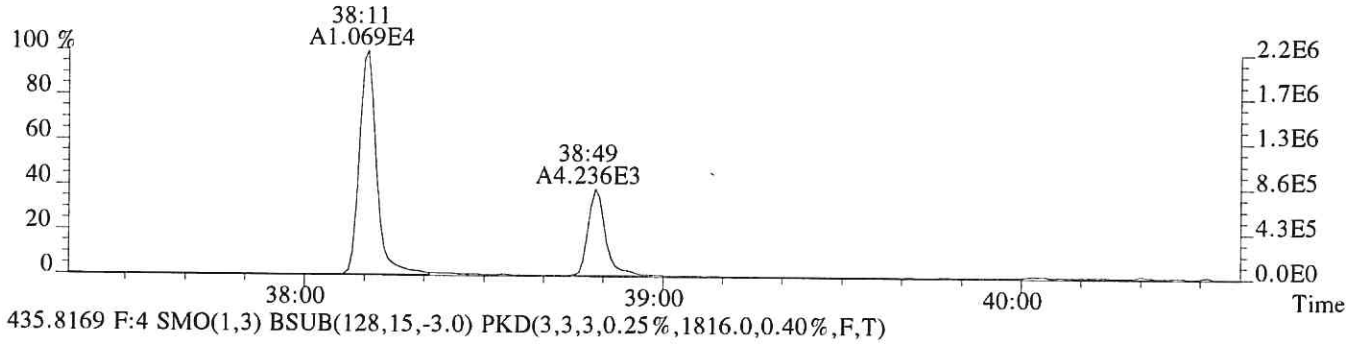
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER WS 10/11/17

10/11/17

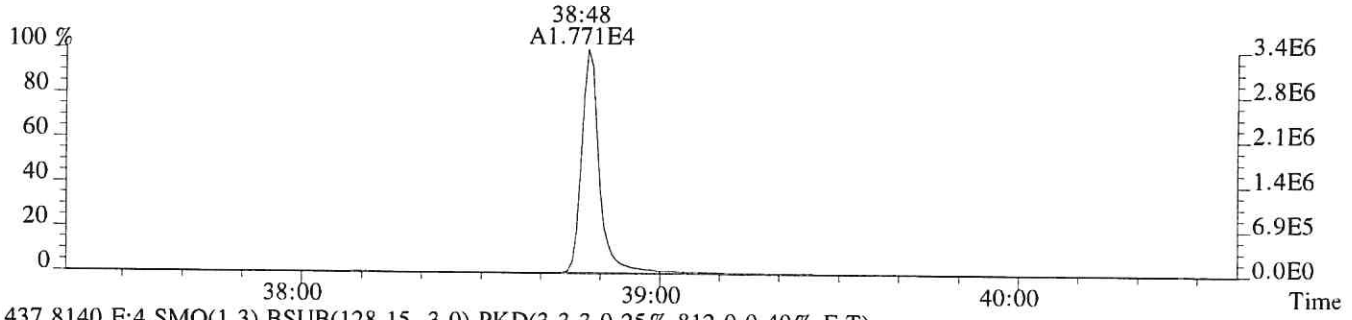
File:P511872 #1-295 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2652.0,0.40%,F,T)



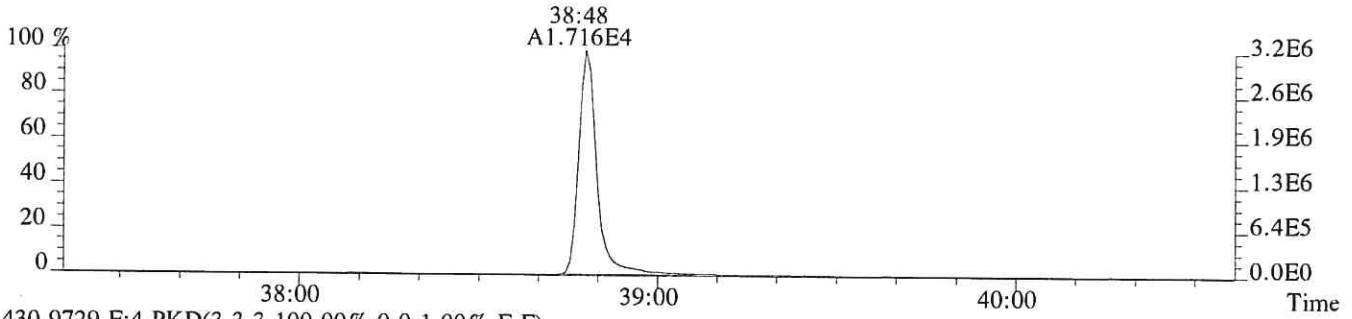
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3104.0,0.40%,F,T)



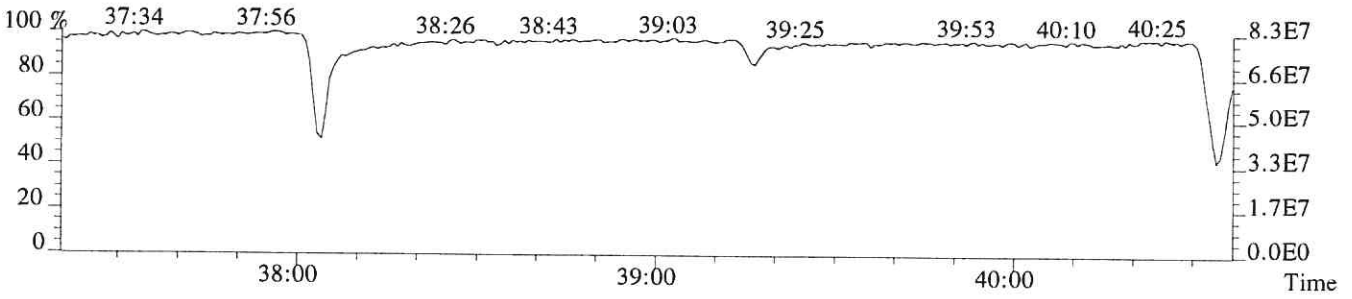
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1816.0,0.40%,F,T)



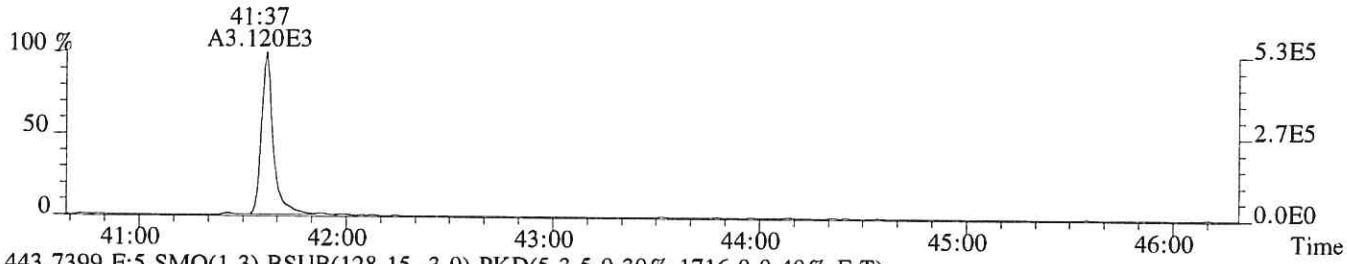
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



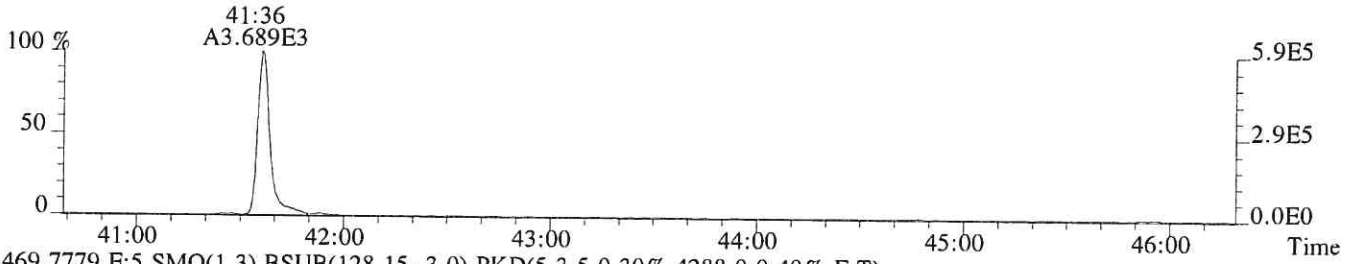
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



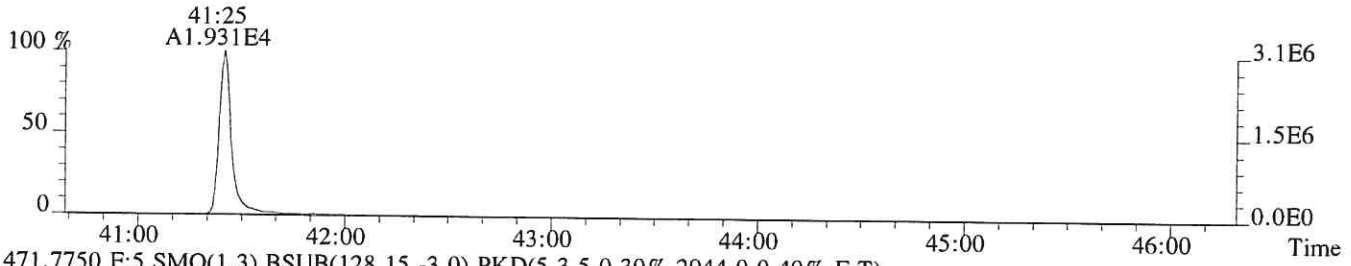
File:P511872 #1-511 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2880.0,0.40%,F,T)



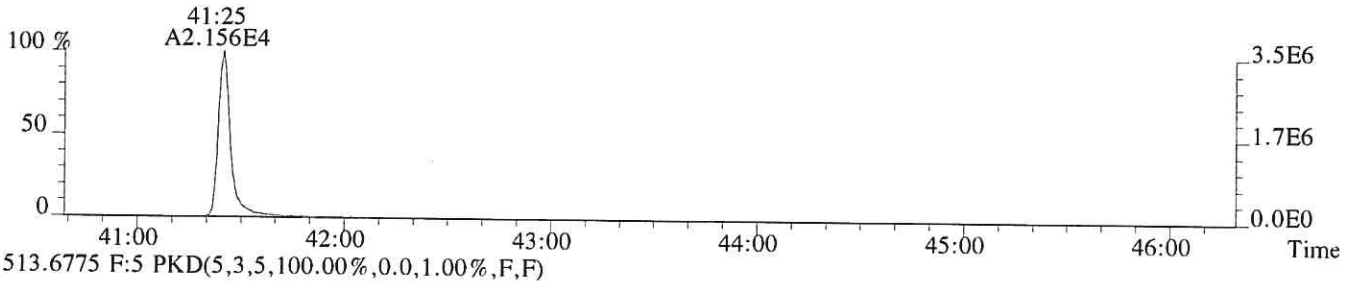
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1716.0,0.40%,F,T)



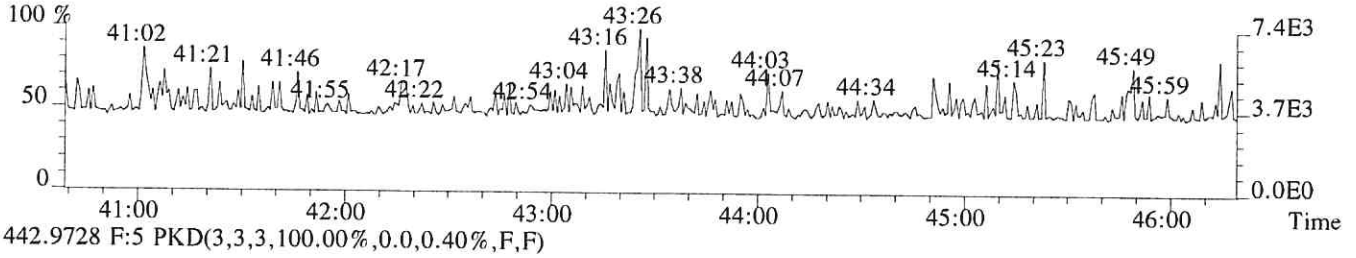
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4288.0,0.40%,F,T)



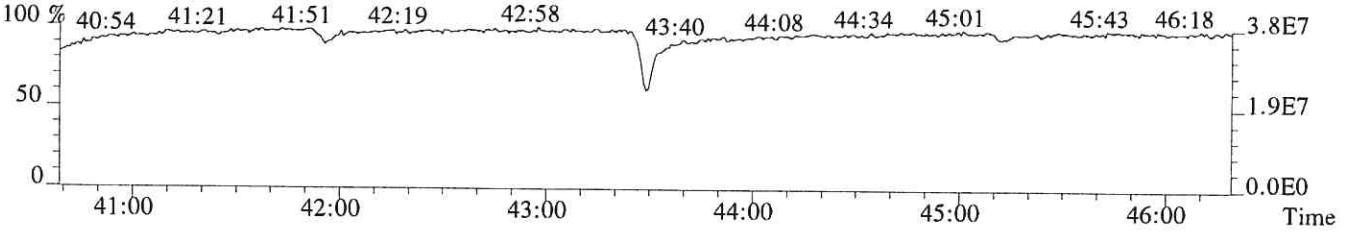
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2944.0,0.40%,F,T)



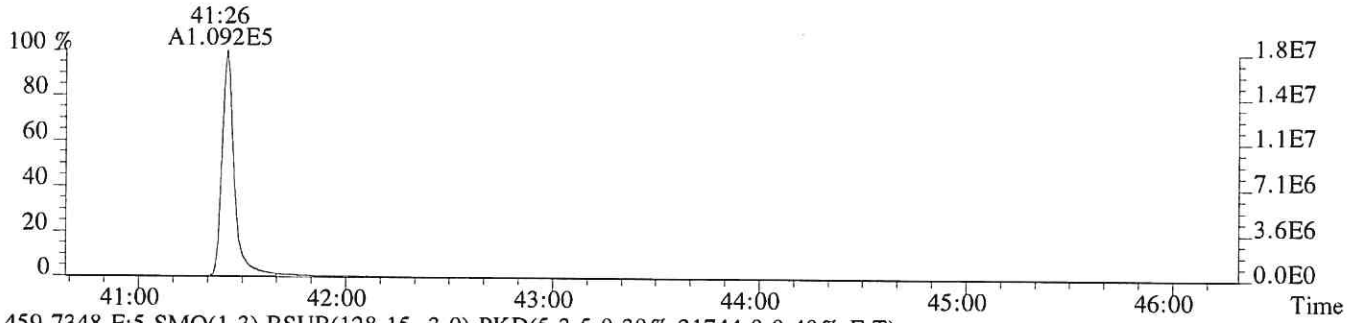
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



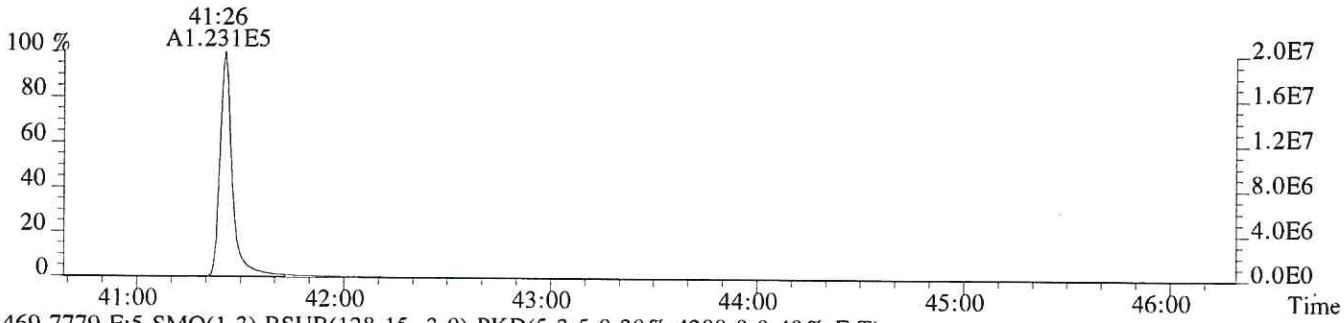
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



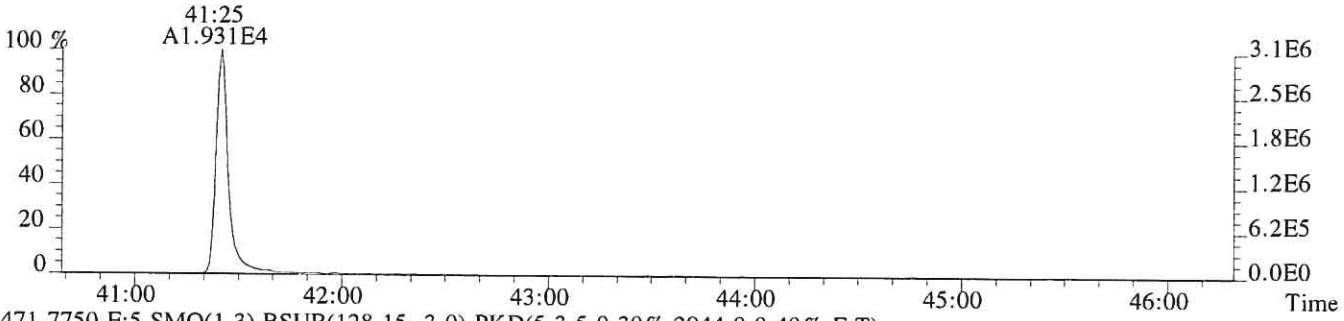
File:P511872 #1-511 Acq:11-OCT-2017 01:17:16 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-006
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,16132.0,0.40%,F,T)



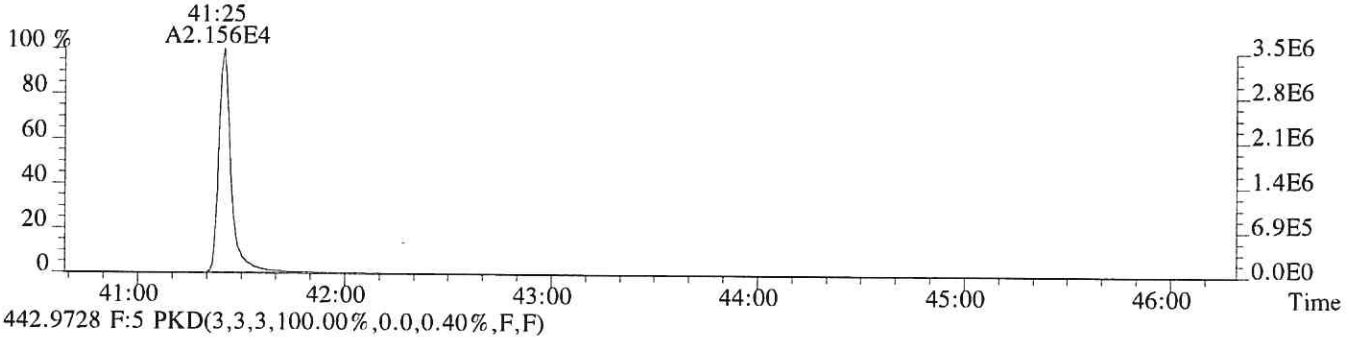
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,21744.0,0.40%,F,T)



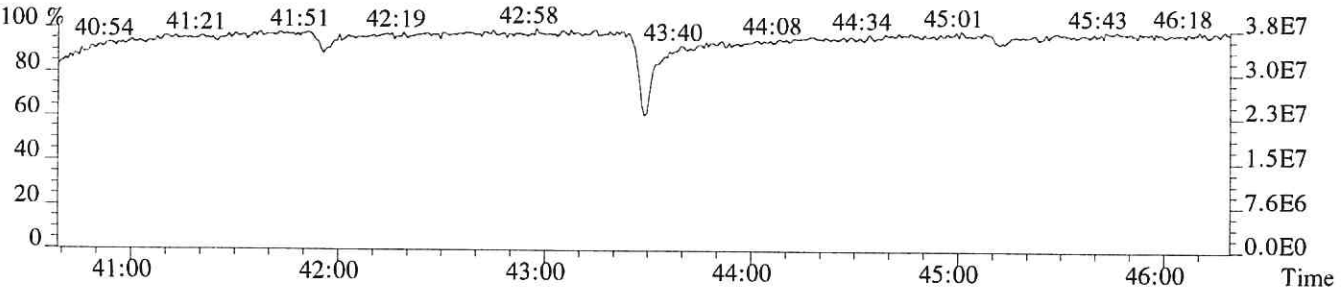
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4288.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2944.0,0.40%,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-100317-0

Run #17 Filename P511873 Samp: 1 Inj: 1 Acquired: 11-OCT-17 02:05:57
Processed: 11-OCT-17 08:47:12 Sample ID: E1701038-007

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	yes	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:56	2.499e+01	2.338e+01	1.07	yes	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.191
10	Unk	OCDF	41:36	5.420e+01	7.107e+01	0.76	yes	yes	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	yes	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	38:49	6.823e+01	6.988e+01	0.98	yes	yes	0.942
17	Unk	OCDD	41:26	1.610e+03	1.728e+03	0.93	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	2.196e+04	2.809e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:36	4.298e+04	2.763e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:33	4.203e+04	2.663e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.732e+04	3.364e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	2.038e+04	4.008e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	1.947e+04	3.810e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	1.736e+04	3.370e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.313e+04	2.928e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.215e+04	2.809e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	1.781e+04	2.233e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	3.084e+04	1.930e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:03	2.603e+04	1.995e+04	1.30	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.776e+04	2.133e+04	1.30	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:49	2.158e+04	2.028e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:25	2.600e+04	2.861e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.122e+04	3.946e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.190e+04	3.305e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.497e+04				no	1.033

$$\text{OCDD} = \frac{(1.610e+03 + 1.728e+03) \times 4000 \text{ pg} \times 1}{(2.600e+04 + 2.861e+04) \times 10.313 \text{ g} \times 77.3 / 100 \times 1.051} = 29.2 \text{ ng/kg}$$

KW 10/11/17

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-100317-041

Run #17 Filename P511873 Samp: 1 Inj: 1 Acquired: 11-OCT-17 02:05:57
Processed: 11-OCT-17 08:47:12 LAB. ID: E1701038-007

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.38e+03	*	*	4.33e+03	*
2	1,2,3,7,8-PeCDF	*	9.00e+02	*	*	2.19e+03	*
3	2,3,4,7,8-PeCDF	*	9.00e+02	*	*	2.19e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.36e+03	*	*	9.20e+02	*
5	1,2,3,6,7,8-HxCDF	*	1.36e+03	*	*	9.20e+02	*
6	2,3,4,6,7,8-HxCDF	*	1.36e+03	*	*	9.20e+02	*
7	1,2,3,7,8,9-HxCDF	*	1.36e+03	*	*	9.20e+02	*
8	1,2,3,4,6,7,8-HpCDF	5.15e+03	1.61e+03	3.2e+00	5.38e+03	1.27e+03	4.2e+00
9	1,2,3,4,7,8,9-HpCDF	*	1.61e+03	*	*	1.27e+03	*
10	OCDF	7.41e+03	9.48e+02	7.8e+00	1.13e+04	2.21e+03	5.1e+00
11	2,3,7,8-TCDD	*	2.19e+03	*	*	1.58e+03	*
12	1,2,3,7,8-PeCDD	*	1.46e+03	*	*	6.76e+02	*
13	1,2,3,4,7,8-HxCDD	*	1.11e+03	*	*	1.29e+03	*
14	1,2,3,6,7,8-HxCDD	*	1.11e+03	*	*	1.29e+03	*
15	1,2,3,7,8,9-HxCDD	*	1.11e+03	*	*	1.29e+03	*
16	1,2,3,4,6,7,8-HpCDD	1.43e+04	1.98e+03	7.2e+00	1.43e+04	1.38e+03	1.0e+01
17	OCDD	2.57e+05	1.48e+03	1.7e+02	2.77e+05	1.02e+03	2.7e+02
18	13C-2,3,7,8-TCDF	3.75e+06	1.14e+04	3.3e+02	4.78e+06	7.70e+03	6.2e+02
19	13C-1,2,3,7,8-PeCDF	7.77e+06	1.17e+03	6.6e+03	5.09e+06	1.45e+03	3.5e+03
20	13C-2,3,4,7,8-PeCDF	8.01e+06	1.17e+03	6.8e+03	5.12e+06	1.45e+03	3.5e+03
21	13C-1,2,3,4,7,8-HxCDF	3.74e+06	1.22e+03	3.1e+03	7.25e+06	1.88e+03	3.9e+03
22	13C-1,2,3,6,7,8-HxCDF	4.15e+06	1.22e+03	3.4e+03	8.16e+06	1.88e+03	4.3e+03
23	13C-2,3,4,6,7,8-HxCDF	4.08e+06	1.22e+03	3.3e+03	7.91e+06	1.88e+03	4.2e+03
24	13C-1,2,3,7,8,9-HxCDF	3.34e+06	1.22e+03	2.7e+03	6.52e+06	1.88e+03	3.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.69e+06	5.79e+03	4.6e+02	6.16e+06	6.31e+03	9.8e+02
26	13C-1,2,3,4,7,8,9-HpCDF	2.28e+06	5.79e+03	3.9e+02	5.29e+06	6.31e+03	8.4e+02
27	13C-2,3,7,8-TCDD	3.31e+06	8.33e+03	4.0e+02	4.18e+06	4.44e+03	9.4e+02
28	13C-1,2,3,7,8-PeCDD	5.82e+06	2.39e+03	2.4e+03	3.60e+06	1.23e+03	2.9e+03
29	13C-1,2,3,4,7,8-HxCDD	5.72e+06	1.98e+03	2.9e+03	4.44e+06	1.42e+03	3.1e+03
30	13C-1,2,3,6,7,8-HxCDD	5.47e+06	1.98e+03	2.8e+03	4.28e+06	1.42e+03	3.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.11e+06	1.71e+03	2.4e+03	3.89e+06	1.52e+03	2.6e+03
32	13C-OCDD	4.17e+06	9.32e+03	4.5e+02	4.62e+06	4.02e+03	1.1e+03
33	13C-1,2,3,4-TCDD	5.55e+06	8.33e+03	6.7e+02	7.03e+06	4.44e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.32e+06	1.98e+03	4.2e+03	6.58e+06	1.42e+03	4.6e+03
35	37Cl-2,3,7,8-TCDD	2.66e+06	1.72e+03	1.5e+03			

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Peak List Summary

CLIENT ID.

SJWP-100317-041

Entry: 43 Totals Name: Total Hepta-Furans

Run: 17 File: P511873 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 02:05:57 Processed: 11-OCT-17 08:47:12

Mass: 407.7820 409.7790 Tot Response: 4.84e+01 RRF: 1.254

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	37:56	2.50e+01	2.34e+01	1.07	yes	4.84e+01	1,2,3,4,6,7,8-HpCDF	n	y

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Peak List Summary

CLIENT ID.

SJWP-100317-041

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 17 File: P511873 Sample:1 Injection:1 Function:4

Acquired: 11-OCT-17 02:05:57 Processed: 11-OCT-17 08:47:12

Mass: 423.7770 425.7740 Tot Response: 5.02e+02 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:11	1.72e+02	1.93e+02	0.89	yes	3.64e+02		y	y
2	38:49	6.82e+01	6.99e+01	0.98	yes	1.38e+02	1,2,3,4,6,7,8-HpCDD	y	y

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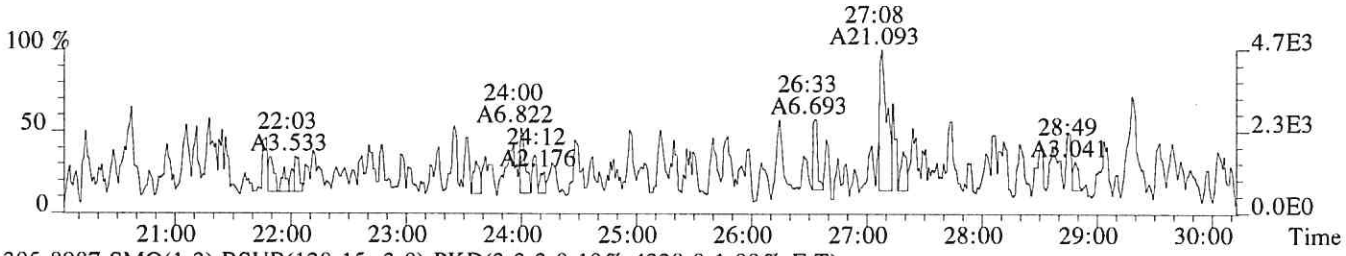
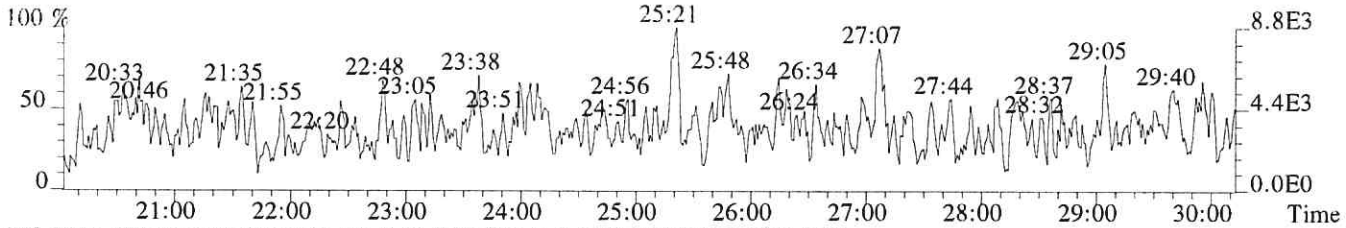
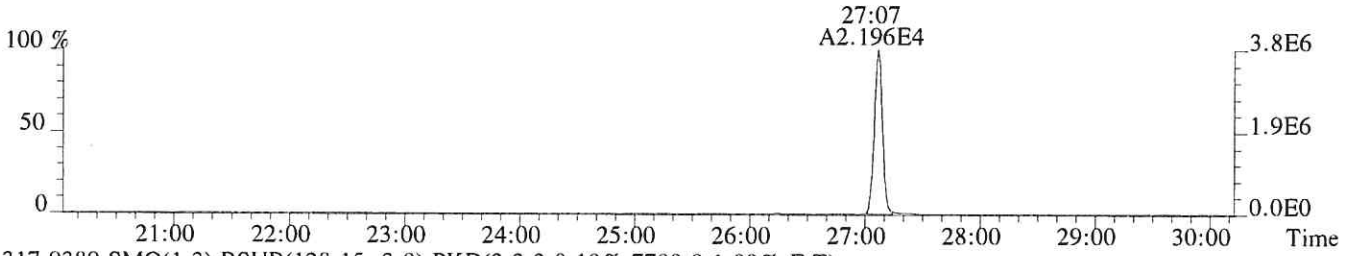
File:P511873 #1-722 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



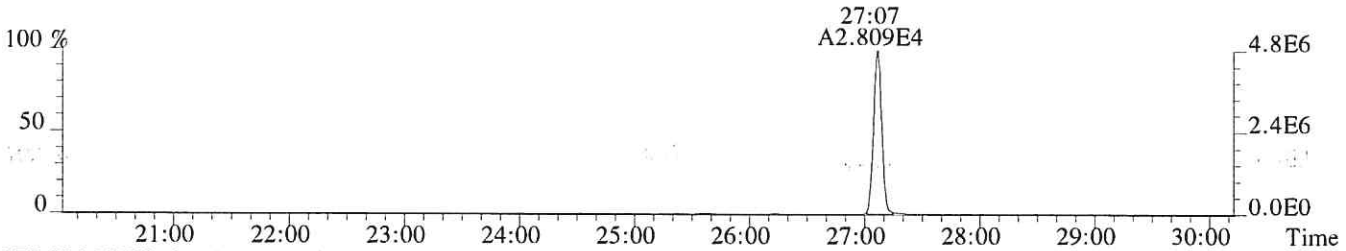
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4328.0,1.00%,F,T)



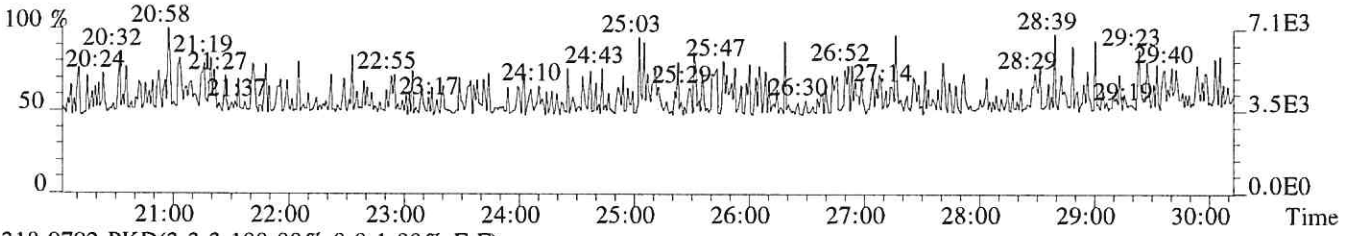
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11372.0,1.00%,F,T)



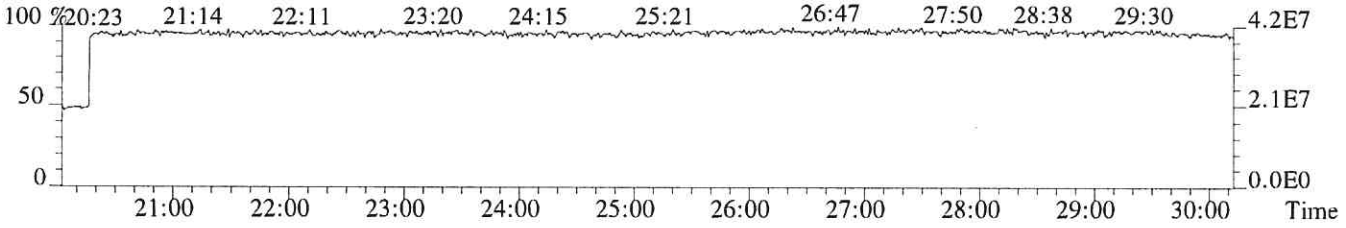
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7700.0,1.00%,F,T)



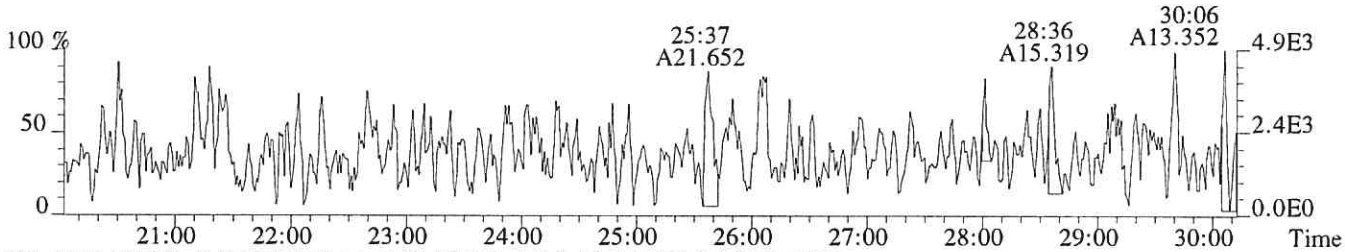
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



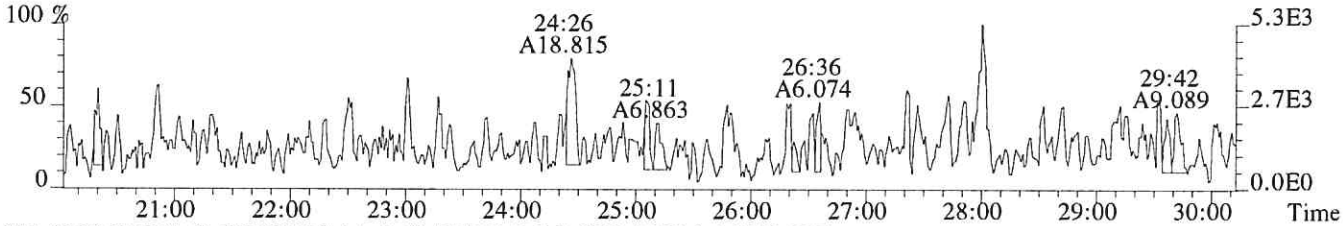
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



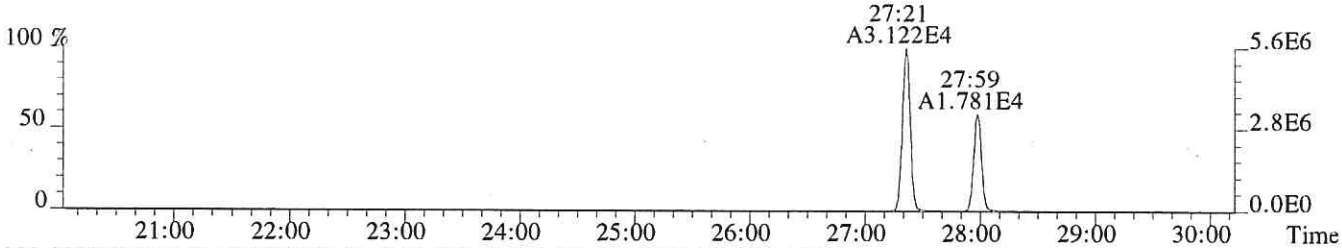
File:P511873 #1-722 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2188.0,1.00%,F,T)



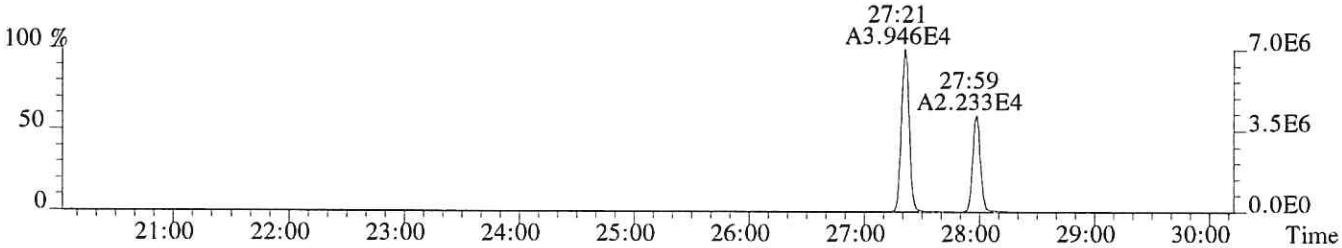
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1580.0,1.00%,F,T)



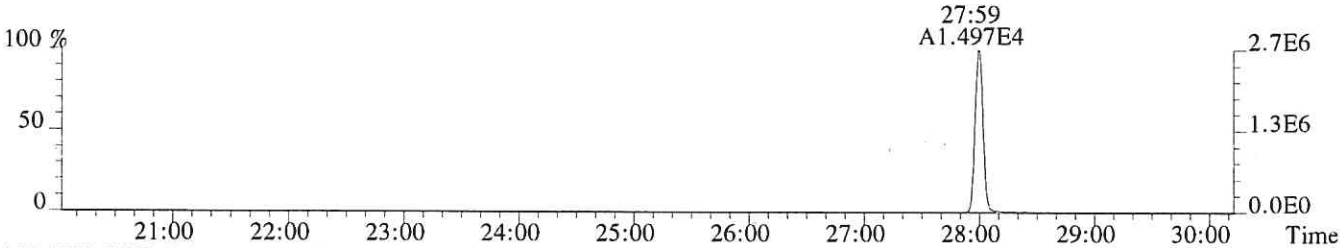
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8332.0,1.00%,F,T)



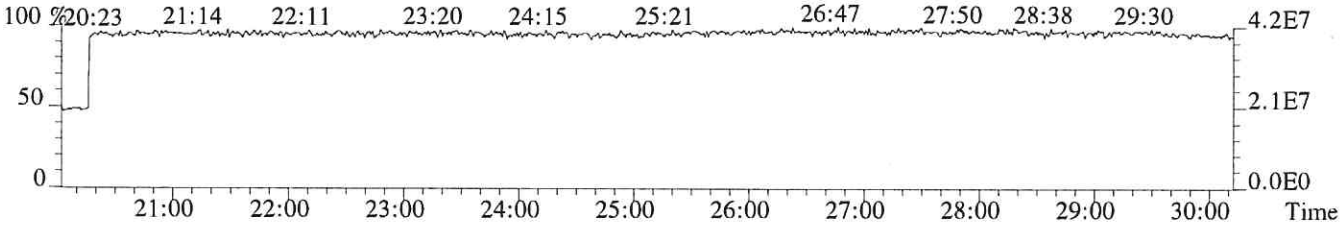
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4444.0,1.00%,F,T)



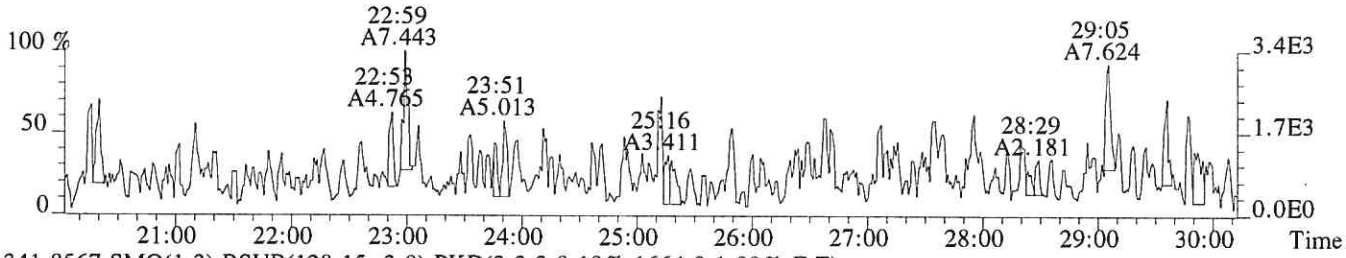
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1724.0,1.00%,F,T)



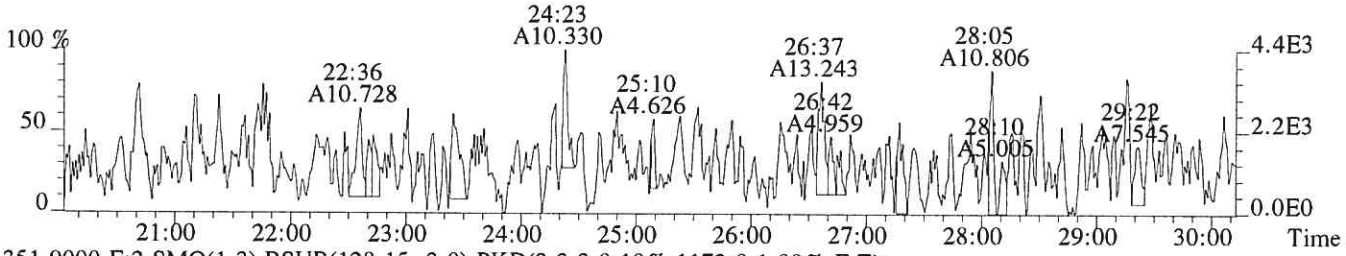
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



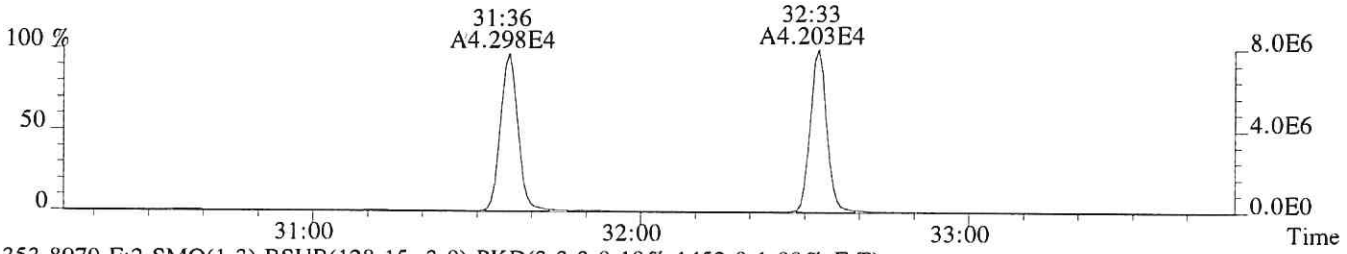
File:P511873 #1-722 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



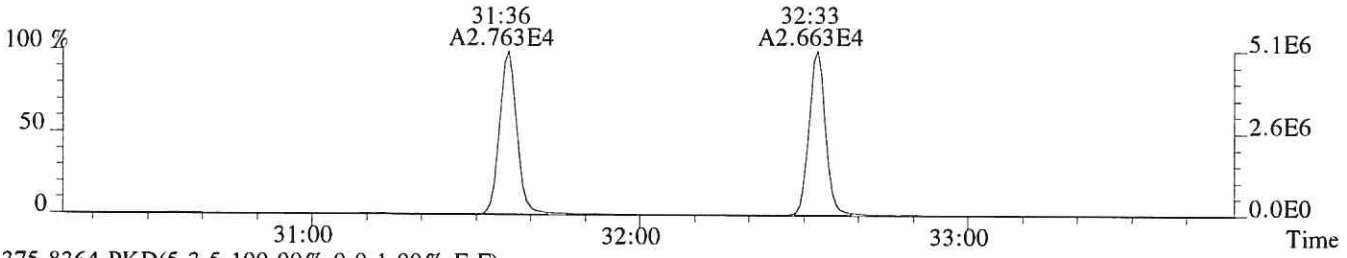
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1664.0,1.00%,F,T)



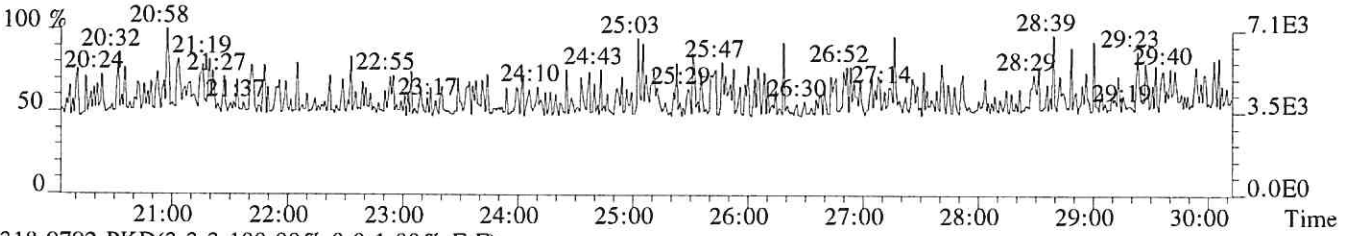
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1172.0,1.00%,F,T)



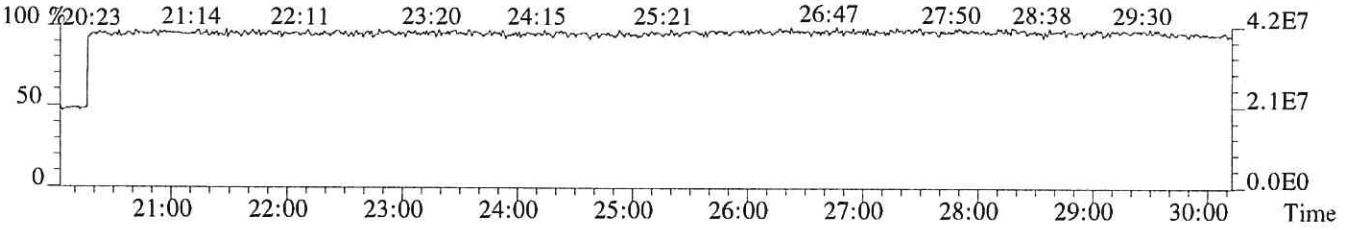
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



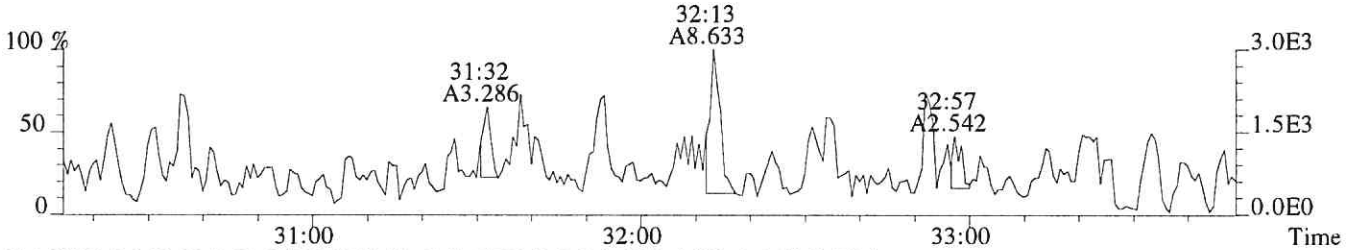
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



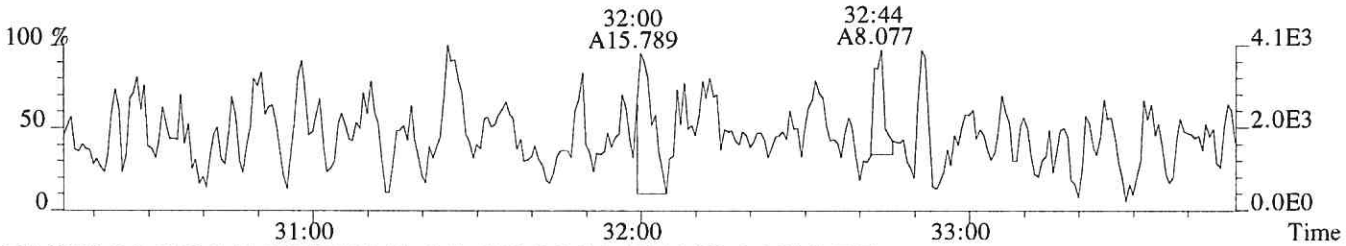
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



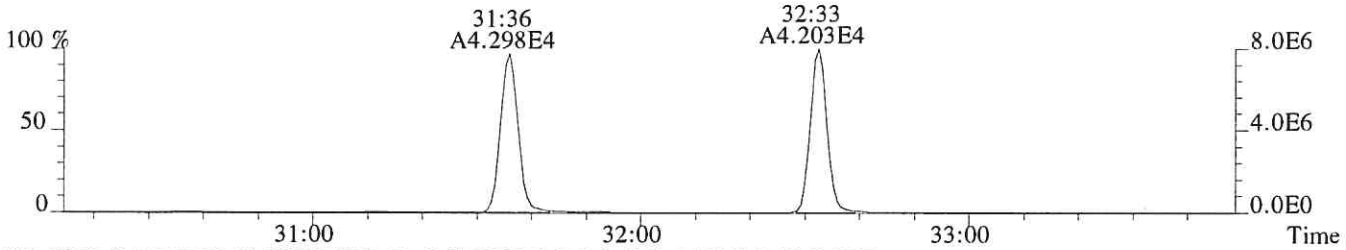
File:P511873 #1-322 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



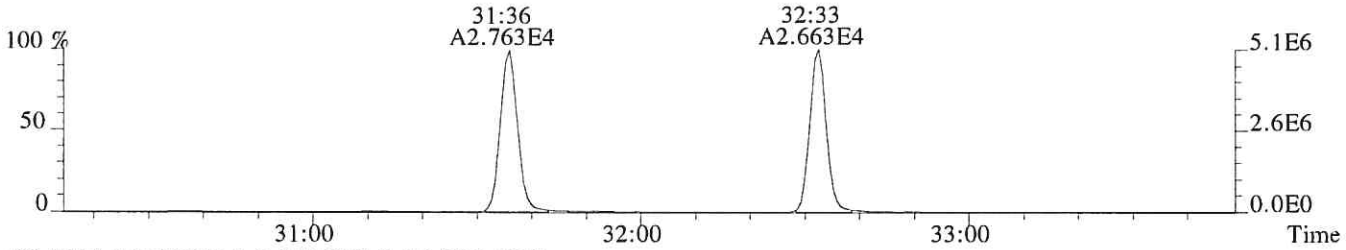
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2188.0,1.00%,F,T)



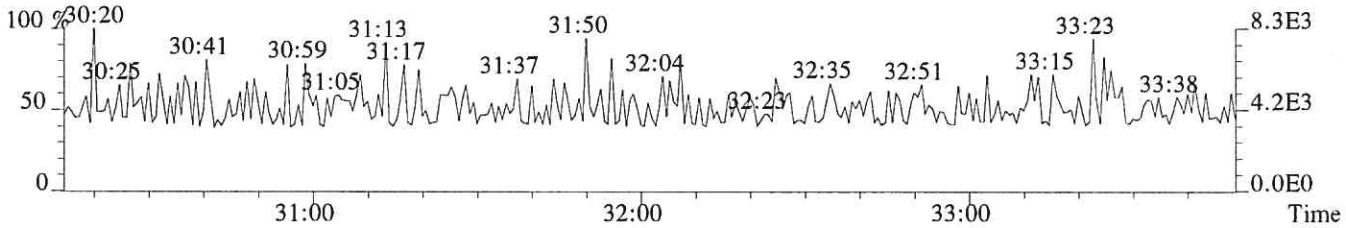
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1172.0,1.00%,F,T)



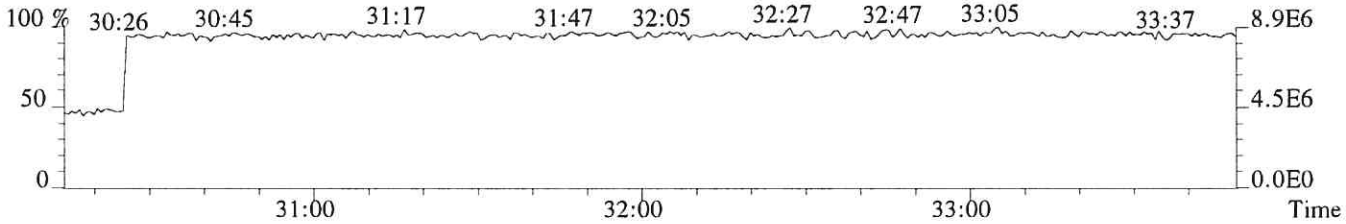
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1452.0,1.00%,F,T)



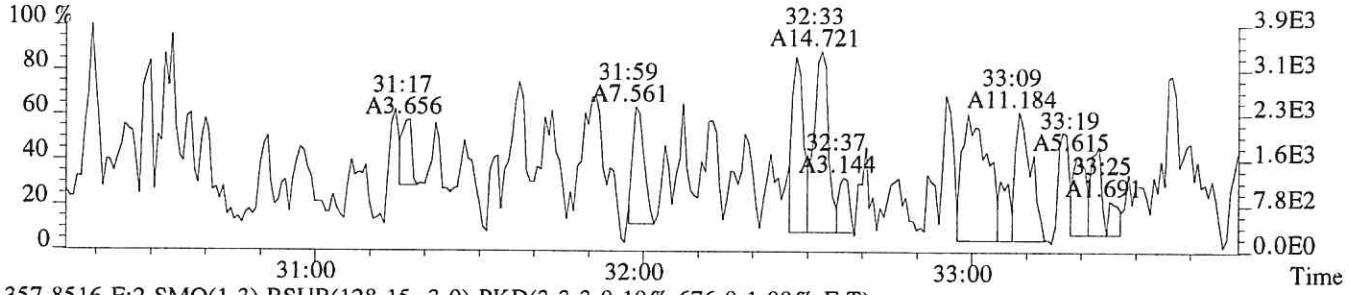
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



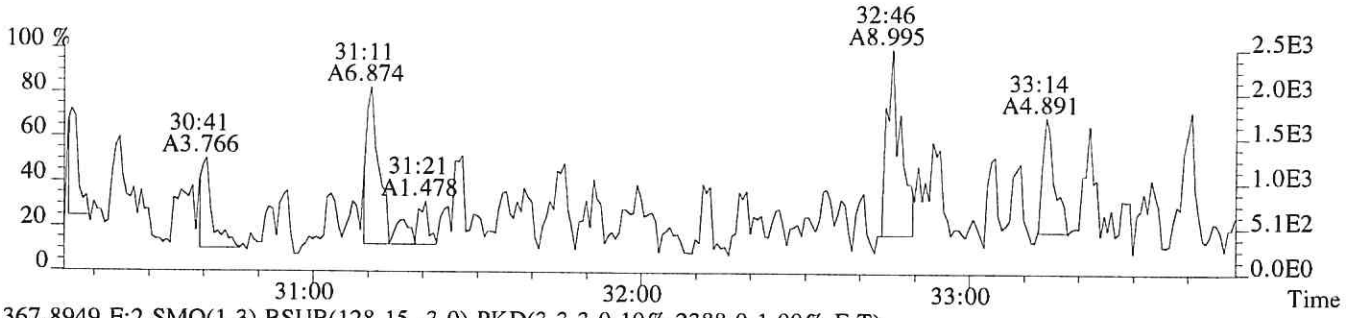
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



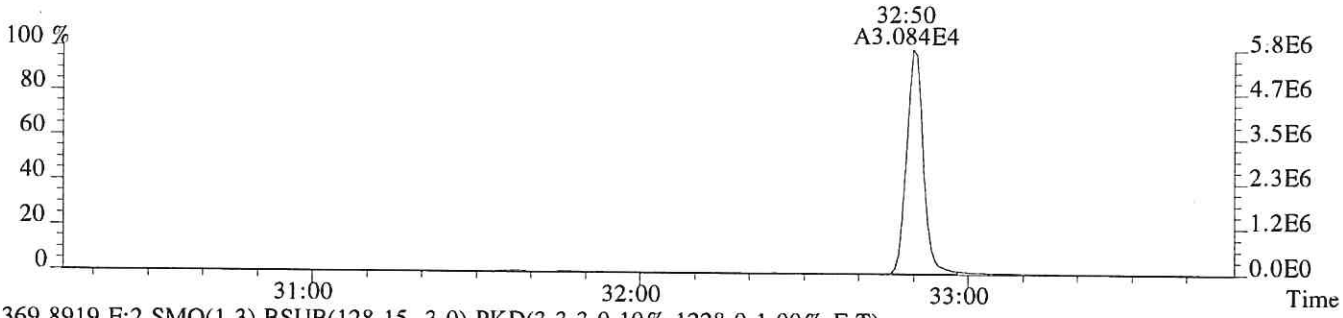
File:P511873 #1-322 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,T)



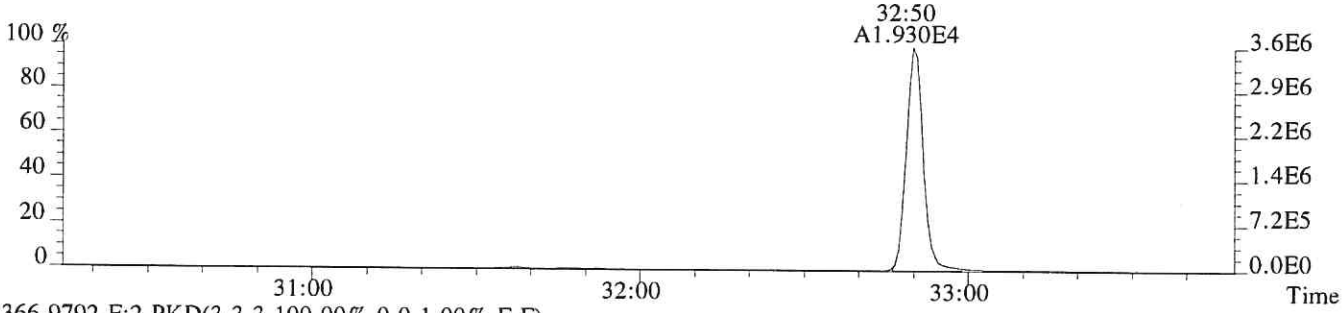
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,T)



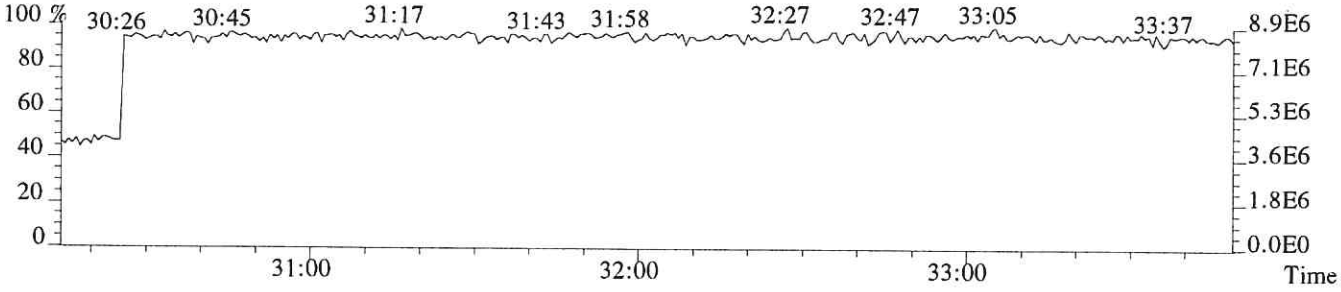
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2388.0,1.00%,F,T)



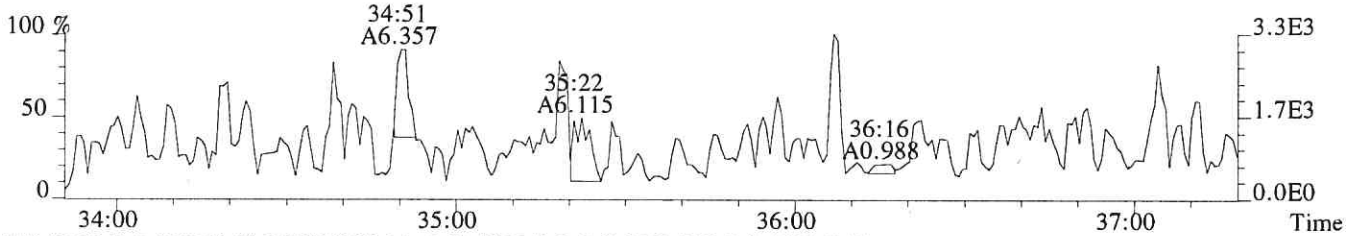
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1228.0,1.00%,F,T)



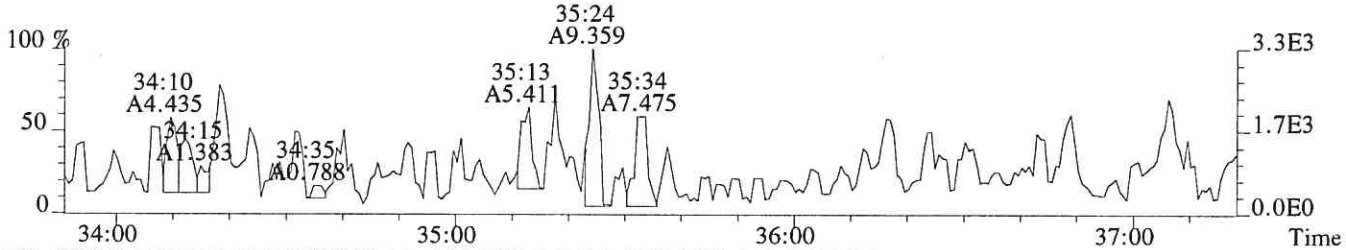
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



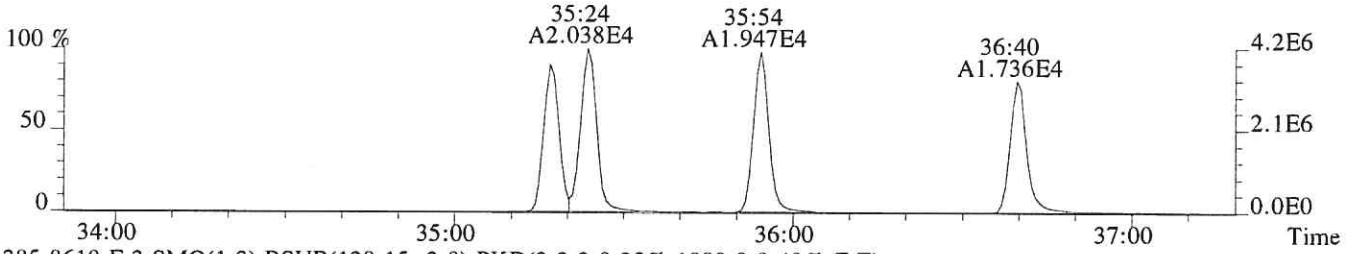
File:P511873 #1-312 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1356.0,0.40%,F,T)



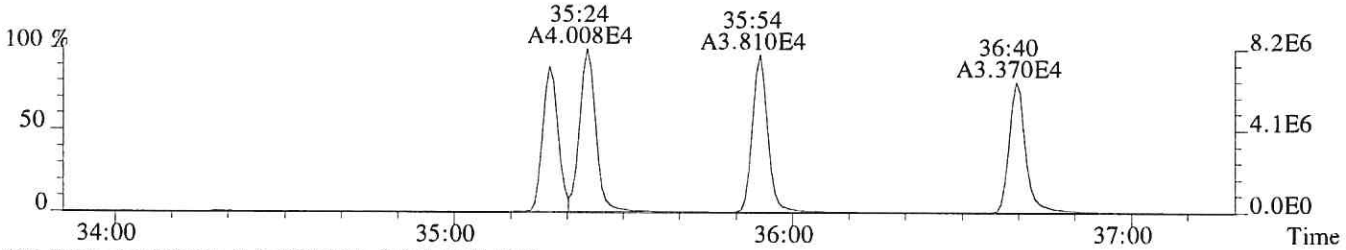
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,920.0,0.40%,F,T)



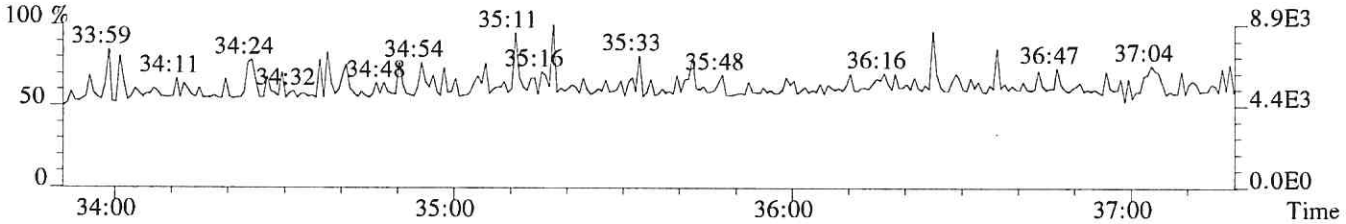
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



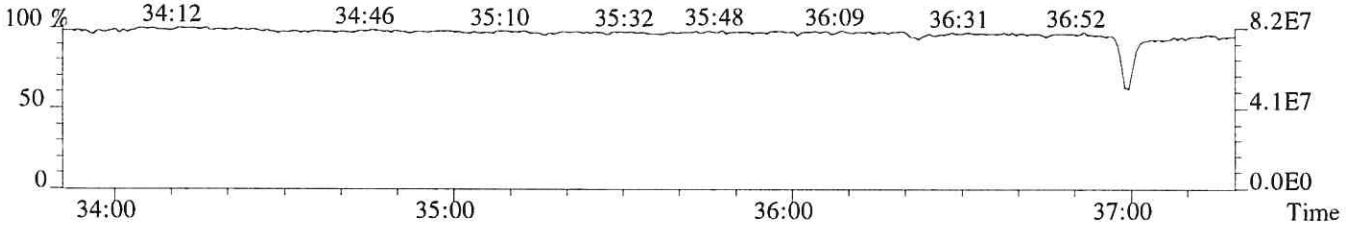
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1880.0,0.40%,F,T)



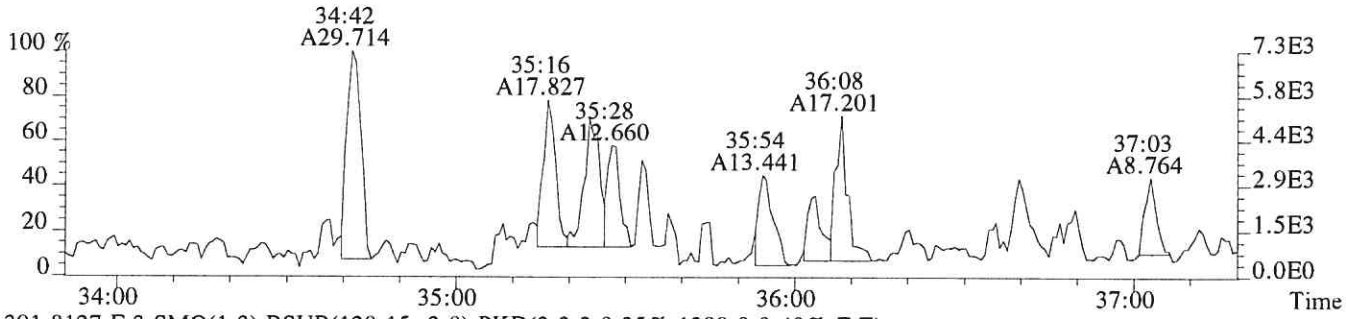
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



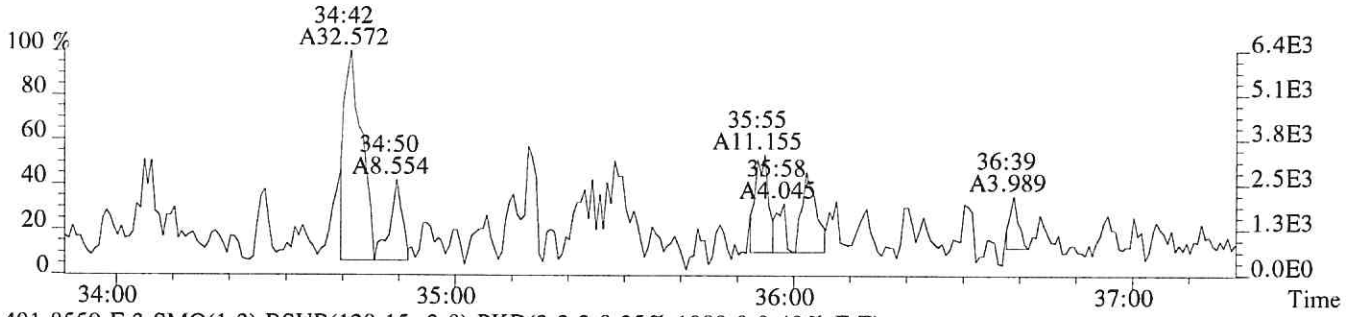
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



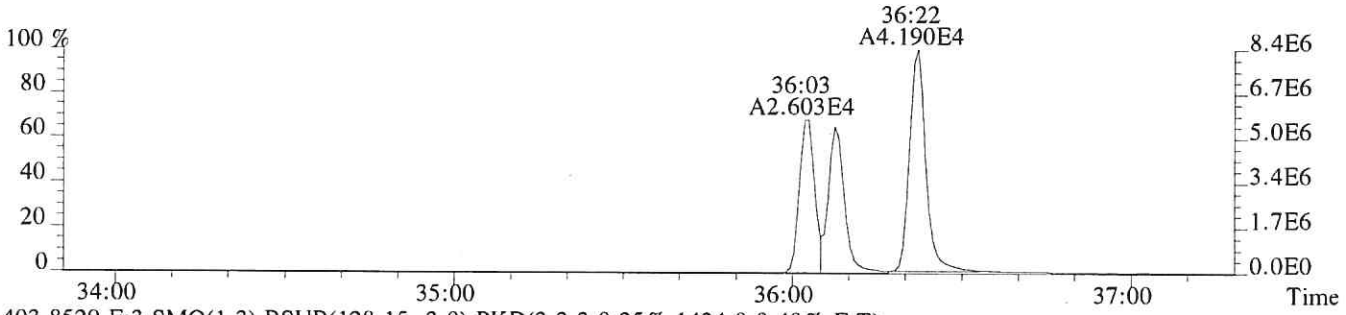
File:P511873 #1-312 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



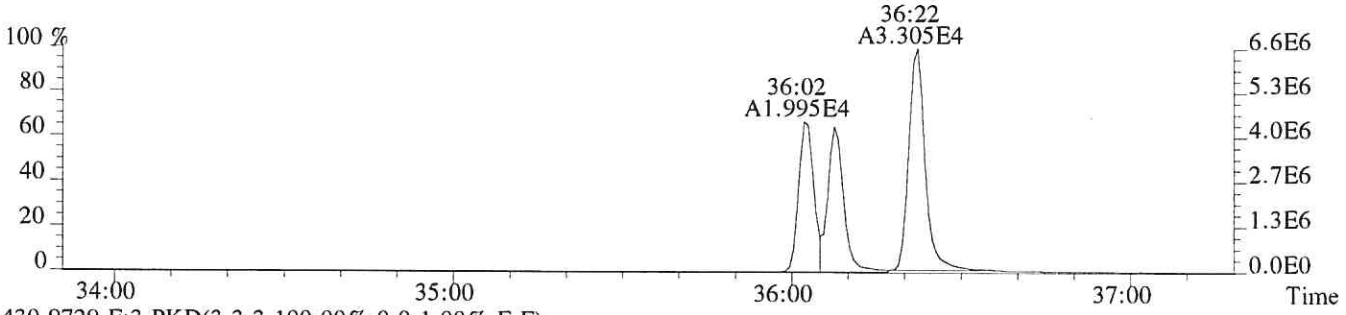
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



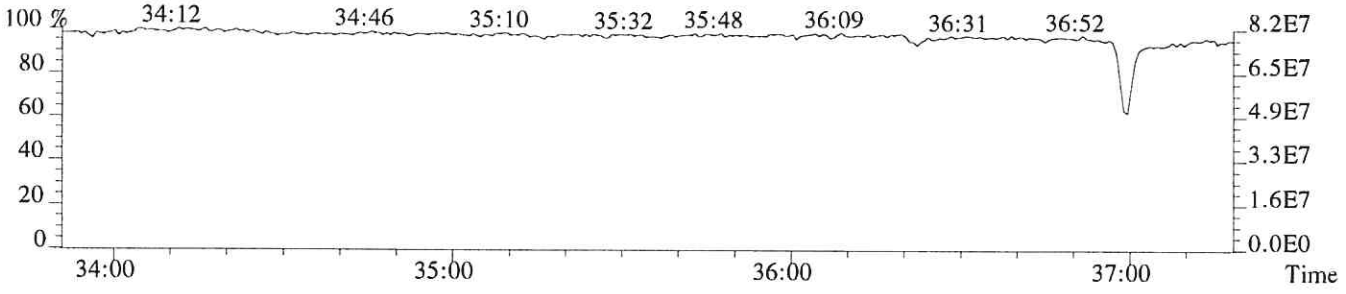
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.40%,F,T)



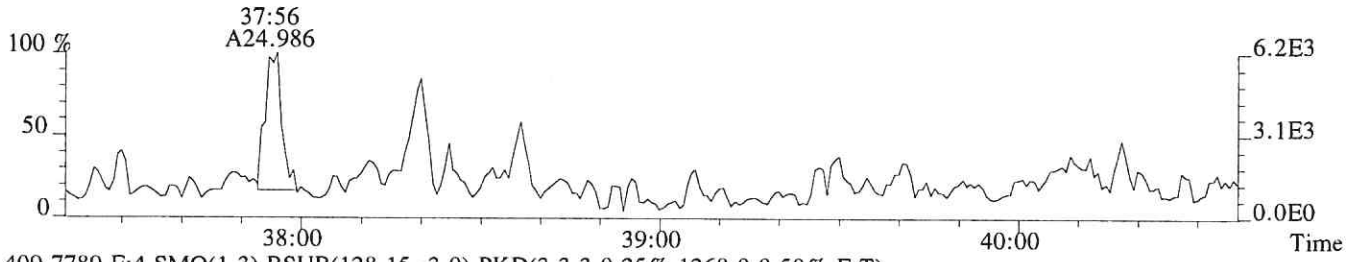
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1424.0,0.40%,F,T)



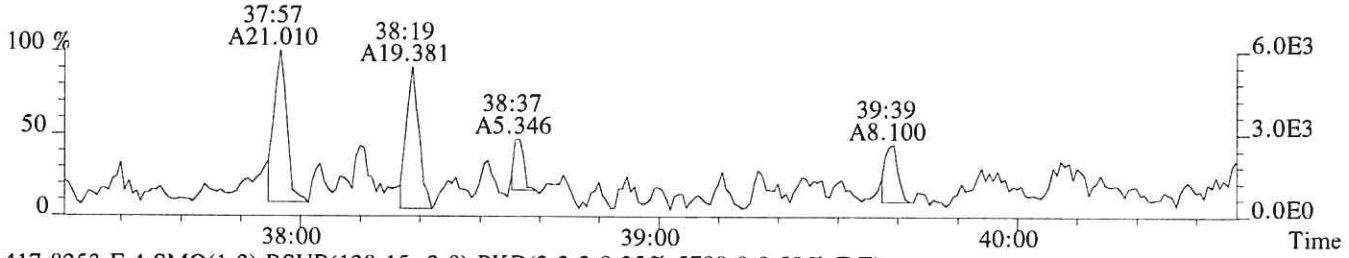
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



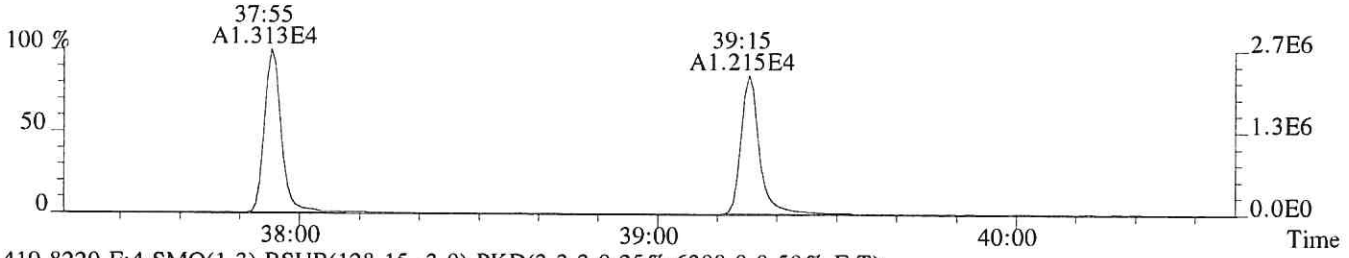
File:P511873 #1-295 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1608.0,0.50%,F,T)



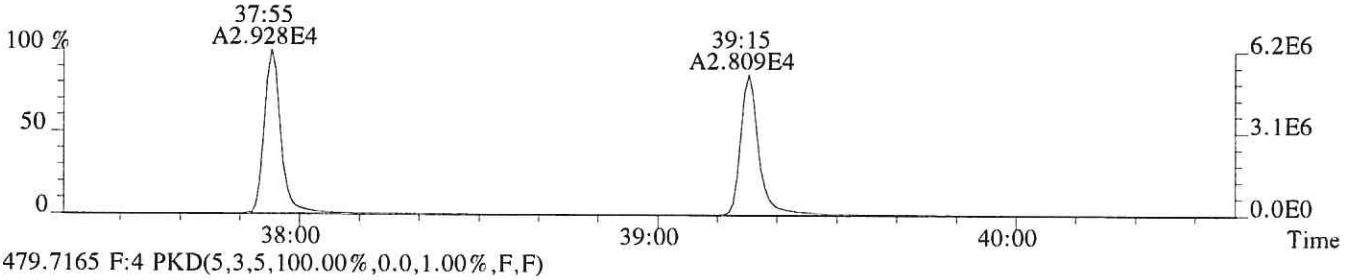
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.50%,F,T)



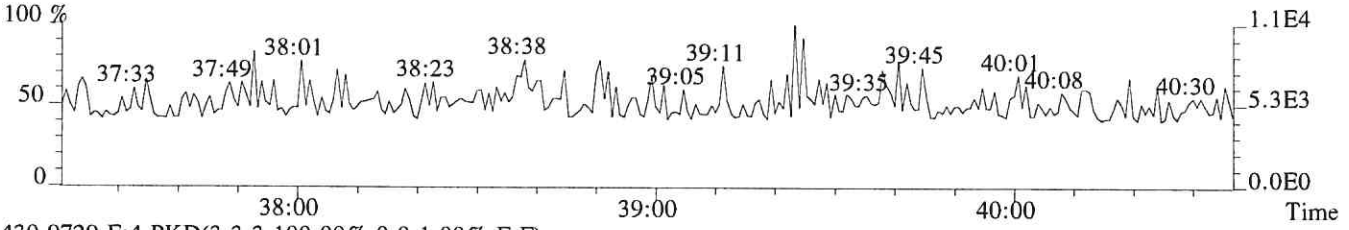
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5788.0,0.50%,F,T)



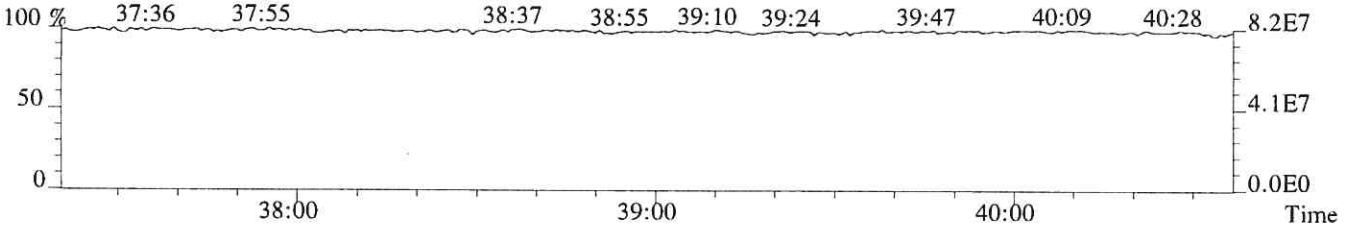
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6308.0,0.50%,F,T)



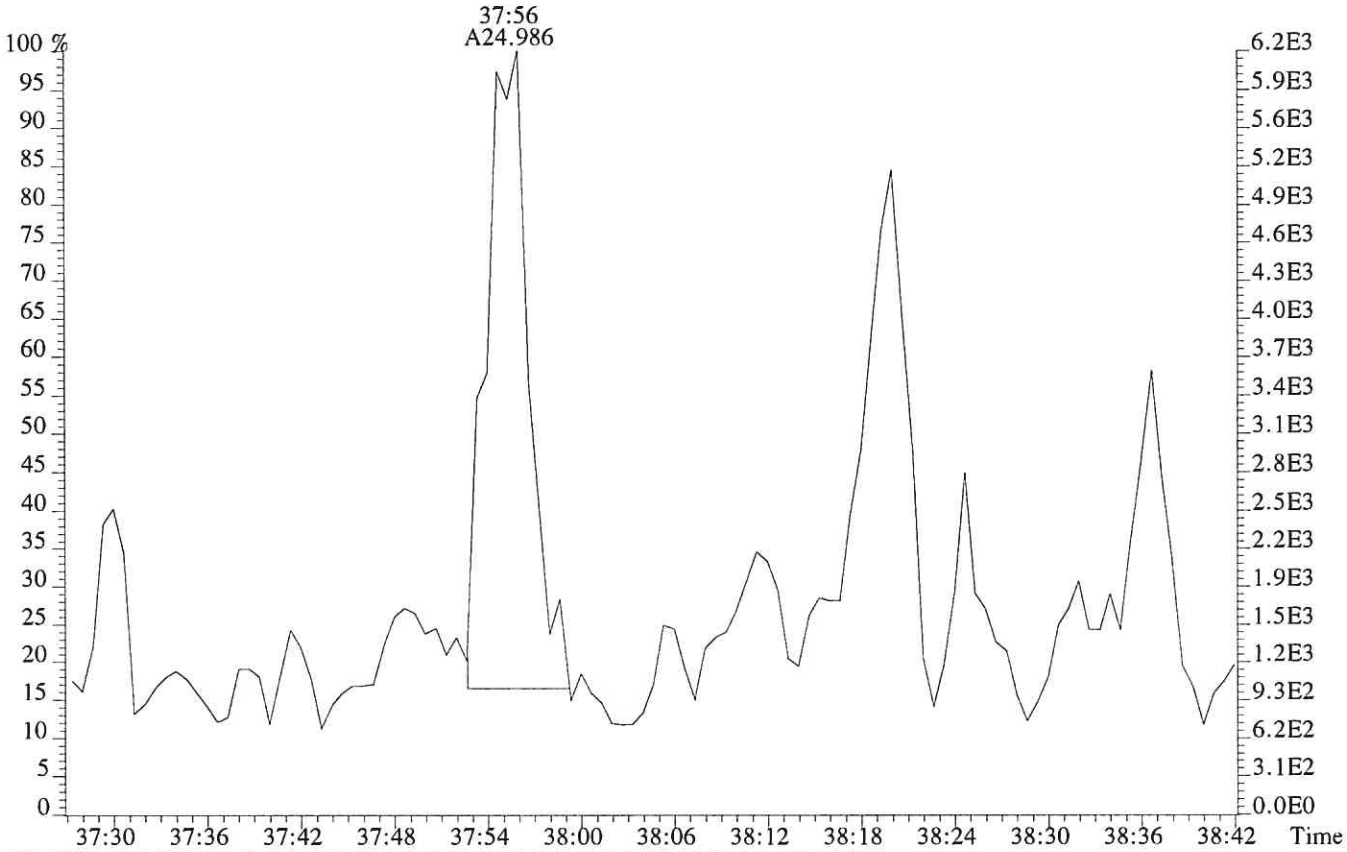
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



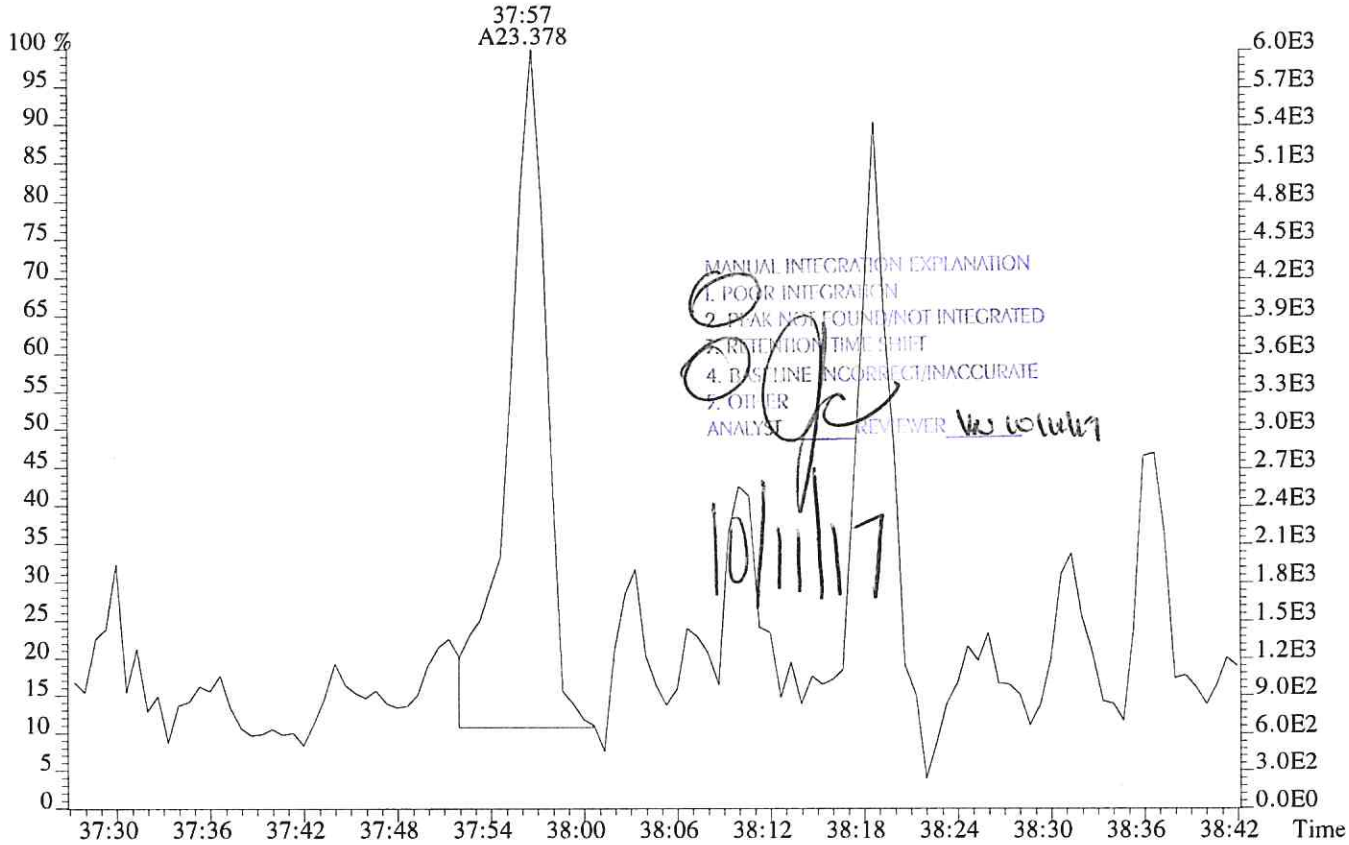
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



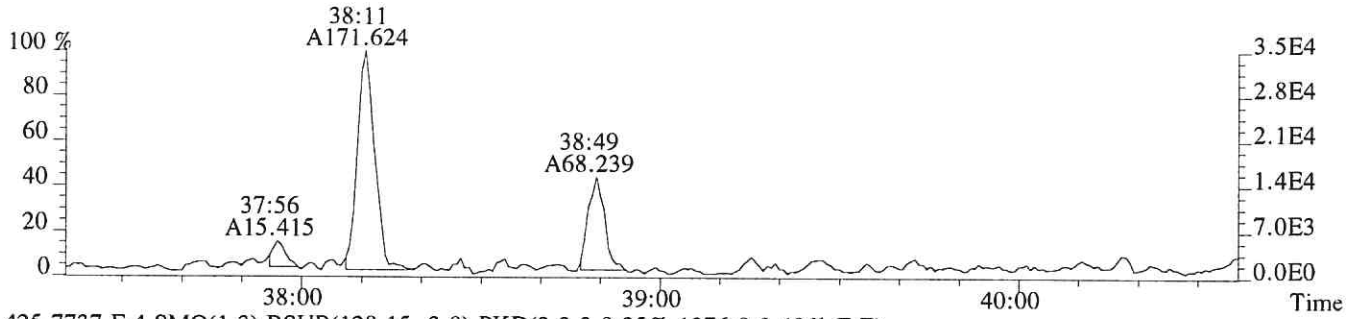
File:P511873 #1-295 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1608.0,0.50%,F,T)



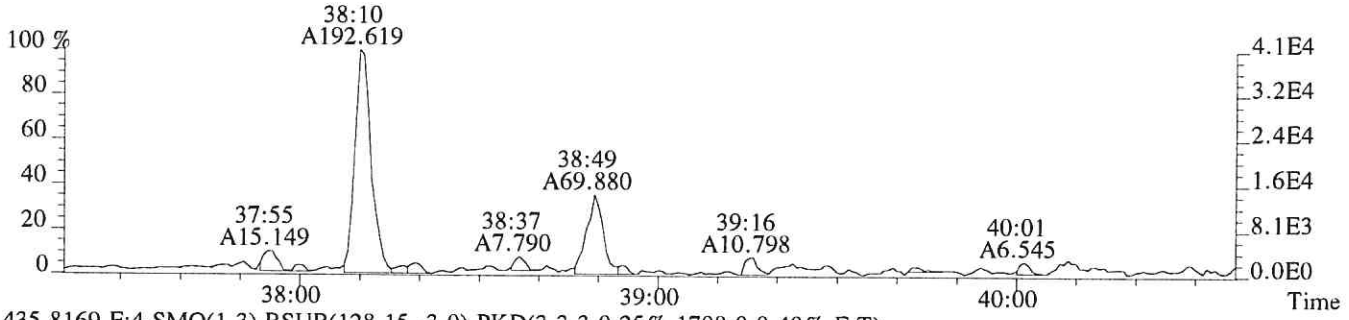
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.50%,F,T)



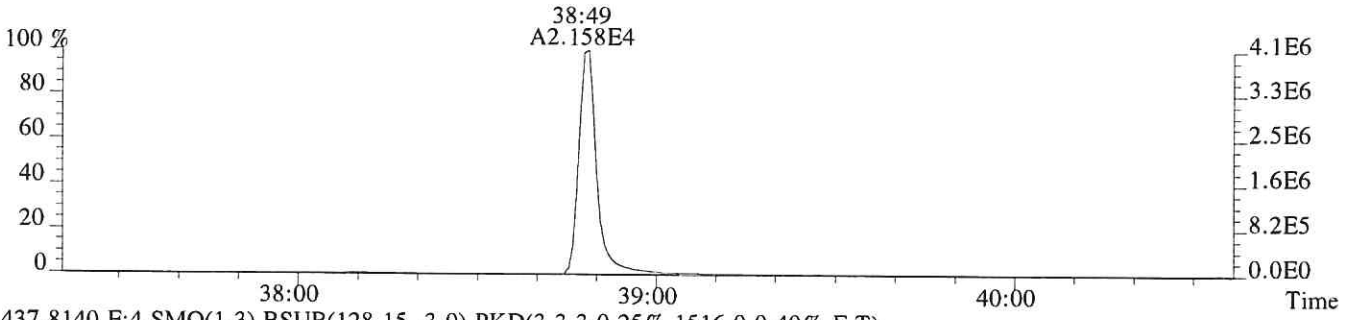
File:P511873 #1-295 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1984.0,0.40%,F,T)



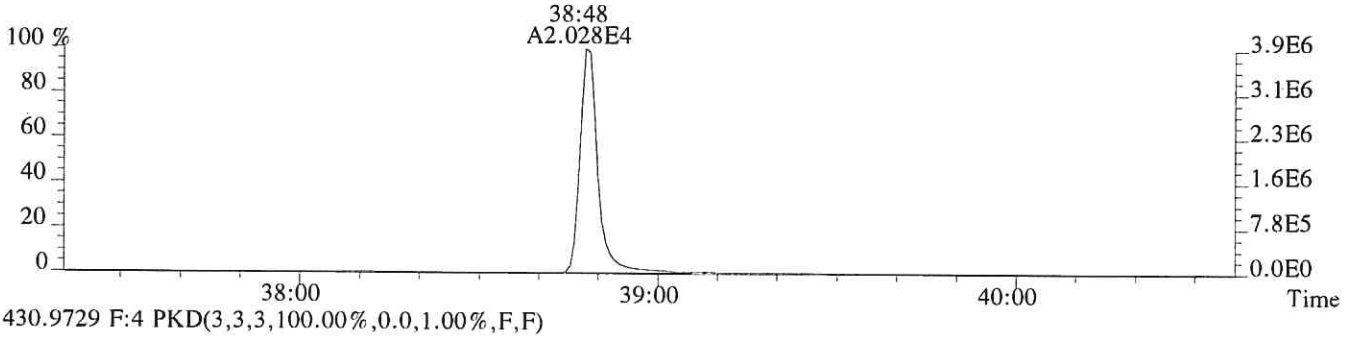
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.40%,F,T)



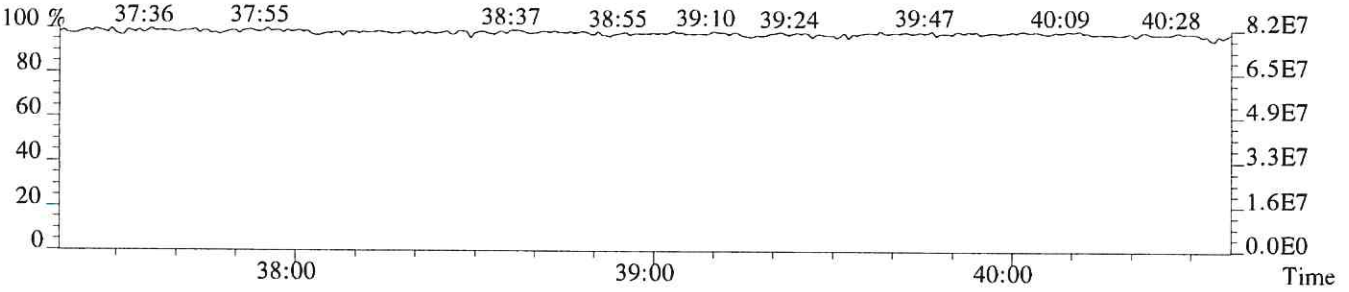
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1708.0,0.40%,F,T)



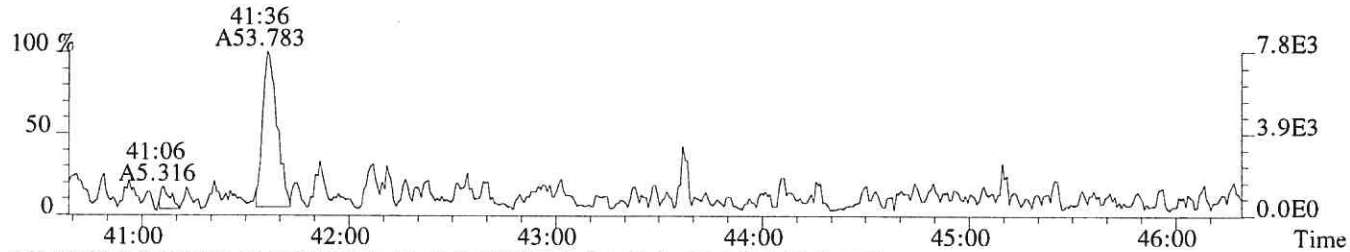
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1516.0,0.40%,F,T)



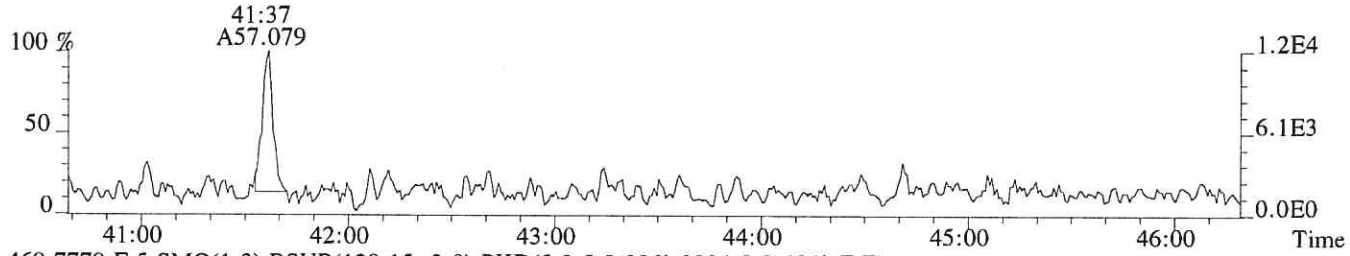
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



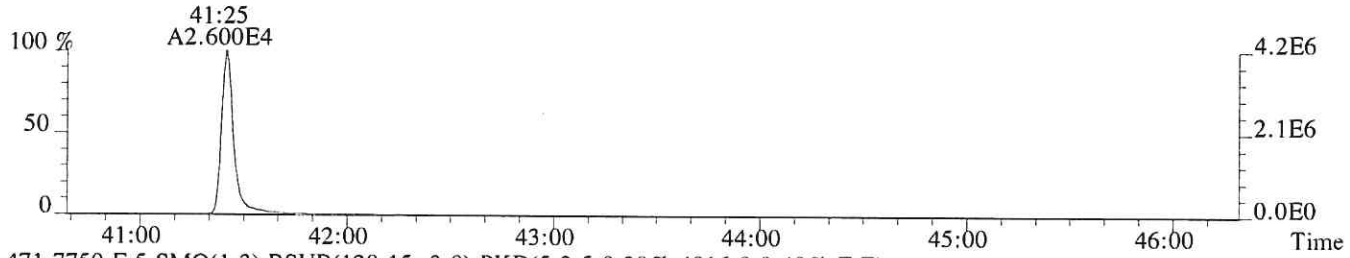
File:P511873 #1-511 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,948.0,0.40%,F,T)



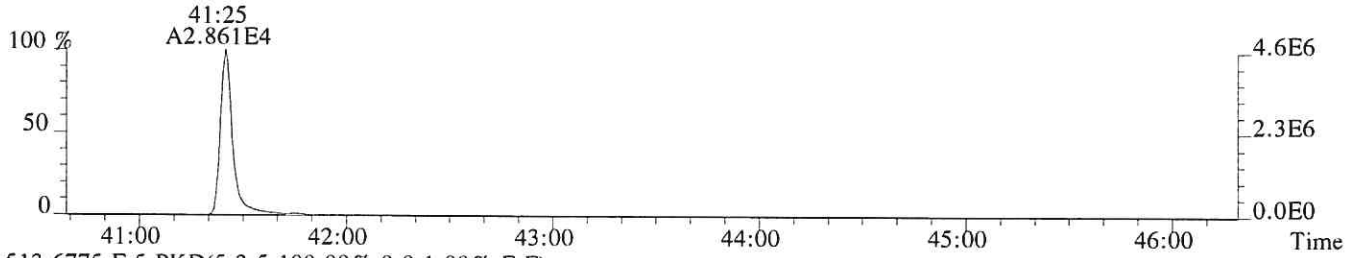
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2212.0,0.40%,F,T)



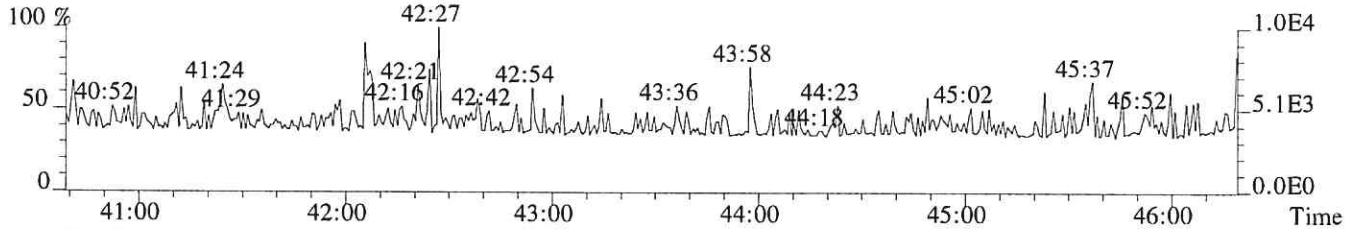
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9324.0,0.40%,F,T)



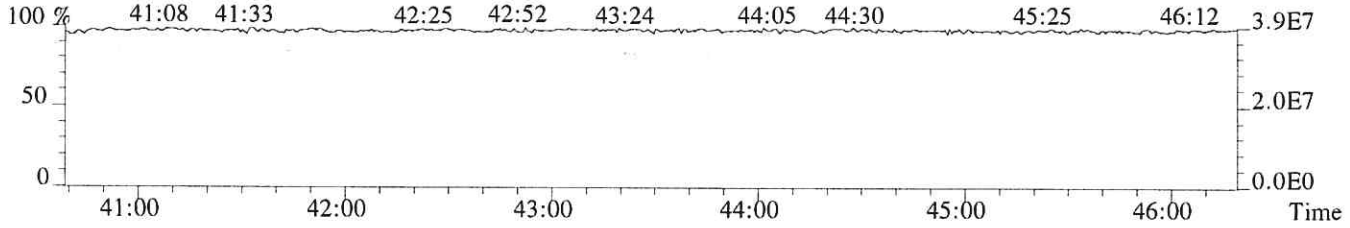
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4016.0,0.40%,F,T)



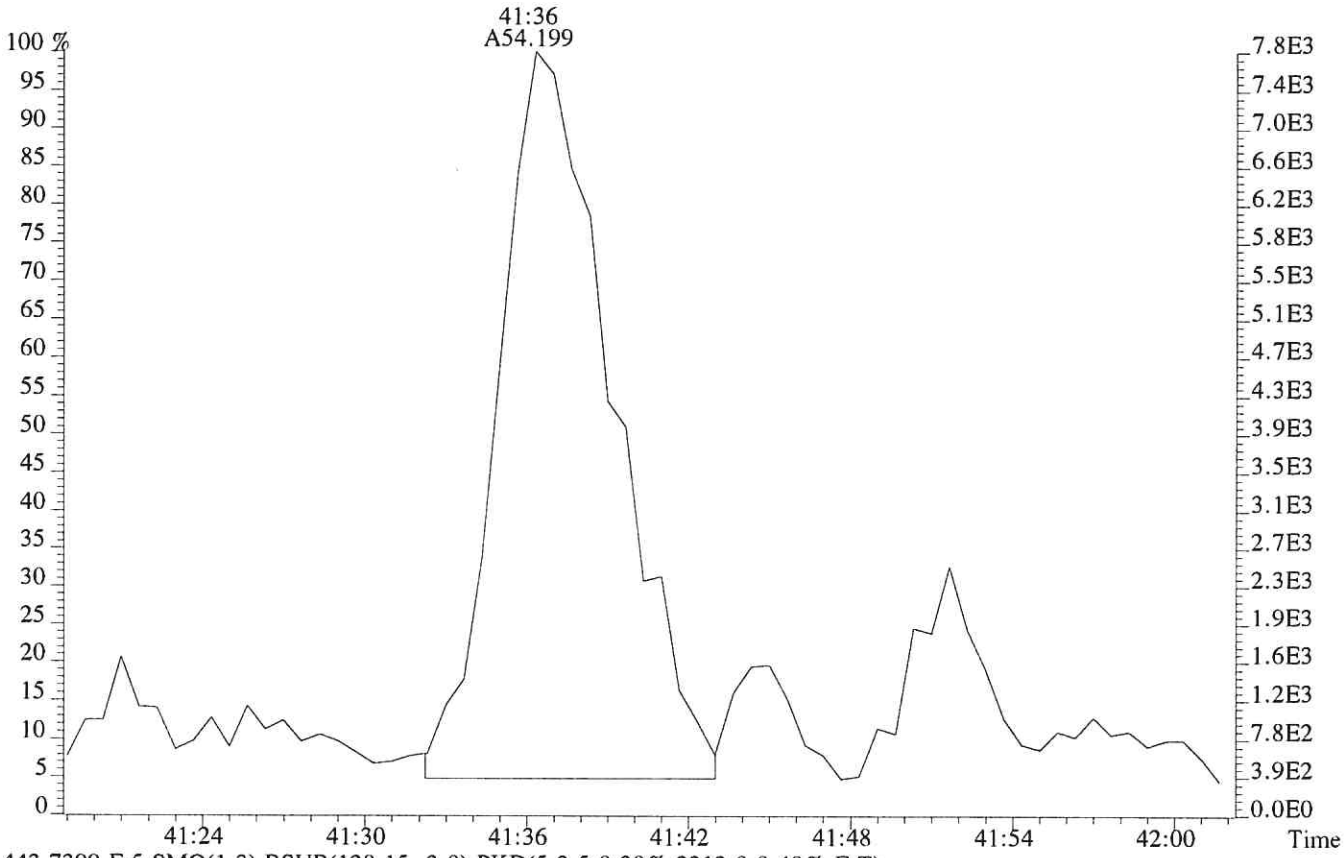
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



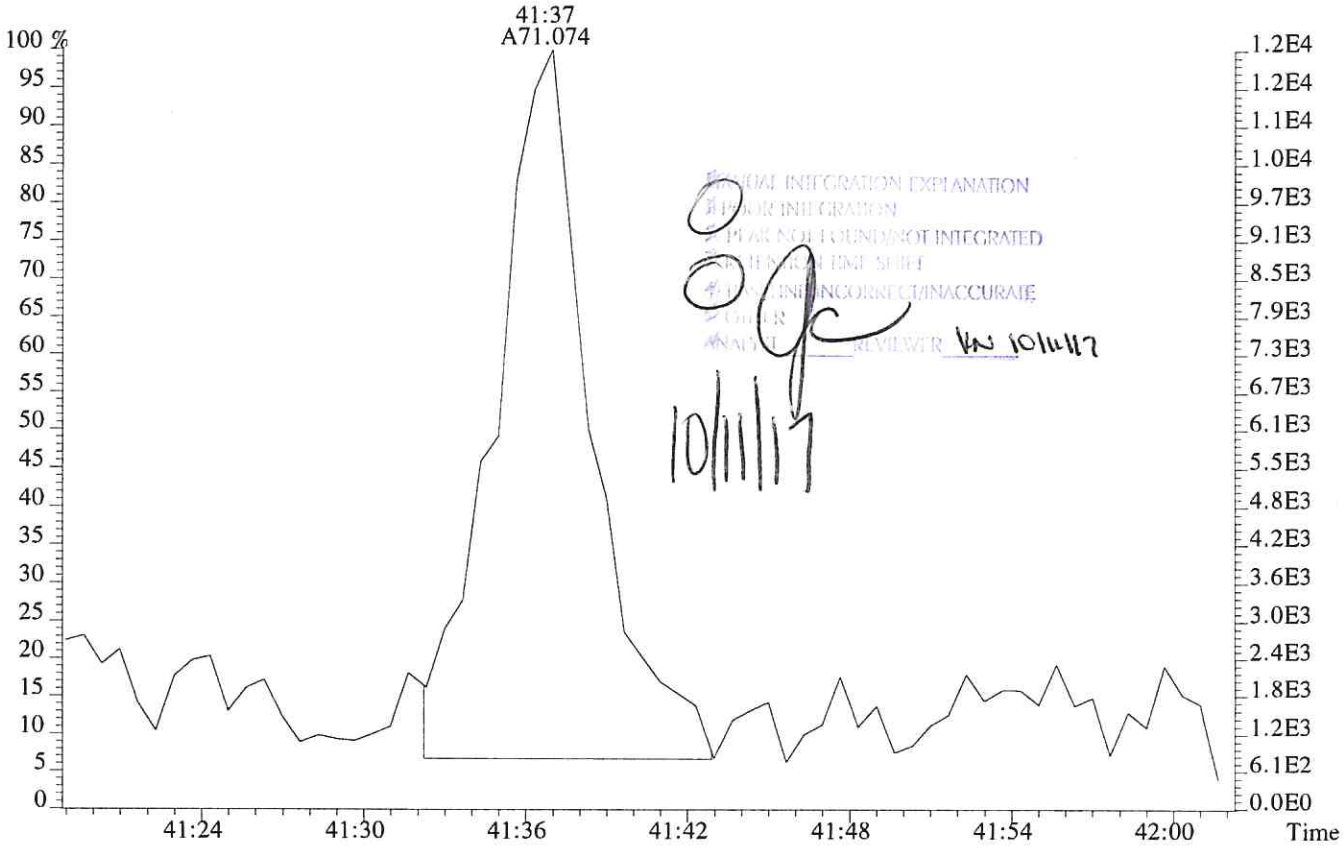
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



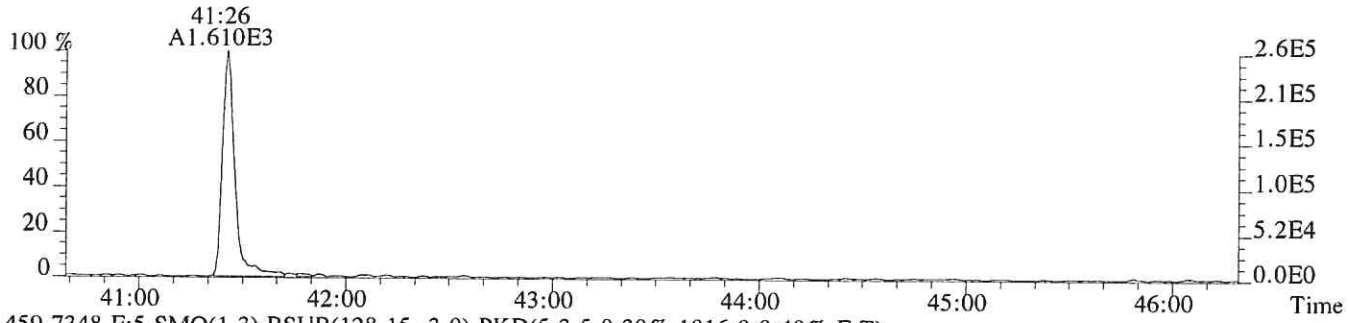
File:P511873 #1-511 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,948.0,0.40%,F,T)



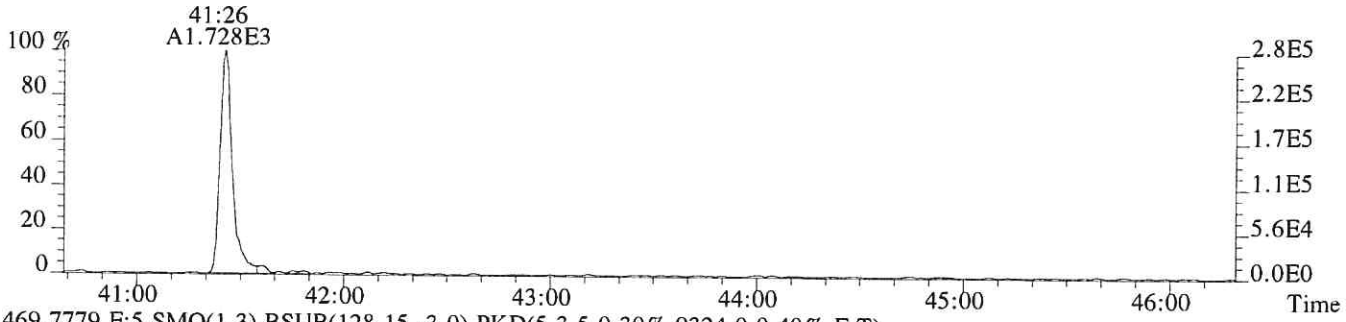
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2212.0,0.40%,F,T)



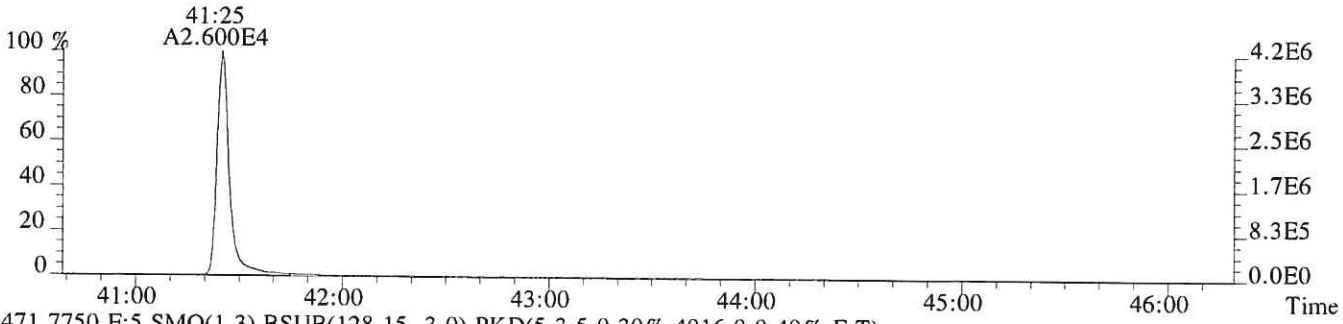
File:P511873 #1-511 Acq:11-OCT-2017 02:05:57 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E1701038-007
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1476.0,0.40%,F,T)



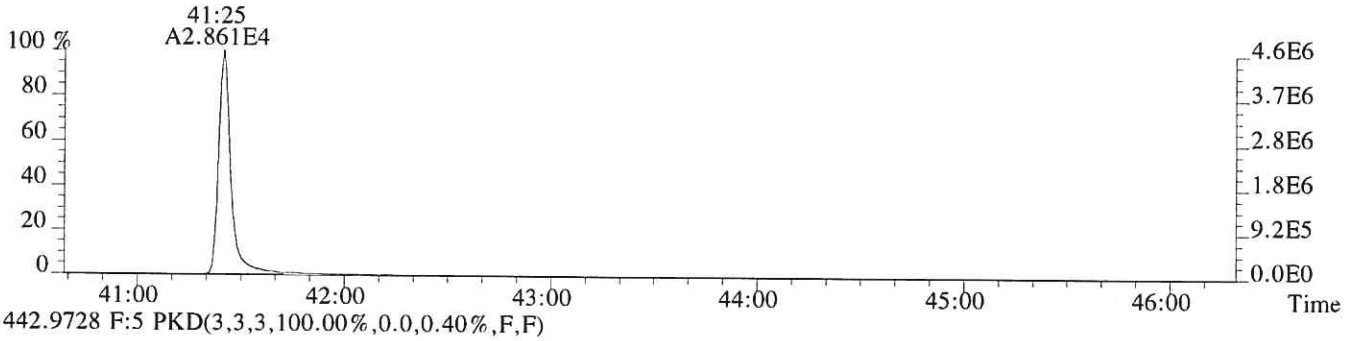
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



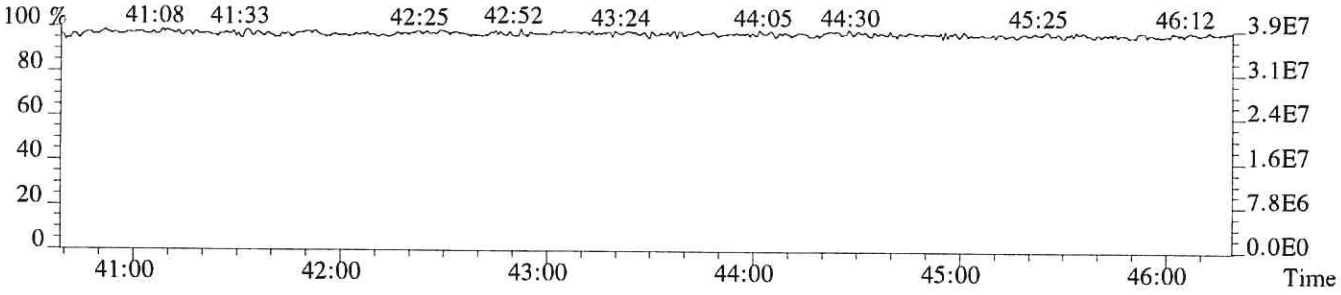
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9324.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4016.0,0.40%,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 #10 Filename P511866 Samp: 1 Inj: 1 Acquired: 10-OCT-17 20:25:28
Processed: 11-OCT-17 08:47:08 Sample ID: EQ1700450-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	yes	1.064
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	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	37:57	3.204e+01	4.503e+01	0.71	no	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	yes	1.191
10	Unk	OCDF	41:37	3.742e+01	5.415e+01	0.69	no	no	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	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	38:49	1.682e+01	1.449e+01	1.16	yes	no	0.942
17	Unk	OCDD	41:26	8.276e+01	1.284e+02	0.64	no	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	2.680e+04	3.440e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:36	4.866e+04	3.064e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:33	4.714e+04	2.982e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	1.944e+04	3.863e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:24	2.290e+04	4.478e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.202e+04	4.261e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:40	2.005e+04	3.894e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.442e+04	3.285e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.405e+04	3.189e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	2.098e+04	2.684e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:51	3.430e+04	2.149e+04	1.60	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:03	3.034e+04	2.213e+04	1.37	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	2.907e+04	2.367e+04	1.23	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	2.390e+04	2.249e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:25	3.027e+04	3.311e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.429e+04	4.321e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.523e+04	3.578e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:00	1.702e+04				no	1.033

$$\text{OCDD} = \frac{(8.276e{+}01 + 1.284e{+}02\ )\ \text{x}\ 4000\ \text{pg x}\ 1}{(3.027e{+}04 + 3.311e{+}04)\ \text{x}\ \ \text{g}\ \ \text{x}\ \ /\ 100\ \text{x}\ 1.051} =$$

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #10 Filename P511866 Samp: 1 Inj: 1 Acquired: 10-OCT-17 20:25:28
Processed: 11-OCT-17 08:47:08 LAB. ID: EQ1700450-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	9.12e+02	*	*	2.43e+03	*
2	1,2,3,7,8-PeCDF	*	9.24e+02	*	*	3.06e+03	*
3	2,3,4,7,8-PeCDF	*	9.24e+02	*	*	3.06e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.08e+03	*	*	1.02e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.08e+03	*	*	1.02e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.08e+03	*	*	1.02e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.08e+03	*	*	1.02e+03	*
8	1,2,3,4,6,7,8-HpCDF	5.59e+03	9.88e+02	5.7e+00	1.13e+04	7.56e+02	1.5e+01
9	1,2,3,4,7,8,9-HpCDF	*	9.88e+02	*	*	7.56e+02	*
10	OCDF	6.40e+03	7.28e+02	8.8e+00	8.95e+03	1.72e+03	5.2e+00
11	2,3,7,8-TCDD	*	2.50e+03	*	*	1.96e+03	*
12	1,2,3,7,8-PeCDD	*	1.51e+03	*	*	4.08e+02	*
13	1,2,3,4,7,8-HxCDD	*	6.00e+02	*	*	1.06e+03	*
14	1,2,3,6,7,8-HxCDD	*	6.00e+02	*	*	1.06e+03	*
15	1,2,3,7,8,9-HxCDD	*	6.00e+02	*	*	1.06e+03	*
16	1,2,3,4,6,7,8-HpCDD	3.31e+03	5.12e+02	6.5e+00	2.68e+03	6.92e+02	3.9e+00
17	OCDD	1.54e+04	5.88e+02	2.6e+01	2.43e+04	6.76e+02	3.6e+01
18	13C-2,3,7,8-TCDF	4.62e+06	1.23e+04	3.8e+02	5.95e+06	7.24e+03	8.2e+02
19	13C-1,2,3,7,8-PeCDF	8.99e+06	1.06e+03	8.4e+03	5.61e+06	1.14e+03	4.9e+03
20	13C-2,3,4,7,8-PeCDF	9.19e+06	1.06e+03	8.6e+03	5.84e+06	1.14e+03	5.1e+03
21	13C-1,2,3,4,7,8-HxCDF	4.18e+06	1.16e+03	3.6e+03	8.33e+06	1.38e+03	6.0e+03
22	13C-1,2,3,6,7,8-HxCDF	4.53e+06	1.16e+03	3.9e+03	8.89e+06	1.38e+03	6.4e+03
23	13C-2,3,4,6,7,8-HxCDF	4.59e+06	1.16e+03	4.0e+03	9.00e+06	1.38e+03	6.5e+03
24	13C-1,2,3,7,8,9-HxCDF	3.87e+06	1.16e+03	3.4e+03	7.60e+06	1.38e+03	5.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.00e+06	2.80e+03	1.1e+03	6.78e+06	2.36e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.69e+06	2.80e+03	9.6e+02	5.95e+06	2.36e+03	2.5e+03
27	13C-2,3,7,8-TCDD	3.88e+06	7.91e+03	4.9e+02	4.93e+06	3.88e+03	1.3e+03
28	13C-1,2,3,7,8-PeCDD	6.48e+06	1.58e+03	4.1e+03	4.06e+06	1.42e+03	2.9e+03
29	13C-1,2,3,4,7,8-HxCDD	6.44e+06	2.25e+03	2.9e+03	4.92e+06	9.84e+02	5.0e+03
30	13C-1,2,3,6,7,8-HxCDD	5.94e+06	2.25e+03	2.6e+03	4.63e+06	9.84e+02	4.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.58e+06	1.22e+03	3.8e+03	4.39e+06	9.00e+02	4.9e+03
32	13C-OCDD	4.82e+06	7.29e+03	6.6e+02	5.31e+06	4.93e+03	1.1e+03
33	13C-1,2,3,4-TCDD	6.03e+06	7.91e+03	7.6e+02	7.68e+06	3.88e+03	2.0e+03
34	13C-1,2,3,7,8,9-HxCDD	9.05e+06	2.25e+03	4.0e+03	7.14e+06	9.84e+02	7.3e+03
35	37Cl-2,3,7,8-TCDD	3.10e+06	1.88e+03	1.7e+03			

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Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 10 File: P511866 Sample:1 Injection:1 Function:4

Acquired: 10-OCT-17 20:25:28 Processed: 11-OCT-17 08:47:08

Mass: 423.7770 425.7740 Tot Response: 3.13e+01 RRF: 0.9423

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:49	1.68e+01	1.45e+01	1.16	yes	3.13e+01	1,2,3,4,6,7,8-HpCDD	n	n

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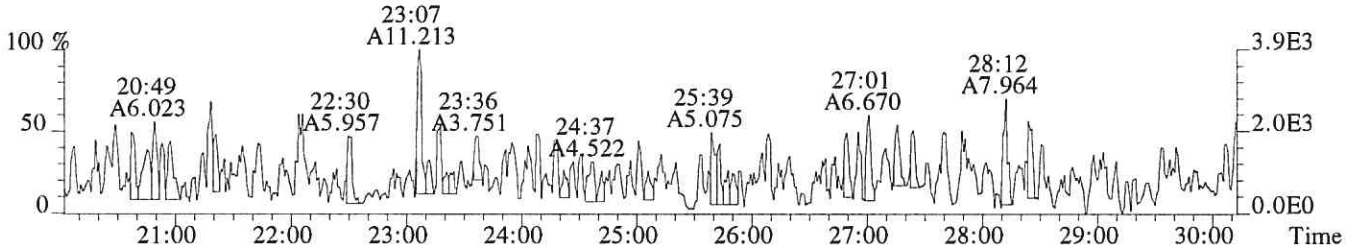
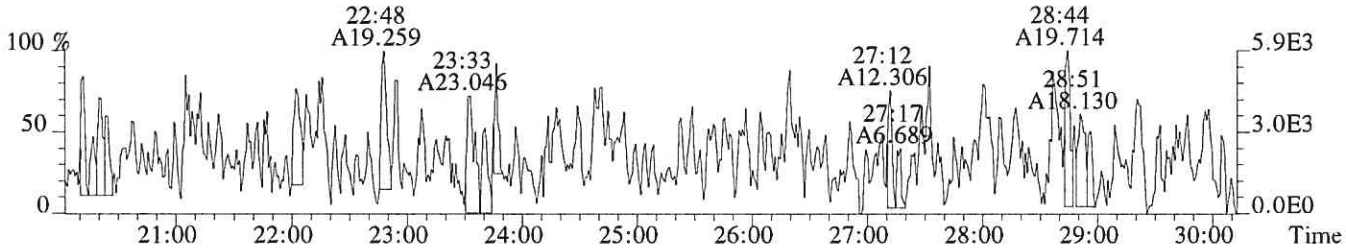
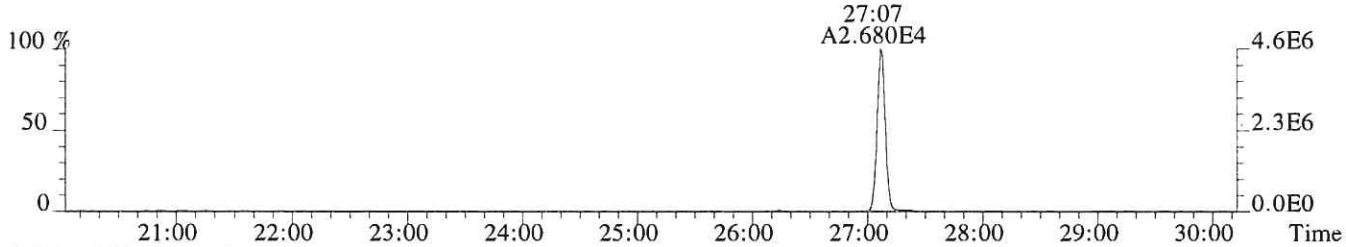
File:P511866 #1-722 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,T)



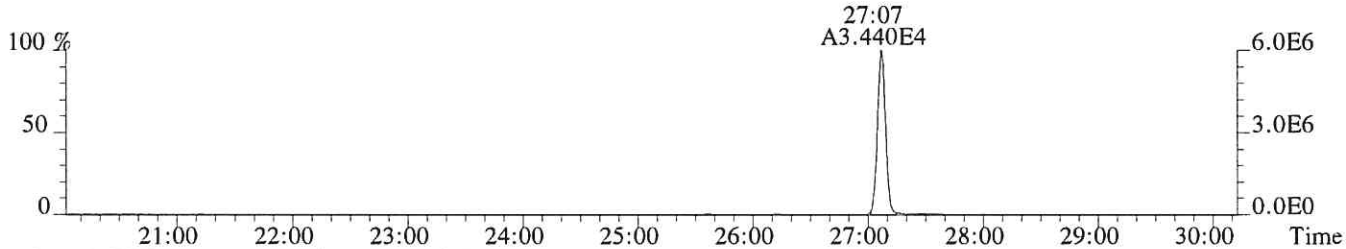
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2432.0,1.00%,F,T)



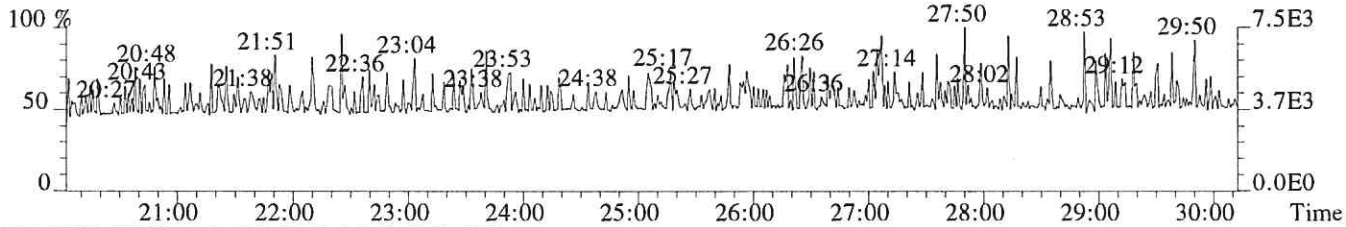
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12292.0,1.00%,F,T)



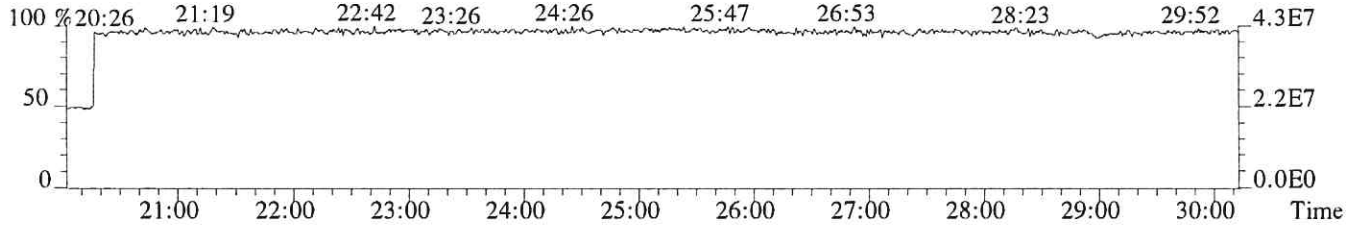
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7240.0,1.00%,F,T)



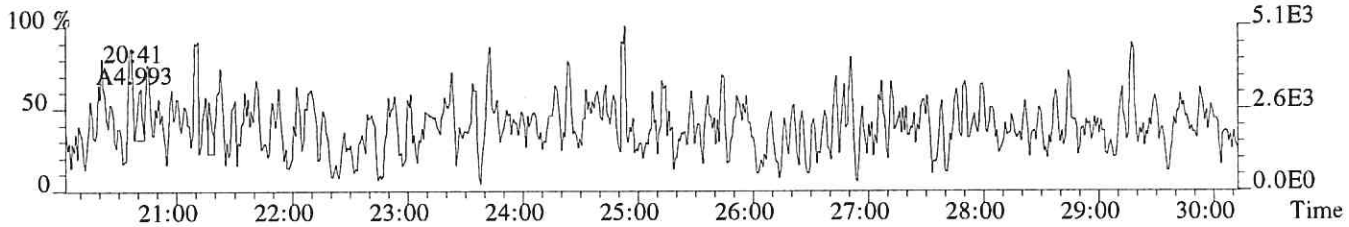
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



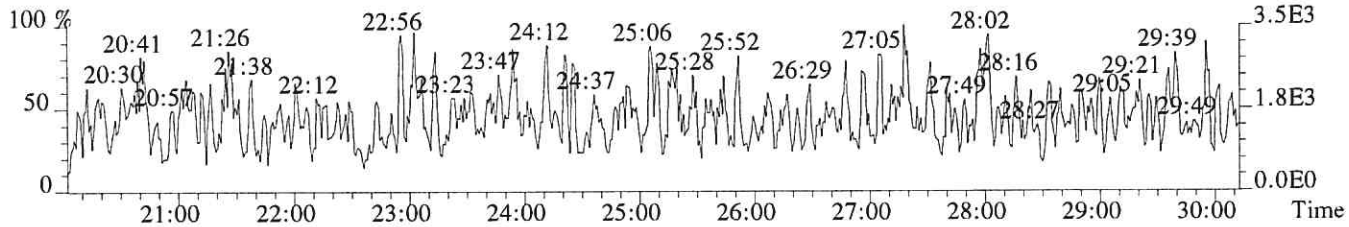
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



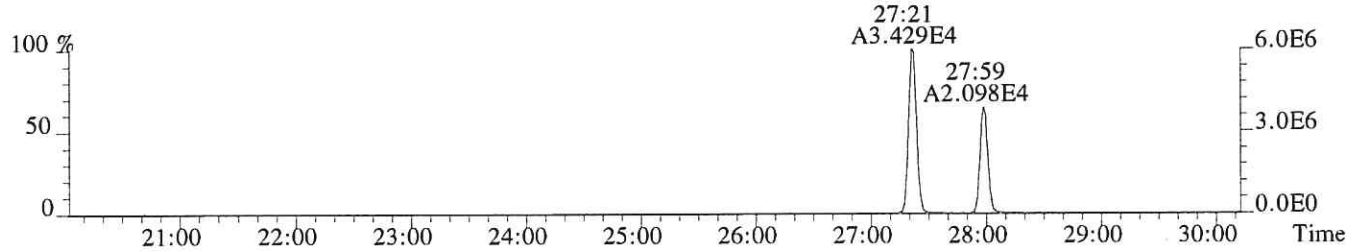
File:P511866 #1-722 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



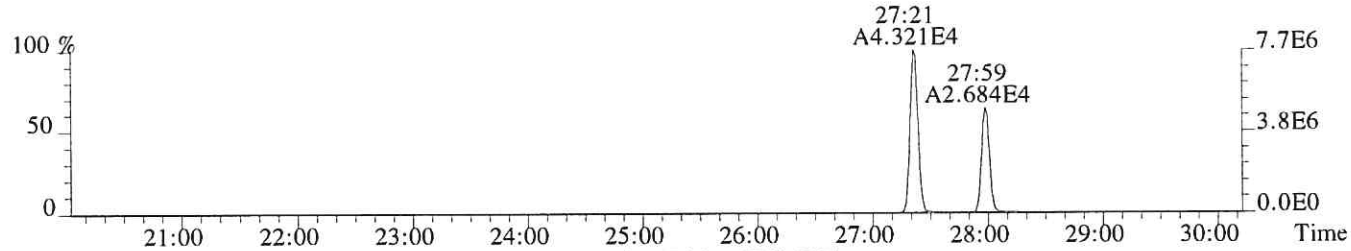
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1964.0,1.00%,F,T)



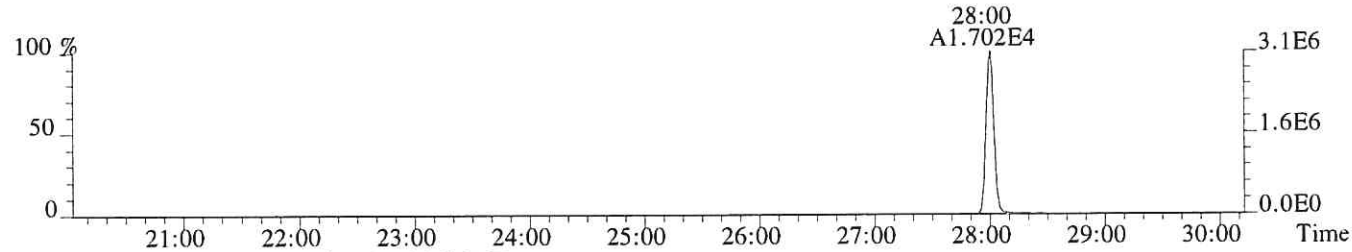
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7912.0,1.00%,F,T)



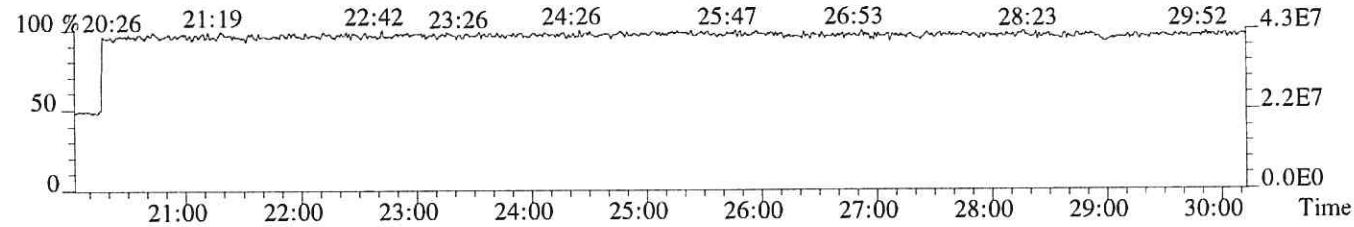
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3876.0,1.00%,F,T)



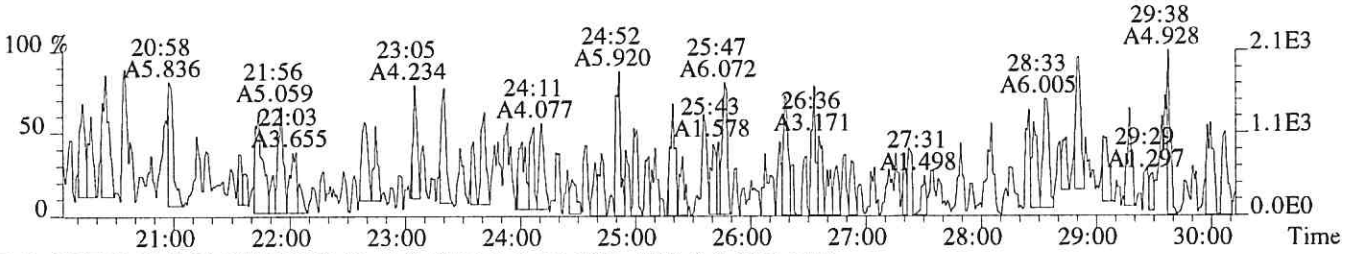
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1876.0,1.00%,F,T)



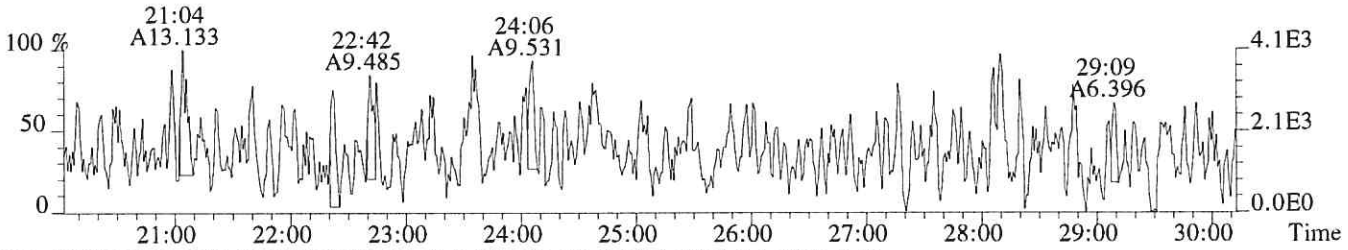
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



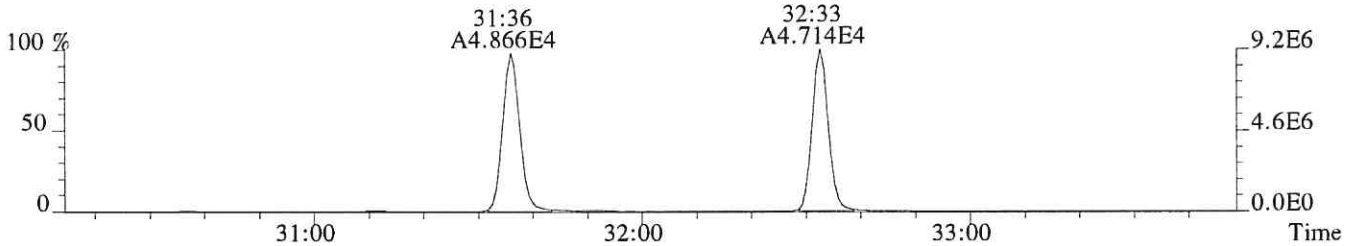
File:P511866 #1-722 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,T)



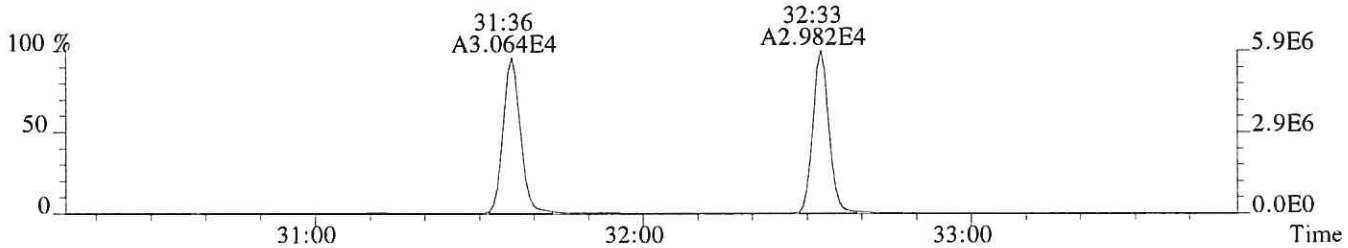
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1868.0,1.00%,F,T)



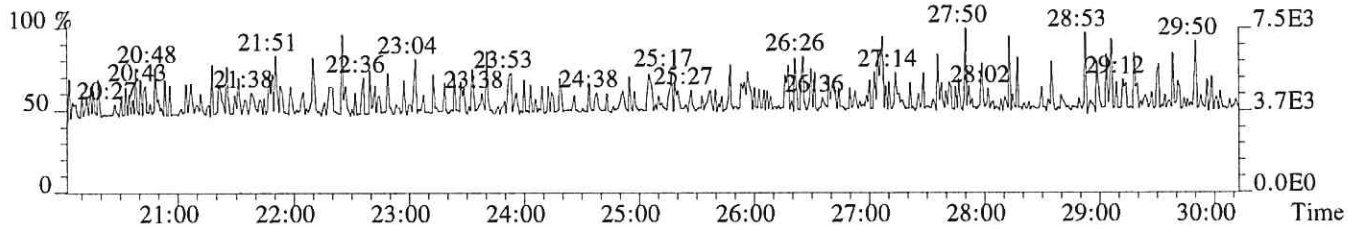
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



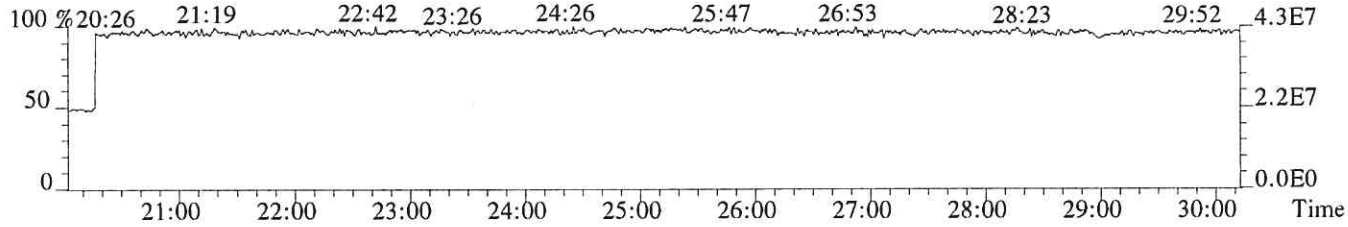
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



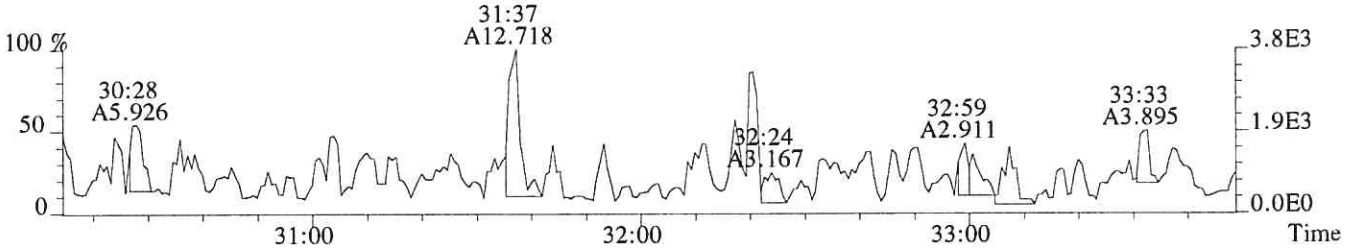
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



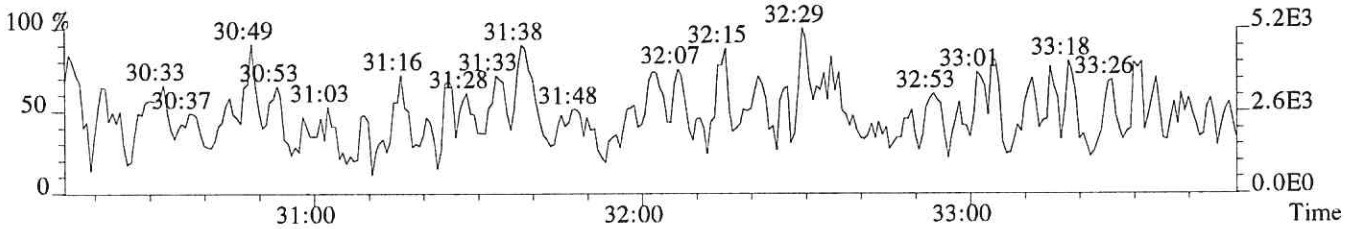
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



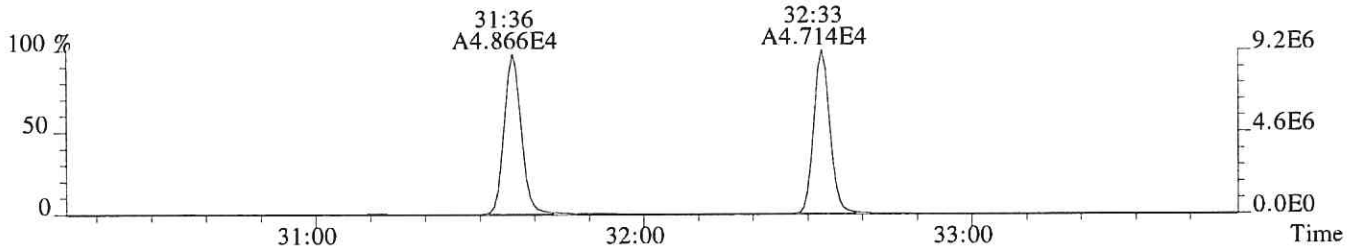
File:P511866 #1-322 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,T)



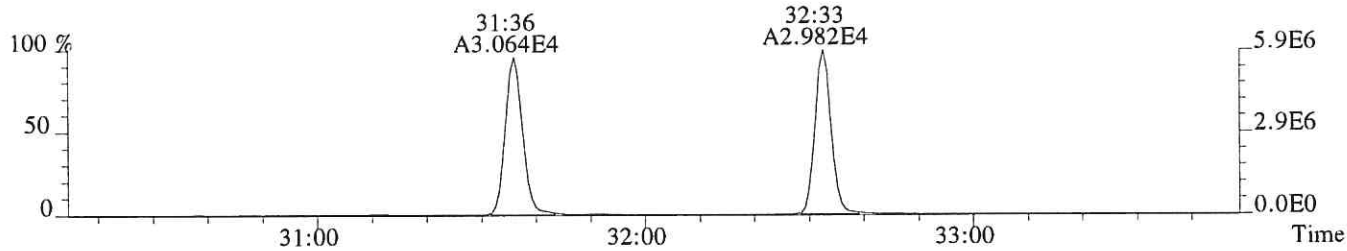
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3060.0,1.00%,F,T)



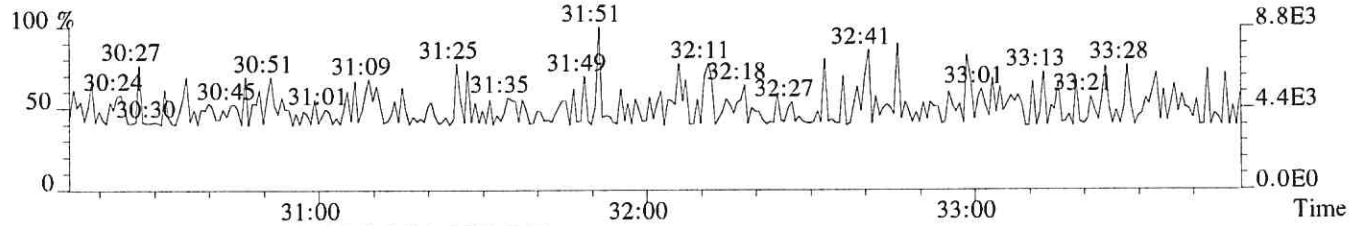
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



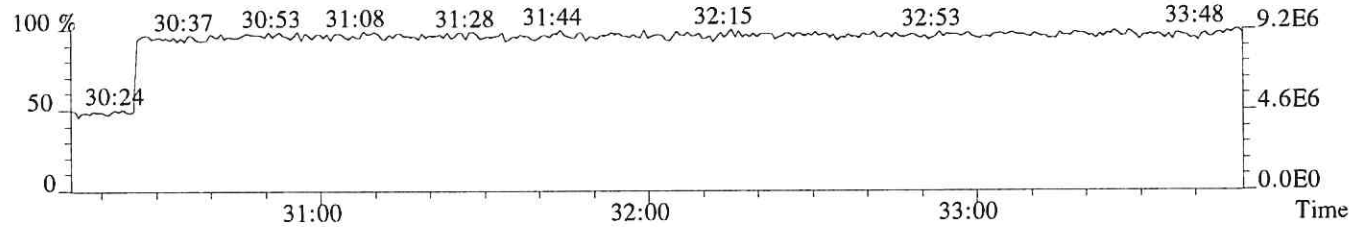
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



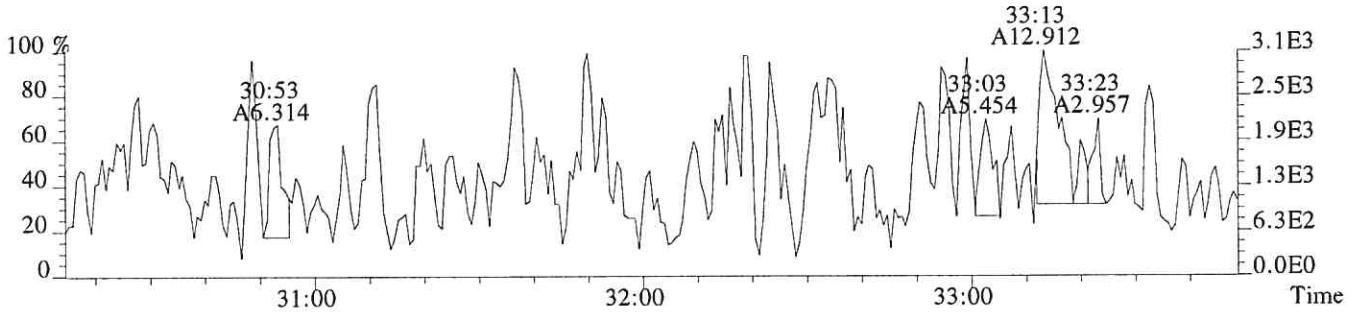
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



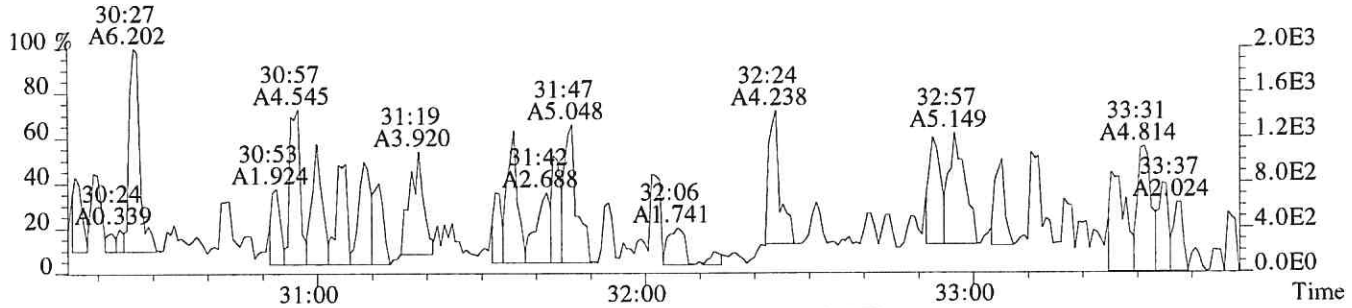
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



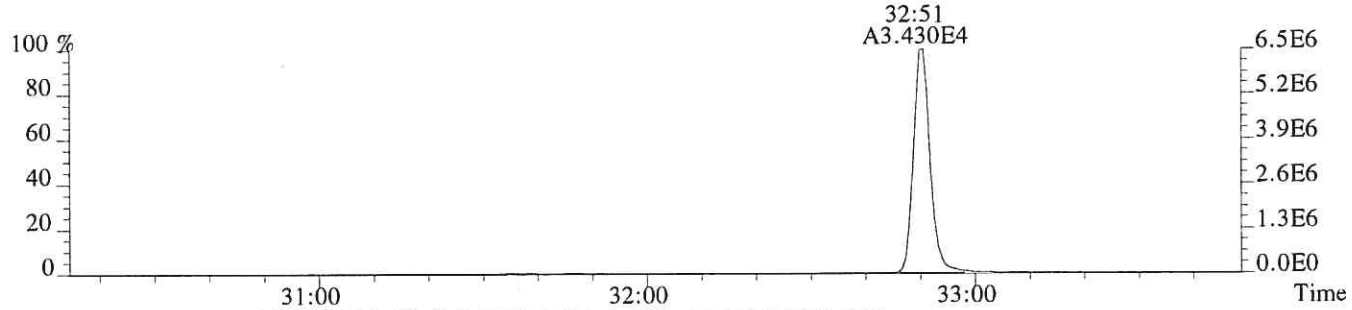
File:P511866 #1-322 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1508.0,1.00%,F,T)



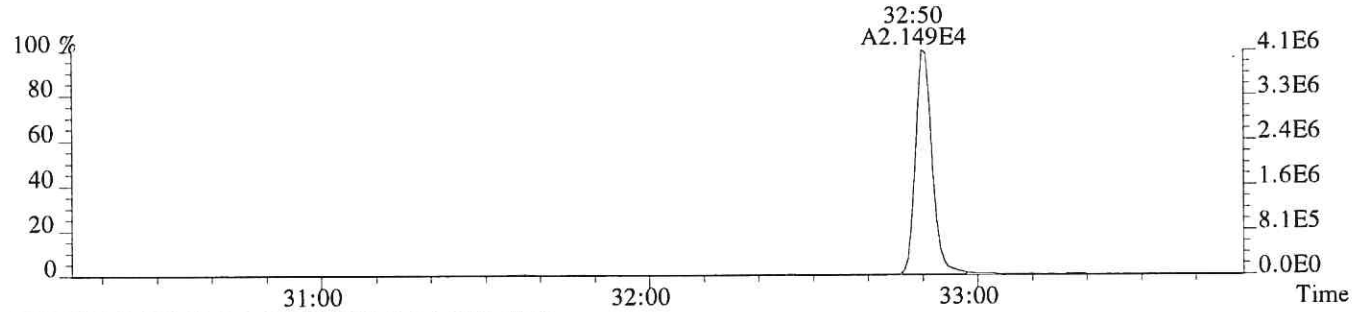
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



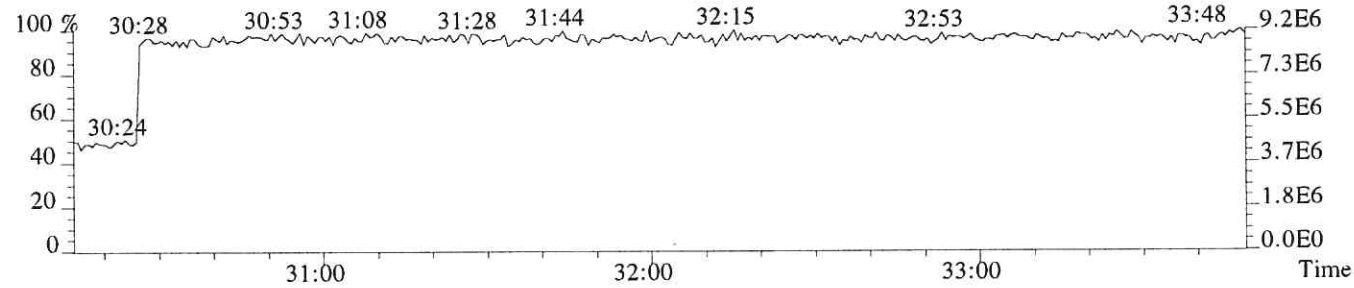
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1580.0,1.00%,F,T)



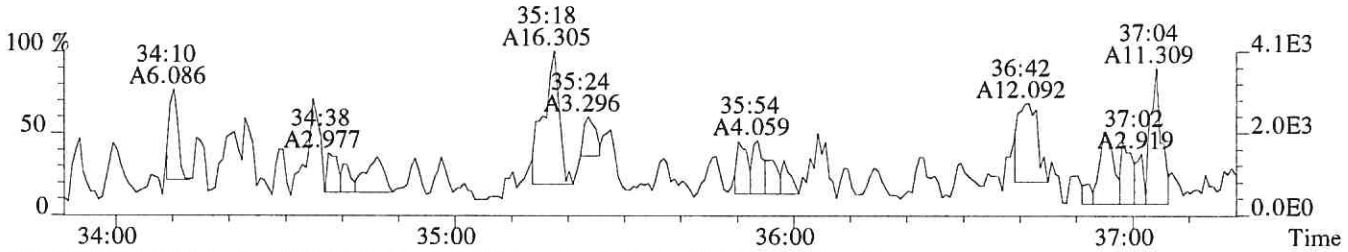
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



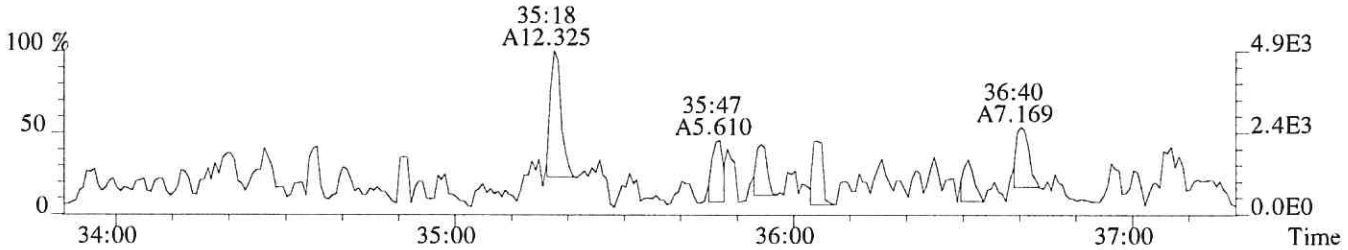
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



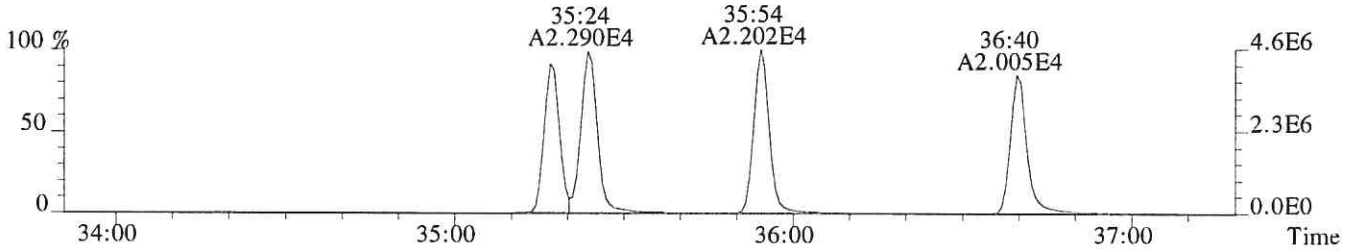
File:P511866 #1-312 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1076.0,0.40%,F,T)



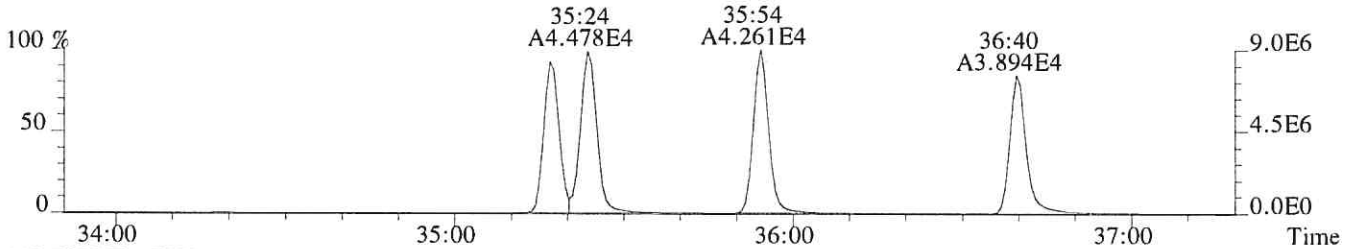
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1016.0,0.40%,F,T)



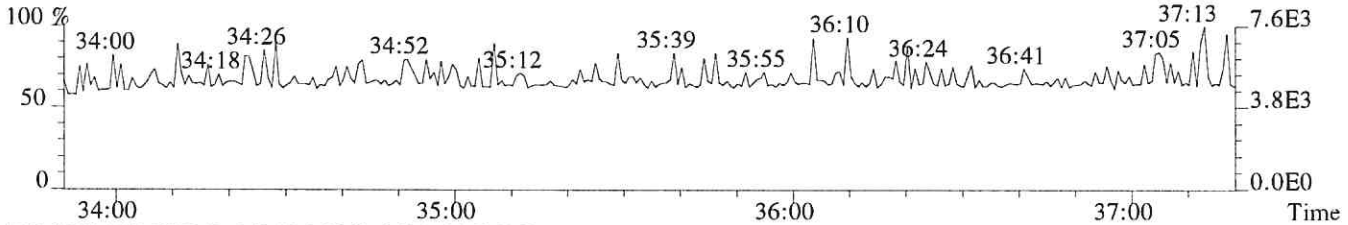
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



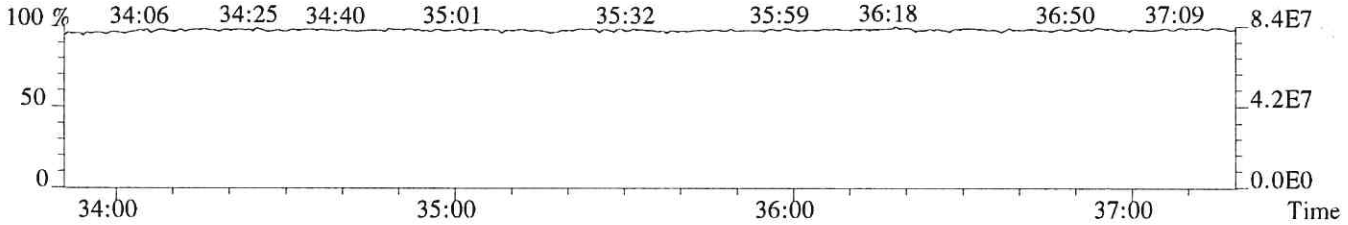
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,T)



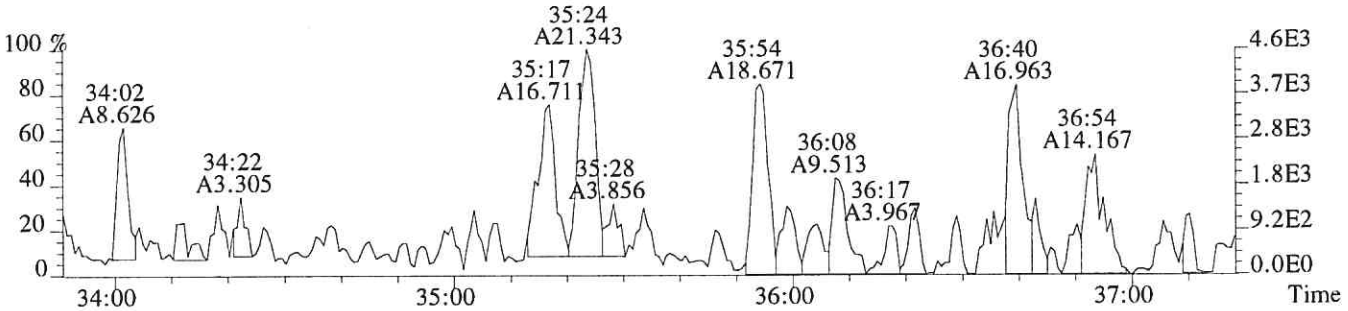
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



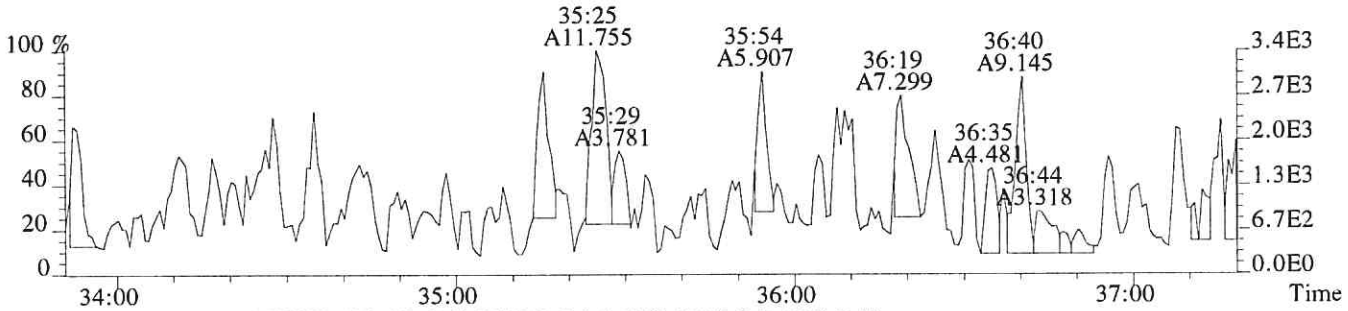
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



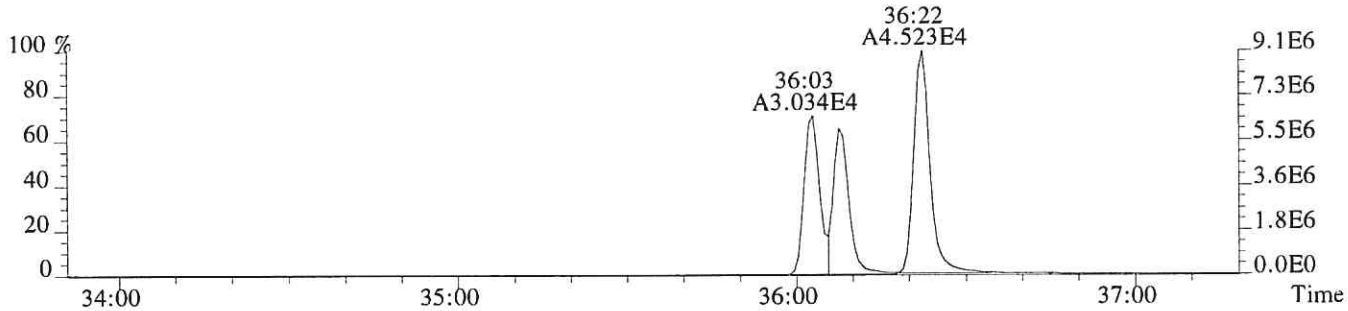
File:P511866 #1-312 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.40%,F,T)



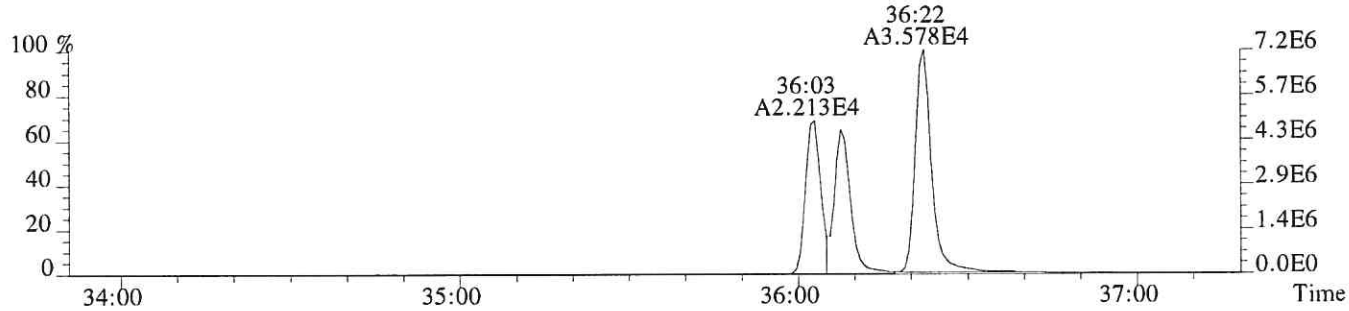
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



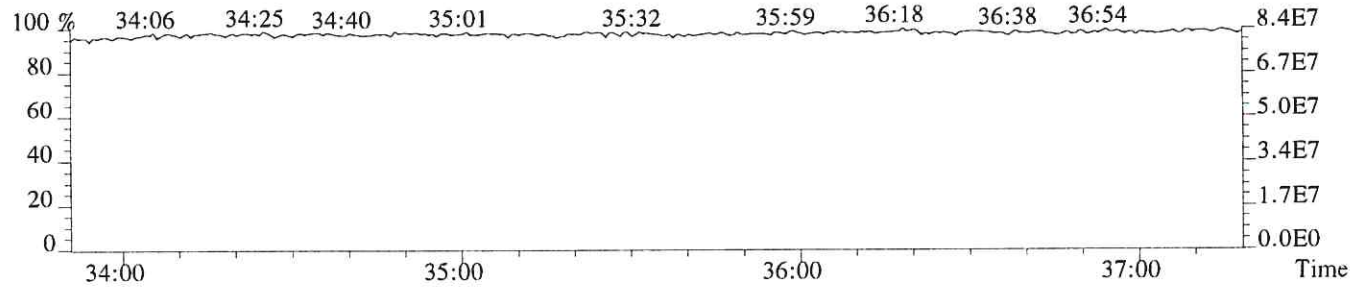
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.40%,F,T)



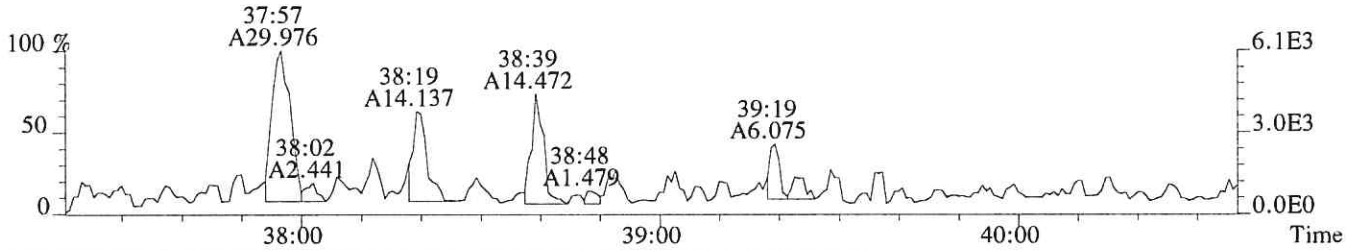
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,T)



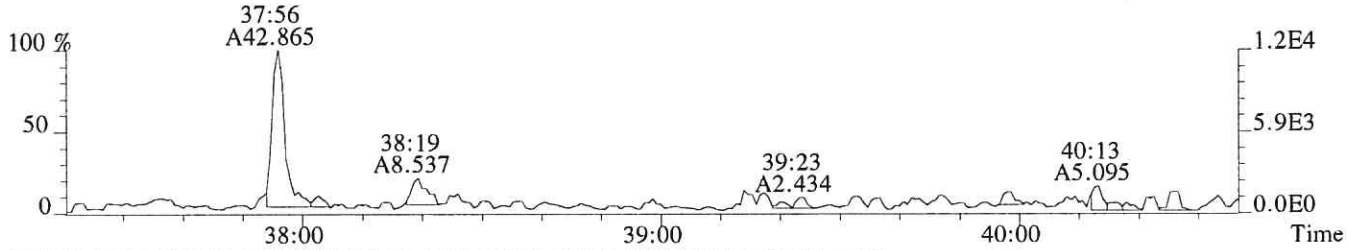
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



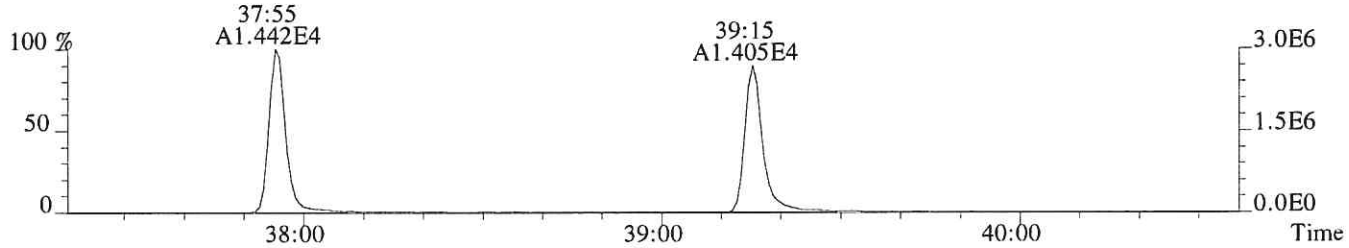
File:P511866 #1-295 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,988.0,0.50%,F,T)



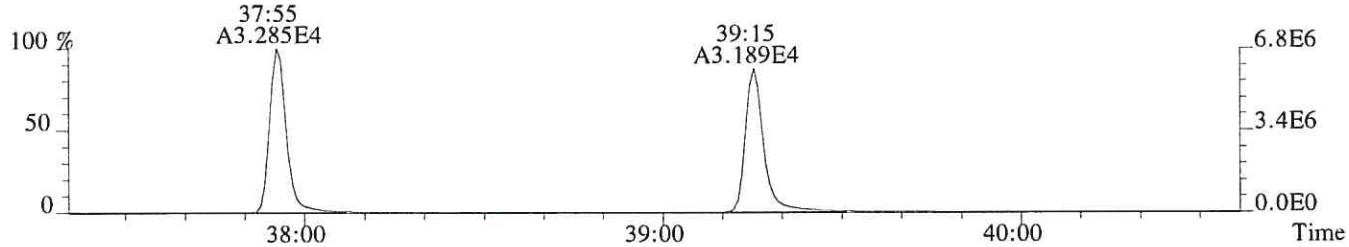
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.50%,F,T)



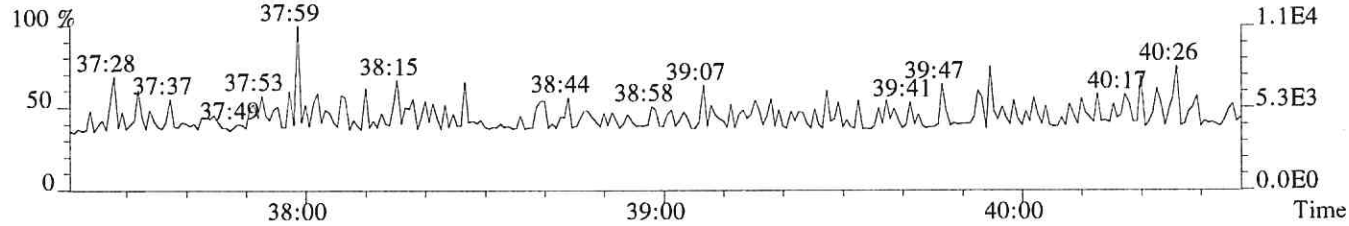
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2800.0,0.50%,F,T)



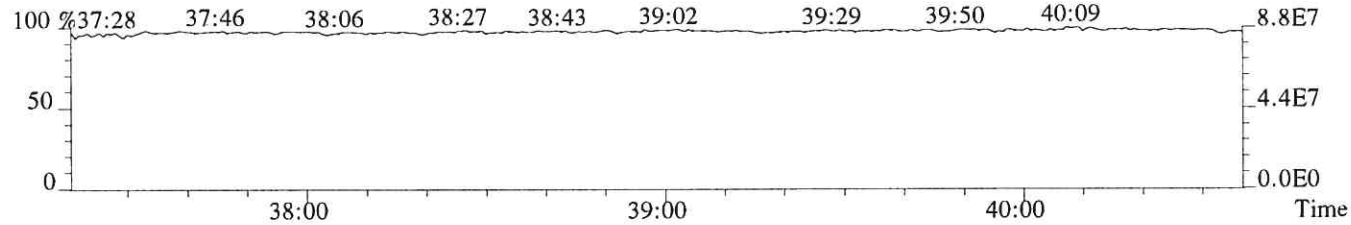
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2364.0,0.50%,F,T)



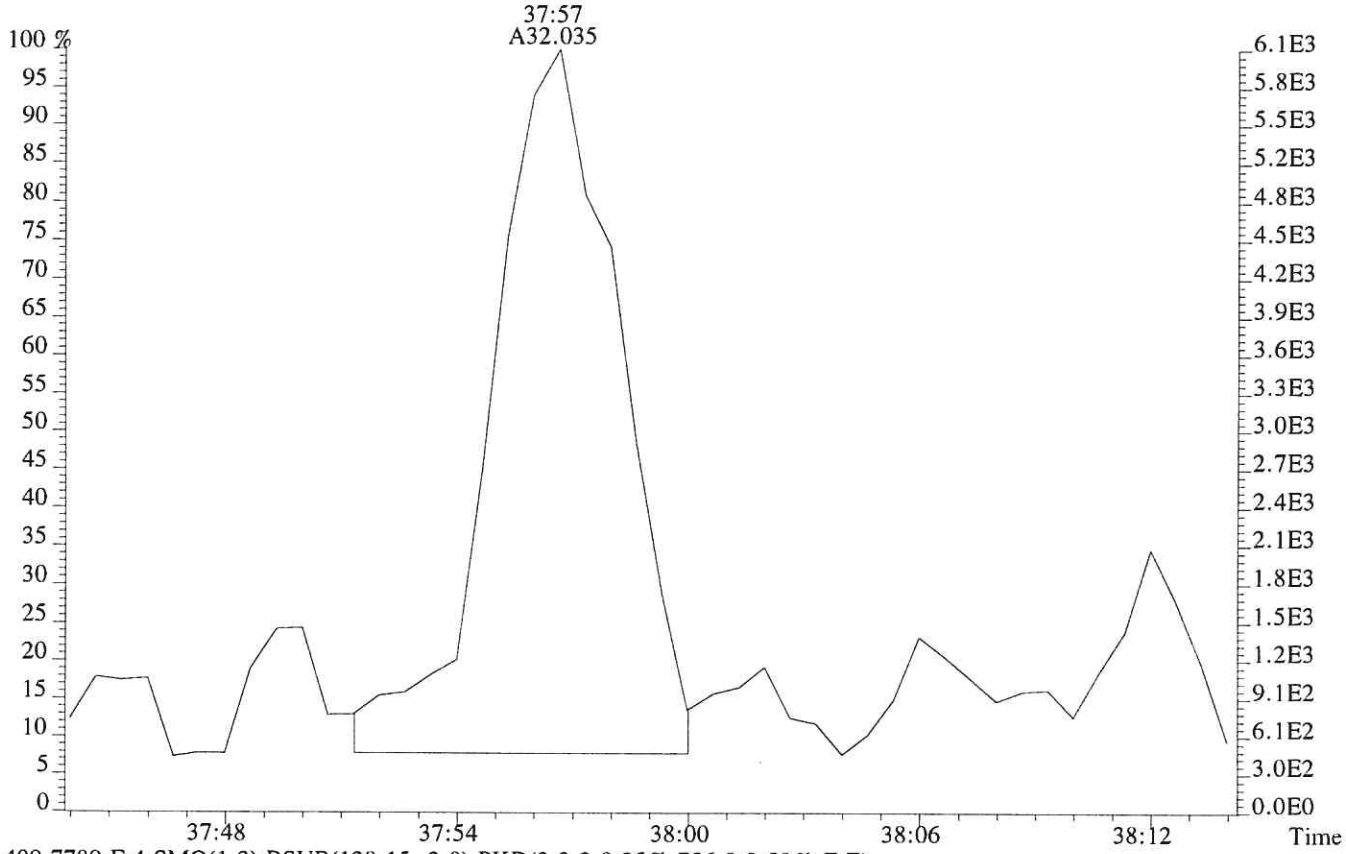
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



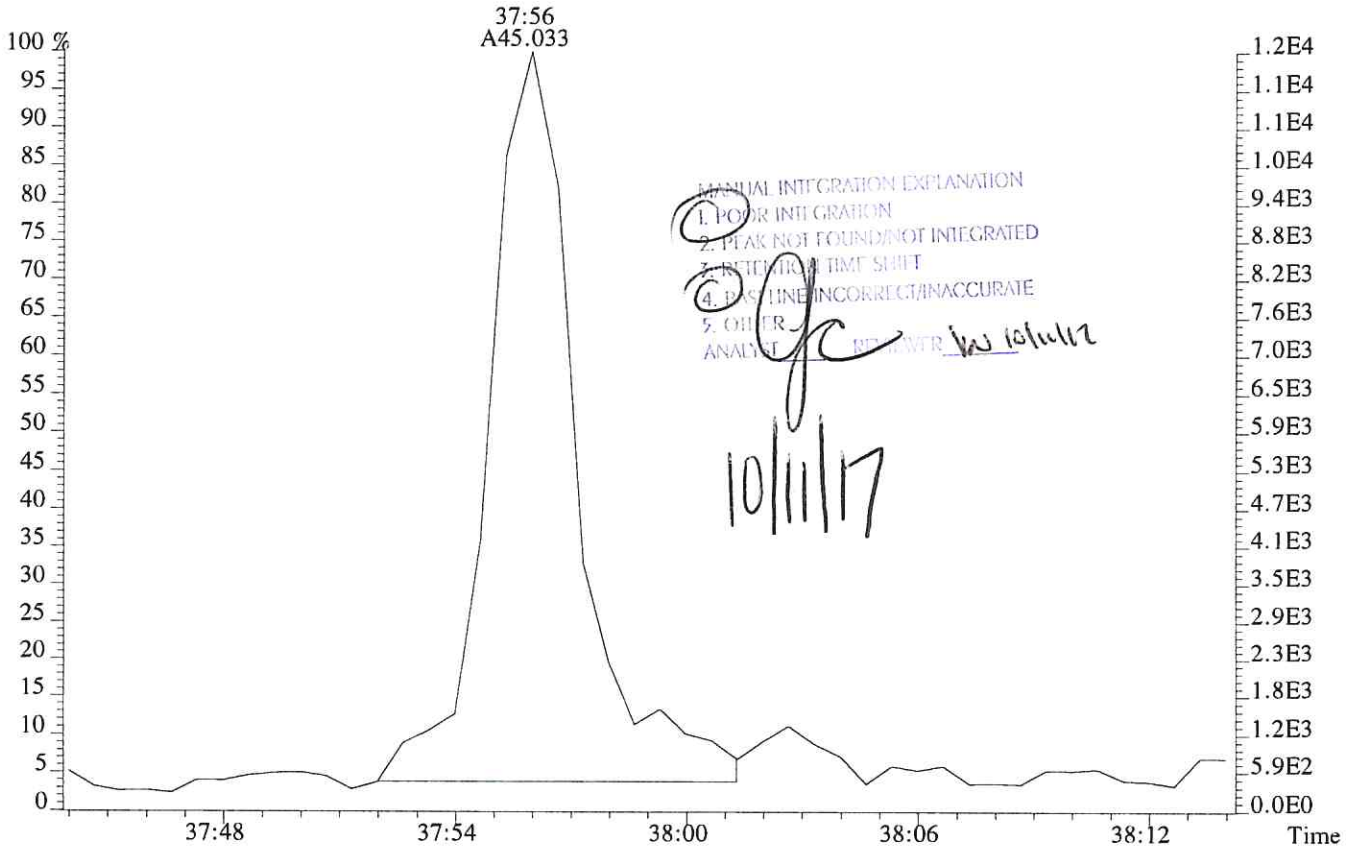
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



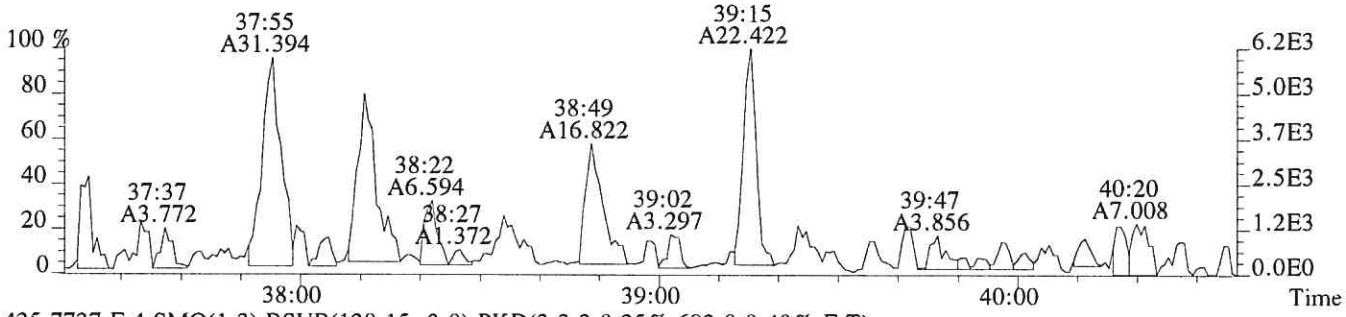
File:P511866 #1-295 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,988.0,0.50%,F,T)



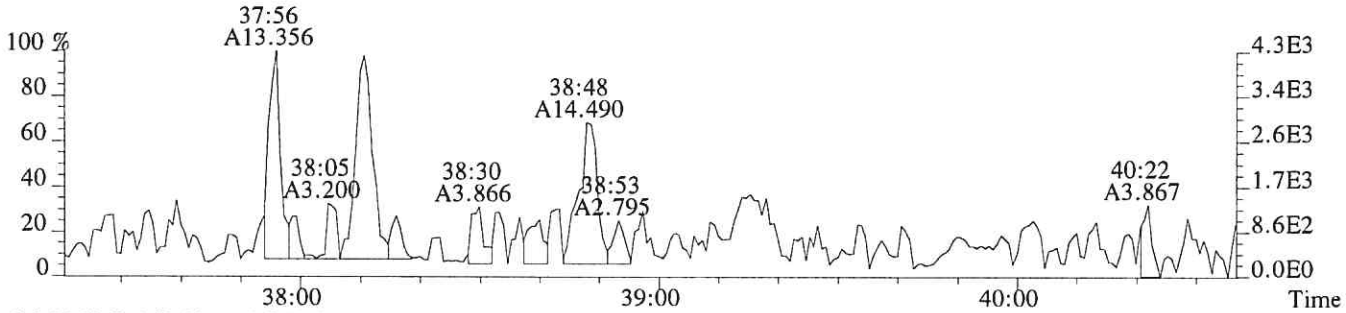
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.50%,F,T)



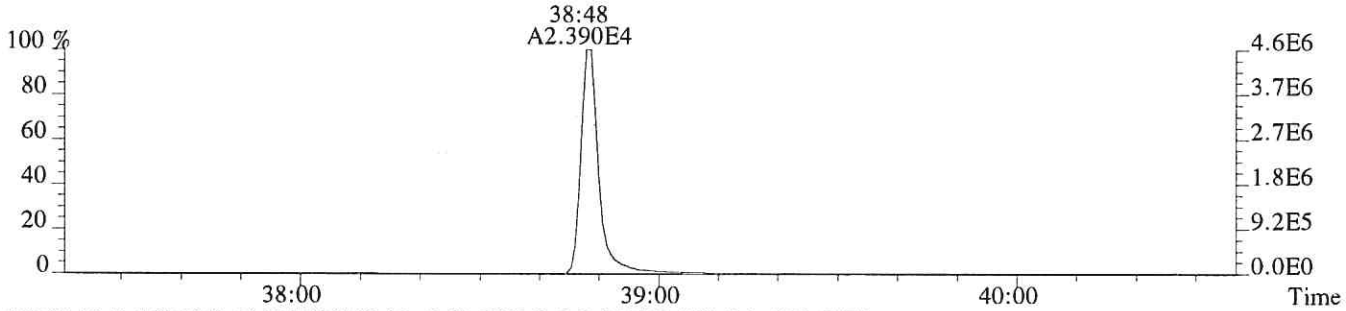
File:P511866 #1-295 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,512.0,0.40%,F,T)



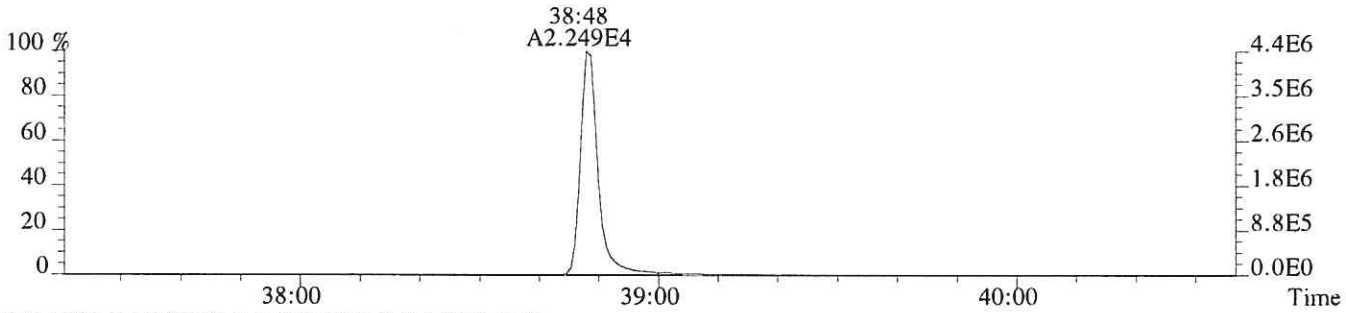
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,692.0,0.40%,F,T)



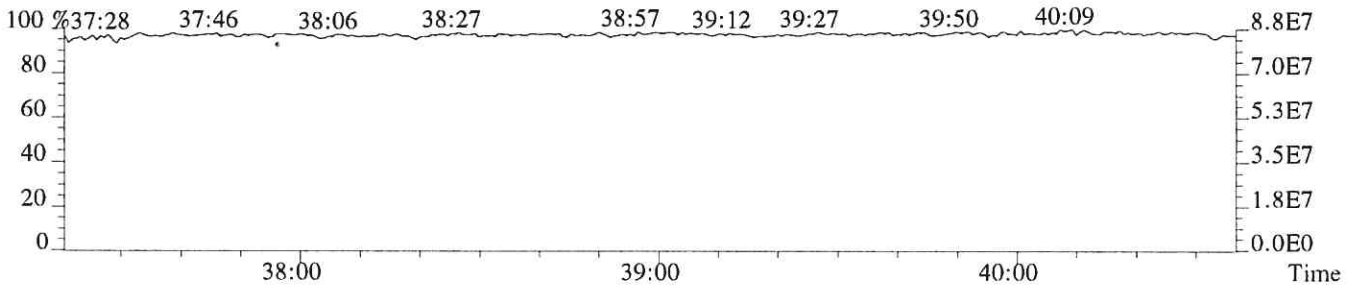
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



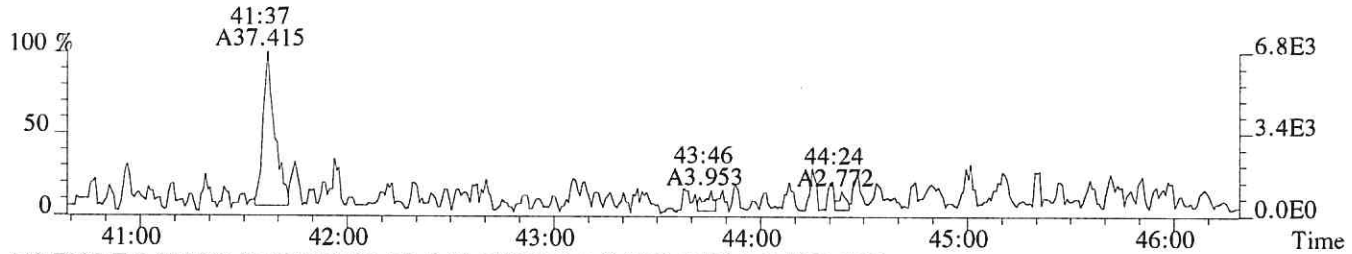
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,900.0,0.40%,F,T)



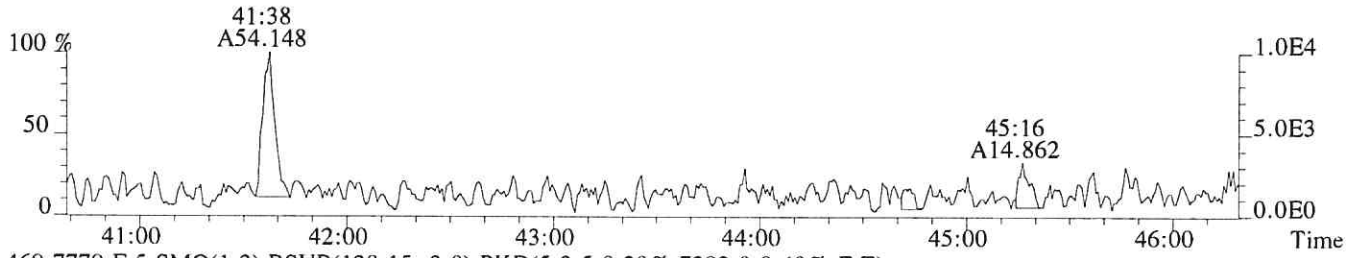
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



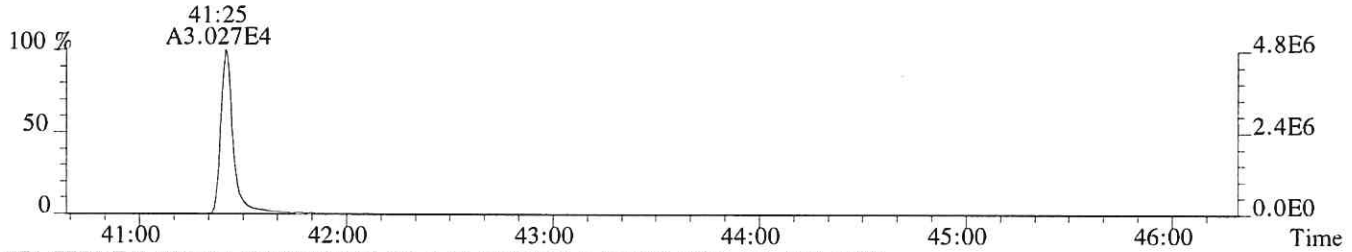
File:P511866 #1-511 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



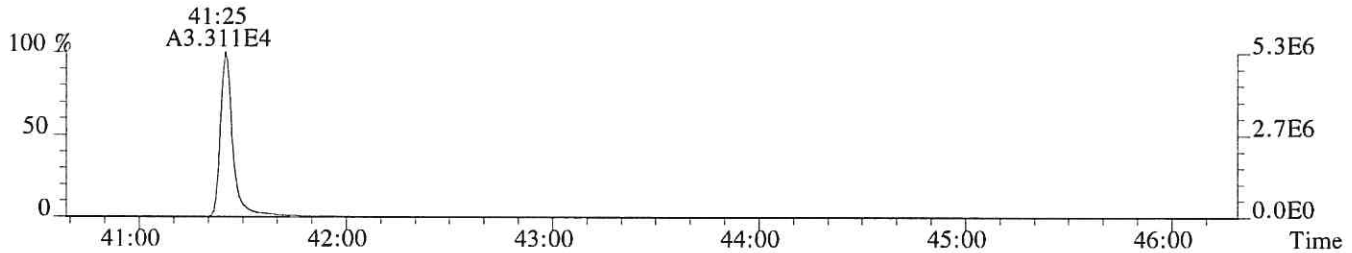
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1720.0,0.40%,F,T)



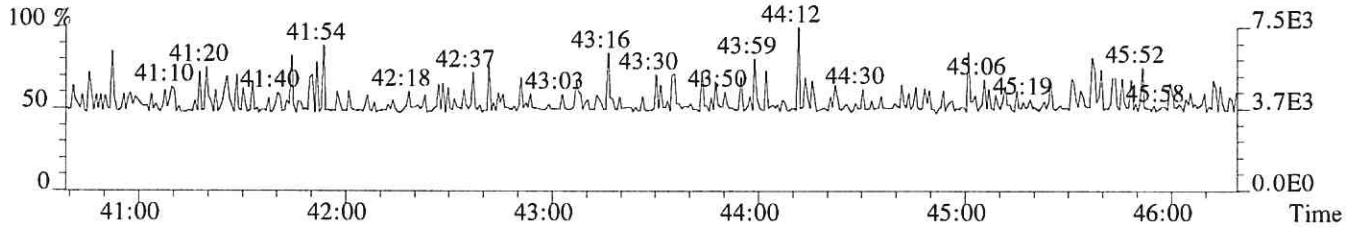
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7292.0,0.40%,F,T)



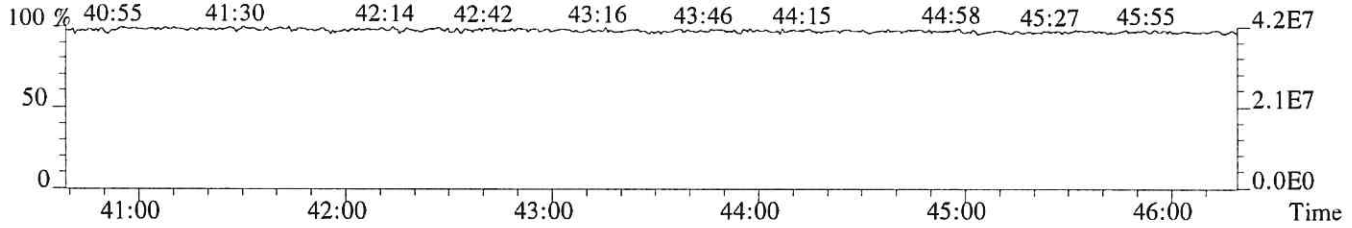
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4932.0,0.40%,F,T)



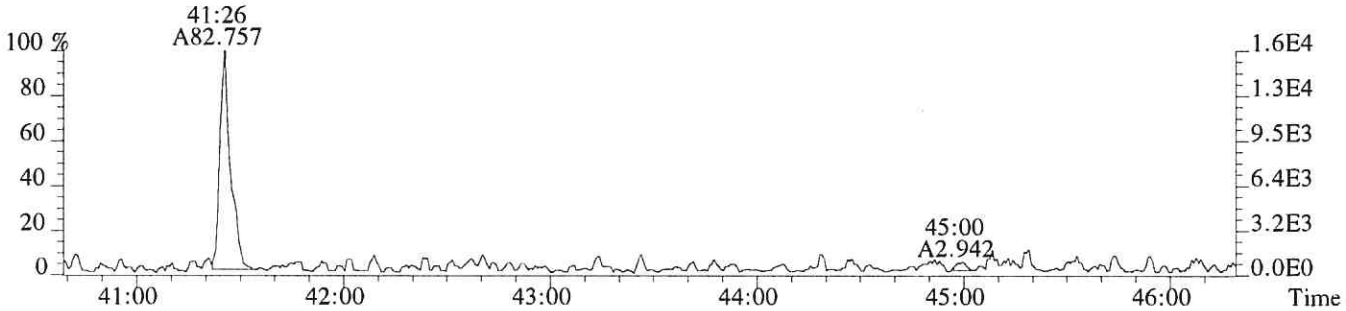
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



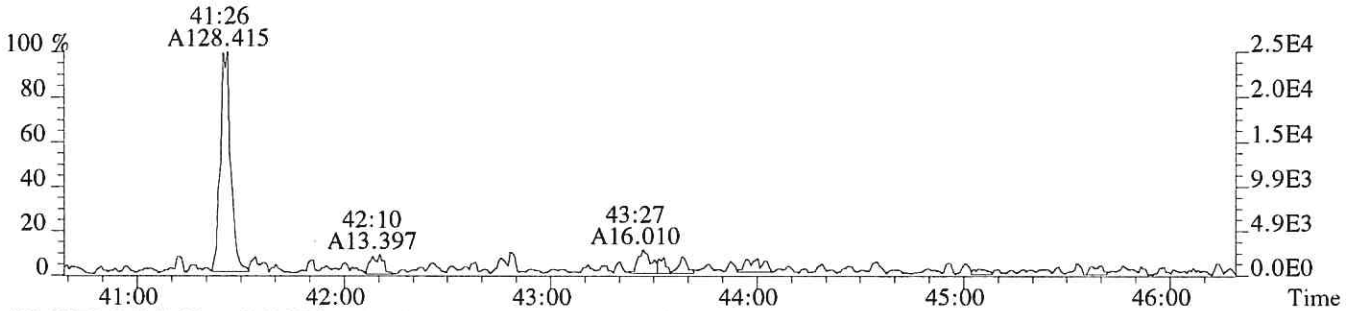
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



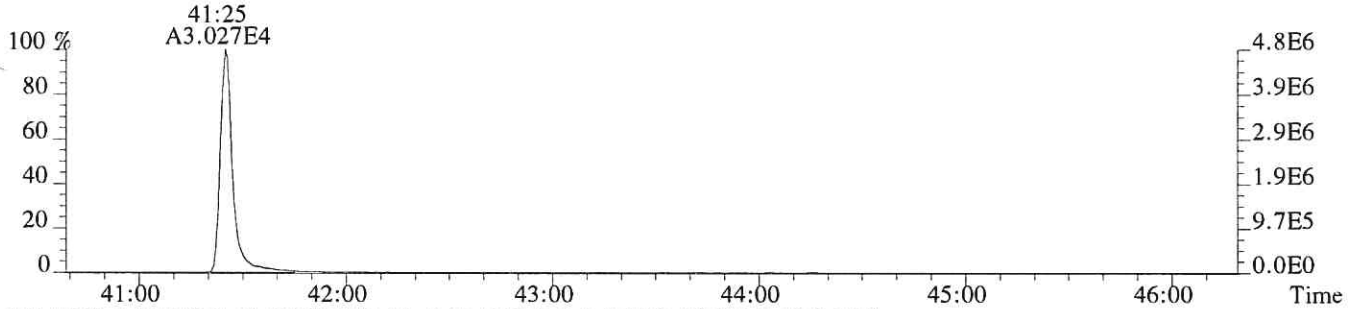
File:P511866 #1-511 Acq:10-OCT-2017 20:25:28 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



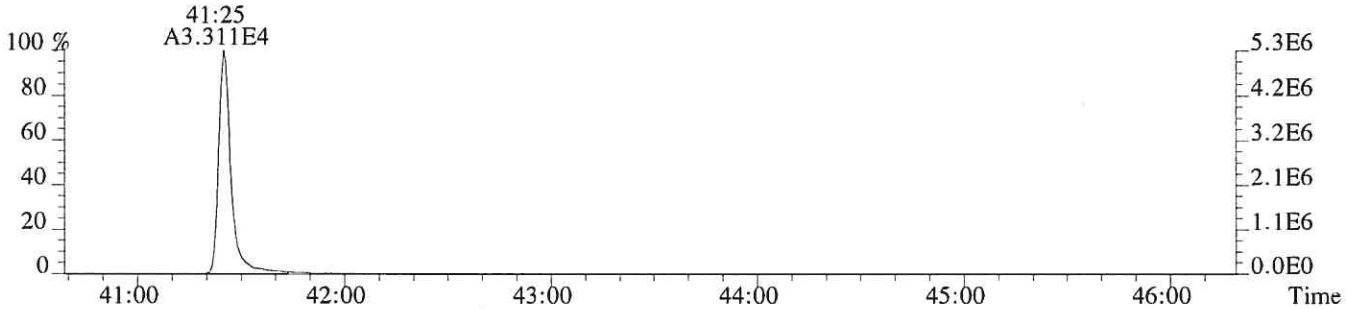
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,676.0,0.40%,F,T)



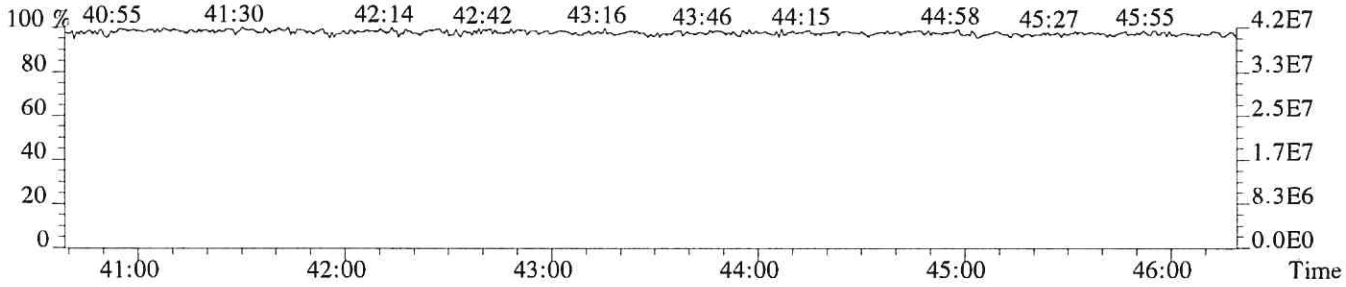
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7292.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4932.0,0.40%,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.
LCS

Run #18 Filename P511874 Samp: 1 Inj: 1 Acquired: 11-OCT-17 02:54:37
Processed: 11-OCT-17 08:47:12 Sample ID: EQ1700450-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:08	2.164e+03	2.958e+03	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:36	1.939e+04	1.264e+04	1.53	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	1.876e+04	1.260e+04	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:17	1.702e+04	1.354e+04	1.26	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	1.788e+04	1.515e+04	1.18	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	1.631e+04	1.366e+04	1.19	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	1.461e+04	1.223e+04	1.19	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	1.402e+04	1.393e+04	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	1.276e+04	1.271e+04	1.00	yes	no	1.191
10	Unk	OCDF	41:36	1.764e+04	1.998e+04	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	1.860e+03	2.294e+03	0.81	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:51	1.449e+04	9.140e+03	1.59	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:03	1.233e+04	9.849e+03	1.25	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	1.299e+04	9.994e+03	1.30	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.368e+04	1.081e+04	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	1.063e+04	9.942e+03	1.07	yes	no	0.942
17	Unk	OCDD	41:25	1.752e+04	1.973e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:06	2.666e+04	3.367e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	4.573e+04	2.940e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:32	4.410e+04	2.788e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.818e+04	3.525e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.218e+04	4.195e+04	0.53	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.047e+04	3.933e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	1.868e+04	3.641e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.361e+04	3.152e+04	0.43	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.336e+04	2.950e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:58	2.008e+04	2.583e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	3.223e+04	2.035e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.765e+04	2.073e+04	1.33	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:07	2.663e+04	2.260e+04	1.18	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	2.233e+04	2.098e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:24	2.790e+04	3.086e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.011e+04	3.847e+04	0.78	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.360e+04	3.466e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.648e+04				no	1.033

$$\text{OCDD} = \frac{(1.752e+04 + 1.973e+04) \times 4000 \text{ pg} \times 1}{(2.790e+04 + 3.086e+04) \times \quad g \times \quad / 100 \times 1.051} =$$

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10450 Stancliff Rd., Suite 115
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Signal/Noise Height Ratio Summary

CLIENT ID.
LCS

Run #18 Filename P511874 Samp: 1 Inj: 1 Acquired: 11-OCT-17 02:54:37
Processed: 11-OCT-17 08:47:12 LAB. ID: EQ1700450-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.59e+05	8.80e+02	4.1e+02	4.82e+05	2.62e+03	1.8e+02
2	1,2,3,7,8-PeCDF	3.52e+06	1.27e+03	2.8e+03	2.29e+06	1.88e+03	1.2e+03
3	2,3,4,7,8-PeCDF	3.56e+06	1.27e+03	2.8e+03	2.41e+06	1.88e+03	1.3e+03
4	1,2,3,4,7,8-HxCDF	3.51e+06	1.05e+03	3.4e+03	2.84e+06	9.28e+02	3.1e+03
5	1,2,3,6,7,8-HxCDF	3.63e+06	1.05e+03	3.5e+03	3.01e+06	9.28e+02	3.2e+03
6	2,3,4,6,7,8-HxCDF	3.51e+06	1.05e+03	3.4e+03	2.94e+06	9.28e+02	3.2e+03
7	1,2,3,7,8,9-HxCDF	2.83e+06	1.05e+03	2.7e+03	2.37e+06	9.28e+02	2.6e+03
8	1,2,3,4,6,7,8-HpCDF	2.92e+06	1.44e+03	2.0e+03	2.90e+06	1.34e+03	2.2e+03
9	1,2,3,4,7,8,9-HpCDF	2.46e+06	1.44e+03	1.7e+03	2.43e+06	1.34e+03	1.8e+03
10	OCDF	2.85e+06	8.64e+02	3.3e+03	3.19e+06	3.75e+03	8.5e+02
11	2,3,7,8-TCDD	3.40e+05	2.27e+03	1.5e+02	4.25e+05	1.42e+03	3.0e+02
12	1,2,3,7,8-PeCDD	2.76e+06	1.35e+03	2.0e+03	1.74e+06	6.80e+02	2.6e+03
13	1,2,3,4,7,8-HxCDD	2.63e+06	1.12e+03	2.4e+03	2.06e+06	1.51e+03	1.4e+03
14	1,2,3,6,7,8-HxCDD	2.66e+06	1.12e+03	2.4e+03	2.08e+06	1.51e+03	1.4e+03
15	1,2,3,7,8,9-HxCDD	2.59e+06	1.12e+03	2.3e+03	2.07e+06	1.51e+03	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	2.04e+06	1.26e+03	1.6e+03	1.92e+06	1.47e+03	1.3e+03
17	OCDD	2.88e+06	5.17e+03	5.6e+02	3.17e+06	3.91e+03	8.1e+02
18	13C-2,3,7,8-TCDF	4.53e+06	1.41e+04	3.2e+02	5.86e+06	4.87e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	8.31e+06	1.17e+03	7.1e+03	5.31e+06	1.80e+03	2.9e+03
20	13C-2,3,4,7,8-PeCDF	8.51e+06	1.17e+03	7.3e+03	5.37e+06	1.80e+03	3.0e+03
21	13C-1,2,3,4,7,8-HxCDF	3.81e+06	1.38e+03	2.8e+03	7.48e+06	2.26e+03	3.3e+03
22	13C-1,2,3,6,7,8-HxCDF	4.47e+06	1.38e+03	3.2e+03	8.45e+06	2.26e+03	3.7e+03
23	13C-2,3,4,6,7,8-HxCDF	4.31e+06	1.38e+03	3.1e+03	8.37e+06	2.26e+03	3.7e+03
24	13C-1,2,3,7,8,9-HxCDF	3.63e+06	1.38e+03	2.6e+03	7.10e+06	2.26e+03	3.1e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.79e+06	1.49e+03	1.9e+03	6.50e+06	4.32e+03	1.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.55e+06	1.49e+03	1.7e+03	5.61e+06	4.32e+03	1.3e+03
27	13C-2,3,7,8-TCDD	3.69e+06	7.12e+03	5.2e+02	4.78e+06	4.30e+03	1.1e+03
28	13C-1,2,3,7,8-PeCDD	6.05e+06	1.67e+03	3.6e+03	3.85e+06	1.25e+03	3.1e+03
29	13C-1,2,3,4,7,8-HxCDD	5.83e+06	2.88e+03	2.0e+03	4.61e+06	1.23e+03	3.8e+03
30	13C-1,2,3,6,7,8-HxCDD	5.43e+06	2.88e+03	1.9e+03	4.43e+06	1.23e+03	3.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.23e+06	1.27e+03	3.3e+03	4.02e+06	1.25e+03	3.2e+03
32	13C-OCDD	4.49e+06	7.96e+03	5.6e+02	5.02e+06	4.60e+03	1.1e+03
33	13C-1,2,3,4-TCDD	5.33e+06	7.12e+03	7.5e+02	6.76e+06	4.30e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.44e+06	2.88e+03	2.9e+03	6.57e+06	1.23e+03	5.4e+03
35	37Cl-2,3,7,8-TCDD	3.06e+06	1.50e+03	2.0e+03			

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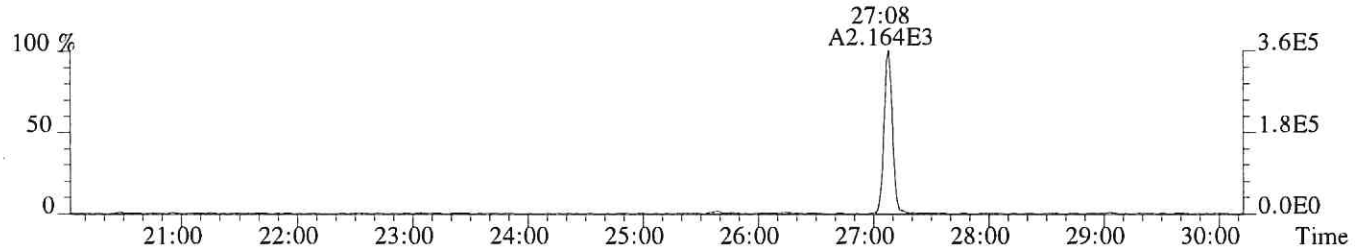
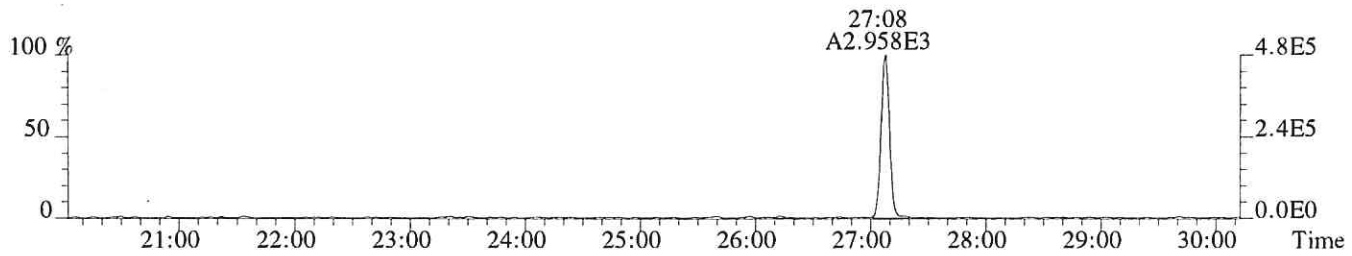
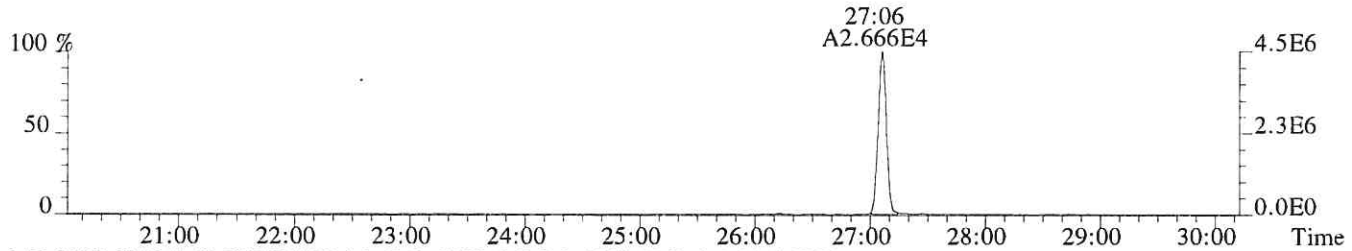
File:P511874 #1-722 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



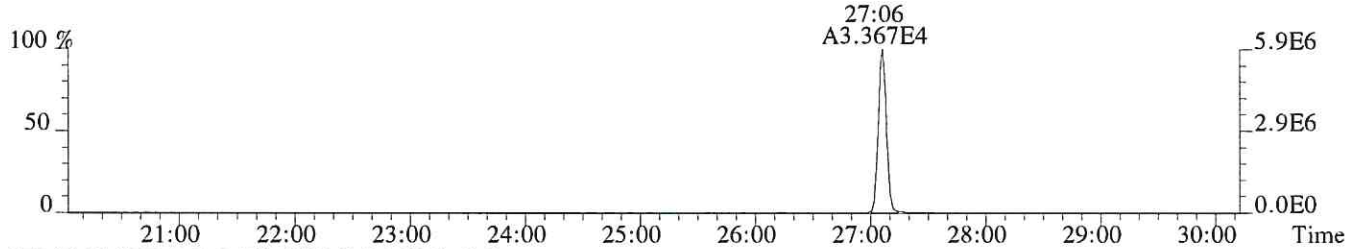
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2620.0,1.00%,F,T)



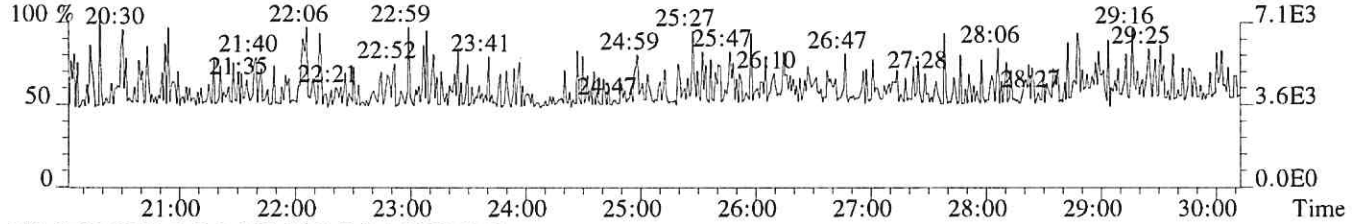
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14112.0,1.00%,F,T)



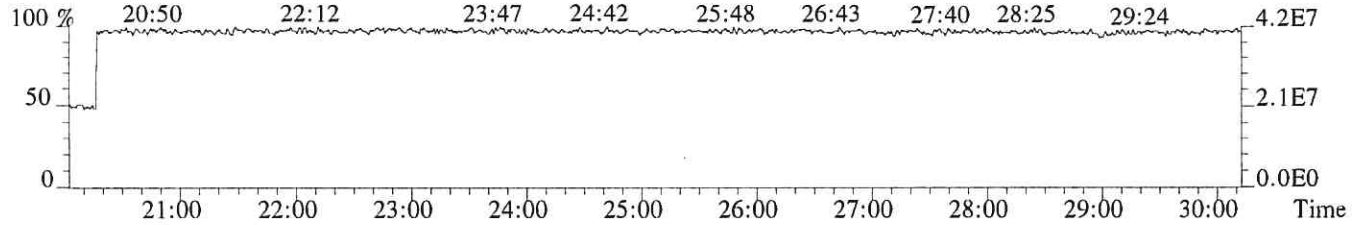
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4868.0,1.00%,F,T)



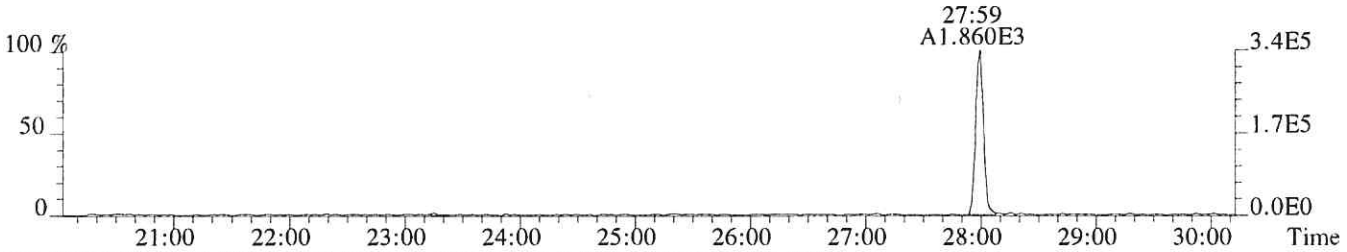
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



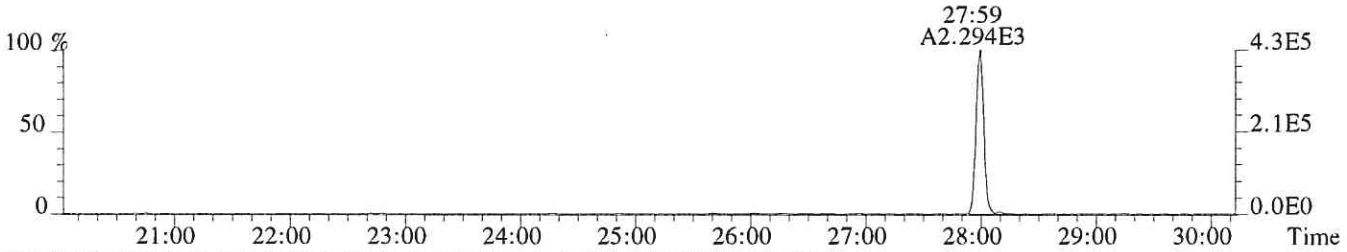
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



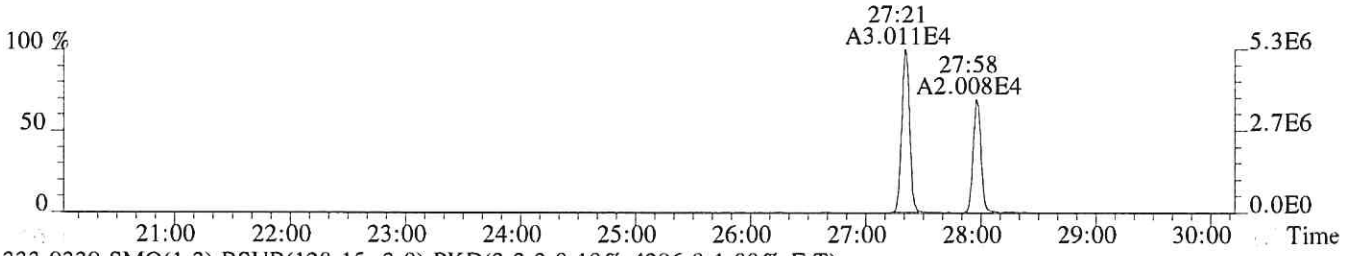
File:P511874 #1-722 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2268.0,1.00%,F,T)



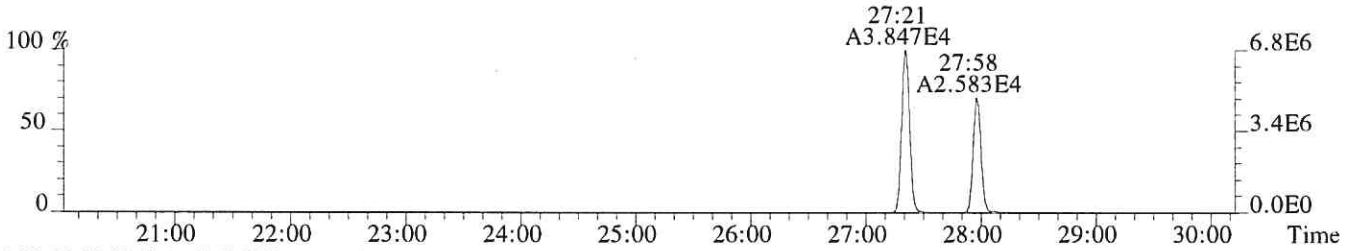
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1424.0,1.00%,F,T)



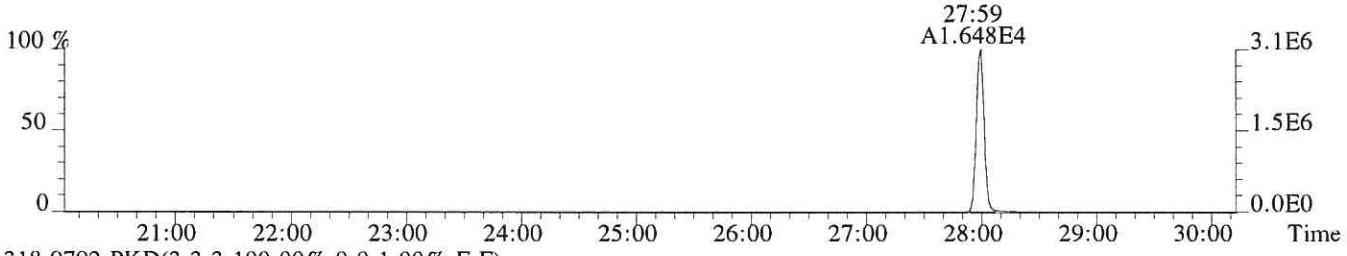
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7116.0,1.00%,F,T)



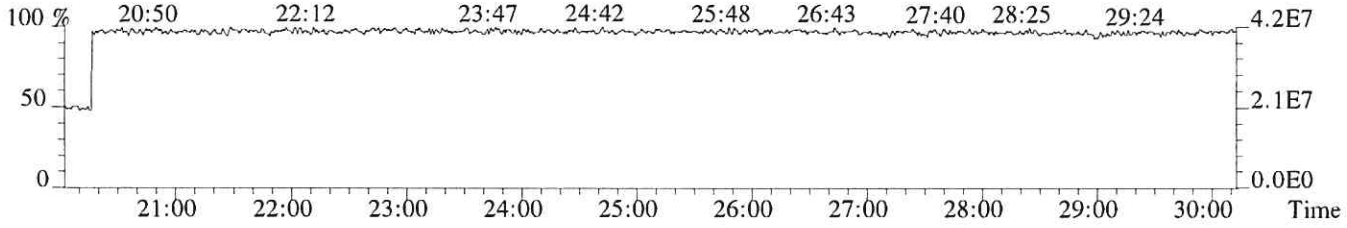
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4296.0,1.00%,F,T)



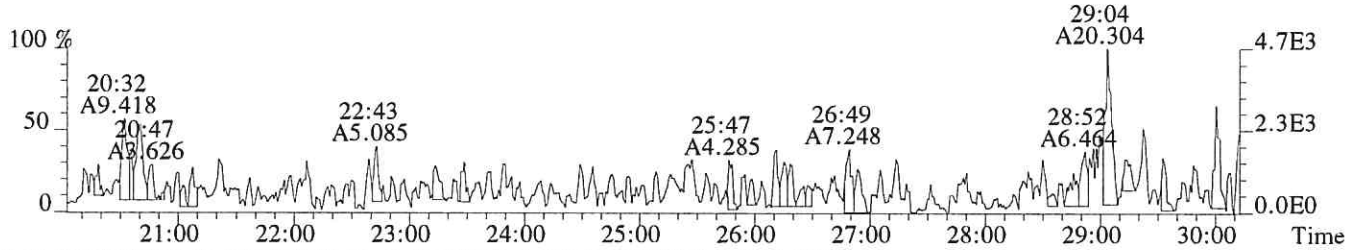
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



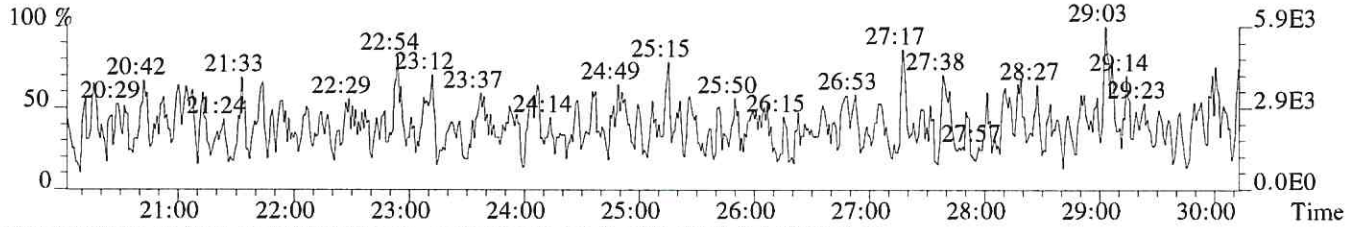
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



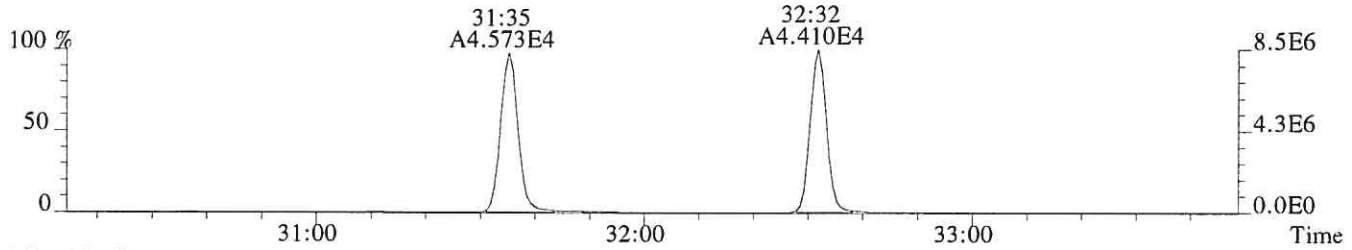
File:P511874 #1-722 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,T)



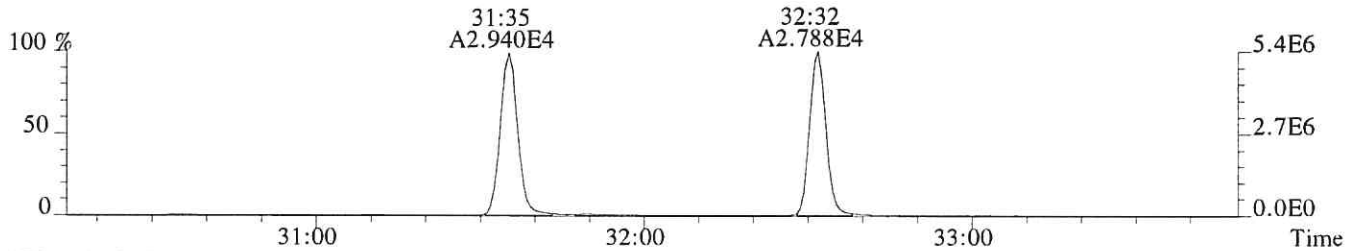
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



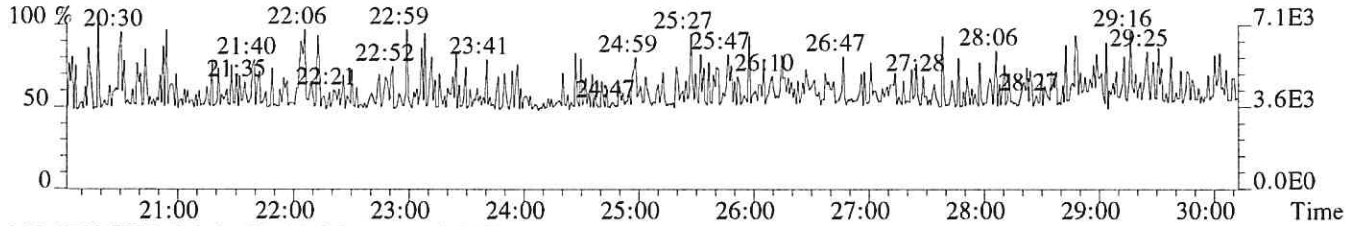
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1172.0,1.00%,F,T)



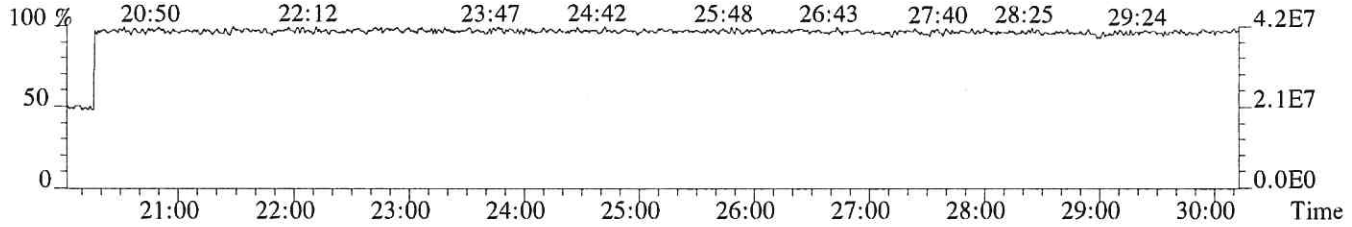
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



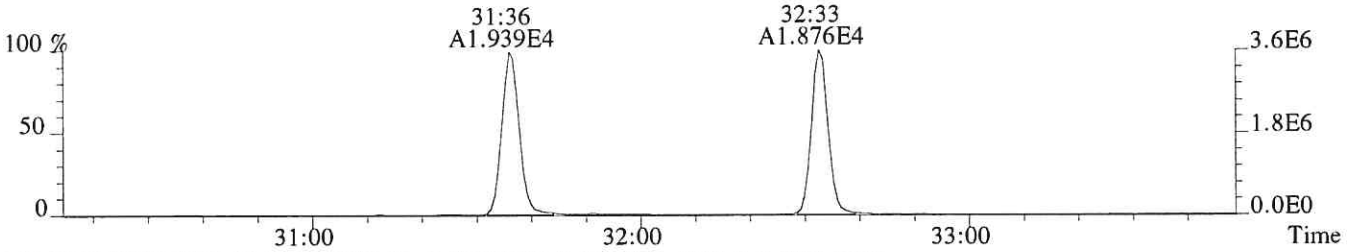
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



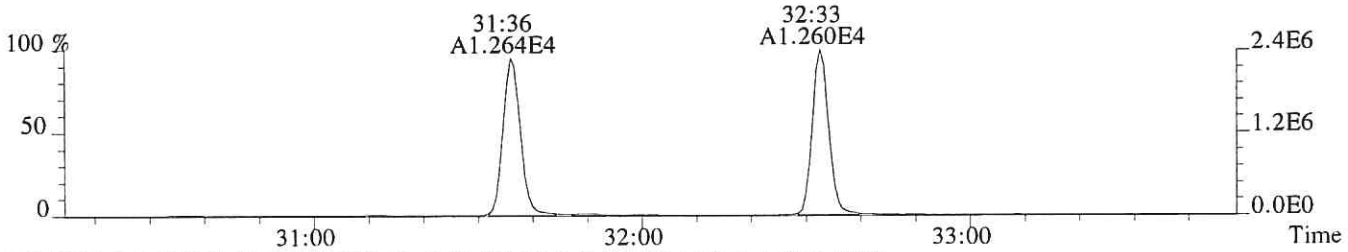
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



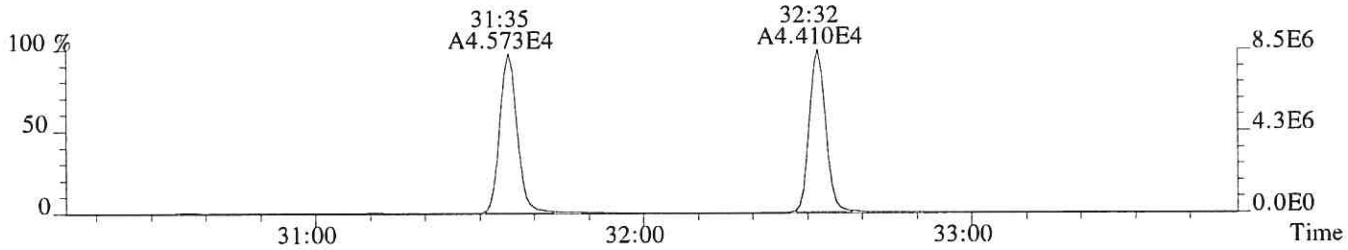
File:P511874 #1-322 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1268.0,1.00%,F,T)



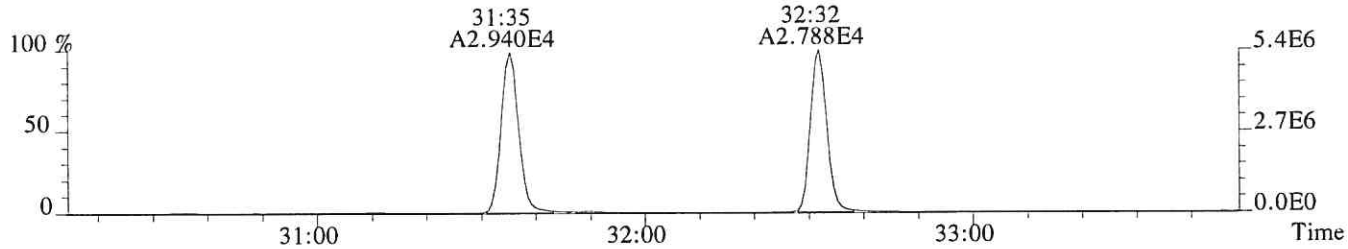
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1884.0,1.00%,F,T)



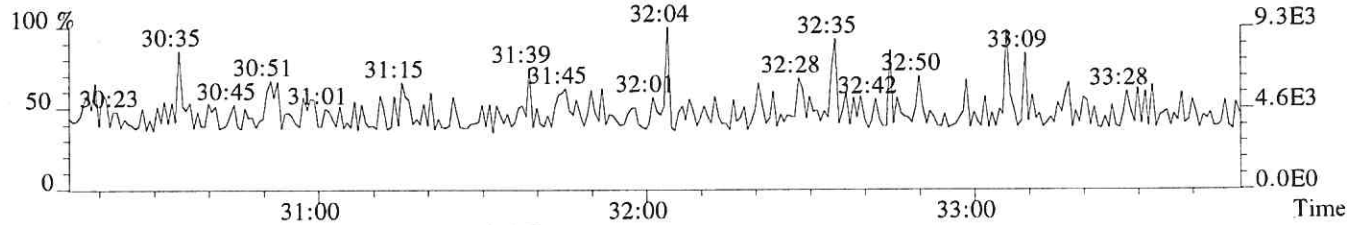
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1172.0,1.00%,F,T)



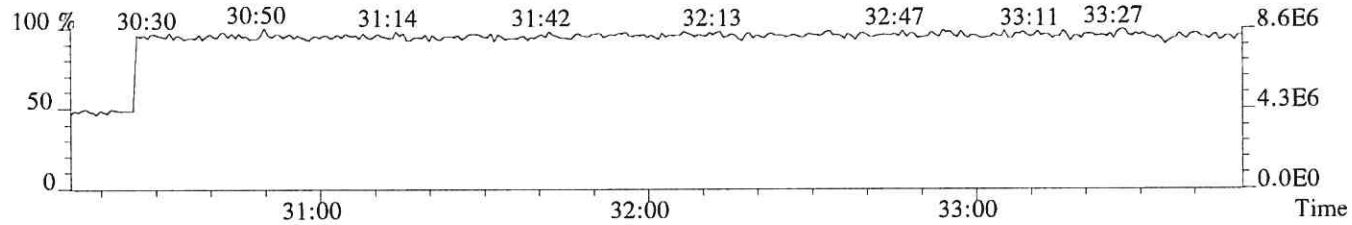
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



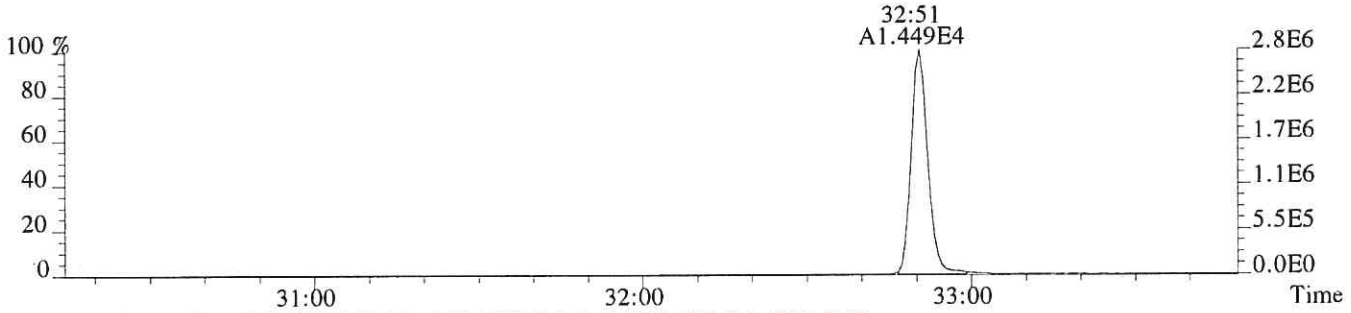
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



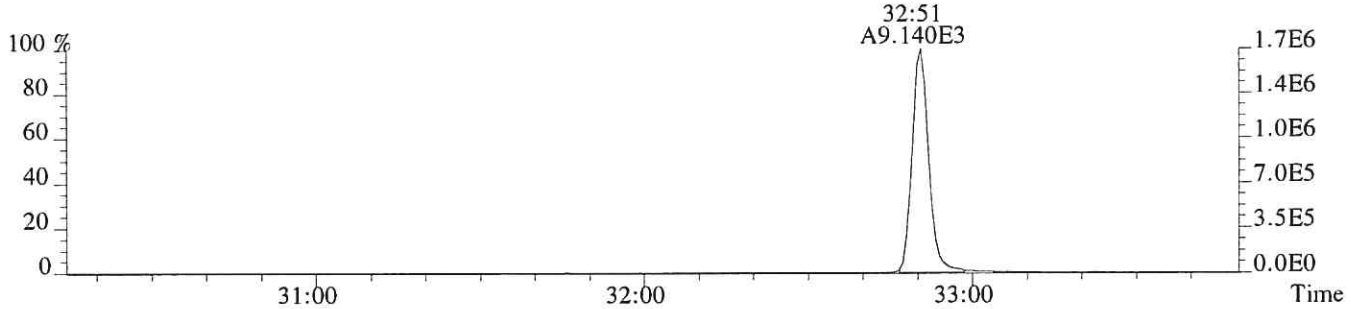
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



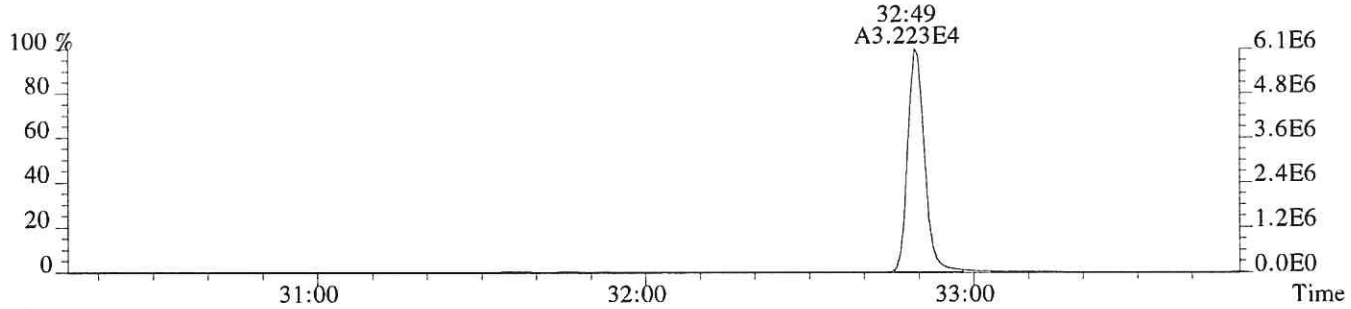
File:P511874 #1-322 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,T)



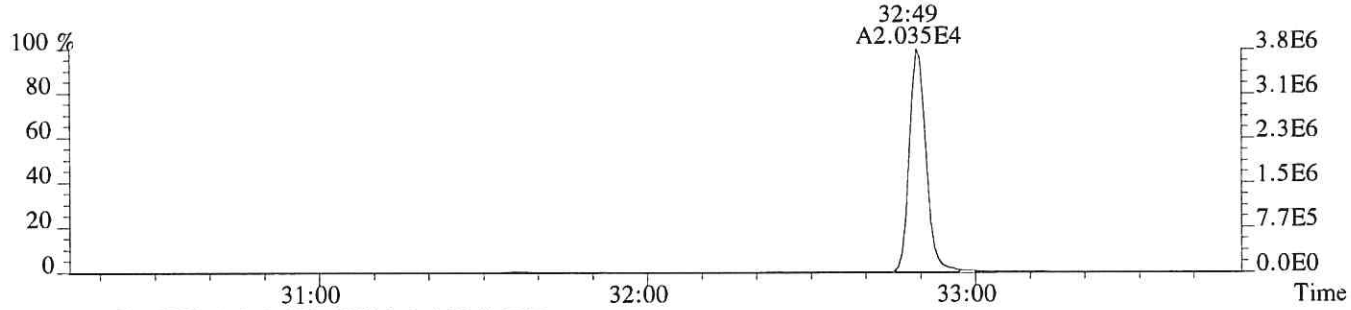
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)



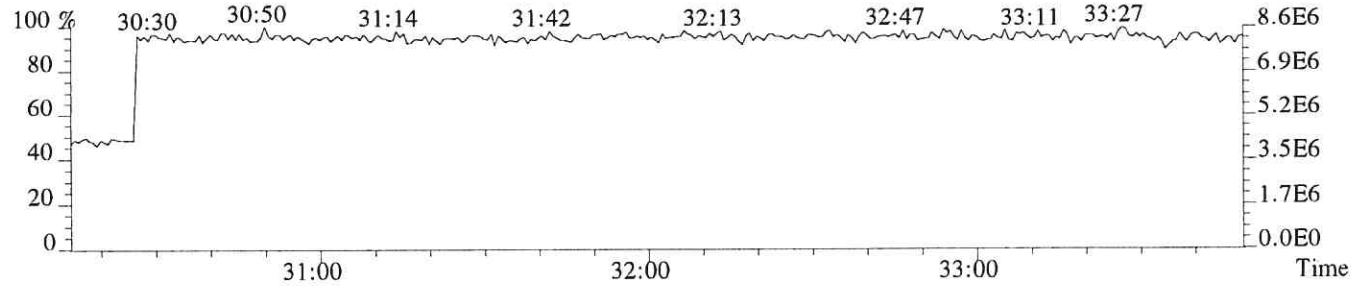
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1672.0,1.00%,F,T)



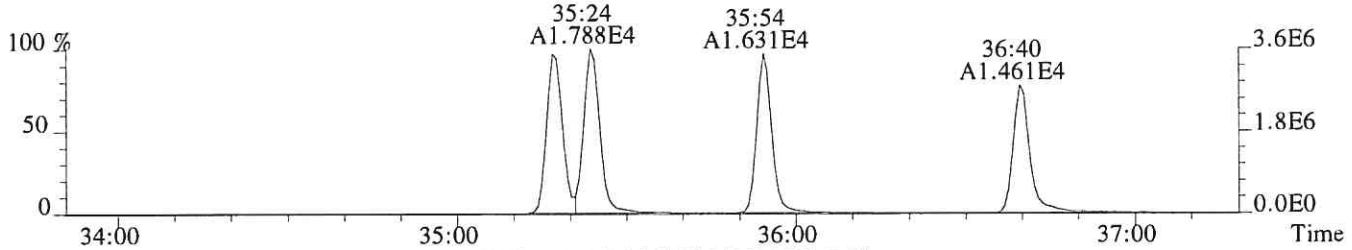
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,T)



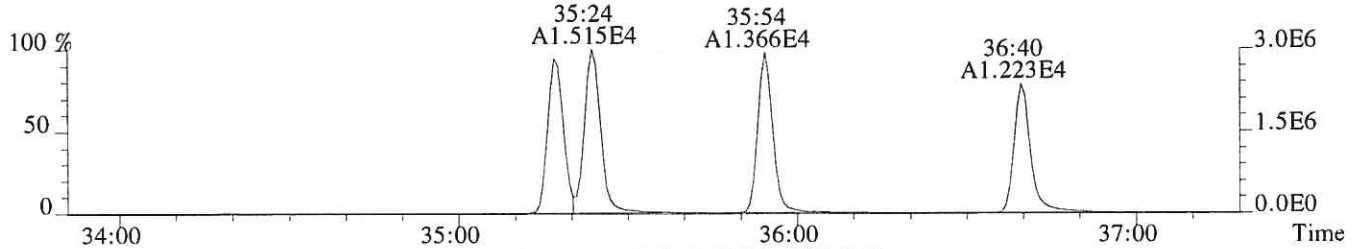
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



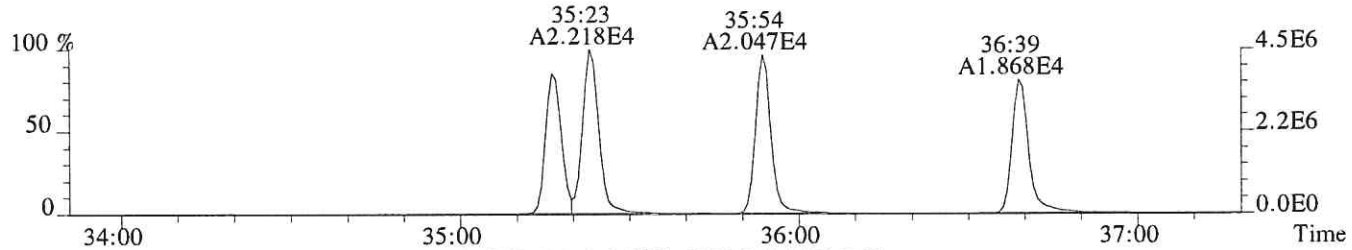
File:P511874 #1-312 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



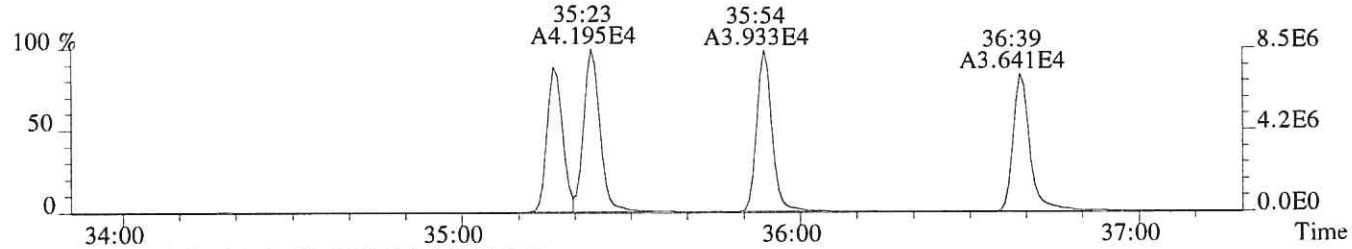
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,T)



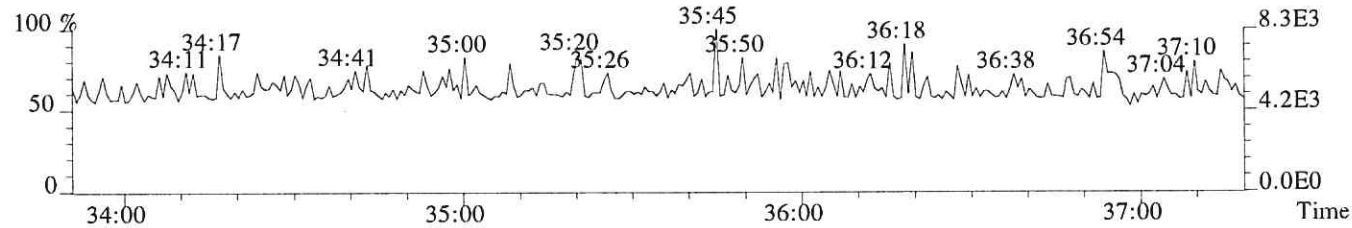
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1380.0,0.40%,F,T)



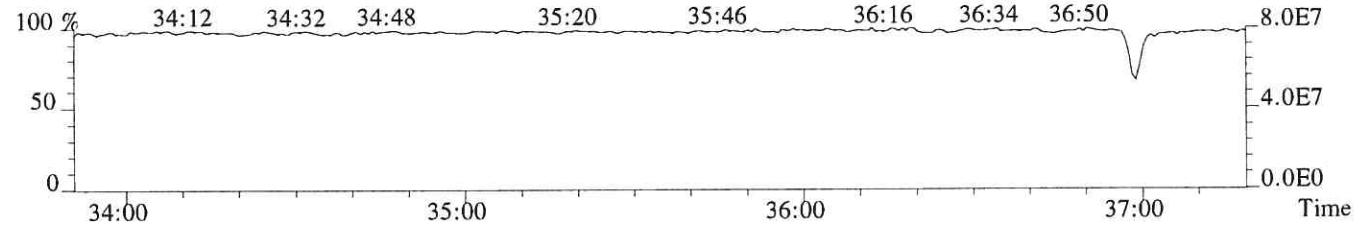
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2260.0,0.40%,F,T)



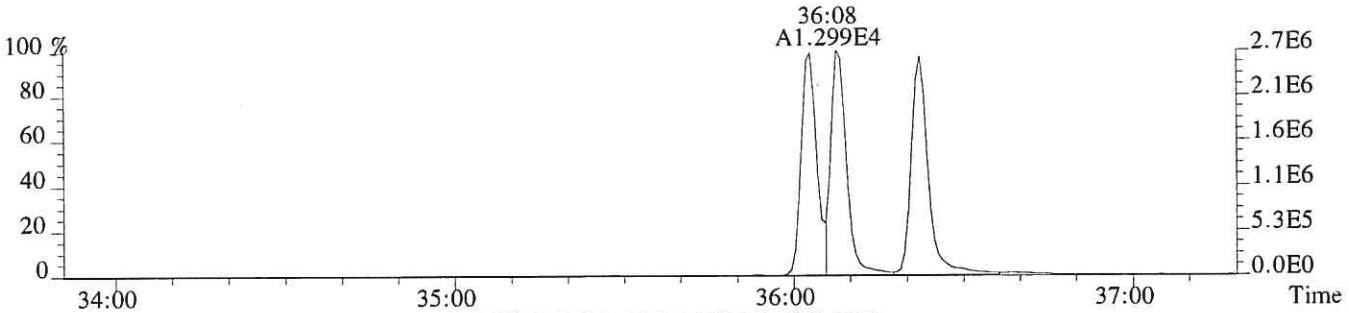
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



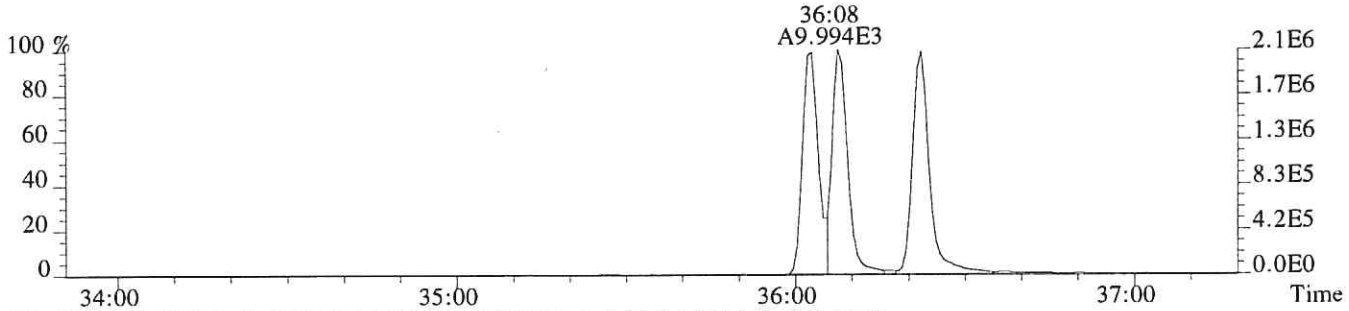
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



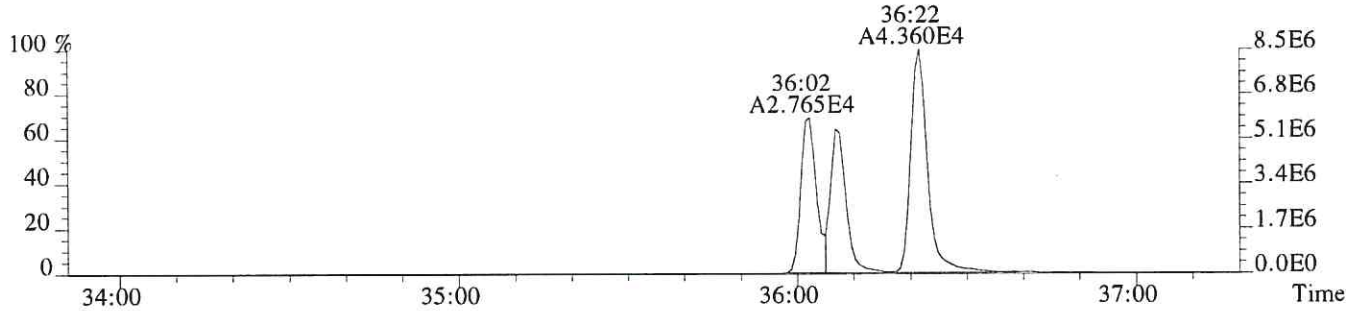
File:P511874 #1-312 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1120.0,0.40%,F,T)



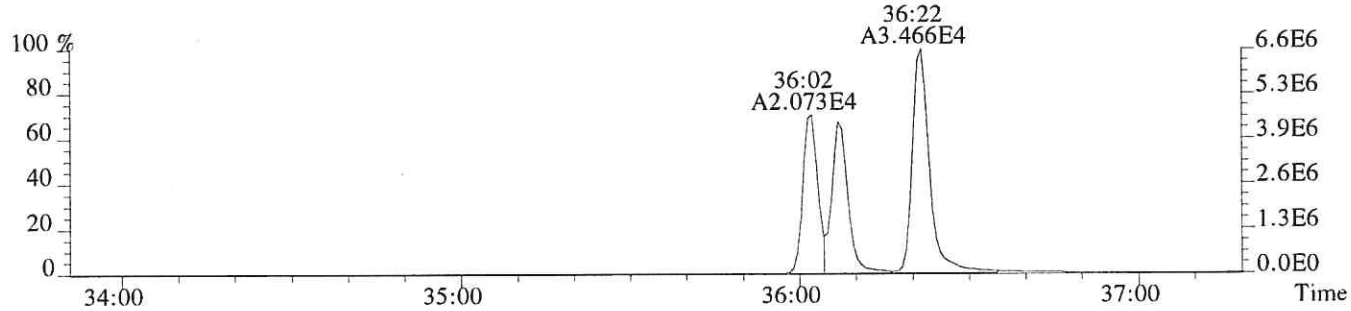
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



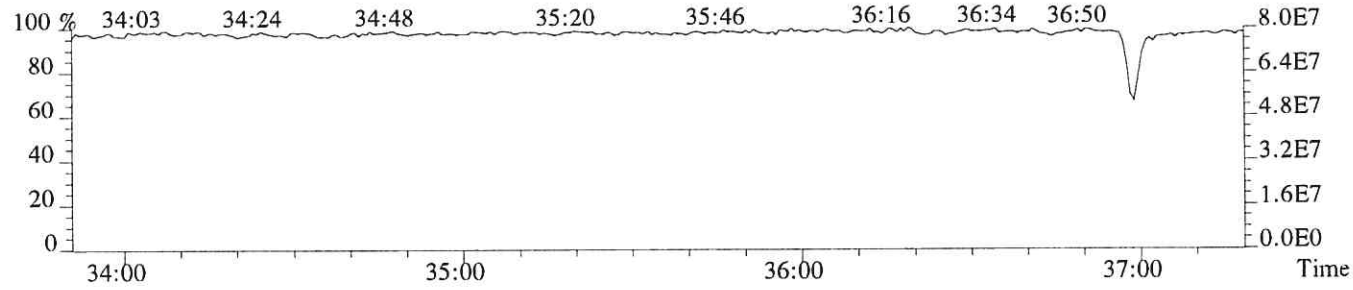
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2884.0,0.40%,F,T)



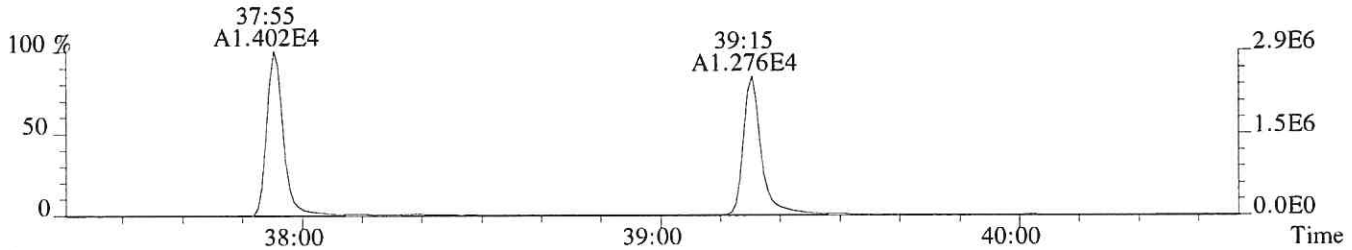
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,T)



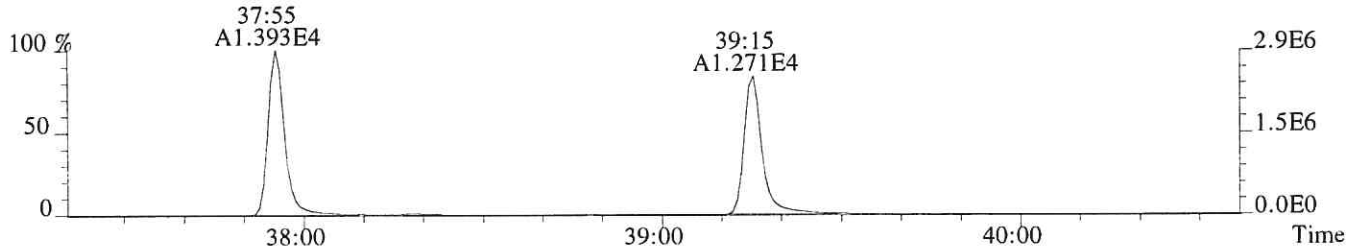
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



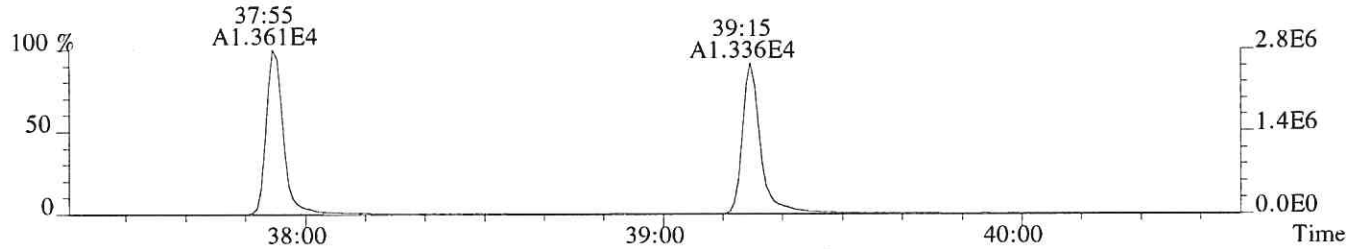
File:P511874 #1-295 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.50%,F,T)



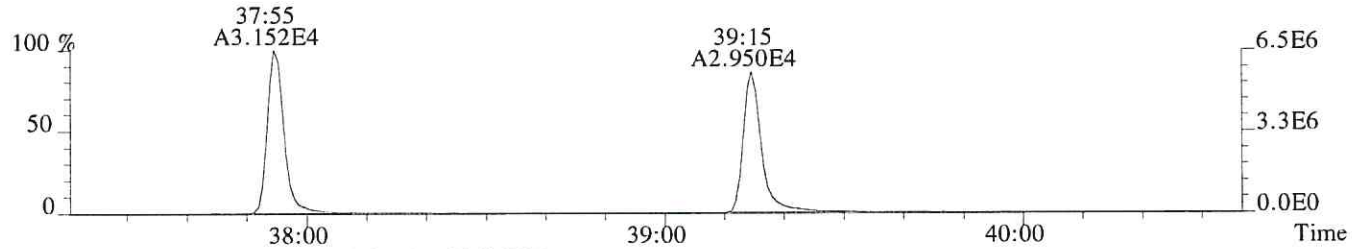
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.50%,F,T)



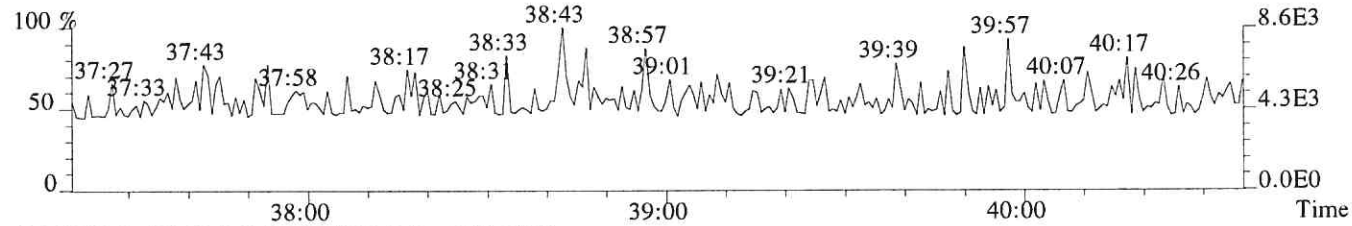
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1492.0,0.50%,F,T)



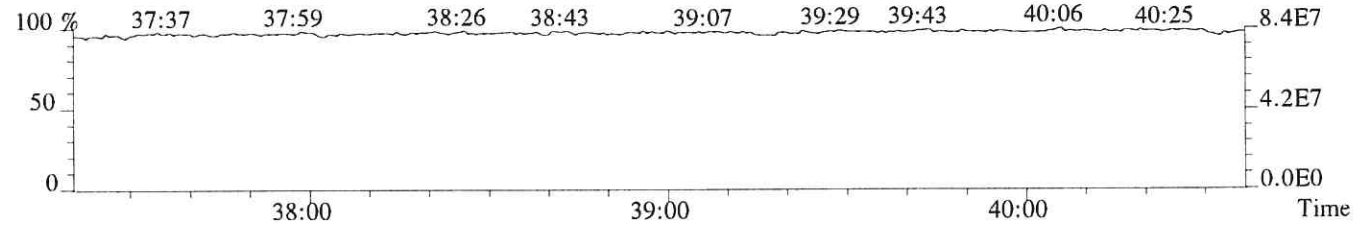
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4324.0,0.50%,F,T)



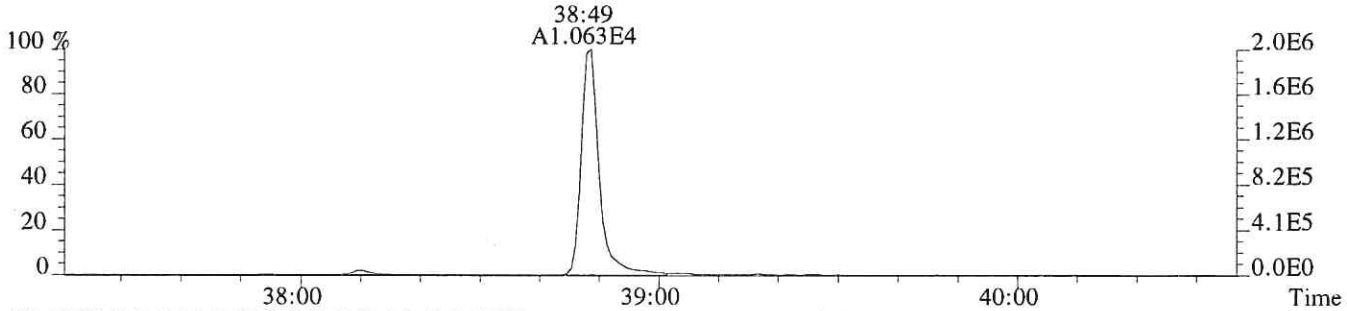
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



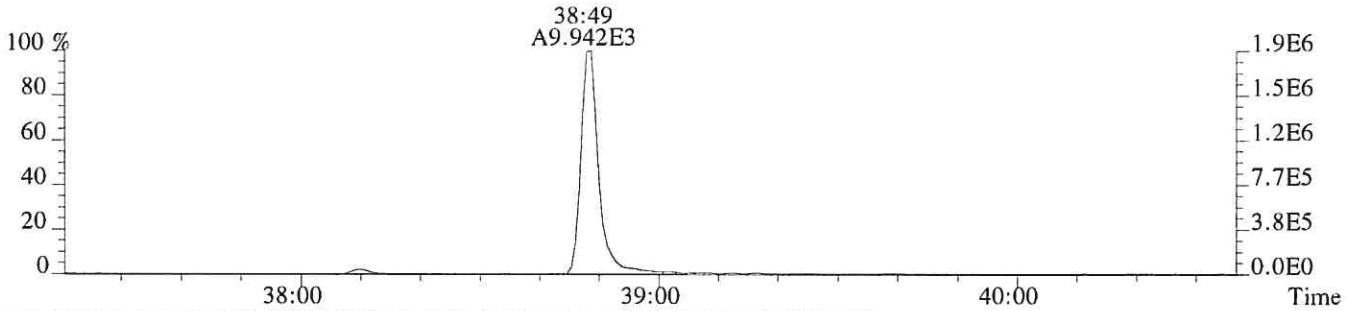
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



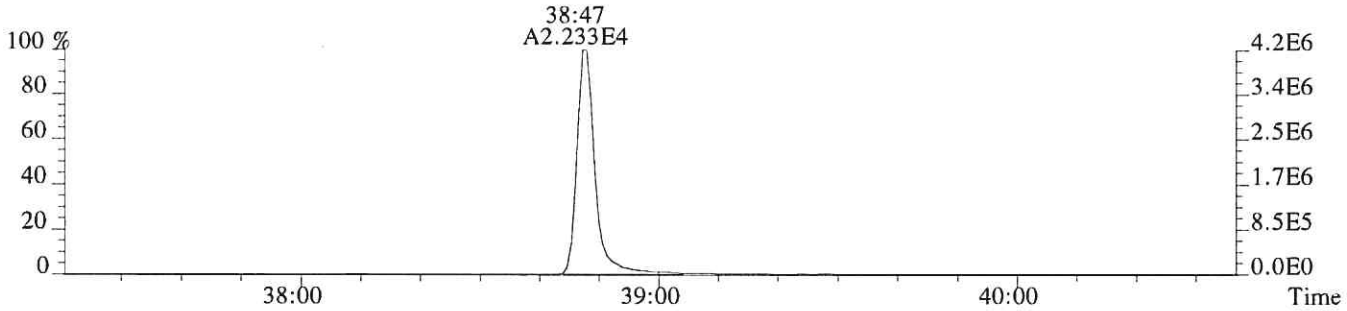
File:P511874 #1-295 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



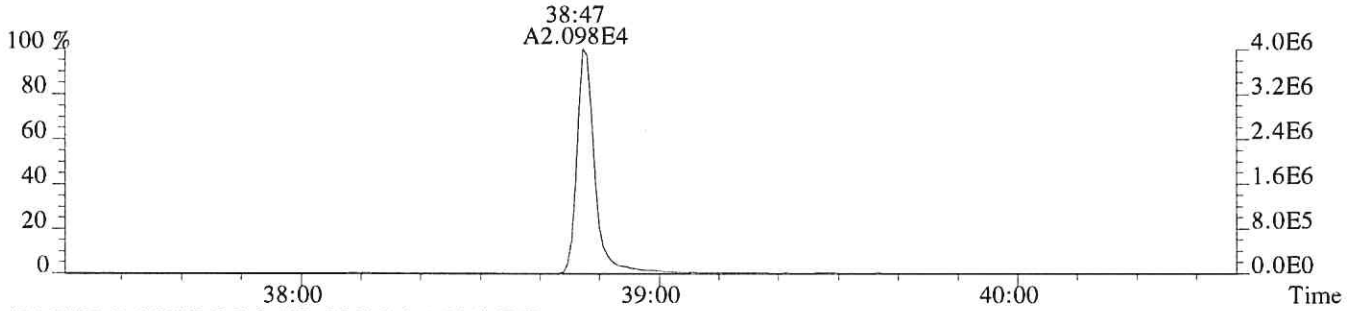
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



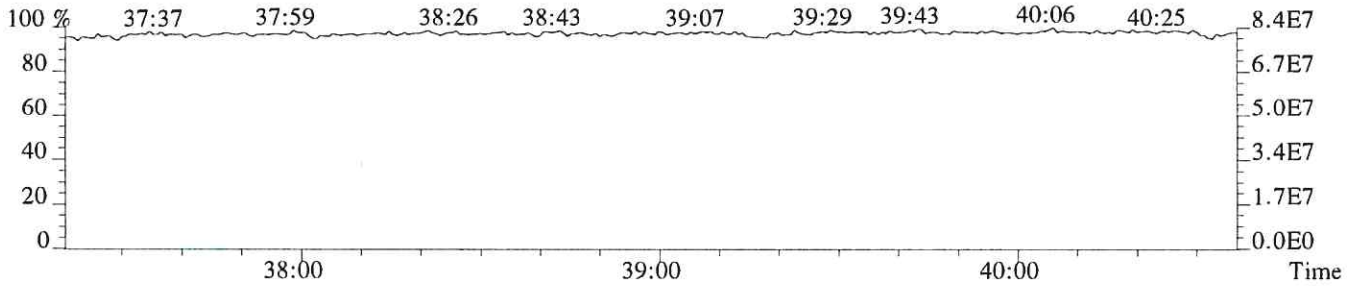
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1272.0,0.40%,F,T)



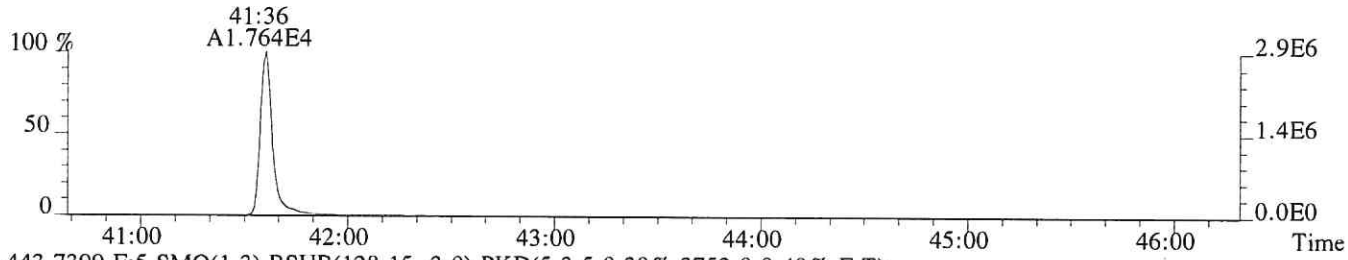
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.40%,F,T)



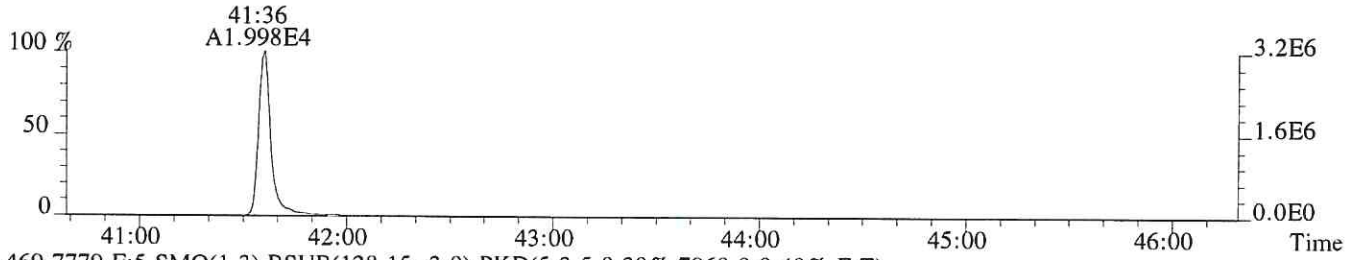
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



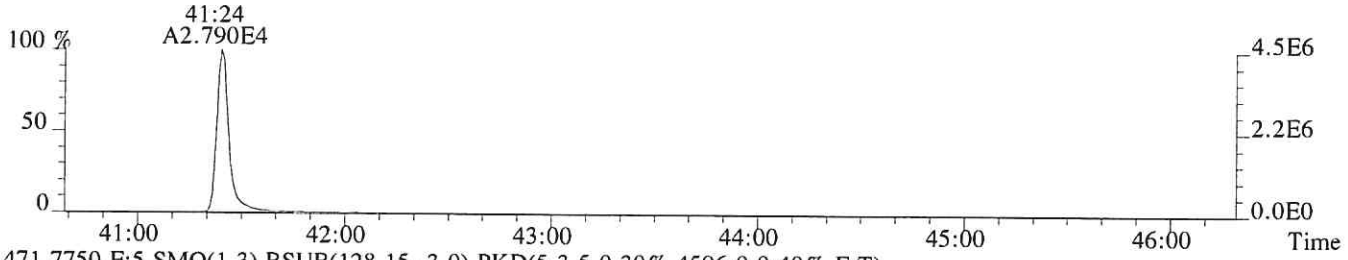
File:P511874 #1-511 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,864.0,0.40%,F,T)



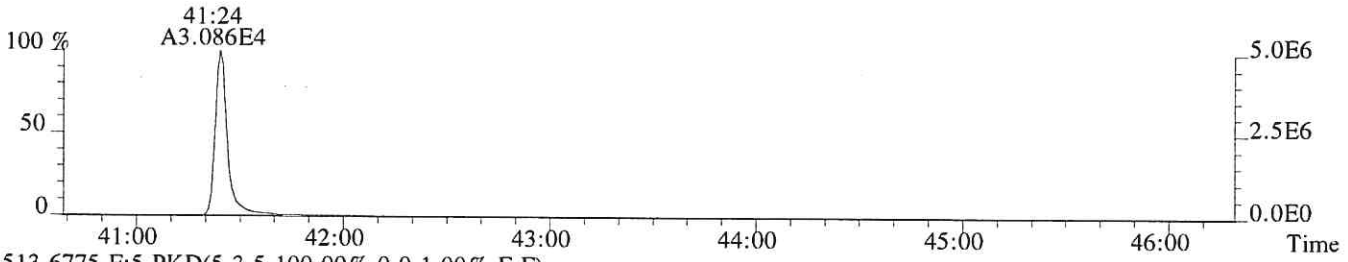
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3752.0,0.40%,F,T)



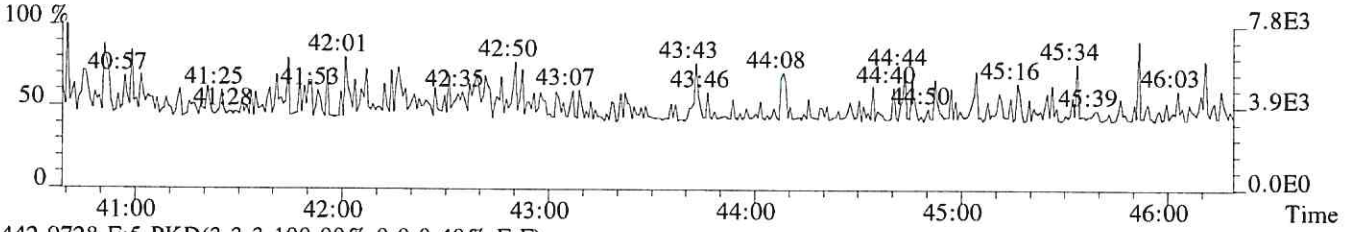
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7960.0,0.40%,F,T)



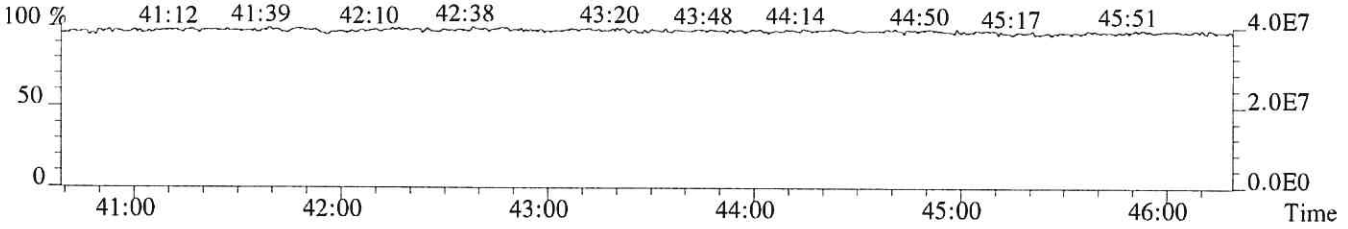
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4596.0,0.40%,F,T)



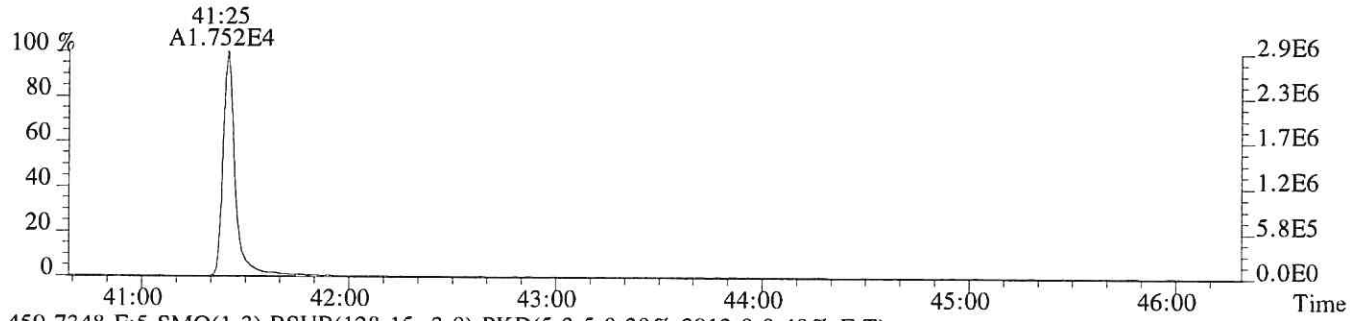
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



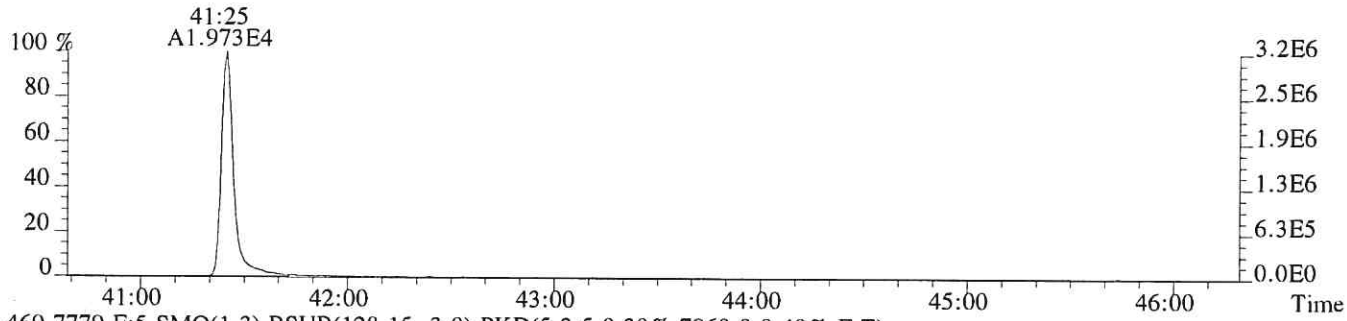
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



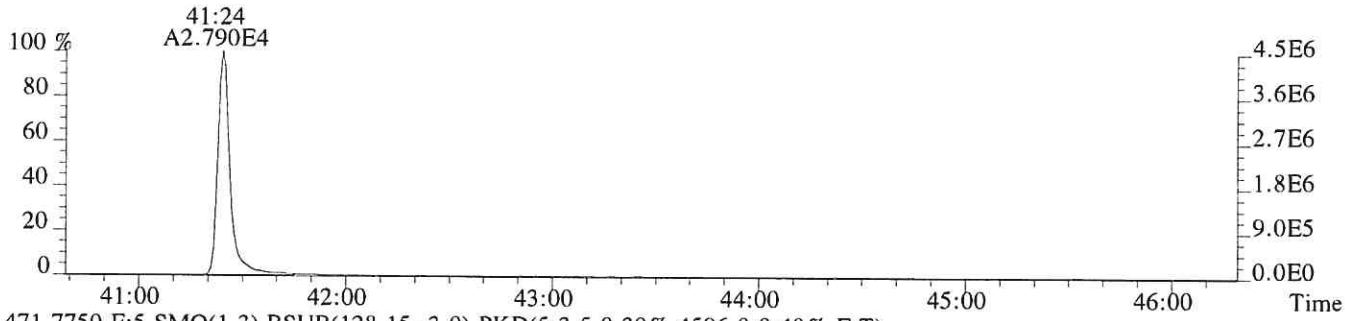
File:P511874 #1-511 Acq:11-OCT-2017 02:54:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-02
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5168.0,0.40%,F,T)



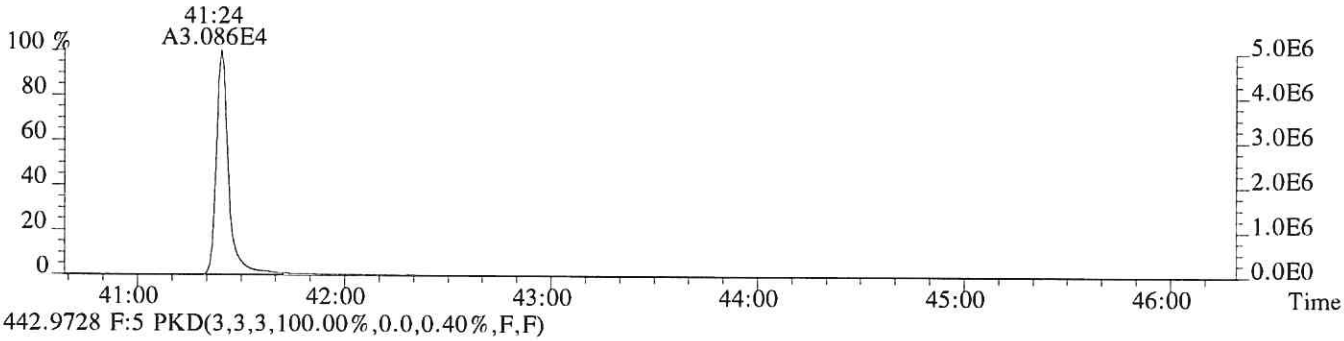
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3912.0,0.40%,F,T)



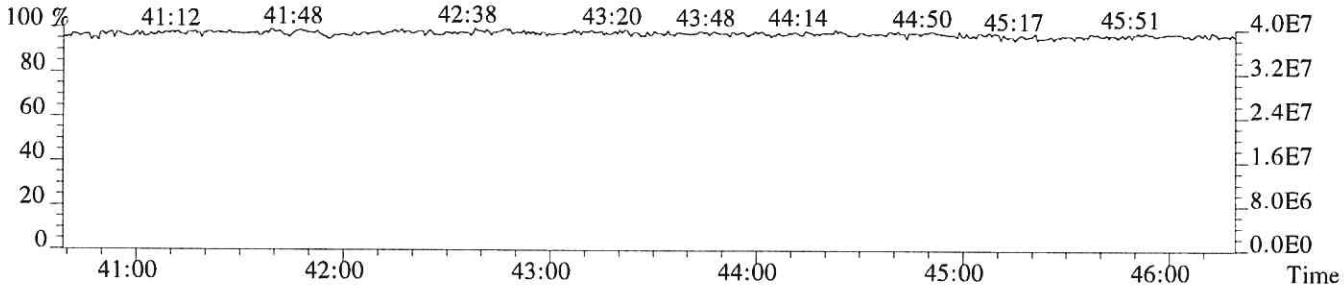
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7960.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4596.0,0.40%,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 P511875 Samp: 1 Inj: 1 Acquired: 11-OCT-17 03:43:18
Processed: 11-OCT-17 08:47:13 Sample ID: EQ1700450-03

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:08	1.191e+03	1.676e+03	0.71	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:36	1.140e+04	7.703e+03	1.48	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	1.082e+04	7.163e+03	1.51	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:17	9.946e+03	8.396e+03	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	1.086e+04	8.837e+03	1.23	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	9.736e+03	8.095e+03	1.20	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	8.916e+03	7.055e+03	1.26	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	8.861e+03	8.571e+03	1.03	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	7.812e+03	7.644e+03	1.02	yes	no	1.191
10	Unk	OCDF	41:36	1.150e+04	1.303e+04	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	1.044e+03	1.328e+03	0.79	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:51	8.639e+03	5.535e+03	1.56	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:03	7.193e+03	5.852e+03	1.23	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	7.815e+03	6.180e+03	1.26	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	8.072e+03	6.505e+03	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	6.418e+03	6.238e+03	1.03	yes	no	0.942
17	Unk	OCDD	41:25	1.031e+04	1.174e+04	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:06	1.481e+04	1.958e+04	0.76	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	2.690e+04	1.713e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:32	2.642e+04	1.654e+04	1.60	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.094e+04	2.118e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	1.305e+04	2.547e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	1.225e+04	2.370e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	1.099e+04	2.158e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	8.535e+03	1.959e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	7.926e+03	1.823e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:58	1.211e+04	1.525e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	1.894e+04	1.195e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	1.610e+04	1.303e+04	1.24	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:07	1.665e+04	1.255e+04	1.33	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	1.399e+04	1.280e+04	1.09	yes	no	0.881
32	IS	13C-OCDD	41:24	1.845e+04	2.029e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	3.148e+04	3.950e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.318e+04	3.465e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	9.778e+03				no	1.033

$$\text{OCDD} = \frac{(1.031e+04 + 1.174e+04) \times 4000 \text{ pg} \times 1}{(1.845e+04 + 2.029e+04) \times \quad g \times \quad / 100 \times 1.051} =$$

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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.
DLCS

Run #19 Filename P511875 Samp: 1 Inj: 1 Acquired: 11-OCT-17 03:43:18
Processed: 11-OCT-17 08:47:13 LAB. ID: EQ1700450-03

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.13e+05	1.44e+03	1.5e+02	2.90e+05	2.98e+03	9.7e+01
2	1,2,3,7,8-PeCDF	2.05e+06	1.02e+03	2.0e+03	1.40e+06	2.46e+03	5.7e+02
3	2,3,4,7,8-PeCDF	2.07e+06	1.02e+03	2.0e+03	1.39e+06	2.46e+03	5.6e+02
4	1,2,3,4,7,8-HxCDF	2.03e+06	1.45e+03	1.4e+03	1.73e+06	9.84e+02	1.8e+03
5	1,2,3,6,7,8-HxCDF	2.10e+06	1.45e+03	1.4e+03	1.76e+06	9.84e+02	1.8e+03
6	2,3,4,6,7,8-HxCDF	2.06e+06	1.45e+03	1.4e+03	1.71e+06	9.84e+02	1.7e+03
7	1,2,3,7,8,9-HxCDF	1.71e+06	1.45e+03	1.2e+03	1.36e+06	9.84e+02	1.4e+03
8	1,2,3,4,6,7,8-HpCDF	1.85e+06	1.92e+03	9.6e+02	1.77e+06	2.67e+03	6.6e+02
9	1,2,3,4,7,8,9-HpCDF	1.48e+06	1.92e+03	7.7e+02	1.46e+06	2.67e+03	5.5e+02
10	OCDF	1.90e+06	4.16e+03	4.6e+02	2.16e+06	1.24e+03	1.7e+03
11	2,3,7,8-TCDD	2.03e+05	2.62e+03	7.8e+01	2.43e+05	1.40e+03	1.7e+02
12	1,2,3,7,8-PeCDD	1.64e+06	1.66e+03	9.9e+02	1.07e+06	5.56e+02	1.9e+03
13	1,2,3,4,7,8-HxCDD	1.55e+06	6.88e+02	2.3e+03	1.26e+06	7.76e+02	1.6e+03
14	1,2,3,6,7,8-HxCDD	1.57e+06	6.88e+02	2.3e+03	1.23e+06	7.76e+02	1.6e+03
15	1,2,3,7,8,9-HxCDD	1.57e+06	6.88e+02	2.3e+03	1.26e+06	7.76e+02	1.6e+03
16	1,2,3,4,6,7,8-HpCDD	1.25e+06	9.68e+02	1.3e+03	1.22e+06	7.24e+02	1.7e+03
17	OCDD	1.65e+06	1.40e+03	1.2e+03	1.94e+06	2.75e+03	7.1e+02
18	13C-2,3,7,8-TCDF	2.57e+06	1.17e+04	2.2e+02	3.30e+06	6.18e+03	5.3e+02
19	13C-1,2,3,7,8-PeCDF	4.87e+06	1.29e+03	3.8e+03	3.10e+06	1.85e+03	1.7e+03
20	13C-2,3,4,7,8-PeCDF	5.10e+06	1.29e+03	3.9e+03	3.15e+06	1.85e+03	1.7e+03
21	13C-1,2,3,4,7,8-HxCDF	2.29e+06	1.20e+03	1.9e+03	4.48e+06	2.16e+03	2.1e+03
22	13C-1,2,3,6,7,8-HxCDF	2.57e+06	1.20e+03	2.1e+03	5.09e+06	2.16e+03	2.4e+03
23	13C-2,3,4,6,7,8-HxCDF	2.56e+06	1.20e+03	2.1e+03	4.92e+06	2.16e+03	2.3e+03
24	13C-1,2,3,7,8,9-HxCDF	2.14e+06	1.20e+03	1.8e+03	4.16e+06	2.16e+03	1.9e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.76e+06	3.27e+03	5.4e+02	4.05e+06	2.34e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.50e+06	3.27e+03	4.6e+02	3.41e+06	2.34e+03	1.5e+03
27	13C-2,3,7,8-TCDD	2.21e+06	6.36e+03	3.5e+02	2.78e+06	4.43e+03	6.3e+02
28	13C-1,2,3,7,8-PeCDD	3.54e+06	2.15e+03	1.6e+03	2.26e+06	7.36e+02	3.1e+03
29	13C-1,2,3,4,7,8-HxCDD	3.51e+06	3.06e+03	1.1e+03	2.82e+06	1.27e+03	2.2e+03
30	13C-1,2,3,6,7,8-HxCDD	3.42e+06	3.06e+03	1.1e+03	2.58e+06	1.27e+03	2.0e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.72e+06	1.51e+03	1.8e+03	2.47e+06	1.06e+03	2.3e+03
32	13C-OCDD	2.99e+06	4.54e+03	6.6e+02	3.33e+06	4.28e+03	7.8e+02
33	13C-1,2,3,4-TCDD	5.52e+06	6.36e+03	8.7e+02	6.98e+06	4.43e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.63e+06	3.06e+03	2.8e+03	6.77e+06	1.27e+03	5.3e+03
35	37Cl-2,3,7,8-TCDD	1.81e+06	1.48e+03	1.2e+03			

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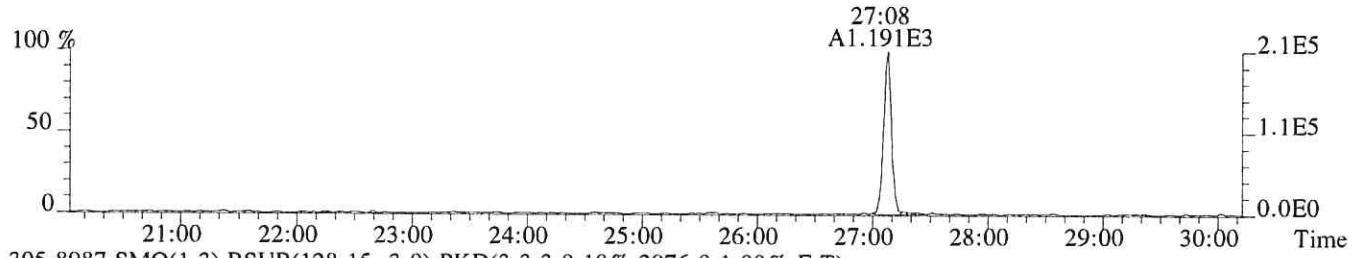
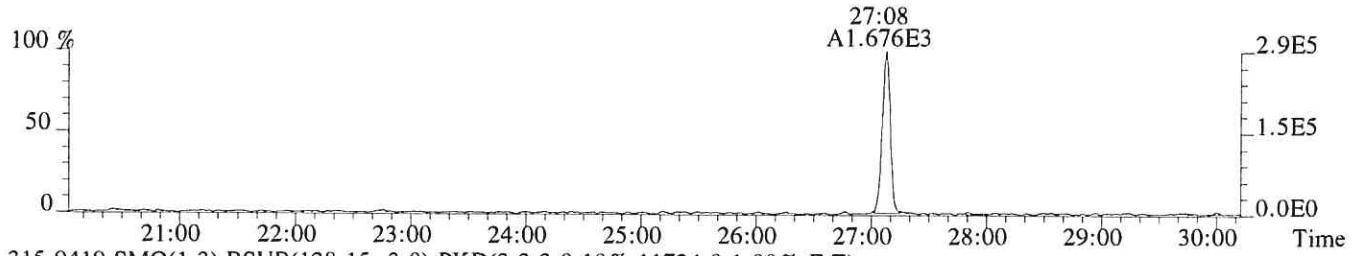
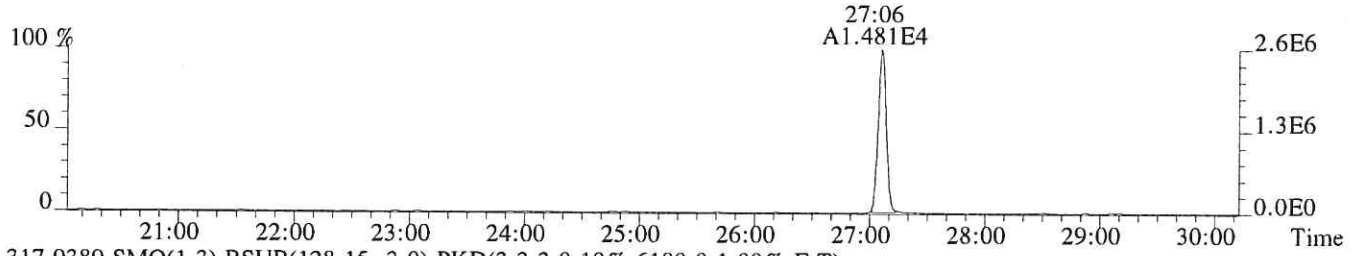
File:P511875 #1-722 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1440.0,1.00%,F,T)



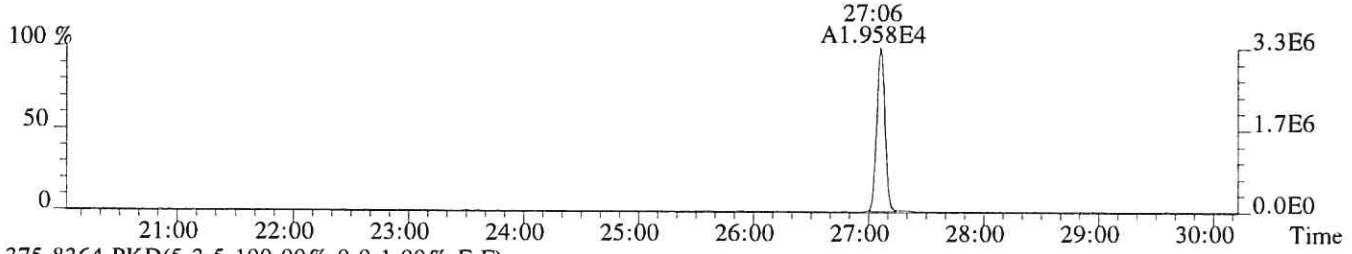
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2976.0,1.00%,F,T)



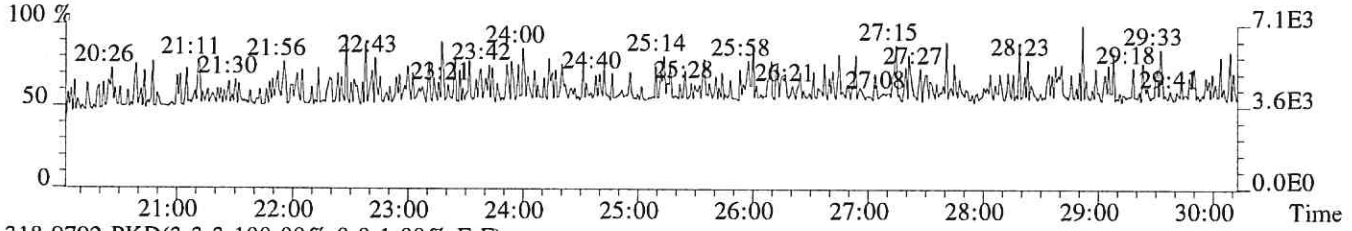
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11724.0,1.00%,F,T)



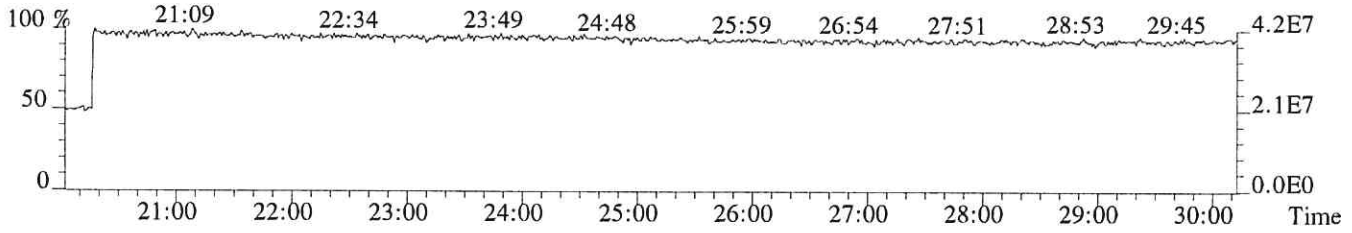
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6180.0,1.00%,F,T)



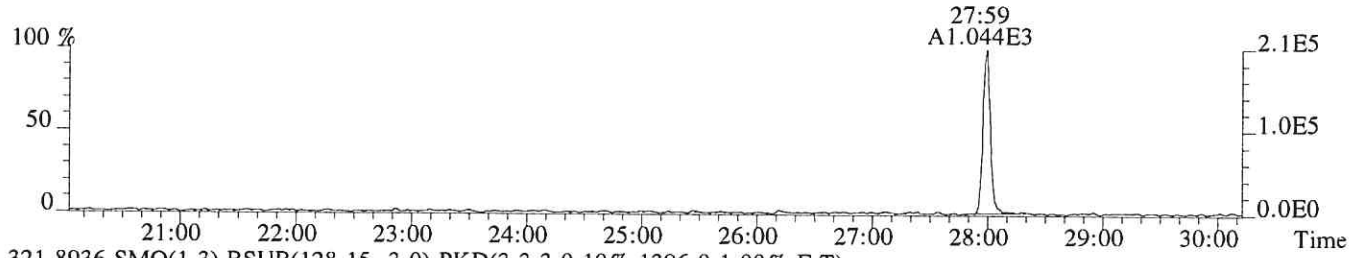
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



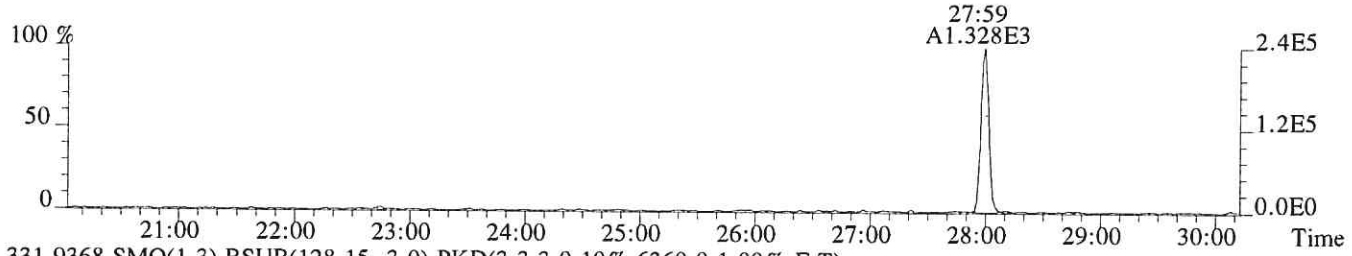
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



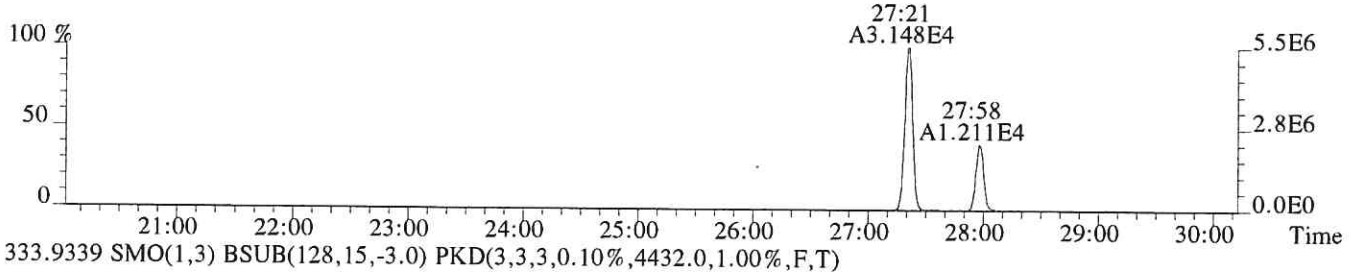
File:P511875 #1-722 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2620.0,1.00%,F,T)



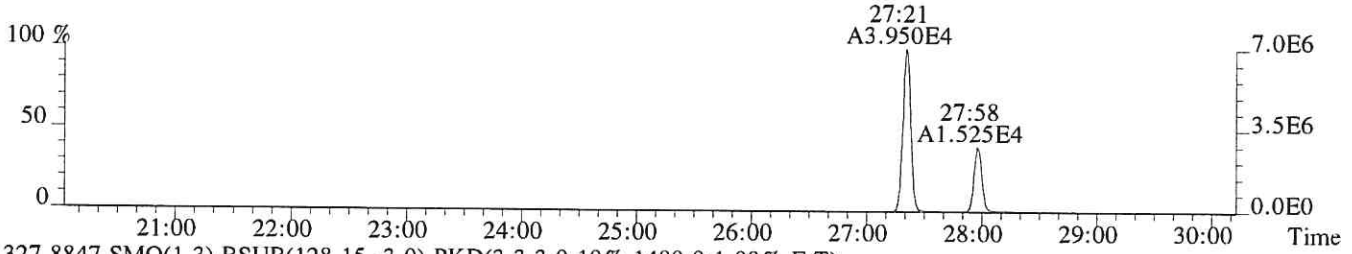
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,T)



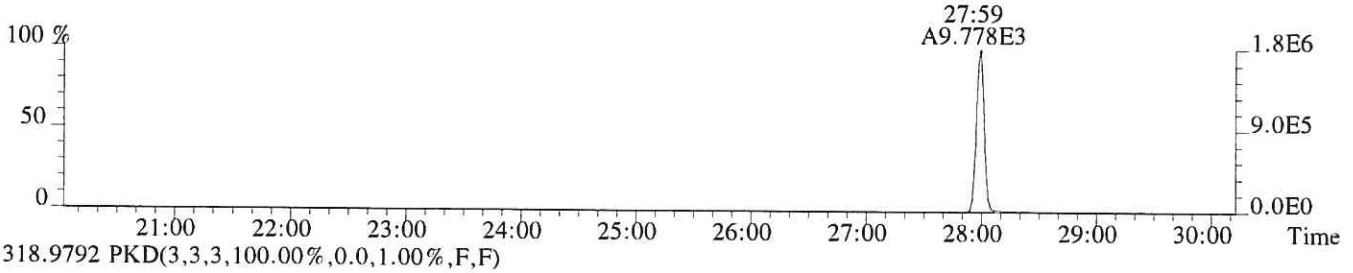
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6360.0,1.00%,F,T)



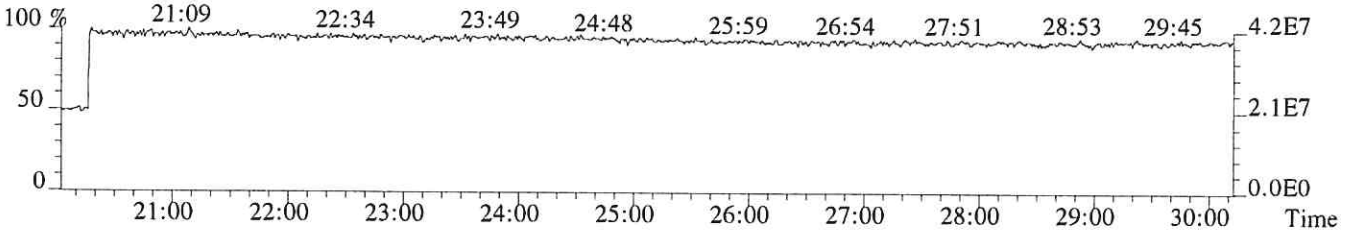
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4432.0,1.00%,F,T)



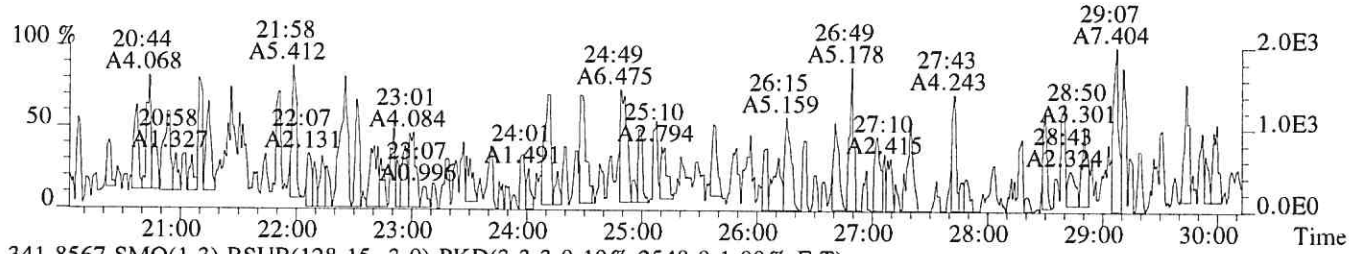
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1480.0,1.00%,F,T)



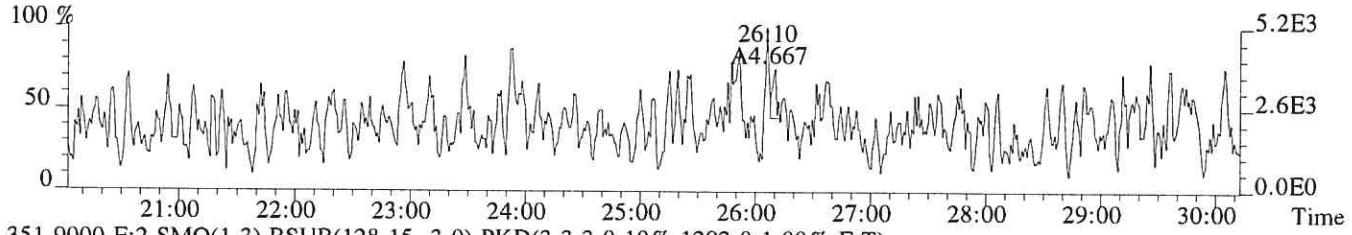
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



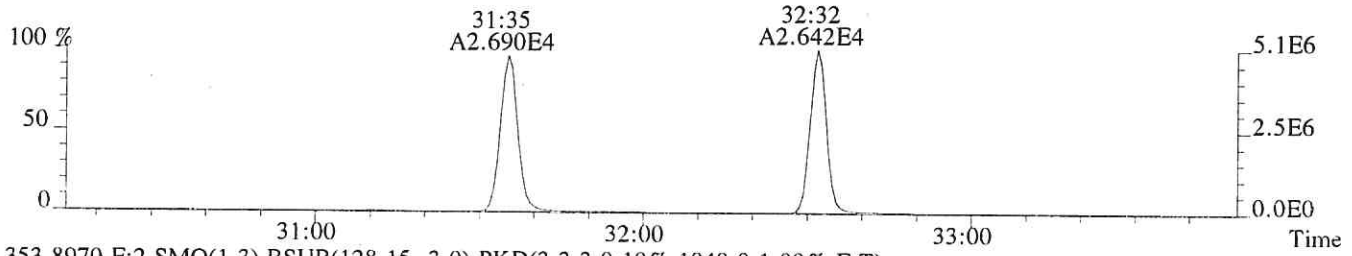
File:P511875 #1-722 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,428.0,1.00%,F,T)



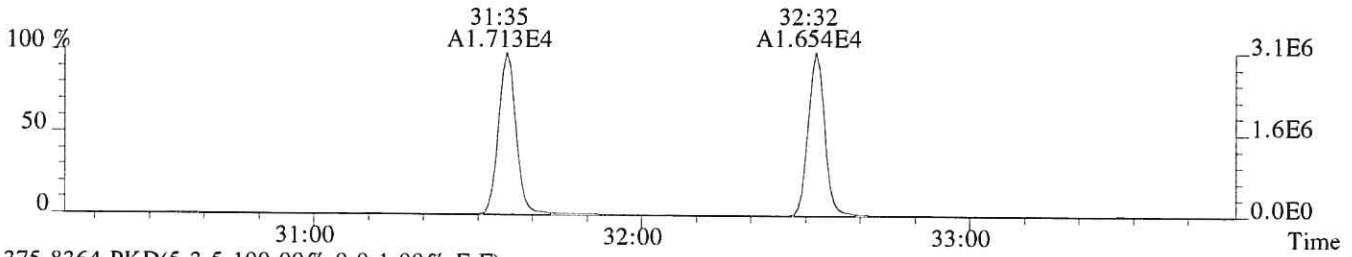
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2548.0,1.00%,F,T)



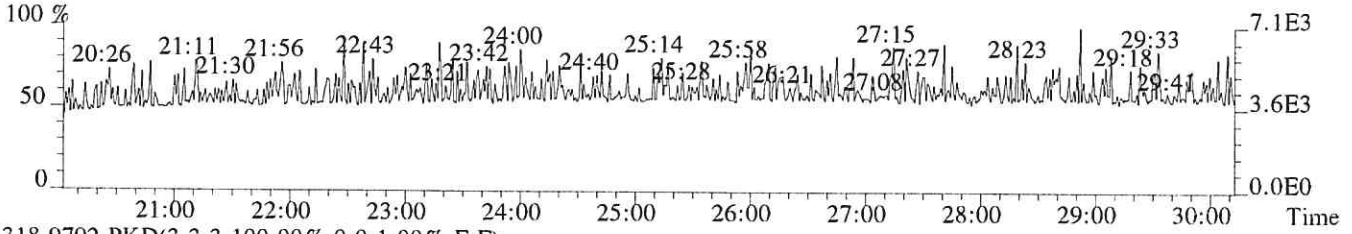
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



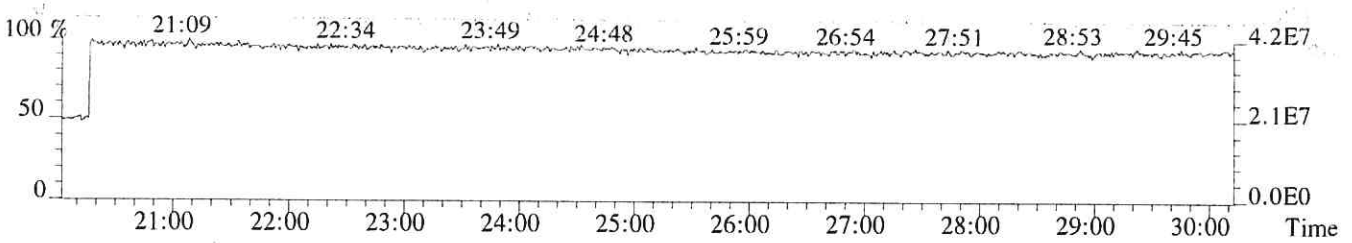
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1848.0,1.00%,F,T)



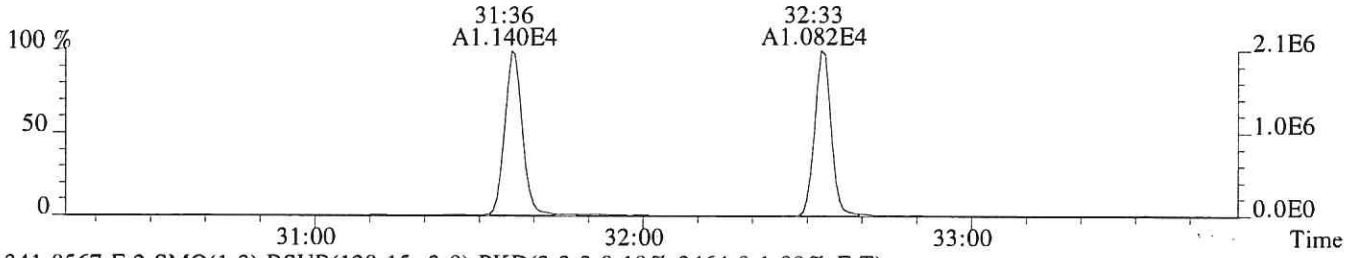
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



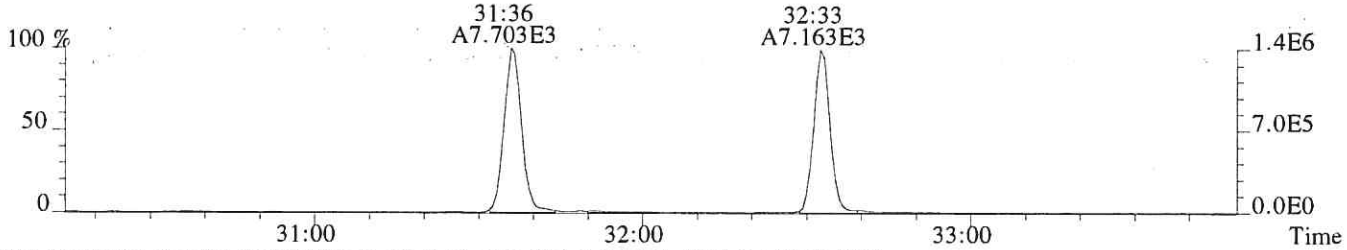
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



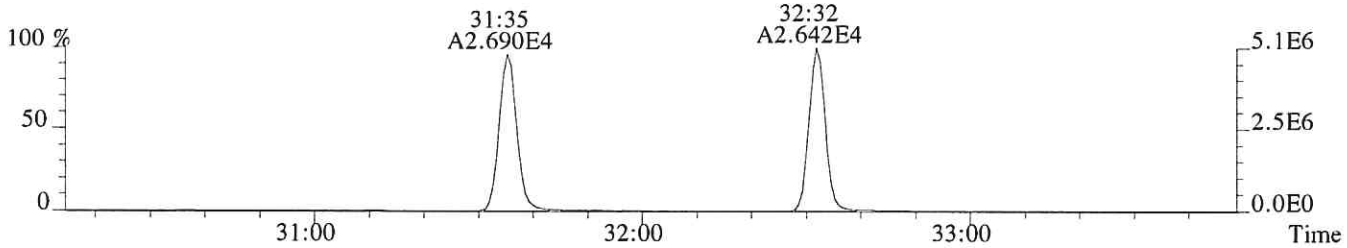
File:P511875 #1-322 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



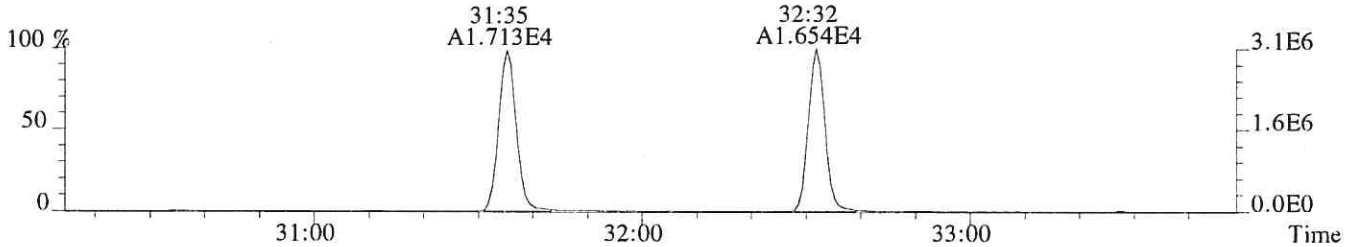
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2464.0,1.00%,F,T)



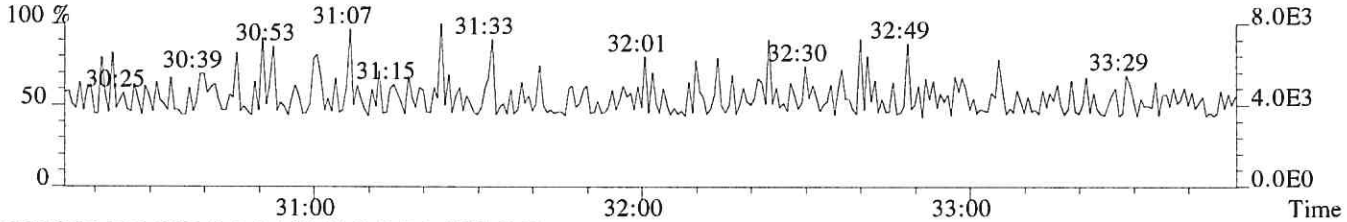
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



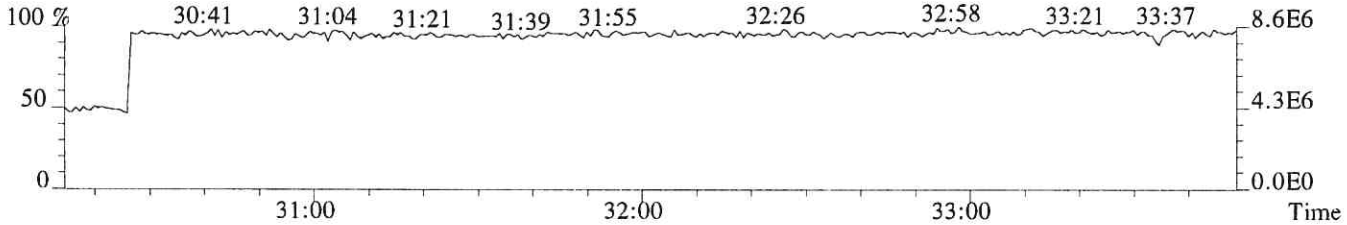
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1848.0,1.00%,F,T)



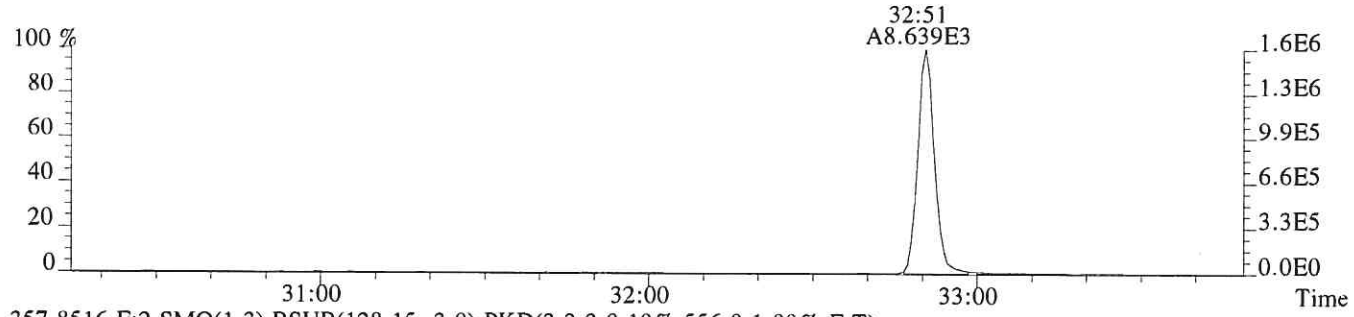
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



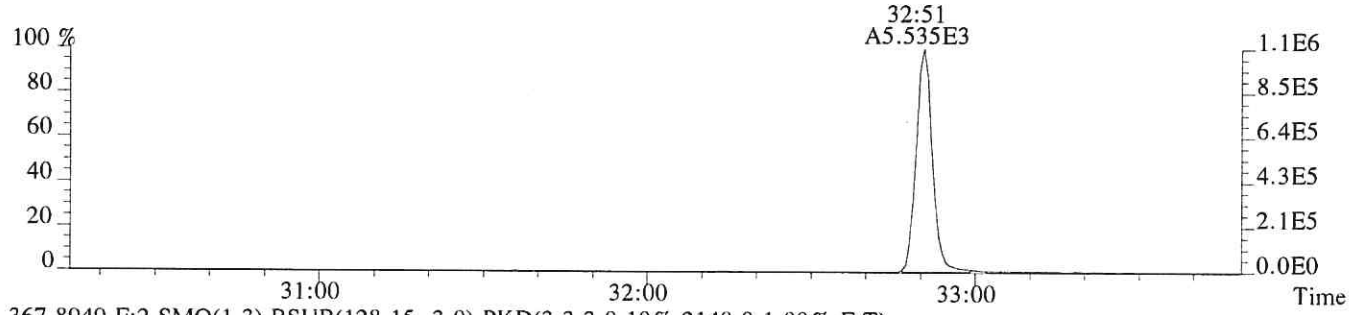
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



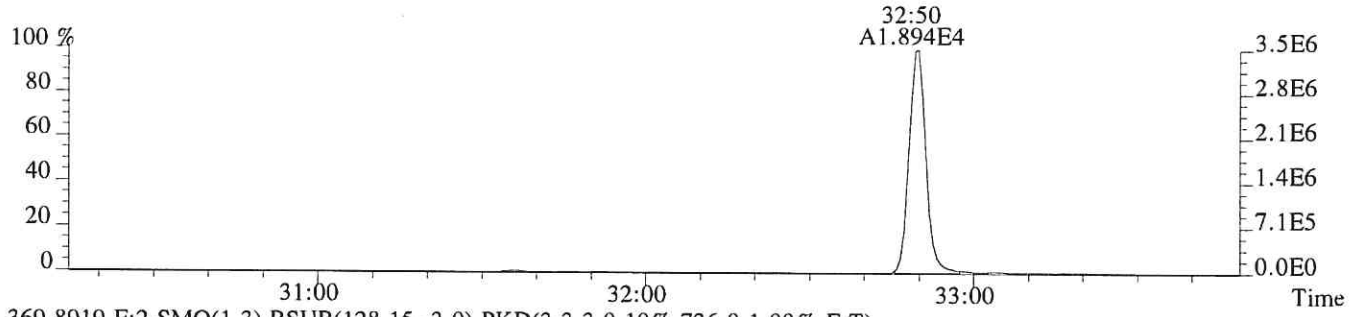
File:P511875 #1-322 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1656.0,1.00%,F,T)



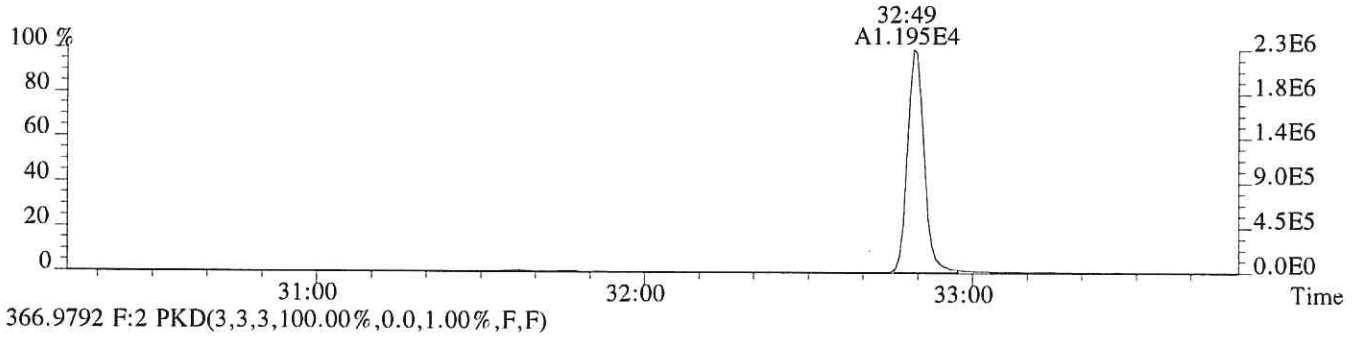
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,T)



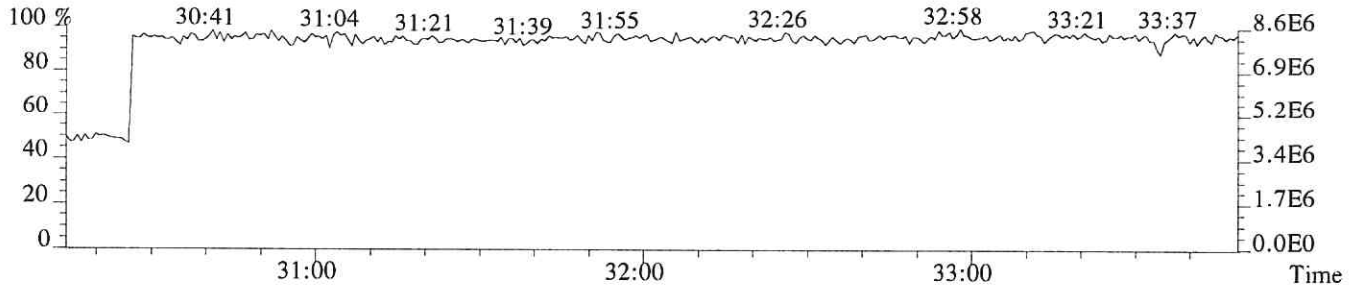
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2148.0,1.00%,F,T)



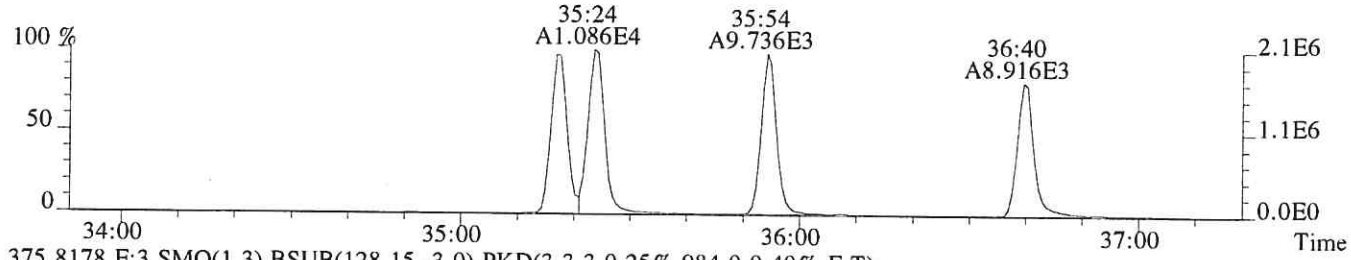
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,T)



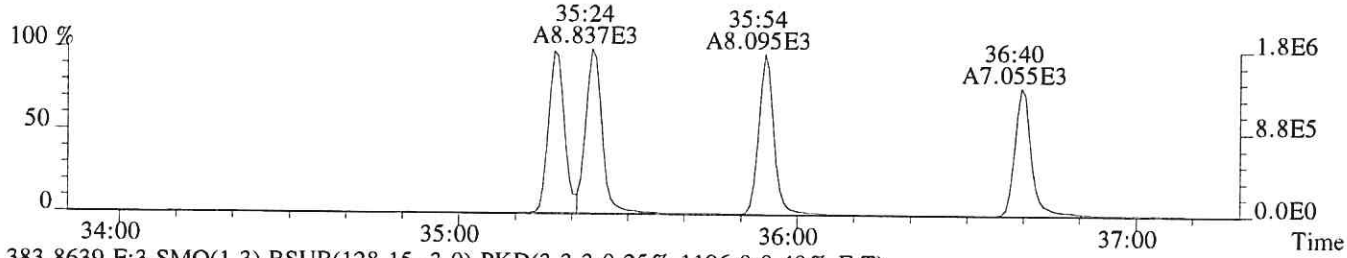
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



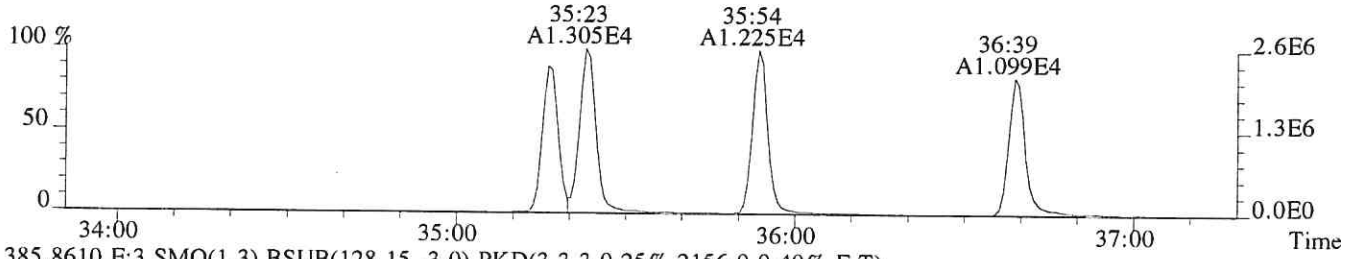
File:P511875 #1-312 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1452.0,0.40%,F,T)



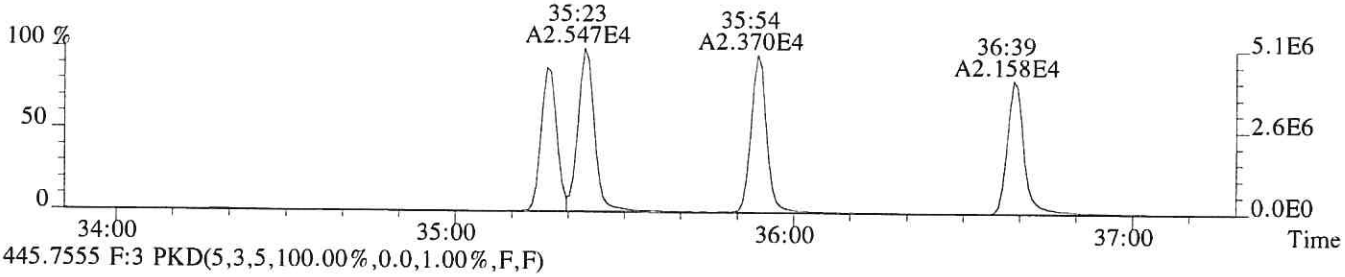
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,T)



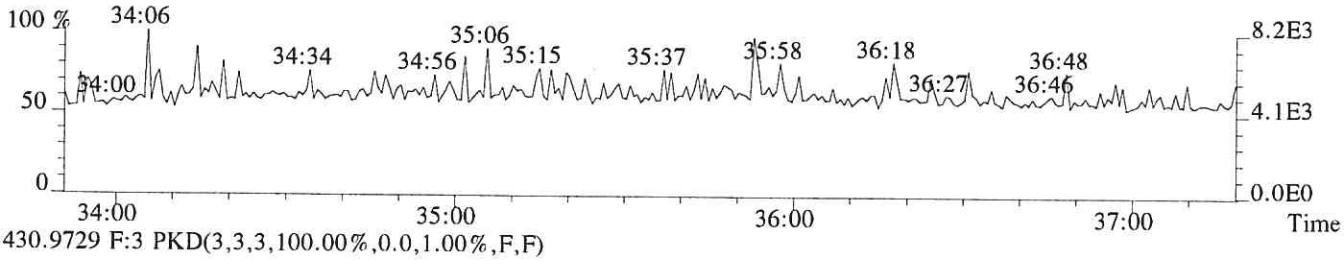
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



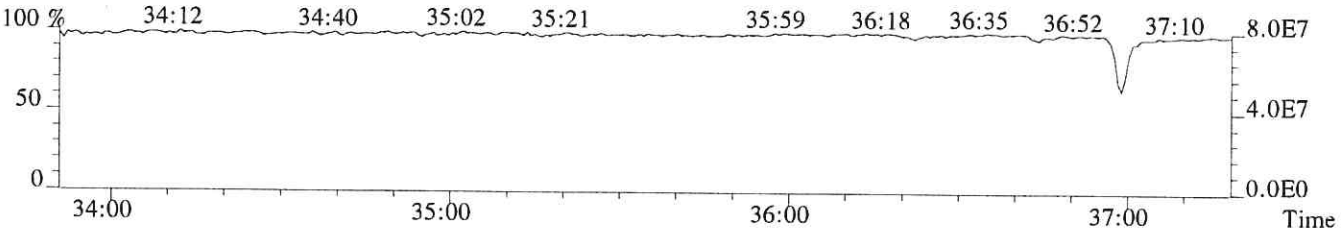
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2156.0,0.40%,F,T)



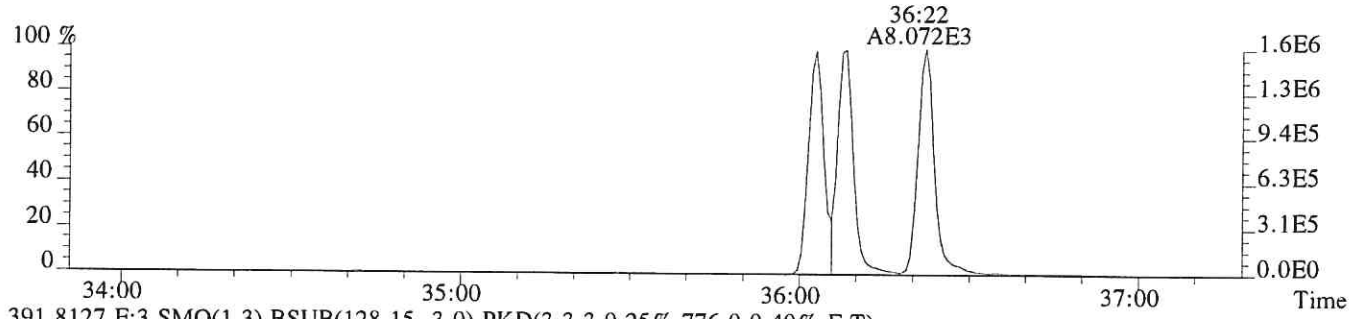
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



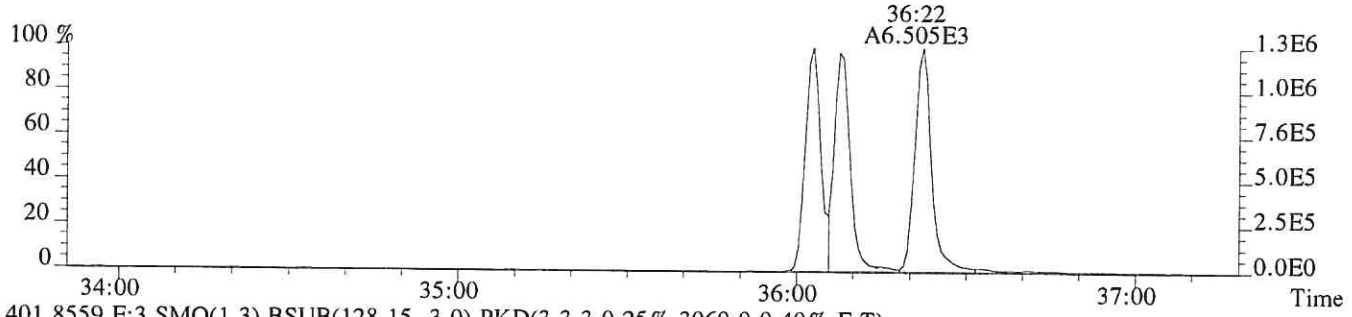
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



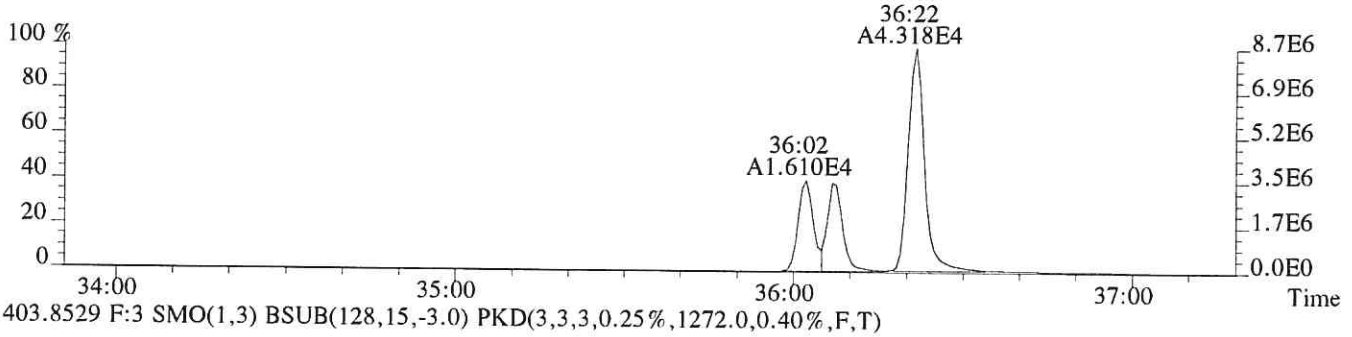
File:P511875 #1-312 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,T)



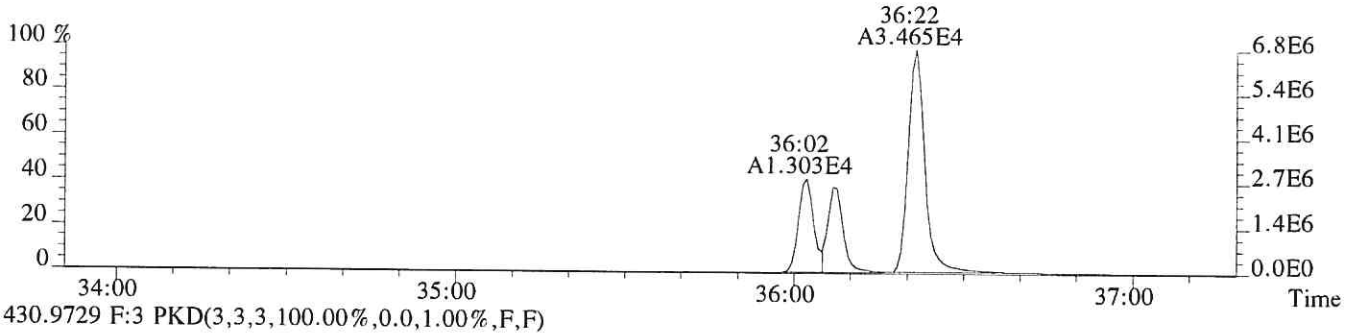
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,T)



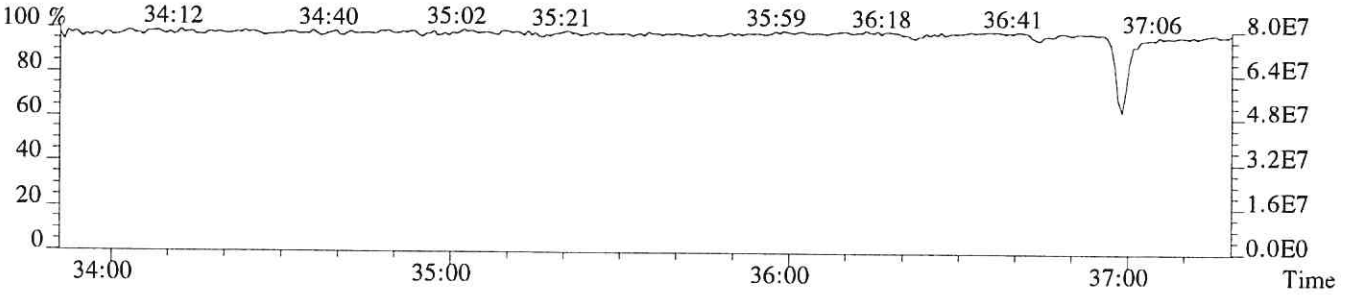
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3060.0,0.40%,F,T)



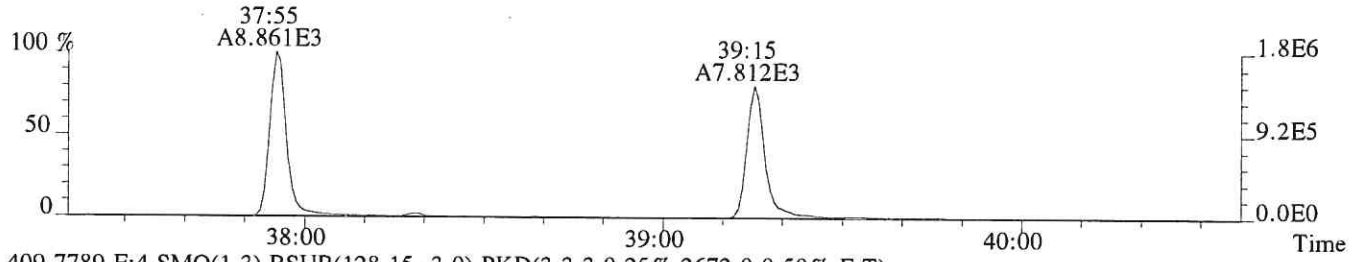
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1272.0,0.40%,F,T)



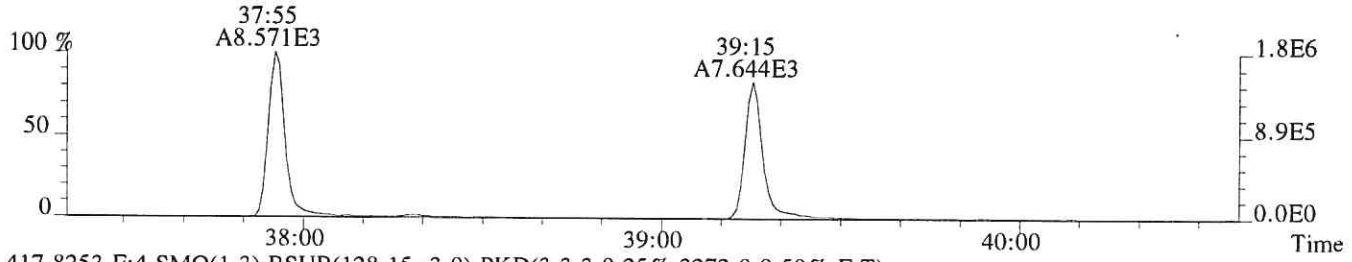
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



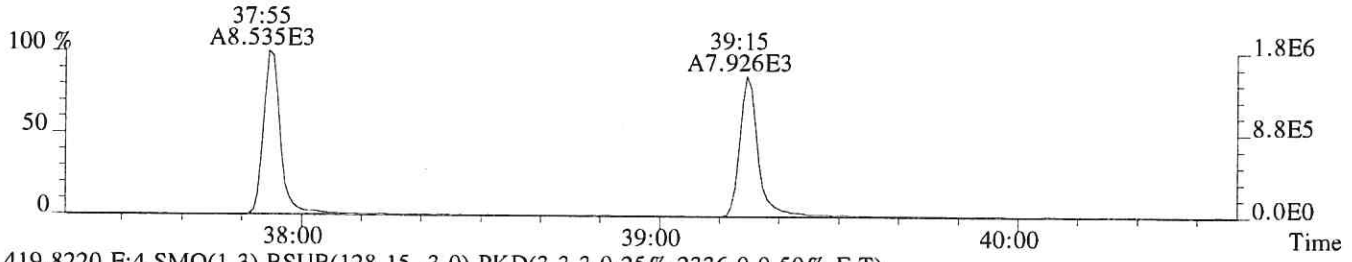
File:P511875 #1-295 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.50%,F,T)



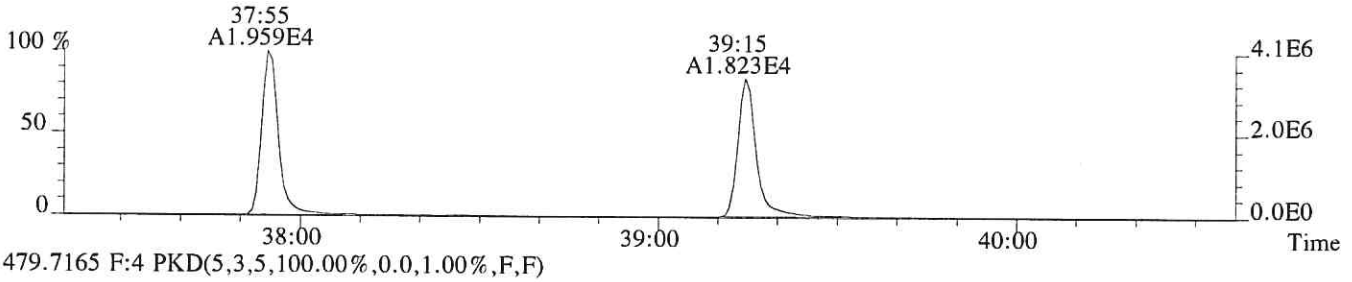
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2672.0,0.50%,F,T)



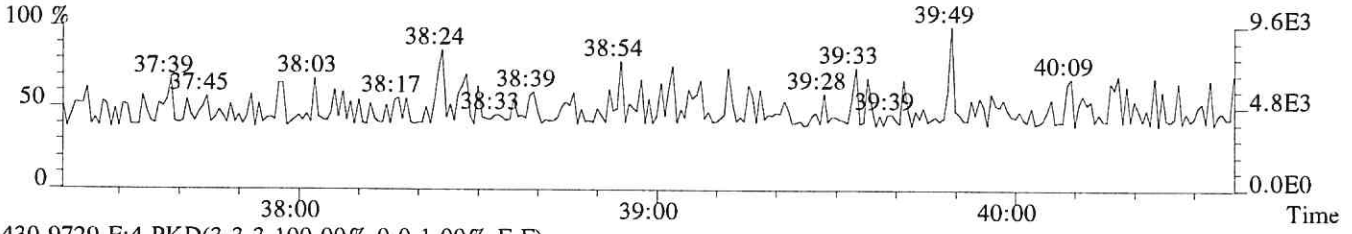
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3272.0,0.50%,F,T)



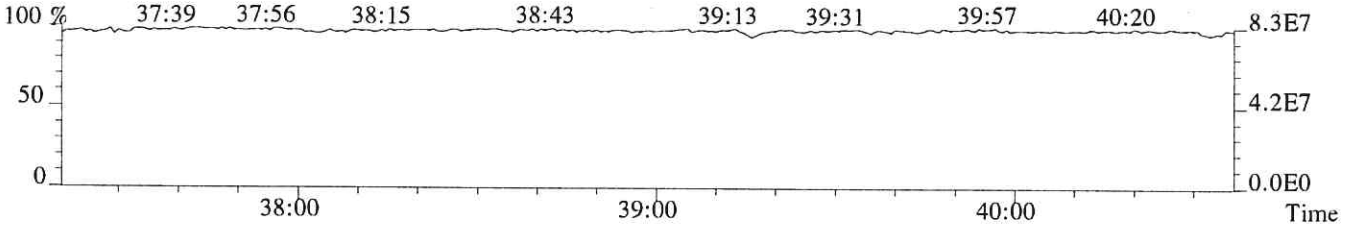
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2336.0,0.50%,F,T)



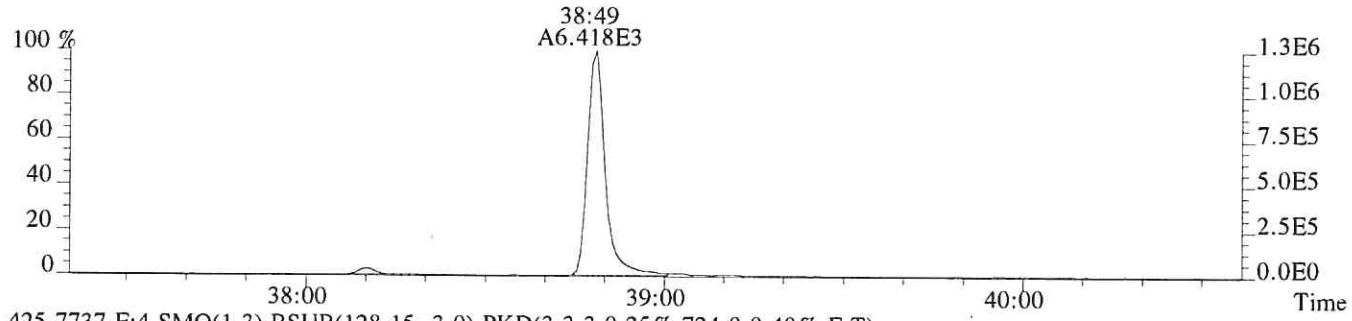
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



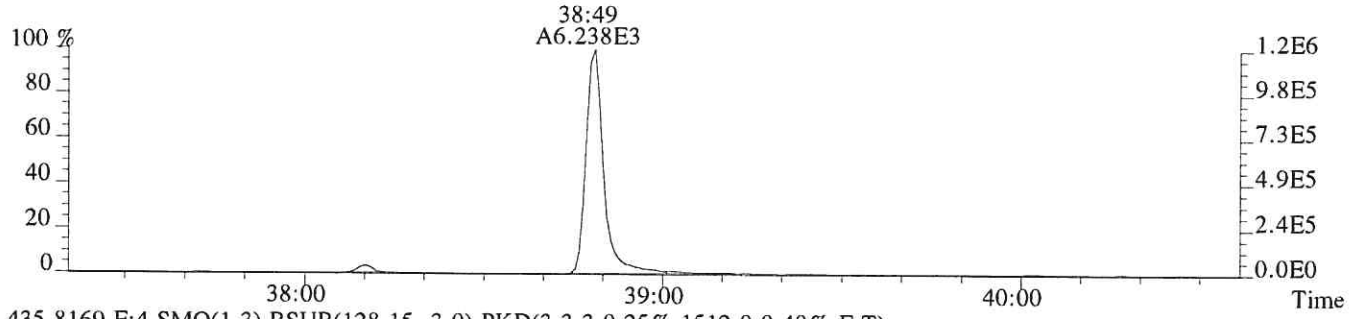
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



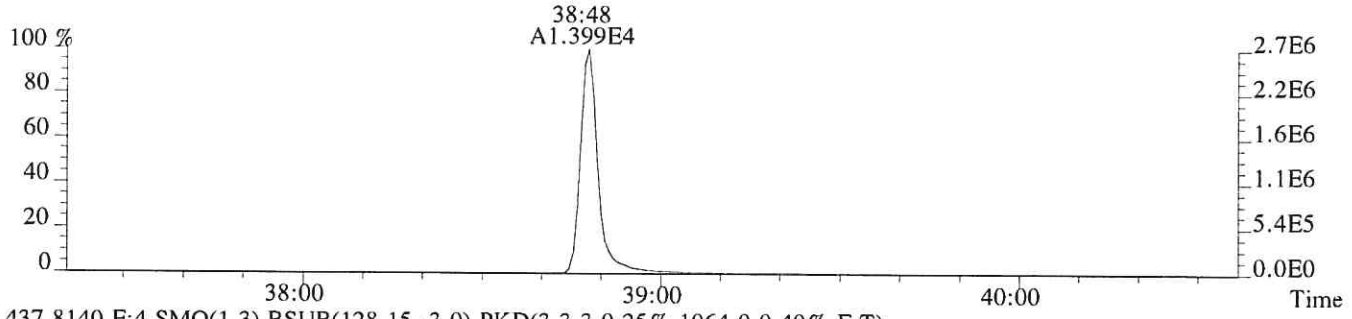
File:P511875 #1-295 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,968.0,0.40%,F,T)



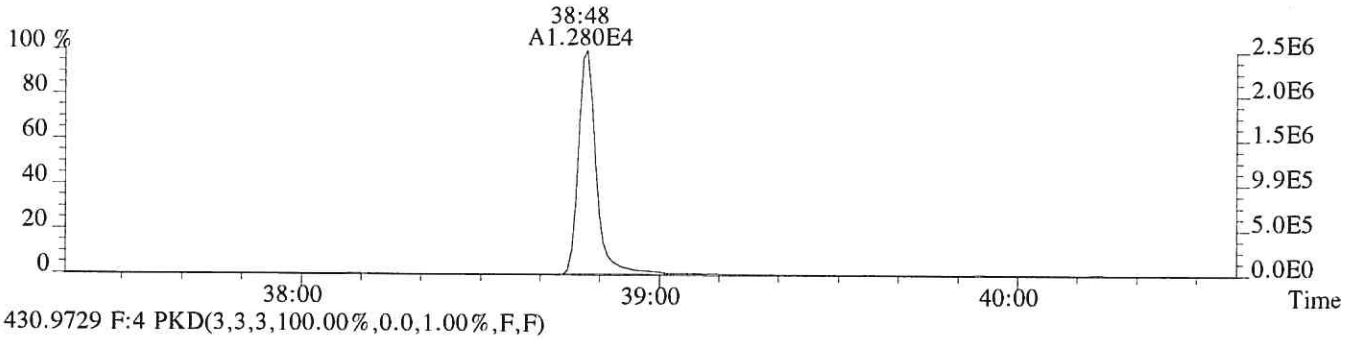
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,724.0,0.40%,F,T)



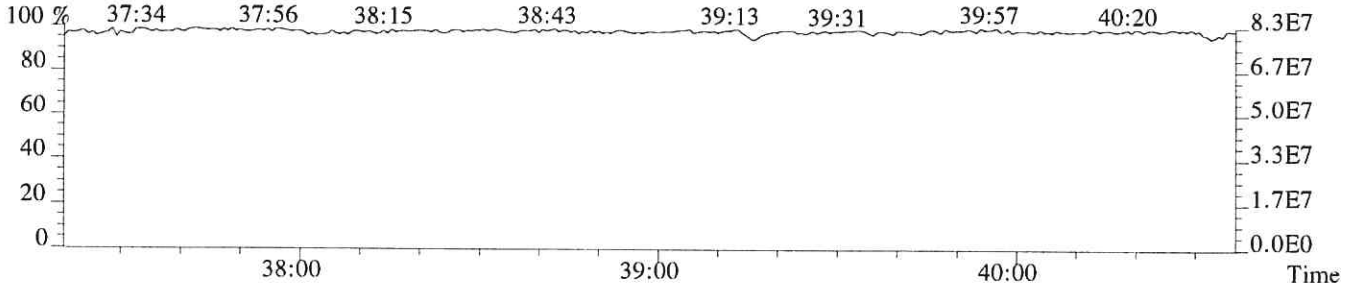
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



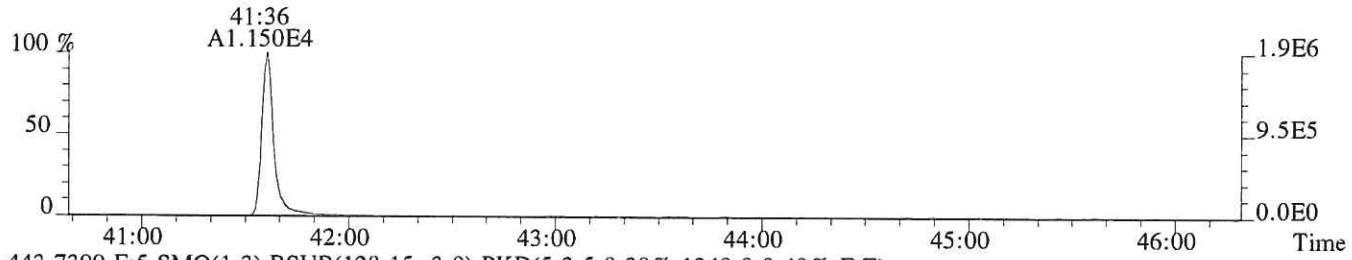
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



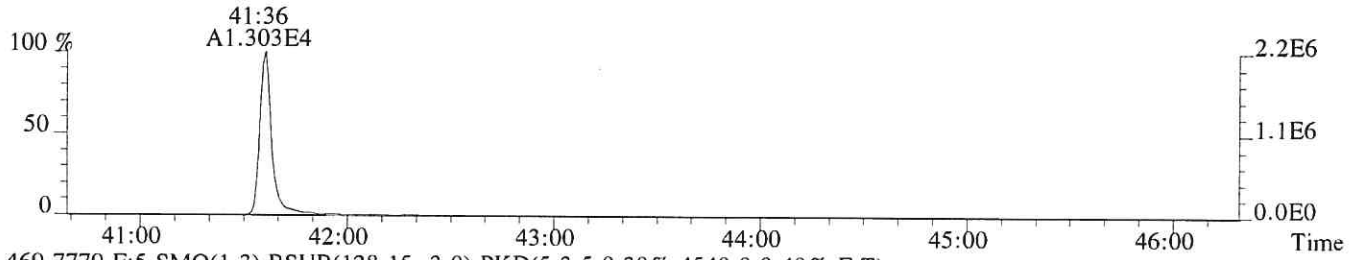
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



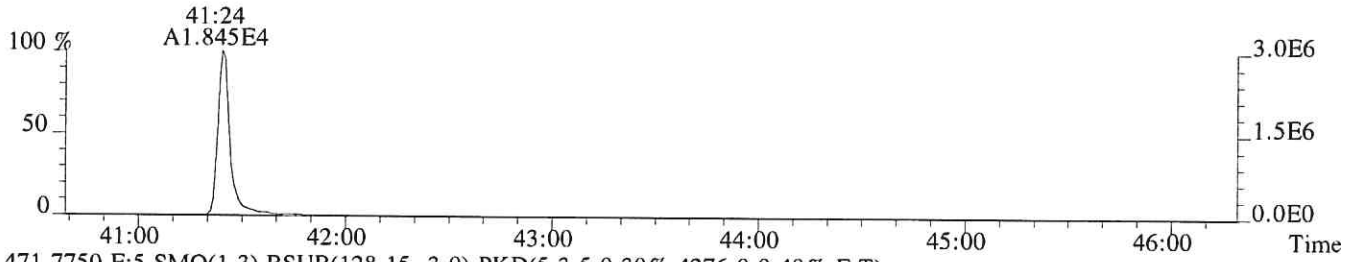
File:P511875 #1-511 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4160.0,0.40%,F,T)



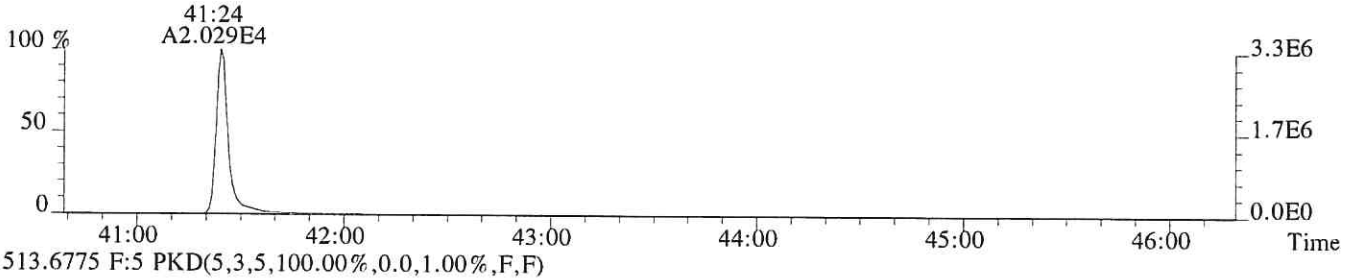
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1240.0,0.40%,F,T)



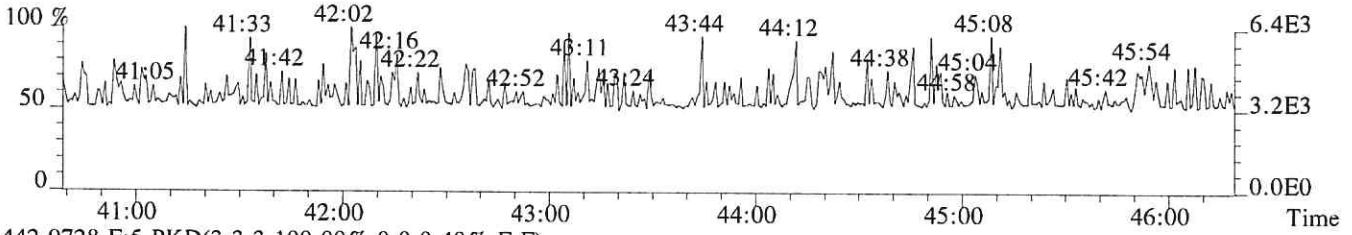
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4540.0,0.40%,F,T)



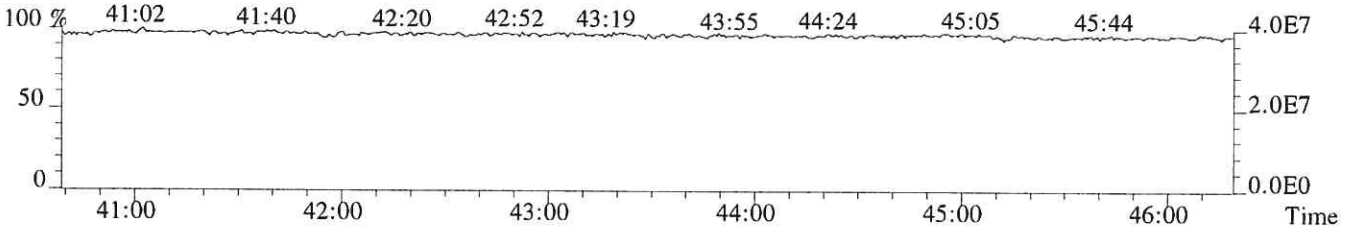
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4276.0,0.40%,F,T)



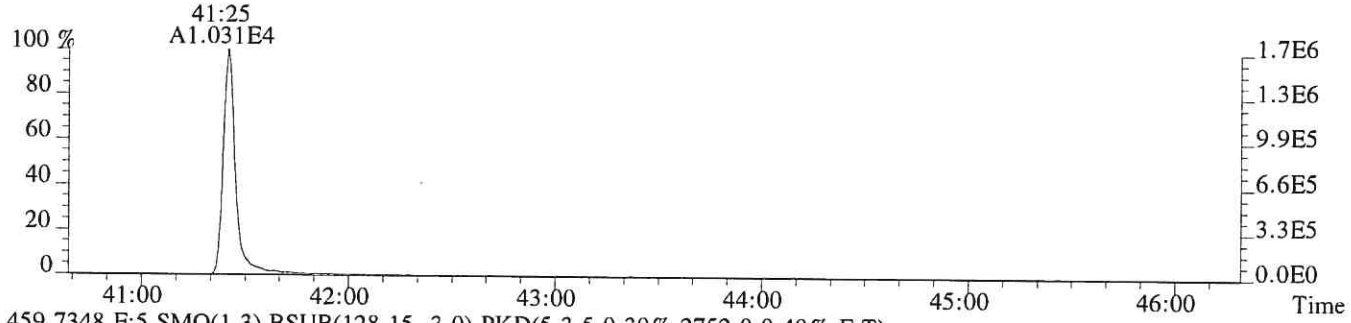
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



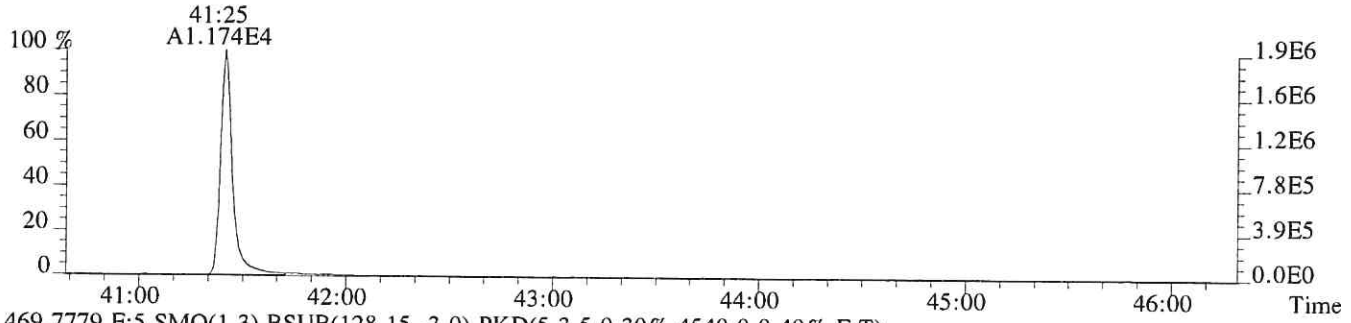
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



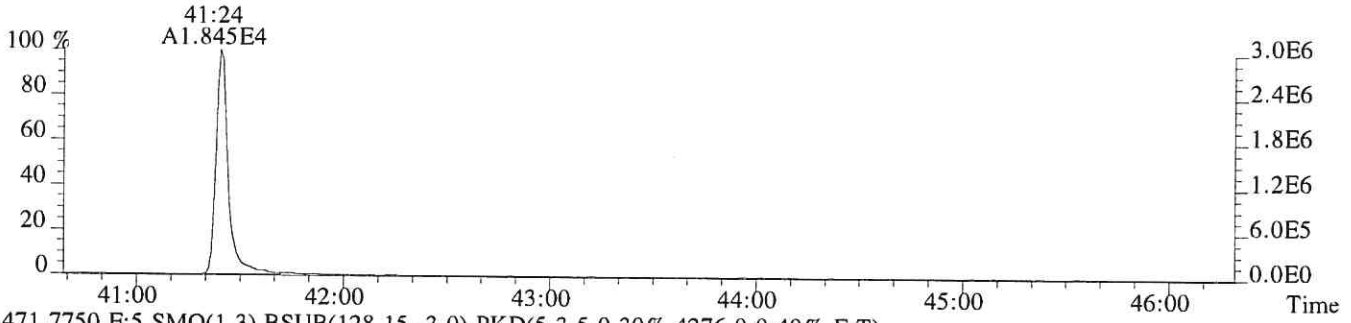
File:P511875 #1-511 Acq:11-OCT-2017 03:43:18 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700450-03
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1404.0,0.40%,F,T)



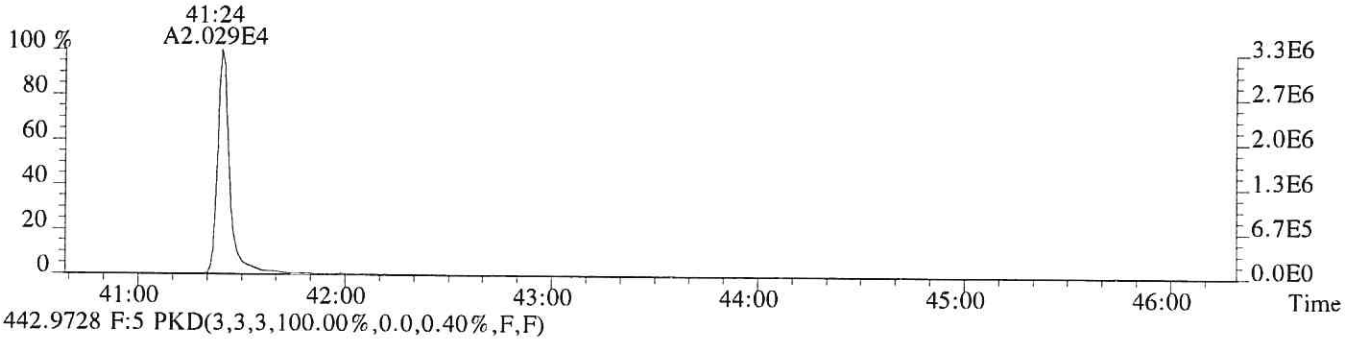
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2752.0,0.40%,F,T)



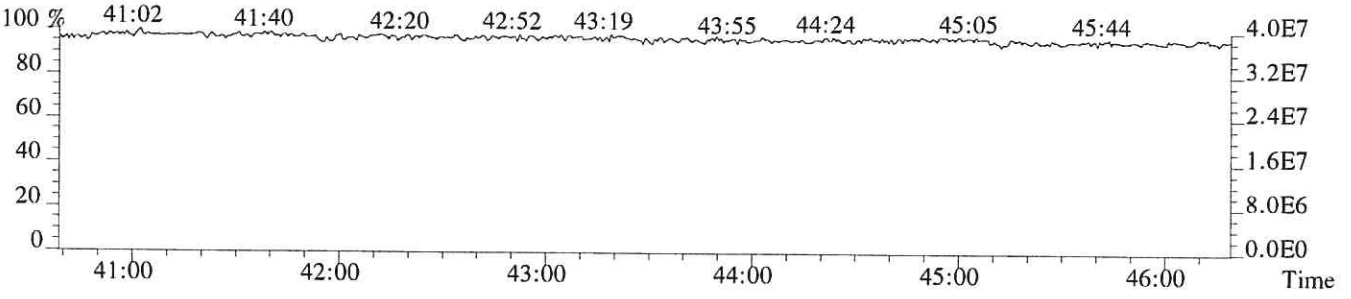
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4540.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4276.0,0.40%,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 #8 Filename P511940 Samp: 1 Inj: 1 Acquired: 13-OCT-17 15:17:07
Processed: 13-OCT-17 16:04:09 Sample ID: EQ1700461-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	yes	0.825
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.876
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	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	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	1.797e+01	2.754e+01	0.65	no	yes	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	1.955e+01	1.170e+01	1.67	no	yes	1.191
10	Unk	OCDF	41:36	1.930e+01	2.913e+01	0.66	no	no	1.103
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	1.065
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	yes	0.908
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:48	3.865e+01	3.171e+01	1.22	no	yes	0.942
17	Unk	OCDD	41:25	8.290e+01	1.259e+02	0.66	no	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	2.128e+04	2.711e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:34	3.924e+04	2.474e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	4.093e+04	2.585e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.674e+04	3.330e+04	0.50	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:22	1.990e+04	3.881e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:53	1.965e+04	3.770e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:38	1.833e+04	3.566e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.417e+04	3.164e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:14	1.337e+04	3.081e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:56	1.483e+04	1.872e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	2.858e+04	1.801e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	2.678e+04	2.036e+04	1.32	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:06	2.630e+04	2.049e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	2.309e+04	2.175e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:24	2.907e+04	3.217e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:19	3.407e+04	4.267e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:21	4.892e+04	3.693e+04	1.32	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:58	1.474e+04				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
METHOD BLANK

Run #8 Filename P511940 Samp: 1 Inj: 1 Acquired: 13-OCT-17 15:17:07
Processed: 13-OCT-17 16:04:09 LAB. ID: EQ1700461-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.16e+03	*	*	3.30e+03	*
2	1,2,3,7,8-PeCDF	*	4.64e+02	*	*	2.89e+03	*
3	2,3,4,7,8-PeCDF	*	4.64e+02	*	*	2.89e+03	*
4	1,2,3,4,7,8-HxCDF	*	8.84e+02	*	*	6.00e+02	*
5	1,2,3,6,7,8-HxCDF	*	8.84e+02	*	*	6.00e+02	*
6	2,3,4,6,7,8-HxCDF	*	8.84e+02	*	*	6.00e+02	*
7	1,2,3,7,8,9-HxCDF	*	8.84e+02	*	*	6.00e+02	*
8	1,2,3,4,6,7,8-HpCDF	4.70e+03	4.80e+02	9.8e+00	6.02e+03	4.96e+02	1.2e+01
9	1,2,3,4,7,8,9-HpCDF	4.49e+03	4.80e+02	9.4e+00	2.32e+03	4.96e+02	4.7e+00
10	OCDF	3.39e+03	5.76e+02	5.9e+00	3.64e+03	1.25e+03	2.9e+00
11	2,3,7,8-TCDD	*	2.52e+03	*	*	1.96e+03	*
12	1,2,3,7,8-PeCDD	*	1.62e+03	*	*	3.44e+02	*
13	1,2,3,4,7,8-HxCDD	*	8.64e+02	*	*	1.03e+03	*
14	1,2,3,6,7,8-HxCDD	*	8.64e+02	*	*	1.03e+03	*
15	1,2,3,7,8,9-HxCDD	*	8.64e+02	*	*	1.03e+03	*
16	1,2,3,4,6,7,8-HpCDD	7.09e+03	6.48e+02	1.1e+01	6.97e+03	8.96e+02	7.8e+00
17	OCDD	1.39e+04	5.08e+02	2.7e+01	1.84e+04	8.16e+02	2.3e+01
18	13C-2,3,7,8-TCDF	3.37e+06	9.61e+03	3.5e+02	4.26e+06	4.30e+03	9.9e+02
19	13C-1,2,3,7,8-PeCDF	6.34e+06	1.06e+03	6.0e+03	4.07e+06	9.92e+02	4.1e+03
20	13C-2,3,4,7,8-PeCDF	7.19e+06	1.06e+03	6.8e+03	4.58e+06	9.92e+02	4.6e+03
21	13C-1,2,3,4,7,8-HxCDF	3.34e+06	8.24e+02	4.1e+03	6.75e+06	2.30e+03	2.9e+03
22	13C-1,2,3,6,7,8-HxCDF	3.76e+06	8.24e+02	4.6e+03	7.23e+06	2.30e+03	3.1e+03
23	13C-2,3,4,6,7,8-HxCDF	3.83e+06	8.24e+02	4.6e+03	7.36e+06	2.30e+03	3.2e+03
24	13C-1,2,3,7,8,9-HxCDF	3.21e+06	8.24e+02	3.9e+03	6.29e+06	2.30e+03	2.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.65e+06	4.56e+03	5.8e+02	5.97e+06	4.79e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.27e+06	4.56e+03	5.0e+02	5.30e+06	4.79e+03	1.1e+03
27	13C-2,3,7,8-TCDD	2.55e+06	9.40e+03	2.7e+02	3.24e+06	5.28e+03	6.1e+02
28	13C-1,2,3,7,8-PeCDD	5.04e+06	1.71e+03	2.9e+03	3.21e+06	8.36e+02	3.8e+03
29	13C-1,2,3,4,7,8-HxCDD	5.35e+06	1.67e+03	3.2e+03	4.04e+06	1.57e+03	2.6e+03
30	13C-1,2,3,6,7,8-HxCDD	5.09e+06	1.67e+03	3.0e+03	4.04e+06	1.57e+03	2.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	4.22e+06	1.24e+03	3.4e+03	3.91e+06	4.12e+02	9.5e+03
32	13C-OCDD	3.98e+06	3.34e+03	1.2e+03	4.39e+06	1.01e+04	4.4e+02
33	13C-1,2,3,4-TCDD	5.80e+06	9.40e+03	6.2e+02	7.27e+06	5.28e+03	1.4e+03
34	13C-1,2,3,7,8,9-HxCDD	8.98e+06	1.67e+03	5.4e+03	7.04e+06	1.57e+03	4.5e+03
35	37Cl-2,3,7,8-TCDD	2.52e+06	1.75e+03	1.4e+03			

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Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 44 Totals Name: Total Hepta-Dioxins

Run: 8 File: P511940 Sample:1 Injection:1 Function:4

Acquired: 13-OCT-17 15:17:07 Processed: 13-OCT-17 16:04:09

Mass: 423.7770 425.7740 Tot Response: 5.15e+01 RRF: 0.9423

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod1?	Mod2
1	38:10	2.59e+01	2.57e+01	1.01	yes	5.15e+01	y	n

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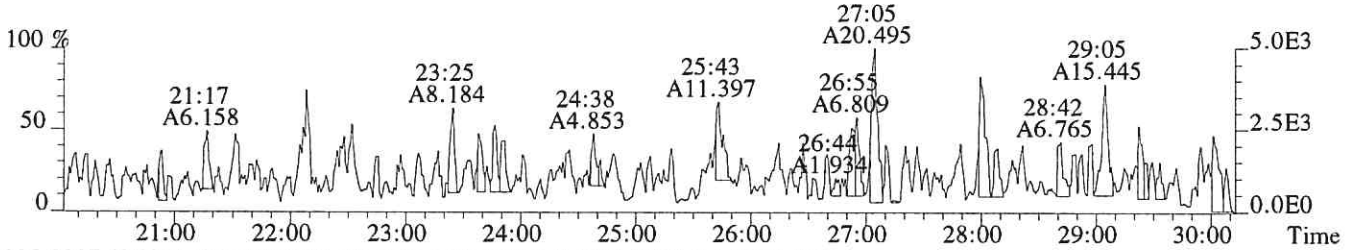
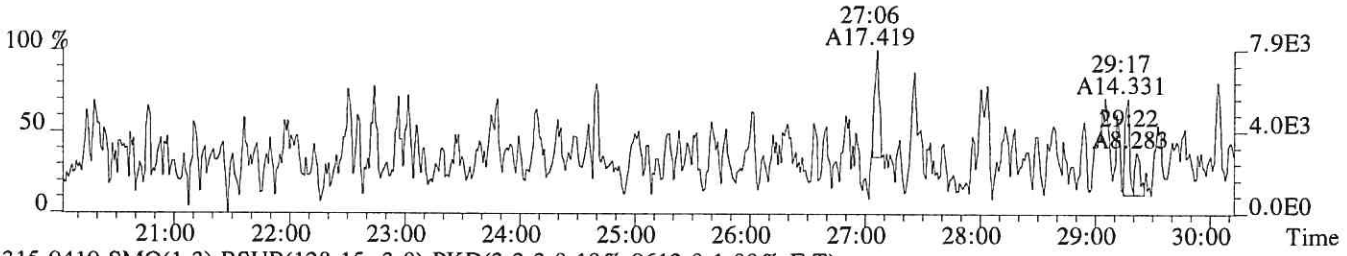
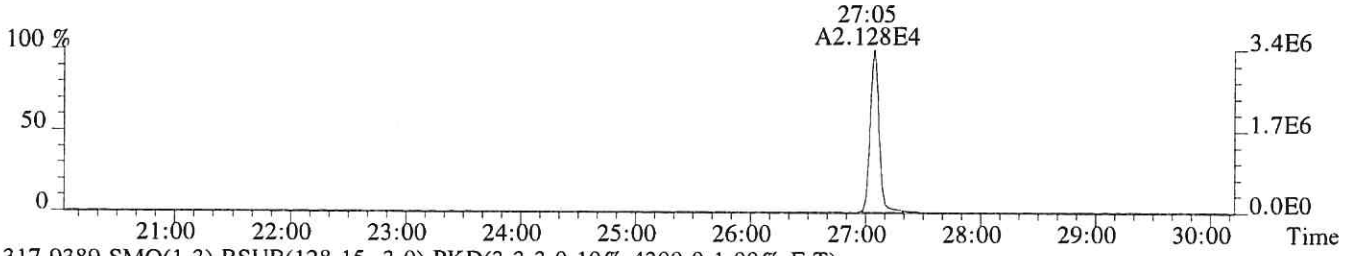
File:P511940 #1-722 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,T)



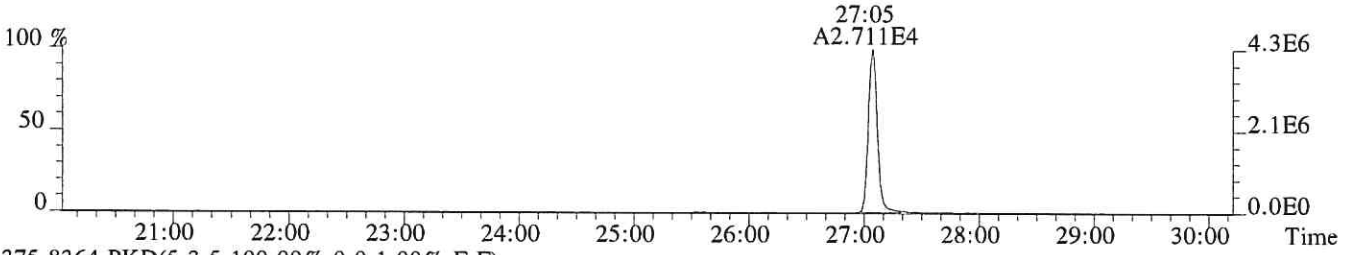
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3304.0,1.00%,F,T)



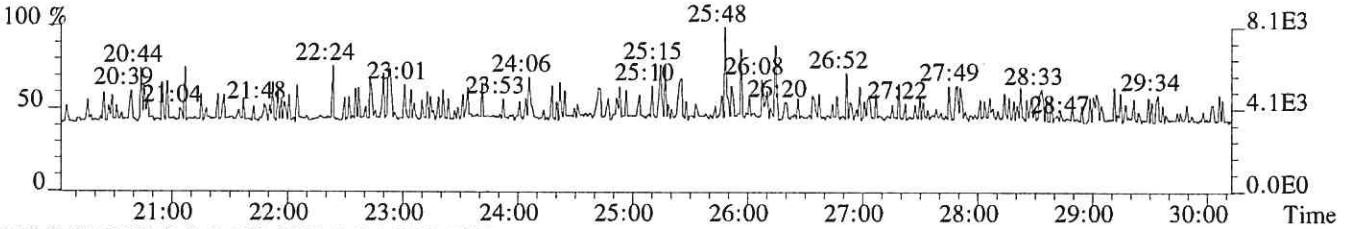
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9612.0,1.00%,F,T)



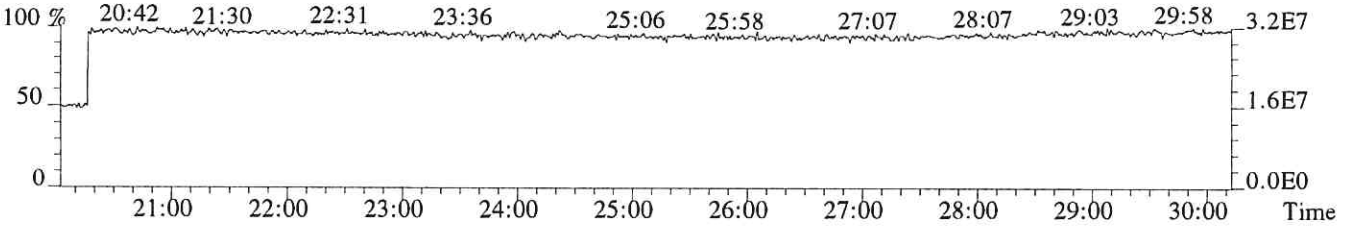
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4300.0,1.00%,F,T)



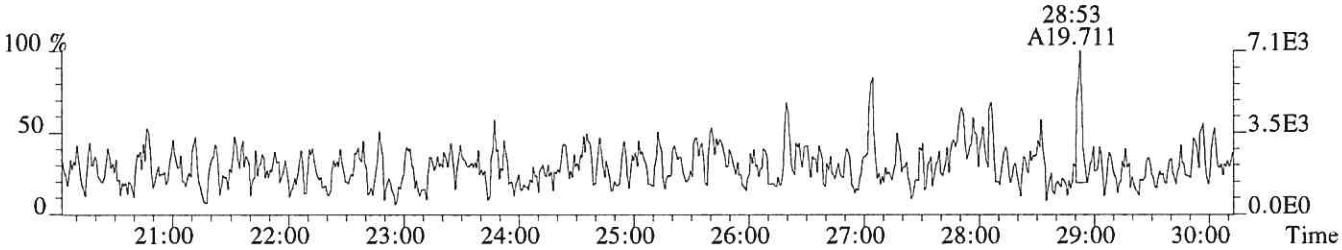
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



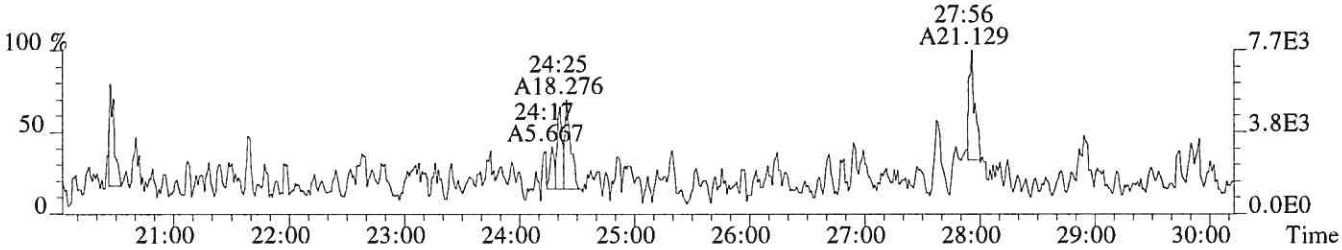
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



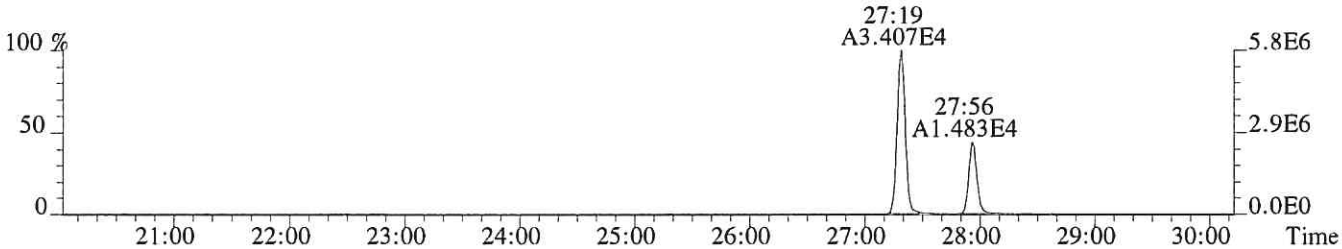
File:P511940 #1-722 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2516.0,1.00%,F,T)



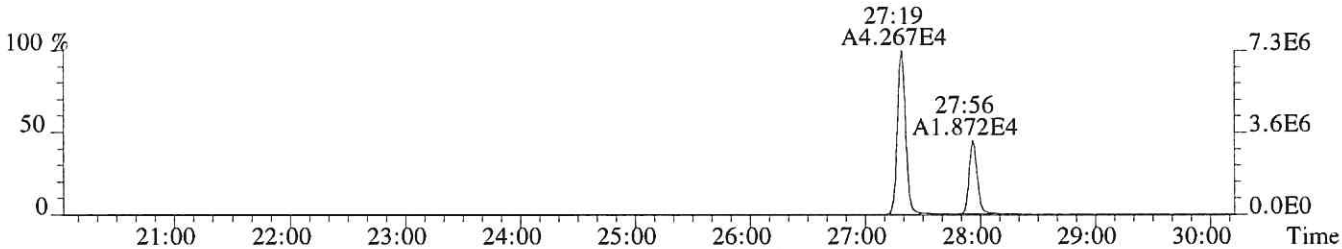
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1956.0,1.00%,F,T)



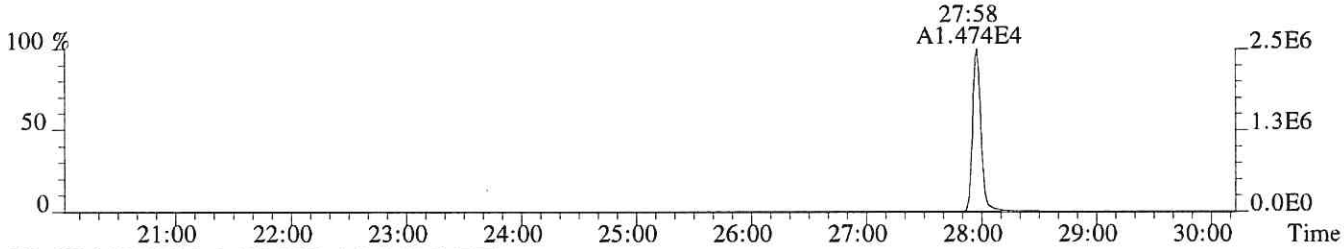
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9404.0,1.00%,F,T)



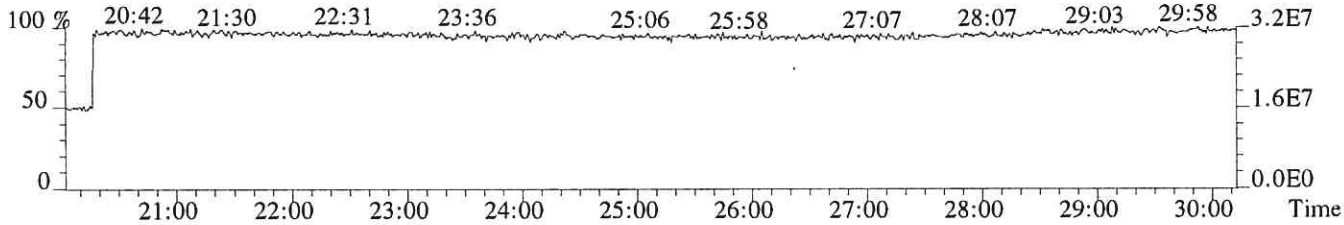
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5276.0,1.00%,F,T)



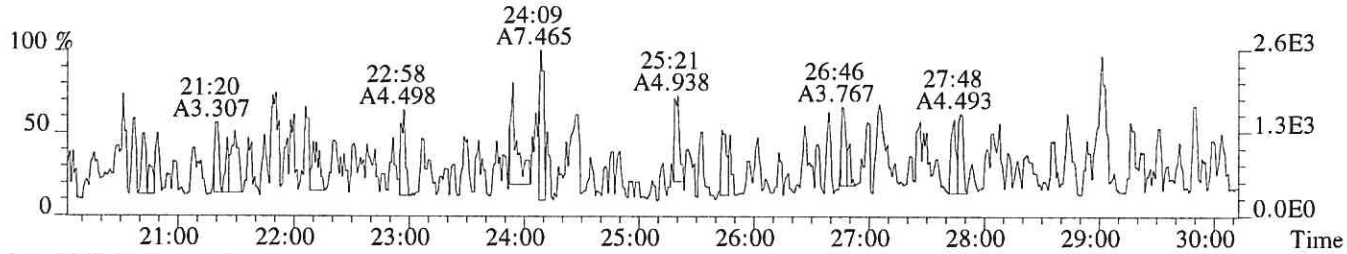
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1748.0,1.00%,F,T)



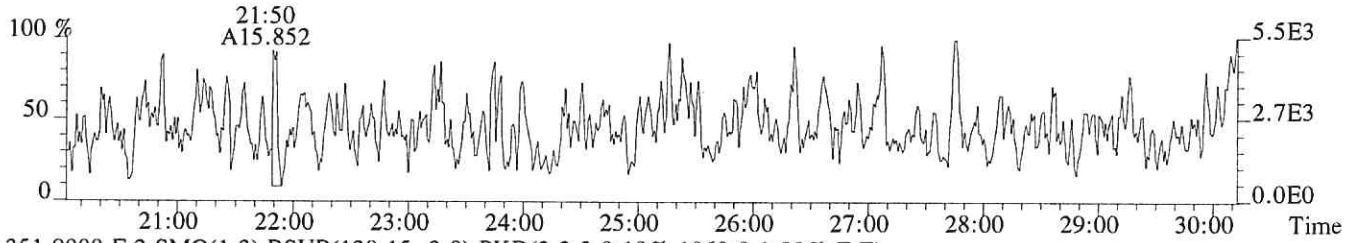
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



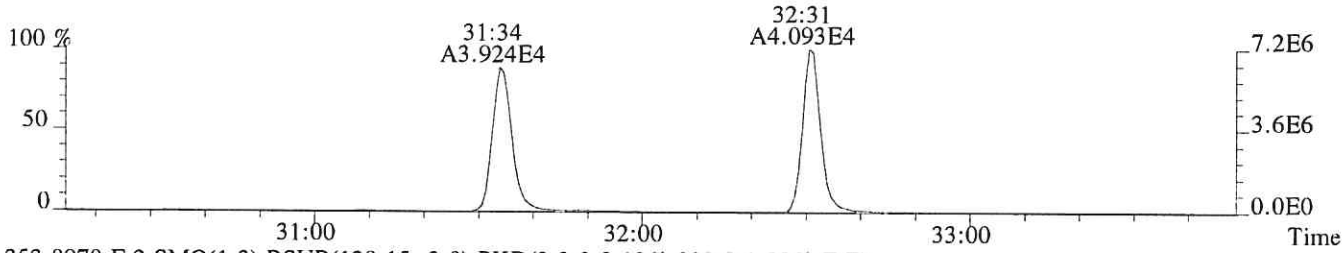
File:P511940 #1-722 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



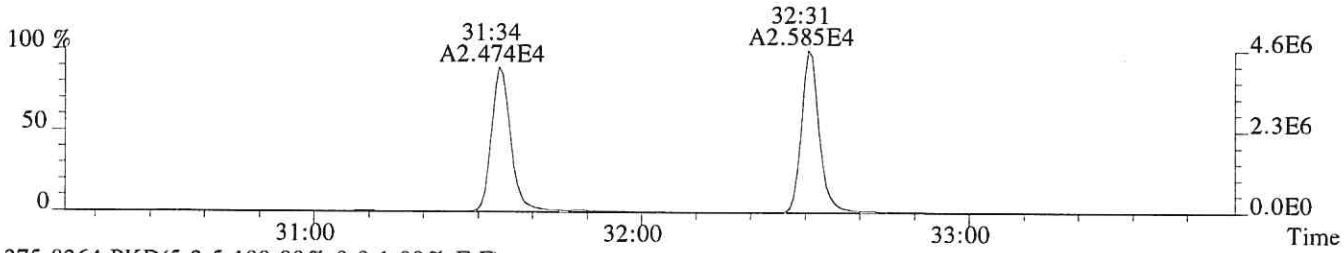
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3164.0,1.00%,F,T)



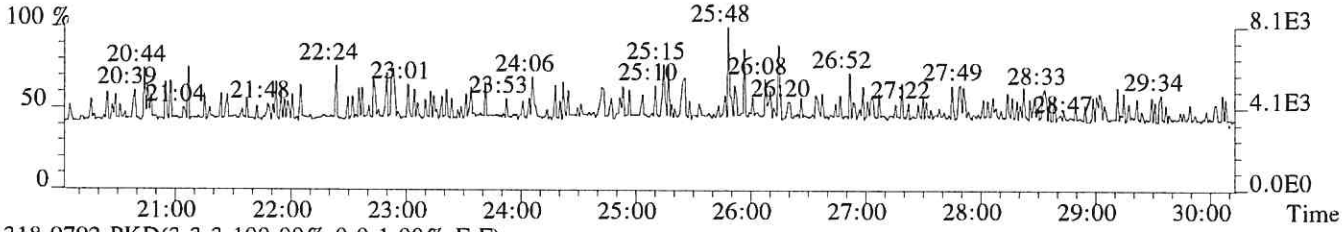
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



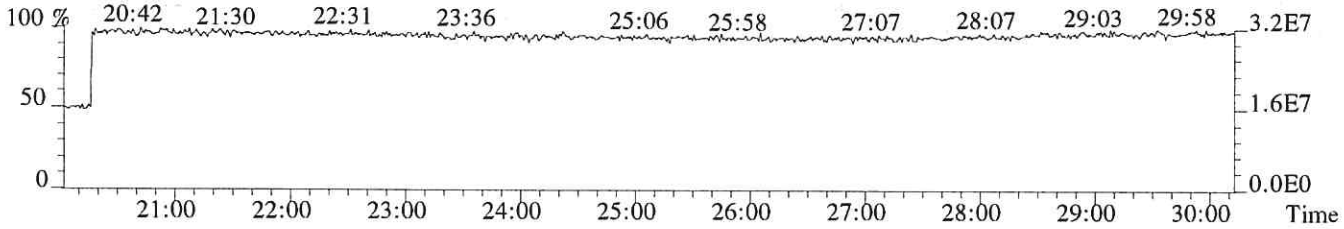
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



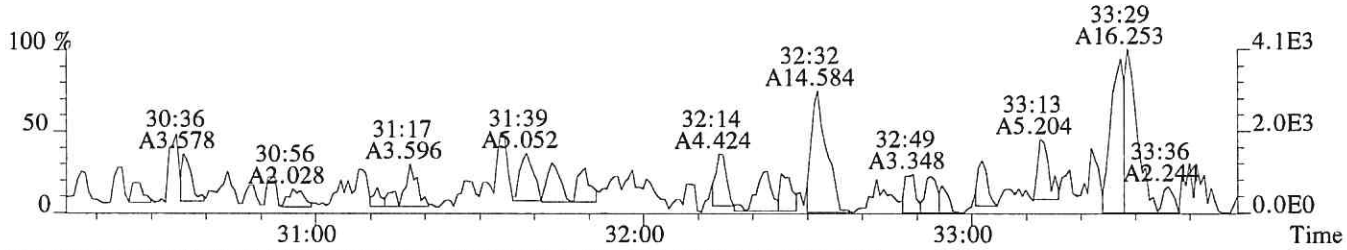
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



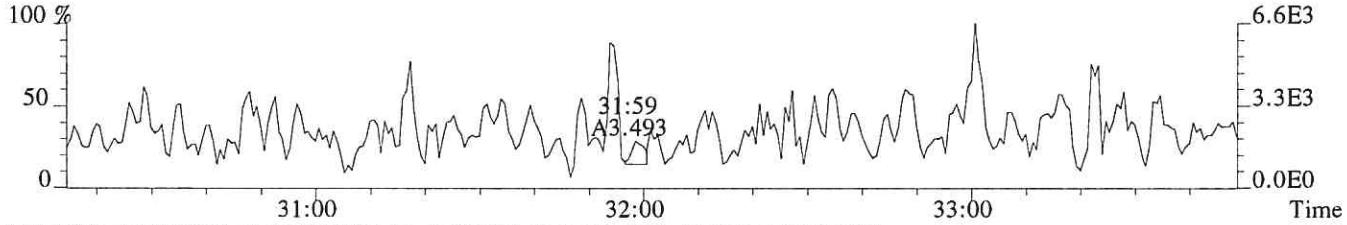
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



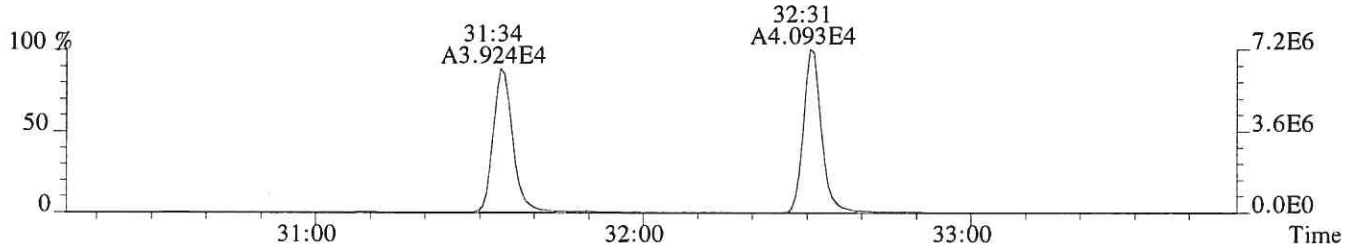
File:P511940 #1-322 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



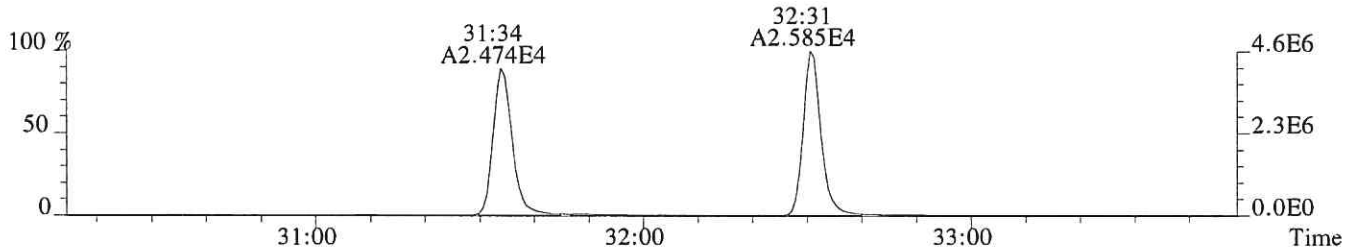
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2888.0,1.00%,F,T)



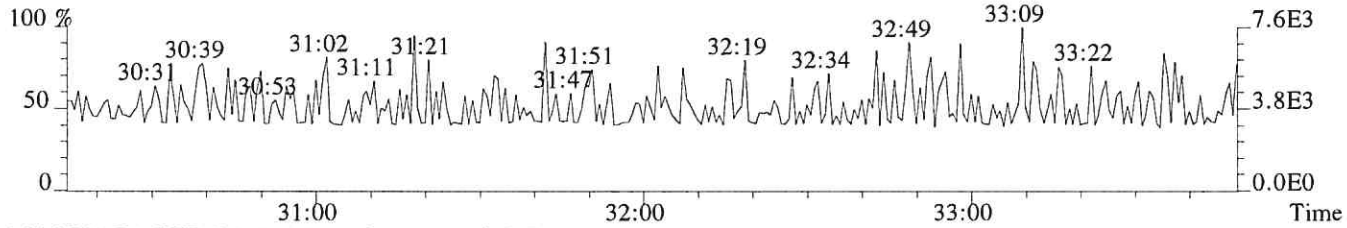
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,T)



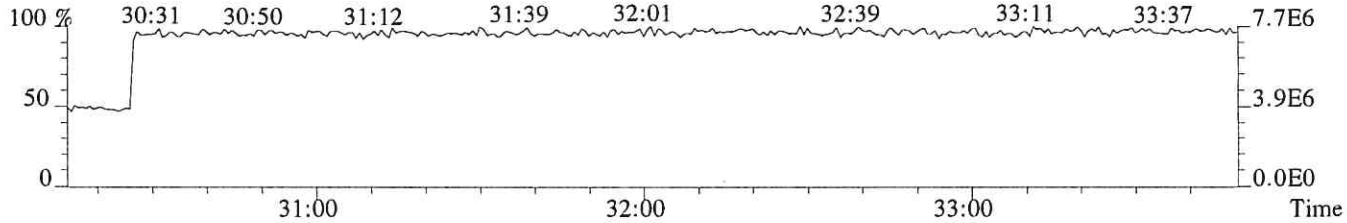
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



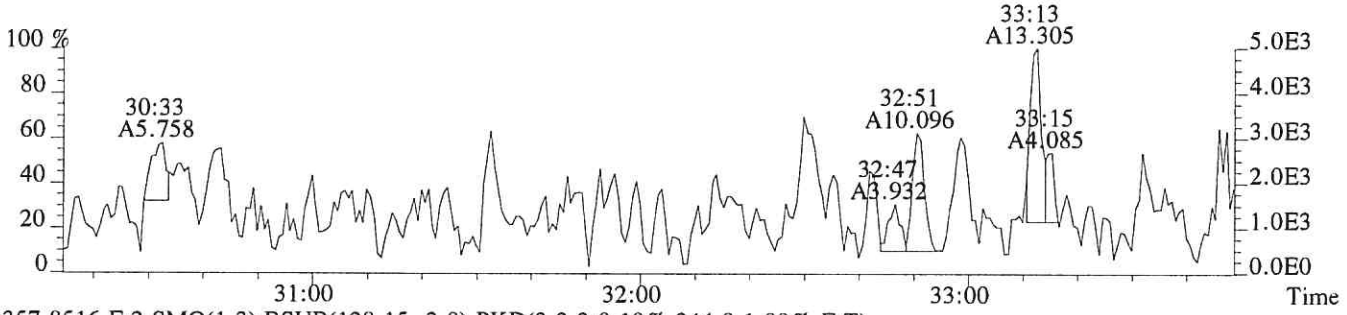
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



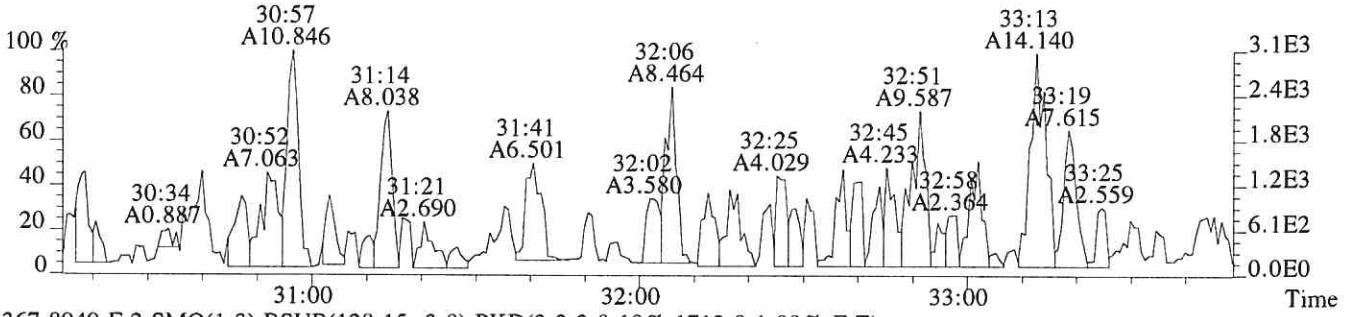
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



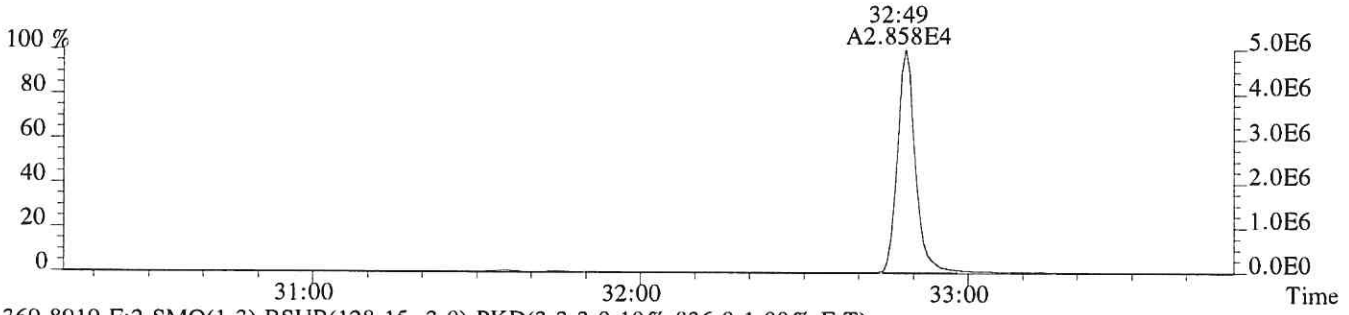
File:P511940 #1-322 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1624.0,1.00%,F,T)



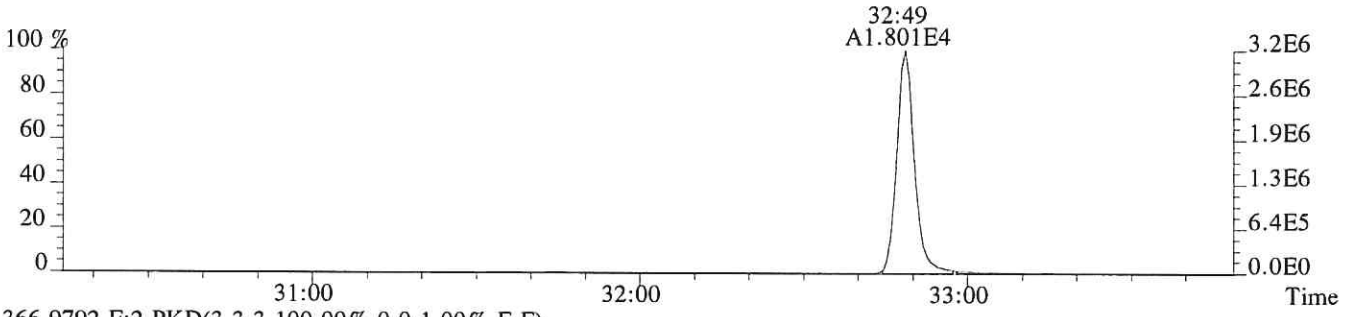
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,T)



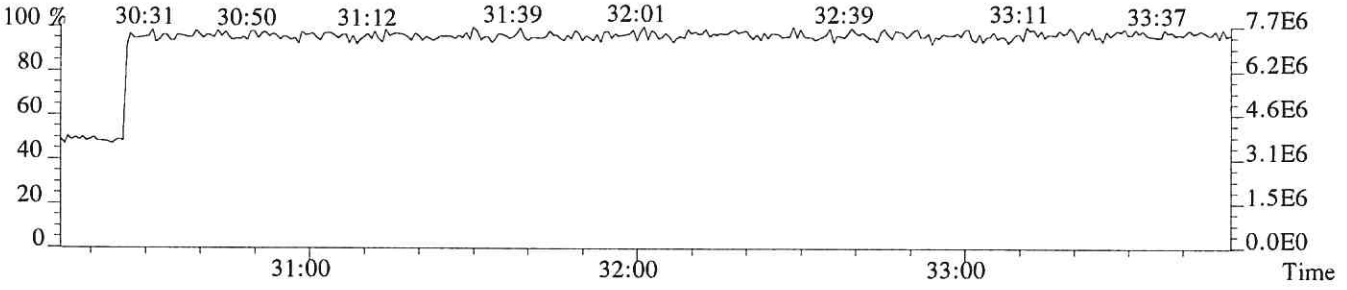
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,T)



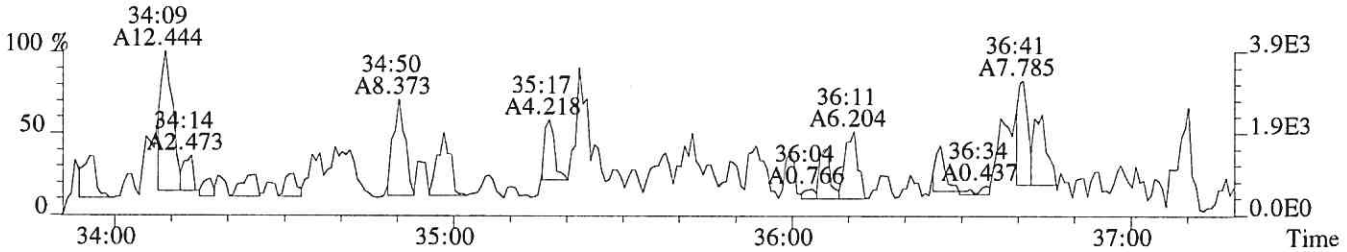
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,T)



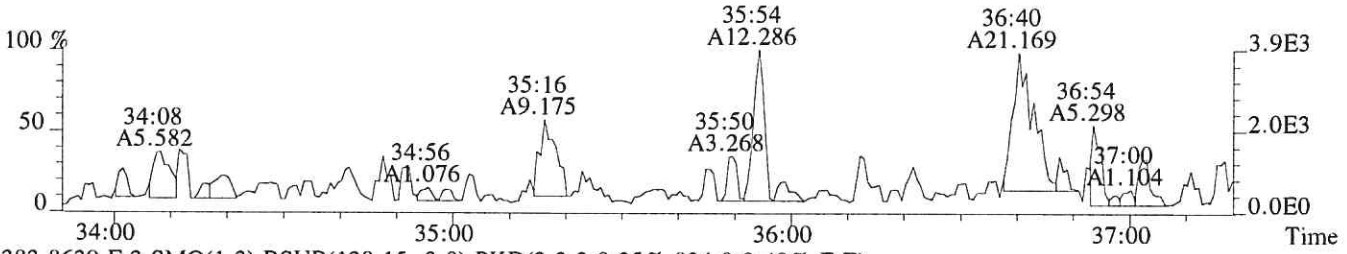
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



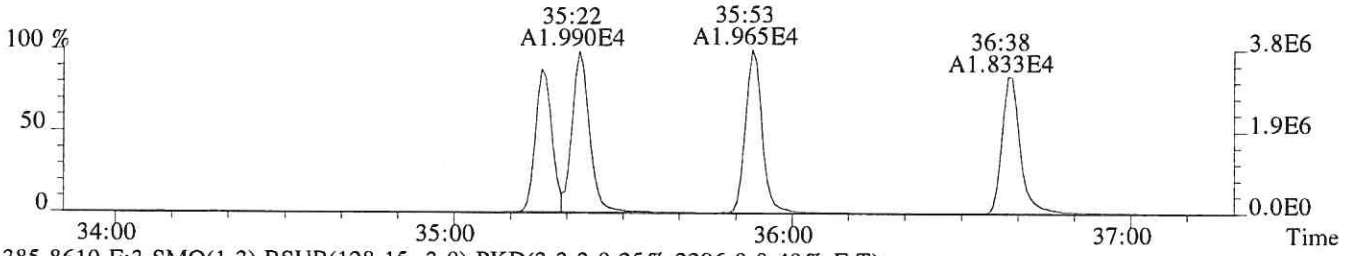
File:P511940 #1-312 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,T)



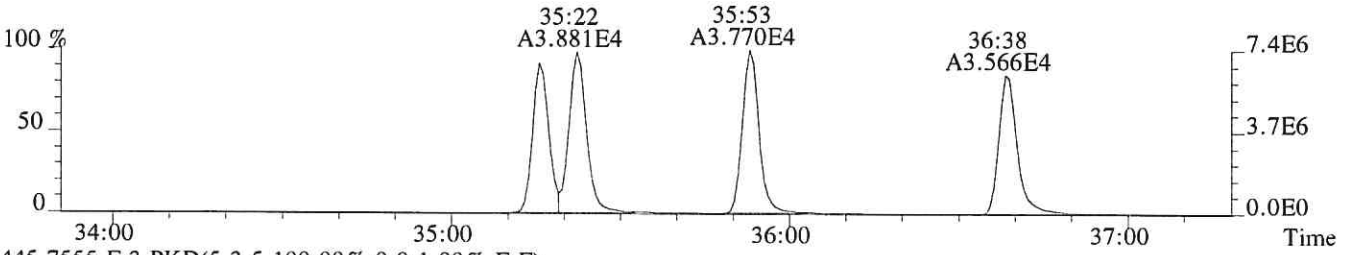
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.40%,F,T)



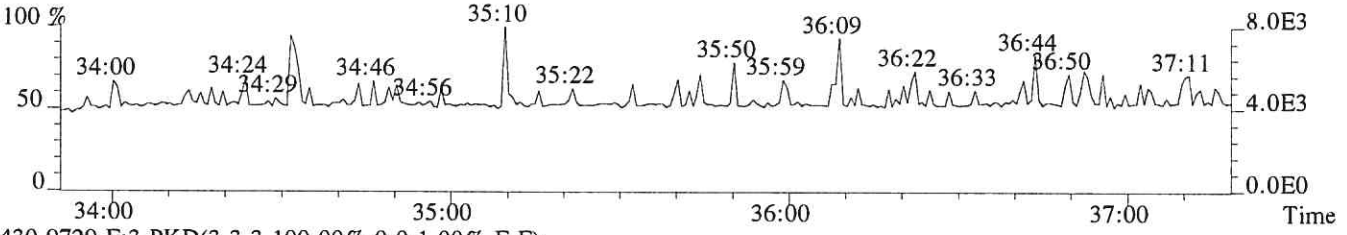
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,T)



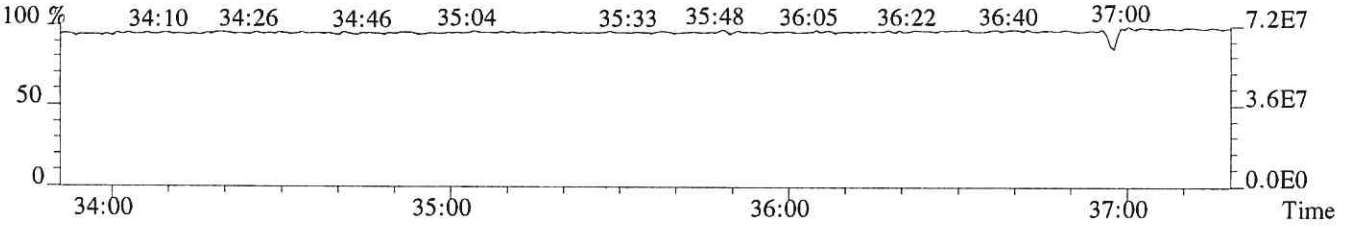
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2296.0,0.40%,F,T)



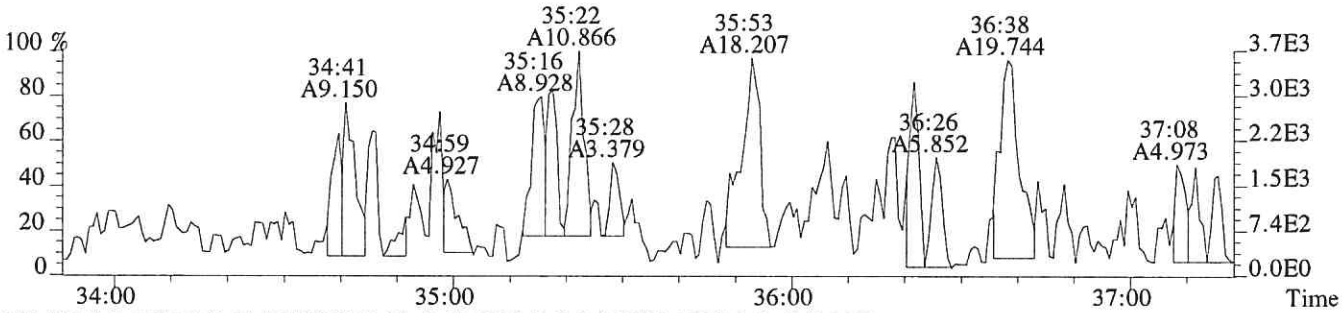
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



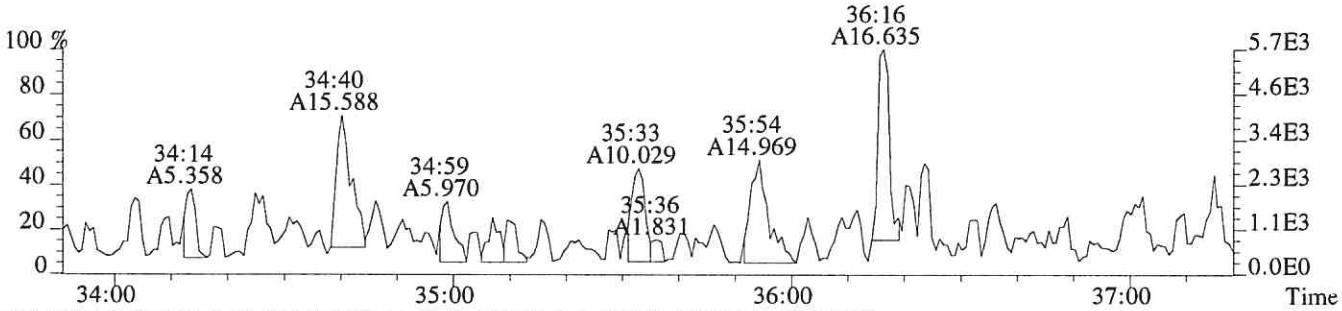
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



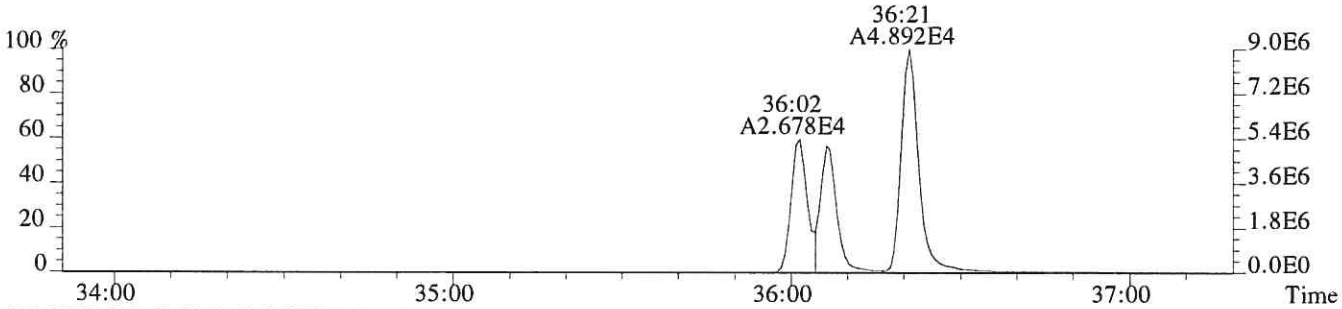
File:P511940 #1-312 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)



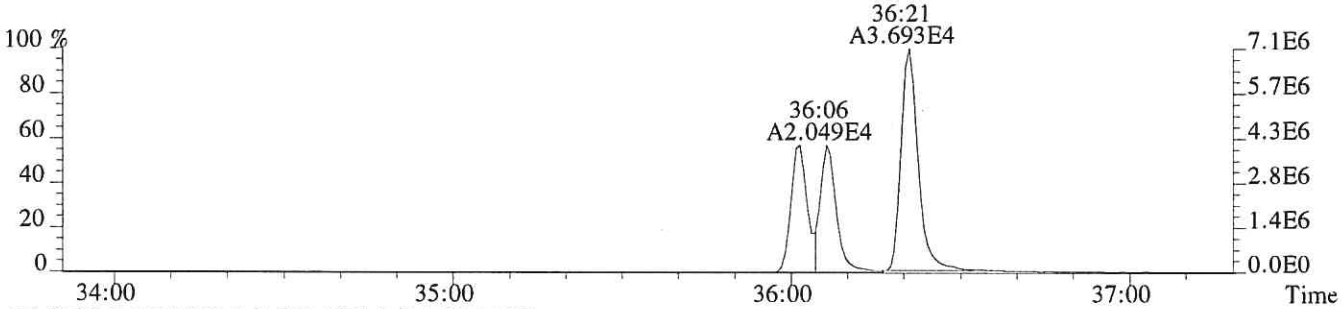
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



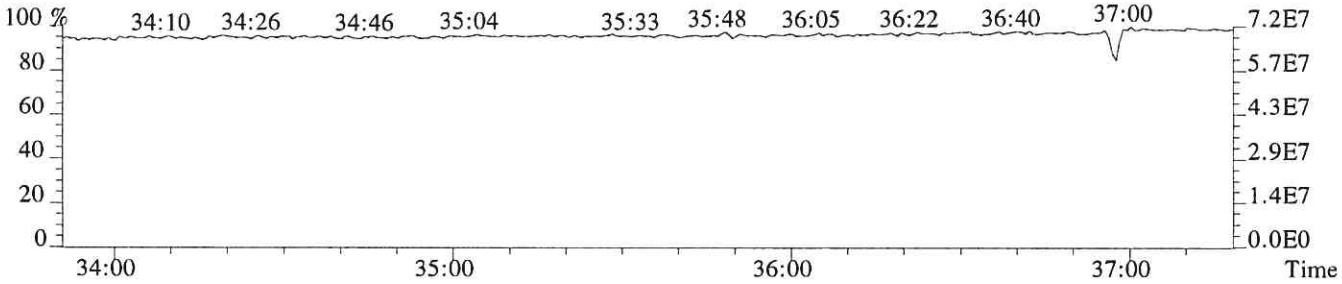
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1672.0,0.40%,F,T)



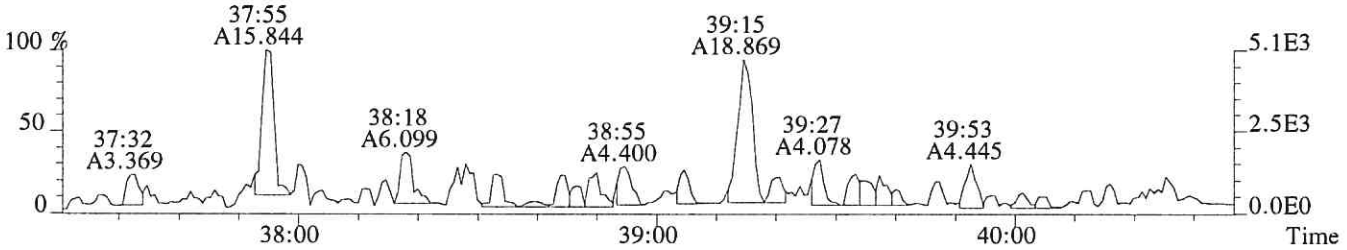
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1568.0,0.40%,F,T)



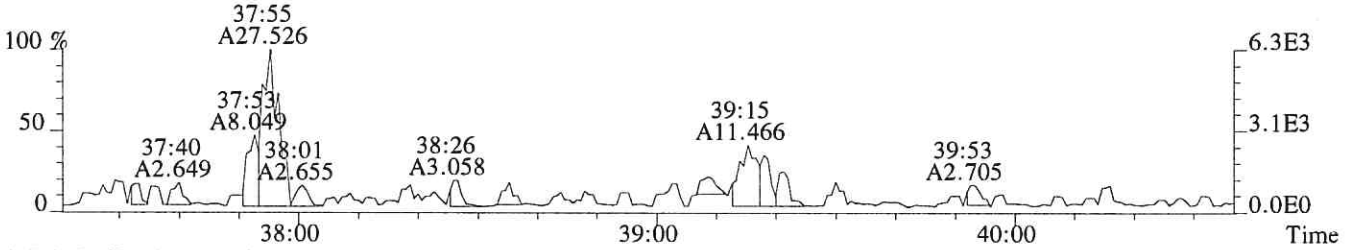
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



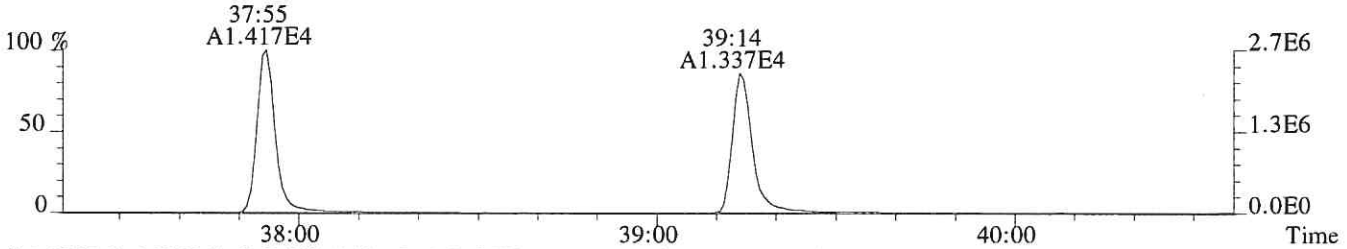
File:P511940 #1-295 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,480.0,0.50%,F,T)



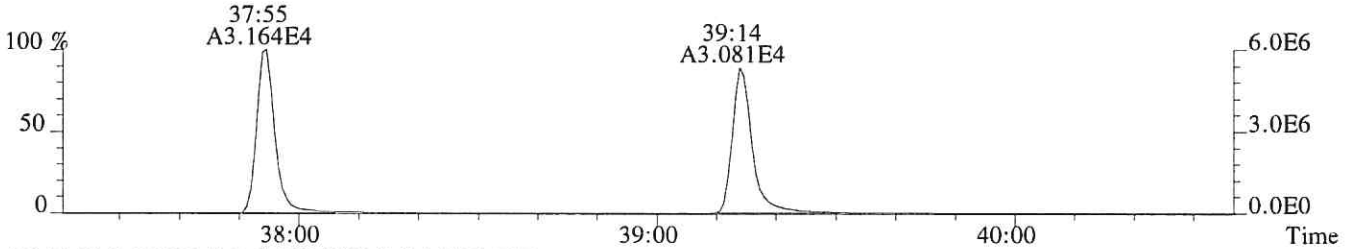
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.50%,F,T)



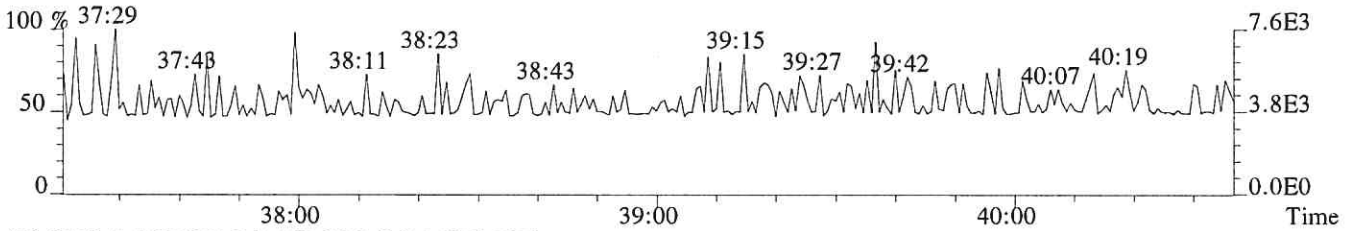
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4564.0,0.50%,F,T)



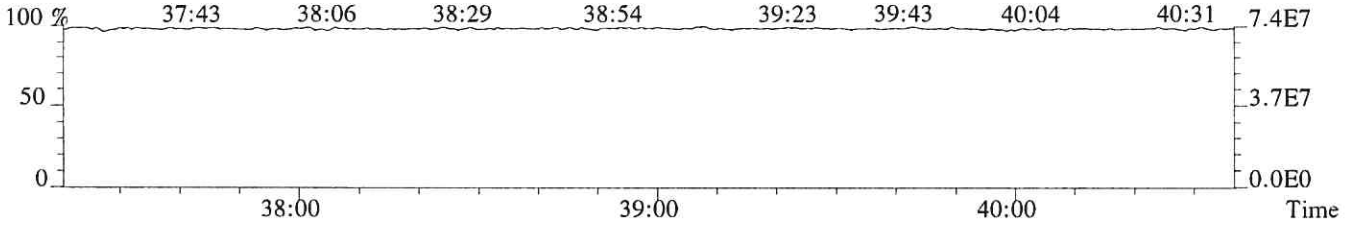
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4792.0,0.50%,F,T)



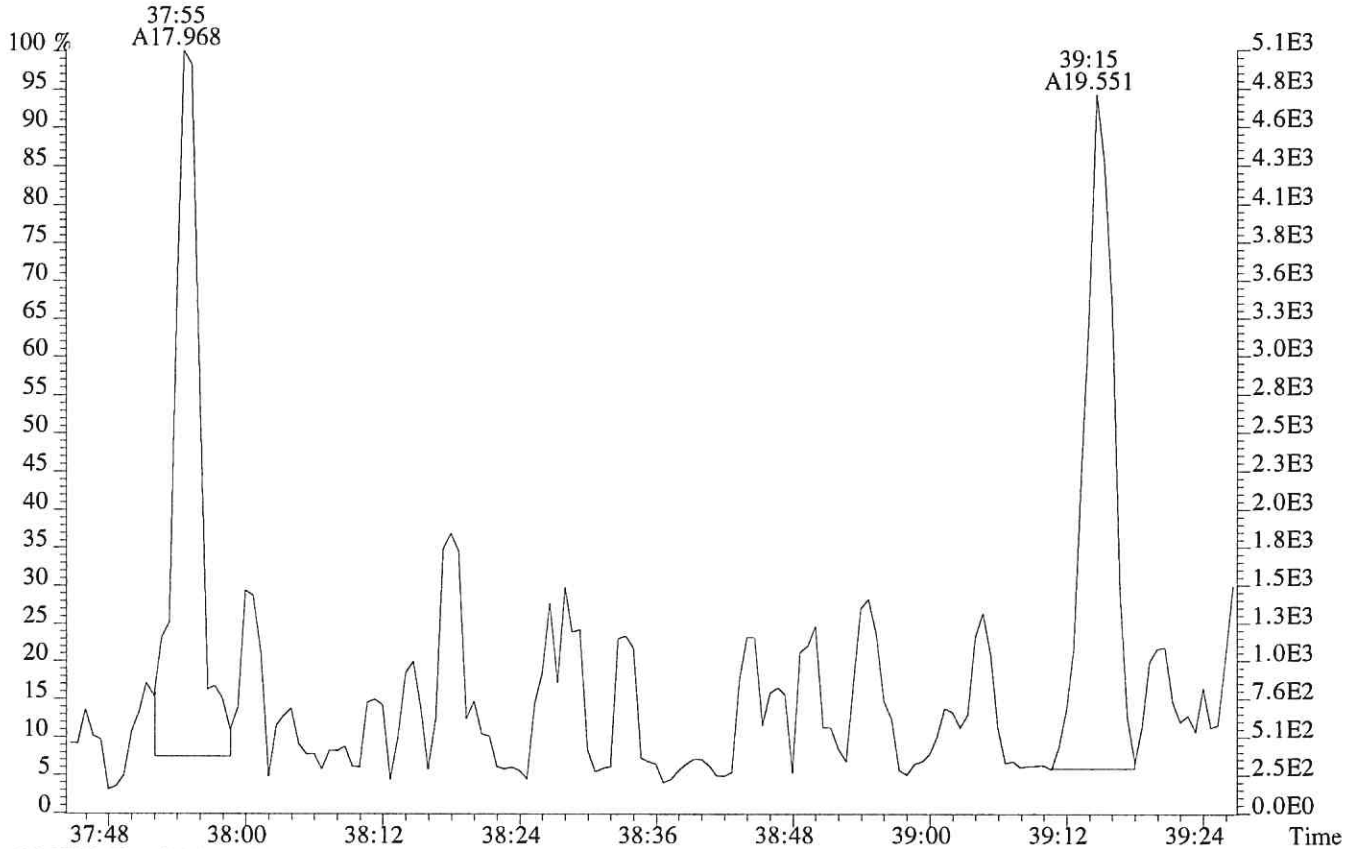
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



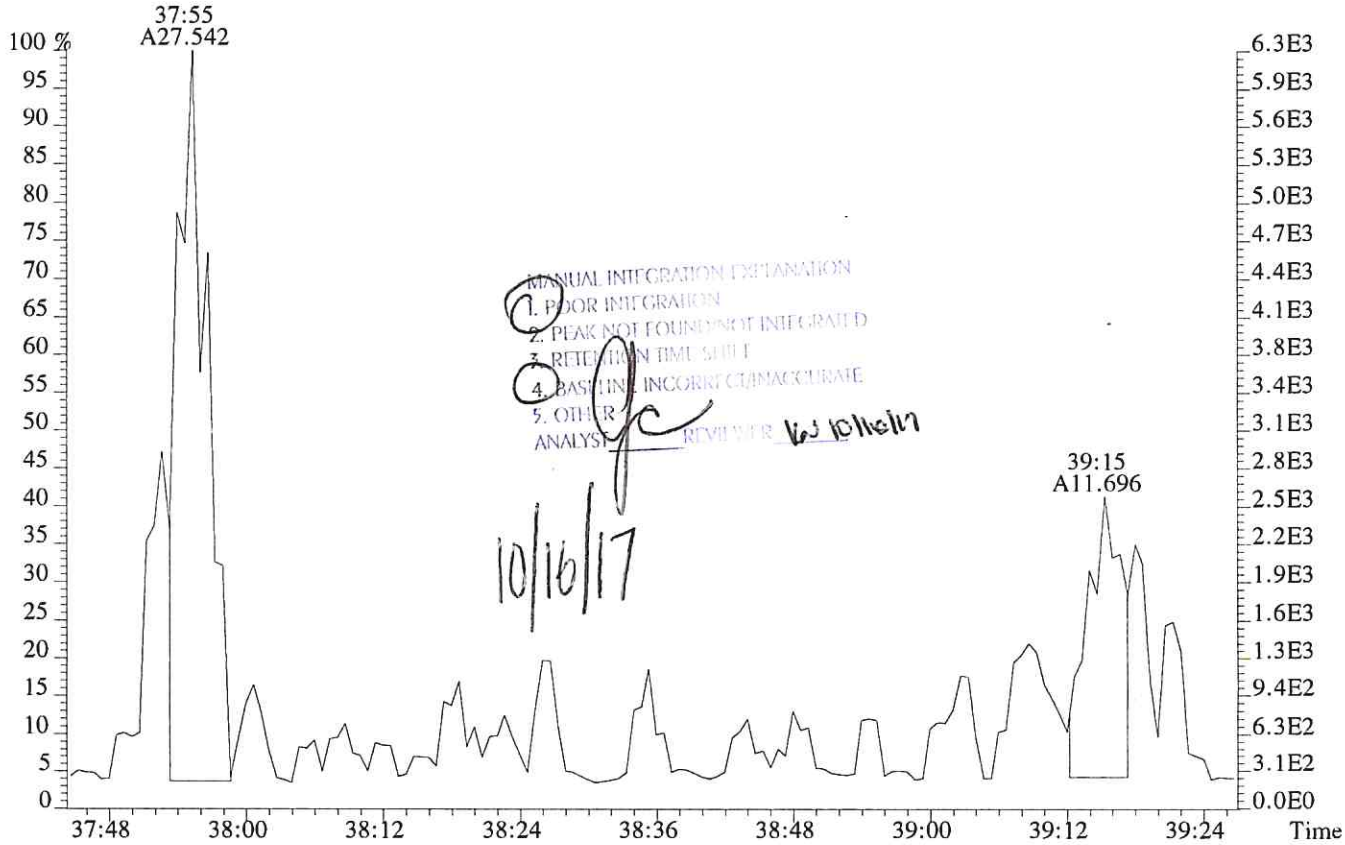
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P511940 #1-295 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0)



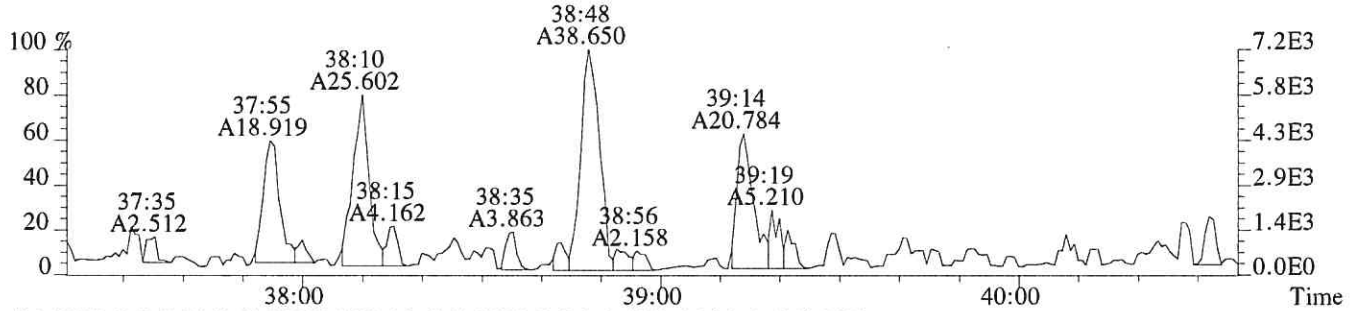
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0)



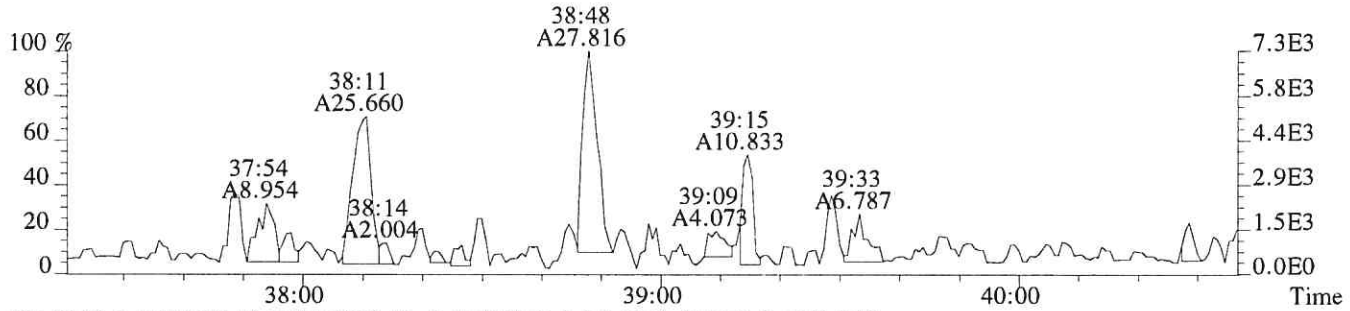
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER 10/16/17

10/16/17

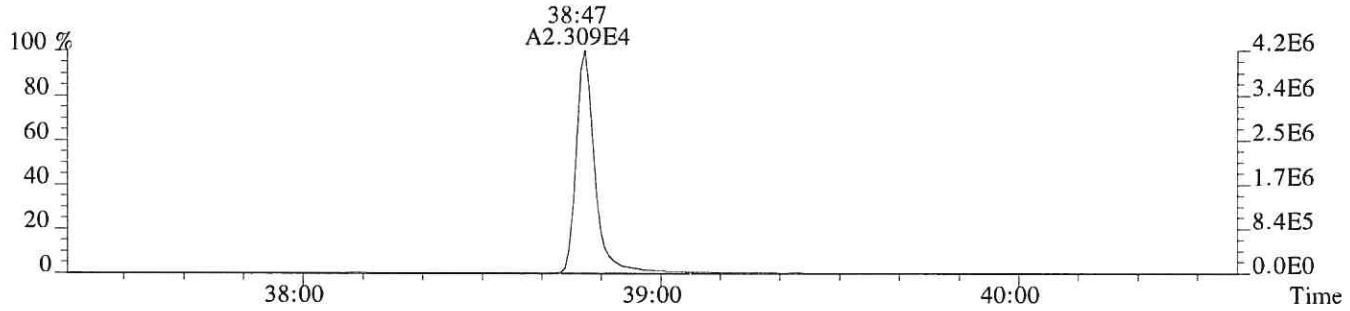
File:P511940 #1-295 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,648.0,0.40%,F,T)



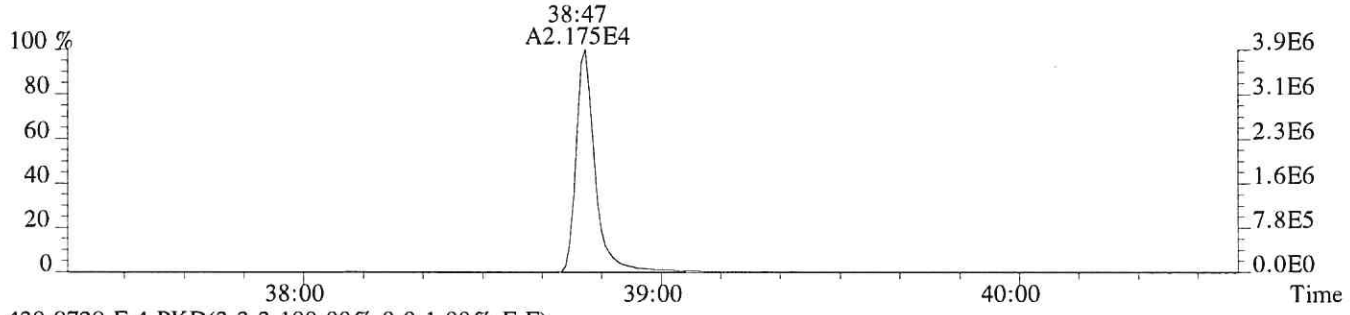
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



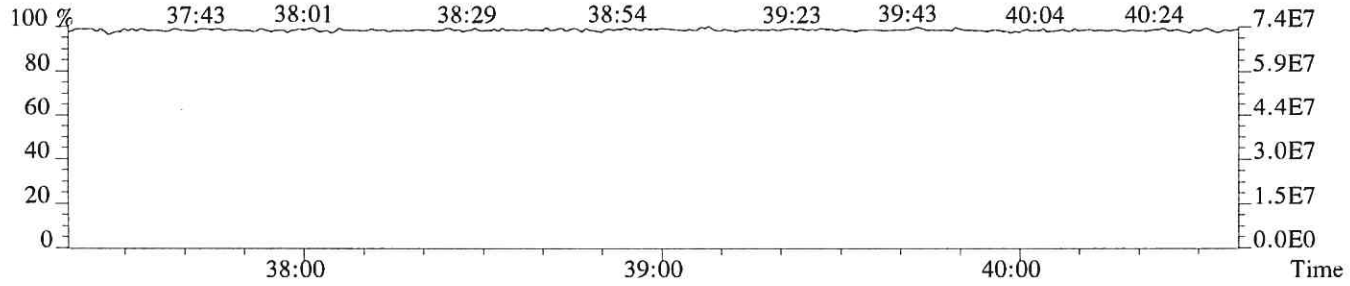
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.40%,F,T)



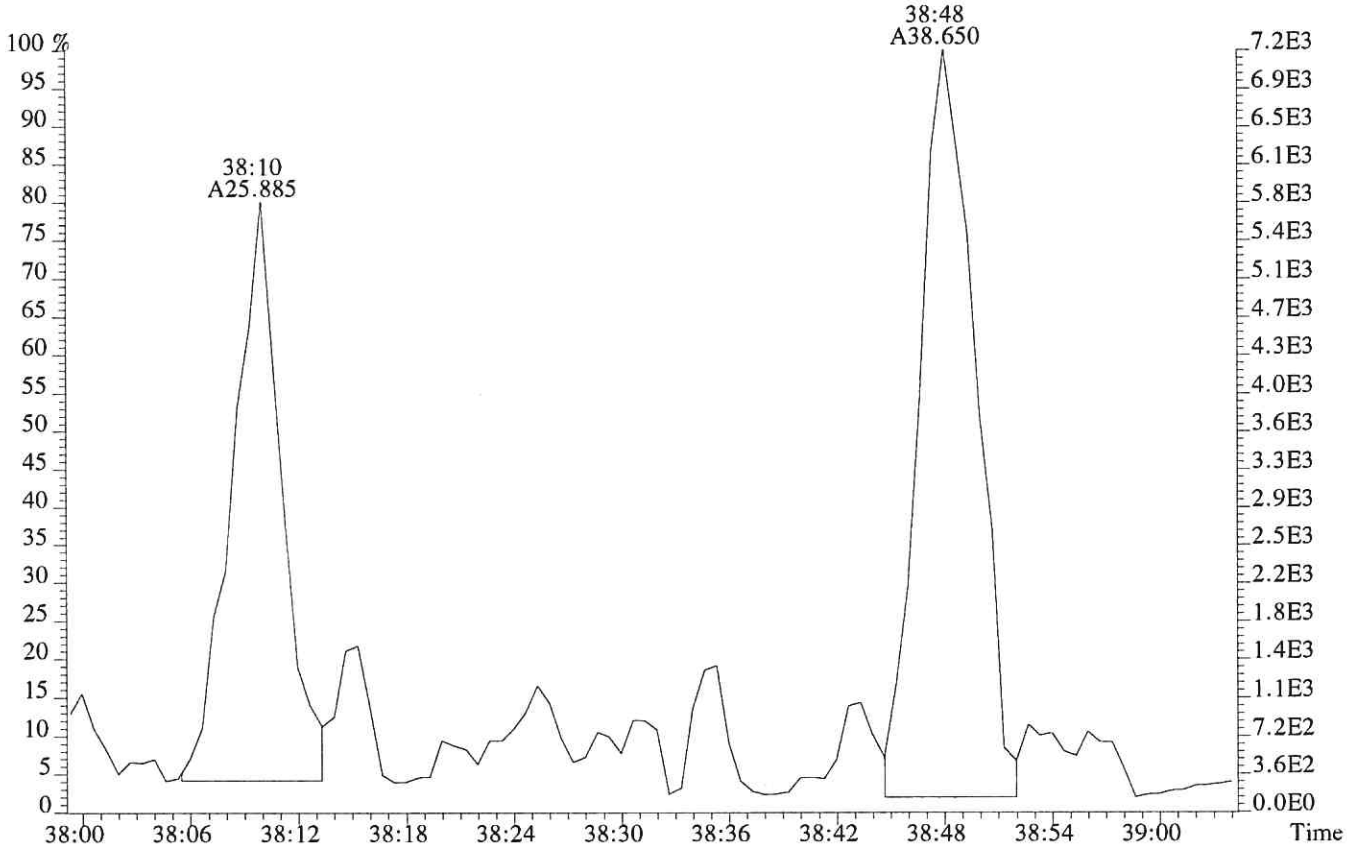
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,412.0,0.40%,F,T)



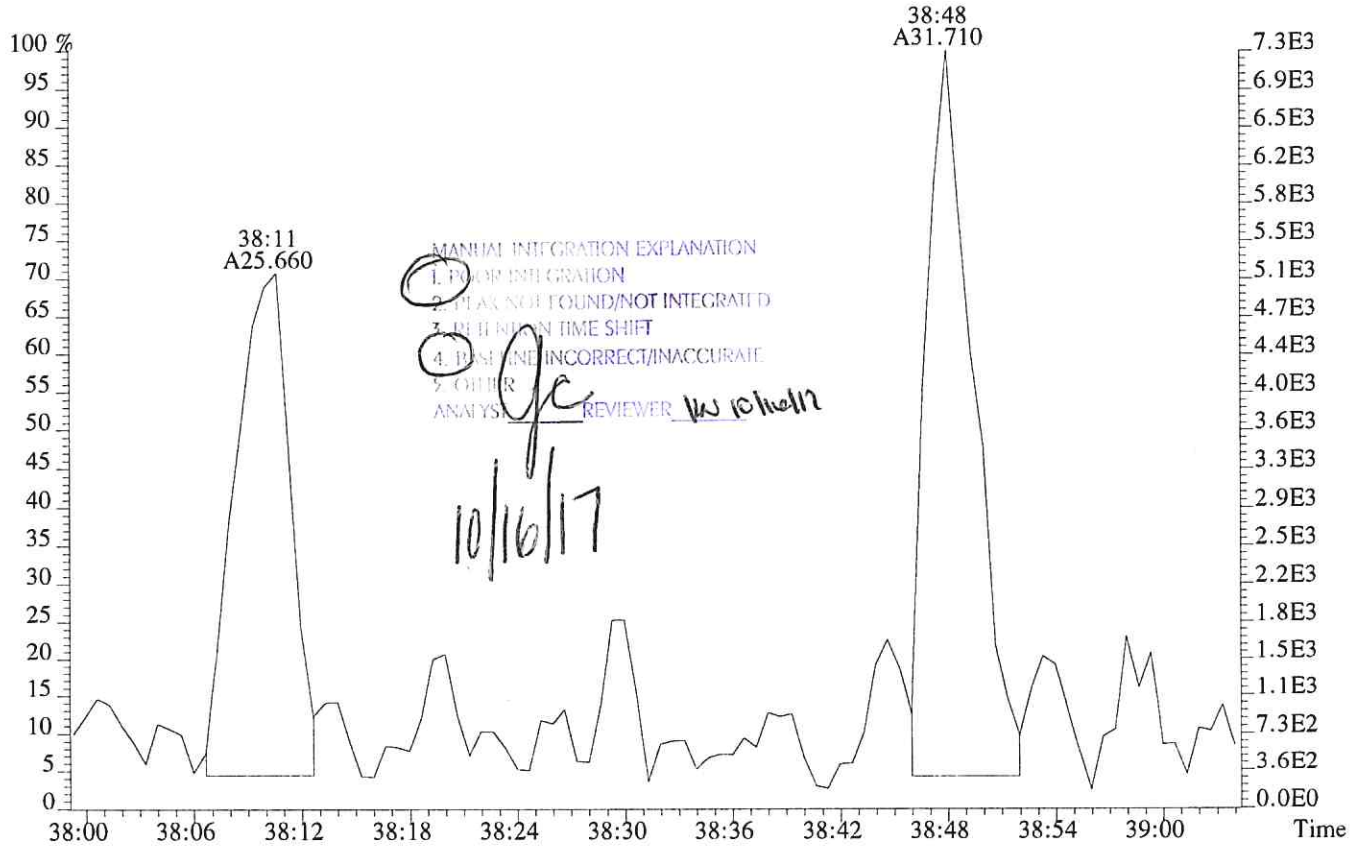
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



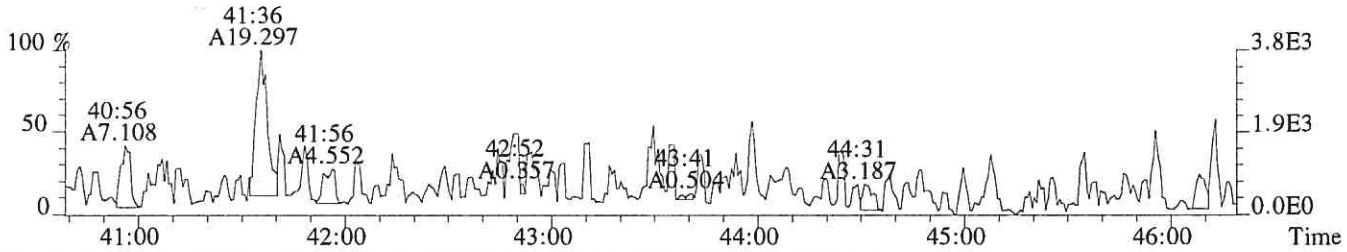
File:P511940 #1-295 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,648.0,0.40%,F,T)



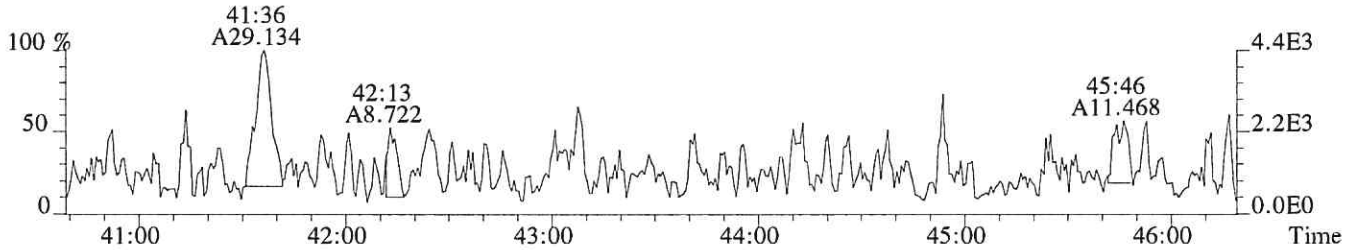
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



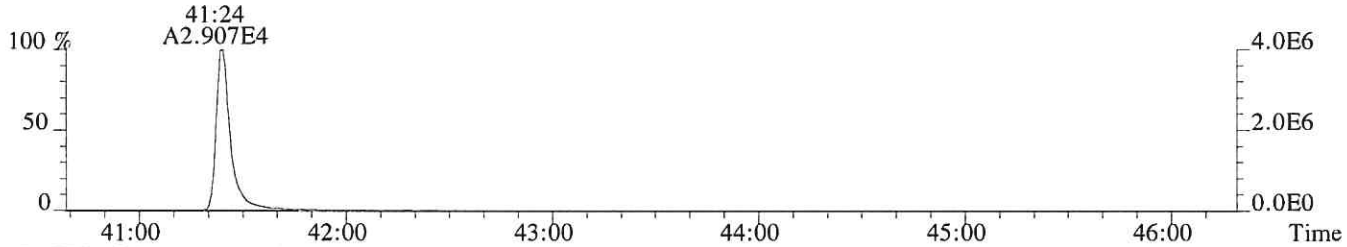
File:P511940 #1-511 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,576.0,0.40%,F,T)



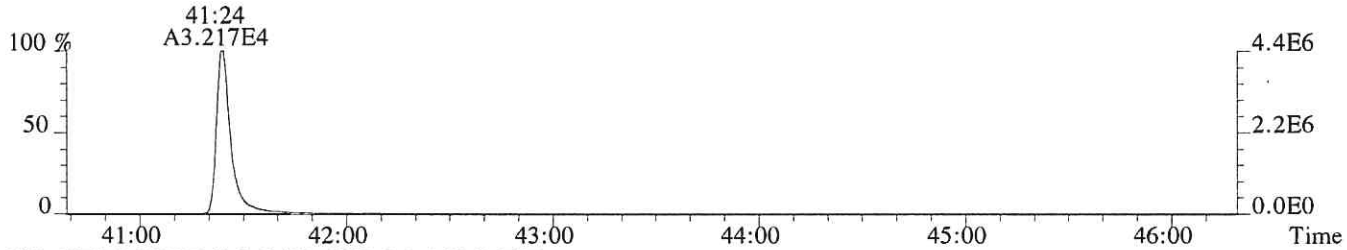
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,T)



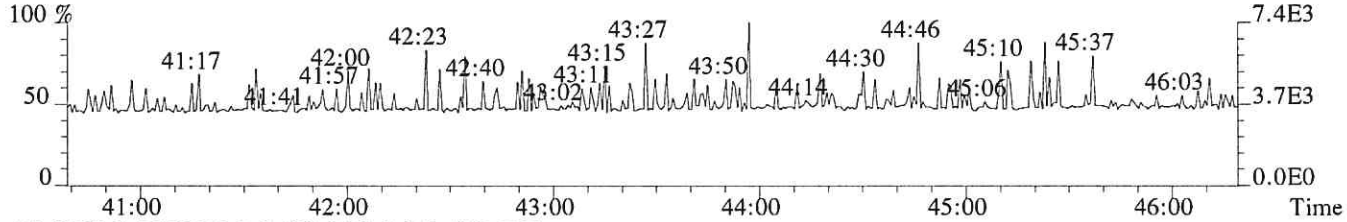
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3336.0,0.40%,F,T)



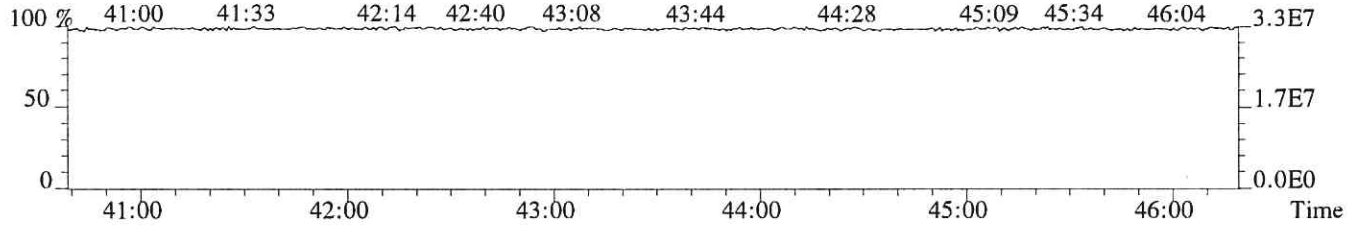
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10072.0,0.40%,F,T)



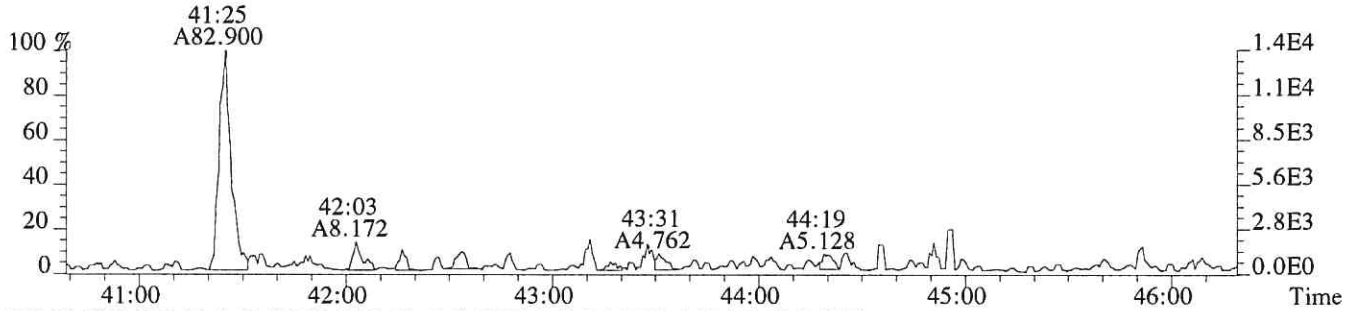
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



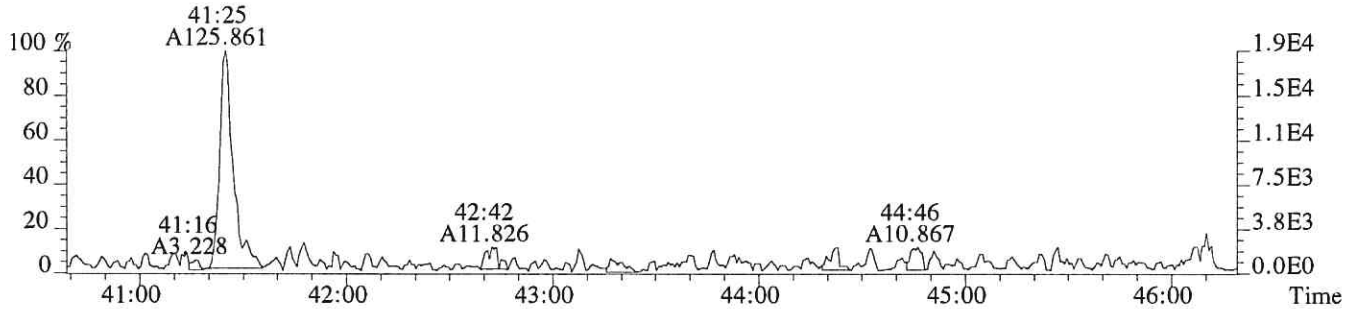
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



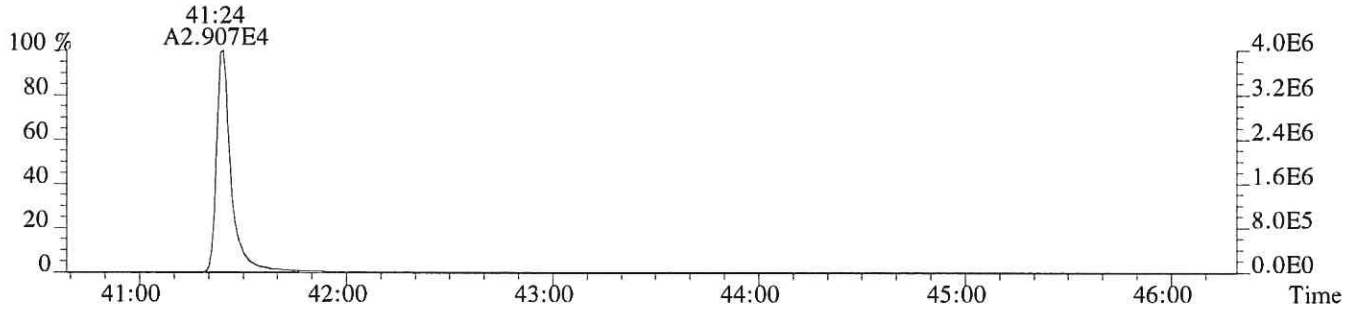
File:P511940 #1-511 Acq:13-OCT-2017 15:17:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-01
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,508.0,0.40%,F,T)



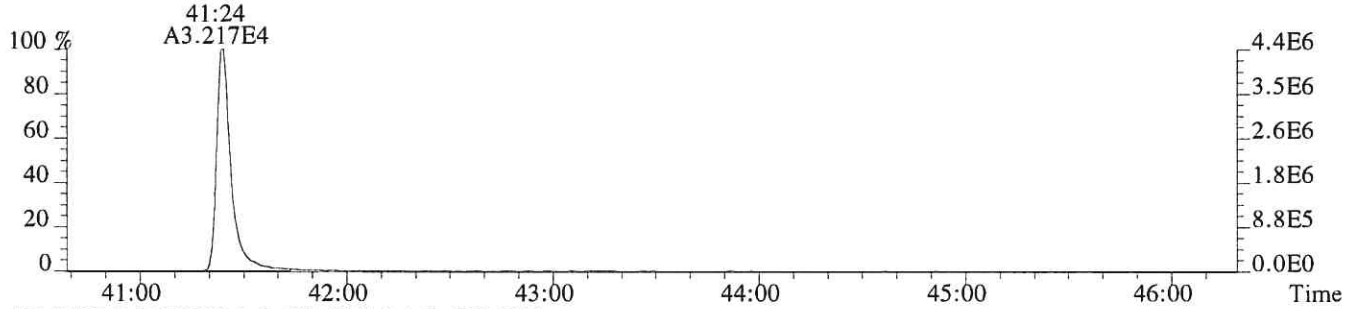
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,816.0,0.40%,F,T)



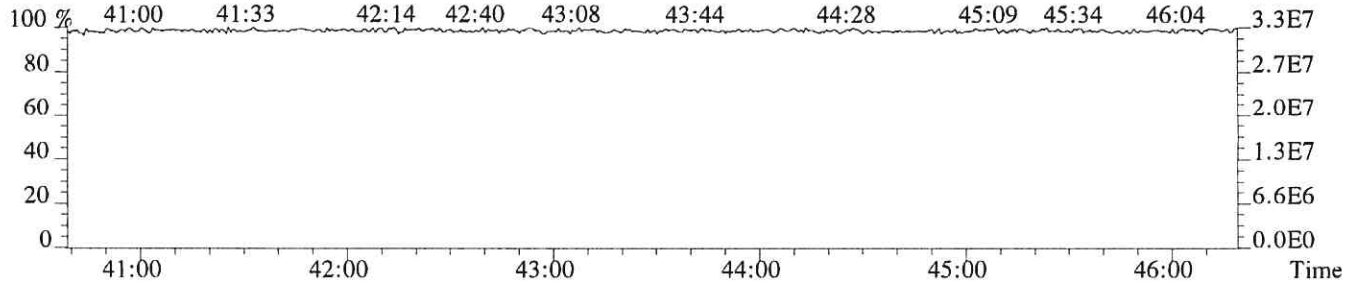
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3336.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10072.0,0.40%,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.
LCS

Run #17 Filename P511949 Samp: 1 Inj: 1 Acquired: 13-OCT-17 22:34:32
Processed: 16-OCT-17 13:42:50 Sample ID: EQ1700461-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:06	1.570e+03	2.124e+03	0.74	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:36	1.401e+04	9.550e+03	1.47	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	1.516e+04	9.724e+03	1.56	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:17	1.156e+04	9.740e+03	1.19	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	1.293e+04	1.101e+04	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	1.219e+04	1.036e+04	1.18	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	1.082e+04	9.030e+03	1.20	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:56	9.314e+03	9.779e+03	0.95	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	9.802e+03	9.596e+03	1.02	yes	no	1.191
10	Unk	OCDF	41:36	1.122e+04	1.337e+04	0.84	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	1.272e+03	1.719e+03	0.74	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:50	1.092e+04	6.980e+03	1.56	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:03	8.371e+03	6.977e+03	1.20	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	1.007e+04	8.276e+03	1.22	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.038e+04	8.217e+03	1.26	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	7.506e+03	7.106e+03	1.06	yes	no	0.942
17	Unk	OCDD	41:26	9.406e+03	1.018e+04	0.92	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	1.919e+04	2.412e+04	0.80	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	3.314e+04	2.116e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	3.455e+04	2.183e+04	1.58	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.345e+04	2.608e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	1.578e+04	3.030e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	1.513e+04	2.956e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	1.371e+04	2.729e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	9.434e+03	2.110e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.005e+04	2.307e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:57	1.292e+04	1.709e+04	0.76	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	2.348e+04	1.508e+04	1.56	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	1.887e+04	1.473e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:07	2.169e+04	1.659e+04	1.31	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	1.556e+04	1.468e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:24	1.822e+04	2.010e+04	0.91	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:20	3.387e+04	4.248e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	4.963e+04	3.901e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	1.286e+04				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
LCS

Run #17 Filename P511949 Samp: 1 Inj: 1 Acquired: 13-OCT-17 22:34:32
Processed: 16-OCT-17 13:42:50 LAB. ID: EQ1700461-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.33e+05	8.32e+02	2.8e+02	3.31e+05	3.21e+03	1.0e+02
2	1,2,3,7,8-PeCDF	2.27e+06	9.92e+02	2.3e+03	1.54e+06	3.98e+03	3.9e+02
3	2,3,4,7,8-PeCDF	2.67e+06	9.92e+02	2.7e+03	1.68e+06	3.98e+03	4.2e+02
4	1,2,3,4,7,8-HxCDF	2.32e+06	8.44e+02	2.7e+03	1.92e+06	9.48e+02	2.0e+03
5	1,2,3,6,7,8-HxCDF	2.36e+06	8.44e+02	2.8e+03	1.94e+06	9.48e+02	2.0e+03
6	2,3,4,6,7,8-HxCDF	2.28e+06	8.44e+02	2.7e+03	1.91e+06	9.48e+02	2.0e+03
7	1,2,3,7,8,9-HxCDF	1.82e+06	8.44e+02	2.2e+03	1.51e+06	9.48e+02	1.6e+03
8	1,2,3,4,6,7,8-HpCDF	1.68e+06	1.64e+03	1.0e+03	1.73e+06	2.61e+03	6.6e+02
9	1,2,3,4,7,8,9-HpCDF	1.62e+06	1.64e+03	9.9e+02	1.59e+06	2.61e+03	6.1e+02
10	OCDF	1.55e+06	3.80e+02	4.1e+03	1.81e+06	1.06e+03	1.7e+03
11	2,3,7,8-TCDD	2.10e+05	2.02e+03	1.0e+02	2.77e+05	1.60e+03	1.7e+02
12	1,2,3,7,8-PeCDD	1.80e+06	1.58e+03	1.1e+03	1.22e+06	1.12e+02	1.1e+04
13	1,2,3,4,7,8-HxCDD	1.77e+06	6.20e+02	2.8e+03	1.45e+06	1.40e+03	1.0e+03
14	1,2,3,6,7,8-HxCDD	1.78e+06	6.20e+02	2.9e+03	1.48e+06	1.40e+03	1.1e+03
15	1,2,3,7,8,9-HxCDD	1.85e+06	6.20e+02	3.0e+03	1.41e+06	1.40e+03	1.0e+03
16	1,2,3,4,6,7,8-HpCDD	1.27e+06	4.96e+02	2.6e+03	1.23e+06	9.36e+02	1.3e+03
17	OCDD	1.23e+06	6.48e+02	1.9e+03	1.36e+06	2.06e+03	6.6e+02
18	13C-2,3,7,8-TCDF	2.94e+06	1.02e+04	2.9e+02	3.69e+06	5.64e+03	6.5e+02
19	13C-1,2,3,7,8-PeCDF	5.36e+06	1.03e+03	5.2e+03	3.38e+06	1.13e+03	3.0e+03
20	13C-2,3,4,7,8-PeCDF	5.86e+06	1.03e+03	5.7e+03	3.75e+06	1.13e+03	3.3e+03
21	13C-1,2,3,4,7,8-HxCDF	2.68e+06	1.15e+03	2.3e+03	5.19e+06	1.17e+03	4.4e+03
22	13C-1,2,3,6,7,8-HxCDF	2.81e+06	1.15e+03	2.4e+03	5.44e+06	1.17e+03	4.7e+03
23	13C-2,3,4,6,7,8-HxCDF	2.89e+06	1.15e+03	2.5e+03	5.62e+06	1.17e+03	4.8e+03
24	13C-1,2,3,7,8,9-HxCDF	2.30e+06	1.15e+03	2.0e+03	4.54e+06	1.17e+03	3.9e+03
25	13C-1,2,3,4,6,7,8-HpCDF	1.74e+06	2.24e+03	7.8e+02	3.85e+06	1.61e+03	2.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.65e+06	2.24e+03	7.3e+02	3.77e+06	1.61e+03	2.3e+03
27	13C-2,3,7,8-TCDD	2.19e+06	6.96e+03	3.1e+02	2.77e+06	4.48e+03	6.2e+02
28	13C-1,2,3,7,8-PeCDD	4.03e+06	1.54e+03	2.6e+03	2.53e+06	1.81e+03	1.4e+03
29	13C-1,2,3,4,7,8-HxCDD	3.90e+06	2.62e+03	1.5e+03	3.07e+06	1.51e+03	2.0e+03
30	13C-1,2,3,6,7,8-HxCDD	3.79e+06	2.62e+03	1.4e+03	2.93e+06	1.51e+03	1.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	2.72e+06	9.72e+02	2.8e+03	2.54e+06	5.40e+02	4.7e+03
32	13C-OCDD	2.34e+06	7.78e+03	3.0e+02	2.61e+06	1.08e+03	2.4e+03
33	13C-1,2,3,4-TCDD	5.62e+06	6.96e+03	8.1e+02	7.03e+06	4.48e+03	1.6e+03
34	13C-1,2,3,7,8,9-HxCDD	8.69e+06	2.62e+03	3.3e+03	6.80e+06	1.51e+03	4.5e+03
35	37Cl-2,3,7,8-TCDD	2.12e+06	1.55e+03	1.4e+03			

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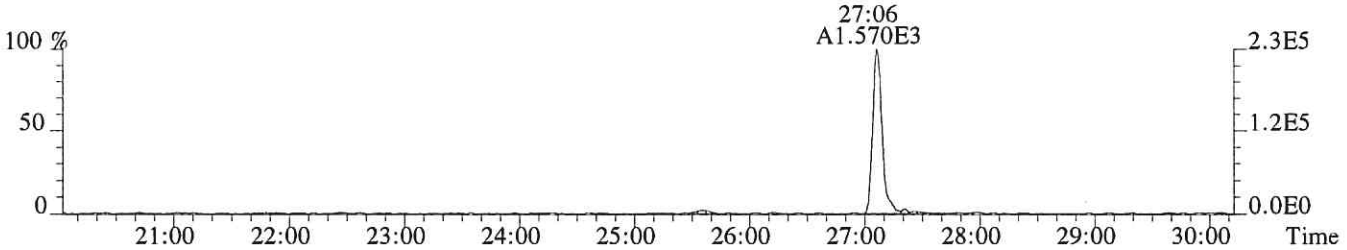
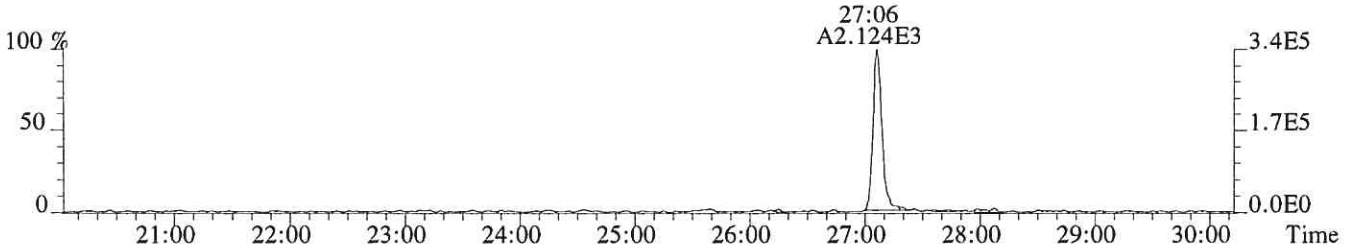
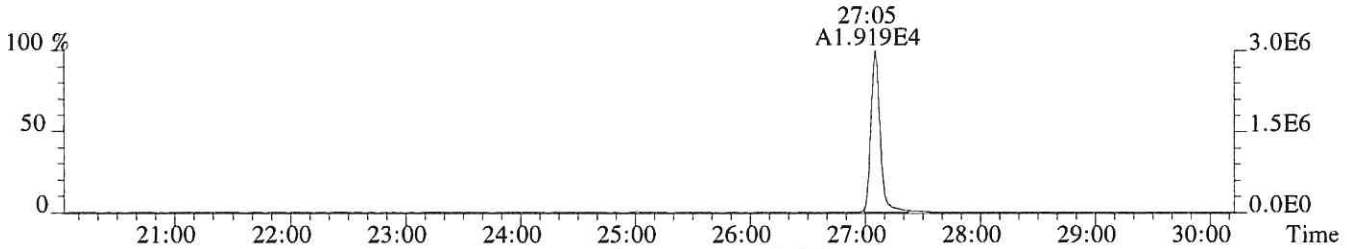
File:P511949 #1-722 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



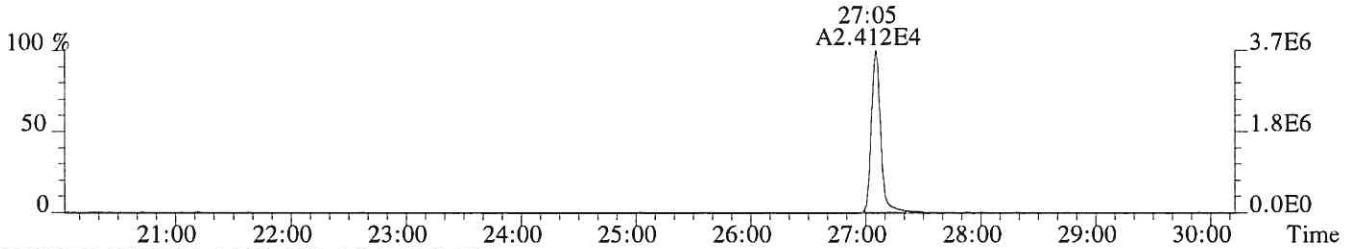
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3212.0,1.00%,F,T)



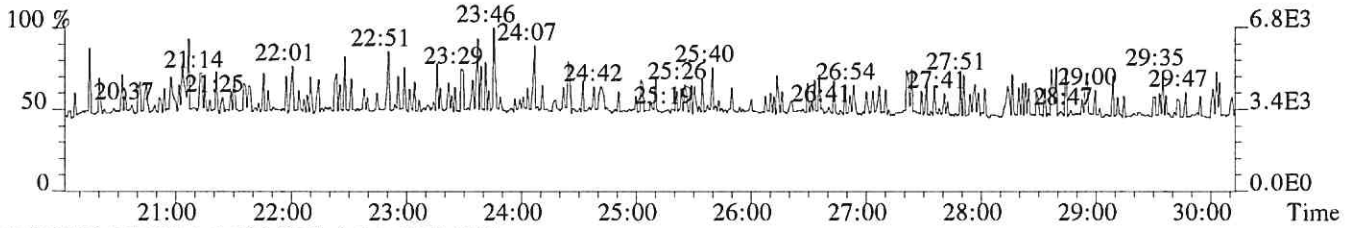
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10184.0,1.00%,F,T)



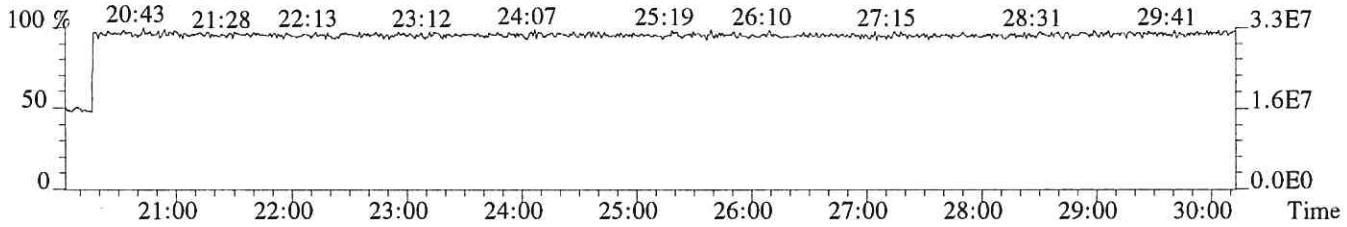
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5640.0,1.00%,F,T)



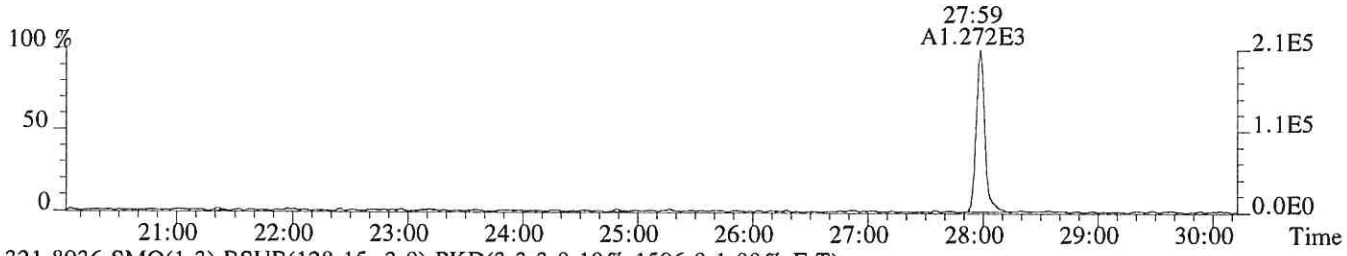
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



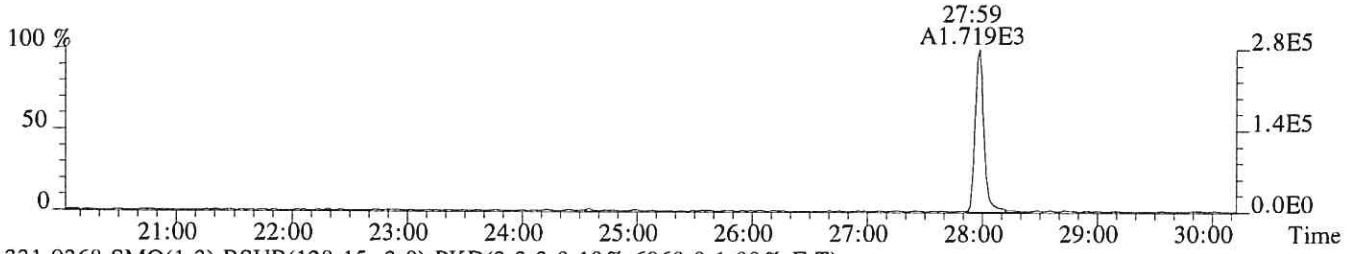
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



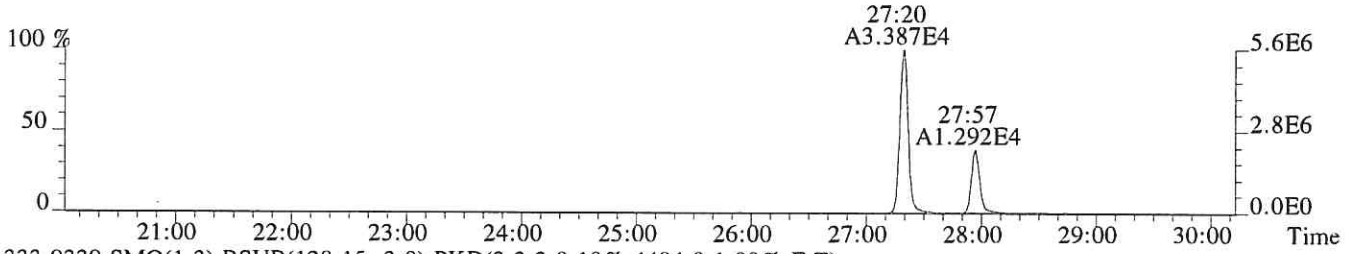
File:P511949 #1-722 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2020.0,1.00%,F,T)



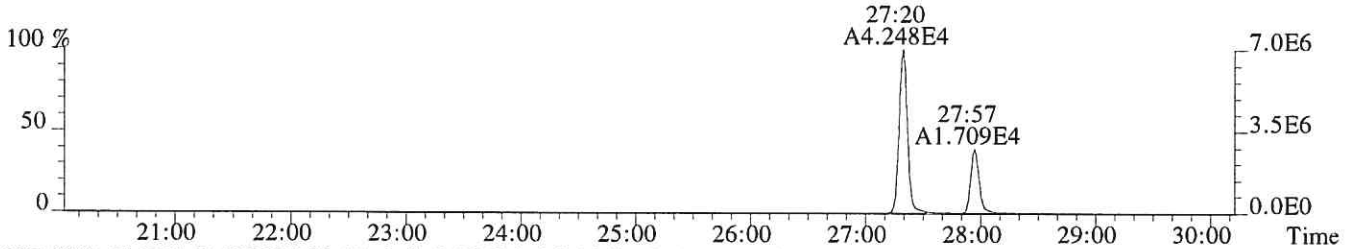
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)



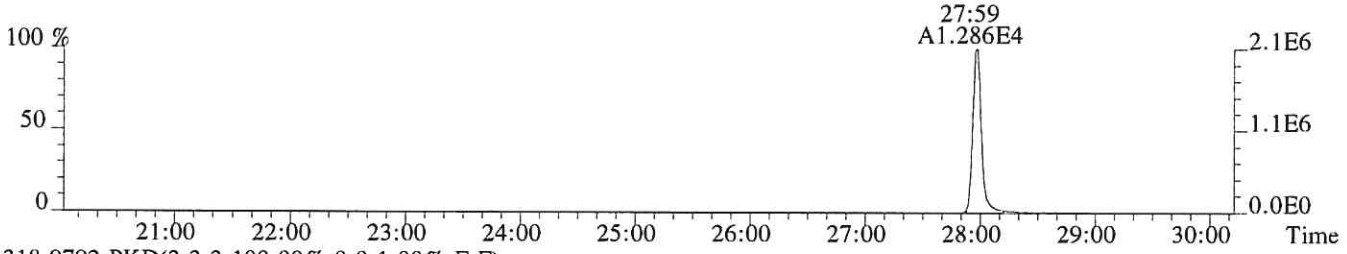
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6960.0,1.00%,F,T)



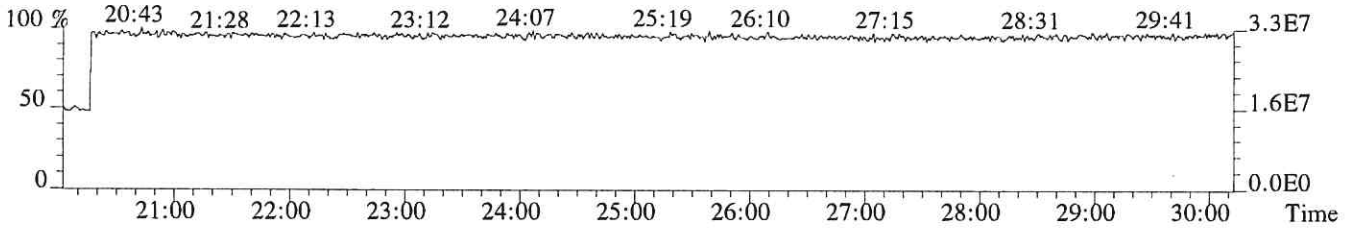
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4484.0,1.00%,F,T)



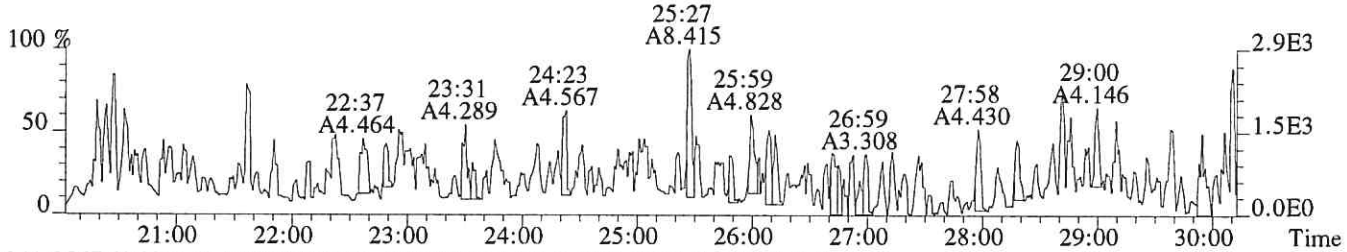
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1548.0,1.00%,F,T)



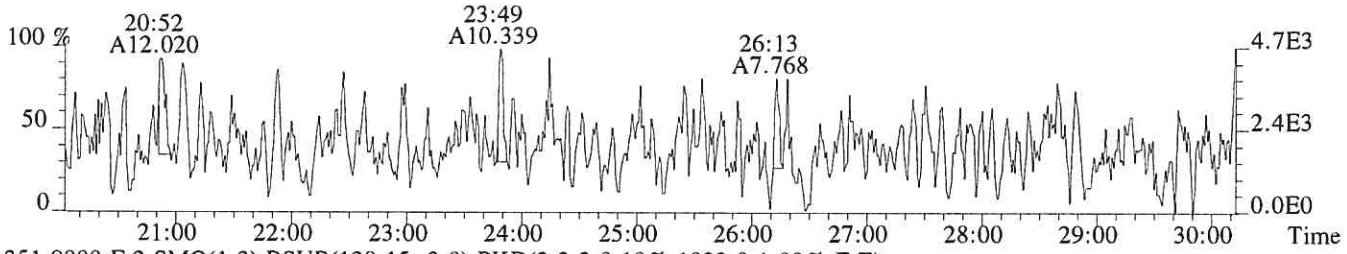
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



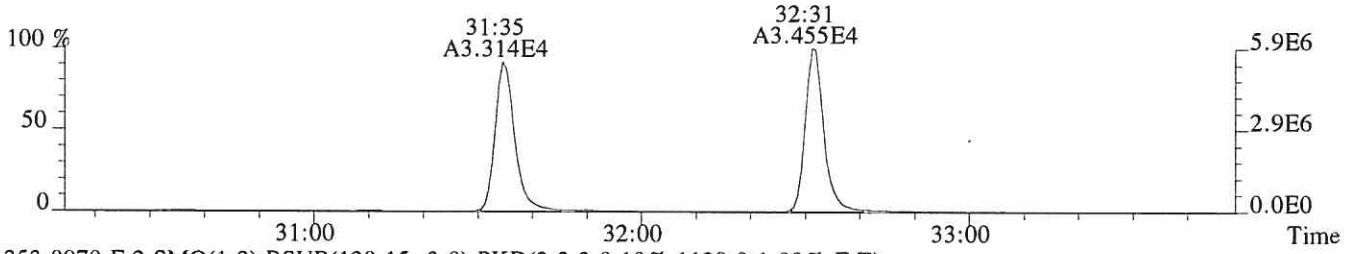
File:P511949 #1-722 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,T)



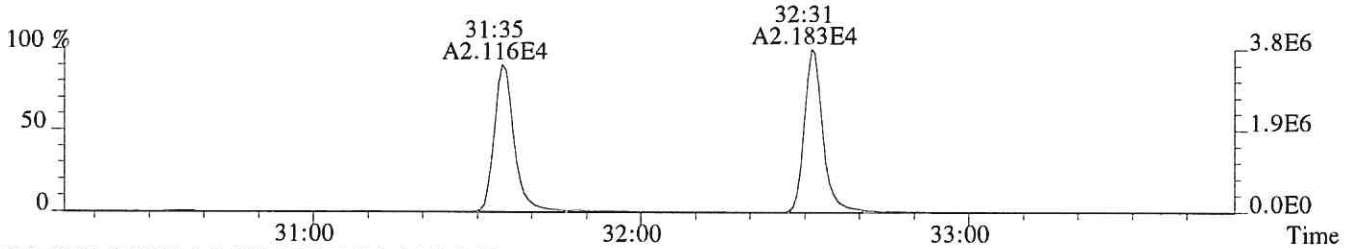
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2364.0,1.00%,F,T)



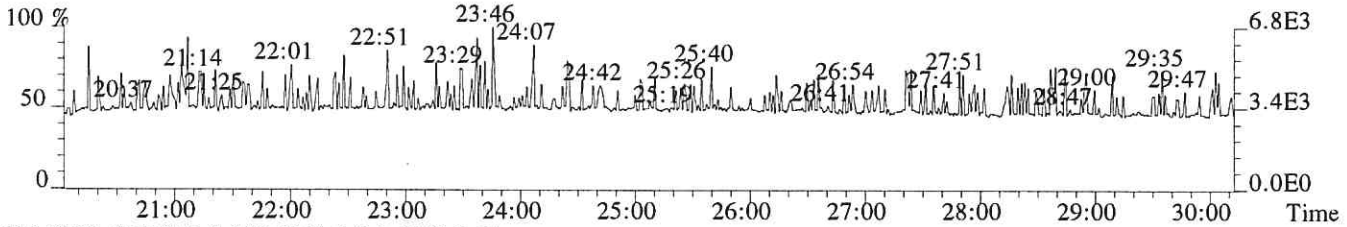
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



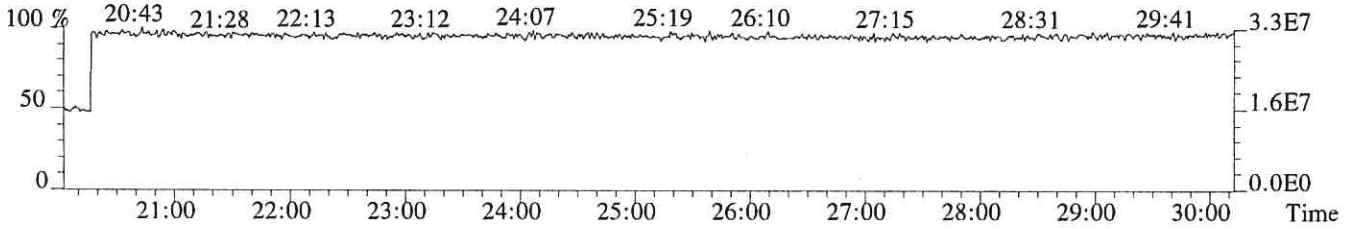
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



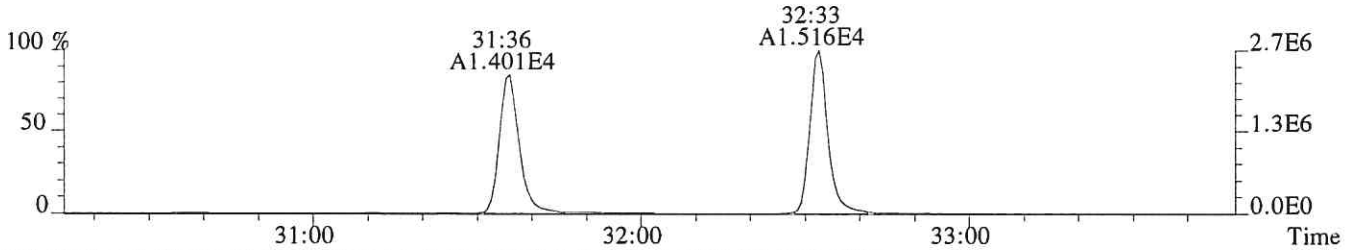
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



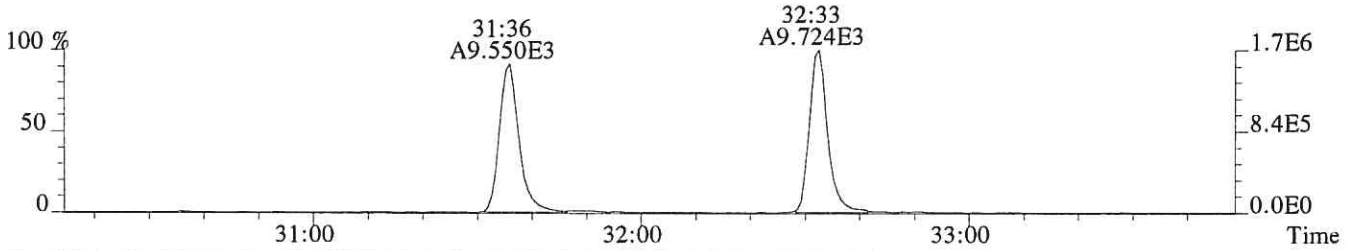
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



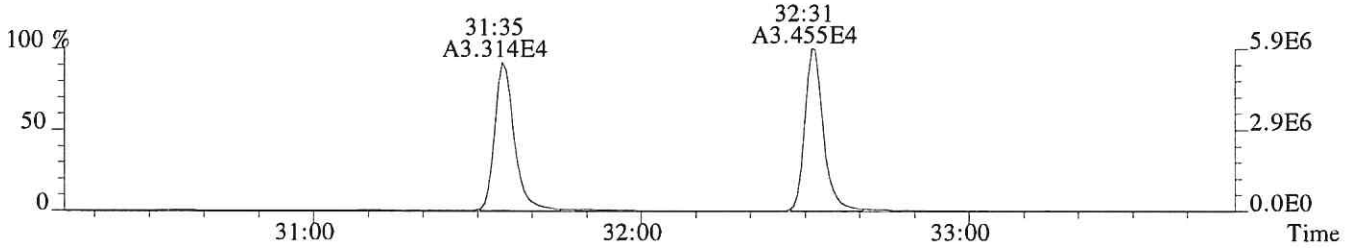
File:P511949 #1-322 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



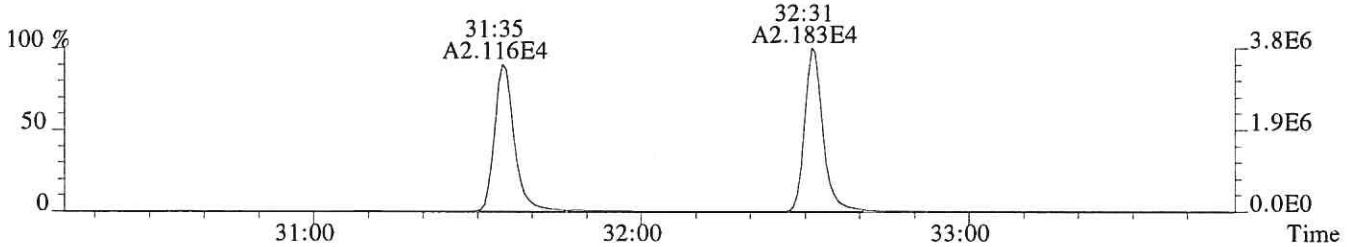
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3980.0,1.00%,F,T)



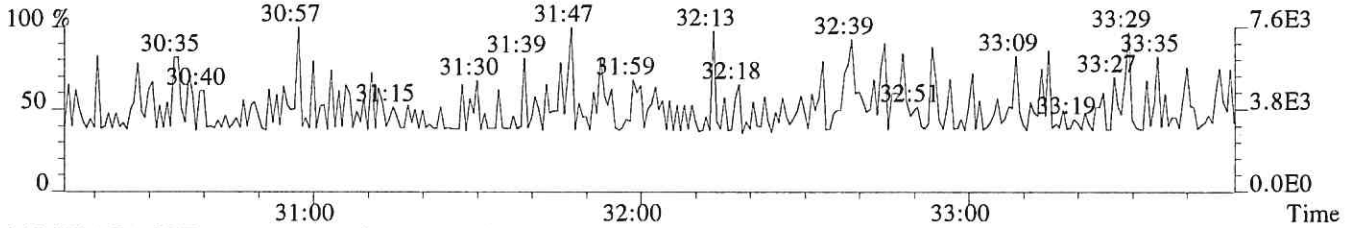
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



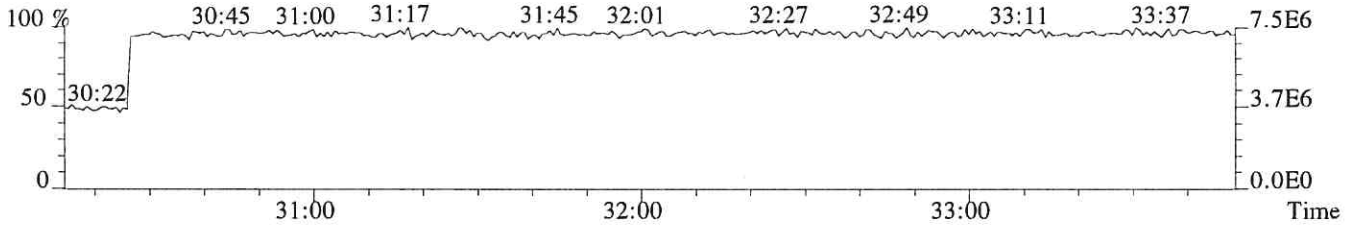
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



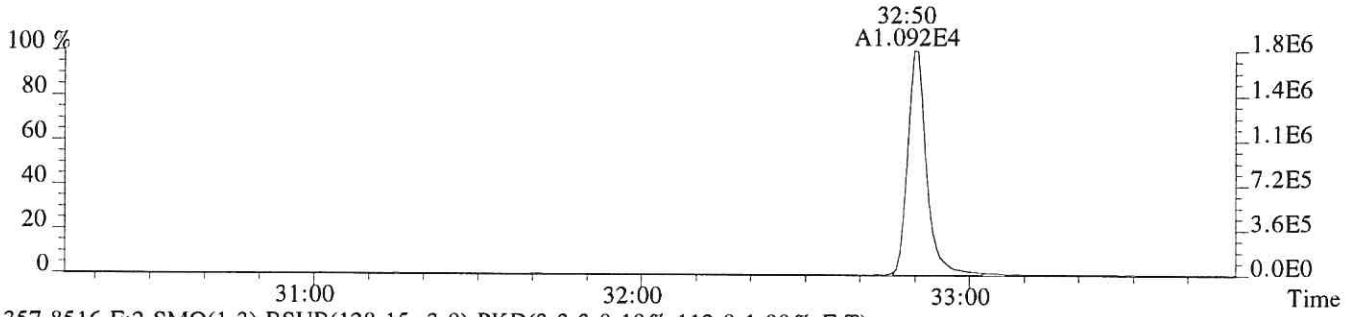
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



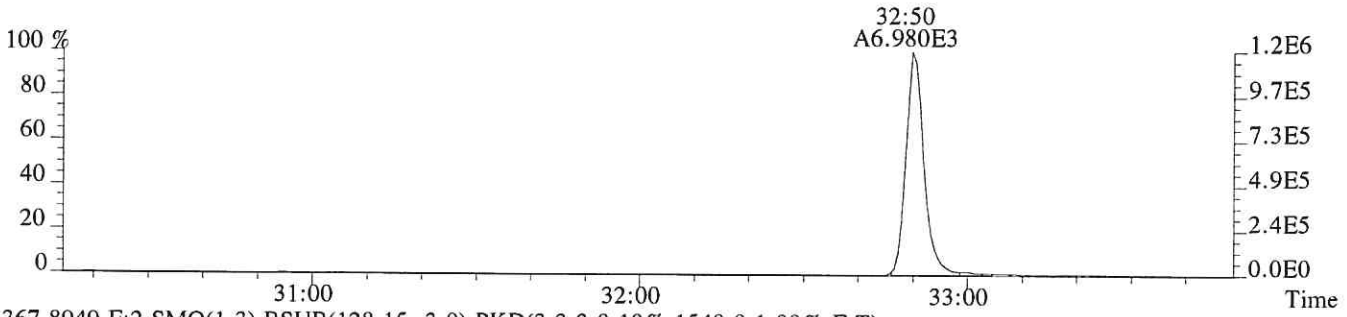
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



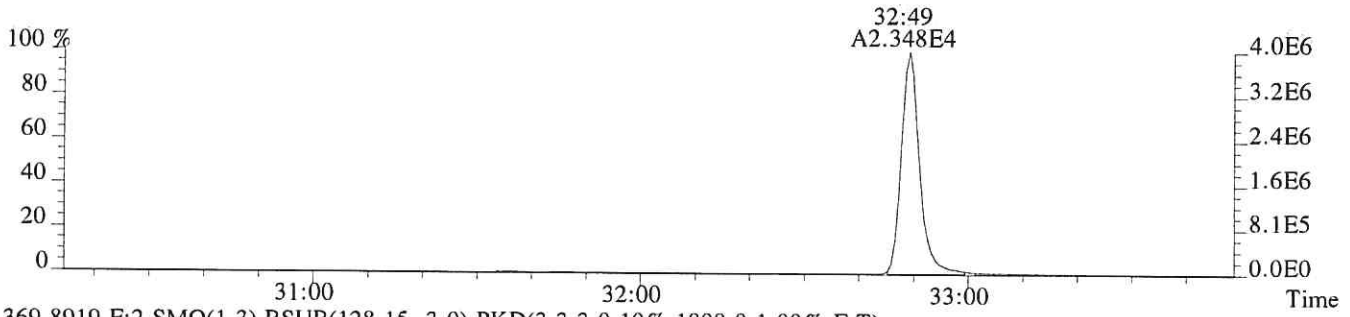
File:P511949 #1-322 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1580.0,1.00%,F,T)



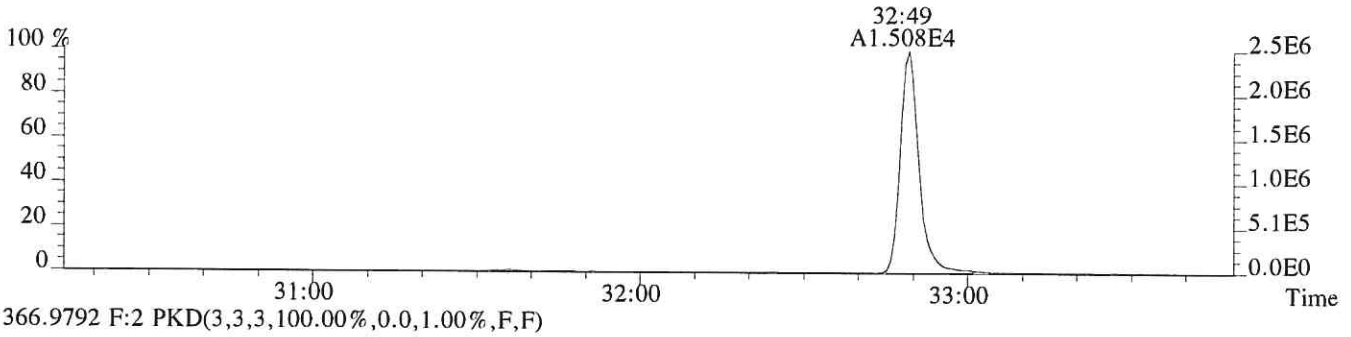
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,T)



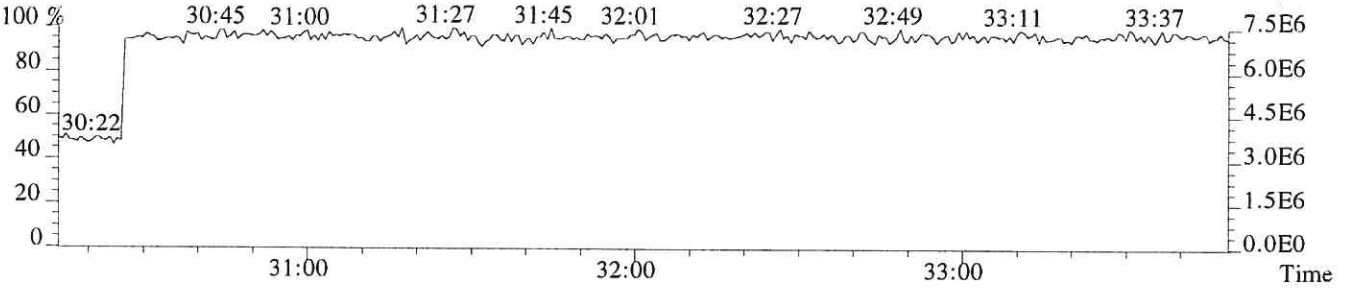
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,T)



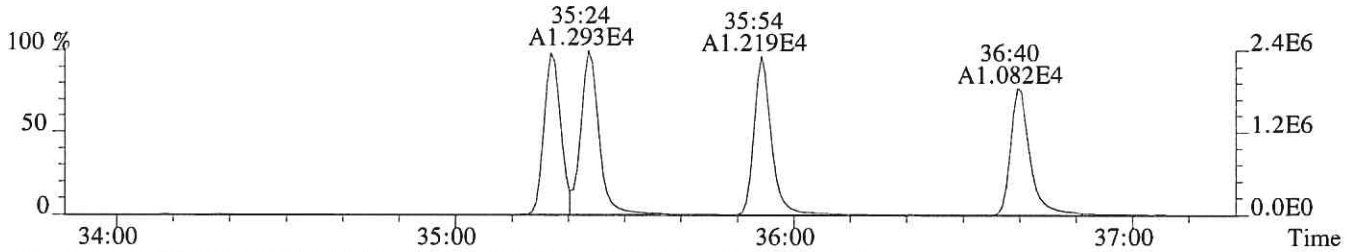
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



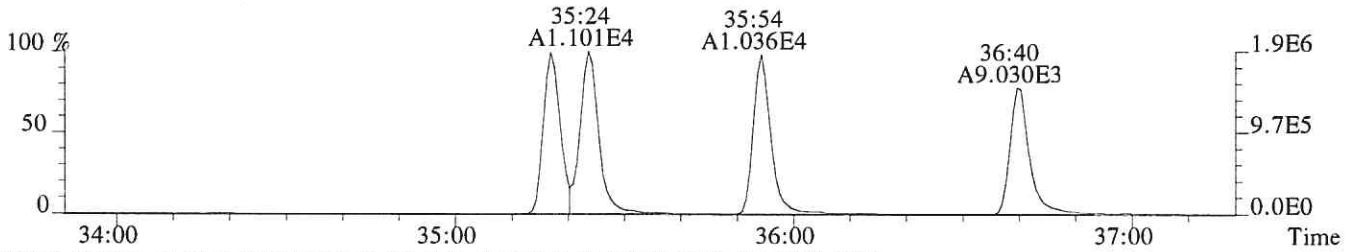
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



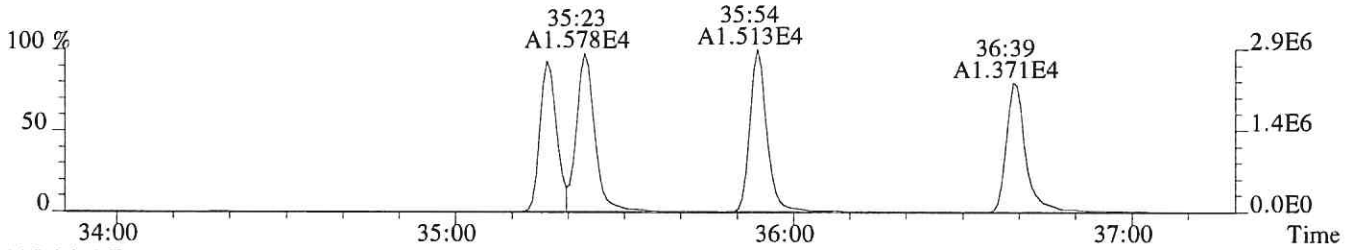
File:P511949 #1-312 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,844.0,0.40%,F,T)



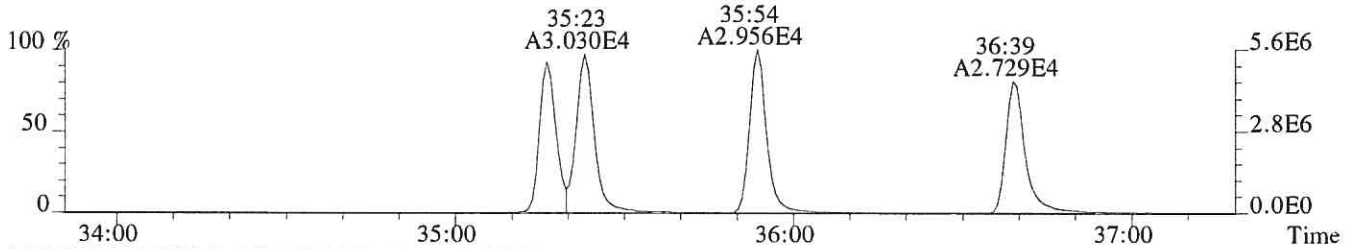
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,948.0,0.40%,F,T)



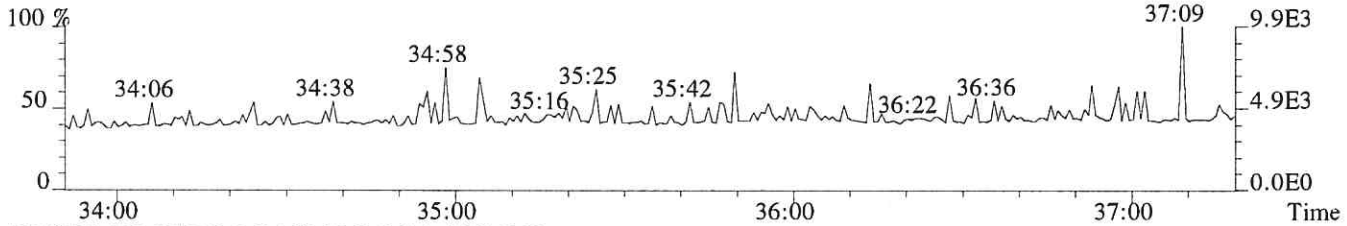
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,T)



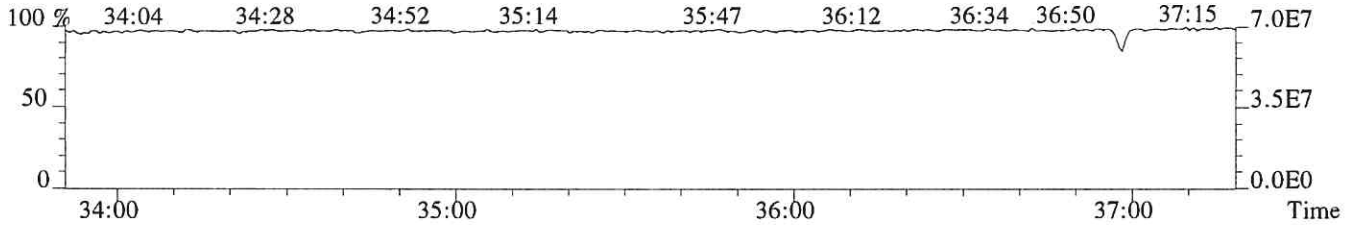
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1168.0,0.40%,F,T)



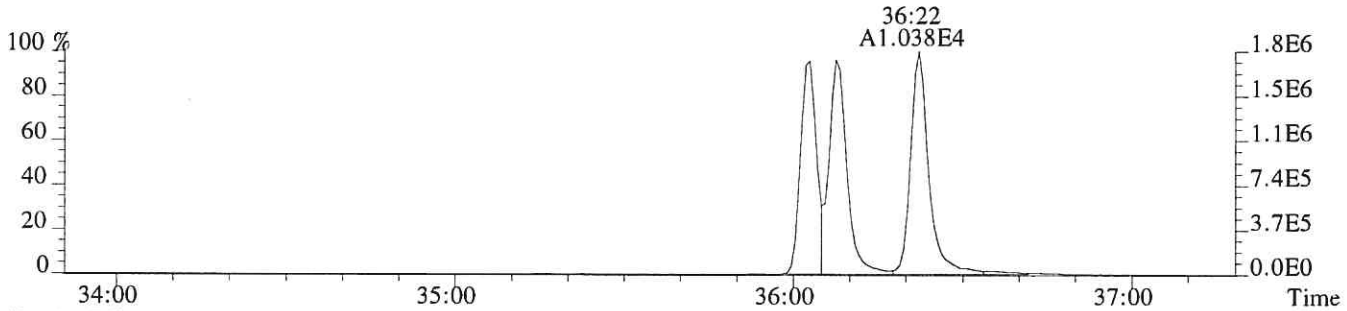
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



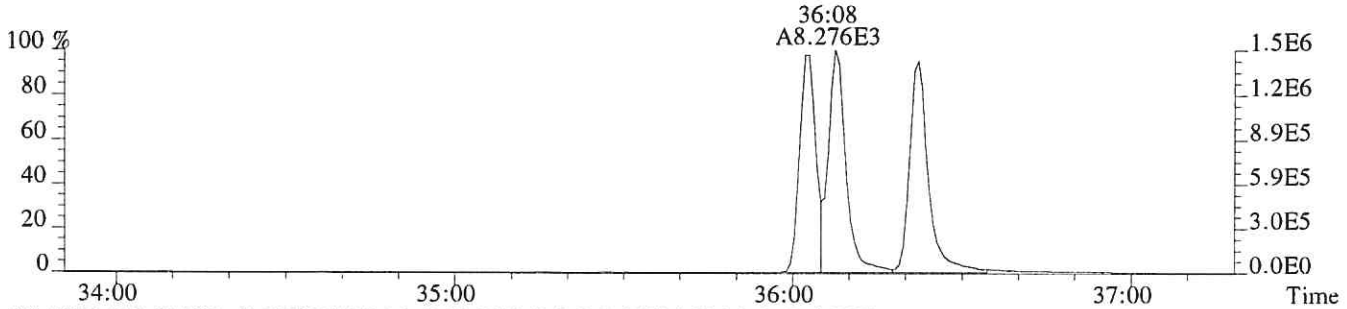
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



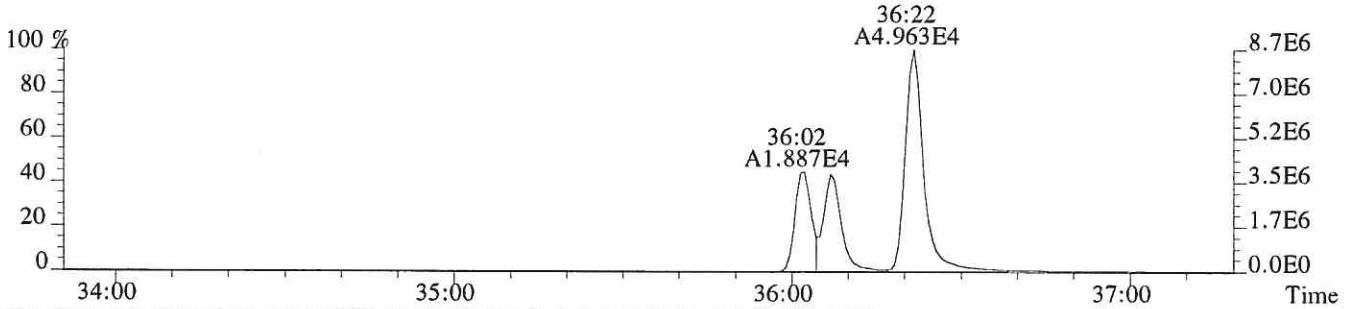
File:P511949 #1-312 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



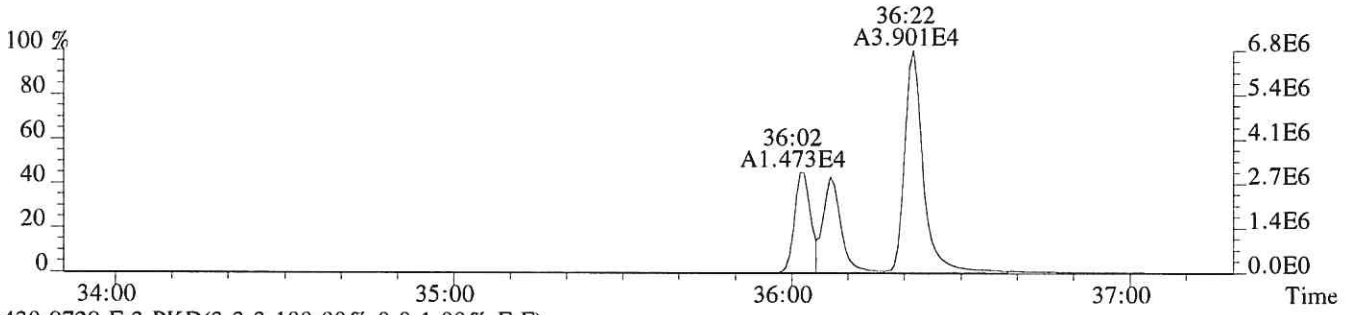
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1404.0,0.40%,F,T)



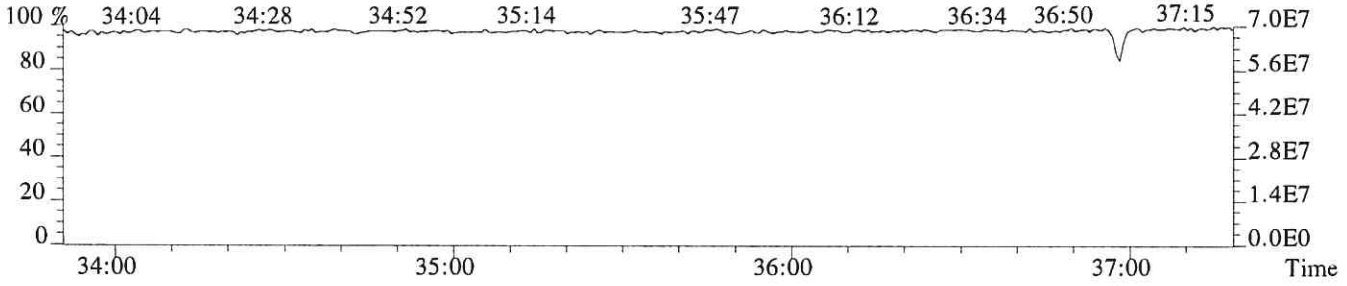
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2624.0,0.40%,F,T)



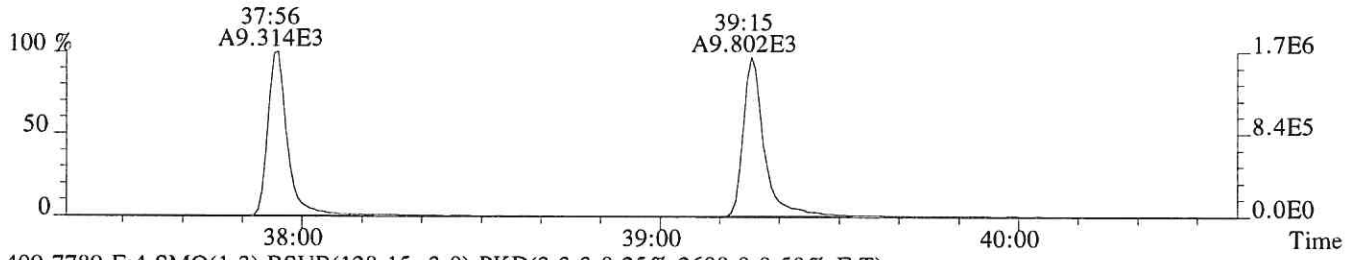
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



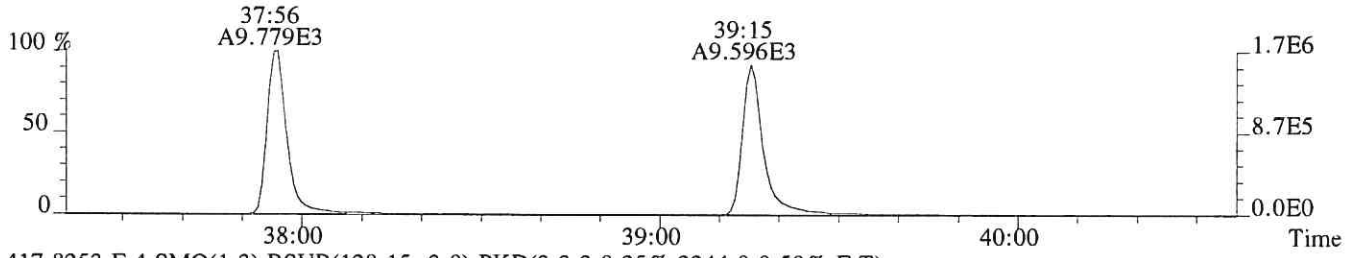
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



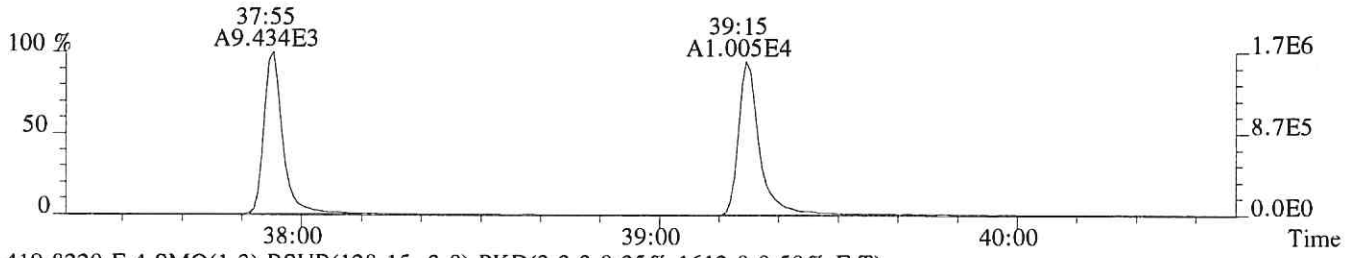
File:P511949 #1-295 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.50%,F,T)



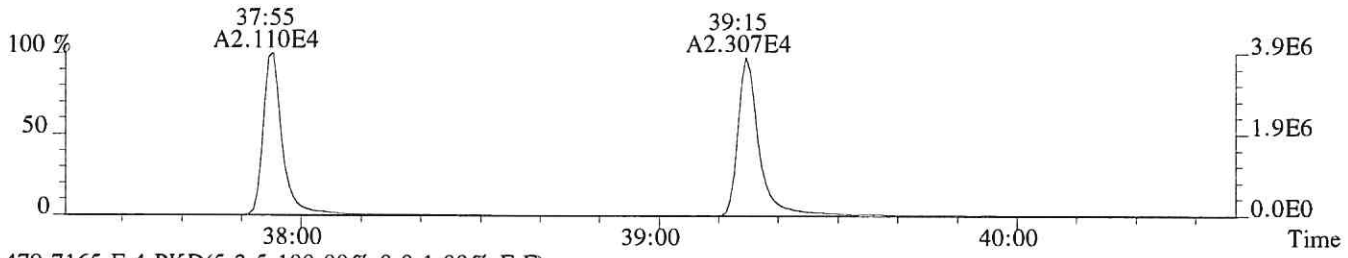
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2608.0,0.50%,F,T)



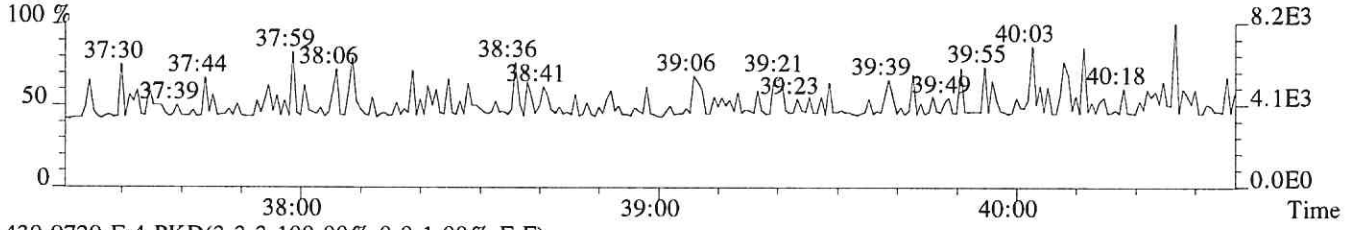
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2244.0,0.50%,F,T)



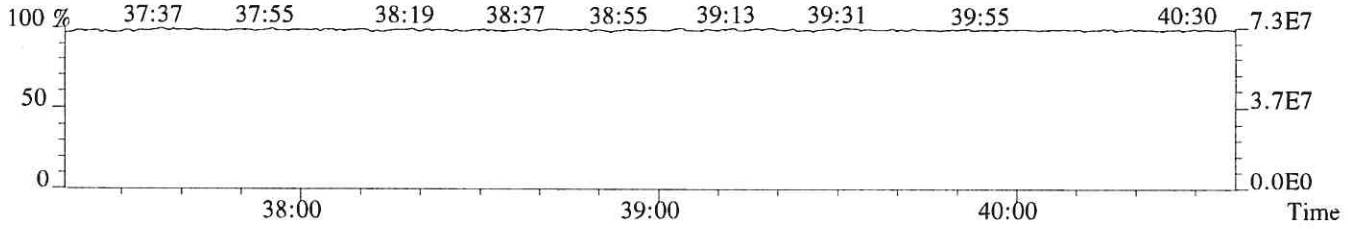
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1612.0,0.50%,F,T)



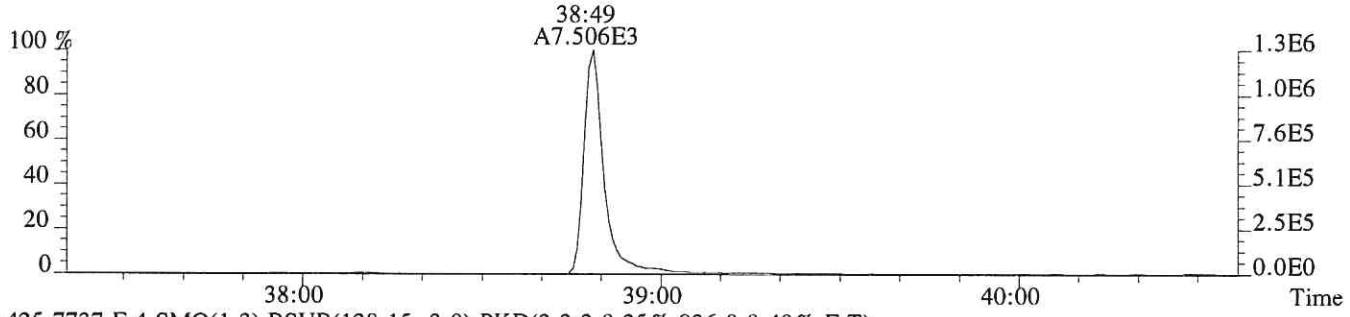
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



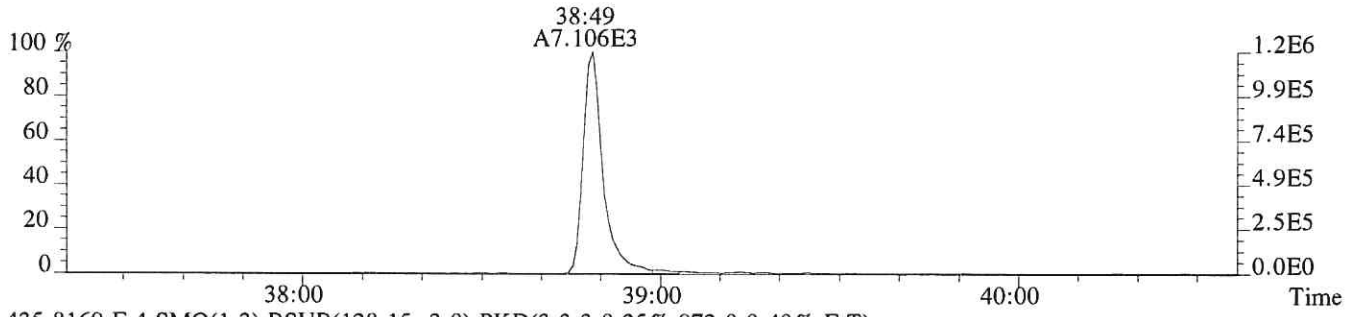
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



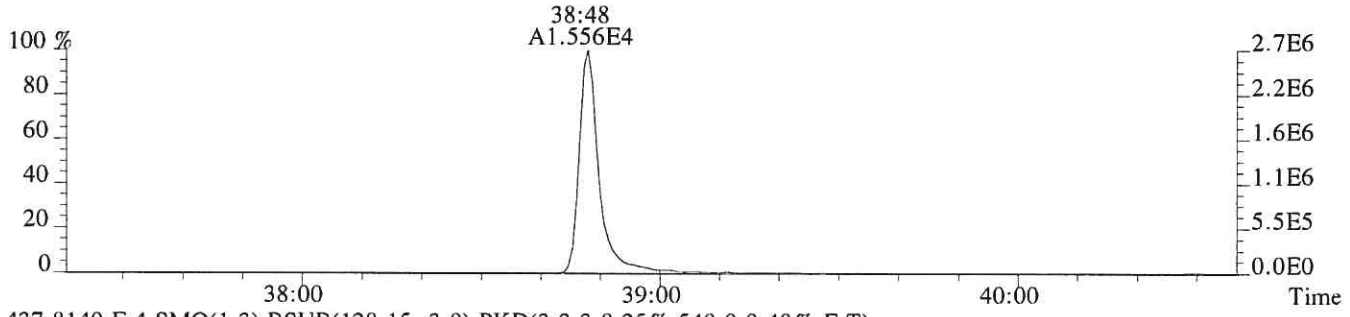
File:P511949 #1-295 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



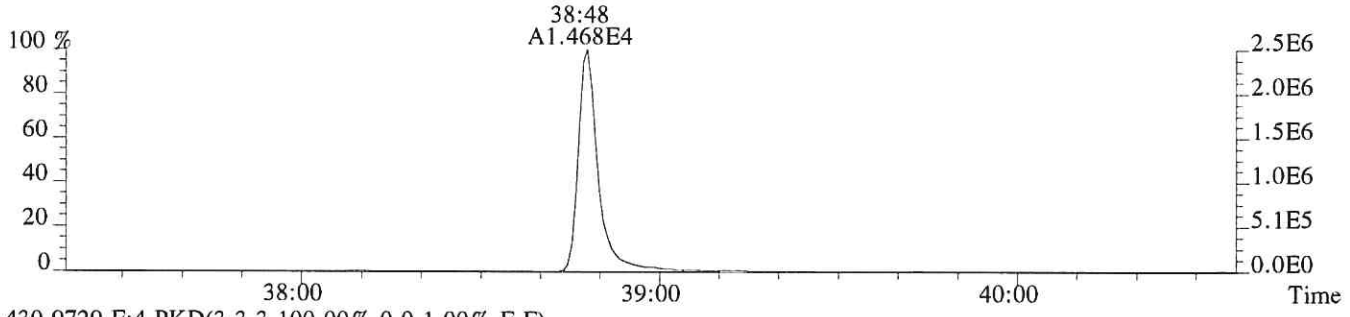
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,T)



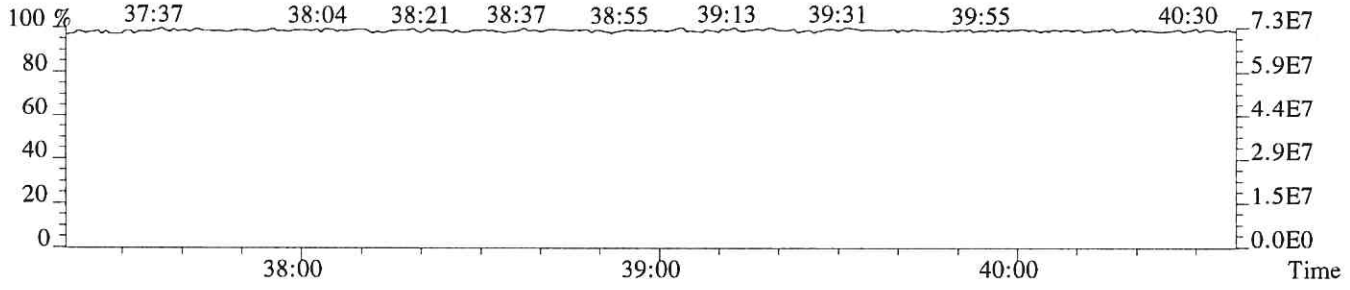
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,972.0,0.40%,F,T)



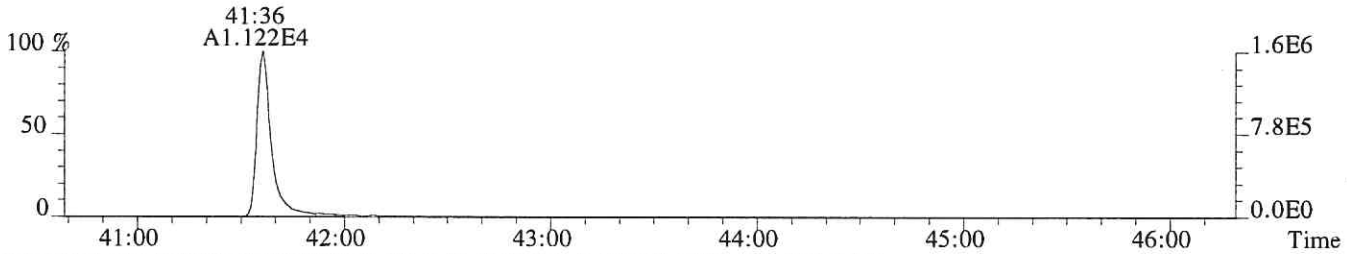
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,540.0,0.40%,F,T)



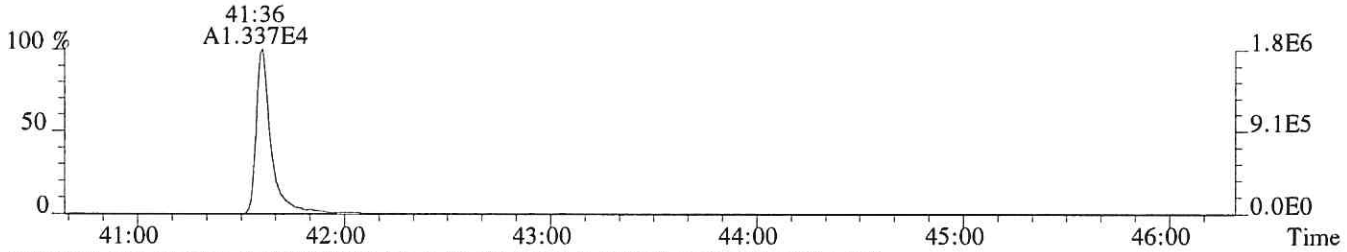
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



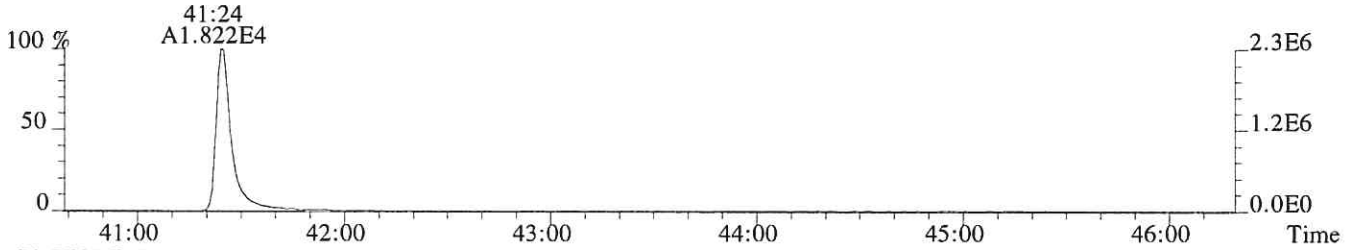
File:P511949 #1-511 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,380.0,0.40%,F,T)



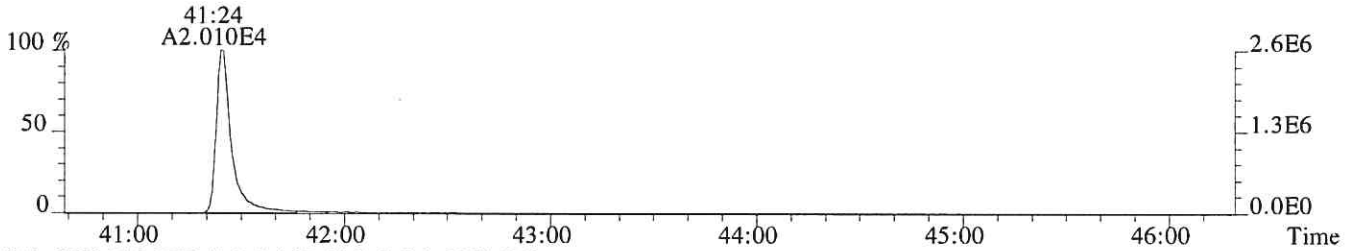
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1060.0,0.40%,F,T)



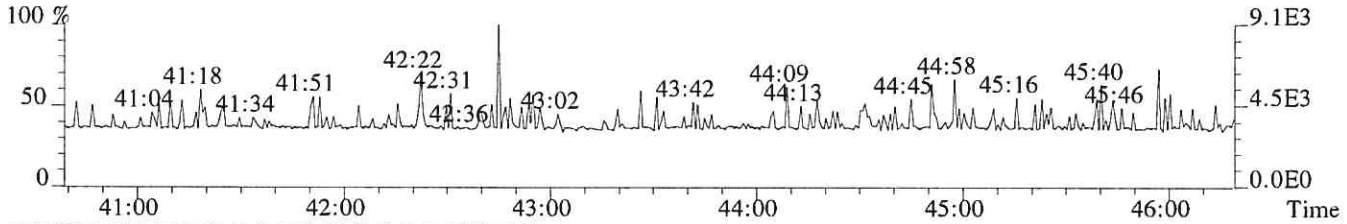
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7784.0,0.40%,F,T)



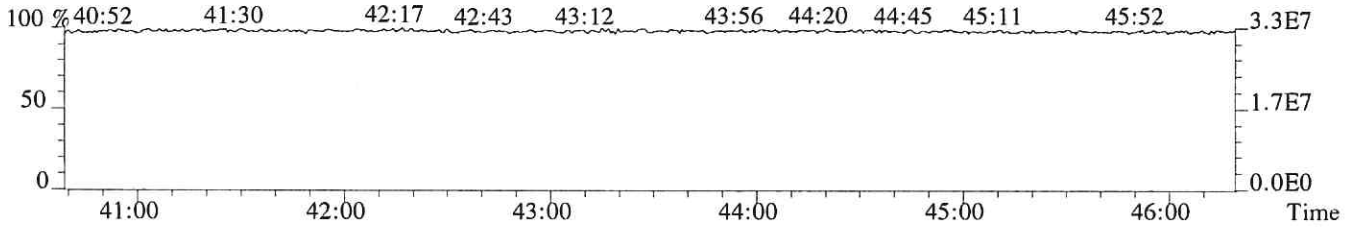
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1084.0,0.40%,F,T)



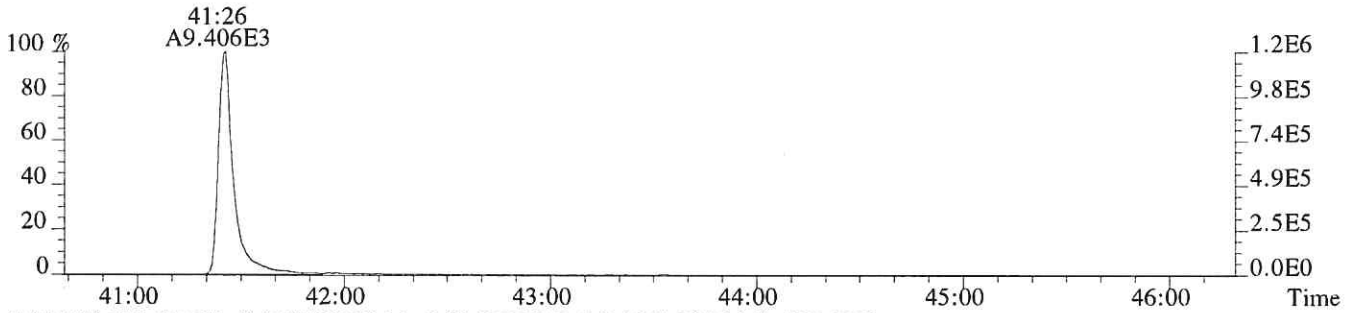
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



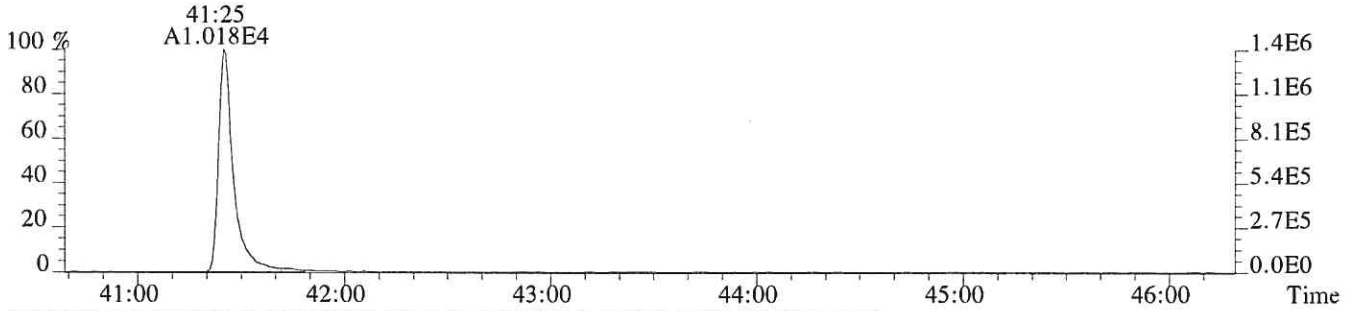
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



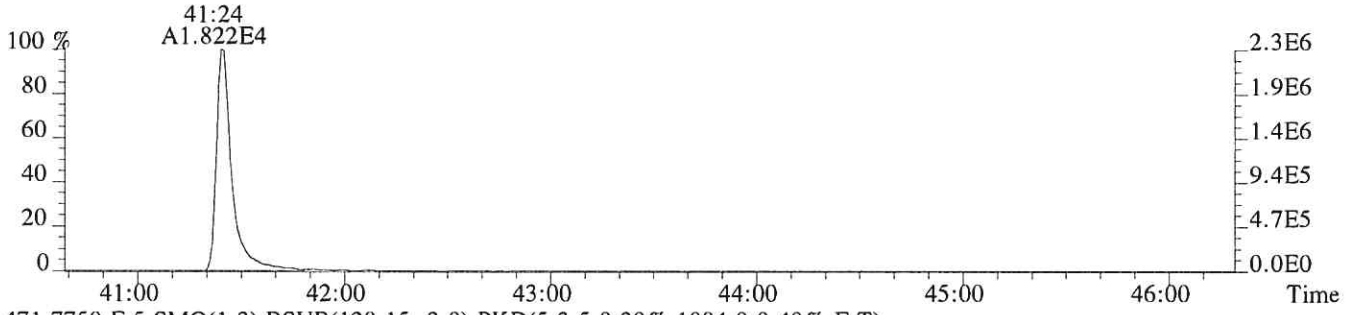
File:P511949 #1-511 Acq:13-OCT-2017 22:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-02
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,T)



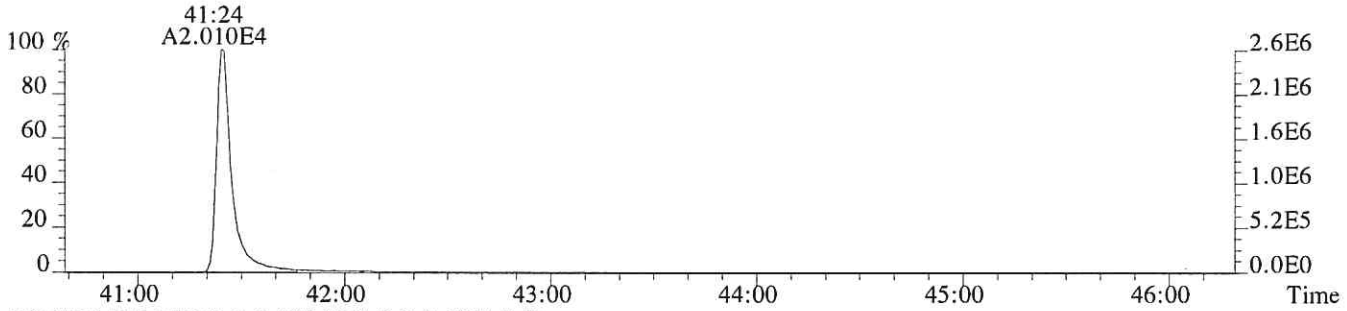
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2056.0,0.40%,F,T)



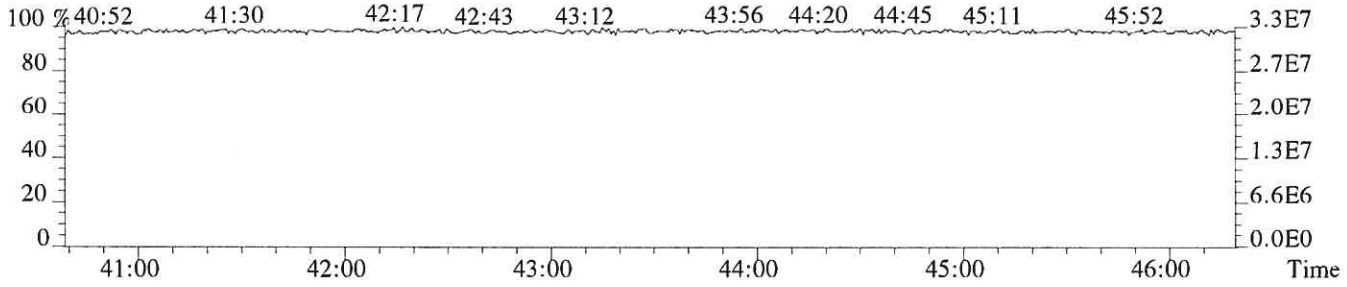
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7784.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1084.0,0.40%,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 #18 Filename P511950 Samp: 1 Inj: 1 Acquired: 13-OCT-17 23:23:09
Processed: 16-OCT-17 13:42:51 Sample ID: EQ1700461-03

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:06	1.520e+03	2.210e+03	0.69	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:35	1.485e+04	9.824e+03	1.51	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:31	1.524e+04	1.001e+04	1.52	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:16	1.266e+04	1.092e+04	1.16	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:23	1.384e+04	1.180e+04	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	1.334e+04	1.127e+04	1.18	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:39	1.173e+04	9.956e+03	1.18	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	1.152e+04	1.157e+04	1.00	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	1.066e+04	1.081e+04	0.99	yes	no	1.191
10	Unk	OCDF	41:36	1.496e+04	1.729e+04	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:58	1.405e+03	1.758e+03	0.80	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:49	1.151e+04	7.220e+03	1.59	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:02	9.462e+03	7.150e+03	1.32	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:07	1.097e+04	8.465e+03	1.30	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.132e+04	8.924e+03	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:48	8.635e+03	8.383e+03	1.03	yes	no	0.942
17	Unk	OCDD	41:24	1.246e+04	1.379e+04	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	1.995e+04	2.522e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:34	3.540e+04	2.222e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	3.556e+04	2.239e+04	1.59	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	1.436e+04	2.832e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:22	1.719e+04	3.345e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:53	1.675e+04	3.233e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:38	1.512e+04	2.961e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:54	1.189e+04	2.627e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:14	1.088e+04	2.509e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:56	1.396e+04	1.764e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	2.477e+04	1.558e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:01	2.058e+04	1.594e+04	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:06	2.241e+04	1.790e+04	1.25	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	1.845e+04	1.784e+04	1.03	yes	no	0.881
32	IS	13C-OCDD	41:24	2.415e+04	2.760e+04	0.88	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:19	3.619e+04	4.527e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:21	5.164e+04	4.272e+04	1.21	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:57	1.445e+04				no	1.033

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Signal/Noise Height Ratio Summary

CLIENT ID.
DLCS

Run #18 Filename P511950 Samp: 1 Inj: 1 Acquired: 13-OCT-17 23:23:09
Processed: 16-OCT-17 13:42:51 LAB. ID: EQ1700461-03

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.53e+05	1.06e+03	2.4e+02	3.68e+05	3.10e+03	1.2e+02
2	1,2,3,7,8-PeCDF	2.45e+06	1.39e+03	1.8e+03	1.66e+06	3.88e+03	4.3e+02
3	2,3,4,7,8-PeCDF	2.65e+06	1.39e+03	1.9e+03	1.78e+06	3.88e+03	4.6e+02
4	1,2,3,4,7,8-HxCDF	2.61e+06	8.68e+02	3.0e+03	2.24e+06	5.24e+02	4.3e+03
5	1,2,3,6,7,8-HxCDF	2.54e+06	8.68e+02	2.9e+03	2.24e+06	5.24e+02	4.3e+03
6	2,3,4,6,7,8-HxCDF	2.60e+06	8.68e+02	3.0e+03	2.15e+06	5.24e+02	4.1e+03
7	1,2,3,7,8,9-HxCDF	2.04e+06	8.68e+02	2.4e+03	1.79e+06	5.24e+02	3.4e+03
8	1,2,3,4,6,7,8-HpCDF	2.14e+06	2.80e+03	7.6e+02	2.14e+06	2.50e+03	8.6e+02
9	1,2,3,4,7,8,9-HpCDF	1.86e+06	2.80e+03	6.6e+02	1.85e+06	2.50e+03	7.4e+02
10	OCDF	2.14e+06	6.92e+02	3.1e+03	2.43e+06	1.11e+03	2.2e+03
11	2,3,7,8-TCDD	2.41e+05	2.27e+03	1.1e+02	2.99e+05	1.70e+03	1.8e+02
12	1,2,3,7,8-PeCDD	2.06e+06	2.12e+03	9.7e+02	1.32e+06	5.88e+02	2.2e+03
13	1,2,3,4,7,8-HxCDD	1.99e+06	1.68e+02	1.2e+04	1.52e+06	8.64e+02	1.8e+03
14	1,2,3,6,7,8-HxCDD	2.03e+06	1.68e+02	1.2e+04	1.59e+06	8.64e+02	1.8e+03
15	1,2,3,7,8,9-HxCDD	1.96e+06	1.68e+02	1.2e+04	1.54e+06	8.64e+02	1.8e+03
16	1,2,3,4,6,7,8-HpCDD	1.56e+06	1.28e+03	1.2e+03	1.51e+06	6.72e+02	2.2e+03
17	OCDD	1.66e+06	4.00e+02	4.1e+03	1.89e+06	1.13e+03	1.7e+03
18	13C-2,3,7,8-TCDF	3.27e+06	9.60e+03	3.4e+02	4.10e+06	4.68e+03	8.8e+02
19	13C-1,2,3,7,8-PeCDF	6.06e+06	1.15e+03	5.3e+03	3.77e+06	1.02e+03	3.7e+03
20	13C-2,3,4,7,8-PeCDF	6.38e+06	1.15e+03	5.5e+03	4.04e+06	1.02e+03	3.9e+03
21	13C-1,2,3,4,7,8-HxCDF	2.87e+06	1.38e+03	2.1e+03	5.70e+06	1.50e+03	3.8e+03
22	13C-1,2,3,6,7,8-HxCDF	3.19e+06	1.38e+03	2.3e+03	6.24e+06	1.50e+03	4.2e+03
23	13C-2,3,4,6,7,8-HxCDF	3.14e+06	1.38e+03	2.3e+03	6.26e+06	1.50e+03	4.2e+03
24	13C-1,2,3,7,8,9-HxCDF	2.71e+06	1.38e+03	2.0e+03	5.30e+06	1.50e+03	3.5e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.17e+06	2.07e+03	1.0e+03	4.86e+06	2.81e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.85e+06	2.07e+03	9.0e+02	4.22e+06	2.81e+03	1.5e+03
27	13C-2,3,7,8-TCDD	2.50e+06	7.41e+03	3.4e+02	3.07e+06	3.35e+03	9.2e+02
28	13C-1,2,3,7,8-PeCDD	4.35e+06	1.72e+03	2.5e+03	2.74e+06	1.03e+03	2.7e+03
29	13C-1,2,3,4,7,8-HxCDD	4.36e+06	2.50e+03	1.7e+03	3.35e+06	1.29e+03	2.6e+03
30	13C-1,2,3,6,7,8-HxCDD	4.12e+06	2.50e+03	1.6e+03	3.33e+06	1.29e+03	2.6e+03
31	13C-1,2,3,4,6,7,8-HpCDD	3.35e+06	1.29e+03	2.6e+03	3.16e+06	7.20e+02	4.4e+03
32	13C-OCDD	3.25e+06	3.33e+03	9.7e+02	3.75e+06	9.68e+03	3.9e+02
33	13C-1,2,3,4-TCDD	6.18e+06	7.41e+03	8.3e+02	7.77e+06	3.35e+03	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	9.27e+06	2.50e+03	3.7e+03	7.51e+06	1.29e+03	5.8e+03
35	37Cl-2,3,7,8-TCDD	2.49e+06	1.78e+03	1.4e+03			

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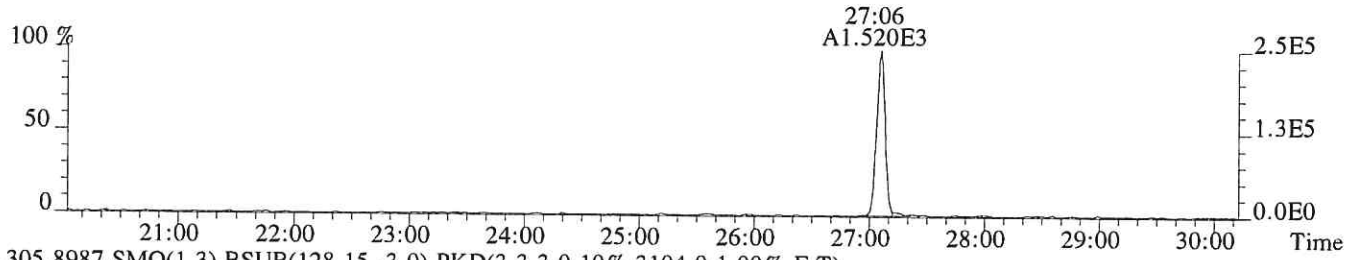
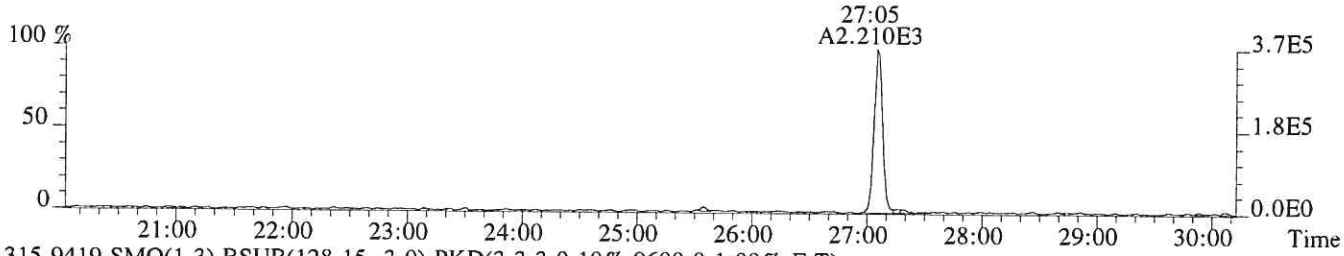
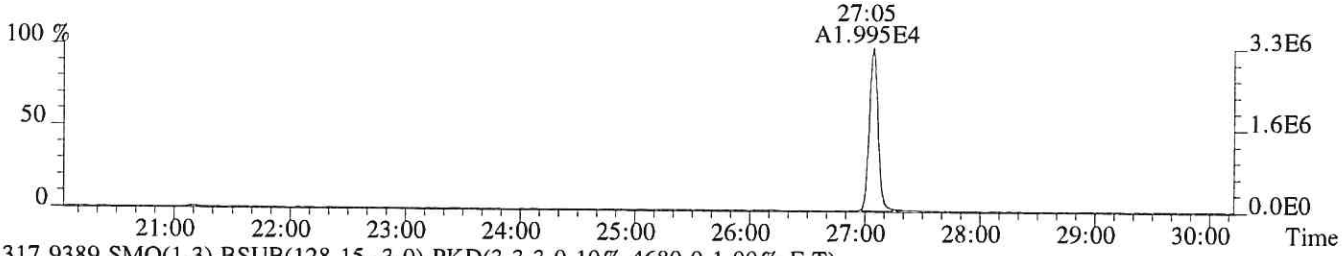
File:P511950 #1-722 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



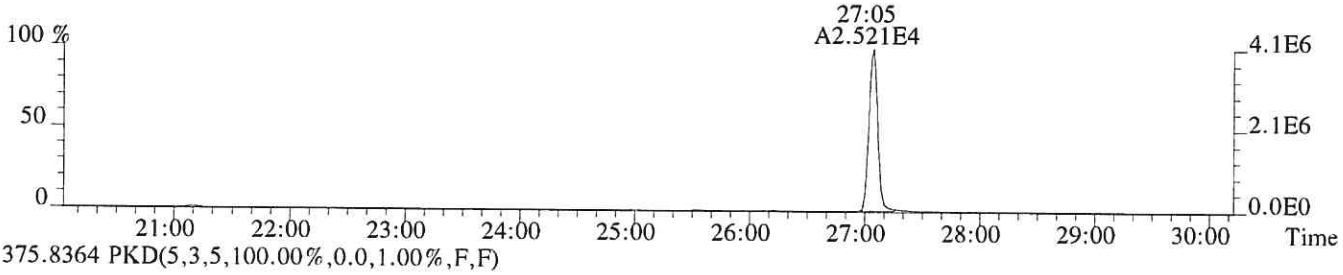
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3104.0,1.00%,F,T)



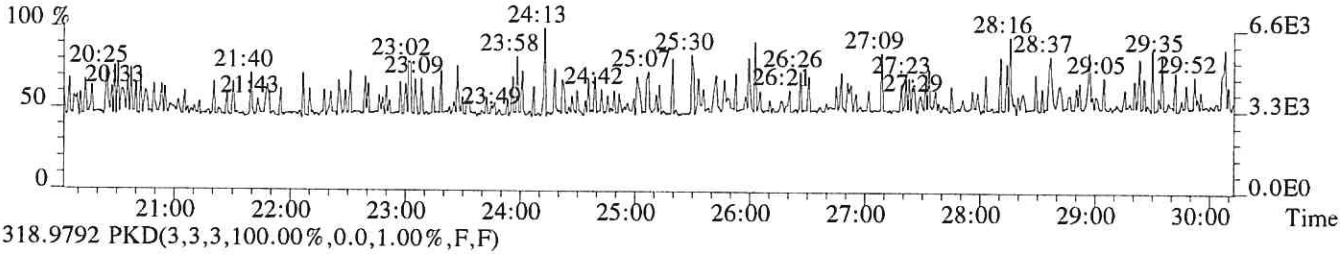
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9600.0,1.00%,F,T)



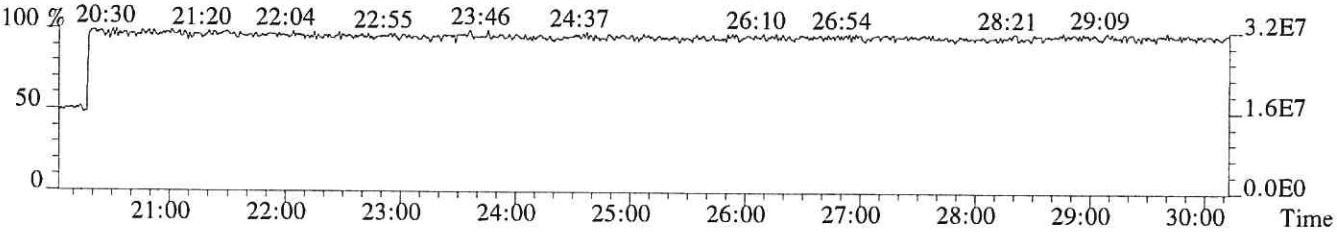
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4680.0,1.00%,F,T)



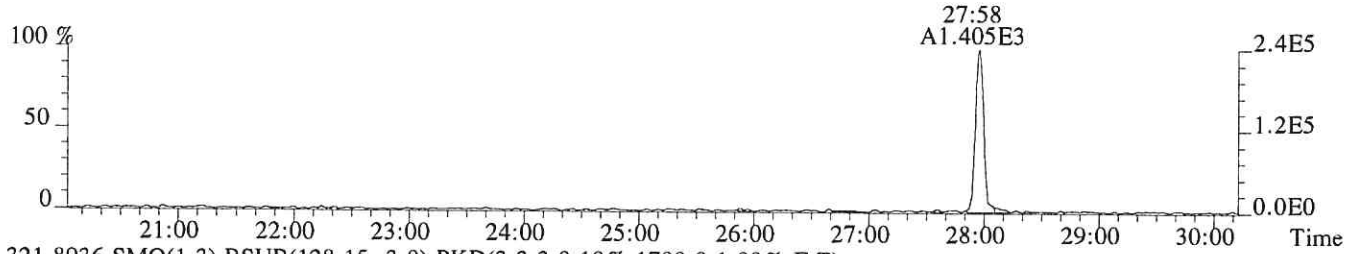
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



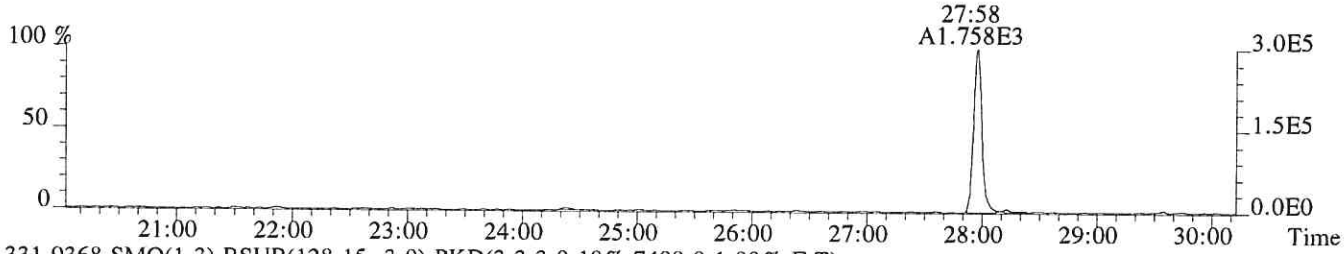
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



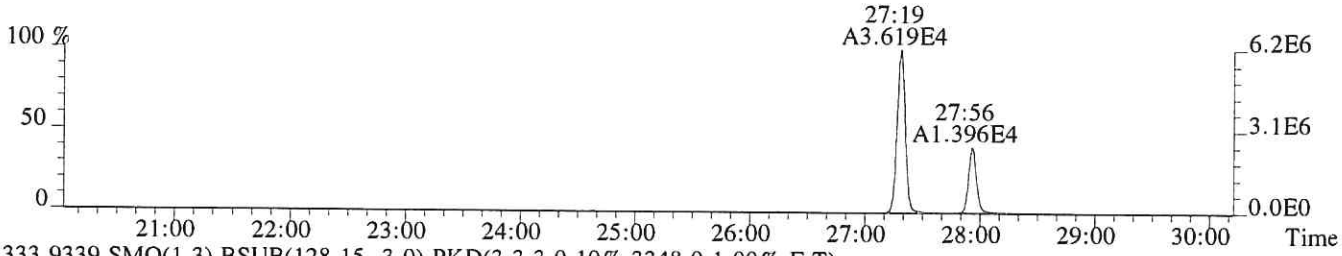
File:P511950 #1-722 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2272.0,1.00%,F,T)



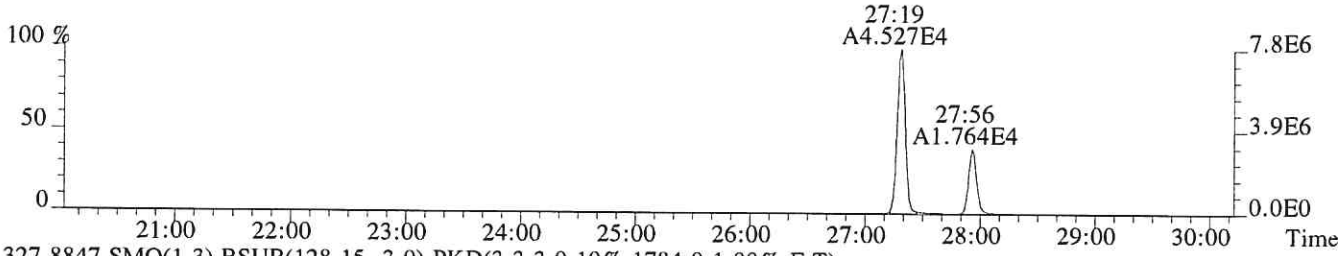
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,T)



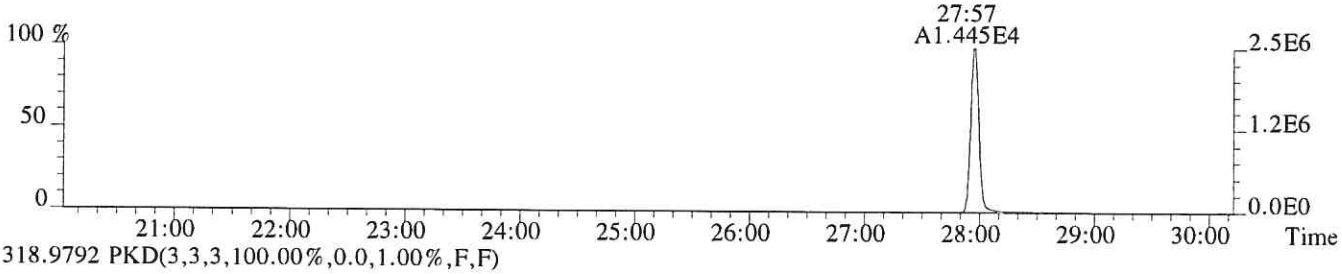
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7408.0,1.00%,F,T)



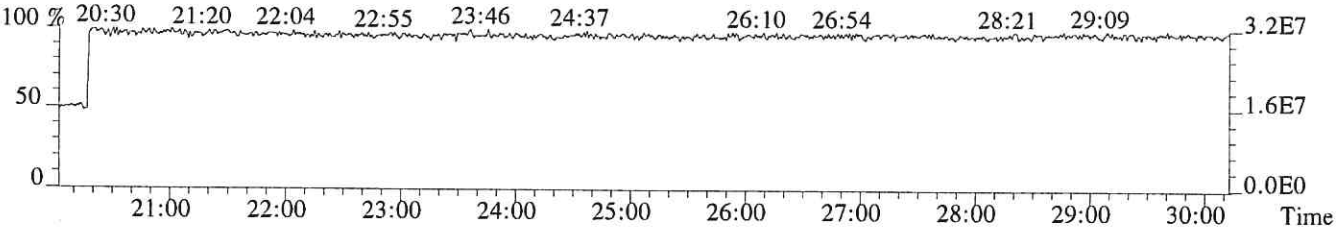
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3348.0,1.00%,F,T)



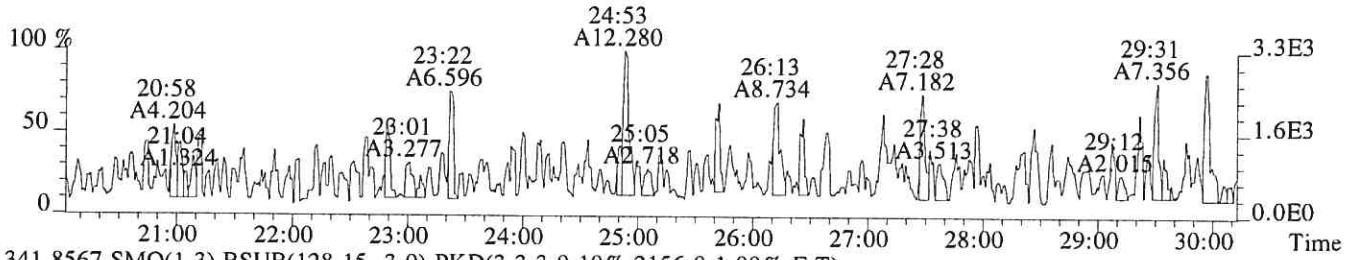
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1784.0,1.00%,F,T)



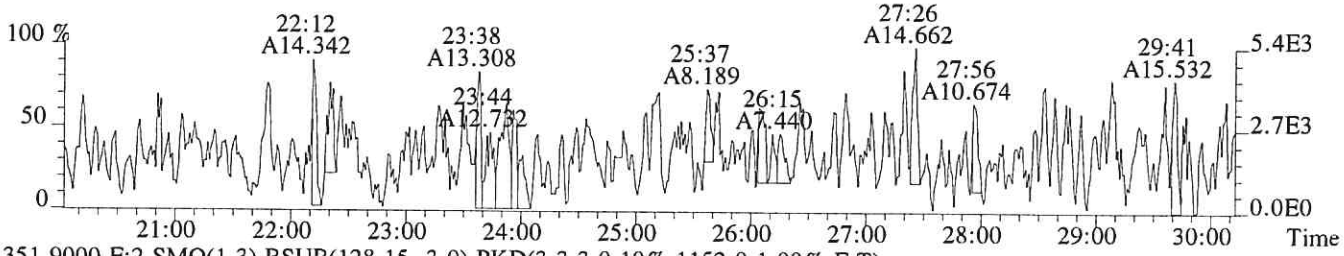
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



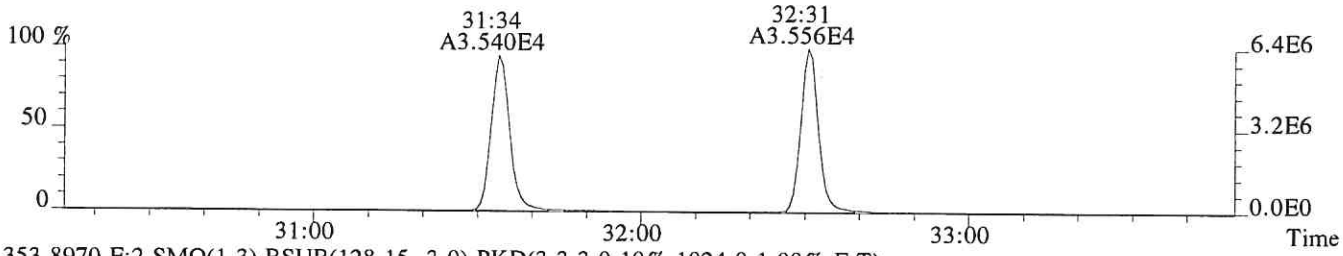
File:P511950 #1-722 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,T)



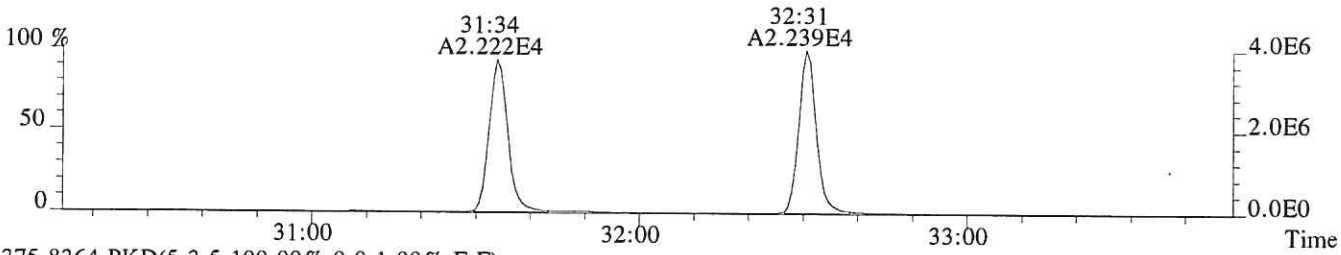
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2156.0,1.00%,F,T)



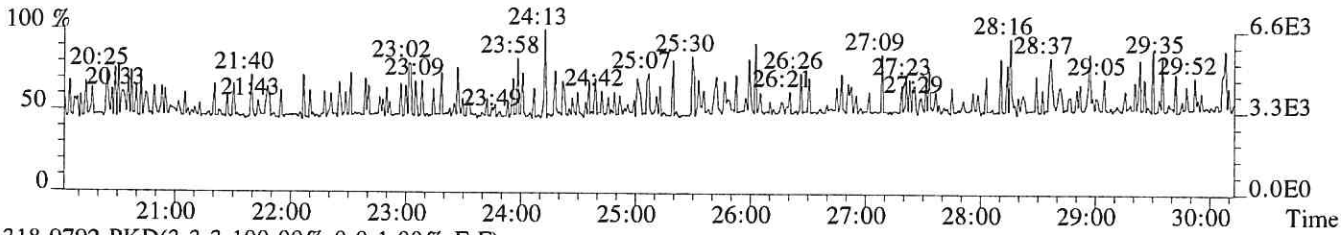
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1152.0,1.00%,F,T)



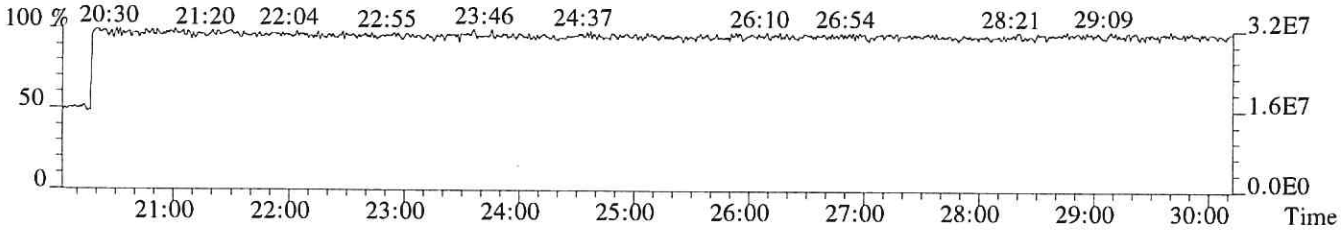
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



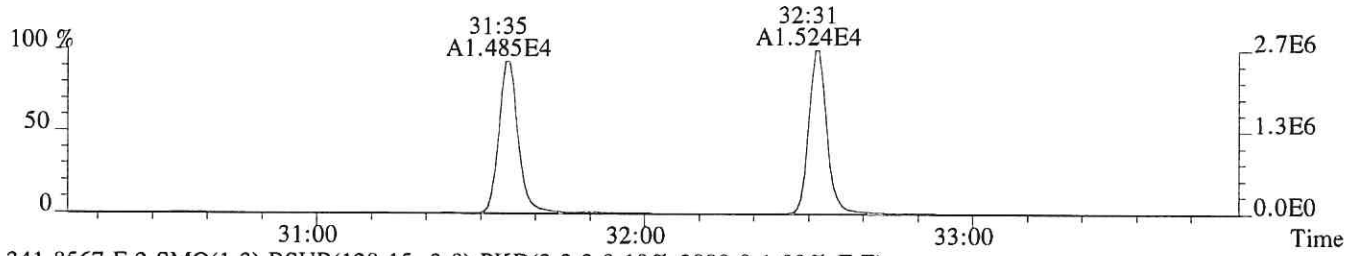
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



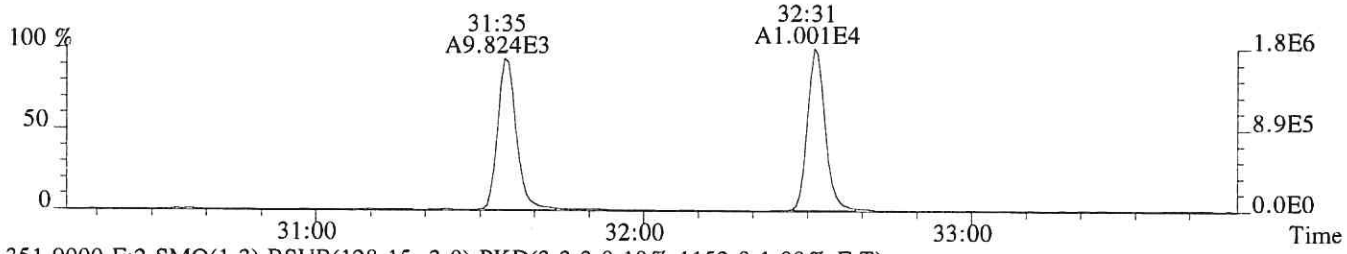
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



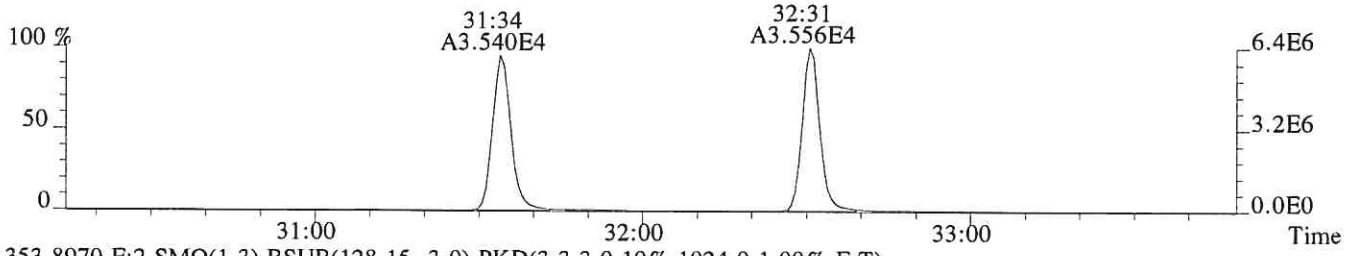
File:P511950 #1-322 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



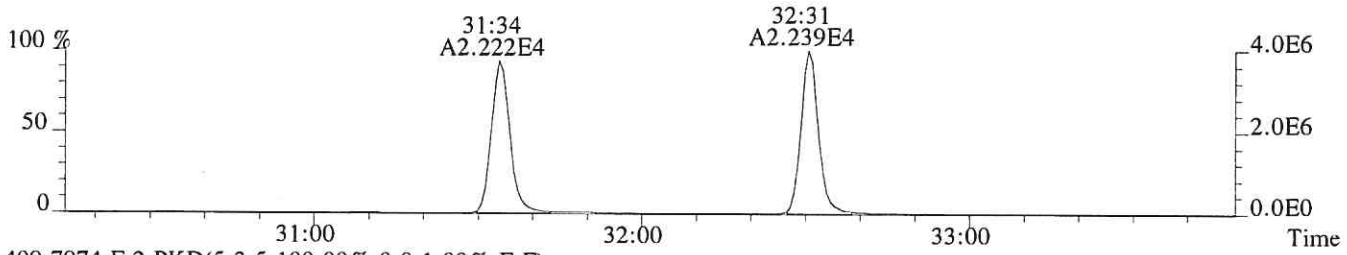
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3880.0,1.00%,F,T)



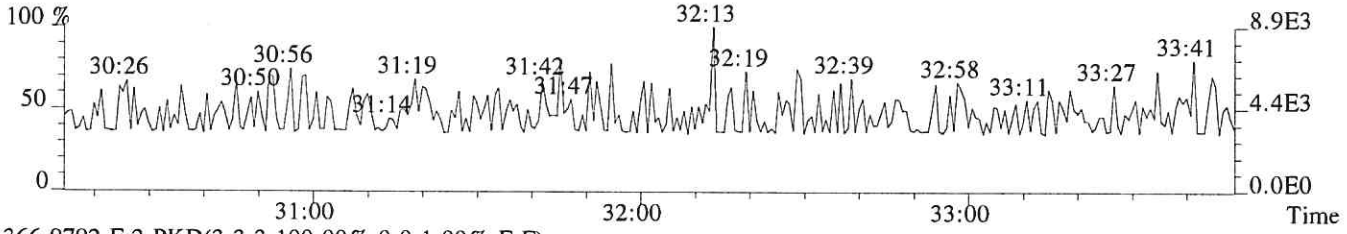
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1152.0,1.00%,F,T)



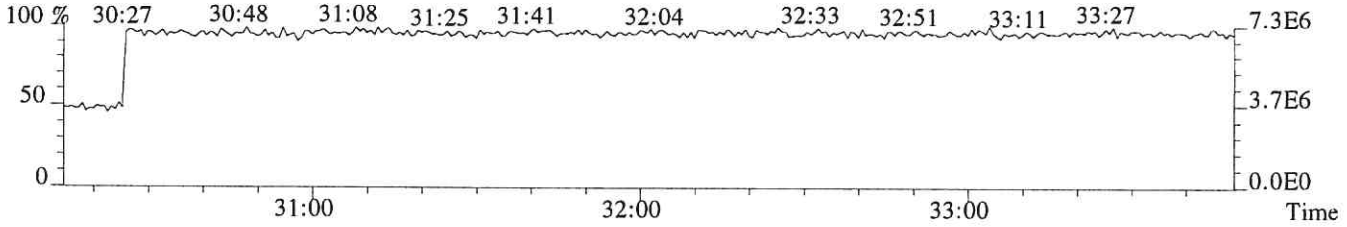
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,T)



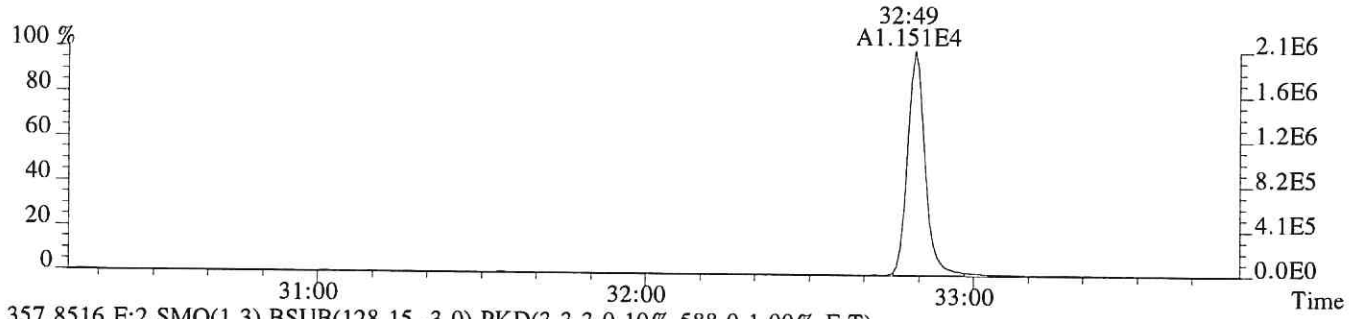
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



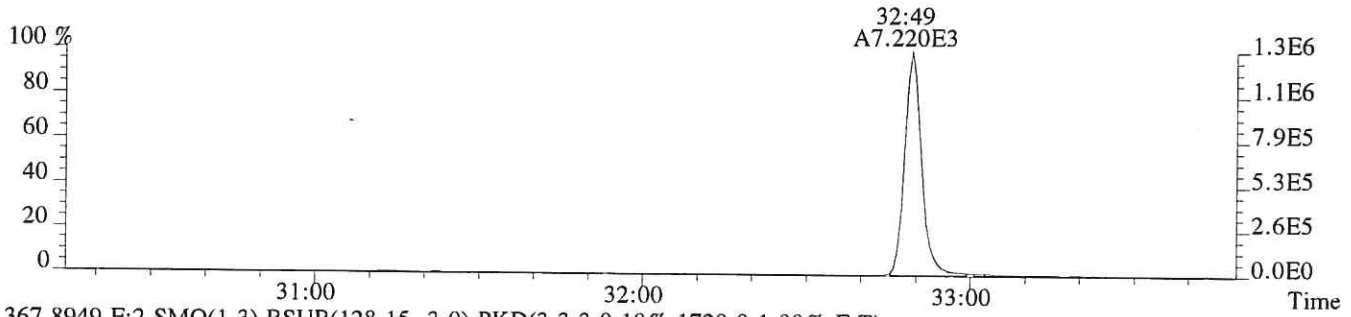
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



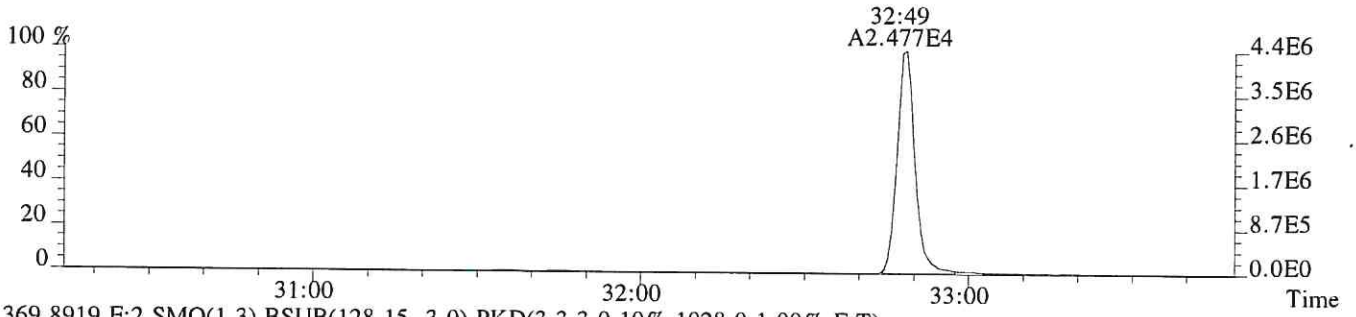
File:P511950 #1-322 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2120.0,1.00%,F,T)



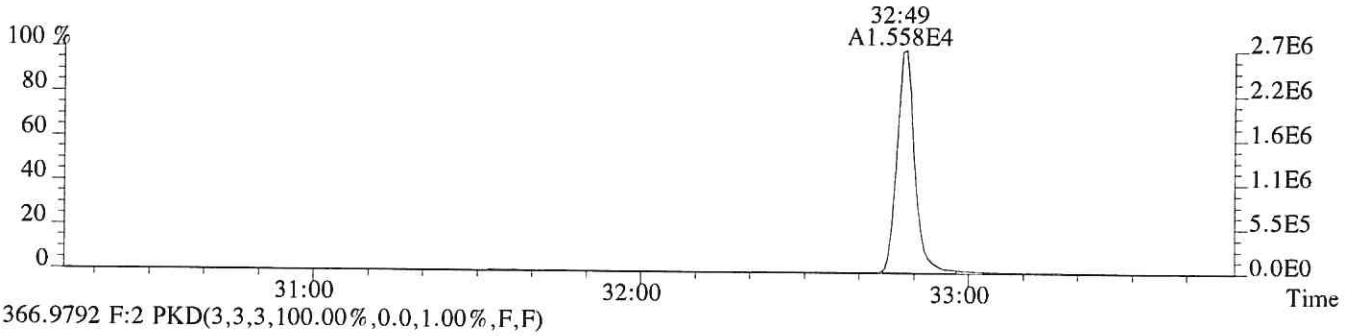
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,588.0,1.00%,F,T)



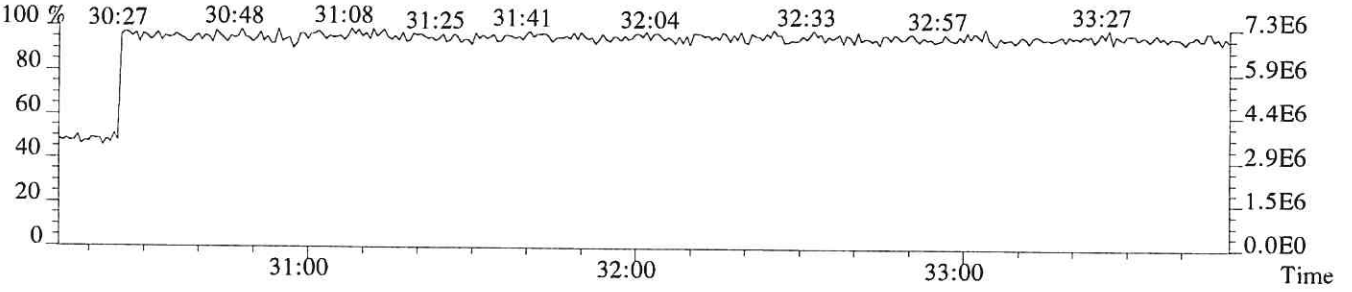
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,T)



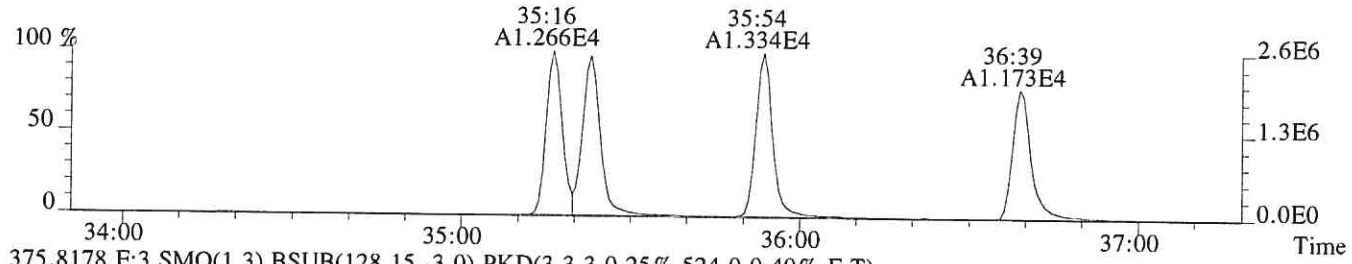
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1028.0,1.00%,F,T)



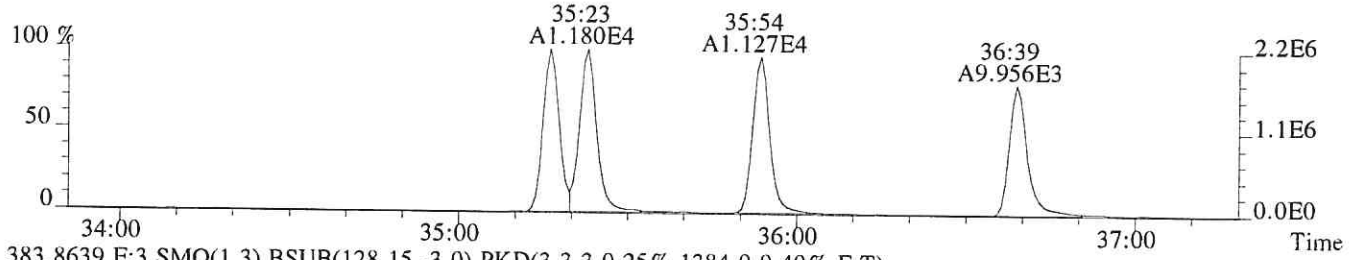
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



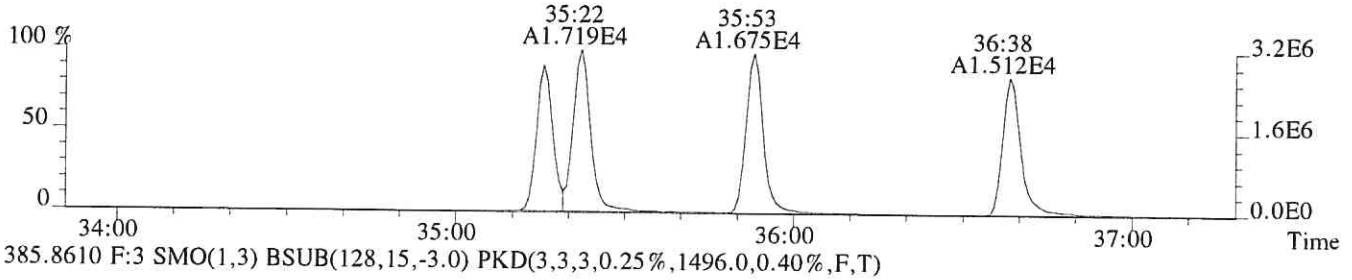
File:P511950 #1-312 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



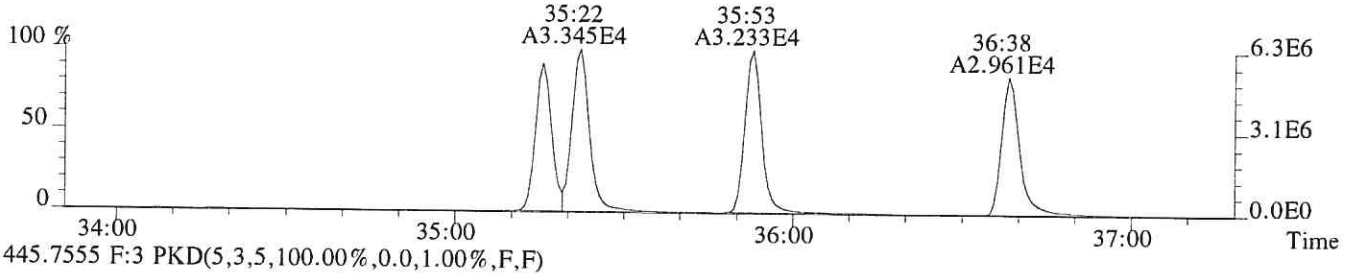
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,524.0,0.40%,F,T)



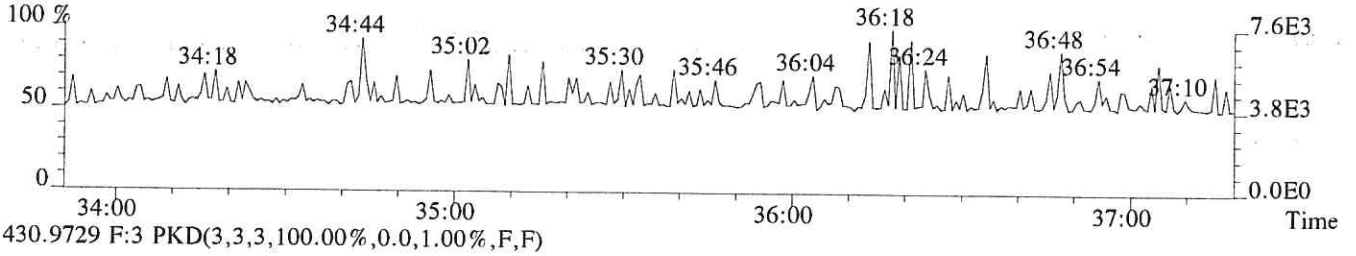
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,T)



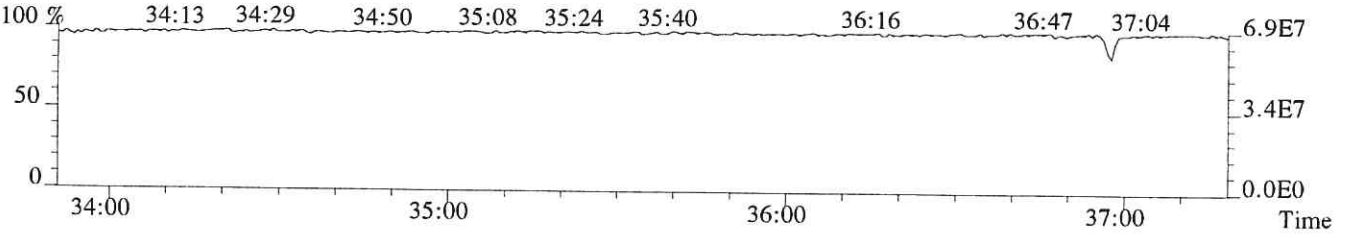
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1496.0,0.40%,F,T)



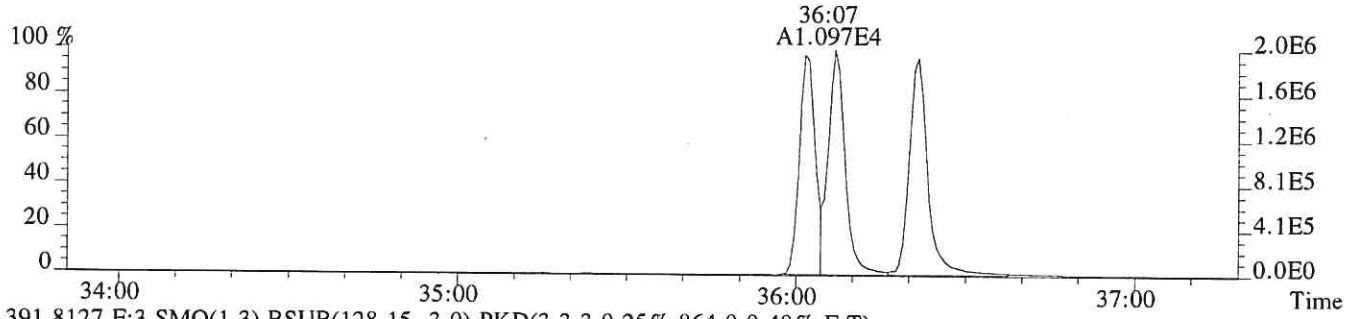
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



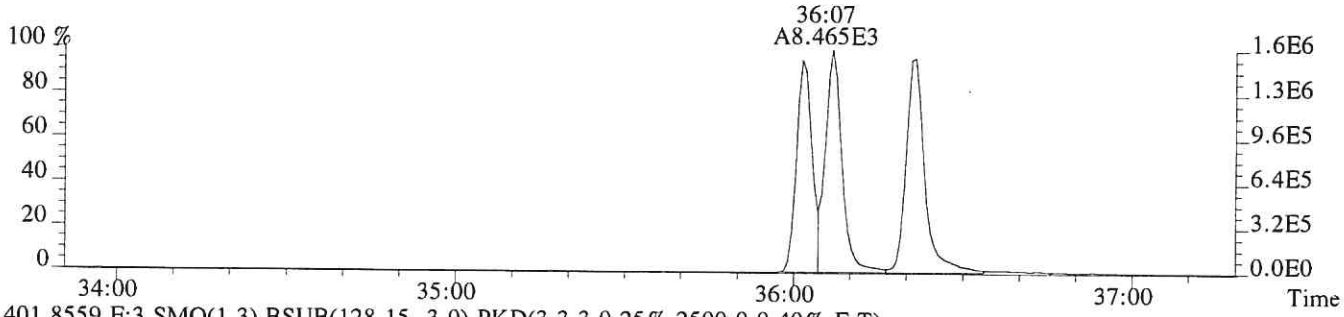
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



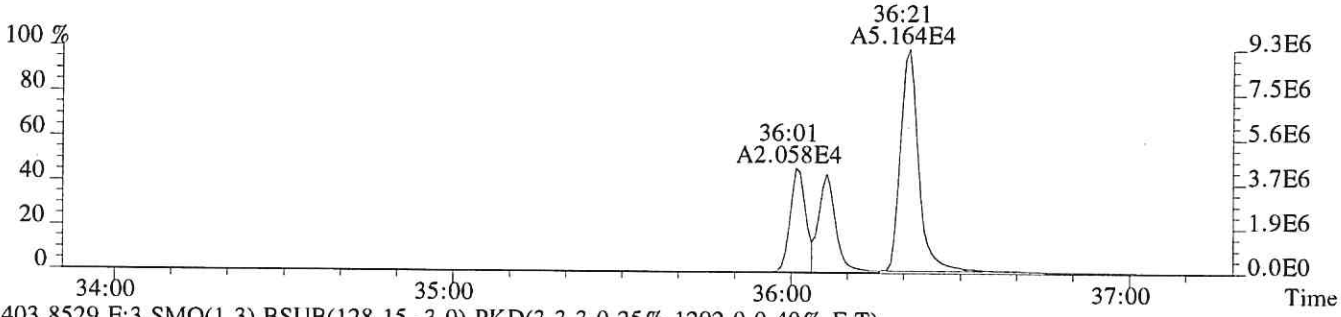
File:P511950 #1-312 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



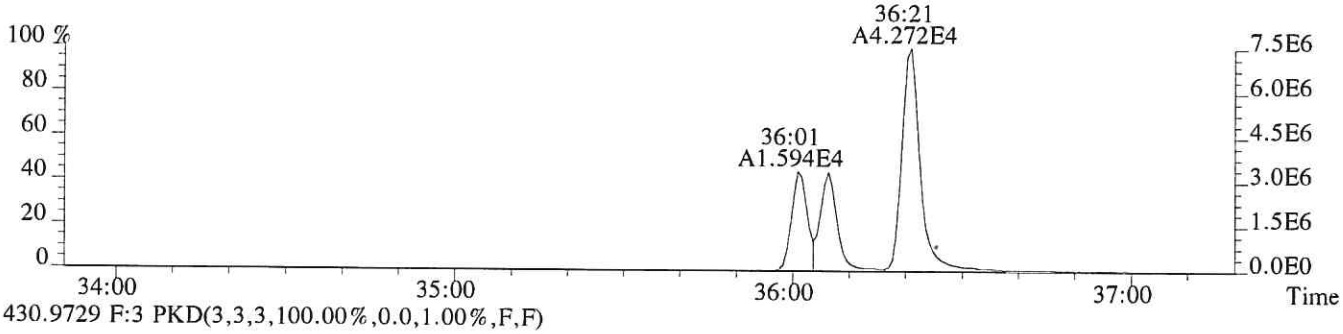
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)



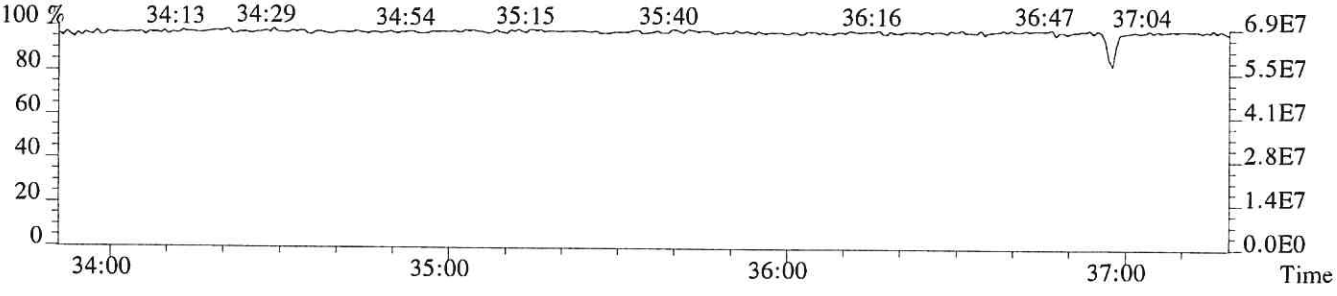
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2500.0,0.40%,F,T)



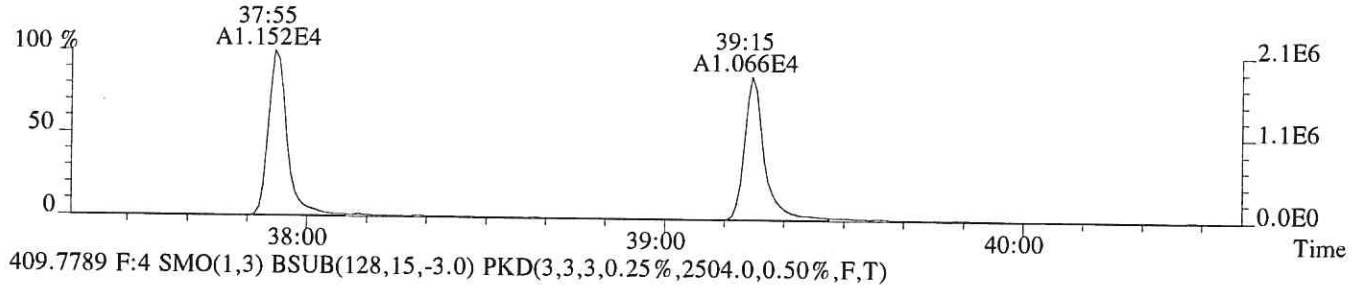
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.40%,F,T)



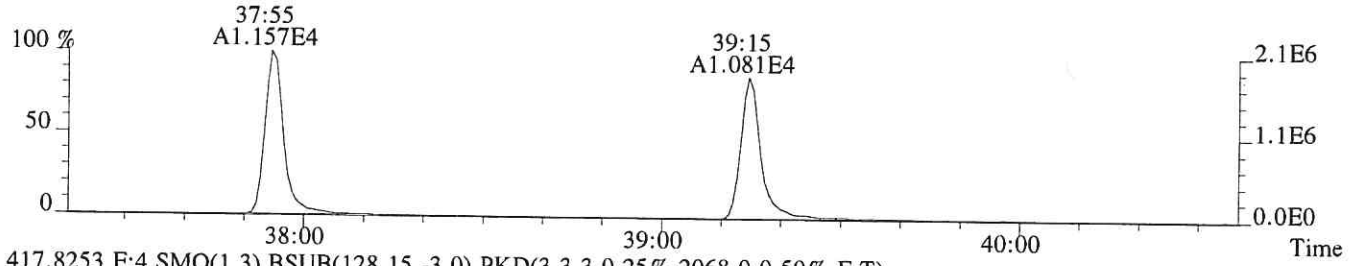
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



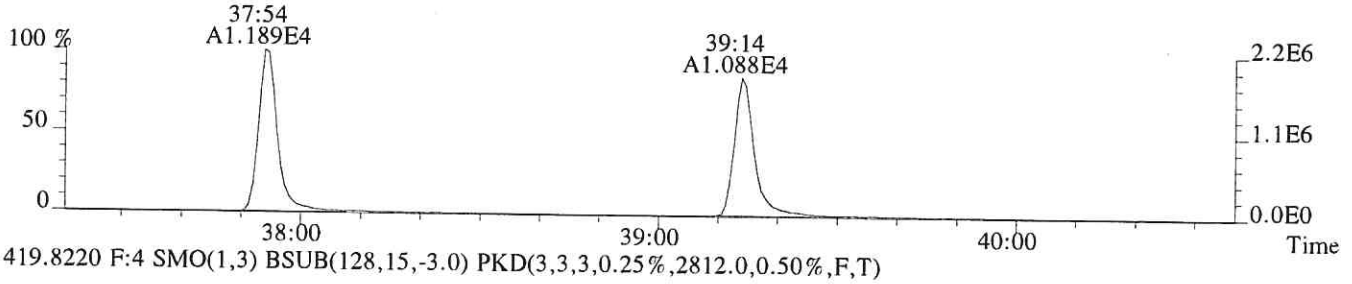
File:P511950 #1-295 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2804.0,0.50%,F,T)



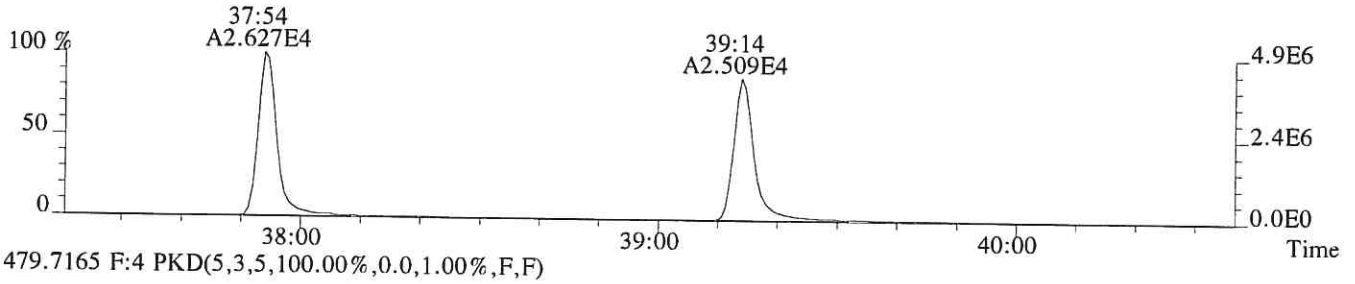
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2504.0,0.50%,F,T)



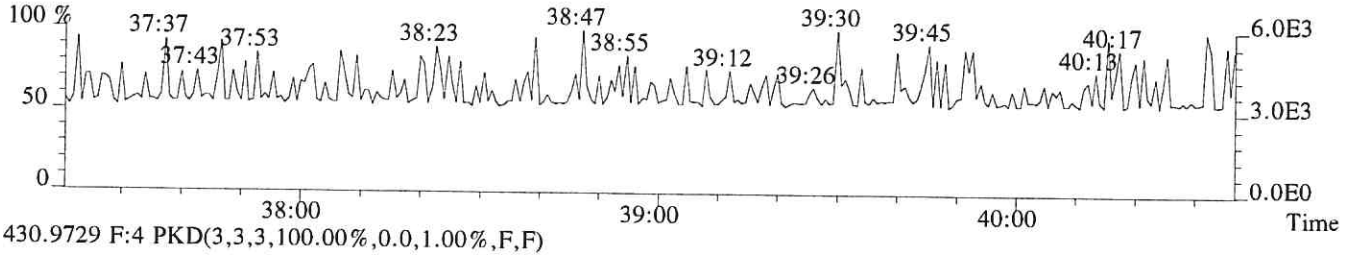
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2068.0,0.50%,F,T)



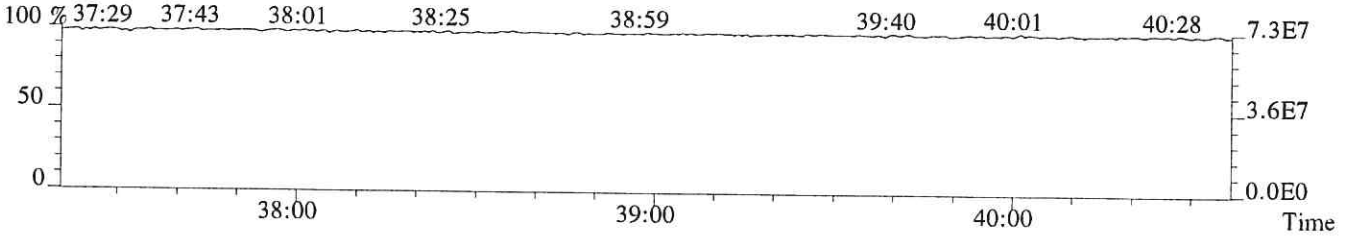
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2812.0,0.50%,F,T)



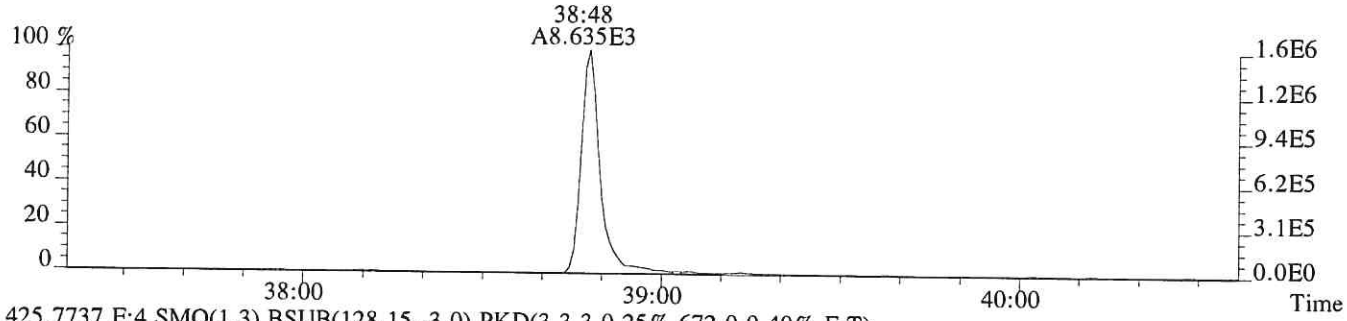
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



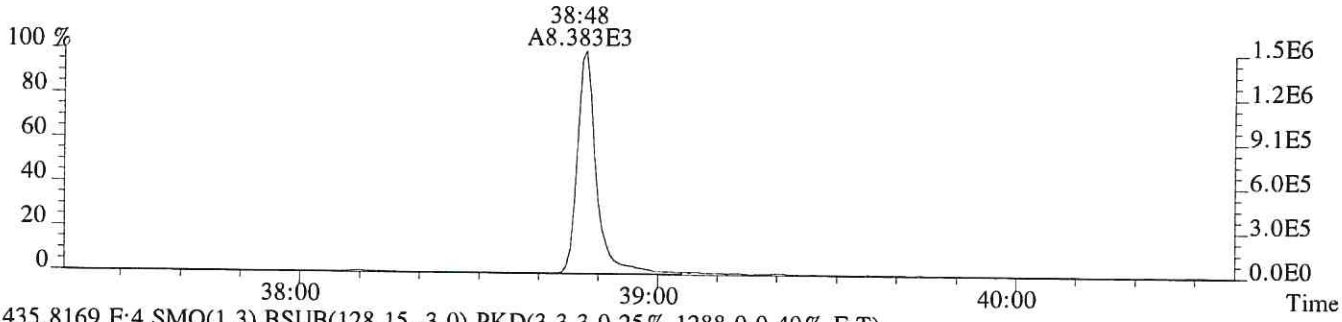
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



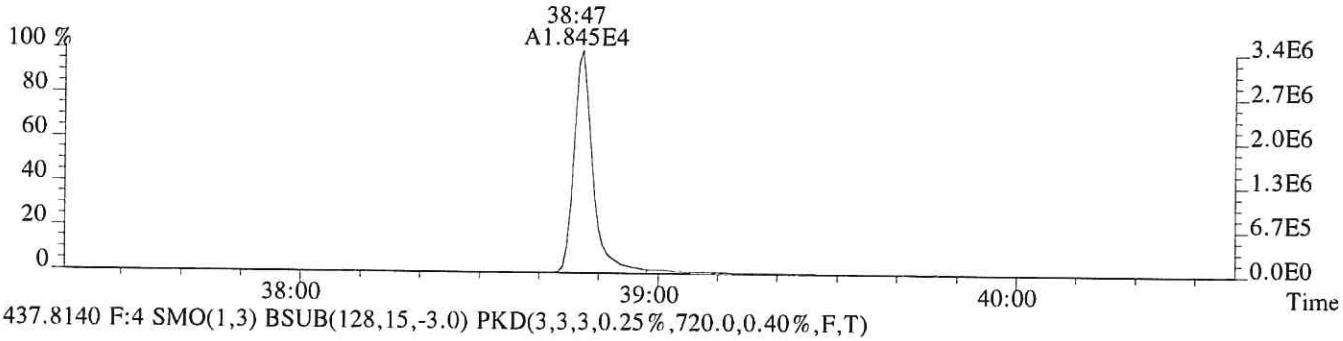
File:P511950 #1-295 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.40%,F,T)



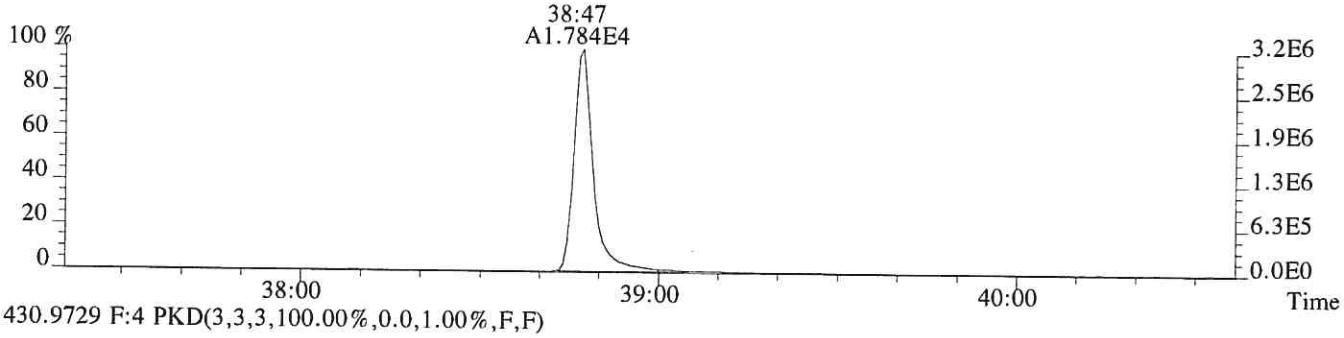
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,T)



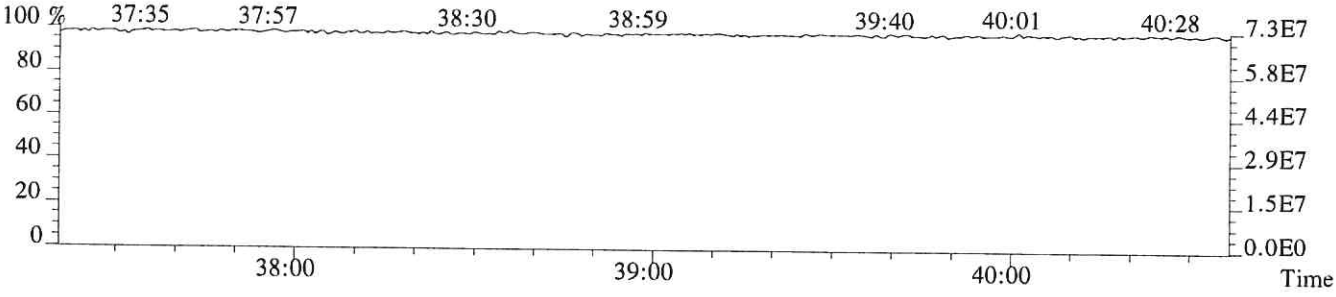
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



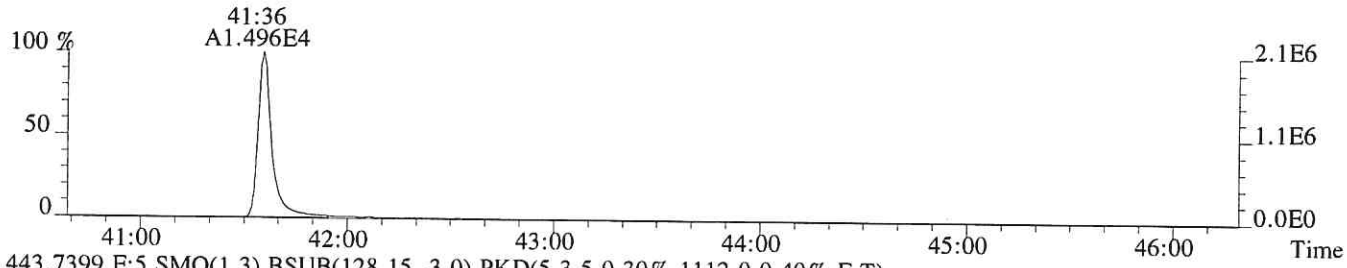
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



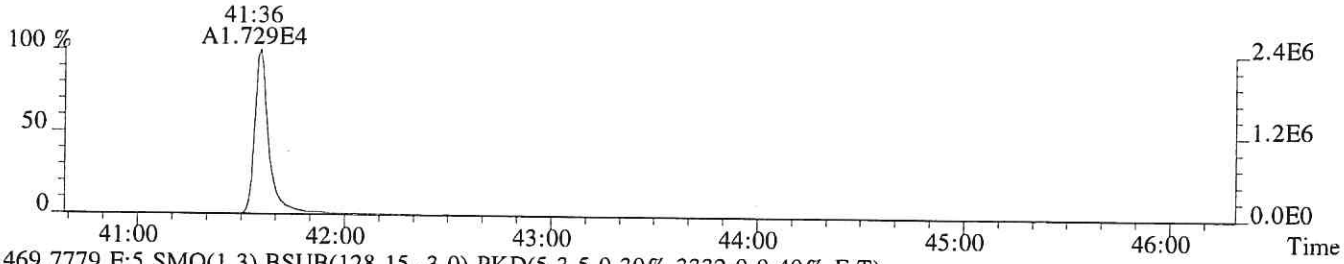
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



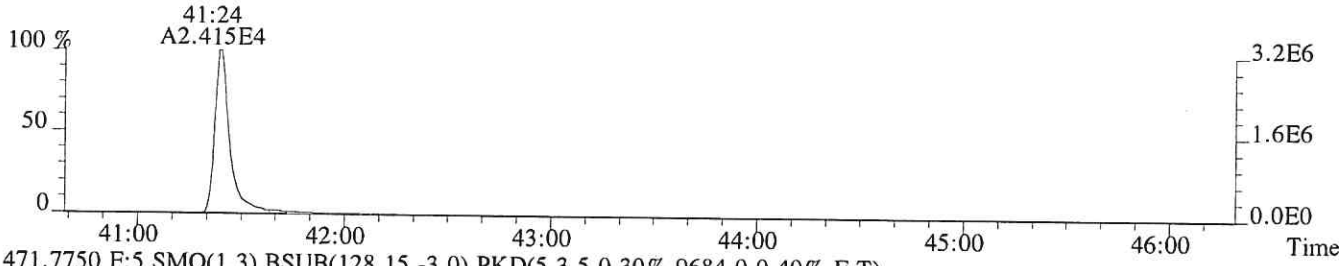
File:P511950 #1-511 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



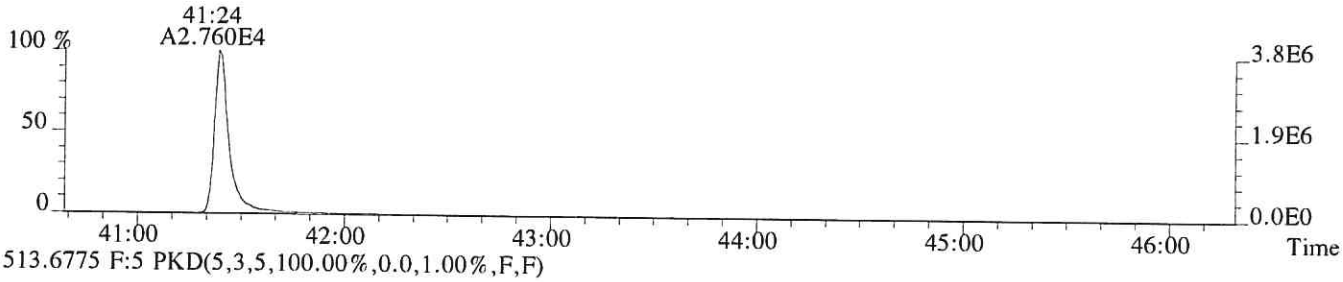
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1112.0,0.40%,F,T)



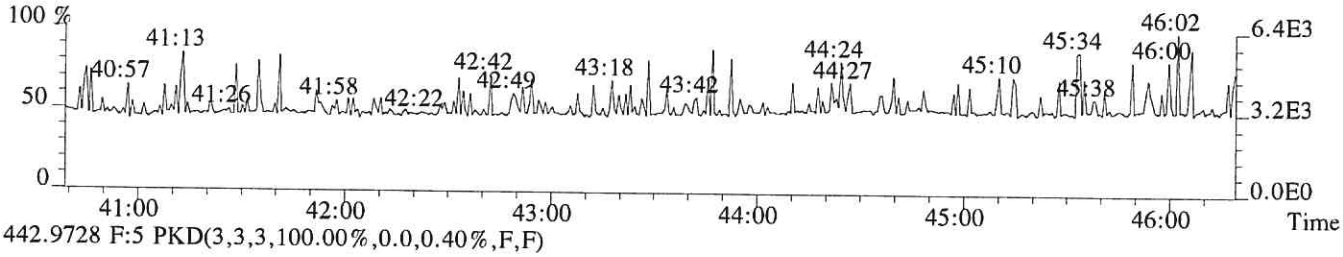
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3332.0,0.40%,F,T)



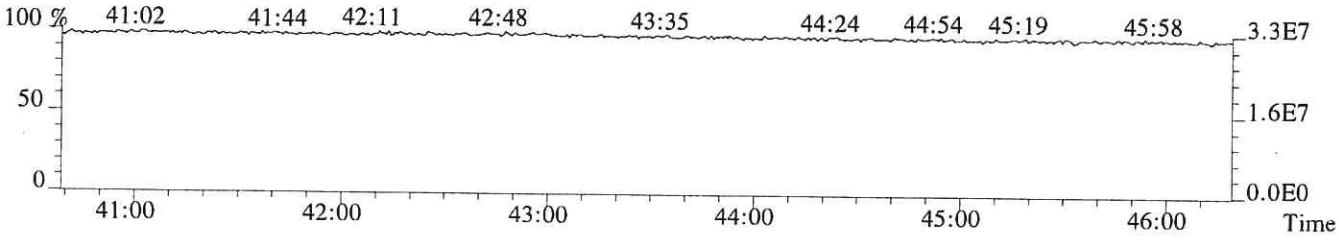
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9684.0,0.40%,F,T)



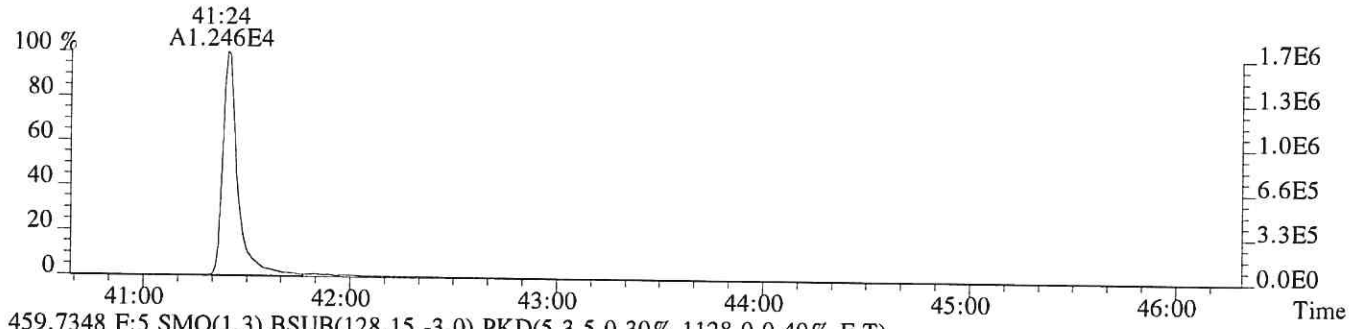
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



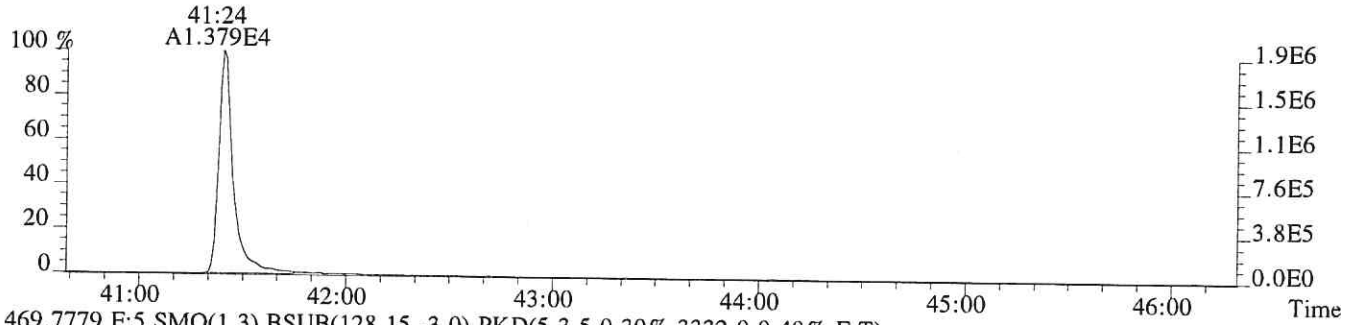
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



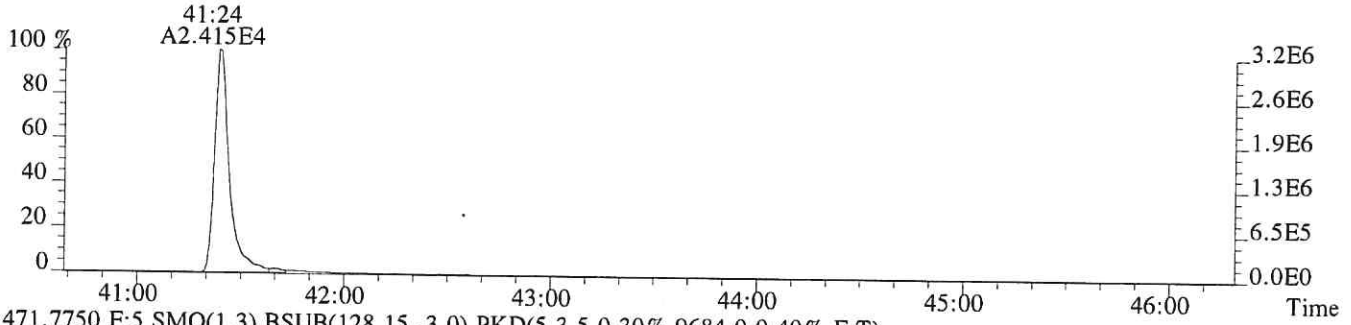
File:P511950 #1-511 Acq:13-OCT-2017 23:23:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ1700461-03
457.7377 F:5 SMO(1,3) BSUB(128,15,-3:0) PKD(5,3,5,0.30%,400.0,0.40%,F,T)



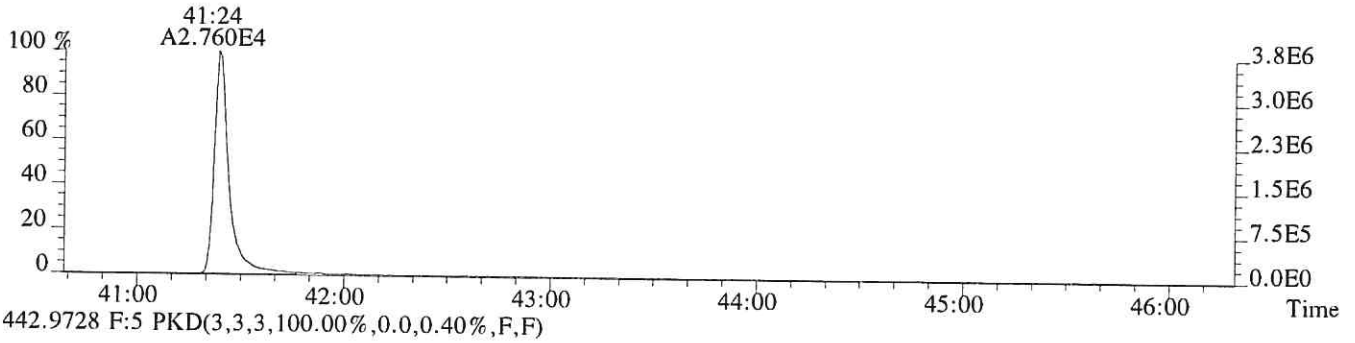
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



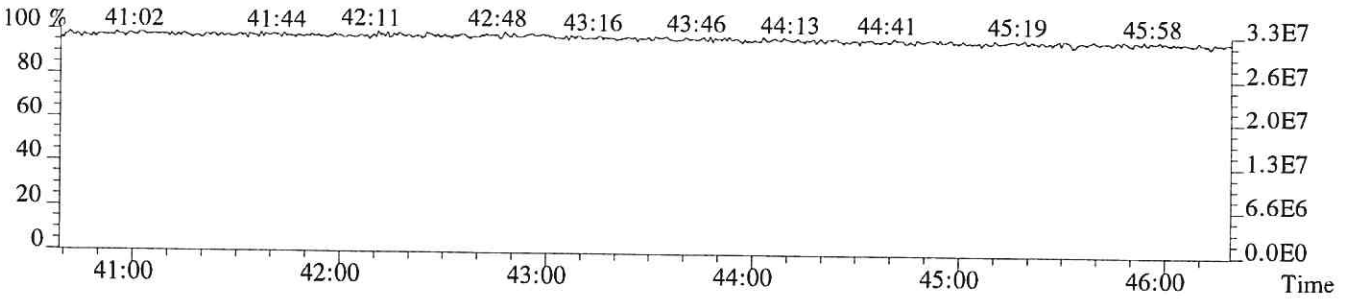
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3332.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9684.0,0.40%,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: P609581

Date: 10/11/17

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: 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: 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	P609582	11-OCT-17	10:00:06
178519	CS3	P609581	11-OCT-17	09:07:14
METHOD BLANK	EQ1700431-01	P609583	11-OCT-17	10:49:29
METHOD BLANK	EQ1700444-01	P609584	11-OCT-17	11:37:43
NEEDS RE-EXTRACTION	E1701038-003	P609585	11-OCT-17	12:26:48
SJWP-100317-037	E1701038-004	P609586	11-OCT-17	13:15:54
HAR-DF-S	E1700968-001RE	P609587	11-OCT-17	14:04:47
RIV-DF-S	E1700968-002RE	P609588	11-OCT-17	14:53:47
HAR-DF-S2	E1700968-003RE	P609589	11-OCT-17	15:42:50
C89738(88)	E1700968-004RE	P609590	11-OCT-17	16:31:54
C89752(102)	E1700968-005RE	P609591	11-OCT-17	17:39:39
C89744(94)	E1700968-006RE	P609592	11-OCT-17	18:27:54
C89736(86)	E1700968-007RE	P609593	11-OCT-17	19:16:54
289716(50)	E1700968-008RE	P609594	11-OCT-17	20:05:55
LCS	EQ1700444-02	P609595	11-OCT-17	20:54:58

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS08.PRO\SampleDB\20171011A.SPL
Last Modified: Thursday, October 12, 2017 09:20:05 Central Daylight Time
Printed: Thursday, October 12, 2017 09:24:26 Central Daylight Time

1613

Opus 4: P609581/res

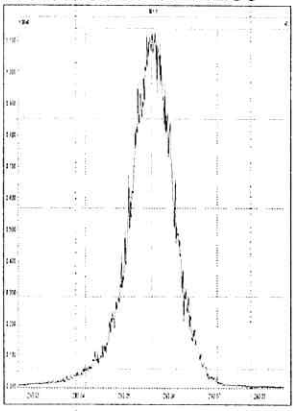
	Date	Time	File Name	Lab Sample ID	Client File Text	Bottle	MS File	Inlet File	Analyst	Comments
1	10/11/17	09:07	P609581	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS	JC for LG	HRMS Check 08:54
2		10:00	P609582	178397	WINDOW DEFINE	Tray1:1	EPA1613_ALS	Dioxin_ALS		
3		10:49	P609583	EQ1700431-01	MB	Tray1:3	EPA1613_ALS	Dioxin_ALS		
4		11:37	P609584	EQ1700444-01	MB	Tray1:4	EPA1613_ALS	Dioxin_ALS		
5		12:26	P609585	E1701038-003	E1701038-003	Tray1:5	EPA1613_ALS	Dioxin_ALS		Needs re-extraction
6		13:15	P609586	E1701038-004	E1701038-004	Tray1:6	EPA1613_ALS	Dioxin_ALS		
7		14:04	P609587	E1700968-001RE	E1700968-001RE	Tray1:7	EPA1613_ALS	Dioxin_ALS		
8		14:53	P609588	E1700968-002RE	E1700968-002RE	Tray1:8	EPA1613_ALS	Dioxin_ALS		needs re-injection
9		15:42	P609589	E1700968-003RE	E1700968-003RE	Tray1:9	EPA1613_ALS	Dioxin_ALS		
10		16:31	P609590	E1700968-004RE	E1700968-004RE	Tray1:10	EPA1613_ALS	Dioxin_ALS		
11		17:39	P609591	E1700968-005RE	E1700968-005RE	Tray1:11	EPA1613_ALS	Dioxin_ALS		
12		18:27	P609592	E1700968-006RE	E1700968-006RE	Tray1:12	EPA1613_ALS	Dioxin_ALS		
13		19:16	P609593	E1700968-007RE	E1700968-007RE	Tray1:13	EPA1613_ALS	Dioxin_ALS		
14		20:05	P609594	E1700968-008RE	E1700968-008RE	Tray1:14	EPA1613_ALS	Dioxin_ALS		
15		20:54	P609595	EQ1700444-02	LCS	Tray1:15	EPA1613_ALS	Dioxin_ALS		
16		21:52	P609596	178519	CS3	Tray1:2	EPA1613_ALS	Dioxin_ALS		Do not use
17	—	—	—	—	—	Tray1:2	EPA1613_ALS	Dioxin_ALS	—	HRMS Check 11:36
18	—	—	—	—	—	Tray1:1	EPA1613_ALS	Dioxin_ALS	—	
19	—	—	—	—	—	Tray1:19	EPA1613_ALS	Dioxin_ALS	—	—
20	—	—	—	—	—	Tray1:20	EPA1613_ALS	Dioxin_ALS	—	—
21	—	—	—	—	—	Tray1:21	EPA1613_ALS	Dioxin_ALS	—	—
22	—	—	—	—	—	Tray1:22	EPA1613_ALS	Dioxin_ALS	—	—
23	—	—	—	—	—	Tray1:23	EPA1613_ALS	Dioxin_ALS	—	—
24	—	—	—	—	—	Tray1:24	EPA1613_ALS	Dioxin_ALS	—	—
25	—	—	—	—	—	Tray1:25	EPA1613_ALS	Dioxin_ALS	—	—
26	—	—	—	—	—	Tray1:26	EPA1613_ALS	Dioxin_ALS	—	—
27	—	—	—	—	—	Tray1:27	EPA1613_ALS	Dioxin_ALS	—	—
28	—	—	—	—	—	Tray1:28	EPA1613_ALS	Dioxin_ALS	—	—
29	—	—	—	—	—	Tray1:29	EPA1613_ALS	Dioxin_ALS	—	—
30	—	—	—	—	—	Tray1:30	EPA1613_ALS	Dioxin_ALS	—	—
31	—	—	—	—	—	Tray1:31	EPA1613_ALS	Dioxin_ALS	—	—
32	—	—	—	—	—	Tray1:32	EPA1613_ALS	Dioxin_ALS	—	—
33	—	—	—	—	—	Tray1:33	EPA1613_ALS	Dioxin_ALS	—	—
34	—	—	—	—	—	Tray1:34	EPA1613_ALS	Dioxin_ALS	—	—
35	—	—	—	—	—	Tray1:35	EPA1613_ALS	Dioxin_ALS	—	—
36	—	—	—	—	—	Tray1:36	EPA1613_ALS	Dioxin_ALS	—	—
37	—	—	—	—	—	Tray1:37	EPA1613_ALS	Dioxin_ALS	—	—
38	—	—	—	—	—	Tray1:38	EPA1613_ALS	Dioxin_ALS	—	—
39	—	—	—	—	—	Tray1:39	EPA1613_ALS	Dioxin_ALS	—	—

JC 10/12/17

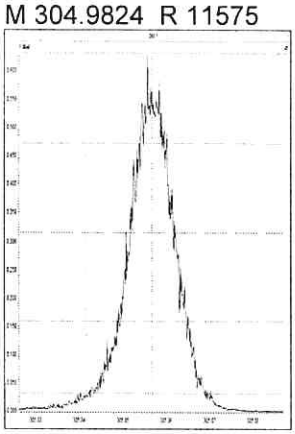
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, October 11, 2017 08:54:05 Central Daylight Time

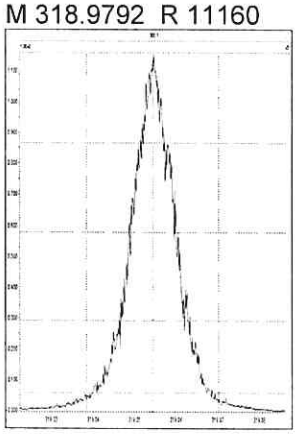
M 292.9824 R 11208



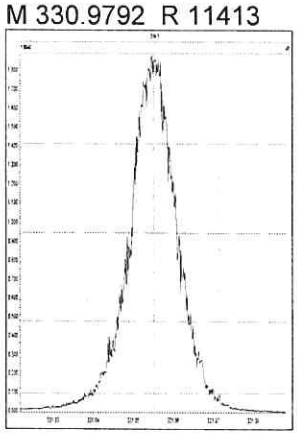
M 304.9824 R 11575



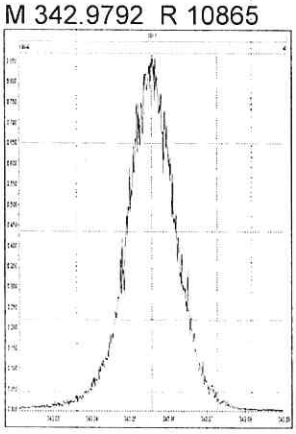
M 318.9792 R 11160



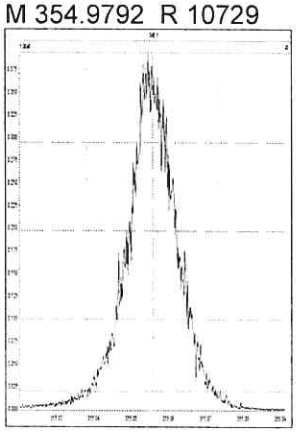
M 330.9792 R 11413



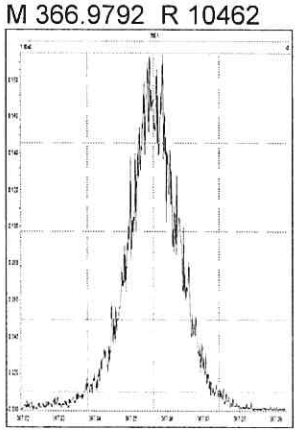
M 342.9792 R 10865



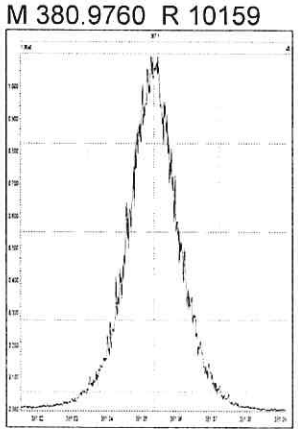
M 354.9792 R 10729



M 366.9792 R 10462



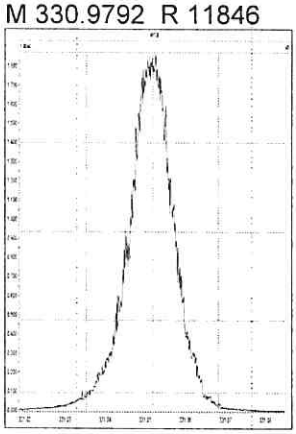
M 380.9760 R 10159



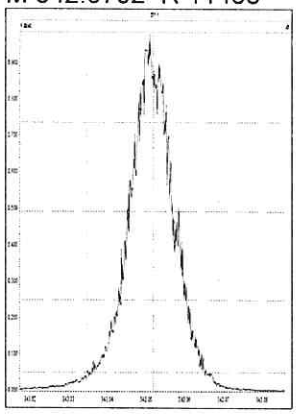
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, October 11, 2017 08:56:46 Central Daylight Time

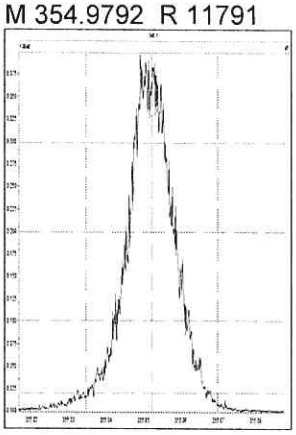
M 330.9792 R 11846



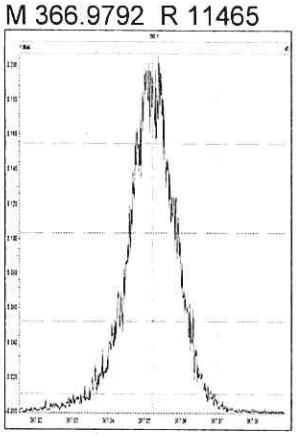
M 342.9792 R 11468



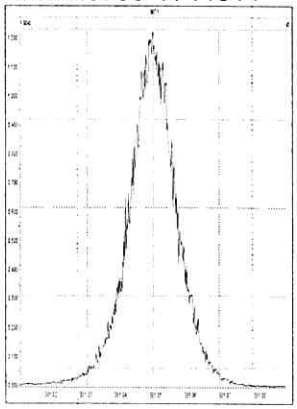
M 354.9792 R 11791



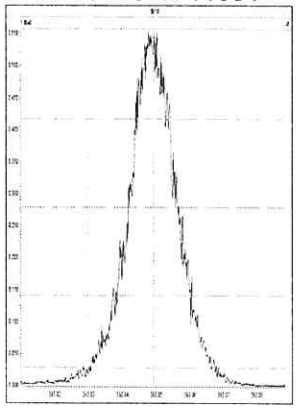
M 366.9792 R 11465



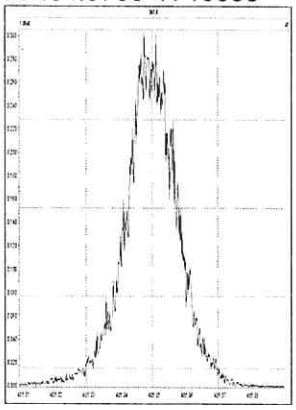
M 380.9760 R 11014



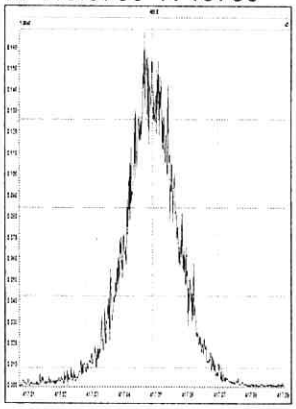
M 392.9760 R 11061



M 404.9760 R 10038



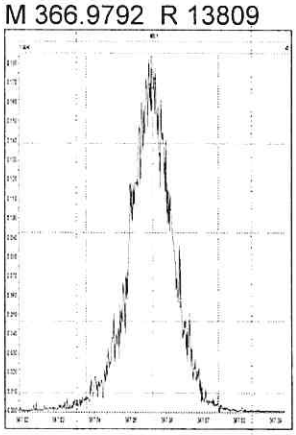
M 416.9760 R 10730



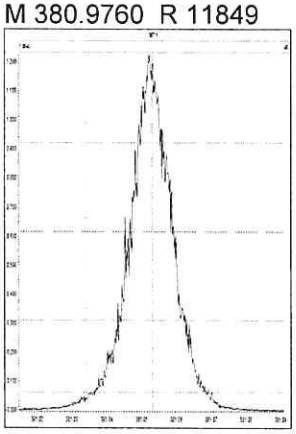
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, October 11, 2017 08:58:46 Central Daylight Time

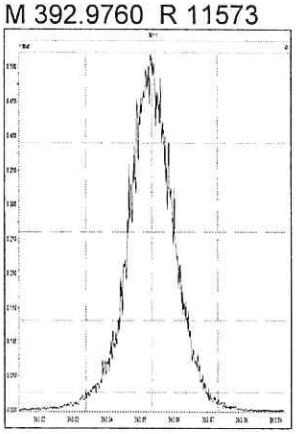
M 366.9792 R 13809



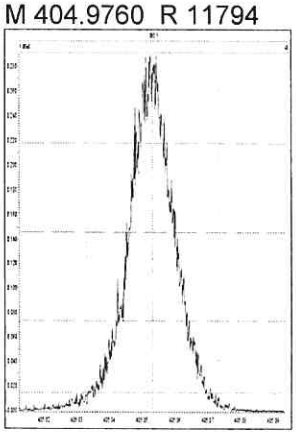
M 380.9760 R 11849



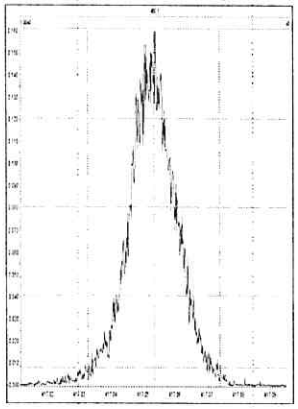
M 392.9760 R 11573



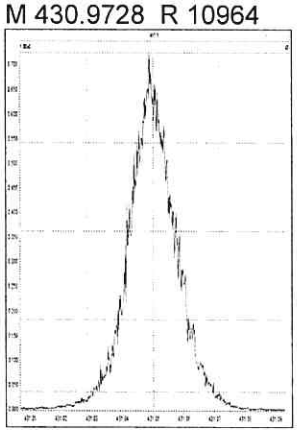
M 404.9760 R 11794



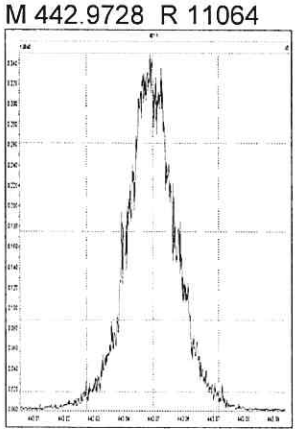
M 416.9760 R 11624



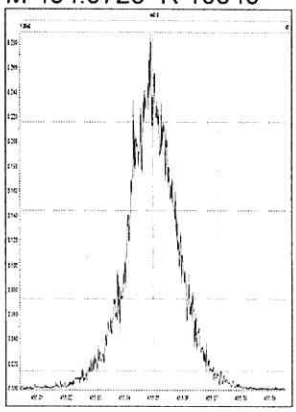
M 430.9728 R 10964



M 442.9728 R 11064



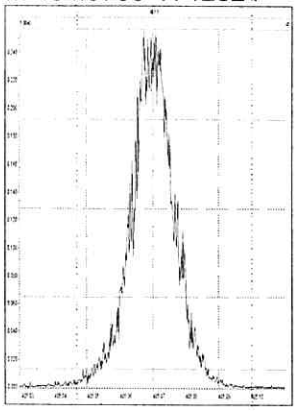
M 454.9728 R 10549



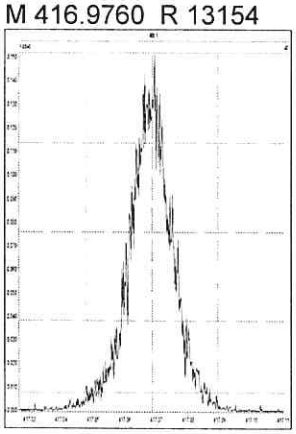
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, October 11, 2017 09:00:22 Central Daylight Time

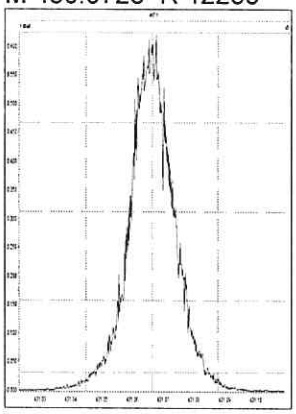
M 404.9760 R 12624



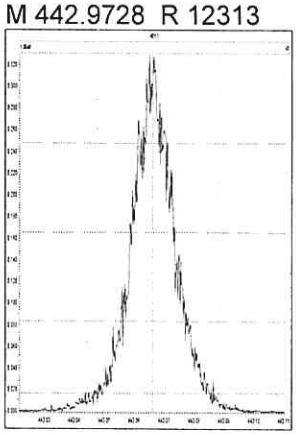
M 416.9760 R 13154



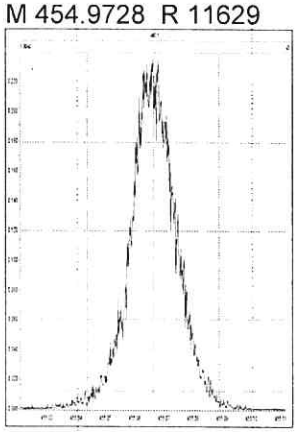
M 430.9728 R 12255



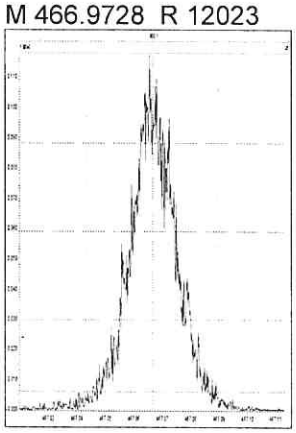
M 442.9728 R 12313



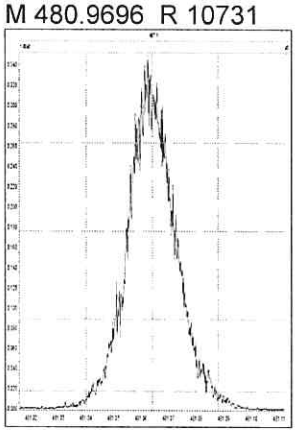
M 454.9728 R 11629



M 466.9728 R 12023



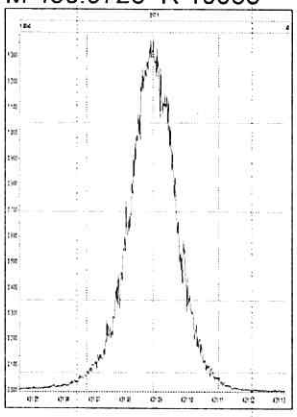
M 480.9696 R 10731



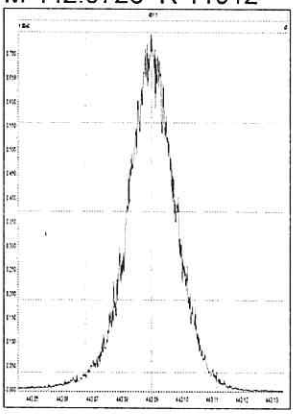
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, October 11, 2017 09:01:28 Central Daylight Time

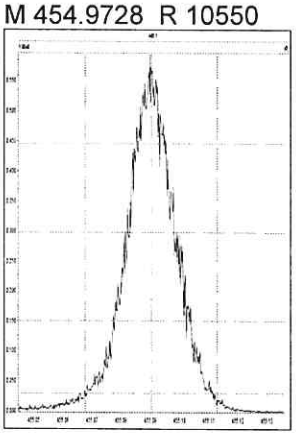
M 430.9728 R 10965



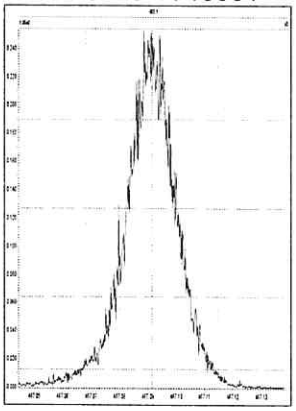
M 442.9728 R 11012



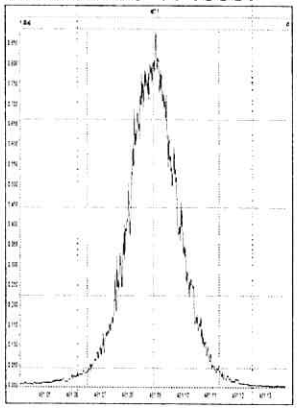
M 454.9728 R 10550



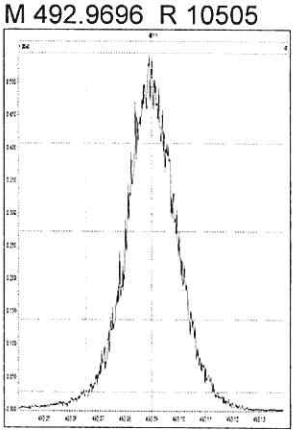
M 466.9728 R 10501



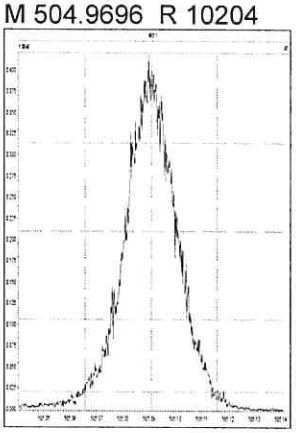
M 480.9696 R 10637



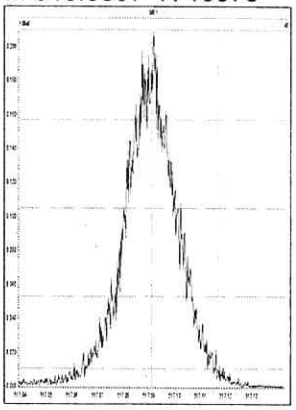
M 492.9696 R 10505



M 504.9696 R 10204



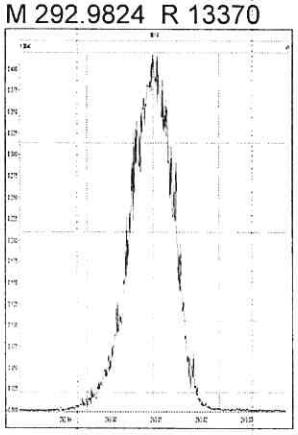
M 516.9697 R 10375



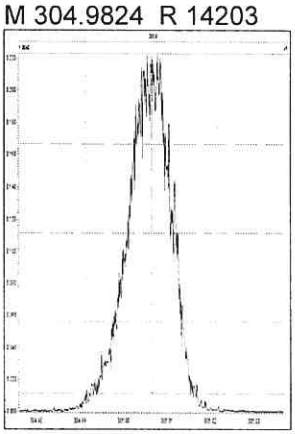
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, October 12, 2017 11:36:41 Central Daylight Time

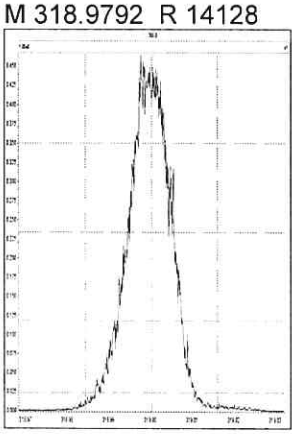
M 292.9824 R 13370



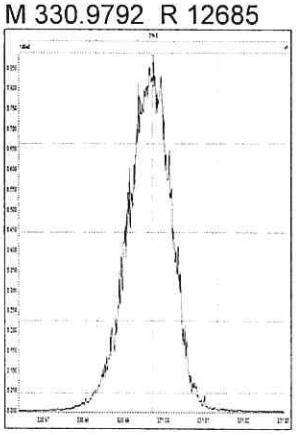
M 304.9824 R 14203



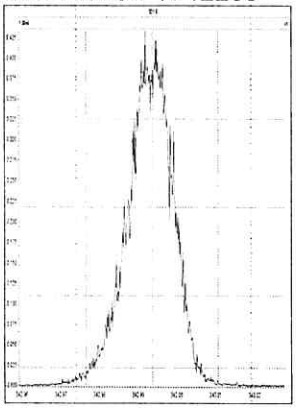
M 318.9792 R 14128



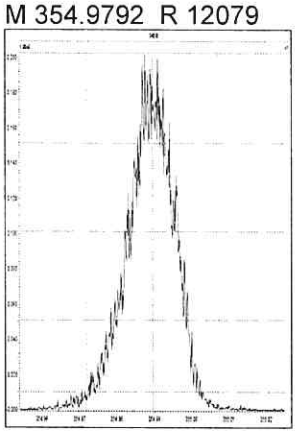
M 330.9792 R 12685



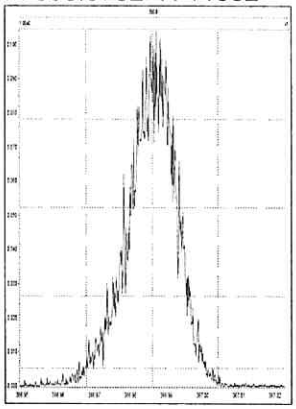
M 342.9792 R 12253



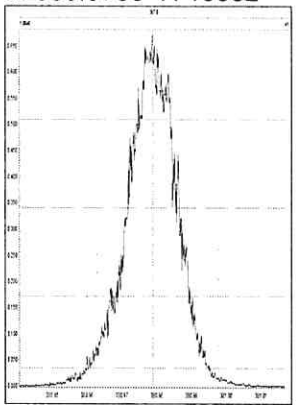
M 354.9792 R 12079



M 366.9792 R 11062



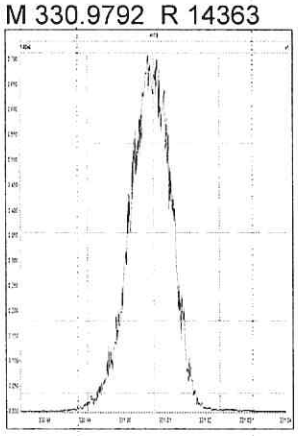
M 380.9760 R 10682



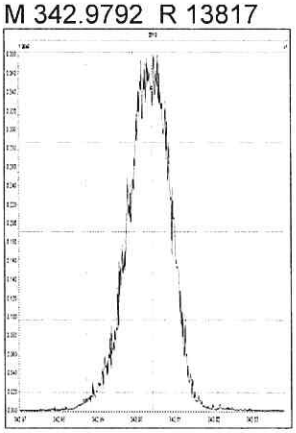
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, October 12, 2017 11:37:21 Central Daylight Time

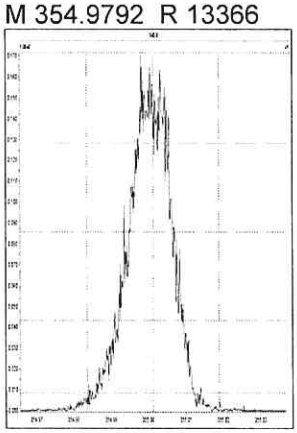
M 330.9792 R 14363



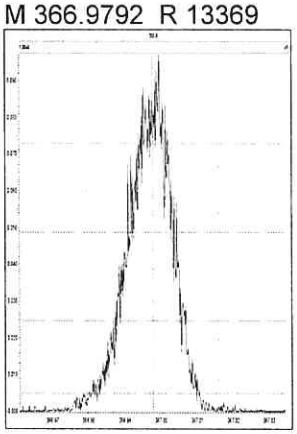
M 342.9792 R 13817



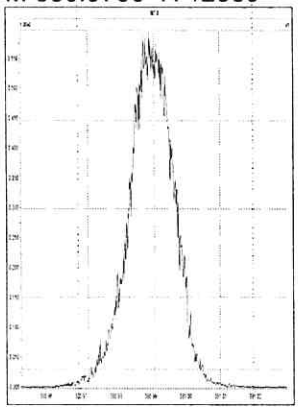
M 354.9792 R 13366



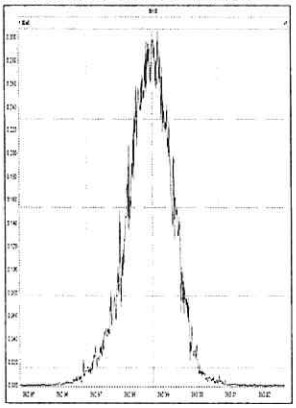
M 366.9792 R 13369



M 380.9760 R 12689



M 392.9760 R 12257



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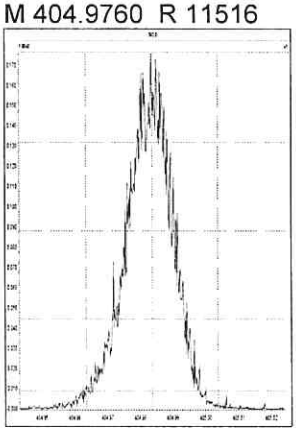
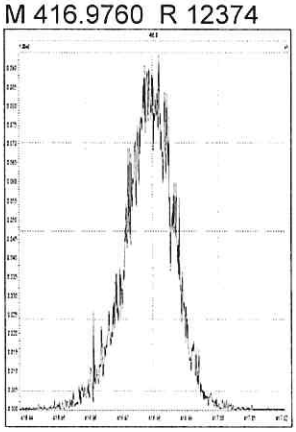


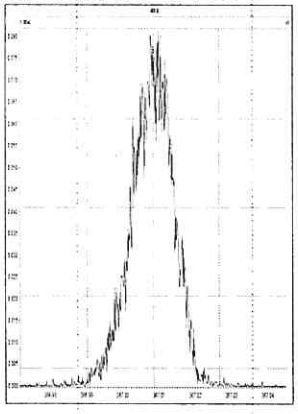
M 416.9760 R 12374



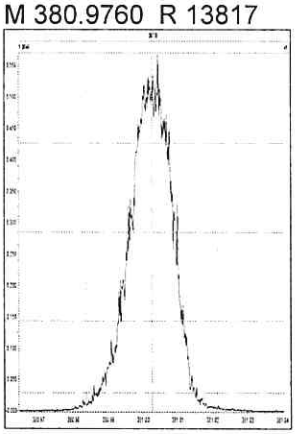
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, October 12, 2017 11:38:00 Central Daylight Time

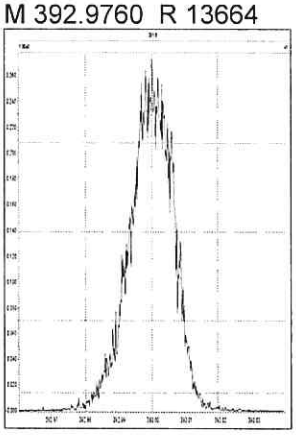
M 366.9792 R 14876



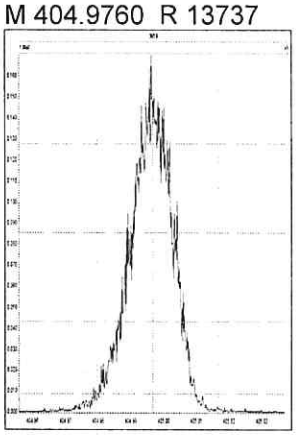
M 380.9760 R 13817



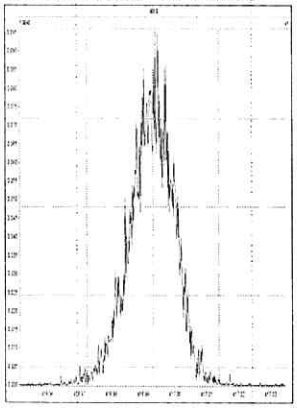
M 392.9760 R 13664



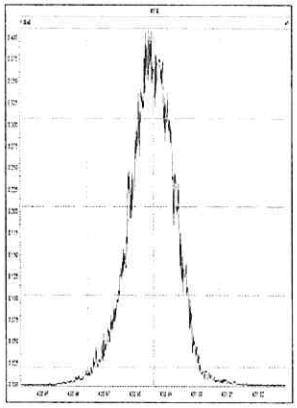
M 404.9760 R 13737



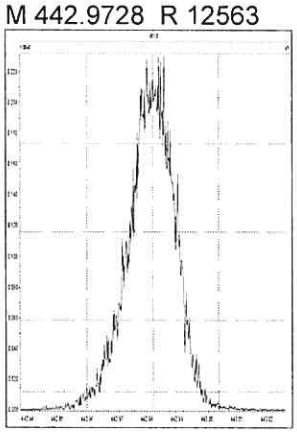
M 416.9760 R 14366



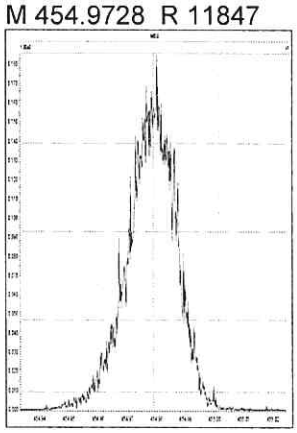
M 430.9728 R 12378



M 442.9728 R 12563



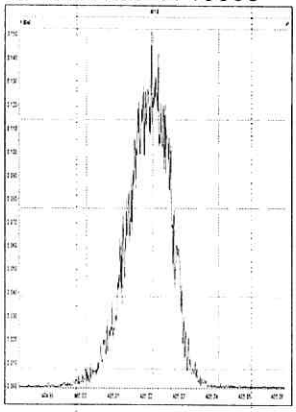
M 454.9728 R 11847



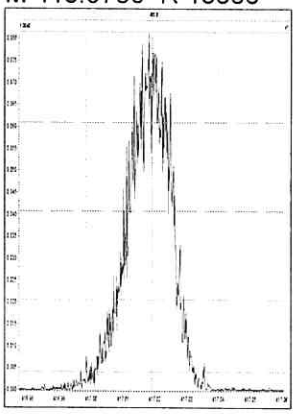
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Thursday, October 12, 2017 11:38:37 Central Daylight Time

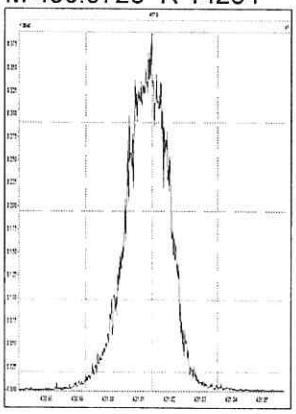
M 404.9760 R 13365



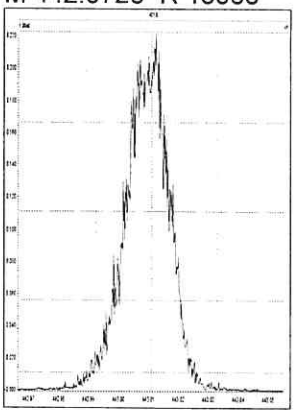
M 416.9760 R 13666



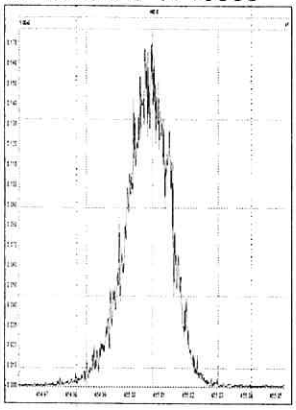
M 430.9728 R 14284



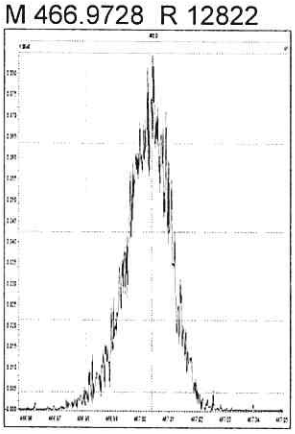
M 442.9728 R 13588



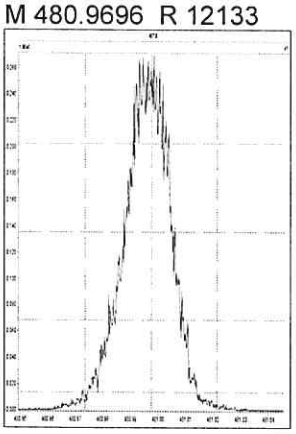
M 454.9728 R 13893



M 466.9728 R 12822



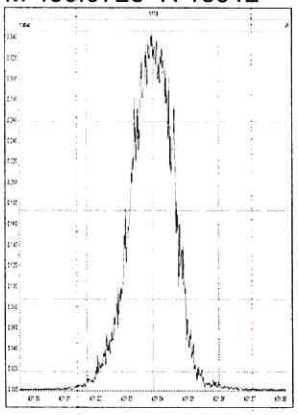
M 480.9696 R 12133



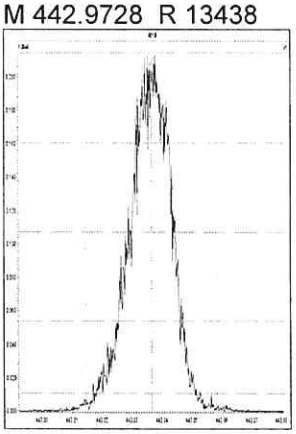
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Thursday, October 12, 2017 11:40:16 Central Daylight Time

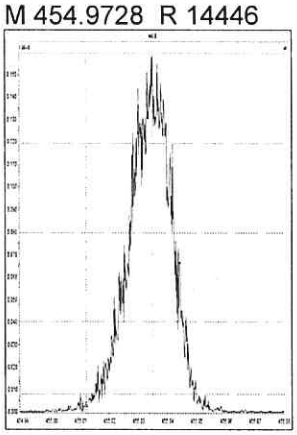
M 430.9728 R 13512



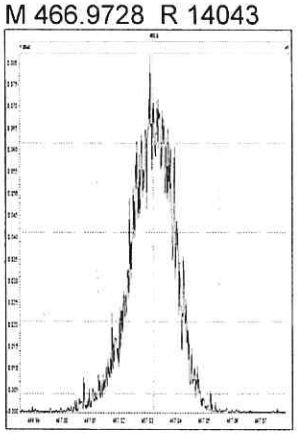
M 442.9728 R 13438



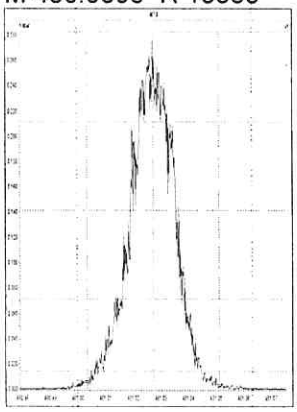
M 454.9728 R 14446



M 466.9728 R 14043



M 480.9696 R 13588



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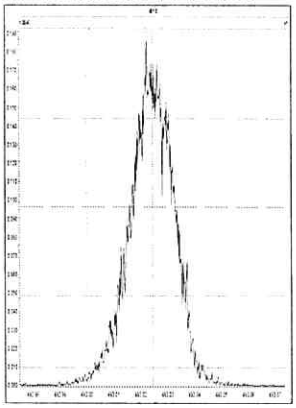
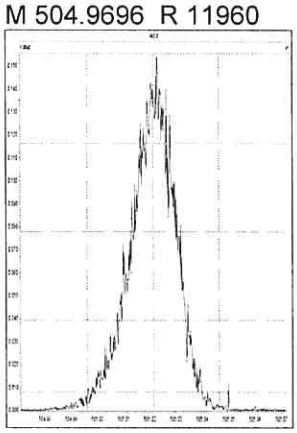
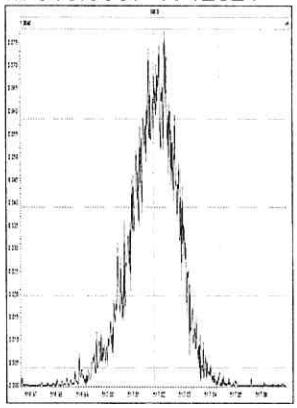


M 504.9696 R 11960



M 516.9697 R 12821



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

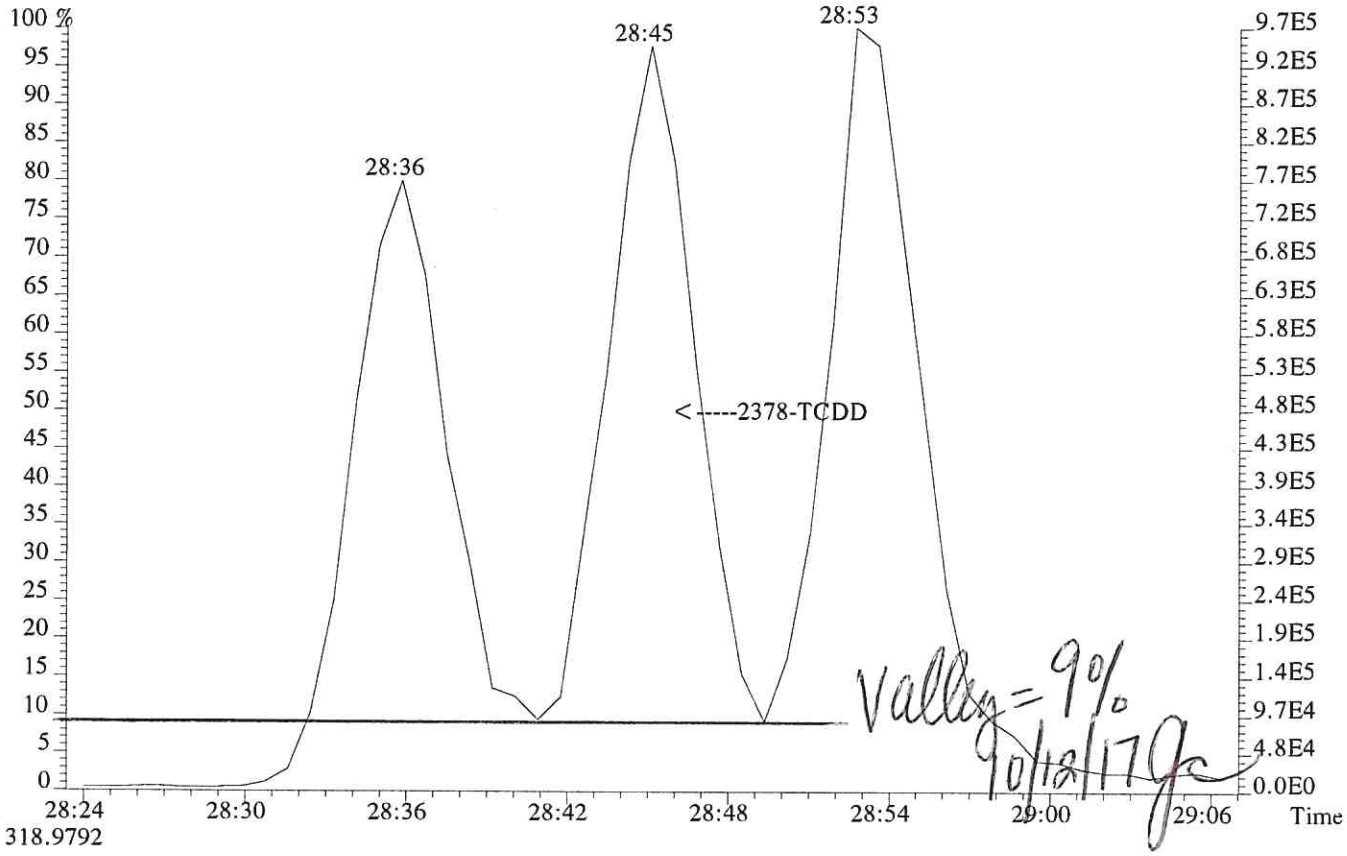
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P609582
Date Analyzed: 11-OCT-17
Time Analyzed: 10:00:06

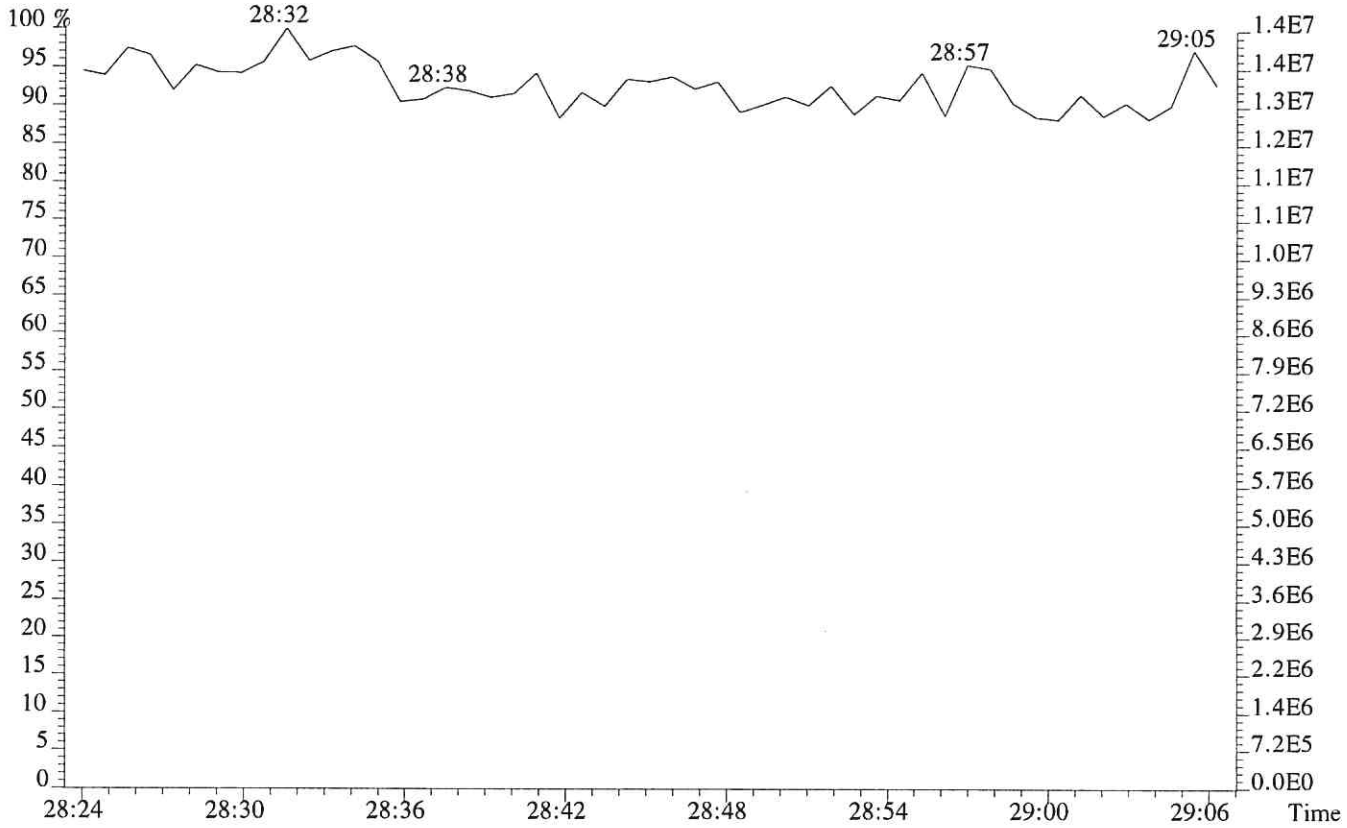
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:31	29:57
TCDD	25:22	29:46
PeCDF	29:51	34:09
PeCDD	31:25	33:53
HxCDF	34:47	37:20
HxCDD	35:18	36:55
HpCDF	38:33	40:01
HpCDD	38:49	39:31

% Valley 2378-TCDD: 9 %

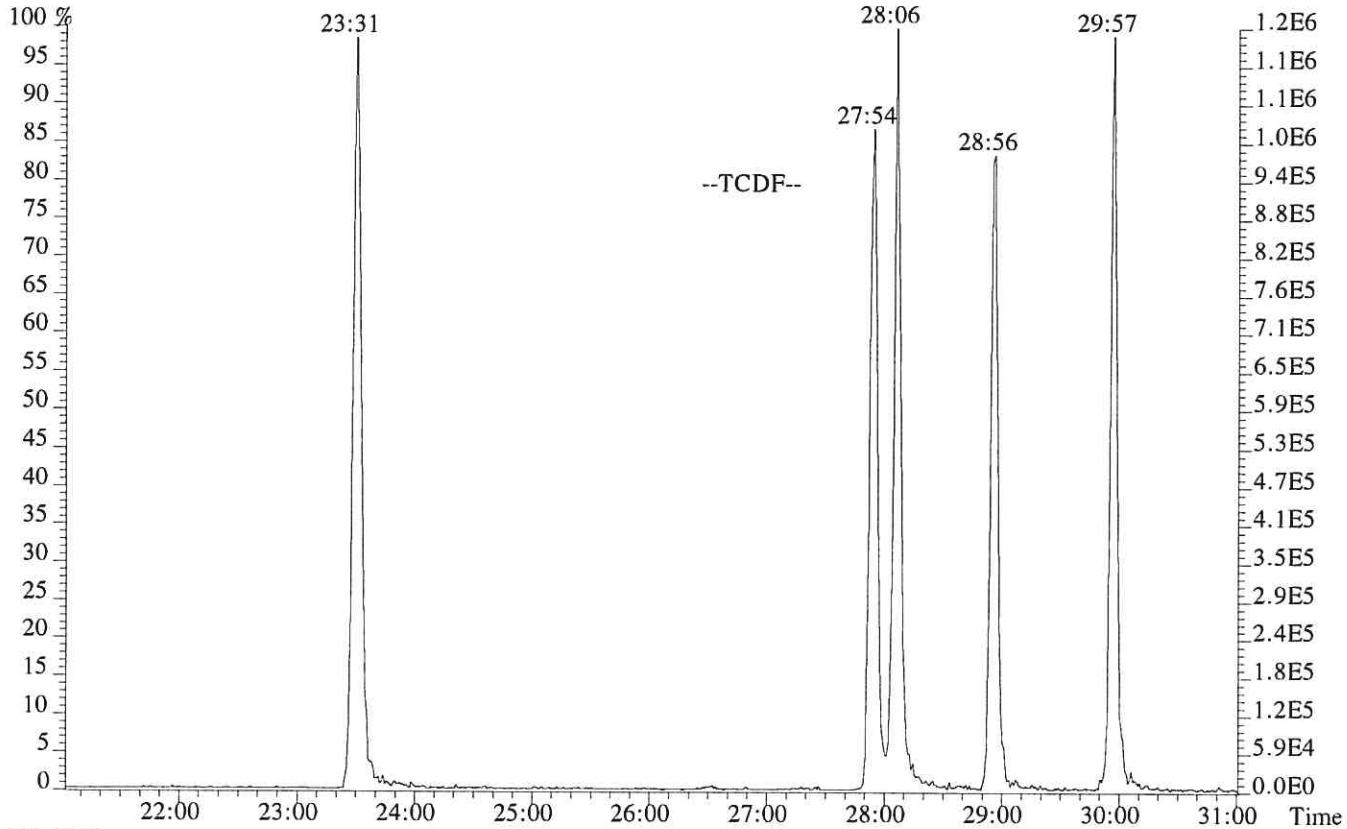
File:P609582 #1-708 Acq:11-OCT-2017 10:00:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
319.8965



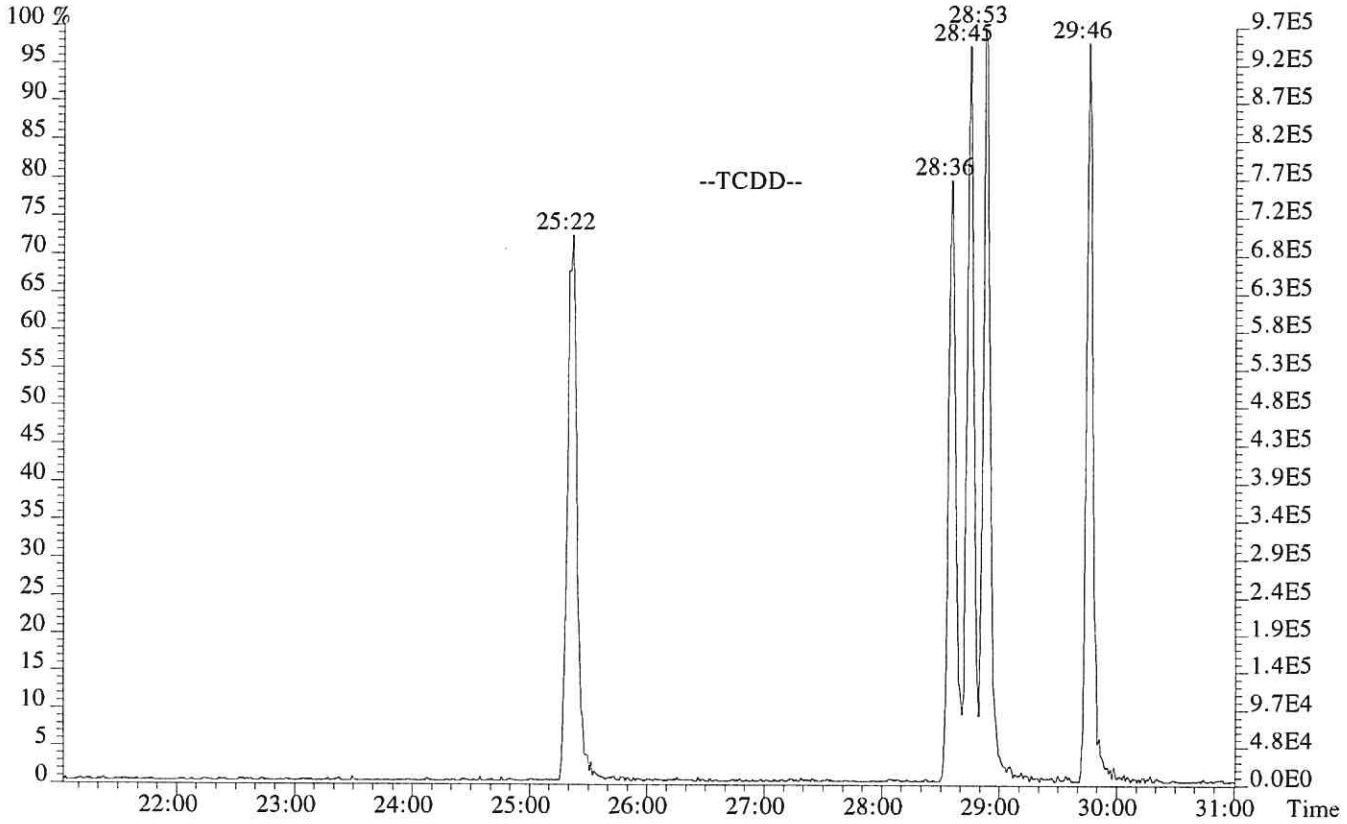
318.9792



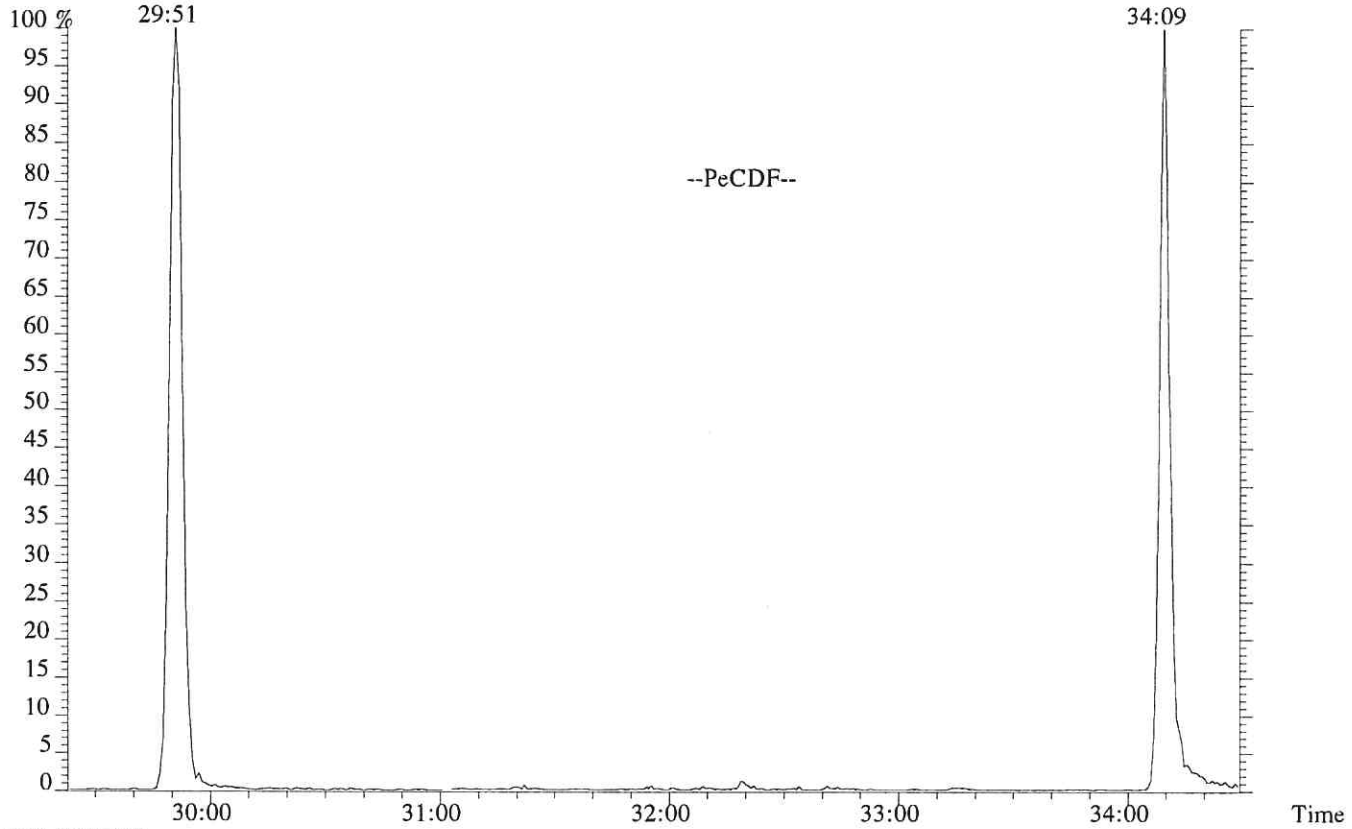
File:P609582 #1-708 Acq:11-OCT-2017 10:00:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
303.9016



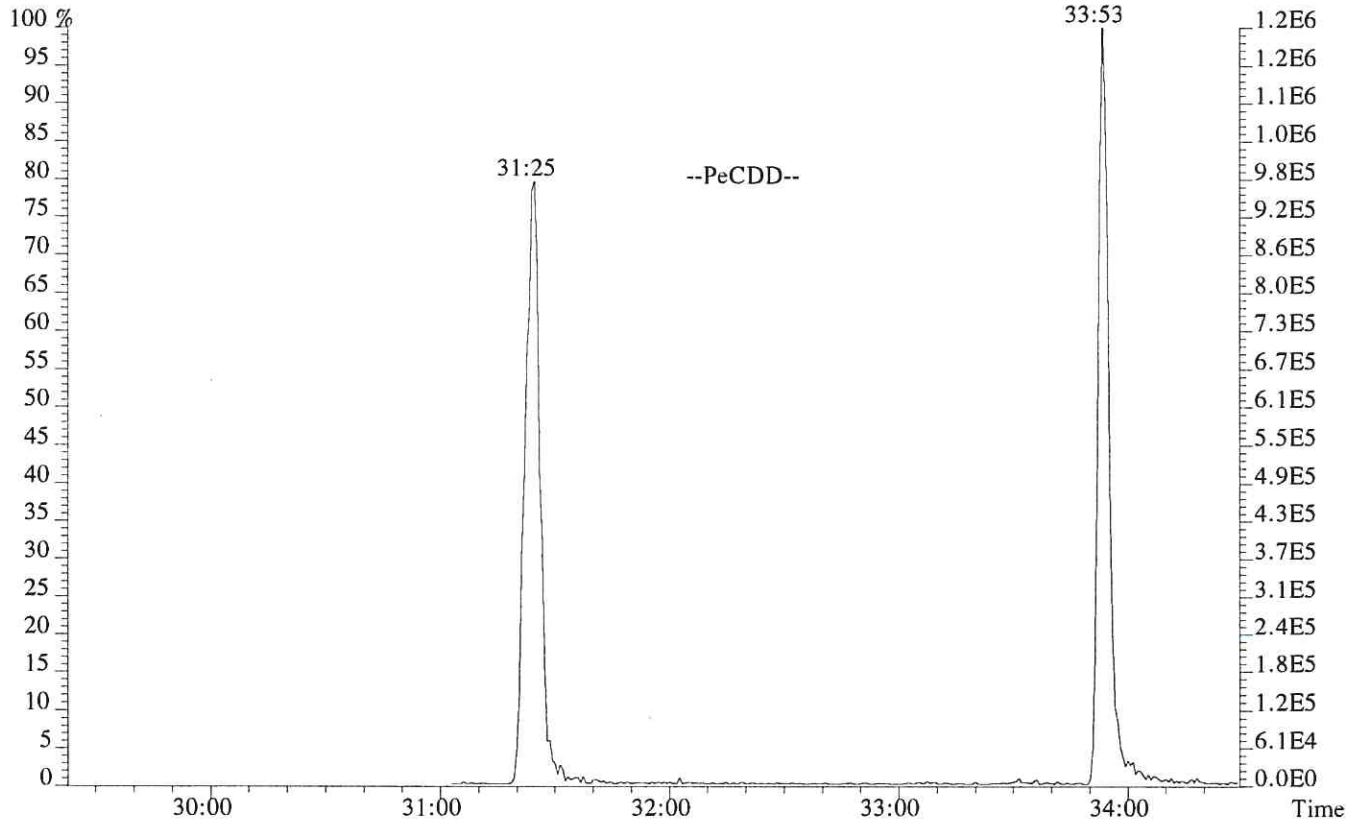
319.8965



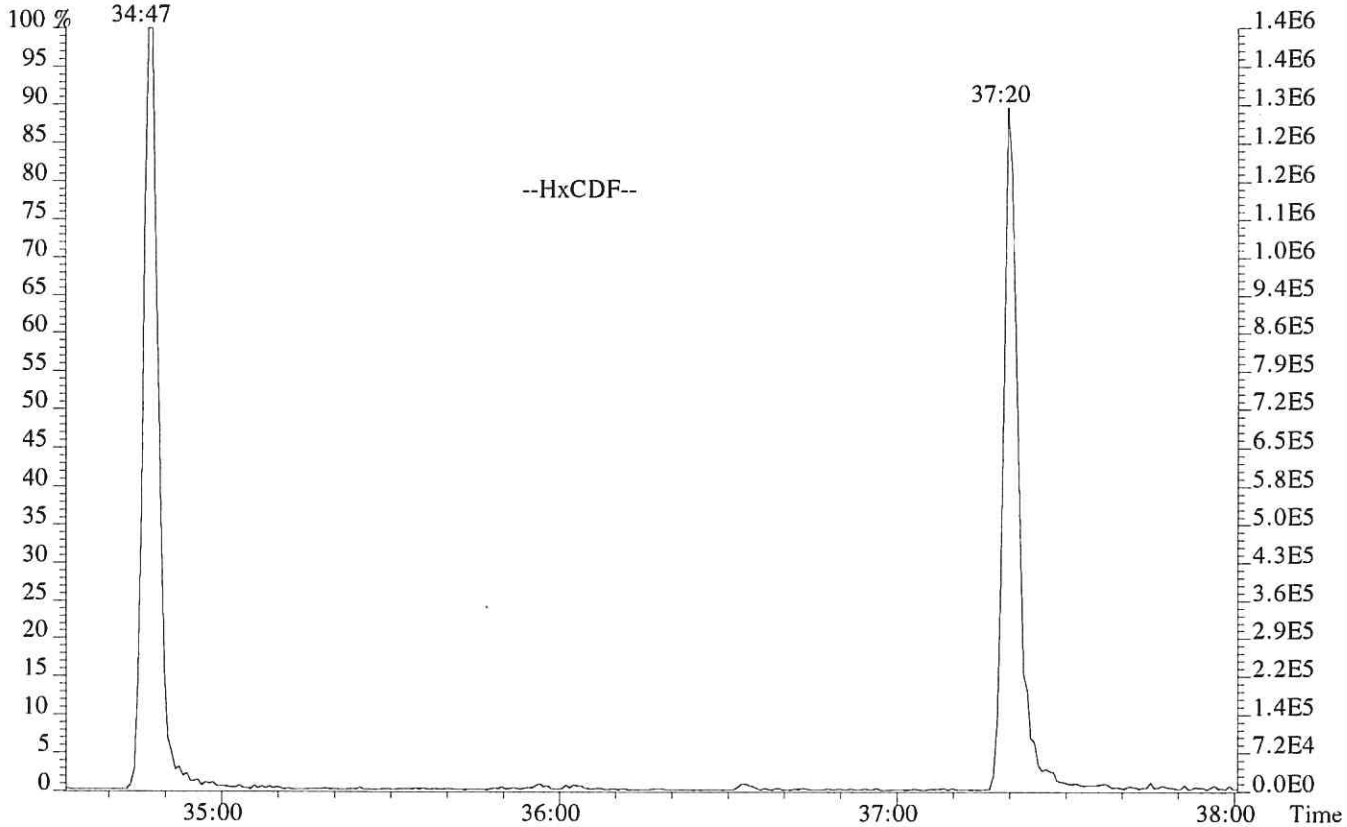
File:P609582 #1-708 Acq:11-OCT-2017 10:00:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
339.8597,339.8597 F:2



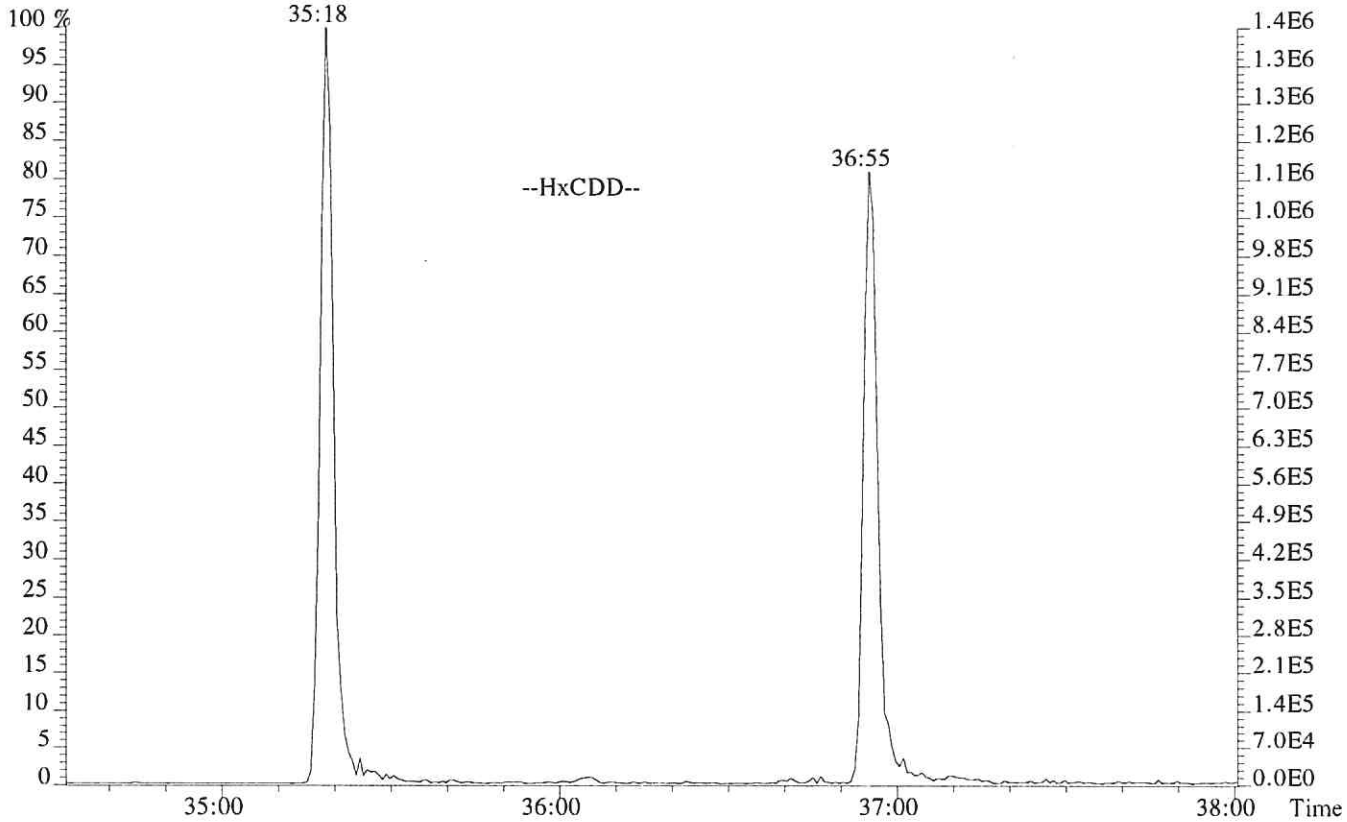
355.8546 F:2



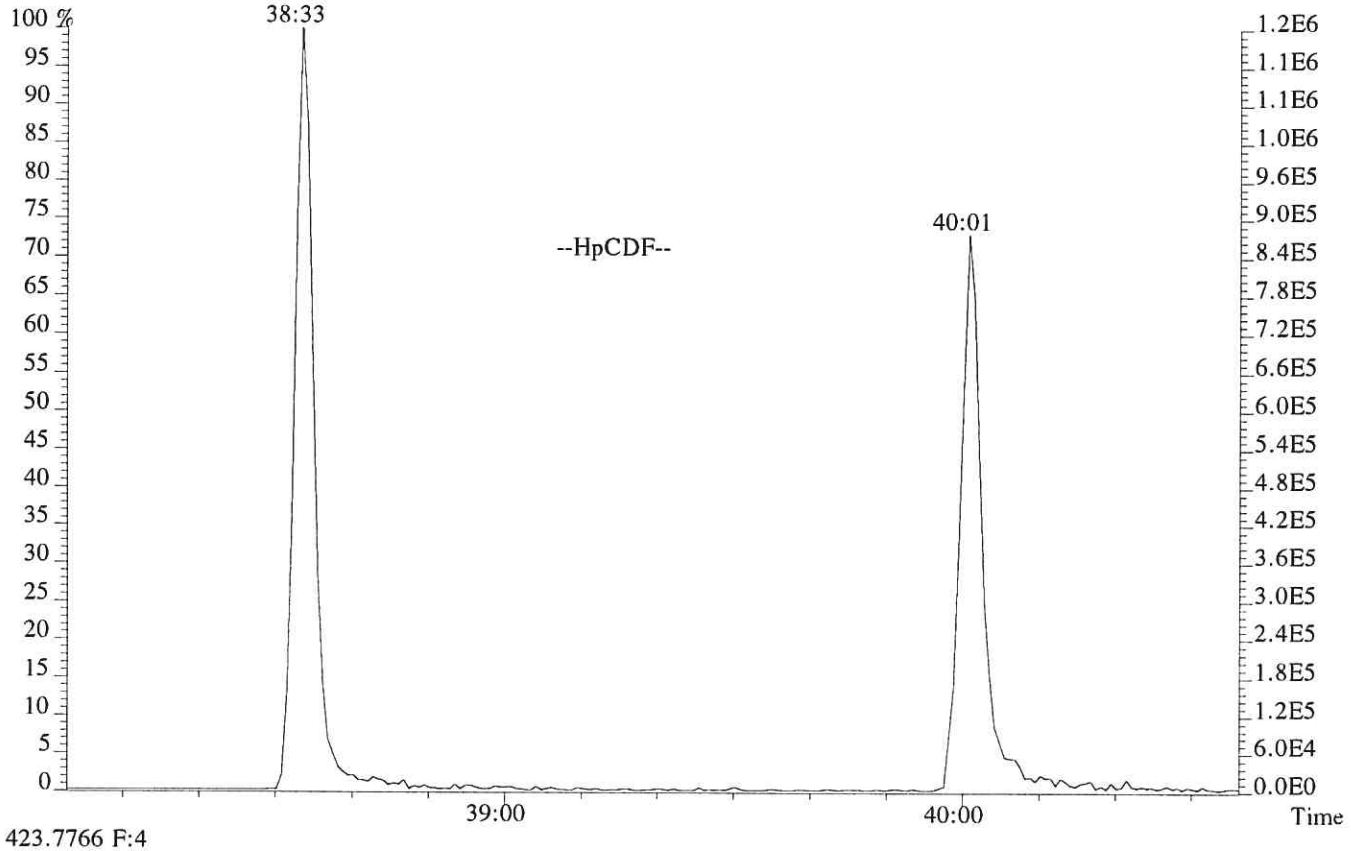
File:P609582 #1-313 Acq:11-OCT-2017 10:00:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



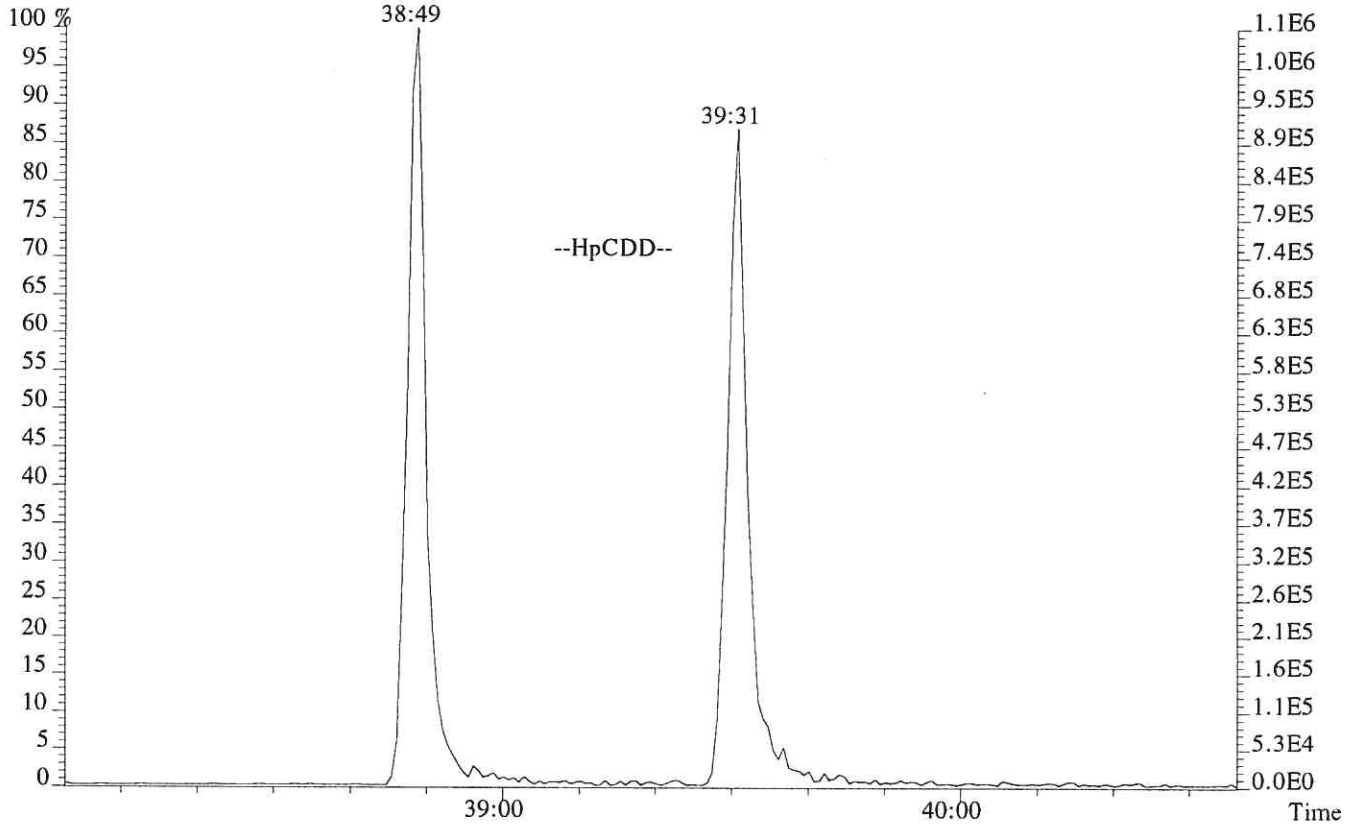
389.8157 F:3



File:P609582 #1-231 Acq:11-OCT-2017 10:00:06 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: P609581 Analysis Date: 11-OCT-17 Time: 09:07:14

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	10.2	7.8 - 12.9	1.9
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	49	39 - 65	-2.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.38	1.05-1.43	49	39 - 64	-1.2
1,2,3,6,7,8-HxCDD	M+2/M+4	1.20	1.05-1.43	51	39 - 64	1.2
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	50	41 - 61	-0.3
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.09	0.88-1.20	53	43 - 58	5.1
OCDD	M+2/M+4	0.90	0.76-1.02	101	79 - 126	1.2
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	10.0	8.4 - 12.0	0.3
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	51	41 - 60	1.8
2,3,4,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	51	41 - 61	1.9
1,2,3,4,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	49	45 - 56	-2.8
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	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	-4.9
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	48	44 - 57	-4.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	48	45 - 55	-3.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	47	43 - 58	-6.4
OCDF	M+2/M+4	0.89	0.76-1.02	107	63 - 159	6.6

(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) 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: P609581 Analysis Date: 11-OCT-17 Time: 09:07:14

	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	96	82 - 121	-3.8
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32-1.78	99	62 - 160	-0.9
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	91	85 - 117	-8.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	103	85 - 118	2.6
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	91	72 - 138	-9.1
13C-OCDD	M+2/M+4	0.93	0.76-1.02	179	96 - 415	-10.7
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	102	71 - 140	1.8
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.67	1.32-1.78	106	76 - 130	5.9
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	109	77 - 130	9.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	107	76 - 131	6.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	109	70 - 143	8.8
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.54	0.43-0.59	99	74 - 135	-1.2
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.54	0.43-0.59	105	73 - 137	4.5
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	101	78 - 129	1.5
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.43	0.37-0.51	96	77 - 129	-4.1
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-2.1

(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) 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 P609581 Samp: 1 Inj: 1 Acquired: 11-OCT-17 09:07:14
Processed: 12-OCT-17 11:21:35 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:07	2.657e+03	3.381e+03	0.79	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	32:20	2.220e+04	1.427e+04	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	33:15	2.192e+04	1.430e+04	1.53	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	35:56	1.913e+04	1.495e+04	1.28	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	36:02	2.182e+04	1.802e+04	1.21	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	36:33	1.856e+04	1.491e+04	1.25	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	37:19	1.602e+04	1.285e+04	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	38:34	1.546e+04	1.482e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	40:01	1.216e+04	1.175e+04	1.03	yes	no	1.341
10	Unk	OCDF	42:36	1.970e+04	2.206e+04	0.89	yes	no	1.337
11	Unk	2,3,7,8-TCDD	28:54	1.895e+03	2.449e+03	0.77	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	33:31	1.327e+04	8.363e+03	1.59	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	36:41	1.245e+04	9.049e+03	1.38	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	36:46	1.292e+04	1.074e+04	1.20	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	37:00	1.376e+04	1.075e+04	1.28	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	39:31	1.095e+04	1.006e+04	1.09	yes	no	1.048
17	Unk	OCDD	42:24	1.570e+04	1.752e+04	0.90	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	28:05	2.579e+04	3.326e+04	0.78	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	32:19	4.237e+04	2.539e+04	1.67	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	33:14	4.304e+04	2.697e+04	1.60	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	35:55	1.921e+04	3.659e+04	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	36:02	2.357e+04	4.465e+04	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	36:32	2.103e+04	3.865e+04	0.54	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	37:18	1.751e+04	3.262e+04	0.54	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:33	1.365e+04	3.138e+04	0.43	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	40:00	1.144e+04	2.665e+04	0.43	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	28:53	1.789e+04	2.250e+04	0.80	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	33:31	2.835e+04	1.760e+04	1.61	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	36:40	2.315e+04	1.737e+04	1.33	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	36:45	2.456e+04	2.058e+04	1.19	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:30	1.928e+04	1.887e+04	1.02	yes	no	0.884
32	IS	13C-OCDD	42:23	2.823e+04	3.037e+04	0.93	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	28:16	1.933e+04	2.320e+04	0.83	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:00	2.613e+04	2.139e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:54	4.465e+03				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
178519

Run #7 Filename P609581 Samp: 1 Inj: 1 Acquired: 11-OCT-17 09:07:14
Processed: 12-OCT-17 11:21:35 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	4.55e+05	3.16e+02	1.4e+03	5.92e+05	5.48e+02	1.1e+03
2	1,2,3,7,8-PeCDF	3.86e+06	1.92e+02	2.0e+04	2.57e+06	6.56e+02	3.9e+03
3	2,3,4,7,8-PeCDF	4.21e+06	1.92e+02	2.2e+04	2.73e+06	6.56e+02	4.2e+03
4	1,2,3,4,7,8-HxCDF	3.91e+06	2.96e+02	1.3e+04	3.04e+06	2.60e+02	1.2e+04
5	1,2,3,6,7,8-HxCDF	4.17e+06	2.96e+02	1.4e+04	3.53e+06	2.60e+02	1.4e+04
6	2,3,4,6,7,8-HxCDF	3.77e+06	2.96e+02	1.3e+04	3.07e+06	2.60e+02	1.2e+04
7	1,2,3,7,8,9-HxCDF	2.98e+06	2.96e+02	1.0e+04	2.42e+06	2.60e+02	9.3e+03
8	1,2,3,4,6,7,8-HpCDF	3.21e+06	2.38e+03	1.4e+03	2.99e+06	4.14e+03	7.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.17e+06	2.38e+03	9.1e+02	2.20e+06	4.14e+03	5.3e+02
10	OCDF	2.83e+06	2.00e+02	1.4e+04	3.32e+06	1.60e+02	2.1e+04
11	2,3,7,8-TCDD	3.40e+05	1.04e+03	3.3e+02	4.46e+05	3.64e+02	1.2e+03
12	1,2,3,7,8-PeCDD	2.44e+06	2.16e+02	1.1e+04	1.54e+06	2.08e+02	7.4e+03
13	1,2,3,4,7,8-HxCDD	2.60e+06	2.76e+02	9.4e+03	2.01e+06	3.64e+02	5.5e+03
14	1,2,3,6,7,8-HxCDD	2.52e+06	2.76e+02	9.1e+03	2.01e+06	3.64e+02	5.5e+03
15	1,2,3,7,8,9-HxCDD	2.61e+06	2.76e+02	9.5e+03	2.04e+06	3.64e+02	5.6e+03
16	1,2,3,4,6,7,8-HpCDD	2.03e+06	6.36e+02	3.2e+03	1.87e+06	1.68e+02	1.1e+04
17	OCDD	2.30e+06	1.88e+02	1.2e+04	2.59e+06	2.88e+02	9.0e+03
18	13C-2,3,7,8-TCDF	4.60e+06	6.58e+03	7.0e+02	5.89e+06	3.80e+03	1.5e+03
19	13C-1,2,3,7,8-PeCDF	7.60e+06	9.08e+02	8.4e+03	4.49e+06	7.12e+02	6.3e+03
20	13C-2,3,4,7,8-PeCDF	8.06e+06	9.08e+02	8.9e+03	5.04e+06	7.12e+02	7.1e+03
21	13C-1,2,3,4,7,8-HxCDF	3.95e+06	1.80e+02	2.2e+04	7.39e+06	8.04e+02	9.2e+03
22	13C-1,2,3,6,7,8-HxCDF	4.53e+06	1.80e+02	2.5e+04	8.56e+06	8.04e+02	1.1e+04
23	13C-2,3,4,6,7,8-HxCDF	4.27e+06	1.80e+02	2.4e+04	7.76e+06	8.04e+02	9.6e+03
24	13C-1,2,3,7,8,9-HxCDF	3.35e+06	1.80e+02	1.9e+04	6.21e+06	8.04e+02	7.7e+03
25	13C-1,2,3,4,6,7,8-HpCDF	2.77e+06	3.08e+03	9.0e+02	6.39e+06	2.78e+03	2.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.00e+06	3.08e+03	6.5e+02	4.72e+06	2.78e+03	1.7e+03
27	13C-2,3,7,8-TCDD	3.37e+06	7.84e+03	4.3e+02	4.24e+06	8.32e+02	5.1e+03
28	13C-1,2,3,7,8-PeCDD	5.33e+06	2.20e+02	2.4e+04	3.31e+06	8.24e+02	4.0e+03
29	13C-1,2,3,4,7,8-HxCDD	4.86e+06	2.68e+02	1.8e+04	3.84e+06	2.96e+02	1.3e+04
30	13C-1,2,3,6,7,8-HxCDD	4.82e+06	2.68e+02	1.8e+04	3.91e+06	2.96e+02	1.3e+04
31	13C-1,2,3,4,6,7,8-HpCDD	3.54e+06	5.04e+02	7.0e+03	3.46e+06	2.04e+02	1.7e+04
32	13C-OCDD	4.17e+06	3.04e+02	1.4e+04	4.43e+06	3.08e+02	1.4e+04
33	13C-1,2,3,4-TCDD	3.55e+06	7.84e+03	4.5e+02	4.27e+06	8.32e+02	5.1e+03
34	13C-1,2,3,7,8,9-HxCDD	4.98e+06	2.68e+02	1.9e+04	4.01e+06	2.96e+02	1.4e+04
35	37Cl-2,3,7,8-TCDD	8.72e+05	3.48e+02	2.5e+03			

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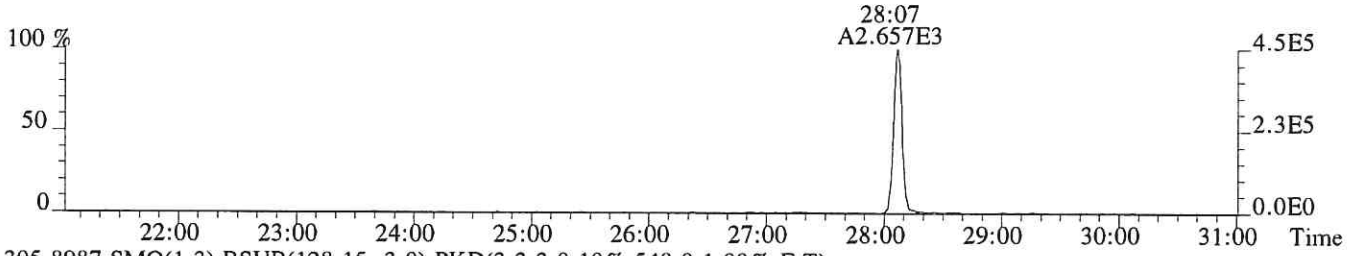
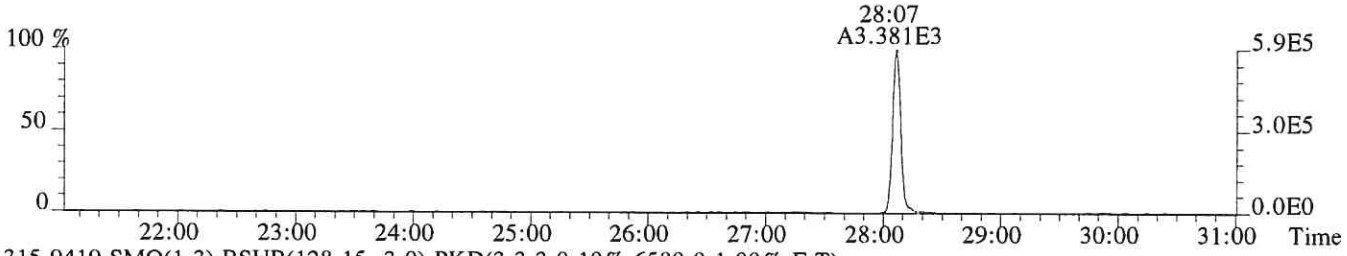
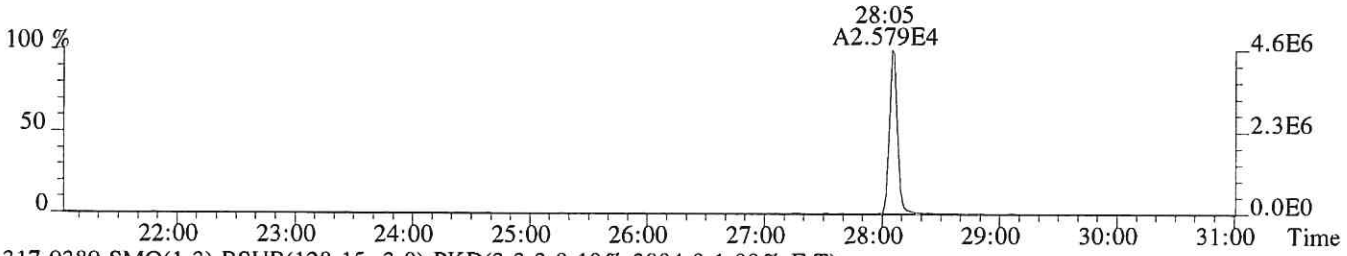
File:P609581 #1-708 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,T)



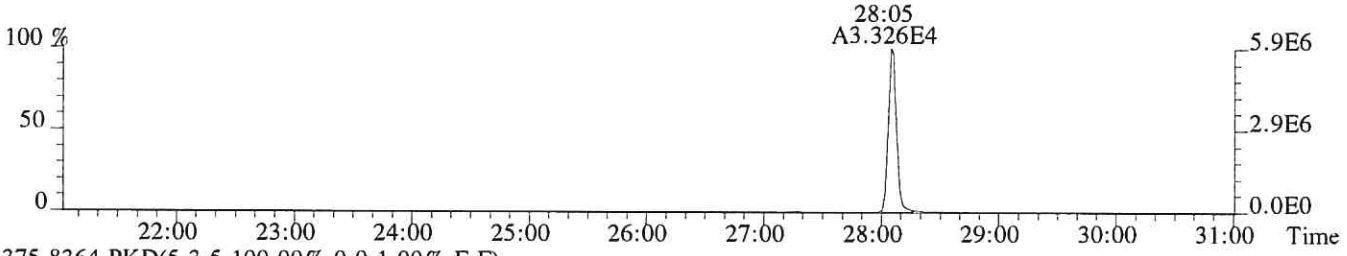
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,T)



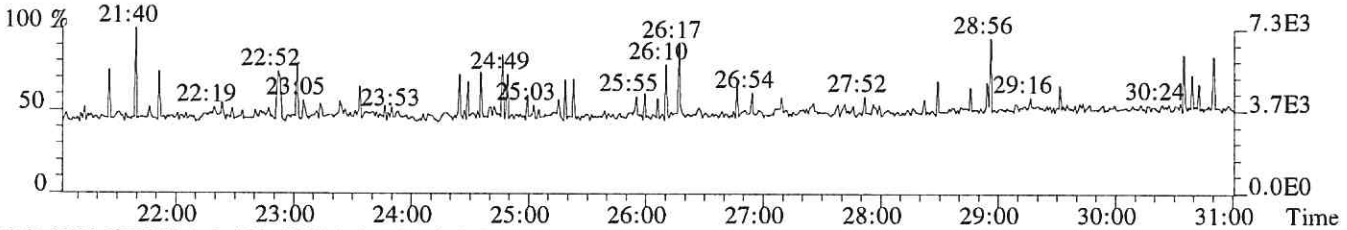
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6580.0,1.00%,F,T)



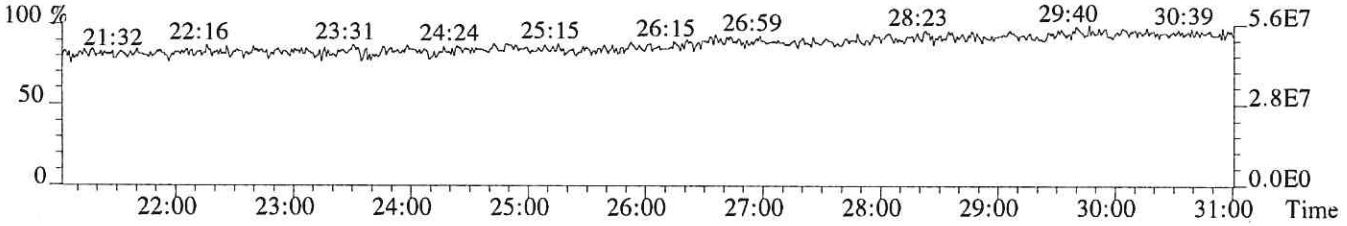
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3804.0,1.00%,F,T)



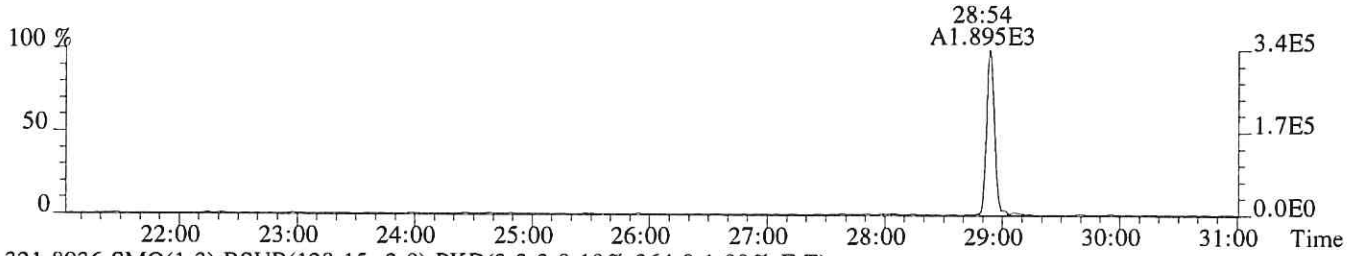
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



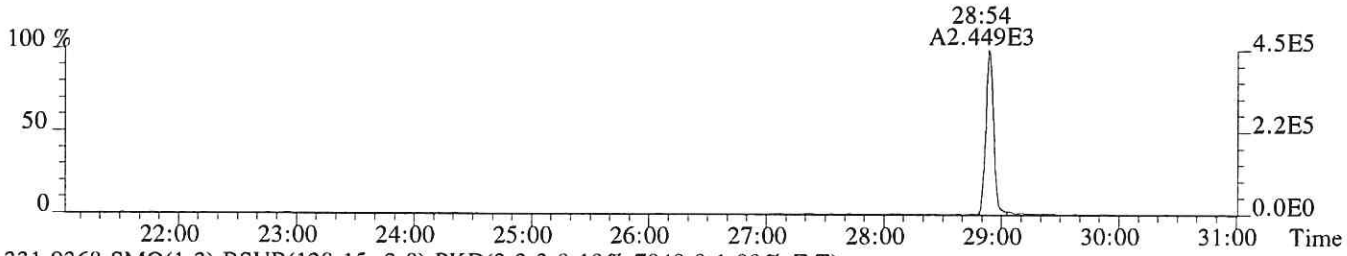
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



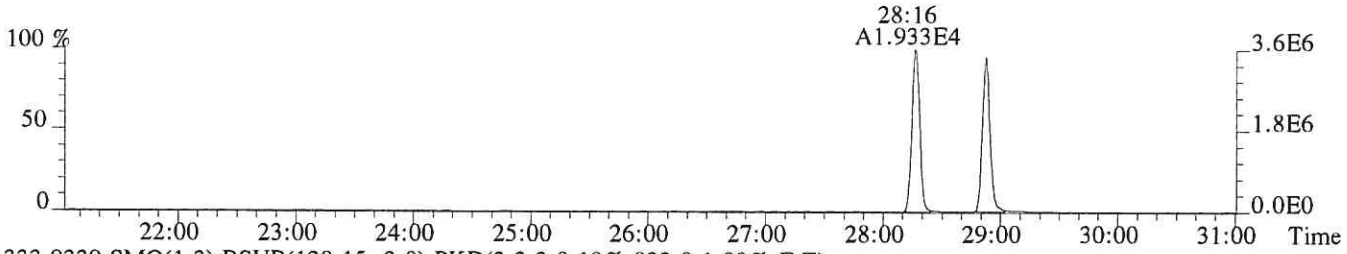
File:P609581 #1-708 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,T)



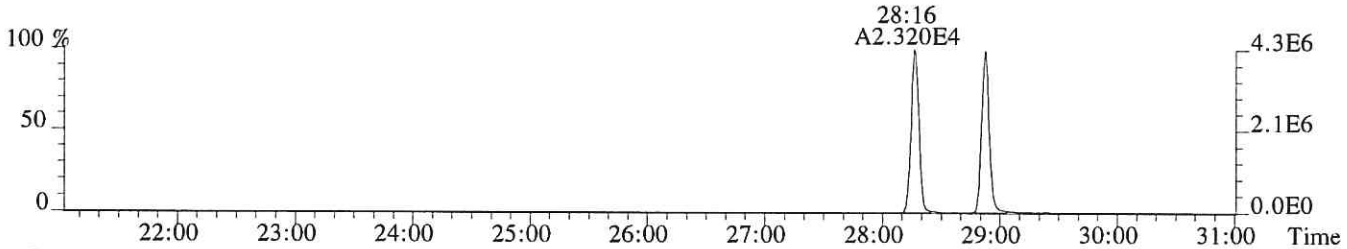
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,364.0,1.00%,F,T)



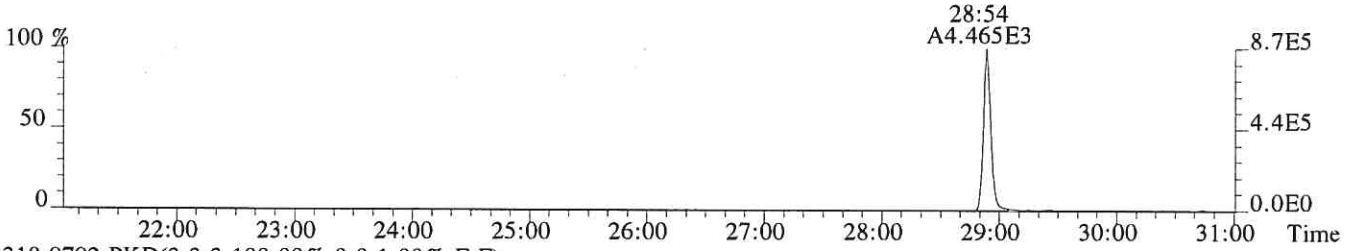
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7840.0,1.00%,F,T)



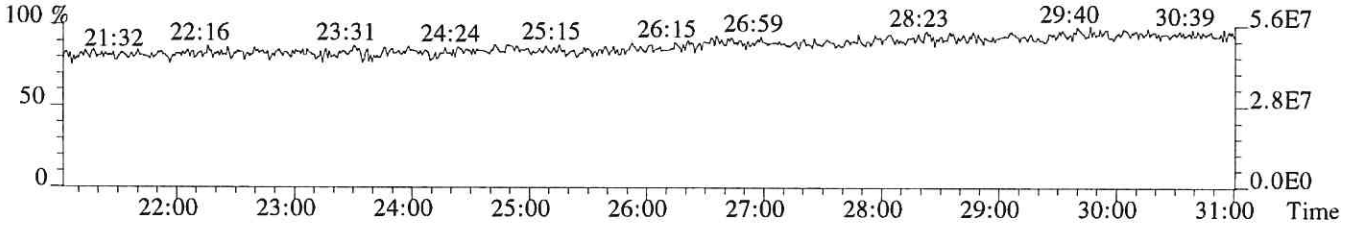
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



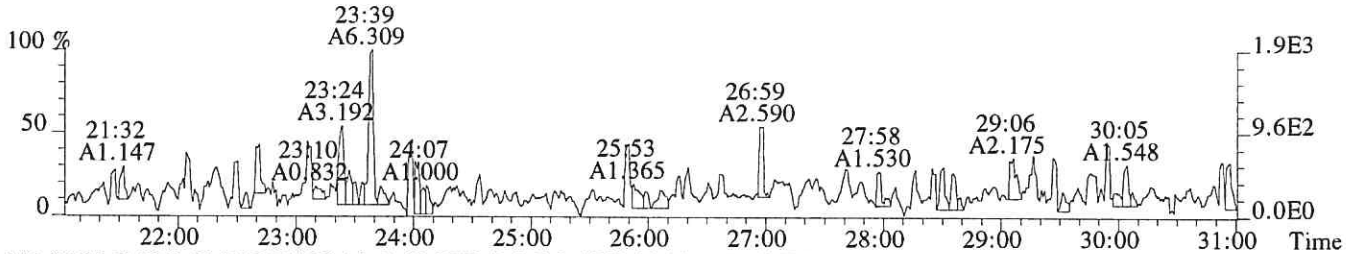
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



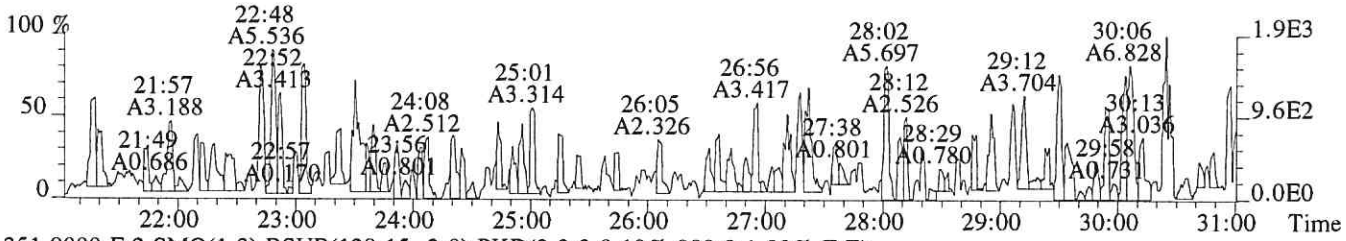
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



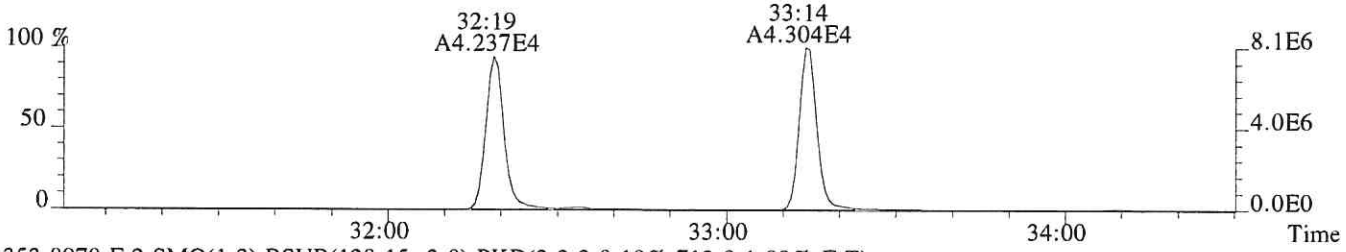
File:P609581 #1-708 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,T)



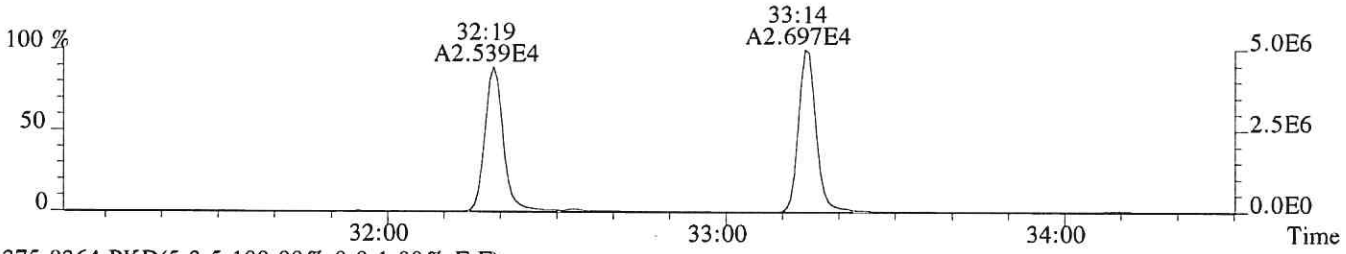
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



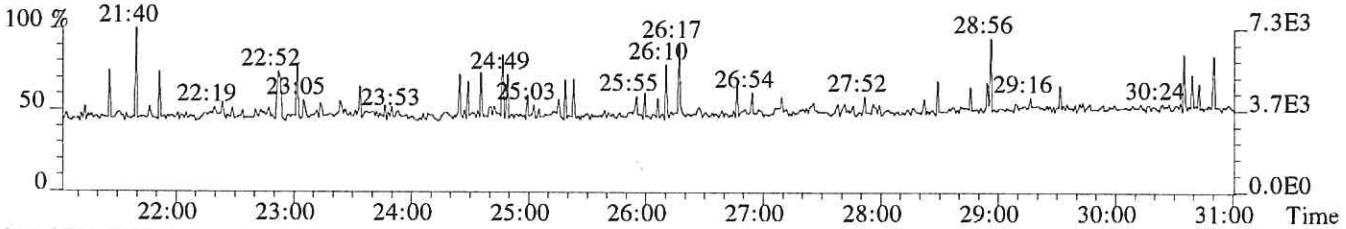
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



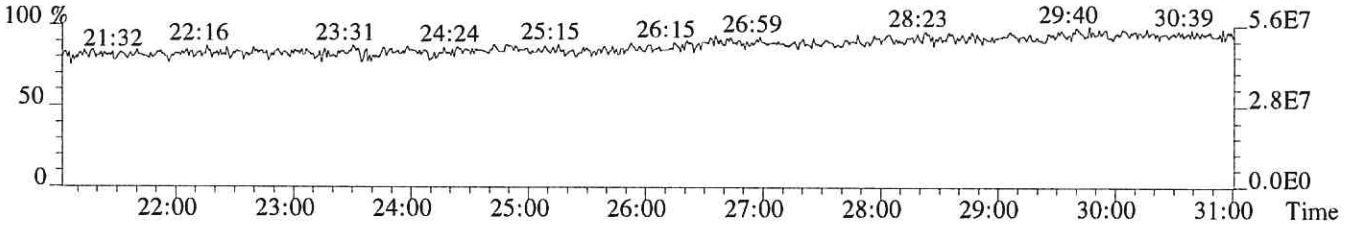
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



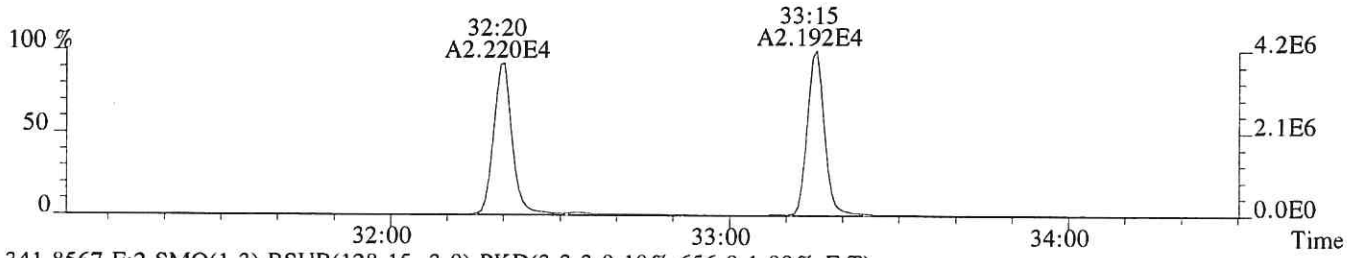
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



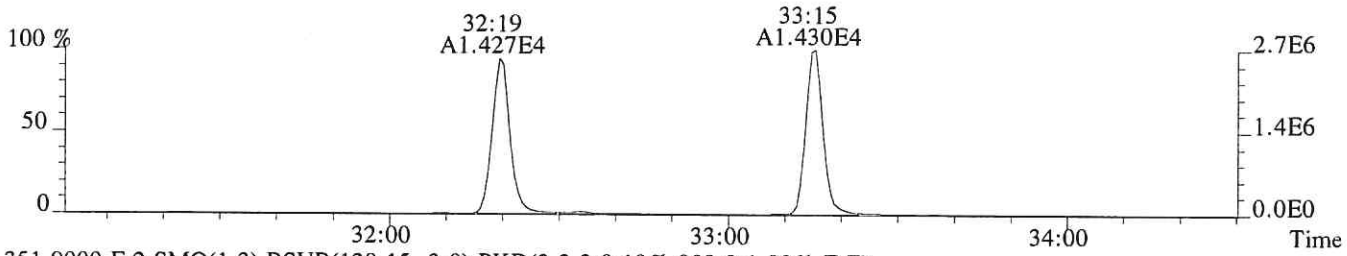
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



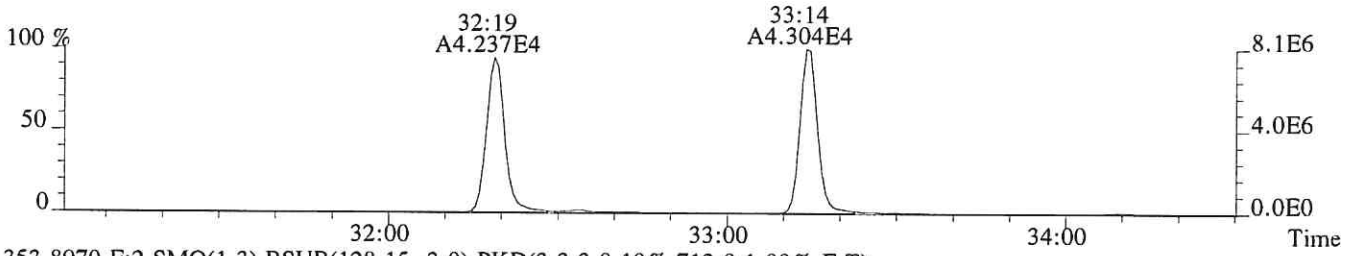
File:P609581 #1-312 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,192.0,1.00%,F,T)



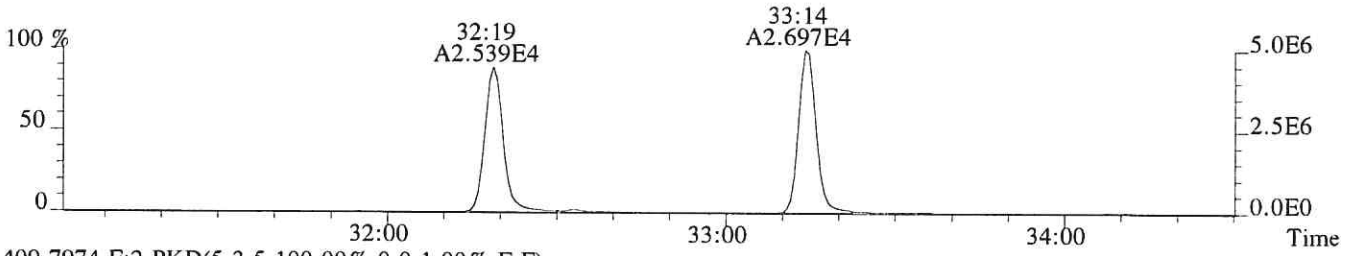
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,T)



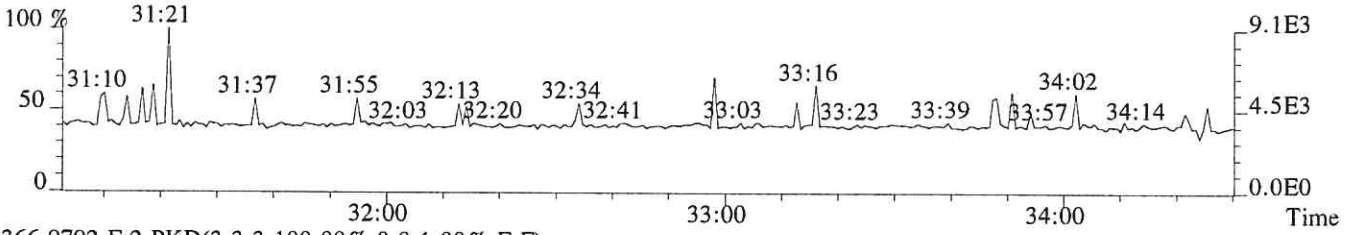
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



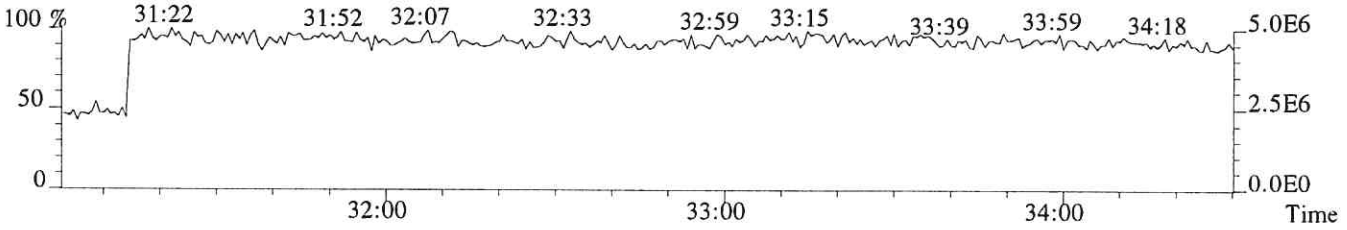
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



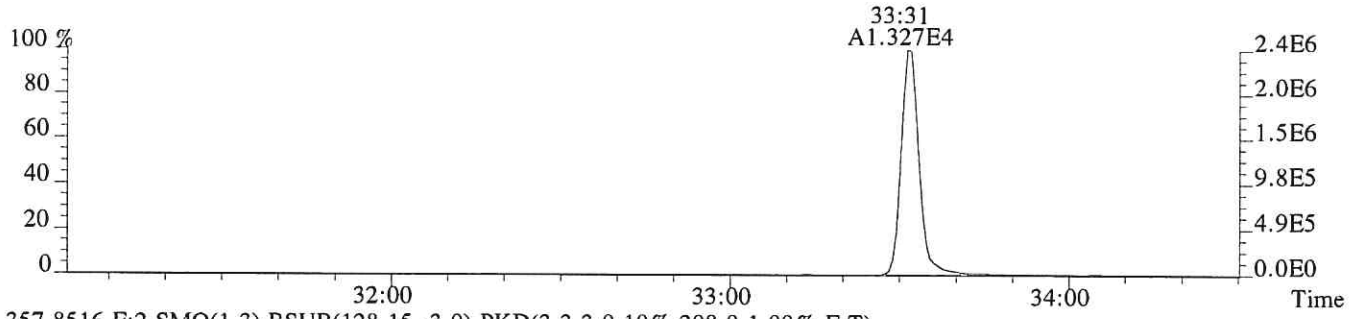
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



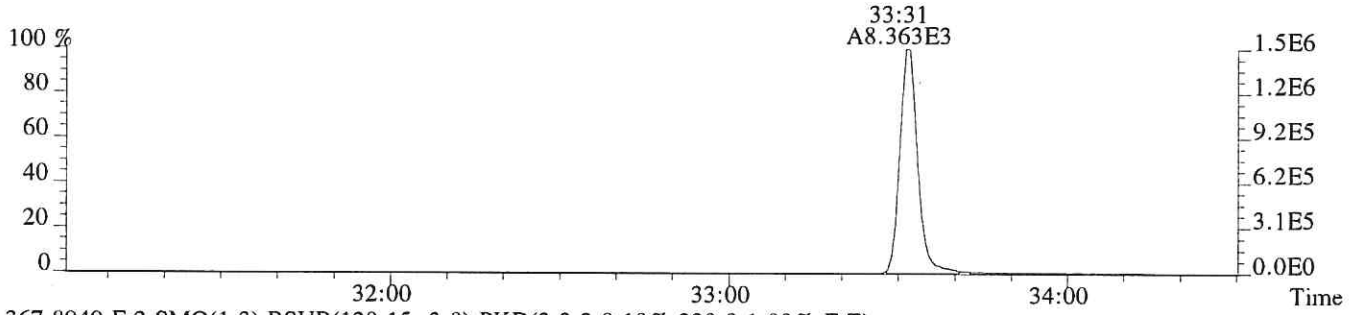
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



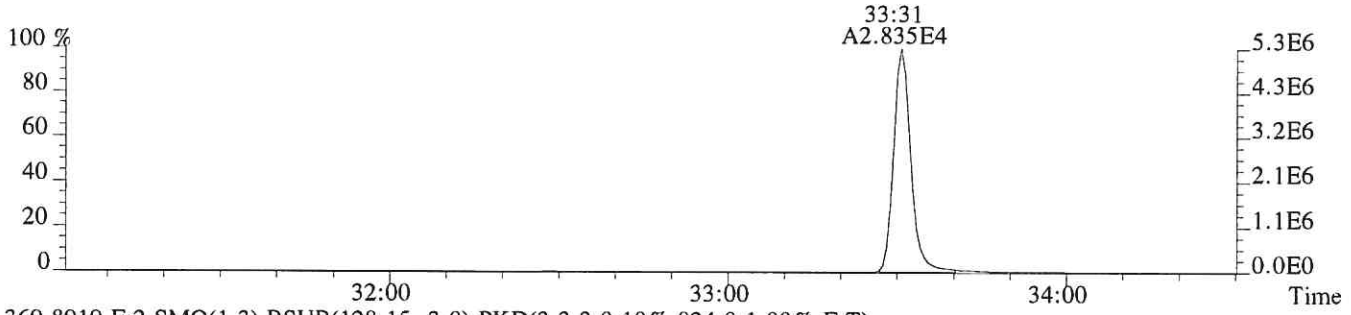
File:P609581 #1-312 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,T)



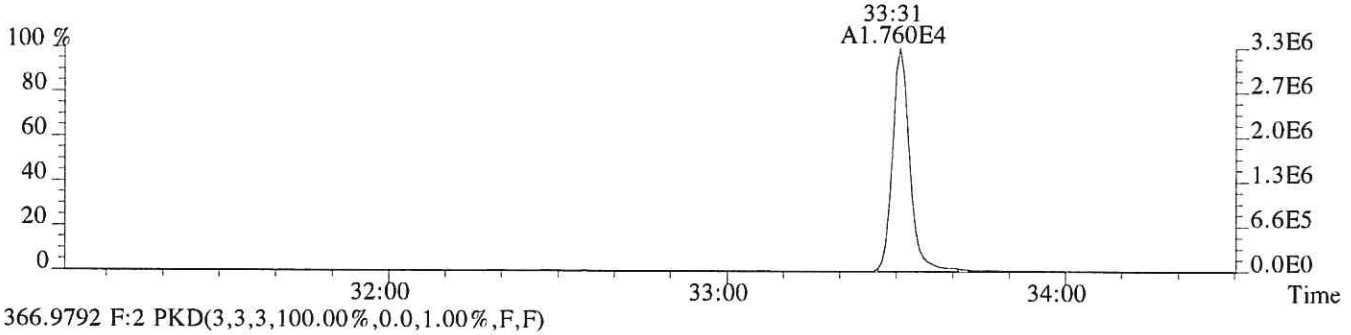
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,T)



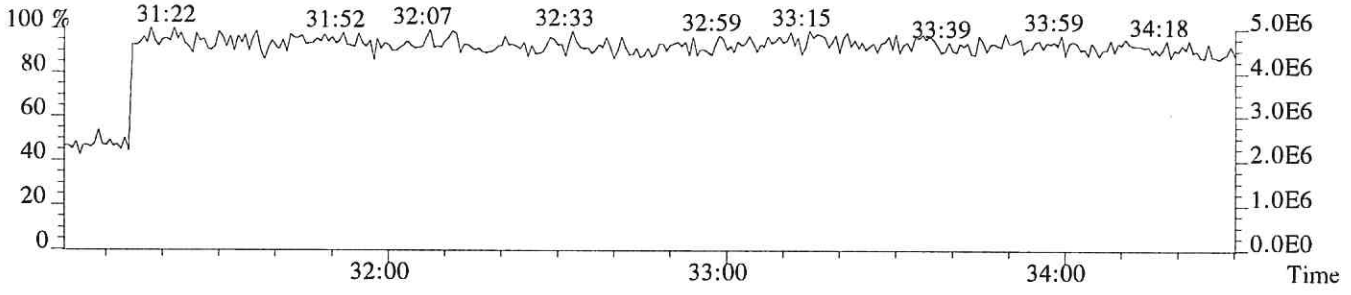
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



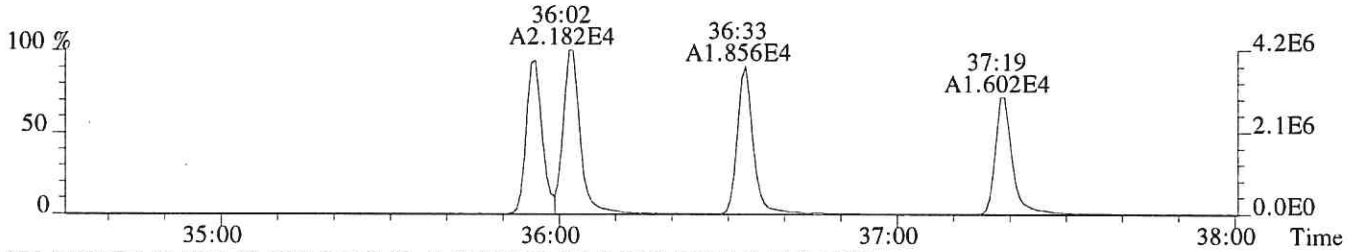
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



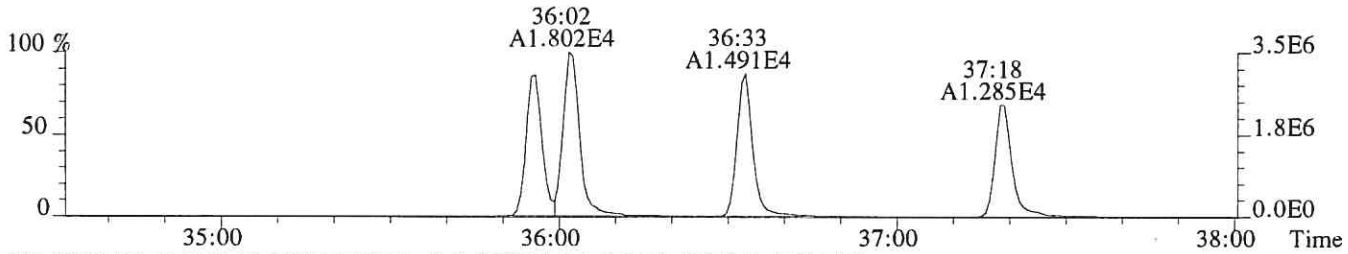
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



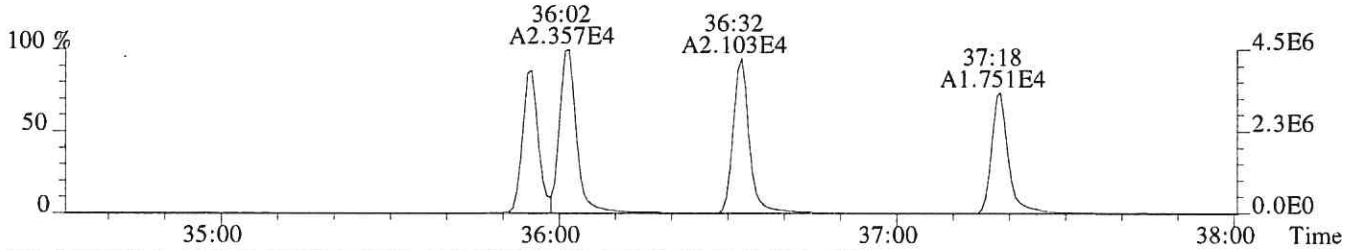
File:P609581 #1-313 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



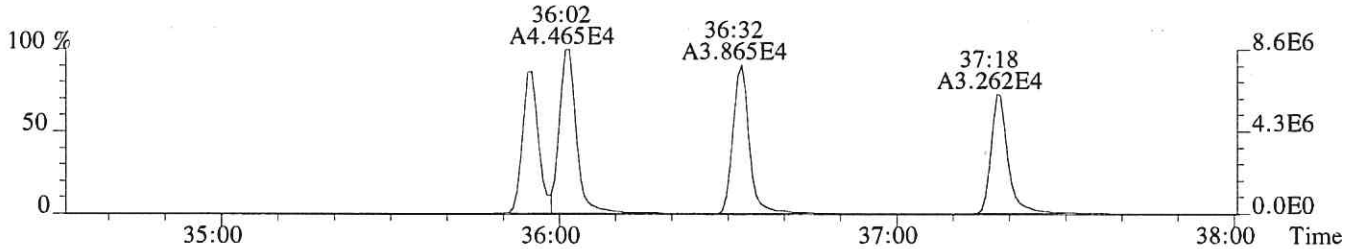
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,260.0,0.40%,F,T)



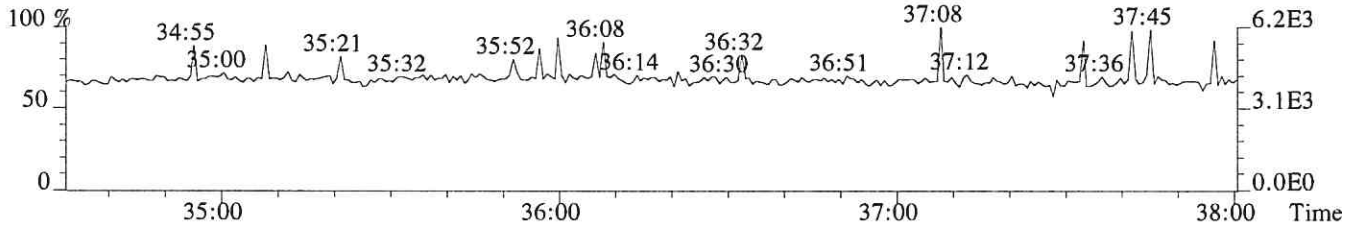
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



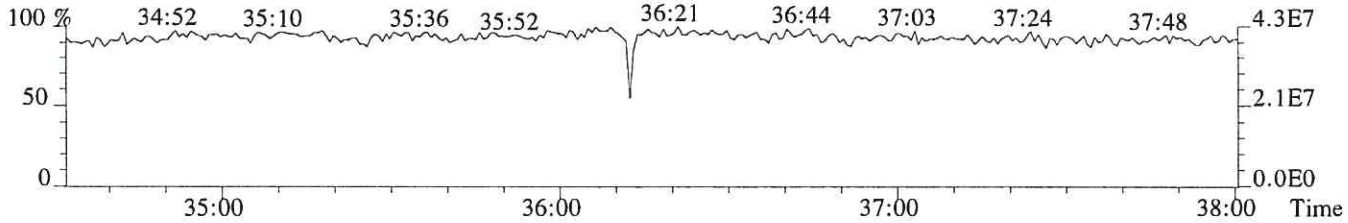
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)



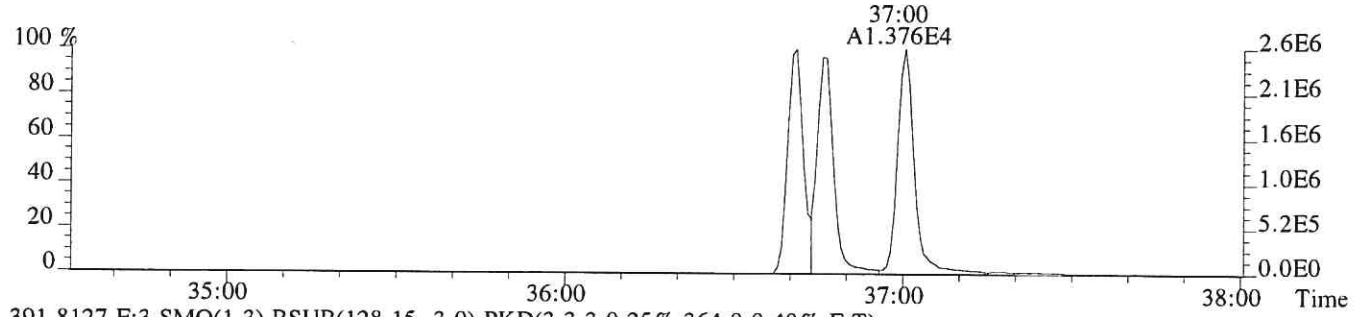
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



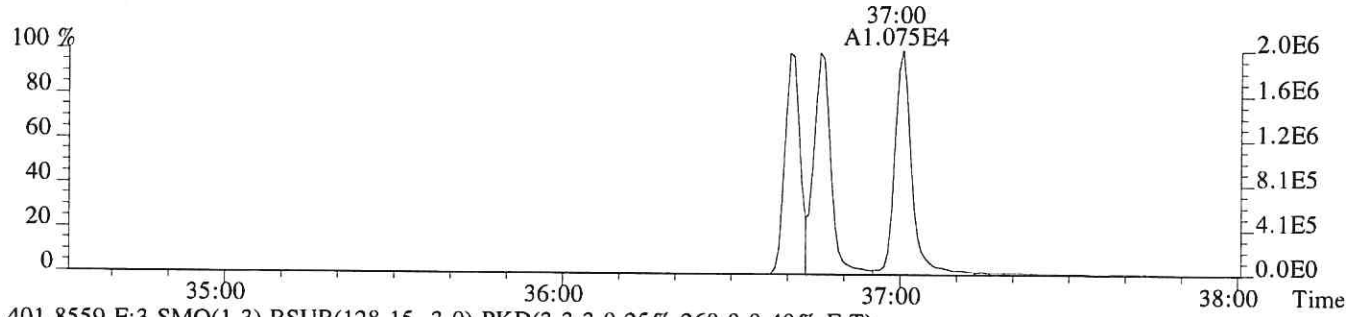
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



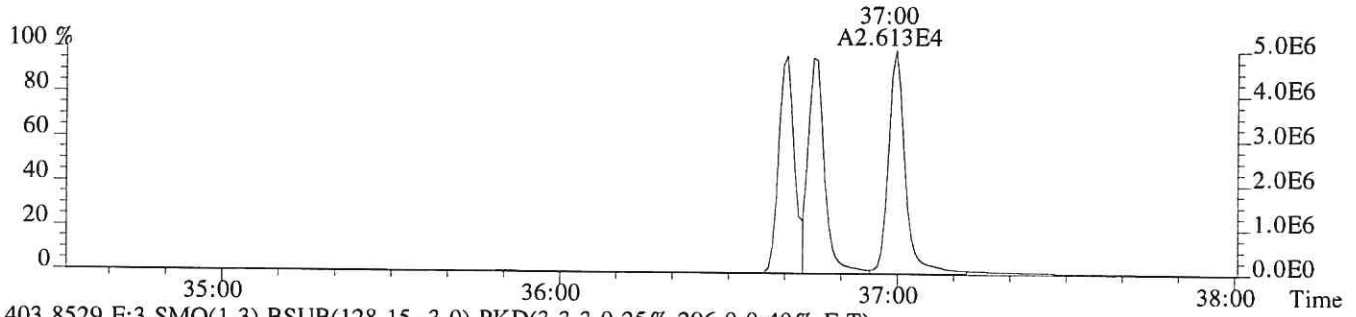
File:P609581 #1-313 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,T)



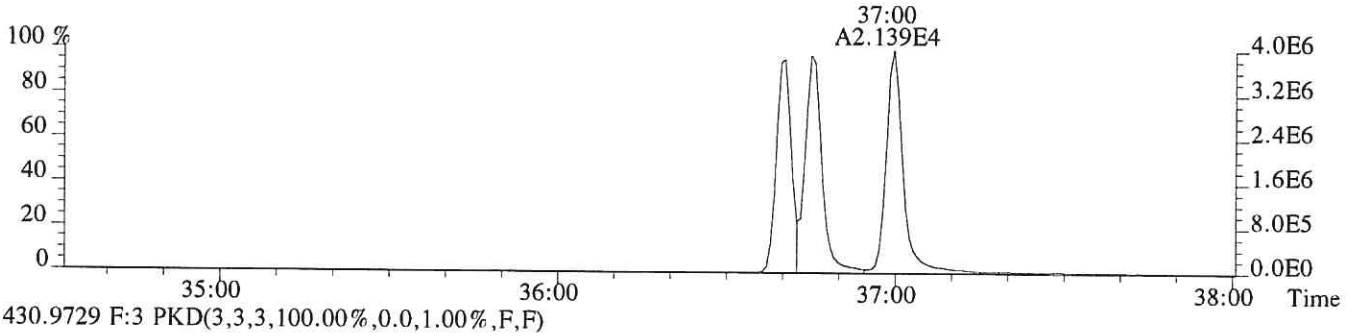
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.40%,F,T)



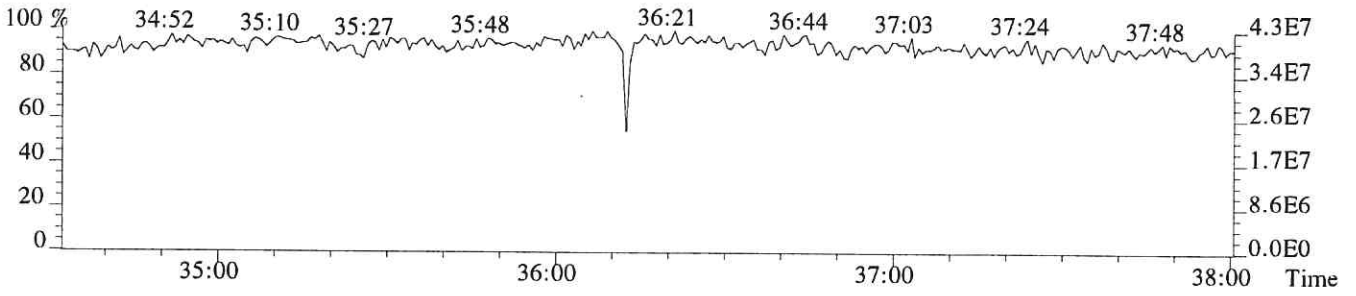
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,268.0,0.40%,F,T)



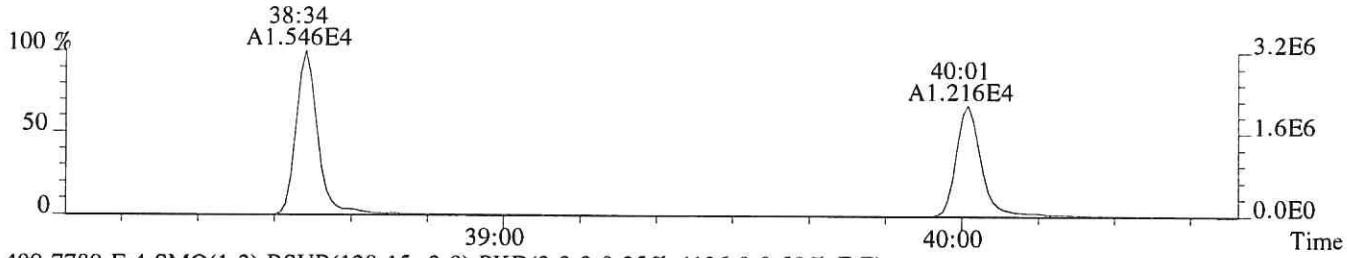
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



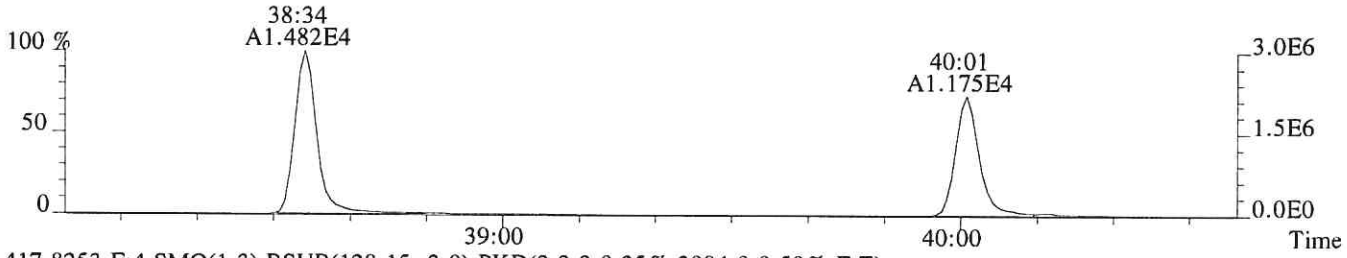
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



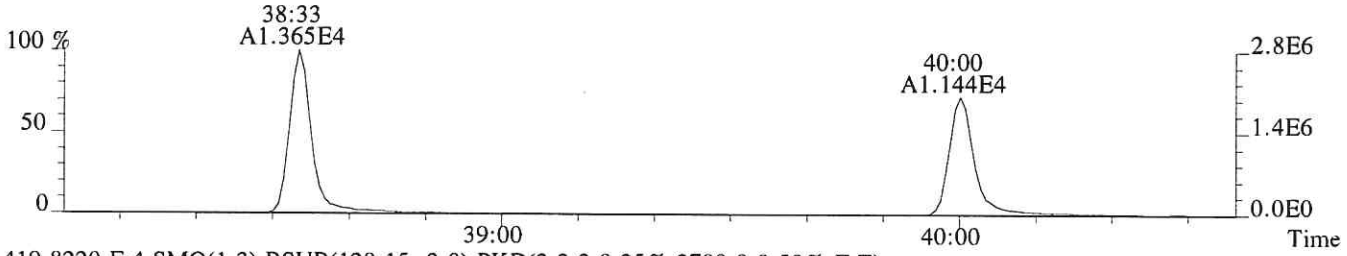
File:P609581 #1-231 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2376.0,0.50%,F,T)



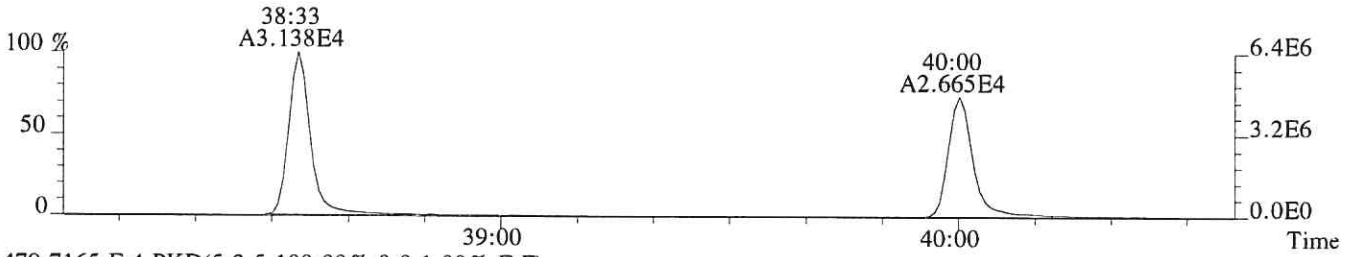
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4136.0,0.50%,F,T)



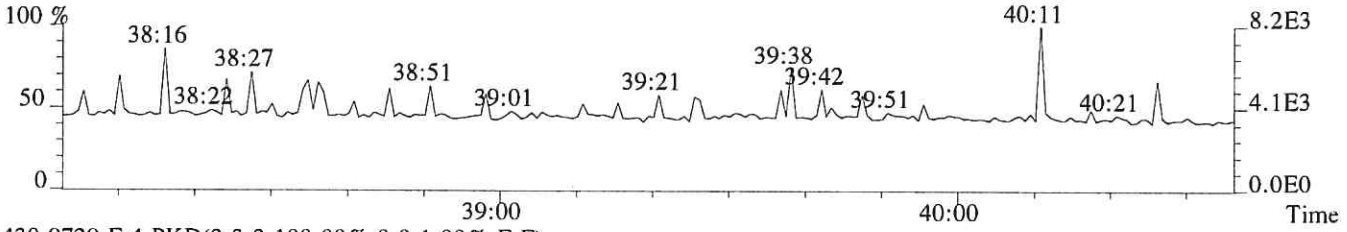
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3084.0,0.50%,F,T)



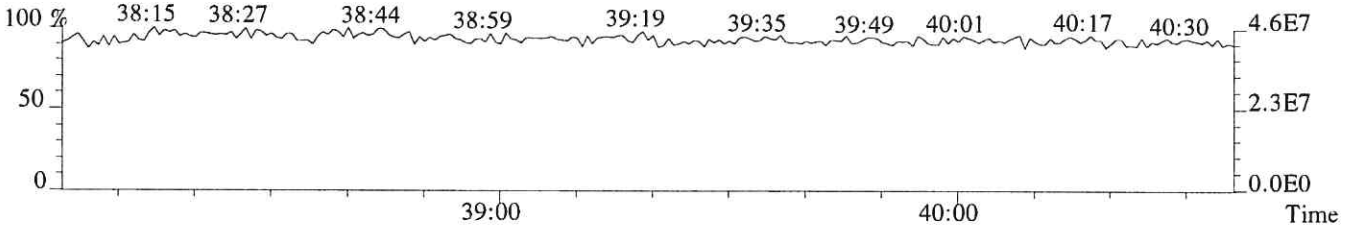
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2780.0,0.50%,F,T)



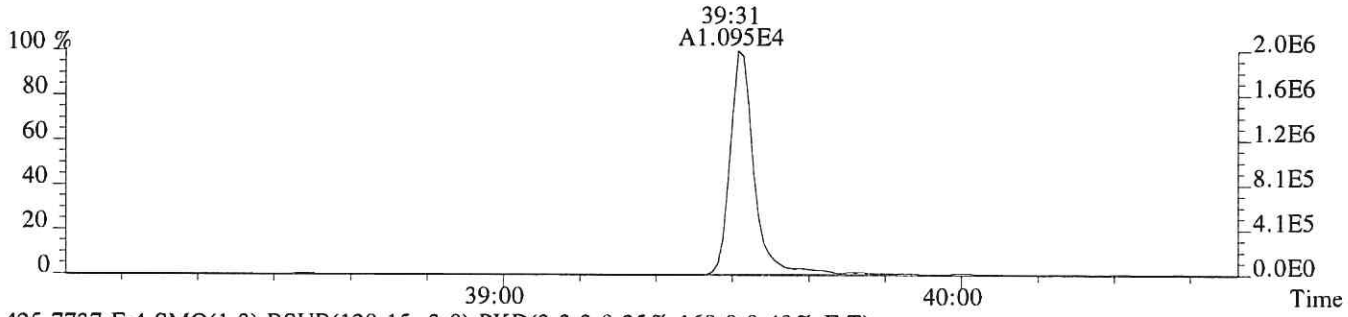
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



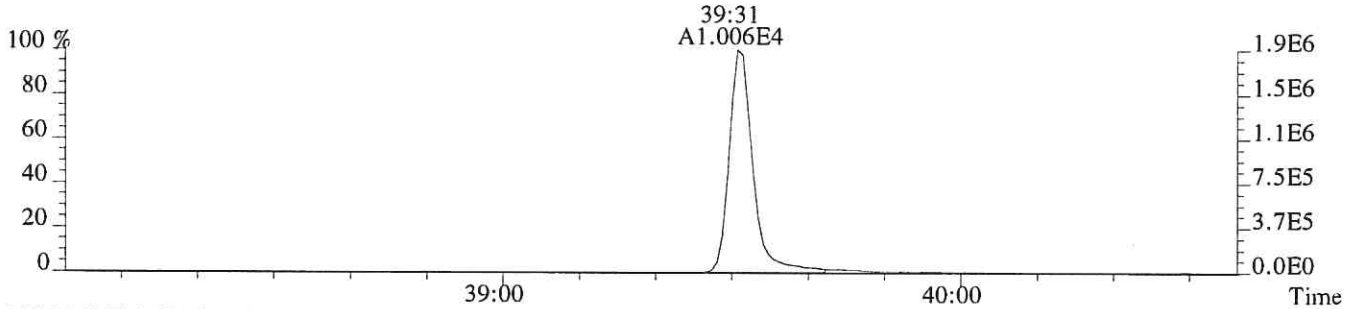
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



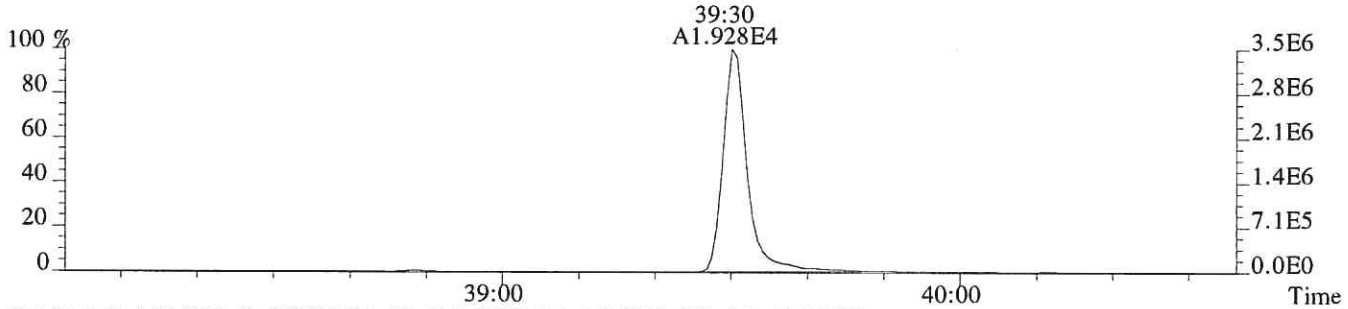
File:P609581 #1-231 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



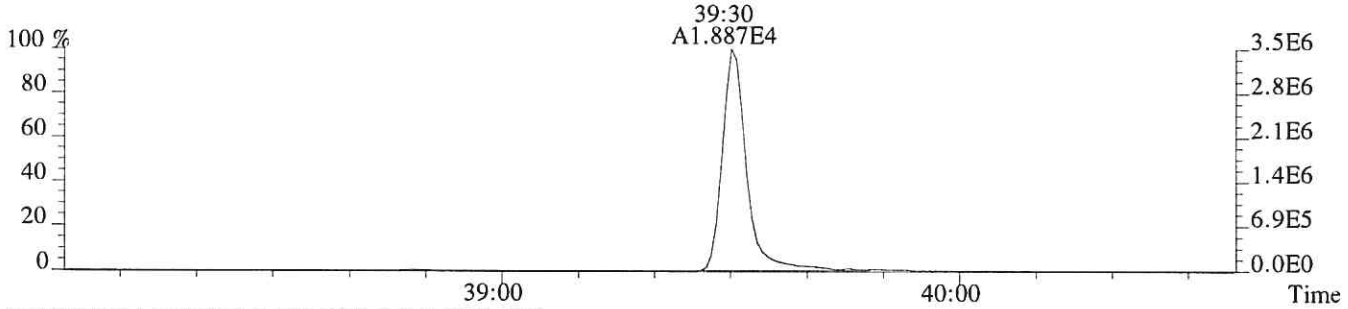
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



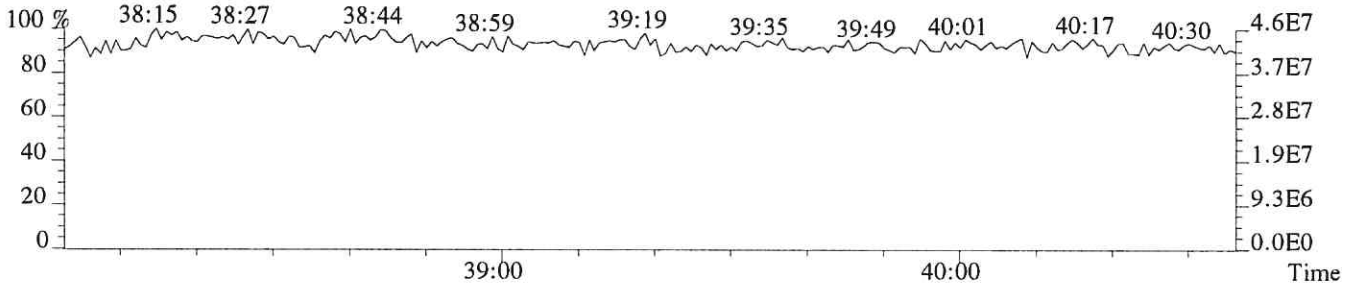
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.40%,F,T)



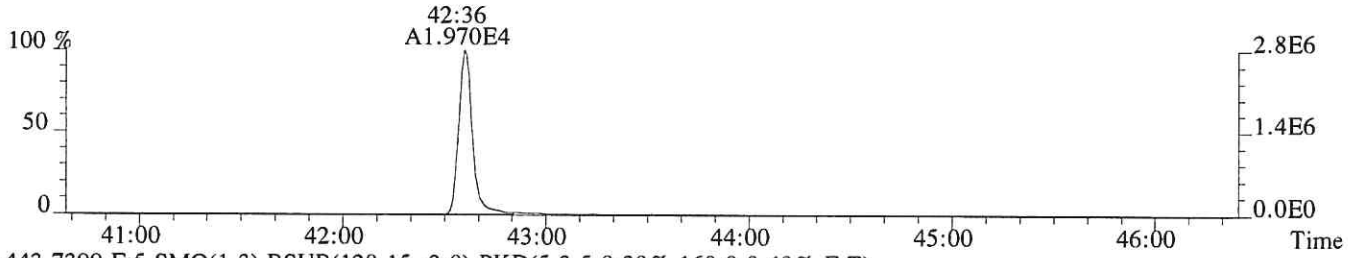
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,204.0,0.40%,F,T)



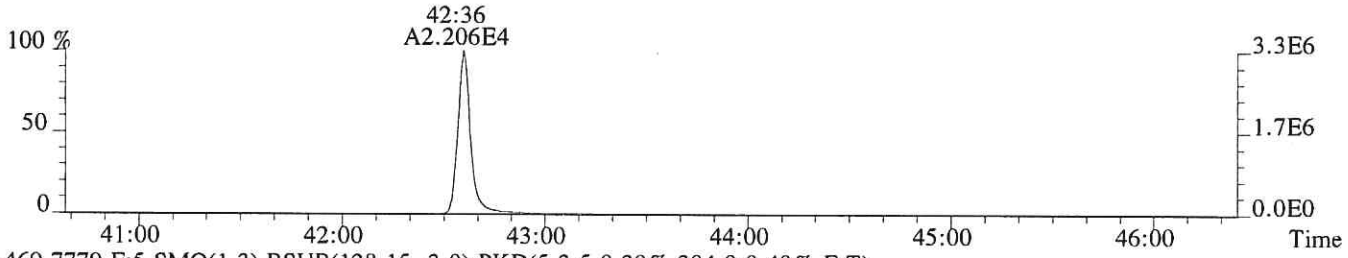
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



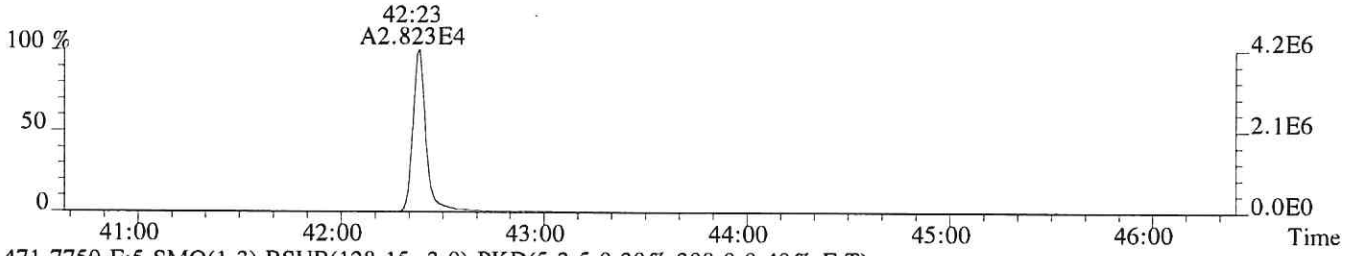
File:P609581 #1-520 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,200.0,0.40%,F,T)



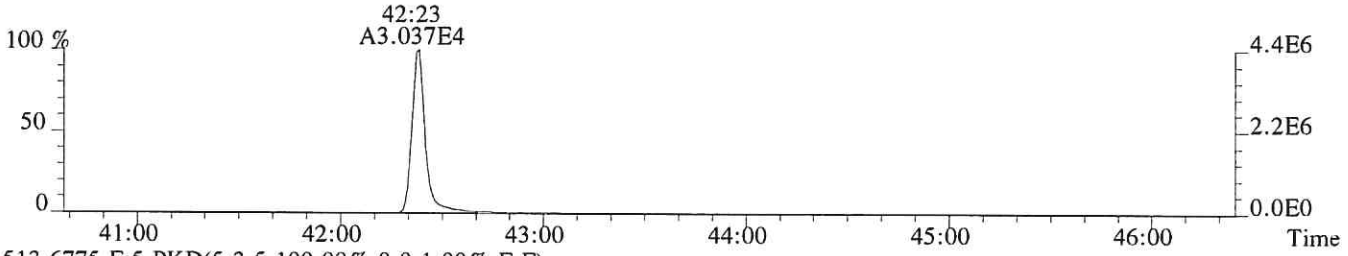
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,160.0,0.40%,F,T)



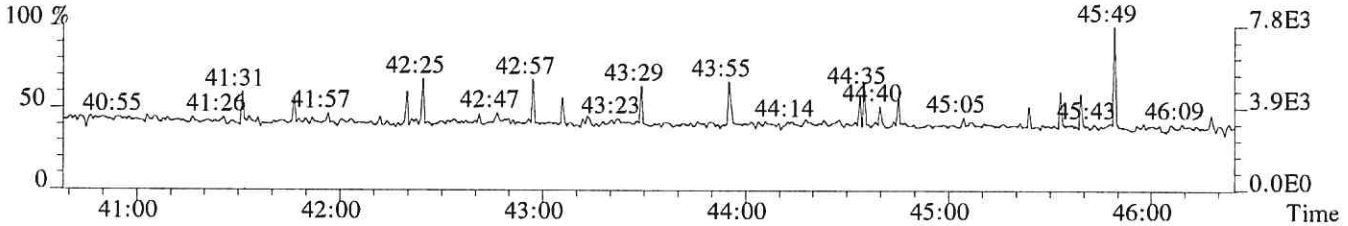
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



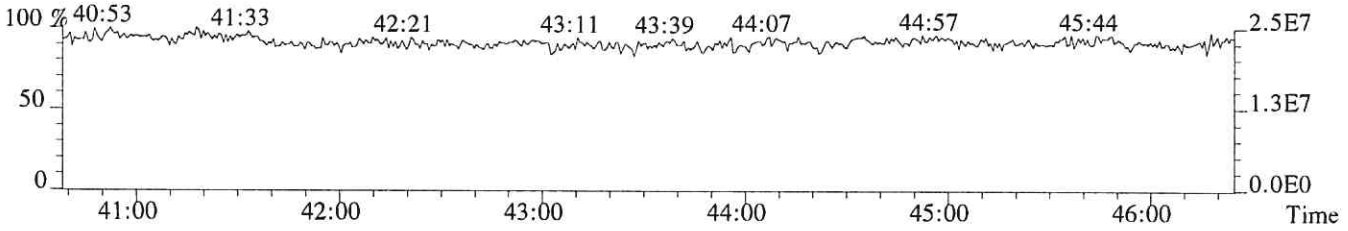
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,308.0,0.40%,F,T)



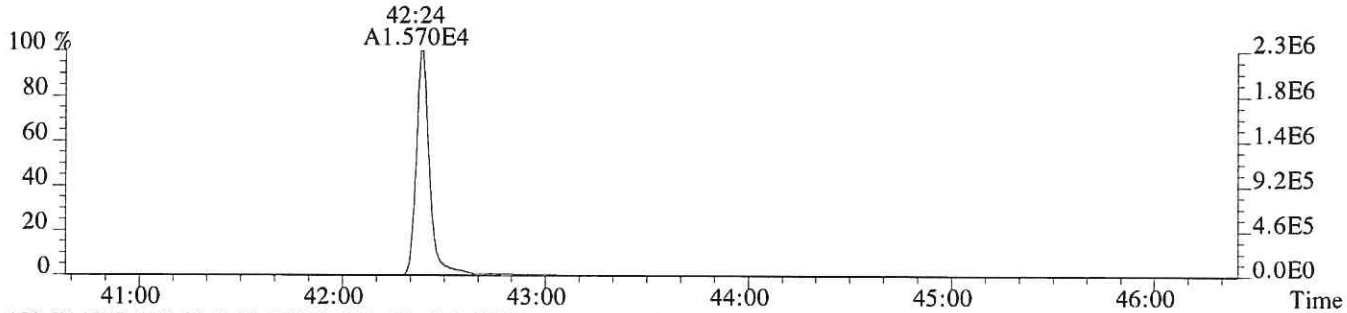
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



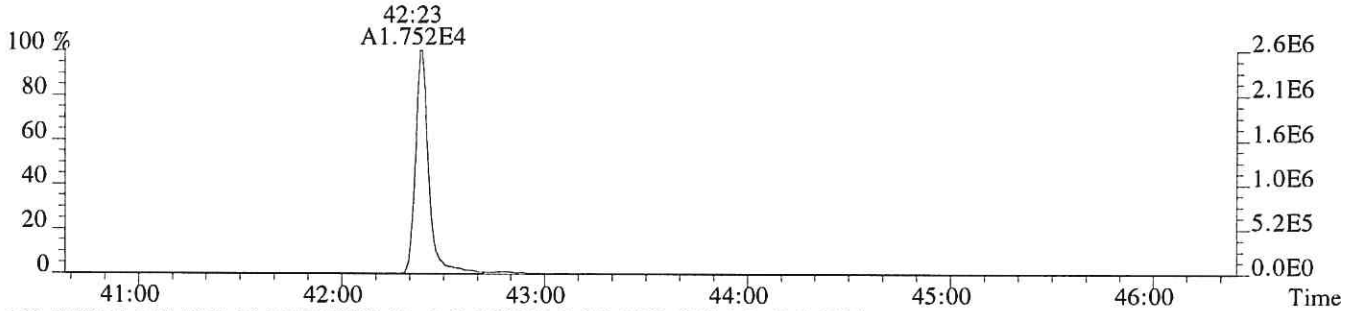
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



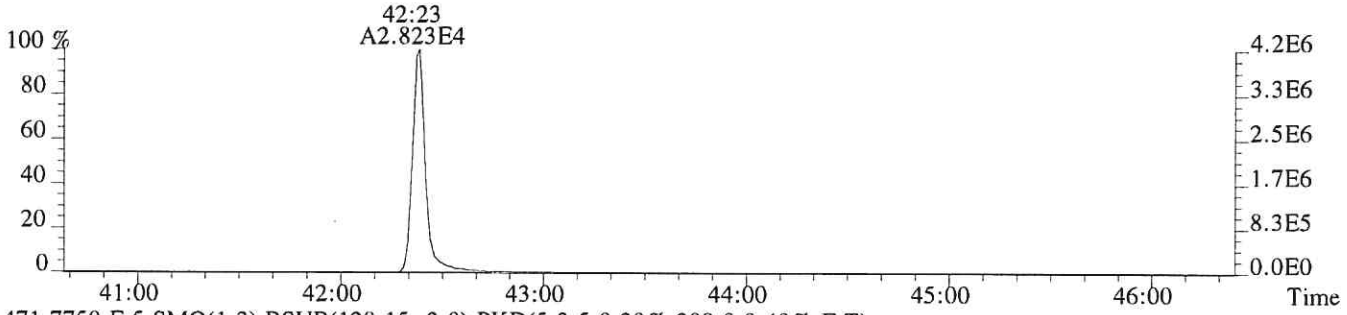
File:P609581 #1-520 Acq:11-OCT-2017 09:07:14 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,188.0,0.40%,F,T)



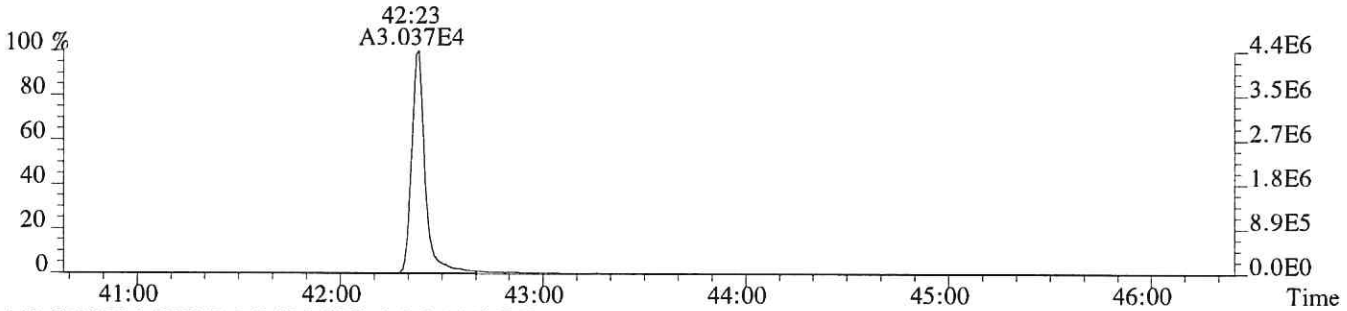
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,288.0,0.40%,F,T)



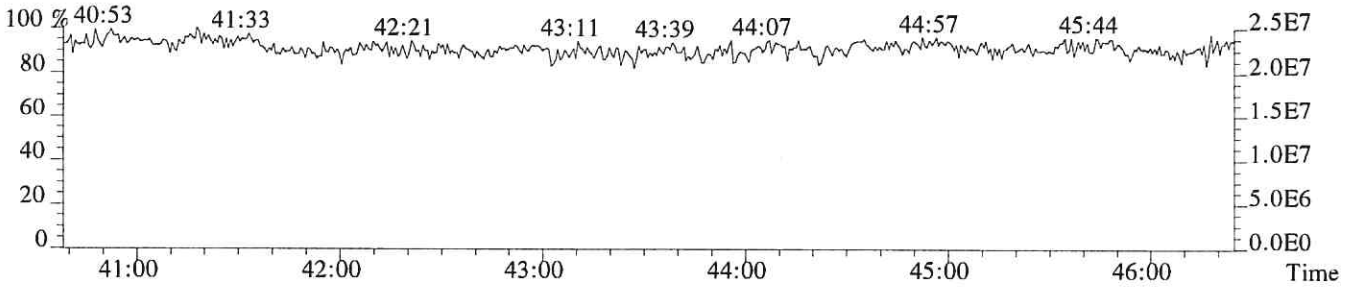
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,308.0,0.40%,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: P511862

Date: 10/10/17 - 10/11/17

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: W.

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	P511863	10-OCT-17	18:00:21
180102	CS3	P511862	10-OCT-17	16:54:00
METHOD BLANK	EQ1700441-01	P511864	10-OCT-17	18:48:09
METHOD BLANK	EQ1700440-01	P511865	10-OCT-17	19:36:47
METHOD BLANK	EQ1700450-01	P511866	10-OCT-17	20:25:28
SJWP-100317-034	E1701038-001	P511867	10-OCT-17	21:13:56
SJWP-100317-035	E1701038-002	P511868	10-OCT-17	22:02:36
SJWP-100317-036	E1701038-003	P511869	10-OCT-17	22:51:16
SJWP-100317-037	E1701038-004	P511870	10-OCT-17	23:39:56
SJWP-100317-038	E1701038-005	P511871	11-OCT-17	00:28:36
SJWP-100317-039	E1701038-006	P511872	11-OCT-17	01:17:16
SJWP-100317-041	E1701038-007	P511873	11-OCT-17	02:05:57
LCS	EQ1700450-02	P511874	11-OCT-17	02:54:37
DLCS	EQ1700450-03	P511875	11-OCT-17	03:43:18

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20171010B.SPL
Last Modified: Wednesday, October 11, 2017 07:05:23 Eastern Daylight Time
Printed: Wednesday, October 11, 2017 07:05:25 Eastern Daylight Time

Page Position (1, 1)

Opus 4: P511862res

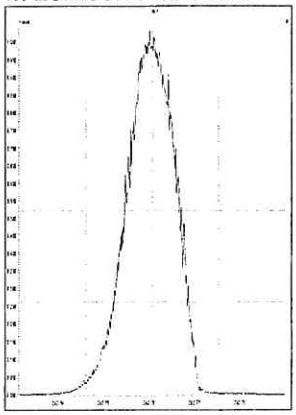
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	10/10/17	16:54	P511862	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LLS	HRMS check 17:54
2		18:00	P511863	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		18:48	P511864	MB	EQ1700441-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		19:36	P511865	MB	EQ1700440-01	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		20:25	P511866	MB	EQ1700450-01	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		21:13	P511867	E1701038-001	E1701038-001	EPA1613_ALS	Dioxin_ALS	Tray1:6		
7		22:02	P511868	E1701038-002	E1701038-002	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		22:51	P511869	E1701038-003	E1701038-003	EPA1613_ALS	Dioxin_ALS	Tray1:8		need reinjection
9		23:39	P511870	E1701038-004	E1701038-004	EPA1613_ALS	Dioxin_ALS	Tray1:9		needs re-extraction
10	10/11/17	00:28	P511871	E1701038-005	E1701038-005	EPA1613_ALS	Dioxin_ALS	Tray1:10		
11		01:17	P511872	E1701038-006	E1701038-006	EPA1613_ALS	Dioxin_ALS	Tray1:11		
12		02:05	P511873	E1701038-007	E1701038-007	EPA1613_ALS	Dioxin_ALS	Tray1:12		
13		02:54	P511874	LCS	EQ1700450-02	EPA1613_ALS	Dioxin_ALS	Tray1:2		
14		03:43	P511875	DLCS	EQ1700450-03	EPA1613_ALS	Dioxin_ALS	Tray1:1		
15		04:40	P511876	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:15		HRMS check 04:40
16	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:16	---	---
17	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:17	---	---
18	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:18	---	---
19	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:19	---	---
20	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:20	---	---
21	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:21	---	---
22	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:22	---	---
23	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:23	---	---
24	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:24	---	---
25	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:25	---	---
26	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:26	---	---
27	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
28	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
29	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
30	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:30	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:31	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:32	---	---
33	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:33	---	---
34	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:34	---	---
35	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:35	---	---
36	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:36	---	---
37	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:37	---	---
38	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:38	---	---
39	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:39	---	---

JC 10/11/17

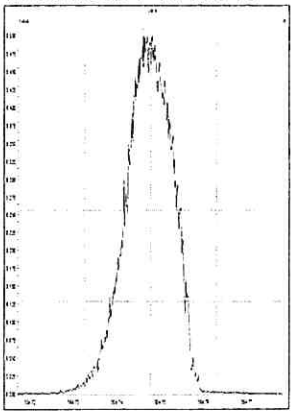
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, October 10, 2017 17:54:44 Eastern Daylight Time

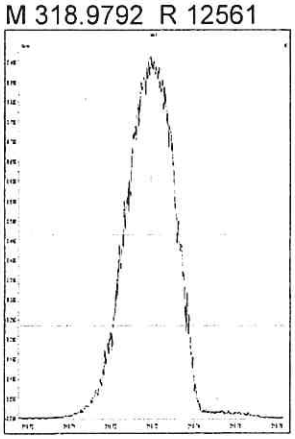
M 292.9824 R 12560



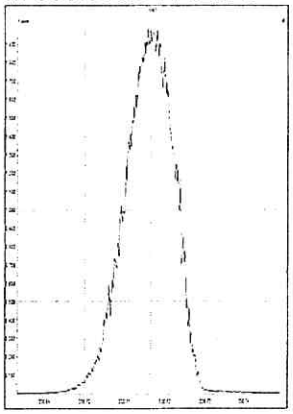
M 304.9824 R 12948



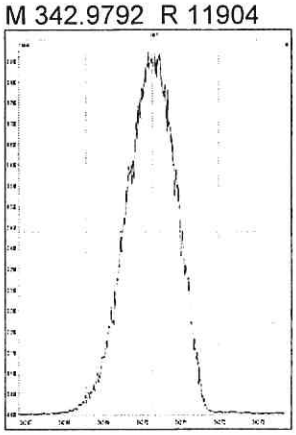
M 318.9792 R 12561



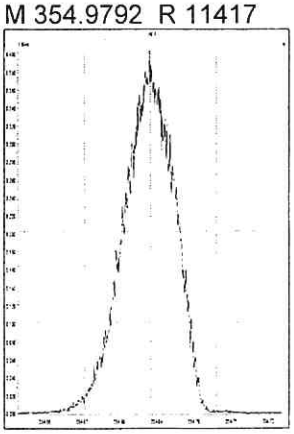
M 330.9792 R 12628



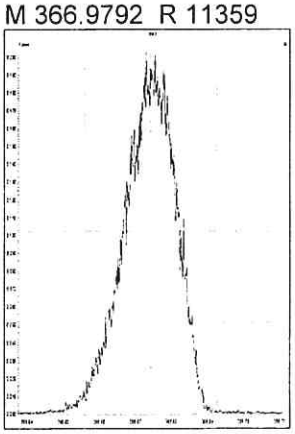
M 342.9792 R 11904



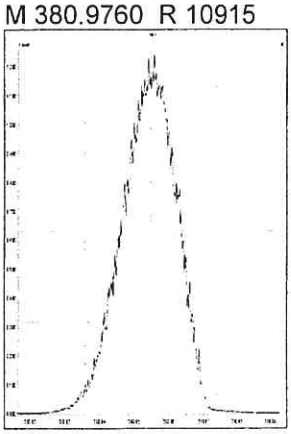
M 354.9792 R 11417



M 366.9792 R 11359



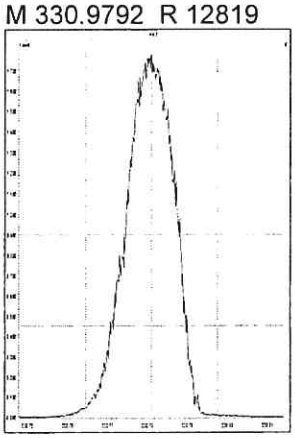
M 380.9760 R 10915



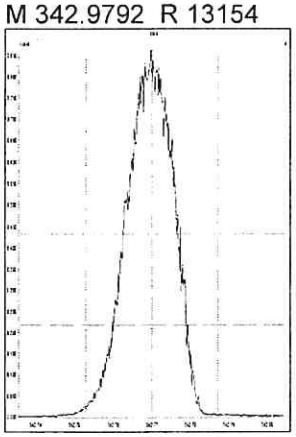
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, October 10, 2017 17:56:01 Eastern Daylight Time

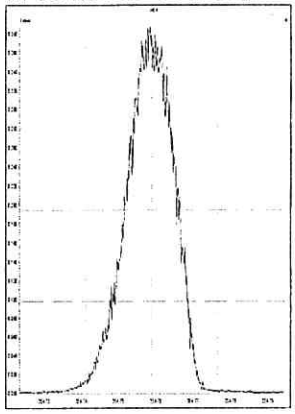
M 330.9792 R 12819



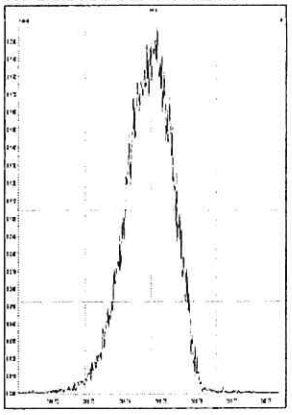
M 342.9792 R 13154



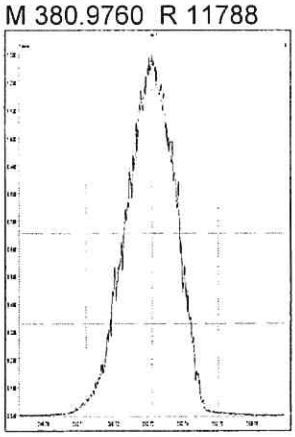
M 354.9792 R 12437



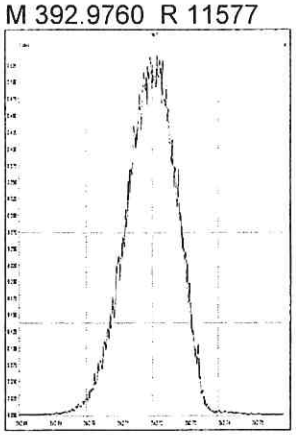
M 366.9792 R 12757



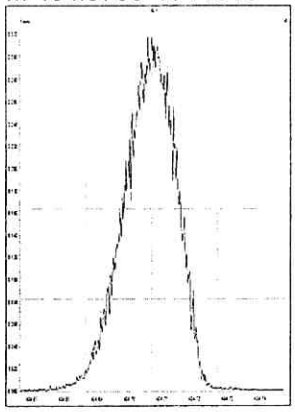
M 380.9760 R 11788



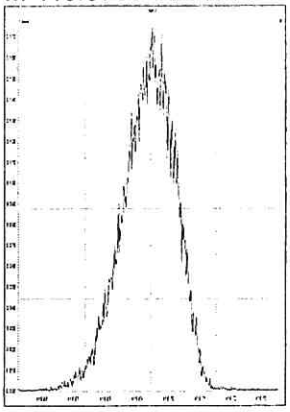
M 392.9760 R 11577



M 404.9760 R 11313



M 416.9760 R 11311



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

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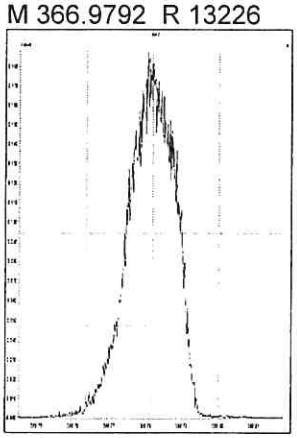
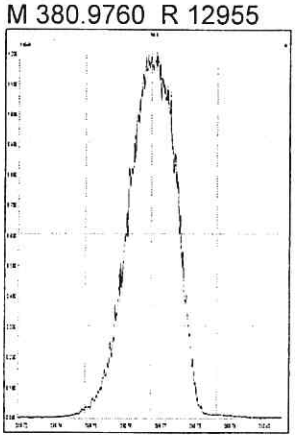
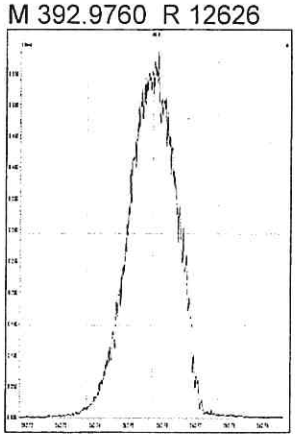
M 366.9792 R 13226



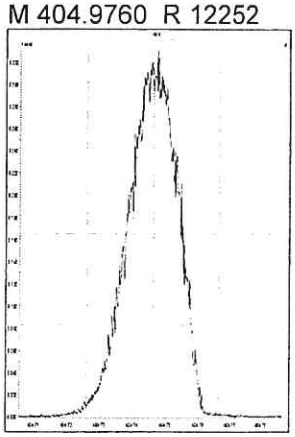
M 380.9760 R 12955



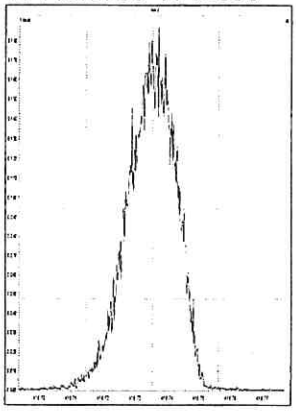
M 392.9760 R 12626



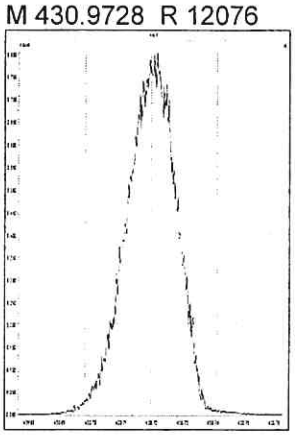
M 404.9760 R 12252



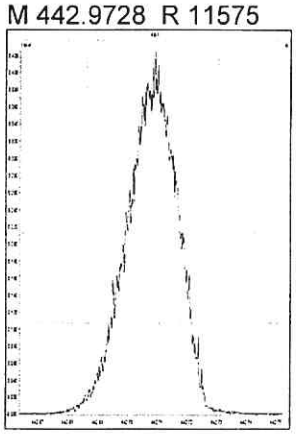
M 416.9760 R 12563



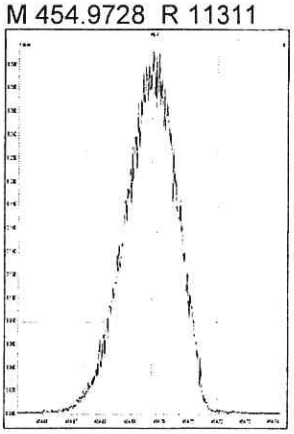
M 430.9728 R 12076



M 442.9728 R 11575



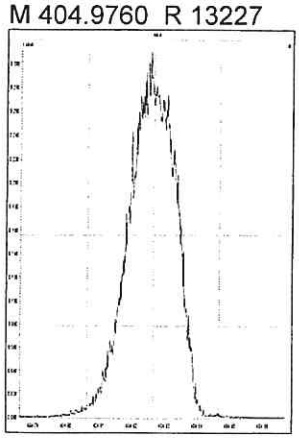
M 454.9728 R 11311



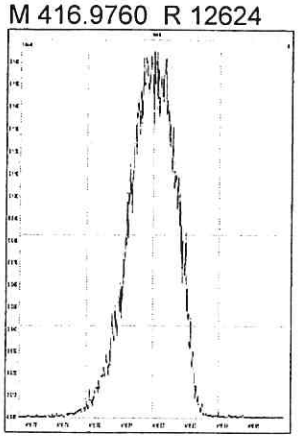
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, October 10, 2017 17:58:34 Eastern Daylight Time

M 404.9760 R 13227



M 416.9760 R 12624



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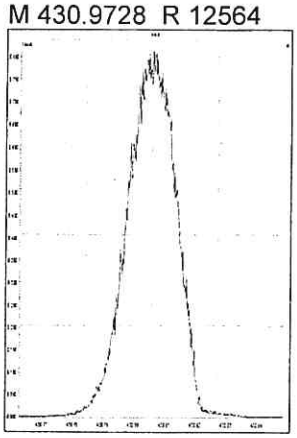
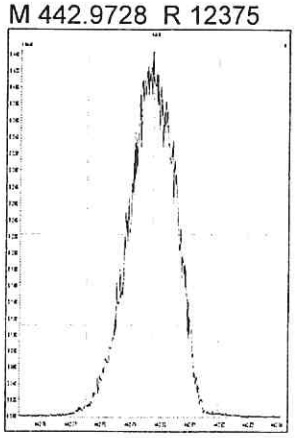
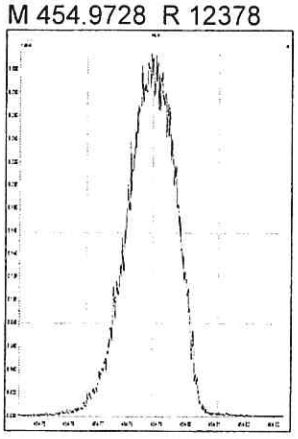


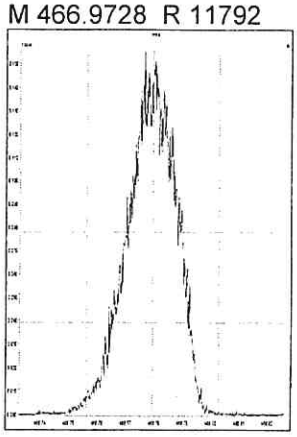
M 442.9728 R 12375



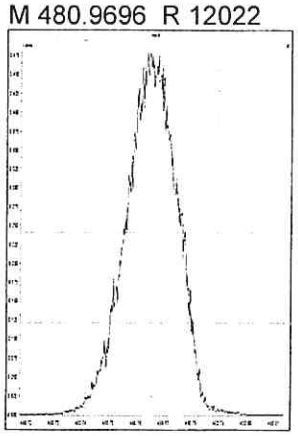
M 454.9728 R 12378



M 466.9728 R 11792



M 480.9696 R 12022



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

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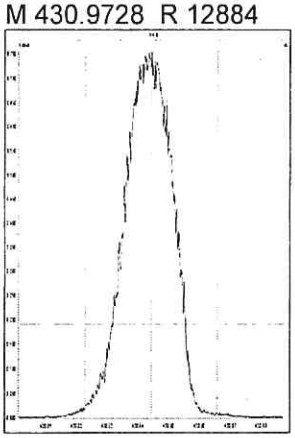
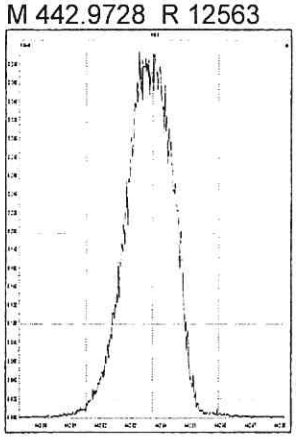
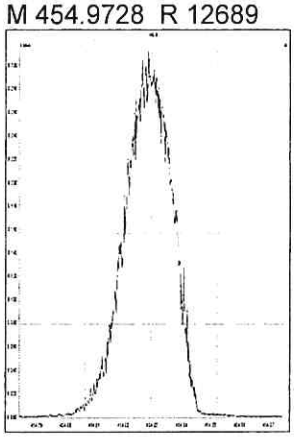
M 430.9728 R 12884



M 442.9728 R 12563



M 454.9728 R 12689



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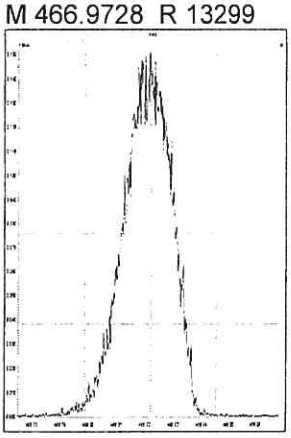
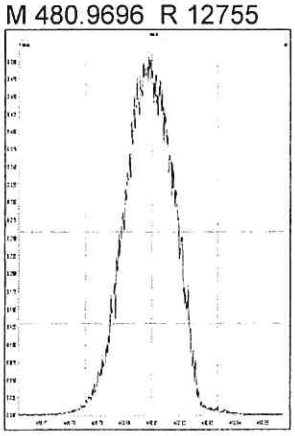
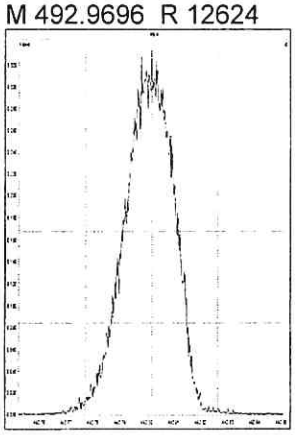


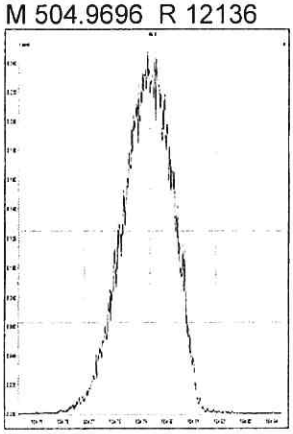
M 480.9696 R 12755



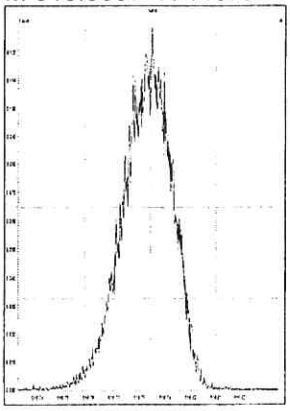
M 492.9696 R 12624



M 504.9696 R 12136



M 516.9697 R 11576



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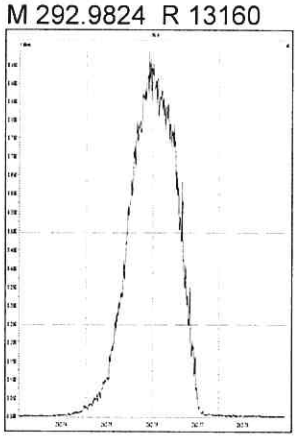
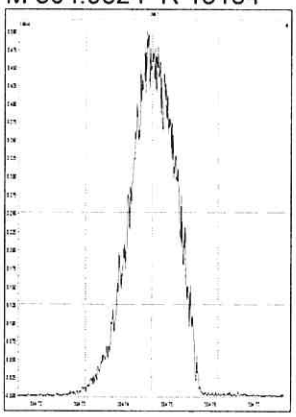


M 304.9824 R 13134



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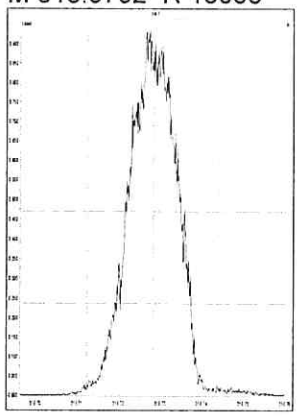

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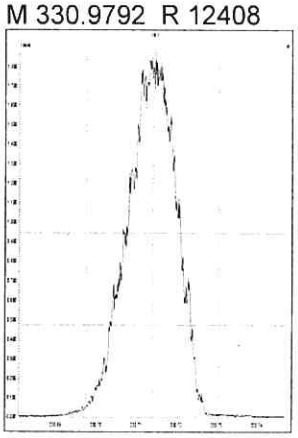

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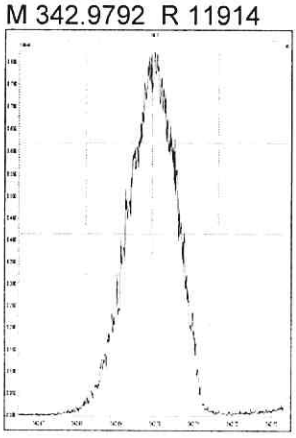

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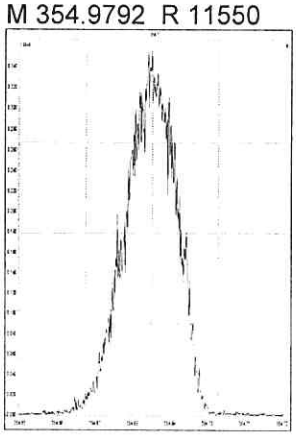

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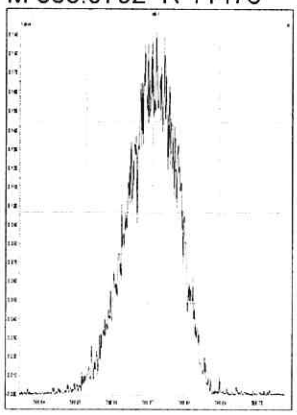

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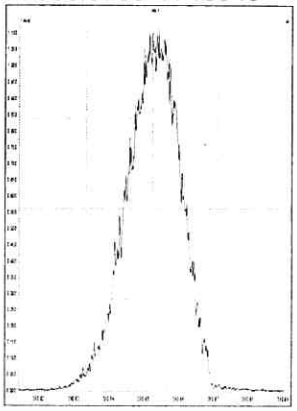

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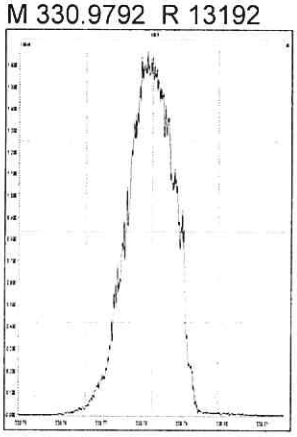

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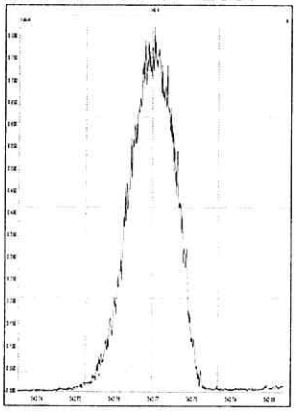

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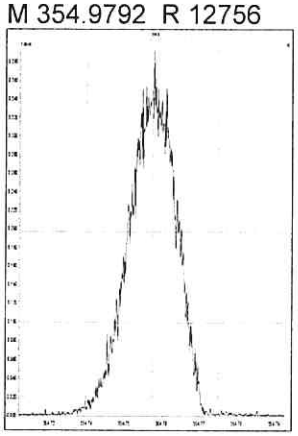

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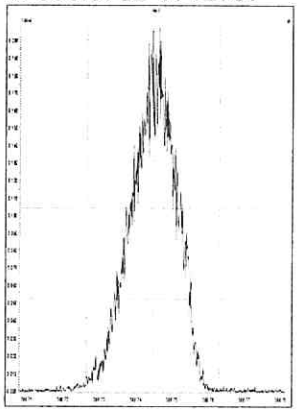

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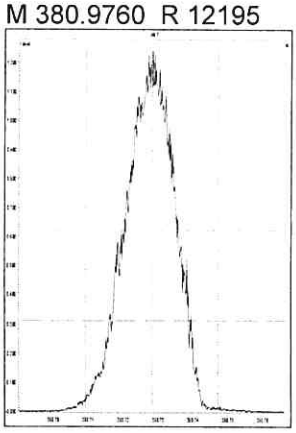

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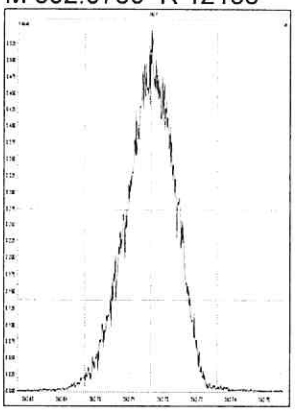
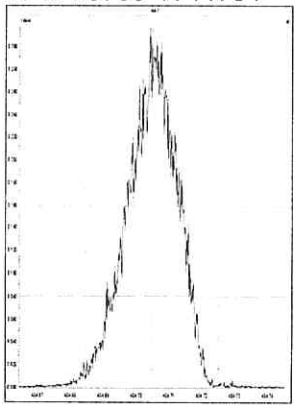


M 404.9760 R 11764



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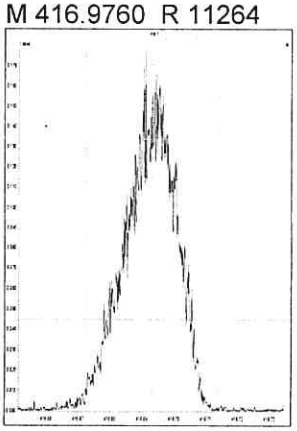

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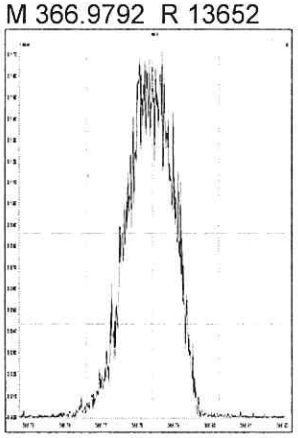
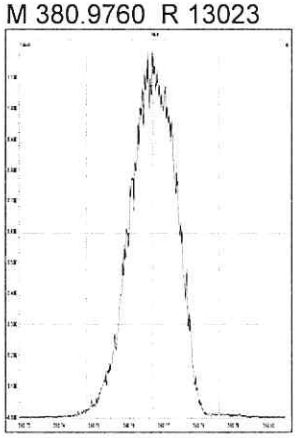
M 366.9792 R 13652



M 380.9760 R 13023



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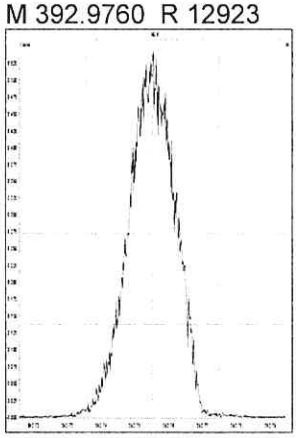

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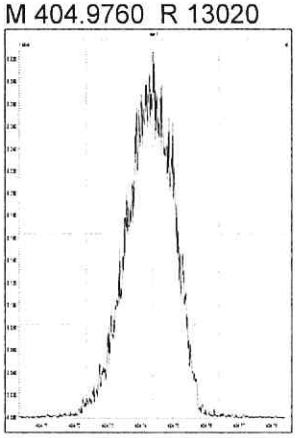

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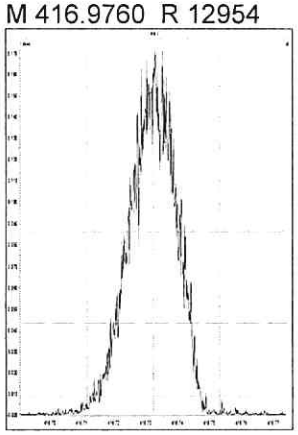

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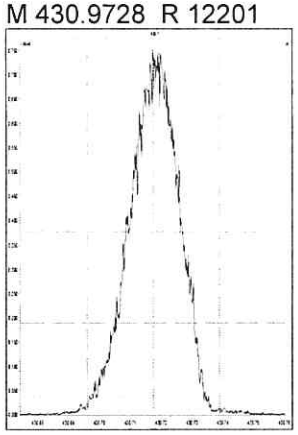
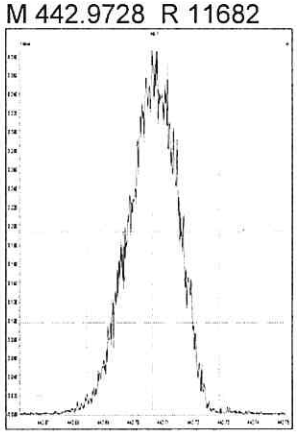


M 442.9728 R 11682



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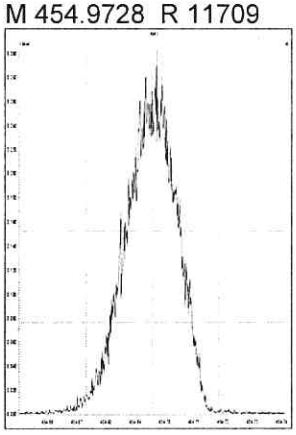

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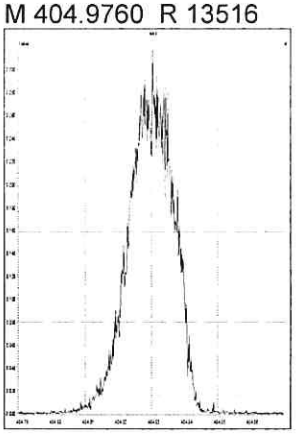

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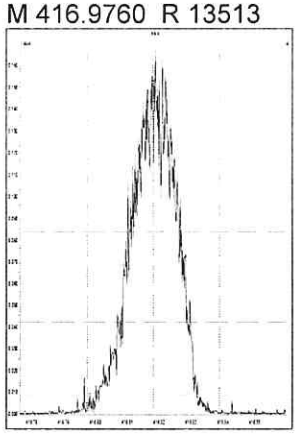

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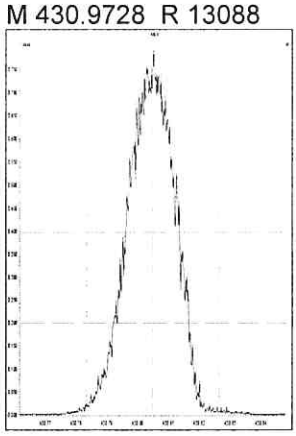

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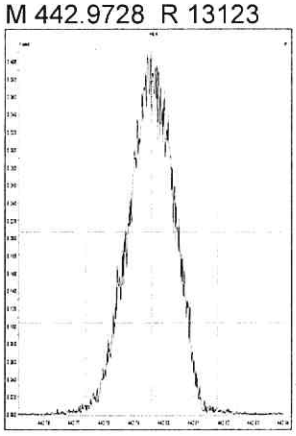
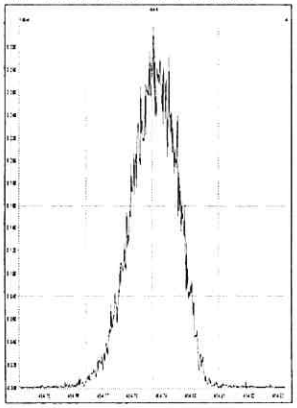


M 454.9728 R 12565



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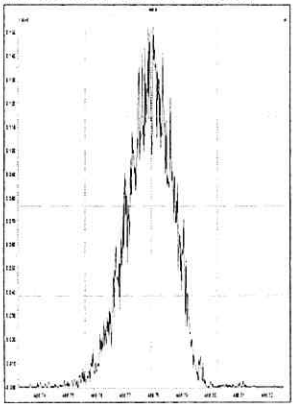
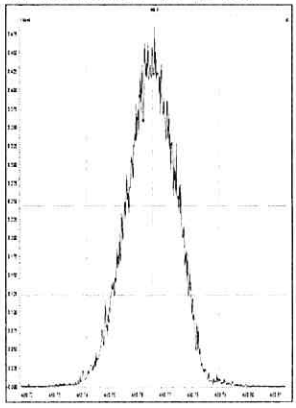
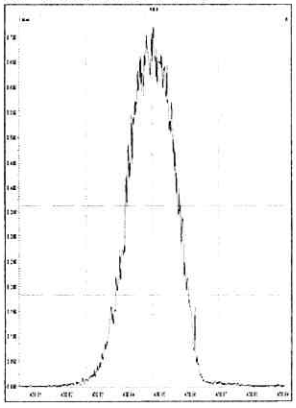


M 480.9696 R 12168



M 430.9728 R 13374



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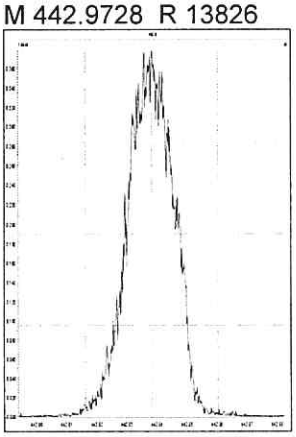
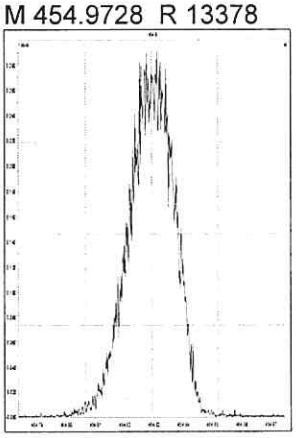
M 442.9728 R 13826



M 454.9728 R 13378



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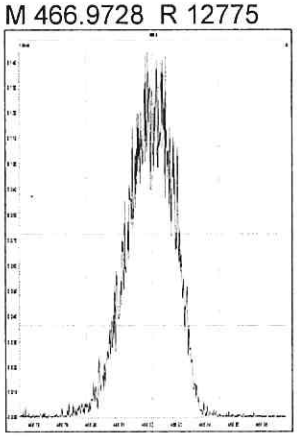

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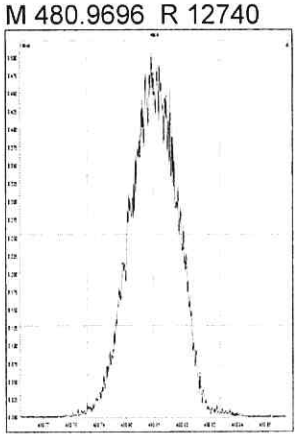
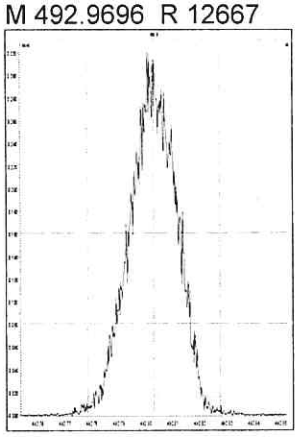
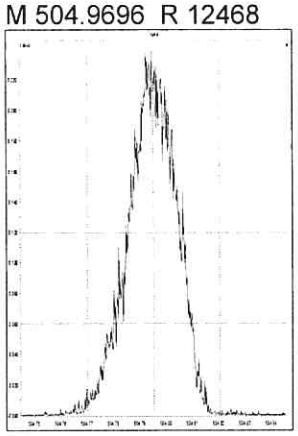


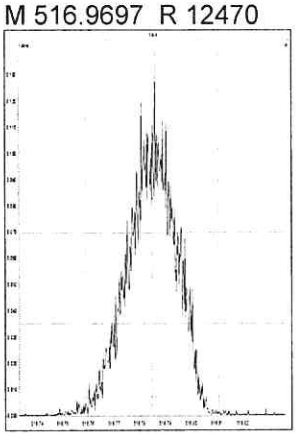
M 492.9696 R 12667



M 504.9696 R 12468



M 516.9697 R 12470



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

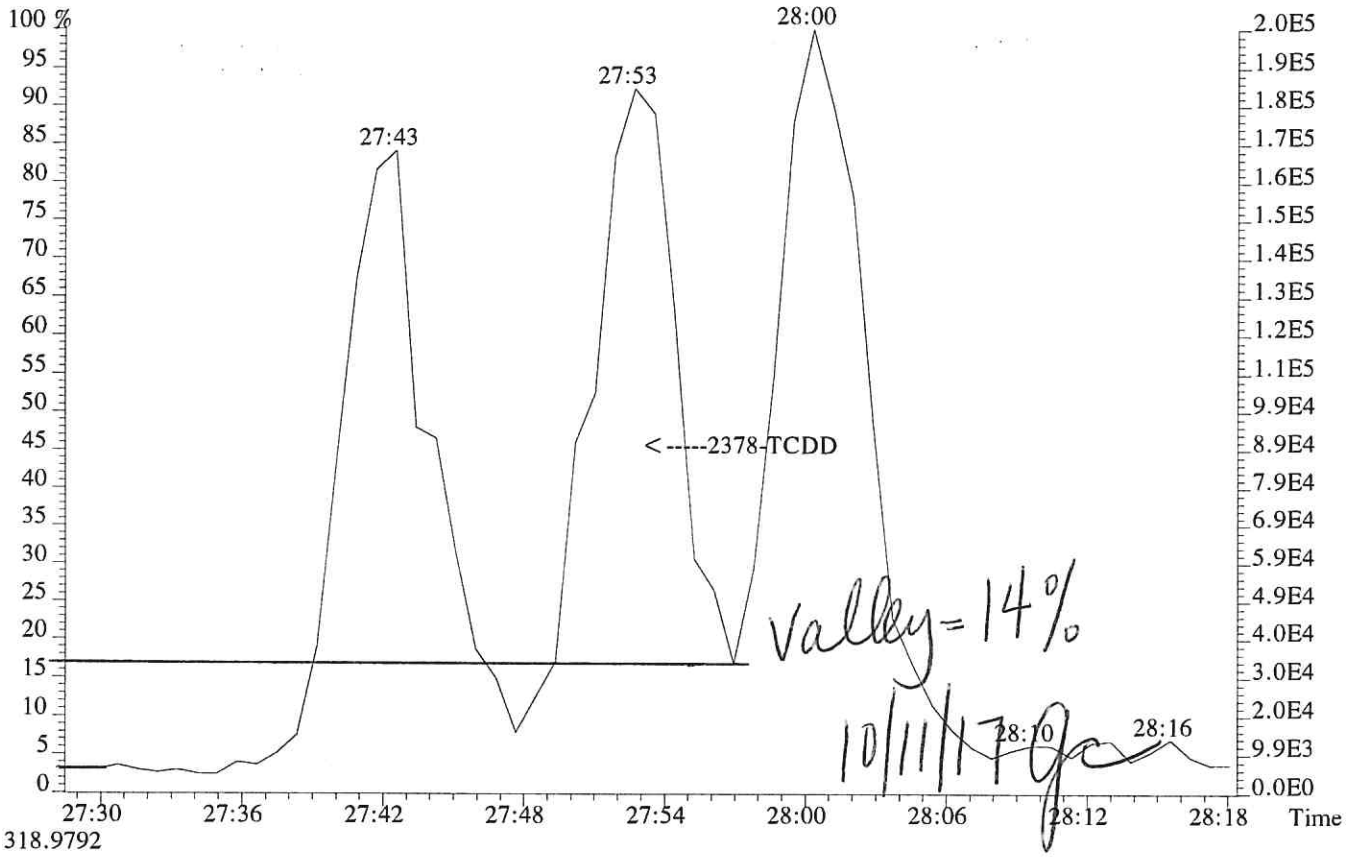
Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

Case No.: _____ SDG No.:
ID: 0.25 (mm)
Lab File ID: P511863
Date Analyzed: 10-OCT-2017
Time Analyzed: 18:00:21

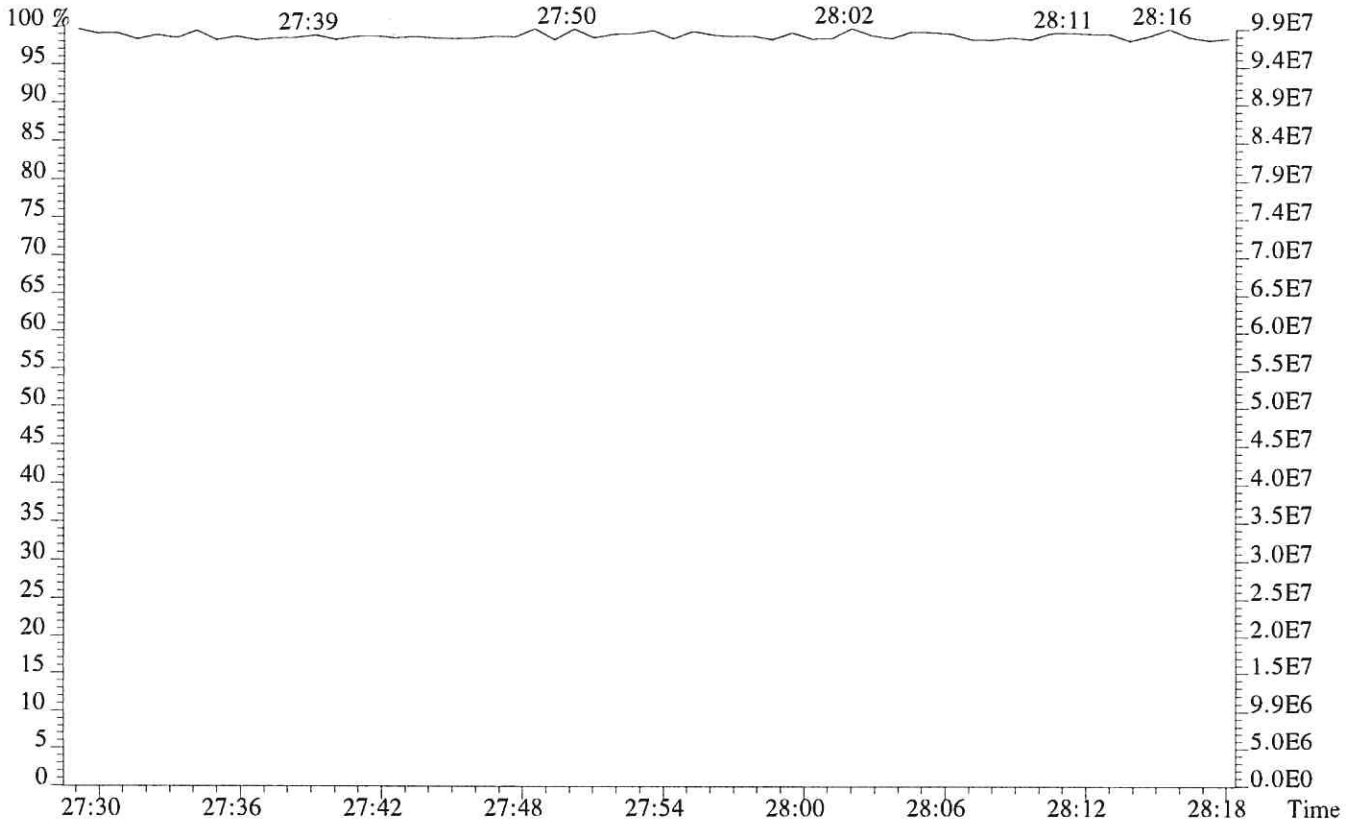
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	22:34	29:07
TCDD	24:16	28:57
PeCDF	29:04	33:29
PeCDD	30:41	33:14
HxCDF	34:10	36:42
HxCDD	34:42	36:18
HpCDF	37:56	39:15
HpCDD	38:10	38:49

% Valley 2378-TCDD: 14 %

File:P511863 #1-722 Acq:10-OCT-2017 18:00:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965



318.9792



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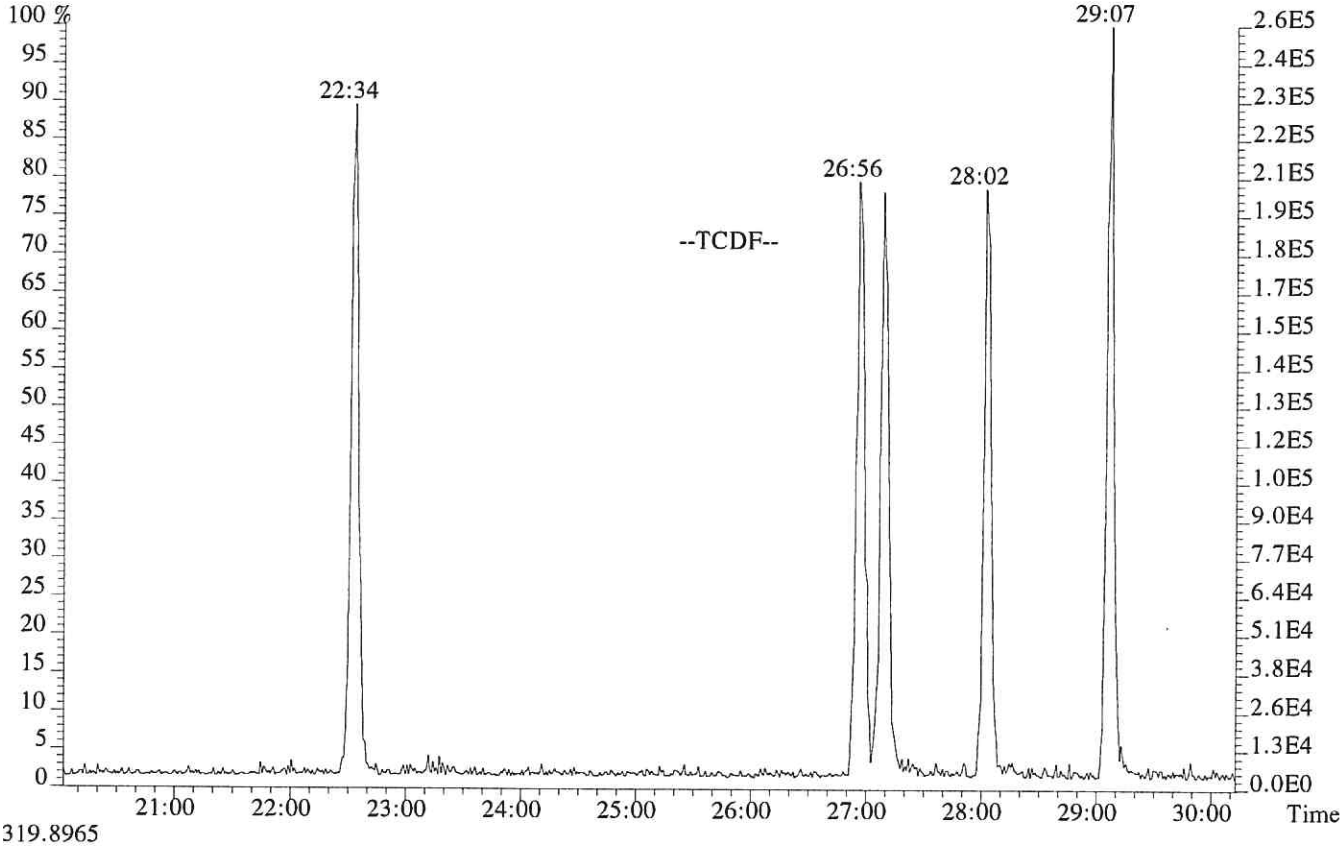
Sample#1 Exp:178397
303.9016



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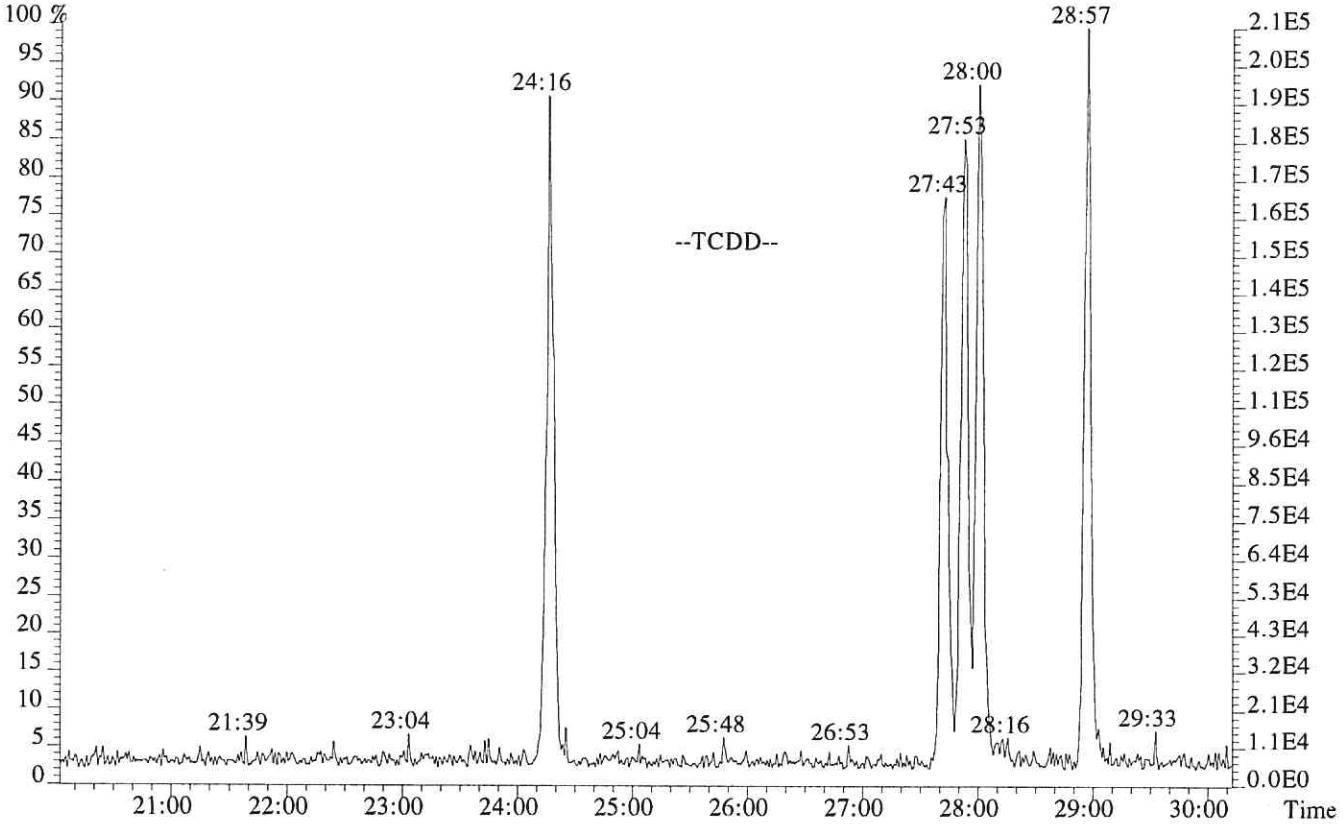
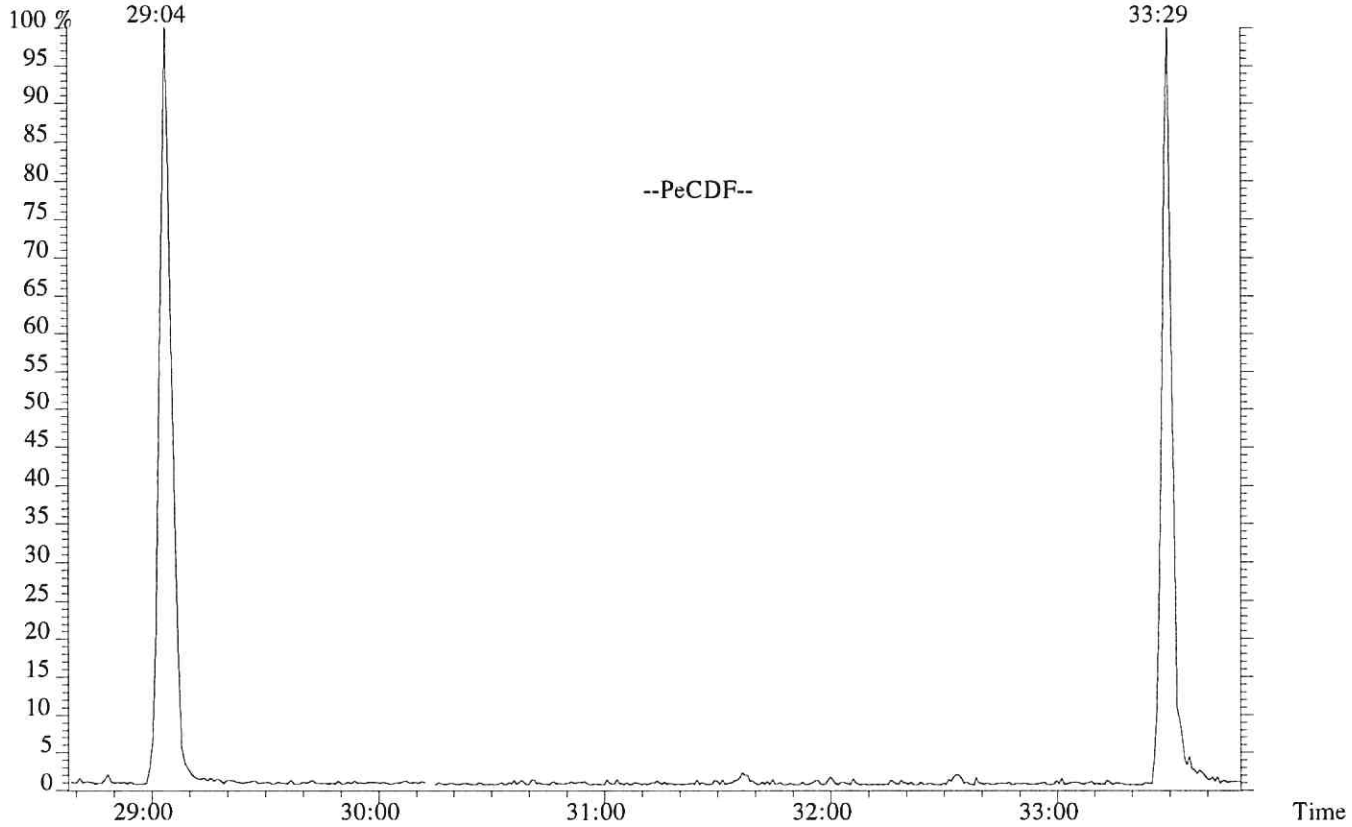
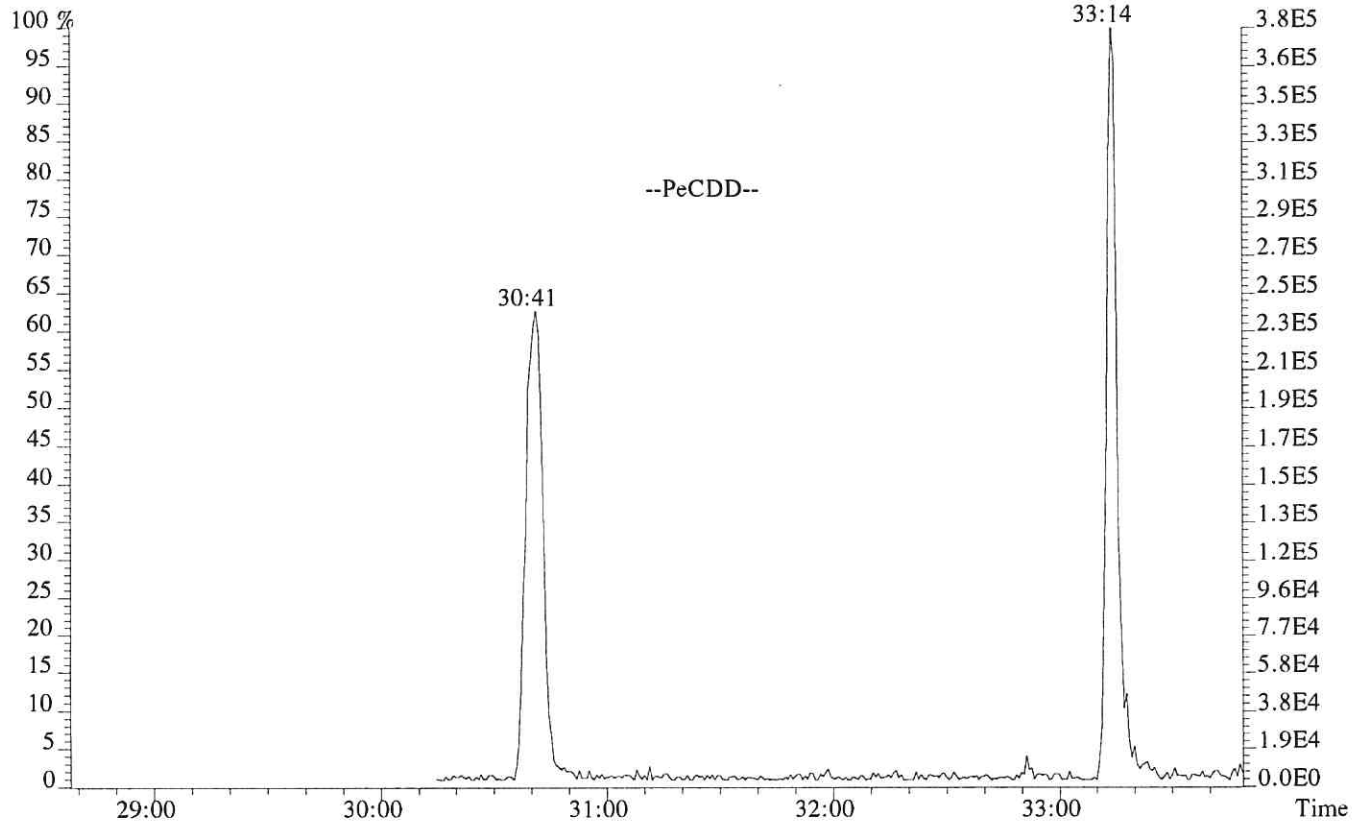


File:P511863 #1-722 Acq:10-OCT-2017 18:00:21 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



355.8546 F:2



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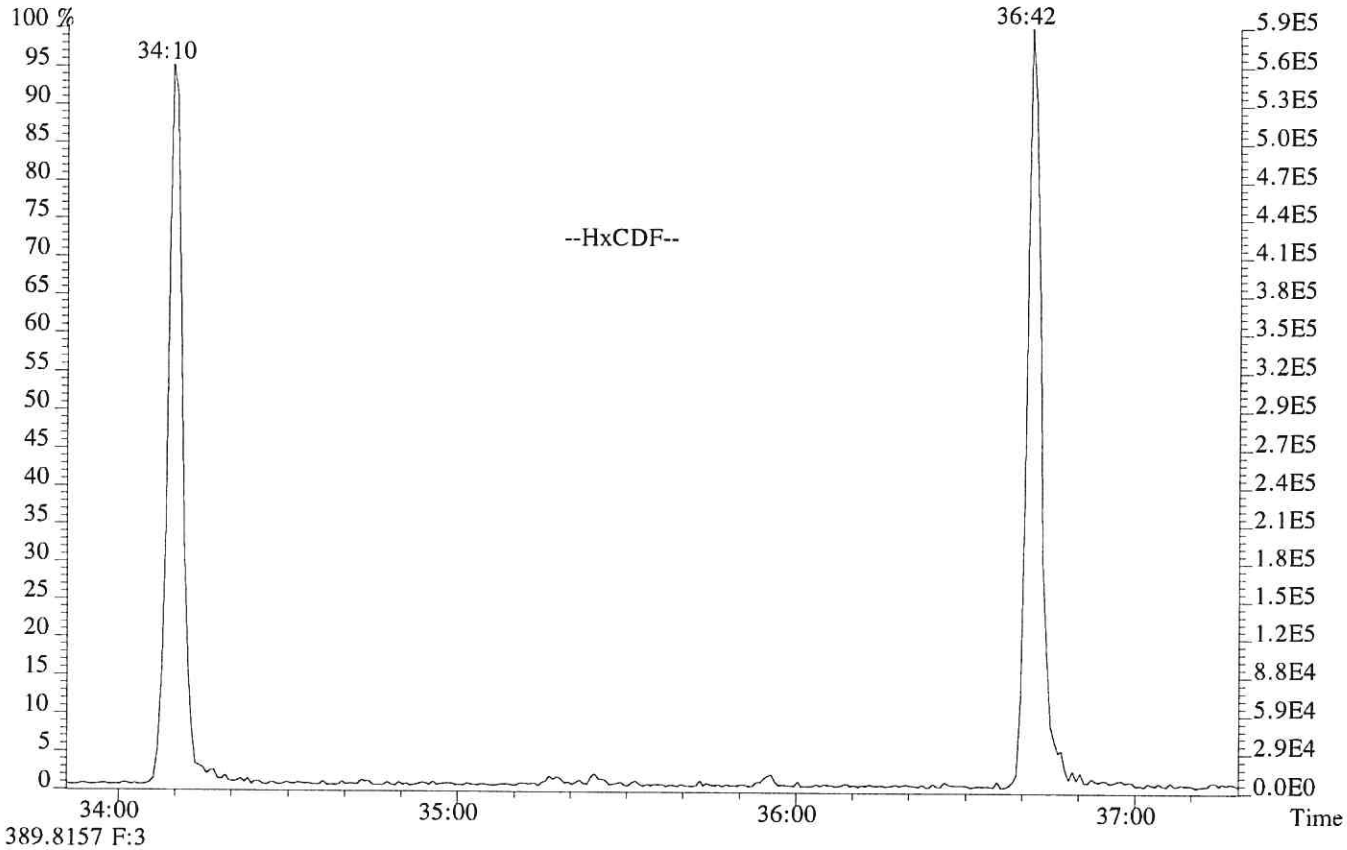
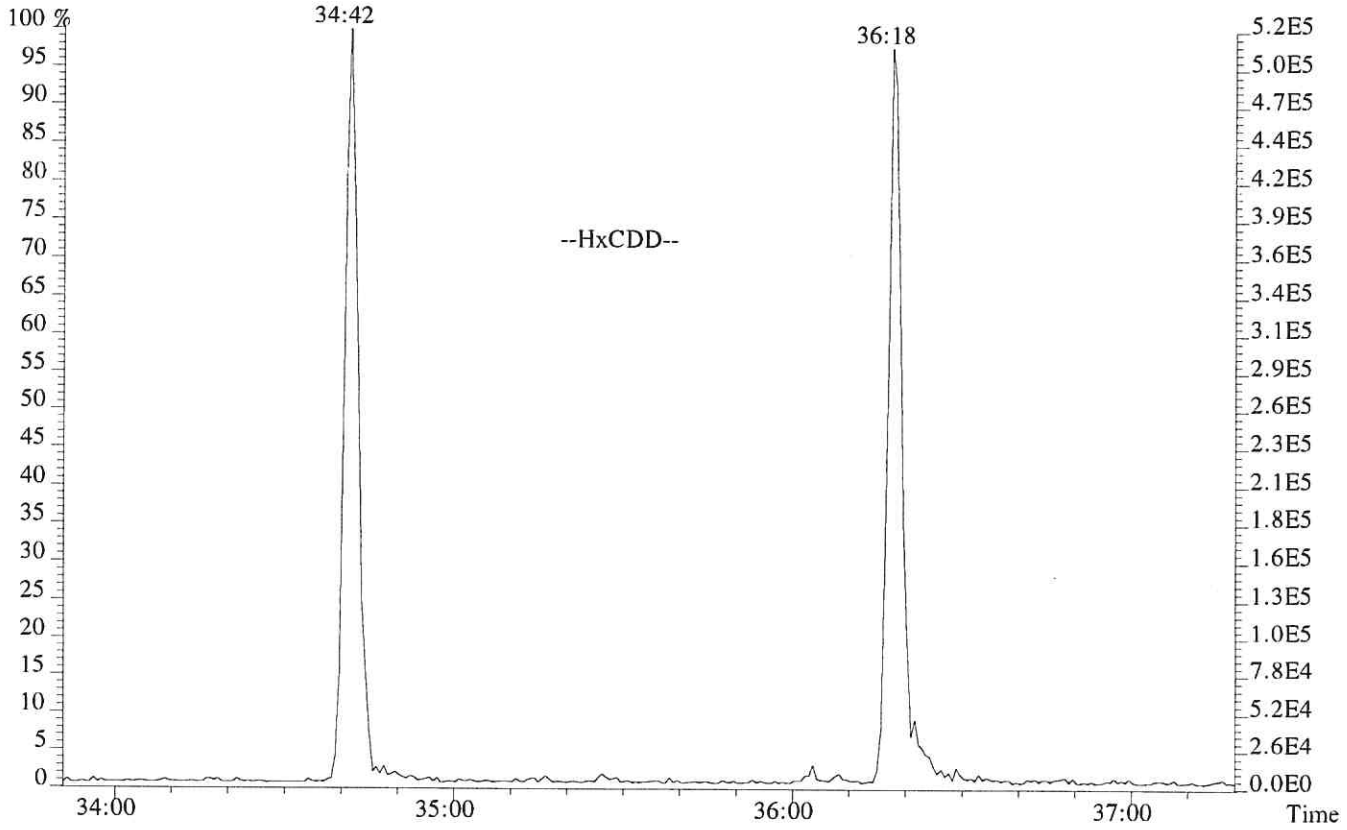
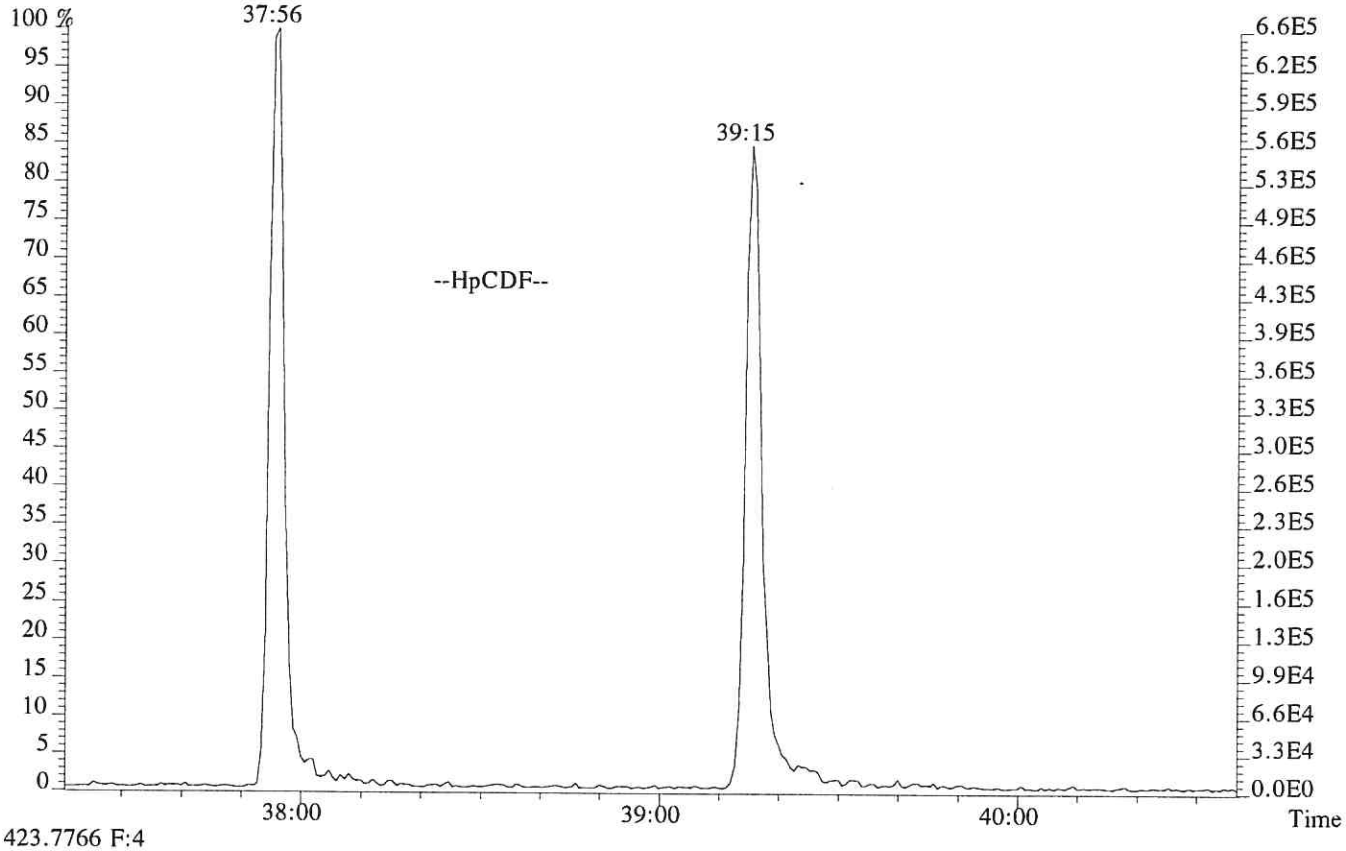
Sample#1 Exp:178397
373.8208 F:3



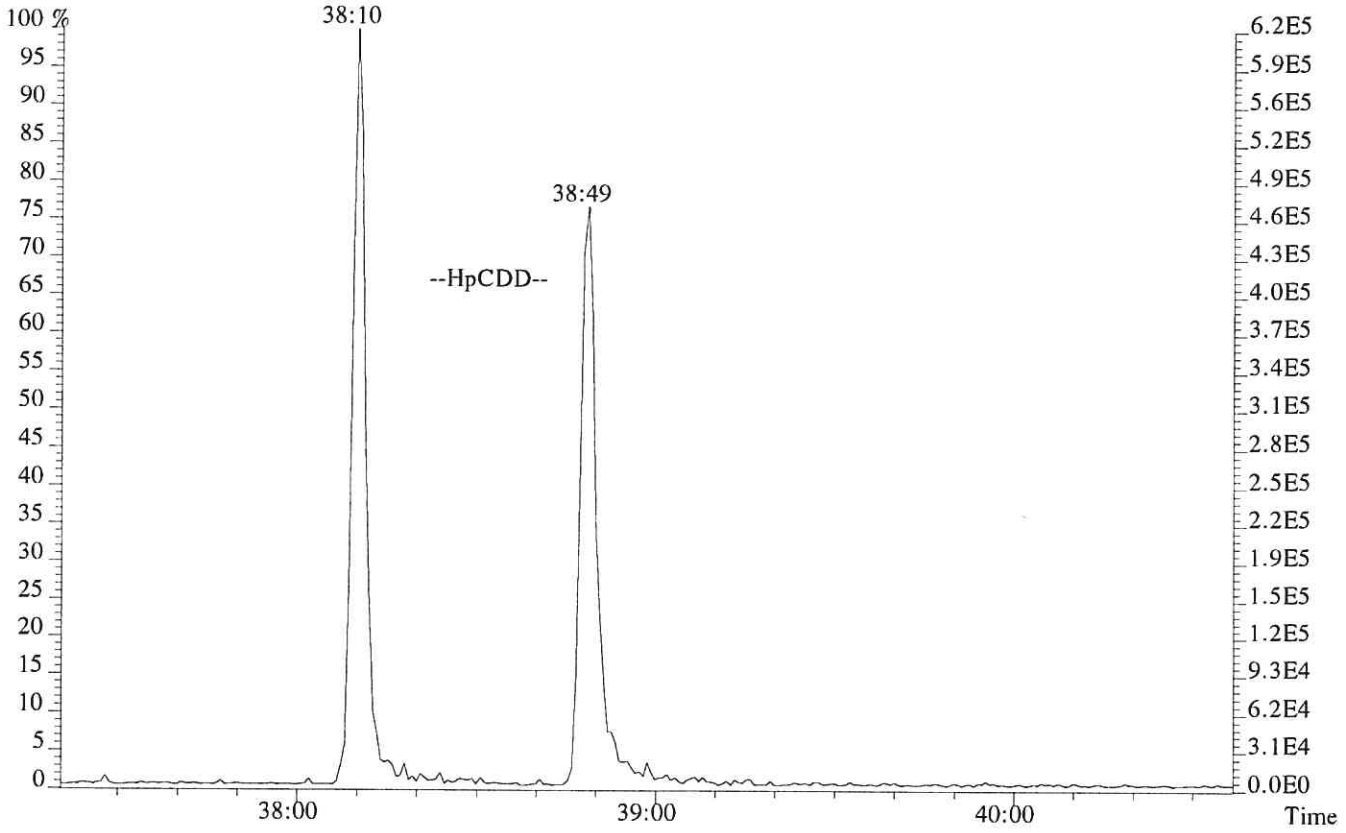
389.8157 F:3



File:P511863 #1-295 Acq:10-OCT-2017 18:00:21 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: P511862 Analysis Date: 10-OCT-17 Time: 16:54:00

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	9.4	7.8 - 12.9	-5.9
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	52	39 - 65	3.8
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	51	39 - 64	2.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	53	39 - 64	6.6
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	53	41 - 61	6.2
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	51	43 - 58	2.3
OCDD	M+2/M+4	0.89	0.76-1.02	103	79 - 126	2.7
2,3,7,8-TCDF	M/M+2	0.72	0.65-0.89	10.5	8.4 - 12.0	5.3
1,2,3,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	54	41 - 60	8.2
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	53	41 - 61	6.1
1,2,3,4,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	55	45 - 56	9.5
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	56	44 - 57	11.3
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	55	45 - 56	10.2
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	55	44 - 57	10.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	54	45 - 55	7.7
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	52	43 - 58	4.3
OCDF	M+2/M+4	0.88	0.76-1.02	112	63 - 159	12.4

(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: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511862 Analysis Date: 10-OCT-17 Time: 16:54:00

	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	1.61	1.32-1.78	93	62 - 160	-6.8
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	103	85 - 117	2.9
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	94	85 - 118	-5.8
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	108	72 - 138	8.3
13C-OCDD	M+2/M+4	0.88	0.76-1.02	225	96 - 415	12.7
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	101	71 - 140	0.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	99	76 - 130	-0.9
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	99	77 - 130	-1.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	108	76 - 131	7.9
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	105	70 - 143	5.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	108	74 - 135	7.9
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	106	73 - 137	6.2
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	113	78 - 129	12.8
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	115	77 - 129	14.9
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.
180102

Run #7 Filename P511862 Samp: 1 Inj: 1 Acquired: 10-OCT-17 16:54:00
Processed: 11-OCT-17 08:47:07 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:09	2.821e+03	3.932e+03	0.72	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:37	2.438e+04	1.624e+04	1.50	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	2.273e+04	1.498e+04	1.52	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:18	1.971e+04	1.669e+04	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	2.111e+04	1.764e+04	1.20	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	1.930e+04	1.615e+04	1.20	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	1.775e+04	1.482e+04	1.20	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	1.887e+04	1.879e+04	1.00	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	1.529e+04	1.532e+04	1.00	yes	no	1.191
10	Unk	OCDF	41:36	2.709e+04	3.071e+04	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	2.366e+03	3.090e+03	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:51	1.712e+04	1.115e+04	1.54	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:03	1.467e+04	1.197e+04	1.23	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	1.473e+04	1.179e+04	1.25	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	1.572e+04	1.269e+04	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:49	1.376e+04	1.340e+04	1.03	yes	no	0.942
17	Unk	OCDD	41:25	2.375e+04	2.656e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:07	3.439e+04	4.336e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	5.246e+04	3.329e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:32	5.176e+04	3.231e+04	1.60	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:17	2.118e+04	4.131e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	2.386e+04	4.650e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	2.224e+04	4.379e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	1.987e+04	3.902e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	1.738e+04	3.838e+04	0.45	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	1.522e+04	3.407e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:59	2.389e+04	3.057e+04	0.78	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:50	3.703e+04	2.293e+04	1.61	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	3.040e+04	2.389e+04	1.27	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:08	3.015e+04	2.338e+04	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:48	2.908e+04	2.725e+04	1.07	yes	no	0.881
32	IS	13C-OCDD	41:24	4.376e+04	4.946e+04	0.88	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:21	2.521e+04	3.195e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	3.296e+04	2.608e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	5.767e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511862 Samp: 1 Inj: 1 Acquired: 10-OCT-17 16:54:00
Processed: 11-OCT-17 08:47:07 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.92e+05	1.37e+03	3.6e+02	6.69e+05	2.77e+03	2.4e+02
2	1,2,3,7,8-PeCDF	4.49e+06	1.07e+03	4.2e+03	2.95e+06	2.99e+03	9.9e+02
3	2,3,4,7,8-PeCDF	4.44e+06	1.07e+03	4.2e+03	2.83e+06	2.99e+03	9.5e+02
4	1,2,3,4,7,8-HxCDF	4.24e+06	1.86e+03	2.3e+03	3.59e+06	1.54e+03	2.3e+03
5	1,2,3,6,7,8-HxCDF	4.33e+06	1.86e+03	2.3e+03	3.59e+06	1.54e+03	2.3e+03
6	2,3,4,6,7,8-HxCDF	4.06e+06	1.86e+03	2.2e+03	3.39e+06	1.54e+03	2.2e+03
7	1,2,3,7,8,9-HxCDF	3.50e+06	1.86e+03	1.9e+03	3.01e+06	1.54e+03	1.9e+03
8	1,2,3,4,6,7,8-HpCDF	4.15e+06	2.38e+03	1.7e+03	4.15e+06	2.09e+03	2.0e+03
9	1,2,3,4,7,8,9-HpCDF	3.10e+06	2.38e+03	1.3e+03	3.08e+06	2.09e+03	1.5e+03
10	OCDF	4.89e+06	8.80e+02	5.6e+03	5.40e+06	1.64e+03	3.3e+03
11	2,3,7,8-TCDD	4.37e+05	3.03e+03	1.4e+02	5.63e+05	1.59e+03	3.5e+02
12	1,2,3,7,8-PeCDD	3.38e+06	2.04e+03	1.7e+03	2.20e+06	6.00e+02	3.7e+03
13	1,2,3,4,7,8-HxCDD	3.29e+06	1.06e+03	3.1e+03	2.67e+06	1.51e+03	1.8e+03
14	1,2,3,6,7,8-HxCDD	3.10e+06	1.06e+03	2.9e+03	2.47e+06	1.51e+03	1.6e+03
15	1,2,3,7,8,9-HxCDD	3.37e+06	1.06e+03	3.2e+03	2.66e+06	1.51e+03	1.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.96e+06	7.04e+02	4.2e+03	2.79e+06	5.04e+02	5.5e+03
17	OCDD	4.14e+06	2.16e+03	1.9e+03	4.63e+06	1.33e+03	3.5e+03
18	13C-2,3,7,8-TCDF	5.87e+06	1.72e+04	3.4e+02	7.37e+06	6.34e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	9.45e+06	1.54e+03	6.1e+03	6.02e+06	1.61e+03	3.7e+03
20	13C-2,3,4,7,8-PeCDF	1.00e+07	1.54e+03	6.5e+03	6.32e+06	1.61e+03	3.9e+03
21	13C-1,2,3,4,7,8-HxCDF	4.53e+06	1.47e+03	3.1e+03	8.70e+06	1.86e+03	4.7e+03
22	13C-1,2,3,6,7,8-HxCDF	4.84e+06	1.47e+03	3.3e+03	9.47e+06	1.86e+03	5.1e+03
23	13C-2,3,4,6,7,8-HxCDF	4.74e+06	1.47e+03	3.2e+03	9.34e+06	1.86e+03	5.0e+03
24	13C-1,2,3,7,8,9-HxCDF	4.03e+06	1.47e+03	2.7e+03	7.88e+06	1.86e+03	4.2e+03
25	13C-1,2,3,4,6,7,8-HpCDF	3.75e+06	3.20e+03	1.2e+03	8.29e+06	3.56e+03	2.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	3.13e+06	3.20e+03	9.8e+02	6.95e+06	3.56e+03	1.9e+03
27	13C-2,3,7,8-TCDD	4.40e+06	6.88e+03	6.4e+02	5.60e+06	3.50e+03	1.6e+03
28	13C-1,2,3,7,8-PeCDD	7.38e+06	2.12e+03	3.5e+03	4.57e+06	1.54e+03	3.0e+03
29	13C-1,2,3,4,7,8-HxCDD	6.77e+06	2.79e+03	2.4e+03	5.32e+06	1.25e+03	4.3e+03
30	13C-1,2,3,6,7,8-HxCDD	6.39e+06	2.79e+03	2.3e+03	4.87e+06	1.25e+03	3.9e+03
31	13C-1,2,3,4,6,7,8-HpCDD	6.08e+06	1.10e+03	5.5e+03	5.66e+06	1.27e+03	4.5e+03
32	13C-OCDD	7.57e+06	4.28e+03	1.8e+03	8.70e+06	1.26e+04	6.9e+02
33	13C-1,2,3,4-TCDD	4.52e+06	6.88e+03	6.6e+02	5.81e+06	3.50e+03	1.7e+03
34	13C-1,2,3,7,8,9-HxCDD	7.05e+06	2.79e+03	2.5e+03	5.50e+06	1.25e+03	4.4e+03
35	37Cl-2,3,7,8-TCDD	1.05e+06	1.60e+03	6.6e+02			

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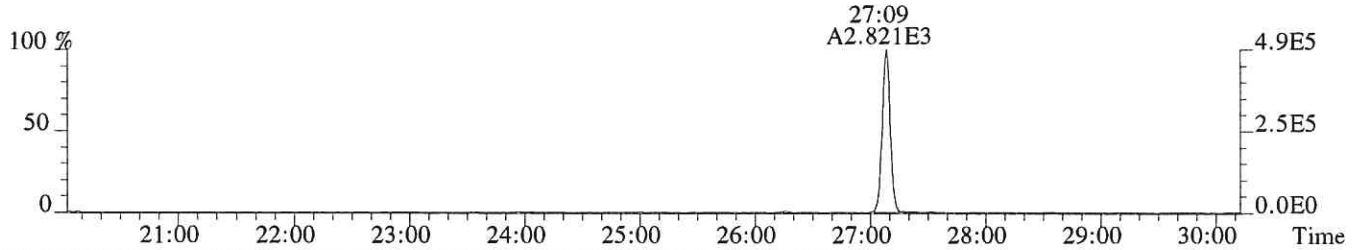
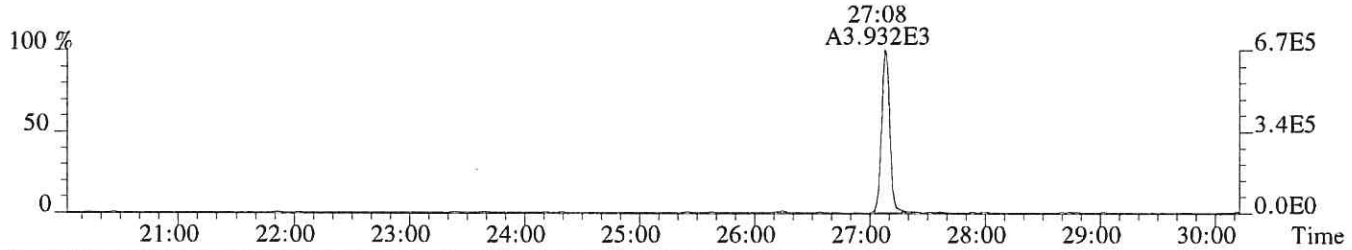
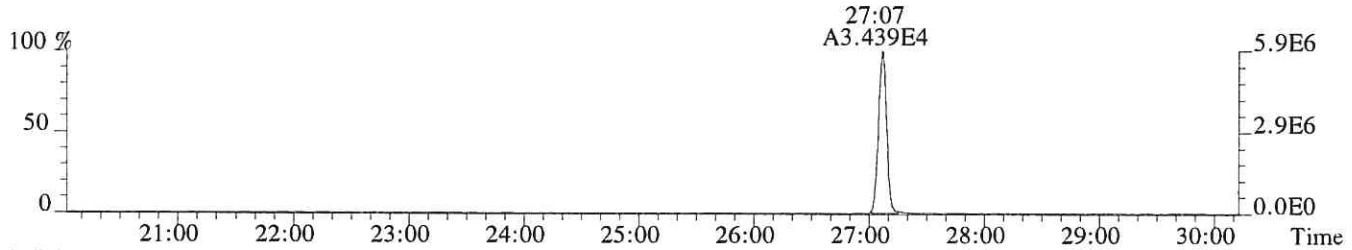
File:P511862 #1-722 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,T)



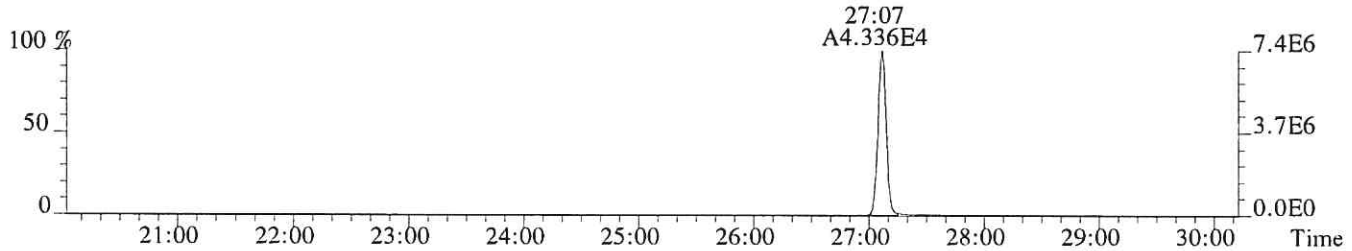
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2772.0,1.00%,F,T)



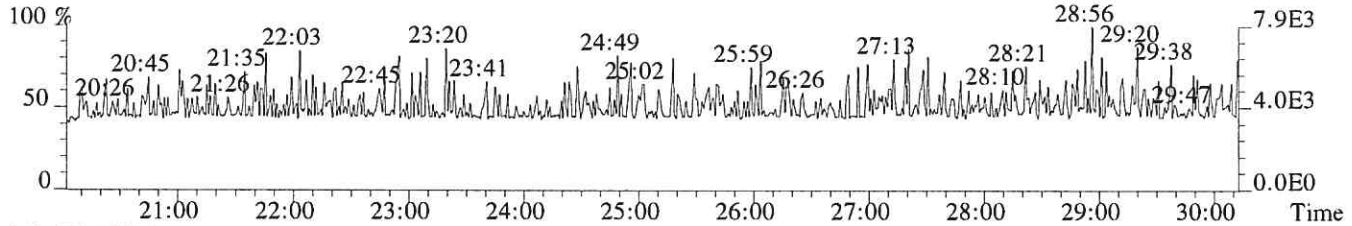
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17228.0,1.00%,F,T)



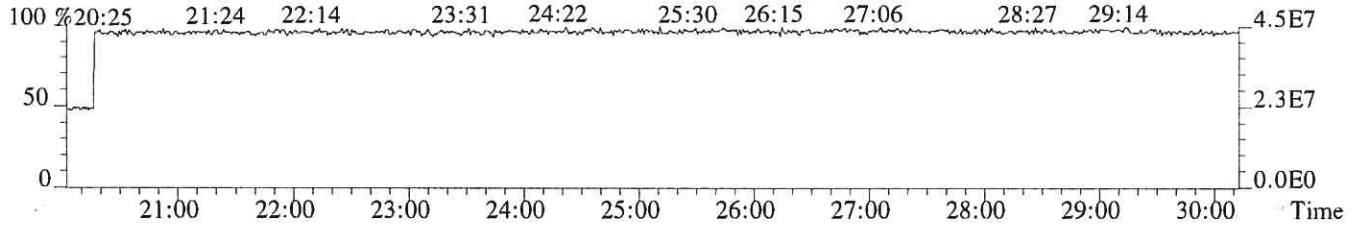
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6336.0,1.00%,F,T)



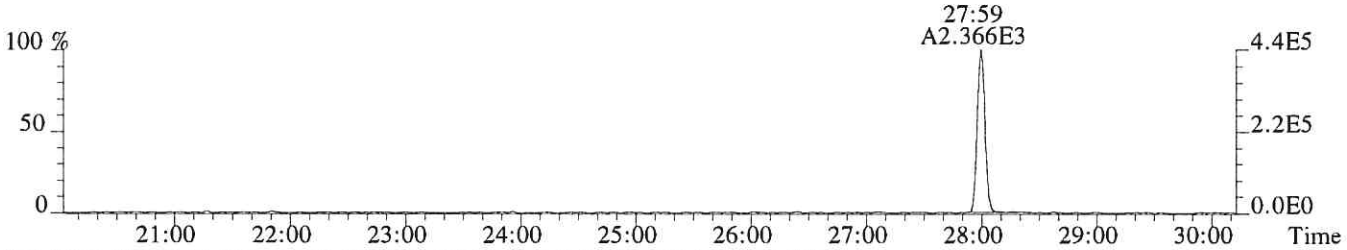
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



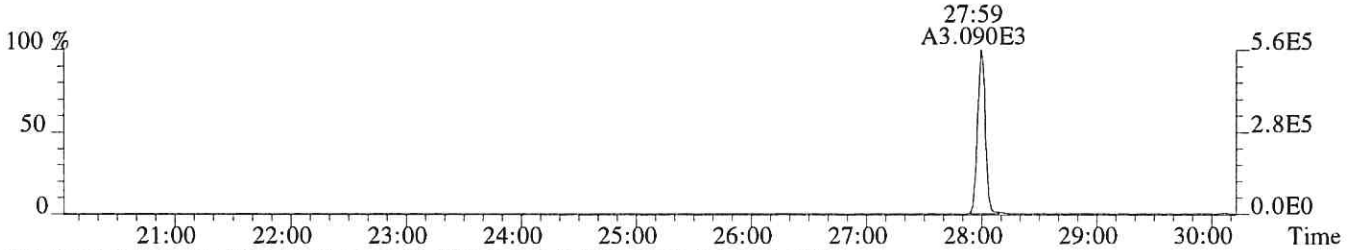
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



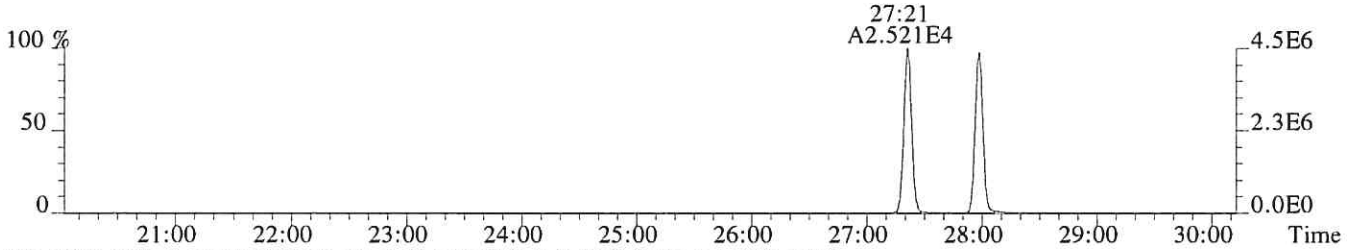
File:P511862 #1-722 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3032.0,1.00%,F,T)



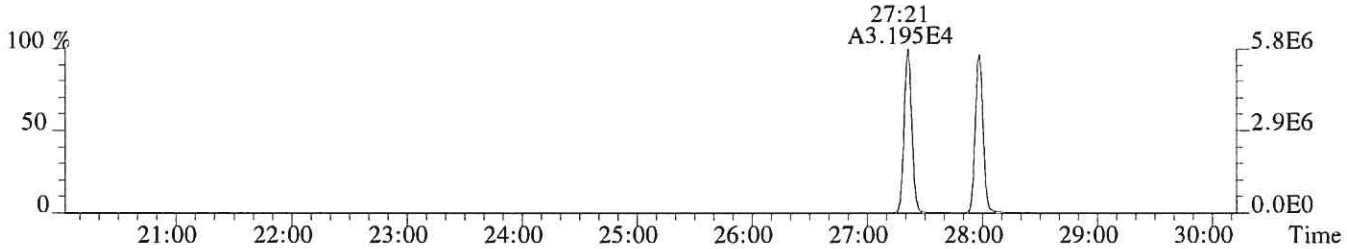
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1588.0,1.00%,F,T)



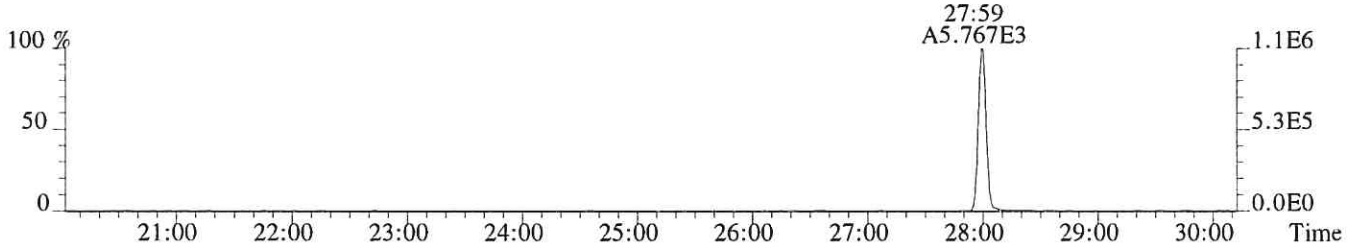
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6876.0,1.00%,F,T)



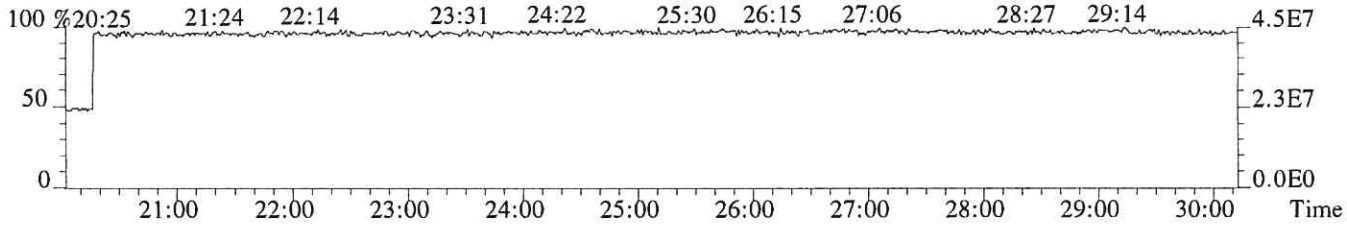
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3496.0,1.00%,F,T)



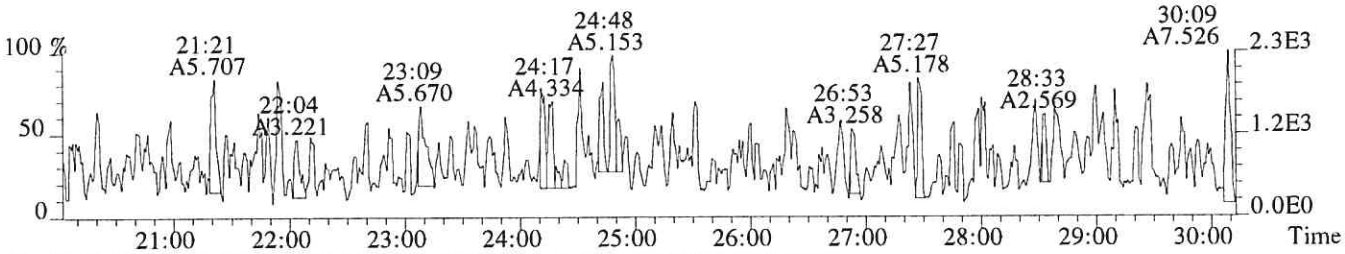
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1596.0,1.00%,F,T)



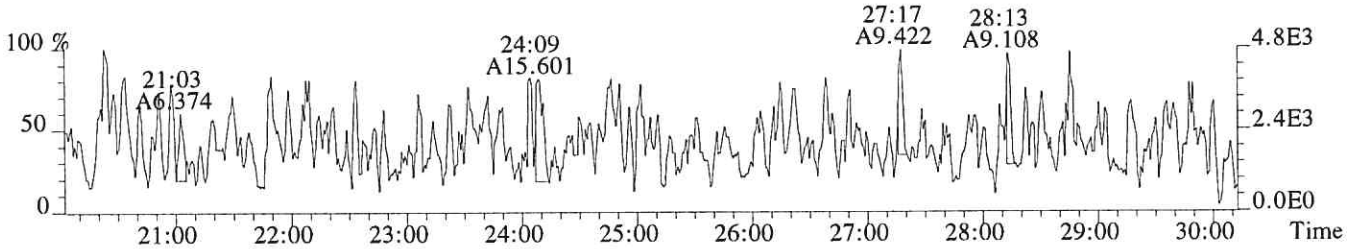
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



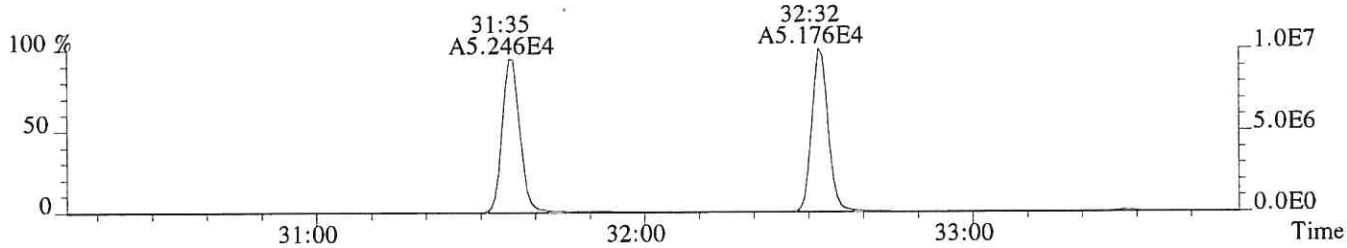
File:P511862 #1-722 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



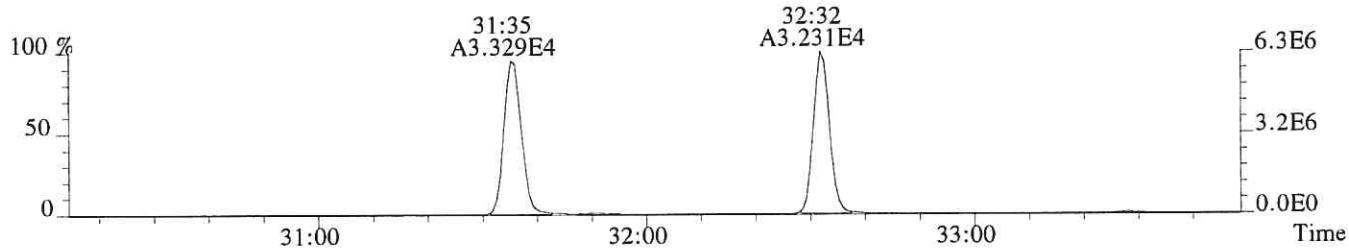
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2388.0,1.00%,F,T)



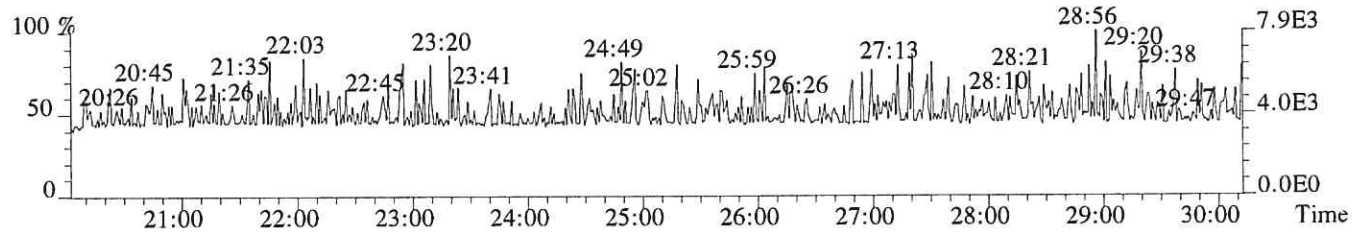
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,T)



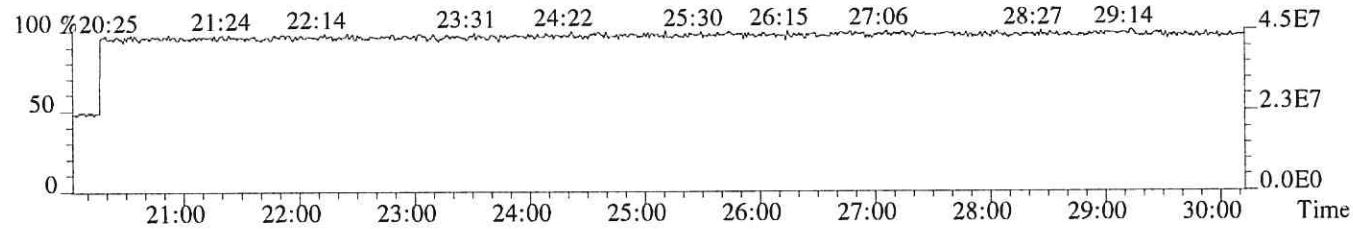
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



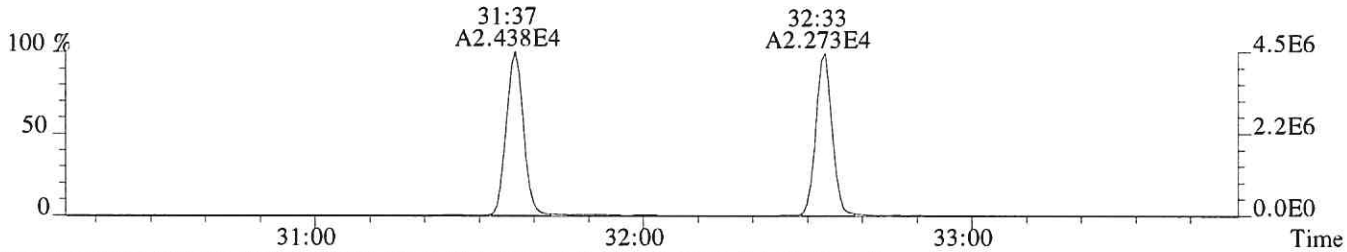
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



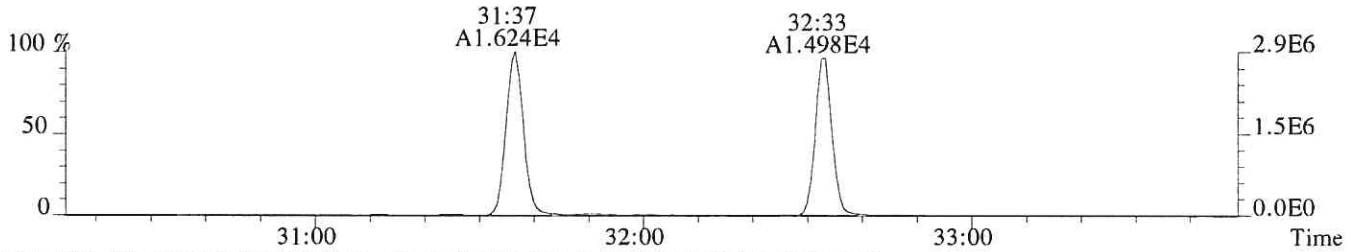
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



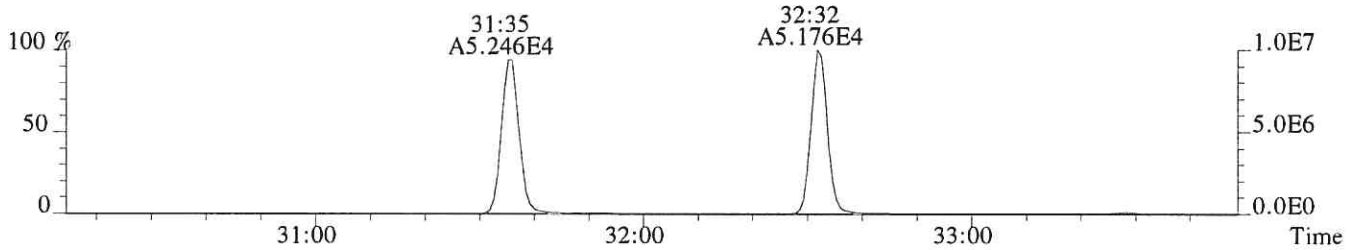
File:P511862 #1-322 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



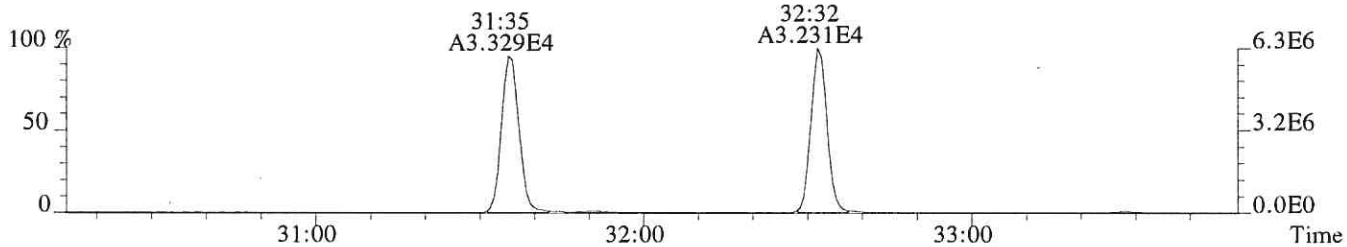
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2992.0,1.00%,F,T)



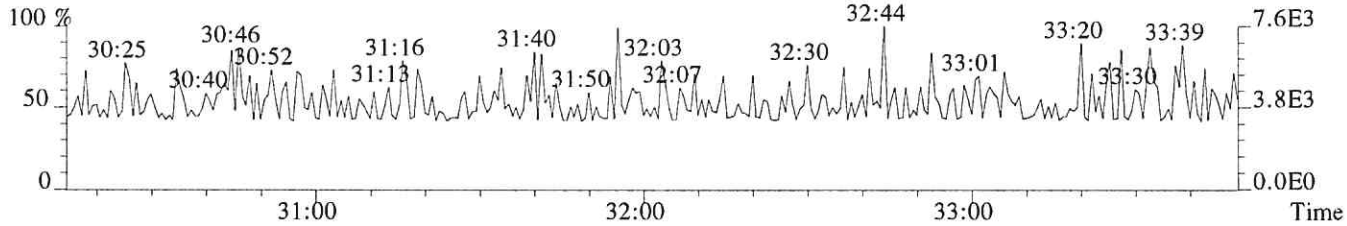
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,T)



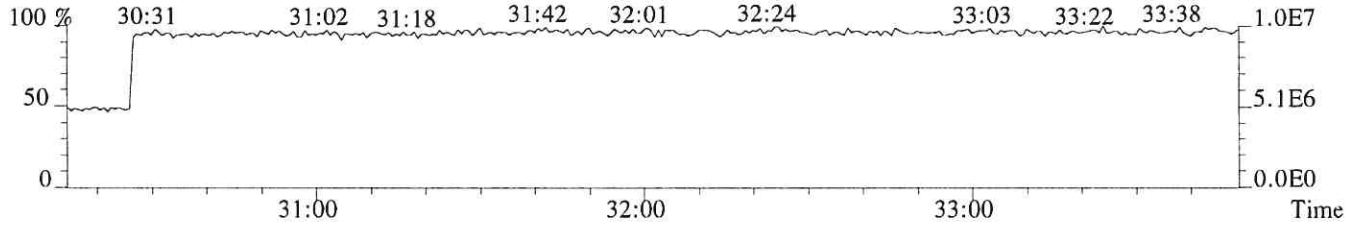
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1608.0,1.00%,F,T)



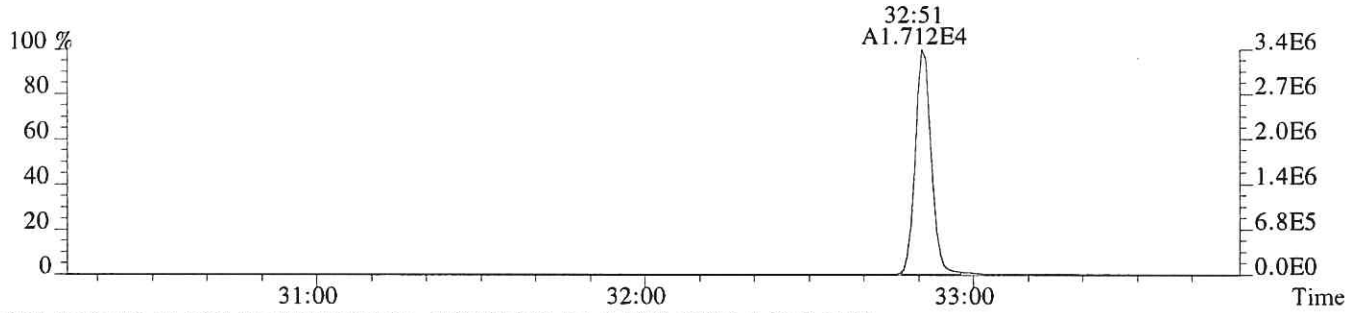
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



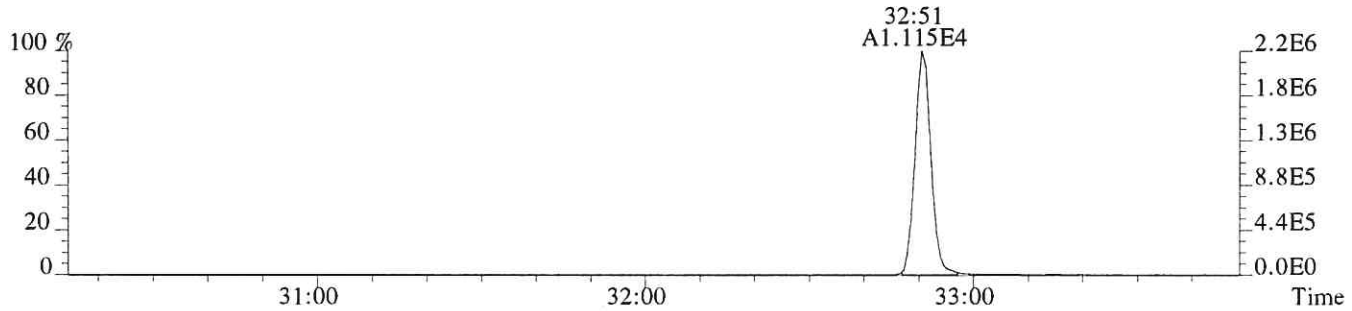
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



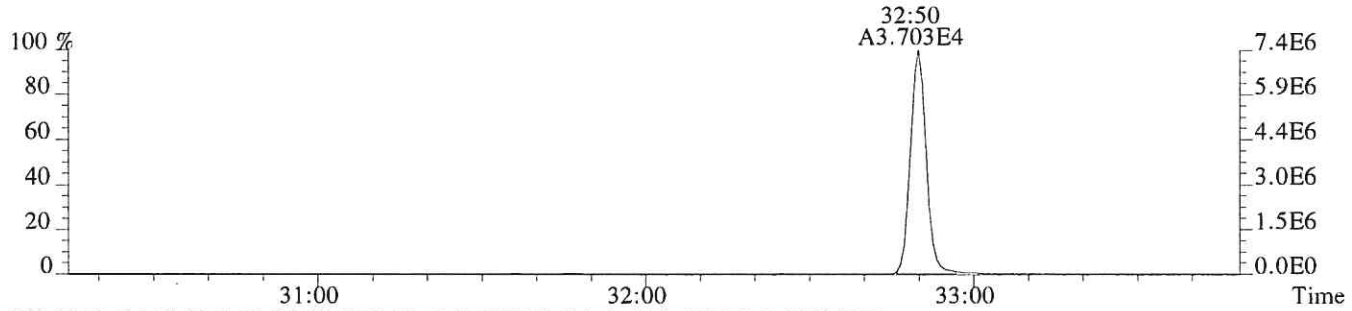
File:P511862 #1-322 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2044.0,1.00%,F,T)



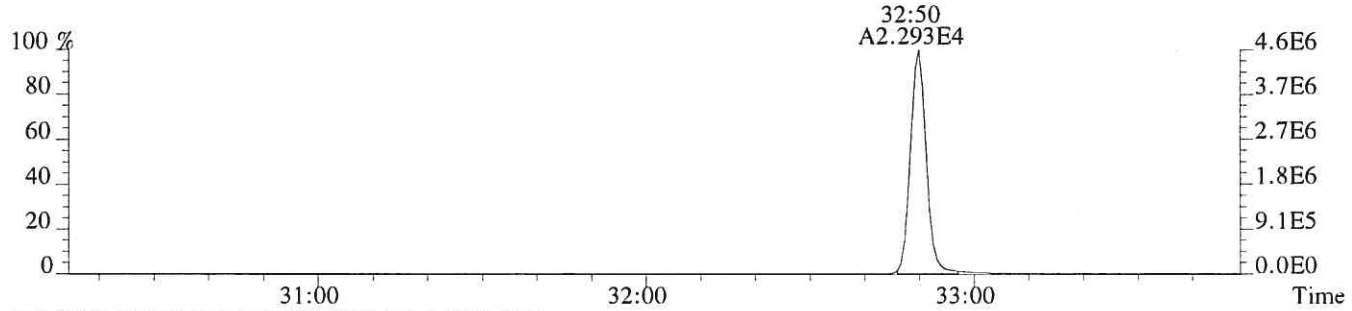
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



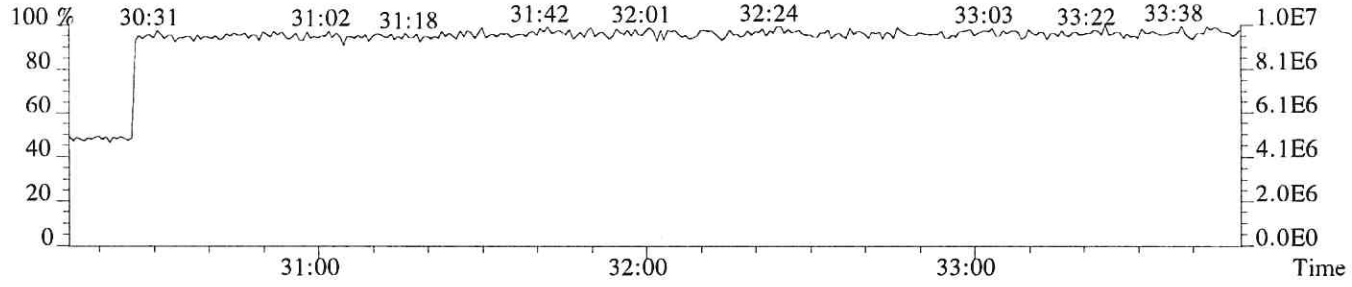
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2116.0,1.00%,F,T)



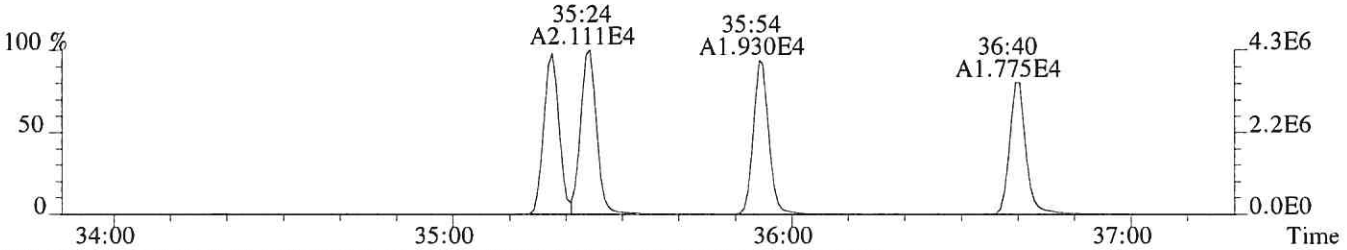
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1536.0,1.00%,F,T)



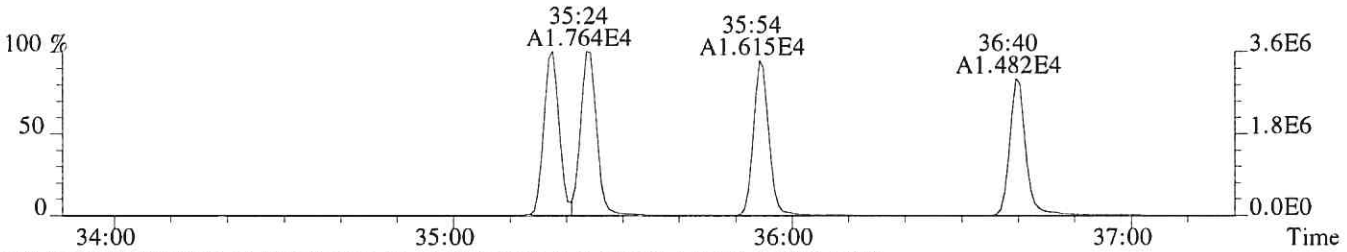
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



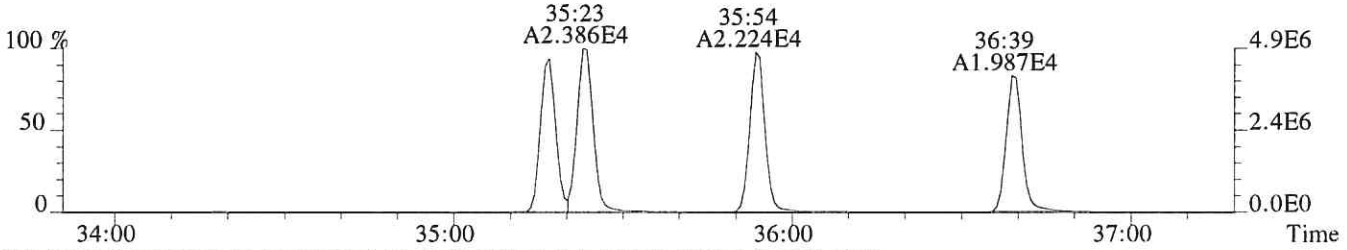
File:P511862 #1-312 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1856.0,0.40%,F,T)



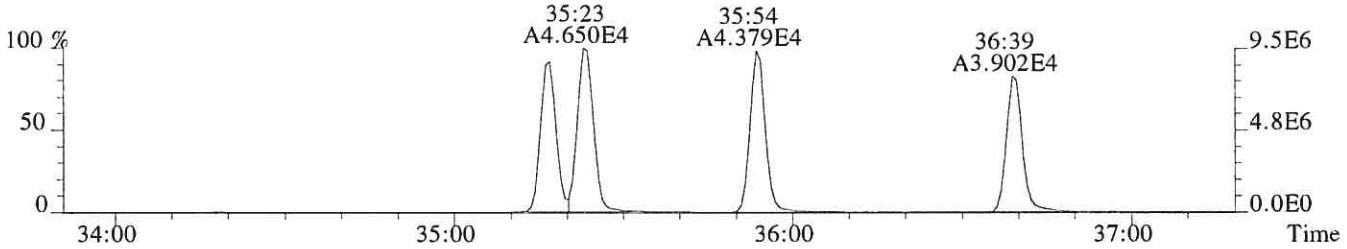
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



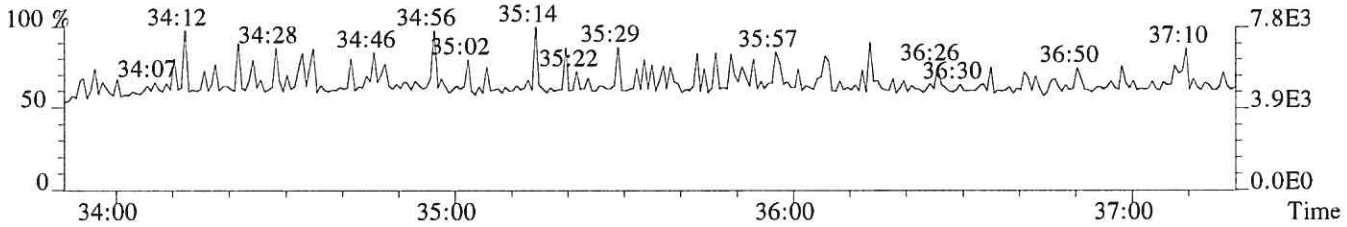
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



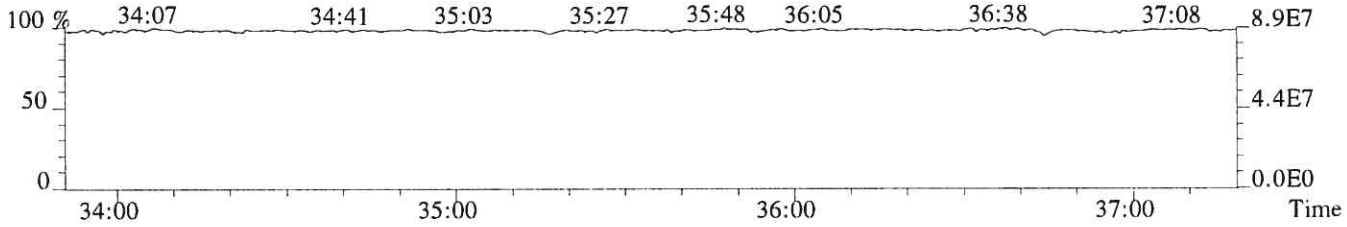
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1856.0,0.40%,F,T)



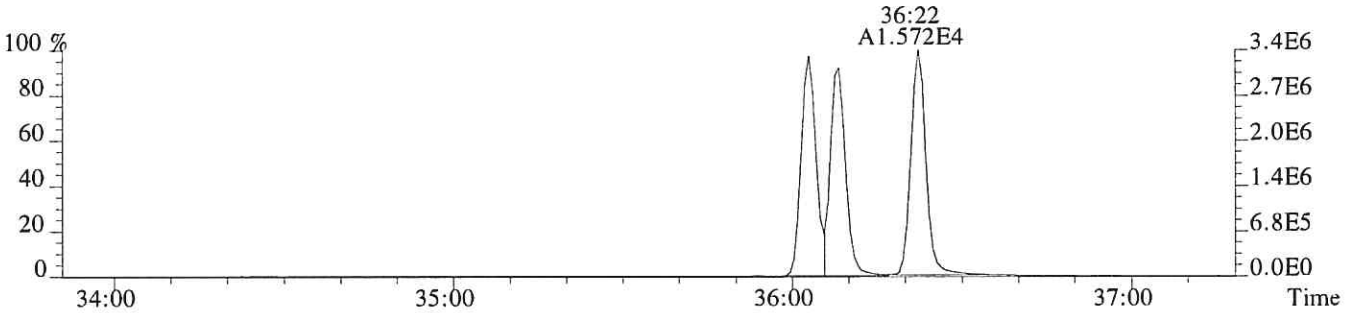
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



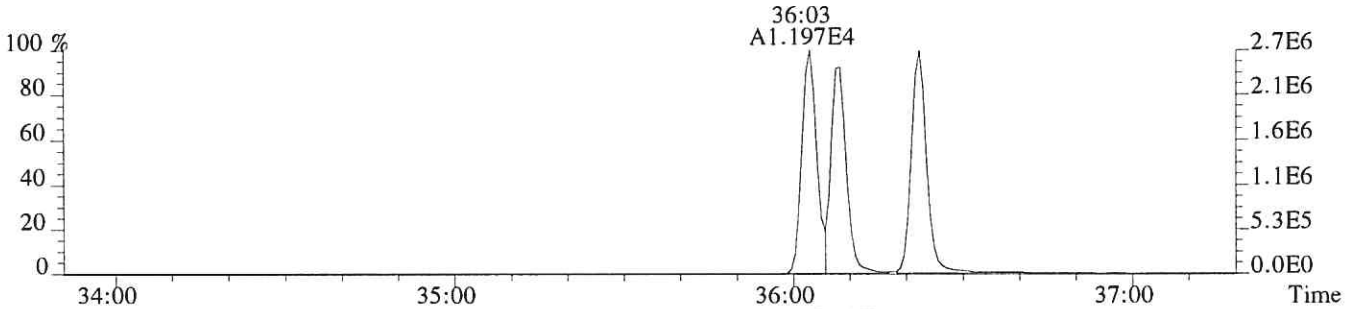
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



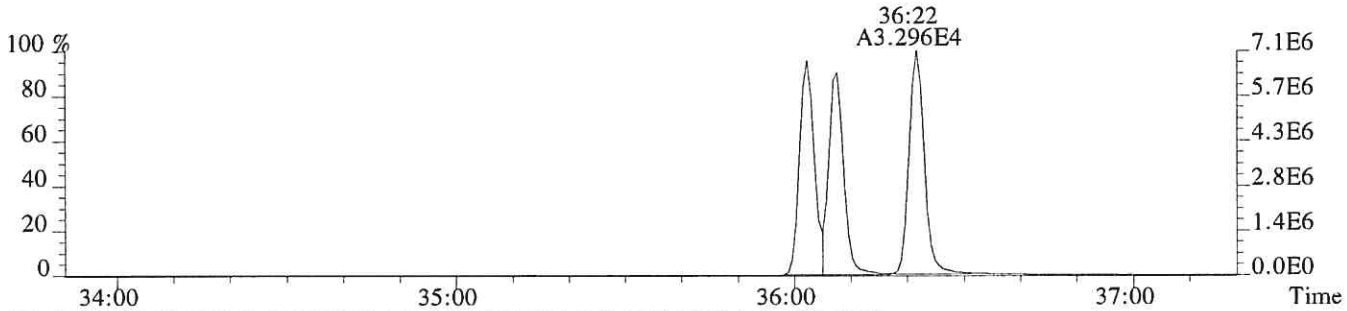
File:P511862 #1-312 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1064.0,0.40%,F,T)



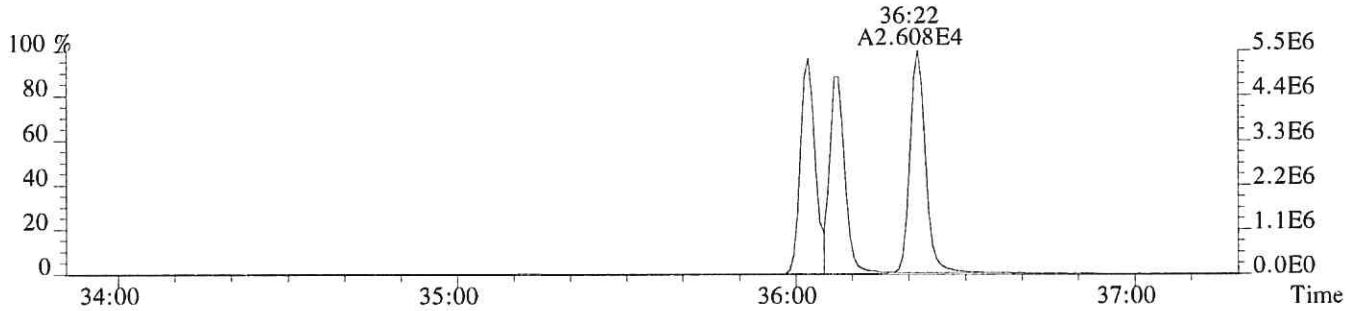
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



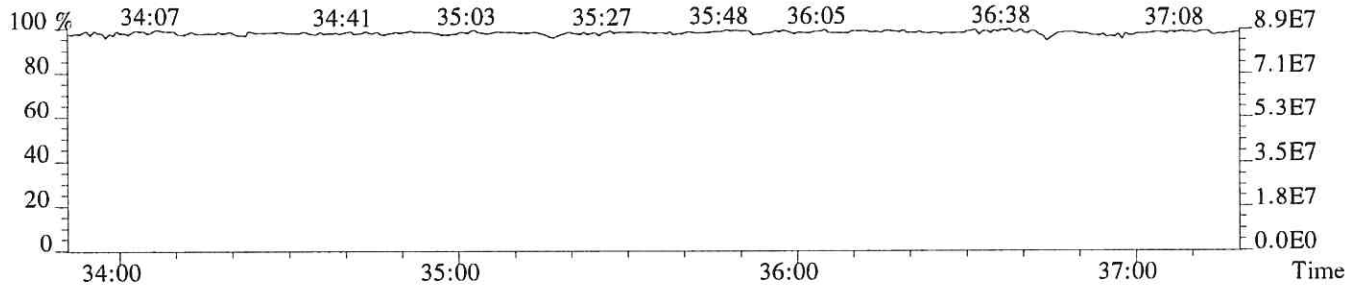
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2788.0,0.40%,F,T)



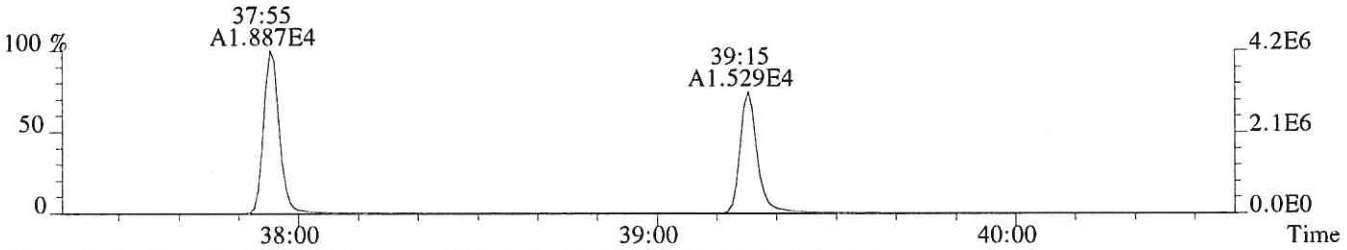
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,T)



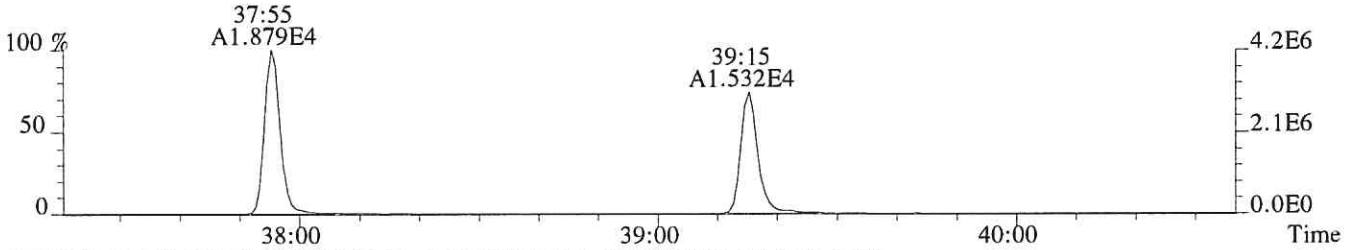
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



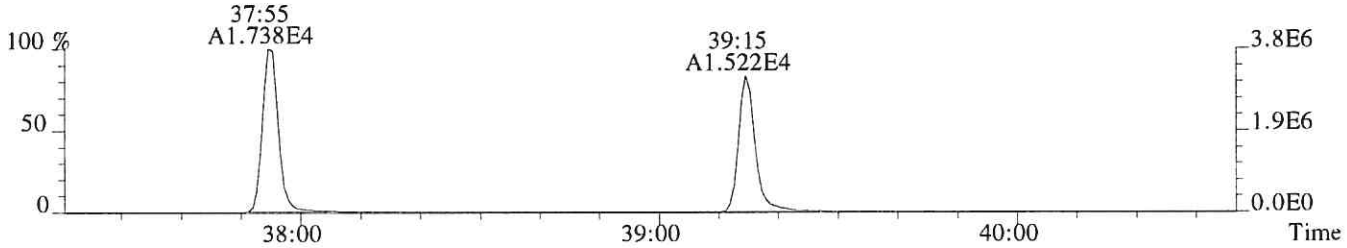
File:P511862 #1-295 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2376.0,0.50%,F,T)



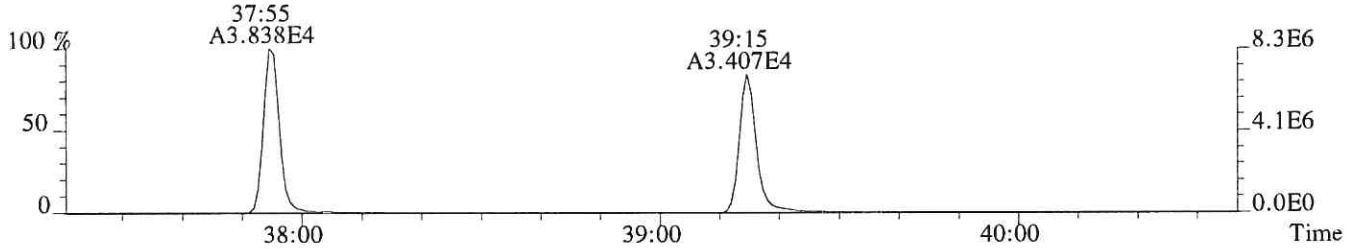
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2088.0,0.50%,F,T)



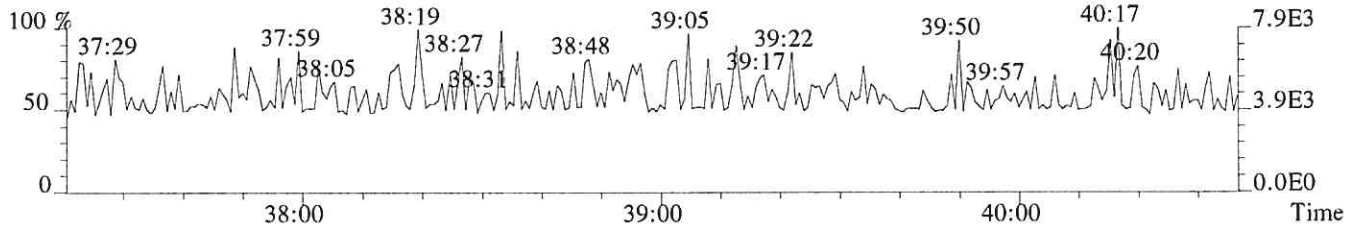
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3196.0,0.50%,F,T)



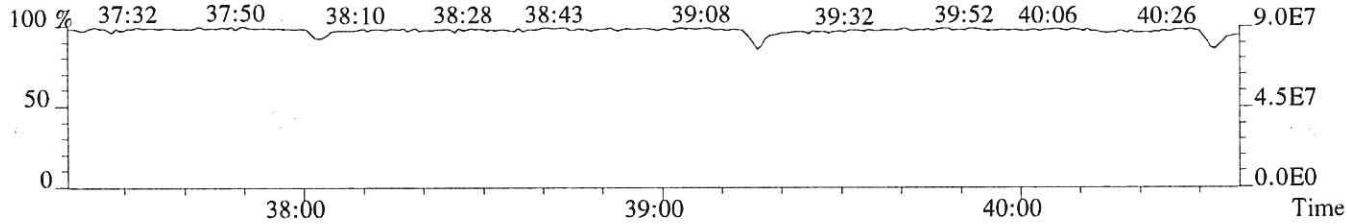
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3564.0,0.50%,F,T)



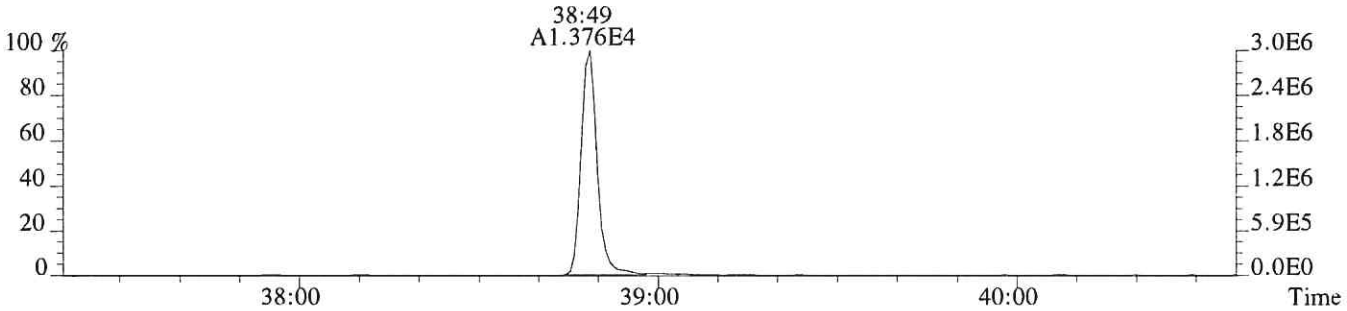
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



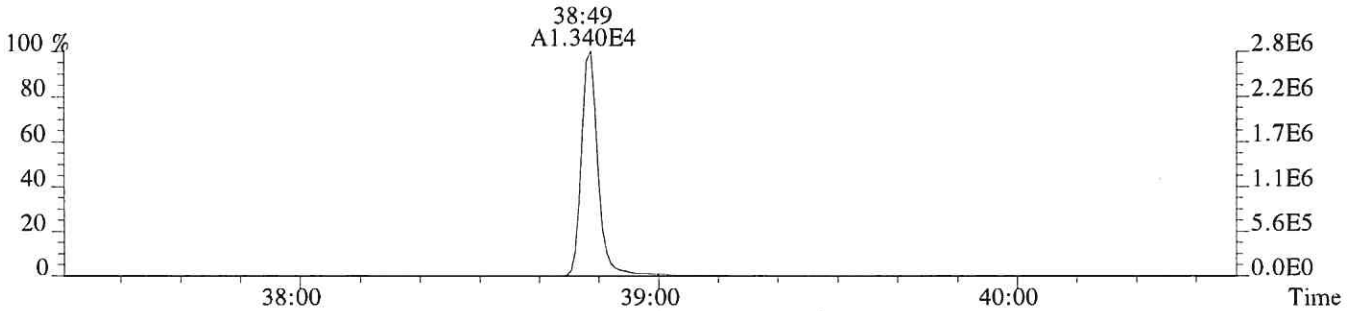
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



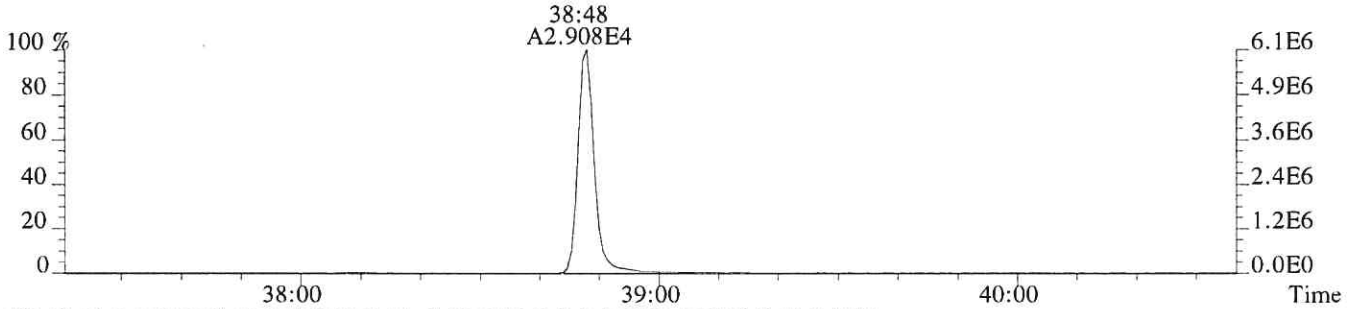
File:P511862 #1-295 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,704.0,0.40%,F,T)



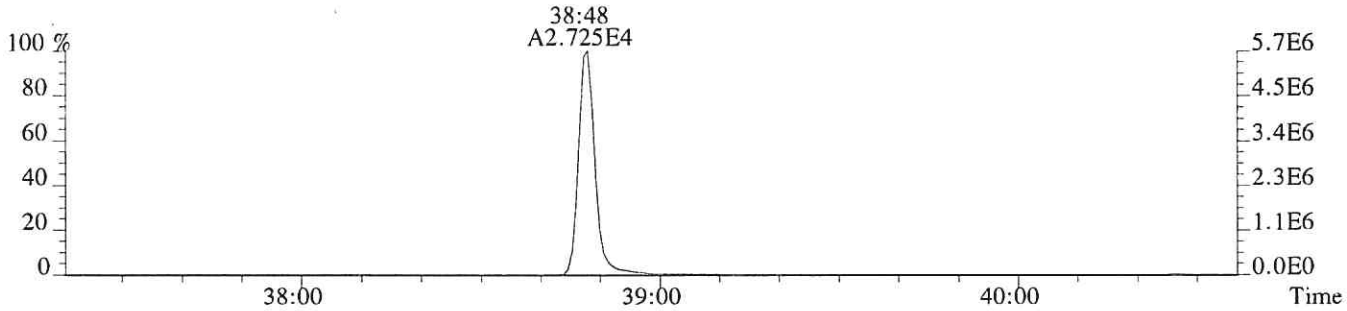
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.40%,F,T)



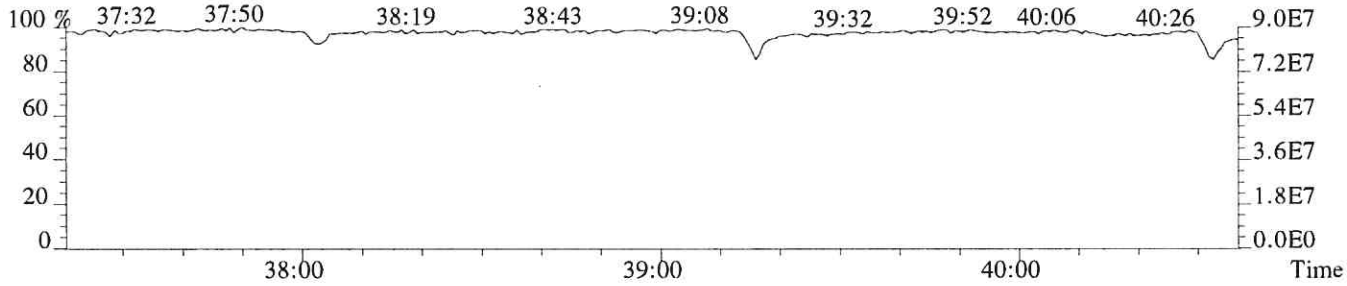
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)



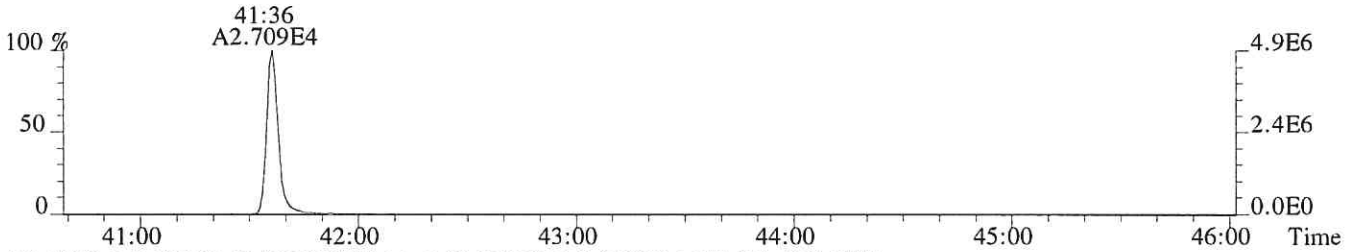
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,T)



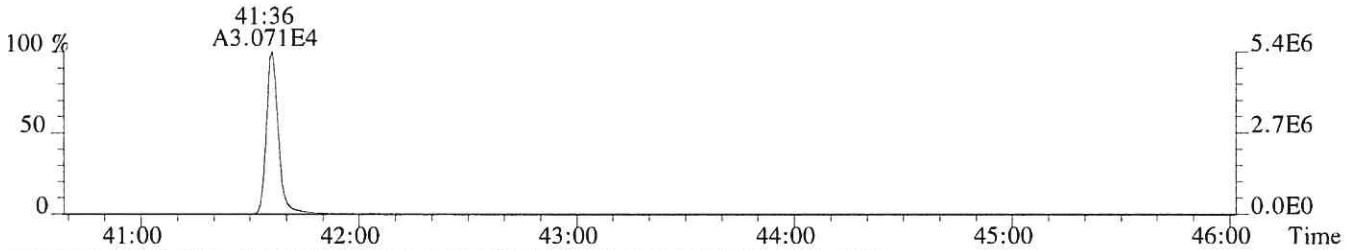
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



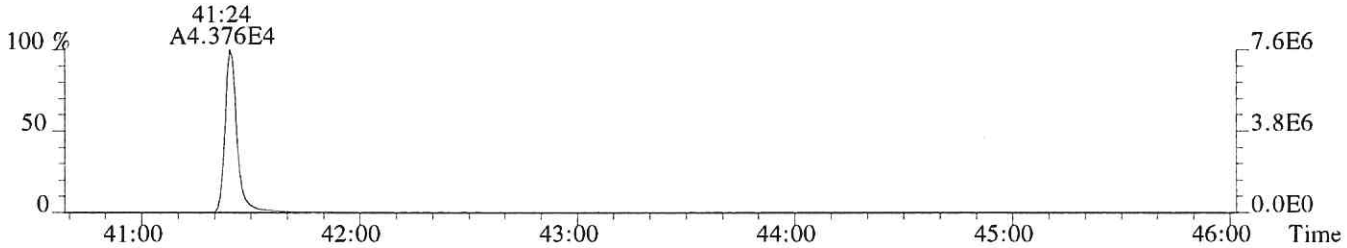
File:P511862 #1-485 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



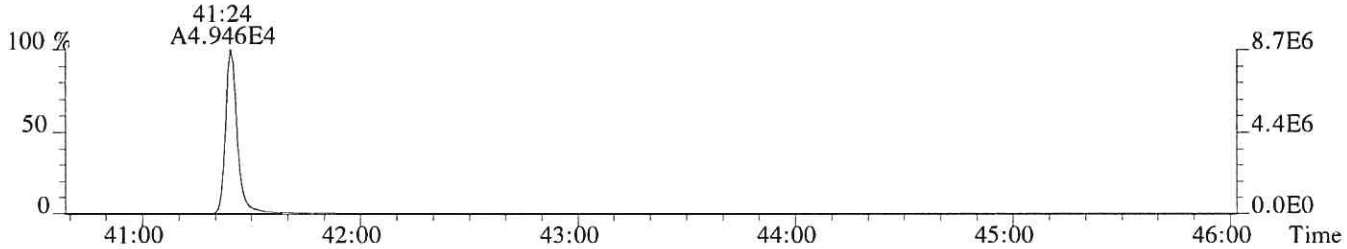
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1644.0,0.40%,F,T)



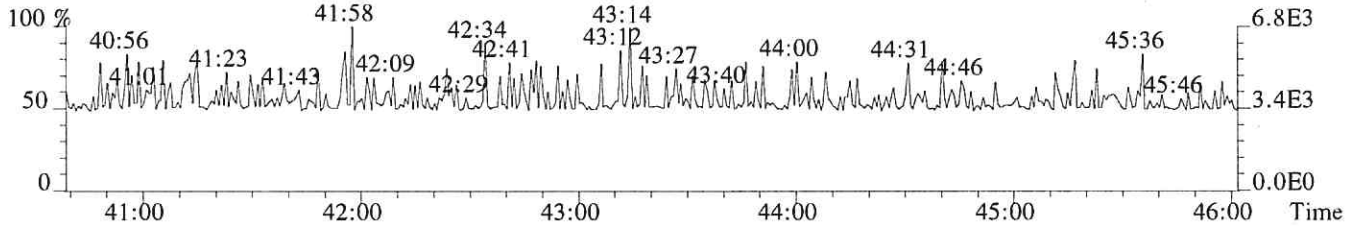
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4284.0,0.40%,F,T)



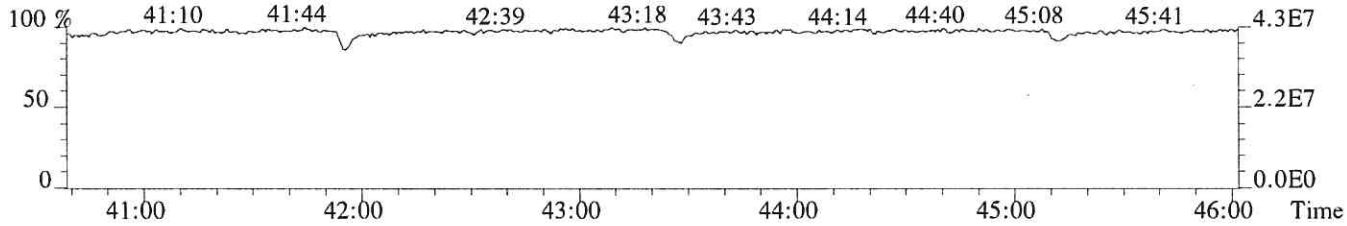
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12588.0,0.40%,F,T)



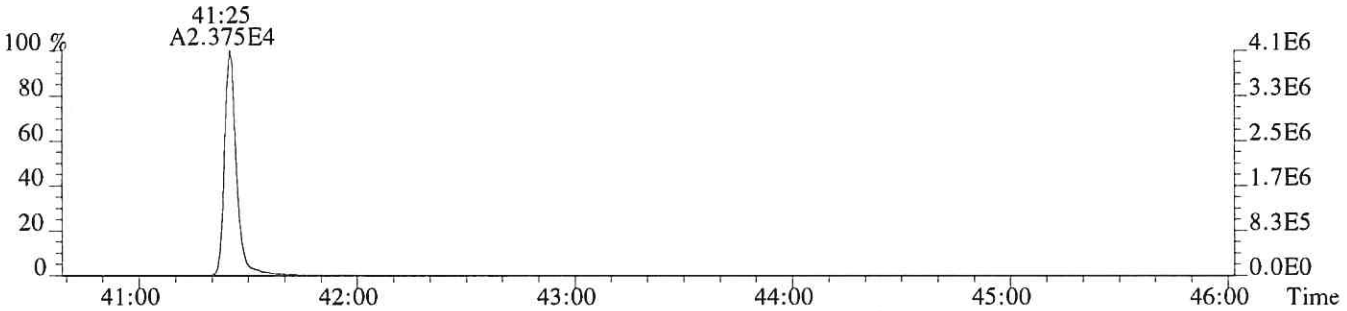
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



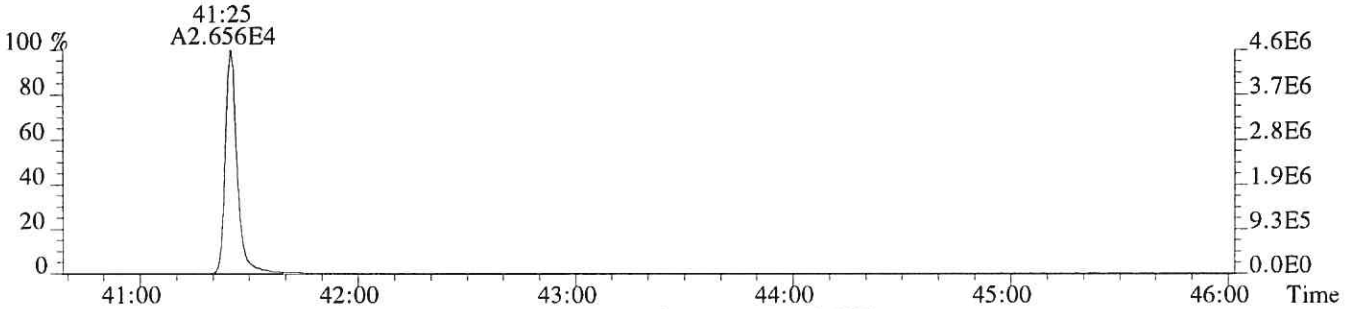
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



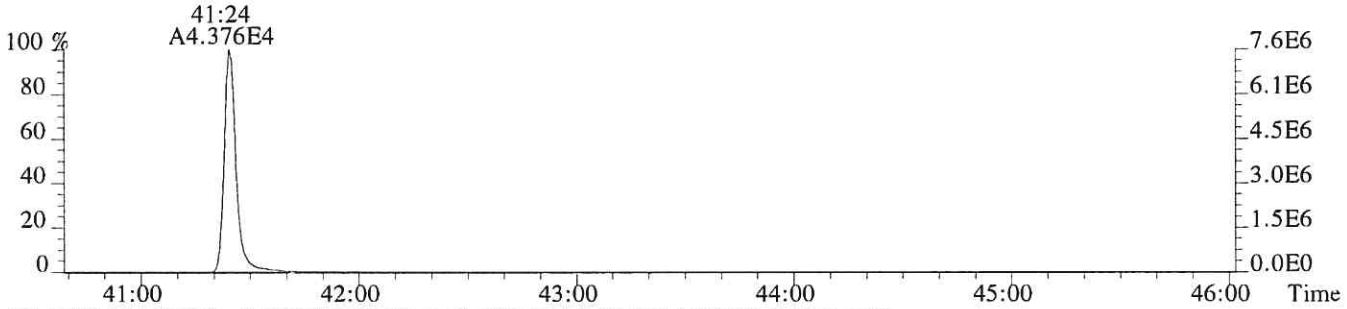
File:P511862 #1-485 Acq:10-OCT-2017 16:54:00 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2156.0,0.40%,F,T)



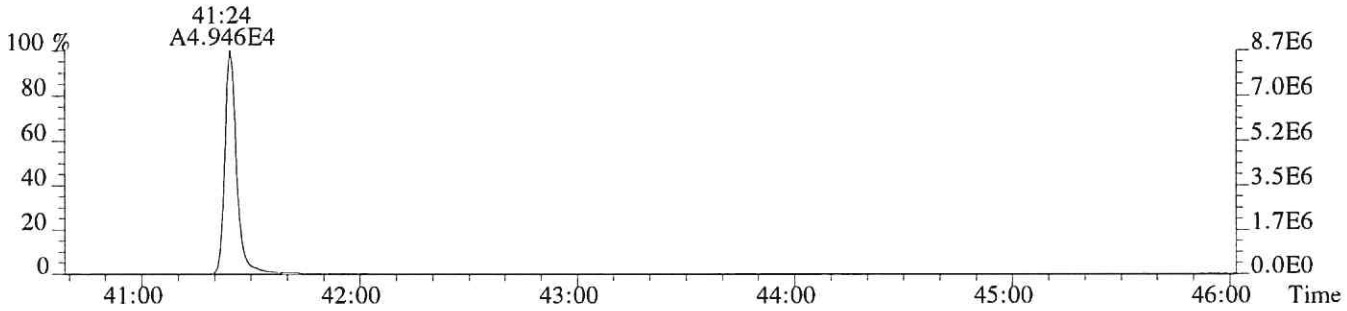
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1328.0,0.40%,F,T)



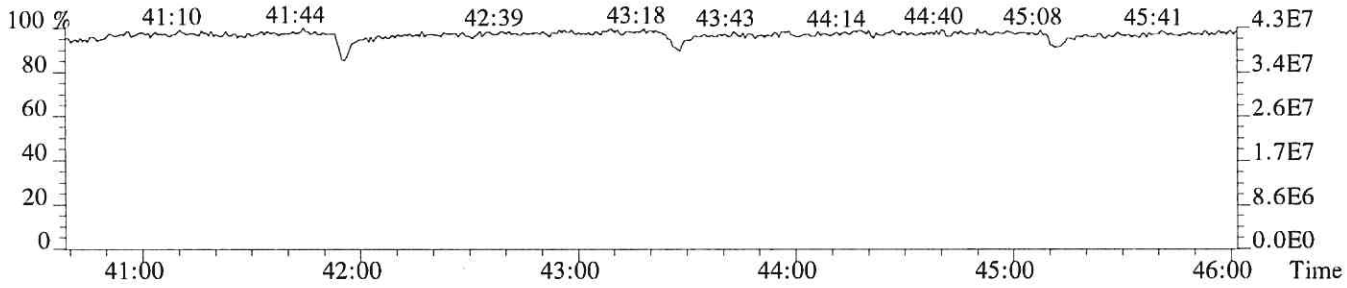
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4284.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12588.0,0.40%,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: P511938-P511951

Date: 10/13/17-10/14/17

Circle one: Beginning / Ending

Method: 1613 / 1613E / 8290/ VCP / Tetra / TCDD Only / TCDF Conf / VCP Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	✓	✓
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and its closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or its closest eluters (HRMS Only)	✓	✓

CS3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20% (HRMS Only)	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented (HRMS Only)	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 column / DB-5MSUI column	✓	✓
Signal-to-noise of all target analytes and their labeled standards at least 10:1	✓	✓
Valley between labeled 123478 and 123678 HxCDD peaks less than or equal to 50% (LRMS Only)	N/A	N/A
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: _____ Second QC: _____

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	P511939	13-OCT-17	14:07:27
180102	CS3	P511938	13-OCT-17	13:10:49
METHOD BLANK	EQ1700461-01	P511940	13-OCT-17	15:17:07
SJWP-100317-036	E1701038-003RE	P511941	13-OCT-17	16:05:20
2265304 001	E1701045-001	P511942	13-OCT-17	16:54:00
2265105 001	E1701046-001	P511943	13-OCT-17	17:42:40
2265298 001	E1701047-001	P511944	13-OCT-17	18:31:21
2265736 001	E1701048-001	P511945	13-OCT-17	19:20:01
2265737 001	E1701050-001	P511946	13-OCT-17	20:08:42
SL-20	E1701041-001	P511947	13-OCT-17	20:57:11
2265392 001	E1701049-001	P511948	13-OCT-17	21:45:51
LCS	EQ1700461-02	P511949	13-OCT-17	22:34:32
DLCS	EQ1700461-03	P511950	13-OCT-17	23:23:09
180102	CS3	P511951	14-OCT-17	00:20:09

Sample List Report MassLynx 4.1 SCN815 SCN795

Sample List: C:\MassLynx\EHRMS07.PRO\SampleDB\20171013A.SPL
Last Modified: Monday, October 16, 2017 08:09:55 Eastern Daylight Time
Printed: Monday, October 16, 2017 08:09:57 Eastern Daylight Time

Page Position (1, 1)

opus 4: P511938res

	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	10/13/17	13:10	P511938	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	[illegible]	HRMS check 13.07
2		14:07	P511939	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		
3		15:17	P511940	MBLK	EQ1700461-01	EPA1613_ALS	Dioxin_ALS	Tray1:3		
4		16:05	P511941	E1701038-003RE	E1701038-003RE	EPA1613_ALS	Dioxin_ALS	Tray1:4		
5		16:54	P511942	E1701045-001	E1701045-001	EPA1613_ALS	Dioxin_ALS	Tray1:5		
6		17:42	P511943	E1701046-001	E1701046-001	EPA1613_ALS	Dioxin_ALS	Tray1:6		
7		18:31	P511944	E1701047-001	E1701047-001	EPA1613_ALS	Dioxin_ALS	Tray1:7		
8		19:20	P511945	E1701048-001	E1701048-001	EPA1613_ALS	Dioxin_ALS	Tray1:8		
9		20:08	P511946	E1701050-001	E1701050-001	EPA1613_ALS	Dioxin_ALS	Tray1:9		
10		20:57	P511947	E1701041-001	E1701041-001	EPA1613_ALS	Dioxin_ALS	Tray1:10		
11		21:45	P511948	E1701049-001	E1701049-001	EPA1613_ALS	Dioxin_ALS	Tray1:11		
12		22:34	P511949	LCS	EQ1700461-02	EPA1613_ALS	Dioxin_ALS	Tray1:12		
13		23:23	P511950	DLCS	EQ1700461-03	EPA1613_ALS	Dioxin_ALS	Tray1:13		
14	10/14/17	00:20	P511951	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		HRMS check 00:20
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	Tray1:2	---	---
27	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
28	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:1	---	---
29	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
30	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:2	---	---
31	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:38	---	---
32	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:39	---	---
33	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:40	---	---
34	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:41	---	---
35	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:42	---	---
36	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:43	---	---
37	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:44	---	---
38	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:45	---	---
39	---	---	---	---	---	EPA1613_ALS	Dioxin_ALS	Tray1:46	---	---

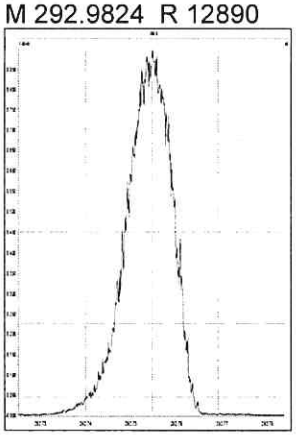
gc 10/16/17

024

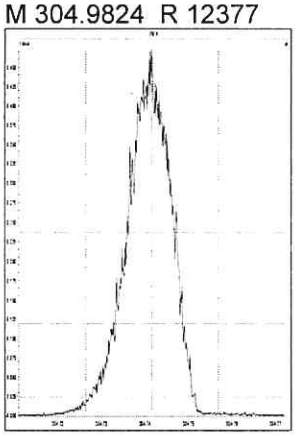
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, October 13, 2017 13:07:19 Eastern Daylight Time

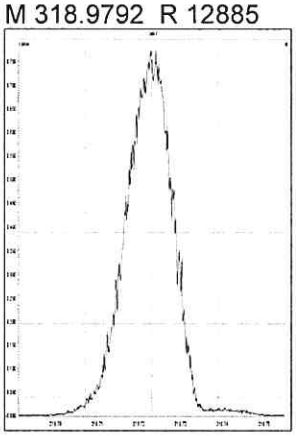
M 292.9824 R 12890



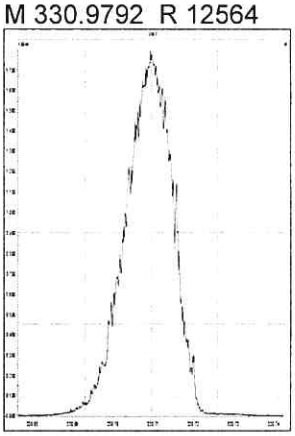
M 304.9824 R 12377



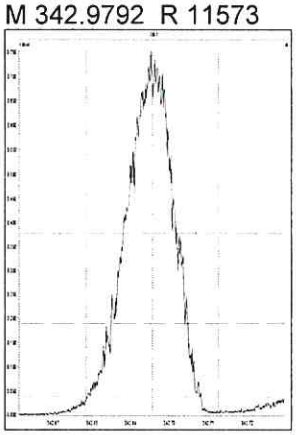
M 318.9792 R 12885



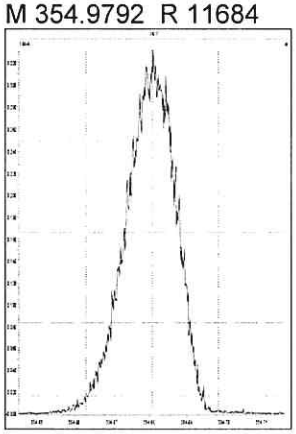
M 330.9792 R 12564



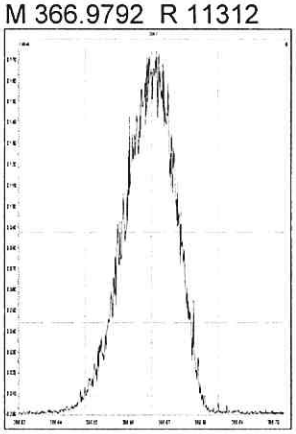
M 342.9792 R 11573



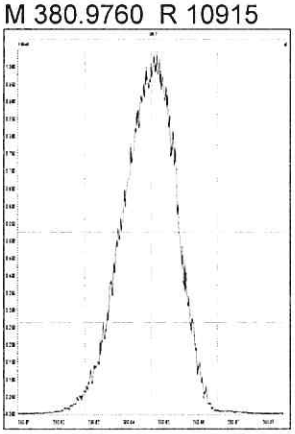
M 354.9792 R 11684



M 366.9792 R 11312



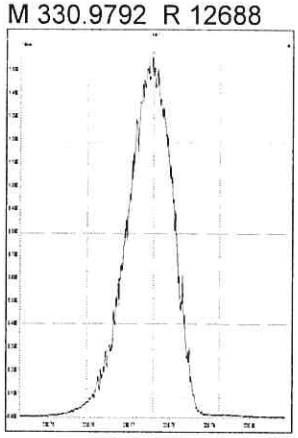
M 380.9760 R 10915



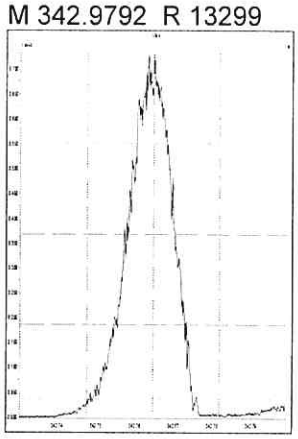
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Friday, October 13, 2017 13:07:58 Eastern Daylight Time

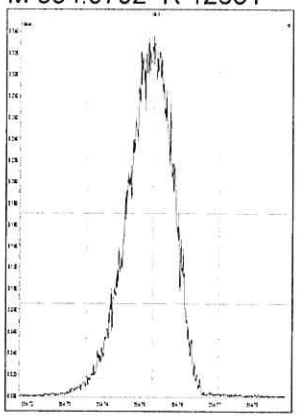
M 330.9792 R 12688



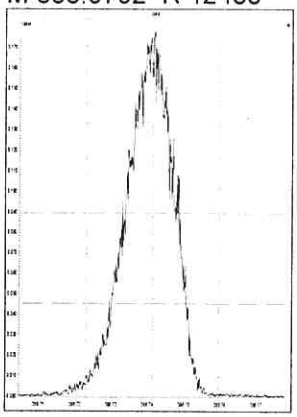
M 342.9792 R 13299



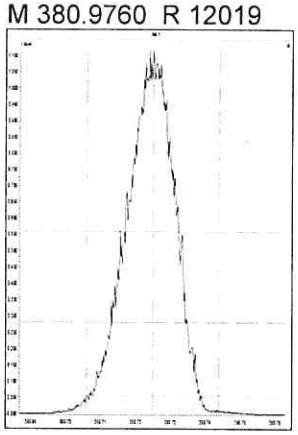
M 354.9792 R 12631



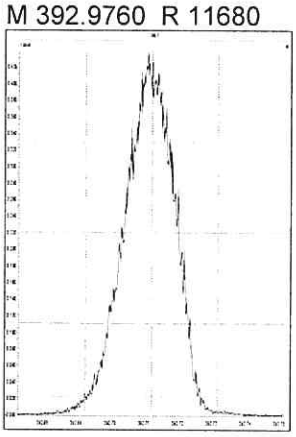
M 366.9792 R 12435



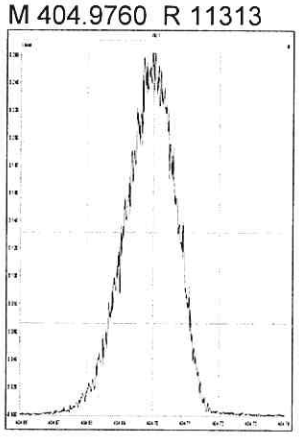
M 380.9760 R 12019



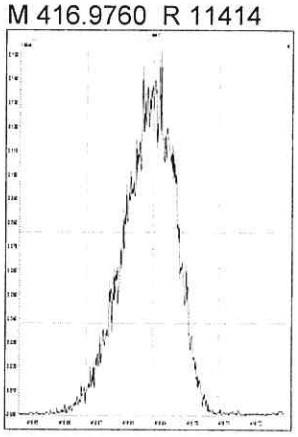
M 392.9760 R 11680



M 404.9760 R 11313



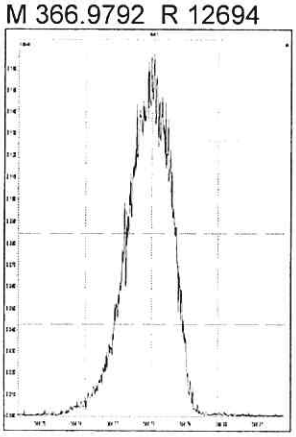
M 416.9760 R 11414



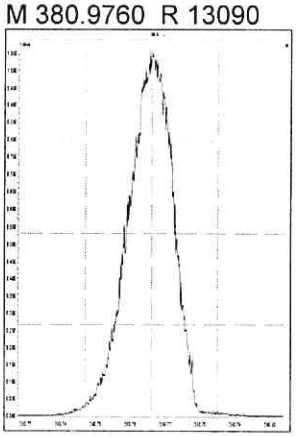
File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 3 @ 200 (ppm)

Printed: Friday, October 13, 2017 13:08:42 Eastern Daylight Time

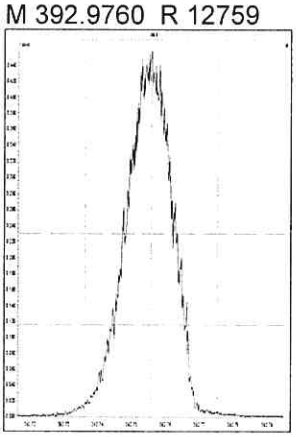
M 366.9792 R 12694



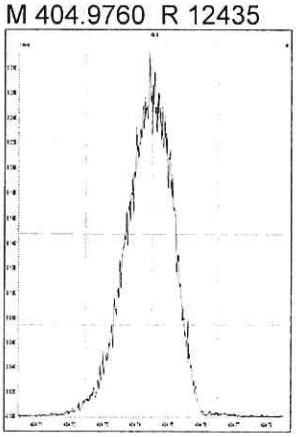
M 380.9760 R 13090



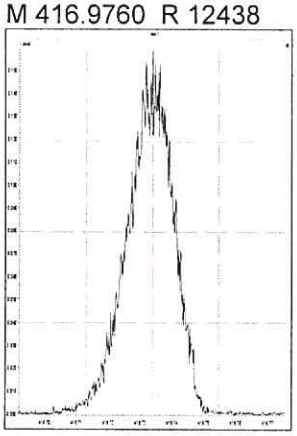
M 392.9760 R 12759



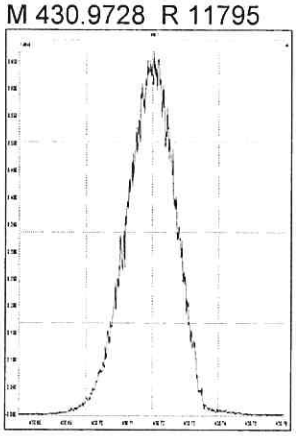
M 404.9760 R 12435



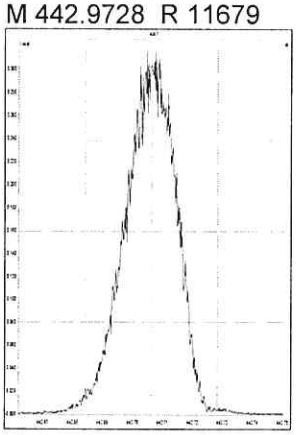
M 416.9760 R 12438



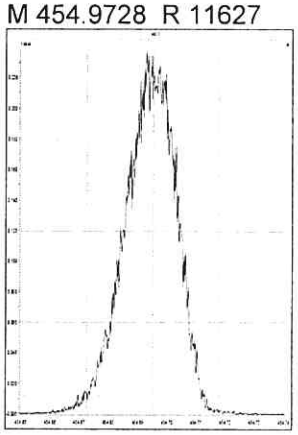
M 430.9728 R 11795



M 442.9728 R 11679



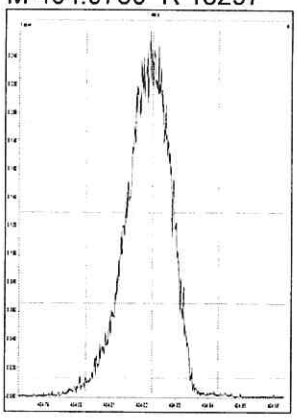
M 454.9728 R 11627



File: Experiment: EPA1613_ALS.exp Reference: pfk.ref Function: 4 @ 200 (ppm)

Printed: Friday, October 13, 2017 13:09:23 Eastern Daylight Time

M 404.9760 R 13297



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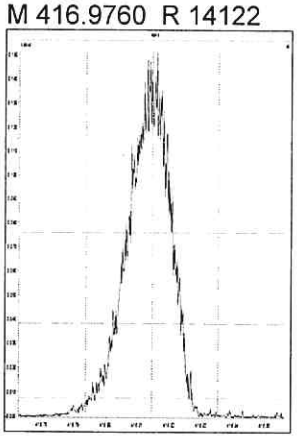
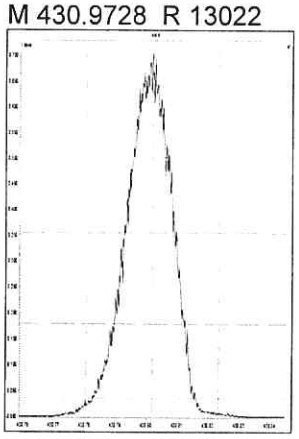


M 430.9728 R 13022



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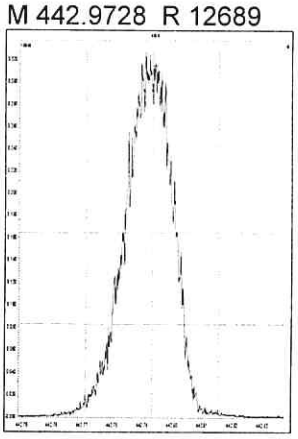

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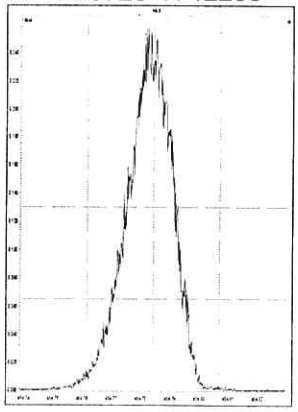

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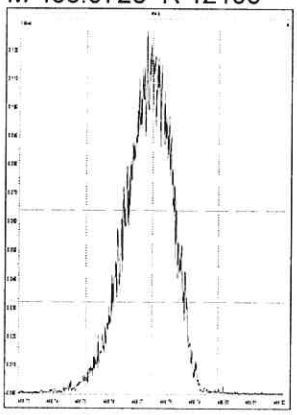

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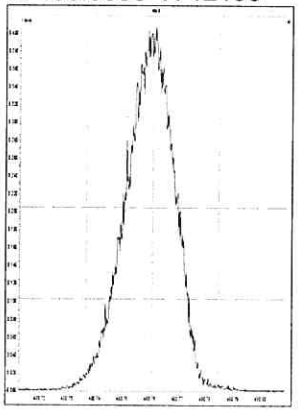

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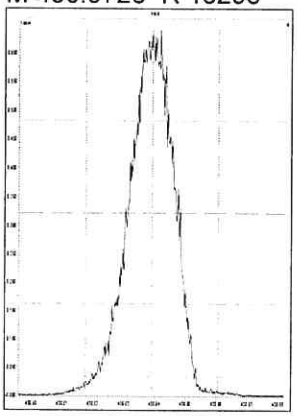

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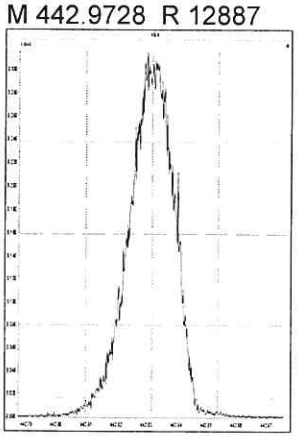

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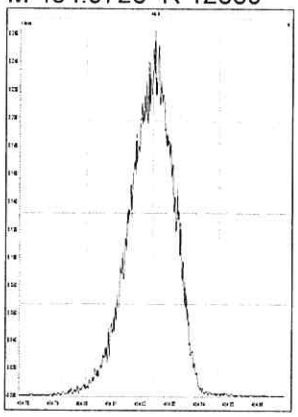

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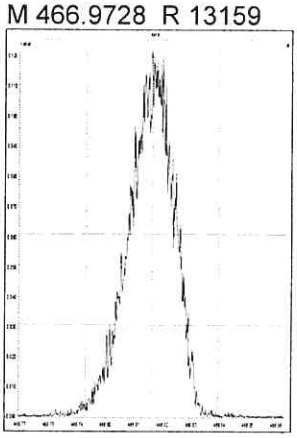

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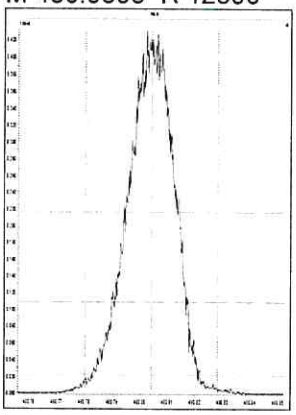

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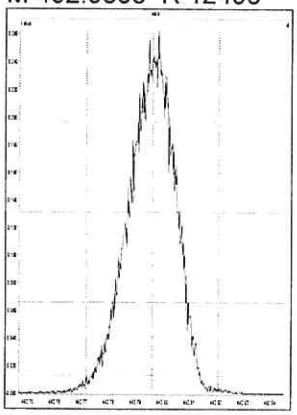

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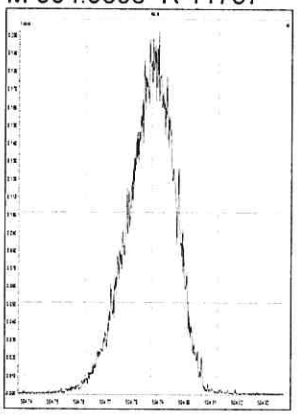

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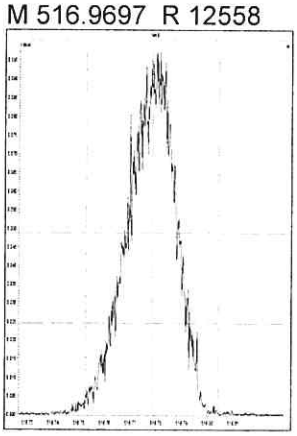

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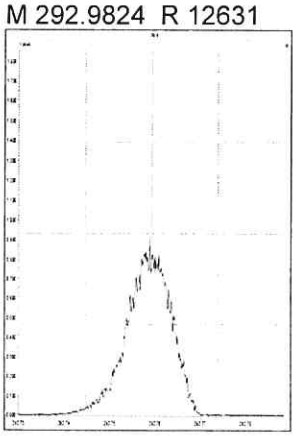

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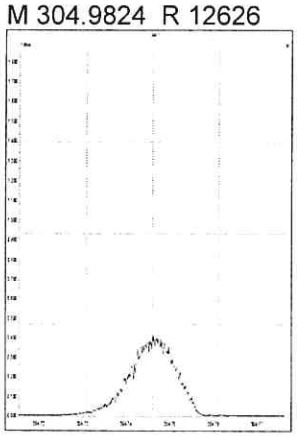

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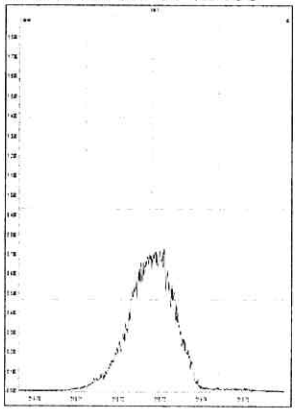

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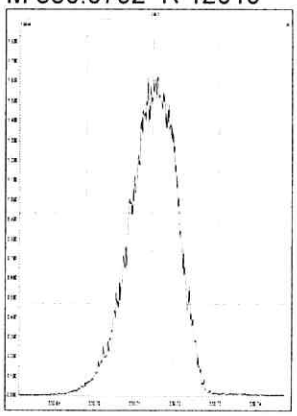

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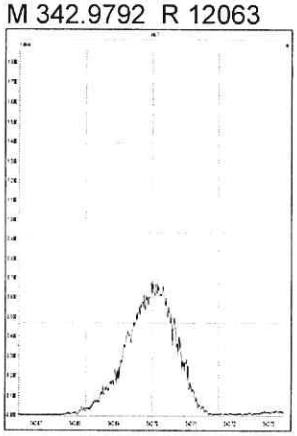

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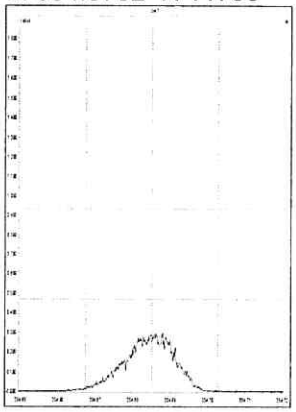

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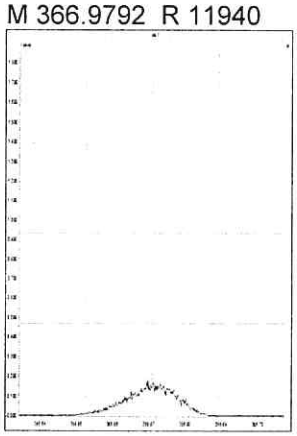

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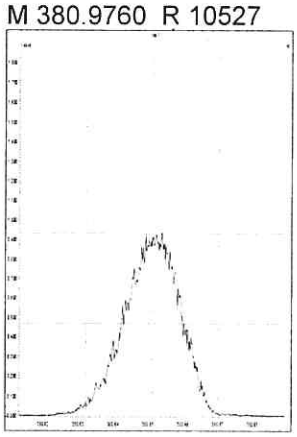

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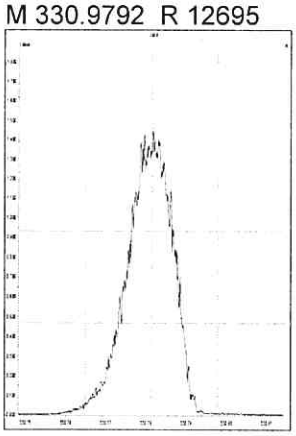

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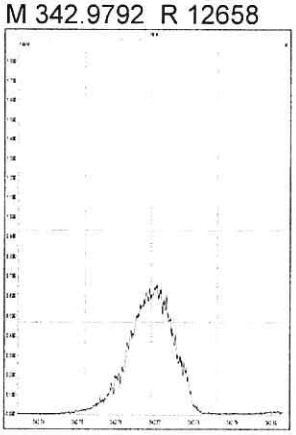

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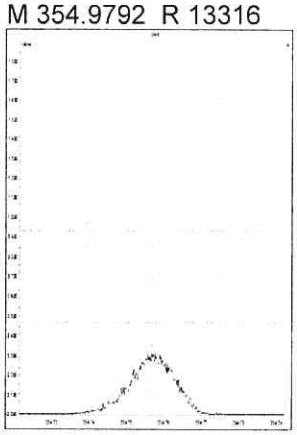

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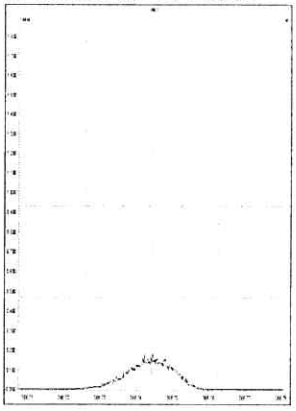

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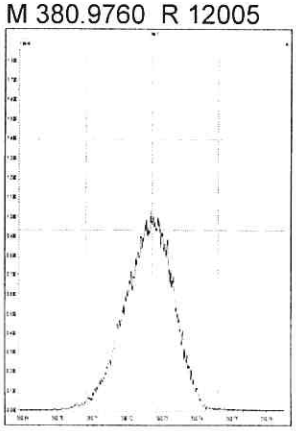

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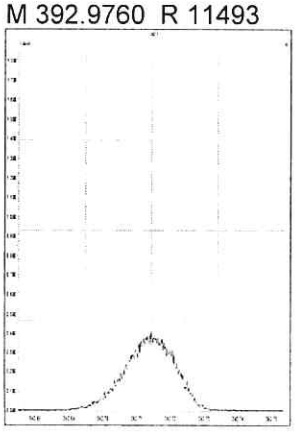
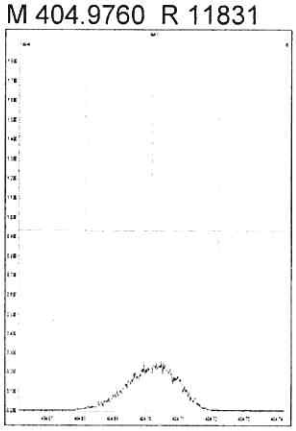


M 404.9760 R 11831



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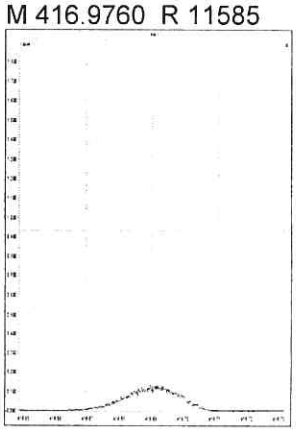

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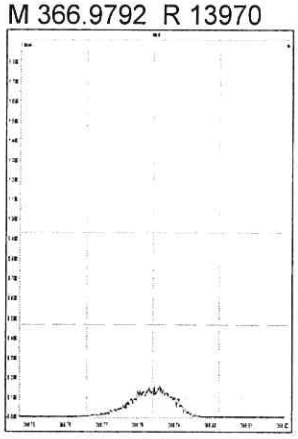

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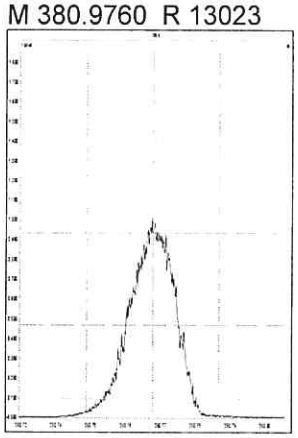

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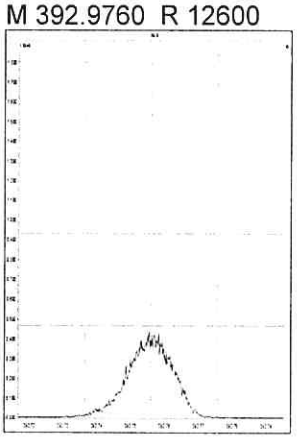

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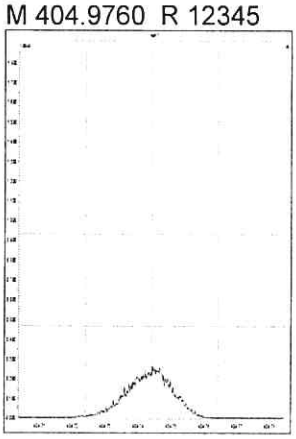

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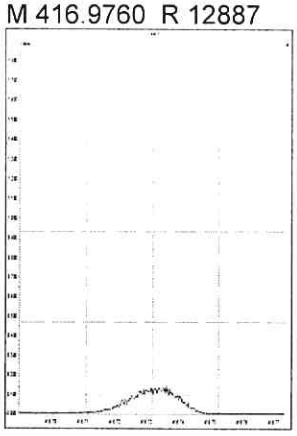

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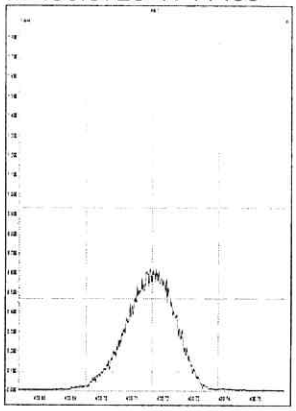

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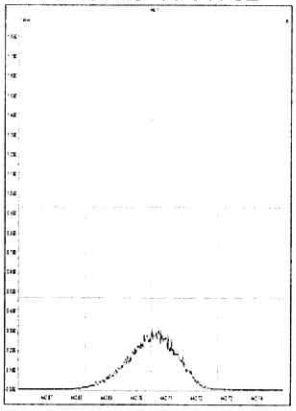

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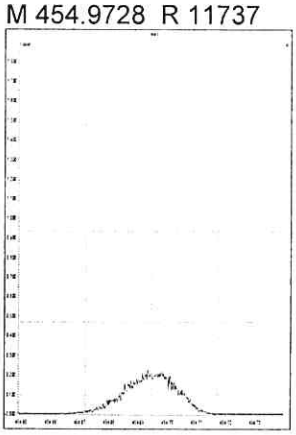

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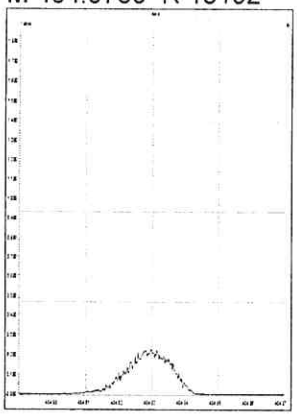

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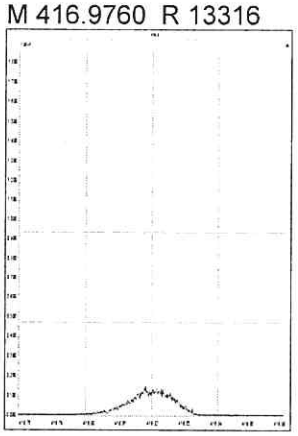

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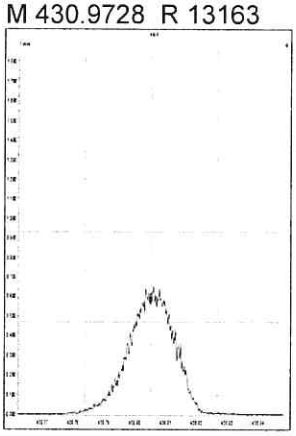

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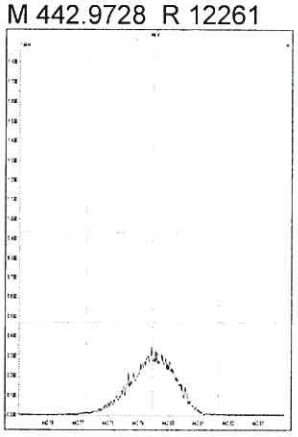

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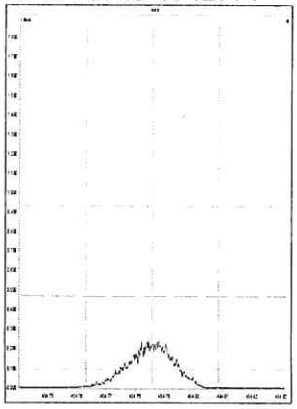

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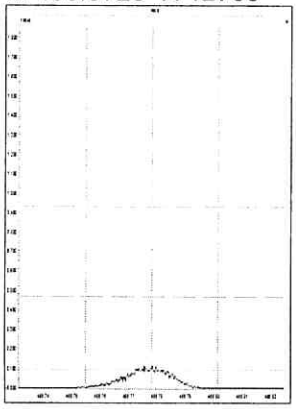

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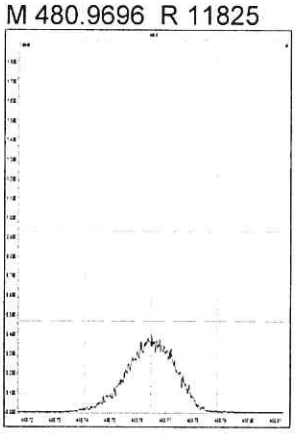

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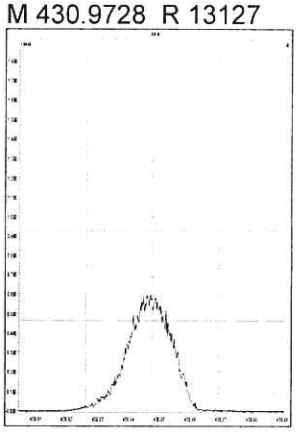

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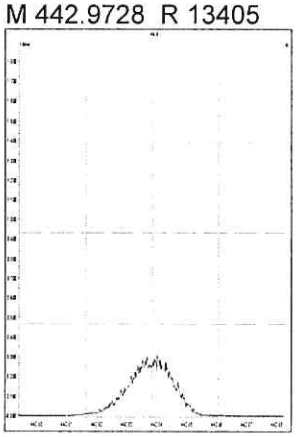

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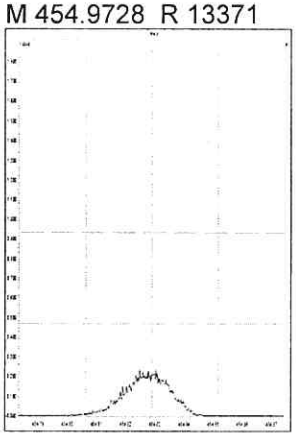

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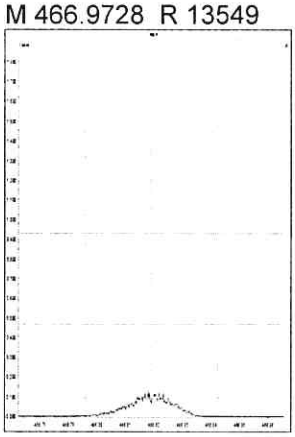

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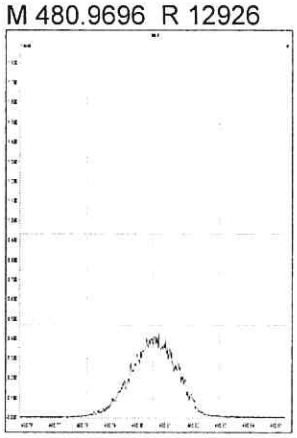

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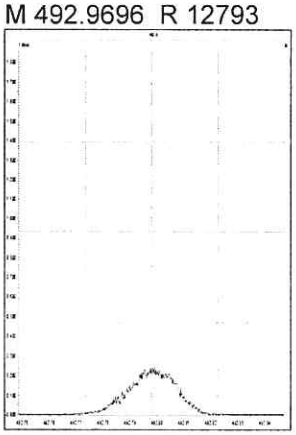
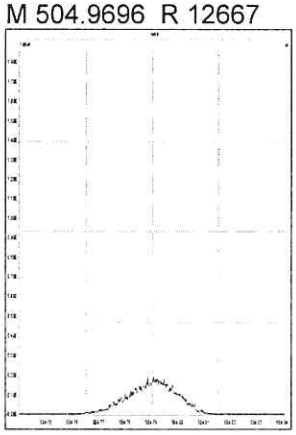


M 504.9696 R 12667



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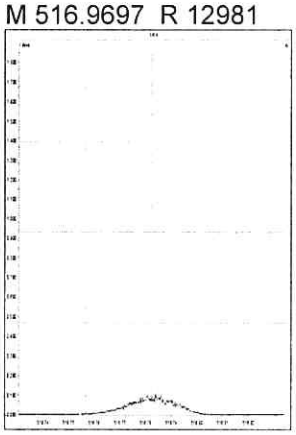


5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

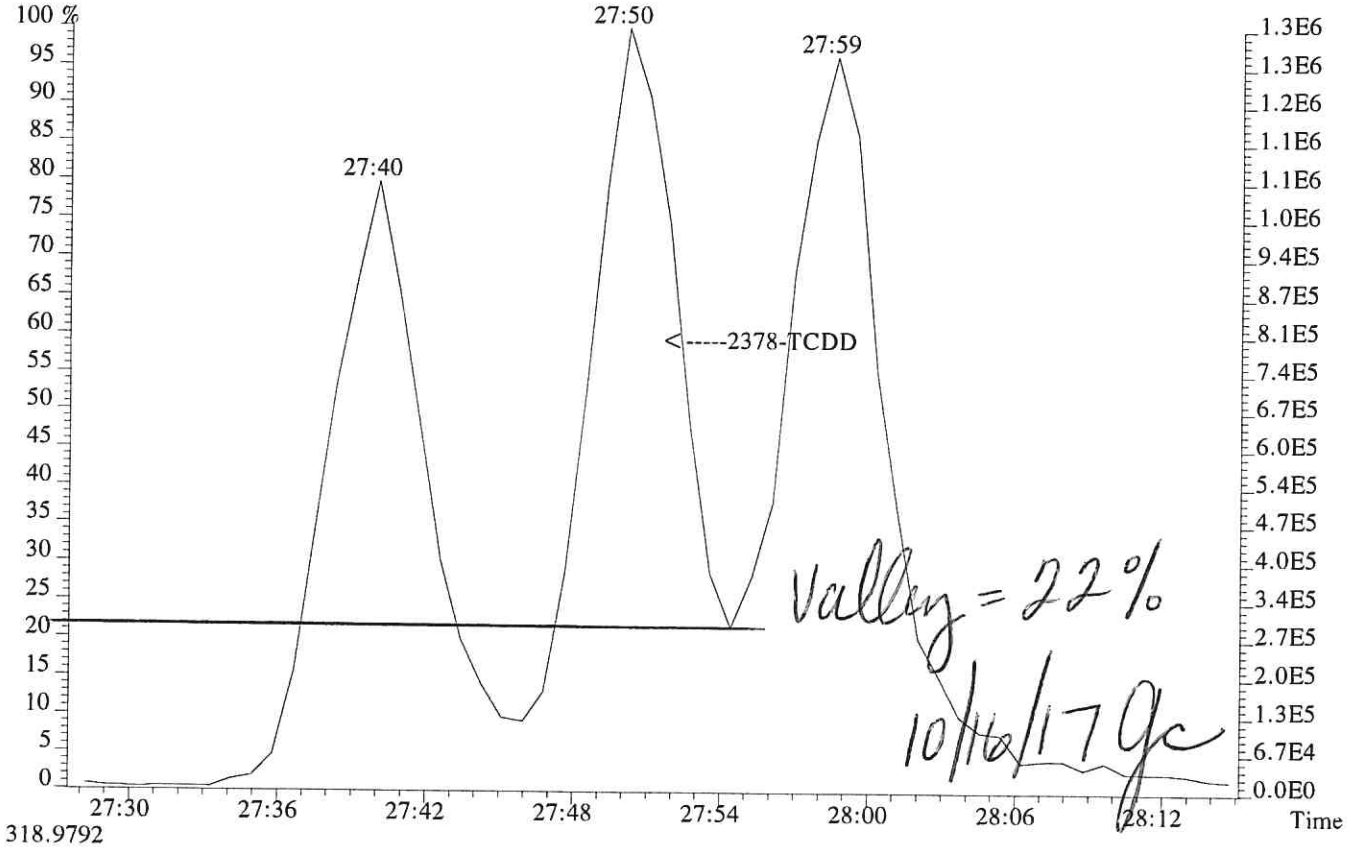
Case No.: _____ SDG No.:
ID: 0.25 (mm)

Lab File ID: P511939
Date Analyzed: 13-OCT-2017
Time Analyzed: 14:07:27

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	22:31	29:05
TCDD	24:14	28:54
PeCDF	29:02	33:29
PeCDD	30:40	33:13
HxCDF	34:10	36:42
HxCDD	34:41	36:18
HpCDF	37:55	39:15
HpCDD	38:10	38:49

% Valley 2378-TCDD: 22 %

File:P511939 #1-722 Acq:13-OCT-2017 14:07:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965



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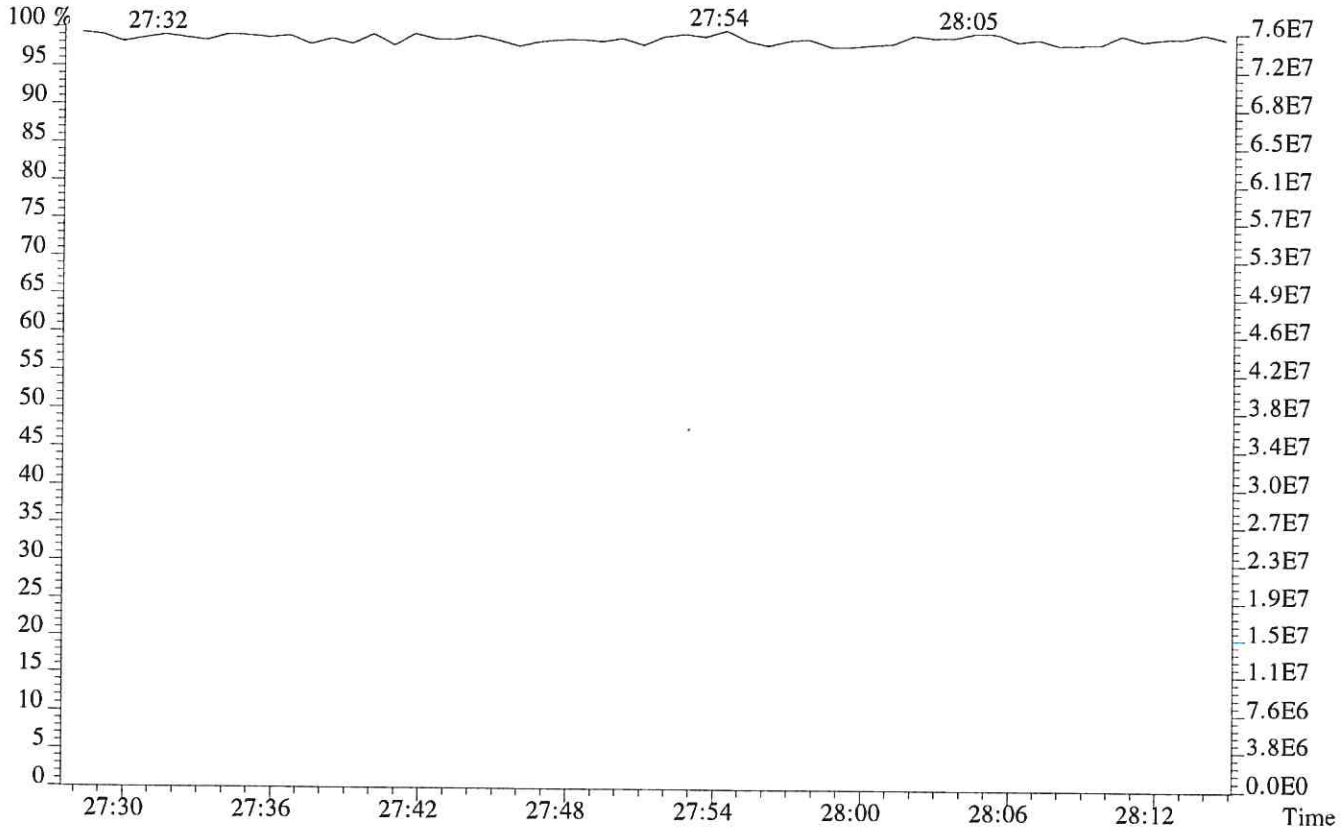

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Sample#1 Exp:178397
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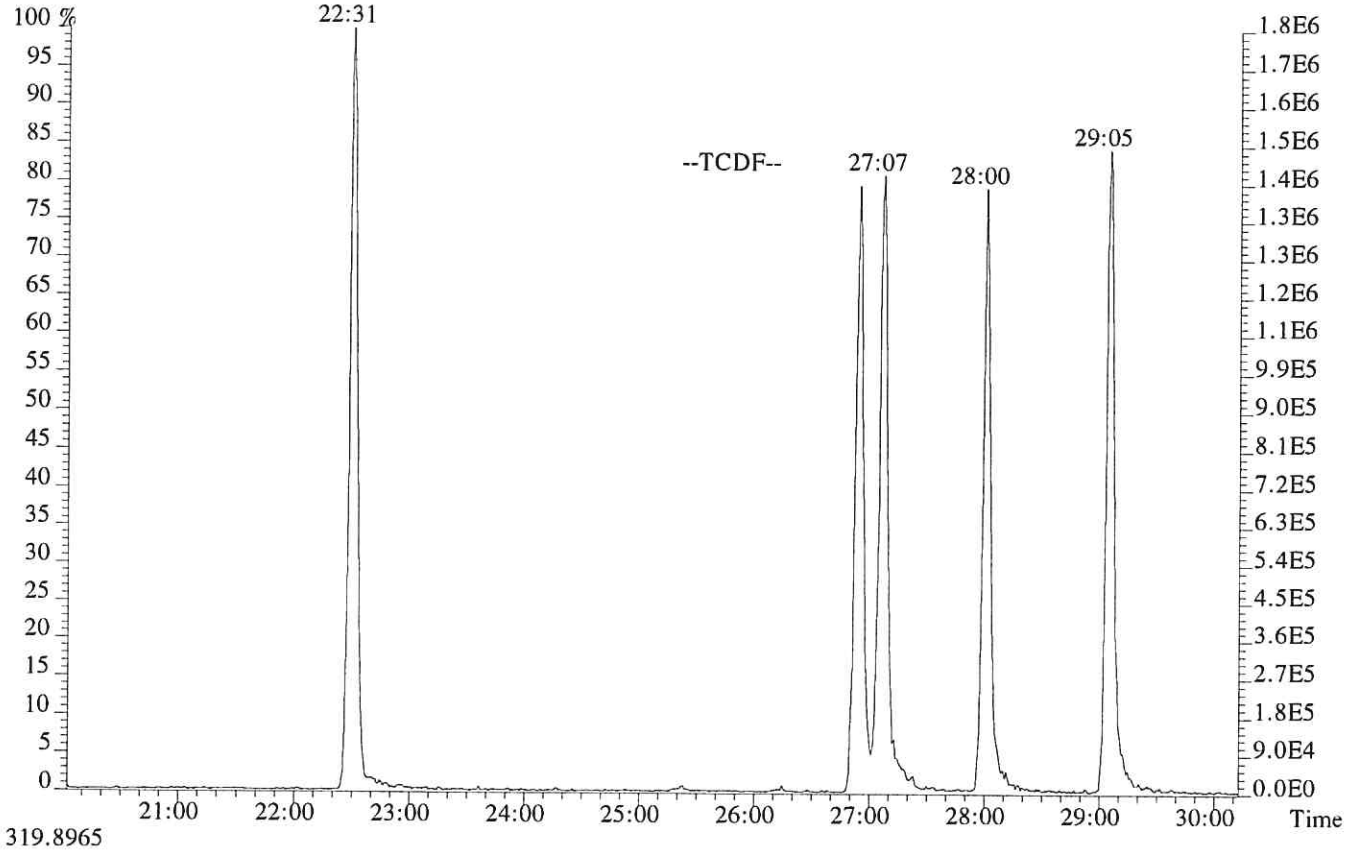
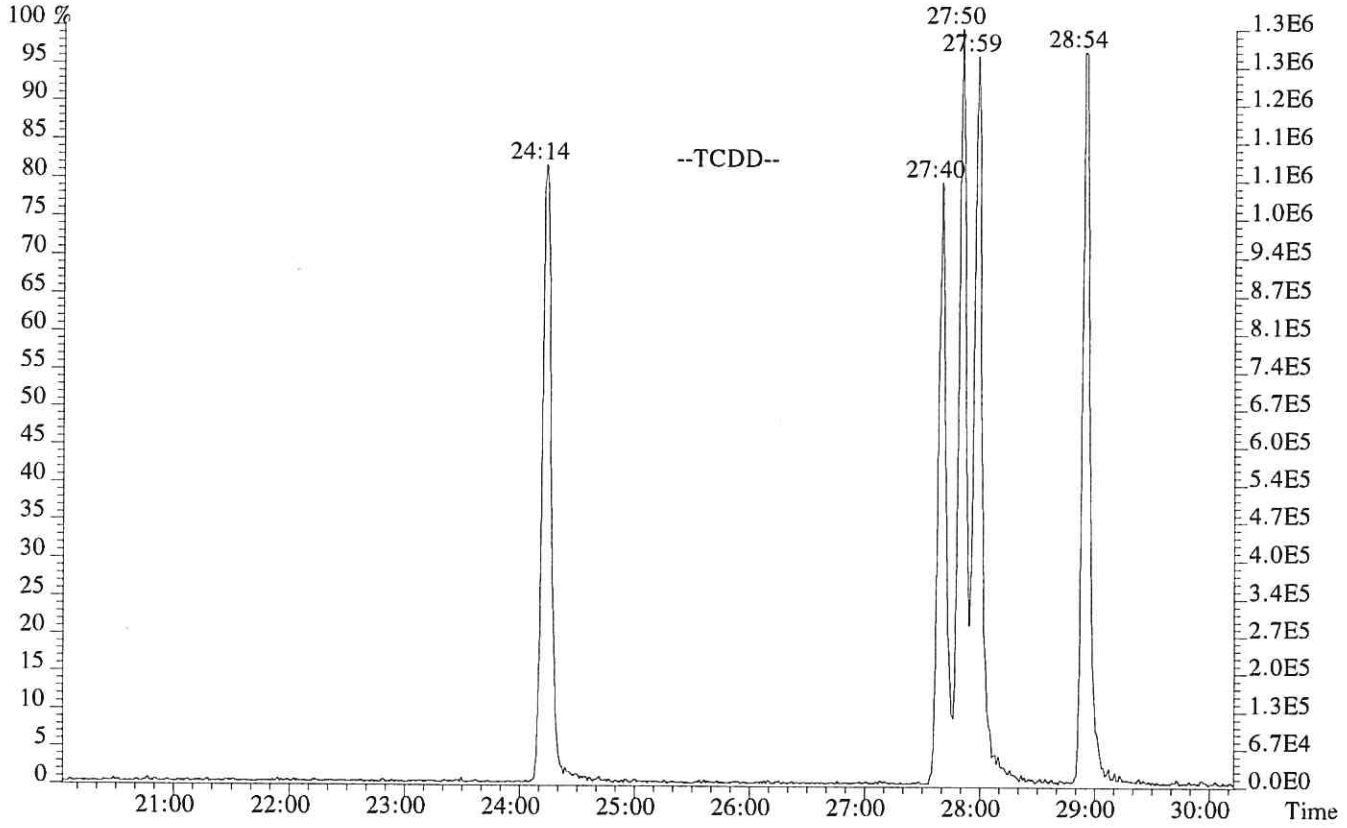


319.8965



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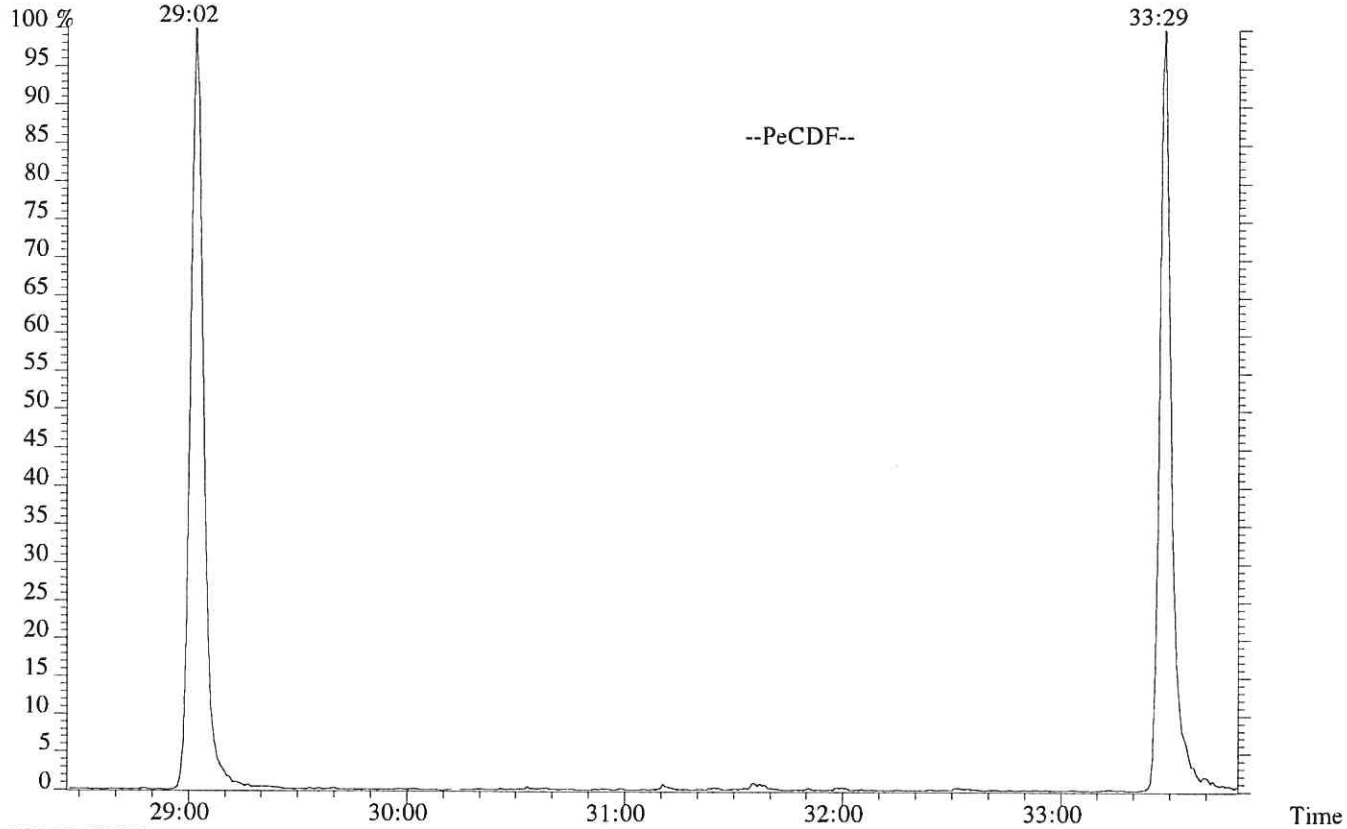
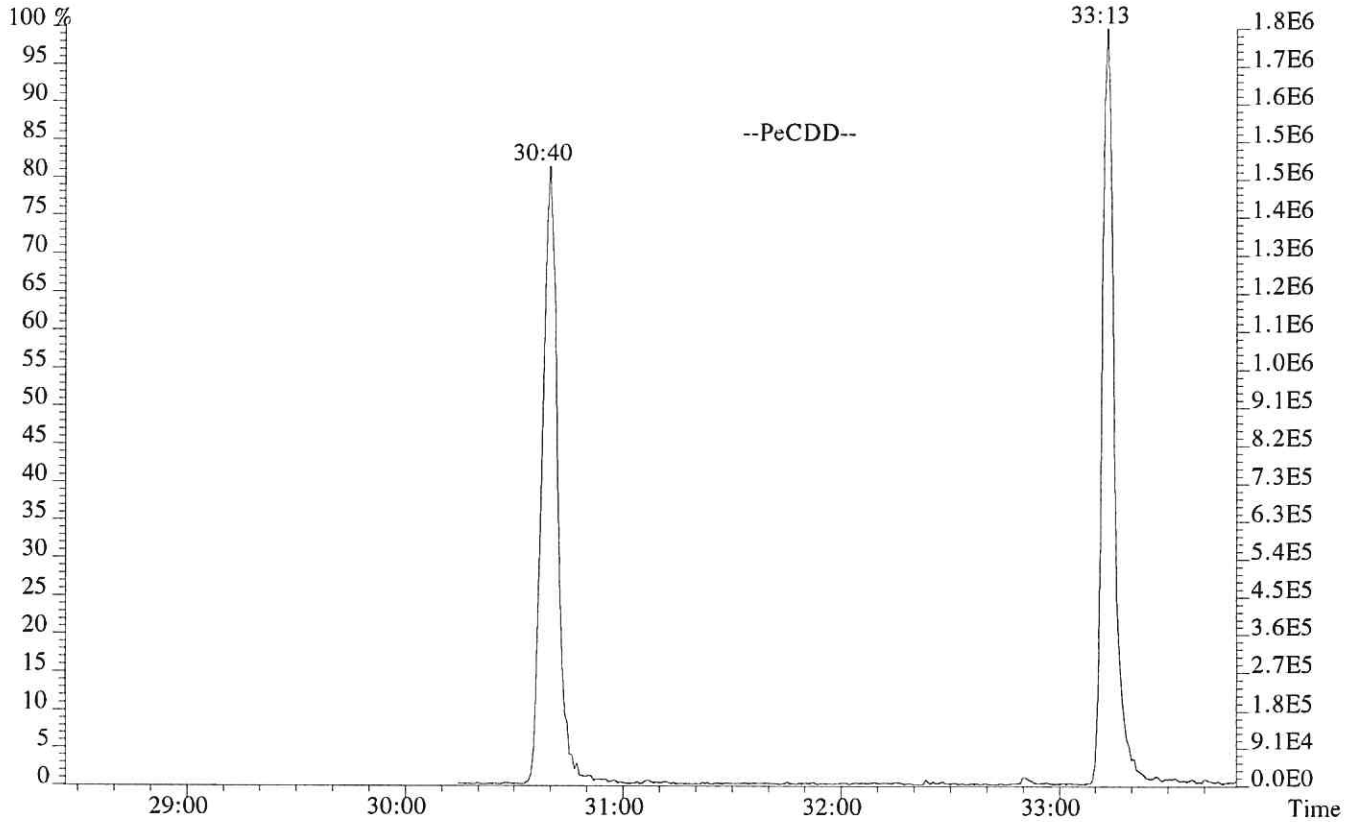
Sample#1 Exp:178397
339.8597,339.8597 F:2



355.8546 F:2



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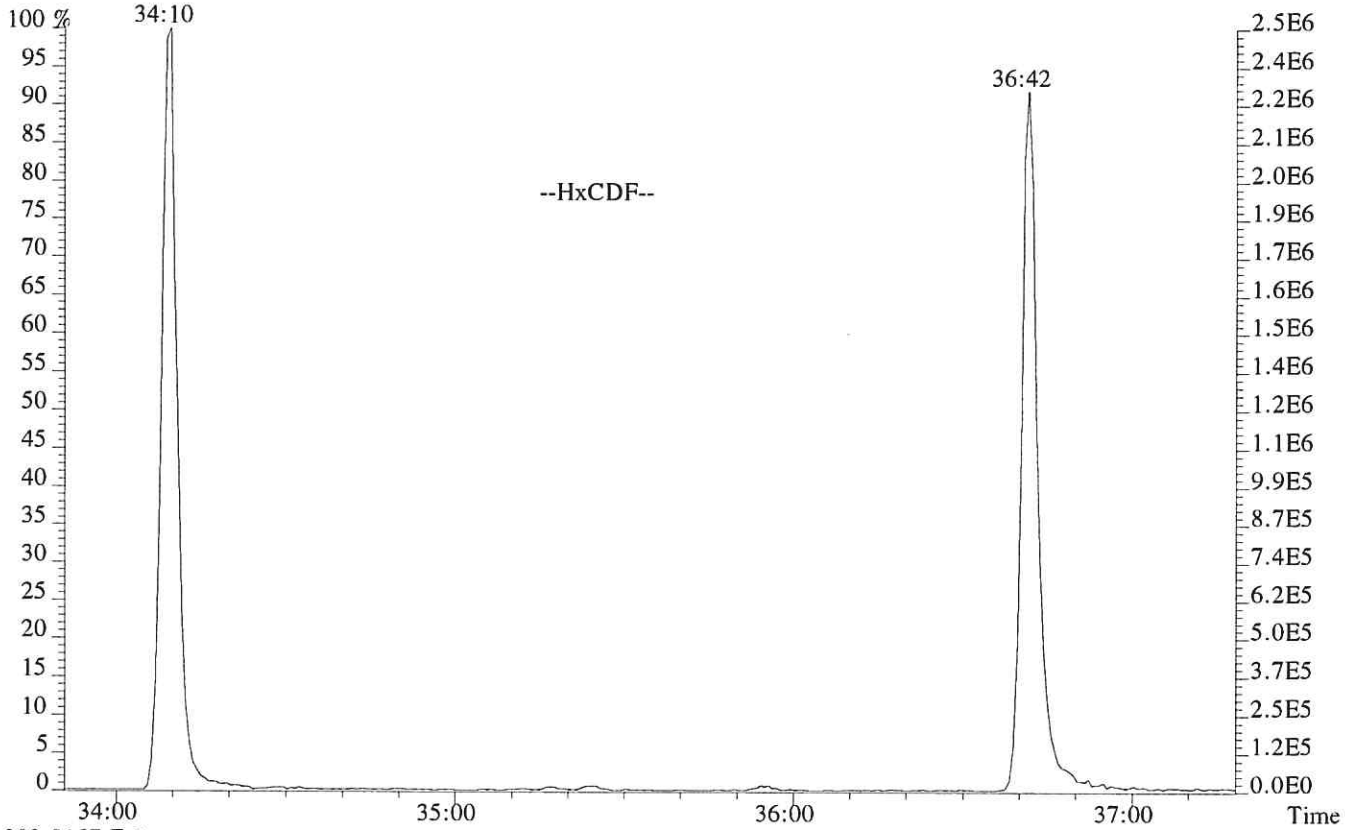
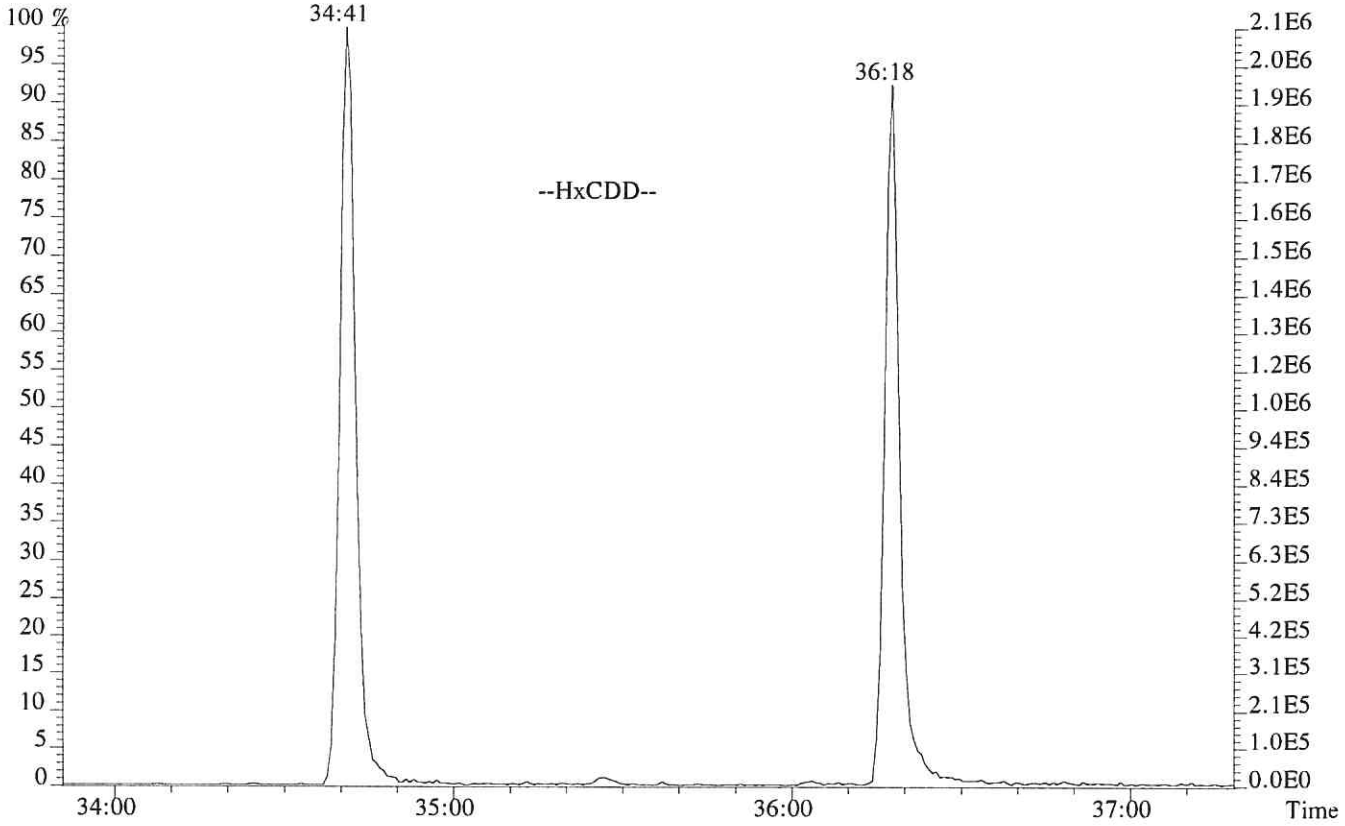
Sample#1 Exp:178397
373.8208 F:3



389.8157 F:3



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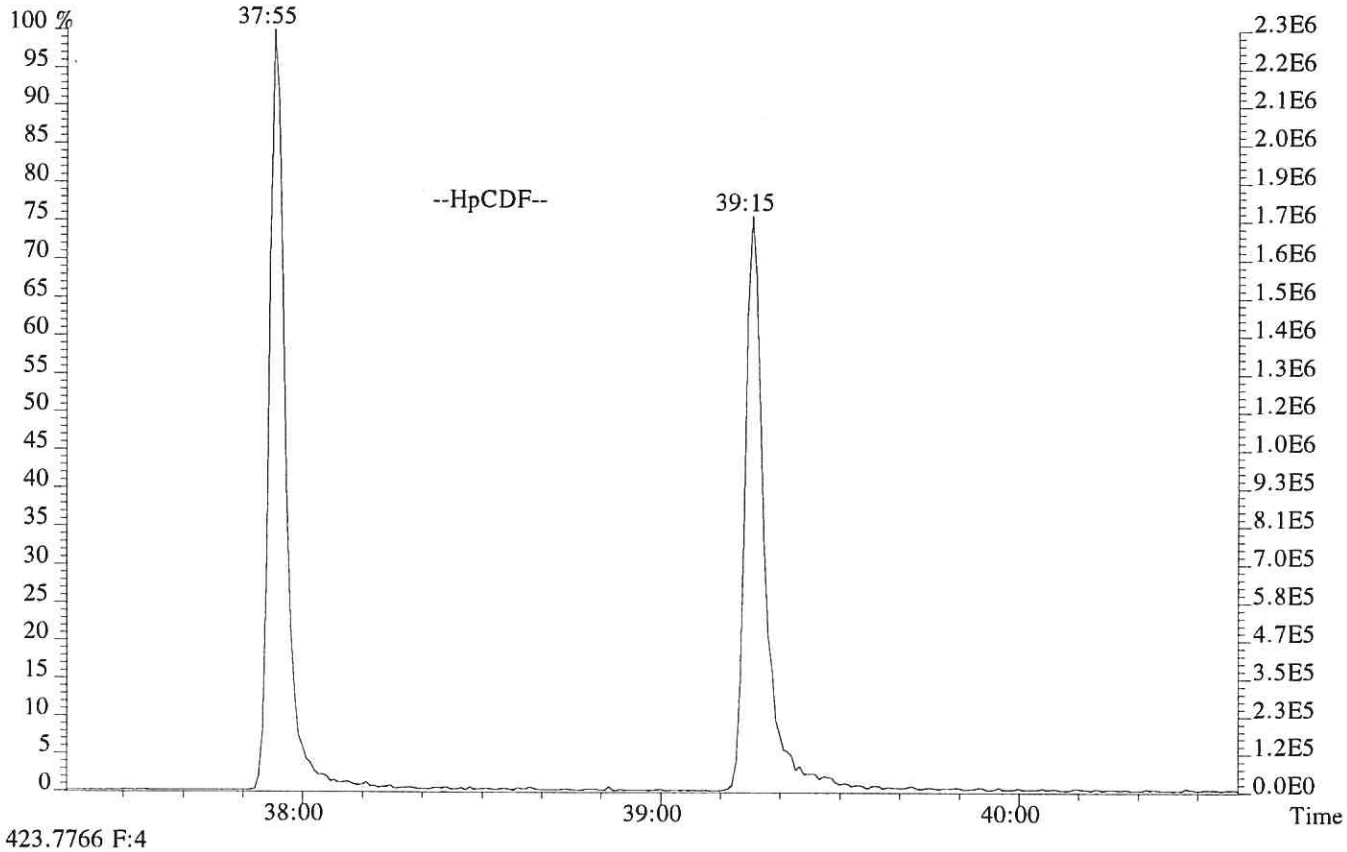
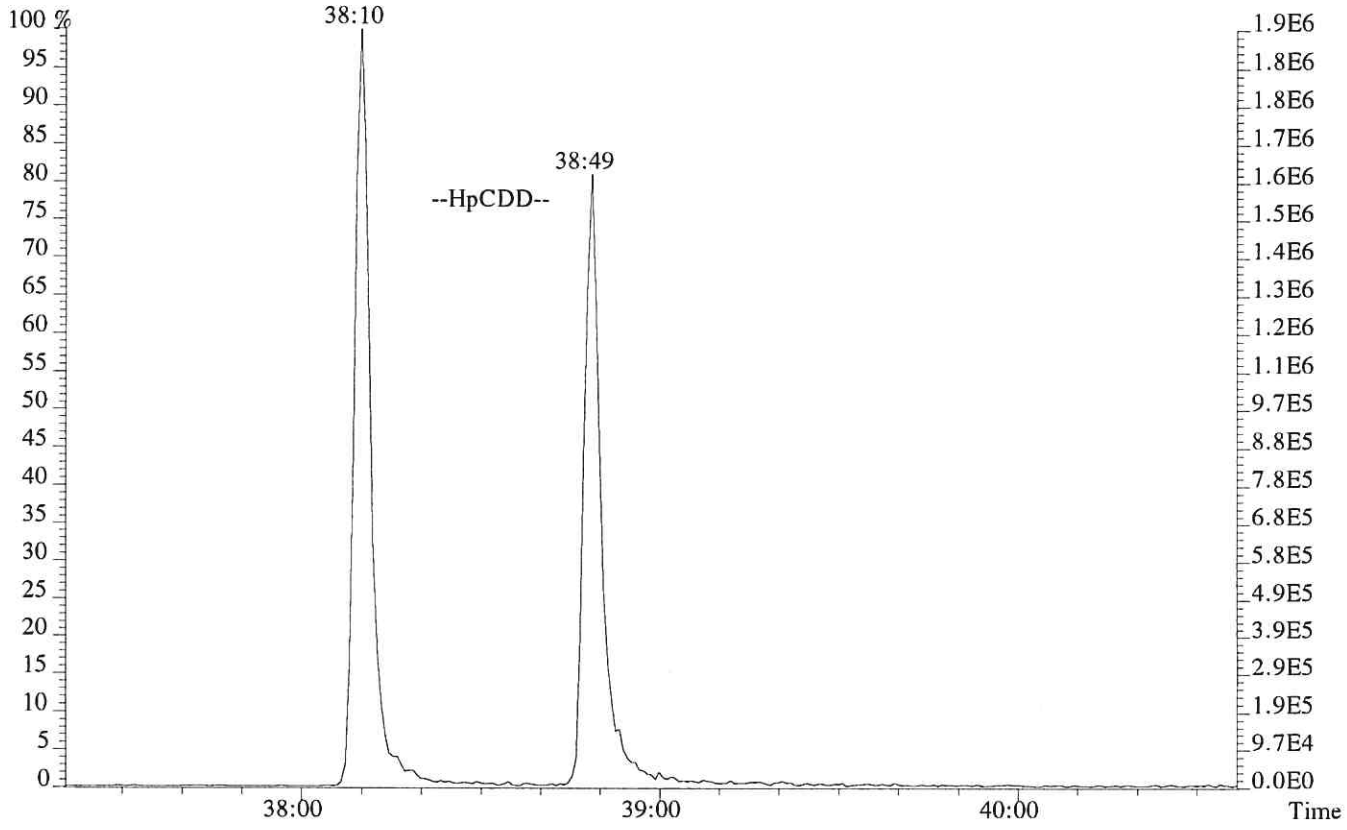
Sample#1 Exp:178397
407.7818 F:4



423.7766 F:4



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511938 Analysis Date: 13-OCT-17 Time: 13:10:49

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	9.5	7.8 - 12.9	-5.0
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	52	39 - 65	4.2
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	52	39 - 64	4.7
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	55	39 - 64	9.1
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	55	41 - 61	10.1
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	53	43 - 58	6.5
OCDD	M+2/M+4	0.89	0.76-1.02	106	79 - 126	5.7
2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	9.9	8.4 - 12.0	-0.8
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	56	41 - 60	11.2
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	53	41 - 61	6.1
1,2,3,4,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	56	45 - 56	11.7
1,2,3,6,7,8-HxCDF	M+2/M+4	1.19	1.05-1.43	55	44 - 57	10.5
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	55	45 - 56	10.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.17	1.05-1.43	55	44 - 57	10.9
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	53	45 - 55	6.4
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	53	43 - 58	5.5
OCDF	M+2/M+4	0.87	0.76-1.02	117	63 - 159	17.4

(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: 07/26/17

Instrument ID: E-HRMS-07 GC Column ID: DB-5MSUI

VER Data Filename: P511938 Analysis Date: 13-OCT-17 Time: 13:10:49

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	102	82 - 121	1.8
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	93	62 - 160	-7.3
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	94	85 - 117	-5.6
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	96	85 - 118	-4.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	105	72 - 138	5.0
13C-OCDD	M+2/M+4	0.90	0.76-1.02	211	96 - 415	5.7
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	106	71 - 140	6.2
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	100	76 - 130	-0.2
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	101	77 - 130	1.3
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	106	76 - 131	6.4
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	109	70 - 143	8.5
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	109	74 - 135	9.3
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	107	73 - 137	7.4
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	112	78 - 129	12.4
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	123	77 - 129	22.5
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				10.1	7.8 - 12.7	0.7

(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) 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 P511938 Samp: 1 Inj: 1 Acquired: 13-OCT-17 13:10:49
Processed: 13-OCT-17 15:22:50 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:06	4.329e+03	5.932e+03	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:36	3.903e+04	2.521e+04	1.55	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:33	3.530e+04	2.359e+04	1.50	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:17	3.120e+04	2.603e+04	1.20	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:24	3.368e+04	2.831e+04	1.19	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	3.039e+04	2.590e+04	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	2.808e+04	2.341e+04	1.20	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	2.903e+04	2.889e+04	1.00	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	2.589e+04	2.563e+04	1.01	yes	no	1.191
10	Unk	OCDF	41:36	4.121e+04	4.728e+04	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:59	3.727e+03	4.851e+03	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:50	2.622e+04	1.692e+04	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:02	2.175e+04	1.749e+04	1.24	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:08	2.413e+04	1.909e+04	1.26	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	2.501e+04	1.954e+04	1.28	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:48	2.209e+04	2.072e+04	1.07	yes	no	0.942
17	Unk	OCDD	41:25	3.582e+04	4.008e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	5.552e+04	6.985e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	8.043e+04	5.149e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	8.017e+04	5.120e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	3.251e+04	6.378e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:23	3.847e+04	7.489e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:54	3.573e+04	6.858e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	3.209e+04	6.114e+04	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	2.662e+04	6.018e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:15	2.534e+04	5.672e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:57	3.750e+04	4.734e+04	0.79	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	5.600e+04	3.515e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	4.375e+04	3.407e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:07	4.752e+04	3.768e+04	1.26	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	4.406e+04	4.122e+04	1.07	yes	no	0.881
32	IS	13C-OCDD	41:24	6.454e+04	7.210e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:20	3.874e+04	4.857e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:22	5.119e+04	4.103e+04	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:59	9.083e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #7 Filename P511938 Samp: 1 Inj: 1 Acquired: 13-OCT-17 13:10:49
Processed: 13-OCT-17 15:22:50 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	6.82e+05	1.28e+03	5.3e+02	9.42e+05	3.99e+03	2.4e+02
2	1,2,3,7,8-PeCDF	6.42e+06	1.50e+03	4.3e+03	4.14e+06	3.87e+03	1.1e+03
3	2,3,4,7,8-PeCDF	6.23e+06	1.50e+03	4.2e+03	4.16e+06	3.87e+03	1.1e+03
4	1,2,3,4,7,8-HxCDF	6.42e+06	7.08e+02	9.1e+03	5.29e+06	9.12e+02	5.8e+03
5	1,2,3,6,7,8-HxCDF	6.45e+06	7.08e+02	9.1e+03	5.41e+06	9.12e+02	5.9e+03
6	2,3,4,6,7,8-HxCDF	6.21e+06	7.08e+02	8.8e+03	5.21e+06	9.12e+02	5.7e+03
7	1,2,3,7,8,9-HxCDF	5.17e+06	7.08e+02	7.3e+03	4.31e+06	9.12e+02	4.7e+03
8	1,2,3,4,6,7,8-HpCDF	5.81e+06	2.93e+03	2.0e+03	5.73e+06	3.32e+03	1.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.71e+06	2.93e+03	1.6e+03	4.61e+06	3.32e+03	1.4e+03
10	OCDF	6.01e+06	2.36e+02	2.5e+04	6.86e+06	8.60e+02	8.0e+03
11	2,3,7,8-TCDD	6.25e+05	2.07e+03	3.0e+02	8.04e+05	1.54e+03	5.2e+02
12	1,2,3,7,8-PeCDD	4.69e+06	1.14e+03	4.1e+03	2.99e+06	4.08e+02	7.3e+03
13	1,2,3,4,7,8-HxCDD	4.64e+06	5.72e+02	8.1e+03	3.77e+06	1.54e+03	2.4e+03
14	1,2,3,6,7,8-HxCDD	4.64e+06	5.72e+02	8.1e+03	3.68e+06	1.54e+03	2.4e+03
15	1,2,3,7,8,9-HxCDD	4.68e+06	5.72e+02	8.2e+03	3.62e+06	1.54e+03	2.3e+03
16	1,2,3,4,6,7,8-HpCDD	4.08e+06	4.24e+02	9.6e+03	3.89e+06	9.84e+02	4.0e+03
17	OCDD	5.06e+06	6.64e+02	7.6e+03	5.68e+06	1.55e+03	3.7e+03
18	13C-2,3,7,8-TCDF	8.83e+06	1.16e+04	7.6e+02	1.11e+07	4.52e+03	2.5e+03
19	13C-1,2,3,7,8-PeCDF	1.32e+07	7.72e+02	1.7e+04	8.55e+06	1.67e+03	5.1e+03
20	13C-2,3,4,7,8-PeCDF	1.44e+07	7.72e+02	1.9e+04	9.30e+06	1.67e+03	5.6e+03
21	13C-1,2,3,4,7,8-HxCDF	6.68e+06	1.26e+03	5.3e+03	1.30e+07	2.63e+03	4.9e+03
22	13C-1,2,3,6,7,8-HxCDF	7.30e+06	1.26e+03	5.8e+03	1.43e+07	2.63e+03	5.4e+03
23	13C-2,3,4,6,7,8-HxCDF	7.18e+06	1.26e+03	5.7e+03	1.36e+07	2.63e+03	5.2e+03
24	13C-1,2,3,7,8,9-HxCDF	5.98e+06	1.26e+03	4.7e+03	1.14e+07	2.63e+03	4.3e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.22e+06	2.22e+03	2.4e+03	1.19e+07	6.99e+03	1.7e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.48e+06	2.22e+03	2.0e+03	1.01e+07	6.99e+03	1.4e+03
27	13C-2,3,7,8-TCDD	6.37e+06	8.82e+03	7.2e+02	8.04e+06	3.91e+03	2.1e+03
28	13C-1,2,3,7,8-PeCDD	9.93e+06	1.66e+03	6.0e+03	6.19e+06	1.14e+03	5.4e+03
29	13C-1,2,3,4,7,8-HxCDD	9.37e+06	2.83e+03	3.3e+03	7.29e+06	1.94e+03	3.8e+03
30	13C-1,2,3,6,7,8-HxCDD	9.15e+06	2.83e+03	3.2e+03	7.24e+06	1.94e+03	3.7e+03
31	13C-1,2,3,4,6,7,8-HpCDD	8.11e+06	1.22e+03	6.6e+03	7.70e+06	1.05e+03	7.3e+03
32	13C-OCDD	9.11e+06	1.60e+04	5.7e+02	1.02e+07	1.07e+04	9.6e+02
33	13C-1,2,3,4-TCDD	6.46e+06	8.82e+03	7.3e+02	8.12e+06	3.91e+03	2.1e+03
34	13C-1,2,3,7,8,9-HxCDD	9.40e+06	2.83e+03	3.3e+03	7.48e+06	1.94e+03	3.9e+03
35	37Cl-2,3,7,8-TCDD	1.49e+06	1.56e+03	9.6e+02			

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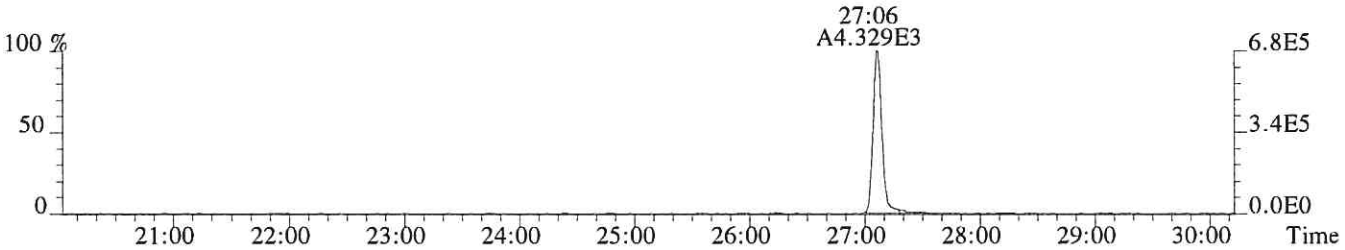
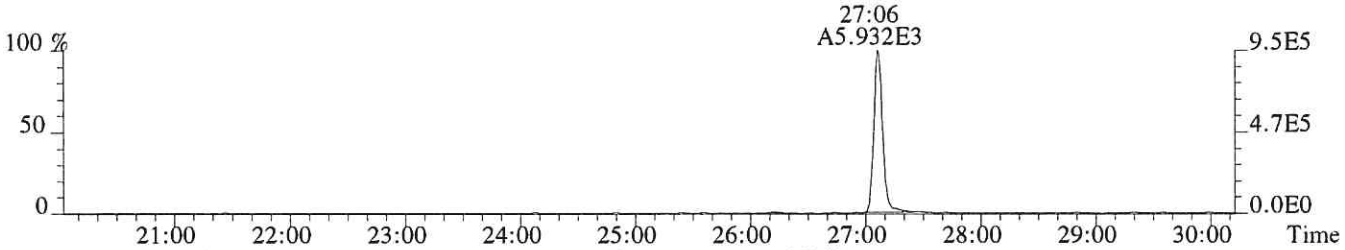
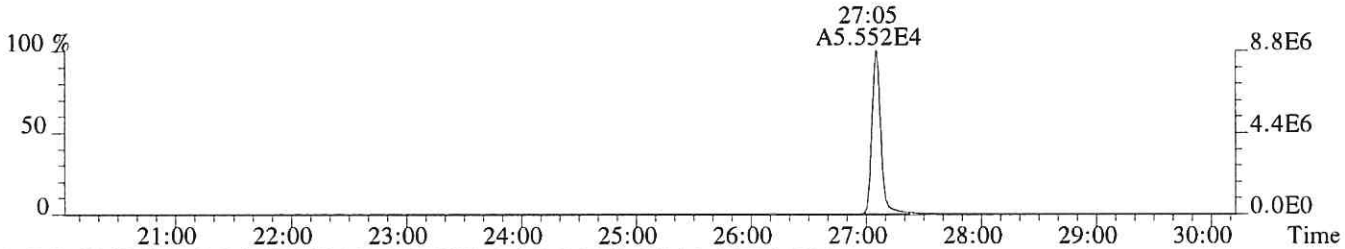
File:P511938 #1-722 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1284.0,1.00%,F,T)



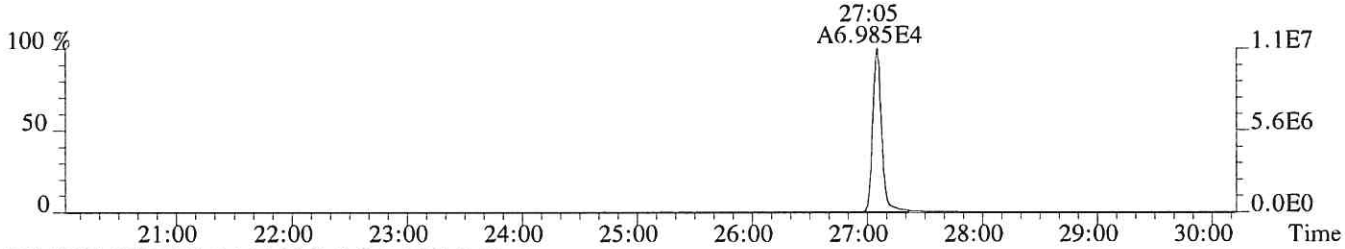
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3992.0,1.00%,F,T)



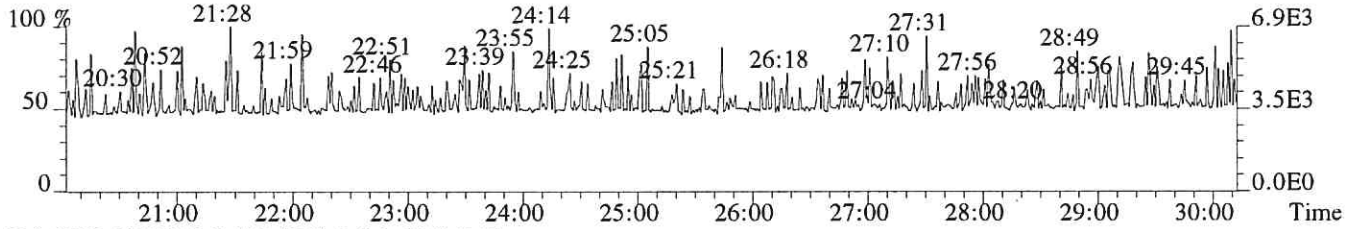
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11580.0,1.00%,F,T)



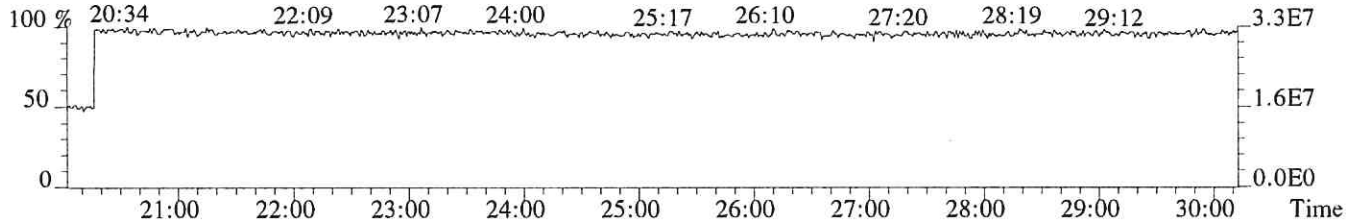
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4524.0,1.00%,F,T)



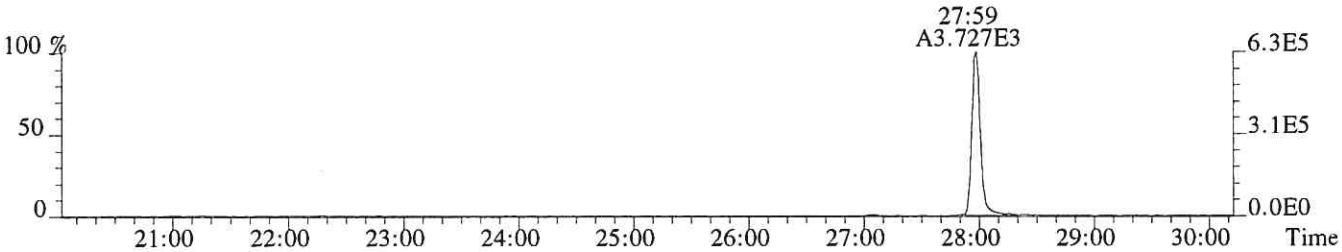
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



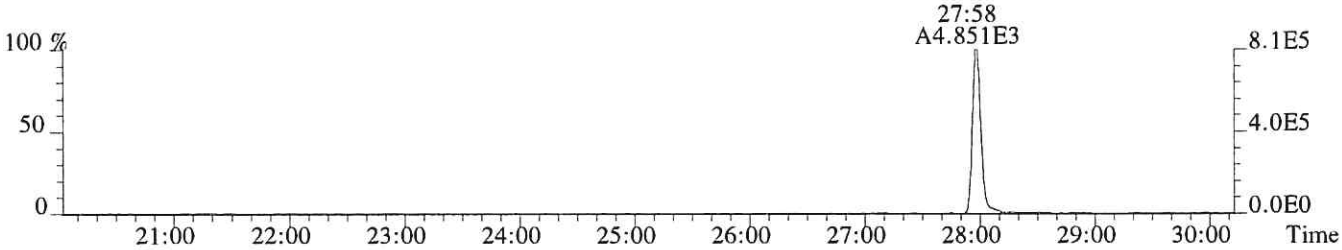
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



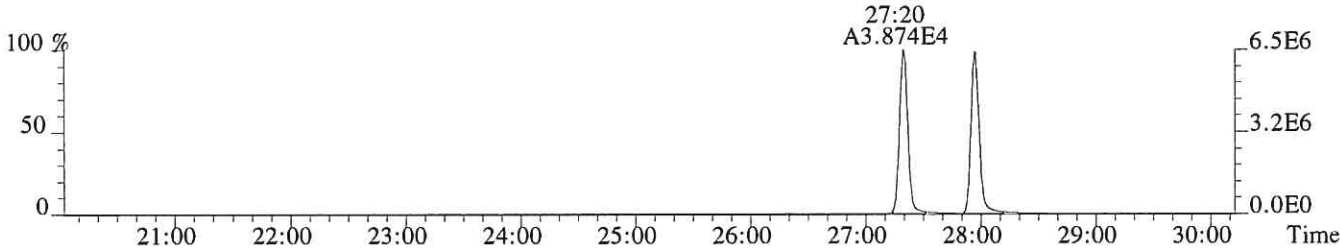
File:P511938 #1-722 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



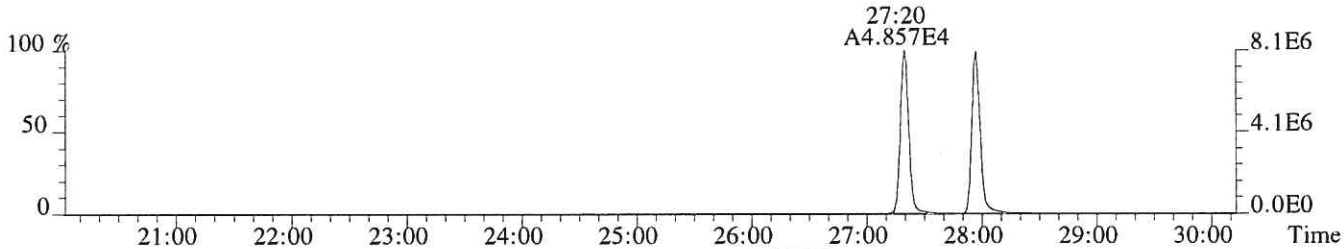
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1536.0,1.00%,F,T)



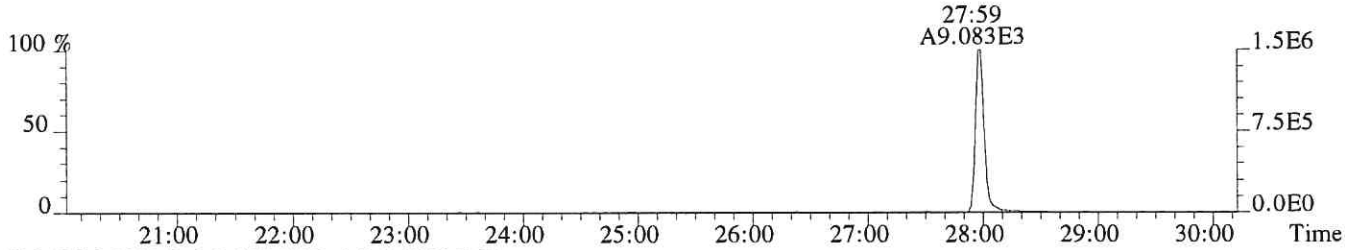
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8820.0,1.00%,F,T)



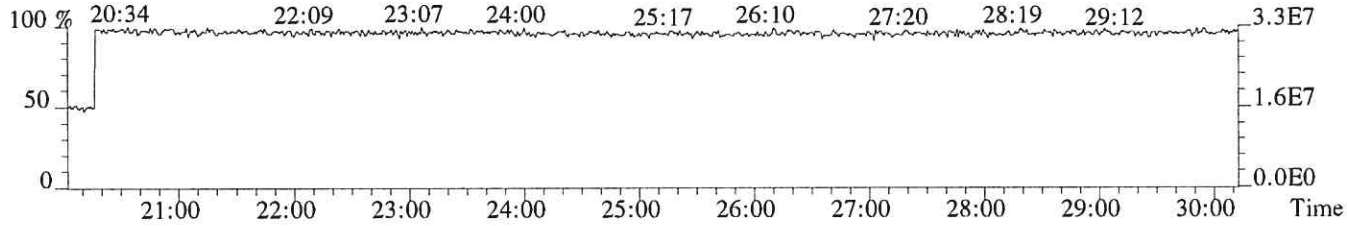
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3908.0,1.00%,F,T)



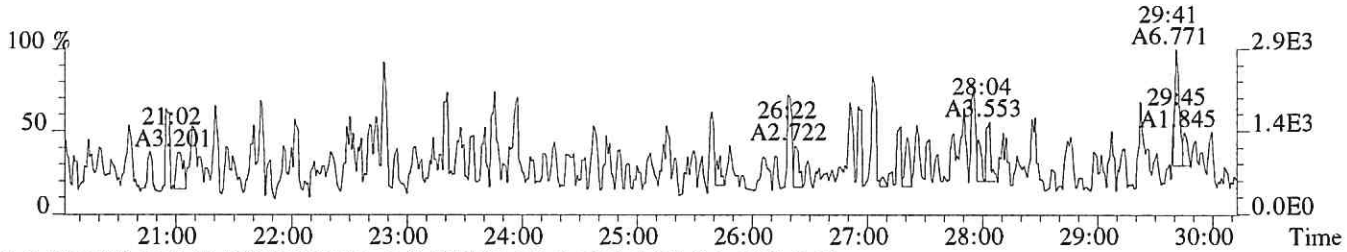
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1556.0,1.00%,F,T)



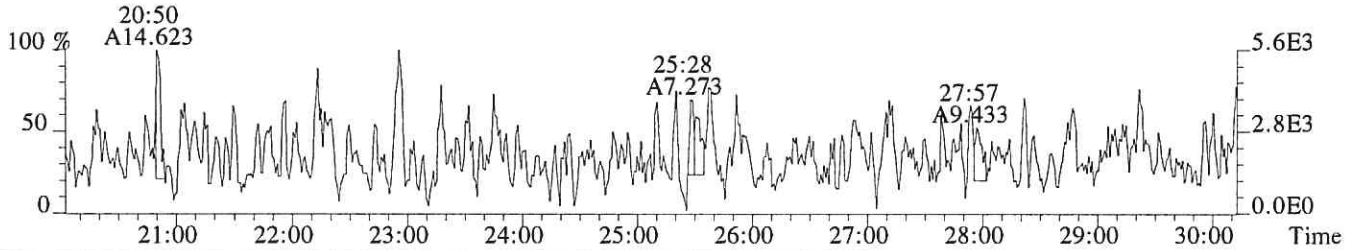
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



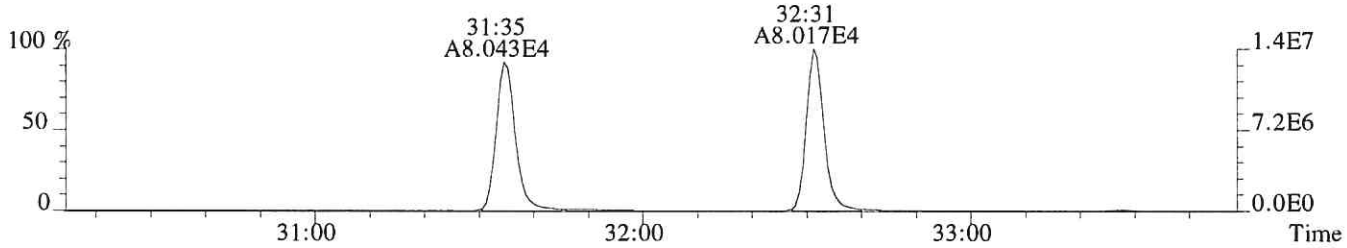
File:P511938 #1-722 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



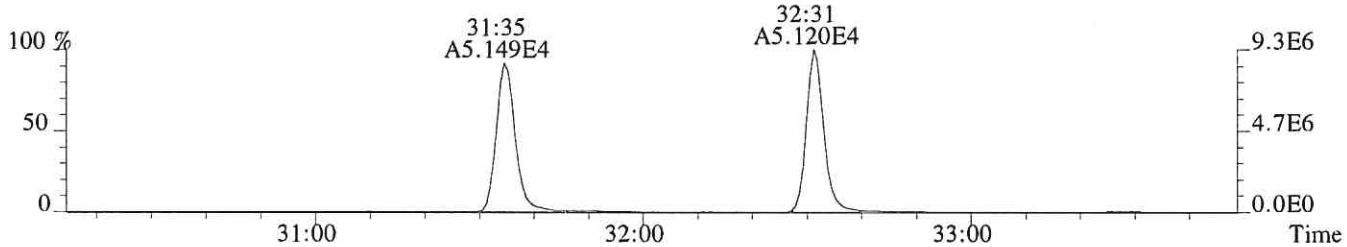
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2432.0,1.00%,F,T)



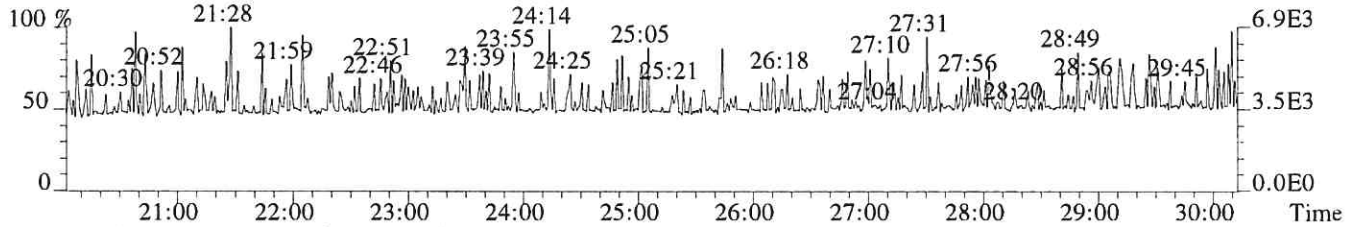
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



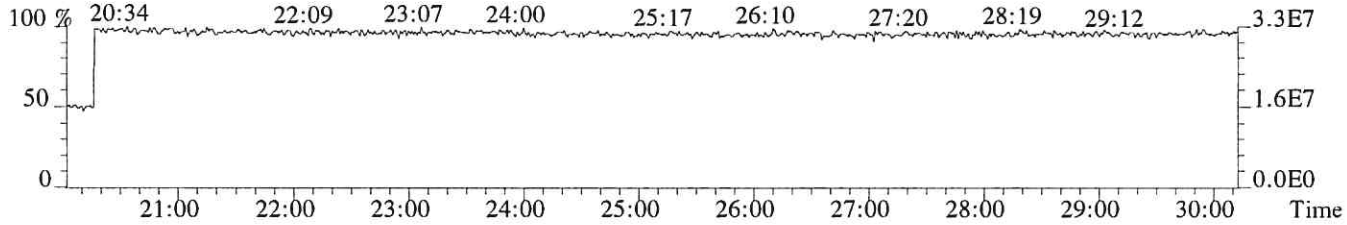
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1668.0,1.00%,F,T)



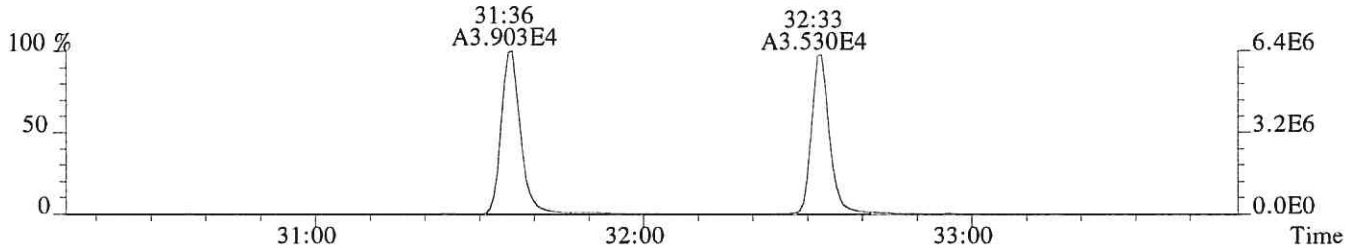
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



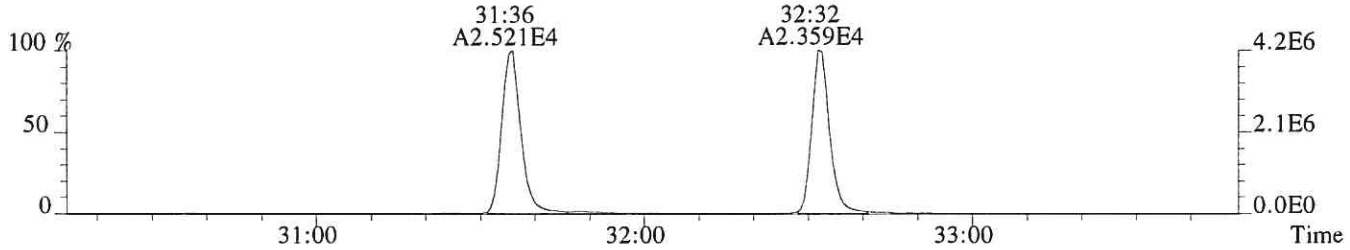
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



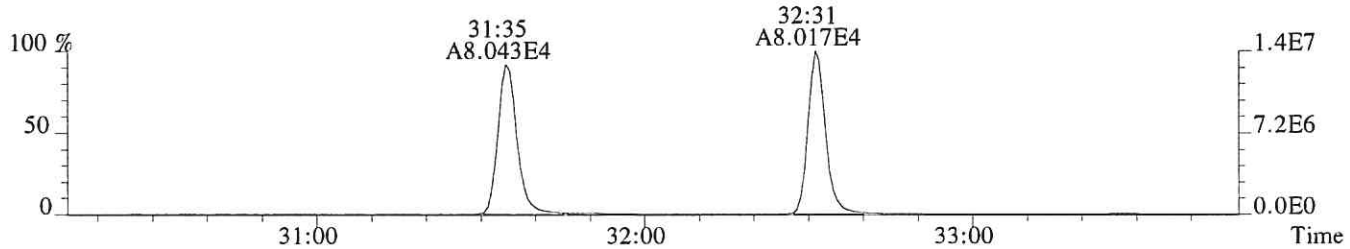
File:P511938 #1-322 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



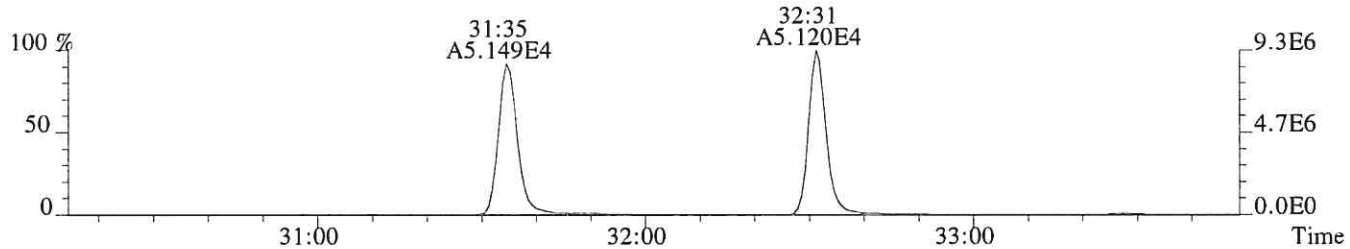
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3868.0,1.00%,F,T)



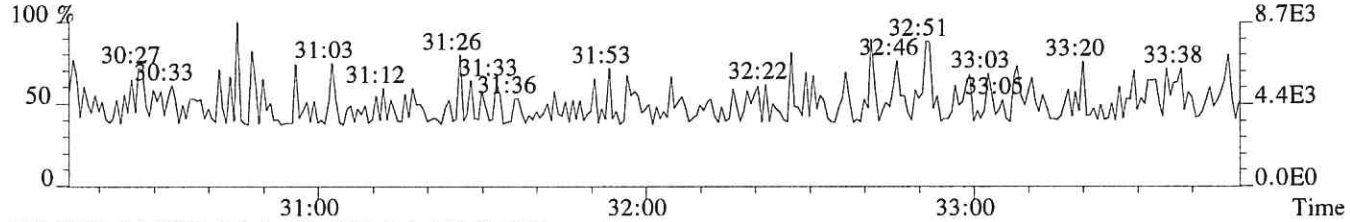
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



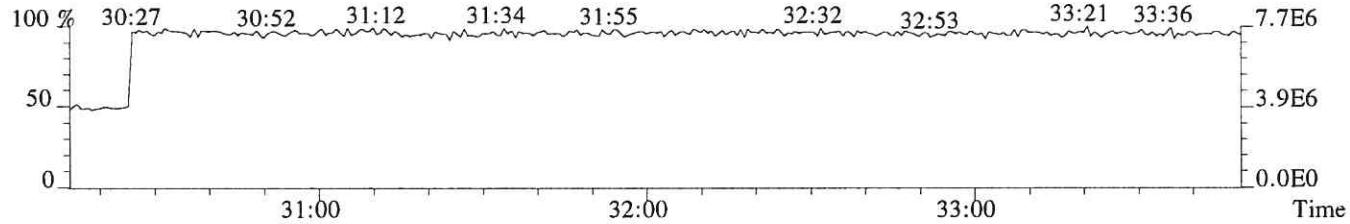
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1668.0,1.00%,F,T)



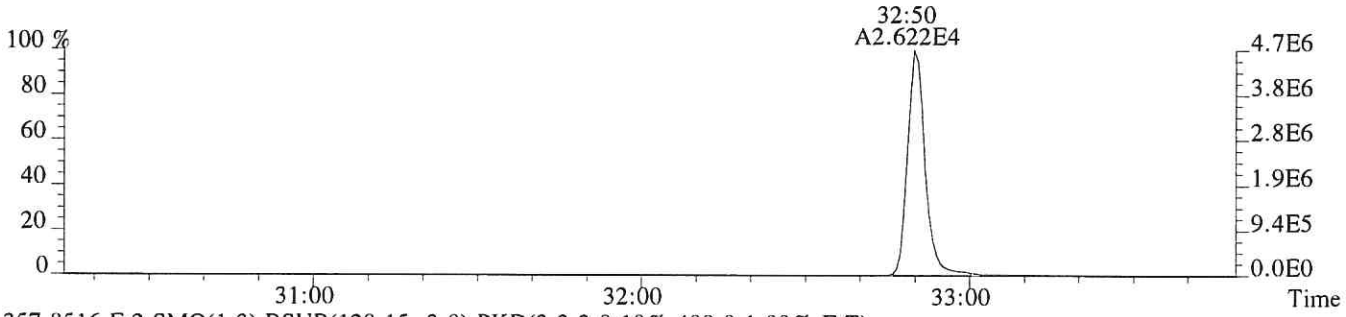
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



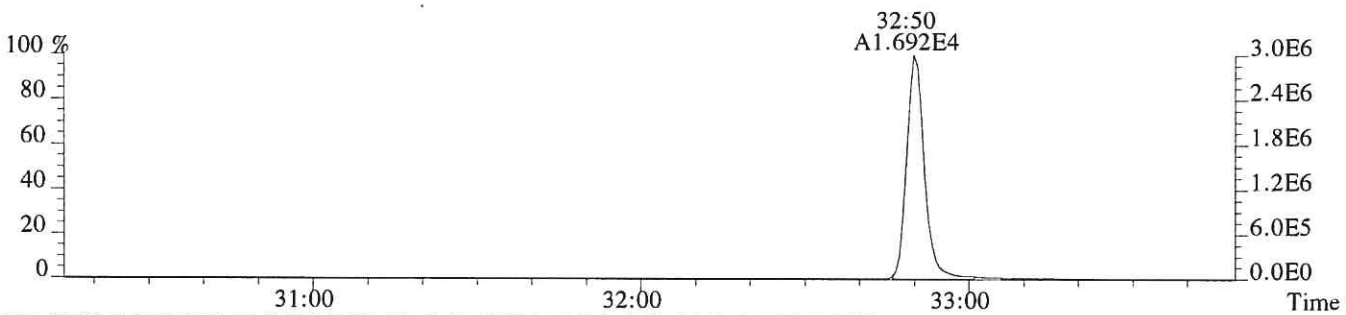
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



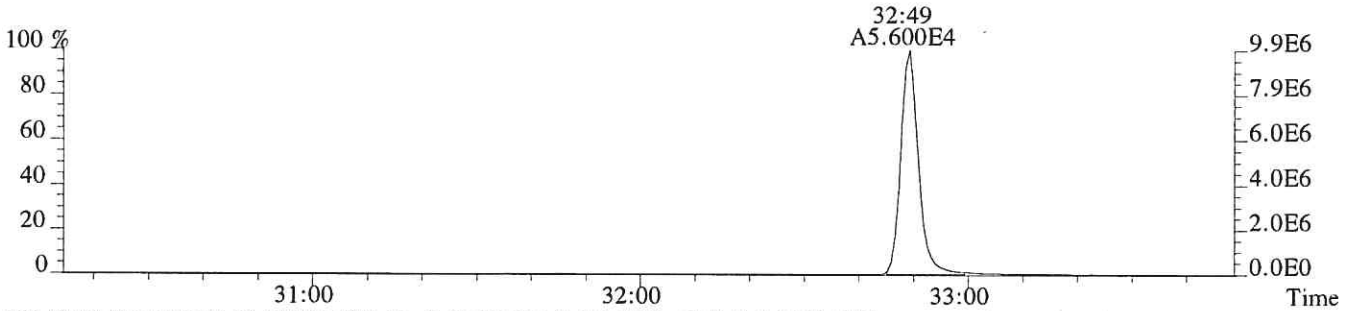
File:P511938 #1-322 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,T)



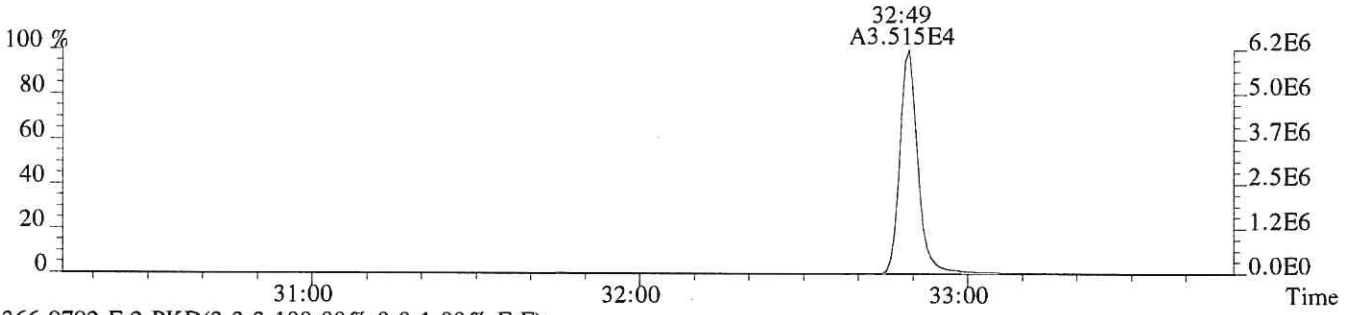
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,T)



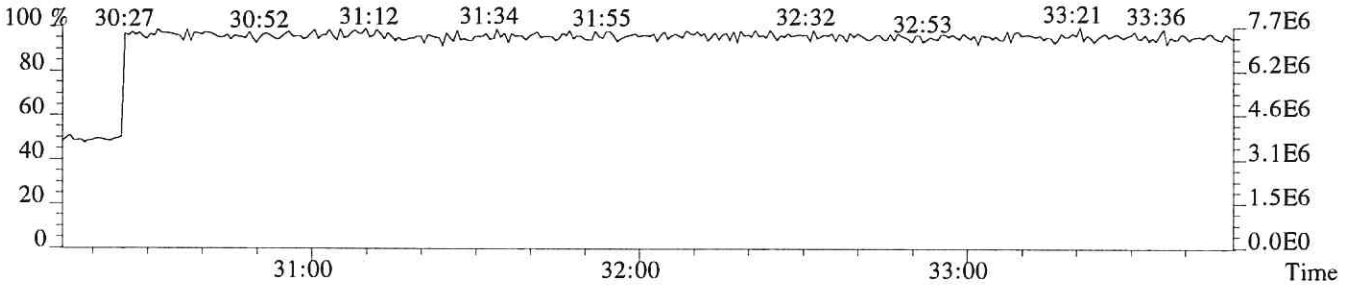
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1660.0,1.00%,F,T)



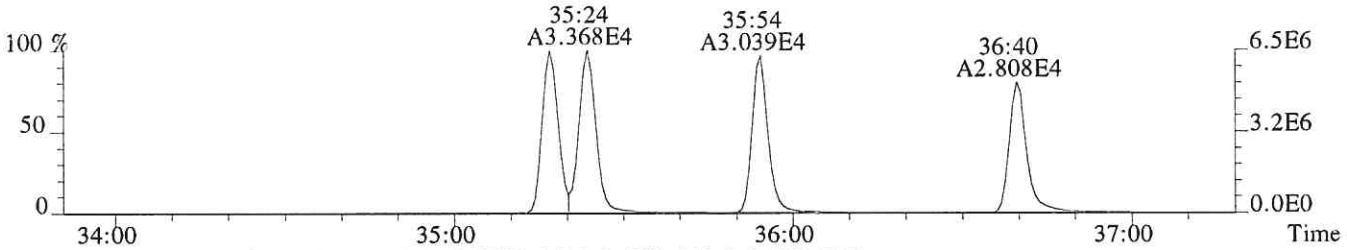
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,T)



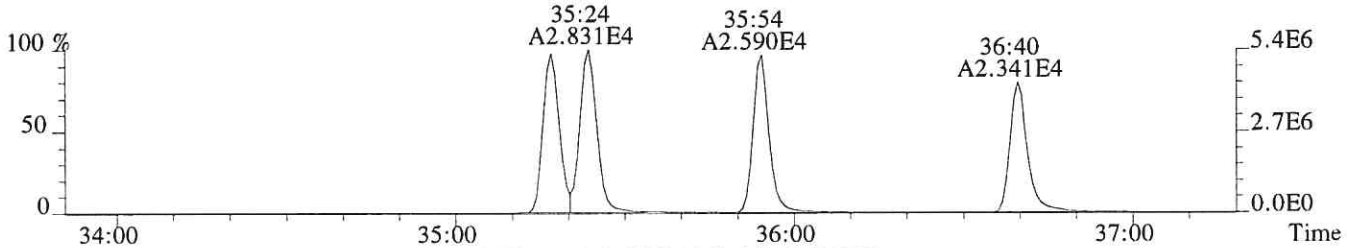
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



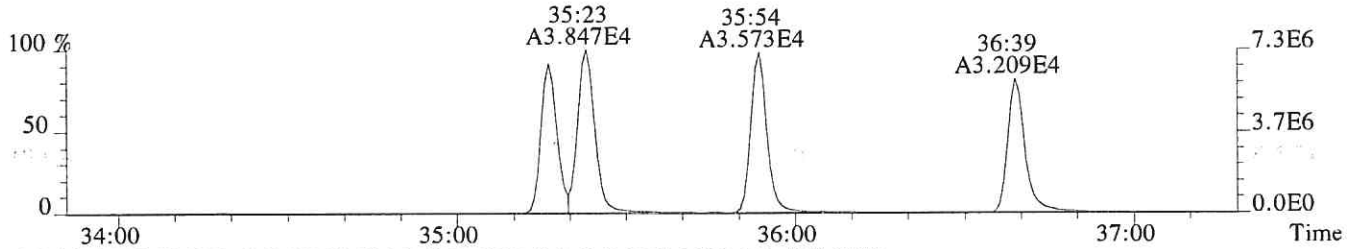
File:P511938 #1-312 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,T)



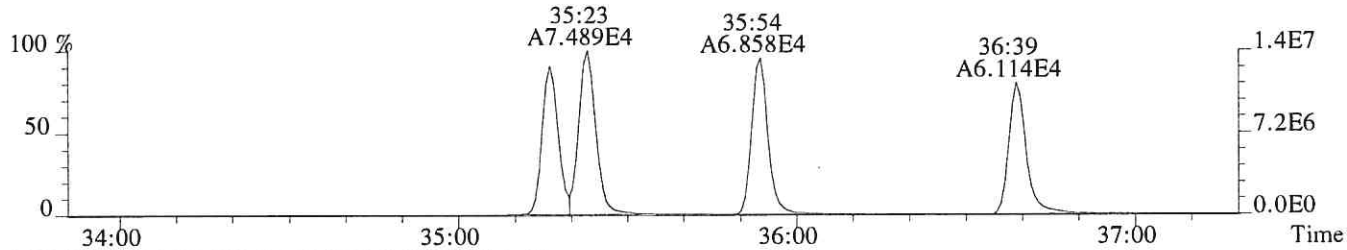
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,912.0,0.40%,F,T)



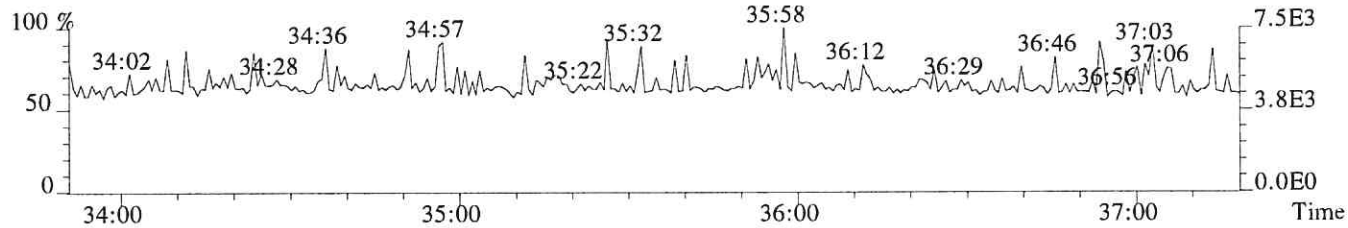
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,T)



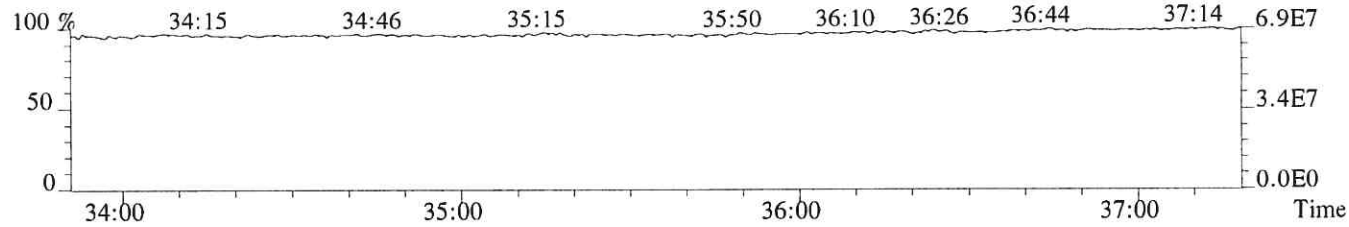
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2632.0,0.40%,F,T)



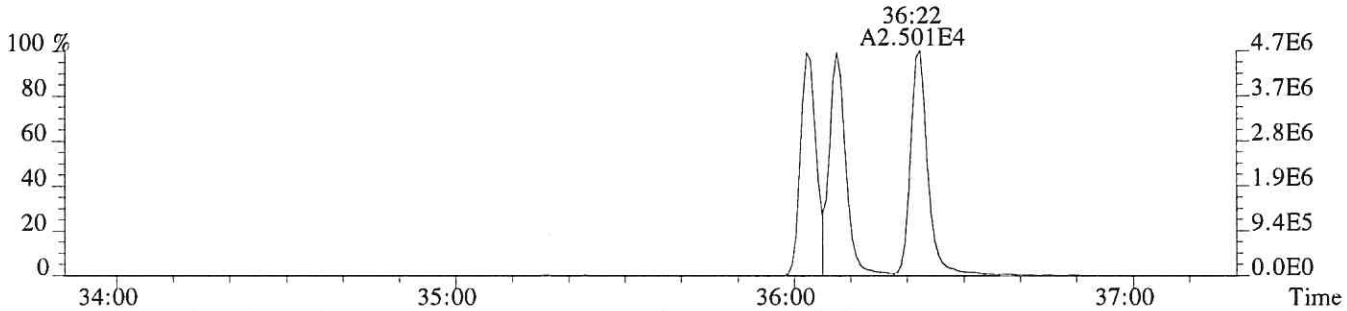
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



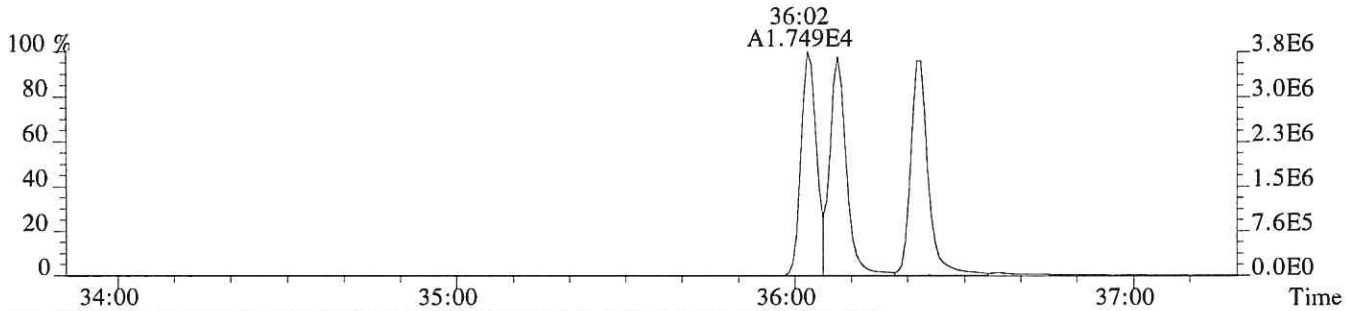
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



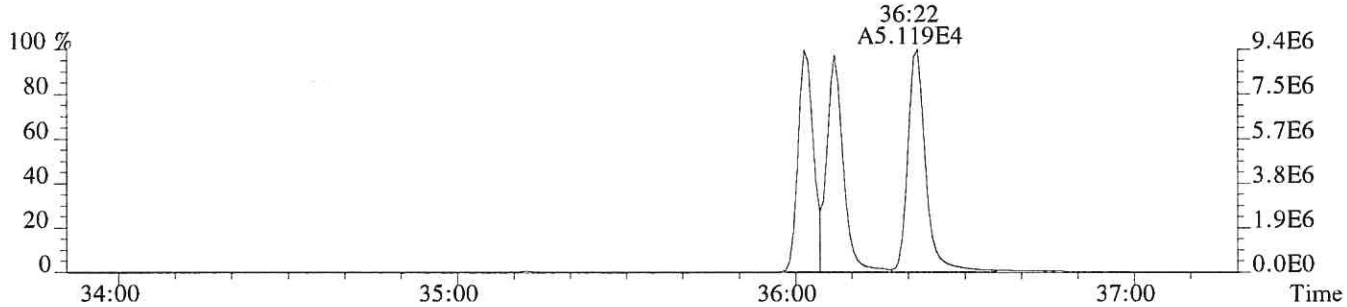
File:P511938 #1-312 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,572.0,0.40%,F,T)



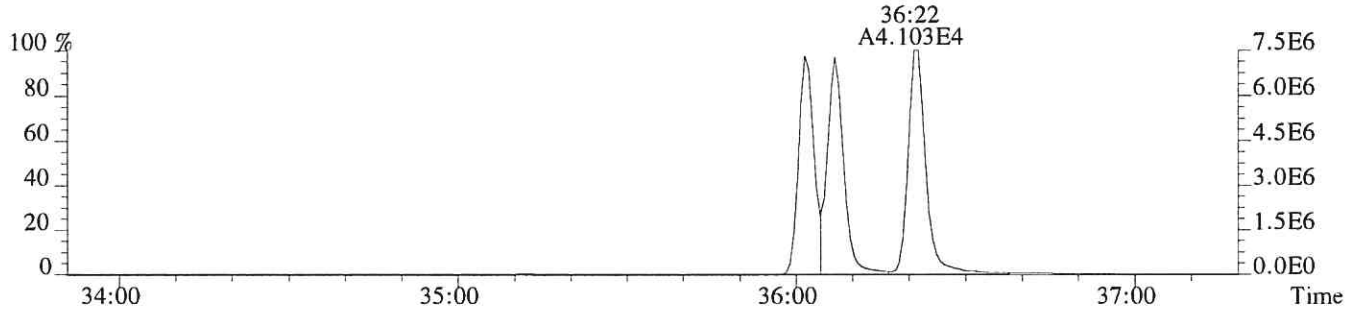
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



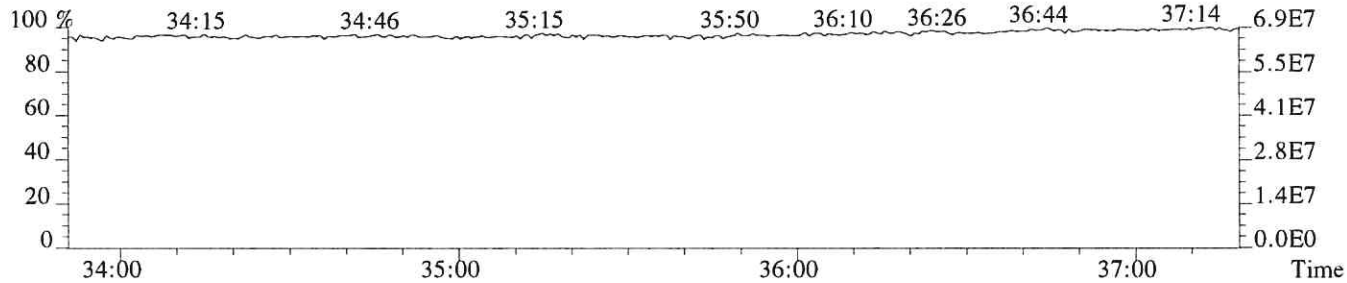
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2832.0,0.40%,F,T)



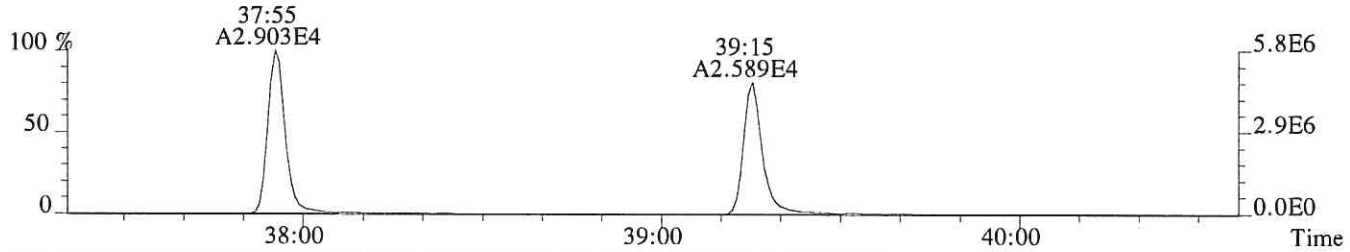
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1940.0,0.40%,F,T)



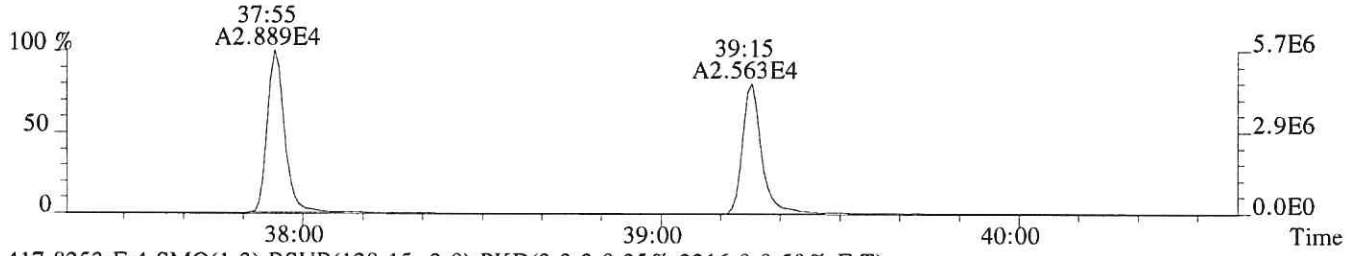
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



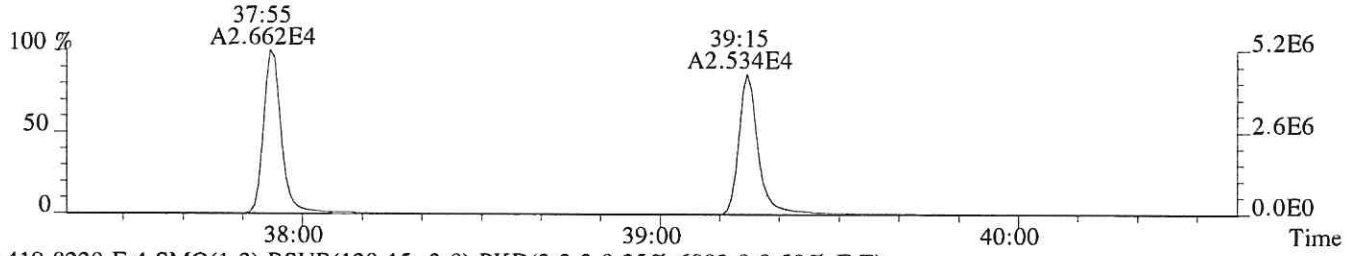
File:P511938 #1-295 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2932.0,0.50%,F,T)



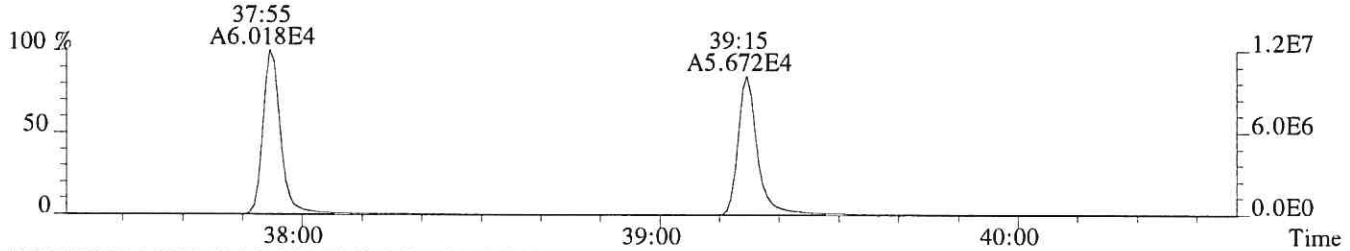
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3320.0,0.50%,F,T)



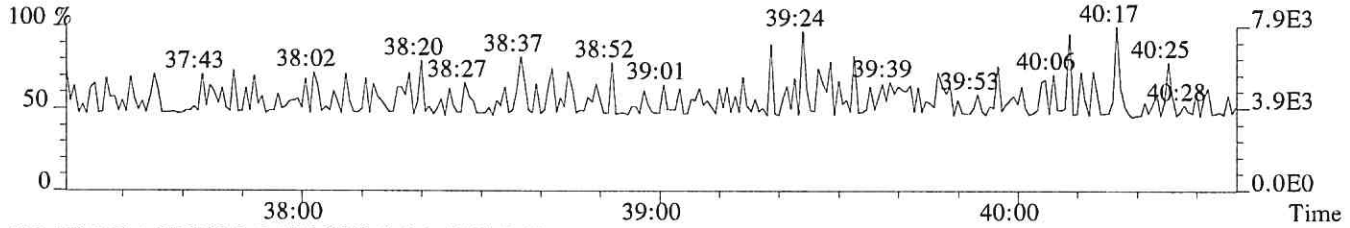
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2216.0,0.50%,F,T)



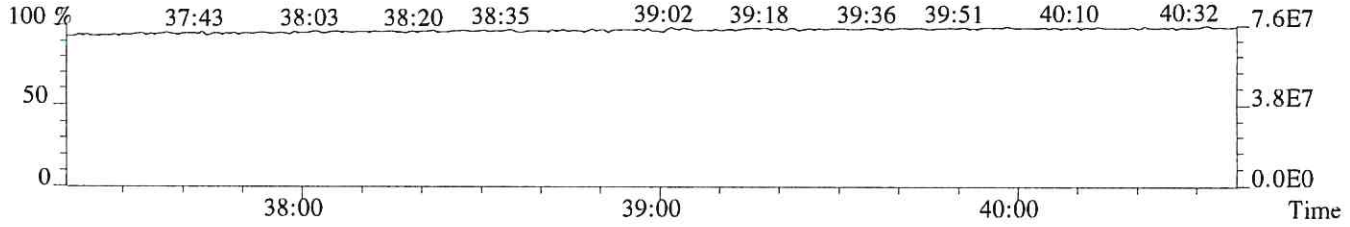
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6992.0,0.50%,F,T)



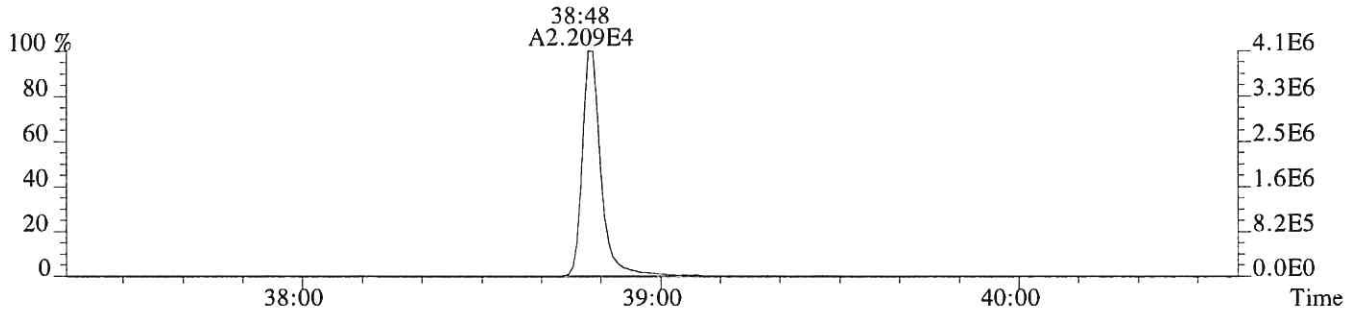
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



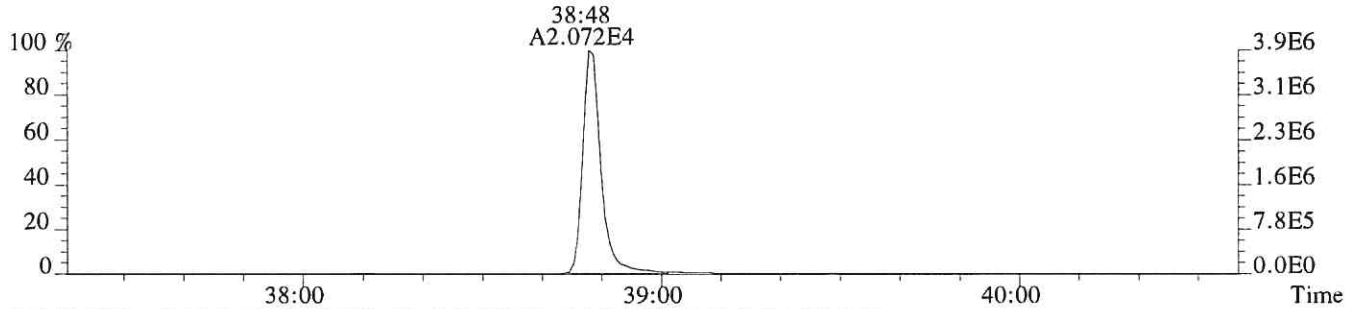
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



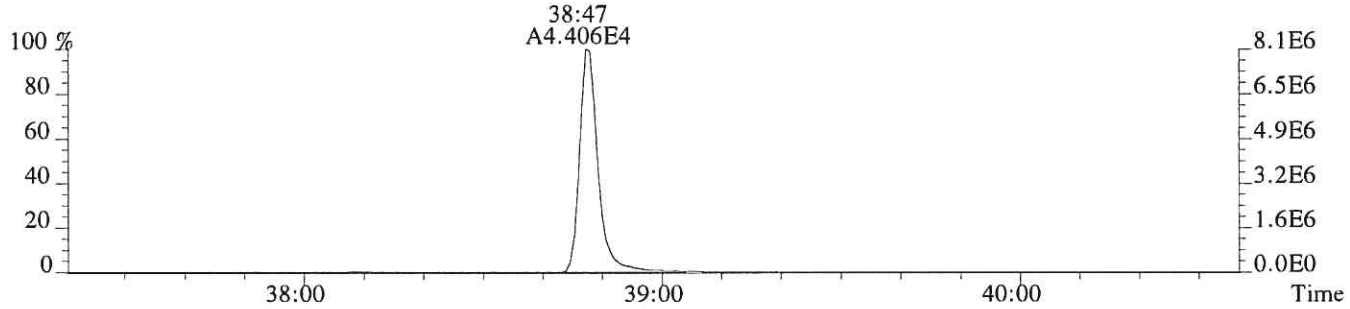
File:P511938 #1-295 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,424.0,0.40%,F,T)



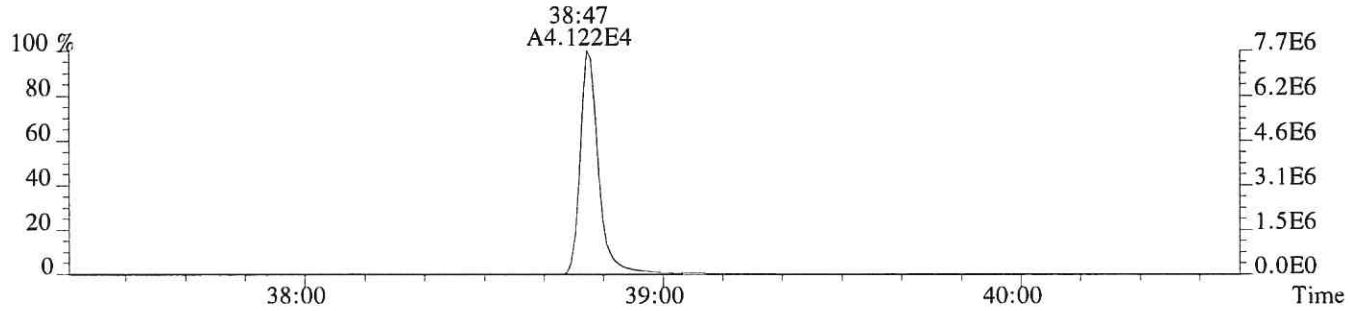
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,T)



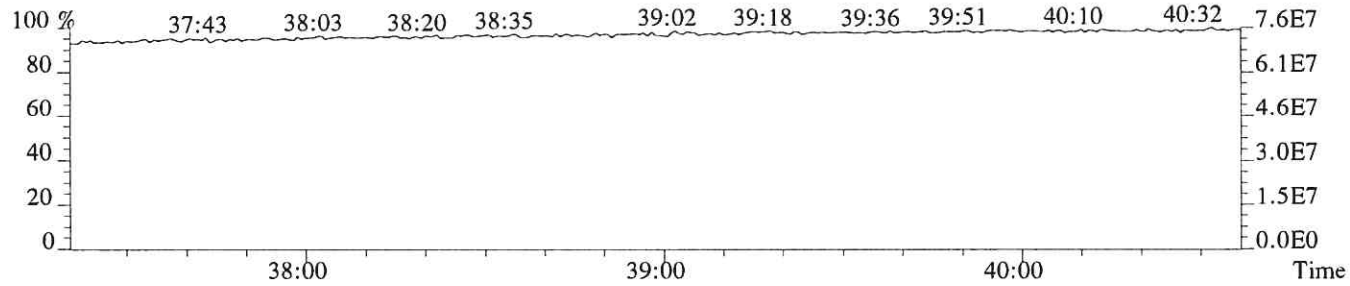
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



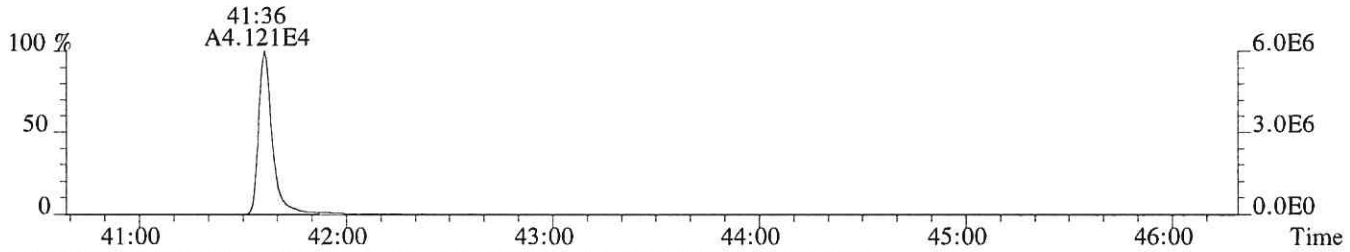
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



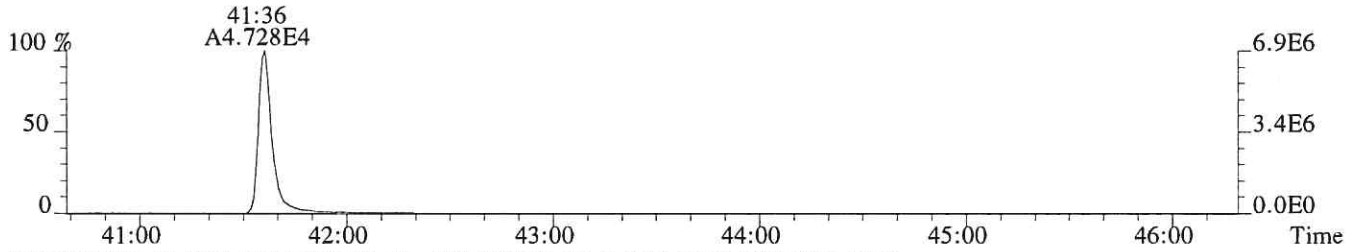
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



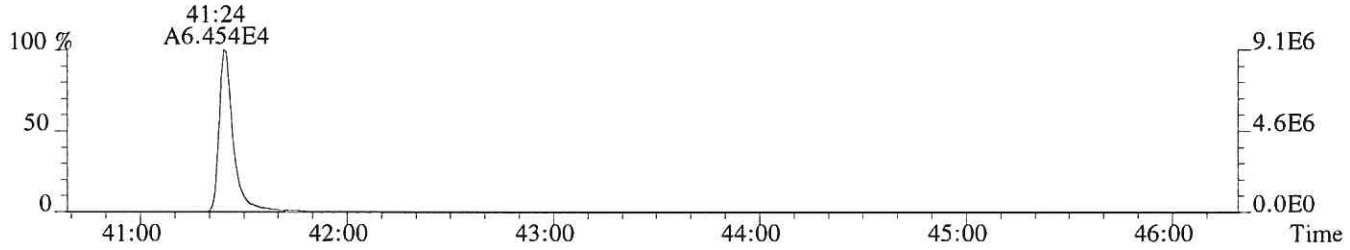
File:P511938 #1-511 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,236.0,0.40%,F,T)



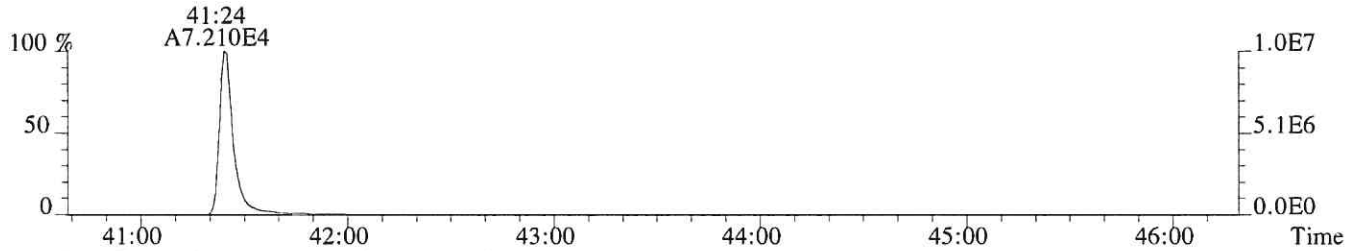
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



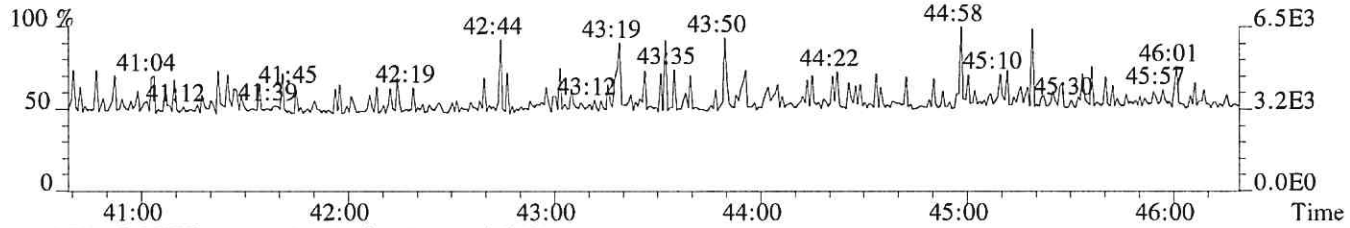
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15992.0,0.40%,F,T)



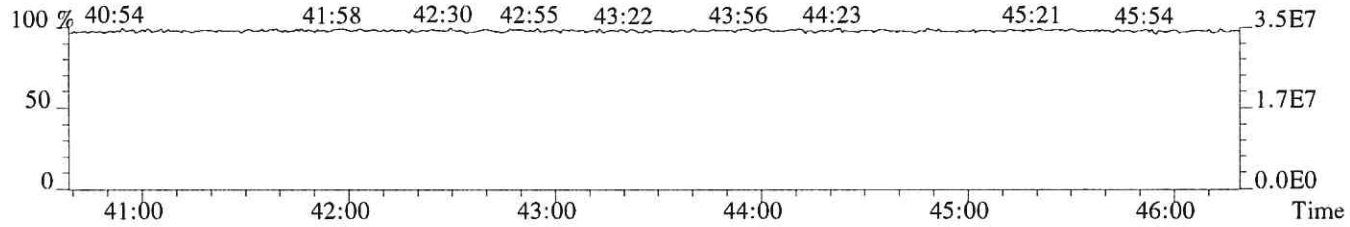
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10664.0,0.40%,F,T)



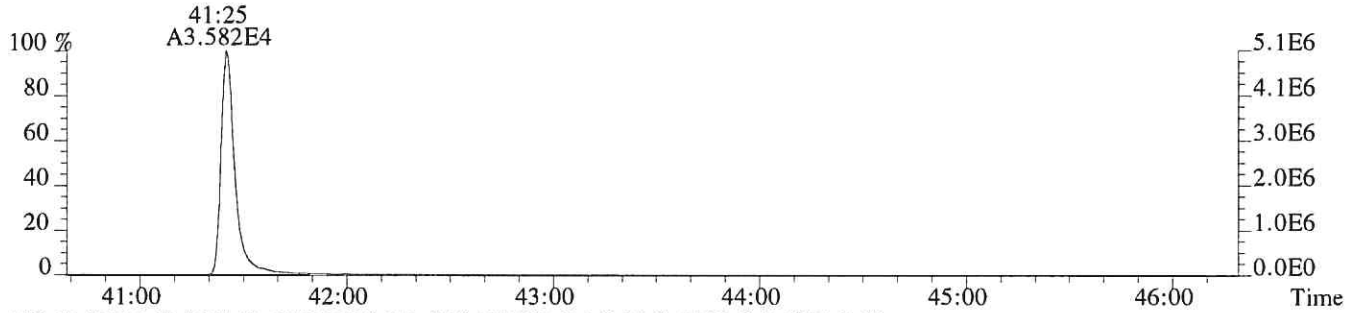
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



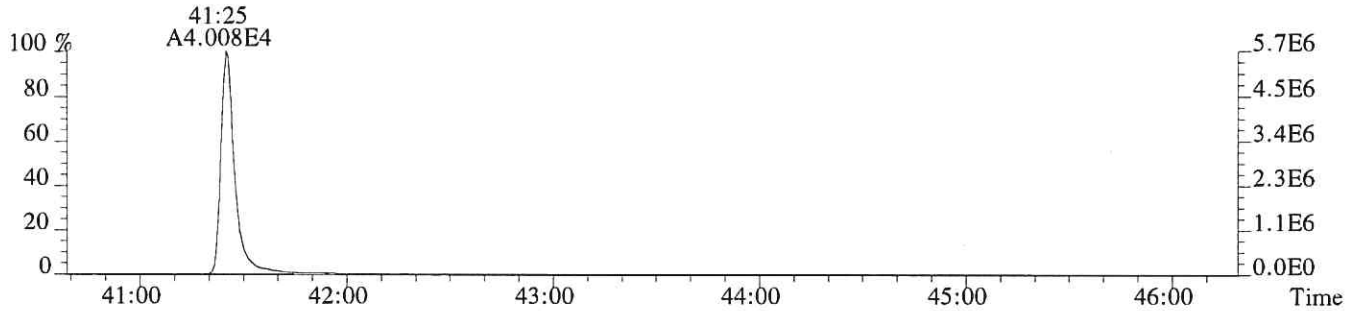
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



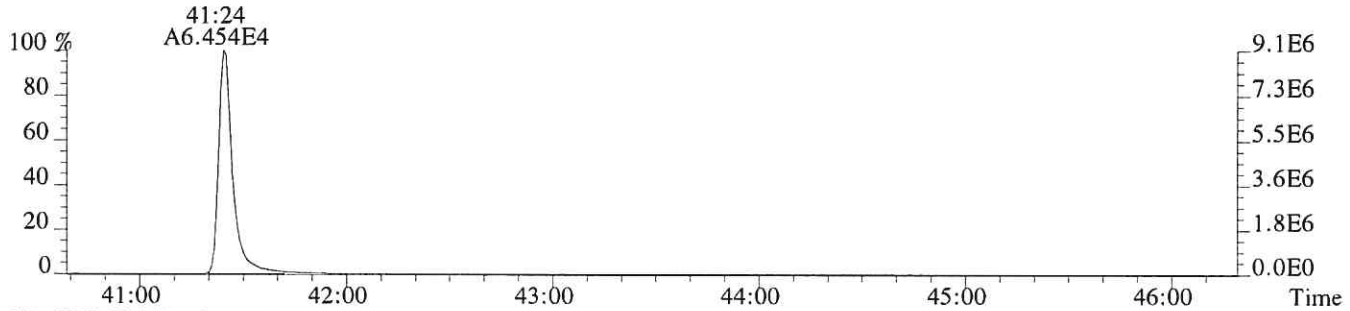
File:P511938 #1-511 Acq:13-OCT-2017 13:10:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,664.0,0.40%,F,T)



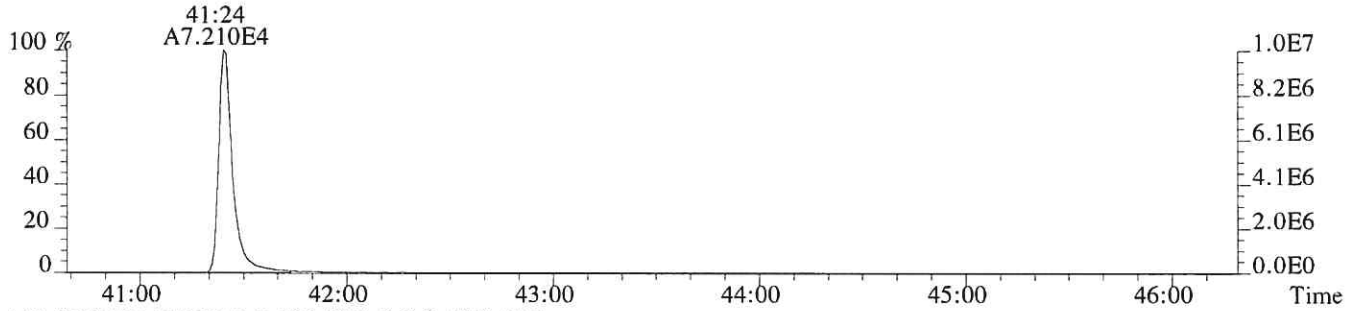
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1552.0,0.40%,F,T)



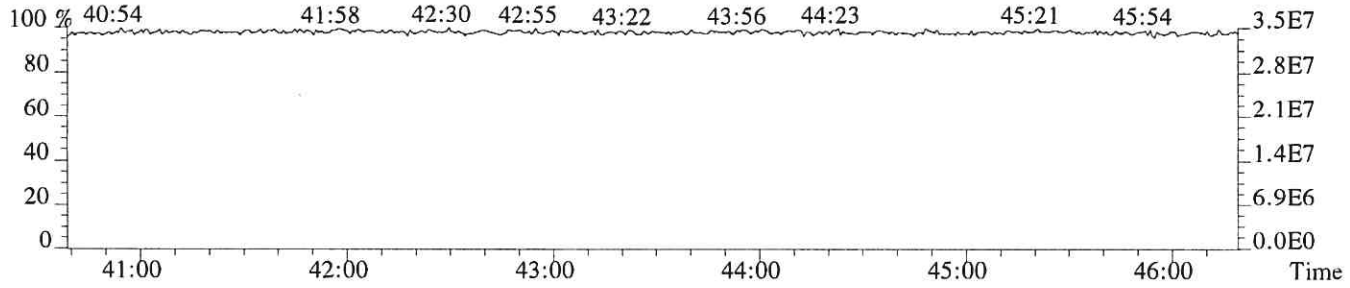
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15992.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10664.0,0.40%,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: P511951 Analysis Date: 14-OCT-17 Time: 00:20:09

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	9.7	7.8 - 12.9	-3.1
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	52	39 - 65	4.4
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	52	39 - 64	3.6
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	54	39 - 64	7.2
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05-1.43	55	41 - 61	11.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	54	43 - 58	7.4
OCDD	M+2/M+4	0.89	0.76-1.02	104	79 - 126	3.6
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	10.4	8.4 - 12.0	3.6
1,2,3,7,8-PeCDF	M+2/M+4	1.51	1.32-1.78	56	41 - 60	11.8
2,3,4,7,8-PeCDF	M+2/M+4	1.48	1.32-1.78	53	41 - 61	6.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	56	45 - 56	12.3
1,2,3,6,7,8-HxCDF	M+2/M+4	1.16	1.05-1.43	54	44 - 57	8.4
1,2,3,7,8,9-HxCDF	M+2/M+4	1.17	1.05-1.43	55	45 - 56	10.3
2,3,4,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	57	44 - 57	13.3
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.98	0.88-1.20	54	45 - 55	7.3
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.97	0.88-1.20	52	43 - 58	4.8
OCDF	M+2/M+4	0.87	0.76-1.02	117	63 - 159	16.8

(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) 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: P511951 Analysis Date: 14-OCT-17 Time: 00:20:09

	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	100	82 - 121	-0.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	91	62 - 160	-8.9
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	96	85 - 117	-4.3
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	97	85 - 118	-3.4
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	105	72 - 138	5.2
13C-OCDD	M+2/M+4	0.90	0.76-1.02	213	96 - 415	6.7
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	104	71 - 140	3.6
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	99	76 - 130	-1.1
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	100	77 - 130	0.2
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	103	76 - 131	2.9
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	111	70 - 143	11.2
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	108	74 - 135	7.6
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	107	73 - 137	7.2
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	114	78 - 129	13.7
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	121	77 - 129	20.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.5	7.8 - 12.7	-5.3

(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.
180102

Run #19 Filename P511951 Samp: 1 Inj: 1 Acquired: 14-OCT-17 00:20:09
Processed: 16-OCT-17 13:42:52 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:06	4.449e+03	5.897e+03	0.75	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	31:35	3.812e+04	2.521e+04	1.51	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	32:32	3.445e+04	2.327e+04	1.48	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:16	3.030e+04	2.506e+04	1.21	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:23	3.319e+04	2.870e+04	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	35:54	3.090e+04	2.619e+04	1.18	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	36:40	2.727e+04	2.326e+04	1.17	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	37:55	2.910e+04	2.960e+04	0.98	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:15	2.470e+04	2.547e+04	0.97	yes	no	1.191
10	Unk	OCDF	41:36	4.114e+04	4.720e+04	0.87	yes	no	1.103
11	Unk	2,3,7,8-TCDD	27:58	3.741e+03	4.759e+03	0.79	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	32:50	2.557e+04	1.647e+04	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:02	2.167e+04	1.741e+04	1.24	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:07	2.377e+04	1.868e+04	1.27	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:22	2.542e+04	1.964e+04	1.29	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	38:48	2.205e+04	2.092e+04	1.05	yes	no	0.942
17	Unk	OCDD	41:25	3.519e+04	3.944e+04	0.89	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:05	5.331e+04	6.778e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	31:35	7.941e+04	5.000e+04	1.59	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	32:31	7.868e+04	5.009e+04	1.57	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:16	3.124e+04	6.136e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:22	3.912e+04	7.632e+04	0.51	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	35:53	3.525e+04	6.826e+04	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	36:39	3.098e+04	6.024e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:55	2.687e+04	6.038e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:14	2.486e+04	5.554e+04	0.45	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	27:56	3.659e+04	4.578e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	32:49	5.428e+04	3.439e+04	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:02	4.399e+04	3.439e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:06	4.776e+04	3.744e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:47	4.368e+04	4.128e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	41:24	6.508e+04	7.204e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:19	3.867e+04	4.778e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:21	5.104e+04	4.063e+04	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	27:58	8.463e+03				no	1.033

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www.alsglobal.com

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
180102

Run #19 Filename P511951 Samp: 1 Inj: 1 Acquired: 14-OCT-17 00:20:09
Processed: 16-OCT-17 13:42:52 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	6.79e+05	8.32e+02	8.2e+02	8.93e+05	3.53e+03	2.5e+02
2	1,2,3,7,8-PeCDF	6.00e+06	1.32e+03	4.5e+03	3.95e+06	2.67e+03	1.5e+03
3	2,3,4,7,8-PeCDF	5.79e+06	1.32e+03	4.4e+03	3.85e+06	2.67e+03	1.4e+03
4	1,2,3,4,7,8-HxCDF	5.80e+06	1.02e+03	5.7e+03	4.92e+06	3.04e+02	1.6e+04
5	1,2,3,6,7,8-HxCDF	5.91e+06	1.02e+03	5.8e+03	4.96e+06	3.04e+02	1.6e+04
6	2,3,4,6,7,8-HxCDF	5.73e+06	1.02e+03	5.6e+03	4.89e+06	3.04e+02	1.6e+04
7	1,2,3,7,8,9-HxCDF	4.58e+06	1.02e+03	4.5e+03	3.88e+06	3.04e+02	1.3e+04
8	1,2,3,4,6,7,8-HpCDF	5.34e+06	3.94e+03	1.4e+03	5.45e+06	3.16e+03	1.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.15e+06	3.94e+03	1.1e+03	4.23e+06	3.16e+03	1.3e+03
10	OCDF	5.56e+06	1.02e+03	5.5e+03	6.39e+06	1.47e+03	4.3e+03
11	2,3,7,8-TCDD	6.10e+05	2.22e+03	2.8e+02	7.42e+05	1.34e+03	5.5e+02
12	1,2,3,7,8-PeCDD	4.12e+06	1.01e+03	4.1e+03	2.63e+06	4.64e+02	5.7e+03
13	1,2,3,4,7,8-HxCDD	4.33e+06	6.36e+02	6.8e+03	3.43e+06	9.56e+02	3.6e+03
14	1,2,3,6,7,8-HxCDD	4.32e+06	6.36e+02	6.8e+03	3.48e+06	9.56e+02	3.6e+03
15	1,2,3,7,8,9-HxCDD	4.31e+06	6.36e+02	6.8e+03	3.43e+06	9.56e+02	3.6e+03
16	1,2,3,4,6,7,8-HpCDD	3.81e+06	6.00e+02	6.4e+03	3.63e+06	1.05e+03	3.4e+03
17	OCDD	4.61e+06	5.12e+02	9.0e+03	5.18e+06	8.00e+03	6.5e+02
18	13C-2,3,7,8-TCDF	7.86e+06	9.55e+03	8.2e+02	1.00e+07	3.48e+03	2.9e+03
19	13C-1,2,3,7,8-PeCDF	1.22e+07	1.49e+03	8.2e+03	7.78e+06	1.54e+03	5.1e+03
20	13C-2,3,4,7,8-PeCDF	1.29e+07	1.49e+03	8.7e+03	8.24e+06	1.54e+03	5.3e+03
21	13C-1,2,3,4,7,8-HxCDF	6.21e+06	1.40e+03	4.4e+03	1.22e+07	1.77e+03	6.9e+03
22	13C-1,2,3,6,7,8-HxCDF	6.87e+06	1.40e+03	4.9e+03	1.33e+07	1.77e+03	7.5e+03
23	13C-2,3,4,6,7,8-HxCDF	6.56e+06	1.40e+03	4.7e+03	1.28e+07	1.77e+03	7.2e+03
24	13C-1,2,3,7,8,9-HxCDF	5.20e+06	1.40e+03	3.7e+03	9.92e+06	1.77e+03	5.6e+03
25	13C-1,2,3,4,6,7,8-HpCDF	5.02e+06	2.77e+03	1.8e+03	1.11e+07	9.38e+03	1.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	4.01e+06	2.77e+03	1.4e+03	9.05e+06	9.38e+03	9.7e+02
27	13C-2,3,7,8-TCDD	5.77e+06	6.67e+03	8.6e+02	7.31e+06	3.28e+03	2.2e+03
28	13C-1,2,3,7,8-PeCDD	9.01e+06	1.44e+03	6.3e+03	5.72e+06	1.12e+03	5.1e+03
29	13C-1,2,3,4,7,8-HxCDD	8.73e+06	2.09e+03	4.2e+03	6.65e+06	2.06e+03	3.2e+03
30	13C-1,2,3,6,7,8-HxCDD	8.66e+06	2.09e+03	4.1e+03	6.87e+06	2.06e+03	3.3e+03
31	13C-1,2,3,4,6,7,8-HpCDD	7.51e+06	1.05e+03	7.1e+03	7.16e+06	1.54e+03	4.6e+03
32	13C-OCDD	8.52e+06	1.03e+04	8.3e+02	9.41e+06	1.56e+04	6.0e+02
33	13C-1,2,3,4-TCDD	6.12e+06	6.67e+03	9.2e+02	7.59e+06	3.28e+03	2.3e+03
34	13C-1,2,3,7,8,9-HxCDD	8.76e+06	2.09e+03	4.2e+03	6.99e+06	2.06e+03	3.4e+03
35	37Cl-2,3,7,8-TCDD	1.35e+06	1.55e+03	8.7e+02			

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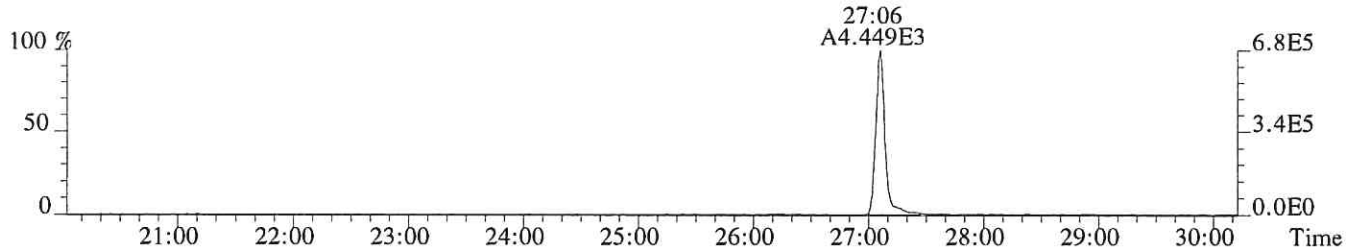
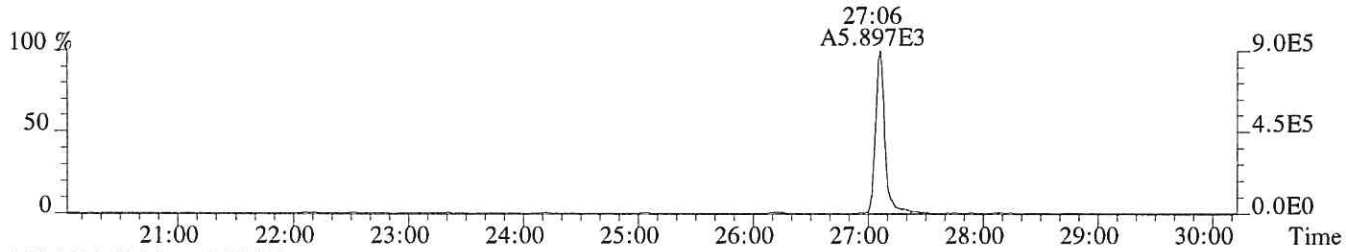
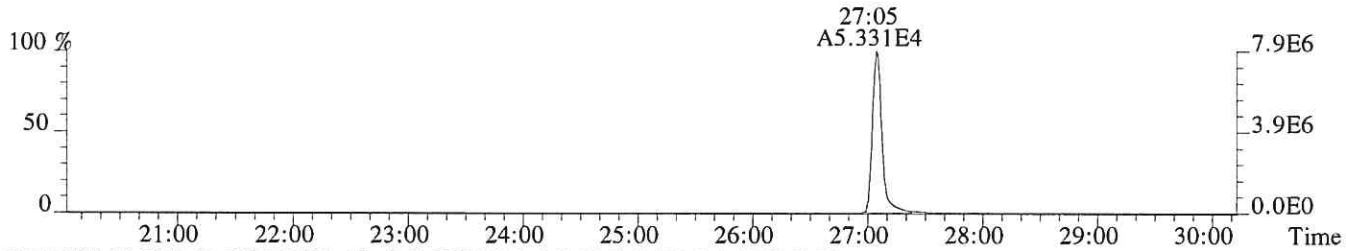
File:P511951 #1-722 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,T)



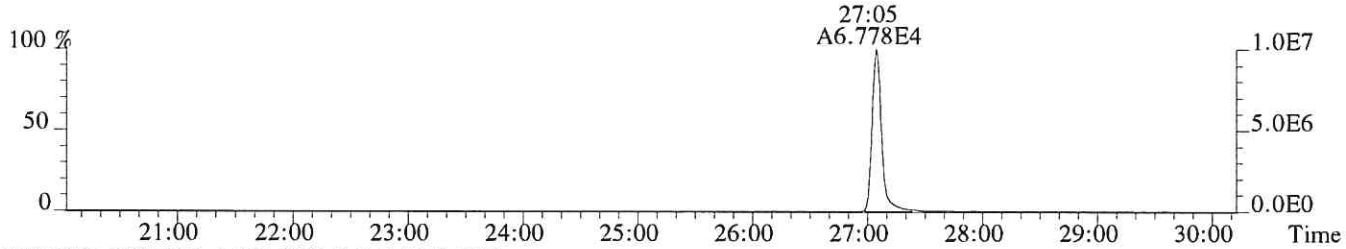
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3528.0,1.00%,F,T)



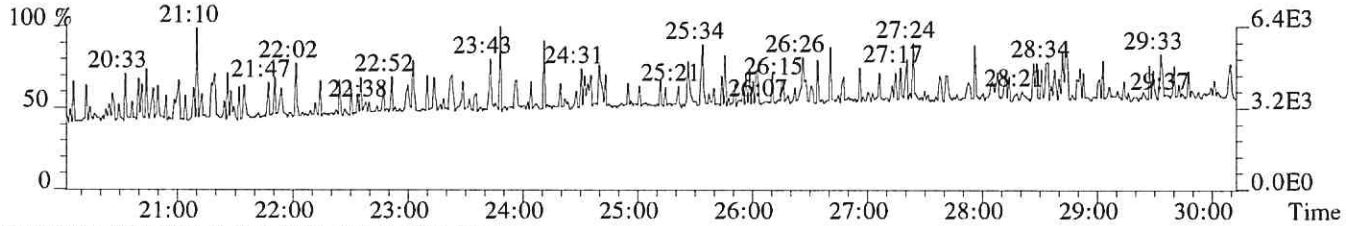
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9548.0,1.00%,F,T)



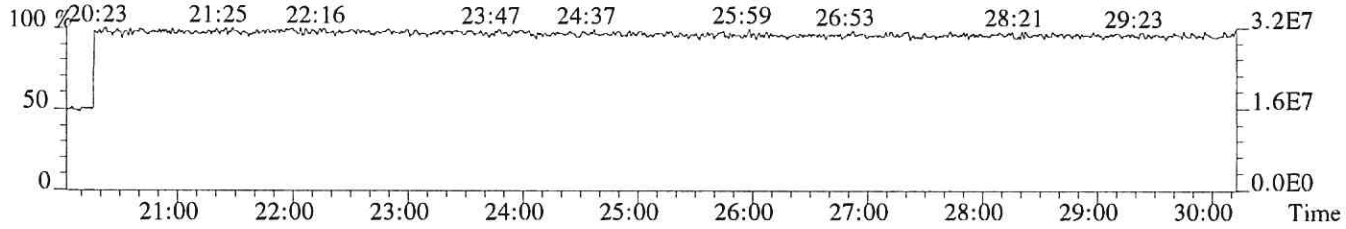
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3476.0,1.00%,F,T)



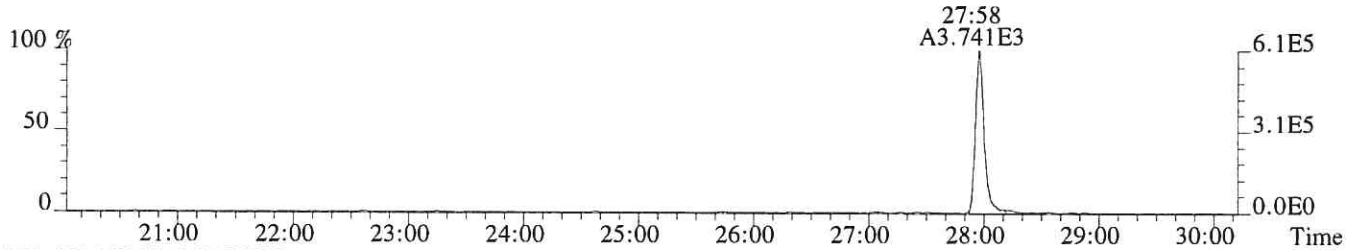
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



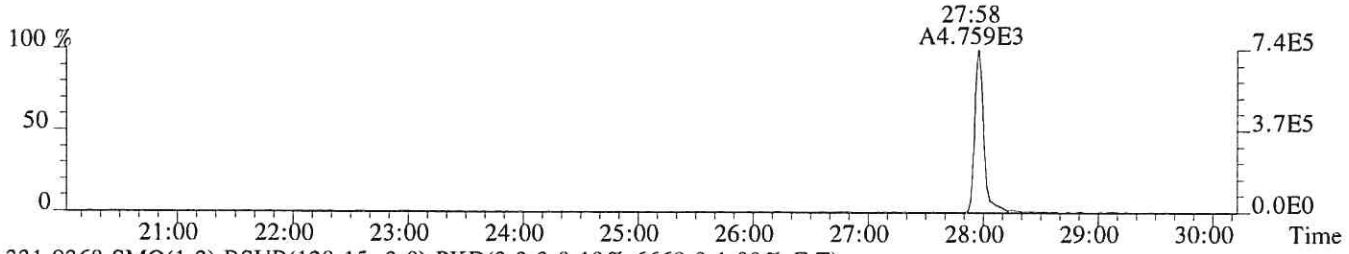
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



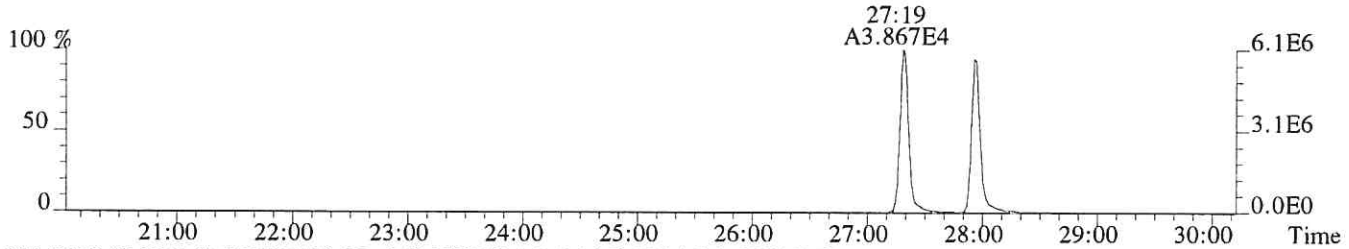
File:P511951 #1-722 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2216.0,1.00%,F,T)



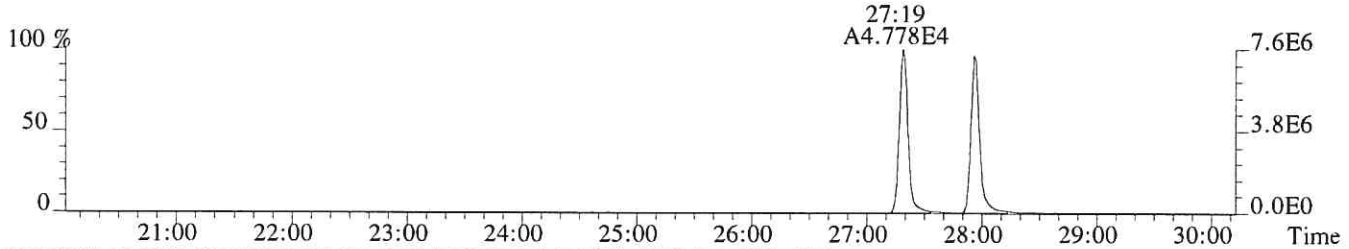
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,T)



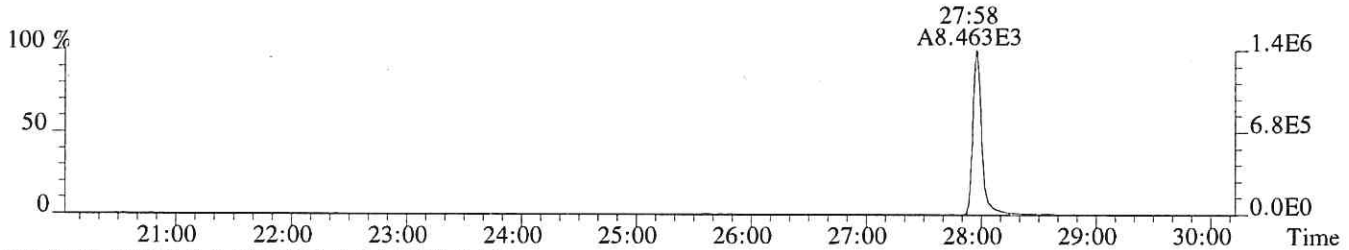
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6668.0,1.00%,F,T)



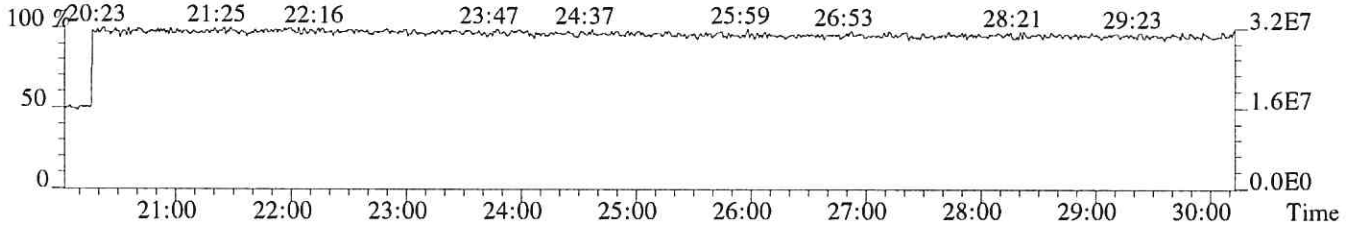
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3284.0,1.00%,F,T)



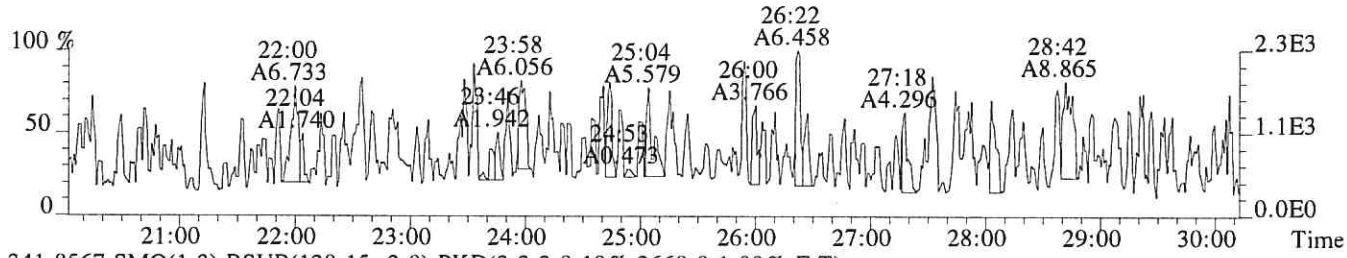
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1548.0,1.00%,F,T)



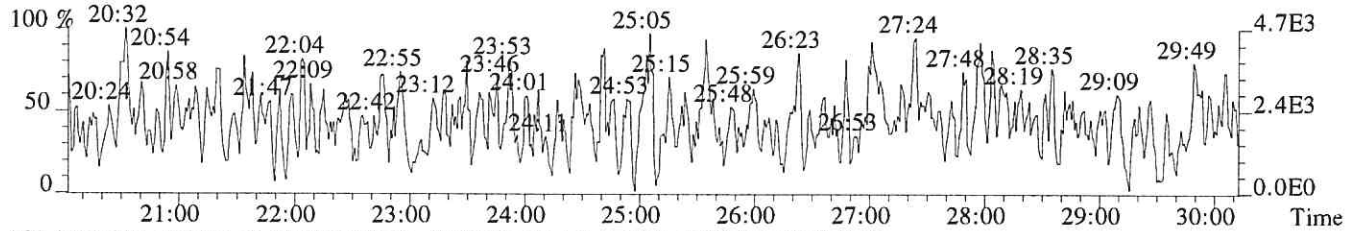
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



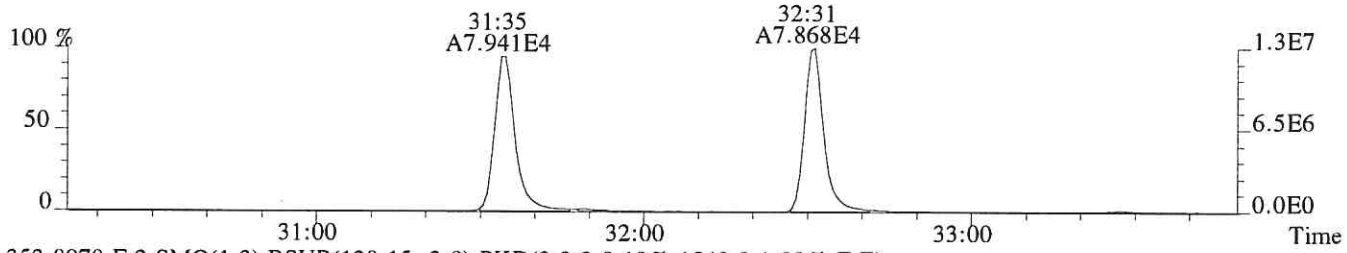
File:P511951 #1-722 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,T)



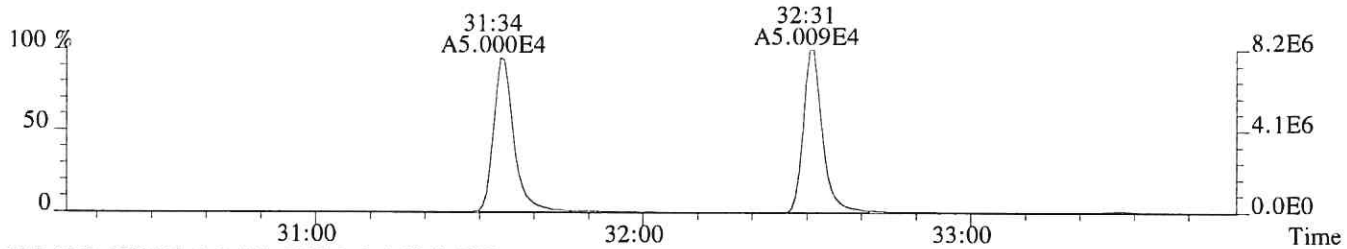
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2668.0,1.00%,F,T)



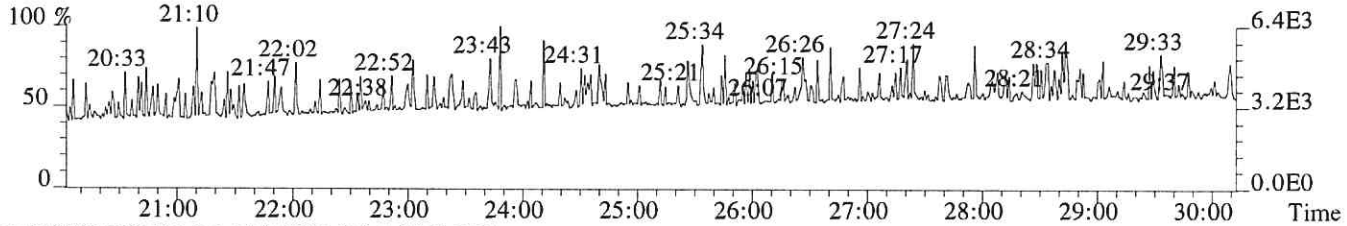
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



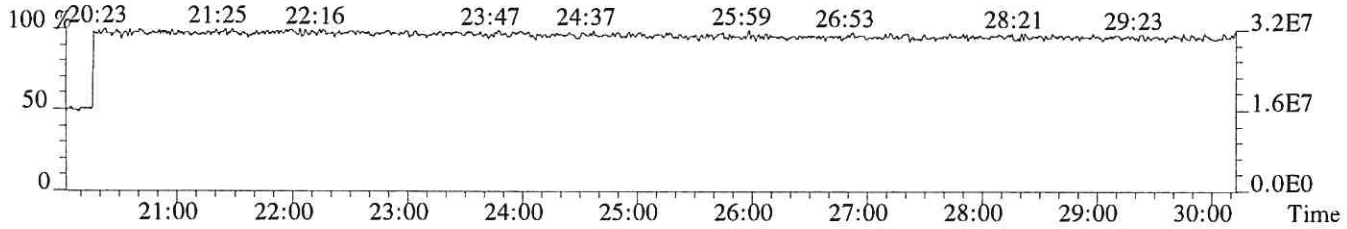
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,T)



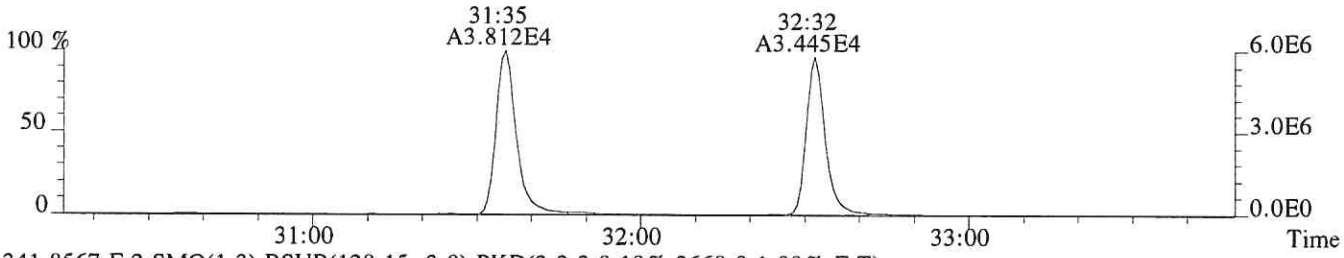
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



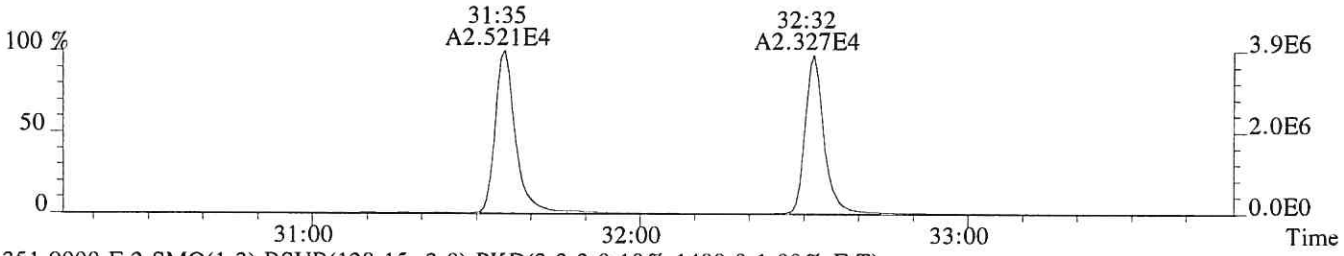
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



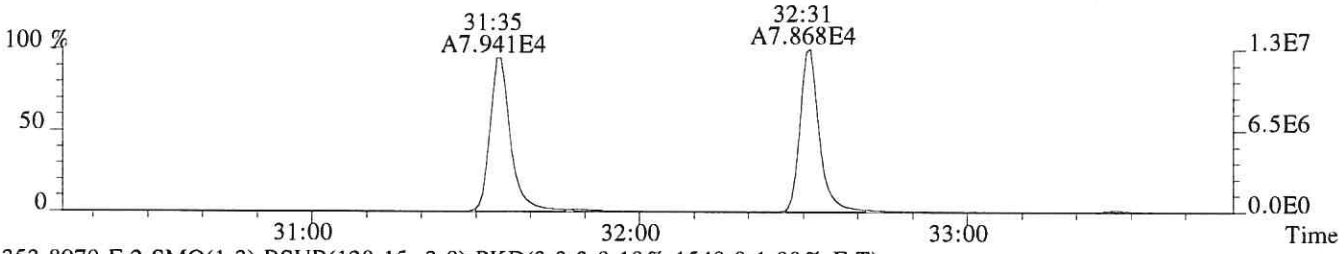
File:P511951 #1-322 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



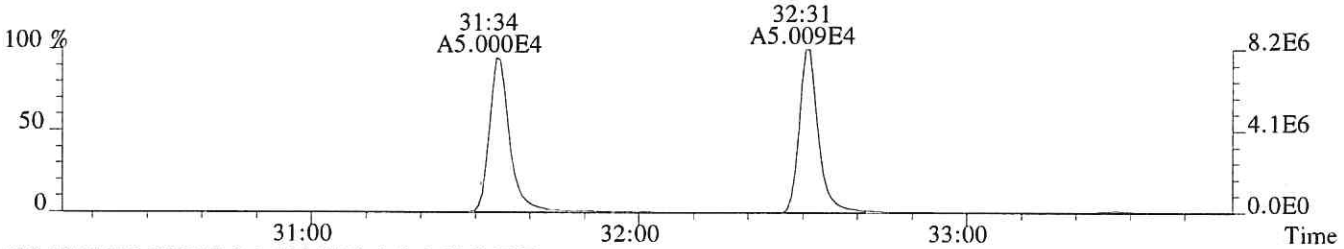
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2668.0,1.00%,F,T)



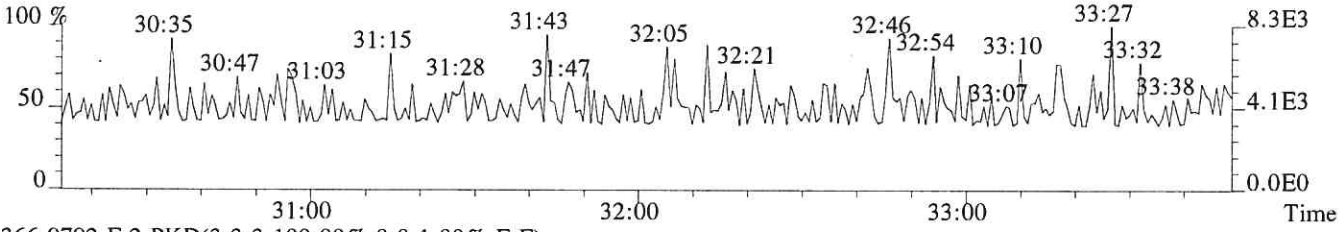
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



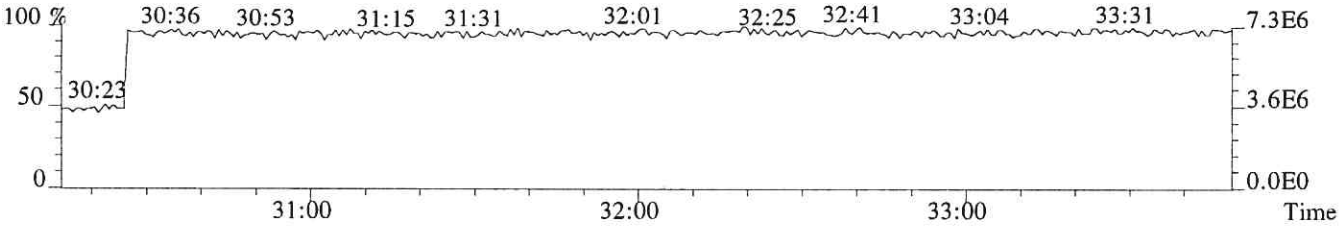
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,T)



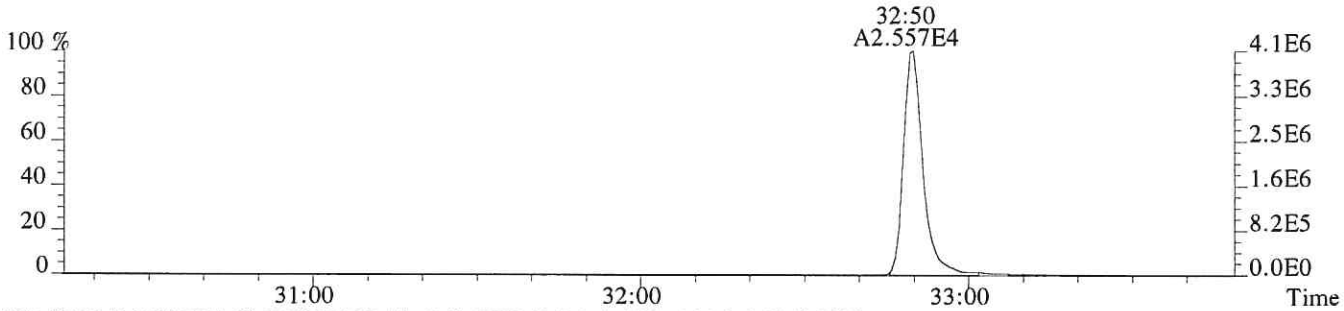
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



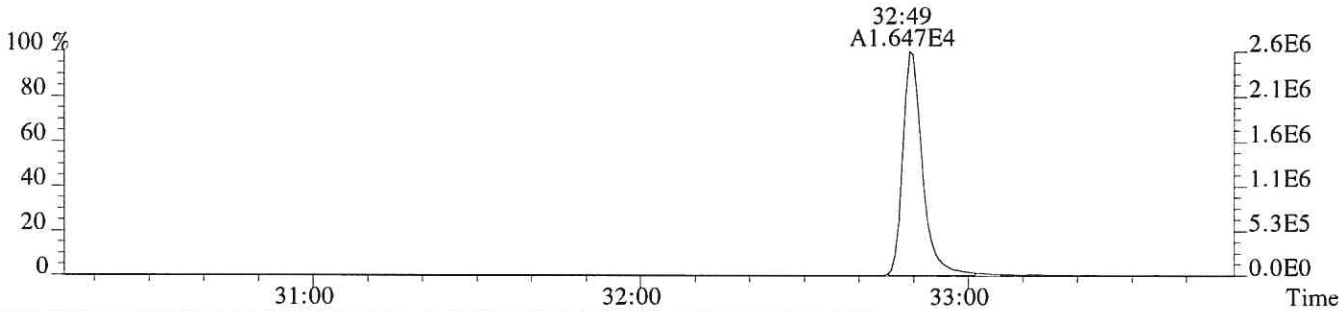
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



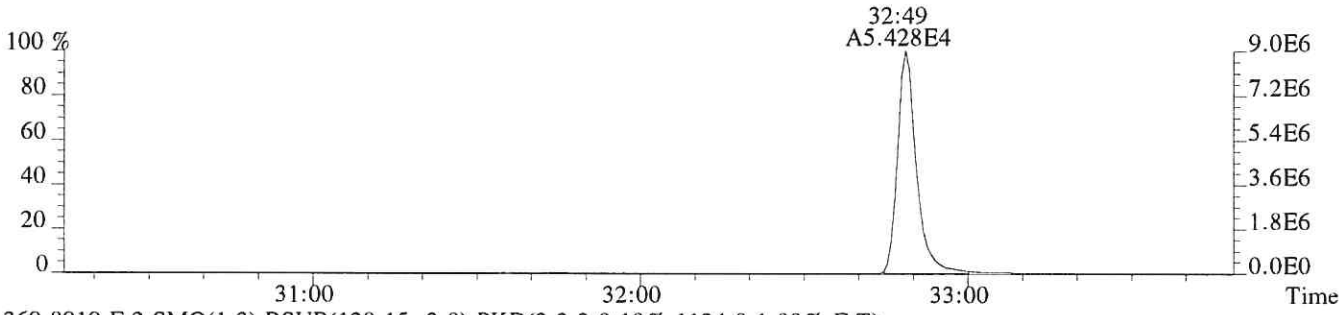
File:P511951 #1-322 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



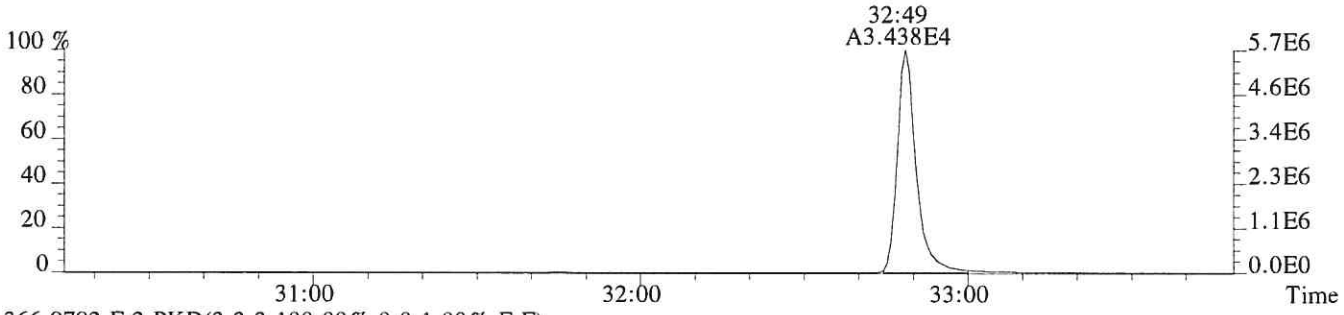
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,T)



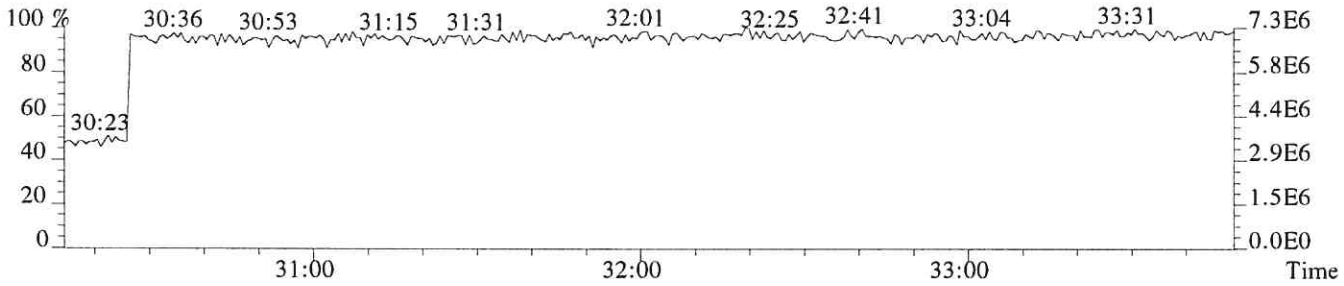
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1436.0,1.00%,F,T)



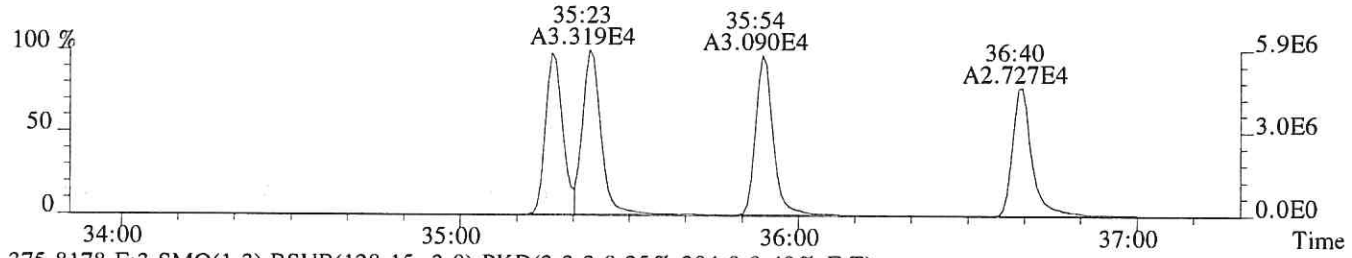
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,T)



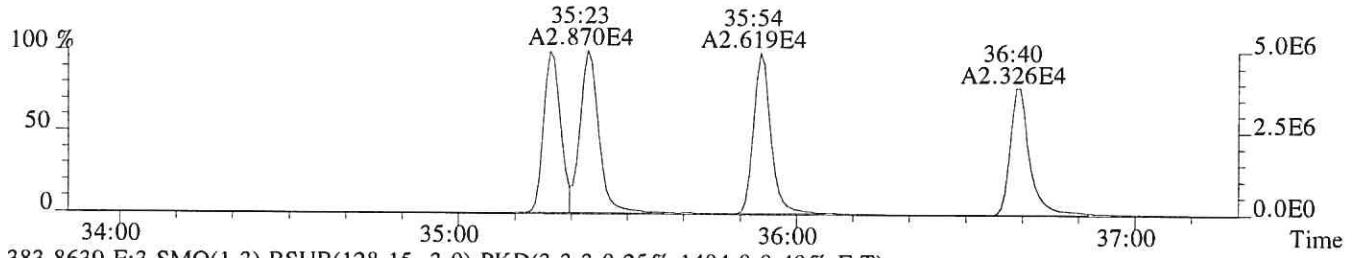
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



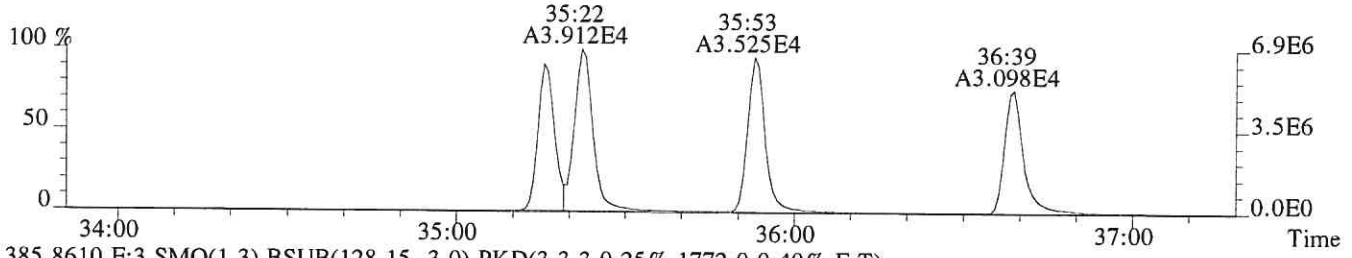
File:P511951 #1-312 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1020.0,0.40%,F,T)



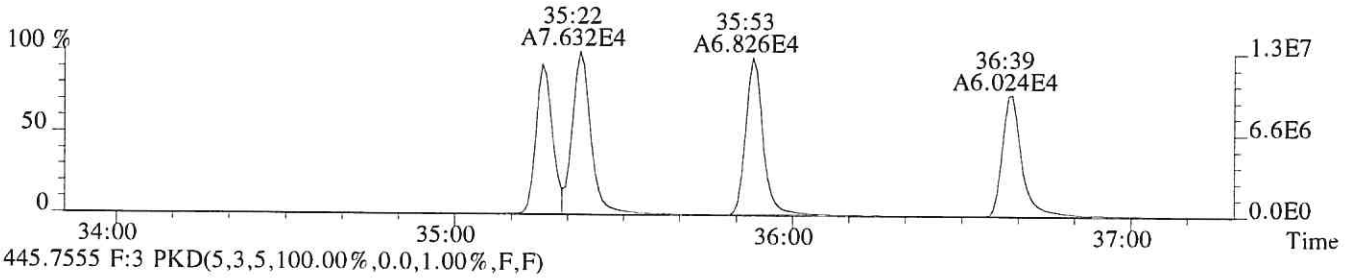
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



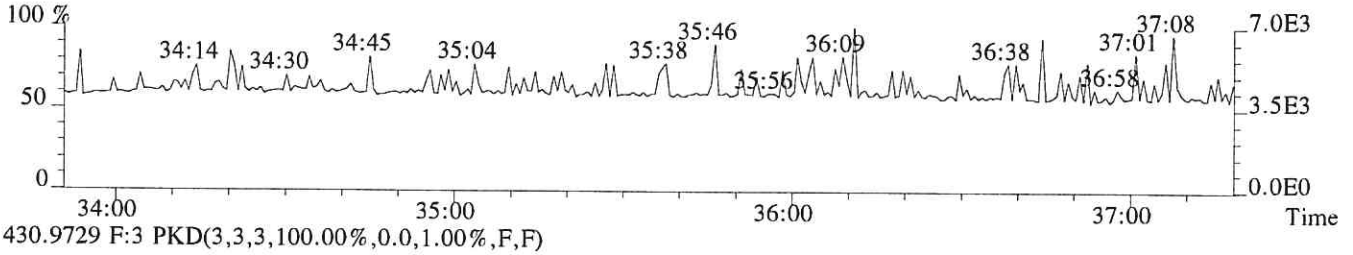
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1404.0,0.40%,F,T)



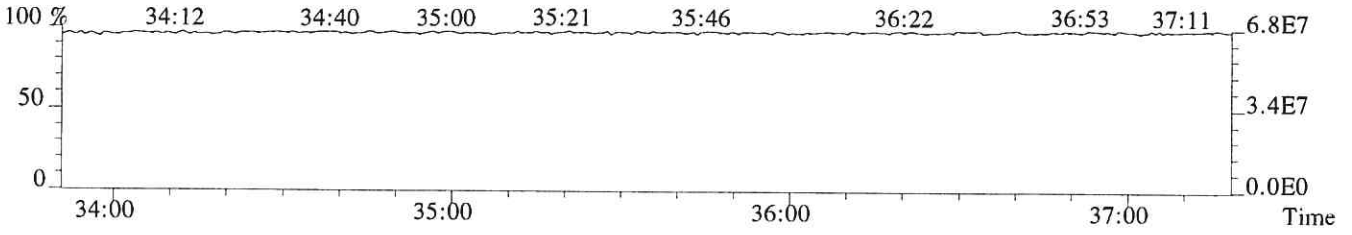
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1772.0,0.40%,F,T)



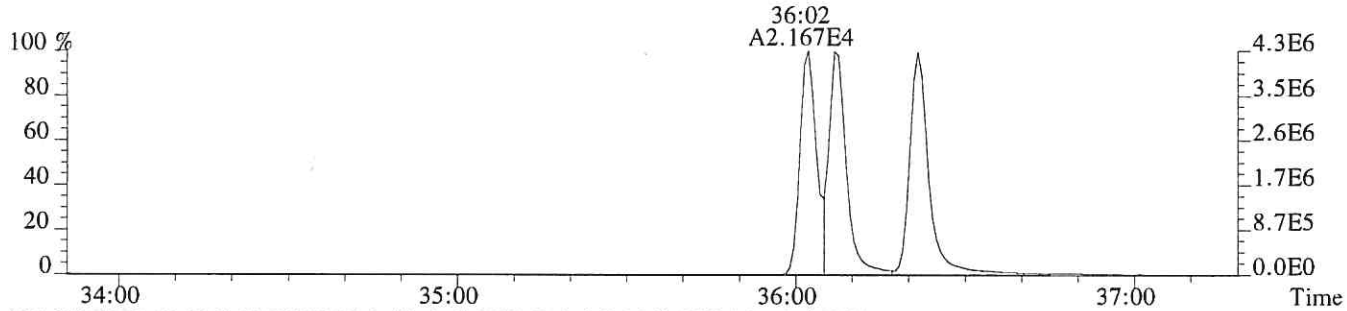
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



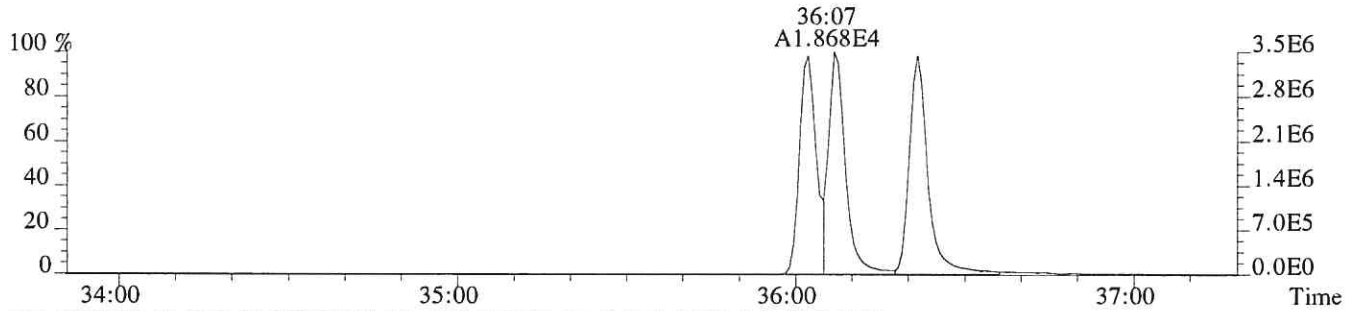
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



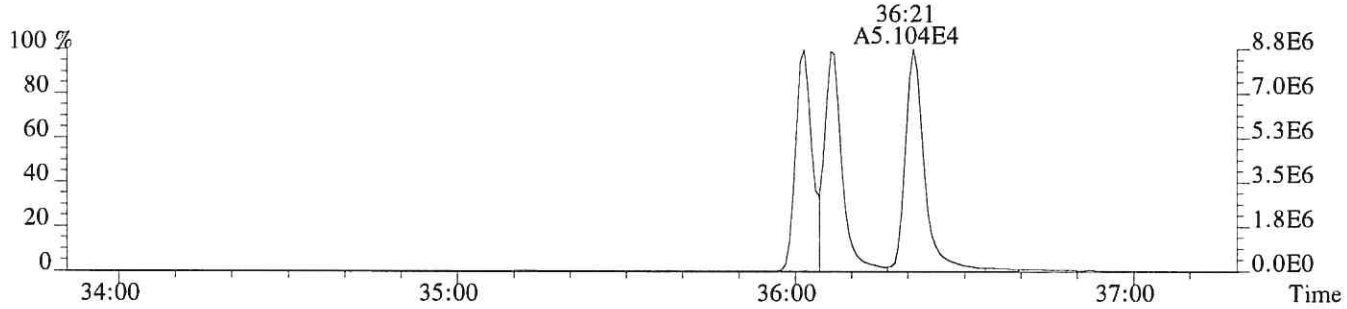
File:P511951 #1-312 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



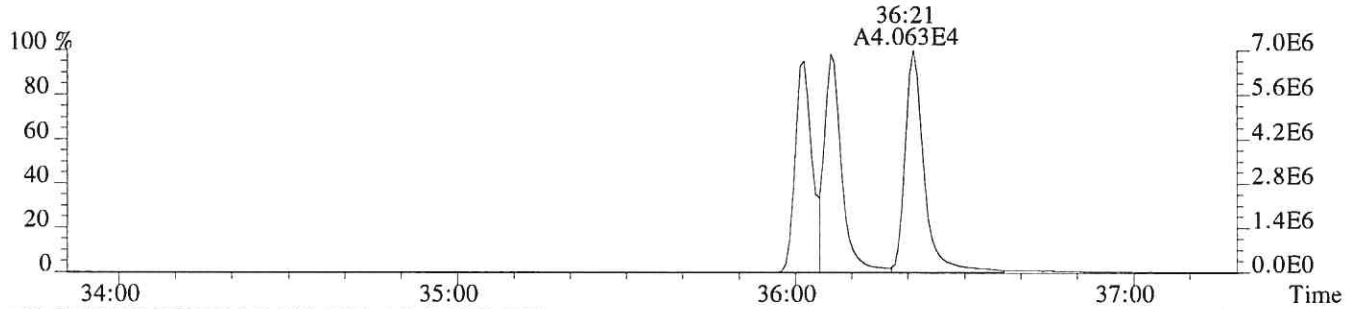
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



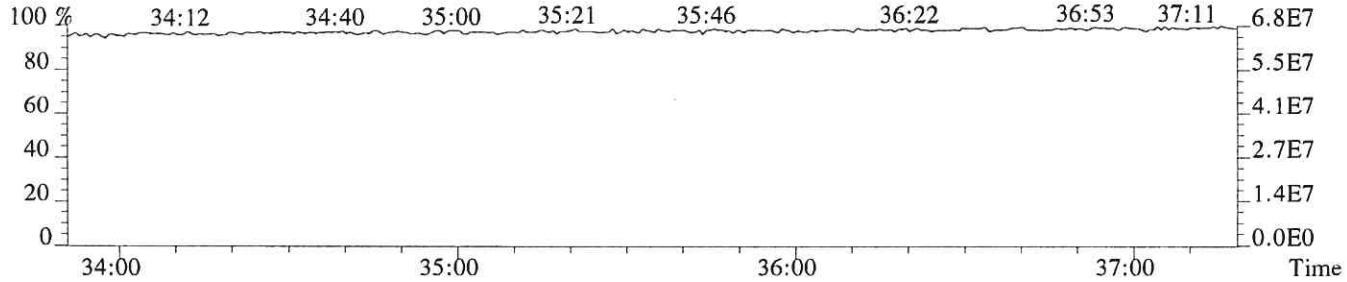
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2092.0,0.40%,F,T)



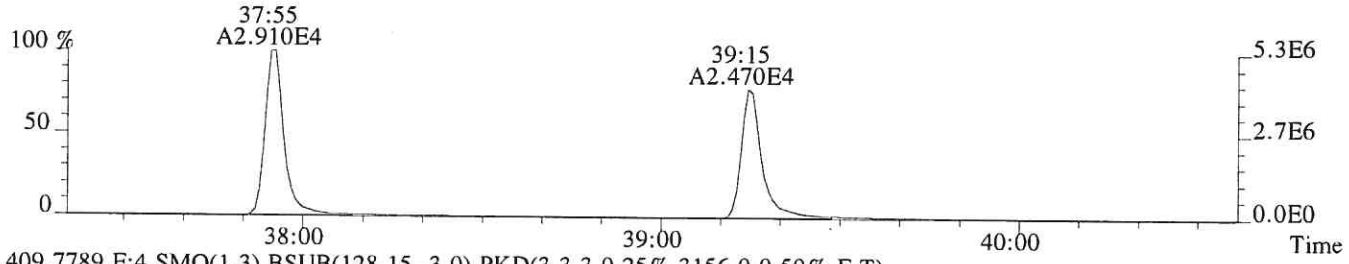
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2056.0,0.40%,F,T)



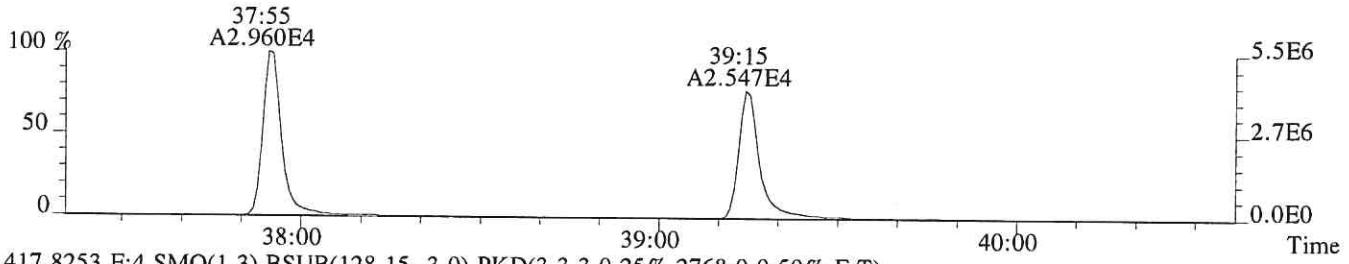
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



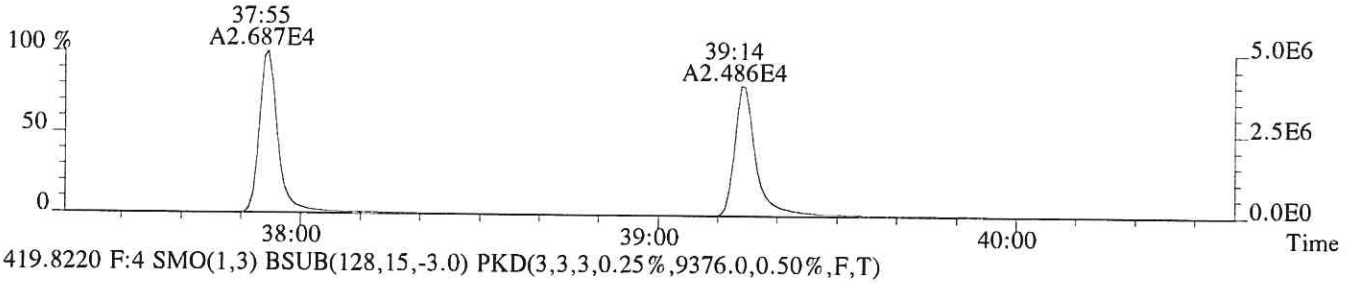
File:P511951 #1-295 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3944.0,0.50%,F,T)



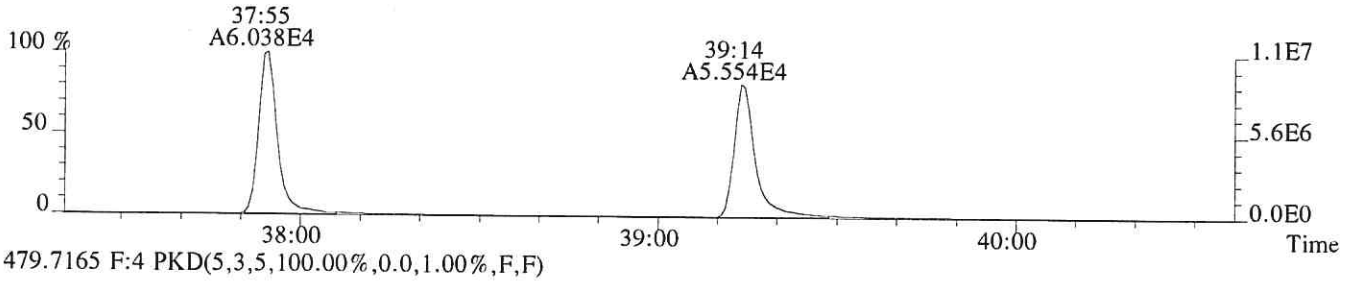
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3156.0,0.50%,F,T)



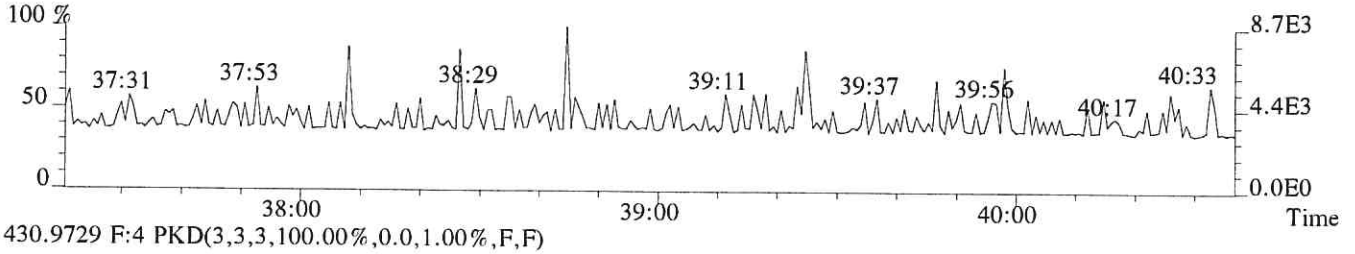
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2768.0,0.50%,F,T)



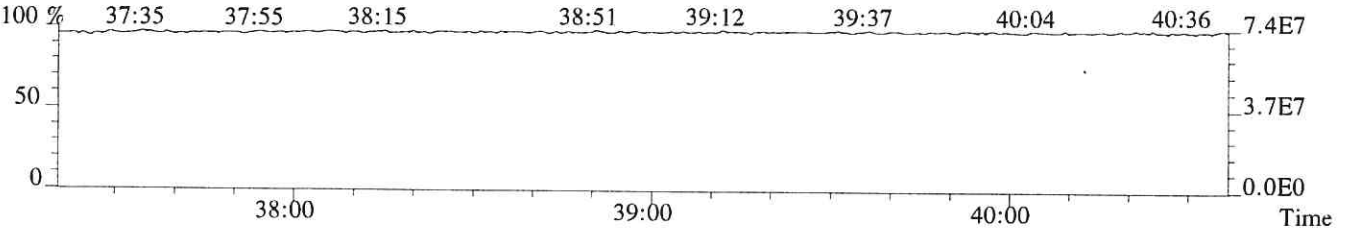
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9376.0,0.50%,F,T)



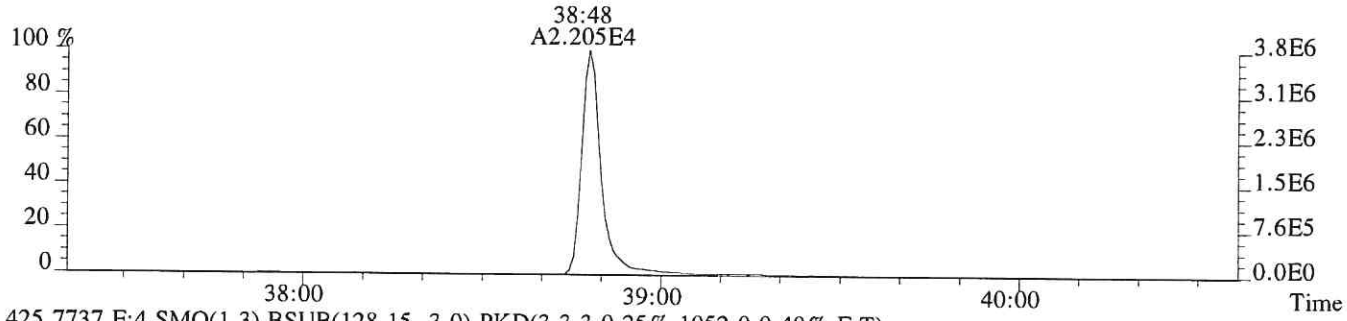
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



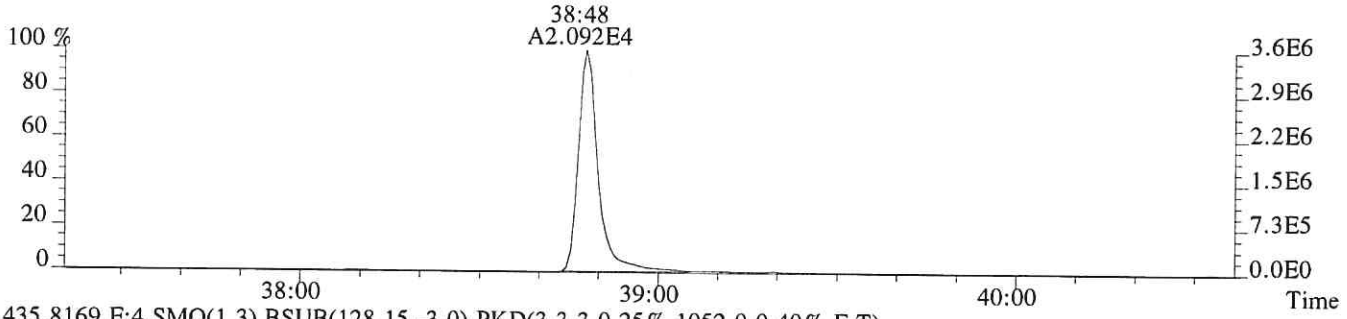
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



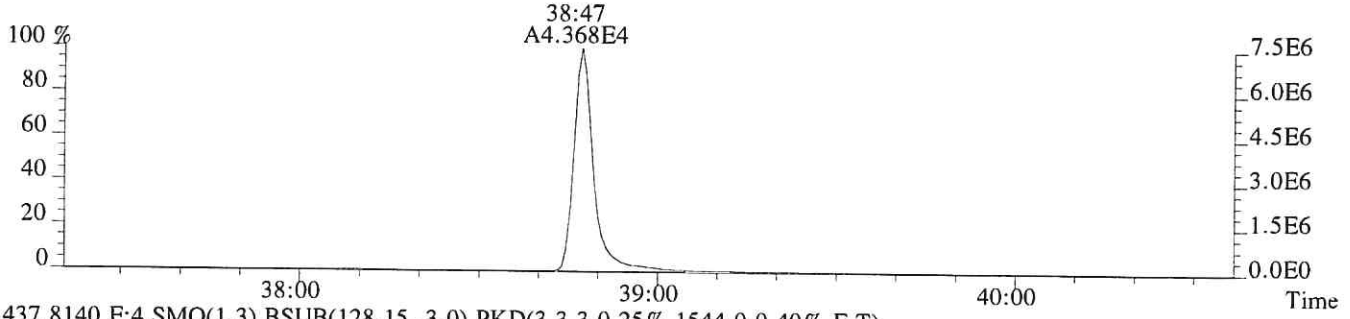
File:P511951 #1-295 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.40%,F,T)



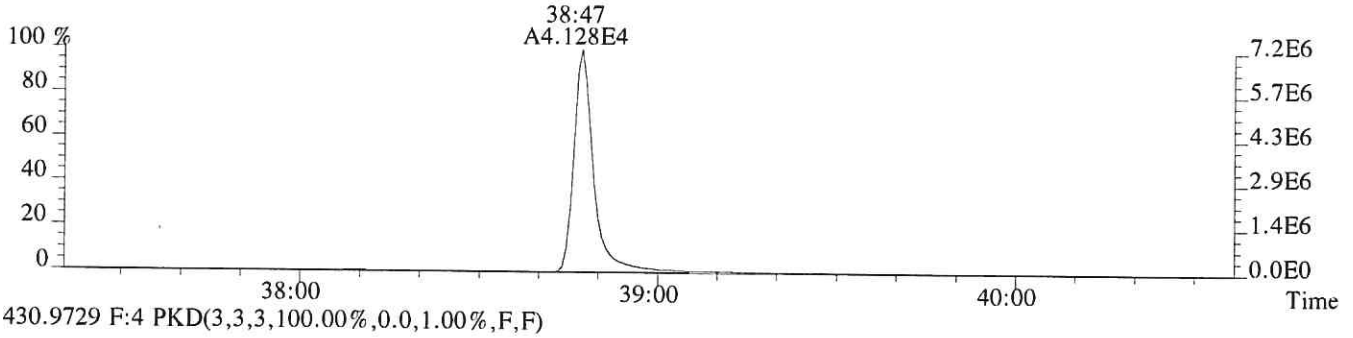
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



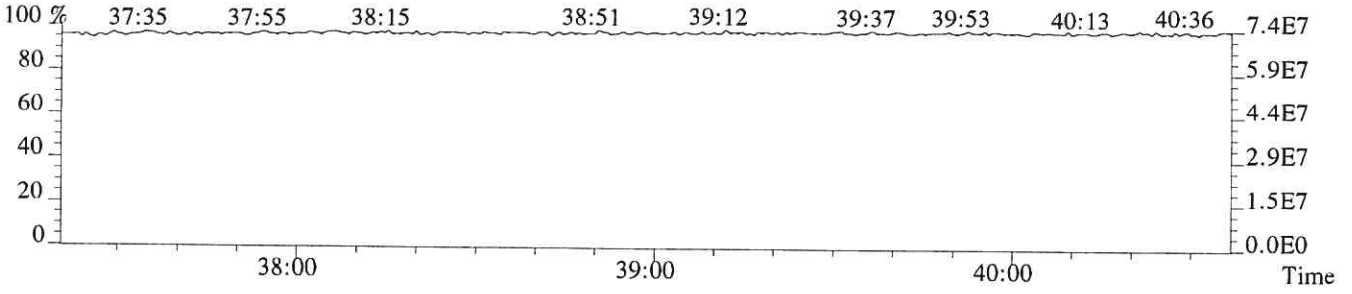
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,T)



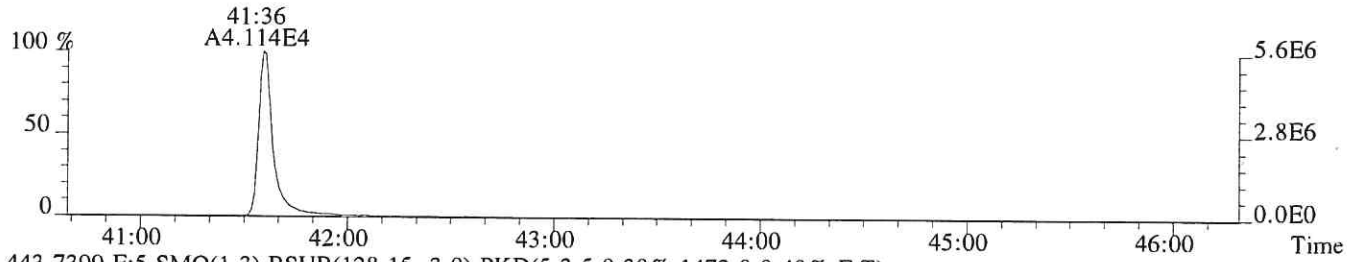
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



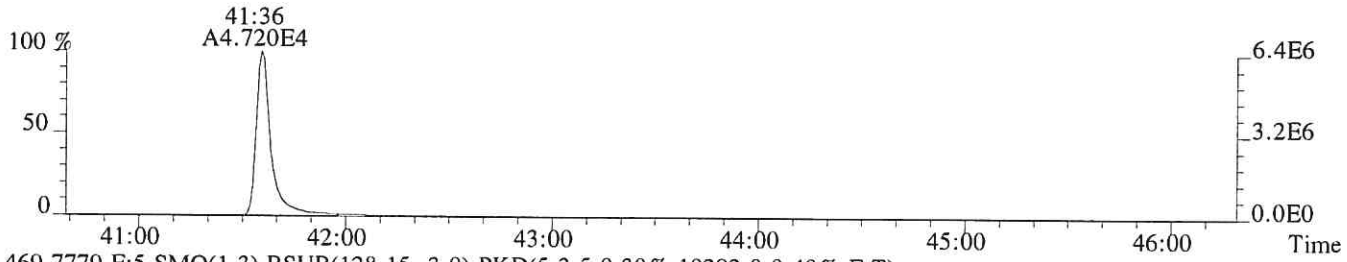
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



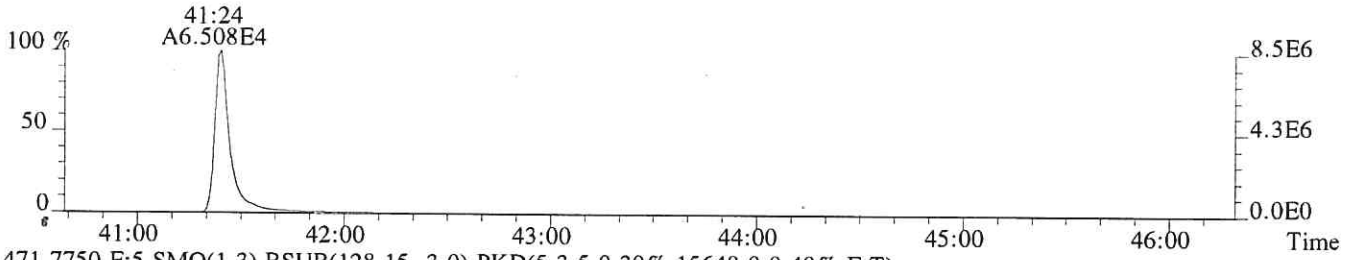
File:P511951 #1-511 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



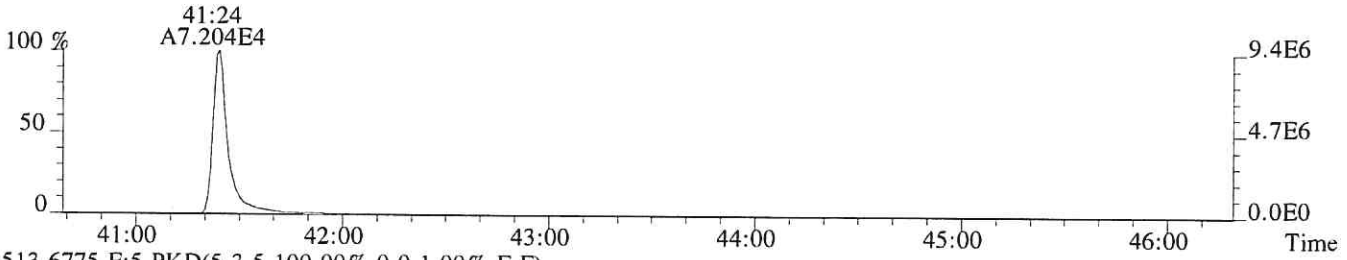
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1472.0,0.40%,F,T)



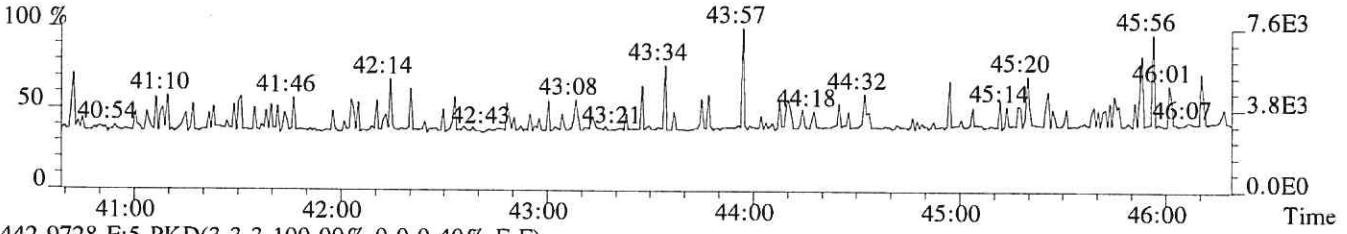
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10292.0,0.40%,F,T)



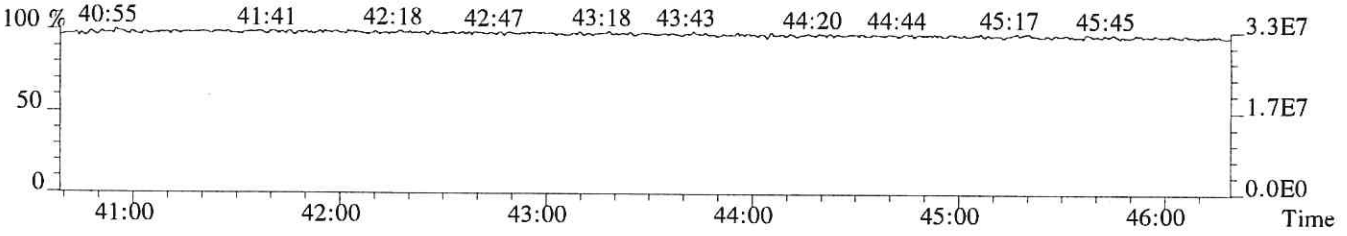
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15648.0,0.40%,F,T)



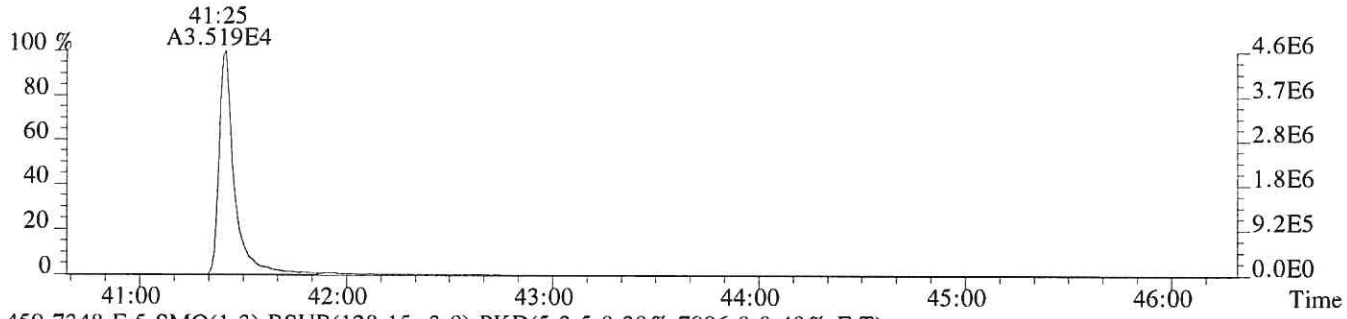
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



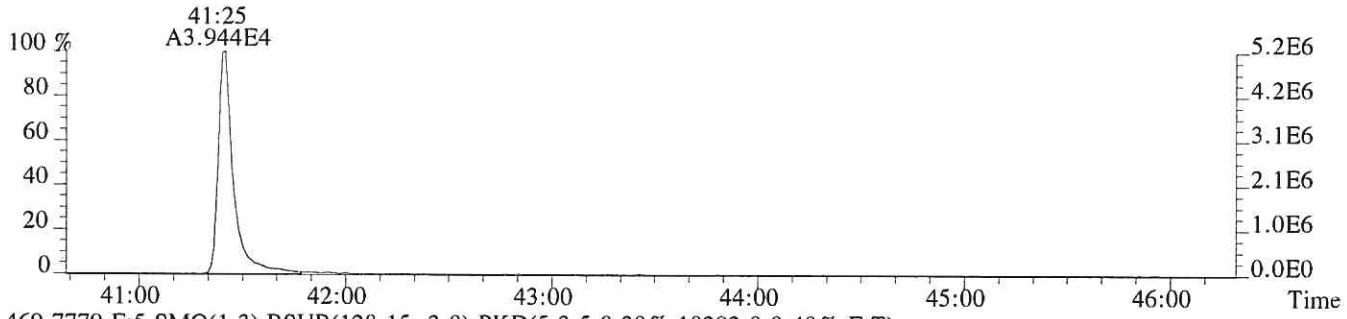
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



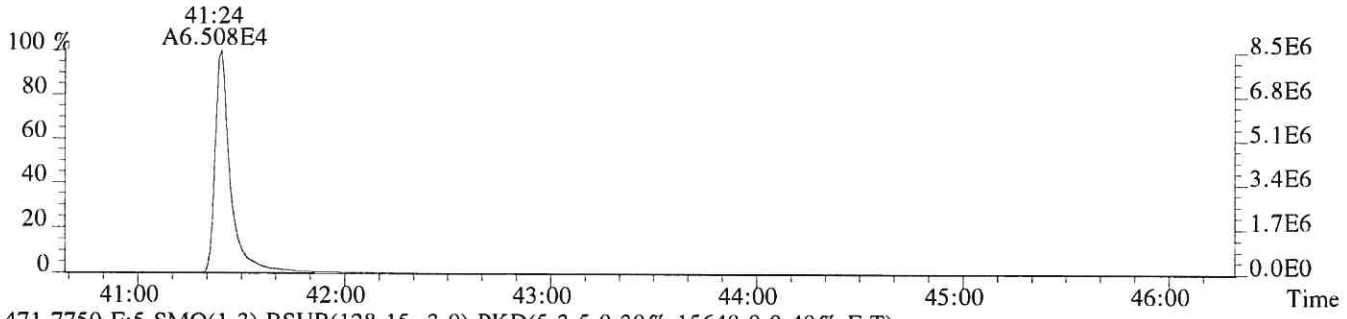
File:P511951 #1-511 Acq:14-OCT-2017 00:20:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:180102
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,T)



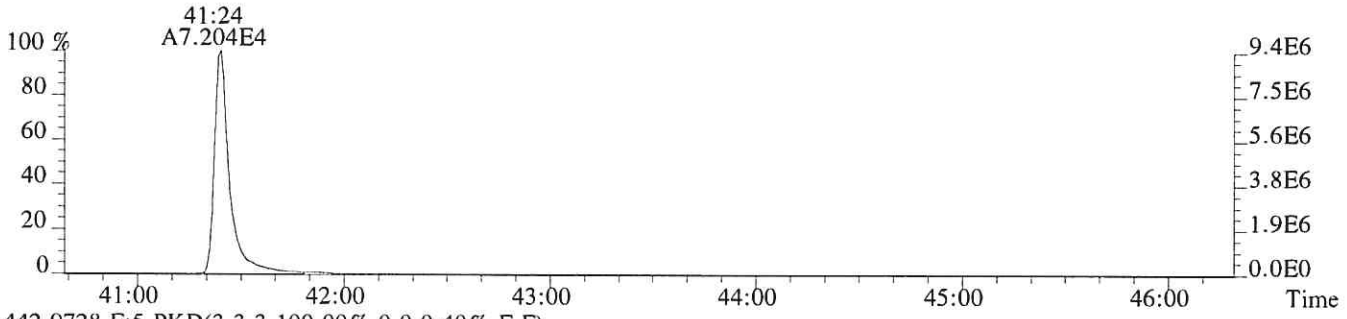
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,7996.0,0.40%,F,T)



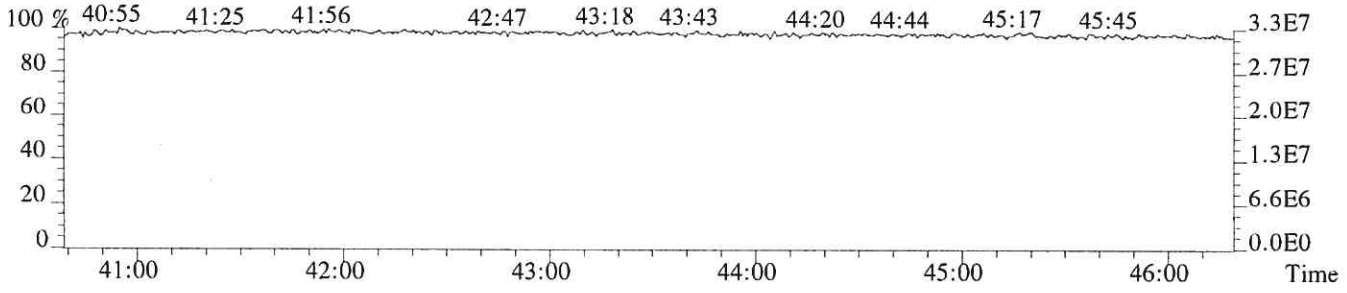
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10292.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15648.0,0.40%,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: 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	---	---

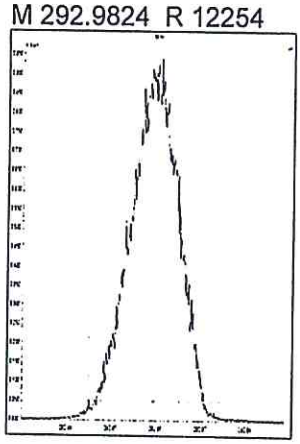
gc 05/17/17

Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

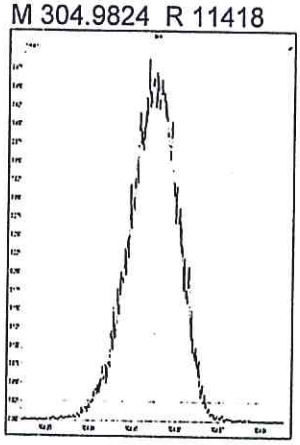
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:00:51 Central Daylight Time

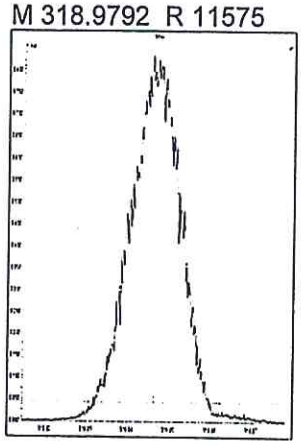
M 292.9824 R 12254



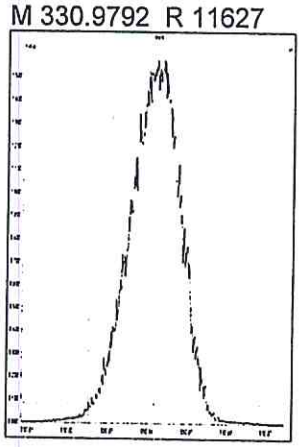
M 304.9824 R 11418



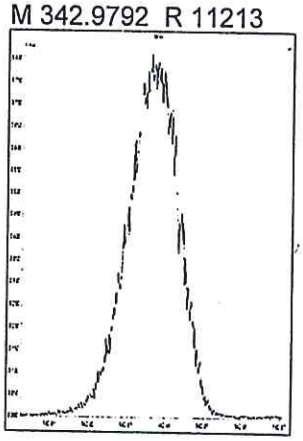
M 318.9792 R 11575



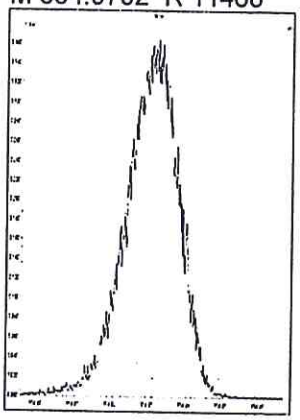
M 330.9792 R 11627



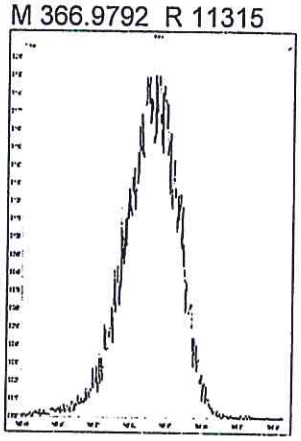
M 342.9792 R 11213



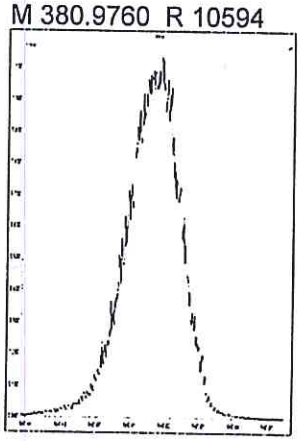
M 354.9792 R 11468



M 366.9792 R 11315



M 380.9760 R 10594

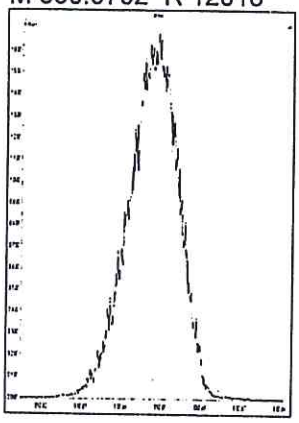


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

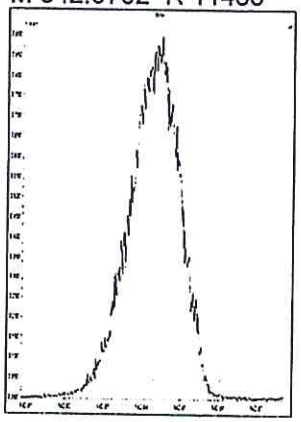
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:02:42 Central Daylight Time

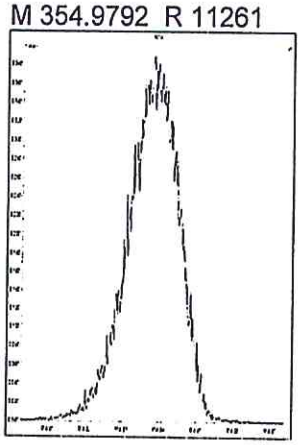
M 330.9792 R 12018



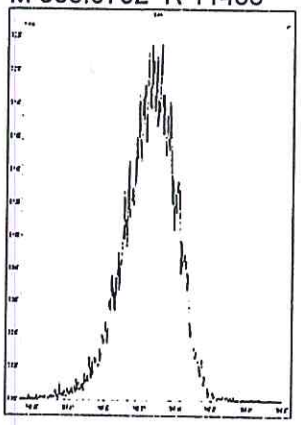
M 342.9792 R 11465



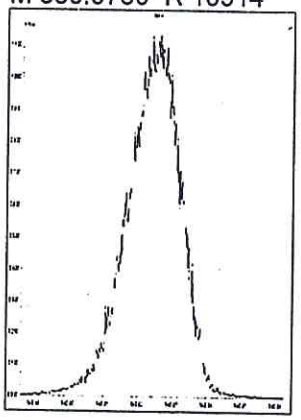
M 354.9792 R 11261



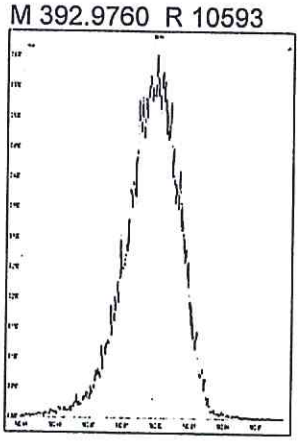
M 366.9792 R 11466



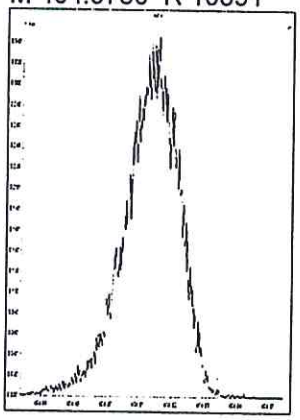
M 380.9760 R 10914



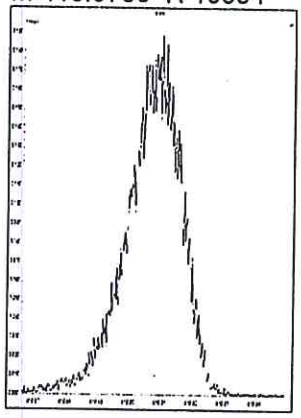
M 392.9760 R 10593



M 404.9760 R 10591



M 416.9760 R 10594

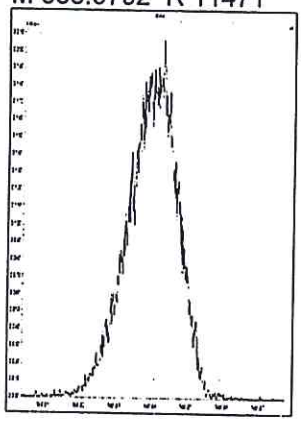


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

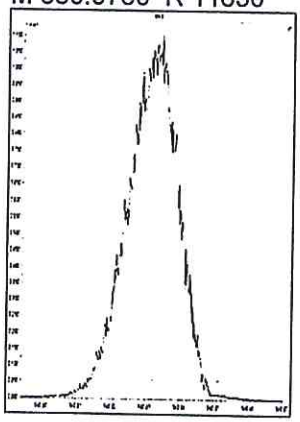
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:03:51 Central Daylight Time

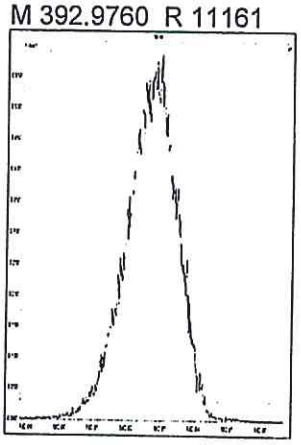
M 366.9792 R 11471



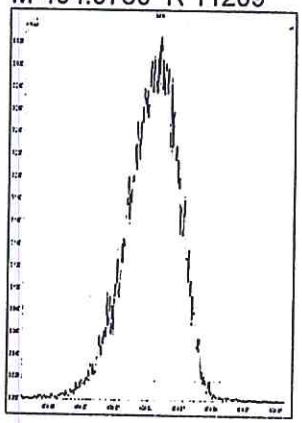
M 380.9760 R 11630



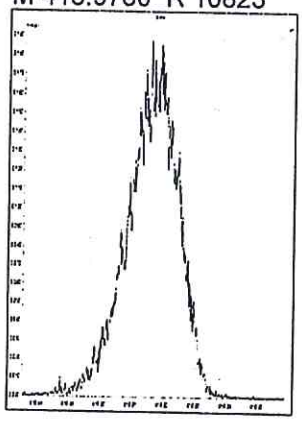
M 392.9760 R 11161



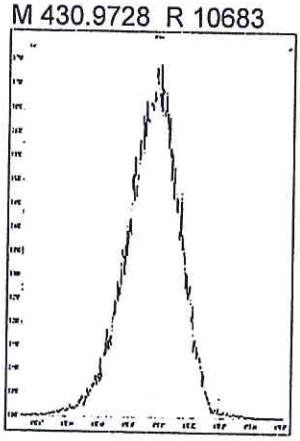
M 404.9760 R 11209



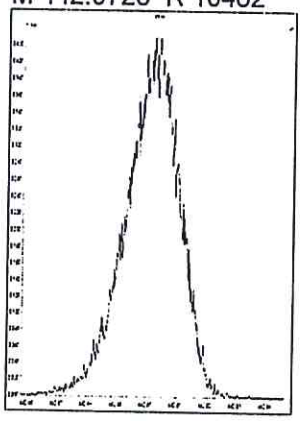
M 416.9760 R 10823



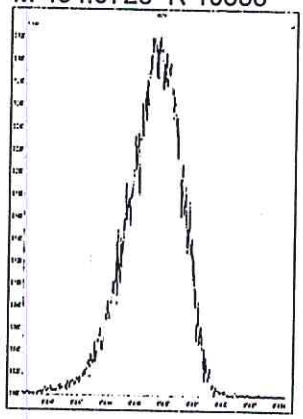
M 430.9728 R 10683



M 442.9728 R 10462



M 454.9728 R 10638

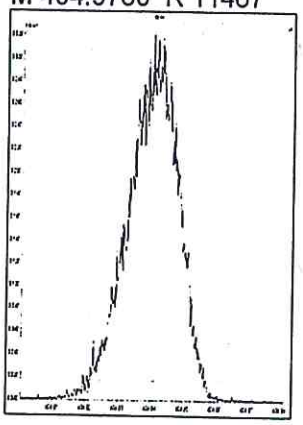


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

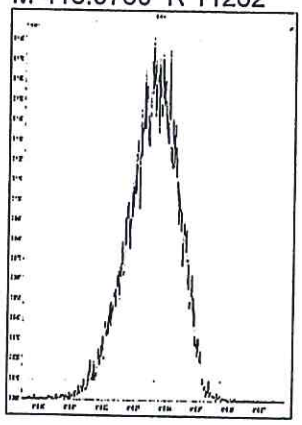
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:05:27 Central Daylight Time

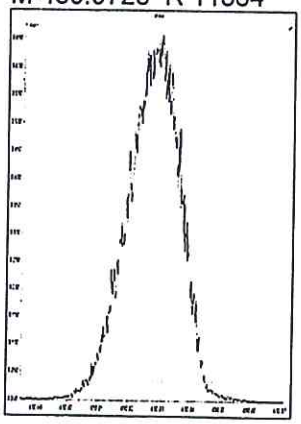
M 404.9760 R 11467



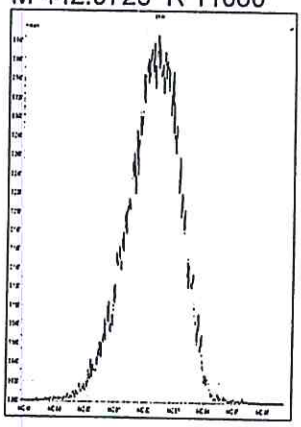
M 416.9760 R 11262



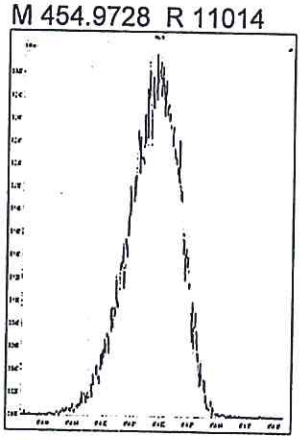
M 430.9728 R 11364



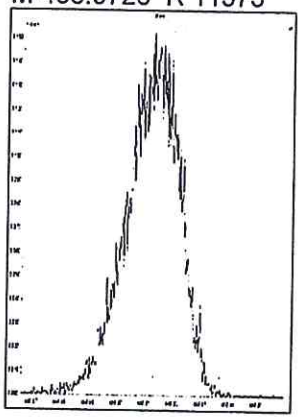
M 442.9728 R 11060



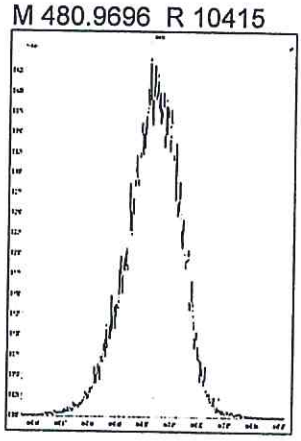
M 454.9728 R 11014



M 466.9728 R 11573



M 480.9696 R 10415

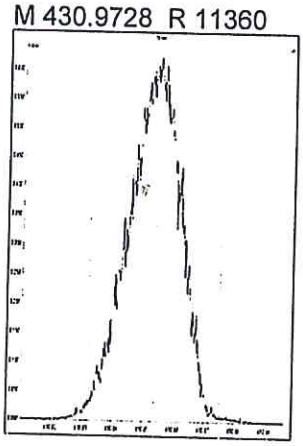


Experiment Calibration Report **MassLynx 4.1 SCN815 SCN795**

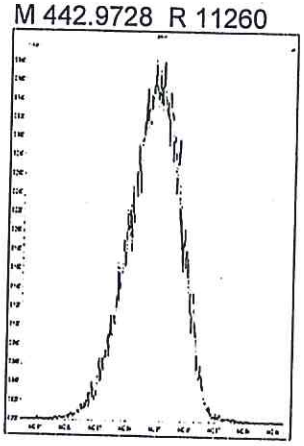
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Tuesday, May 16, 2017 10:07:03 Central Daylight Time

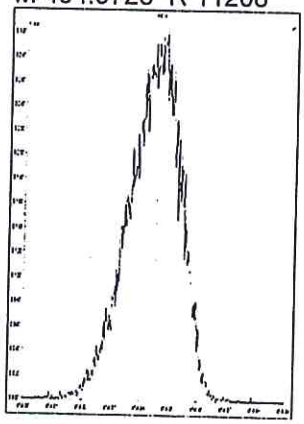
M 430.9728 R 11360



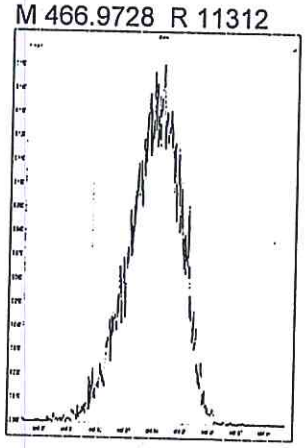
M 442.9728 R 11260



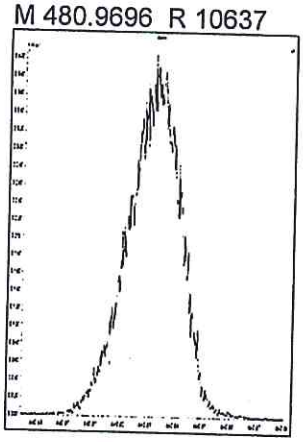
M 454.9728 R 11208



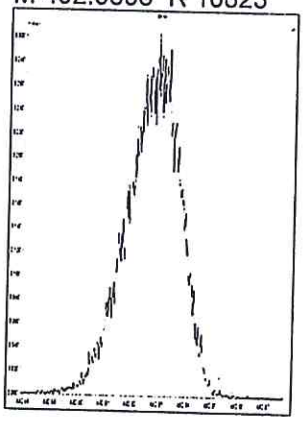
M 466.9728 R 11312



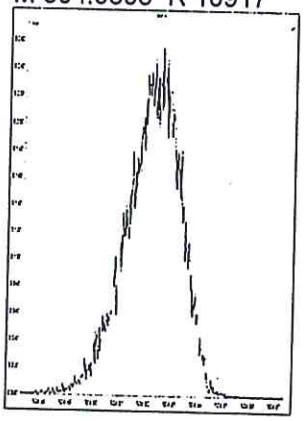
M 480.9696 R 10637



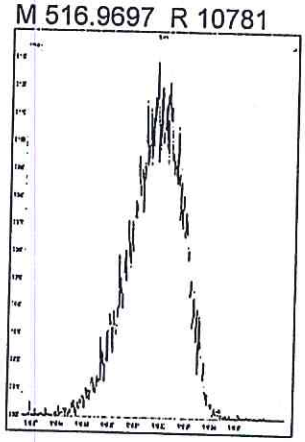
M 492.9696 R 10823



M 504.9696 R 10917

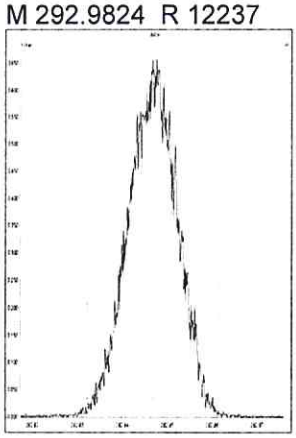


M 516.9697 R 10781

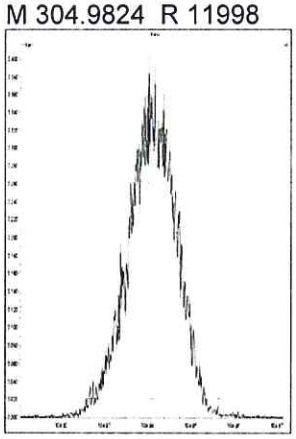


Printed: Tuesday, May 16, 2017 19:43:37 Central Daylight Time

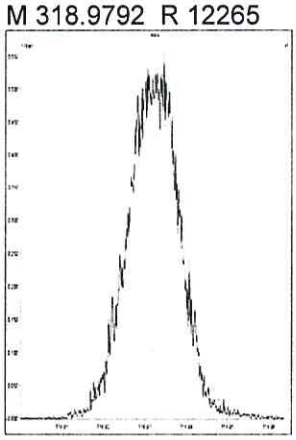
M 292.9824 R 12237



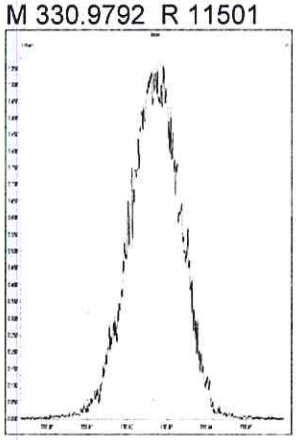
M 304.9824 R 11998



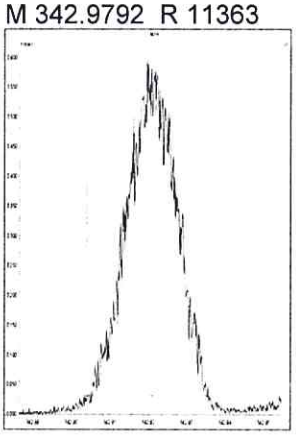
M 318.9792 R 12265



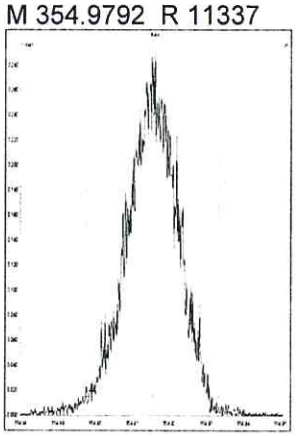
M 330.9792 R 11501



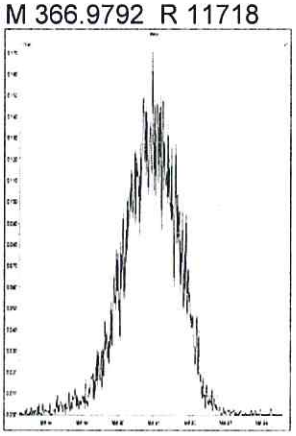
M 342.9792 R 11363



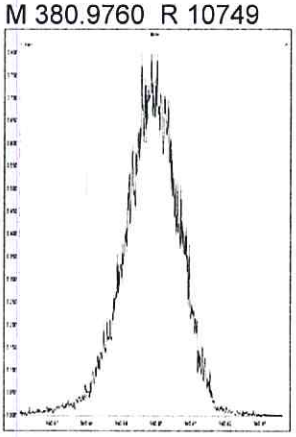
M 354.9792 R 11337



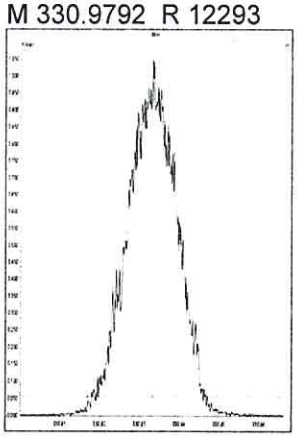
M 366.9792 R 11718



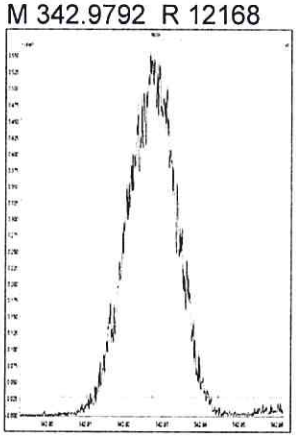
M 380.9760 R 10749



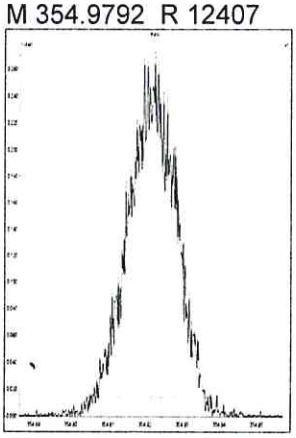
M 330.9792 R 12293



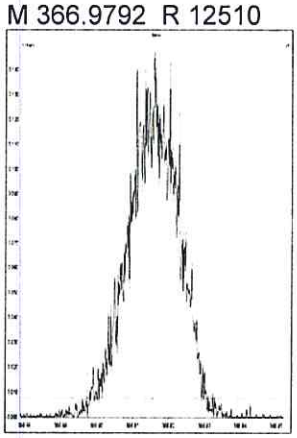
M 342.9792 R 12168



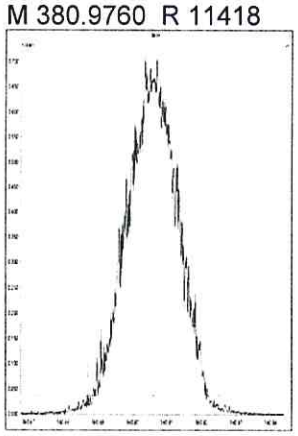
M 354.9792 R 12407



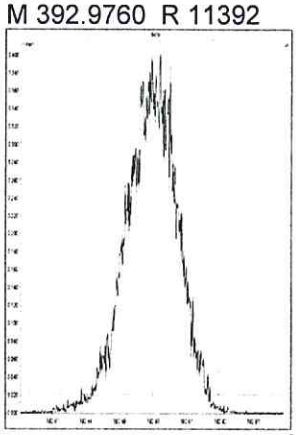
M 366.9792 R 12510



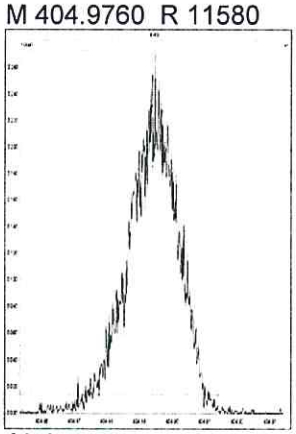
M 380.9760 R 11418



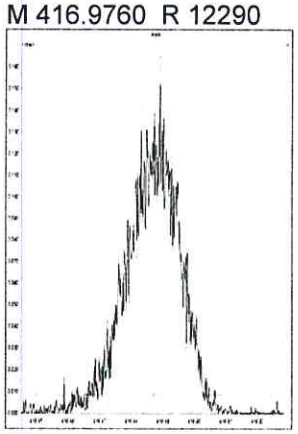
M 392.9760 R 11392



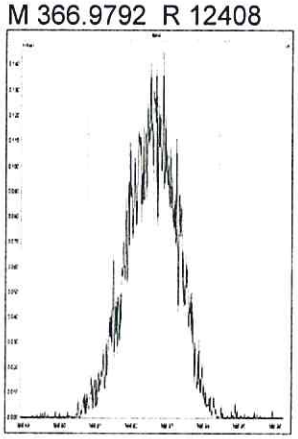
M 404.9760 R 11580



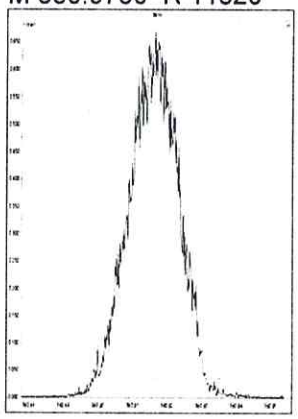
M 416.9760 R 12290



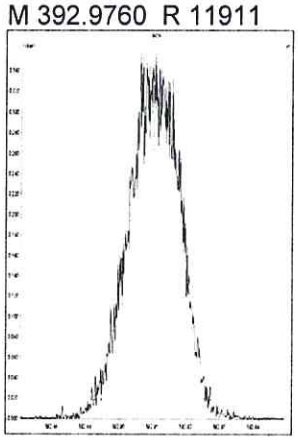
M 366.9792 R 12408



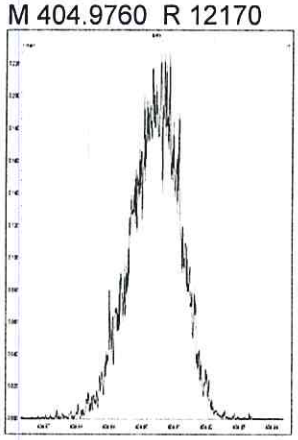
M 380.9760 R 11820



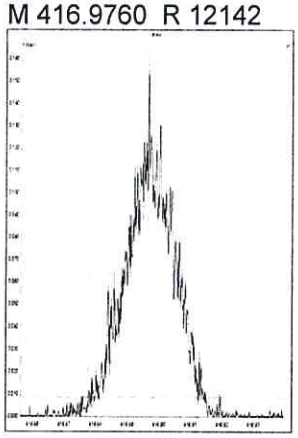
M 392.9760 R 11911



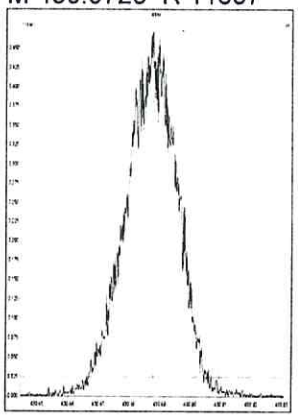
M 404.9760 R 12170



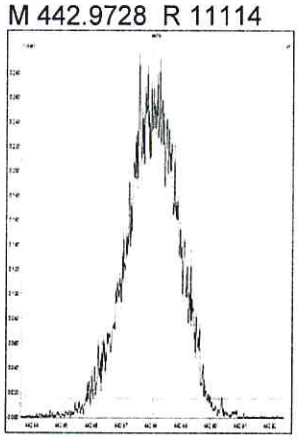
M 416.9760 R 12142



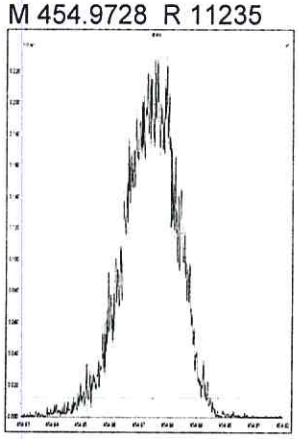
M 430.9728 R 11657



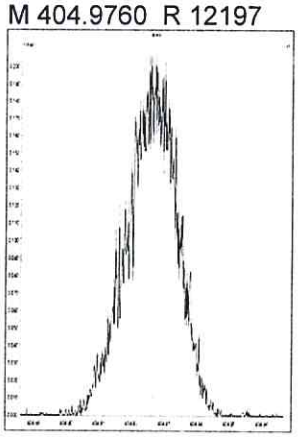
M 442.9728 R 11114



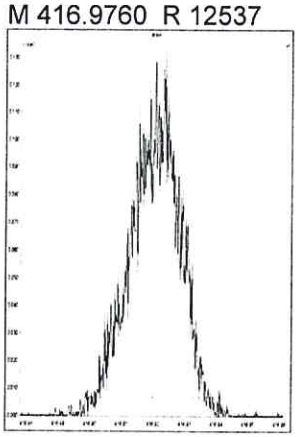
M 454.9728 R 11235



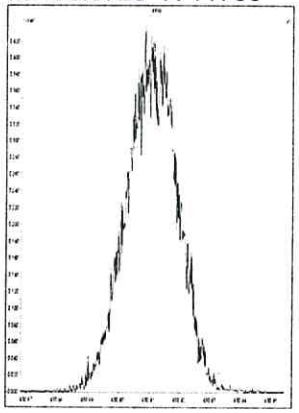
M 404.9760 R 12197



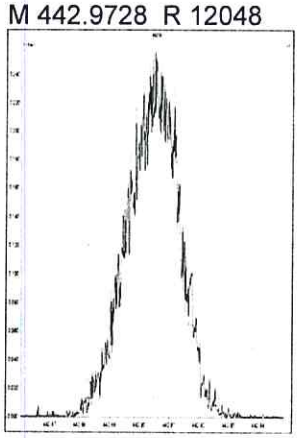
M 416.9760 R 12537



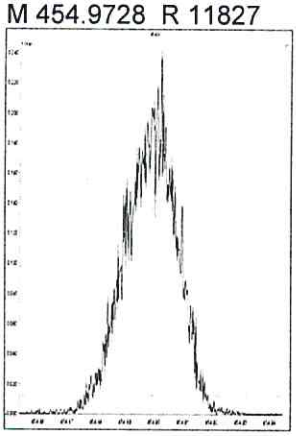
M 430.9728 R 11788



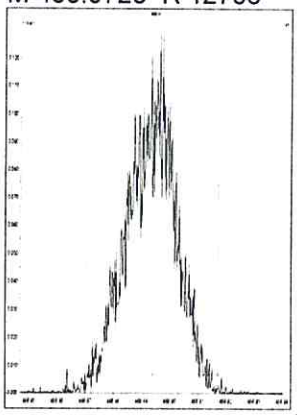
M 442.9728 R 12048



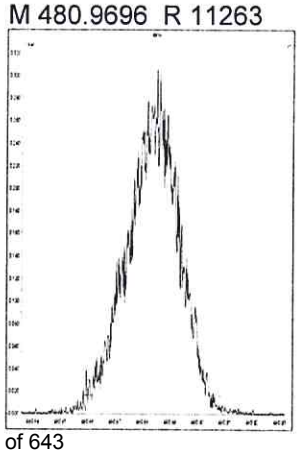
M 454.9728 R 11827



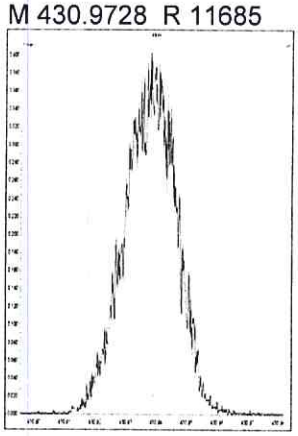
M 466.9728 R 12756



M 480.9696 R 11263

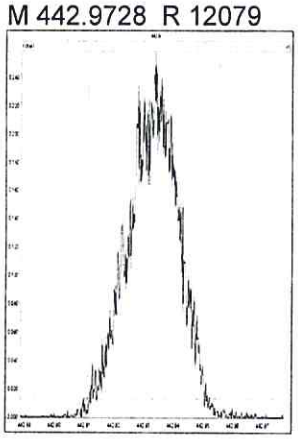


M 430.9728 R 11685

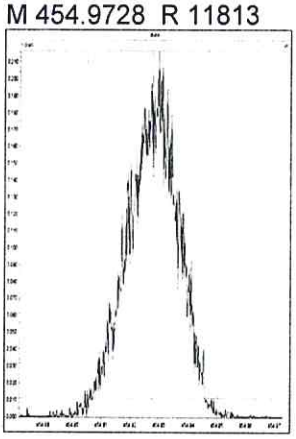


Printed: Tuesday, May 16, 2017 19:43:37 Central Daylight Time

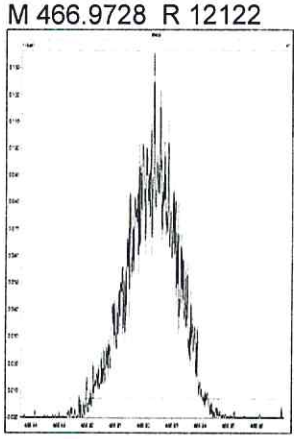
M 442.9728 R 12079



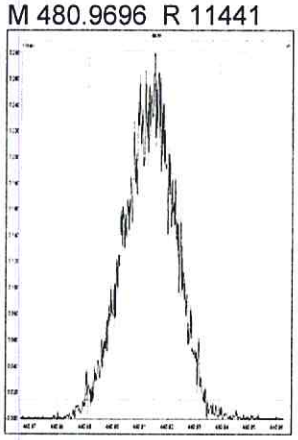
M 454.9728 R 11813



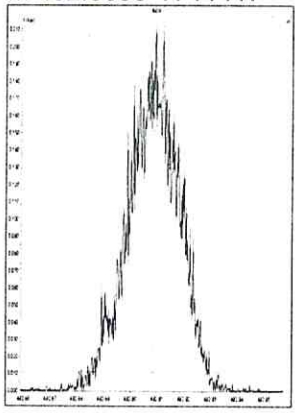
M 466.9728 R 12122



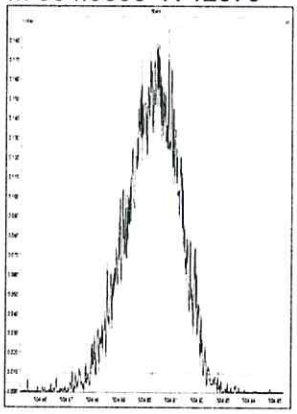
M 480.9696 R 11441



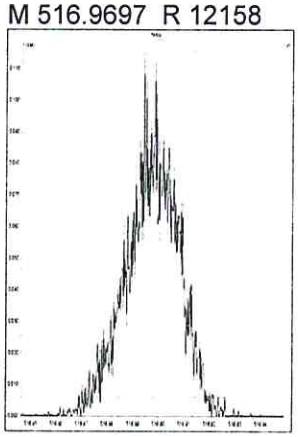
M 492.9696 R 11417



M 504.9696 R 12079



M 516.9697 R 12158



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

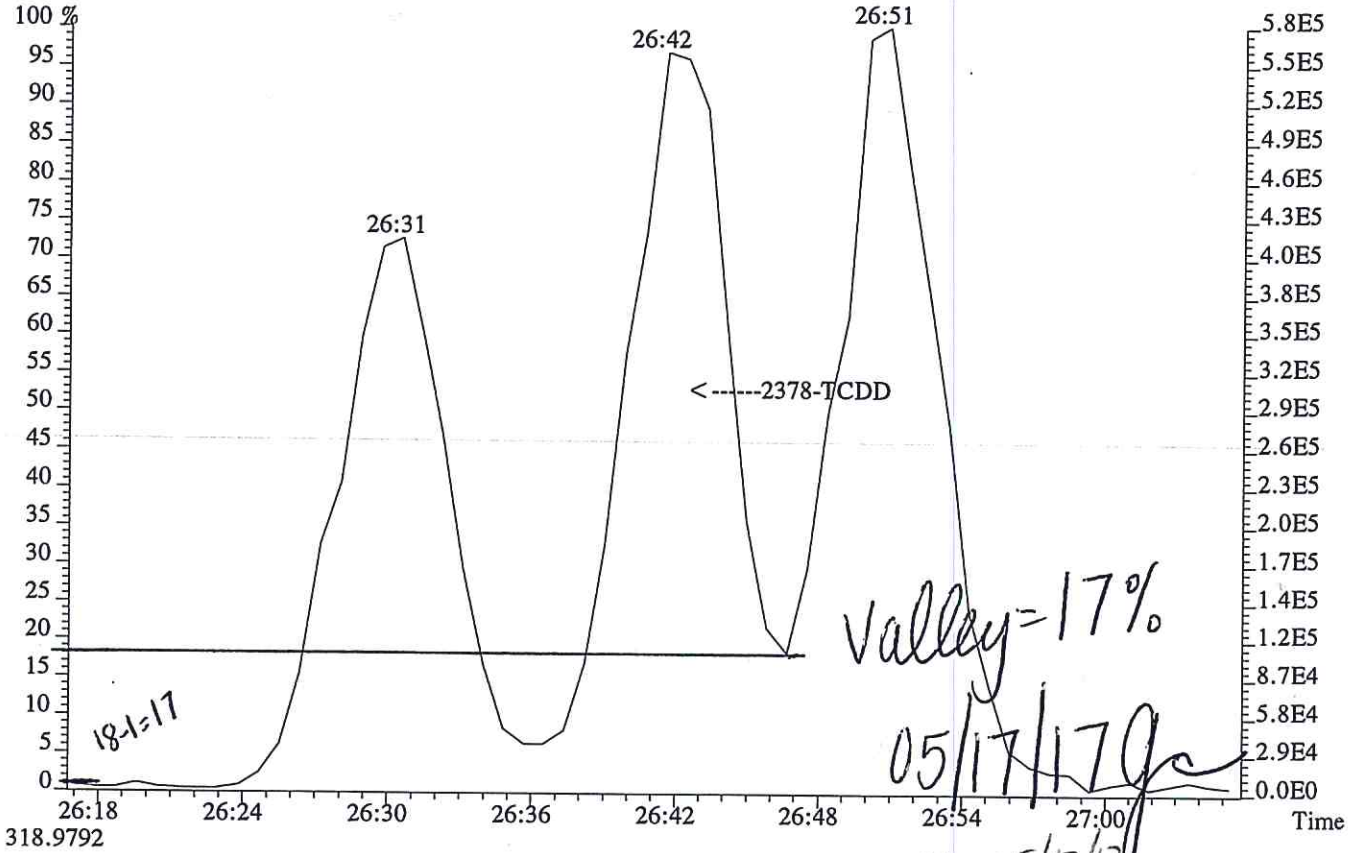
Case No.:
ID: 0.25 (mm)

SDG No.:
Lab File ID: P607178
Date Analyzed: 16-MAY-17
Time Analyzed: 11:03:07

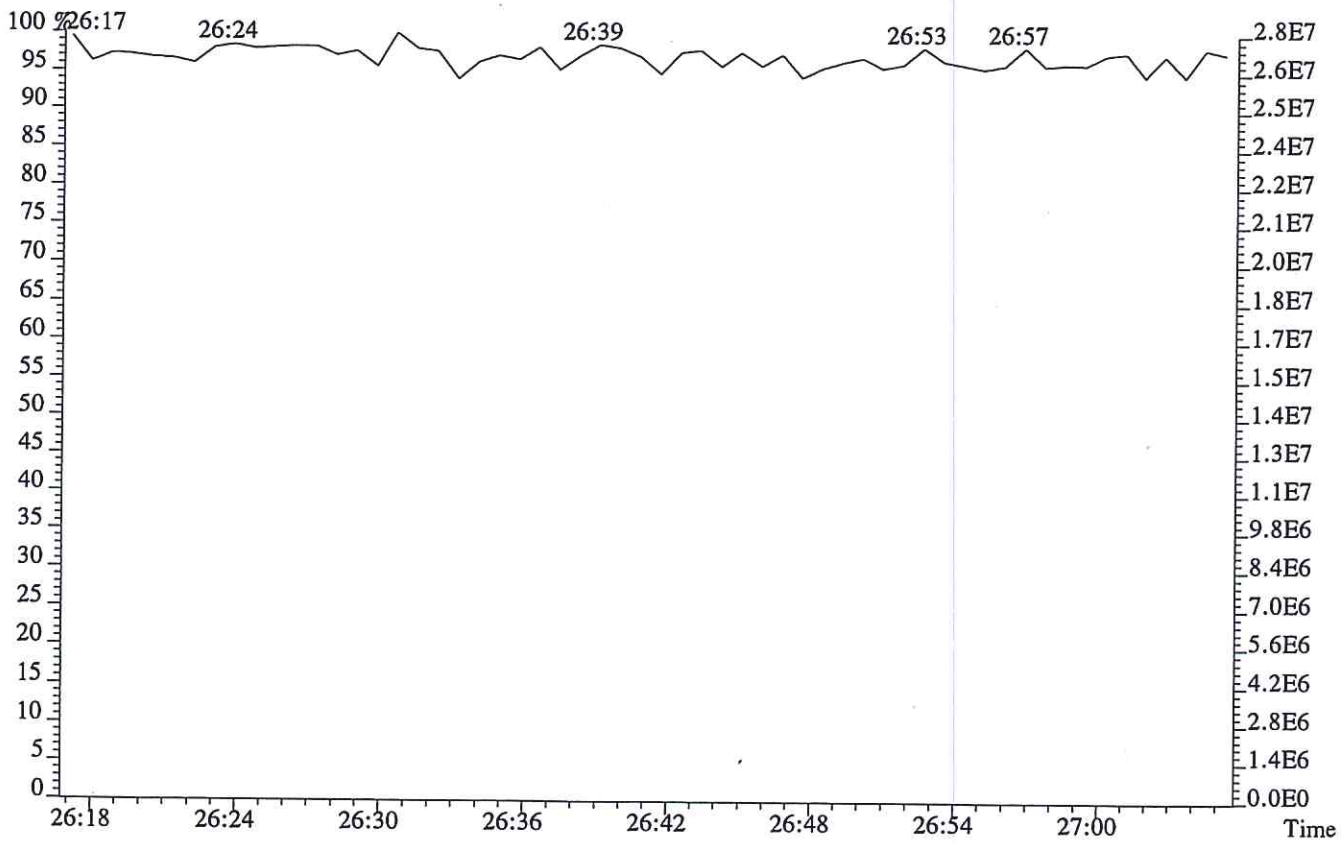
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	21:22	28:03
TCDD	22:58	27:53
PeCDF	28:02	32:42
PeCDD	29:47	32:28
HxCDF	33:25	36:01
HxCDD	33:59	35:37
HpCDF	37:17	38:35
HpCDD	37:32	38:10

% Valley 2378-TCDD: 17 %

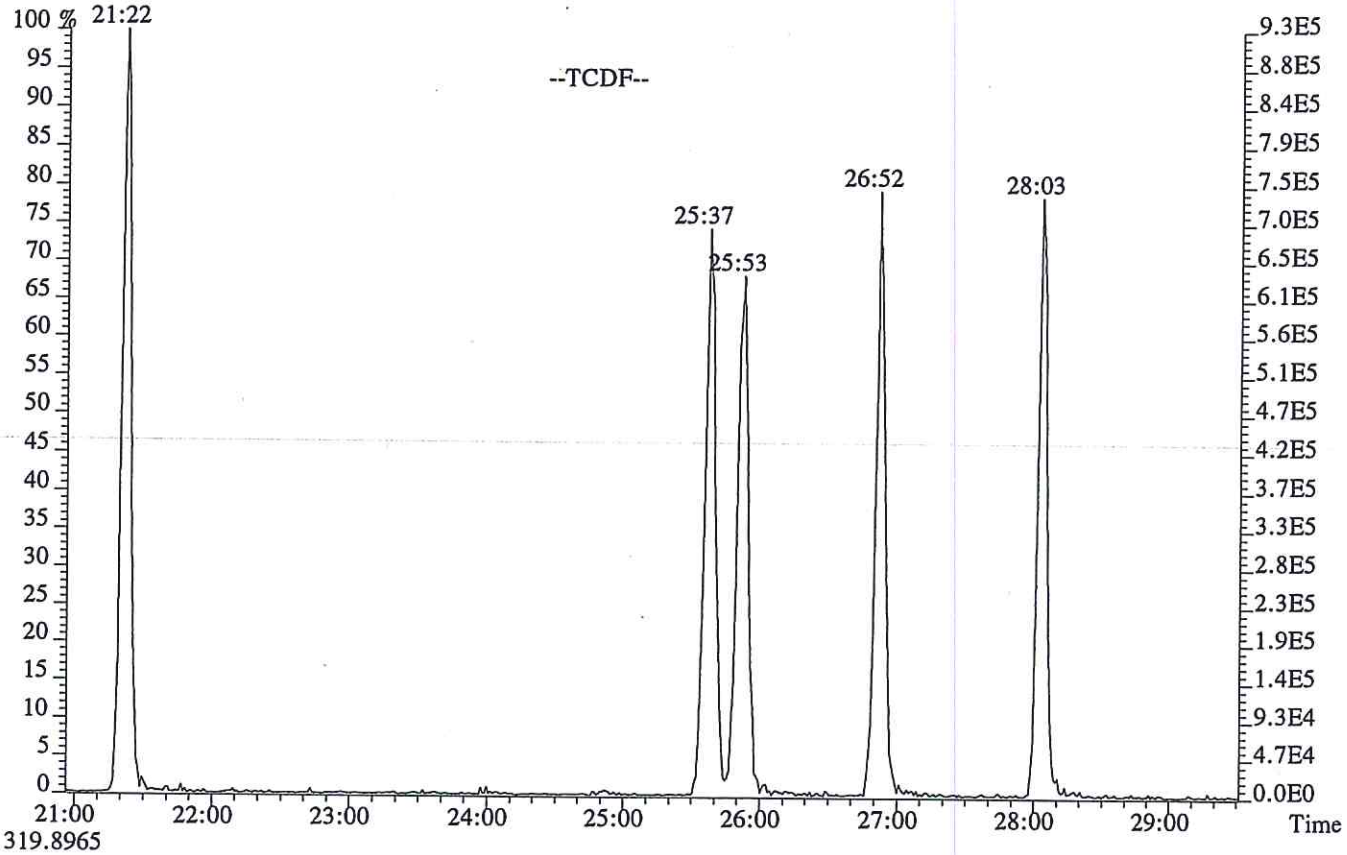
File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
319.8965

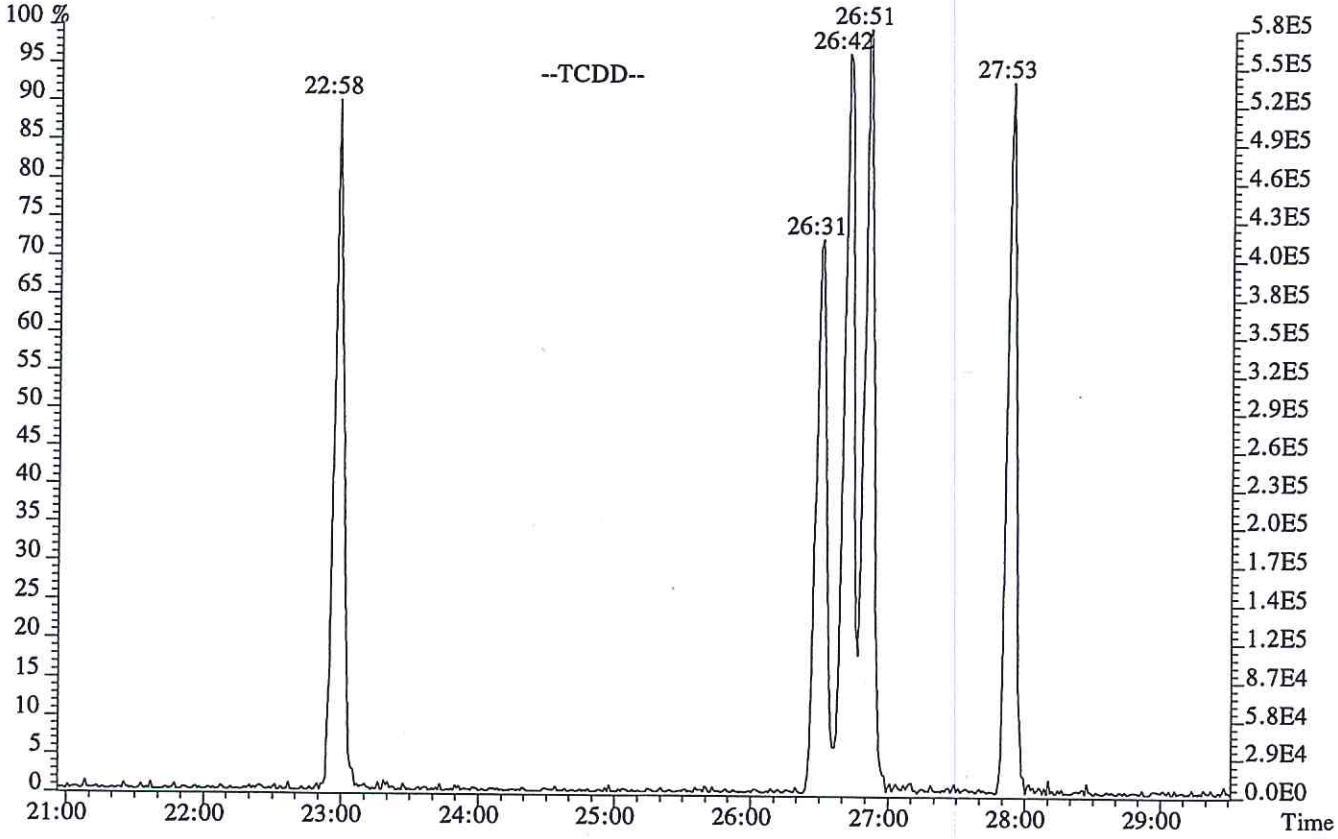


318.9792

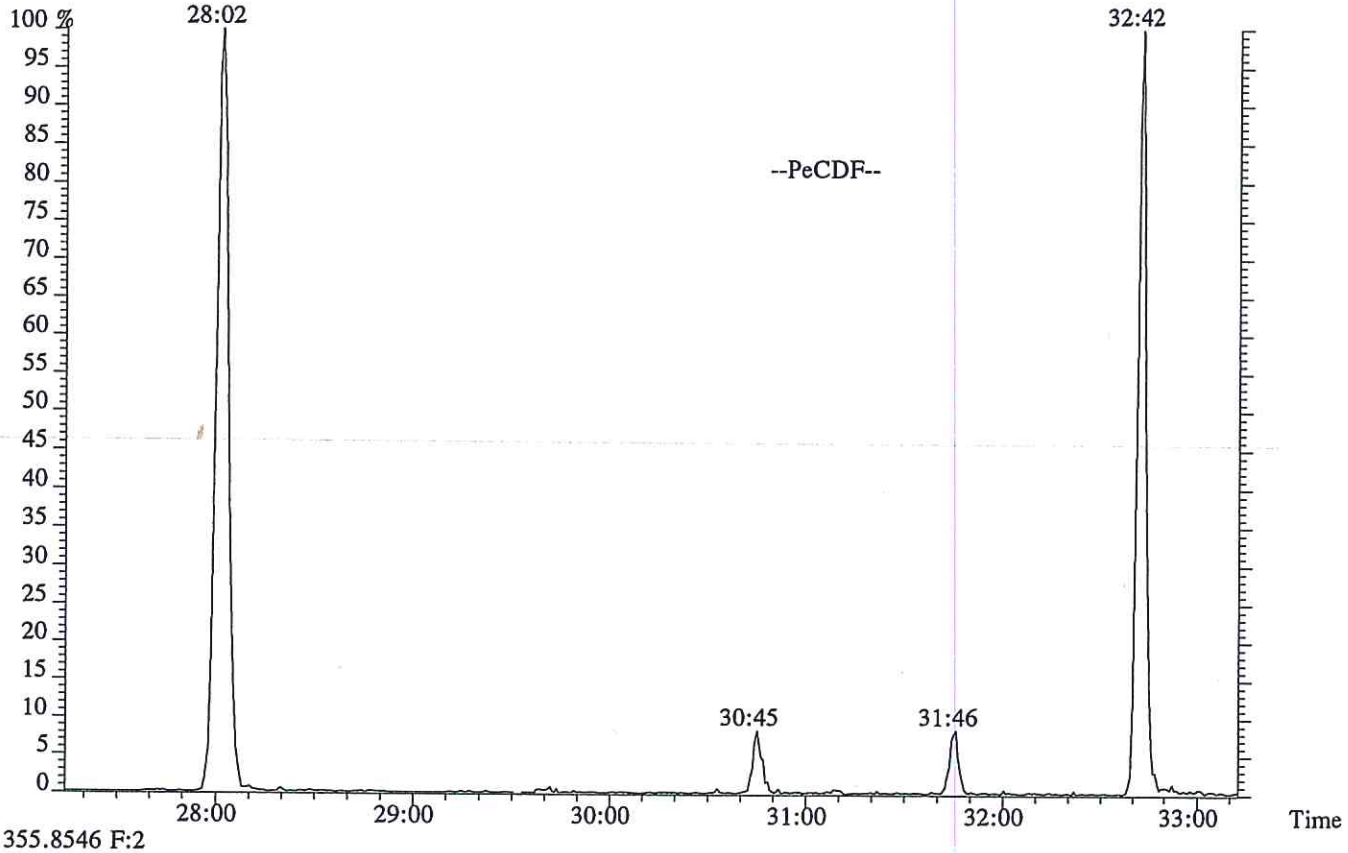


File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
303.9016

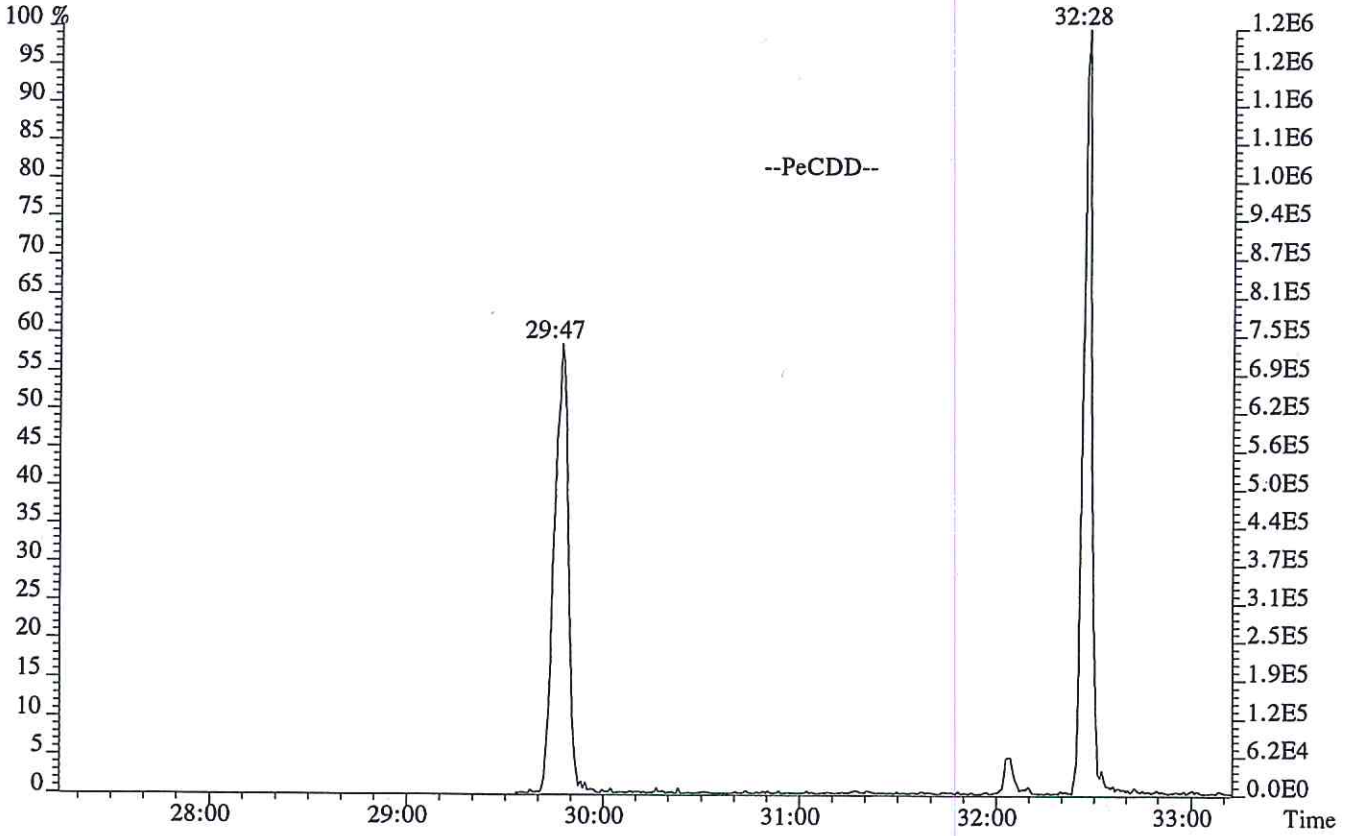




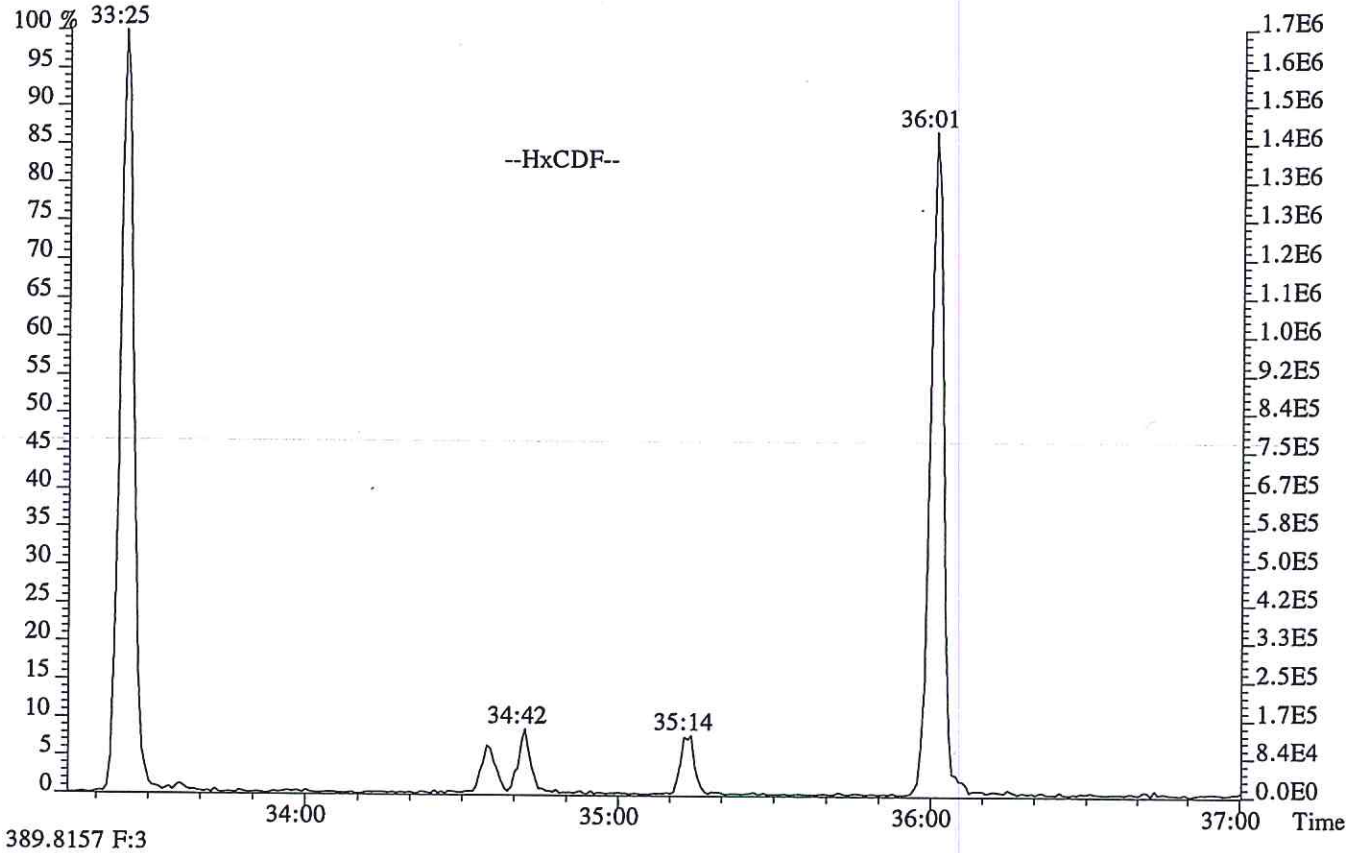
File:P607178 #1-609 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
339.8597,339.8597 F:2



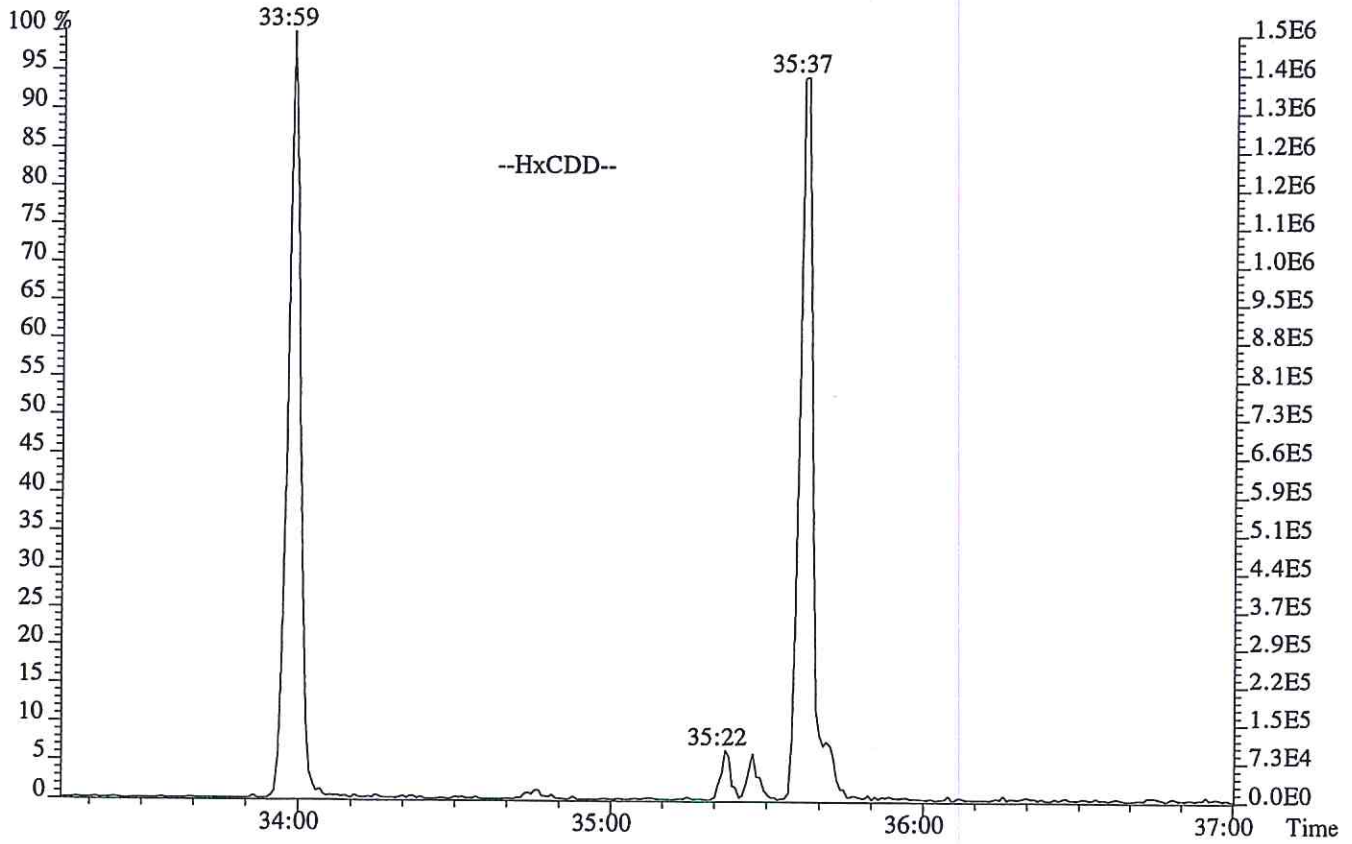
355.8546 F:2



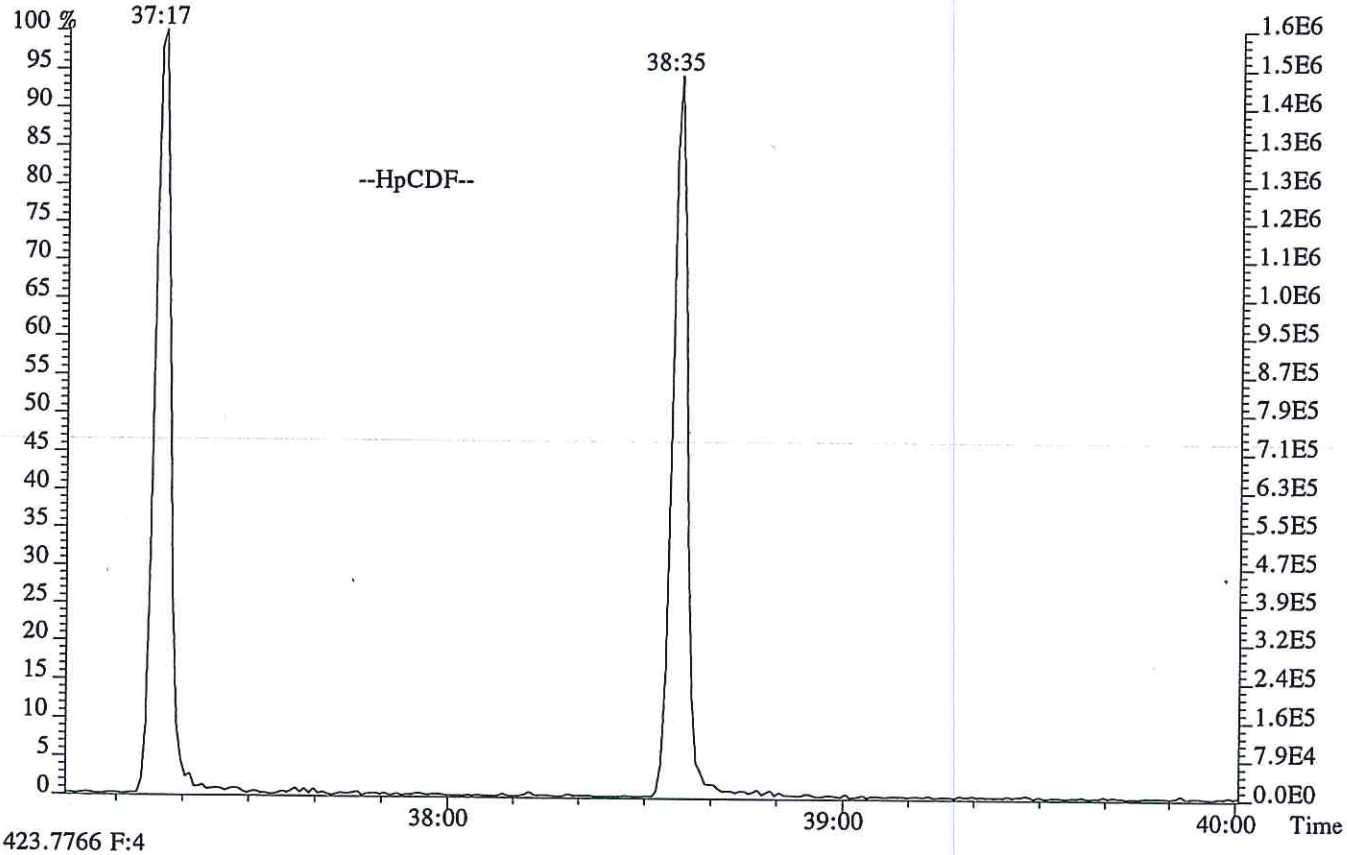
File:P607178 #1-339 Acq:16-MAY-2017 11:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOWDEFINE
373.8208 F:3



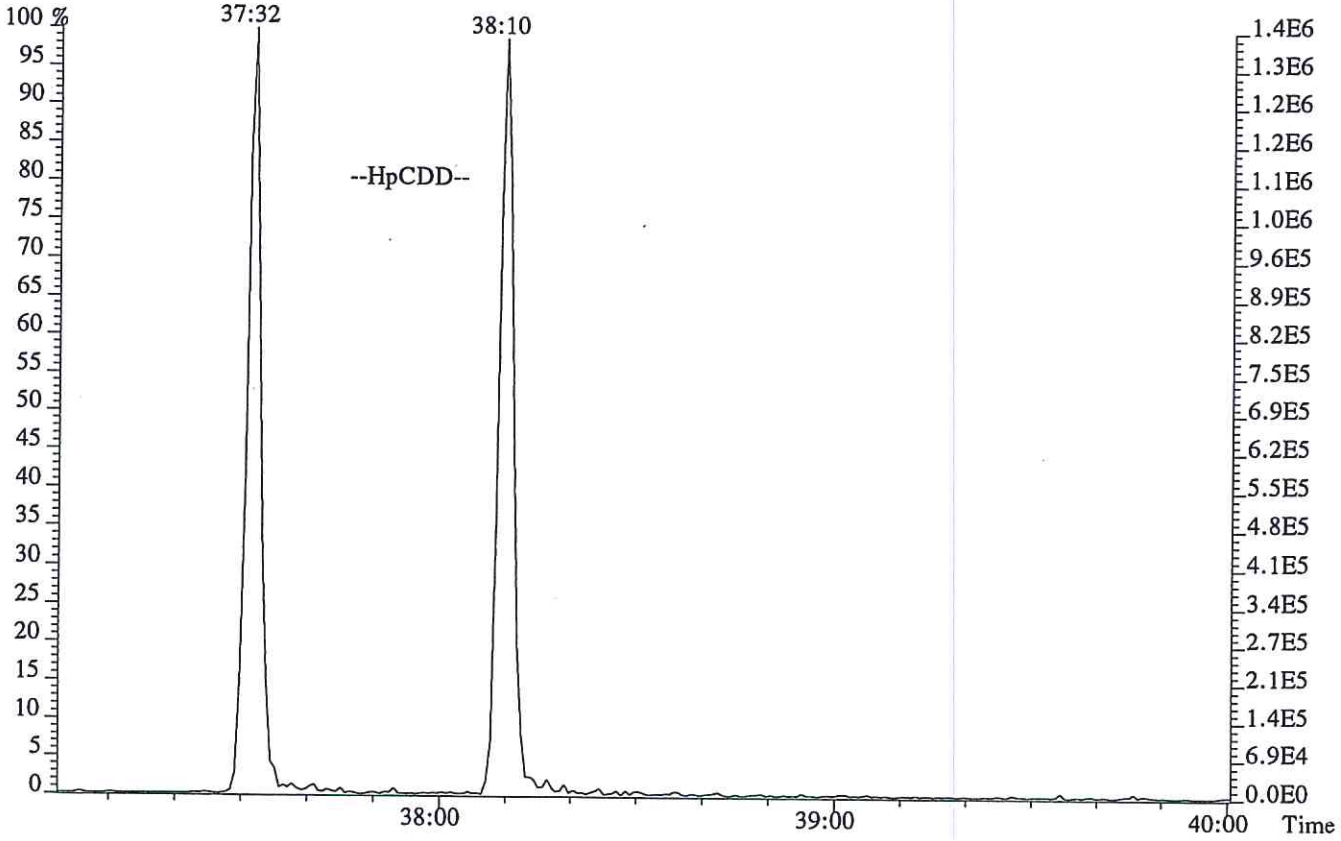
389.8157 F:3



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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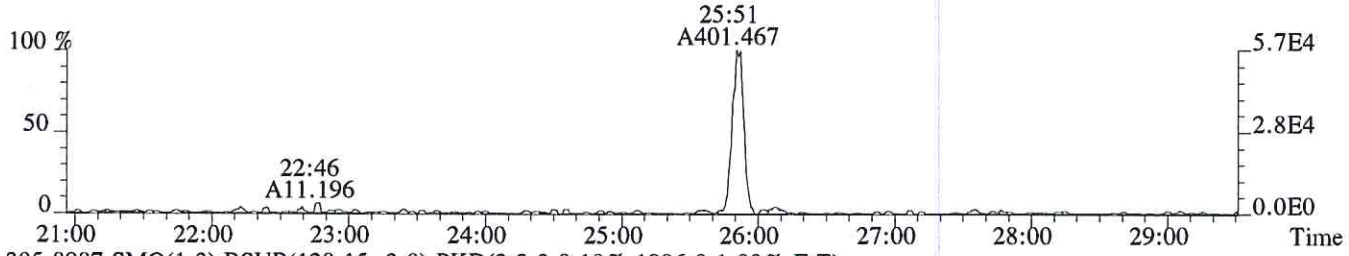
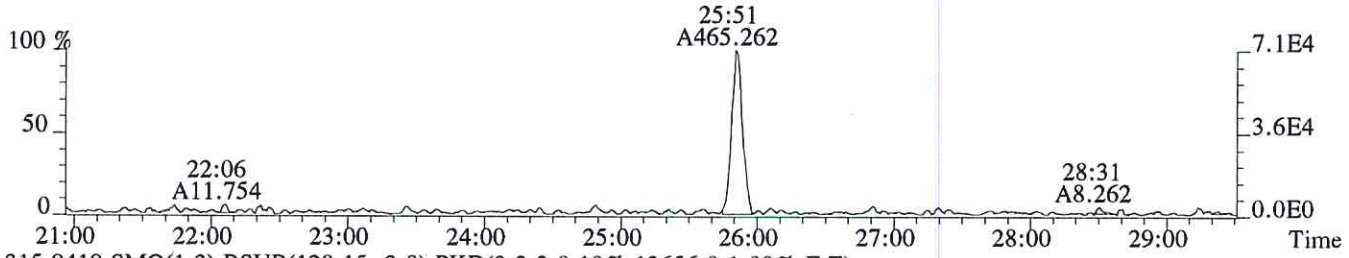
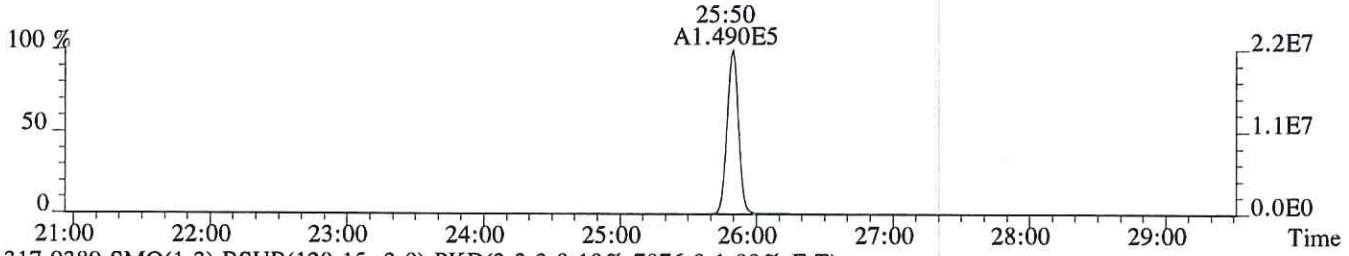
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,T)



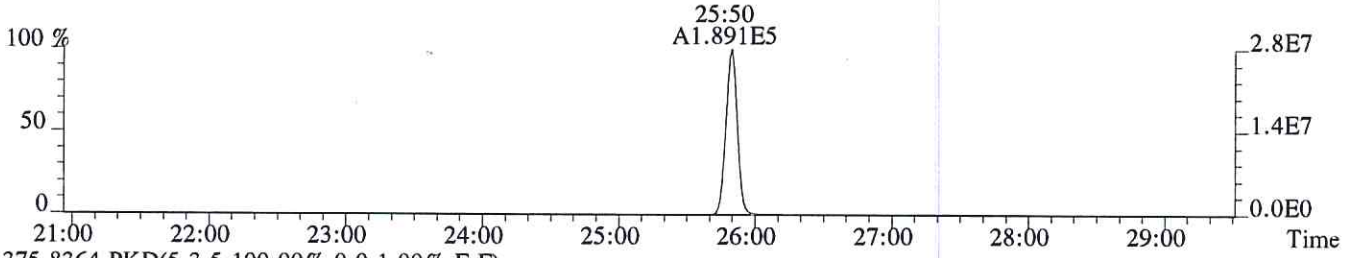
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1996.0,1.00%,F,T)



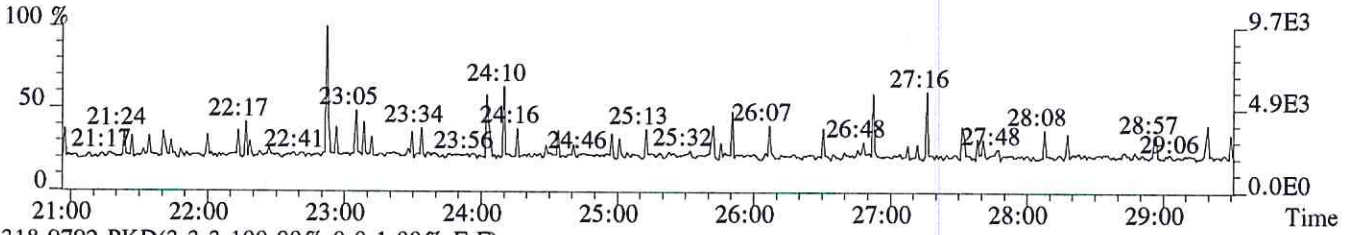
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12656.0,1.00%,F,T)



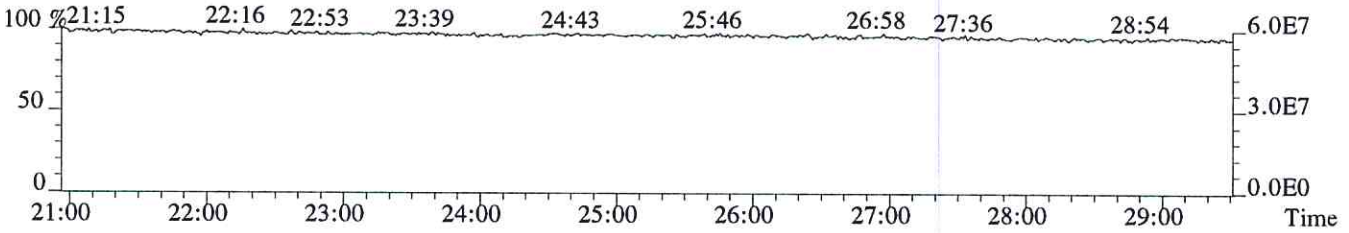
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7076.0,1.00%,F,T)



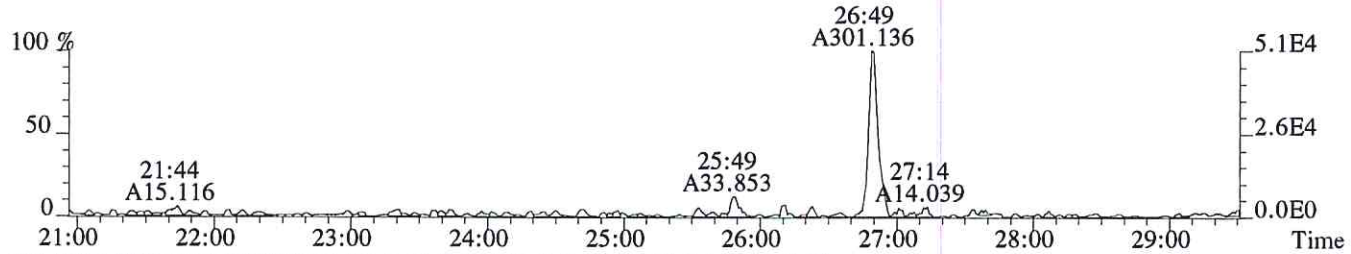
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



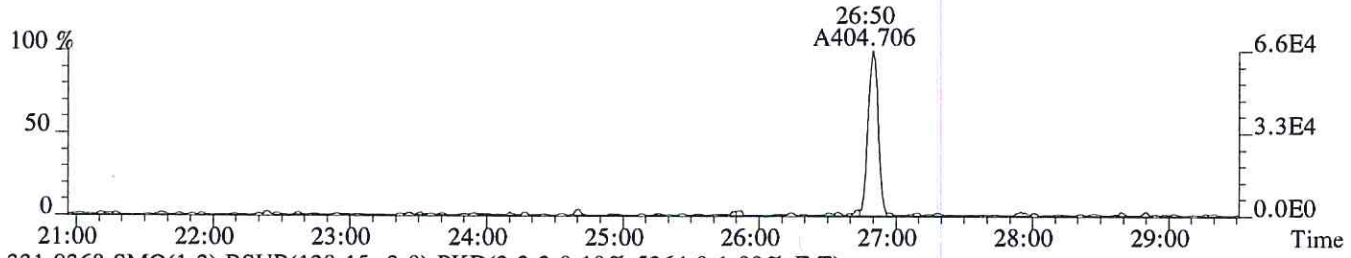
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



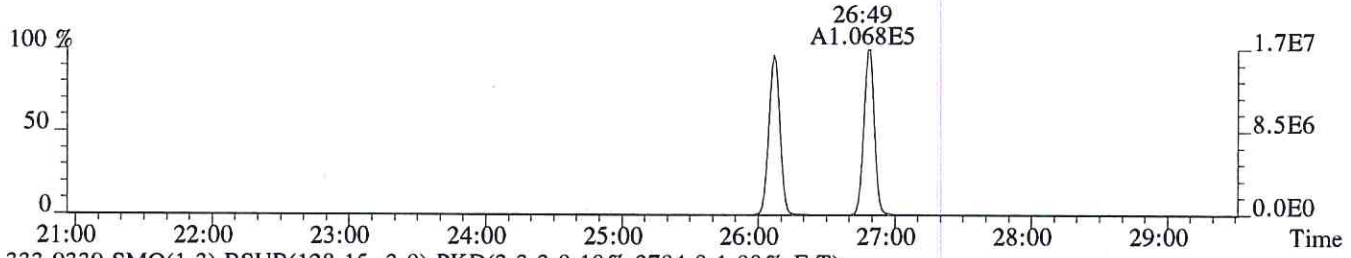
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,T)



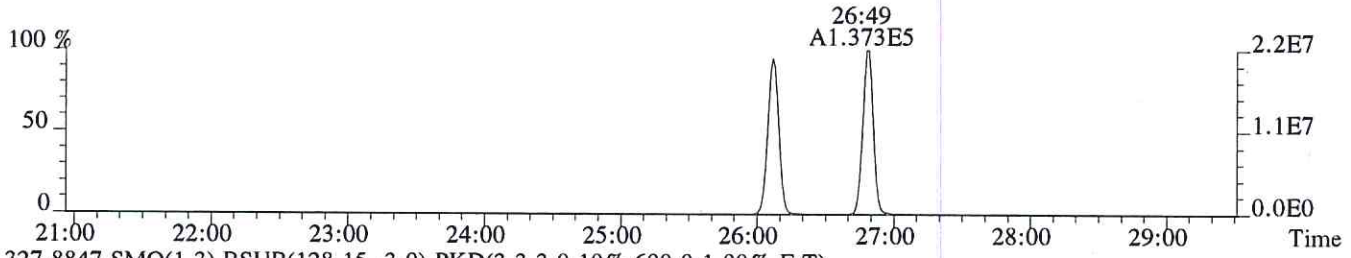
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,T)



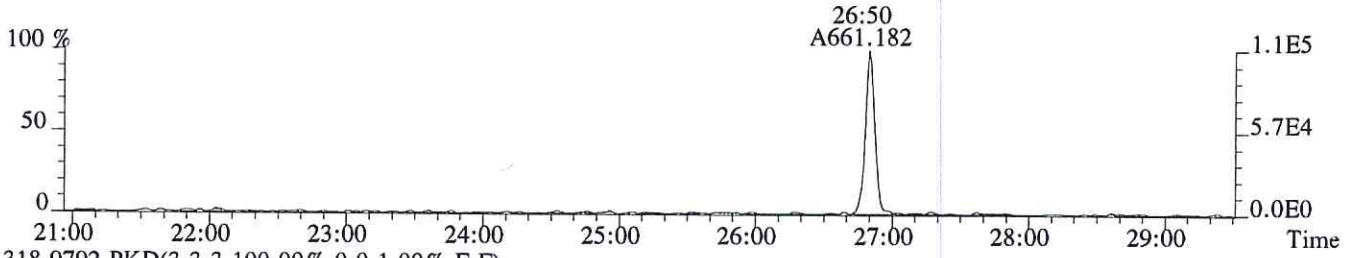
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5264.0,1.00%,F,T)



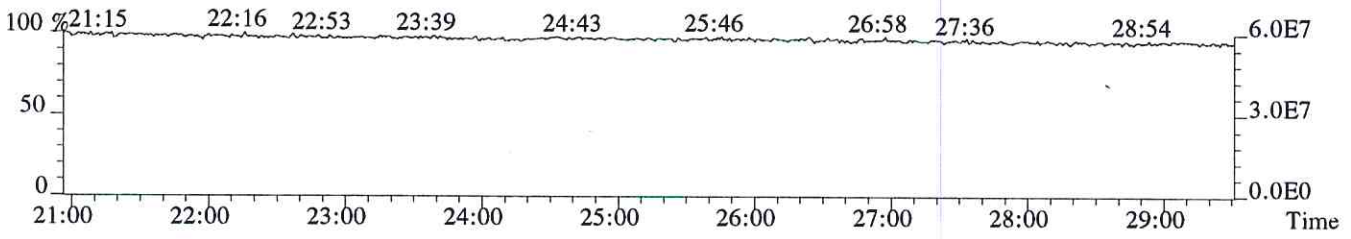
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3704.0,1.00%,F,T)



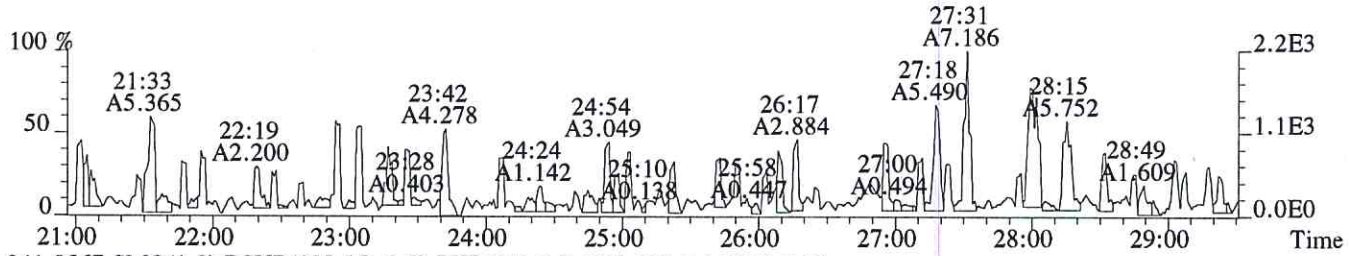
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,T)



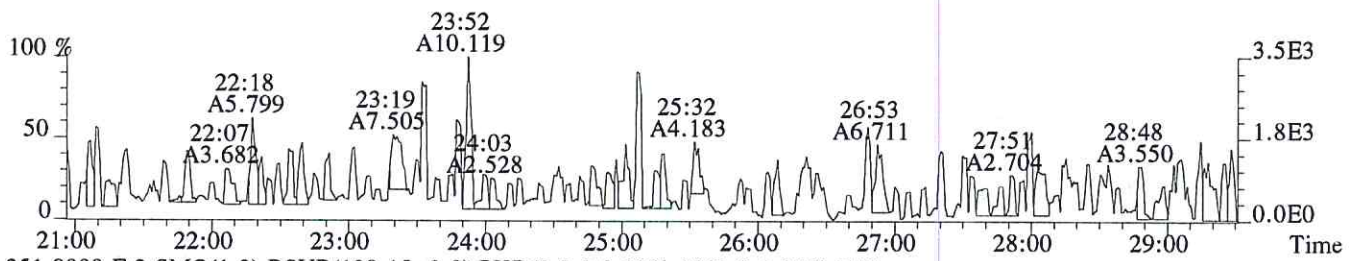
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



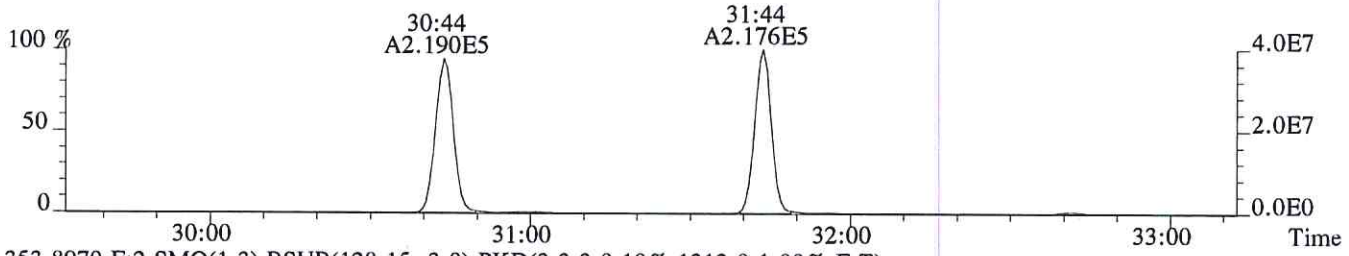
File:P607179 #1-609 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



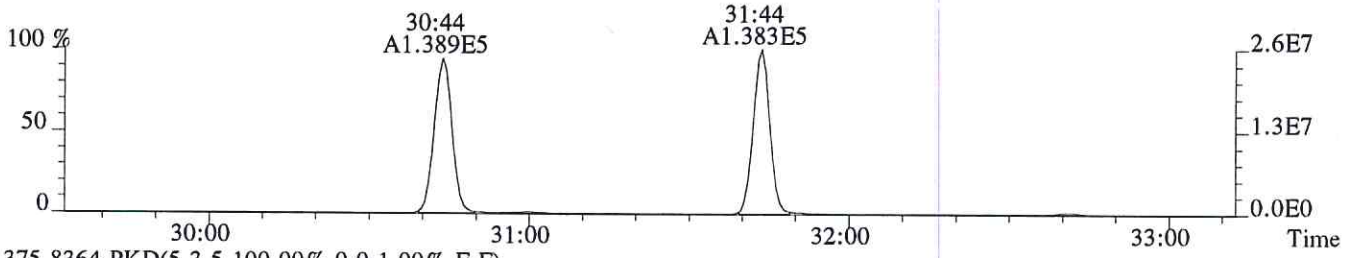
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,T)



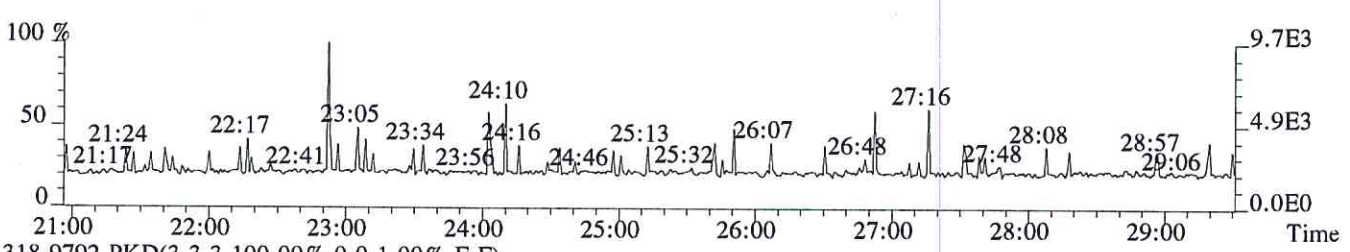
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



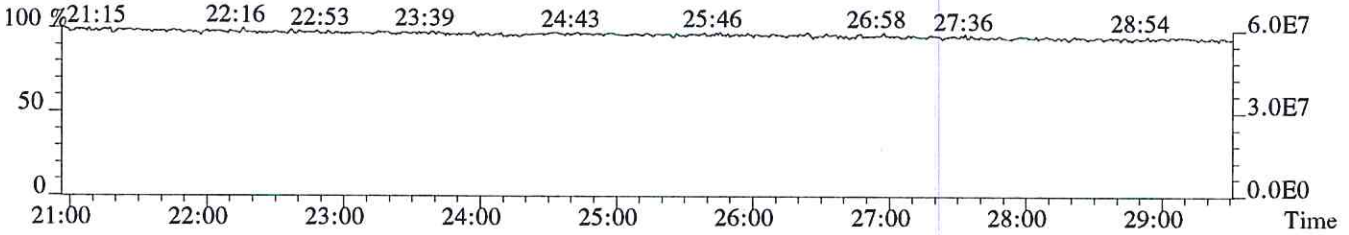
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



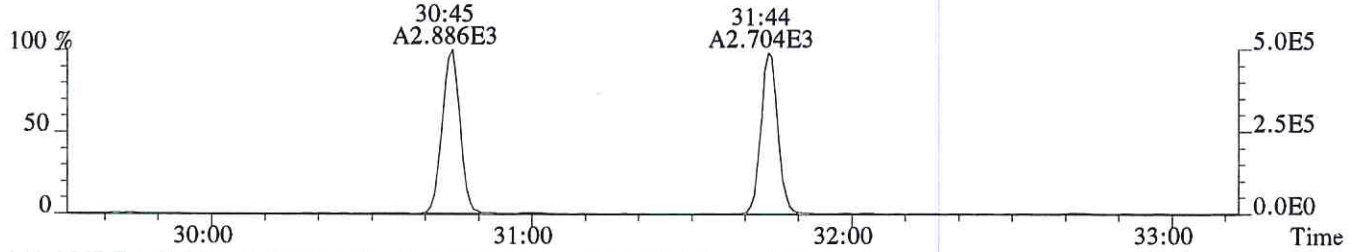
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



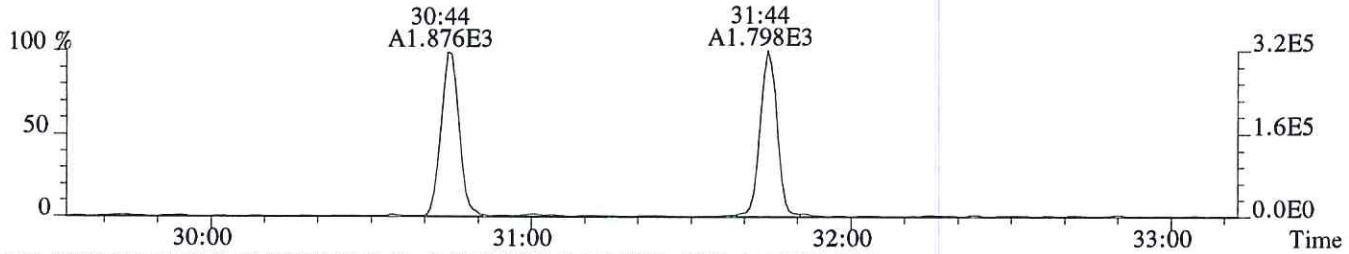
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



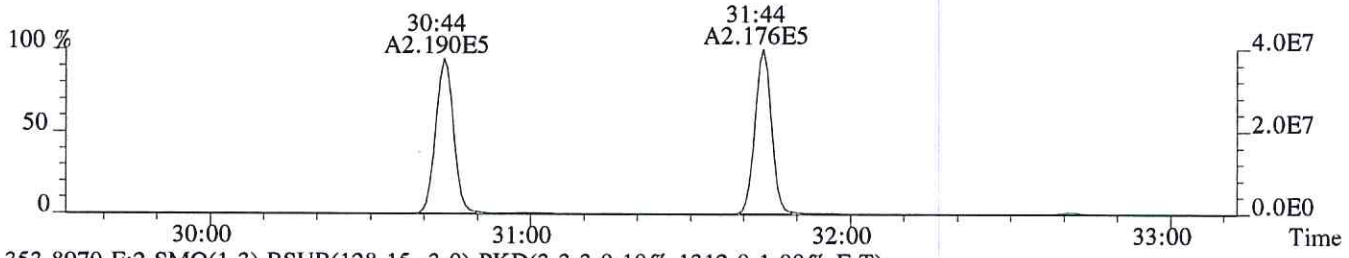
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,T)



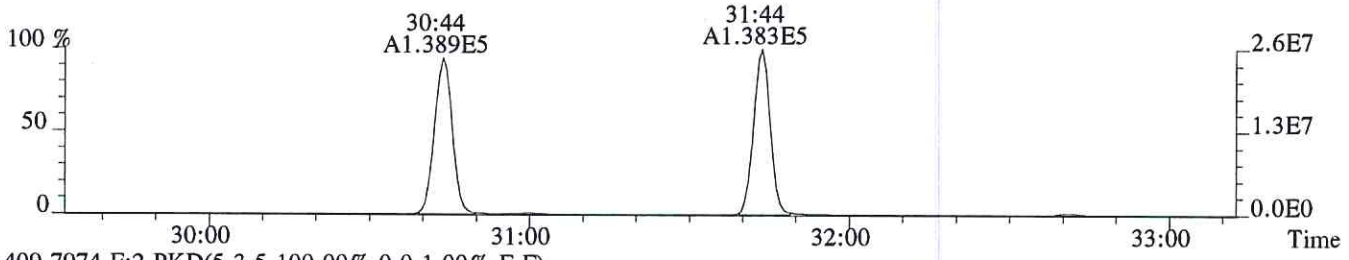
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,T)



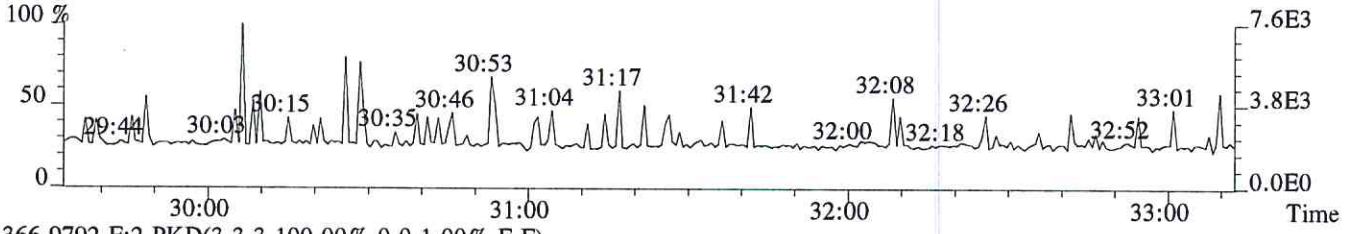
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



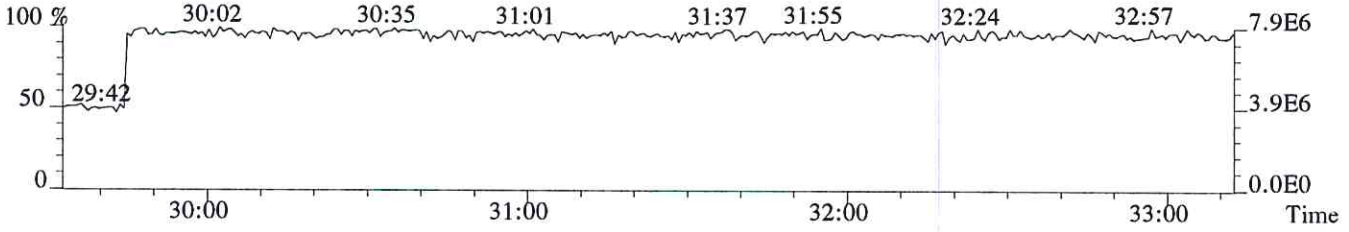
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



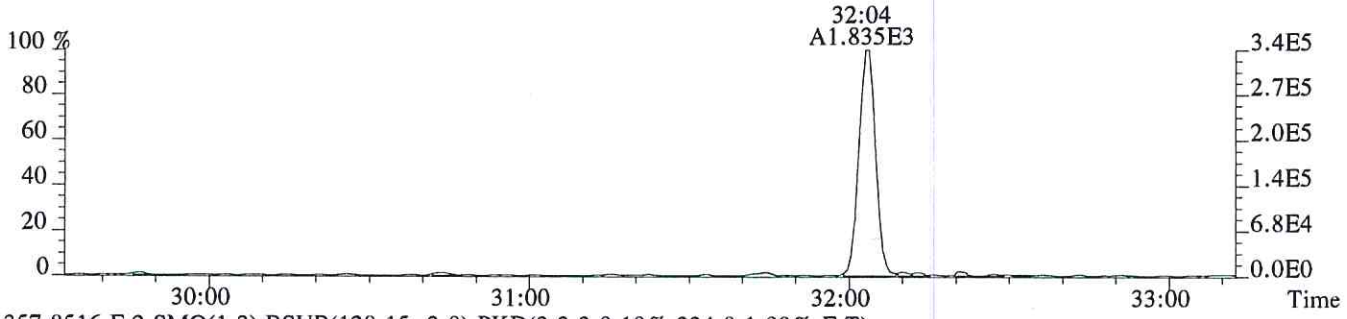
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



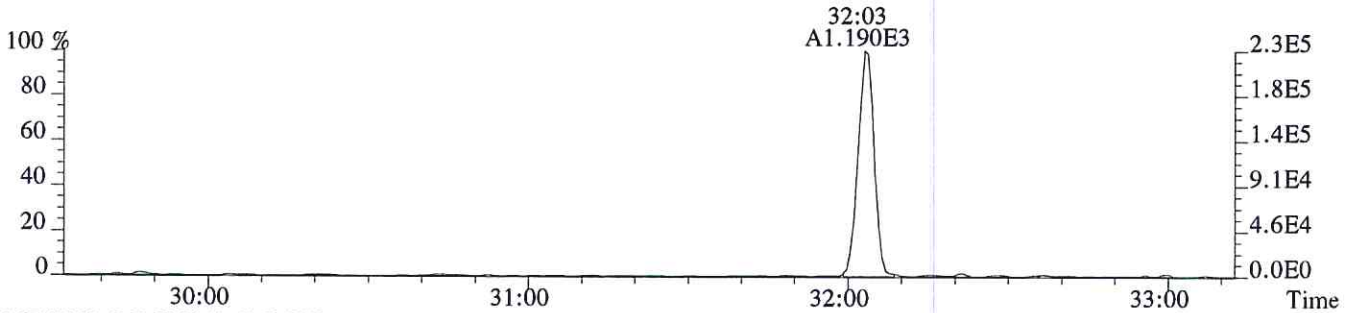
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



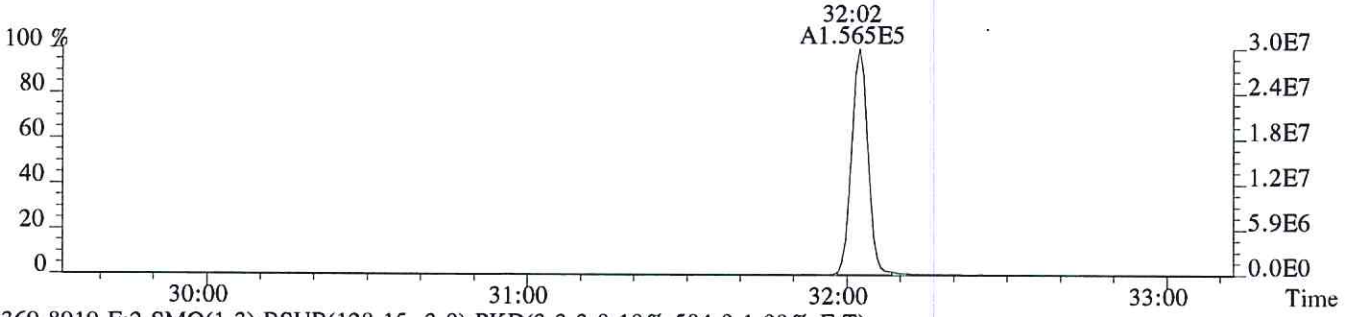
File:P607179 #1-330 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,T)



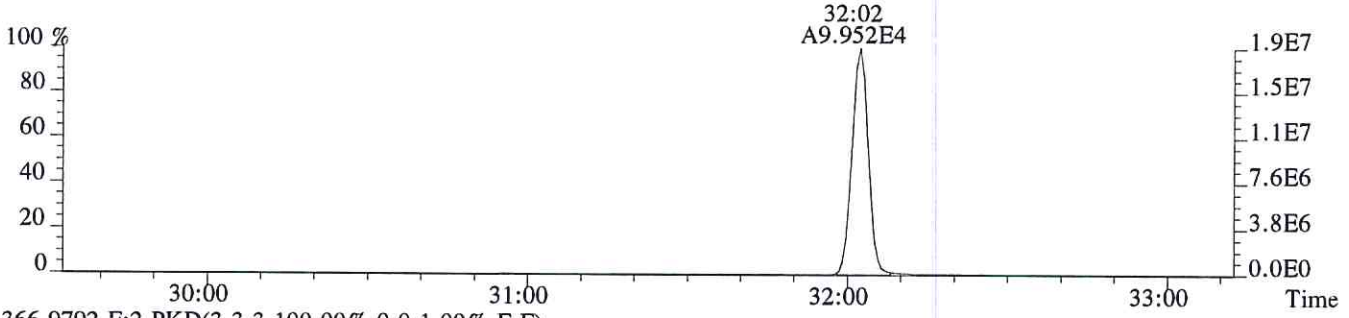
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,T)



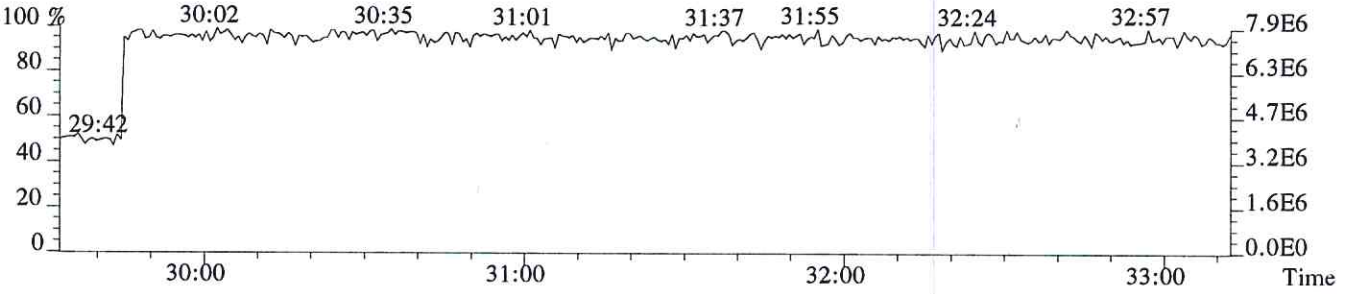
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,T)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,T)

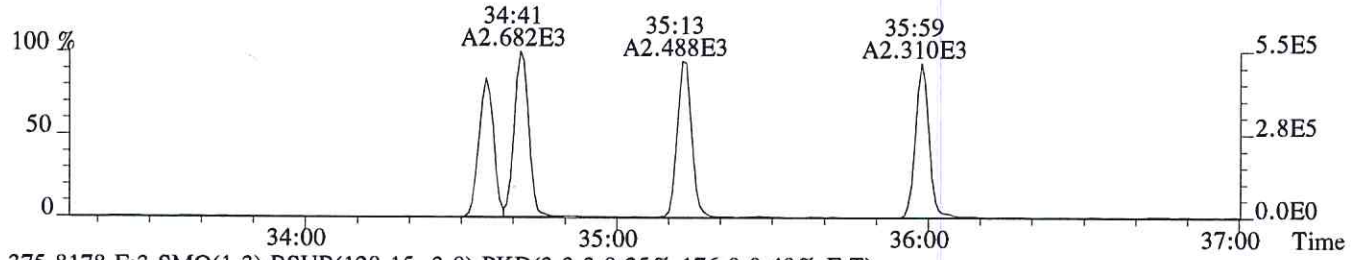


366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

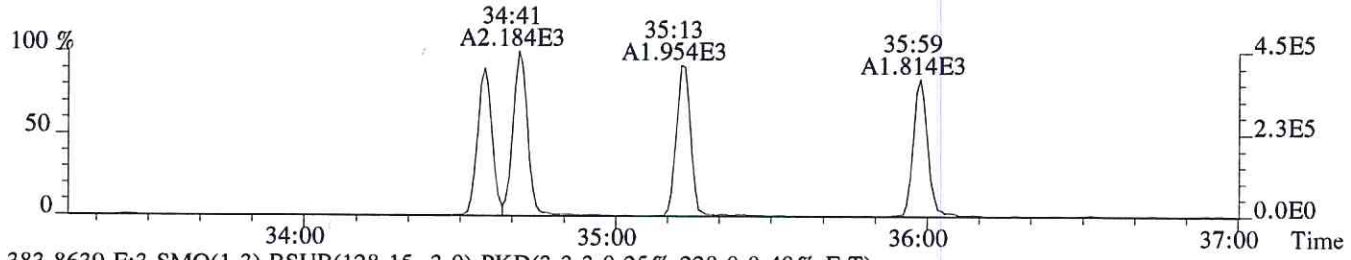


File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5

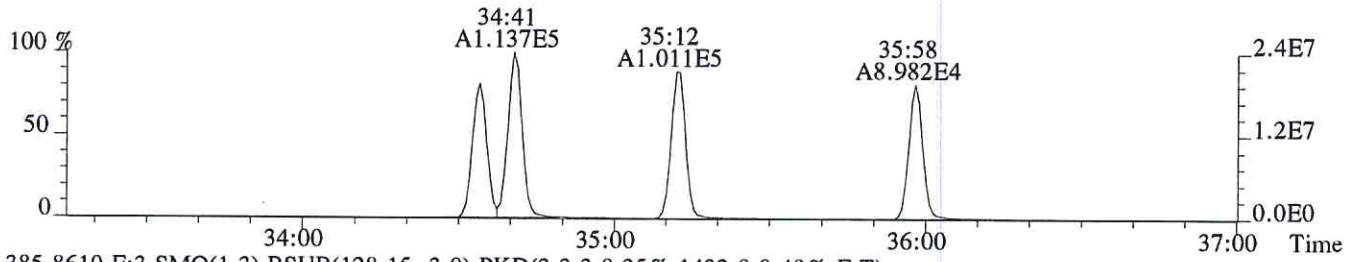
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,T)



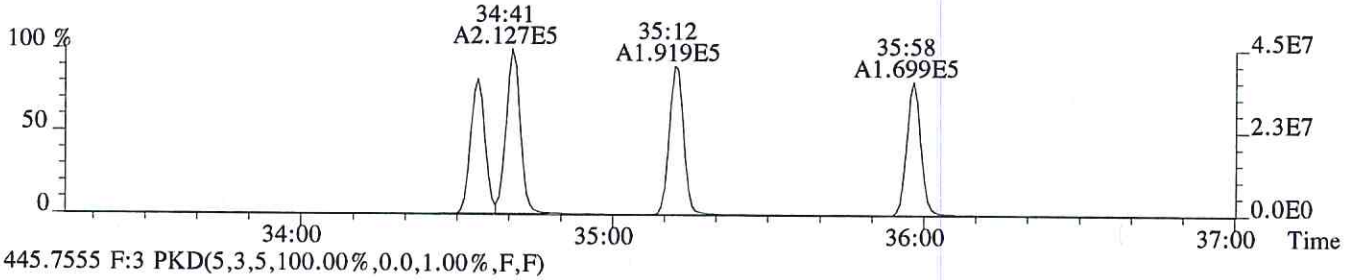
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,176.0,0.40%,F,T)



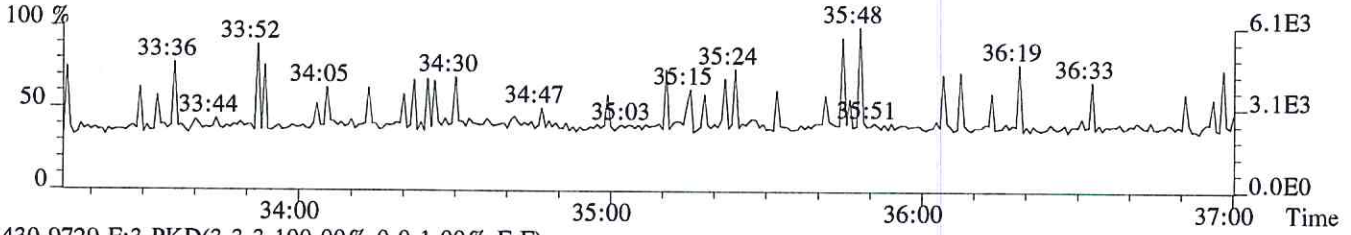
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,228.0,0.40%,F,T)



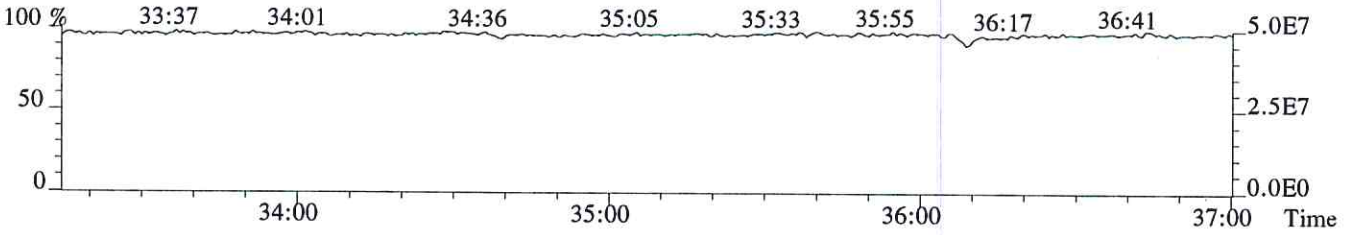
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



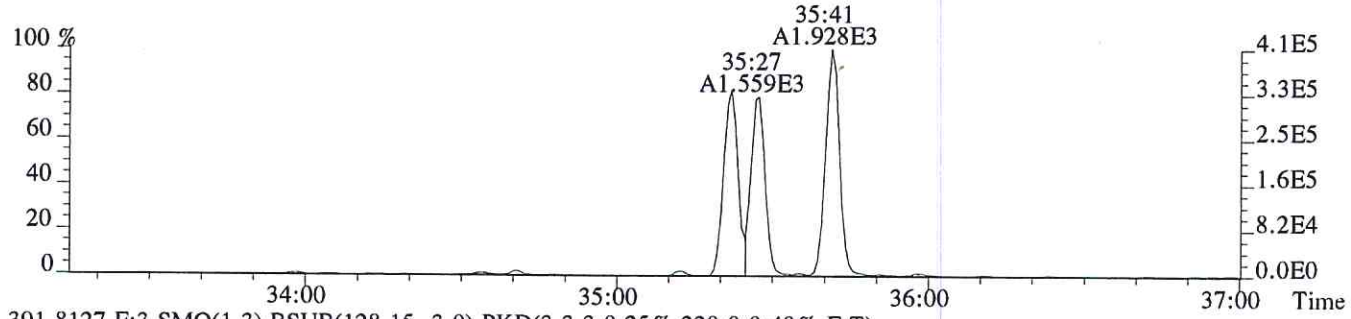
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



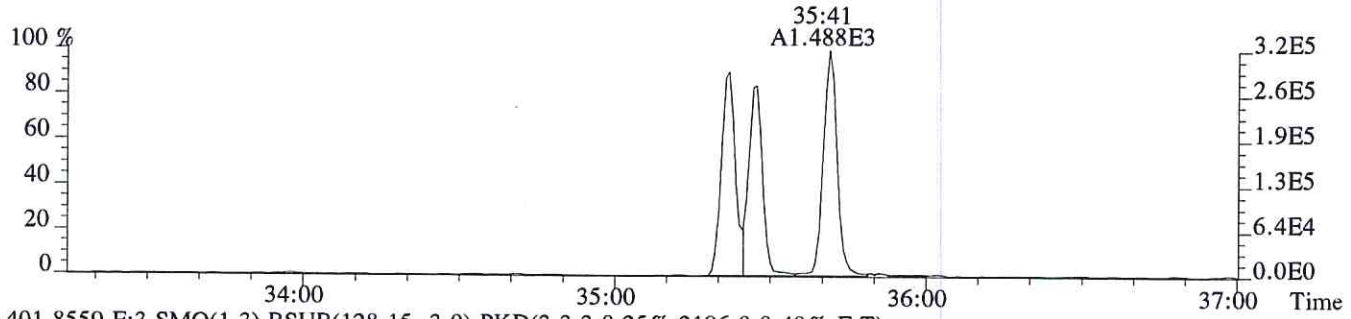
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



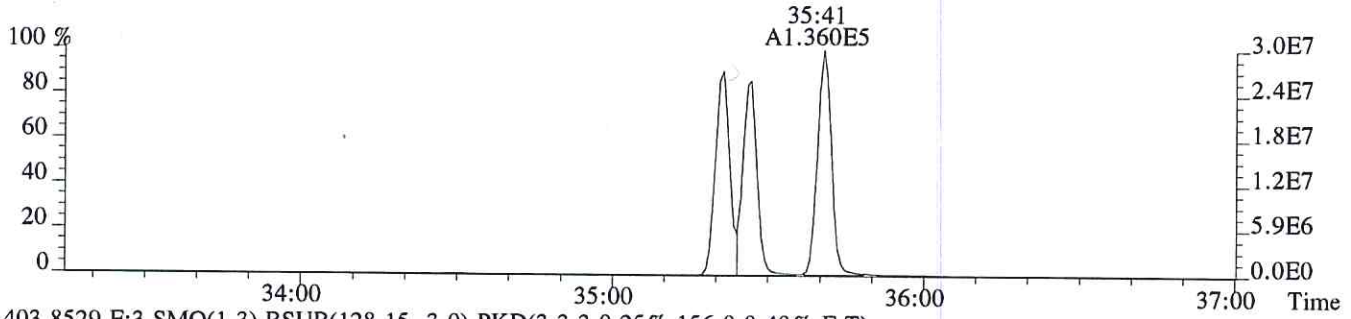
File:P607179 #1-339 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,T)



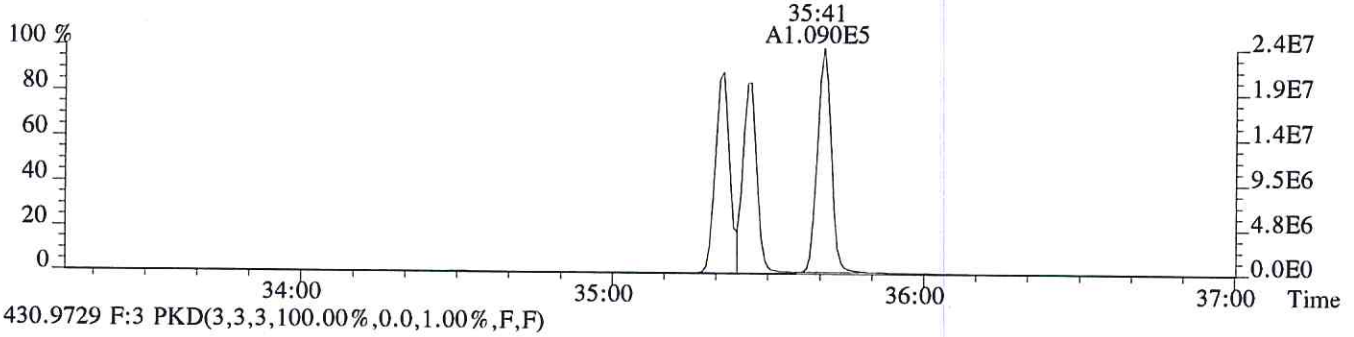
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



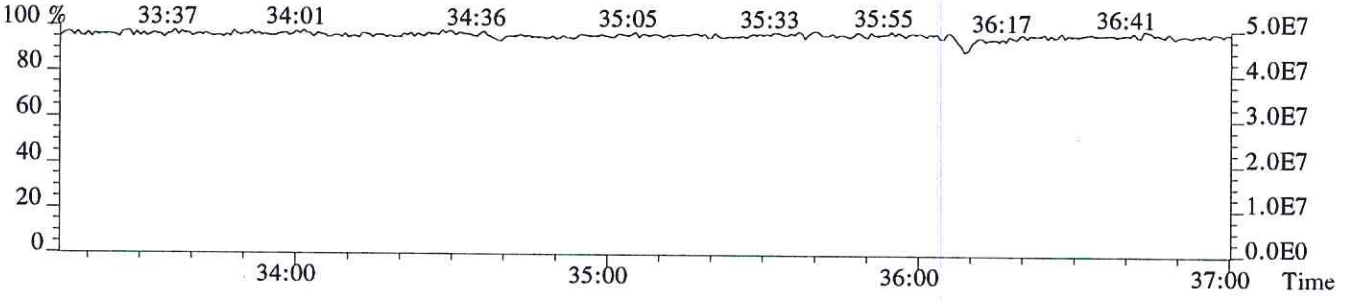
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2196.0,0.40%,F,T)



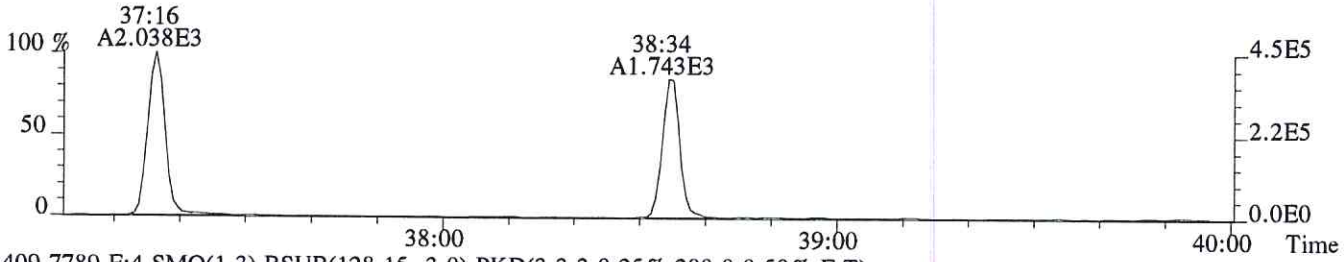
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,156.0,0.40%,F,T)



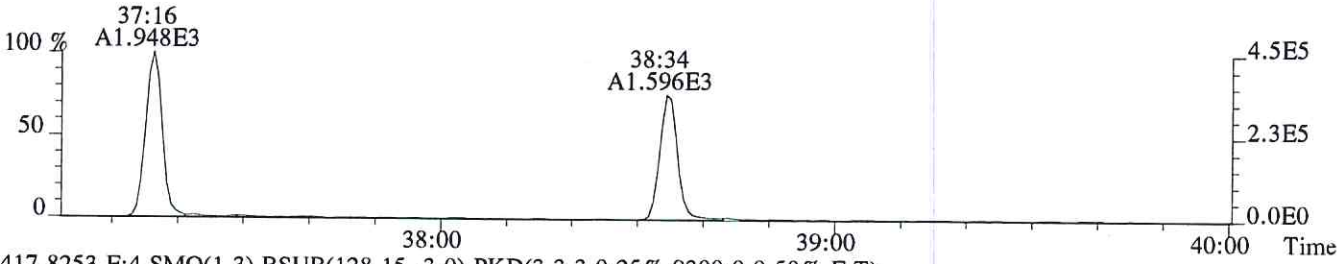
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



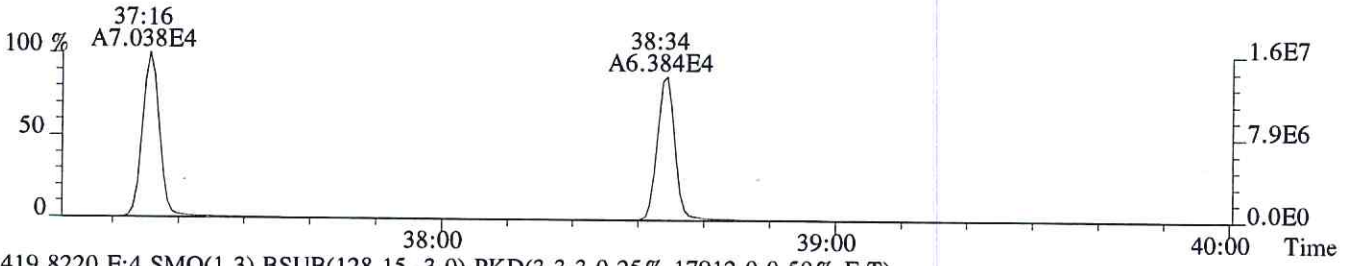
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1284.0,0.50%,F,T)



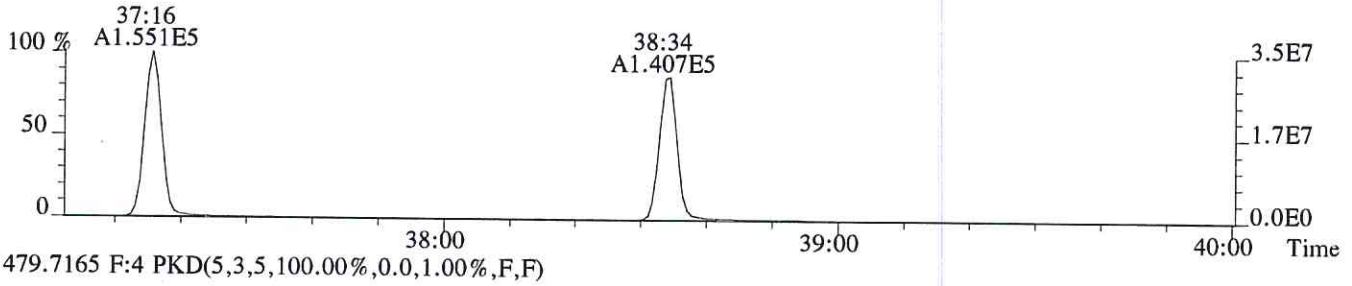
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.50%,F,T)



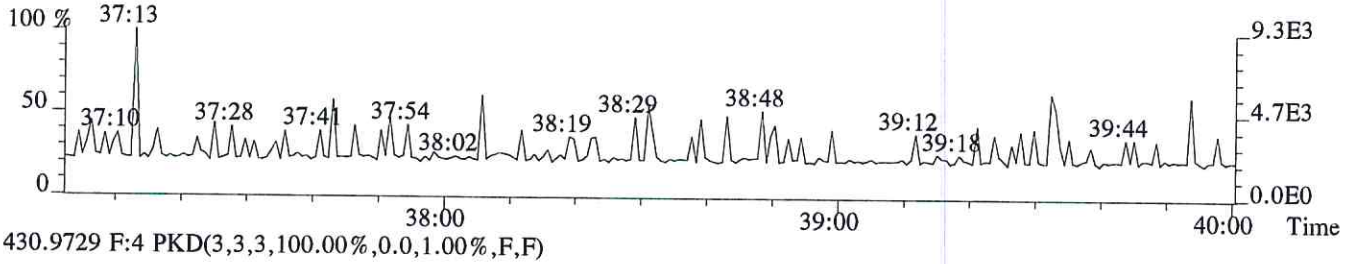
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9300.0,0.50%,F,T)



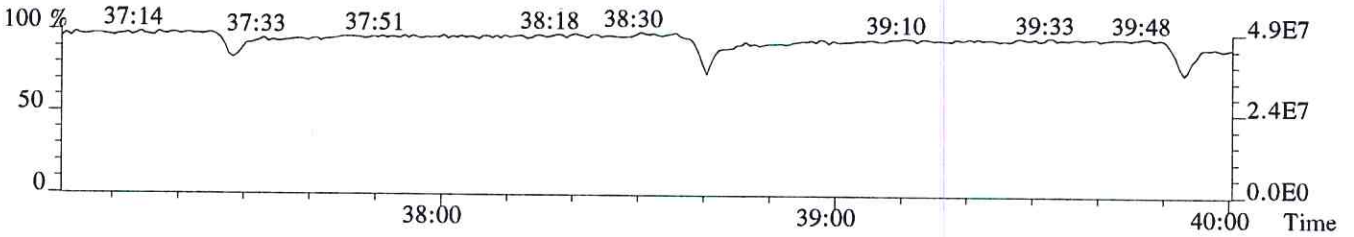
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17912.0,0.50%,F,T)



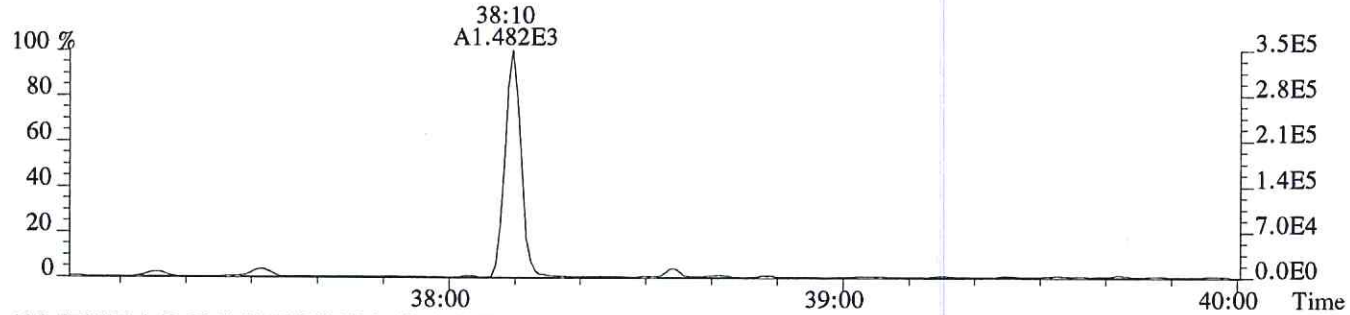
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



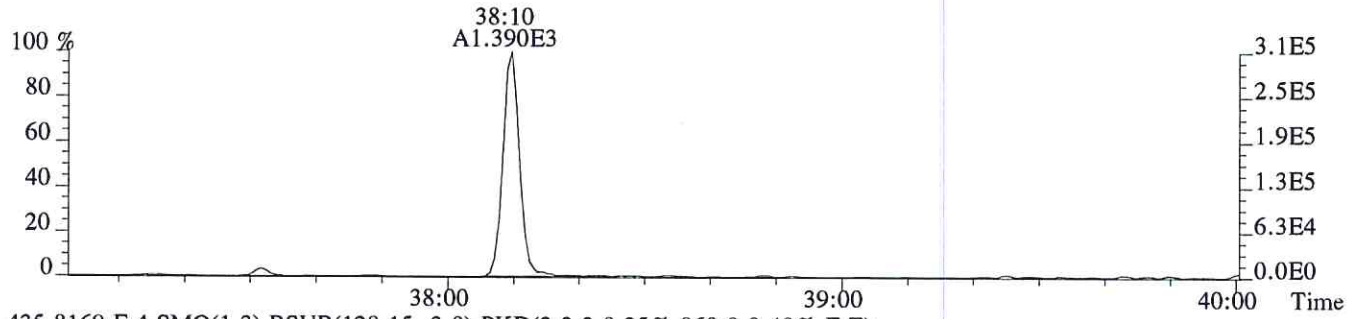
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



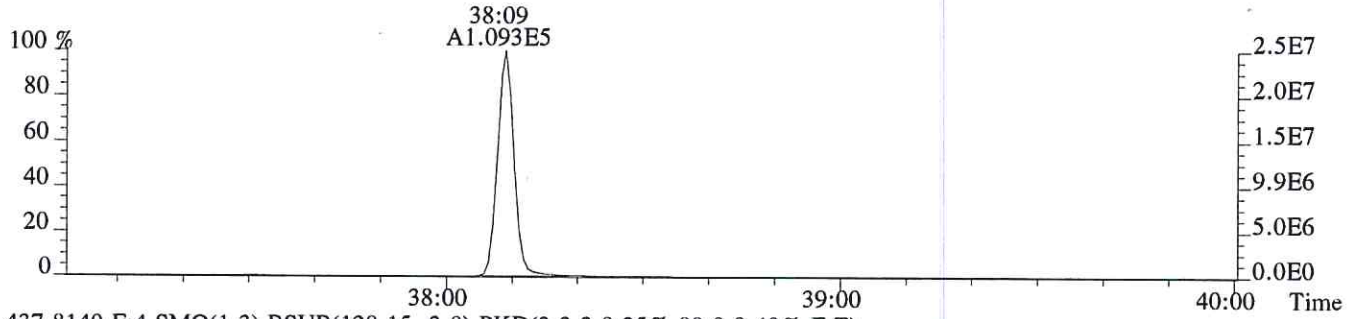
File:P607179 #1-268 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1244.0,0.40%,F,T)



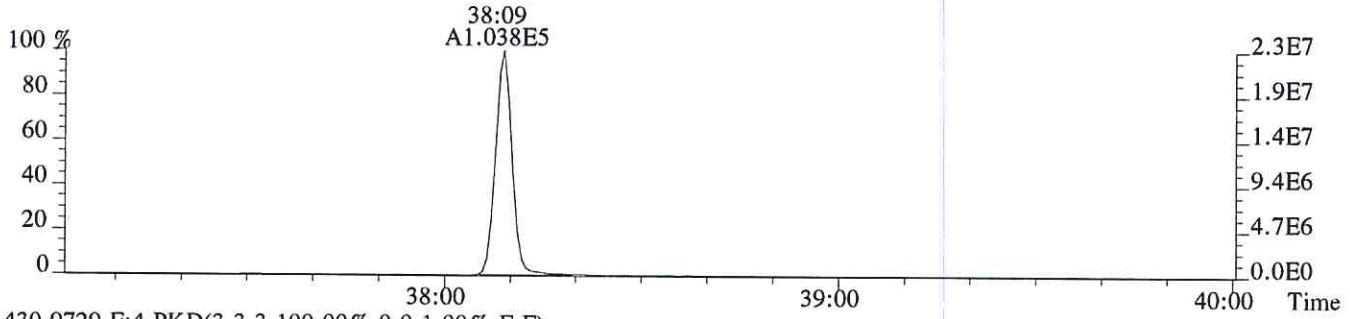
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,T)



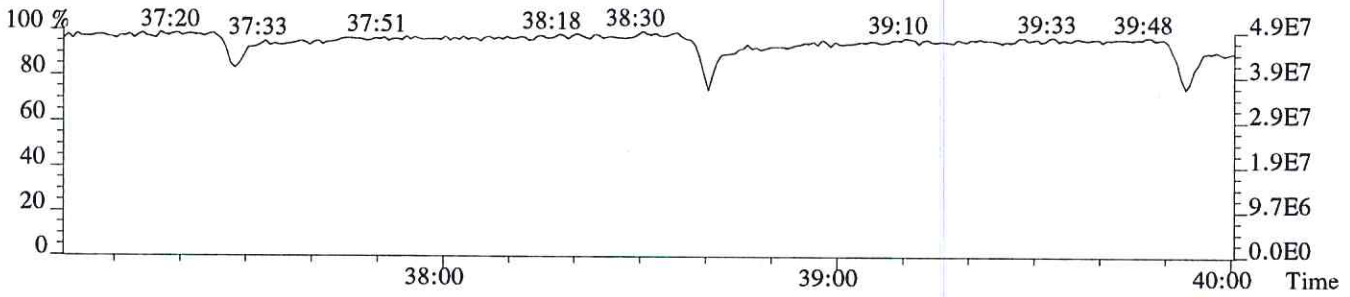
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,T)



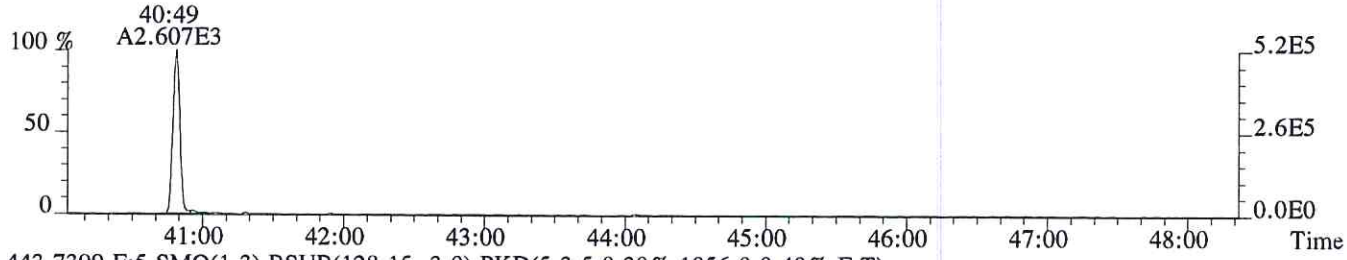
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,T)



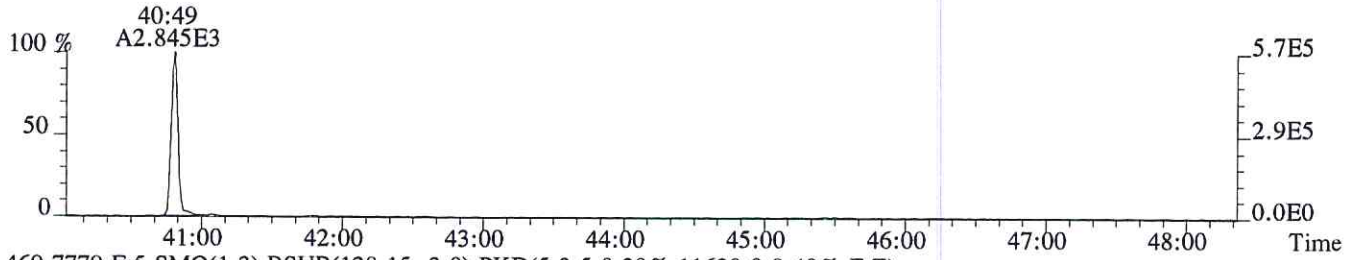
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



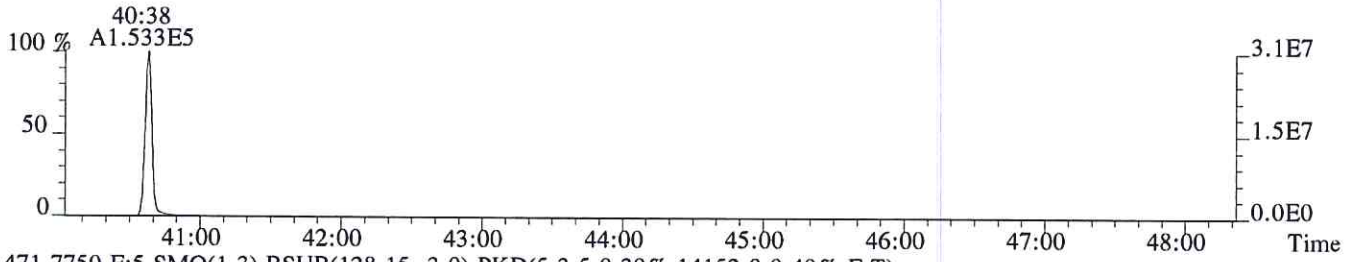
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1444.0,0.40%,F,T)



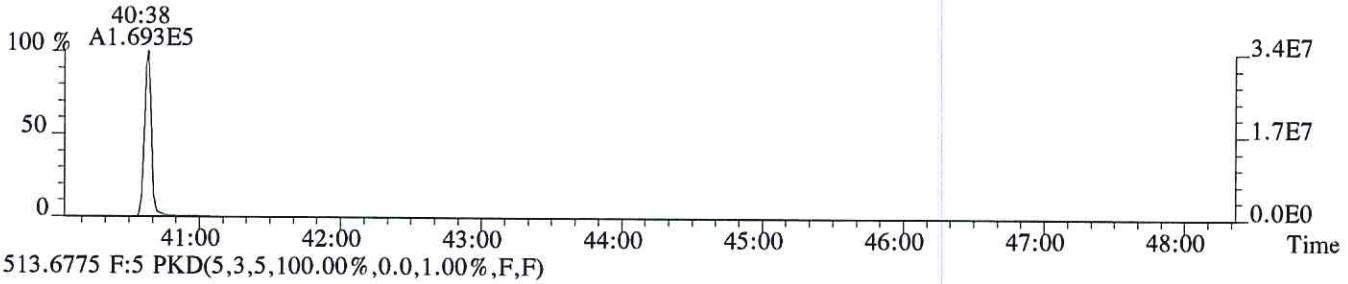
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1056.0,0.40%,F,T)



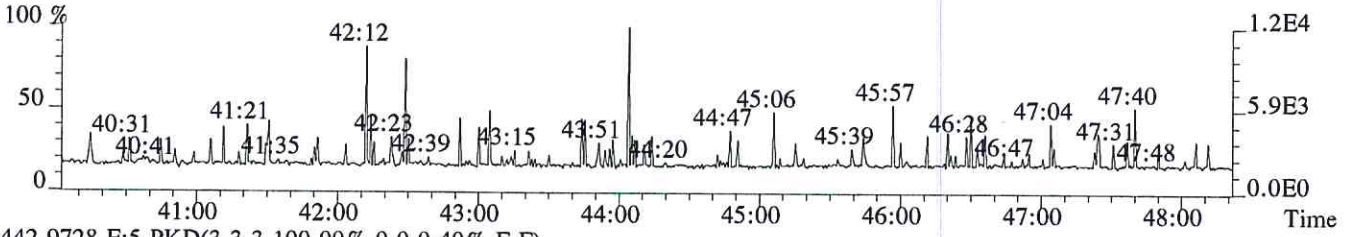
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



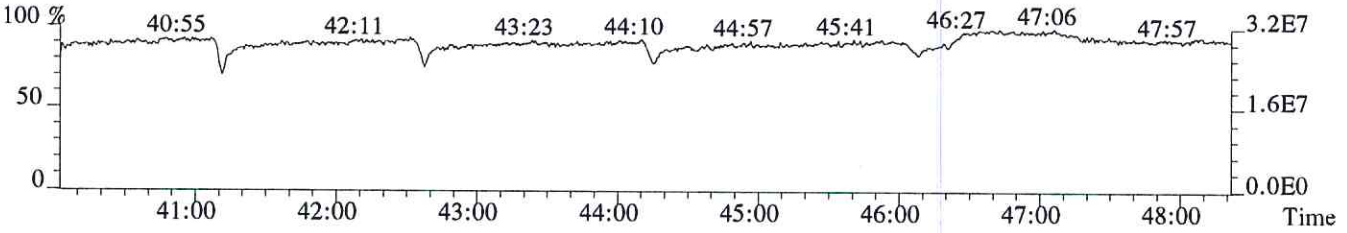
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14152.0,0.40%,F,T)



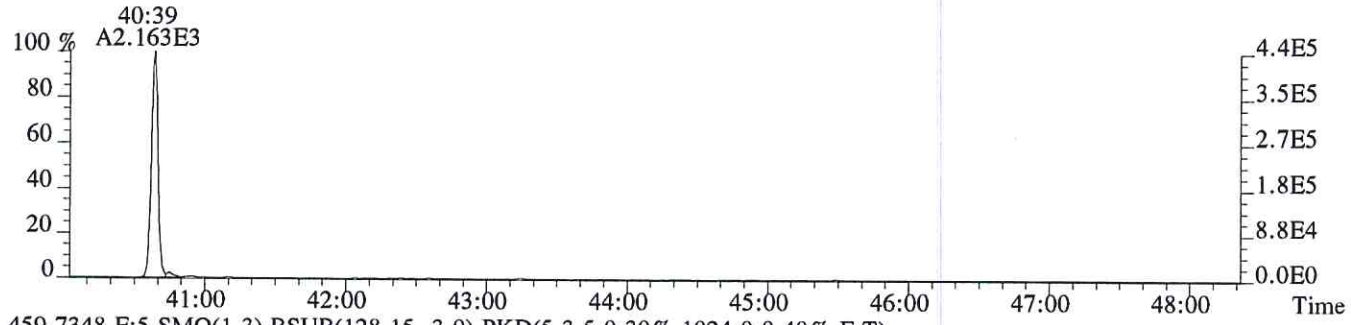
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



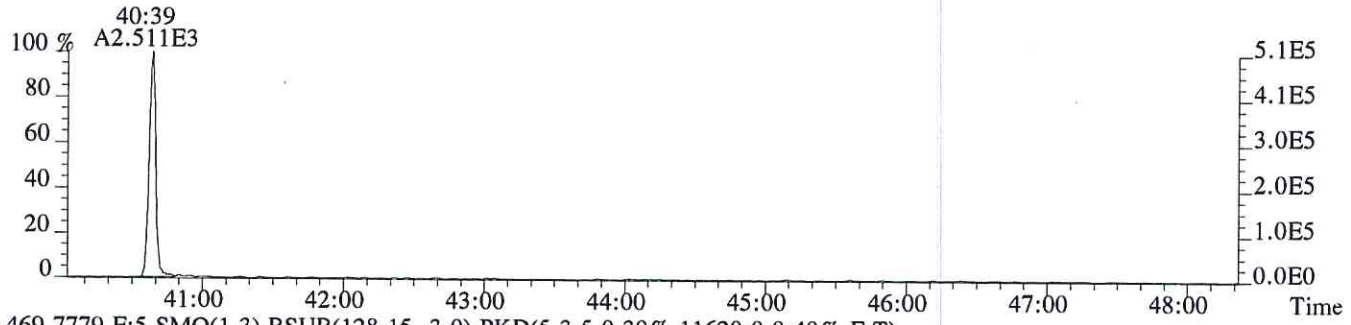
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



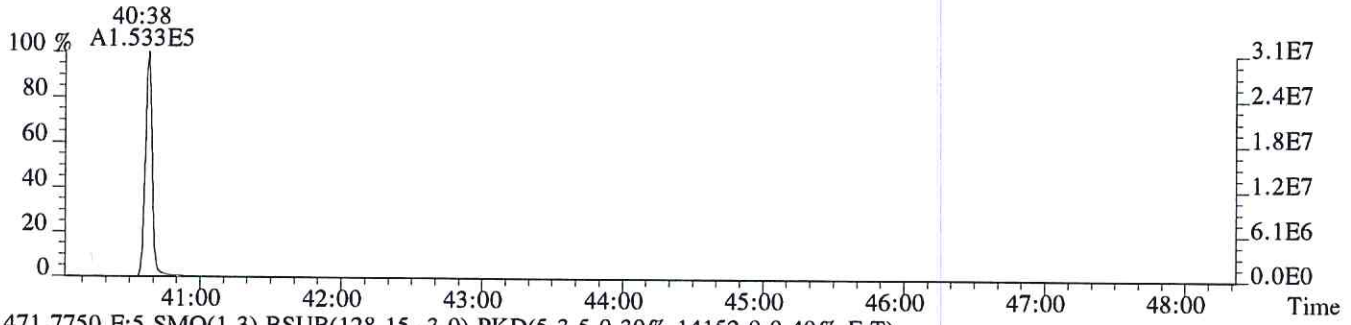
File:P607179 #1-749 Acq:16-MAY-2017 12:44:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS0.5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1188.0,0.40%,F,T)



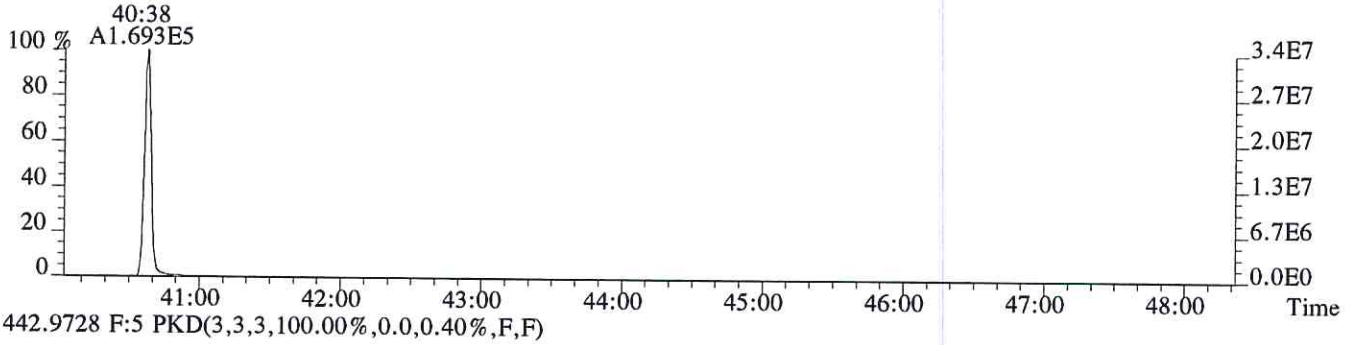
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,T)



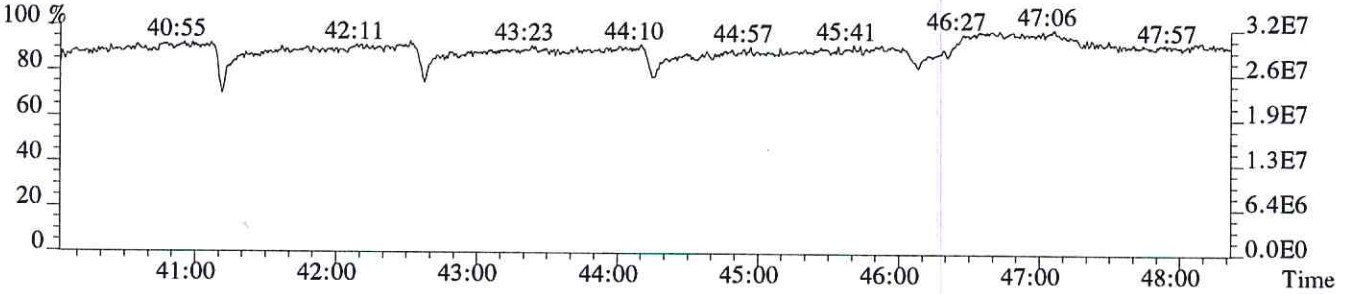
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,11620.0,0.40%,F,T)



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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Signal/Noise Height Ratio Summary

CLIENT ID.
76555

Run #2 Filename P607180 Samp: 1 Inj: 1 Acquired: 16-MAY-17 13:34:34
Processed: 17-MAY-17 07:52:56 LAB. ID: CS1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.27e+04	2.64e+02	1.6e+02	5.58e+04	7.92e+02	7.0e+01
2	1,2,3,7,8-PeCDF	4.34e+05	1.64e+02	2.6e+03	2.59e+05	1.50e+03	1.7e+02
3	2,3,4,7,8-PeCDF	4.55e+05	1.64e+02	2.8e+03	2.71e+05	1.50e+03	1.8e+02
4	1,2,3,4,7,8-HxCDF	4.97e+05	1.05e+03	4.7e+02	3.90e+05	3.76e+02	1.0e+03
5	1,2,3,6,7,8-HxCDF	5.20e+05	1.05e+03	5.0e+02	4.62e+05	3.76e+02	1.2e+03
6	2,3,4,6,7,8-HxCDF	5.19e+05	1.05e+03	4.9e+02	4.02e+05	3.76e+02	1.1e+03
7	1,2,3,7,8,9-HxCDF	4.90e+05	1.05e+03	4.7e+02	3.90e+05	3.76e+02	1.0e+03
8	1,2,3,4,6,7,8-HpCDF	5.13e+05	6.96e+02	7.4e+02	4.88e+05	1.80e+02	2.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.74e+05	6.96e+02	6.8e+02	4.47e+05	1.80e+02	2.5e+03
10	OCDF	6.47e+05	8.96e+02	7.2e+02	6.88e+05	2.94e+03	2.3e+02
11	2,3,7,8-TCDD	2.98e+04	1.60e+03	1.9e+01	3.48e+04	2.28e+02	1.5e+02
12	1,2,3,7,8-PeCDD	3.08e+05	1.32e+03	2.3e+02	1.95e+05	8.16e+02	2.4e+02
13	1,2,3,4,7,8-HxCDD	3.67e+05	2.64e+02	1.4e+03	3.10e+05	3.04e+02	1.0e+03
14	1,2,3,6,7,8-HxCDD	3.64e+05	2.64e+02	1.4e+03	2.81e+05	3.04e+02	9.3e+02
15	1,2,3,7,8,9-HxCDD	4.07e+05	2.64e+02	1.5e+03	3.23e+05	3.04e+02	1.1e+03
16	1,2,3,4,6,7,8-HpCDD	3.70e+05	2.24e+02	1.7e+03	3.50e+05	3.08e+02	1.1e+03
17	OCDD	5.36e+05	1.18e+03	4.5e+02	6.01e+05	1.90e+03	3.2e+02
18	13C-2,3,7,8-TCDF	7.25e+06	1.24e+04	5.8e+02	9.21e+06	7.56e+03	1.2e+03
19	13C-1,2,3,7,8-PeCDF	1.52e+07	1.28e+02	1.2e+05	9.81e+06	5.20e+02	1.9e+04
20	13C-2,3,4,7,8-PeCDF	1.70e+07	1.28e+02	1.3e+05	1.06e+07	5.20e+02	2.0e+04
21	13C-1,2,3,4,7,8-HxCDF	9.35e+06	1.36e+02	6.9e+04	1.78e+07	1.42e+03	1.3e+04
22	13C-1,2,3,6,7,8-HxCDF	1.12e+07	1.36e+02	8.2e+04	2.12e+07	1.42e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.05e+07	1.36e+02	7.7e+04	2.00e+07	1.42e+03	1.4e+04
24	13C-1,2,3,7,8,9-HxCDF	9.41e+06	1.36e+02	6.9e+04	1.78e+07	1.42e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.51e+06	5.36e+03	1.6e+03	1.88e+07	1.84e+04	1.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	7.61e+06	5.36e+03	1.4e+03	1.71e+07	1.84e+04	9.3e+02
27	13C-2,3,7,8-TCDD	5.65e+06	5.45e+03	1.0e+03	7.28e+06	2.99e+03	2.4e+03
28	13C-1,2,3,7,8-PeCDD	1.25e+07	1.41e+03	8.9e+03	7.89e+06	2.44e+02	3.2e+04
29	13C-1,2,3,4,7,8-HxCDD	1.35e+07	2.38e+03	5.6e+03	1.05e+07	8.96e+02	1.2e+04
30	13C-1,2,3,6,7,8-HxCDD	1.26e+07	2.38e+03	5.3e+03	1.02e+07	8.96e+02	1.1e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.36e+07	1.74e+03	7.8e+03	1.26e+07	5.48e+02	2.3e+04
32	13C-OCDD	1.80e+07	5.16e+03	3.5e+03	2.00e+07	1.45e+04	1.4e+03
33	13C-1,2,3,4-TCDD	5.78e+06	5.45e+03	1.1e+03	7.37e+06	2.99e+03	2.5e+03
34	13C-1,2,3,7,8,9-HxCDD	1.45e+07	2.38e+03	6.1e+03	1.17e+07	8.96e+02	1.3e+04
35	37Cl-2,3,7,8-TCDD	7.87e+04	7.04e+02	1.1e+02			

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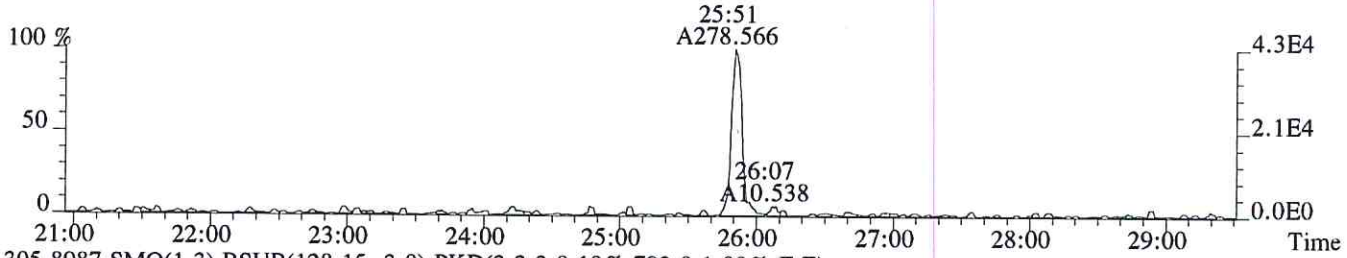
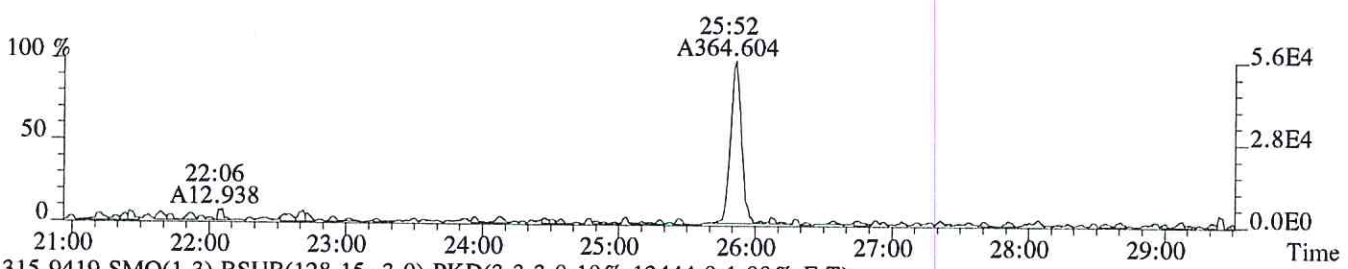
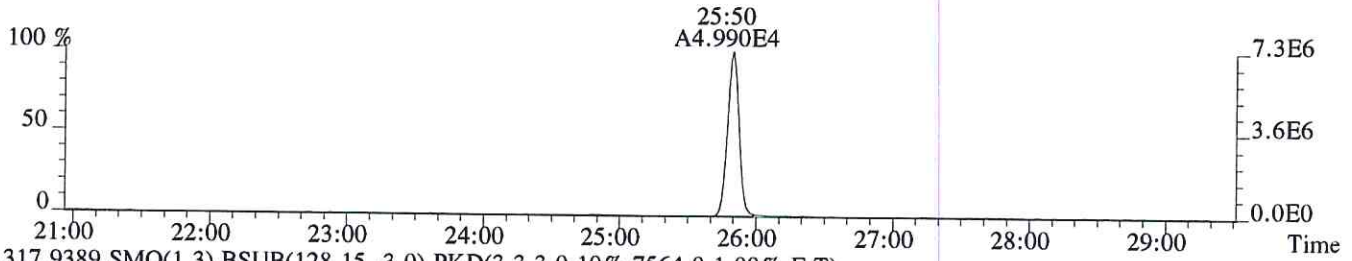
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,T)



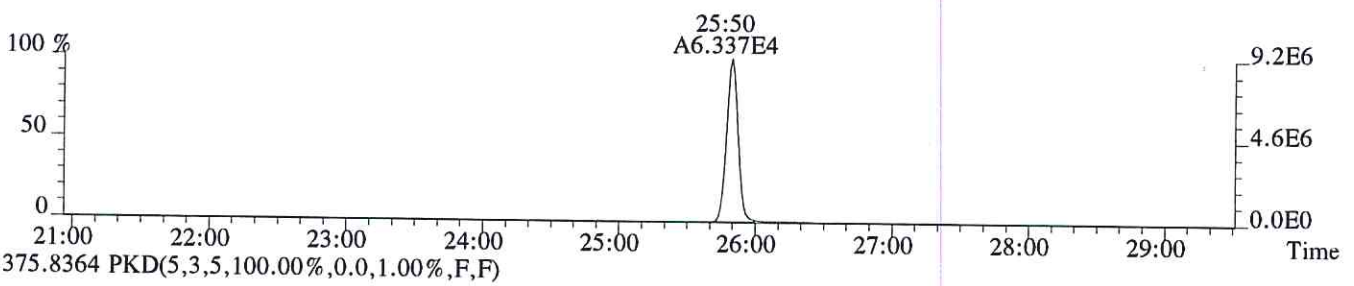
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,T)



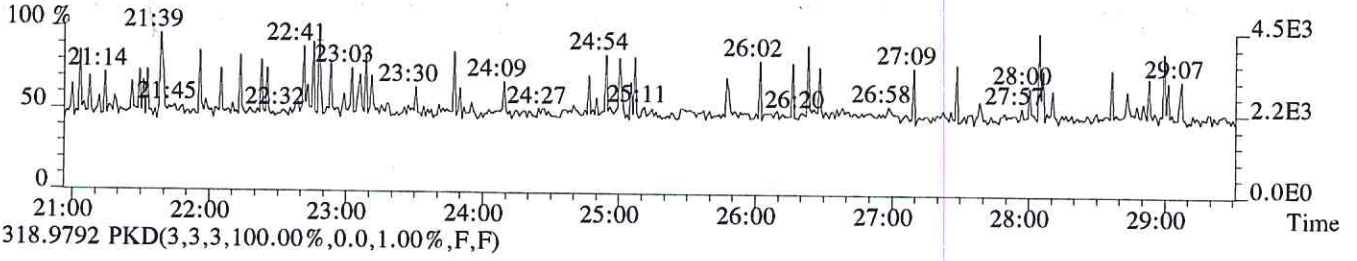
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12444.0,1.00%,F,T)



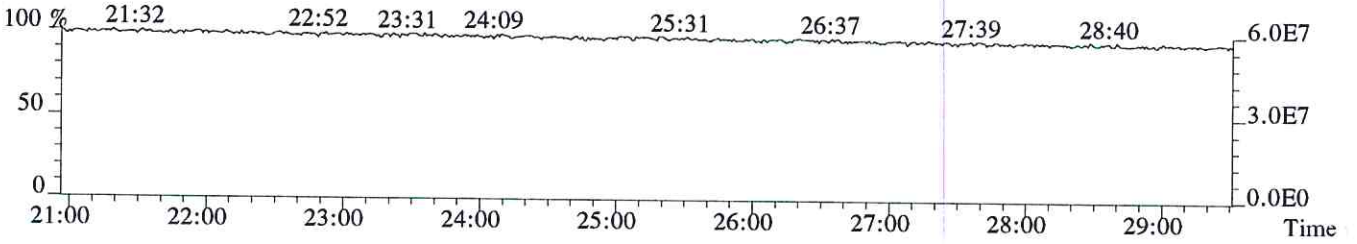
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7564.0,1.00%,F,T)



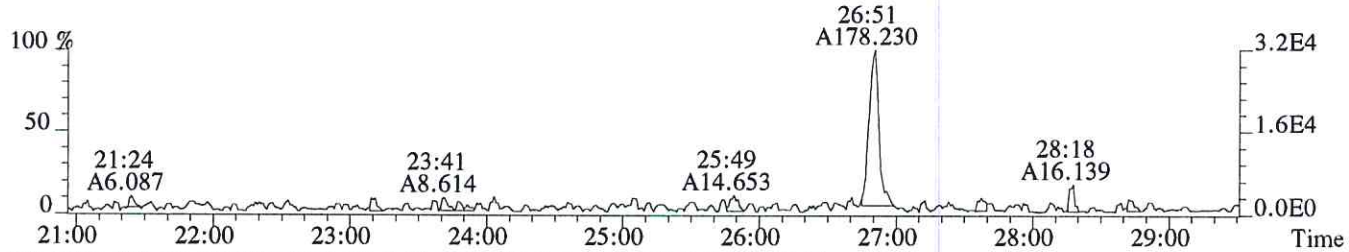
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



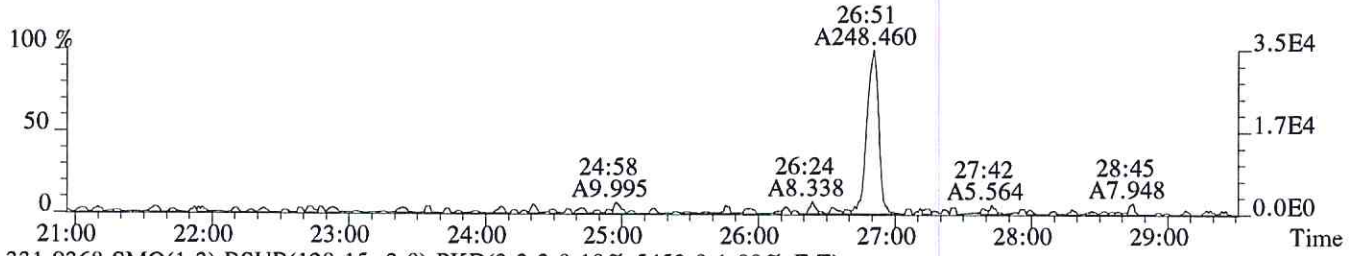
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



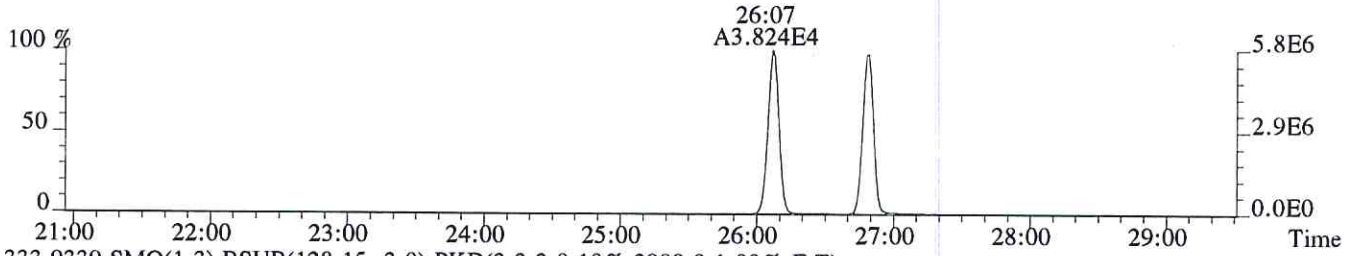
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



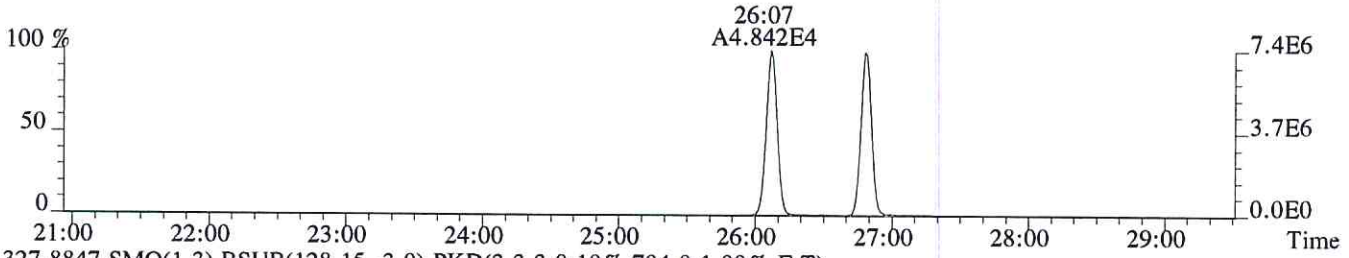
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



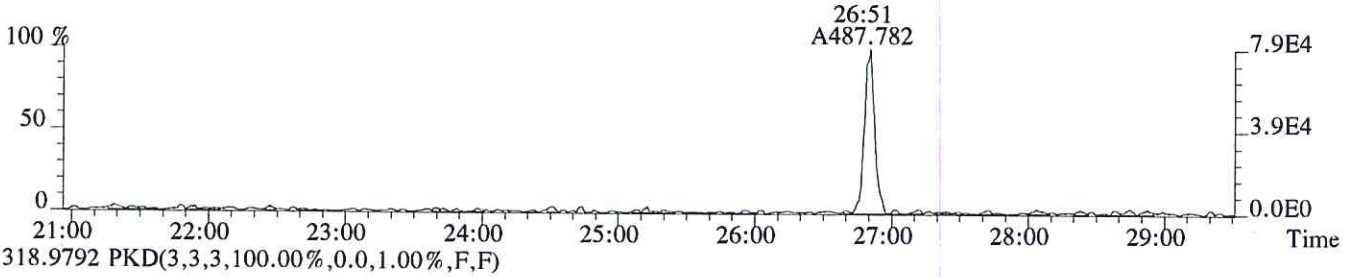
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5452.0,1.00%,F,T)



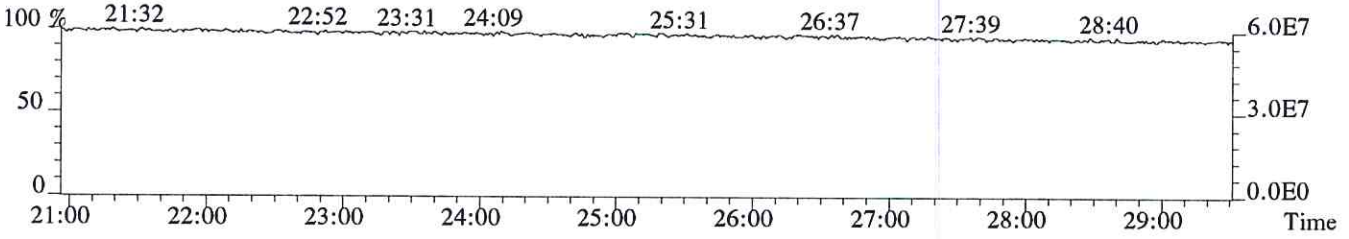
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,T)



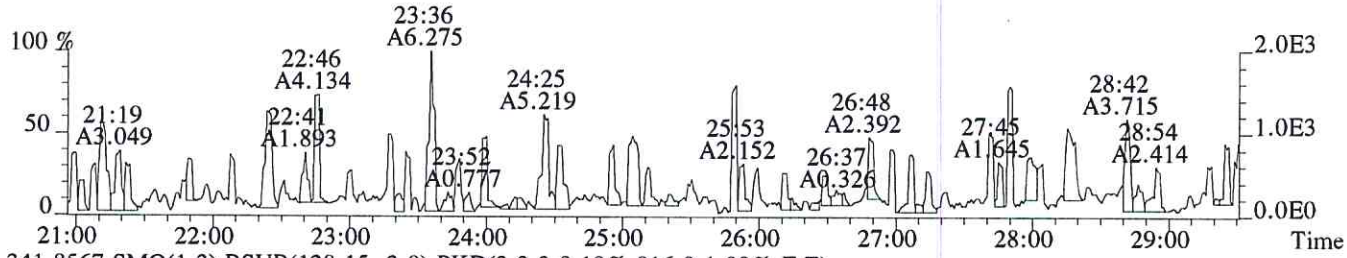
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



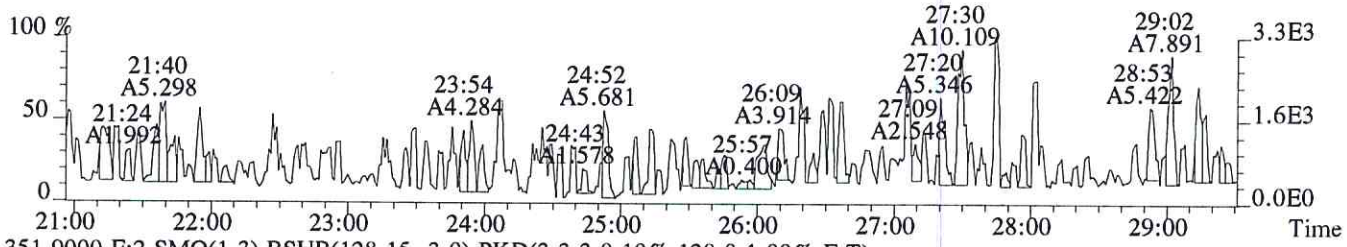
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



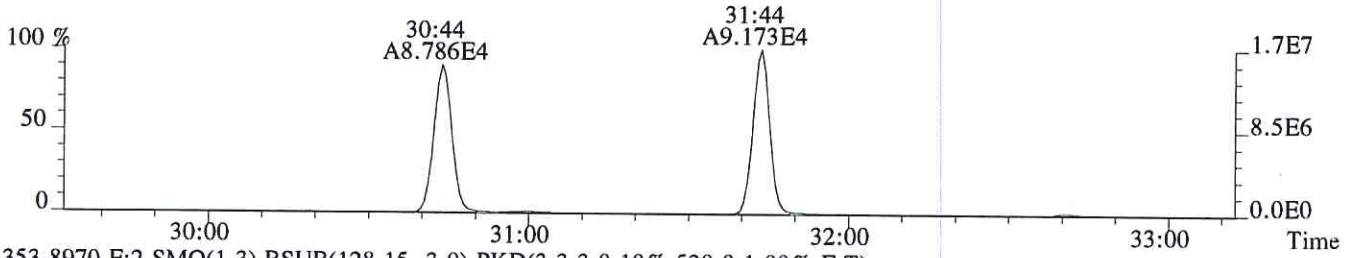
File:P607180 #1-609 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



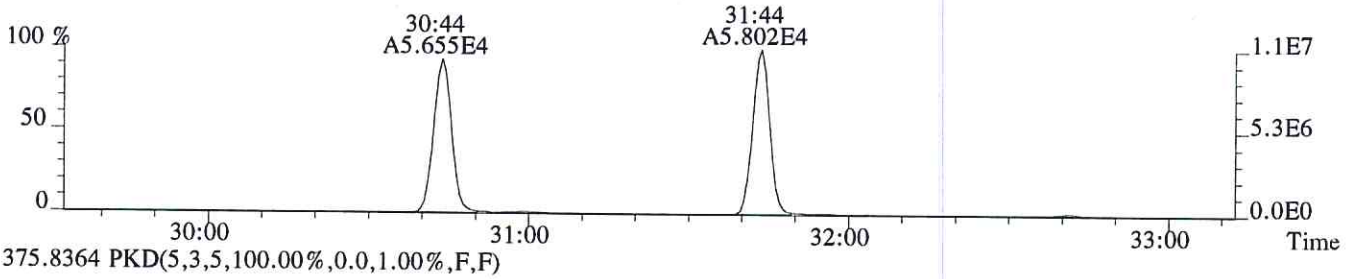
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



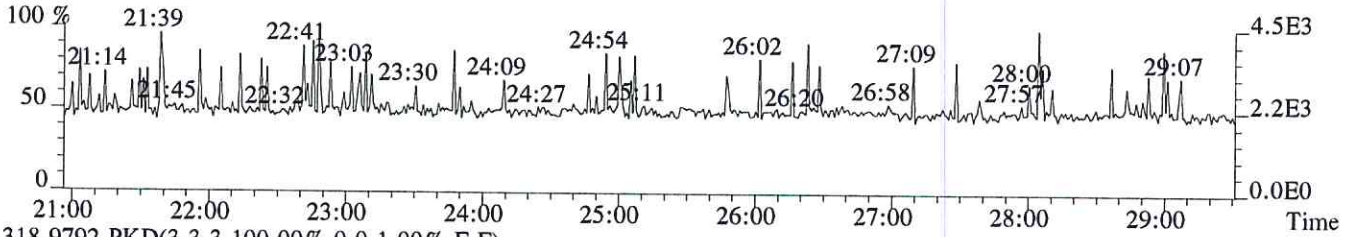
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



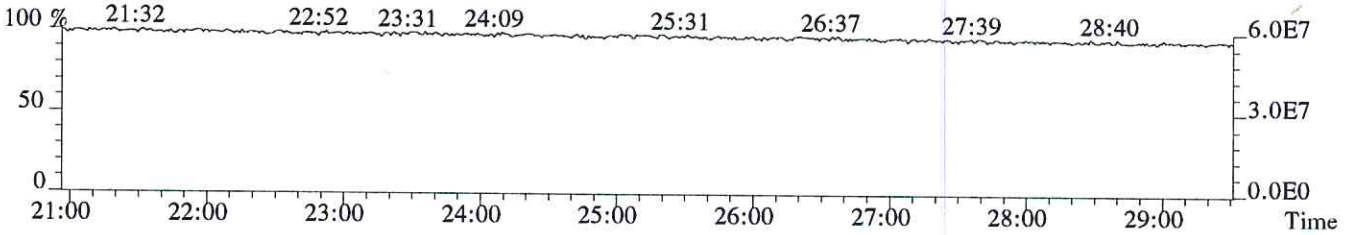
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



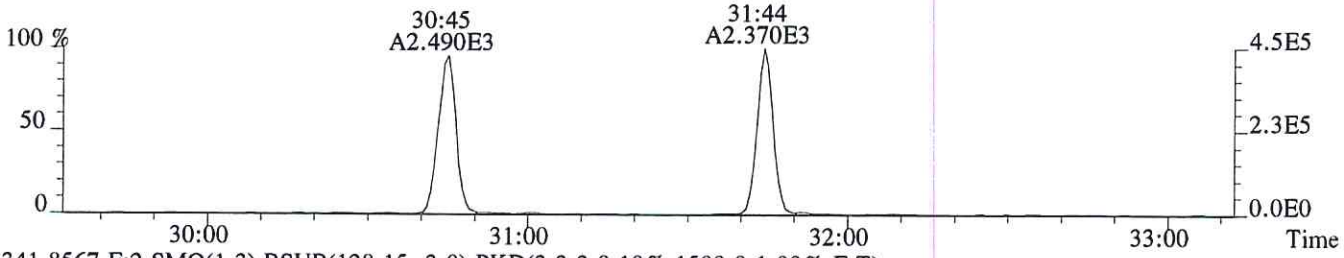
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



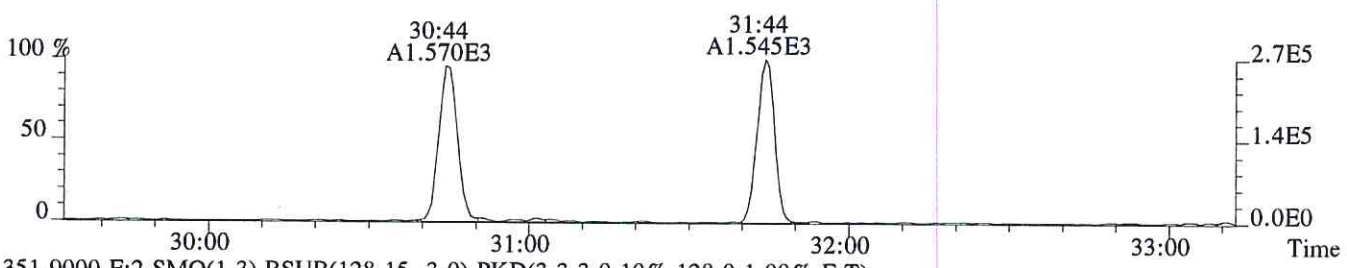
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



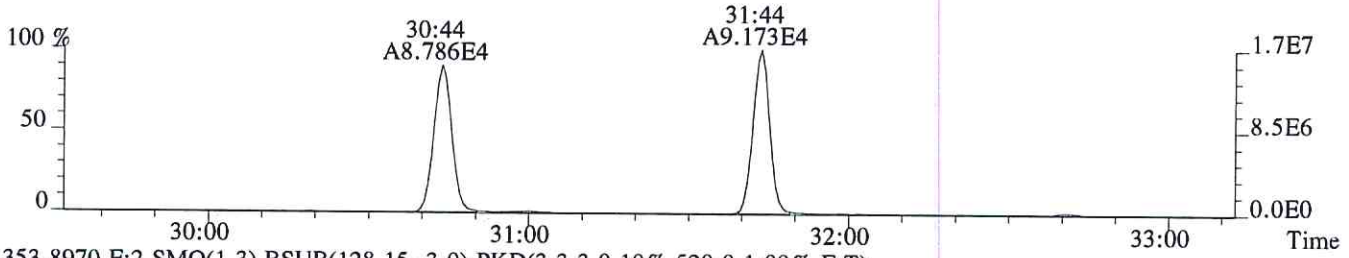
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,164.0,1.00%,F,T)



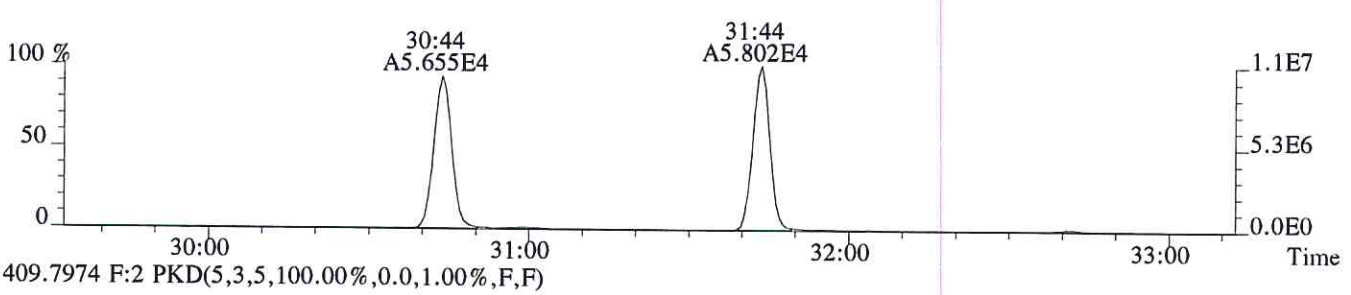
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



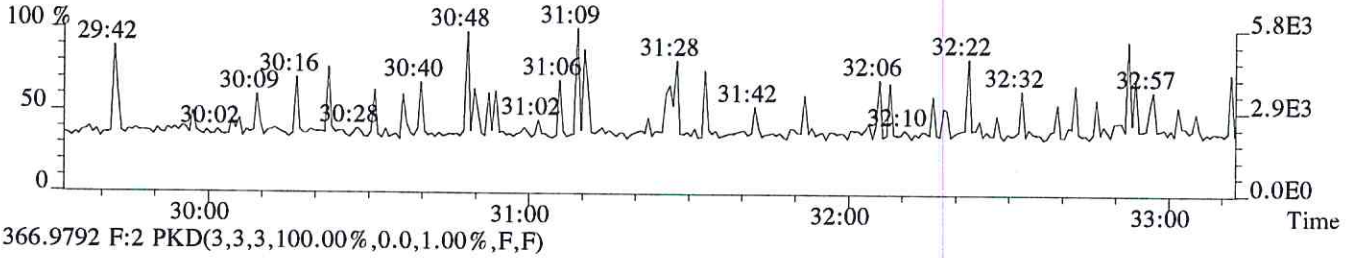
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,T)



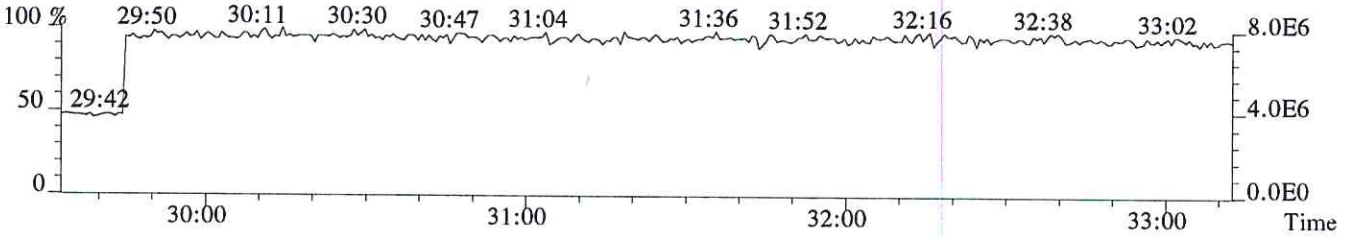
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,T)



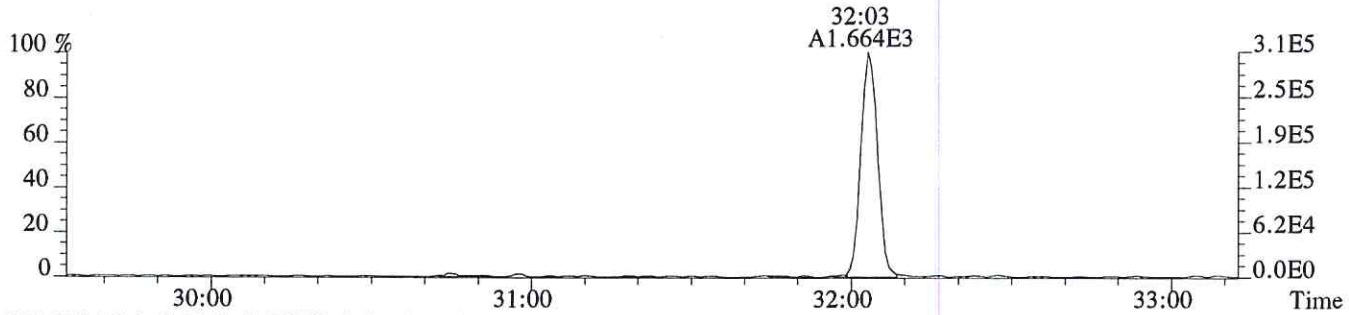
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



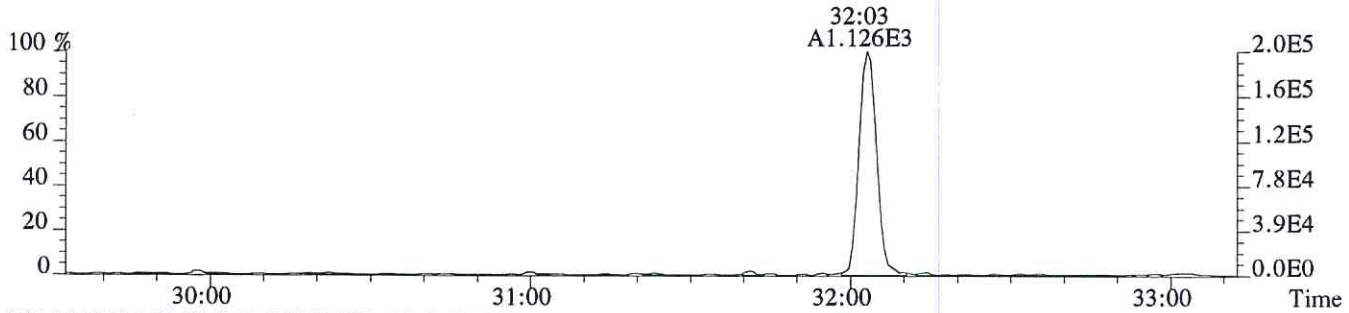
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



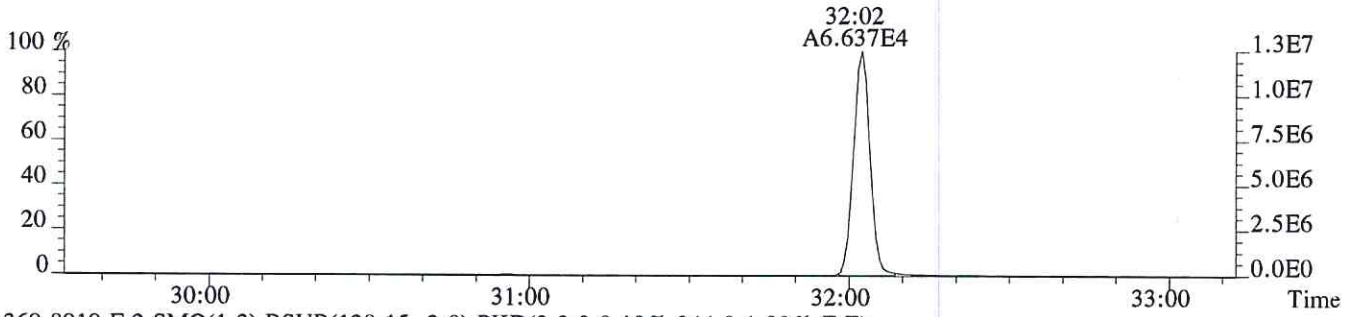
File:P607180 #1-330 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



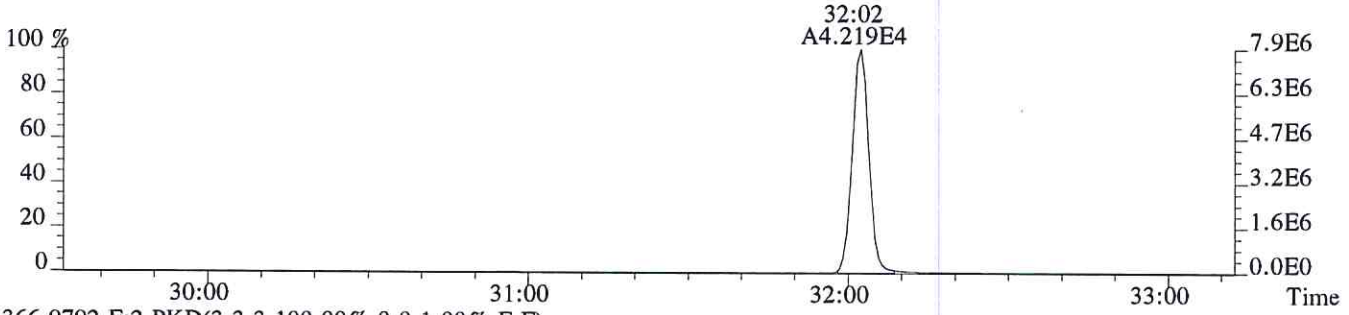
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,T)



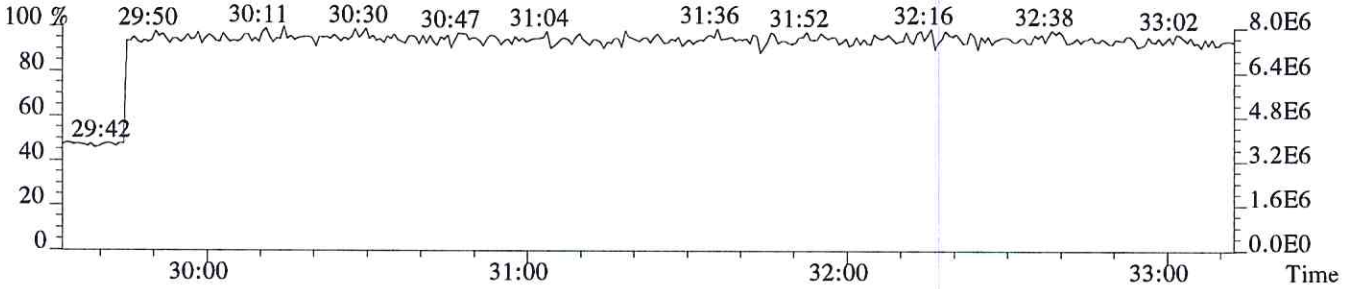
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,T)



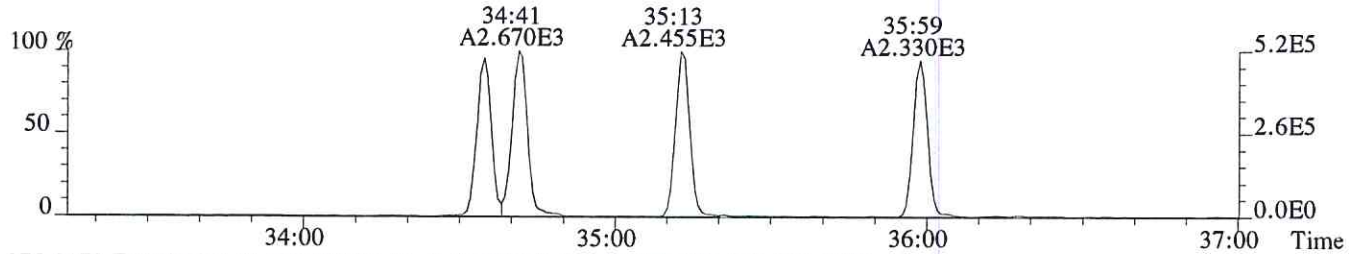
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,T)



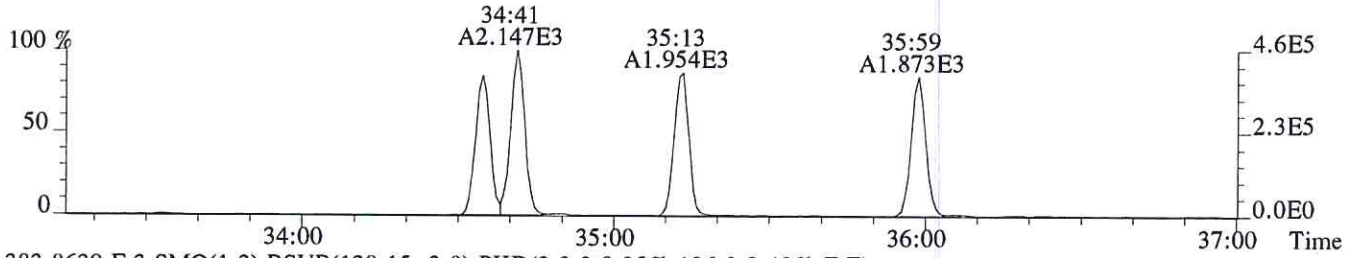
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



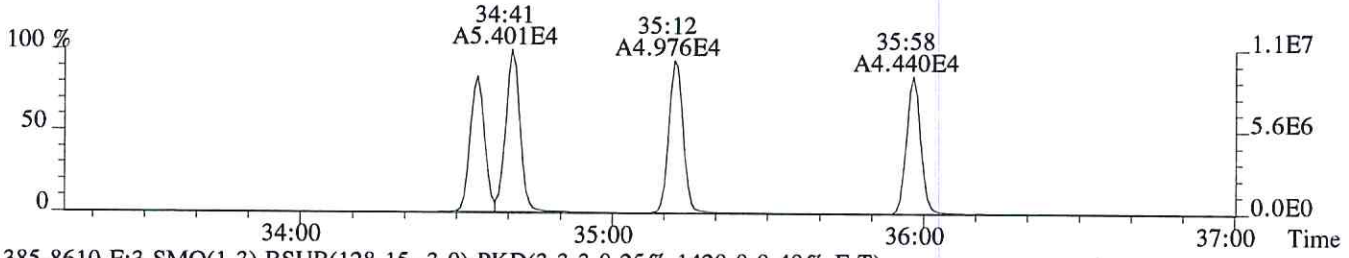
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,T)



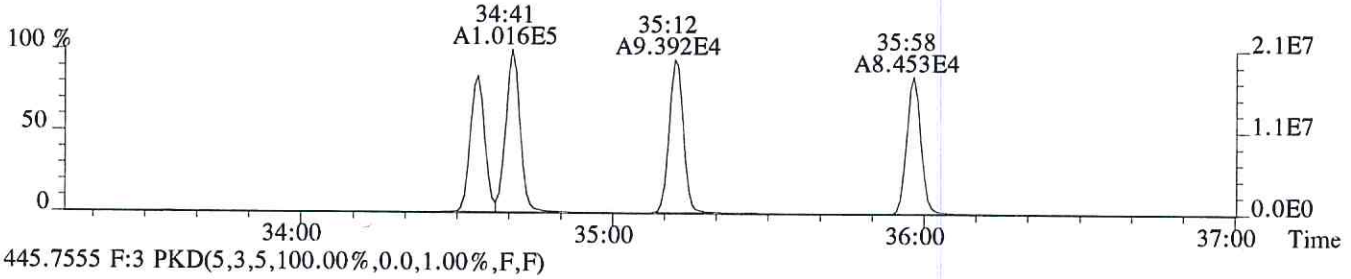
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



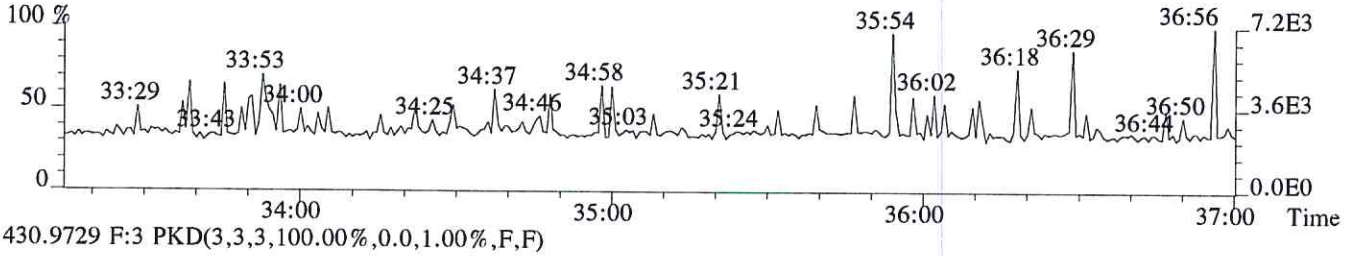
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



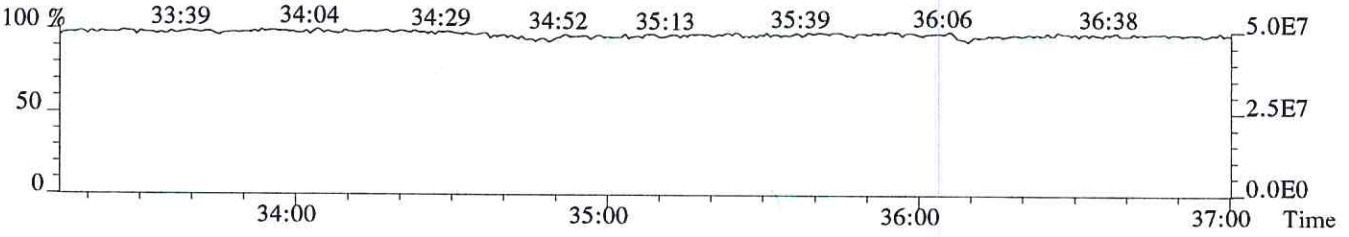
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,T)



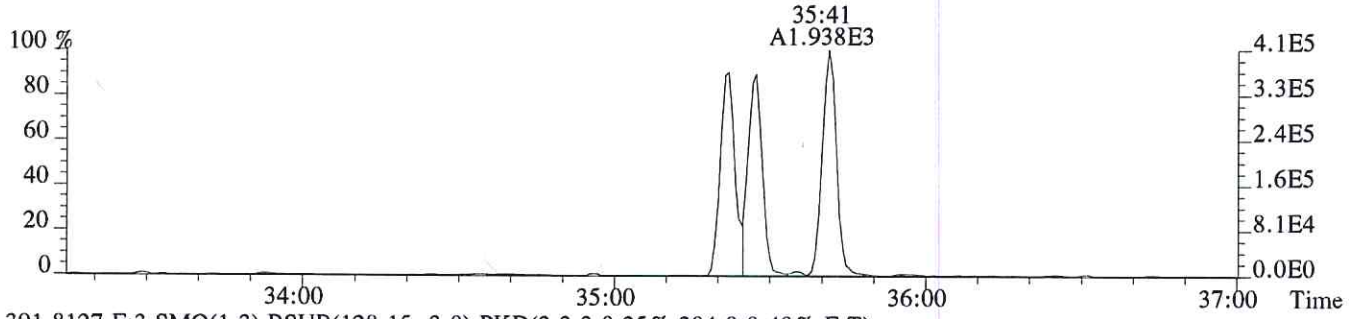
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



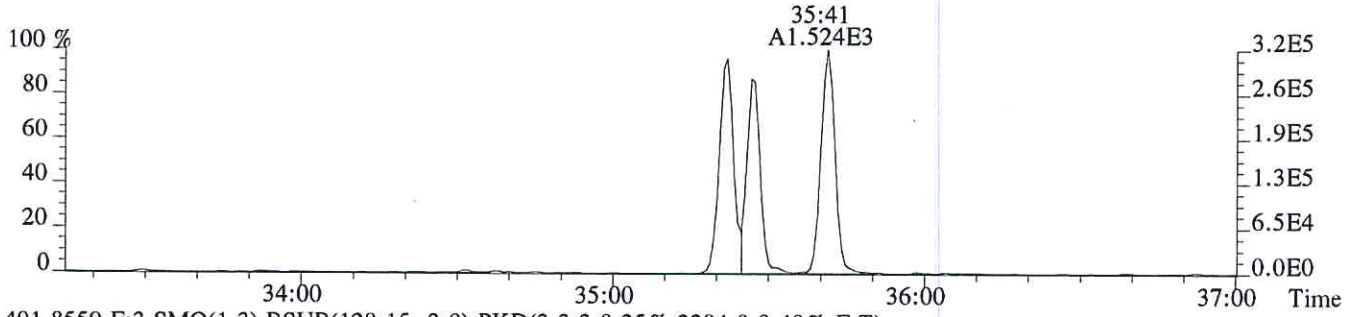
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



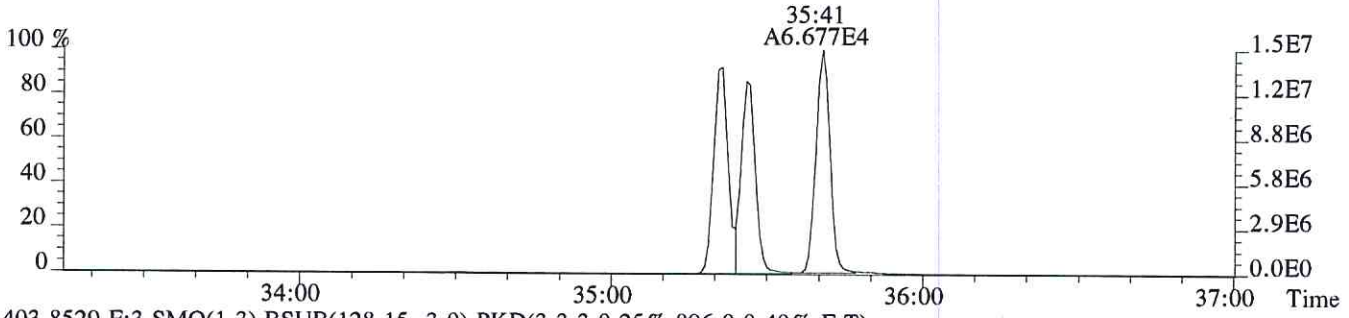
File:P607180 #1-339 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,T)



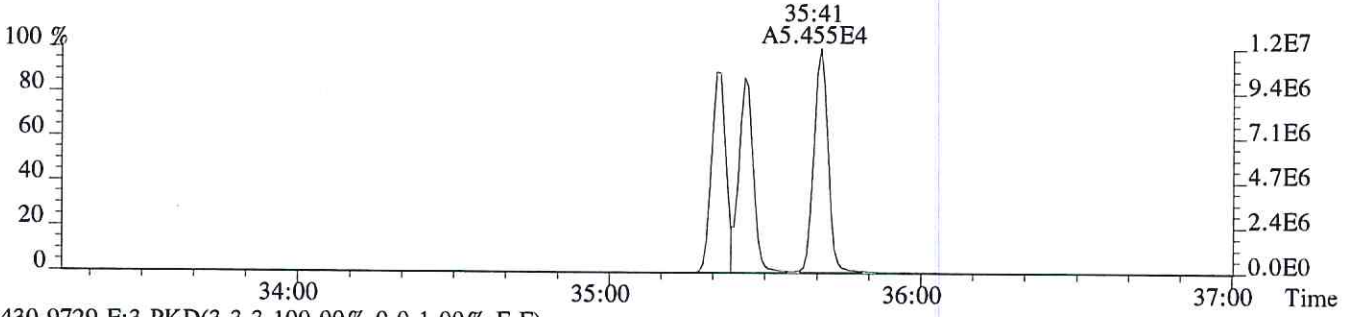
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,T)



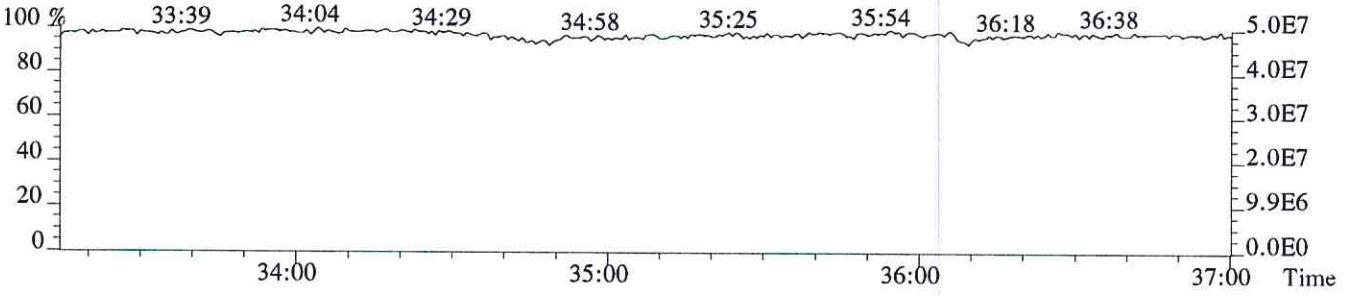
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2384.0,0.40%,F,T)



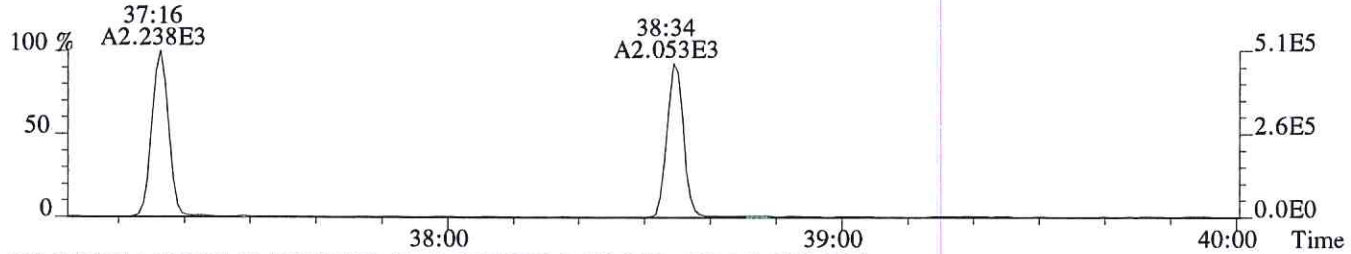
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,896.0,0.40%,F,T)



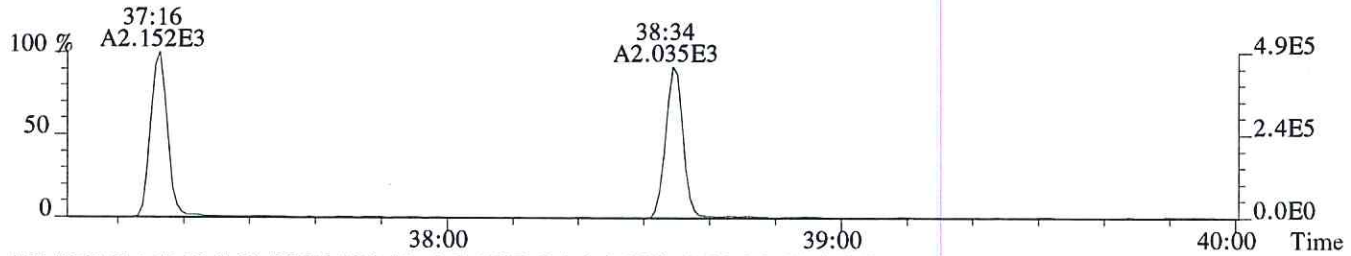
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



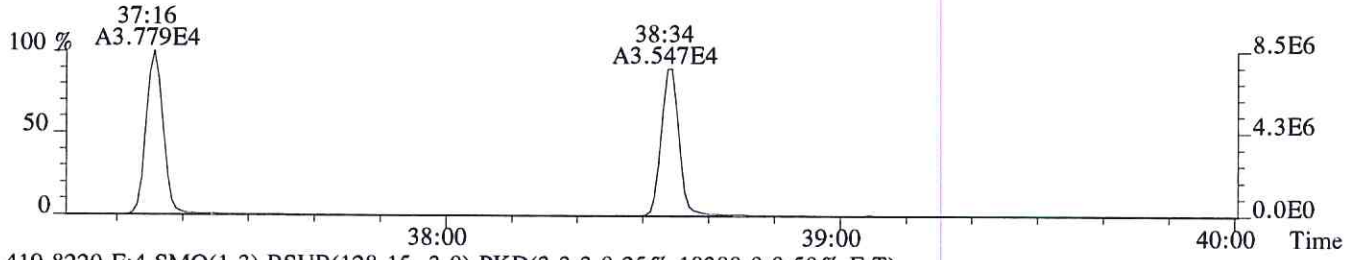
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.50%,F,T)



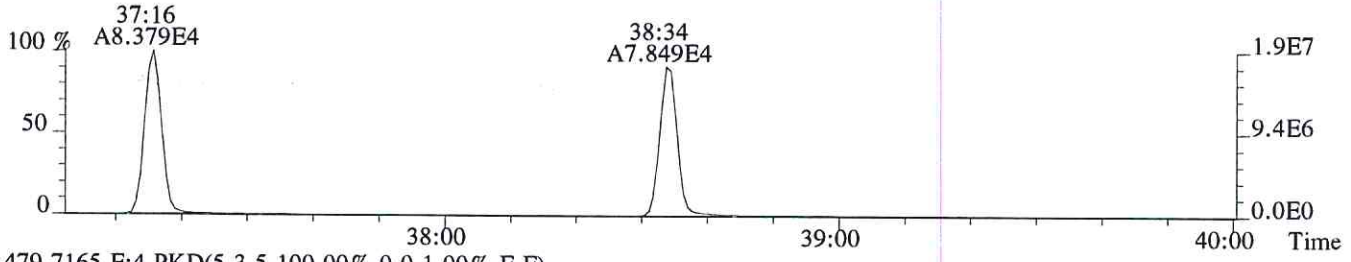
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.50%,F,T)



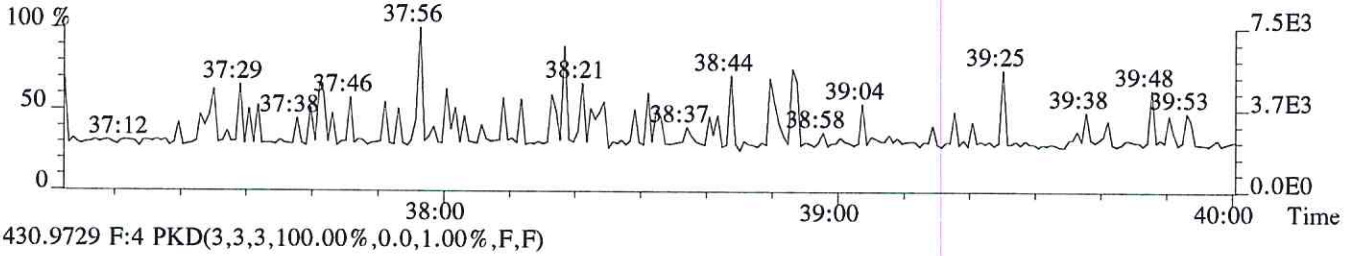
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5356.0,0.50%,F,T)



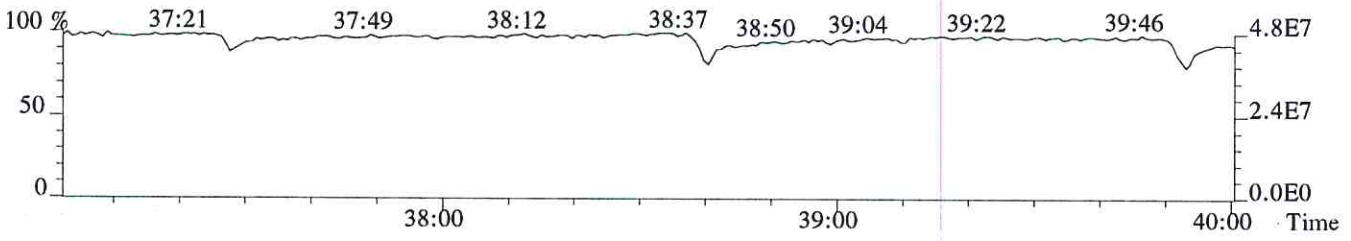
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18380.0,0.50%,F,T)



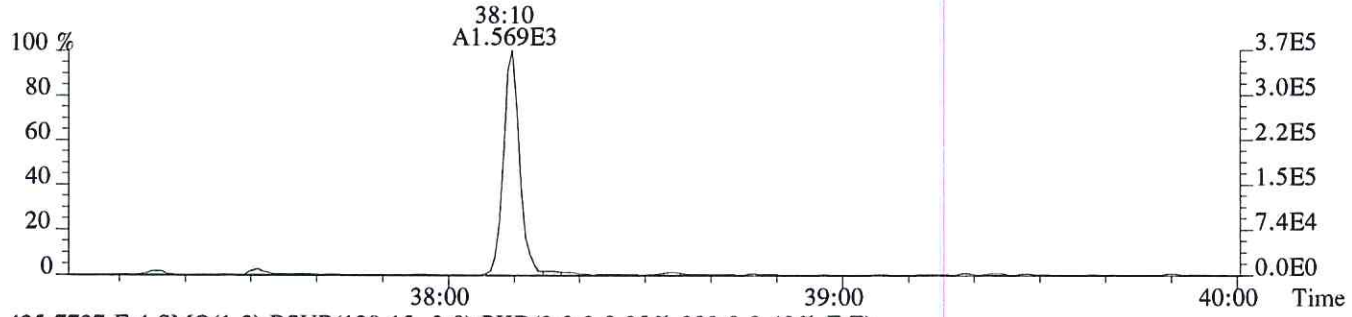
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



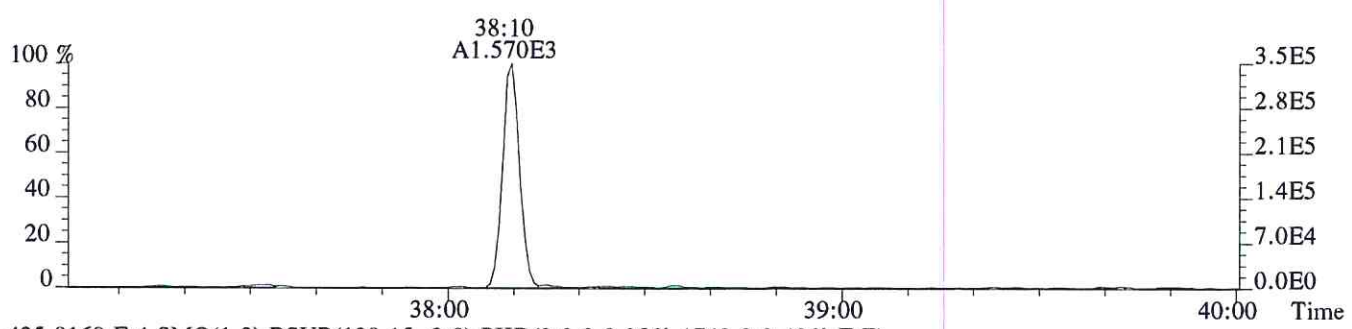
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



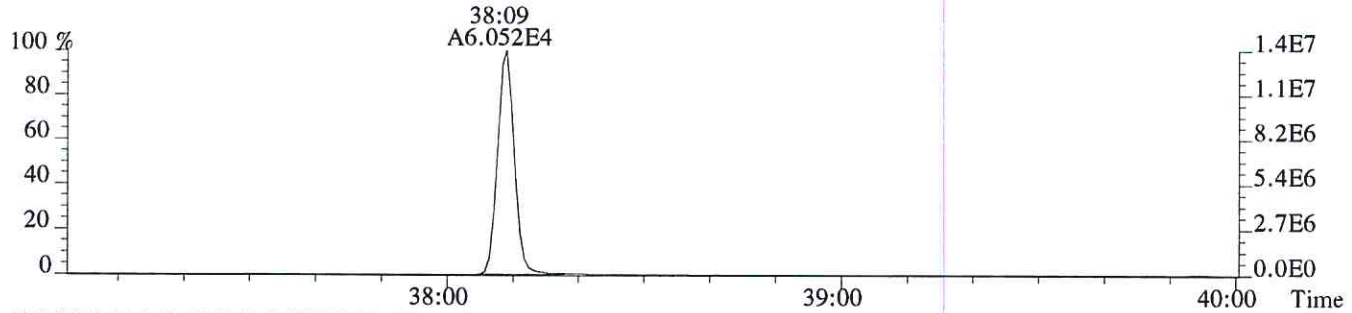
File:P607180 #1-268 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



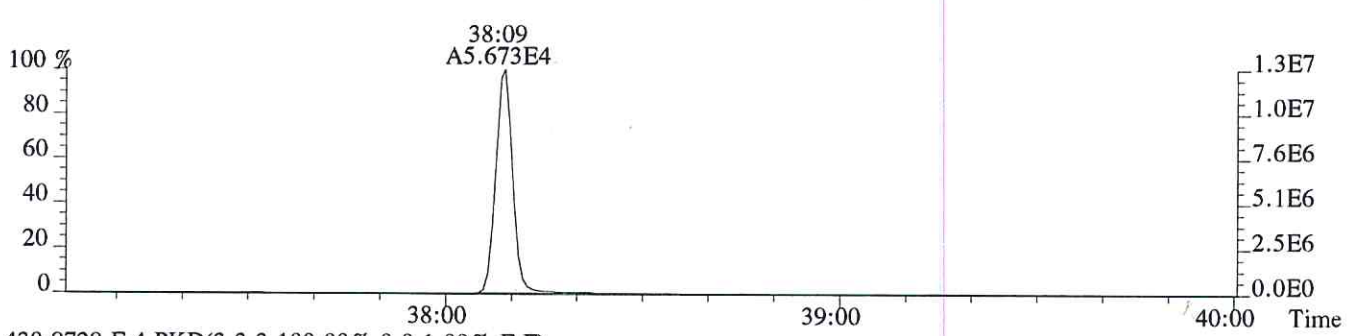
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,308.0,0.40%,F,T)



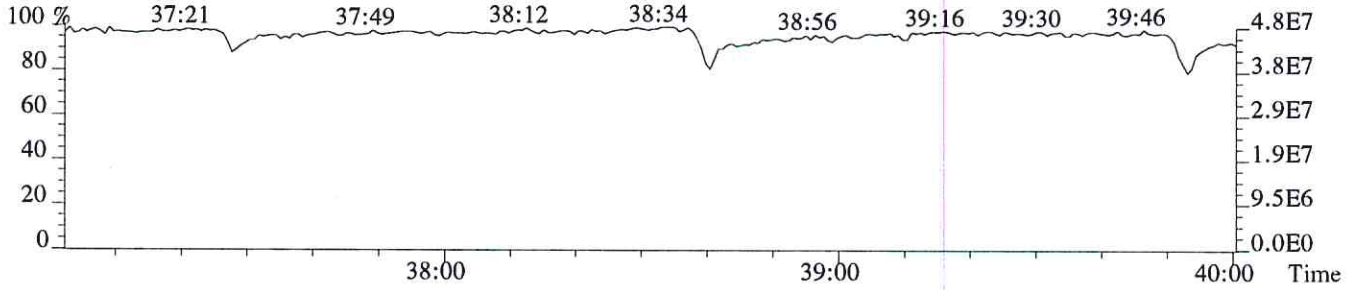
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



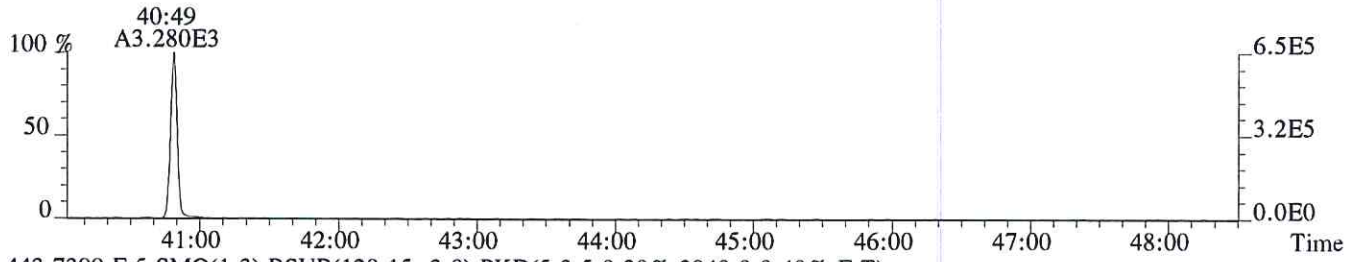
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



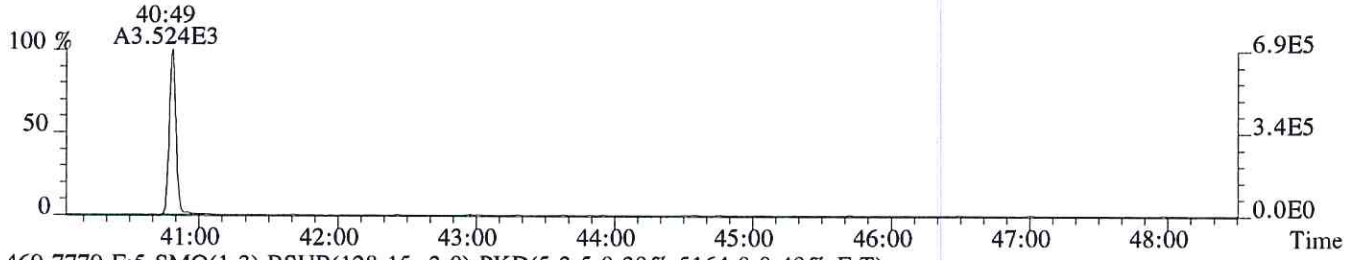
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



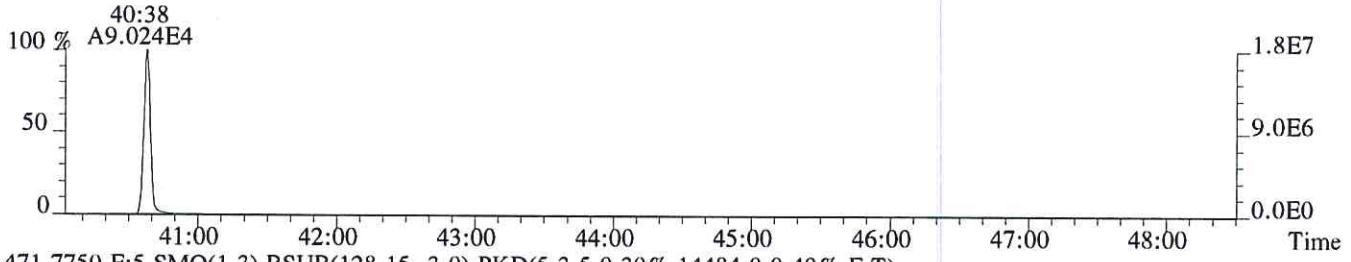
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,896.0,0.40%,F,T)



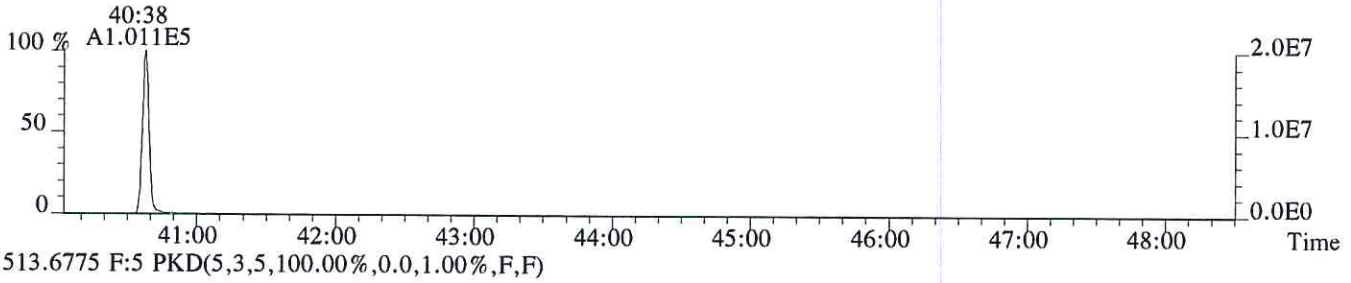
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2940.0,0.40%,F,T)



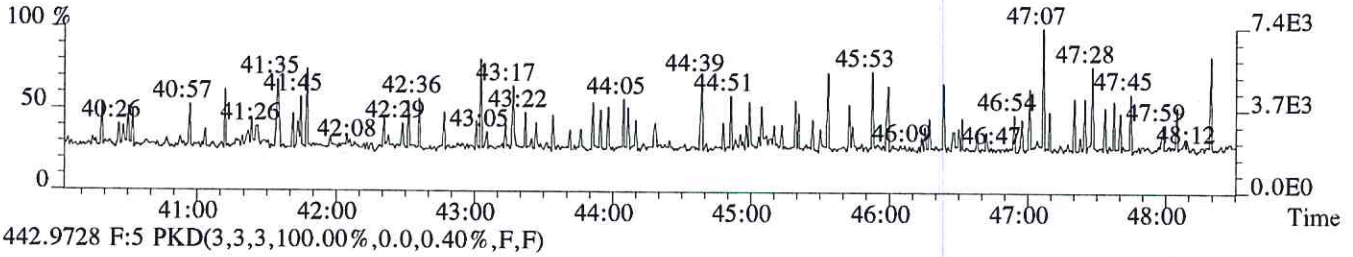
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



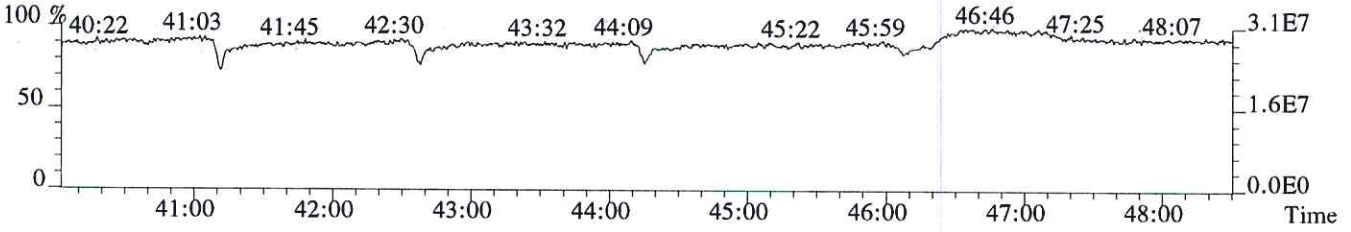
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14484.0,0.40%,F,T)



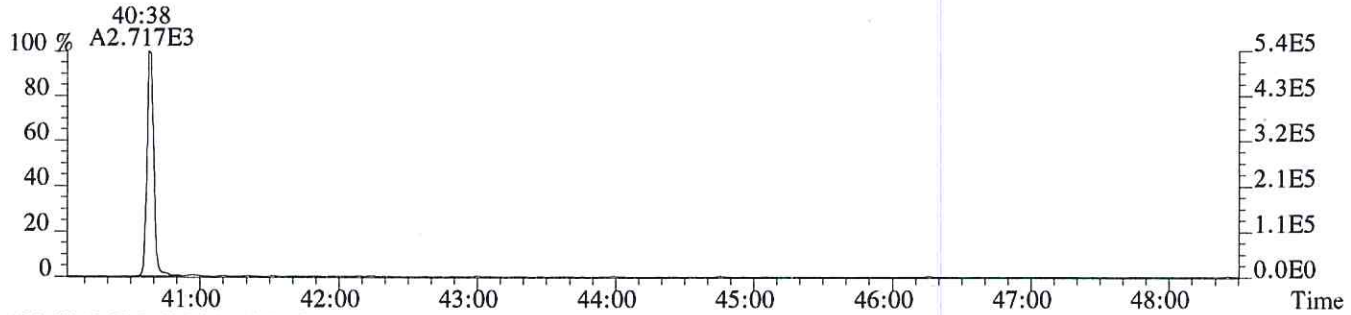
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



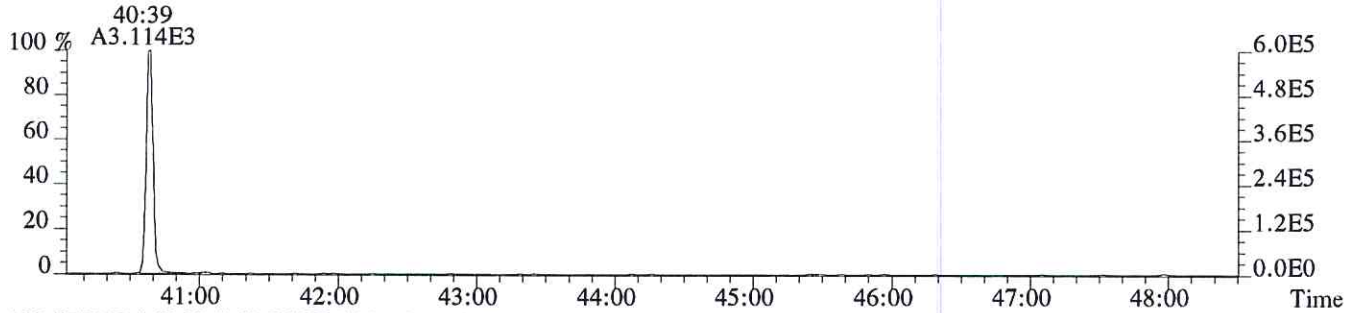
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



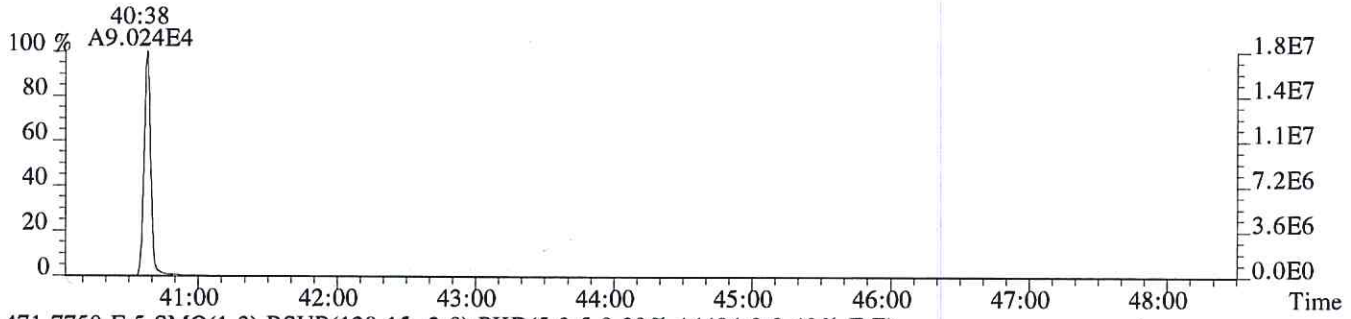
File:P607180 #1-762 Acq:16-MAY-2017 13:34:34 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1180.0,0.40%,F,T)



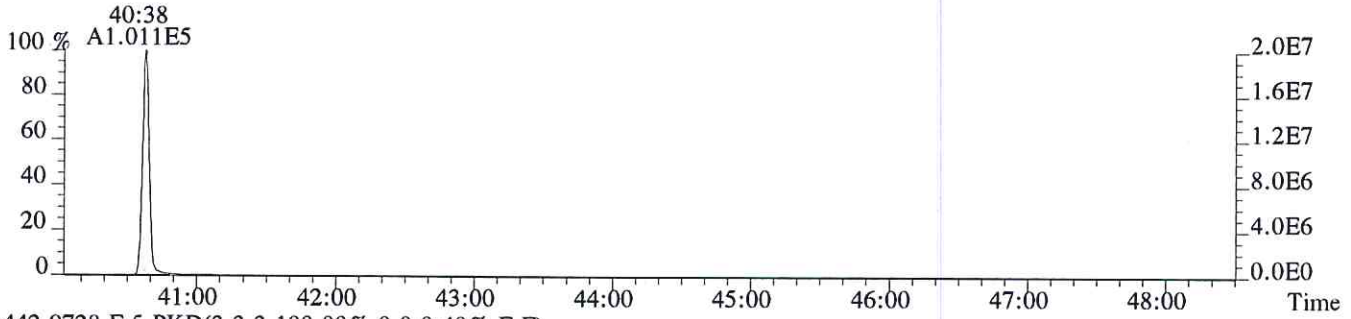
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1900.0,0.40%,F,T)



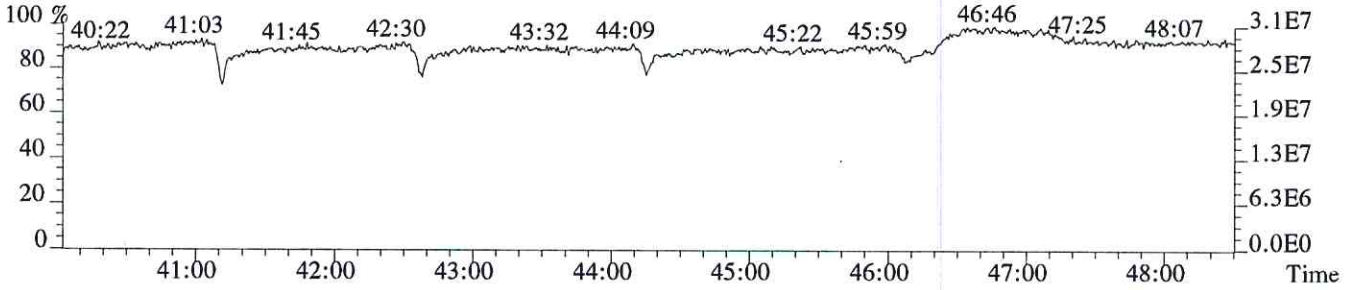
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5164.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14484.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76556

Run #3 Filename P607181 Samp: 1 Inj: 1 Acquired: 16-MAY-17 14:24:51
Processed: 17-MAY-17 07:52:57 Sample ID: CS2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.386e+03	3.044e+03	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	1.873e+04	1.205e+04	1.55	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.782e+04	1.132e+04	1.57	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	1.533e+04	1.224e+04	1.25	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.747e+04	1.410e+04	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	1.545e+04	1.279e+04	1.21	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	1.414e+04	1.119e+04	1.26	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	1.297e+04	1.250e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	1.081e+04	1.045e+04	1.03	yes	no	1.341
10	Unk	OCDF	40:49	1.570e+04	1.794e+04	0.88	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:51	1.912e+03	2.246e+03	0.85	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	1.230e+04	7.854e+03	1.57	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	1.103e+04	8.554e+03	1.29	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	1.070e+04	8.425e+03	1.27	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.163e+04	9.448e+03	1.23	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	9.034e+03	8.697e+03	1.04	yes	no	1.048
17	Unk	OCDD	40:39	1.332e+04	1.500e+04	0.89	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	1.182e+05	1.489e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	1.779e+05	1.120e+05	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	1.777e+05	1.118e+05	1.59	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	7.429e+04	1.418e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	9.014e+04	1.714e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	8.320e+04	1.573e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	7.343e+04	1.393e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	5.629e+04	1.225e+05	0.46	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	4.930e+04	1.095e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:49	8.544e+04	1.066e+05	0.80	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	1.268e+05	8.063e+04	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.036e+05	8.176e+04	1.27	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	1.018e+05	8.041e+04	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	8.739e+04	8.214e+04	1.06	yes	no	0.884
32	IS	13C-OCDD	40:38	1.177e+05	1.307e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	8.582e+04	1.086e+05	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	1.100e+05	8.941e+04	1.23	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	4.153e+03				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76556

Run #3 Filename P607181 Samp: 1 Inj: 1 Acquired: 16-MAY-17 14:24:51
Processed: 17-MAY-17 07:52:57 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.41e+05	2.28e+02	1.5e+03	4.26e+05	1.24e+03	3.4e+02
2	1,2,3,7,8-PeCDF	3.23e+06	2.20e+02	1.5e+04	2.08e+06	1.54e+03	1.3e+03
3	2,3,4,7,8-PeCDF	3.32e+06	2.20e+02	1.5e+04	2.11e+06	1.54e+03	1.4e+03
4	1,2,3,4,7,8-HxCDF	3.21e+06	2.32e+02	1.4e+04	2.62e+06	2.96e+02	8.9e+03
5	1,2,3,6,7,8-HxCDF	3.44e+06	2.32e+02	1.5e+04	2.84e+06	2.96e+02	9.6e+03
6	2,3,4,6,7,8-HxCDF	3.22e+06	2.32e+02	1.4e+04	2.65e+06	2.96e+02	8.9e+03
7	1,2,3,7,8,9-HxCDF	2.95e+06	2.32e+02	1.3e+04	2.33e+06	2.96e+02	7.9e+03
8	1,2,3,4,6,7,8-HpCDF	2.95e+06	1.25e+03	2.4e+03	2.83e+06	2.92e+03	9.7e+02
9	1,2,3,4,7,8,9-HpCDF	2.35e+06	1.25e+03	1.9e+03	2.30e+06	2.92e+03	7.9e+02
10	OCDF	3.02e+06	1.31e+03	2.3e+03	3.47e+06	3.74e+03	9.3e+02
11	2,3,7,8-TCDD	2.89e+05	1.26e+03	2.3e+02	3.43e+05	2.48e+02	1.4e+03
12	1,2,3,7,8-PeCDD	2.38e+06	1.26e+03	1.9e+03	1.47e+06	9.68e+02	1.5e+03
13	1,2,3,4,7,8-HxCDD	2.37e+06	2.24e+02	1.1e+04	1.85e+06	2.52e+02	7.3e+03
14	1,2,3,6,7,8-HxCDD	2.25e+06	2.24e+02	1.0e+04	1.76e+06	2.52e+02	7.0e+03
15	1,2,3,7,8,9-HxCDD	2.46e+06	2.24e+02	1.1e+04	1.98e+06	2.52e+02	7.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.05e+06	1.36e+02	1.5e+04	1.98e+06	2.20e+02	9.0e+03
17	OCDD	2.63e+06	2.52e+03	1.0e+03	2.97e+06	2.03e+03	1.5e+03
18	13C-2,3,7,8-TCDF	1.71e+07	1.81e+04	9.5e+02	2.16e+07	6.03e+03	3.6e+03
19	13C-1,2,3,7,8-PeCDF	3.04e+07	7.72e+02	3.9e+04	1.93e+07	8.28e+02	2.3e+04
20	13C-2,3,4,7,8-PeCDF	3.31e+07	7.72e+02	4.3e+04	2.10e+07	8.28e+02	2.5e+04
21	13C-1,2,3,4,7,8-HxCDF	1.58e+07	2.96e+02	5.3e+04	2.99e+07	1.41e+03	2.1e+04
22	13C-1,2,3,6,7,8-HxCDF	1.80e+07	2.96e+02	6.1e+04	3.48e+07	1.41e+03	2.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.74e+07	2.96e+02	5.9e+04	3.26e+07	1.41e+03	2.3e+04
24	13C-1,2,3,7,8,9-HxCDF	1.55e+07	2.96e+02	5.2e+04	2.96e+07	1.41e+03	2.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.25e+07	1.31e+04	9.6e+02	2.77e+07	2.21e+04	1.3e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.08e+07	1.31e+04	8.3e+02	2.39e+07	2.21e+04	1.1e+03
27	13C-2,3,7,8-TCDD	1.36e+07	6.41e+03	2.1e+03	1.69e+07	3.18e+03	5.3e+03
28	13C-1,2,3,7,8-PeCDD	2.39e+07	9.08e+02	2.6e+04	1.52e+07	1.34e+03	1.1e+04
29	13C-1,2,3,4,7,8-HxCDD	2.26e+07	2.50e+03	9.0e+03	1.77e+07	7.20e+02	2.5e+04
30	13C-1,2,3,6,7,8-HxCDD	2.13e+07	2.50e+03	8.5e+03	1.67e+07	7.20e+02	2.3e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.98e+07	9.52e+02	2.1e+04	1.86e+07	1.94e+03	9.6e+03
32	13C-OCDD	2.37e+07	1.71e+04	1.4e+03	2.60e+07	8.06e+03	3.2e+03
33	13C-1,2,3,4-TCDD	1.30e+07	6.41e+03	2.0e+03	1.65e+07	3.18e+03	5.2e+03
34	13C-1,2,3,7,8,9-HxCDD	2.35e+07	2.50e+03	9.4e+03	1.92e+07	7.20e+02	2.7e+04
35	37Cl-2,3,7,8-TCDD	6.57e+05	1.05e+03	6.3e+02			

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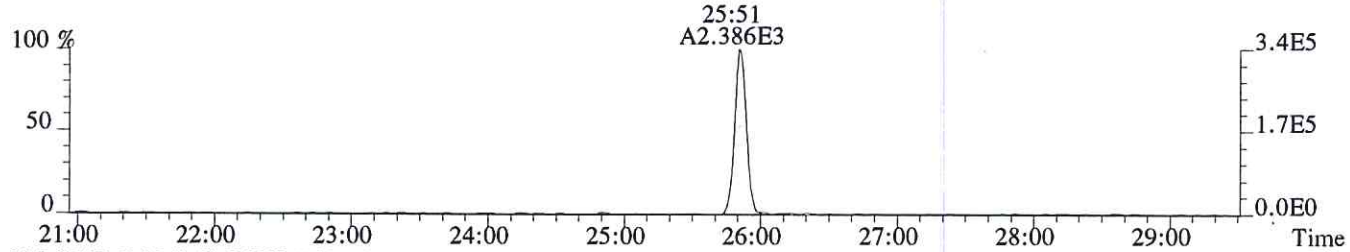
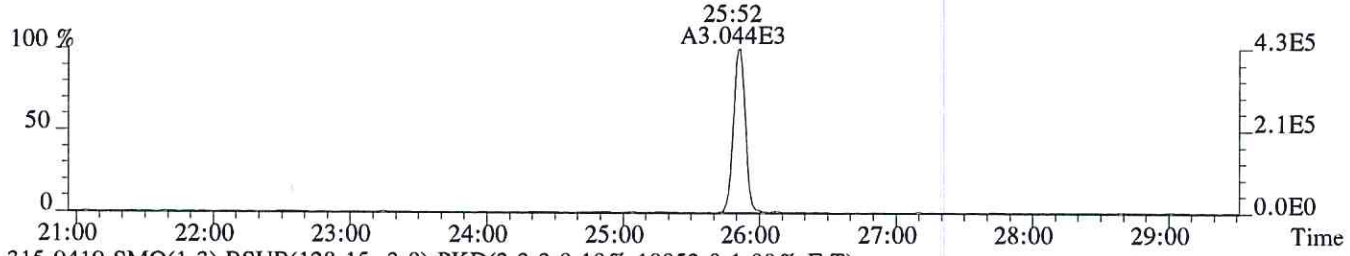
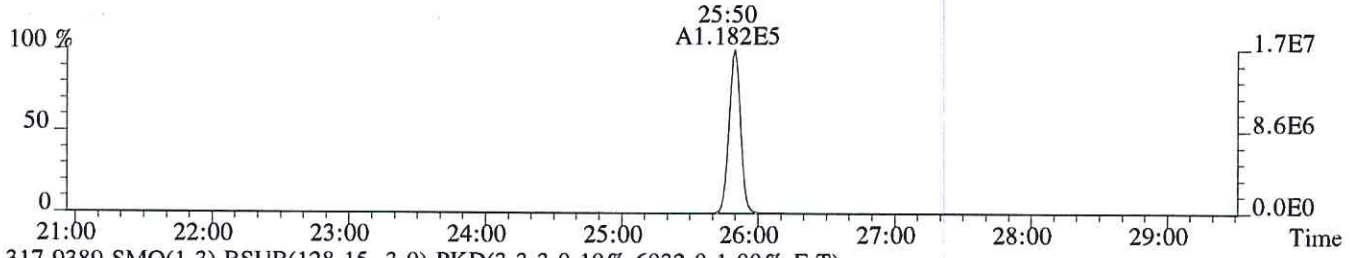
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



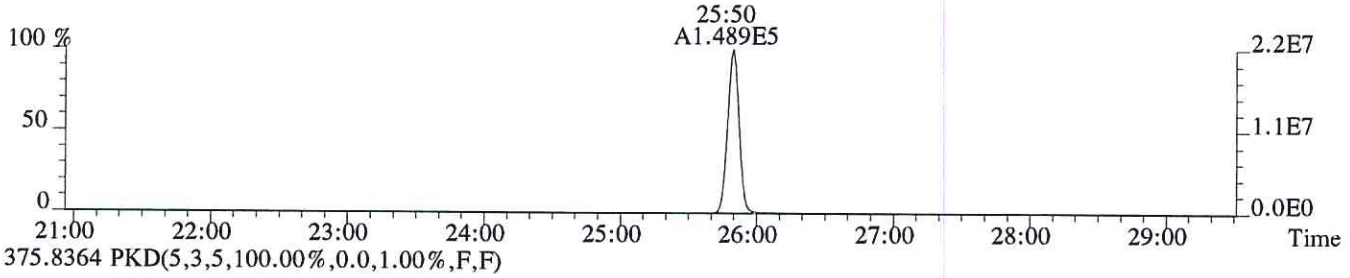
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1236.0,1.00%,F,T)



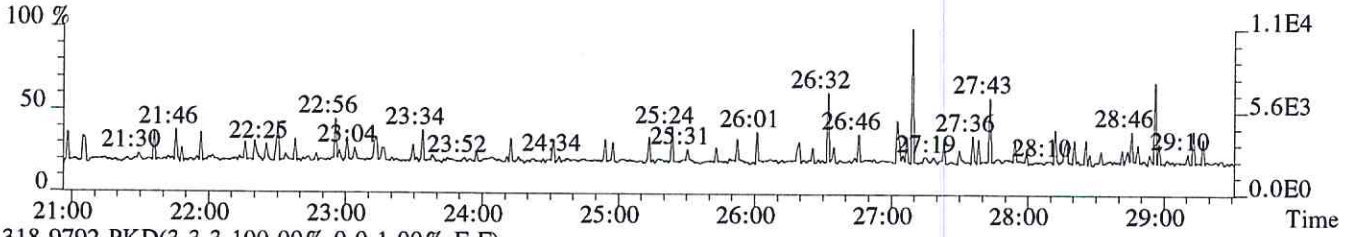
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,18052.0,1.00%,F,T)



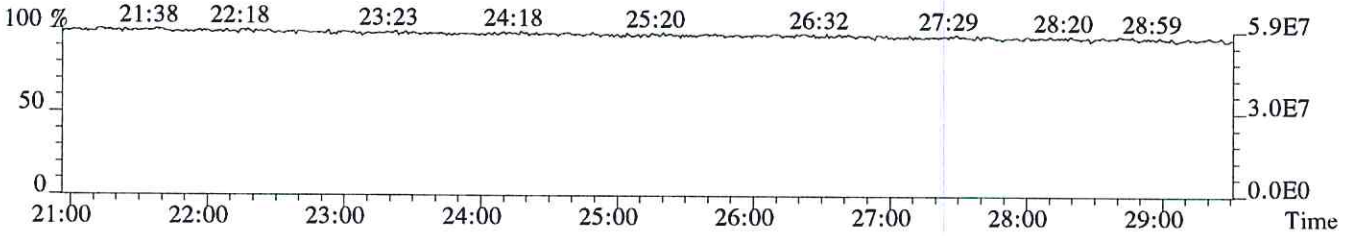
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6032.0,1.00%,F,T)



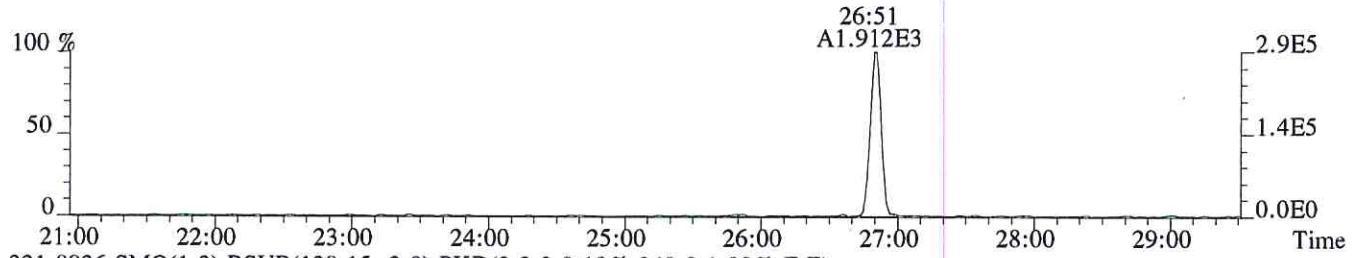
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



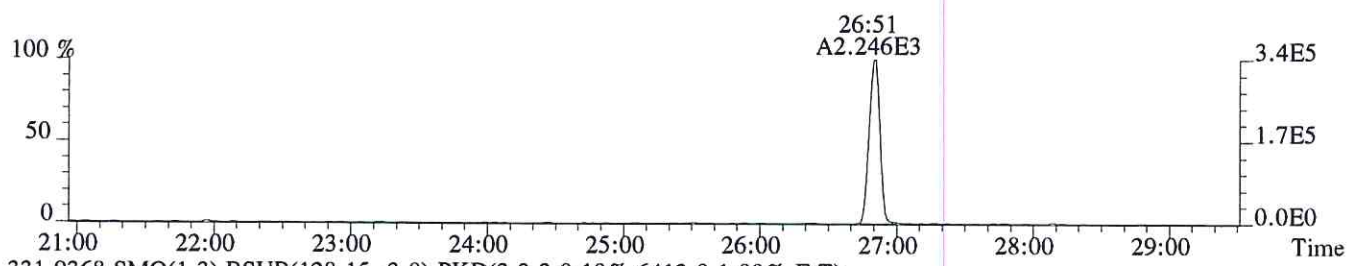
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



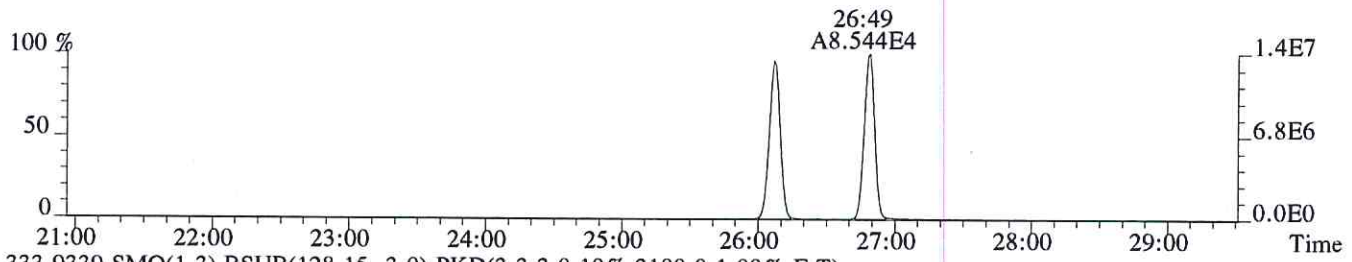
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1260.0,1.00%,F,T)



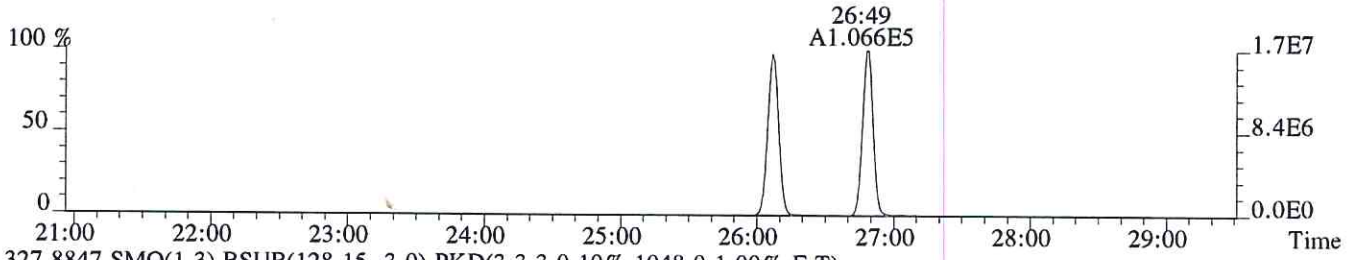
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,248.0,1.00%,F,T)



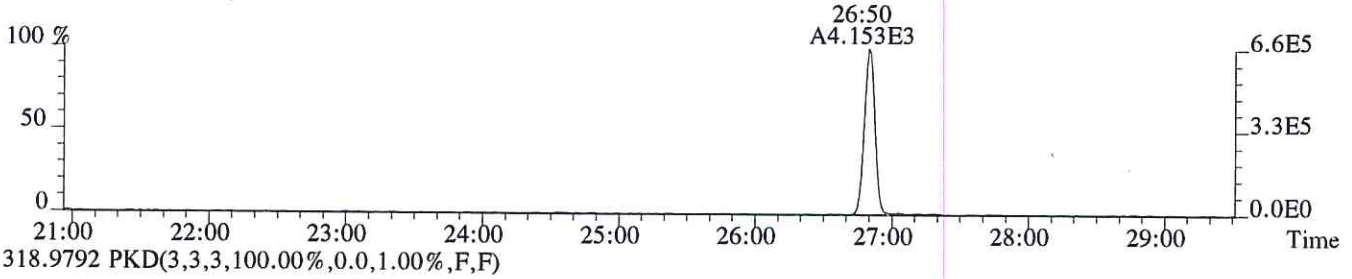
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6412.0,1.00%,F,T)



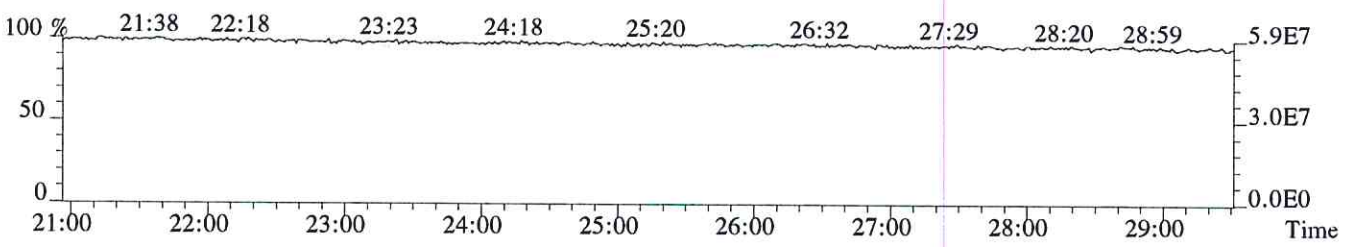
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3180.0,1.00%,F,T)



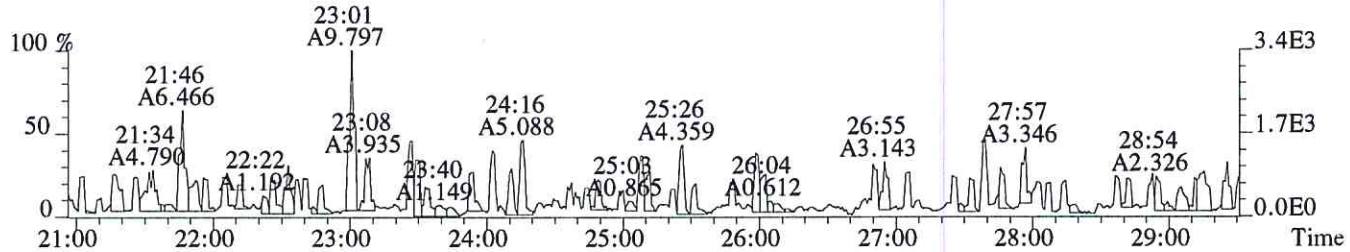
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1048.0,1.00%,F,T)



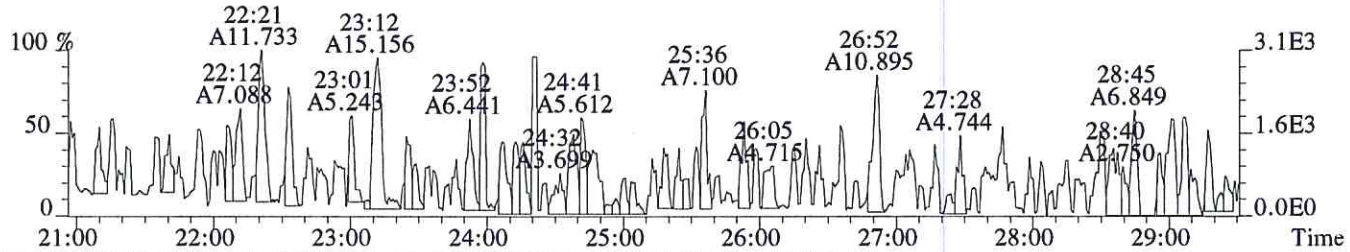
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



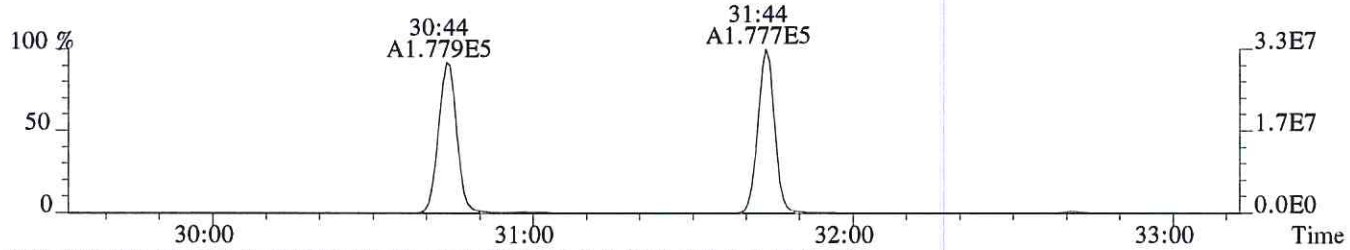
File:P607181 #1-609 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



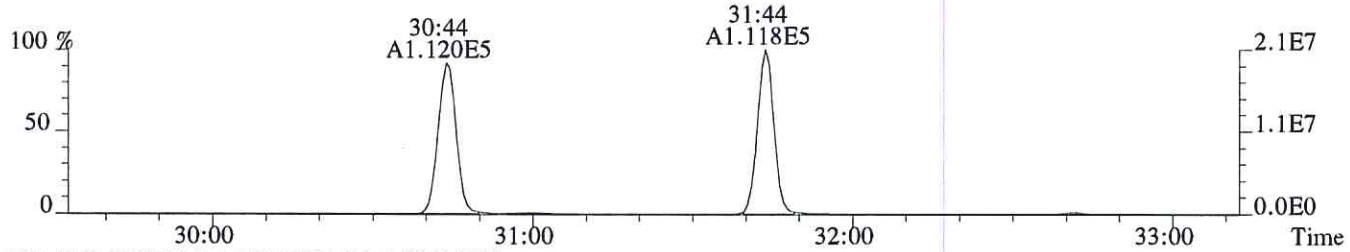
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,664.0,1.00%,F,T)



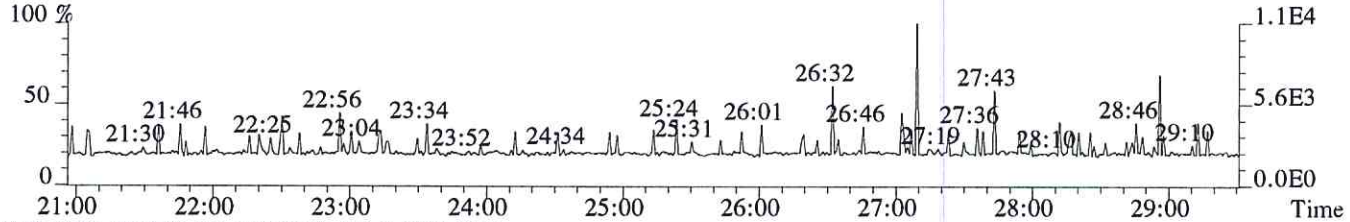
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



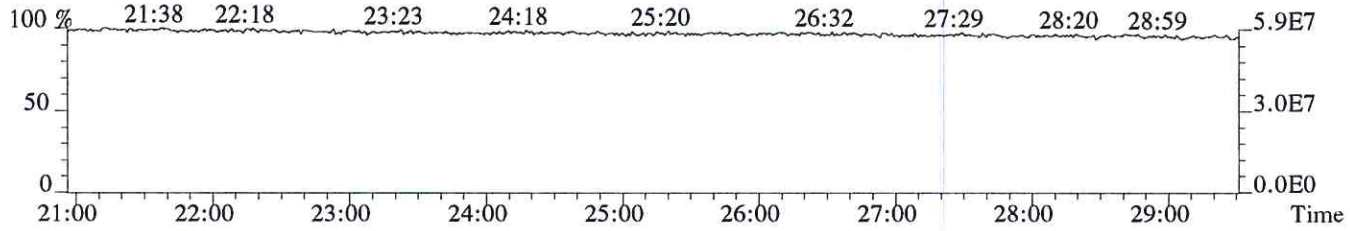
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



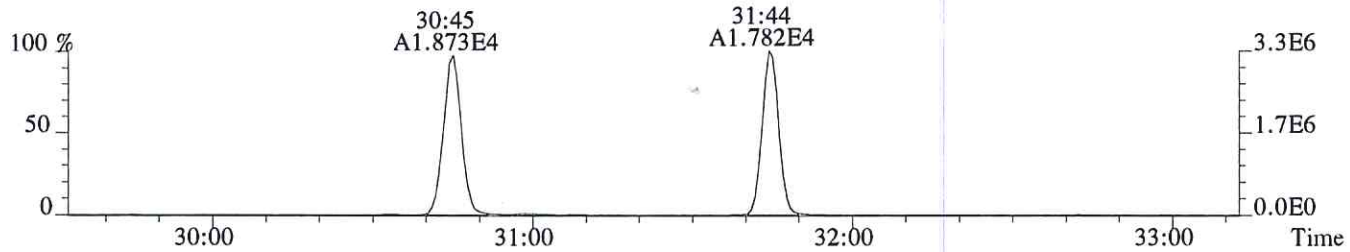
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



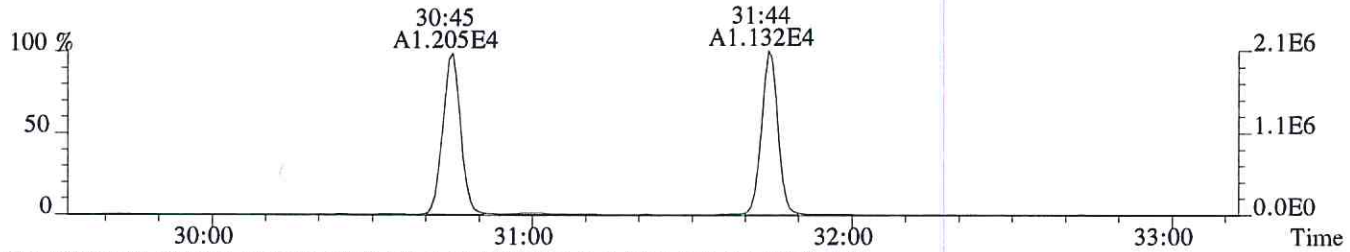
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



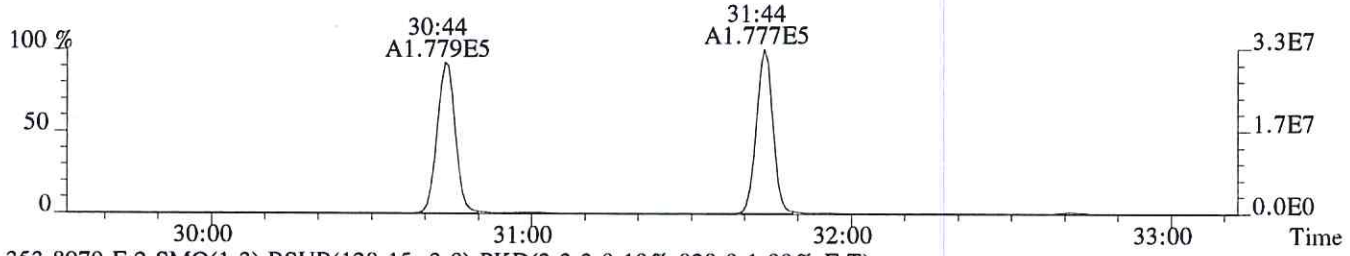
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



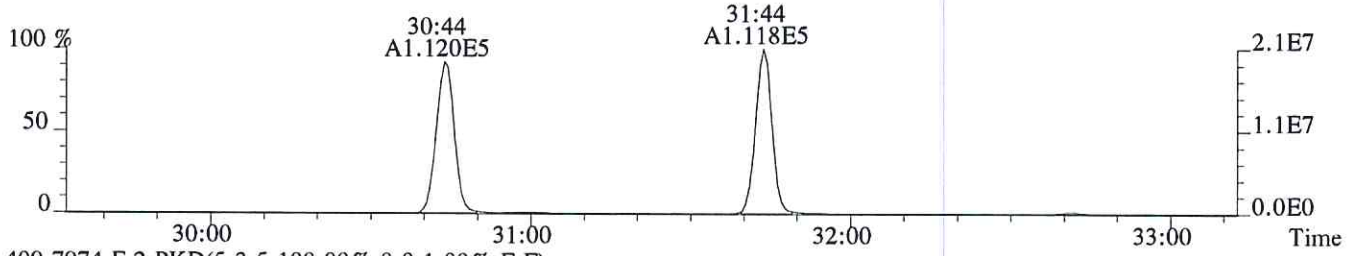
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,T)



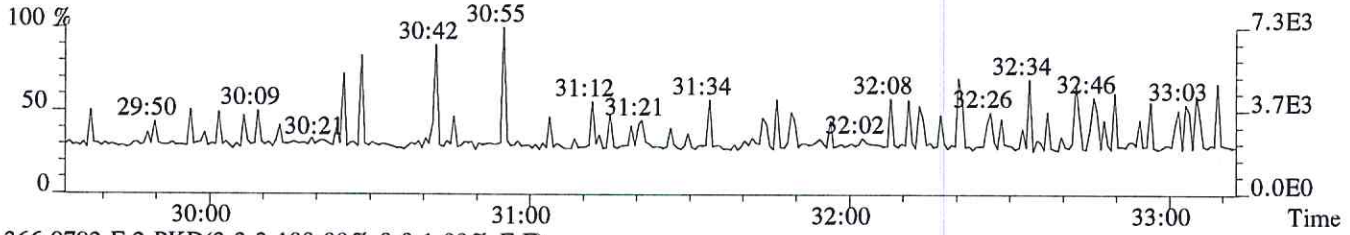
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,772.0,1.00%,F,T)



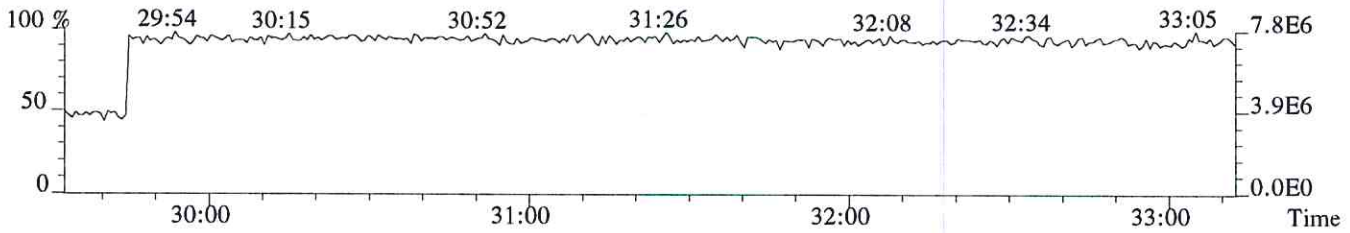
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



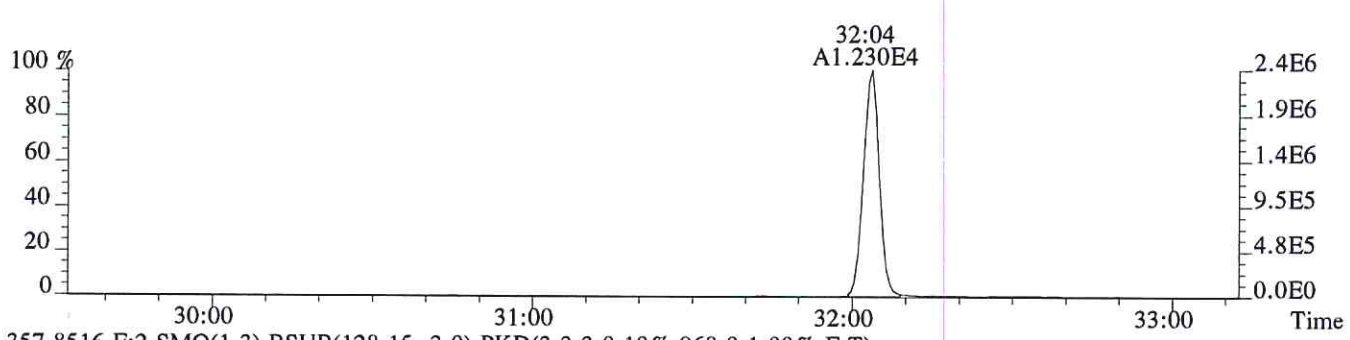
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



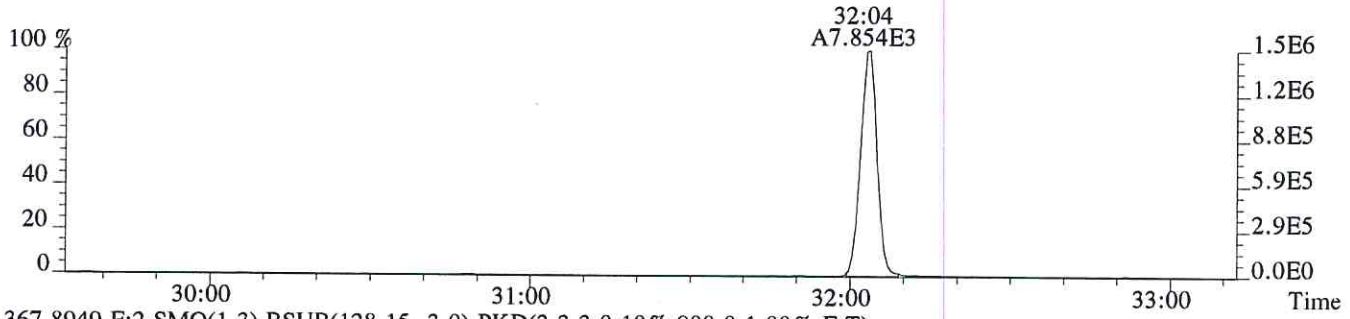
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



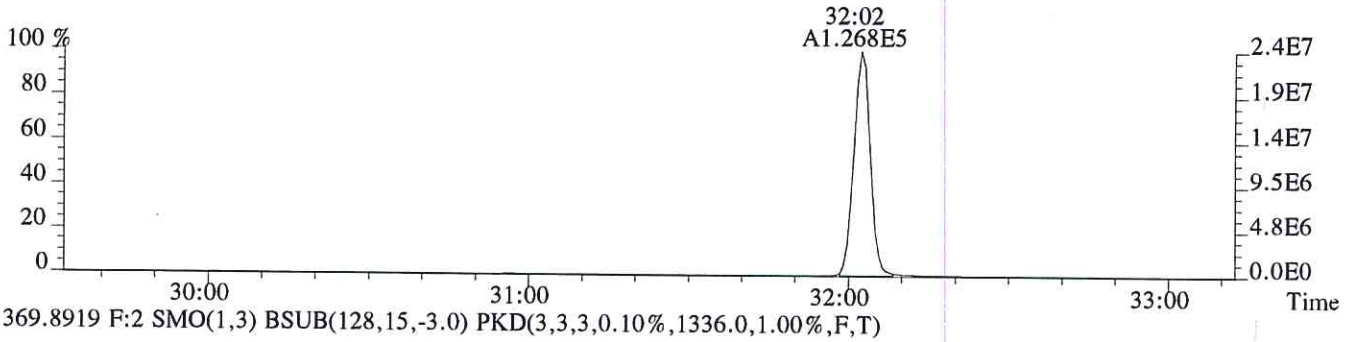
File:P607181 #1-330 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1264.0,1.00%,F,T)



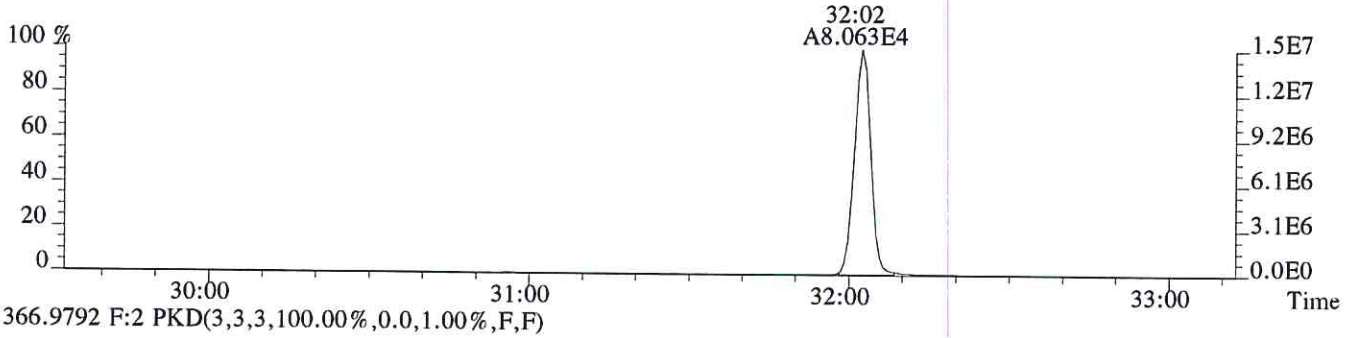
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



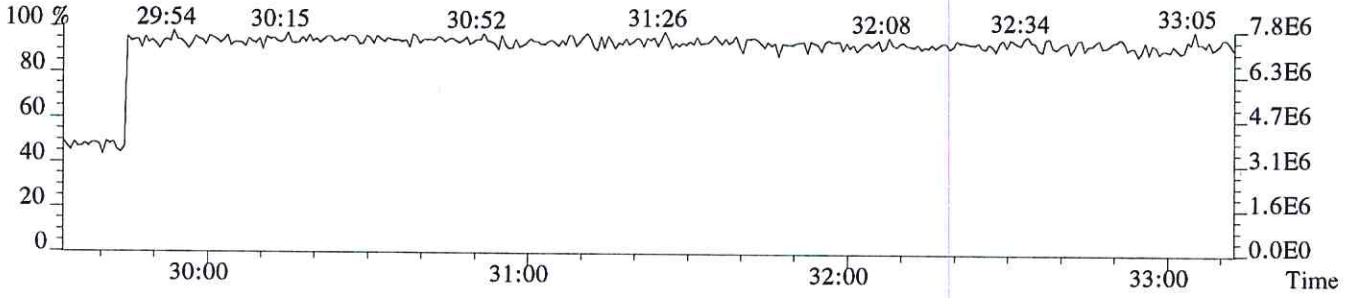
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



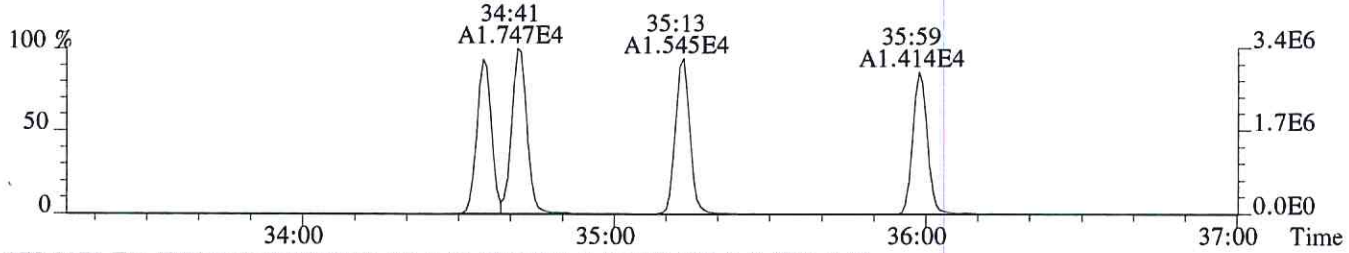
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



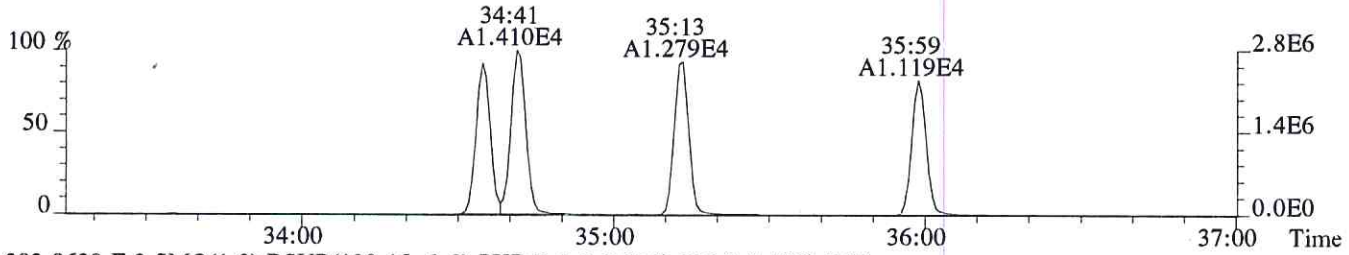
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



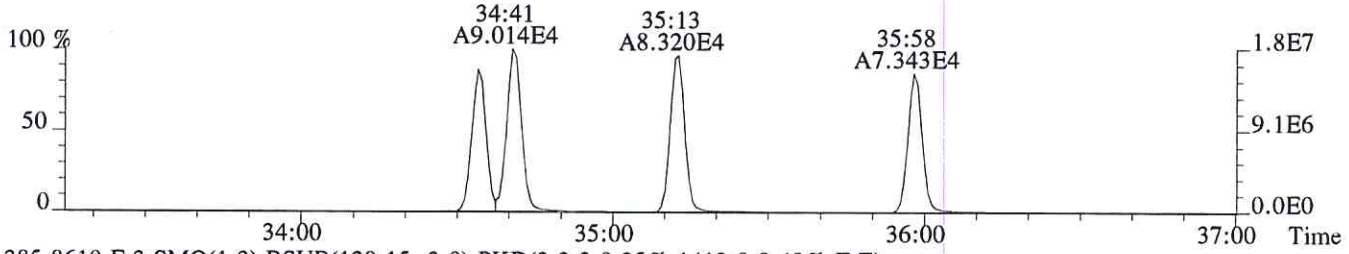
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



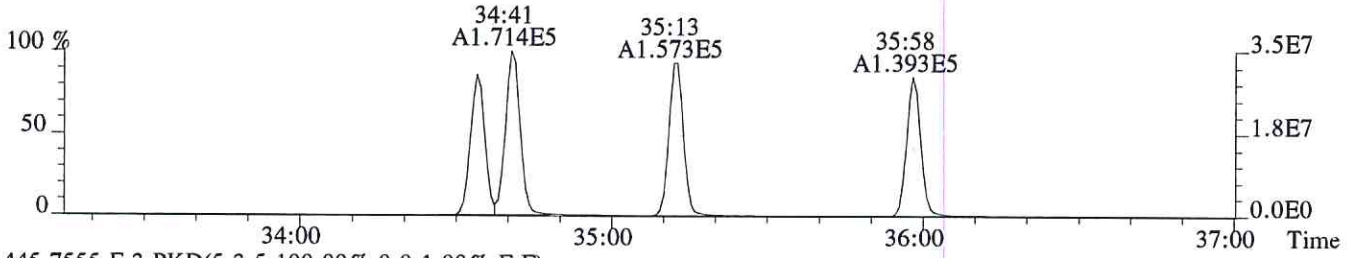
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



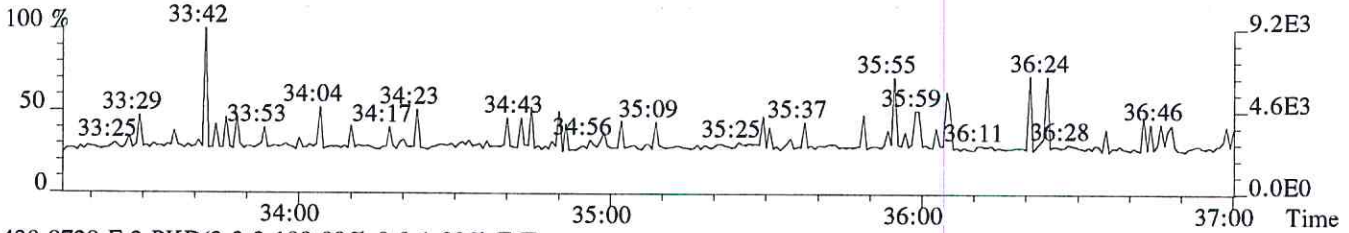
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



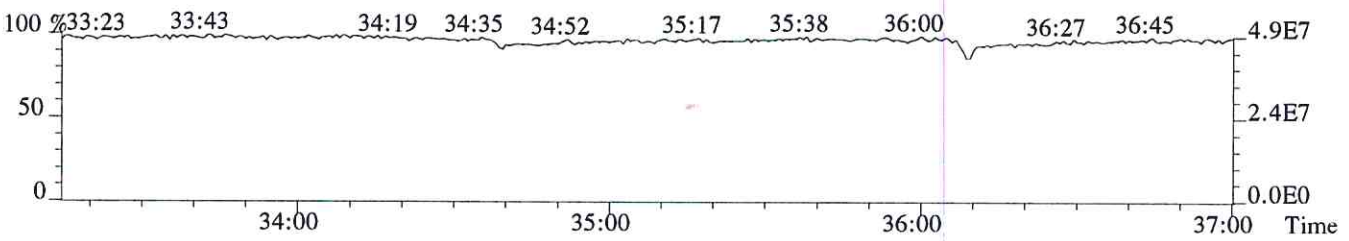
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



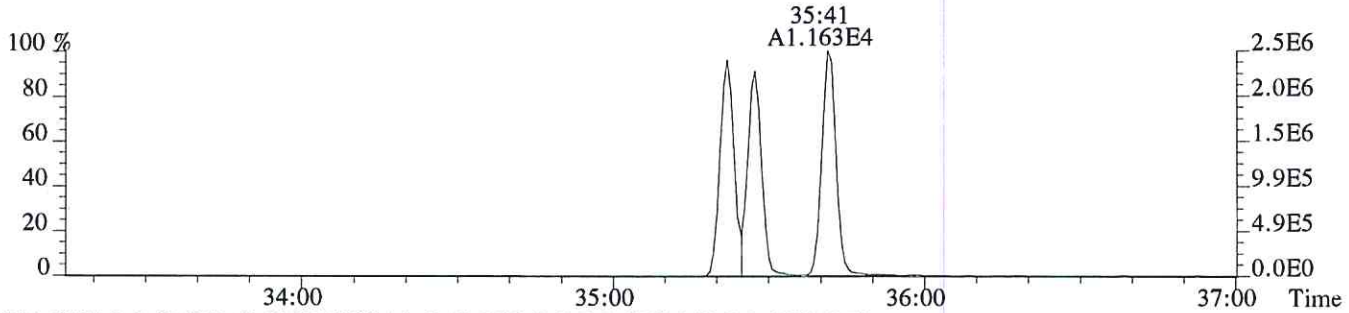
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



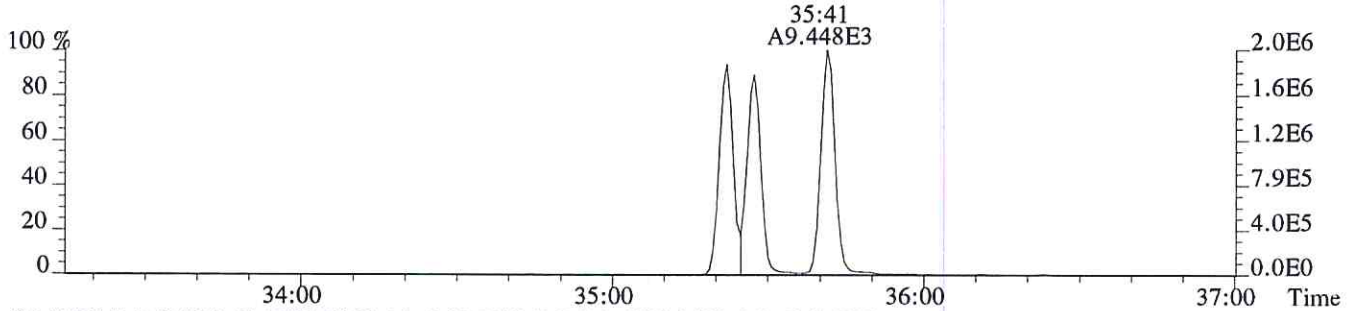
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



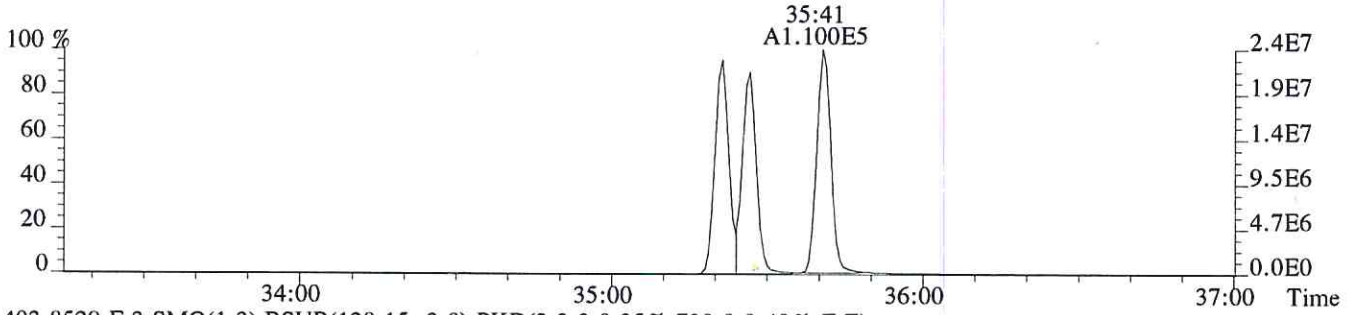
File:P607181 #1-339 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



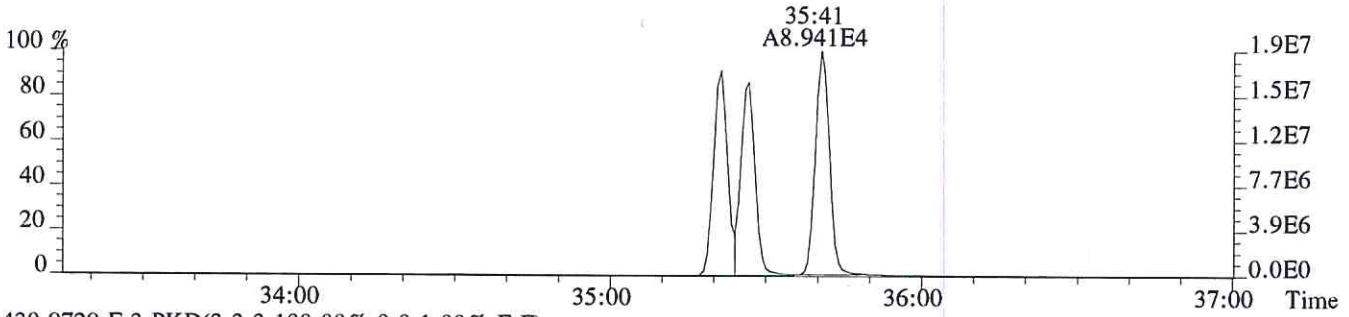
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,252.0,0.40%,F,T)



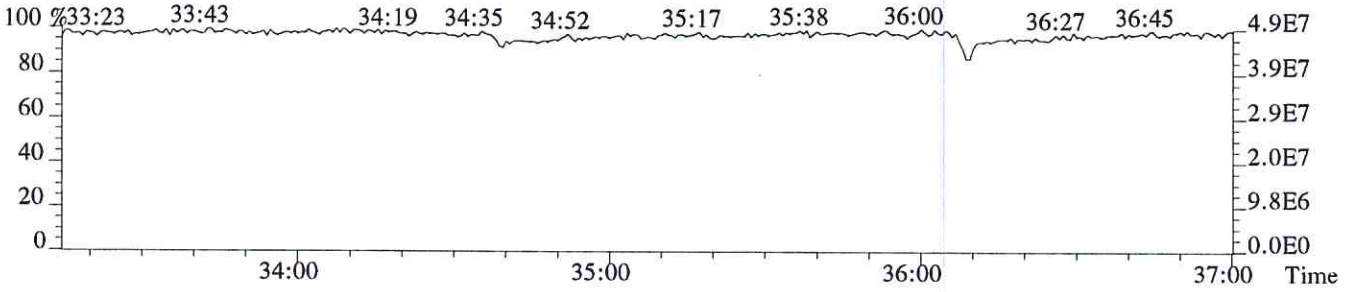
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2500.0,0.40%,F,T)



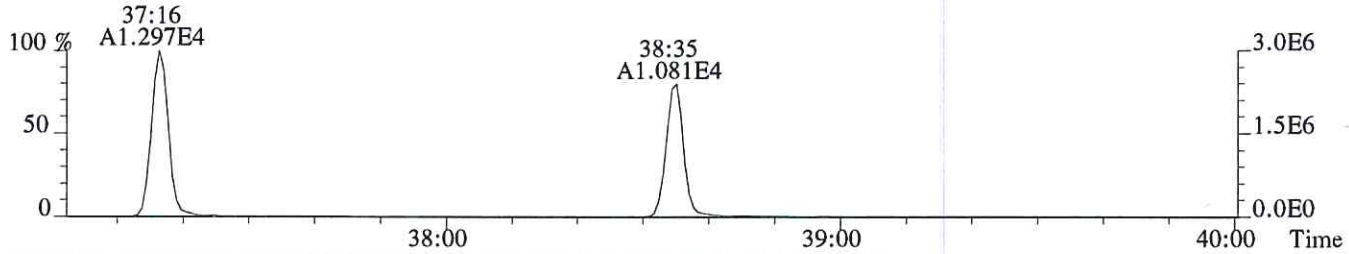
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



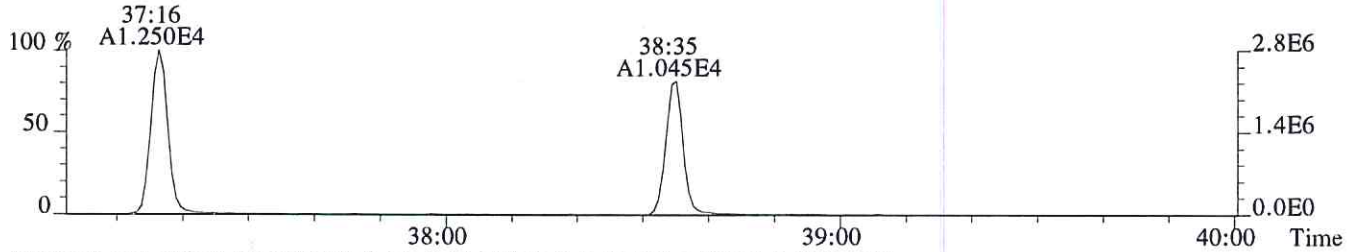
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



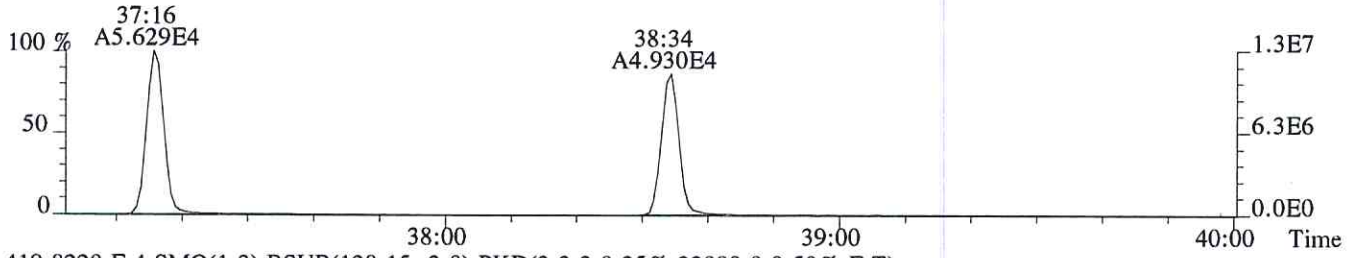
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.50%,F,T)



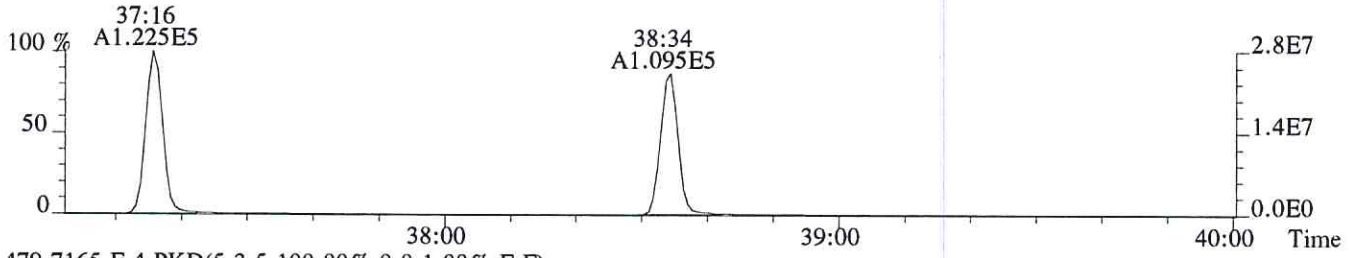
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2916.0,0.50%,F,T)



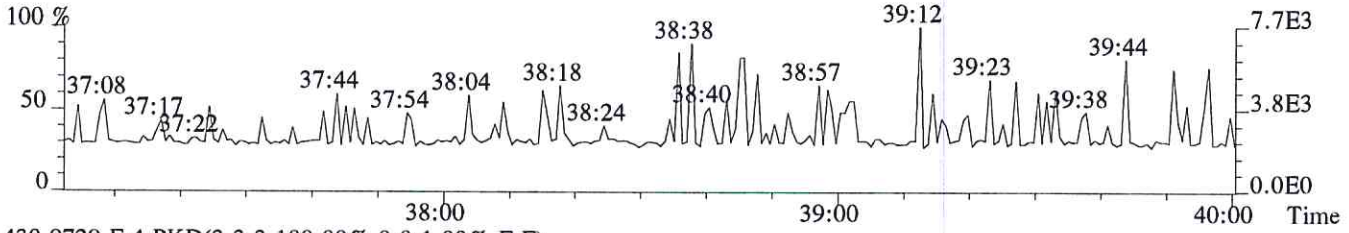
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,13056.0,0.50%,F,T)



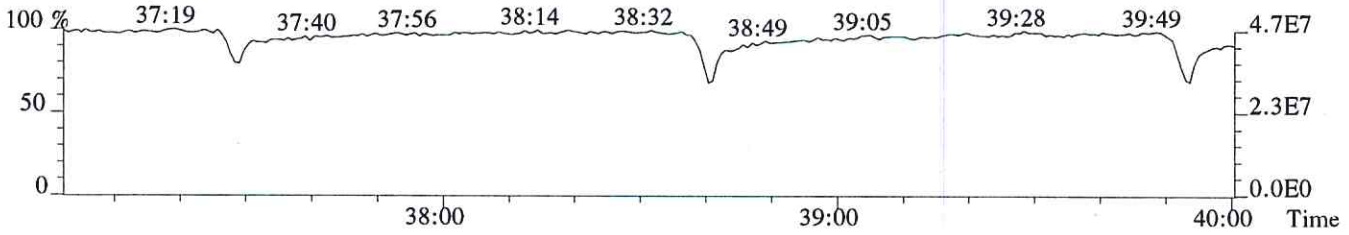
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22080.0,0.50%,F,T)



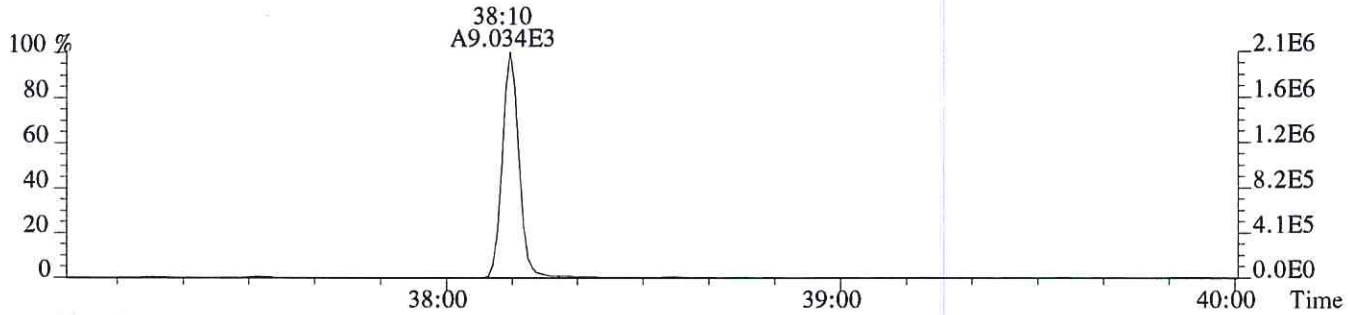
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



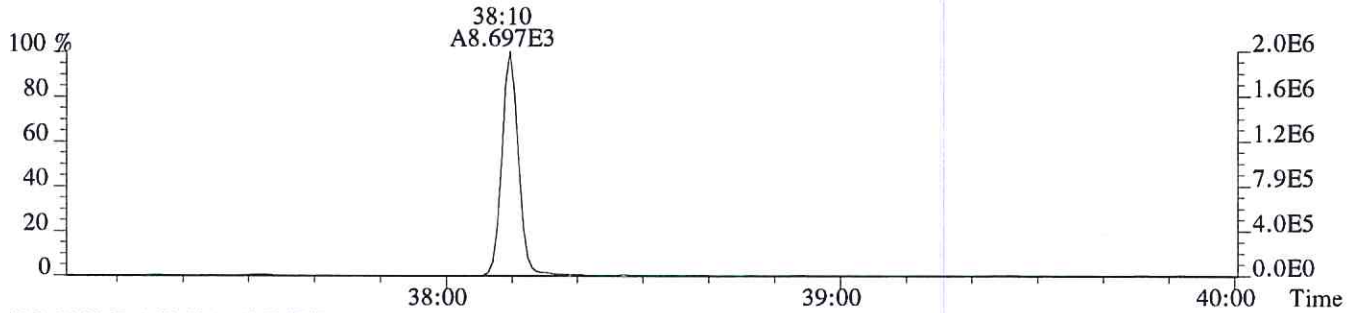
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



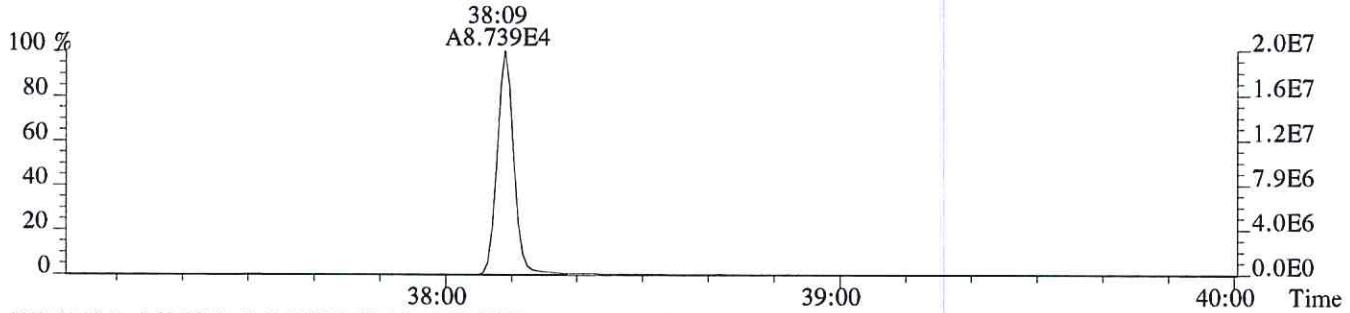
File:P607181 #1-268 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,T)



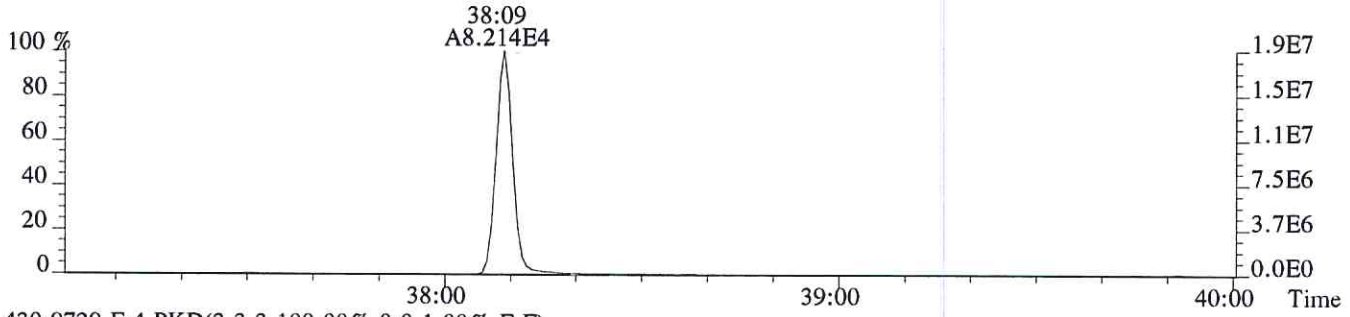
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



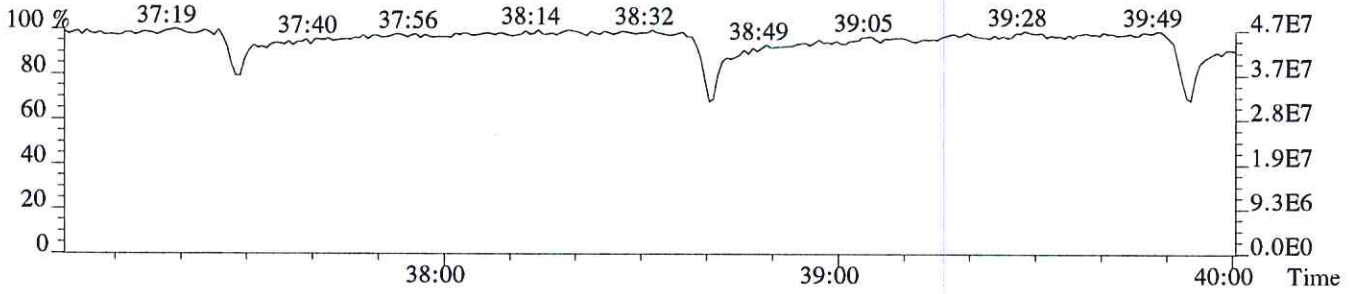
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,T)



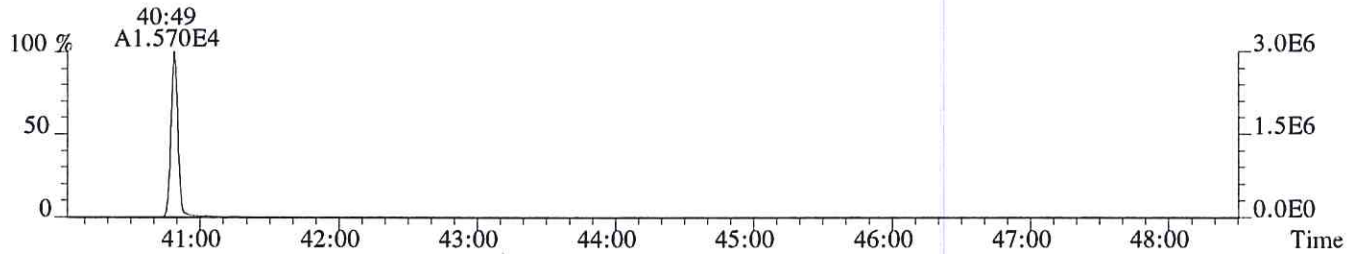
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1940.0,0.40%,F,T)



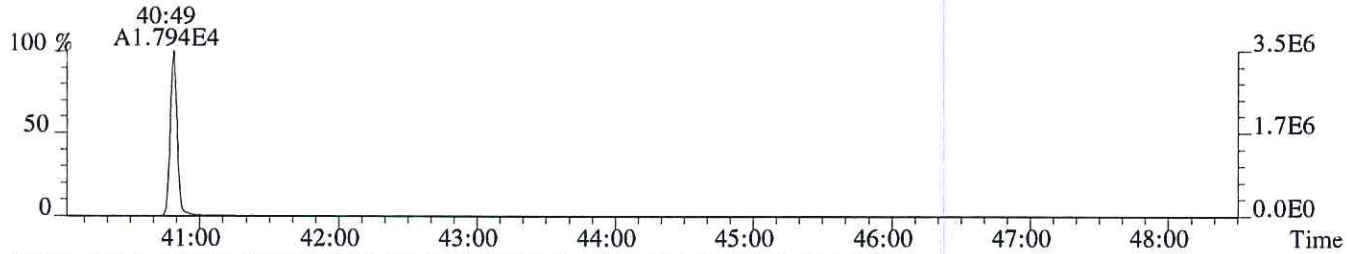
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



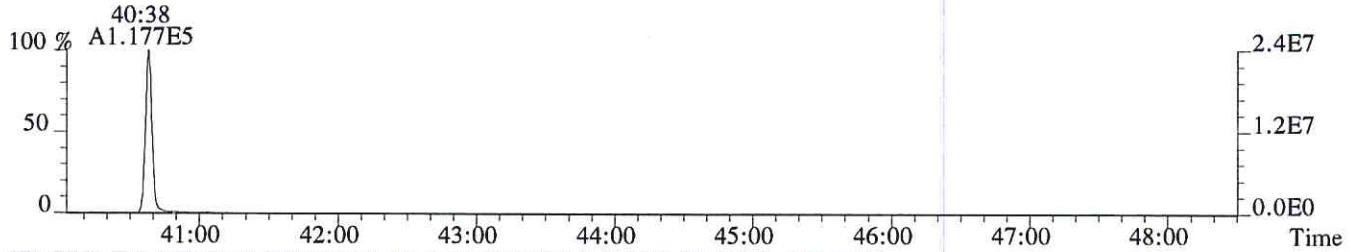
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1308.0,0.40%,F,T)



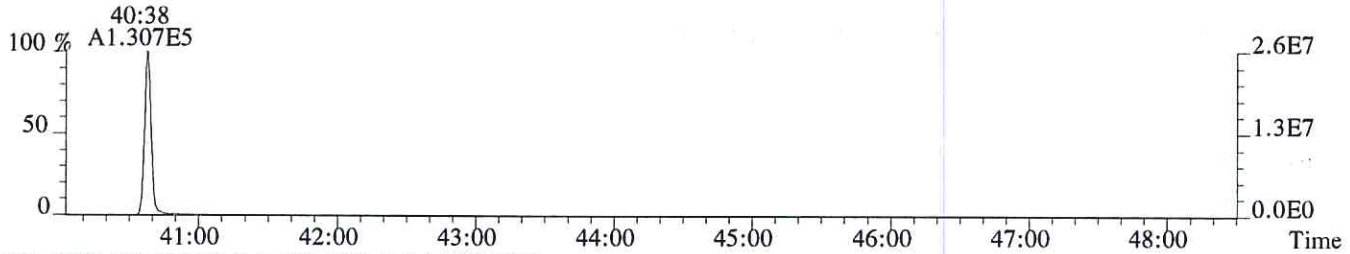
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3736.0,0.40%,F,T)



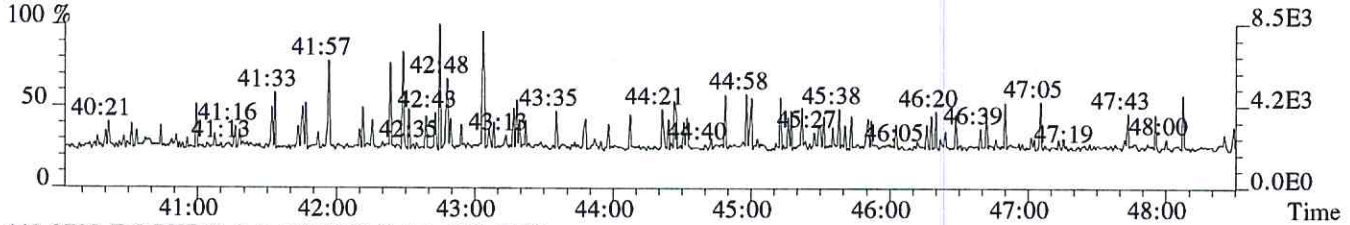
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



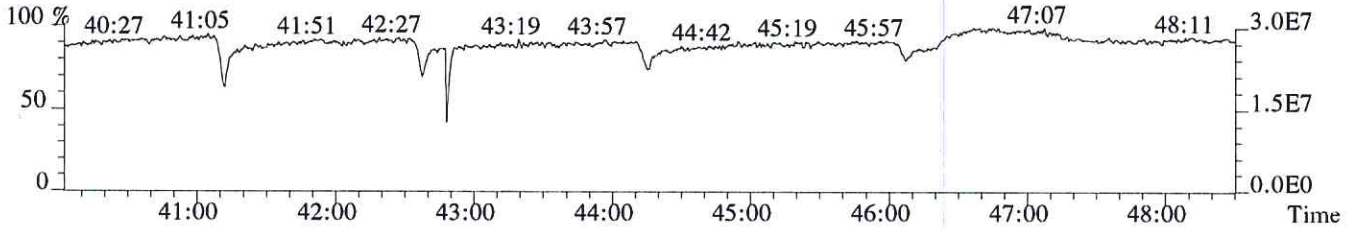
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8060.0,0.40%,F,T)



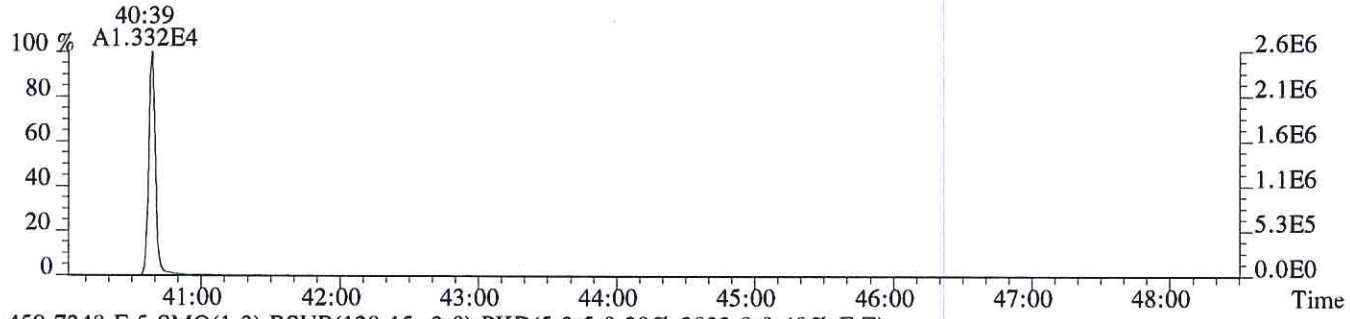
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



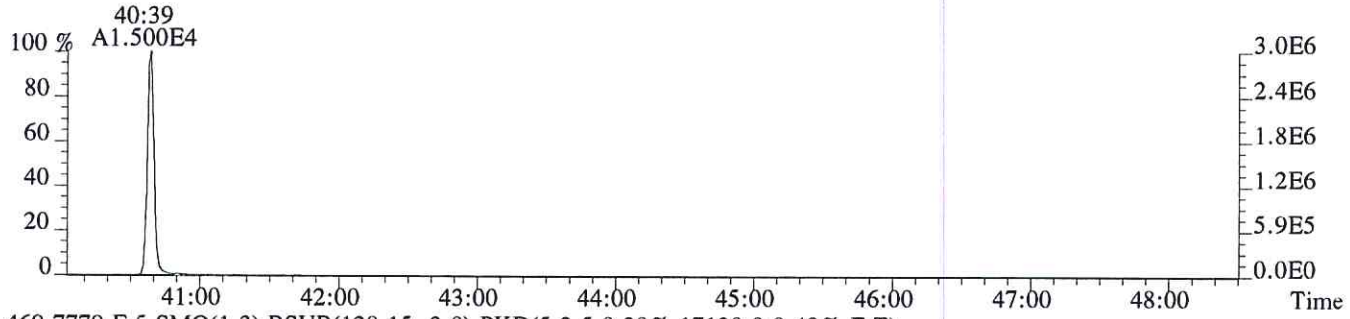
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



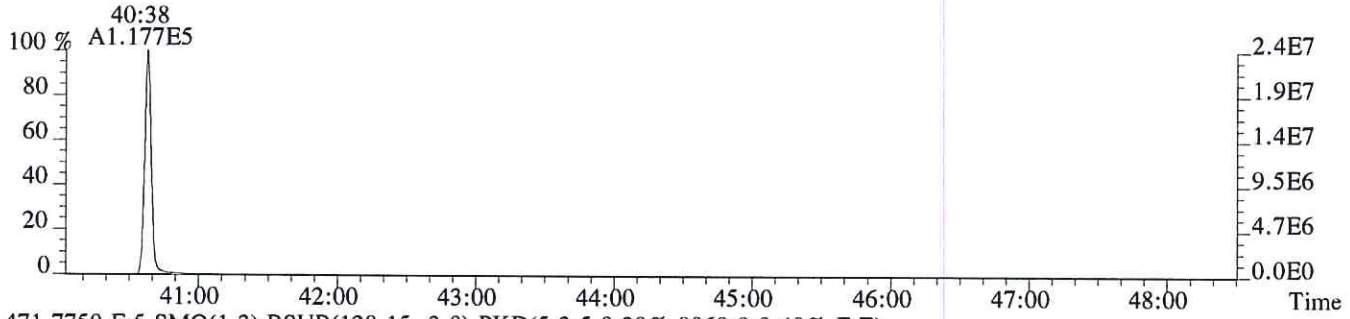
File:P607181 #1-762 Acq:16-MAY-2017 14:24:51 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2520.0,0.40%,F,T)



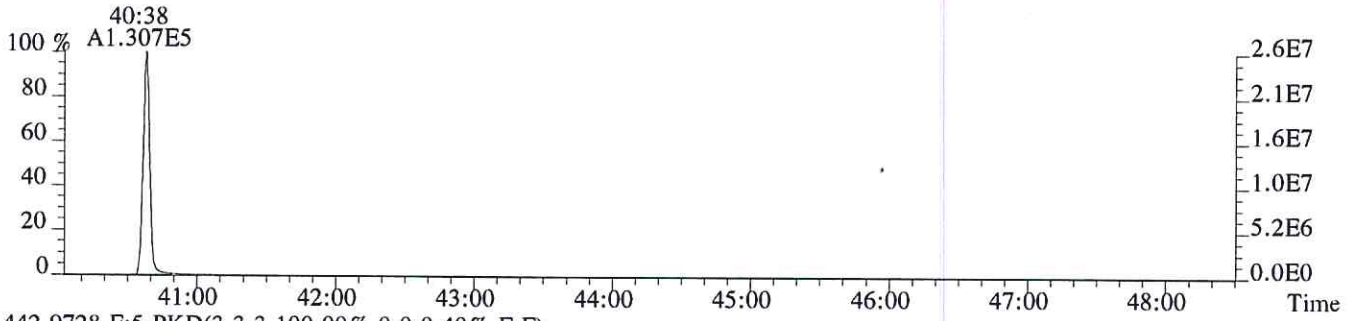
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2032.0,0.40%,F,T)



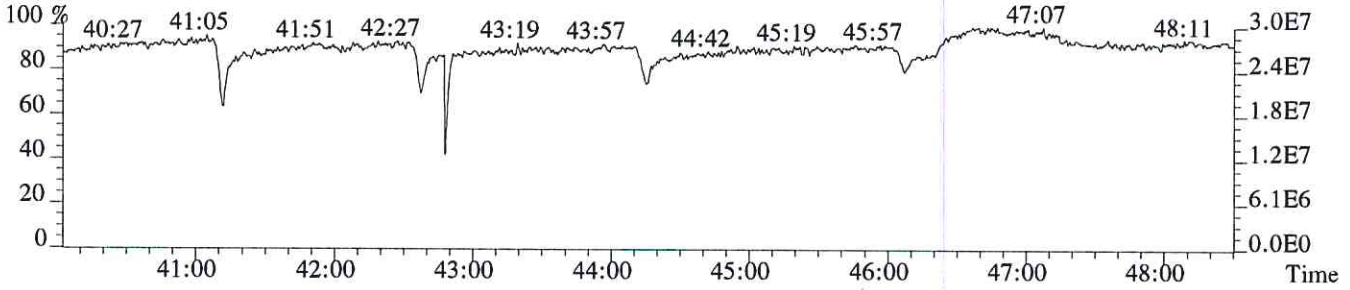
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,17120.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8060.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76557

Run #4 Filename P607182 Samp: 1 Inj: 1 Acquired: 16-MAY-17 15:15:09
Processed: 17-MAY-17 07:52:58 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	2.103e+04	2.695e+04	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:44	1.681e+05	1.072e+05	1.57	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.575e+05	1.020e+05	1.54	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:34	1.359e+05	1.089e+05	1.25	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.536e+05	1.232e+05	1.25	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	1.372e+05	1.109e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:58	1.249e+05	1.001e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	1.138e+05	1.115e+05	1.02	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	9.665e+04	9.477e+04	1.02	yes	no	1.341
10	Unk	OCDF	40:48	1.516e+05	1.689e+05	0.90	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	1.568e+04	2.033e+04	0.77	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:03	1.076e+05	6.918e+04	1.55	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:21	9.560e+04	7.714e+04	1.24	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	9.479e+04	7.643e+04	1.24	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	1.002e+05	8.339e+04	1.20	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:09	8.246e+04	7.874e+04	1.05	yes	no	1.048
17	Unk	OCDD	40:38	1.247e+05	1.407e+05	0.89	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:49	2.148e+05	2.714e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:43	3.172e+05	2.010e+05	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:43	3.204e+05	2.023e+05	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:33	1.351e+05	2.585e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:40	1.645e+05	3.095e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:12	1.478e+05	2.826e+05	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:57	1.311e+05	2.502e+05	0.52	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:15	1.017e+05	2.244e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	9.181e+04	2.033e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	1.527e+05	1.948e+05	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	2.300e+05	1.461e+05	1.57	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.875e+05	1.484e+05	1.26	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:26	1.809e+05	1.433e+05	1.26	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:08	1.583e+05	1.492e+05	1.06	yes	no	0.884
32	IS	13C-OCDD	40:37	2.261e+05	2.514e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:06	1.586e+05	1.990e+05	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:40	1.984e+05	1.597e+05	1.24	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:49	3.730e+04				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76557

Run #4 Filename P607182 Samp: 1 Inj: 1 Acquired: 16-MAY-17 15:15:09
Processed: 17-MAY-17 07:52:58 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.08e+06	2.36e+02	1.3e+04	3.95e+06	1.76e+03	2.2e+03
2	1,2,3,7,8-PeCDF	2.87e+07	1.33e+03	2.2e+04	1.81e+07	3.27e+03	5.5e+03
3	2,3,4,7,8-PeCDF	2.93e+07	1.33e+03	2.2e+04	1.90e+07	3.27e+03	5.8e+03
4	1,2,3,4,7,8-HxCDF	2.89e+07	9.56e+02	3.0e+04	2.33e+07	2.24e+02	1.0e+05
5	1,2,3,6,7,8-HxCDF	3.14e+07	9.56e+02	3.3e+04	2.54e+07	2.24e+02	1.1e+05
6	2,3,4,6,7,8-HxCDF	2.89e+07	9.56e+02	3.0e+04	2.33e+07	2.24e+02	1.0e+05
7	1,2,3,7,8,9-HxCDF	2.68e+07	9.56e+02	2.8e+04	2.15e+07	2.24e+02	9.6e+04
8	1,2,3,4,6,7,8-HpCDF	2.57e+07	1.98e+03	1.3e+04	2.52e+07	6.98e+03	3.6e+03
9	1,2,3,4,7,8,9-HpCDF	2.12e+07	1.98e+03	1.1e+04	2.03e+07	6.98e+03	2.9e+03
10	OCDF	2.97e+07	9.76e+03	3.0e+03	3.30e+07	1.41e+04	2.3e+03
11	2,3,7,8-TCDD	2.52e+06	1.41e+03	1.8e+03	3.29e+06	3.04e+02	1.1e+04
12	1,2,3,7,8-PeCDD	2.01e+07	1.53e+03	1.3e+04	1.28e+07	1.01e+03	1.3e+04
13	1,2,3,4,7,8-HxCDD	2.10e+07	2.32e+02	9.0e+04	1.69e+07	1.80e+02	9.4e+04
14	1,2,3,6,7,8-HxCDD	2.03e+07	2.32e+02	8.7e+04	1.63e+07	1.80e+02	9.0e+04
15	1,2,3,7,8,9-HxCDD	2.14e+07	2.32e+02	9.2e+04	1.77e+07	1.80e+02	9.8e+04
16	1,2,3,4,6,7,8-HpCDD	1.88e+07	1.15e+03	1.6e+04	1.79e+07	7.52e+02	2.4e+04
17	OCDD	2.46e+07	6.92e+03	3.6e+03	2.79e+07	8.76e+03	3.2e+03
18	13C-2,3,7,8-TCDF	3.15e+07	1.20e+04	2.6e+03	3.98e+07	5.73e+03	6.9e+03
19	13C-1,2,3,7,8-PeCDF	5.53e+07	1.49e+03	3.7e+04	3.49e+07	1.28e+03	2.7e+04
20	13C-2,3,4,7,8-PeCDF	6.04e+07	1.49e+03	4.1e+04	3.83e+07	1.28e+03	3.0e+04
21	13C-1,2,3,4,7,8-HxCDF	2.88e+07	9.80e+02	2.9e+04	5.50e+07	1.92e+03	2.9e+04
22	13C-1,2,3,6,7,8-HxCDF	3.36e+07	9.80e+02	3.4e+04	6.38e+07	1.92e+03	3.3e+04
23	13C-2,3,4,6,7,8-HxCDF	3.13e+07	9.80e+02	3.2e+04	5.91e+07	1.92e+03	3.1e+04
24	13C-1,2,3,7,8,9-HxCDF	2.84e+07	9.80e+02	2.9e+04	5.43e+07	1.92e+03	2.8e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.28e+07	1.79e+04	1.3e+03	5.05e+07	1.14e+04	4.4e+03
26	13C-1,2,3,4,7,8,9-HpCDF	2.06e+07	1.79e+04	1.1e+03	4.54e+07	1.14e+04	4.0e+03
27	13C-2,3,7,8-TCDD	2.47e+07	6.44e+03	3.8e+03	3.12e+07	3.69e+03	8.5e+03
28	13C-1,2,3,7,8-PeCDD	4.35e+07	9.08e+02	4.8e+04	2.74e+07	6.40e+02	4.3e+04
29	13C-1,2,3,4,7,8-HxCDD	4.07e+07	1.50e+03	2.7e+04	3.21e+07	2.16e+02	1.5e+05
30	13C-1,2,3,6,7,8-HxCDD	3.86e+07	1.50e+03	2.6e+04	3.06e+07	2.16e+02	1.4e+05
31	13C-1,2,3,4,6,7,8-HpCDD	3.63e+07	1.29e+03	2.8e+04	3.41e+07	1.08e+03	3.1e+04
32	13C-OCDD	4.50e+07	3.03e+04	1.5e+03	5.06e+07	2.05e+04	2.5e+03
33	13C-1,2,3,4-TCDD	2.40e+07	6.44e+03	3.7e+03	2.98e+07	3.69e+03	8.1e+03
34	13C-1,2,3,7,8,9-HxCDD	4.25e+07	1.50e+03	2.8e+04	3.45e+07	2.16e+02	1.6e+05
35	37Cl-2,3,7,8-TCDD	6.02e+06	8.12e+02	7.4e+03			

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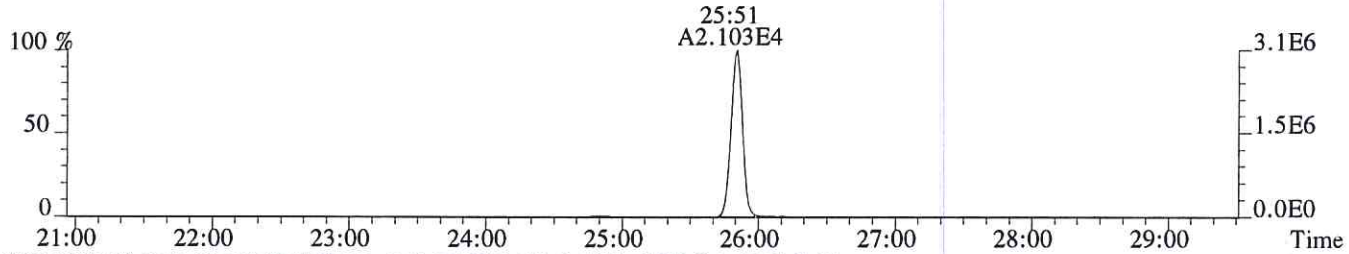
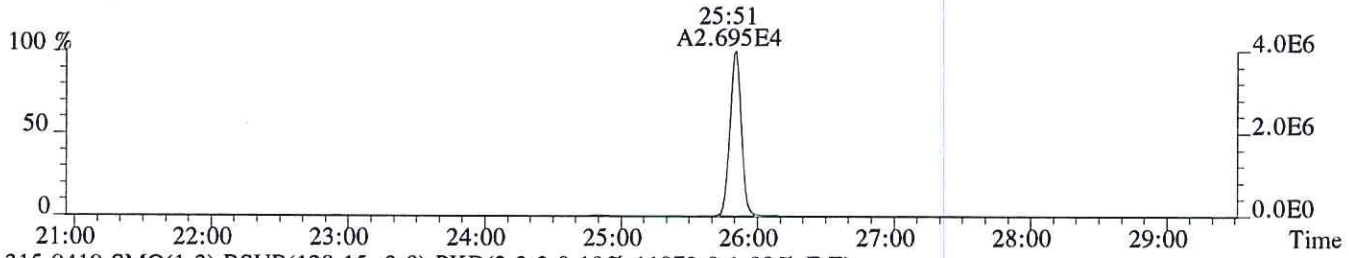
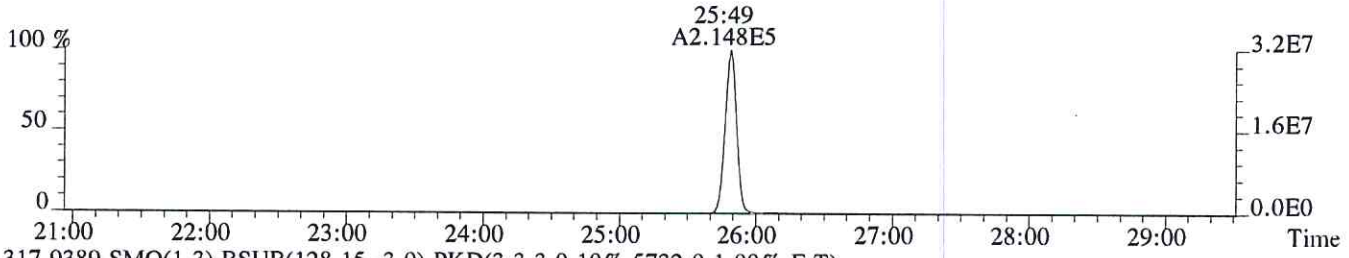
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



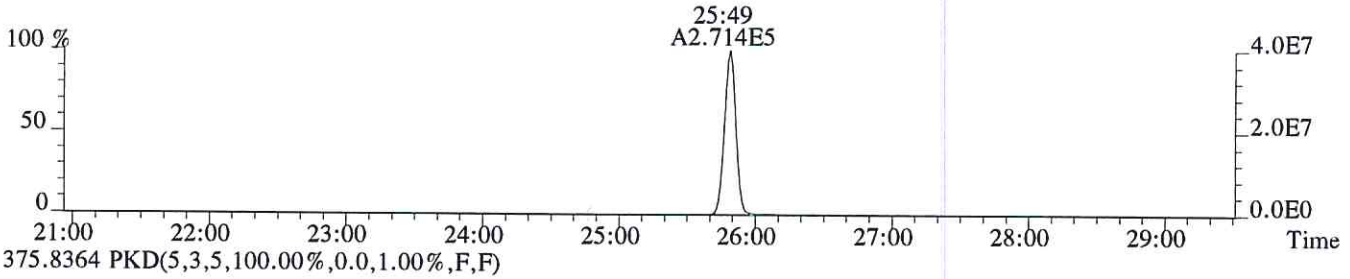
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



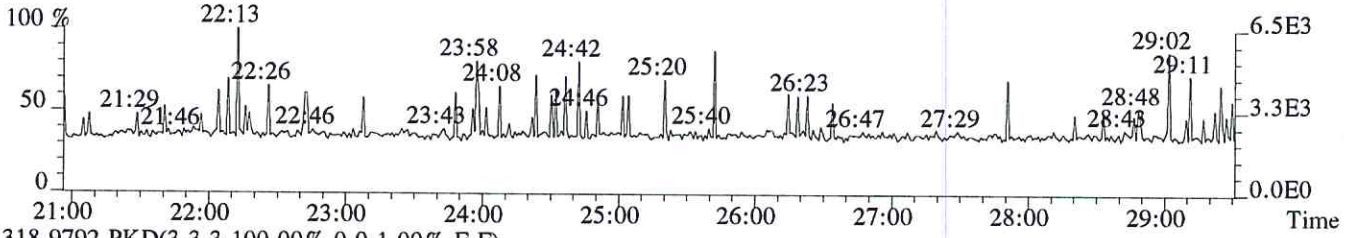
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11972.0,1.00%,F,T)



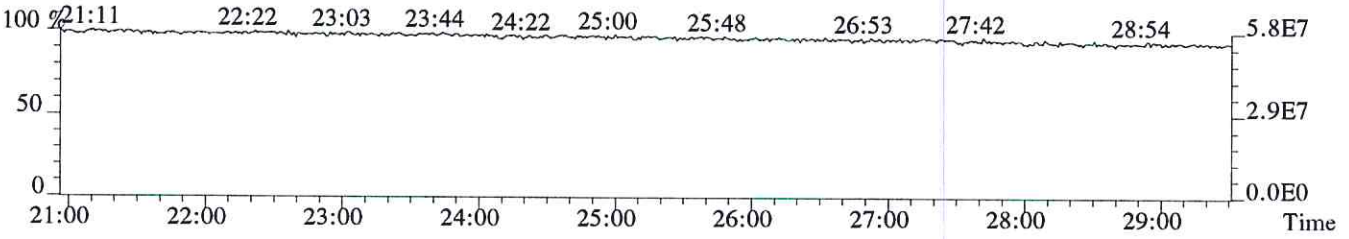
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5732.0,1.00%,F,T)



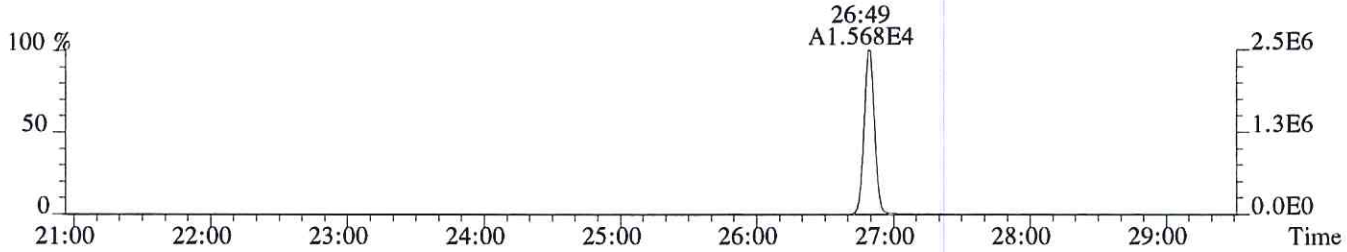
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



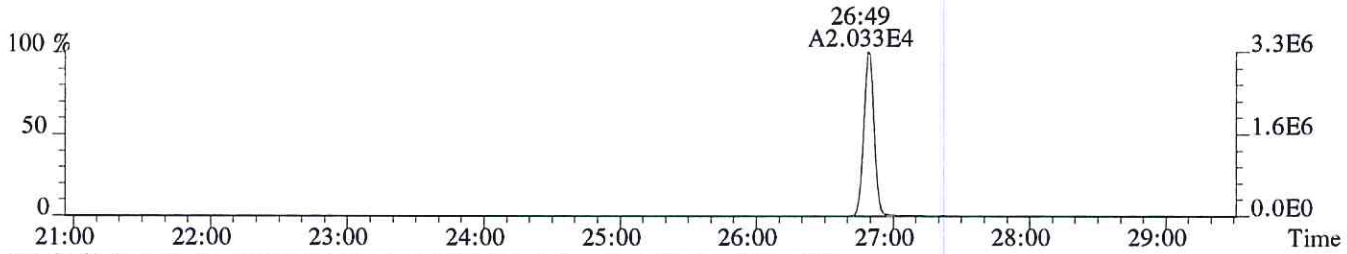
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



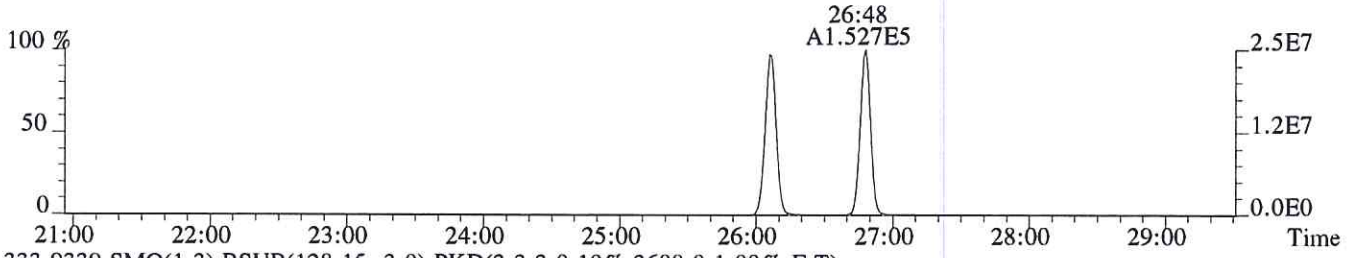
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



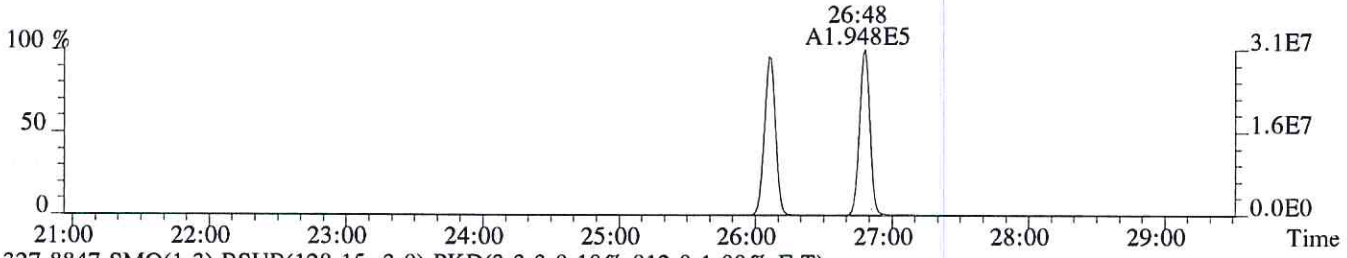
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



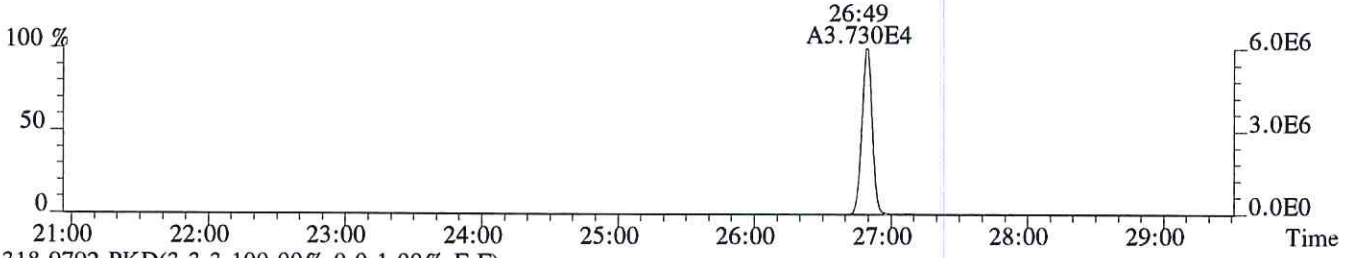
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



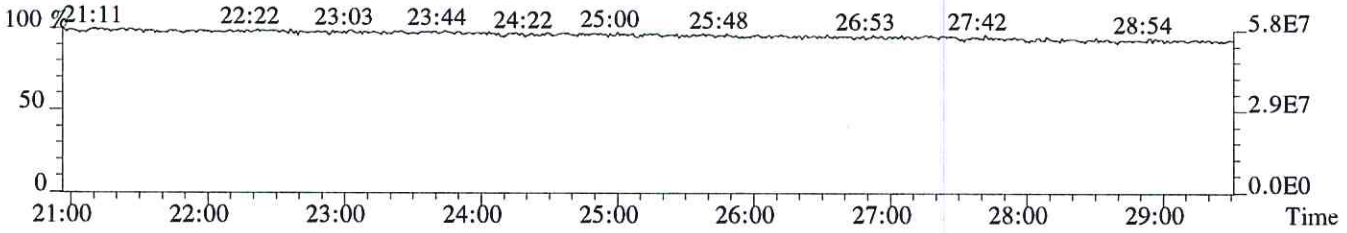
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3688.0,1.00%,F,T)



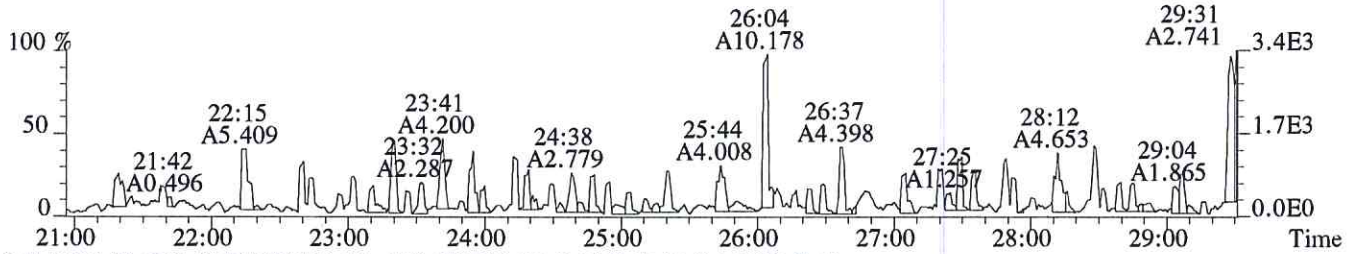
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,T)



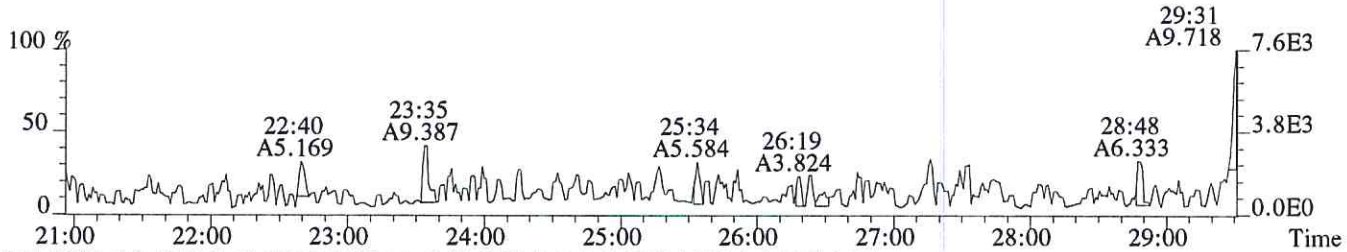
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



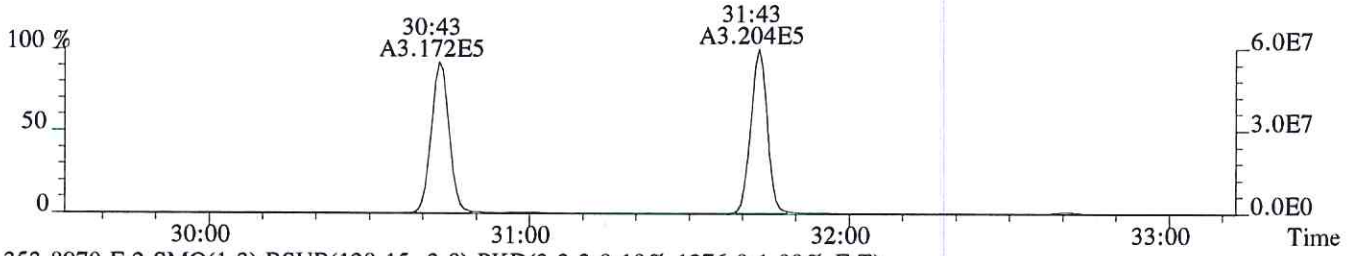
File:P607182 #1-609 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



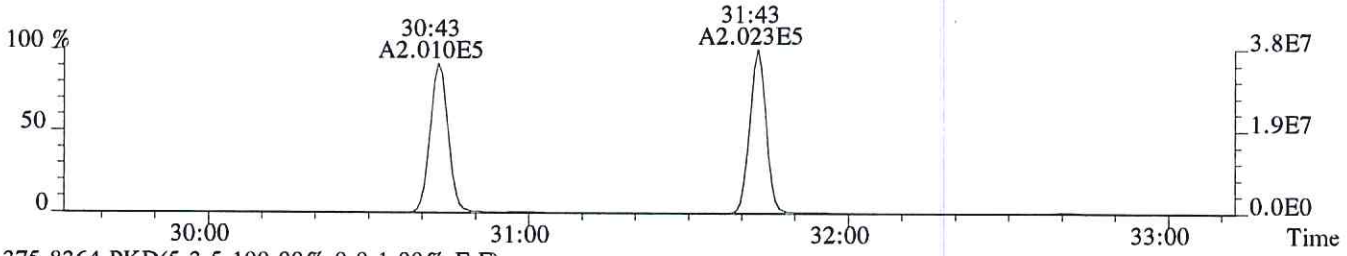
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1112.0,1.00%,F,T)



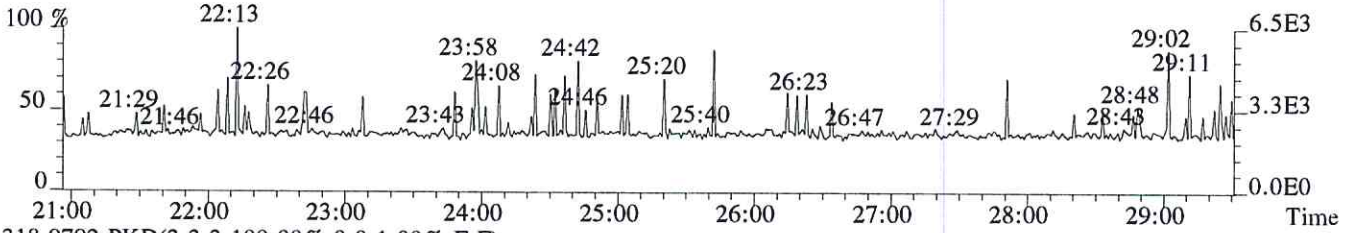
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



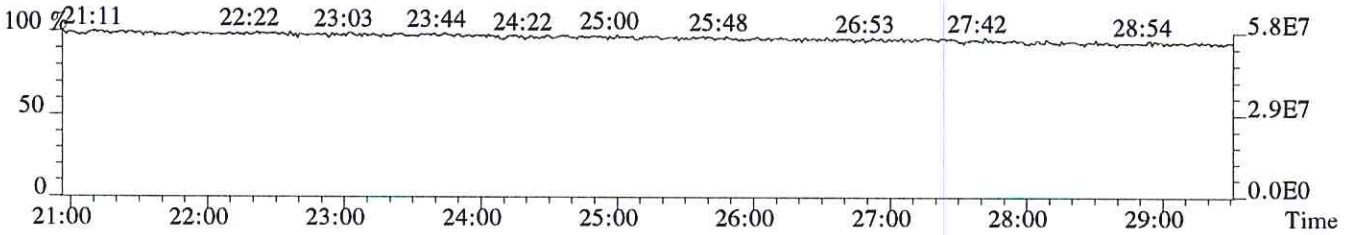
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



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

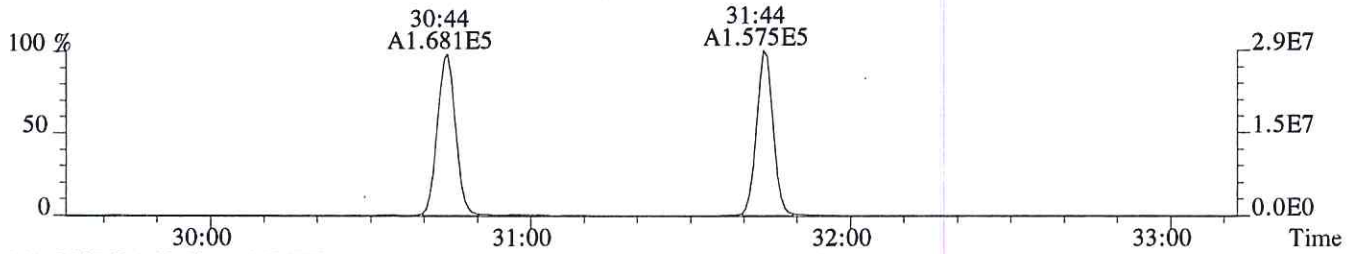


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

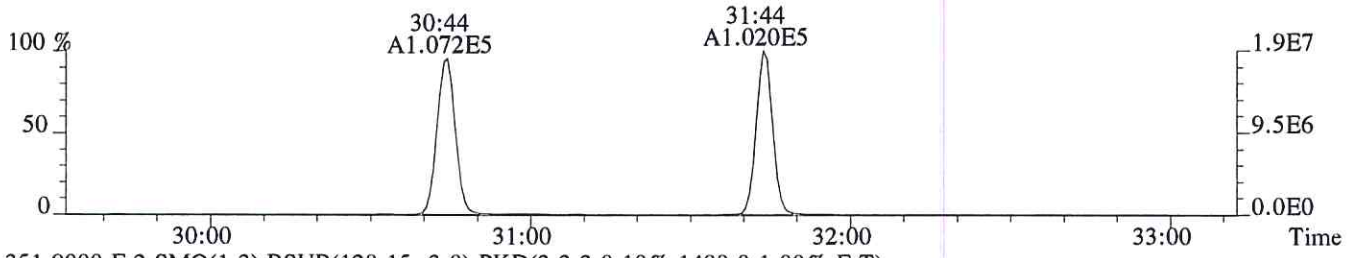


File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3

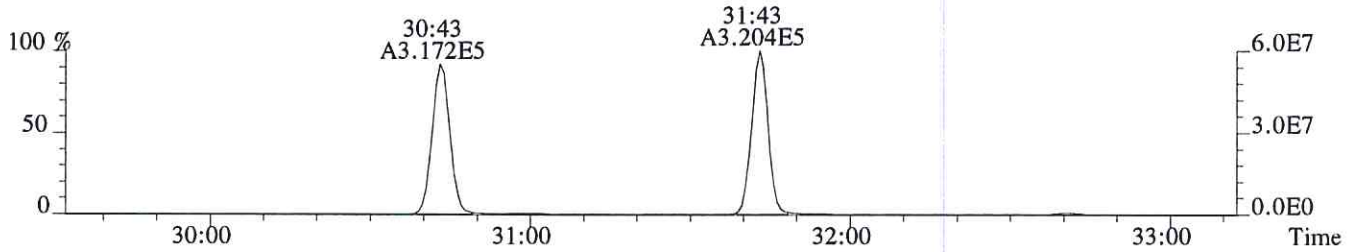
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



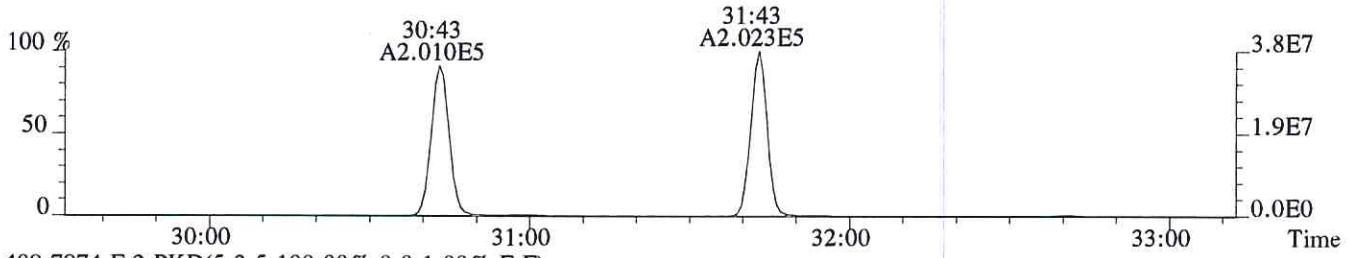
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3268.0,1.00%,F,T)



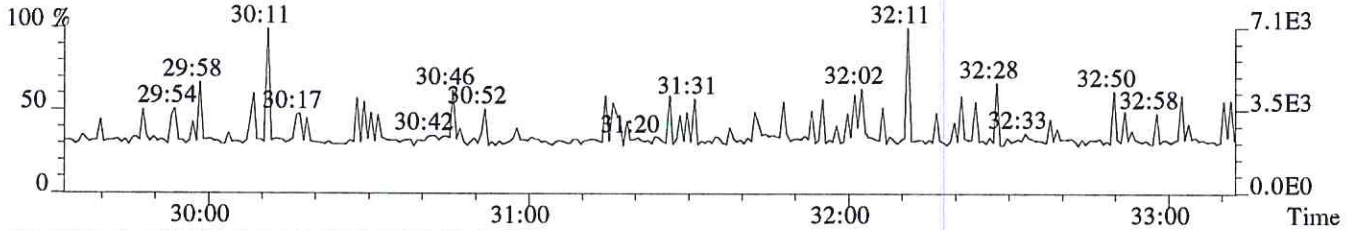
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



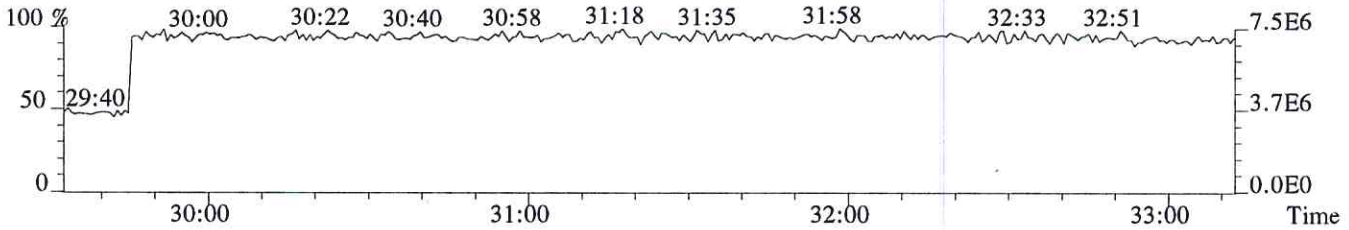
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1276.0,1.00%,F,T)



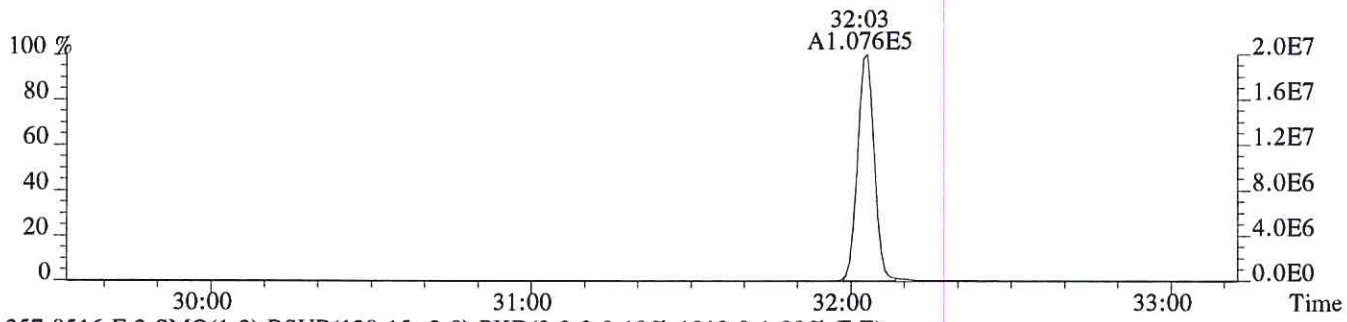
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



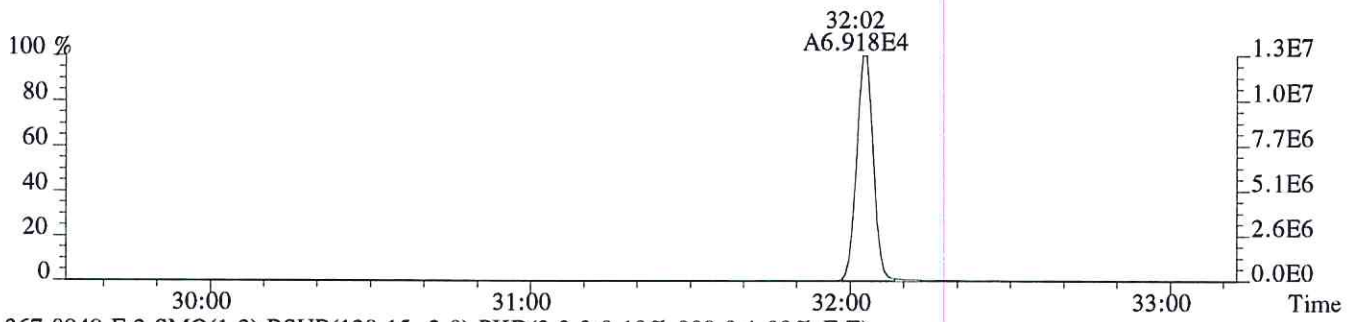
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



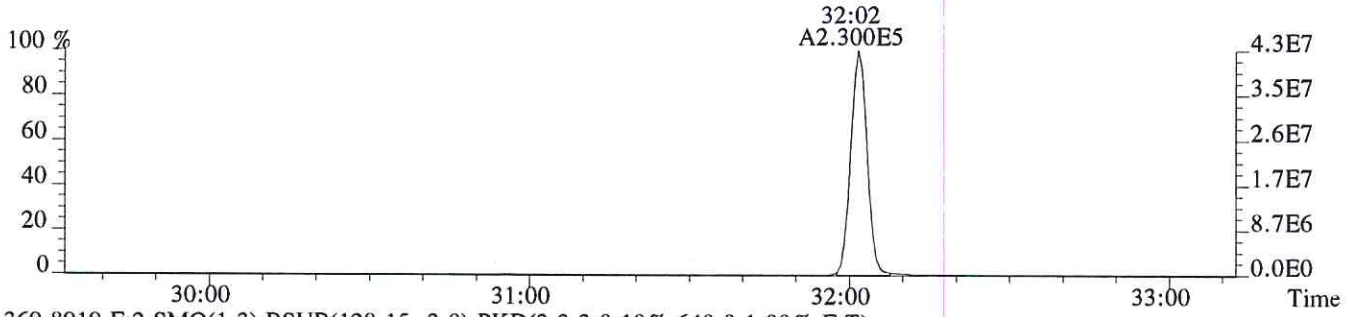
File:P607182 #1-330 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



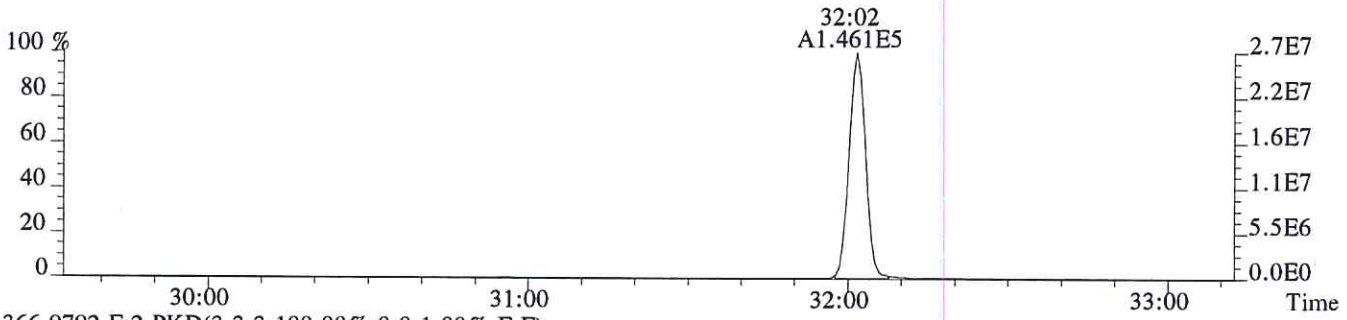
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,T)



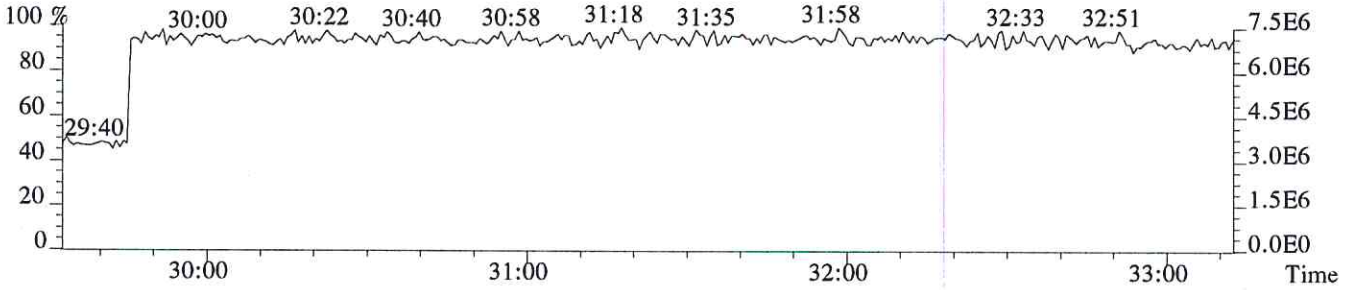
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



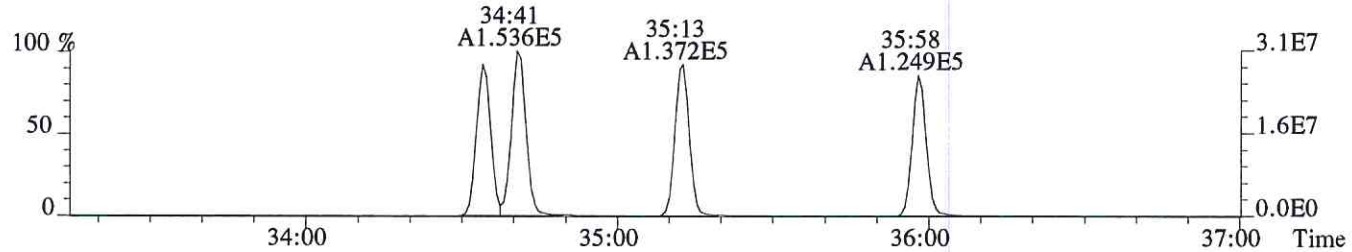
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,T)



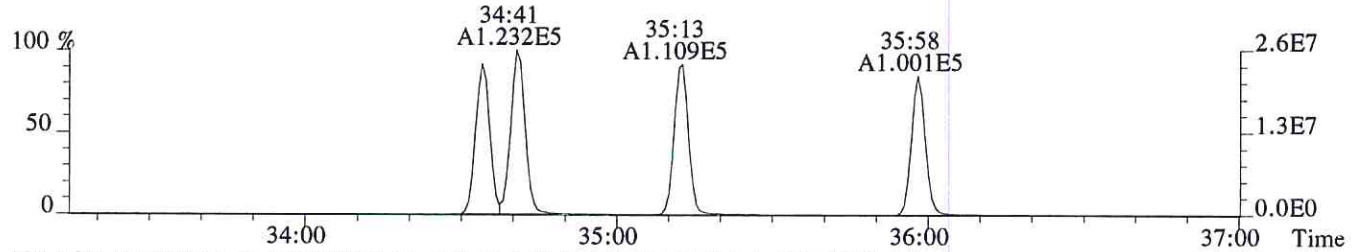
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



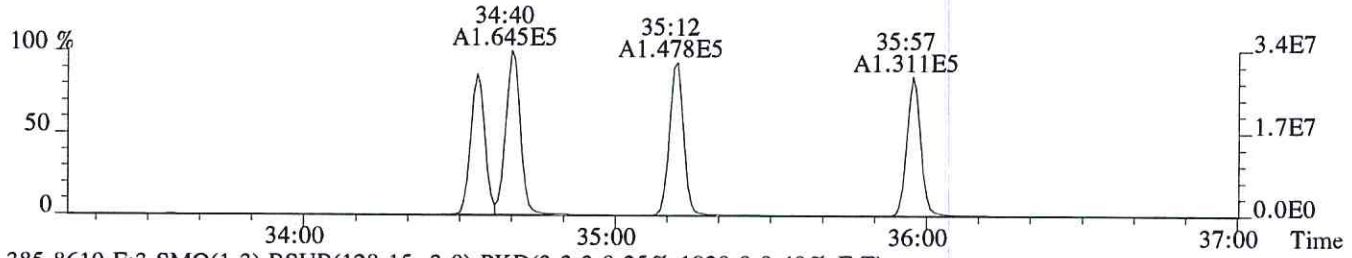
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



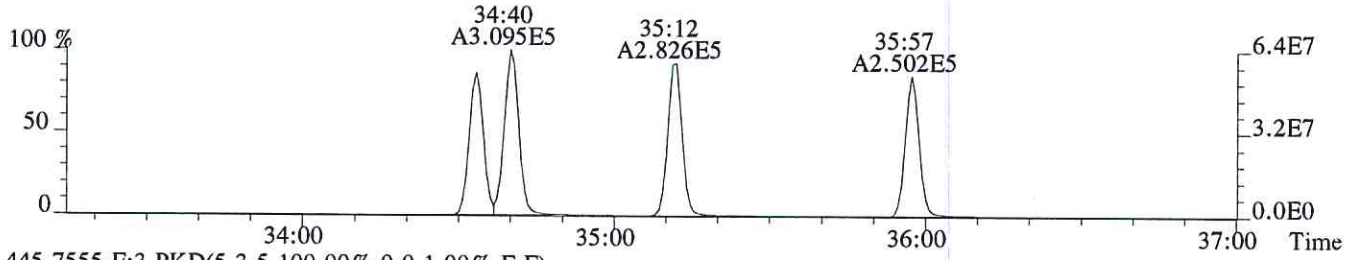
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,T)



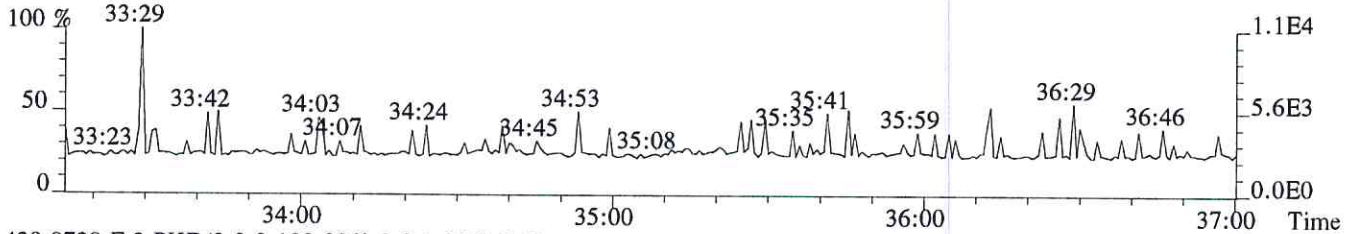
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,980.0,0.40%,F,T)



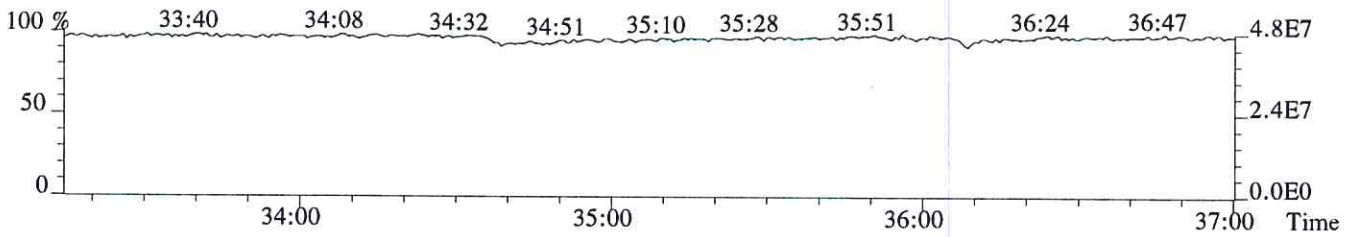
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.40%,F,T)



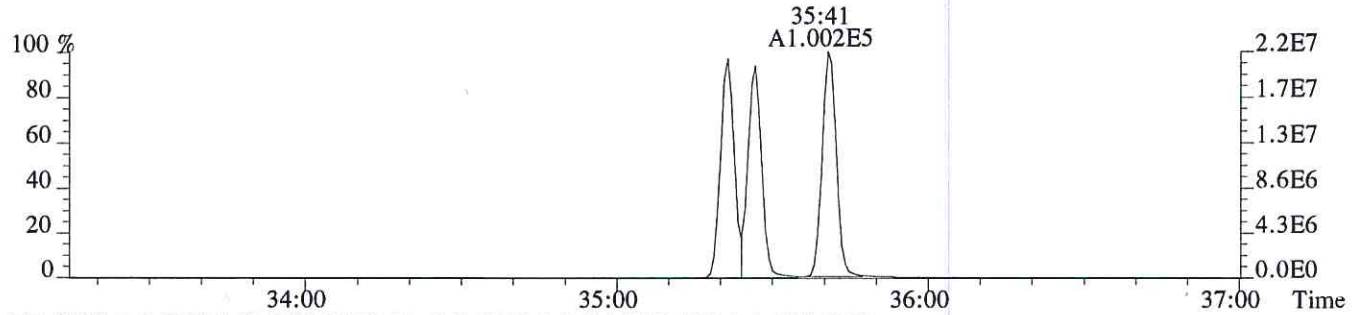
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



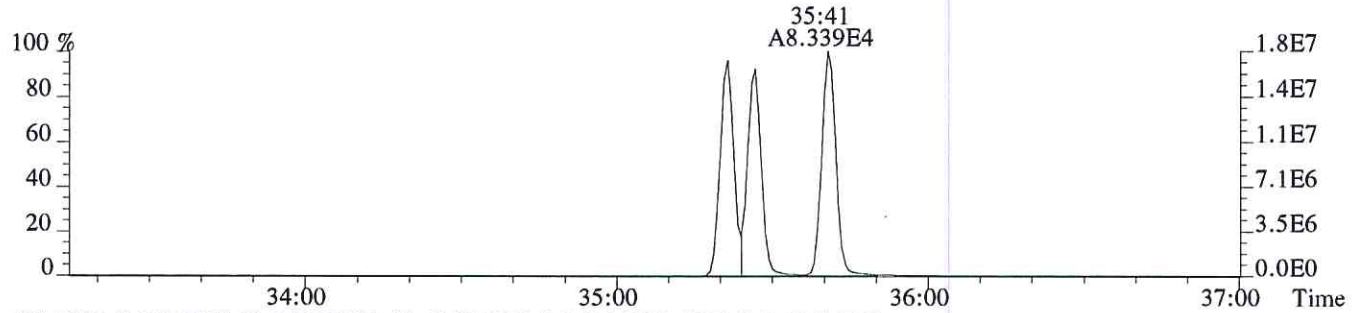
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



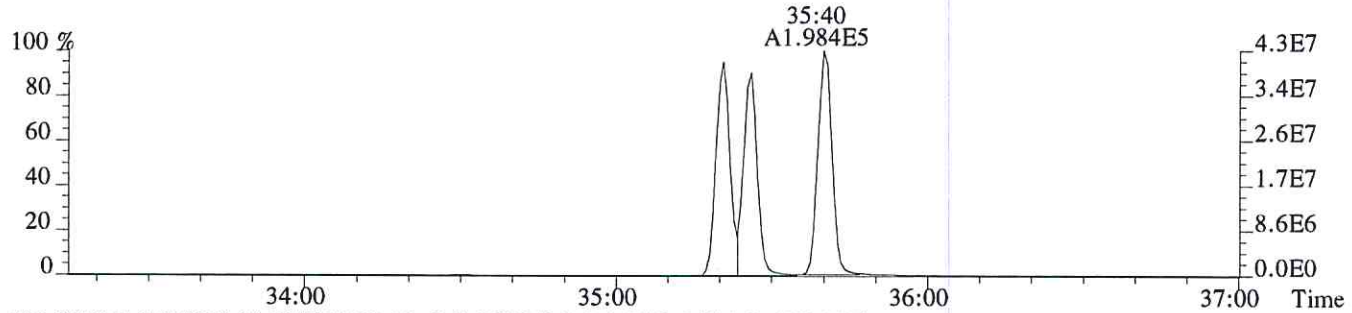
File:P607182 #1-339 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,T)



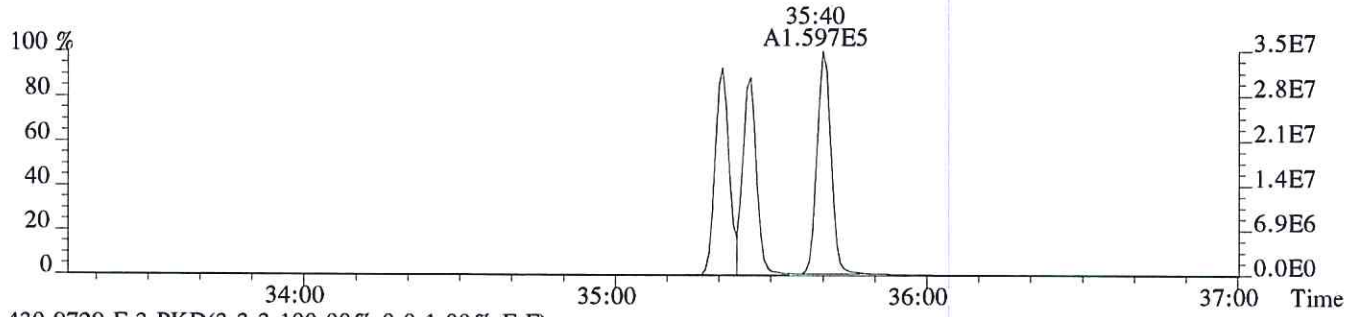
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,T)



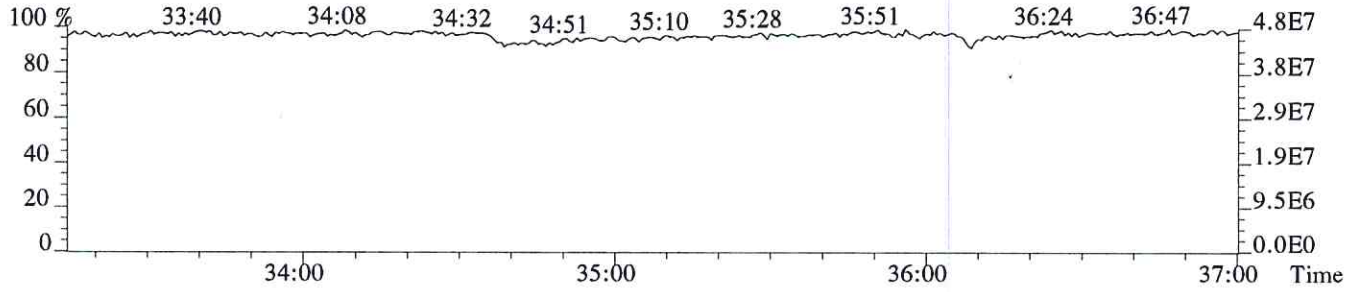
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,T)



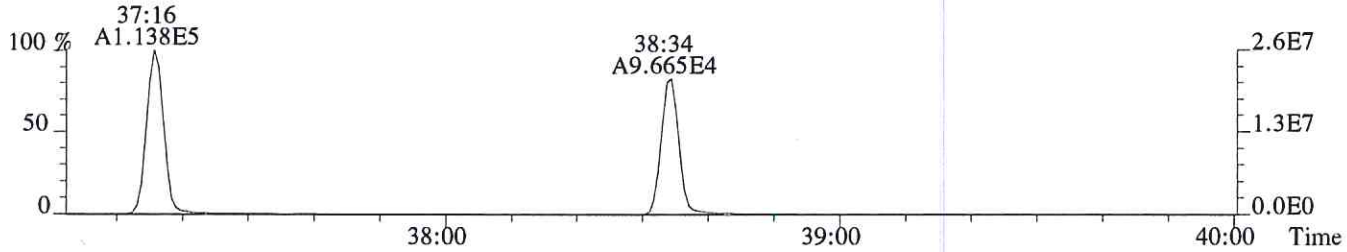
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,T)



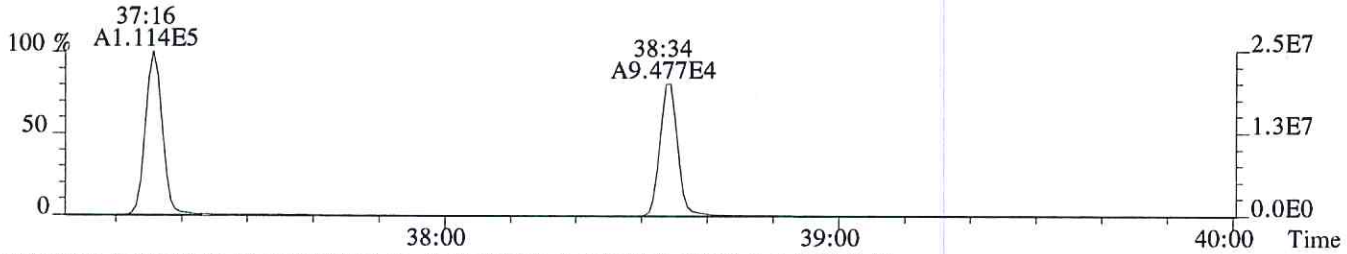
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



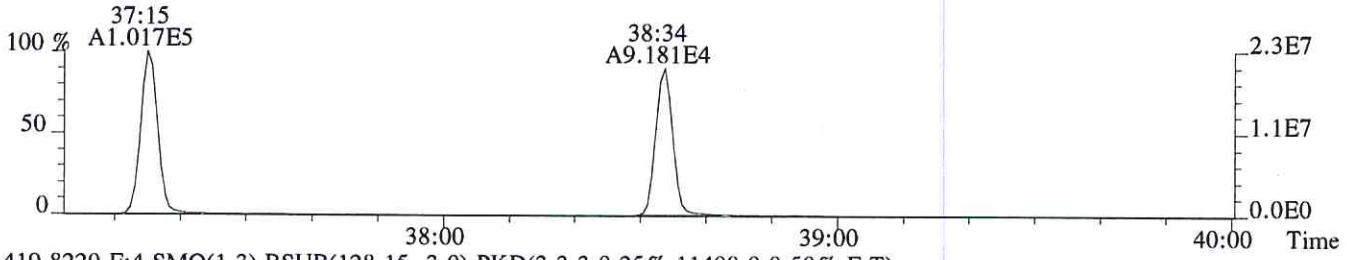
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.50%,F,T)



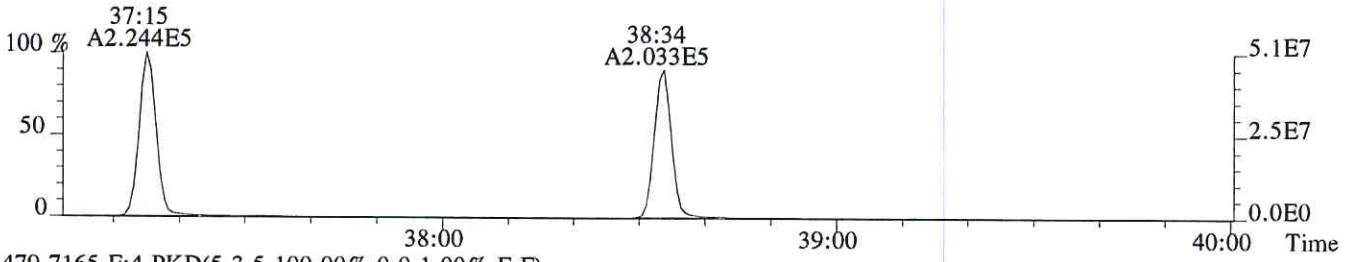
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6976.0,0.50%,F,T)



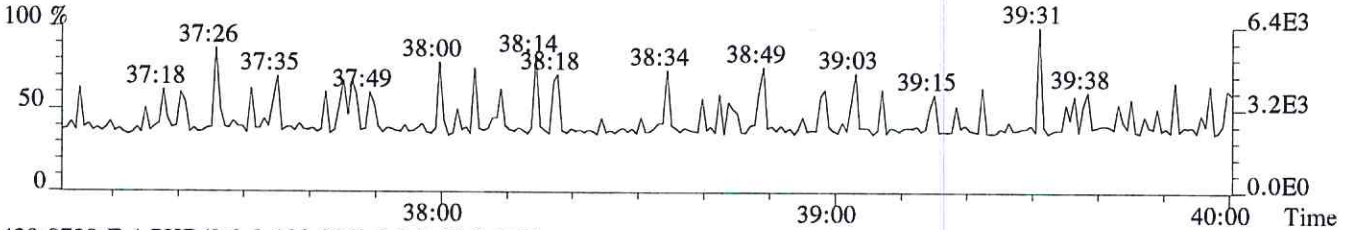
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17904.0,0.50%,F,T)



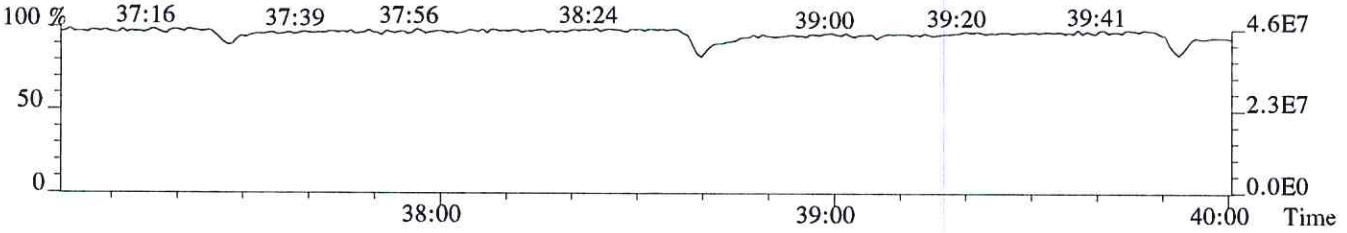
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11408.0,0.50%,F,T)



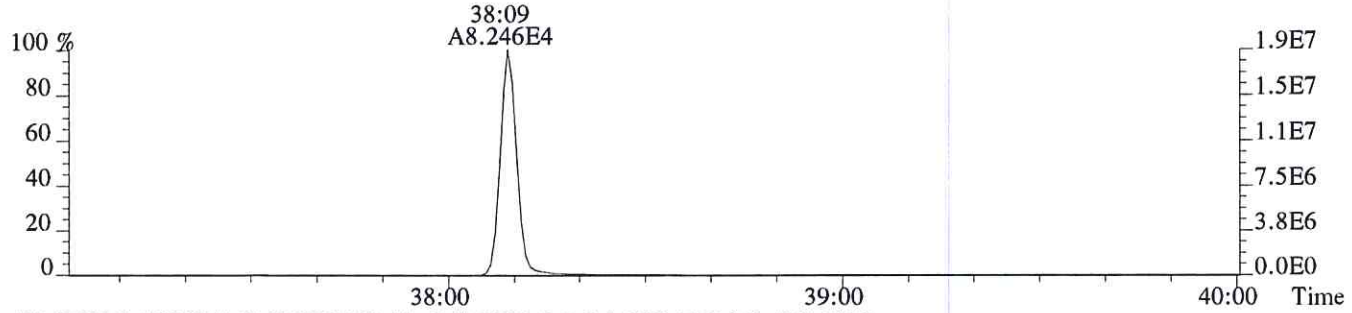
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



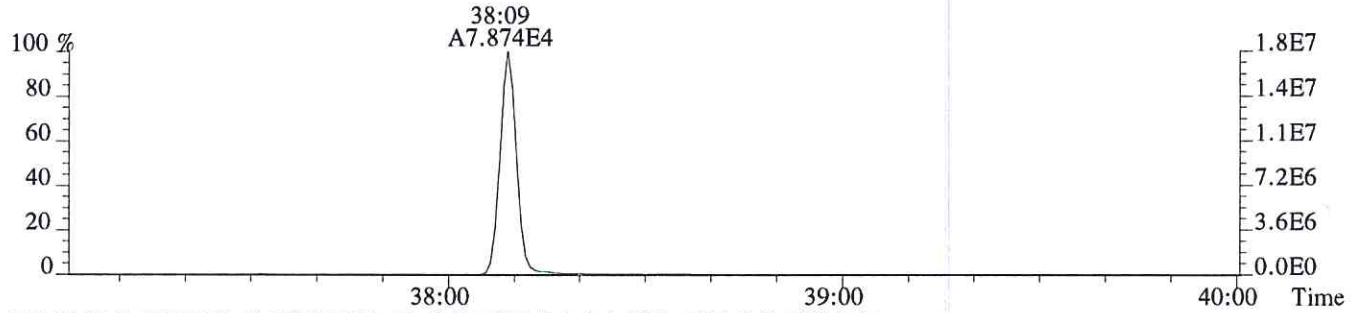
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



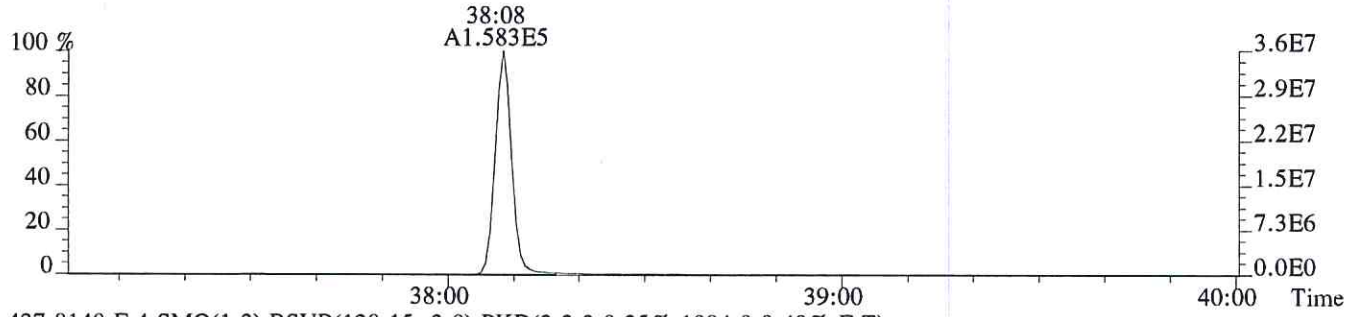
File:P607182 #1-268 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1148.0,0.40%,F,T)



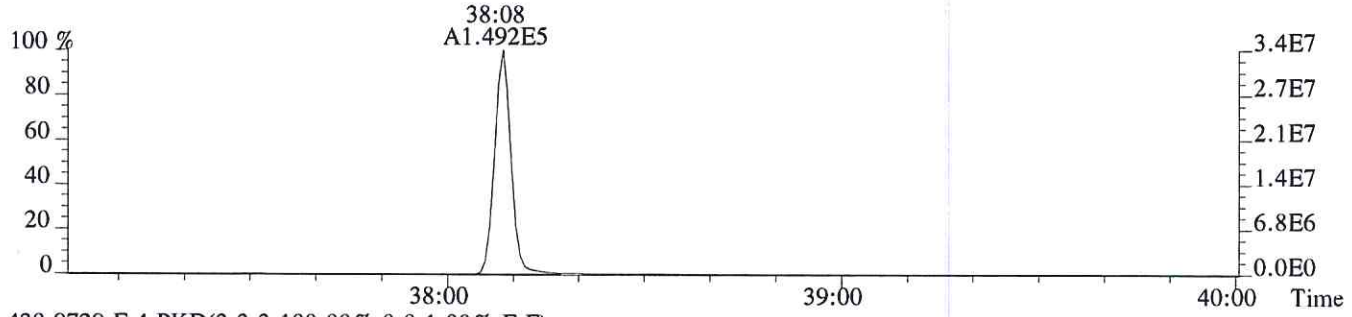
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,T)



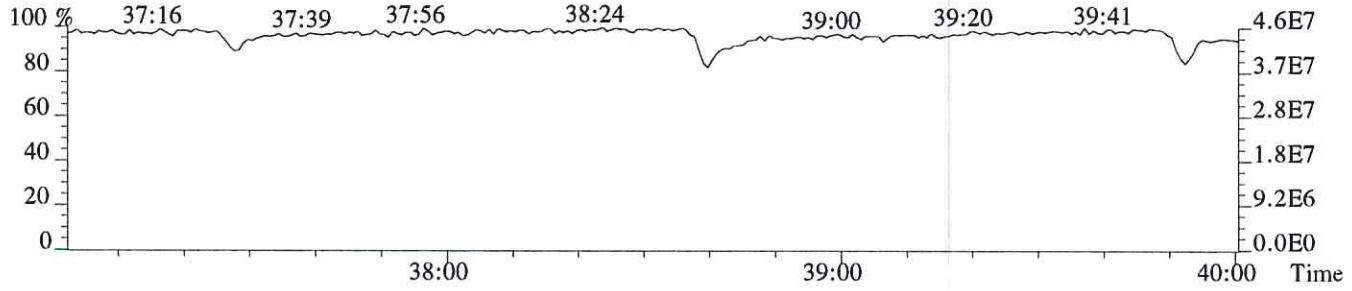
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,T)



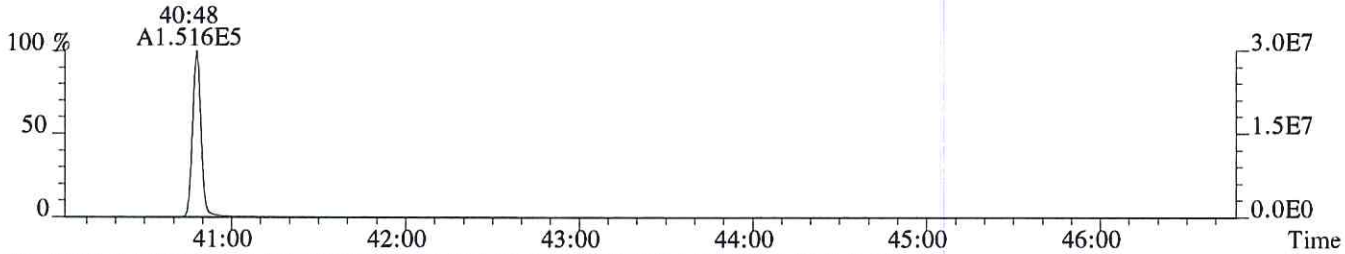
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1084.0,0.40%,F,T)



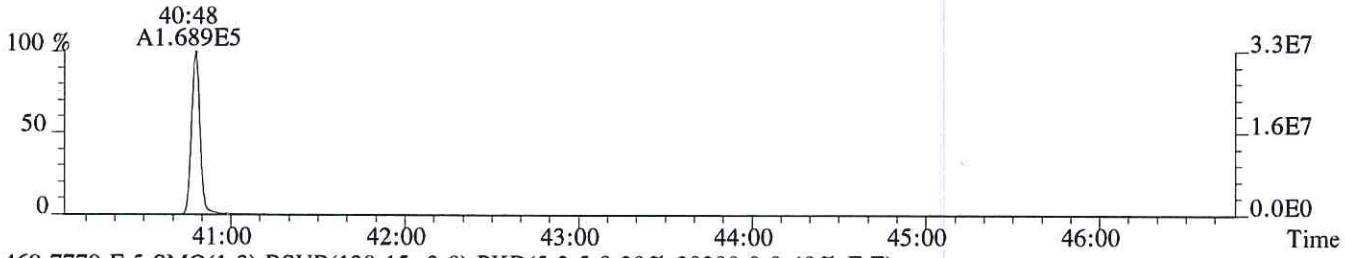
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



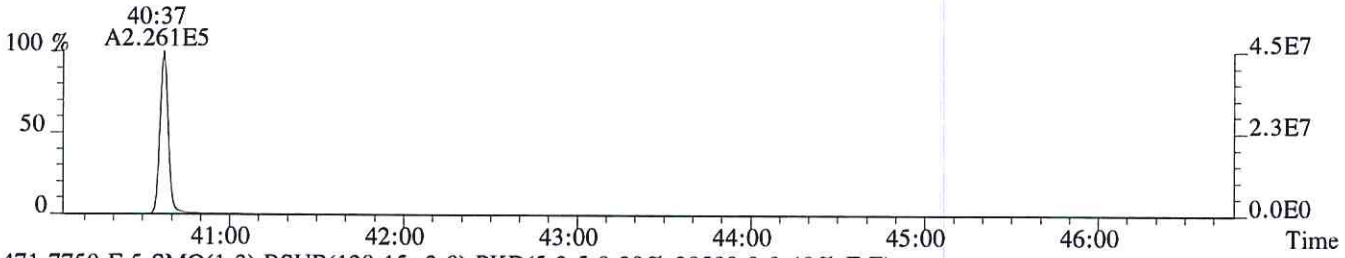
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9756.0,0.40%,F,T)



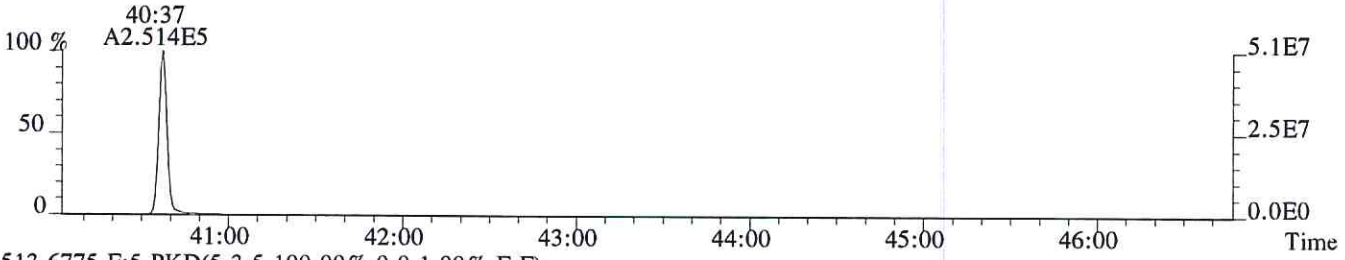
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14120.0,0.40%,F,T)



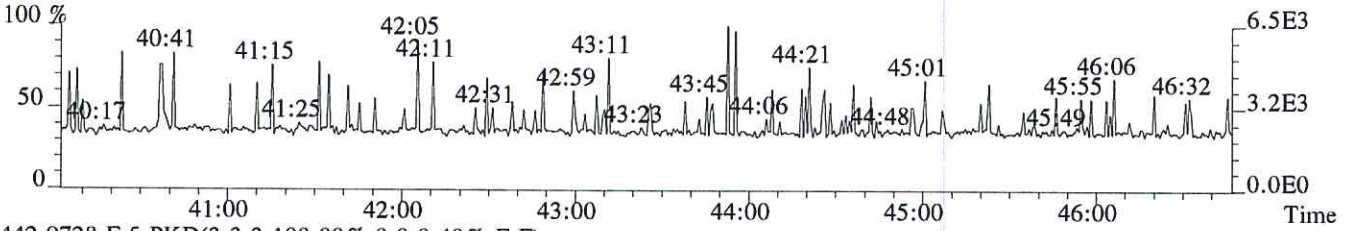
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



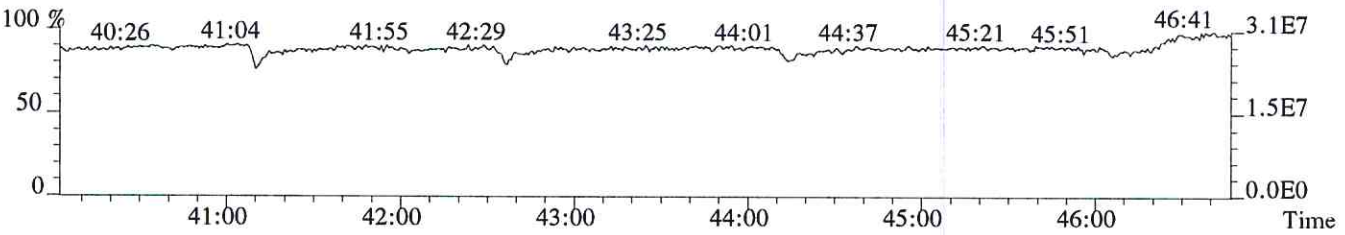
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,20500.0,0.40%,F,T)



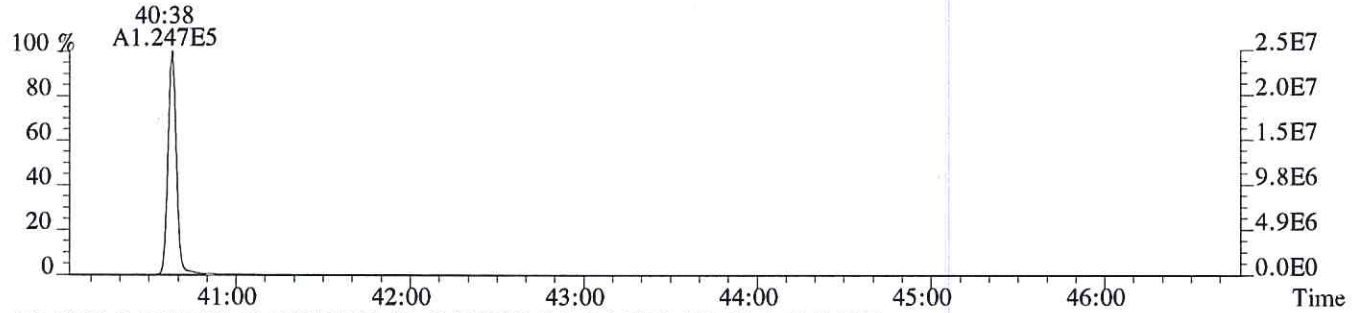
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



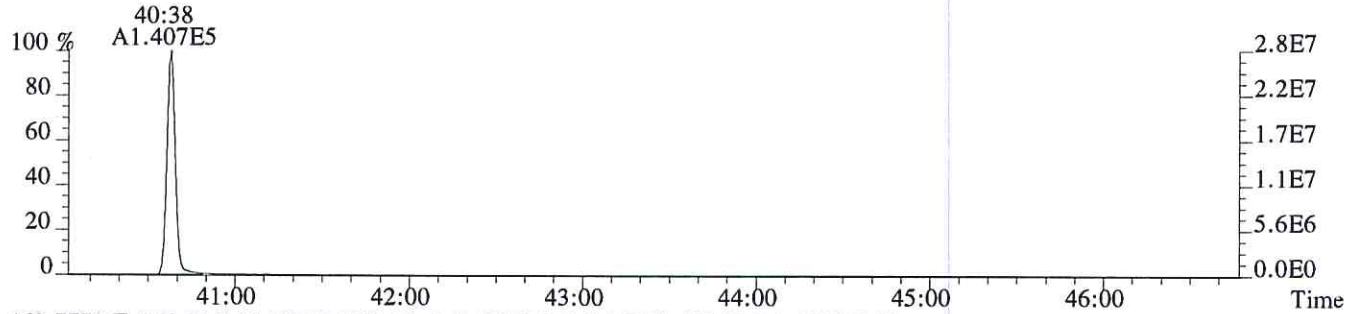
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



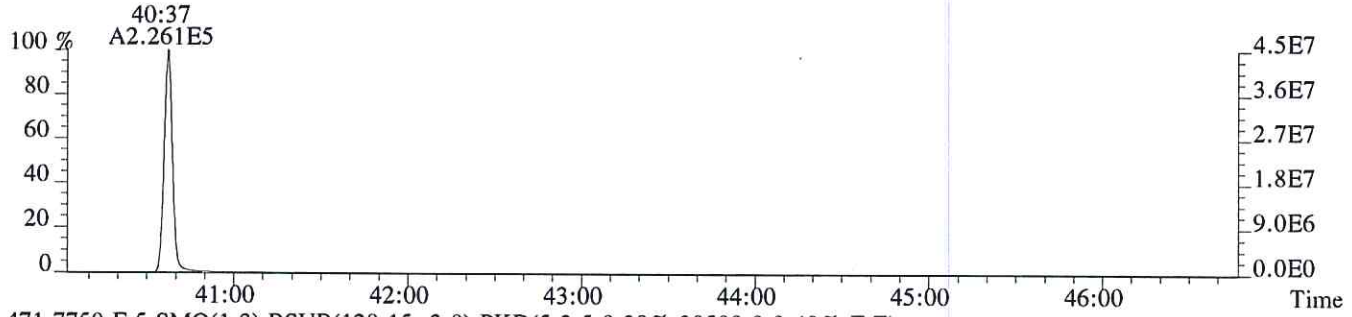
File:P607182 #1-607 Acq:16-MAY-2017 15:15:09 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,6924.0,0.40%,F,T)



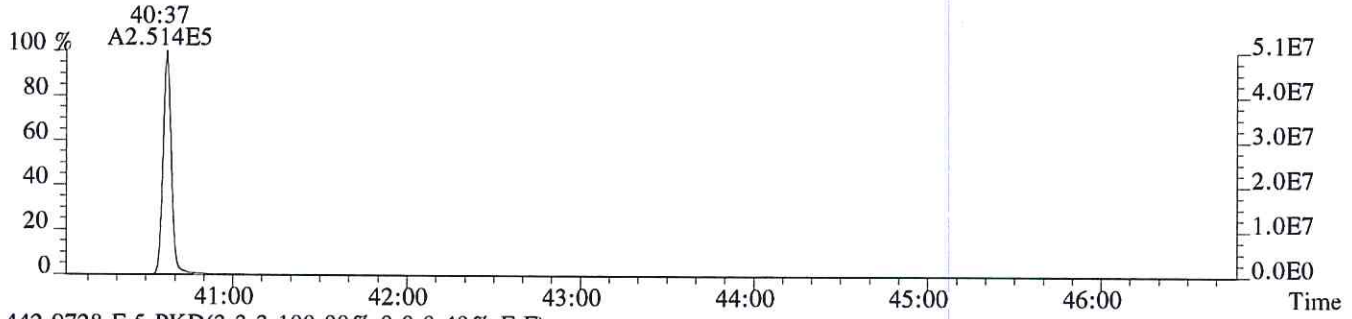
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8756.0,0.40%,F,T)



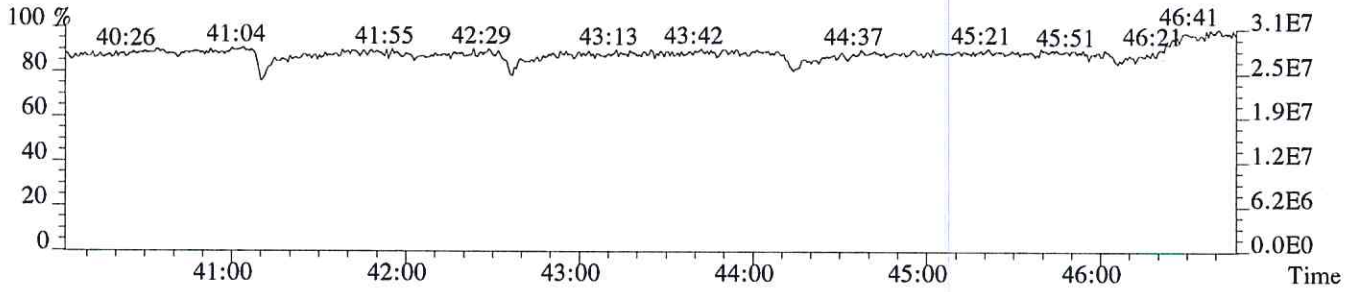
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,30300.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,20500.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76558

Run #5 Filename P607183 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:05:29
Processed: 17-MAY-17 07:52:59 Sample ID: CS4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:52	7.595e+04	9.857e+04	0.77	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	6.078e+05	3.894e+05	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	5.718e+05	3.687e+05	1.55	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	4.949e+05	4.000e+05	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	5.624e+05	4.533e+05	1.24	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	4.994e+05	4.037e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	4.513e+05	3.624e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	4.147e+05	3.998e+05	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	3.490e+05	3.404e+05	1.03	yes	no	1.341
10	Unk	OCDF	40:49	5.372e+05	5.981e+05	0.90	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:50	5.666e+04	7.291e+04	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	3.937e+05	2.518e+05	1.56	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	3.517e+05	2.822e+05	1.25	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	3.395e+05	2.745e+05	1.24	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	3.627e+05	2.906e+05	1.25	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	2.941e+05	2.815e+05	1.04	yes	no	1.048
17	Unk	OCDD	40:39	4.374e+05	4.944e+05	0.88	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	1.955e+05	2.475e+05	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	2.882e+05	1.816e+05	1.59	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	2.889e+05	1.835e+05	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	1.227e+05	2.325e+05	0.53	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	1.500e+05	2.824e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	1.337e+05	2.534e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	1.179e+05	2.244e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	9.217e+04	2.044e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	8.247e+04	1.809e+05	0.46	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	1.387e+05	1.755e+05	0.79	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	2.070e+05	1.311e+05	1.58	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.672e+05	1.326e+05	1.26	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	1.606e+05	1.288e+05	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	1.420e+05	1.351e+05	1.05	yes	no	0.884
32	IS	13C-OCDD	40:38	1.985e+05	2.200e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	1.415e+05	1.758e+05	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	1.780e+05	1.408e+05	1.26	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	1.347e+05				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
76558

Run #5 Filename P607183 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:05:29
Processed: 17-MAY-17 07:52:59 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.11e+07	2.28e+02	4.9e+04	1.44e+07	1.42e+03	1.0e+04
2	1,2,3,7,8-PeCDF	1.07e+08	8.04e+02	1.3e+05	6.86e+07	2.58e+03	2.7e+04
3	2,3,4,7,8-PeCDF	1.06e+08	8.04e+02	1.3e+05	6.91e+07	2.58e+03	2.7e+04
4	1,2,3,4,7,8-HxCDF	1.05e+08	7.12e+02	1.5e+05	8.50e+07	1.34e+03	6.4e+04
5	1,2,3,6,7,8-HxCDF	1.14e+08	7.12e+02	1.6e+05	9.25e+07	1.34e+03	6.9e+04
6	2,3,4,6,7,8-HxCDF	1.06e+08	7.12e+02	1.5e+05	8.50e+07	1.34e+03	6.4e+04
7	1,2,3,7,8,9-HxCDF	9.55e+07	7.12e+02	1.3e+05	7.73e+07	1.34e+03	5.8e+04
8	1,2,3,4,6,7,8-HpCDF	9.29e+07	2.11e+04	4.4e+03	9.00e+07	4.37e+03	2.1e+04
9	1,2,3,4,7,8,9-HpCDF	7.70e+07	2.11e+04	3.6e+03	7.41e+07	4.37e+03	1.7e+04
10	OCDF	1.07e+08	2.56e+04	4.2e+03	1.20e+08	3.83e+04	3.1e+03
11	2,3,7,8-TCDD	9.22e+06	1.64e+03	5.6e+03	1.19e+07	8.40e+02	1.4e+04
12	1,2,3,7,8-PeCDD	7.33e+07	1.69e+03	4.3e+04	4.65e+07	1.04e+03	4.5e+04
13	1,2,3,4,7,8-HxCDD	7.80e+07	2.56e+02	3.0e+05	6.19e+07	2.40e+02	2.6e+05
14	1,2,3,6,7,8-HxCDD	7.31e+07	2.56e+02	2.9e+05	5.87e+07	2.40e+02	2.4e+05
15	1,2,3,7,8,9-HxCDD	7.74e+07	2.56e+02	3.0e+05	6.26e+07	2.40e+02	2.6e+05
16	1,2,3,4,6,7,8-HpCDD	6.69e+07	2.90e+03	2.3e+04	6.43e+07	2.50e+03	2.6e+04
17	OCDD	8.66e+07	1.61e+04	5.4e+03	9.81e+07	3.51e+04	2.8e+03
18	13C-2,3,7,8-TCDF	2.87e+07	1.22e+04	2.3e+03	3.63e+07	6.29e+03	5.8e+03
19	13C-1,2,3,7,8-PeCDF	4.98e+07	1.62e+03	3.1e+04	3.15e+07	2.38e+03	1.3e+04
20	13C-2,3,4,7,8-PeCDF	5.43e+07	1.62e+03	3.4e+04	3.46e+07	2.38e+03	1.5e+04
21	13C-1,2,3,4,7,8-HxCDF	2.62e+07	1.46e+03	1.8e+04	4.97e+07	2.35e+03	2.1e+04
22	13C-1,2,3,6,7,8-HxCDF	3.08e+07	1.46e+03	2.1e+04	5.86e+07	2.35e+03	2.5e+04
23	13C-2,3,4,6,7,8-HxCDF	2.81e+07	1.46e+03	1.9e+04	5.29e+07	2.35e+03	2.3e+04
24	13C-1,2,3,7,8,9-HxCDF	2.49e+07	1.46e+03	1.7e+04	4.77e+07	2.35e+03	2.0e+04
25	13C-1,2,3,4,6,7,8-HpCDF	2.06e+07	3.10e+03	6.6e+03	4.57e+07	2.12e+04	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.83e+07	3.10e+03	5.9e+03	3.99e+07	2.12e+04	1.9e+03
27	13C-2,3,7,8-TCDD	2.20e+07	5.38e+03	4.1e+03	2.77e+07	3.72e+03	7.5e+03
28	13C-1,2,3,7,8-PeCDD	3.86e+07	9.40e+02	4.1e+04	2.46e+07	2.12e+02	1.2e+05
29	13C-1,2,3,4,7,8-HxCDD	3.67e+07	1.43e+03	2.6e+04	2.87e+07	7.20e+02	4.0e+04
30	13C-1,2,3,6,7,8-HxCDD	3.45e+07	1.43e+03	2.4e+04	2.75e+07	7.20e+02	3.8e+04
31	13C-1,2,3,4,6,7,8-HpCDD	3.23e+07	1.99e+03	1.6e+04	3.04e+07	8.40e+02	3.6e+04
32	13C-OCDD	3.92e+07	1.53e+04	2.6e+03	4.33e+07	8.96e+03	4.8e+03
33	13C-1,2,3,4-TCDD	2.13e+07	5.38e+03	4.0e+03	2.65e+07	3.72e+03	7.1e+03
34	13C-1,2,3,7,8,9-HxCDD	3.76e+07	1.43e+03	2.6e+04	3.02e+07	7.20e+02	4.2e+04
35	37Cl-2,3,7,8-TCDD	2.21e+07	1.39e+03	1.6e+04			

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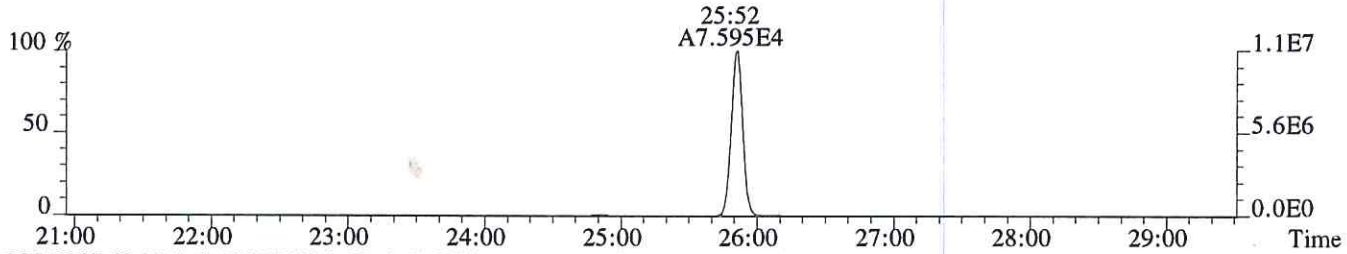
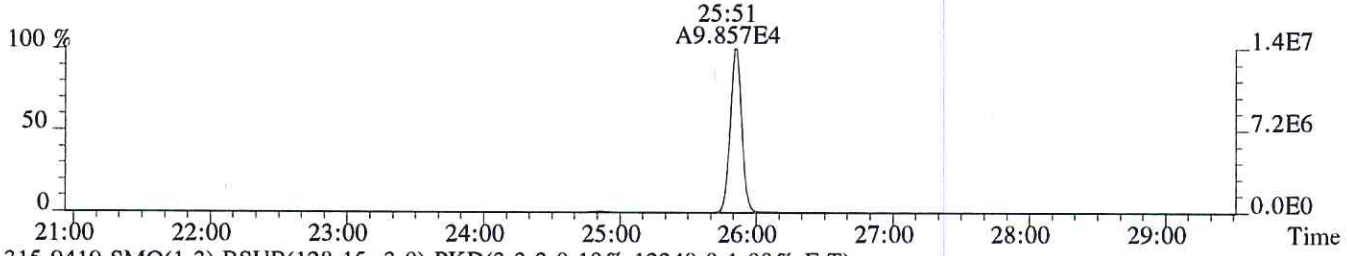
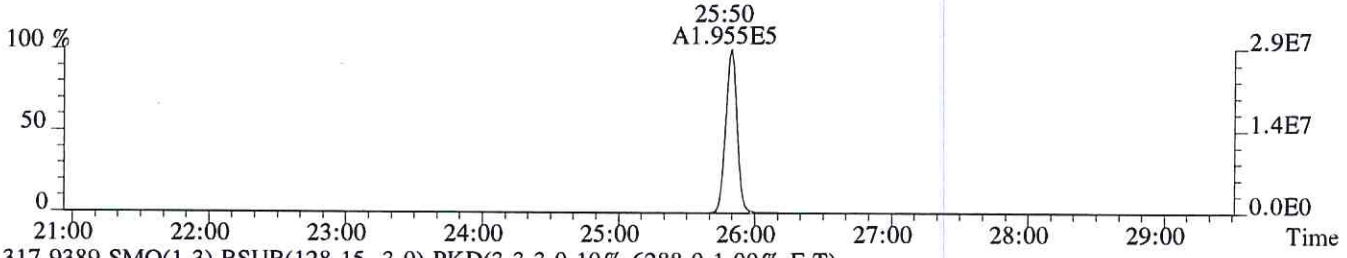
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,T)



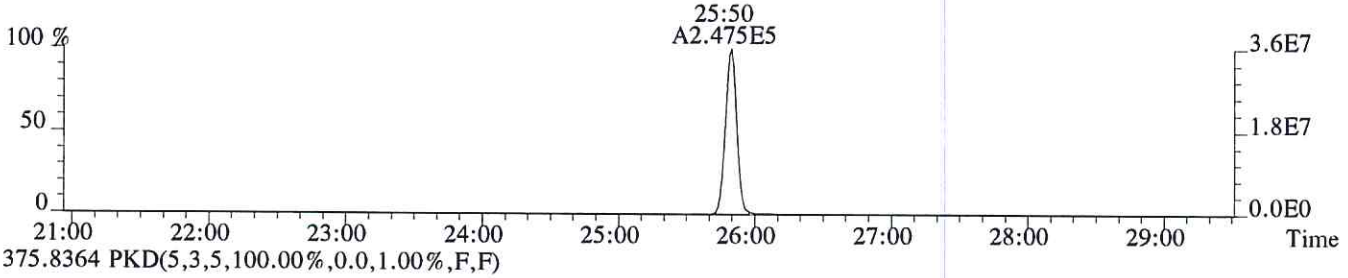
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1416.0,1.00%,F,T)



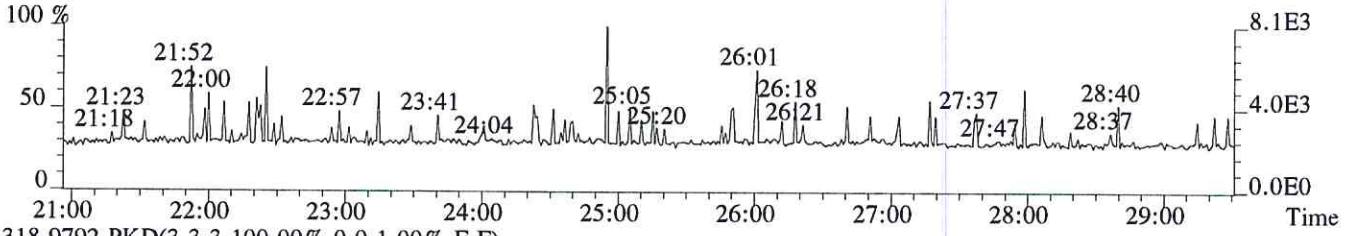
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12248.0,1.00%,F,T)



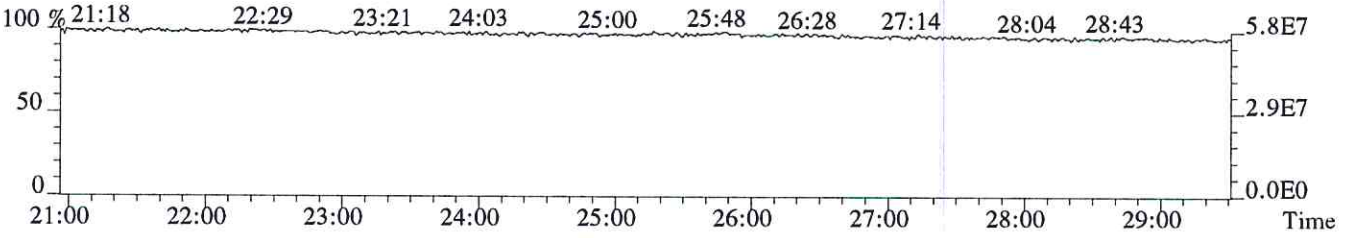
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6288.0,1.00%,F,T)



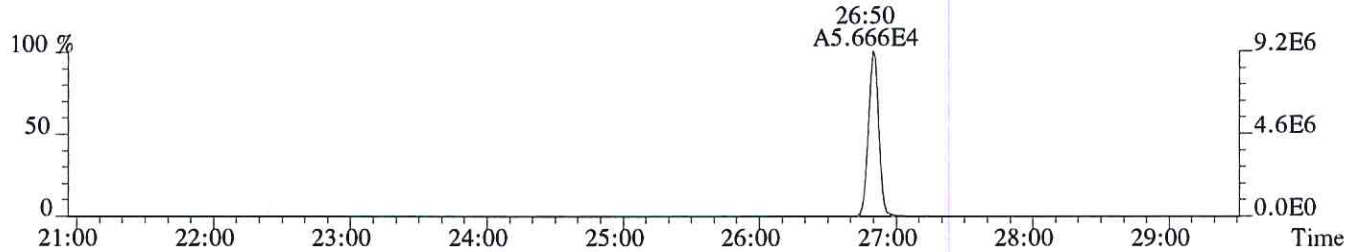
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



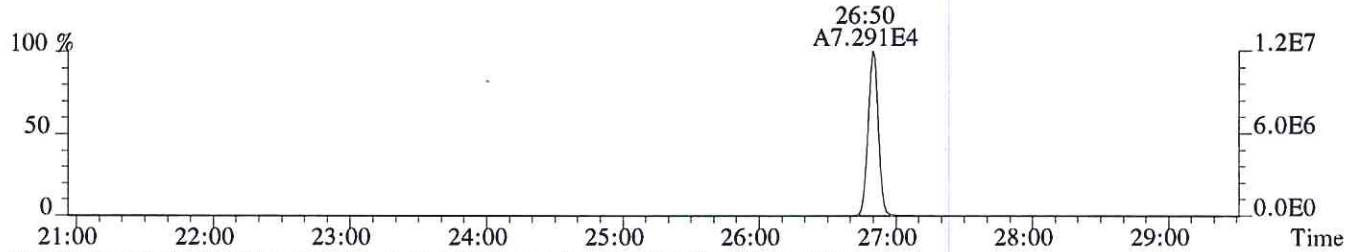
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



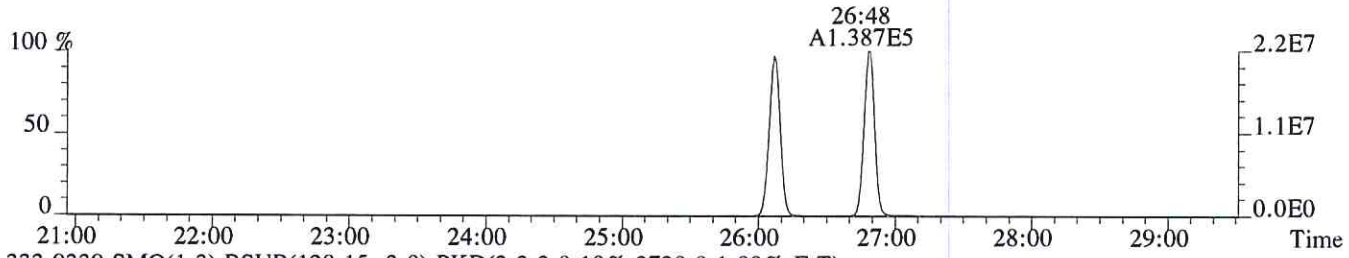
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1636.0,1.00%,F,T)



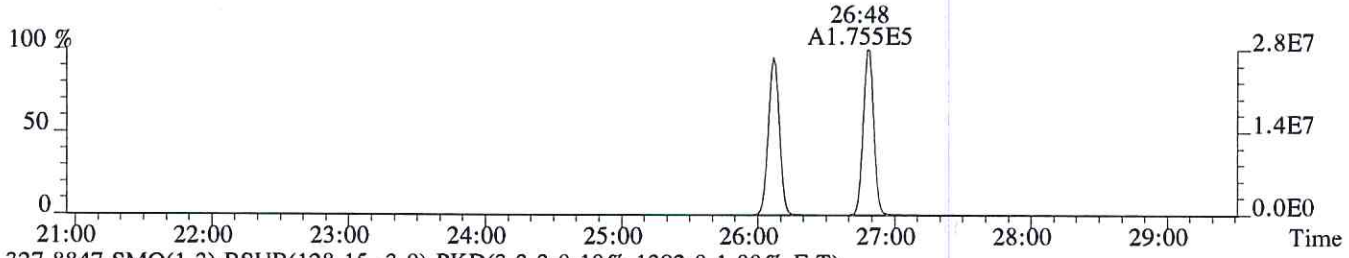
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,T)



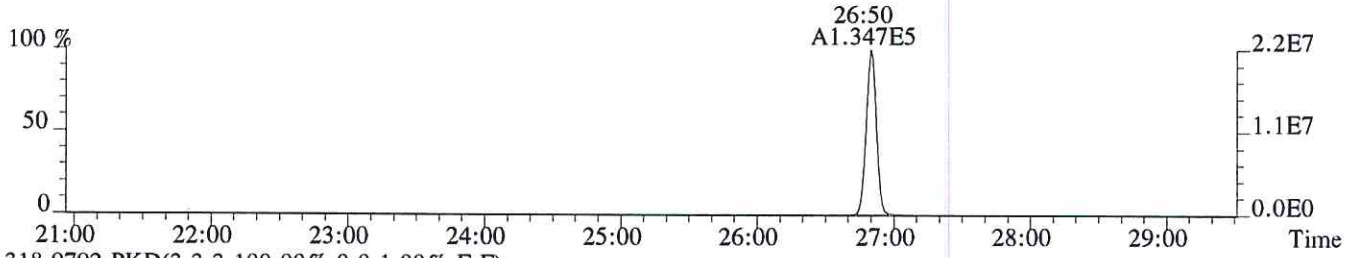
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5384.0,1.00%,F,T)



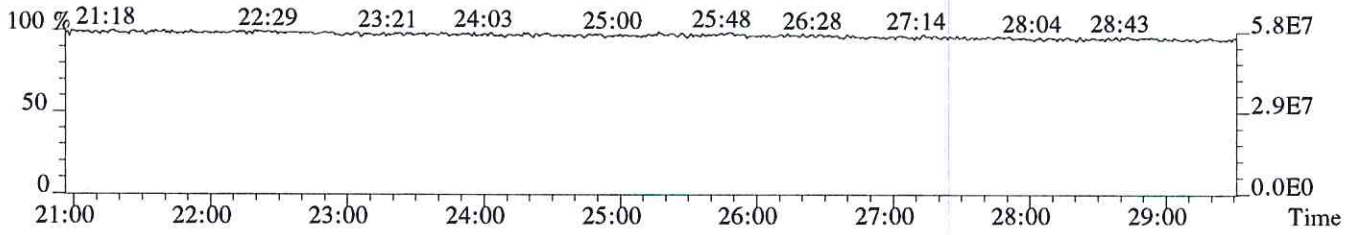
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3720.0,1.00%,F,T)



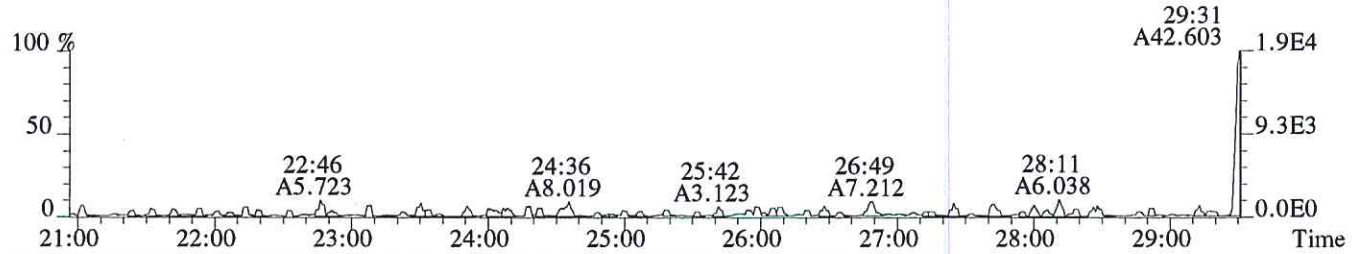
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1392.0,1.00%,F,T)



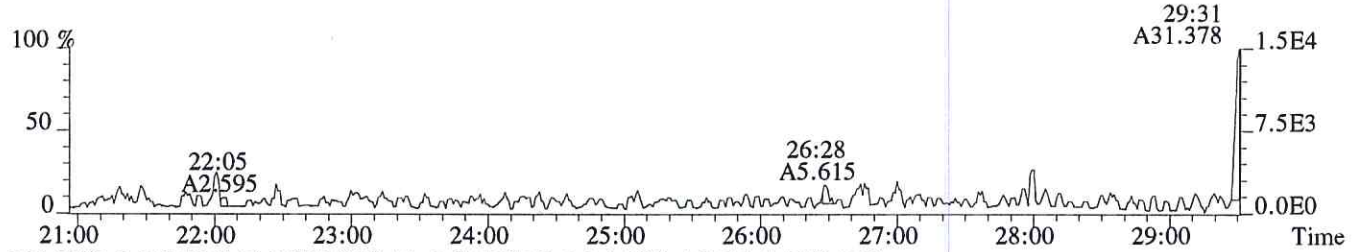
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



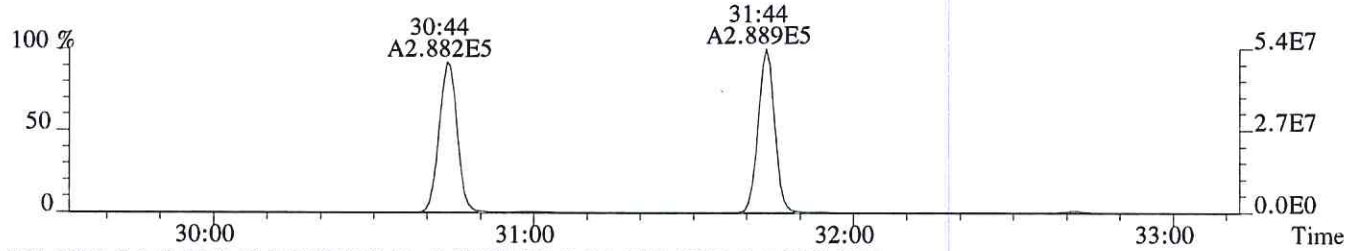
File:P607183 #1-609 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,T)



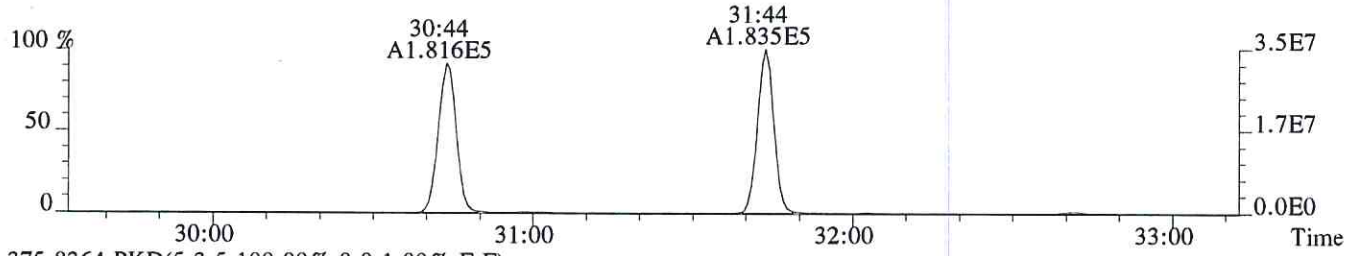
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,T)



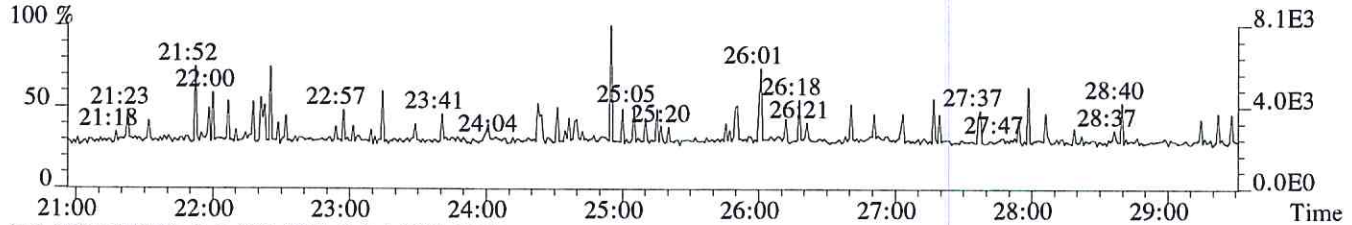
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



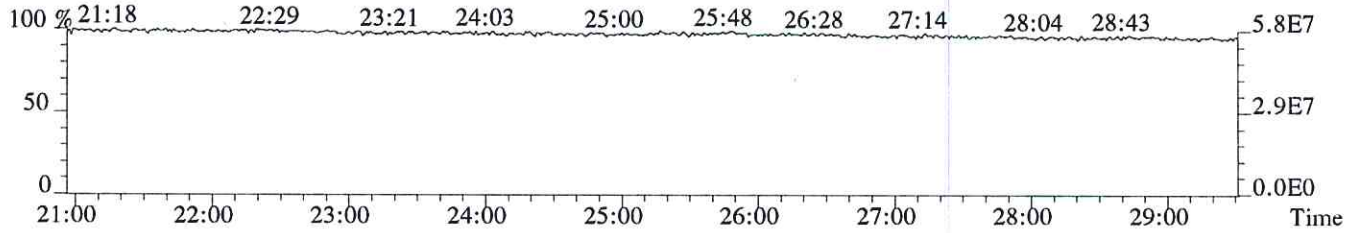
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



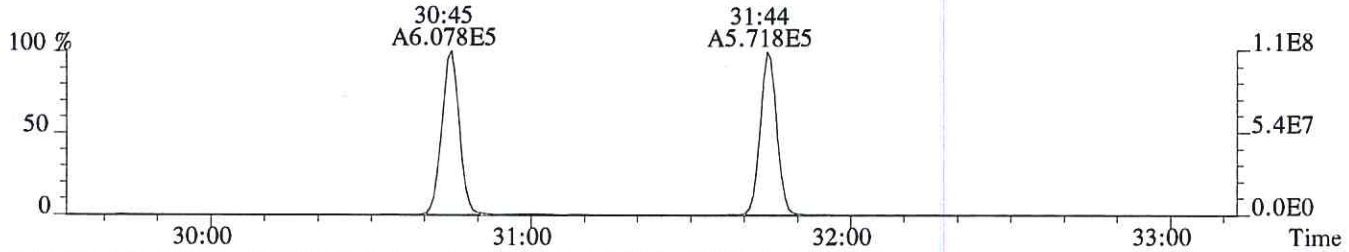
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



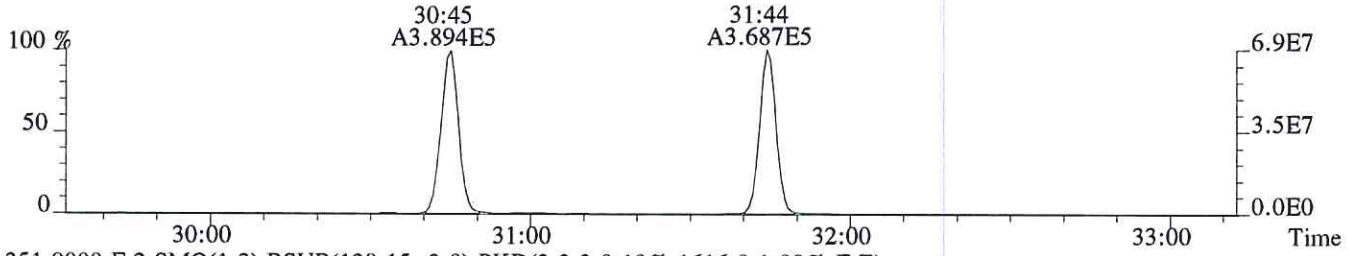
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



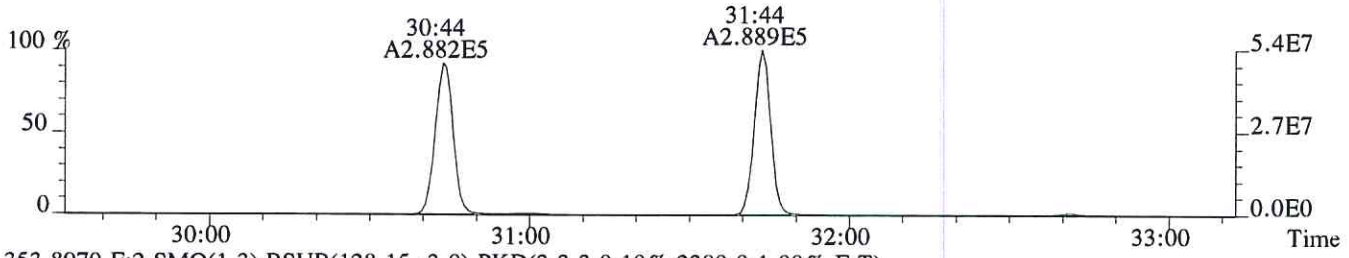
File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,T)



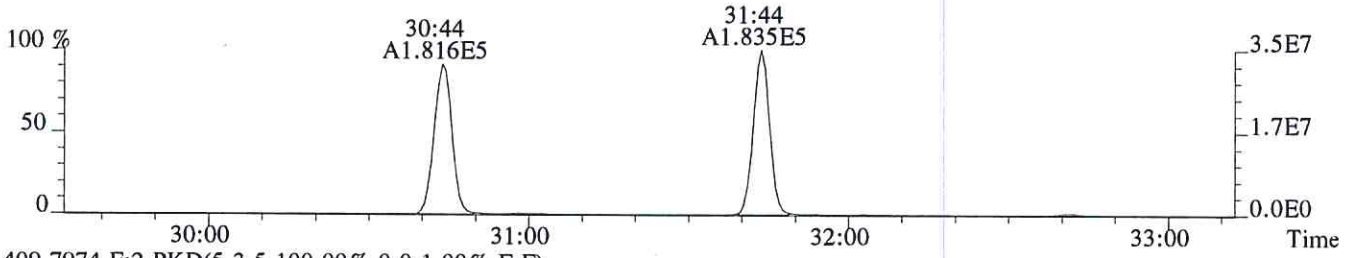
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2584.0,1.00%,F,T)



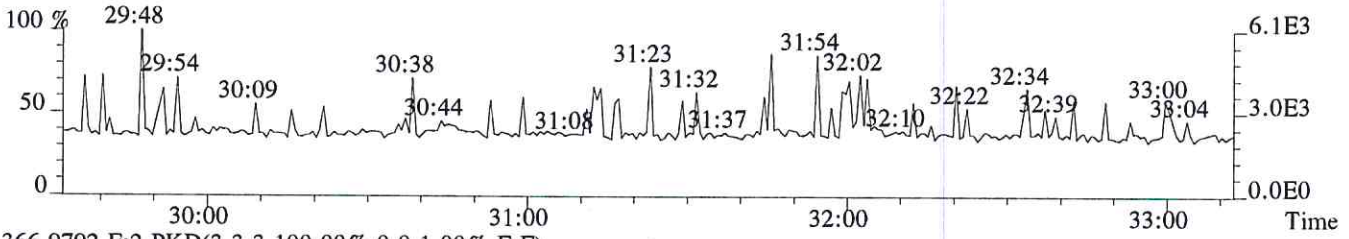
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1616.0,1.00%,F,T)



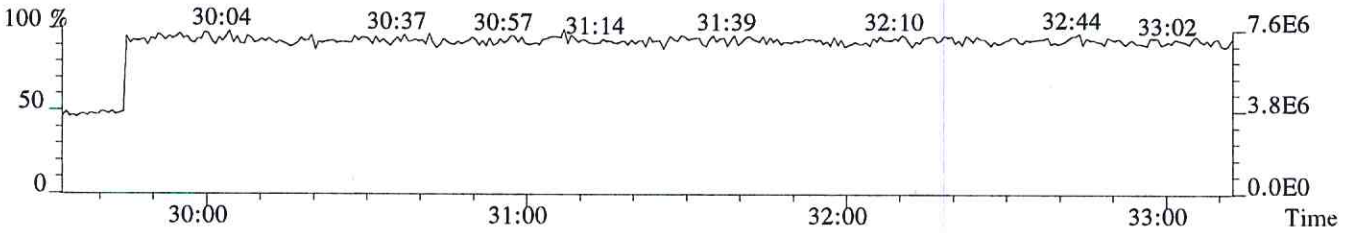
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2380.0,1.00%,F,T)



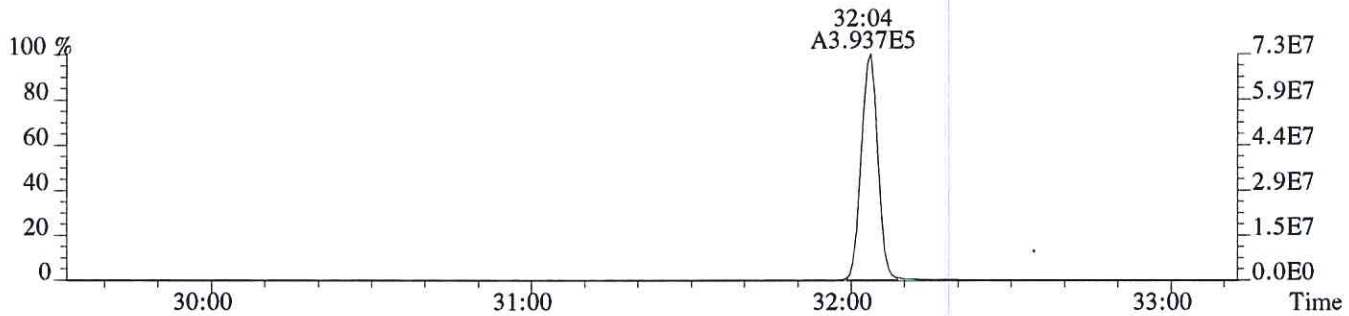
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



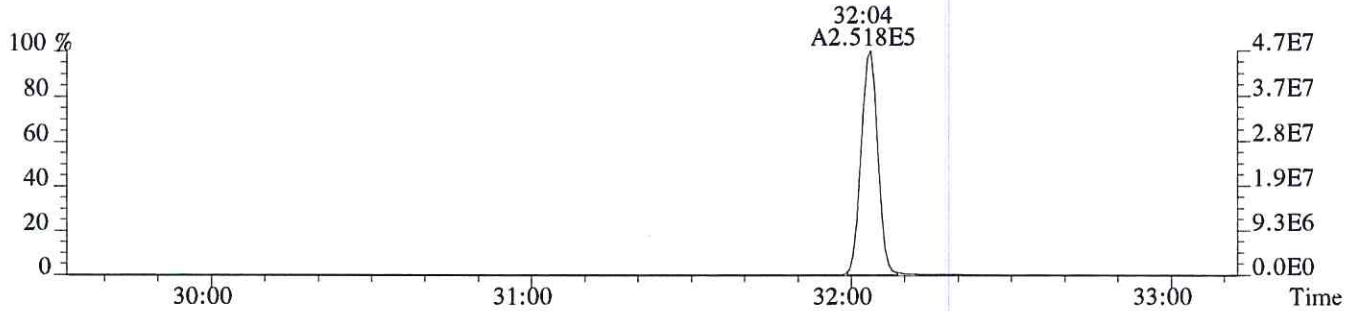
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



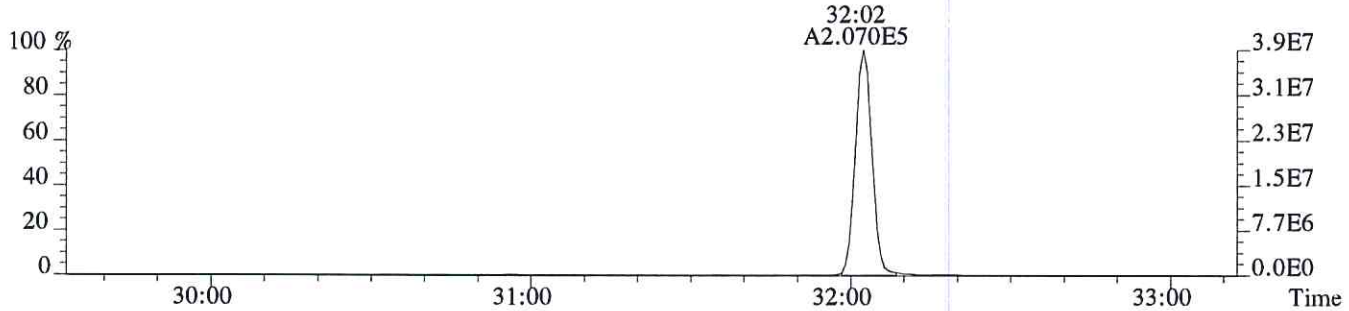
File:P607183 #1-330 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



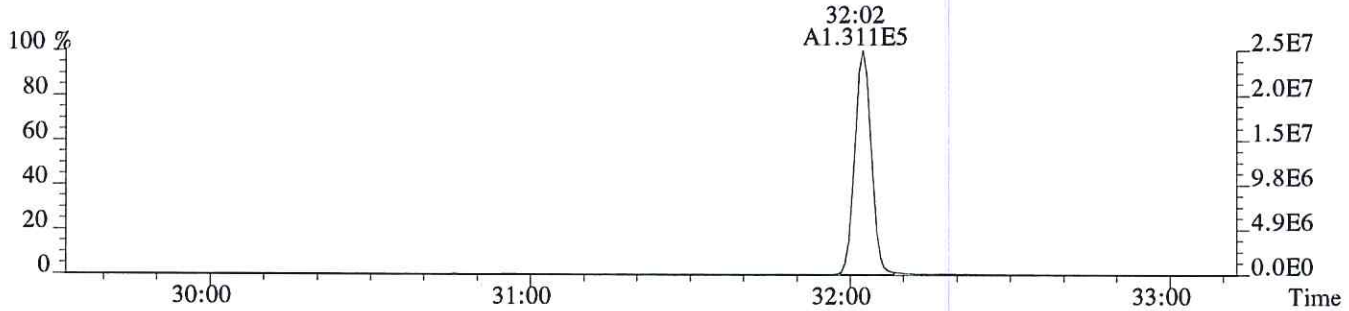
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1044.0,1.00%,F,T)



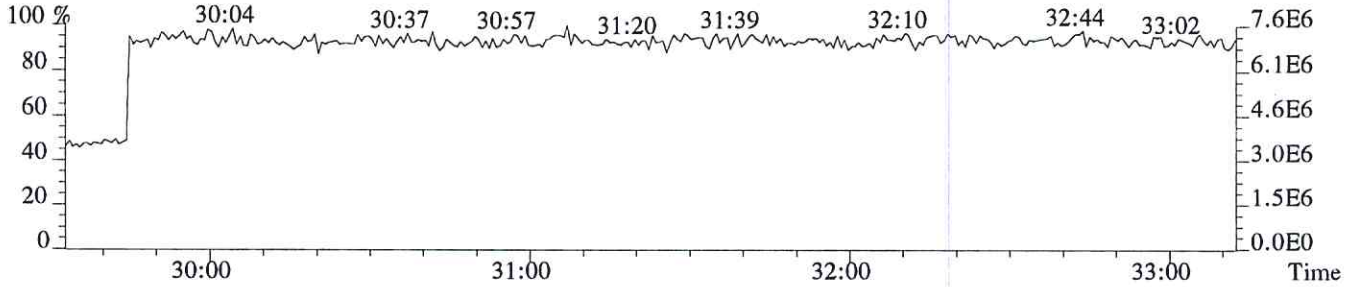
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,T)



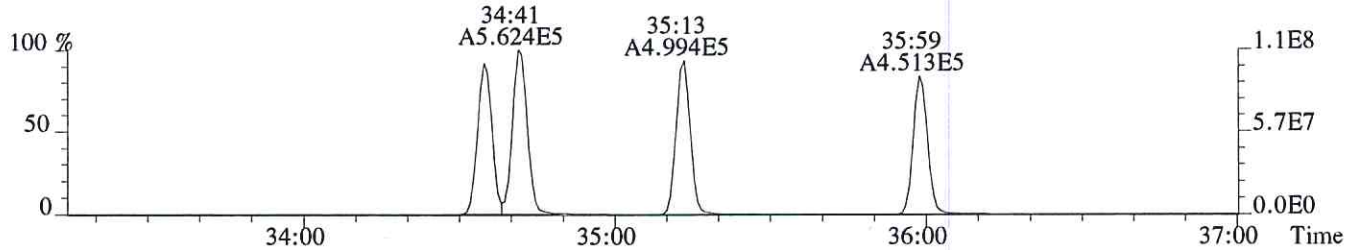
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,T)



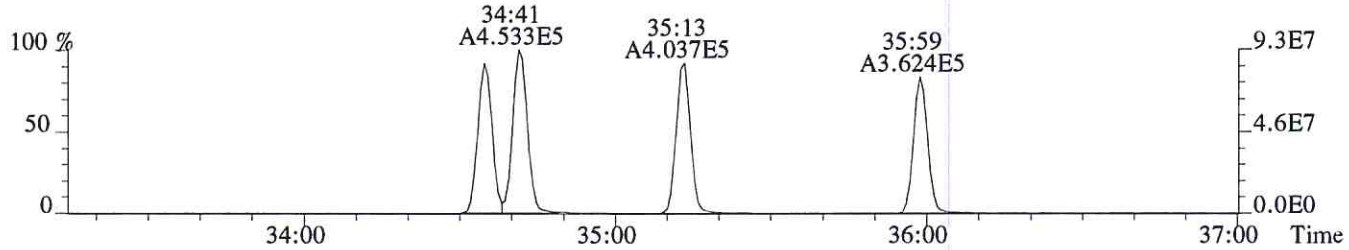
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



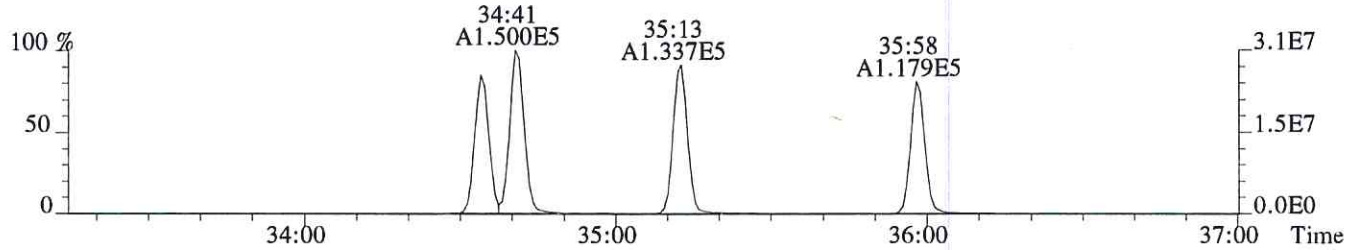
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



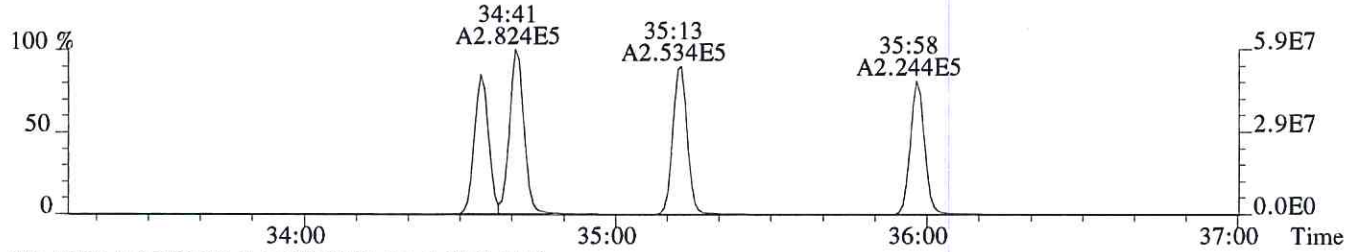
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.40%,F,T)



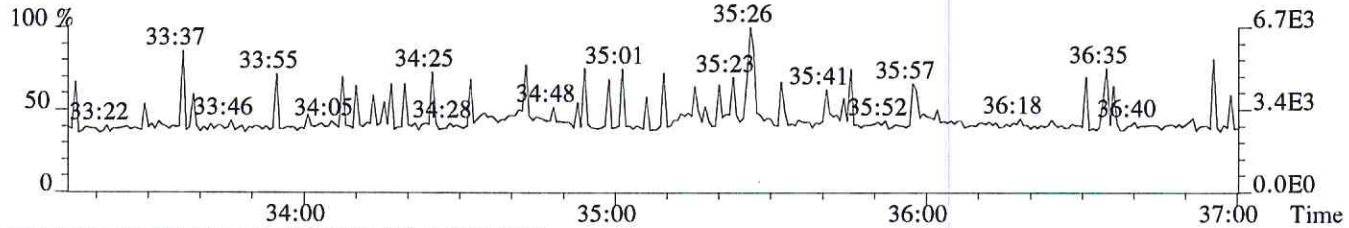
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.40%,F,T)



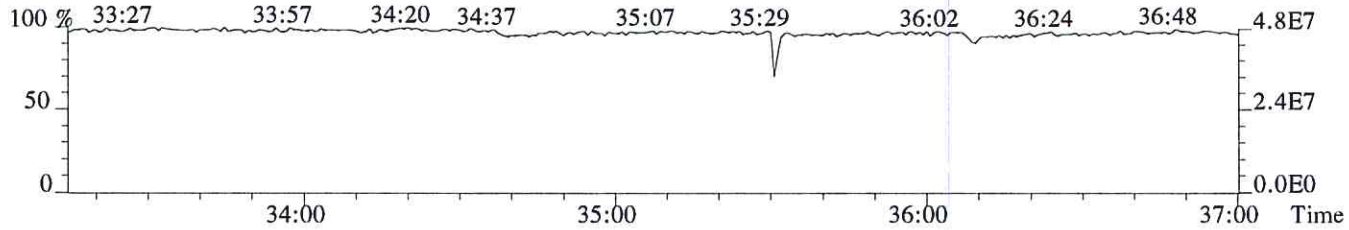
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2348.0,0.40%,F,T)



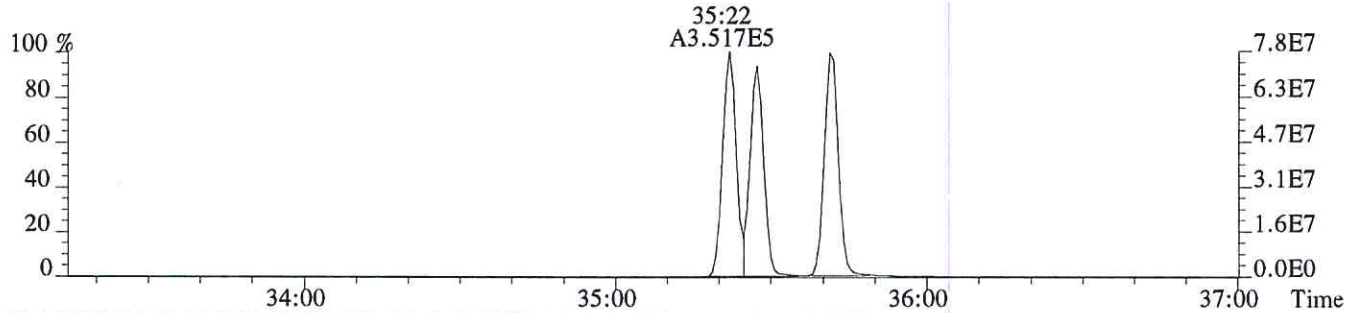
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



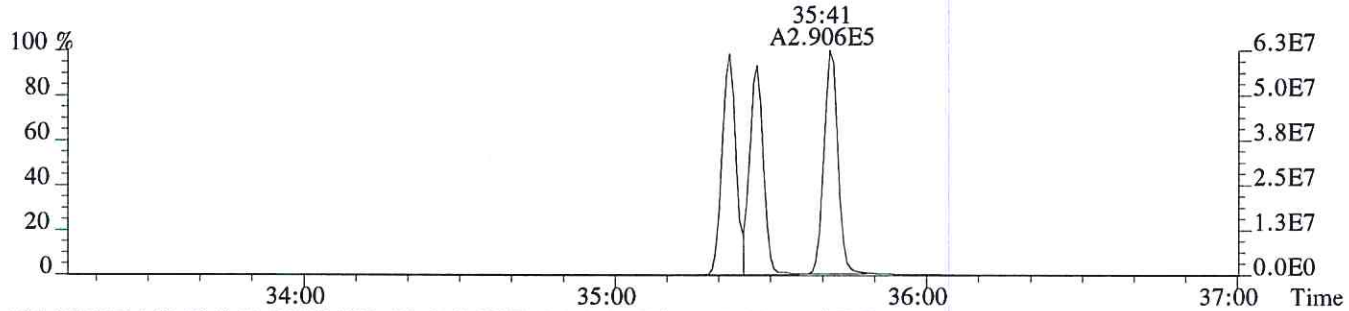
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



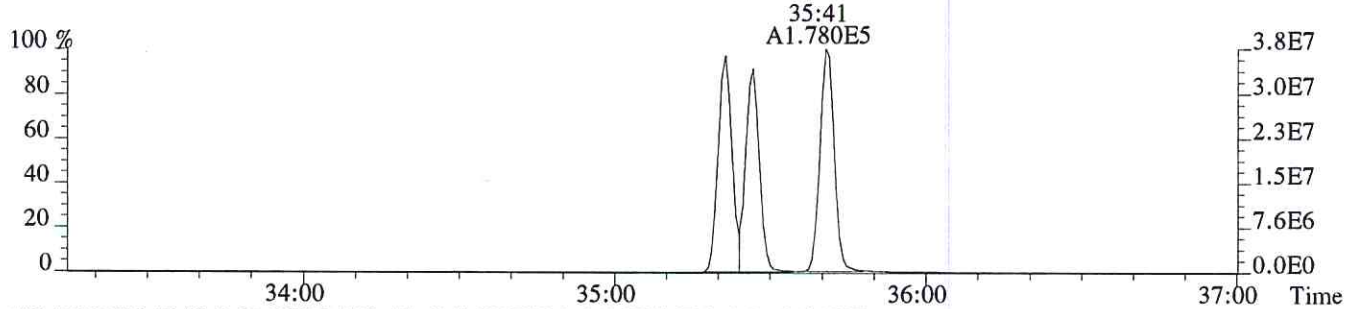
File:P607183 #1-339 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,T)



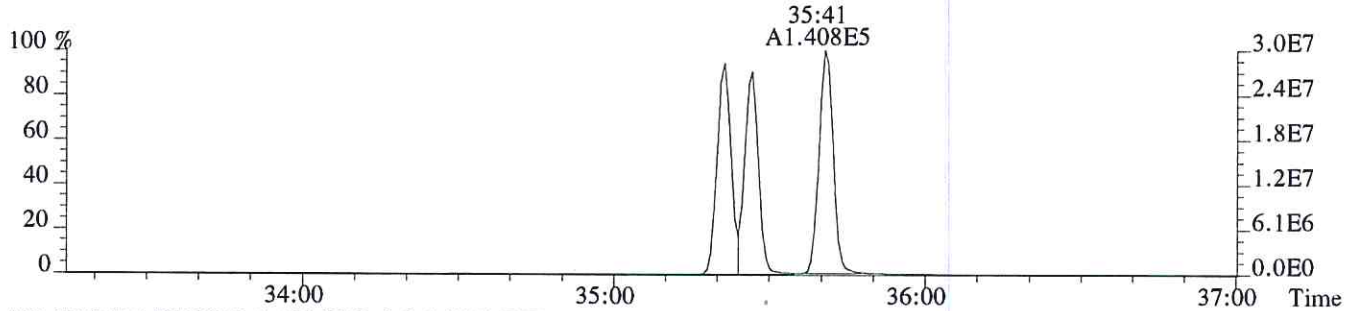
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.40%,F,T)



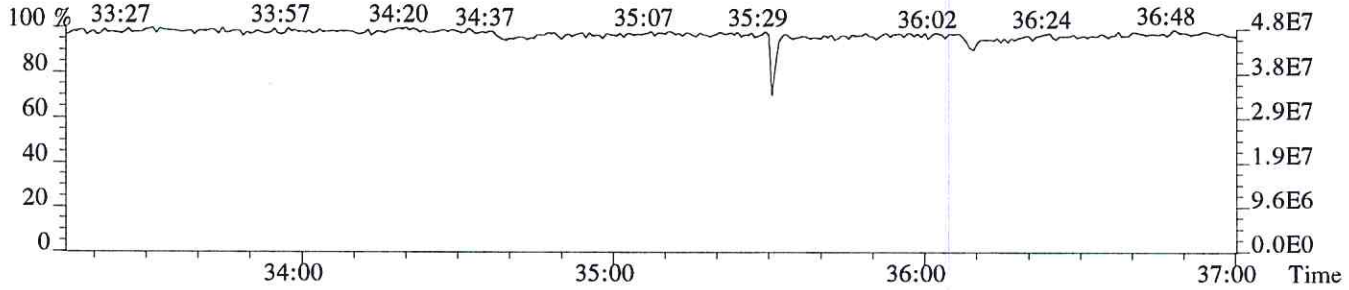
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.40%,F,T)



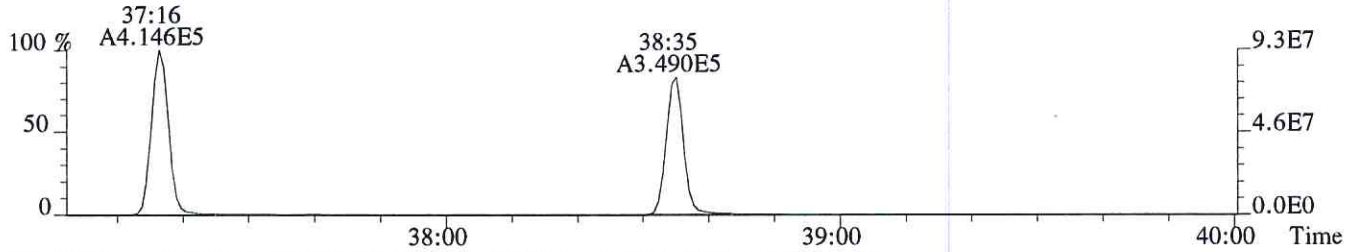
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,T)



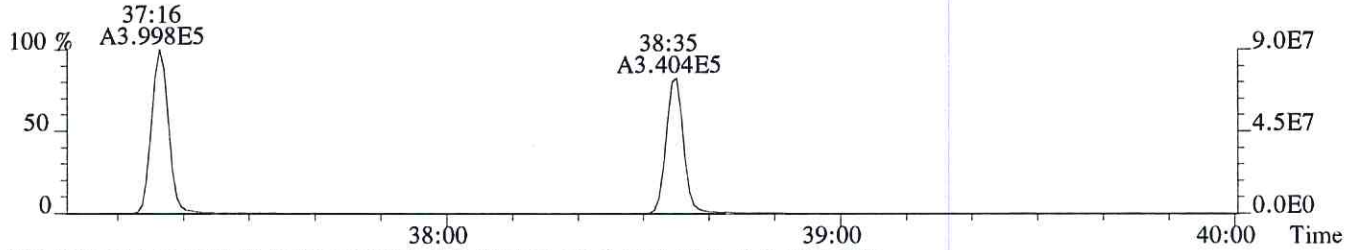
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



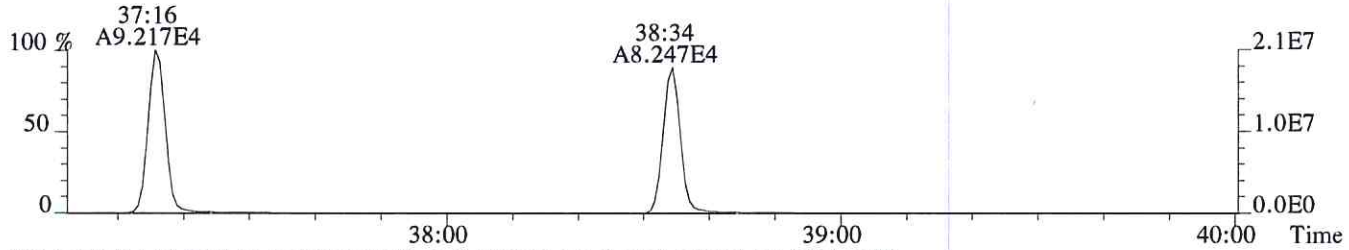
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21144.0,0.50%,F,T)



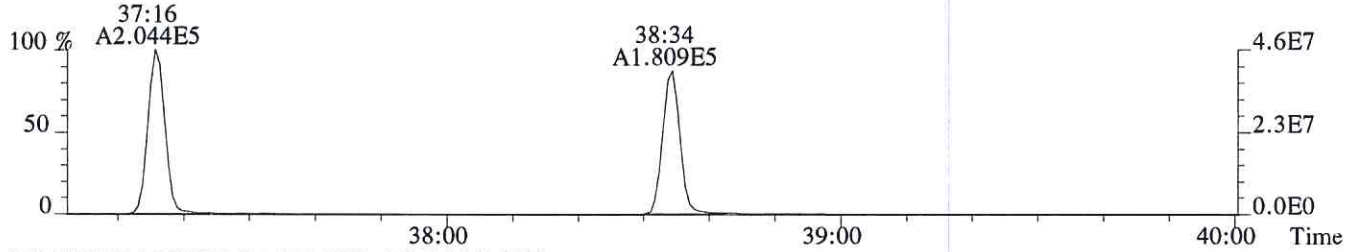
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4368.0,0.50%,F,T)



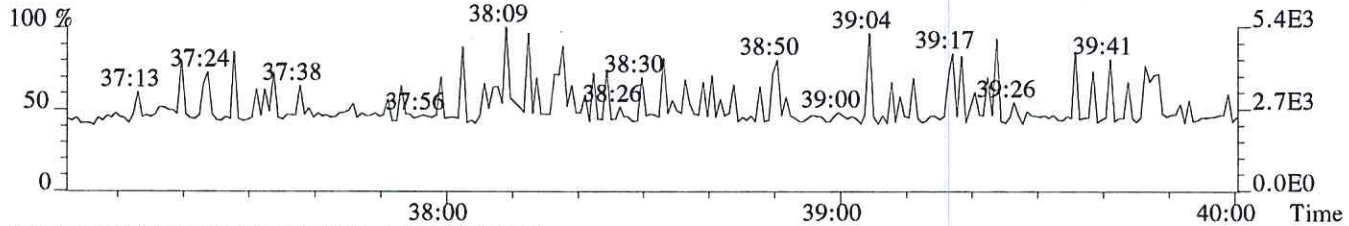
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3096.0,0.50%,F,T)



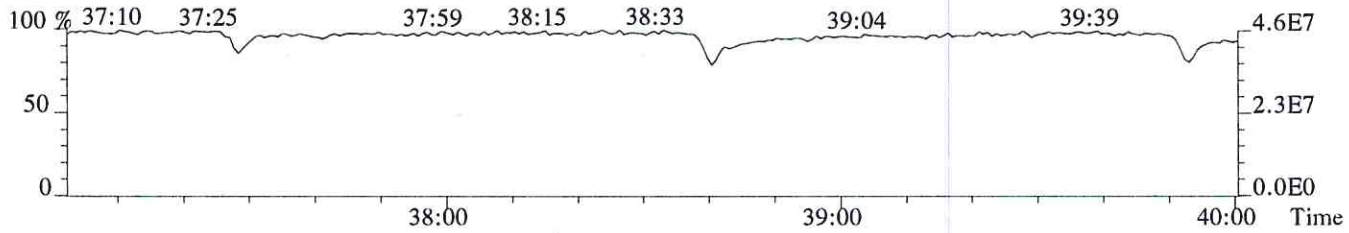
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,21224.0,0.50%,F,T)



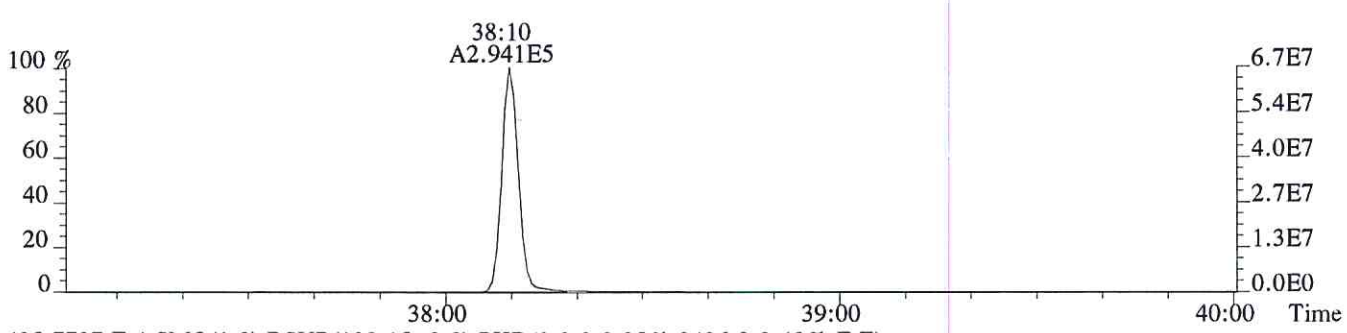
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



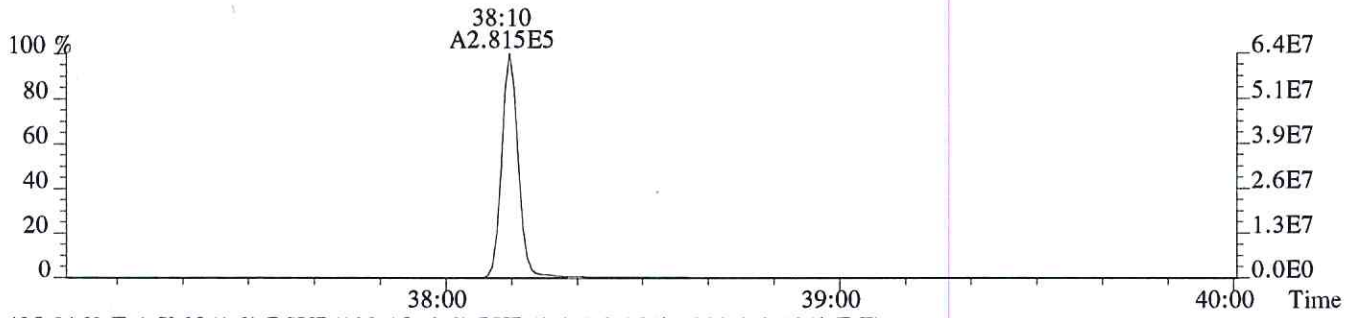
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



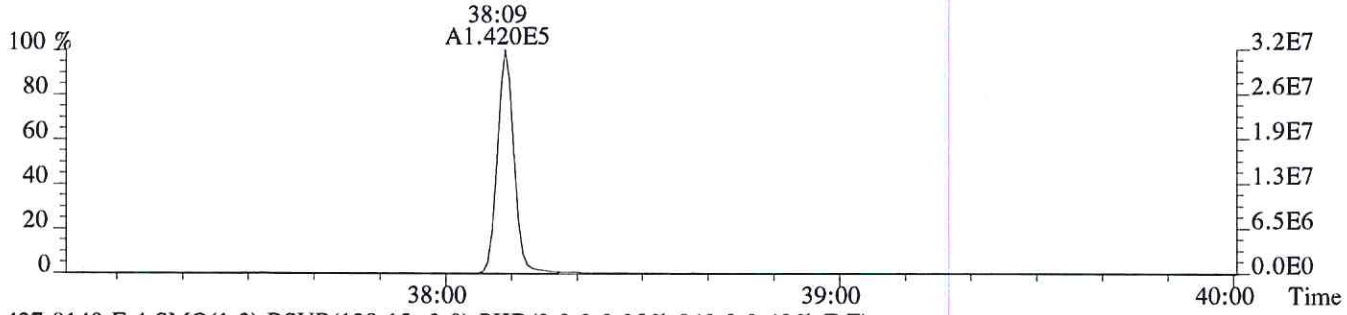
File:P607183 #1-268 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2904.0,0.40%,F,T)



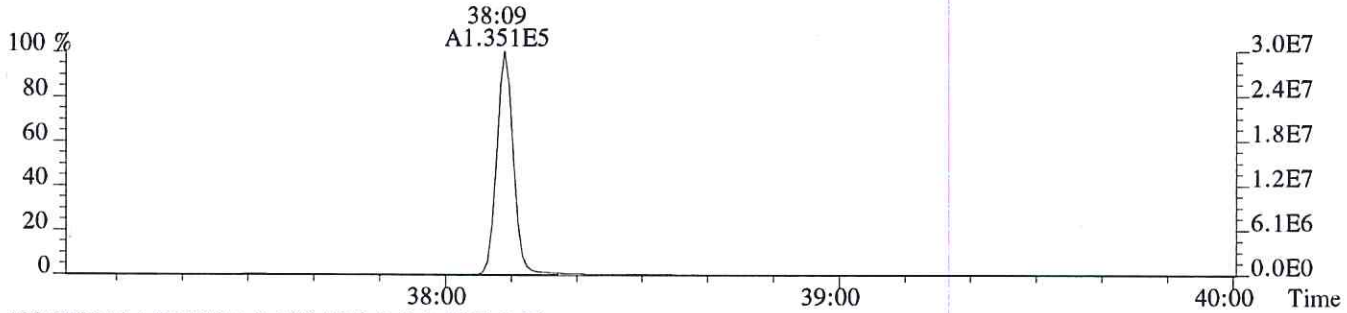
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.40%,F,T)



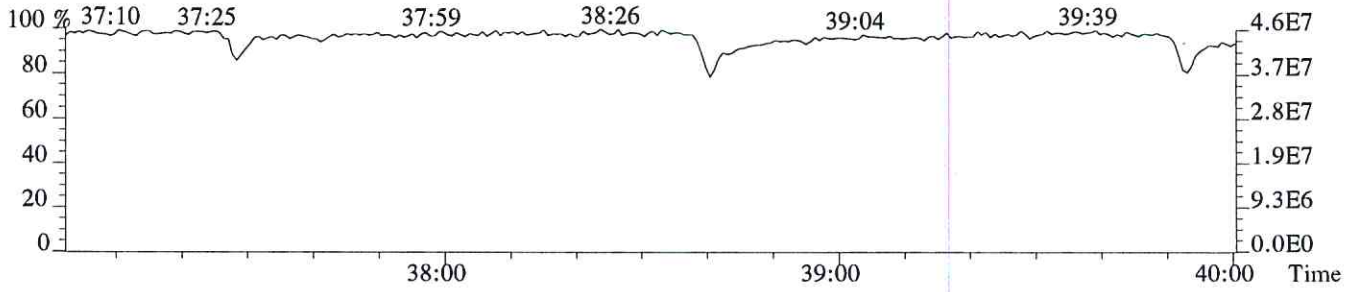
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1988.0,0.40%,F,T)



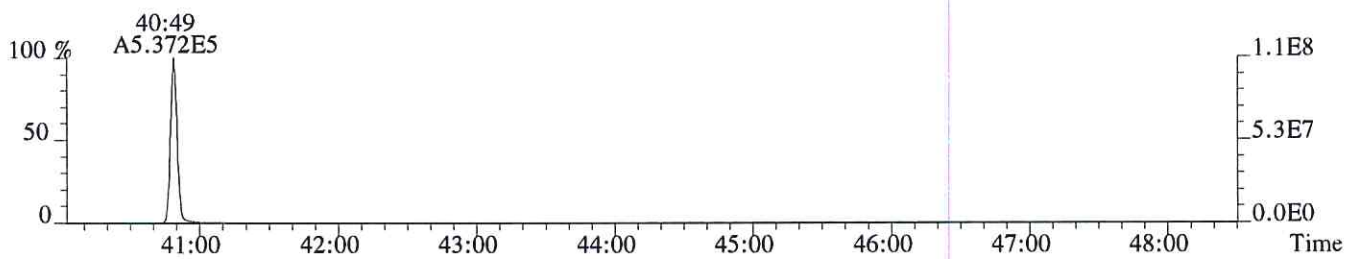
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,840.0,0.40%,F,T)



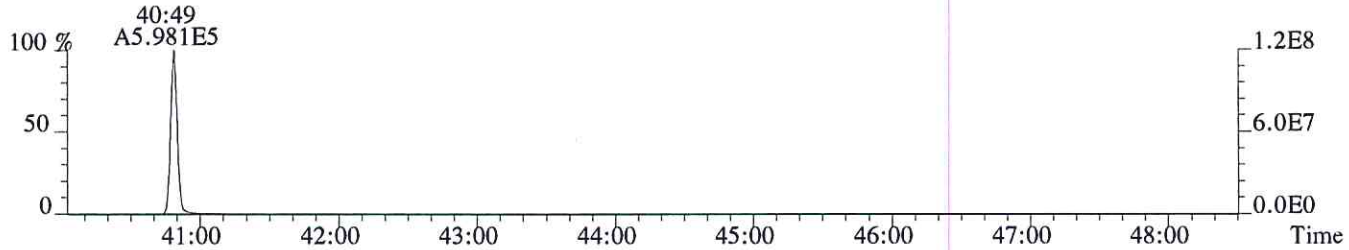
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



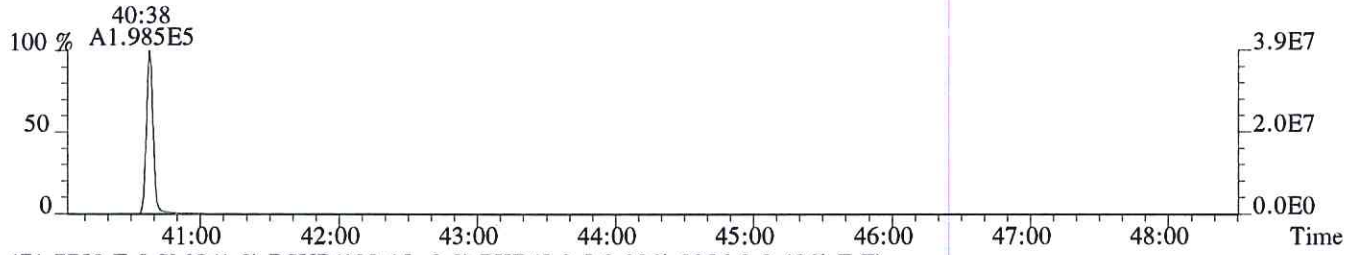
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,25616.0,0.40%,F,T)



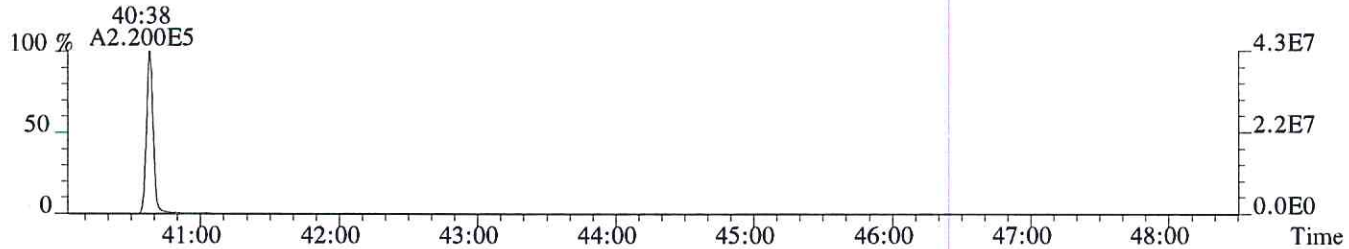
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,38344.0,0.40%,F,T)



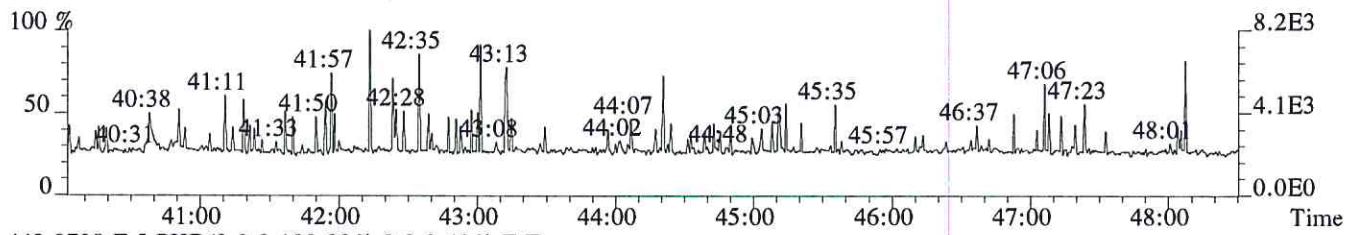
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



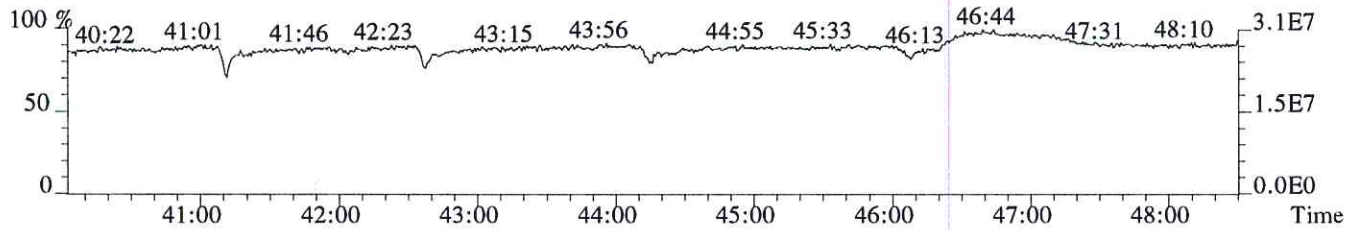
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8956.0,0.40%,F,T)



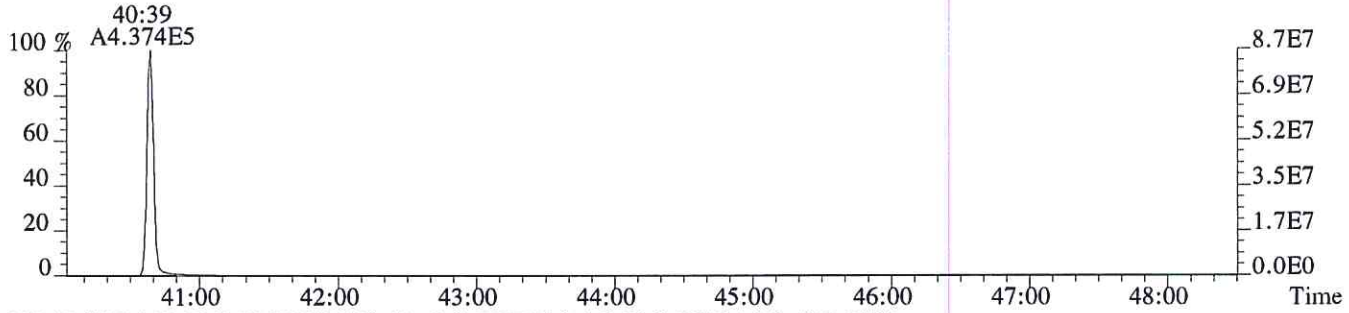
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



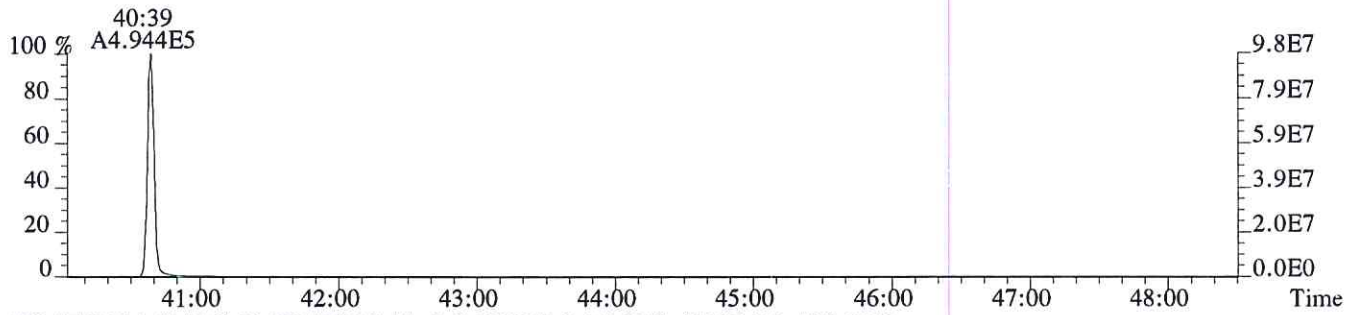
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



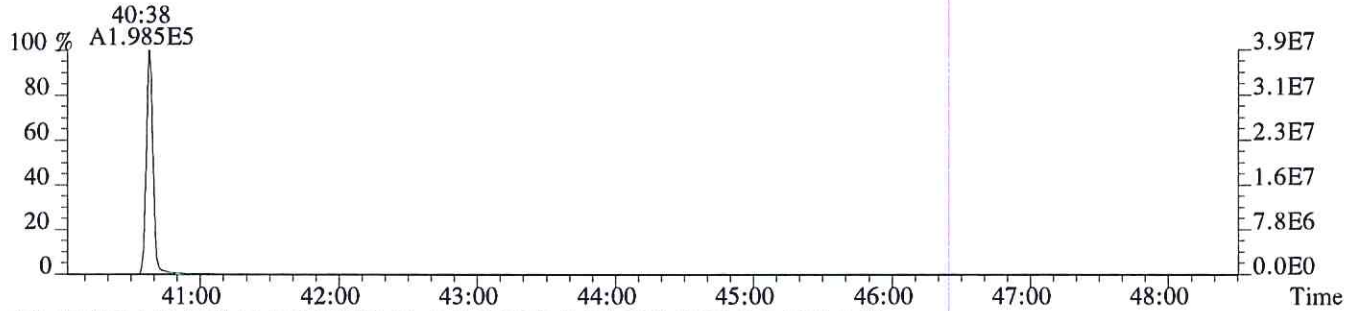
File:P607183 #1-762 Acq:16-MAY-2017 16:05:29 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,16144.0,0.40%,F,T)



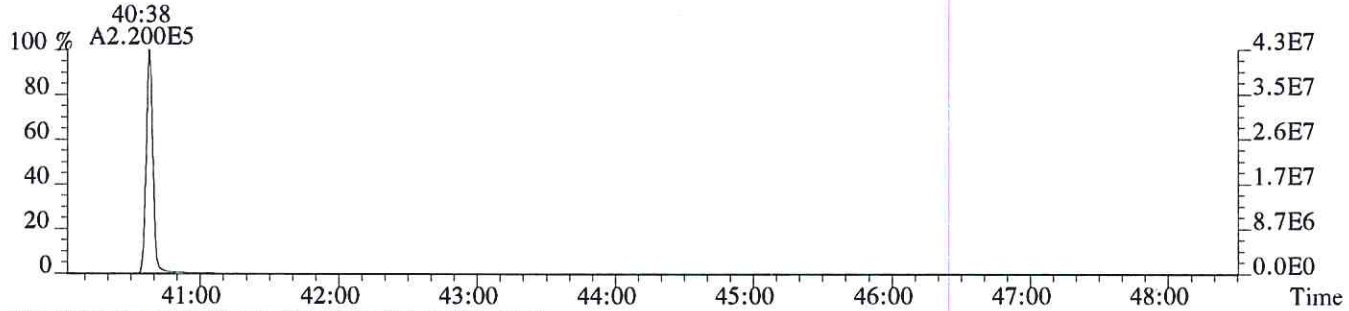
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,35104.0,0.40%,F,T)



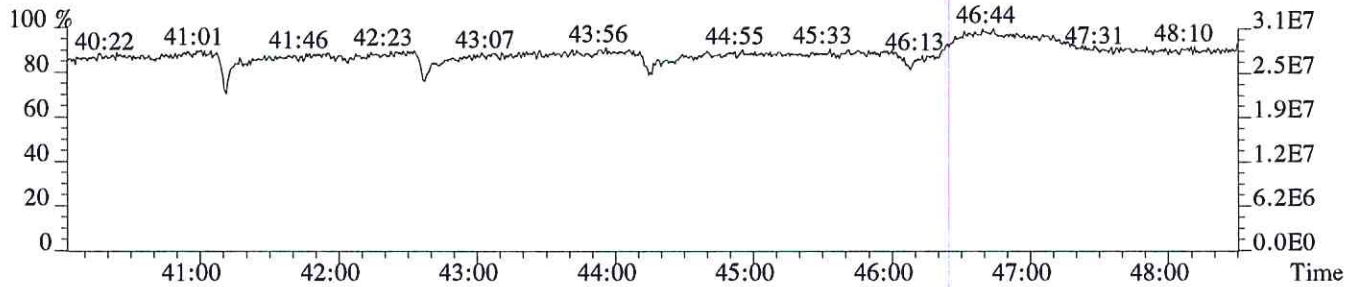
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,15288.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8956.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
82168

Run #6 Filename P607184 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:55:47
Processed: 17-MAY-17 07:53:00 Sample ID: CS5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:51	1.497e+05	1.912e+05	0.78	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:45	1.130e+06	7.268e+05	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.167e+06	7.508e+05	1.55	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:35	9.742e+05	7.856e+05	1.24	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.089e+06	8.739e+05	1.25	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:13	9.619e+05	7.735e+05	1.24	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:59	8.721e+05	6.979e+05	1.25	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	8.107e+05	7.806e+05	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:35	7.029e+05	6.833e+05	1.03	yes	no	1.341
10	Unk	OCDF	40:49	1.091e+06	1.201e+06	0.91	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:50	1.147e+05	1.461e+05	0.78	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:04	7.854e+05	5.019e+05	1.56	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:22	7.321e+05	5.872e+05	1.25	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	6.649e+05	5.336e+05	1.25	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	7.344e+05	5.870e+05	1.25	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:10	5.824e+05	5.623e+05	1.04	yes	no	1.048
17	Unk	OCDD	40:39	8.817e+05	1.000e+06	0.88	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:50	7.771e+04	9.829e+04	0.79	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:44	1.168e+05	7.392e+04	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:44	1.131e+05	7.188e+04	1.57	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:34	5.081e+04	9.735e+04	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:41	5.746e+04	1.103e+05	0.52	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:13	5.300e+04	1.016e+05	0.52	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:58	4.784e+04	9.061e+04	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:16	3.767e+04	8.314e+04	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	3.155e+04	7.023e+04	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:48	5.746e+04	7.322e+04	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	8.338e+04	5.330e+04	1.56	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	6.604e+04	5.272e+04	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:27	7.279e+04	5.834e+04	1.25	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:09	5.836e+04	5.533e+04	1.05	yes	no	0.884
32	IS	13C-OCDD	40:38	9.149e+04	1.008e+05	0.91	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:07	5.652e+04	7.147e+04	0.79	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:41	7.174e+04	5.639e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:50	2.718e+05				no	1.072

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Signal/Noise Height Ratio Summary

CLIENT ID.
82168

Run #6 Filename P607184 Samp: 1 Inj: 1 Acquired: 16-MAY-17 16:55:47
Processed: 17-MAY-17 07:53:00 LAB. ID: CS5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.17e+07	1.33e+03	1.6e+04	2.79e+07	1.18e+03	2.4e+04
2	1,2,3,7,8-PeCDF	1.97e+08	1.65e+04	1.2e+04	1.27e+08	9.81e+03	1.3e+04
3	2,3,4,7,8-PeCDF	2.17e+08	1.65e+04	1.3e+04	1.40e+08	9.81e+03	1.4e+04
4	1,2,3,4,7,8-HxCDF	2.04e+08	4.58e+03	4.4e+04	1.65e+08	2.35e+03	7.0e+04
5	1,2,3,6,7,8-HxCDF	2.23e+08	4.58e+03	4.9e+04	1.81e+08	2.35e+03	7.7e+04
6	2,3,4,6,7,8-HxCDF	2.03e+08	4.58e+03	4.4e+04	1.62e+08	2.35e+03	6.9e+04
7	1,2,3,7,8,9-HxCDF	1.87e+08	4.58e+03	4.1e+04	1.50e+08	2.35e+03	6.4e+04
8	1,2,3,4,6,7,8-HpCDF	1.79e+08	1.85e+04	9.7e+03	1.73e+08	5.49e+04	3.1e+03
9	1,2,3,4,7,8,9-HpCDF	1.52e+08	1.85e+04	8.2e+03	1.46e+08	5.49e+04	2.7e+03
10	OCDF	2.15e+08	1.36e+05	1.6e+03	2.39e+08	6.27e+04	3.8e+03
11	2,3,7,8-TCDD	1.87e+07	1.50e+03	1.2e+04	2.38e+07	3.48e+02	6.8e+04
12	1,2,3,7,8-PeCDD	1.48e+08	1.20e+03	1.2e+05	9.35e+07	1.00e+03	9.3e+04
13	1,2,3,4,7,8-HxCDD	1.62e+08	6.84e+02	2.4e+05	1.29e+08	3.16e+02	4.1e+05
14	1,2,3,6,7,8-HxCDD	1.41e+08	6.84e+02	2.1e+05	1.13e+08	3.16e+02	3.6e+05
15	1,2,3,7,8,9-HxCDD	1.57e+08	6.84e+02	2.3e+05	1.27e+08	3.16e+02	4.0e+05
16	1,2,3,4,6,7,8-HpCDD	1.33e+08	6.68e+03	2.0e+04	1.28e+08	3.04e+03	4.2e+04
17	OCDD	1.80e+08	5.70e+04	3.1e+03	2.03e+08	4.18e+04	4.9e+03
18	13C-2,3,7,8-TCDF	1.13e+07	1.70e+04	6.7e+02	1.41e+07	5.63e+03	2.5e+03
19	13C-1,2,3,7,8-PeCDF	2.02e+07	1.22e+03	1.7e+04	1.29e+07	2.11e+03	6.1e+03
20	13C-2,3,4,7,8-PeCDF	2.11e+07	1.22e+03	1.7e+04	1.34e+07	2.11e+03	6.4e+03
21	13C-1,2,3,4,7,8-HxCDF	1.07e+07	8.04e+02	1.3e+04	2.05e+07	1.51e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	1.19e+07	8.04e+02	1.5e+04	2.27e+07	1.51e+03	1.5e+04
23	13C-2,3,4,6,7,8-HxCDF	1.12e+07	8.04e+02	1.4e+04	2.13e+07	1.51e+03	1.4e+04
24	13C-1,2,3,7,8,9-HxCDF	1.01e+07	8.04e+02	1.3e+04	1.93e+07	1.51e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.24e+06	4.42e+03	1.9e+03	1.84e+07	9.41e+03	2.0e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.99e+06	4.42e+03	1.6e+03	1.54e+07	9.41e+03	1.6e+03
27	13C-2,3,7,8-TCDD	9.11e+06	5.94e+03	1.5e+03	1.15e+07	1.78e+03	6.5e+03
28	13C-1,2,3,7,8-PeCDD	1.57e+07	1.10e+03	1.4e+04	1.01e+07	2.20e+02	4.6e+04
29	13C-1,2,3,4,7,8-HxCDD	1.44e+07	2.46e+03	5.8e+03	1.13e+07	8.20e+02	1.4e+04
30	13C-1,2,3,6,7,8-HxCDD	1.54e+07	2.46e+03	6.3e+03	1.22e+07	8.20e+02	1.5e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.33e+07	1.90e+03	7.0e+03	1.26e+07	1.01e+03	1.2e+04
32	13C-OCDD	1.79e+07	5.02e+03	3.6e+03	2.00e+07	1.04e+04	1.9e+03
33	13C-1,2,3,4-TCDD	8.41e+06	5.94e+03	1.4e+03	1.09e+07	1.78e+03	6.1e+03
34	13C-1,2,3,7,8,9-HxCDD	1.56e+07	2.46e+03	6.3e+03	1.23e+07	8.20e+02	1.5e+04
35	37Cl-2,3,7,8-TCDD	4.44e+07	1.06e+03	4.2e+04			

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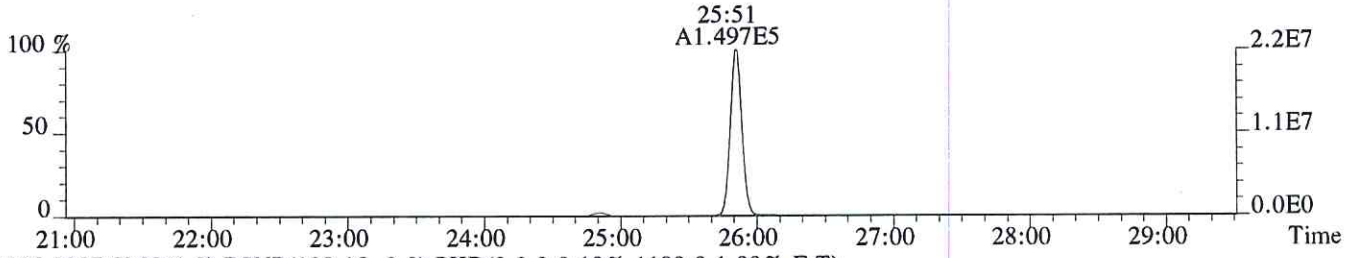
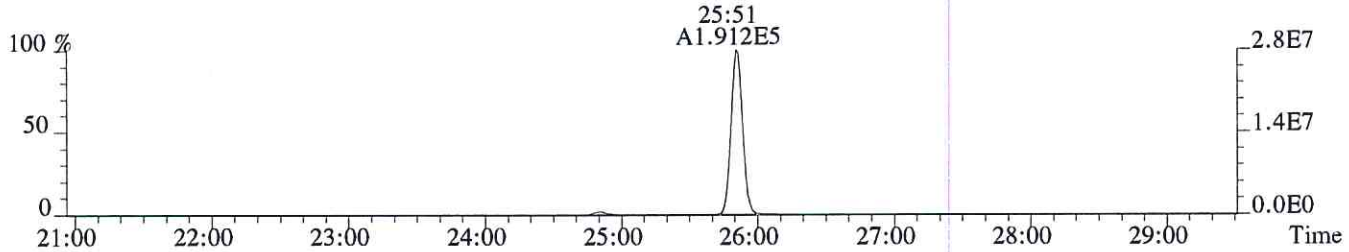
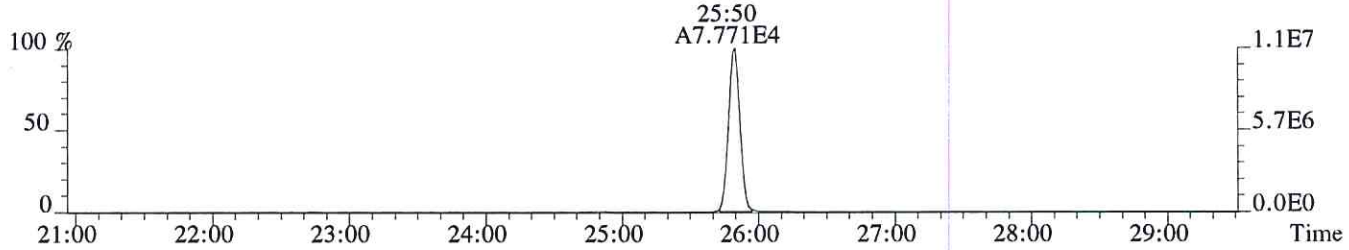
File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,T)



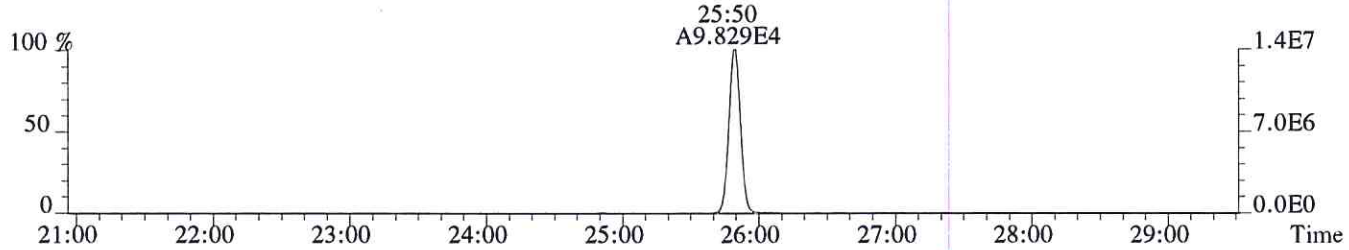
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,T)



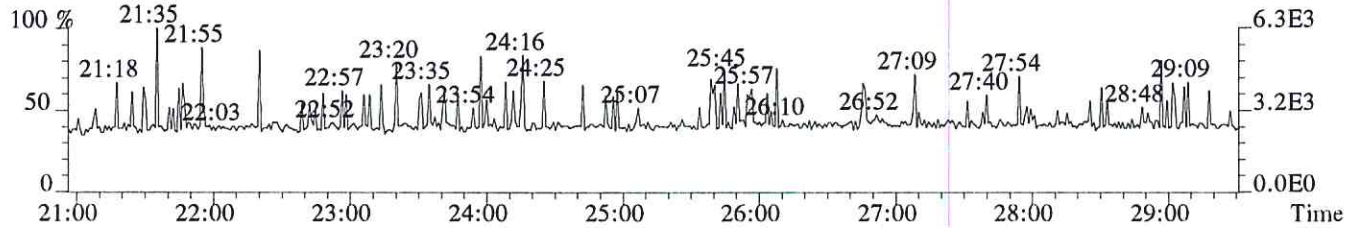
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16952.0,1.00%,F,T)



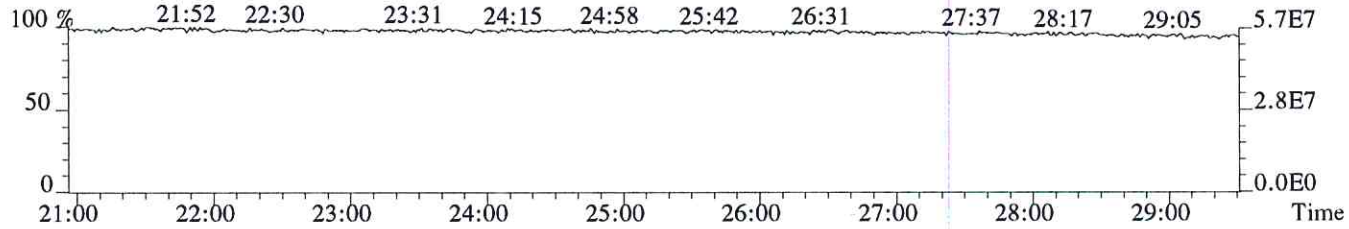
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5628.0,1.00%,F,T)



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

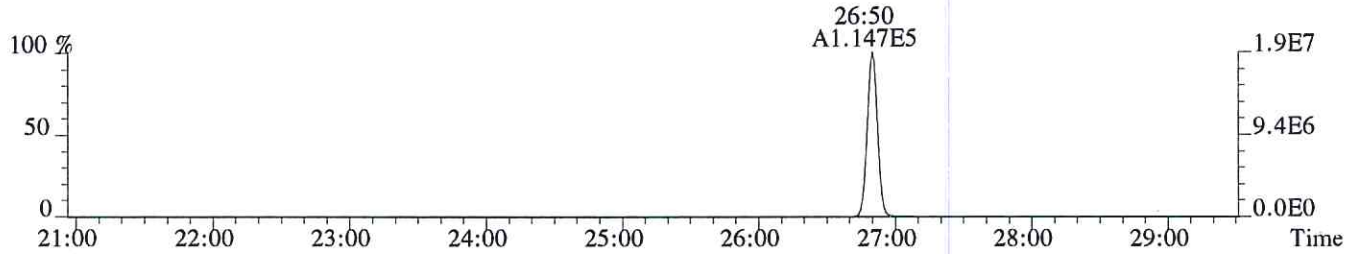


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

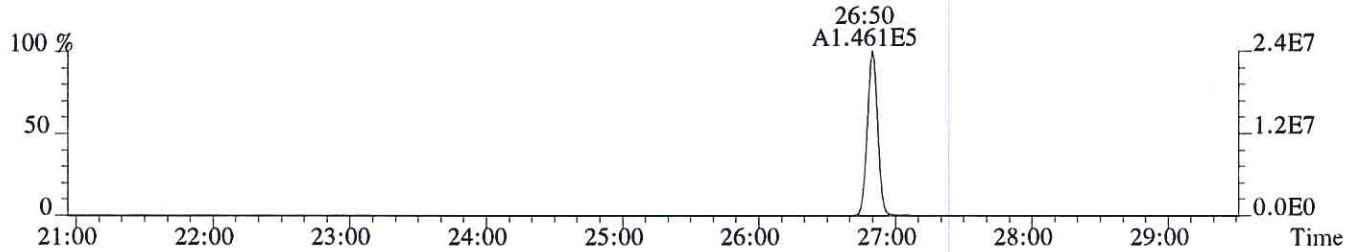


File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5

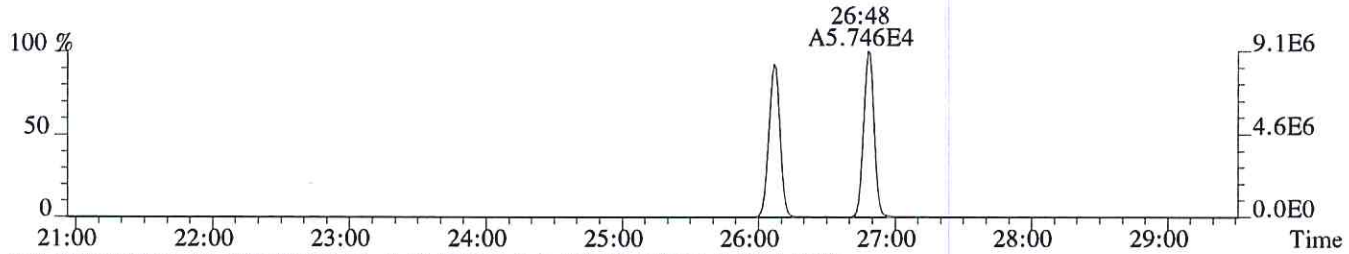
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



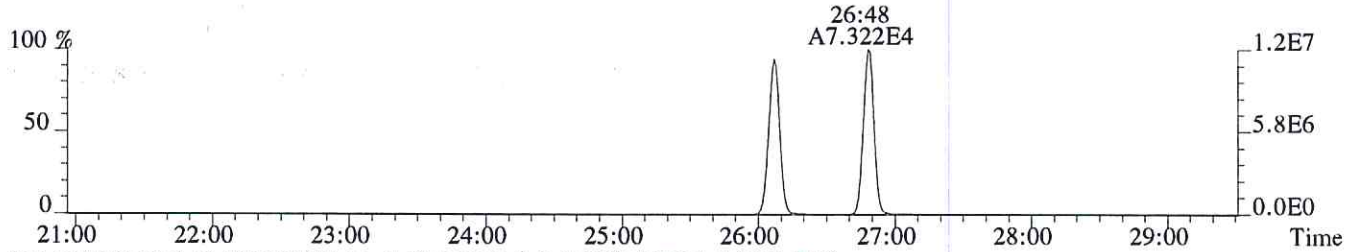
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,348.0,1.00%,F,T)



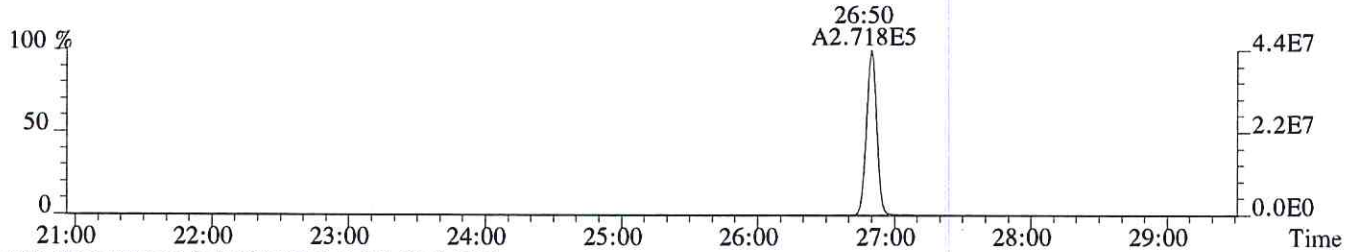
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5940.0,1.00%,F,T)



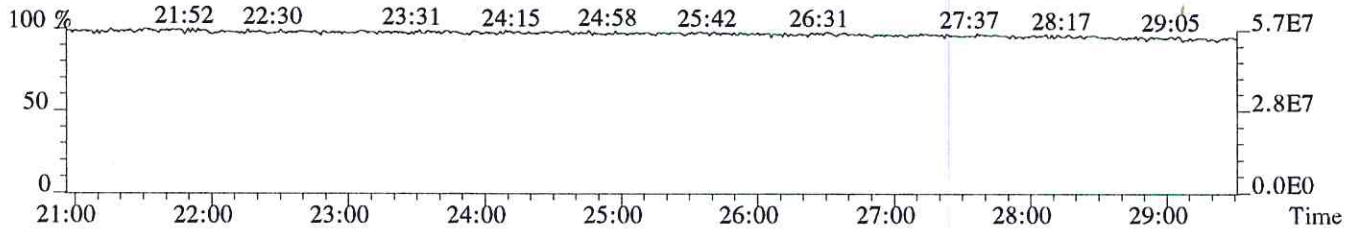
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1776.0,1.00%,F,T)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,T)

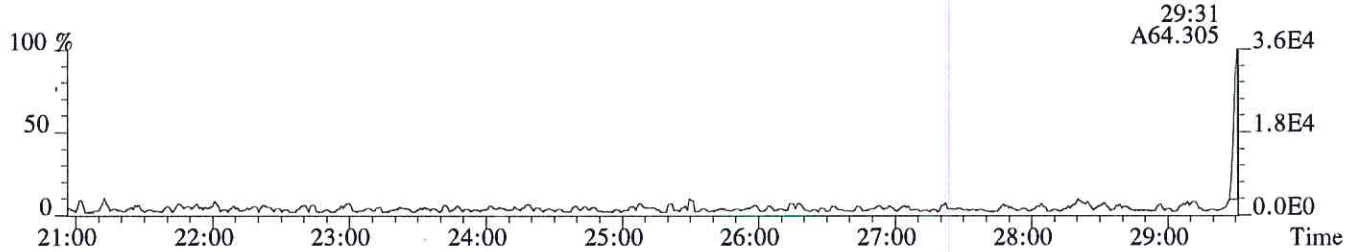


318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

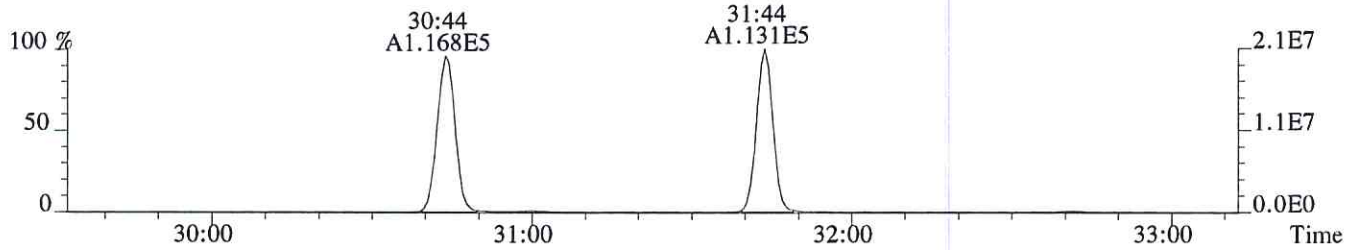


File:P607184 #1-609 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,T)

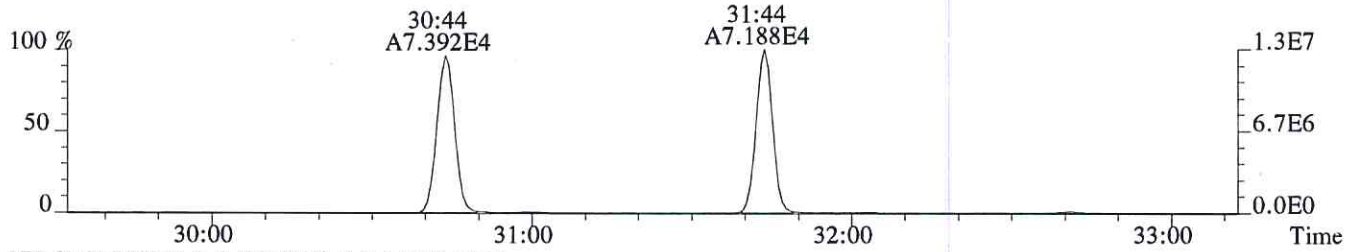
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1688.0,1.00%,F,T)



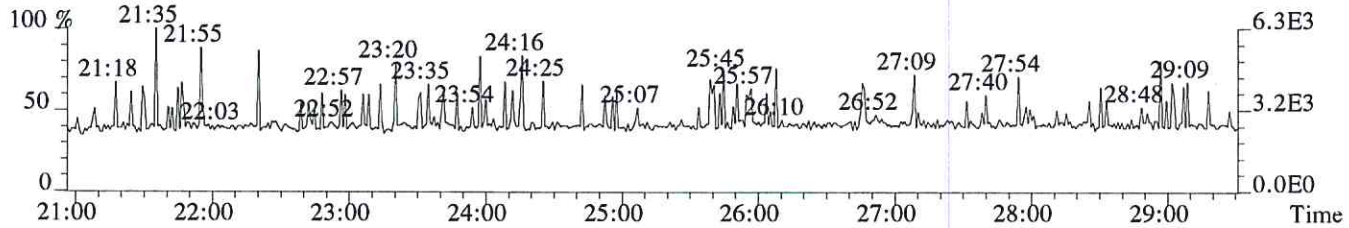
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



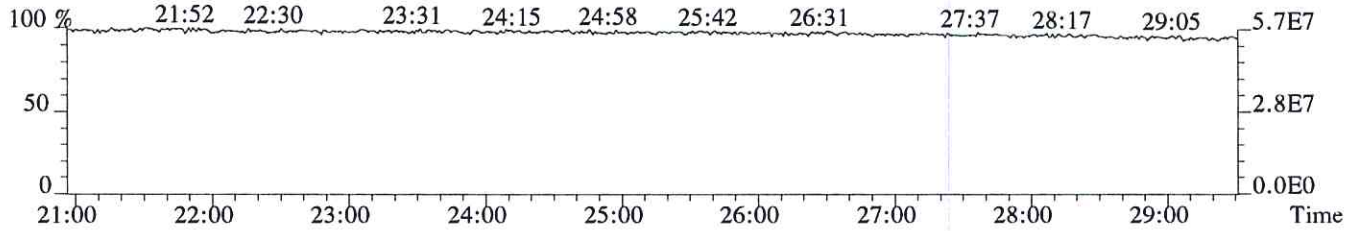
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



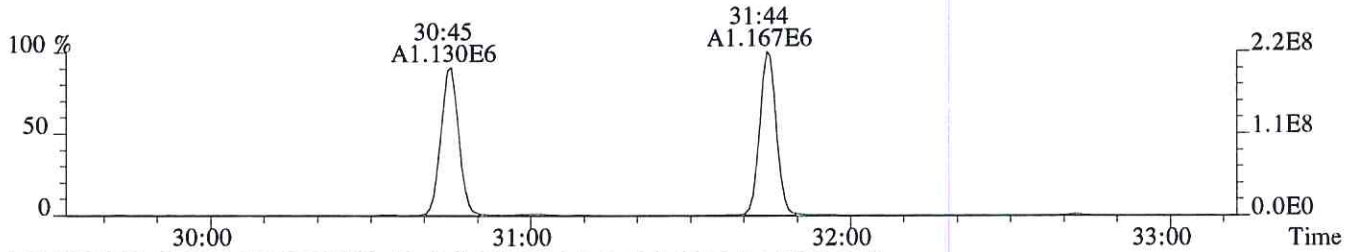
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



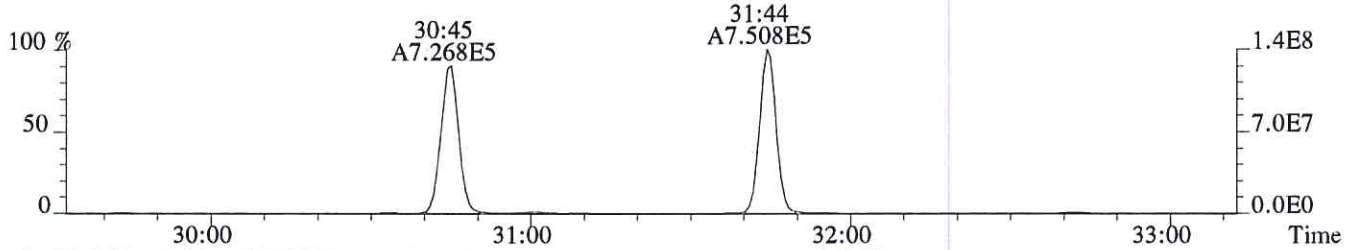
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



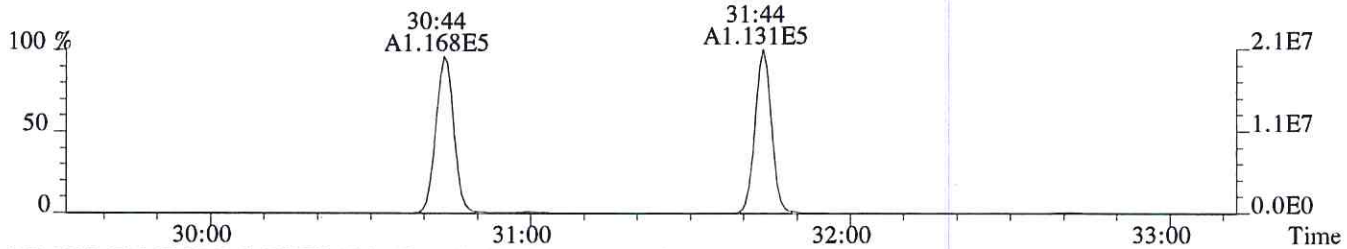
File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16496.0,1.00%,F,T)



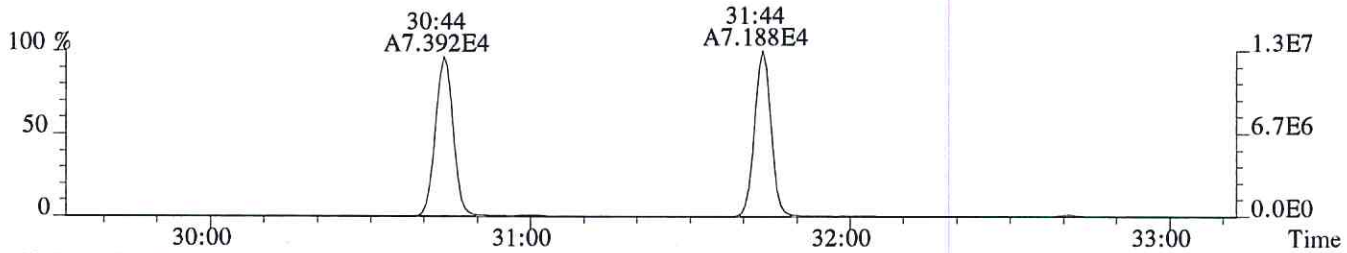
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9812.0,1.00%,F,T)



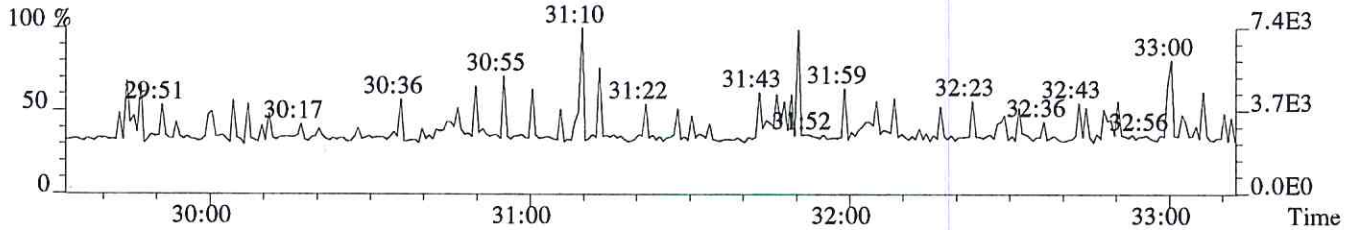
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,T)



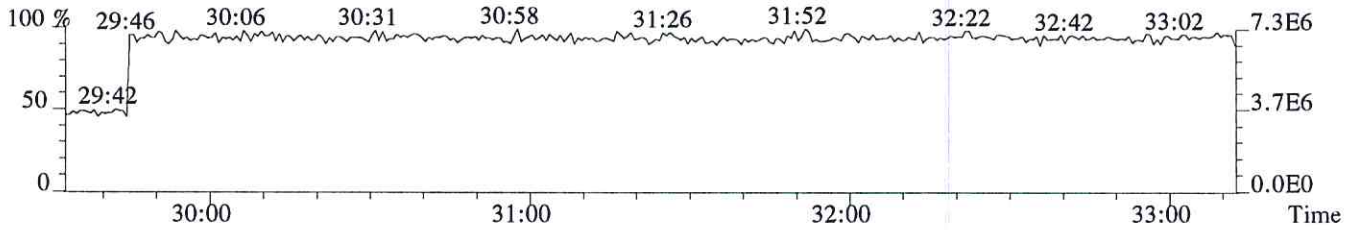
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2108.0,1.00%,F,T)



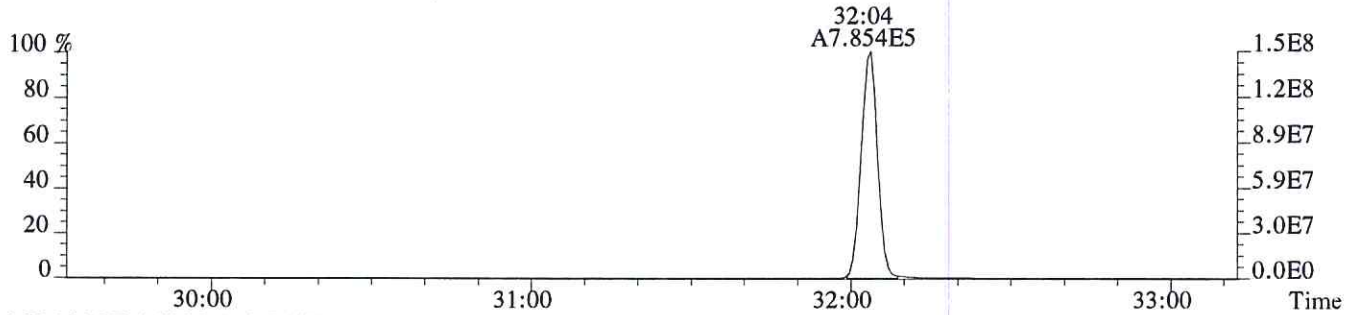
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



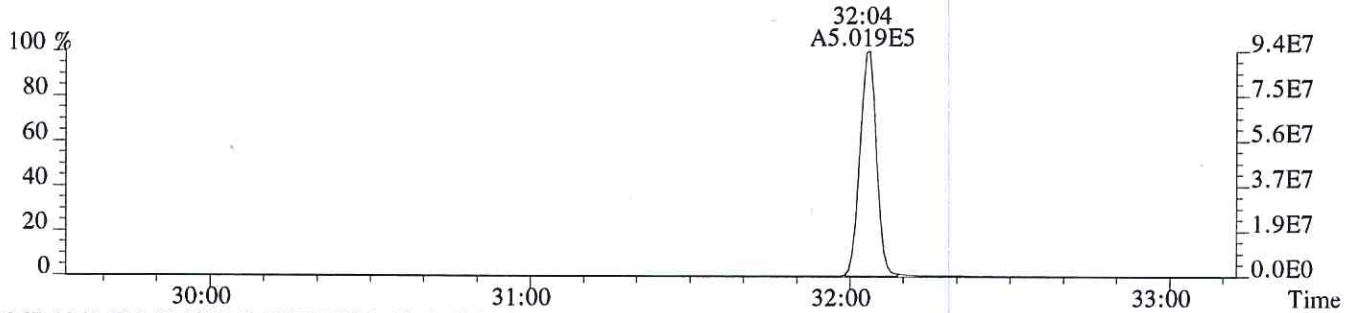
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



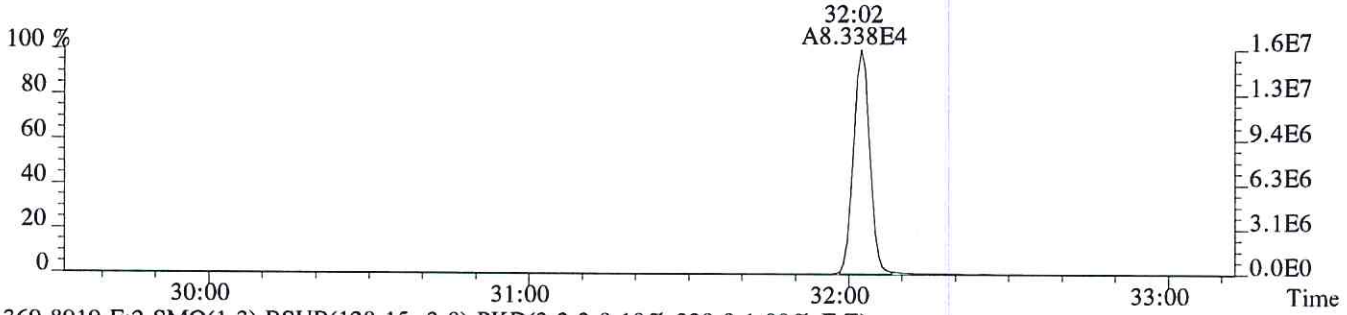
File:P607184 #1-330 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1200.0,1.00%,F,T)



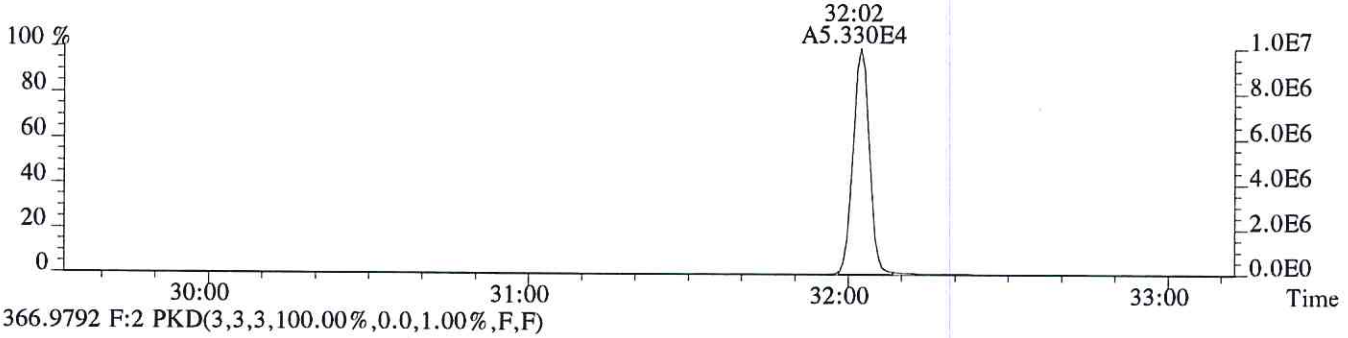
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,T)



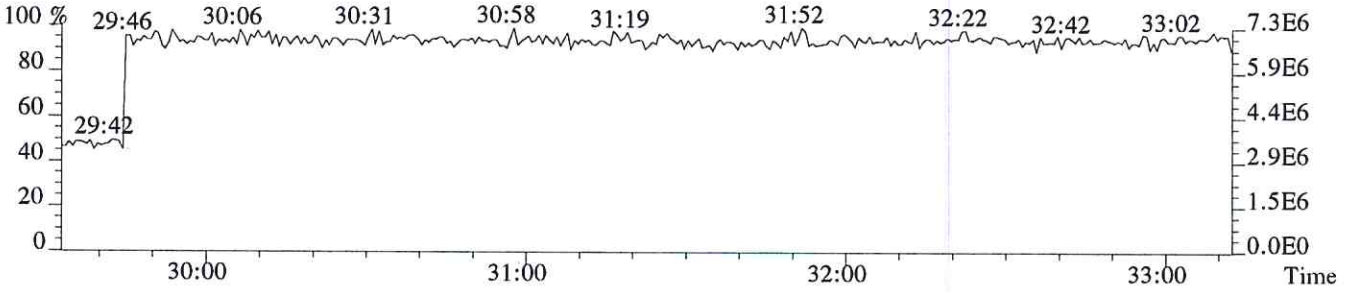
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



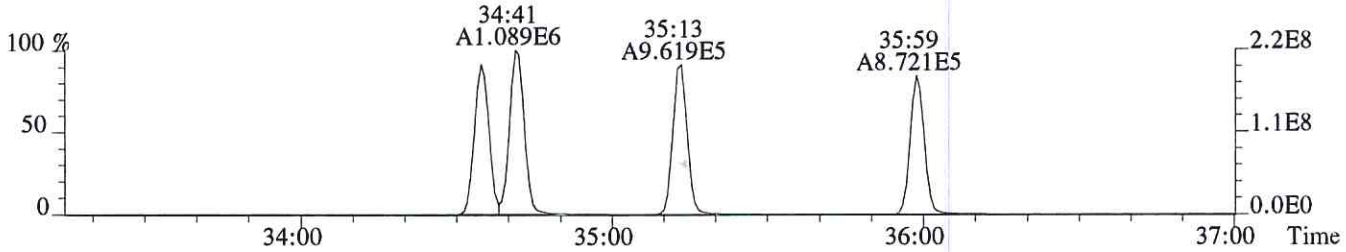
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,220.0,1.00%,F,T)



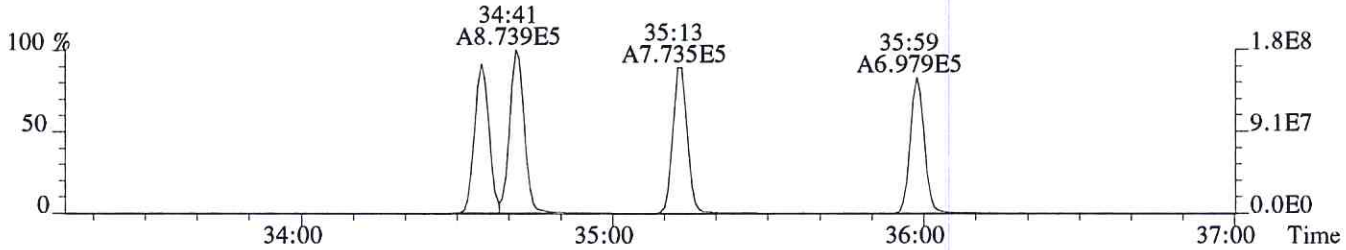
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



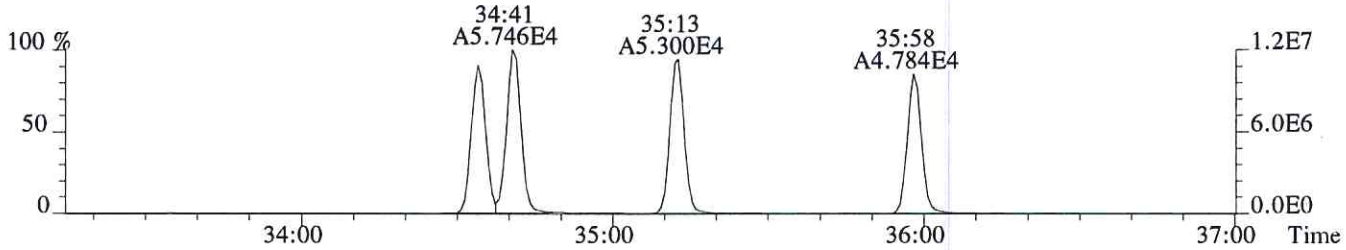
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4584.0,0.40%,F,T)



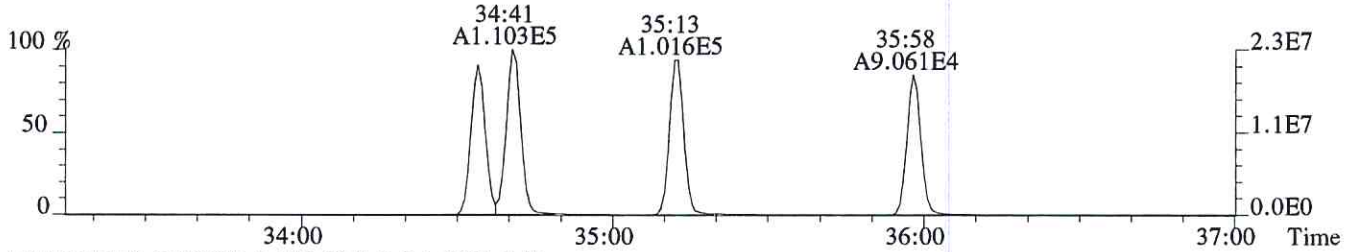
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2352.0,0.40%,F,T)



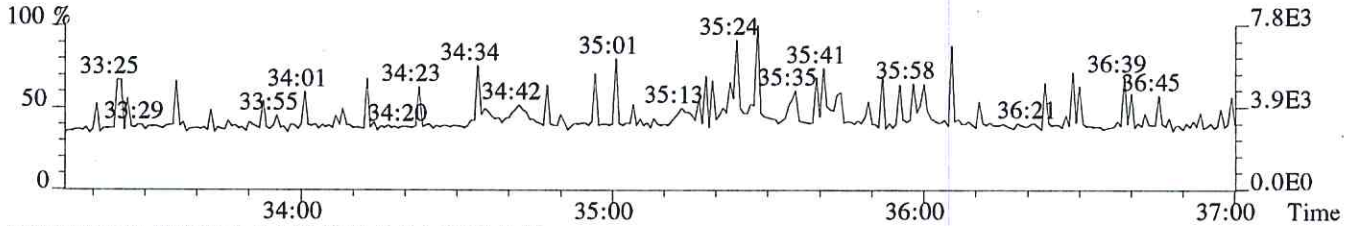
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,T)



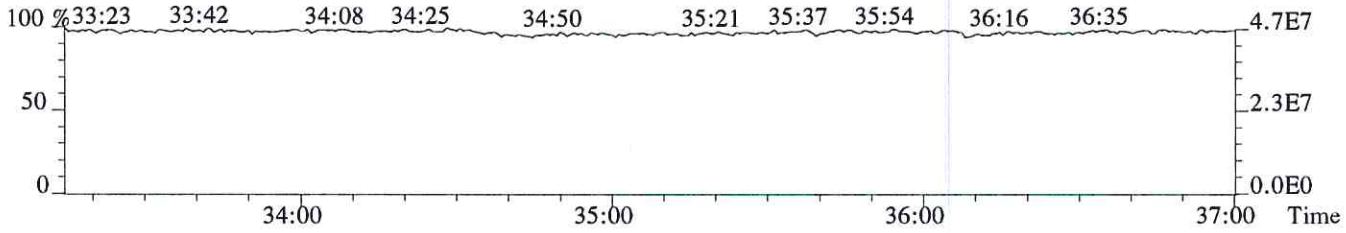
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,T)



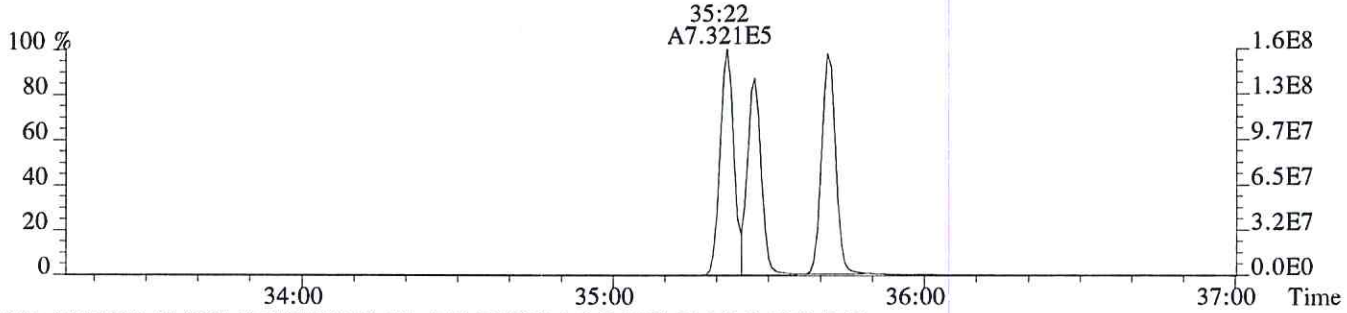
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



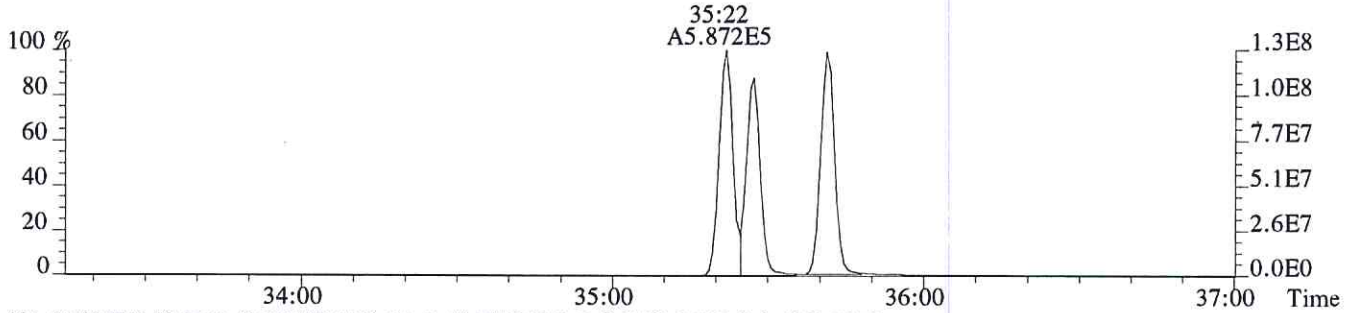
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



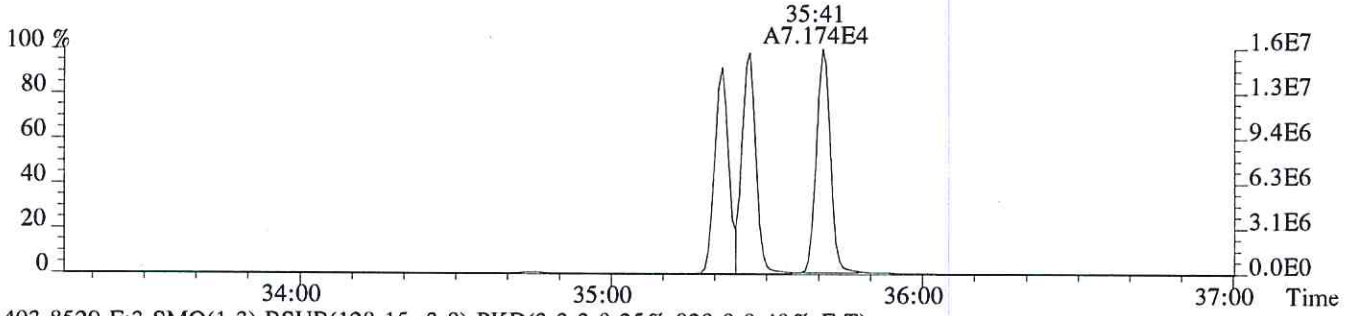
File:P607184 #1-339 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,684.0,0.40%,F,T)



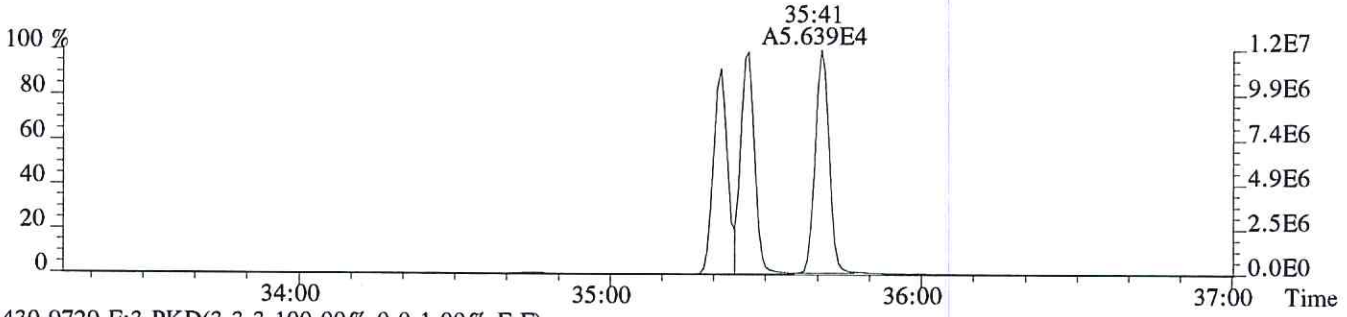
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,316.0,0.40%,F,T)



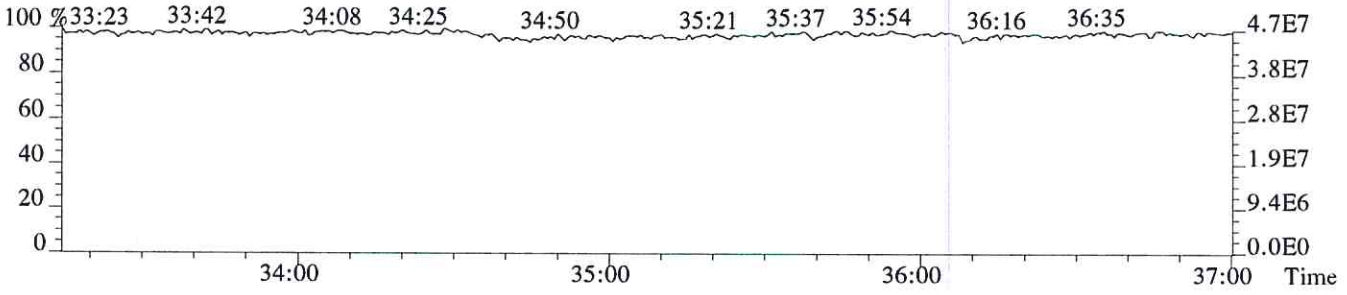
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2456.0,0.40%,F,T)



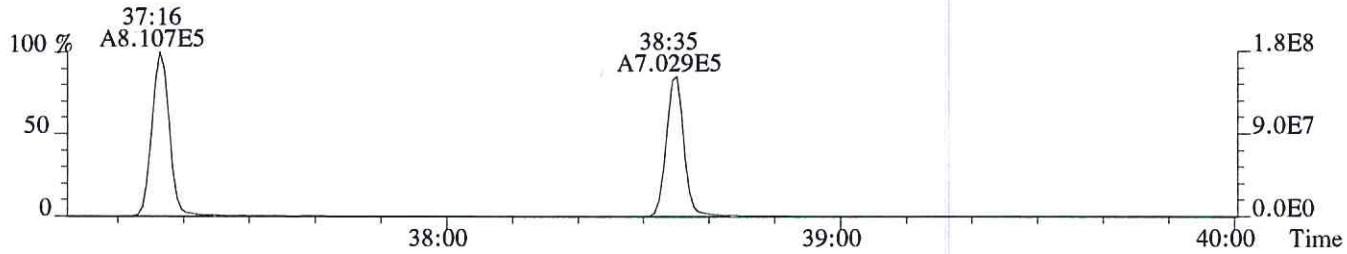
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,820.0,0.40%,F,T)



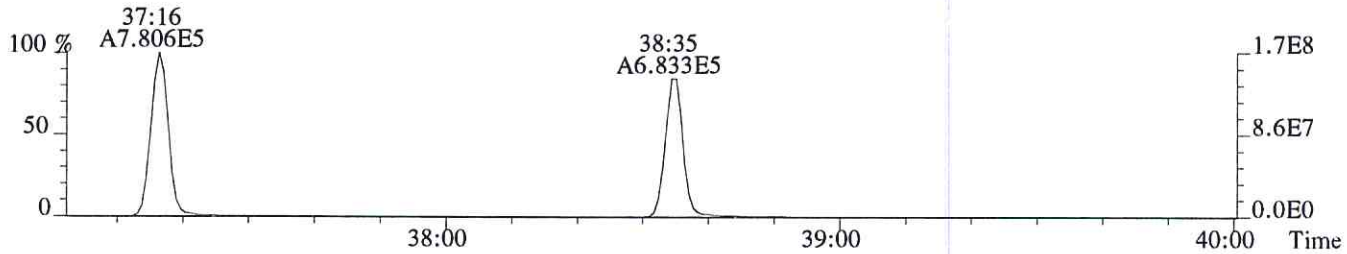
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



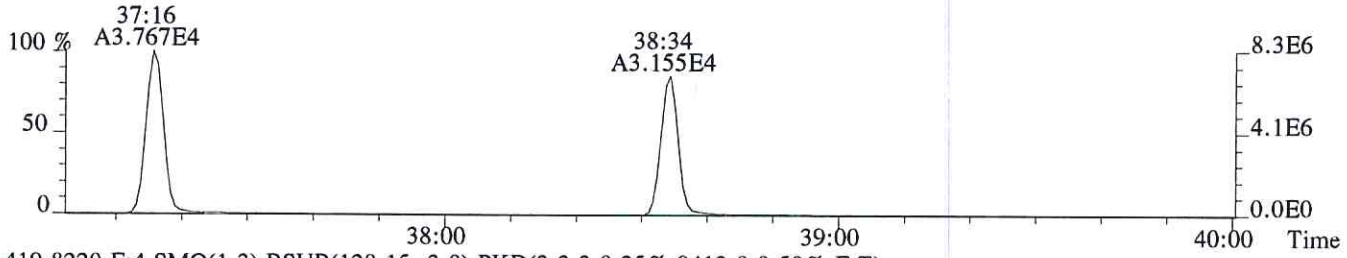
File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,18456.0,0.50%,F,T)



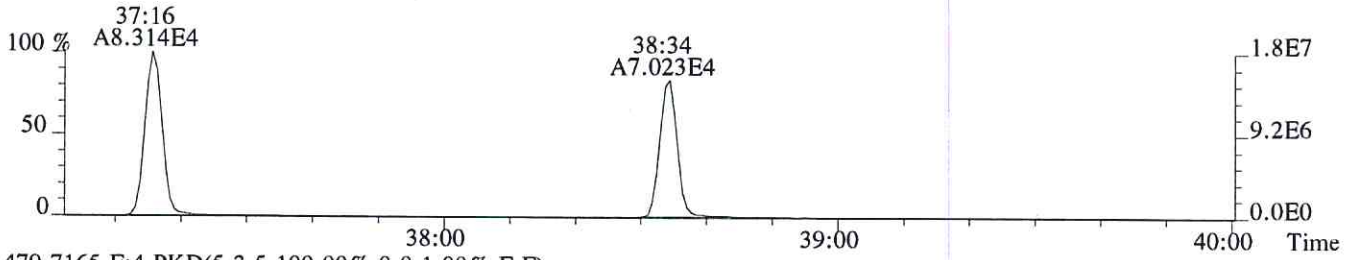
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,54876.0,0.50%,F,T)



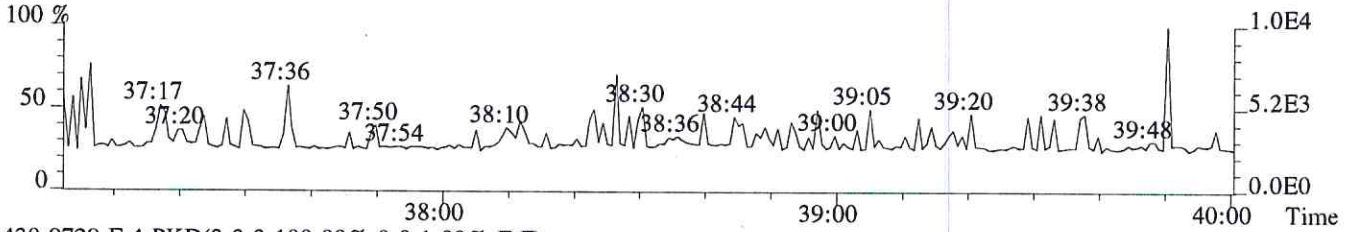
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4424.0,0.50%,F,T)



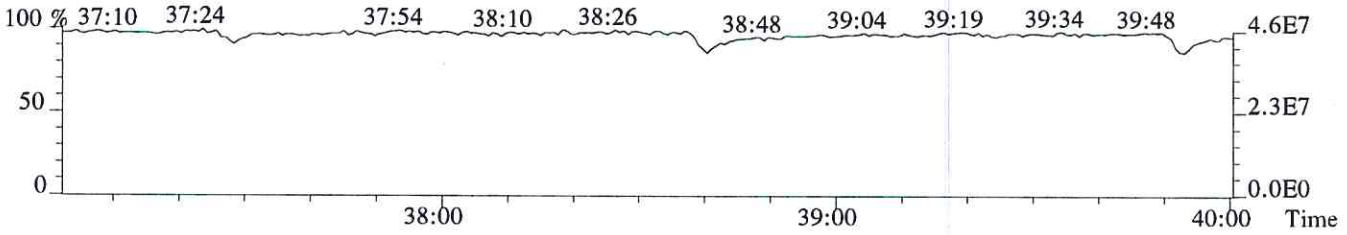
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9412.0,0.50%,F,T)



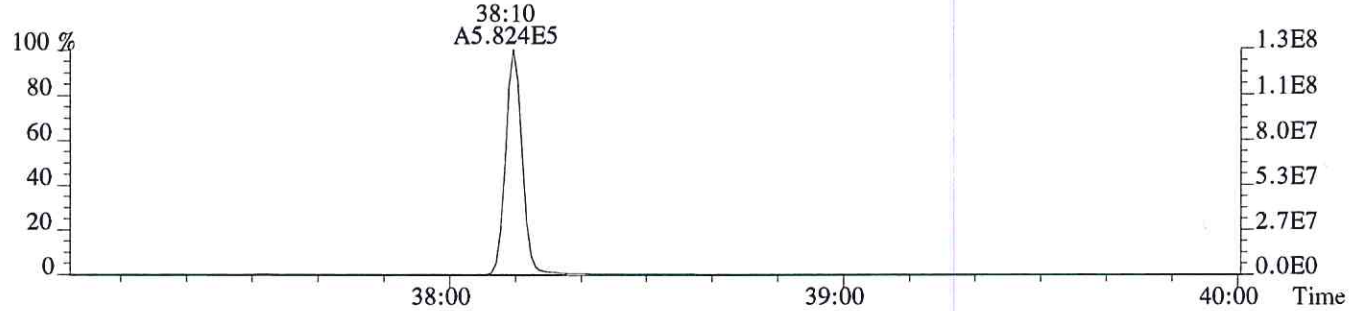
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



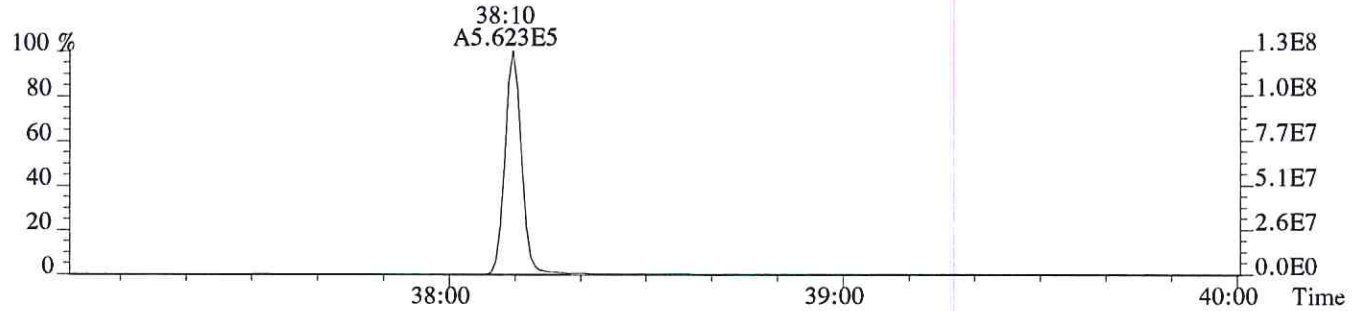
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



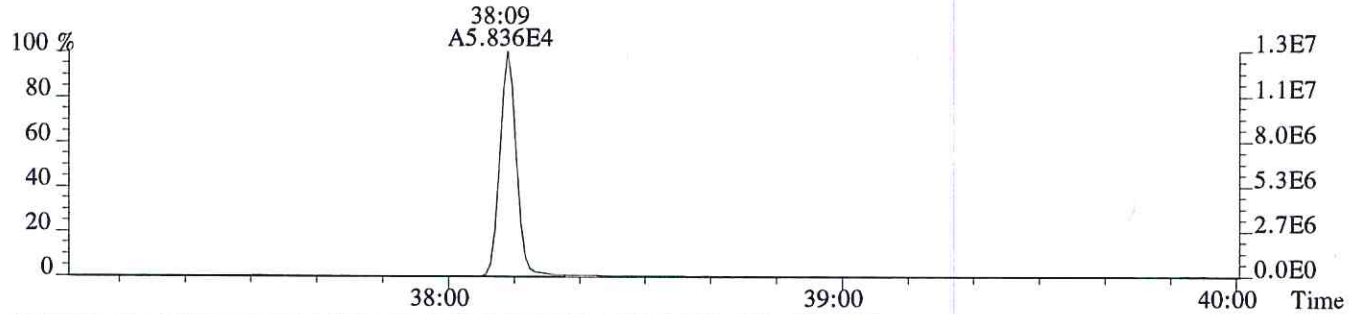
File:P607184 #1-268 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6684.0,0.40%,F,T)



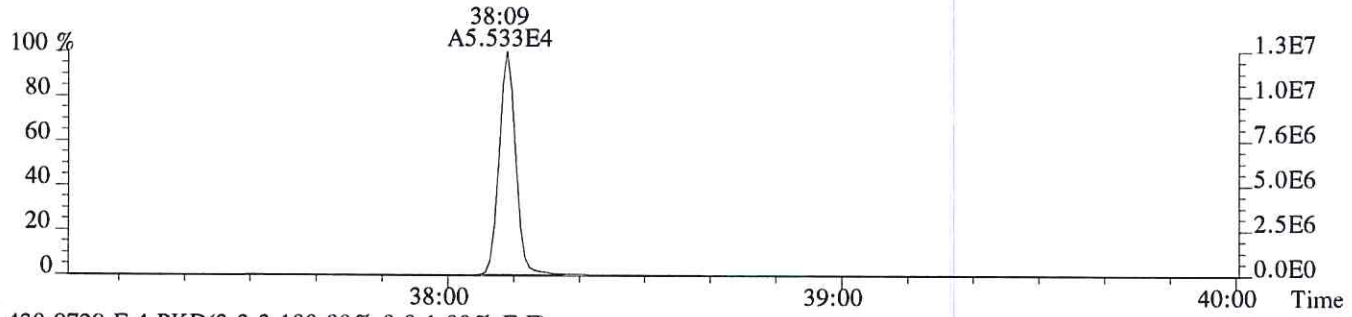
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3036.0,0.40%,F,T)



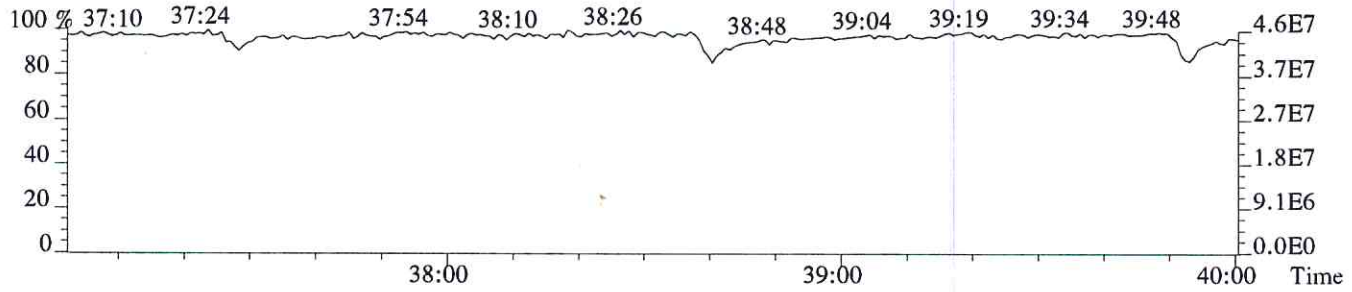
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1896.0,0.40%,F,T)



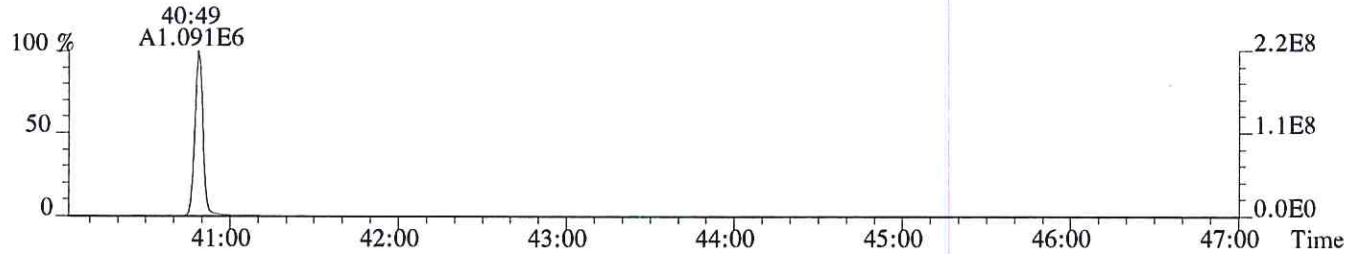
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,T)



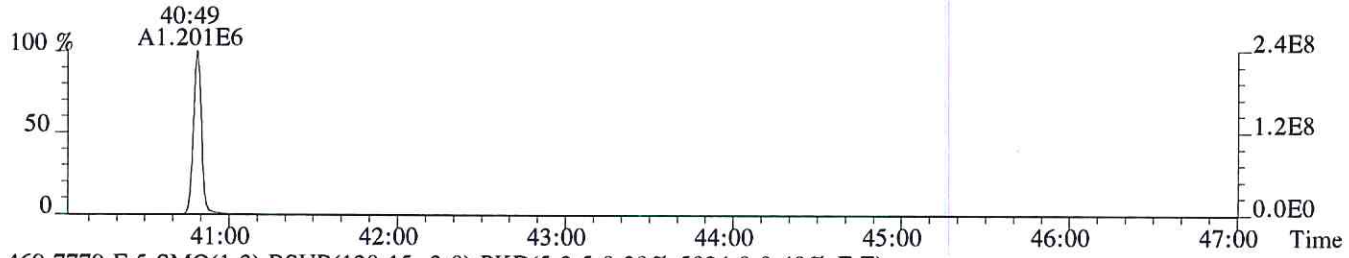
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



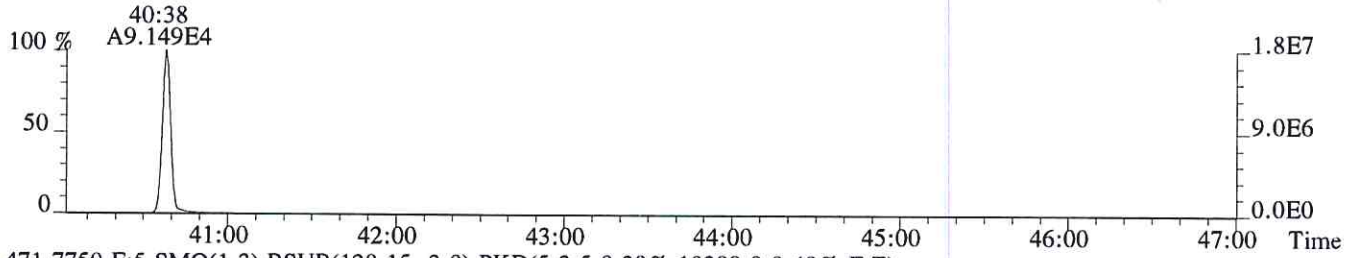
File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136040.0,0.40%,F,T)



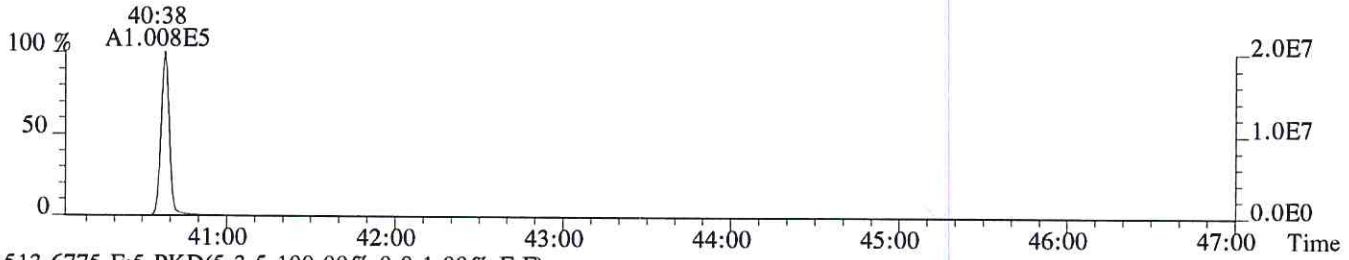
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,62728.0,0.40%,F,T)



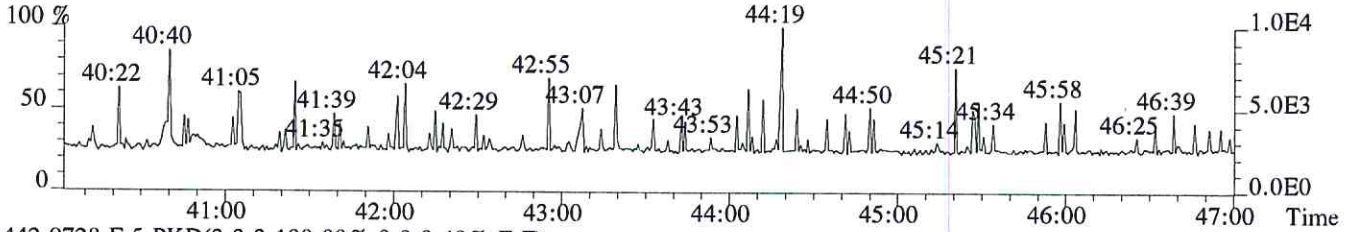
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



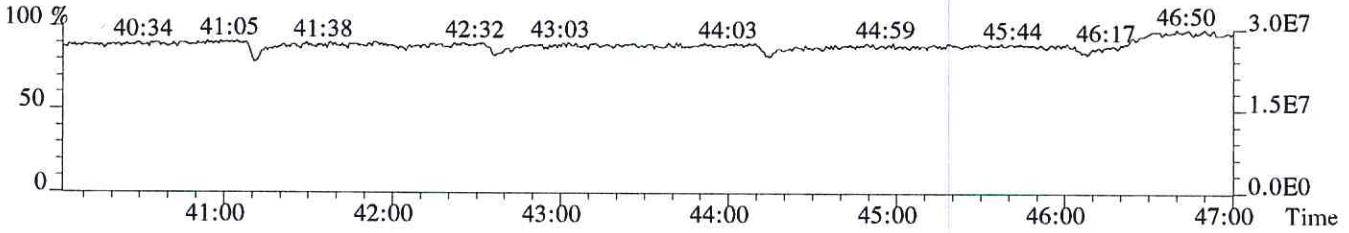
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10388.0,0.40%,F,T)



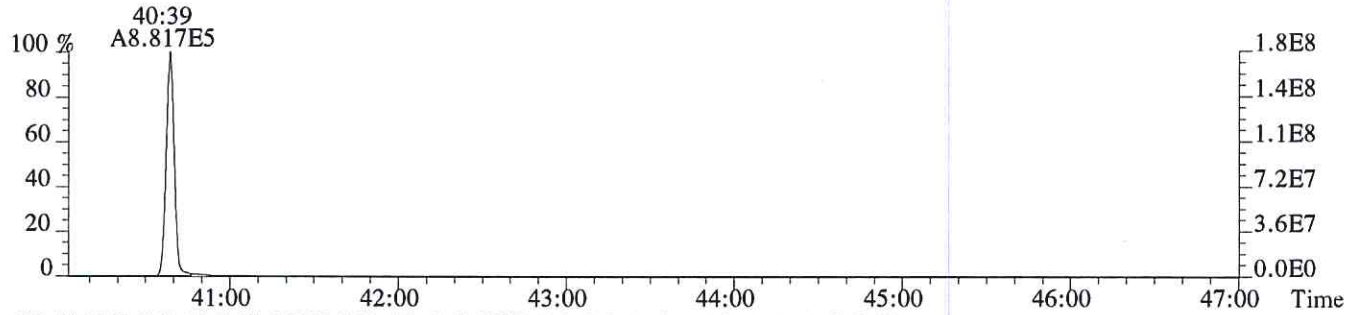
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



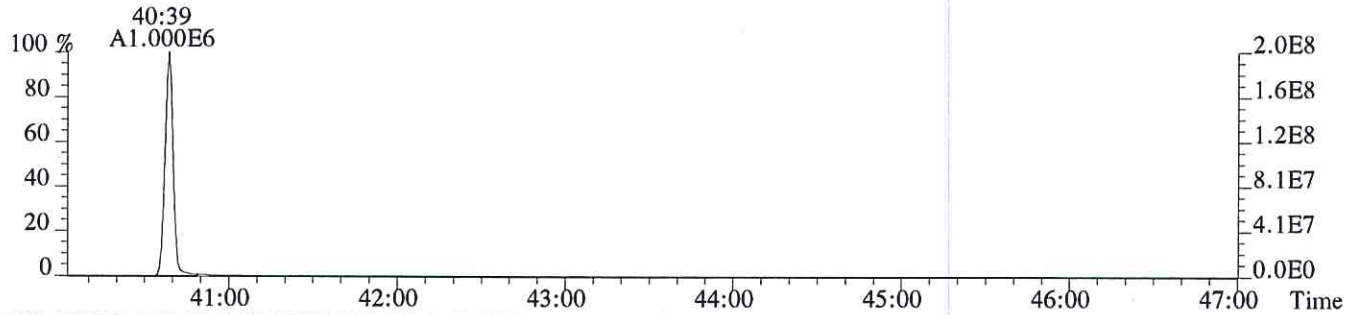
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



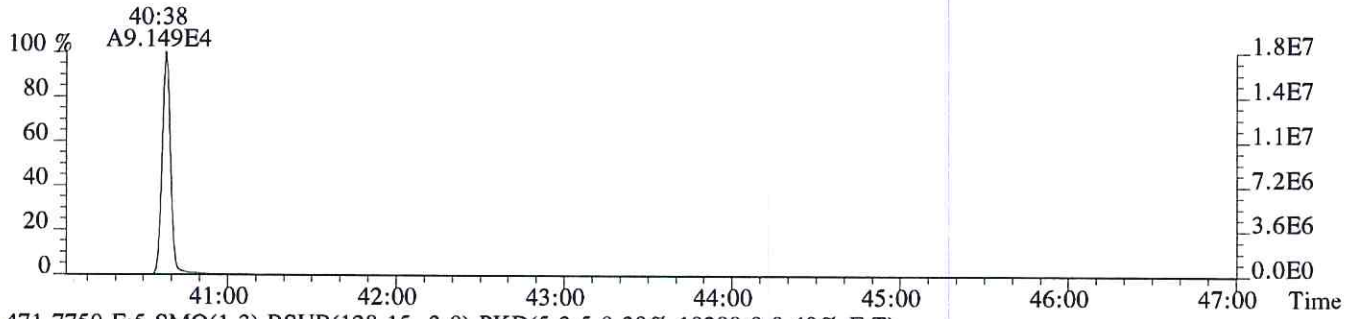
File:P607184 #1-627 Acq:16-MAY-2017 16:55:47 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CS5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,57044.0,0.40%,F,T)



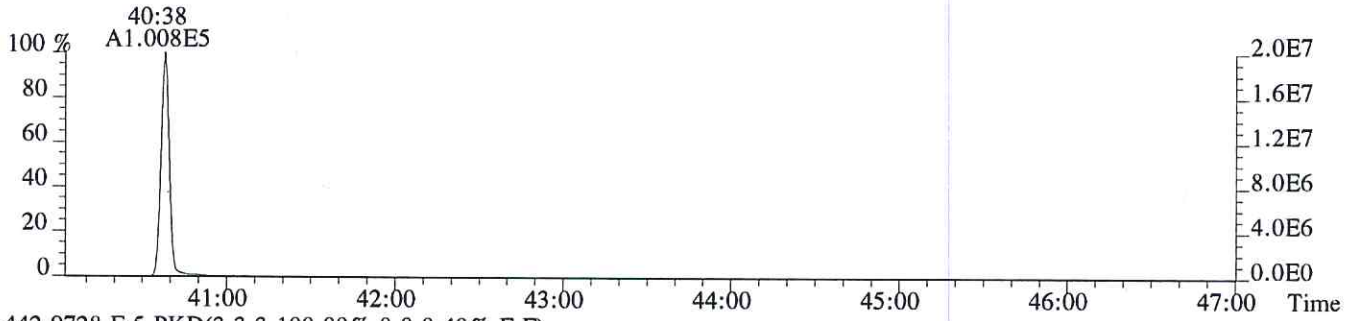
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,41804.0,0.40%,F,T)



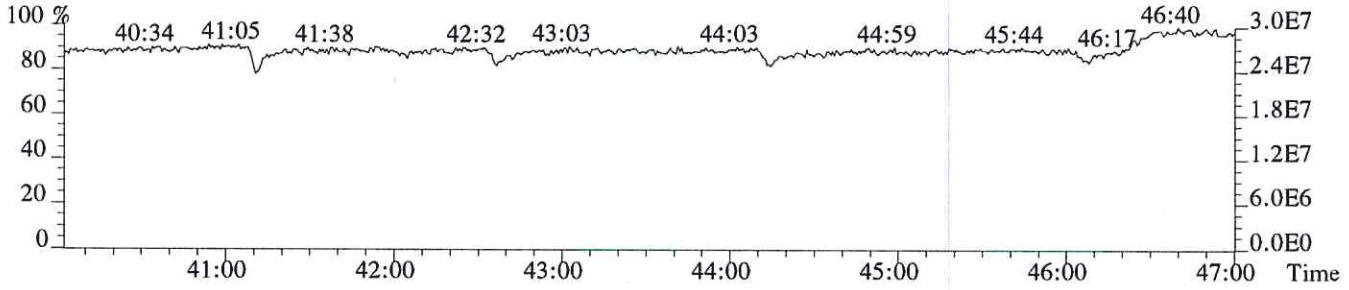
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,5024.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10388.0,0.40%,F,T)



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



USEPA - ITD

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P607186 Analysis Date: 16-MAY-17 Time: 18:45:06

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (4)
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	9.8	7.8 - 12.9	-2.1
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	49	39 - 65	-1.3
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	48	39 - 64	-3.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	51	39 - 64	1.8
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	49	41 - 61	-1.5
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	50	43 - 58	-0.9
OCDD	M+2/M+4	0.90	0.76-1.02	100	79 - 126	0.0
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	9.7	8.4 - 12.0	-3.4
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	50	41 - 60	-0.5
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	49	41 - 61	-2.2
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	50	45 - 56	-0.5
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	49	44 - 57	-1.7
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	49	45 - 56	-1.1
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	49	44 - 57	-1.6
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	50	45 - 55	-0.5
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	48	43 - 58	-3.8
OCDF	M+2/M+4	0.91	0.76-1.02	100	63 - 159	0.4

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

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.

(3) Contract-required concentration range as specified in Table 6, Method 1613B, under VER.

(4) The beginning CCAL %RSD for the 17 unlabeled standard must not exceed +/- 20%, Section 7.7.4.1. The ending CCAL must not exceed +/-25%, Section 8.3.2.4, Method 8290

12/2012
1613F4A.FRM

USEPA - ITD

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: ALS ENVIRONMENTAL Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 05/16/17

Instrument ID: E-HRMS-08 GC Column ID: DB-5MSUI

VER Data Filename: P607186 Analysis Date: 16-MAY-17 Time: 18:45:06

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE (3) (ng/mL)	%RSD (5)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	100	82 - 121	-0.2
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	95	62 - 160	-4.6
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	101	85 - 117	1.4
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	97	85 - 118	-3.1
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	99	72 - 138	-1.2
13C-OCDD	M+2/M+4	0.90	0.76-1.02	195	96 - 415	-2.6
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	101	71 - 140	1.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	97	76 - 130	-3.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	96	77 - 130	-4.1
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	101	76 - 131	0.6
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	97	70 - 143	-2.8
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	99	74 - 135	-1.4
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	99	73 - 137	-0.7
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	98	78 - 129	-1.9
13C-1,2,3,4,7,8,9-HpCDF	M/M+2	0.45	0.37-0.51	101	77 - 129	0.8
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				9.8	7.8 - 12.7	-2.4

(1) See Table 8, Method 1613B, for m/z specifications.
(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613B.
(3) Contract-required concentration range, as specified in Table 6, Method 1613B, under VER.
(4) No ion abundance ratio; report concentration found.
(5) The beginnning CCAL %RSD for the labeled standard must not exceed +/- 30% Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Sec 8.3.2.4 (8290)

12/2012
1613F4B.FRM

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
75080

Run #7 Filename P607186 Samp: 1 Inj: 1 Acquired: 16-MAY-17 18:45:06
Processed: 17-MAY-17 07:57:37 Sample ID: 2ND SOURCE

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	25:50	1.553e+04	1.967e+04	0.79	yes	no	1.020
2	Unk	1,2,3,7,8-PeCDF	30:44	1.217e+05	7.783e+04	1.56	yes	no	1.058
3	Unk	2,3,4,7,8-PeCDF	31:44	1.135e+05	7.296e+04	1.56	yes	no	1.015
4	Unk	1,2,3,4,7,8-HxCDF	34:34	9.768e+04	8.003e+04	1.22	yes	no	1.257
5	Unk	1,2,3,6,7,8-HxCDF	34:41	1.060e+05	8.666e+04	1.22	yes	no	1.192
6	Unk	2,3,4,6,7,8-HxCDF	35:12	9.781e+04	7.934e+04	1.23	yes	no	1.176
7	Unk	1,2,3,7,8,9-HxCDF	35:58	8.937e+04	7.235e+04	1.24	yes	no	1.211
8	Unk	1,2,3,4,6,7,8-HpCDF	37:16	8.292e+04	7.993e+04	1.04	yes	no	1.392
9	Unk	1,2,3,4,7,8,9-HpCDF	38:34	7.090e+04	6.844e+04	1.04	yes	no	1.341
10	Unk	OCDF	40:48	1.101e+05	1.214e+05	0.91	yes	no	1.337
11	Unk	2,3,7,8-TCDD	26:49	1.162e+04	1.478e+04	0.79	yes	no	1.055
12	Unk	1,2,3,7,8-PeCDD	32:02	7.808e+04	5.026e+04	1.55	yes	no	0.964
13	Unk	1,2,3,4,7,8-HxCDD	35:21	6.991e+04	5.640e+04	1.24	yes	no	1.074
14	Unk	1,2,3,6,7,8-HxCDD	35:27	6.745e+04	5.397e+04	1.25	yes	no	1.037
15	Unk	1,2,3,7,8,9-HxCDD	35:41	7.459e+04	5.897e+04	1.26	yes	no	1.148
16	Unk	1,2,3,4,6,7,8-HpCDD	38:09	5.933e+04	5.705e+04	1.04	yes	no	1.048
17	Unk	OCDD	40:38	9.158e+04	1.016e+05	0.90	yes	no	1.120
18	IS	13C-2,3,7,8-TCDF	25:49	1.586e+05	1.989e+05	0.80	yes	no	1.364
19	IS	13C-1,2,3,7,8-PeCDF	30:43	2.322e+05	1.468e+05	1.58	yes	no	1.505
20	IS	13C-2,3,4,7,8-PeCDF	31:43	2.302e+05	1.456e+05	1.58	yes	no	1.510
21	IS	13C-1,2,3,4,7,8-HxCDF	34:33	9.775e+04	1.865e+05	0.52	yes	no	1.101
22	IS	13C-1,2,3,6,7,8-HxCDF	34:40	1.137e+05	2.152e+05	0.53	yes	no	1.319
23	IS	13C-2,3,4,6,7,8-HxCDF	35:11	1.055e+05	2.006e+05	0.53	yes	no	1.202
24	IS	13C-1,2,3,7,8,9-HxCDF	35:57	9.333e+04	1.768e+05	0.53	yes	no	1.068
25	IS	13C-1,2,3,4,6,7,8-HpCDF	37:15	7.299e+04	1.621e+05	0.45	yes	no	0.934
26	IS	13C-1,2,3,4,7,8,9-HpCDF	38:34	6.677e+04	1.493e+05	0.45	yes	no	0.836
27	IS	13C-2,3,7,8-TCDD	26:47	1.124e+05	1.432e+05	0.78	yes	no	0.987
28	IS	13C-1,2,3,7,8-PeCDD	32:02	1.652e+05	1.048e+05	1.58	yes	no	1.091
29	IS	13C-1,2,3,4,7,8-HxCDD	35:21	1.349e+05	1.077e+05	1.25	yes	no	0.933
30	IS	13C-1,2,3,6,7,8-HxCDD	35:26	1.286e+05	1.016e+05	1.27	yes	no	0.926
31	IS	13C-1,2,3,4,6,7,8-HpCDD	38:08	1.152e+05	1.088e+05	1.06	yes	no	0.884
32	IS	13C-OCDD	40:37	1.635e+05	1.815e+05	0.90	yes	no	0.691
33	RS/RT	13C-1,2,3,4-TCDD	26:06	1.152e+05	1.443e+05	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	35:40	1.427e+05	1.138e+05	1.25	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	26:49	2.716e+04				no	1.072

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
75080

Run #7 Filename P607186 Samp: 1 Inj: 1 Acquired: 16-MAY-17 18:45:06
Processed: 17-MAY-17 07:57:37 LAB. ID: 2ND SOURCE

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.24e+06	2.40e+02	9.3e+03	2.86e+06	1.97e+03	1.5e+03
2	1,2,3,7,8-PeCDF	2.09e+07	9.88e+02	2.1e+04	1.35e+07	2.46e+03	5.5e+03
3	2,3,4,7,8-PeCDF	2.11e+07	9.88e+02	2.1e+04	1.37e+07	2.46e+03	5.6e+03
4	1,2,3,4,7,8-HxCDF	2.08e+07	1.11e+03	1.9e+04	1.69e+07	1.54e+03	1.1e+04
5	1,2,3,6,7,8-HxCDF	2.22e+07	1.11e+03	2.0e+04	1.82e+07	1.54e+03	1.2e+04
6	2,3,4,6,7,8-HxCDF	2.07e+07	1.11e+03	1.9e+04	1.69e+07	1.54e+03	1.1e+04
7	1,2,3,7,8,9-HxCDF	1.93e+07	1.11e+03	1.7e+04	1.54e+07	1.54e+03	1.0e+04
8	1,2,3,4,6,7,8-HpCDF	1.87e+07	8.43e+03	2.2e+03	1.79e+07	8.37e+03	2.1e+03
9	1,2,3,4,7,8,9-HpCDF	1.53e+07	8.43e+03	1.8e+03	1.49e+07	8.37e+03	1.8e+03
10	OCDF	2.15e+07	8.60e+03	2.5e+03	2.31e+07	1.30e+04	1.8e+03
11	2,3,7,8-TCDD	1.89e+06	1.32e+03	1.4e+03	2.42e+06	1.48e+02	1.6e+04
12	1,2,3,7,8-PeCDD	1.45e+07	1.49e+03	9.8e+03	9.38e+06	7.16e+02	1.3e+04
13	1,2,3,4,7,8-HxCDD	1.49e+07	3.48e+02	4.3e+04	1.19e+07	2.20e+02	5.4e+04
14	1,2,3,6,7,8-HxCDD	1.41e+07	3.48e+02	4.1e+04	1.12e+07	2.20e+02	5.1e+04
15	1,2,3,7,8,9-HxCDD	1.59e+07	3.48e+02	4.6e+04	1.28e+07	2.20e+02	5.8e+04
16	1,2,3,4,6,7,8-HpCDD	1.36e+07	1.88e+03	7.2e+03	1.31e+07	9.16e+02	1.4e+04
17	OCDD	1.77e+07	9.67e+03	1.8e+03	1.96e+07	1.30e+04	1.5e+03
18	13C-2,3,7,8-TCDF	2.33e+07	1.17e+04	2.0e+03	2.90e+07	5.70e+03	5.1e+03
19	13C-1,2,3,7,8-PeCDF	3.99e+07	2.71e+03	1.5e+04	2.53e+07	2.37e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	4.30e+07	2.71e+03	1.6e+04	2.71e+07	2.37e+03	1.1e+04
21	13C-1,2,3,4,7,8-HxCDF	2.06e+07	1.31e+03	1.6e+04	3.95e+07	1.62e+03	2.4e+04
22	13C-1,2,3,6,7,8-HxCDF	2.35e+07	1.31e+03	1.8e+04	4.45e+07	1.62e+03	2.7e+04
23	13C-2,3,4,6,7,8-HxCDF	2.25e+07	1.31e+03	1.7e+04	4.31e+07	1.62e+03	2.7e+04
24	13C-1,2,3,7,8,9-HxCDF	2.02e+07	1.31e+03	1.5e+04	3.80e+07	1.62e+03	2.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.66e+07	1.18e+04	1.4e+03	3.64e+07	3.31e+04	1.1e+03
26	13C-1,2,3,4,7,8,9-HpCDF	1.44e+07	1.18e+04	1.2e+03	3.18e+07	3.31e+04	9.6e+02
27	13C-2,3,7,8-TCDD	1.79e+07	5.52e+03	3.2e+03	2.30e+07	3.63e+03	6.3e+03
28	13C-1,2,3,7,8-PeCDD	3.12e+07	1.19e+03	2.6e+04	1.96e+07	2.36e+02	8.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.85e+07	1.74e+03	1.6e+04	2.23e+07	1.27e+03	1.8e+04
30	13C-1,2,3,6,7,8-HxCDD	2.69e+07	1.74e+03	1.5e+04	2.12e+07	1.27e+03	1.7e+04
31	13C-1,2,3,4,6,7,8-HpCDD	2.62e+07	8.52e+02	3.1e+04	2.44e+07	1.43e+03	1.7e+04
32	13C-OCDD	3.20e+07	1.06e+04	3.0e+03	3.52e+07	1.47e+04	2.4e+03
33	13C-1,2,3,4-TCDD	1.74e+07	5.52e+03	3.1e+03	2.17e+07	3.63e+03	6.0e+03
34	13C-1,2,3,7,8,9-HxCDD	3.10e+07	1.74e+03	1.8e+04	2.47e+07	1.27e+03	2.0e+04
35	37Cl-2,3,7,8-TCDD	4.50e+06	1.38e+03	3.3e+03			

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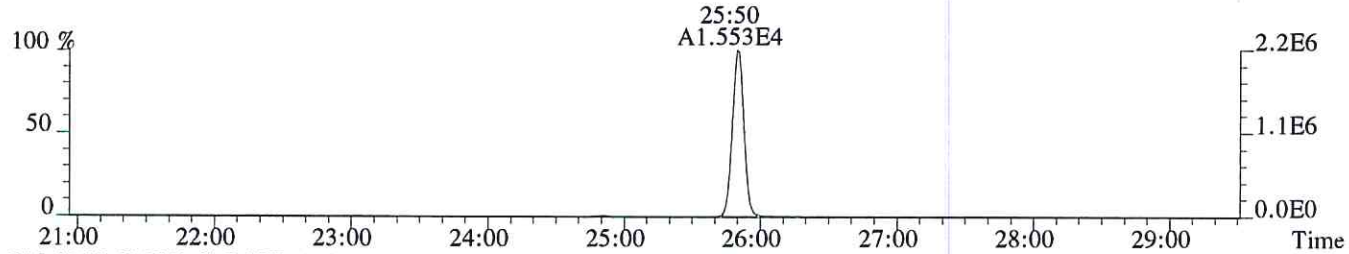
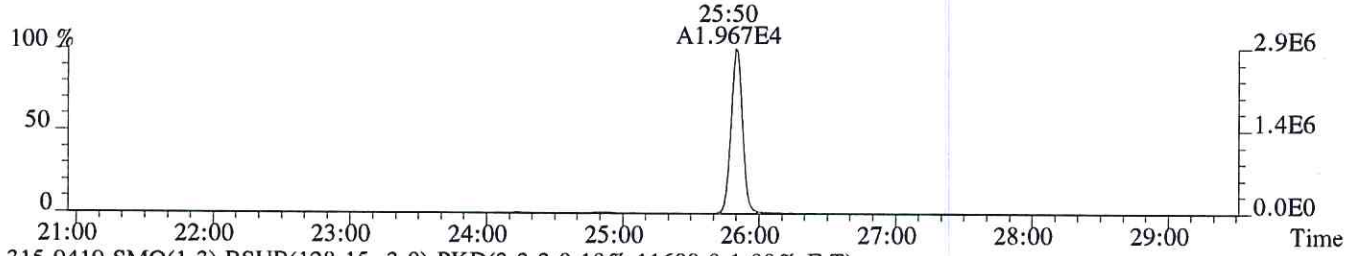
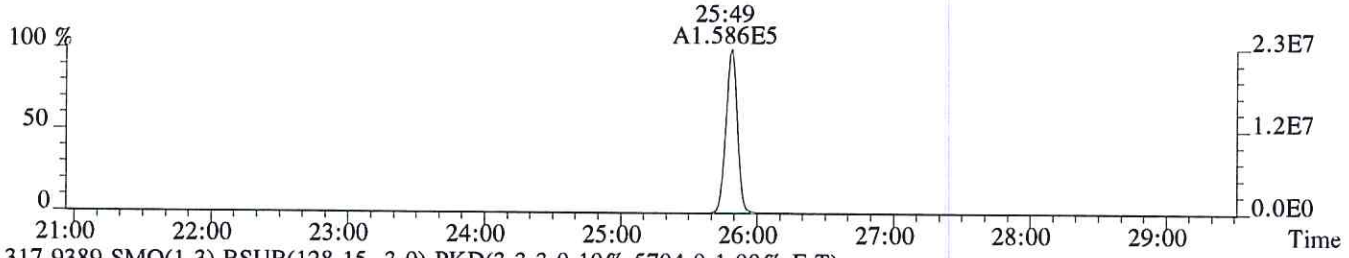
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



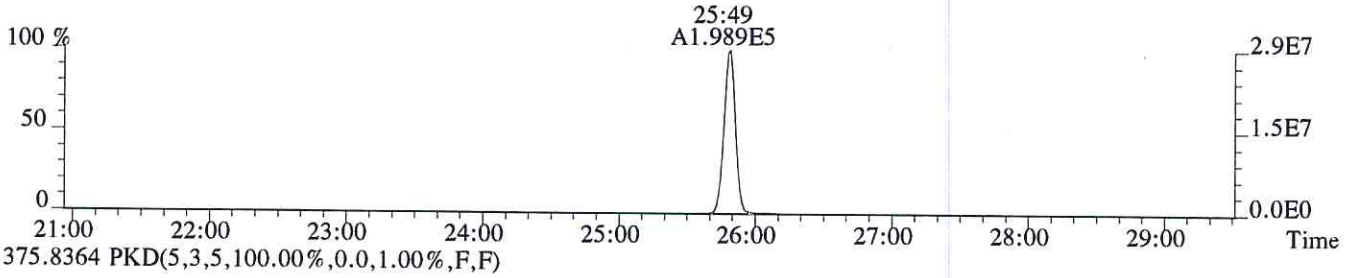
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1968.0,1.00%,F,T)



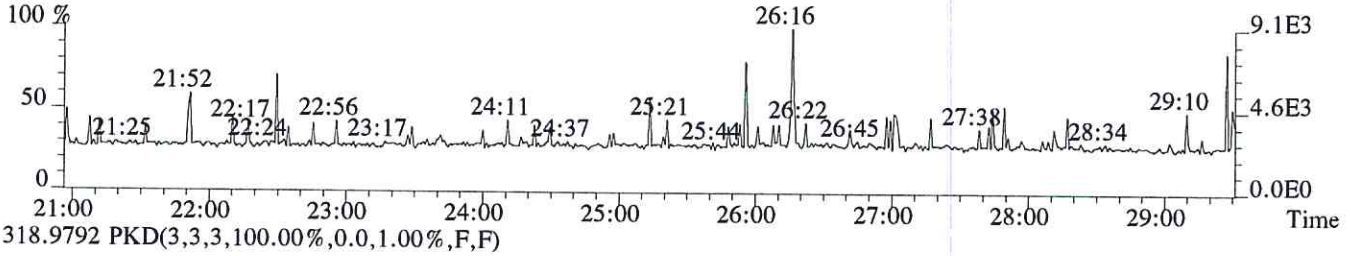
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11688.0,1.00%,F,T)



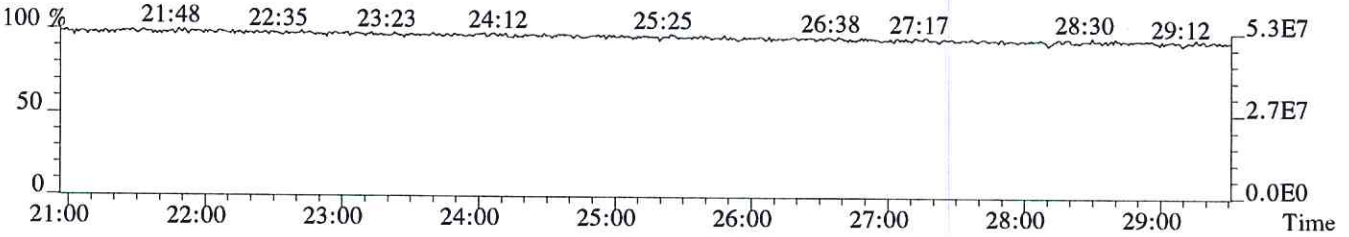
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5704.0,1.00%,F,T)



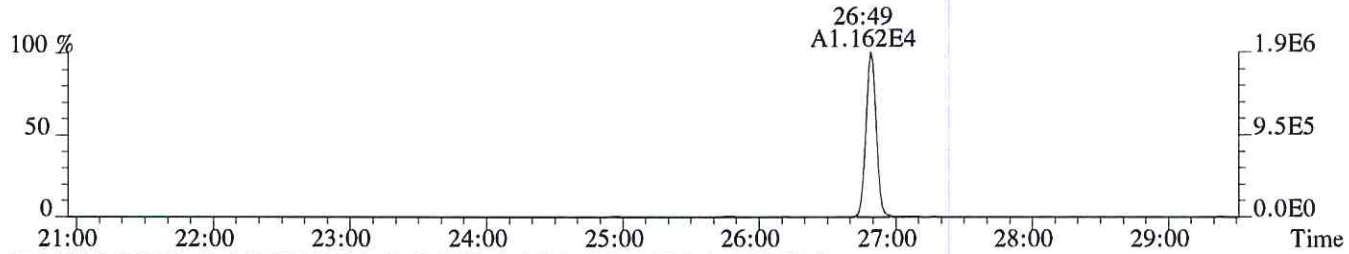
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



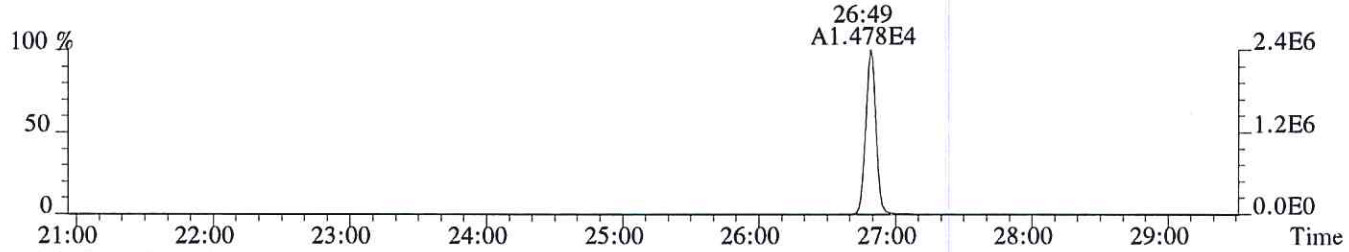
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



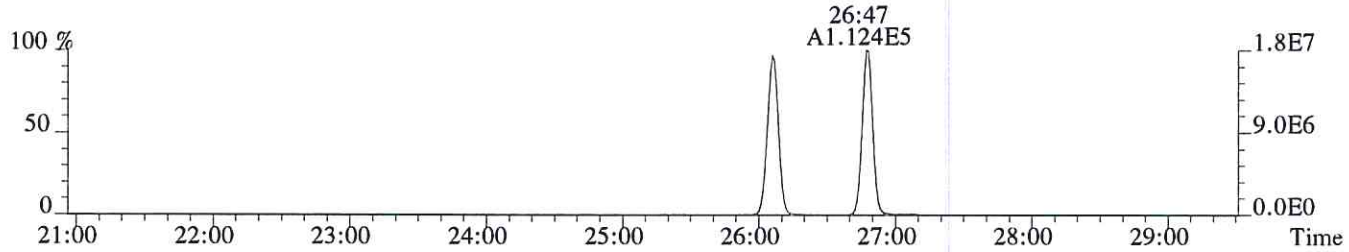
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,T)



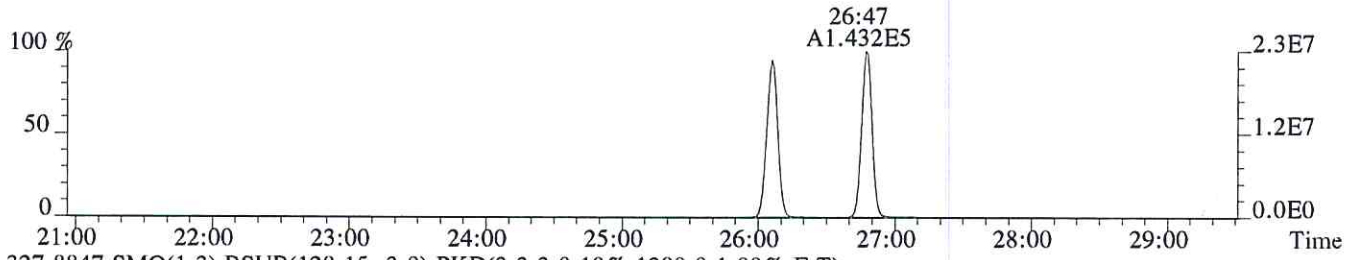
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



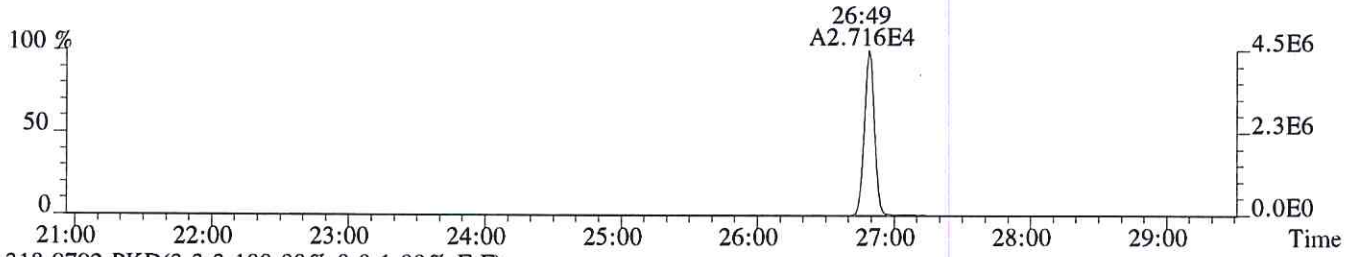
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5524.0,1.00%,F,T)



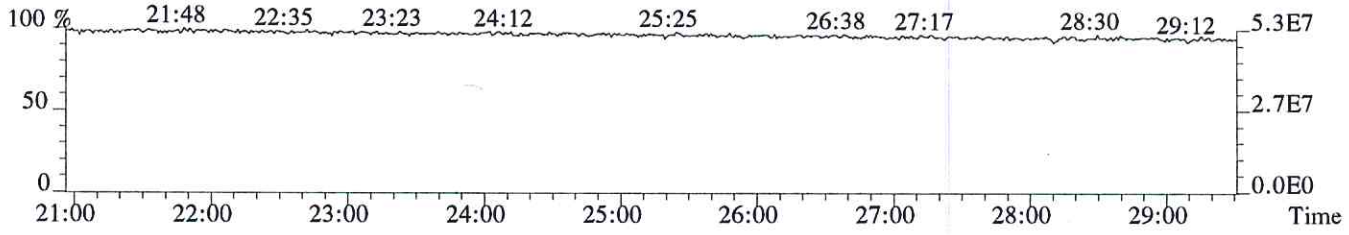
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3632.0,1.00%,F,T)



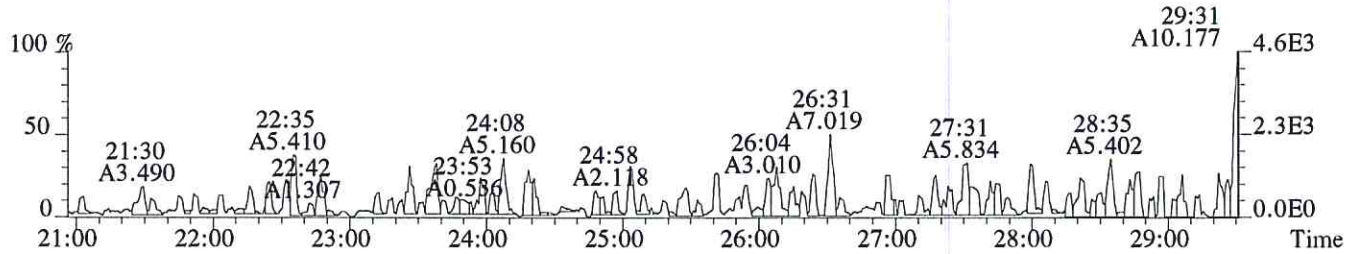
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,T)



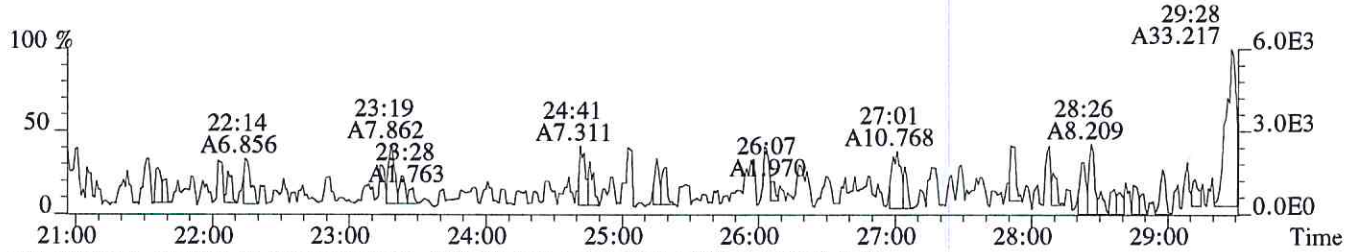
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



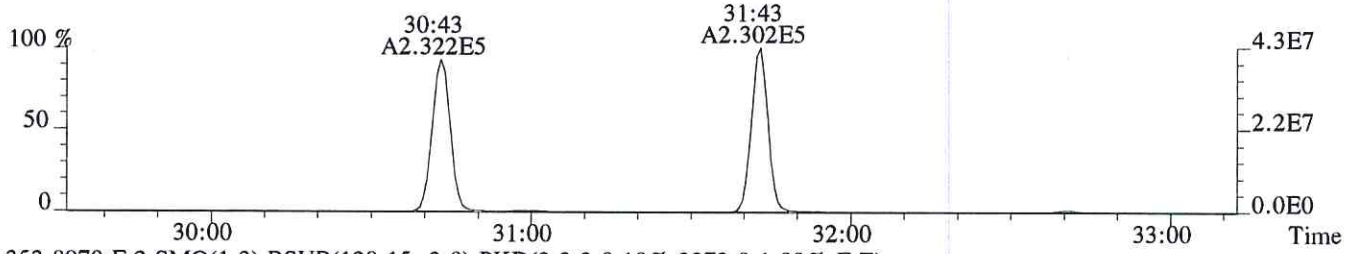
File:P607186 #1-609 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,T)



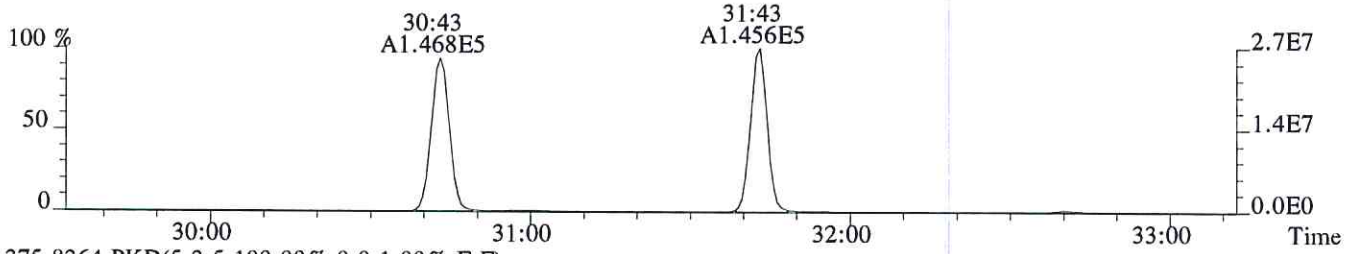
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,T)



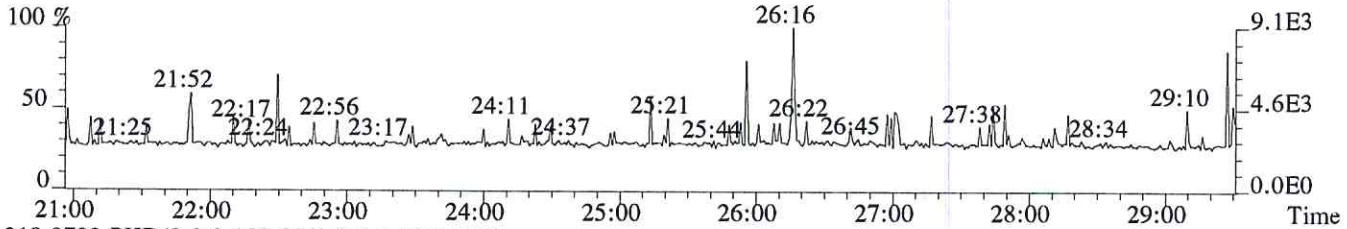
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



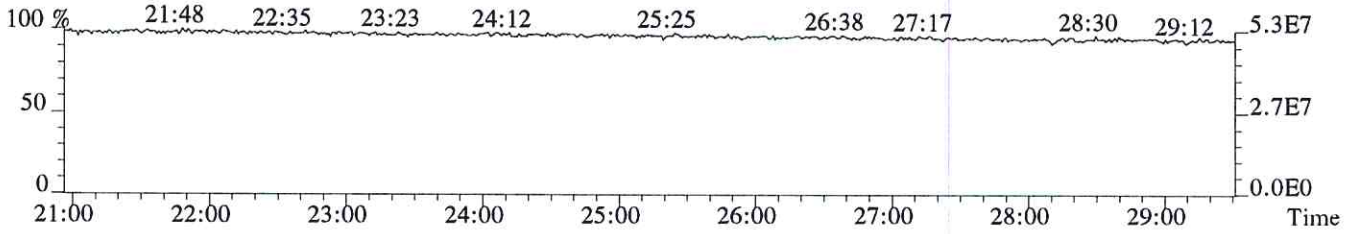
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



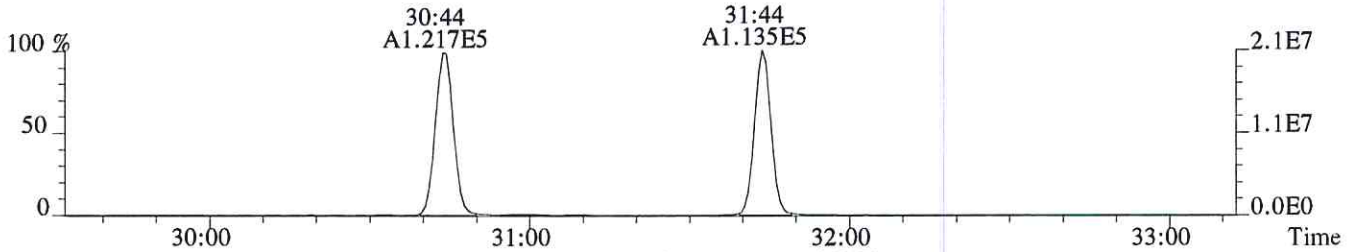
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



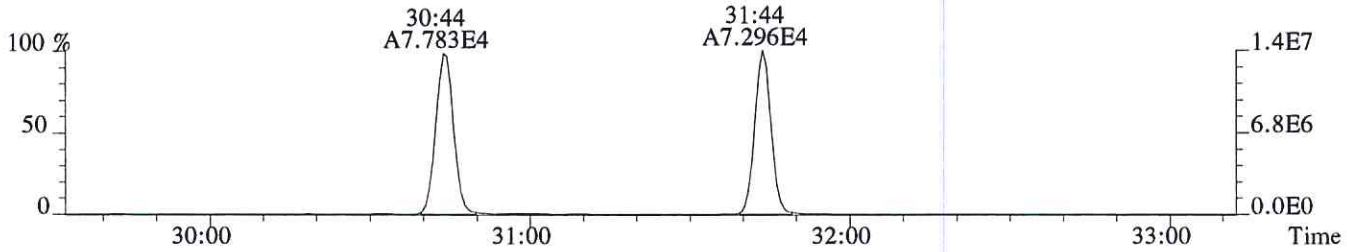
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



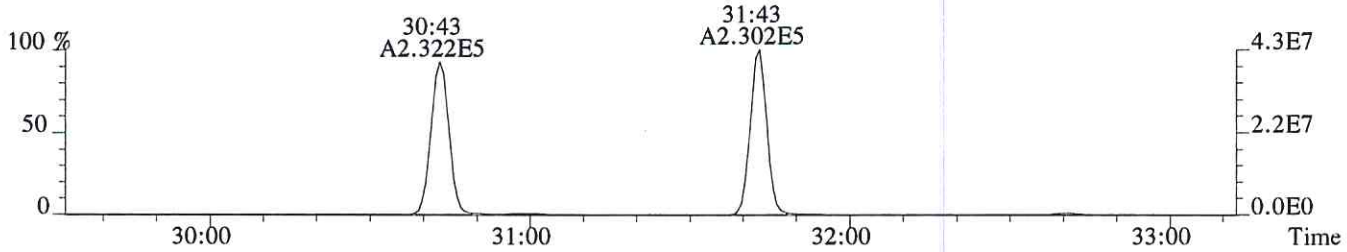
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,T)



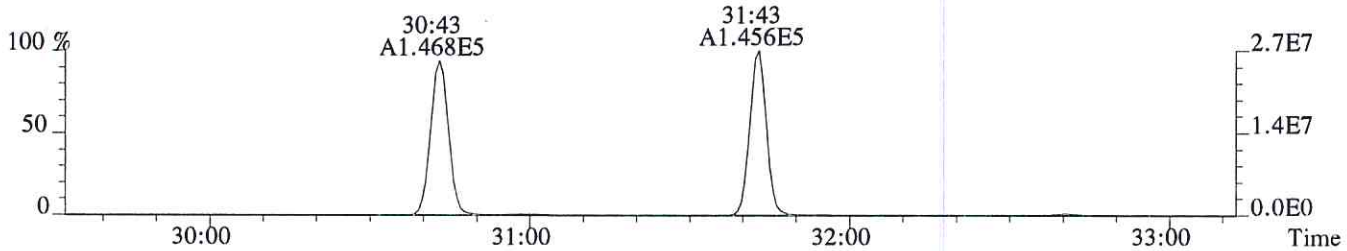
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2456.0,1.00%,F,T)



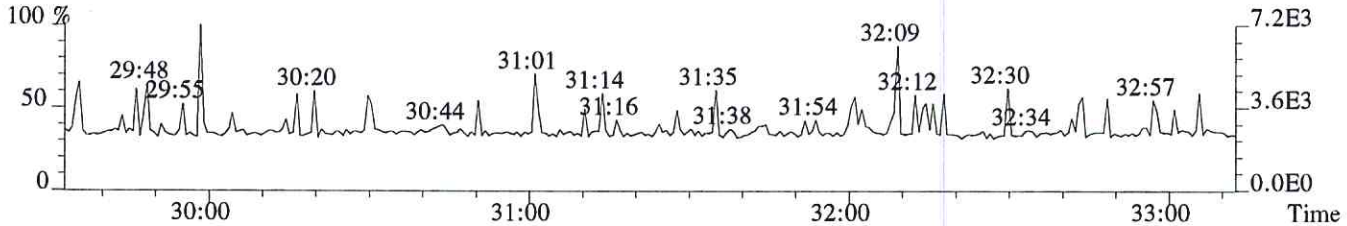
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2708.0,1.00%,F,T)



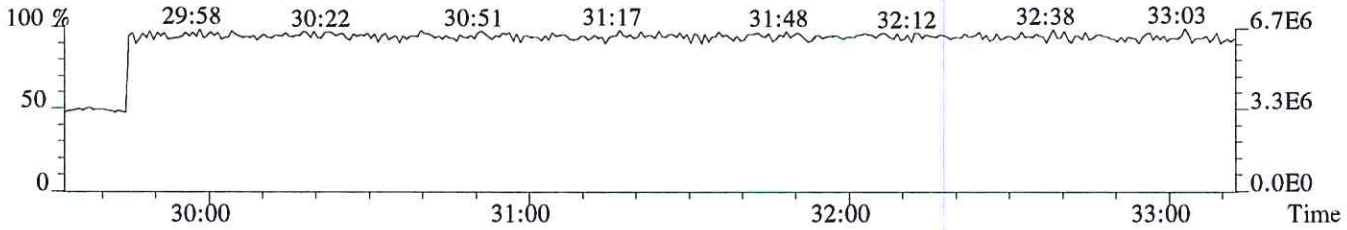
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,T)



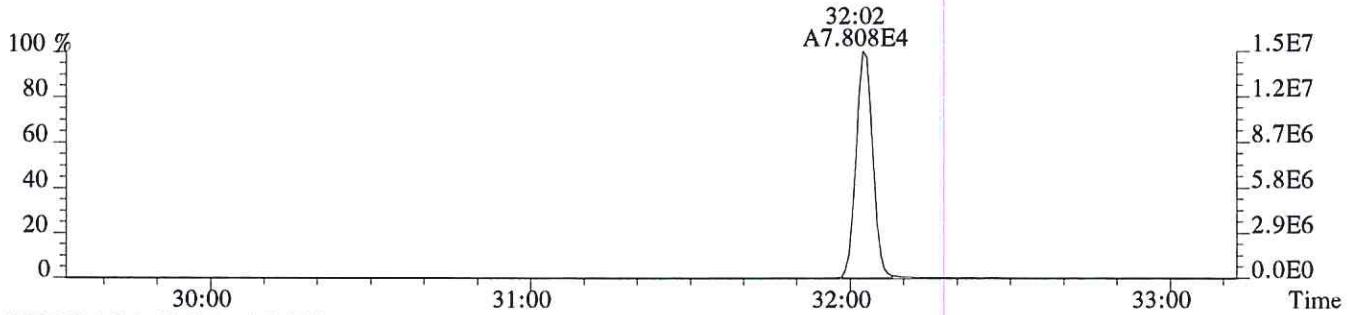
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



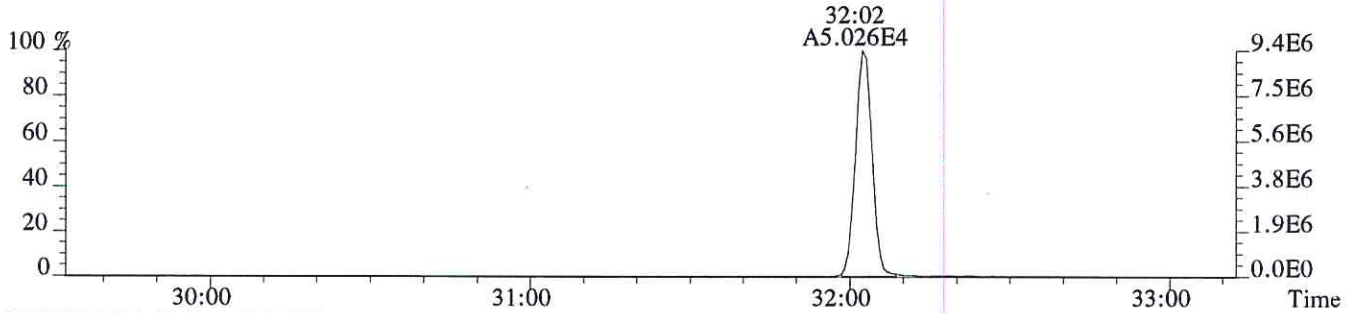
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



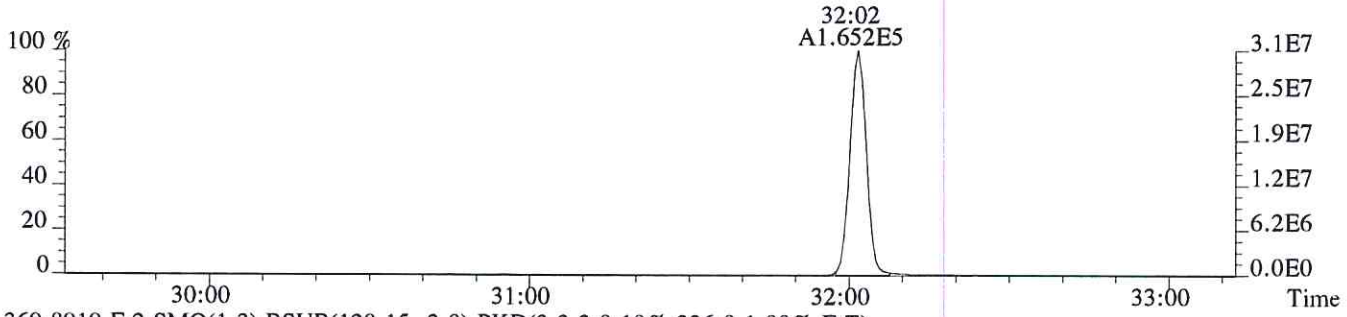
File:P607186 #1-330 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1488.0,1.00%,F,T)



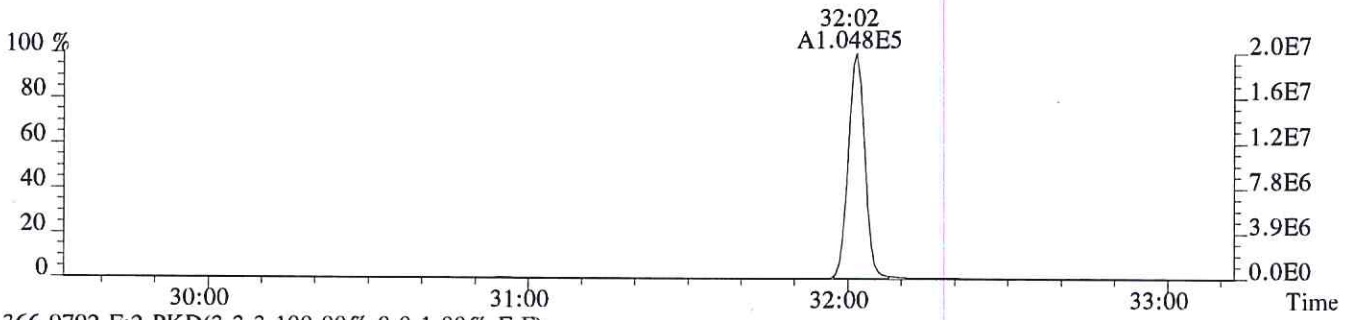
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,716.0,1.00%,F,T)



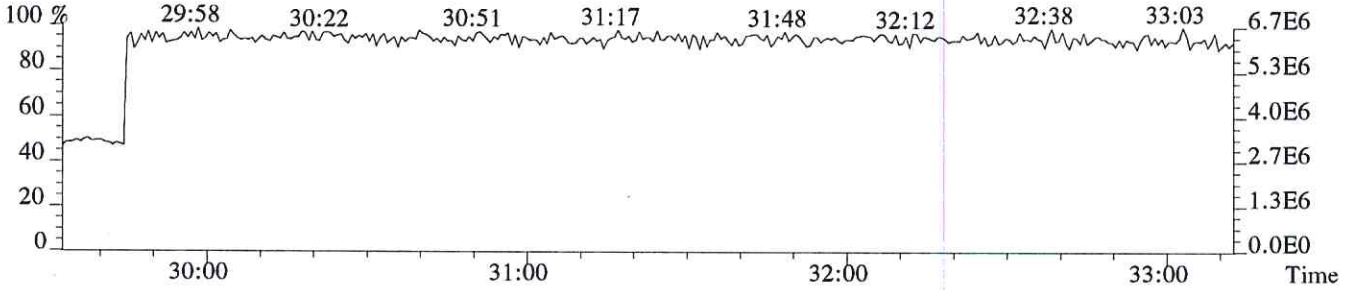
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,T)



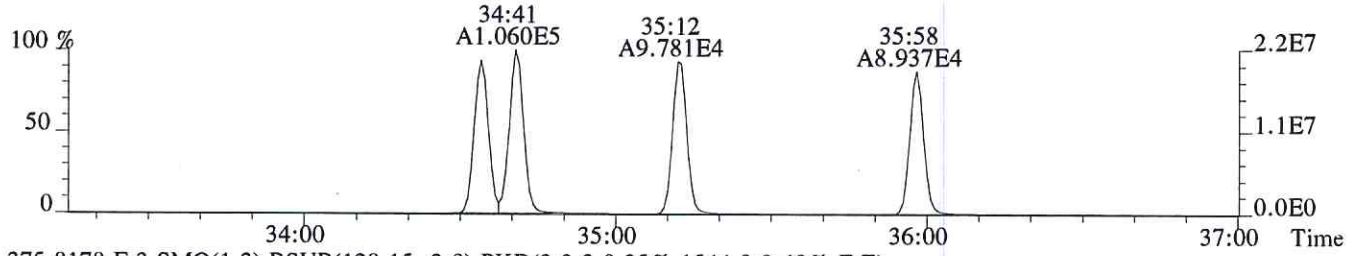
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,T)



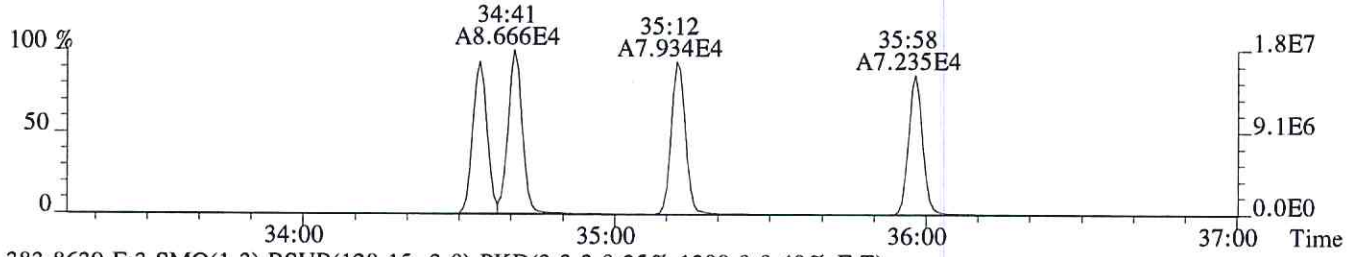
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



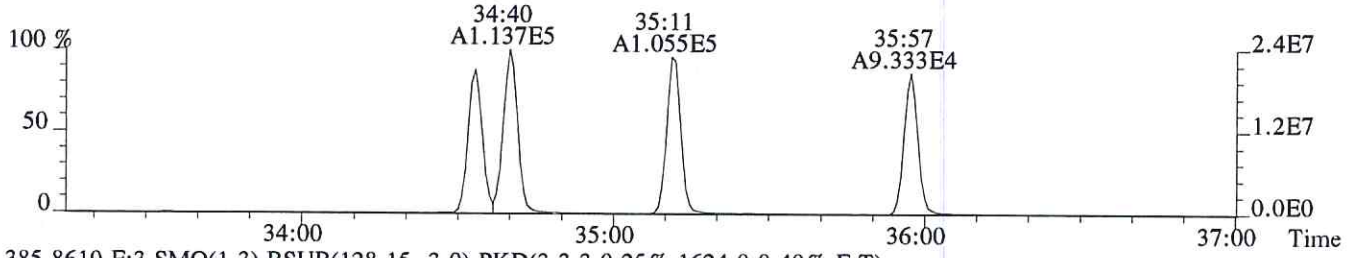
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



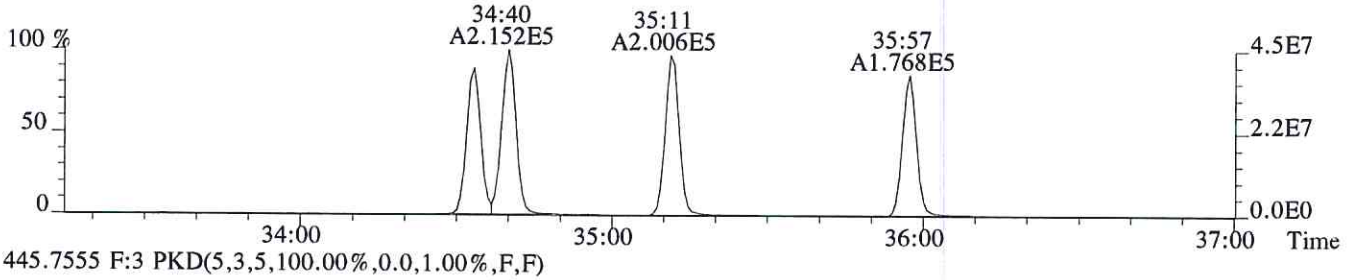
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,T)



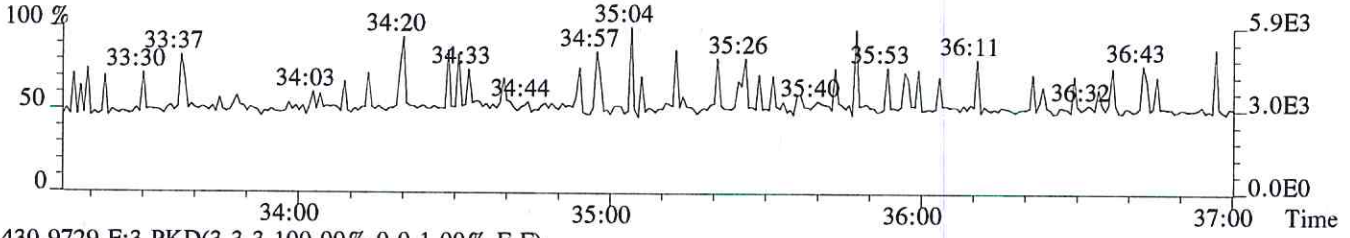
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,T)



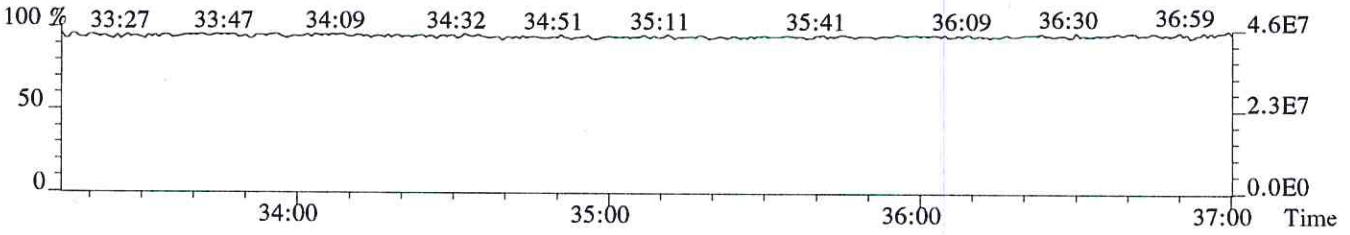
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1624.0,0.40%,F,T)



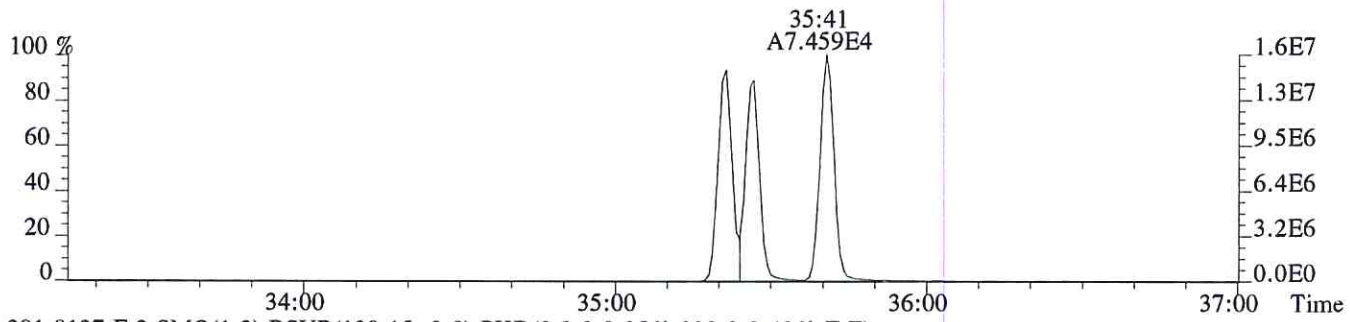
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



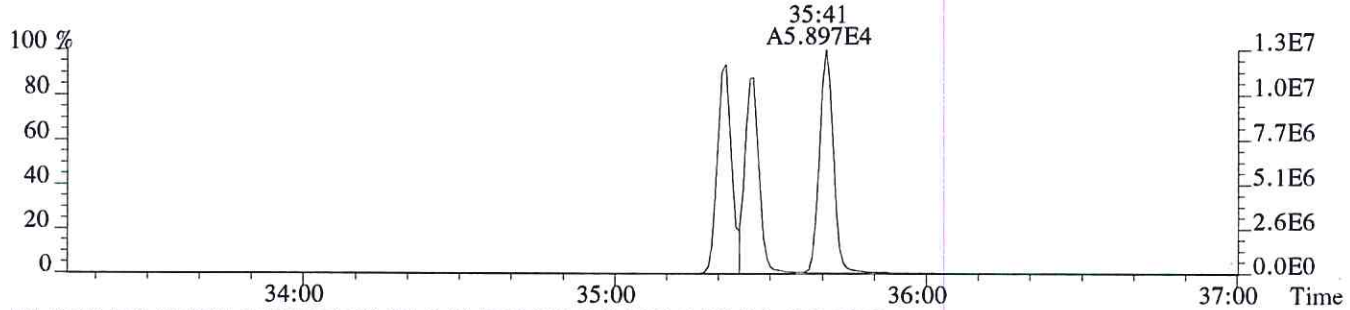
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



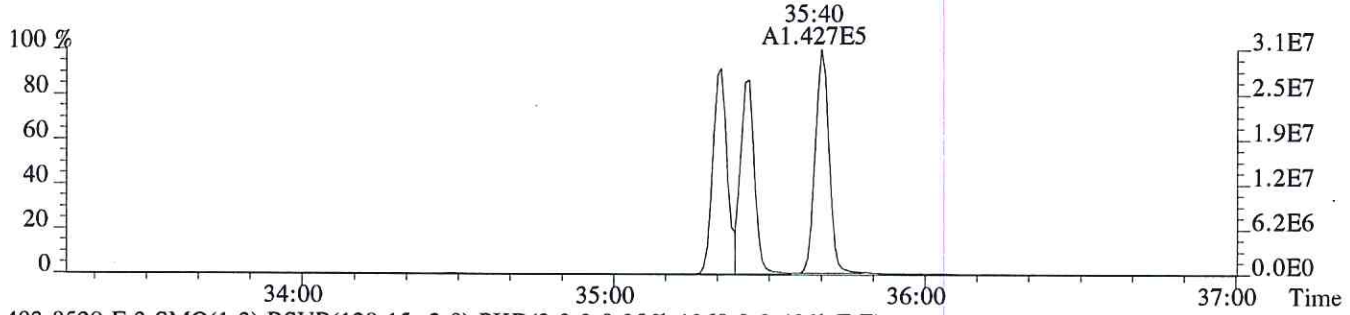
File:P607186 #1-339 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,T)



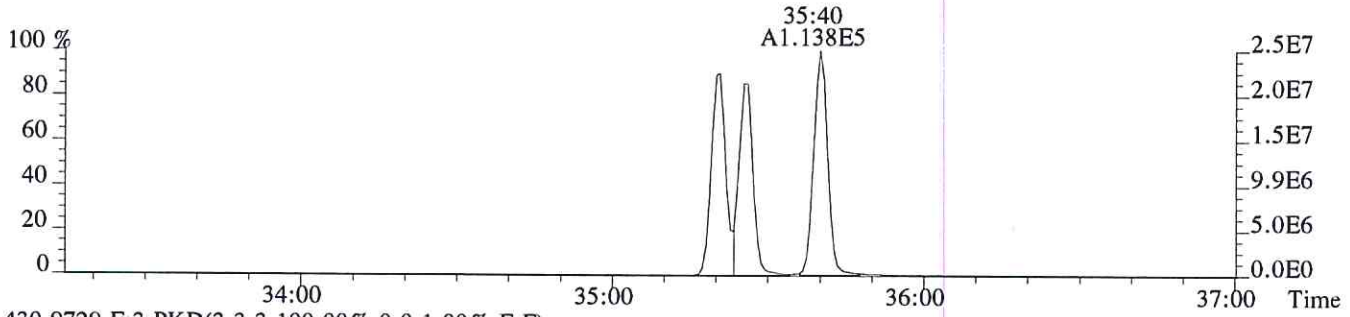
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,T)



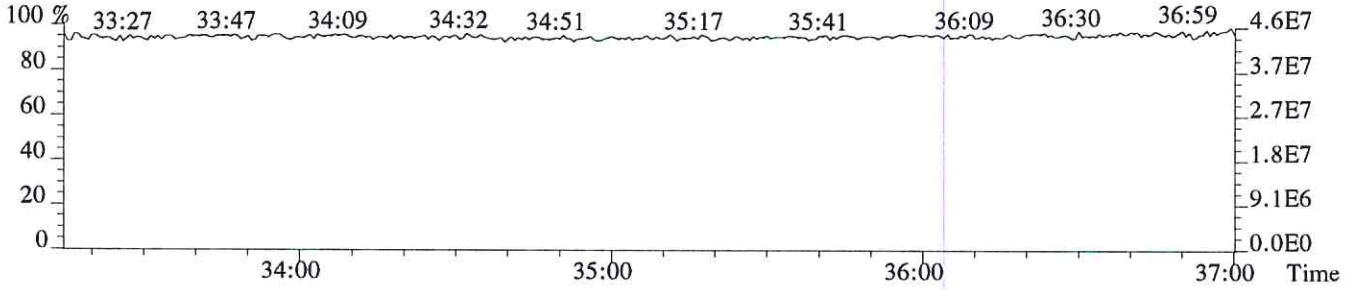
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,T)



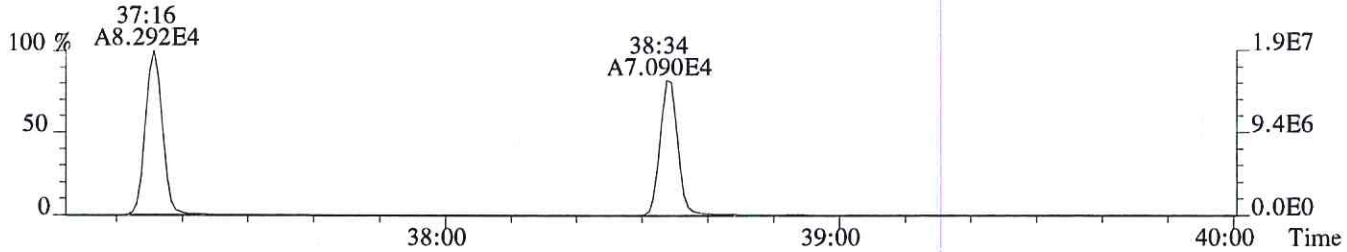
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,T)



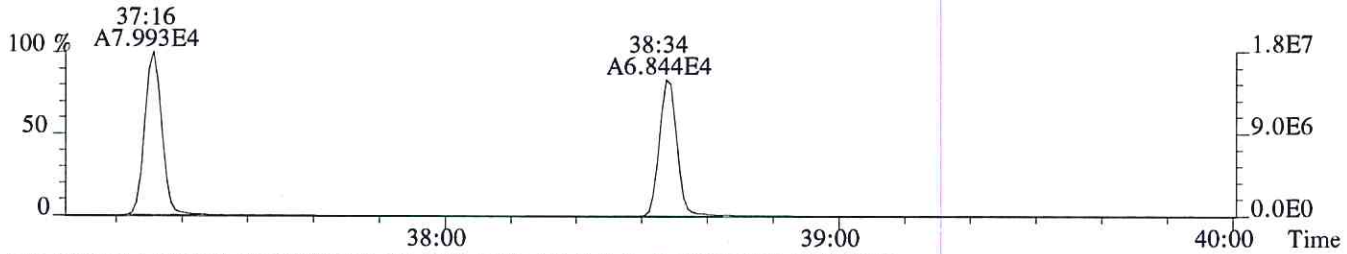
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



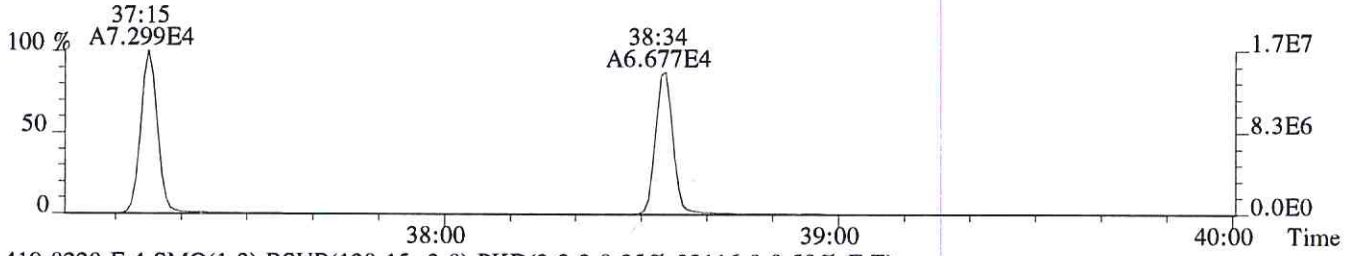
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8428.0,0.50%,F,T)



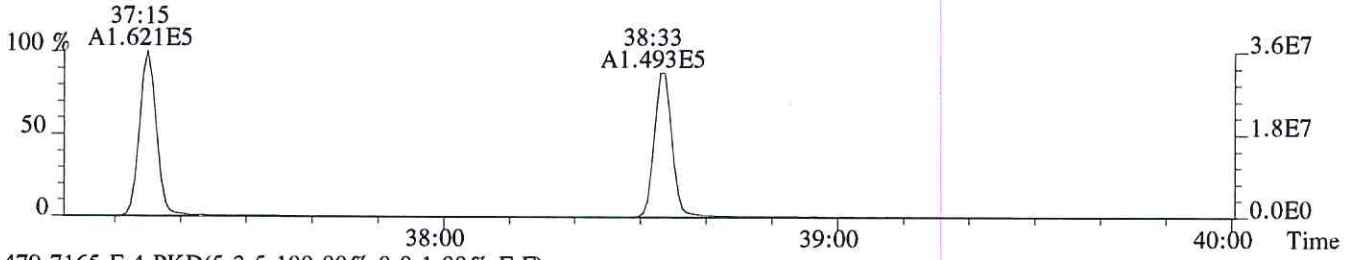
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8372.0,0.50%,F,T)



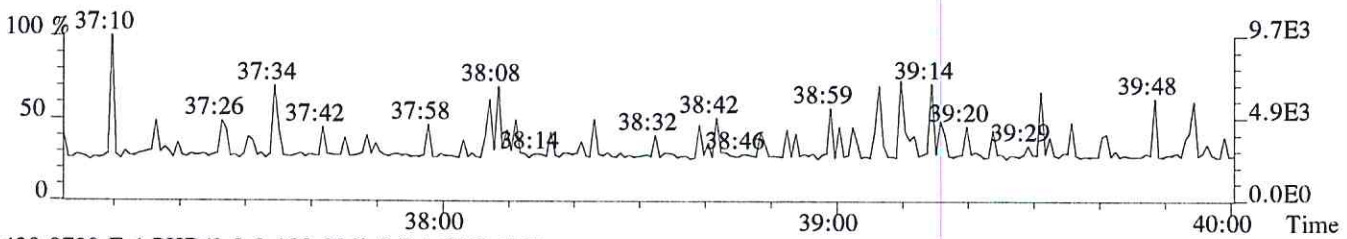
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11848.0,0.50%,F,T)



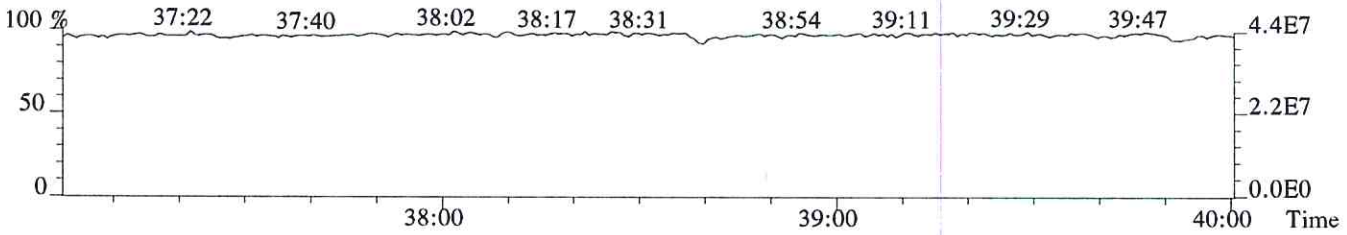
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,33116.0,0.50%,F,T)



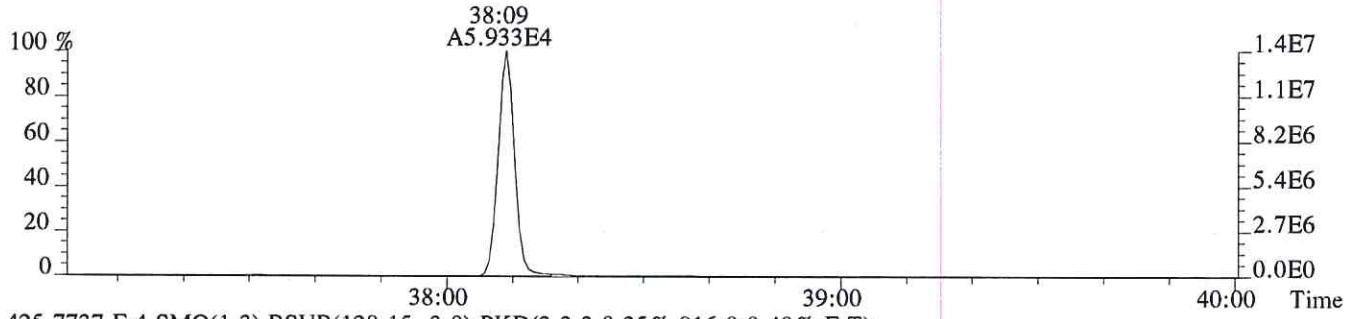
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



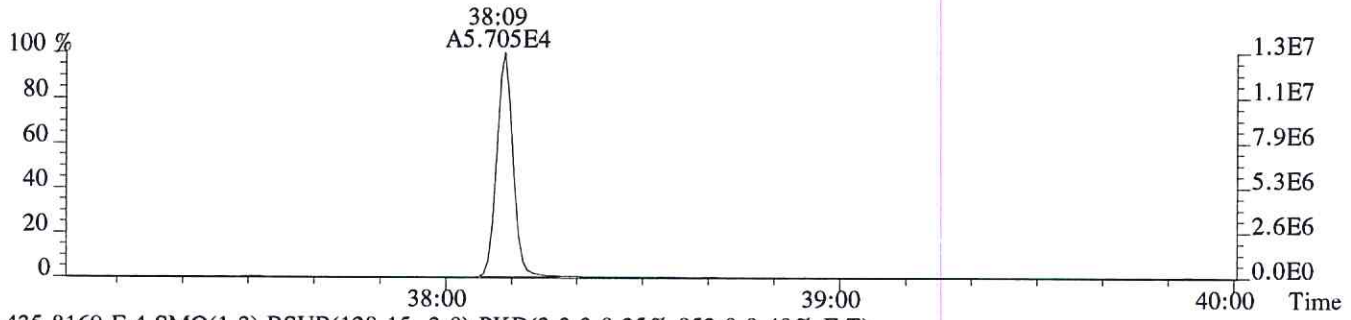
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



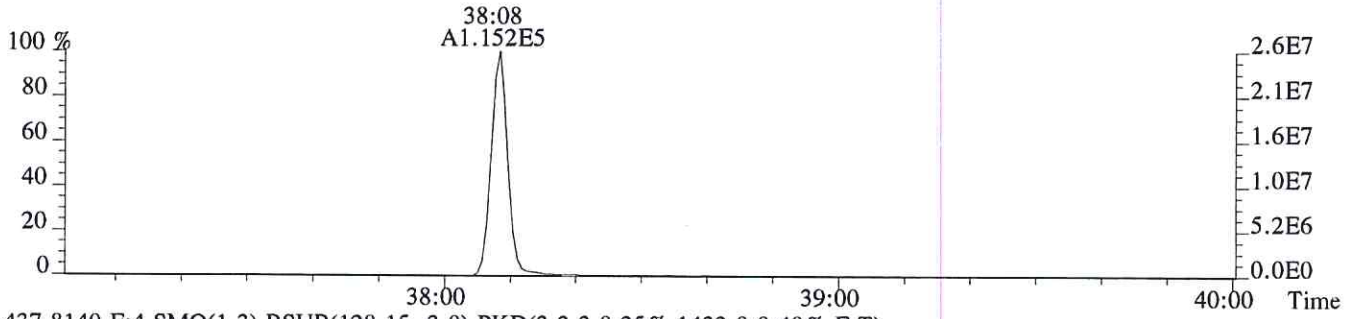
File:P607186 #1-268 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1880.0,0.40%,F,T)



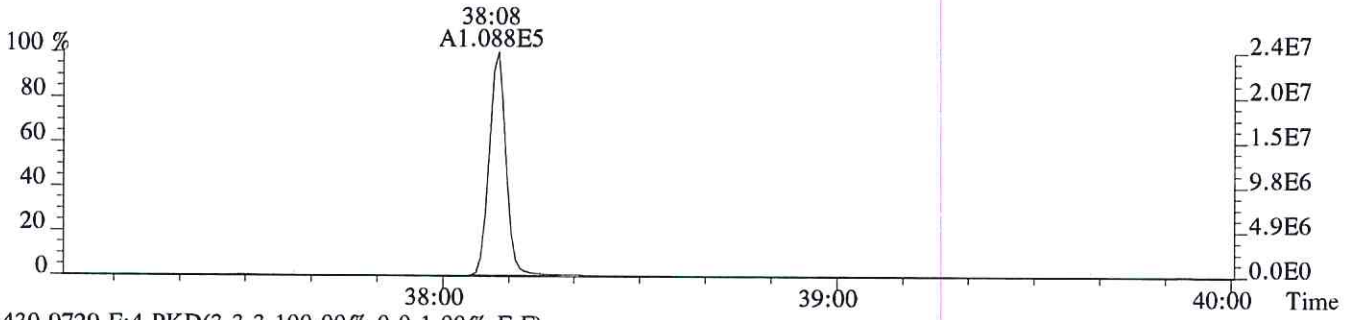
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,916.0,0.40%,F,T)



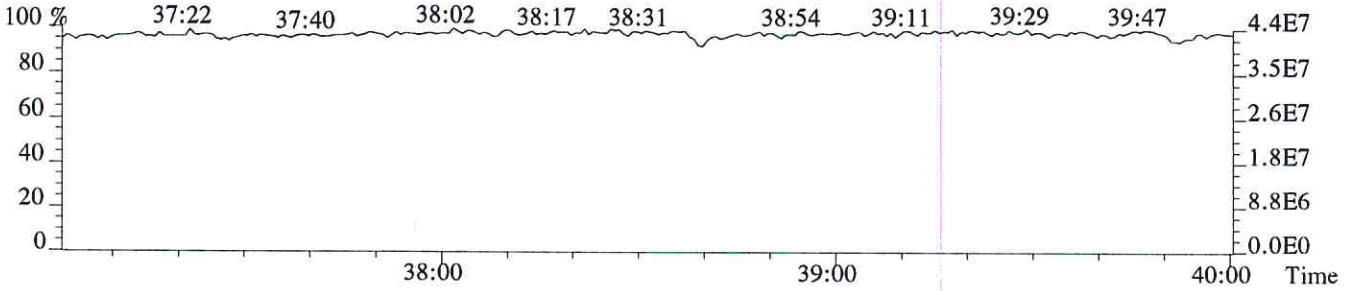
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,T)



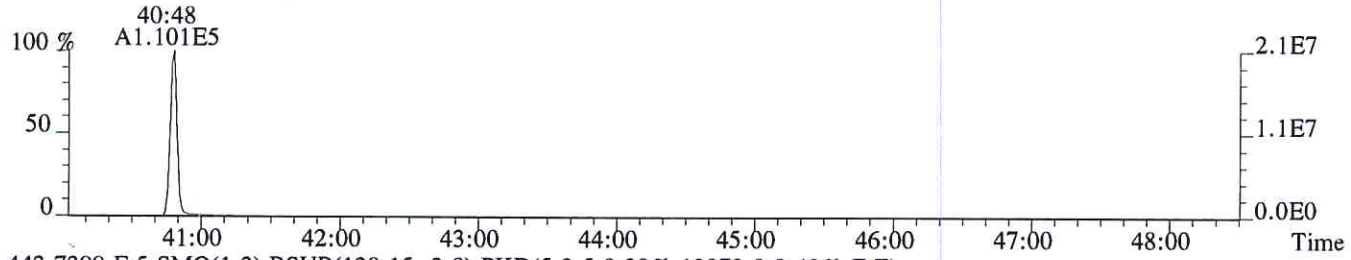
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,T)



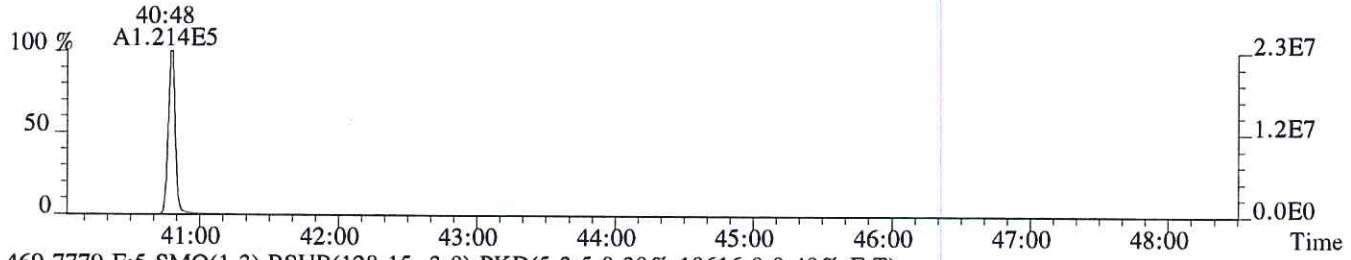
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



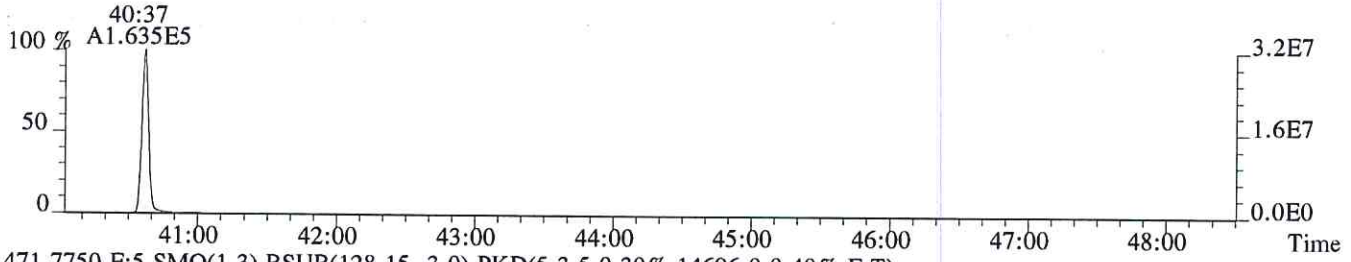
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,8596.0,0.40%,F,T)



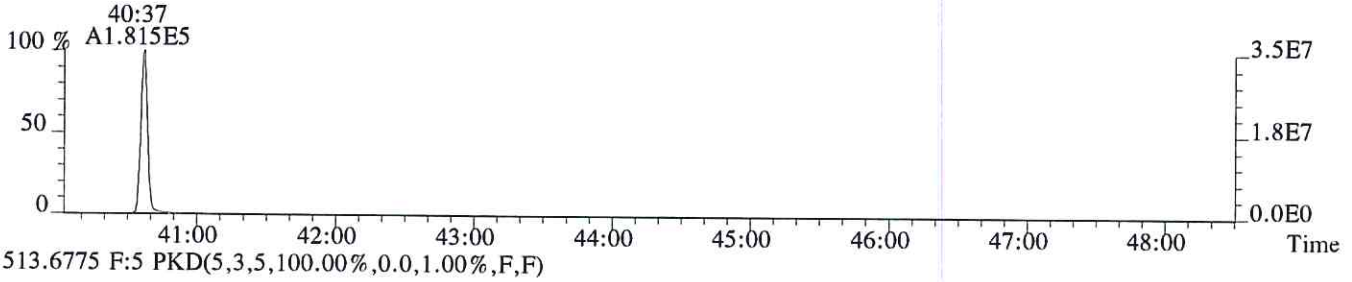
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12972.0,0.40%,F,T)



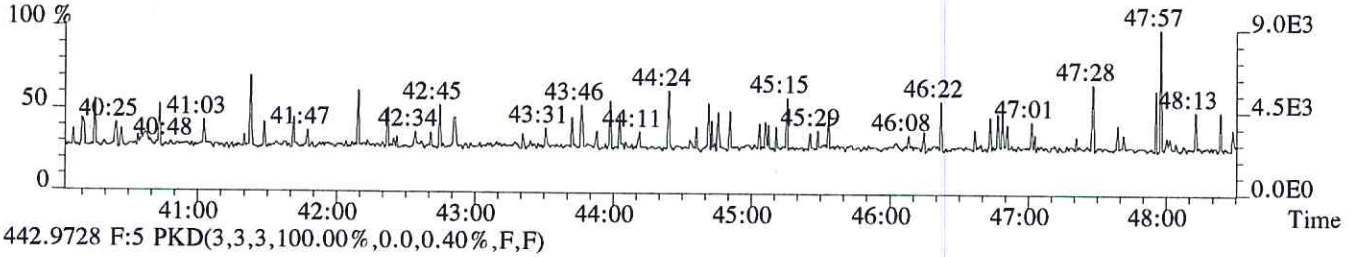
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10616.0,0.40%,F,T)



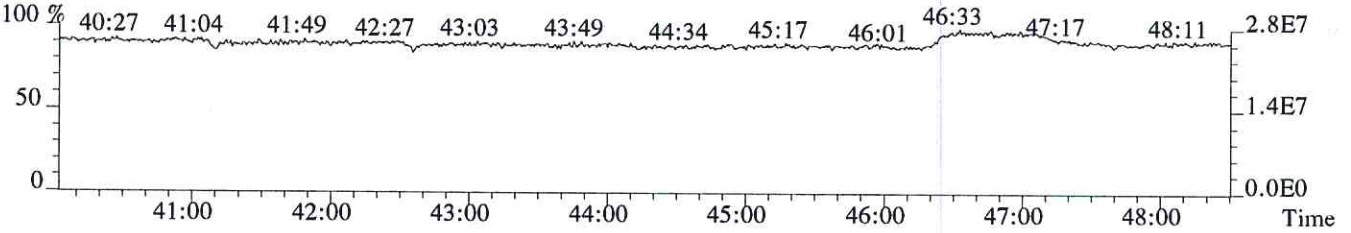
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14696.0,0.40%,F,T)



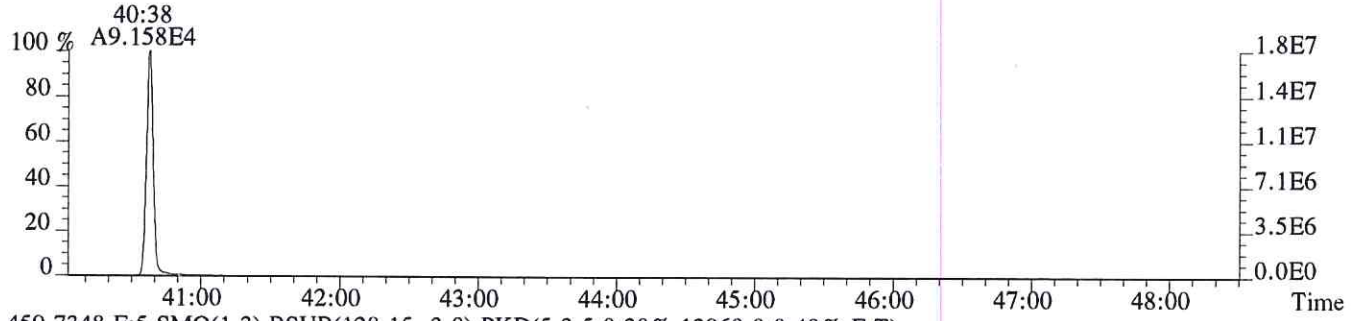
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



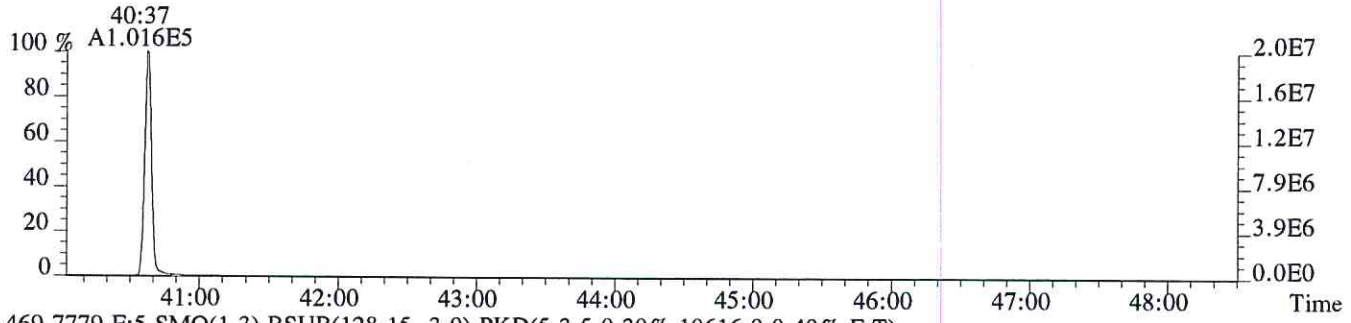
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



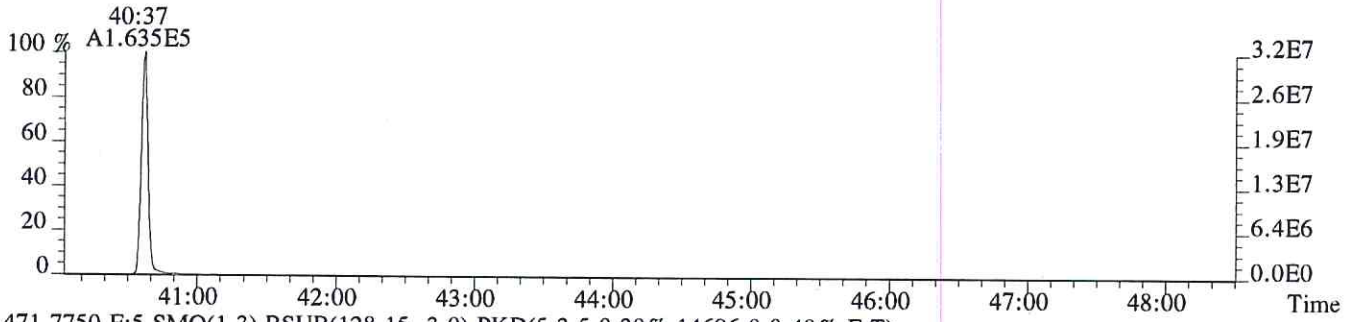
File:P607186 #1-762 Acq:16-MAY-2017 18:45:06 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:2ND SOURCE
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9668.0,0.40%,F,T)



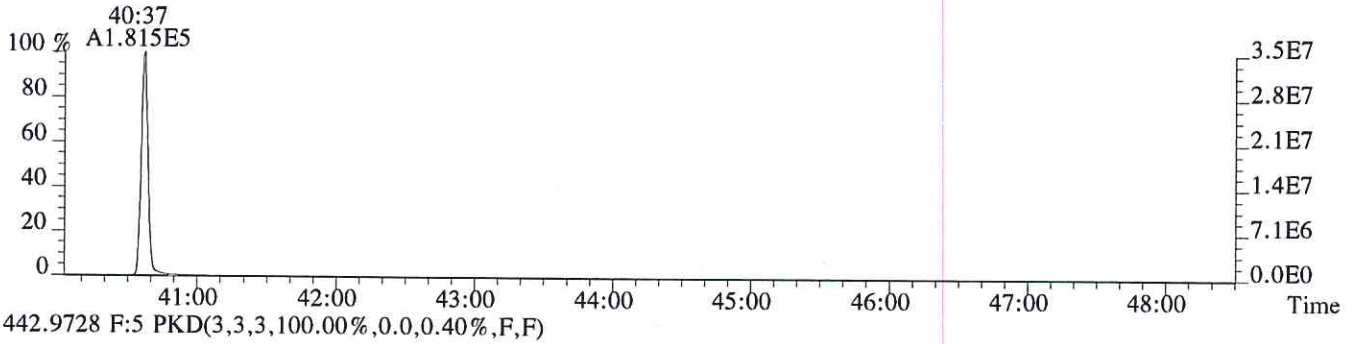
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,12960.0,0.40%,F,T)



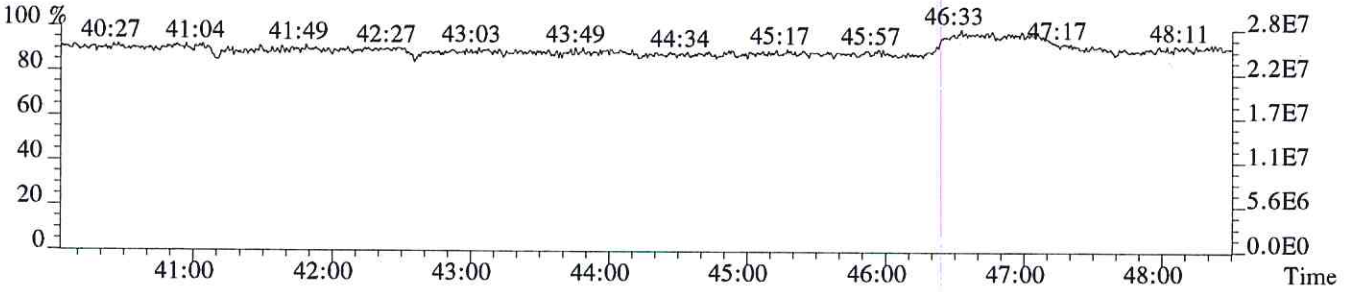
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,10616.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,14696.0,0.40%,F,T)



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



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

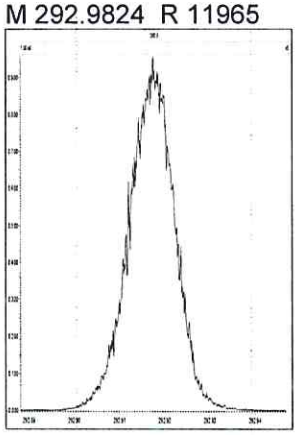
	Date	Time	File Name	Sample ID	File Text	MS File	Inlet File	Bottle	Analyst	Comments
1	7/26/17	08:03	P510631	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2	LJS	not used
2		09:10	P510632	CS3	180102	EPA1613_ALS	Dioxin_ALS	Tray1:2		not used
3		10:27	P510633	WINDOWDEFINE	178397	EPA1613_ALS	Dioxin_ALS	Tray1:1		HRMS 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

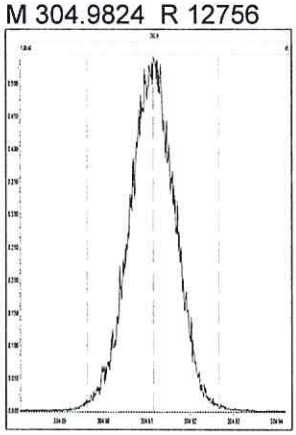
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:22:08 Central Daylight Time

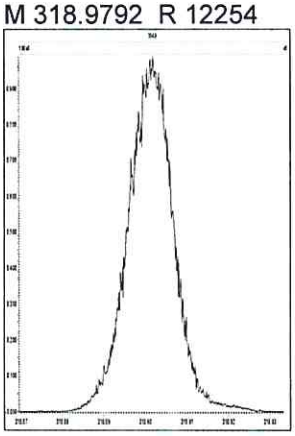
M 292.9824 R 11965



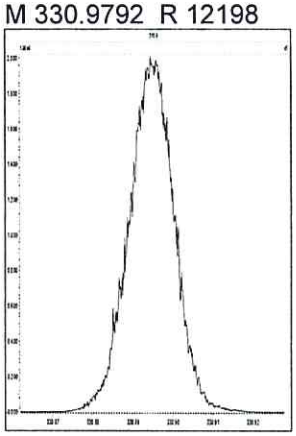
M 304.9824 R 12756



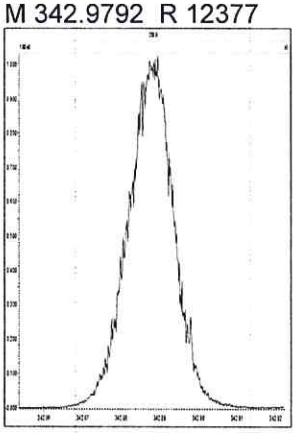
M 318.9792 R 12254



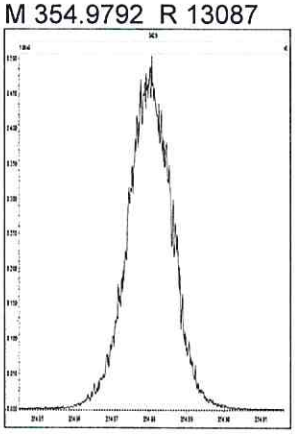
M 330.9792 R 12198



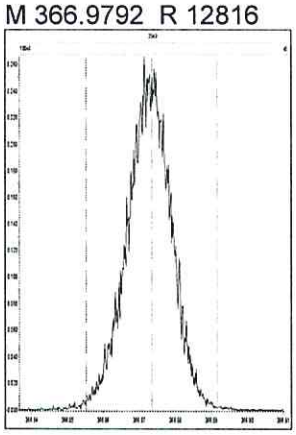
M 342.9792 R 12377



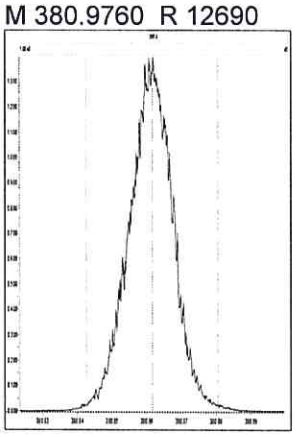
M 354.9792 R 13087



M 366.9792 R 12816



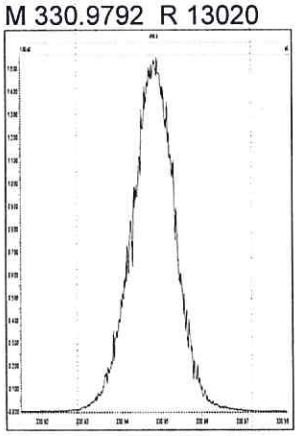
M 380.9760 R 12690



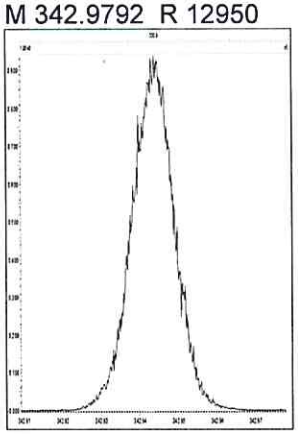
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:24:24 Central Daylight Time

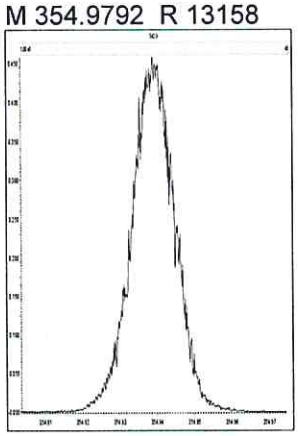
M 330.9792 R 13020



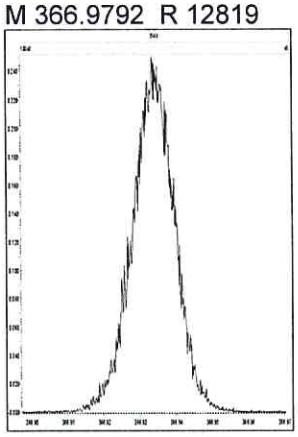
M 342.9792 R 12950



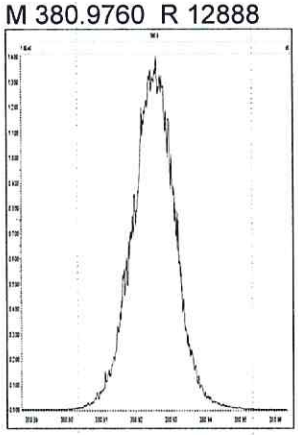
M 354.9792 R 13158



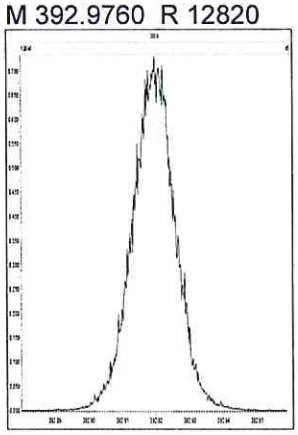
M 366.9792 R 12819



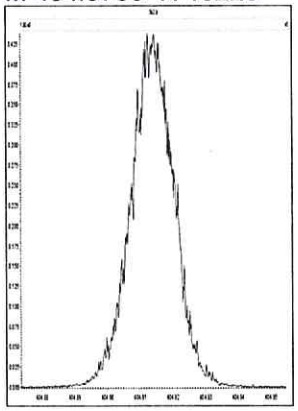
M 380.9760 R 12888



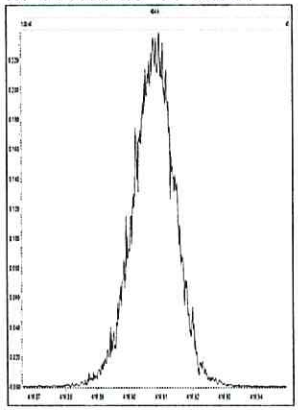
M 392.9760 R 12820



M 404.9760 R 13225



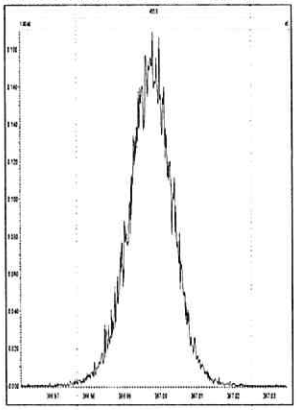
M 416.9760 R 13967



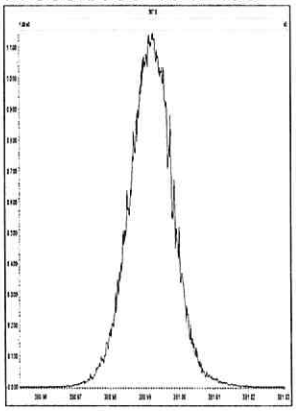
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:25:29 Central Daylight Time

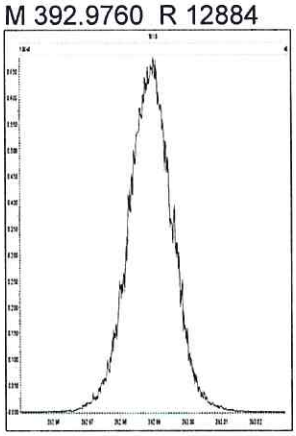
M 366.9792 R 12627



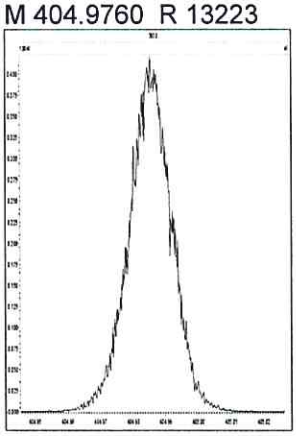
M 380.9760 R 12499



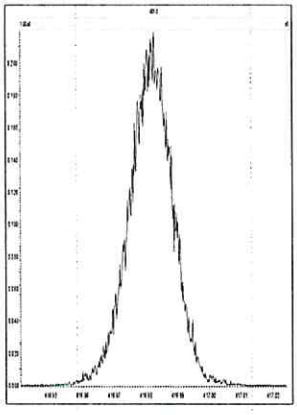
M 392.9760 R 12884



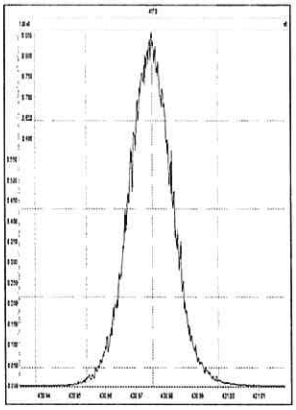
M 404.9760 R 13223



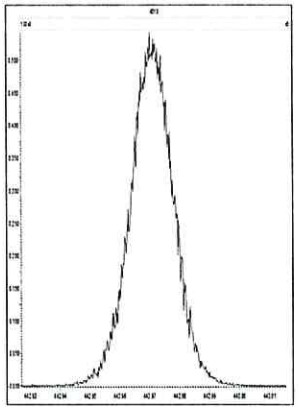
M 416.9760 R 12758



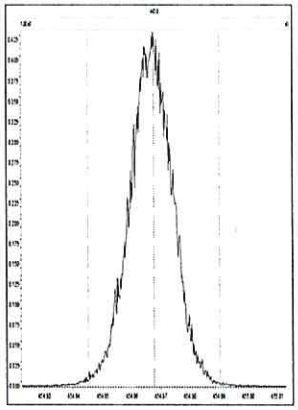
M 430.9728 R 12435



M 442.9728 R 12953



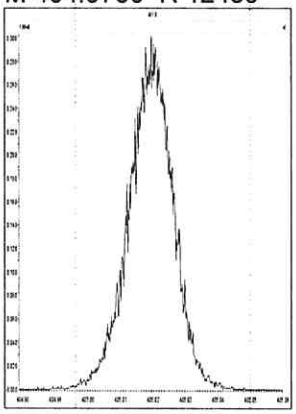
M 454.9728 R 12819



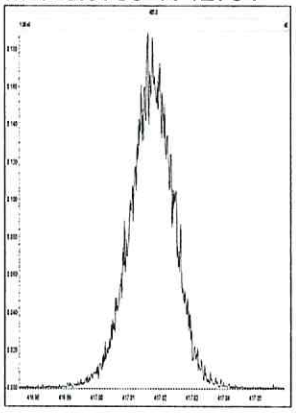
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:26:17 Central Daylight Time

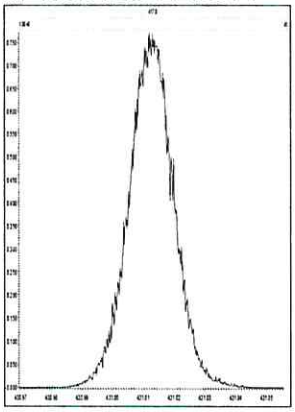
M 404.9760 R 12439



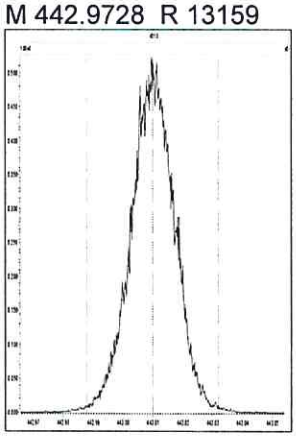
M 416.9760 R 12754



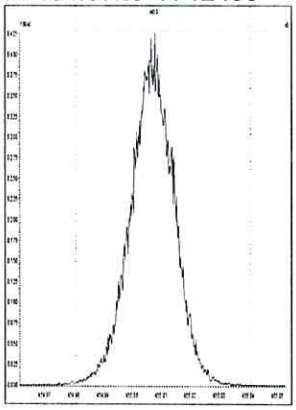
M 430.9728 R 12374



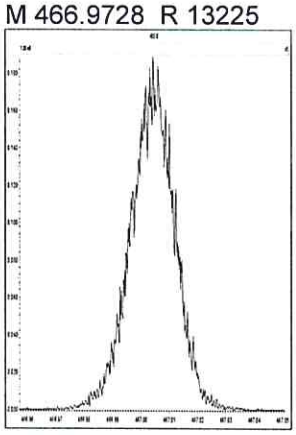
M 442.9728 R 13159



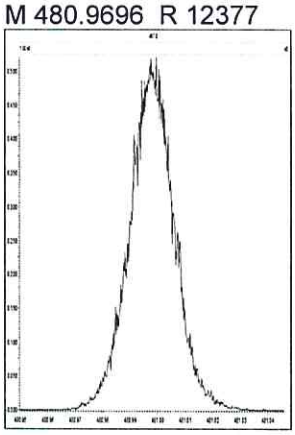
M 454.9728 R 12499



M 466.9728 R 13225



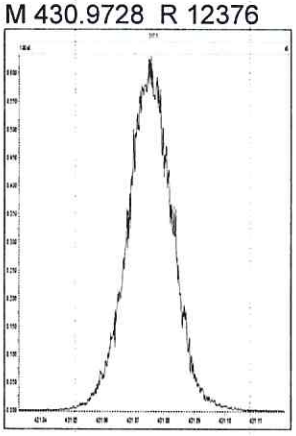
M 480.9696 R 12377



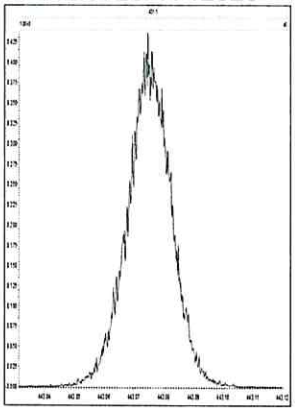
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 10:27:11 Central Daylight Time

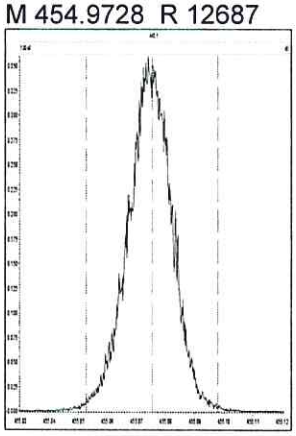
M 430.9728 R 12376



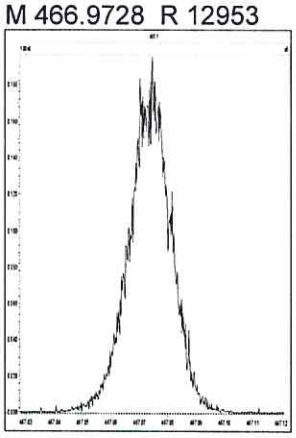
M 442.9728 R 12823



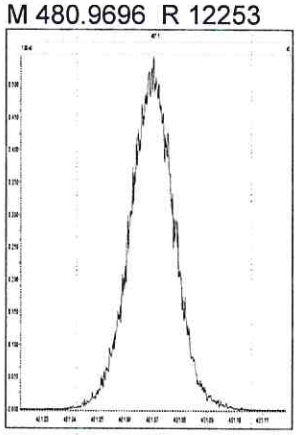
M 454.9728 R 12687



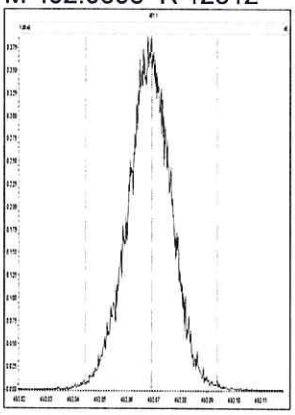
M 466.9728 R 12953



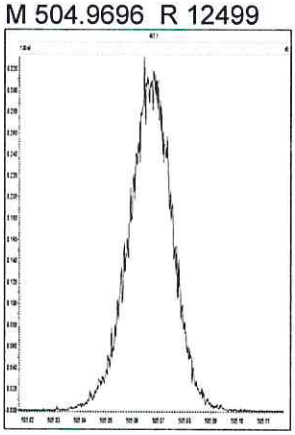
M 480.9696 R 12253



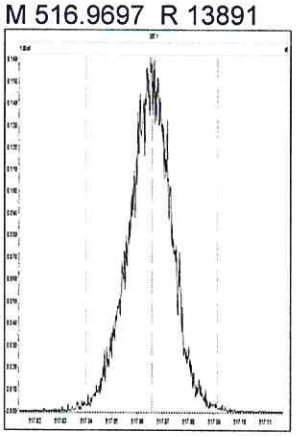
M 492.9696 R 12312



M 504.9696 R 12499



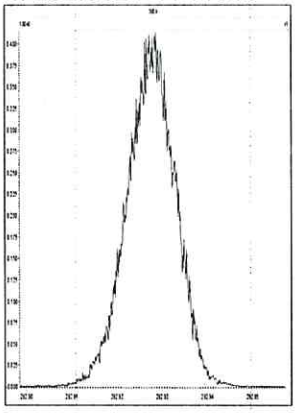
M 516.9697 R 13891



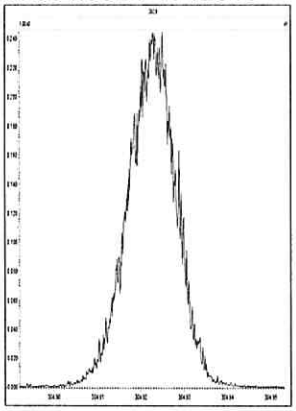
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:18:58 Central Daylight Time

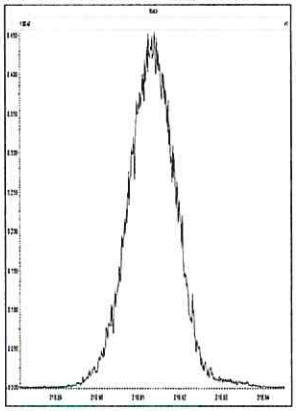
M 292.9824 R 11316



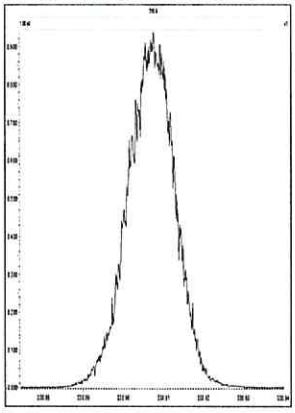
M 304.9824 R 12015



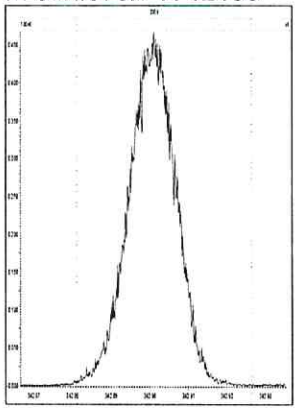
M 318.9792 R 12562



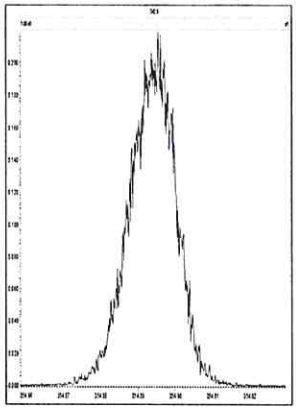
M 330.9792 R 12379



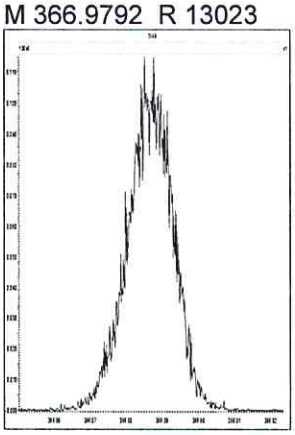
M 342.9792 R 12196



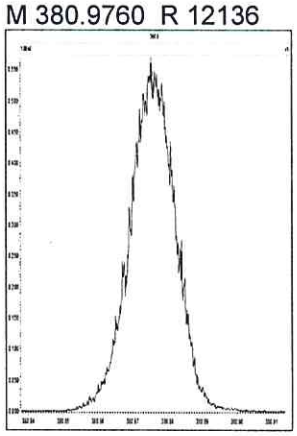
M 354.9792 R 12952



M 366.9792 R 13023



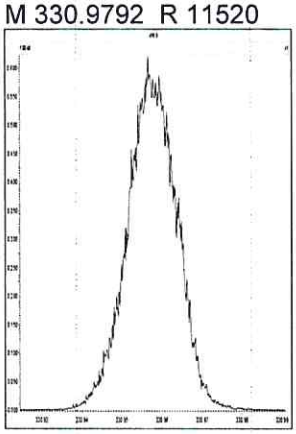
M 380.9760 R 12136



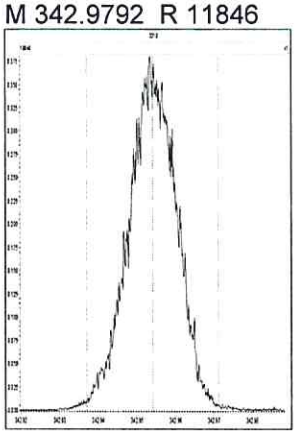
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:20:36 Central Daylight Time

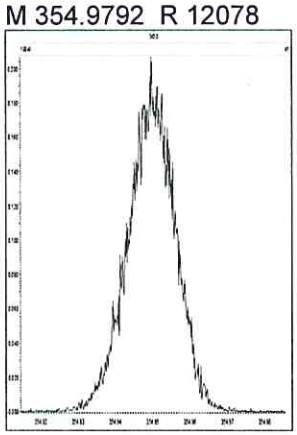
M 330.9792 R 11520



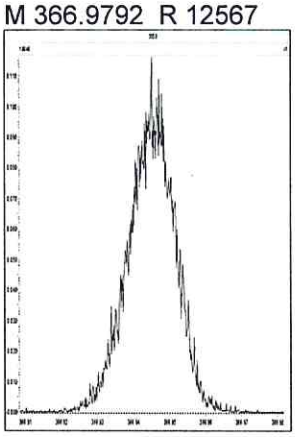
M 342.9792 R 11846



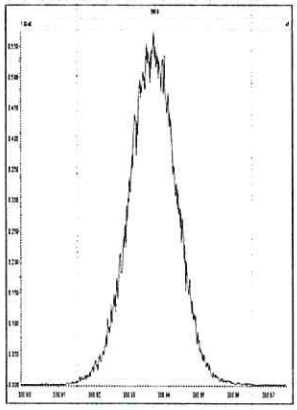
M 354.9792 R 12078



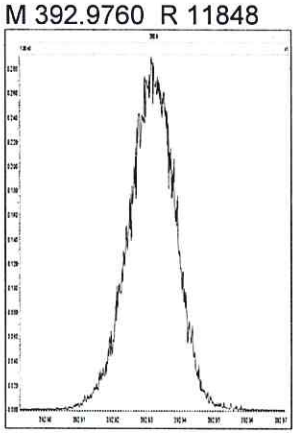
M 366.9792 R 12567



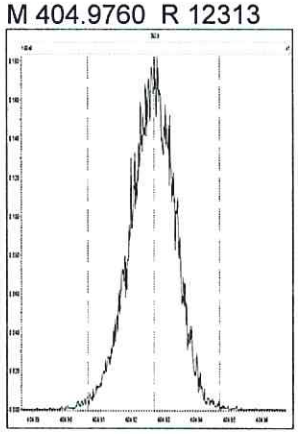
M 380.9760 R 11964



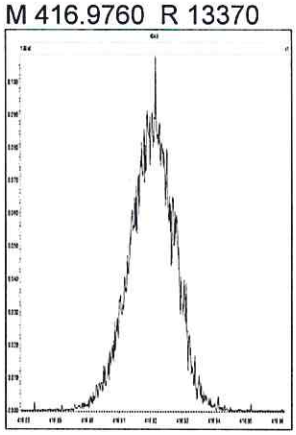
M 392.9760 R 11848



M 404.9760 R 12313



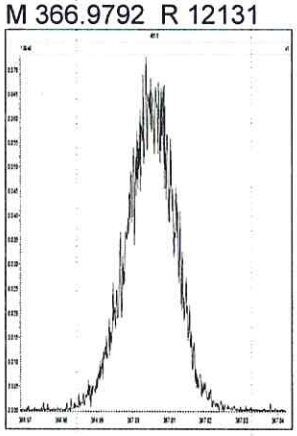
M 416.9760 R 13370



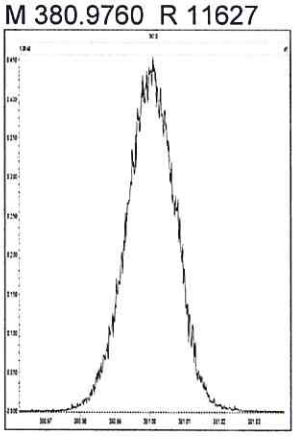
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:22:10 Central Daylight Time

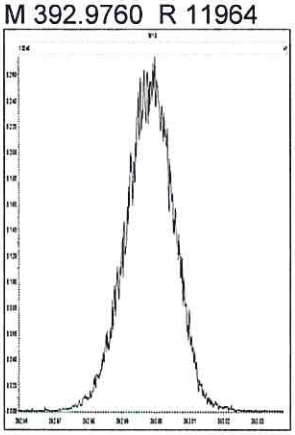
M 366.9792 R 12131



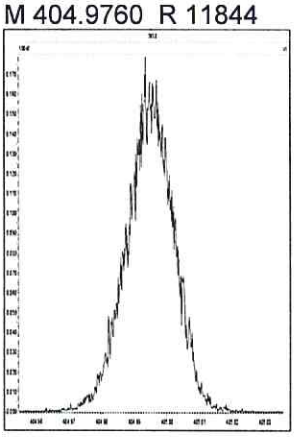
M 380.9760 R 11627



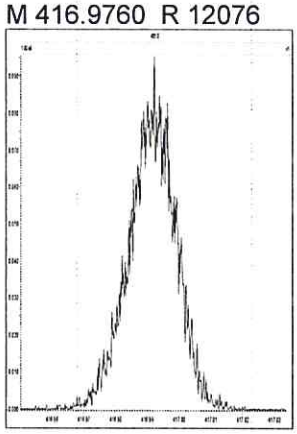
M 392.9760 R 11964



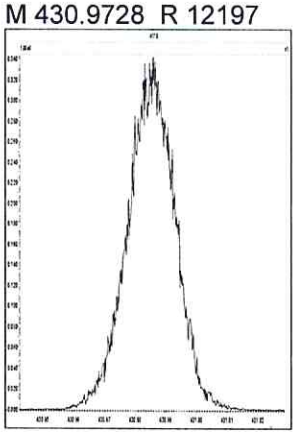
M 404.9760 R 11844



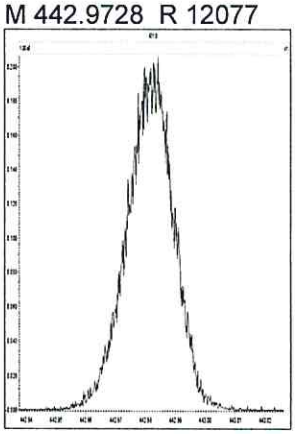
M 416.9760 R 12076



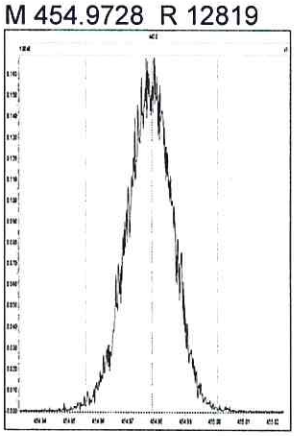
M 430.9728 R 12197



M 442.9728 R 12077



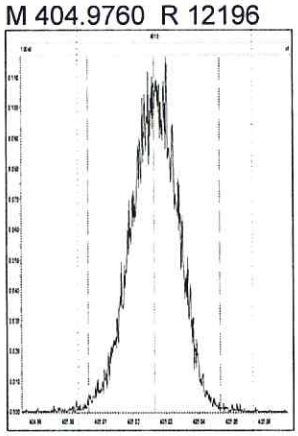
M 454.9728 R 12819



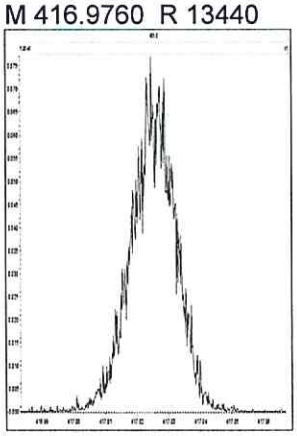
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:23:28 Central Daylight Time

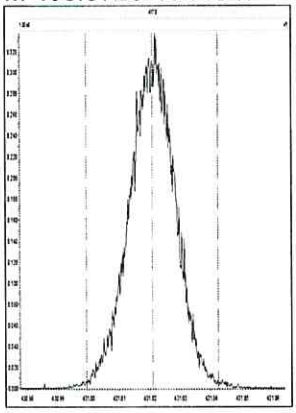
M 404.9760 R 12196



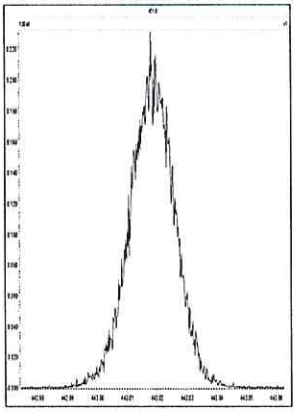
M 416.9760 R 13440



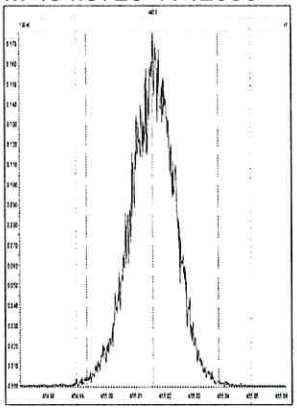
M 430.9728 R 11847



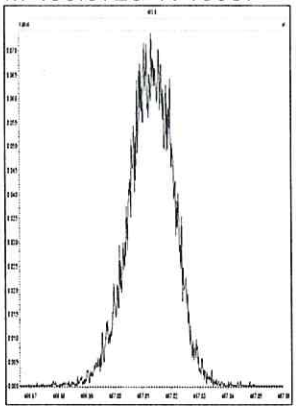
M 442.9728 R 12691



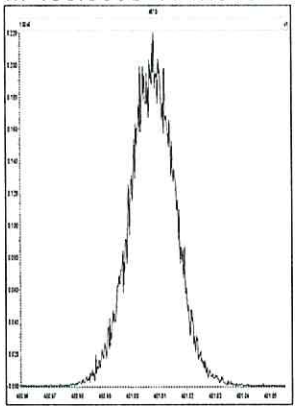
M 454.9728 R 12953



M 466.9728 R 13367



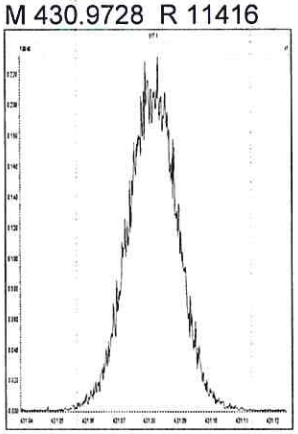
M 480.9696 R 12316



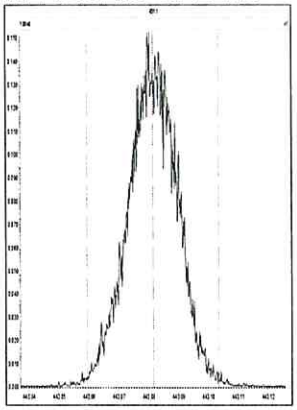
File: Experiment: EPA1613_ALS.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Wednesday, July 26, 2017 18:24:39 Central Daylight Time

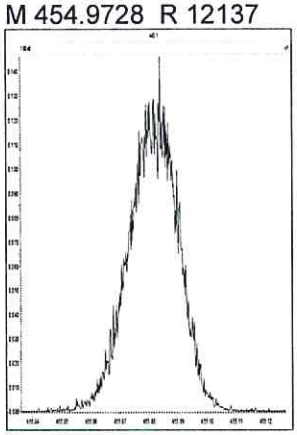
M 430.9728 R 11416



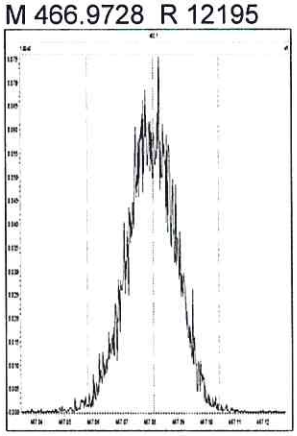
M 442.9728 R 11418



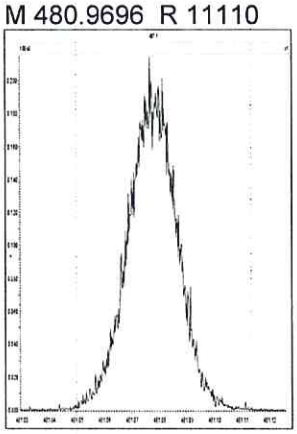
M 454.9728 R 12137



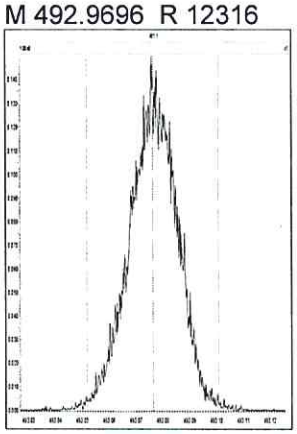
M 466.9728 R 12195



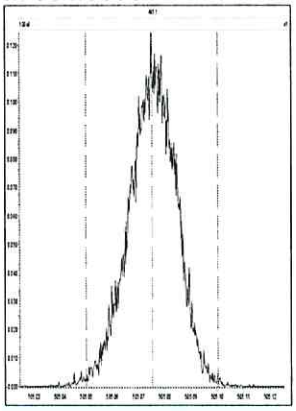
M 480.9696 R 11110



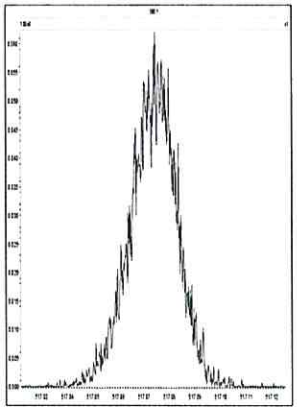
M 492.9696 R 12316



M 504.9696 R 12820



M 516.9697 R 12685



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

WDM

Lab Name: ALS Environmental
Lab Code: ALSTX
GC Column: DB-5MSUI

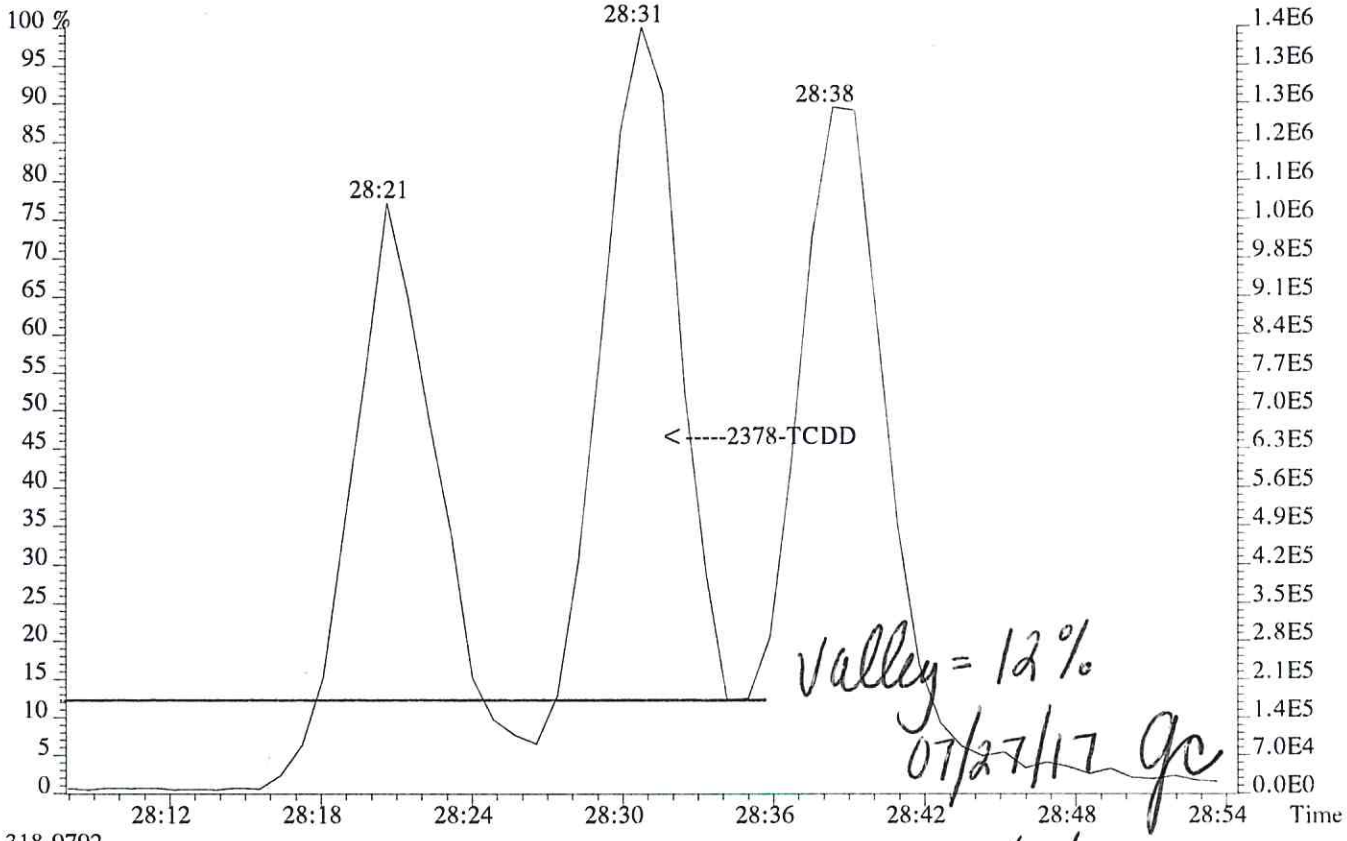
Case No.: _____ SDG No.:
ID: 0.25 (mm)

Lab File ID: P510633
Date Analyzed: 26-JUL-2017
Time Analyzed: 10:27:50

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	23:14	29:43
TCDD	25:03	29:33
PeCDF	29:38	33:58
PeCDD	31:12	33:43
HxCDF	34:37	37:09
HxCDD	35:08	36:45
HpCDF	38:24	39:48
HpCDD	38:38	39:20

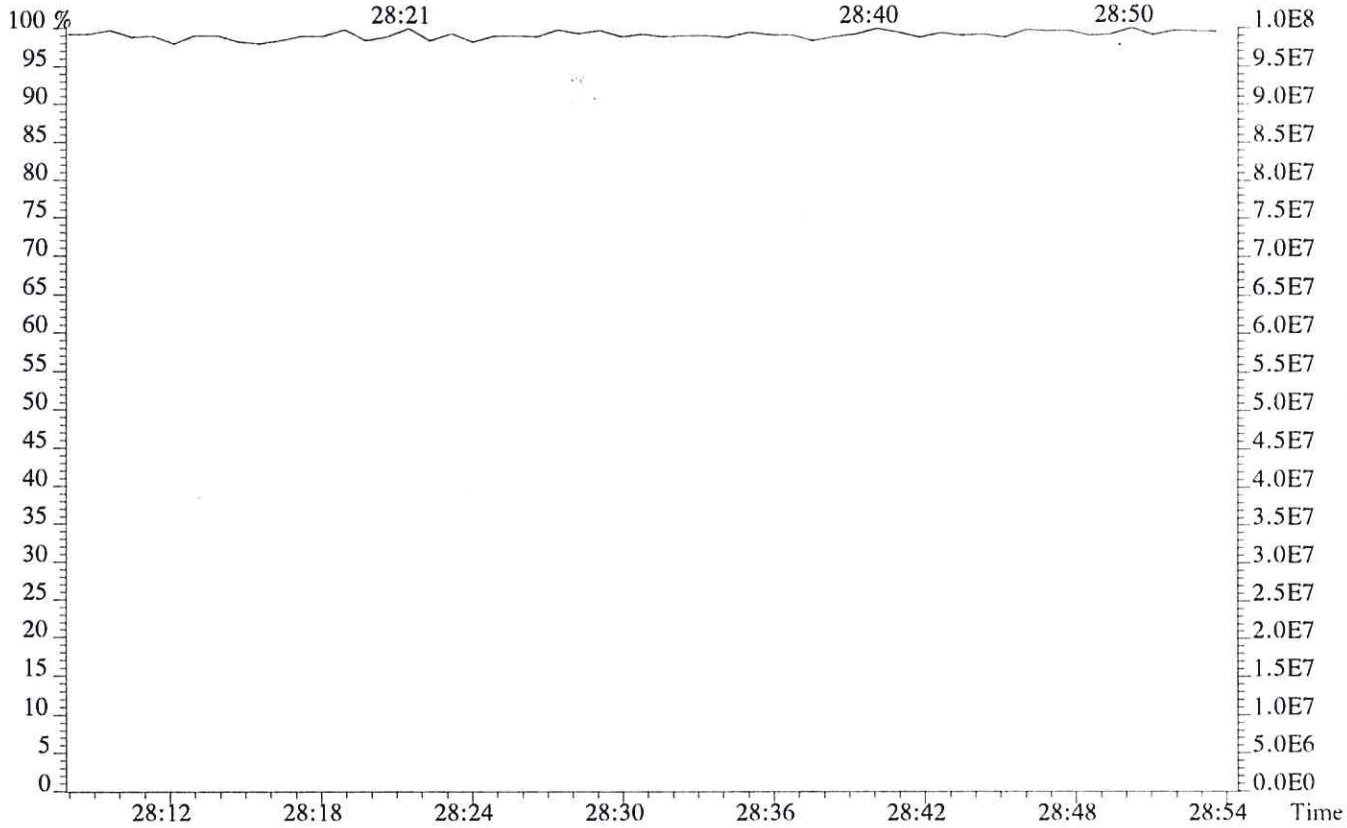
% Valley 2378-TCDD: 12 %

File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
319.8965

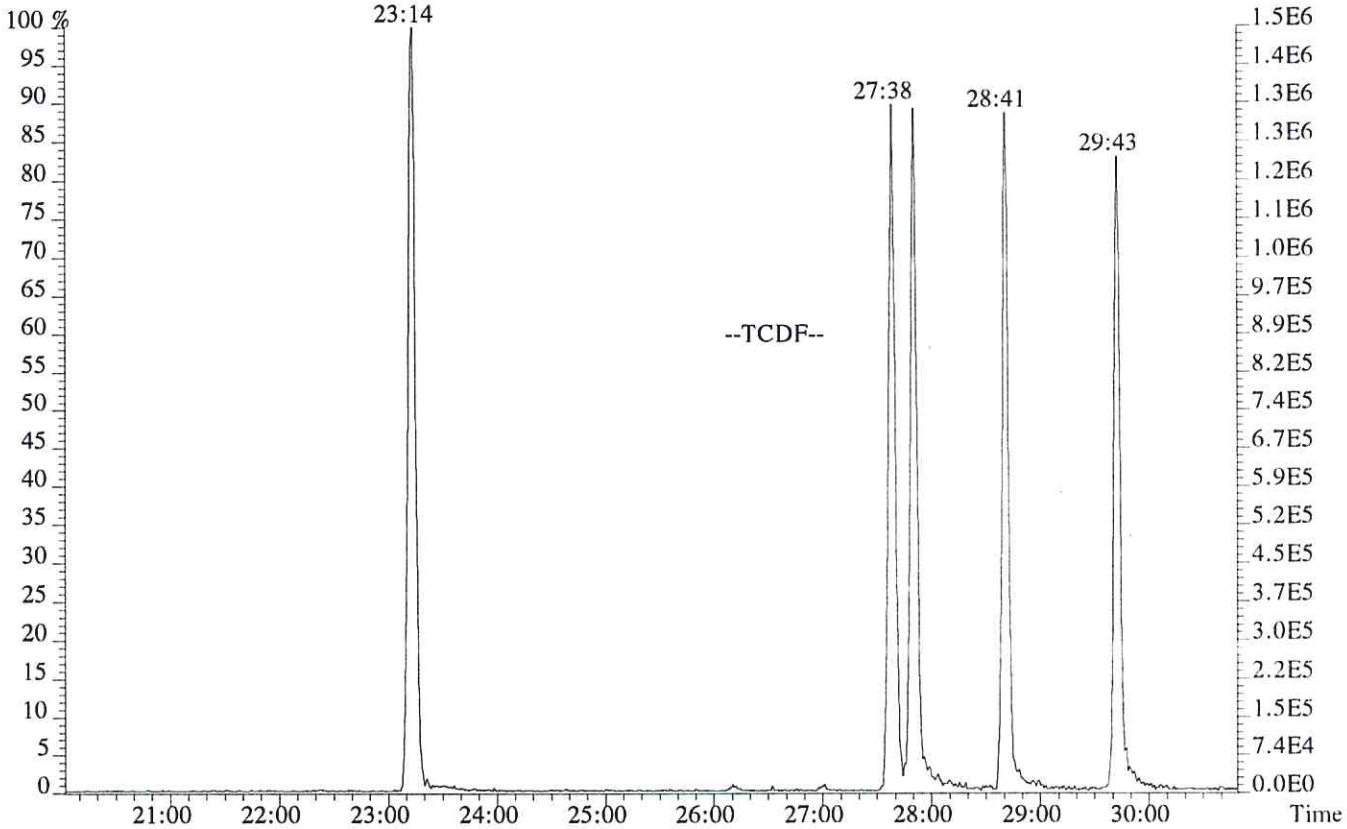


318.9792

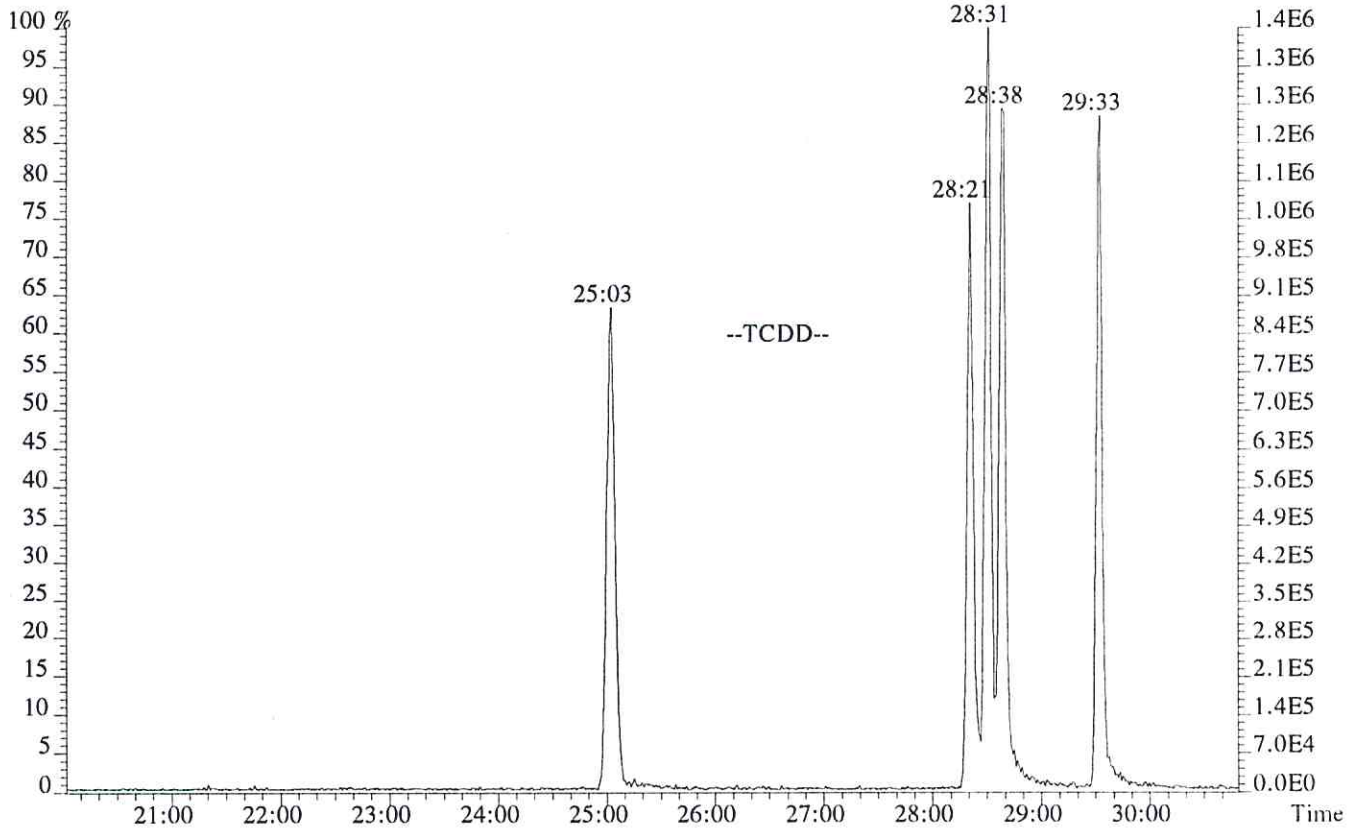
LKL 07/27/17



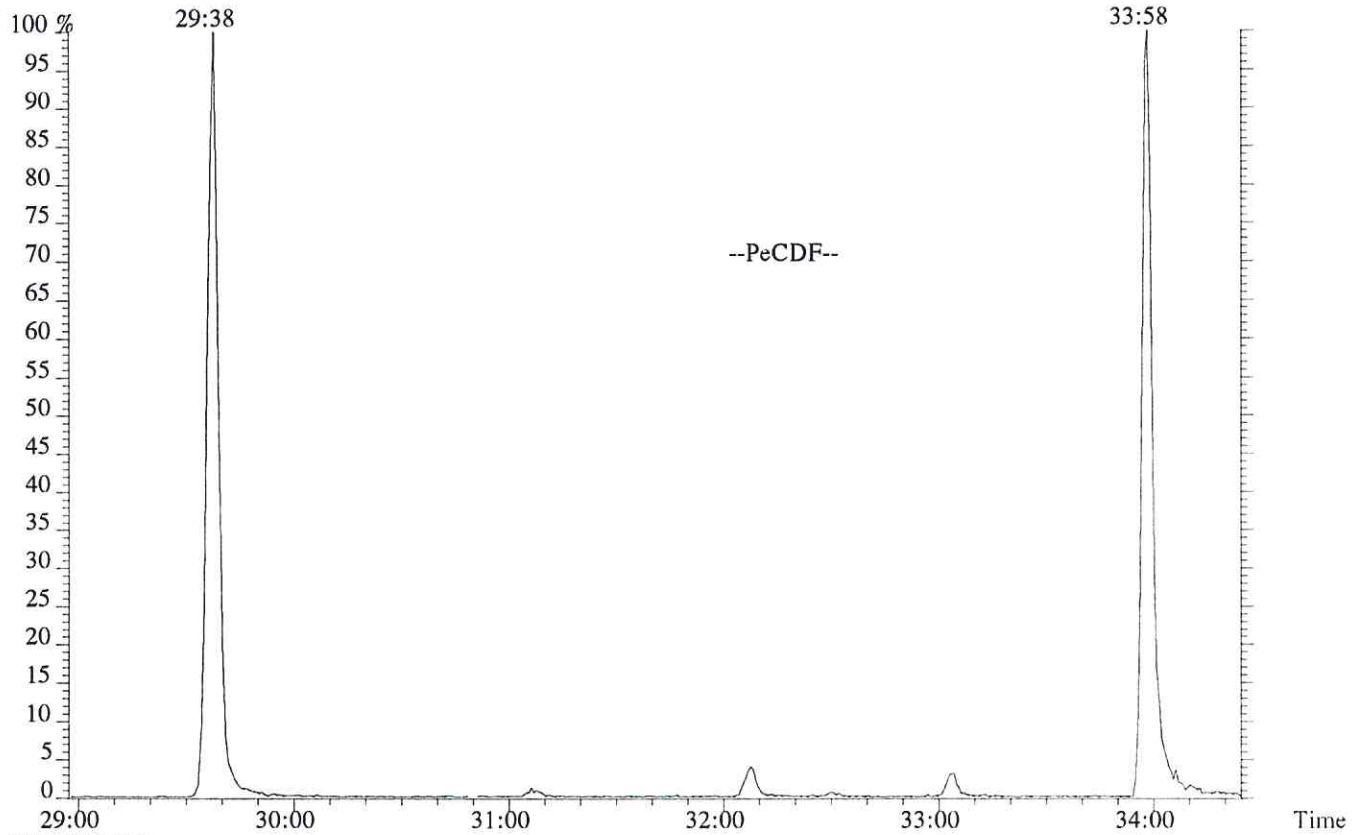
File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
303.9016



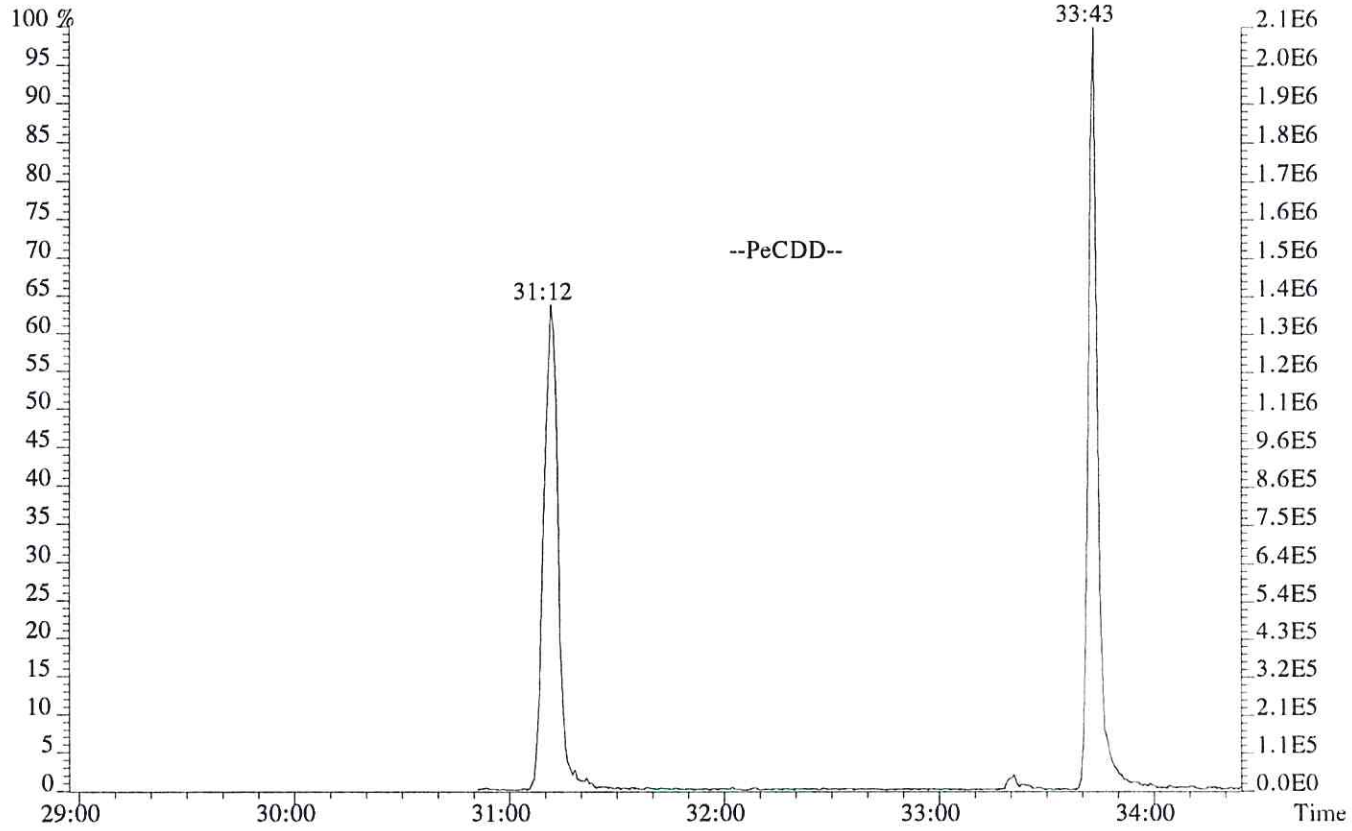
319.8965



File:P510633 #1-765 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
339.8597,339.8597 F:2



355.8546 F:2



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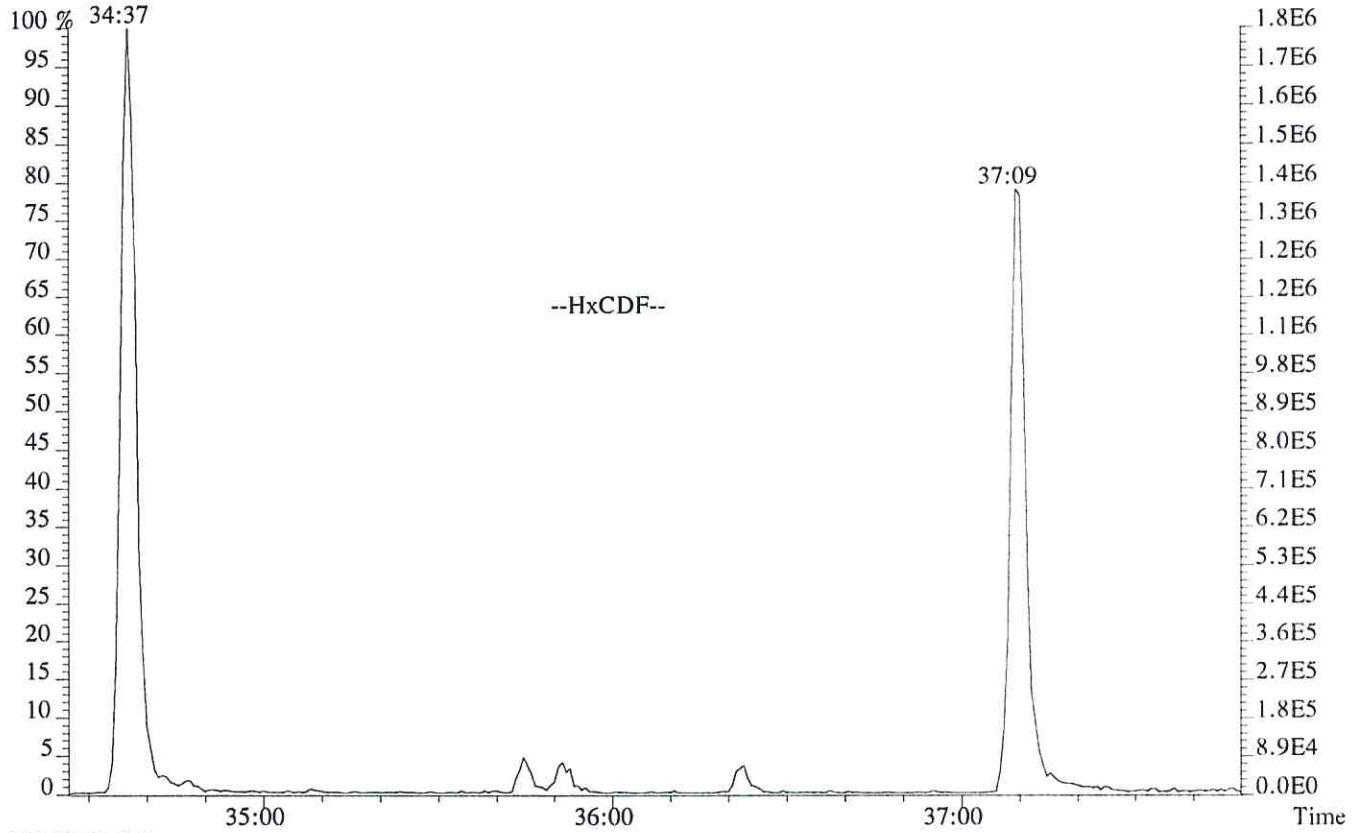
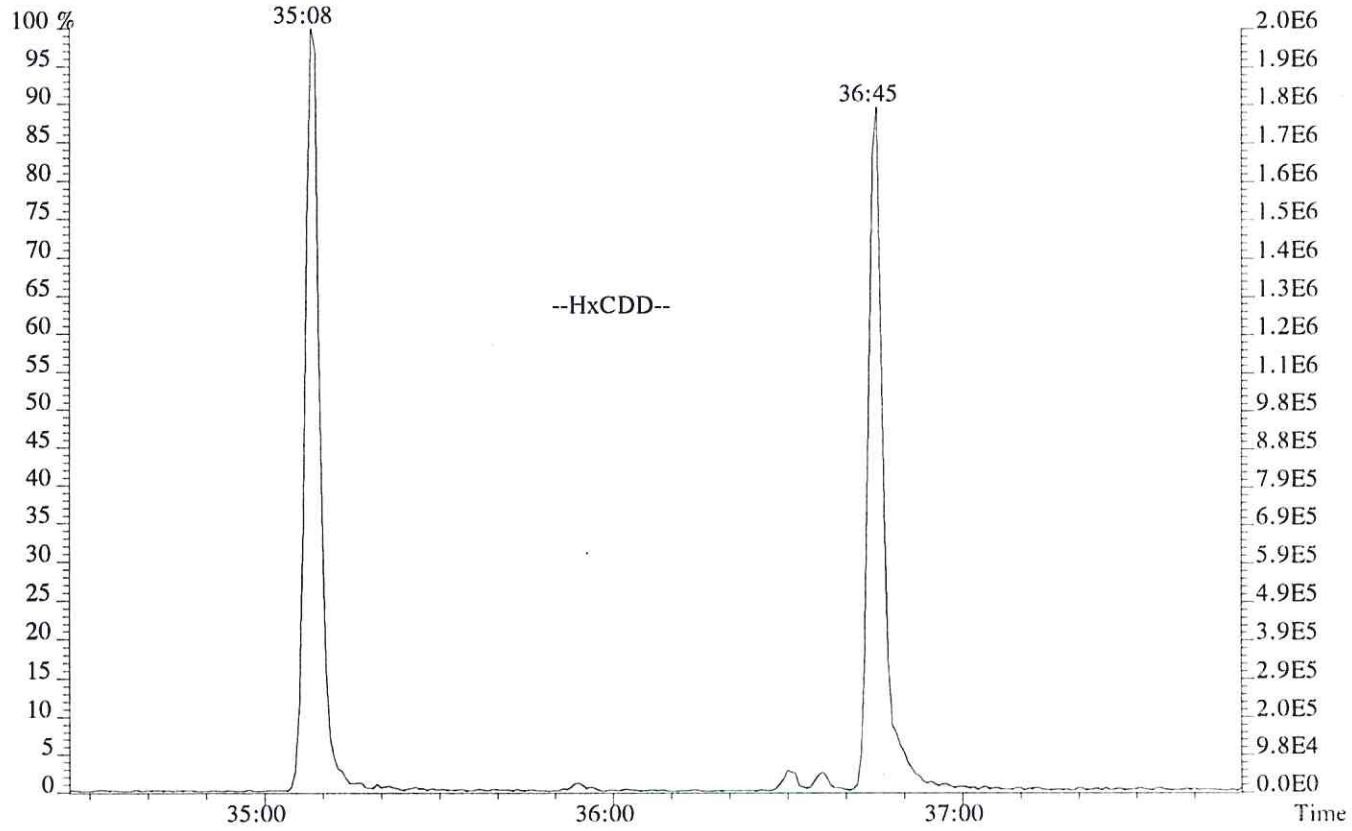
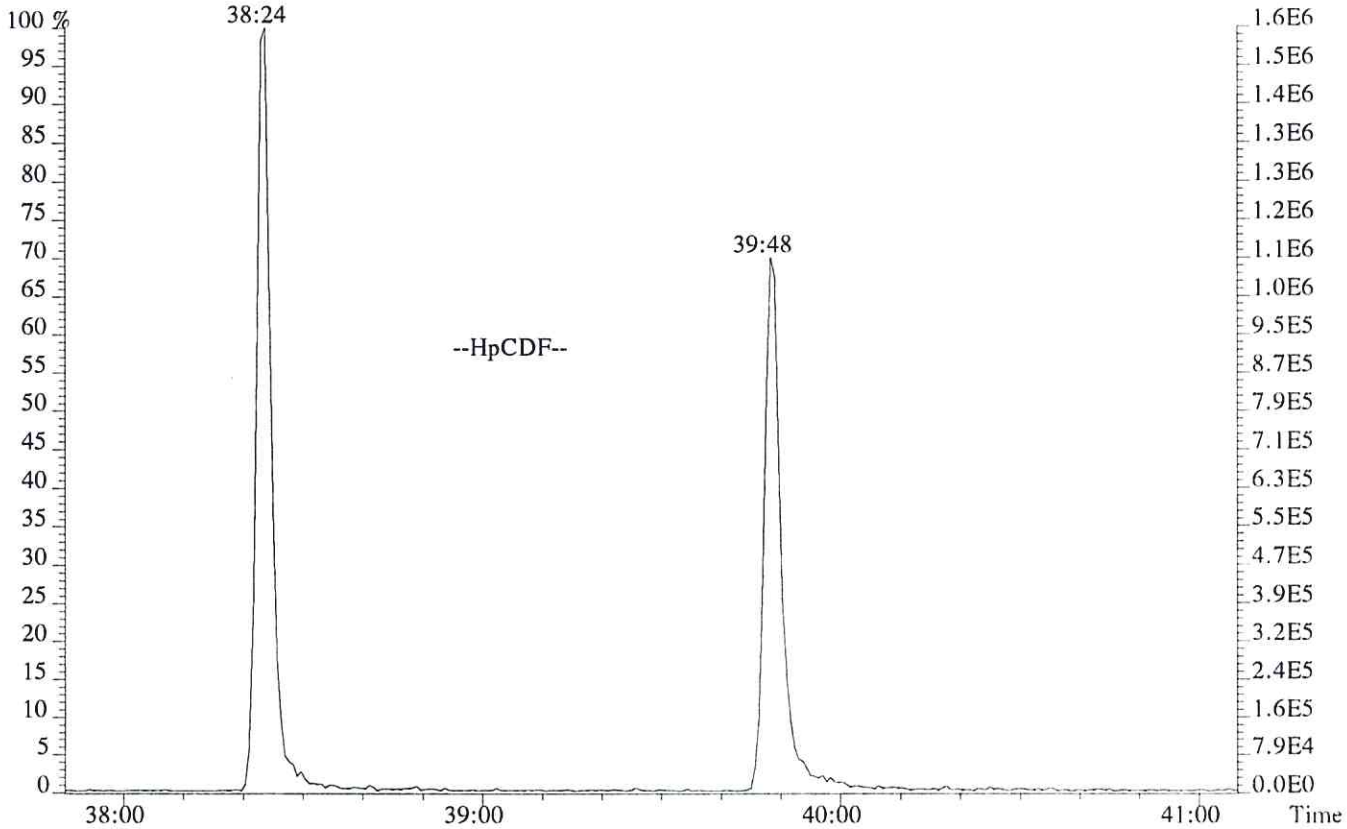
Sample#1 Exp:178397
373.8208 F:3



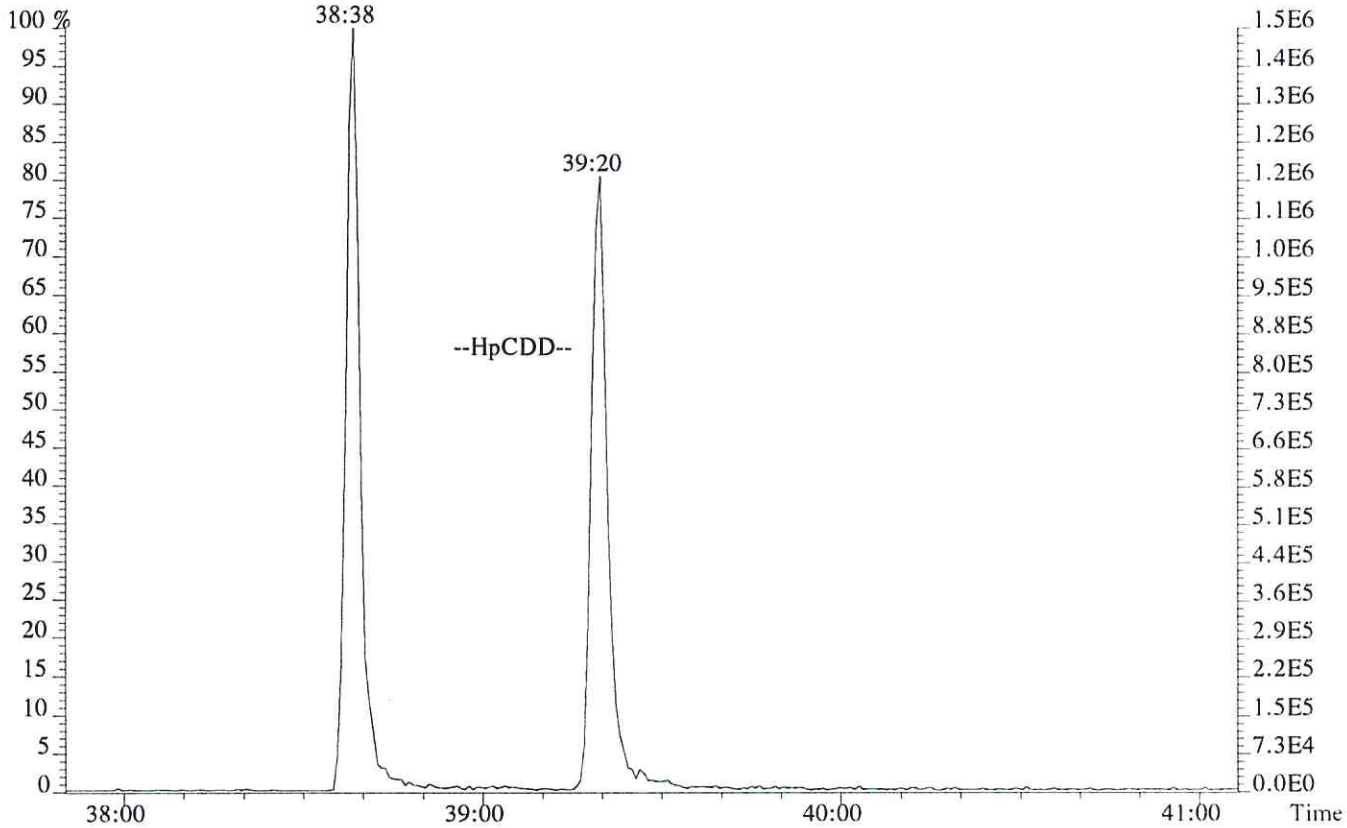
389.8157 F:3



File:P510633 #1-295 Acq:26-JUL-2017 10:27:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:178397
407.7818 F:4



423.7766 F:4



USEPA - CLP
6DFA6
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name: ALS Environmental
Lab Code: ALSTX Case No.:
GC Column: DB-5MSUI ID: 0.25(mm)
Init. Calib. Date(s).: 07/26/17
Init. Calib. Time.: 10:27

Contract No.:
TO No.: SDG No.:
Instrument ID: E-HRMS-07
Method 1613/8290

Target Analytes	RR/RRF CS0.5	CS1	CS2	CS3	CS4	CS5	MEAN RR/RRF	%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.

FORM VI-HR CDD-2 DLM02.2

ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76554

Run #1 Filename P510634 Samp: 1 Inj: 1 Acquired: 26-JUL-17 11:19:31
Processed: 27-JUL-17 08:42:57 Sample ID: CS0.5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:50	1.777e+02	2.581e+02	0.69	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:08	1.370e+03	9.579e+02	1.43	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:03	1.310e+03	9.596e+02	1.37	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	1.061e+03	9.549e+02	1.11	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	1.099e+03	9.679e+02	1.14	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:23	1.040e+03	9.055e+02	1.15	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:09	1.073e+03	8.647e+02	1.24	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	1.060e+03	1.083e+03	0.98	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	8.587e+02	8.926e+02	0.96	yes	no	1.191
10	Unk	OCDF	42:22	1.454e+03	1.716e+03	0.85	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:39	2.002e+02	2.387e+02	0.84	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	1.147e+03	7.705e+02	1.49	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	8.967e+02	7.604e+02	1.18	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:36	9.689e+02	8.405e+02	1.15	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	9.604e+02	8.599e+02	1.12	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	8.816e+02	8.845e+02	1.00	yes	no	0.942
17	Unk	OCDD	42:09	1.569e+03	1.737e+03	0.90	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	8.735e+04	1.115e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:07	1.352e+05	8.721e+04	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.352e+05	8.770e+04	1.54	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	5.360e+04	1.045e+05	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	6.237e+04	1.240e+05	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:22	5.934e+04	1.154e+05	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:08	5.188e+04	1.006e+05	0.52	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:24	4.237e+04	9.579e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	3.669e+04	8.274e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:38	6.344e+04	7.932e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:19	1.038e+05	6.535e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:30	8.229e+04	6.507e+04	1.26	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	8.660e+04	6.805e+04	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:19	7.473e+04	7.068e+04	1.06	yes	no	0.881
32	IS	13C-OCDD	42:09	1.088e+05	1.220e+05	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:01	6.575e+04	8.190e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	9.369e+04	7.113e+04	1.32	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	3.912e+02				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76554

Run #1 Filename P510634 Samp: 1 Inj: 1 Acquired: 26-JUL-17 11:19:31
Processed: 27-JUL-17 08:42:57 LAB. ID: CS0.5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.90e+04	9.00e+02	3.2e+01	3.95e+04	2.88e+03	1.4e+01
2	1,2,3,7,8-PeCDF	2.54e+05	9.08e+02	2.8e+02	1.79e+05	2.44e+03	7.3e+01
3	2,3,4,7,8-PeCDF	2.43e+05	9.08e+02	2.7e+02	1.76e+05	2.44e+03	7.2e+01
4	1,2,3,4,7,8-HxCDF	2.18e+05	9.56e+02	2.3e+02	1.90e+05	8.28e+02	2.3e+02
5	1,2,3,6,7,8-HxCDF	2.18e+05	9.56e+02	2.3e+02	1.95e+05	8.28e+02	2.4e+02
6	2,3,4,6,7,8-HxCDF	2.17e+05	9.56e+02	2.3e+02	1.83e+05	8.28e+02	2.2e+02
7	1,2,3,7,8,9-HxCDF	2.01e+05	9.56e+02	2.1e+02	1.75e+05	8.28e+02	2.1e+02
8	1,2,3,4,6,7,8-HpCDF	2.21e+05	6.00e+02	3.7e+02	2.22e+05	6.76e+02	3.3e+02
9	1,2,3,4,7,8,9-HpCDF	1.61e+05	6.00e+02	2.7e+02	1.74e+05	6.76e+02	2.6e+02
10	OCDF	2.32e+05	3.84e+02	6.0e+02	2.60e+05	1.65e+03	1.6e+02
11	2,3,7,8-TCDD	3.61e+04	2.32e+03	1.6e+01	4.43e+04	1.32e+03	3.4e+01
12	1,2,3,7,8-PeCDD	2.06e+05	1.75e+03	1.2e+02	1.39e+05	1.84e+02	7.6e+02
13	1,2,3,4,7,8-HxCDD	1.96e+05	7.12e+02	2.7e+02	1.64e+05	1.20e+03	1.4e+02
14	1,2,3,6,7,8-HxCDD	2.04e+05	7.12e+02	2.9e+02	1.79e+05	1.20e+03	1.5e+02
15	1,2,3,7,8,9-HxCDD	1.98e+05	7.12e+02	2.8e+02	1.67e+05	1.20e+03	1.4e+02
16	1,2,3,4,6,7,8-HpCDD	1.79e+05	6.20e+02	2.9e+02	1.70e+05	8.00e+02	2.1e+02
17	OCDD	2.40e+05	1.23e+03	2.0e+02	2.77e+05	2.66e+03	1.0e+02
18	13C-2,3,7,8-TCDF	1.51e+07	1.40e+04	1.1e+03	1.90e+07	6.17e+03	3.1e+03
19	13C-1,2,3,7,8-PeCDF	2.40e+07	1.78e+03	1.3e+04	1.54e+07	1.99e+03	7.7e+03
20	13C-2,3,4,7,8-PeCDF	2.49e+07	1.78e+03	1.4e+04	1.63e+07	1.99e+03	8.2e+03
21	13C-1,2,3,4,7,8-HxCDF	1.09e+07	1.13e+03	9.6e+03	2.20e+07	1.46e+03	1.5e+04
22	13C-1,2,3,6,7,8-HxCDF	1.23e+07	1.13e+03	1.1e+04	2.44e+07	1.46e+03	1.7e+04
23	13C-2,3,4,6,7,8-HxCDF	1.23e+07	1.13e+03	1.1e+04	2.36e+07	1.46e+03	1.6e+04
24	13C-1,2,3,7,8,9-HxCDF	9.97e+06	1.13e+03	8.8e+03	1.92e+07	1.46e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.73e+06	4.12e+03	2.1e+03	1.94e+07	8.72e+03	2.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	6.79e+06	4.12e+03	1.6e+03	1.55e+07	8.72e+03	1.8e+03
27	13C-2,3,7,8-TCDD	1.15e+07	6.74e+03	1.7e+03	1.44e+07	3.91e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	1.89e+07	1.87e+03	1.0e+04	1.20e+07	9.68e+02	1.2e+04
29	13C-1,2,3,4,7,8-HxCDD	1.81e+07	3.33e+03	5.4e+03	1.42e+07	1.22e+03	1.2e+04
30	13C-1,2,3,6,7,8-HxCDD	1.74e+07	3.33e+03	5.2e+03	1.37e+07	1.22e+03	1.1e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.42e+07	1.66e+03	8.5e+03	1.35e+07	8.92e+02	1.5e+04
32	13C-OCDD	1.70e+07	1.30e+03	1.3e+04	1.89e+07	7.96e+02	2.4e+04
33	13C-1,2,3,4-TCDD	1.18e+07	6.74e+03	1.7e+03	1.47e+07	3.91e+03	3.8e+03
34	13C-1,2,3,7,8,9-HxCDD	1.86e+07	3.33e+03	5.6e+03	1.44e+07	1.22e+03	1.2e+04
35	37Cl-2,3,7,8-TCDD	7.61e+04	9.92e+02	7.7e+01			

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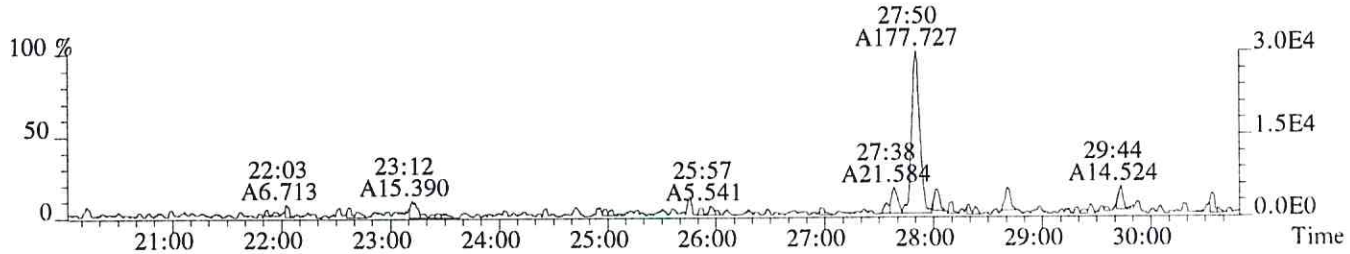
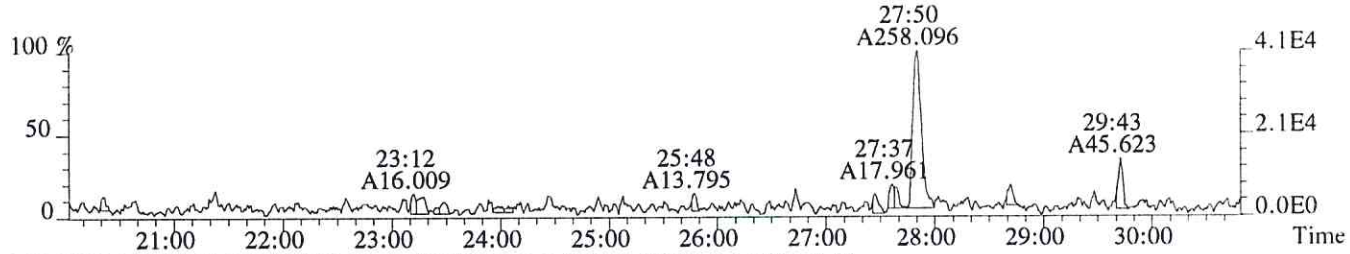
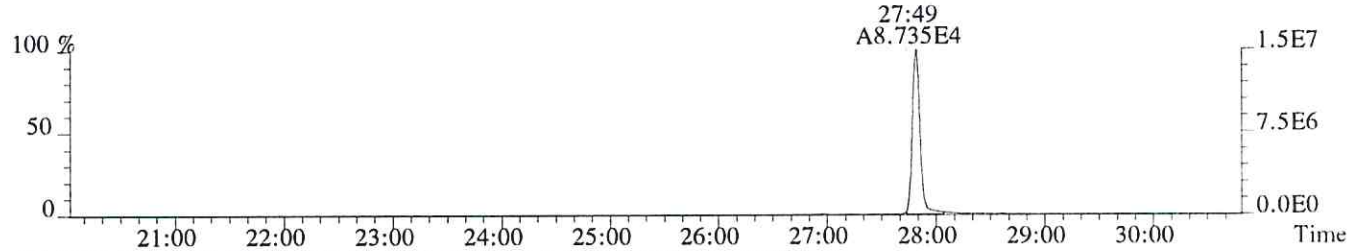
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,900.0,1.00%,F,T)



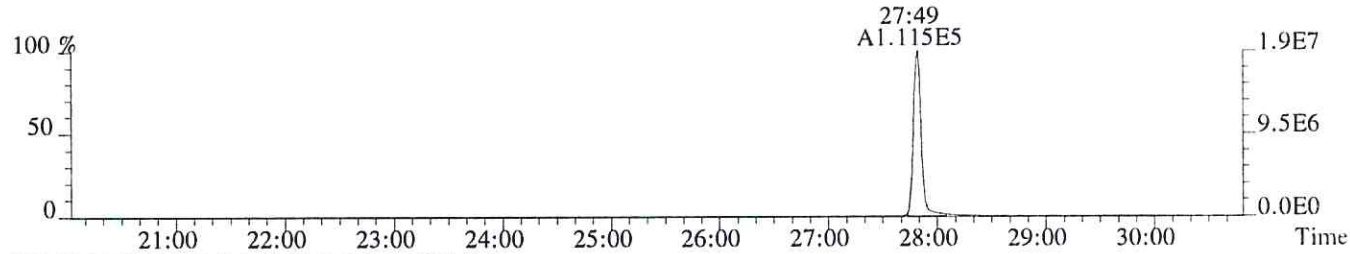
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2884.0,1.00%,F,T)



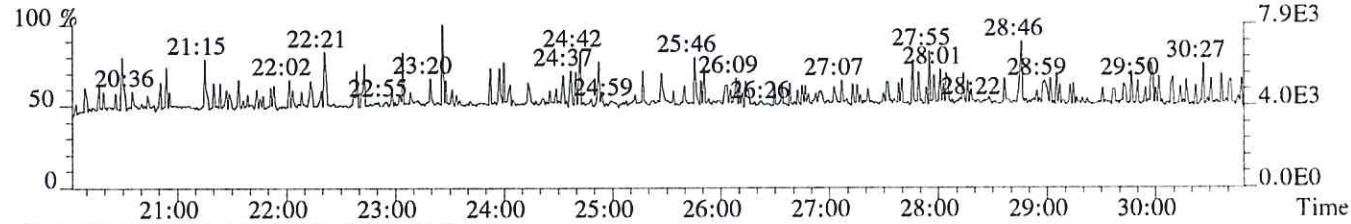
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13996.0,1.00%,F,T)



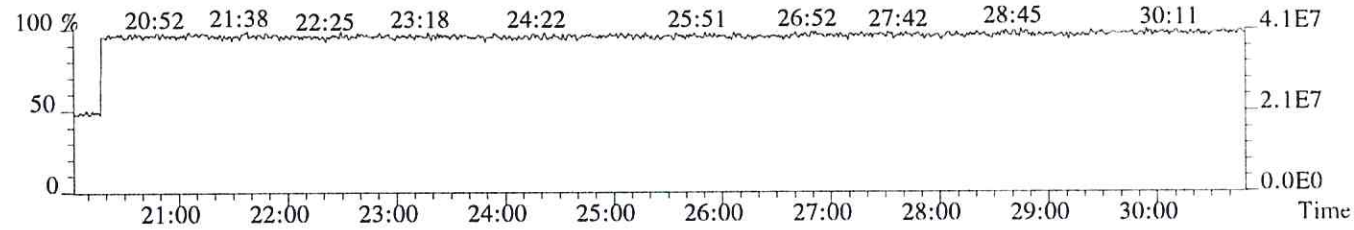
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6172.0,1.00%,F,T)



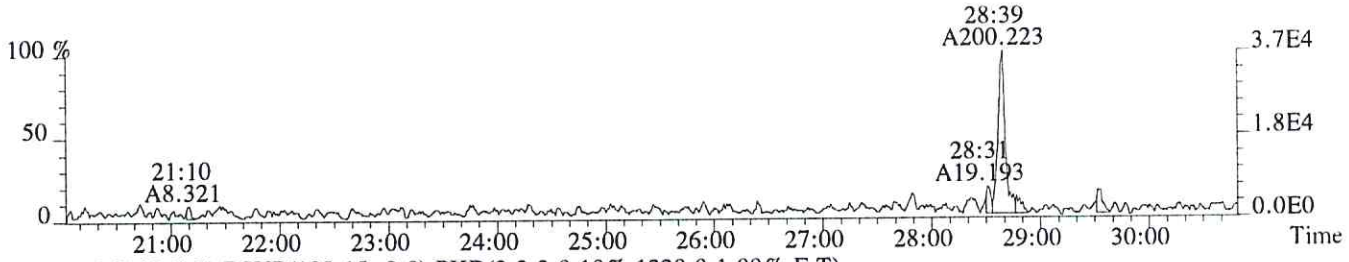
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



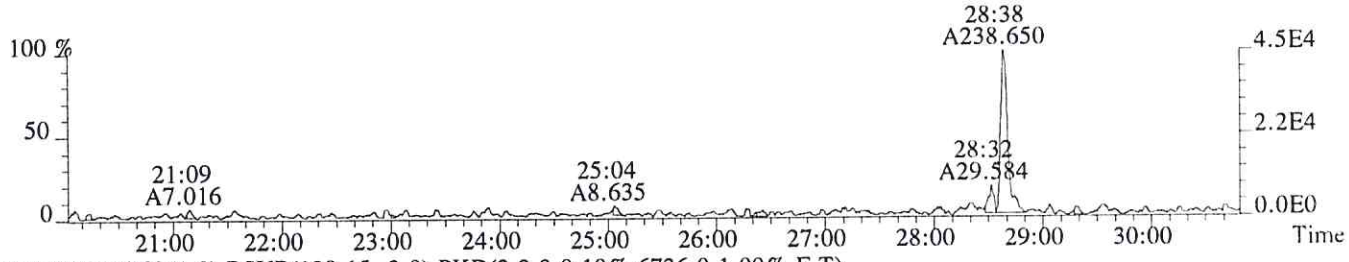
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



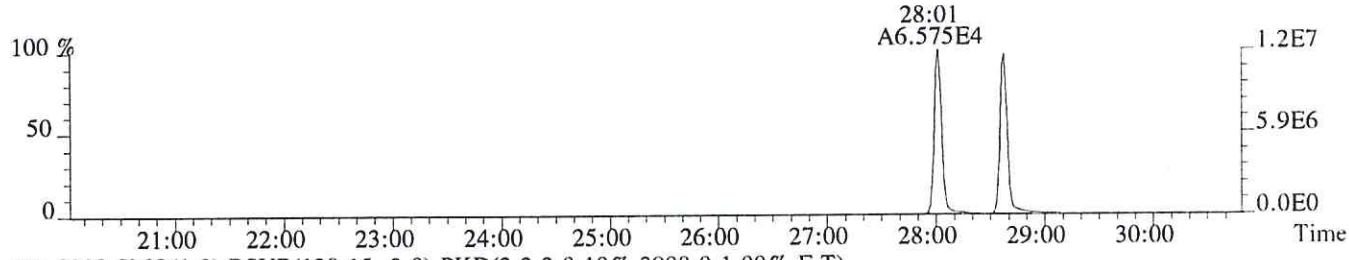
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2324.0,1.00%,F,T)



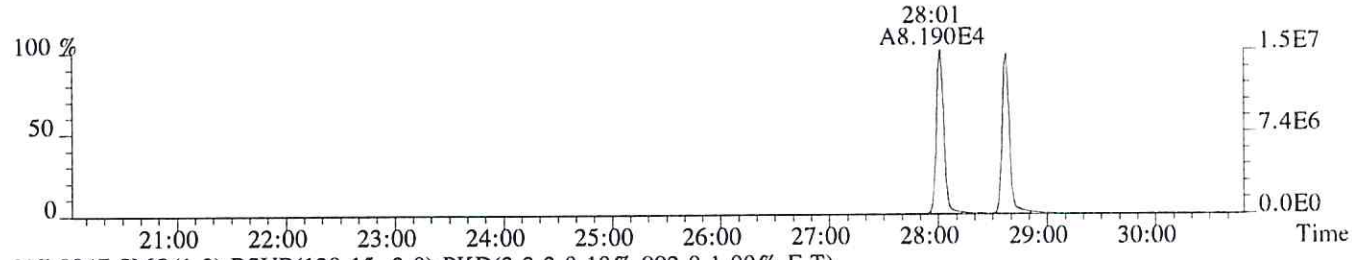
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,T)



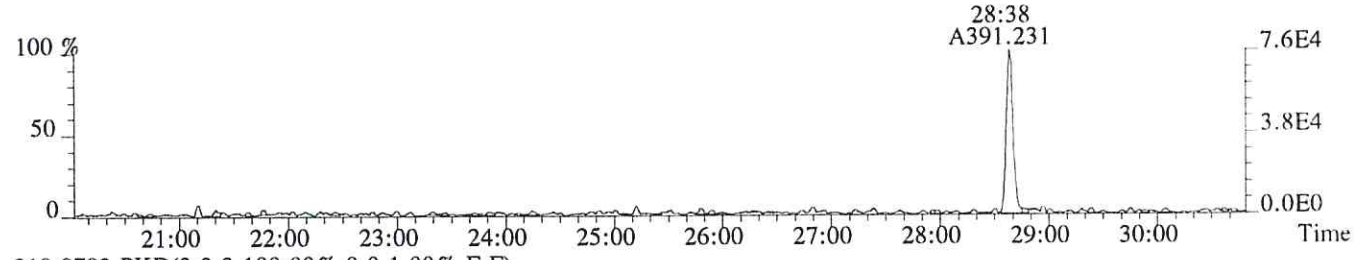
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6736.0,1.00%,F,T)



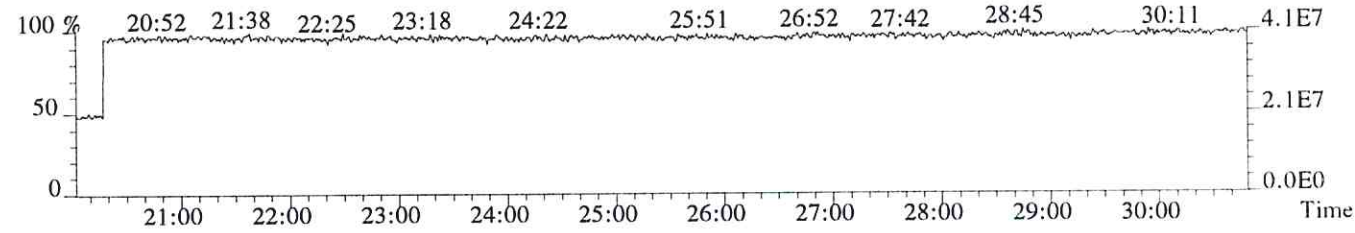
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3908.0,1.00%,F,T)



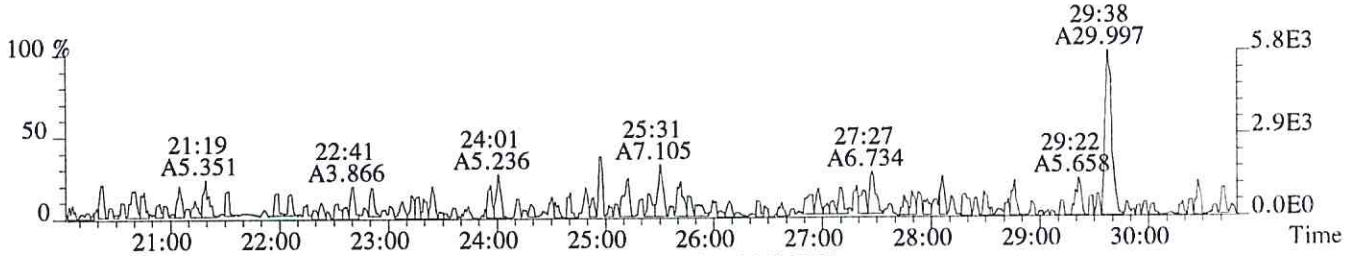
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



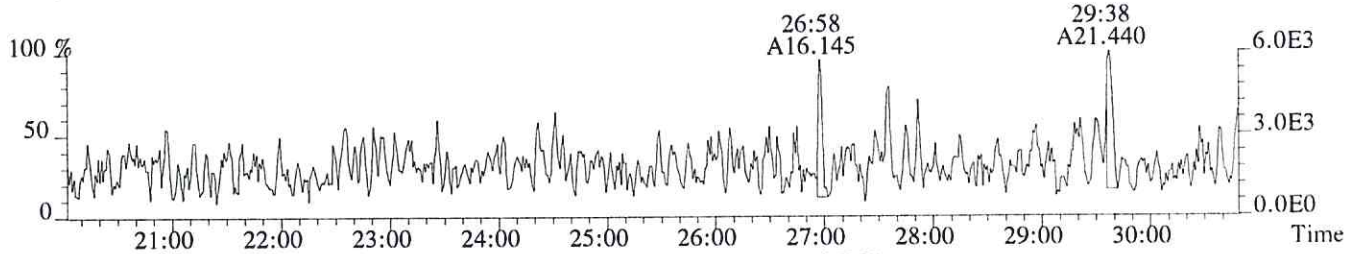
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



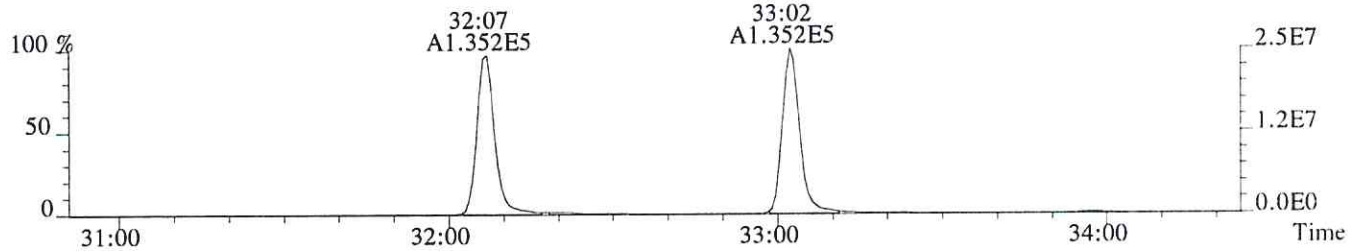
File:P510634 #1-765 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,T)



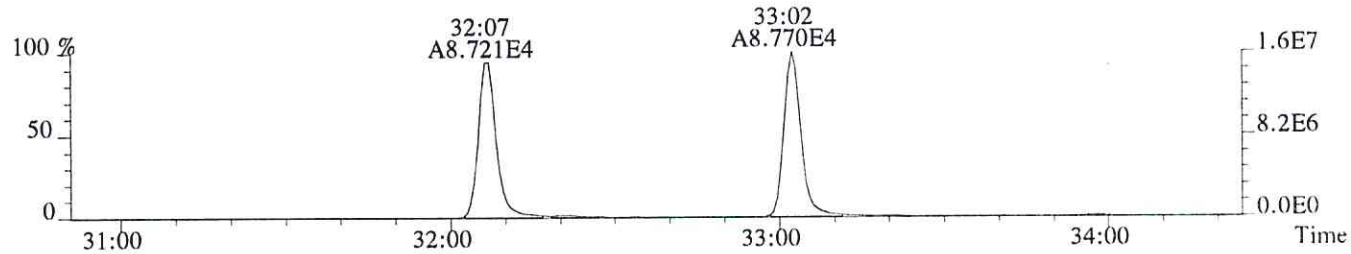
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2232.0,1.00%,F,T)



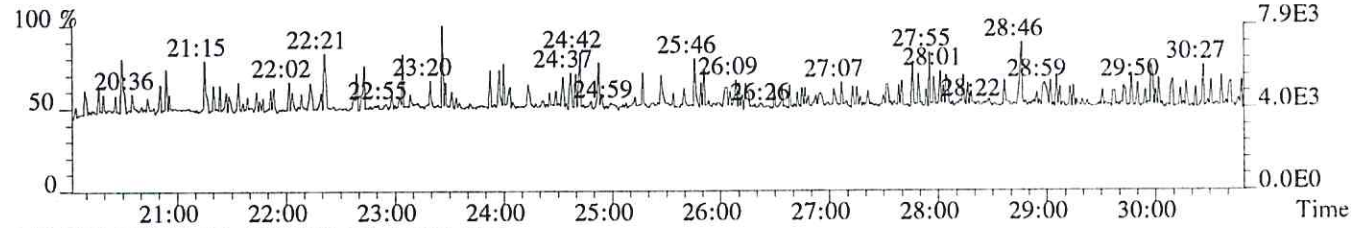
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



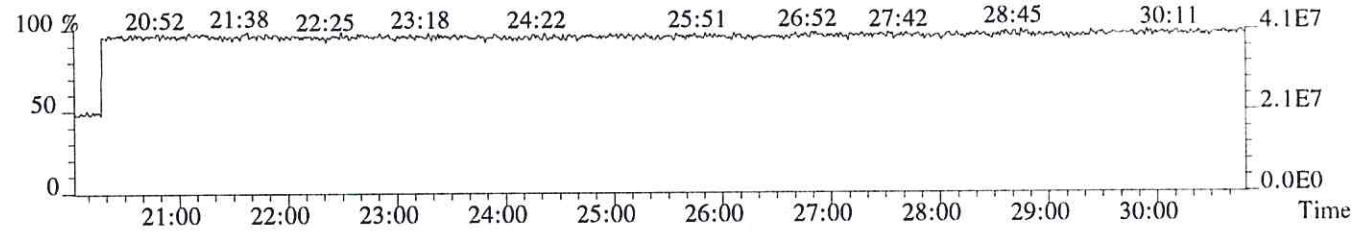
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



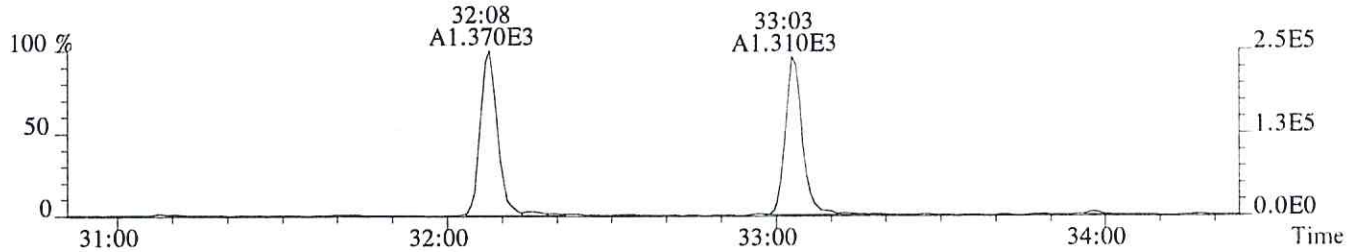
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



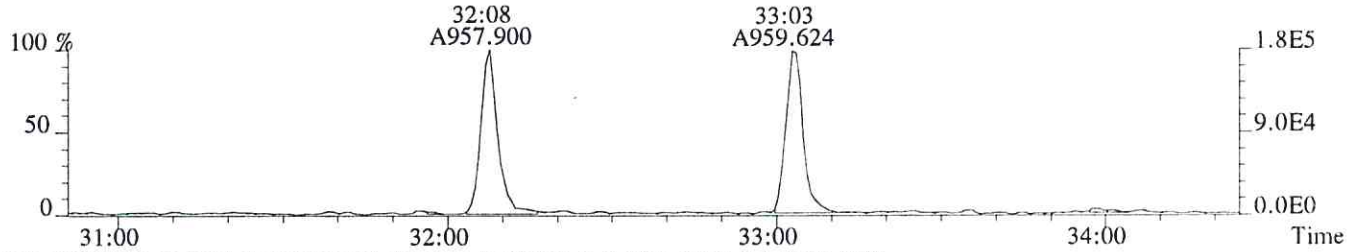
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



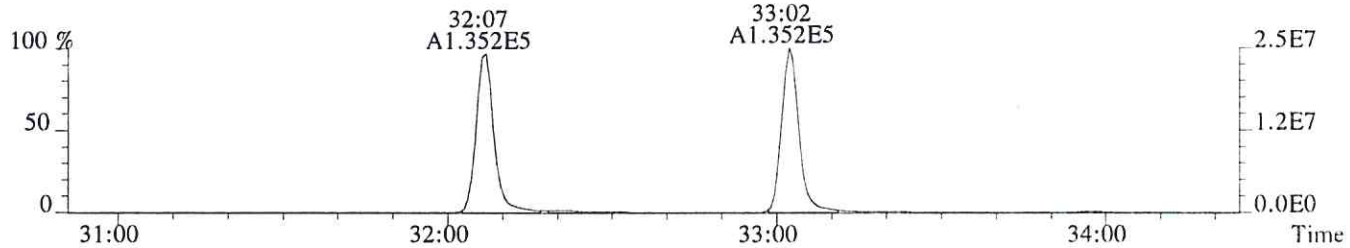
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



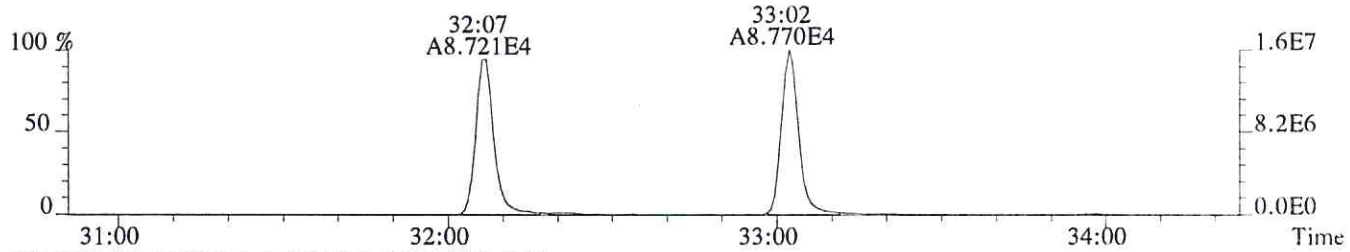
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2444.0,1.00%,F,T)



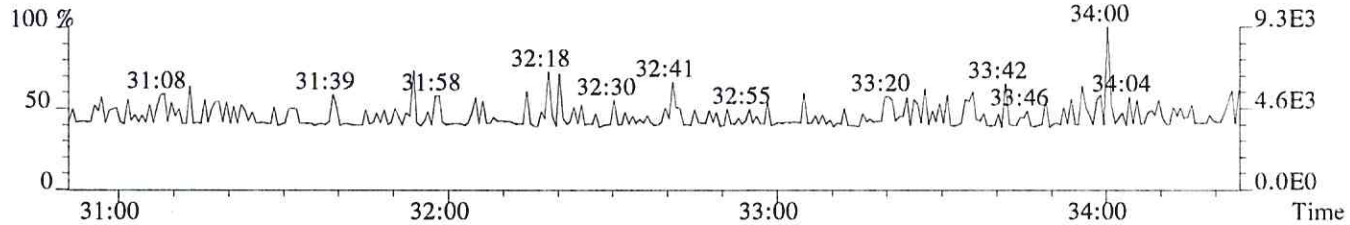
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



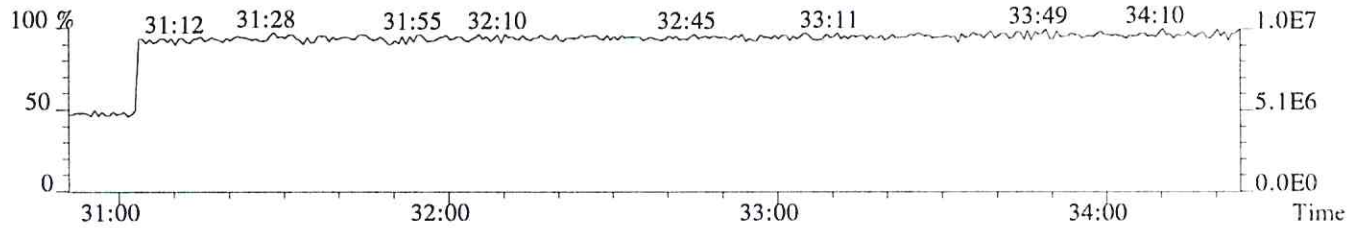
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1988.0,1.00%,F,T)



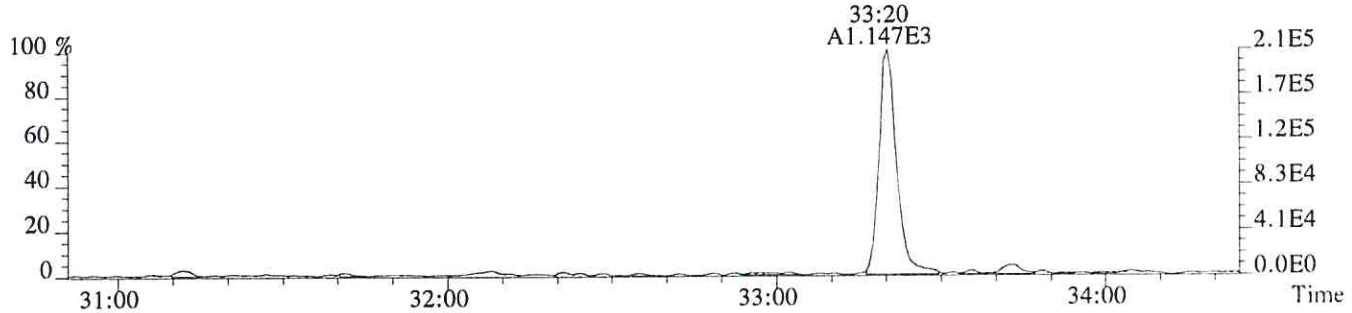
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



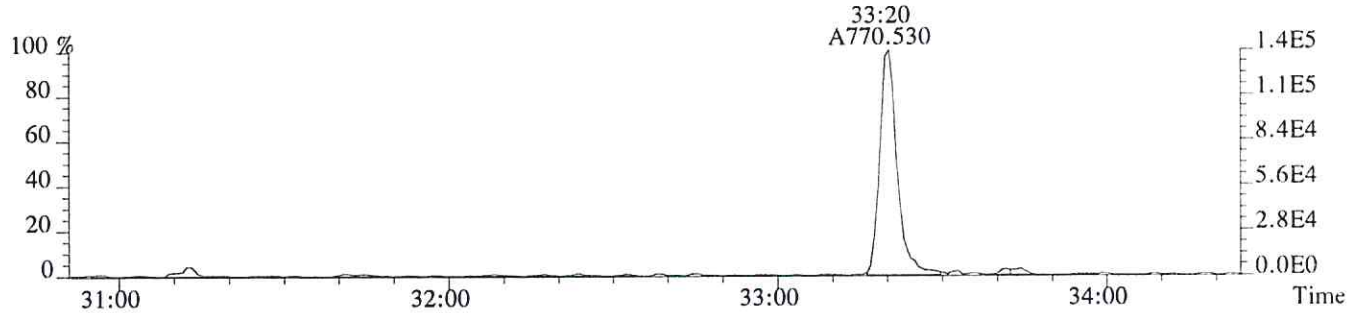
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



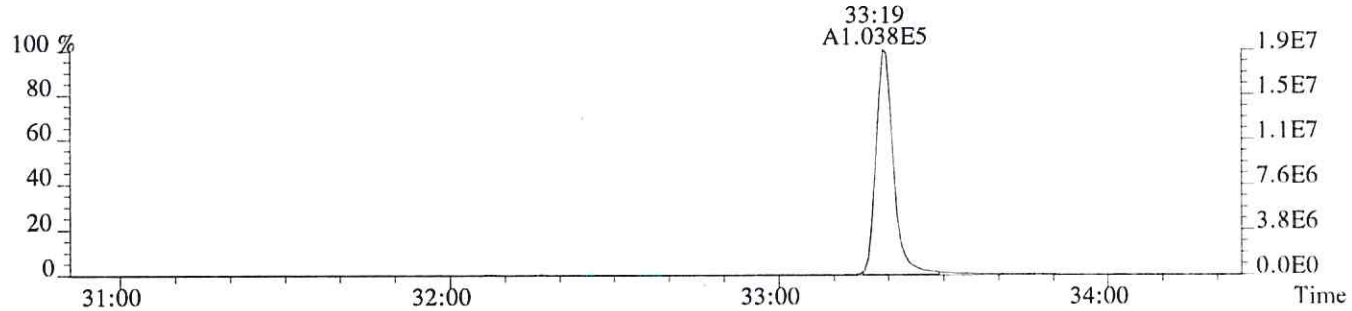
File:P510634 #1-321 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1752.0,1.00%,F,T)



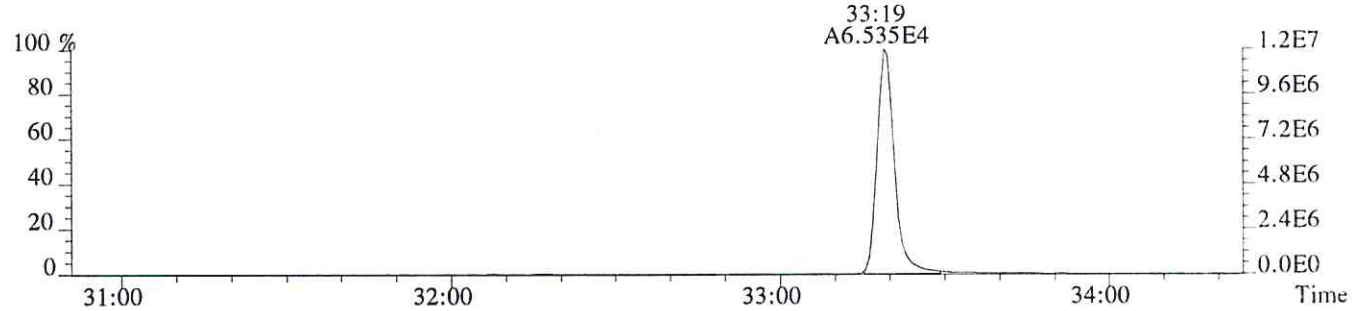
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,184.0,1.00%,F,T)



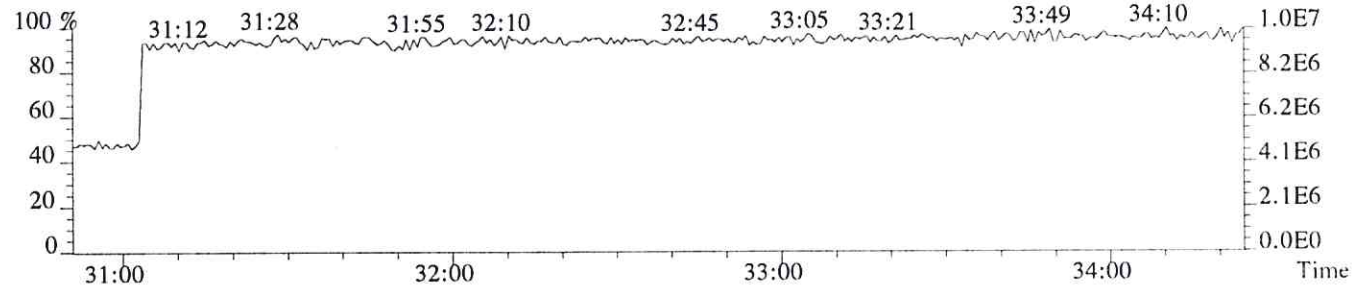
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1868.0,1.00%,F,T)



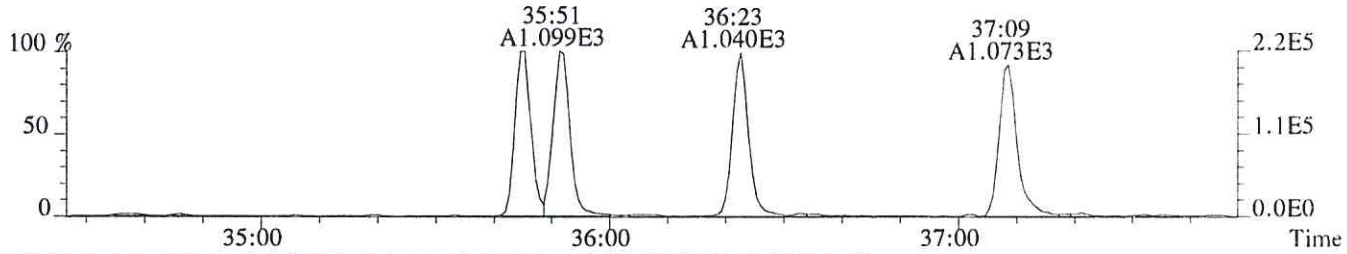
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,968.0,1.00%,F,T)



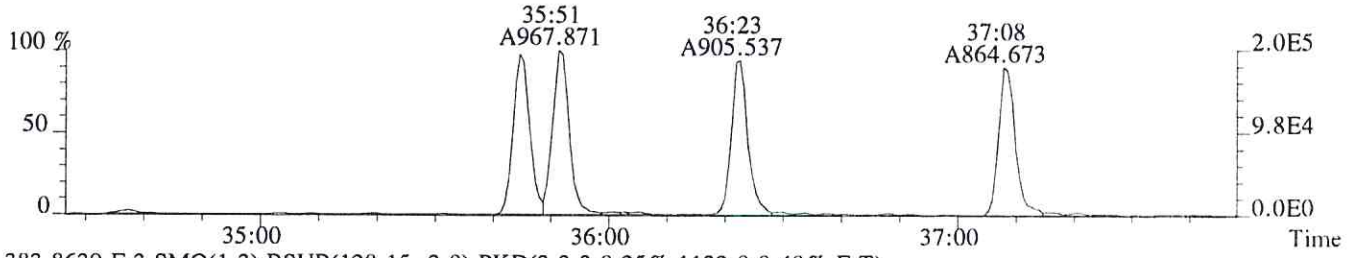
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



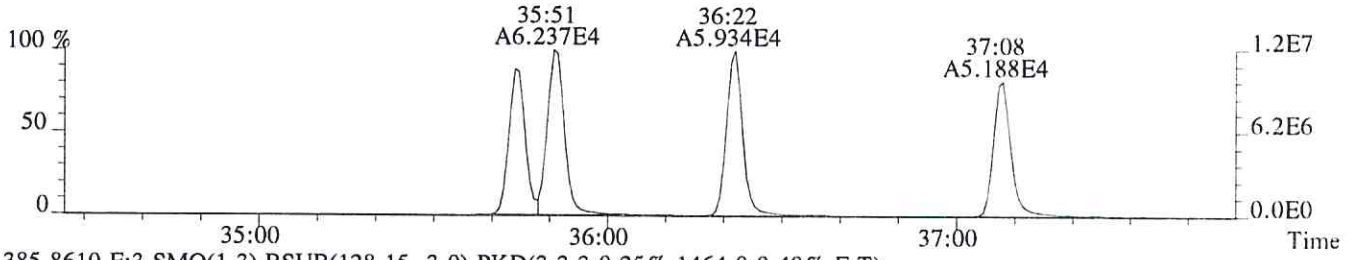
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,956.0,0.40%,F,T)



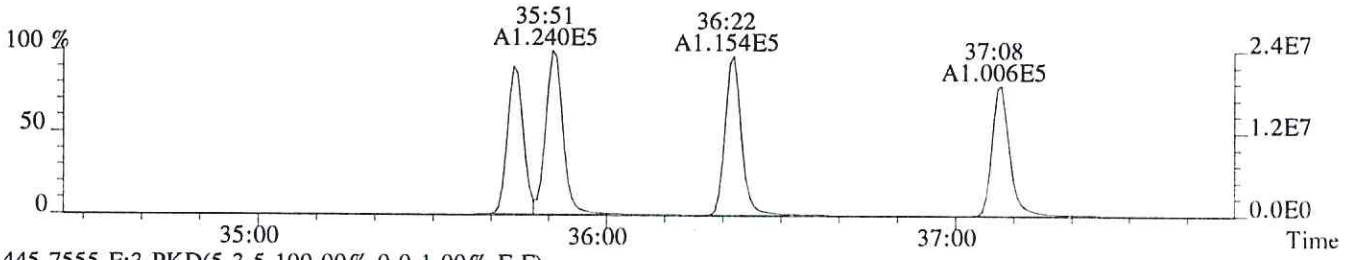
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,T)



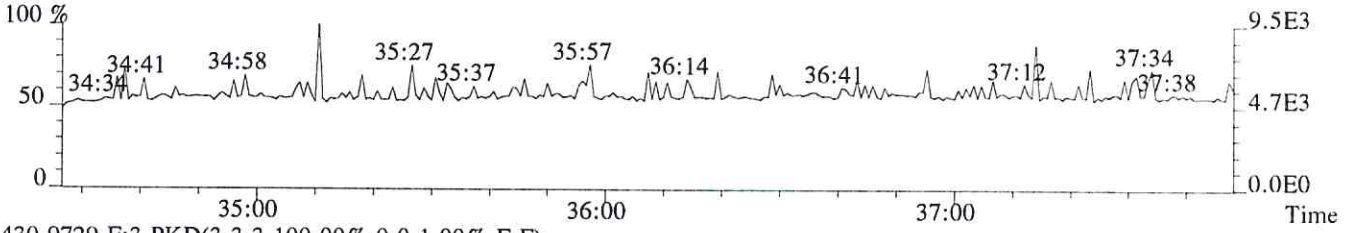
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,T)



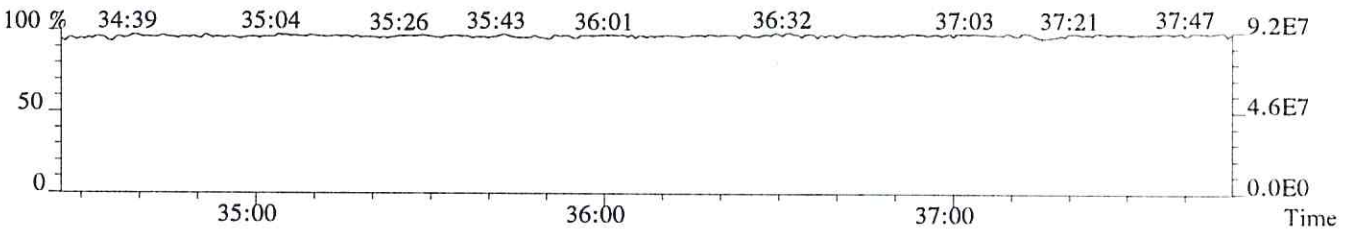
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



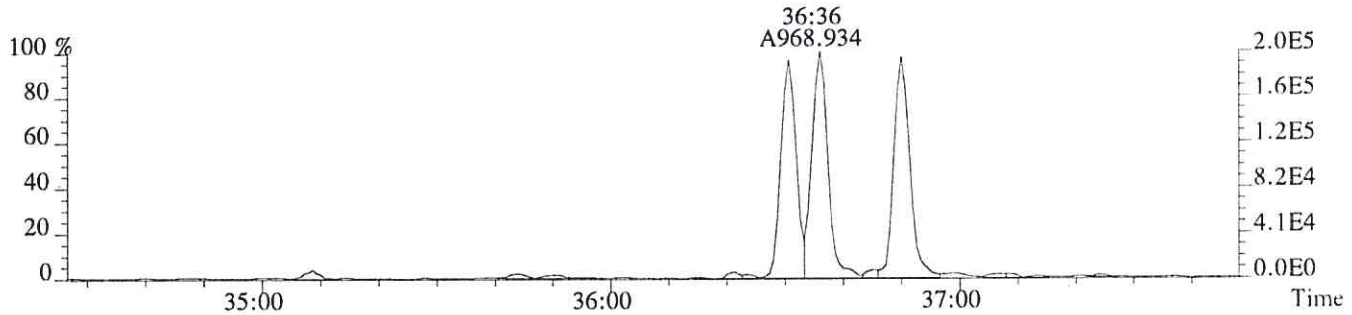
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



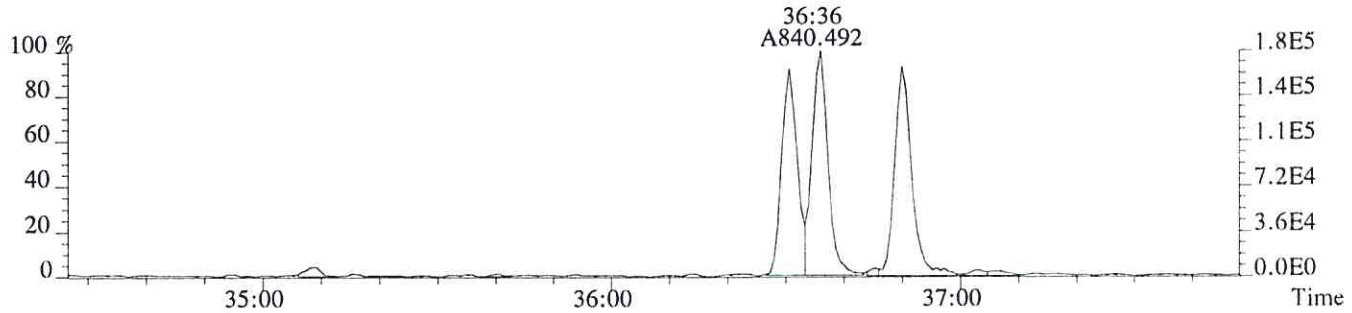
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



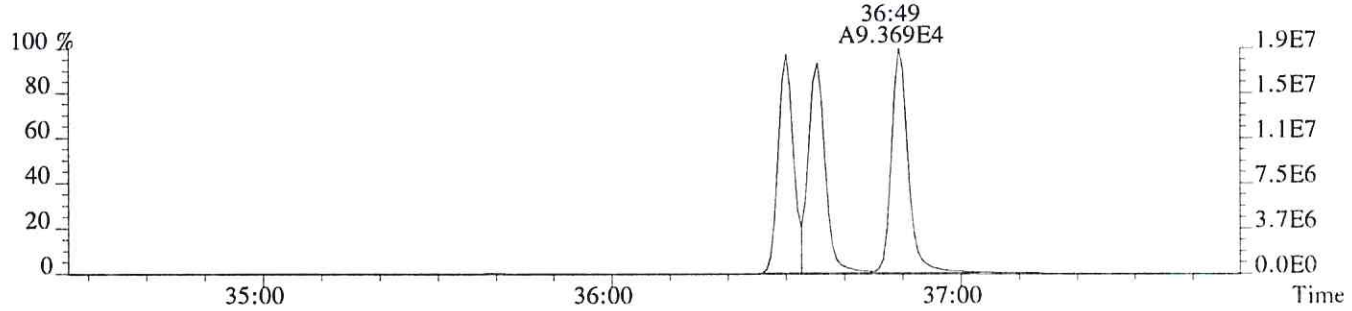
File:P510634 #1-303 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



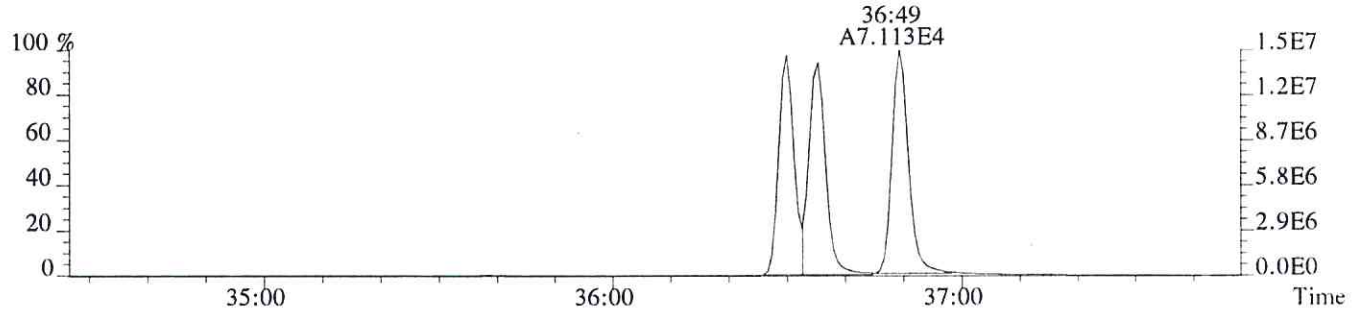
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1196.0,0.40%,F,T)



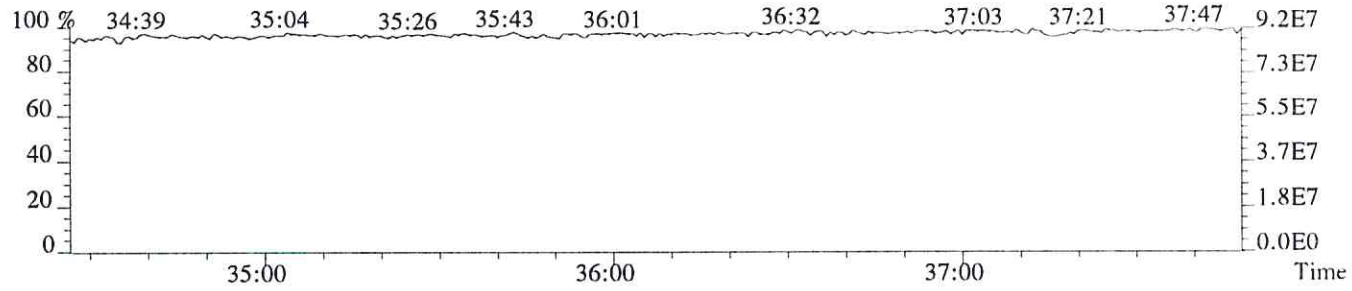
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3332.0,0.40%,F,T)



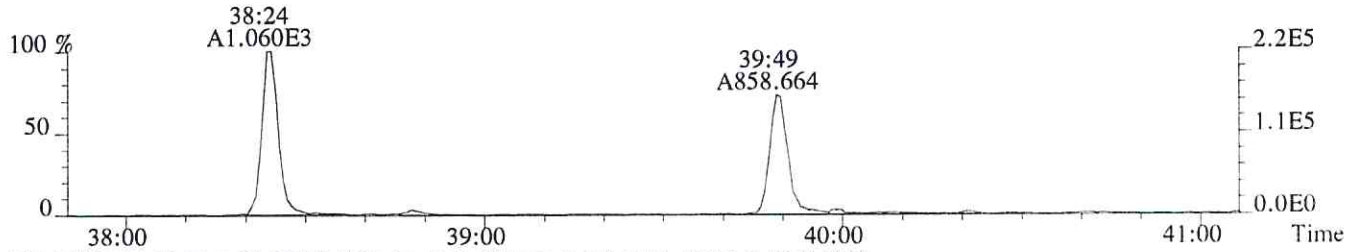
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,T)



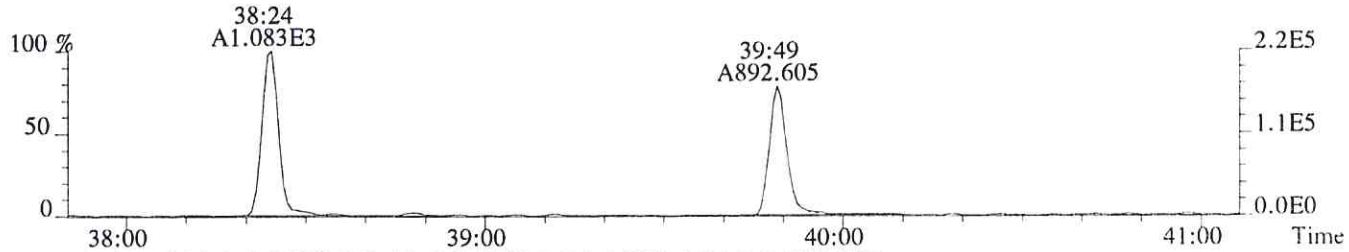
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



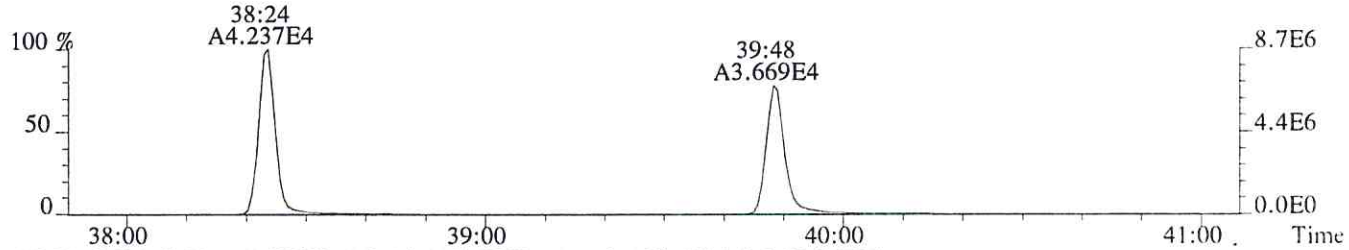
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,600.0,0.50%,F,T)



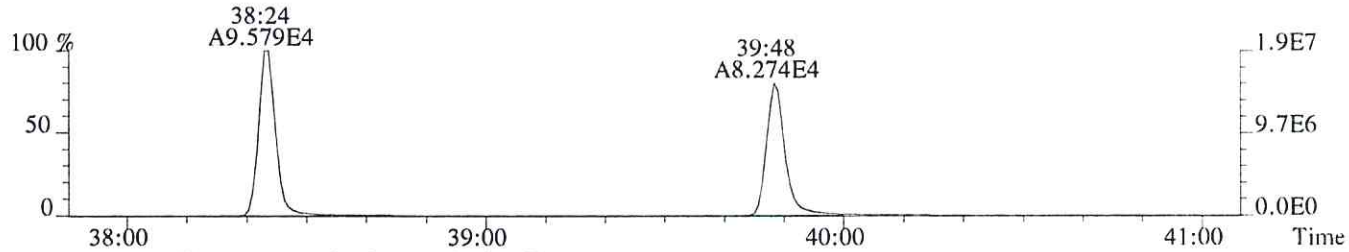
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.50%,F,T)



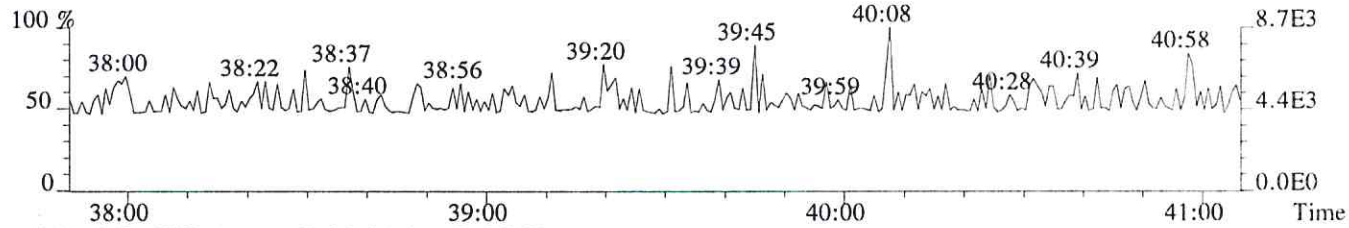
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4120.0,0.50%,F,T)



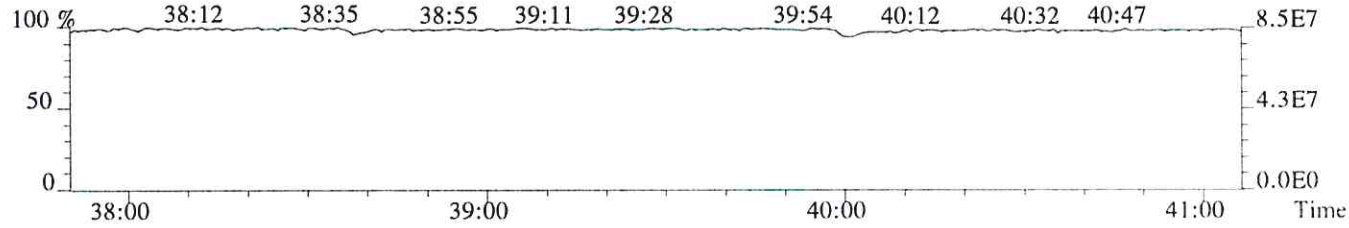
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8724.0,0.50%,F,T)



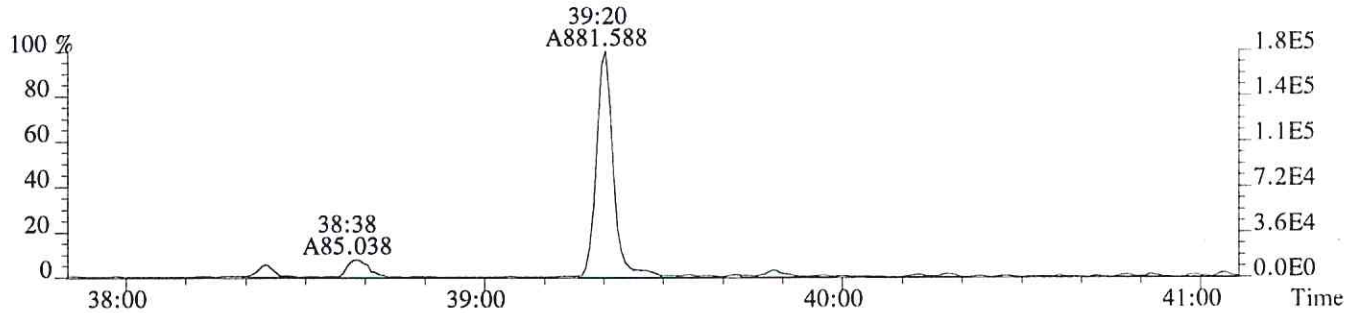
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



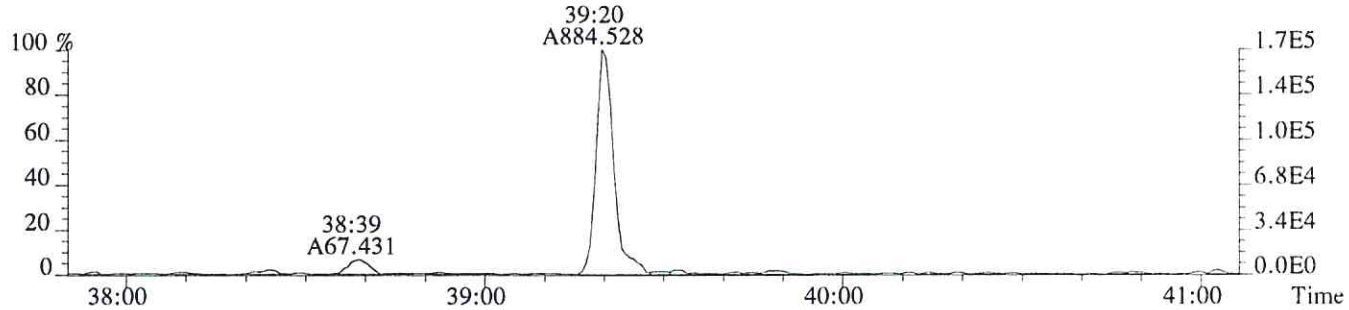
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



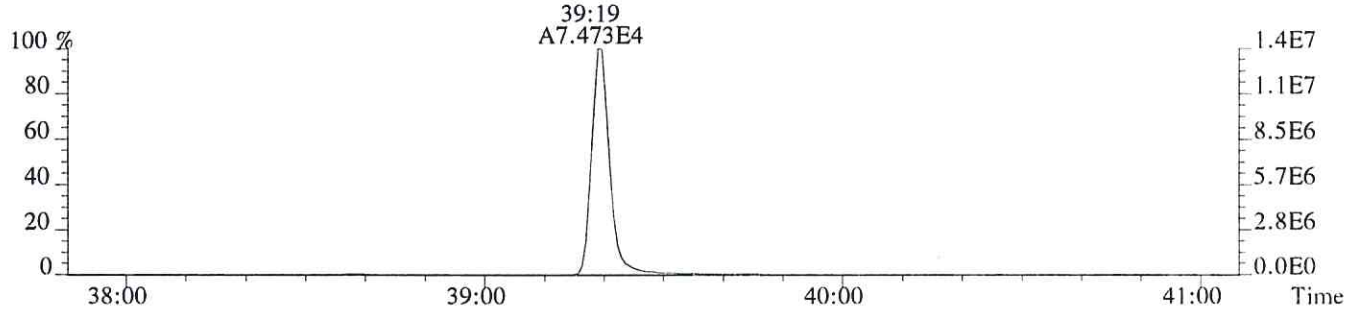
File:P510634 #1-295 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,T)



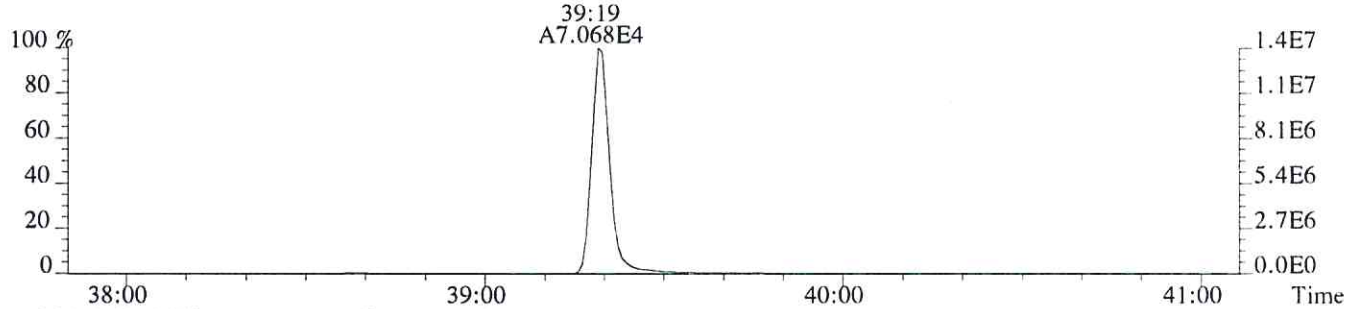
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,T)



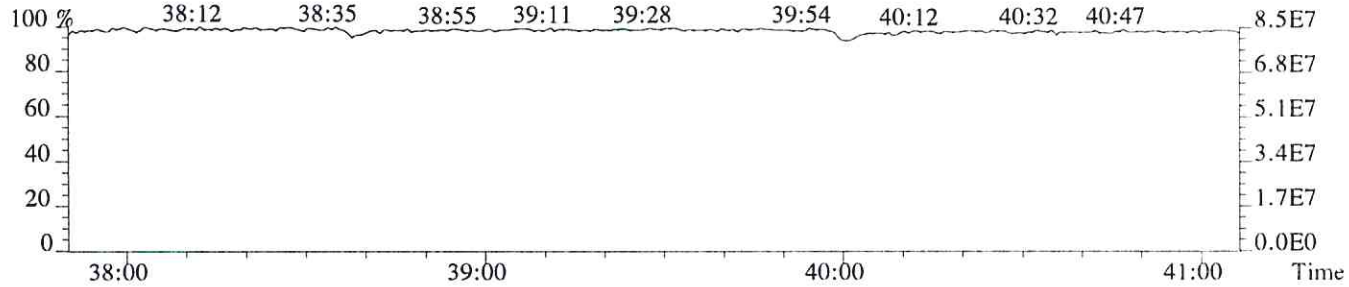
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1660.0,0.40%,F,T)



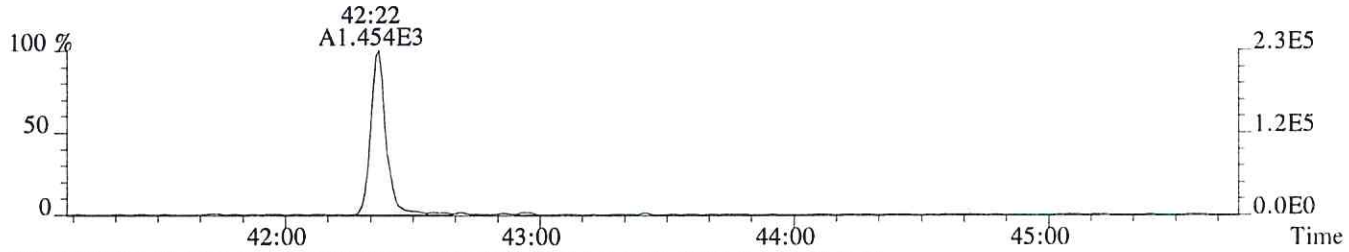
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,T)



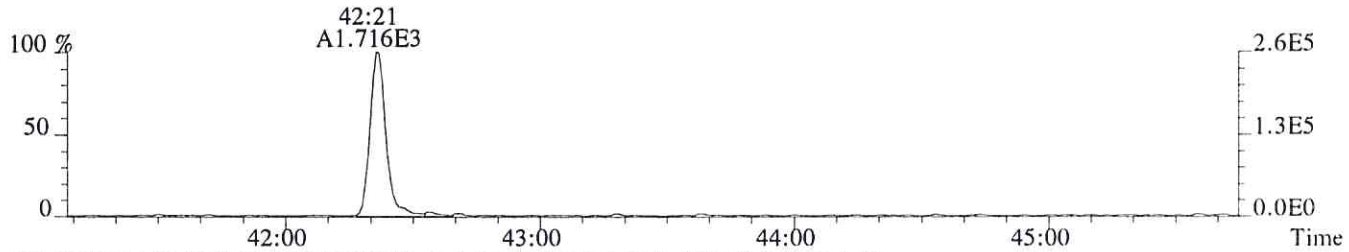
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



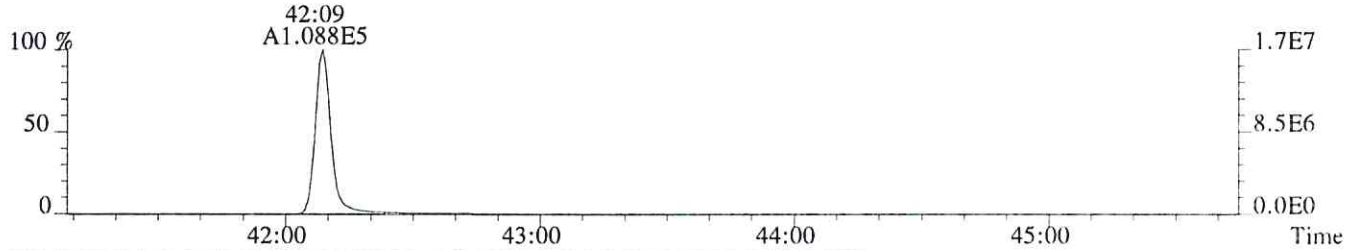
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,384.0,0.40%,F,T)



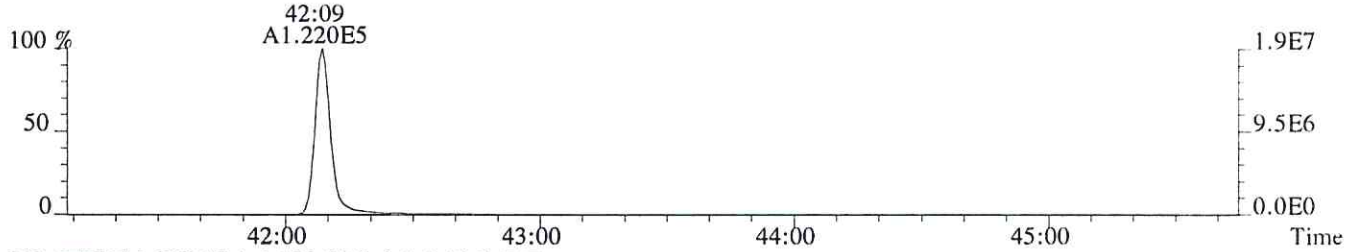
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1648.0,0.40%,F,T)



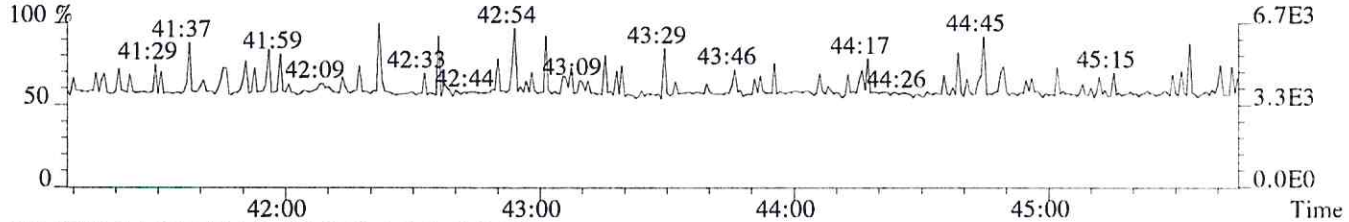
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



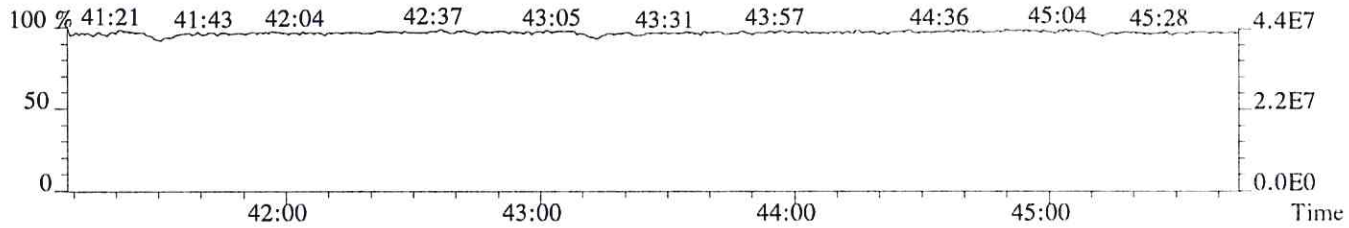
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,796.0,0.40%,F,T)



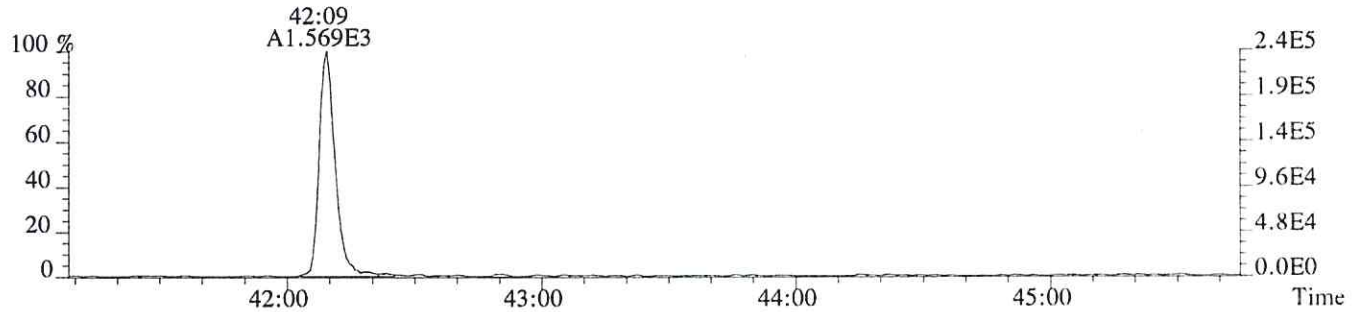
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



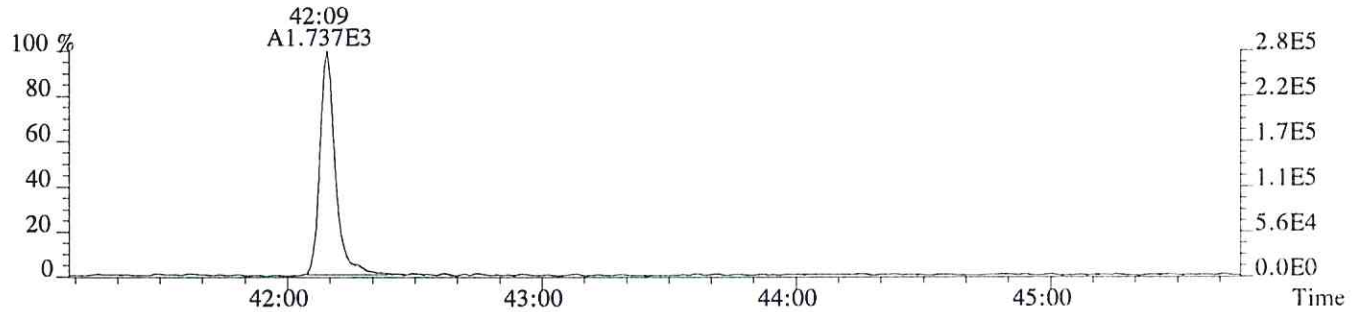
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



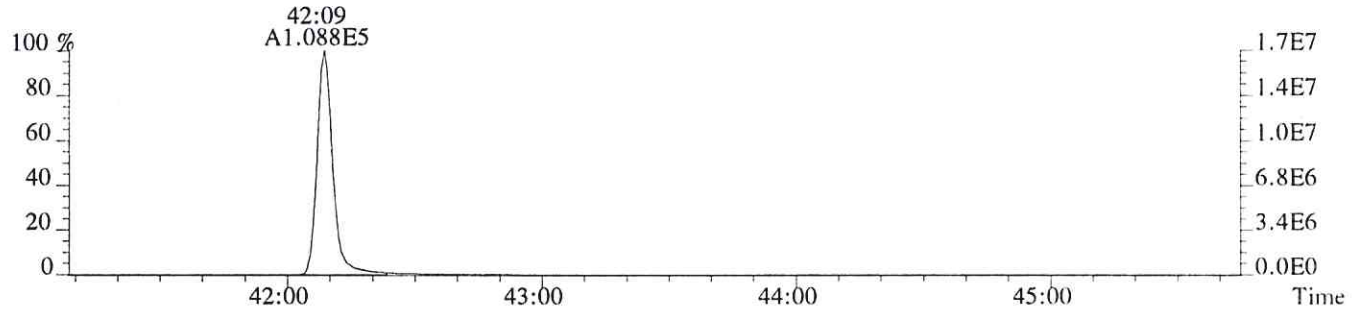
File:P510634 #1-415 Acq:26-JUL-2017 11:19:31 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76554
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1228.0,0.40%,F,T)



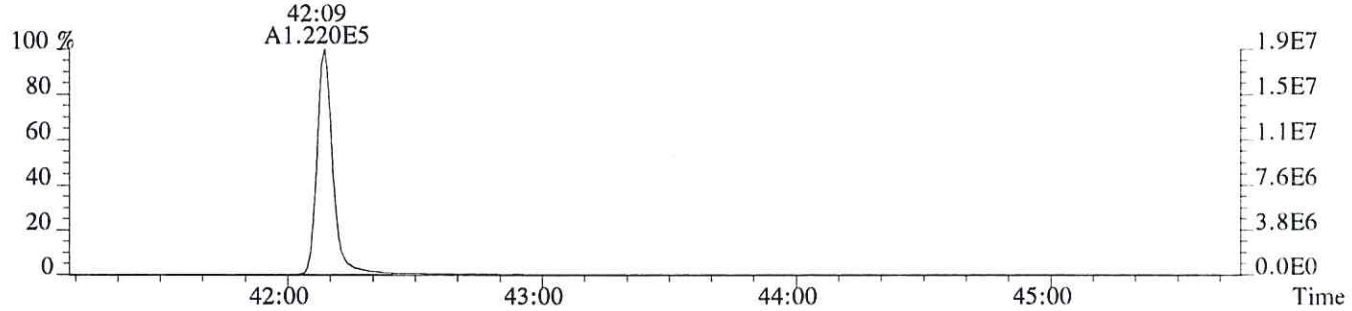
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2664.0,0.40%,F,T)



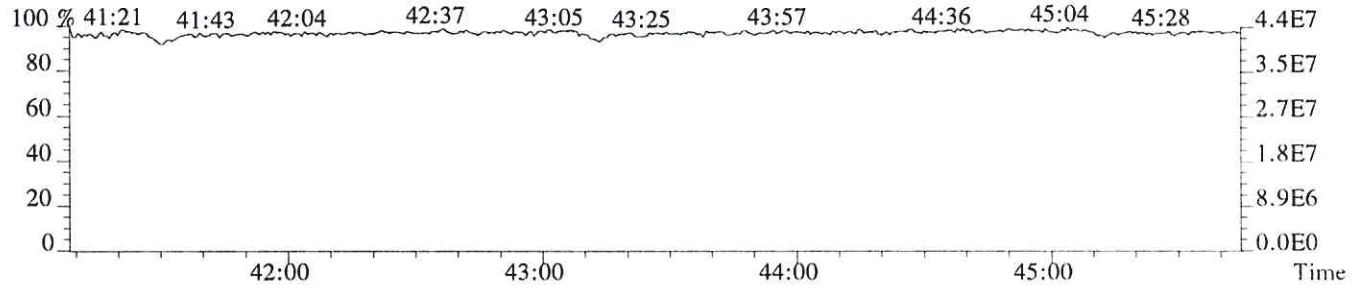
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1296.0,0.40%,F,T)



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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www.alsglobal.com

ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76555

Run #2 Filename P510635 Samp: 1 Inj: 1 Acquired: 26-JUL-17 12:22:45
Processed: 27-JUL-17 08:42:57 LAB. ID: CS1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.28e+04	1.03e+03	7.1e+01	1.06e+05	2.39e+03	4.4e+01
2	1,2,3,7,8-PeCDF	6.99e+05	5.32e+02	1.3e+03	4.47e+05	2.76e+03	1.6e+02
3	2,3,4,7,8-PeCDF	6.23e+05	5.32e+02	1.2e+03	4.30e+05	2.76e+03	1.6e+02
4	1,2,3,4,7,8-HxCDF	5.36e+05	1.00e+03	5.4e+02	5.13e+05	4.88e+02	1.1e+03
5	1,2,3,6,7,8-HxCDF	5.87e+05	1.00e+03	5.9e+02	5.14e+05	4.88e+02	1.1e+03
6	2,3,4,6,7,8-HxCDF	5.40e+05	1.00e+03	5.4e+02	4.73e+05	4.88e+02	9.7e+02
7	1,2,3,7,8,9-HxCDF	4.49e+05	1.00e+03	4.5e+02	4.26e+05	4.88e+02	8.7e+02
8	1,2,3,4,6,7,8-HpCDF	5.58e+05	7.08e+02	7.9e+02	5.32e+05	6.88e+02	7.7e+02
9	1,2,3,4,7,8,9-HpCDF	4.13e+05	7.08e+02	5.8e+02	4.16e+05	6.88e+02	6.0e+02
10	OCDF	5.74e+05	3.52e+02	1.6e+03	6.49e+05	1.26e+03	5.2e+02
11	2,3,7,8-TCDD	7.20e+04	2.31e+03	3.1e+01	1.03e+05	1.34e+03	7.7e+01
12	1,2,3,7,8-PeCDD	5.16e+05	2.00e+03	2.6e+02	3.26e+05	8.64e+02	3.8e+02
13	1,2,3,4,7,8-HxCDD	5.07e+05	7.00e+02	7.2e+02	3.92e+05	1.56e+03	2.5e+02
14	1,2,3,6,7,8-HxCDD	4.97e+05	7.00e+02	7.1e+02	4.20e+05	1.56e+03	2.7e+02
15	1,2,3,7,8,9-HxCDD	4.98e+05	7.00e+02	7.1e+02	4.05e+05	1.56e+03	2.6e+02
16	1,2,3,4,6,7,8-HpCDD	4.22e+05	4.72e+02	8.9e+02	4.06e+05	5.64e+02	7.2e+02
17	OCDD	5.42e+05	1.22e+03	4.5e+02	6.15e+05	2.04e+03	3.0e+02
18	13C-2,3,7,8-TCDF	1.95e+07	1.13e+04	1.7e+03	2.50e+07	7.72e+03	3.2e+03
19	13C-1,2,3,7,8-PeCDF	3.09e+07	9.44e+02	3.3e+04	2.00e+07	1.76e+03	1.1e+04
20	13C-2,3,4,7,8-PeCDF	3.11e+07	9.44e+02	3.3e+04	2.03e+07	1.76e+03	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	1.39e+07	9.44e+02	1.5e+04	2.70e+07	2.21e+03	1.2e+04
22	13C-1,2,3,6,7,8-HxCDF	1.57e+07	9.44e+02	1.7e+04	2.96e+07	2.21e+03	1.3e+04
23	13C-2,3,4,6,7,8-HxCDF	1.52e+07	9.44e+02	1.6e+04	2.93e+07	2.21e+03	1.3e+04
24	13C-1,2,3,7,8,9-HxCDF	1.24e+07	9.44e+02	1.3e+04	2.48e+07	2.21e+03	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.05e+07	3.45e+03	3.0e+03	2.38e+07	5.62e+03	4.2e+03
26	13C-1,2,3,4,7,8,9-HpCDF	8.48e+06	3.45e+03	2.5e+03	1.91e+07	5.62e+03	3.4e+03
27	13C-2,3,7,8-TCDD	1.44e+07	7.64e+03	1.9e+03	1.78e+07	3.98e+03	4.5e+03
28	13C-1,2,3,7,8-PeCDD	2.35e+07	1.47e+03	1.6e+04	1.46e+07	6.44e+02	2.3e+04
29	13C-1,2,3,4,7,8-HxCDD	2.17e+07	1.51e+03	1.4e+04	1.72e+07	1.03e+03	1.7e+04
30	13C-1,2,3,6,7,8-HxCDD	2.23e+07	1.51e+03	1.5e+04	1.78e+07	1.03e+03	1.7e+04
31	13C-1,2,3,4,6,7,8-HpCDD	1.79e+07	1.36e+03	1.3e+04	1.72e+07	1.72e+03	1.0e+04
32	13C-OCDD	2.03e+07	2.96e+02	6.9e+04	2.28e+07	1.02e+03	2.2e+04
33	13C-1,2,3,4-TCDD	1.48e+07	7.64e+03	1.9e+03	1.83e+07	3.98e+03	4.6e+03
34	13C-1,2,3,7,8,9-HxCDD	2.29e+07	1.51e+03	1.5e+04	1.78e+07	1.03e+03	1.7e+04
35	37Cl-2,3,7,8-TCDD	1.56e+05	1.02e+03	1.5e+02			

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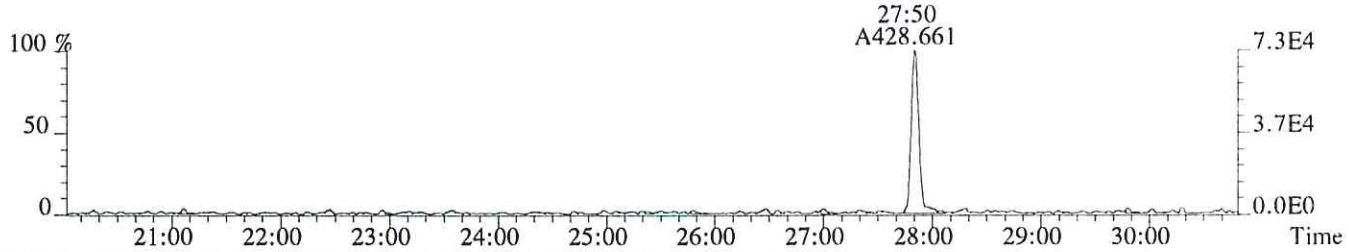
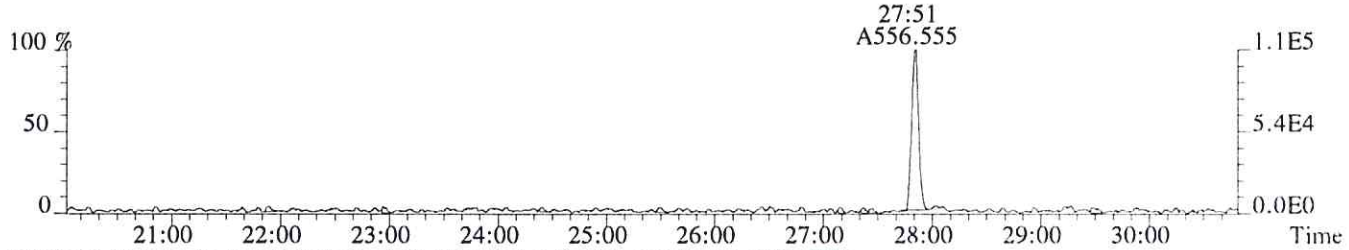
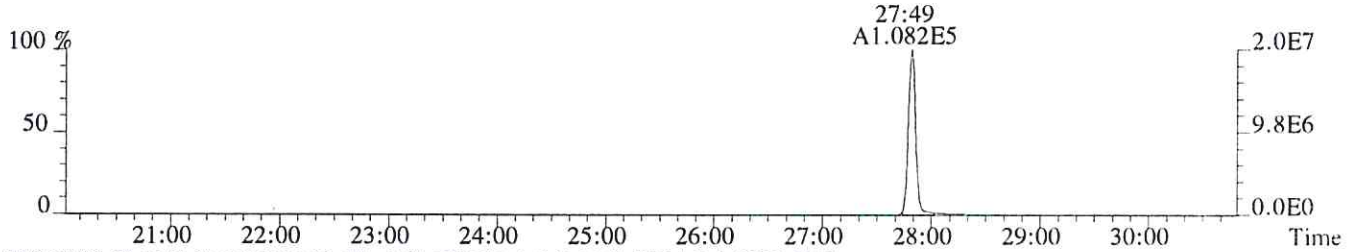
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1032.0,1.00%,F,T)



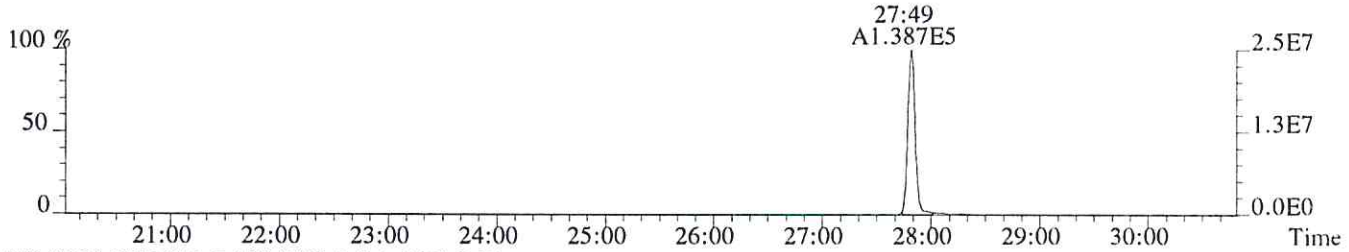
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2392.0,1.00%,F,T)



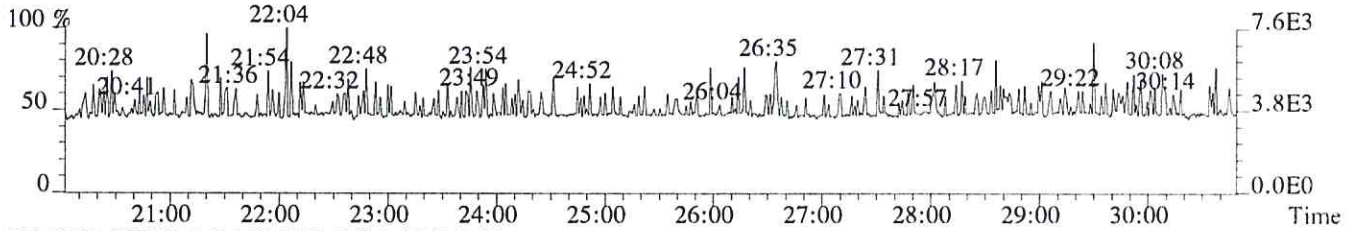
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11348.0,1.00%,F,T)



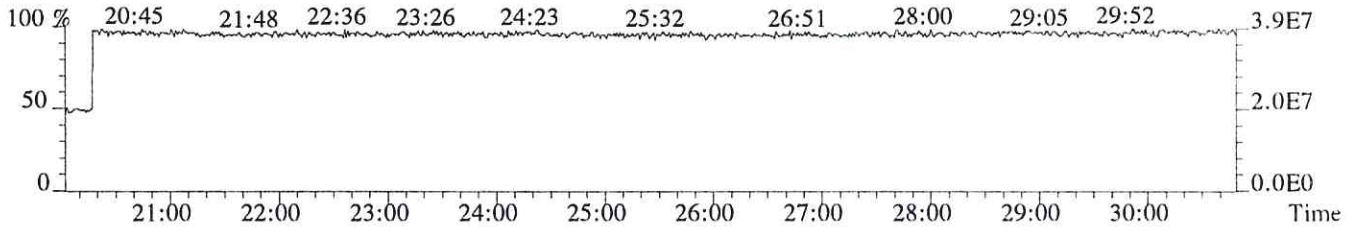
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7724.0,1.00%,F,T)



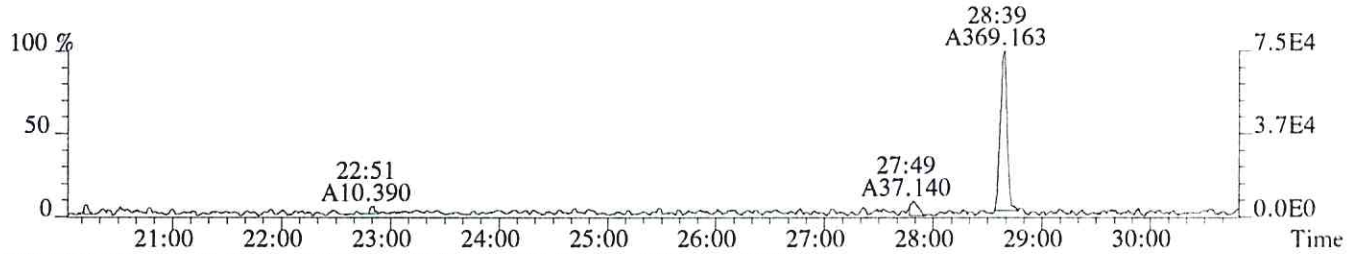
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



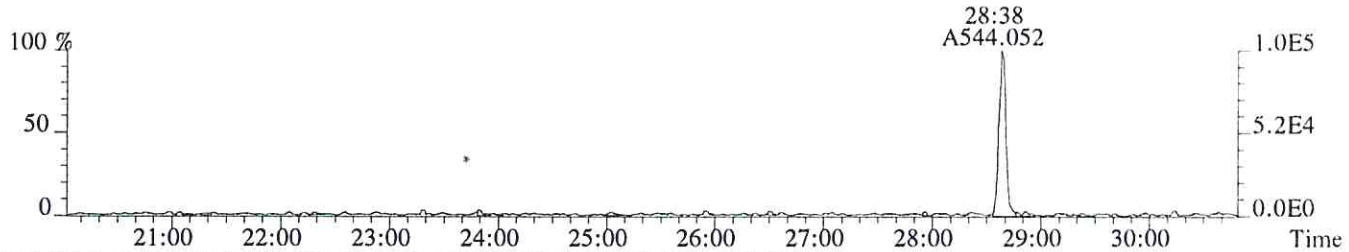
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



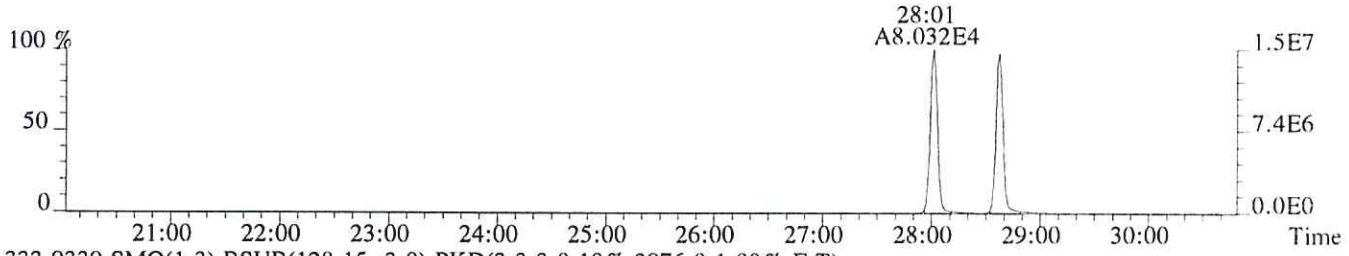
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,T)



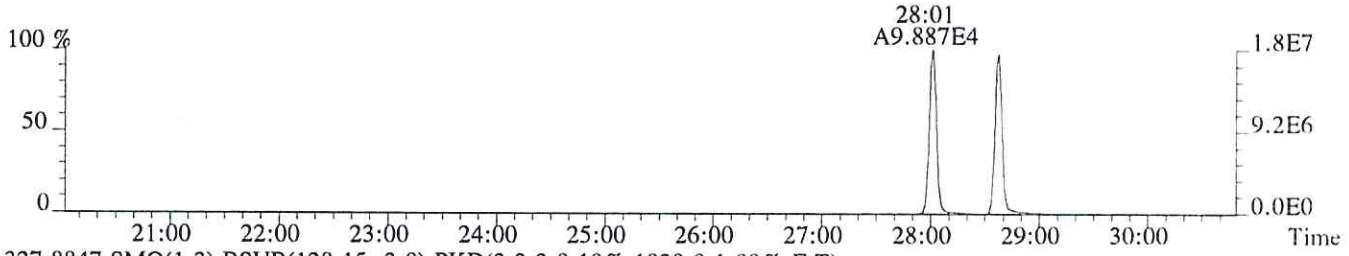
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,T)



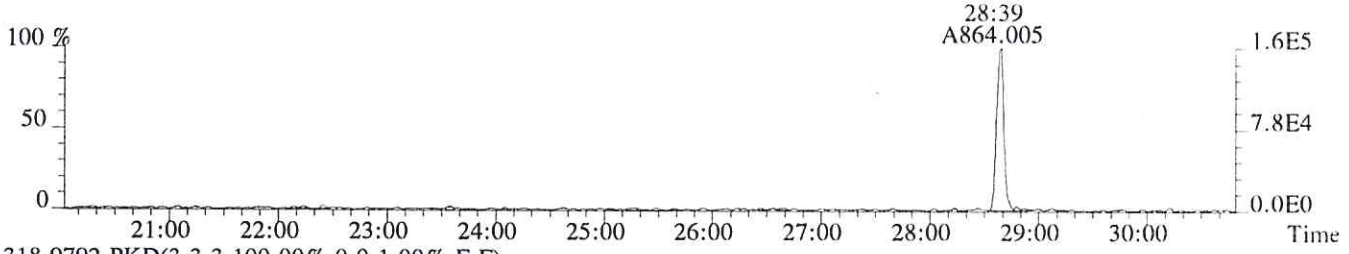
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7644.0,1.00%,F,T)



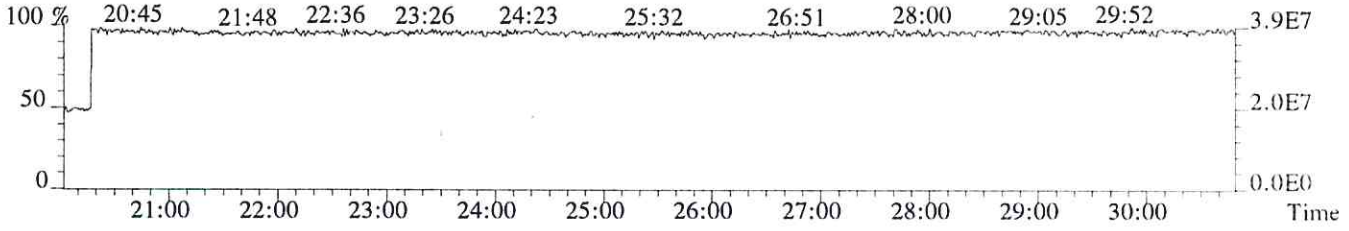
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3976.0,1.00%,F,T)



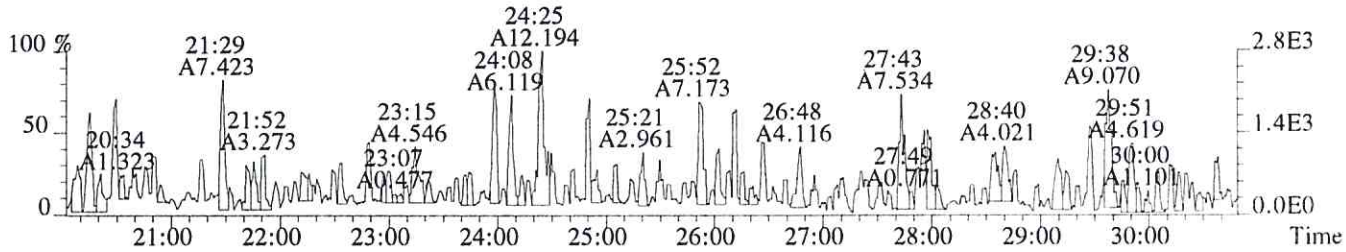
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,T)



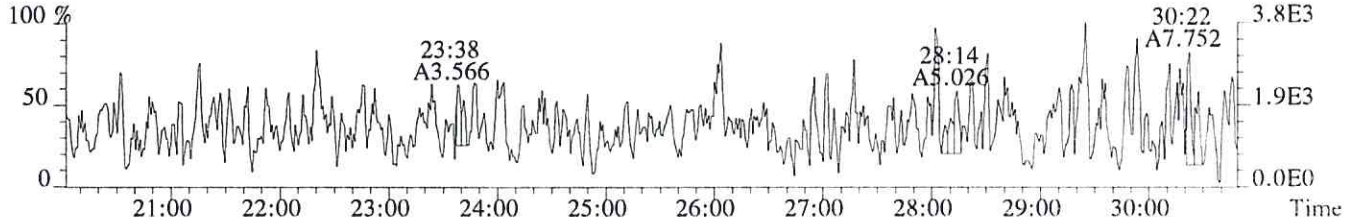
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



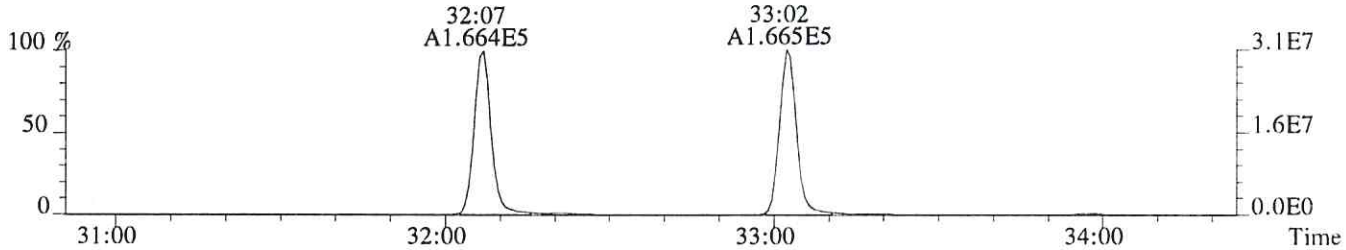
File:P510635 #1-765 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,T)



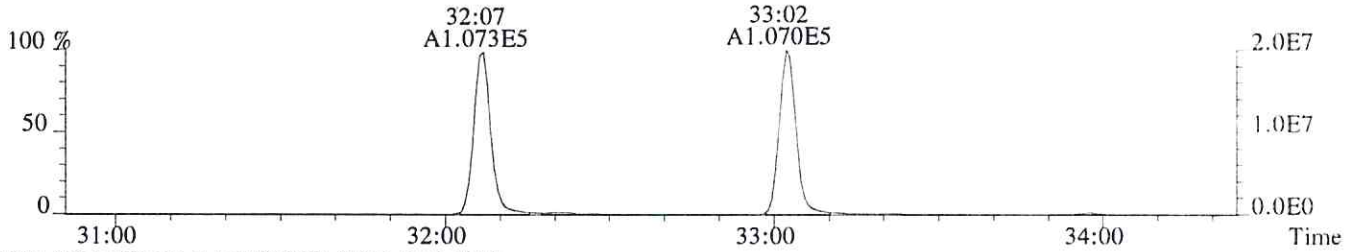
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1732.0,1.00%,F,T)



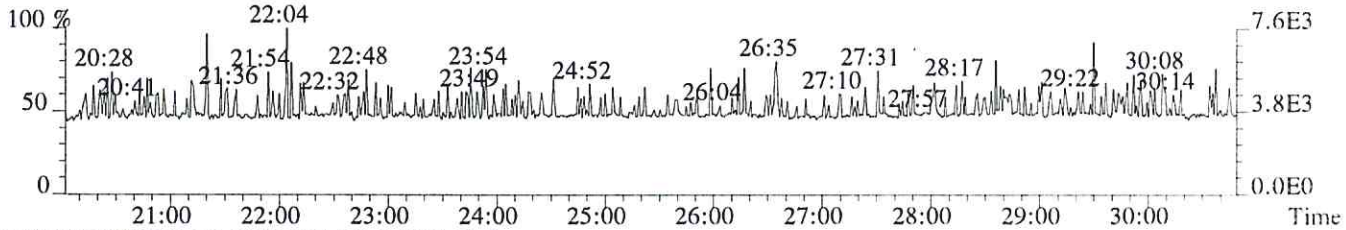
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



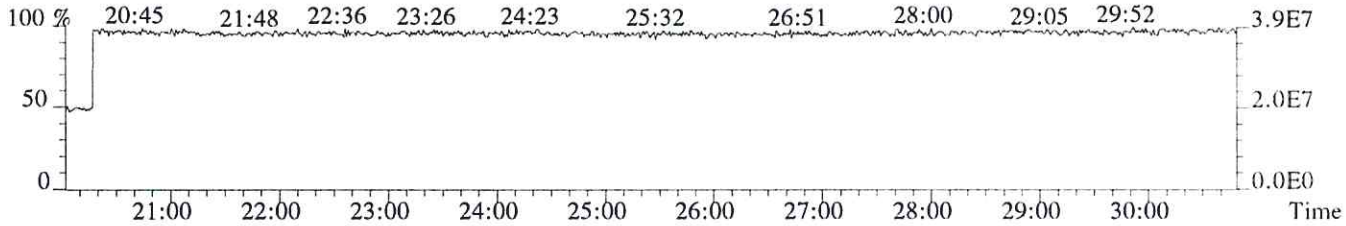
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



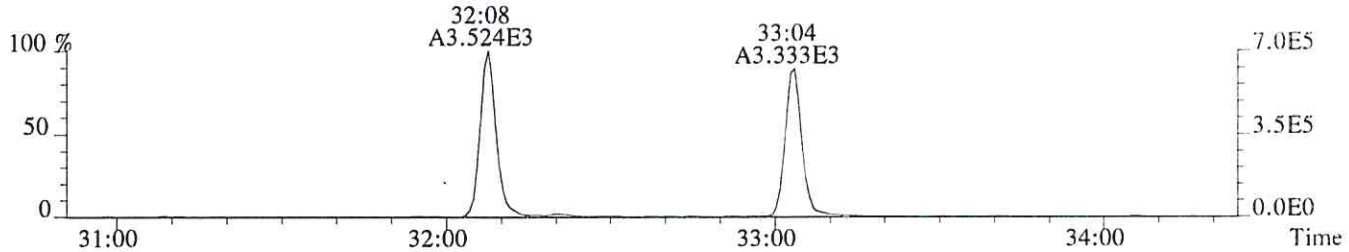
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



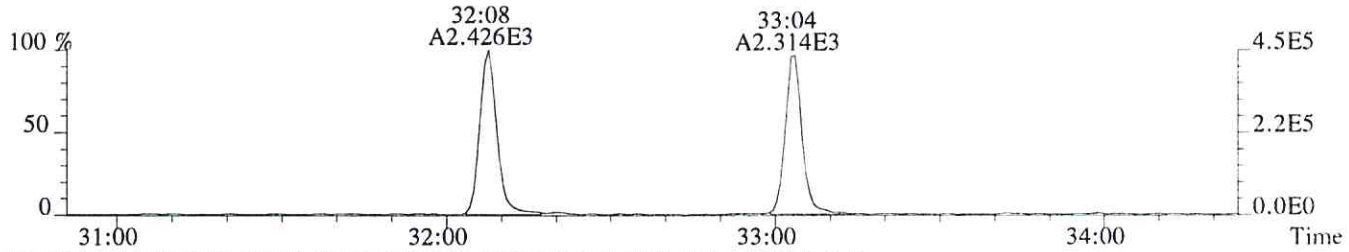
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



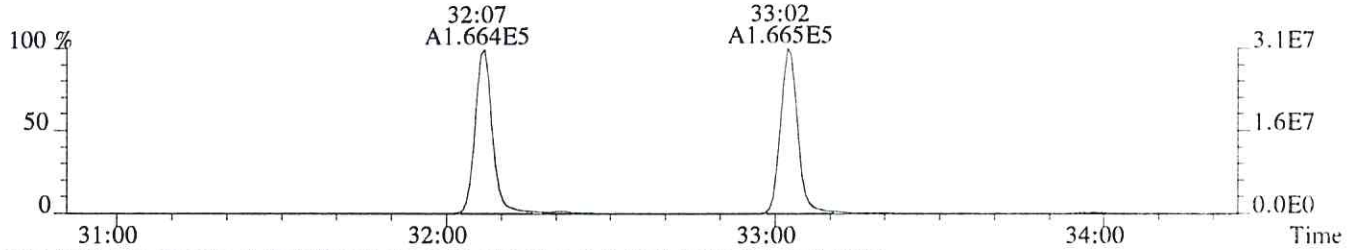
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,T)



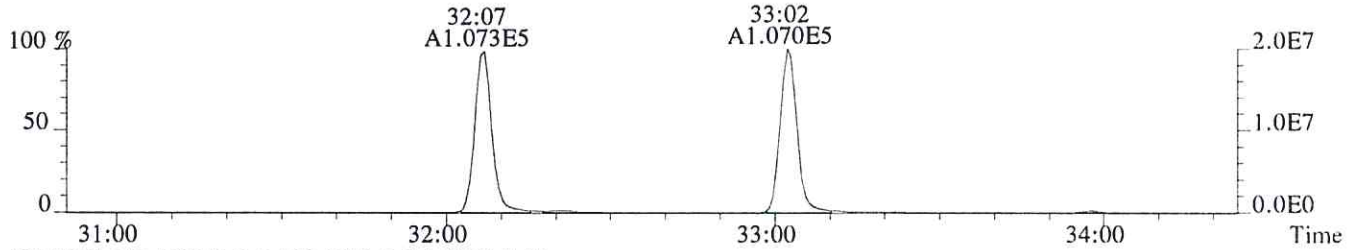
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2764.0,1.00%,F,T)



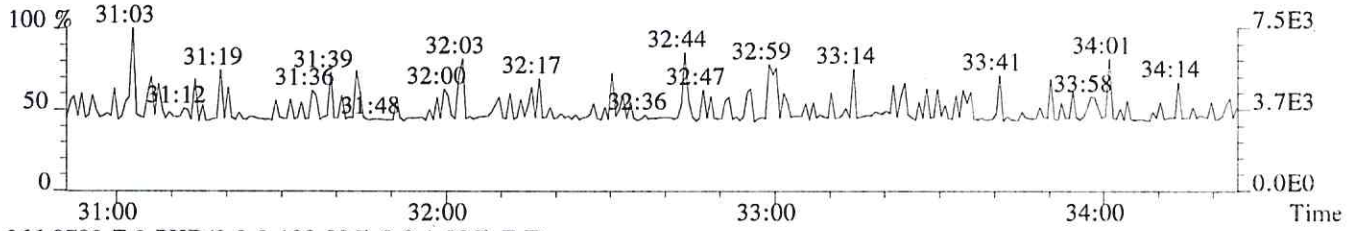
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,T)



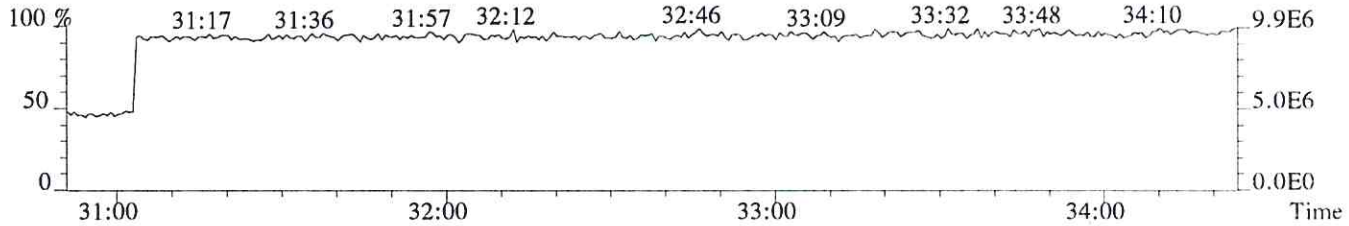
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1756.0,1.00%,F,T)



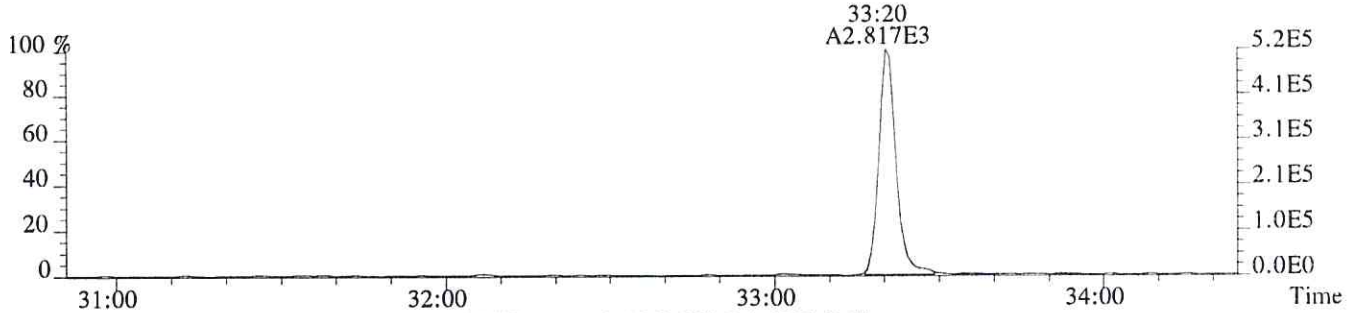
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



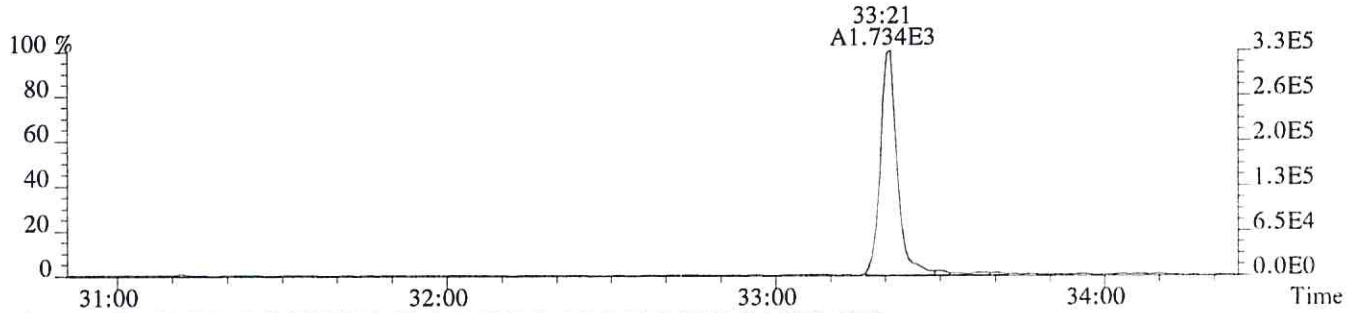
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



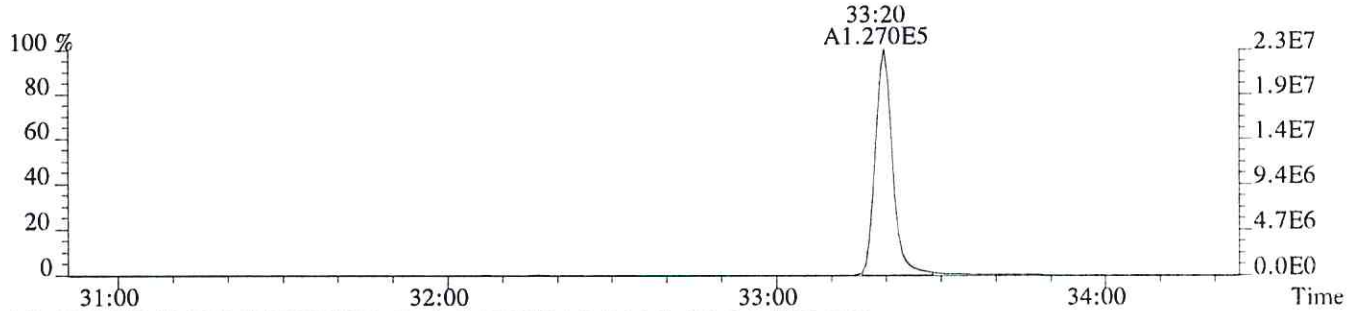
File:P510635 #1-321 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:76555
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2000.0,1.00%,F,T)



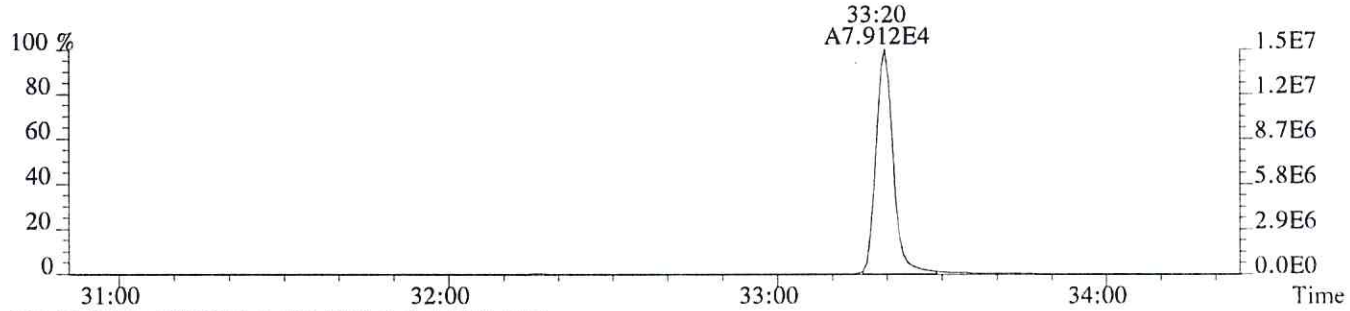
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,T)



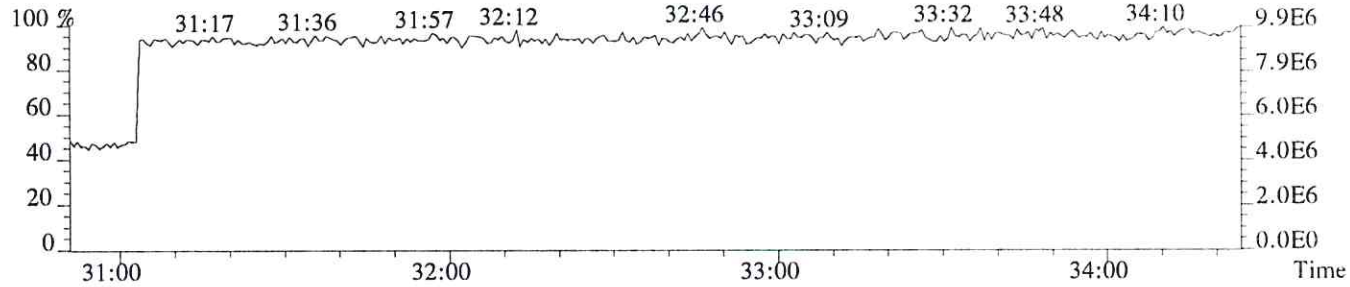
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,T)



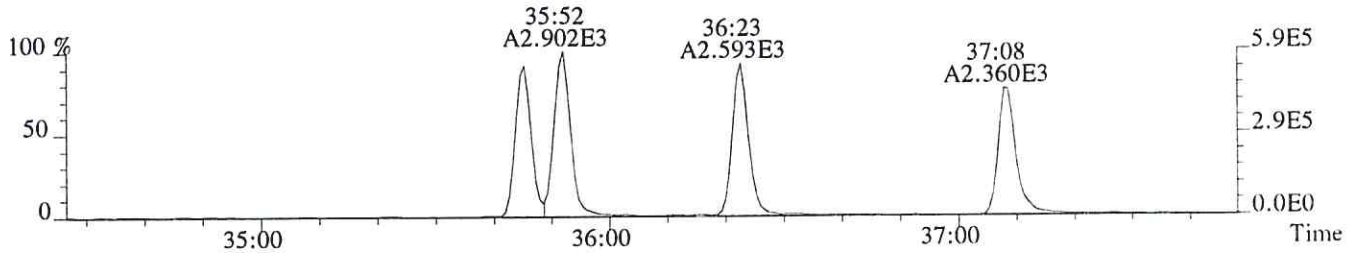
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,T)



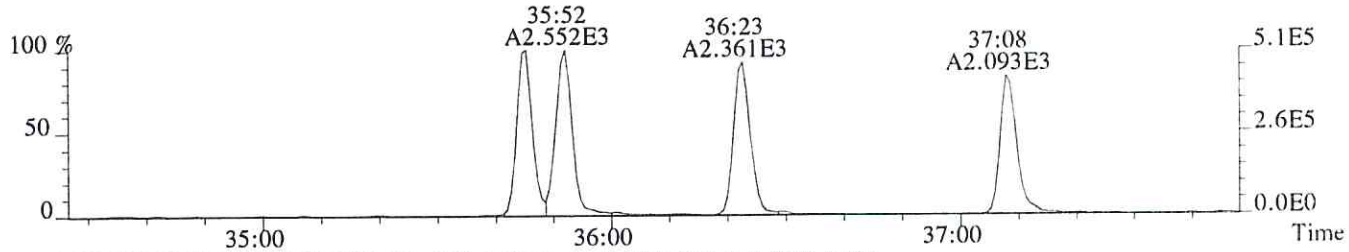
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



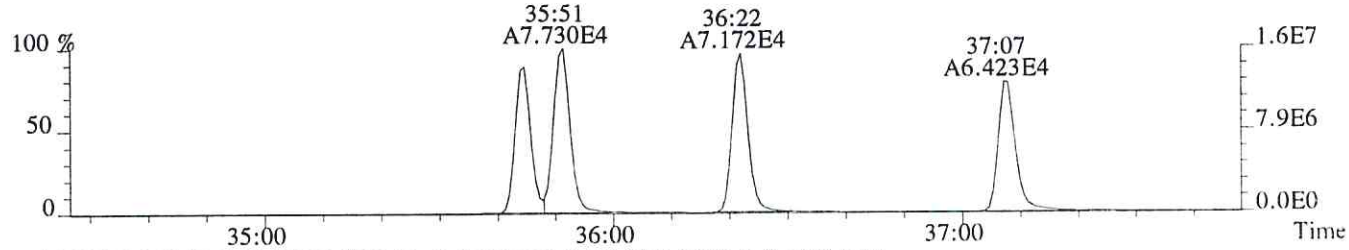
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



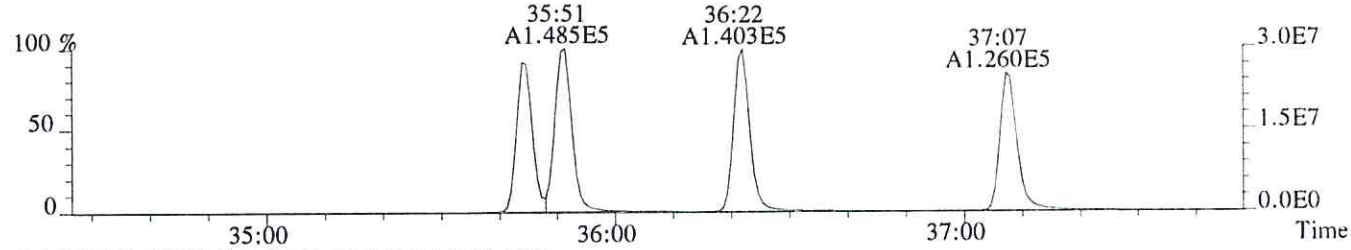
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,T)



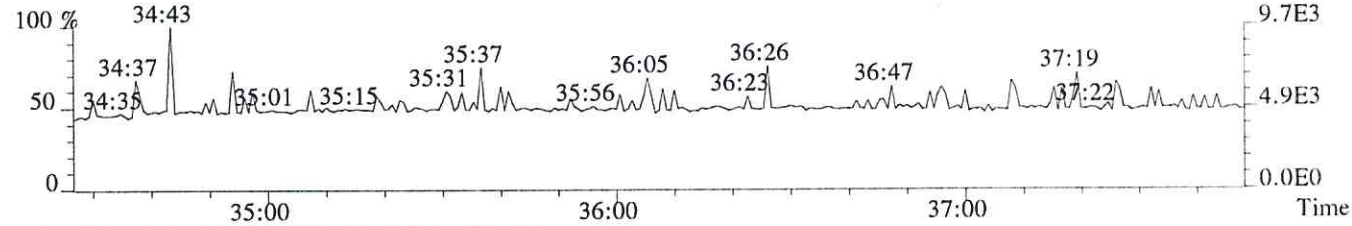
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,T)



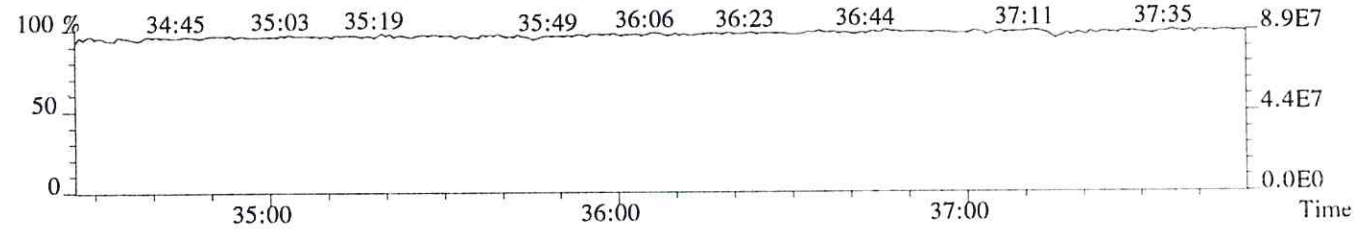
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2212.0,0.40%,F,T)



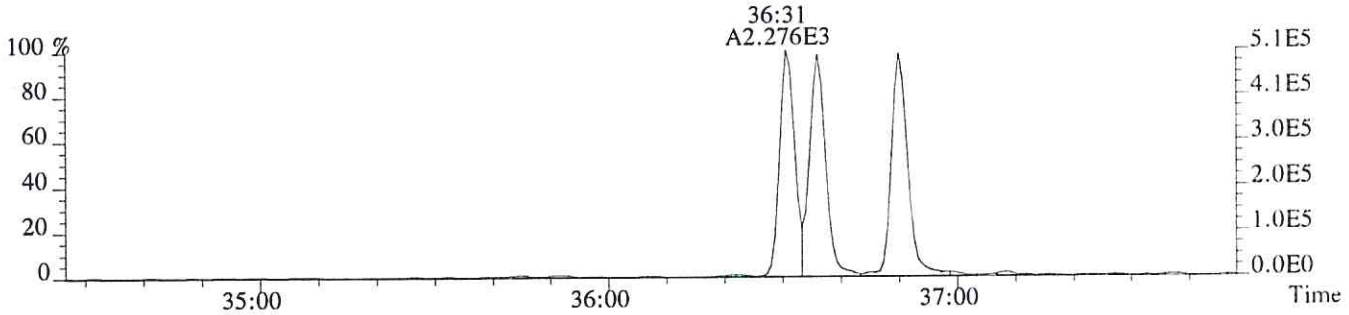
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



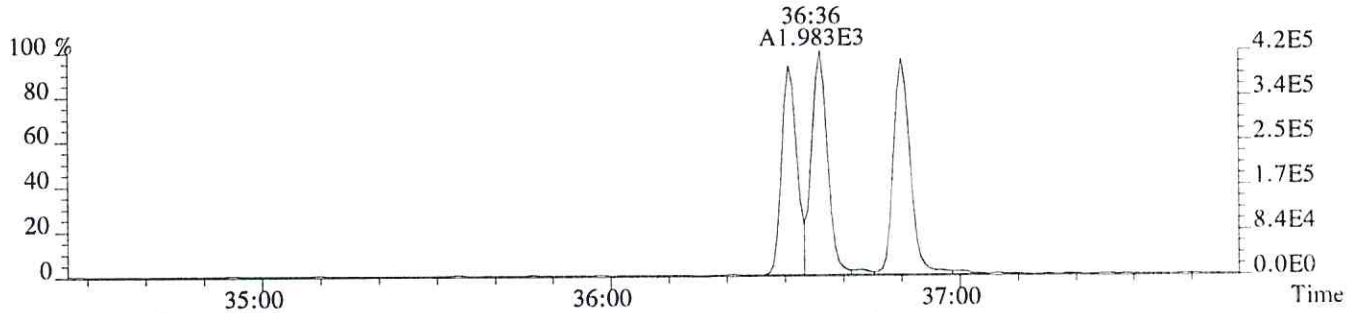
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



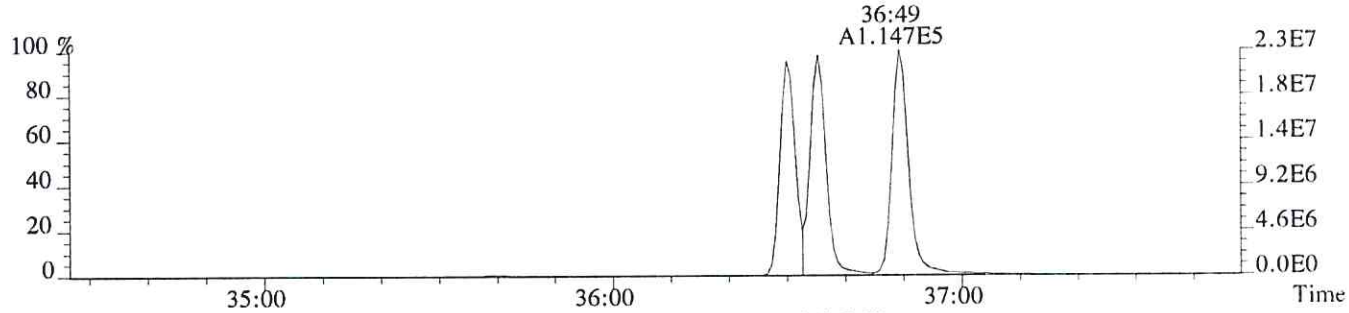
File:P510635 #1-303 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,700.0,0.40%,F,T)



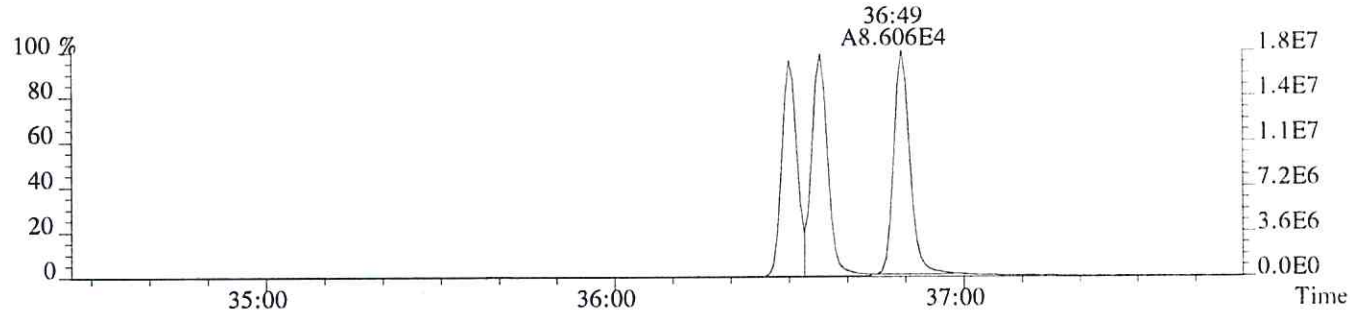
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



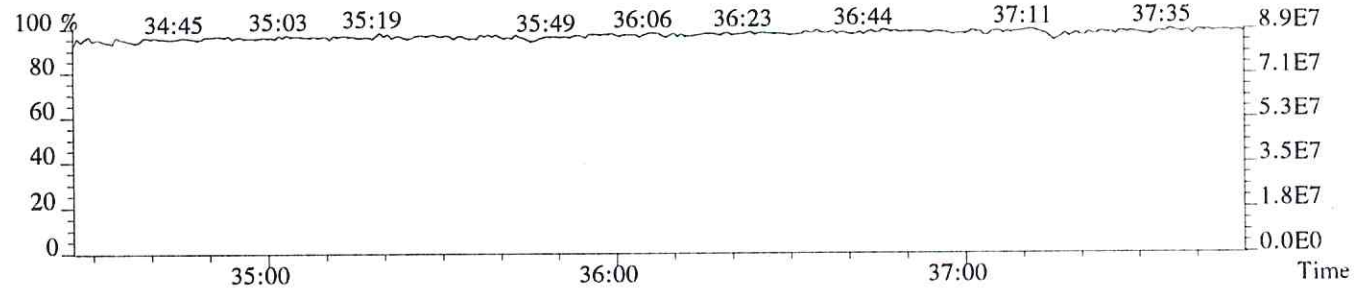
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,T)



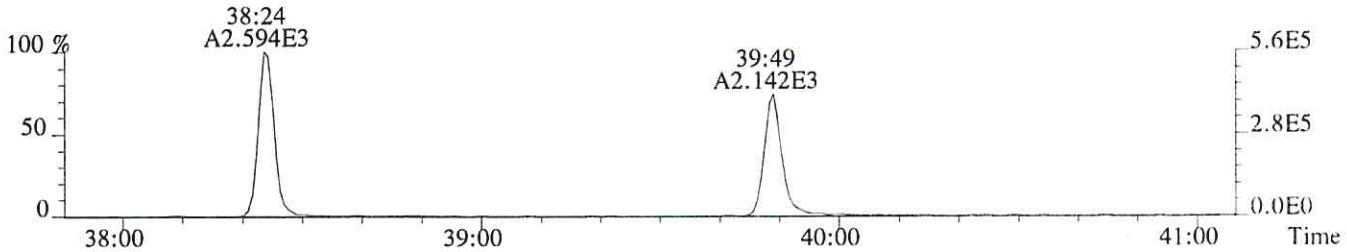
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.40%,F,T)



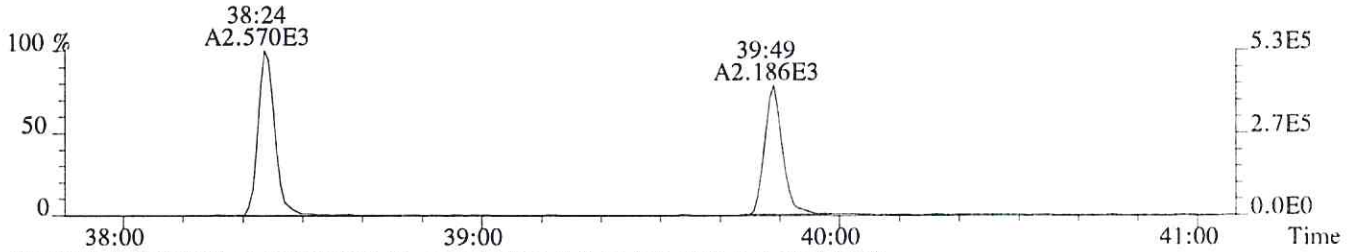
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



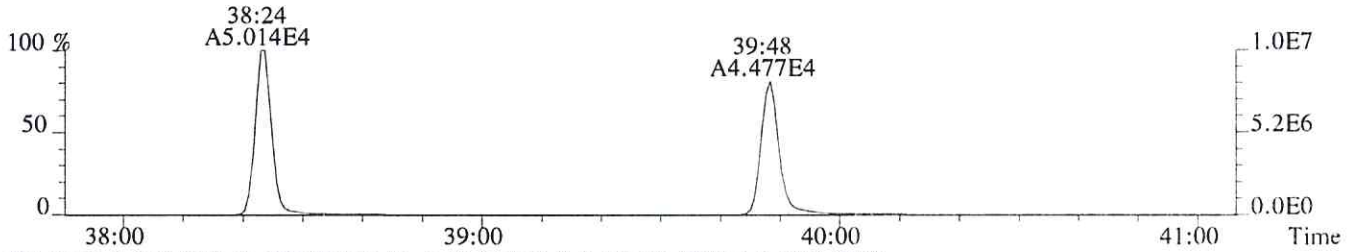
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.50%,F,T)



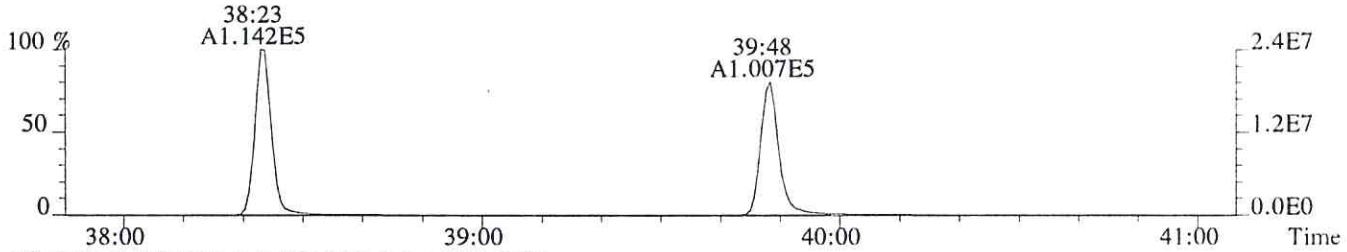
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.50%,F,T)



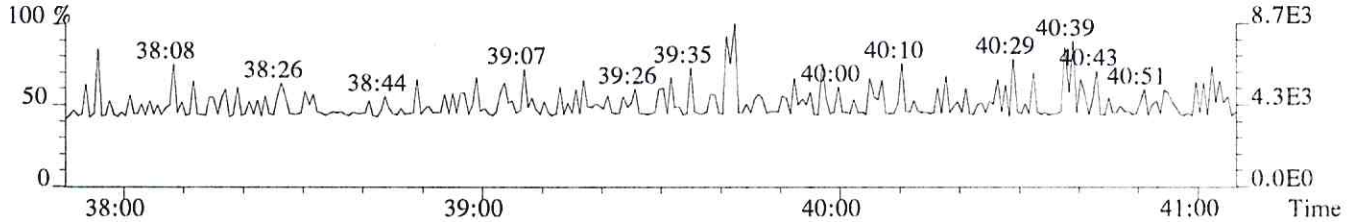
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3452.0,0.50%,F,T)



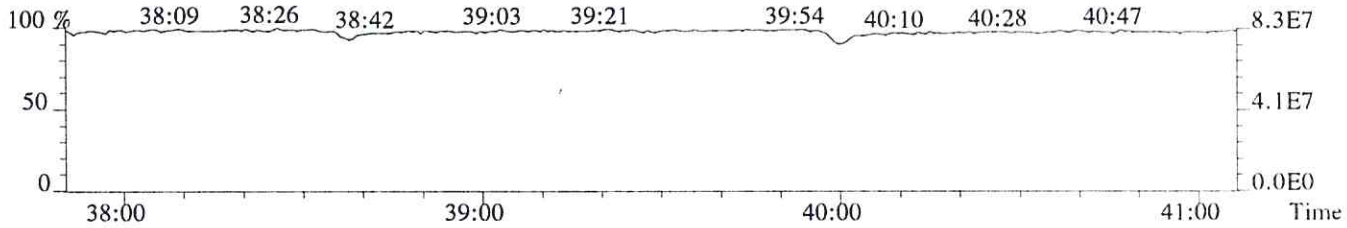
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5620.0,0.50%,F,T)



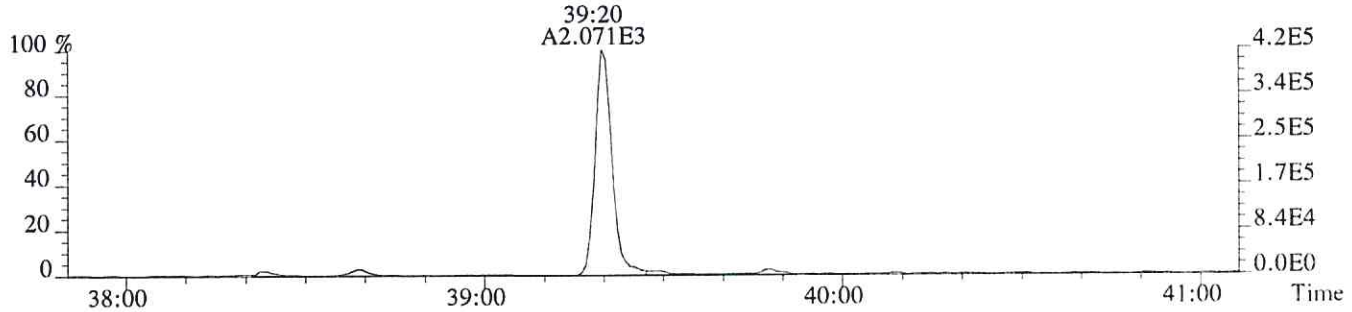
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



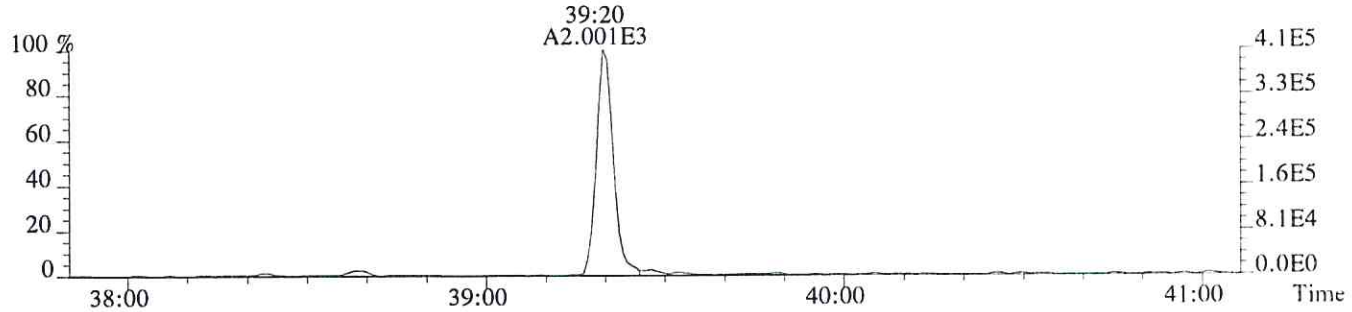
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



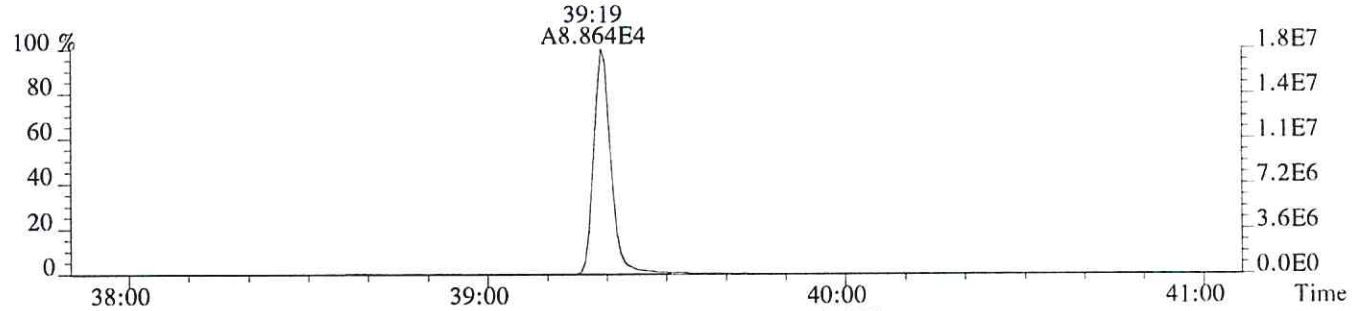
File:P510635 #1-295 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,T)



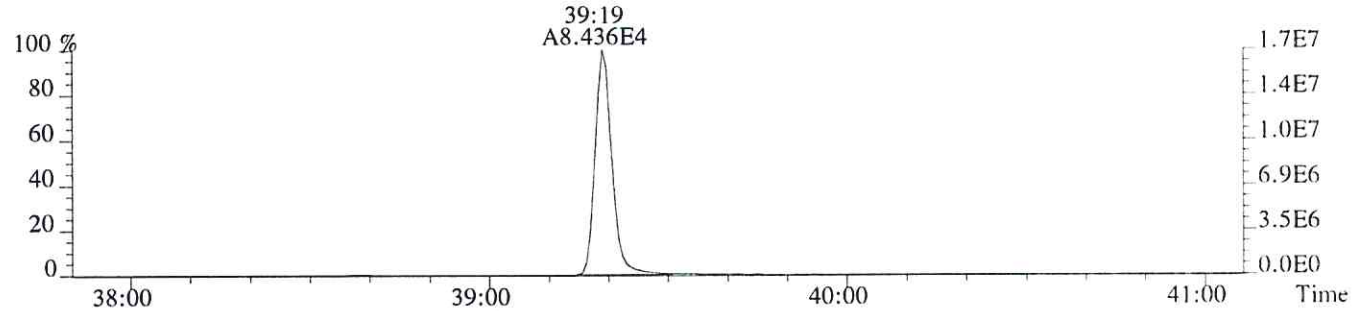
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



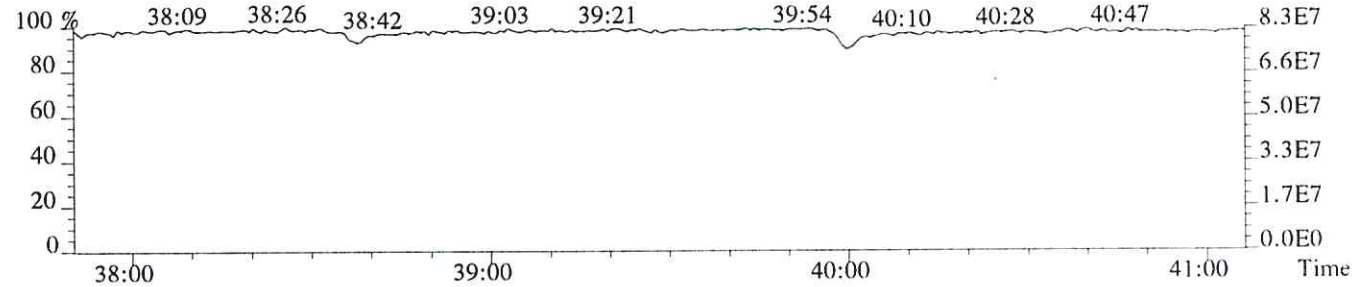
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1364.0,0.40%,F,T)



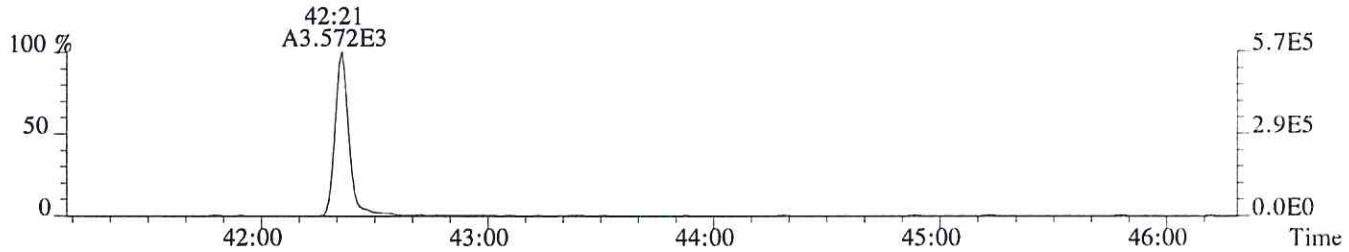
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1724.0,0.40%,F,T)



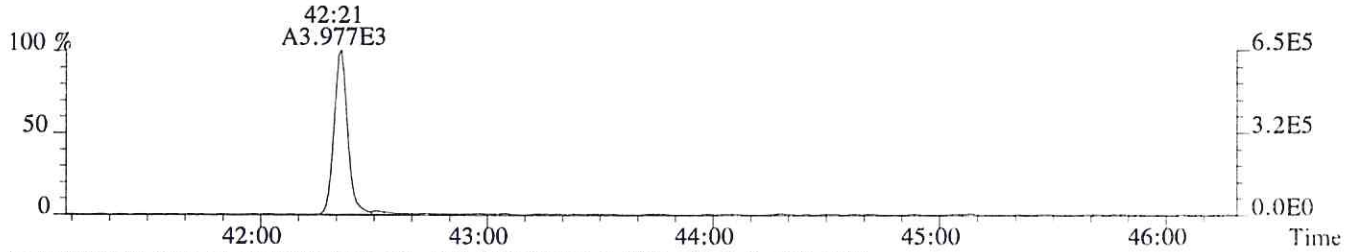
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



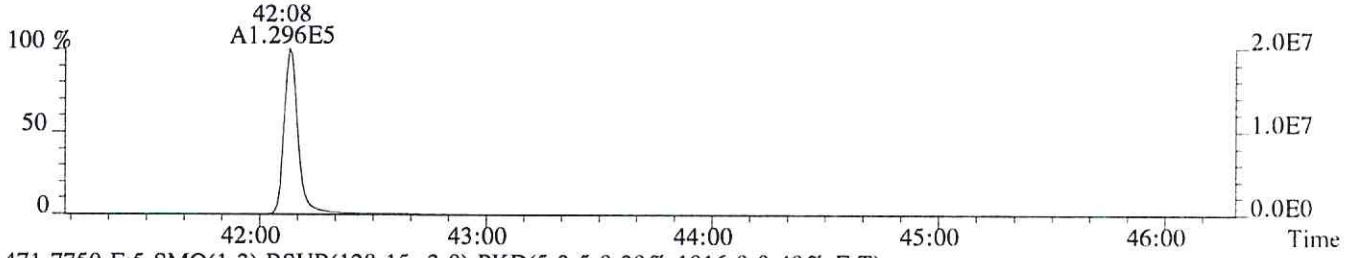
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76555
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



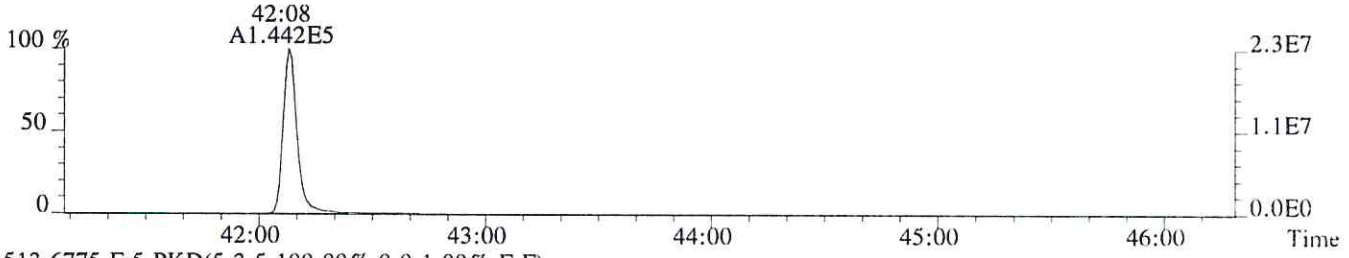
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1256.0,0.40%,F,T)



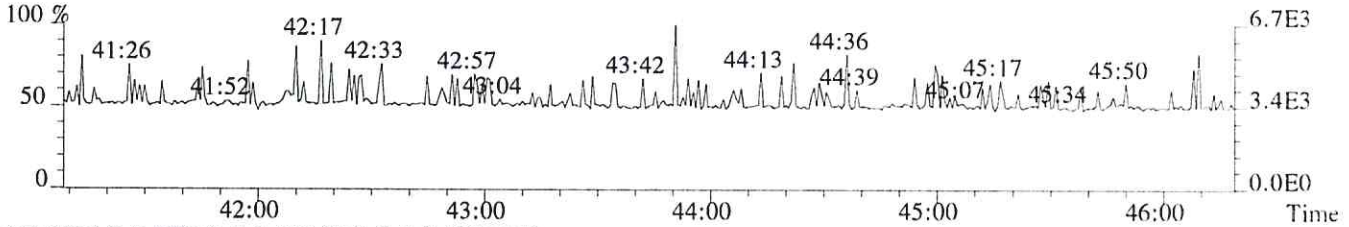
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



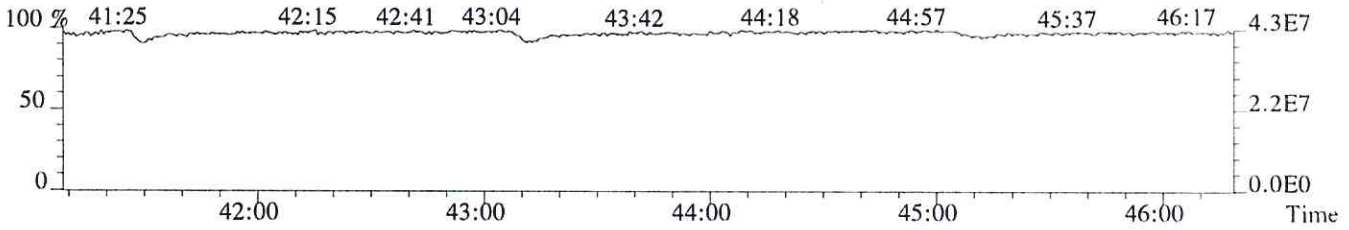
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



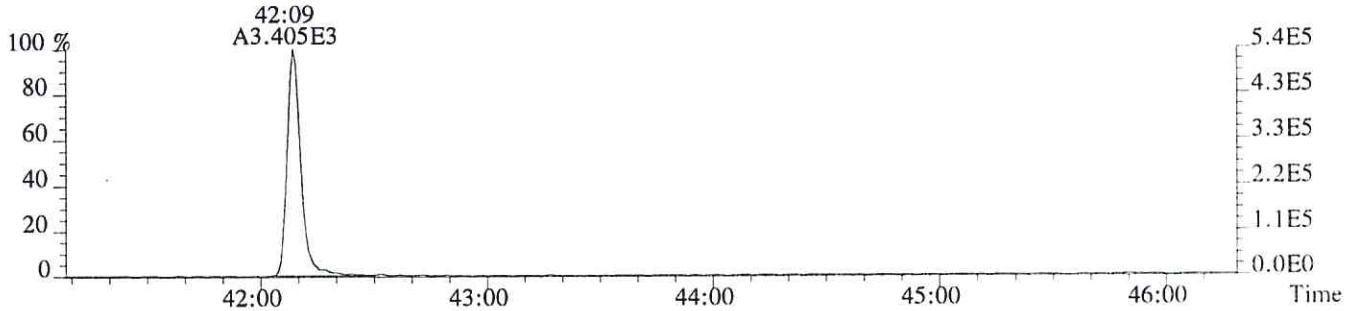
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



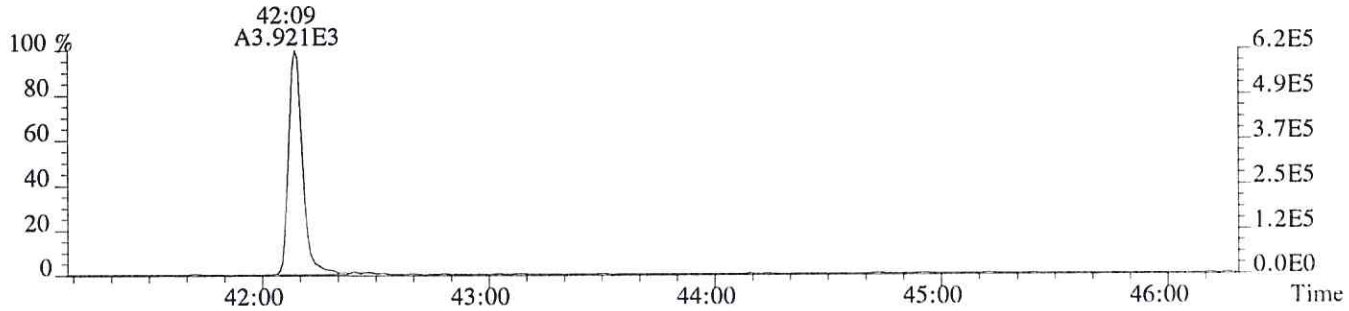
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



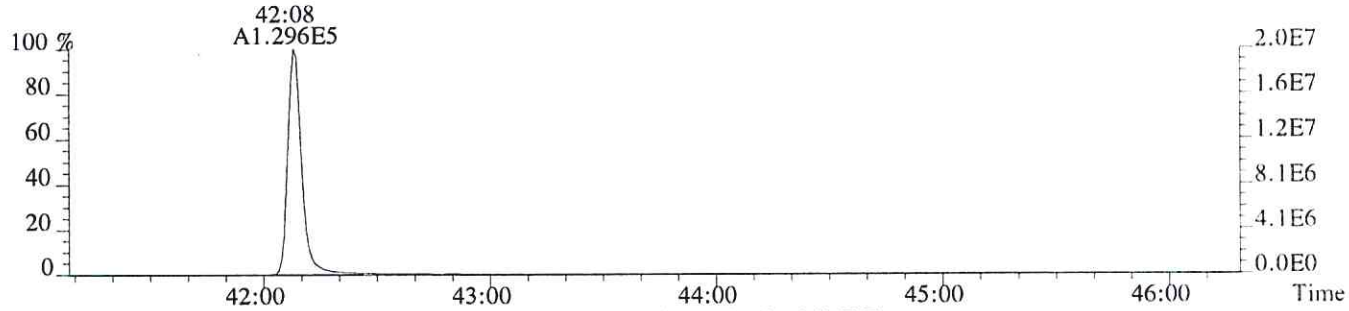
File:P510635 #1-466 Acq:26-JUL-2017 12:22:45 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76555
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1216.0,0.40%,F,T)



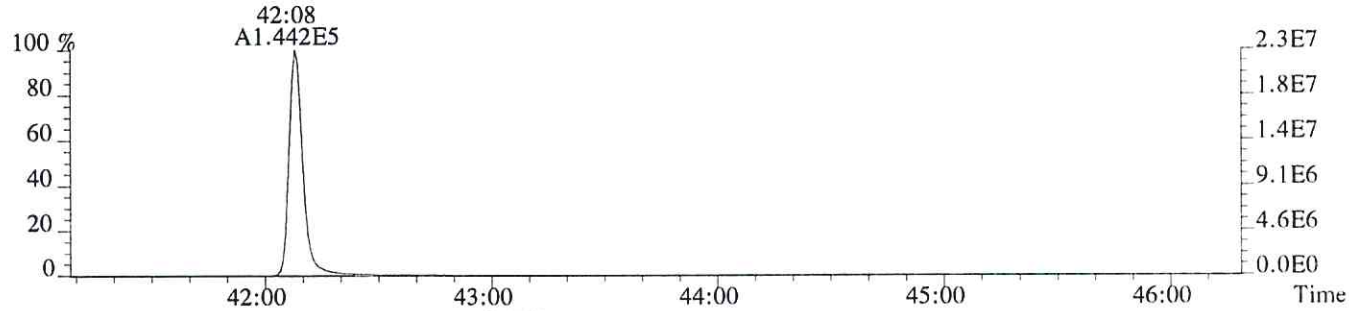
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2040.0,0.40%,F,T)



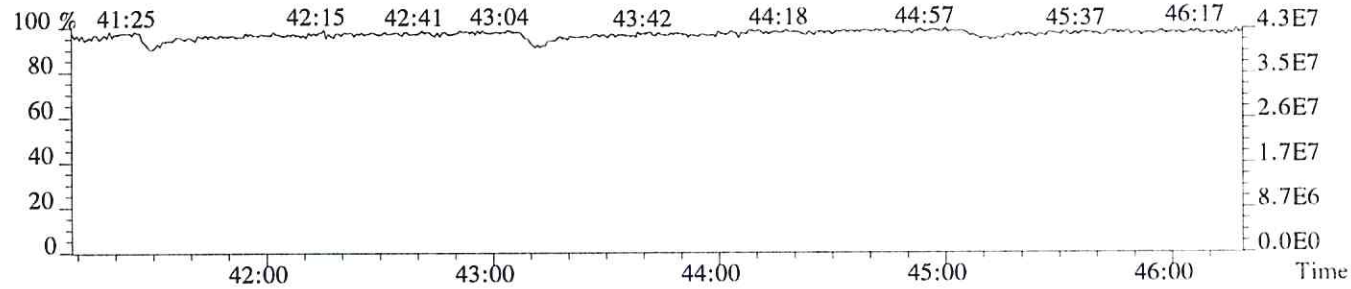
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1016.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76556

Run #3 Filename P510636 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:10:32
Processed: 27-JUL-17 08:42:58 Sample ID: CS2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	9.187e+02	1.348e+03	0.68	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	8.381e+03	5.775e+03	1.45	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	7.688e+03	5.407e+03	1.42	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	6.346e+03	5.561e+03	1.14	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	7.015e+03	6.050e+03	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	6.378e+03	5.460e+03	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	5.195e+03	4.872e+03	1.07	yes	yes	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:23	6.035e+03	5.892e+03	1.02	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:48	4.583e+03	4.804e+03	0.95	yes	no	1.191
10	Unk	OCDF	42:21	7.750e+03	9.233e+03	0.84	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	8.518e+02	1.213e+03	0.70	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	6.660e+03	4.267e+03	1.56	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:30	5.313e+03	4.426e+03	1.20	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	5.692e+03	4.845e+03	1.17	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	5.675e+03	4.527e+03	1.25	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	4.749e+03	4.609e+03	1.03	yes	no	0.942
17	Unk	OCDD	42:09	7.578e+03	8.723e+03	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	6.496e+04	8.303e+04	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	9.994e+04	6.315e+04	1.58	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	9.863e+04	6.311e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	3.903e+04	7.696e+04	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	4.636e+04	8.921e+04	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	4.150e+04	8.152e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	3.520e+04	6.950e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	2.971e+04	6.743e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	2.518e+04	5.762e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:37	4.664e+04	5.828e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	7.497e+04	4.724e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	5.806e+04	4.638e+04	1.25	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	6.332e+04	4.956e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:19	5.190e+04	4.922e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:08	7.362e+04	8.232e+04	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	5.048e+04	6.257e+04	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	6.320e+04	5.188e+04	1.22	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	2.415e+03				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76556

Run #3 Filename P510636 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:10:32
Processed: 27-JUL-17 08:42:58 LAB. ID: CS2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.69e+05	9.52e+02	1.8e+02	2.54e+05	2.09e+03	1.2e+02
2	1,2,3,7,8-PeCDF	1.48e+06	2.68e+02	5.5e+03	1.03e+06	1.90e+03	5.4e+02
3	2,3,4,7,8-PeCDF	1.41e+06	2.68e+02	5.3e+03	1.01e+06	1.90e+03	5.3e+02
4	1,2,3,4,7,8-HxCDF	1.32e+06	9.04e+02	1.5e+03	1.16e+06	5.64e+02	2.0e+03
5	1,2,3,6,7,8-HxCDF	1.39e+06	9.04e+02	1.5e+03	1.21e+06	5.64e+02	2.1e+03
6	2,3,4,6,7,8-HxCDF	1.34e+06	9.04e+02	1.5e+03	1.13e+06	5.64e+02	2.0e+03
7	1,2,3,7,8,9-HxCDF	1.03e+06	9.04e+02	1.1e+03	9.78e+05	5.64e+02	1.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.31e+06	1.22e+03	1.1e+03	1.26e+06	2.02e+03	6.2e+02
9	1,2,3,4,7,8,9-HpCDF	9.18e+05	1.22e+03	7.5e+02	9.07e+05	2.02e+03	4.5e+02
10	OCDF	1.28e+06	3.04e+02	4.2e+03	1.56e+06	1.09e+03	1.4e+03
11	2,3,7,8-TCDD	1.72e+05	1.93e+03	8.9e+01	2.21e+05	1.21e+03	1.8e+02
12	1,2,3,7,8-PeCDD	1.25e+06	1.95e+03	6.4e+02	8.13e+05	4.80e+02	1.7e+03
13	1,2,3,4,7,8-HxCDD	1.18e+06	4.44e+02	2.7e+03	9.77e+05	1.37e+03	7.1e+02
14	1,2,3,6,7,8-HxCDD	1.16e+06	4.44e+02	2.6e+03	9.91e+05	1.37e+03	7.2e+02
15	1,2,3,7,8,9-HxCDD	1.13e+06	4.44e+02	2.5e+03	8.90e+05	1.37e+03	6.5e+02
16	1,2,3,4,6,7,8-HpCDD	9.70e+05	6.36e+02	1.5e+03	9.37e+05	8.64e+02	1.1e+03
17	OCDD	1.19e+06	3.92e+02	3.0e+03	1.33e+06	8.12e+02	1.6e+03
18	13C-2,3,7,8-TCDF	1.10e+07	1.24e+04	8.8e+02	1.39e+07	7.87e+03	1.8e+03
19	13C-1,2,3,7,8-PeCDF	1.79e+07	1.13e+03	1.6e+04	1.13e+07	9.92e+02	1.1e+04
20	13C-2,3,4,7,8-PeCDF	1.84e+07	1.13e+03	1.6e+04	1.18e+07	9.92e+02	1.2e+04
21	13C-1,2,3,4,7,8-HxCDF	8.08e+06	1.10e+03	7.4e+03	1.58e+07	2.10e+03	7.5e+03
22	13C-1,2,3,6,7,8-HxCDF	9.29e+06	1.10e+03	8.5e+03	1.79e+07	2.10e+03	8.5e+03
23	13C-2,3,4,6,7,8-HxCDF	8.65e+06	1.10e+03	7.9e+03	1.71e+07	2.10e+03	8.1e+03
24	13C-1,2,3,7,8,9-HxCDF	6.96e+06	1.10e+03	6.3e+03	1.35e+07	2.10e+03	6.4e+03
25	13C-1,2,3,4,6,7,8-HpCDF	6.46e+06	3.98e+03	1.6e+03	1.45e+07	5.07e+03	2.9e+03
26	13C-1,2,3,4,7,8,9-HpCDF	5.02e+06	3.98e+03	1.3e+03	1.12e+07	5.07e+03	2.2e+03
27	13C-2,3,7,8-TCDD	8.51e+06	5.61e+03	1.5e+03	1.06e+07	3.54e+03	3.0e+03
28	13C-1,2,3,7,8-PeCDD	1.37e+07	1.15e+03	1.2e+04	8.66e+06	1.10e+03	7.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.29e+07	2.23e+03	5.8e+03	1.03e+07	1.59e+03	6.5e+03
30	13C-1,2,3,6,7,8-HxCDD	1.27e+07	2.23e+03	5.7e+03	9.84e+06	1.59e+03	6.2e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.03e+07	1.35e+03	7.6e+03	9.85e+06	1.11e+03	8.9e+03
32	13C-OCDD	1.11e+07	6.36e+02	1.7e+04	1.24e+07	5.16e+02	2.4e+04
33	13C-1,2,3,4-TCDD	9.10e+06	5.61e+03	1.6e+03	1.13e+07	3.54e+03	3.2e+03
34	13C-1,2,3,7,8,9-HxCDD	1.25e+07	2.23e+03	5.6e+03	9.97e+06	1.59e+03	6.3e+03
35	37Cl-2,3,7,8-TCDD	4.37e+05	1.14e+03	3.8e+02			

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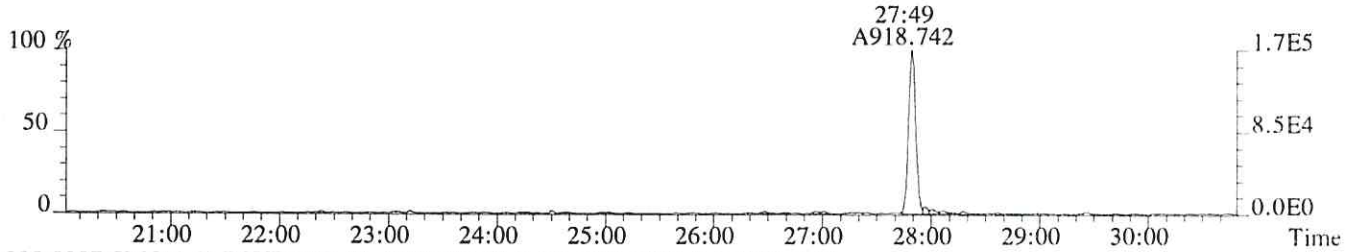
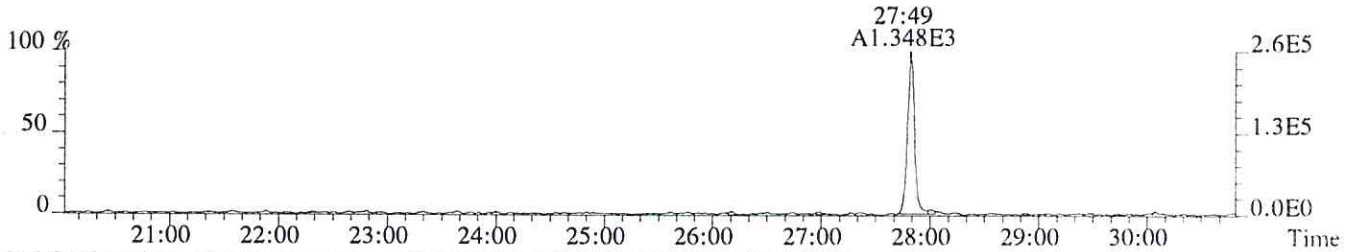
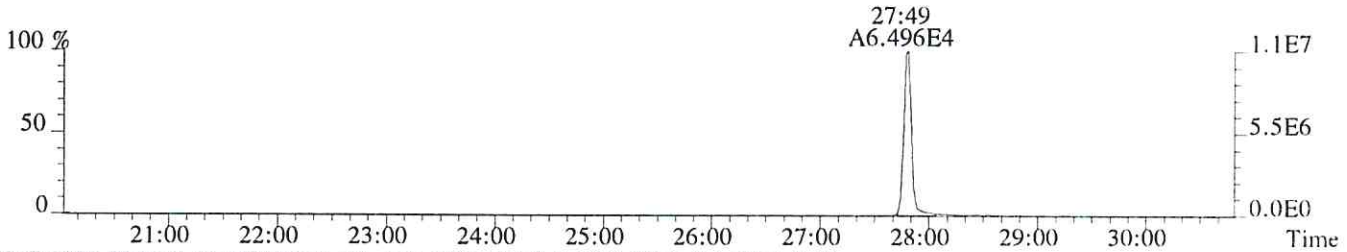
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,952.0,1.00%,F,T)



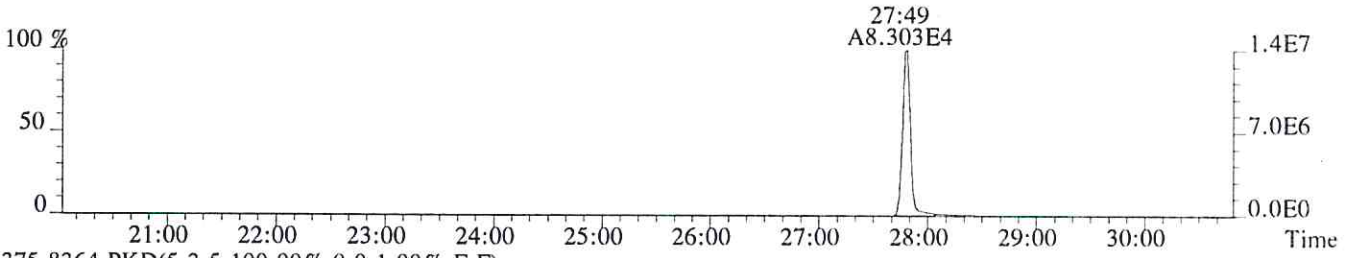
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2088.0,1.00%,F,T)



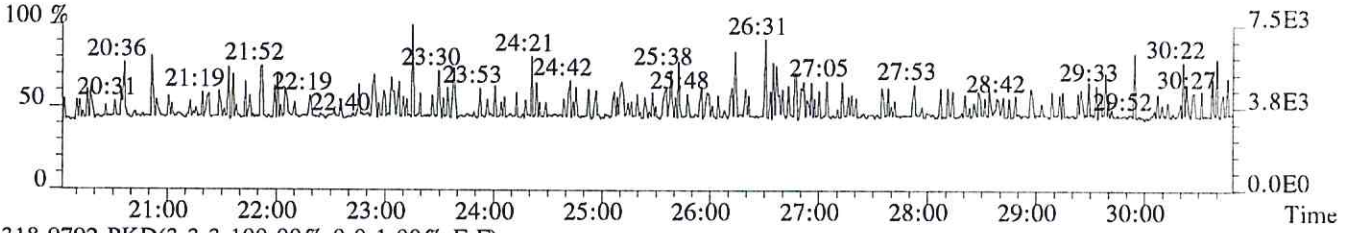
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12432.0,1.00%,F,T)



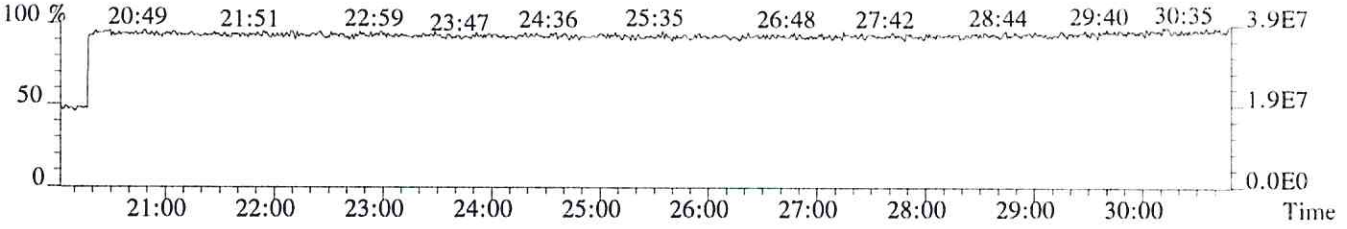
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7872.0,1.00%,F,T)



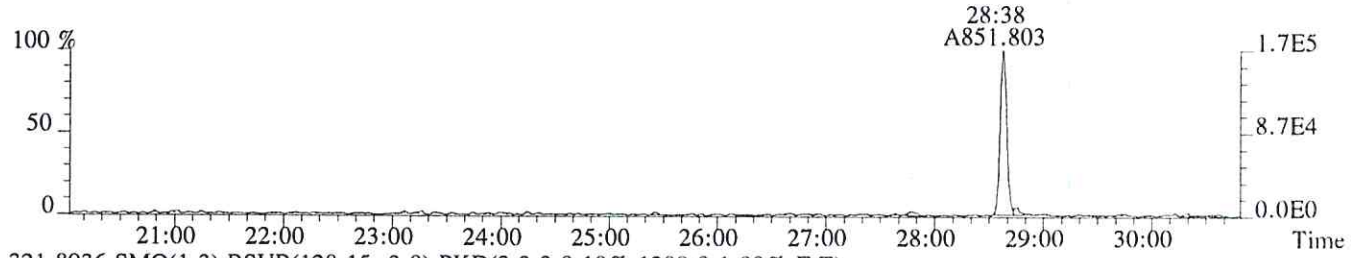
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



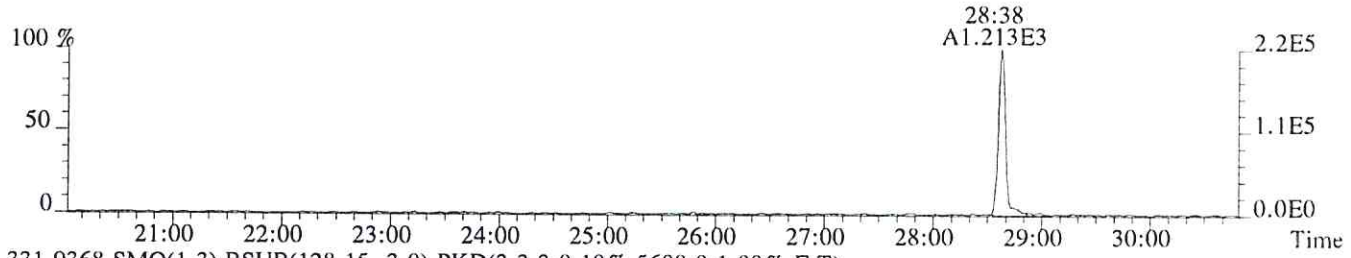
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



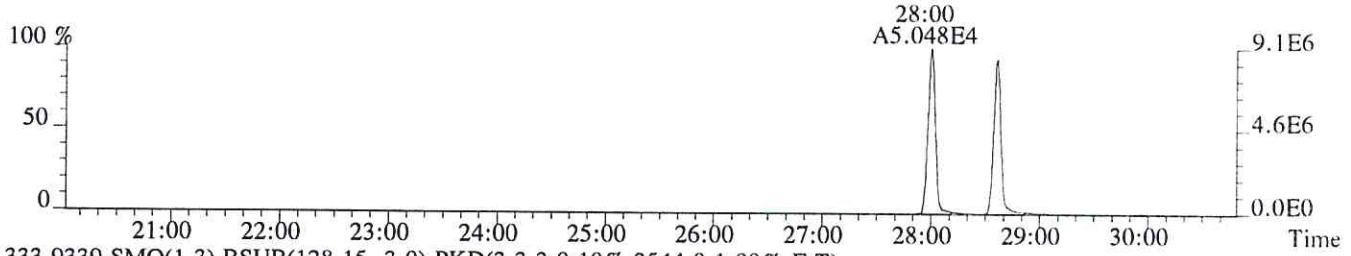
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1928.0,1.00%,F,T)



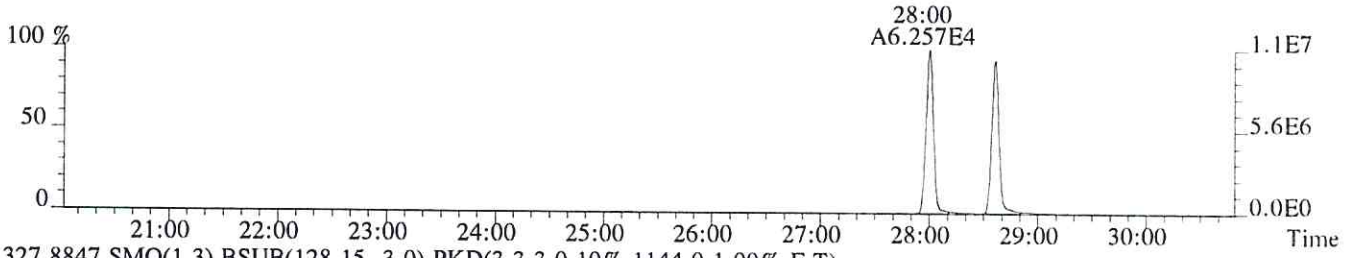
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,T)



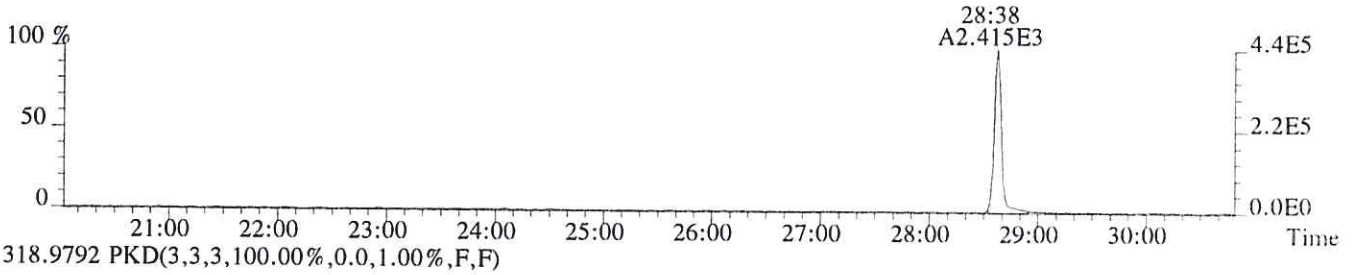
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5608.0,1.00%,F,T)



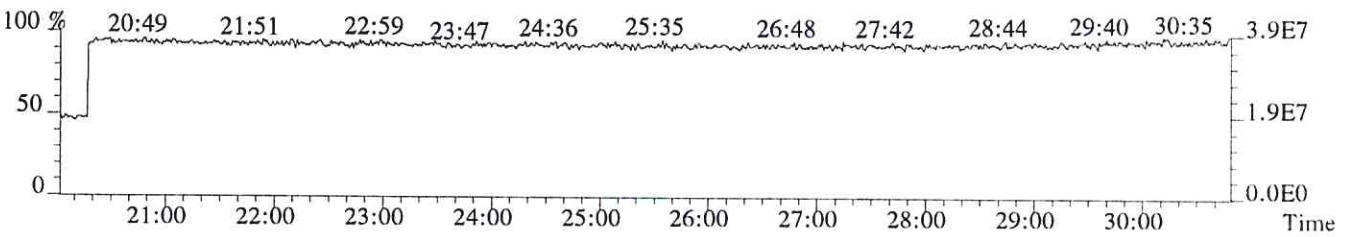
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3544.0,1.00%,F,T)



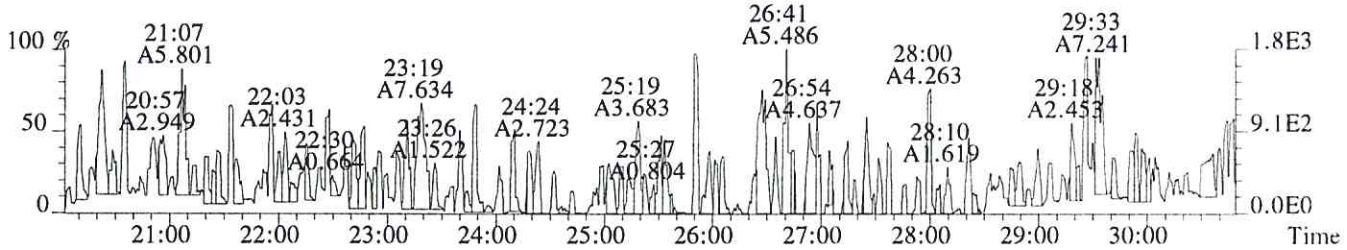
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



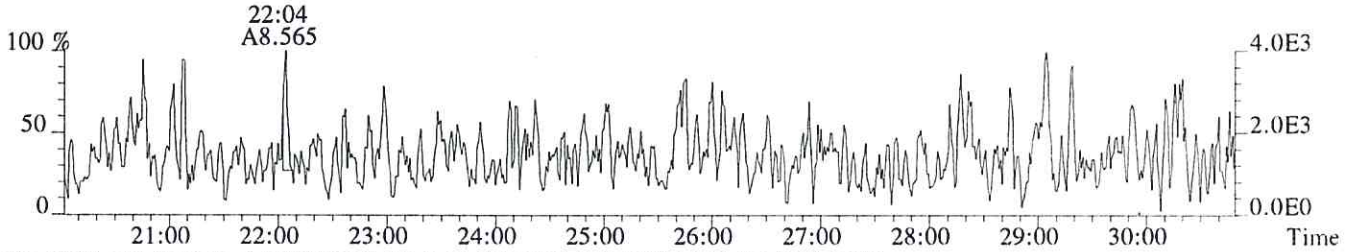
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



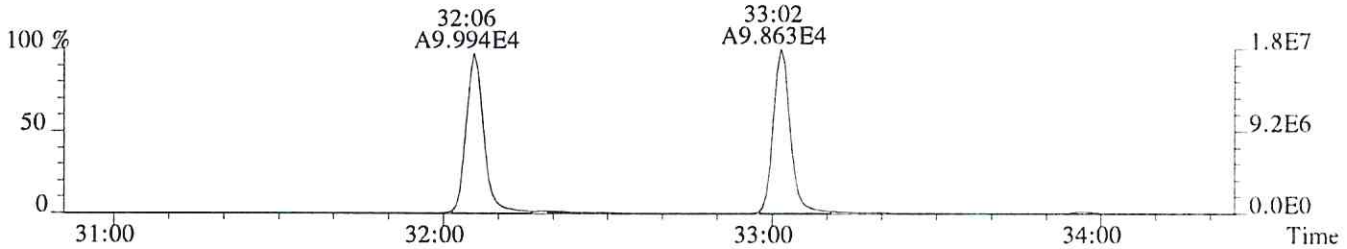
File:P510636 #1-765 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,T)



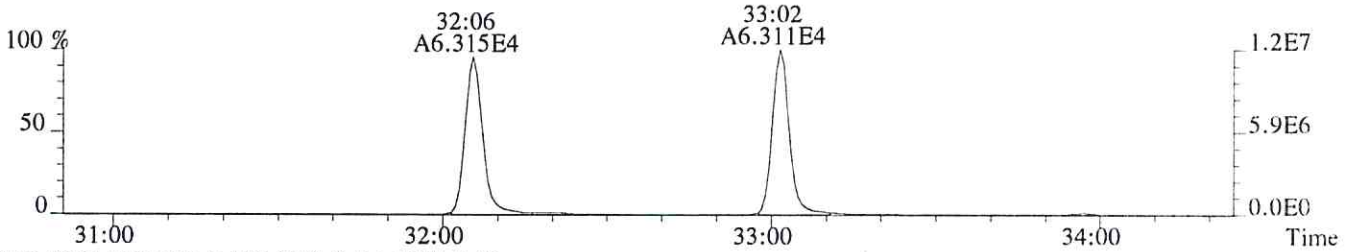
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,T)



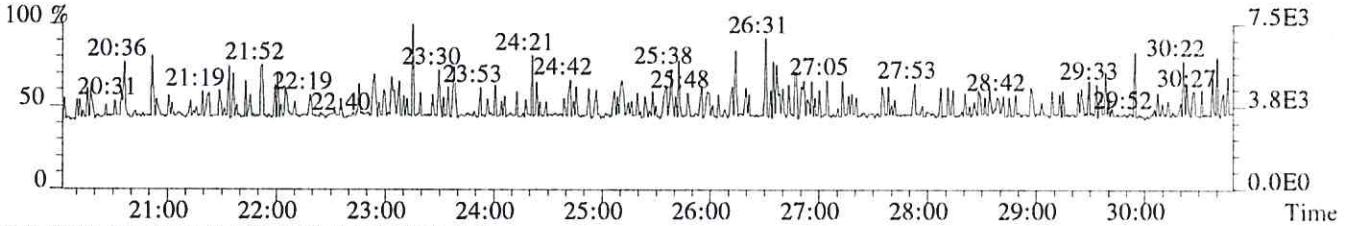
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



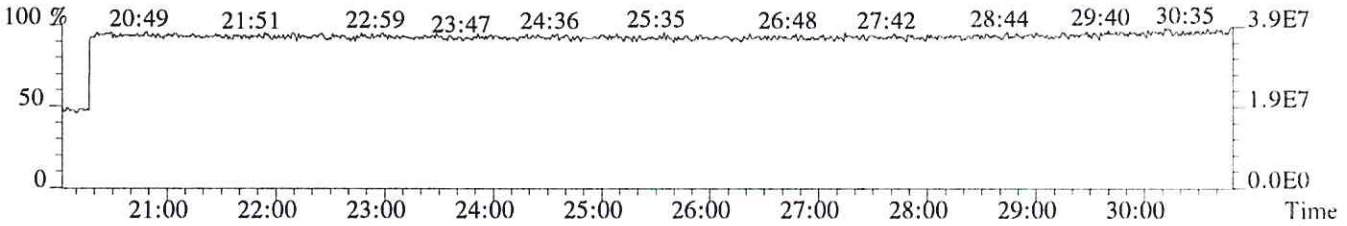
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



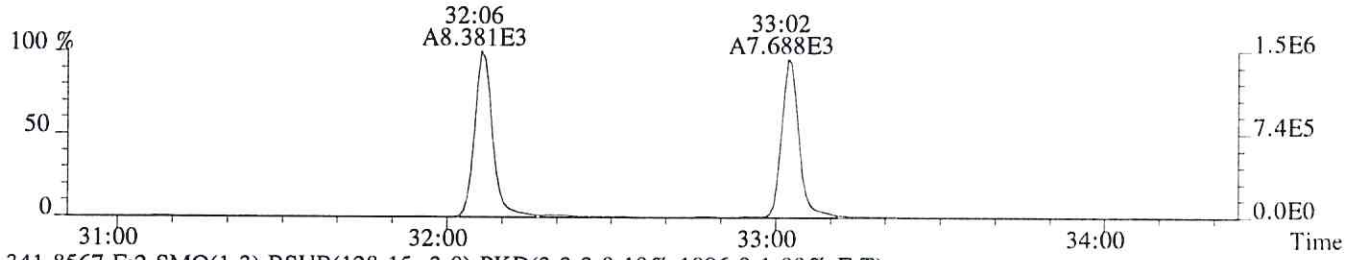
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



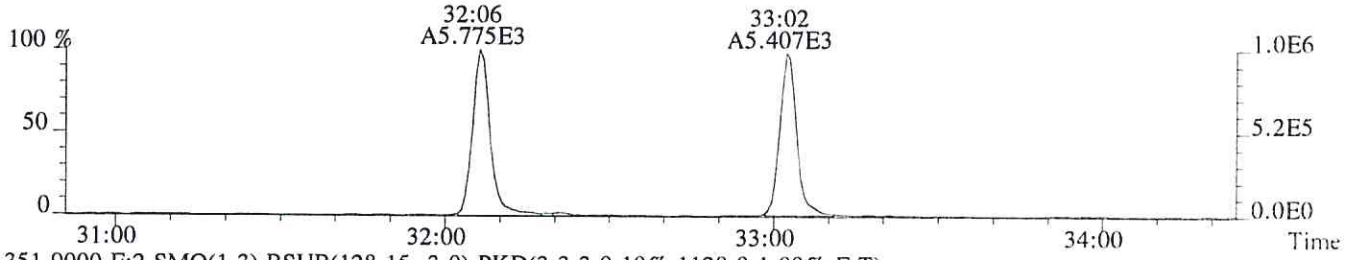
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



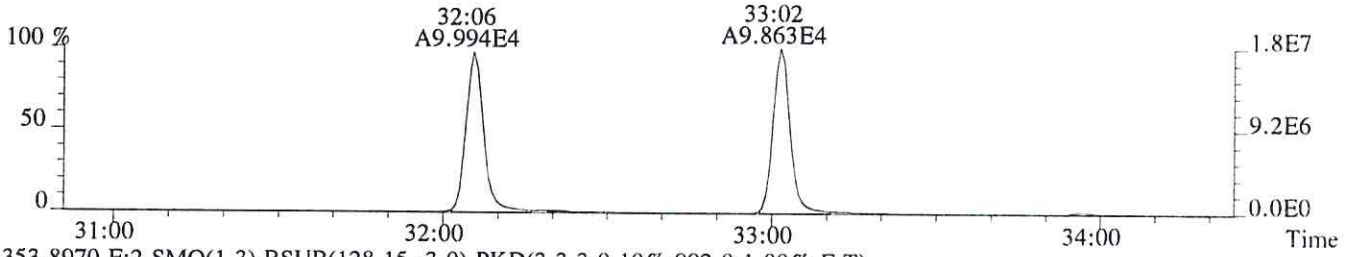
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,T)



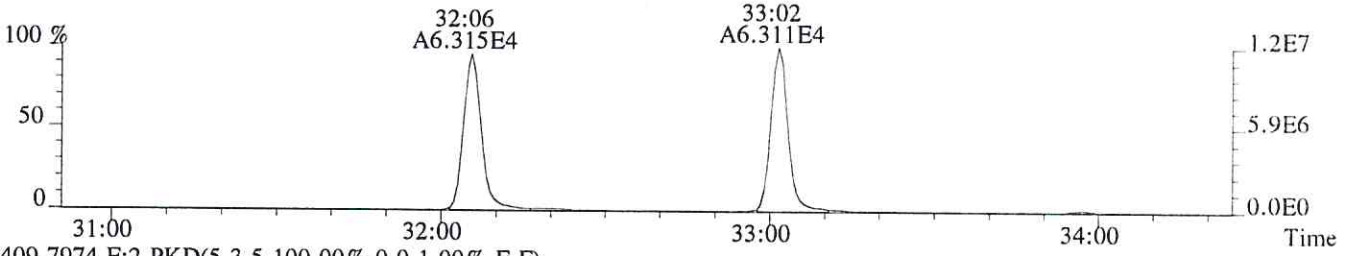
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1896.0,1.00%,F,T)



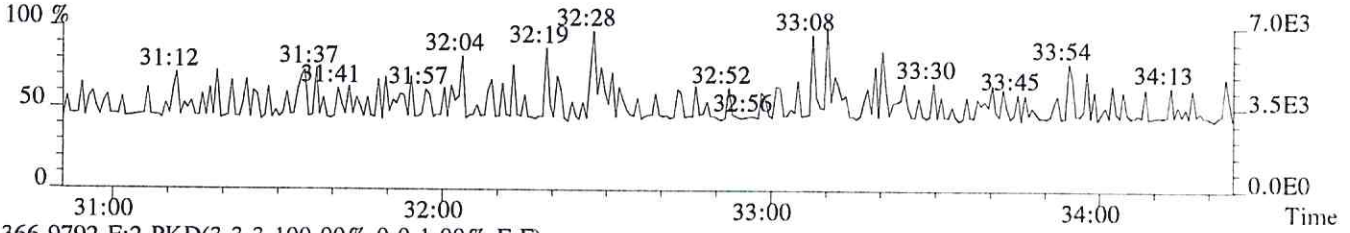
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,T)



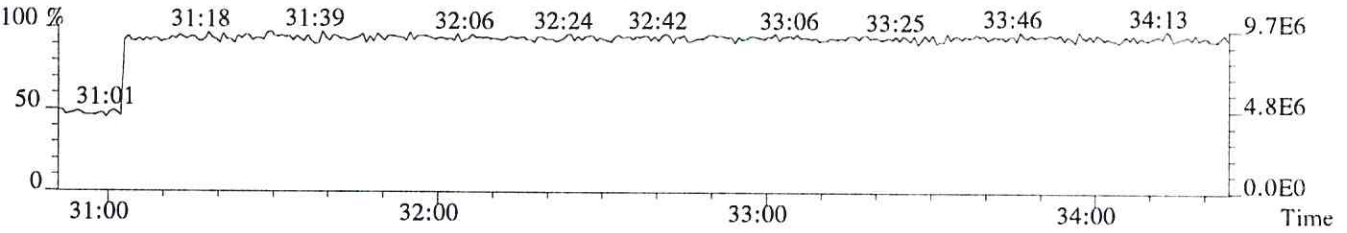
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



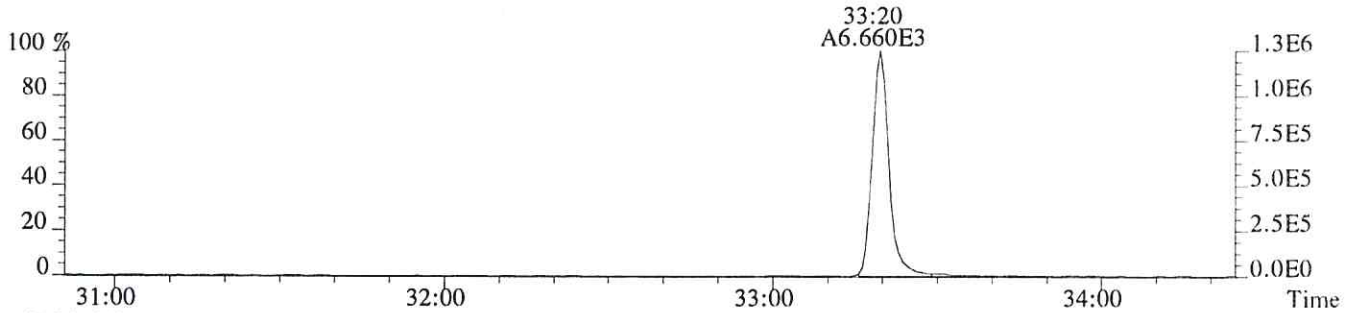
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



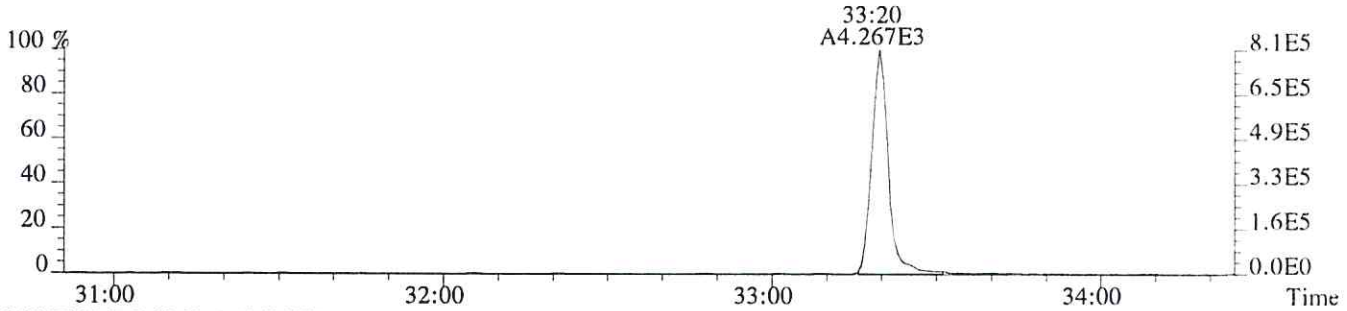
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



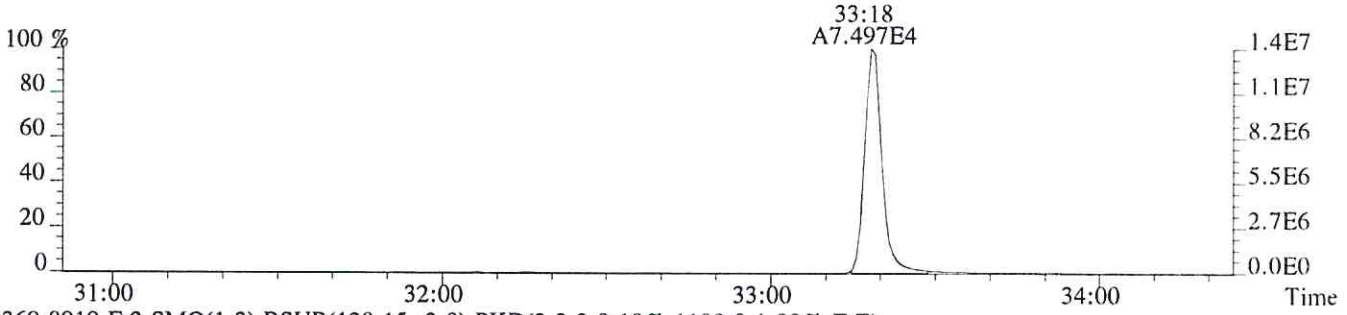
File:P510636 #1-321 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,T)



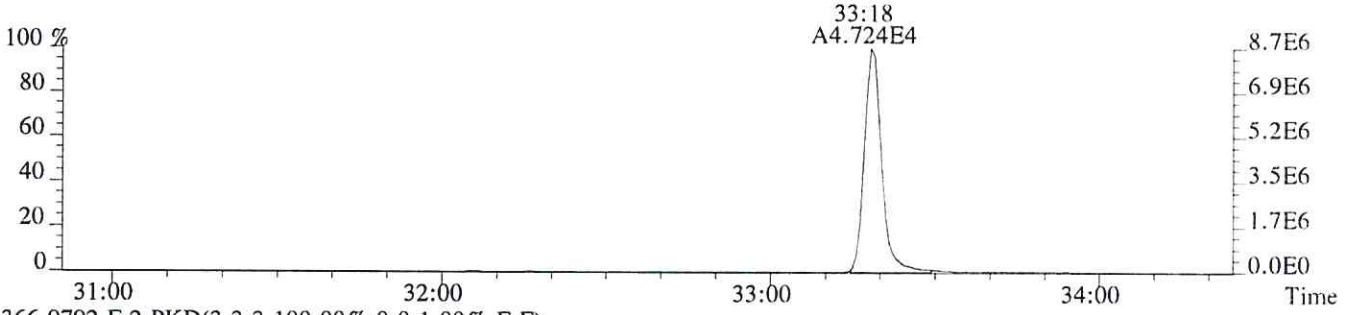
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,T)



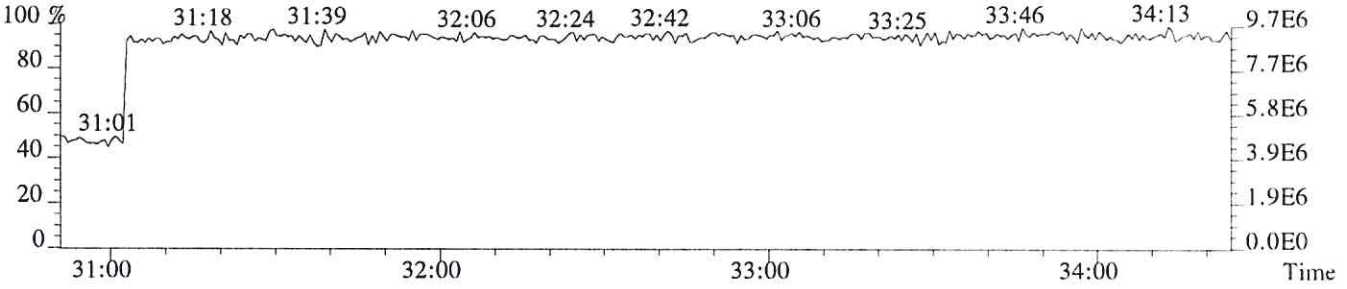
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1148.0,1.00%,F,T)



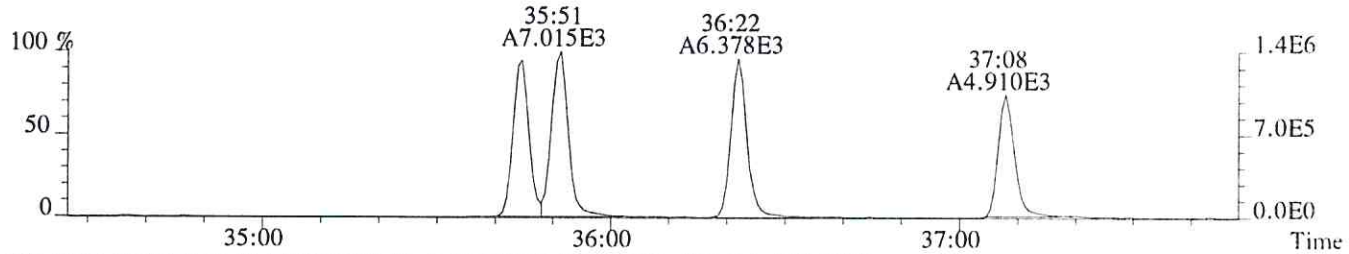
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,T)



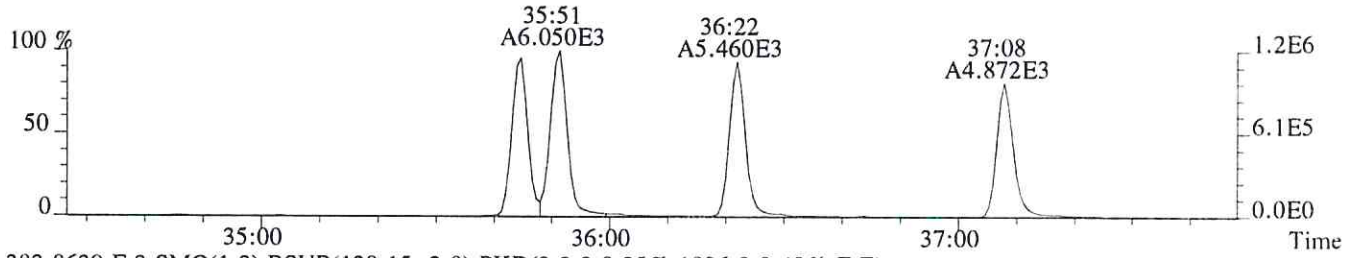
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



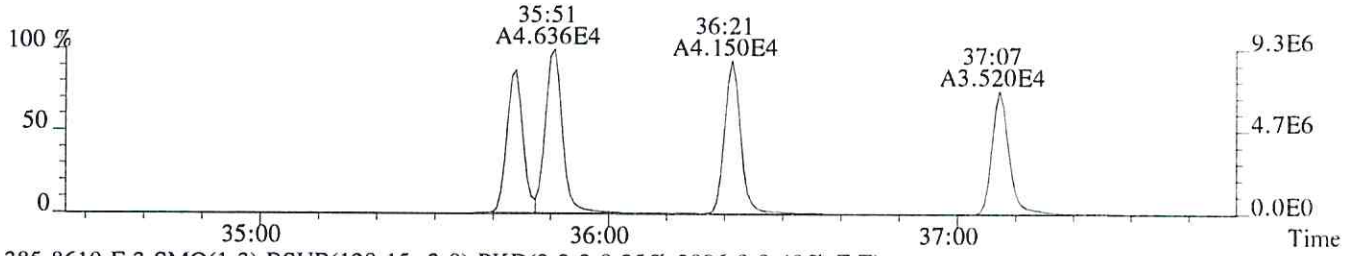
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



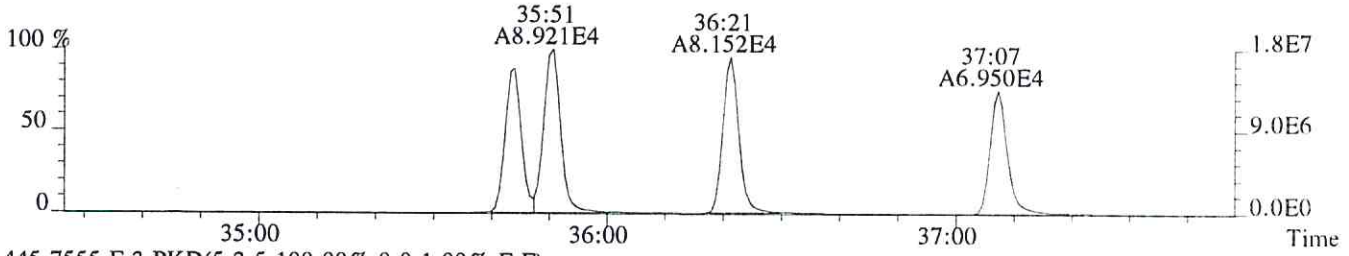
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



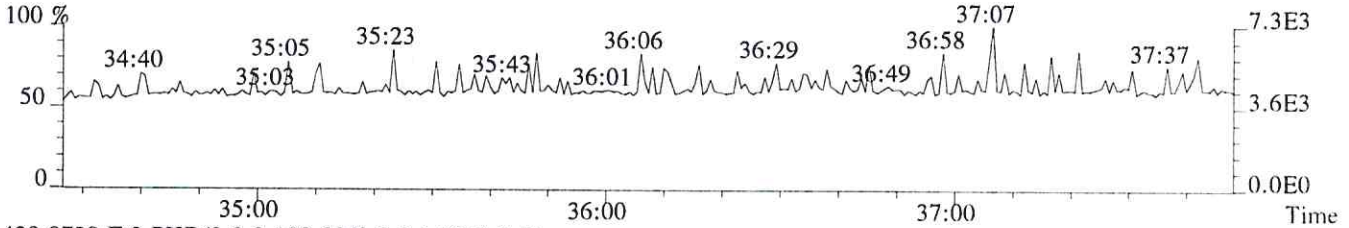
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1096.0,0.40%,F,T)



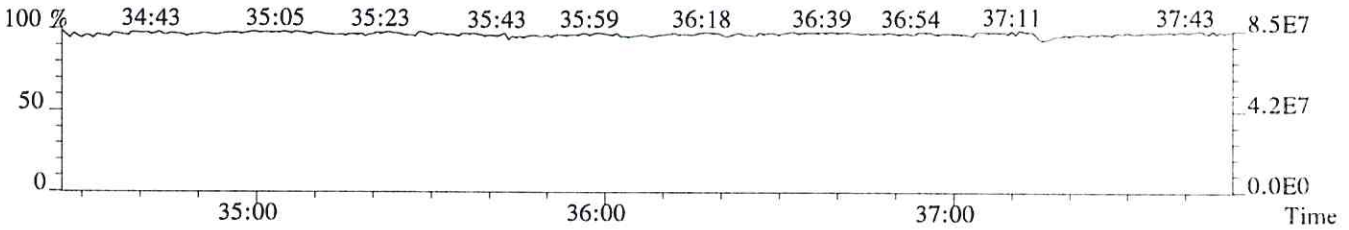
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2096.0,0.40%,F,T)



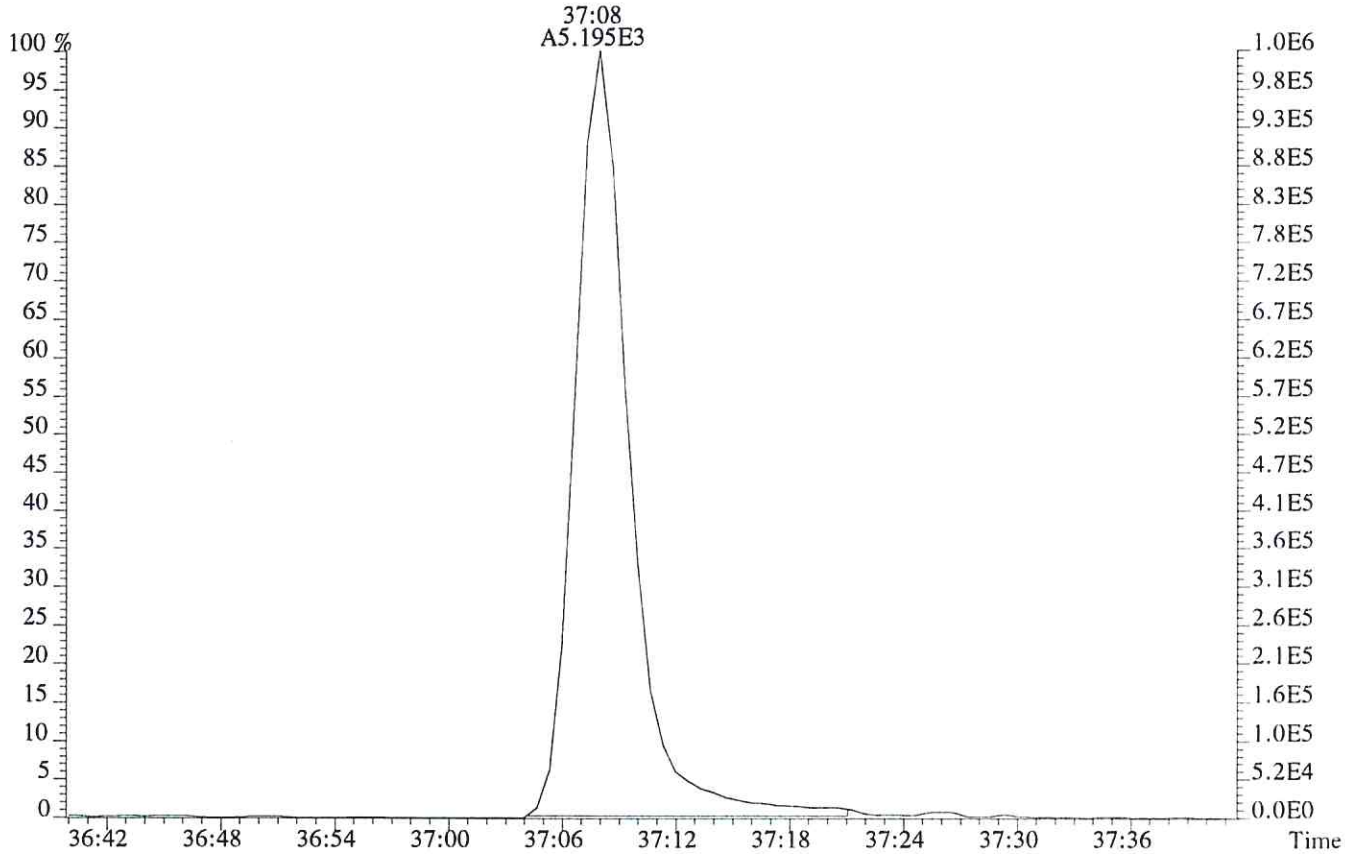
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



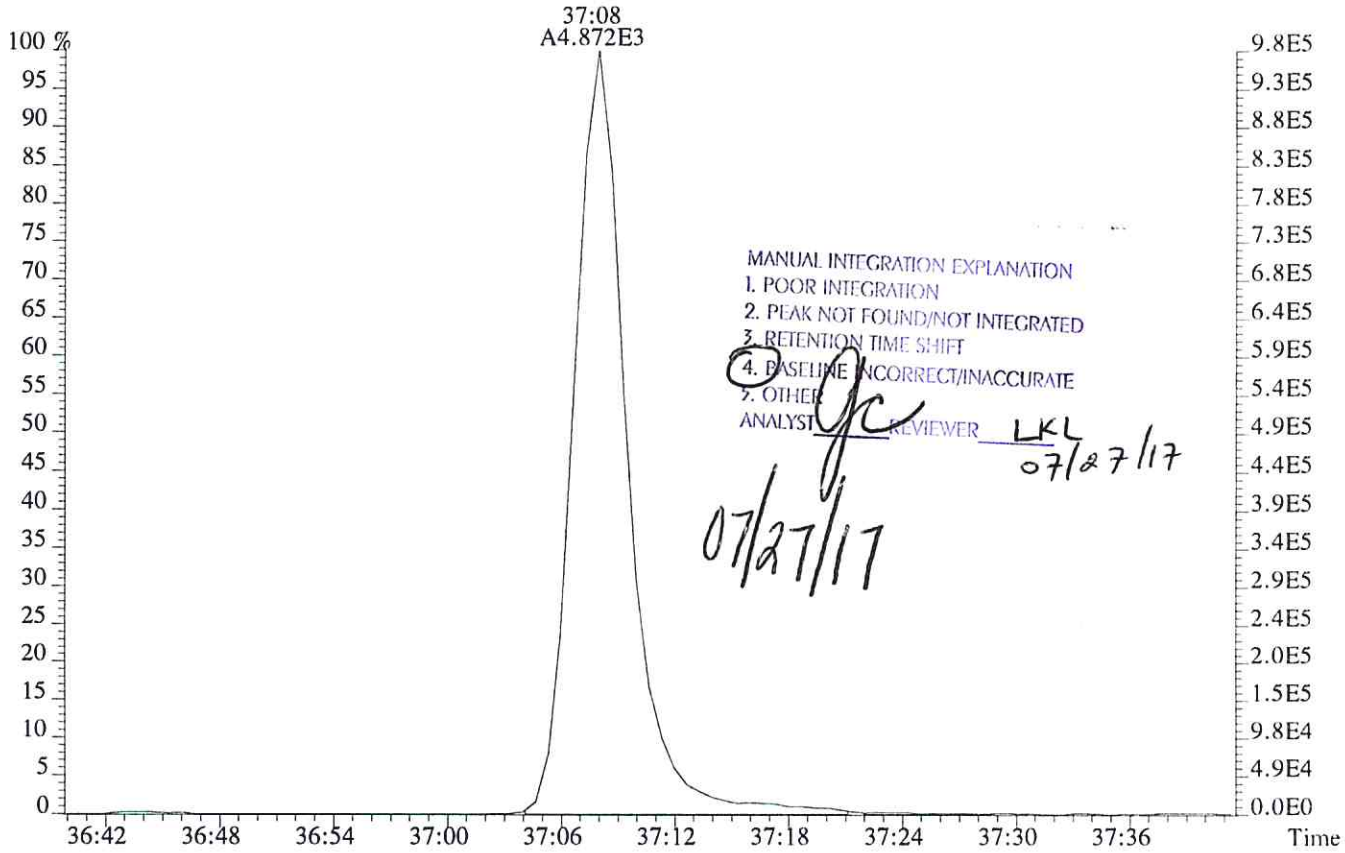
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



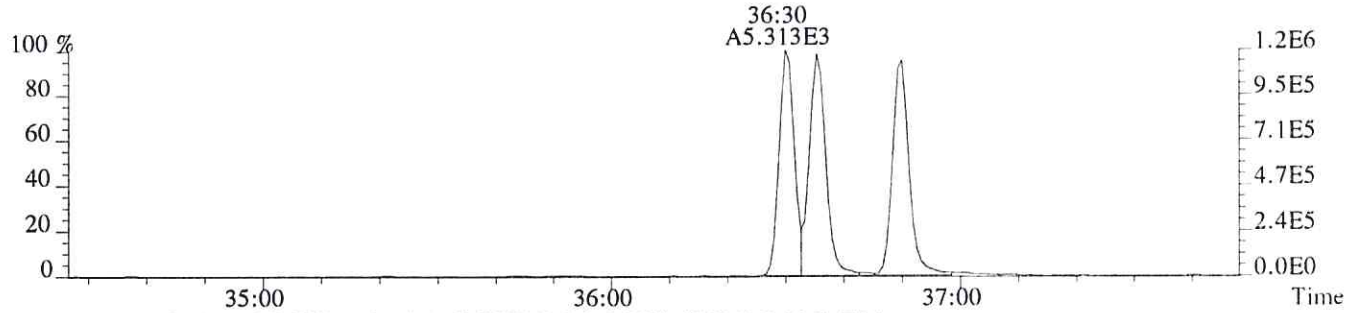
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,T)



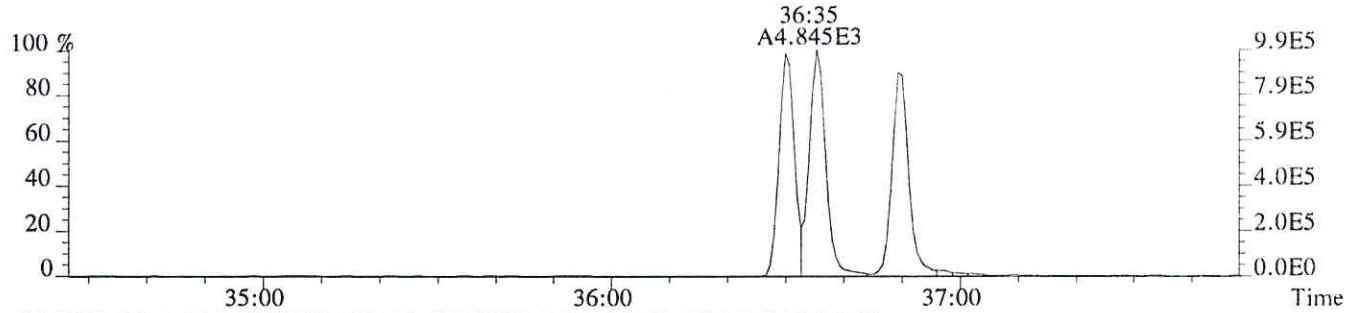
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,564.0,0.40%,F,T)



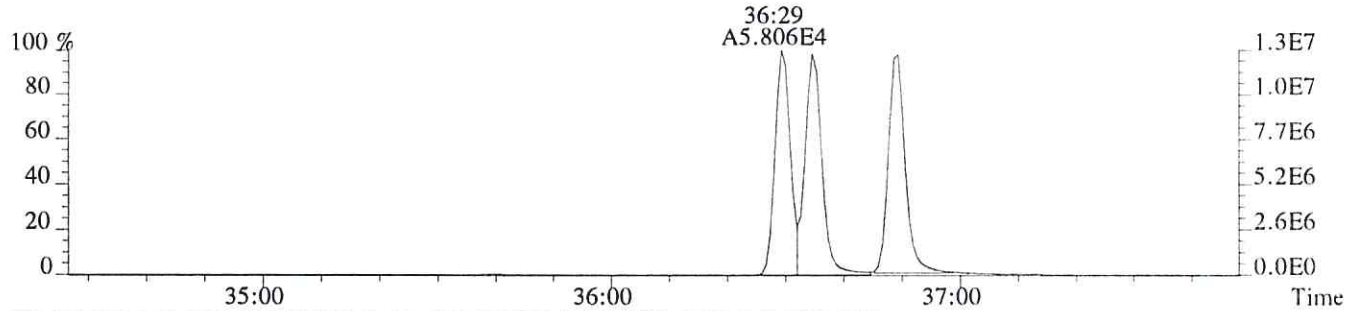
File:P510636 #1-303 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,444.0,0.40%,F,T)



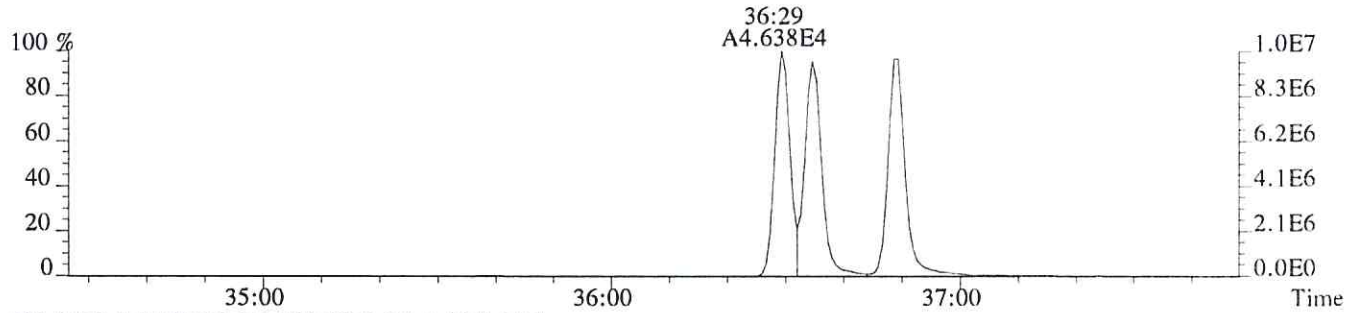
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



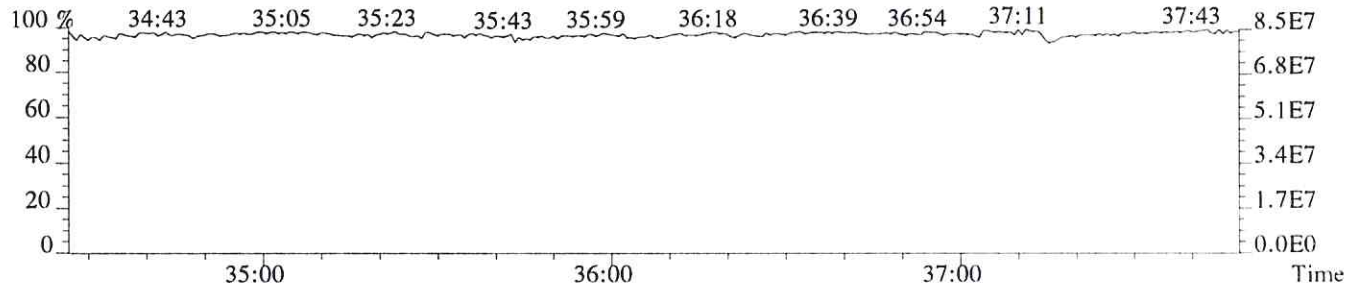
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2232.0,0.40%,F,T)



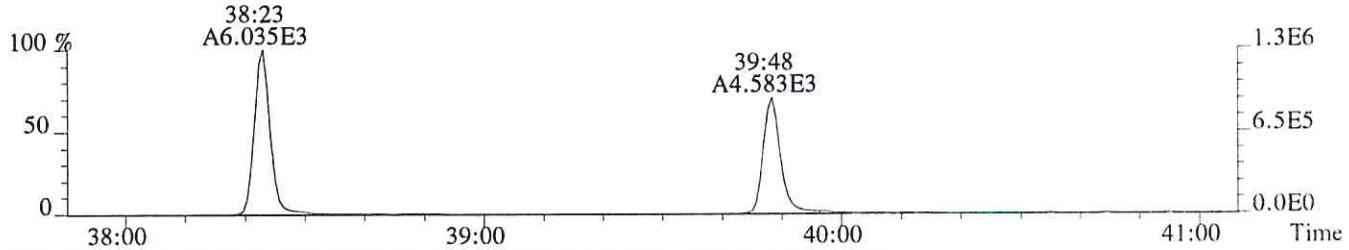
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.40%,F,T)



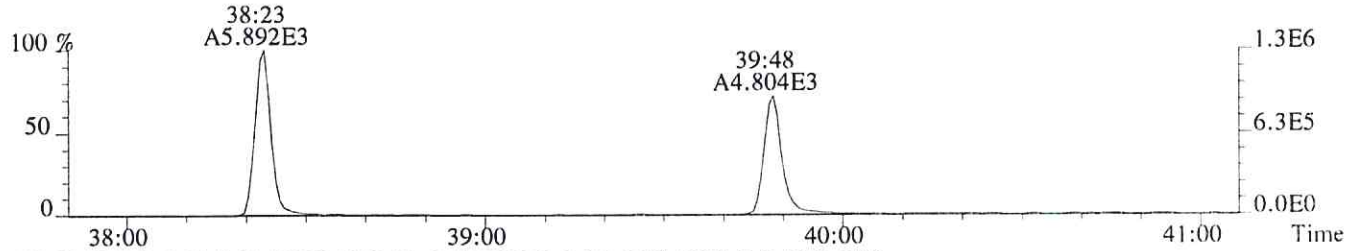
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



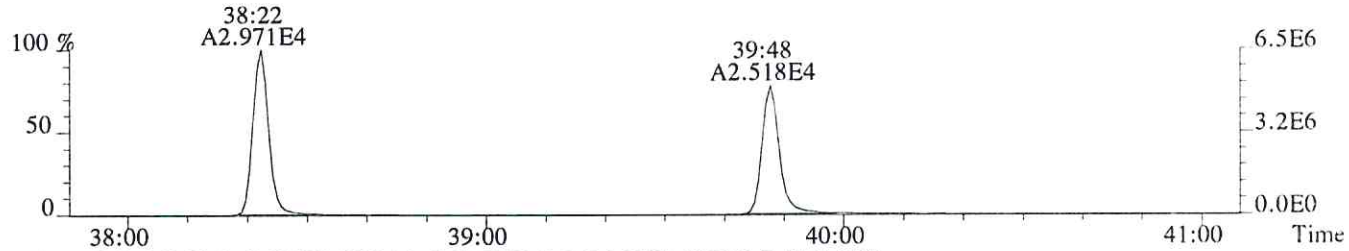
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.50%,F,T)



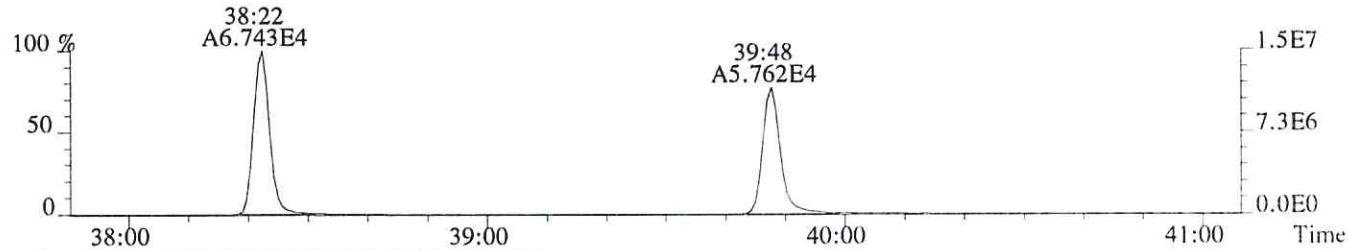
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2024.0,0.50%,F,T)



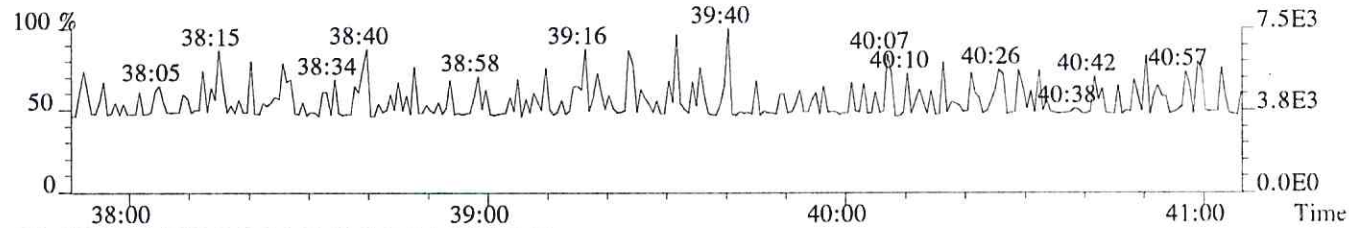
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3984.0,0.50%,F,T)



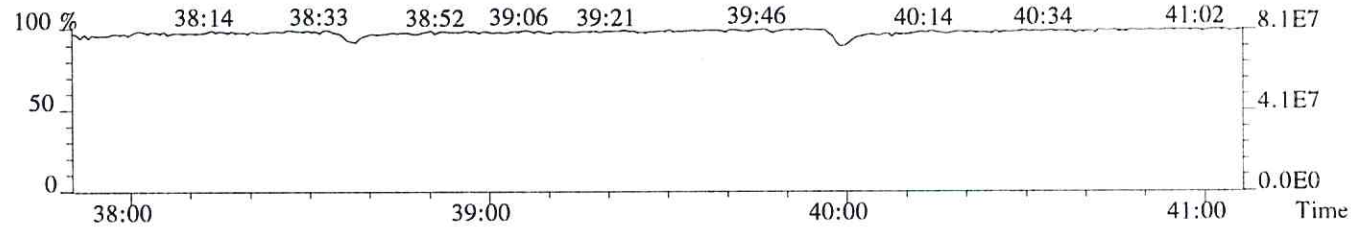
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5068.0,0.50%,F,T)



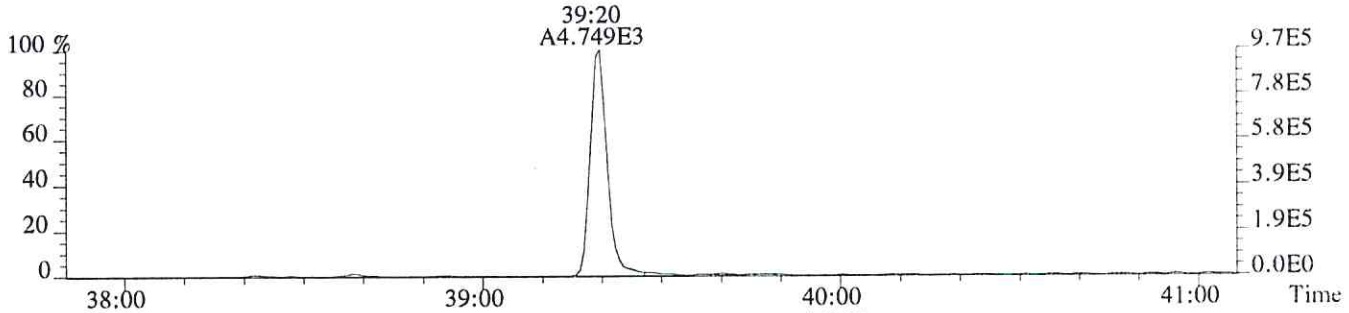
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



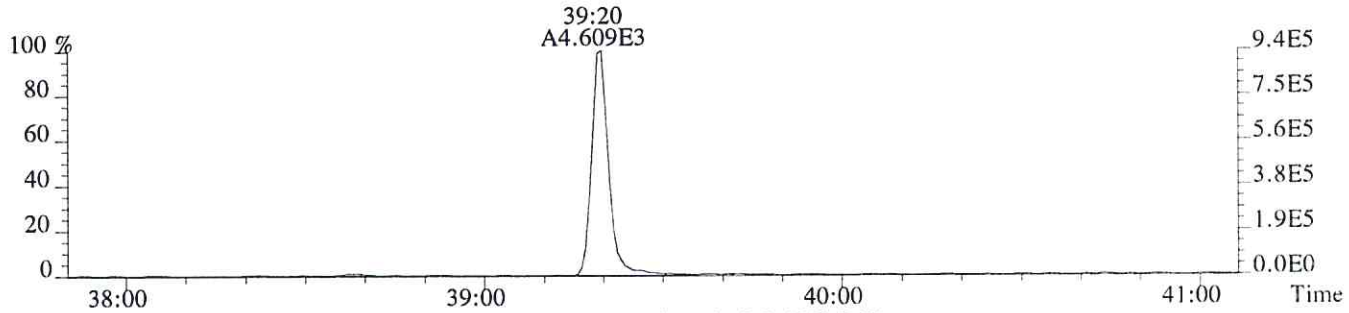
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



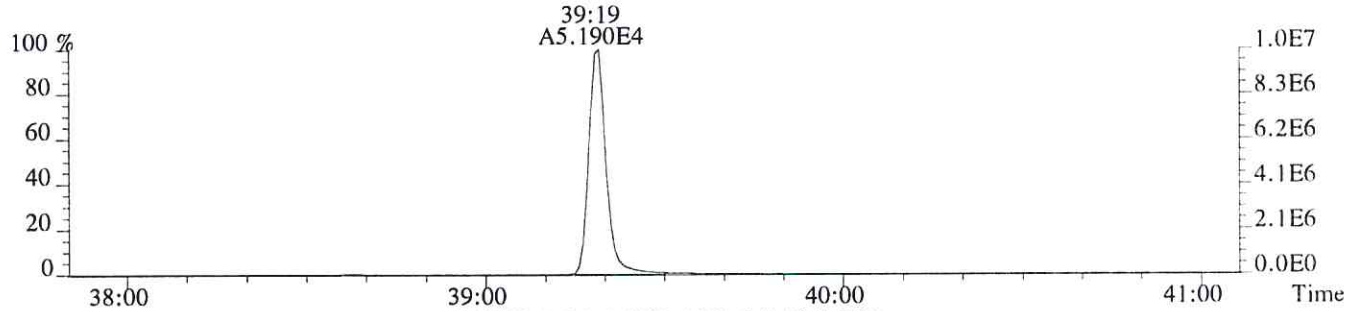
File:P510636 #1-295 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,T)



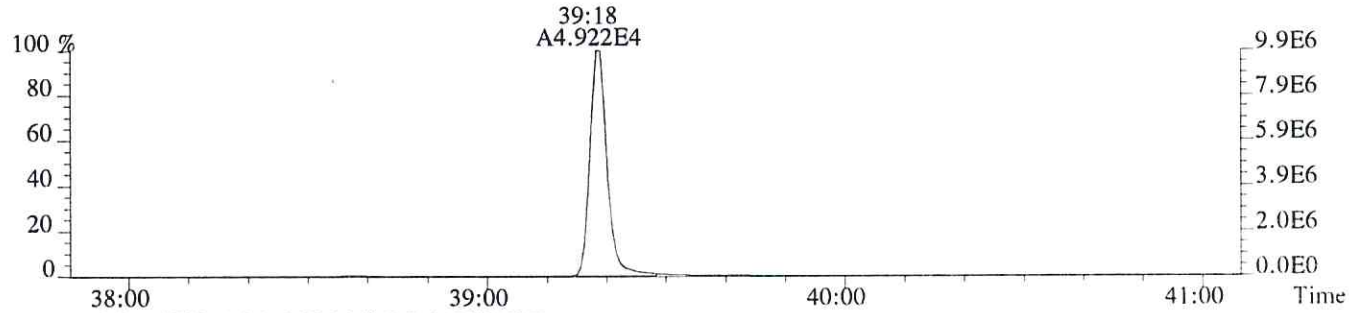
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,T)



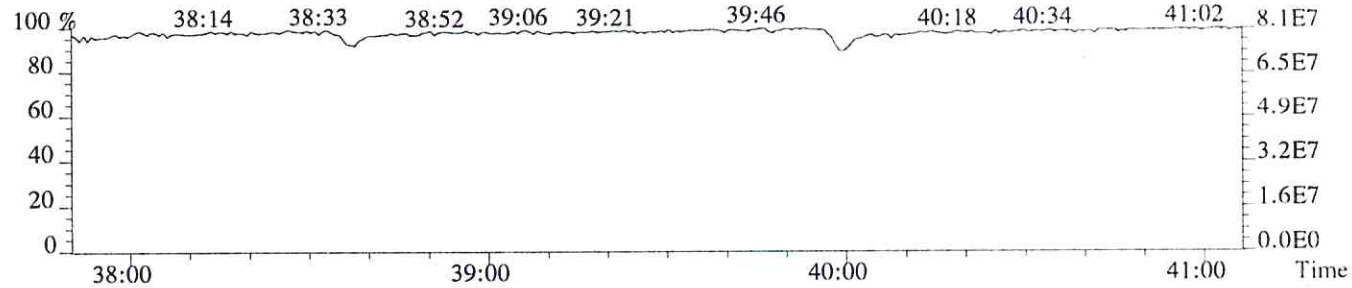
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1352.0,0.40%,F,T)



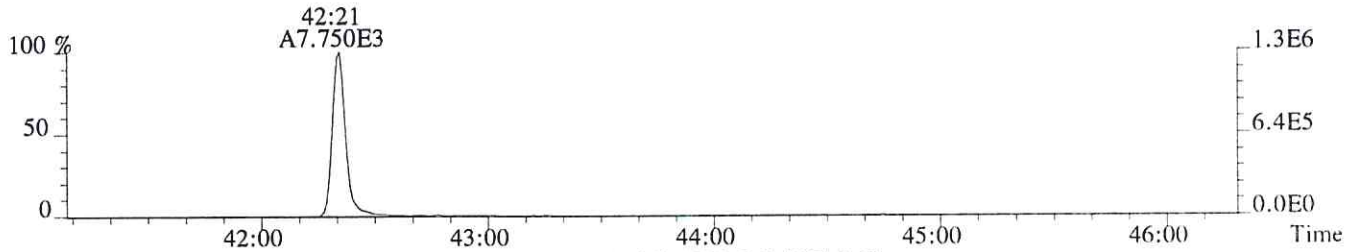
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,T)



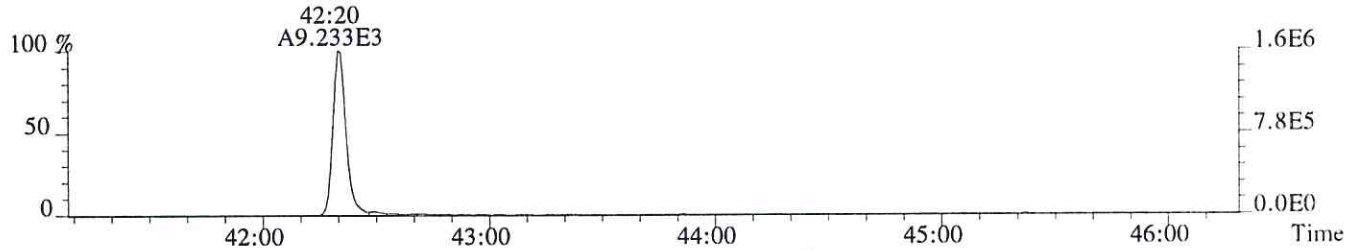
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



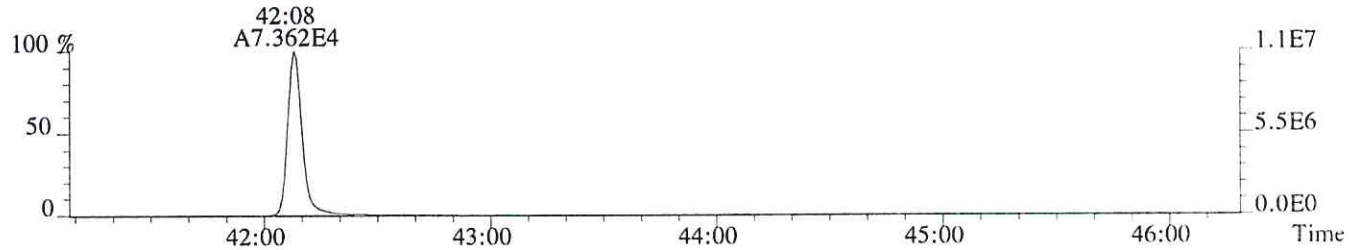
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,304.0,0.40%,F,T)



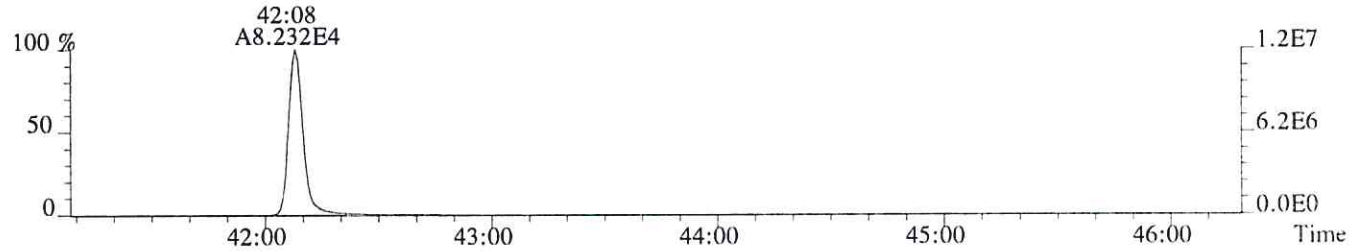
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



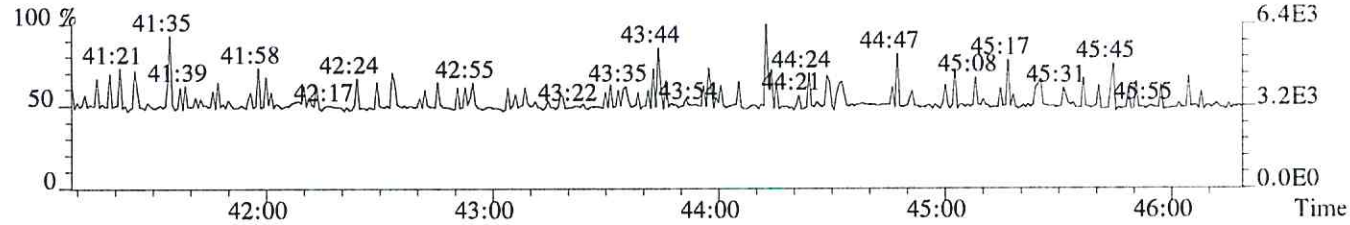
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



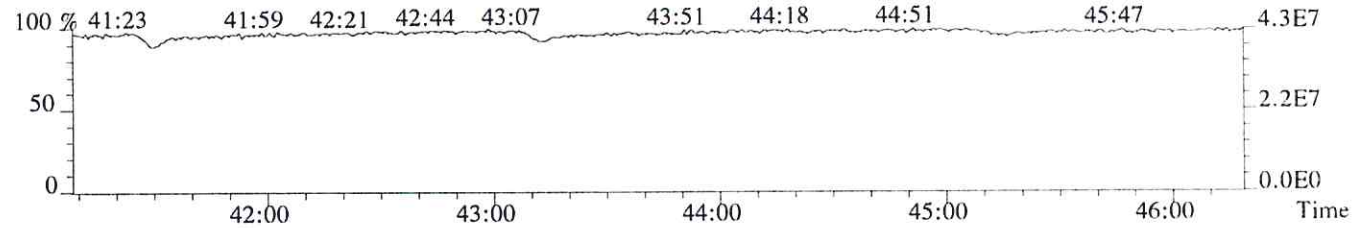
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



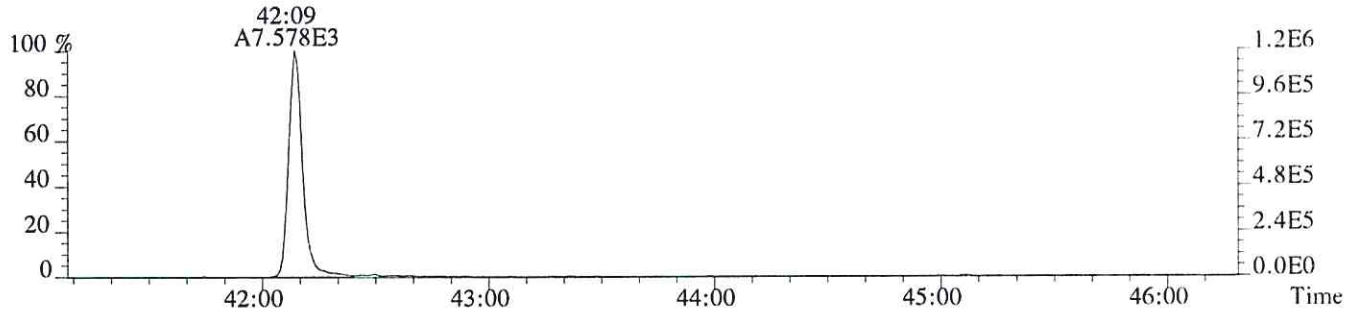
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



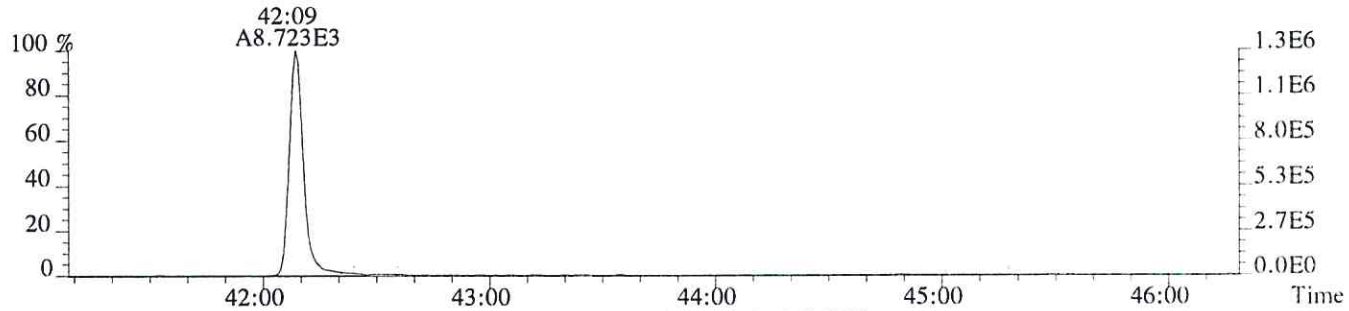
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



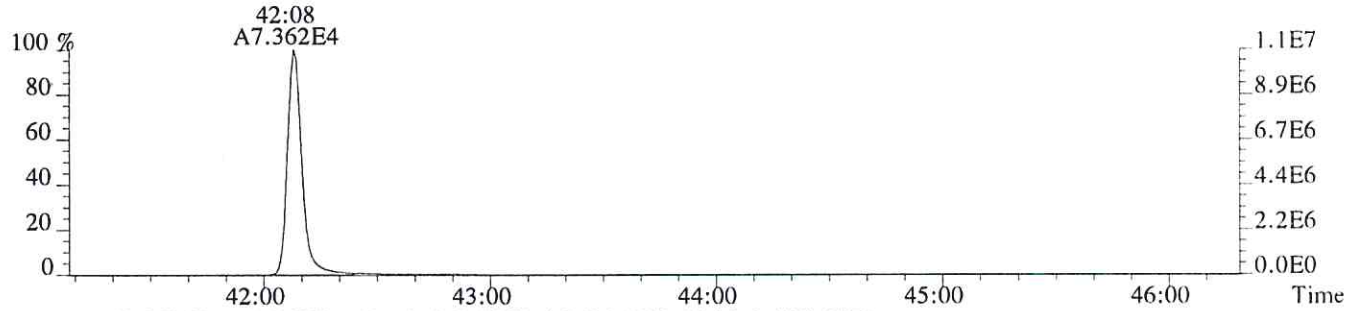
File:P510636 #1-466 Acq:26-JUL-2017 13:10:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76556
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,392.0,0.40%,F,T)



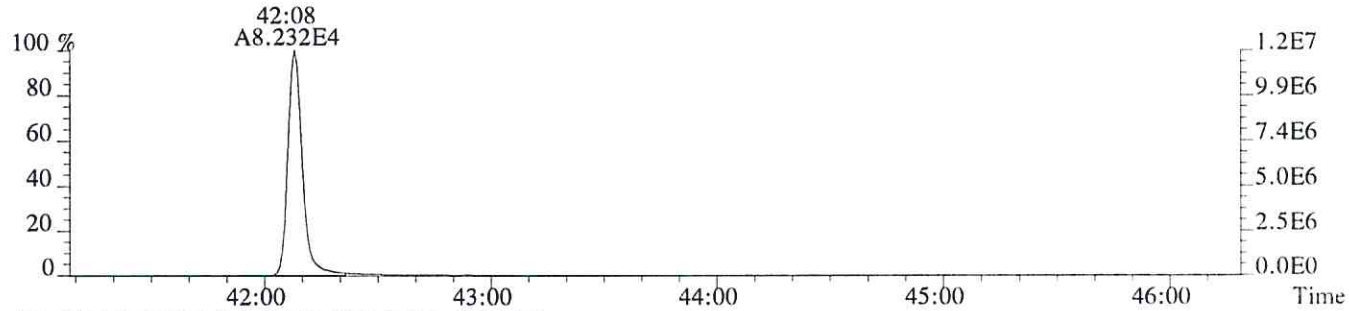
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,812.0,0.40%,F,T)



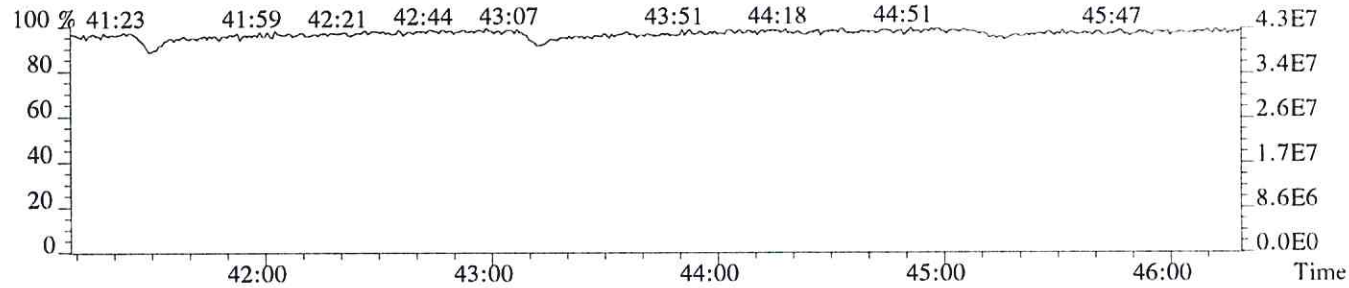
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,636.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,516.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76557

Run #4 Filename P510637 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:59:13
Processed: 27-JUL-17 08:42:58 Sample ID: CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	1.395e+04	1.918e+04	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	1.190e+05	7.992e+04	1.49	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	1.061e+05	7.152e+04	1.48	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:44	8.799e+04	7.552e+04	1.17	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	9.465e+04	8.067e+04	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	8.501e+04	7.354e+04	1.16	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	7.547e+04	6.510e+04	1.16	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:23	7.745e+04	7.807e+04	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:47	6.315e+04	6.292e+04	1.00	yes	no	1.191
10	Unk	OCDF	42:19	1.015e+05	1.157e+05	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	1.204e+04	1.558e+04	0.77	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	8.721e+04	5.621e+04	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:30	7.234e+04	5.924e+04	1.22	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	7.342e+04	5.839e+04	1.26	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:49	7.893e+04	6.388e+04	1.24	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:18	6.096e+04	5.863e+04	1.04	yes	no	0.942
17	Unk	OCDD	42:07	9.426e+04	1.079e+05	0.87	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:48	1.729e+05	2.206e+05	0.78	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	2.674e+05	1.722e+05	1.55	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	2.544e+05	1.640e+05	1.55	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:43	1.006e+05	1.901e+05	0.53	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:50	1.185e+05	2.276e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	1.070e+05	2.067e+05	0.52	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	9.282e+04	1.823e+05	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	7.515e+04	1.701e+05	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:46	6.454e+04	1.473e+05	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:36	1.188e+05	1.492e+05	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	1.923e+05	1.215e+05	1.58	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	1.530e+05	1.190e+05	1.29	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	1.534e+05	1.209e+05	1.27	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:18	1.294e+05	1.245e+05	1.04	yes	no	0.881
32	IS	13C-OCDD	42:06	1.819e+05	2.022e+05	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	1.275e+05	1.573e+05	0.81	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	1.711e+05	1.325e+05	1.29	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	2.880e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76557

Run #4 Filename P510637 Samp: 1 Inj: 1 Acquired: 26-JUL-17 13:59:13
Processed: 27-JUL-17 08:42:58 LAB. ID: CS3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.53e+06	8.28e+02	3.1e+03	3.50e+06	2.50e+03	1.4e+03
2	1,2,3,7,8-PeCDF	2.26e+07	8.92e+02	2.5e+04	1.51e+07	1.57e+03	9.6e+03
3	2,3,4,7,8-PeCDF	2.15e+07	8.92e+02	2.4e+04	1.44e+07	1.57e+03	9.2e+03
4	1,2,3,4,7,8-HxCDF	1.86e+07	1.44e+03	1.3e+04	1.60e+07	1.10e+03	1.4e+04
5	1,2,3,6,7,8-HxCDF	1.96e+07	1.44e+03	1.4e+04	1.67e+07	1.10e+03	1.5e+04
6	2,3,4,6,7,8-HxCDF	1.82e+07	1.44e+03	1.3e+04	1.56e+07	1.10e+03	1.4e+04
7	1,2,3,7,8,9-HxCDF	1.57e+07	1.44e+03	1.1e+04	1.34e+07	1.10e+03	1.2e+04
8	1,2,3,4,6,7,8-HpCDF	1.75e+07	6.21e+03	2.8e+03	1.76e+07	4.92e+03	3.6e+03
9	1,2,3,4,7,8,9-HpCDF	1.21e+07	6.21e+03	1.9e+03	1.23e+07	4.92e+03	2.5e+03
10	OCDF	1.65e+07	3.52e+02	4.7e+04	1.84e+07	1.42e+03	1.3e+04
11	2,3,7,8-TCDD	2.29e+06	1.81e+03	1.3e+03	3.01e+06	9.32e+02	3.2e+03
12	1,2,3,7,8-PeCDD	1.71e+07	2.11e+03	8.1e+03	1.11e+07	5.16e+02	2.1e+04
13	1,2,3,4,7,8-HxCDD	1.64e+07	2.96e+02	5.5e+04	1.33e+07	8.48e+02	1.6e+04
14	1,2,3,6,7,8-HxCDD	1.58e+07	2.96e+02	5.3e+04	1.25e+07	8.48e+02	1.5e+04
15	1,2,3,7,8,9-HxCDD	1.64e+07	2.96e+02	5.5e+04	1.34e+07	8.48e+02	1.6e+04
16	1,2,3,4,6,7,8-HpCDD	1.24e+07	8.56e+02	1.4e+04	1.19e+07	1.16e+03	1.0e+04
17	OCDD	1.55e+07	5.88e+02	2.6e+04	1.77e+07	8.04e+02	2.2e+04
18	13C-2,3,7,8-TCDF	3.06e+07	1.61e+04	1.9e+03	3.91e+07	6.57e+03	6.0e+03
19	13C-1,2,3,7,8-PeCDF	4.96e+07	2.28e+03	2.2e+04	3.20e+07	1.38e+03	2.3e+04
20	13C-2,3,4,7,8-PeCDF	5.02e+07	2.28e+03	2.2e+04	3.25e+07	1.38e+03	2.4e+04
21	13C-1,2,3,4,7,8-HxCDF	2.13e+07	1.04e+03	2.0e+04	4.06e+07	2.19e+03	1.9e+04
22	13C-1,2,3,6,7,8-HxCDF	2.44e+07	1.04e+03	2.3e+04	4.65e+07	2.19e+03	2.1e+04
23	13C-2,3,4,6,7,8-HxCDF	2.26e+07	1.04e+03	2.2e+04	4.30e+07	2.19e+03	2.0e+04
24	13C-1,2,3,7,8,9-HxCDF	1.91e+07	1.04e+03	1.8e+04	3.65e+07	2.19e+03	1.7e+04
25	13C-1,2,3,4,6,7,8-HpCDF	1.66e+07	3.13e+03	5.3e+03	3.76e+07	3.00e+03	1.3e+04
26	13C-1,2,3,4,7,8,9-HpCDF	1.22e+07	3.13e+03	3.9e+03	2.81e+07	3.00e+03	9.4e+03
27	13C-2,3,7,8-TCDD	2.25e+07	7.43e+03	3.0e+03	2.83e+07	3.85e+03	7.4e+03
28	13C-1,2,3,7,8-PeCDD	3.75e+07	1.80e+03	2.1e+04	2.39e+07	1.29e+03	1.8e+04
29	13C-1,2,3,4,7,8-HxCDD	3.46e+07	3.00e+03	1.2e+04	2.66e+07	1.30e+03	2.1e+04
30	13C-1,2,3,6,7,8-HxCDD	3.25e+07	3.00e+03	1.1e+04	2.57e+07	1.30e+03	2.0e+04
31	13C-1,2,3,4,6,7,8-HpCDD	2.62e+07	1.56e+03	1.7e+04	2.49e+07	1.41e+03	1.8e+04
32	13C-OCDD	2.96e+07	8.88e+02	3.3e+04	3.31e+07	3.32e+02	1.0e+05
33	13C-1,2,3,4-TCDD	2.32e+07	7.43e+03	3.1e+03	2.86e+07	3.85e+03	7.4e+03
34	13C-1,2,3,7,8,9-HxCDD	3.51e+07	3.00e+03	1.2e+04	2.79e+07	1.30e+03	2.2e+04
35	37Cl-2,3,7,8-TCDD	5.51e+06	1.06e+03	5.2e+03			

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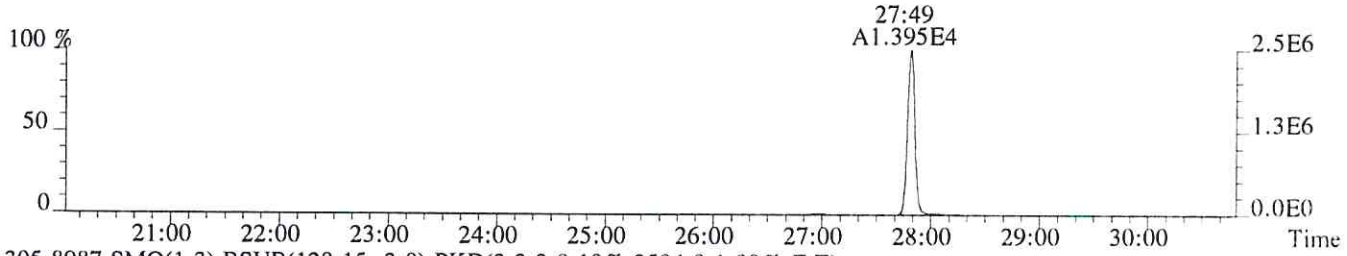
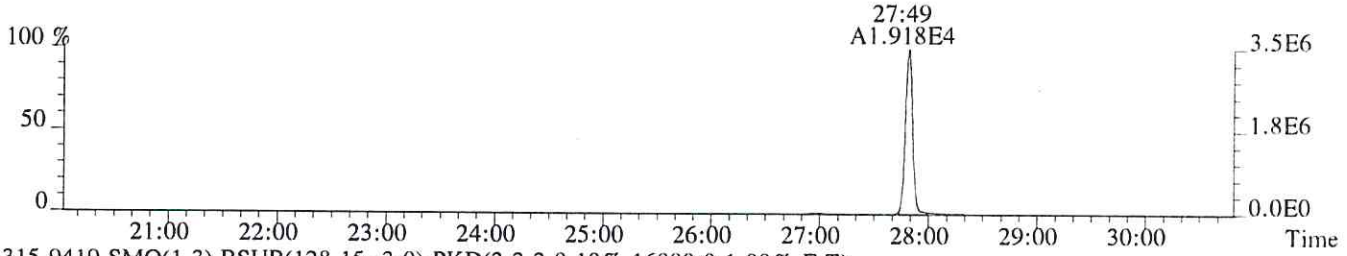
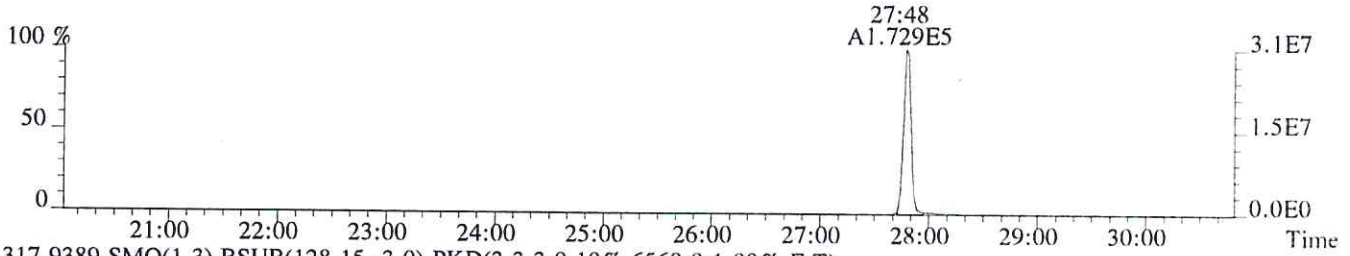
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,T)



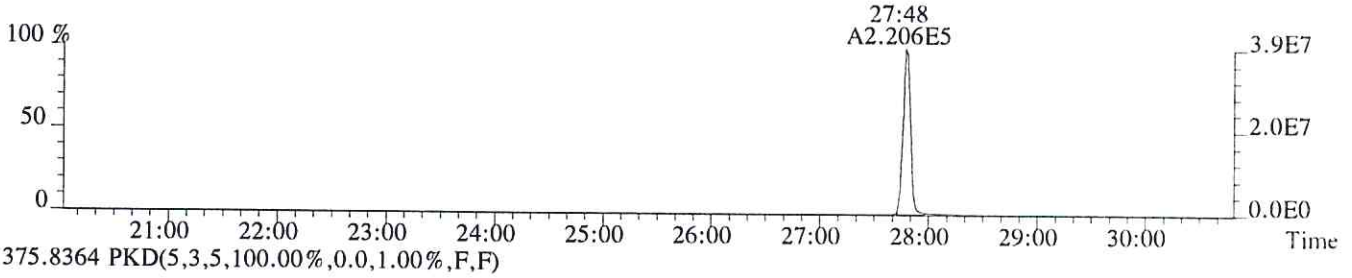
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2504.0,1.00%,F,T)



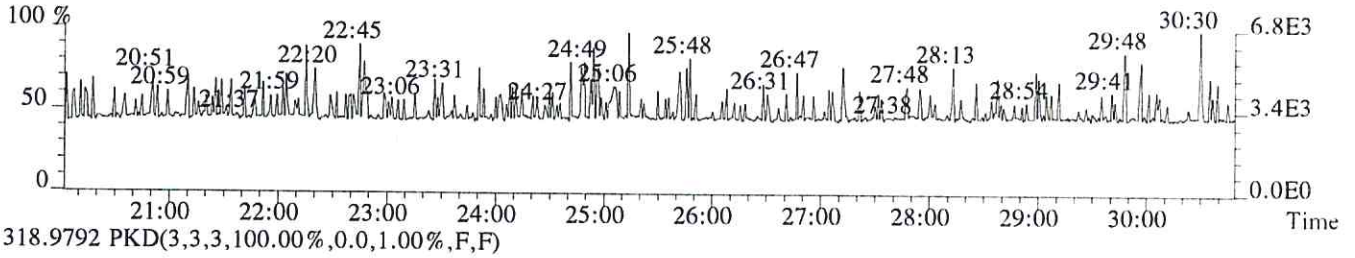
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16080.0,1.00%,F,T)



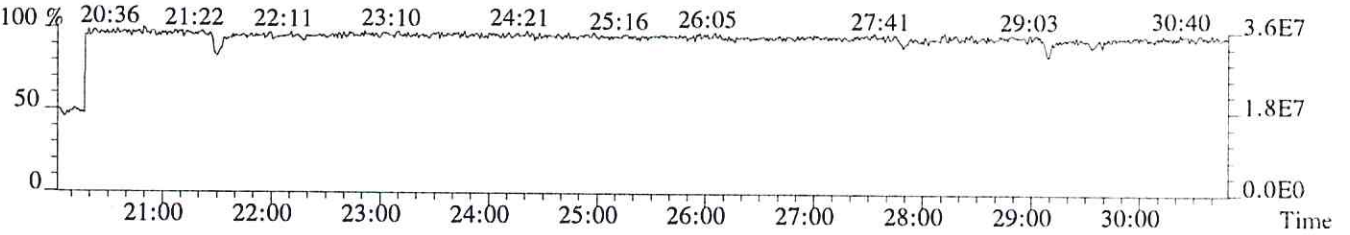
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6568.0,1.00%,F,T)



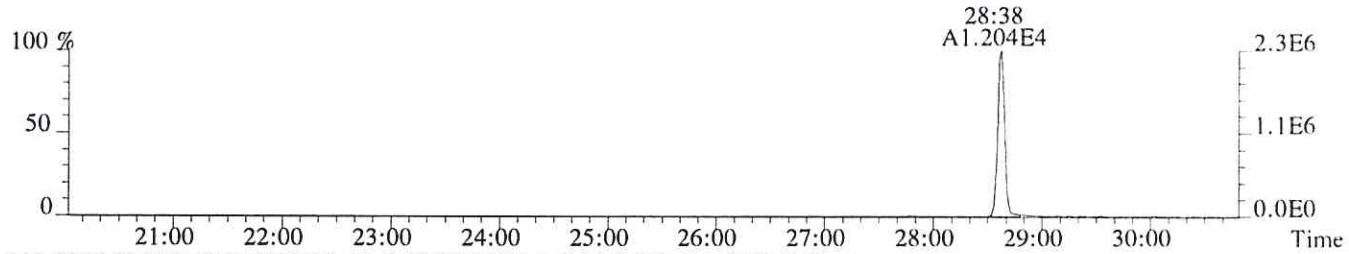
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



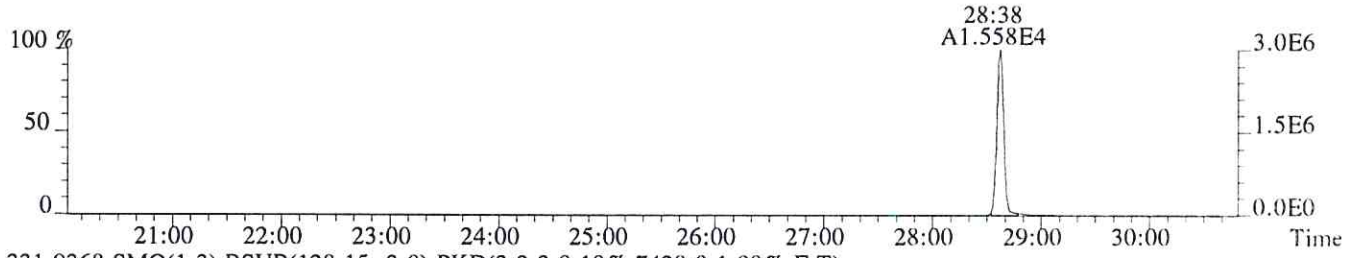
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



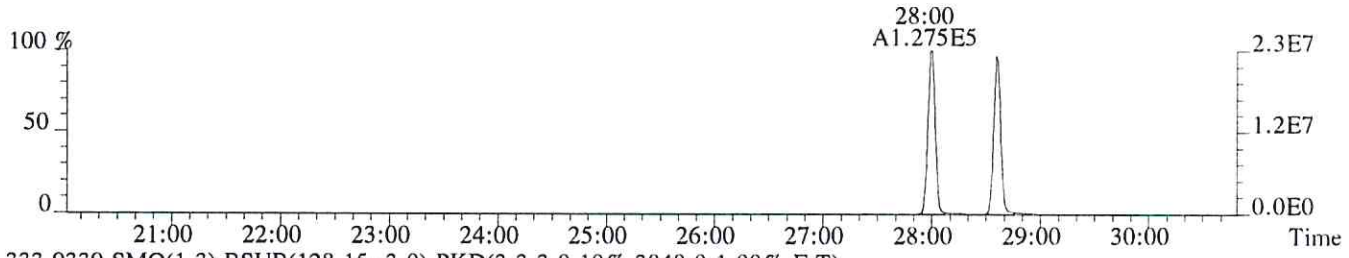
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1808.0,1.00%,F,T)



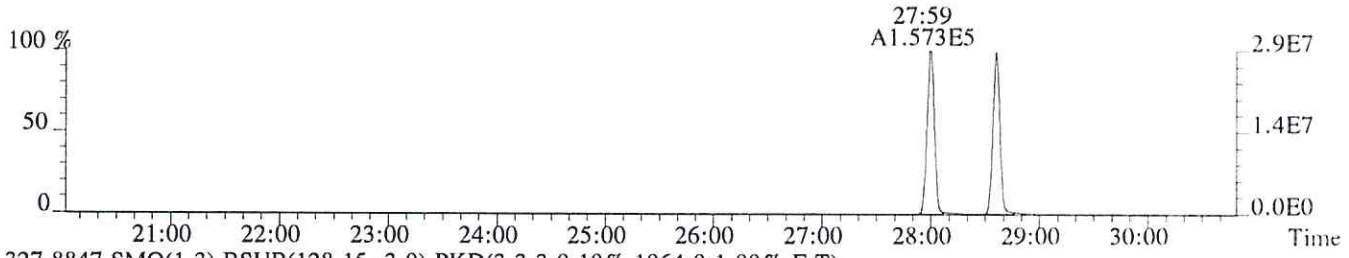
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,T)



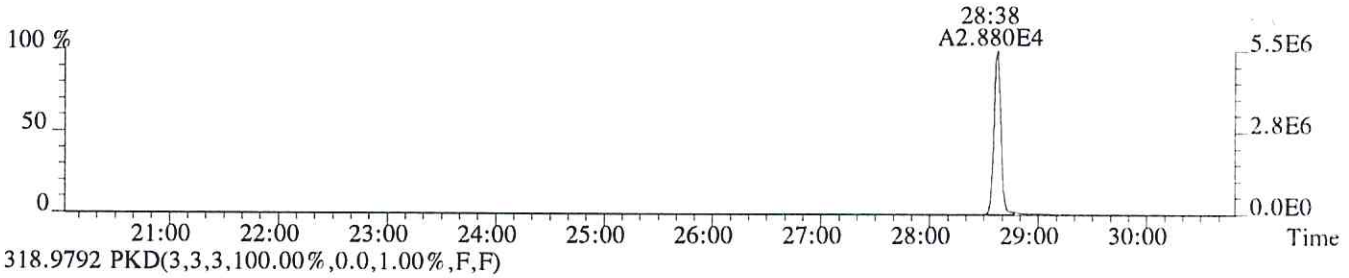
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7428.0,1.00%,F,T)



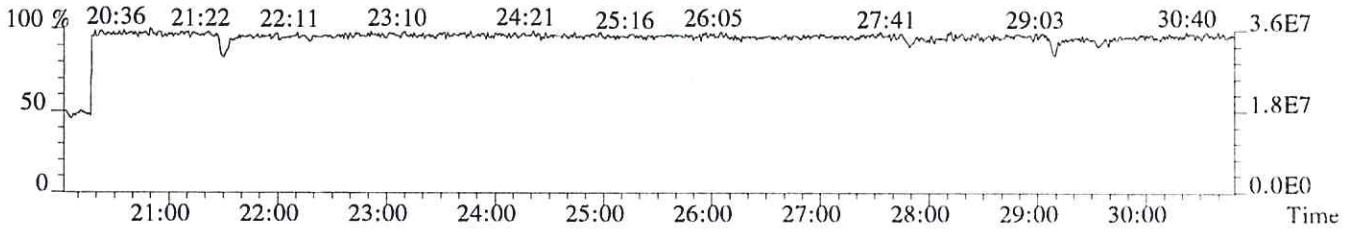
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3848.0,1.00%,F,T)



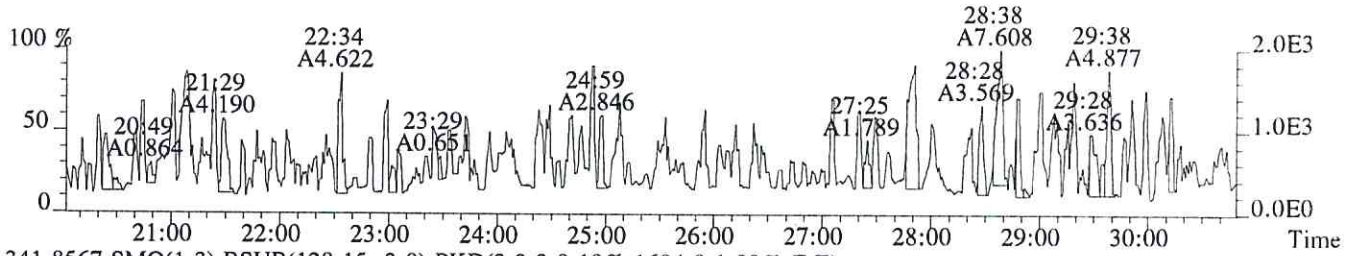
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,T)



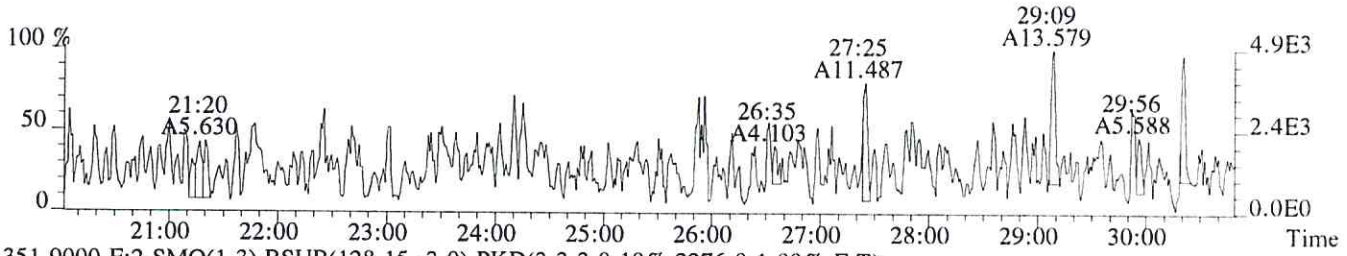
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



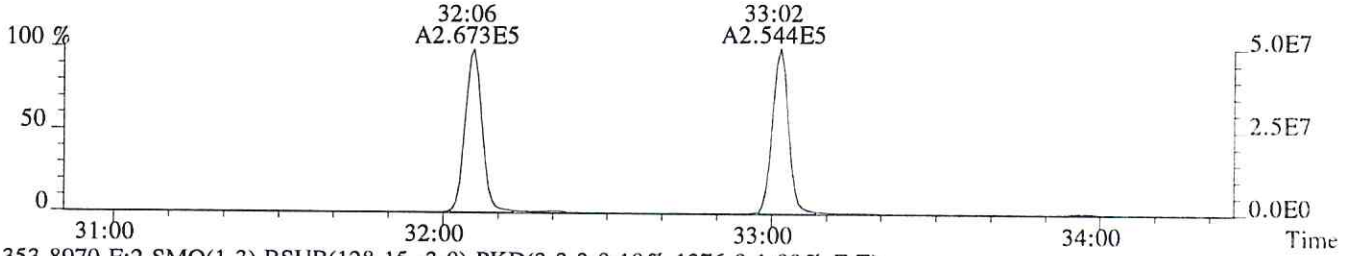
File:P510637 #1-765 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,624.0,1.00%,F,T)



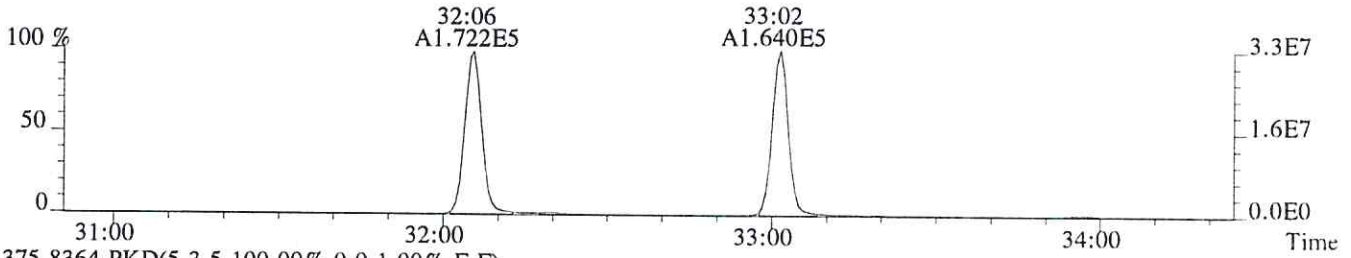
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1604.0,1.00%,F,T)



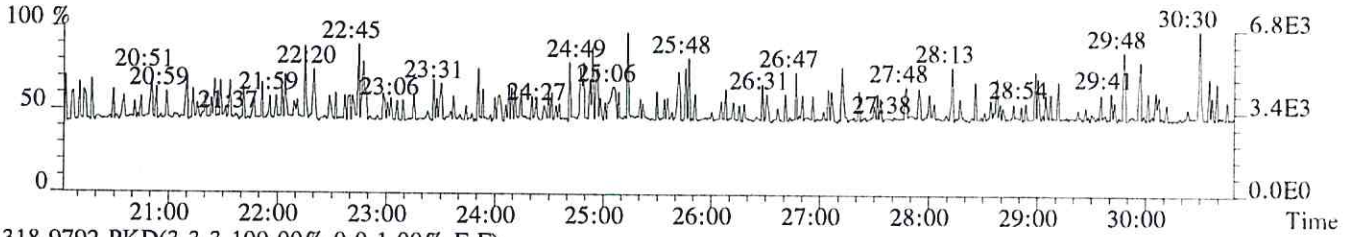
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



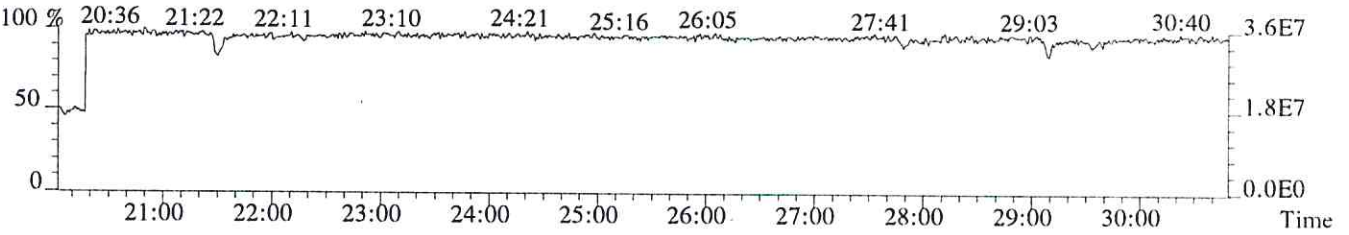
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



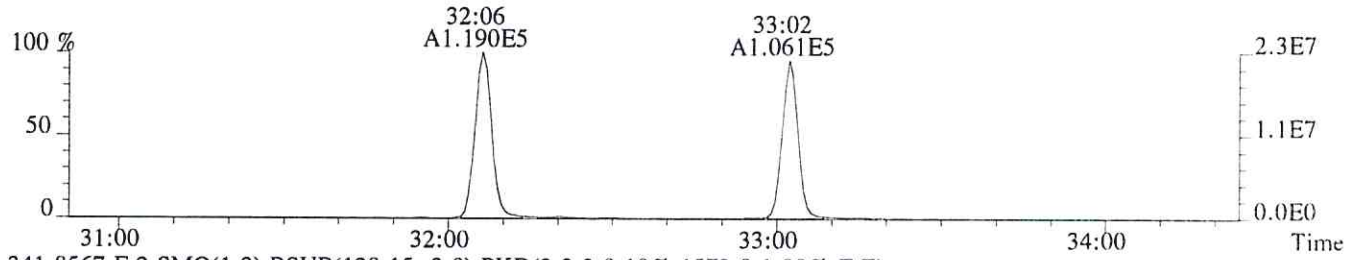
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



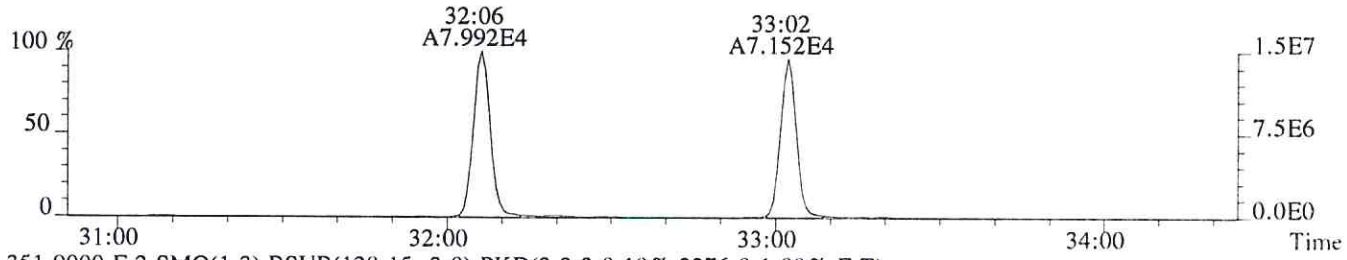
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



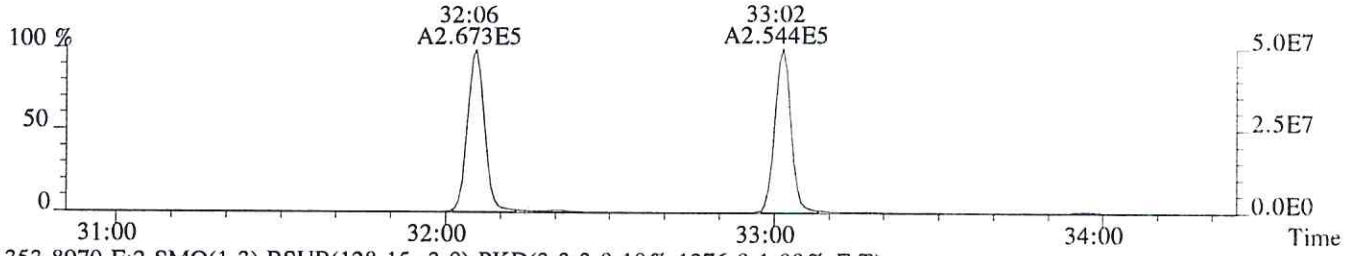
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,892.0,1.00%,F,T)



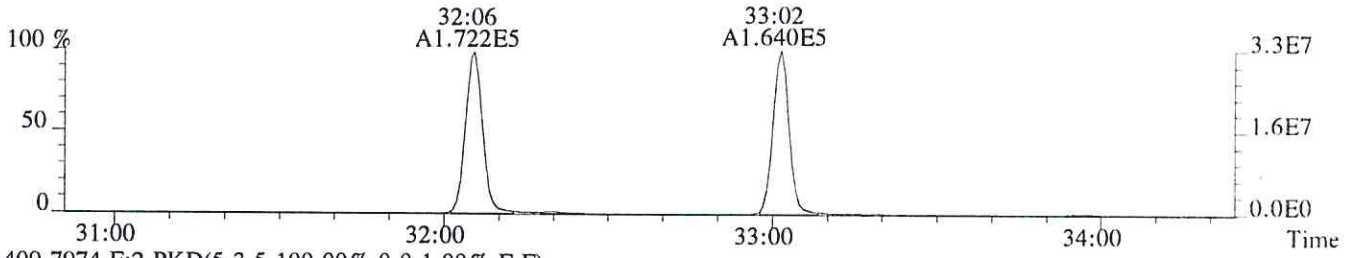
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1572.0,1.00%,F,T)



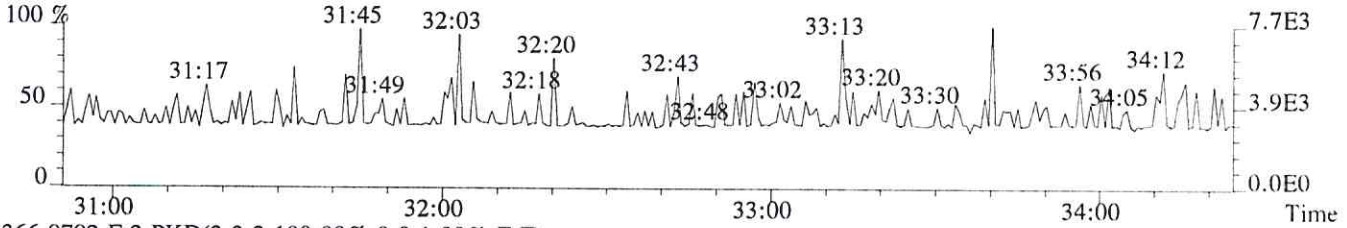
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,T)



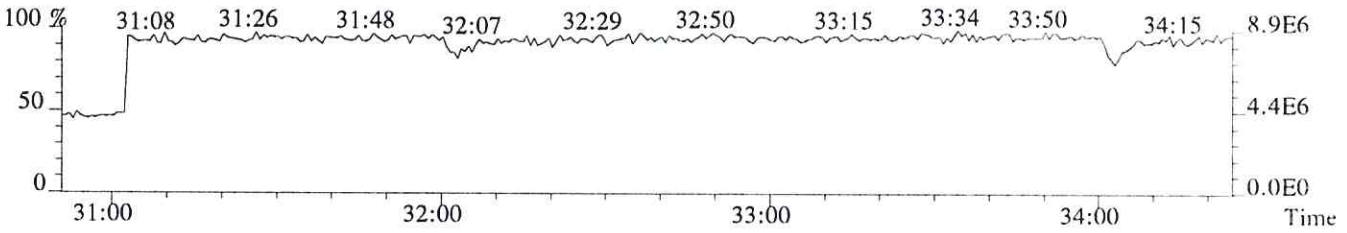
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1376.0,1.00%,F,T)



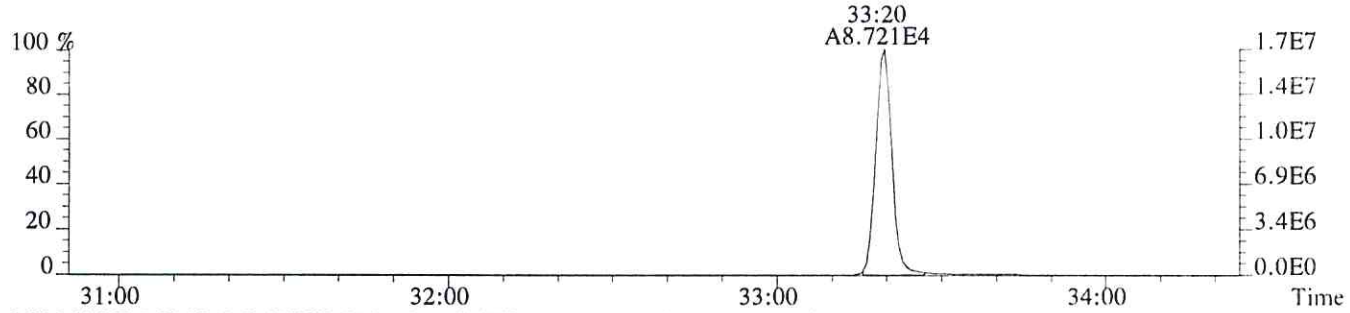
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



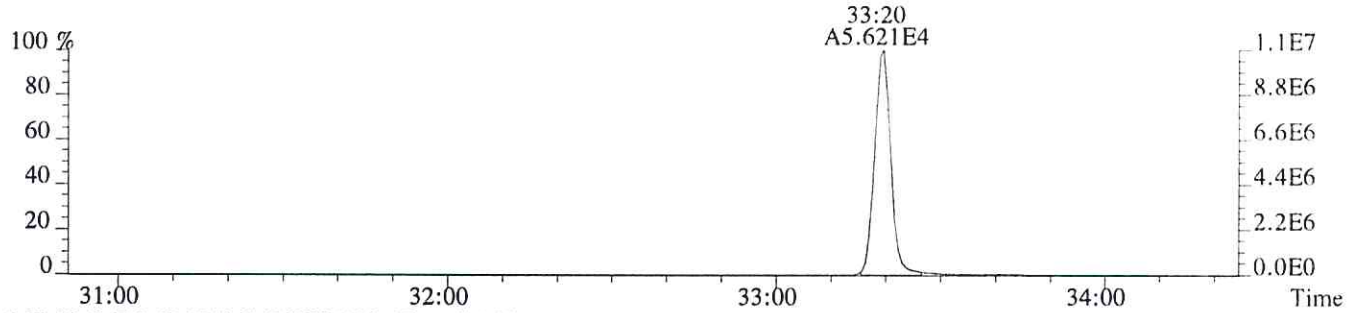
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



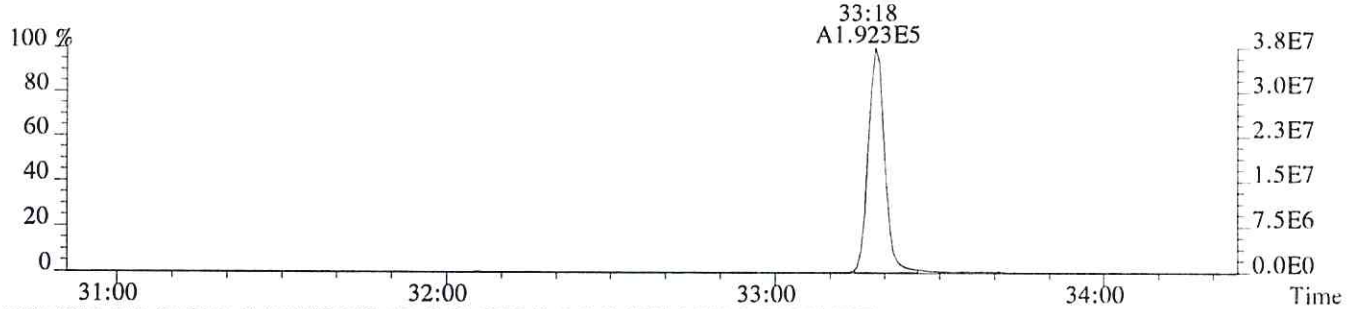
File:P510637 #1-321 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,T)



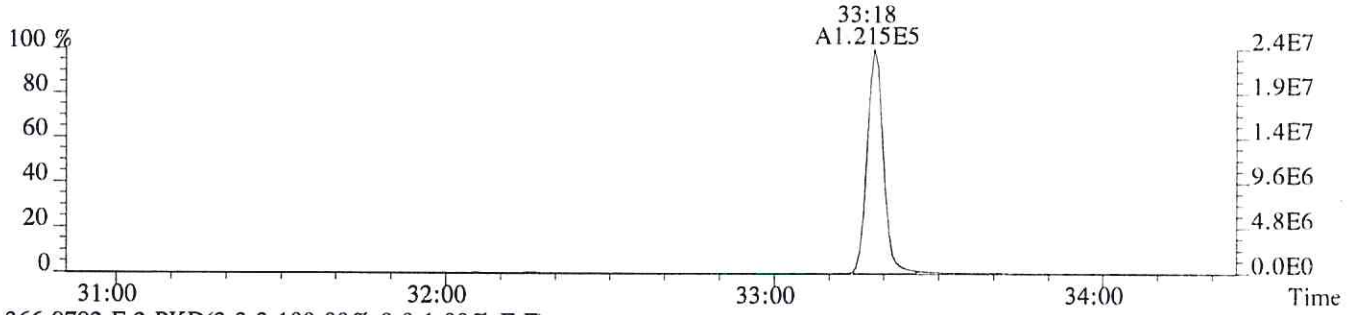
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,T)



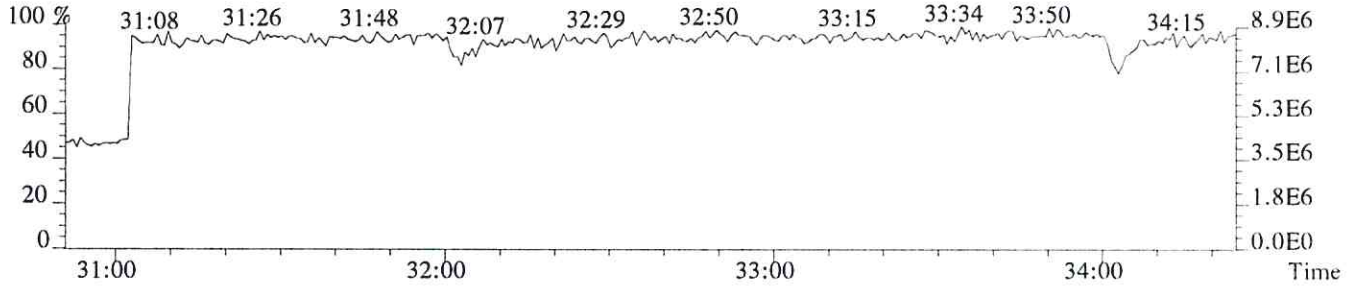
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1804.0,1.00%,F,T)



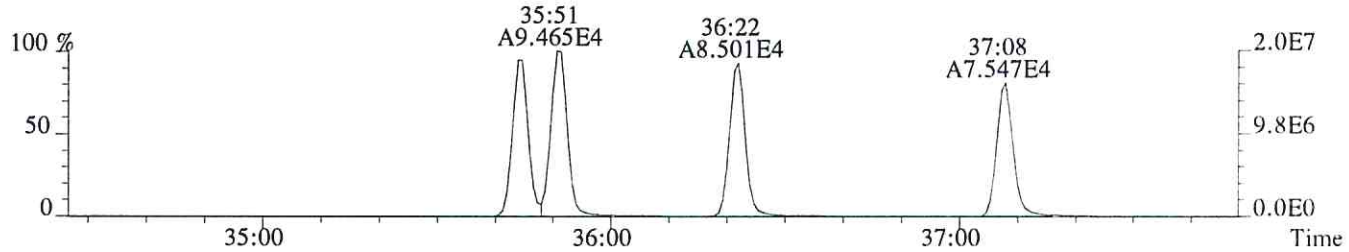
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1292.0,1.00%,F,T)



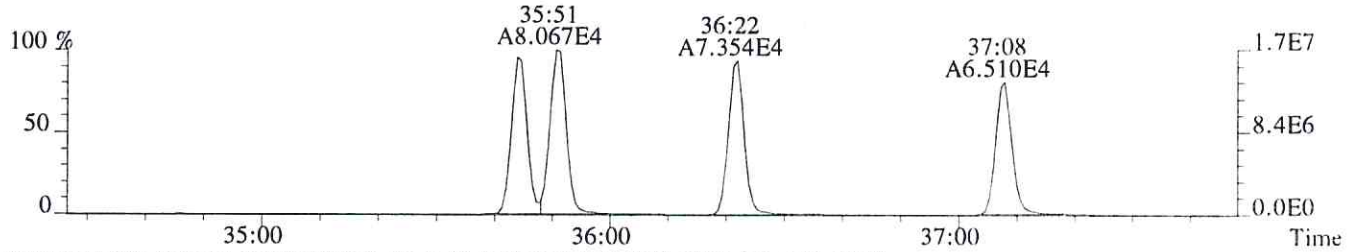
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



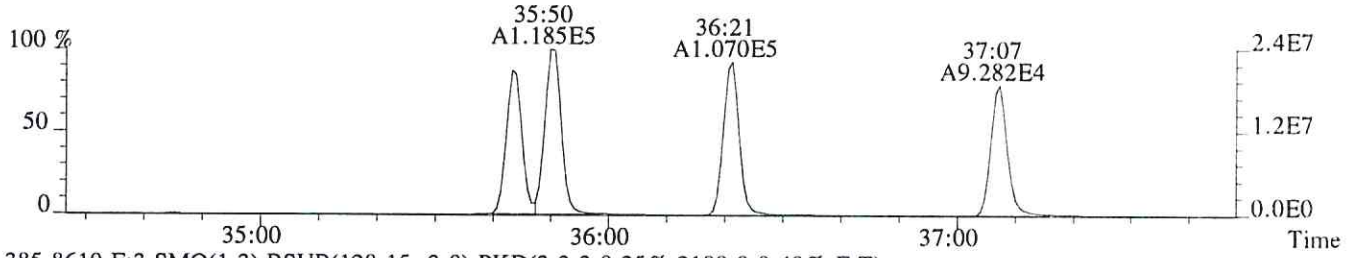
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,T)



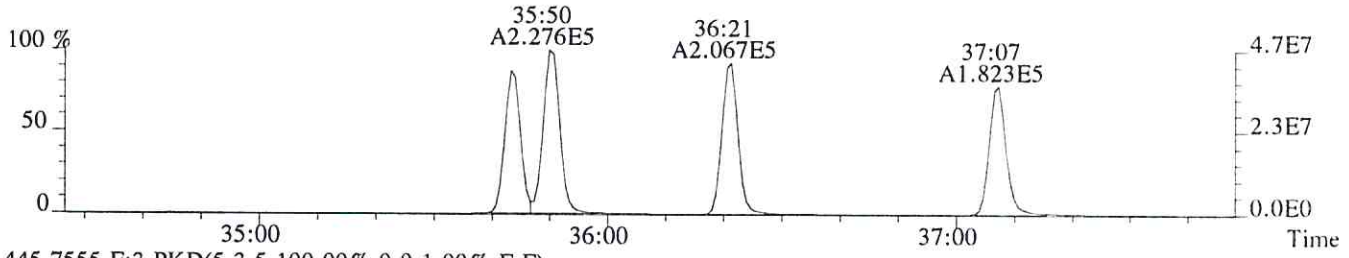
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.40%,F,T)



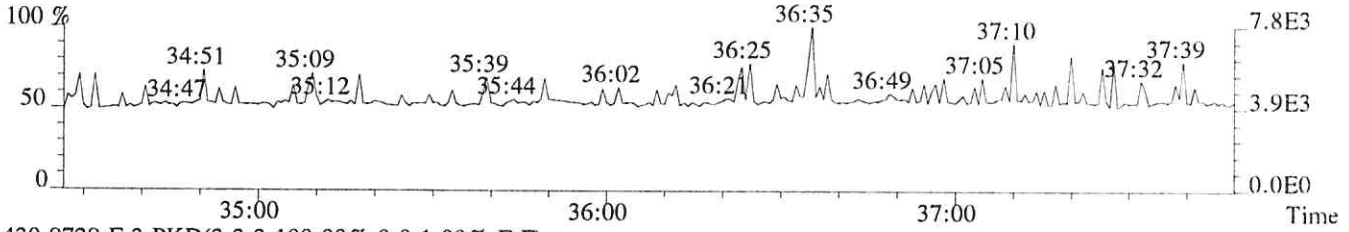
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,T)



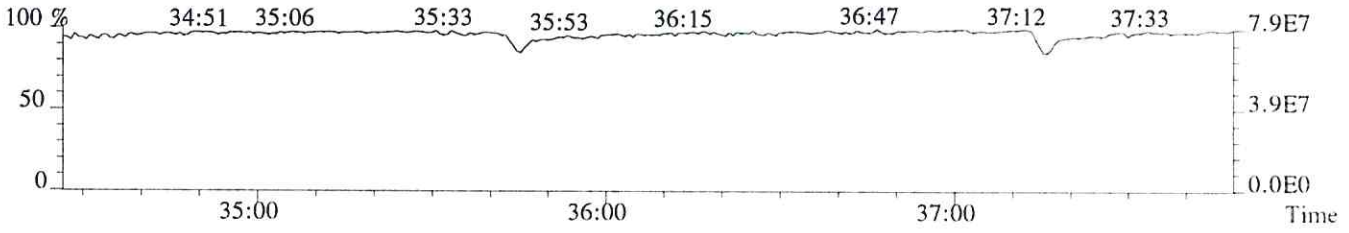
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2188.0,0.40%,F,T)



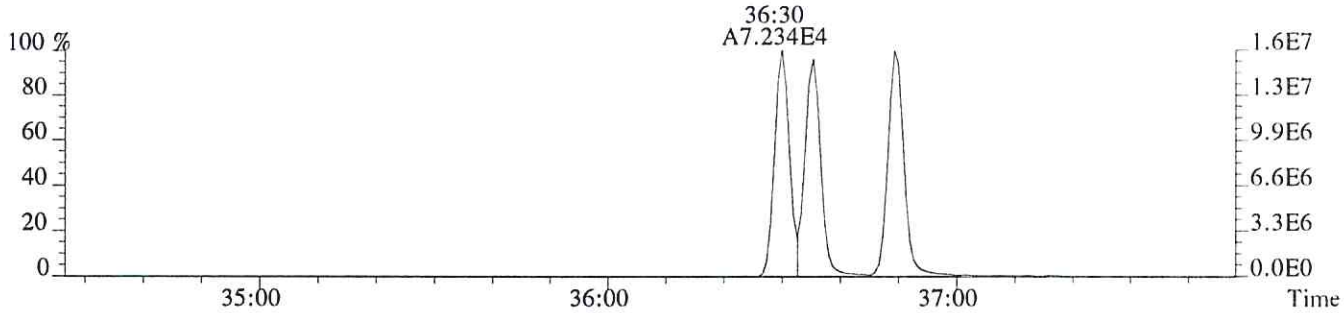
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



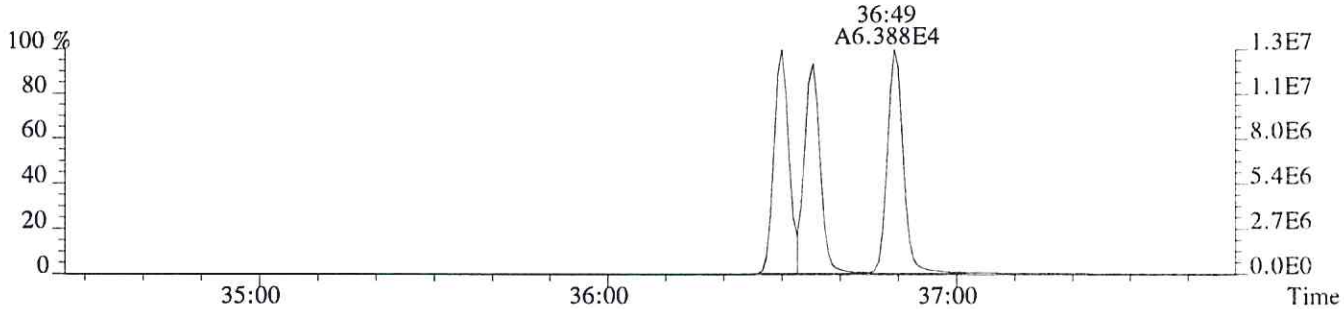
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



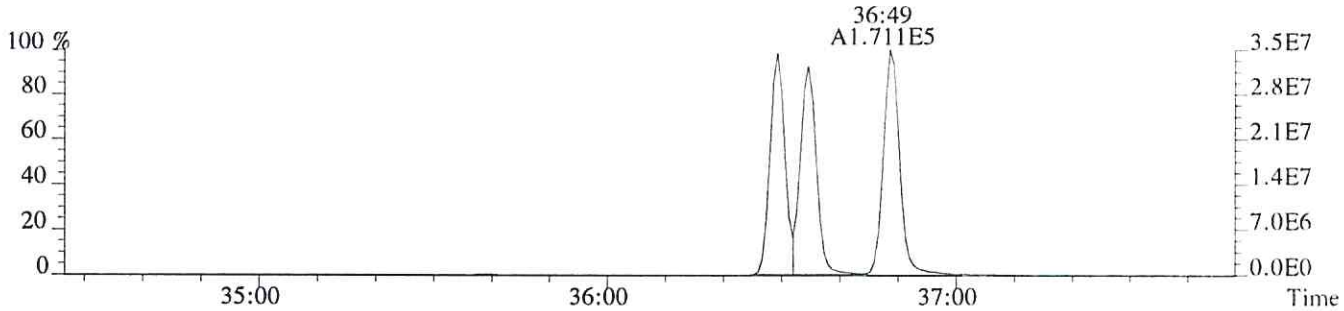
File:P510637 #1-303 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,T)



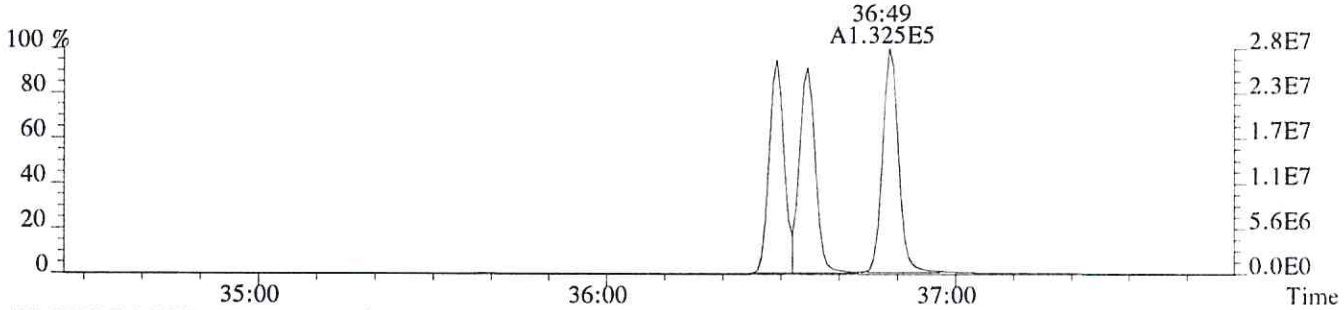
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,T)



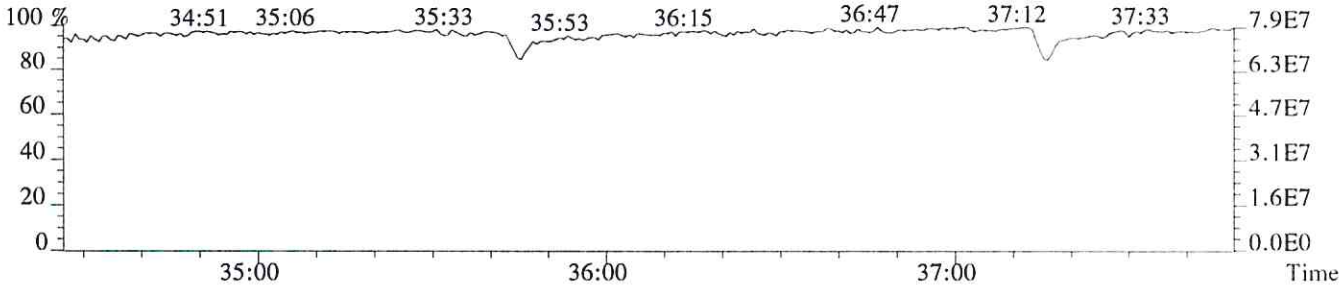
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.40%,F,T)



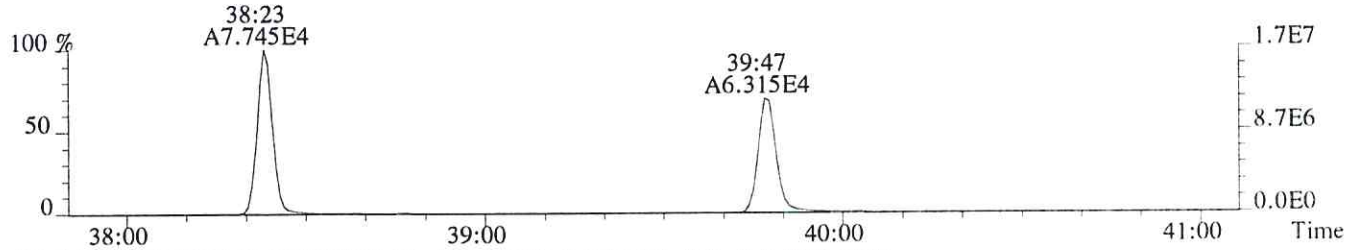
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,T)



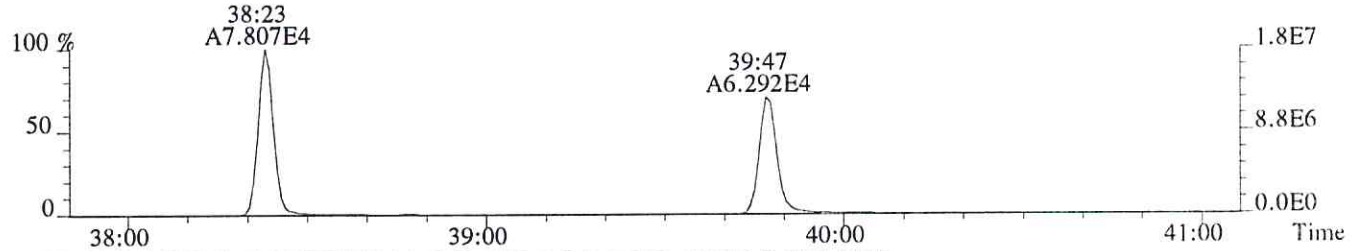
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



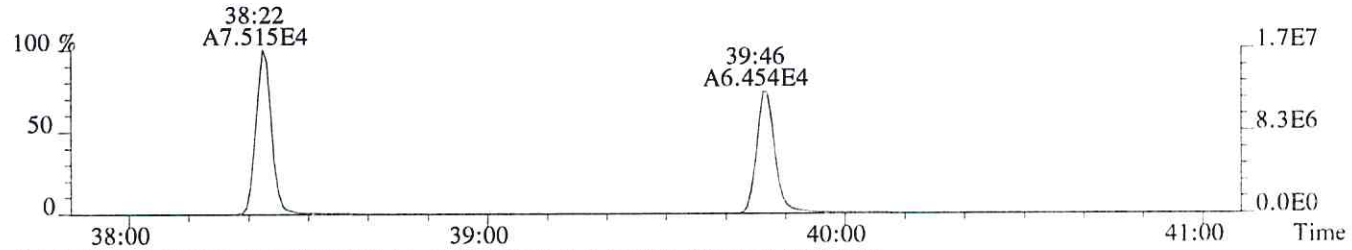
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6208.0,0.50%,F,T)



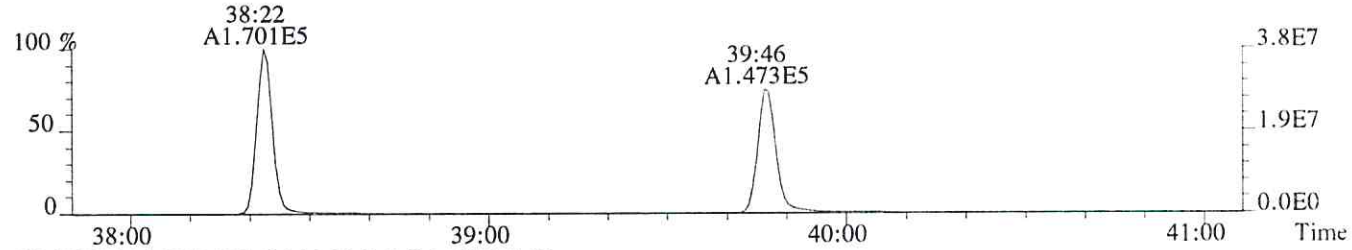
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4924.0,0.50%,F,T)



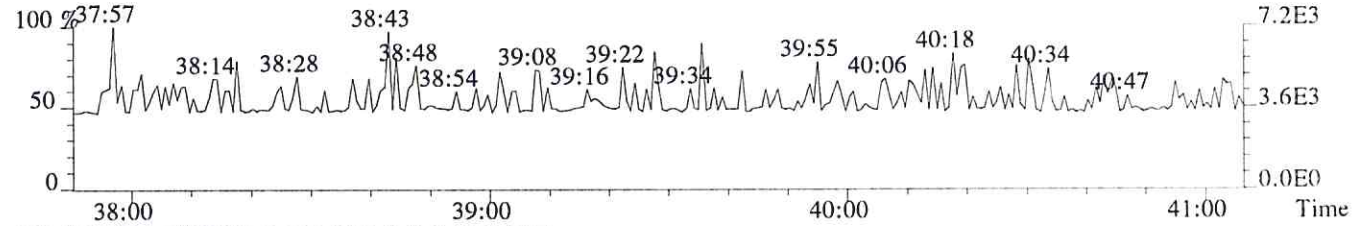
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3128.0,0.50%,F,T)



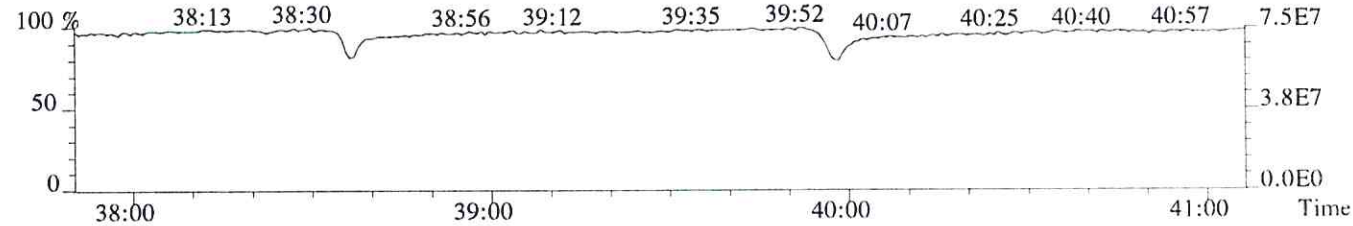
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2996.0,0.50%,F,T)



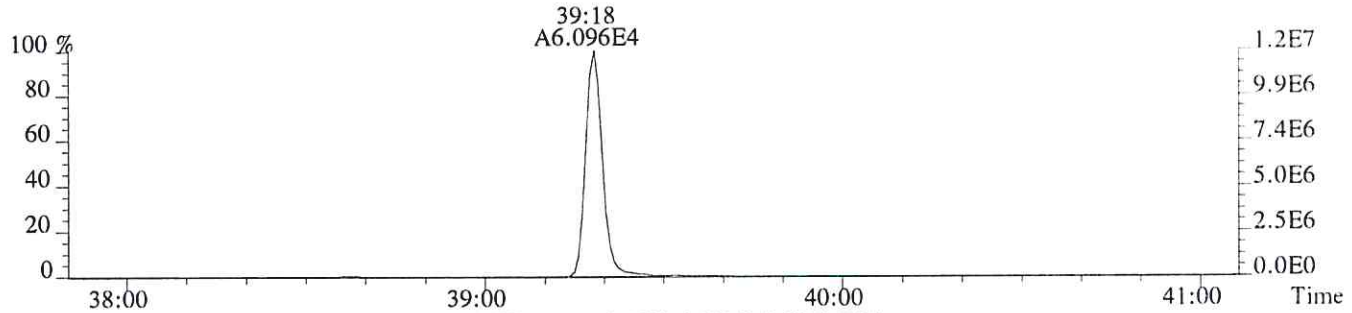
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



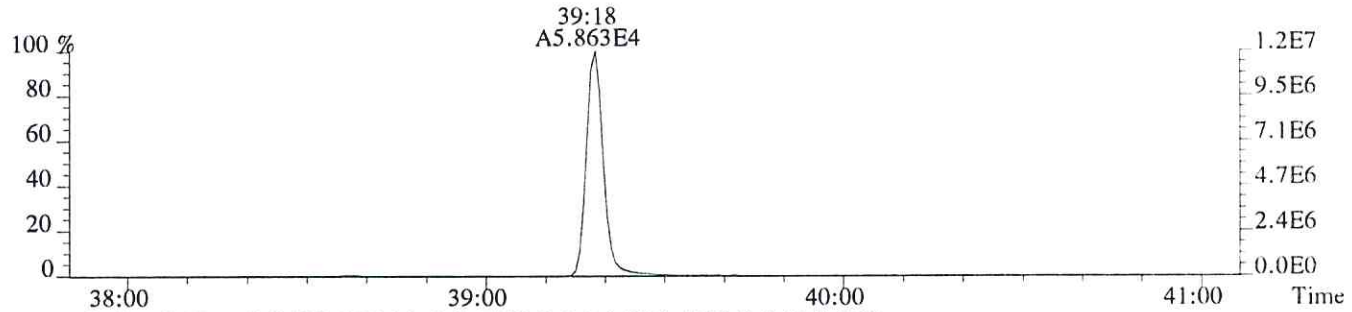
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



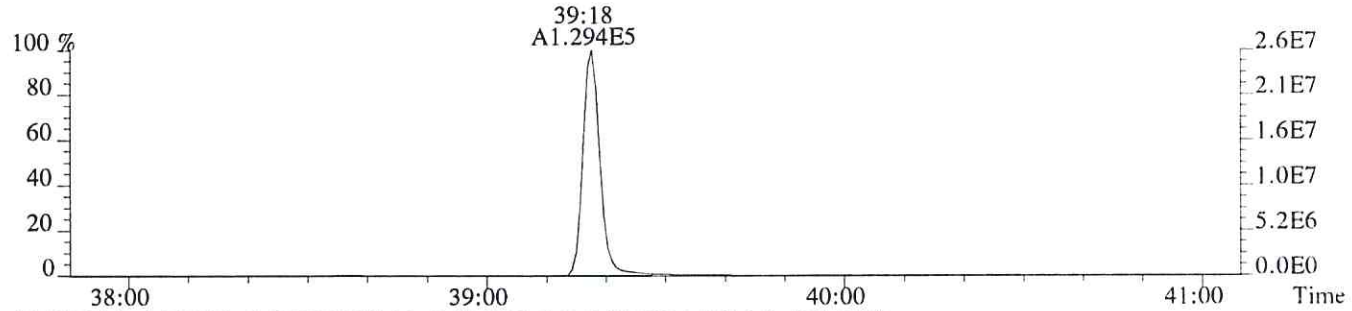
File:P510637 #1-295 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,T)



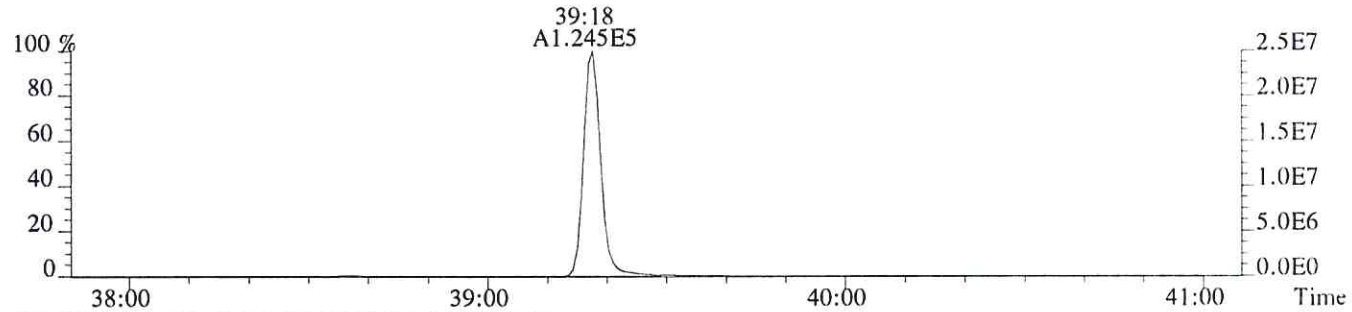
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,T)



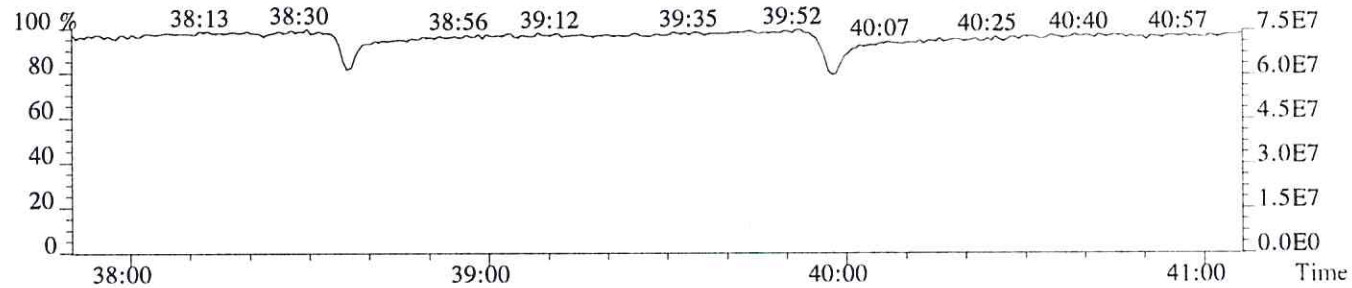
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1560.0,0.40%,F,T)



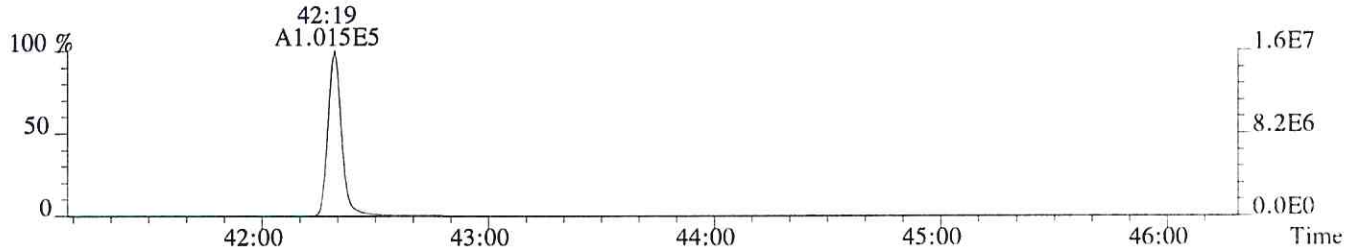
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.40%,F,T)



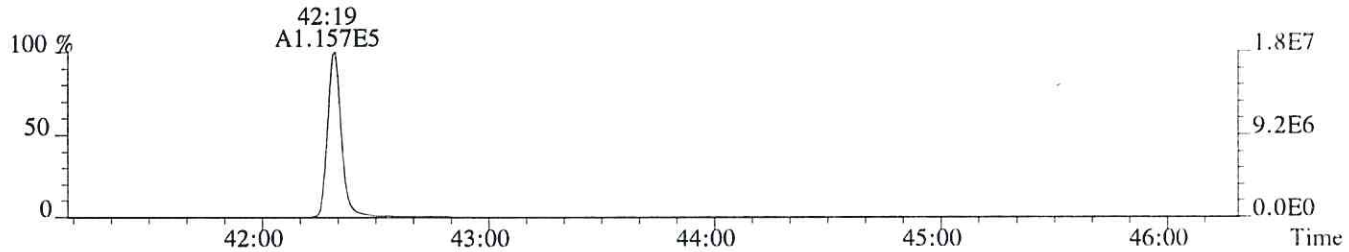
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



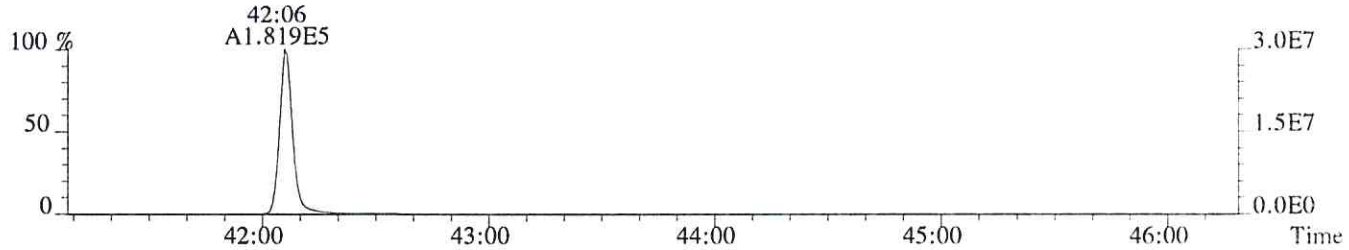
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,352.0,0.40%,F,T)



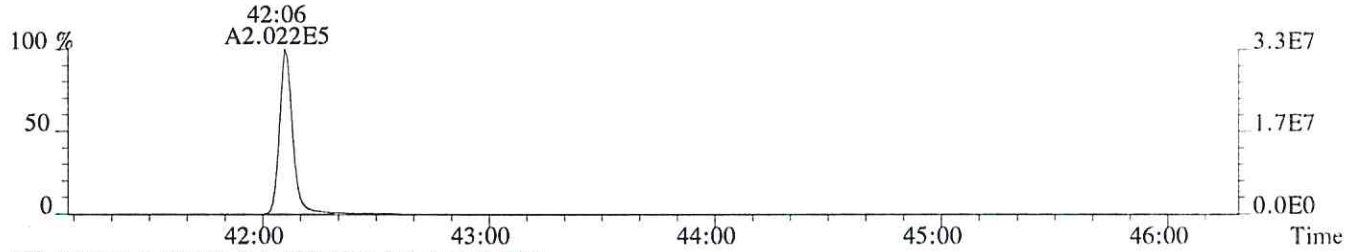
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1416.0,0.40%,F,T)



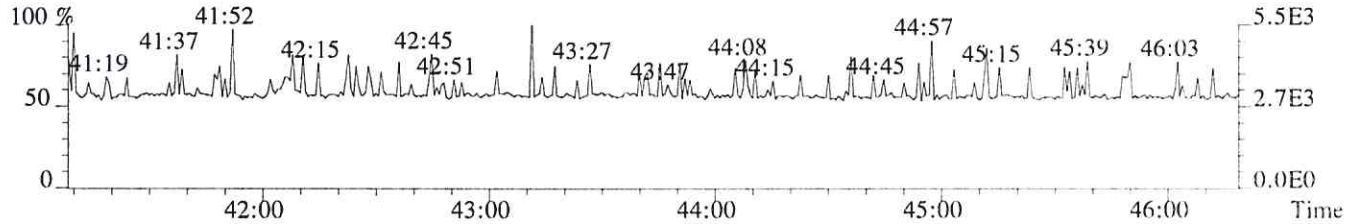
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



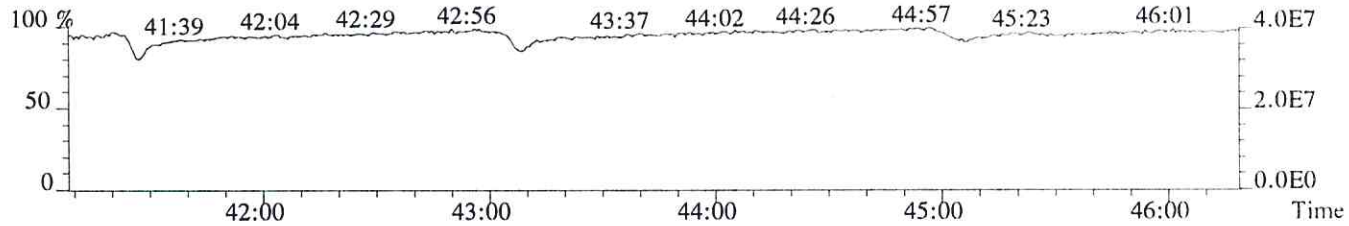
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



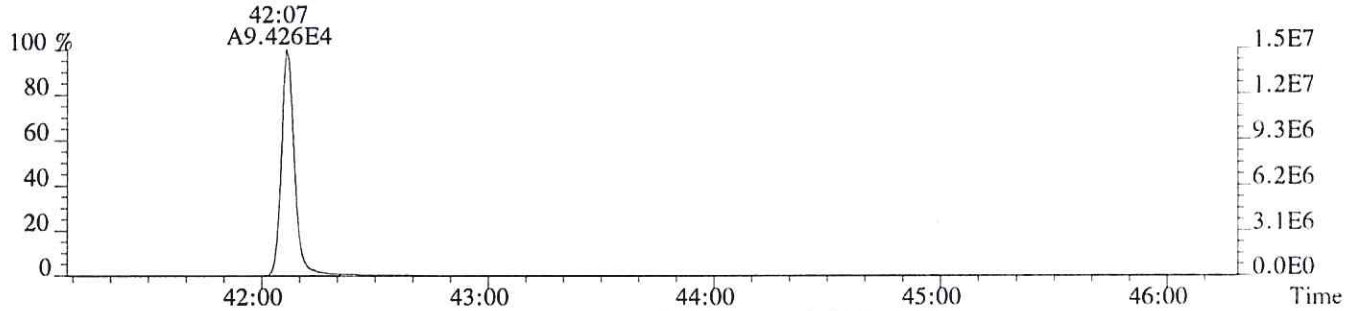
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



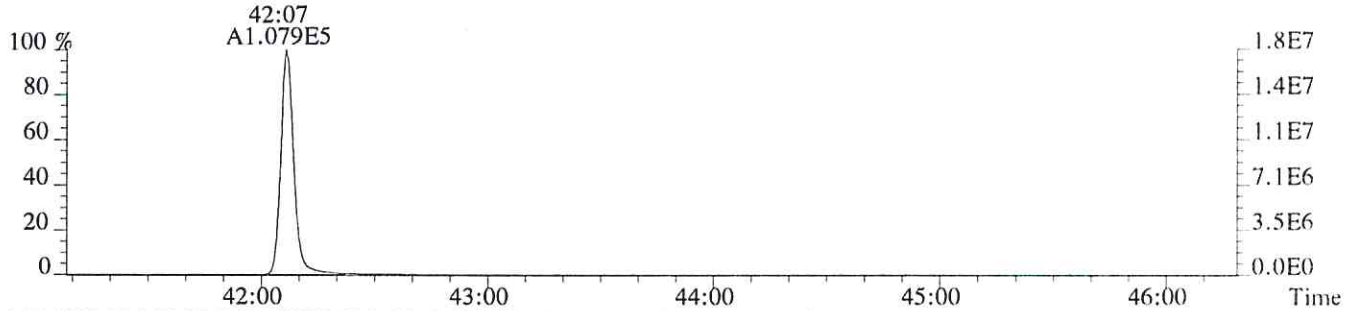
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



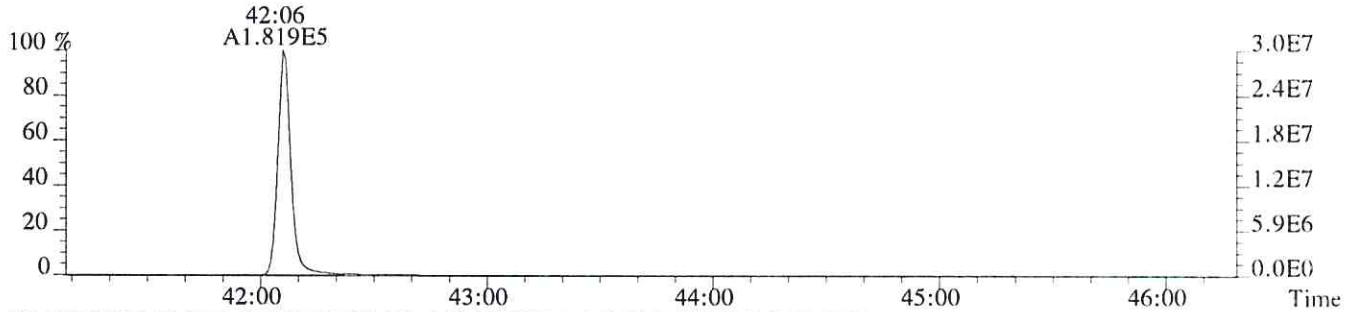
File:P510637 #1-466 Acq:26-JUL-2017 13:59:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76557
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,588.0,0.40%,F,T)



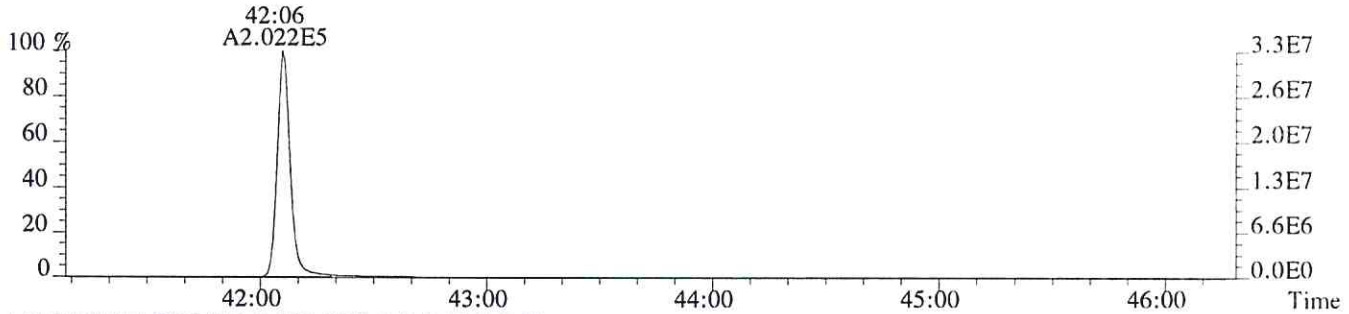
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,804.0,0.40%,F,T)



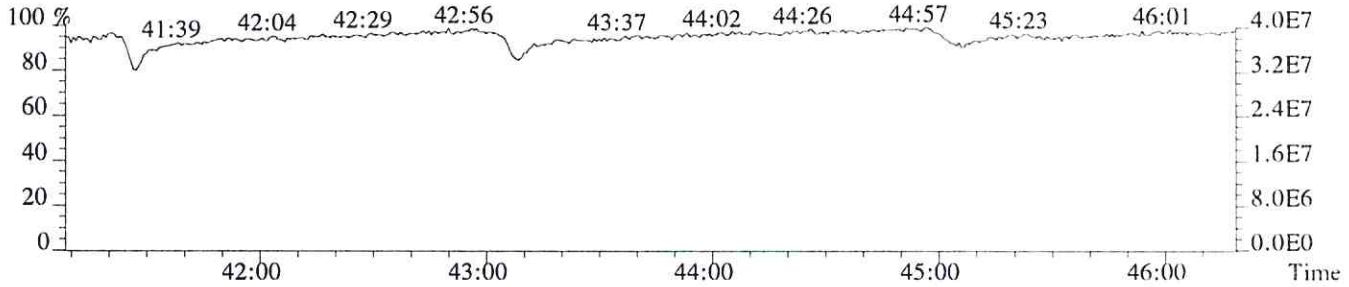
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,332.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
76558

Run #5 Filename P510638 Samp: 1 Inj: 1 Acquired: 26-JUL-17 14:47:53
Processed: 27-JUL-17 08:42:58 Sample ID: CS4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	2.729e+04	3.745e+04	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:07	2.396e+05	1.615e+05	1.48	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:03	2.203e+05	1.482e+05	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:45	1.835e+05	1.610e+05	1.14	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:51	2.024e+05	1.752e+05	1.16	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:22	1.818e+05	1.574e+05	1.15	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:08	1.654e+05	1.434e+05	1.15	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:24	1.757e+05	1.766e+05	0.99	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:49	1.461e+05	1.449e+05	1.01	yes	no	1.191
10	Unk	OCDF	42:22	2.509e+05	2.845e+05	0.88	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	2.472e+04	3.257e+04	0.76	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:20	1.815e+05	1.169e+05	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:31	1.557e+05	1.267e+05	1.23	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:35	1.667e+05	1.345e+05	1.24	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:50	1.692e+05	1.337e+05	1.27	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:20	1.395e+05	1.347e+05	1.04	yes	no	0.942
17	Unk	OCDD	42:09	2.291e+05	2.596e+05	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:49	8.567e+04	1.084e+05	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:06	1.330e+05	8.545e+04	1.56	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	1.302e+05	8.377e+04	1.55	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:44	5.324e+04	1.048e+05	0.51	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:51	6.188e+04	1.196e+05	0.52	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:21	5.637e+04	1.115e+05	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:07	4.884e+04	9.652e+04	0.51	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:23	4.203e+04	9.491e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:48	3.700e+04	8.501e+04	0.44	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:37	6.067e+04	7.597e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:19	9.912e+04	6.232e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	8.119e+04	6.348e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:35	8.656e+04	6.779e+04	1.28	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:20	7.355e+04	7.030e+04	1.05	yes	no	0.881
32	IS	13C-OCDD	42:09	1.088e+05	1.222e+05	0.89	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	28:00	6.524e+04	8.125e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:49	8.824e+04	6.939e+04	1.27	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	5.980e+04				no	1.033

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ALS ENVIRONMENTAL
Signal/Noise Height Ratio Summary

CLIENT ID.
76558

Run #5 Filename P510638 Samp: 1 Inj: 1 Acquired: 26-JUL-17 14:47:53
Processed: 27-JUL-17 08:42:58 LAB. ID: CS4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.85e+06	8.76e+02	5.5e+03	6.66e+06	2.40e+03	2.8e+03
2	1,2,3,7,8-PeCDF	4.33e+07	3.28e+02	1.3e+05	2.92e+07	2.64e+03	1.1e+04
3	2,3,4,7,8-PeCDF	4.27e+07	3.28e+02	1.3e+05	2.84e+07	2.64e+03	1.1e+04
4	1,2,3,4,7,8-HxCDF	3.96e+07	1.48e+03	2.7e+04	3.46e+07	9.32e+02	3.7e+04
5	1,2,3,6,7,8-HxCDF	4.27e+07	1.48e+03	2.9e+04	3.68e+07	9.32e+02	3.9e+04
6	2,3,4,6,7,8-HxCDF	3.89e+07	1.48e+03	2.6e+04	3.38e+07	9.32e+02	3.6e+04
7	1,2,3,7,8,9-HxCDF	3.35e+07	1.48e+03	2.3e+04	2.93e+07	9.32e+02	3.1e+04
8	1,2,3,4,6,7,8-HpCDF	3.78e+07	1.15e+04	3.3e+03	3.82e+07	7.06e+03	5.4e+03
9	1,2,3,4,7,8,9-HpCDF	2.84e+07	1.15e+04	2.5e+03	2.82e+07	7.06e+03	4.0e+03
10	OCDF	3.95e+07	6.92e+02	5.7e+04	4.50e+07	1.13e+03	4.0e+04
11	2,3,7,8-TCDD	4.62e+06	1.98e+03	2.3e+03	6.06e+06	1.30e+03	4.7e+03
12	1,2,3,7,8-PeCDD	3.54e+07	9.92e+02	3.6e+04	2.29e+07	1.80e+02	1.3e+05
13	1,2,3,4,7,8-HxCDD	3.44e+07	5.72e+02	6.0e+04	2.80e+07	1.18e+03	2.4e+04
14	1,2,3,6,7,8-HxCDD	3.29e+07	5.72e+02	5.8e+04	2.71e+07	1.18e+03	2.3e+04
15	1,2,3,7,8,9-HxCDD	3.48e+07	5.72e+02	6.1e+04	2.82e+07	1.18e+03	2.4e+04
16	1,2,3,4,6,7,8-HpCDD	2.79e+07	1.06e+03	2.6e+04	2.69e+07	1.00e+03	2.7e+04
17	OCDD	3.74e+07	5.44e+02	6.9e+04	4.25e+07	1.09e+03	3.9e+04
18	13C-2,3,7,8-TCDF	1.50e+07	1.50e+04	1.0e+03	1.88e+07	6.42e+03	2.9e+03
19	13C-1,2,3,7,8-PeCDF	2.43e+07	1.91e+03	1.3e+04	1.56e+07	7.44e+02	2.1e+04
20	13C-2,3,4,7,8-PeCDF	2.50e+07	1.91e+03	1.3e+04	1.62e+07	7.44e+02	2.2e+04
21	13C-1,2,3,4,7,8-HxCDF	1.14e+07	7.36e+02	1.6e+04	2.24e+07	1.55e+03	1.4e+04
22	13C-1,2,3,6,7,8-HxCDF	1.30e+07	7.36e+02	1.8e+04	2.50e+07	1.55e+03	1.6e+04
23	13C-2,3,4,6,7,8-HxCDF	1.21e+07	7.36e+02	1.6e+04	2.41e+07	1.55e+03	1.6e+04
24	13C-1,2,3,7,8,9-HxCDF	9.99e+06	7.36e+02	1.4e+04	1.96e+07	1.55e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDF	8.91e+06	5.04e+03	1.8e+03	2.03e+07	4.52e+03	4.5e+03
26	13C-1,2,3,4,7,8,9-HpCDF	7.11e+06	5.04e+03	1.4e+03	1.62e+07	4.52e+03	3.6e+03
27	13C-2,3,7,8-TCDD	1.13e+07	6.44e+03	1.7e+03	1.41e+07	3.84e+03	3.7e+03
28	13C-1,2,3,7,8-PeCDD	1.89e+07	1.33e+03	1.4e+04	1.18e+07	1.71e+03	6.9e+03
29	13C-1,2,3,4,7,8-HxCDD	1.78e+07	2.20e+03	8.1e+03	1.40e+07	1.46e+03	9.6e+03
30	13C-1,2,3,6,7,8-HxCDD	1.72e+07	2.20e+03	7.8e+03	1.37e+07	1.46e+03	9.4e+03
31	13C-1,2,3,4,6,7,8-HpCDD	1.45e+07	1.47e+03	9.9e+03	1.37e+07	1.12e+03	1.2e+04
32	13C-OCDD	1.75e+07	8.32e+02	2.1e+04	1.99e+07	7.60e+02	2.6e+04
33	13C-1,2,3,4-TCDD	1.20e+07	6.44e+03	1.9e+03	1.49e+07	3.84e+03	3.9e+03
34	13C-1,2,3,7,8,9-HxCDD	1.87e+07	2.20e+03	8.5e+03	1.47e+07	1.46e+03	1.0e+04
35	37Cl-2,3,7,8-TCDD	1.12e+07	1.56e+03	7.1e+03			

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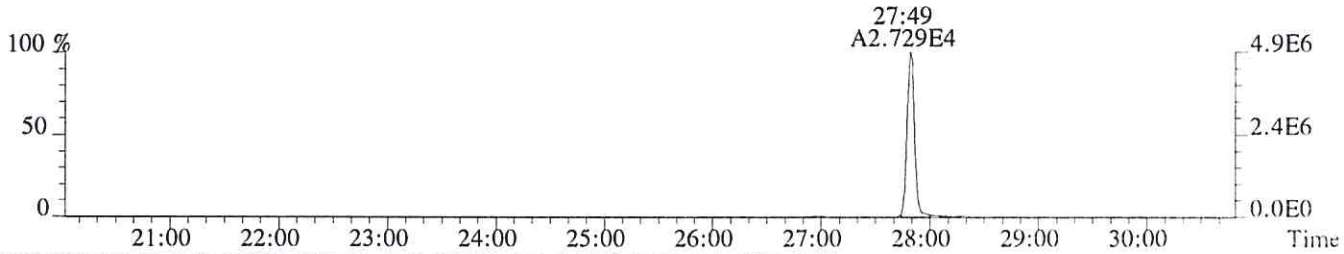
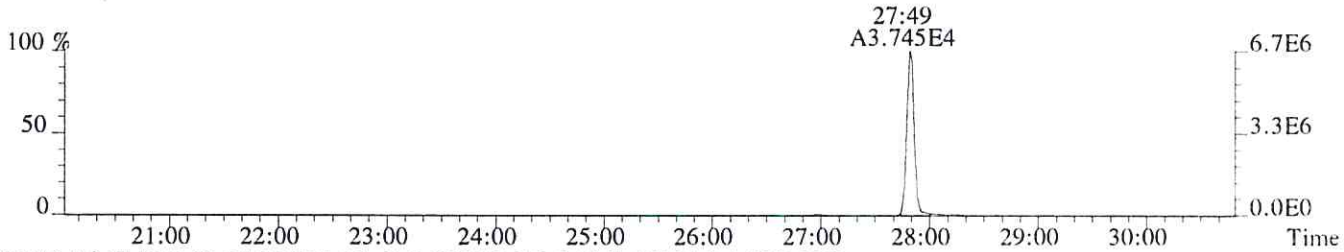
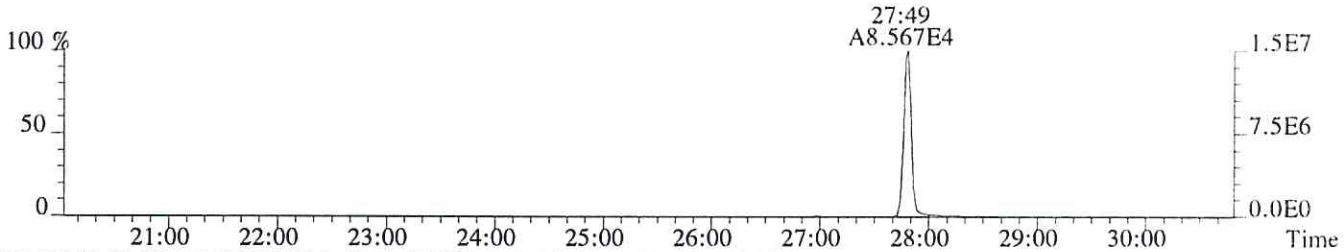
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,T)



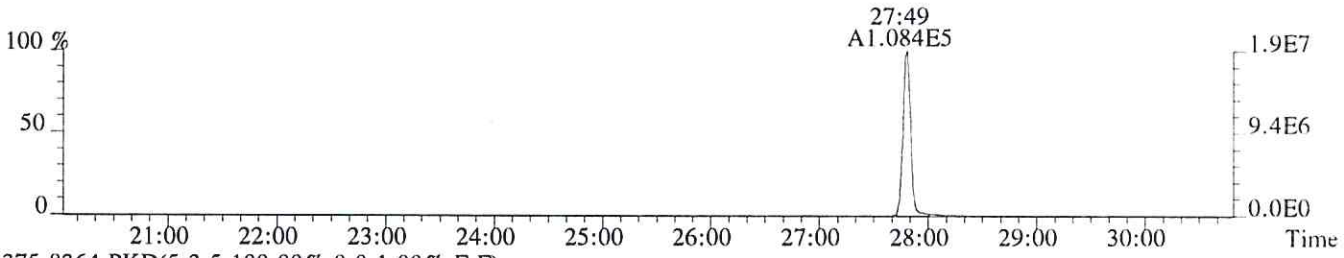
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,T)



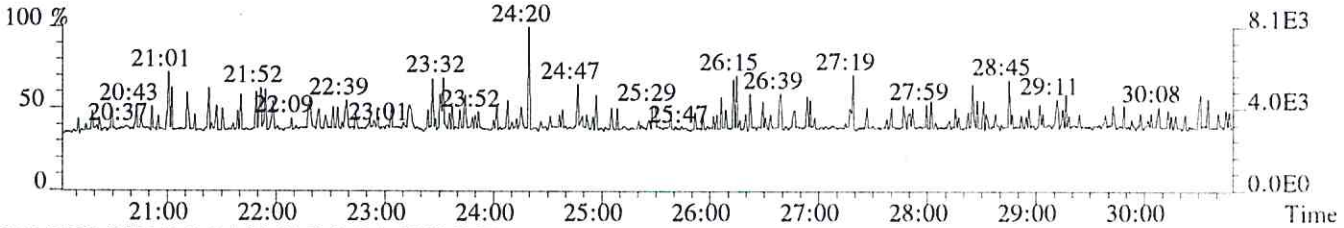
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15004.0,1.00%,F,T)



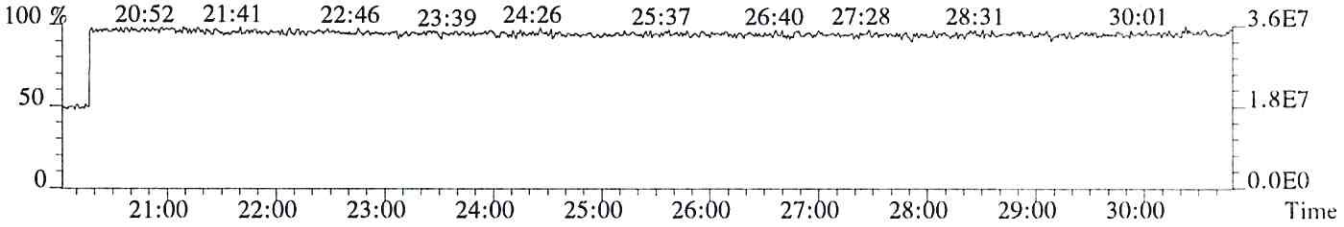
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6416.0,1.00%,F,T)



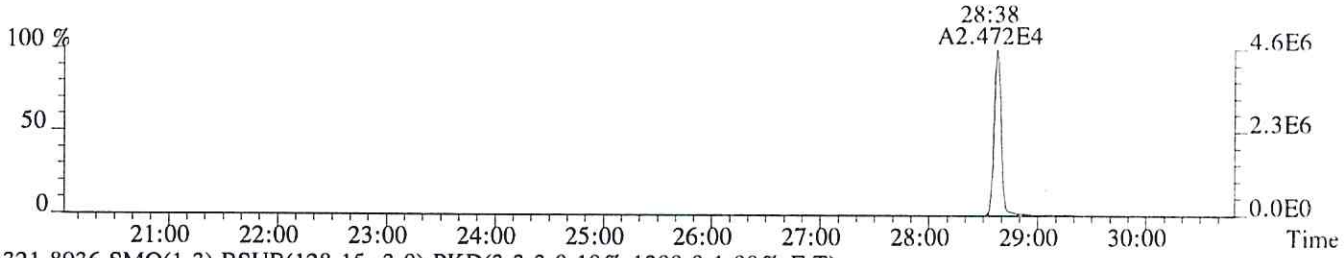
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



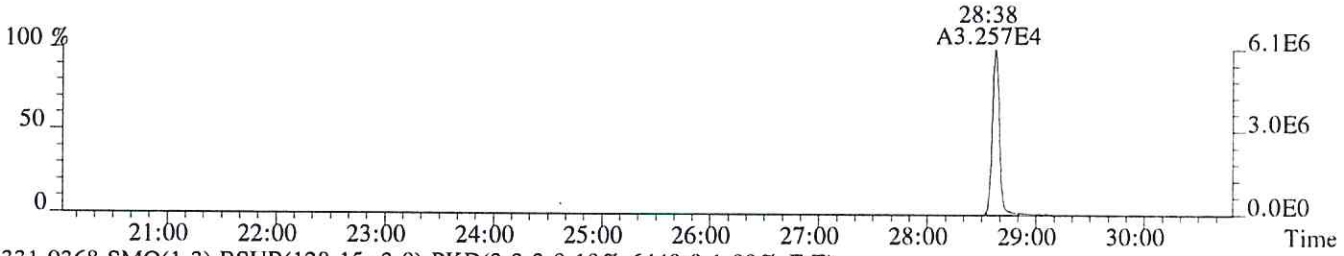
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



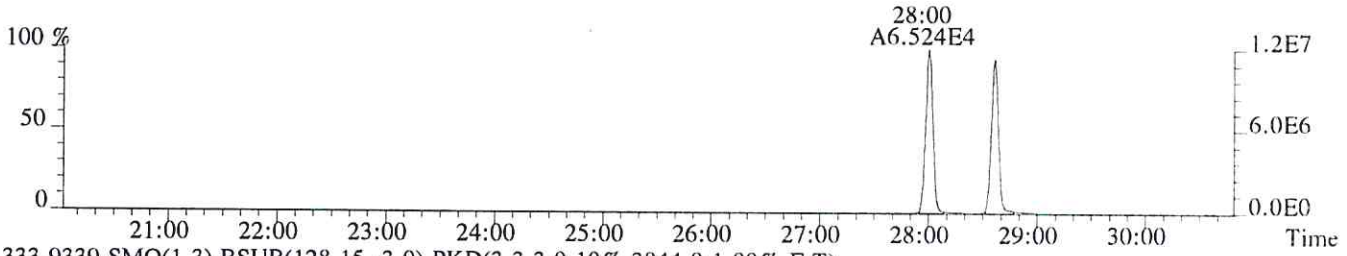
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1980.0,1.00%,F,T)



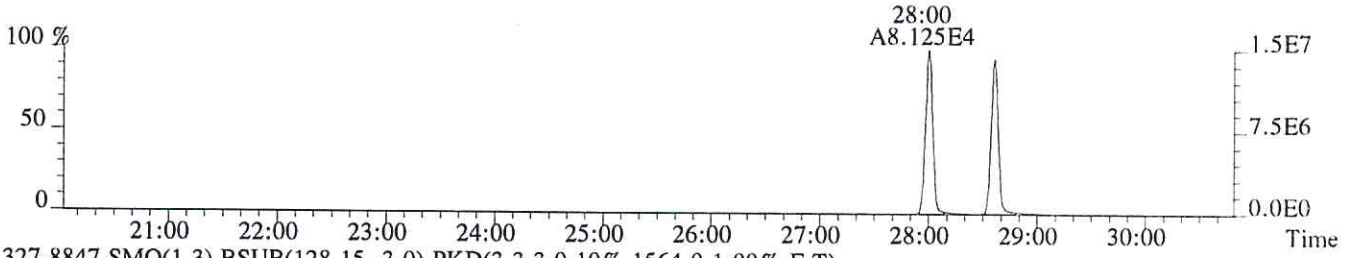
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,T)



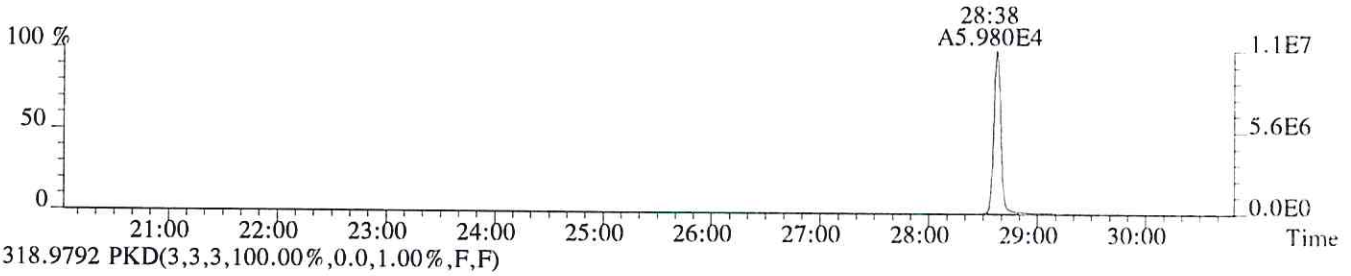
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6440.0,1.00%,F,T)



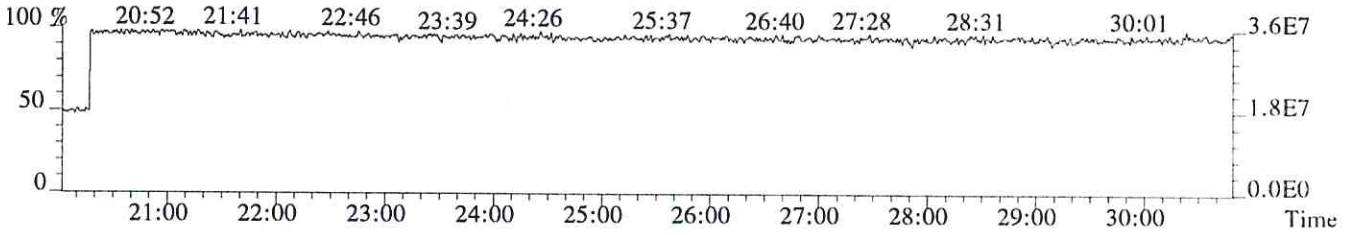
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3844.0,1.00%,F,T)



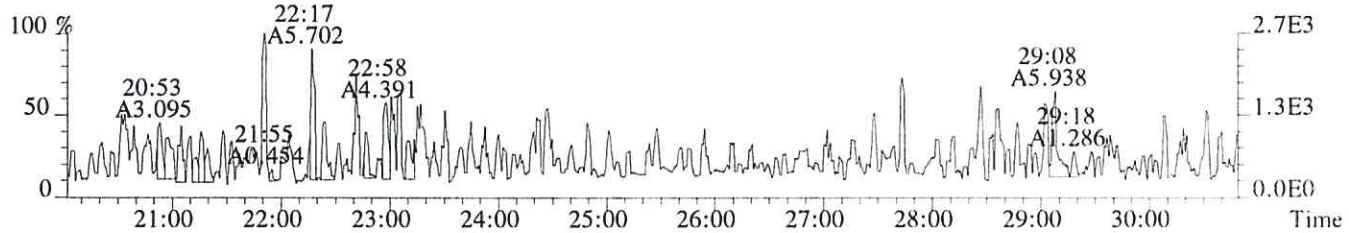
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1564.0,1.00%,F,T)



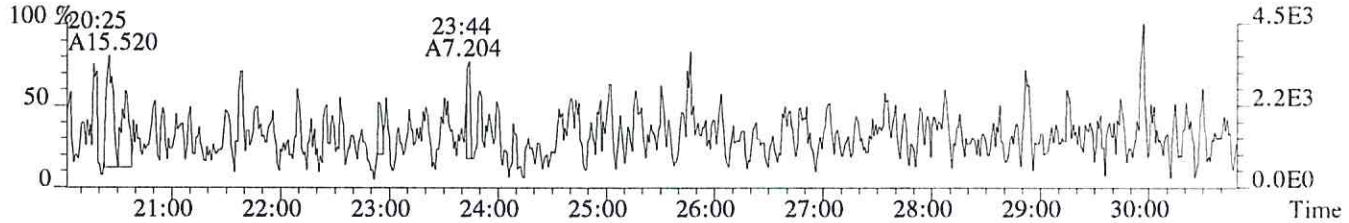
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



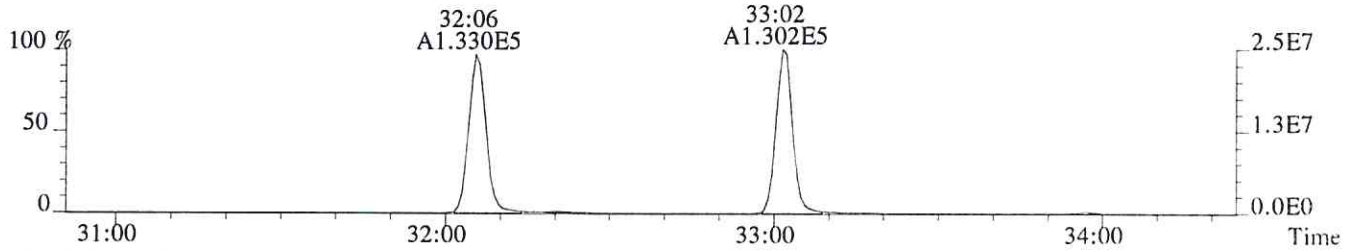
File:P510638 #1-765 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,T)



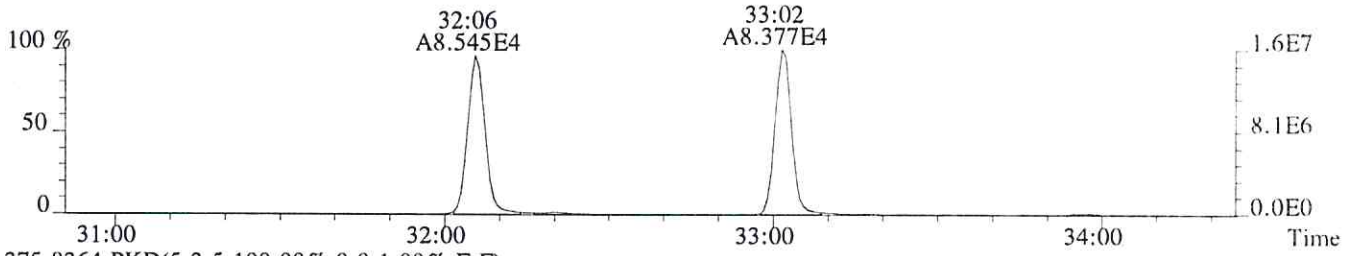
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1680.0,1.00%,F,T)



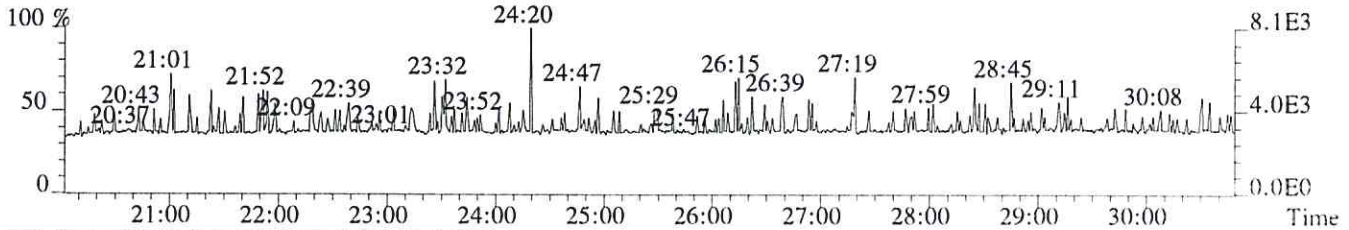
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



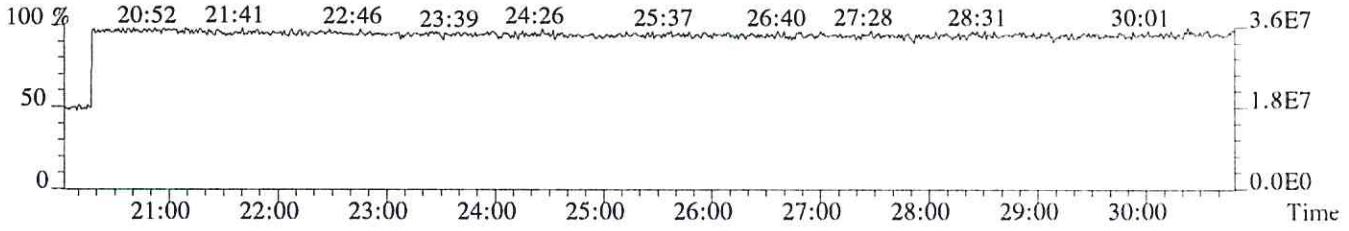
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



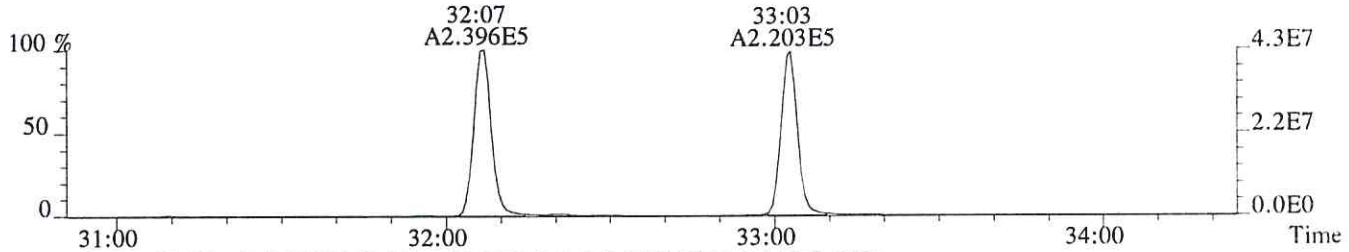
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



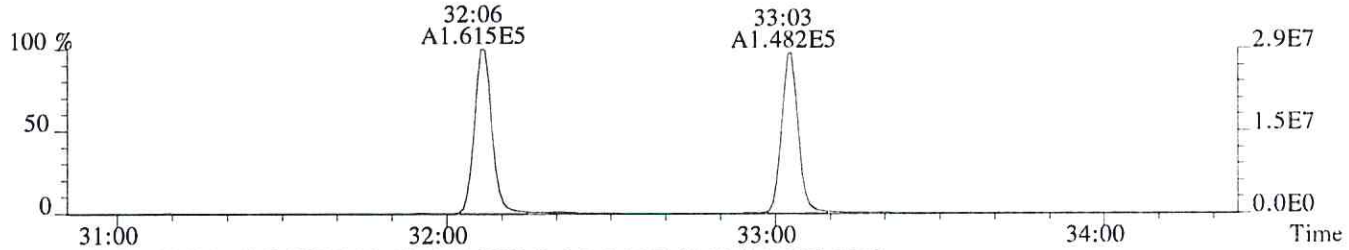
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



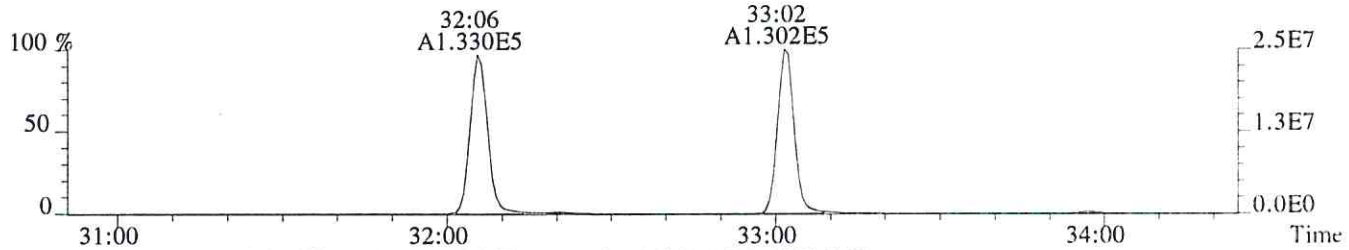
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,T)



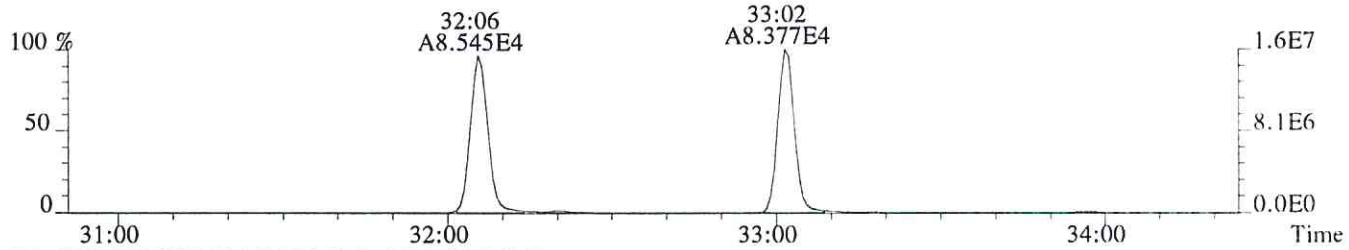
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2644.0,1.00%,F,T)



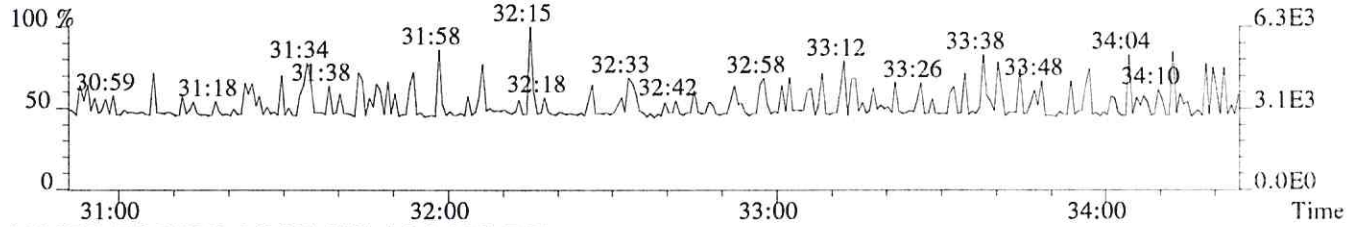
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,T)



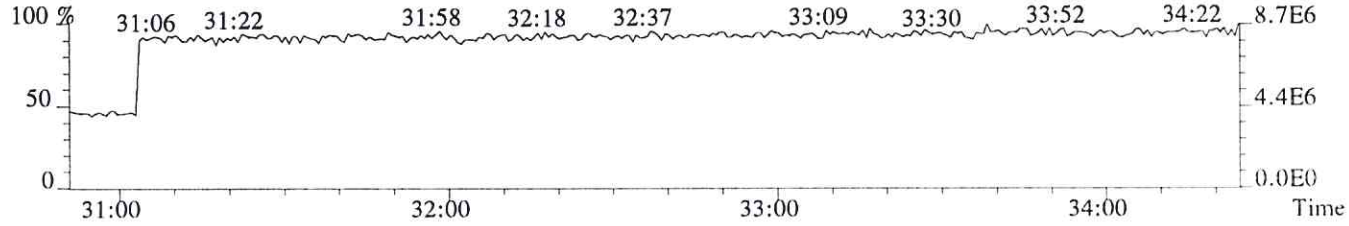
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



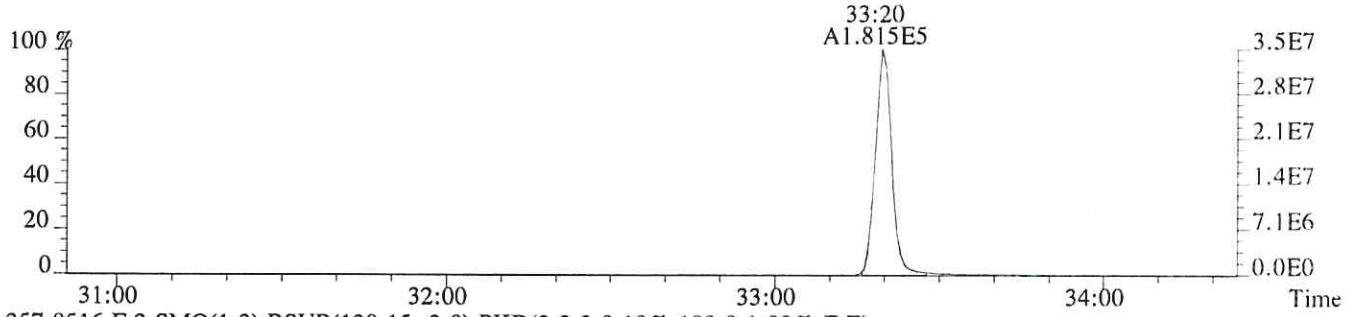
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



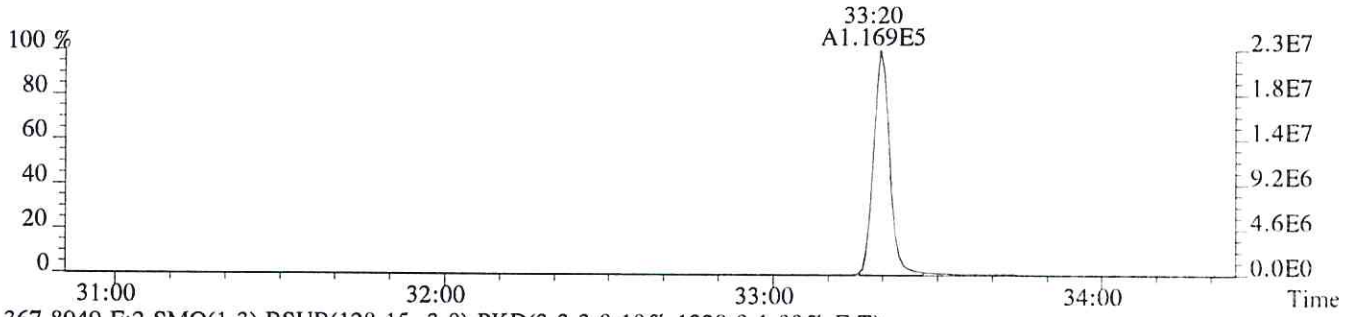
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



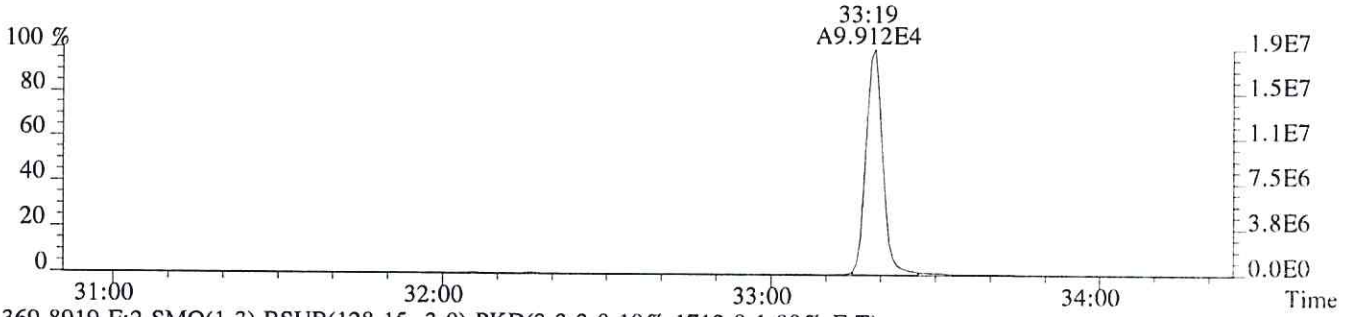
File:P510638 #1-321 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,T)



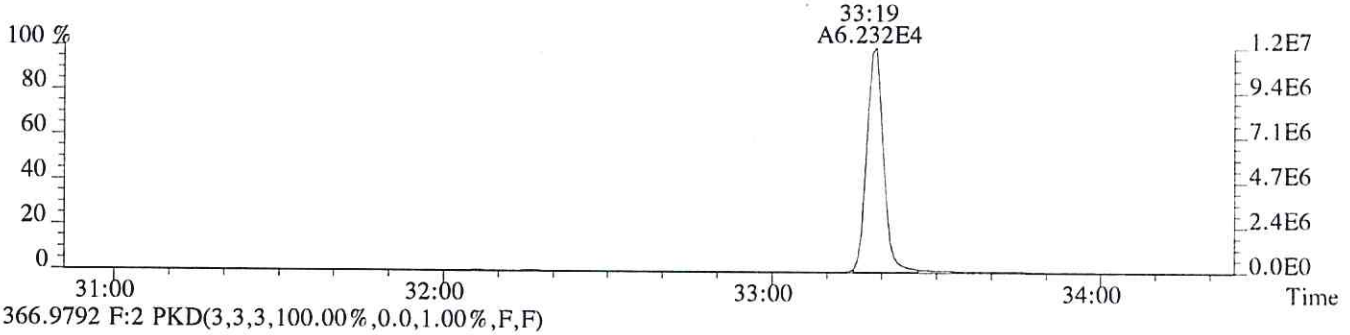
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,T)



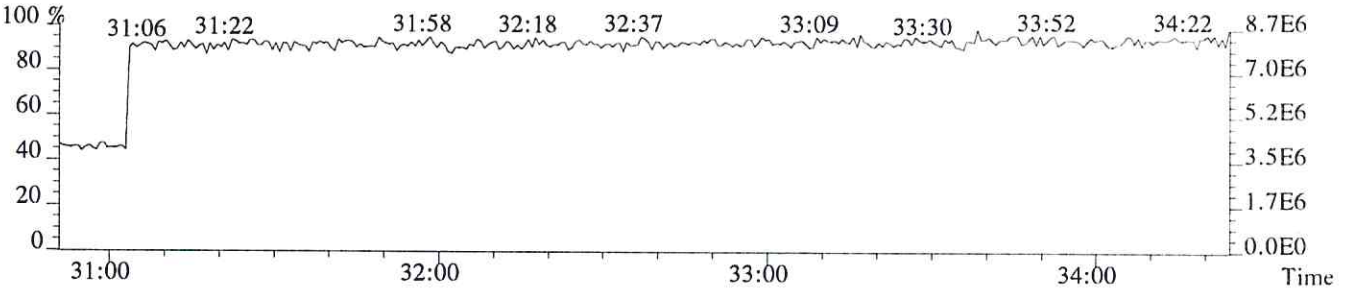
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1328.0,1.00%,F,T)



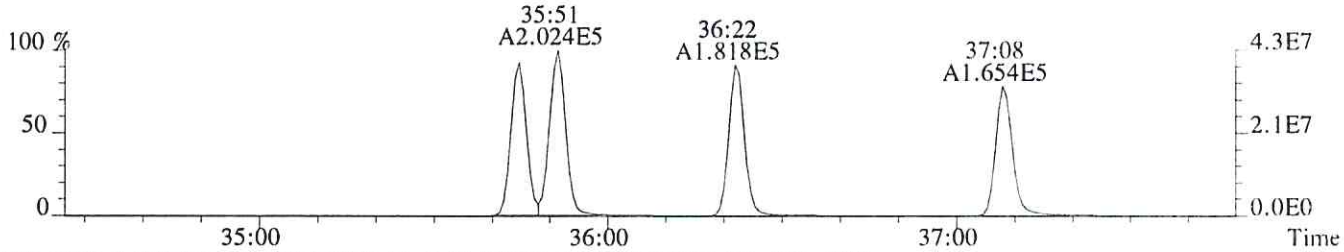
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,T)



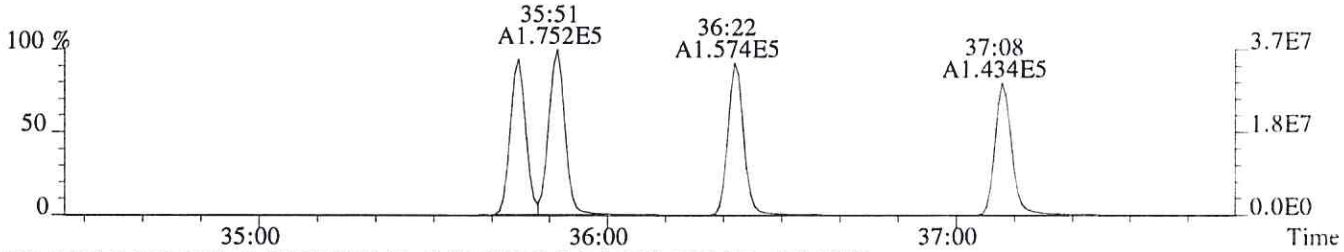
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



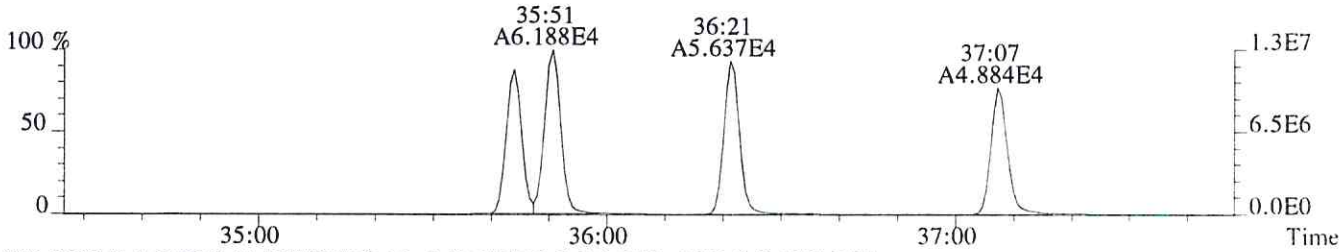
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,T)



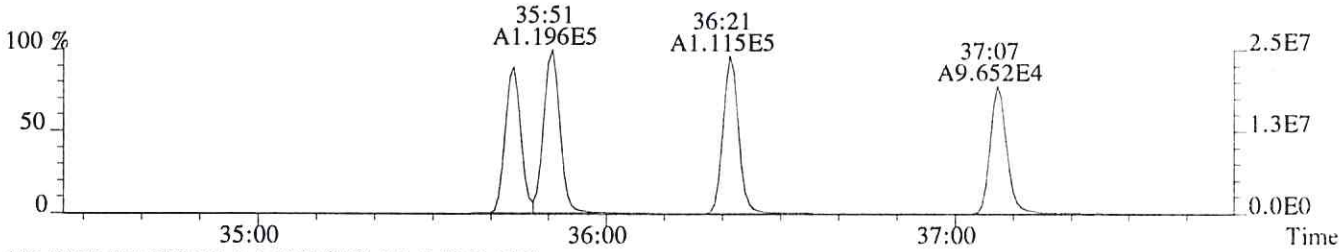
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



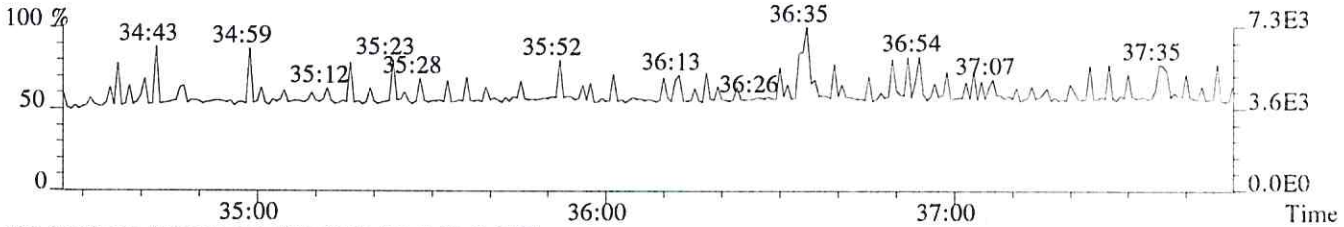
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,T)



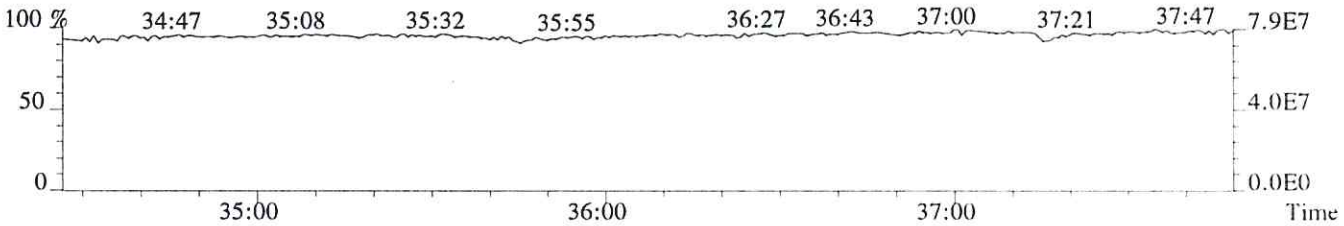
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1548.0,0.40%,F,T)



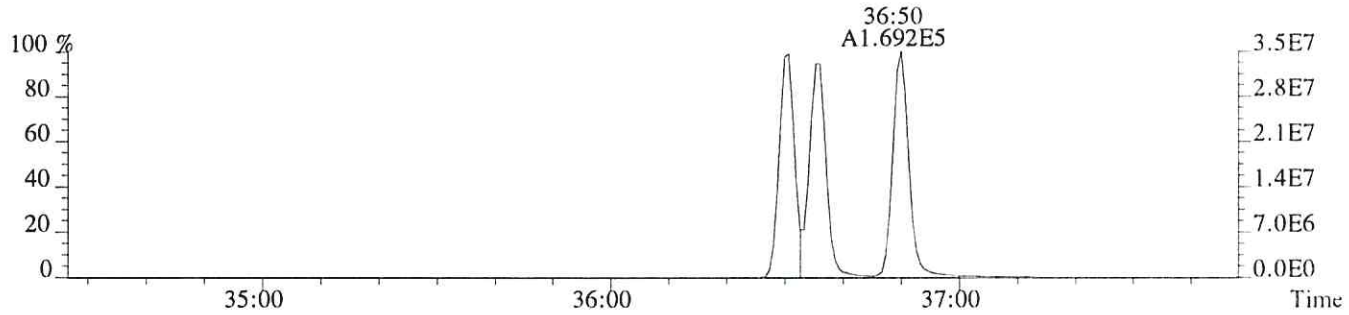
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



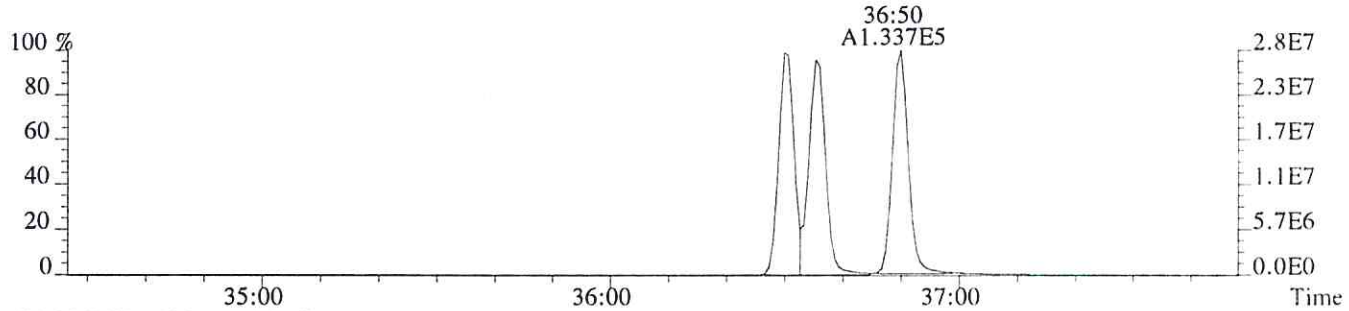
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



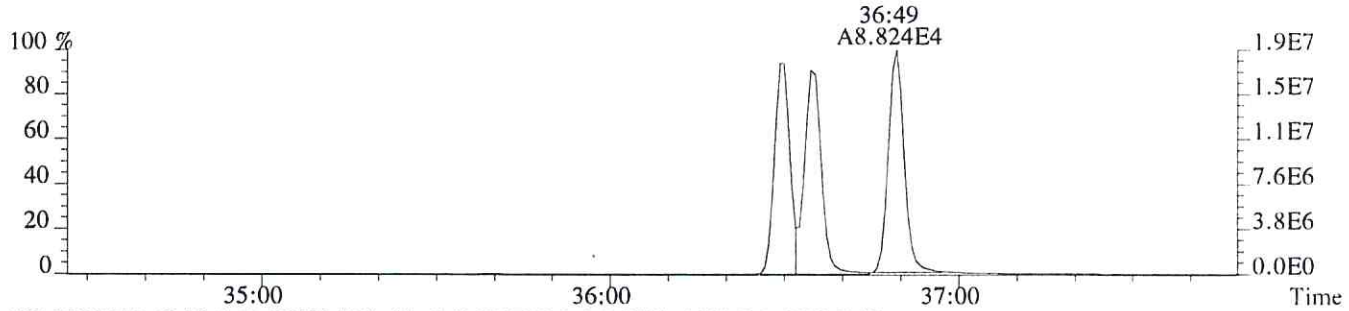
File:P510638 #1-303 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,572.0,0.40%,F,T)



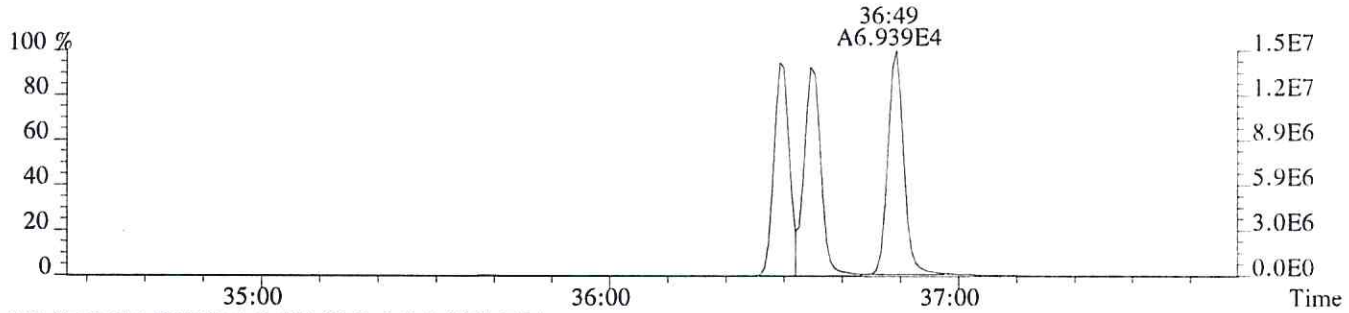
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.40%,F,T)



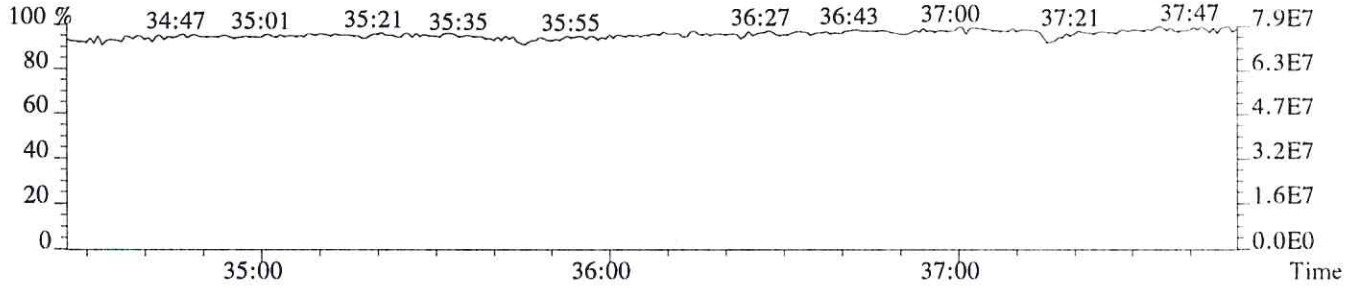
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2200.0,0.40%,F,T)



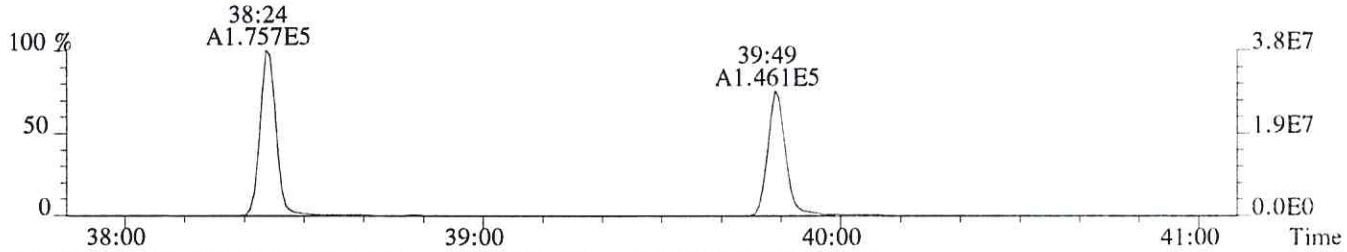
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1464.0,0.40%,F,T)



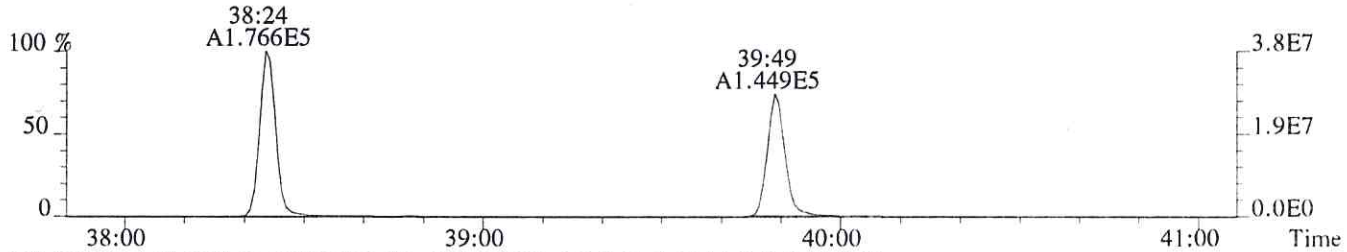
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



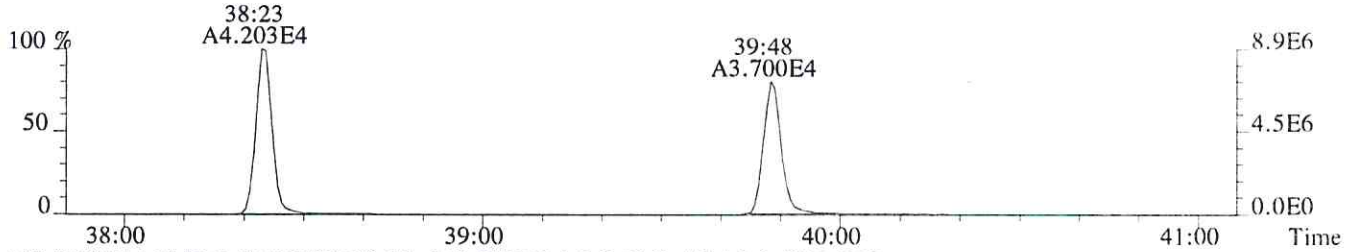
File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spectr
Sample#1 Exp:76558
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,11464.0,0.50%,F,T)



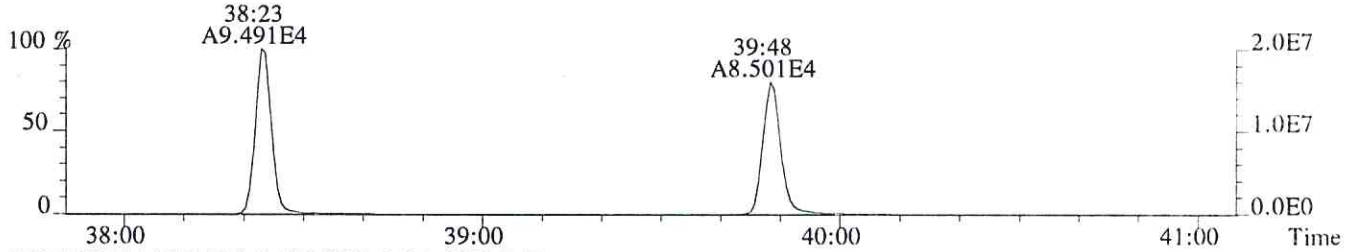
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7060.0,0.50%,F,T)



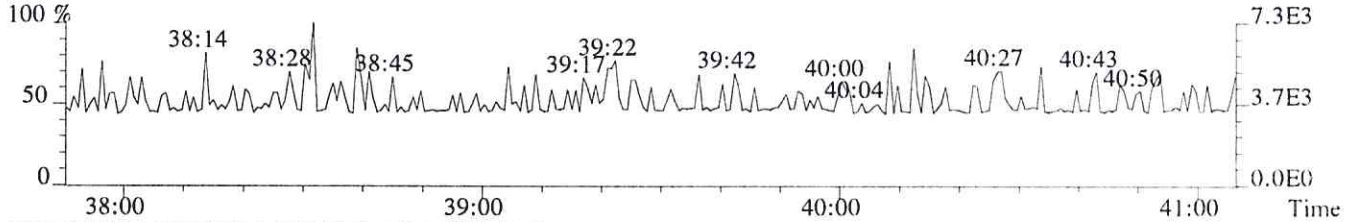
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5044.0,0.50%,F,T)



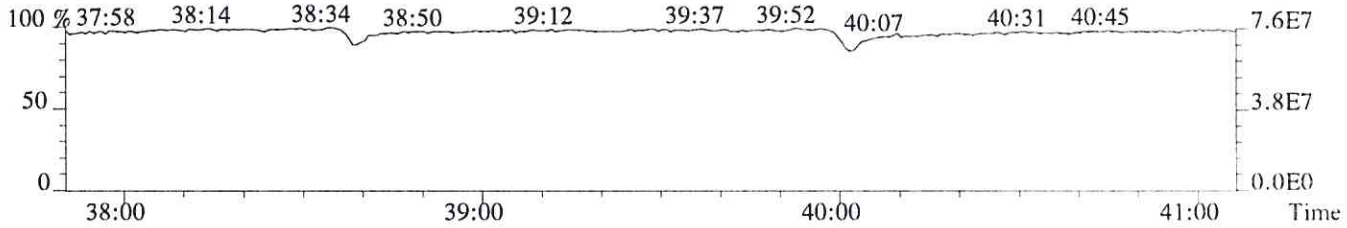
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4524.0,0.50%,F,T)



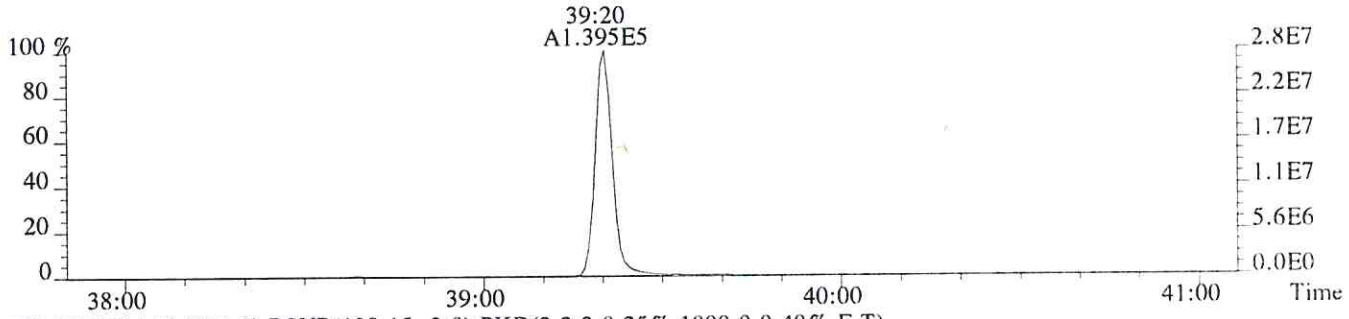
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



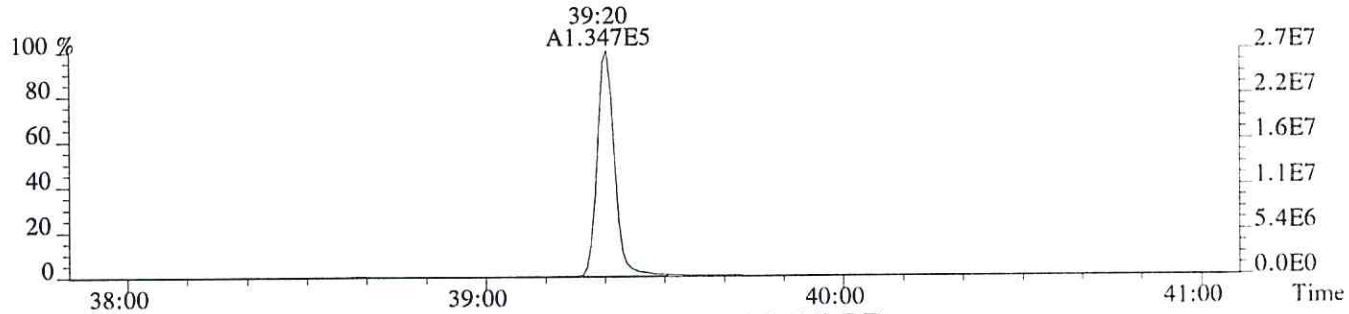
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



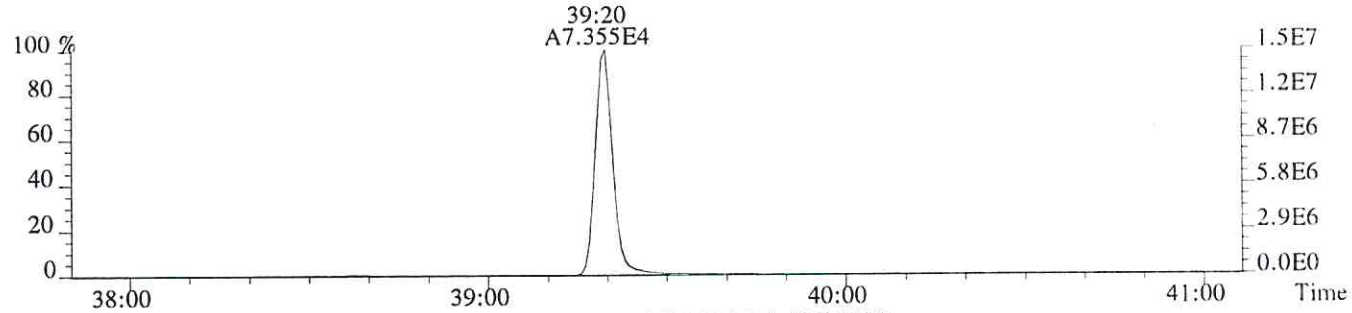
File:P510638 #1-295 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1060.0,0.40%,F,T)



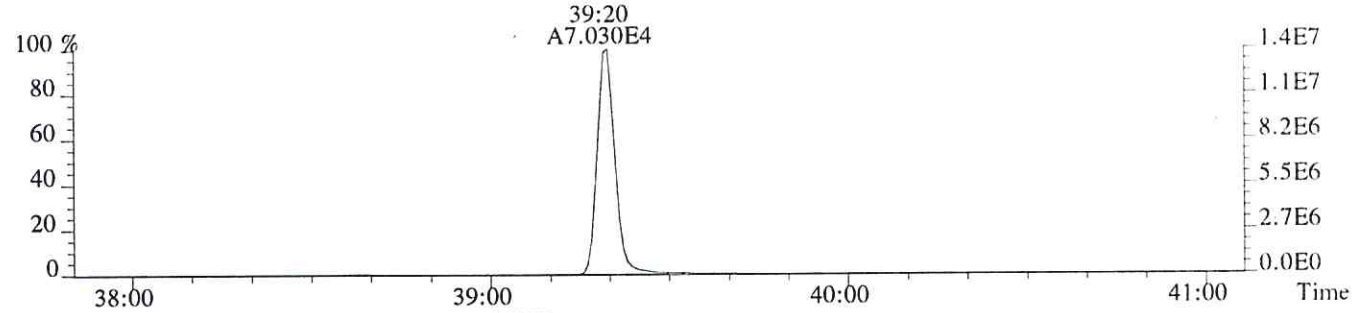
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,T)



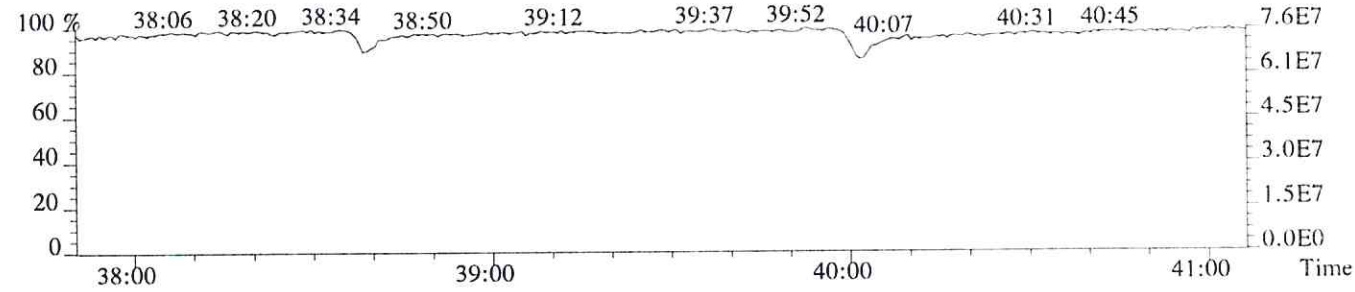
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,T)



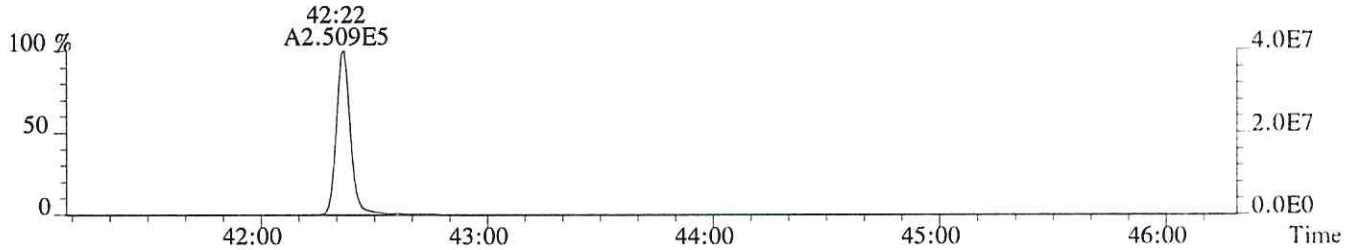
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,T)



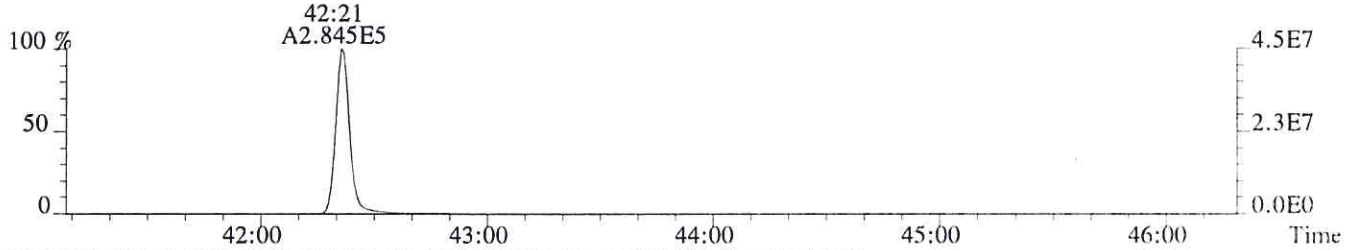
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



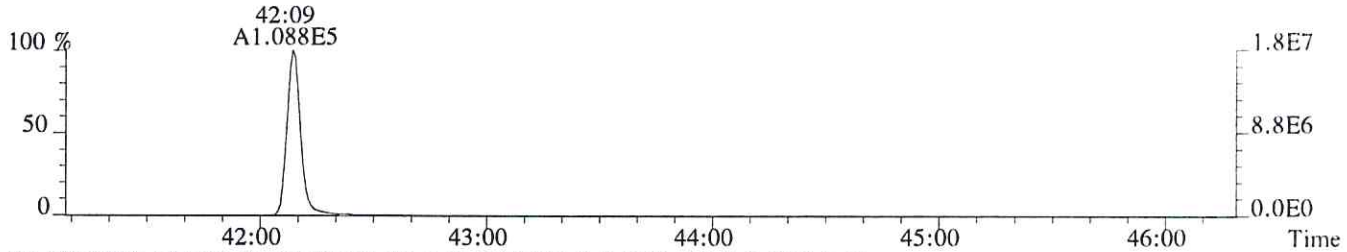
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,692.0,0.40%,F,T)



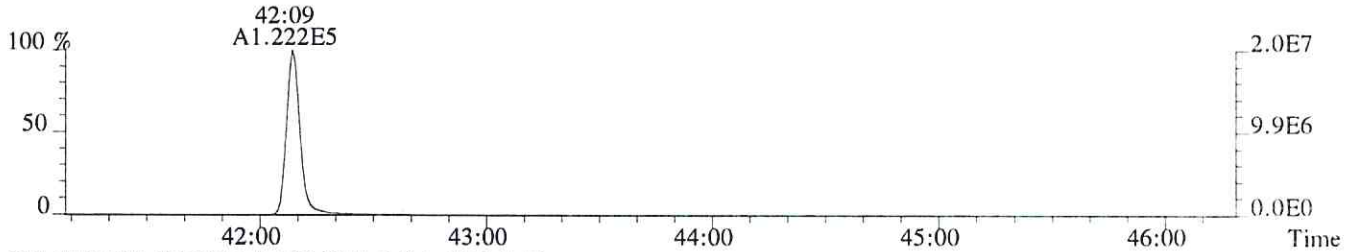
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1128.0,0.40%,F,T)



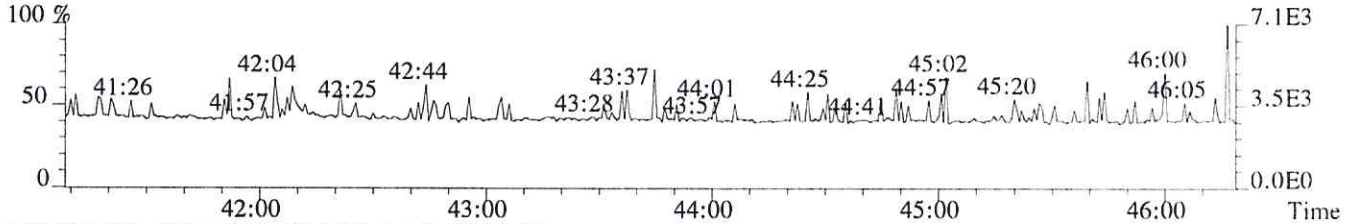
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



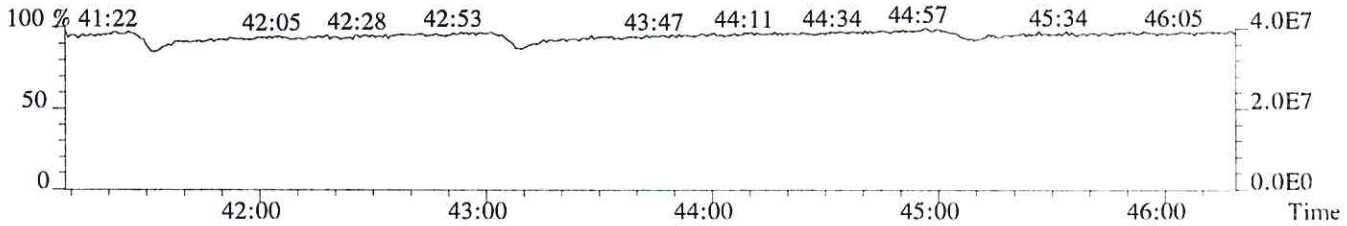
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



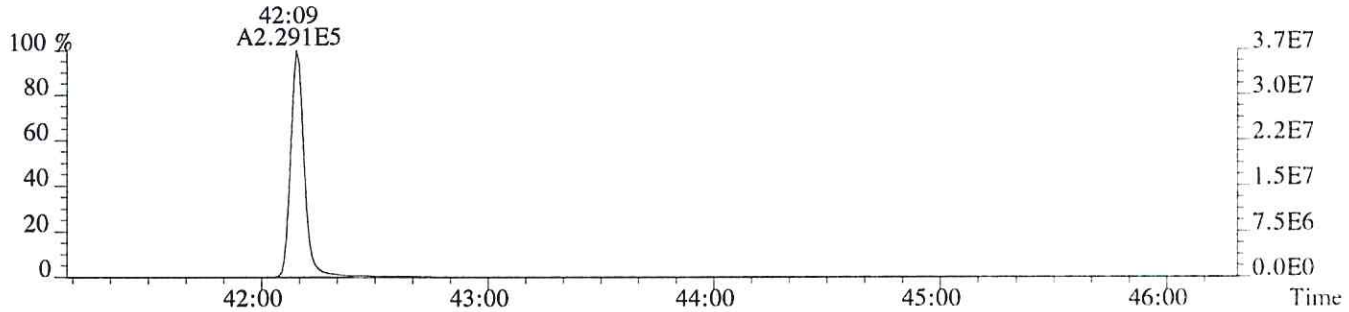
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



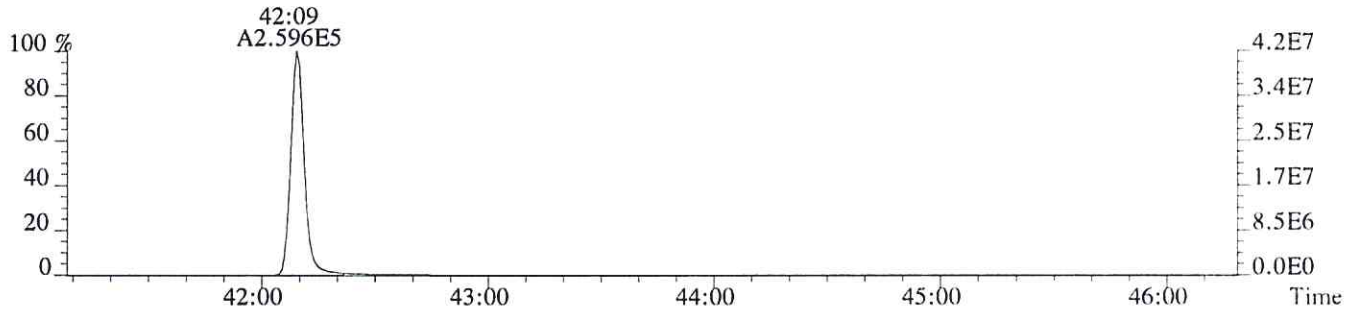
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



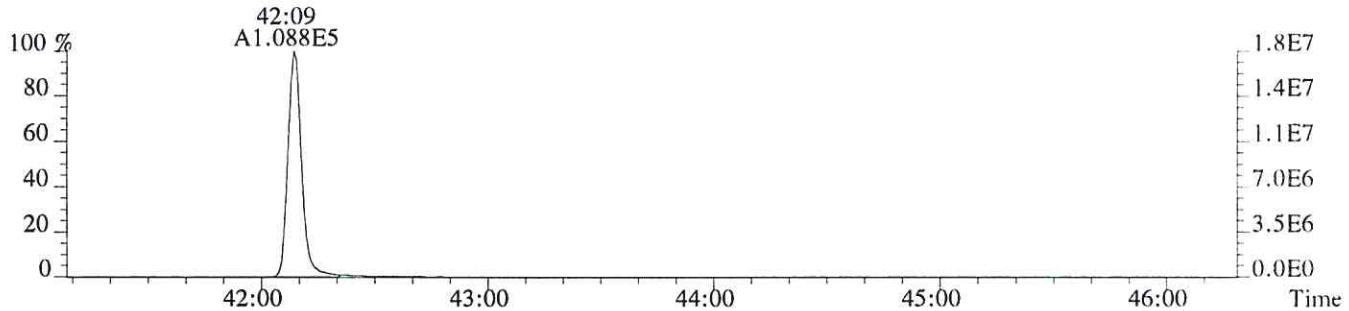
File:P510638 #1-466 Acq:26-JUL-2017 14:47:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:76558
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,544.0,0.40%,F,T)



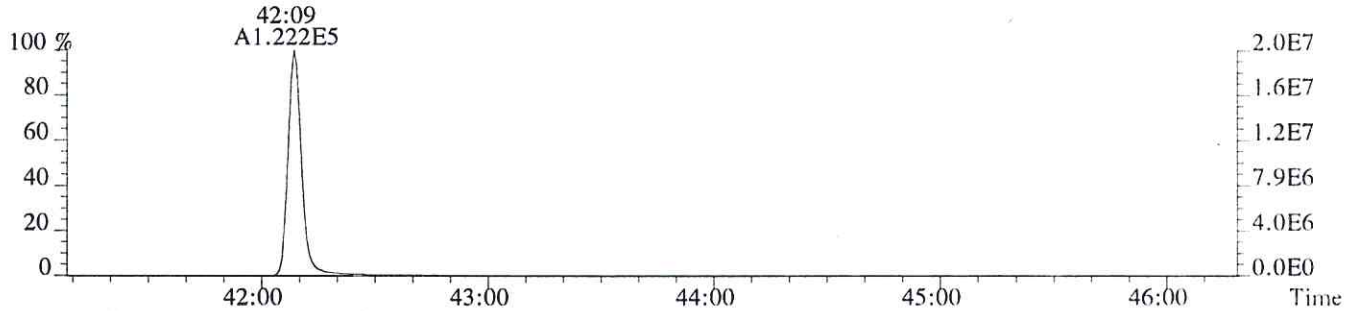
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1088.0,0.40%,F,T)



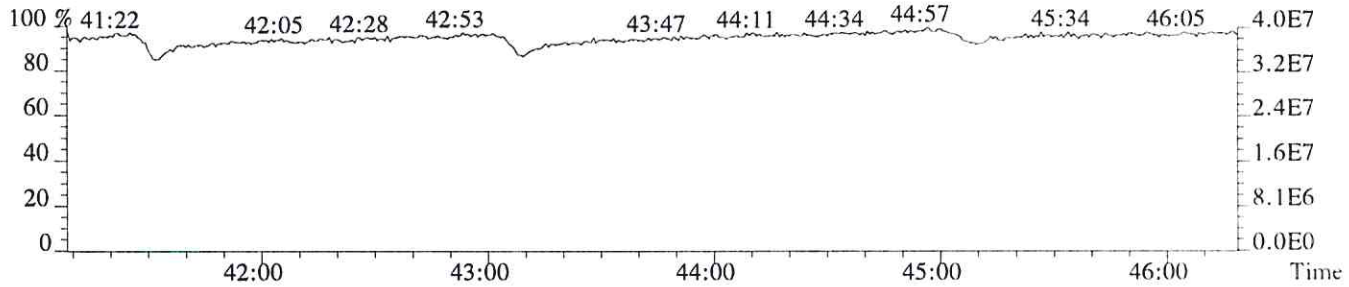
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,832.0,0.40%,F,T)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



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



ALS ENVIRONMENTAL
Sample Response Summary

CLIENT ID.
86168

Run #6 Filename P510639 Samp: 1 Inj: 1 Acquired: 26-JUL-17 15:36:33
Processed: 27-JUL-17 08:42:59 Sample ID: CS5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	27:49	8.939e+04	1.221e+05	0.73	yes	no	0.825
2	Unk	1,2,3,7,8-PeCDF	32:06	7.475e+05	4.969e+05	1.50	yes	no	0.876
3	Unk	2,3,4,7,8-PeCDF	33:02	7.651e+05	5.142e+05	1.49	yes	no	0.845
4	Unk	1,2,3,4,7,8-HxCDF	35:43	6.452e+05	5.466e+05	1.18	yes	no	1.064
5	Unk	1,2,3,6,7,8-HxCDF	35:50	6.733e+05	5.737e+05	1.17	yes	no	0.989
6	Unk	2,3,4,6,7,8-HxCDF	36:21	6.303e+05	5.395e+05	1.17	yes	no	0.973
7	Unk	1,2,3,7,8,9-HxCDF	37:07	5.658e+05	4.878e+05	1.16	yes	no	1.004
8	Unk	1,2,3,4,6,7,8-HpCDF	38:22	5.775e+05	5.723e+05	1.01	yes	no	1.254
9	Unk	1,2,3,4,7,8,9-HpCDF	39:47	4.921e+05	5.003e+05	0.98	yes	no	1.191
10	Unk	OCDF	42:19	8.355e+05	9.371e+05	0.89	yes	no	1.103
11	Unk	2,3,7,8-TCDD	28:38	8.359e+04	1.071e+05	0.78	yes	no	1.065
12	Unk	1,2,3,7,8-PeCDD	33:19	6.115e+05	3.951e+05	1.55	yes	no	0.908
13	Unk	1,2,3,4,7,8-HxCDD	36:29	5.771e+05	4.484e+05	1.29	yes	no	0.963
14	Unk	1,2,3,6,7,8-HxCDD	36:34	5.175e+05	4.380e+05	1.18	yes	no	0.929
15	Unk	1,2,3,7,8,9-HxCDD	36:49	5.750e+05	4.675e+05	1.23	yes	no	0.993
16	Unk	1,2,3,4,6,7,8-HpCDD	39:18	4.662e+05	4.540e+05	1.03	yes	no	0.942
17	Unk	OCDD	42:07	7.460e+05	8.459e+05	0.88	yes	no	1.051
18	IS	13C-2,3,7,8-TCDF	27:48	5.613e+04	7.090e+04	0.79	yes	no	1.352
19	IS	13C-1,2,3,7,8-PeCDF	32:05	8.883e+04	5.647e+04	1.57	yes	no	1.514
20	IS	13C-2,3,4,7,8-PeCDF	33:02	8.555e+04	5.477e+04	1.56	yes	no	1.486
21	IS	13C-1,2,3,4,7,8-HxCDF	35:43	3.682e+04	7.106e+04	0.52	yes	no	0.981
22	IS	13C-1,2,3,6,7,8-HxCDF	35:49	3.913e+04	7.792e+04	0.50	yes	no	1.133
23	IS	13C-2,3,4,6,7,8-HxCDF	36:20	3.846e+04	7.503e+04	0.51	yes	no	1.054
24	IS	13C-1,2,3,7,8,9-HxCDF	37:06	3.420e+04	6.844e+04	0.50	yes	no	0.925
25	IS	13C-1,2,3,4,6,7,8-HpCDF	38:22	2.818e+04	6.434e+04	0.44	yes	no	0.837
26	IS	13C-1,2,3,4,7,8,9-HpCDF	39:46	2.346e+04	5.496e+04	0.43	yes	no	0.726
27	IS	13C-2,3,7,8-TCDD	28:36	4.063e+04	5.099e+04	0.80	yes	no	0.955
28	IS	13C-1,2,3,7,8-PeCDD	33:18	6.659e+04	4.185e+04	1.59	yes	no	1.126
29	IS	13C-1,2,3,4,7,8-HxCDD	36:29	5.310e+04	4.161e+04	1.28	yes	no	0.894
30	IS	13C-1,2,3,6,7,8-HxCDD	36:33	6.319e+04	4.911e+04	1.29	yes	no	0.962
31	IS	13C-1,2,3,4,6,7,8-HpCDD	39:18	5.094e+04	4.904e+04	1.04	yes	no	0.881
32	IS	13C-OCDD	42:06	8.078e+04	8.972e+04	0.90	yes	no	0.701
33	RS/RT	13C-1,2,3,4-TCDD	27:59	4.104e+04	5.135e+04	0.80	yes	no	-
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:48	6.201e+04	4.735e+04	1.31	yes	no	-
35	C/Up	37Cl-2,3,7,8-TCDD	28:38	1.989e+05				no	1.033

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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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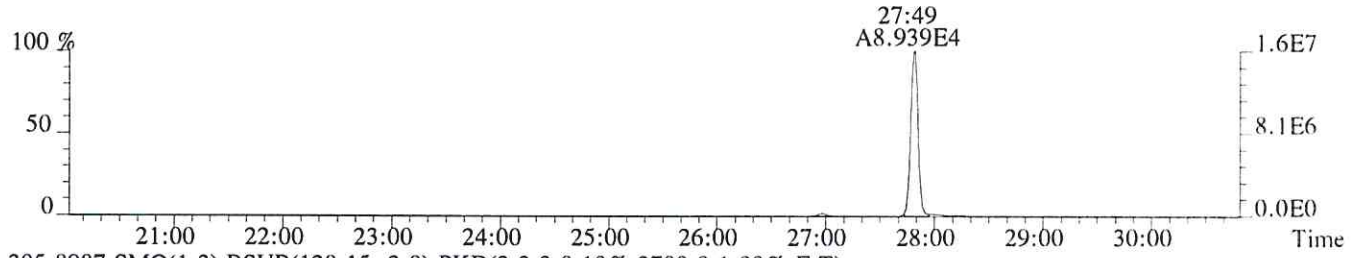
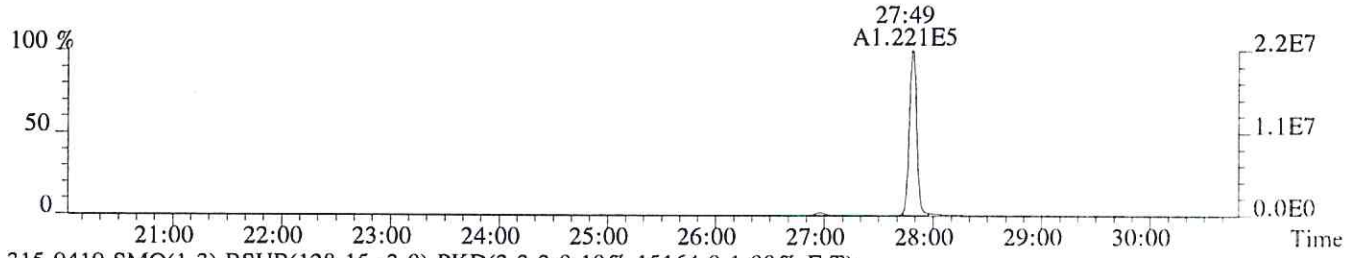
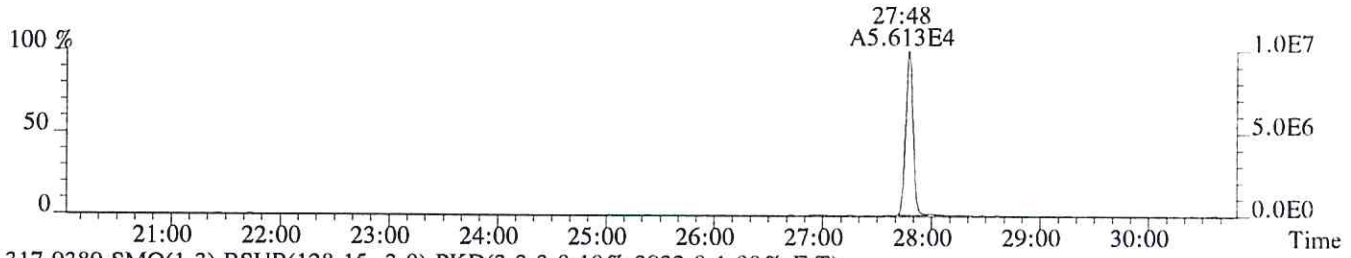
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,T)



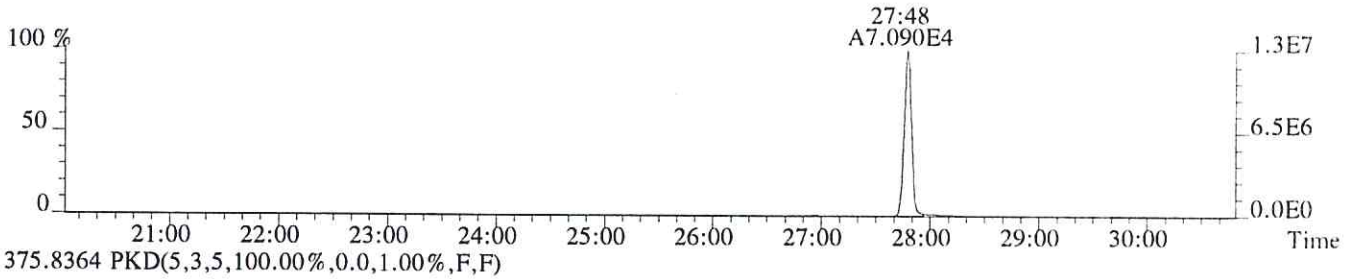
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2700.0,1.00%,F,T)



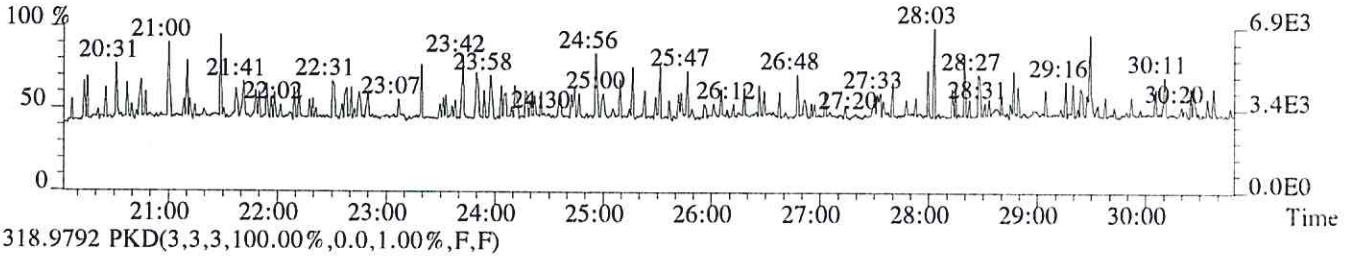
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15164.0,1.00%,F,T)



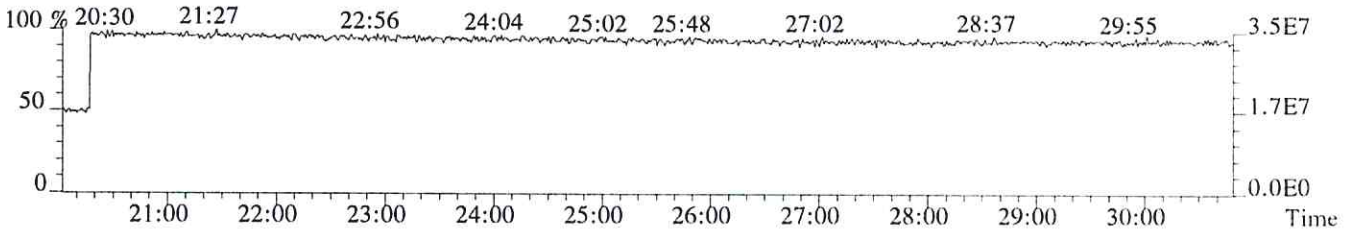
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3932.0,1.00%,F,T)



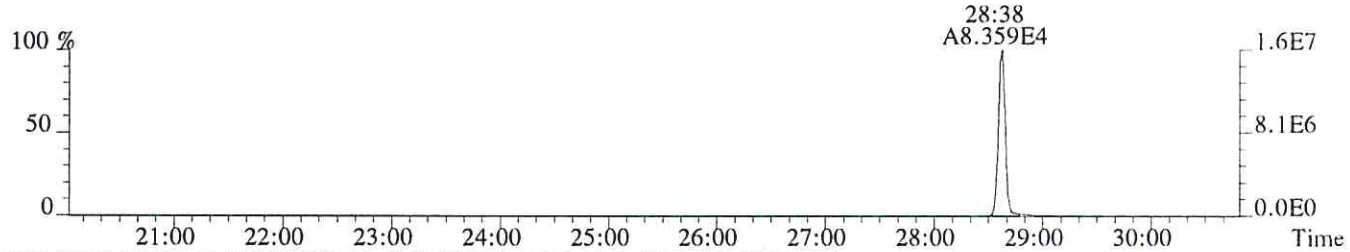
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



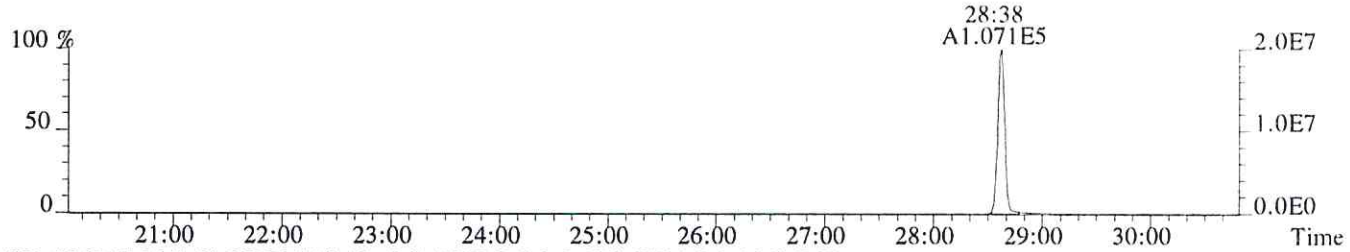
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



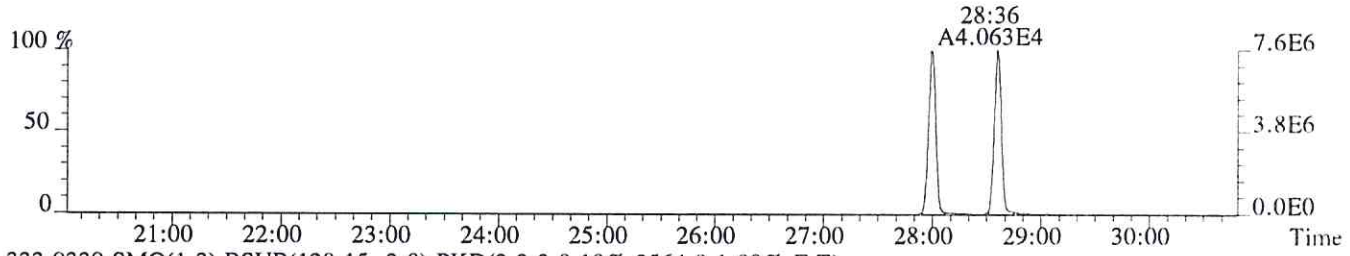
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2420.0,1.00%,F,T)



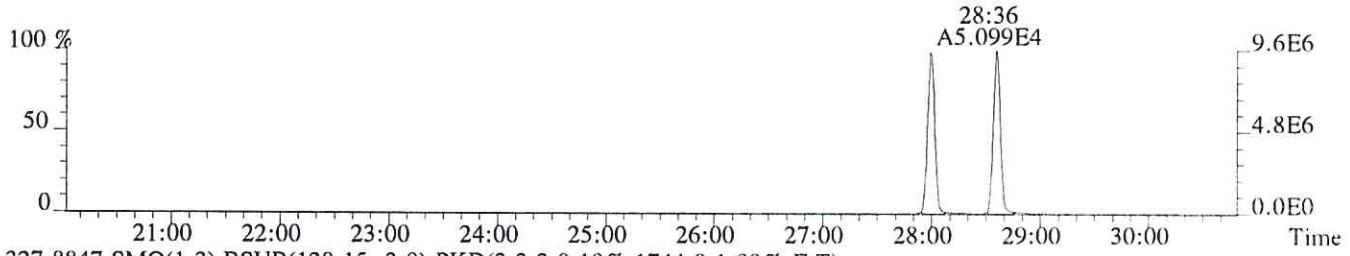
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,T)



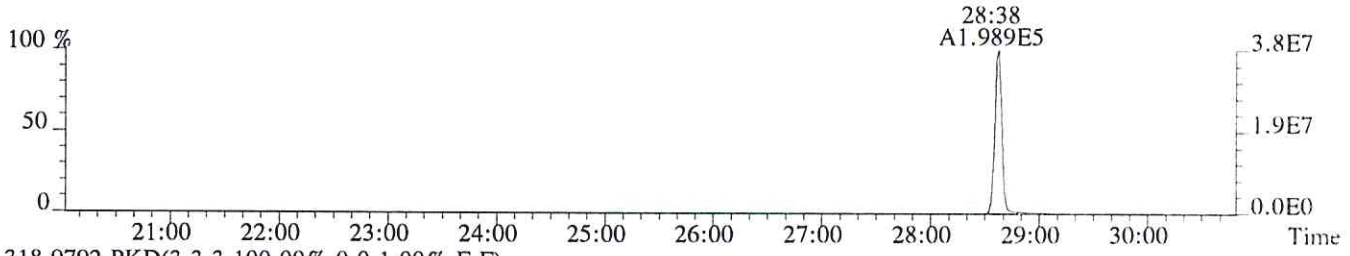
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7380.0,1.00%,F,T)



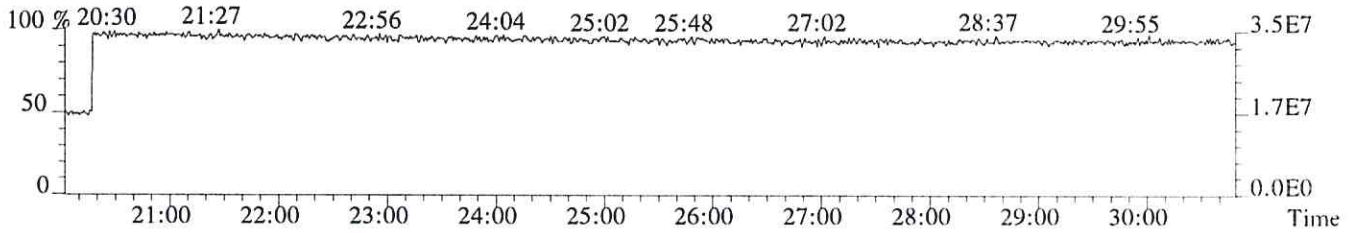
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3564.0,1.00%,F,T)



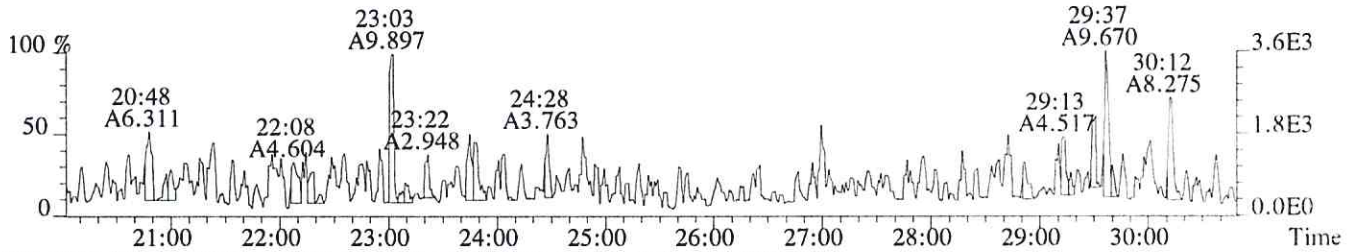
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1744.0,1.00%,F,T)



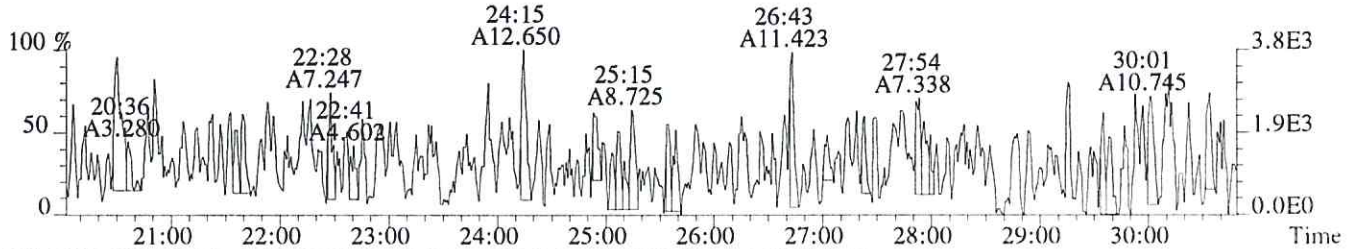
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



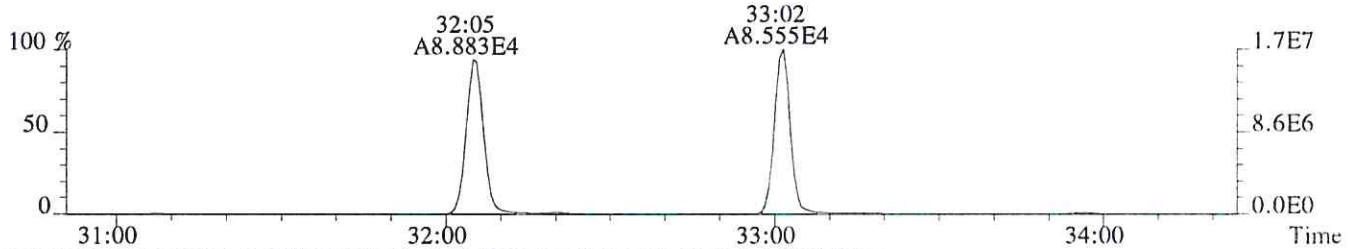
File:P510639 #1-765 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,T)



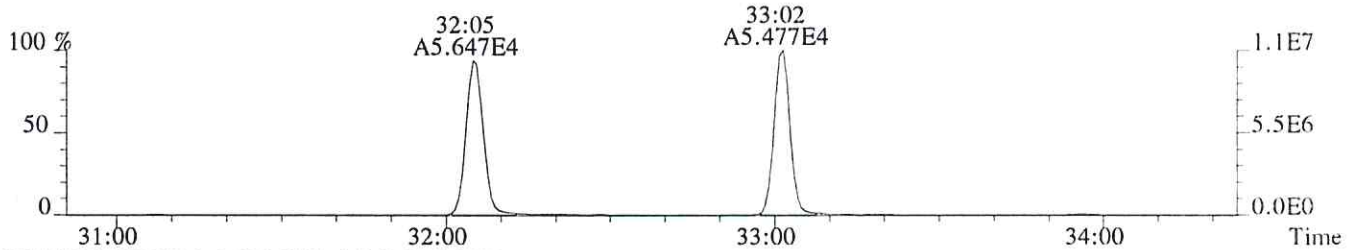
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,T)



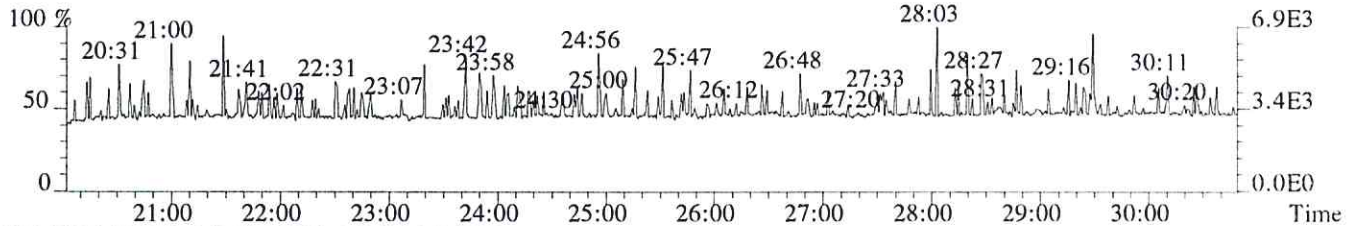
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



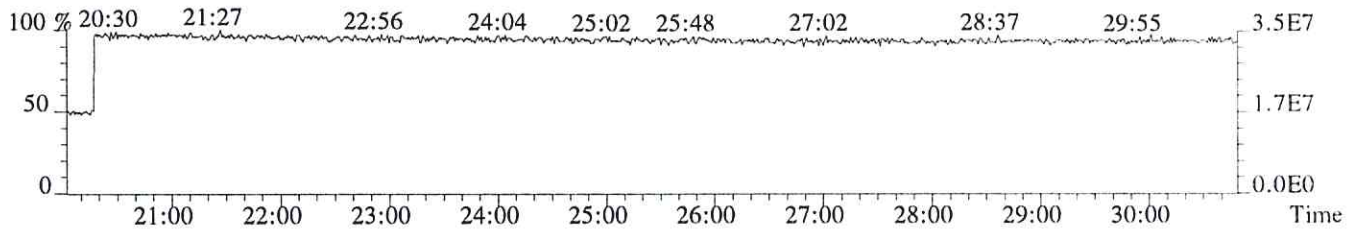
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



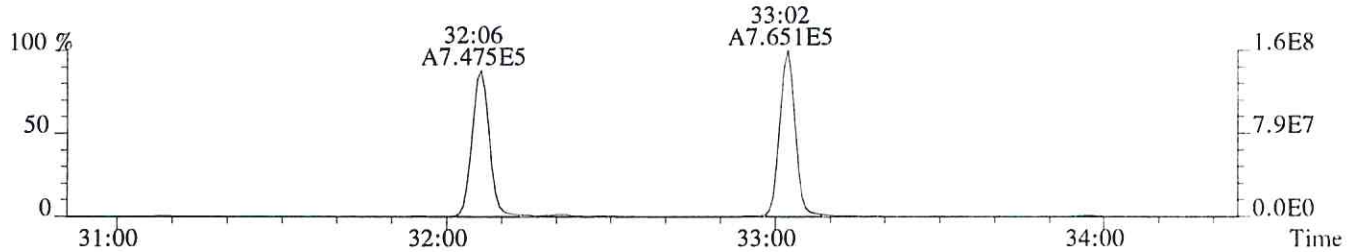
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



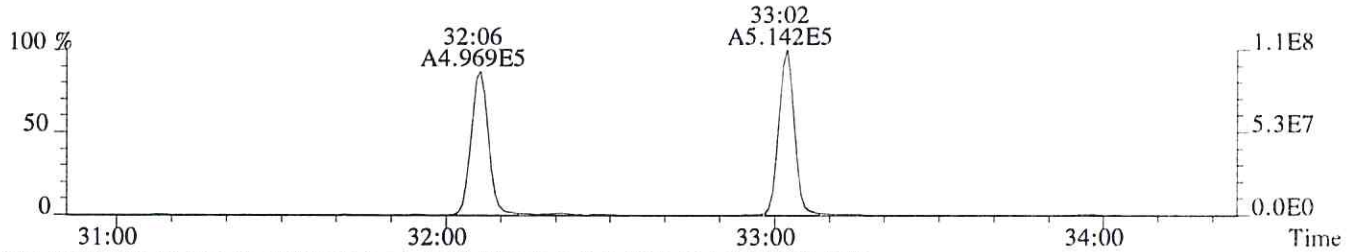
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



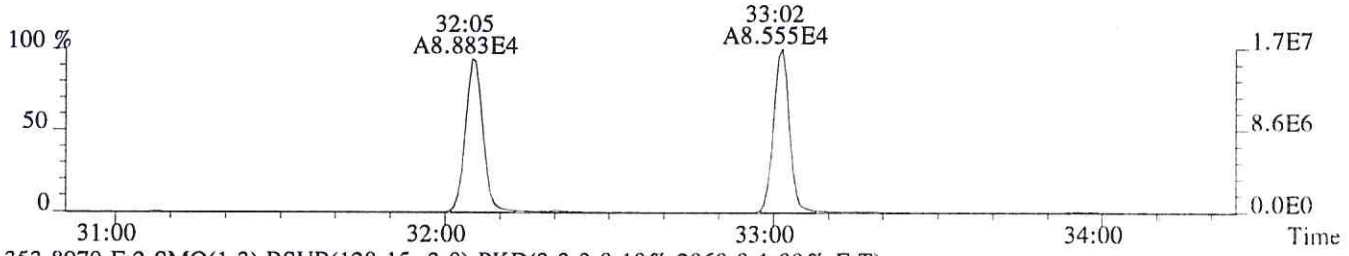
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5544.0,1.00%,F,T)



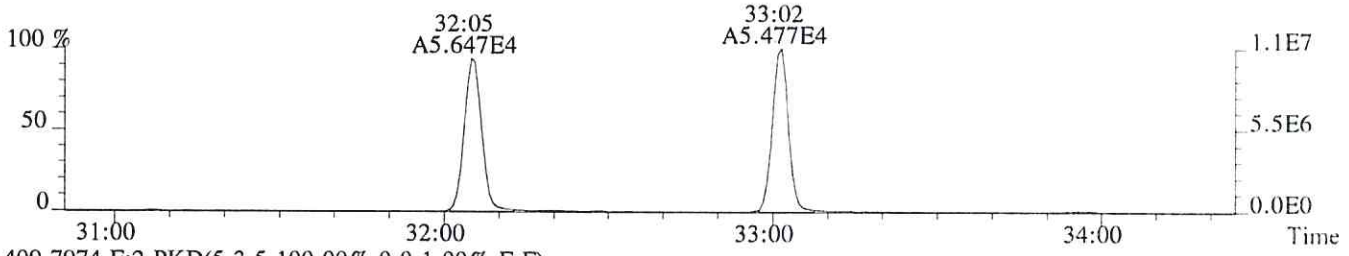
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3000.0,1.00%,F,T)



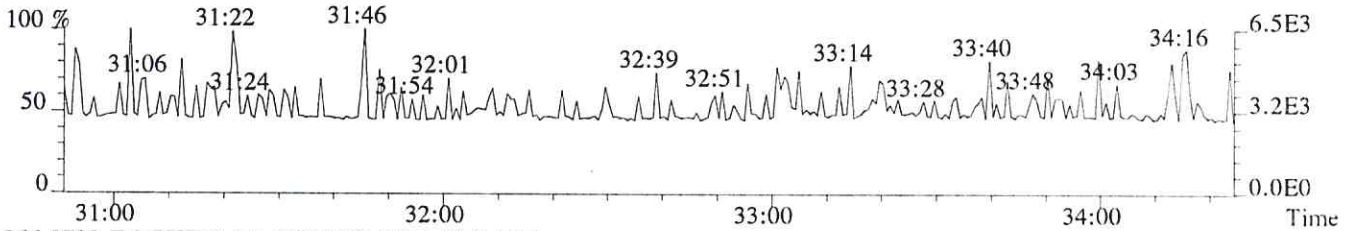
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,T)



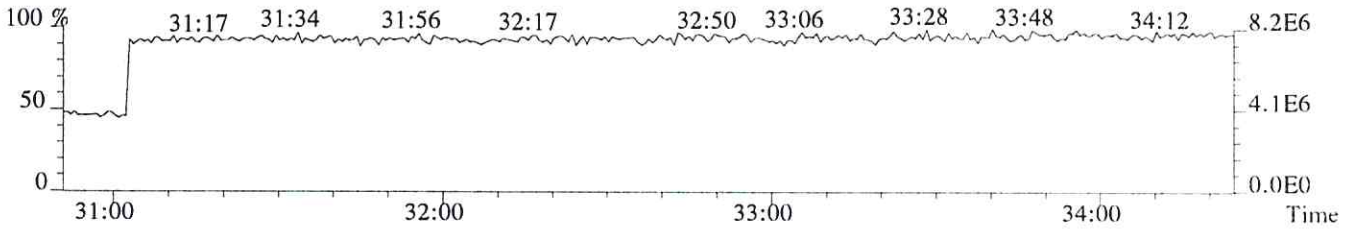
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2060.0,1.00%,F,T)



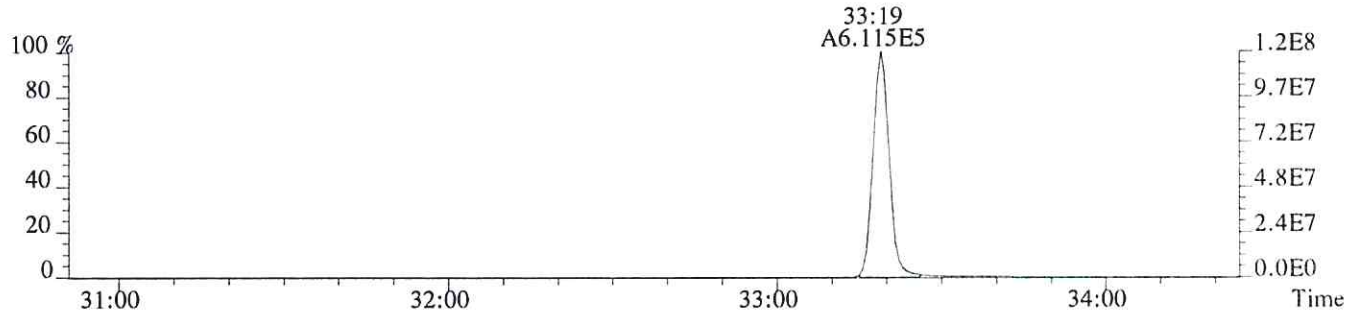
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



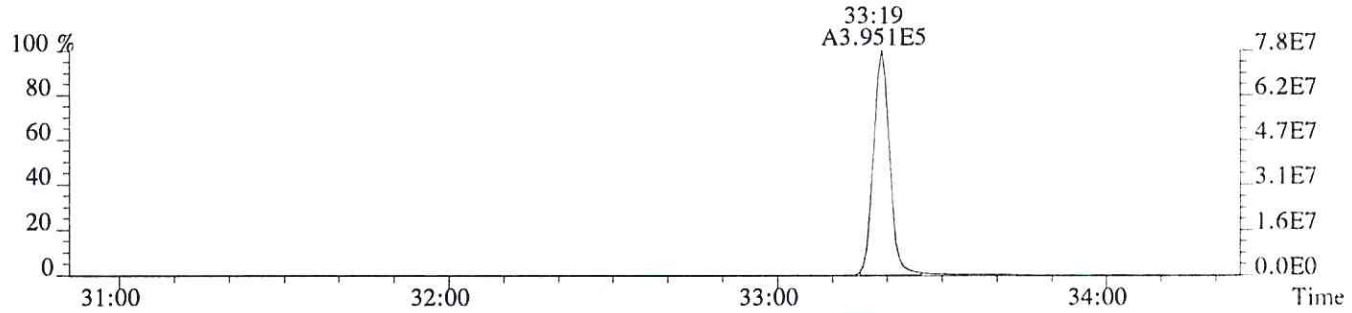
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



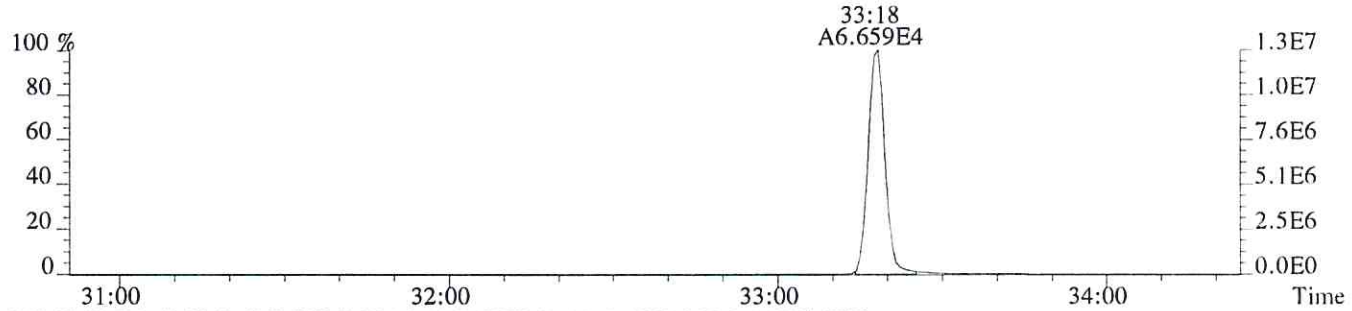
File:P510639 #1-321 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,T)



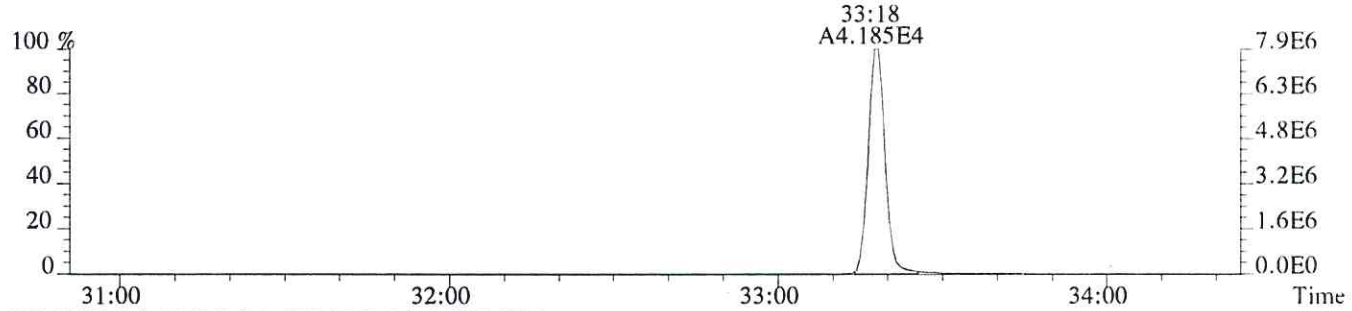
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,T)



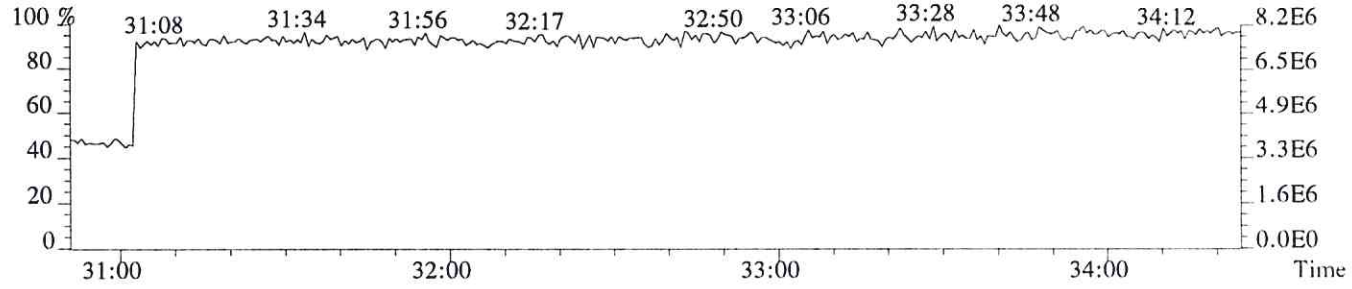
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1500.0,1.00%,F,T)



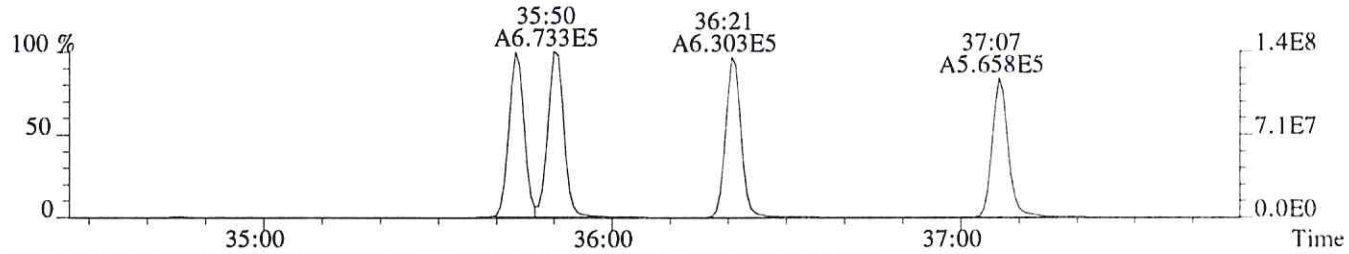
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



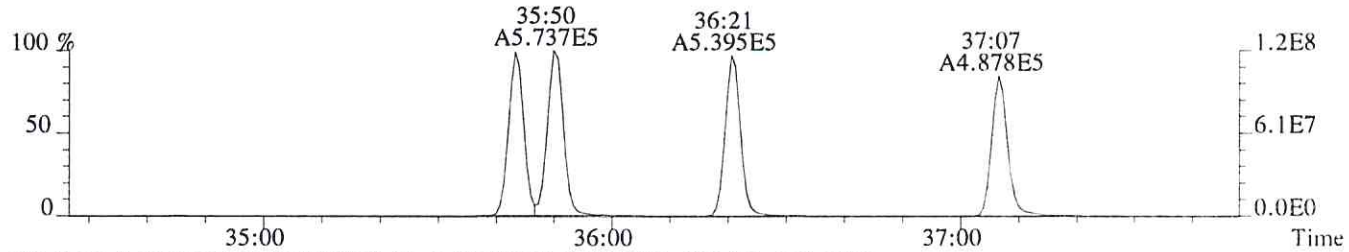
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



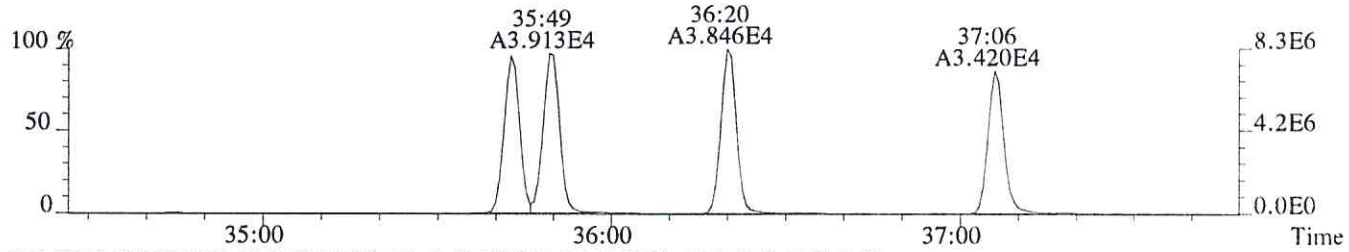
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3200.0,0.40%,F,T)



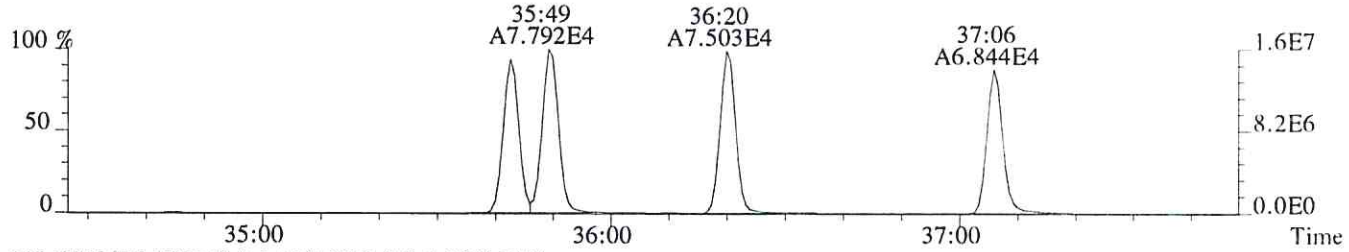
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2764.0,0.40%,F,T)



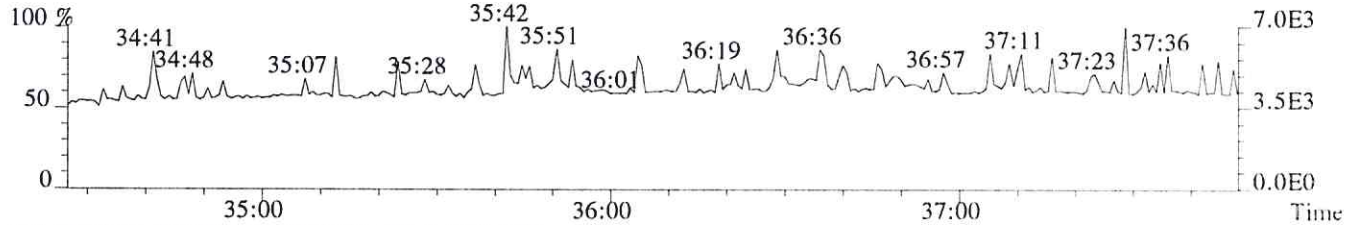
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,T)



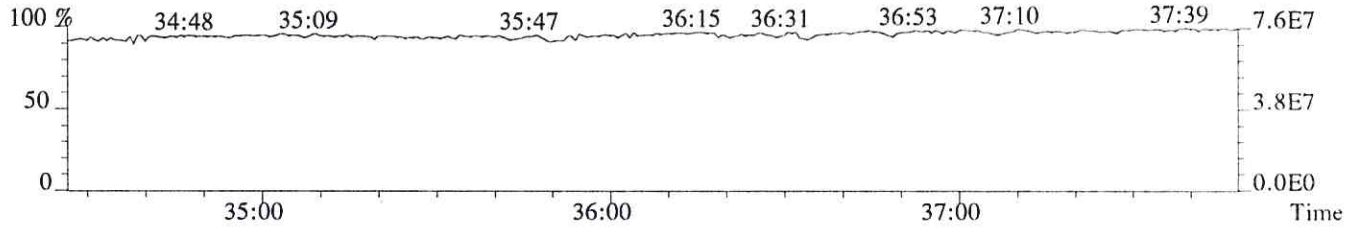
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1644.0,0.40%,F,T)



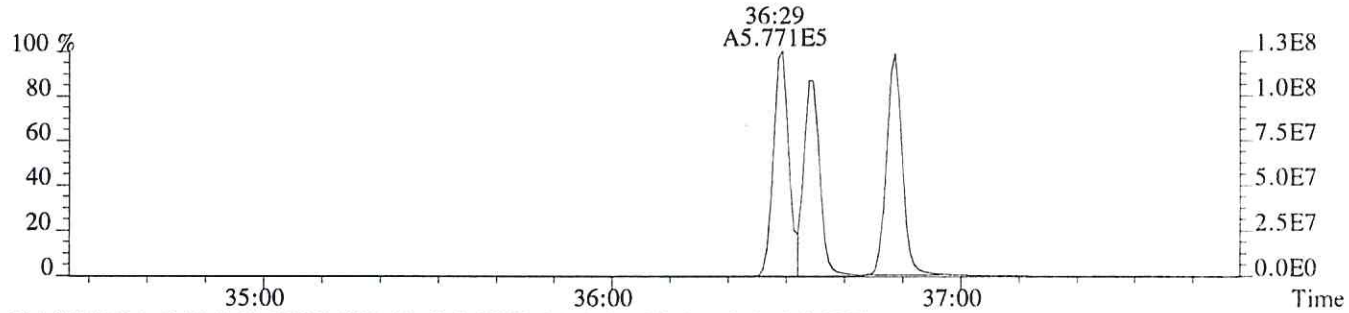
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



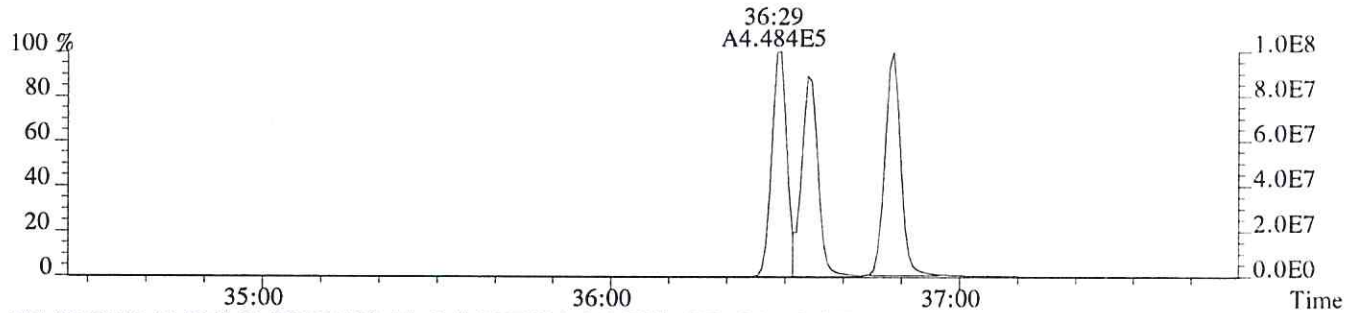
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



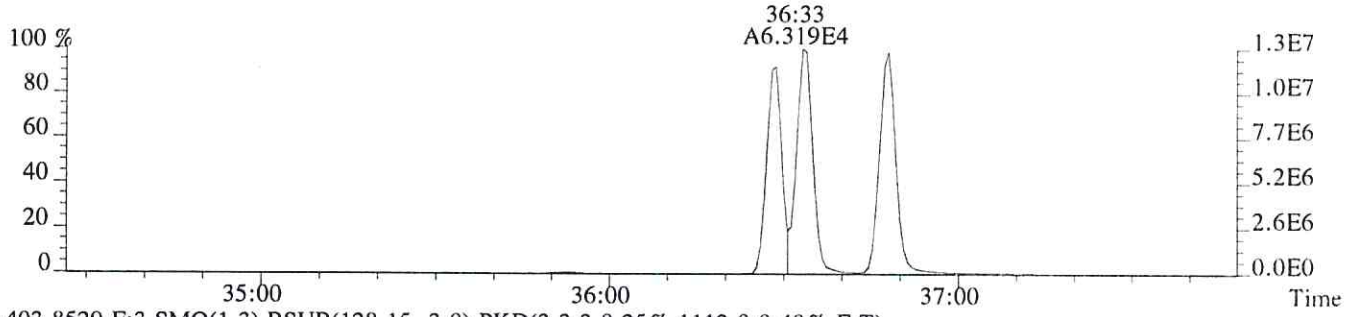
File:P510639 #1-303 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,T)



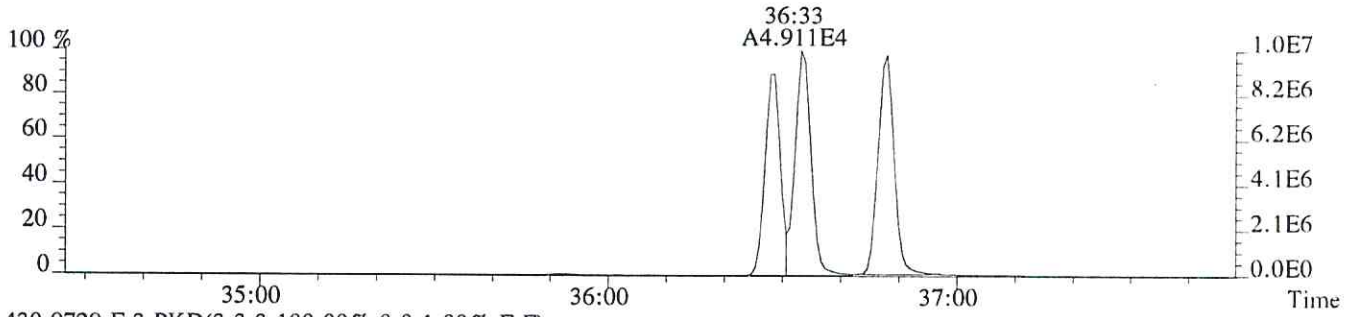
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,T)



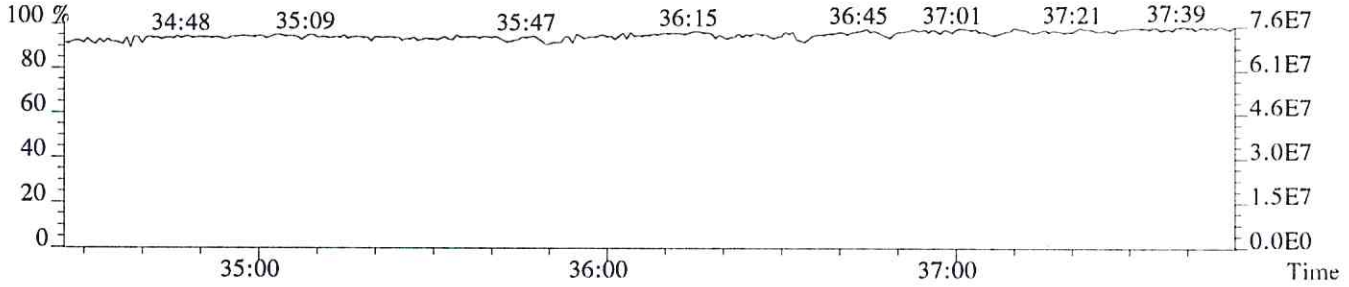
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1752.0,0.40%,F,T)



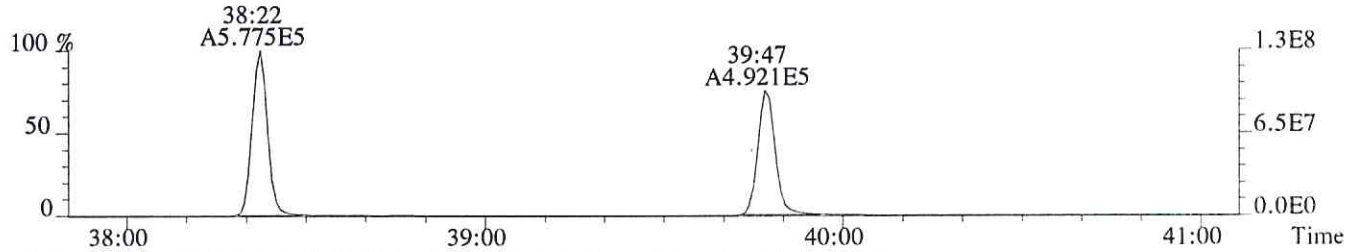
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1112.0,0.40%,F,T)



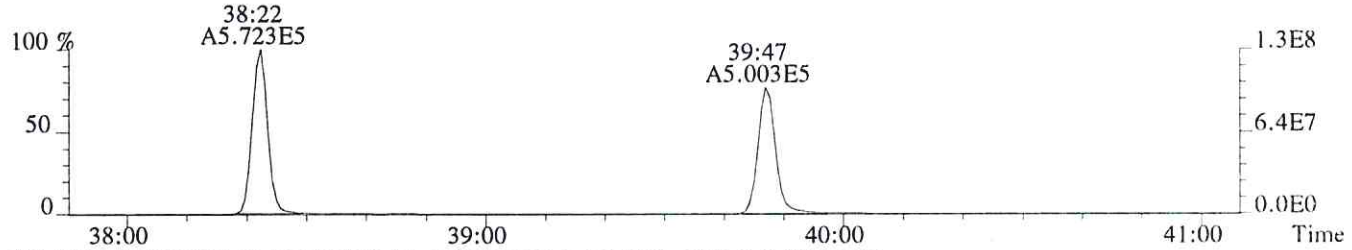
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



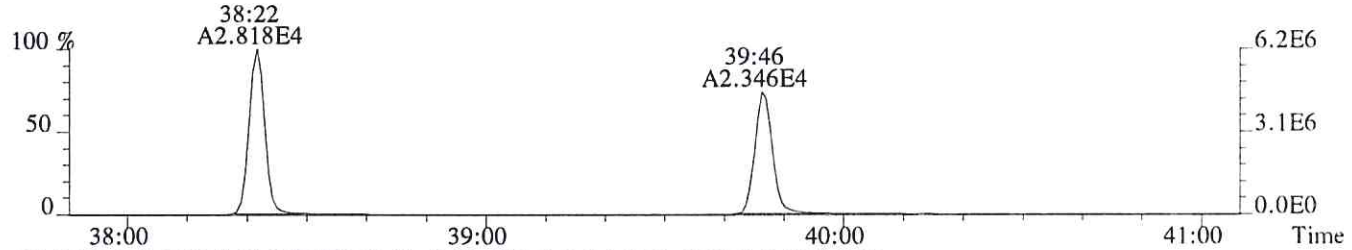
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,22964.0,0.50%,F,T)



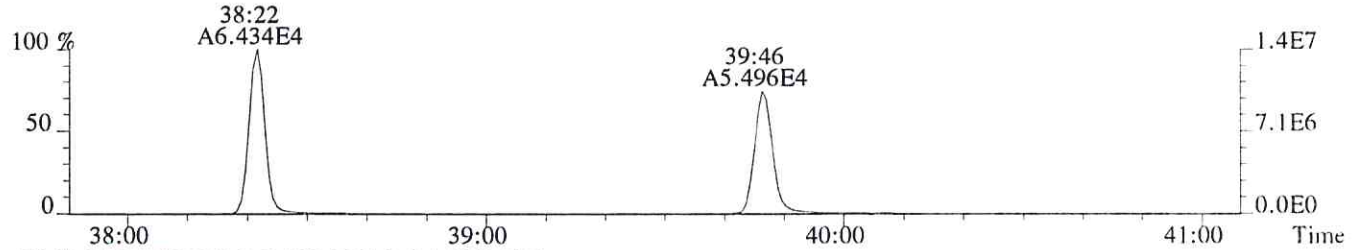
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,20988.0,0.50%,F,T)



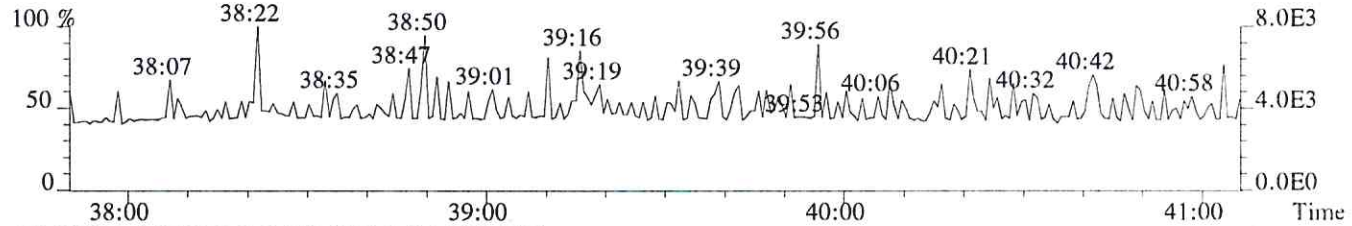
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8132.0,0.50%,F,T)



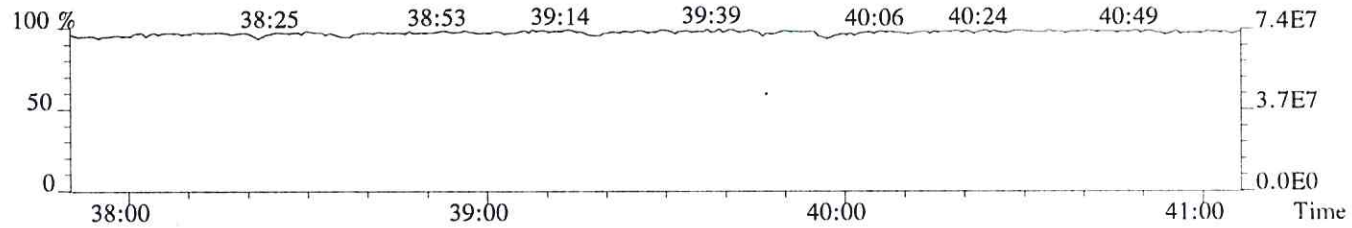
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6368.0,0.50%,F,T)



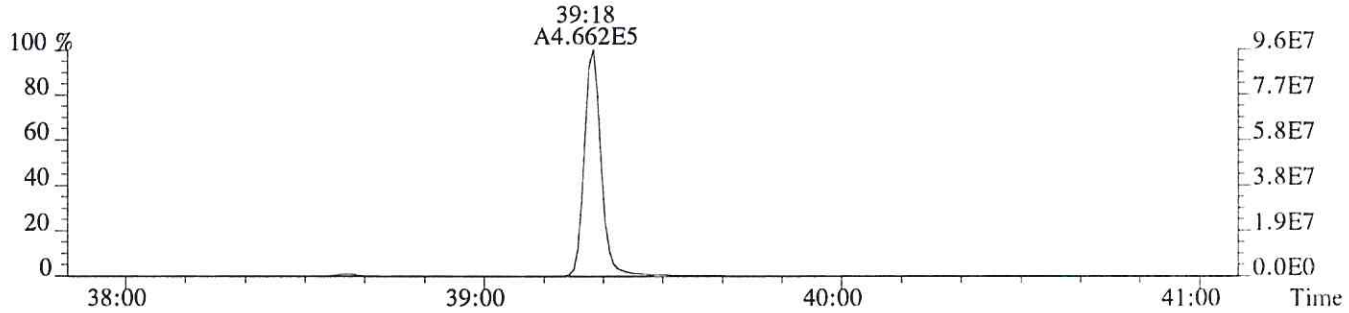
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



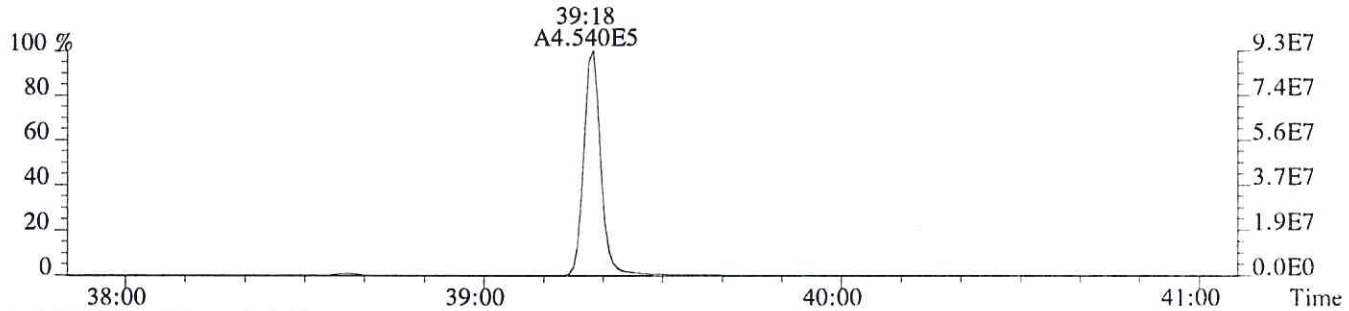
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



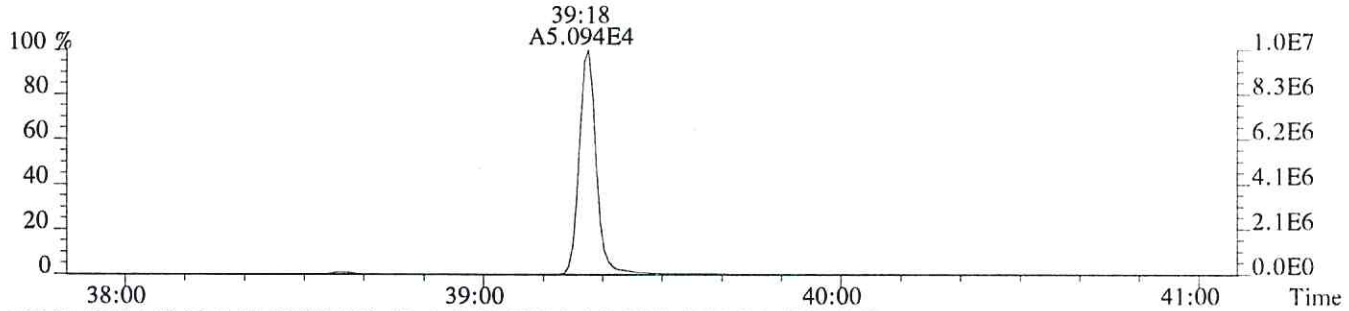
File:P510639 #1-295 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4364.0,0.40%,F,T)



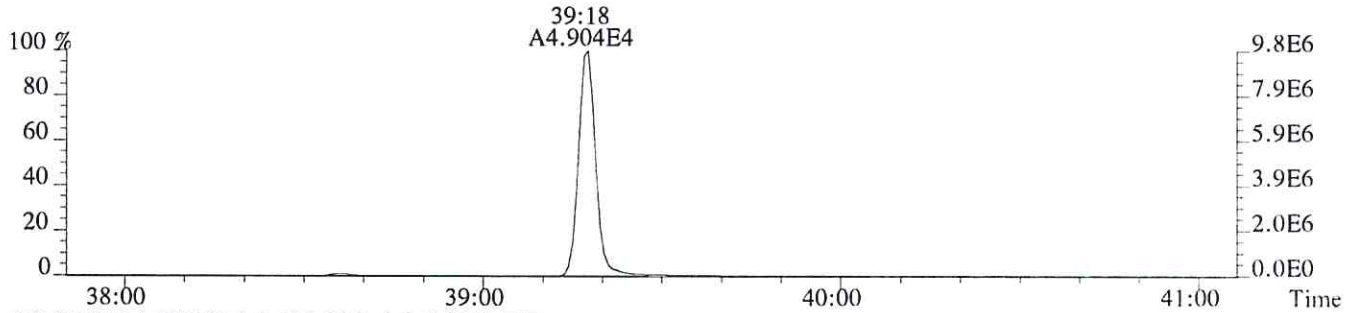
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4752.0,0.40%,F,T)



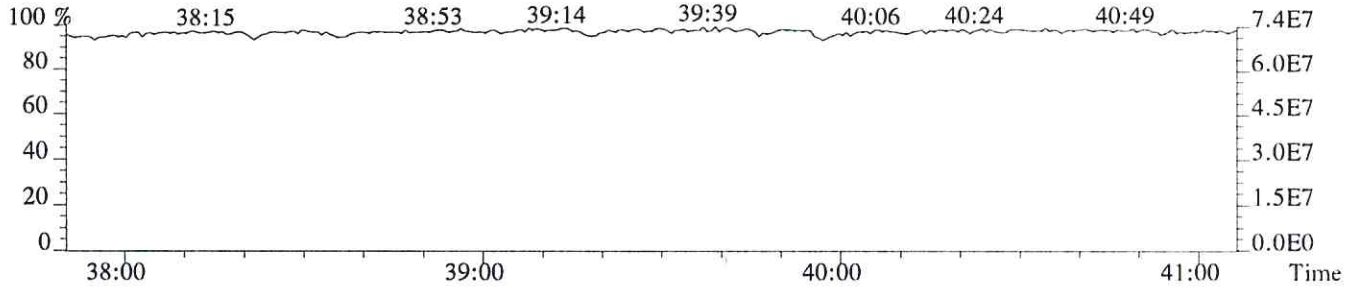
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,T)



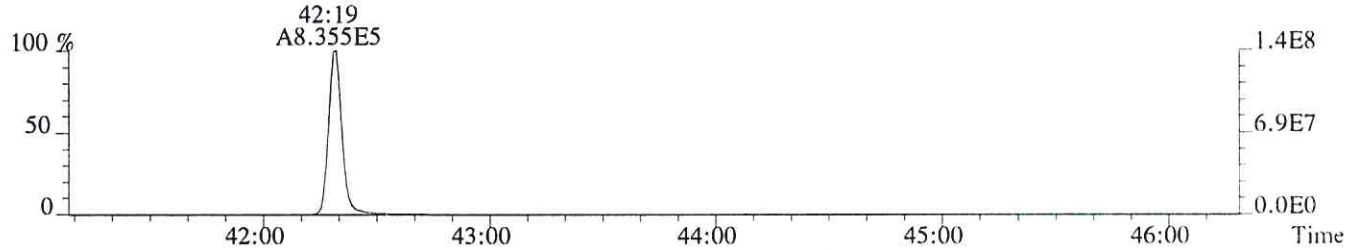
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.40%,F,T)



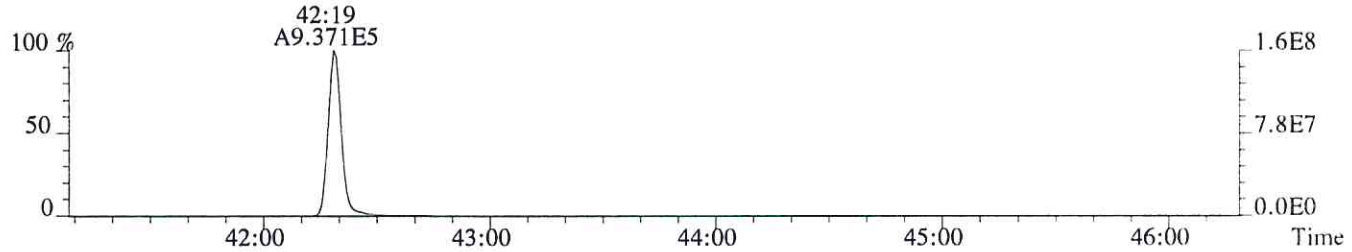
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



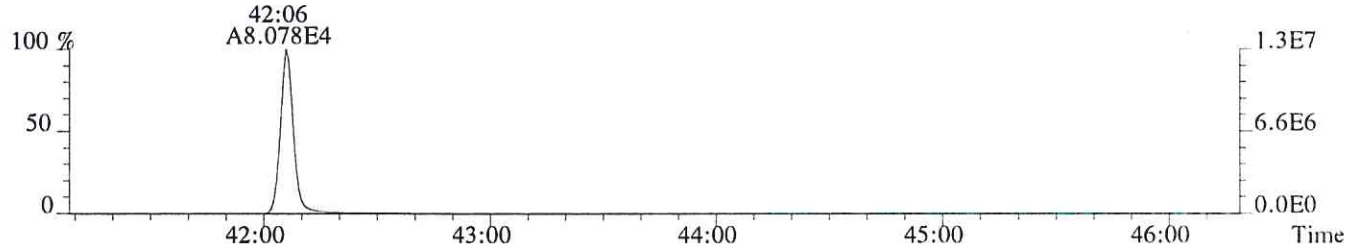
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,T)



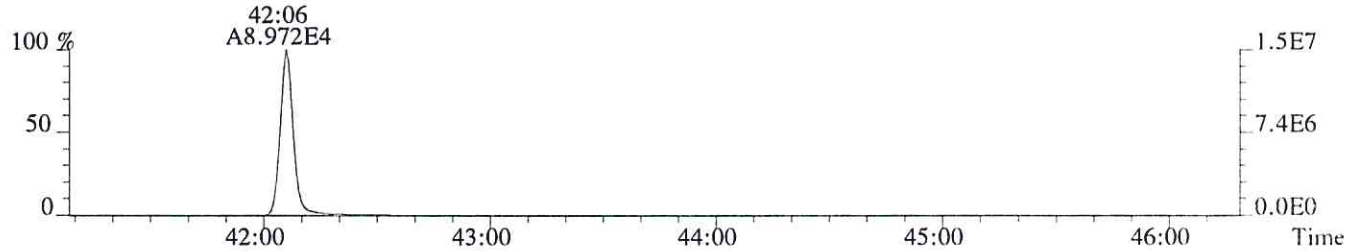
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1152.0,0.40%,F,T)



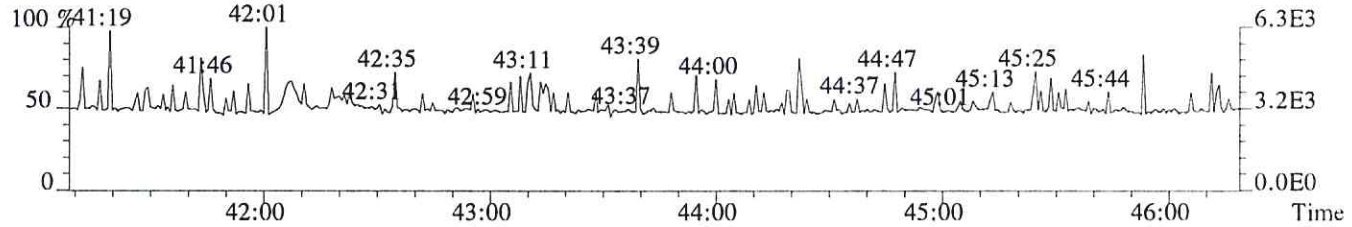
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



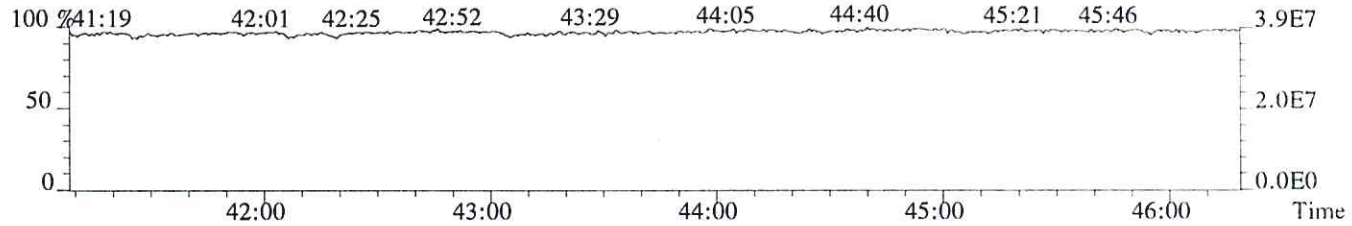
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,944.0,0.40%,F,T)



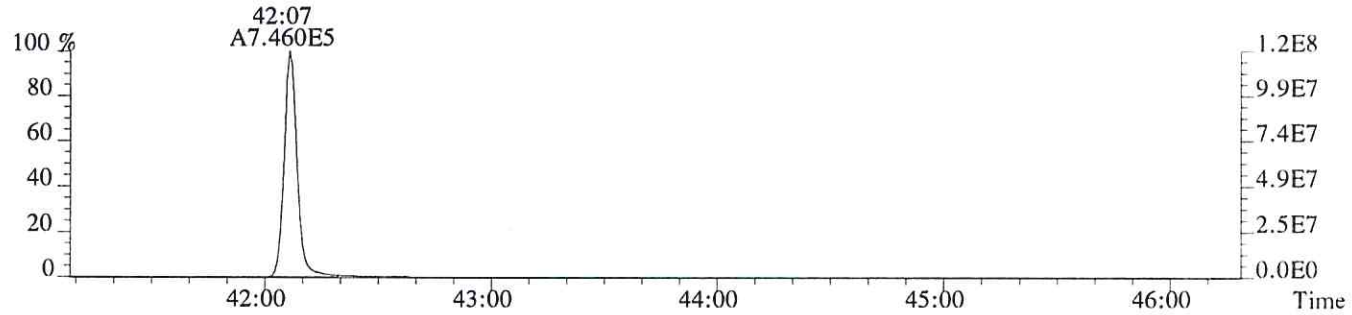
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



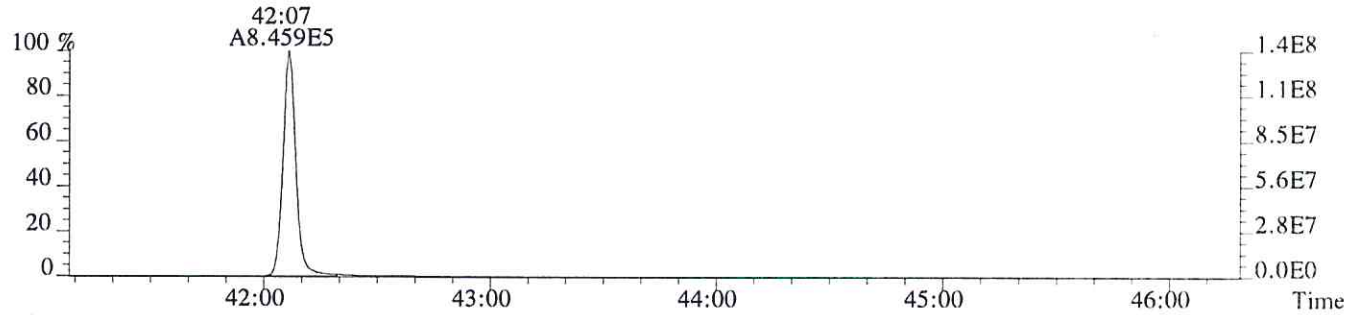
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



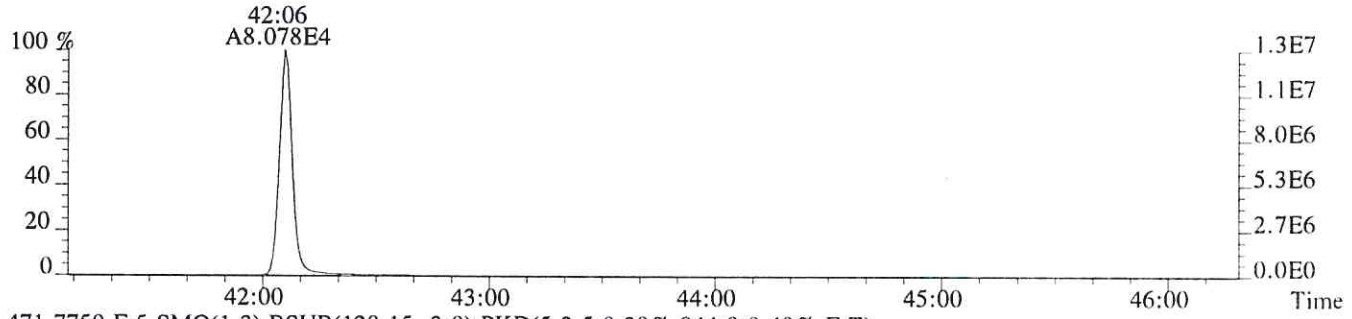
File:P510639 #1-466 Acq:26-JUL-2017 15:36:33 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:86168
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,880.0,0.40%,F,T)



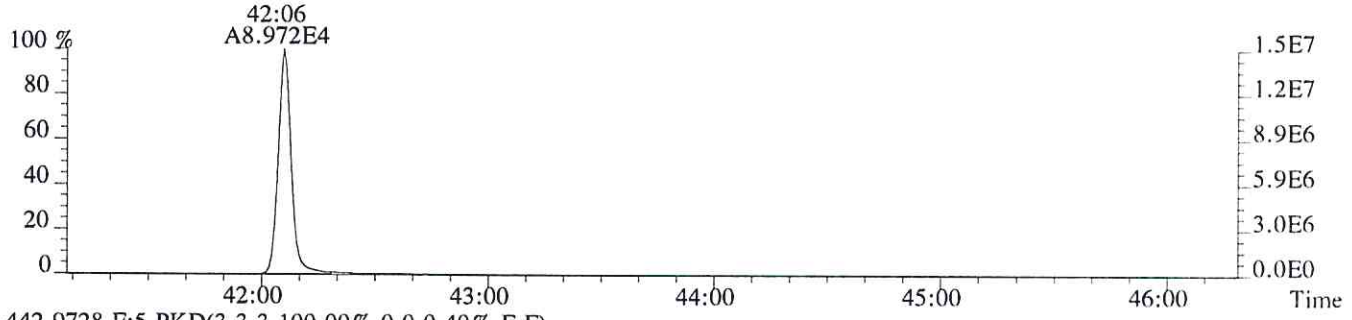
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,500.0,0.40%,F,T)



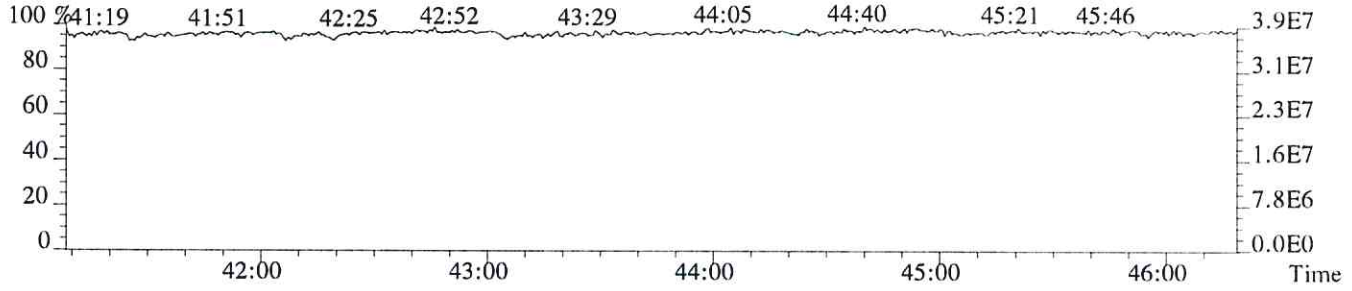
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,860.0,0.40%,F,T)



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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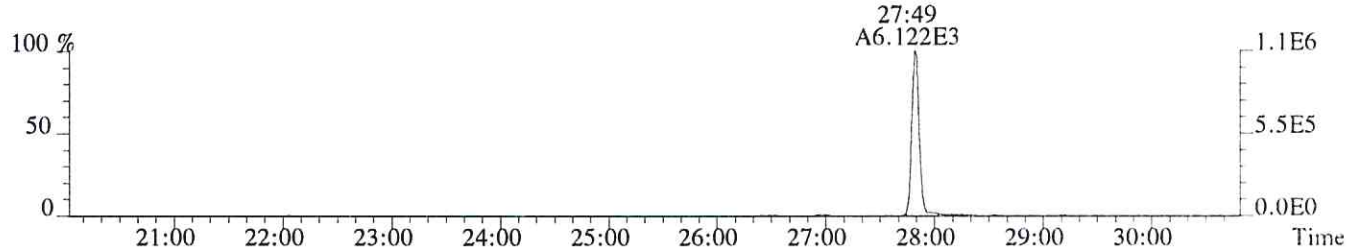
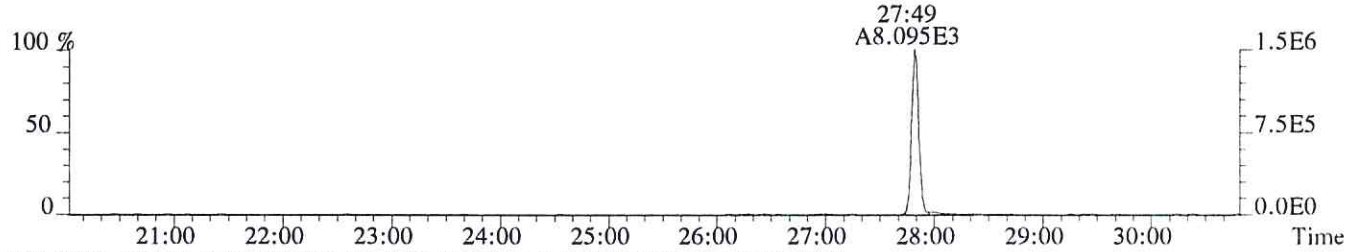
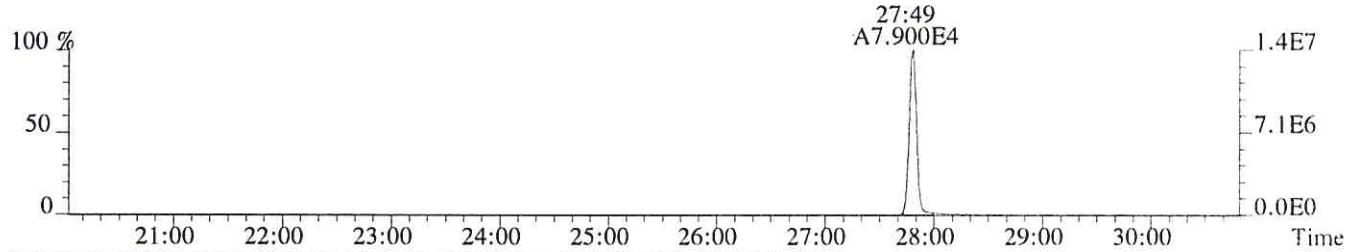
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,T)



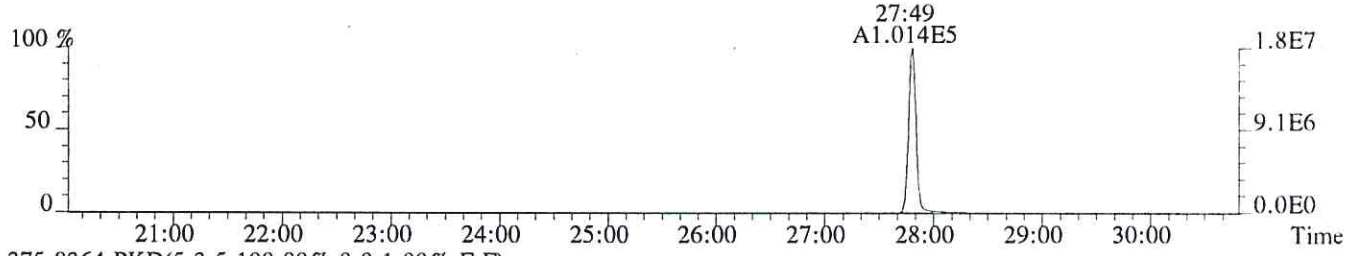
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2068.0,1.00%,F,T)



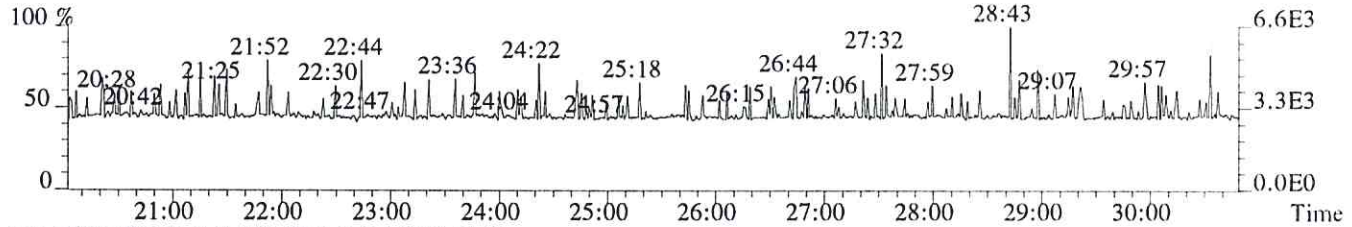
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9712.0,1.00%,F,T)



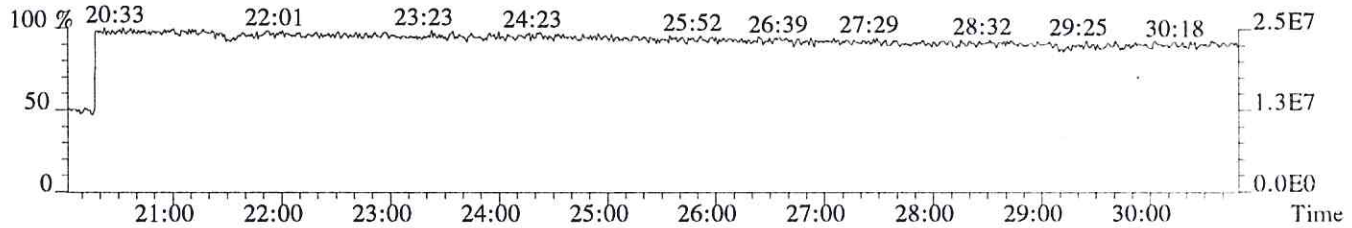
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4932.0,1.00%,F,T)



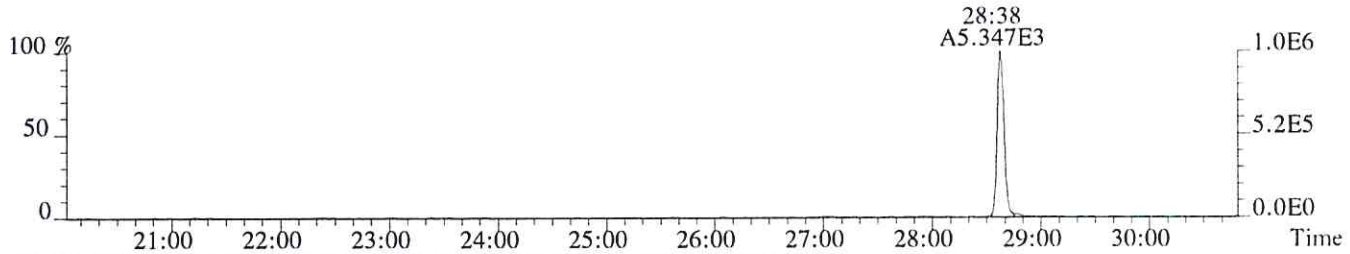
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



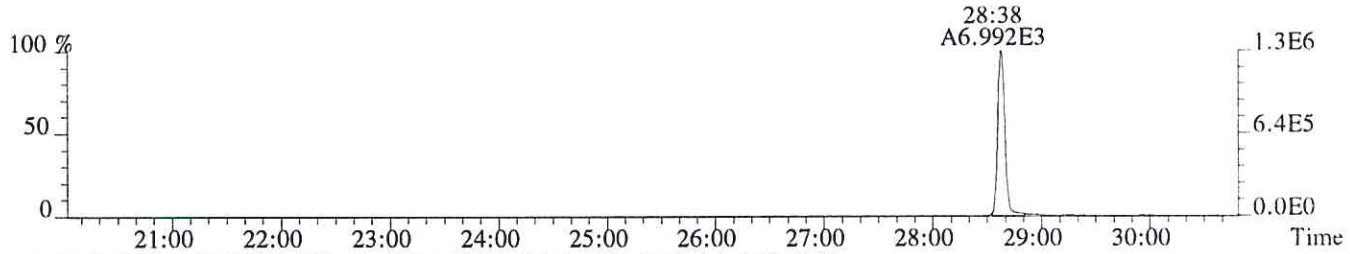
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



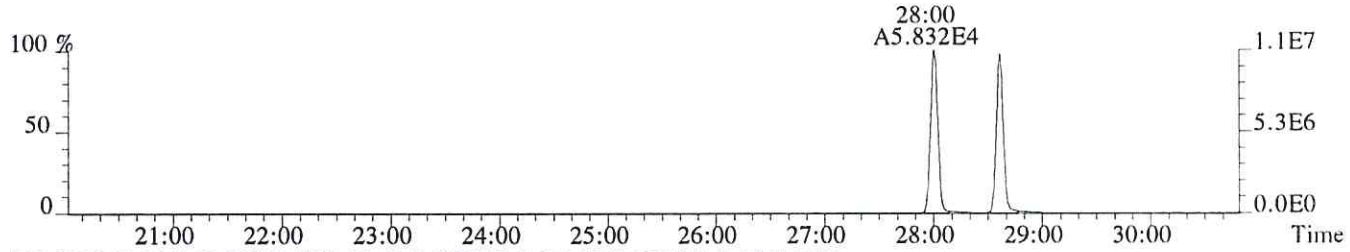
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,T)



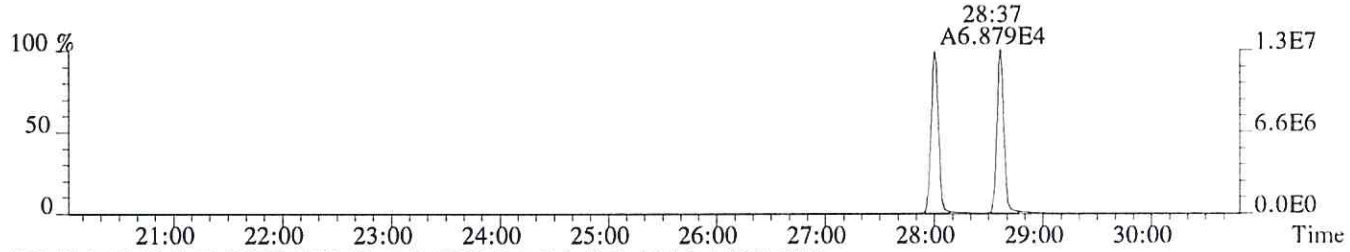
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1144.0,1.00%,F,T)



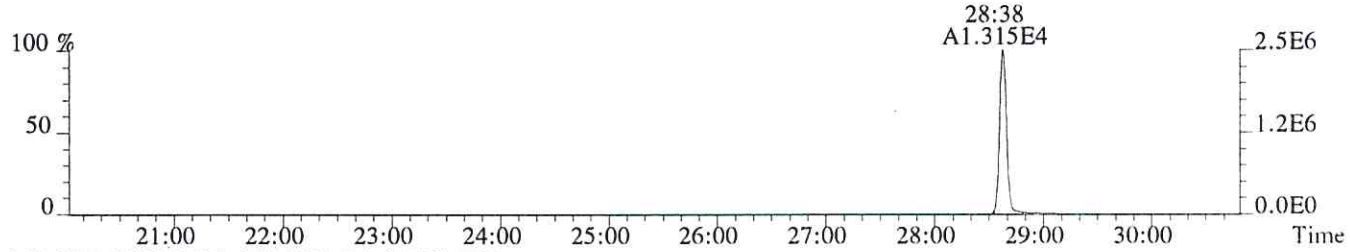
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6140.0,1.00%,F,T)



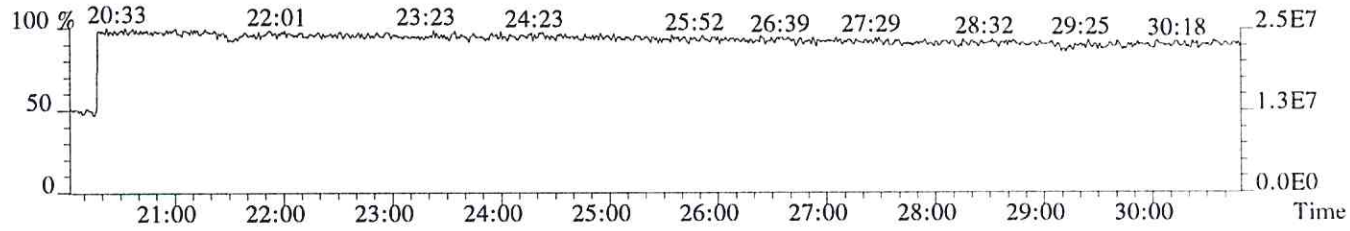
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,T)



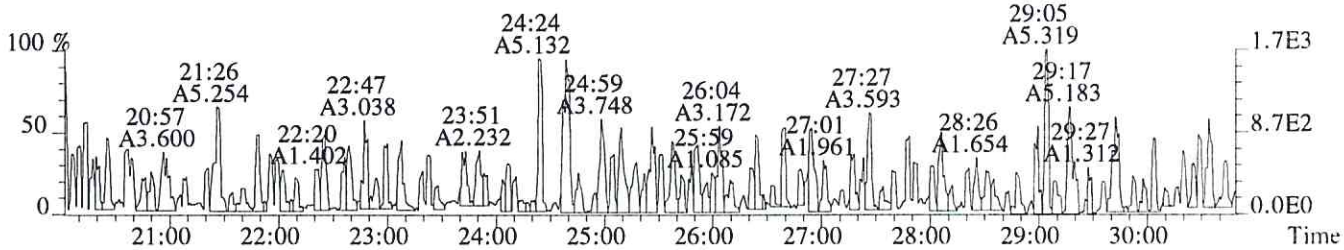
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,T)



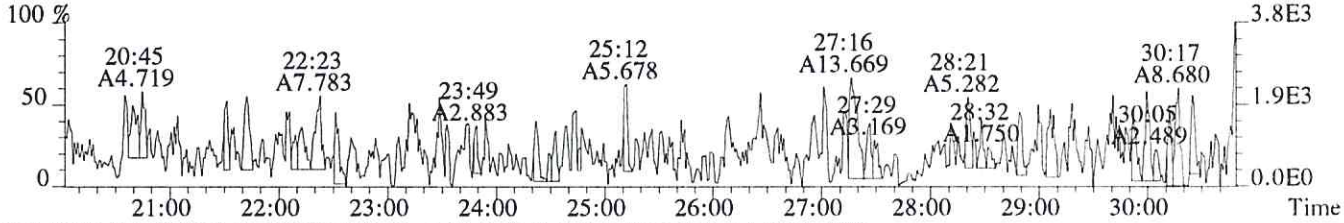
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



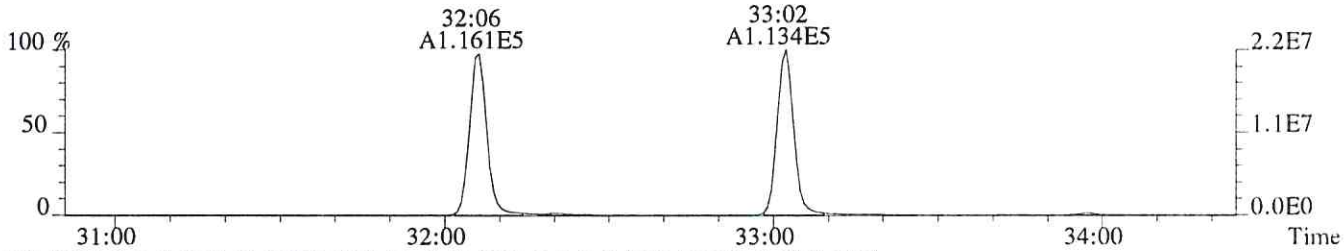
File:P510641 #1-765 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,T)



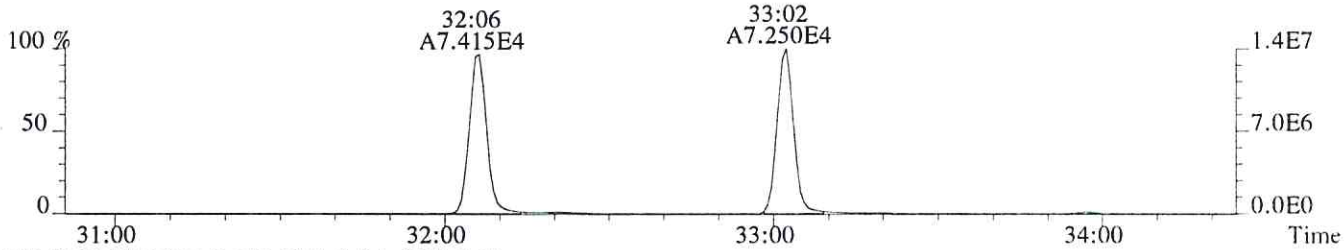
341.8567 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,T)



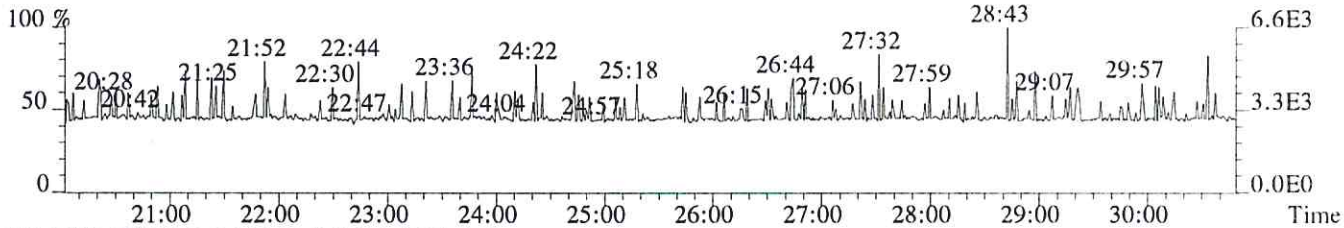
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



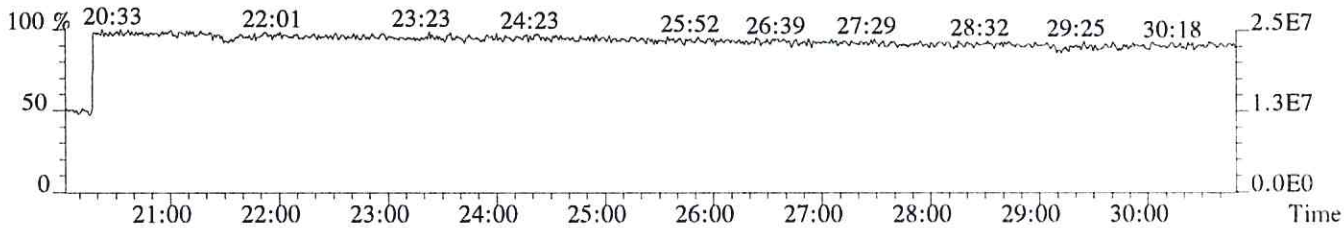
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



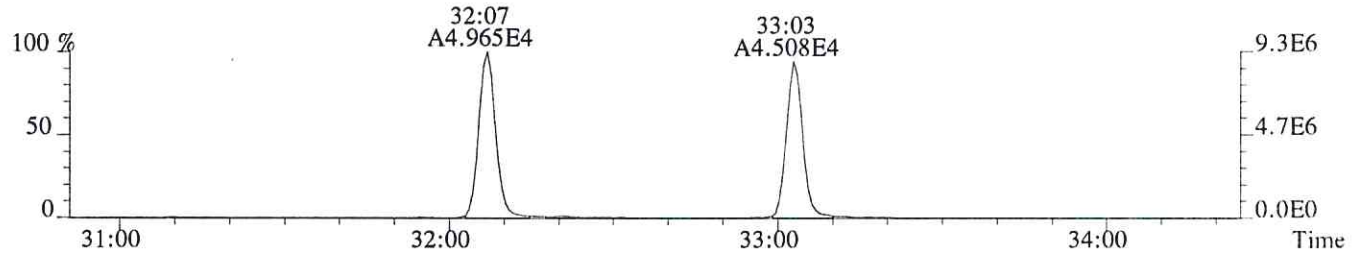
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



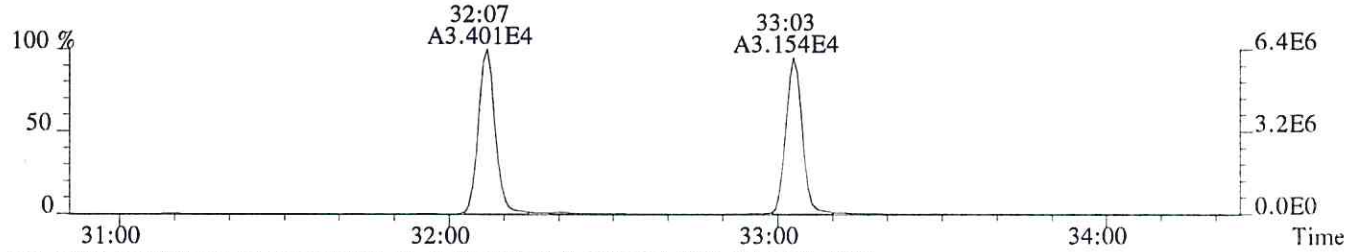
318.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



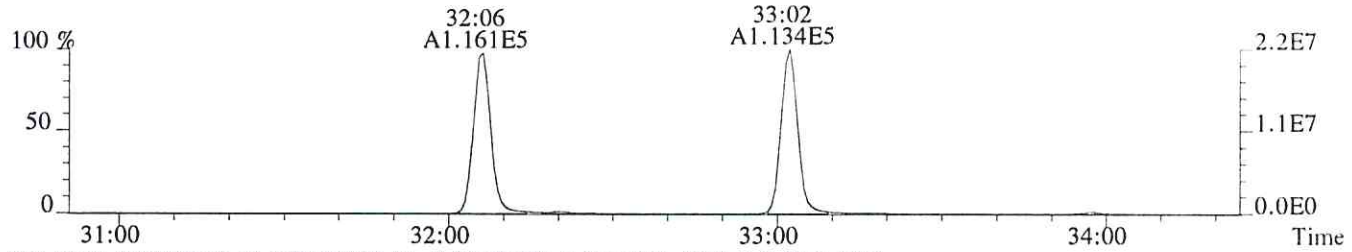
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,T)



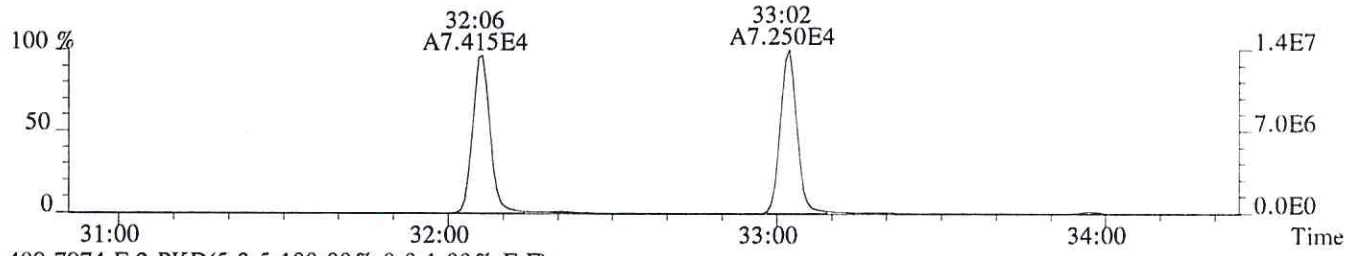
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1780.0,1.00%,F,T)



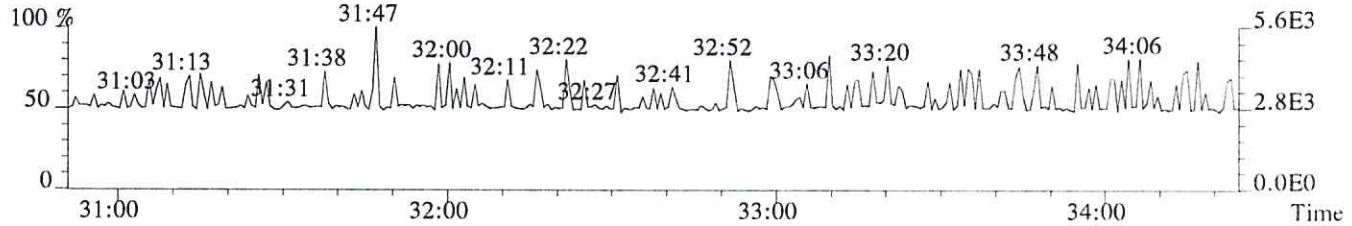
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,T)



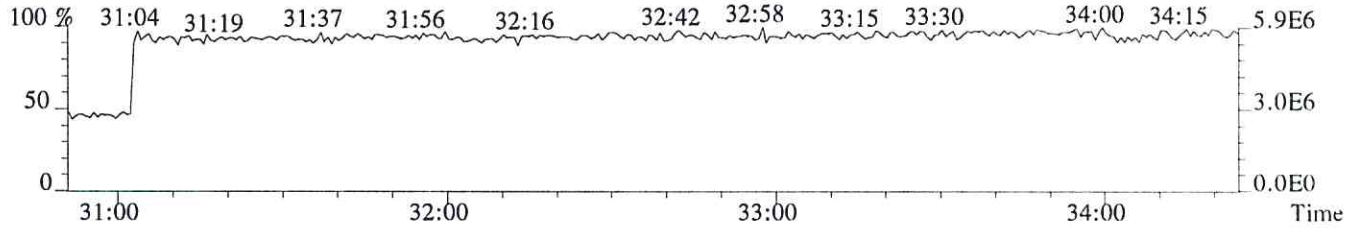
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,T)



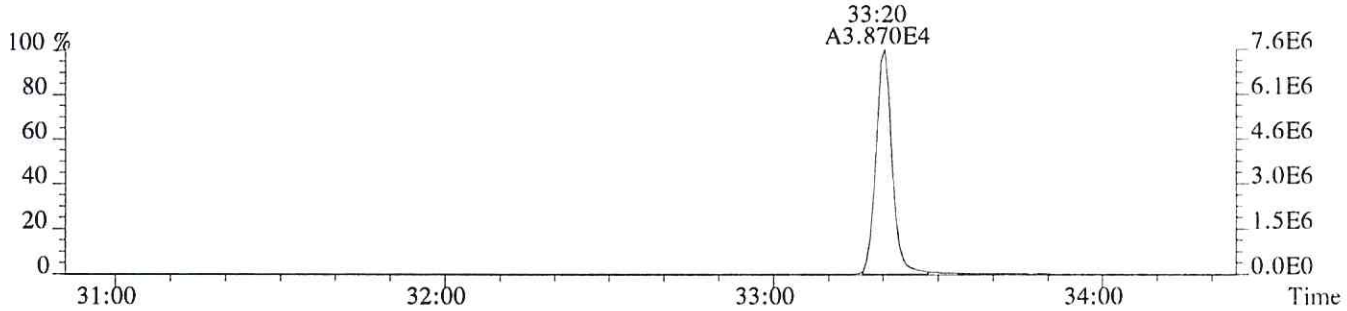
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



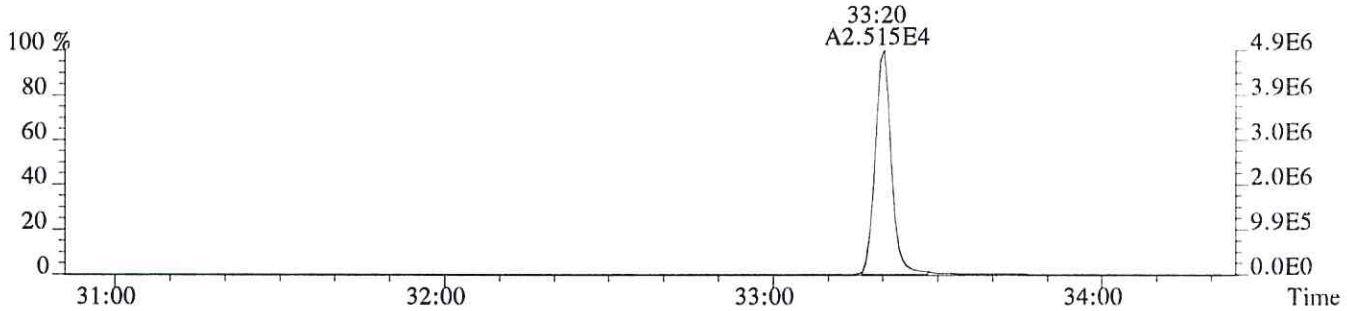
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



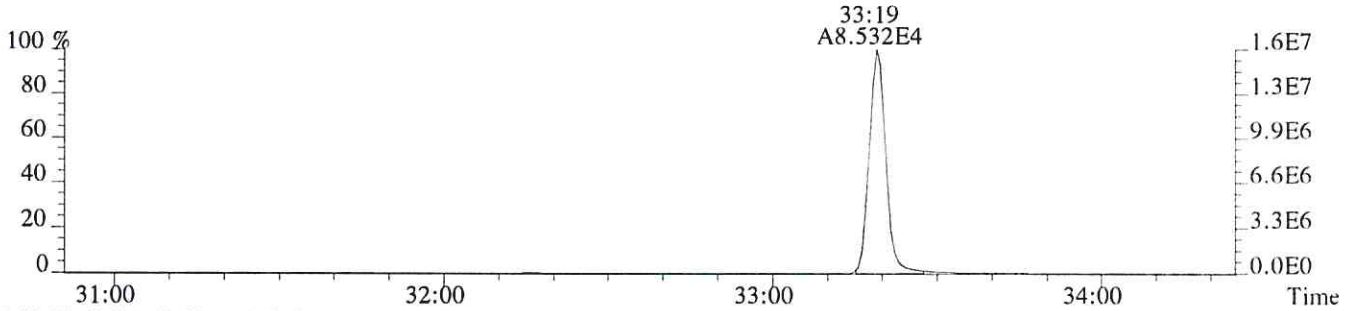
File:P510641 #1-321 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1412.0,1.00%,F,T)



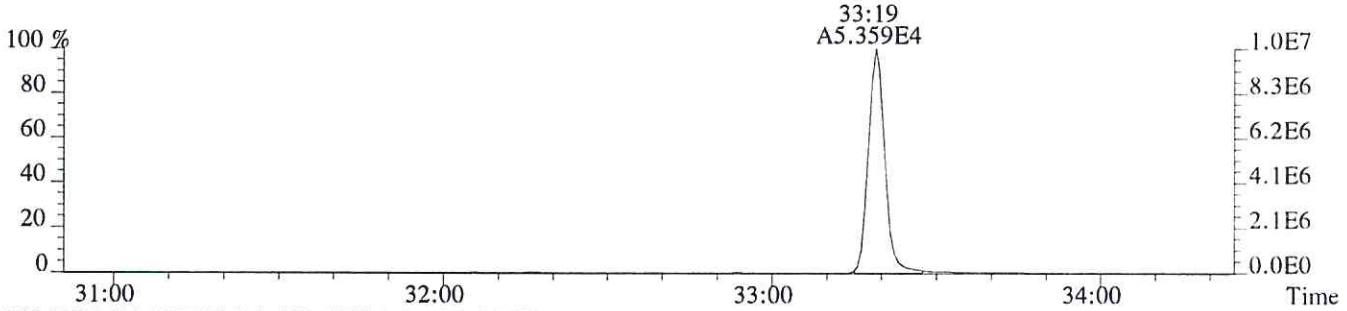
357.8516 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,T)



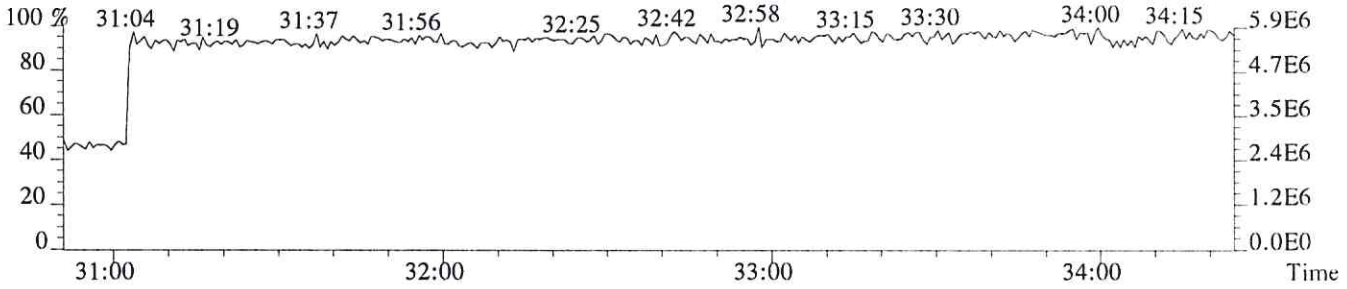
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,T)



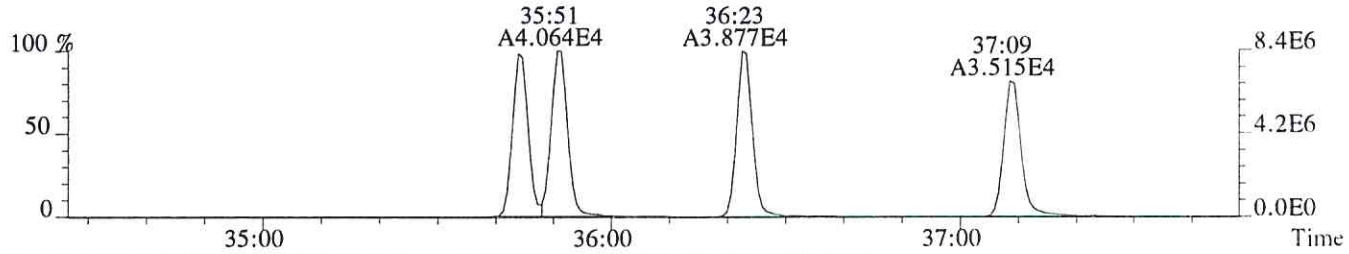
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,T)



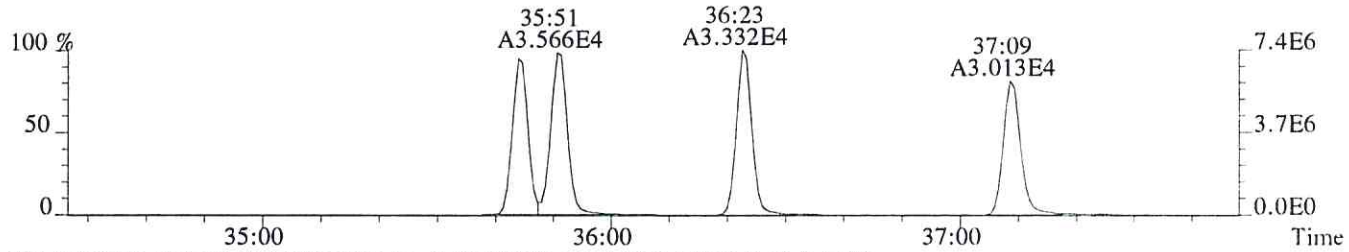
366.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



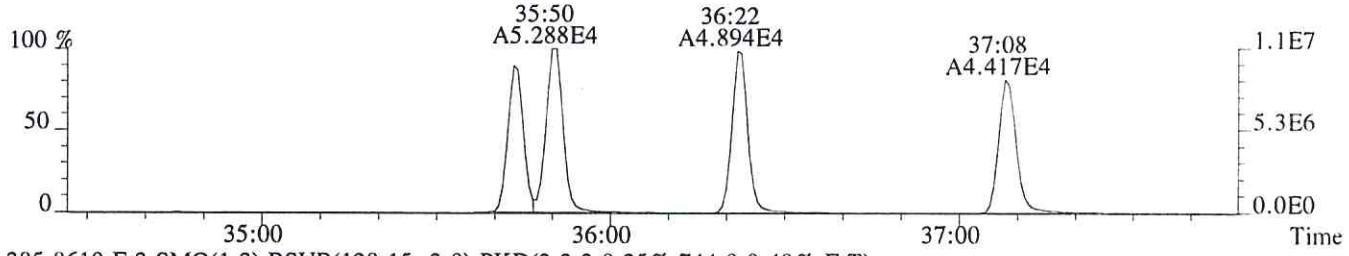
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,T)



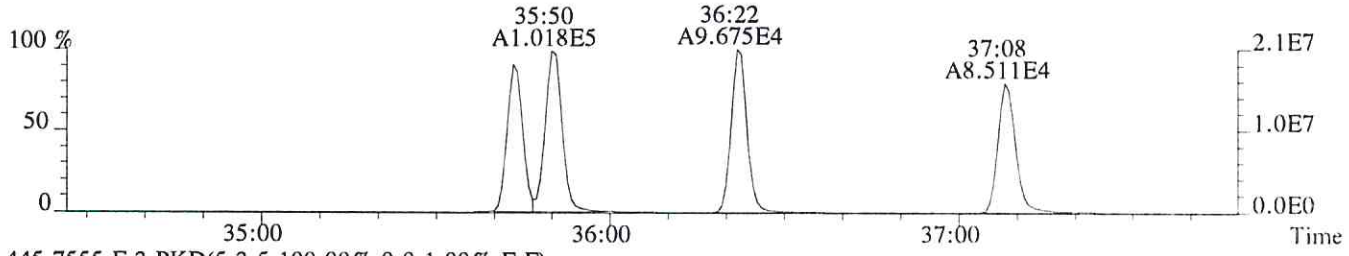
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,556.0,0.40%,F,T)



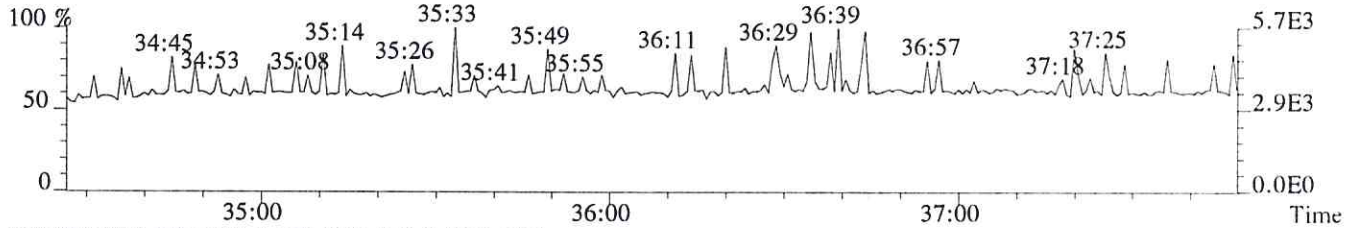
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,T)



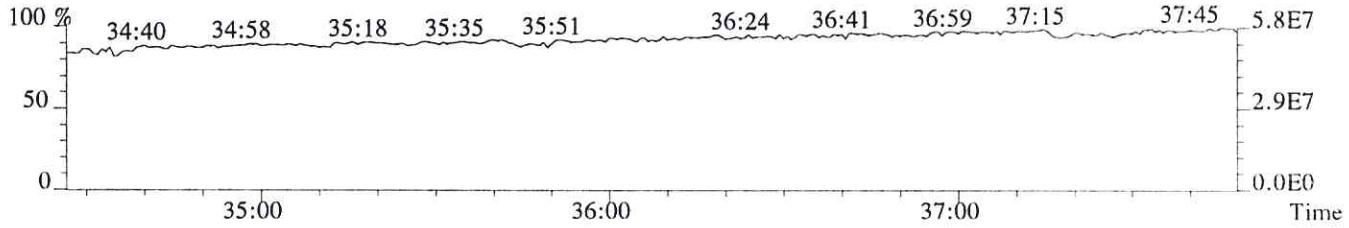
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,T)



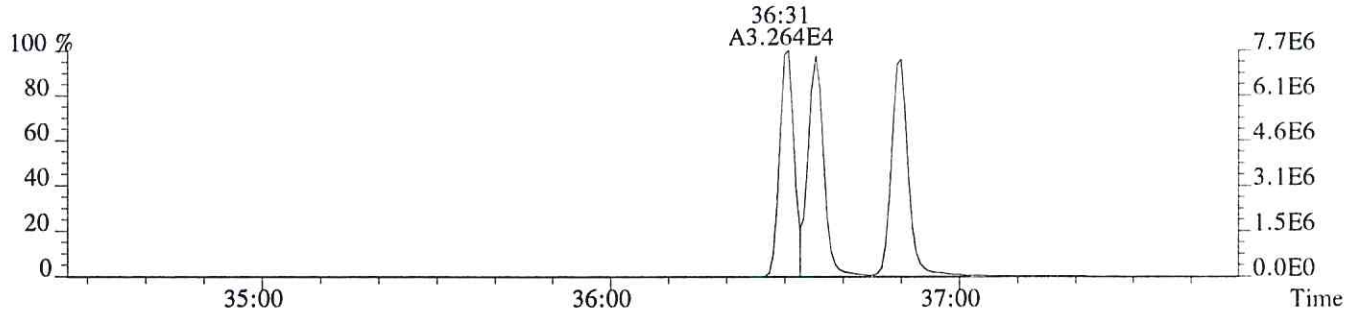
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



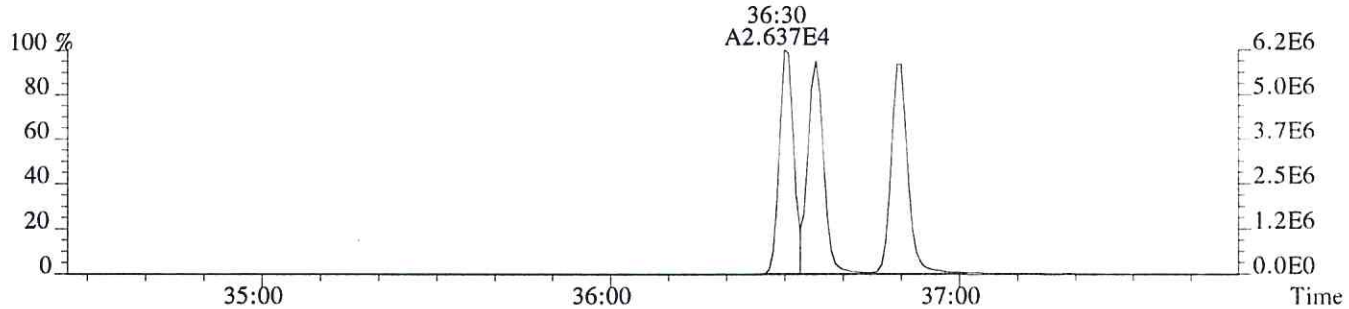
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



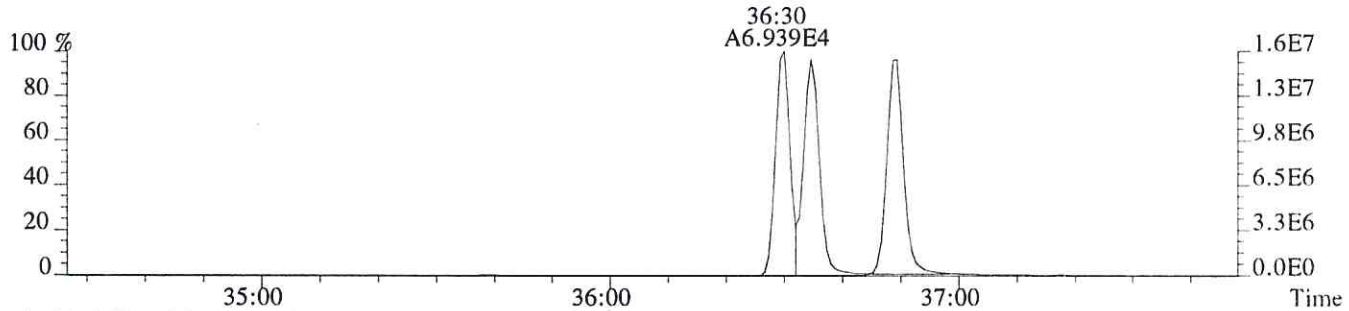
File:P510641 #1-303 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,T)



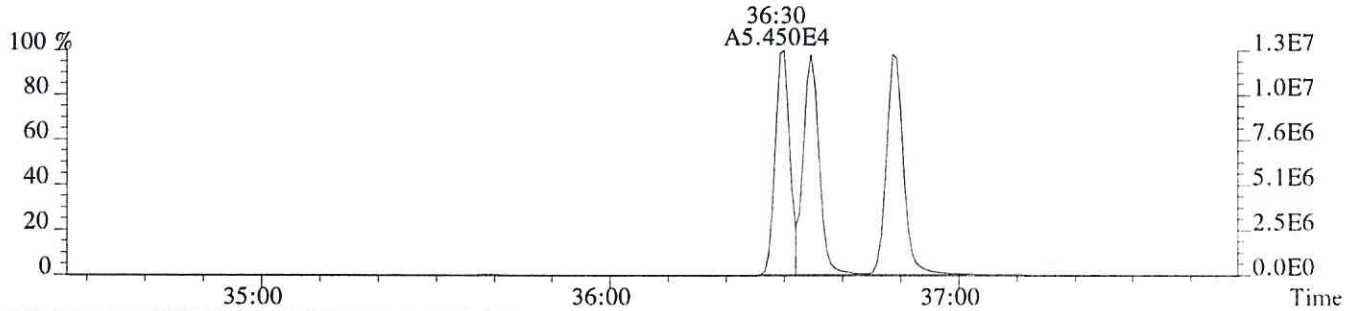
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,T)



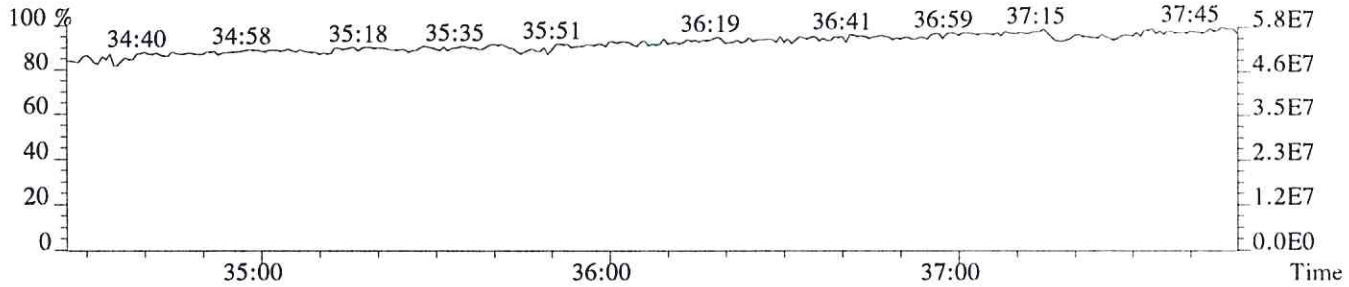
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2164.0,0.40%,F,T)



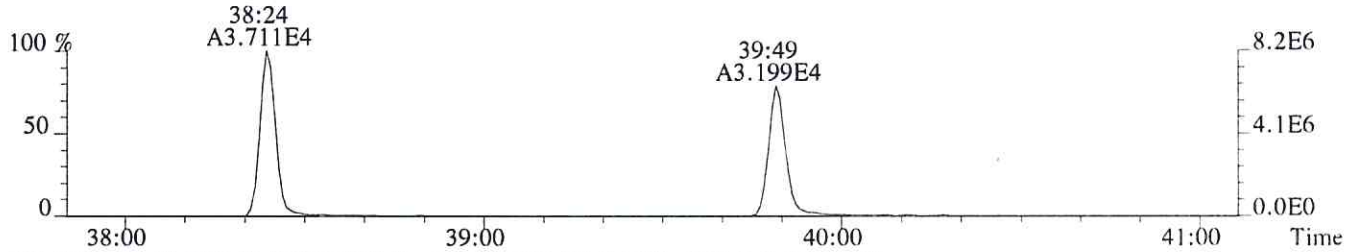
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,T)



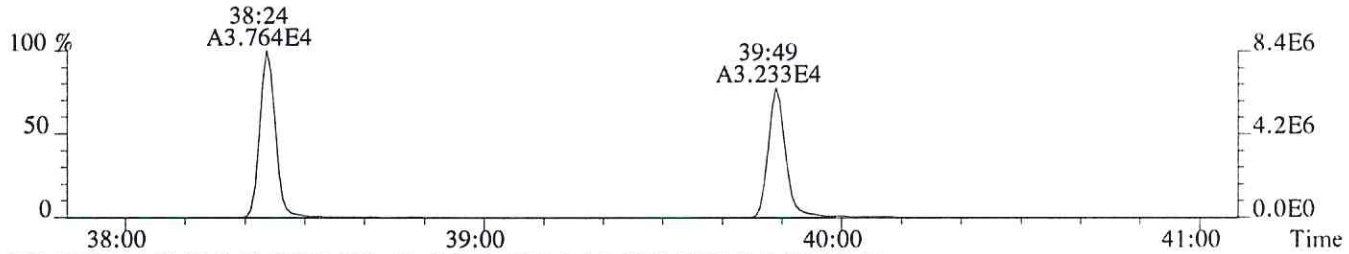
430.9729 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



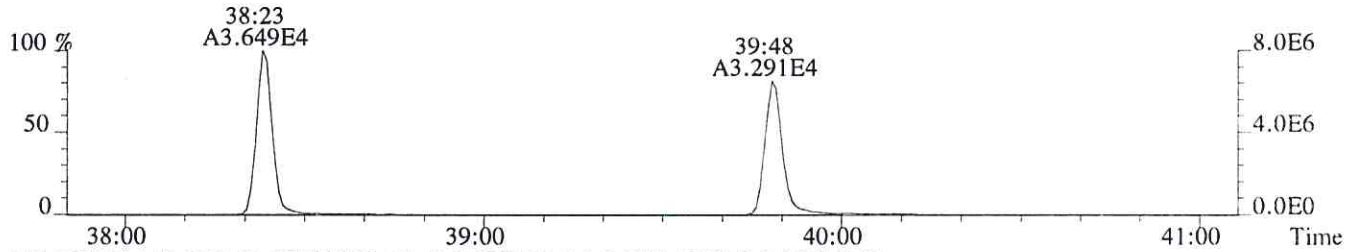
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4456.0,0.50%,F,T)



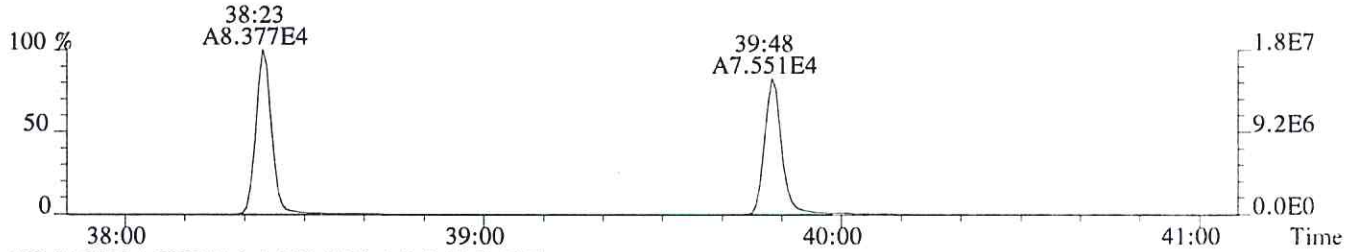
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1664.0,0.50%,F,T)



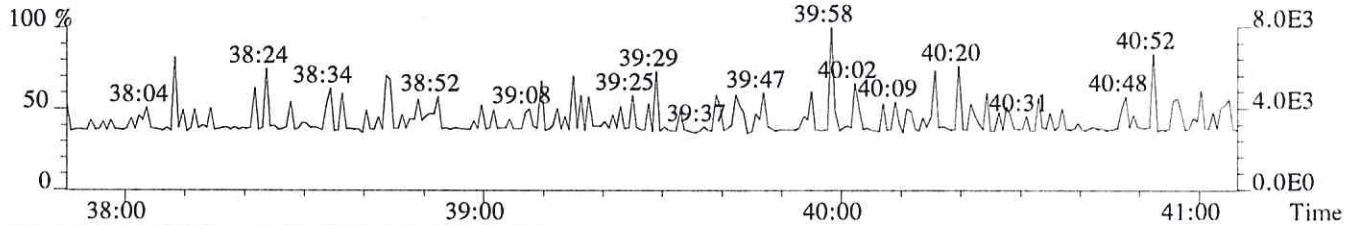
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3000.0,0.50%,F,T)



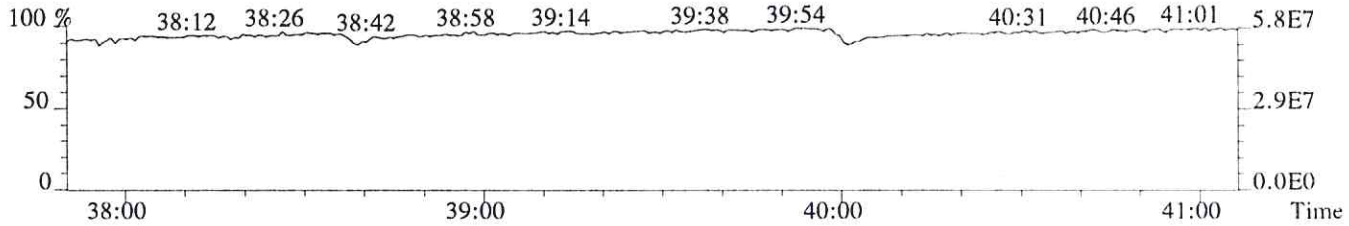
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7064.0,0.50%,F,T)



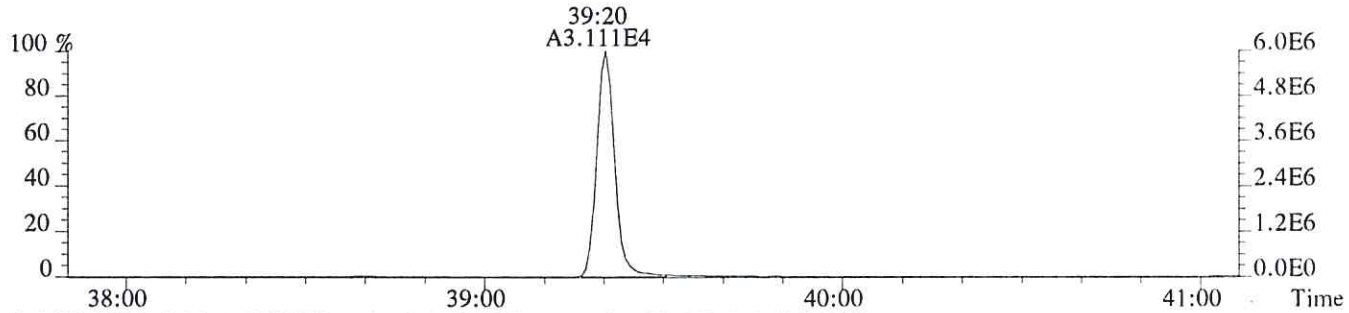
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



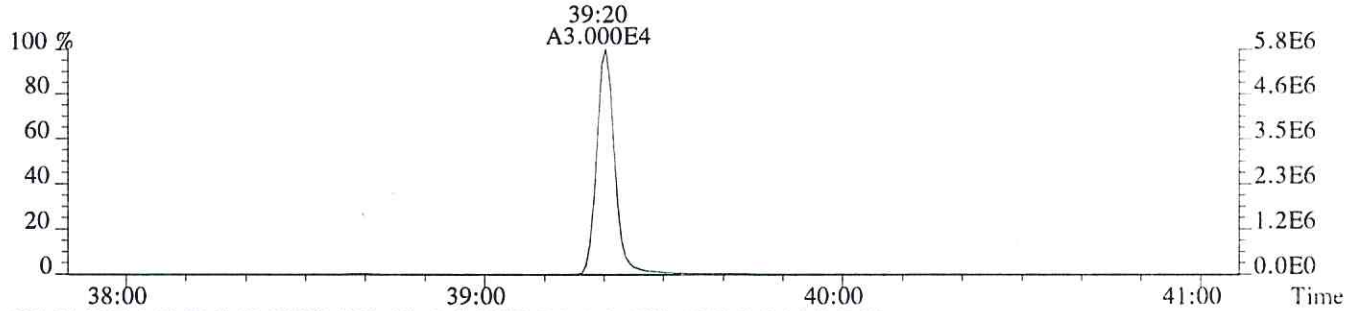
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



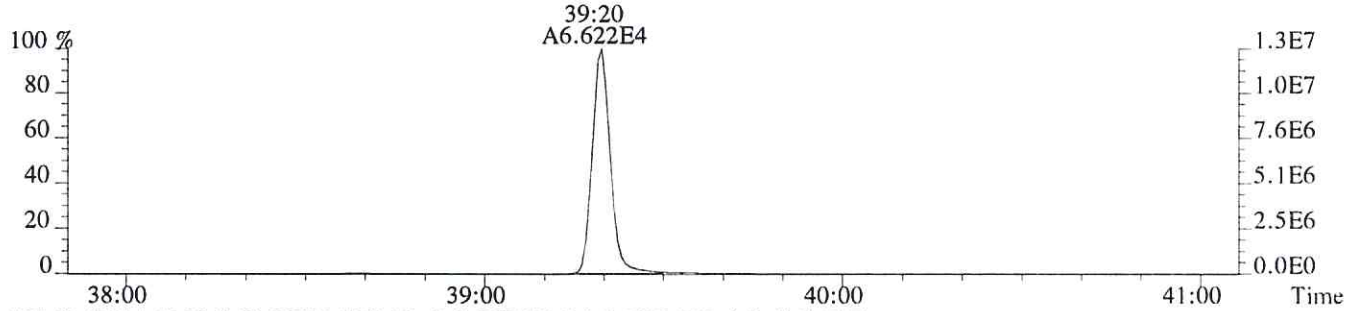
File:P510641 #1-295 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,T)



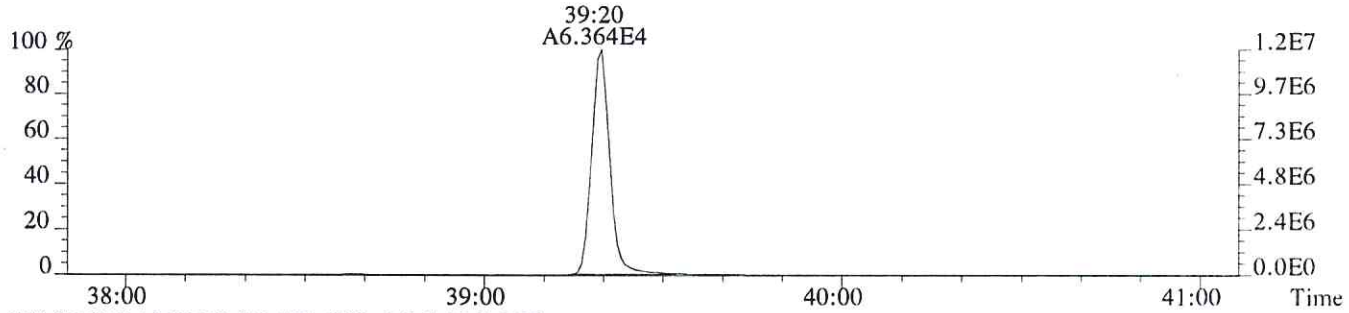
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,868.0,0.40%,F,T)



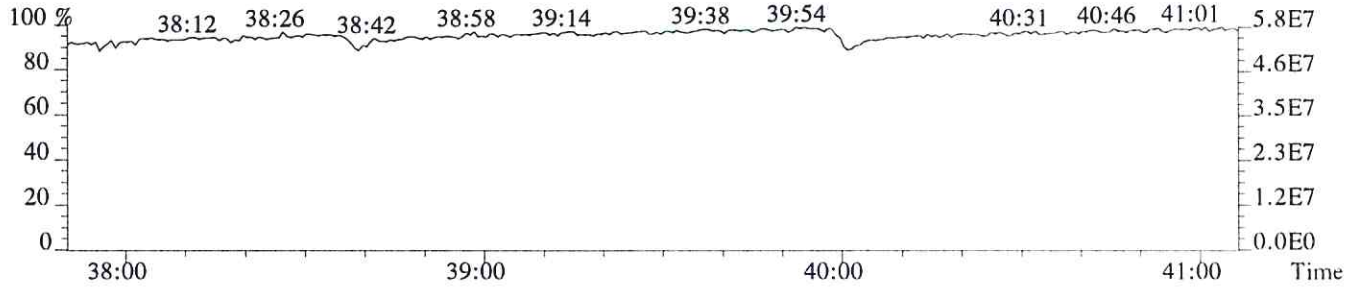
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1368.0,0.40%,F,T)



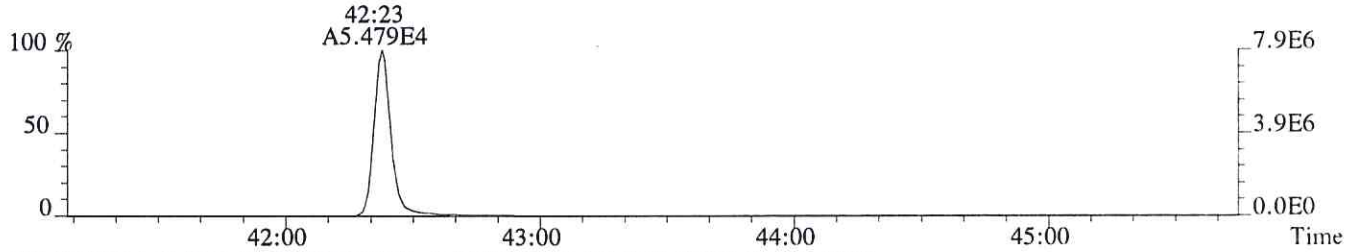
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,T)



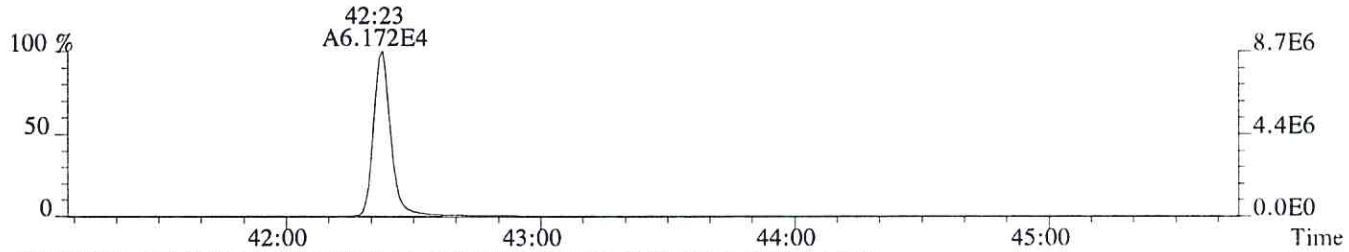
430.9729 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



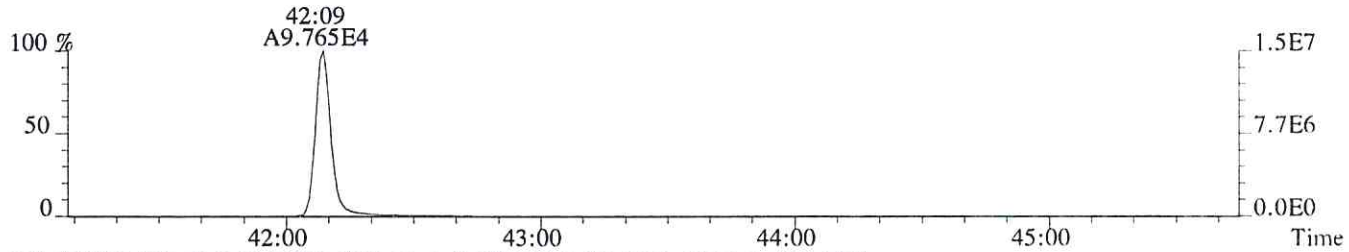
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,T)



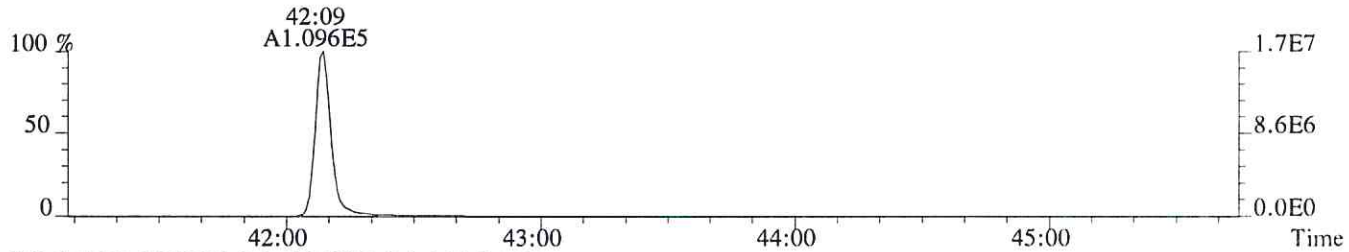
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,T)



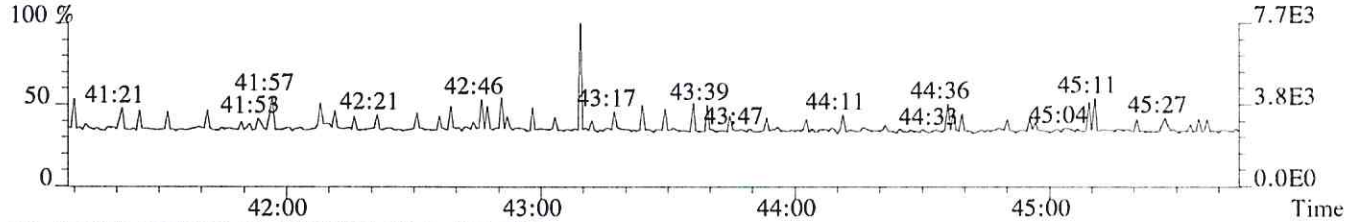
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,728.0,0.40%,F,T)



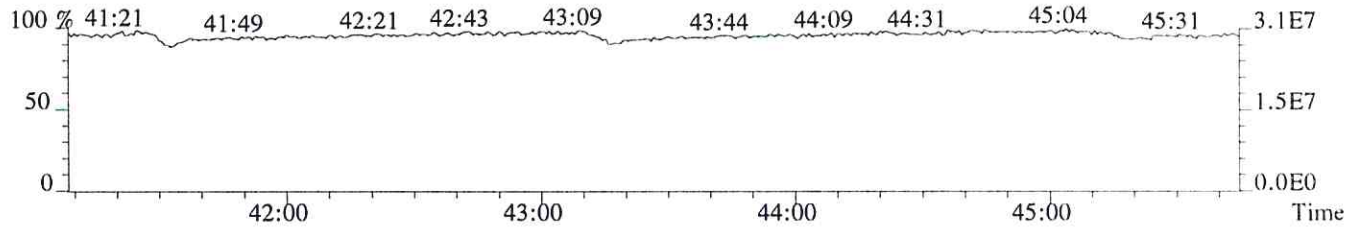
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,452.0,0.40%,F,T)



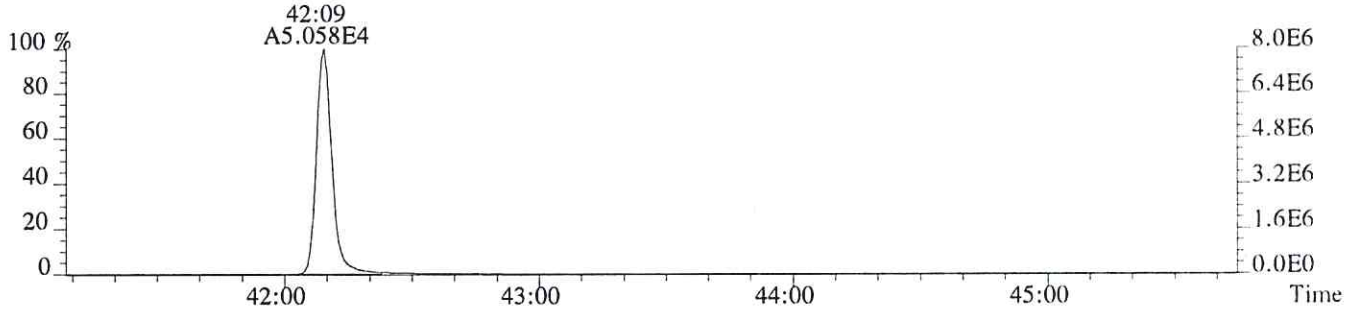
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



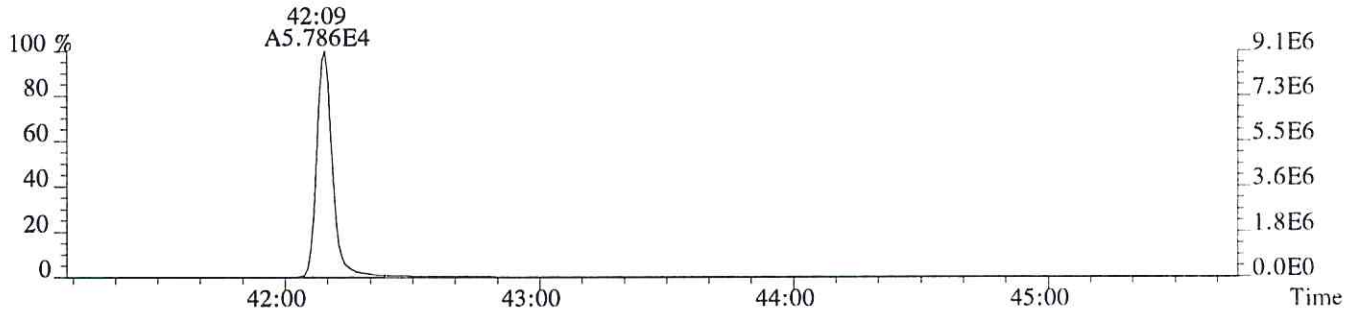
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



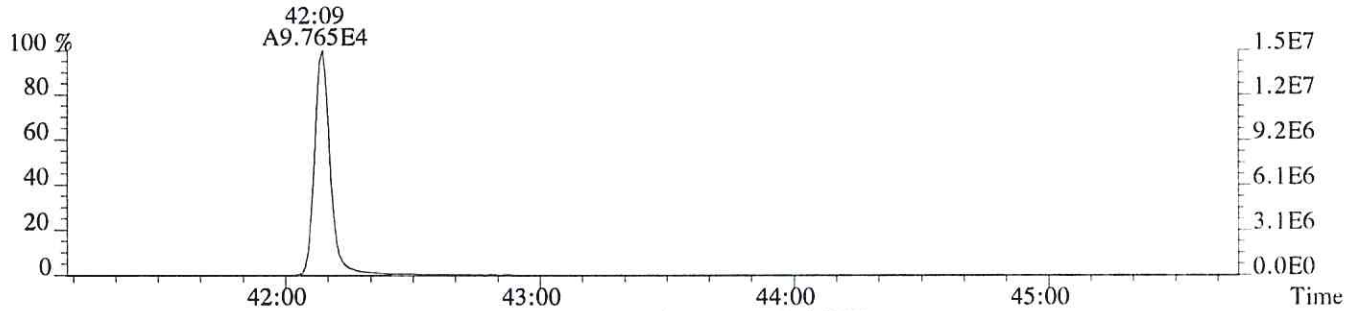
File:P510641 #1-415 Acq:26-JUL-2017 17:13:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:75080
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,76.0,0.40%,F,T)



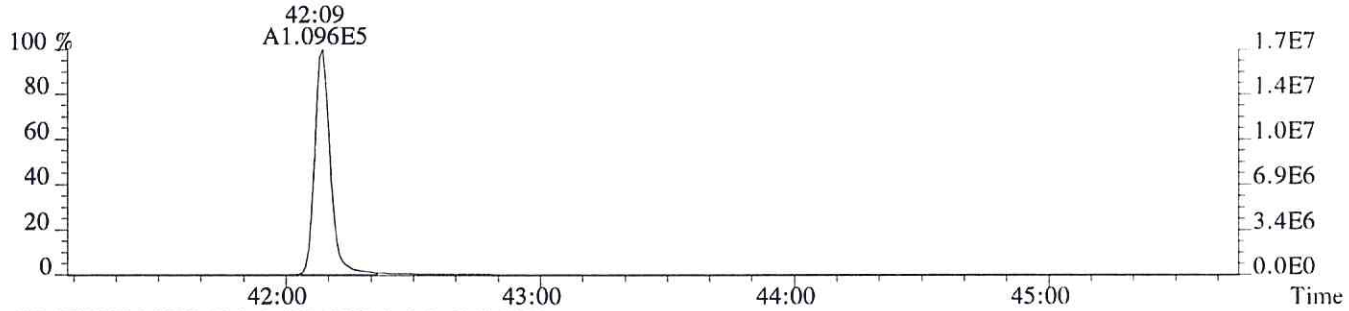
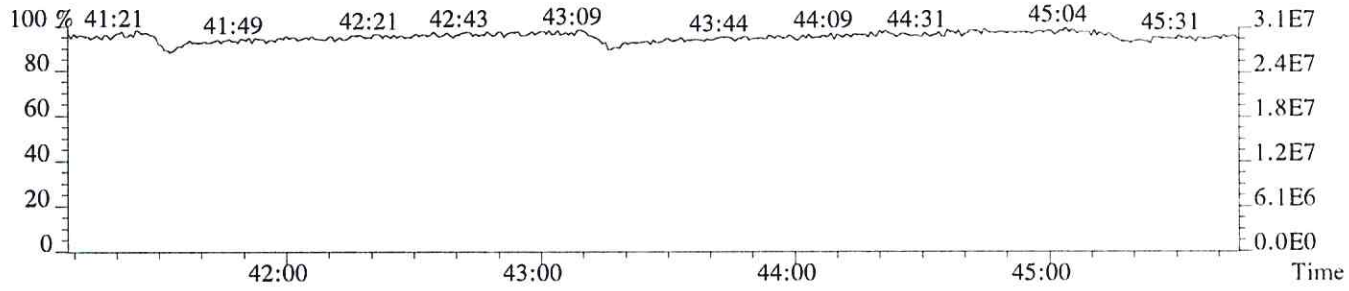
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,232.0,0.40%,F,T)



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)