BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	103	101	102	103	101	101	98	99	99	98	95	97	95	95	101	98	102	104	100	103	92	99	100	100
CCB10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	103	101	102	103	99	100	97	98	98	97	94	96	94	94	100	97	103	103	99	104	91	98	99	99
CCB11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA3	100	----	----	----	----	----	90	----	----	----	85	----	92	----	----	----	----	----	----	----	----	----	----	----
ICSAB3	100	106	106	109	96	97	89	93	93	101	85	92	92	88	101	92	109	107	109	108	84	94	95	95
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV13	103	102	103	104	100	100	97	98	98	97	94	96	94	94	100	98	104	103	99	105	90	98	99	99
CCB13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
F315-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
F315-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
F315-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA4	99	----	----	----	----	----	93	----	----	----	89	----	95	----	----	----	----	----	----	----	----	----	----	----
ICSAB4	99	106	108	115	97	96	90	96	91	99	88	92	93	88	99	91	120	107	108	117	83	95	98	97
CCV14	102	100	100	112*	99	100	96	100	97	97	95	96	95	93	100	97	115*	100	99	115*	90	98	103	101
CCB14	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

QC limit of each parameter are listed in a table attached next to all the ICP check forms
* : Out of QC Limit

ggg

SDG : 180A5 UNIT : UG/L SUMMARY of CALIBRATION BLANKS : ID8G037 (SOIL) DATE : 07/31/08

ANALYTE	Al	Sb	As	Ba	Be	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Tl	Sn	V	Zn
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S17	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV-2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV-5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	-5.43	1.75	.840	-.080	.020	-.020	-63.1	.040	.030	-.100	-.400	-.810	-4.40	.280	.170	-.120	-94.1	.250	-.010	-268	-1.07	.820	.010	-2.70
CCV-2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV-5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB	-7.25	2.36	-.410	.060	-.060	.040	-65.8	-.180	-.070	-.230	-1.23	-.820	3.53	.160	.140	.010	-92.3	-.090	.130	-283	.140	.810	-.040	-2.79
ICSA1	----	3.76	-.470	-.840	.020	-3.66	----	-.550	-.850	2.65	----	8.15	----	-.880	-2.26	.620	-33.3	6.06	.600	-76.4	-7.73	-.230	.080	6.40
ICSAB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	19.1	1.62	.170	.110	.050	.040	197	.030	.070	.090	16.3	-.690	55.5	.440	.120	.070	-44.3	.380	.130	-245	-.060	.960	.070	5.04
IPG091WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG091WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG091WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	-2.55	2.74	-1.30	.050	.090	.070	-24.8	-.020	.110	.100	4.11	-.110	22.9	.000	.100	.080	-48.6	-.270	.350	-263	.380	1.03	.110	-1.46
G511-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	-.450	2.54	1.29	.110	.160	.080	-26.4	.180	.020	.280	2.92	-.510	34.8	.070	.150	.020	-59.7	.550	.160	-306	.310	1.38	.150	-1.55
G511-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA2	----	7.04	.830	-1.07	-.070	-3.78	----	-.480	-.940	4.28	----	9.34	----	-.510	-2.58	1.99	-31.8	4.22	1.13	18.4	-8.72	2.71	.060	16.9
ICSAB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	2.53	1.74	.690	.140	.120	.080	-28.8	-.060	.110	-.260	5.08	-.610	37.5	.070	.130	-.050	-95.3	-.150	.110	-262	.280	1.42	.010	-1.94
IPG088SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG088SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG088SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

G549-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB5	.720	2.20	1.89	.170	.100	.020	-27.0	-.010	.120	-.290	4.61	-.400	32.3	-.110	.150	.000	-66.1	1.86	.220	-303	-.490	.960	.040	-1.56
G549-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G549-13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G564-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G528-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G528-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G593-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	-2.76	1.28	.090	.370	.120	.040	-26.0	.130	.130	-.110	2.63	-.560	17.4	.000	.170	-.100	-61.2	.100	-.080	-321	.920	1.15	.100	-1.96
IPG092SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG092SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG092SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G195-06M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G195-06S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G195-06A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G195-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G195-06J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	-4.26	3.55	-.310	.480	.160	.070	-32.4	.080	.080	-.040	5.38	-.370	30.4	-.130	.150	-.130	-53.0	.260	.020	-317	-.230	.530	.080	-2.05
G188-05M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G188-05S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G188-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G559-27	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	-6.37	2.77	.070	.200	.100	.080	-32.9	.070	-.080	-.010	6.35	-.330	24.7	-.070	.080	-.070	-16.6	1.30	.140	-331	-1.43	.760	.140	-2.18
G314-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G314-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	-9.82	1.86	1.24	.480	.160	.080	-30.2	-.070	.060	.110	2.49	-.290	13.4	.060	.110	-.120	-87.4	.540	.040	-361	.050	.600	-.030	-1.93
IPG086WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG086WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPG086WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G545-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G545-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G545-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G543-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB10	-9.21	2.26	.170	.450	.070	.060	-36.1	-.090	.100	-.220	3.96	-.300	23.2	.260	.110	-.280	-50.2	2.15	.270	-359	-.810	.810	-.090	-2.03	
G563-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G563-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB11	-5.84	2.43	-1.16	.270	.160	.130	70.5	-.010	.100	.470	5.66	-.090	30.9	.090	.190	.150	-57.8	2.06	.020	-292	-.610	.910	-.050	1.70	
G511-05A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
G511-05J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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ICSA3	----	6.35	.070	-.650	.030	-2.54	----	-.810	-.870	2.74	----	9.50	----	-.690	-2.22	.150	-80.3	8.54	.440	-231	-9.45	-.210	.020	7.56	
ICSAB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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CCV13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB13	-2.34	2.36	.190	.430	.140	.070	78.8	-.120	.070	.110	6.47	-.840	32.3	.230	.110	.210	-83.0	1.45	.040	-299	.110	1.11	.070	1.97	
F315-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
F315-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
F315-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
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ICSA4	----	7.11	-2.23	-.300	-.110	-5.12	----	-.540	-1.23	2.67	----	7.46	----	-.620	-2.41	.980	42.4	5.12	.260	1657	-8.83	-.500	-.130	8.02	
ICSAB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV14	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB14	31.8	3.73	-.750	.690	.110	.080	226	-.080	-.200	.570	16.0	-.720	38.6	.910	.200	.250	-109	1.66	.500	404	-.060	.670	.000	7.45	

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

	Pos ID	Type	Samplename	Comment	Data File	Type*	Dilln Factor	CorrFact	Check	Check Table	Fail Action
1	0	Unk	S0		ID8G037001			1	☐		Continue
2	0	Unk	S2		ID8G037002			1	☐		Continue
3	0	Unk	S5		ID8G037003			1	☐		Continue
4	0	Unk	S8		ID8G037004			1	☐		Continue
5	0	Unk	S11		ID8G037005			1	☐		Continue
6	0	Unk	S17		ID8G037006			1	☐		Continue
7	1	QC	ICV-2		ID8G037007			1	☒	ICV-2	Continue
8	2	QC	ICV-5		ID8G037008			1	☒	ICV-5	Continue
9	3	QC	ICB		ID8G037009			1	☒	CCB1	Continue
10	4	QC	CCV-2		ID8G037010			1	☒	CCV-2	Continue
11	5	QC	CCV-5		ID8G037011			1	☒	CCV-5	Continue
12	6	QC	ICB CCB 7-8/11-08		ID8G037012			1	☒	CCB1	Continue
13	7	QC	ICSA1		ID8G037013			1	☒	ICSA	Continue
14	8	QC	ICSAB1		ID8G037014			1	☒	ICSAB	Continue
15	9	QC	CCV1		ID8G037015			1	☒	CCV	Continue
16	10	QC	CCB1		ID8G037016			1	☒	CCB1	Continue
17	11	QC	IPG091WB		ID8G037017			1	☒	CCB1	Continue
18	12	QC	IPG091WL		ID8G037018			1	☒	LCS	Continue
19	13	QC	IPG091WC		ID8G037019			1	☒	LCS	Continue
20	14	Unk	G511-05A		ID8G037020			1	☐		Continue
21	15	Unk	G511-05		ID8G037021			1	☐		Continue
22	16	Unk	G511-05J		ID8G037022			1	☐		Continue
23	17	Unk	BLANK		ID8G037023			1	☐		Continue
24	18	Unk	BLANK		ID8G037024			1	☐		Continue
25	19	QC	CCV2		ID8G037025			1	☒	CCV	Continue
26	20	QC	CCB2		ID8G037026			1	☒	CCB1	Continue
27	21	Unk	G511-01	20X Cu, Ni	ID8G037027			1	☐		Continue
28	22	Unk	G511-02	20X Cu, Zn, Ni	ID8G037028			1	☐		Continue
29	23	Unk	G511-03	20X Cu, Zn, Ni	ID8G037029			1	☐		Continue
30	24	Unk	G511-04	20X Ni	ID8G037030			1	☐		Continue
31	25	Unk	G511-01	5X	ID8G037031			1	☐		Continue
32	26	Unk	G511-02	5X	ID8G037032			1	☐		Continue
33	27	Unk	G511-03	5X	ID8G037033			1	☐		Continue
34	28	Unk	BLANK		ID8G037034			1	☐		Continue
35	29	Unk	BLANK		ID8G037035			1	☐		Continue
36	30	QC	CCV3		ID8G037036			1	☒	CCV	Continue
37	31	QC	CCB3		ID8G037037			1	☒	CCB1	Continue
38	32	Unk	G511-01		ID8G037038			1	☐		Continue
39	33	Unk	G511-02		ID8G037039			1	☐		Continue
40	34	Unk	G511-03		ID8G037040			1	☐		Continue
41	35	Unk	G511-04		ID8G037041			1	☐		Continue
42	36	Unk	BLANK		ID8G037042			1	☐		Continue
43	37	Unk	BLANK		ID8G037043			1	☐		Continue
44	38	QC	ICSA2		ID8G037044			1	☒	ICSA	Continue
45	39	QC	ICSAB2		ID8G037045			1	☒	ICSAB	Continue
46	40	Unk	BLANK		ID8G037046			1	☐		Continue

	Pos ID	Type	Samplename	Comment	Data File	Type*	Diln Factor	CorrFact	Check	Check Table	Fail Action
47	41	QC	CCV4		ID8G037047			1	☒	CCV	Continue
48	42	QC	CCB4		ID8G037048			1	☒	3XIDL	Continue
49	55	QC	IPG088SB		ID8G037049			1	☒	CCB1	Continue
50	56	QC	IPG088SL		ID8G037050			1	☒	LCS	Continue
51	57	QC	IPG088SC		ID8G037051			1	☒	LCS	Continue
52	58	Unk	G549-01A		ID8G037052			1	☐		Continue
53	59	Unk	G549-01		ID8G037053			1	☐		Continue
54	60	Unk	G549-01J		ID8G037054			1	☐		Continue
55	61	Unk	G549-02		ID8G037055			1	☐		Continue
56	62	Unk	G549-03		ID8G037056			1	☐		Continue
57	63	Unk	G549-04		ID8G037057			1	☐		Continue
58	64	Unk	BLANK		ID8G037058			1	☐		Continue
59	65	QC	CCV5		ID8G037059			1	☒	CCV	Continue
60	66	QC	CCB5		ID8G037060			1	☒	3XIDL	Continue
61	67	Unk	G549-05		ID8G037061			1	☐		Continue
62	68	Unk	G549-06		ID8G037062			1	☐		Continue
63	69	Unk	G549-07		ID8G037063			1	☐		Continue
64	70	Unk	G549-13		ID8G037064			1	☐		Continue
65	71	Unk	G563-08		ID8G037065			1	☐		Continue
66	72	Unk	G564-01		ID8G037066			1	☐		Continue
67	73	Unk	G528-01		ID8G037067			1	☐		Continue
68	74	Unk	G528-02		ID8G037068			1	☐		Continue
69	75	Unk	G593-01		ID8G037069			1	☐		Continue
70	76	Unk	BLANK		ID8G037070			1	☐		Continue
71	77	QC	CCV6		ID8G037071			1	☒	CCV	Continue
72	78	QC	CCB6		ID8G037072			1	☒	3XIDL	Continue
73	79	QC	IPG092SB		ID8G037073			1	☒	CCB1	Continue
74	80	QC	IPG092SL		ID8G037074			1	☒	LCS	Continue
75	81	QC	IPG092SC		ID8G037075			1	☒	LCS	Continue
76	82	Unk	G195-06M		ID8G037076			1	☐		Continue
77	83	Unk	G195-06S		ID8G037077			1	☐		Continue
78	84	Unk	G195-06A		ID8G037078			1	☐		Continue
79	85	Unk	G195-06		ID8G037079			1	☐		Continue
80	86	Unk	G195-06J		ID8G037080			1	☐		Continue
81	87	Unk	BLANK		ID8G037081			1	☐		Continue
82	88	QC	CCV7		ID8G037082			1	☒	CCV	Continue
83	89	QC	CCB7		ID8G037083			1	☒	3XIDL	Continue
84	90	Unk	G188-05M		ID8G037084			1	☐		Continue
85	91	Unk	G188-05S		ID8G037085			1	☐		Continue
86	92	Unk	G188-05		ID8G037086			1	☐		Continue
87	93	Unk	G559-27		ID8G037087			1	☐		Continue
88	94	Unk	BLANK		ID8G037088			1	☐		Continue
89	95	QC	CCV8		ID8G037089			1	☒	CCV	Continue
90	96	QC	CCB8		ID8G037090			1	☒	3XIDL	Continue
91	97	Unk	G314-01		ID8G037091			1	☐		Continue
92	98	Unk	G314-02		ID8G037092			1	☐		Continue

	Pos ID	Type	Samplename	Comment	Data File	Type*	Diln Factor	CorrFact	Check	Check Table	Fail Action
93	99	Unk	G314-03		ID8G037093			1	☐		Continue
94	100	Unk	G314-04		ID8G037094			1	☐		Continue
95	101	Unk	G314-05		ID8G037095			1	☐		Continue
96	102	Unk	G314-06		ID8G037096			1	☐		Continue
97	103	Unk	G314-07		ID8G037097			1	☐		Continue
98	104	Unk	G314-08		ID8G037098			1	☐		Continue
99	105	Unk	BLANK		ID8G037099			1	☐		Continue
100	106	QC	CCV9		ID8G037100			1	☒	CCV	Continue
101	107	QC	CCB9		ID8G037101			1	☒	3XIDL	Continue
102	108	QC	IPG086WB		ID8G037102			1	☒	CCB1	Continue
103	109	QC	IPG086WL		ID8G037103			1	☒	LCS	Continue
104	110	QC	IPG086WC		ID8G037104			1	☒	LCS	Continue
105	111	Unk	G545-01A	5X	ID8G037105			1	☐		Continue
106	112	Unk	G545-01	5X	ID8G037106			1	☐		Continue
107	113	Unk	G545-01J	25X	ID8G037107			1	☐		Continue
108	114	Unk	G543-01	5X	ID8G037108			1	☐		Continue
109	115	Unk	BLANK		ID8G037109			1	☐		Continue
110	116	Unk	BLANK		ID8G037110			1	☐		Continue
111	117	QC	CCV10		ID8G037111			1	☒	CCV	Continue
112	118	QC	CCB10		ID8G037112			1	☒	CCB1	Continue
113	119	Unk	G563-01	5X	ID8G037113			1	☐		Continue
114	120	Unk	G563-02	5X	ID8G037114			1	☐		Continue
115	121	Unk	G563-03	5X	ID8G037115			1	☐		Continue
116	122	Unk	G563-04	5X	ID8G037116			1	☐		Continue
117	123	Unk	BLANK		ID8G037117			1	☐		Continue
118	124	Unk	BLANK		ID8G037118			1	☐		Continue
119	125	QC	CCV11		ID8G037119			1	☒	CCV	Continue
120	126	QC	CCB11		ID8G037120			1	☒	CCB1	Continue
121	127	Unk	G511-05A	5X As, Se	ID8G037121			1	☐		Continue
122	128	Unk	G511-05	5X As, Se	ID8G037122			1	☐		Continue
123	129	Unk	G511-05J	25X As, Se	ID8G037123			1	☐		Continue
124	130	Unk	BLANK		ID8G037124			1	☐		Continue
125	131	Unk	BLANK		ID8G037125			1	☐		Continue
126	132	Unk	BLANK		ID8G037126			1	☐		Continue
127	133	QC	ICSA3		ID8G037127			1	☒	ICSA	Continue
128	134	QC	ICSAB3		ID8G037128			1	☒	ICSAB	Continue
129	135	Unk	BLANK		ID8G037129			1	☐		Continue
130	136	QC	CCV13		ID8G037130			1	☒	CCV	Continue
131	137	QC	CCB13		ID8G037131			1	☒	CCB1	Continue
132	43	Unk	F315-01		ID8G037132			1	☐		Continue
133	44	Unk	F315-02		ID8G037133			1	☐		Continue
134	45	Unk	F315-03		ID8G037134			1	☐		Continue
135	46	Unk	BLANK		ID8G037135			1	☐		Continue
136	47	Unk	BLANK		ID8G037136			1	☐		Continue
137	48	Unk	BLANK		ID8G037137			1	☐		Continue
138	49	Unk	BLANK		ID8G037138			1	☐		Continue

	Pos ID	Type	Samplename	Comment	Data File	Type*	Dilu Factor	CorrFact	Check	Check Table	Fail Action
139	50	Unk	BLANK		ID8G037139			1	☐		Continue
140	51	QC	ICSA4		ID8G037140			1	☒	ICSA	Continue
141	52	QC	ICSAB4		ID8G037141			1	☒	ICSAB	Continue
142	53	QC	CCV14	Sat Kiran	ID8G037142			1	☒	CCV	Continue
143	54	QC	CCB14		ID8G037143			1	☒	CCB1	Continue

:11:33

DIGESTION LOG FOR ICP METALS

SOP ☐ EMAX-3005 Rev. No.4 ☑ EMAX-3010 Rev. No. 3 ☐ EMAX-3050 Rev. No. 3 ☐ EMAX-CLP-TAL ☐ Book # EIP-070

Matrix: WATER Start Date: 7-23-08 Time: 12:00 Temp: 90 °C Ending Date: 7-23-08 Time: 16:00 Temp.: 90 °C

BATCH: IPG068-WB

	Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Turbidity <1 NTU	Sample Amount (g | ml)	pH	Extract Volume (ml)	Digestate Description: Color	Digestate Description: Clarity
01		IPG068-WB					50	~	50		
02		-WL					50	~	50		
03		-WC					50	~	50		
04		G188-01					50	<2	50		
05		G195-01					50		50		
06		G511-01					50		50		
07		-02					50		50		
08		-03					50		50		
09		-04					50		50		
10		-05					50		50		
11		G525-01					50		50		
12		-02					50		50		
13		-03					50		50		
14		-04					50		50		
15		-05					50		50		
16		G234-02					50		50		
17		-03 TOTAL #007					50		50		
18		-03 DISS #006					50		50		
19											
20											
21											
22											
23											
24											
25											
26											
27											

7-23-08 MC

Standards	ID	Amount Added (ml)
LCS -1	SM1A -11-20	0.5
LCS -2	SM1A -11-21	0.5
LCS -3	SM1A -11-22	0.5
MS		

Reagent	Lot# / ID	Amount Added (ml)
HNO_3	SW1A -03-740	1.5+1.5
HCl	SW1A-03-724	2.5
H_2O_2		
HNO3 (1:1)		

Digestate Location	ICP
Extract Location	

Legend:

Texture	Cs = Coarse	Md = Medium	Fn = Fine
Clarity	Cr = Clear	Cy = Cloudy	Td = Turbid
Artifacts	Rk = rocks	Sl = Shale	Vg=Vegetation
Color	Bu = blue	Bk = Black	Bn = Brown
	Gn = Green	Og = Orange	Rd = Red
	Yw = Yellow	Cl = Colorless	

Comments: Samples for Methods 200.7 or 200.8 Analyses

If turbidity ≤ 1 NTU no digestion is required unless otherwise required by the project

Prepared By: MC Standard Added By: MC

Witnessed By: TH Extracts Rcvd. By: TH 7/23/8

Checked By: TH

Date Disposed: Disposed by:

DIGESTION LOG FOR ICP METALS

EMAX LABORATORIES, INC.

SOP ☐ EMAX-3005 Rev. No.4 ☐ EMAX-3010 Rev. No. 3 ☑ EMAX-3050 Rev. No. 3 ☐ EMAX-CLP-TAL ☐ Book # EIP-070

Matrix: SOIL Start Date: 7-23-08 Time: 12:10 Temp: 90 °C Ending Date: 7-23-08 Time: 16:10 Temp.: 90 °C

BATCH: TPG0695

Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Turbidity <1 NTU	Sample Amount (g | ml)	pH	Extract Volume (ml)	Digestate Description: Color	Digestate Description: Clarity
01	TPG0695-SB					—	N/A	100		
02	-SC					—		100		
03	-SC					—		100		
04	G195-02					1.000		100		
05	-04					1.001		100		
06	-05					1.003		100		
07	-06					1.002		100		
08	-07					1.003		100		
09	-08					1.001		100		
10	-09					1.002		100		
11	-12					1.003		100		
12	-14					1.002		100		
13	G234-01					1.003		100		
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										

7-23-08 MC

Standards	ID	Amount Added (ml)
LCS -1	SM1A - 11 - 20	1.0
LCS -2	SM1A - 11 - 21	1.0
LCS -3	SM1A - 11 - 22	1.0
MS		
Reagent	Lot# / ID	Amount Added (ml)
HNO_3	SW1A - 03 - 740	10.0
HCl	SW1A - 03 - 724	10.0
H_2O_2	SW1A - 03 - 622	10.0
HNO3 (1:1)	SM5B-02-80	10.0
Digestate Location	ICP	
Extract Location		

Legend:

Texture	Cs = Coarse	Md = Medium	Fn = Fine
Clarity	Cr = Clear	Cy = Cloudy	Td = Turbid
Artifacts	Rk = rocks	Sl = Shale	Vg=Vegetation
Color	Bu = blue	Bk = Black	Bn = Brown
	Gn = Green	Og = Orange	Rd = Red
	Yw = Yellow	Cl = Colorless	

Comments: Samples for Methods 200.7 or 200.8 Analyses

If turbidity ≤ 1 NTU no digestion is required unless otherwise required by the project

Prepared By: MC Standard Added By: MC

Witnessed By: TH Extracts Revd. By: TH 7/23/8

Checked By: TH

Date Disposed: Disposed by:

1/01

DIGESTION LOG FOR ICP METALS

EMAX LABORATORIES, INC.

SOP ☐ EMAX-3005 Rev. No.4 ☐ EMAX-3010 Rev. No. 3 ☐ EMAX-3050 Rev. No. 3 ☐ EMAX-CLP-TAL ☐ Book # EIP-070

Matrix: SOIL Start Date: 7-31-08 Time: 9:45 Temp: 90 °C Ending Date: 7-31-08 Time: 13:45 Temp.: 90 °C

BATCH: IPG092-S

Sample Prep ID	Lab Sample ID	Matrix Description: Color	Matrix Description: Texture / Clarity	Matrix Description: Artifacts	Turbidity <1 NTU	Sample Amount (g ~~ml~~)	pH	Extract Volume (ml)	Digestate Description: Color	Digestate Description: Clarity
01	IPG092-SB					—	N/A	100		
02	-SL					—		100		
03	-SC					—		100		
04	G314-01					1.003		100		
05	-02					1.002		100		
06	-03					1.001		100		
07	-04					1.000		100		
08	-05					1.002		100		
09	-06					1.001		100		
10	-07					1.003		100		
11	-08					1.002		100		
12	G188-05					1.001		100		
13	-05M					1.002		100		
14	-05S					1.003		100		
15	G195-06					1.000		100		
16	-06M					1.003		100		
17	-06S					1.003	↓	100		
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										

7-31-08 MC

Standards	ID	Amount Added (ml)
LCS -1	SM1A-11-20	1.0
LCS -2	SM1A-11-21	1.0
LCS -3	SM1A-11-22	1.0
MS		

Reagent	Lot# / ID	Amount Added (ml)
HNO_3	SW1A-03-740	10.0
HCl	SW1A-03-724	10.0
H_2O_2	SW1A-03-622	10.0
HNO3 (1:1)	SM5B-02-87	10.0

Digestate Location: ICP

Extract Location:

Legend:

Texture	Cs = Coarse	Md = Medium	Fn = Fine
Clarity	Cr = Clear	Cy = Cloudy	Td = Turbid
Artifacts	Rk = rocks	Sl = Shale	Vg=Vegetation
Color	Bu = blue	Bk = Black	Bn = Brown
	Gn = Green	Og = Orange	Rd = Red
	Yw = Yellow	Cl = Colorless	

Comments: Samples for Methods 200.7 or 200.8 Analyses

If turbidity ≤ 1 NTU no digestion is required unless otherwise required by the project

Prepared By: MC Standard Added By: MC

Witnessed By: TH Extracts Rcvd. By: TH 7/31/8

Checked By: TH

Date Disposed: Disposed by:

Columbia Analytical Services
19408 Park Row, Suite 320, Houston, TX 77084 | 713.266.1599 | www.caslab.com

August 19, 2008 Service Request No: E0800704

Ye Myint
Emax Laboratories, Incorporated
1835 205th St.
Torrance, CA 90501

Laboratory Results for: LMC Beaumont Site 1/08G195

Dear Ye:

Enclosed are the results of the sample(s) submitted to our laboratory on July 22, 2008. For your reference, these analyses have been assigned our service request number **E0800704**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the 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 NELAC 2003 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My extension is 2960. You may also contact me via email at KVerschoor@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Verschoor
Project Manager

Columbia Analytical Services INC

Certificate of Analysis

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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COLUMBIA ANALYTICAL SERVICES, INC

Client:	Emax Laboratories, Inc.	**Service Request No.:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Received:**	07/22/08
Sample Matrix:	Solid/Aqueous		

CASE NARRATIVE

All analyses were performed in adherence to the quality assurance program of Columbia Analytical Services, Inc. (CAS). 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

One aqueous and two solid samples were received for analysis at Columbia Analytical Services on 07/22/08.

The samples were received at 0°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 EQ0800314-01/P100163 contained low levels of 1234678-HpCDD, 1234678-HpCDF and OCDF at or below the Method Reporting Limit (MRL). One compound, OCDD, was above the MRL (CRQL). CAS/Houston follows the ***EPA National Functional Guidelines for CDDs and CDFs, September 2005,*** which states on page 31, "The concentration of OCDD/OCDF in the method blank must be <3x the CRQL (MRL.) "

The Method Blank EQ0800317-01/P200040 contained low levels of 1234678-HpCDD, OCDD, 1234678-HpCDF and OCDF at or below the Method Reporting Limit (MRL).

The Method Blank EQ0800319-01/P100249 contained low levels of 123478-HxCDD, 123678-HxCDD, 123789-HxCDD, 1234678-HpCDD, 12378-PeCDF, 123478-HxCDF, 123678-HxCDF, 234678-HxCDF, 1234678-HpCDF and OCDF at or below the Method Reporting Limit (MRL). One compound, OCDD, was above the MRL (CRQL). CAS/Houston follows the ***EPA National Functional Guidelines for CDDs and CDFs, September 2005,*** which states on page 31, "The concentration of OCDD/OCDF in the method blank must be <3x the CRQL (MRL.) "

The associated compounds in the samples are flagged with 'B' flags.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

Approved by: **Date:** 08/20/08

Xiangqiu Liang, Laboratory Director

MS/DMS

EQ0800314: Laboratory Control Spike (LCS) sample was analyzed in addition to an MS/DMS for this extraction batch. The batch quality control criteria were met. The batch precision (MS/DMS) measurements were determined on another order in the extraction batch and are not included in this report.

EQ0800317: Laboratory Control Spike (LCS) sample was analyzed in addition to an MS/DMS for this extraction batch. The batch quality control criteria were met. The batch precision (MS/DMS) measurements were determined on another order in the extraction batch and are not included in this report.

EQ0800319: Laboratory Control Spike (LCS) sample was analyzed in addition to an MS/DMS for this extraction batch. The batch quality control criteria were met. The batch precision (MS/DMS) measurements were determined on another order in the extraction batch and are not included in this report.

The LCS results for 2378-TCDD and 1234678-HpCDF for batch EQ0800319 were outside the CAS control criteria. CAS-Houston follows the LCS acceptance criteria detailed in the EPA SOW DLM02.0, Section 12.2.5.3; which states, "Up to three compounds may fail to meet the recovery limits. However, frequent failures to meet the limits for recovery warrant investigation by the laboratory." No further corrective action was appropriate.

C flags – 2378-TCDF Confirmation

Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225.) The results from both the DB-5 column and the DB-225 column are included in this data package.

The valid result for the 2378-TCDF compound is reported from the confirmation column.

The confirmation results have been included on the TEQ summary pages.

E flags

When OCDD and/or OCDF exceed the upper method calibration limit (MCL), Method 8290 Section 7.9.3 advises the chemist to "report the measured concentration and indicate that the value exceeds the MCL." We use 'E' flag on the Form 1 results to indicate a compound has exceeded the MCL.

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 congener 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.

Approved by: **Date:** 08/20/08

Xiangqiu Liang, Laboratory Director

The TEQ results for each sample have been calculated by CAS/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'

Approved by: **Date:**

Xiangqiu Liang, Laboratory Director

Client: Emax Laboratories, Incorporated **Service Request:** E0800704
Project: LMC Beaumont Site 1/08G195

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E0800704-001	H-EB7182008	07/18/08	08:20
E0800704-002	H-T5-3.0	07/18/08	10:50
E0800704-003	H-T5-3.0DUP	07/18/08	10:52

Superset Summary

Service Request: E0800704 **SuperSet Reference:** 08-0000080219 rev 00

8290/PCDD PCDF

Calibrations: 04/02/07 05/30/08 07/02/08 07/18/08
08/01/08 12/10/07

Data Files:

Raw Data	*Begin CCAL*	*Method Blank*	*Lab ID*
C15242	C15242#2	C15242#3	E0800704-003.R01
C15252#4	C15252#2	C15252#3	E0800704-002
P100163	P100162	P100163	EQ0800314-01
P100249	P100248	P100249	EQ0800319-01
P200020	P200017	P100163	E0800704-001
P200040	P200039	P200040	EQ0800317-01
P200042	P200039	P200040	E0800704-003
P200054	P200053	P100234	EQ0800319-02
P200061	P200053	P100249	E0800704-002.R01
U129320	U129311	P200040	EQ0800317-02
U217136	U217127	P100163	EQ0800314-02

Abbreviations, Acronyms & Definitions

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

Data Qualifier Flags – Dioxin/Furans

- **B** Indicates the associated analyte is found in the method blank, as well as in the sample

- **C** Confirmation of the TCDF compound: When 2378-TCDF is detected on the DB-5 column, confirmation analyses are performed on a second column (DB-225). The results from both the DB-5 column and the DB-225 column are included in this data package. The results from the DB-225 analyses should be used to evaluate the 2378-TCDF in the samples. The confirmed result should be used in determining the TEQ value for TCDF.

- **E** Indicates an estimated value – used when the analyte concentration exceeds the upper end of the linear calibration range

- **J** Indicates an estimated value – used when the analyte concentration is below the method reporting limit (MRL) and above the estimated detection limit (EDL)

- **K** 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.

- **U** Indicates the compound was analyzed and not detected

- **Y** Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y'. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

- **ND** Indicates concentration is reported as 'Not Detected'

- **S** Peak is saturated; data not reportable

- **Q** Lock-mass interference by ether compounds

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: EOT 00704

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

Date	08/11/08	Person 1	L
Date		Person 2	

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

Date	8/13/08	Primary Data Reviewer	JC (001)
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	8/20/08	Reviewer	

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: E0800704

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

Date	08/14/08	Person 1	
Date		Person 2	

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

Date	08/12/08	Primary Data Reviewer	
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	8/20/08	Reviewer	

CAS/HOU - Form Production, Peer Review & Project Review Signatures

SR# Unique ID: EC800704

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

Date	08/18/08	Person 1	[illegible] CO2
Date		Person 2	

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

Date	08/19/08	Primary Data Reviewer	[illegible] (-002)
Date		Secondary Data Reviewer	

Project Level - Review - to be filled by person doing project compliance review

Date	8/20/08	Reviewer	

Columbia Analytical Services INC

Analytical Results

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

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Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Water	**Date Received:**	07/22/2008
Sample Name:	H-EB7182008	**Units:**	pg/L
Lab Code:	E0800704-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/31/08 10:49:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P200020	**Blank File Name:**	P100163
ICAL Name:	07/18/08	**Cal Ver. File Name:**	P200017

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.597	10.0			1
1,2,3,7,8-PeCDD	ND	U	0.526	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	0.379	25.0			1
1,2,3,6,7,8-HxCDD	ND	U	0.341	25.0			1
1,2,3,7,8,9-HxCDD	ND	U	0.374	25.0			1
1,2,3,4,6,7,8-HpCDD	**1.35**	BJ	0.643	25.0	0.89	1.001	1
OCDD	**9.44**	BJ	0.848	50.0	0.77	1.000	1
2,3,7,8-TCDF	ND	U	0.545	10.0			1
1,2,3,7,8-PeCDF	ND	U	0.331	25.0			1
2,3,4,7,8-PeCDF	ND	U	0.325	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	0.362	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	0.358	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	0.468	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.393	25.0			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.296	25.0			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.423	25.0			1
OCDF	ND	U	1.76	50.0			1
Total Tetra-Dioxins	ND	U	0.597	10.0			1
Total Penta-Dioxins	ND	U	0.526	25.0			1
Total Hexa-Dioxins	ND	U	0.341	25.0			1
Total Hepta-Dioxins	**1.35**	J	0.643	25.0	0.89		1
Total Tetra-Furans	ND	U	0.545	10.0			1
Total Penta-Furans	ND	U	0.325	25.0			1
Total Hexa-Furans	ND	U	0.358	25.0			1
Total Hepta-Furans	ND	U	0.296	25.0			1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Water	**Date Received:**	07/22/2008
Sample Name:	H-EB7182008	**Units:**	Percent
Lab Code:	E0800704-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	7/31/08 10:49:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-04
		GC Column:	DB-5
Data File Name:	P200020	**Blank File Name:**	P100163
ICAL Name:	07/18/08	**Cal Ver. File Name:**	P200017

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	567.275	57		40-135	0.78	1.007
13C-1,2,3,7,8-PeCDD	1000	553.312	55		40-135	1.62	1.165
13C-1,2,3,6,7,8-HxCDD	2500	1861.878	74		40-135	1.27	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1552.346	62		40-135	1.04	1.068
13C-OCDD	5000	1796.807	36	Y	40-135	0.91	1.149
13C-2,3,7,8-TCDF	1000	541.362	54		40-135	0.79	0.978
13C-1,2,3,7,8-PeCDF	1000	555.362	56		40-135	1.59	1.128
13C-1,2,3,4,7,8-HxCDF	2500	1649.380	66		40-135	0.51	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1457.462	58		40-135	0.43	1.044
37Cl-2,3,7,8-TCDD	800	574.427	72		40-135	NA	1.007

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Water	**Date Received:**	07/22/2008
Sample Name:	H-EB7182008	**Units:**	pg/L
Lab Code:	E0800704-001	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.597	1	1	
1,2,3,7,8-PeCDD	ND	0.526	1	1	
1,2,3,4,7,8-HxCDD	ND	0.379	1	0.1	
1,2,3,6,7,8-HxCDD	ND	0.341	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.374	1	0.1	
1,2,3,4,6,7,8-HpCDD	**1.35**	0.643	1	0.01	0.0135
OCDD	**9.44**	0.848	1	0.0003	0.00283
2,3,7,8-TCDF	ND	0.545	1	0.1	
1,2,3,7,8-PeCDF	ND	0.331	1	0.03	
2,3,4,7,8-PeCDF	ND	0.325	1	0.3	
1,2,3,4,7,8-HxCDF	ND	0.362	1	0.1	
1,2,3,6,7,8-HxCDF	ND	0.358	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.468	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.393	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.296	1	0.01	
1,2,3,4,7,8,9-HpCDF	ND	0.423	1	0.01	
OCDF	ND	1.76	1	0.0003	
		Total TEQ			0.0163

2005 WHO TEFs, ND = 0

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0	**Units:**	ng/Kg
Lab Code:	E0800704-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/7/08 15:58:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.351g	**Instrument Name:**	E-HRMS-04
Percent Solids:	92.0	**GC Column:**	DB-5
Data File Name:	P200061	**Blank File Name:**	P100249
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200053

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0554	1.05			1
1,2,3,7,8-PeCDD	**0.663**	JK	0.0446	2.63	1.31	1.001	1
1,2,3,4,7,8-HxCDD	**4.23**	B	0.0440	2.63	1.23	0.998	1
1,2,3,6,7,8-HxCDD	**14.1**	B	0.0390	2.63	1.22	1.000	1
1,2,3,7,8,9-HxCDD	**3.89**	B	0.0424	2.63	1.25	1.008	1
1,2,3,4,6,7,8-HpCDD	**612**	BE	0.229	2.63	1.05	1.000	1
OCDD	**8540**	BE	0.215	5.25	0.89	1.000	1
2,3,7,8-TCDF	**0.202**	CJ	0.0533	1.05	0.71	1.001	1
1,2,3,7,8-PeCDF	**0.356**	BJ	0.0389	2.63	1.60	1.000	1
2,3,4,7,8-PeCDF	**0.376**	JK	0.0384	2.63	1.31	1.023	1
1,2,3,4,7,8-HxCDF	**5.18**	B	0.109	2.63	1.22	1.000	1
1,2,3,6,7,8-HxCDF	**3.98**	B	0.104	2.63	1.25	1.003	1
1,2,3,7,8,9-HxCDF	**0.172**	JK	0.136	2.63	1.67	1.036	1
2,3,4,6,7,8-HxCDF	**5.32**	B	0.117	2.63	1.26	1.016	1
1,2,3,4,6,7,8-HpCDF	**192**	B	0.211	2.63	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	**15.3**		0.288	2.63	0.95	1.034	1
OCDF	**971**	B	0.222	5.25	0.89	1.004	1
Total Tetra-Dioxins	ND	U	0.0554	1.05			1
Total Penta-Dioxins	**0.616**	J	0.0446	2.63	1.36		1
Total Hexa-Dioxins	**60.4**		0.0390	2.63	1.24		1
Total Hepta-Dioxins	**1110**		0.229	2.63	1.05		1
Total Tetra-Furans	**0.533**	J	0.0533	1.05	0.77		1
Total Penta-Furans	**12.4**		0.0384	2.63	1.56		1
Total Hexa-Furans	**143**		0.104	2.63	1.23		1
Total Hepta-Furans	**709**		0.211	2.63	1.02		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0	**Units:**	Percent
Lab Code:	E0800704-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/7/08 15:58:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.351g	**Instrument Name:**	E-HRMS-04
Percent Solids:	92.0	**GC Column:**	DB-5
Data File Name:	P200061	**Blank File Name:**	P100249
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200053

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	771.336	77		40-135	0.78	1.007
13C-1,2,3,7,8-PeCDD	1000	875.630	88		40-135	1.56	1.165
13C-1,2,3,6,7,8-HxCDD	2500	1824.414	73		40-135	1.25	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1636.978	65		40-135	1.03	1.068
13C-OCDD	5000	2492.815	50		40-135	0.89	1.148
13C-2,3,7,8-TCDF	1000	654.600	65		40-135	0.78	0.978
13C-1,2,3,7,8-PeCDF	1000	769.998	77		40-135	1.59	1.128
13C-1,2,3,4,7,8-HxCDF	2500	1663.311	67		40-135	0.52	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1407.277	56		40-135	0.43	1.044
37Cl-2,3,7,8-TCDD	800	721.375	90		40-135	NA	1.008

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0	**Units:**	ng/Kg
Lab Code:	E0800704-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0554	1	1	
1,2,3,7,8-PeCDD	**0.663**	0.0446	1	1	0.663
1,2,3,4,7,8-HxCDD	**4.23**	0.0440	1	0.1	0.423
1,2,3,6,7,8-HxCDD	**14.1**	0.0390	1	0.1	1.41
1,2,3,7,8,9-HxCDD	**3.89**	0.0424	1	0.1	0.389
1,2,3,4,6,7,8-HpCDD	**612**	0.229	1	0.01	6.12
OCDD	**8540**	0.215	1	0.0003	2.56
2,3,7,8-TCDF	ND	0.193	1	0.1	
1,2,3,7,8-PeCDF	**0.356**	0.0389	1	0.03	0.0107
2,3,4,7,8-PeCDF	**0.376**	0.0384	1	0.3	0.113
1,2,3,4,7,8-HxCDF	**5.18**	0.109	1	0.1	0.518
1,2,3,6,7,8-HxCDF	**3.98**	0.104	1	0.1	0.398
1,2,3,7,8,9-HxCDF	**0.172**	0.136	1	0.1	0.0172
2,3,4,6,7,8-HxCDF	**5.32**	0.117	1	0.1	0.532
1,2,3,4,6,7,8-HpCDF	**192**	0.211	1	0.01	1.92
1,2,3,4,7,8,9-HpCDF	**15.3**	0.288	1	0.01	0.153
OCDF	**971**	0.222	1	0.0003	0.291
		Total TEQ			15.5

2005 WHO TEFs, ND = 0

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0RE	**Units:**	ng/Kg
Lab Code:	E0800704-002	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/11/08 08:58:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.351g	**Instrument Name:**	E-HRMS-70
Percent Solids:	92.0	**GC Column:**	DB-225
Data File Name:	C15252#4	**Blank File Name:**	C15252#3
ICAL Name:	05/30/08	**Cal Ver. File Name:**	C15252#2

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	ND	U	0.193	1.05			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	1000	781.461	78		40-135	0.77	1.054
37Cl-2,3,7,8-TCDD	800	752.253	94		40-135	NA	0.988

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0DUP	**Units:**	ng/Kg
Lab Code:	E0800704-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 14:44:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.444g	**Instrument Name:**	E-HRMS-04
Percent Solids:	90.8	**GC Column:**	DB-5
Data File Name:	P200042	**Blank File Name:**	P200040
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200039

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0483	1.05			1
1,2,3,7,8-PeCDD	**0.805**	J	0.0396	2.64	1.67	1.000	1
1,2,3,4,7,8-HxCDD	**4.44**		0.0239	2.64	1.33	0.998	1
1,2,3,6,7,8-HxCDD	**12.6**		0.0212	2.64	1.27	1.000	1
1,2,3,7,8,9-HxCDD	**3.02**		0.0231	2.64	1.27	1.008	1
1,2,3,4,6,7,8-HpCDD	**433**	B	0.394	2.64	1.05	1.000	1
OCDD	**5070**	BE	0.0490	5.27	0.89	1.000	1
2,3,7,8-TCDF	**0.227**	CJ	0.0421	1.05	0.66	1.001	1
1,2,3,7,8-PeCDF	**0.461**	J	0.0447	2.64	1.55	1.001	1
2,3,4,7,8-PeCDF	**0.446**	J	0.0442	2.64	1.56	1.023	1
1,2,3,4,7,8-HxCDF	**5.16**		0.0266	2.64	1.21	1.000	1
1,2,3,6,7,8-HxCDF	**4.40**		0.0255	2.64	1.21	1.003	1
1,2,3,7,8,9-HxCDF	**0.165**	J	0.0332	2.64	1.08	1.036	1
2,3,4,6,7,8-HxCDF	**5.89**		0.0285	2.64	1.29	1.016	1
1,2,3,4,6,7,8-HpCDF	**179**	B	0.263	2.64	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	**11.8**		0.359	2.64	0.96	1.034	1
OCDF	**547**	B	0.0954	5.27	0.88	1.004	1
Total Tetra-Dioxins	ND	U	0.0483	1.05			1
Total Penta-Dioxins	**1.90**	J	0.0396	2.64	1.34		1
Total Hexa-Dioxins	**49.1**		0.0212	2.64	1.27		1
Total Hepta-Dioxins	**769**		0.394	2.64	1.04		1
Total Tetra-Furans	**1.30**		0.0421	1.05	0.76		1
Total Penta-Furans	**27.3**		0.0442	2.64	1.54		1
Total Hexa-Furans	**175**		0.0255	2.64	1.25		1
Total Hepta-Furans	**563**		0.263	2.64	1.03		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0DUP	**Units:**	Percent
Lab Code:	E0800704-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 14:44:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.444g	**Instrument Name:**	E-HRMS-04
Percent Solids:	90.8	**GC Column:**	DB-5
Data File Name:	P200042	**Blank File Name:**	P200040
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200039

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	790.589	79		40-135	0.77	1.007
13C-1,2,3,7,8-PeCDD	1000	1199.244	120		40-135	1.59	1.165
13C-1,2,3,6,7,8-HxCDD	2500	2210.590	88		40-135	1.26	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1997.649	80		40-135	1.03	1.068
13C-OCDD	5000	3345.520	67		40-135	0.90	1.149
13C-2,3,7,8-TCDF	1000	714.904	71		40-135	0.78	0.978
13C-1,2,3,7,8-PeCDF	1000	1043.768	104		40-135	1.59	1.128
13C-1,2,3,4,7,8-HxCDF	2500	1578.666	63		40-135	0.52	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1634.212	65		40-135	0.44	1.044
37Cl-2,3,7,8-TCDD	800	816.159	102		40-135	NA	1.007

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0DUP	**Units:**	ng/Kg
Lab Code:	E0800704-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method: 8290
Prep Method: Method

Analyte Name	Result	DL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0483	1	1	
1,2,3,7,8-PeCDD	**0.805**	0.0396	1	1	0.805
1,2,3,4,7,8-HxCDD	**4.44**	0.0239	1	0.1	0.444
1,2,3,6,7,8-HxCDD	**12.6**	0.0212	1	0.1	1.26
1,2,3,7,8,9-HxCDD	**3.02**	0.0231	1	0.1	0.302
1,2,3,4,6,7,8-HpCDD	**433**	0.394	1	0.01	4.33
OCDD	**5070**	0.0490	1	0.0003	1.52
2,3,7,8-TCDF	ND	0.117	1	0.1	
1,2,3,7,8-PeCDF	**0.461**	0.0447	1	0.03	0.0138
2,3,4,7,8-PeCDF	**0.446**	0.0442	1	0.3	0.134
1,2,3,4,7,8-HxCDF	**5.16**	0.0266	1	0.1	0.516
1,2,3,6,7,8-HxCDF	**4.40**	0.0255	1	0.1	0.440
1,2,3,7,8,9-HxCDF	**0.165**	0.0332	1	0.1	0.0165
2,3,4,6,7,8-HxCDF	**5.89**	0.0285	1	0.1	0.589
1,2,3,4,6,7,8-HpCDF	**179**	0.263	1	0.01	1.79
1,2,3,4,7,8,9-HpCDF	**11.8**	0.359	1	0.01	0.118
OCDF	**547**	0.0954	1	0.0003	0.164
		Total TEQ			12.4

2005 WHO TEFs, ND = 0

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	07/18/2008
Sample Matrix:	Soil	**Date Received:**	07/22/2008
Sample Name:	H-T5-3.0DUPRE	**Units:**	ng/Kg
Lab Code:	E0800704-003	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/5/08 15:40:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.444g	**Instrument Name:**	E-HRMS-70
Percent Solids:	90.8	**GC Column:**	DB-225
Data File Name:	C15242	**Blank File Name:**	C15242#3
ICAL Name:	05/30/08	**Cal Ver. File Name:**	C15242#2

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDF	ND	U	0.117	1.05			1

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDF	1000	1189.288	119		40-135	0.79	1.054
37Cl-2,3,7,8-TCDD	800	877.840	110		40-135	NA	0.988

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	pg/L
Lab Code:	EQ0800314-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/1/08 10:05:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P100163	**Blank File Name:**	P100163
ICAL Name:	07/02/08	**Cal Ver. File Name:**	P100162

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.289	10.0			1
1,2,3,7,8-PeCDD	ND	U	0.379	25.0			1
1,2,3,4,7,8-HxCDD	ND	U	0.275	25.0			1
1,2,3,6,7,8-HxCDD	ND	U	0.225	25.0			1
1,2,3,7,8,9-HxCDD	ND	U	0.246	25.0			1
1,2,3,4,6,7,8-HpCDD	**8.04**	J	0.515	25.0	1.07	1.000	1
OCDD	**72.3**		0.656	50.0	0.93	1.000	1
2,3,7,8-TCDF	ND	U	0.268	10.0			1
1,2,3,7,8-PeCDF	ND	U	0.244	25.0			1
2,3,4,7,8-PeCDF	ND	U	0.238	25.0			1
1,2,3,4,7,8-HxCDF	ND	U	0.221	25.0			1
1,2,3,6,7,8-HxCDF	ND	U	0.206	25.0			1
1,2,3,7,8,9-HxCDF	ND	U	0.253	25.0			1
2,3,4,6,7,8-HxCDF	ND	U	0.233	25.0			1
1,2,3,4,6,7,8-HpCDF	**0.870**	J	0.295	25.0	0.88	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.390	25.0			1
OCDF	**2.82**	J	0.575	50.0	0.82	1.004	1
Total Tetra-Dioxins	ND	U	0.289	10.0			1
Total Penta-Dioxins	ND	U	0.379	25.0			1
Total Hexa-Dioxins	**0.859**	J	0.225	25.0	1.30		1
Total Hepta-Dioxins	**15.1**	J	0.515	25.0	1.13		1
Total Tetra-Furans	ND	U	0.268	10.0			1
Total Penta-Furans	ND	U	0.238	25.0			1
Total Hexa-Furans	ND	U	0.206	25.0			1
Total Hepta-Furans	ND	U	0.295	25.0			1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800314-01	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/1/08 10:05:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-03
		GC Column:	DB-5
Data File Name:	P100163	**Blank File Name:**	P100163
ICAL Name:	07/02/08	**Cal Ver. File Name:**	P100162

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	576.009	58		40-135	0.78	1.006
13C-1,2,3,7,8-PeCDD	1000	697.486	70		40-135	1.60	1.154
13C-1,2,3,6,7,8-HxCDD	2500	1840.459	74		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2500	1565.914	63		40-135	1.05	1.068
13C-OCDD	5000	2475.043	50		40-135	0.90	1.151
13C-2,3,7,8-TCDF	1000	530.981	53		40-135	0.80	0.980
13C-1,2,3,7,8-PeCDF	1000	690.069	69		40-135	1.60	1.118
13C-1,2,3,4,7,8-HxCDF	2500	1554.729	62		40-135	0.53	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1539.663	62		40-135	0.45	1.044
37Cl-2,3,7,8-TCDD	800	596.099	75		40-135	NA	1.007

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ0800317-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 12:59:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-04
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P200040	**Blank File Name:**	P200040
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200039

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0588	1.00			1
1,2,3,7,8-PeCDD	ND	U	0.0417	2.50			1
1,2,3,4,7,8-HxCDD	ND	U	0.0238	2.50			1
1,2,3,6,7,8-HxCDD	ND	U	0.0211	2.50			1
1,2,3,7,8,9-HxCDD	ND	U	0.0230	2.50			1
1,2,3,4,6,7,8-HpCDD	**0.165**	J	0.0280	2.50	1.15	1.000	1
OCDD	**0.673**	J	0.0464	5.00	0.77	1.000	1
2,3,7,8-TCDF	ND	U	0.0605	1.00			1
1,2,3,7,8-PeCDF	ND	U	0.0342	2.50			1
2,3,4,7,8-PeCDF	ND	U	0.0339	2.50			1
1,2,3,4,7,8-HxCDF	ND	U	0.0246	2.50			1
1,2,3,6,7,8-HxCDF	ND	U	0.0237	2.50			1
1,2,3,7,8,9-HxCDF	ND	U	0.0308	2.50			1
2,3,4,6,7,8-HxCDF	ND	U	0.0264	2.50			1
1,2,3,4,6,7,8-HpCDF	**0.114**	J	0.0253	2.50	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0345	2.50			1
OCDF	**0.176**	JK	0.0853	5.00	0.58	1.004	1
Total Tetra-Dioxins	ND	U	0.0588	1.00			1
Total Penta-Dioxins	ND	U	0.0417	2.50			1
Total Hexa-Dioxins	ND	U	0.0211	2.50			1
Total Hepta-Dioxins	**0.165**	J	0.0280	2.50	1.15		1
Total Tetra-Furans	ND	U	0.0605	1.00			1
Total Penta-Furans	ND	U	0.0339	2.50			1
Total Hexa-Furans	ND	U	0.0237	2.50			1
Total Hepta-Furans	**0.114**	J	0.0253	2.50	1.02		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800317-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 12:59:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-04
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P200040	**Blank File Name:**	P200040
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200039

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	745.554	75		40-135	0.78	1.007
13C-1,2,3,7,8-PeCDD	1000	1083.977	108		40-135	1.57	1.165
13C-1,2,3,6,7,8-HxCDD	2500	2375.872	95		40-135	1.25	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	2277.950	91		40-135	1.03	1.068
13C-OCDD	5000	4466.577	89		40-135	0.91	1.148
13C-2,3,7,8-TCDF	1000	678.385	68		40-135	0.78	0.978
13C-1,2,3,7,8-PeCDF	1000	965.698	97		40-135	1.58	1.128
13C-1,2,3,4,7,8-HxCDF	2500	1789.782	72		40-135	0.52	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	1989.626	80		40-135	0.44	1.044
37Cl-2,3,7,8-TCDD	800	746.443	93		40-135	NA	1.007

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ0800319-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/12/08 11:15:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P100249	**Blank File Name:**	P100249
ICAL Name:	07/02/08	**Cal Ver. File Name:**	P100248

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0425	1.00			1
1,2,3,7,8-PeCDD	ND	U	0.0417	2.50			1
1,2,3,4,7,8-HxCDD	**0.0874**	JK	0.0413	2.50	0.98	0.999	1
1,2,3,6,7,8-HxCDD	**0.116**	JK	0.0337	2.50	1.46	1.000	1
1,2,3,7,8,9-HxCDD	**0.0958**	J	0.0369	2.50	1.30	1.008	1
1,2,3,4,6,7,8-HpCDD	**1.23**	J	0.0571	2.50	1.06	1.000	1
OCDD	**6.03**		0.170	5.00	0.88	1.000	1
2,3,7,8-TCDF	ND	U	0.0340	1.00			1
1,2,3,7,8-PeCDF	**0.0843**	J	0.0279	2.50	1.66	1.001	1
2,3,4,7,8-PeCDF	ND	U	0.0272	2.50			1
1,2,3,4,7,8-HxCDF	**0.126**	J	0.0373	2.50	1.28	1.000	1
1,2,3,6,7,8-HxCDF	**0.0628**	JK	0.0348	2.50	2.03	1.003	1
1,2,3,7,8,9-HxCDF	ND	U	0.0428	2.50			1
2,3,4,6,7,8-HxCDF	**0.0882**	J	0.0394	2.50	1.28	1.016	1
1,2,3,4,6,7,8-HpCDF	**0.362**	J	0.0315	2.50	1.13	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0416	2.50			1
OCDF	**1.71**	J	0.0608	5.00	0.89	1.004	1
Total Tetra-Dioxins	ND	U	0.0425	1.00			1
Total Penta-Dioxins	ND	U	0.0417	2.50			1
Total Hexa-Dioxins	**0.0958**	J	0.0337	2.50	1.30		1
Total Hepta-Dioxins	**1.88**	J	0.0571	2.50	1.10		1
Total Tetra-Furans	ND	U	0.0340	1.00			1
Total Penta-Furans	**0.0843**	J	0.0272	2.50	1.66		1
Total Hexa-Furans	**0.214**	J	0.0348	2.50	1.28		1
Total Hepta-Furans	**1.42**	J	0.0315	2.50	1.13		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ0800319-01	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/12/08 11:15:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-03
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P100249	**Blank File Name:**	P100249
ICAL Name:	07/02/08	**Cal Ver. File Name:**	P100248

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	592.993	59		40-135	0.78	1.007
13C-1,2,3,7,8-PeCDD	1000	663.072	66		40-135	1.61	1.154
13C-1,2,3,6,7,8-HxCDD	2500	1772.013	71		40-135	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2500	1728.776	69		40-135	1.05	1.068
13C-OCDD	5000	2908.951	58		40-135	0.89	1.151
13C-2,3,7,8-TCDF	1000	571.463	57		40-135	0.78	0.981
13C-1,2,3,7,8-PeCDF	1000	619.616	62		40-135	1.58	1.119
13C-1,2,3,4,7,8-HxCDF	2500	1558.449	62		40-135	0.52	0.973
13C-1,2,3,4,6,7,8-HpCDF	2500	1667.028	67		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	551.515	69		40-135	NA	1.007

Comments:

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COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Analyzed:**	08/14/2008
Sample Matrix:	Water		

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

Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ0800314-02	**Basis:**	NA
Analytical Method:	8290	**Extraction Lot:**	70789
Prep Method:	Method		

	Lab Control Sample			% Rec
Analyte Name	**Result**	**Expected**	**% Rec**	**Limits**
2,3,7,8-TCDD	234	200	117	88 - 135
1,2,3,7,8-PeCDD	523	500	105	91 - 135
1,2,3,4,7,8-HxCDD	529	500	106	76 - 140
1,2,3,6,7,8-HxCDD	562	500	112	84 - 129
1,2,3,7,8,9-HxCDD	496	500	99	66 - 140
1,2,3,4,6,7,8-HpCDD	599	500	120	92 - 136
OCDD	1260	1000	126	101 - 151
2,3,7,8-TCDF	207	200	103	95 - 126
1,2,3,7,8-PeCDF	544	500	109	92 - 130
2,3,4,7,8-PeCDF	578	500	116	68 - 151
1,2,3,4,7,8-HxCDF	581	500	116	77 - 137
1,2,3,6,7,8-HxCDF	616	500	123	80 - 148
1,2,3,7,8,9-HxCDF	595	500	119	62 - 147
2,3,4,6,7,8-HxCDF	597	500	119	75 - 137
1,2,3,4,6,7,8-HpCDF	563	500	113	86 - 151
1,2,3,4,7,8,9-HpCDF	621	500	124	86 - 151
OCDF	1460	1000	146	81 - 201

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Analyzed:**	08/04/2008
Sample Matrix:	Soil		

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

Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ0800317-02	**Basis:**	Dry
Analytical Method:	8290	**Extraction Lot:**	70770
Prep Method:	Method		

	Lab Control Sample			% Rec
Analyte Name	**Result**	**Expected**	**% Rec**	**Limits**
2,3,7,8-TCDD	26.9	20.0	135	87 - 135
1,2,3,7,8-PeCDD	62.8	50.0	126	88 - 135
1,2,3,4,7,8-HxCDD	65.2	50.0	130	81 - 138
1,2,3,6,7,8-HxCDD	61.7	50.0	123	82 - 136
1,2,3,7,8,9-HxCDD	59.9	50.0	120	77 - 135
1,2,3,4,6,7,8-HpCDD	66.0	50.0	132	93 - 144
OCDD	153	100	153	93 - 162
2,3,7,8-TCDF	25.9	20.0	129	82 - 141
1,2,3,7,8-PeCDF	62.2	50.0	124	92 - 139
2,3,4,7,8-PeCDF	64.8	50.0	130	74 - 145
1,2,3,4,7,8-HxCDF	64.6	50.0	129	86 - 142
1,2,3,6,7,8-HxCDF	68.1	50.0	136	88 - 162
1,2,3,7,8,9-HxCDF	68.5	50.0	137	66 - 156
2,3,4,6,7,8-HxCDF	71.1	50.0	142	80 - 150
1,2,3,4,6,7,8-HpCDF	65.2	50.0	130	91 - 131
1,2,3,4,7,8,9-HpCDF	74.2	50.0	148	69 - 169
OCDF	153	100	153	82 - 200

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Analyzed:**	08/07/2008
Sample Matrix:	Soil		

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

Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ0800319-02	**Basis:**	Dry
Analytical Method:	8290	**Extraction Lot:**	70953
Prep Method:	Method		

	Lab Control Sample				% Rec
Analyte Name	**Result**	**Expected**	**% Rec**		**Limits**
2,3,7,8-TCDD	27.7	20.0	138	*	87 - 135
1,2,3,7,8-PeCDD	62.7	50.0	125		88 - 135
1,2,3,4,7,8-HxCDD	67.0	50.0	134		81 - 138
1,2,3,6,7,8-HxCDD	57.5	50.0	115		82 - 136
1,2,3,7,8,9-HxCDD	50.5	50.0	101		77 - 135
1,2,3,4,6,7,8-HpCDD	65.9	50.0	132		93 - 144
OCDD	141	100	141		93 - 162
2,3,7,8-TCDF	27.1	20.0	136		82 - 141
1,2,3,7,8-PeCDF	65.3	50.0	131		92 - 139
2,3,4,7,8-PeCDF	66.4	50.0	133		74 - 145
1,2,3,4,7,8-HxCDF	66.3	50.0	133		86 - 142
1,2,3,6,7,8-HxCDF	69.2	50.0	138		88 - 162
1,2,3,7,8,9-HxCDF	61.3	50.0	123		66 - 156
2,3,4,6,7,8-HxCDF	62.7	50.0	125		80 - 150
1,2,3,4,6,7,8-HpCDF	65.8	50.0	132	*	91 - 131
1,2,3,4,7,8,9-HpCDF	78.5	50.0	157		69 - 169
OCDF	160	100	160		82 - 200

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	pg/L
Lab Code:	EQ0800314-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/14/08 15:49:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-02
		GC Column:	DB-5
Data File Name:	U217136	**Blank File Name:**	P100163
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217127

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**234**		1.08	10.0	0.77	1.001	1
1,2,3,7,8-PeCDD	**523**		1.01	25.0	1.61	1.000	1
1,2,3,4,7,8-HxCDD	**529**		2.02	25.0	1.27	0.998	1
1,2,3,6,7,8-HxCDD	**562**		2.00	25.0	1.29	1.000	1
1,2,3,7,8,9-HxCDD	**496**		2.03	25.0	1.30	1.008	1
1,2,3,4,6,7,8-HpCDD	**599**		2.58	25.0	1.02	1.000	1
OCDD	**1260**		1.67	50.0	0.88	1.000	1
2,3,7,8-TCDF	**207**		0.830	10.0	0.76	1.001	1
1,2,3,7,8-PeCDF	**544**		0.918	25.0	1.58	1.001	1
2,3,4,7,8-PeCDF	**578**		0.902	25.0	1.56	1.023	1
1,2,3,4,7,8-HxCDF	**581**		2.15	25.0	1.25	1.000	1
1,2,3,6,7,8-HxCDF	**616**		2.25	25.0	1.24	1.003	1
1,2,3,7,8,9-HxCDF	**595**		2.78	25.0	1.26	1.036	1
2,3,4,6,7,8-HxCDF	**597**		2.38	25.0	1.26	1.017	1
1,2,3,4,6,7,8-HpCDF	**563**		1.65	25.0	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	**621**		2.16	25.0	1.05	1.034	1
OCDF	**1460**		2.92	50.0	0.94	1.004	1
Total Tetra-Dioxins	**234**		1.08	10.0	0.77		1
Total Penta-Dioxins	**523**		1.01	25.0	1.61		1
Total Hexa-Dioxins	**1590**		2.00	25.0	1.27		1
Total Hepta-Dioxins	**612**		2.58	25.0	0.95		1
Total Tetra-Furans	**207**		0.830	10.0	0.76		1
Total Penta-Furans	**1130**		0.902	25.0	1.37		1
Total Hexa-Furans	**2390**		2.25	25.0	1.25		1
Total Hepta-Furans	**1190**		1.65	25.0	1.03		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800314-02	**Basis:**	NA

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/14/08 15:49:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	1000mL	**Instrument Name:**	E-HRMS-02
		GC Column:	DB-5
Data File Name:	U217136	**Blank File Name:**	P100163
ICAL Name:	12/10/07	**Cal Ver. File Name:**	U217127

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	662.194	66		40-135	0.79	1.008
13C-1,2,3,7,8-PeCDD	1000	767.216	77		40-135	1.55	1.167
13C-1,2,3,6,7,8-HxCDD	2500	2006.813	80		40-135	1.24	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	2014.429	81		40-135	1.04	1.070
13C-OCDD	5000	3328.905	67		40-135	0.90	1.152
13C-2,3,7,8-TCDF	1000	679.091	68		40-135	0.81	0.979
13C-1,2,3,7,8-PeCDF	1000	774.483	77		40-135	1.54	1.130
13C-1,2,3,4,7,8-HxCDF	2500	1787.772	72		40-135	0.53	0.971
13C-1,2,3,4,6,7,8-HpCDF	2500	2189.514	88		40-135	0.45	1.045
37Cl-2,3,7,8-TCDD	800	526.149	66		40-135	NA	1.009

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ0800317-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 16:38:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-01
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U129320	**Blank File Name:**	P200040
ICAL Name:	04/02/07	**Cal Ver. File Name:**	U129311

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**26.9**		0.0267	1.00	0.76	1.001	1
1,2,3,7,8-PeCDD	**62.8**		0.0456	2.50	1.54	1.000	1
1,2,3,4,7,8-HxCDD	**65.2**		0.0522	2.50	1.25	0.998	1
1,2,3,6,7,8-HxCDD	**61.7**		0.0500	2.50	1.25	1.000	1
1,2,3,7,8,9-HxCDD	**59.9**		0.0526	2.50	1.24	1.008	1
1,2,3,4,6,7,8-HpCDD	**66.0**		0.105	2.50	1.03	1.000	1
OCDD	**153**		0.237	5.00	0.87	1.000	1
2,3,7,8-TCDF	**25.9**		0.0368	1.00	0.80	1.001	1
1,2,3,7,8-PeCDF	**62.2**		0.0249	2.50	1.51	1.000	1
2,3,4,7,8-PeCDF	**64.8**		0.0241	2.50	1.58	1.022	1
1,2,3,4,7,8-HxCDF	**64.6**		0.0367	2.50	1.24	1.000	1
1,2,3,6,7,8-HxCDF	**68.1**		0.0364	2.50	1.26	1.003	1
1,2,3,7,8,9-HxCDF	**68.5**		0.0516	2.50	1.24	1.035	1
2,3,4,6,7,8-HxCDF	**71.1**		0.0406	2.50	1.21	1.016	1
1,2,3,4,6,7,8-HpCDF	**65.2**		0.100	2.50	0.99	1.000	1
1,2,3,4,7,8,9-HpCDF	**74.2**		0.149	2.50	1.00	1.033	1
OCDF	**153**		0.100	5.00	0.90	1.004	1
Total Tetra-Dioxins	**26.9**		0.0267	1.00	0.76		1
Total Penta-Dioxins	**62.9**		0.0456	2.50	1.37		1
Total Hexa-Dioxins	**187**		0.0500	2.50	1.25		1
Total Hepta-Dioxins	**66.0**		0.105	2.50	1.03		1
Total Tetra-Furans	**26.2**		0.0368	1.00	0.84		1
Total Penta-Furans	**127**		0.0241	2.50	1.51		1
Total Hexa-Furans	**272**		0.0364	2.50	1.24		1
Total Hepta-Furans	**139**		0.100	2.50	0.99		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800317-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/4/08 16:38:00
Prep Method:	Method	**Date Extracted:**	7/24/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-01
Percent Solids:		**GC Column:**	DB-5
Data File Name:	U129320	**Blank File Name:**	P200040
ICAL Name:	04/02/07	**Cal Ver. File Name:**	U129311

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	713.984	71		40-135	0.74	1.008
13C-1,2,3,7,8-PeCDD	1000	921.761	92		40-135	1.50	1.164
13C-1,2,3,6,7,8-HxCDD	2500	2219.398	89		40-135	1.23	0.993
13C-1,2,3,4,6,7,8-HpCDD	2500	2316.030	93		40-135	1.04	1.067
13C-OCDD	5000	3889.177	78		40-135	0.90	1.146
13C-2,3,7,8-TCDF	1000	690.058	69		40-135	0.77	0.979
13C-1,2,3,7,8-PeCDF	1000	843.300	84		40-135	1.49	1.127
13C-1,2,3,4,7,8-HxCDF	2500	1803.969	72		40-135	0.51	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	2173.443	87		40-135	0.43	1.044
37Cl-2,3,7,8-TCDD	800	711.905	89		40-135	NA	1.008

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ0800319-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/7/08 08:40:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-04
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P200054	**Blank File Name:**	P100234
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200053

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	**27.7**		0.0487	1.00	0.74	1.001	1
1,2,3,7,8-PeCDD	**62.7**		0.0483	2.50	1.62	1.000	1
1,2,3,4,7,8-HxCDD	**67.0**		0.0409	2.50	1.28	0.998	1
1,2,3,6,7,8-HxCDD	**57.5**		0.0362	2.50	1.24	1.000	1
1,2,3,7,8,9-HxCDD	**50.5**		0.0394	2.50	1.22	1.008	1
1,2,3,4,6,7,8-HpCDD	**65.9**		0.0906	2.50	1.10	1.000	1
OCDD	**141**		0.193	5.00	0.90	1.000	1
2,3,7,8-TCDF	**27.1**		0.0560	1.00	0.84	1.001	1
1,2,3,7,8-PeCDF	**65.3**		0.0614	2.50	1.51	1.000	1
2,3,4,7,8-PeCDF	**66.4**		0.0608	2.50	1.52	1.023	1
1,2,3,4,7,8-HxCDF	**66.3**		0.0331	2.50	1.24	1.000	1
1,2,3,6,7,8-HxCDF	**69.2**		0.0318	2.50	1.32	1.003	1
1,2,3,7,8,9-HxCDF	**61.3**		0.0414	2.50	1.27	1.036	1
2,3,4,6,7,8-HxCDF	**62.7**		0.0355	2.50	1.34	1.016	1
1,2,3,4,6,7,8-HpCDF	**65.8**		0.0411	2.50	1.05	1.000	1
1,2,3,4,7,8,9-HpCDF	**78.5**		0.0560	2.50	1.08	1.034	1
OCDF	**160**		0.140	5.00	0.92	1.004	1
Total Tetra-Dioxins	**27.8**		0.0487	1.00	0.67		1
Total Penta-Dioxins	**62.8**		0.0483	2.50	1.35		1
Total Hexa-Dioxins	**175**		0.0362	2.50	1.28		1
Total Hepta-Dioxins	**65.9**		0.0906	2.50	1.10		1
Total Tetra-Furans	**27.2**		0.0560	1.00	0.84		1
Total Penta-Furans	**132**		0.0608	2.50	1.49		1
Total Hexa-Furans	**260**		0.0318	2.50	1.24		1
Total Hepta-Furans	**144**		0.0411	2.50	1.05		1

Comments:

Client:	Emax Laboratories, Incorporated	**Service Request:**	E0800704
Project:	LMC Beaumont Site 1/08G195	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ0800319-02	**Basis:**	Dry

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analytical Method:	8290	**Date Analyzed:**	8/7/08 08:40:00
Prep Method:	Method	**Date Extracted:**	7/25/08
Sample Amount:	10.000g	**Instrument Name:**	E-HRMS-04
Percent Solids:		**GC Column:**	DB-5
Data File Name:	P200054	**Blank File Name:**	P100234
ICAL Name:	08/01/08	**Cal Ver. File Name:**	P200053

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	%Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	1000	668.503	67		40-135	0.76	1.007
13C-1,2,3,7,8-PeCDD	1000	851.485	85		40-135	1.59	1.165
13C-1,2,3,6,7,8-HxCDD	2500	1704.336	68		40-135	1.25	0.992
13C-1,2,3,4,6,7,8-HpCDD	2500	1252.433	50		40-135	1.03	1.068
13C-OCDD	5000	1586.653	32	Y	40-135	0.91	1.149
13C-2,3,7,8-TCDF	1000	608.277	61		40-135	0.73	0.978
13C-1,2,3,7,8-PeCDF	1000	768.430	77		40-135	1.49	1.128
13C-1,2,3,4,7,8-HxCDF	2500	1276.339	51		40-135	0.50	0.972
13C-1,2,3,4,6,7,8-HpCDF	2500	1116.599	45		40-135	0.44	1.044
37Cl-2,3,7,8-TCDD	800	621.404	78		40-135	NA	1.007

Comments:

CAS, INC.
2378-TCDF ANALYSIS DATA SHEET
Use for Sample and Blank Results

CLIENT ID
INST. BLANK

Lab Name: Columbia Analytical Services Episode No.:

Client Name: Lab Sample ID: INST. BLANK

Matrix (aqueous/solid/leachate): Sample Wt/Vol: g or mL:

Sample Receipt Date: Initial Calibration Date: 05/30/08

Ext. Date: Instrument ID: 70S

Analysis Date: 5-AUG-08 Time: 11:18:29 GC Column ID: DB-225

Ext. Vol(ul):20.0 Sample Data Filename: C15242#3

Inj. Vol(ul):1.0 Blank Data Filename: C15242#3

Dilution Factor: 1 Cal. Ver. Data Filename: C15242#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND(1)	DETECTION LIMIT	Q	ION ABUND. RATIO	RRT	TEF
2,3,7,8-TCDF	*	0.128	U	*	*	*

INT. STANDARD	SPIKE CONCENT.(pg)	CONCENT. FOUND(pg)	RECOV. %	ION ABUND. RATIO	RRT
13C-2,3,7,8-TCDF	1000	734.43	73.44	0.79	1.05
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	732.60	91.58		0.99

(1)'*' indicates non-detected.

TCDFF1

USEPA, ITD

CAS, INC.

2378-TCDF ANALYSIS DATA SHEET

Use for Sample and Blank Results

CLIENT ID

INST. BLANK

Lab Name: Columbia Analytical Services Episode No.:

Client Name: Lab Sample ID: INST. BLANK

Matrix (aqueous/solid/leachate): Sample Wt/Vol: g or mL:

Sample Receipt Date: Initial Calibration Date: 05/30/08

Ext. Date: Instrument ID: 70S

Analysis Date: 11-AUG-08 Time: 08:25:40 GC Column ID: DB-225

Ext. Vol(ul):20.0 Sample Data Filename: C15252#3

Inj. Vol(ul):1.0 Blank Data Filename: C15252#3

Dilution Factor: 1 Cal. Ver. Data Filename: C15252#2

Concentration Units (pg/L or ng/Kg dry weight): ng/Kg % Moisture:

ANALYTE	CONCENTRATION FOUND(1)	DETECTION LIMIT	Q	ION ABUND. RATIO	RRT	TEF
2,3,7,8-TCDF	*	0.111	U	*	*	*

INT. STANDARD	SPIKE CONCENT.(pg)	CONCENT. FOUND(pg)	RECOV. %	ION ABUND. RATIO	RRT
13C-2,3,7,8-TCDF	1000	778.21	77.82	0.78	1.05
CLEANUP STANDARD					
37Cl-2,3,7,8-TCDD	800	647.33	80.92		0.99

(1)'*' indicates non-detected.

TCDFF1

Columbia Analytical Services INC

Chain of Custody

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
Tel#: 310-618-8889 FAX#: 310-618-0818
email: info@emaxlabs.com

EMAX CONTROL NO	08G195
PROJECT CODE	TT_0618_
TURN-AROUND-TIME	STANDARD

SEND REPORT TO:
EMAX LABORATORIES, INC.
1835 W. 205TH ST. CA 90501

ATTN: Ye

CLIENT: Tetra Tech, Inc.
PROJECT: LMC Beaumont Site 1

SEND SAMPLES TO:

CAS-Columbia Lab
19408 Park Row. Suite # 320
Houston, TX 77084

EMAX Sample ID	Client Sample ID	Collection Date	CollectionTime	Matrix	Method		COMMENTS
G195-01	H-EB7182008	7/18/2008	8:20:00 AM	WATER	SW8290	PCDDs and PCDFs	
G195-10	H-T5-3.0	7/18/2008	10:50:00 AM	SOIL	SW8290	PCDDs and PCDFs	
G195-11	H-T5-3.0DUP	7/18/2008	10:52:00 AM	SOIL	SW8290	PCDDs and PCDFs	

INSTRUCTION: A cross reference table for Client Sample ID and EMAX Sample ID must be included in the final report.

COOLER TEMPERATURE

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
M	7/21/08	1600	10:30 7/22 0°C		

* Please send 1 amber for # 1.

* Please send 1 jar for sample # 10, 11.

LP 7/21/08

Columbia Analytical Services, Inc.
Cooler Receipt Form

Client/Project: EMAX Service Request: E0800704

Received: 7/22/08 Opened (Date/Time): 1030 By: SSM

1. Samples were received via? ☐ *US Mail* ☑ *Fedex* ☐ *UPS* ☐ *DHL* ☐ *Courier* ☐ *Hand Delivered*
2. Samples were received in: (circle) ☑ *Cooler* ☐ *Box* ☐ *Other*_____ ☐ *NA*
3. Were custody seals present on coolers? ☐ Y ☑ N If yes, how many and where?_____
   If present, were custody seals intact? ☐ Y ☐ N If present, were they signed and dated? ☐ Y ☐ N
4. Is shipper's air-bill filed? ☐ NA ☐ Y ☐ N If not, record air bill number:_____
5. Temperature of cooler(s) upon receipt (°C): 0
6. If applicable, list Chain of Custody numbers: _____
7. Were custody papers properly filled our (ink, signed, etc.)? ☐ NA ☑ Y ☐ N
8. Packing material used: ☐ *Inserts* ☐ *Bubble Wrap* ☐ *Blue Ice* ☑ *Wet Ice* ☐ *Sleeves* ☐ *Other*_____
9. Were the correct types of bottles used for the tests indicated? ☑ Y ☐ N
   Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* ☑ Y ☐ N

Sample ID	Bottle Count	Bottle Type	Out of Temp	Broken	Initials
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

10. Were all bottle labels complete (i.e. analysis, ID, etc.)? ☑ Y ☐ N
    Did all bottle labels and tags agree with custody papers? *Indicate in the table below.* ☑ Y ☐ N

Sample ID on Bottle	Sample ID on COC		Sample ID on Bottle	Sample ID on COC

11. Additional notes, discrepancies, and resolutions:

Page 1 of: ☐ 1 ☐ 2

Sample Acceptance Policy

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

- ✓ On outside of cooler
- ✓ Seals intact, signed and dated

Chain-of-Custody documentation (mandatory):

- ✓ Properly filled out in ink & signed by the client
- ✓ Sign and date the coc for CAS/HOU upon cooler receipt
- ✓ Coc must list method number
- ✓ If no coc was submitted with the samples, complete a CAS/HOU coc for the client

Sample Integrity (mandatory):

- ✓ Sample containers must arrive in good condition (not broken or leaking)
- ✓ Sample IDs on the bottles must match the sample IDs on the coc
- ✓ The correct type of sample bottle must be used for the method requested
- ✓ The correct number of sample containers received must agree with the documentation on the coc
- ✓ The correct sample matrix must appear on the coc
- ✓ An appropriate sample volume or weight must be received

Temperature Preservatives (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6°C
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10°C
- ✓ Air samples can be shipped and stored at ambient temperature, ~23°C
- ✓ The sample temperature must be recorded on the coc
- ✓ Notify a Project Chemist if any samples are outside the acceptance temperature or have compromised sample integrity – the client must decide re: replacement sample submittal or continue with the analysis

Cooler Receipt Form, CRF (mandatory):

- ✓ Cooler receipt forms must be completed for each coc & SR#
- ✓ Sample integrity issues must be documented on the CRF
- ✓ A scan of the carrier and the airbill number must be recorded in CAS LIMS

Sample Integrity Issues/Resolutions (mandatory):

- ✓ Sample integrity issues are documented on the CRF and given to the Project Chemist for resolution with the client
- ✓ Client resolution is documented in writing (typically email or on the CRF) and filed in the project folder(s)

Service Request Summary

Folder #: **E0800704**
Client Name: Emax Laboratories, Incorporated
Project Name: LMC Beaumont Site 1
Project Number: 08G195

Report To: Ye Myint
Emax Laboratories, Incorporated
1835 205th St.
Torrance, CA 90501
Phone Number: 310-618-8889 Ext. 121
Cell Number:
Fax Number: 310-618-0818
E-mail: YMyint@emaxlabs.com

Project Chemist: Karen Verschoor
Originating Lab: HOUSTON
Logged By: SMALHOTRA
Date Received: 07/22/2008
Internal Due Date: 08/05/2008
QAPP: LAB QAP
Qualifier Set: CAS Standard
Formset: AFCEE
Merged?: N
Report to MDL?: Y
P.O. Number: 08G195
EDD: No EDD Specified

4 - 4 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
1 - 1000 ml-Glass Bottle NM AMBER Teflon Liner Unpreserved

Location: E-WIC-02, E-Disposed

CAS Samp No.	Client Samp No.	Matrix	Collected		SVM: PCDD PCDF/ 8290	SVM: Total Solids/ 8290
E0800704-001	H-EB7182008	Water	7/18/08	0820	**IV**	
E0800704-002	H-T5-3.0	Soil	7/18/08	1050	**IV**	**IV**
E0800704-003	H-T5-3.0DUP	Soil	7/18/08	1052	**IV**	**IV**

Preparation Information Benchsheet

Prep Run#: 70789 **Prep WorkFlow:** OrgExtDioxAq-30 **Status:** Draft

Team: Semivoa GCMS/NBROWN **Prep Method:** Method **Prep Date/Time:** 07/22/2008 03:51 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ0800314-01	MB		8290/PCDD PCDF		Liquid	1000mL	
2	EQ0800314-02	LCS		8290/PCDD PCDF		Liquid	1000mL	
3	EQ0800314-03	INCGSB120708 MS	.01	8290/PCDD PCDF		Liquid	900mL	
4	EQ0800314-05	EST-MW1-033 MS	.01	8290/PCDD PCDF		Liquid	550mL	
5	EQ0800314-04	INCGSB120708 DMS	.01	8290/PCDD PCDF		Liquid	910mL	
6	EQ0800314-06	EST-MW1-033 DMS	.01	8290/PCDD PCDF		Liquid	520mL	
7	E0800703-002	H-EB7162008	.01	8290/PCDD PCDF		Water	1050mL	Clear, colorless liquid
8	E0800704-001	H-EB7182008	.01	8290/PCDD PCDF		Water	1000mL	Clear, colorless liquid
9	E0800705-001	H-EB7172008	.01	8290/PCDD PCDF		Water	1050mL	Clear, colorless liquid
10	E0800715-001	INCGSB010708	.01	8290/PCDD PCDF		Water	850mL	Brown, clear liquid
11	E0800715-002	INCHSB010708	.01	8290/PCDD PCDF		Water	870mL	Light brown, clear liquid
12	E0800715-003	INCGSB110708	.01	8290/PCDD PCDF		Water	870mL	Light gray, clear liquid
13	E0800715-004	INCGSB120708	.01	8290/PCDD PCDF		Water	960mL	Tinted, clear liquid
14	E0800715-005	INCGSB040708	.01	8290/PCDD PCDF		Water	940mL	Brown, cloudy liquid
15	E0800716-001	EST-MW9-030	.01	8290/PCDD PCDF		Water	1000mL	Brown, clear liquid
16	E0800716-002	EST-MW16-030	.01	8290/PCDD PCDF		Water	1000mL	Clear liquid
17	E0800716-003	EST-MW4-030	.01	8290/PCDD PCDF		Water	1000mL	Tinted, cloudy liquid
18	E0800716-004	EST-MW1-033	.01	8290/PCDD PCDF		Water	1000mL	Tinted, clear liquid
19	E0800716-005	EST-MW2-030	.01	8290/PCDD PCDF		Water	530mL	Tinted, clear liquid
20	E0800716-006	EST-MW12-030	.01	8290/PCDD PCDF		Water	550mL	Tinted, clear liquid
21	E0800716-007	EST-MW3-030	.01	8290/PCDD PCDF		Water	630mL	Tinted, clear liquid
22	E0800716-008	EST-MW11-030	.01	8290/PCDD PCDF		Water	940mL	Tinted, clear liquid
23	E0800716-009	EST-MW11-035	.01	8290/PCDD PCDF		Water	1000mL	Clear, colorless liquid
24	K0806614-032	PB17-GW-071708	.10	8290/PCDD PCDF		Water	1000mL	Orange, cloudy liquid

Preparation Information Benchsheet

Prep Run#: 70789 **Prep WorkFlow:** OrgExtDioxAq-30 **Status:** Draft

Team: Semivoa GCMS/NBROWN **Prep Method:** Method **Prep Date/Time:** 07/22/2008 03:51 PM

Spiking Solutions

Name:	8290 Internal Working Standard	Inventory ID	4549	Logbook Ref:	D9-69-3A	Expires On:	01/14/2009

E0800703-002	100.00uL	E0800704-001	100.00uL	E0800705-001	100.00uL	E0800715-001	100.00uL	E0800715-002	100.00uL	E0800715-003	100.00uL
E0800715-004	100.00uL	E0800715-005	100.00uL	E0800716-001	100.00uL	E0800716-002	100.00uL	E0800716-003	100.00uL	E0800716-004	100.00uL
E0800716-005	100.00uL	E0800716-006	100.00uL	E0800716-007	100.00uL	E0800716-008	100.00uL	E0800716-009	100.00uL	EQ0800314-01	100.00uL
EQ0800314-02	100.00uL	EQ0800314-03	100.00uL	EQ0800314-04	100.00uL	EQ0800314-05	100.00uL	EQ0800314-06	100.00uL	K0806614-032	100.00uL

Name:	8290 Matrix Working Standard	Inventory ID	4551	Logbook Ref:	D9-69-4A	Expires On:	01/14/2009

EQ0800314-02	100.00uL	EQ0800314-03	100.00uL	EQ0800314-04	100.00uL	EQ0800314-05	100.00uL	EQ0800314-06	100.00uL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	4562	Logbook Ref:	D9-70-4A/B	Expires On:	01/18/2009

E0800703-002	100.00uL	E0800704-001	100.00uL	E0800705-001	100.00uL	E0800715-001	100.00uL	E0800715-002	100.00uL	E0800715-003	100.00uL
E0800715-004	100.00uL	E0800715-005	100.00uL	E0800716-001	100.00uL	E0800716-002	100.00uL	E0800716-003	100.00uL	E0800716-004	100.00uL
E0800716-005	100.00uL	E0800716-006	100.00uL	E0800716-007	100.00uL	E0800716-008	100.00uL	E0800716-009	100.00uL	EQ0800314-01	100.00uL
EQ0800314-02	100.00uL	EQ0800314-03	100.00uL	EQ0800314-04	100.00uL	EQ0800314-05	100.00uL	EQ0800314-06	100.00uL	K0806614-032	100.00uL

Preparation Materials

Sand Reagent Grade	C1-99-1 (345)	Silica Gel Reagent Grade	C2-6-004 (3305)	Carbon, High Purity	C2-9-004 (3628)
Glass Wool	C2-1-004 (3060)	Acetone 99.5% Minimum	C1-124-004 (3063)	Nonane (n-Nonane) 99%	C2-4-003 (3304)
Sodium Chloride Reagent Grade NaCl	C1-104-2 (3306)	Sodium Sulfate Anhydrous Reagent G	C2-10-001 (3635)	Dichloromethane (Methylene Chloride	C2-9-007 (3629)
Toluene 99.9% Minimum	C2-9-005 (3634)	Ethyl Acetate 99.9% Minimum EtOAc	C2-1-005 (3059)	Hexane (n-Hexane) 98.5% Minimum	C2-9-006 (3631)
Tridecane (n-Tridecane)	C2-7-002 (3360)	Sulfuric Acid Reagent Grade H2SO4	C2-7-005 (3357)		

Preparation Steps

Step:

Started:

Finished:

By:

Comments: _____

_____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Preparation Information Benchsheet

Prep Run#: 70770 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped

Team: Semivoa GCMS/NBROWN **Prep Method:** Method **Prep Date/Time:** 07/24/2008 03:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ0800317-01	MB		8290/PCDD PCDF		Solid	10.000g	
2	EQ0800317-02	LCS		8290/PCDD PCDF		Solid	10.000g	
3	EQ0800317-03	INCSSB0420 MS	.01	8290/PCDD PCDF		Solid	10.704g	
4	EQ0800317-04	INCSSB0420 DMS	.01	8290/PCDD PCDF		Solid	10.410g	
5	E0800697-008	INCSSB0112	.01	8290/PCDD PCDF		Soil	10.861g	Caramel mud
6	E0800697-018	INCSSB0625	.01	8290/PCDD PCDF		Soil	10.915g	Brown mud
7	E0800697-019	INCSSB0201	.01	8290/PCDD PCDF		Soil	10.769g	Brown mud
8	E0800697-020	INCSSB0420	.01	8290/PCDD PCDF		Soil	10.548g	Caramel mud
9	E0800703-001	H-T5A-2.0	.01	8290/PCDD PCDF		Soil	10.462g	Grainy dirt
10	E0800704-003	H-T5-3.0DUP	.01	8290/PCDD PCDF		Soil	10.444g	Beige grainy dirt
11	E0800705-002	H-TI-2.0	.01	8290/PCDD PCDF		Soil	10.305g	Beige grainy dirt
12	E0800710-001	cak071808SQC	.01	8290/PCDD PCDF		Sludge, Solid	10.986g	Dark mud
13	E0800714-001	INCSSB0515	.01	8290/PCDD PCDF		Soil	10.801g	Beige mud
14	E0800714-002	INCSSB0401	.01	8290/PCDD PCDF		Soil	10.524g	Brown rocky mud

Spiking Solutions

Name: 8290 Internal Working Standard Inventory ID 4549 Logbook Ref: D9-69-3A Expires On: 01/14/2009

E0800697-008	100.00uL	E0800697-018	100.00uL	E0800697-019	100.00uL	E0800697-020	100.00uL	E0800703-001	100.00uL	E0800704-003	100.00uL
E0800705-002	100.00uL	E0800710-001	100.00uL	E0800714-001	100.00uL	E0800714-002	100.00uL	EQ0800317-01	100.00uL	EQ0800317-02	100.00uL
EQ0800317-03	100.00uL	EQ0800317-04	100.00uL								

Name: 8290 Matrix Working Standard Inventory ID 4551 Logbook Ref: D9-69-4A Expires On: 01/14/2009

EQ0800317-02	100.00uL	EQ0800317-03	100.00uL	EQ0800317-04	100.00uL

Name: 8290/1613B Cleanup Working Standard Inventory ID 4562 Logbook Ref: D9-70-4A/B Expires On: 01/18/2009

E0800697-008	100.00uL	E0800697-018	100.00uL	E0800697-019	100.00uL	E0800697-020	100.00uL	E0800703-001	100.00uL	E0800704-003	100.00uL
E0800705-002	100.00uL	E0800710-001	100.00uL	E0800714-001	100.00uL	E0800714-002	100.00uL	EQ0800317-01	100.00uL	EQ0800317-02	100.00uL
EQ0800317-03	100.00uL	EQ0800317-04	100.00uL								

Preparation Materials

Sand Reagent Grade	C1-99-1 (345)	Silica Gel Reagent Grade	C2-6-004 (3305)	Carbon, High Purity	C2-9-004 (3628)
Glass Wool	C2-1-004 (3060)	Acetone 99.5% Minimum	C1-124-004 (3063)	Nonane (n-Nonane) 99%	C2-4-003 (3304)
Sodium Chloride Reagent Grade NaCl	C1-104-2 (3306)	Sodium Sulfate Anhydrous Reagent G	C2-10-001 (3635)	Dichloromethane (Methylene Chloride	C2-9-007 (3629)
Toluene 99.9% Minimum	C2-9-005 (3634)	Ethyl Acetate 99.9% Minimum EtOAc	C2-1-005 (3059)	Hexane (n-Hexane) 98.5% Minimum	C2-9-006 (3631)
Tridecane (n-Tridecane)	C2-7-002 (3360)	Sulfuric Acid Reagent Grade H2SO4	C2-7-005 (3357)	Extraction Thimbles 43 x123 mm	(1577)

Preparation Information Benchsheet

Prep Run#: 70770 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped

Team: Semivoa GCMS/NBROWN **Prep Method:** Method **Prep Date/Time:** 07/24/2008 03:00 PM

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	7/24/08 15:00	Started:	7/31/08 11:30	Started:	7/31/08 14:00	Started:	8/1/08 10:00
Finished:	7/24/08 17:30	Finished:	7/31/08 13:00	Finished:	7/31/08 18:00	Finished:	8/1/08 12:00
By:	NBROWN	By:	NBROWN	By:	NBROWN	By:	NBROWN

Comments: _____

_____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Preparation Information Benchsheet

Prep Run#: 70953 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped

Team: Semivoa GCMS/SMALHOTRA **Prep Method:** Method **Prep Date/Time:** 07/25/2008 04:00 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ0800319-01	MB		8290/PCDD PCDF		Solid	10.000g	
2	EQ0800319-02	LCS		8290/PCDD PCDF		Solid	10.000g	
3	EQ0800319-03	INCSSB0714 MS	.01	8290/PCDD PCDF		Solid	10.616g	
4	EQ0800319-04	INCSSB0714 DMS	.01	8290/PCDD PCDF		Solid	10.882g	
5	E0800704-002	H-T5-3.0	.01	8290/PCDD PCDF		Soil	10.351g	Beige grainy sand
6	E0800714-003	INCSSB1201	.01	8290/PCDD PCDF		Soil	10.677g	Brown sandy mud
7	E0800714-004	INCSSB0801	.01	8290/PCDD PCDF		Soil	10.477g	Brown rocky mud
8	E0800714-005	INCSSB0812	.01	8290/PCDD PCDF		Soil	10.694g	Beige mud
9	E0800714-006	INCSSB0825	.01	8290/PCDD PCDF		Soil	10.726g	Light brown mud
10	E0800714-007	INCSSB1217	.01	8290/PCDD PCDF		Soil	10.561g	Brown mud
11	E0800714-008	INCSSB0714	.01	8290/PCDD PCDF		Soil	10.319g	Dark beige mud
12	E0800714-009	INCSSB0724	.01	8290/PCDD PCDF		Soil	10.120g	Brown mud
13	E0800714-010	INCSSB0215	.01	8290/PCDD PCDF		Soil	10.348g	Dark brown mud
14	E0800714-011	INCSSB0315	.01	8290/PCDD PCDF		Soil	10.355g	Beige mud
15	E0800714-012	INCSSB0301	.01	8290/PCDD PCDF		Soil	10.360g	Brown rocky mud
16	E0800714-013	INCCSB0301	.01	8290/PCDD PCDF		Soil	10.595g	Brown rocky mud
17	E0800720-001	08-09807	.01	8290/PCDD PCDF		Soil	10.445g	Black green mud
18	K0806614-031	PB17-S-8-071708	.03	8290/PCDD PCDF		Soil	10.825g	Cocoa brown soil

Spiking Solutions

Name: 8290 Internal Working Standard Inventory ID 4549 Logbook Ref: D9-69-3A Expires On: 01/14/2009

E0800704-002	100.00uL	E0800714-003	100.00uL	E0800714-004	100.00uL	E0800714-005	100.00uL	E0800714-006	100.00uL	E0800714-007	100.00uL
E0800714-008	100.00uL	E0800714-009	100.00uL	E0800714-010	100.00uL	E0800714-011	100.00uL	E0800714-012	100.00uL	E0800714-013	100.00uL
E0800720-001	100.00uL	EQ0800319-01	100.00uL	EQ0800319-02	100.00uL	EQ0800319-03	100.00uL	EQ0800319-04	100.00uL	K0806614-031	100.00uL

Name: 8290 Matrix Working Standard Inventory ID 4551 Logbook Ref: D9-69-4A Expires On: 01/14/2009

EQ0800319-02	100.00uL	EQ0800319-03	100.00uL	EQ0800319-04	100.00uL

Name: 8290/1613B Cleanup Working Standard Inventory ID 4766 Logbook Ref: D9-72-4A/B Expires On: 01/31/2009

E0800704-002	100.00uL	E0800714-003	100.00uL	E0800714-004	100.00uL	E0800714-005	100.00uL	E0800714-006	100.00uL	E0800714-007	100.00uL
E0800714-008	100.00uL	E0800714-009	100.00uL	E0800714-010	100.00uL	E0800714-011	100.00uL	E0800714-012	100.00uL	E0800714-013	100.00uL
E0800720-001	100.00uL	EQ0800319-01	100.00uL	EQ0800319-02	100.00uL	EQ0800319-03	100.00uL	EQ0800319-04	100.00uL	K0806614-031	100.00uL

Preparation Information Benchsheet

Prep Run#: 70953 **Prep WorkFlow:** OrgExtDioxS(30) **Status:** Prepped

Team: Semivoa GCMS/SMALHOTRA **Prep Method:** Method **Prep Date/Time:** 07/25/2008 04:00 PM

Preparation Materials

Sand Reagent Grade	C1-99-1 (345)	Silica Gel Reagent Grade	C2-6-004 (3305)	Carbon, High Purity	C2-9-004 (3628)
Glass Wool	C2-1-004 (3060)	Acetone 99.5% Minimum	C1-124-004 (3063)	Nonane (n-Nonane) 99%	C2-4-003 (3304)
Sodium Chloride Reagent Grade NaCl	C1-104-2 (3306)	Sodium Sulfate Anhydrous Reagent G	C2-10-001 (3635)	Dichloromethane (Methylene Chloride	C2-9-007 (3629)
Toluene 99.9% Minimum	C2-9-005 (3634)	Ethyl Acetate 99.9% Minimum EtOAc	C2-1-005 (3059)	Hexane (n-Hexane) 98.5% Minimum	C2-9-006 (3631)
Tridecane (n-Tridecane)	C2-7-002 (3360)	Sulfuric Acid Reagent Grade H2SO4	C2-7-005 (3357)	Florisil (Magnesia-Silica Gel)	C2-8-003 (3603)
Extraction Thimbles 43 x123 mm	(1577)				

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	7/25/08 16:00	Started:	8/5/08 10:00	Started:	8/5/08 15:00	Started:	8/6/08 08:00
Finished:	7/25/08 18:30	Finished:	8/5/08 12:00	Finished:	8/5/08 18:00	Finished:	8/6/08 11:00
By:	AKODUR	By:	AKODUR	By:	AKODUR	By:	AKODUR

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Total Solids, (Gravimetric, Dried at 110 Deg C)

Group ID: 71531

Analyst: NBROWN

Date Acquired: 07/24/2008

Reviewed By: _____

Date Reviewed: _____

Lab Code	Client Sample Name	Test	Tare Weight	Wet Weight + Tare	Dry Weight + Tare	Percent Solids
E0800697-018	INCSSB0625	8290/Total Solids	12.9310g	26.6940g	24.0090g	80.5
E0800697-019	INCSSB0201	8290/Total Solids	12.9230g	26.7020g	24.0450g	80.7
E0800697-020	INCSSB0420	8290/Total Solids	13.3020g	28.6010g	25.3990g	79.1
E0800703-001	H-T5A-2.0	8290/Total Solids	13.2760g	26.8080g	26.1460g	95.1
E0800704-002	H-T5-3.0	8290/Total Solids	12.9210g	26.8040g	25.6880g	92.0
E0800704-003	H-T5-3.0DUP	8290/Total Solids	13.3480g	29.1790g	27.7200g	90.8
E0800705-002	H-TI-2.0	8290/Total Solids	13.3980g	22.2410g	20.5820g	81.2
E0800710-001	cak071808SQC	8290/Total Solids	13.2460g	17.4050g	13.9560g	17.1
E0800714-001	INCSSB0515	8290/Total Solids	12.9560g	28.4700g	25.8400g	83.0
E0800714-002	INCSSB0401	8290/Total Solids	13.3560g	24.8880g	23.0640g	84.2

Columbia Analytical Services INC

Chromatograms and Selected Ion Monitoring

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
H-EB7182008

Run #5 Filename P200020 Samp: 1 Inj: 1 Acquired: 31-JUL-08 10:49:02
Processed: 11-AUG-08 13:25:17 LAB. ID: E0800704-001

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.863
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.845
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.861
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.093
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.106
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.006
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	0.846
8	Unk	1,2,3,4,6,7,8-HpCDF	NotFnd	*	*	*	no	no	1.360
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	0.953
10	Unk	OCDF	NotFnd	*	*	*	no	no	0.990
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.944
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.858
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.886
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	0.983
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.897
16	Unk	1,2,3,4,6,7,8-HpCDD	40:11	3.892e+00	4.374e+00	0.89	yes	yes	0.836
17	Unk	OCDD	43:12	1.835e+01	2.372e+01	0.77	yes	yes	0.947
18	IS	13C-2,3,7,8-TCDF	28:35	6.859e+03	8.711e+03	0.79	yes	no	1.290
19	IS	13C-1,2,3,7,8-PeCDF	32:58	9.746e+03	6.120e+03	1.59	yes	no	1.282
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	9.401e+03	1.837e+04	0.51	yes	no	1.094
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	5.397e+03	1.268e+04	0.43	yes	no	0.806
22	IS	13C-2,3,7,8-TCDD	29:26	5.467e+03	6.992e+03	0.78	yes	no	0.985
23	IS	13C-1,2,3,7,8-PeCDD	34:04	7.528e+03	4.646e+03	1.62	yes	no	0.987
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.587e+04	1.244e+04	1.27	yes	no	0.988
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	9.319e+03	8.989e+03	1.04	yes	no	0.766
26	IS	13C-OCDD	43:11	1.122e+04	1.231e+04	0.91	yes	no	0.851
27	RS/RT	13C-1,2,3,4-TCDD	29:14	9.874e+03	1.241e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	8.627e+03	6.765e+03	1.28	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.221e+04					0.954
					SUM AREA				
30	Tot	Total Tetra-Furans	NotFnd		*	*	no		0.863
31	Tot	Total Tetra-Dioxins	NotFnd		*	*	no		0.944
32	Tot	Total Penta-Furans	NotFnd		*	*	no		0.853
33	Tot	Total Penta-Dioxins	NotFnd		*	*	no		0.858
34	Tot	Total Hexa-Furans	NotFnd		*	*	no		1.013
35	Tot	Total Hexa-Dioxins	NotFnd		*	*	no		0.922
36	Tot	Total Hepta-Furans	NotFnd		*	*	no		1.156
37	Tot	Total Hepta-Dioxins	40:11		8.266e+00	0.89	yes		0.836

---Sample Calculation---

$$OCDD = \frac{(1.835e+01 + 2.372e+01) \times 5000\ pg}{(1.122e+04 + 1.231e+04) \times \left(\frac{\text{~~g~~) x (100~~)/100}}{1.000L} \times \frac{\text{~~0.95~~}}{0.947}\right)} = 9.44\ pg/L$$

8/14/08 gc

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary H-EB7182008

Run #5 Filename P200020 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-08 10:49:02

Processed: 11-AUG-08 13:25:17 LAB. ID: E0800704-001

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.88e+02	*	*	3.12e+02	*
2	1,2,3,7,8-PeCDF	*	1.56e+02	*	*	2.00e+02	*
3	2,3,4,7,8-PeCDF	*	1.56e+02	*	*	2.00e+02	*
4	1,2,3,4,7,8-HxCDF	*	2.44e+02	*	*	1.44e+02	*
5	1,2,3,6,7,8-HxCDF	*	2.44e+02	*	*	1.44e+02	*
6	2,3,4,6,7,8-HxCDF	*	2.44e+02	*	*	1.44e+02	*
7	1,2,3,7,8,9-HxCDF	*	2.44e+02	*	*	1.44e+02	*
8	1,2,3,4,6,7,8-HpCDF	*	1.40e+02	*	*	1.20e+02	*
9	1,2,3,4,7,8,9-HpCDF	*	1.40e+02	*	*	1.20e+02	*
10	OCDF	*	1.36e+02	*	*	3.68e+02	*
11	2,3,7,8-TCDD	*	3.56e+02	*	*	1.48e+02	*
12	1,2,3,7,8-PeCDD	*	3.56e+02	*	*	8.80e+01	*
13	1,2,3,4,7,8-HxCDD	*	1.36e+02	*	*	2.04e+02	*
14	1,2,3,6,7,8-HxCDD	*	1.36e+02	*	*	2.04e+02	*
15	1,2,3,7,8,9-HxCDD	*	1.36e+02	*	*	2.04e+02	*
16	1,2,3,4,6,7,8-HpCDD	1.53e+03	1.84e+02	8.3e+00	1.71e+03	1.36e+02	1.3e+01
17	OCDD	2.58e+03	1.16e+02	2.2e+01	3.71e+03	1.16e+02	3.2e+01
18	13C-2,3,7,8-TCDF	1.17e+06	7.04e+02	1.7e+03	1.47e+06	4.36e+02	3.4e+03
19	13C-1,2,3,7,8-PeCDF	1.95e+06	1.60e+02	1.2e+04	1.22e+06	1.28e+02	9.5e+03
20	13C-1,2,3,4,7,8-HxCDF	2.07e+06	2.16e+02	9.6e+03	4.02e+06	3.52e+02	1.1e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.20e+06	4.36e+02	2.8e+03	2.81e+06	8.64e+02	3.3e+03
22	13C-2,3,7,8-TCDD	9.83e+05	9.48e+02	1.0e+03	1.24e+06	1.44e+02	8.6e+03
23	13C-1,2,3,7,8-PeCDD	1.51e+06	2.80e+02	5.4e+03	9.39e+05	2.04e+02	4.6e+03
24	13C-1,2,3,6,7,8-HxCDD	3.51e+06	1.08e+02	3.3e+04	2.79e+06	2.00e+02	1.4e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.88e+06	1.88e+02	1.0e+04	1.83e+06	1.52e+02	1.2e+04
26	13C-OCDD	1.71e+06	1.04e+02	1.6e+04	1.88e+06	1.04e+02	1.8e+04
27	13C-1,2,3,4-TCDD	1.77e+06	9.48e+02	1.9e+03	2.20e+06	1.44e+02	1.5e+04
28	13C-1,2,3,7,8,9-HxCDD	1.88e+06	1.08e+02	1.7e+04	1.51e+06	2.00e+02	7.6e+03
29	37Cl-2,3,7,8-TCDD	2.20e+06	1.76e+02	1.2e+04			

Columbia Analytical Services, Inc.
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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-EB7182008

Entry: 37 Totals Name: Total Hepta-Dioxins

Run: 5 File: P200020 Sample:1 Injection:1 Function:4

Acquired: 31-JUL-08 10:49:02 Processed: 11-AUG-08 13:25:17

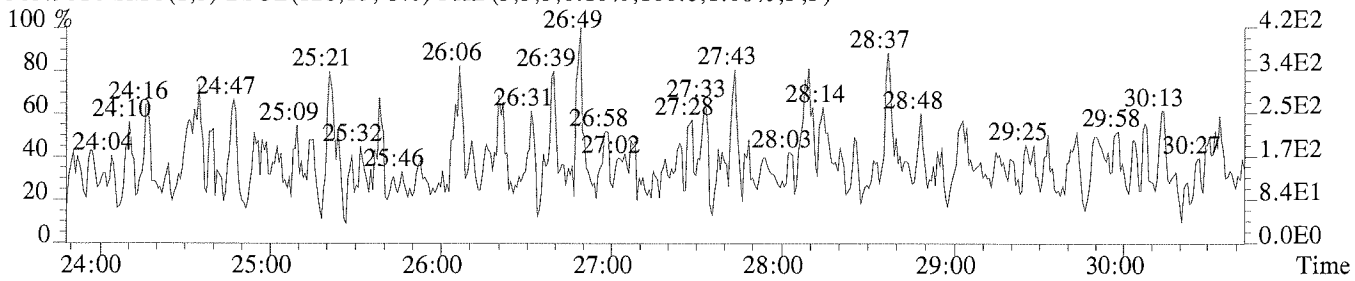
Mass:423.777 425.774 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	40:11	3.89e+00	4.37e+00 0.89	yes	8.27e+00	1,2,3,4,6,7,8-HpCDD	y

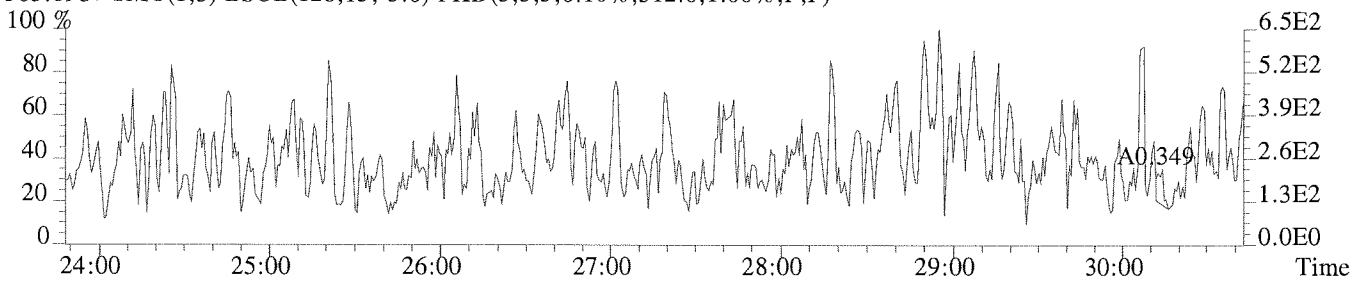
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:P200020 #1-576 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

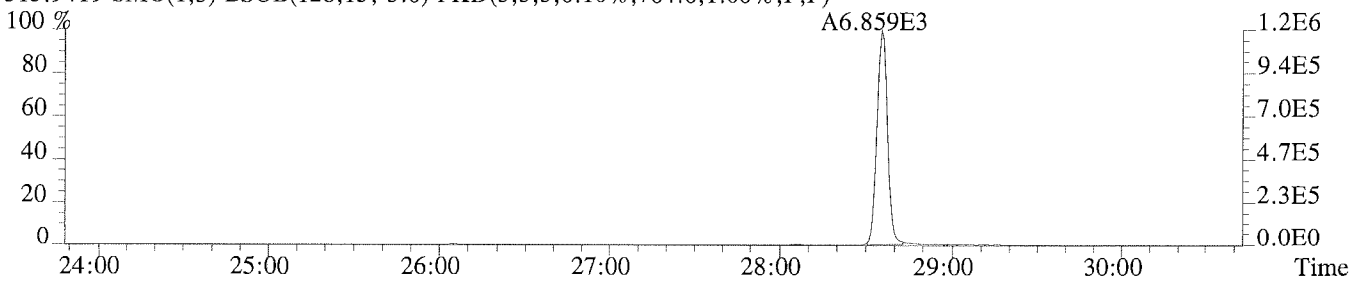
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,188.0,1.00%,F,F)



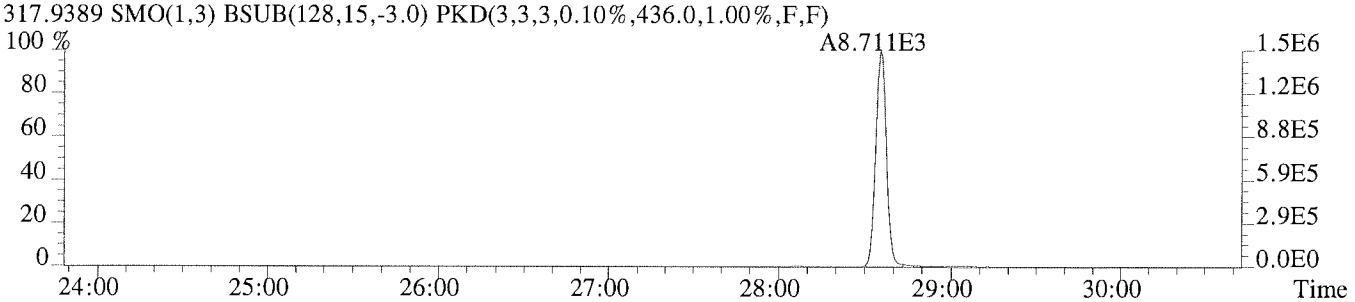
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,F)



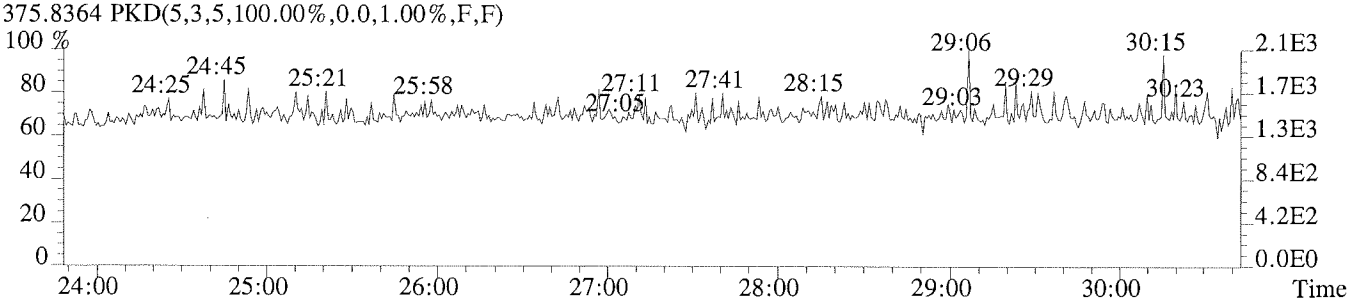
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,F)



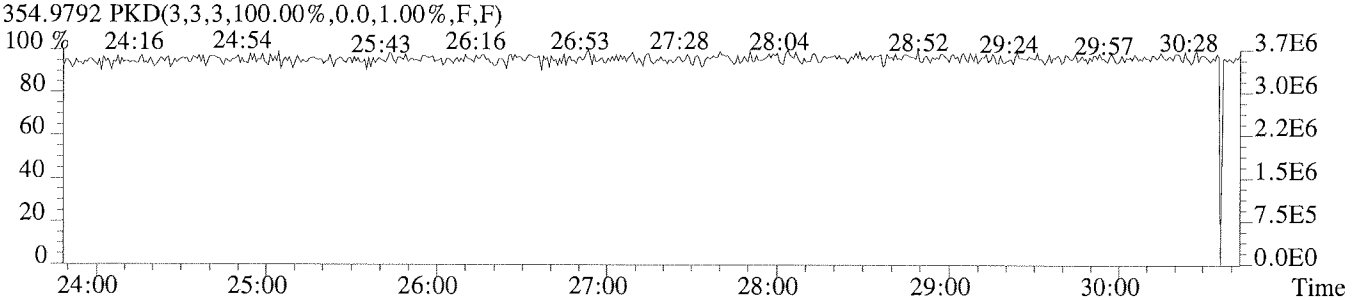
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,F)



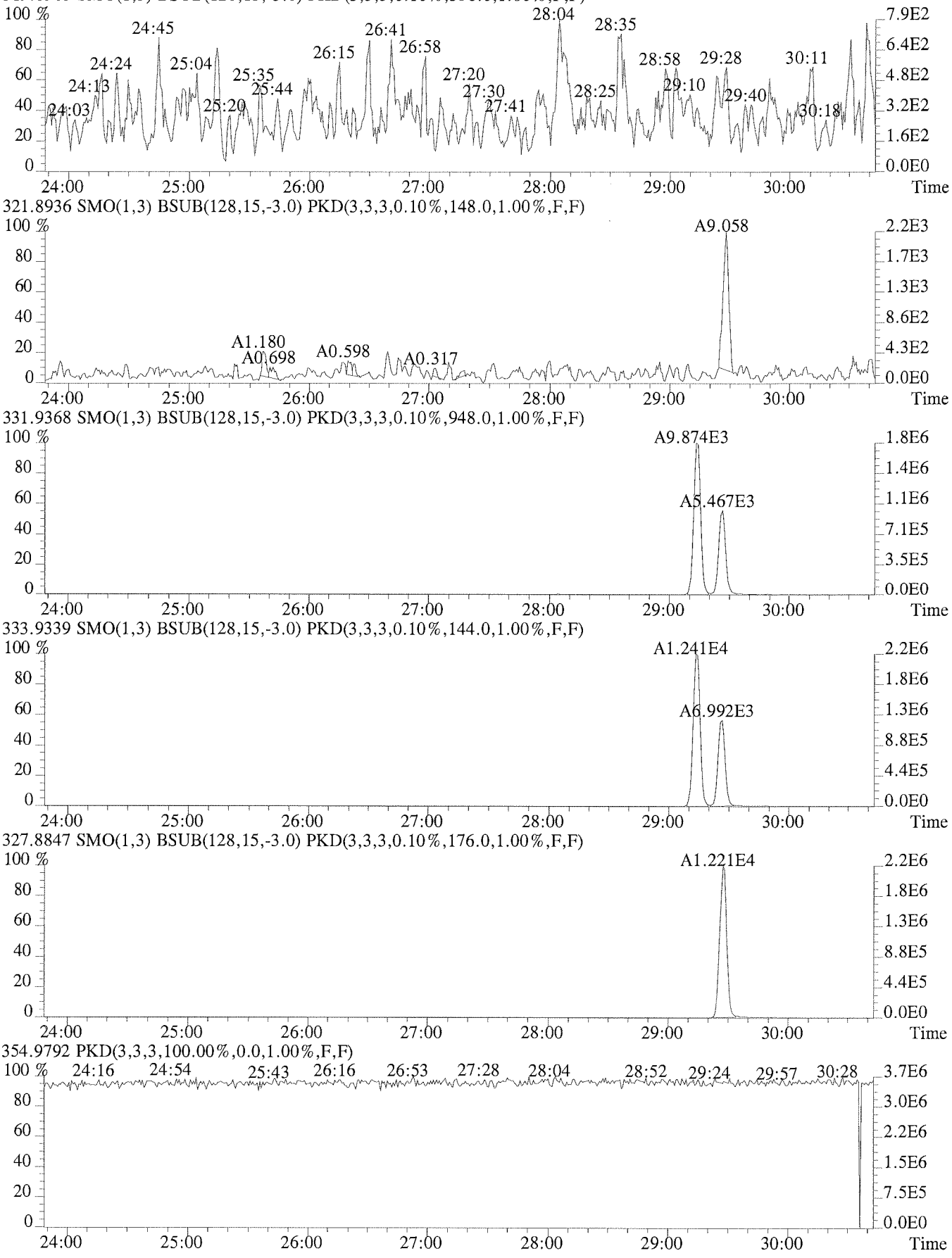
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

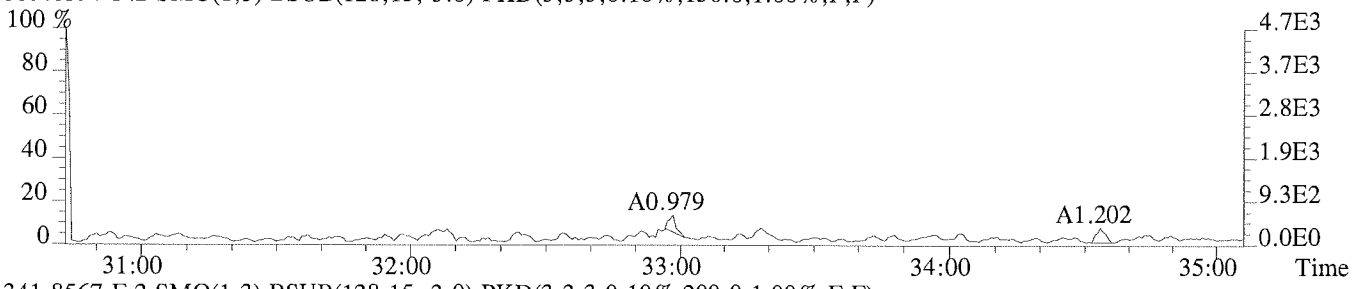


File:P200020 #1-576 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

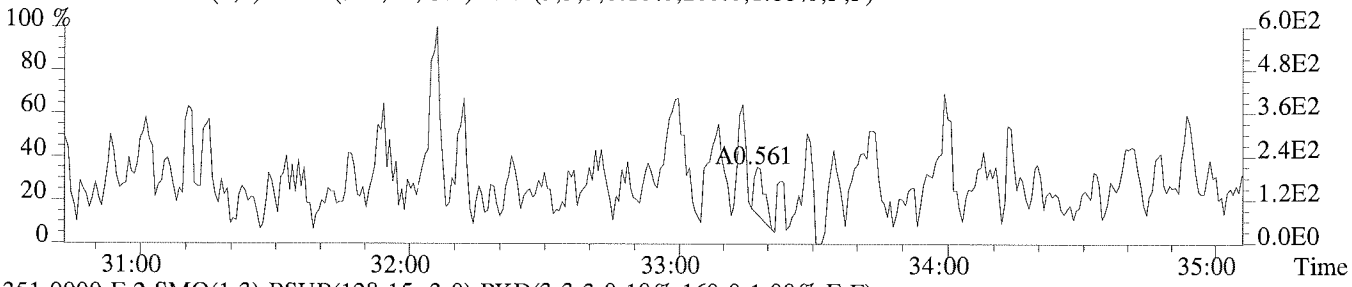


File:P200020 #1-398 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

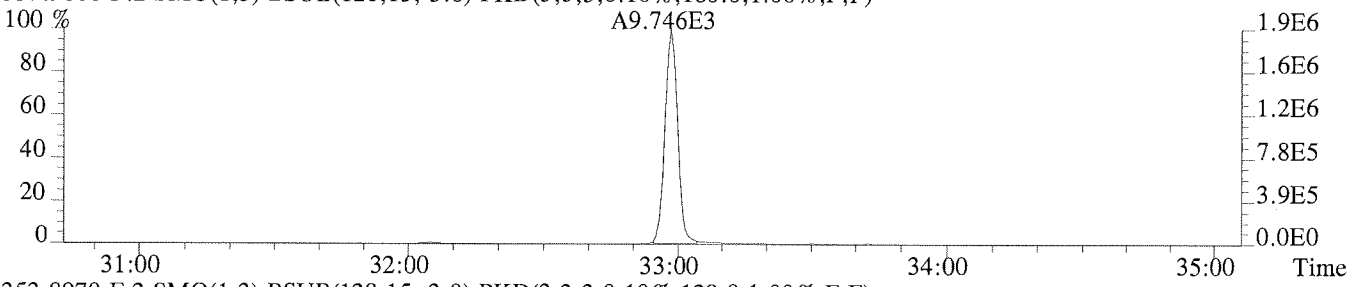
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,156.0,1.00%,F,F)



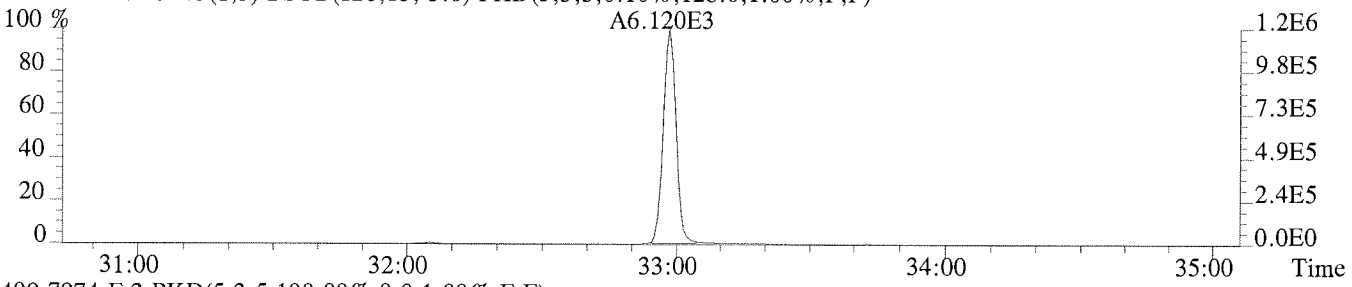
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,F)



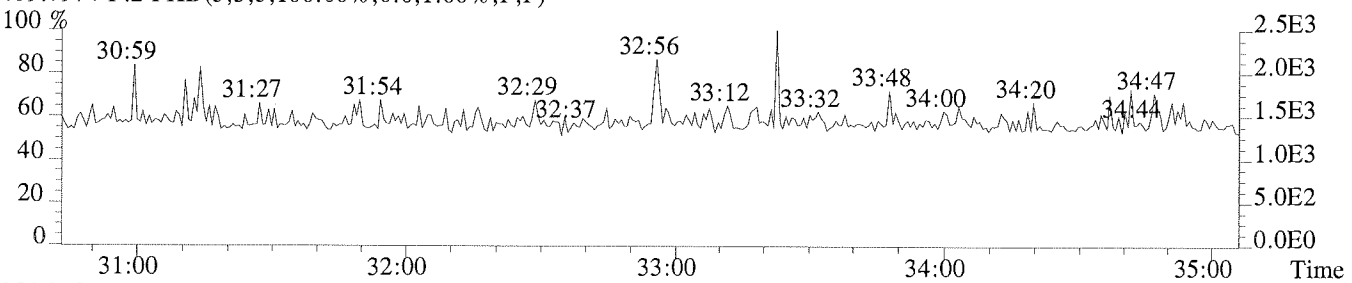
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,F)



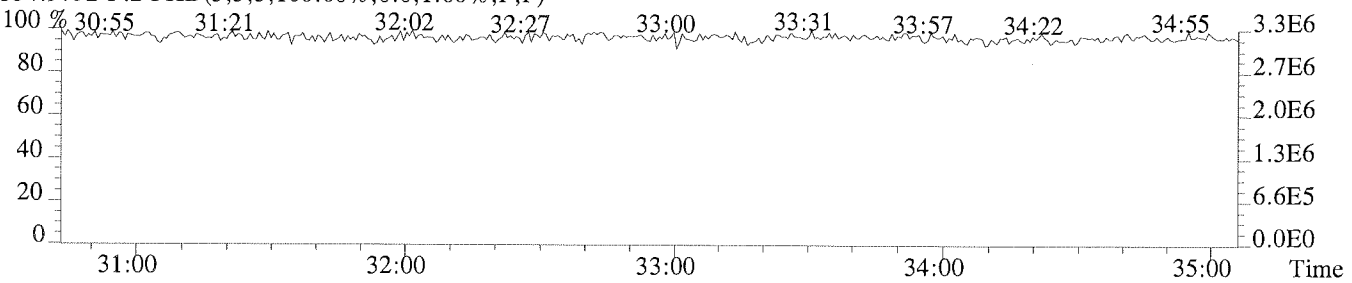
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)



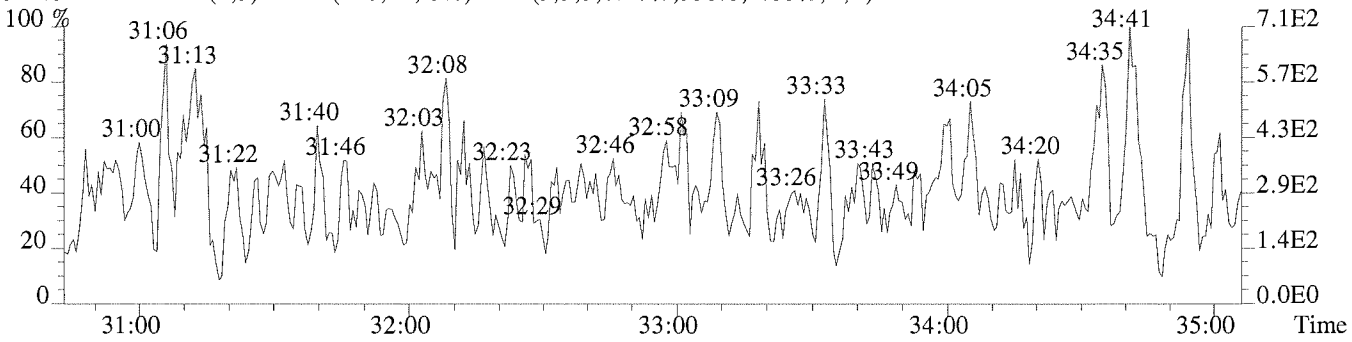
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



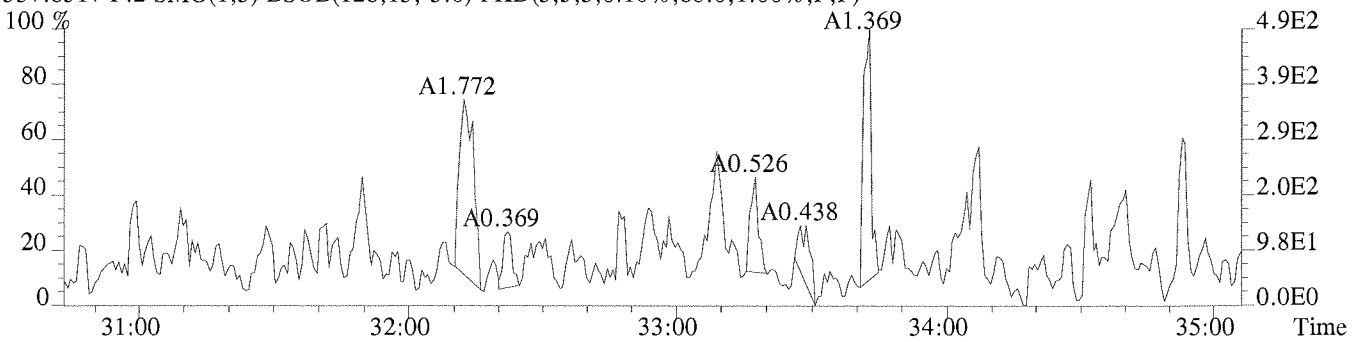
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



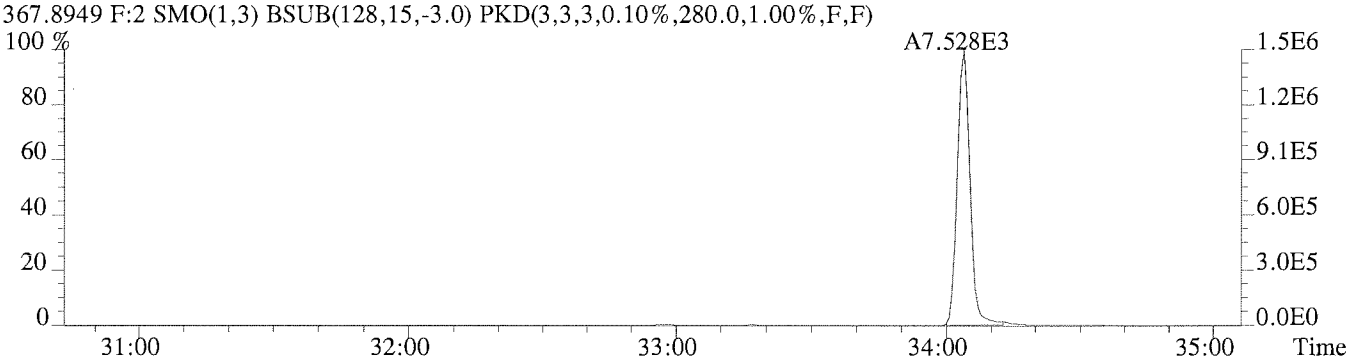
File:P200020 #1-398 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



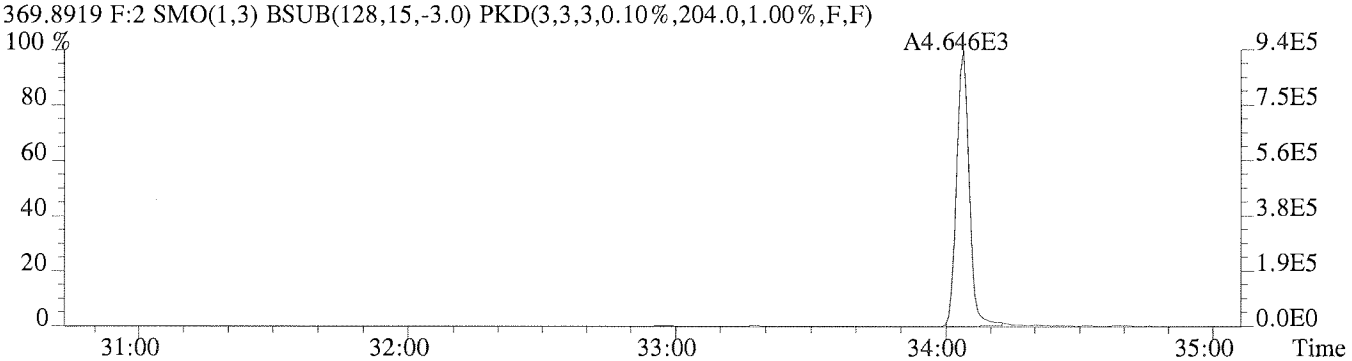
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



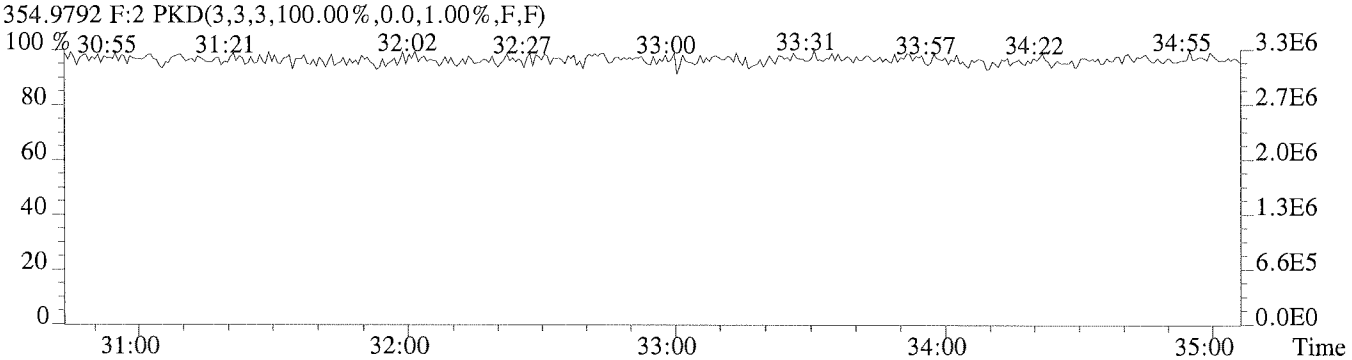
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,280.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,F)

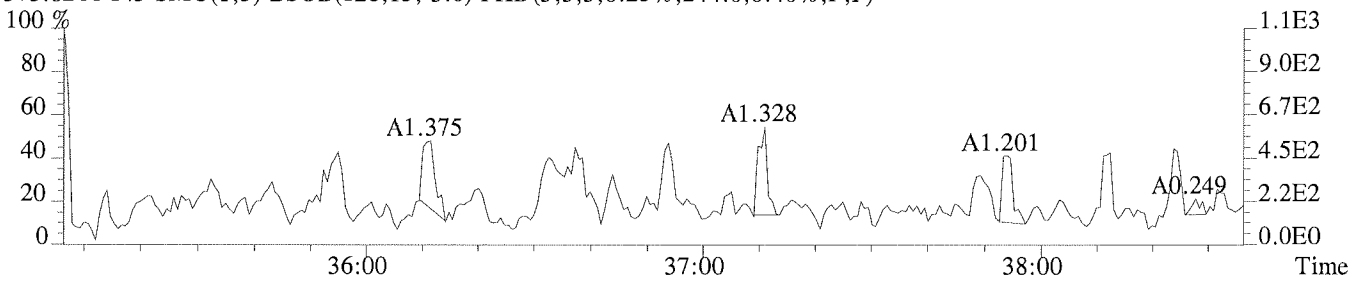


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

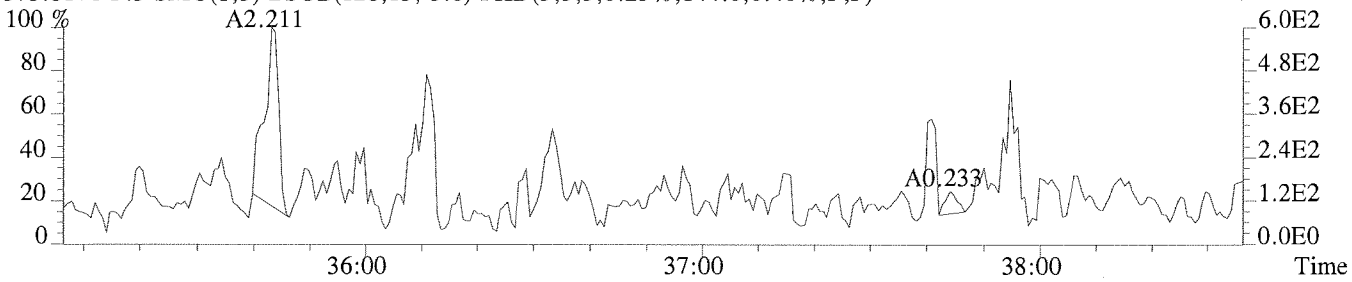


File:P200020 #1-318 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

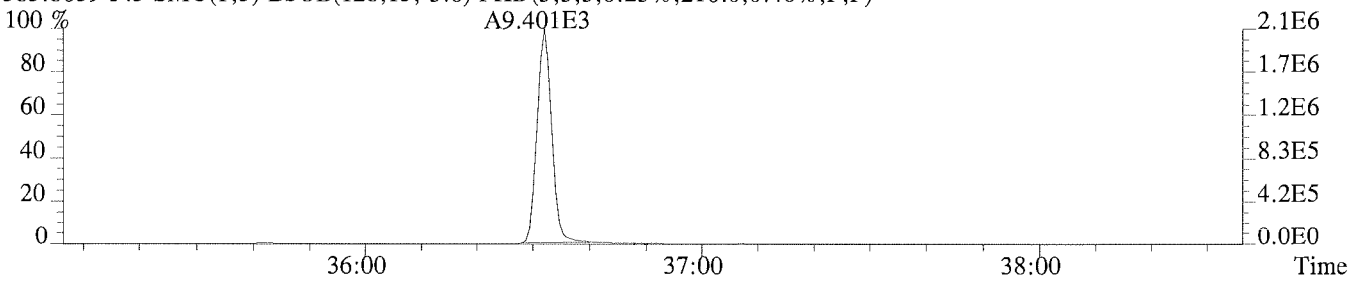
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,244.0,0.40%,F,F)



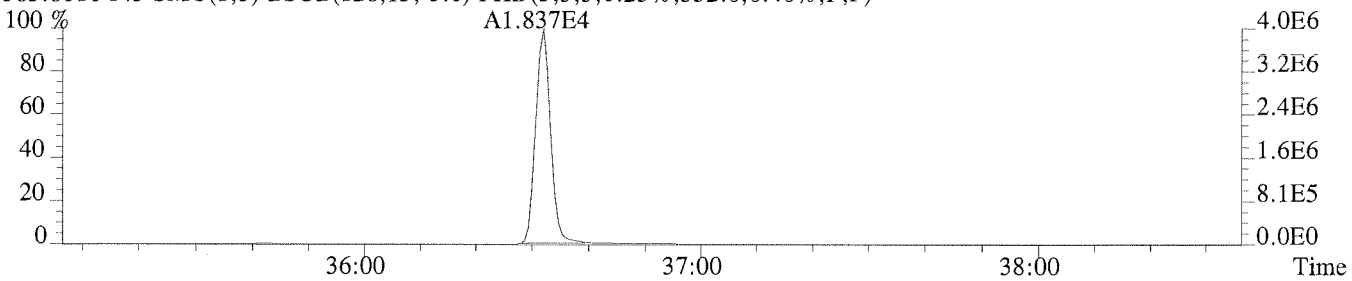
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,144.0,0.40%,F,F)



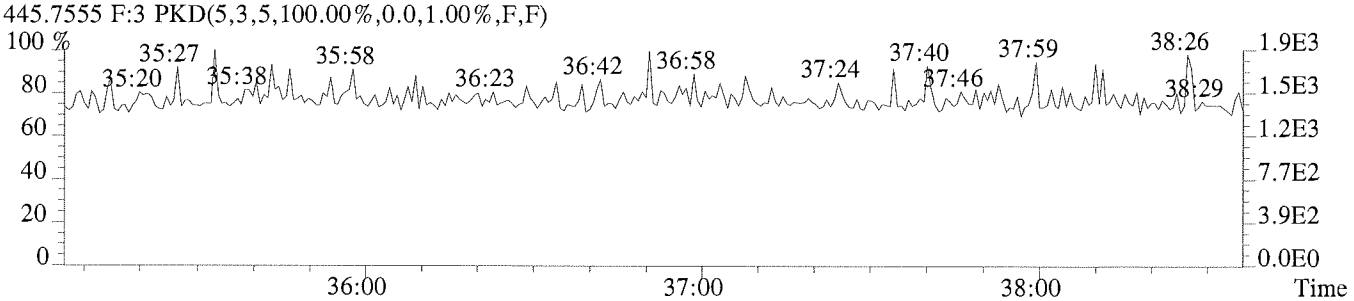
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,F)



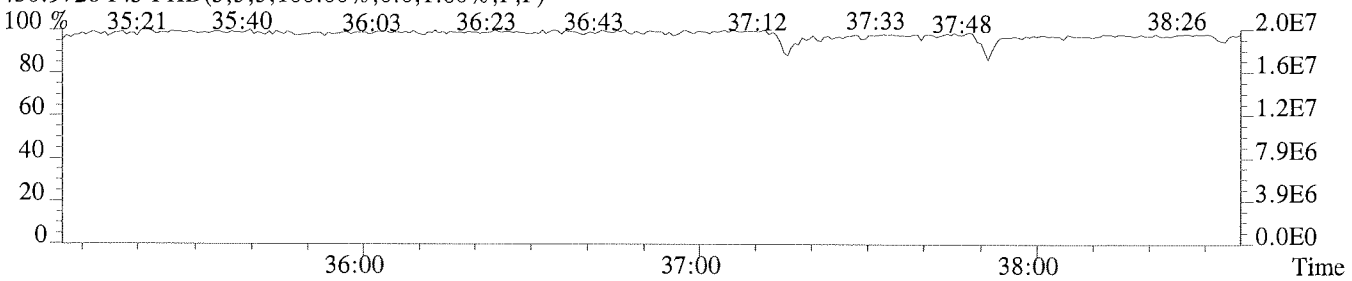
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,352.0,0.40%,F,F)



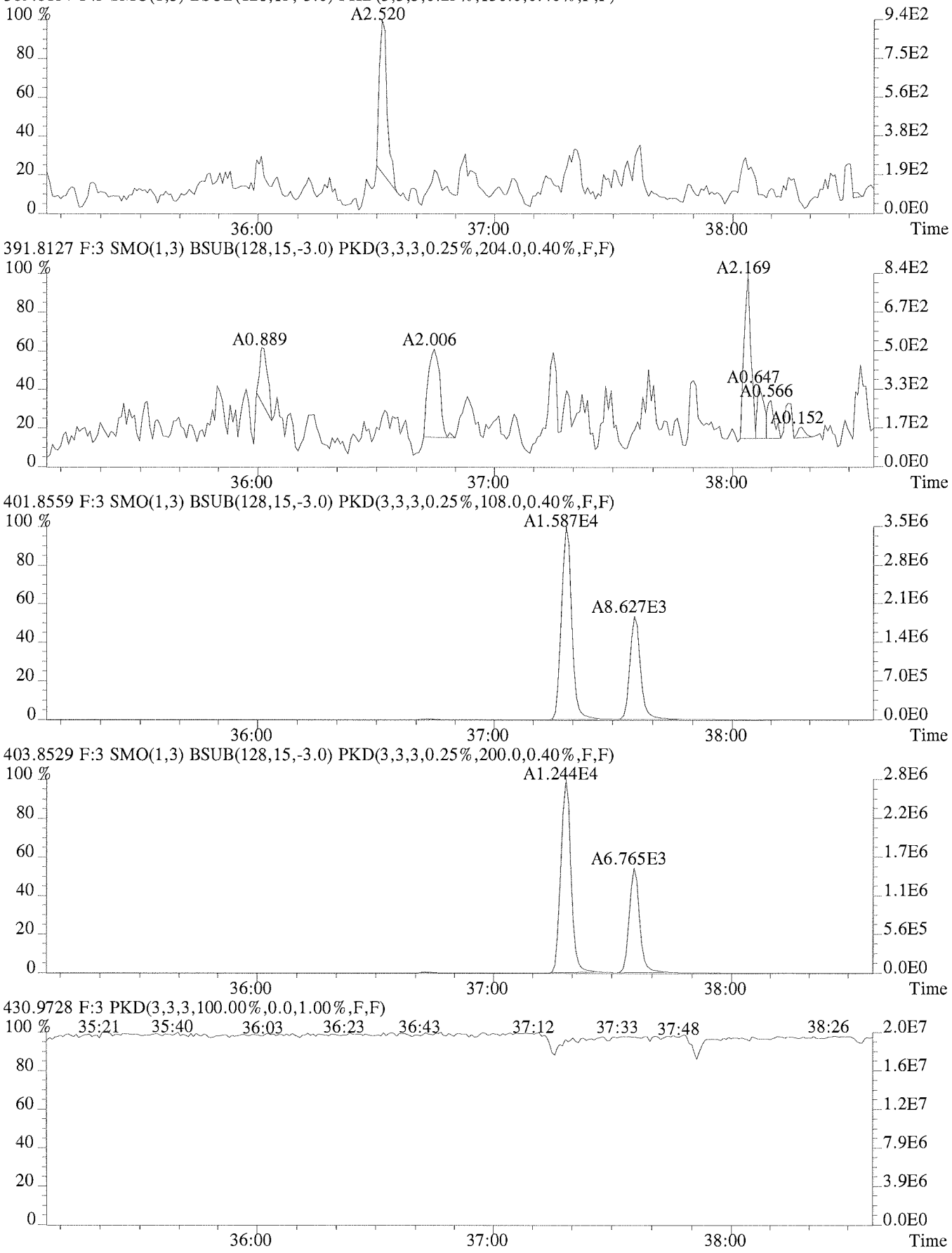
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

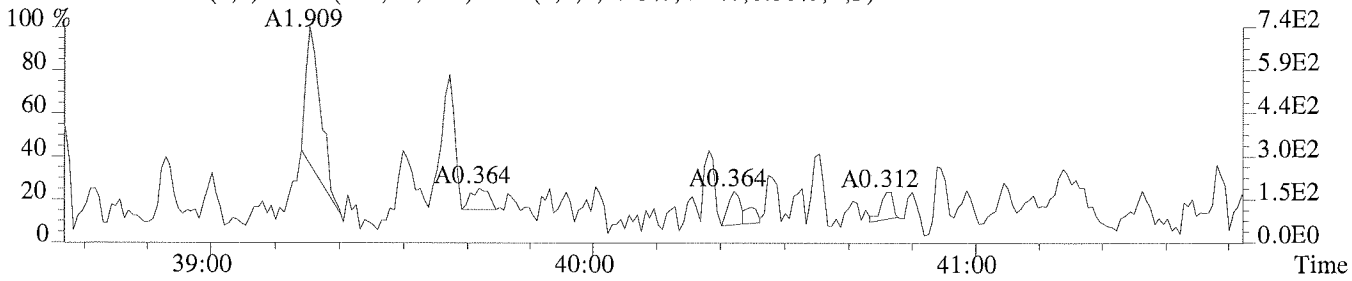


File:P200020 #1-318 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

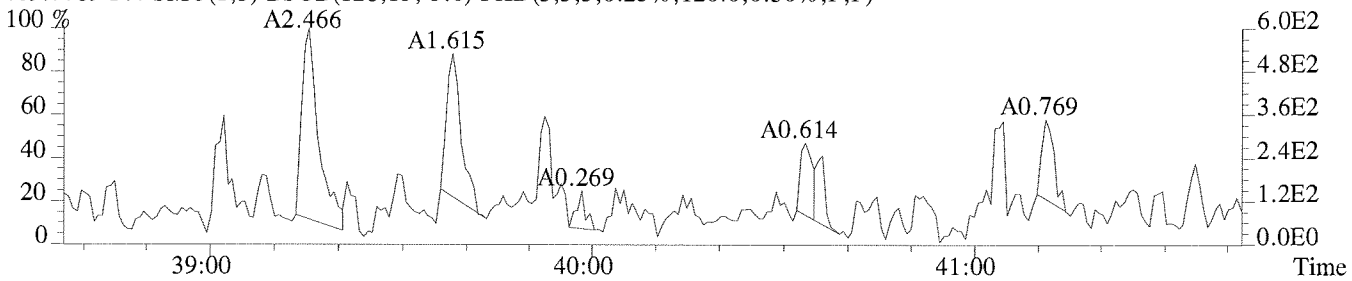


File:P200020 #1-281 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

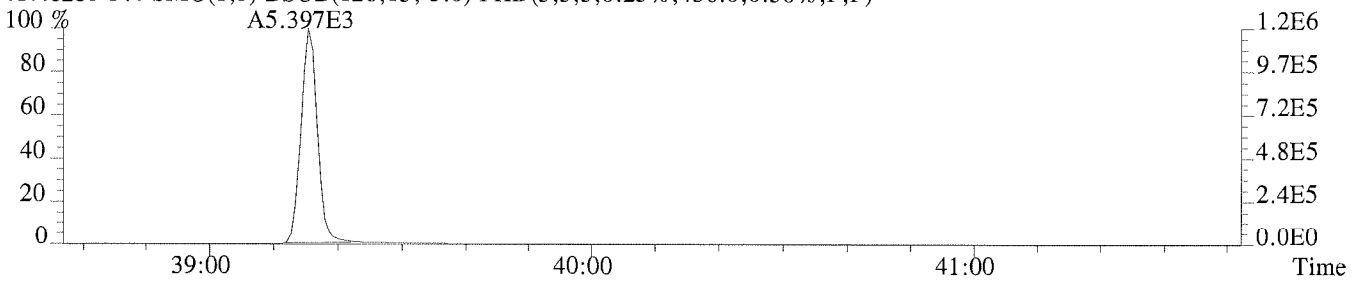
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.50%,F,F)



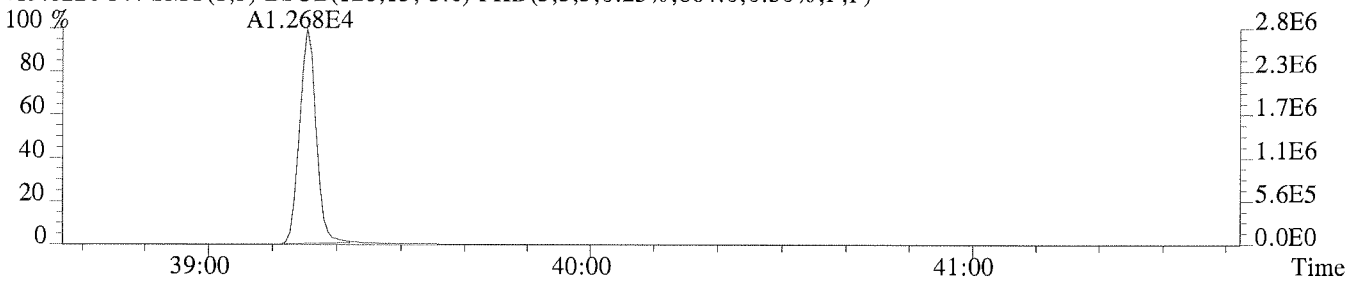
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.50%,F,F)



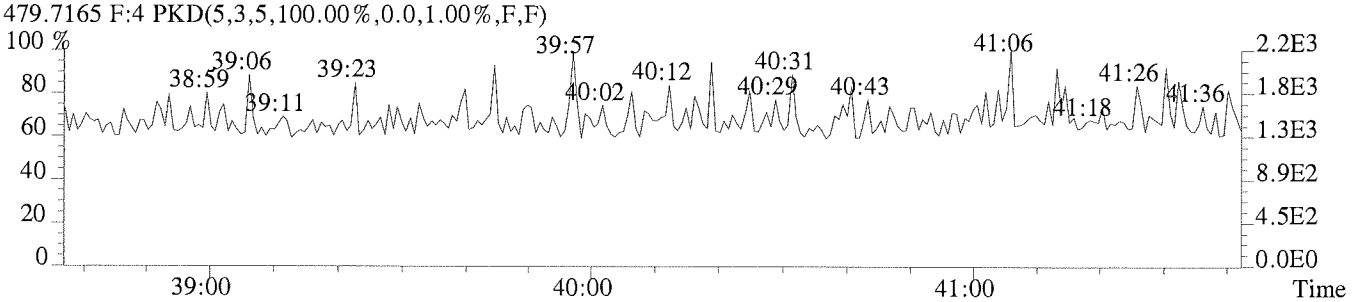
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.50%,F,F)



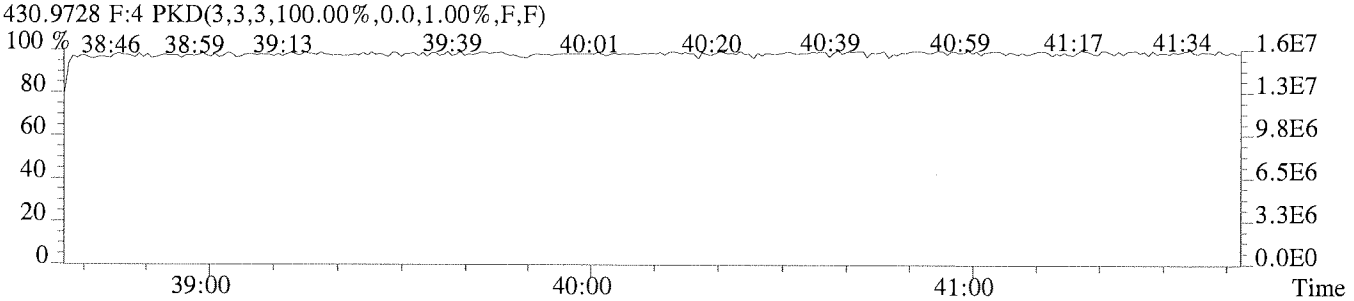
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.50%,F,F)



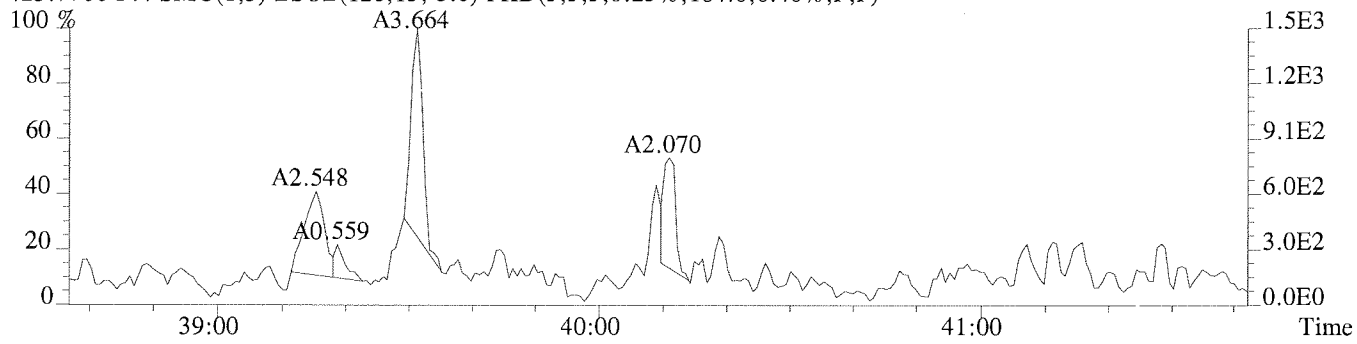
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



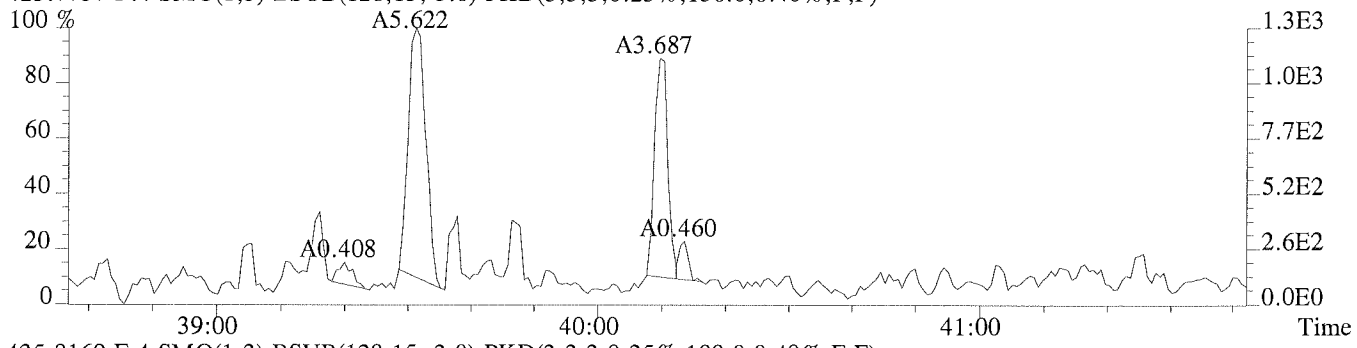
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



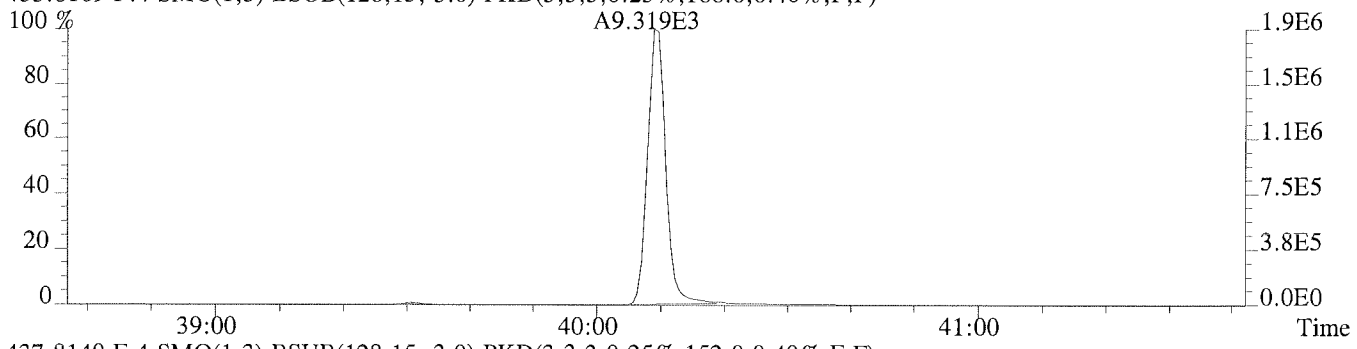
File:P200020 #1-281 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,F)



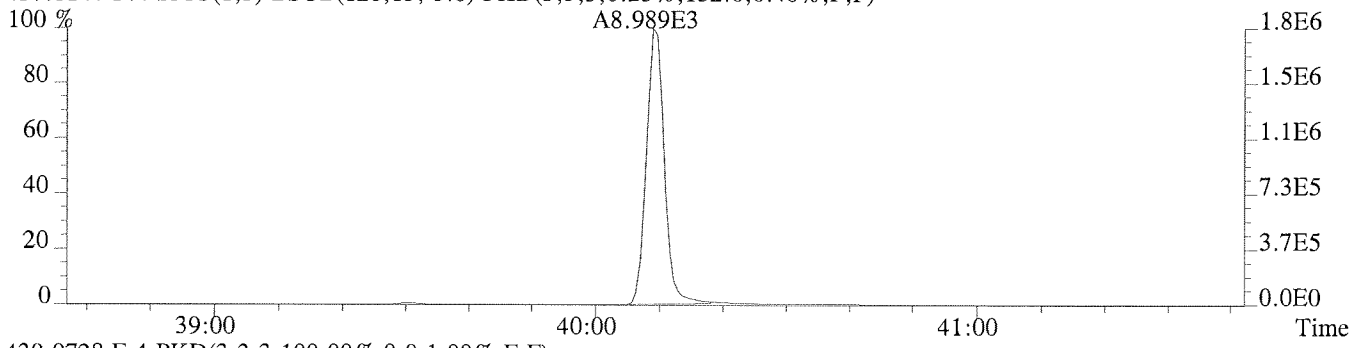
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,F)



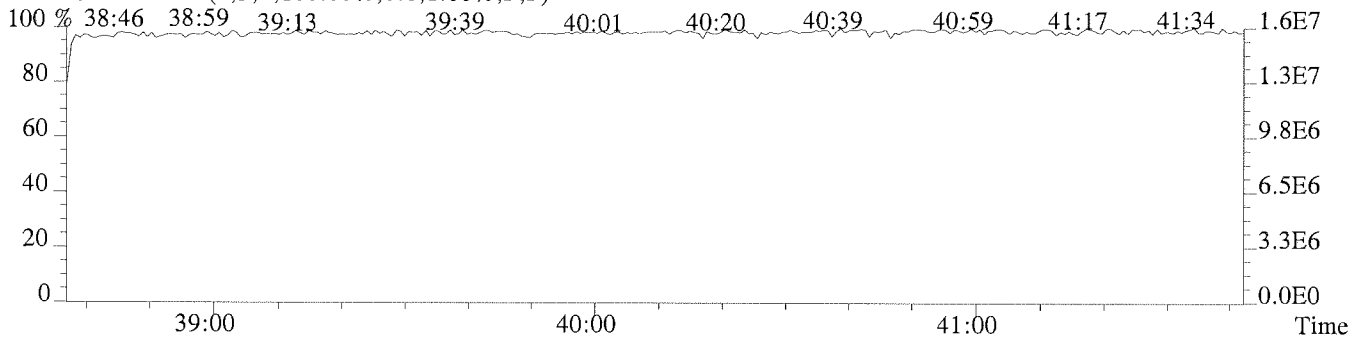
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,188.0,0.40%,F,F)



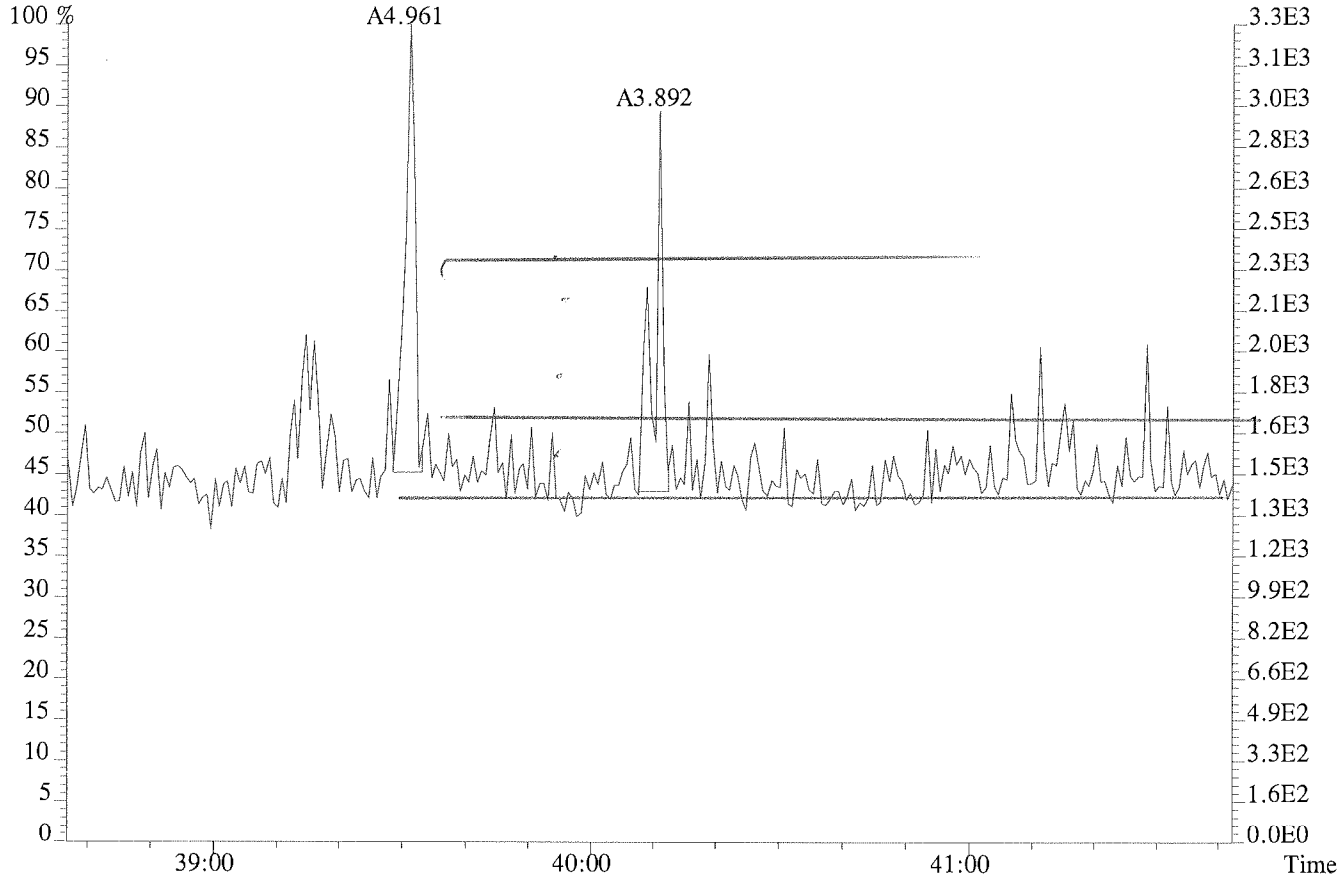
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,152.0,0.40%,F,F)



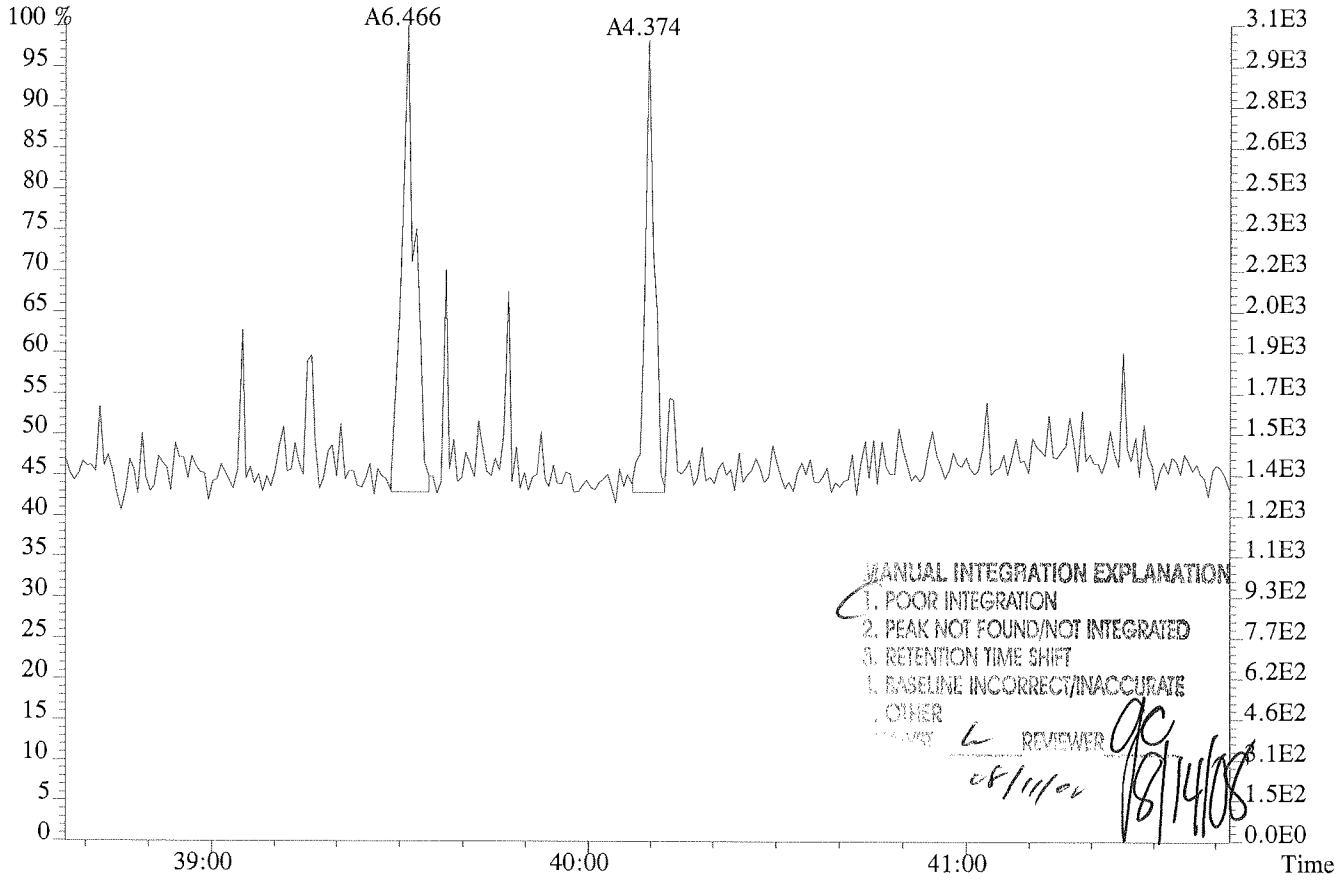
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200020 #1-281 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008
423.7766 F:4

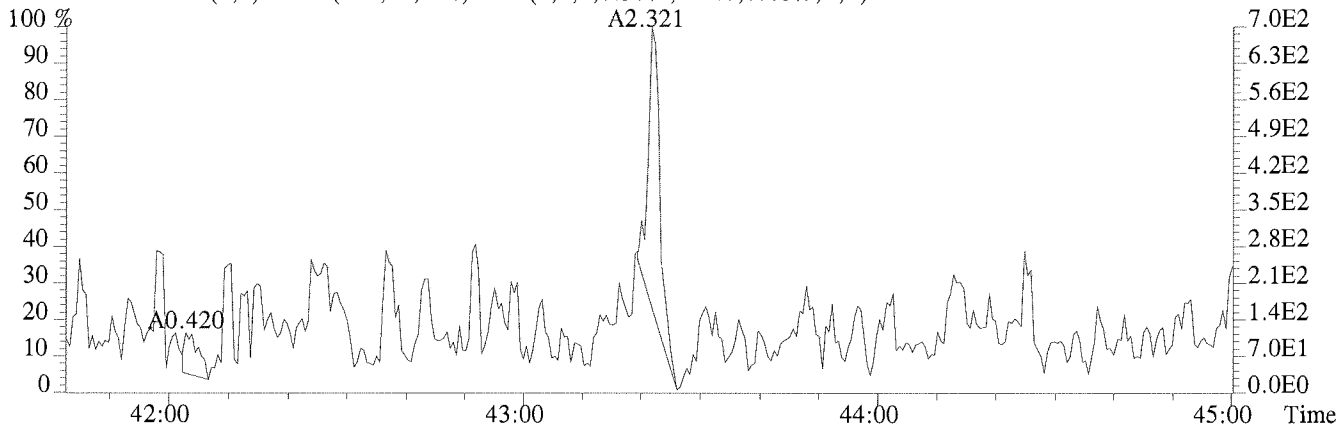


425.7737 F:4

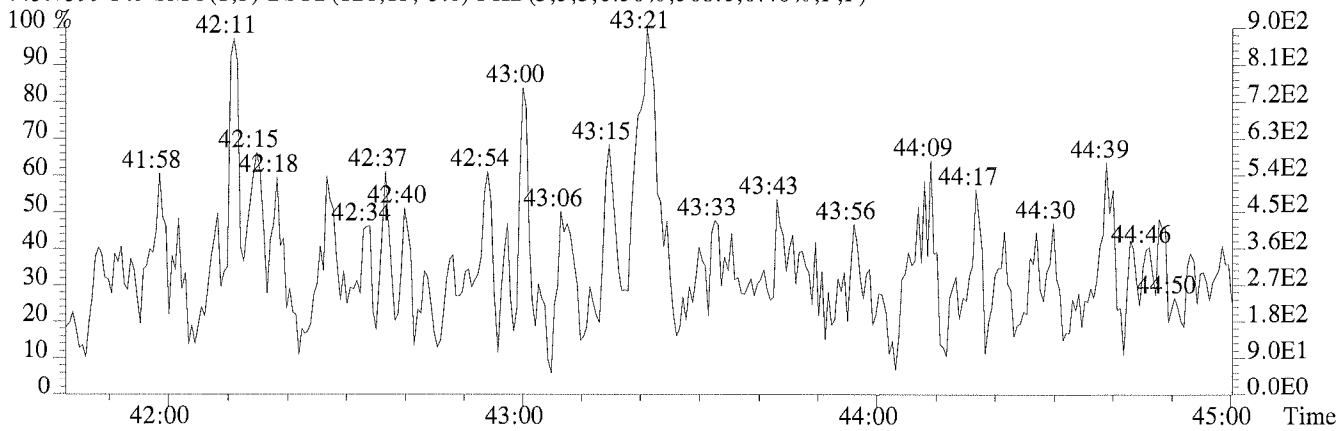


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER
08/11/08
8/14/08

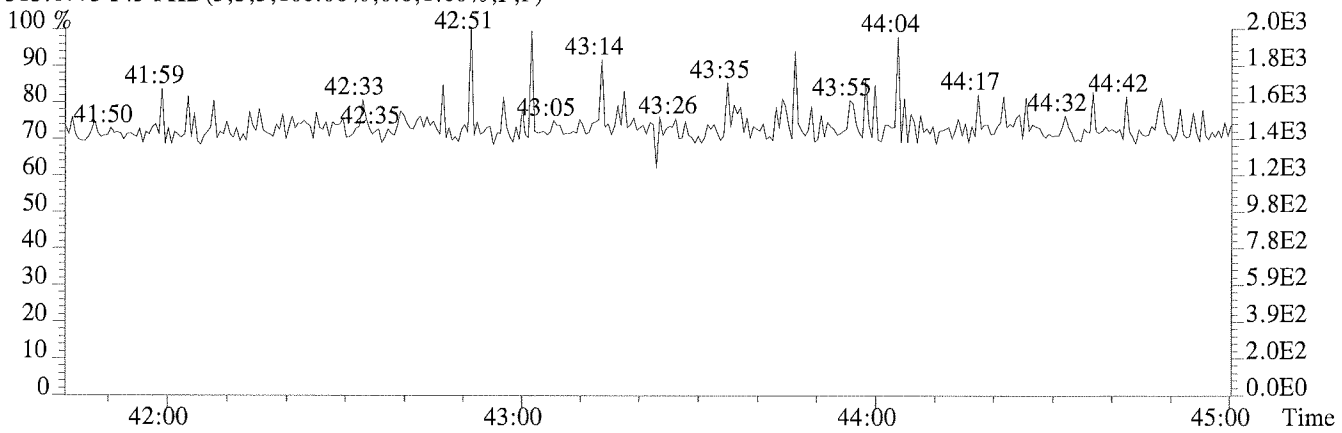
File:P200020 #1-364 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136.0,0.40%,F,F)



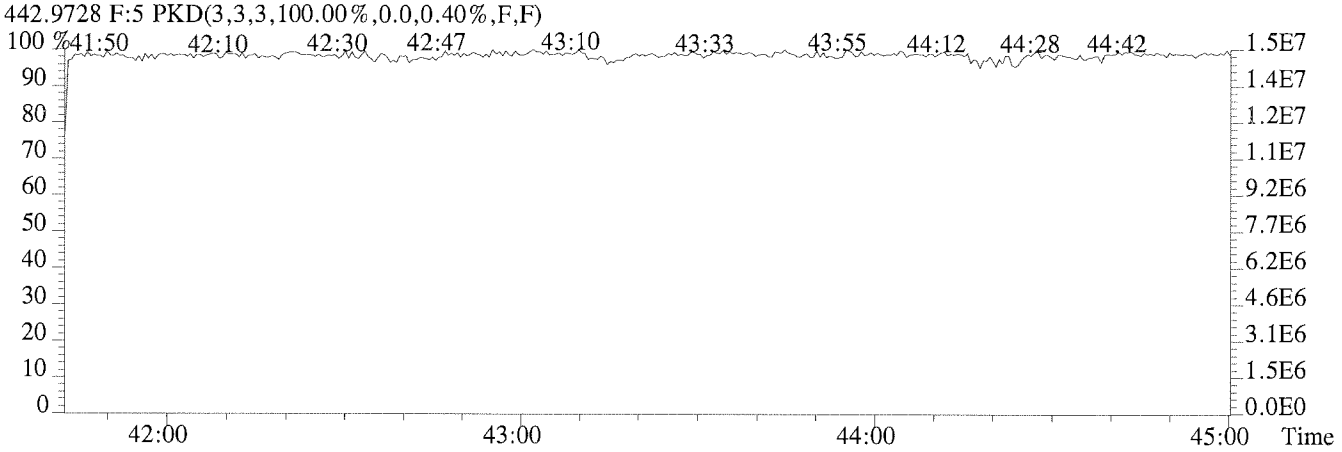
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,368.0,0.40%,F,F)



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

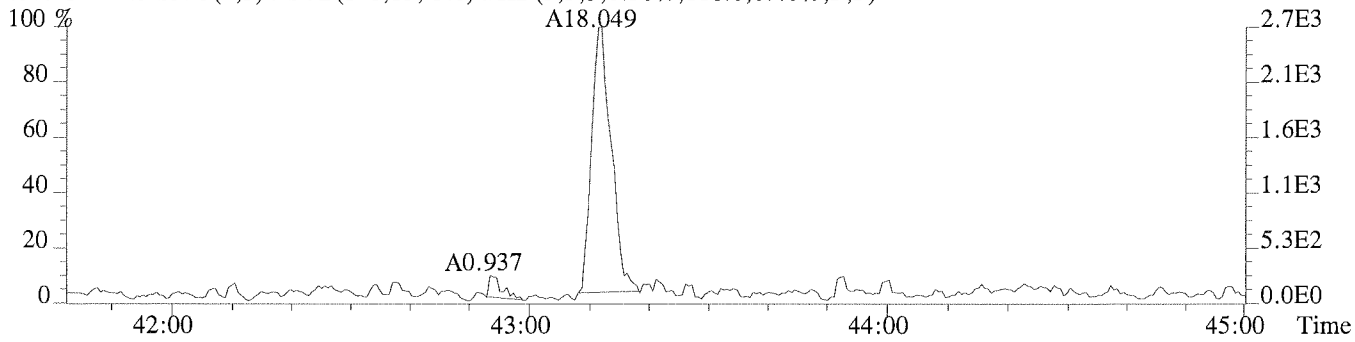


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

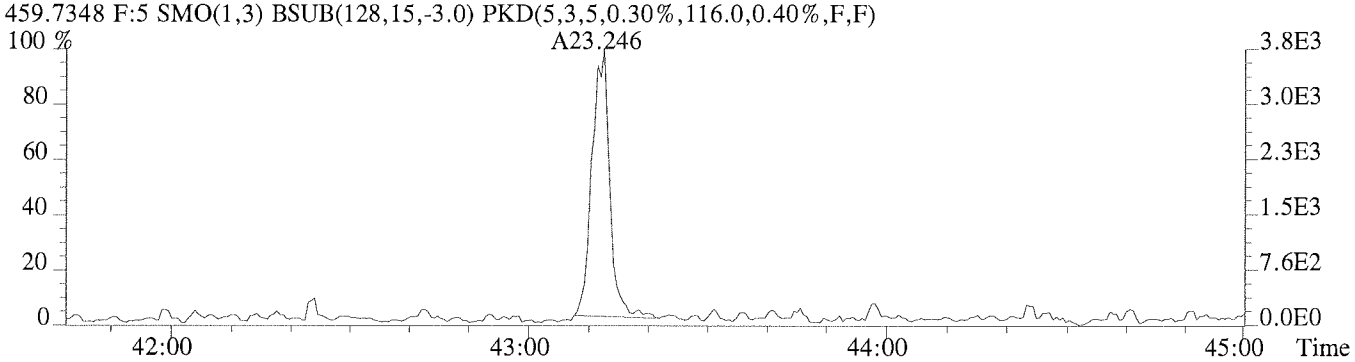


File:P200020 #1-364 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-001 H-EB7182008

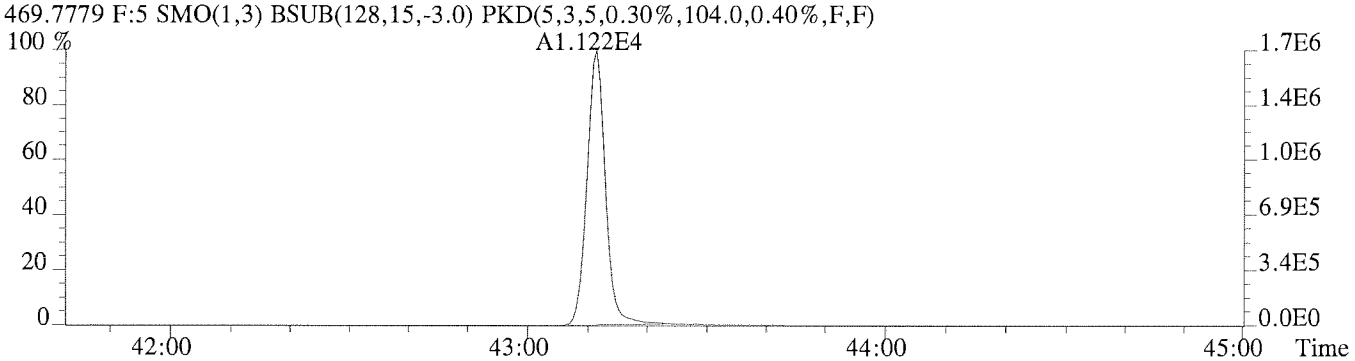
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



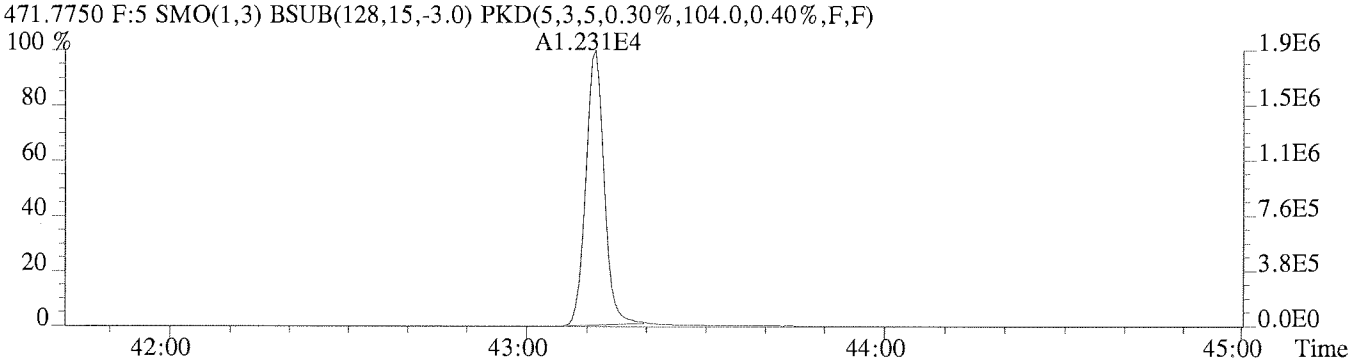
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



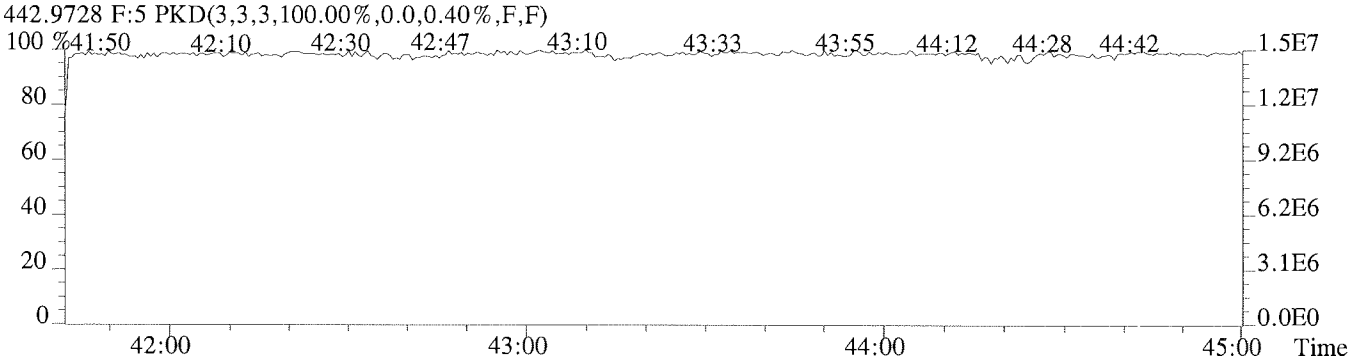
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,F)



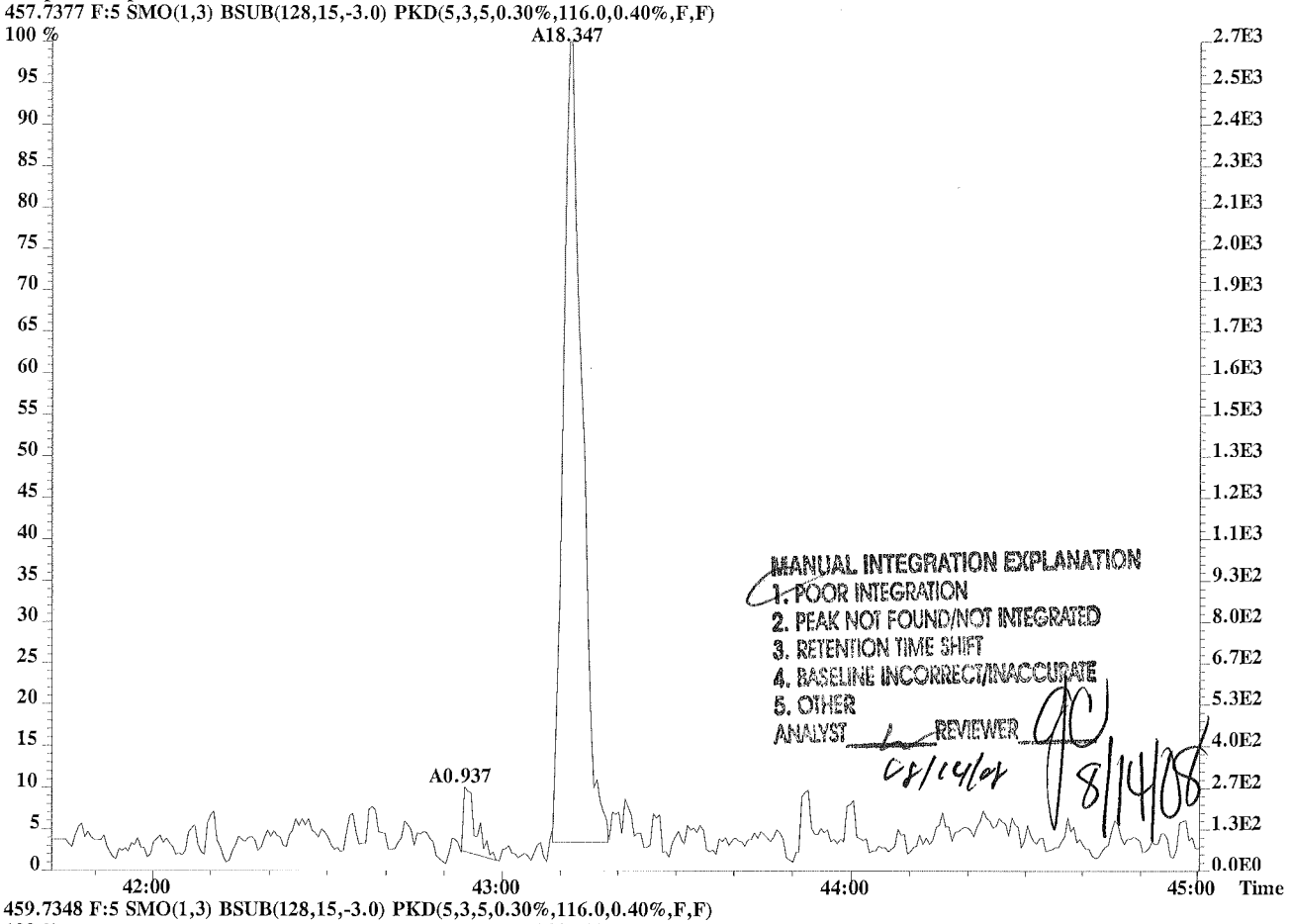
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,F)



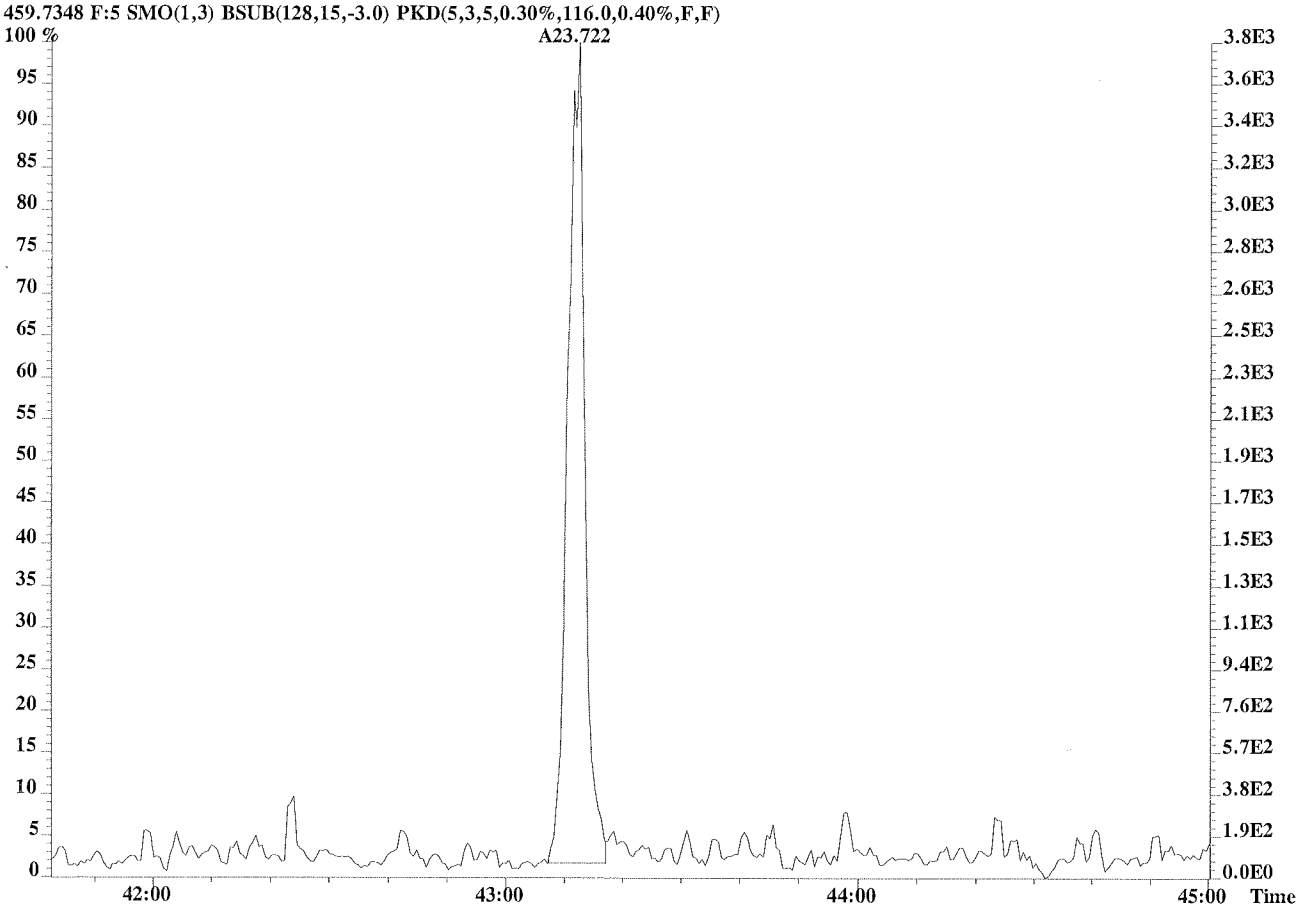
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P200020 #1-364 Acq:31-JUL-2008 10:49:02 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:E0800704-001 H-EB7182008
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
H-T5-3.0

Run #13 Filename P200061 Samp: 1 Inj: 1 Acquired: 7-AUG-08 15:58:54
Processed: 13-AUG-08 14:16:51 LAB. ID: E0800704-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:39	6.244e+01	8.791e+01	0.71	yes	yes	0.831
2	Unk	1,2,3,7,8-PeCDF	33:00	1.723e+02	1.078e+02	1.60	yes	yes	0.840
3	Unk	2,3,4,7,8-PeCDF	33:45	1.819e+02	1.392e+02	1.31	no	yes	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.085e+03	1.709e+03	1.22	yes	yes	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:39	1.689e+03	1.347e+03	1.25	yes	yes	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:08	2.024e+03	1.609e+03	1.26	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:51	7.482e+01	4.484e+01	1.67	no	yes	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	5.133e+04	5.030e+04	1.02	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:36	2.902e+03	3.050e+03	0.95	yes	yes	0.966
10	Unk	OCDF	43:23	1.456e+05	1.645e+05	0.89	yes	no	1.109
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:06	2.578e+02	1.968e+02	1.31	no	yes	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:15	1.259e+03	1.027e+03	1.23	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:20	4.724e+03	3.887e+03	1.22	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:37	1.209e+03	9.689e+02	1.25	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:11	1.195e+05	1.135e+05	1.05	yes	no	0.883
17	Unk	OCDD	43:13	1.115e+06	1.256e+06	0.89	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:37	4.117e+04	5.304e+04	0.78	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	33:00	6.032e+04	3.805e+04	1.59	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	6.090e+04	1.163e+05	0.52	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:17	3.197e+04	7.366e+04	0.43	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:28	3.598e+04	4.613e+04	0.78	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:04	4.693e+04	3.006e+04	1.56	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:20	8.438e+04	6.750e+04	1.25	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	5.757e+04	5.574e+04	1.03	yes	no	0.831
26	IS	13C-OCDD	43:12	7.139e+04	7.989e+04	0.89	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:15	4.475e+04	5.651e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:37	4.636e+04	3.693e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:29	7.164e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	25:38		3.975e+02	0.77	yes		0.831
31	Tot	Total Tetra-Dioxins	NotFnd		*	*	no		0.921
32	Tot	Total Penta-Furans	30:53		9.769e+03	1.56	yes		0.845
33	Tot	Total Penta-Dioxins	32:59		3.938e+02	1.36	yes		0.872
34	Tot	Total Hexa-Furans	35:36		9.933e+04	1.23	yes		1.023
35	Tot	Total Hexa-Dioxins	36:06		3.481e+04	1.24	yes		0.985
36	Tot	Total Hepta-Furans	39:17		3.383e+05	1.02	yes		1.142
37	Tot	Total Hepta-Dioxins	39:32		4.242e+05	1.05	yes		0.883

$$OCDD = \frac{(1.115E+06 + 1.256E+06) \times 5000\ pg}{(7.139E+04 + 7.989E+04) \times (10.351\ g)(92) \times 0.964} =$$

8536.363 ng/Kg

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08/19/08

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary H-T5-3.0

Run #13 Filename P200061 #1 Samp: 1 Inj: 1 Acquired: 7-AUG-08 15:58:54

Processed: 13-AUG-08 14:16:51 LAB. ID: E0800704-002

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.10e+04	8.96e+02	1.2e+01	1.89e+04	1.82e+03	1.0e+01
2	1,2,3,7,8-PeCDF	3.19e+04	9.72e+02	3.3e+01	2.15e+04	1.48e+03	1.4e+01
3	2,3,4,7,8-PeCDF	3.58e+04	9.72e+02	3.7e+01	2.88e+04	1.48e+03	1.9e+01
4	1,2,3,4,7,8-HxCDF	4.55e+05	5.24e+03	8.7e+01	3.72e+05	1.73e+03	2.1e+02
5	1,2,3,6,7,8-HxCDF	3.81e+05	5.24e+03	7.3e+01	3.06e+05	1.73e+03	1.8e+02
6	2,3,4,6,7,8-HxCDF	3.01e+05	5.24e+03	5.7e+01	2.48e+05	1.73e+03	1.4e+02
7	1,2,3,7,8,9-HxCDF	1.84e+04	5.24e+03	3.5e+00	8.68e+03	1.73e+03	5.0e+00
8	1,2,3,4,6,7,8-HpCDF	1.14e+07	5.42e+03	2.1e+03	1.11e+07	4.58e+03	2.4e+03
9	1,2,3,4,7,8,9-HpCDF	6.19e+05	5.42e+03	1.1e+02	6.46e+05	4.58e+03	1.4e+02
10	OCDF	2.27e+07	1.42e+03	1.6e+04	2.61e+07	3.01e+03	8.7e+03
11	2,3,7,8-TCDD	*	2.08e+03	*	*	7.96e+02	*
12	1,2,3,7,8-PeCDD	5.91e+04	1.96e+03	3.0e+01	4.91e+04	4.24e+02	1.2e+02
13	1,2,3,4,7,8-HxCDD	3.06e+05	9.84e+02	3.1e+02	2.57e+05	1.25e+03	2.1e+02
14	1,2,3,6,7,8-HxCDD	1.09e+06	9.84e+02	1.1e+03	8.96e+05	1.25e+03	7.2e+02
15	1,2,3,7,8,9-HxCDD	2.45e+05	9.84e+02	2.5e+02	1.98e+05	1.25e+03	1.6e+02
16	1,2,3,4,6,7,8-HpCDD	2.63e+07	5.36e+03	4.9e+03	2.50e+07	2.34e+03	1.1e+04
17	OCDD	1.75e+08	1.42e+03	1.2e+05	1.98e+08	2.30e+03	8.6e+04
18	13C-2,3,7,8-TCDF	6.97e+06	3.35e+03	2.1e+03	9.01e+06	3.20e+03	2.8e+03
19	13C-1,2,3,7,8-PeCDF	1.21e+07	6.80e+02	1.8e+04	7.58e+06	1.25e+03	6.1e+03
20	13C-1,2,3,4,7,8-HxCDF	1.33e+07	5.52e+02	2.4e+04	2.54e+07	1.87e+03	1.4e+04
21	13C-1,2,3,4,6,7,8-HpCDF	7.13e+06	2.93e+03	2.4e+03	1.63e+07	2.86e+03	5.7e+03
22	13C-2,3,7,8-TCDD	6.48e+06	5.25e+03	1.2e+03	8.25e+06	1.11e+03	7.4e+03
23	13C-1,2,3,7,8-PeCDD	9.68e+06	2.04e+03	4.7e+03	6.29e+06	1.27e+03	5.0e+03
24	13C-1,2,3,6,7,8-HxCDD	1.98e+07	8.56e+02	2.3e+04	1.57e+07	1.32e+03	1.2e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.26e+07	2.43e+03	5.2e+03	1.23e+07	1.13e+03	1.1e+04
26	13C-OCDD	1.12e+07	1.25e+03	8.9e+03	1.24e+07	1.44e+03	8.6e+03
27	13C-1,2,3,4-TCDD	8.08e+06	5.25e+03	1.5e+03	1.02e+07	1.11e+03	9.2e+03
28	13C-1,2,3,7,8,9-HxCDD	1.07e+07	8.56e+02	1.2e+04	8.34e+06	1.32e+03	6.3e+03
29	37Cl-2,3,7,8-TCDD	1.30e+07	8.24e+02	1.6e+04			

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 30 Totals Name: Total Tetra-Furans

Run: 13 File: P200061 Sample:1 Injection:1 Function:1

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:303.902 305.899 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	25:38	1.08e+02	1.39e+02 0.77	yes	2.47e+02		y
2	28:39	6.24e+01	8.79e+01 0.71	yes	1.50e+02	2,3,7,8-TCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 32 Totals Name: Total Penta-Furans

Run: 13 File: P200061 Sample:1 Injection:1 Function:2

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:339.860 341.857 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	30:53	3.99e+03	2.55e+03	1.56	yes	6.54e+03		n
2	32:06	1.26e+03	8.16e+02	1.54	yes	2.07e+03		n
3	32:37	4.52e+02	2.97e+02	1.52	yes	7.49e+02		n
4	32:44	7.58e+01	5.09e+01	1.49	yes	1.27e+02		n
5	33:00	1.72e+02	1.08e+02	1.60	yes	2.80e+02	1,2,3,7,8-PeCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 33 Totals Name: Total Penta-Dioxins

Run: 13 File: P200061 Sample:1 Injection:1 Function:2

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:355.855 357.852 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	32:59	7.08e+01	5.22e+01	1.36	yes	1.23e+02		y
2	33:08	1.67e+02	1.04e+02	1.61	yes	2.71e+02		y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 34 Totals Name: Total Hexa-Furans

Run: 13 File: P200061 Sample:1 Injection:1 Function:3

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:373.821 375.818 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	35:36	5.61e+03	4.54e+03	1.23	yes	1.01e+04		n
2	35:44	1.90e+04	1.54e+04	1.23	yes	3.44e+04		n
3	36:11	2.40e+04	1.97e+04	1.22	yes	4.37e+04		n
4	36:33	2.09e+03	1.71e+03	1.22	yes	3.79e+03	1,2,3,4,7,8-HxCDF	y
5	36:39	1.69e+03	1.35e+03	1.25	yes	3.04e+03	1,2,3,6,7,8-HxCDF	y
6	37:08	2.02e+03	1.61e+03	1.26	yes	3.63e+03	2,3,4,6,7,8-HxCDF	n
7	37:55	3.17e+02	2.80e+02	1.13	yes	5.96e+02		y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 35 Totals Name: Total Hexa-Dioxins

Run: 13 File: P200061 Sample:1 Injection:1 Function:3

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:389.816 391.813 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	36:06	4.07e+03	3.27e+03	1.24	yes	7.35e+03		n
2	36:33	4.90e+02	3.71e+02	1.32	yes	8.61e+02		n
3	36:45	7.36e+03	5.89e+03	1.25	yes	1.33e+04		n
4	36:54	1.53e+02	1.29e+02	1.19	yes	2.81e+02		n
5	37:15	1.26e+03	1.03e+03	1.23	yes	2.29e+03	1,2,3,4,7,8-HxCDD	n
6	37:20	4.72e+03	3.89e+03	1.22	yes	8.61e+03	1,2,3,6,7,8-HxCDD	n
7	37:37	1.21e+03	9.69e+02	1.25	yes	2.18e+03	1,2,3,7,8,9-HxCDD	n

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 36 Totals Name: Total Hepta-Furans

Run: 13 File: P200061 Sample:1 Injection:1 Function:4

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

Mass:407.782 409.779 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	39:17	5.13e+04	5.03e+04	1.02	yes	1.02e+05	1,2,3,4,6,7,8-HpCDF	n
2	39:38	1.17e+05	1.14e+05	1.03	yes	2.31e+05		n
3	40:36	2.90e+03	3.05e+03	0.95	yes	5.95e+03	1,2,3,4,7,8,9-HpCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0

Entry: 37 Totals Name: Total Hepta-Dioxins

Run: 13 File: P200061 Sample:1 Injection:1 Function:4

Acquired: 7-AUG-08 15:58:54 Processed: 13-AUG-08 14:16:51

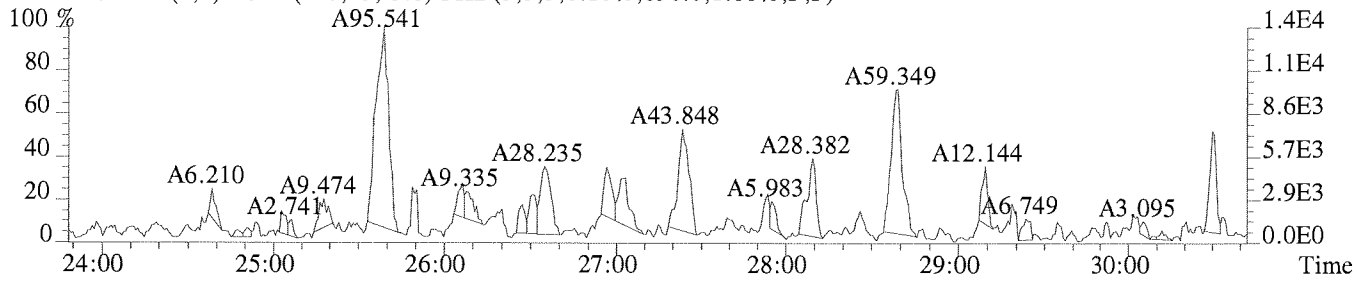
Mass:423.777 425.774 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	39:32	9.80e+04	9.31e+04	1.05	yes	1.91e+05		n
2	40:11	1.20e+05	1.14e+05	1.05	yes	2.33e+05	1,2,3,4,6,7,8-HpCDD	n

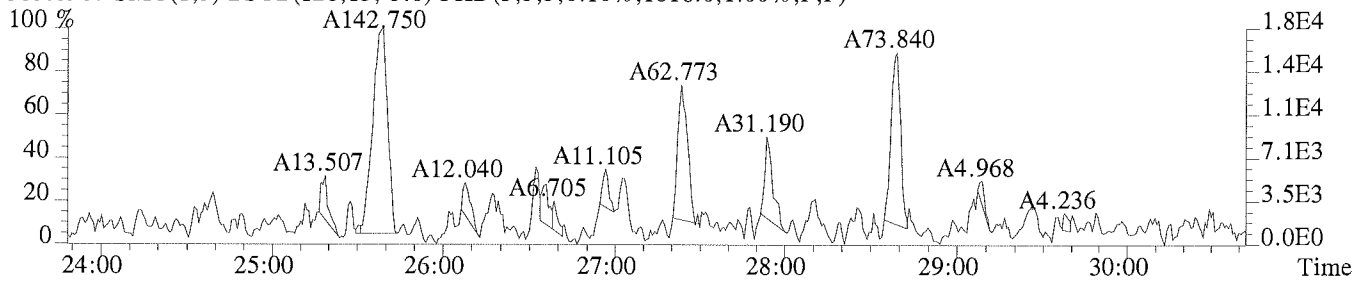
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:P200061 #1-575 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

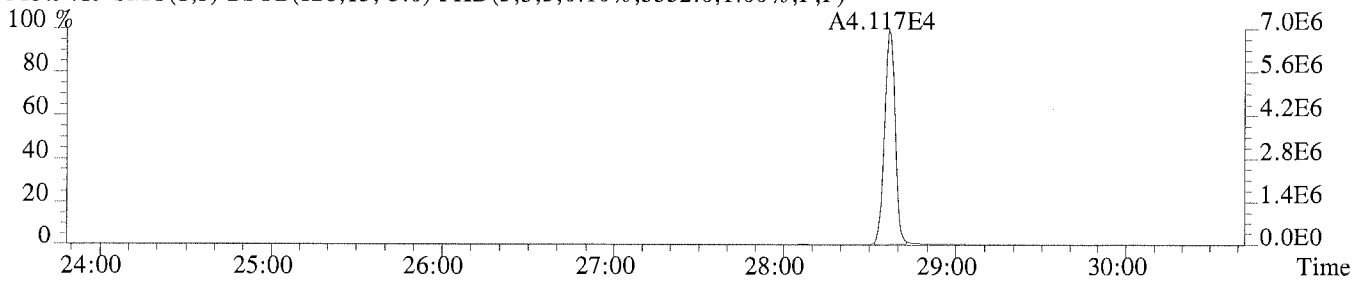
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,896.0,1.00%,F,F)



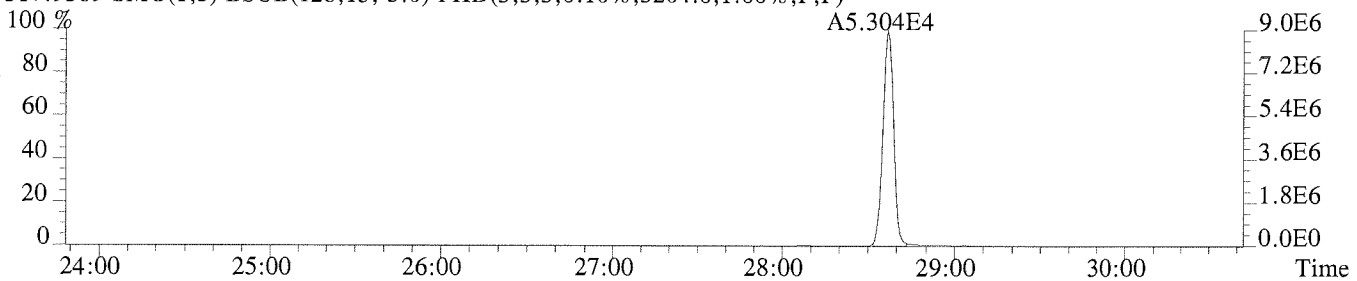
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1816.0,1.00%,F,F)



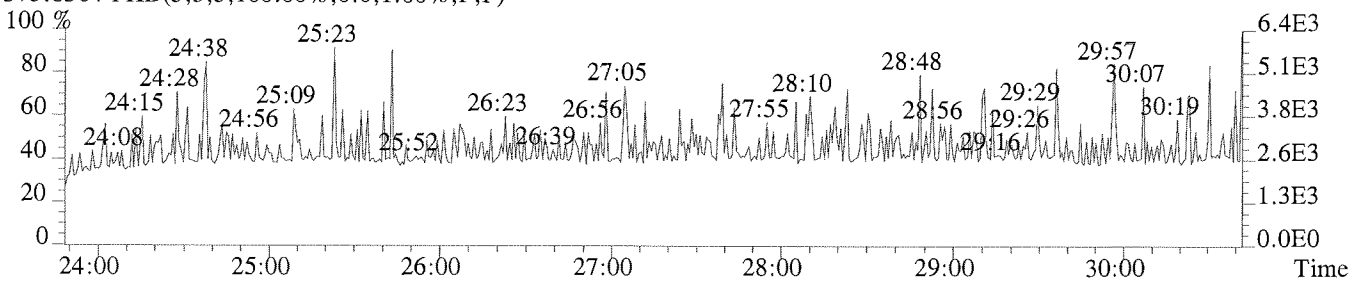
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3352.0,1.00%,F,F)



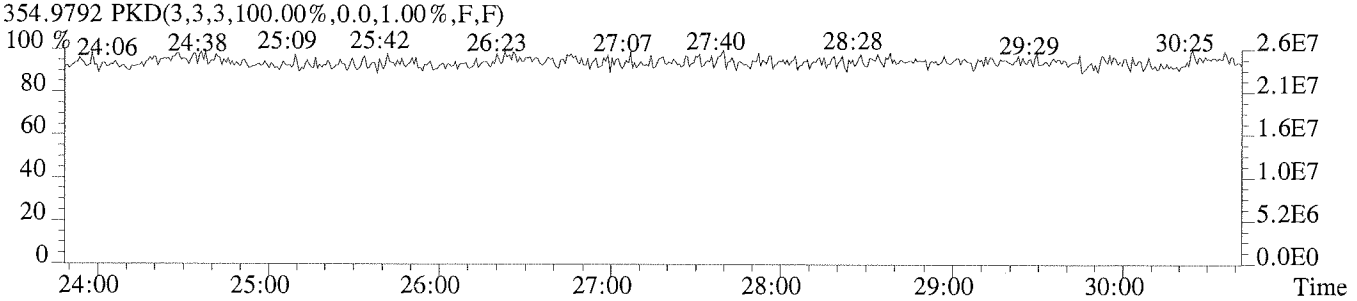
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3204.0,1.00%,F,F)



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

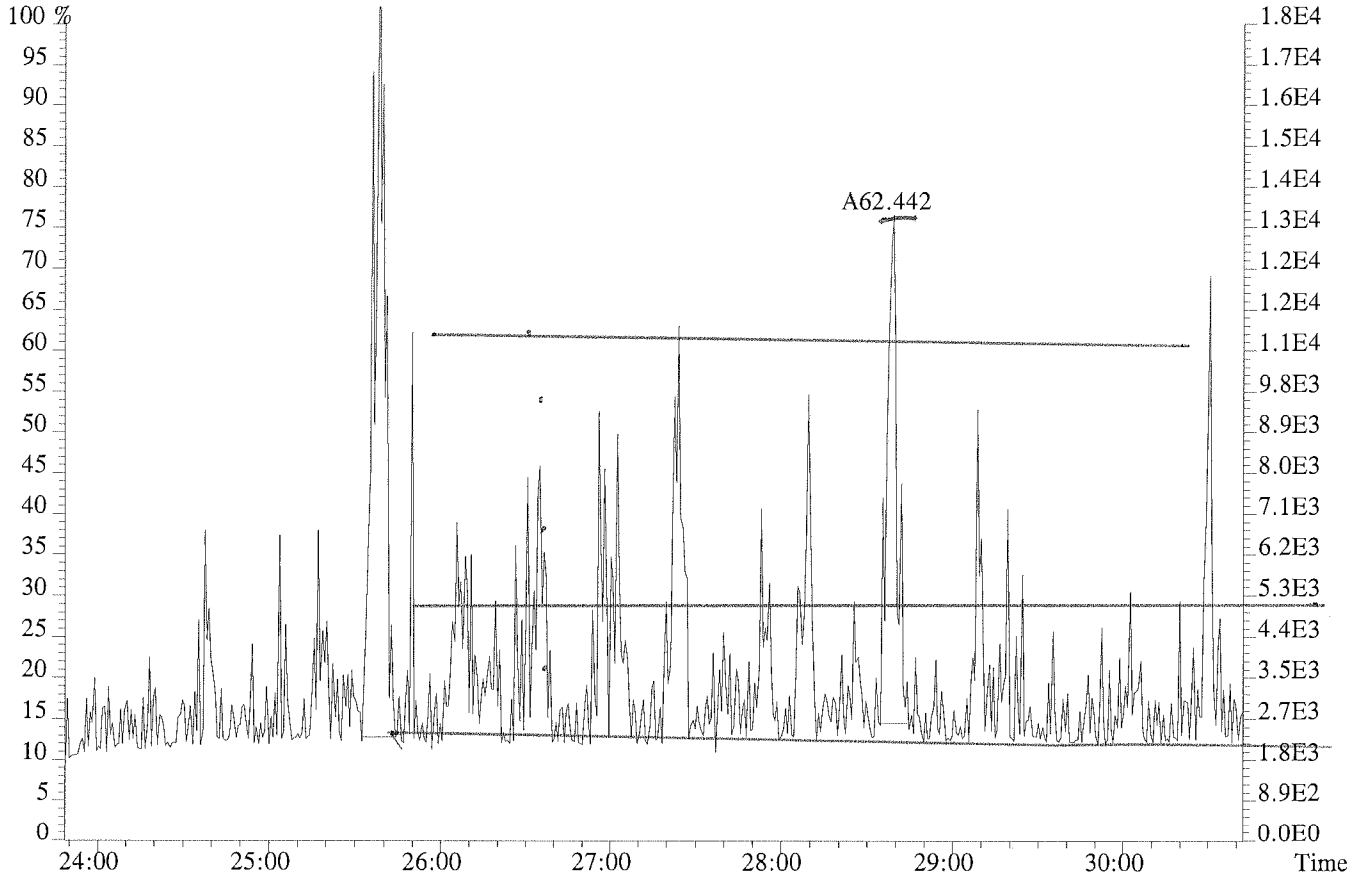


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

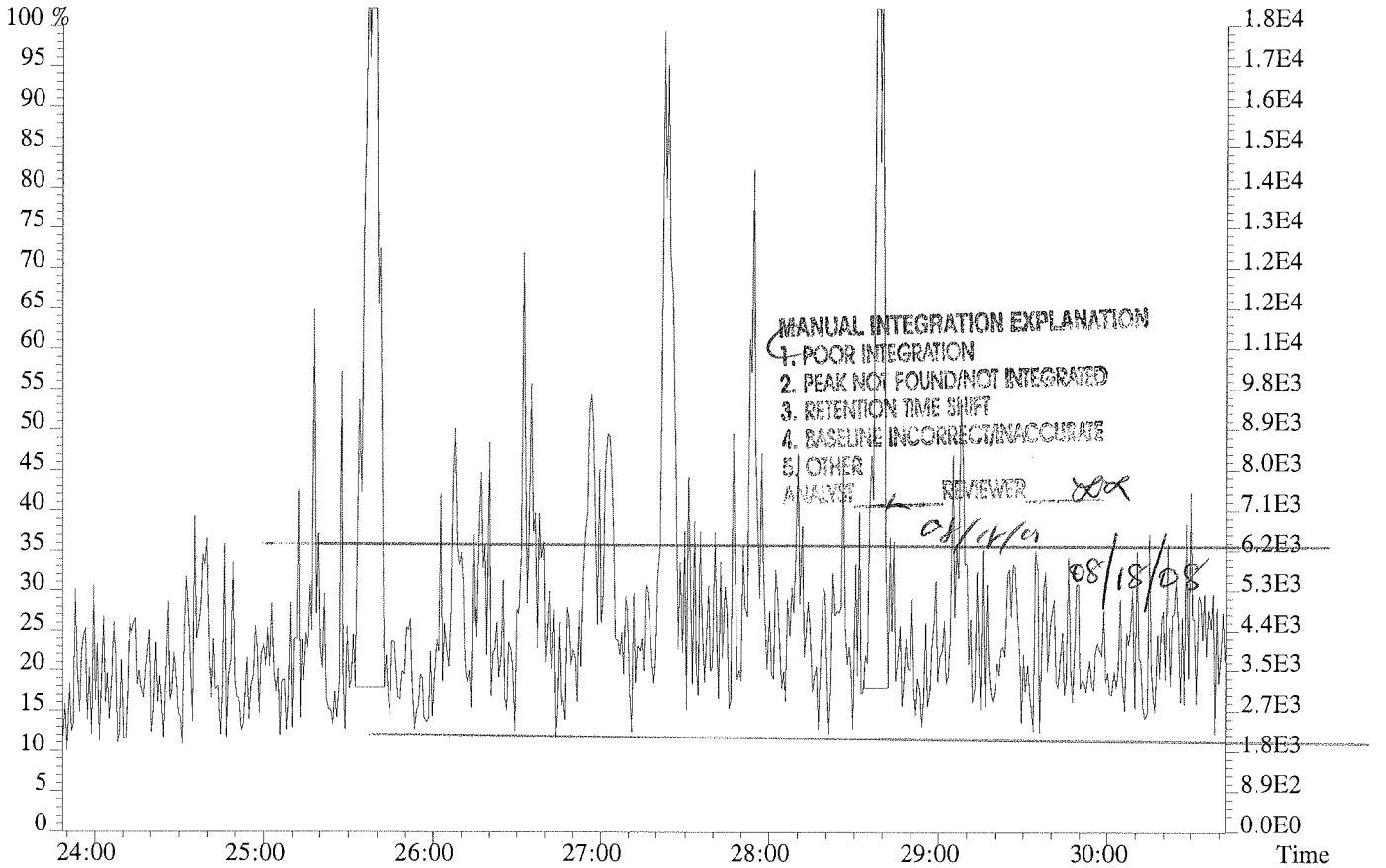


File:P200061 #1-575 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

303.9016

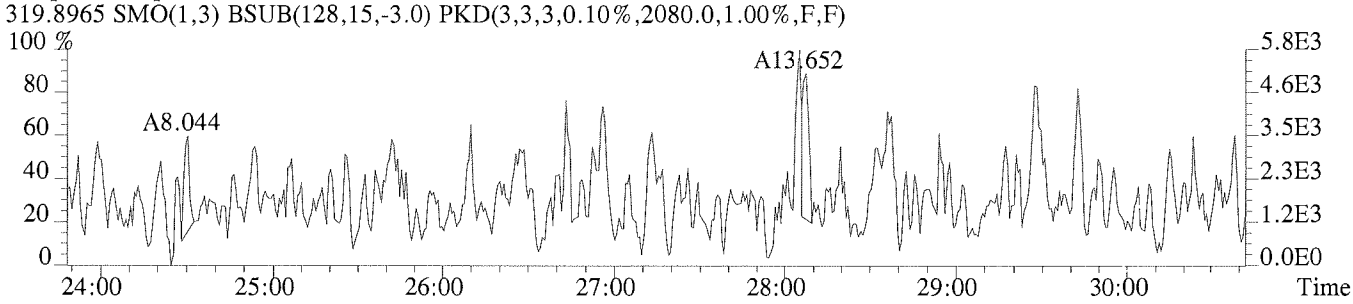


305.8987

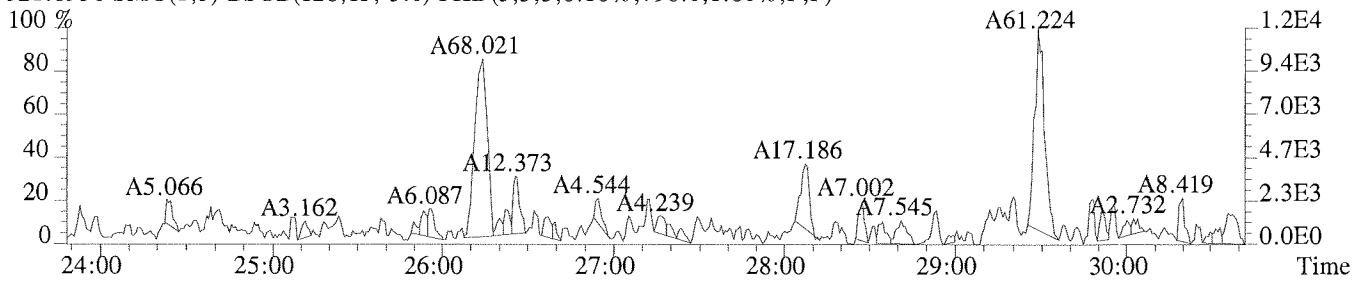


File:P200061 #1-575 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

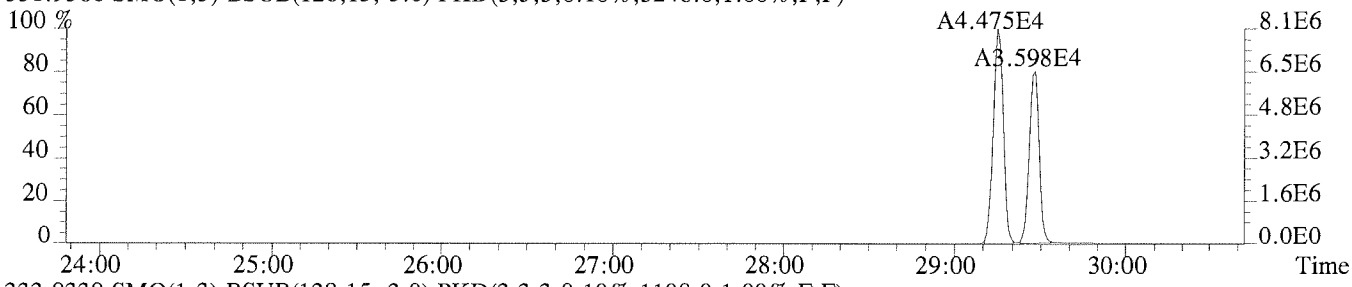
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2080.0,1.00%,F,F)



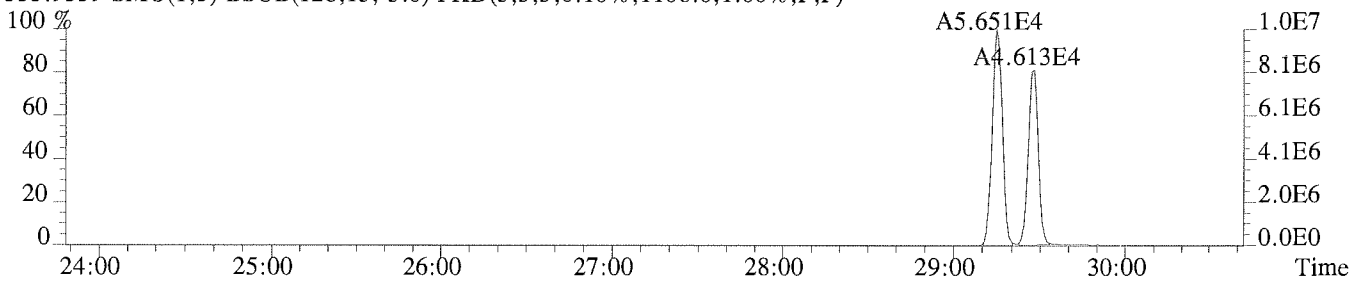
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,F)



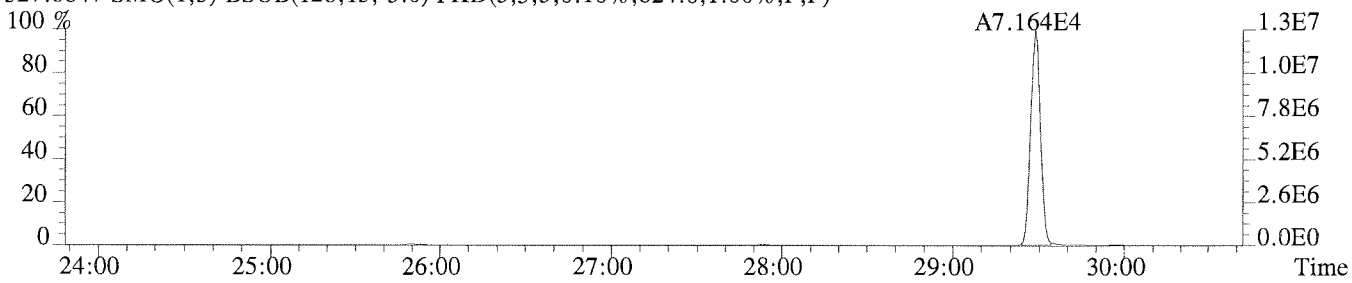
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5248.0,1.00%,F,F)



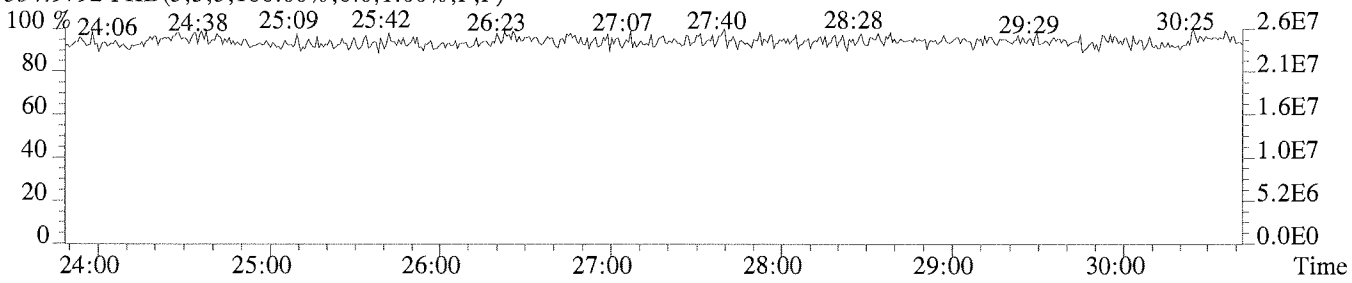
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,824.0,1.00%,F,F)

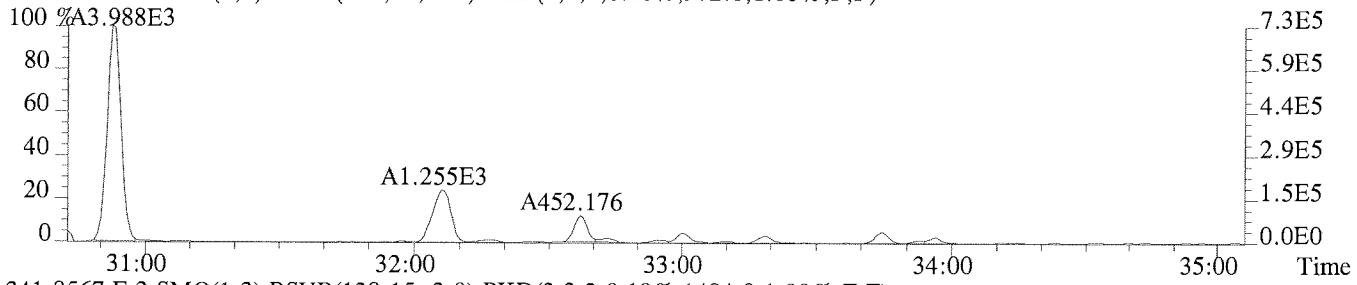


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

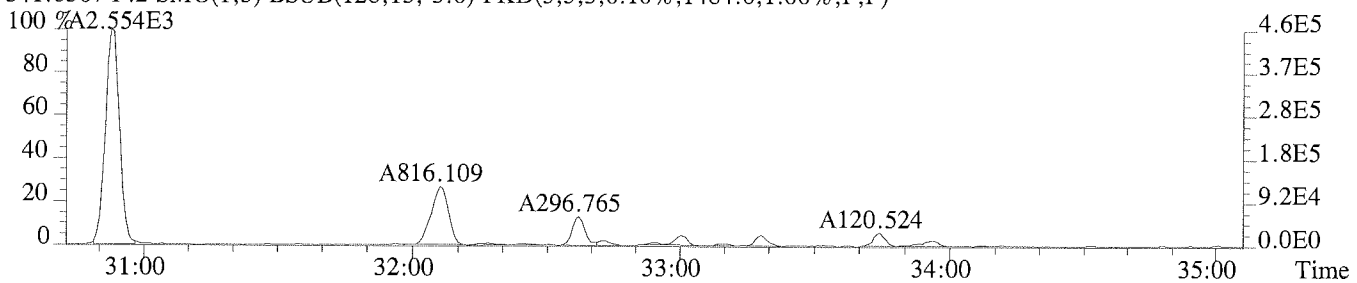


File:P200061 #1-399 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

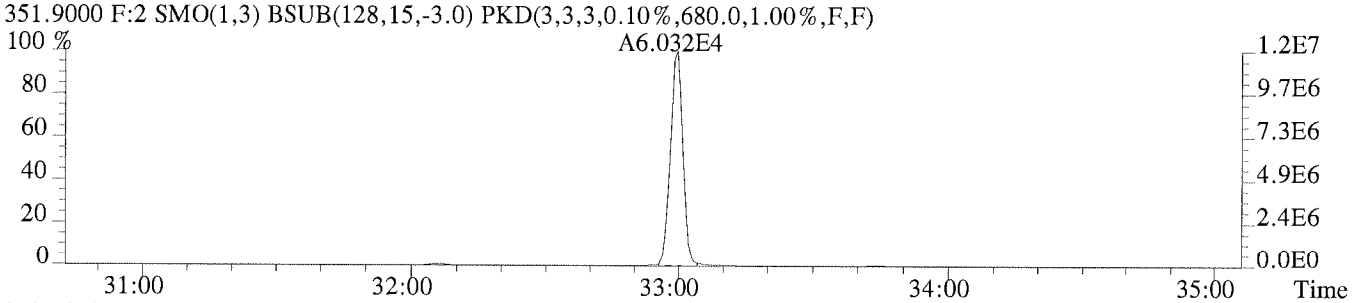
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,F)



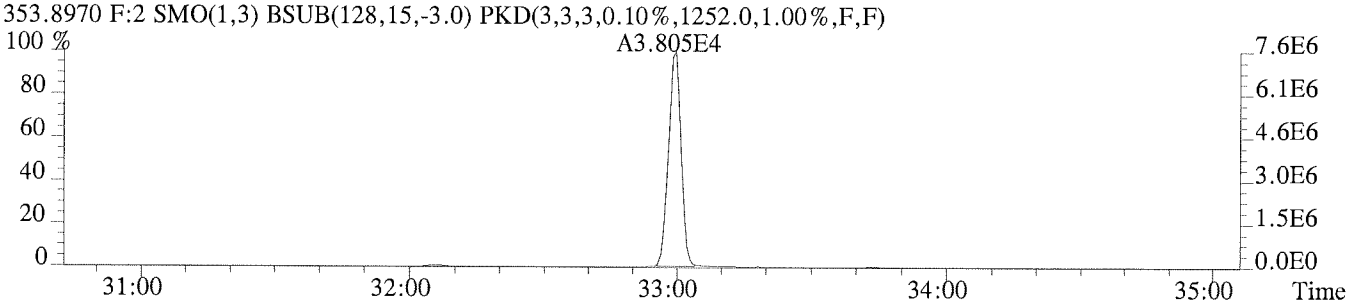
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,F)



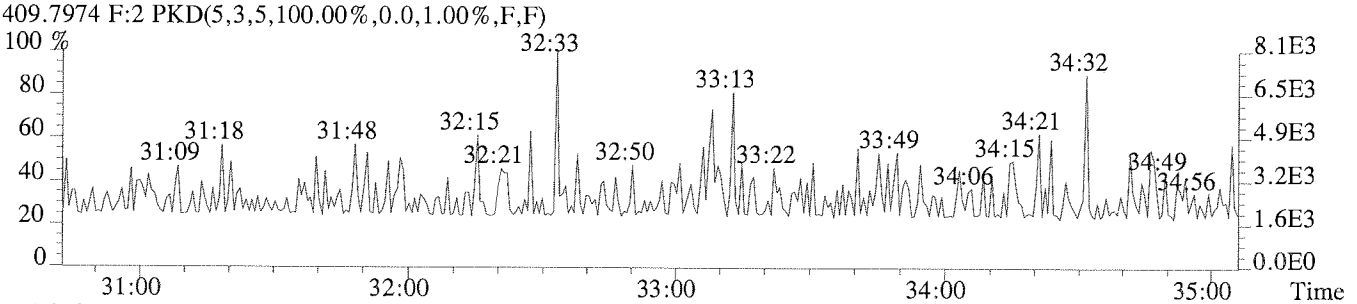
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,F)



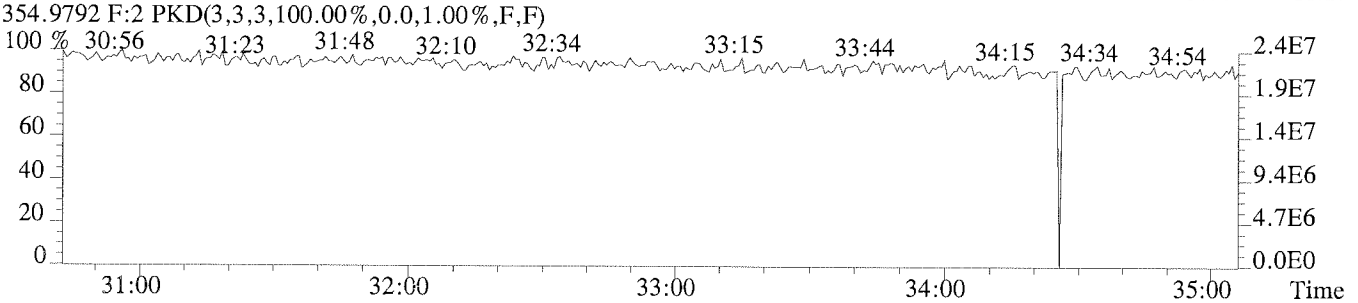
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,F)



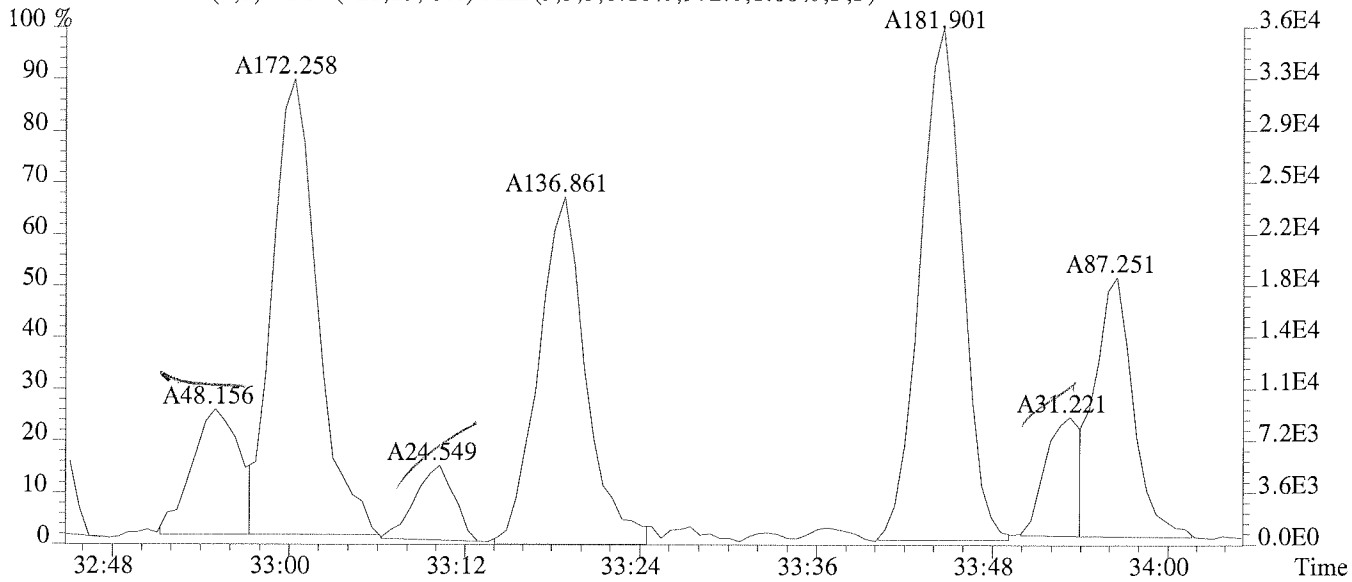
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



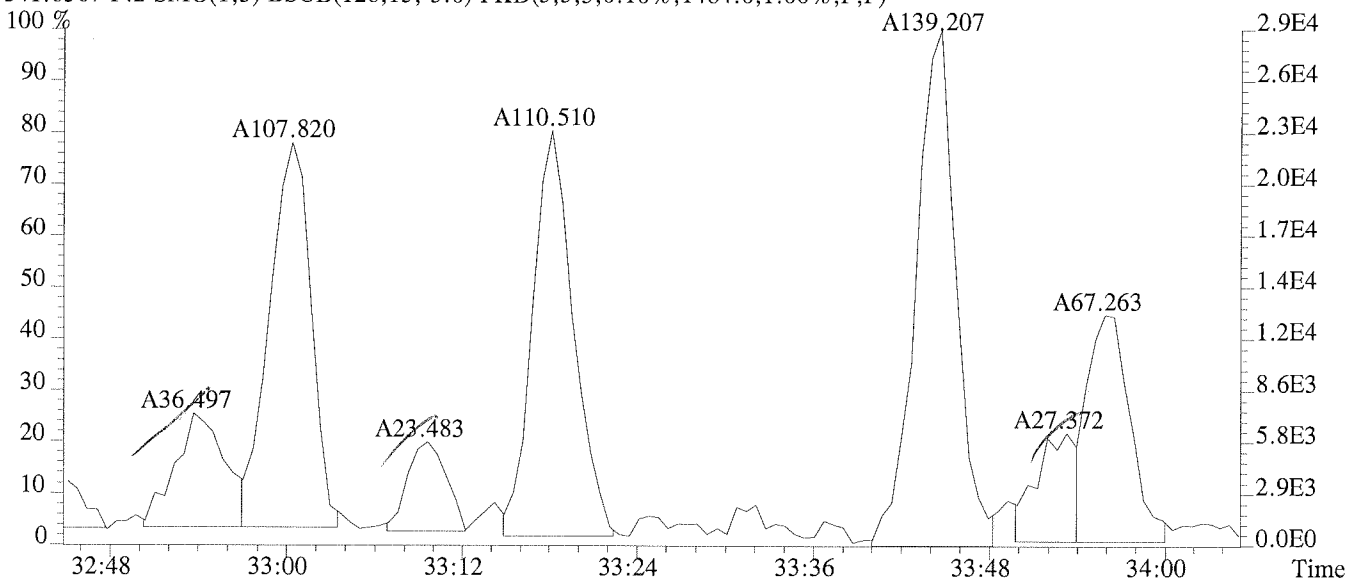
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



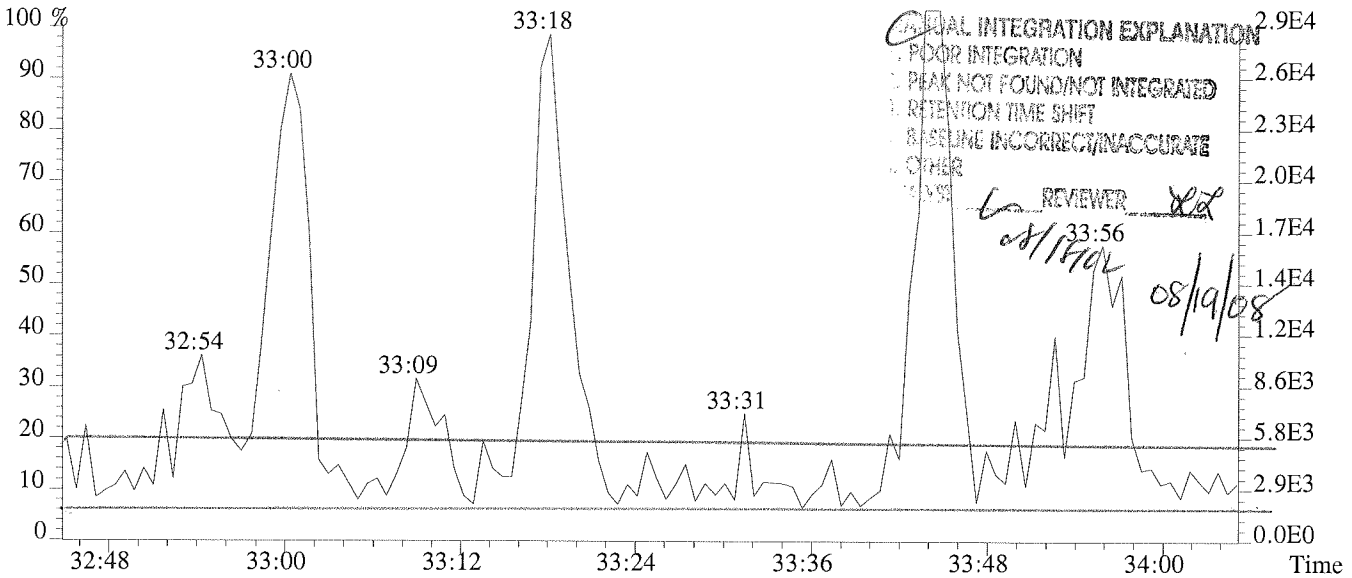
File:P200061 #1-399 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,F)



341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1484.0,1.00%,F,F)



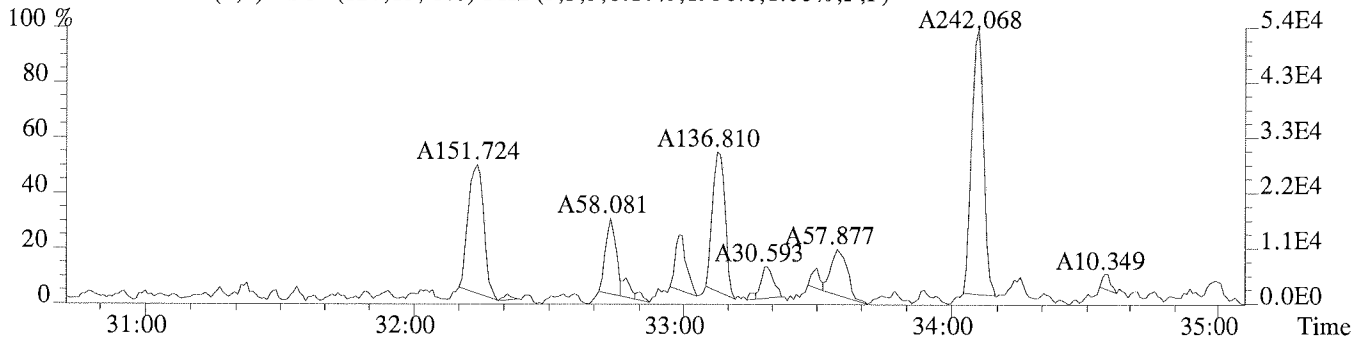
341.8567 F:2



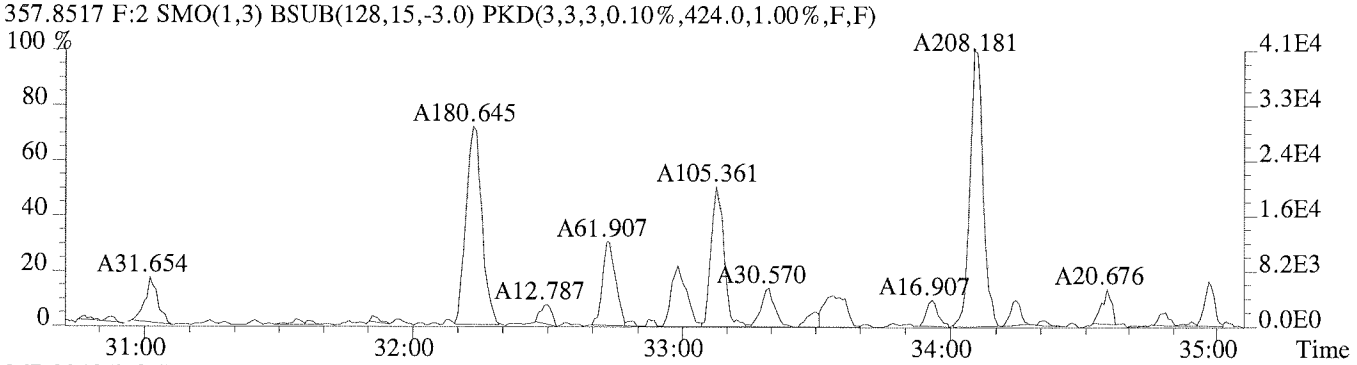
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER
08/19/08
08/19/08

File:P200061 #1-399 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

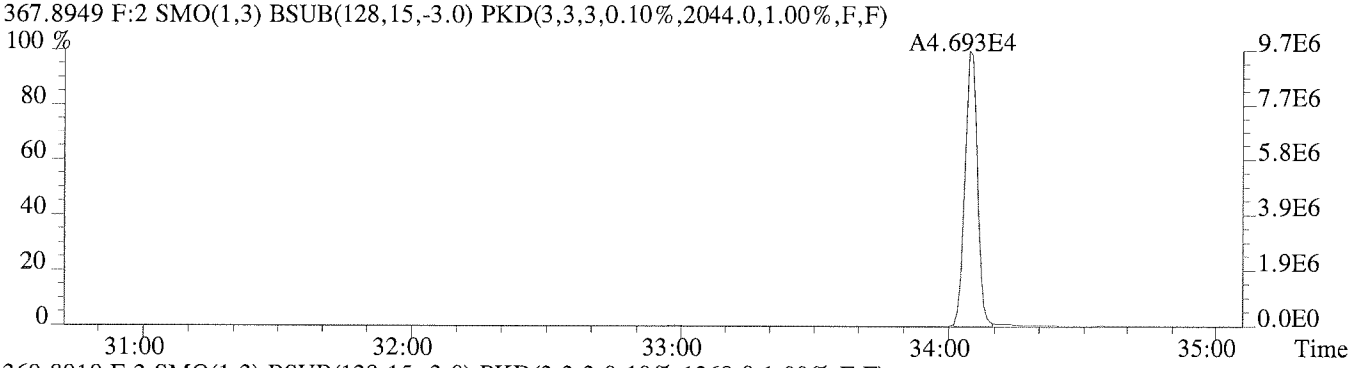
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1956.0,1.00%,F,F)



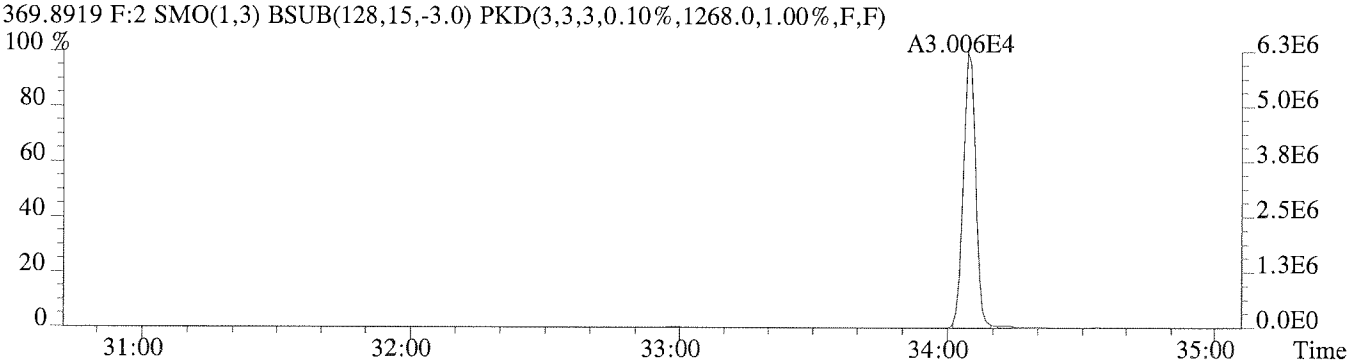
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,F)



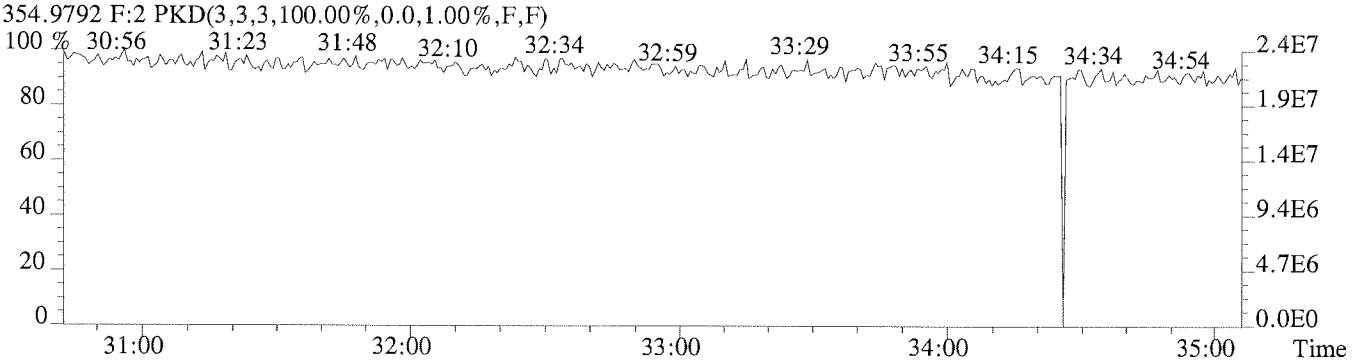
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2044.0,1.00%,F,F)



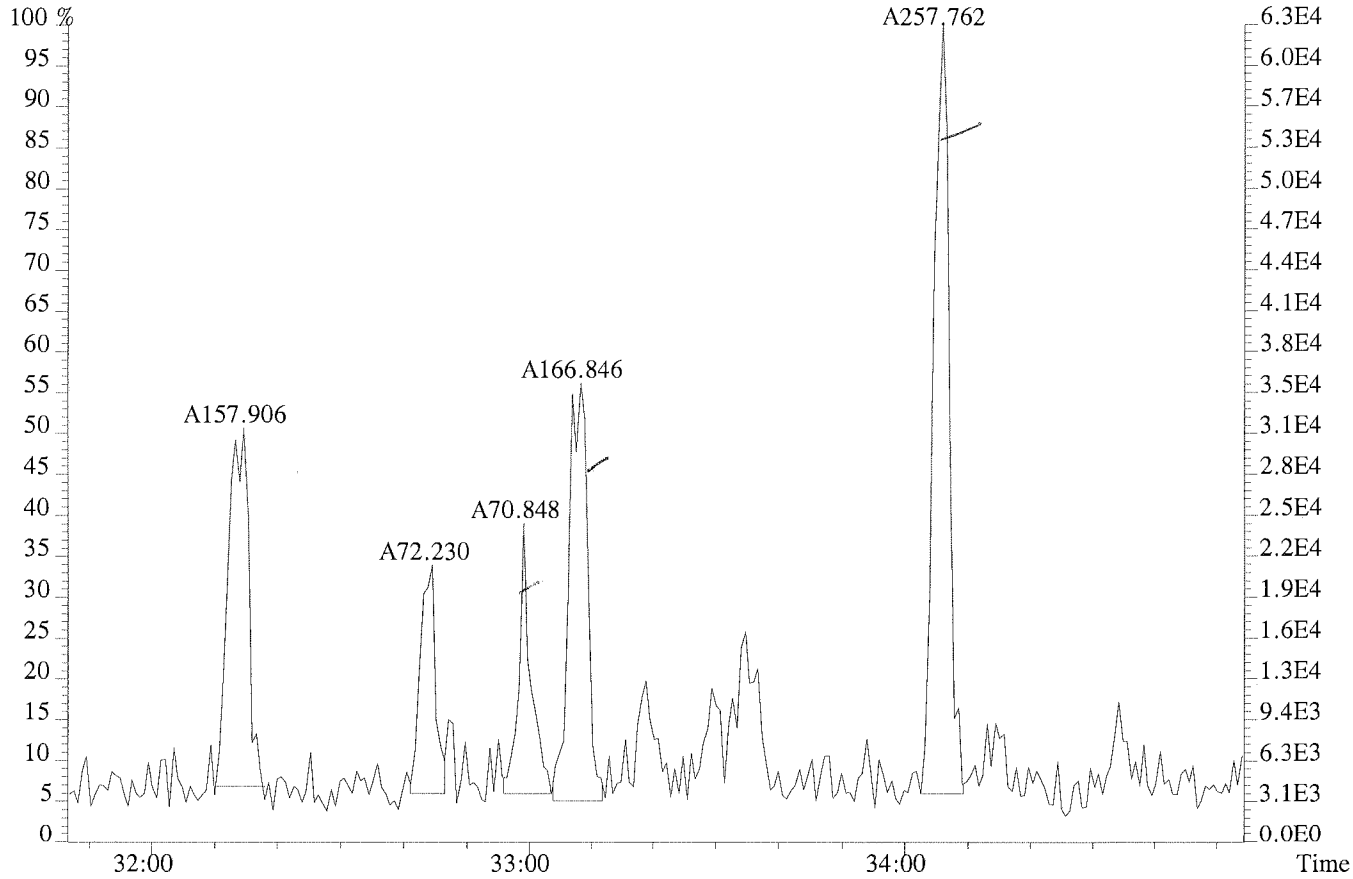
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1268.0,1.00%,F,F)



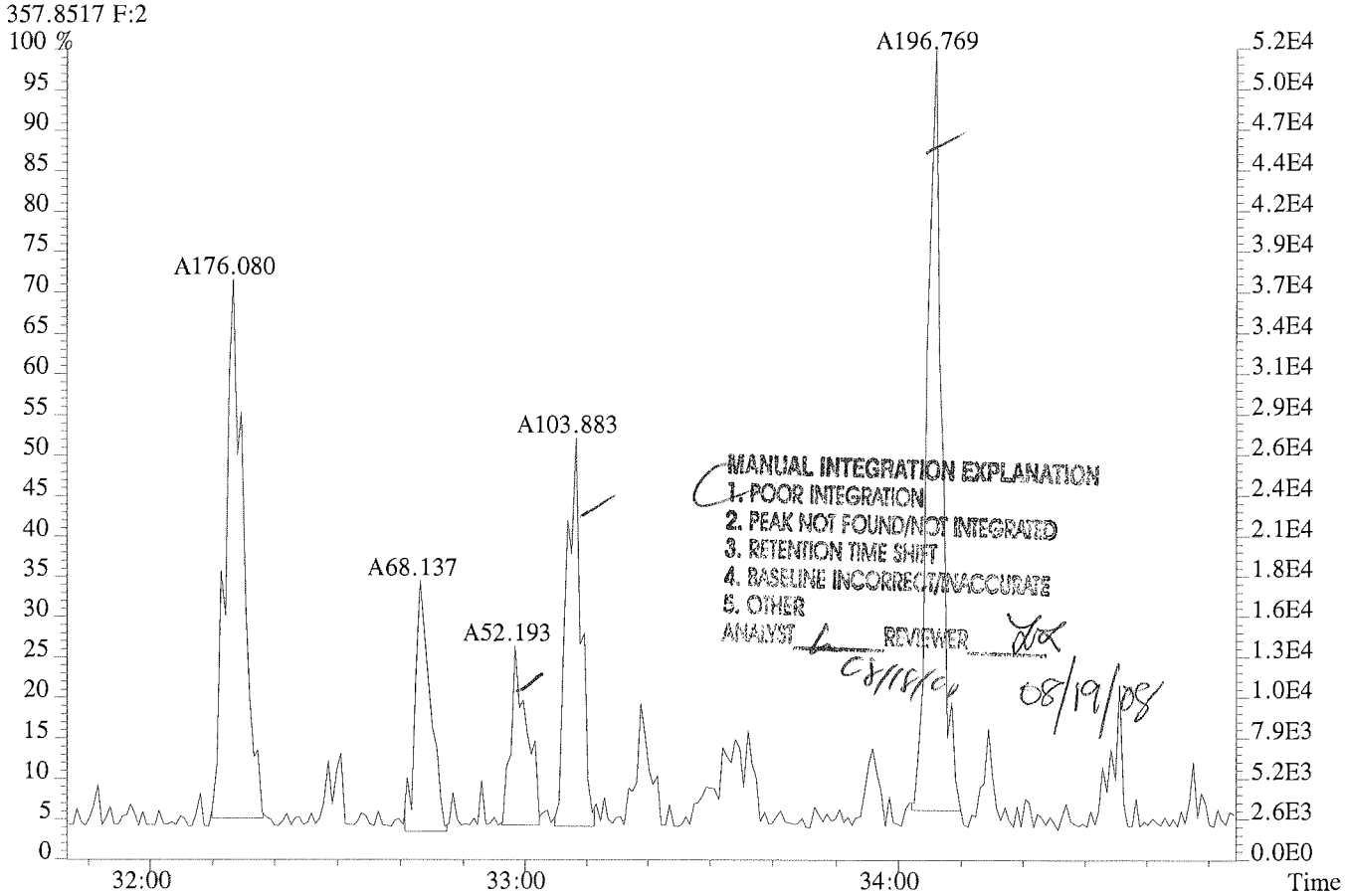
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200061 #1-399 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
355.8546 F:2



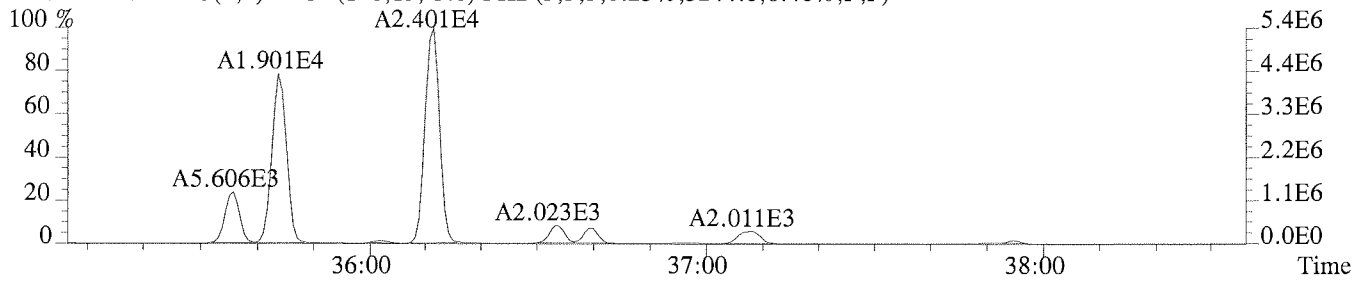
357.8517 F:2



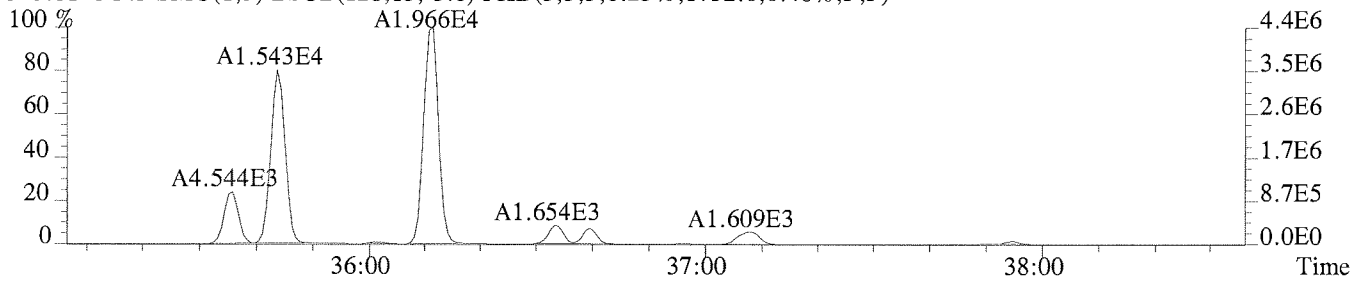
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/19/08

File:P200061 #1-318 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

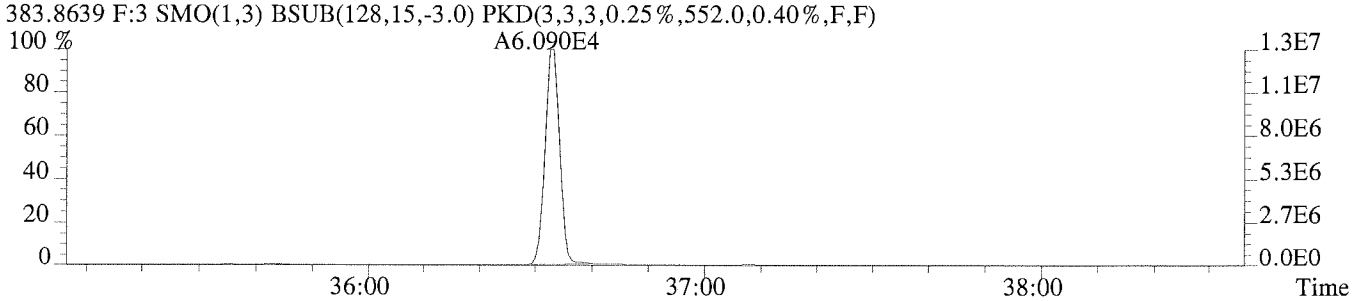
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5244.0,0.40%,F,F)



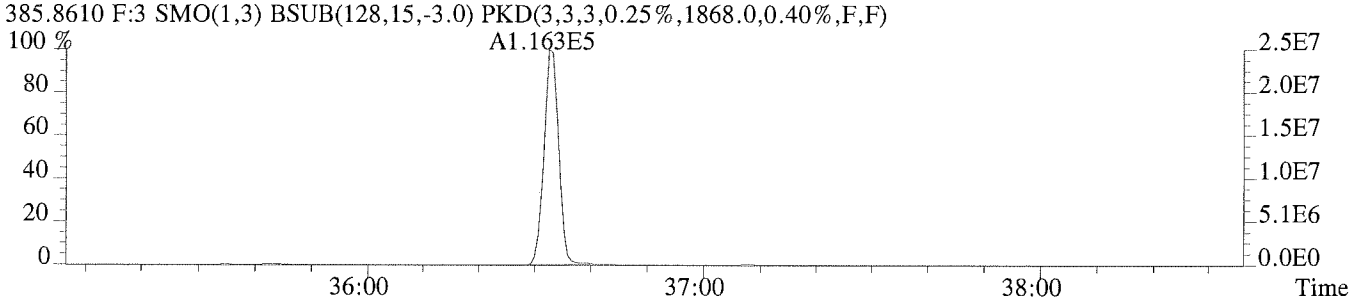
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,F)



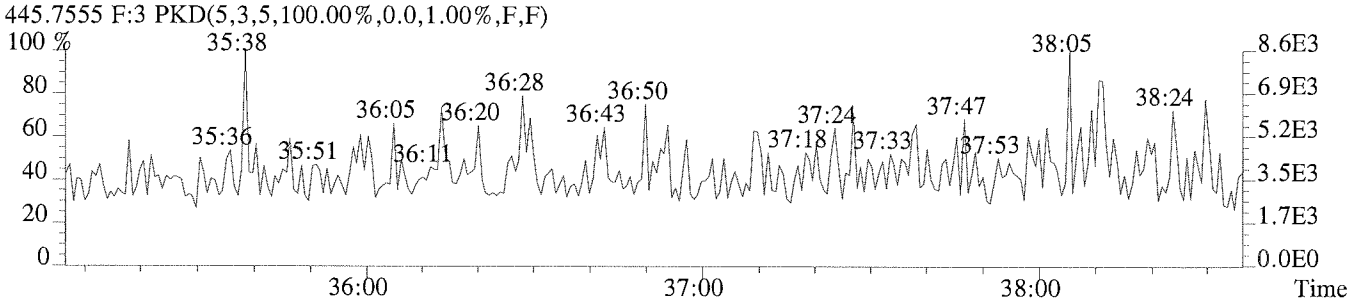
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,F)



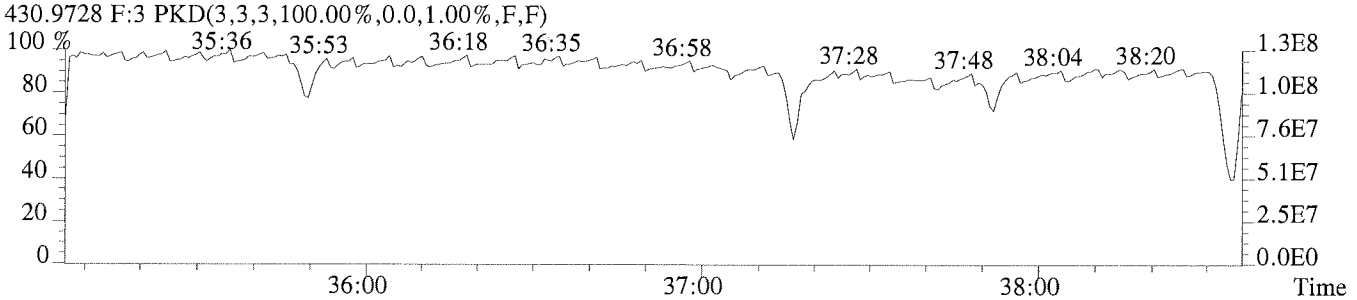
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1868.0,0.40%,F,F)



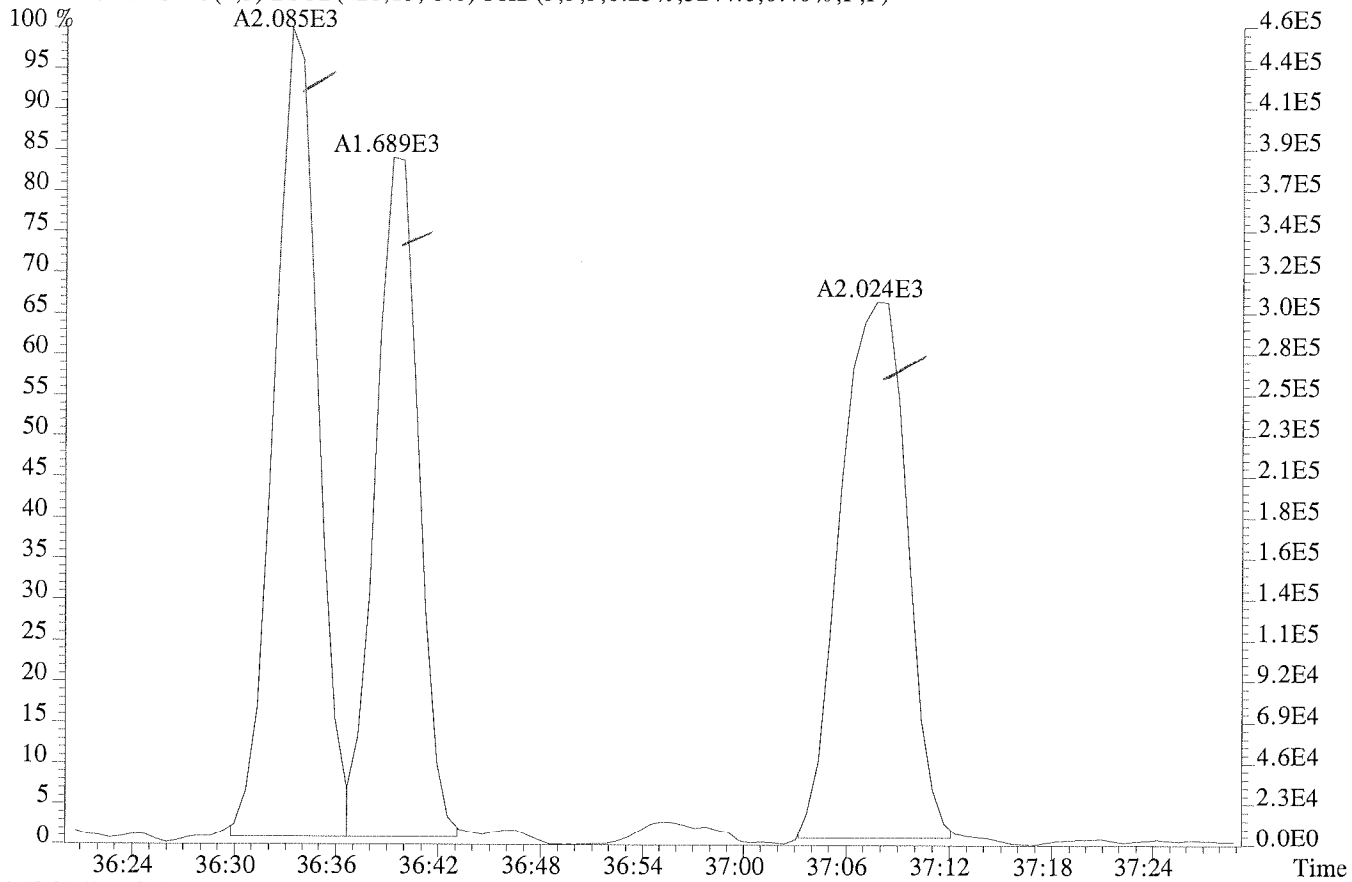
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



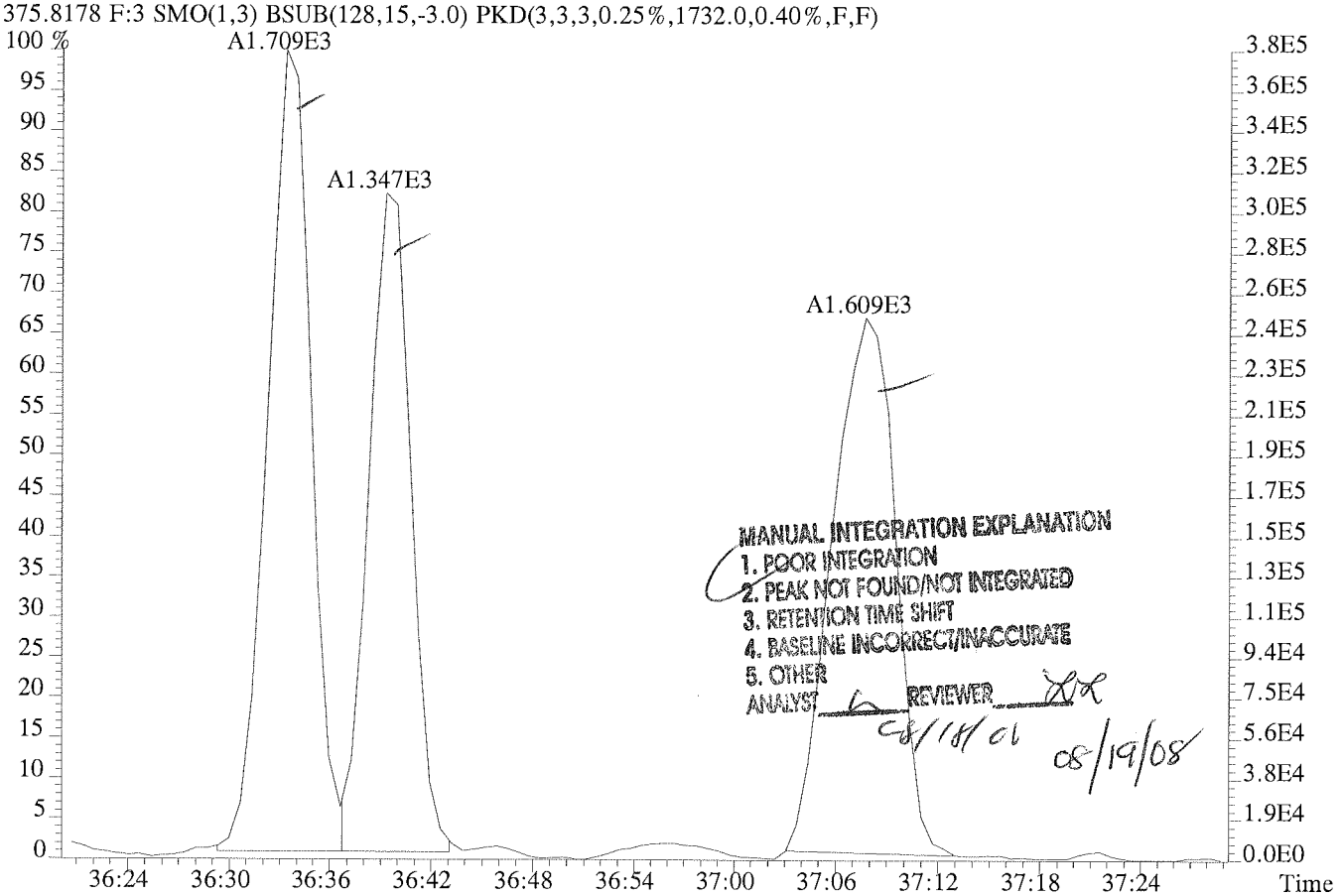
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200061 #1-318 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5244.0,0.40%,F,F)

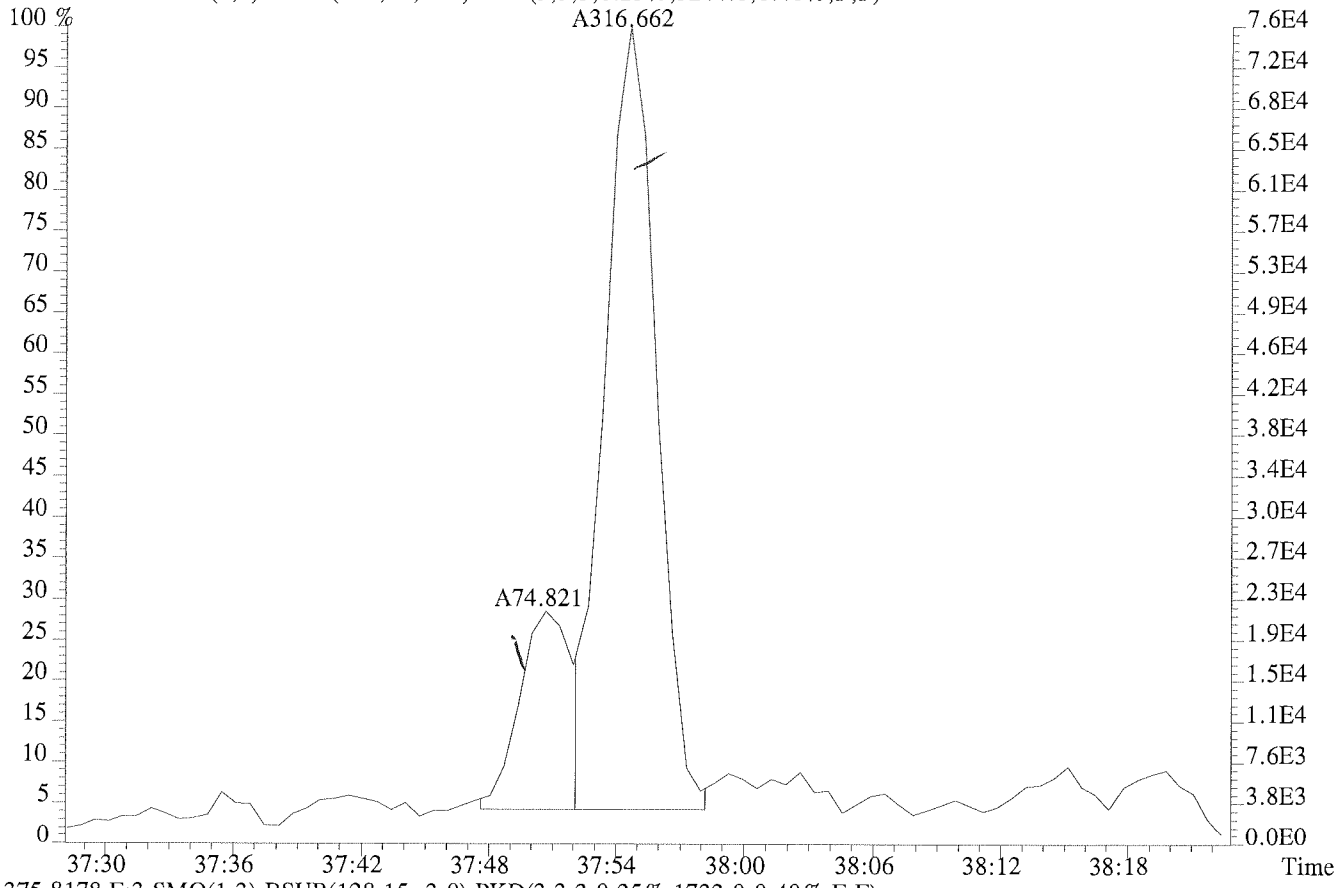


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,F)

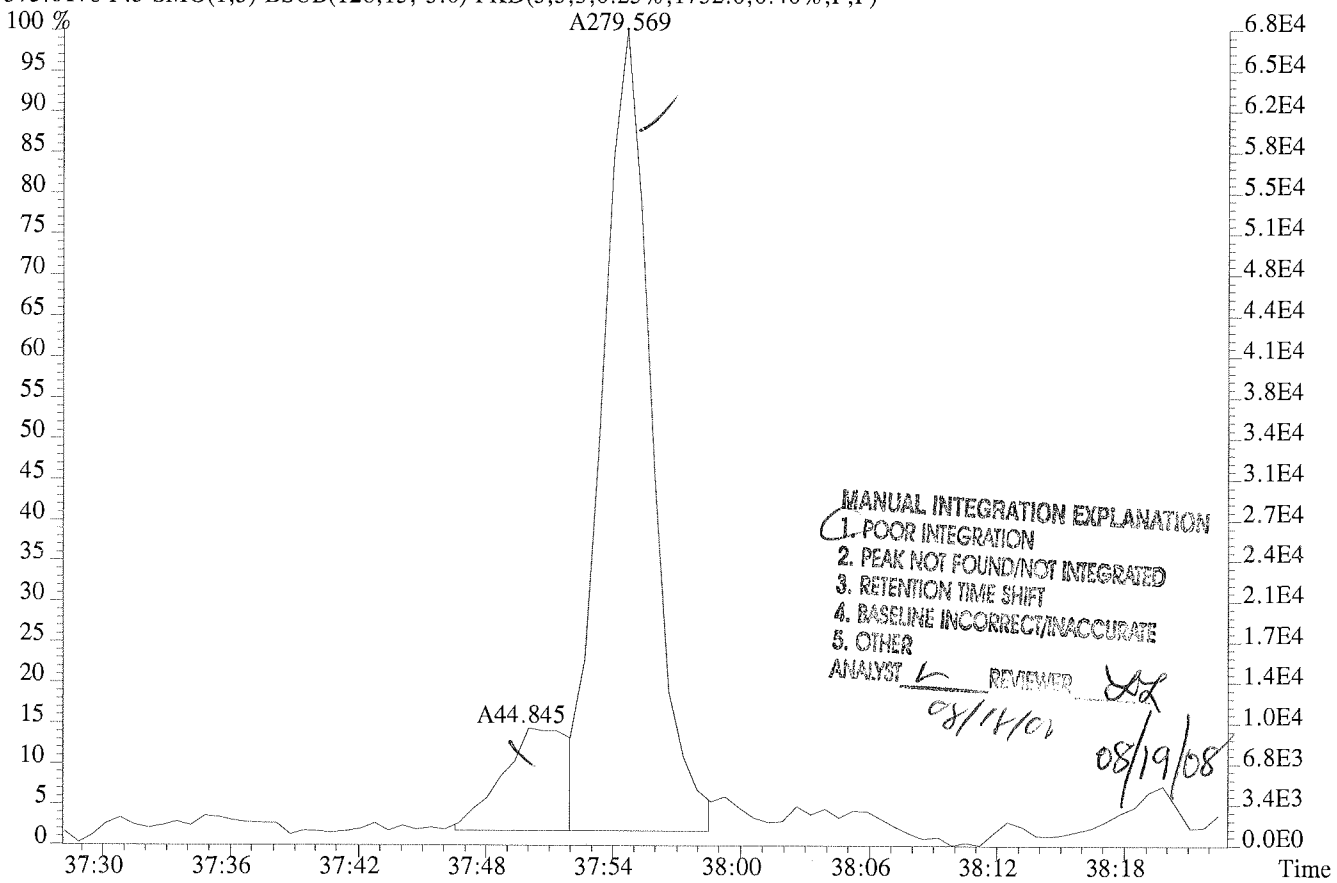


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/18/08 08/19/08

File:P200061 #1-318 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5244.0,0.40%,F,F)



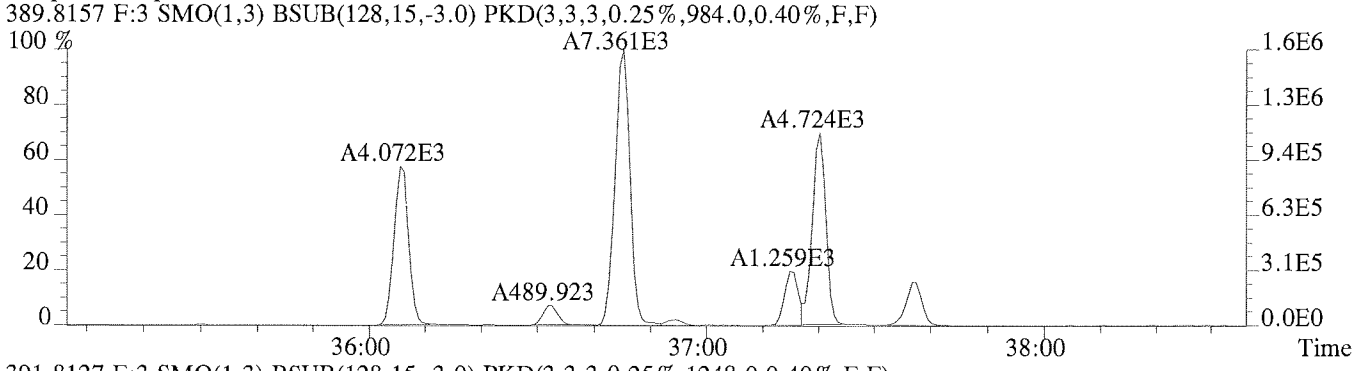
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,F)



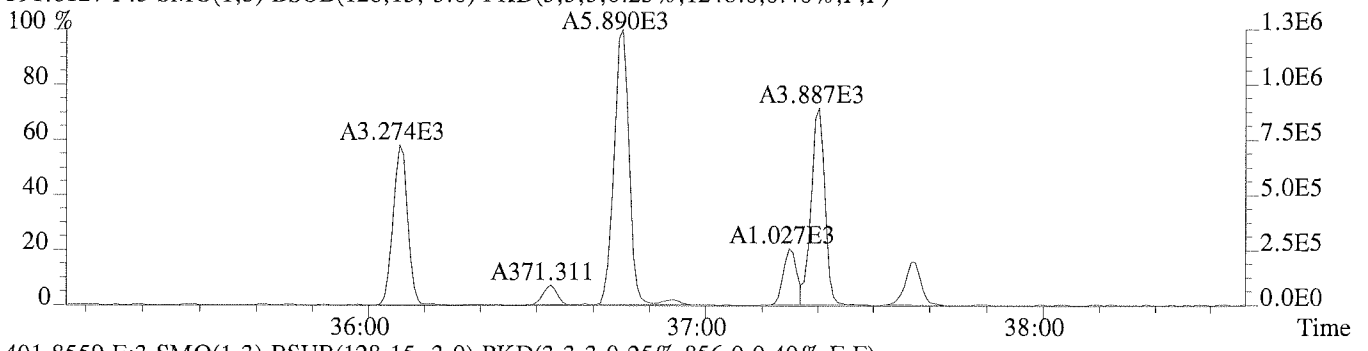
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
08/14/08
08/19/08

File:P200061 #1-318 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

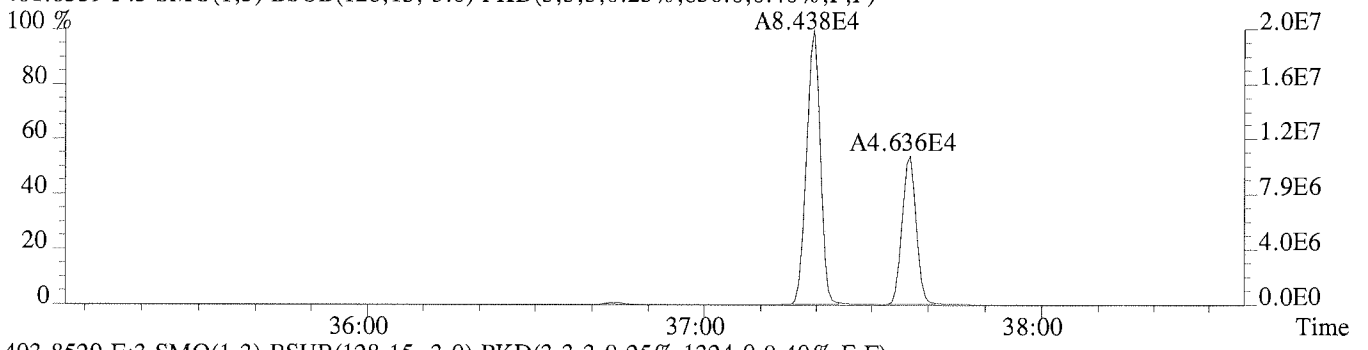
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,F)



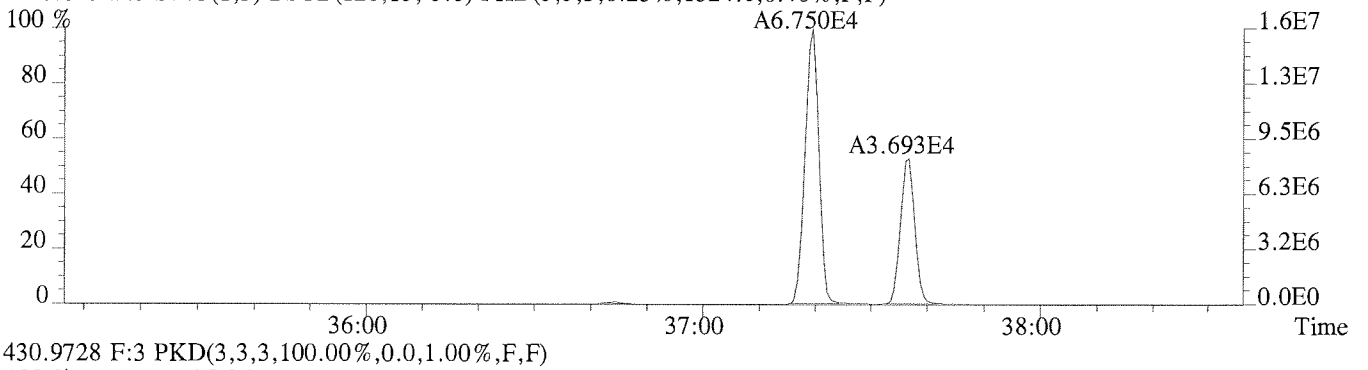
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.40%,F,F)



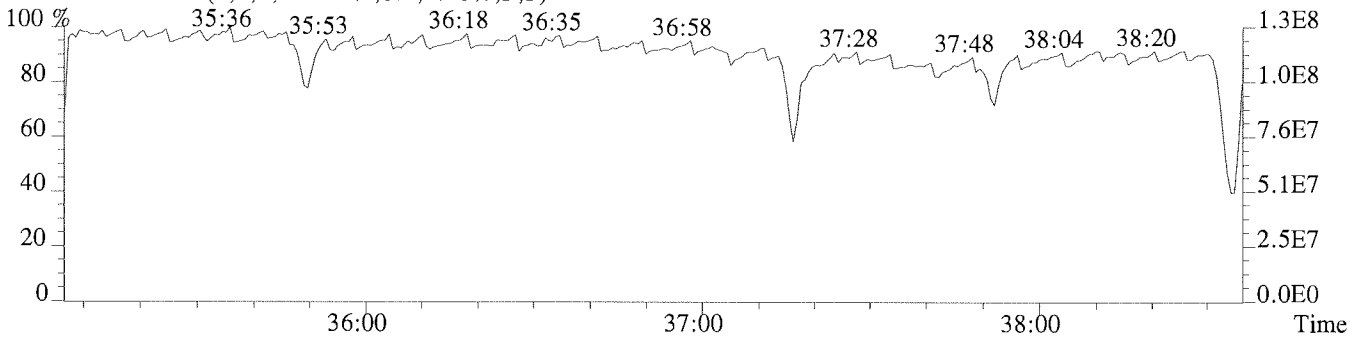
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,F)



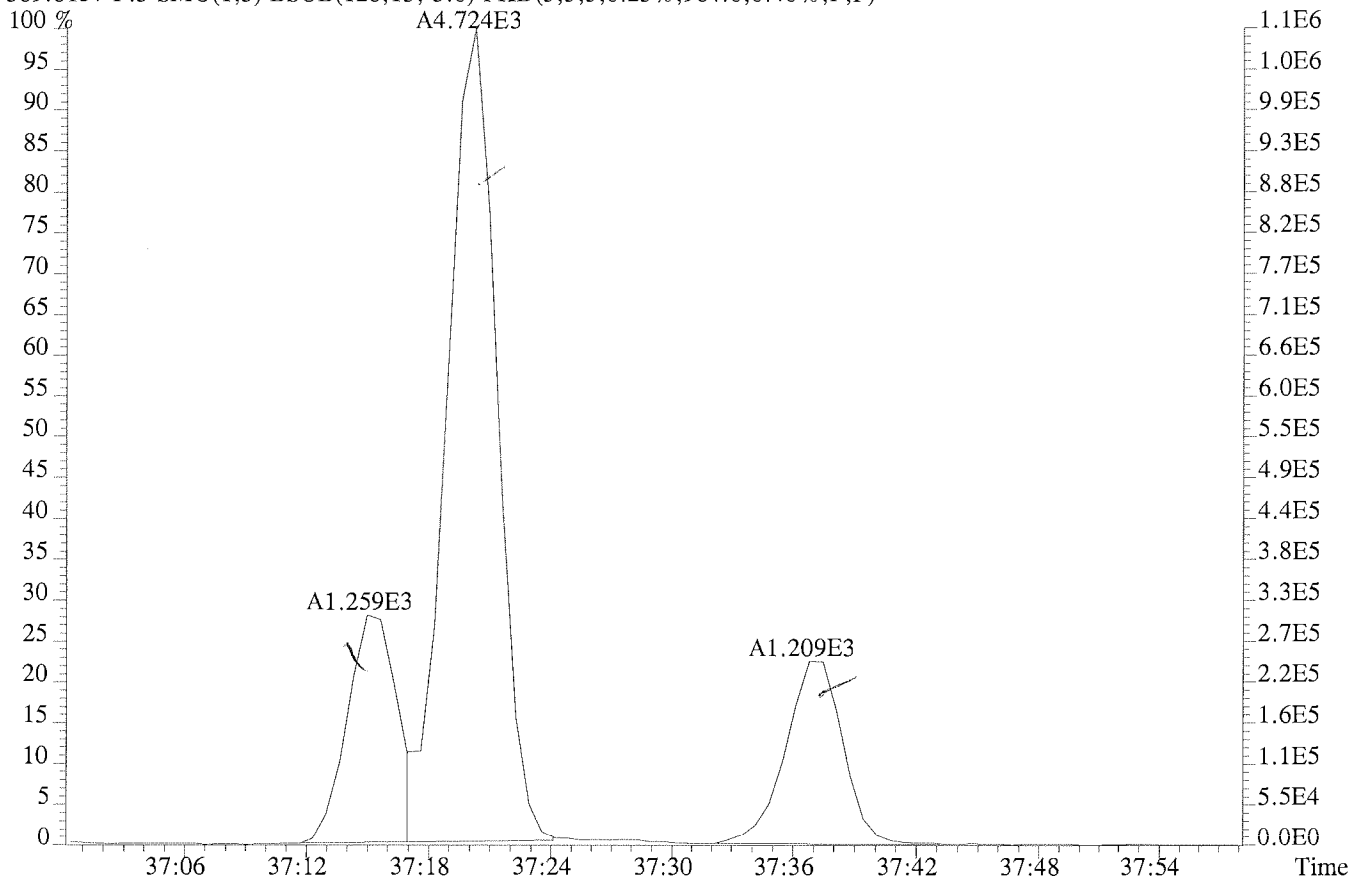
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,F)



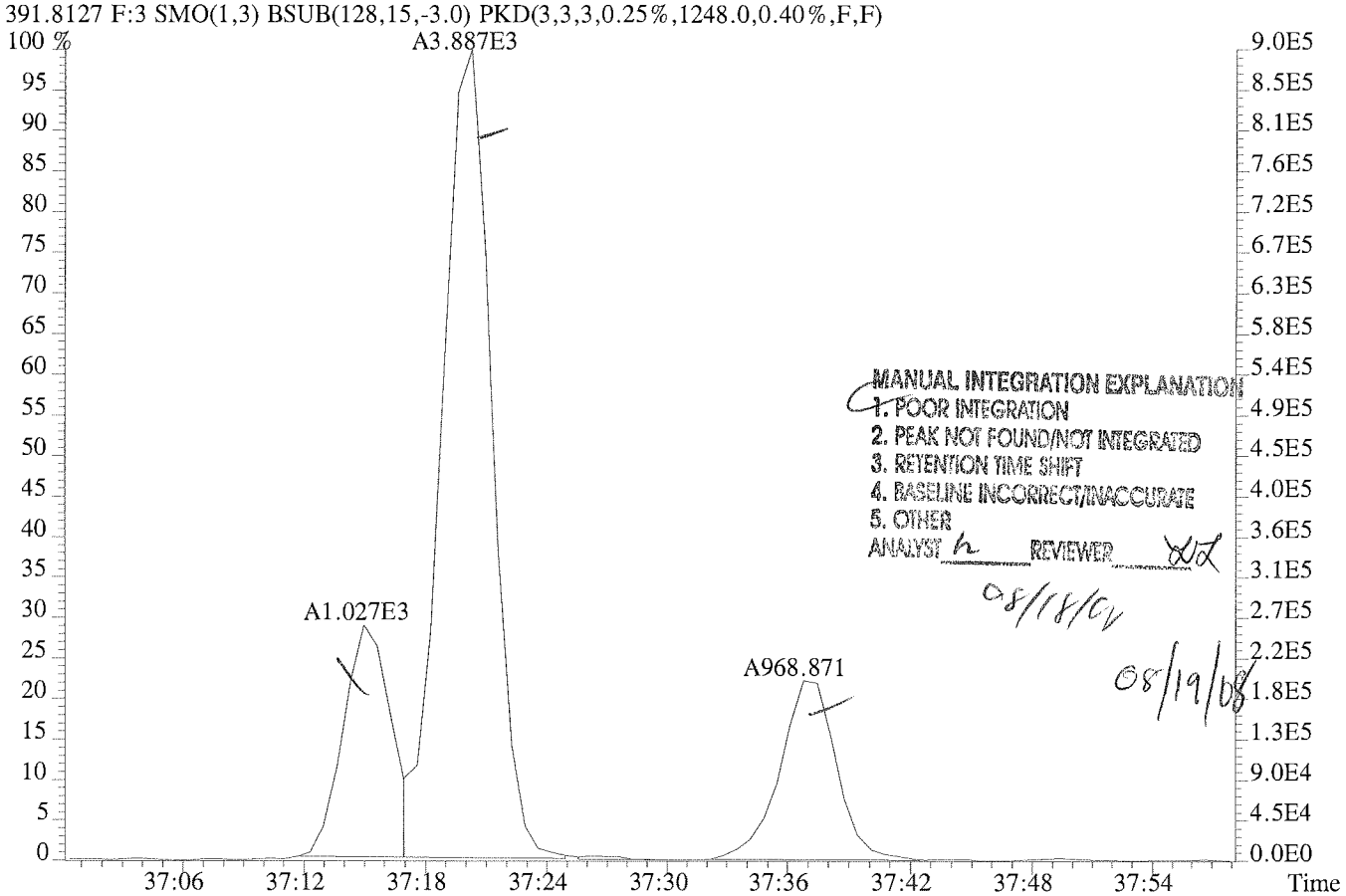
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200061 #1-318 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,984.0,0.40%,F,F)



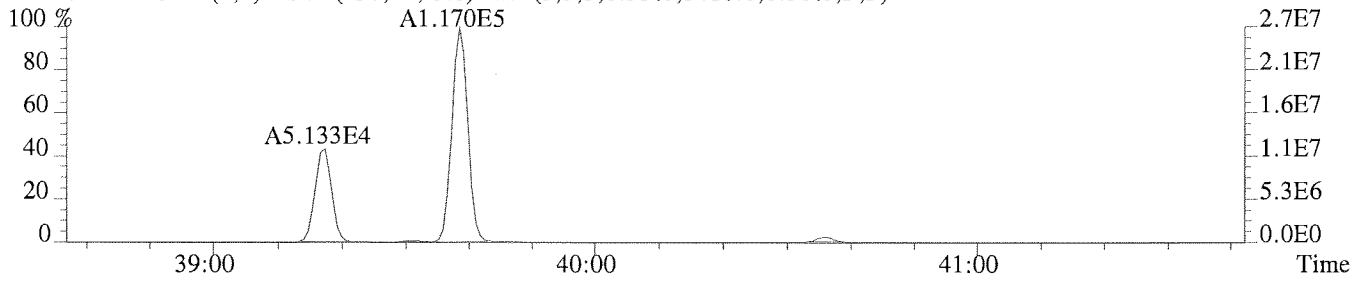
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1248.0,0.40%,F,F)



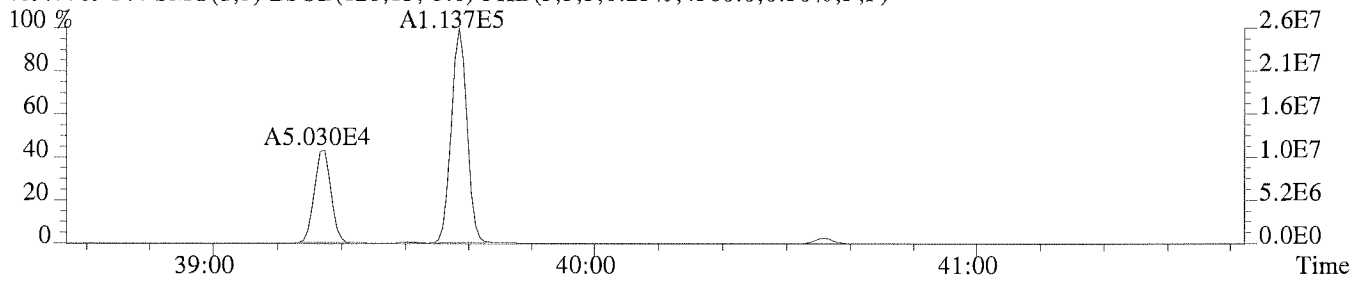
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST h REVIEWER
08/18/08
08/19/08

File:P200061 #1-281 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

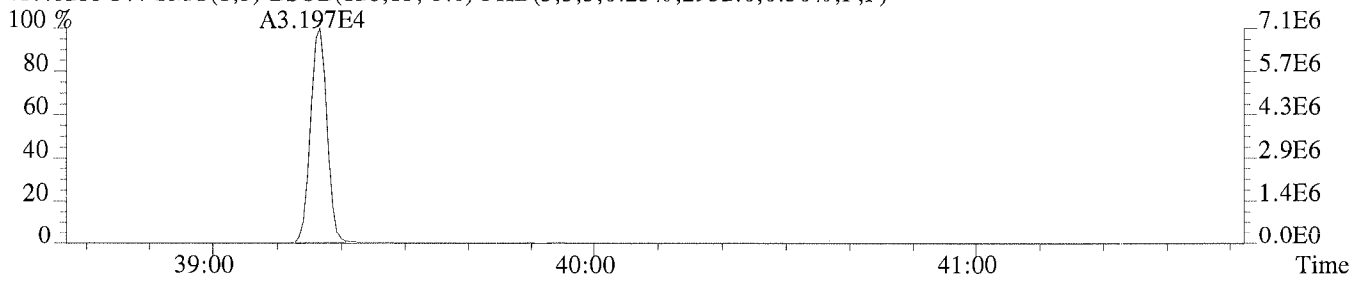
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5416.0,0.50%,F,F)



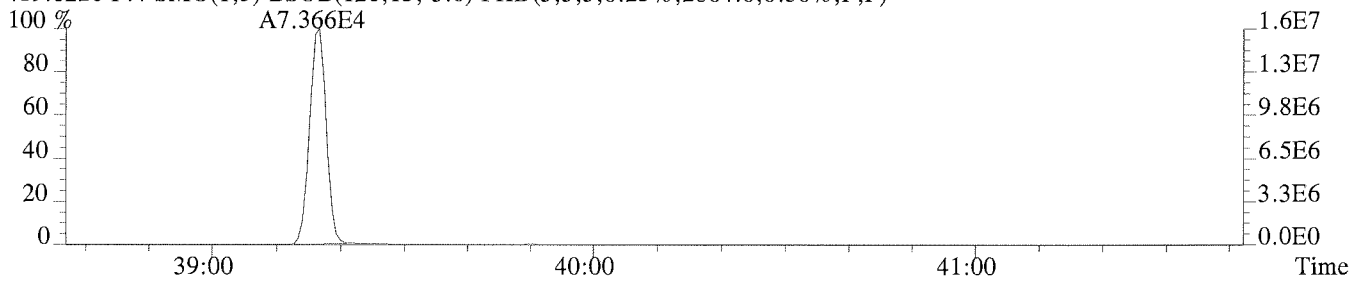
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4580.0,0.50%,F,F)



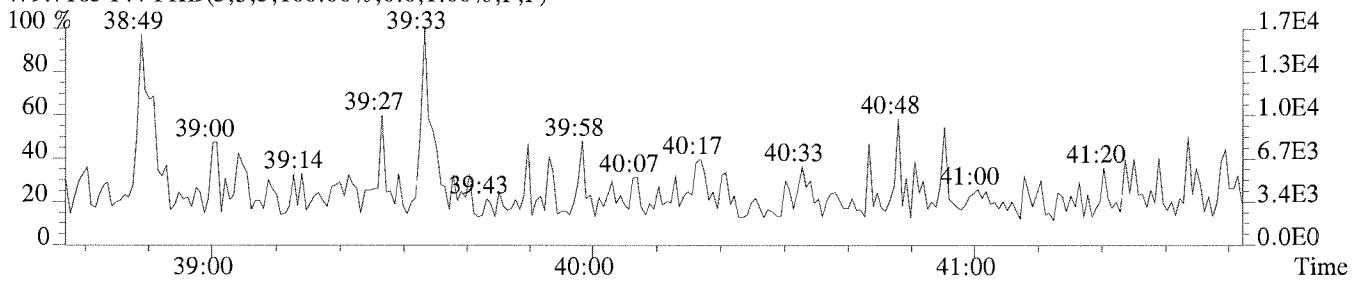
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2932.0,0.50%,F,F)



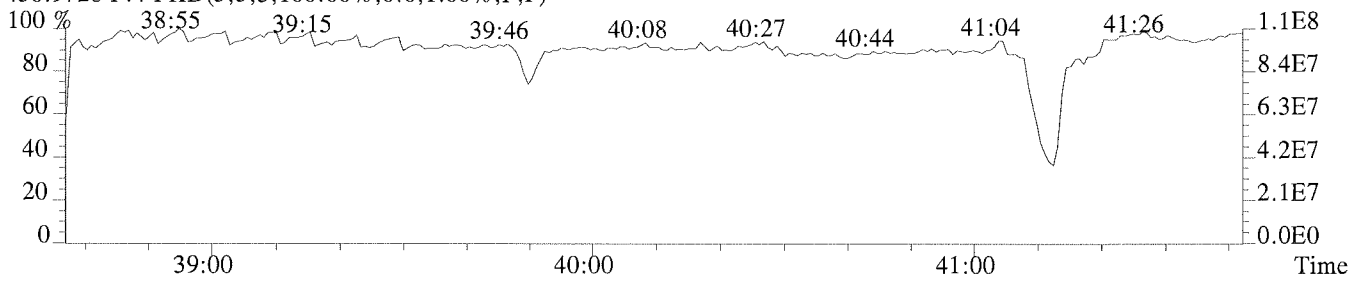
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2864.0,0.50%,F,F)



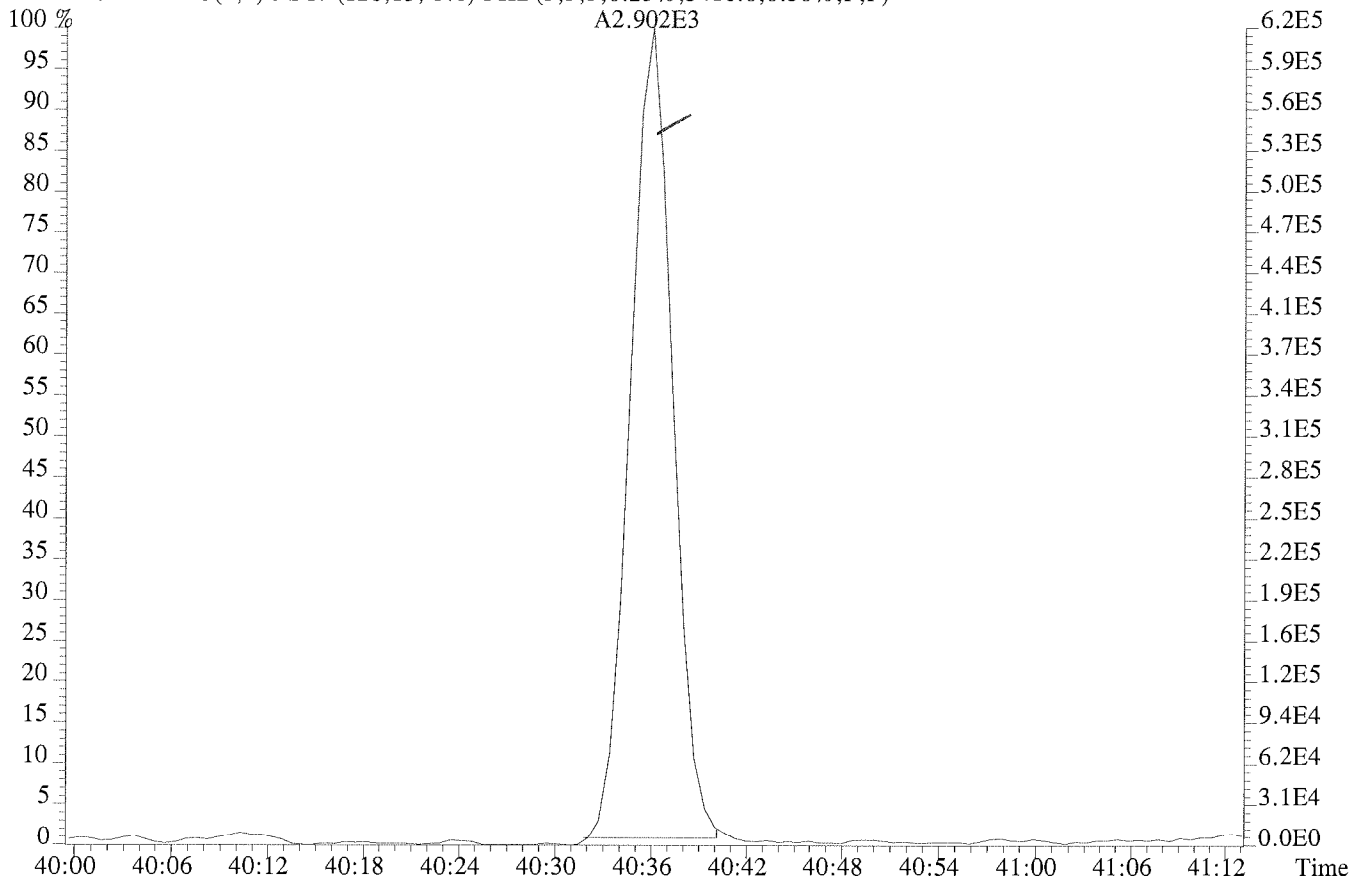
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



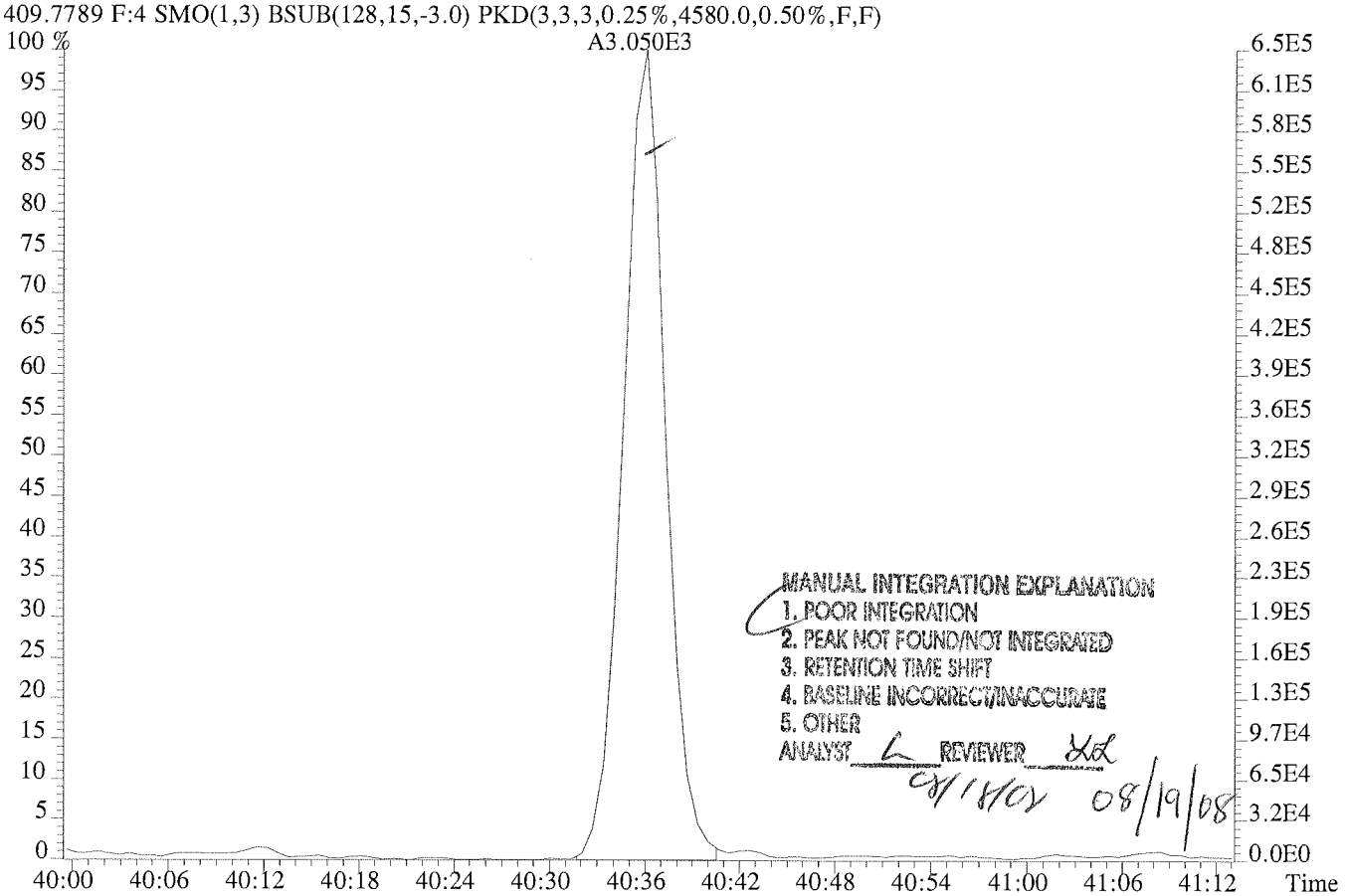
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200061 #1-281 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5416.0,0.50%,F,F)

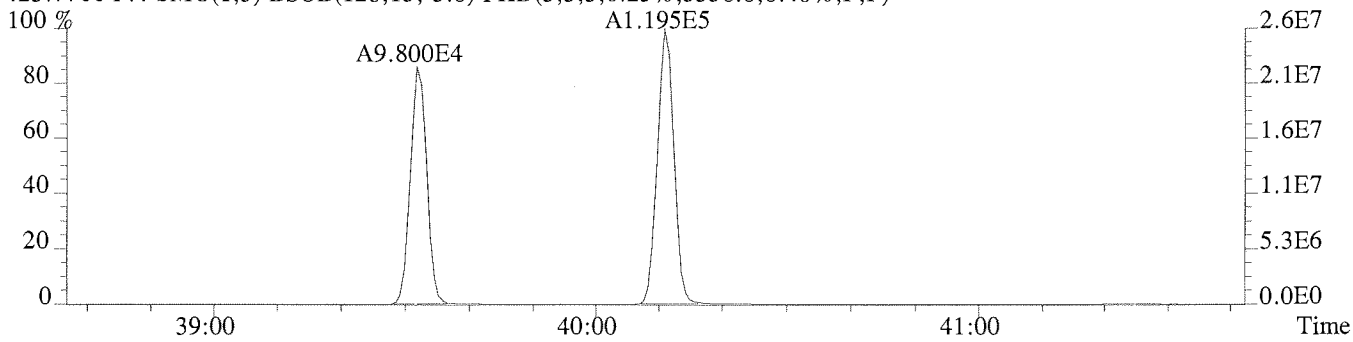


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4580.0,0.50%,F,F)

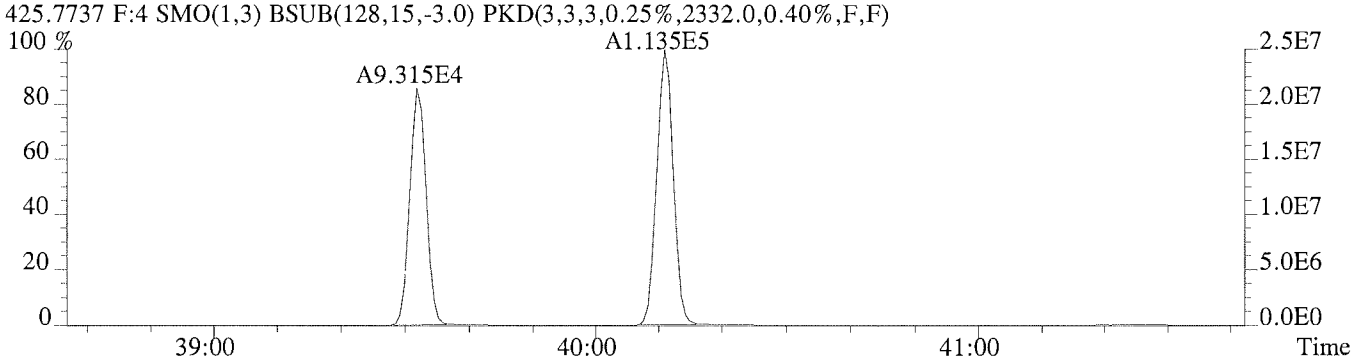


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/19/08 08/19/08

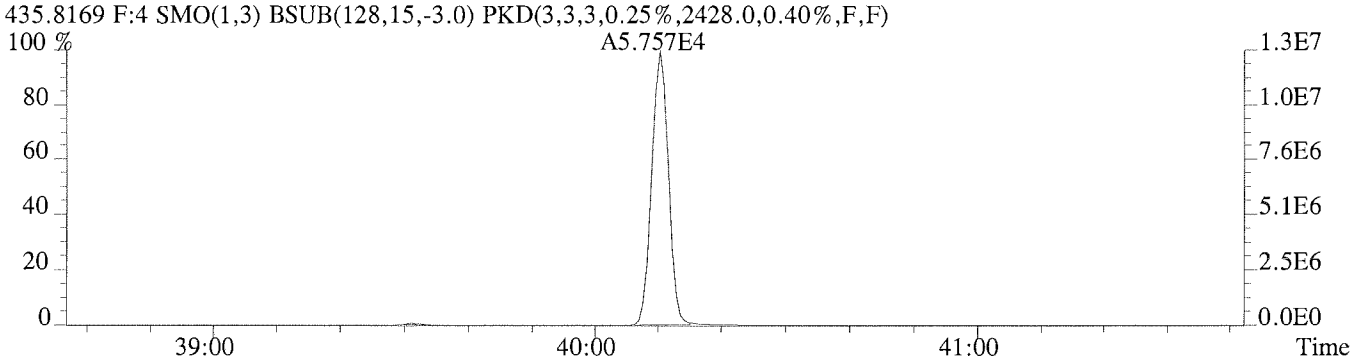
File:P200061 #1-281 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5356.0,0.40%,F,F)



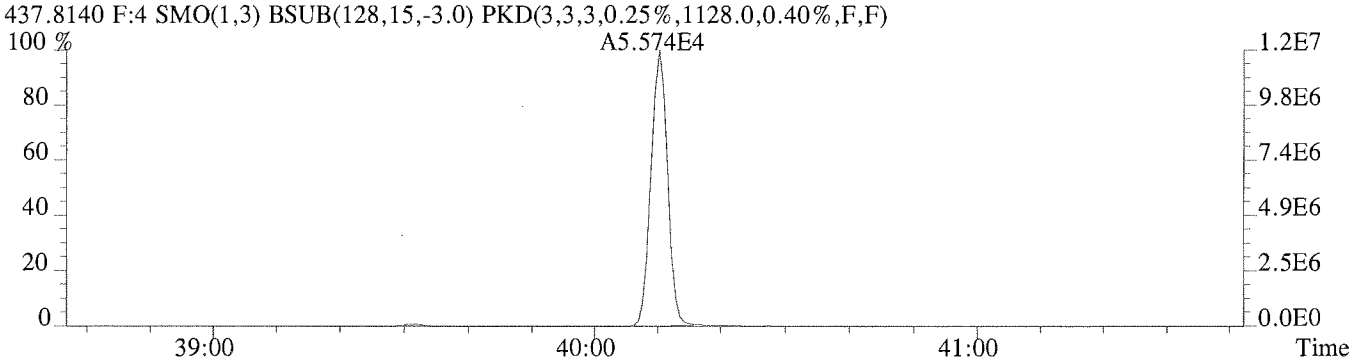
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2332.0,0.40%,F,F)



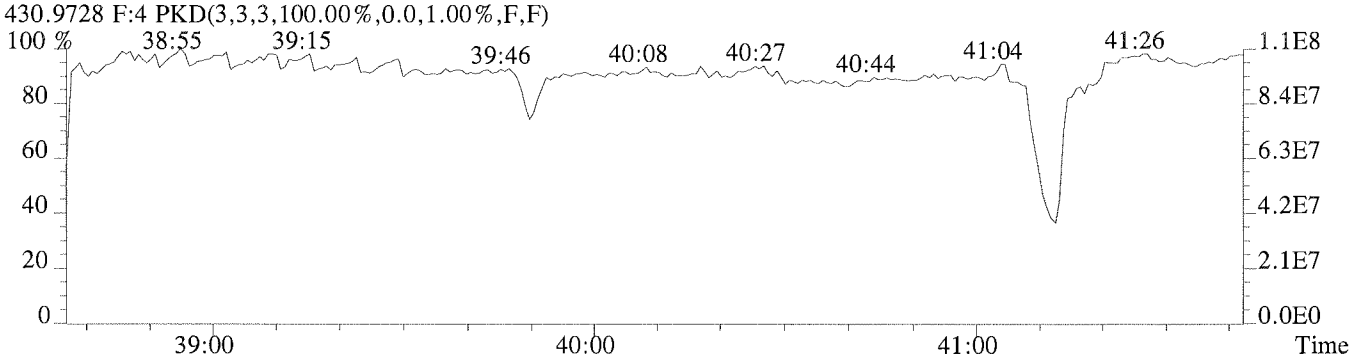
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2428.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.40%,F,F)

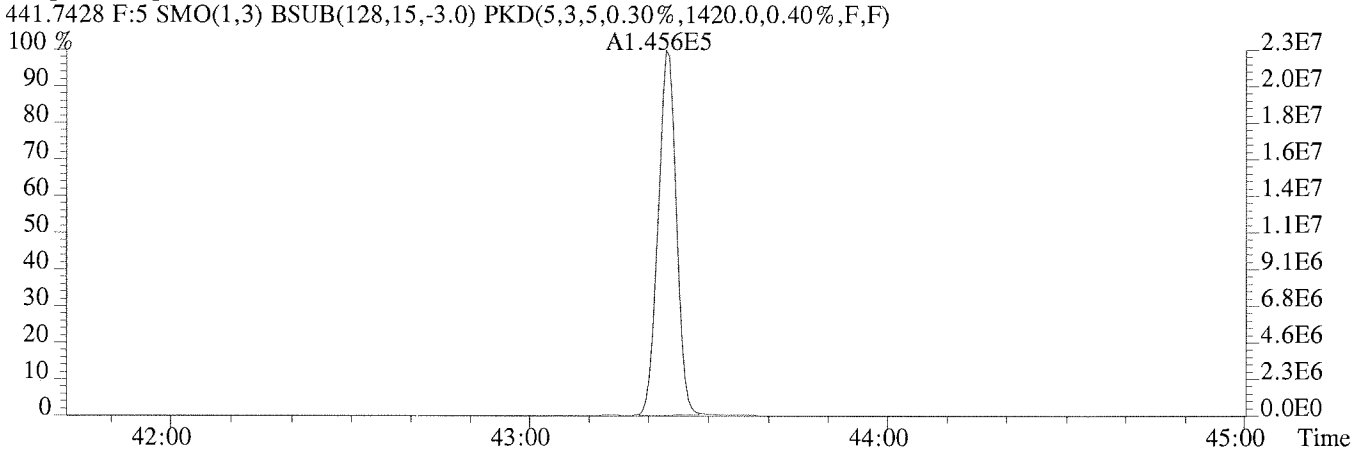


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

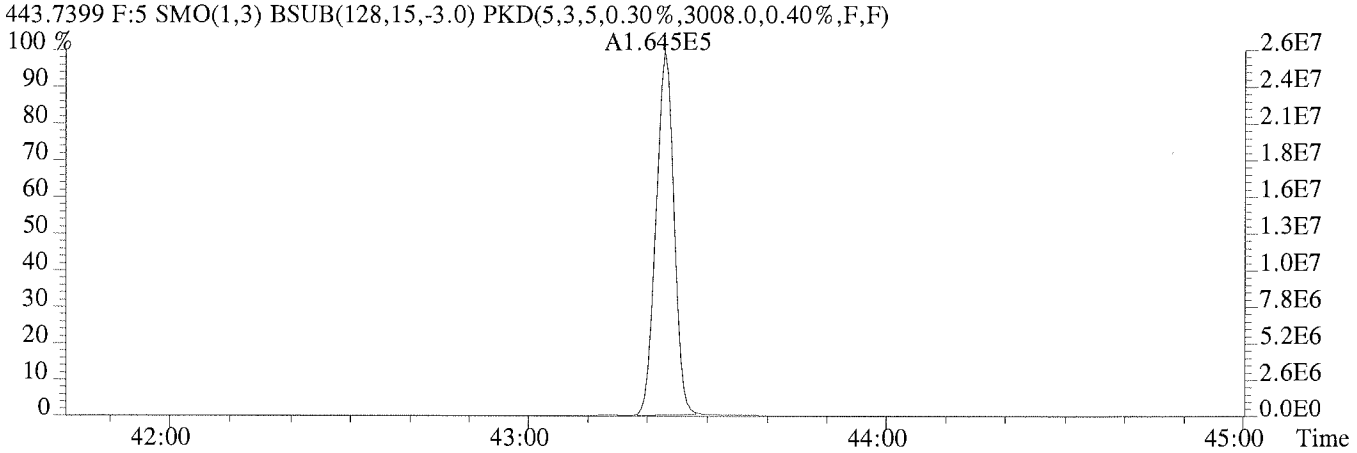


File:P200061 #1-364 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0

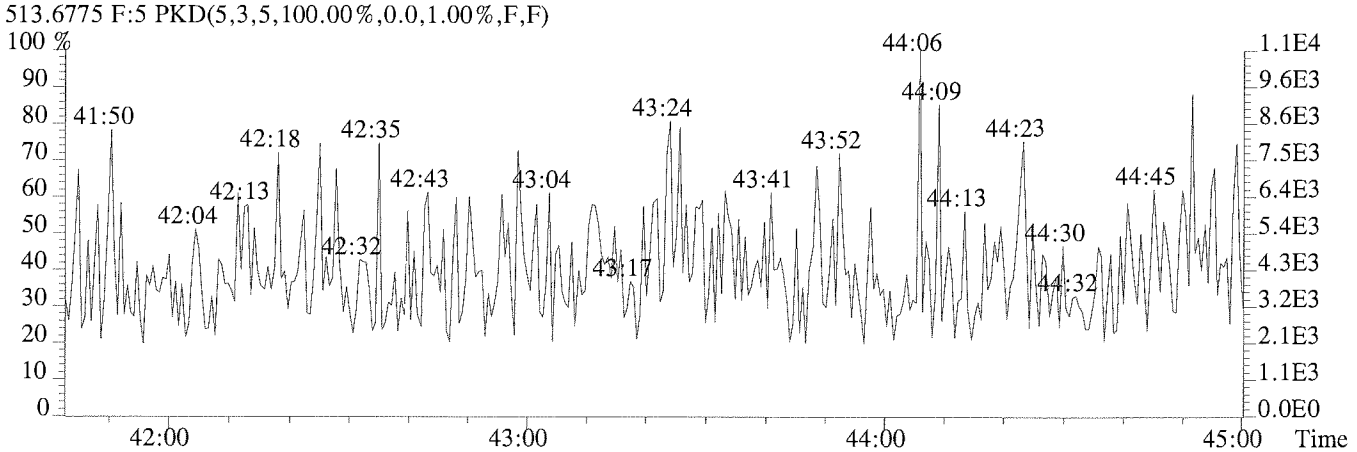
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1420.0,0.40%,F,F)



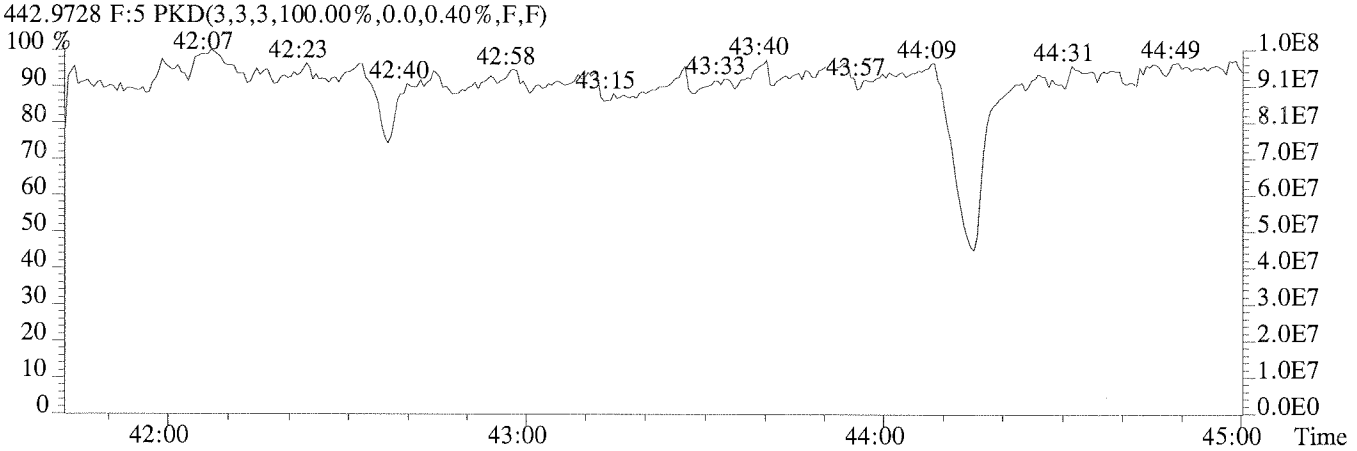
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3008.0,0.40%,F,F)



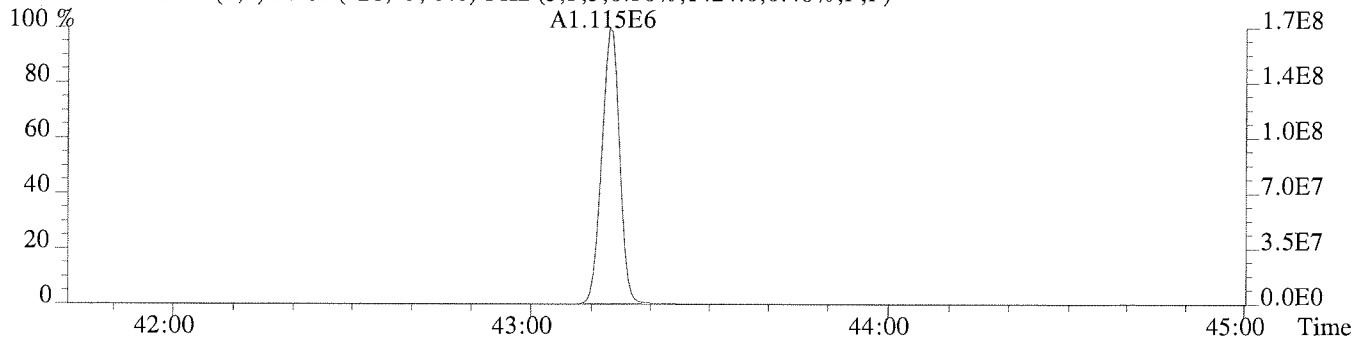
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



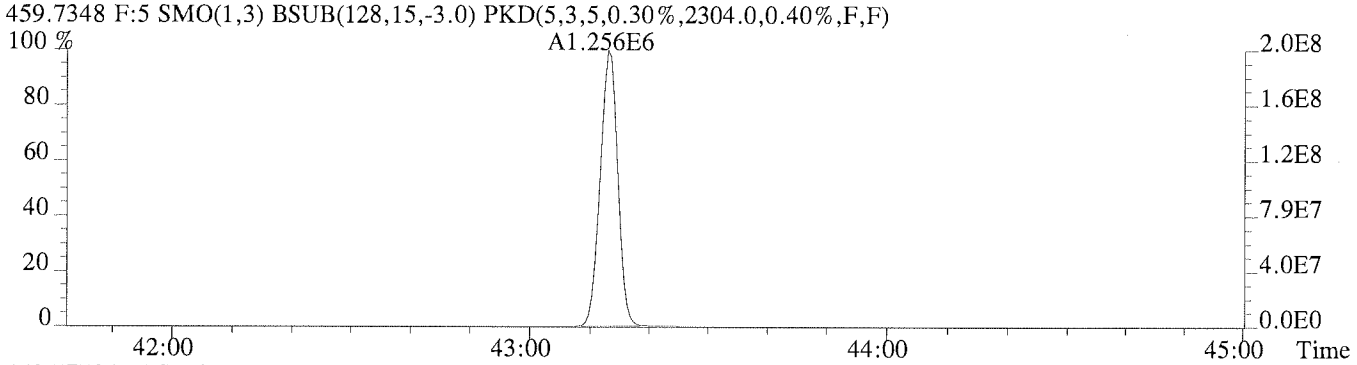
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



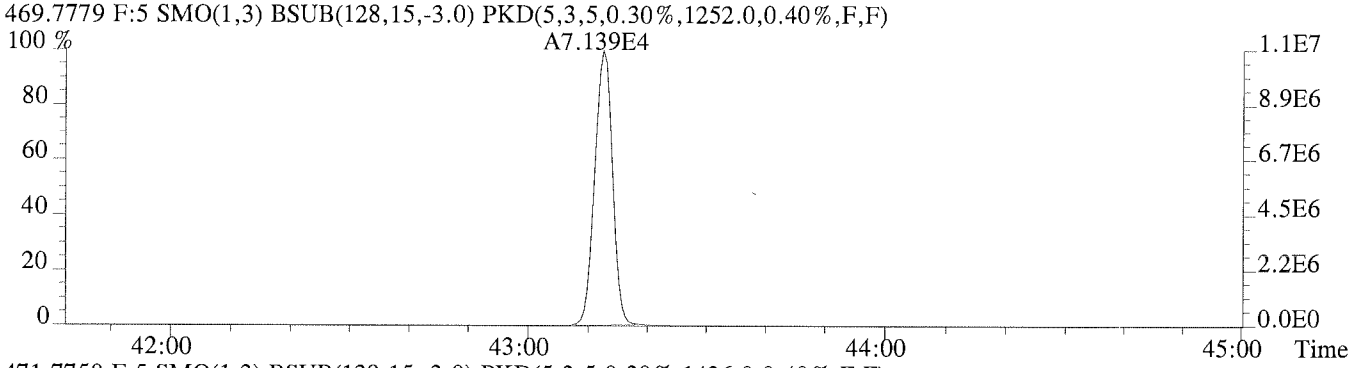
File:P200061 #1-364 Acq: 7-AUG-2008 15:58:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-002 H-T5-3.0
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1424.0,0.40%,F,F)



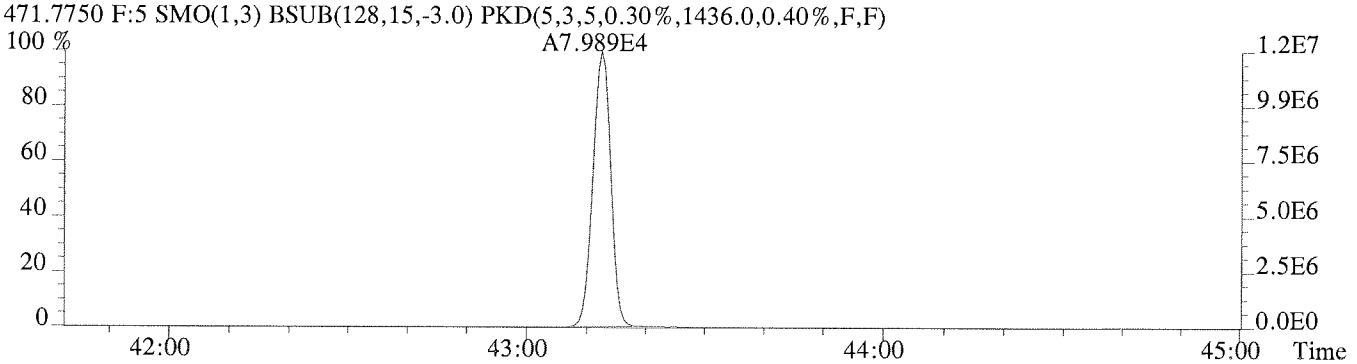
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2304.0,0.40%,F,F)



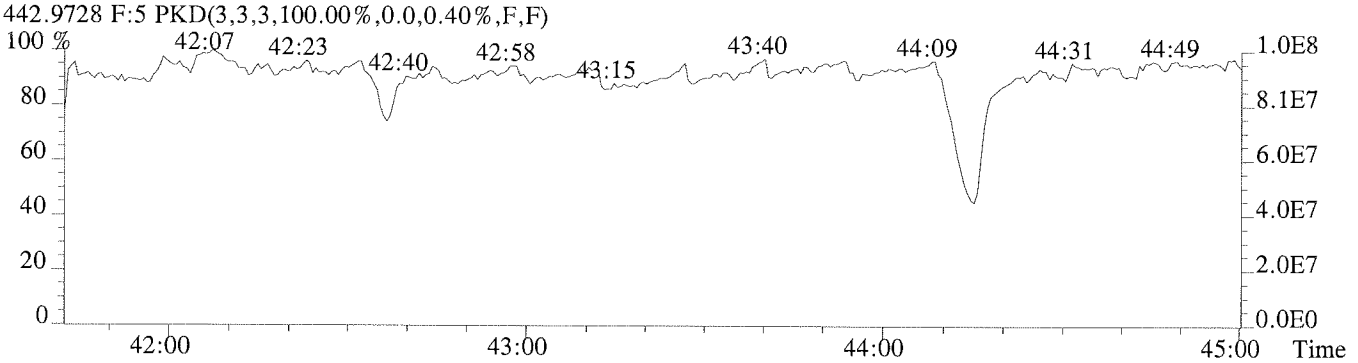
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1436.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
H-T5-3.0

Run #8 Filename C15252#4 Samp: 4 Inj: 1 Acquired: 11-AUG-08 08:58:24
Processed: 19-AUG-08 08:30:48 Sample ID: E0800704-002

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no
2	IS	13C-2,3,7,8-TCDF	18:30	2.588e+07	3.358e+07	0.77	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:33	2.507e+07	3.158e+07	0.79	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:20	4.045e+07				

Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	*	4.03e+03	*	*	6.74e+03	*
2	13C-2,3,7,8-TCDF	5.79e+06	5.41e+03	1.1e+03	7.49e+06	6.37e+03	1.2e+03
3	13C-1,2,3,4-TCDD	7.19e+06	8.13e+03	8.8e+02	8.99e+06	4.47e+03	2.0e+03
4	37Cl-2,3,7,8-TCDD	1.15e+07	5.15e+03	2.2e+03			

--- 2378-TCDF EDL Calculation---

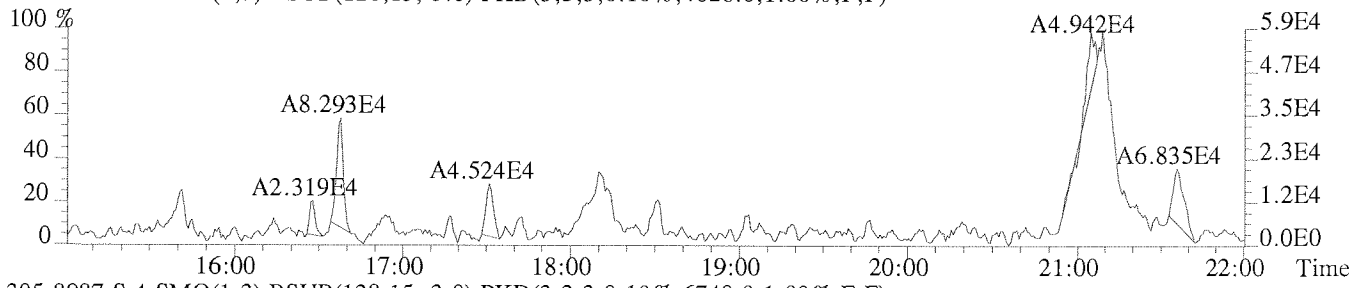
$$EDL = \frac{(4.028e+03 + 6.740e+03) \times 1000 \times 2.5\ pg}{(5.787e+06 + 7.492e+06) \times (0.000\ \text{g}) \times (100 - 0.00)/100 \times 1.10} = 0.194\ ng$$

10.351 g; 92.0; Kg

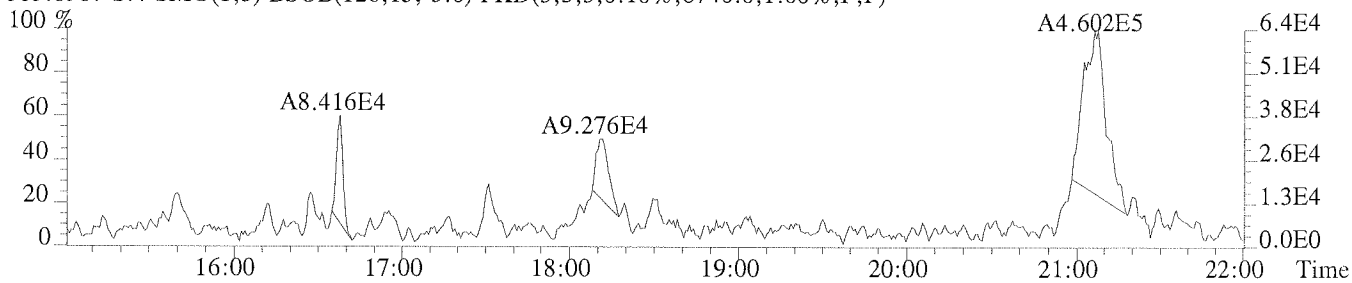
LL
08/19/08

Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office(713)266-1599. Fax(713)266-0130

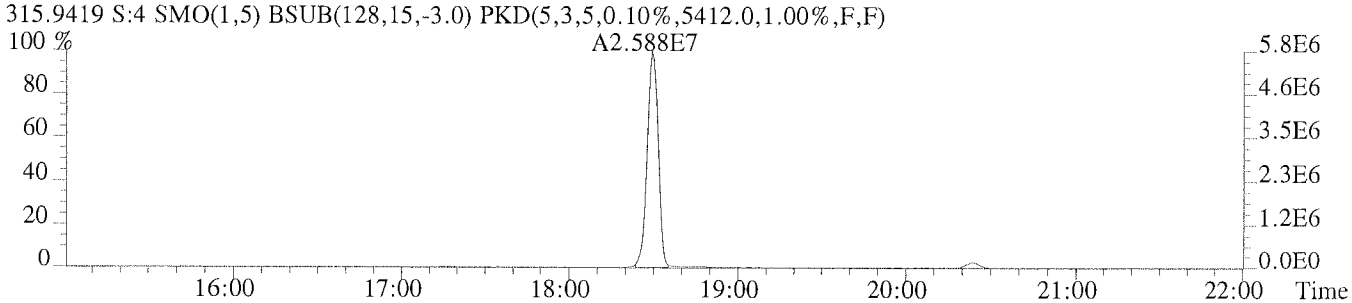
File:C15252 #1-582 Acq:11-AUG-2008 08:58:24 GC EI+ Voltage SIR 70S
Sample#4 File Text:CAS,HOUSTON Text:E0800704-002 H-T5-3.0 Exp:TCDF
303.9016 S:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4028.0,1.00%,F,F)



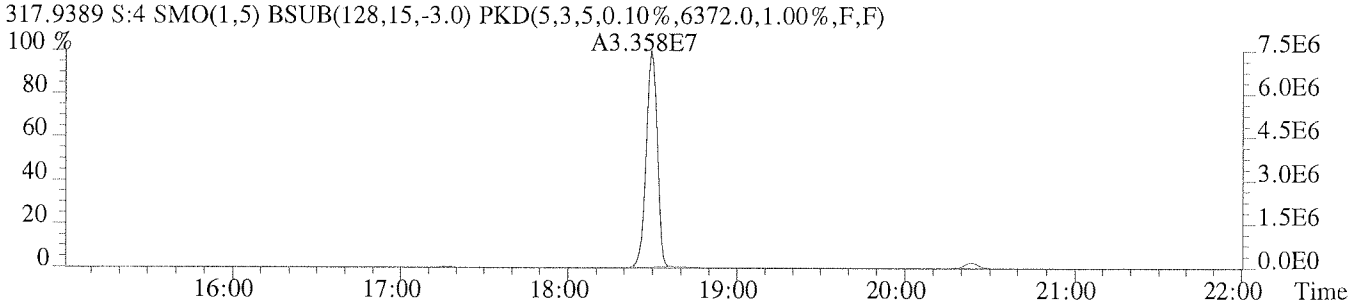
305.8987 S:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6740.0,1.00%,F,F)



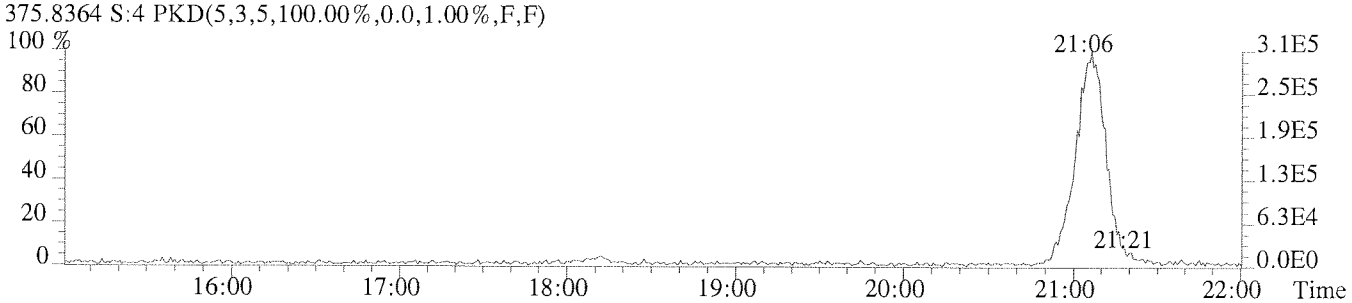
315.9419 S:4 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,5412.0,1.00%,F,F)



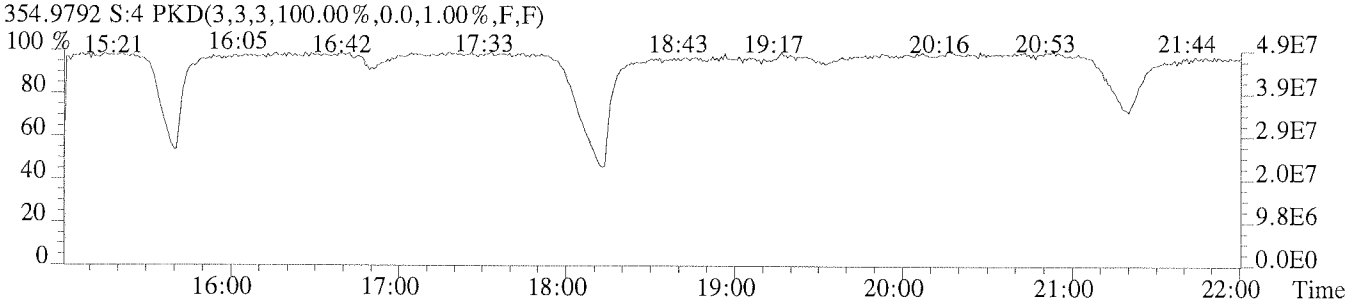
317.9389 S:4 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,6372.0,1.00%,F,F)



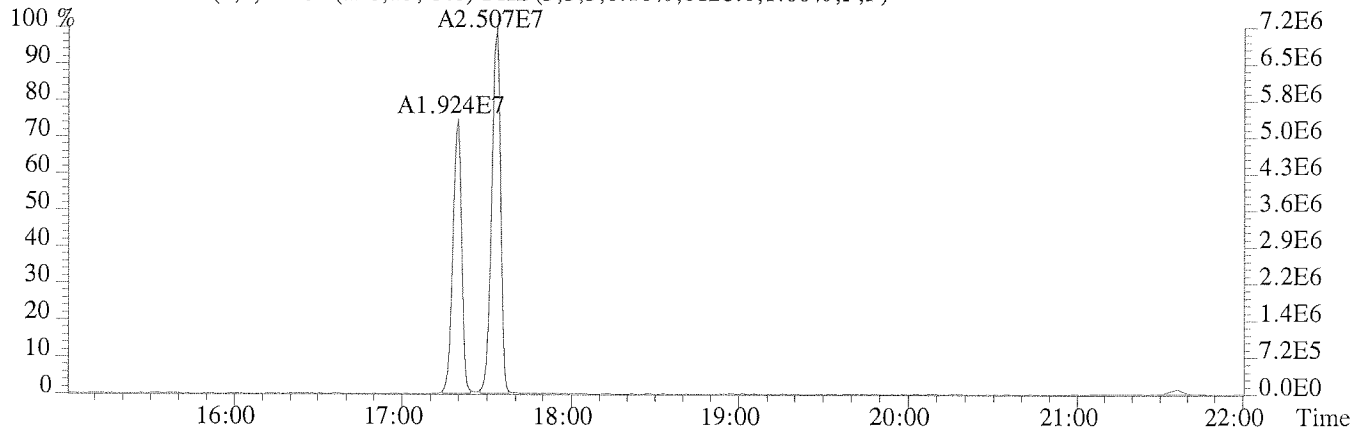
375.8364 S:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



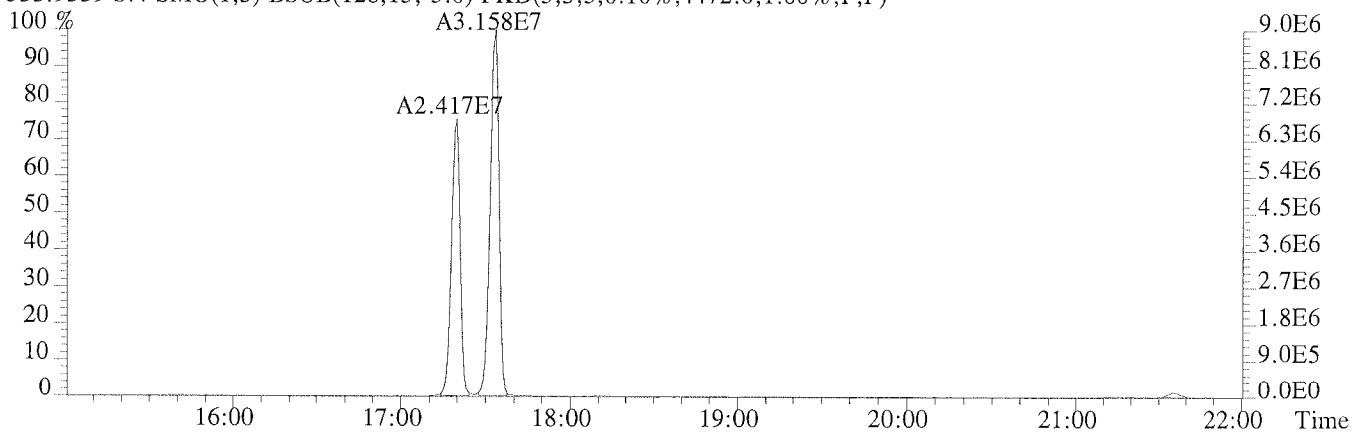
354.9792 S:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



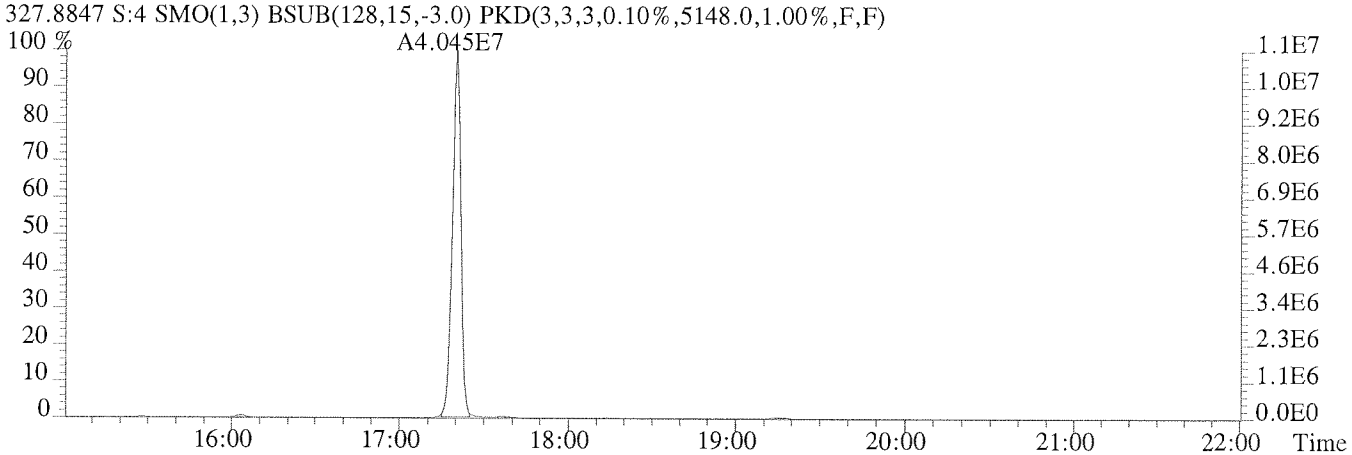
File:C15252 #1-582 Acq:11-AUG-2008 08:58:24 GC EI+ Voltage SIR 70S
Sample#4 File Text:CAS,HOUSTON Text:E0800704-002 H-T5-3.0 Exp:TCDF
331.9368 S:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,8128.0,1.00%,F,F)



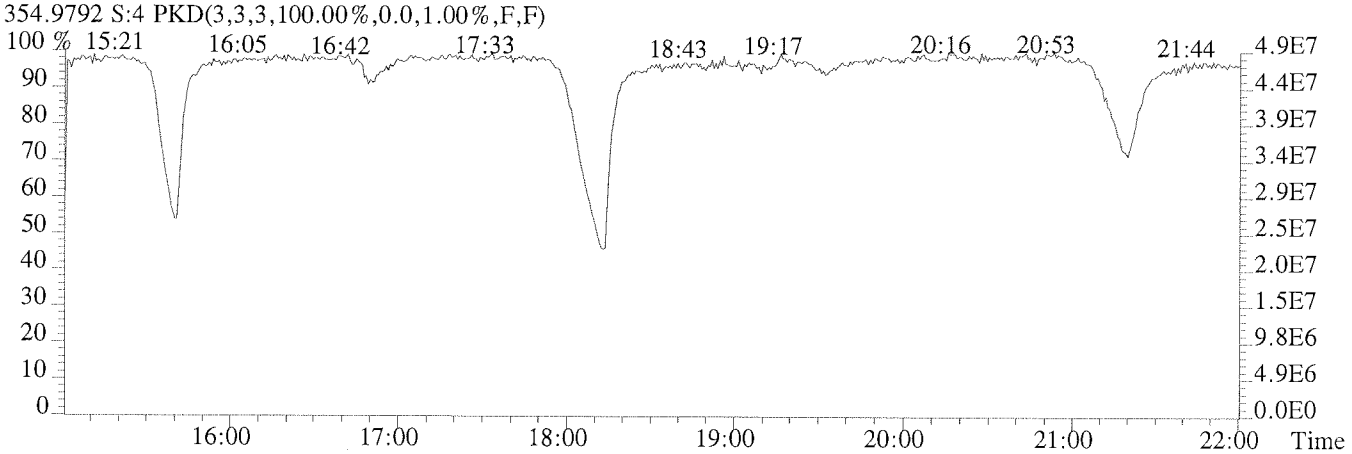
333.9339 S:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4472.0,1.00%,F,F)



327.8847 S:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5148.0,1.00%,F,F)



354.9792 S:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
H-T5-3.0DUP

Run #9 Filename P200042 Samp: 1 Inj: 1 Acquired: 4-AUG-08 14:44:44
Processed: 12-AUG-08 08:24:44 LAB. ID: E0800704-003

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	8.117e+01	1.226e+02	0.66	yes	yes	0.831
2	Unk	1,2,3,7,8-PeCDF	32:59	3.299e+02	2.122e+02	1.55	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:43	3.233e+02	2.067e+02	1.56	yes	yes	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:33	3.139e+03	2.596e+03	1.21	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.788e+03	2.302e+03	1.21	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:07	3.437e+03	2.670e+03	1.29	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:50	7.613e+01	7.030e+01	1.08	yes	yes	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	8.965e+04	8.668e+04	1.03	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	4.168e+03	4.347e+03	0.96	yes	yes	0.966
10	Unk	OCDF	43:22	1.757e+05	1.993e+05	0.88	yes	no	1.109
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:05	4.858e+02	2.903e+02	1.67	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:14	2.660e+03	1.997e+03	1.33	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:19	8.310e+03	6.552e+03	1.27	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:36	1.836e+03	1.452e+03	1.27	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.648e+05	1.574e+05	1.05	yes	no	0.883
17	Unk	OCDD	43:13	1.426e+06	1.595e+06	0.89	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:36	4.969e+04	6.411e+04	0.78	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:58	9.044e+04	5.705e+04	1.59	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	9.224e+04	1.780e+05	0.52	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	6.006e+04	1.371e+05	0.44	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:26	4.063e+04	5.247e+04	0.77	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:04	7.156e+04	4.509e+04	1.59	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.647e+05	1.311e+05	1.26	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	1.130e+05	1.092e+05	1.03	yes	no	0.831
26	IS	13C-OCDD	43:12	1.542e+05	1.722e+05	0.90	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:14	4.941e+04	6.260e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	7.481e+04	5.907e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	8.966e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	25:36		1.164e+03	0.76	yes		0.831
31	Tot	Total Tetra-Dioxins	NotFnd		*	*	no		0.921
32	Tot	Total Penta-Furans	30:52		3.224e+04	1.54	yes		0.845
33	Tot	Total Penta-Dioxins	32:13		1.829e+03	1.34	yes		0.872
34	Tot	Total Hexa-Furans	35:35		1.839e+05	1.25	yes		1.023
35	Tot	Total Hexa-Dioxins	36:05		5.493e+04	1.27	yes		0.985
36	Tot	Total Hepta-Furans	39:16		5.029e+05	1.03	yes		1.142
37	Tot	Total Hepta-Dioxins	39:31		5.722e+05	1.04	yes		0.883

---Sample Calculation---

$$\text{OCDD} = \frac{(1.426e+06 + 1.595e+06\ ) \times 5000\ \text{pg}}{(1.542e+05 + 1.722e+05\ ) \times (\ 10.444\ \text{g}\ ) \times (100 - 90.8\ )/100 \times 0.96} = 5083.31\ \text{ng/Kg}$$

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08/13/08

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary H-T5-3.0DUP

Run #9 Filename P200042 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 14:44:44

Processed: 12-AUG-08 08:24:44 LAB. ID: E0800704-003

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.59e+04	8.64e+02	1.8e+01	1.89e+04	1.64e+03	1.2e+01
2	1,2,3,7,8-PeCDF	6.31e+04	1.53e+03	4.1e+01	3.90e+04	2.60e+03	1.5e+01
3	2,3,4,7,8-PeCDF	6.82e+04	1.53e+03	4.5e+01	3.95e+04	2.60e+03	1.5e+01
4	1,2,3,4,7,8-HxCDF	6.82e+05	1.50e+03	4.5e+02	5.64e+05	1.10e+03	5.1e+02
5	1,2,3,6,7,8-HxCDF	6.34e+05	1.50e+03	4.2e+02	5.25e+05	1.10e+03	4.8e+02
6	2,3,4,6,7,8-HxCDF	5.12e+05	1.50e+03	3.4e+02	3.86e+05	1.10e+03	3.5e+02
7	1,2,3,7,8,9-HxCDF	2.22e+04	1.50e+03	1.5e+01	2.34e+04	1.10e+03	2.1e+01
8	1,2,3,4,6,7,8-HpCDF	1.96e+07	1.06e+04	1.9e+03	1.91e+07	1.22e+04	1.6e+03
9	1,2,3,4,7,8,9-HpCDF	8.14e+05	1.06e+04	7.7e+01	8.48e+05	1.22e+04	7.0e+01
10	OCDF	2.67e+07	1.00e+03	2.7e+04	2.95e+07	3.11e+03	9.5e+03
11	2,3,7,8-TCDD	*	1.93e+03	*	*	9.96e+02	*
12	1,2,3,7,8-PeCDD	1.08e+05	2.45e+03	4.4e+01	5.84e+04	6.92e+02	8.4e+01
13	1,2,3,4,7,8-HxCDD	6.55e+05	1.22e+03	5.4e+02	4.91e+05	1.04e+03	4.7e+02
14	1,2,3,6,7,8-HxCDD	1.82e+06	1.22e+03	1.5e+03	1.47e+06	1.04e+03	1.4e+03
15	1,2,3,7,8,9-HxCDD	3.58e+05	1.22e+03	2.9e+02	2.98e+05	1.04e+03	2.9e+02
16	1,2,3,4,6,7,8-HpCDD	3.50e+07	1.25e+04	2.8e+03	3.34e+07	1.24e+04	2.7e+03
17	OCDD	2.26e+08	7.92e+02	2.8e+05	2.52e+08	1.04e+03	2.4e+05
18	13C-2,3,7,8-TCDF	8.21e+06	3.98e+03	2.1e+03	1.06e+07	2.94e+03	3.6e+03
19	13C-1,2,3,7,8-PeCDF	1.77e+07	8.48e+02	2.1e+04	1.12e+07	1.46e+03	7.7e+03
20	13C-1,2,3,4,7,8-HxCDF	2.02e+07	9.28e+02	2.2e+04	3.91e+07	2.62e+03	1.5e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.31e+07	2.55e+03	5.1e+03	3.00e+07	5.84e+03	5.1e+03
22	13C-2,3,7,8-TCDD	7.55e+06	6.01e+03	1.3e+03	9.72e+06	1.21e+03	8.0e+03
23	13C-1,2,3,7,8-PeCDD	1.46e+07	2.06e+03	7.1e+03	9.24e+06	1.16e+03	7.9e+03
24	13C-1,2,3,6,7,8-HxCDD	3.68e+07	5.60e+02	6.6e+04	2.97e+07	1.40e+03	2.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.39e+07	2.20e+03	1.1e+04	2.31e+07	1.50e+03	1.5e+04
26	13C-OCDD	2.41e+07	7.76e+02	3.1e+04	2.69e+07	6.40e+02	4.2e+04
27	13C-1,2,3,4-TCDD	8.78e+06	6.01e+03	1.5e+03	1.12e+07	1.21e+03	9.3e+03
28	13C-1,2,3,7,8,9-HxCDD	1.64e+07	5.60e+02	2.9e+04	1.31e+07	1.40e+03	9.4e+03
29	37Cl-2,3,7,8-TCDD	1.58e+07	6.32e+02	2.5e+04			

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 30 Totals Name: Total Tetra-Furans

Run: 9 File: P200042 Sample:1 Injection:1 Function:1

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:303.902 305.899 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	25:36	2.96e+02	3.89e+02 0.76	yes	6.85e+02		y
2	27:23	1.13e+02	1.63e+02 0.69	yes	2.75e+02		y
3	28:37	8.12e+01	1.23e+02 0.66	yes	2.04e+02	2,3,7,8-TCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 32 Totals Name: Total Penta-Furans

Run: 9 File: P200042 Sample:1 Injection:1 Function:2

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:339.860 341.857 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	30:52	1.39e+04	9.05e+03 1.54	yes	2.30e+04		n
2	32:06	3.38e+03	2.16e+03 1.56	yes	5.53e+03		n
3	32:36	1.03e+03	6.05e+02 1.70	yes	1.64e+03		y
4	32:42	1.49e+02	8.62e+01 1.73	yes	2.36e+02		y
5	32:59	3.30e+02	2.12e+02 1.55	yes	5.42e+02	1,2,3,7,8-PeCDF	n
6	33:18	3.35e+02	1.91e+02 1.75	yes	5.26e+02		y
7	33:43	3.23e+02	2.07e+02 1.56	yes	5.30e+02	2,3,4,7,8-PeCDF	y
8	33:55	1.63e+02	1.22e+02 1.34	yes	2.85e+02		y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 33 Totals Name: Total Penta-Dioxins

Run: 9 File: P200042 Sample:1 Injection:1 Function:2

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:355.855 357.852 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	32:13	3.03e+02	2.26e+02 1.34	yes	5.30e+02		y
2	32:43	1.32e+02	8.19e+01 1.61	yes	2.14e+02		y
3	32:58	1.40e+02	9.58e+01 1.46	yes	2.36e+02		y
4	33:28	4.26e+01	3.00e+01 1.42	yes	7.26e+01		y
5	34:05	4.86e+02	2.90e+02 1.67	yes	7.76e+02	1,2,3,7,8-PeCDD	n

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Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 34 Totals Name: Total Hexa-Furans

Run: 9 File: P200042 Sample:1 Injection:1 Function:3

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
Mass:	373.821		375.818		Response:			
1	35:35	1.33e+04	1.06e+04	1.25	yes	2.38e+04		n
2	35:43	4.00e+04	3.24e+04	1.23	yes	7.24e+04		n
3	36:01	3.96e+02	3.32e+02	1.19	yes	7.28e+02		n
4	36:10	3.88e+04	3.11e+04	1.24	yes	6.99e+04		n
5	36:33	3.14e+03	2.60e+03	1.21	yes	5.74e+03	1,2,3,4,7,8-HxCDF	n
6	36:39	2.79e+03	2.30e+03	1.21	yes	5.09e+03	1,2,3,6,7,8-HxCDF	n
7	37:07	3.44e+03	2.67e+03	1.29	yes	6.11e+03	2,3,4,6,7,8-HxCDF	n
8	37:50	7.61e+01	7.03e+01	1.08	yes	1.46e+02	1,2,3,7,8,9-HxCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 35 Totals Name: Total Hexa-Dioxins

Run: 9 File: P200042 Sample:1 Injection:1 Function:3

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:389.816 391.813 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	36:05	6.09e+03	4.81e+03	1.27	yes	1.09e+04		n
2	36:31	7.01e+02	5.52e+02	1.27	yes	1.25e+03		n
3	36:44	1.10e+04	8.97e+03	1.22	yes	2.00e+04		n
4	37:14	2.66e+03	2.00e+03	1.33	yes	4.66e+03	1,2,3,4,7,8-HxCDD	n
5	37:19	8.31e+03	6.55e+03	1.27	yes	1.49e+04	1,2,3,6,7,8-HxCDD	n
6	37:36	1.84e+03	1.45e+03	1.27	yes	3.29e+03	1,2,3,7,8,9-HxCDD	n

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 36 Totals Name: Total Hepta-Furans

Run: 9 File: P200042 Sample:1 Injection:1 Function:4

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:407.782 409.779 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	39:16	8.97e+04	8.67e+04 1.03	yes	1.76e+05	1,2,3,4,6,7,8-HpCDF	n
2	39:38	1.60e+05	1.58e+05 1.01	yes	3.18e+05		n
3	40:35	4.17e+03	4.35e+03 0.96	yes	8.52e+03	1,2,3,4,7,8,9-HpCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
H-T5-3.0DUP

Entry: 37 Totals Name: Total Hepta-Dioxins

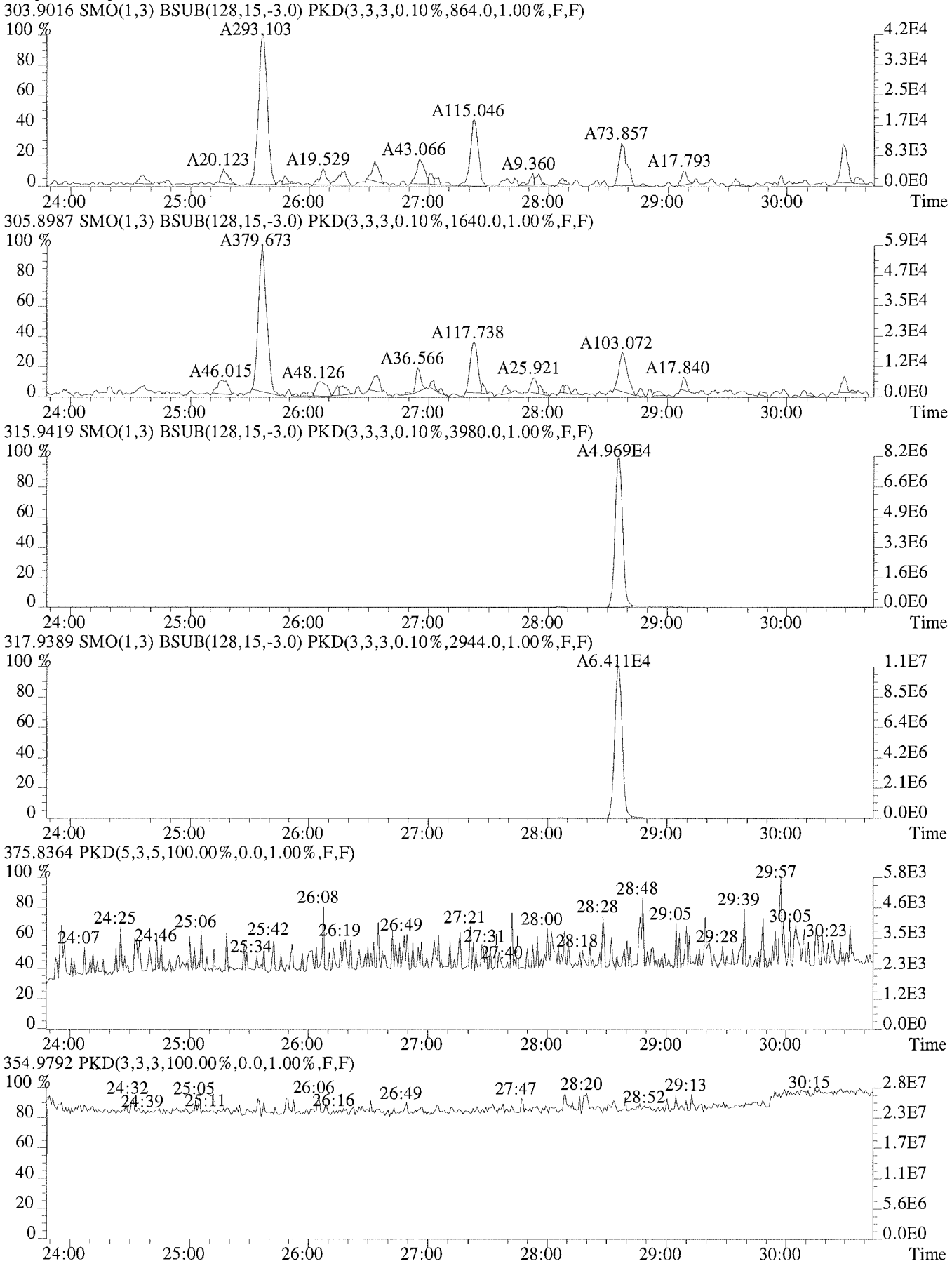
Run: 9 File: P200042 Sample:1 Injection:1 Function:4

Acquired: 4-AUG-08 14:44:44 Processed: 12-AUG-08 08:24:44

Mass:423.777	425.774		Response:				
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	39:31	1.27e+05	1.23e+05 1.04	yes	2.50e+05		n
2	40:10	1.65e+05	1.57e+05 1.05	yes	3.22e+05	1,2,3,4,6,7,8-HpCDD	n

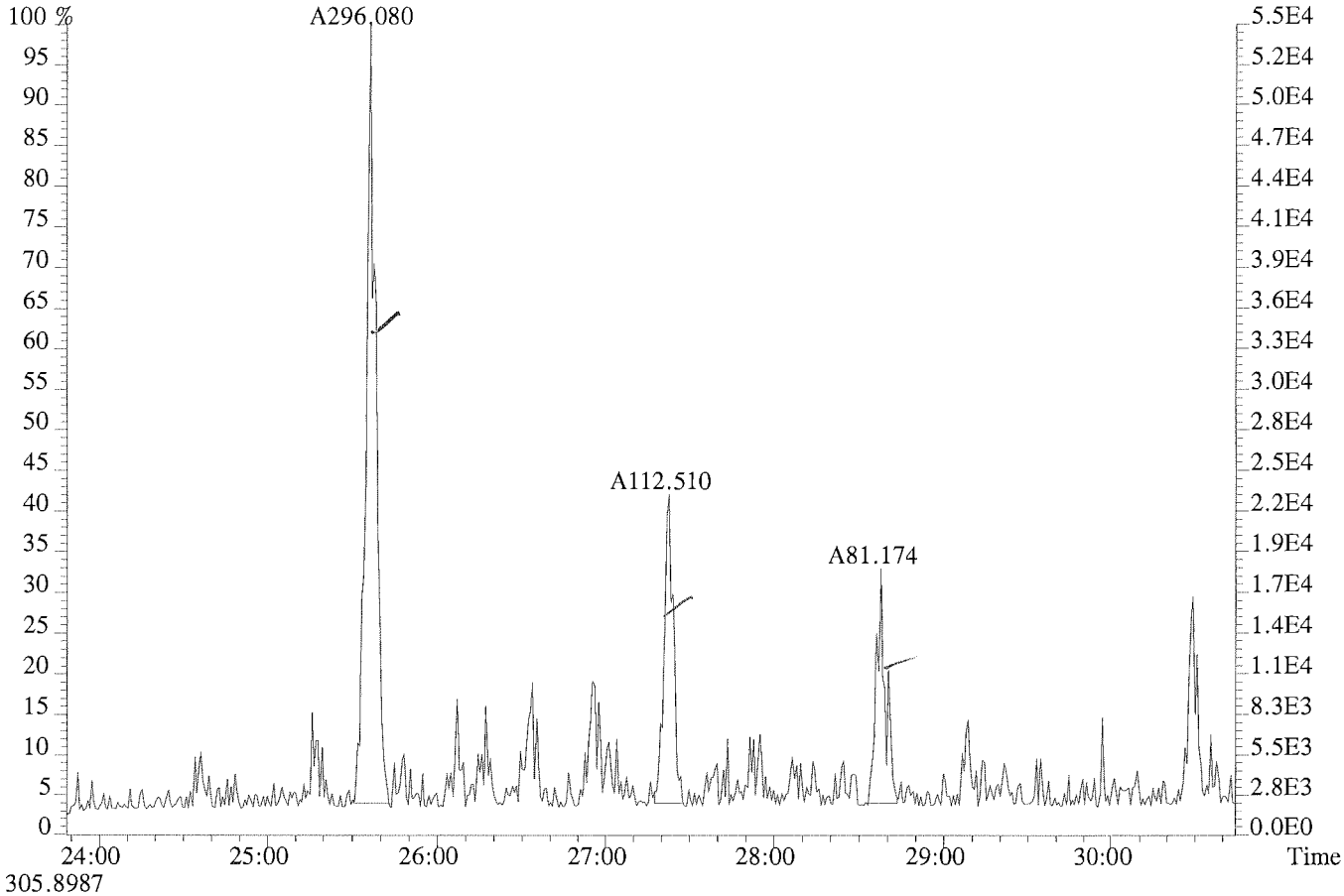
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File:P200042 #1-578 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

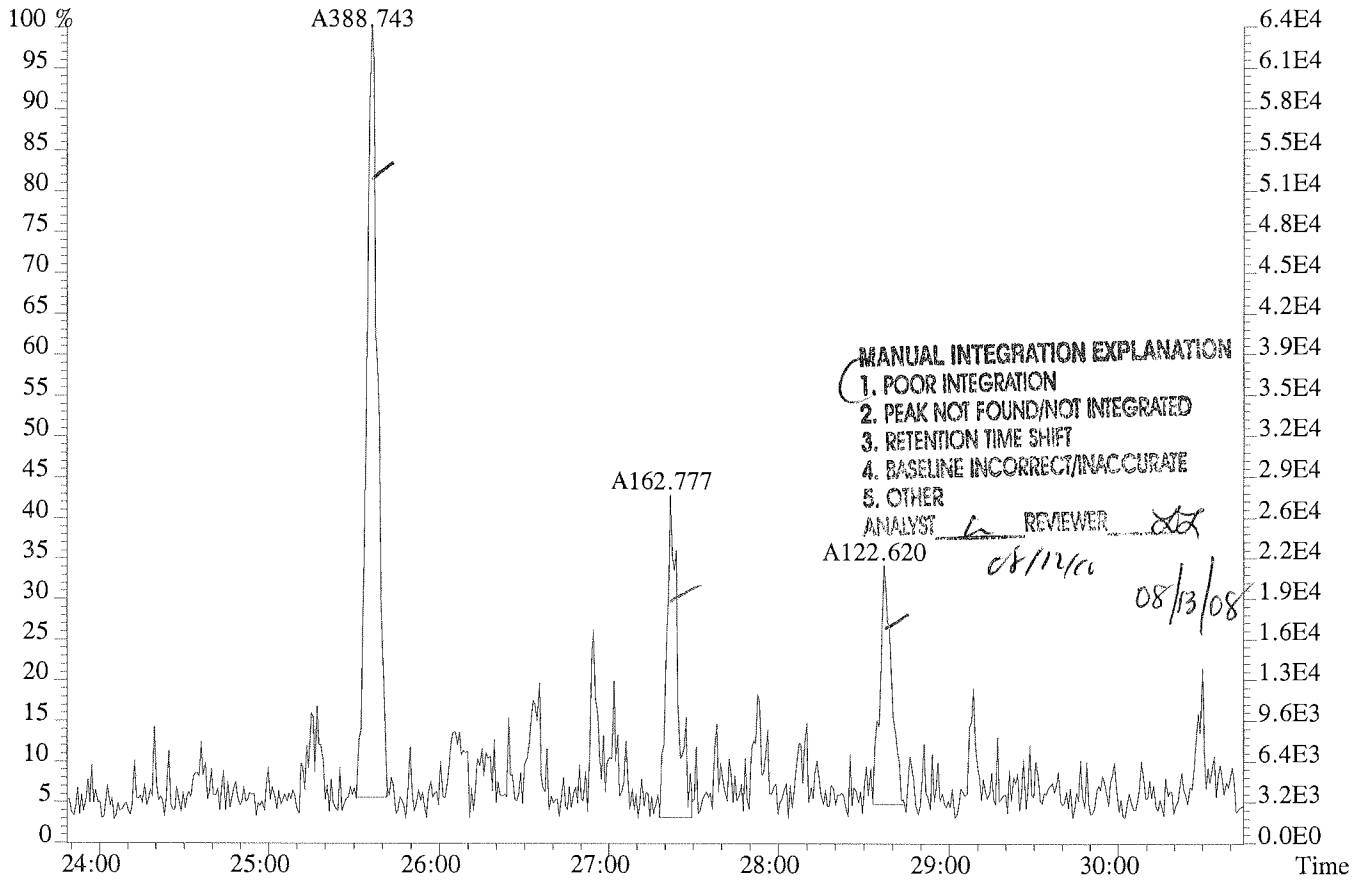


File:P200042 #1-578 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

303.9016



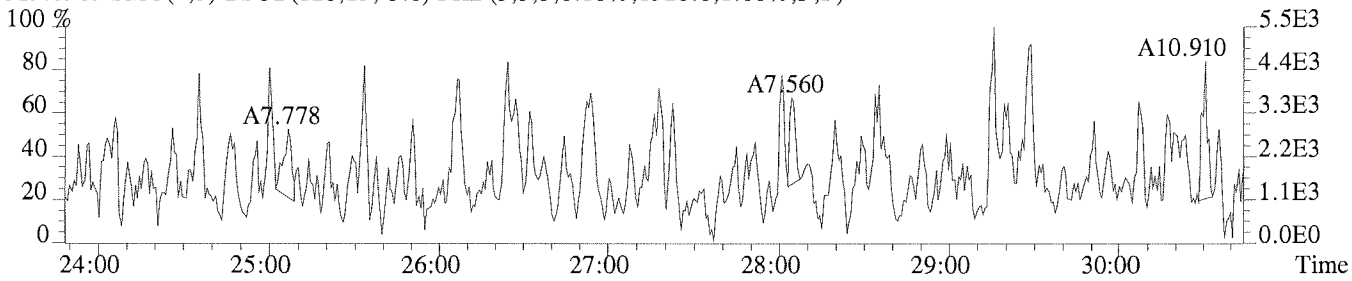
305.8987



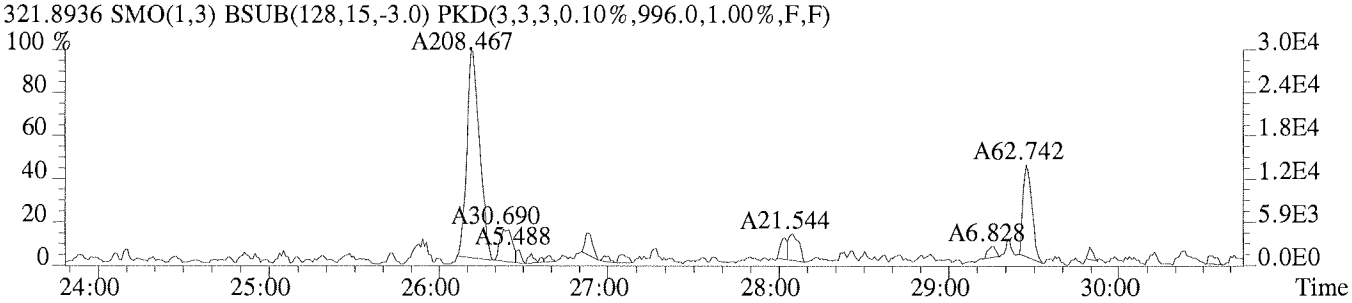
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/12/08
08/13/08

File:P200042 #1-578 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

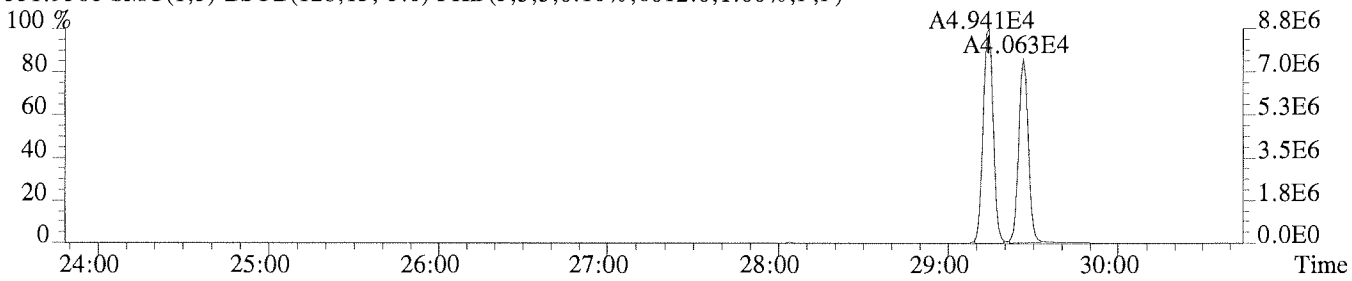
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1928.0,1.00%,F,F)



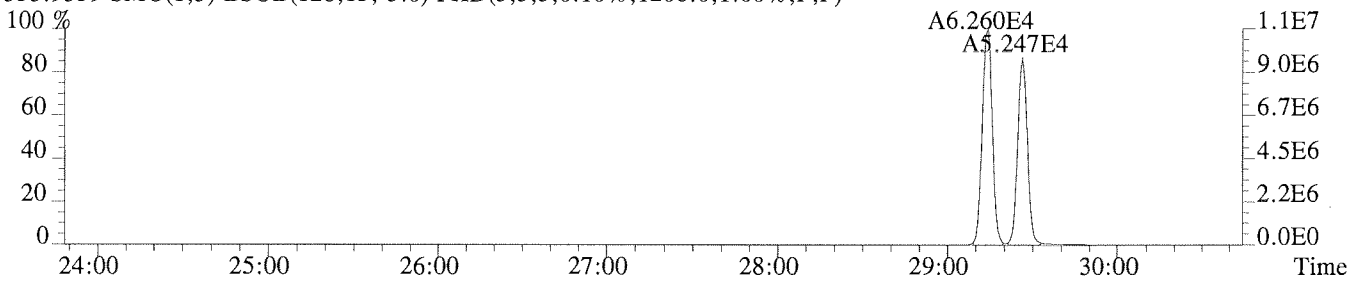
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,F)



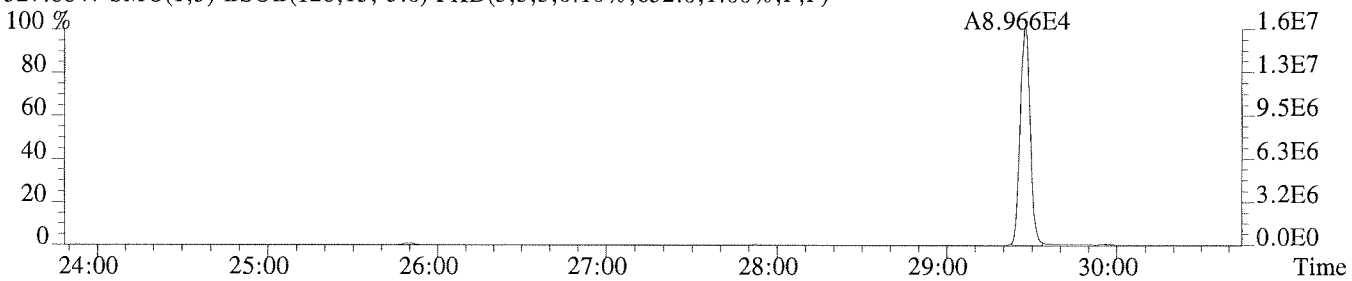
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6012.0,1.00%,F,F)



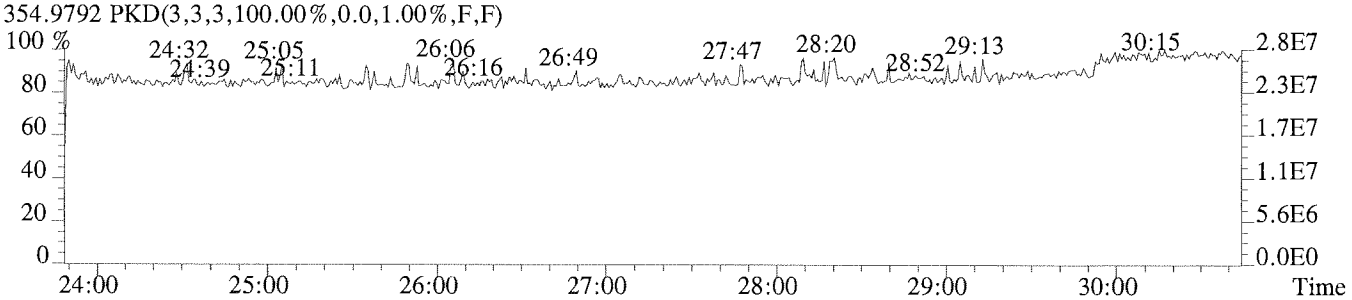
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1208.0,1.00%,F,F)



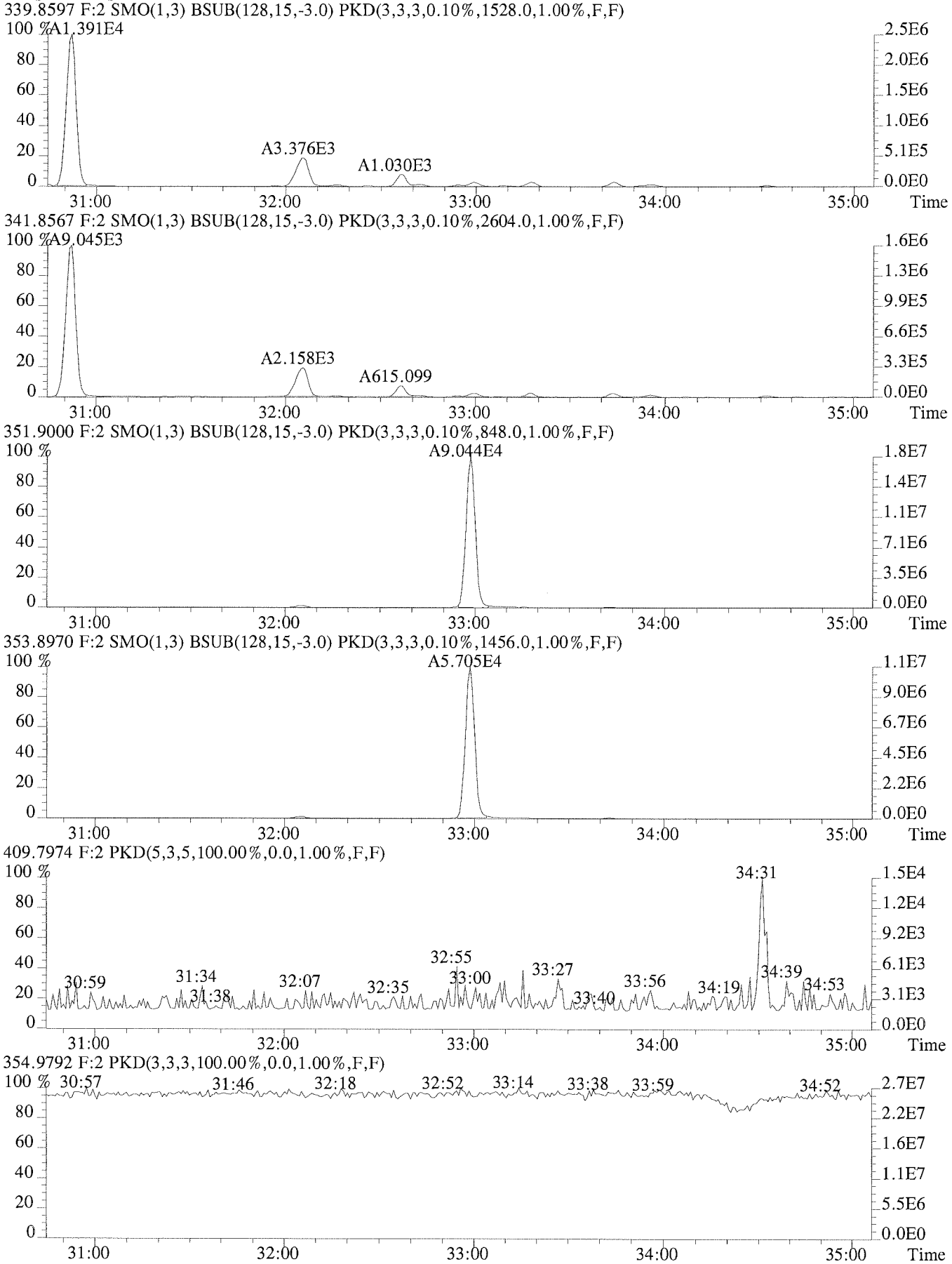
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,F)



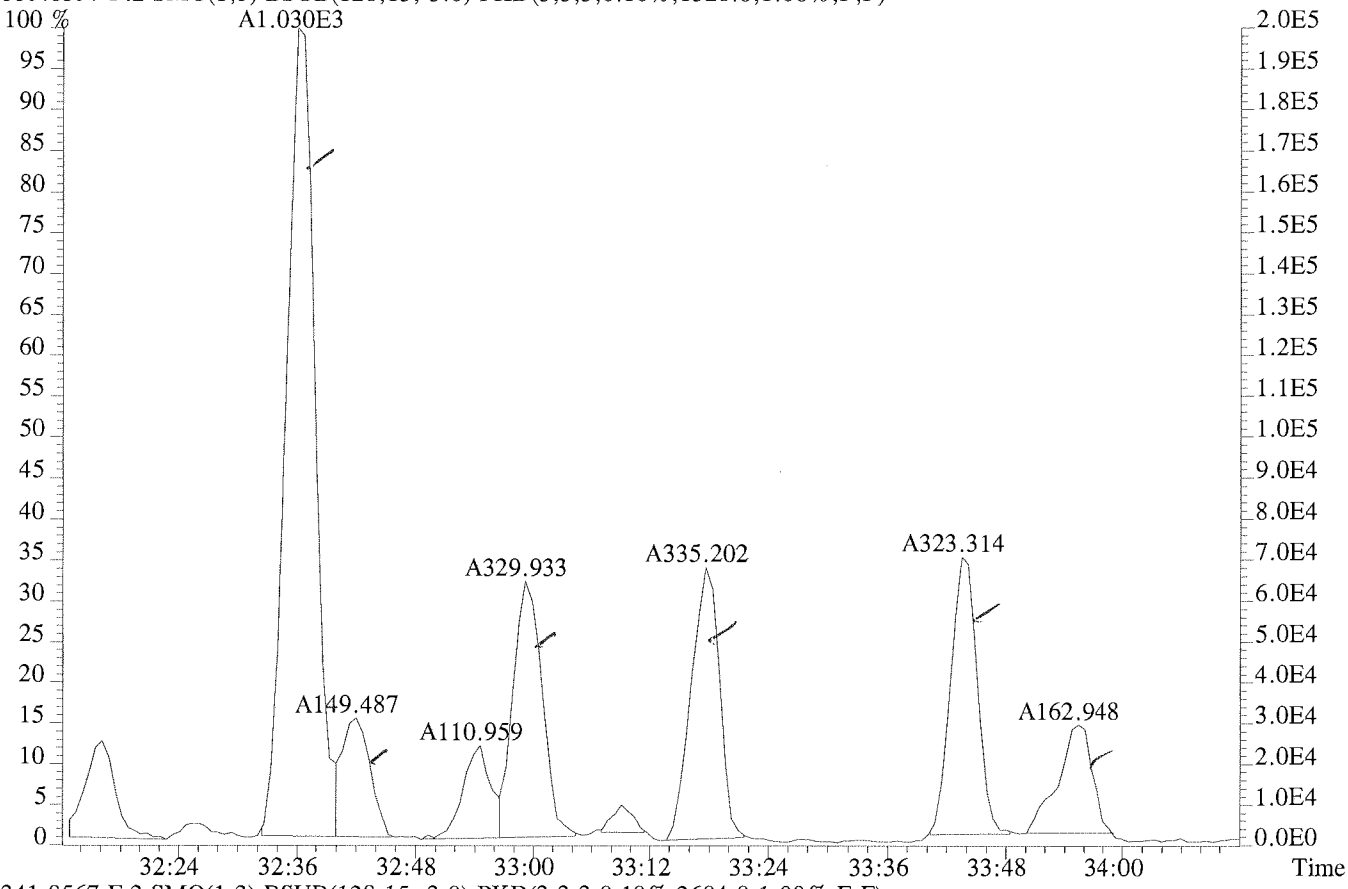
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



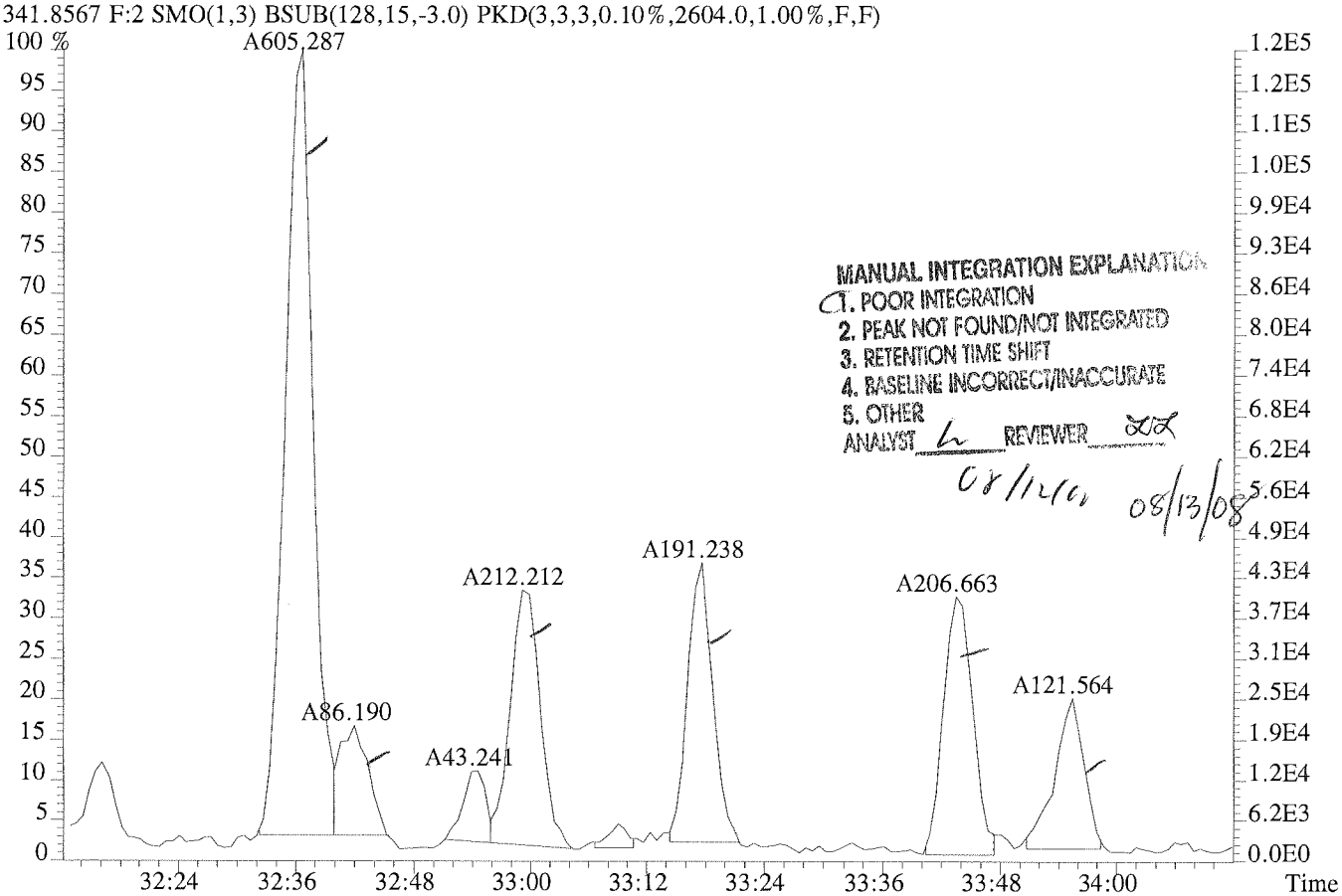
File:P200042 #1-396 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP



File:P200042 #1-396 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,F)

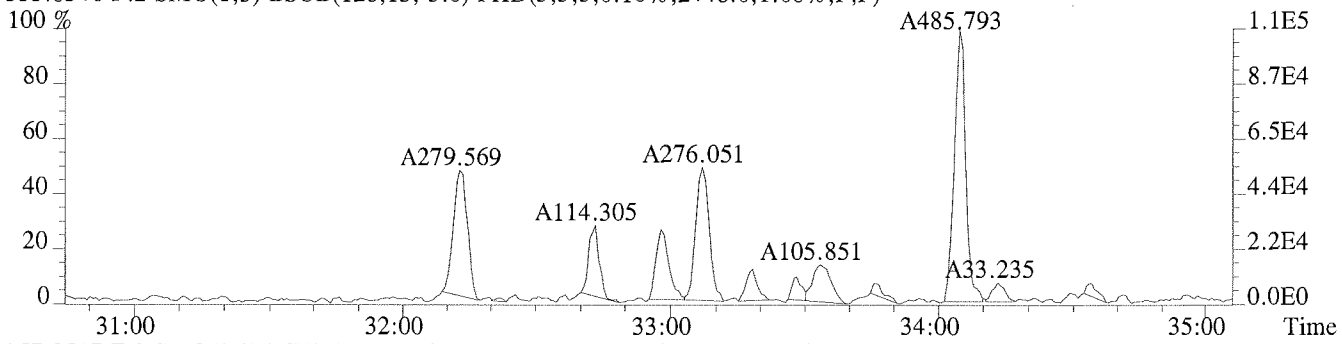


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2604.0,1.00%,F,F)

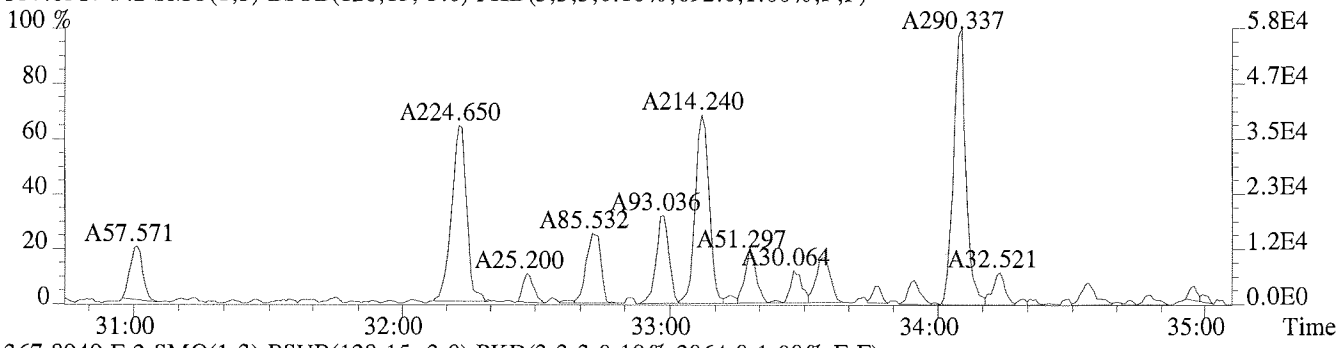


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/12/08 08/13/08

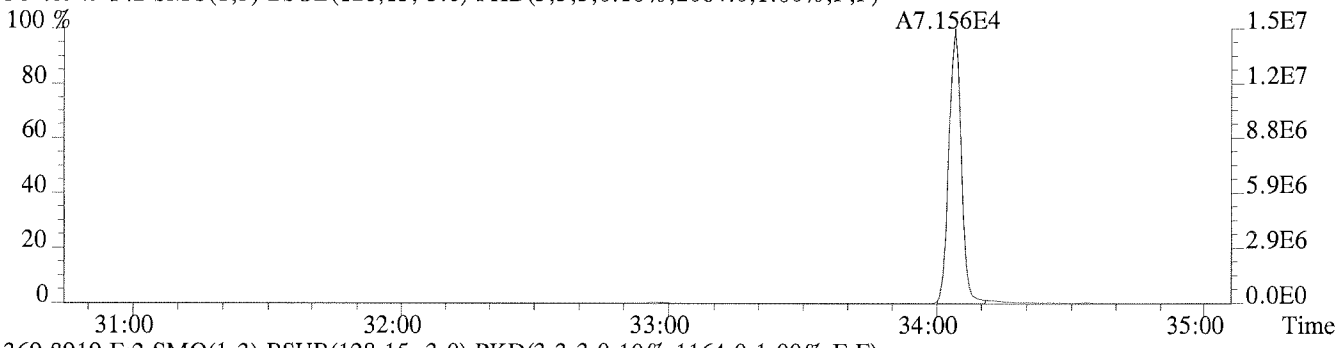
File:P200042 #1-396 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2448.0,1.00%,F,F)



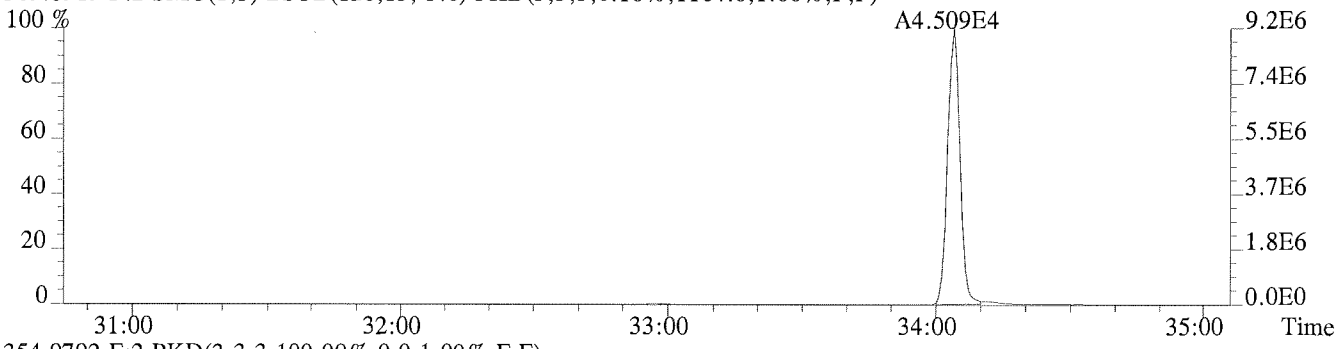
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,F)



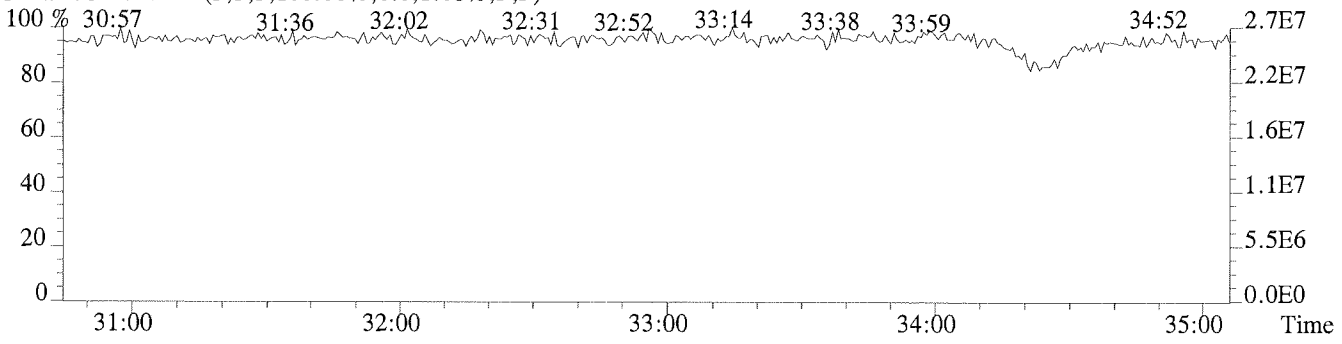
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2064.0,1.00%,F,F)



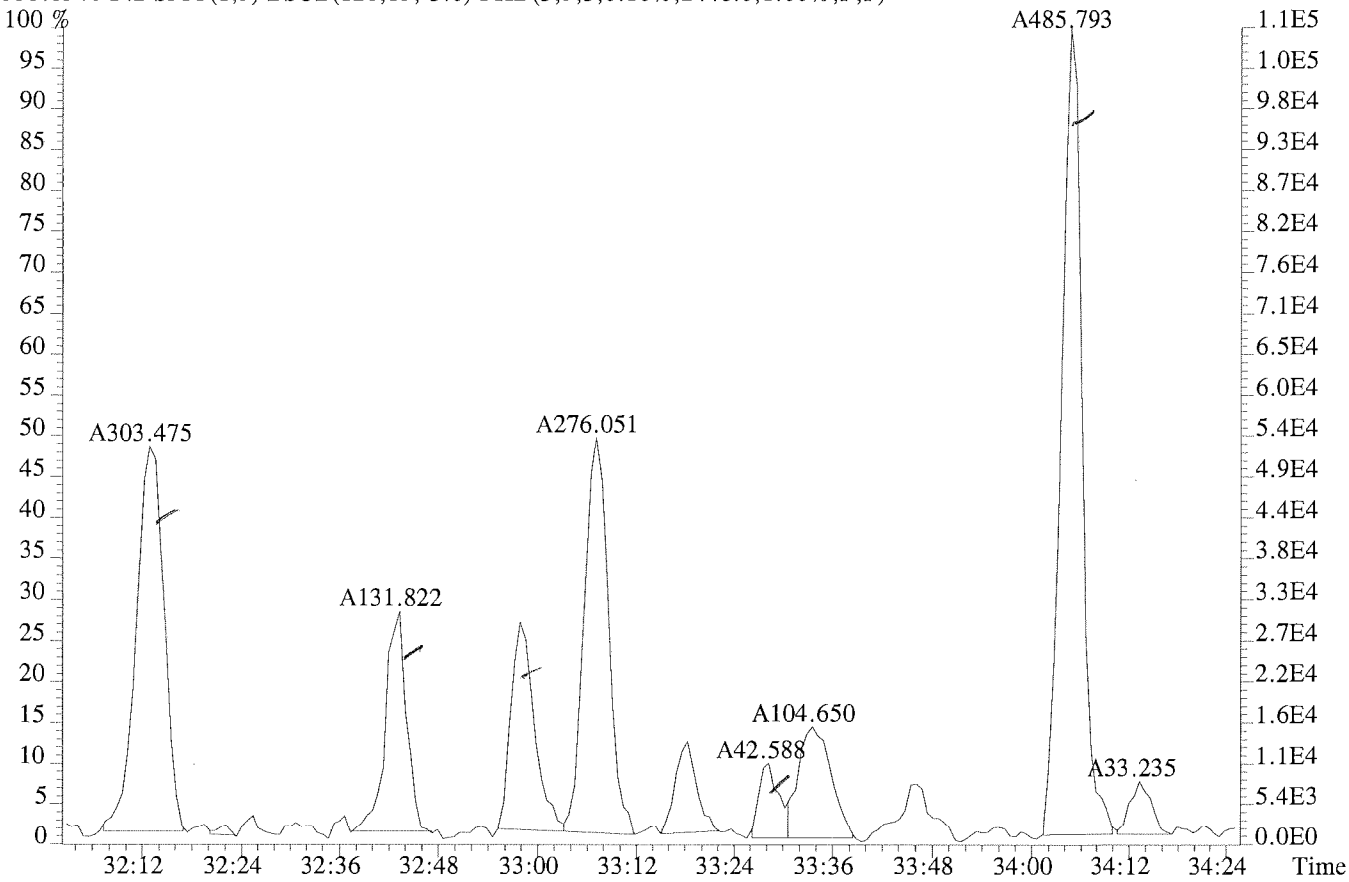
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,F)



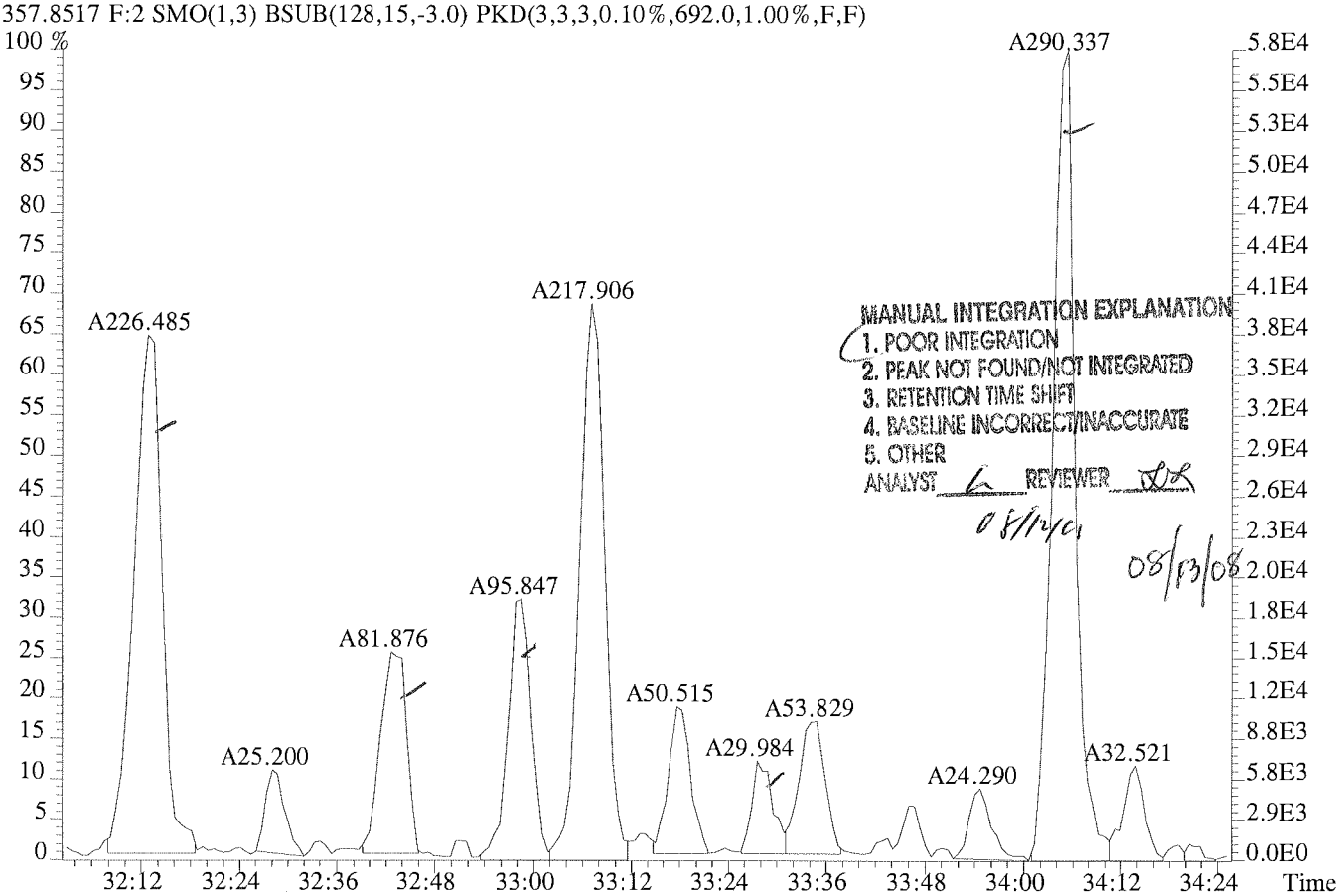
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200042 #1-396 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2448.0,1.00%,F,F)

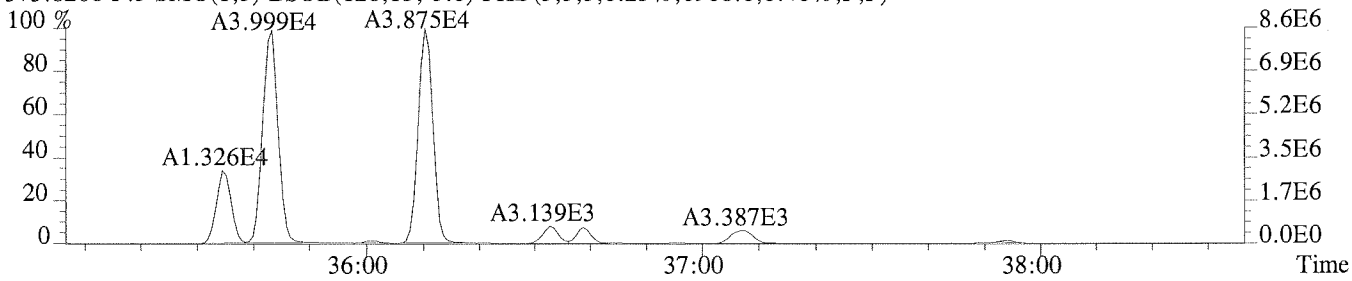


357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,F)

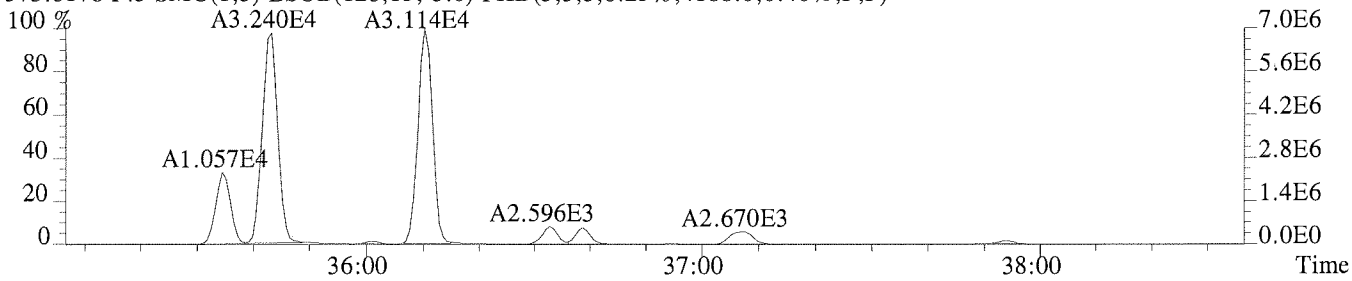


File:P200042 #1-318 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

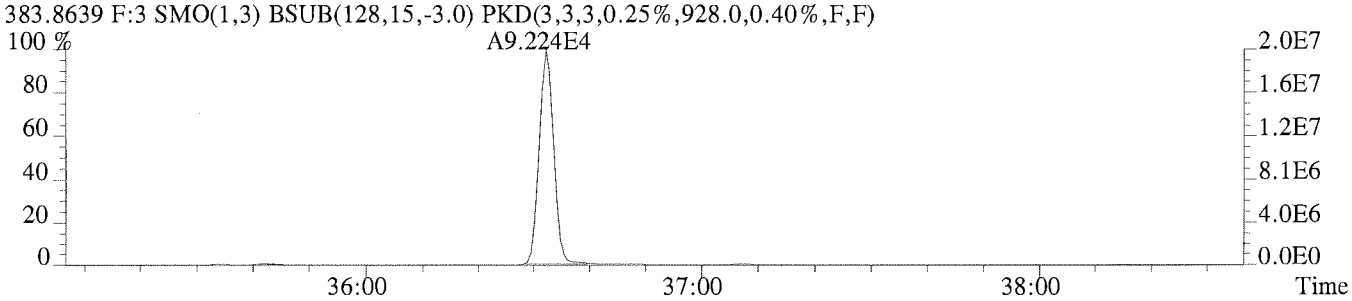
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6908.0,0.40%,F,F)



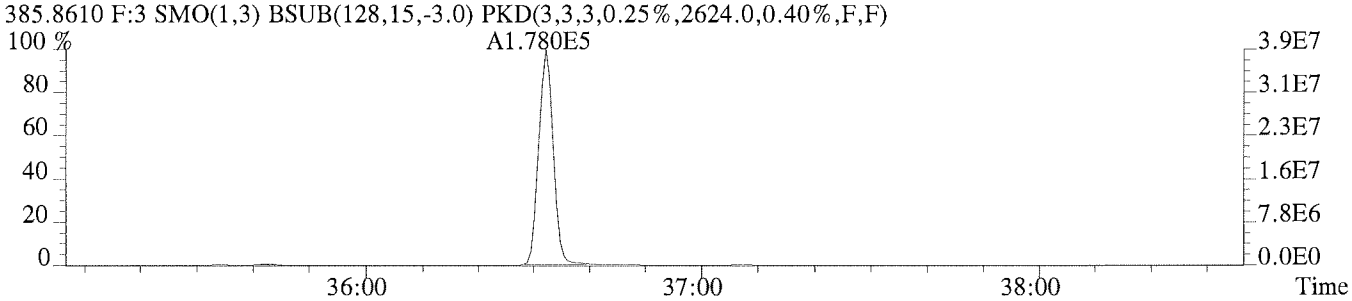
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4188.0,0.40%,F,F)



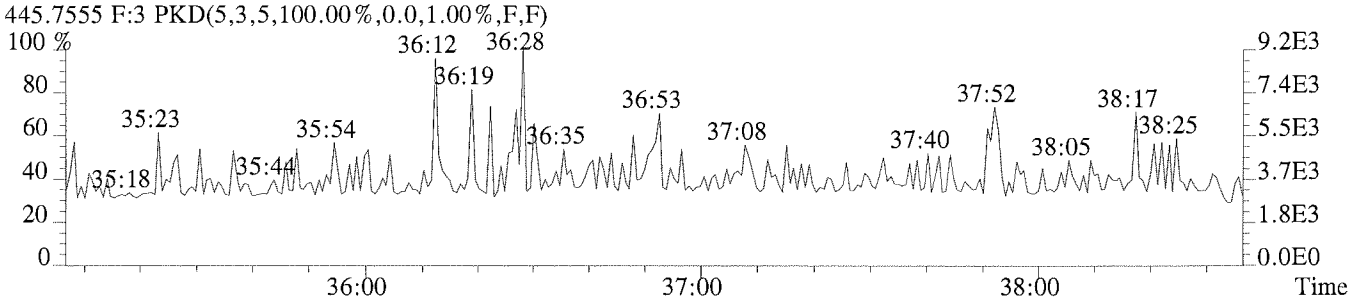
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,F)



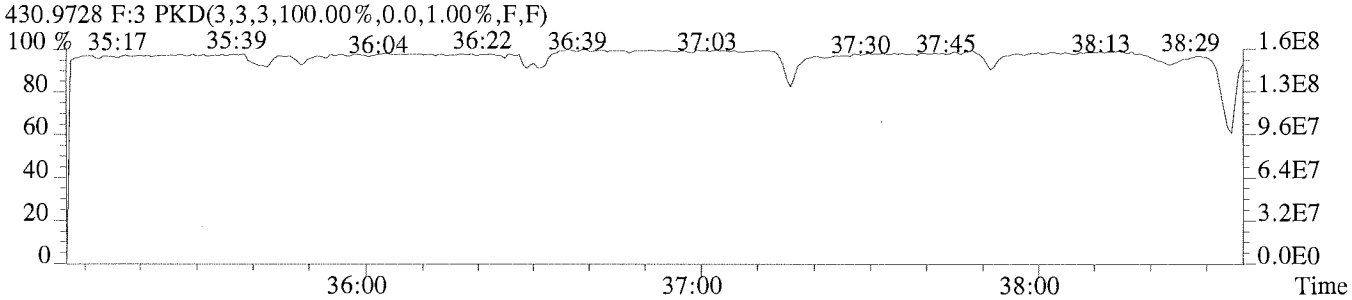
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2624.0,0.40%,F,F)



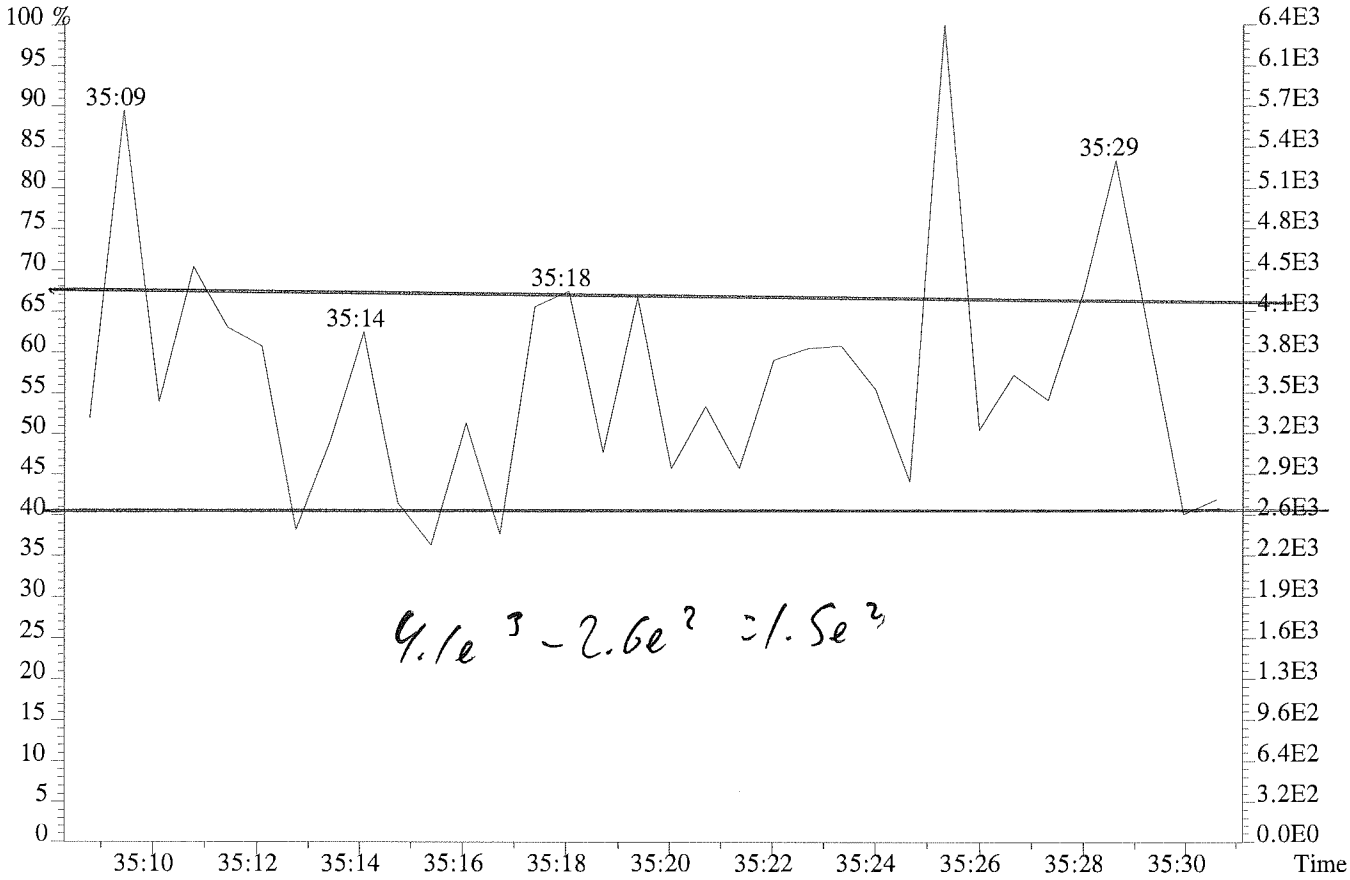
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



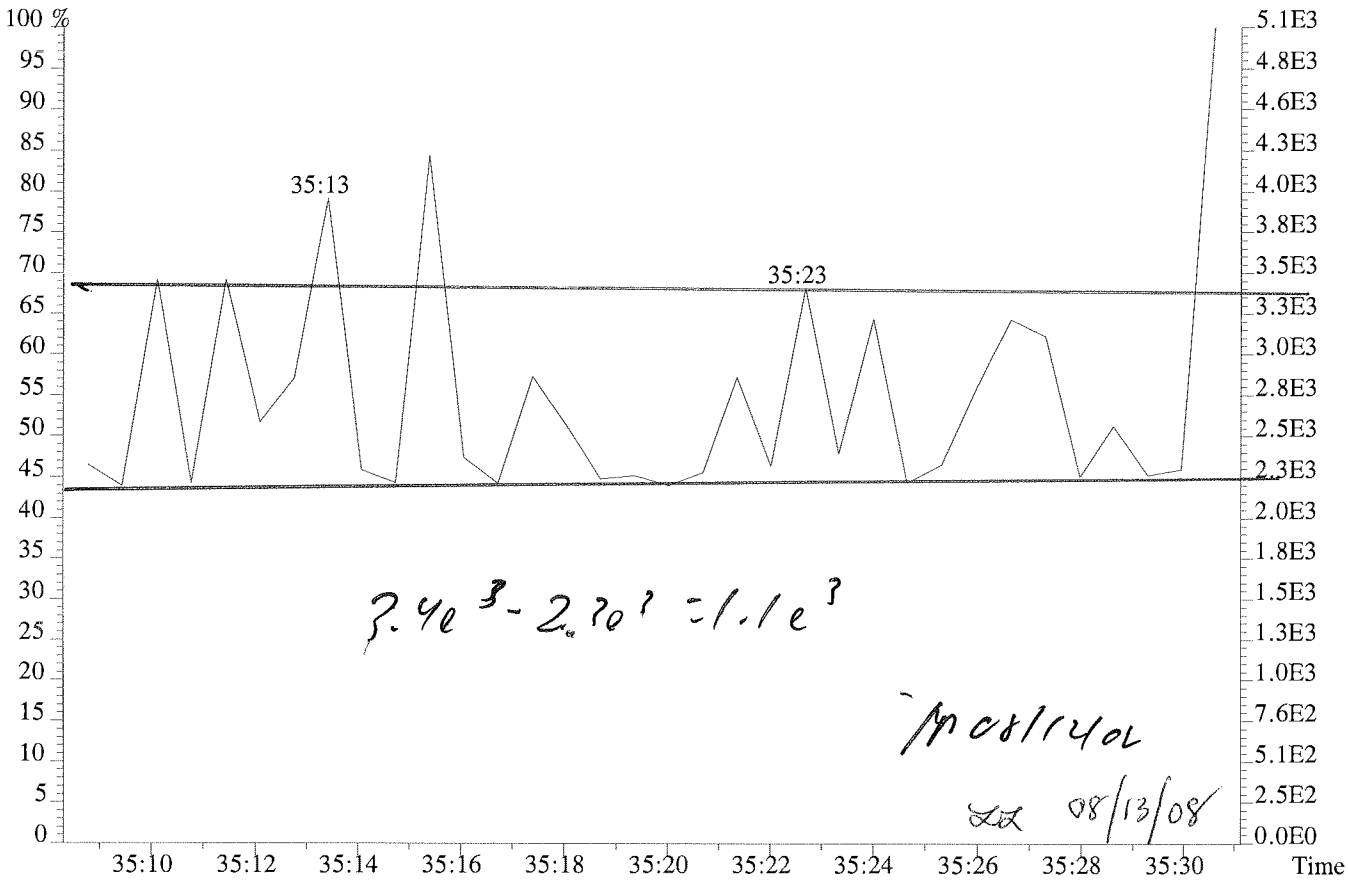
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



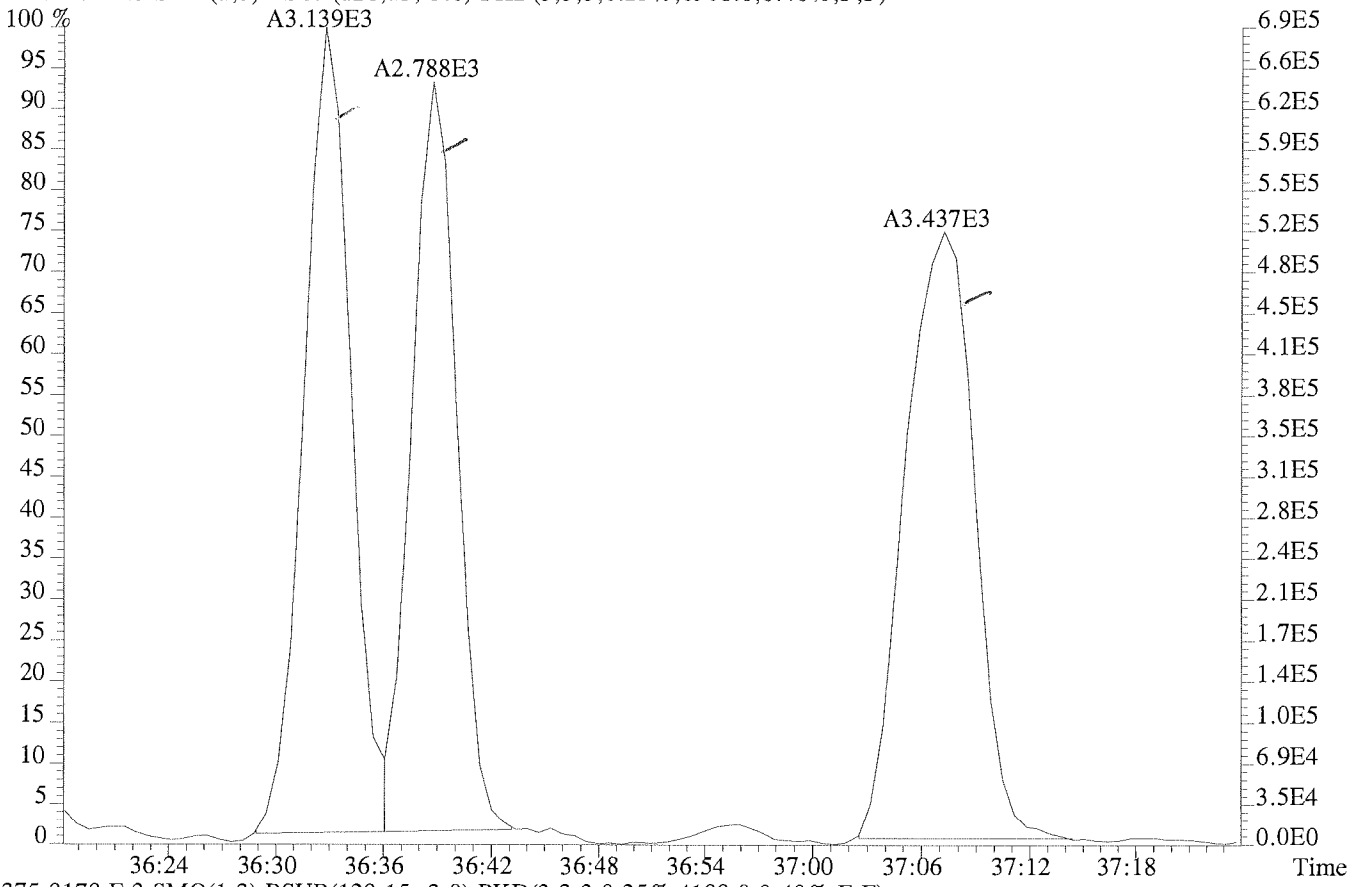
File:P200042 #1-318 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
373.8208 F:3



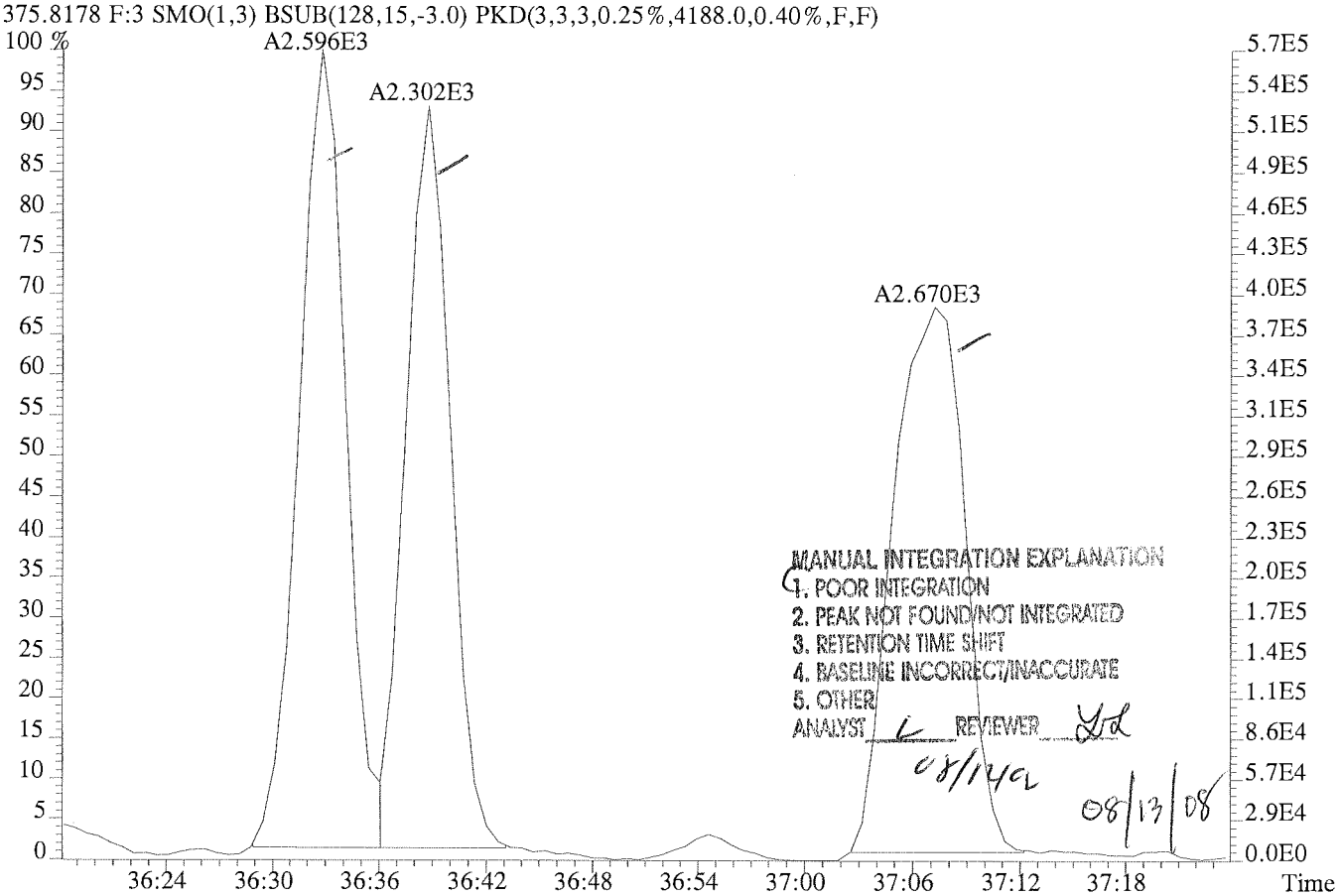
375.8178 F:3



File:P200042 #1-318 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6908.0,0.40%,F,F)

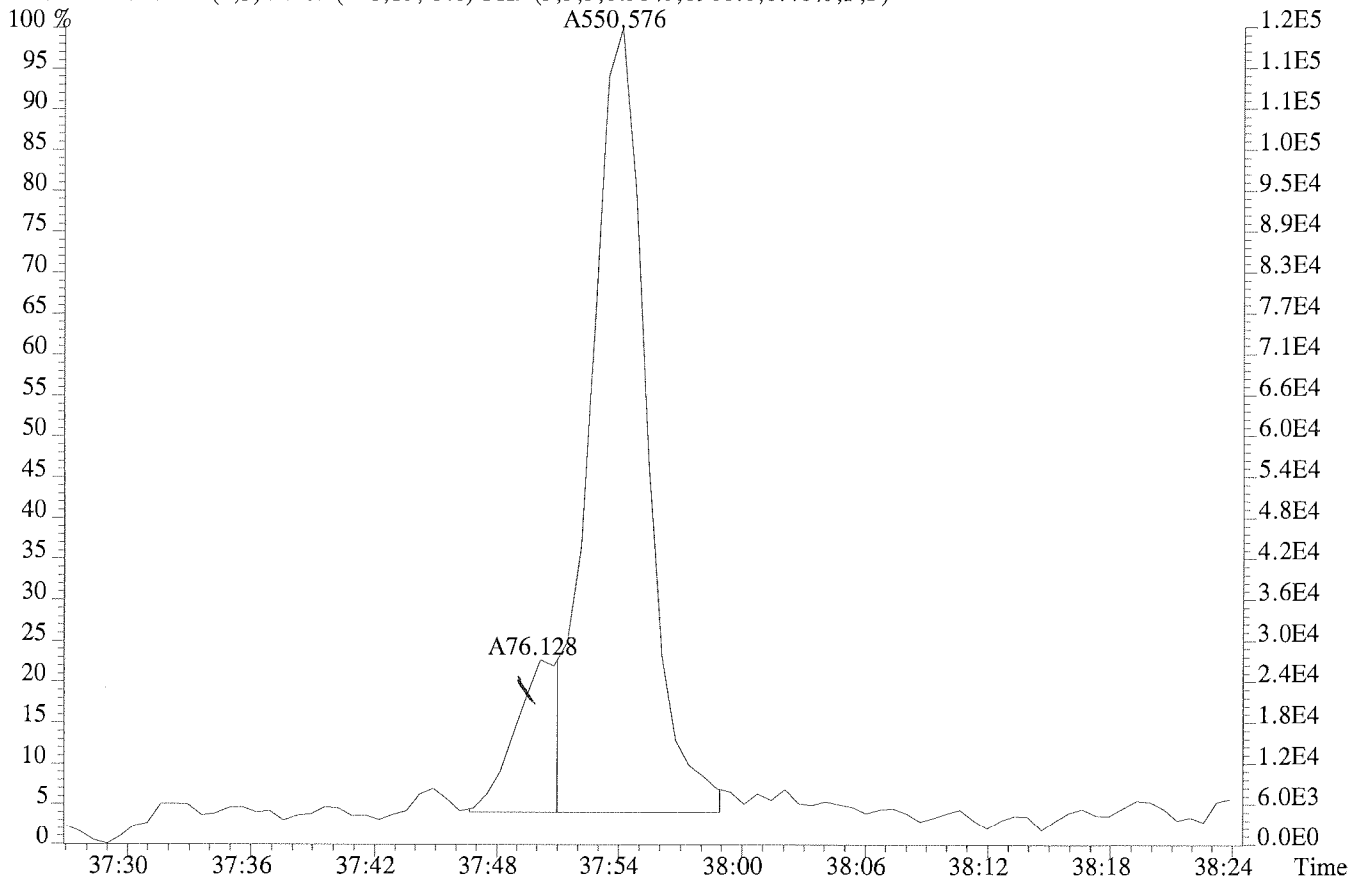


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4188.0,0.40%,F,F)

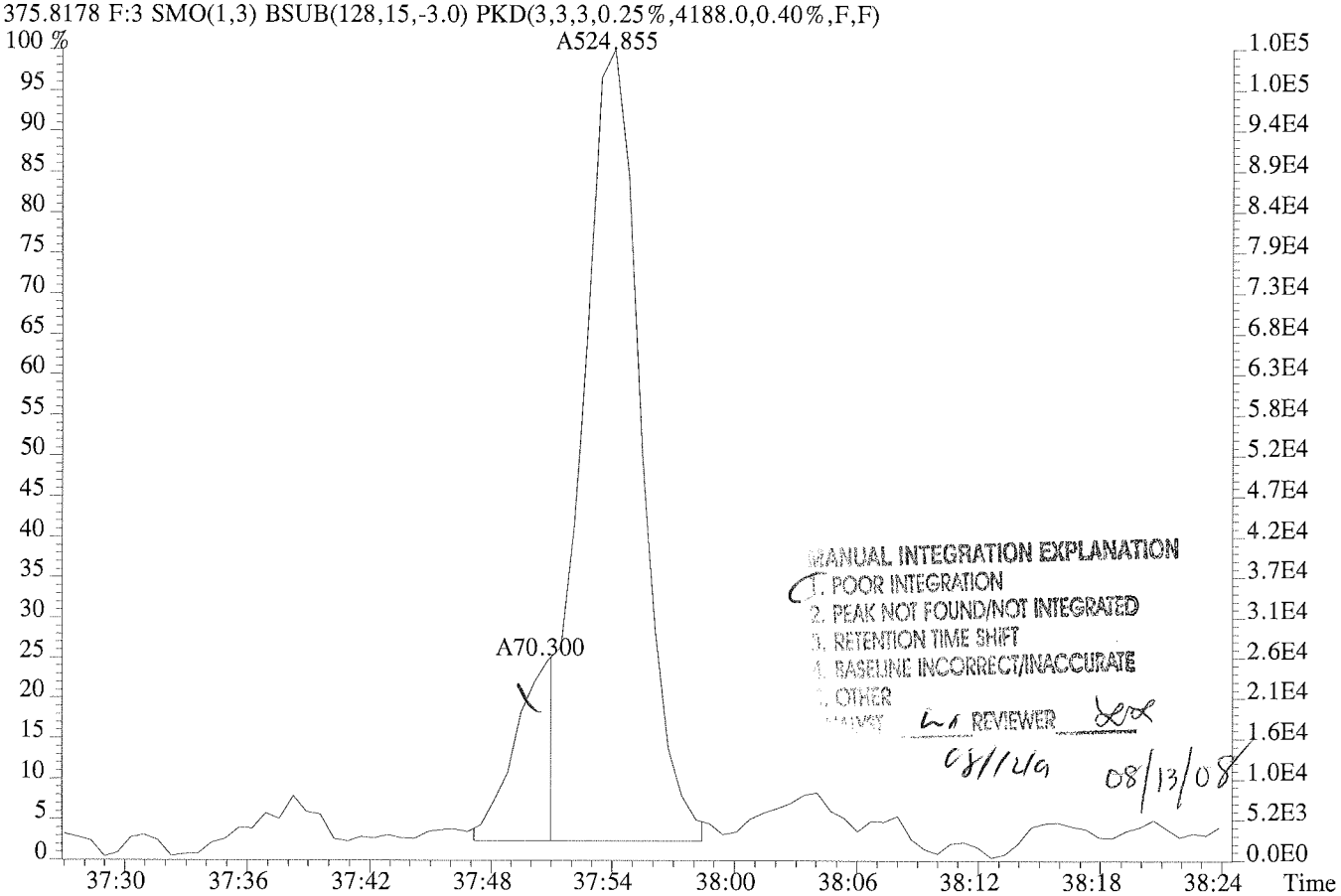


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST L REVIEWER YL
08/14/08
08/13/08

File:P200042 #1-318 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6908.0,0.40%,F,F)

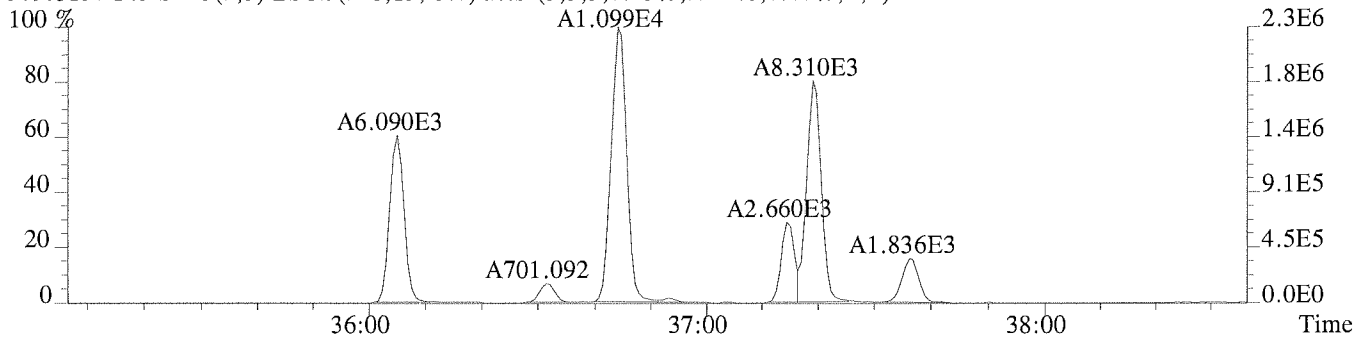


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4188.0,0.40%,F,F)

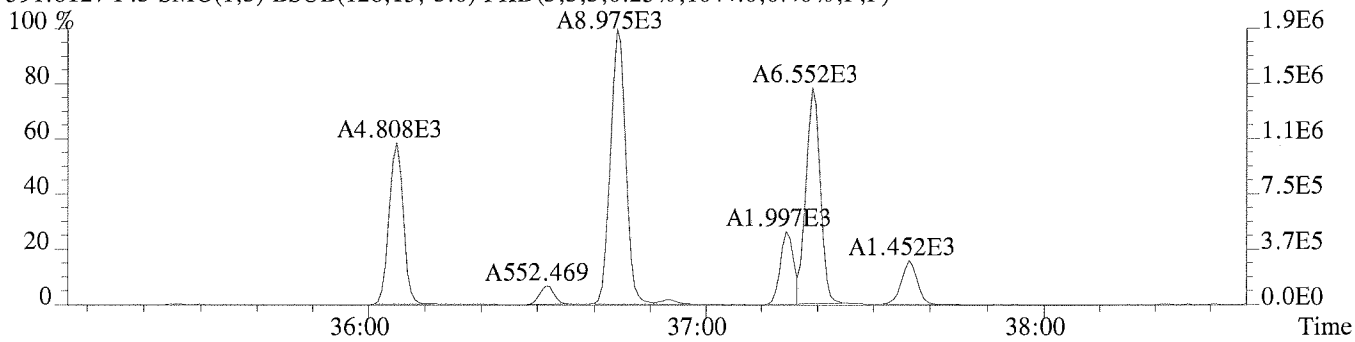


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER
08/13/08

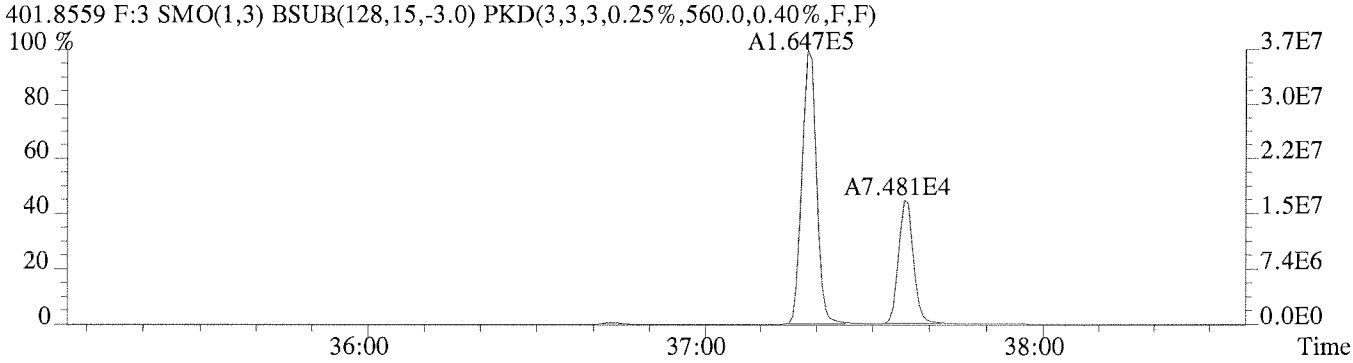
File:P200042 #1-318 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,F)



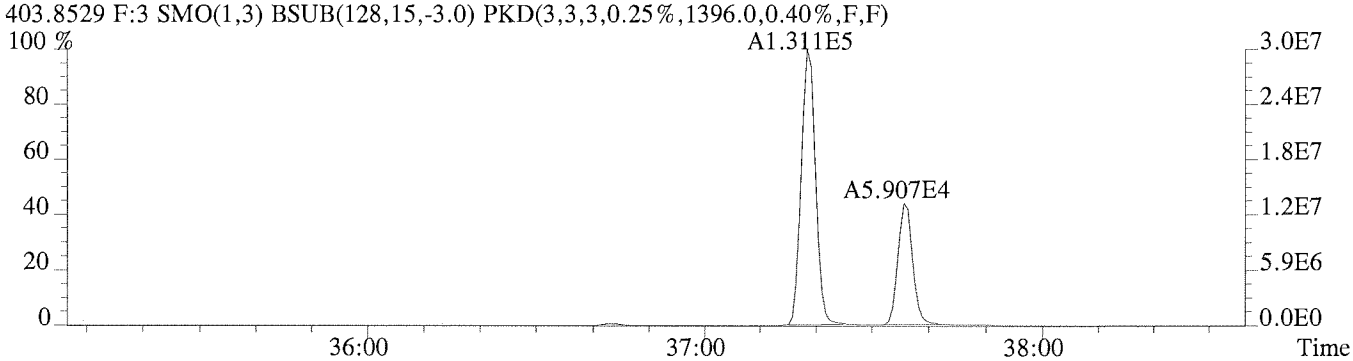
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)



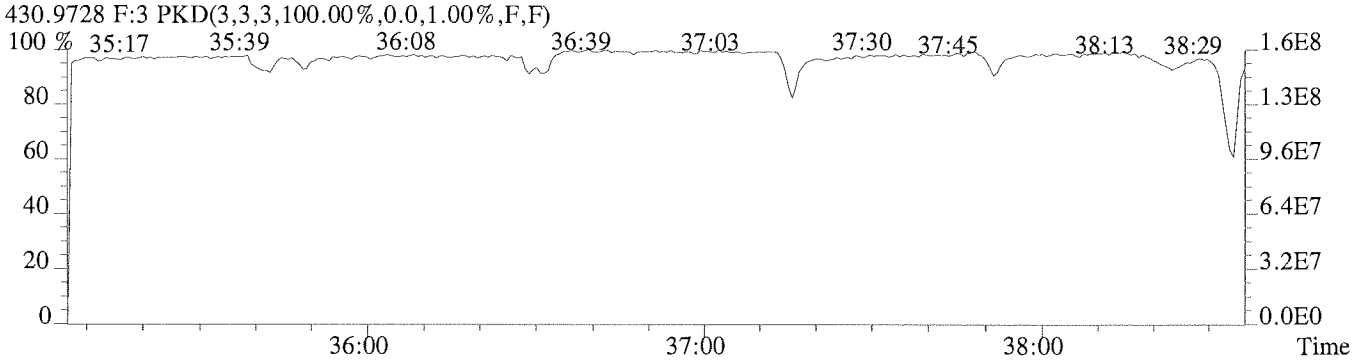
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1396.0,0.40%,F,F)

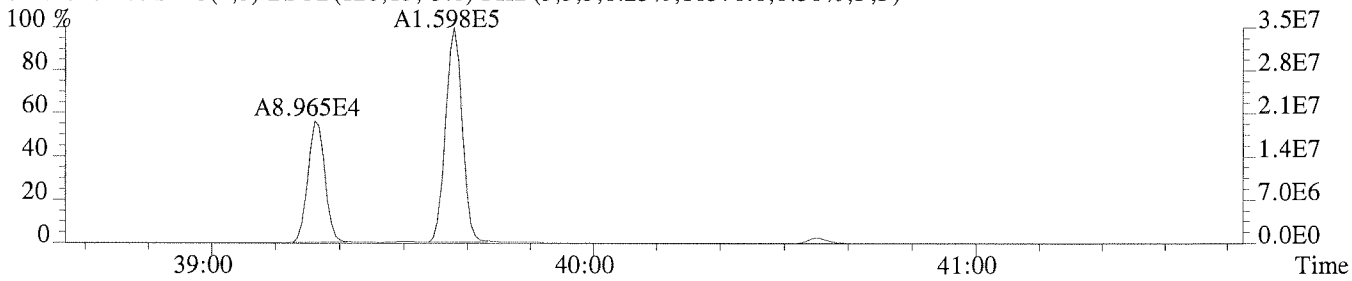


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

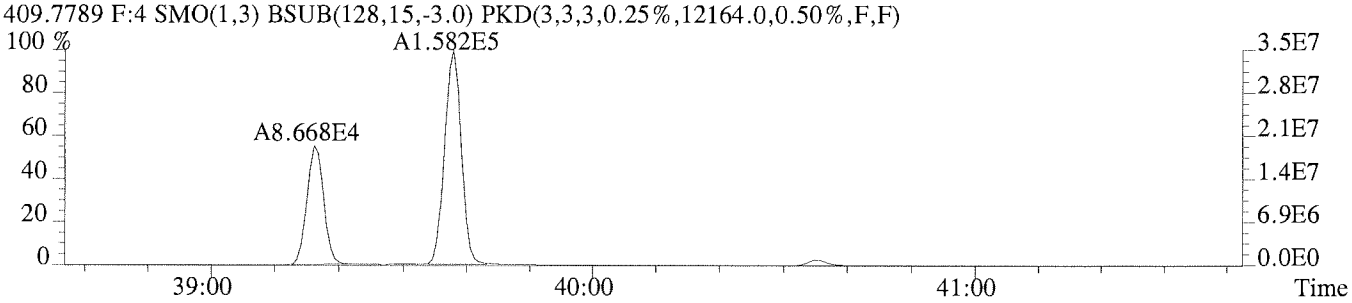


File:P200042 #1-281 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

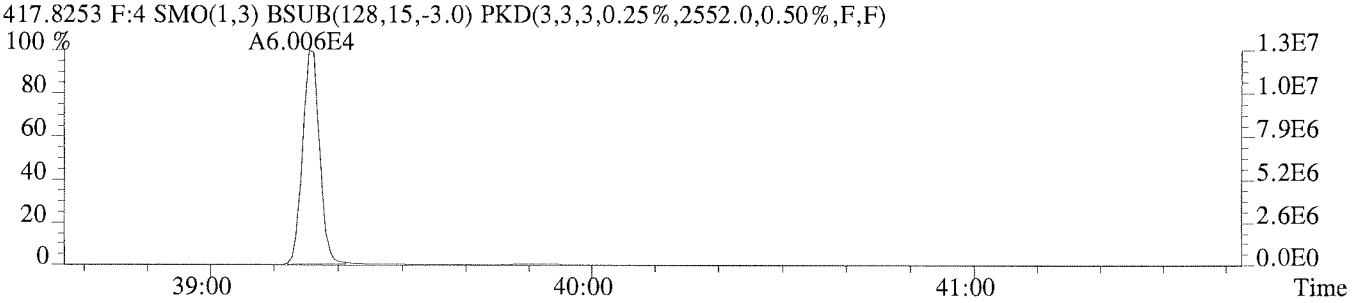
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,10576.0,0.50%,F,F)



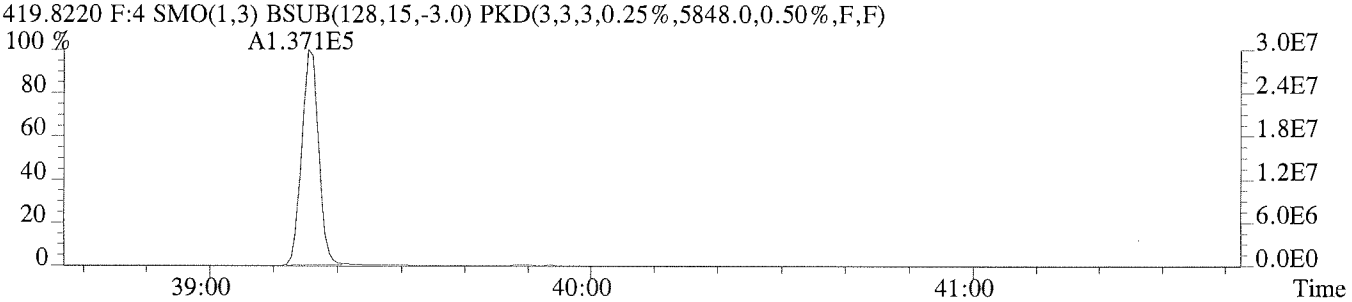
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12164.0,0.50%,F,F)



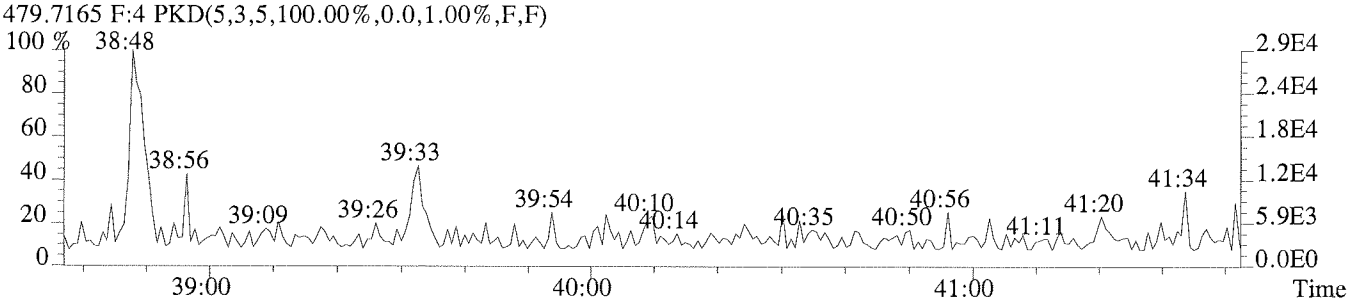
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2552.0,0.50%,F,F)



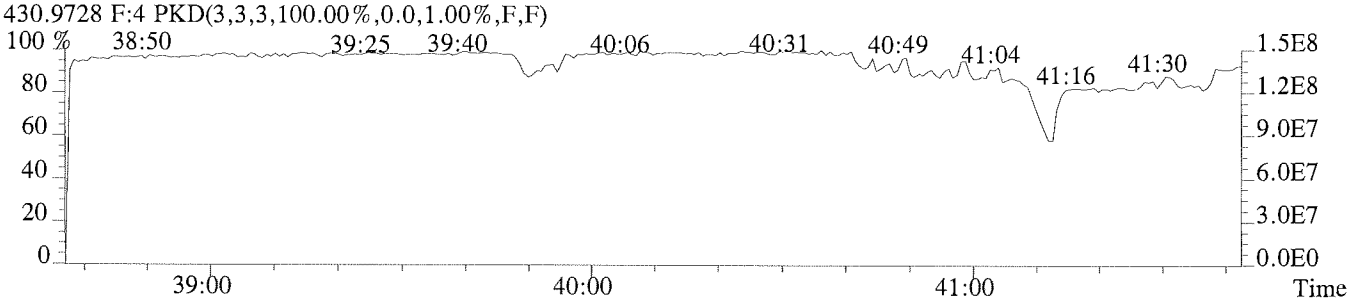
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5848.0,0.50%,F,F)



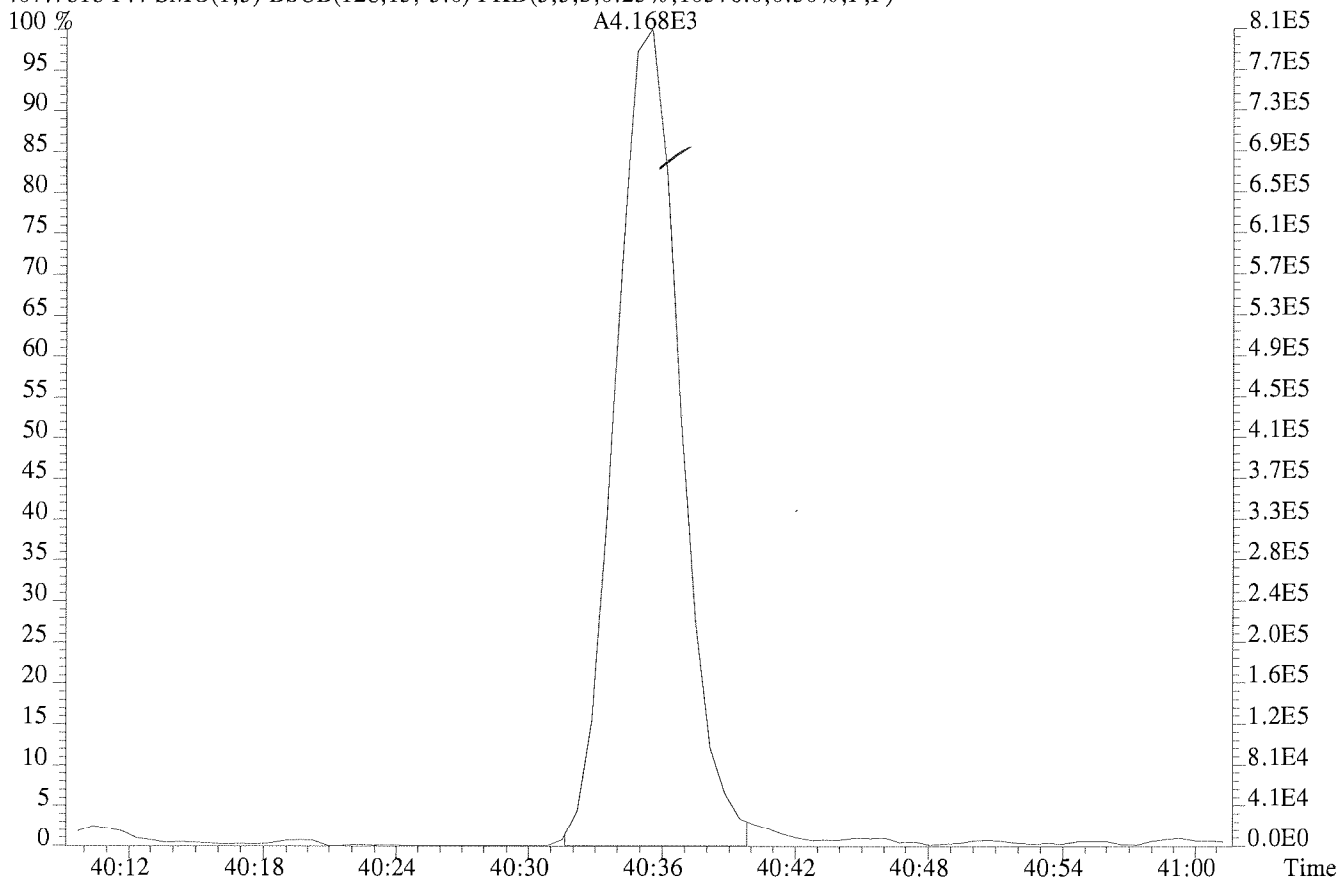
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



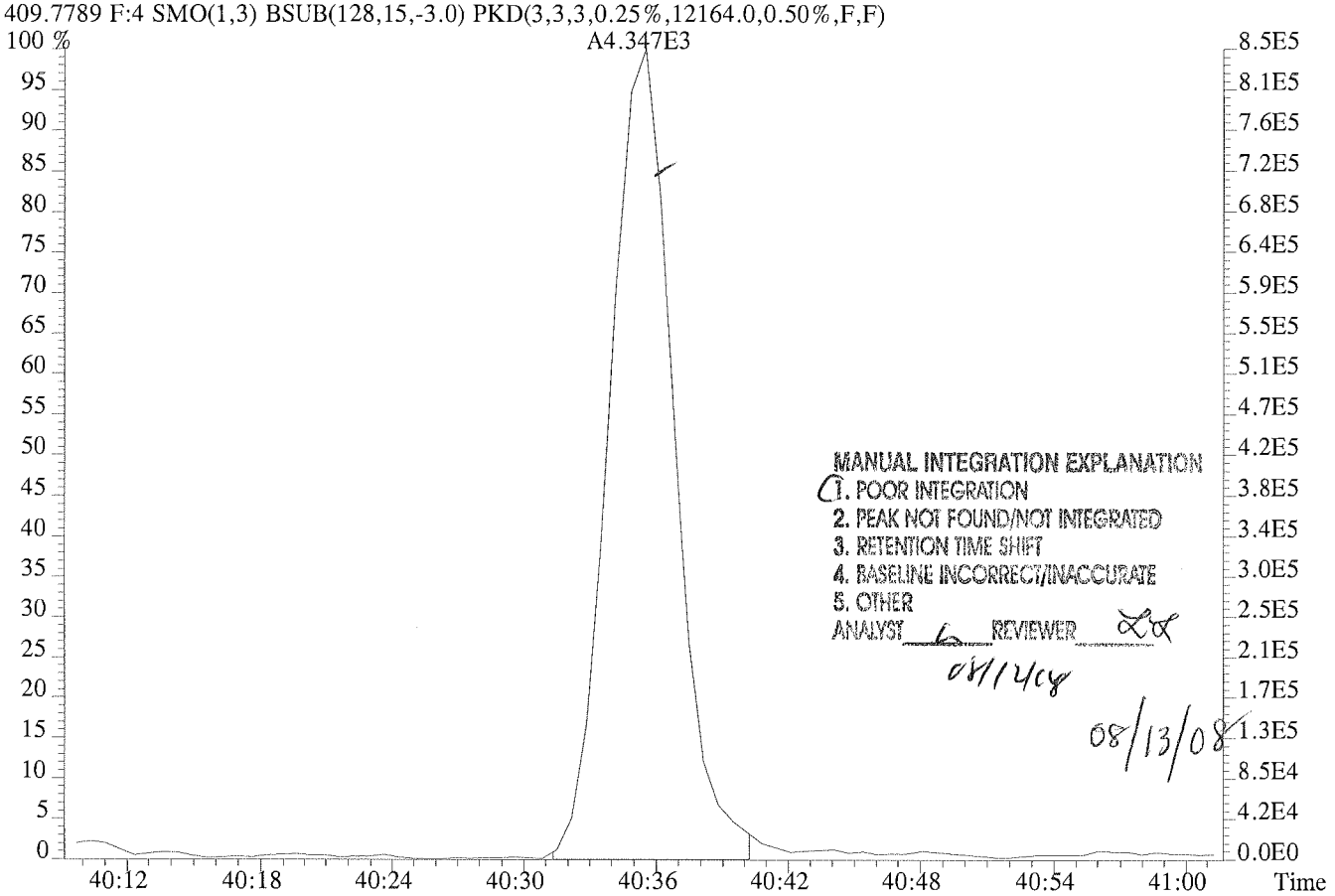
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200042 #1-281 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,10576.0,0.50%,F,F)



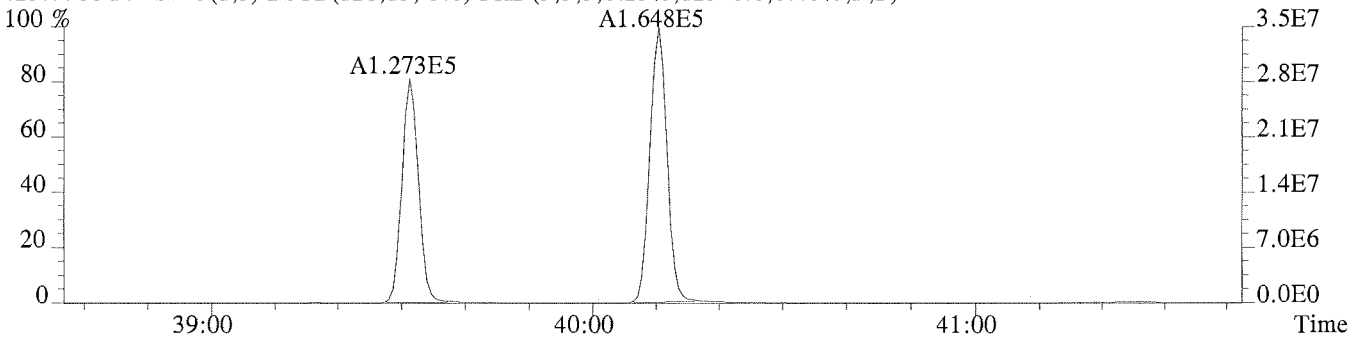
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12164.0,0.50%,F,F)



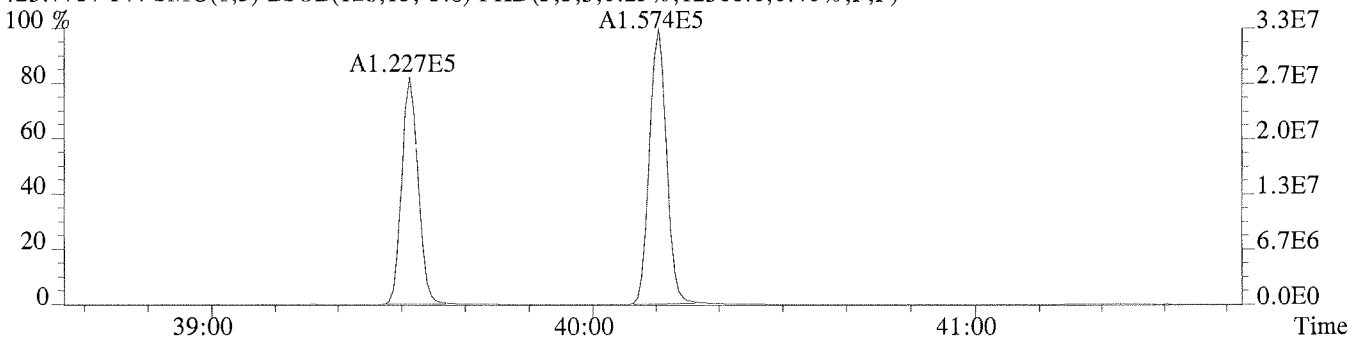
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/14/08
08/13/08

File:P200042 #1-281 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

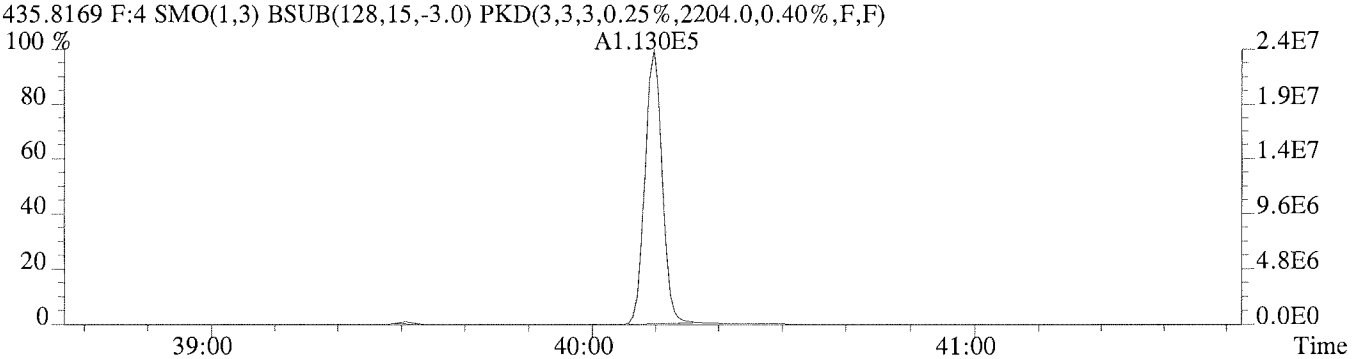
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12548.0,0.40%,F,F)



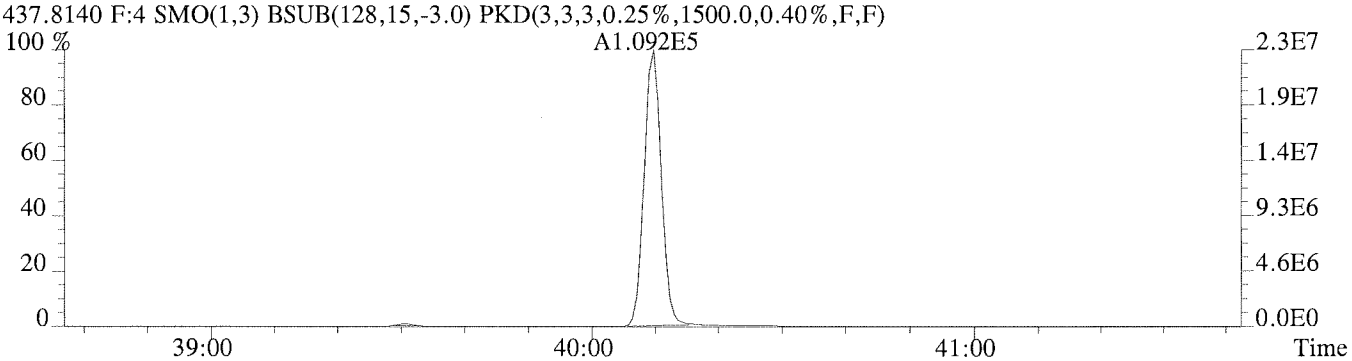
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,12368.0,0.40%,F,F)



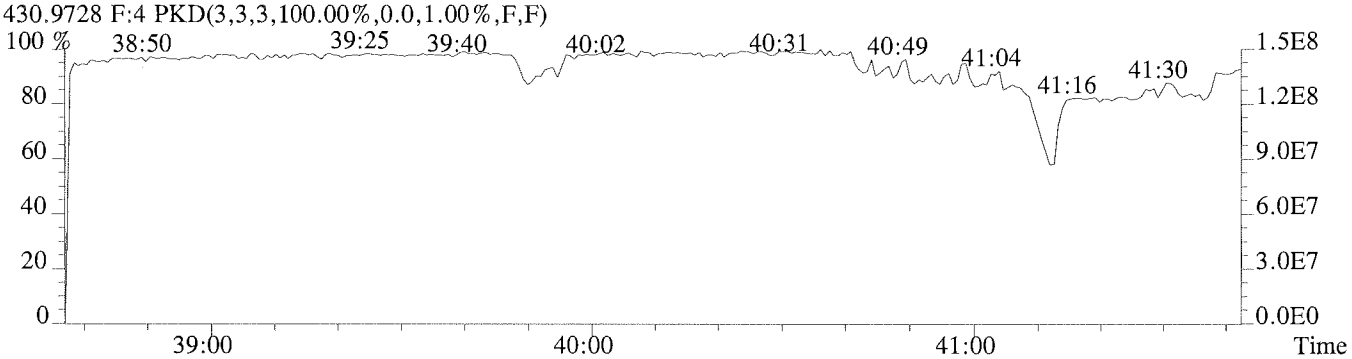
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2204.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,F)

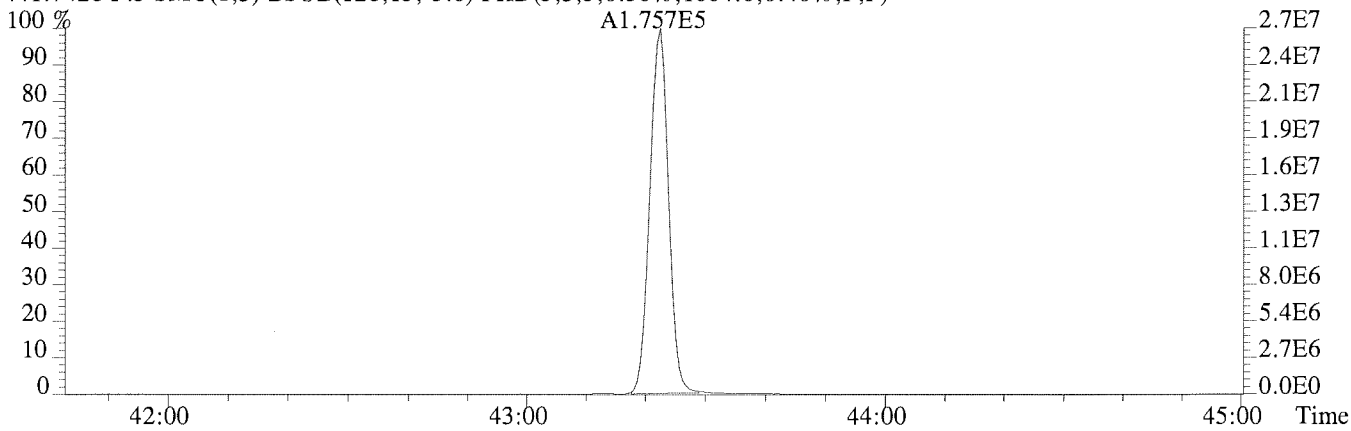


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

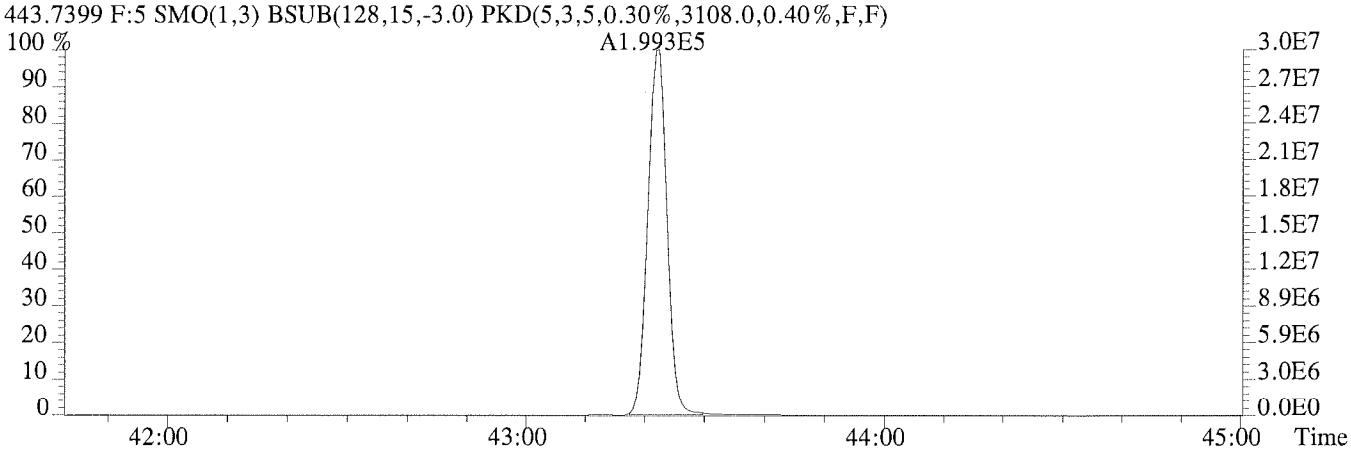


File:P200042 #1-364 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP

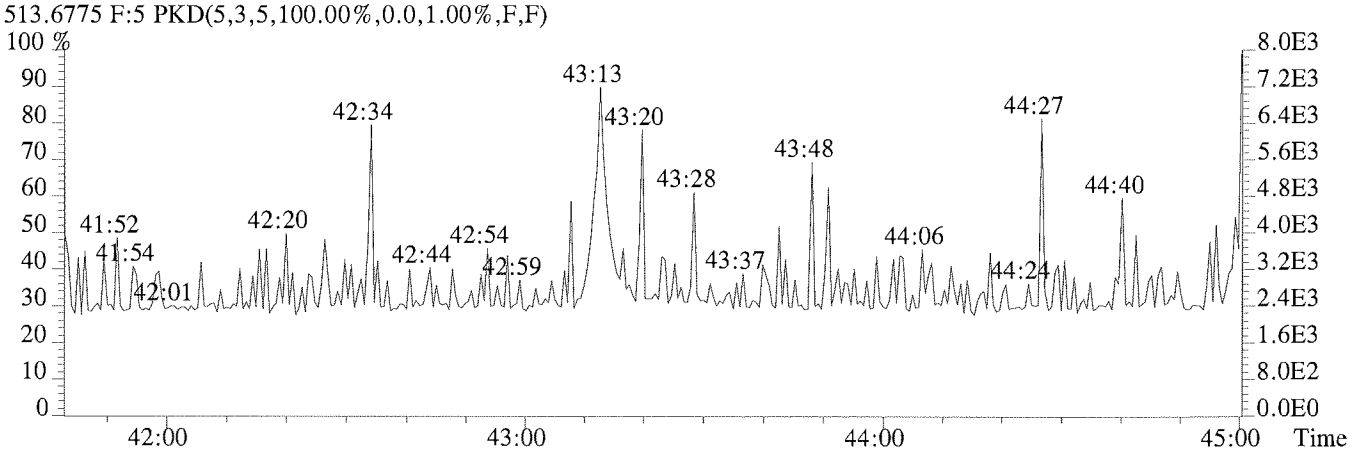
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1004.0,0.40%,F,F)



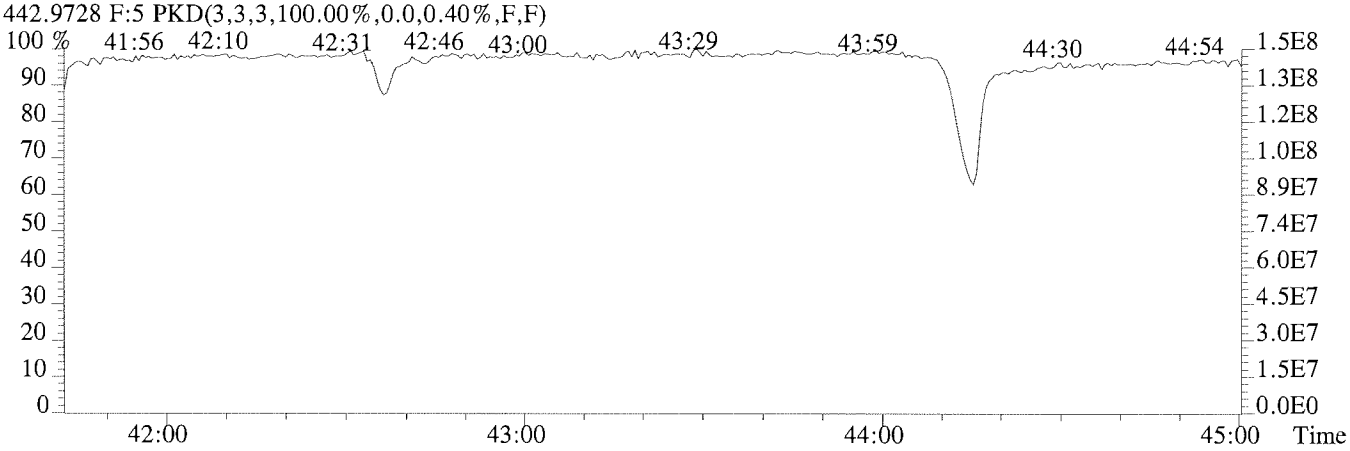
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3108.0,0.40%,F,F)



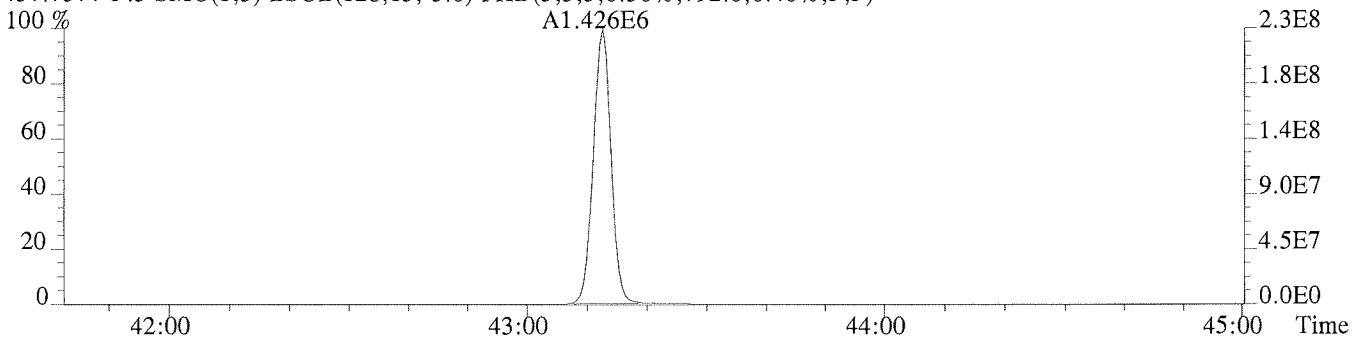
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



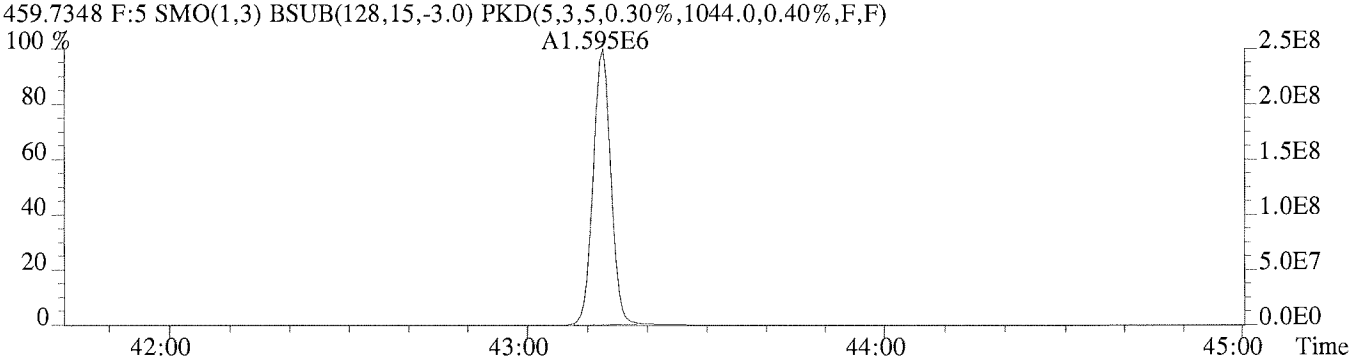
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



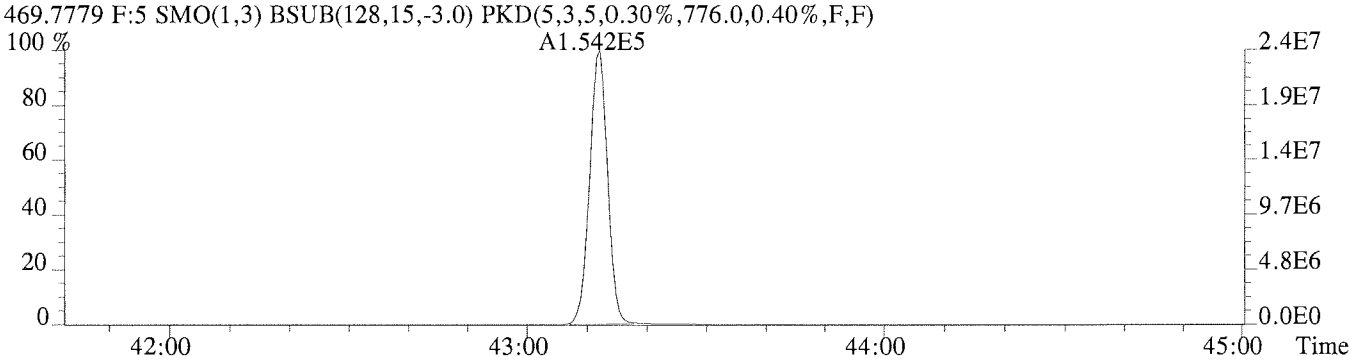
File:P200042 #1-364 Acq: 4-AUG-2008 14:44:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:E0800704-003 H-T5-3.0DUP
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,792.0,0.40%,F,F)



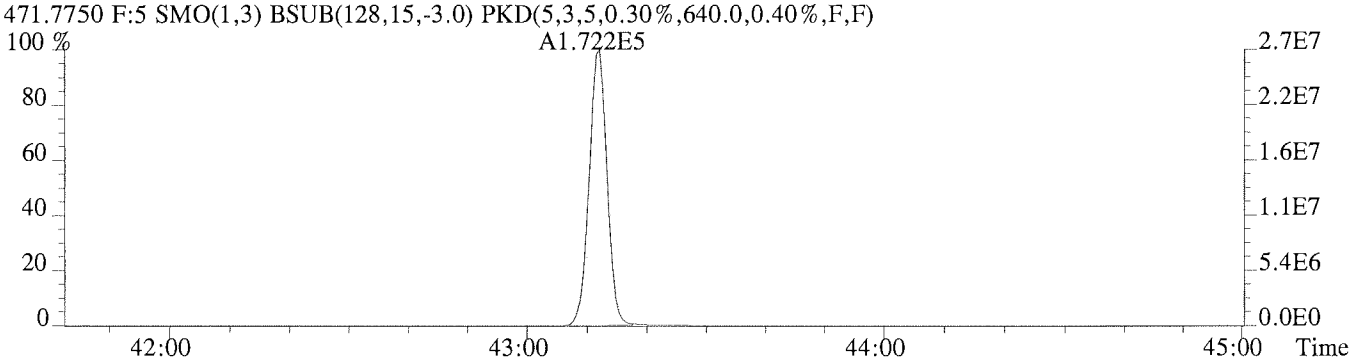
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1044.0,0.40%,F,F)



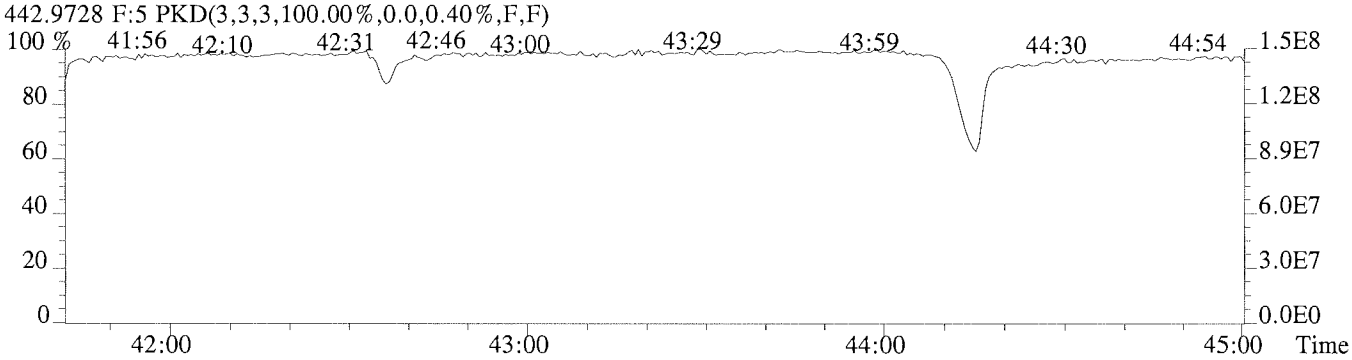
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,640.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
H-T5-3.0 DUP

Run #15 Filename C15242#11 Samp: 11 Inj: 1 Acquired: 5-AUG-08 15:40:18
Processed: 6-AUG-08 16:10:23 Sample ID: E0800704-003

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no
2	IS	13C-2,3,7,8-TCDF	18:37	2.374e+07	3.011e+07	0.79	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:40	1.504e+07	1.867e+07	0.81	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:27	2.809e+07				

Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	*	2.60e+03	*	*	3.20e+03	*
2	13C-2,3,7,8-TCDF	5.21e+06	3.68e+03	1.4e+03	6.64e+06	4.26e+03	1.6e+03
3	13C-1,2,3,4-TCDD	4.14e+06	4.68e+03	8.8e+02	5.08e+06	3.11e+03	1.6e+03
4	37Cl-2,3,7,8-TCDD	7.31e+06	3.48e+03	2.1e+03			

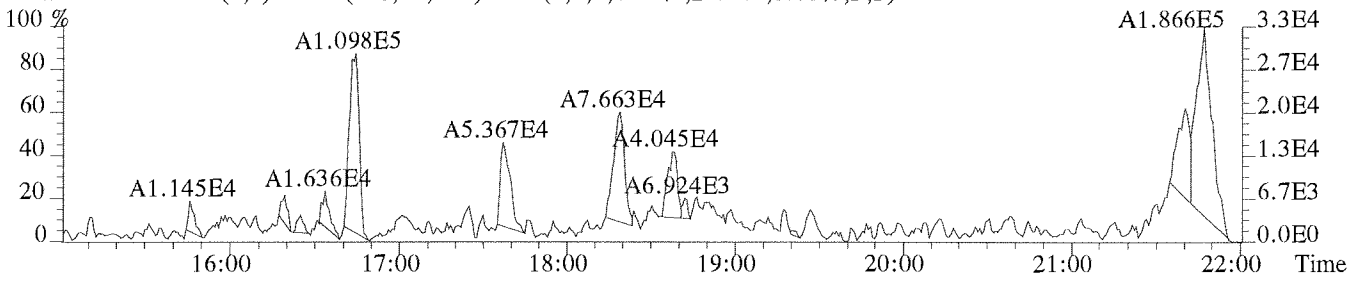
--- 2378-TCDF EDL Calculation---

$$EDL = \frac{(2.596e+03 + 3.196e+03) \times 1000 \times 2.5\ pg}{(5.214e+06 + 6.640e+06) \times (\ 0.000\ \rightarrow\ 10.444\ g) \times (\ 0.00\ \rightarrow\ 90.8\ )/100 \times 1.10} = 0.117\ ng/Kg$$

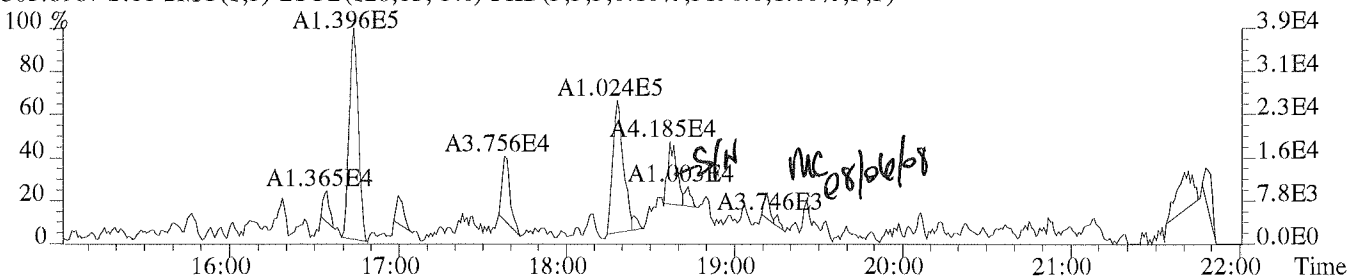
LL
08/07/08

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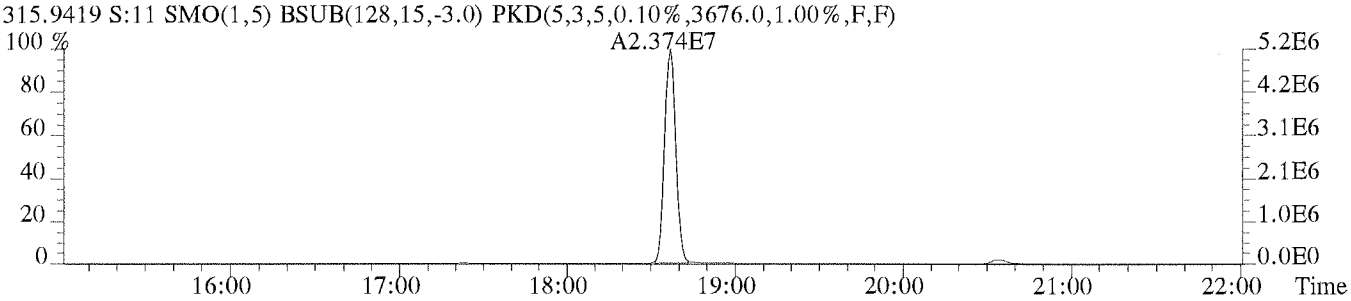
File:C15242 #1-582 Acq: 5-AUG-2008 15:40:18 GC EI+ Voltage SIR 70S
Sample#11 File Text:CAS,HOUSTON Text:E0800704-003 H-T5-3.0 DUP Exp:TCDF
303.9016 S:11 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2596.0,1.00%,F,F)



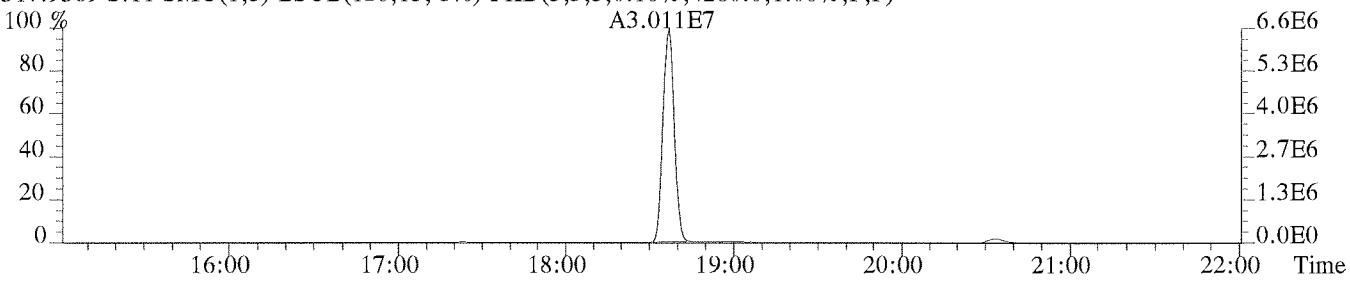
305.8987 S:11 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3196.0,1.00%,F,F)



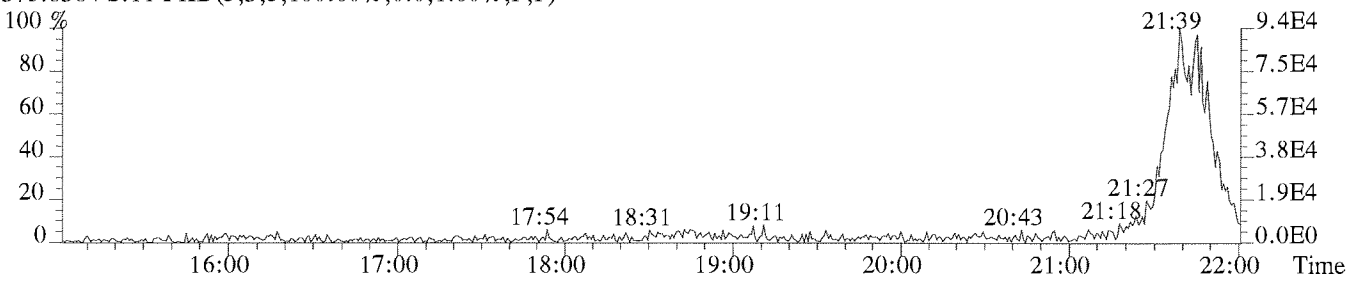
315.9419 S:11 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,3676.0,1.00%,F,F)



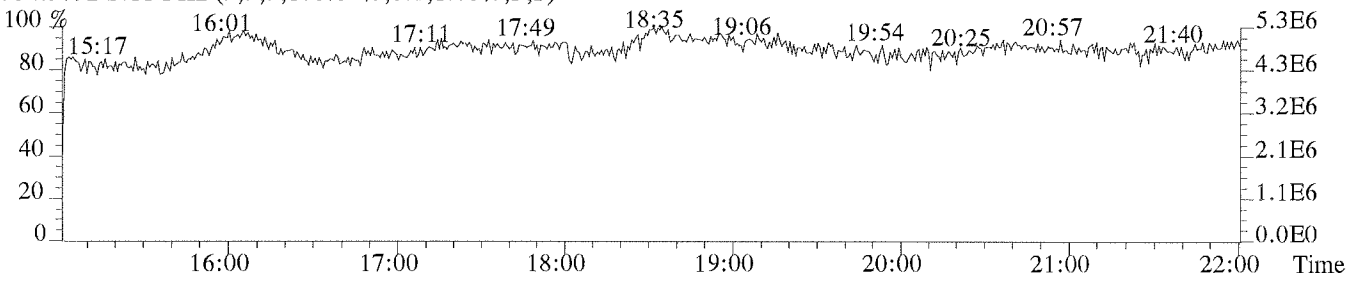
317.9389 S:11 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,4260.0,1.00%,F,F)



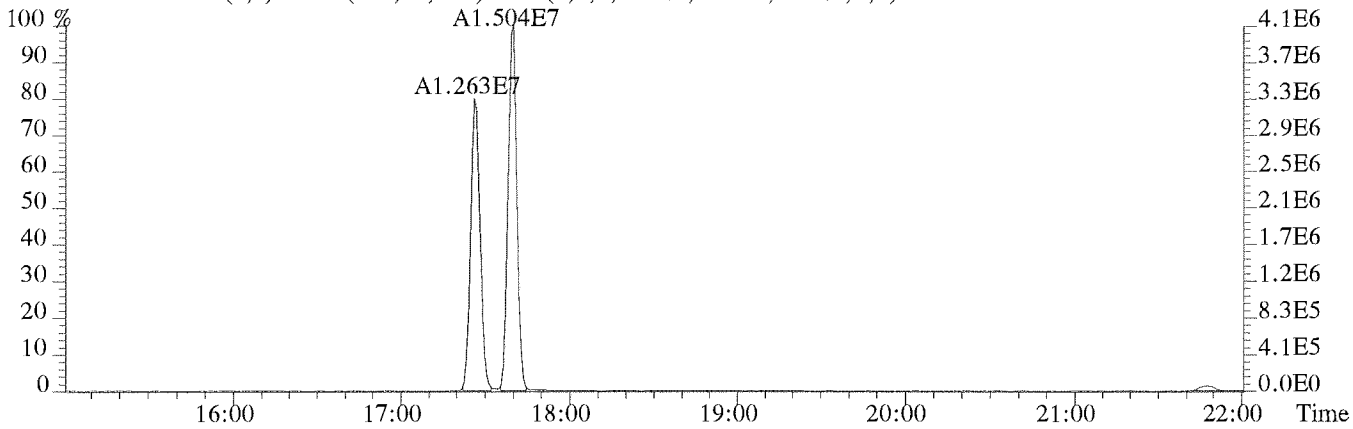
375.8364 S:11 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



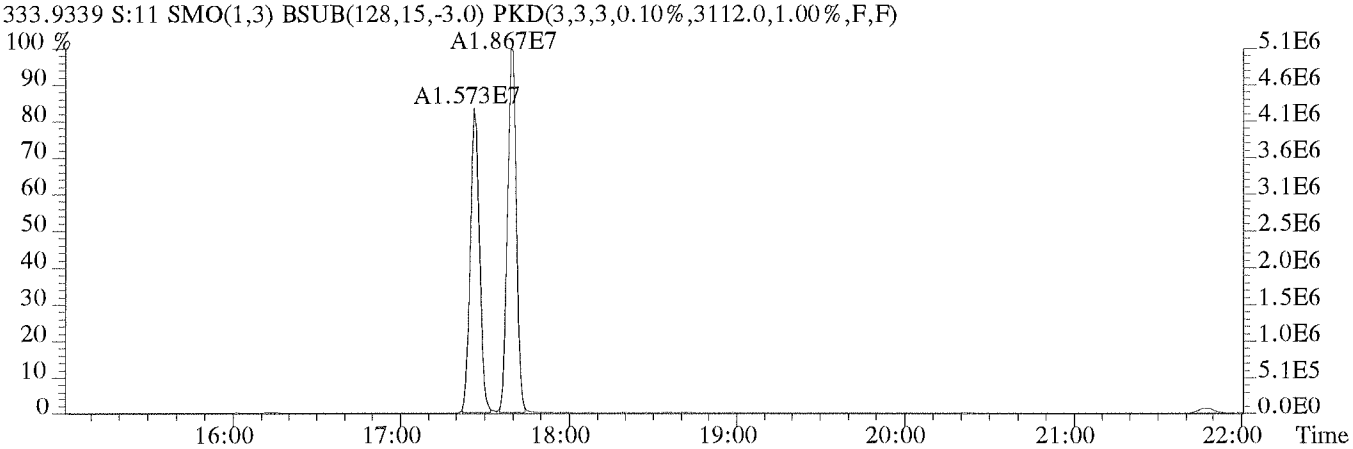
354.9792 S:11 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



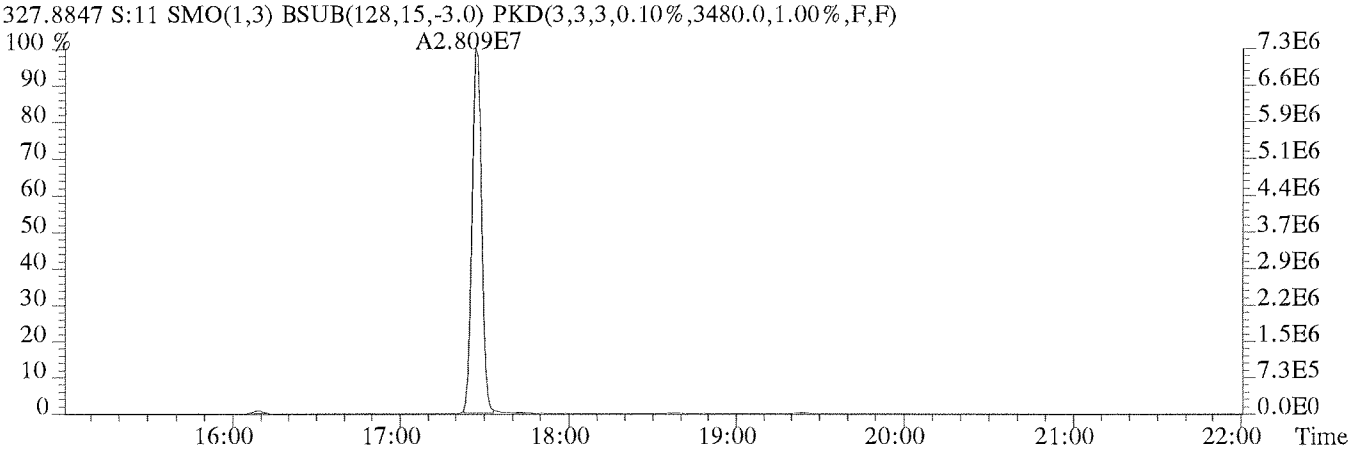
File:C15242 #1-582 Acq: 5-AUG-2008 15:40:18 GC EI+ Voltage SIR 70S
Sample#11 File Text:CAS,HOUSTON Text:E0800704-003 H-T5-3.0 DUP Exp:TCDF
331.9368 S:11 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4676.0,1.00%,F,F)



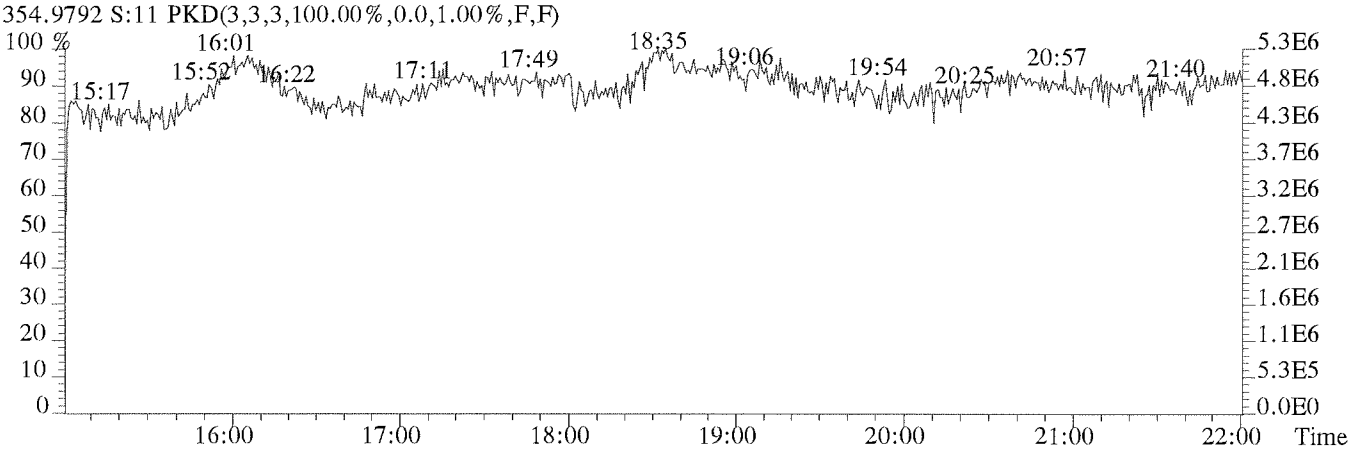
333.9339 S:11 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3112.0,1.00%,F,F)



327.8847 S:11 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3480.0,1.00%,F,F)



354.9792 S:11 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P100163 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 10:05:17
Processed: 7-AUG-08 10:10:51 Sample ID: EQ0800314-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.98
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.97
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:49	2.795e+01	3.162e+01	0.88	no	yes	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.17
10	Unk	OCDF	44:03	4.356e+01	5.292e+01	0.82	yes	yes	1.36
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.92
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:44	1.452e+02	1.361e+02	1.07	yes	yes	1.02
17	Unk	OCDD	43:53	8.945e+02	9.659e+02	0.93	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:28	2.365e+04	2.972e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.177e+04	2.608e+04	1.60	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	4.625e+04	8.780e+04	0.53	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:48	3.152e+04	7.020e+04	0.45	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:15	1.993e+04	2.541e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:41	3.005e+04	1.873e+04	1.60	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	6.514e+04	5.173e+04	1.26	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	4.377e+04	4.157e+04	1.05	yes	no	0.85
26	IS	13C-OCDD	43:52	5.969e+04	6.617e+04	0.90	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:04	3.165e+04	3.986e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	3.572e+04	2.833e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:17	4.306e+04					1.01

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary METHOD BLANK

Run #7 Filename P100163 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 10:05:17

Processed: 7-AUG-08 10:10:51 LAB. ID: EQ0800314-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	4.84e+02	*	*	4.88e+02	*
2	1,2,3,7,8-PeCDF	*	5.72e+02	*	*	6.84e+02	*
3	2,3,4,7,8-PeCDF	*	5.72e+02	*	*	6.84e+02	*
4	1,2,3,4,7,8-HxCDF	*	5.68e+02	*	*	7.12e+02	*
5	1,2,3,6,7,8-HxCDF	*	5.68e+02	*	*	7.12e+02	*
6	2,3,4,6,7,8-HxCDF	*	5.68e+02	*	*	7.12e+02	*
7	1,2,3,7,8,9-HxCDF	*	5.68e+02	*	*	7.12e+02	*
8	1,2,3,4,6,7,8-HpCDF	4.76e+03	9.96e+02	4.8e+00	6.22e+03	5.52e+02	1.1e+01
9	1,2,3,4,7,8,9-HpCDF	*	9.96e+02	*	*	5.52e+02	*
10	OCDF	5.71e+03	4.48e+02	1.3e+01	7.54e+03	6.68e+02	1.1e+01
11	2,3,7,8-TCDD	*	5.84e+02	*	*	3.16e+02	*
12	1,2,3,7,8-PeCDD	*	7.64e+02	*	*	5.32e+02	*
13	1,2,3,4,7,8-HxCDD	*	4.68e+02	*	*	6.20e+02	*
14	1,2,3,6,7,8-HxCDD	*	4.68e+02	*	*	6.20e+02	*
15	1,2,3,7,8,9-HxCDD	*	4.68e+02	*	*	6.20e+02	*
16	1,2,3,4,6,7,8-HpCDD	2.91e+04	6.56e+02	4.4e+01	2.68e+04	7.76e+02	3.5e+01
17	OCDD	1.25e+05	4.80e+02	2.6e+02	1.37e+05	4.76e+02	2.9e+02
18	13C-2,3,7,8-TCDF	4.09e+06	9.88e+02	4.1e+03	5.09e+06	7.28e+02	7.0e+03
19	13C-1,2,3,7,8-PeCDF	8.07e+06	5.20e+02	1.6e+04	5.11e+06	5.72e+02	8.9e+03
20	13C-1,2,3,4,7,8-HxCDF	1.03e+07	4.04e+02	2.5e+04	1.93e+07	5.16e+02	3.7e+04
21	13C-1,2,3,4,6,7,8-HpCDF	6.61e+06	1.19e+03	5.5e+03	1.44e+07	3.24e+03	4.4e+03
22	13C-2,3,7,8-TCDD	3.66e+06	1.47e+03	2.5e+03	4.74e+06	6.04e+02	7.8e+03
23	13C-1,2,3,7,8-PeCDD	5.99e+06	4.64e+02	1.3e+04	3.69e+06	5.00e+02	7.4e+03
24	13C-1,2,3,6,7,8-HxCDD	1.47e+07	4.72e+02	3.1e+04	1.18e+07	5.28e+02	2.2e+04
25	13C-1,2,3,4,6,7,8-HpCDD	8.68e+06	8.16e+02	1.1e+04	8.20e+06	5.72e+02	1.4e+04
26	13C-OCDD	8.43e+06	4.96e+02	1.7e+04	9.33e+06	4.76e+02	2.0e+04
27	13C-1,2,3,4-TCDD	5.81e+06	1.47e+03	4.0e+03	7.27e+06	6.04e+02	1.2e+04
28	13C-1,2,3,7,8,9-HxCDD	7.98e+06	4.72e+02	1.7e+04	6.31e+06	5.28e+02	1.2e+04
29	37Cl-2,3,7,8-TCDD	7.74e+06	4.20e+02	1.8e+04			

Columbia Analytical Services, Inc.
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Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 35 Totals Name: Total Hexa-Dioxins

Run: 7 File: P100163 Sample:1 Injection:1 Function:3

Acquired: 1-AUG-08 10:05:17 Processed: 7-AUG-08 10:10:51

Mass:389.816 391.813 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	37:16	2.35e+01	1.80e+01 1.30	yes	4.15e+01		n

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 37 Totals Name: Total Hepta-Dioxins

Run: 7 File: P100163 Sample:1 Injection:1 Function:4

Acquired: 1-AUG-08 10:05:17 Processed: 7-AUG-08 10:10:51

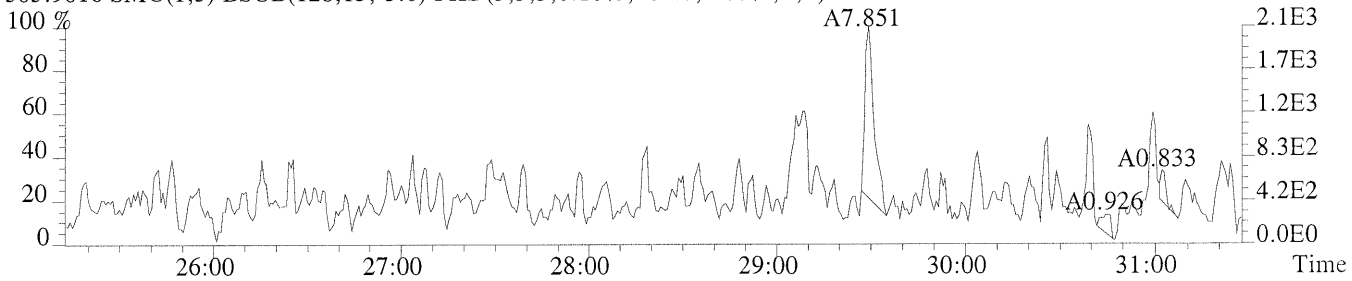
Mass:423.777 425.774 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	40:04	1.30e+02	1.15e+02	1.13	yes	2.45e+02		y
2	40:44	1.45e+02	1.36e+02	1.07	yes	2.81e+02	1,2,3,4,6,7,8-HpCDD	y

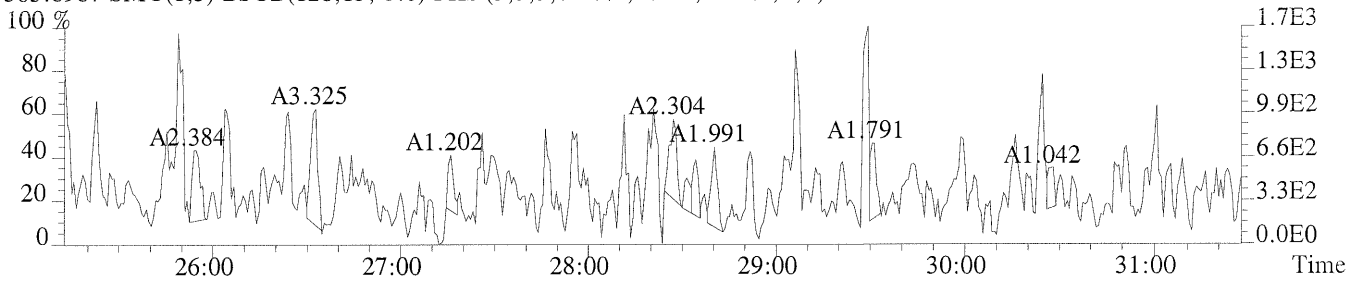
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:P100163 #1-521 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB

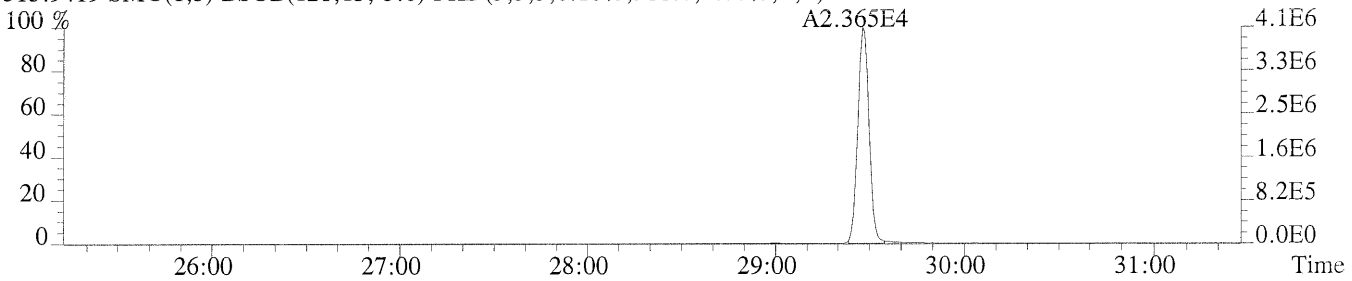
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,484.0,1.00%,F,F)



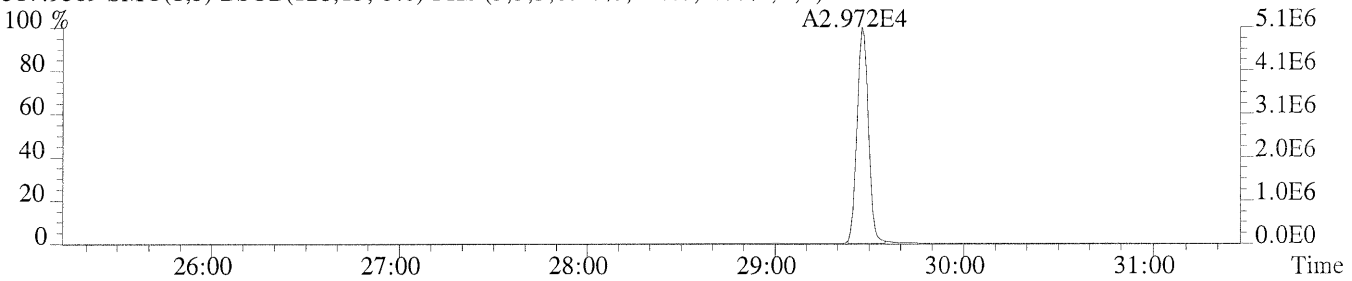
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,F)



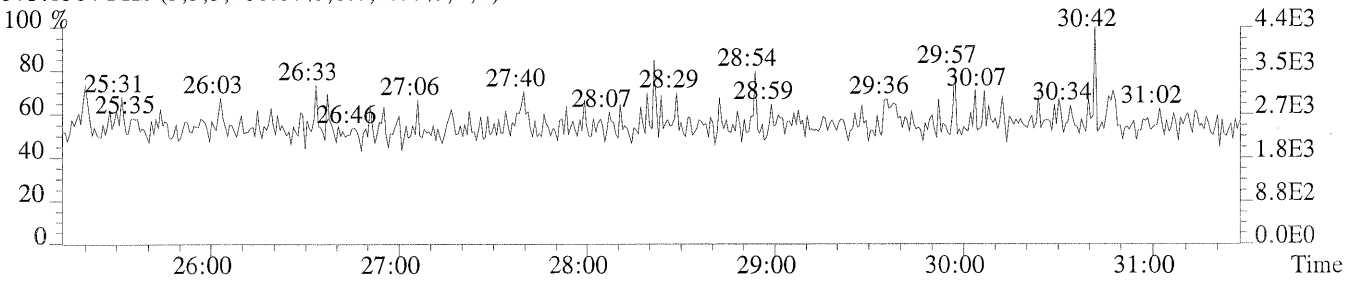
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,988.0,1.00%,F,F)



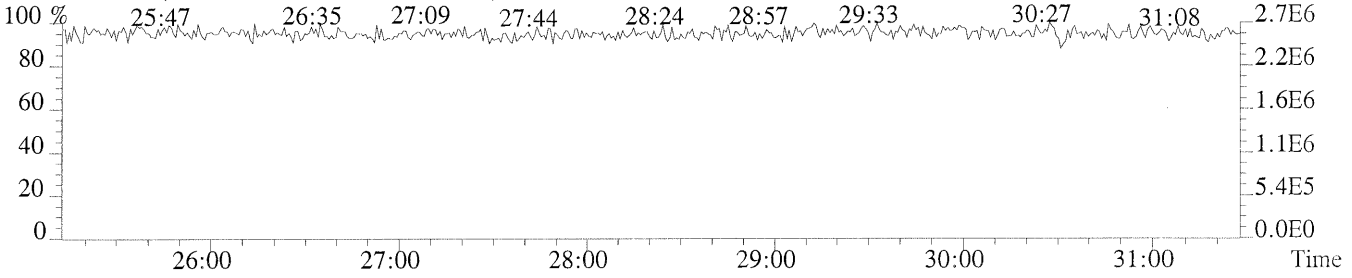
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,728.0,1.00%,F,F)



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

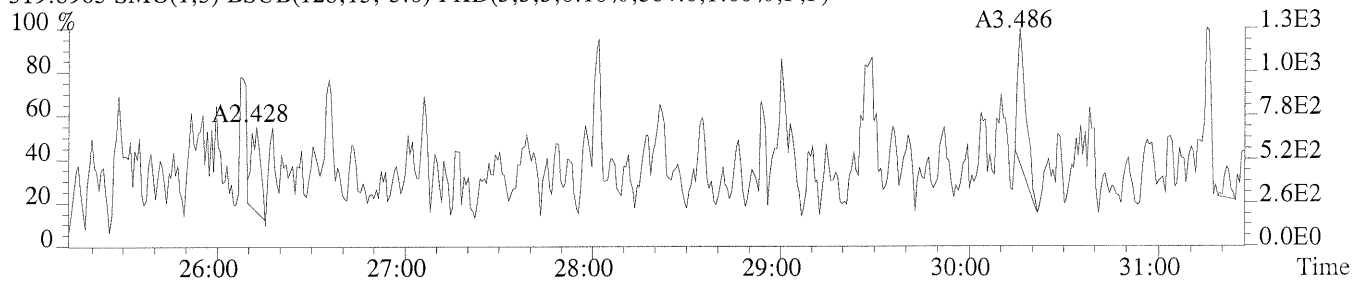


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

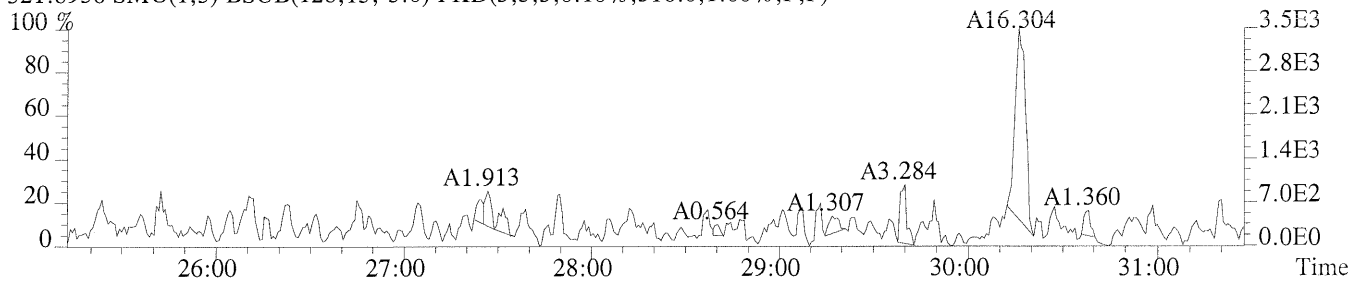


File:P100163 #1-521 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB

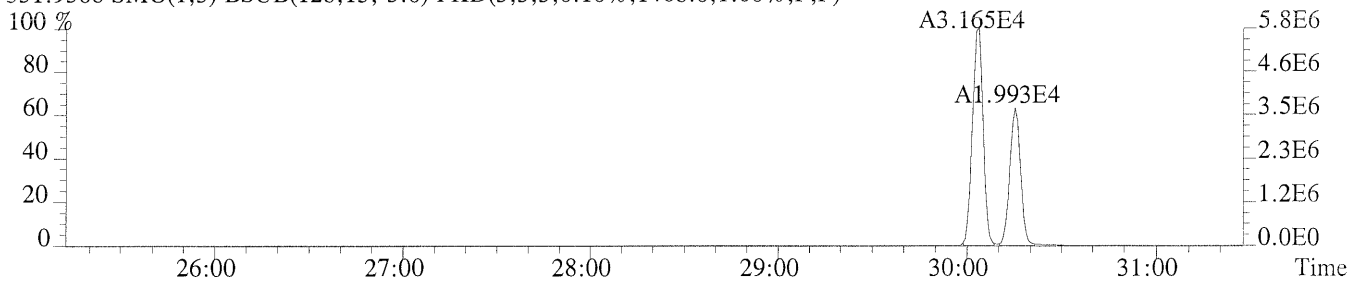
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,F)



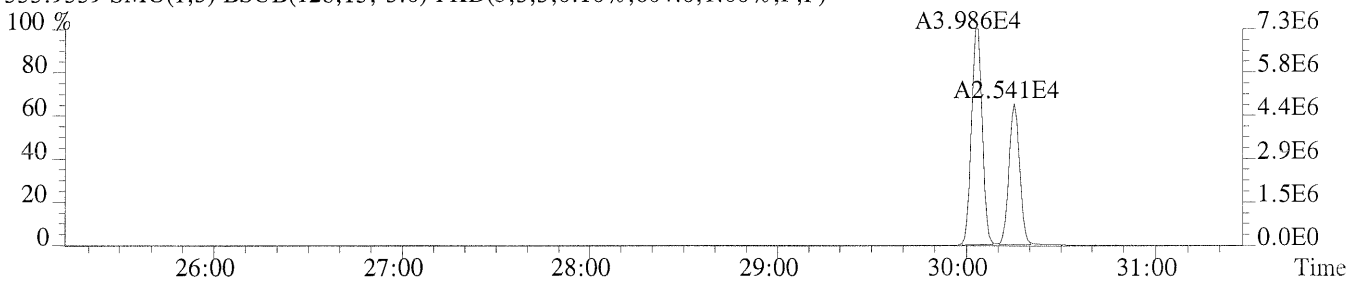
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,F)



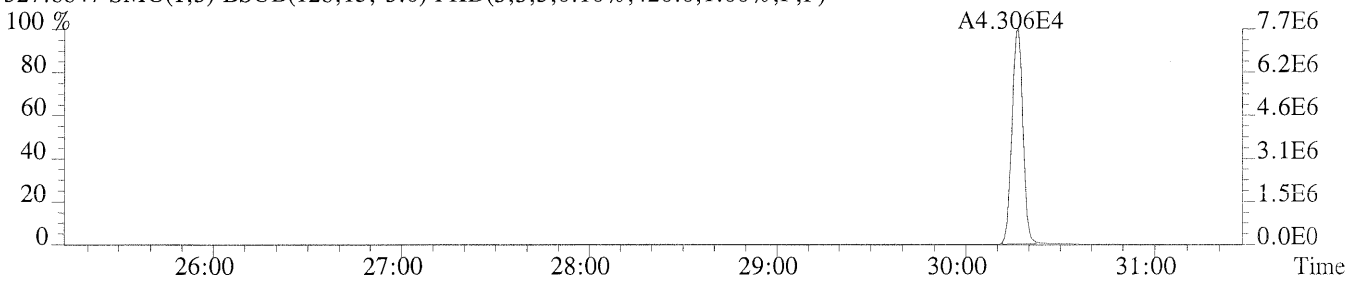
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1468.0,1.00%,F,F)



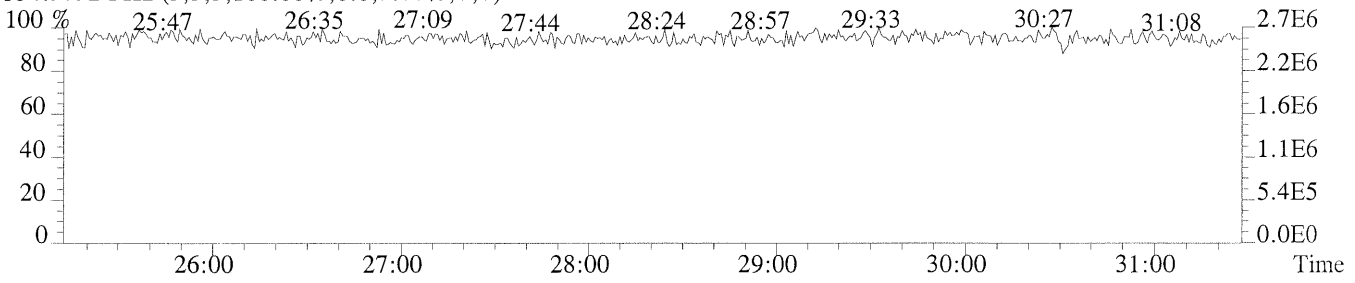
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,604.0,1.00%,F,F)



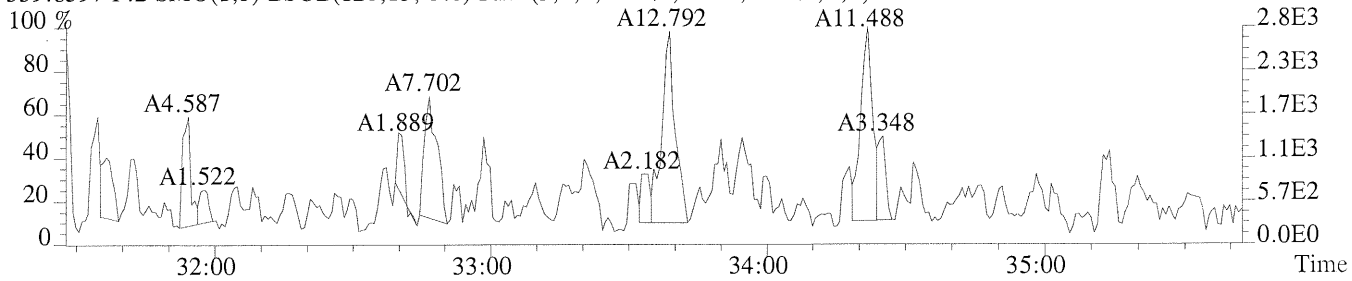
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,F)



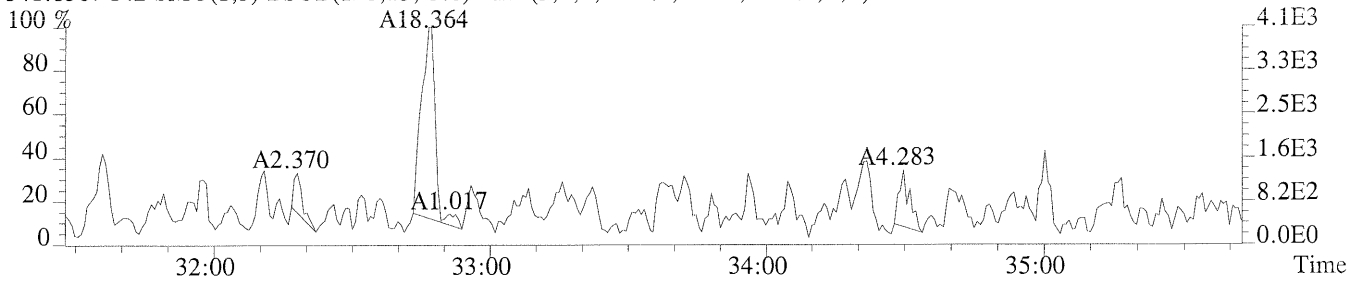
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



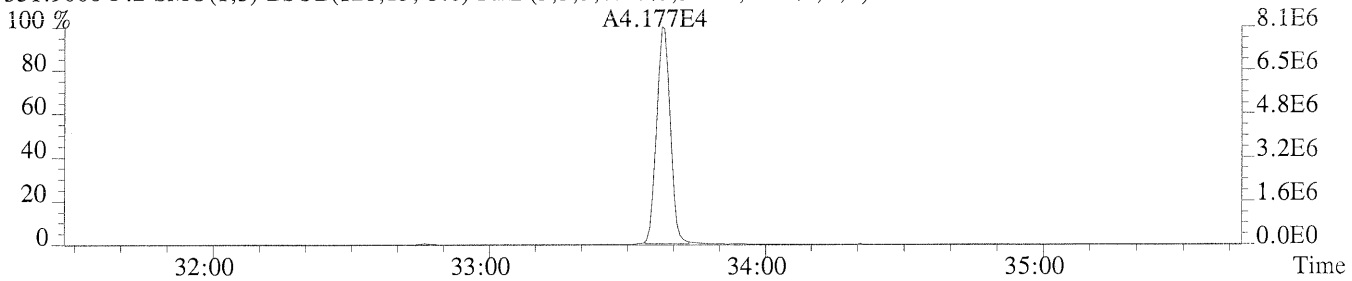
File:P100163 #1-386 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,F)



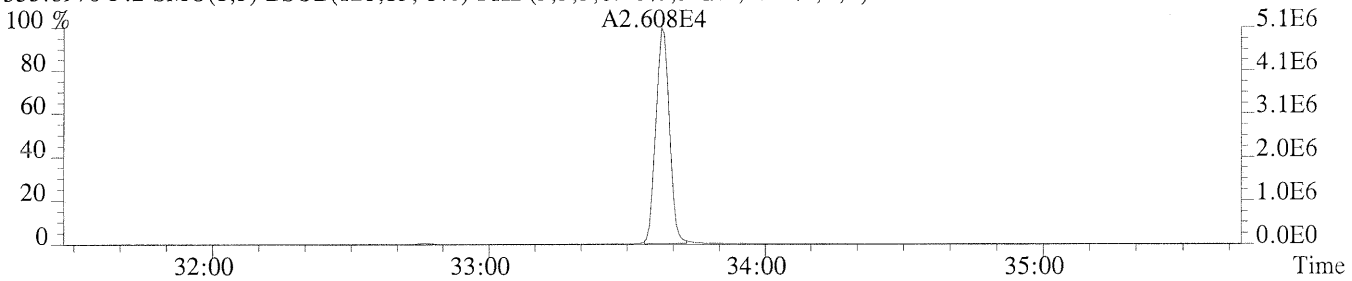
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,F)



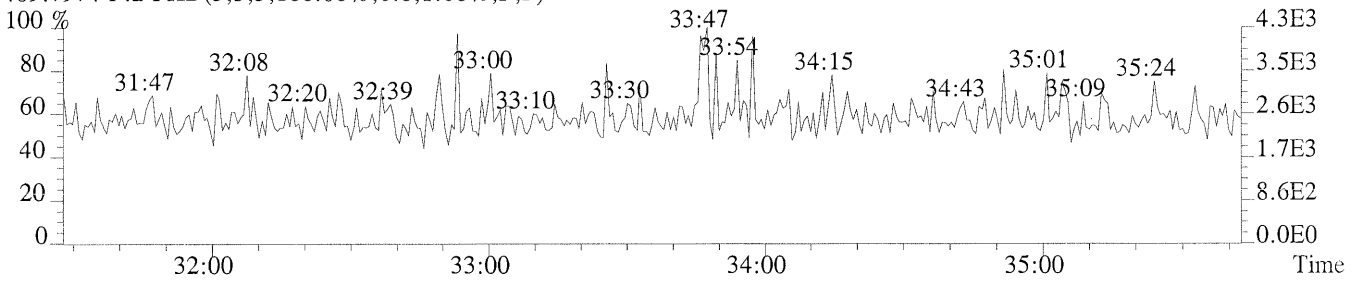
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,520.0,1.00%,F,F)



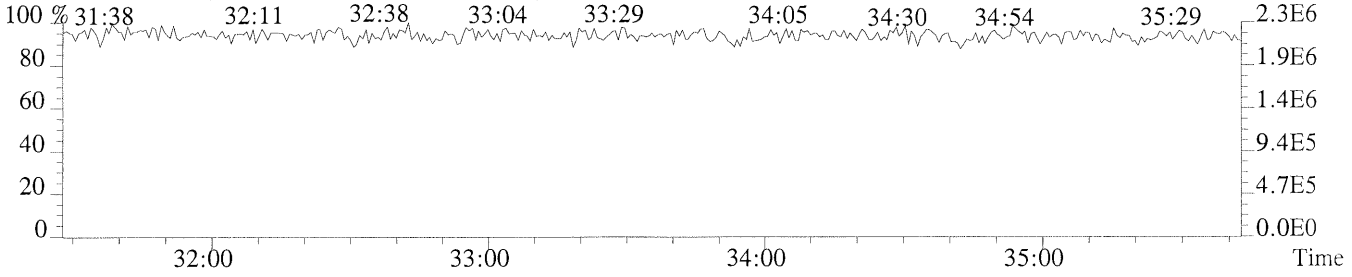
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,F)



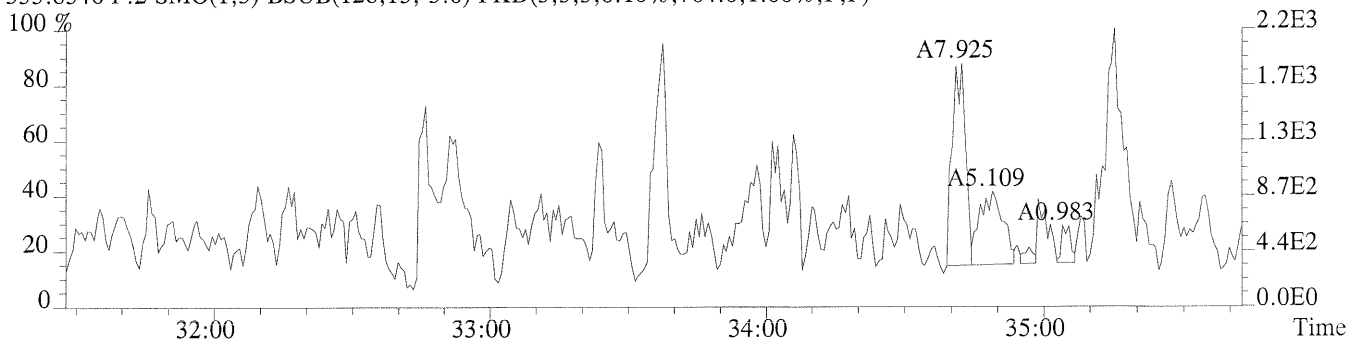
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



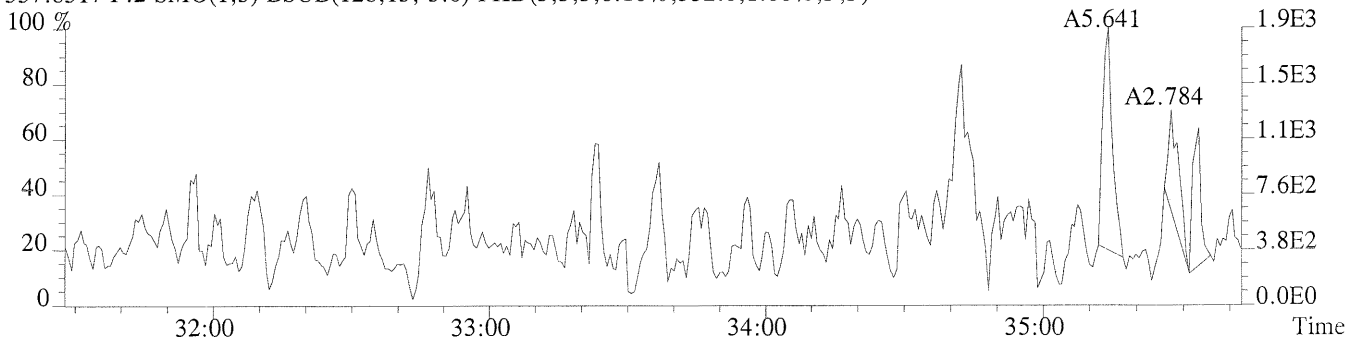
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



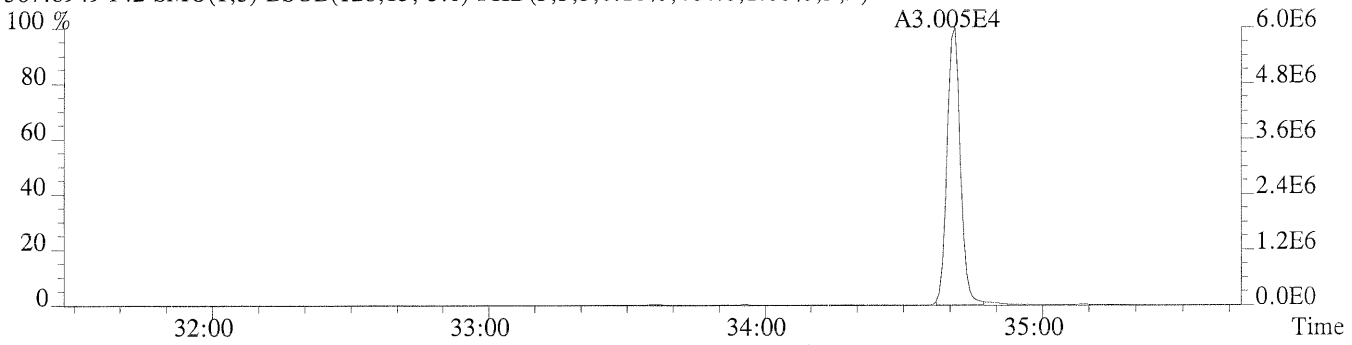
File:P100163 #1-386 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,F)



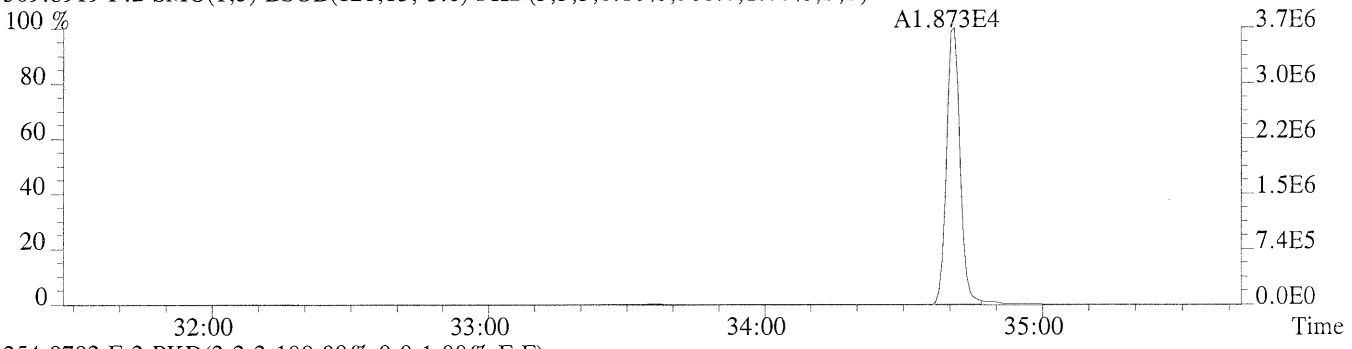
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,532.0,1.00%,F,F)



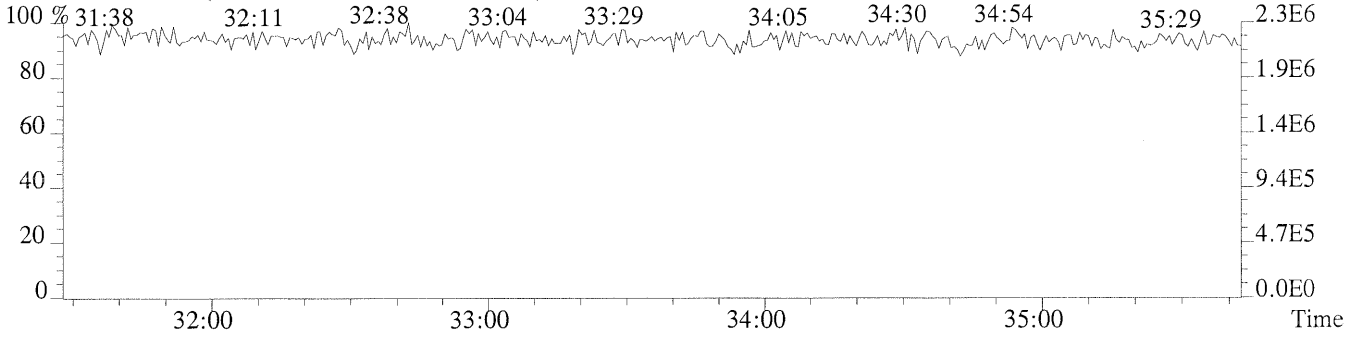
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,F)



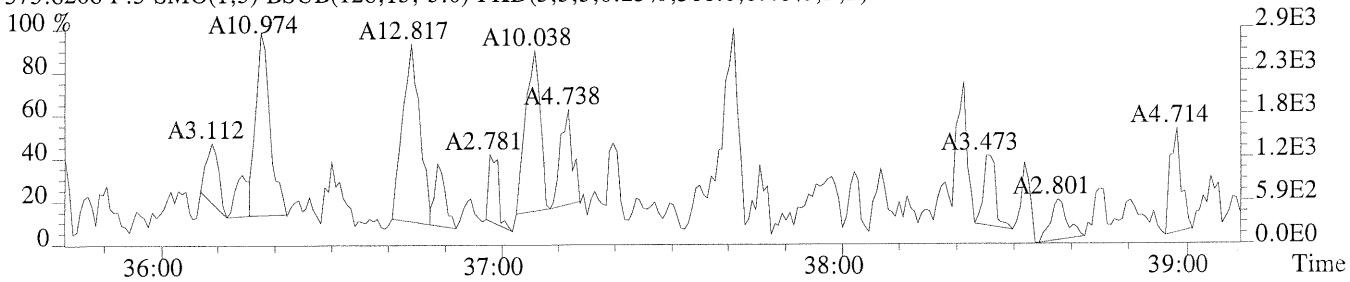
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,F)



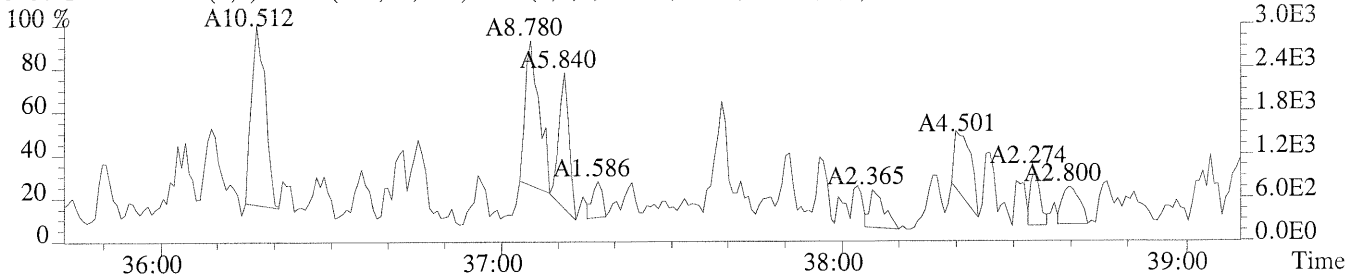
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



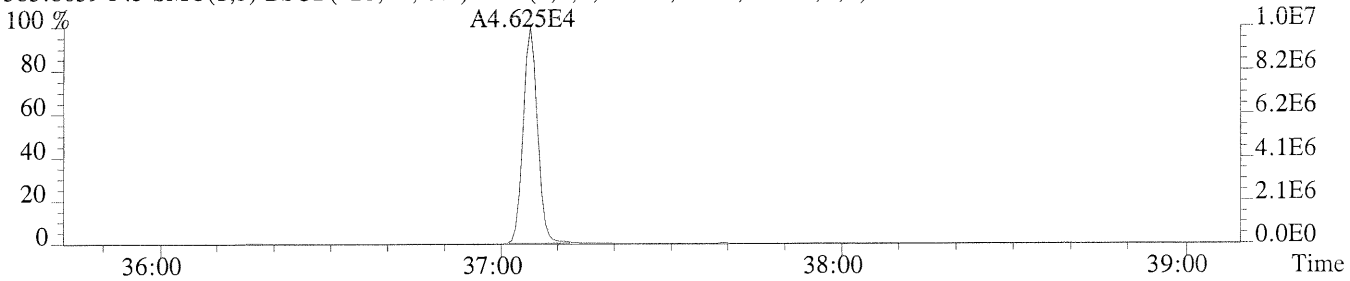
File:P100163 #1-313 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,568.0,0.40%,F,F)



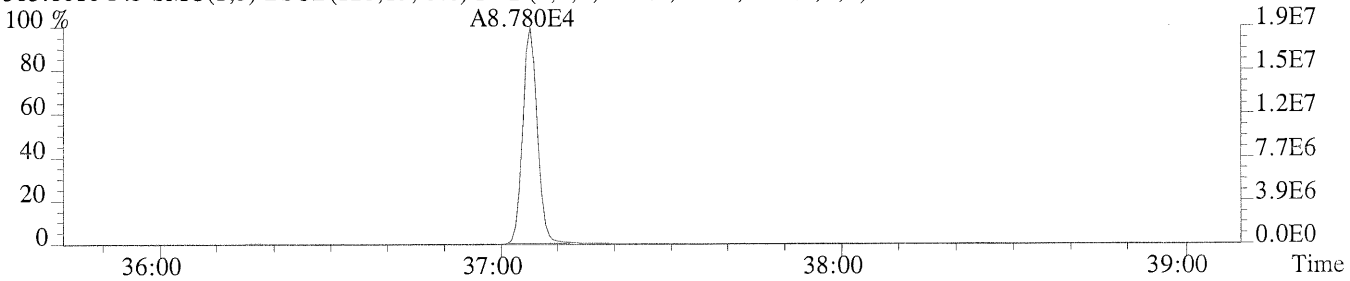
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,712.0,0.40%,F,F)



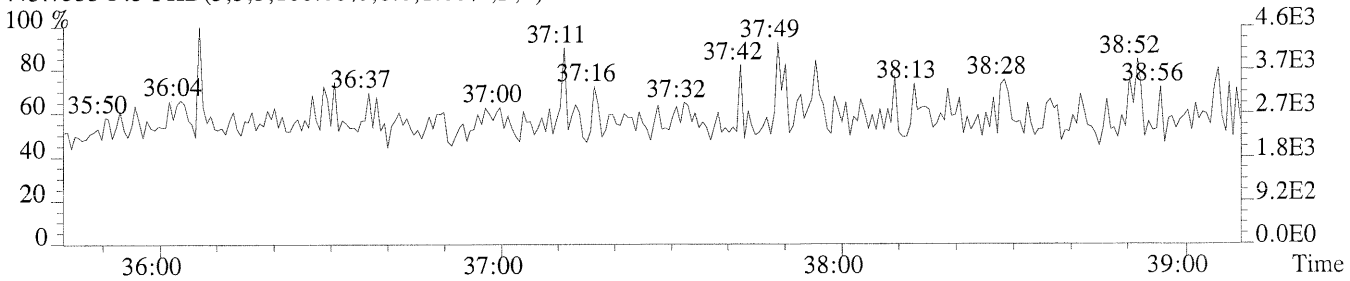
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,404.0,0.40%,F,F)



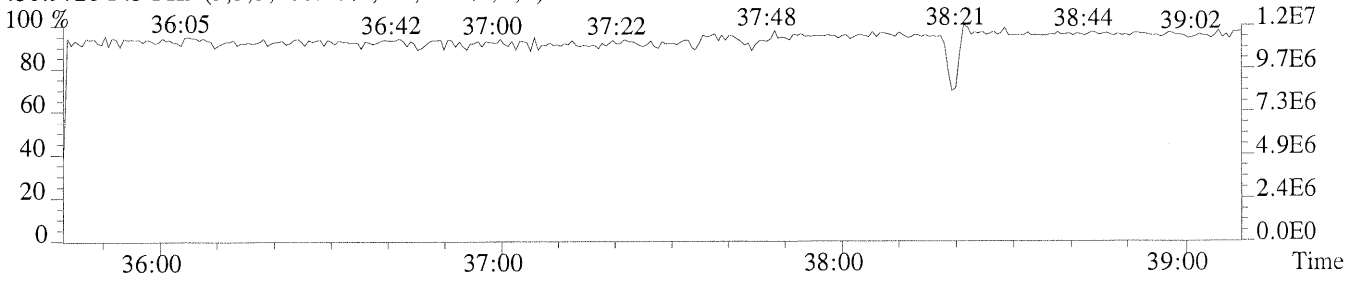
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,516.0,0.40%,F,F)



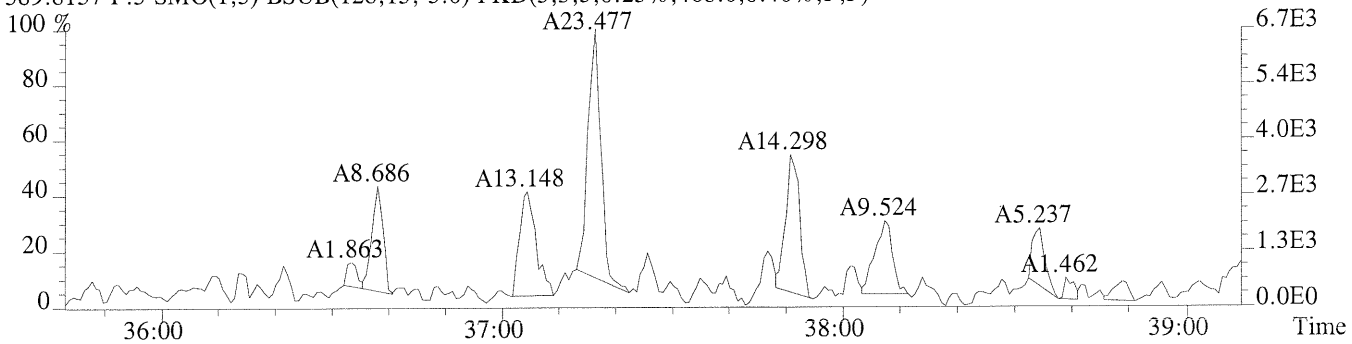
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



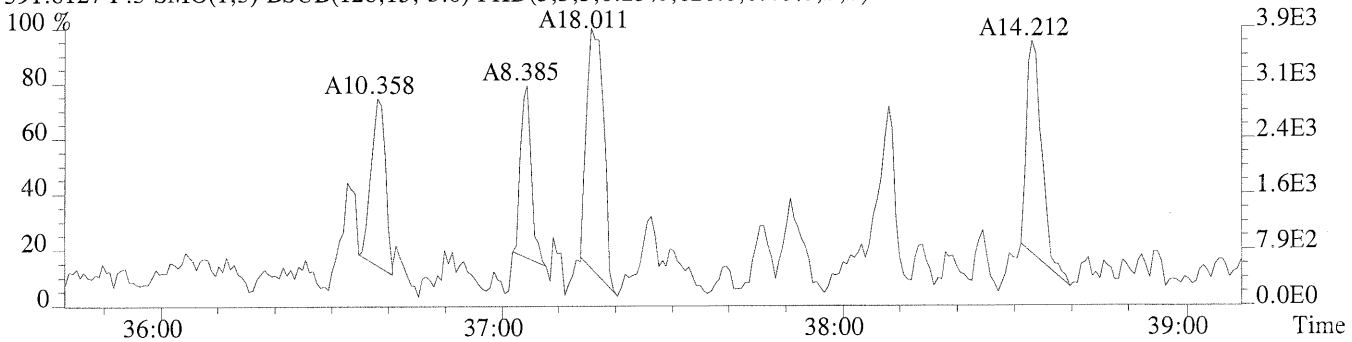
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



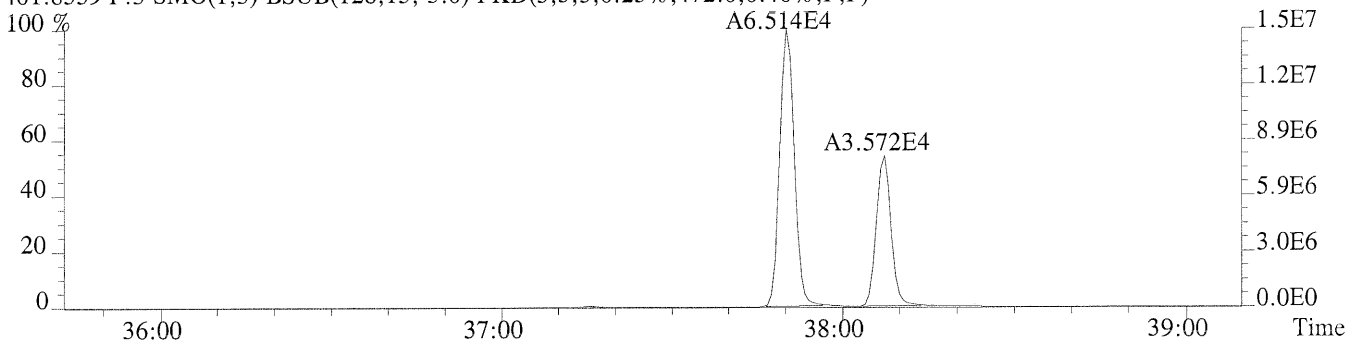
File:P100163 #1-313 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,F)



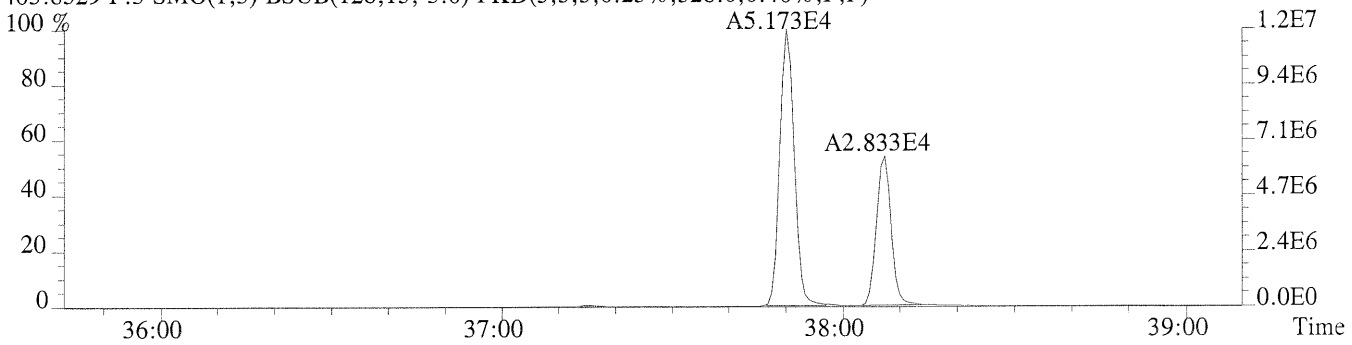
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,620.0,0.40%,F,F)



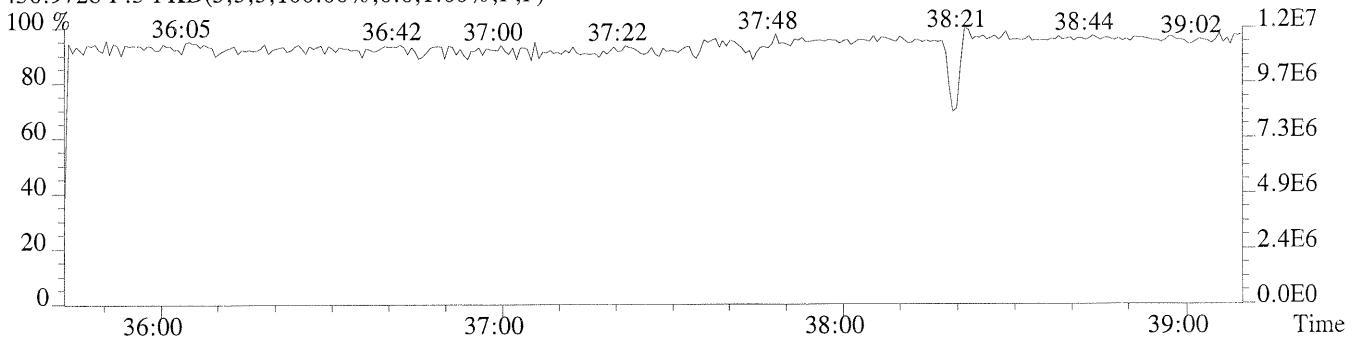
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,528.0,0.40%,F,F)

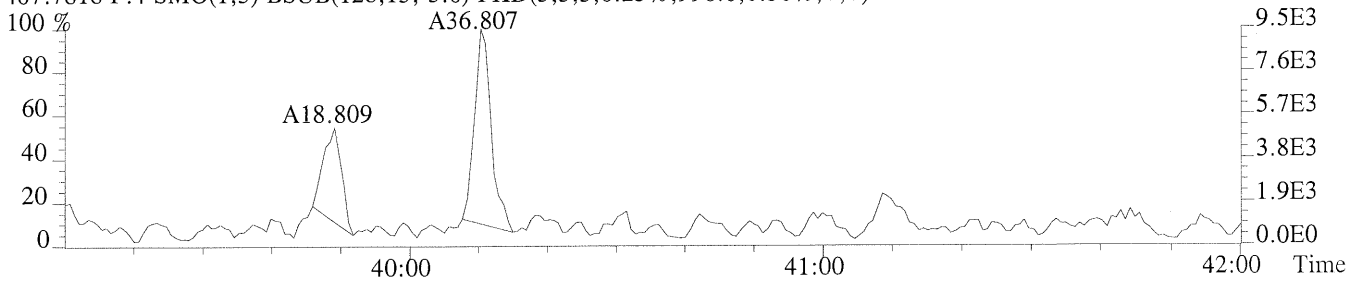


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

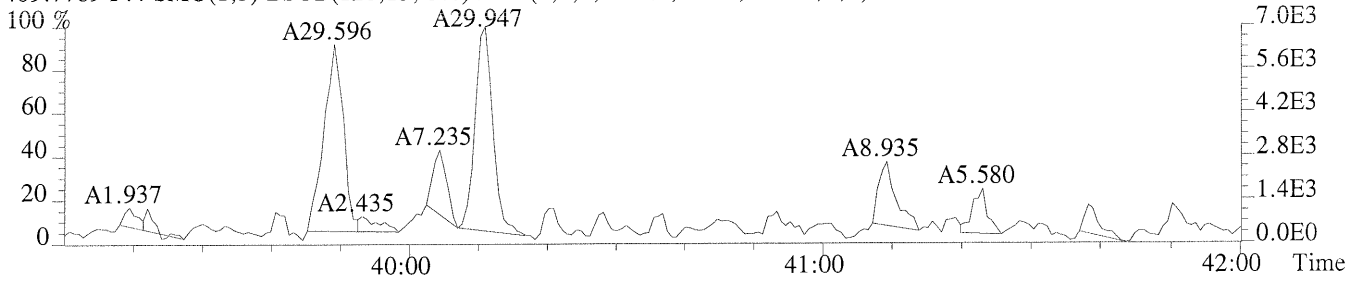


File:P100163 #1-258 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB

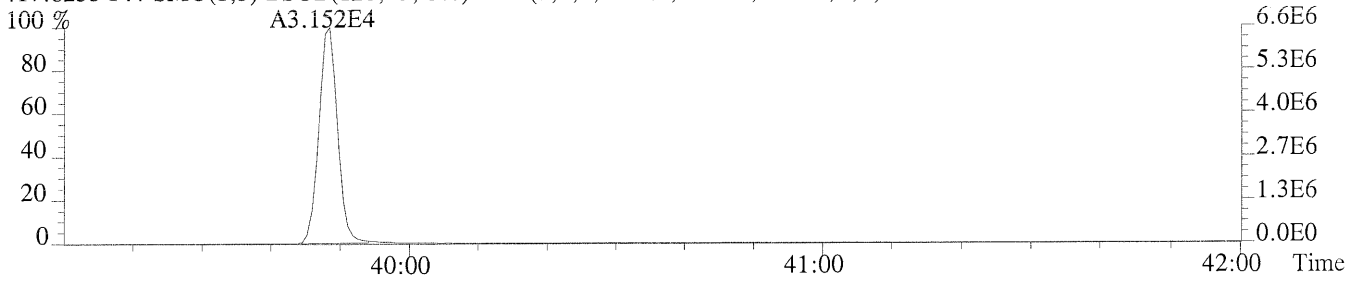
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,F)



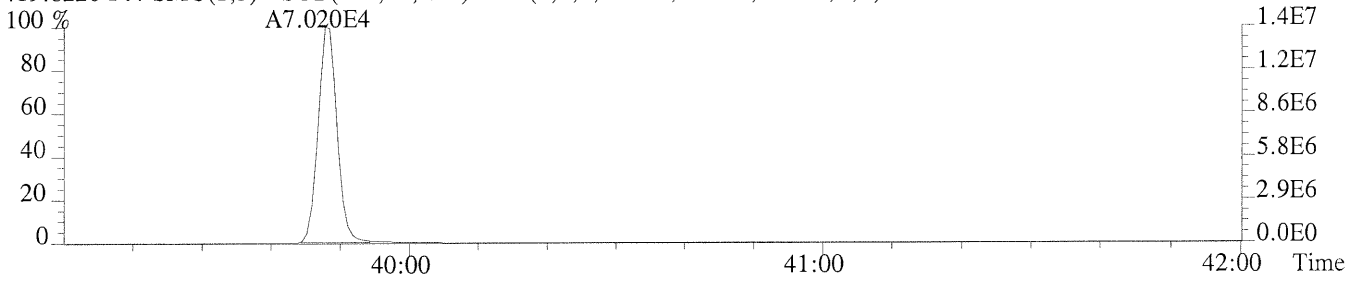
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.50%,F,F)



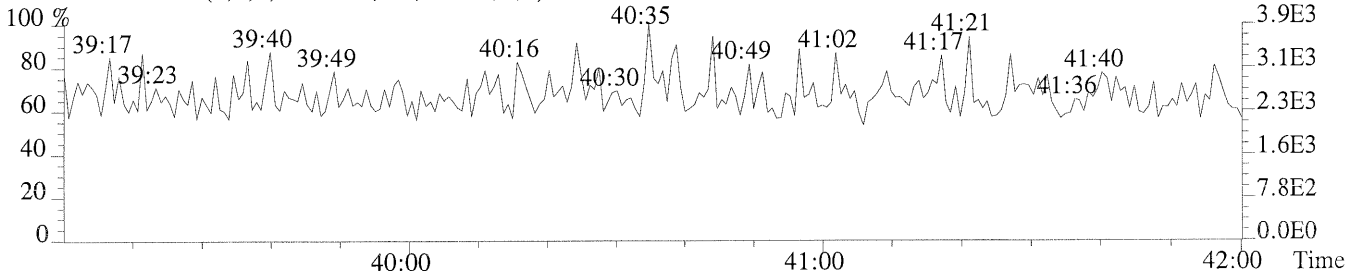
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1192.0,0.50%,F,F)



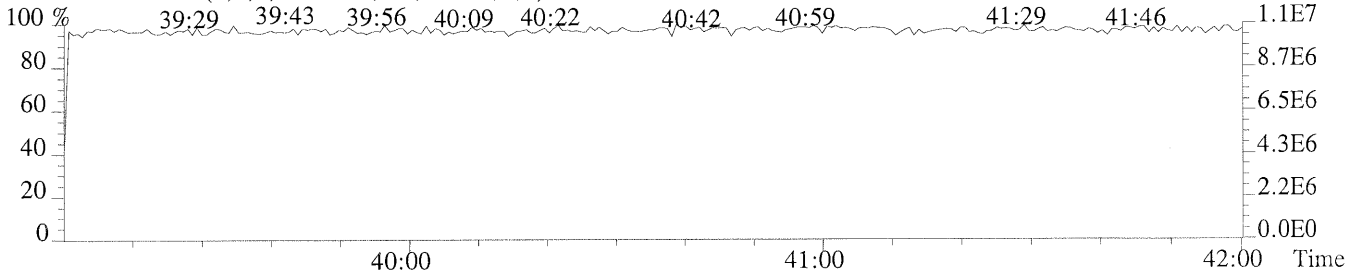
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3236.0,0.50%,F,F)



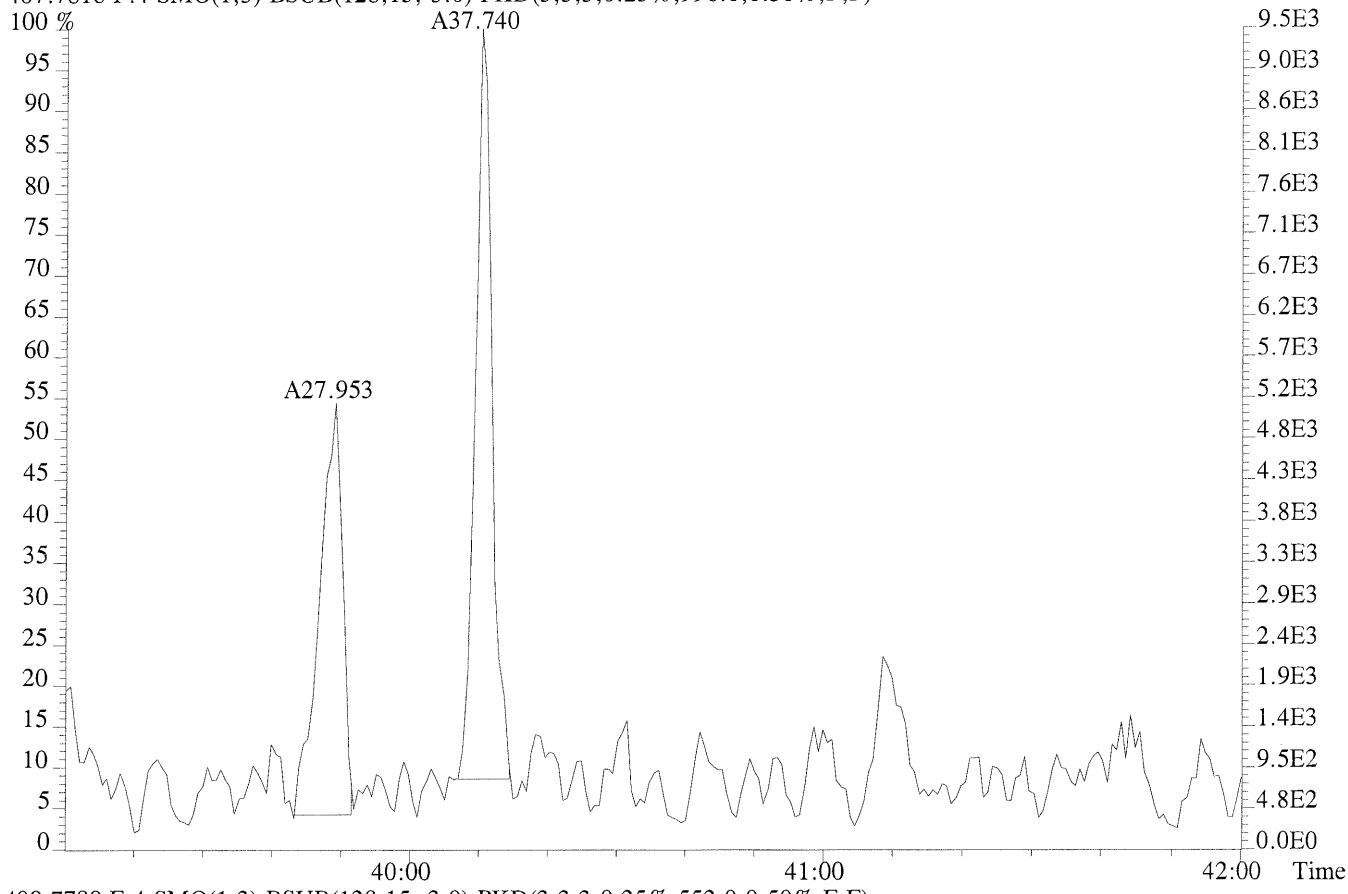
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



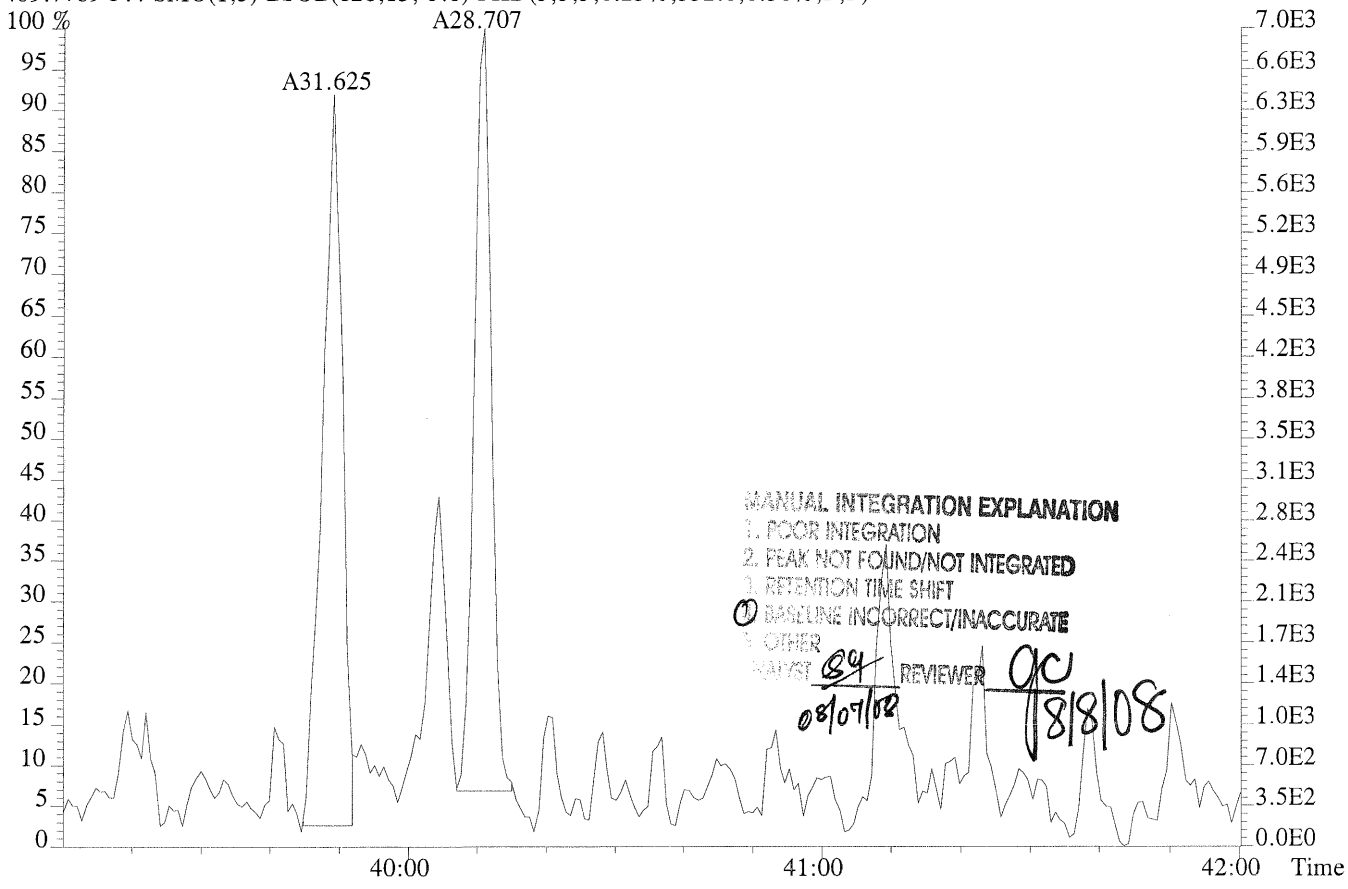
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100163 #1-258 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.50%,F,F)

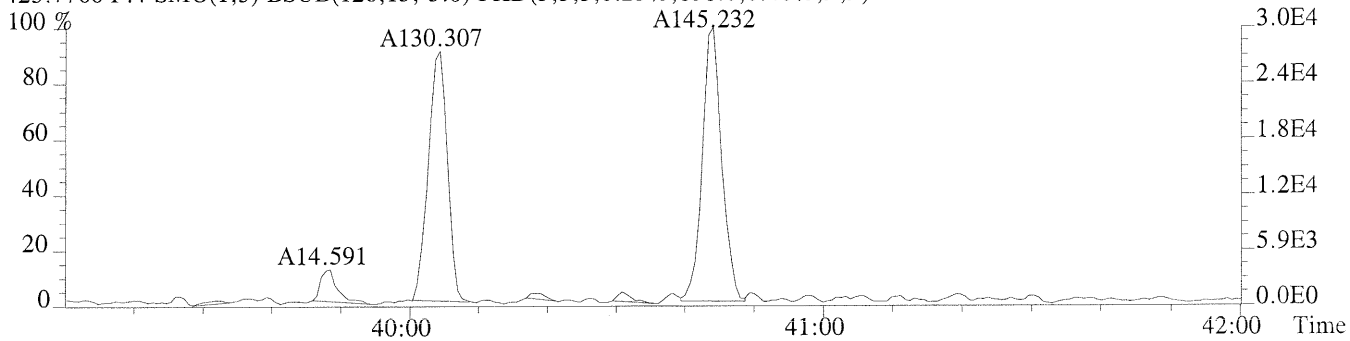


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.50%,F,F)

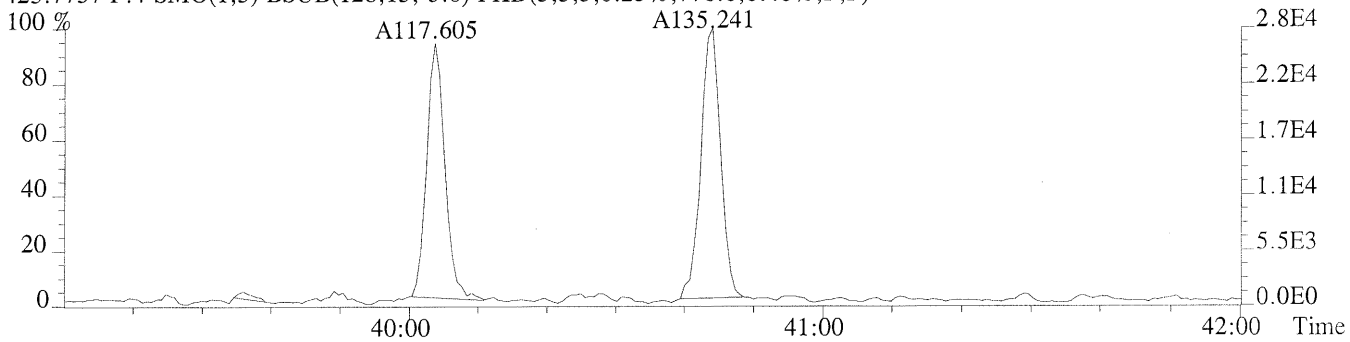


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST BY REVIEWER QC
08/07/08 8/8/08

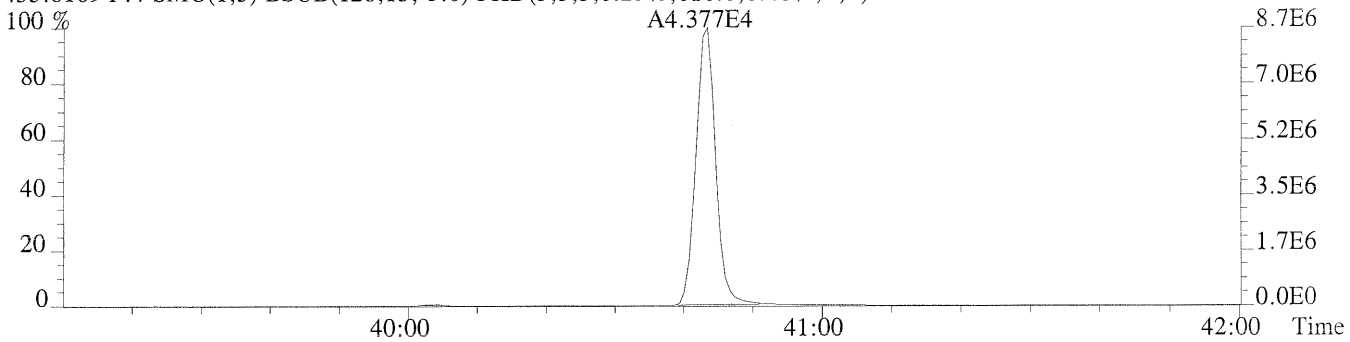
File:P100163 #1-258 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,F)



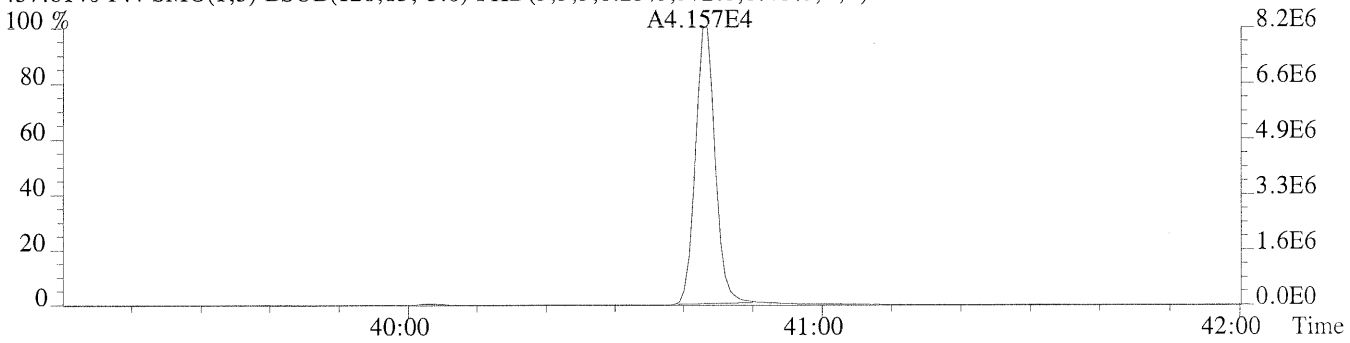
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,F)



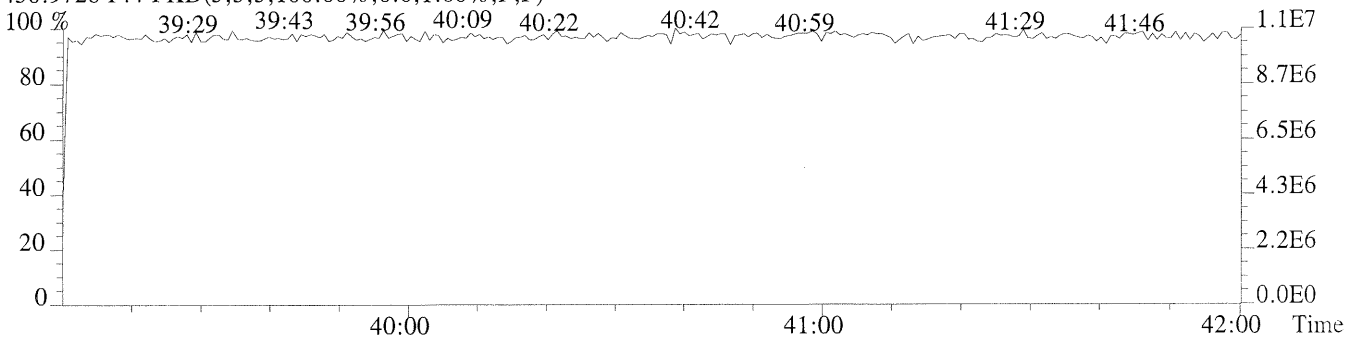
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,816.0,0.40%,F,F)



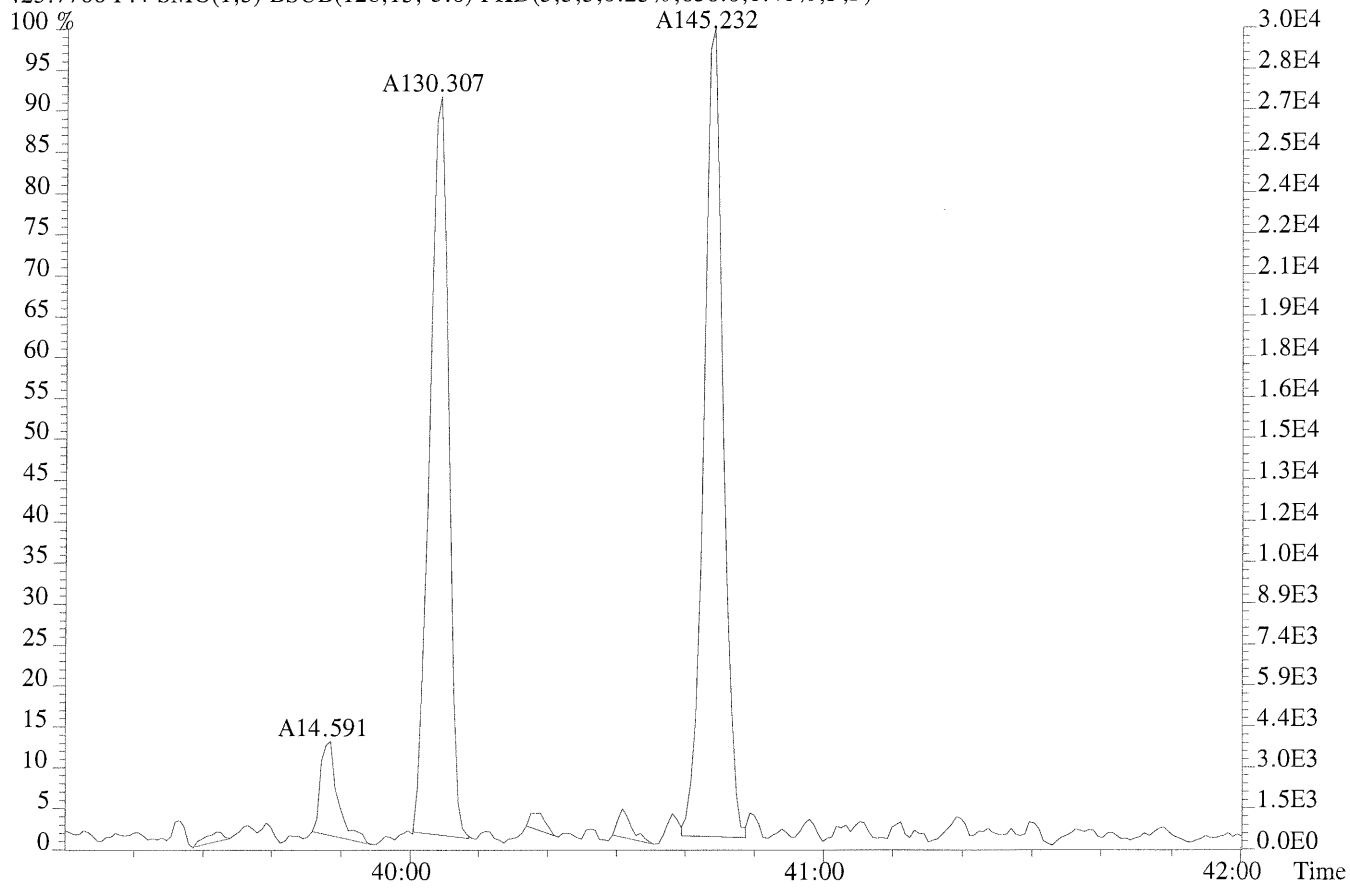
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,572.0,0.40%,F,F)



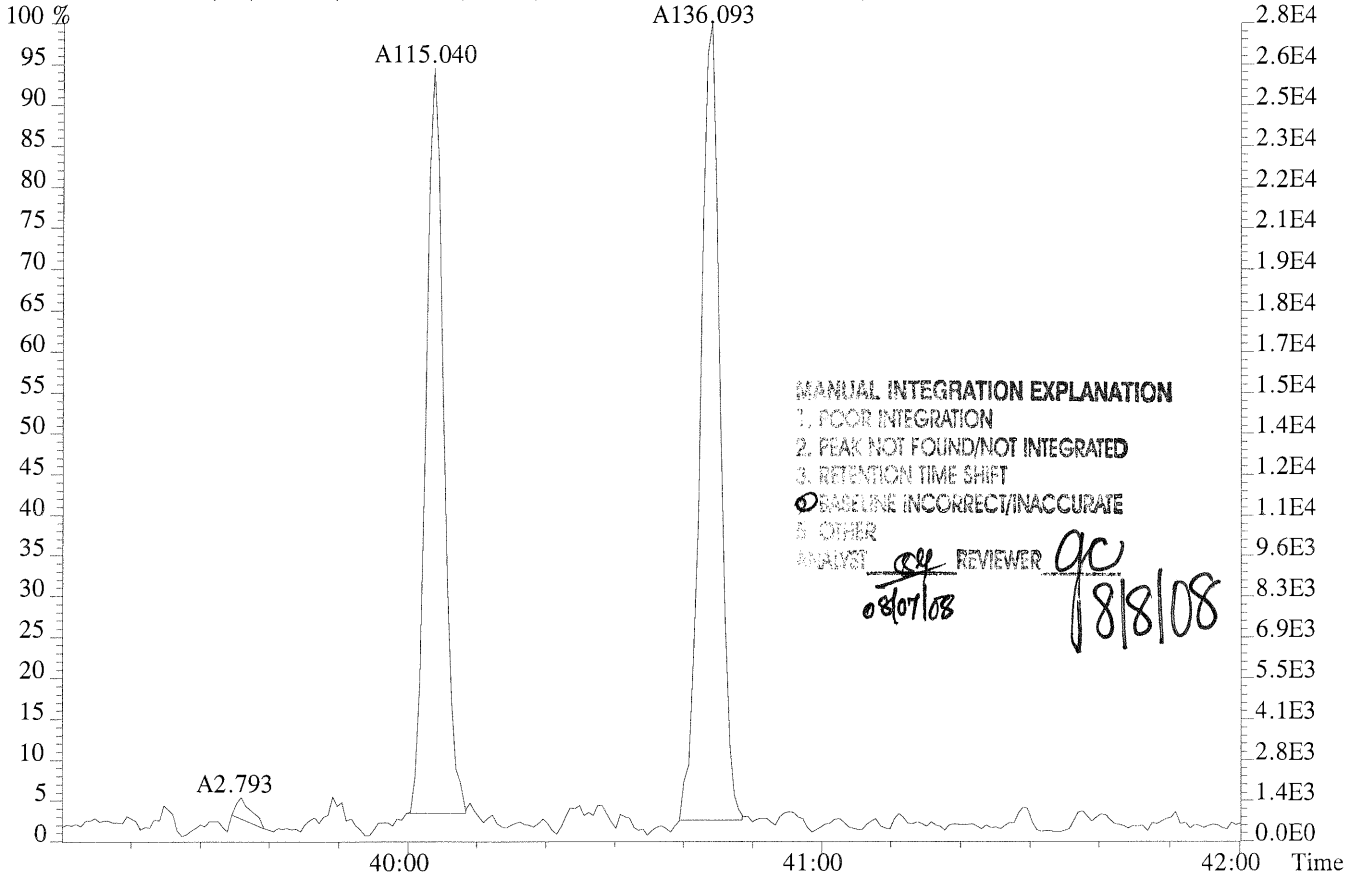
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100163 #1-258 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,F)

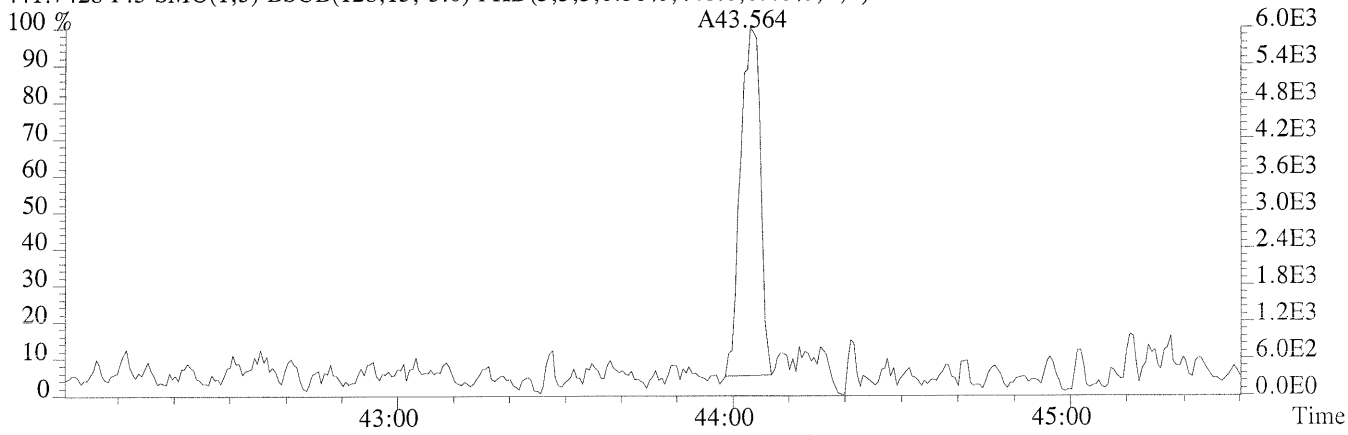


425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,F)

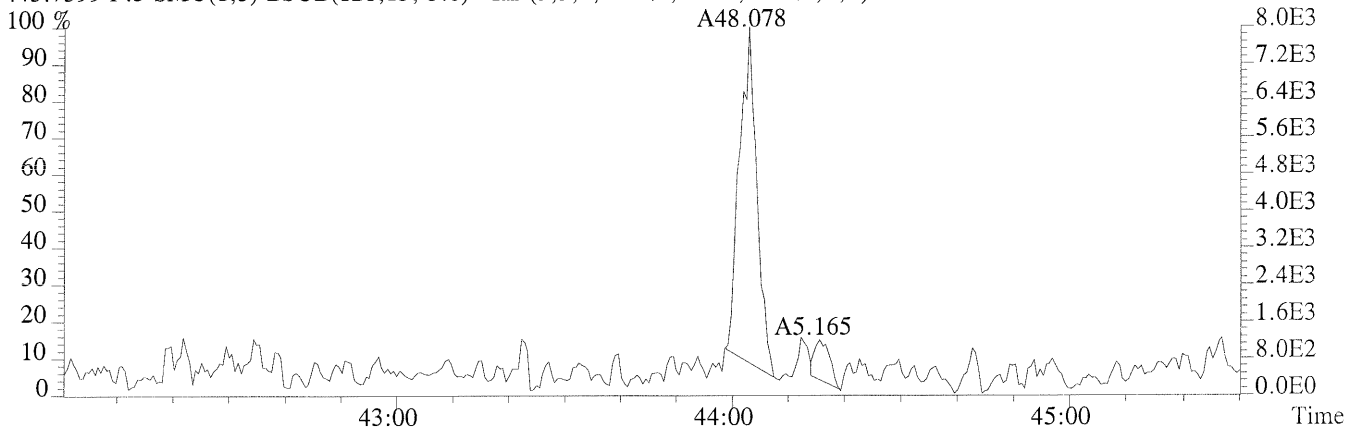


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST 08/07/08 REVIEWER 8/8/08

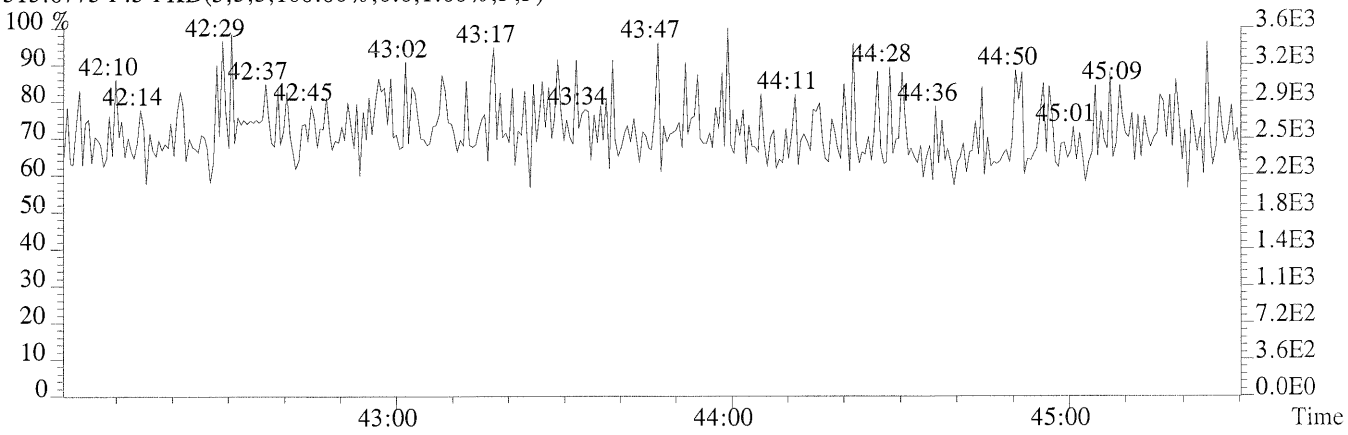
File:P100163 #1-386 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,448.0,0.40%,F,F)



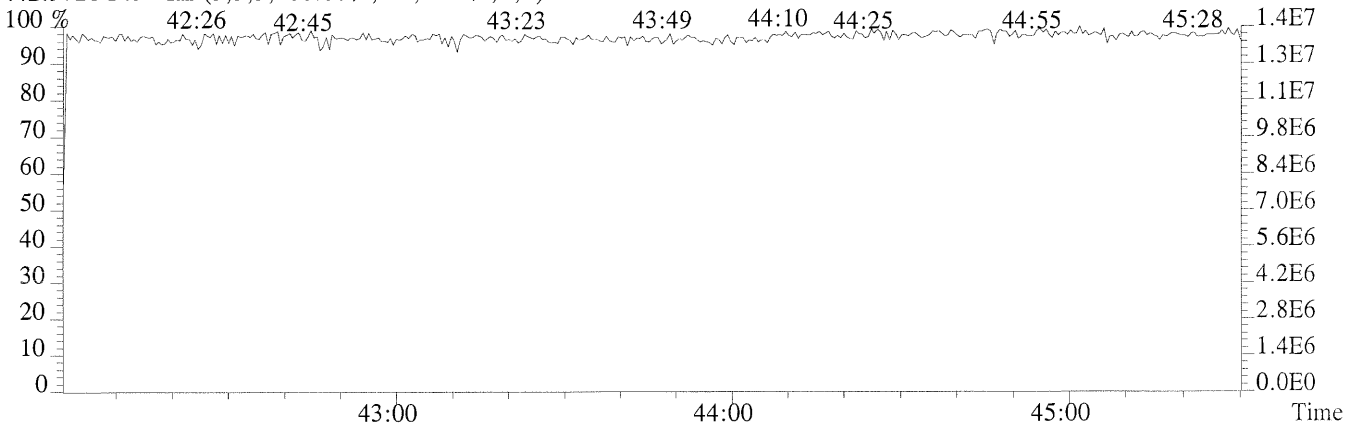
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,F)



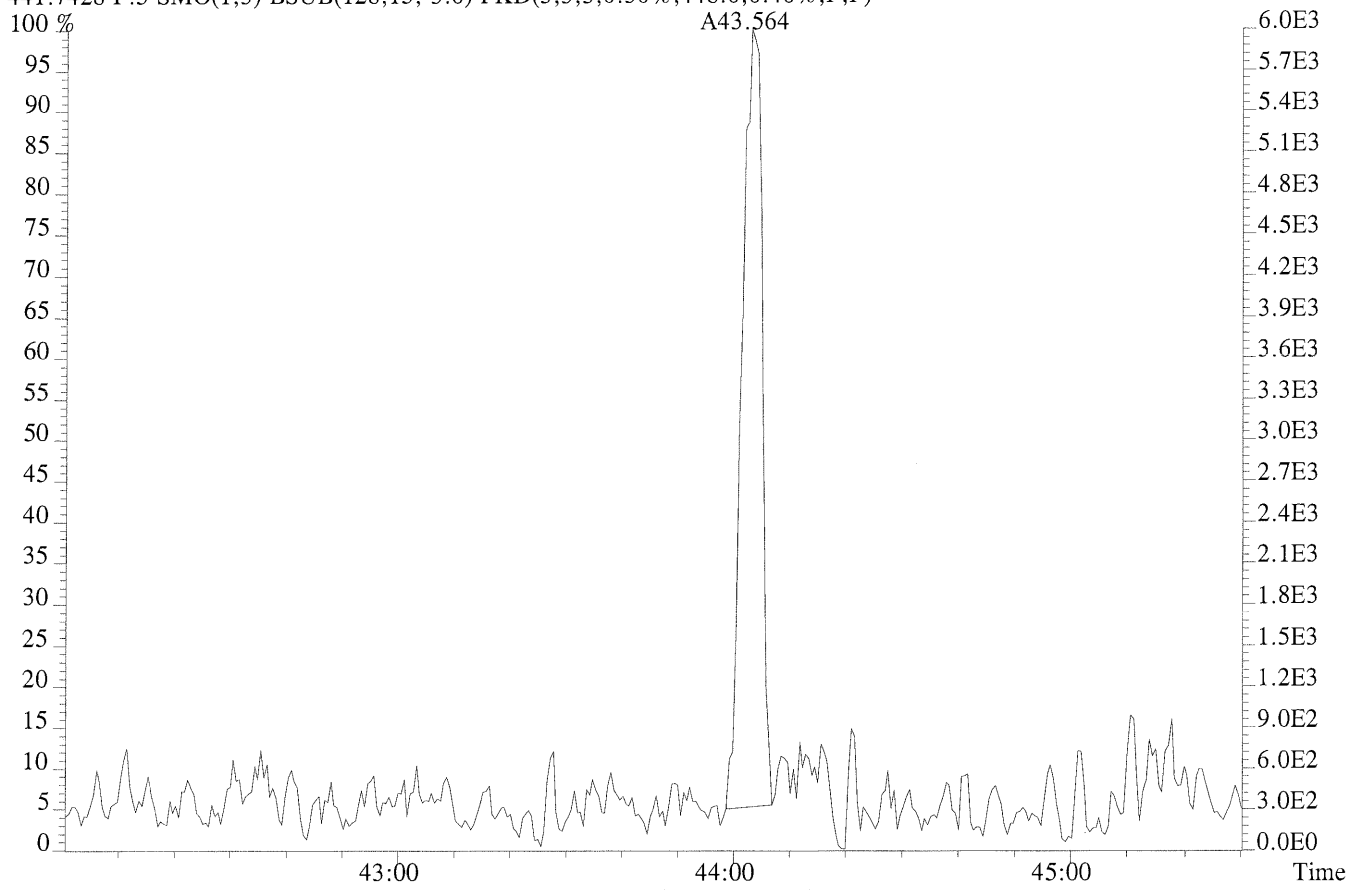
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



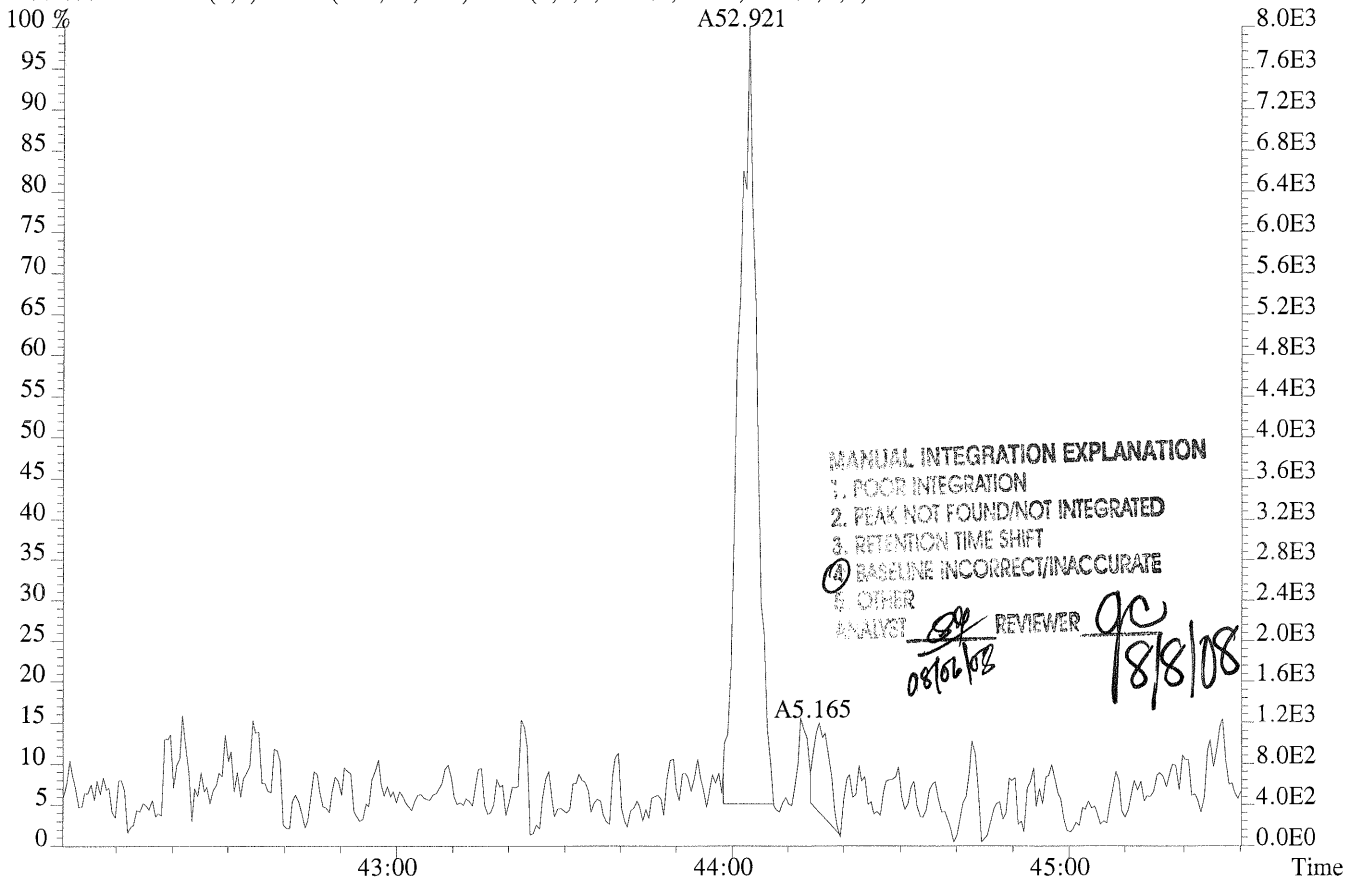
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



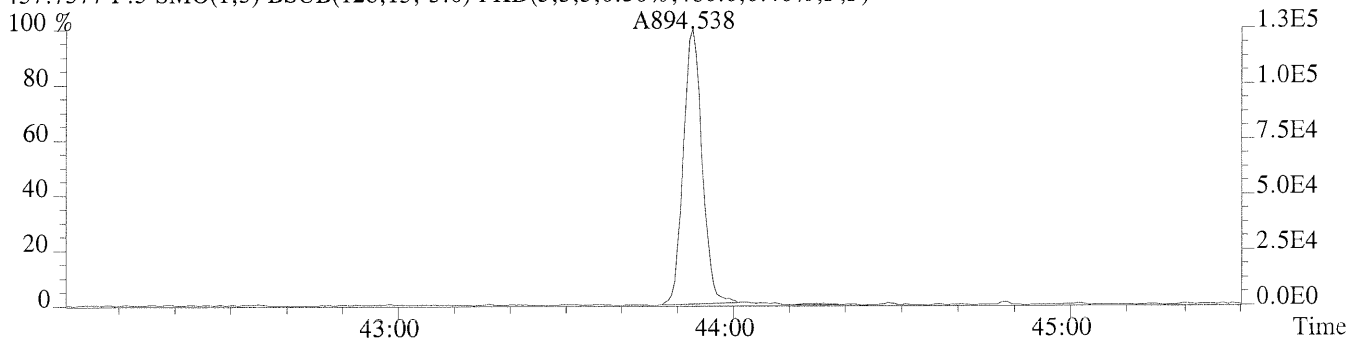
File:P100163 #1-386 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,448.0,0.40%,F,F)



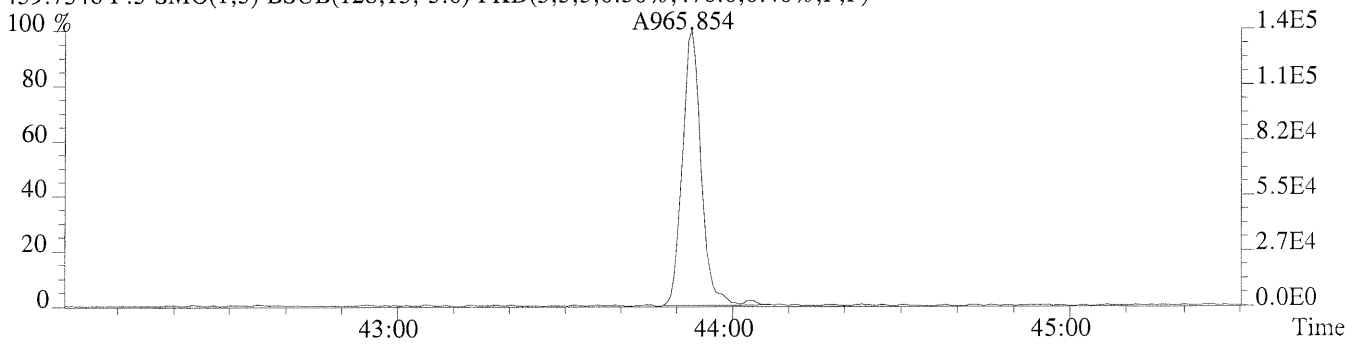
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,668.0,0.40%,F,F)



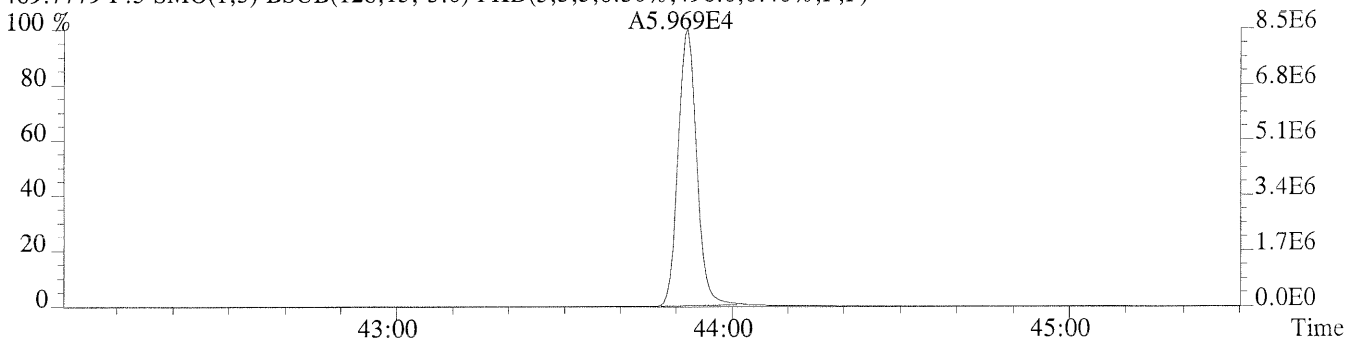
File:P100163 #1-386 Acq: 1-AUG-2008 10:05:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-01 MB
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,480.0,0.40%,F,F)



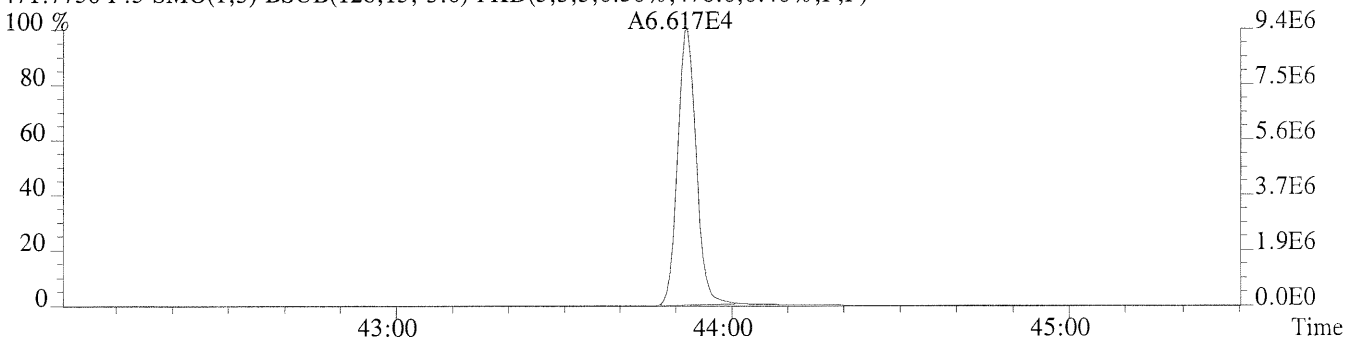
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,476.0,0.40%,F,F)



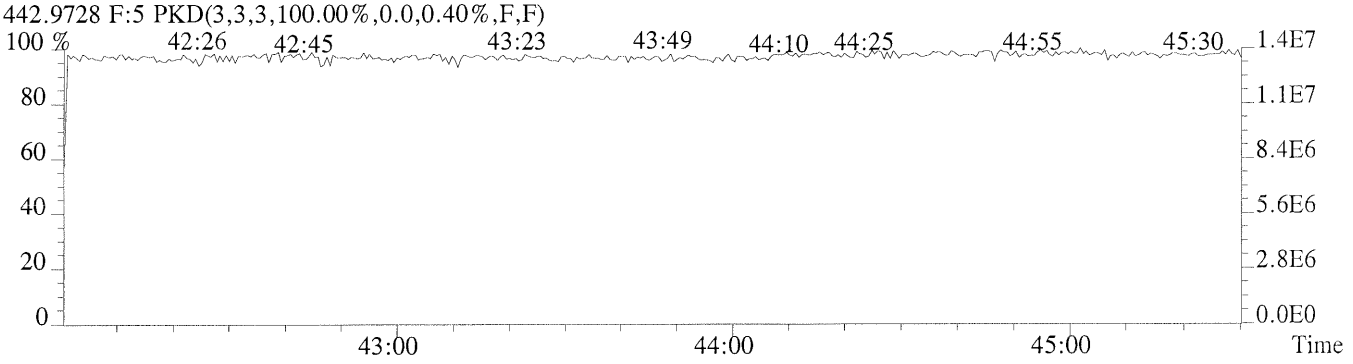
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,496.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,476.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P200040 Samp: 1 Inj: 1 Acquired: 4-AUG-08 12:59:32
Processed: 12-AUG-08 08:24:41 LAB. ID: EQ0800317-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.831
2	Unk	1,2,3,7,8-PeCDF	NotFnd	*	*	*	no	no	0.840
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	NotFnd	*	*	*	no	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	NotFnd	*	*	*	no	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	6.749e+01	6.611e+01	1.02	yes	yes	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	0.966
10	Unk	OCDF	43:21	7.452e+01	1.281e+02	0.58	no	yes	1.109
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.921
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	NotFnd	*	*	*	no	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	NotFnd	*	*	*	no	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	NotFnd	*	*	*	no	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	7.340e+01	6.372e+01	1.15	yes	no	0.883
17	Unk	OCDD	43:12	2.286e+02	2.967e+02	0.77	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:35	4.930e+04	6.357e+04	0.78	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:58	8.727e+04	5.534e+04	1.58	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:31	9.750e+04	1.872e+05	0.52	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	6.795e+04	1.551e+05	0.44	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:26	4.023e+04	5.153e+04	0.78	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:03	6.738e+04	4.282e+04	1.57	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.640e+05	1.314e+05	1.25	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	1.196e+05	1.159e+05	1.03	yes	no	0.831
26	IS	13C-OCDD	43:11	1.934e+05	2.114e+05	0.91	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:14	5.200e+04	6.506e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	6.902e+04	5.536e+04	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	8.570e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	NotFnd		*	*	no		0.831
31	Tot	Total Tetra-Dioxins	NotFnd		*	*	no		0.921
32	Tot	Total Penta-Furans	NotFnd		*	*	no		0.845
33	Tot	Total Penta-Dioxins	NotFnd		*	*	no		0.872
34	Tot	Total Hexa-Furans	NotFnd		*	*	no		1.023
35	Tot	Total Hexa-Dioxins	NotFnd		*	*	no		0.985
36	Tot	Total Hepta-Furans	39:16		1.336e+02	1.02	yes		1.142
37	Tot	Total Hepta-Dioxins	40:10		1.371e+02	1.15	yes		0.883

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary METHOD BLANK

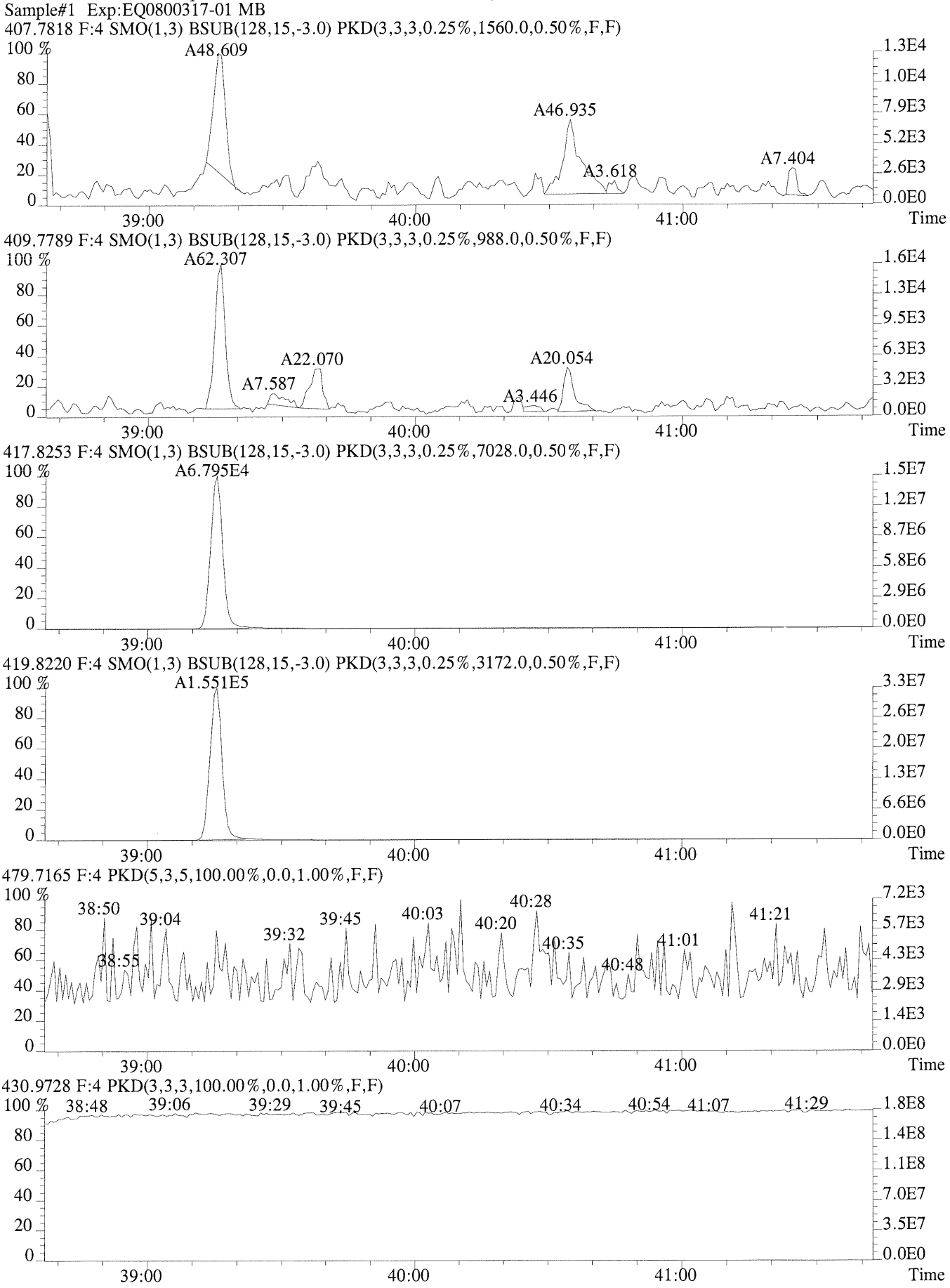
Run #7 Filename P200040 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 12:59:32

Processed: 12-AUG-08 08:24:41 LAB. ID: EQ0800317-01

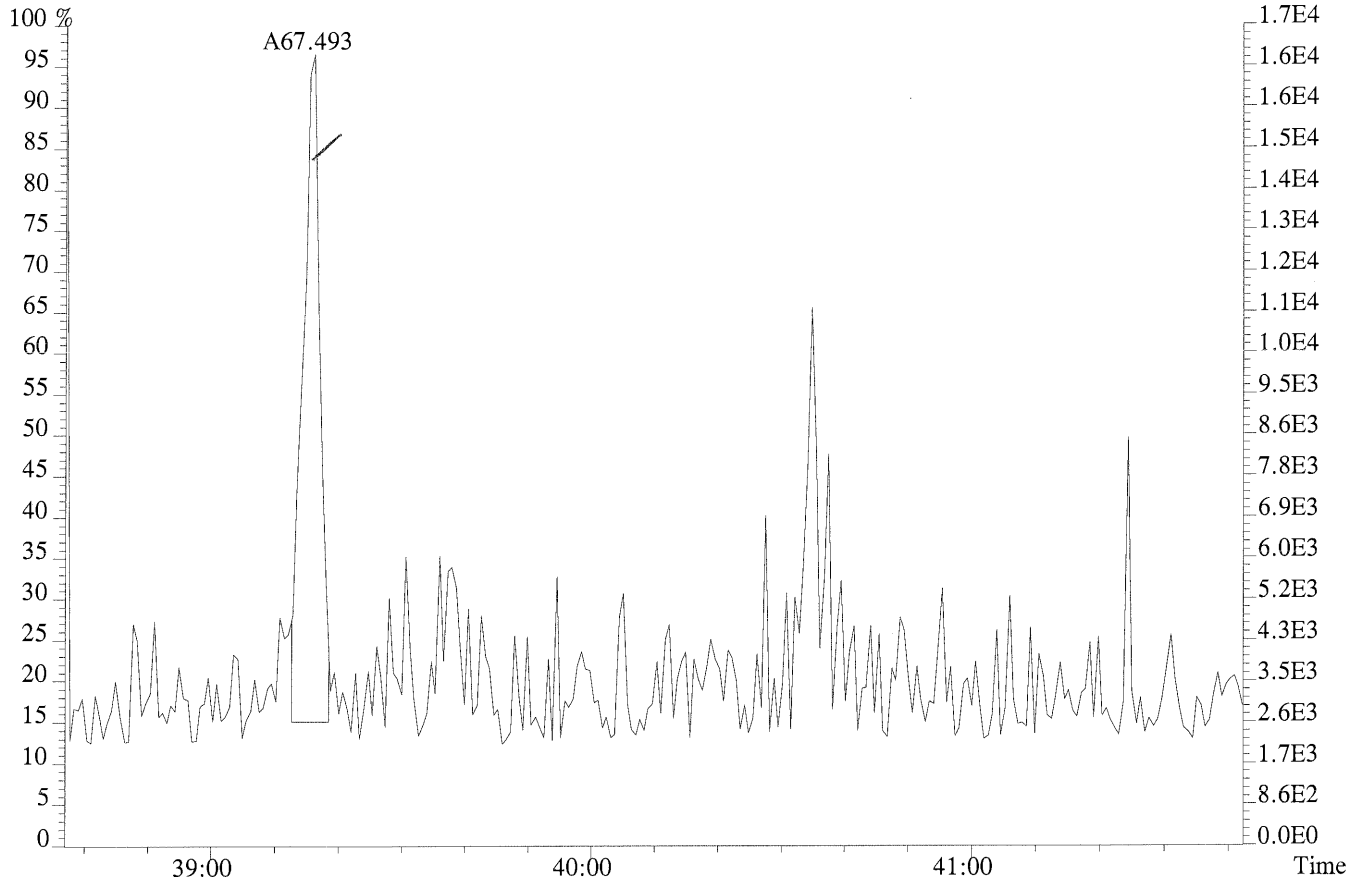
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	1.06e+03	*	*	2.72e+03	*
2	1,2,3,7,8-PeCDF	*	7.36e+02	*	*	2.46e+03	*
3	2,3,4,7,8-PeCDF	*	7.36e+02	*	*	2.46e+03	*
4	1,2,3,4,7,8-HxCDF	*	1.58e+03	*	*	1.04e+03	*
5	1,2,3,6,7,8-HxCDF	*	1.58e+03	*	*	1.04e+03	*
6	2,3,4,6,7,8-HxCDF	*	1.58e+03	*	*	1.04e+03	*
7	1,2,3,7,8,9-HxCDF	*	1.58e+03	*	*	1.04e+03	*
8	1,2,3,4,6,7,8-HpCDF	1.41e+04	1.56e+03	9.0e+00	2.06e+04	9.88e+02	2.1e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.56e+03	*	*	9.88e+02	*
10	OCDF	1.28e+04	1.28e+03	1.0e+01	2.60e+04	3.33e+03	7.8e+00
11	2,3,7,8-TCDD	*	2.41e+03	*	*	1.16e+03	*
12	1,2,3,7,8-PeCDD	*	2.47e+03	*	*	7.64e+02	*
13	1,2,3,4,7,8-HxCDD	*	7.80e+02	*	*	1.48e+03	*
14	1,2,3,6,7,8-HxCDD	*	7.80e+02	*	*	1.48e+03	*
15	1,2,3,7,8,9-HxCDD	*	7.80e+02	*	*	1.48e+03	*
16	1,2,3,4,6,7,8-HpCDD	1.36e+04	1.16e+03	1.2e+01	1.32e+04	7.76e+02	1.7e+01
17	OCDD	3.64e+04	1.14e+03	3.2e+01	5.15e+04	1.04e+03	4.9e+01
18	13C-2,3,7,8-TCDF	8.17e+06	5.29e+03	1.5e+03	1.05e+07	3.93e+03	2.7e+03
19	13C-1,2,3,7,8-PeCDF	1.69e+07	7.88e+02	2.1e+04	1.08e+07	1.50e+03	7.2e+03
20	13C-1,2,3,4,7,8-HxCDF	2.08e+07	9.44e+02	2.2e+04	4.04e+07	1.77e+03	2.3e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.45e+07	7.03e+03	2.1e+03	3.30e+07	3.17e+03	1.0e+04
22	13C-2,3,7,8-TCDD	7.18e+06	6.21e+03	1.2e+03	9.27e+06	1.35e+03	6.9e+03
23	13C-1,2,3,7,8-PeCDD	1.36e+07	2.36e+03	5.8e+03	8.62e+06	1.00e+03	8.6e+03
24	13C-1,2,3,6,7,8-HxCDD	3.55e+07	7.76e+02	4.6e+04	2.79e+07	1.65e+03	1.7e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.49e+07	2.94e+03	8.5e+03	2.39e+07	1.29e+03	1.9e+04
26	13C-OCDD	2.88e+07	9.00e+02	3.2e+04	3.20e+07	8.40e+02	3.8e+04
27	13C-1,2,3,4-TCDD	9.40e+06	6.21e+03	1.5e+03	1.17e+07	1.35e+03	8.7e+03
28	13C-1,2,3,7,8,9-HxCDD	1.49e+07	7.76e+02	1.9e+04	1.19e+07	1.65e+03	7.2e+03
29	37Cl-2,3,7,8-TCDD	1.55e+07	7.08e+02	2.2e+04			

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

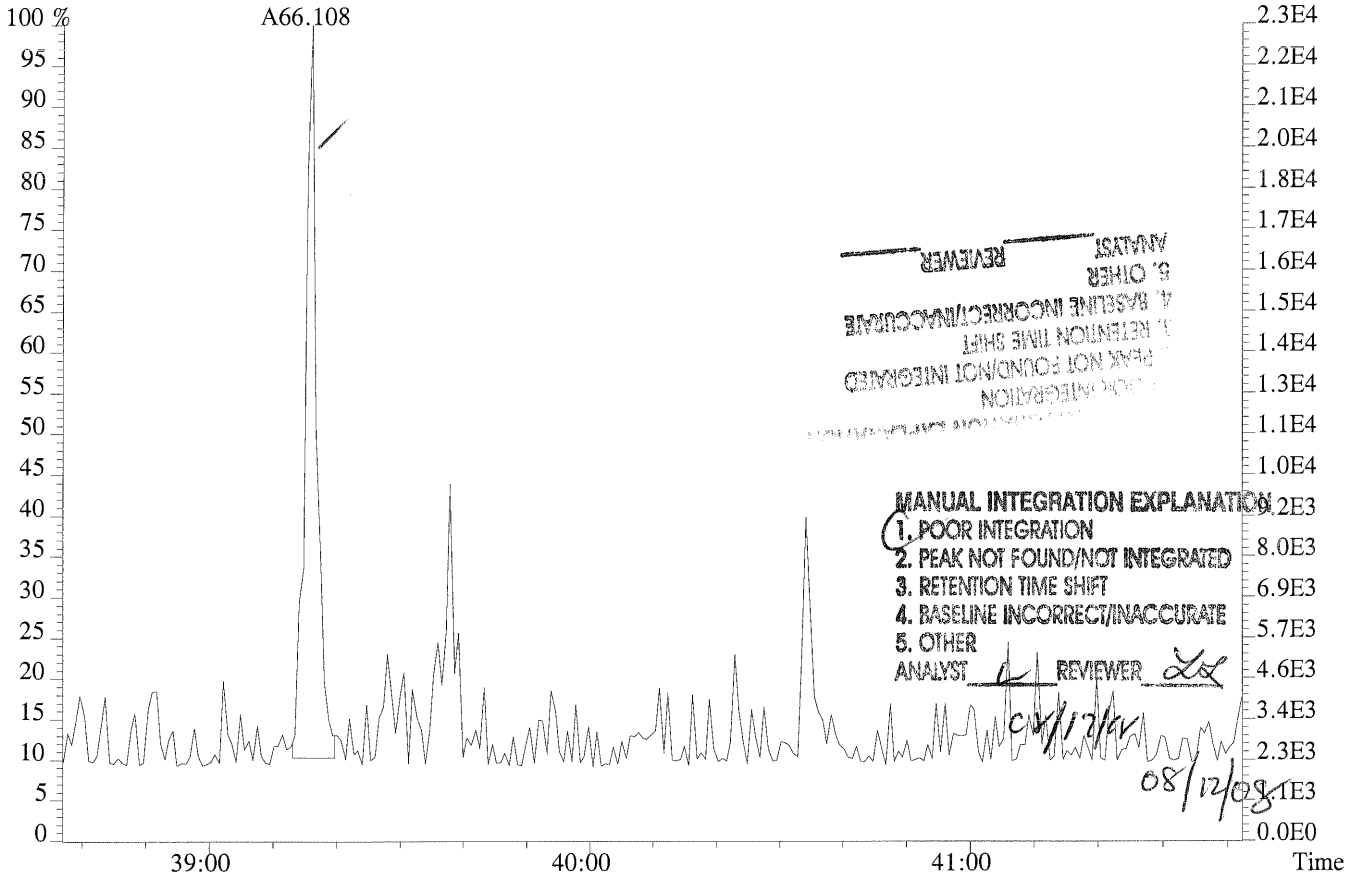
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Sample#1 Exp:EQ0800317-01 MB



File:P200040 #1-281 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
407.7818 F:4



409.7789 F:4



MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
08/12/08

Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 36 Totals Name: Total Hepta-Furans

Run: 7 File: P200040 Sample:1 Injection:1 Function:4

Acquired: 4-AUG-08 12:59:32 Processed: 12-AUG-08 08:24:41

Mass:407.782 409.779 Response:

#	RT	Resp	Resp	Ratio	Meet	Tot Resp	Name	Mod?
1	39:16	6.75e+01	6.61e+01	1.02	yes	1.34e+02	1,2,3,4,6,7,8-HpCDF	y

Columbia Analytical Services, Inc.
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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 37 Totals Name: Total Hepta-Dioxins

Run: 7 File: P200040 Sample:1 Injection:1 Function:4

Acquired: 4-AUG-08 12:59:32 Processed: 12-AUG-08 08:24:41

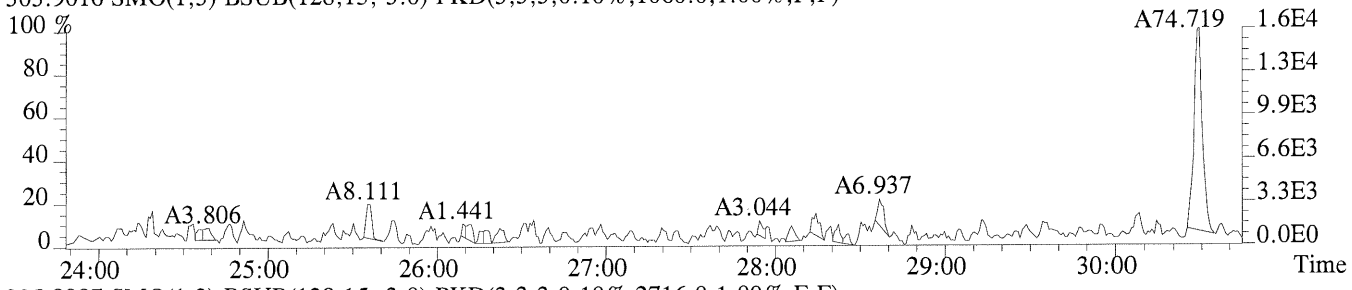
Mass:423.777 425.774 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	40:10	7.34e+01	6.37e+01 1.15	yes	1.37e+02	1,2,3,4,6,7,8-HpCDD	n

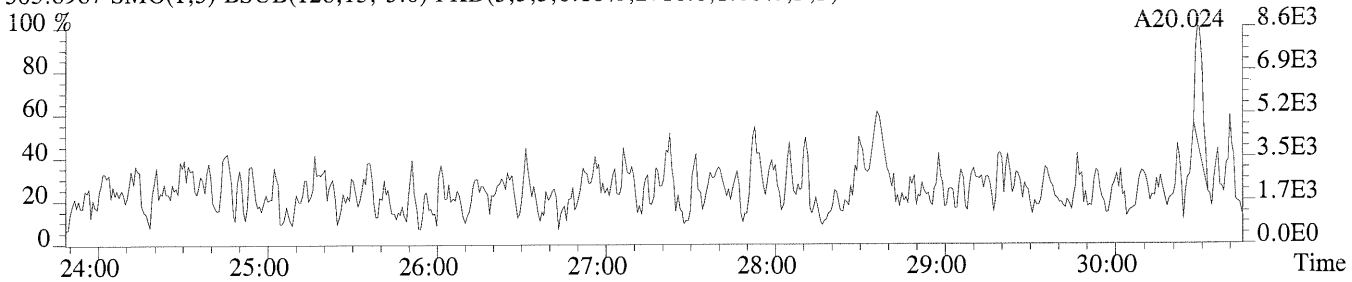
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:P200040 #1-578 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB

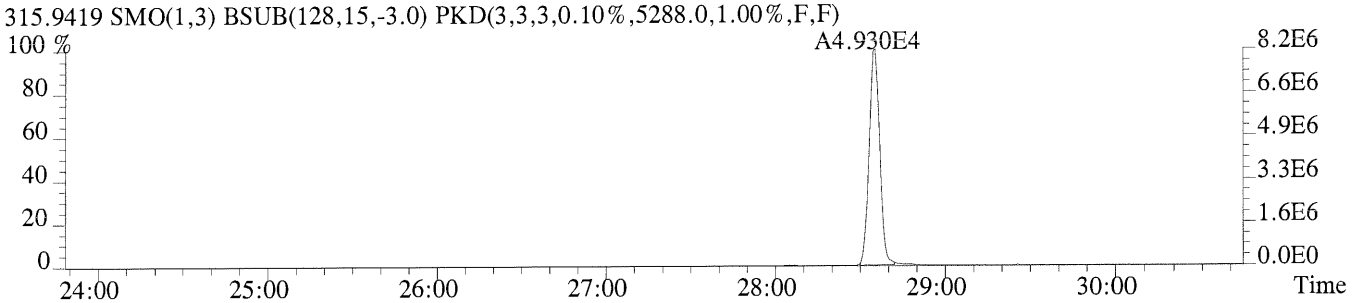
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1060.0,1.00%,F,F)



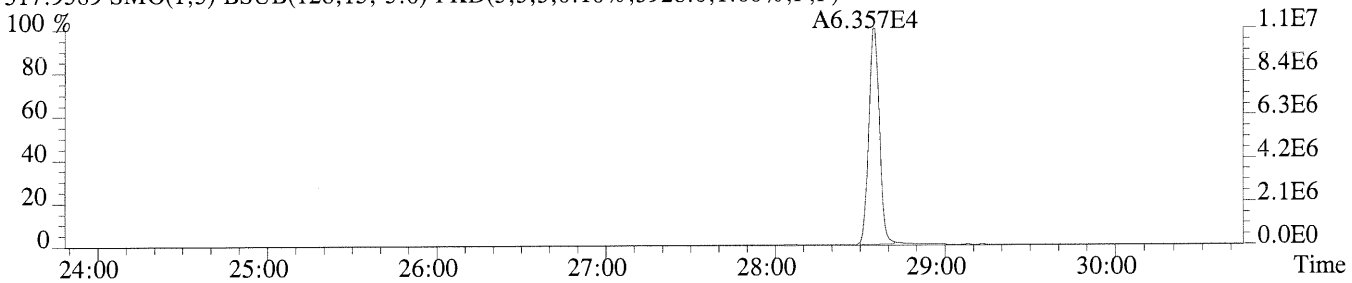
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2716.0,1.00%,F,F)



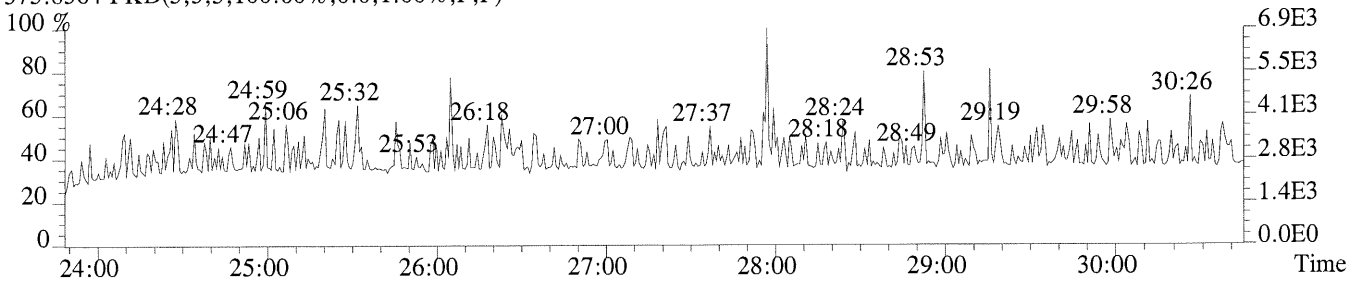
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5288.0,1.00%,F,F)



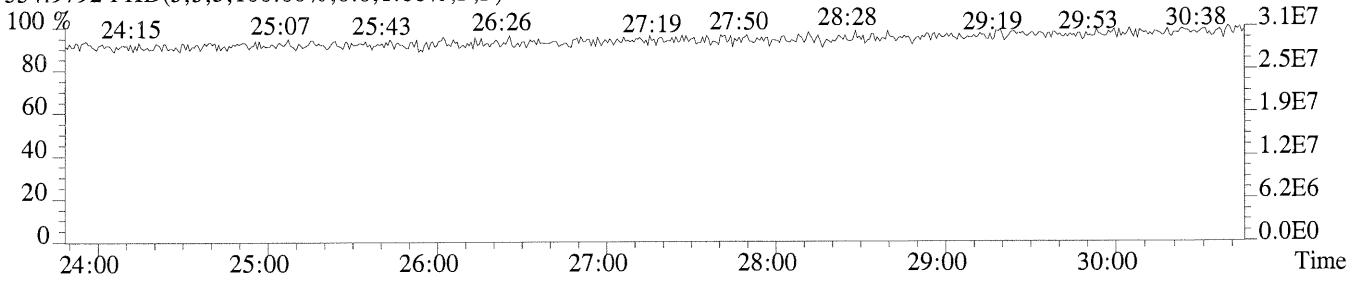
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3928.0,1.00%,F,F)



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

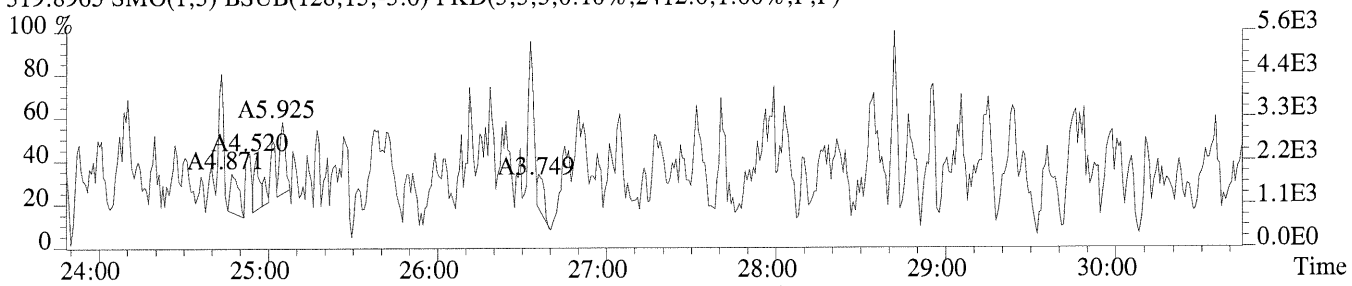


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

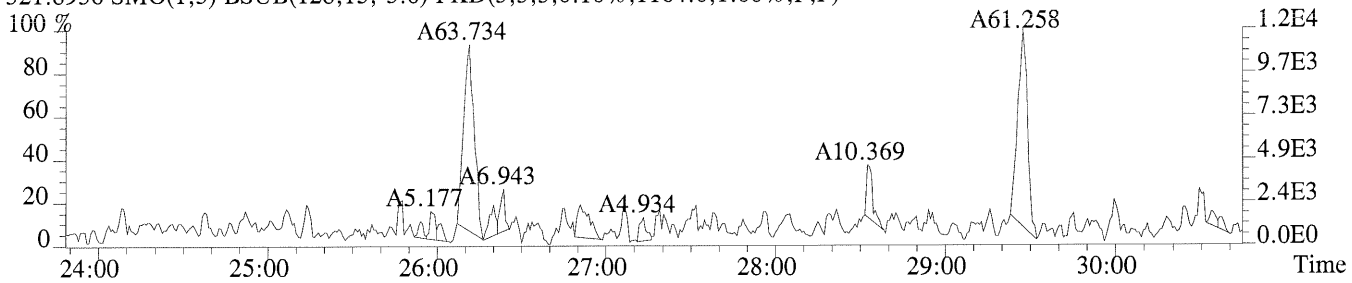


File:P200040 #1-578 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB

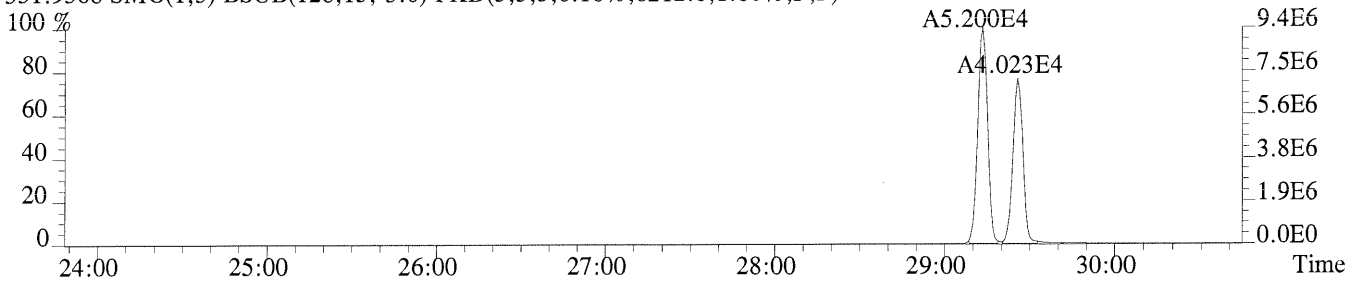
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2412.0,1.00%,F,F)



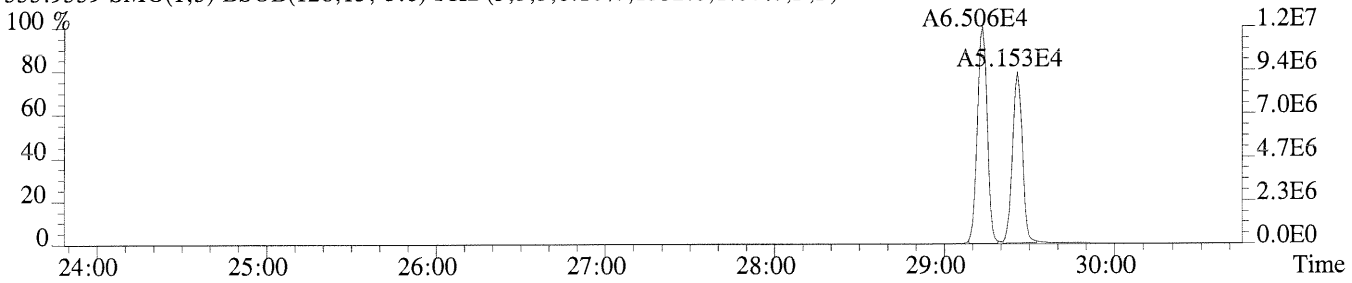
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,F)



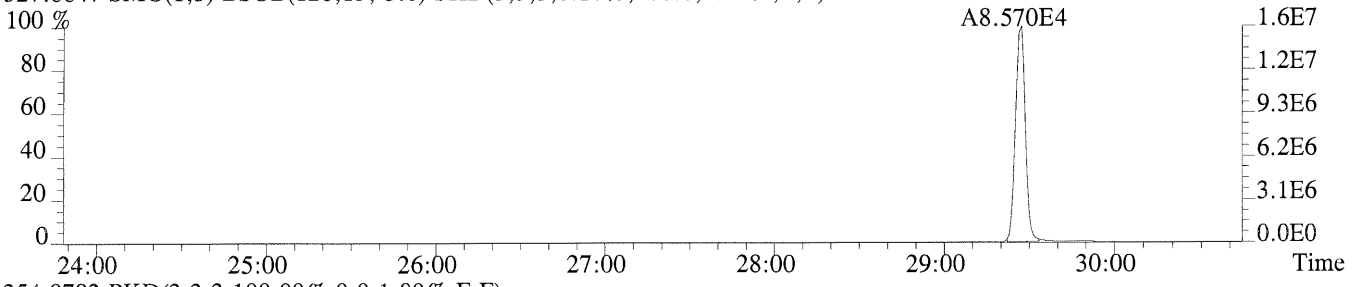
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6212.0,1.00%,F,F)



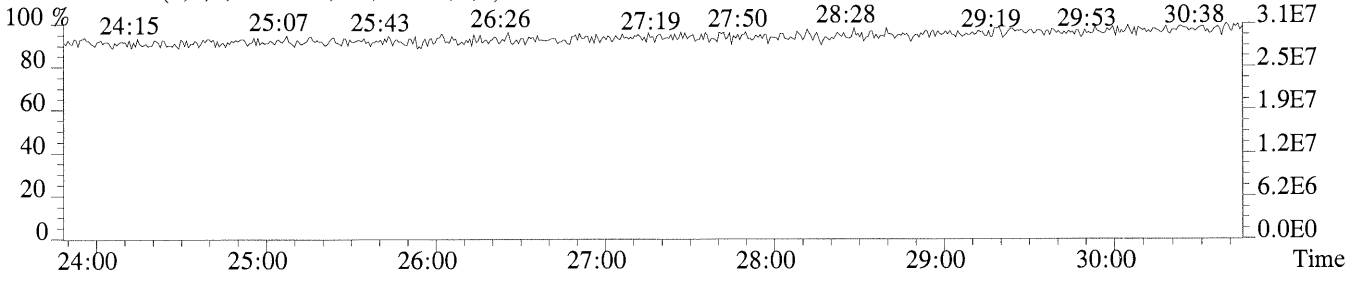
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1352.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,708.0,1.00%,F,F)

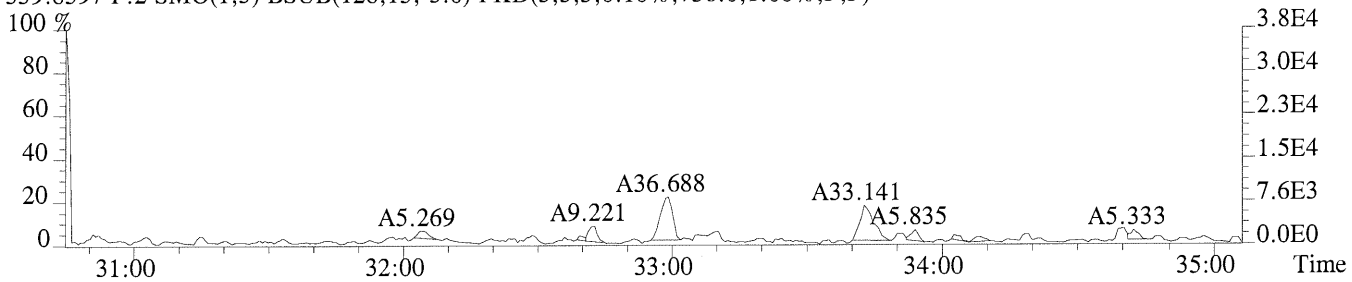


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

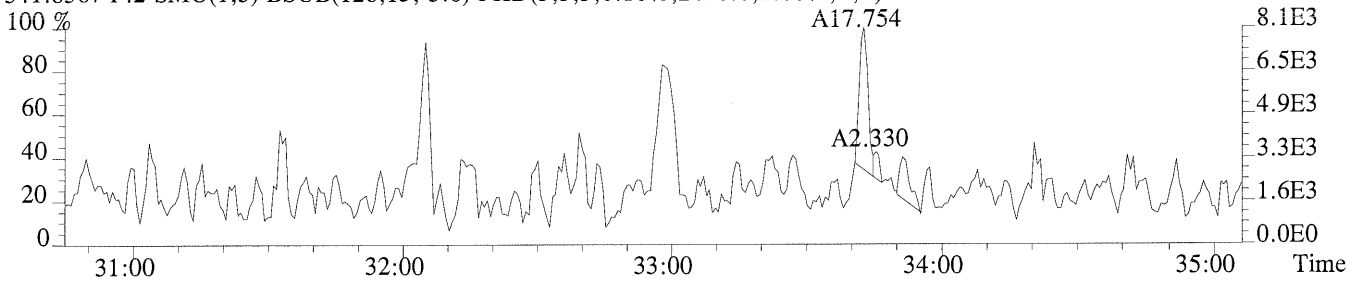


File:P200040 #1-396 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB

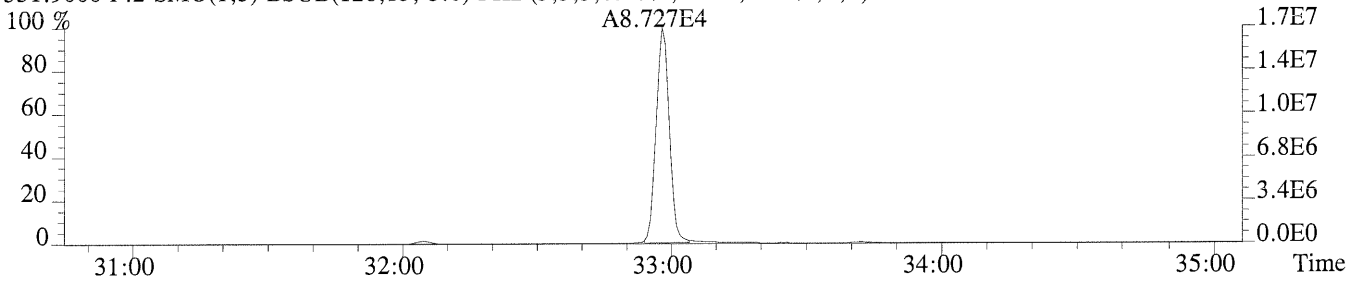
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,F)



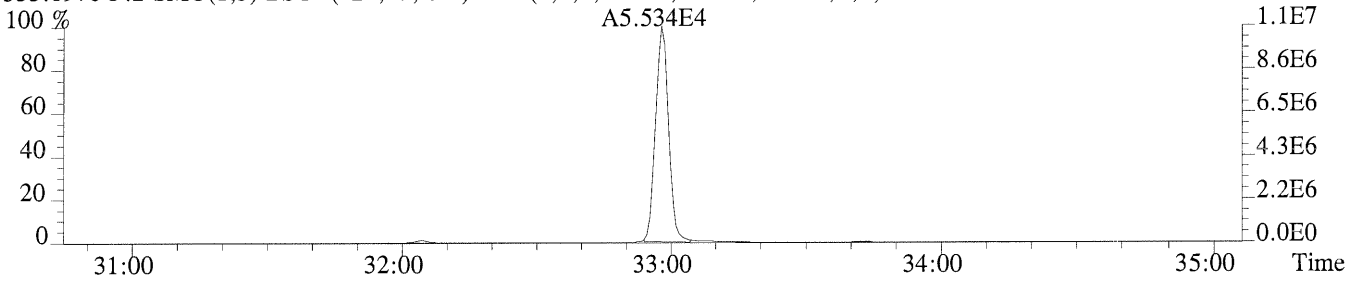
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2460.0,1.00%,F,F)



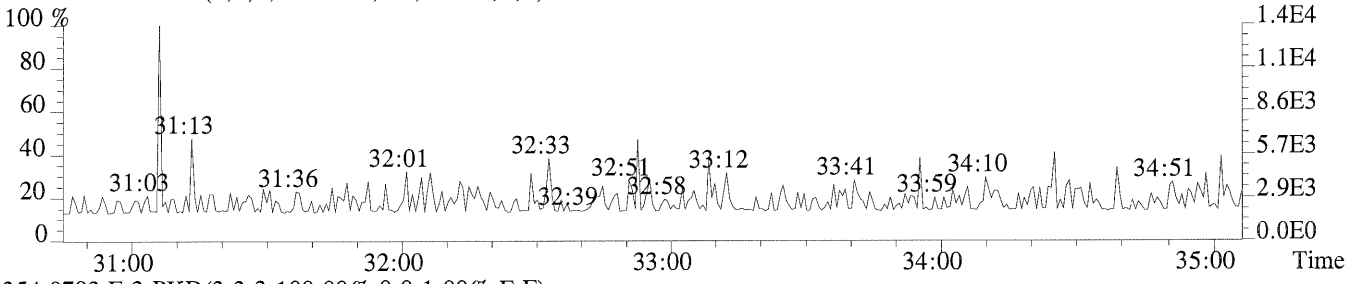
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,788.0,1.00%,F,F)



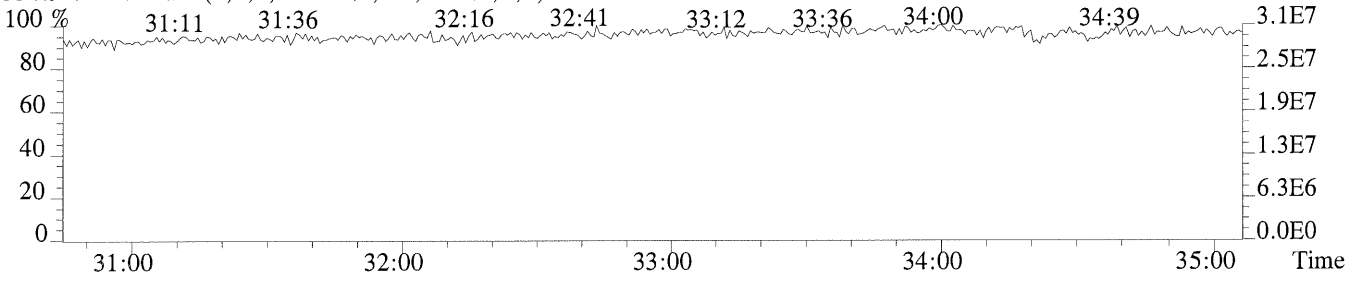
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,F)



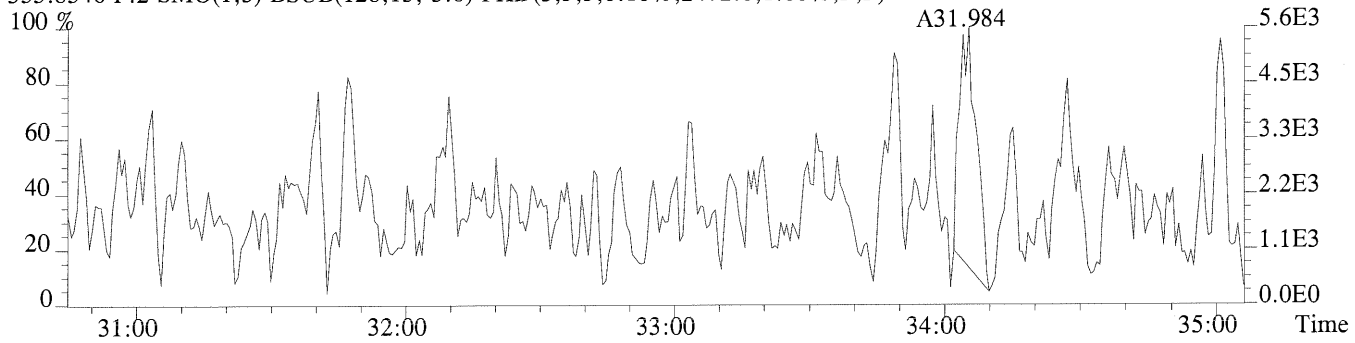
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



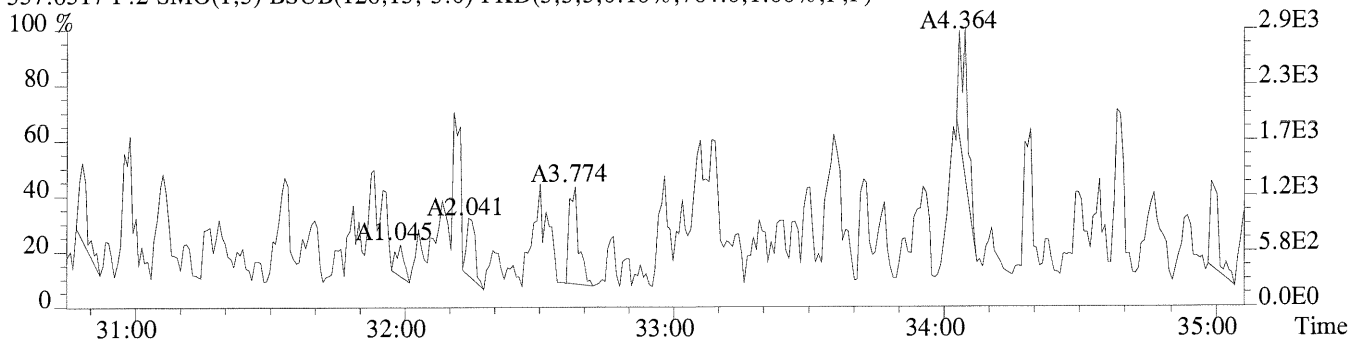
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



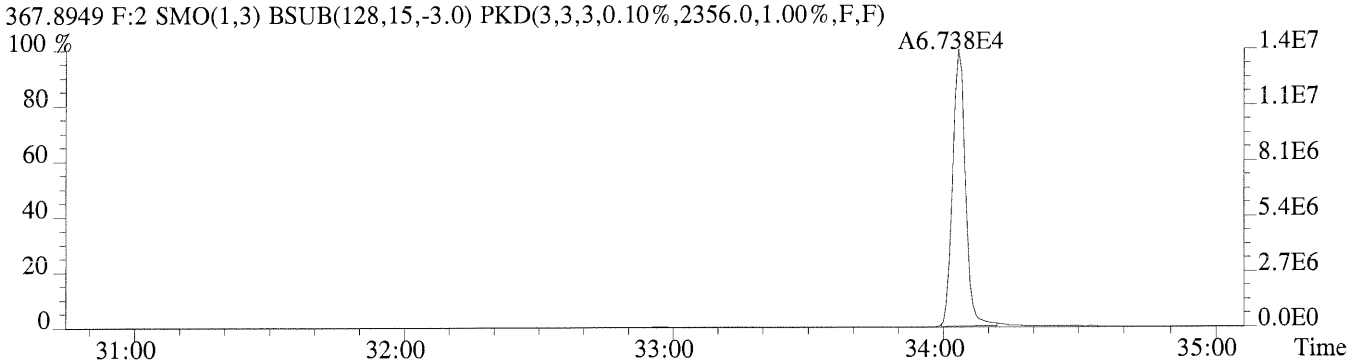
File:P200040 #1-396 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2472.0,1.00%,F,F)



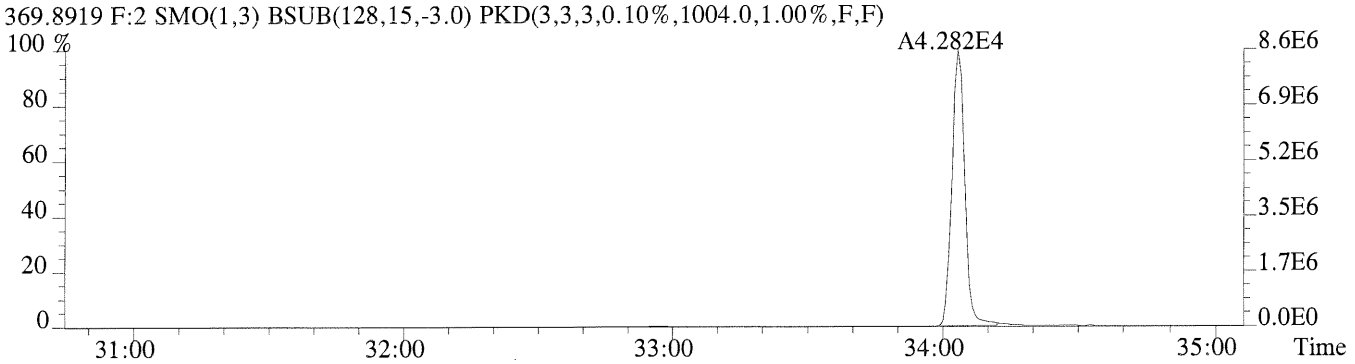
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,F)



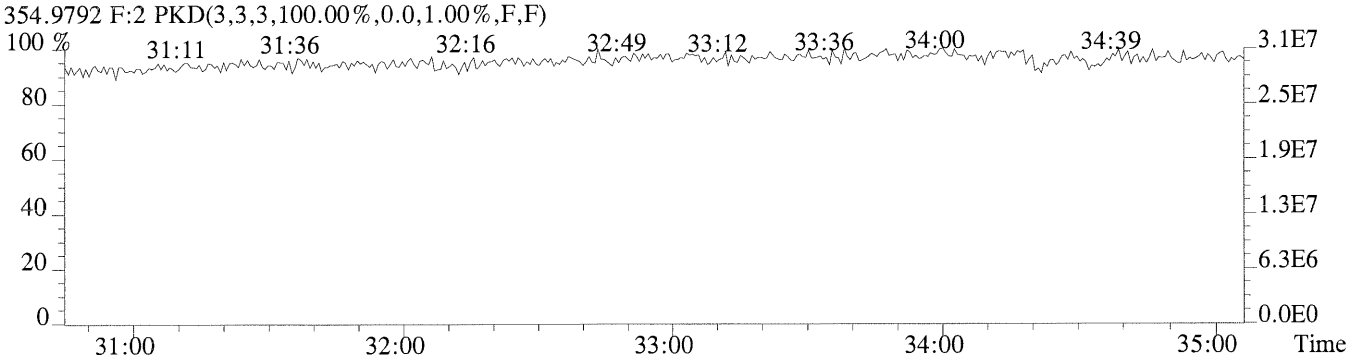
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2356.0,1.00%,F,F)



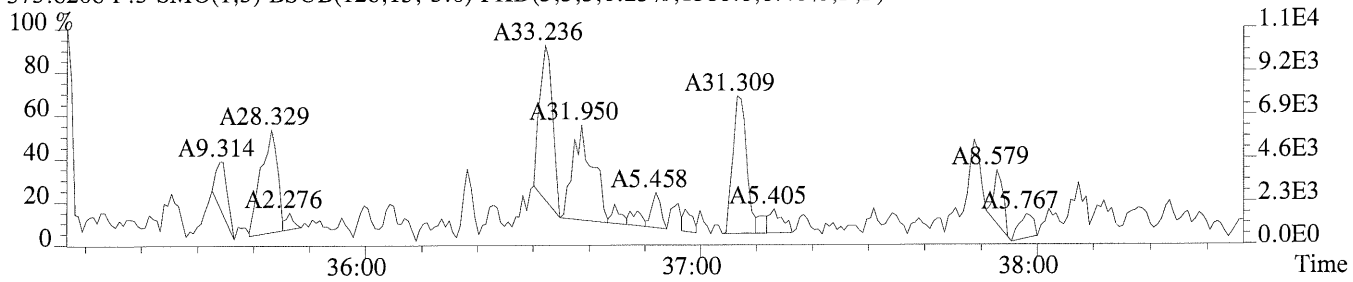
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1004.0,1.00%,F,F)



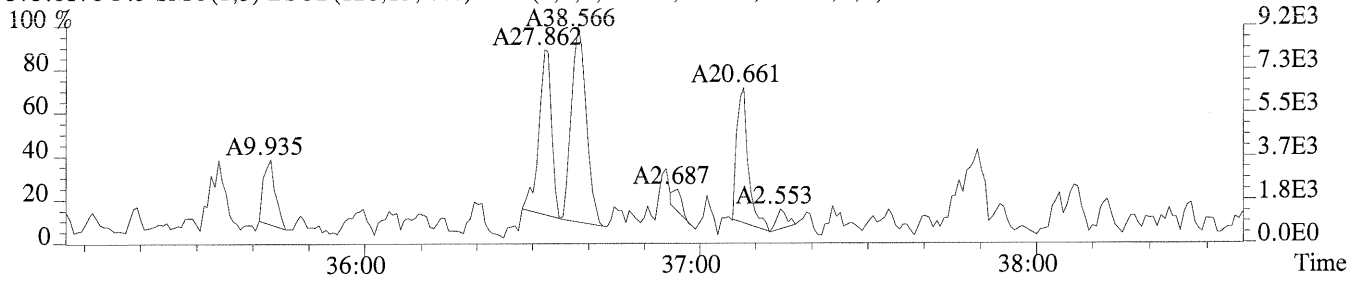
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



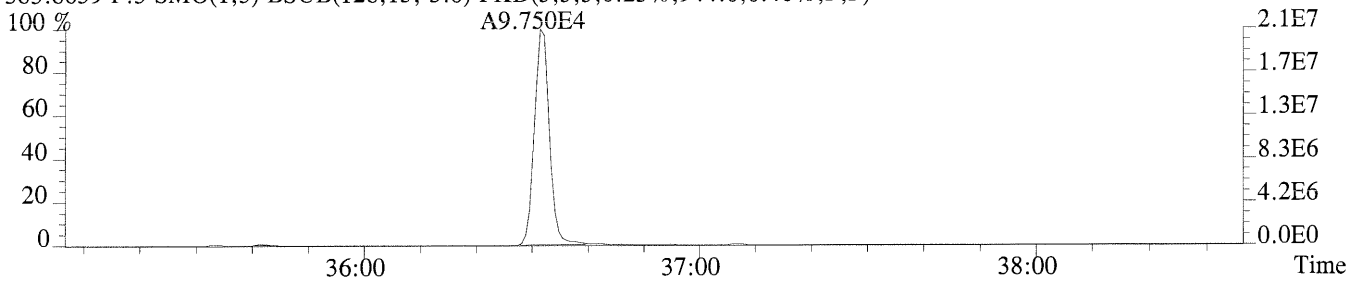
File:P200040 #1-318 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1580.0,0.40%,F,F)



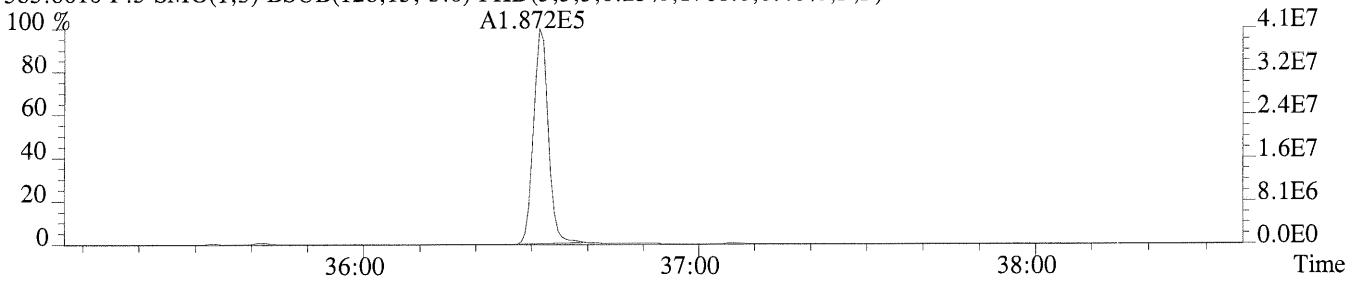
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)



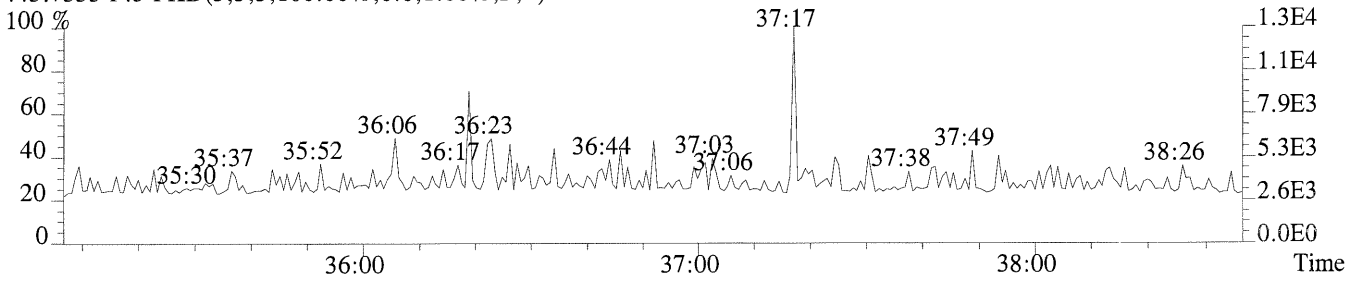
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



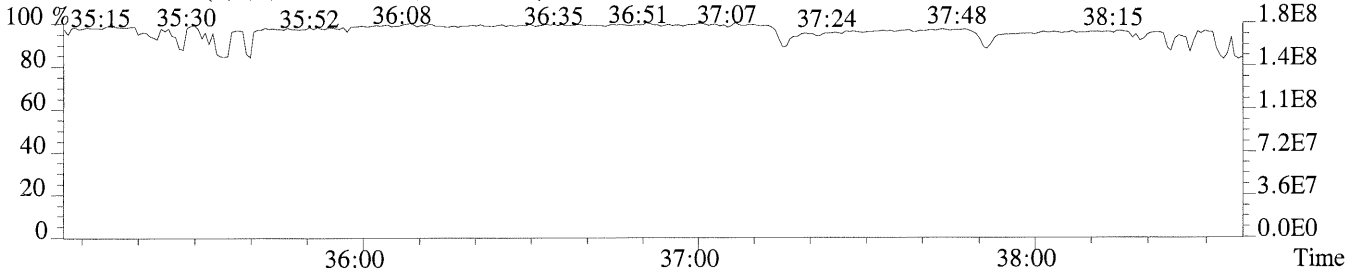
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1768.0,0.40%,F,F)



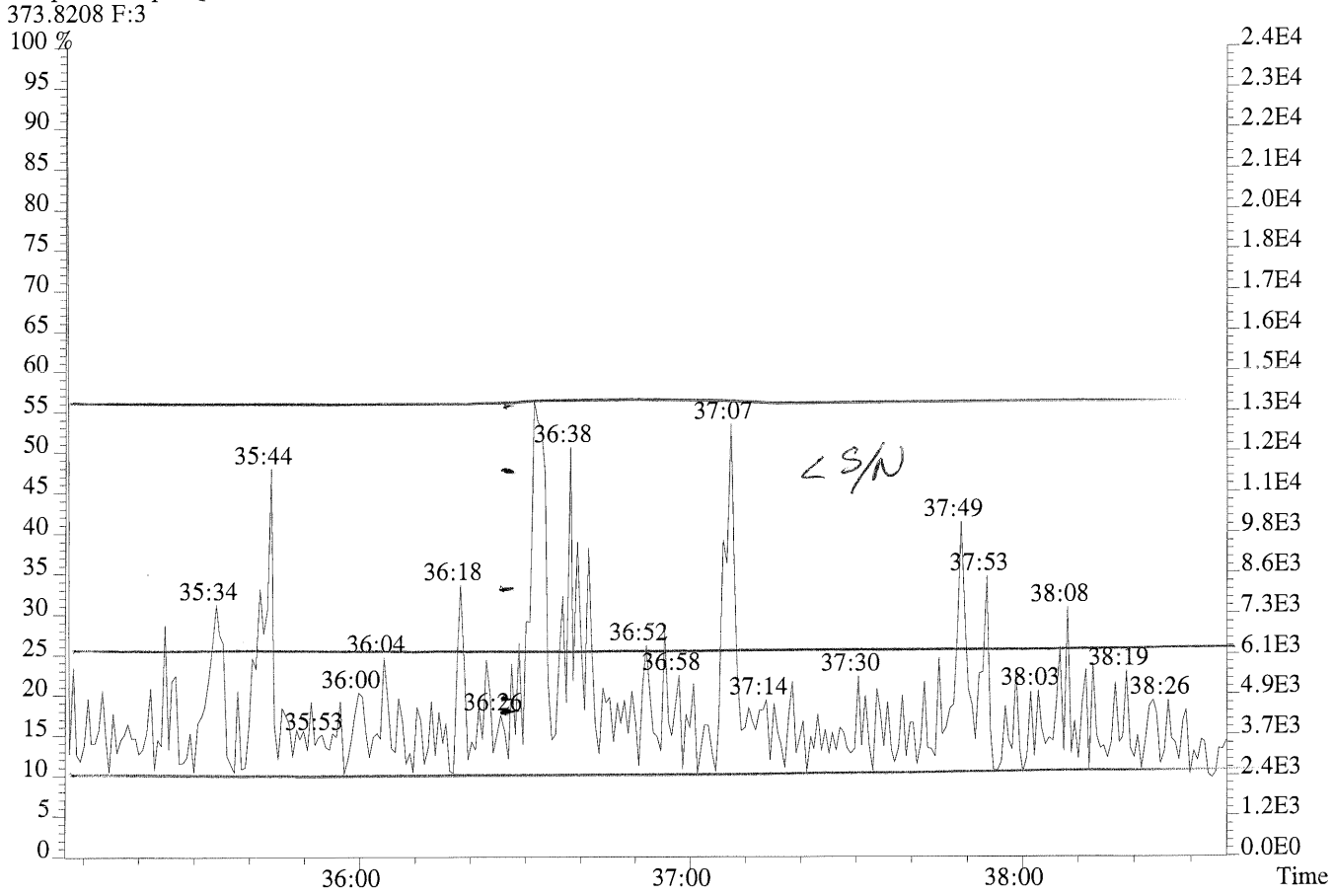
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



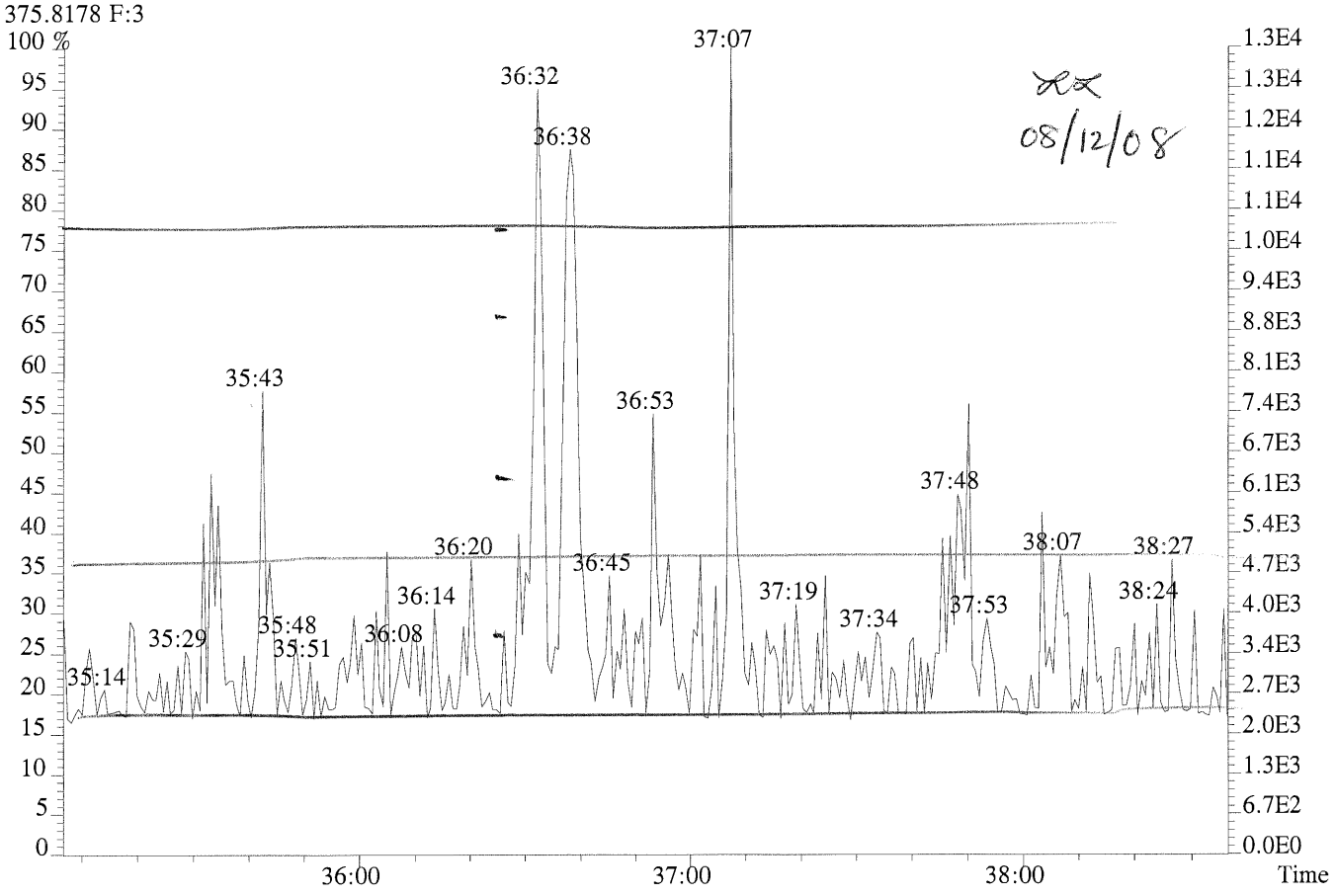
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



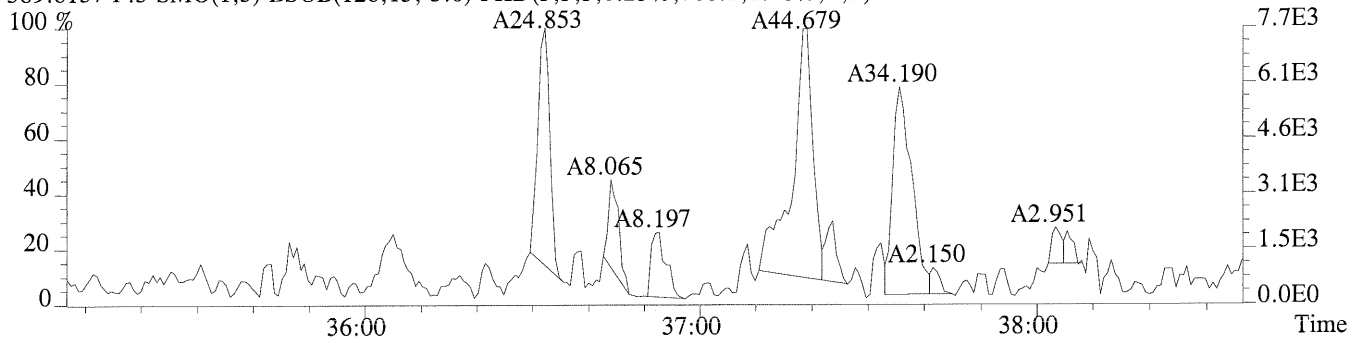
File:P200040 #1-318 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
373.8208 F:3



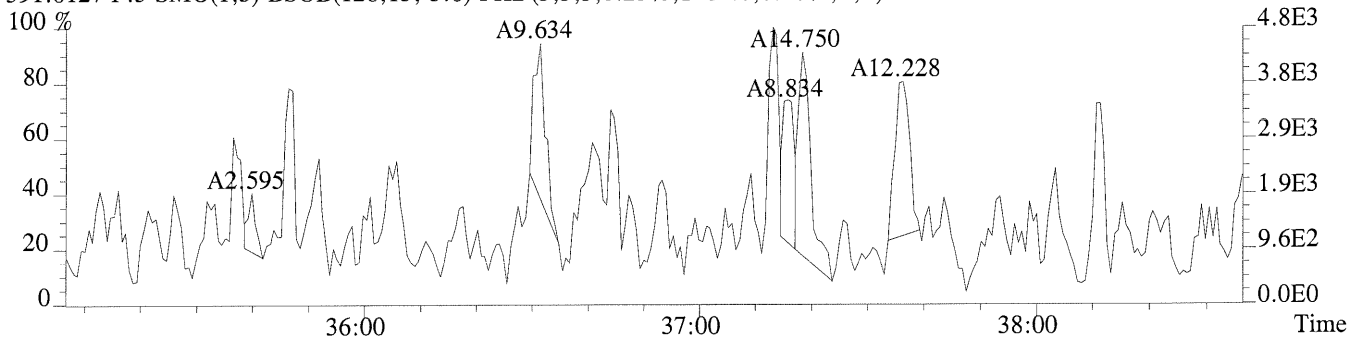
375.8178 F:3



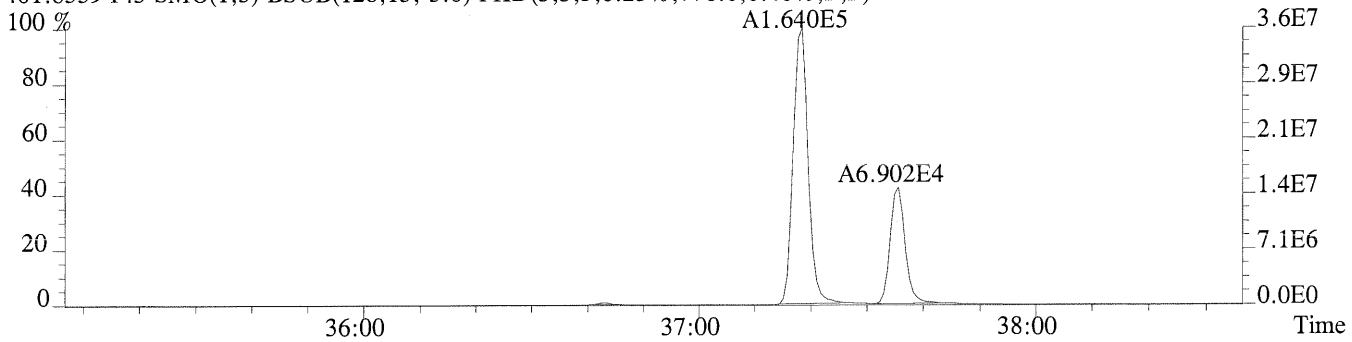
File:P200040 #1-318 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,780.0,0.40%,F,F)



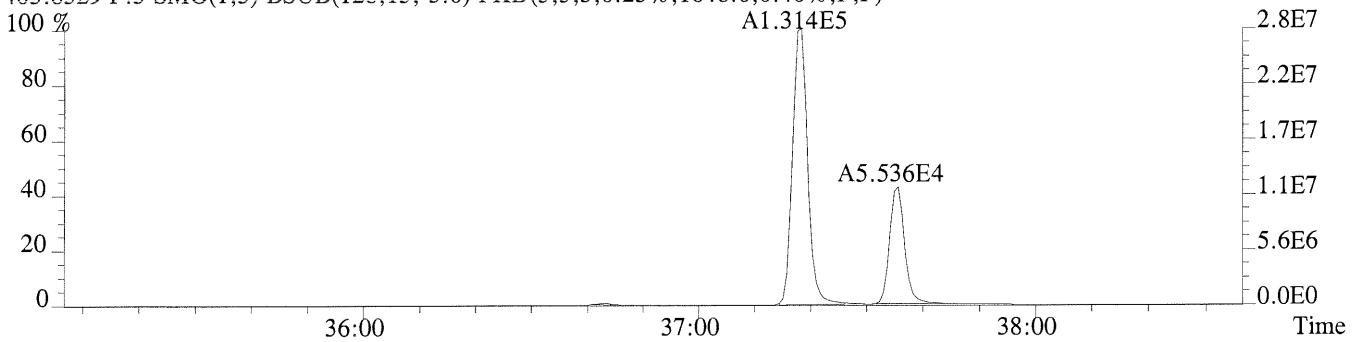
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,F)



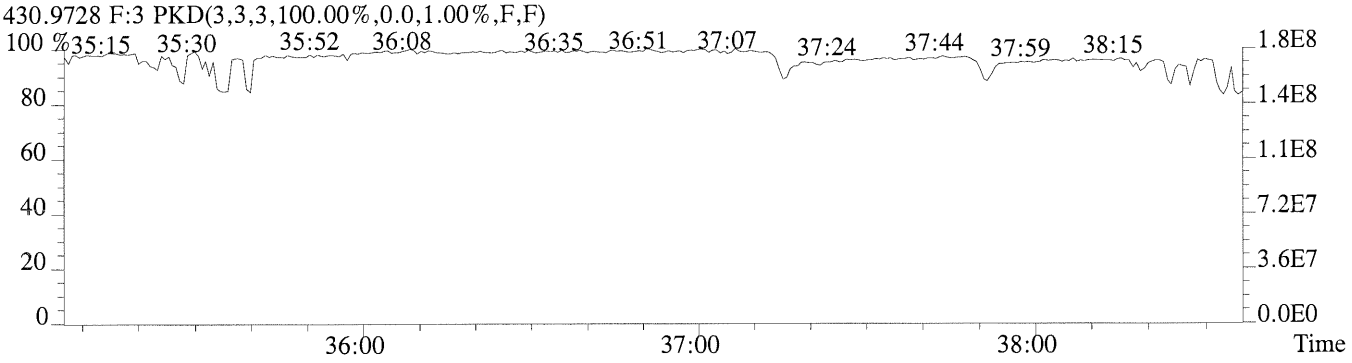
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,F)



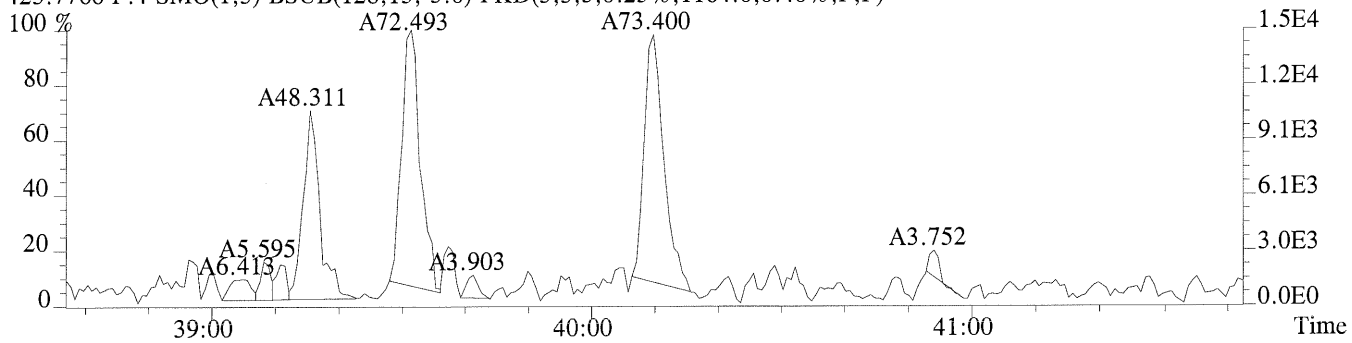
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1648.0,0.40%,F,F)



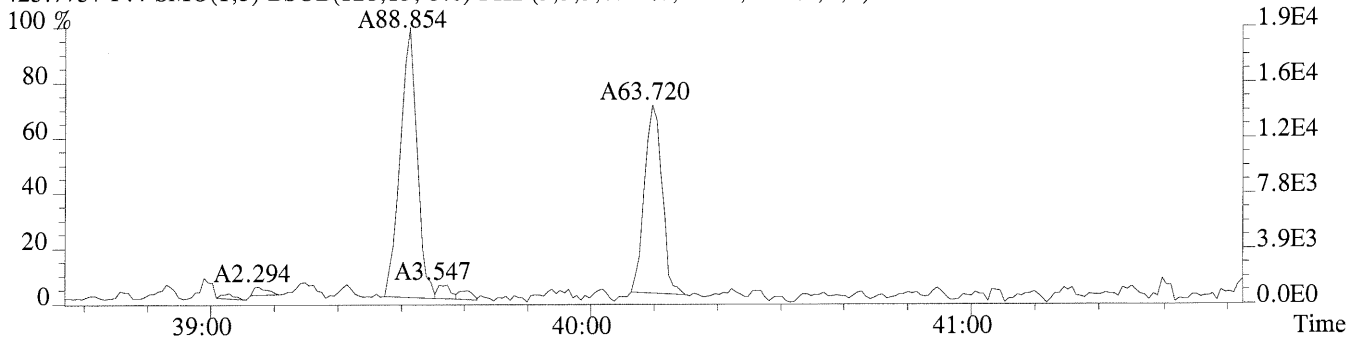
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



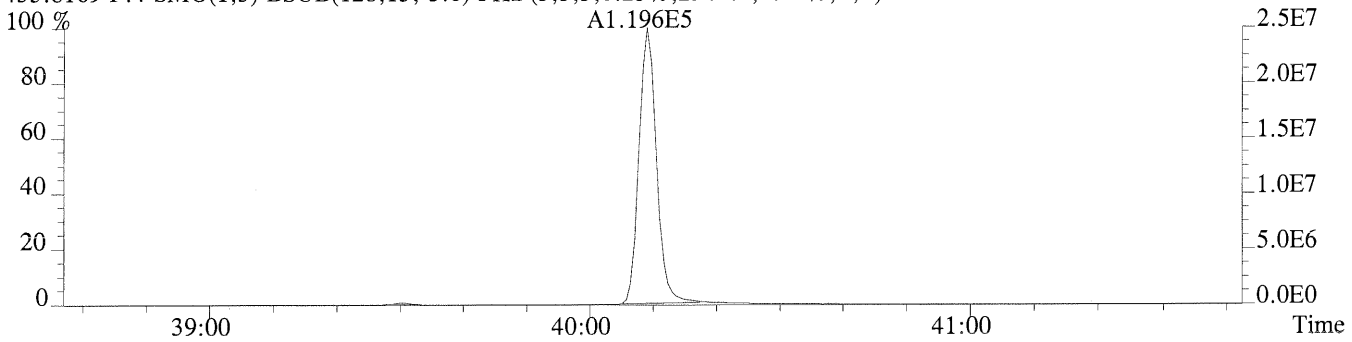
File:P200040 #1-281 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1164.0,0.40%,F,F)



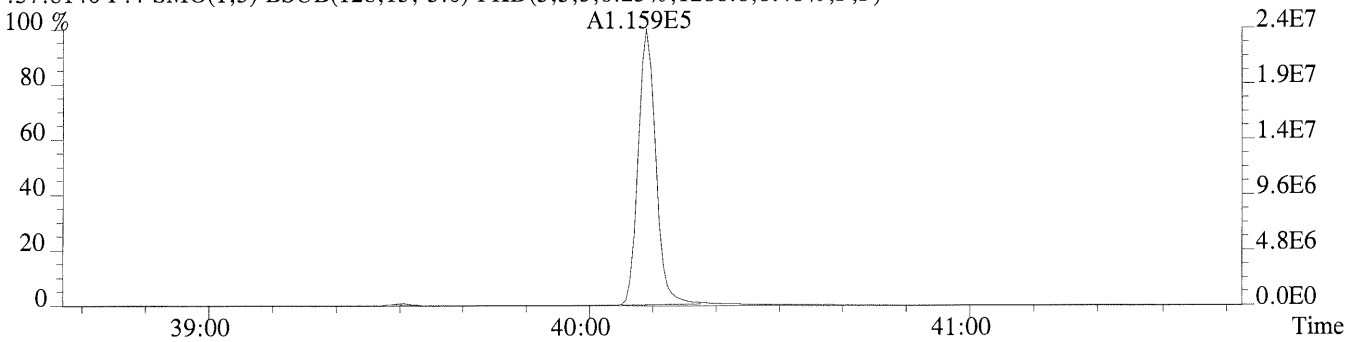
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,776.0,0.40%,F,F)



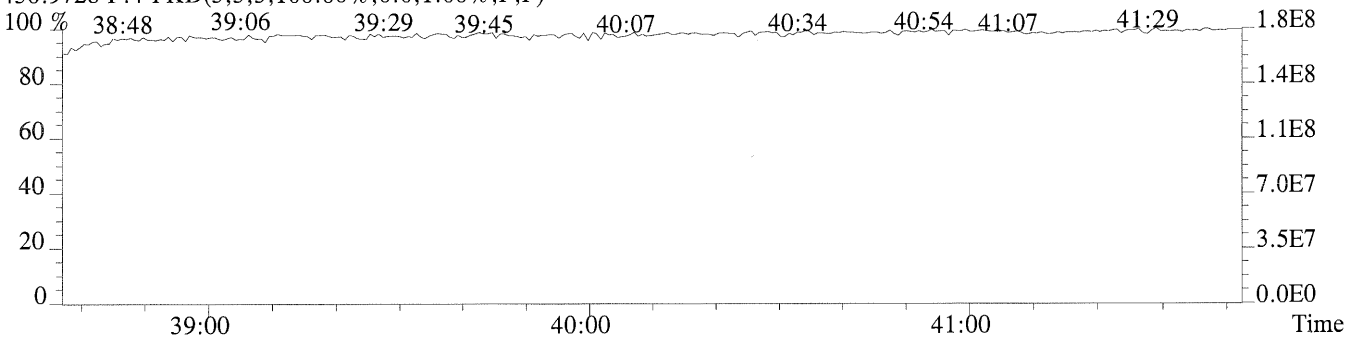
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2944.0,0.40%,F,F)



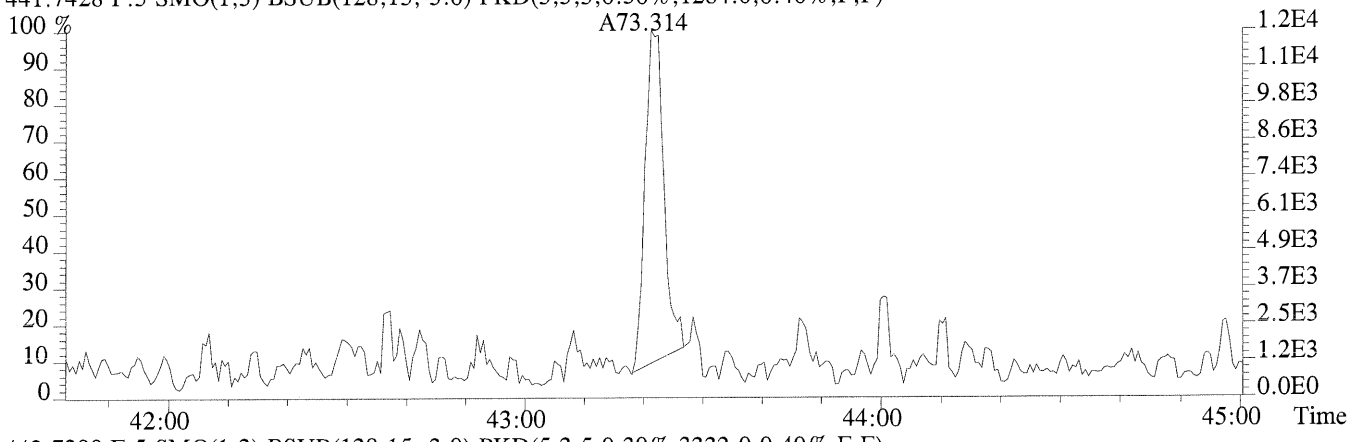
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.40%,F,F)



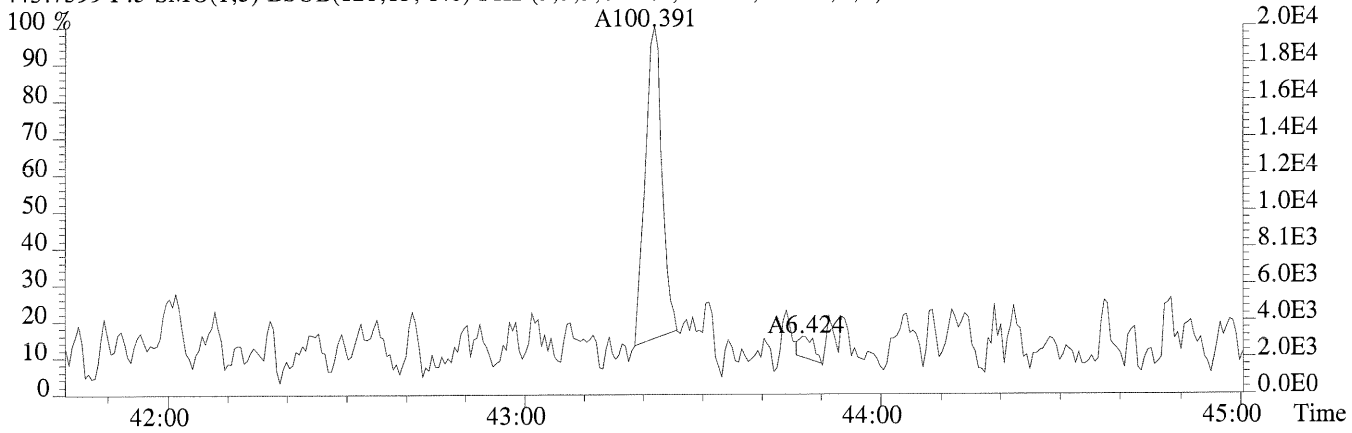
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



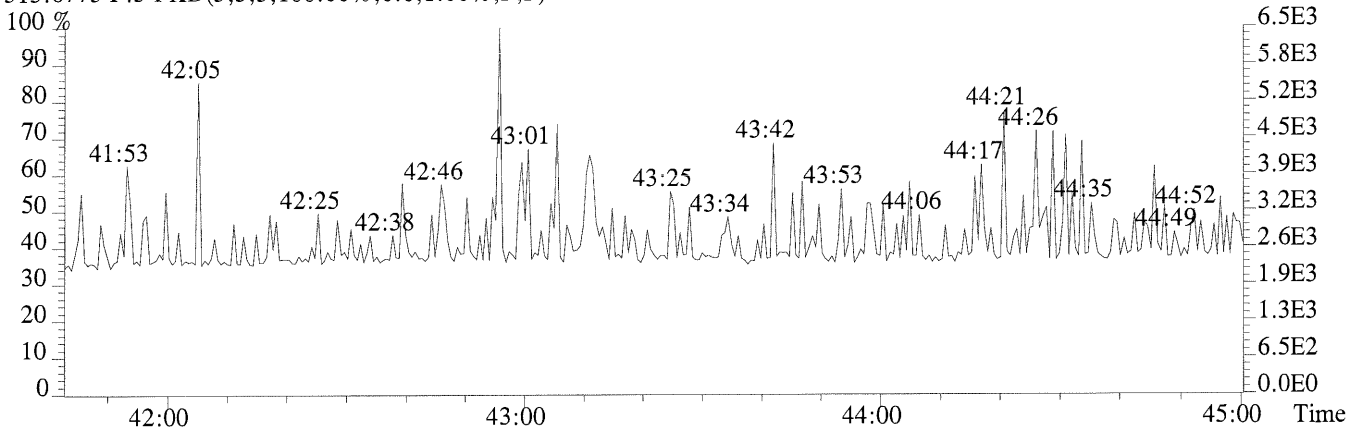
File:P200040 #1-364 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1284.0,0.40%,F,F)



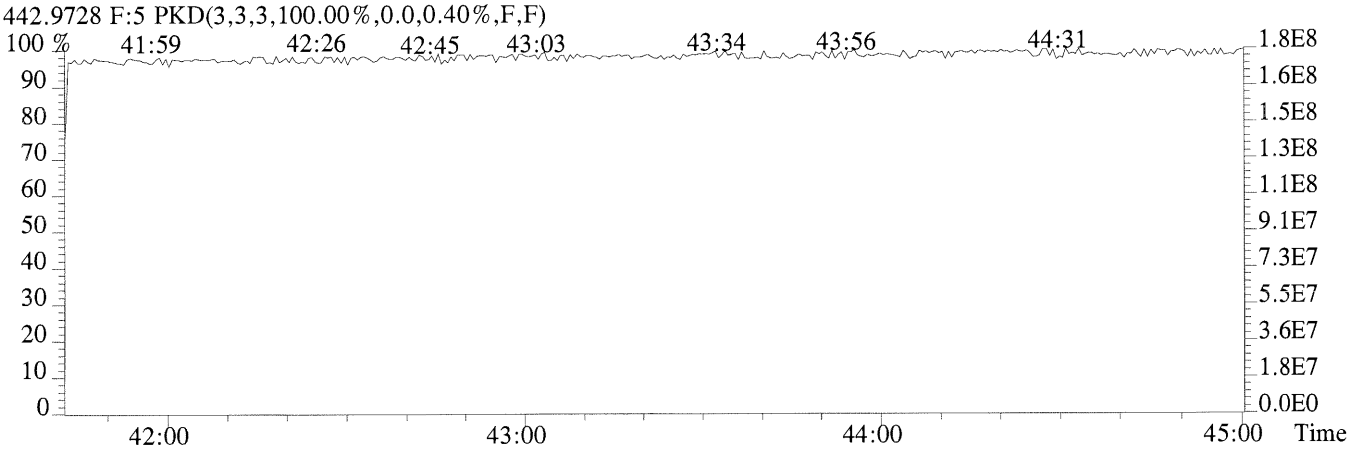
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3332.0,0.40%,F,F)



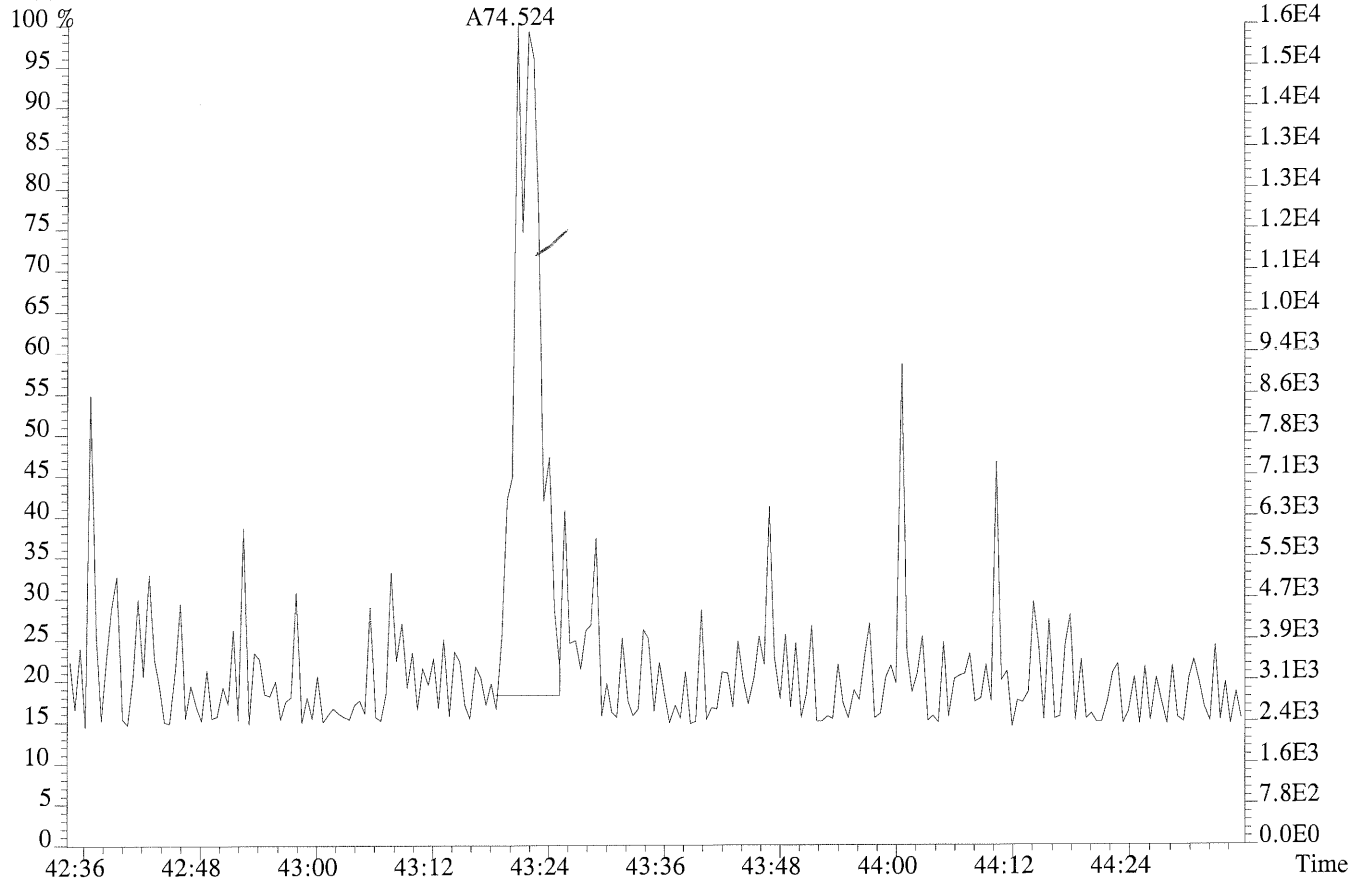
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



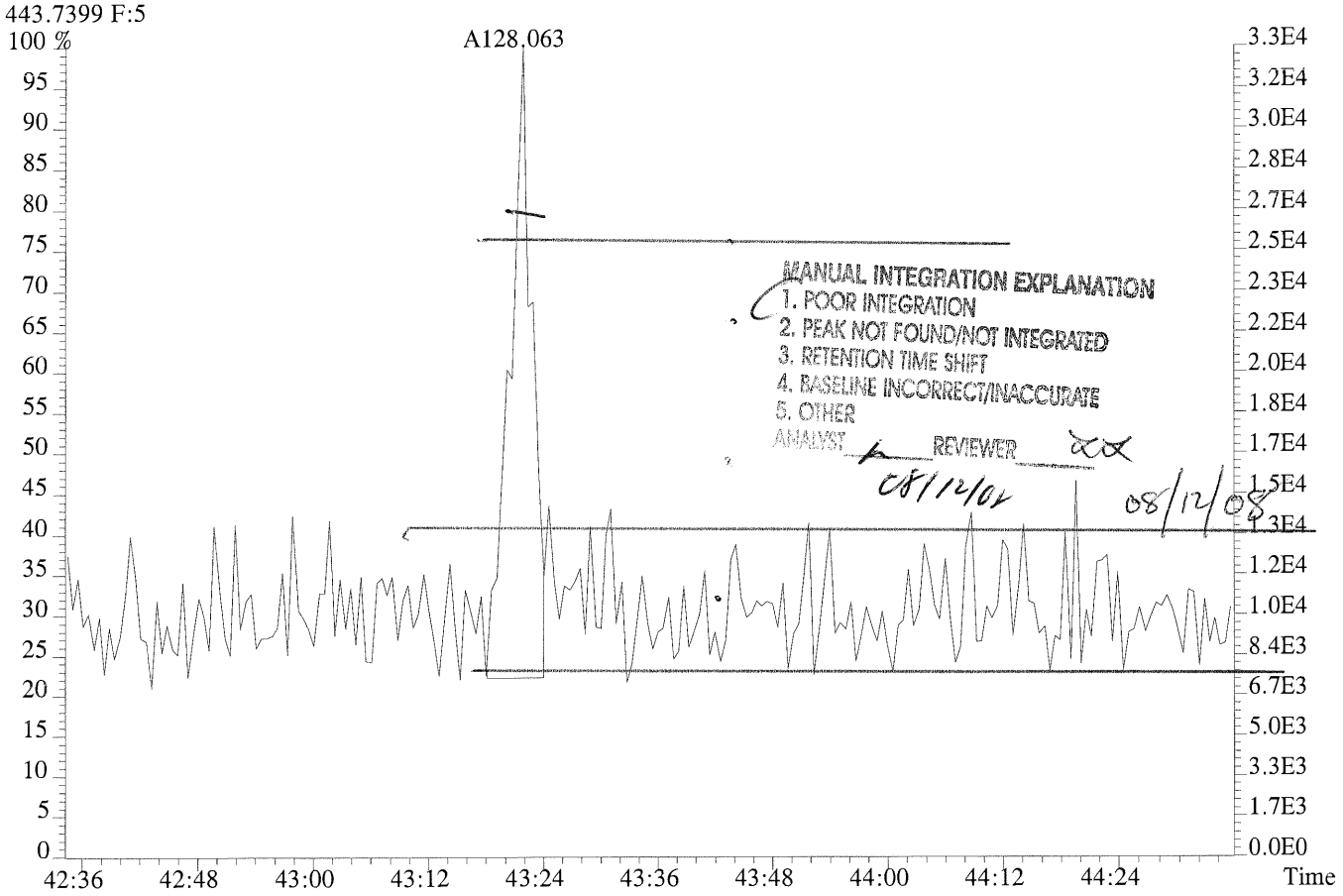
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P200040 #1-364 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
441.7428 F:5

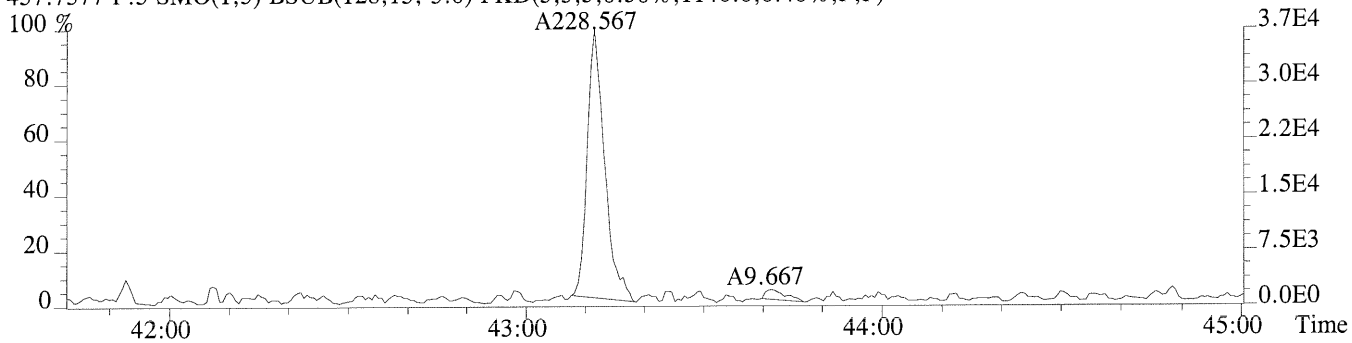


443.7399 F:5

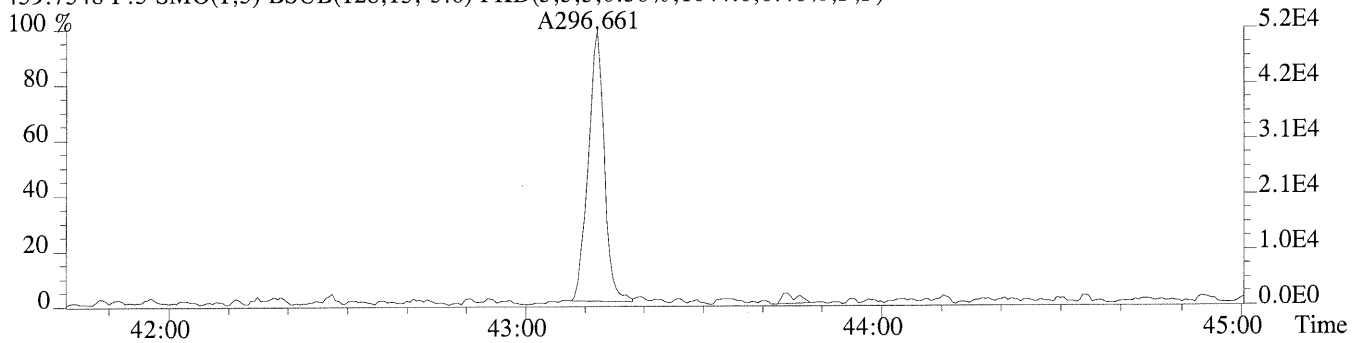


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
08/12/08 08/12/08

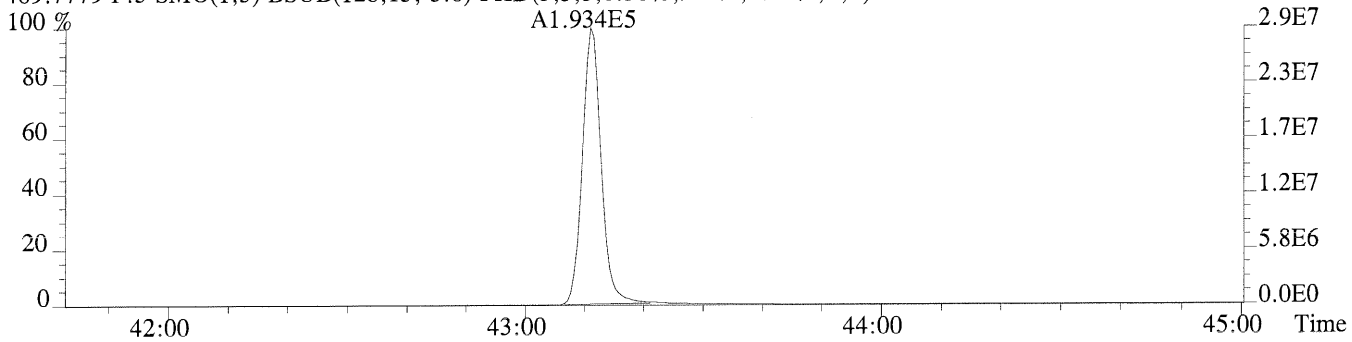
File:P200040 #1-364 Acq: 4-AUG-2008 12:59:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-01 MB
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1140.0,0.40%,F,F)



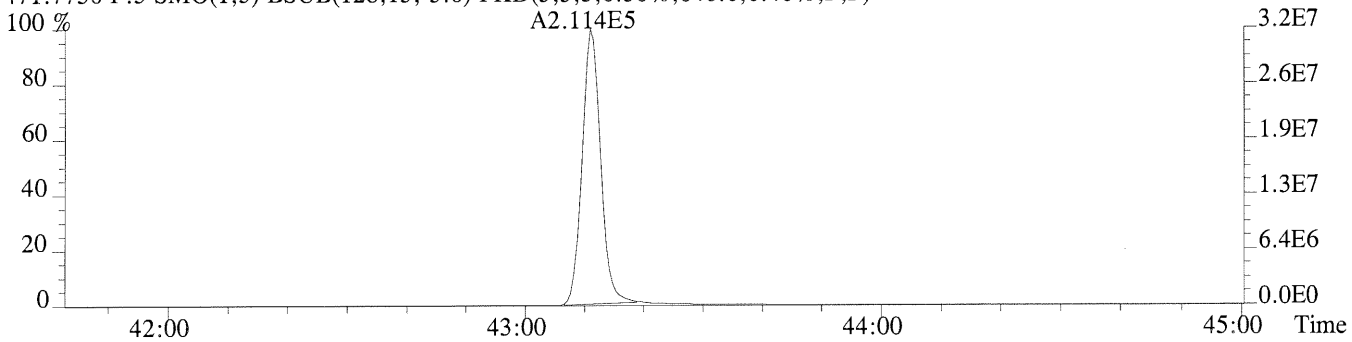
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1044.0,0.40%,F,F)



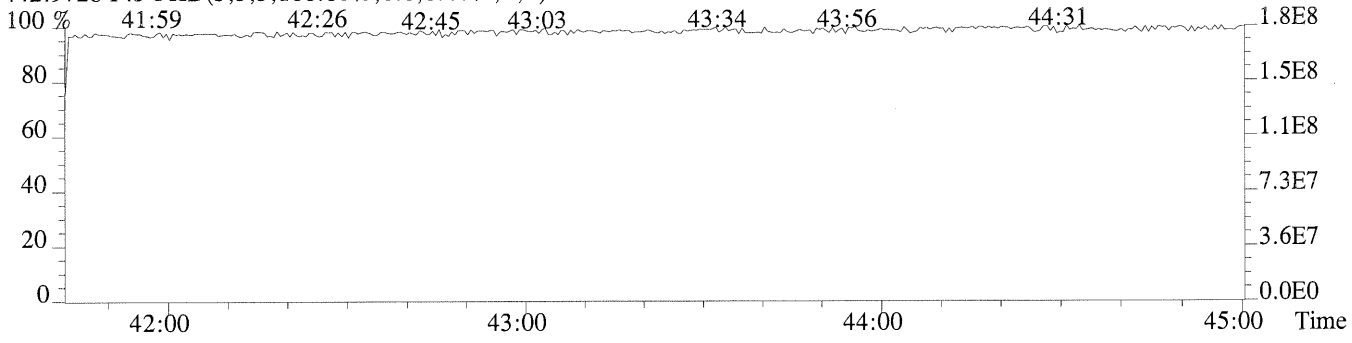
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,840.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
METHOD BLANK

Run #7 Filename P100249 Samp: 1 Inj: 1 Acquired: 12-AUG-08 11:15:39
Processed: 20-AUG-08 09:04:18 LAB. ID: EQ0800319-01

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no	0.983
2	Unk	1,2,3,7,8-PeCDF	33:39	4.189e+01	2.525e+01	1.66	yes	yes	0.972
3	Unk	2,3,4,7,8-PeCDF	NotFnd	*	*	*	no	no	0.997
4	Unk	1,2,3,4,7,8-HxCDF	37:06	6.165e+01	4.823e+01	1.28	yes	yes	1.221
5	Unk	1,2,3,6,7,8-HxCDF	37:11	5.333e+01	2.625e+01	2.03	no	yes	1.308
6	Unk	2,3,4,6,7,8-HxCDF	37:41	4.099e+01	3.200e+01	1.28	yes	yes	1.155
7	Unk	1,2,3,7,8,9-HxCDF	NotFnd	*	*	*	no	no	1.062
8	Unk	1,2,3,4,6,7,8-HpCDF	39:49	1.743e+02	1.547e+02	1.13	yes	yes	1.550
9	Unk	1,2,3,4,7,8,9-HpCDF	NotFnd	*	*	*	no	no	1.173
10	Unk	OCDF	44:03	4.295e+02	4.853e+02	0.89	yes	yes	1.360
11	Unk	2,3,7,8-TCDD	NotFnd	*	*	*	no	no	0.923
12	Unk	1,2,3,7,8-PeCDD	NotFnd	*	*	*	no	no	0.880
13	Unk	1,2,3,4,7,8-HxCDD	37:47	2.692e+01	2.745e+01	0.98	no	yes	0.928
14	Unk	1,2,3,6,7,8-HxCDD	37:50	5.161e+01	3.535e+01	1.46	no	yes	1.135
15	Unk	1,2,3,7,8,9-HxCDD	38:08	3.371e+01	2.593e+01	1.30	yes	yes	1.038
16	Unk	1,2,3,4,6,7,8-HpCDD	40:44	3.270e+02	3.071e+02	1.06	yes	yes	1.025
17	Unk	OCDD	43:53	1.134e+03	1.294e+03	0.88	yes	no	1.022
18	IS	13C-2,3,7,8-TCDF	29:28	3.395e+04	4.325e+04	0.78	yes	no	1.406
19	IS	13C-1,2,3,7,8-PeCDF	33:37	5.015e+04	3.174e+04	1.58	yes	no	1.375
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	6.160e+04	1.175e+05	0.52	yes	no	1.346
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:49	4.553e+04	1.012e+05	0.45	yes	no	1.031
22	IS	13C-2,3,7,8-TCDD	30:15	2.743e+04	3.530e+04	0.78	yes	no	1.101
23	IS	13C-1,2,3,7,8-PeCDD	34:41	3.843e+04	2.389e+04	1.61	yes	no	0.978
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	8.400e+04	6.595e+04	1.27	yes	no	0.991
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	6.419e+04	6.135e+04	1.05	yes	no	0.851
26	IS	13C-OCDD	43:52	9.282e+04	1.043e+05	0.89	yes	no	0.794
27	RS/RT	13C-1,2,3,4-TCDD	30:03	4.251e+04	5.360e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	4.781e+04	3.754e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	5.355e+04					1.010
					SUM AREA				
30	Tot	Total Tetra-Furans	NotFnd		*	*	no		0.983
31	Tot	Total Tetra-Dioxins	NotFnd		*	*	no		0.923
32	Tot	Total Penta-Furans	33:39		6.714e+01	1.66	yes		0.984
33	Tot	Total Penta-Dioxins	NotFnd		*	*	no		0.880
34	Tot	Total Hexa-Furans	37:06		1.829e+02	1.28	yes		1.186
35	Tot	Total Hexa-Dioxins	38:08		5.964e+01	1.30	yes		1.033
36	Tot	Total Hepta-Furans	39:49		1.171e+03	1.13	yes		1.362
37	Tot	Total Hepta-Dioxins	40:04		9.700e+02	1.10	yes		1.025

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary METHOD BLANK

Run #7 Filename P100249 #1 Samp: 1 Inj: 1 Acquired: 12-AUG-08 11:15:39

Processed: 20-AUG-08 09:04:18 LAB. ID: EQ0800319-01

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	*	8.76e+02	*	*	9.16e+02	*
2	1,2,3,7,8-PeCDF	8.81e+03	6.20e+02	1.4e+01	5.00e+03	1.07e+03	4.7e+00
3	2,3,4,7,8-PeCDF	*	6.20e+02	*	*	1.07e+03	*
4	1,2,3,4,7,8-HxCDF	1.47e+04	1.32e+03	1.1e+01	1.23e+04	1.39e+03	8.8e+00
5	1,2,3,6,7,8-HxCDF	1.09e+04	1.32e+03	8.2e+00	5.90e+03	1.39e+03	4.2e+00
6	2,3,4,6,7,8-HxCDF	8.11e+03	1.32e+03	6.1e+00	6.53e+03	1.39e+03	4.7e+00
7	1,2,3,7,8,9-HxCDF	*	1.32e+03	*	*	1.39e+03	*
8	1,2,3,4,6,7,8-HpCDF	3.80e+04	1.10e+03	3.4e+01	3.30e+04	1.24e+03	2.7e+01
9	1,2,3,4,7,8,9-HpCDF	*	1.10e+03	*	*	1.24e+03	*
10	OCDF	5.79e+04	7.92e+02	7.3e+01	6.63e+04	1.01e+03	6.6e+01
11	2,3,7,8-TCDD	*	9.44e+02	*	*	8.20e+02	*
12	1,2,3,7,8-PeCDD	*	1.14e+03	*	*	7.04e+02	*
13	1,2,3,4,7,8-HxCDD	6.03e+03	1.02e+03	5.9e+00	5.87e+03	9.52e+02	6.2e+00
14	1,2,3,6,7,8-HxCDD	1.12e+04	1.02e+03	1.1e+01	8.30e+03	9.52e+02	8.7e+00
15	1,2,3,7,8,9-HxCDD	5.81e+03	1.02e+03	5.7e+00	5.37e+03	9.52e+02	5.6e+00
16	1,2,3,4,6,7,8-HpCDD	5.98e+04	1.04e+03	5.7e+01	5.68e+04	1.20e+03	4.7e+01
17	OCDD	1.59e+05	1.68e+03	9.5e+01	1.81e+05	2.09e+03	8.7e+01
18	13C-2,3,7,8-TCDF	5.87e+06	1.34e+03	4.4e+03	7.49e+06	9.72e+02	7.7e+03
19	13C-1,2,3,7,8-PeCDF	9.46e+06	3.56e+02	2.7e+04	6.01e+06	5.00e+02	1.2e+04
20	13C-1,2,3,4,7,8-HxCDF	1.27e+07	5.52e+02	2.3e+04	2.45e+07	8.60e+02	2.8e+04
21	13C-1,2,3,4,6,7,8-HpCDF	9.27e+06	2.31e+03	4.0e+03	2.05e+07	5.32e+03	3.9e+03
22	13C-2,3,7,8-TCDD	4.91e+06	2.93e+03	1.7e+03	6.29e+06	8.80e+02	7.2e+03
23	13C-1,2,3,7,8-PeCDD	7.72e+06	8.32e+02	9.3e+03	4.77e+06	6.16e+02	7.7e+03
24	13C-1,2,3,6,7,8-HxCDD	1.80e+07	6.32e+02	2.8e+04	1.41e+07	7.52e+02	1.9e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.22e+07	1.07e+03	1.1e+04	1.16e+07	8.00e+02	1.5e+04
26	13C-OCDD	1.28e+07	8.68e+02	1.5e+04	1.43e+07	7.52e+02	1.9e+04
27	13C-1,2,3,4-TCDD	7.85e+06	2.93e+03	2.7e+03	9.81e+06	8.80e+02	1.1e+04
28	13C-1,2,3,7,8,9-HxCDD	1.01e+07	6.32e+02	1.6e+04	8.10e+06	7.52e+02	1.1e+04
29	37Cl-2,3,7,8-TCDD	9.73e+06	6.48e+02	1.5e+04			

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 32 Totals Name: Total Penta-Furans

Run: 7 File: P100249 Sample:1 Injection:1 Function:2

Acquired: 12-AUG-08 11:15:39 Processed: 20-AUG-08 09:04:18

Mass:339.860 341.857 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	33:39	4.19e+01	2.52e+01 1.66	yes	6.71e+01	1,2,3,7,8-PeCDF	y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.

METHOD BLANK

Entry: 34 Totals Name: Total Hexa-Furans

Run: 7 File: P100249 Sample:1 Injection:1 Function:3

Acquired: 12-AUG-08 11:15:39 Processed: 20-AUG-08 09:04:18

#	RT	Mass:373.821 Resp	375.818 Resp	Ratio	Response: Meet	Tot Resp	Name	Mod?
1	36:44	~~1.59e+02~~	~~1.27e+02~~	~~1.26~~	~~yes~~	~~2.86e+02~~		y *
2	37:06	6.16e+01	4.82e+01	1.28	yes	1.10e+02	1,2,3,4,7,8-HxCDF	y
3	37:23	~~1.15e+02~~	~~8.36e+01~~	~~1.37~~	~~yes~~	~~1.98e+02~~		y *
4	37:41	4.10e+01	3.20e+01	1.28	yes	7.30e+01	2,3,4,6,7,8-HxCDF	y

*ETHER INTERFERENCE

08/20/08

MC 08/20/08

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Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 35 Totals Name: Total Hexa-Dioxins

Run: 7 File: P100249 Sample:1 Injection:1 Function:3

Acquired: 12-AUG-08 11:15:39 Processed: 20-AUG-08 09:04:18

Mass:389.816 391.813 Response:

#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	38:08	3.37e+01	2.59e+01 1.30	yes	5.96e+01	1,2,3,7,8,9-HxCDD	y

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Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 36 Totals Name: Total Hepta-Furans

Run: 7 File: P100249 Sample:1 Injection:1 Function:4

Acquired: 12-AUG-08 11:15:39 Processed: 20-AUG-08 09:04:18

#	RT	Resp	Mass:407.782 Resp	409.779 Ratio	Response: Meet	Tot Resp	Name	Mod?
1	39:49	1.74e+02	1.55e+02	1.13	yes	3.29e+02	1,2,3,4,6,7,8-HpCDF	y
2	40:11	4.31e+02	4.12e+02	1.05	yes	8.42e+02		y

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Columbia Analytical Services, Inc.
Peak List Summary

CLIENT ID.
METHOD BLANK

Entry: 37 Totals Name: Total Hepta-Dioxins

Run: 7 File: P100249 Sample:1 Injection:1 Function:4

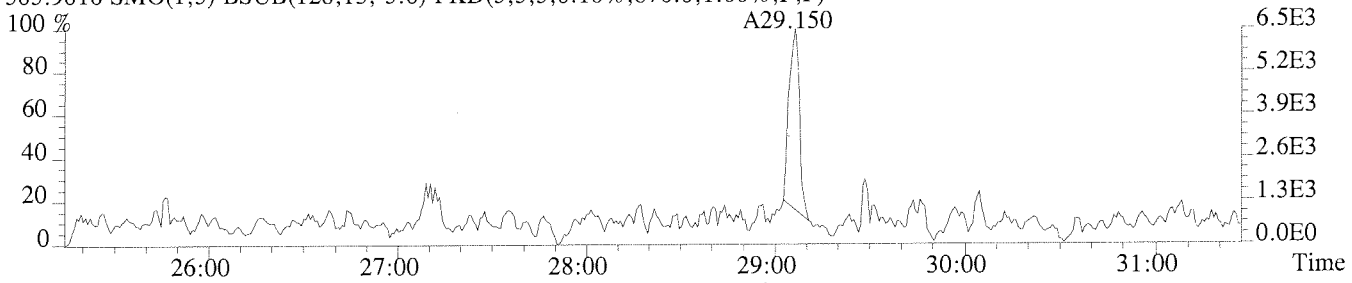
Acquired: 12-AUG-08 11:15:39 Processed: 20-AUG-08 09:04:18

Mass:423.777		425.774		Response:			
#	RT	Resp	Resp Ratio	Meet	Tot Resp	Name	Mod?
1	40:04	1.76e+02	1.60e+02 1.10	yes	3.36e+02		y
2	40:44	3.27e+02	3.07e+02 1.06	yes	6.34e+02	1,2,3,4,6,7,8-HpCDD	y

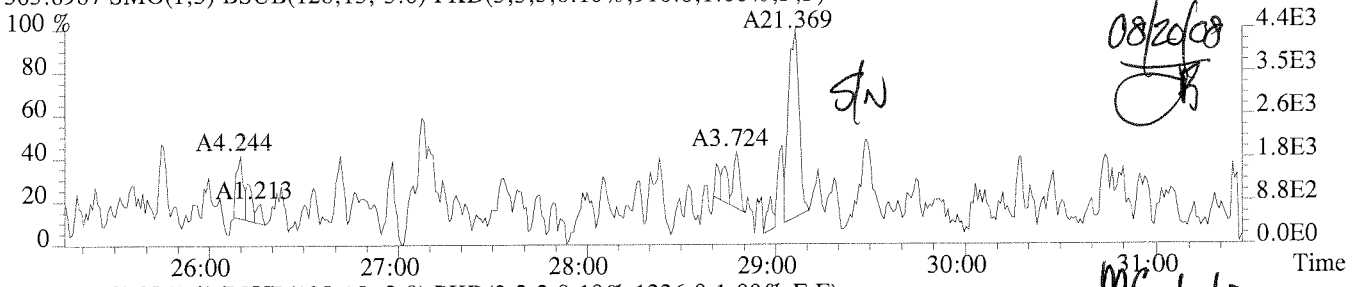
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:P100249 #1-518 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,876.0,1.00%,F,F)



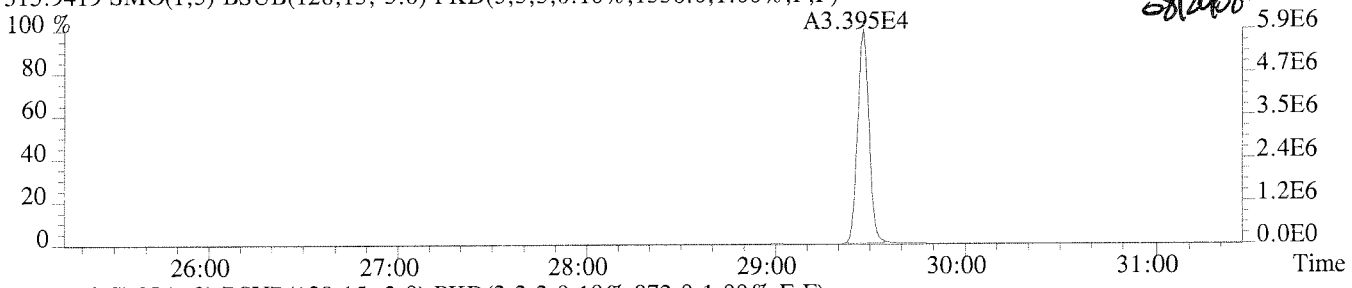
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,916.0,1.00%,F,F)



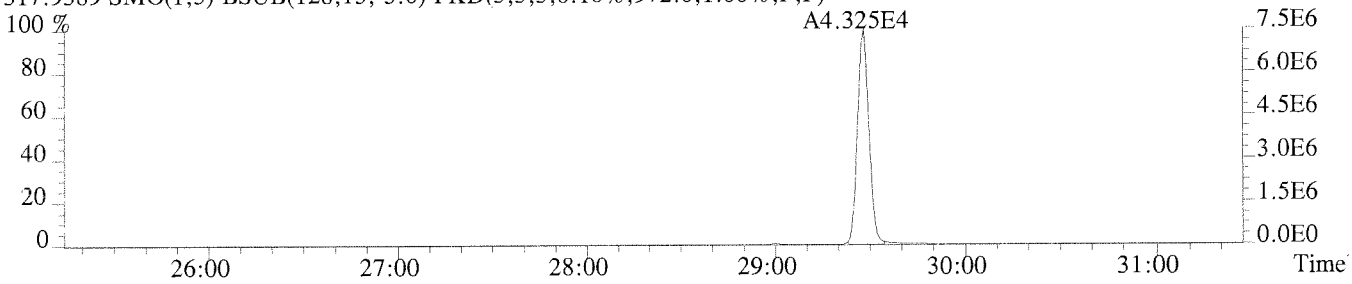
08/20/08 S/N

315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,F)

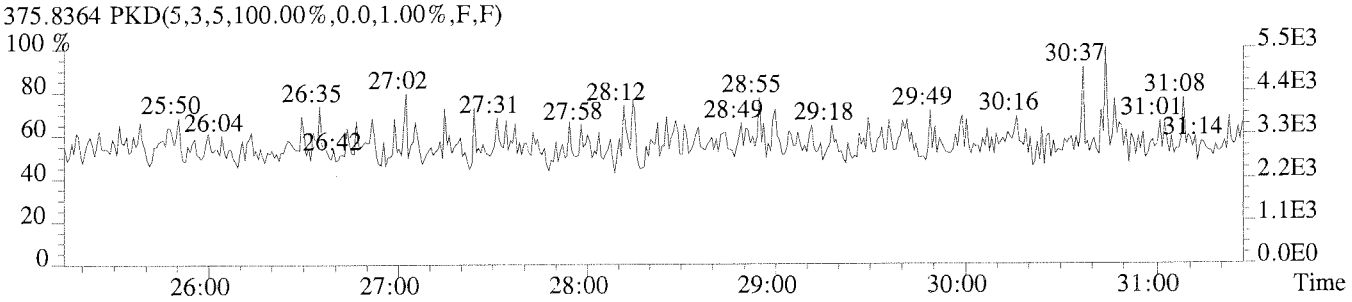
MC 08/20/08



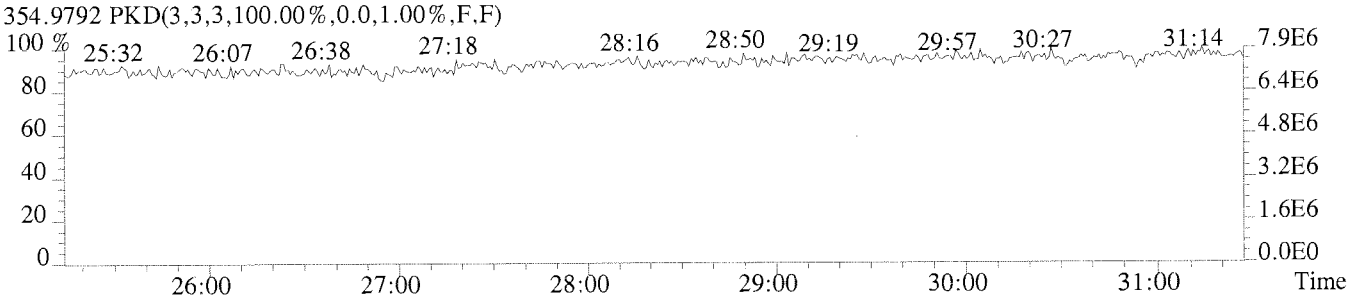
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,F)



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

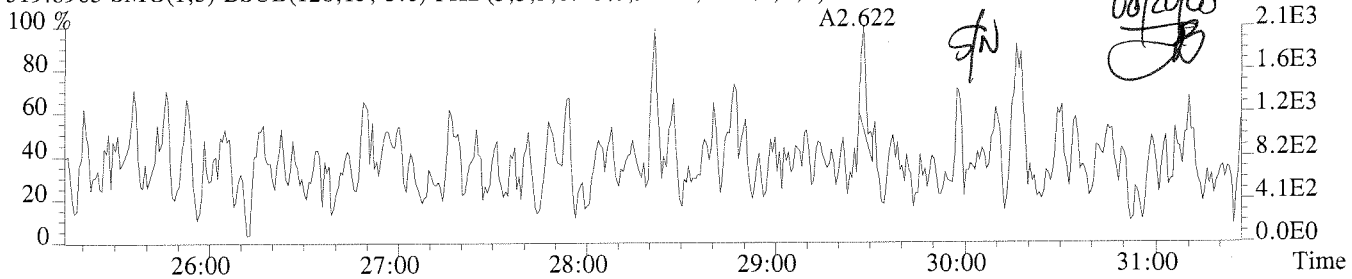


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

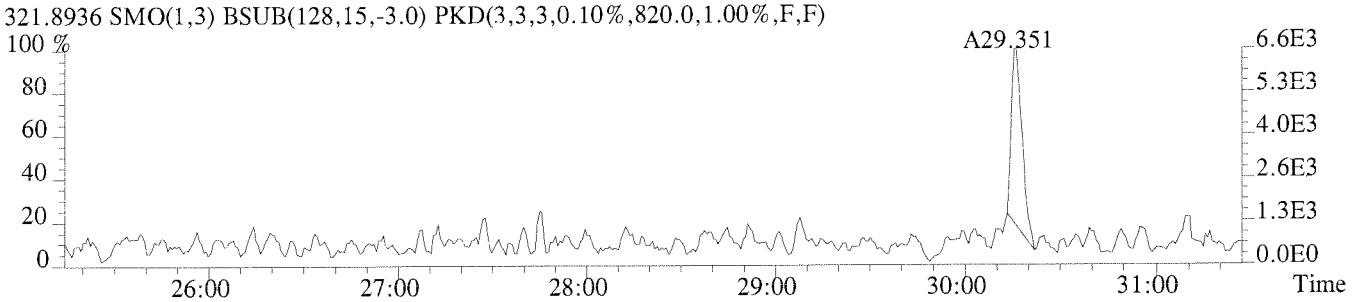


File:P100249 #1-518 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

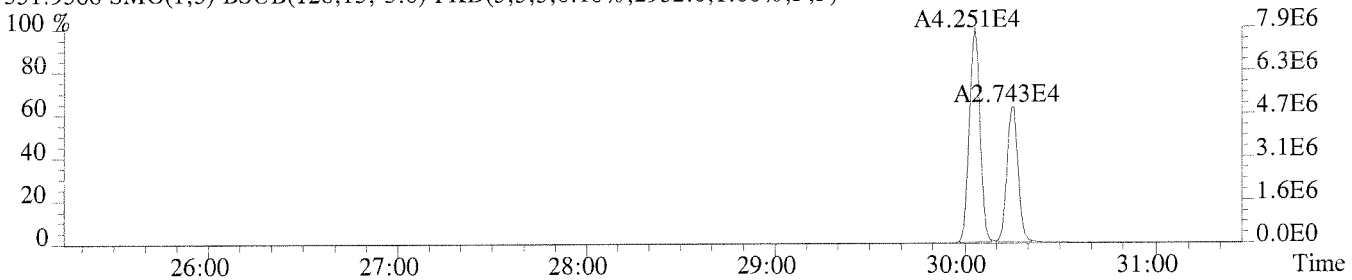
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,F)



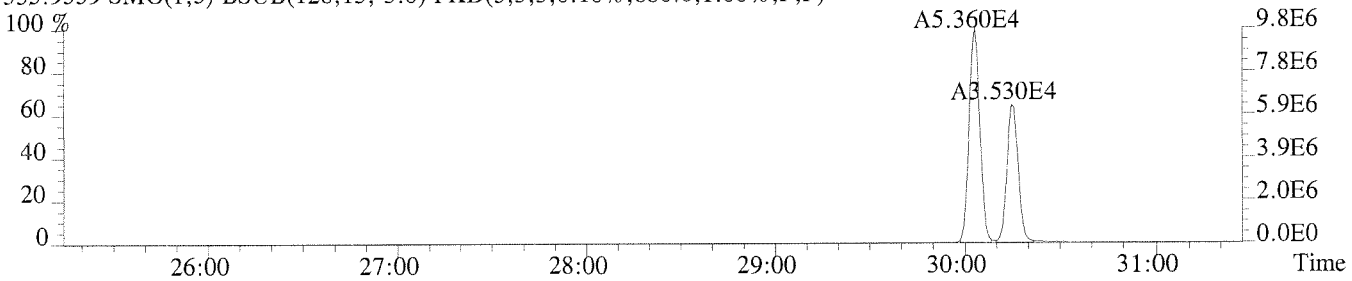
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,820.0,1.00%,F,F)



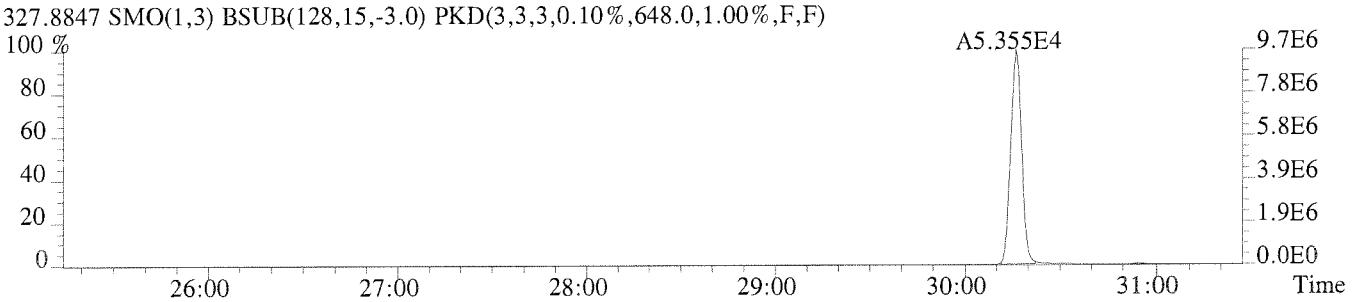
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2932.0,1.00%,F,F)



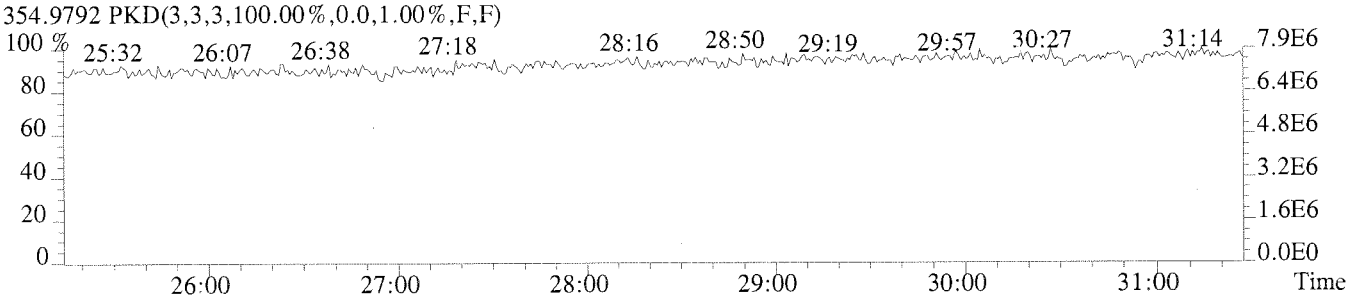
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,648.0,1.00%,F,F)

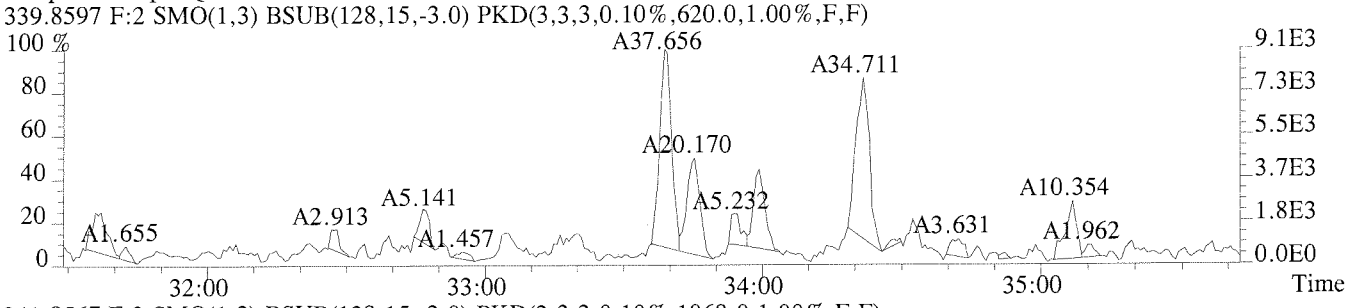


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

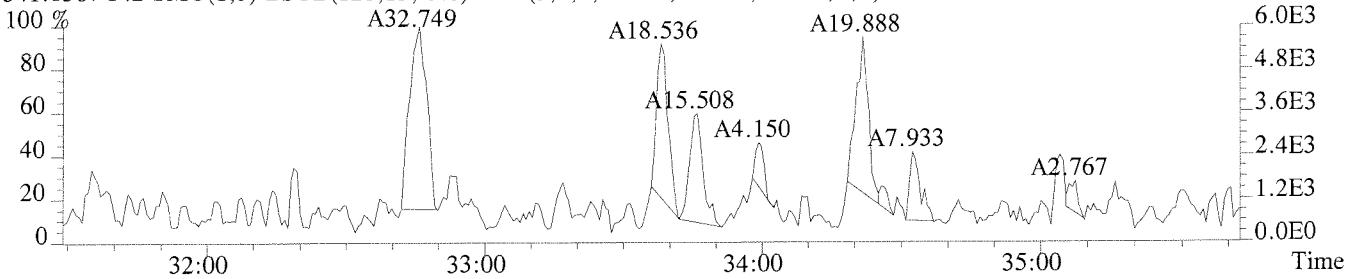


File:P100249 #1-384 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

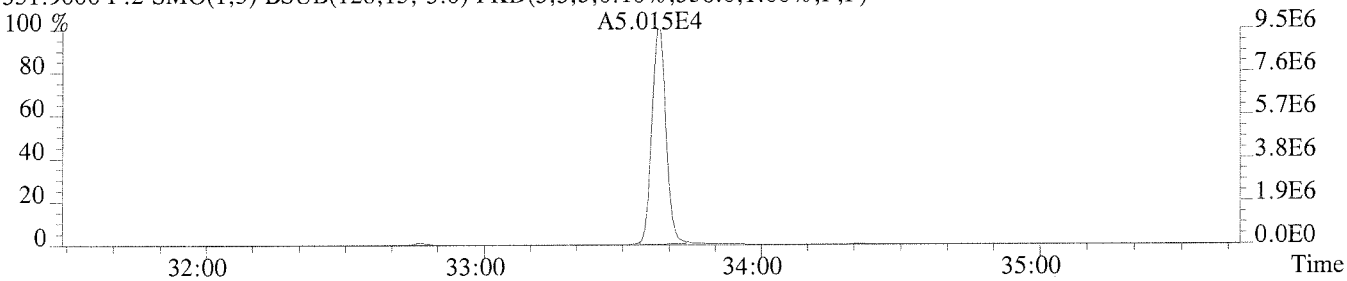
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,F)



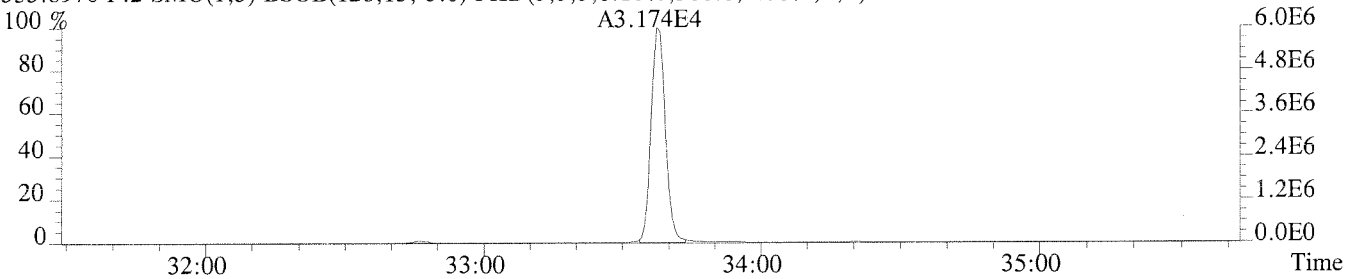
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,F)



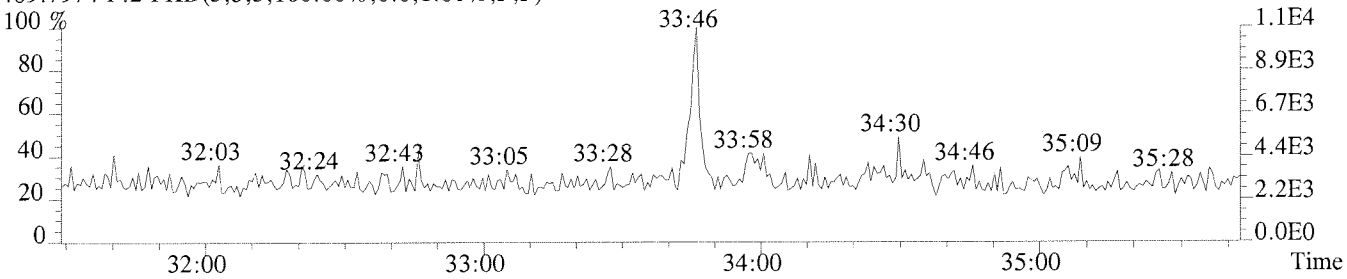
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



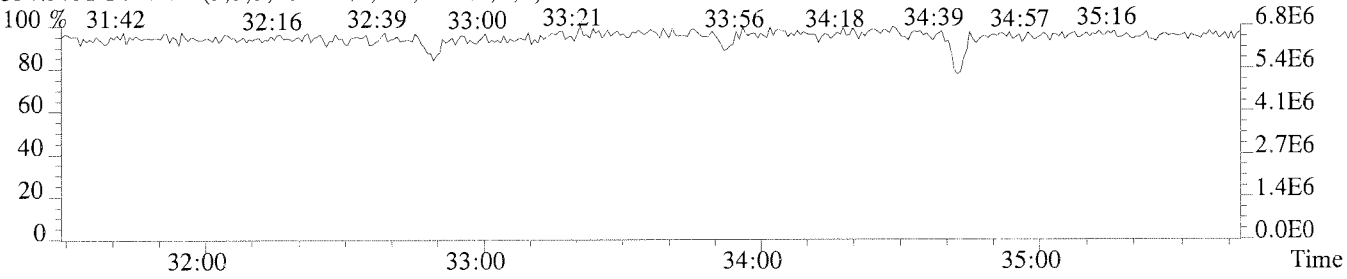
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,F)



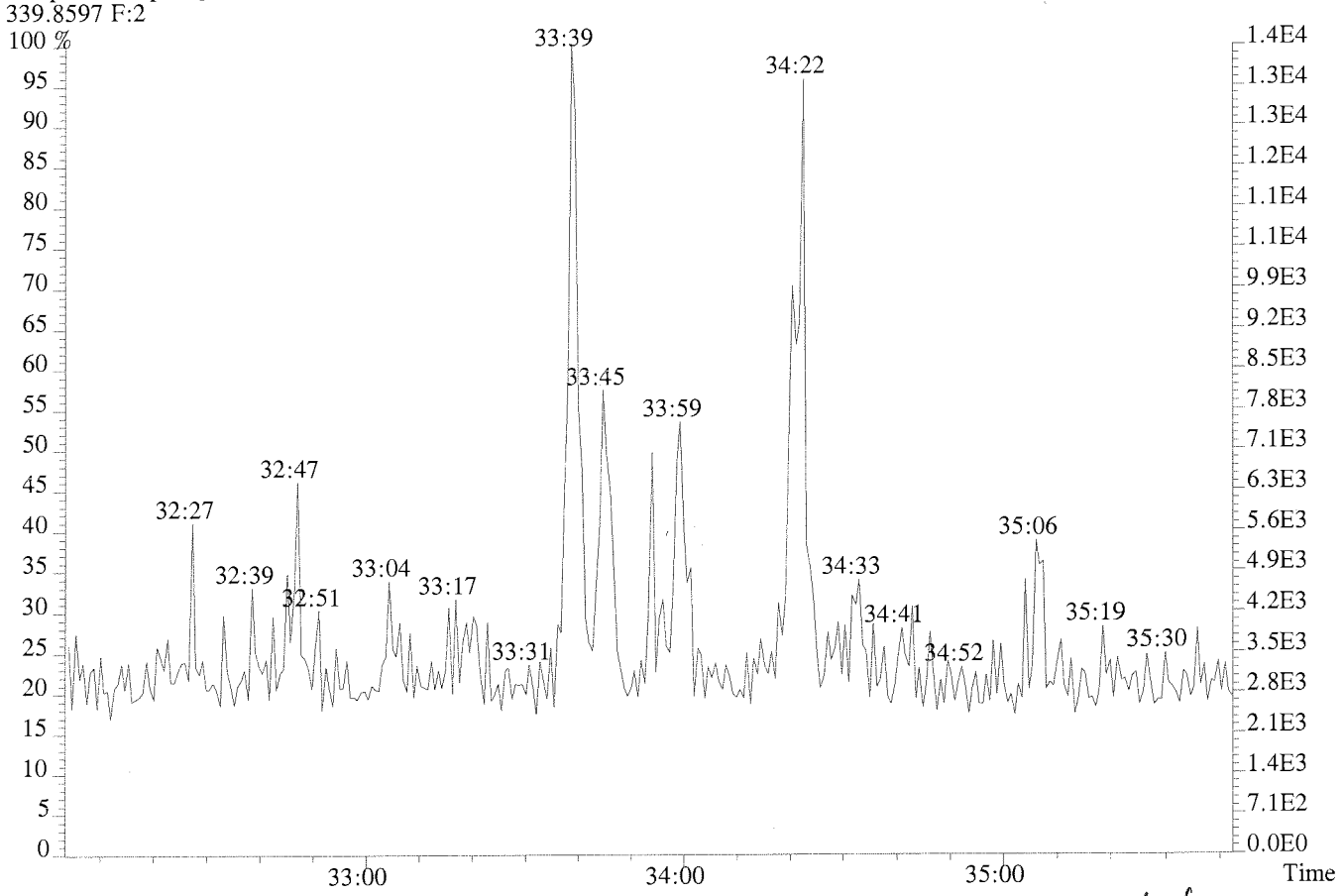
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



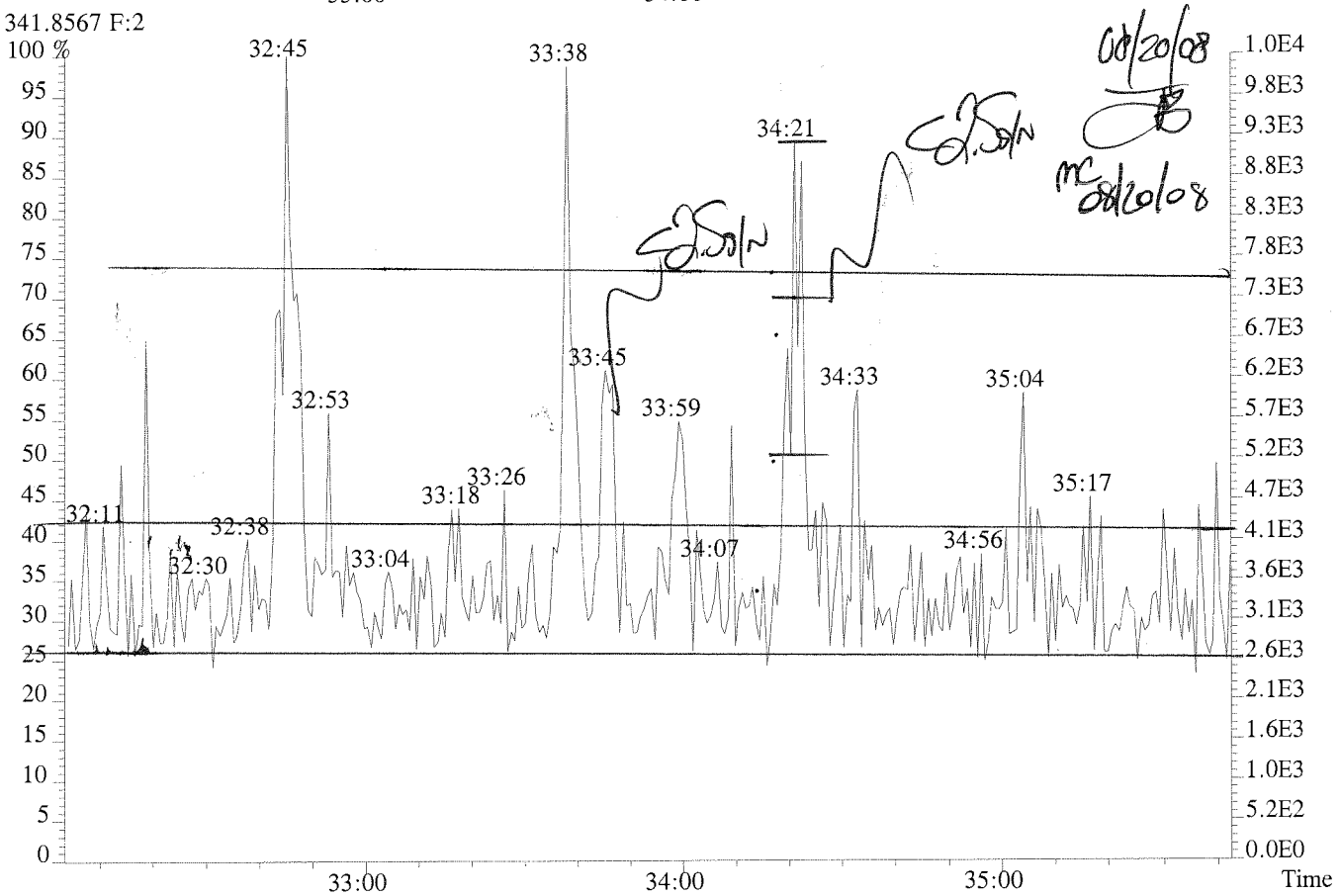
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



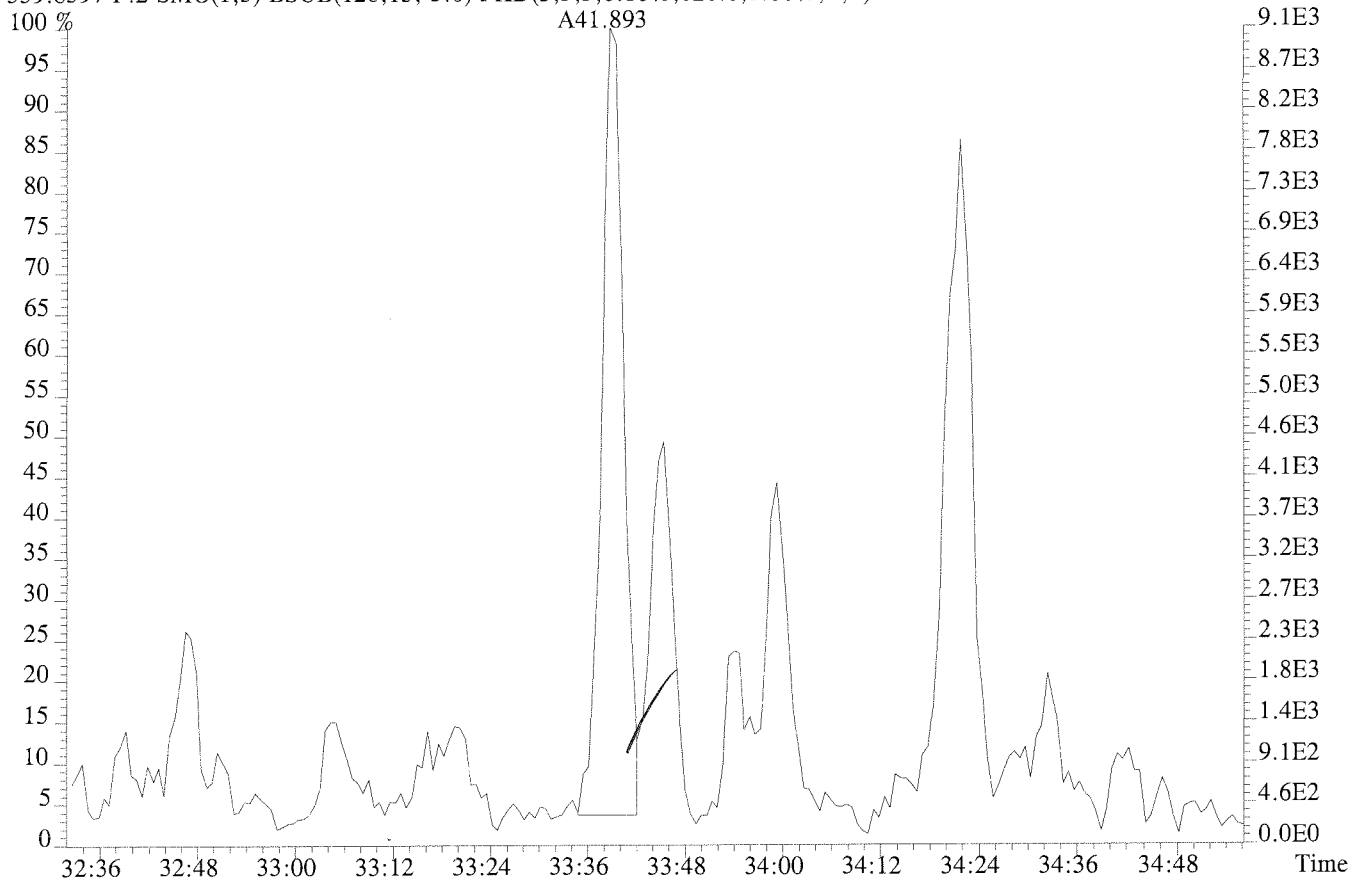
File:P100249 #1-384 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
339.8597 F:2



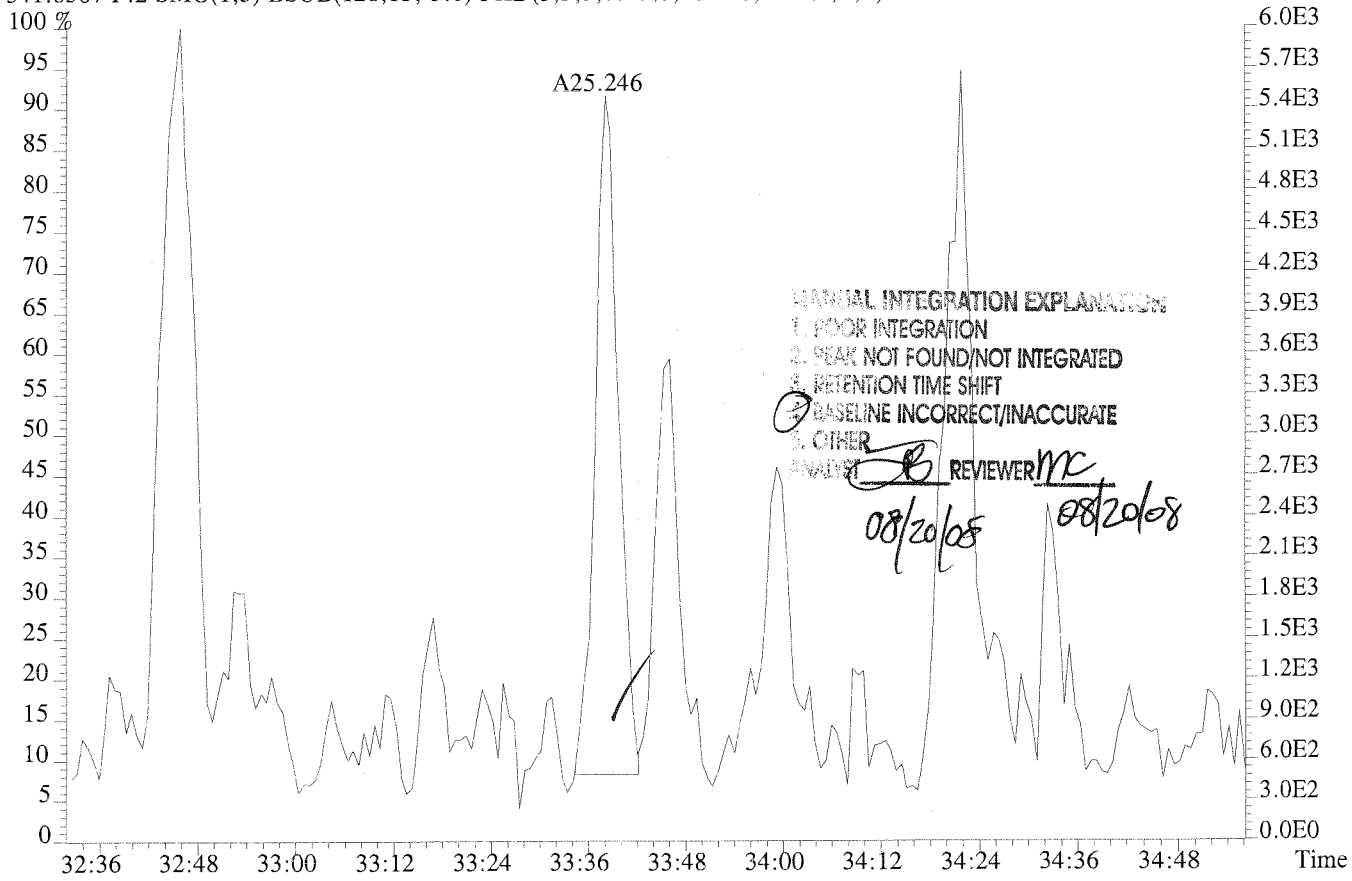
341.8567 F:2



File:P100249 #1-384 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,F)

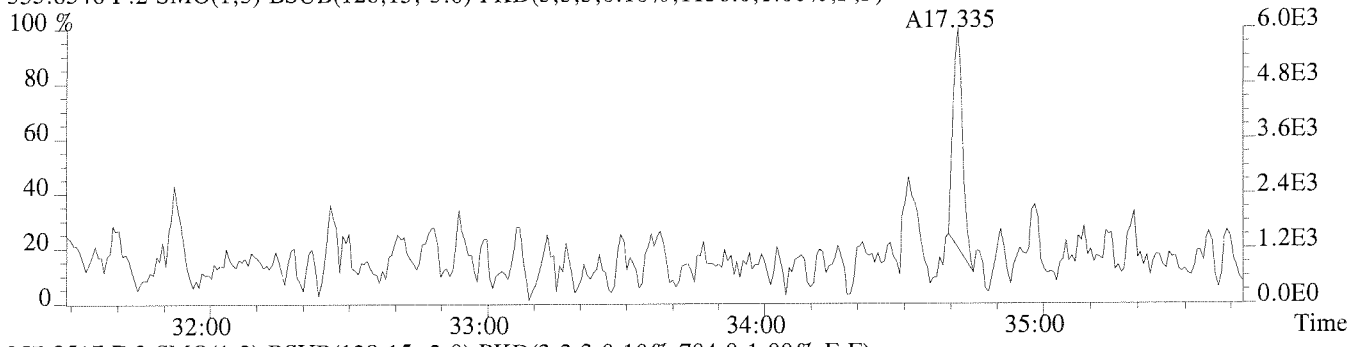


341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1068.0,1.00%,F,F)

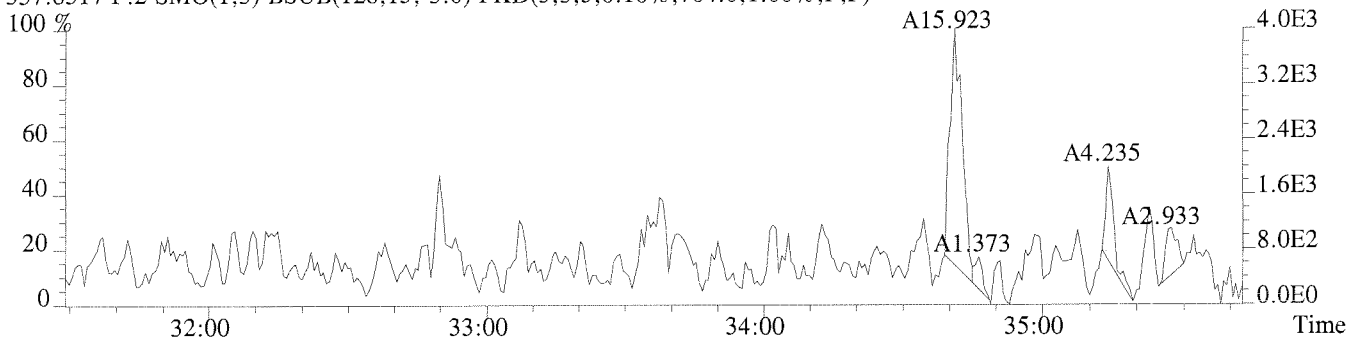


MANUAL INTEGRATION EXPLANATION:
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER MC
08/20/08 08/20/08

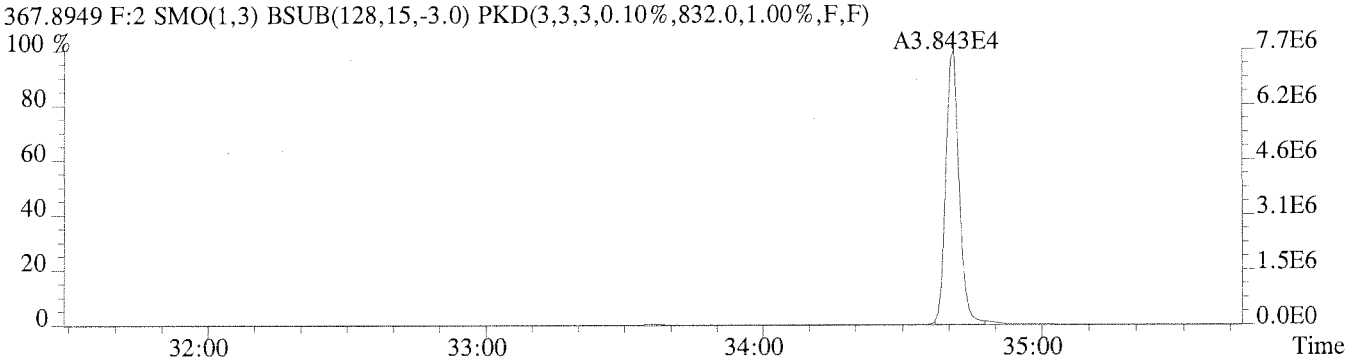
File:P100249 #1-384 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,F)



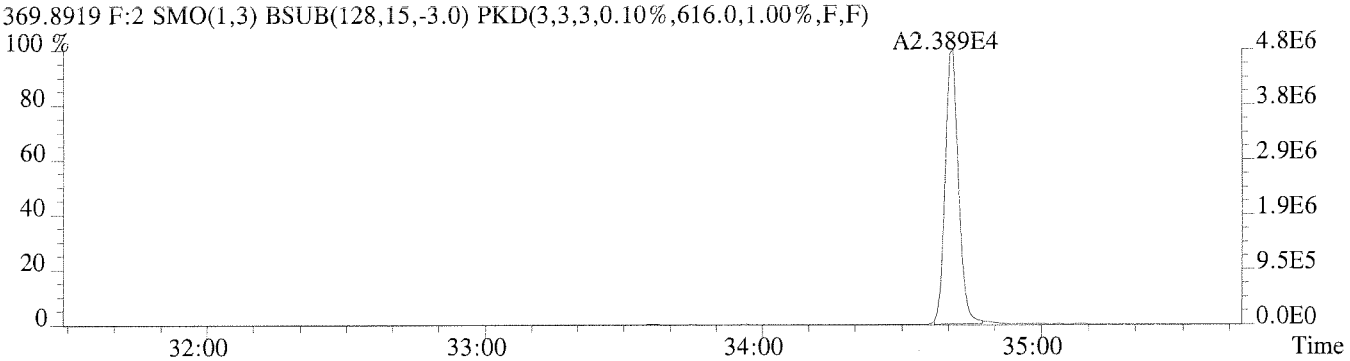
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,704.0,1.00%,F,F)



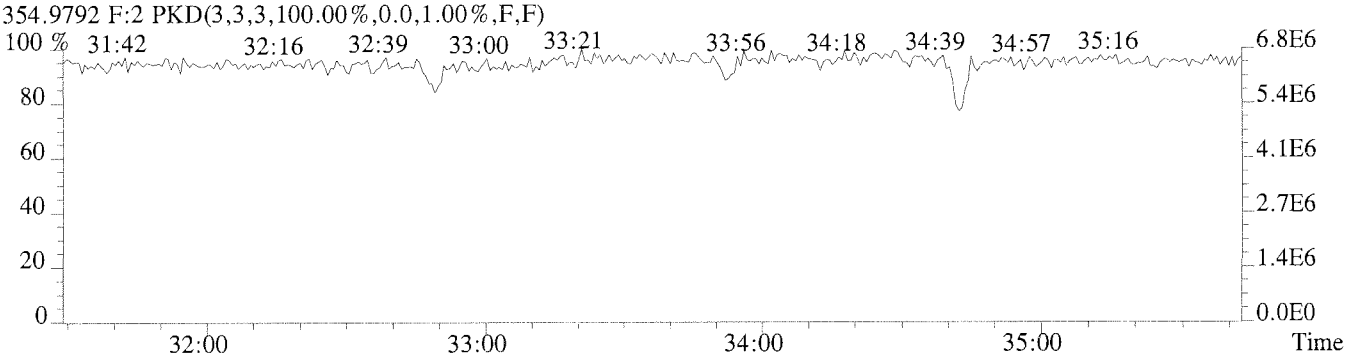
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,F)



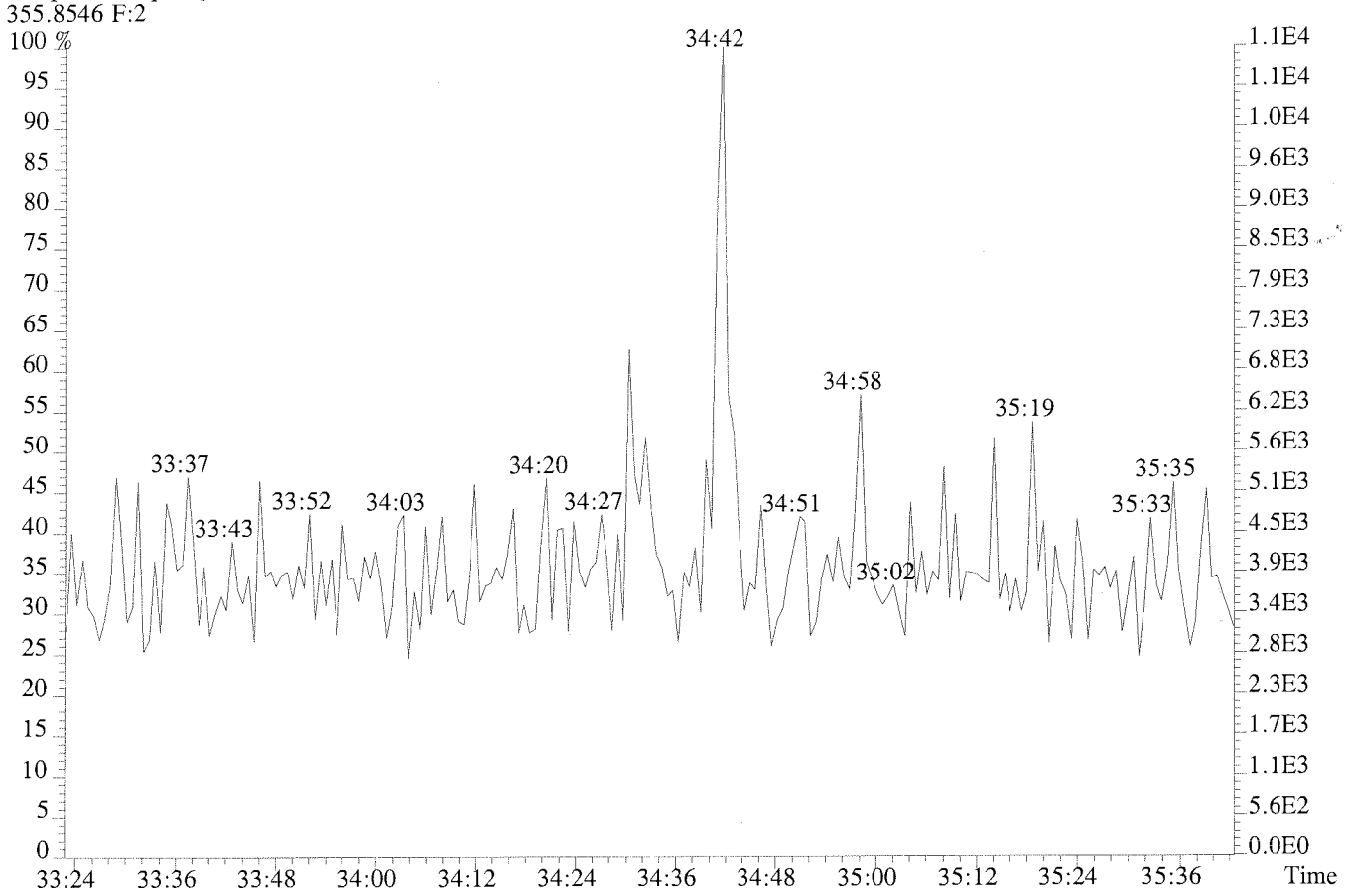
369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,F)



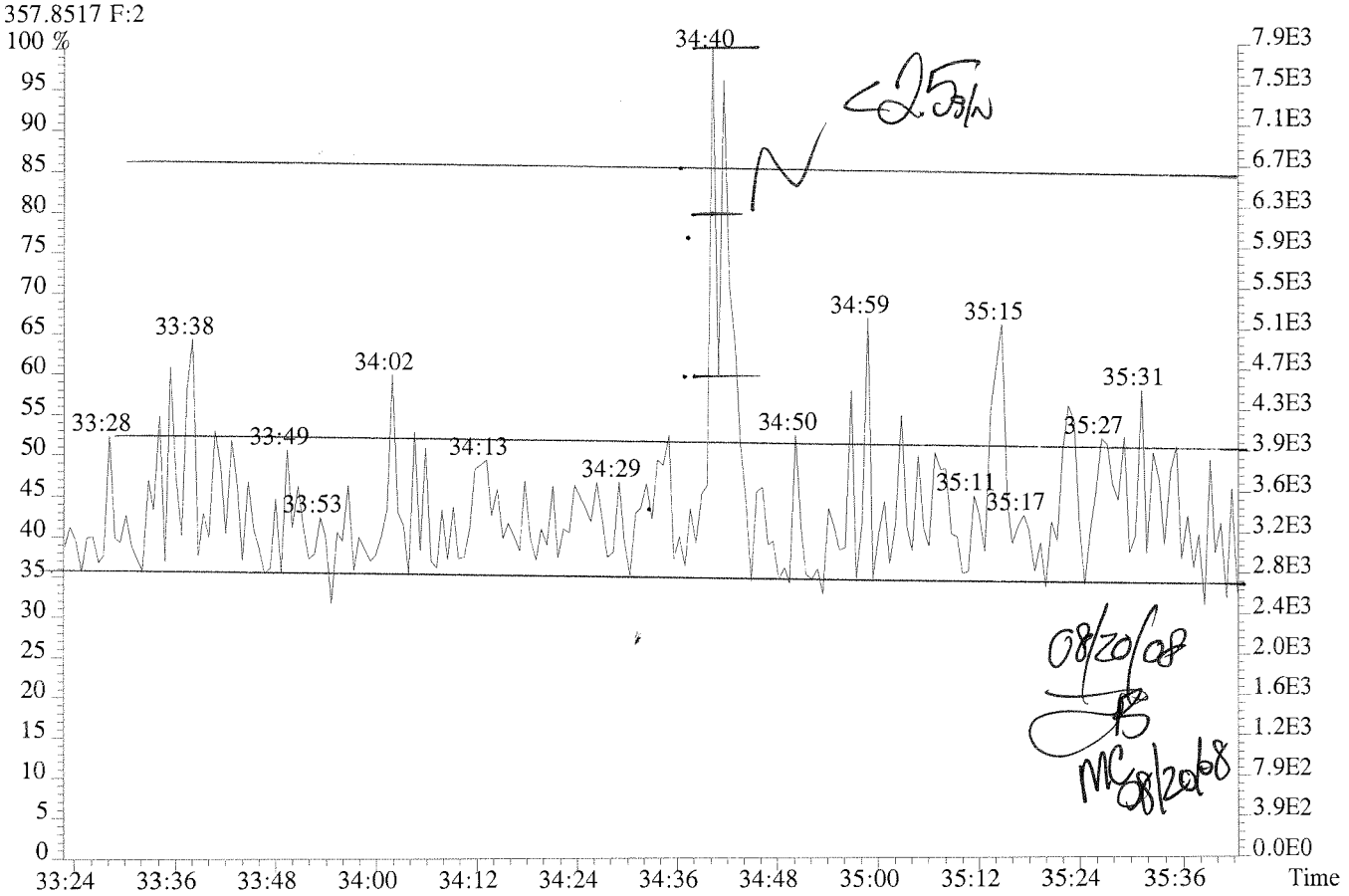
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100249 #1-384 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
355.8546 F:2

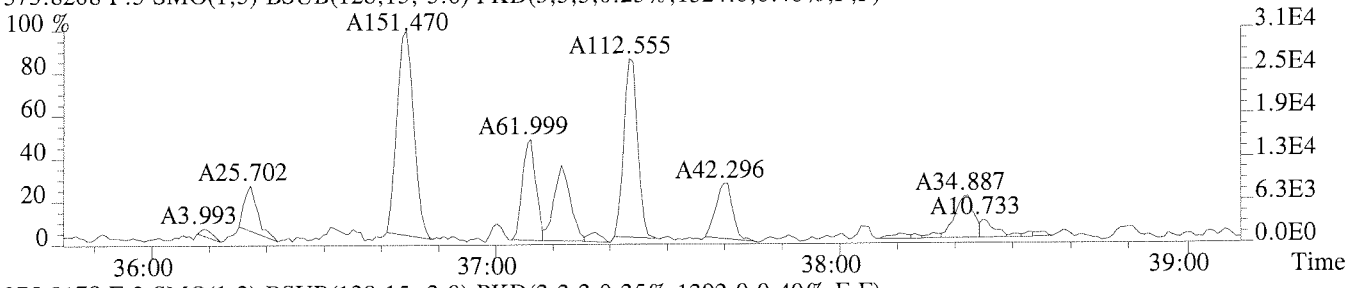


357.8517 F:2

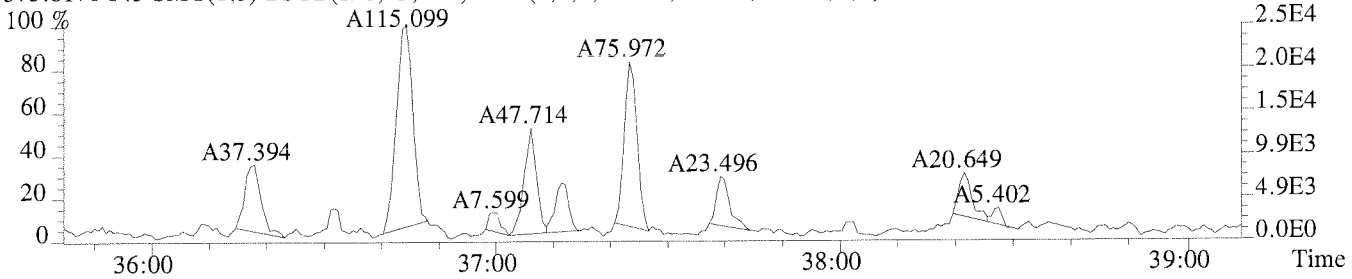


File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

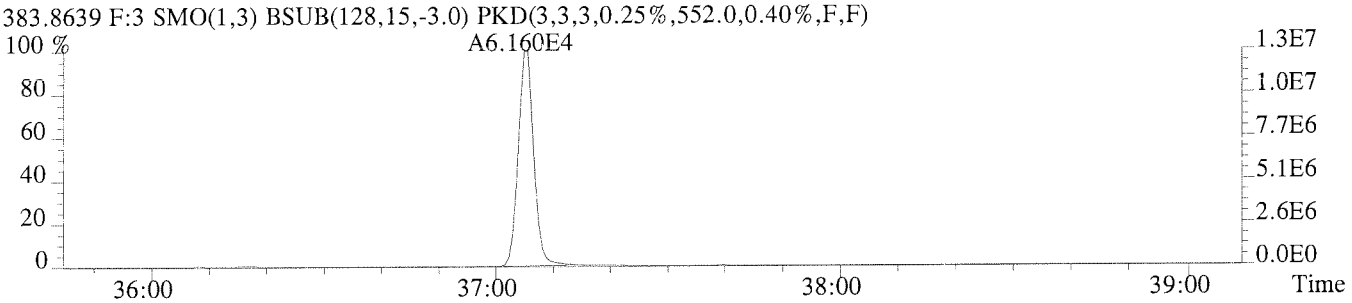
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,F)



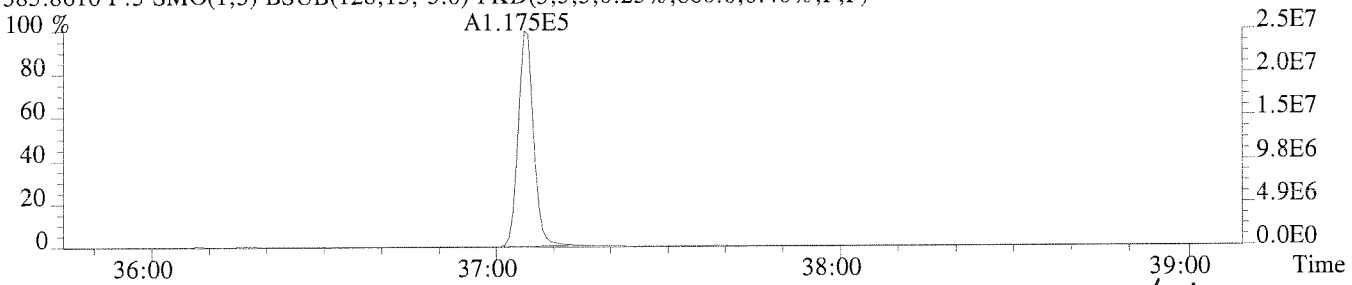
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,F)



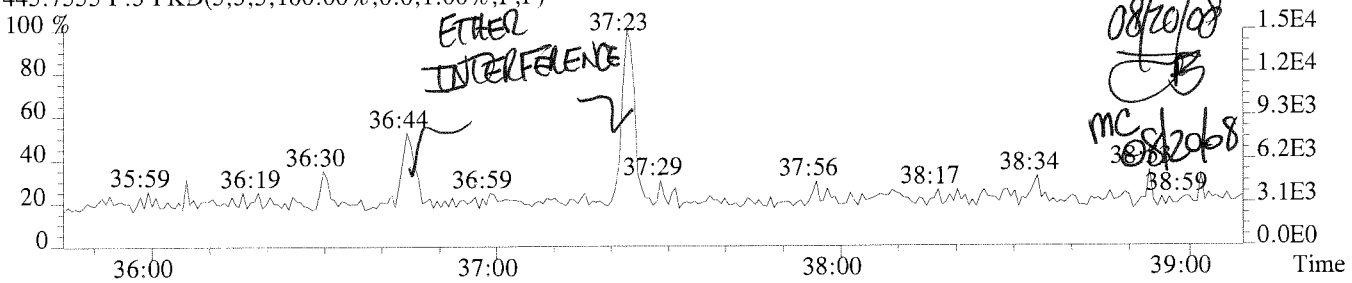
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,F)



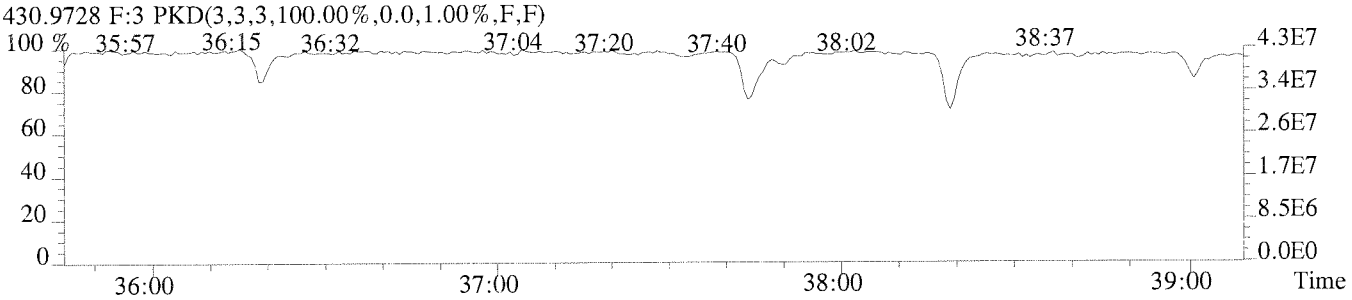
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,F)



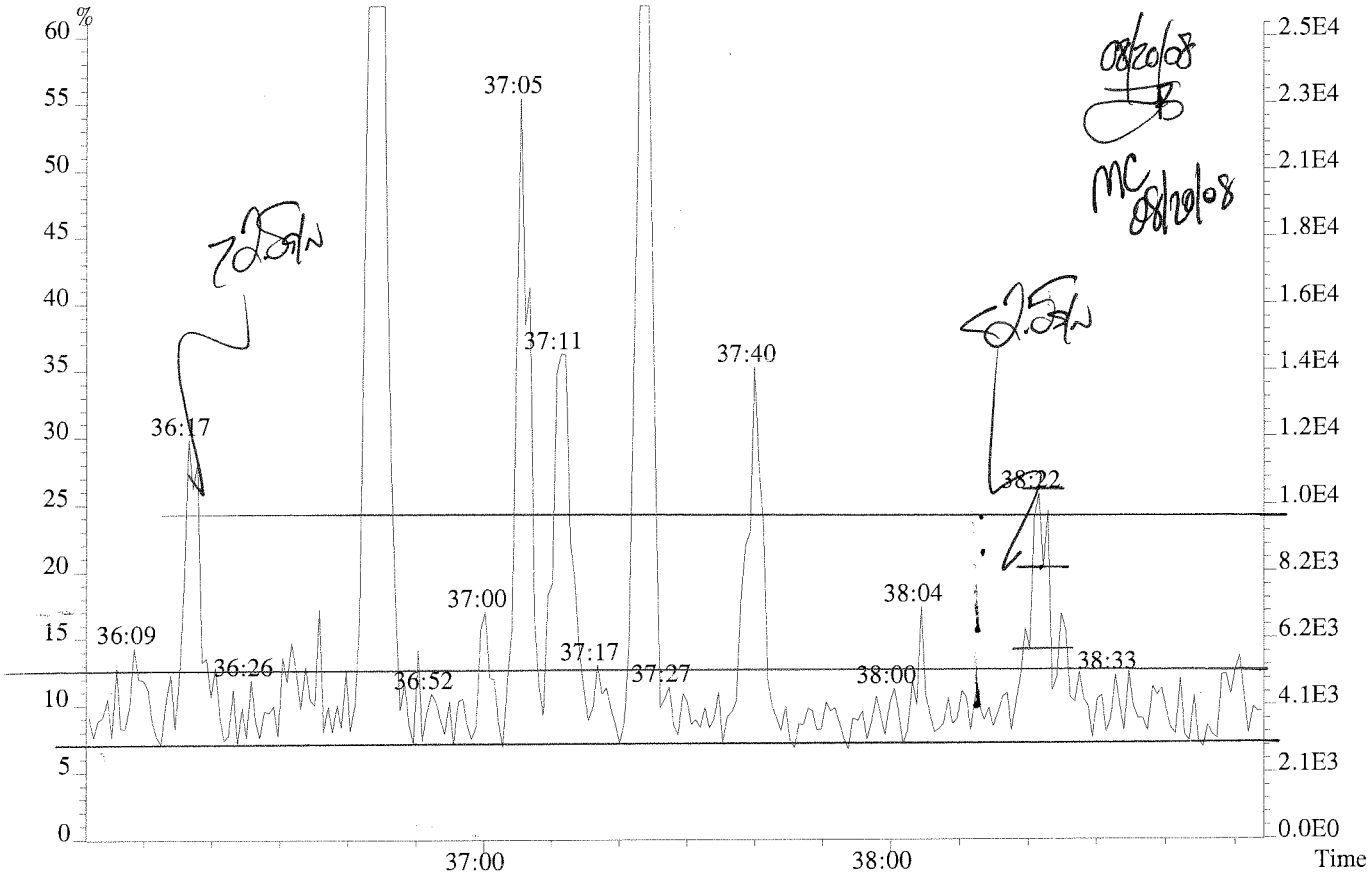
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



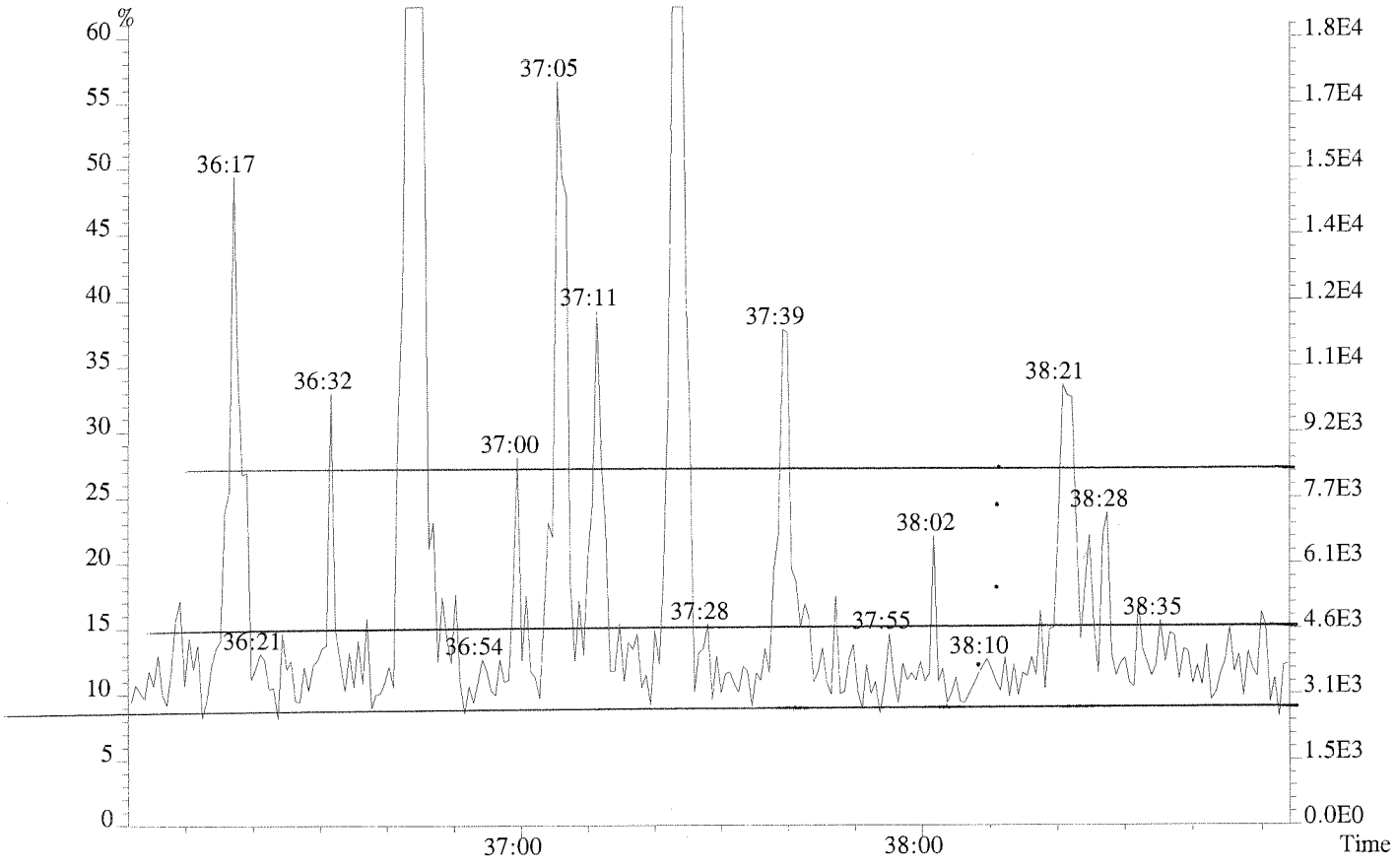
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



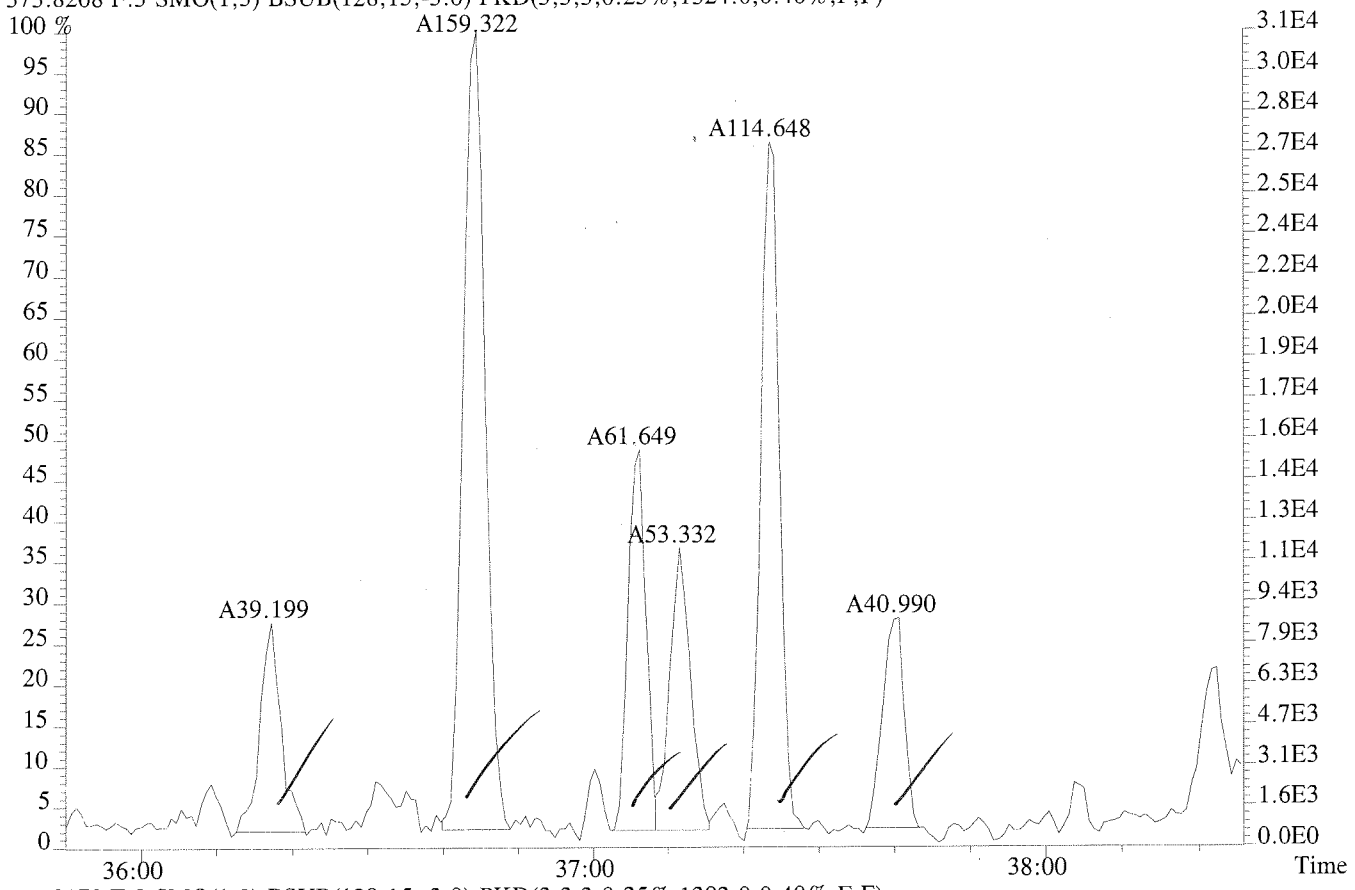
File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
373.8208 F:3



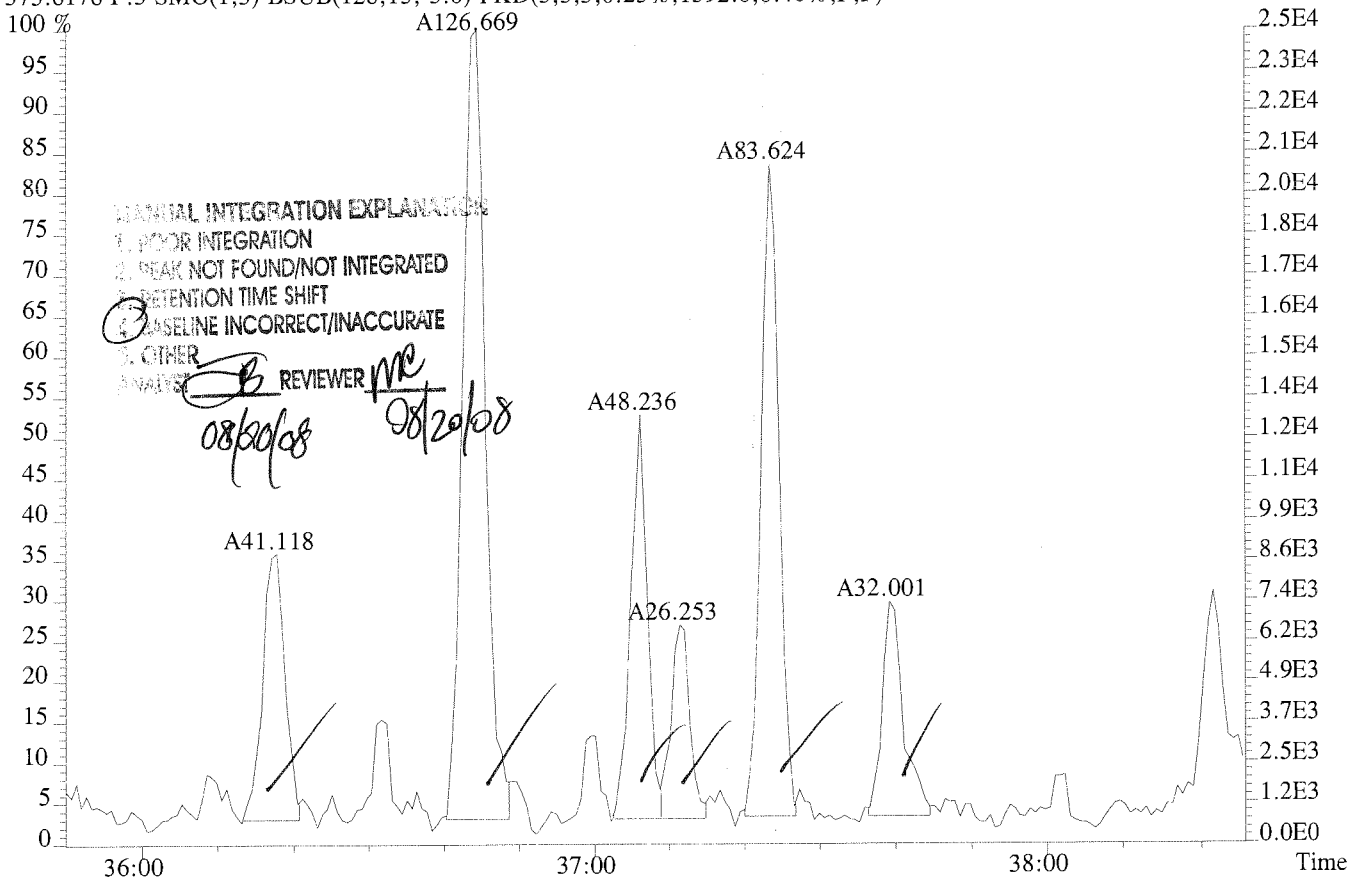
375.8178 F:3



File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,F)

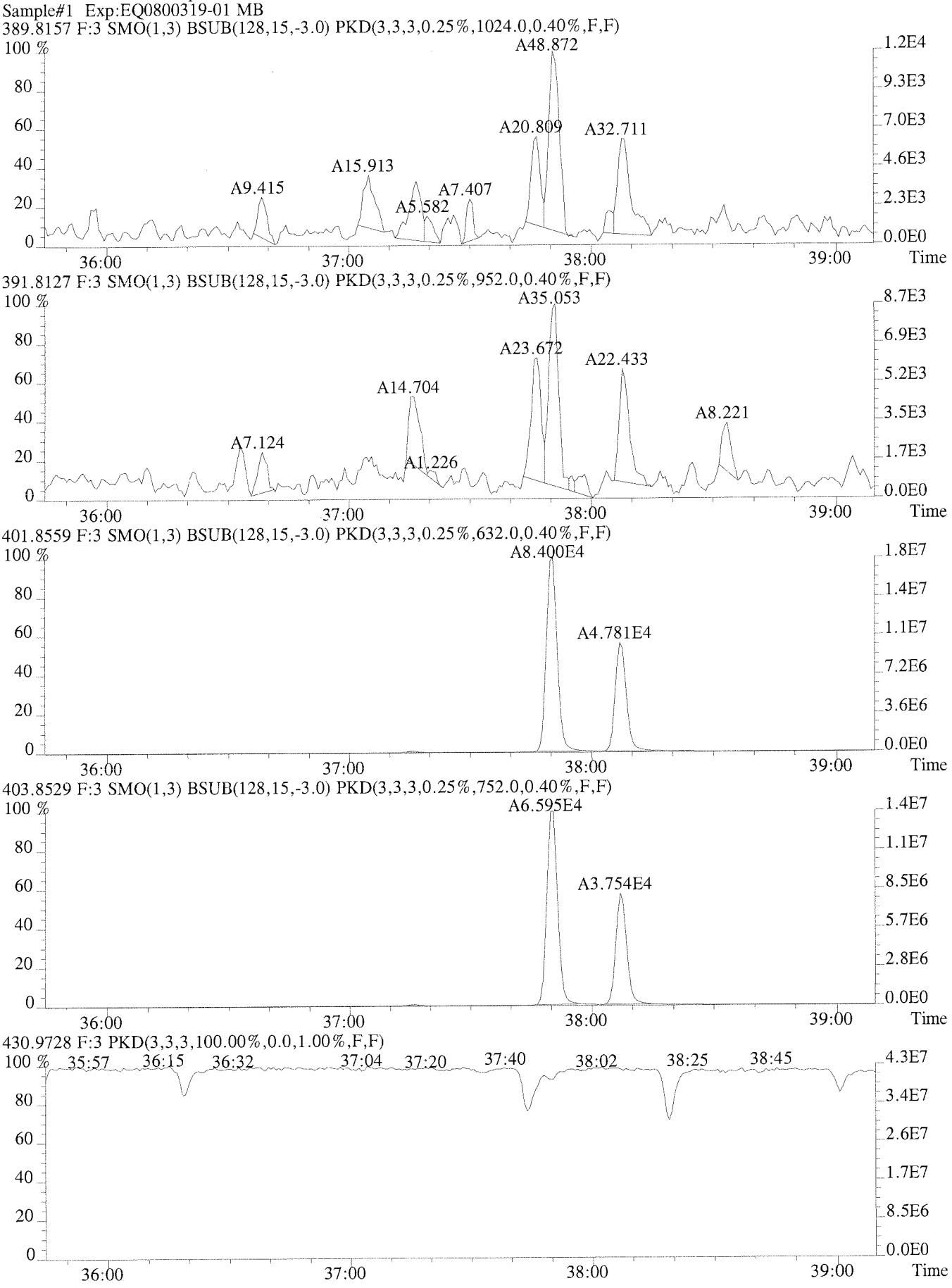


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,F)

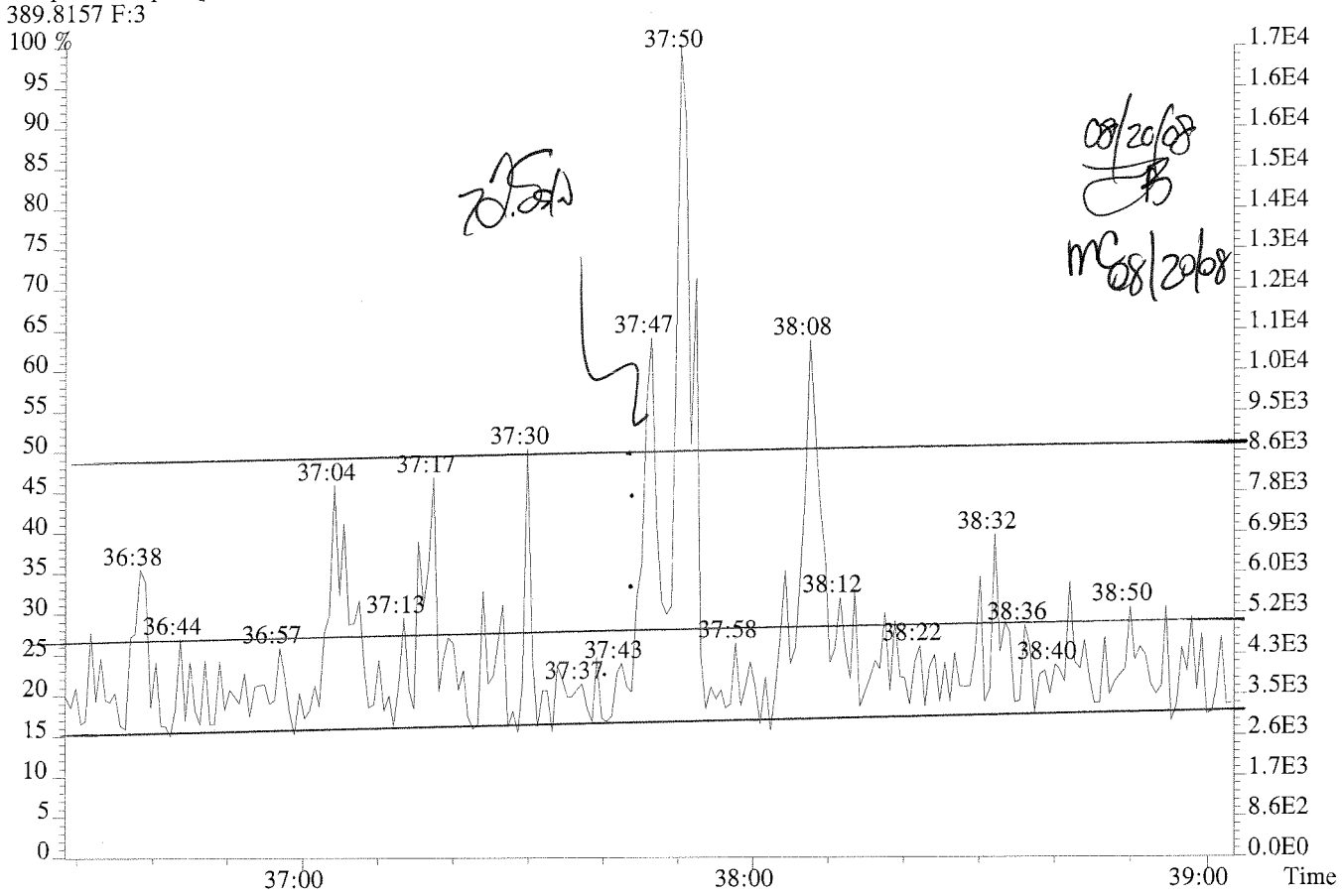


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
08/20/08 08/20/08

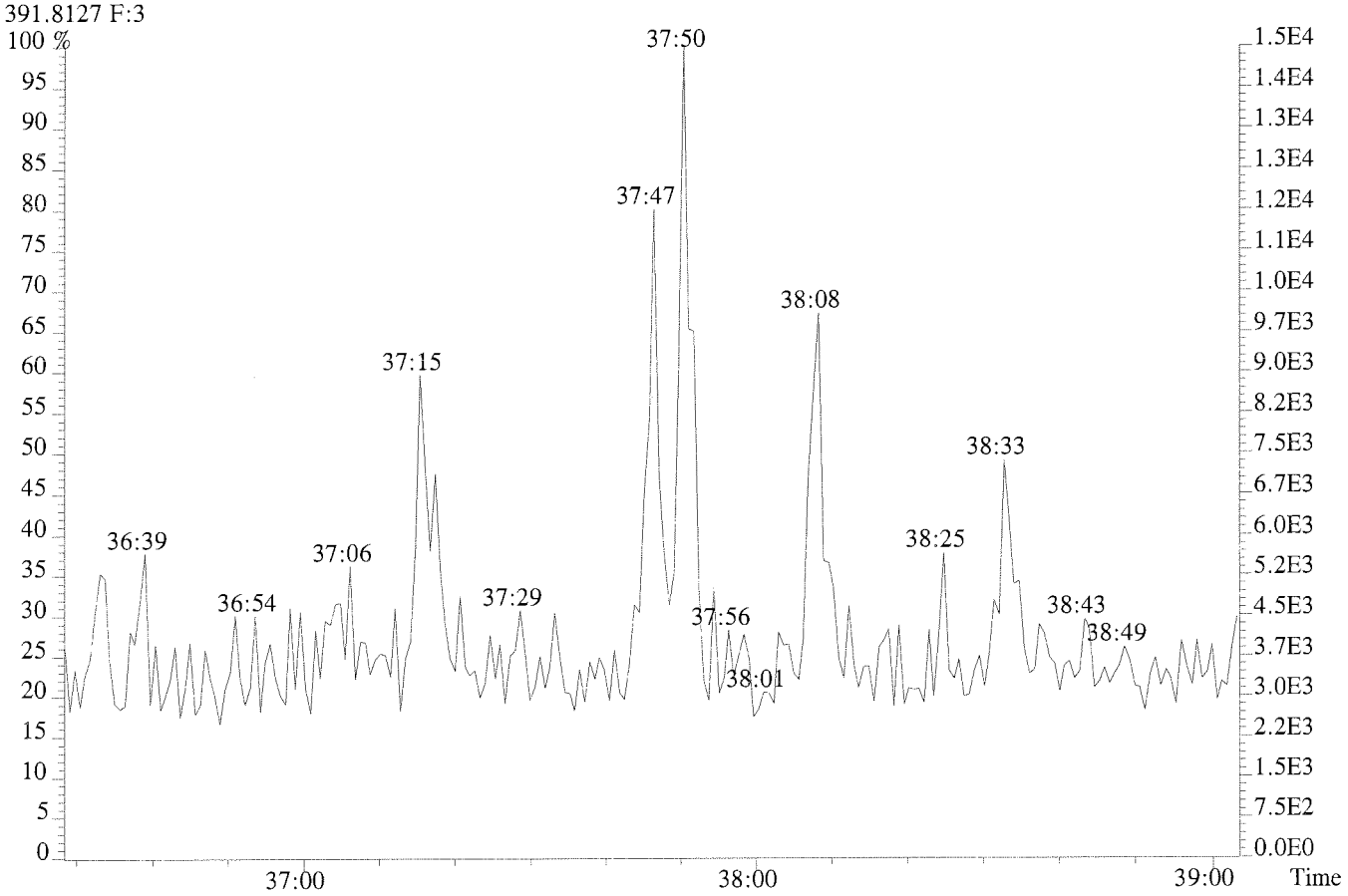
File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB



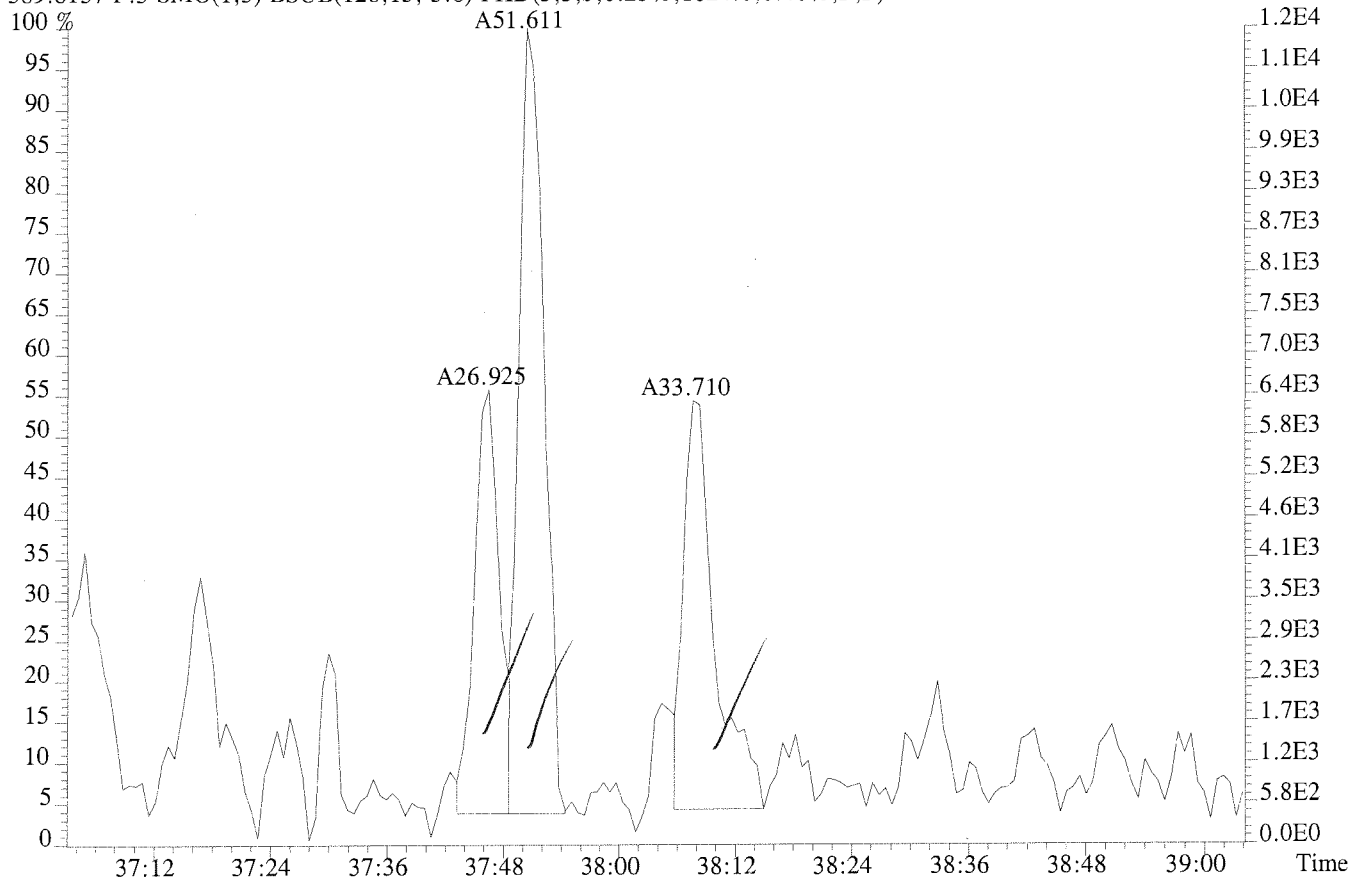
File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
389.8157 F:3



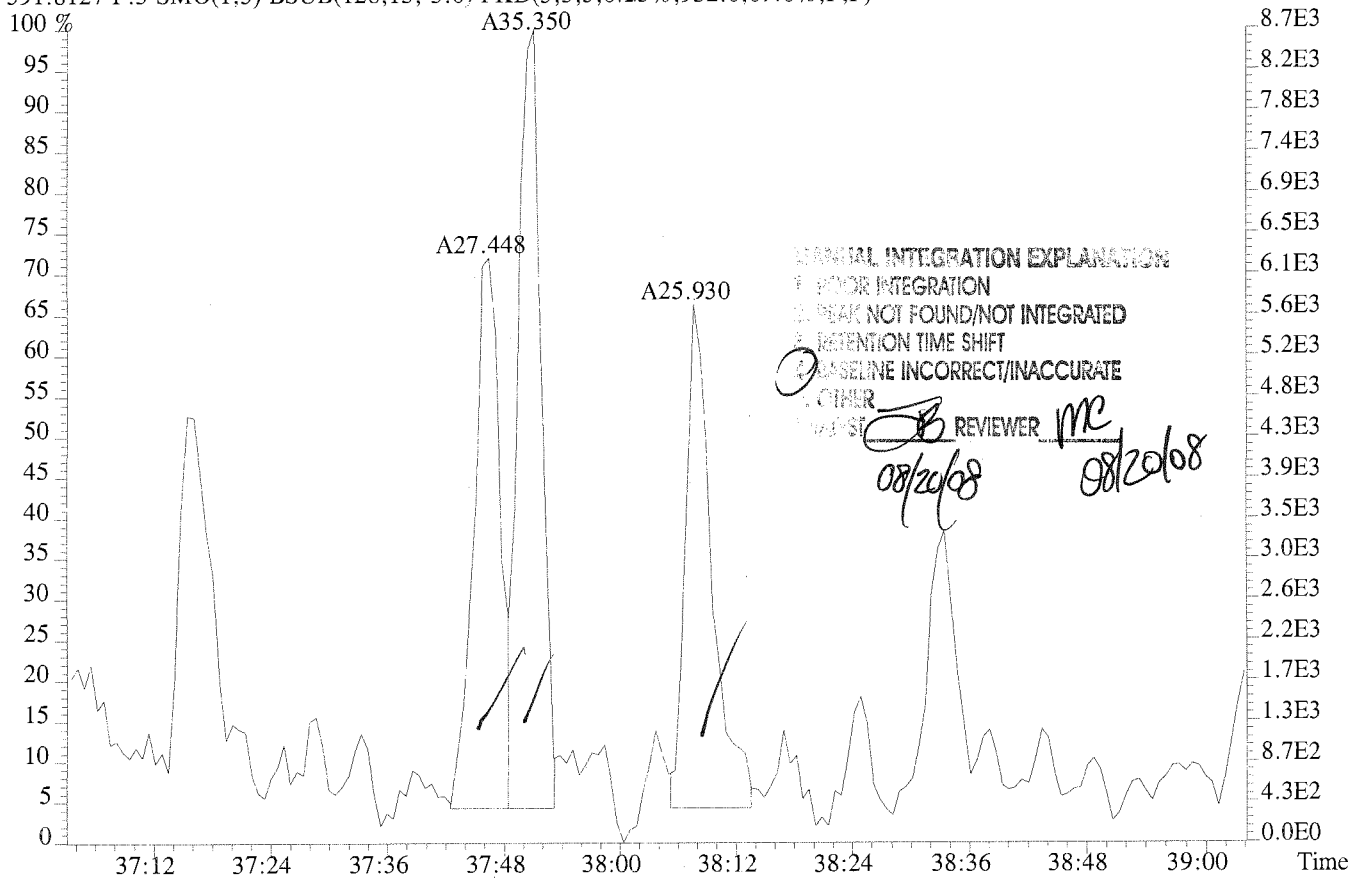
391.8127 F:3



File:P100249 #1-310 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1024.0,0.40%,F,F)



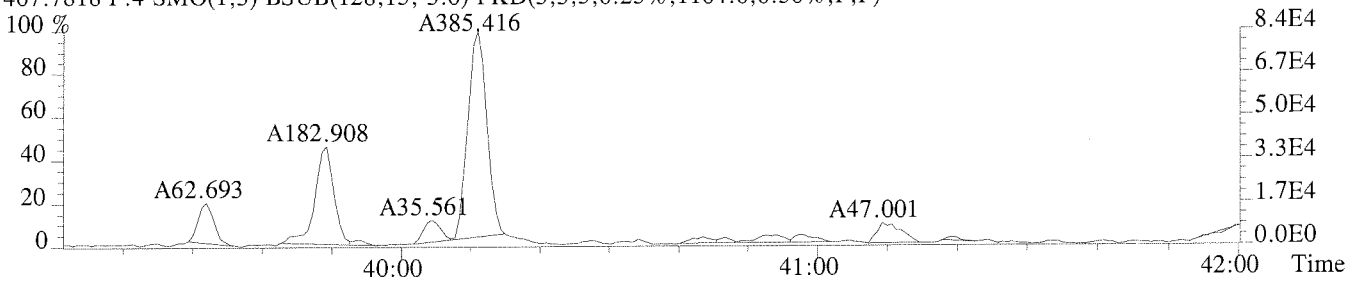
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,F)



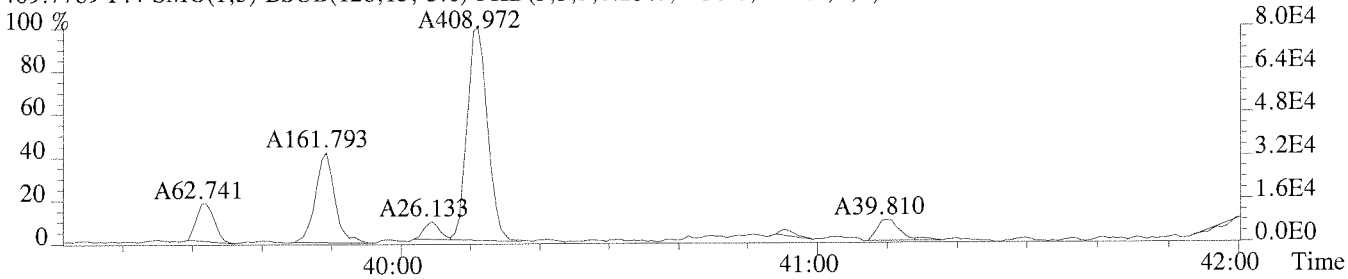
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
RESPONSE REVIEWER MC
08/20/08 08/20/08

File:P100249 #1-256 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

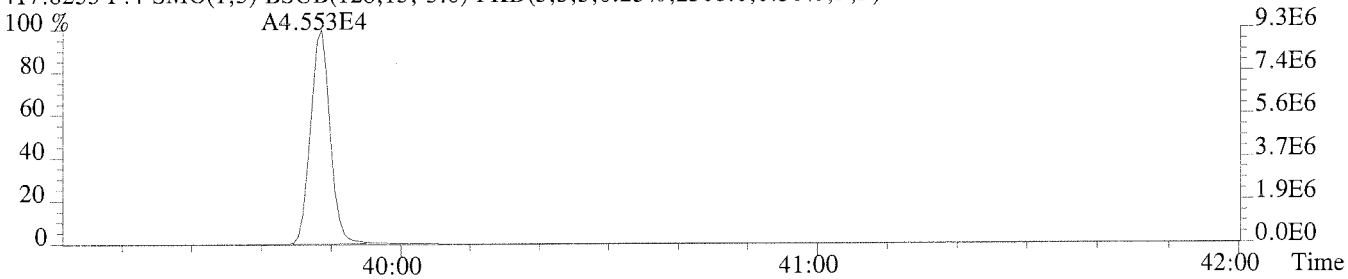
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.50%,F,F)



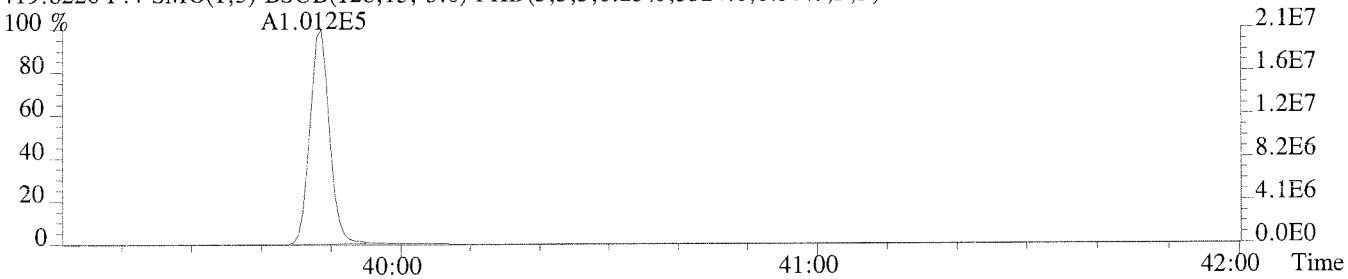
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.50%,F,F)



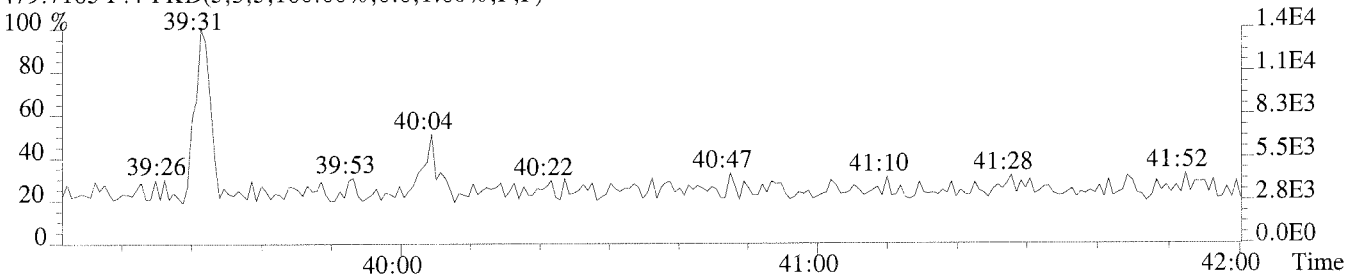
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2308.0,0.50%,F,F)



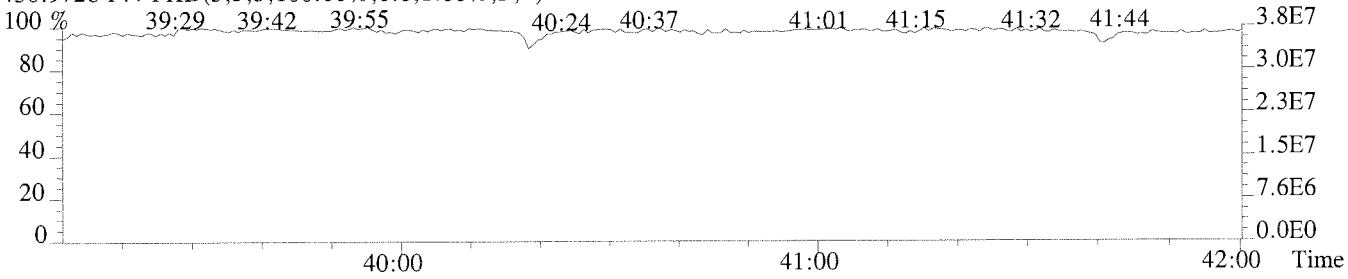
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5324.0,0.50%,F,F)



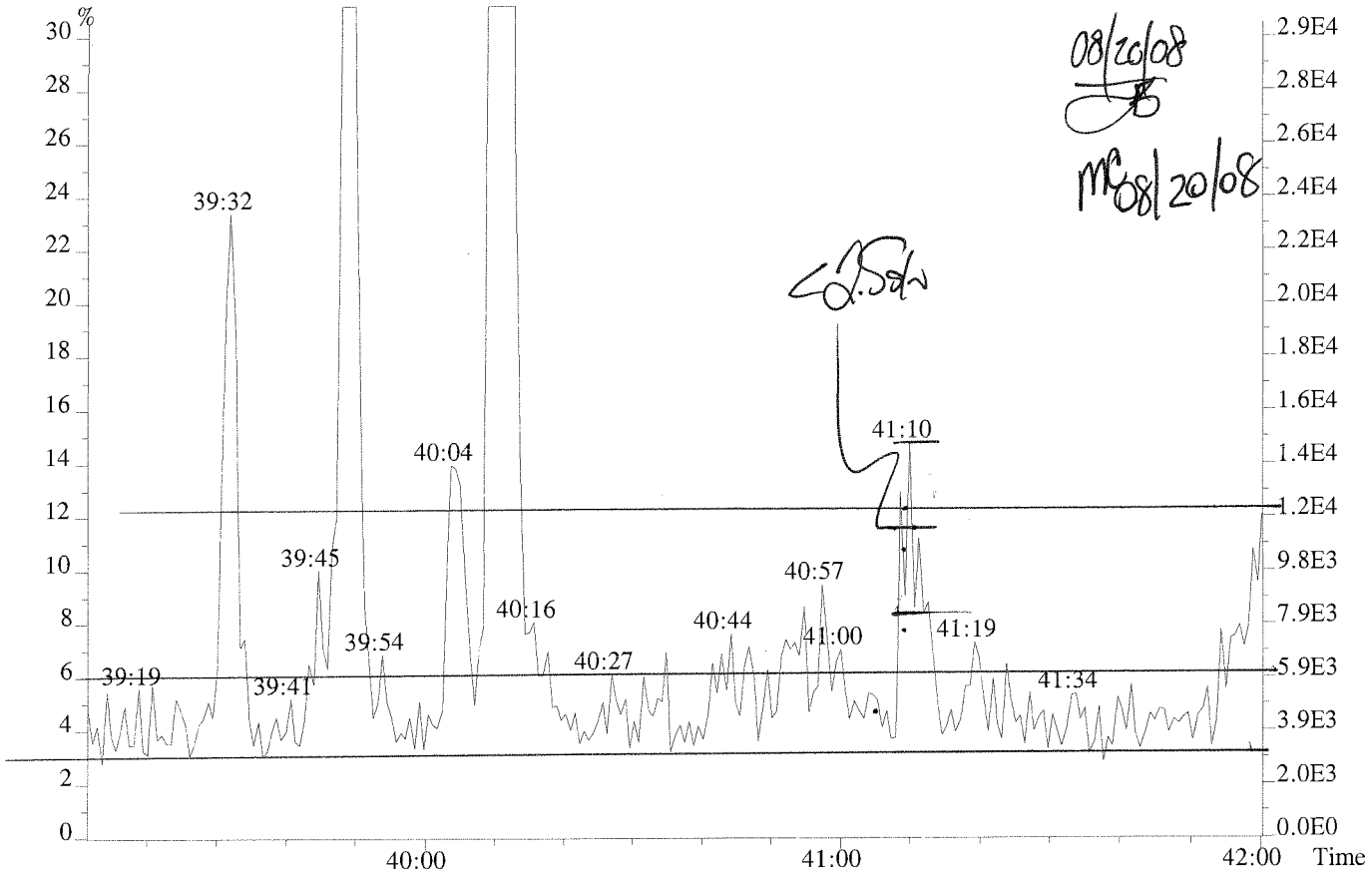
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



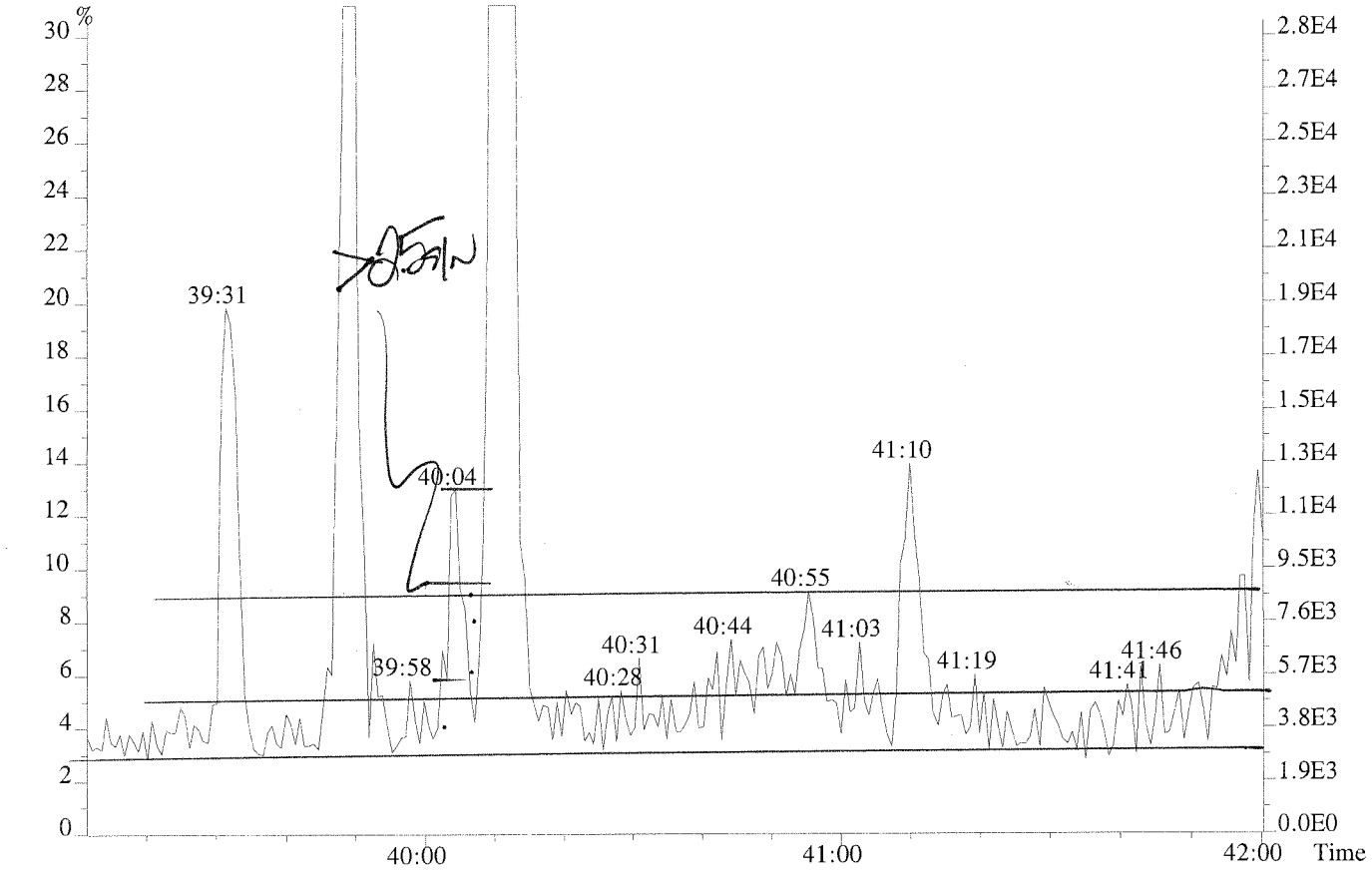
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



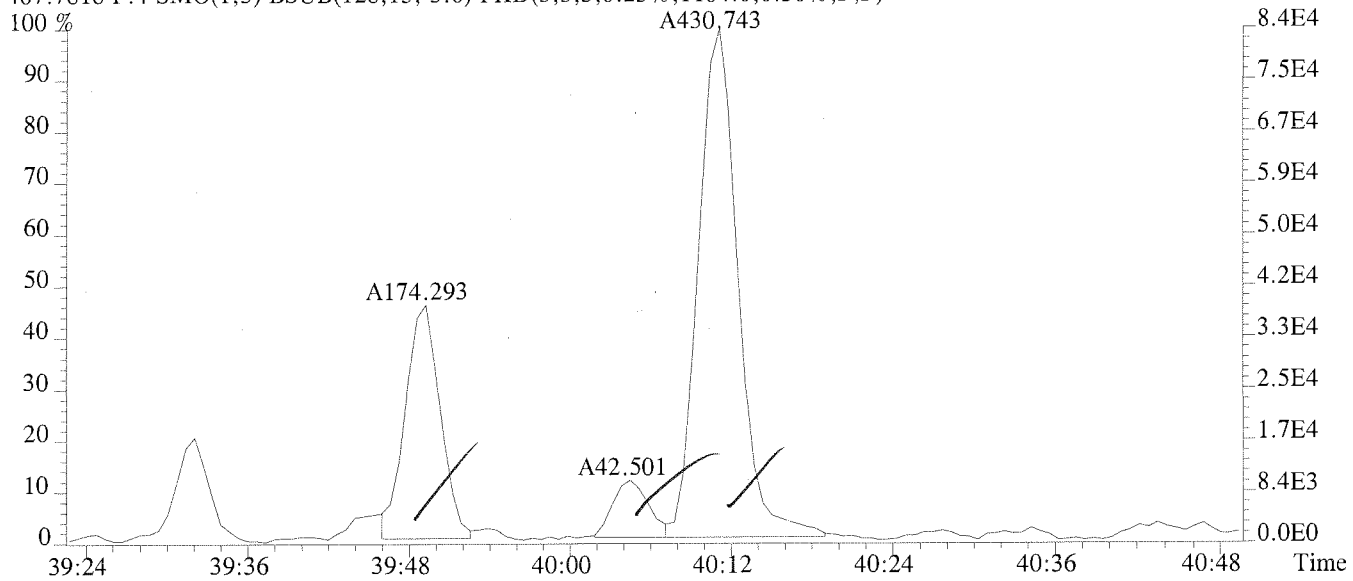
File:P100249 #1-256 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
407.7818 F:4



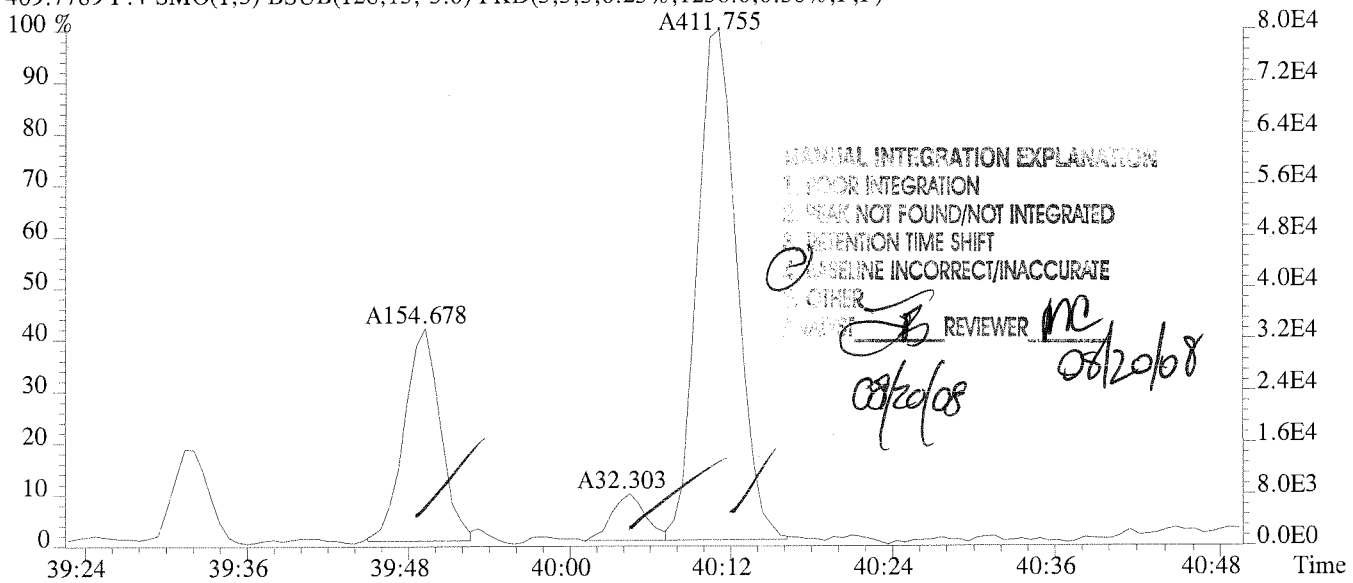
409.7789 F:4



File:P100249 #1-256 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1104.0,0.50%,F,F)

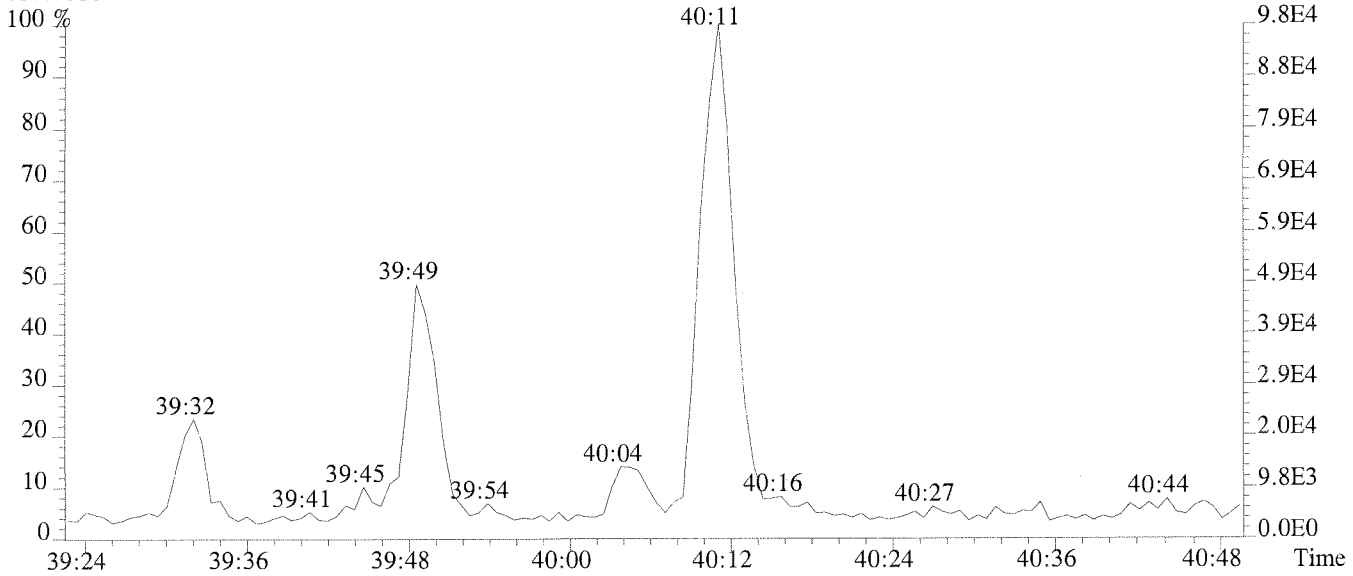


409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.50%,F,F)

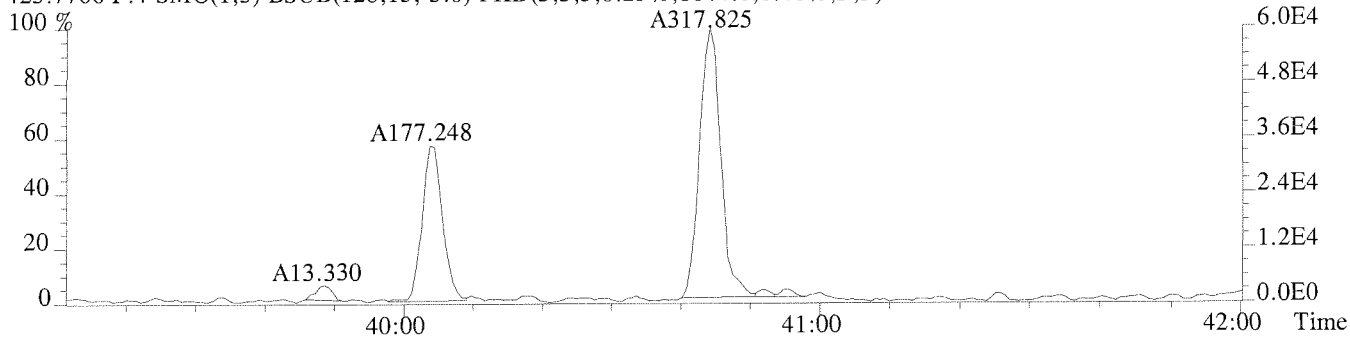


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER MC 08/20/08
08/20/08

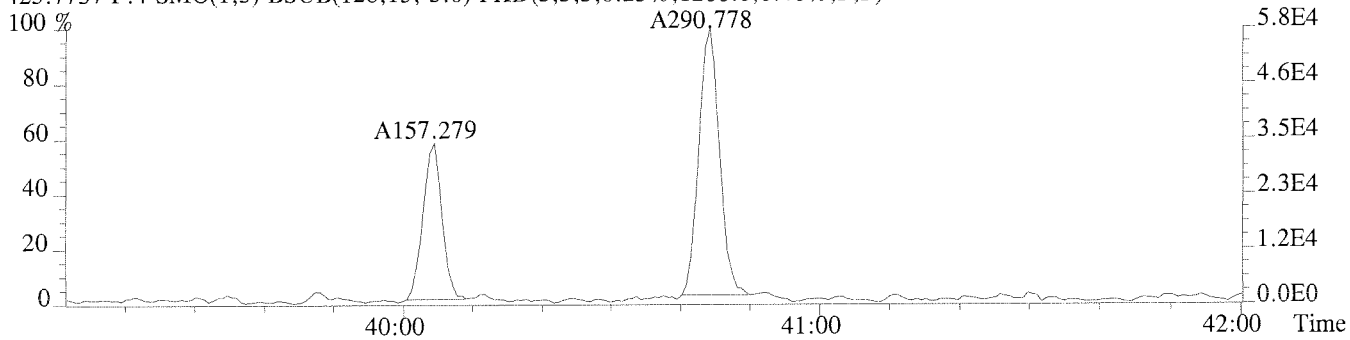
407.7818 F:4



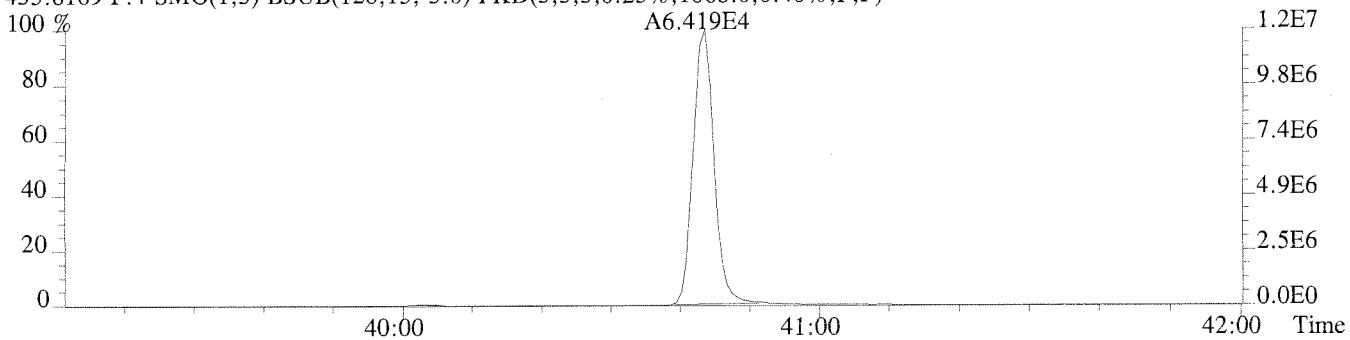
File:P100249 #1-256 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)



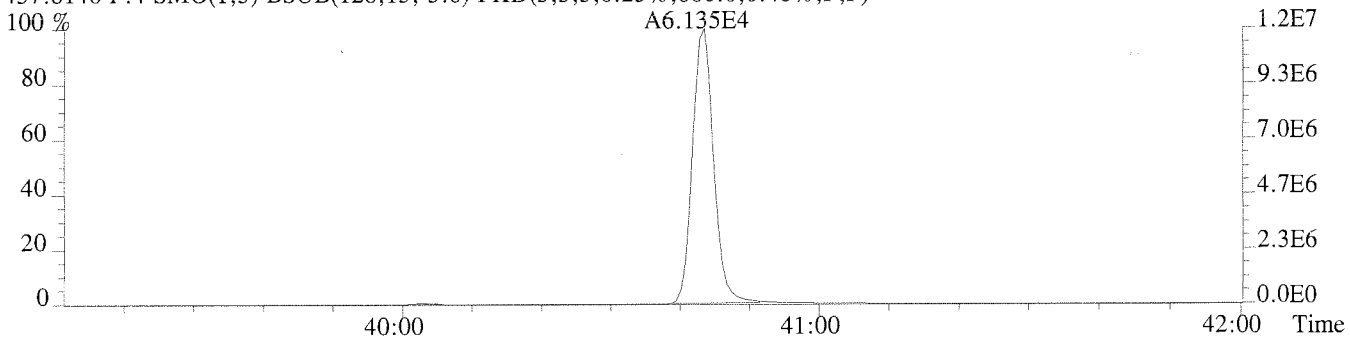
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1200.0,0.40%,F,F)



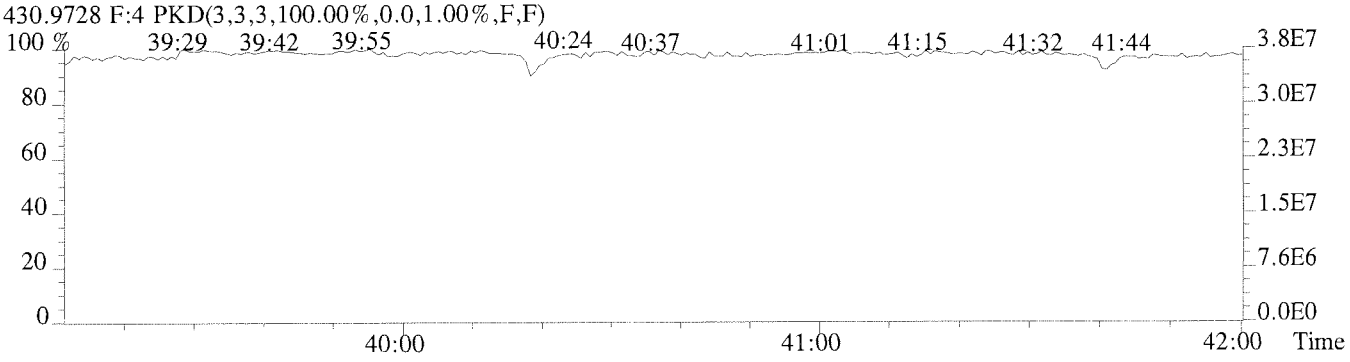
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1068.0,0.40%,F,F)



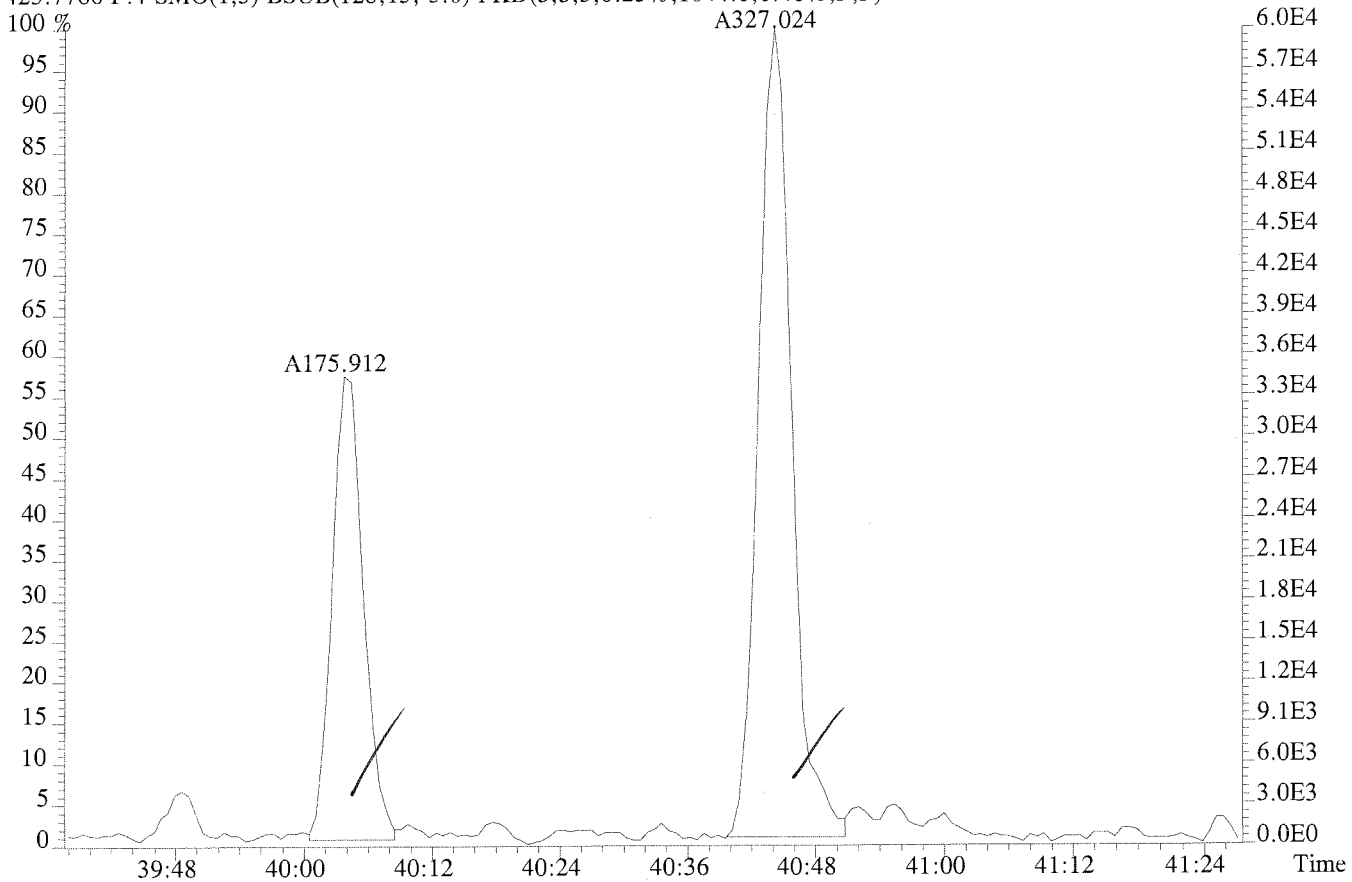
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,F)



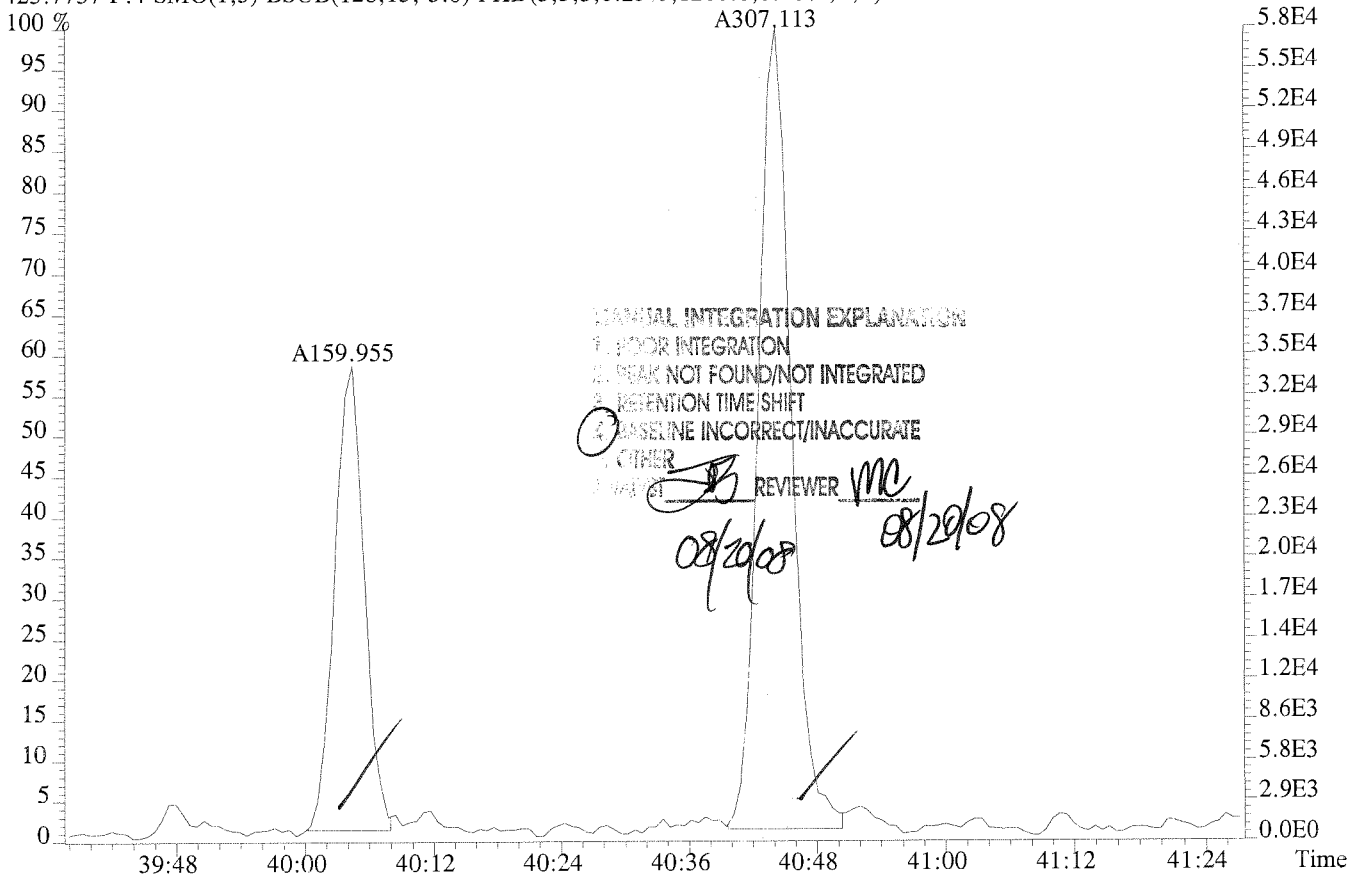
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100249 #1-256 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)

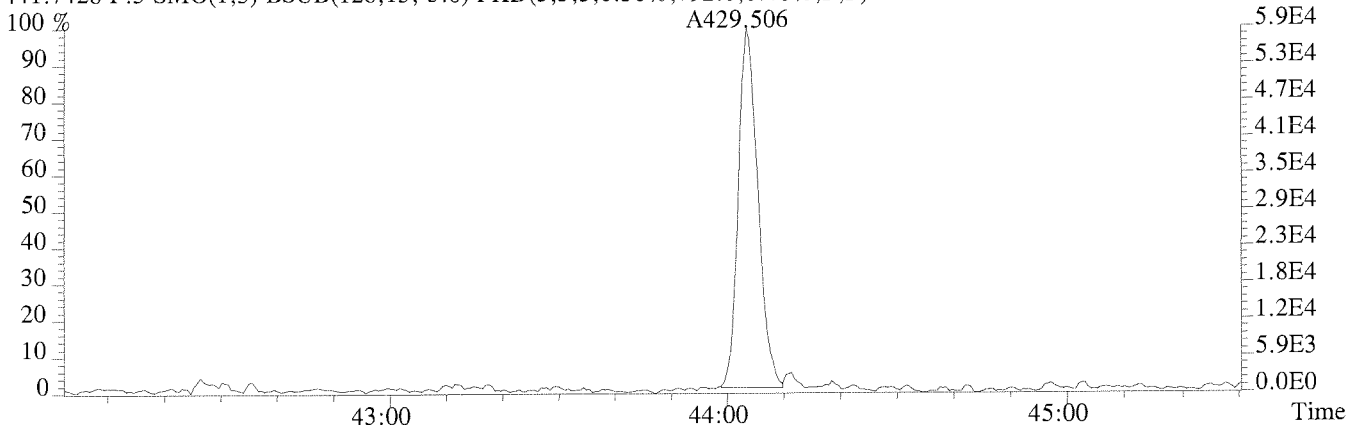


425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1200.0,0.40%,F,F)

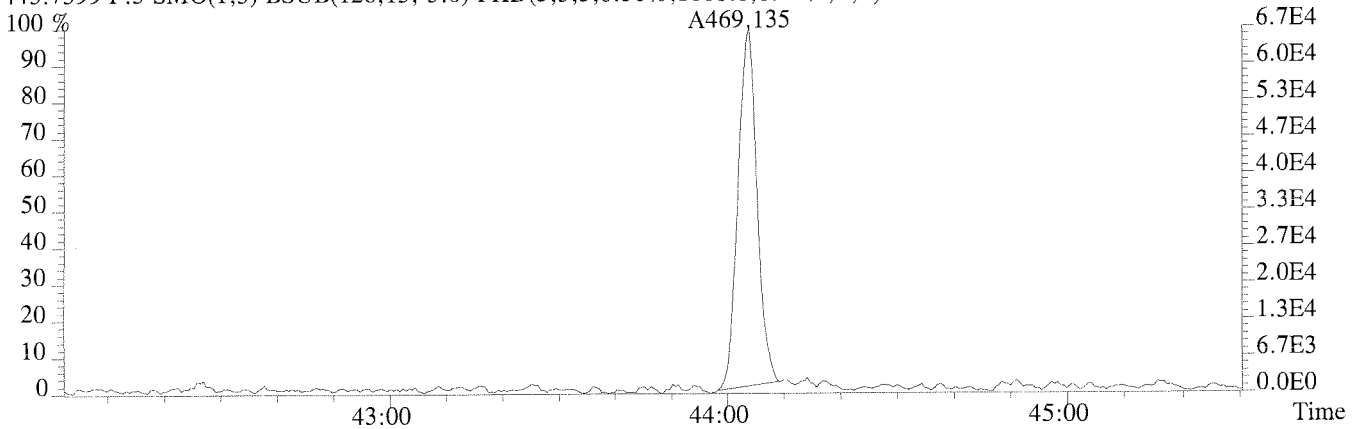


MANUAL INTEGRATION EXPLANATION
1. MINOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER MC 08/29/08
08/29/08

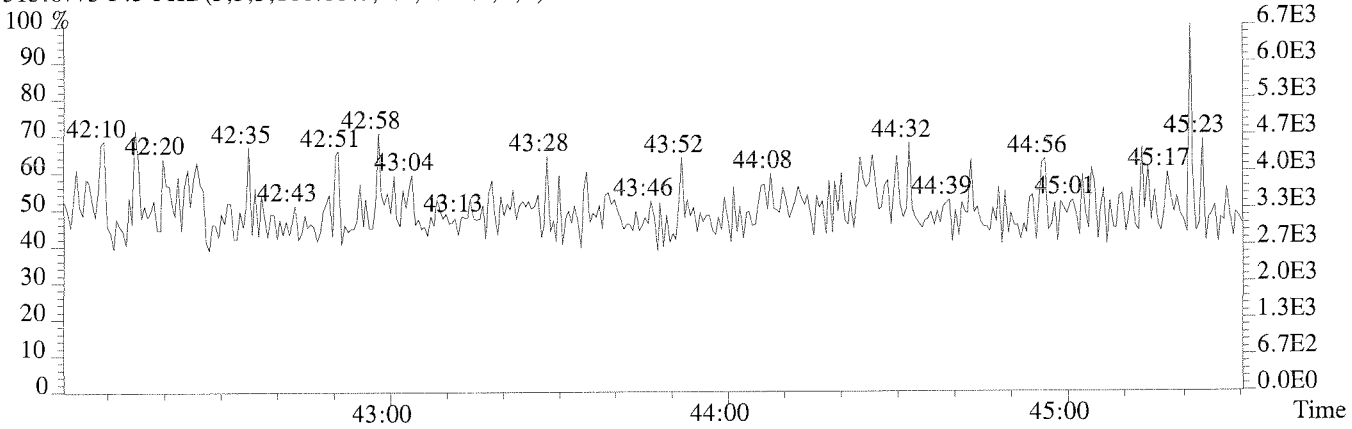
File:P100249 #1-383 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,792.0,0.40%,F,F)



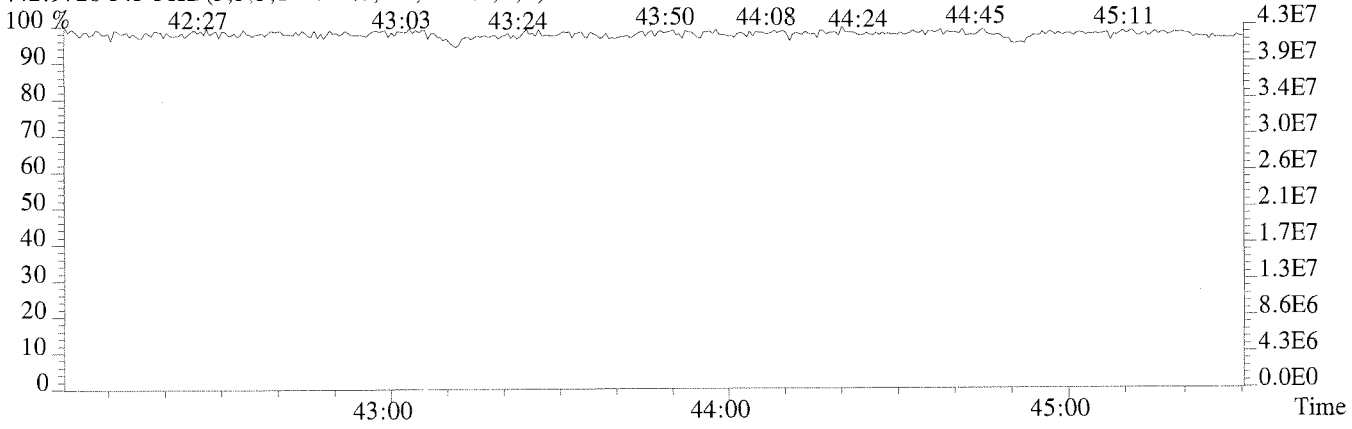
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1008.0,0.40%,F,F)



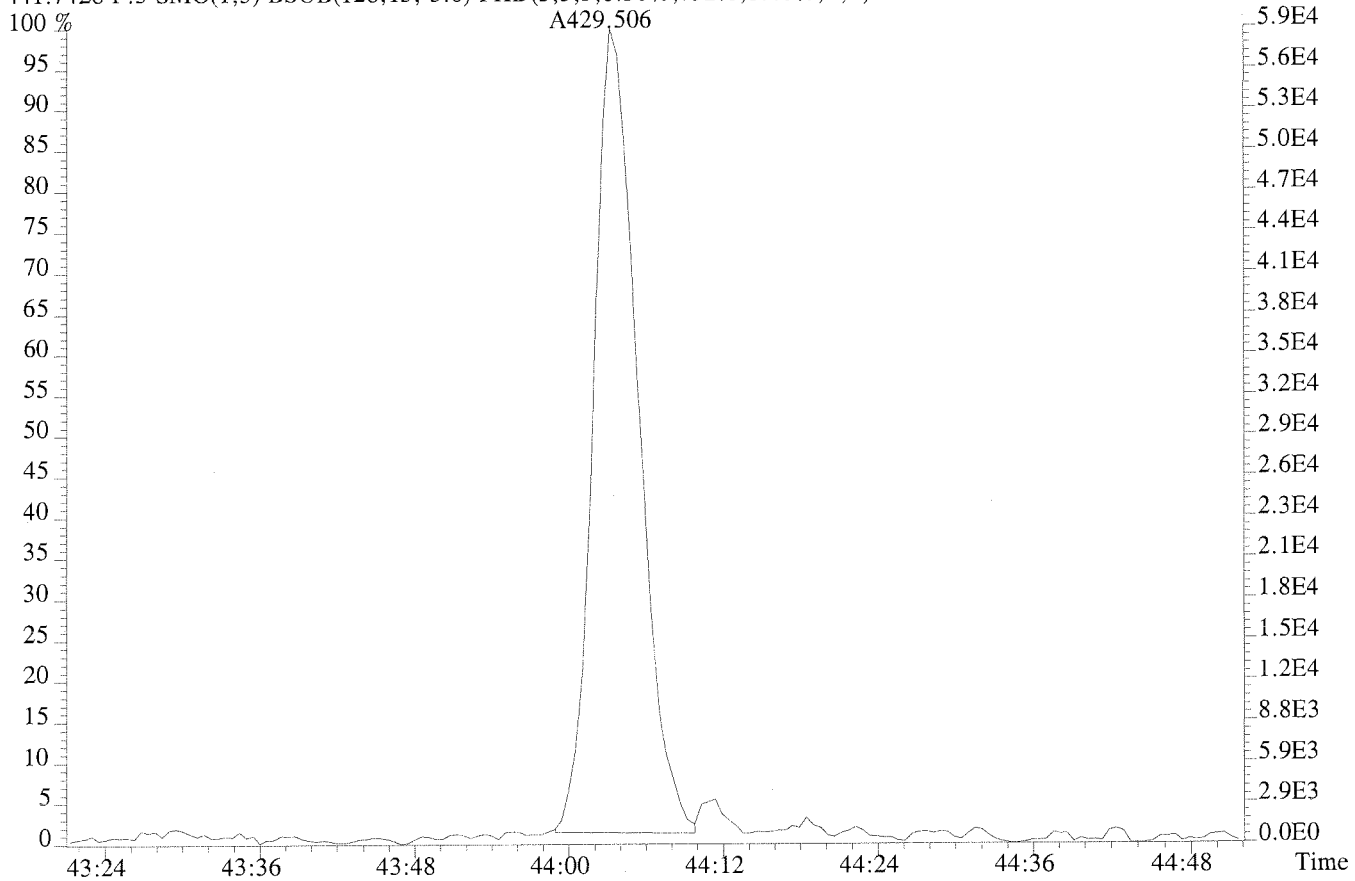
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



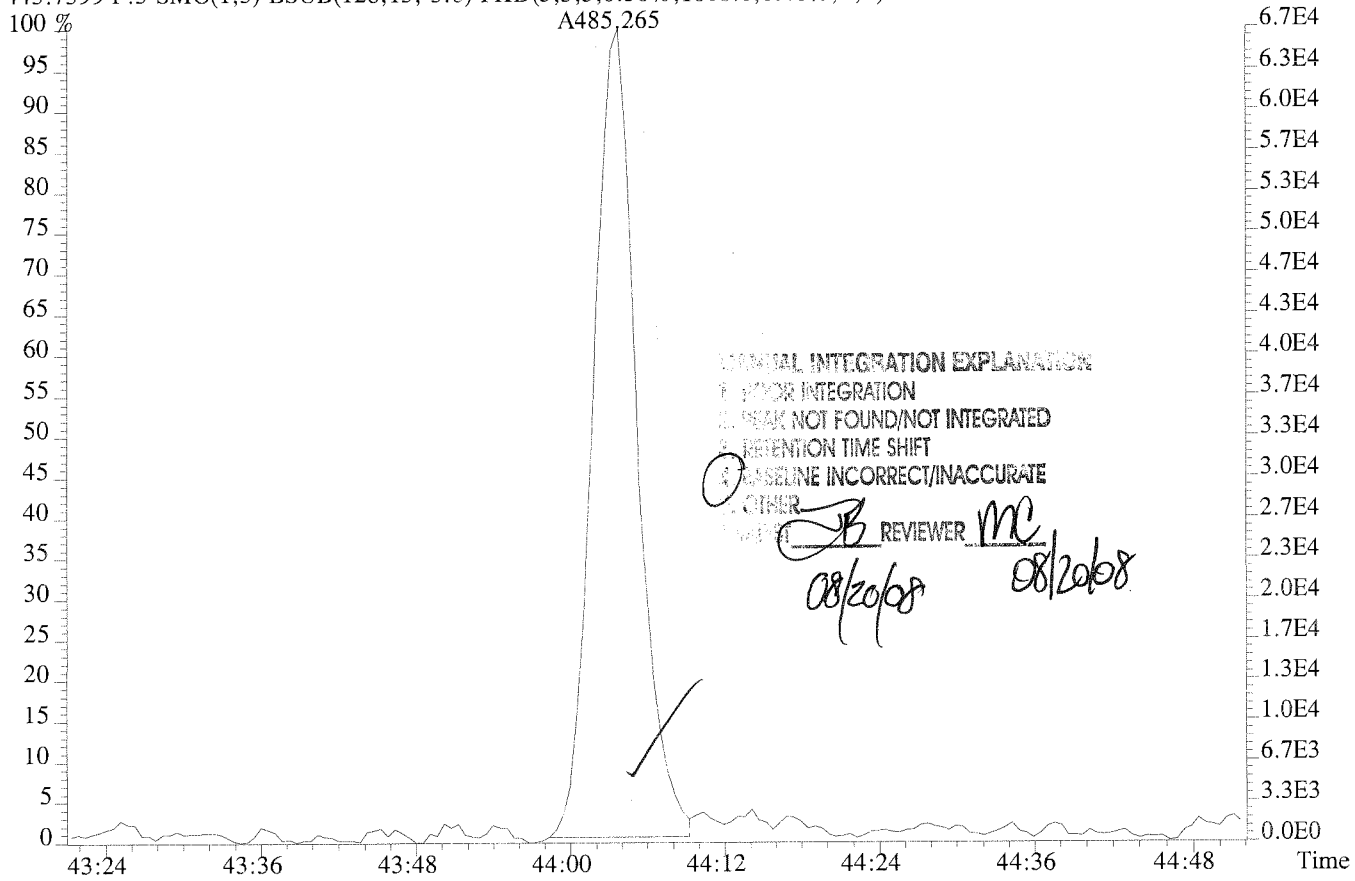
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P100249 #1-383 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,792.0,0.40%,F,F)



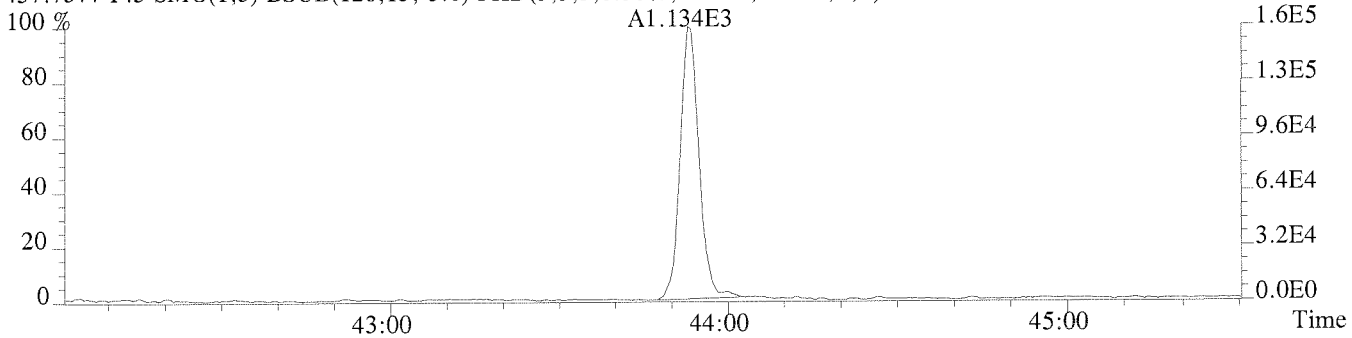
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1008.0,0.40%,F,F)



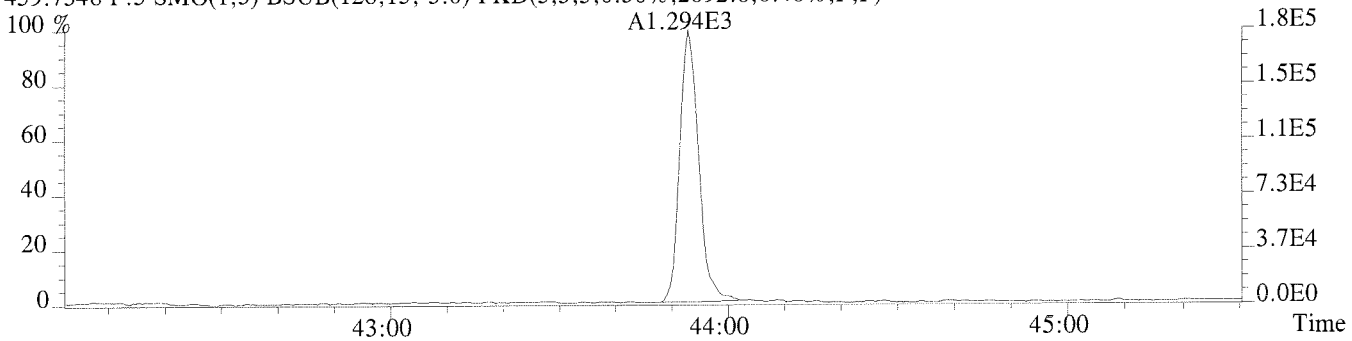
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
REVIEWER MC
08/20/08
08/20/08

File:P100249 #1-383 Acq:12-AUG-2008 11:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-01 MB

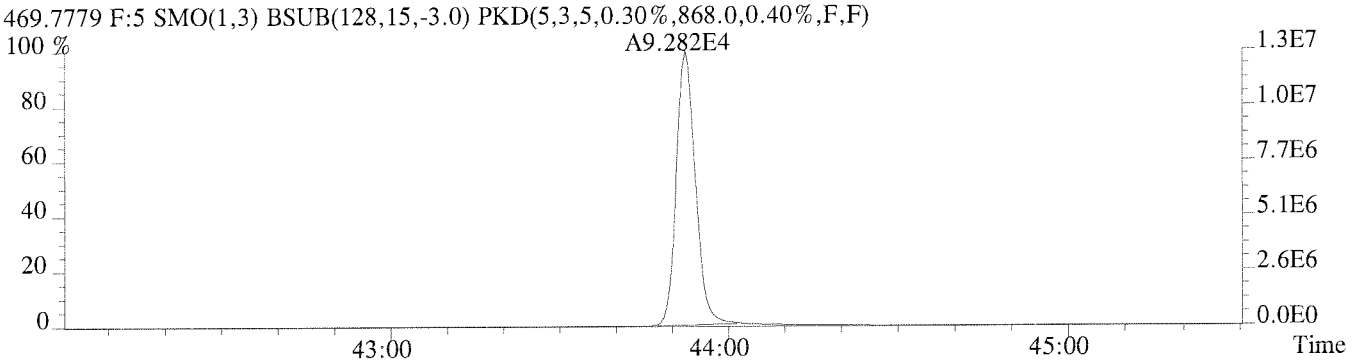
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1676.0,0.40%,F,F)



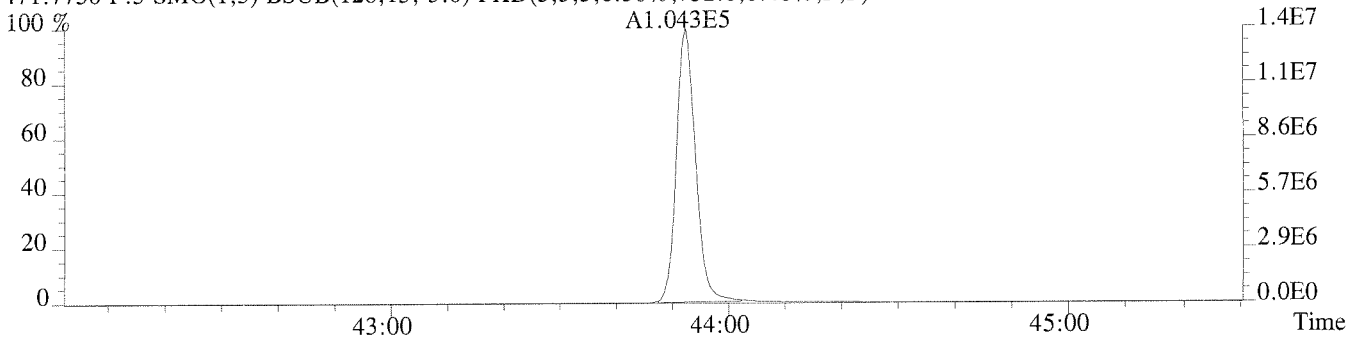
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2092.0,0.40%,F,F)



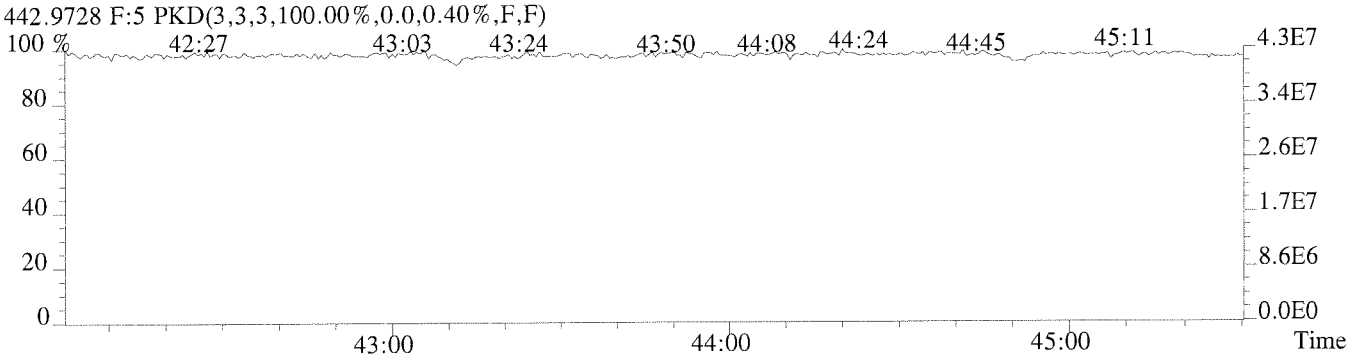
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,868.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,752.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
LCS

Run #15 Filename U217136 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 15:49:54
Processed: 15-AUG-08 14:43:44 Sample ID: EQ0800314-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:12	3.491e+03	4.599e+03	0.76	yes	no	0.91
2	Unk	1,2,3,7,8-PeCDF	32:31	1.518e+04	9.622e+03	1.58	yes	no	0.90
3	Unk	2,3,4,7,8-PeCDF	33:15	1.633e+04	1.049e+04	1.56	yes	no	0.91
4	Unk	1,2,3,4,7,8-HxCDF	36:03	1.660e+04	1.329e+04	1.25	yes	no	1.15
5	Unk	1,2,3,6,7,8-HxCDF	36:09	1.680e+04	1.359e+04	1.24	yes	no	1.11
6	Unk	2,3,4,6,7,8-HxCDF	36:38	1.549e+04	1.232e+04	1.26	yes	no	1.05
7	Unk	1,2,3,7,8,9-HxCDF	37:20	1.324e+04	1.050e+04	1.26	yes	no	0.89
8	Unk	1,2,3,4,6,7,8-HpCDF	38:47	1.553e+04	1.509e+04	1.03	yes	no	1.40
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	1.321e+04	1.258e+04	1.05	yes	no	1.07
10	Unk	OCDF	42:55	2.579e+04	2.738e+04	0.94	yes	no	1.16
11	Unk	2,3,7,8-TCDD	29:01	3.063e+03	3.959e+03	0.77	yes	no	0.93
12	Unk	1,2,3,7,8-PeCDD	33:35	1.031e+04	6.409e+03	1.61	yes	no	0.90
13	Unk	1,2,3,4,7,8-HxCDD	36:45	1.181e+04	9.310e+03	1.27	yes	no	1.03
14	Unk	1,2,3,6,7,8-HxCDD	36:49	1.274e+04	9.875e+03	1.29	yes	no	1.04
15	Unk	1,2,3,7,8,9-HxCDD	37:06	1.116e+04	8.576e+03	1.30	yes	no	1.03
16	Unk	1,2,3,4,6,7,8-HpCDD	39:41	9.836e+03	9.606e+03	1.02	yes	no	0.92
17	Unk	OCDD	42:46	1.909e+04	2.157e+04	0.88	yes	no	1.03
18	IS	13C-2,3,7,8-TCDF	28:10	1.930e+04	2.372e+04	0.81	yes	no	1.32
19	IS	13C-1,2,3,7,8-PeCDF	32:30	3.083e+04	1.999e+04	1.54	yes	no	1.37
20	IS	13C-1,2,3,4,7,8-HxCDF	36:02	3.857e+04	7.291e+04	0.53	yes	no	1.27
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:46	3.018e+04	6.720e+04	0.45	yes	no	0.91
22	IS	13C-2,3,7,8-TCDD	29:00	1.429e+04	1.818e+04	0.79	yes	no	1.02
23	IS	13C-1,2,3,7,8-PeCDD	33:35	2.165e+04	1.398e+04	1.55	yes	no	0.97
24	IS	13C-1,2,3,6,7,8-HxCDD	36:49	5.366e+04	4.330e+04	1.24	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:41	4.484e+04	4.304e+04	1.04	yes	no	0.89
26	IS	13C-OCDD	42:45	7.430e+04	8.281e+04	0.90	yes	no	0.96
27	RS/RT	13C-1,2,3,4-TCDD	28:46	2.117e+04	2.667e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:06	2.680e+04	2.214e+04	1.21	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:01	2.416e+04					0.96

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary LCS

Run #15 Filename U217136 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 15:49:54

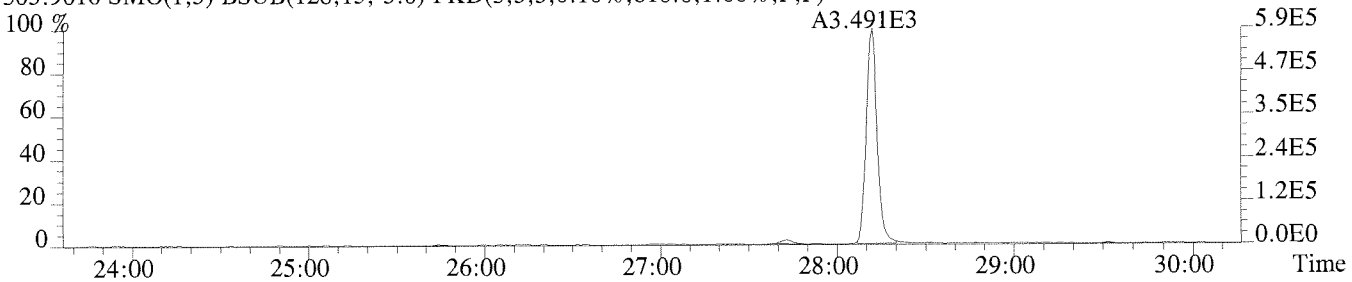
Processed: 15-AUG-08 14:43:44 LAB. ID: EQ0800314-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.89e+05	8.16e+02	7.2e+02	7.60e+05	1.32e+03	5.8e+02
2	1,2,3,7,8-PeCDF	2.90e+06	1.68e+03	1.7e+03	1.87e+06	1.54e+03	1.2e+03
3	2,3,4,7,8-PeCDF	3.08e+06	1.68e+03	1.8e+03	1.98e+06	1.54e+03	1.3e+03
4	1,2,3,4,7,8-HxCDF	3.65e+06	5.28e+03	6.9e+02	2.93e+06	4.52e+03	6.5e+02
5	1,2,3,6,7,8-HxCDF	3.54e+06	5.28e+03	6.7e+02	2.93e+06	4.52e+03	6.5e+02
6	2,3,4,6,7,8-HxCDF	3.41e+06	5.28e+03	6.5e+02	2.74e+06	4.52e+03	6.1e+02
7	1,2,3,7,8,9-HxCDF	2.63e+06	5.28e+03	5.0e+02	2.10e+06	4.52e+03	4.7e+02
8	1,2,3,4,6,7,8-HpCDF	3.33e+06	4.94e+03	6.7e+02	3.14e+06	2.82e+03	1.1e+03
9	1,2,3,4,7,8,9-HpCDF	2.61e+06	4.94e+03	5.3e+02	2.49e+06	2.82e+03	8.8e+02
10	OCDF	3.49e+06	2.34e+03	1.5e+03	3.86e+06	4.03e+03	9.6e+02
11	2,3,7,8-TCDD	5.25e+05	1.22e+03	4.3e+02	7.07e+05	1.13e+03	6.3e+02
12	1,2,3,7,8-PeCDD	2.05e+06	1.40e+03	1.5e+03	1.30e+06	1.22e+03	1.1e+03
13	1,2,3,4,7,8-HxCDD	2.84e+06	3.43e+03	8.3e+02	2.24e+06	3.76e+03	6.0e+02
14	1,2,3,6,7,8-HxCDD	2.76e+06	3.43e+03	8.0e+02	2.10e+06	3.76e+03	5.6e+02
15	1,2,3,7,8,9-HxCDD	2.48e+06	3.43e+03	7.2e+02	1.94e+06	3.76e+03	5.2e+02
16	1,2,3,4,6,7,8-HpCDD	2.06e+06	3.82e+03	5.4e+02	1.98e+06	3.12e+03	6.3e+02
17	OCDD	2.80e+06	1.48e+03	1.9e+03	3.19e+06	1.75e+03	1.8e+03
18	13C-2,3,7,8-TCDF	3.13e+06	1.87e+03	1.7e+03	3.93e+06	1.17e+03	3.4e+03
19	13C-1,2,3,7,8-PeCDF	5.92e+06	9.32e+02	6.4e+03	3.80e+06	1.17e+03	3.3e+03
20	13C-1,2,3,4,7,8-HxCDF	8.49e+06	8.04e+02	1.1e+04	1.61e+07	1.42e+03	1.1e+04
21	13C-1,2,3,4,6,7,8-HpCDF	6.51e+06	3.58e+03	1.8e+03	1.44e+07	7.41e+03	1.9e+03
22	13C-2,3,7,8-TCDD	2.57e+06	2.86e+03	9.0e+02	3.25e+06	1.22e+03	2.7e+03
23	13C-1,2,3,7,8-PeCDD	4.40e+06	1.02e+03	4.3e+03	2.83e+06	8.68e+02	3.3e+03
24	13C-1,2,3,6,7,8-HxCDD	1.20e+07	4.63e+03	2.6e+03	9.57e+06	1.72e+03	5.6e+03
25	13C-1,2,3,4,6,7,8-HpCDD	9.29e+06	7.94e+03	1.2e+03	8.85e+06	3.30e+03	2.7e+03
26	13C-OCDD	1.12e+07	7.08e+04	1.6e+02	1.23e+07	3.08e+03	4.0e+03
27	13C-1,2,3,4-TCDD	3.75e+06	2.86e+03	1.3e+03	4.79e+06	1.22e+03	3.9e+03
28	13C-1,2,3,7,8,9-HxCDD	6.01e+06	4.63e+03	1.3e+03	4.98e+06	1.72e+03	2.9e+03
29	37Cl-2,3,7,8-TCDD	4.26e+06	6.84e+02	6.2e+03			

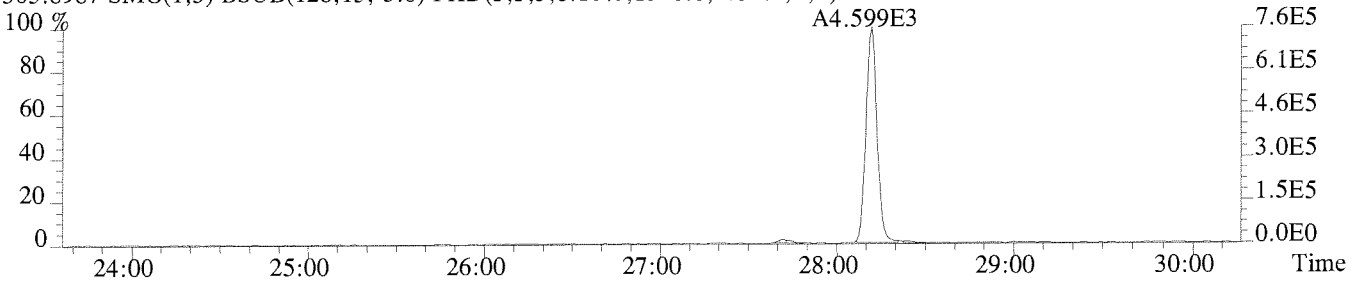
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U217136 #1-556 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

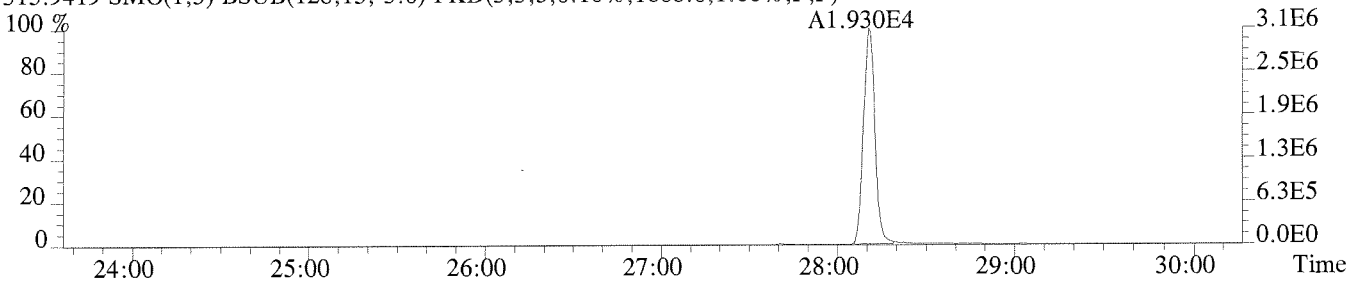
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,816.0,1.00%,F,F)



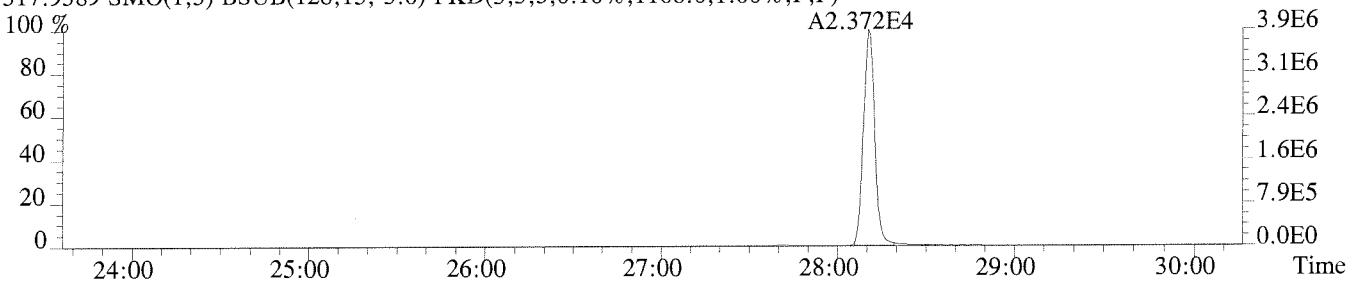
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,F)



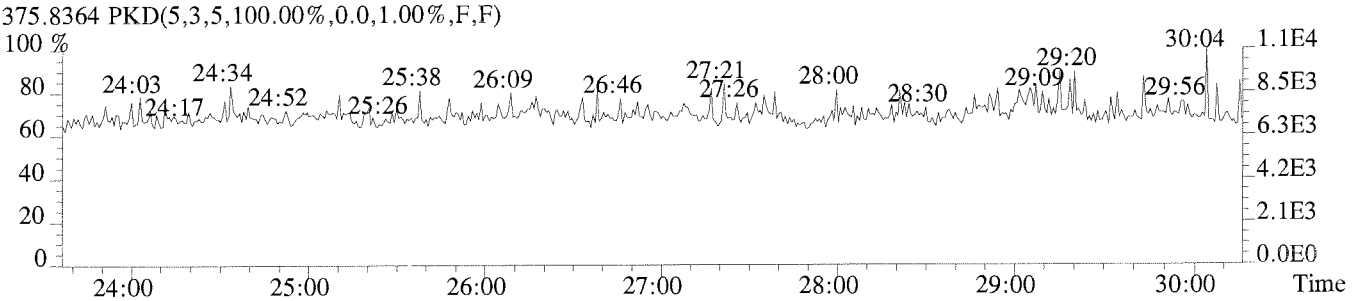
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1868.0,1.00%,F,F)



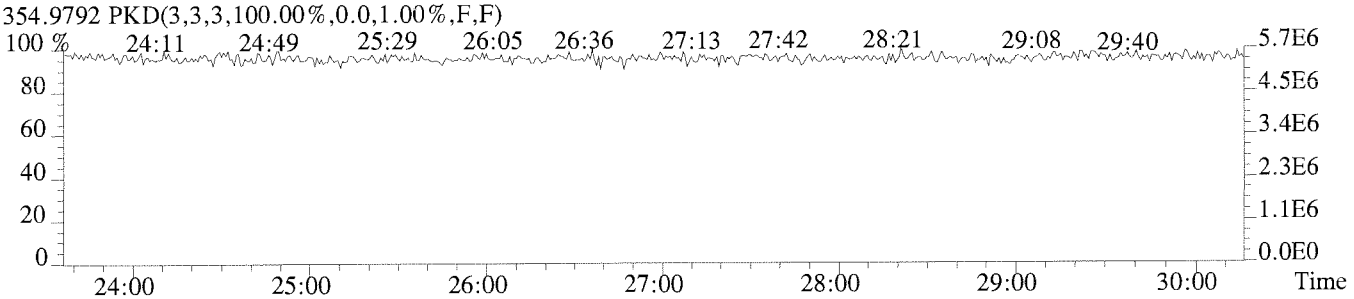
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,F)



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

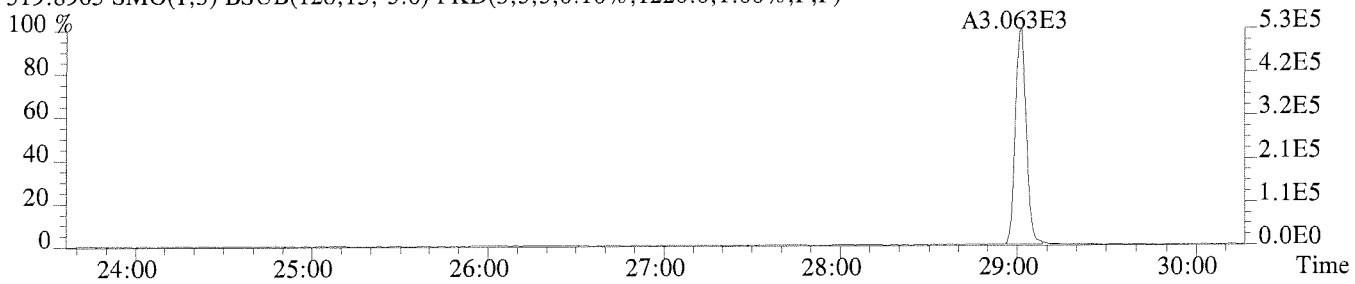


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

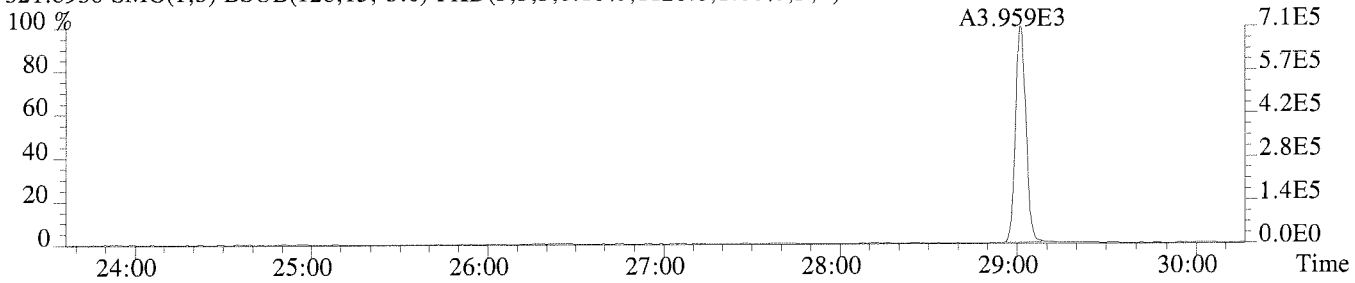


File:U217136 #1-556 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

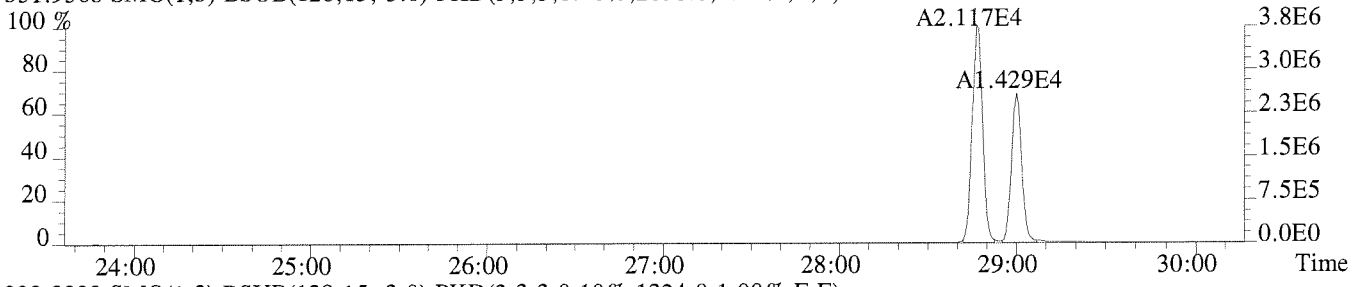
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,F)



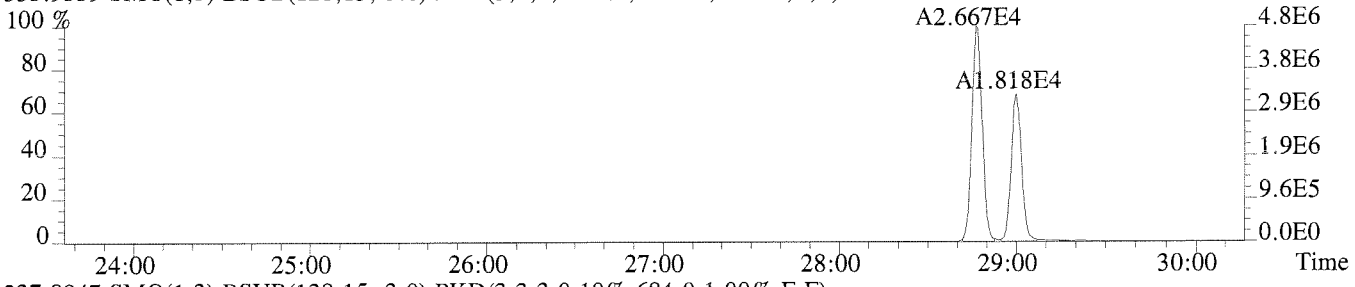
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,F)



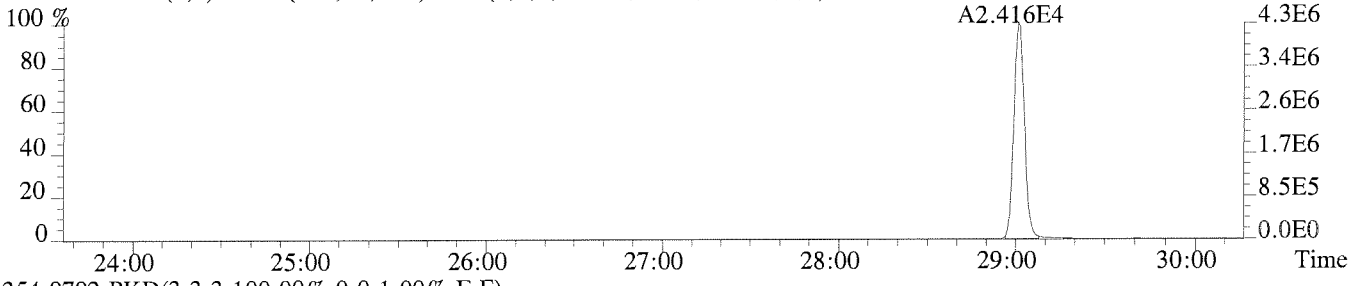
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2856.0,1.00%,F,F)



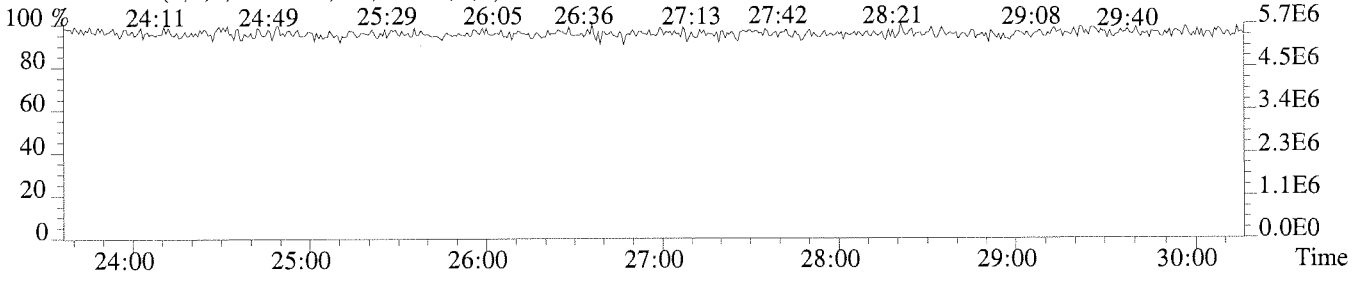
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,684.0,1.00%,F,F)

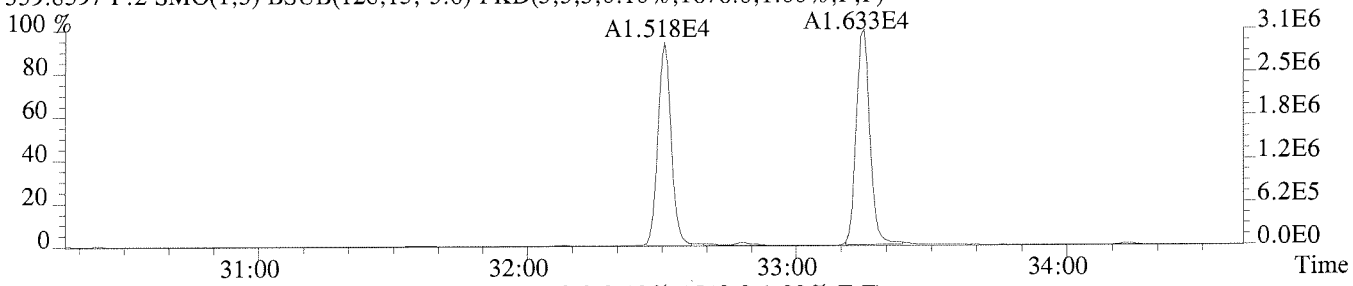


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

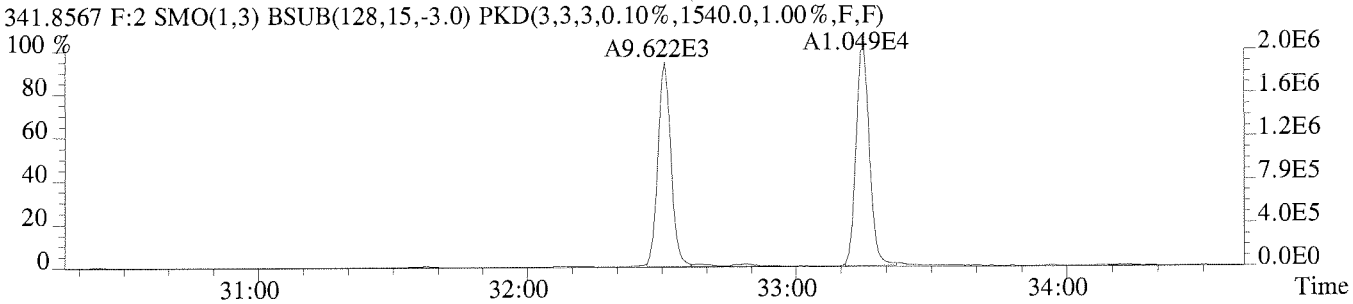


File:U217136 #1-397 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

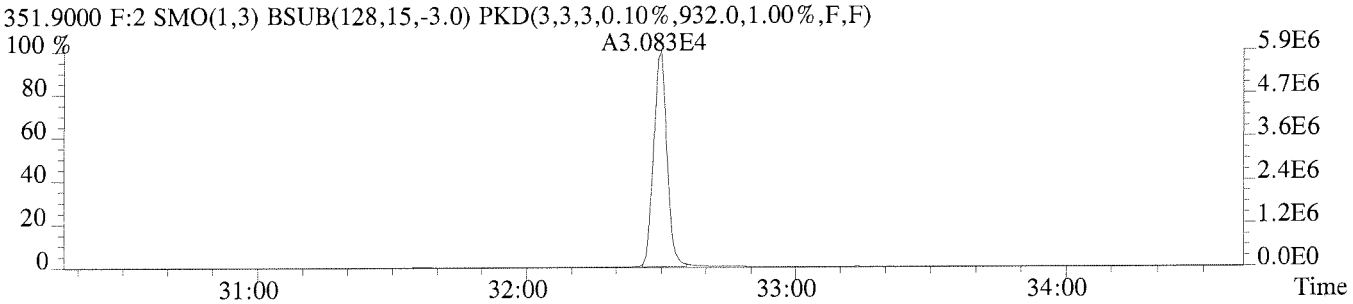
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1676.0,1.00%,F,F)



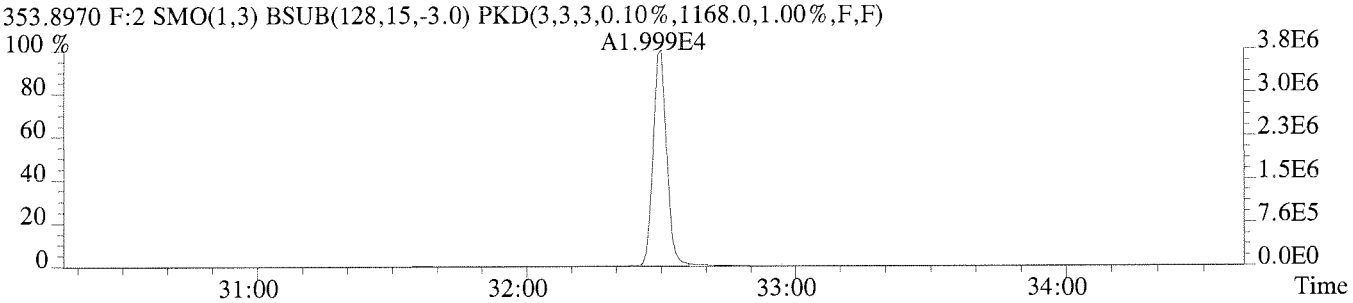
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1540.0,1.00%,F,F)



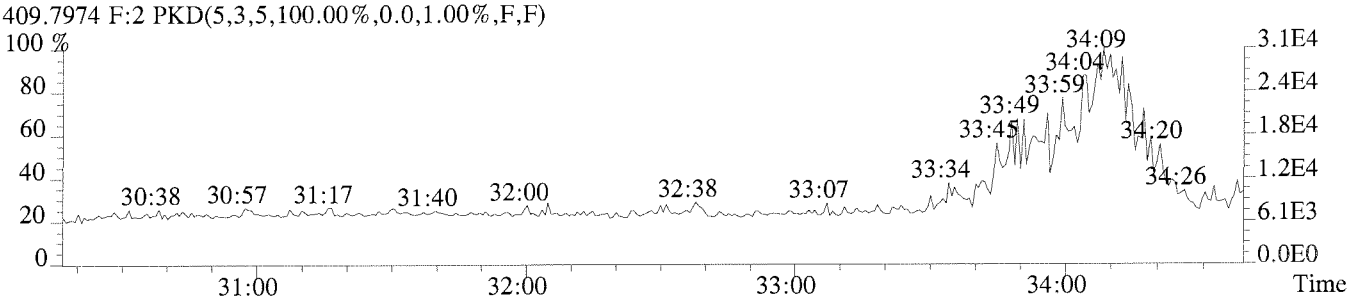
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,932.0,1.00%,F,F)



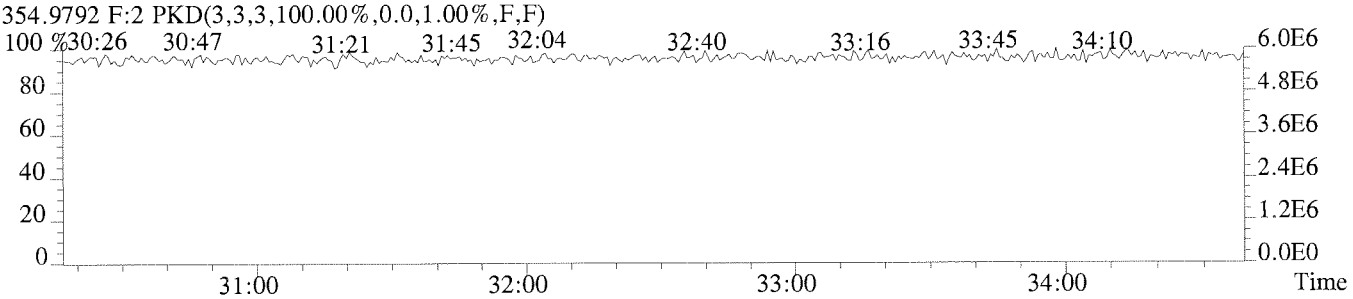
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,F)



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

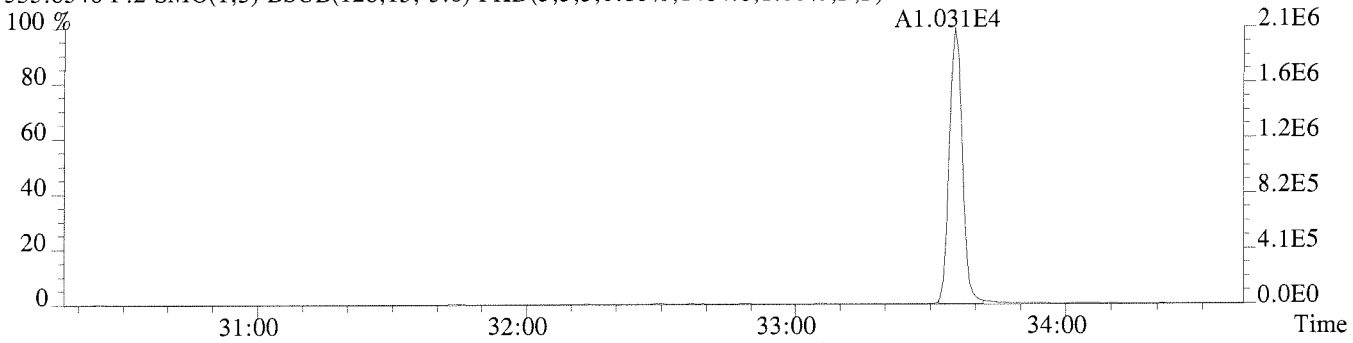


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

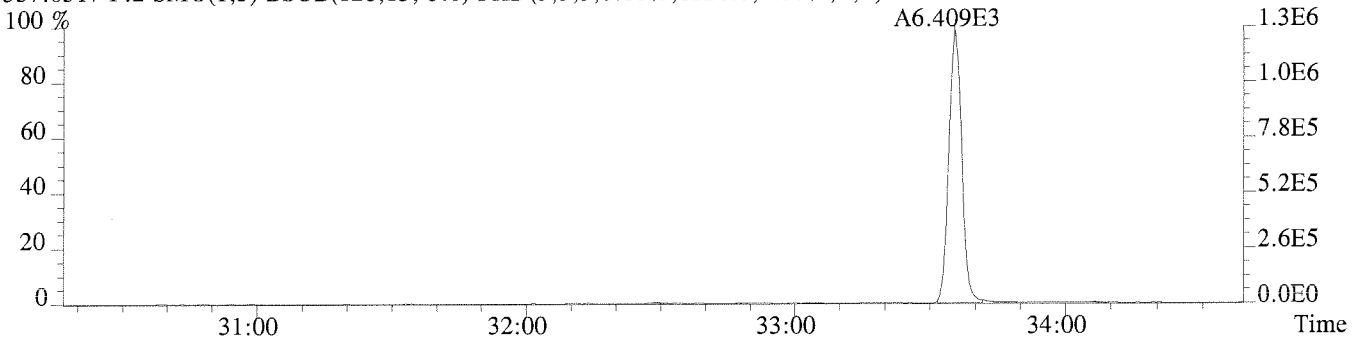


File:U217136 #1-397 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

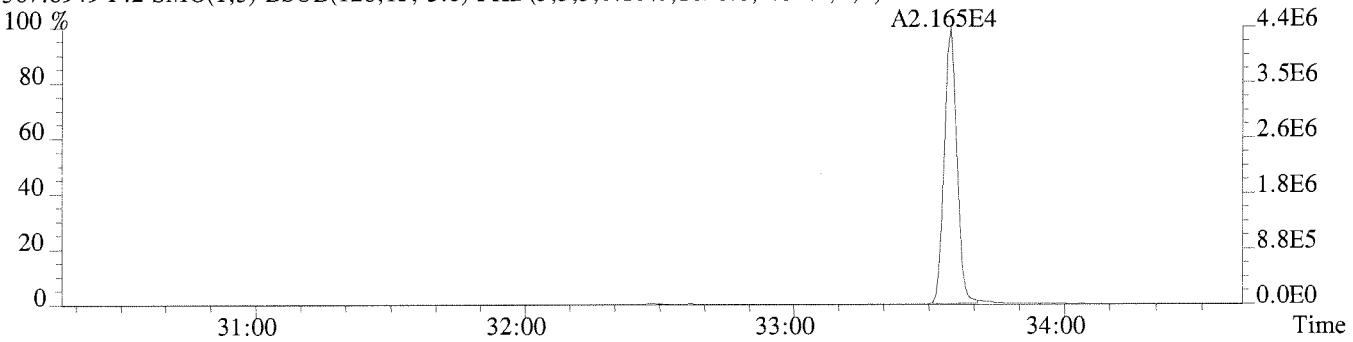
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,F)



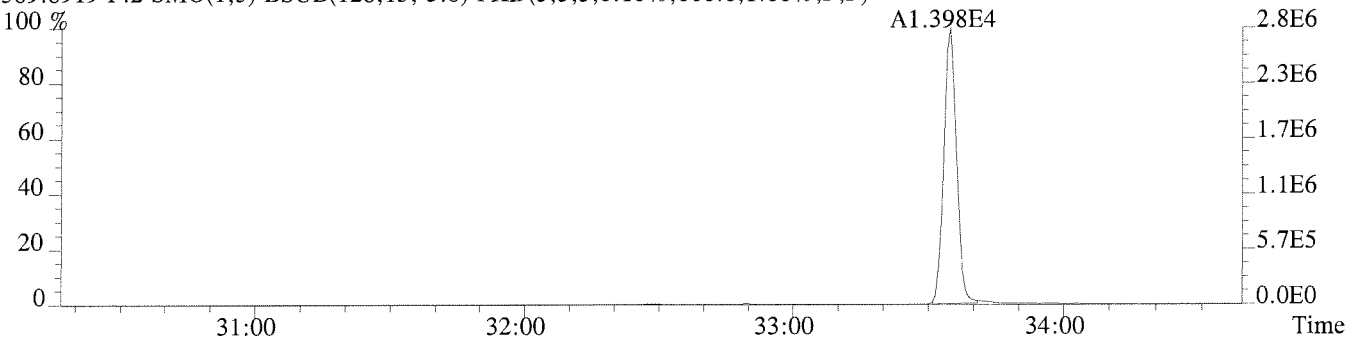
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,F)



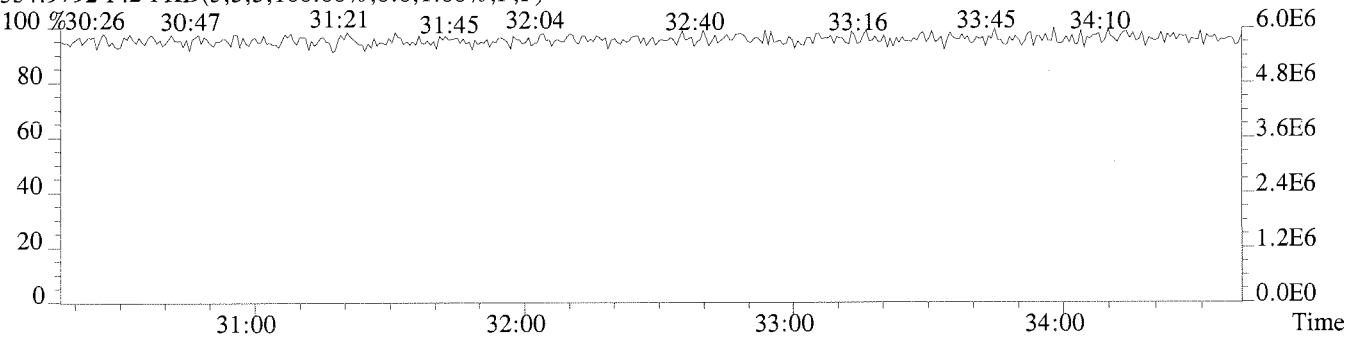
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,F)

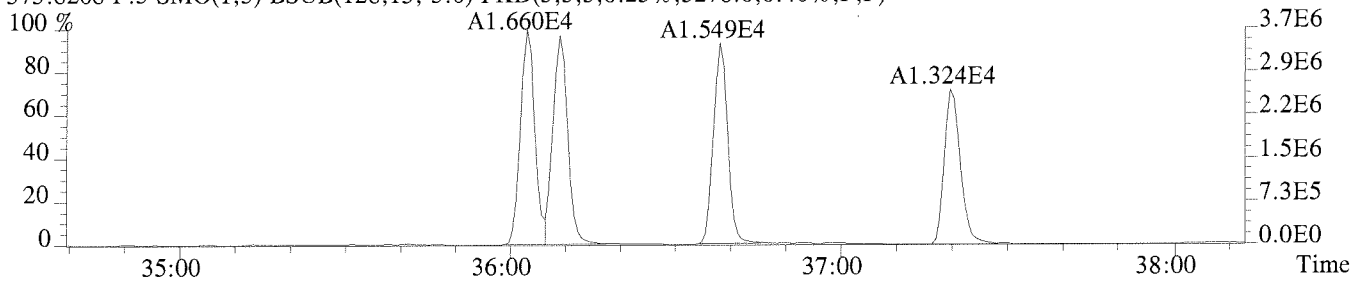


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

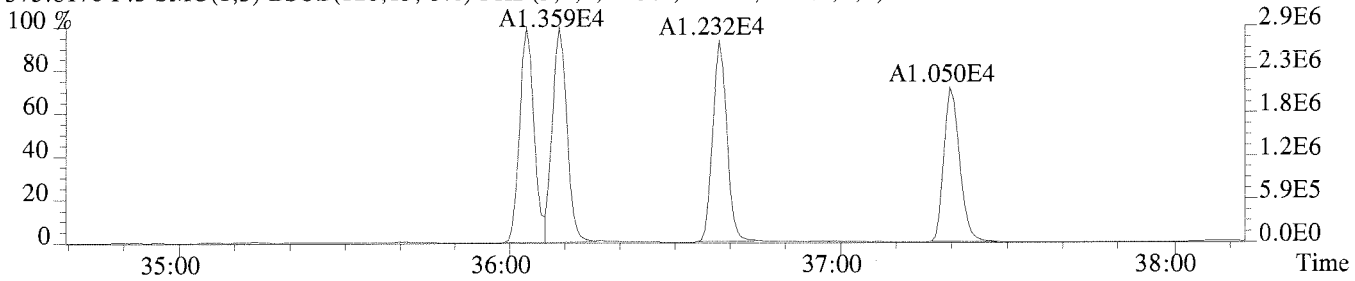


File:U217136 #1-323 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

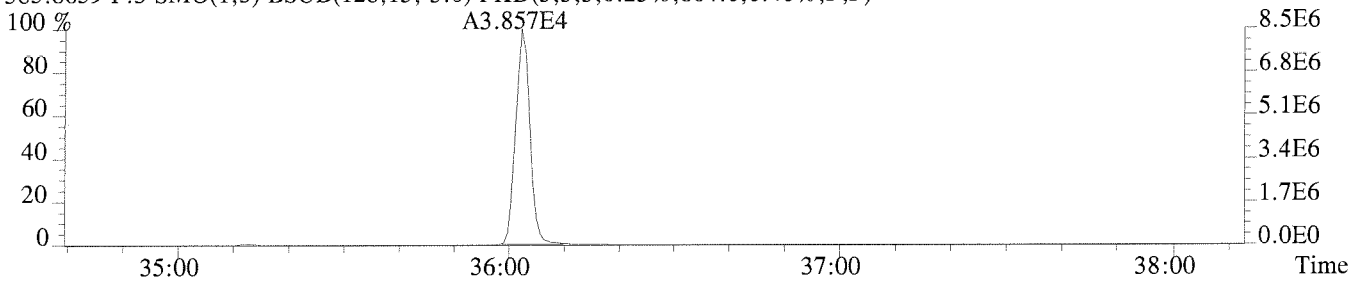
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5276.0,0.40%,F,F)



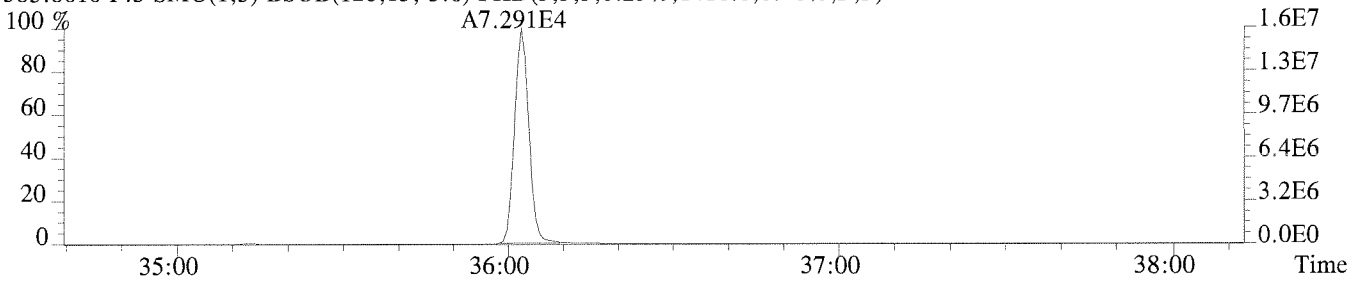
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4516.0,0.40%,F,F)



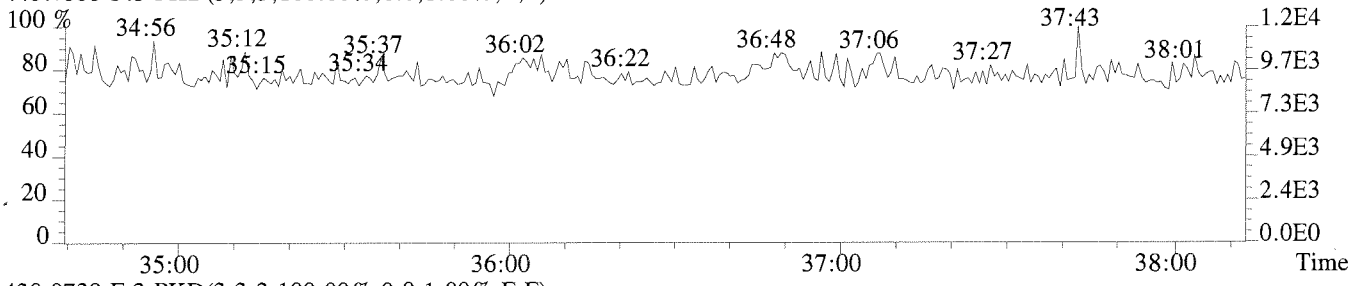
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,804.0,0.40%,F,F)



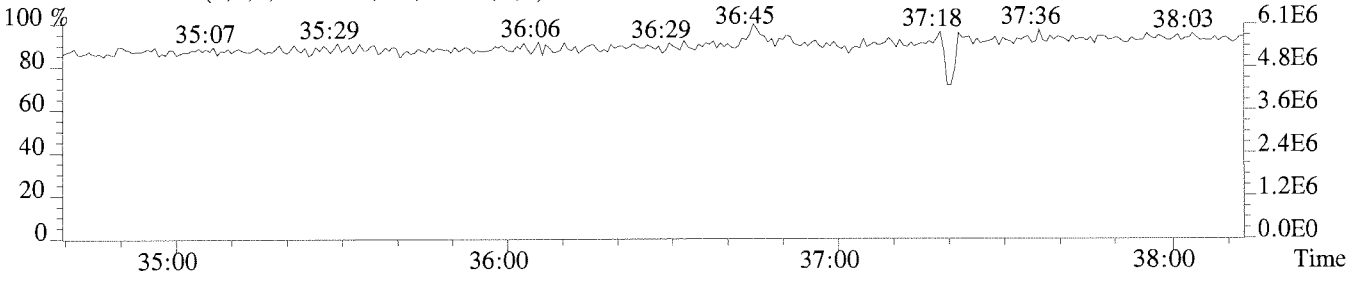
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1416.0,0.40%,F,F)



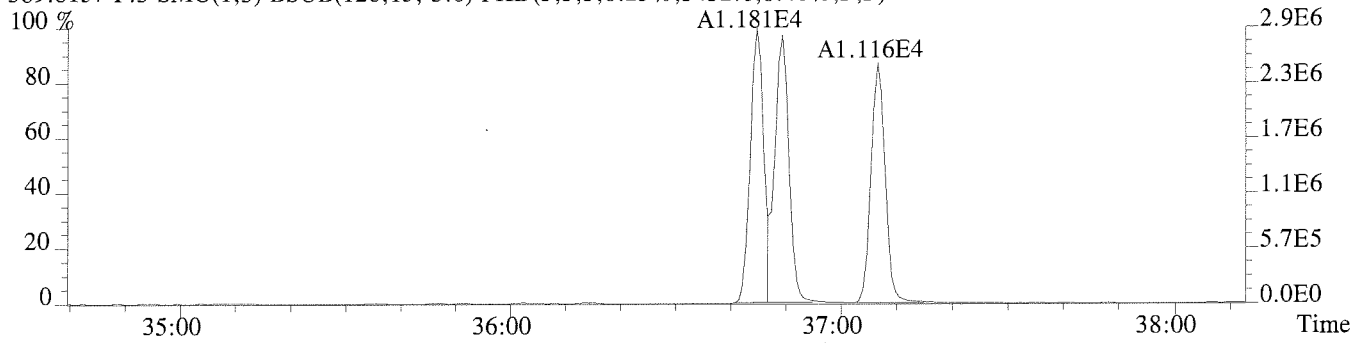
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



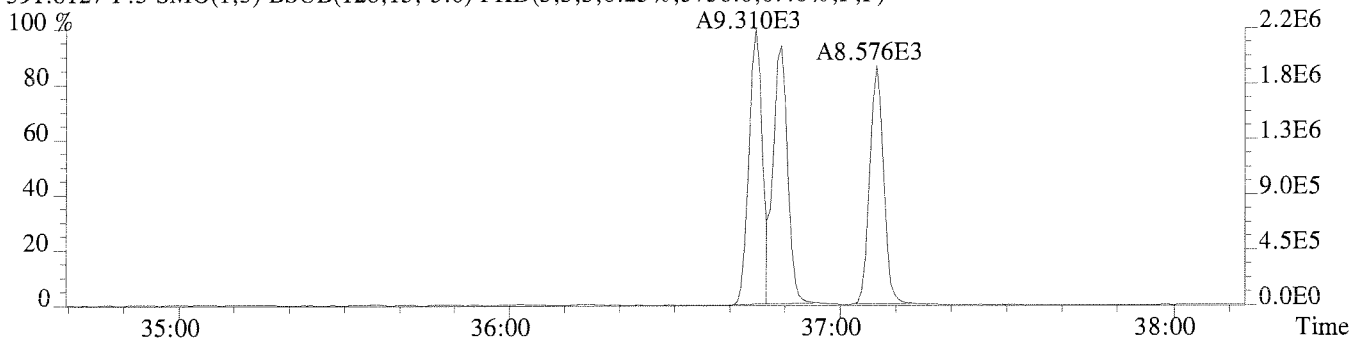
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



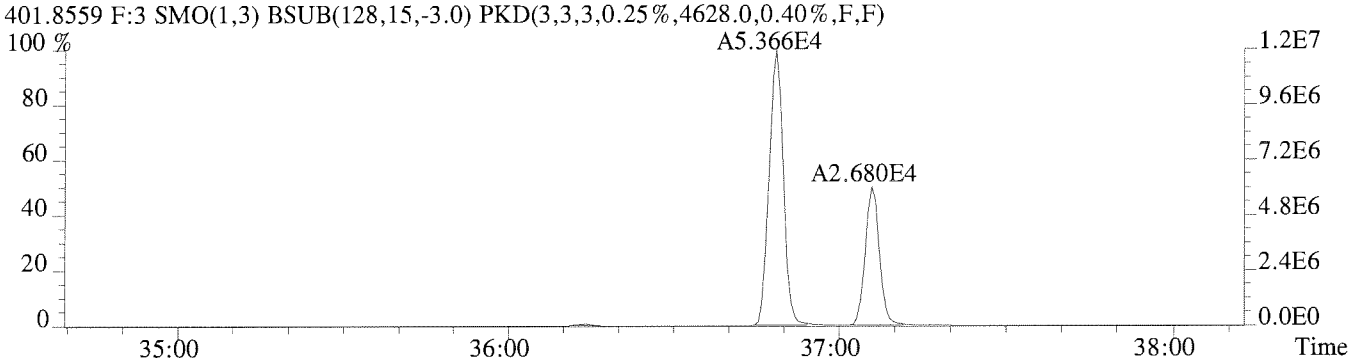
File:U217136 #1-323 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3432.0,0.40%,F,F)



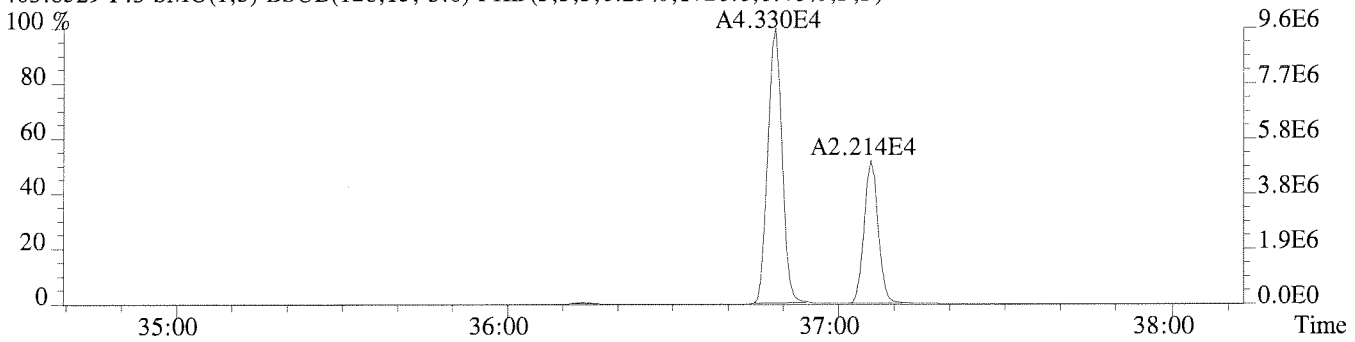
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3756.0,0.40%,F,F)



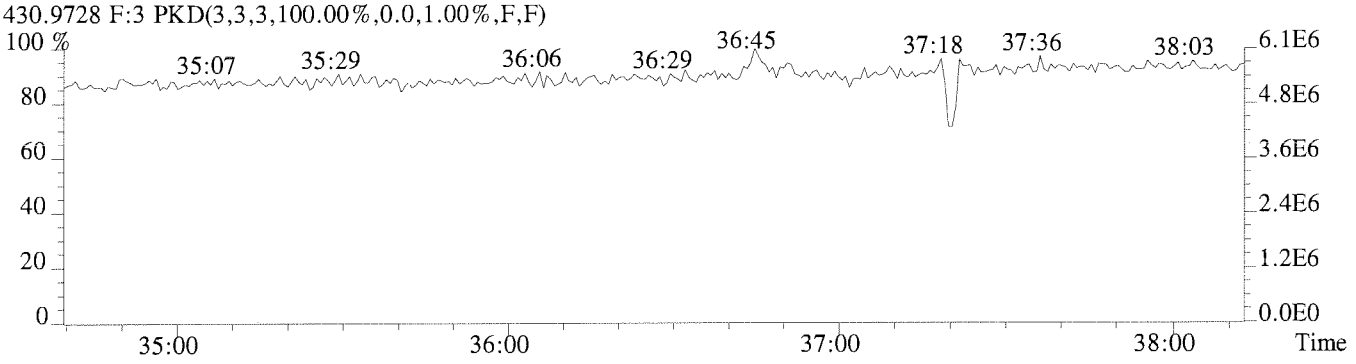
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4628.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1720.0,0.40%,F,F)

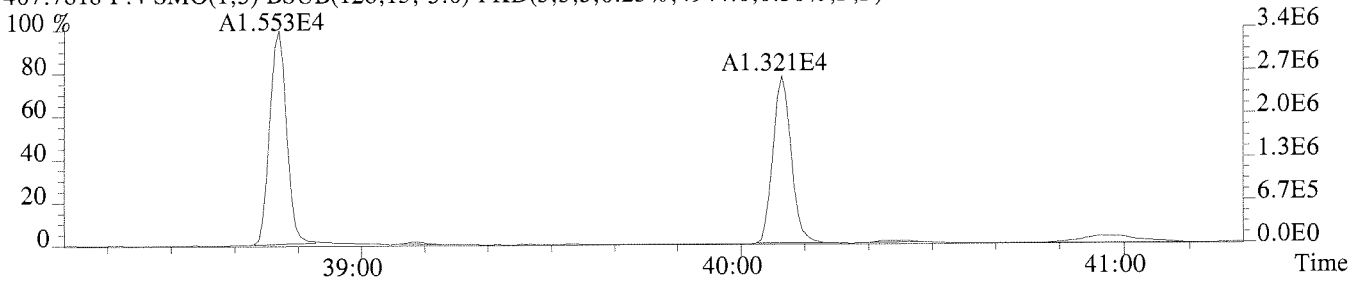


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

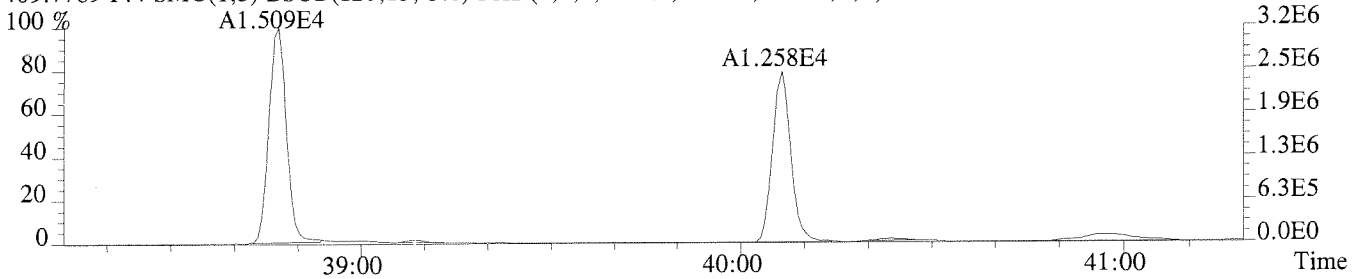


File:U217136 #1-281 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

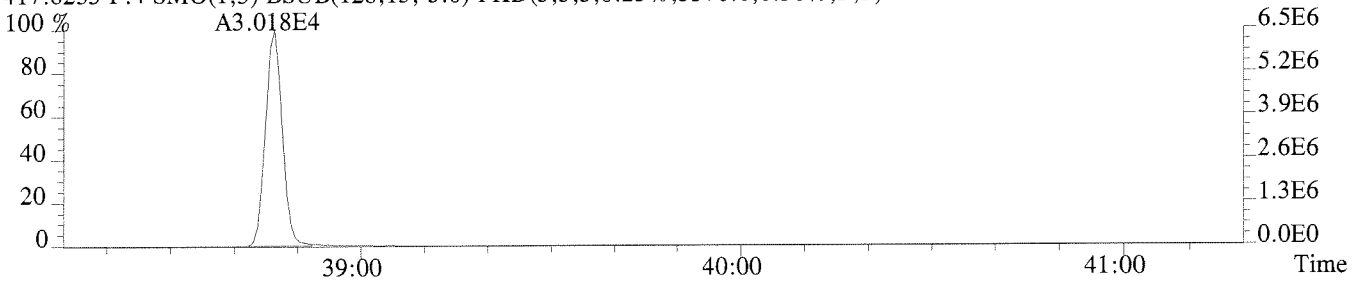
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4944.0,0.50%,F,F)



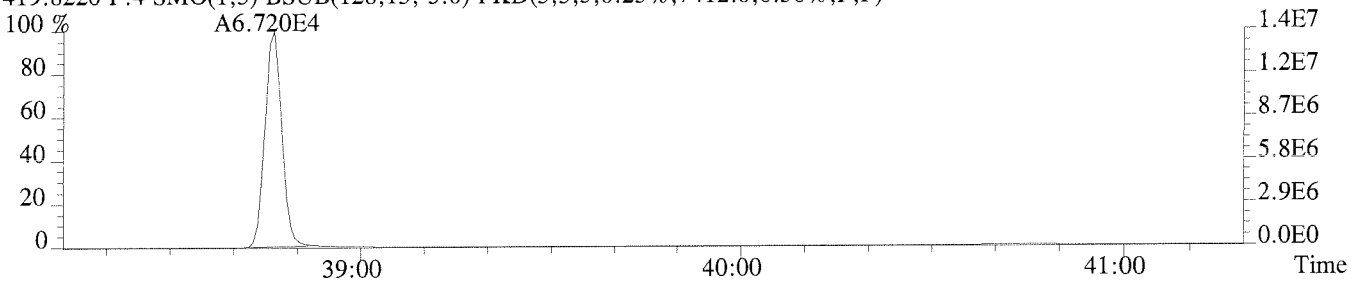
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2816.0,0.50%,F,F)



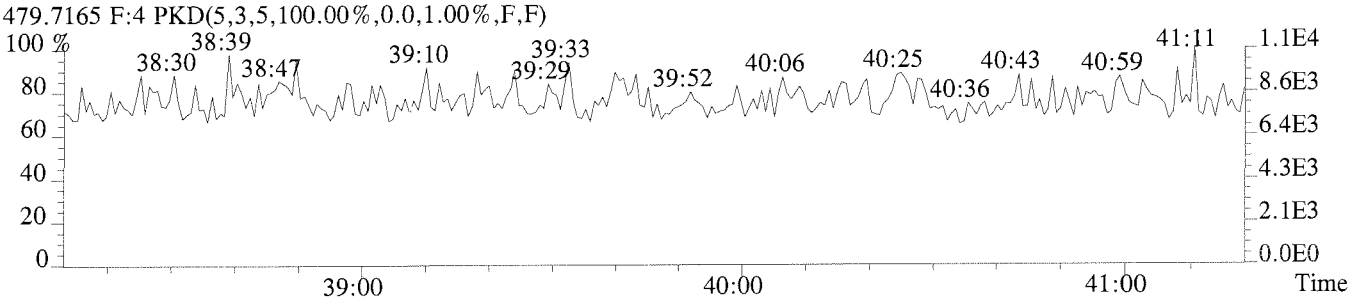
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3576.0,0.50%,F,F)



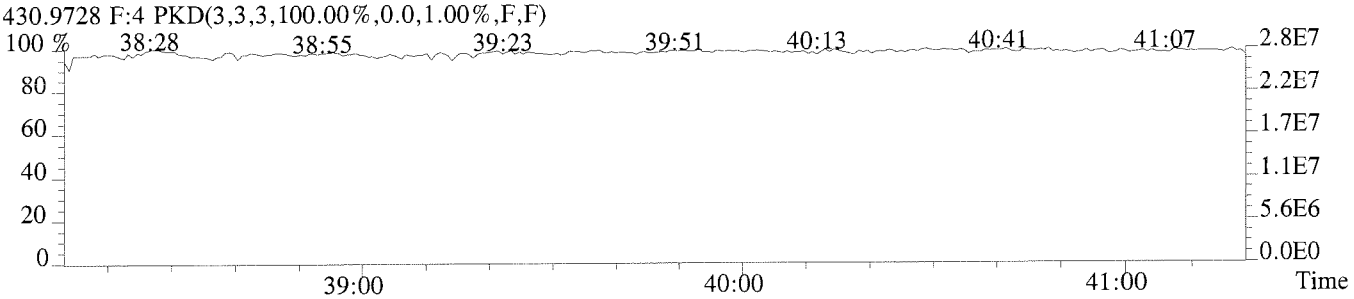
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7412.0,0.50%,F,F)



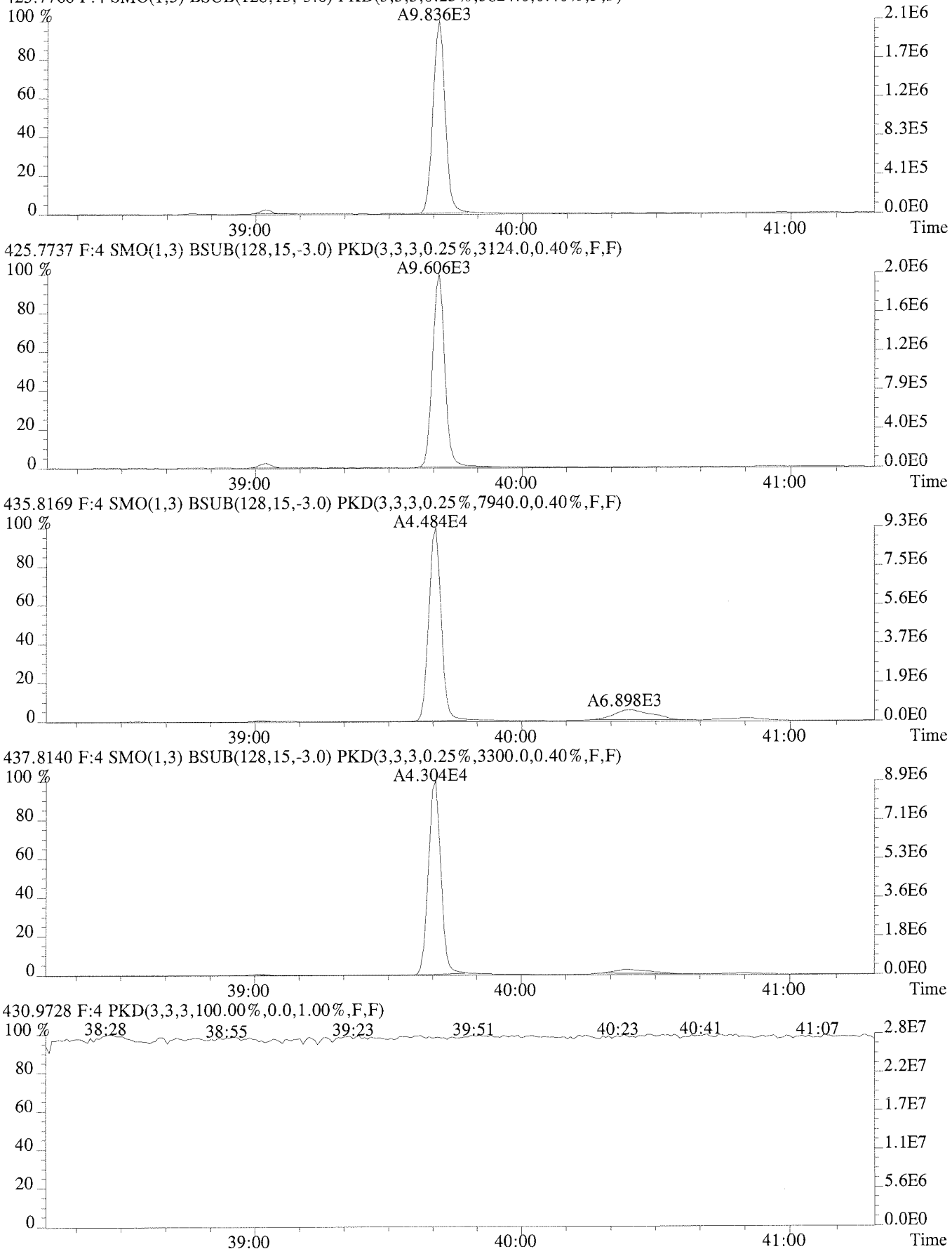
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

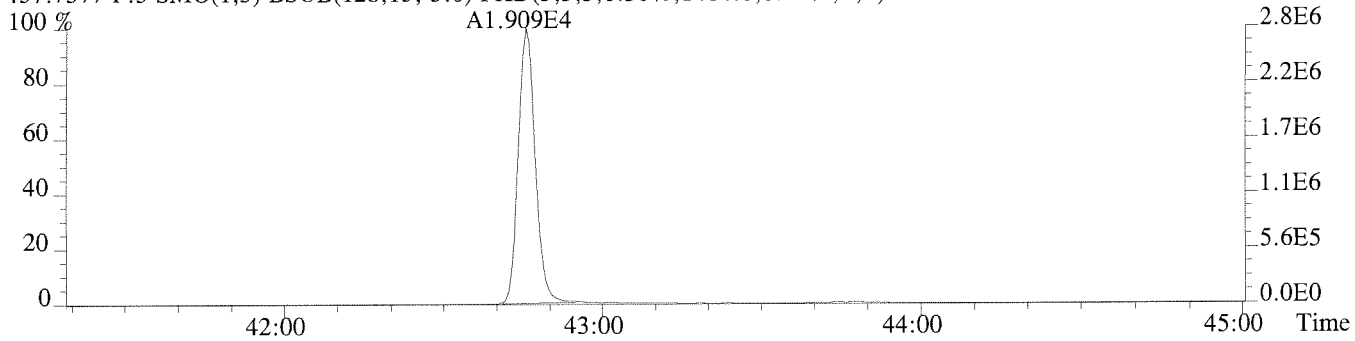


File:U217136 #1-281 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

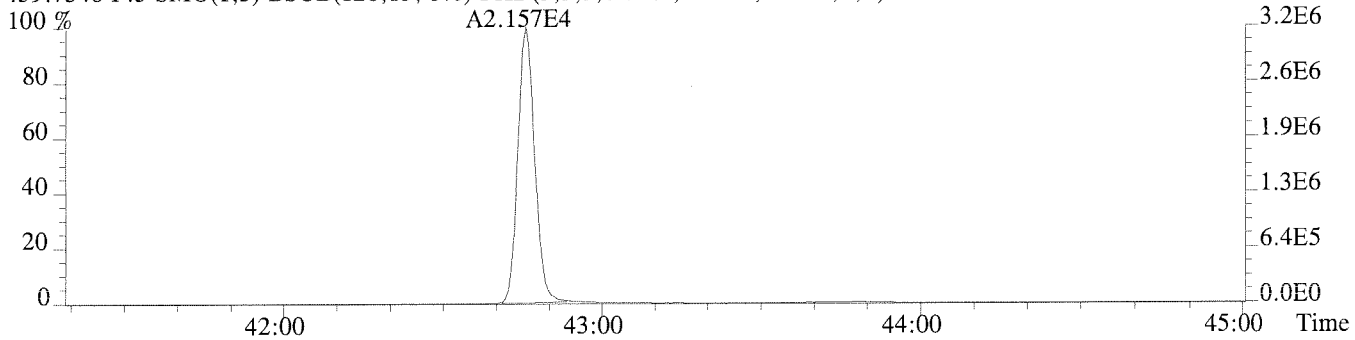


File:U217136 #1-408 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS

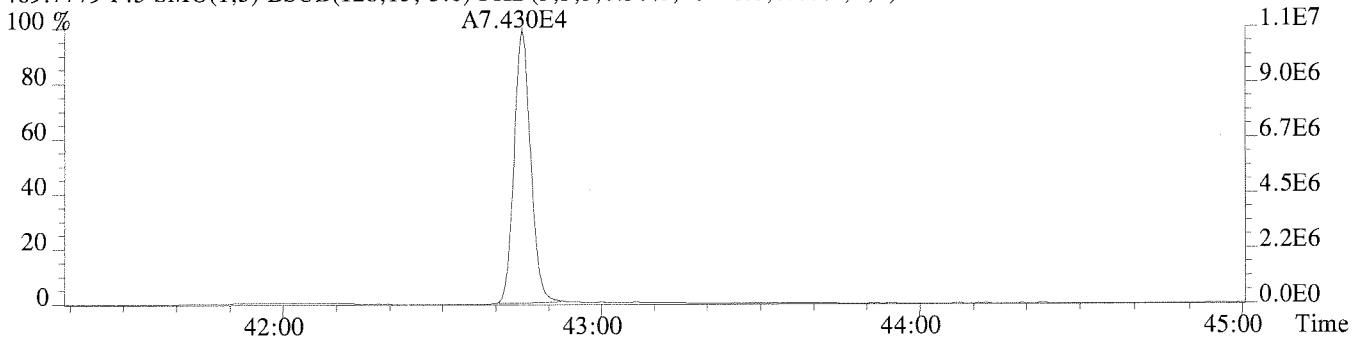
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1484.0,0.40%,F,F)



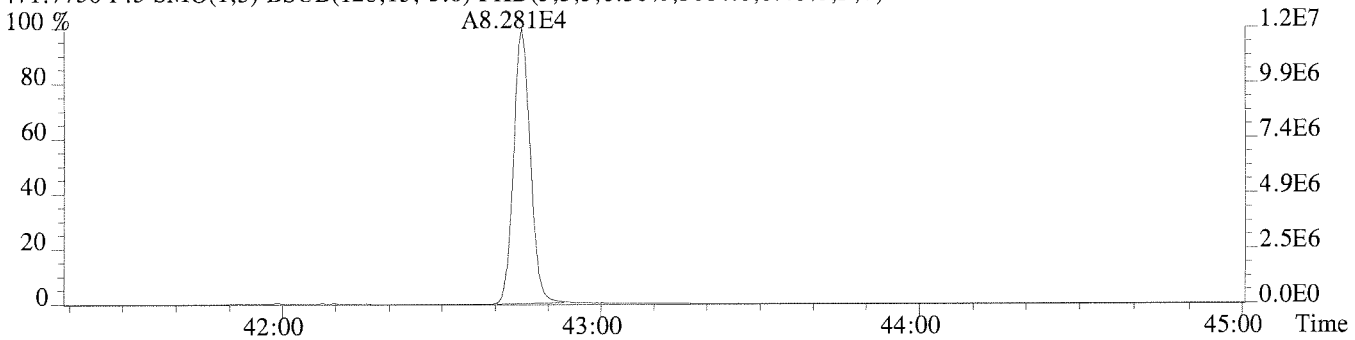
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1748.0,0.40%,F,F)



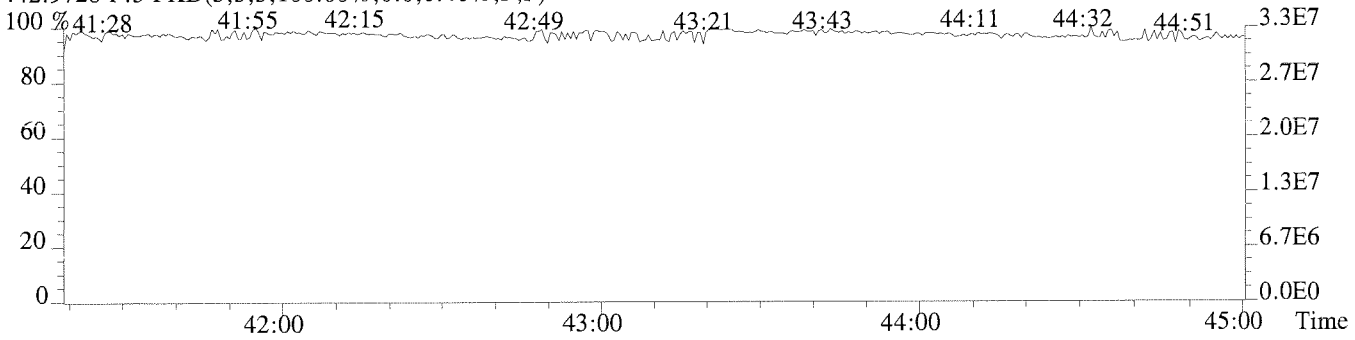
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,70776.0,0.40%,F,F)



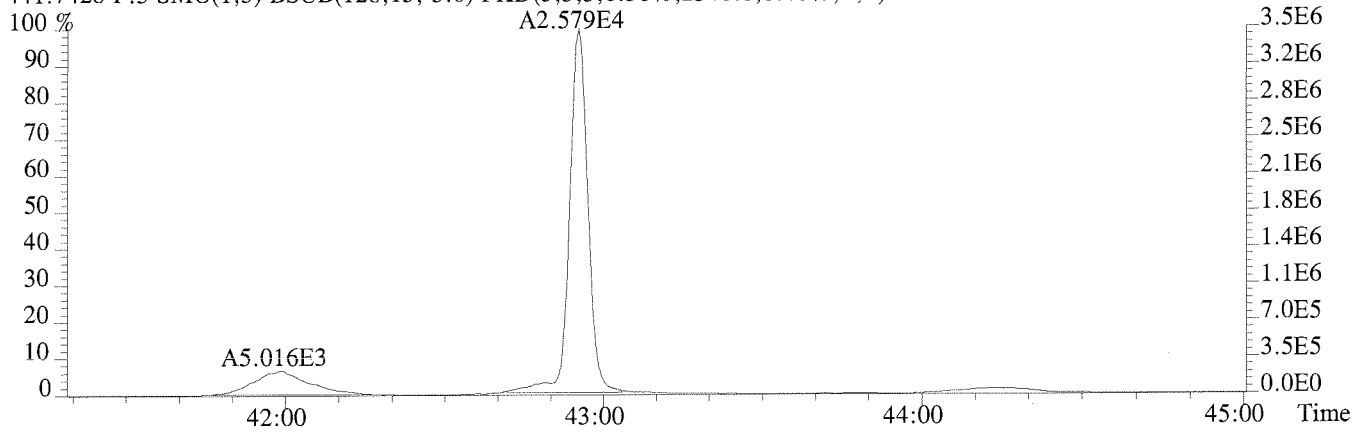
471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3084.0,0.40%,F,F)



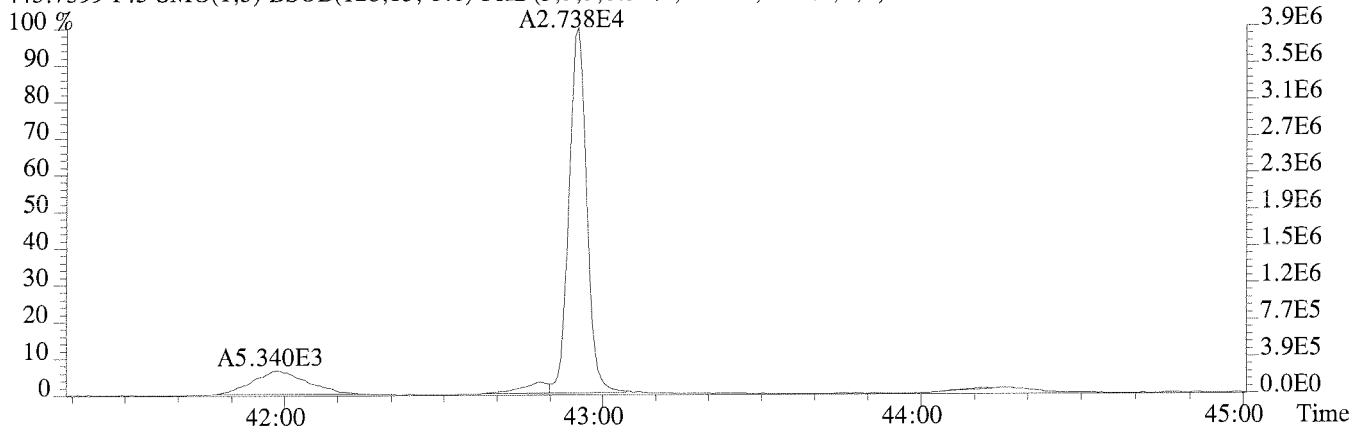
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



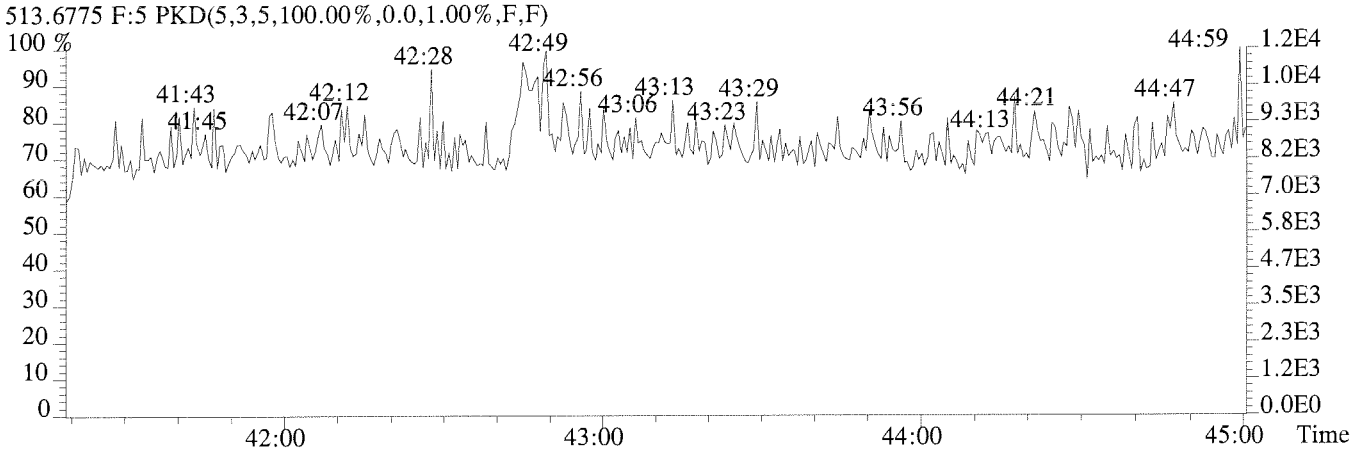
File:U217136 #1-408 Acq:14-AUG-2008 15:49:54 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800314-02 LCS
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2340.0,0.40%,F,F)



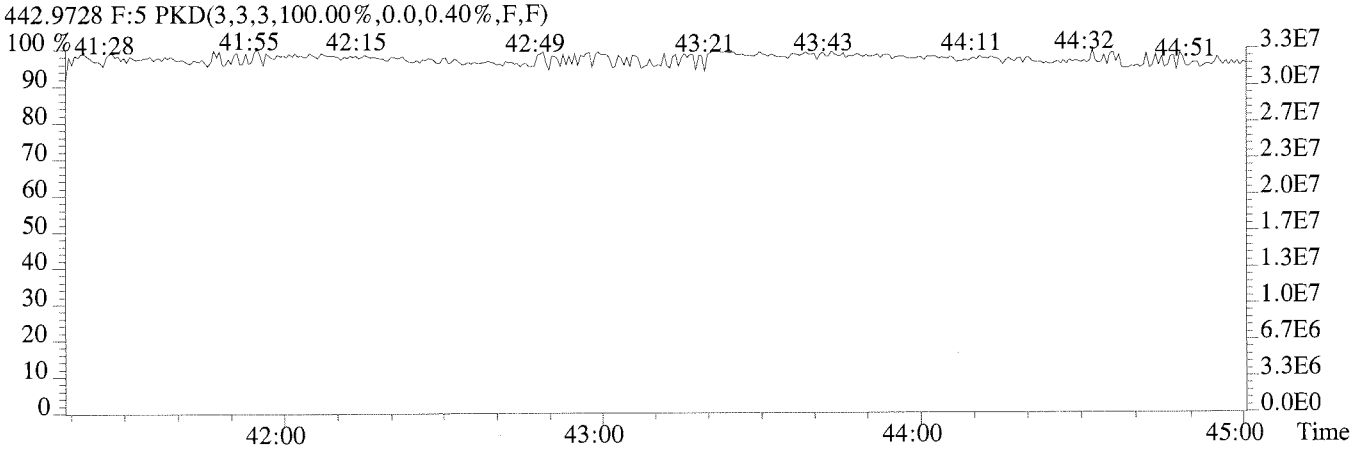
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4032.0,0.40%,F,F)



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)



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
LCS

Run #12 Filename U129320 Samp: 1 Inj: 1 Acquired: 4-AUG-08 16:38:49
Processed: 5-AUG-08 09:26:17 LAB. ID: EQ0800317-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:15	4.833e+03	6.059e+03	0.80	yes	no	0.897
2	Unk	1,2,3,7,8-PeCDF	33:39	2.002e+04	1.326e+04	1.51	yes	no	0.906
3	Unk	2,3,4,7,8-PeCDF	34:23	2.194e+04	1.385e+04	1.58	yes	no	0.935
4	Unk	1,2,3,4,7,8-HxCDF	37:14	2.287e+04	1.843e+04	1.24	yes	no	1.168
5	Unk	1,2,3,6,7,8-HxCDF	37:20	2.446e+04	1.941e+04	1.26	yes	no	1.178
6	Unk	2,3,4,6,7,8-HxCDF	37:49	2.252e+04	1.854e+04	1.21	yes	no	1.056
7	Unk	1,2,3,7,8,9-HxCDF	38:31	1.721e+04	1.385e+04	1.24	yes	no	0.830
8	Unk	1,2,3,4,6,7,8-HpCDF	39:57	2.060e+04	2.082e+04	0.99	yes	no	1.437
9	Unk	1,2,3,4,7,8,9-HpCDF	41:16	1.577e+04	1.581e+04	1.00	yes	no	0.963
10	Unk	OCDF	44:02	2.654e+04	2.958e+04	0.90	yes	no	1.033
11	Unk	2,3,7,8-TCDD	30:06	4.343e+03	5.685e+03	0.76	yes	no	0.962
12	Unk	1,2,3,7,8-PeCDD	34:45	1.662e+04	1.077e+04	1.54	yes	no	0.885
13	Unk	1,2,3,4,7,8-HxCDD	37:56	1.945e+04	1.553e+04	1.25	yes	no	0.949
14	Unk	1,2,3,6,7,8-HxCDD	38:00	1.923e+04	1.533e+04	1.25	yes	no	0.991
15	Unk	1,2,3,7,8,9-HxCDD	38:18	1.767e+04	1.423e+04	1.24	yes	no	0.943
16	Unk	1,2,3,4,6,7,8-HpCDD	40:51	1.450e+04	1.410e+04	1.03	yes	no	0.945
17	Unk	OCDD	43:53	2.685e+04	3.091e+04	0.87	yes	no	1.062
18	IS	13C-2,3,7,8-TCDF	29:14	2.038e+04	2.655e+04	0.77	yes	no	1.177
19	IS	13C-1,2,3,7,8-PeCDF	33:38	3.531e+04	2.372e+04	1.49	yes	no	1.211
20	IS	13C-1,2,3,4,7,8-HxCDF	37:13	4.607e+04	9.061e+04	0.51	yes	no	1.178
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:57	3.330e+04	7.712e+04	0.43	yes	no	0.790
22	IS	13C-2,3,7,8-TCDD	30:05	1.644e+04	2.225e+04	0.74	yes	no	0.938
23	IS	13C-1,2,3,7,8-PeCDD	34:44	2.961e+04	1.971e+04	1.50	yes	no	0.926
24	IS	13C-1,2,3,6,7,8-HxCDD	38:00	7.780e+04	6.342e+04	1.23	yes	no	0.989
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:50	5.841e+04	5.622e+04	1.04	yes	no	0.769
26	IS	13C-OCDD	43:52	8.405e+04	9.382e+04	0.90	yes	no	0.711
27	RS/RT	13C-1,2,3,4-TCDD	29:51	2.485e+04	3.296e+04	0.75	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:17	3.564e+04	2.870e+04	1.24	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:06	3.647e+04					0.886
					SUM AREA				
30	Tot	Total Tetra-Furans	28:01		1.103e+04	0.84	yes		0.897
31	Tot	Total Tetra-Dioxins	30:06		1.003e+04	0.76	yes		0.962
32	Tot	Total Penta-Furans	33:39		6.908e+04	1.51	yes		0.920
33	Tot	Total Penta-Dioxins	33:38		2.746e+04	1.37	yes		0.885
34	Tot	Total Hexa-Furans	37:14		1.573e+05	1.24	yes		1.058
35	Tot	Total Hexa-Dioxins	37:56		1.014e+05	1.25	yes		0.961
36	Tot	Total Hepta-Furans	39:57		7.300e+04	0.99	yes		1.200
37	Tot	Total Hepta-Dioxins	40:51		2.860e+04	1.03	yes		0.945

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary LCS

Run #12 Filename U129320 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 16:38:49

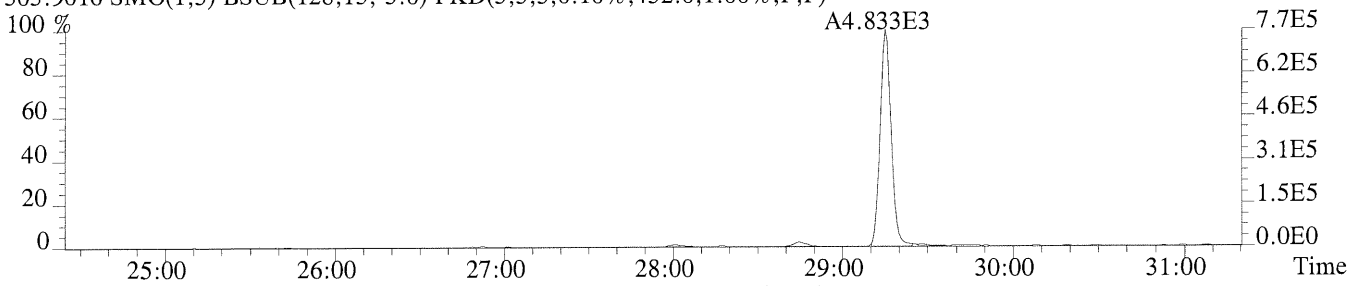
Processed: 5-AUG-08 09:26:17 LAB. ID: EQ0800317-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	7.73e+05	4.32e+02	1.8e+03	9.76e+05	5.56e+02	1.8e+03
2	1,2,3,7,8-PeCDF	3.91e+06	5.16e+02	7.6e+03	2.56e+06	5.08e+02	5.0e+03
3	2,3,4,7,8-PeCDF	4.28e+06	5.16e+02	8.3e+03	2.73e+06	5.08e+02	5.4e+03
4	1,2,3,4,7,8-HxCDF	4.97e+06	9.88e+02	5.0e+03	4.00e+06	1.00e+03	4.0e+03
5	1,2,3,6,7,8-HxCDF	5.04e+06	9.88e+02	5.1e+03	3.98e+06	1.00e+03	4.0e+03
6	2,3,4,6,7,8-HxCDF	4.76e+06	9.88e+02	4.8e+03	3.89e+06	1.00e+03	3.9e+03
7	1,2,3,7,8,9-HxCDF	3.63e+06	9.88e+02	3.7e+03	2.93e+06	1.00e+03	2.9e+03
8	1,2,3,4,6,7,8-HpCDF	4.42e+06	2.41e+03	1.8e+03	4.47e+06	3.04e+03	1.5e+03
9	1,2,3,4,7,8,9-HpCDF	3.05e+06	2.41e+03	1.3e+03	3.11e+06	3.04e+03	1.0e+03
10	OCDF	3.93e+06	9.20e+02	4.3e+03	4.34e+06	1.27e+03	3.4e+03
11	2,3,7,8-TCDD	7.36e+05	4.28e+02	1.7e+03	9.56e+05	2.76e+02	3.5e+03
12	1,2,3,7,8-PeCDD	3.28e+06	9.72e+02	3.4e+03	2.15e+06	6.40e+02	3.4e+03
13	1,2,3,4,7,8-HxCDD	4.12e+06	1.38e+03	3.0e+03	3.27e+06	1.11e+03	2.9e+03
14	1,2,3,6,7,8-HxCDD	4.36e+06	1.38e+03	3.2e+03	3.42e+06	1.11e+03	3.1e+03
15	1,2,3,7,8,9-HxCDD	3.81e+06	1.38e+03	2.8e+03	3.09e+06	1.11e+03	2.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.97e+06	1.89e+03	1.6e+03	2.93e+06	1.91e+03	1.5e+03
17	OCDD	3.97e+06	2.82e+03	1.4e+03	4.59e+06	2.50e+03	1.8e+03
18	13C-2,3,7,8-TCDF	3.22e+06	2.37e+03	1.4e+03	4.25e+06	9.24e+02	4.6e+03
19	13C-1,2,3,7,8-PeCDF	6.73e+06	2.04e+02	3.3e+04	4.55e+06	2.92e+02	1.6e+04
20	13C-1,2,3,4,7,8-HxCDF	9.79e+06	4.56e+02	2.1e+04	1.90e+07	9.32e+02	2.0e+04
21	13C-1,2,3,4,6,7,8-HpCDF	7.16e+06	1.39e+03	5.2e+03	1.64e+07	4.22e+03	3.9e+03
22	13C-2,3,7,8-TCDD	2.92e+06	2.90e+03	1.0e+03	3.89e+06	8.00e+02	4.9e+03
23	13C-1,2,3,7,8-PeCDD	5.96e+06	6.92e+02	8.6e+03	3.99e+06	2.40e+02	1.7e+04
24	13C-1,2,3,6,7,8-HxCDD	1.72e+07	1.54e+03	1.1e+04	1.40e+07	9.04e+02	1.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.21e+07	1.05e+03	1.2e+04	1.17e+07	8.00e+02	1.5e+04
26	13C-OCDD	1.23e+07	1.19e+03	1.0e+04	1.40e+07	9.64e+02	1.5e+04
27	13C-1,2,3,4-TCDD	4.42e+06	2.90e+03	1.5e+03	5.80e+06	8.00e+02	7.2e+03
28	13C-1,2,3,7,8,9-HxCDD	7.80e+06	1.54e+03	5.1e+03	6.30e+06	9.04e+02	7.0e+03
29	37Cl-2,3,7,8-TCDD	6.16e+06	3.72e+02	1.7e+04			

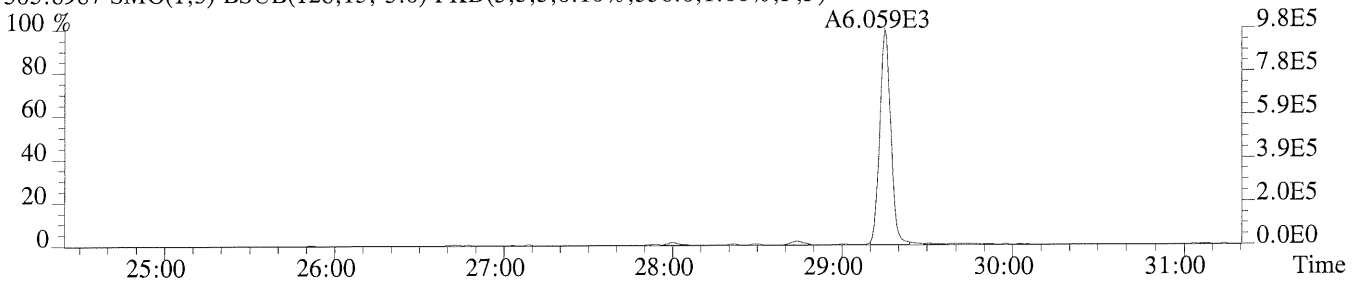
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U129320 #1-578 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

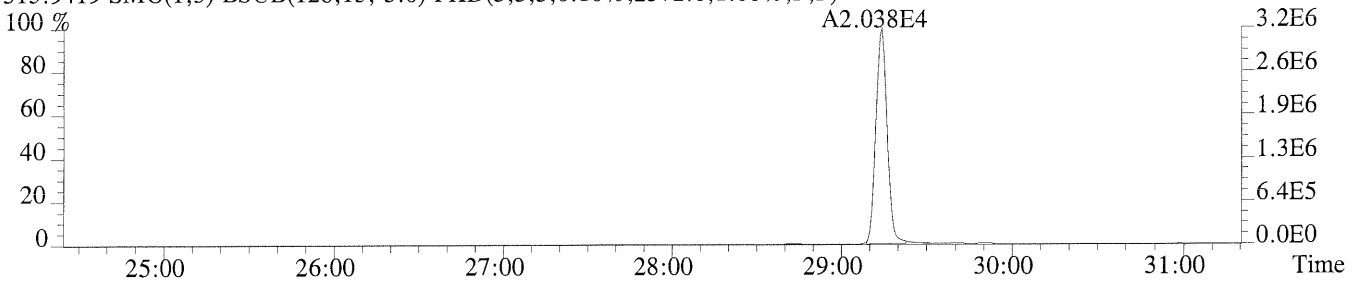
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,F)



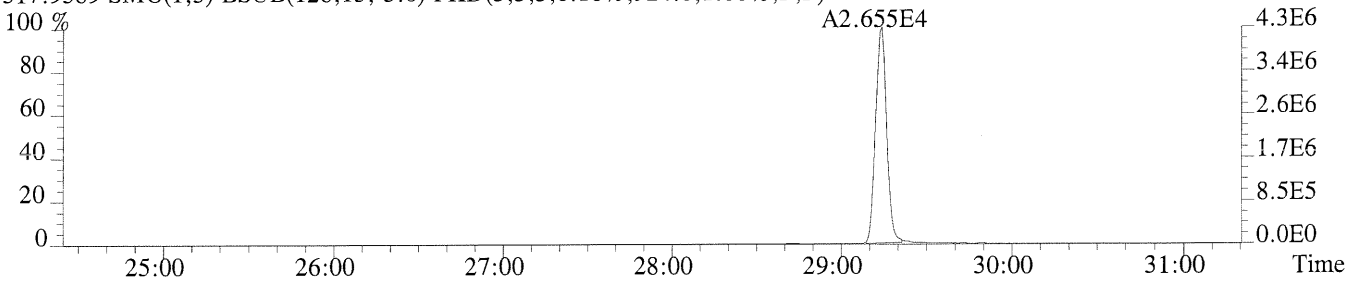
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,F)



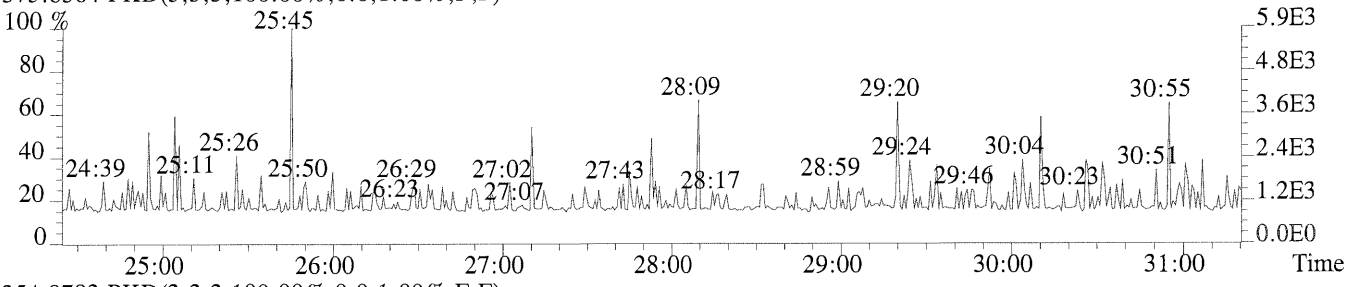
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,F)



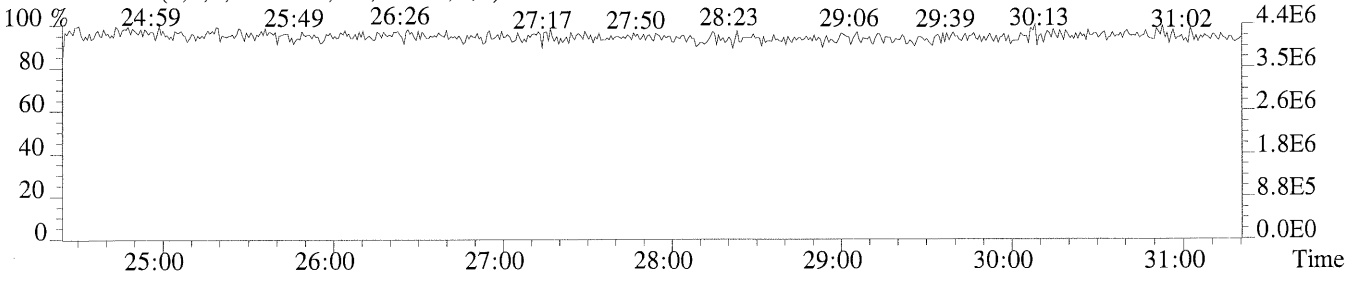
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,F)



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

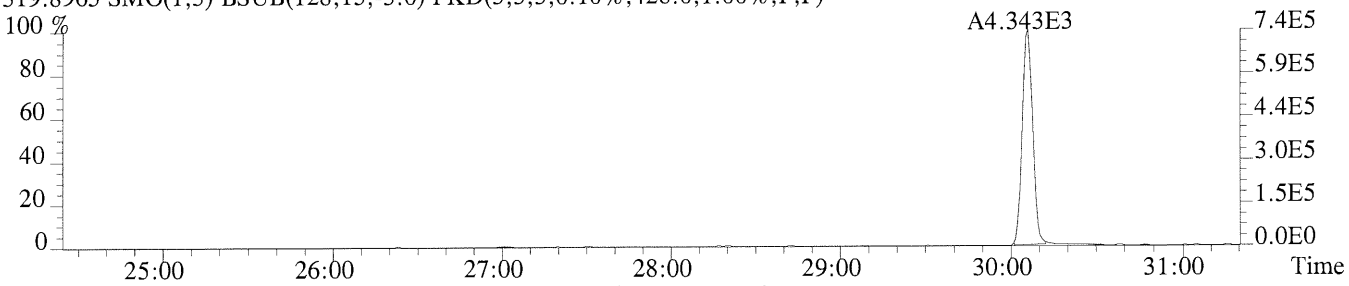


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

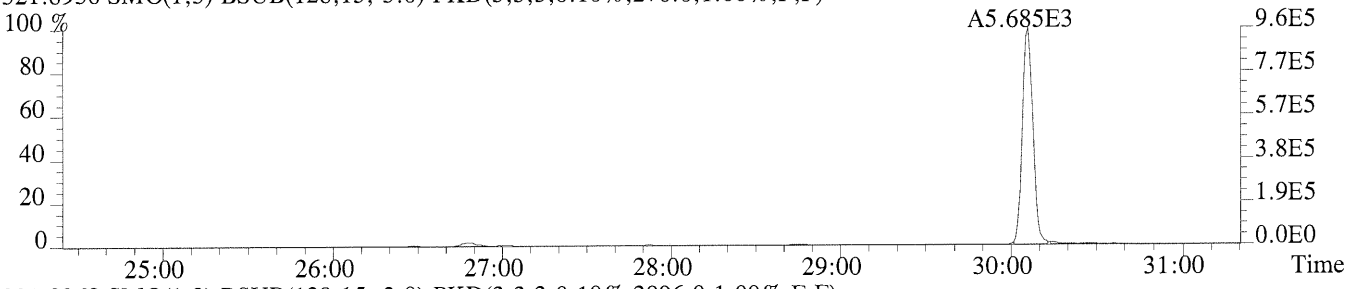


File:U129320 #1-578 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

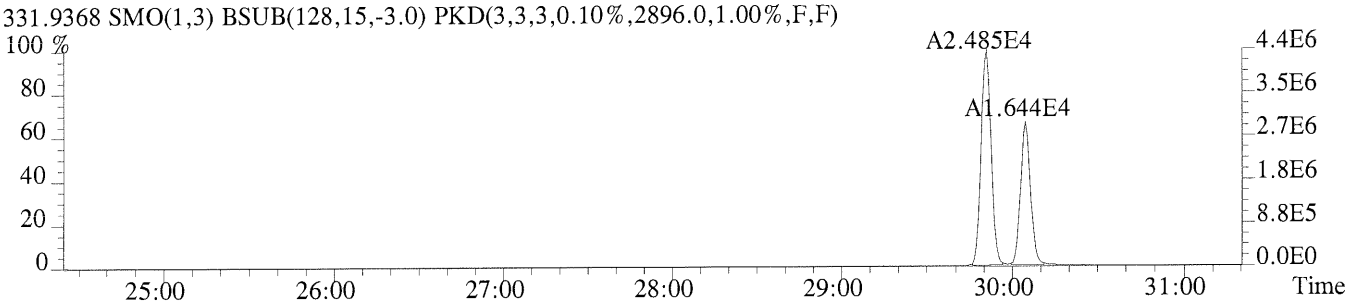
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,428.0,1.00%,F,F)



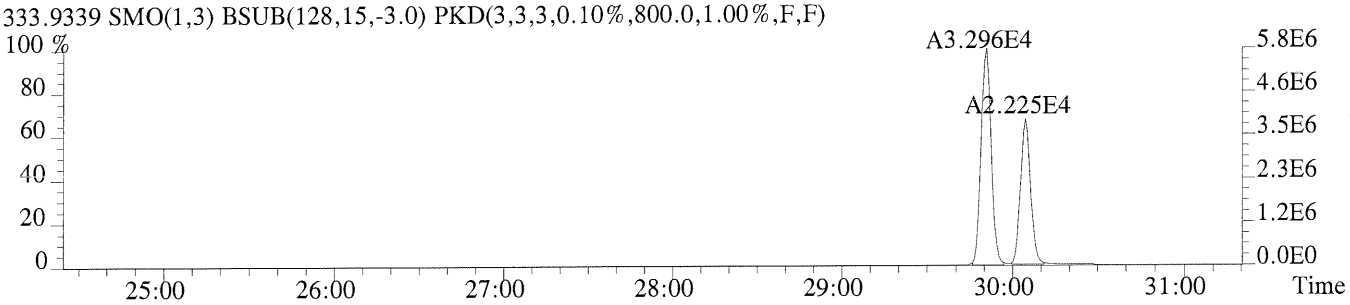
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,F)



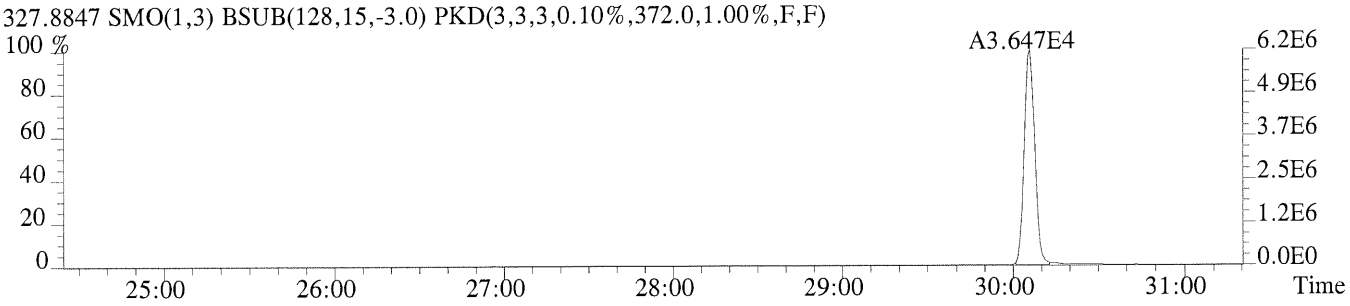
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2896.0,1.00%,F,F)



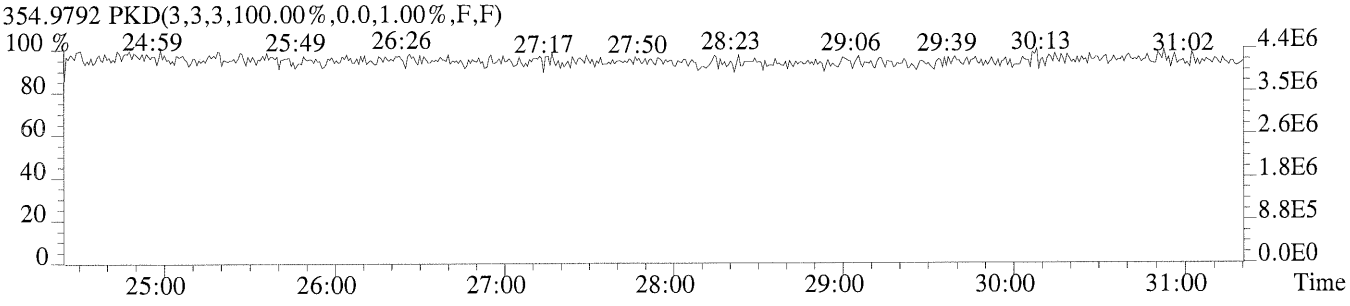
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,372.0,1.00%,F,F)

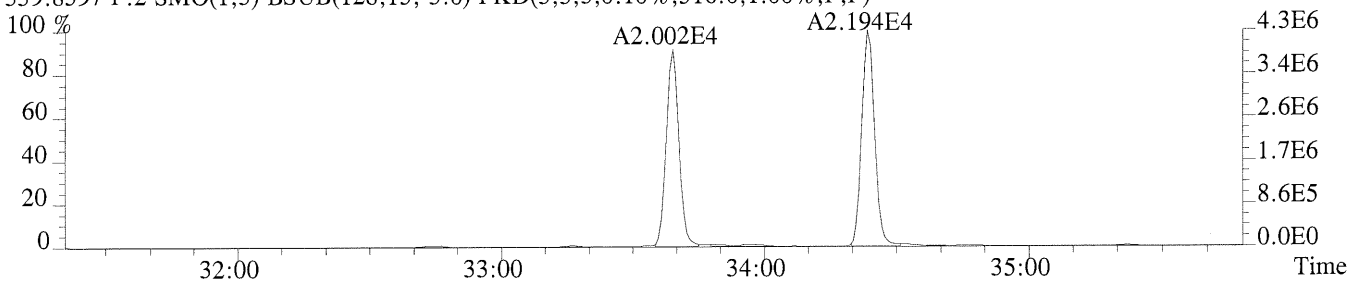


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

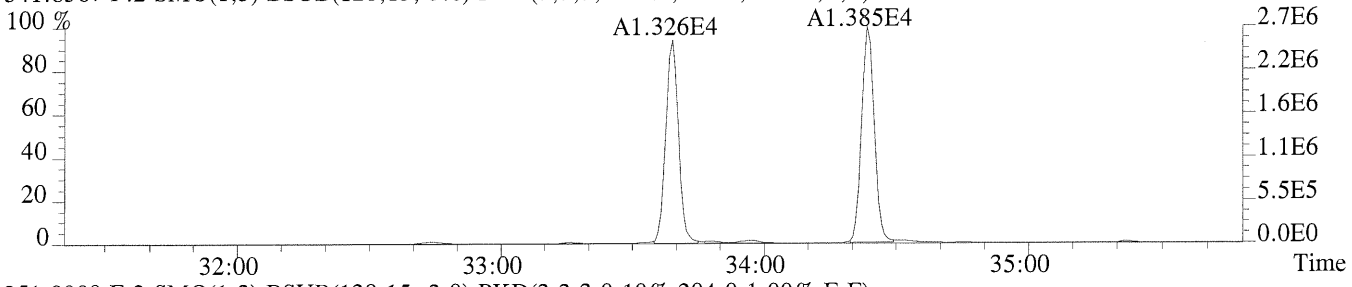


File:U129320 #1-405 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

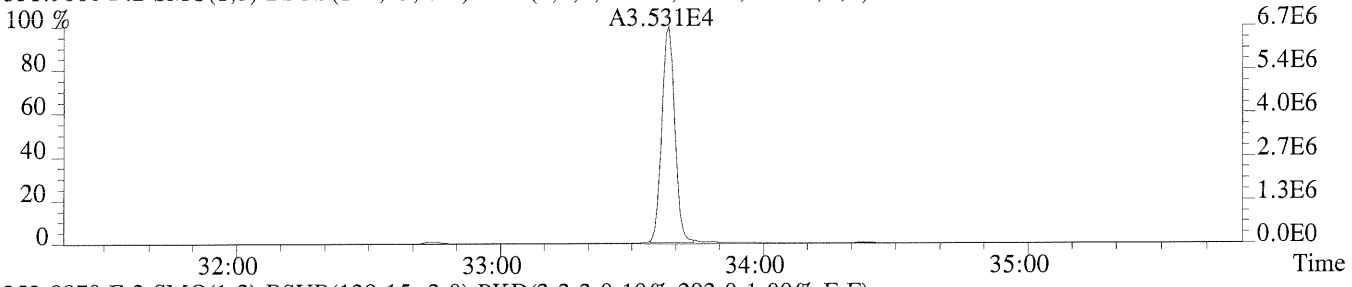
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,F)



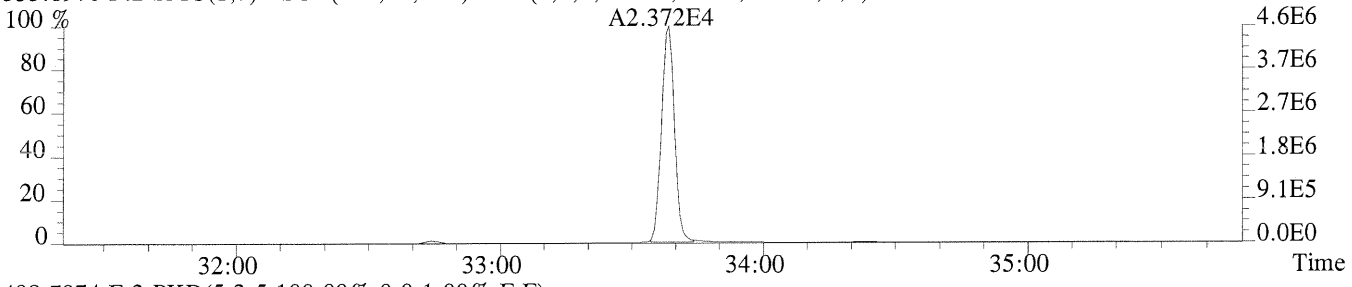
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,F)



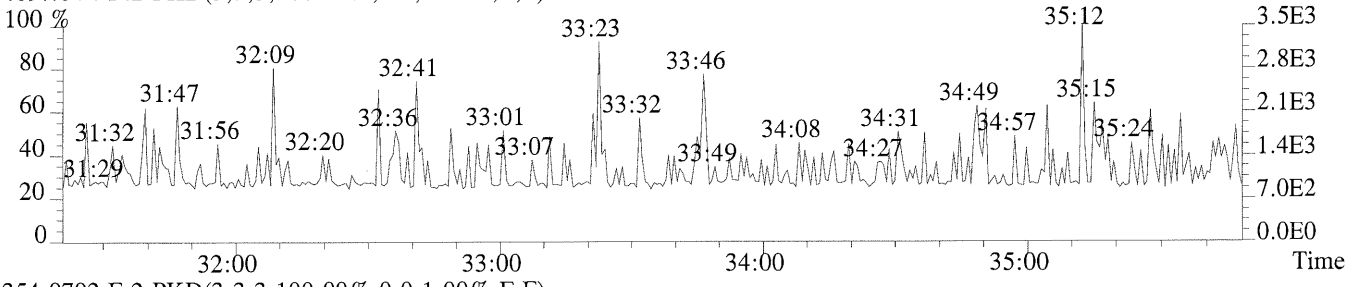
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,F)



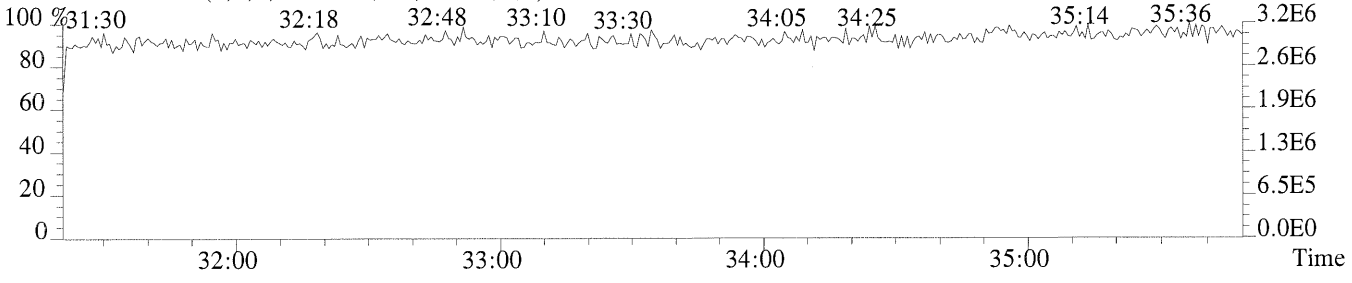
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,F)



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

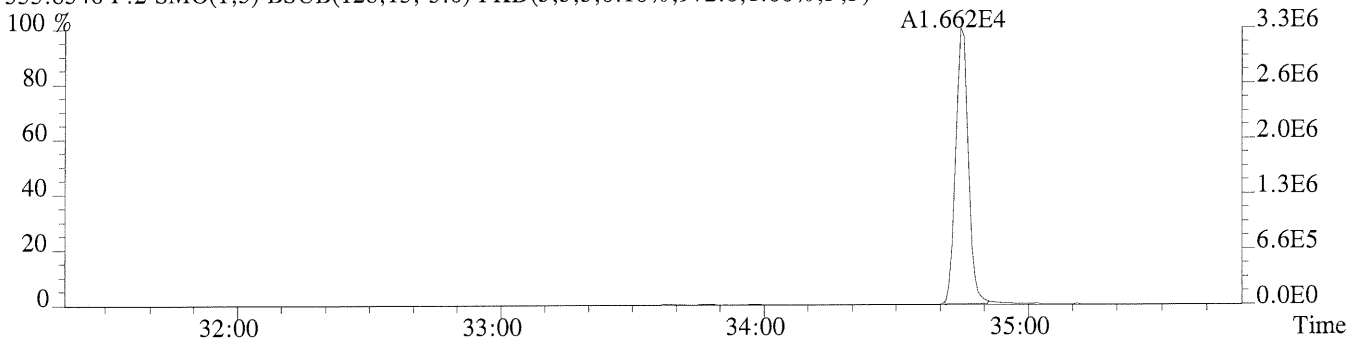


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

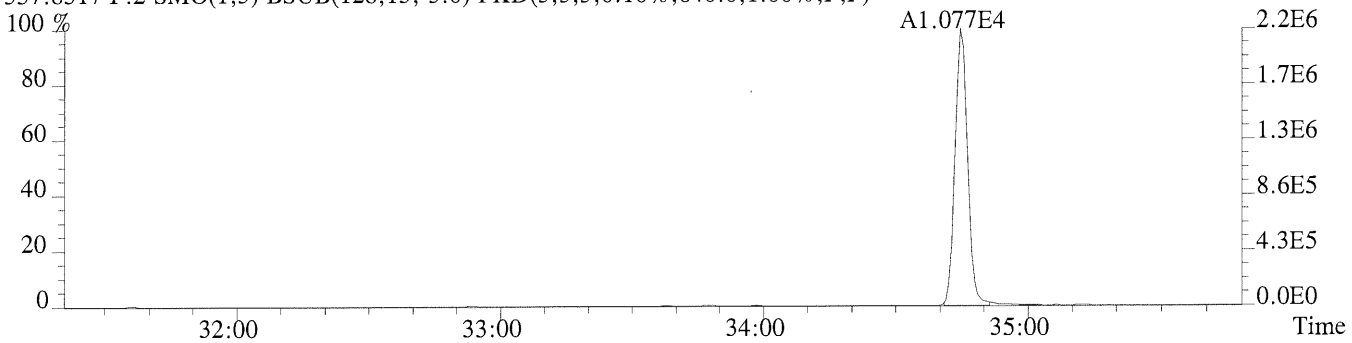


File:U129320 #1-405 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

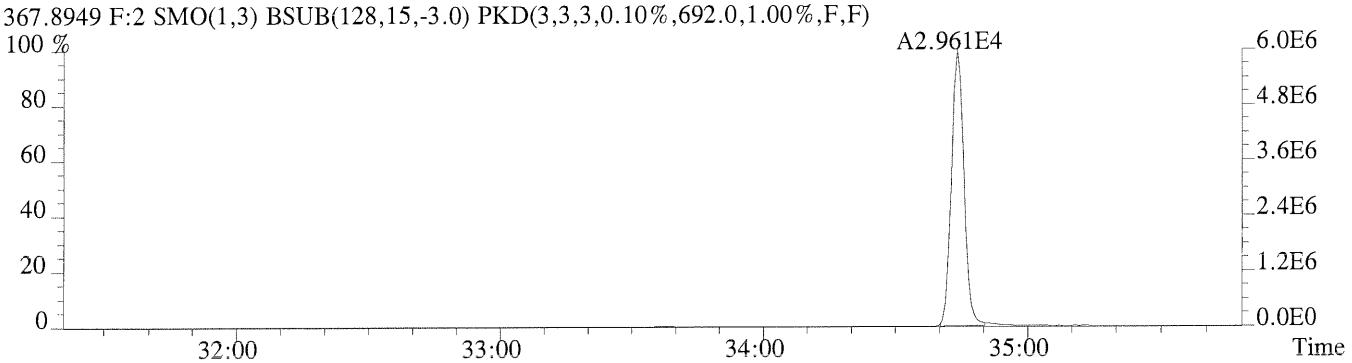
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,972.0,1.00%,F,F)



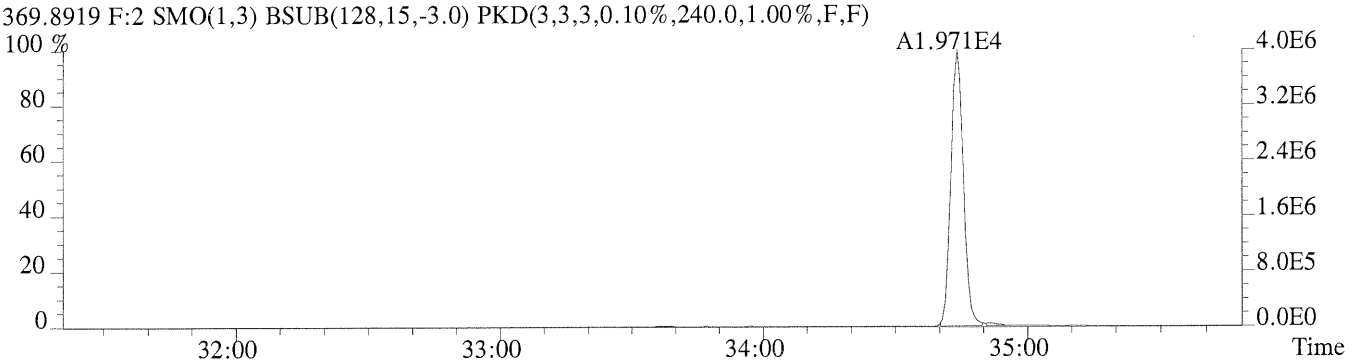
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,F)



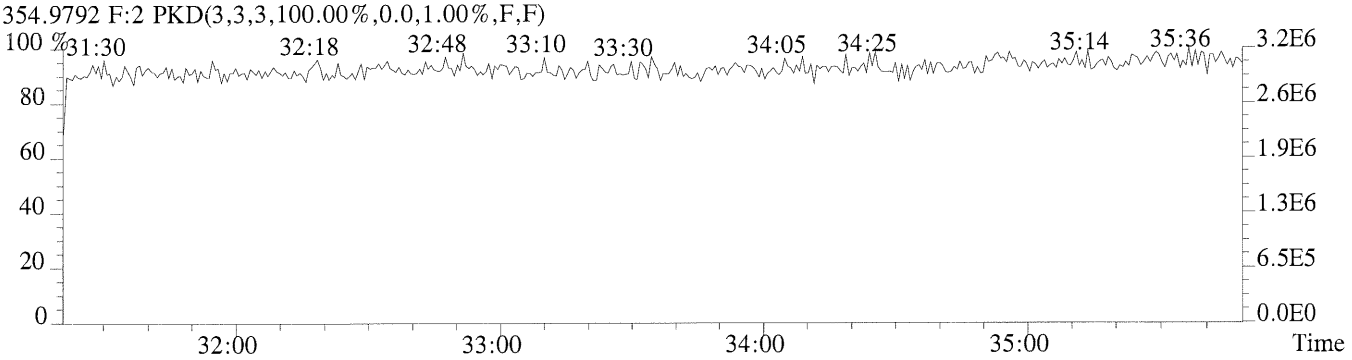
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,240.0,1.00%,F,F)

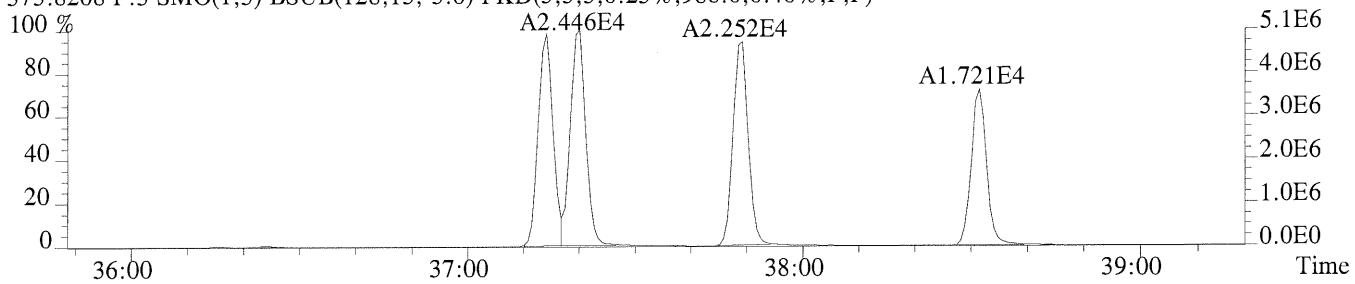


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

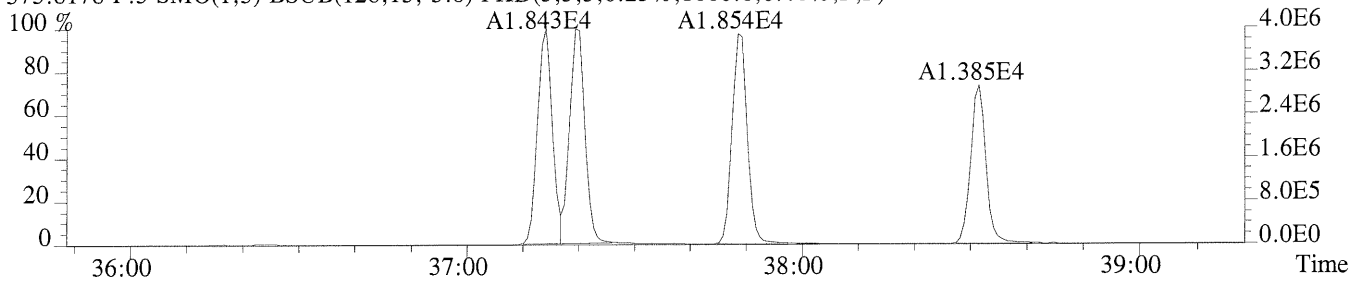


File:U129320 #1-318 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

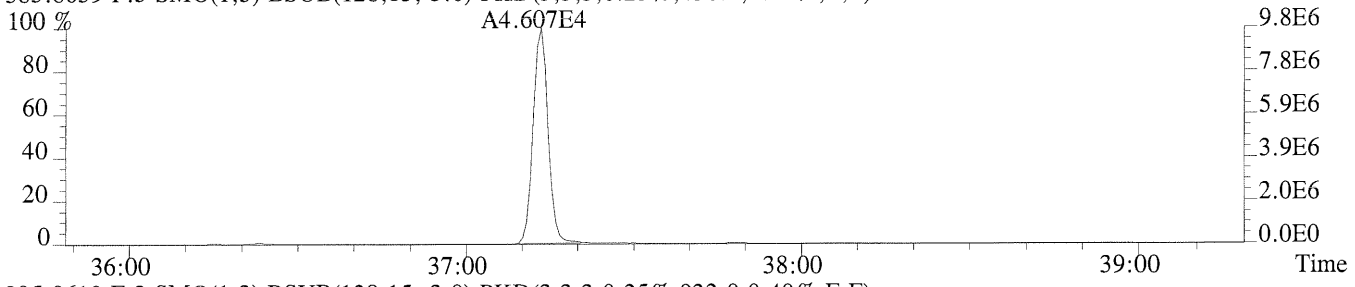
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,988.0,0.40%,F,F)



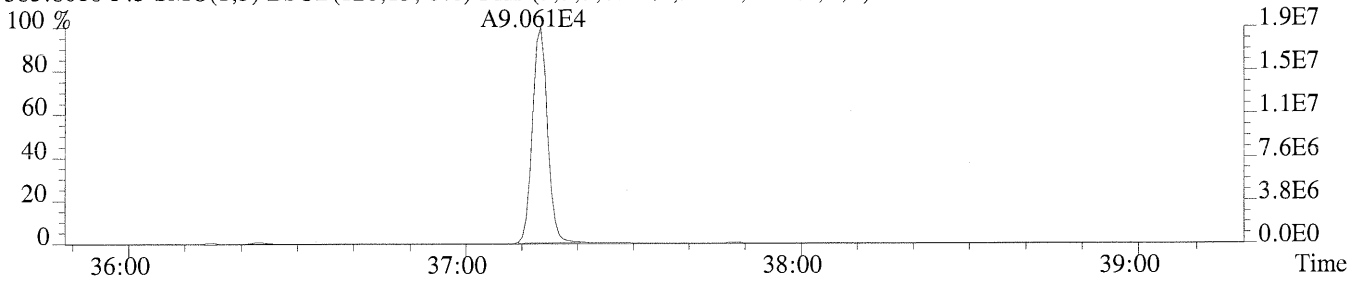
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,F)



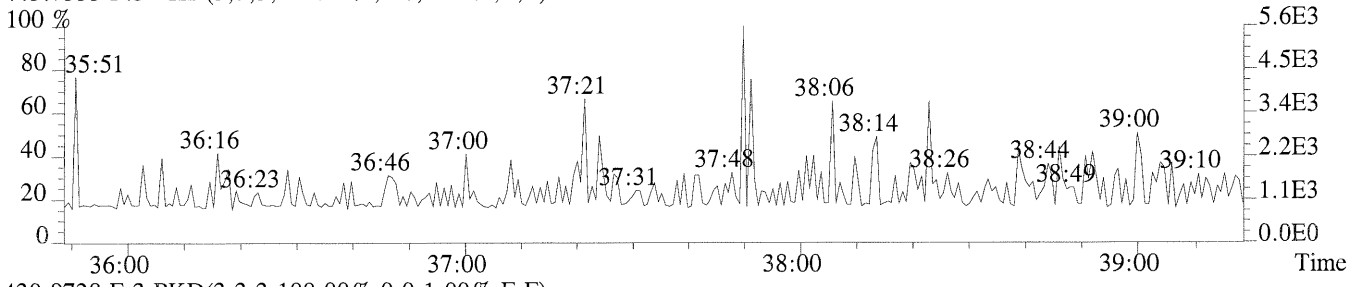
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,F)



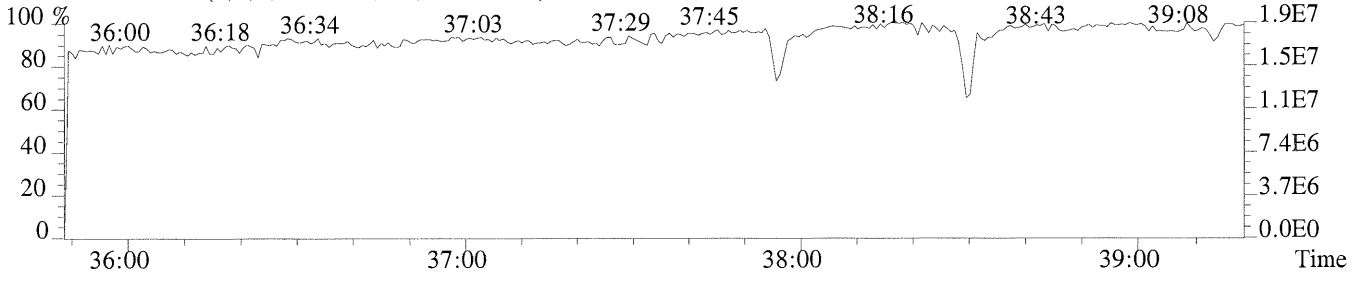
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,F)



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

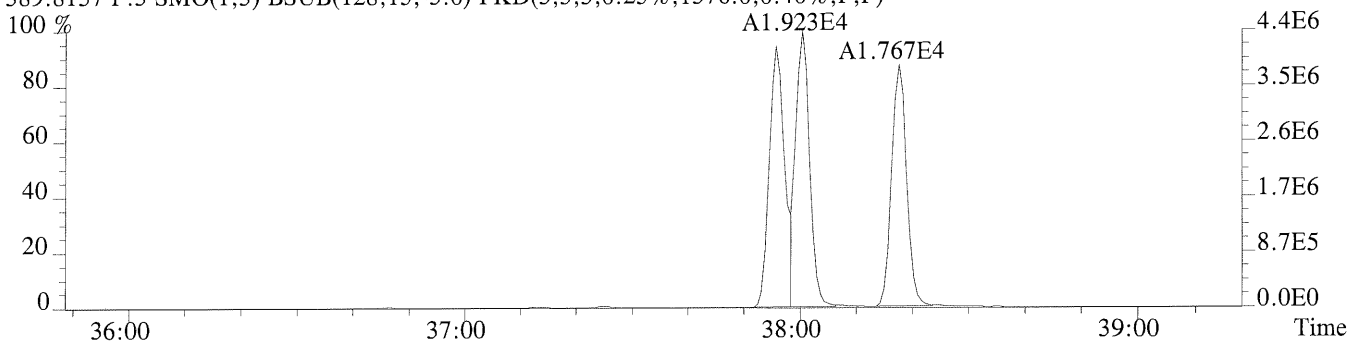


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

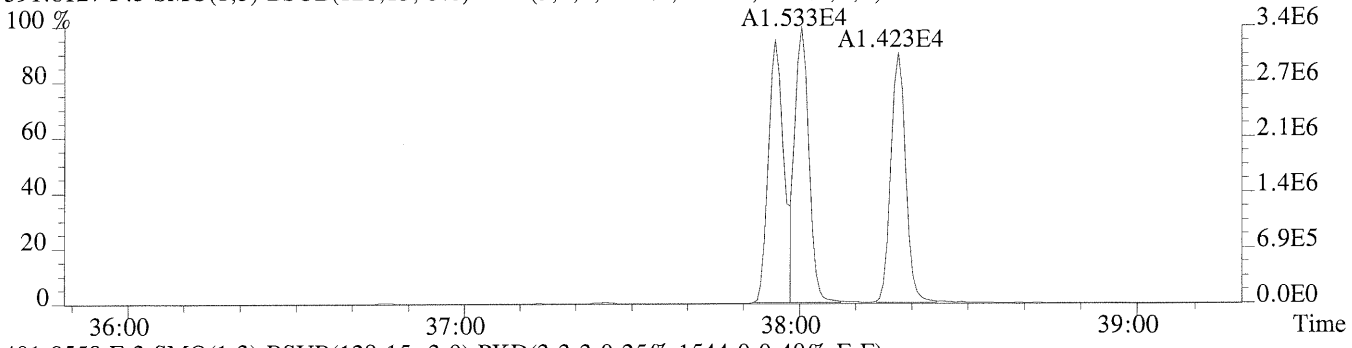


File:U129320 #1-318 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

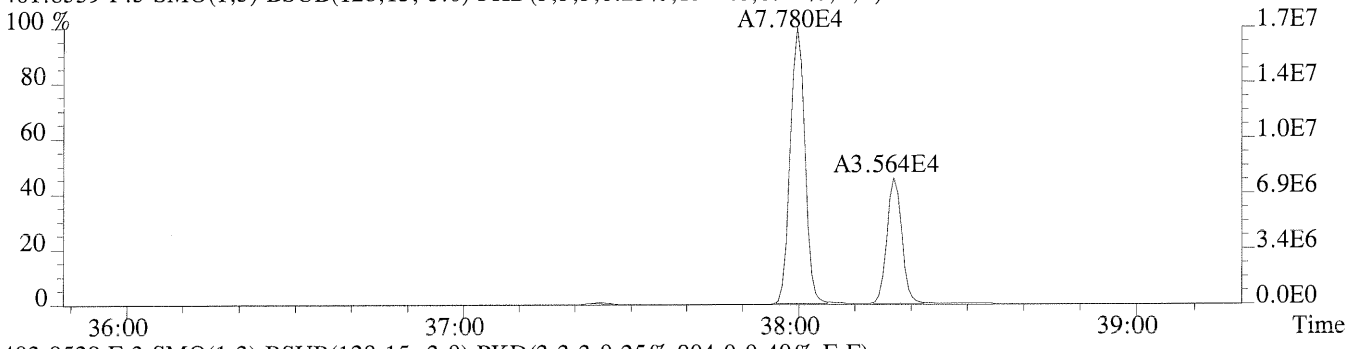
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.40%,F,F)



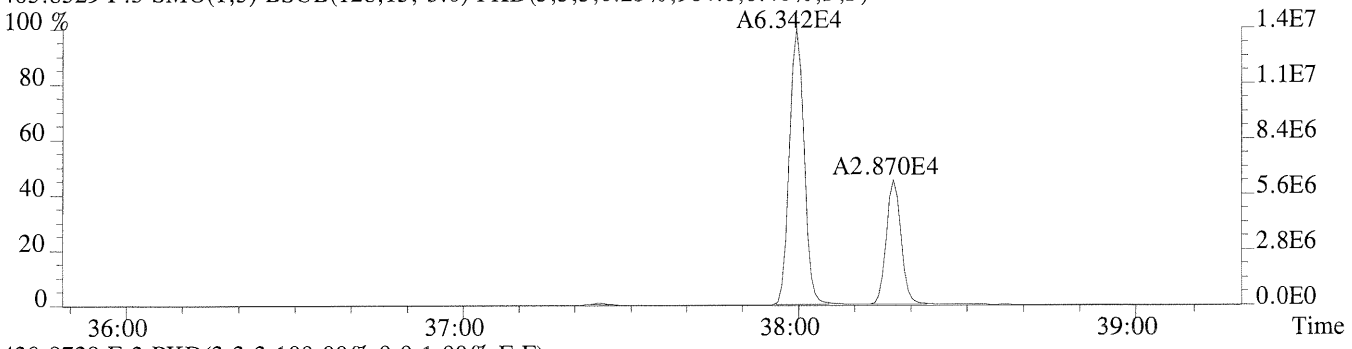
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,F)



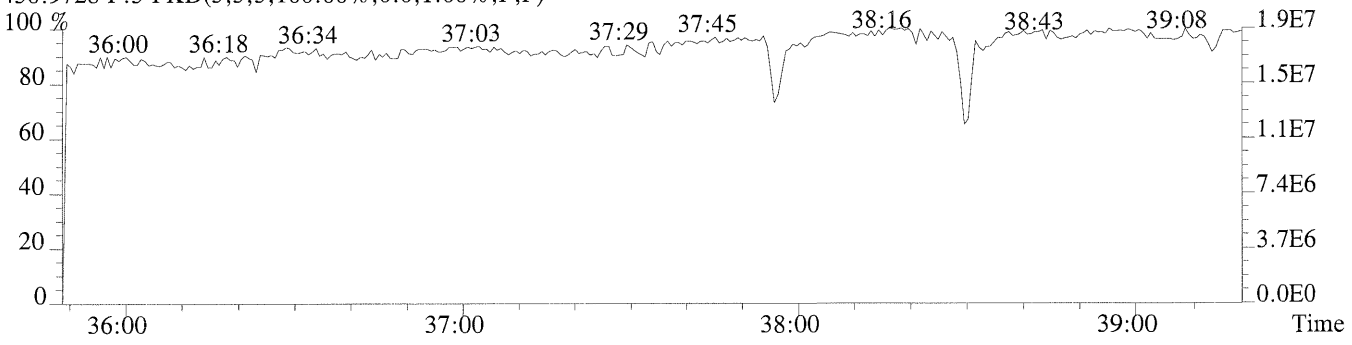
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,F)

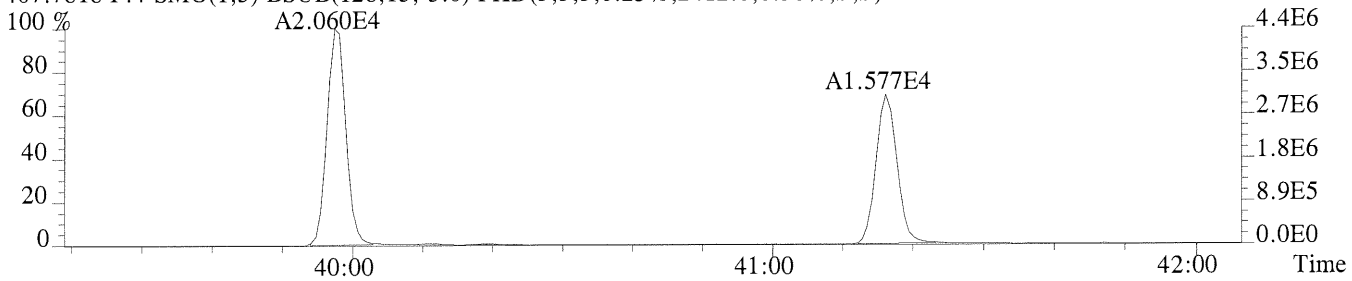


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

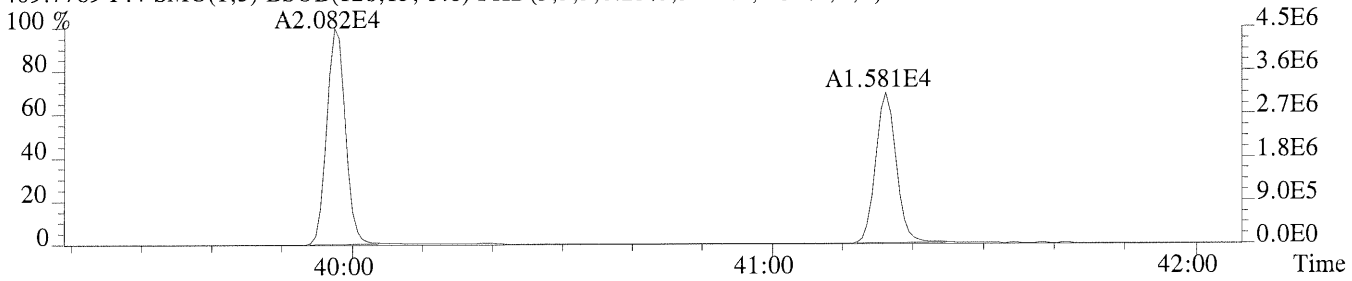


File:U129320 #1-254 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

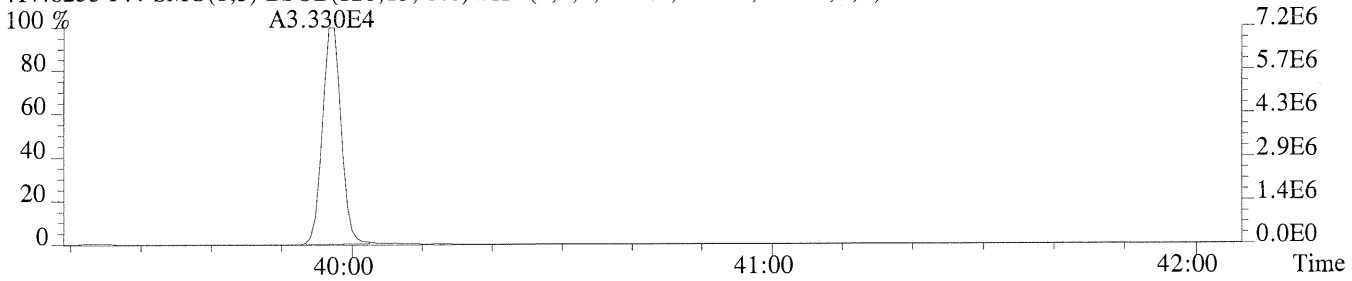
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2412.0,0.50%,F,F)



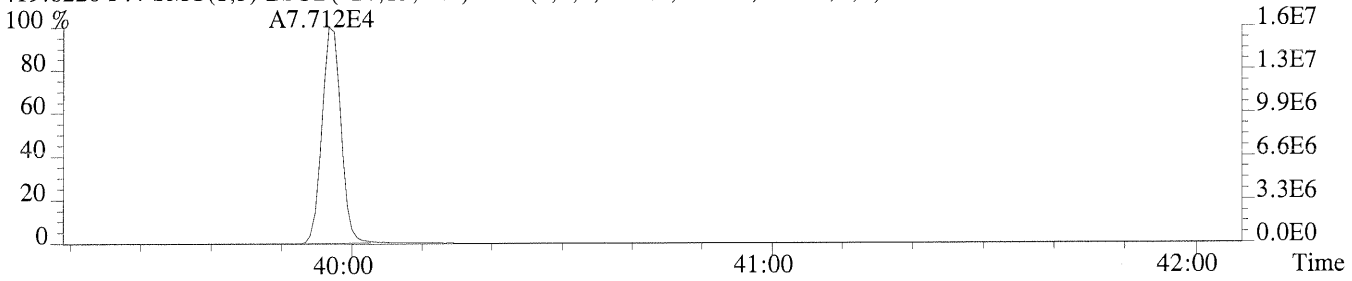
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3040.0,0.50%,F,F)



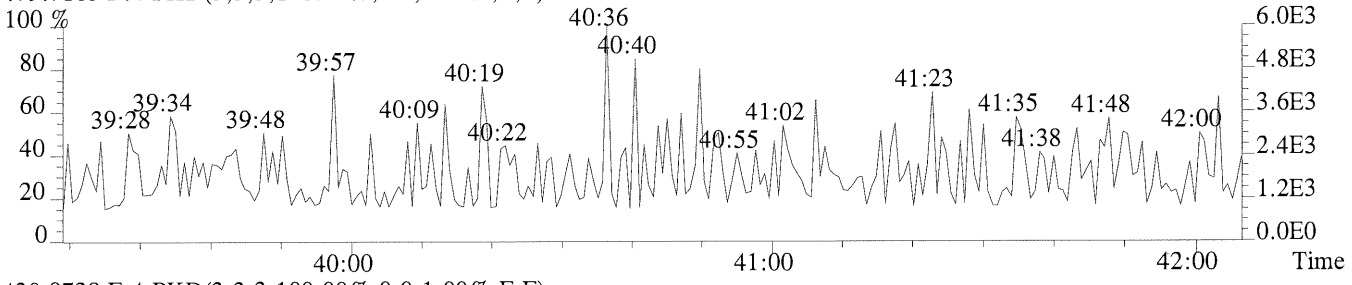
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1388.0,0.50%,F,F)



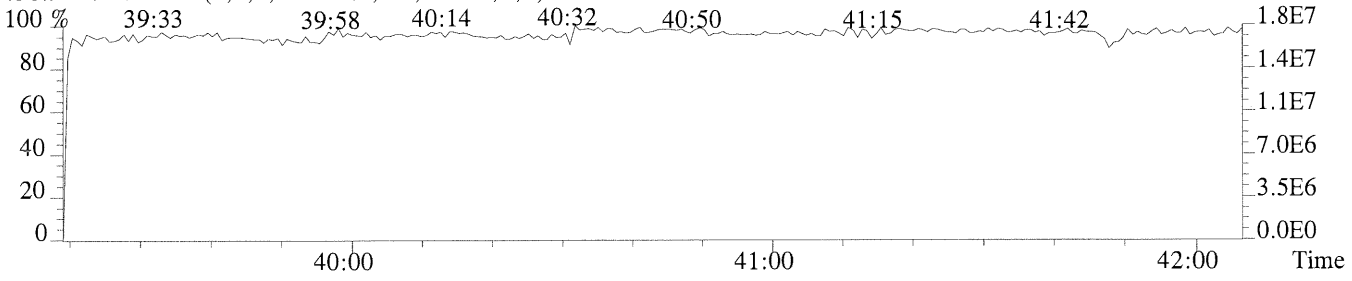
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4220.0,0.50%,F,F)



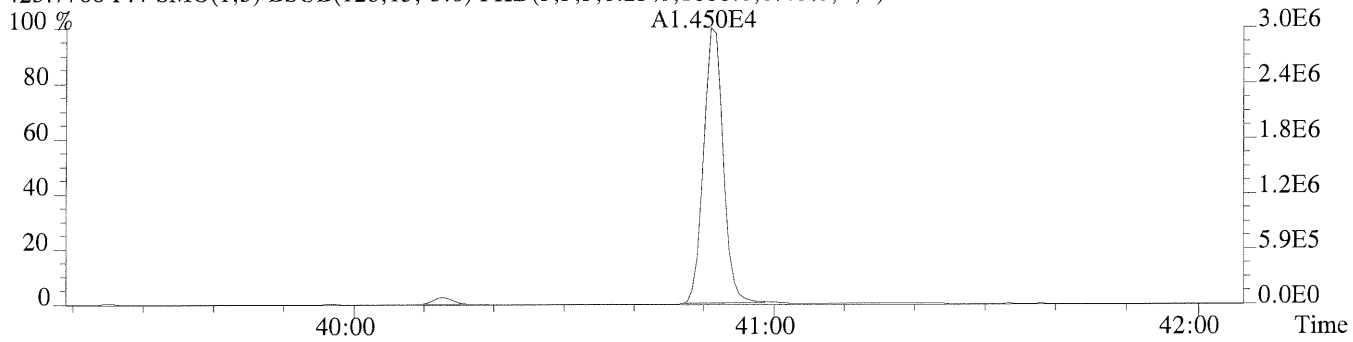
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



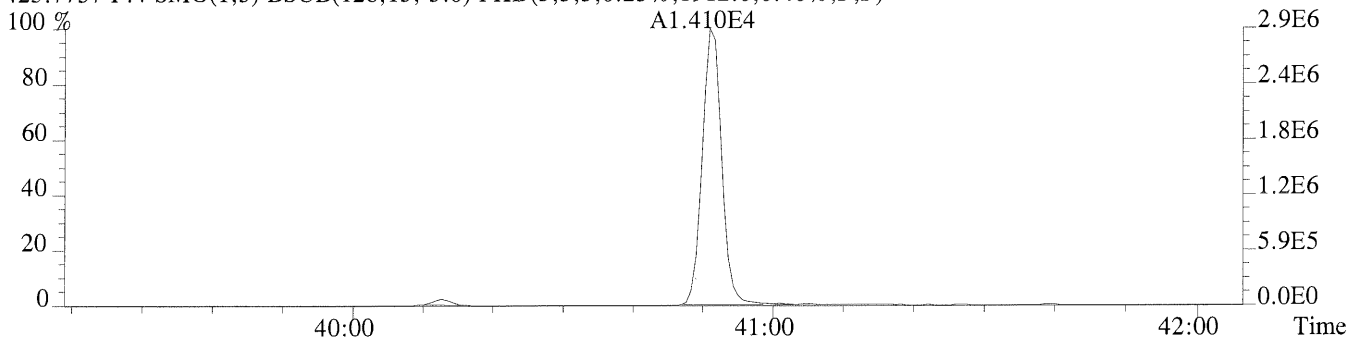
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



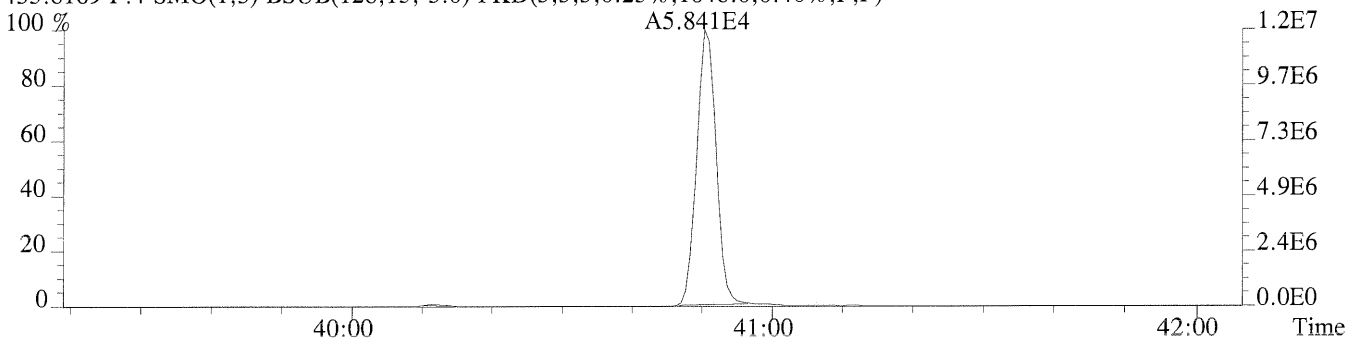
File:U129320 #1-254 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1888.0,0.40%,F,F)



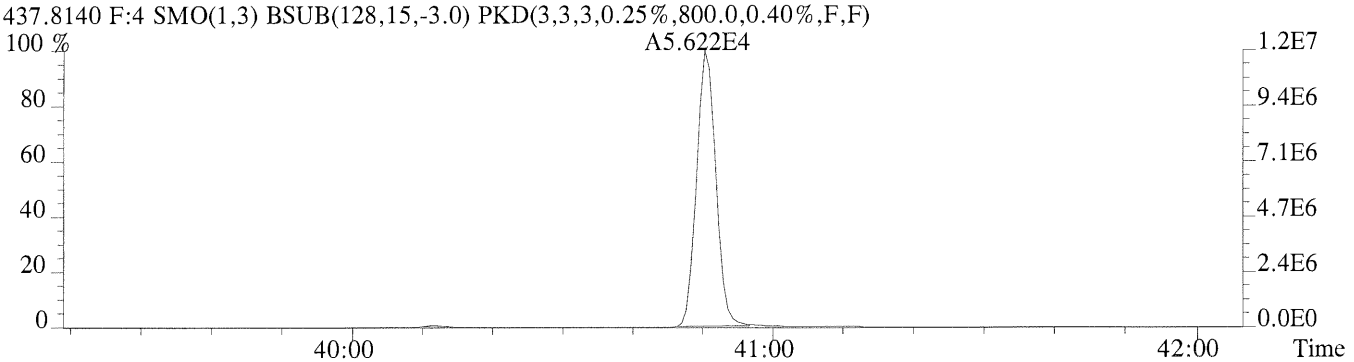
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1912.0,0.40%,F,F)



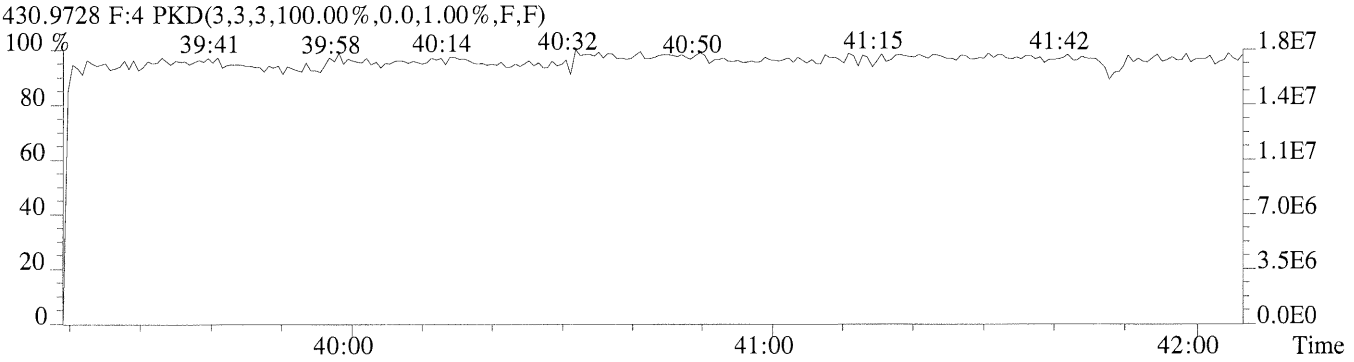
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,F)



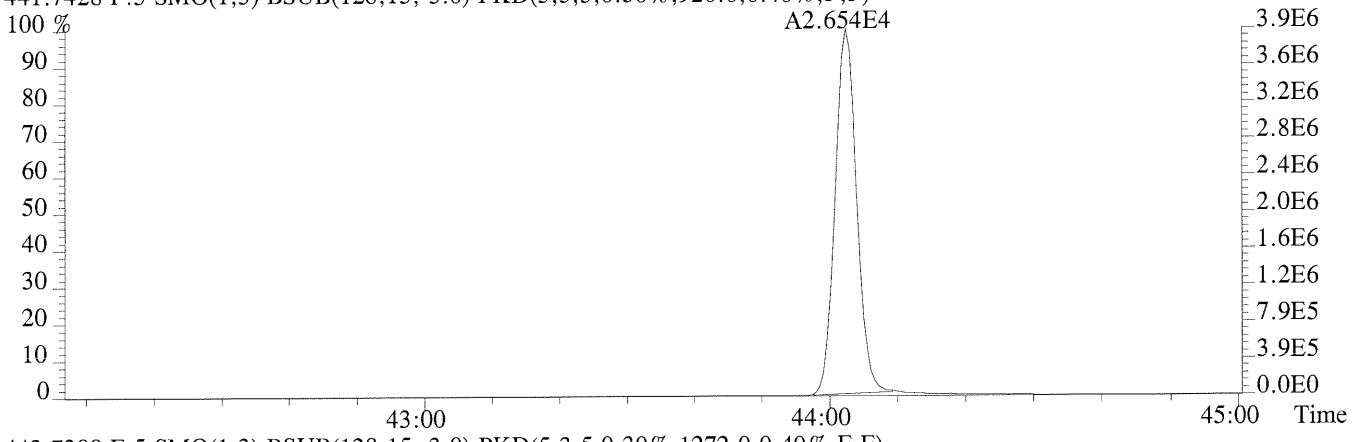
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,800.0,0.40%,F,F)



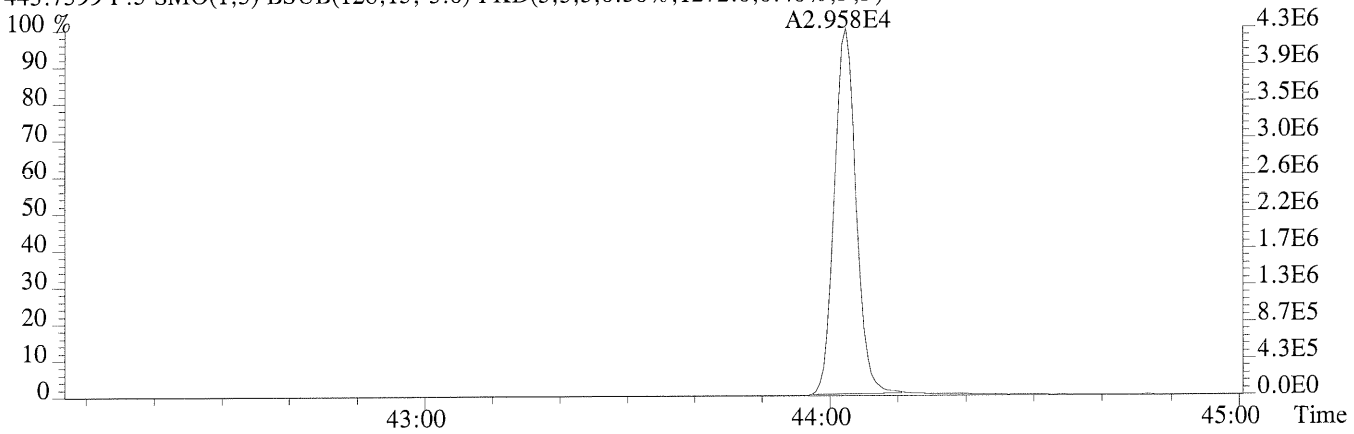
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



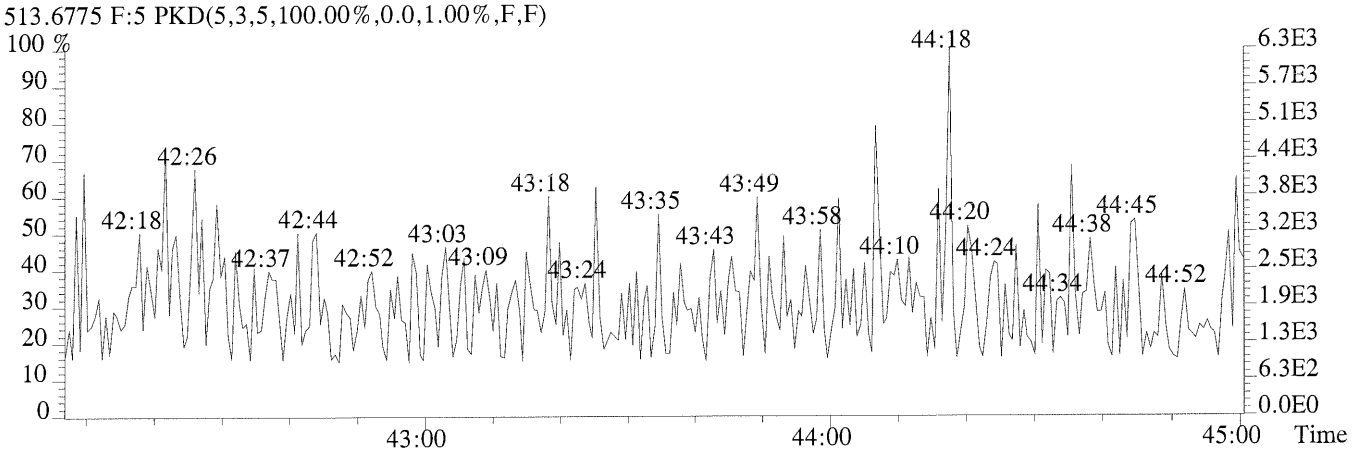
File:U129320 #1-320 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,920.0,0.40%,F,F)



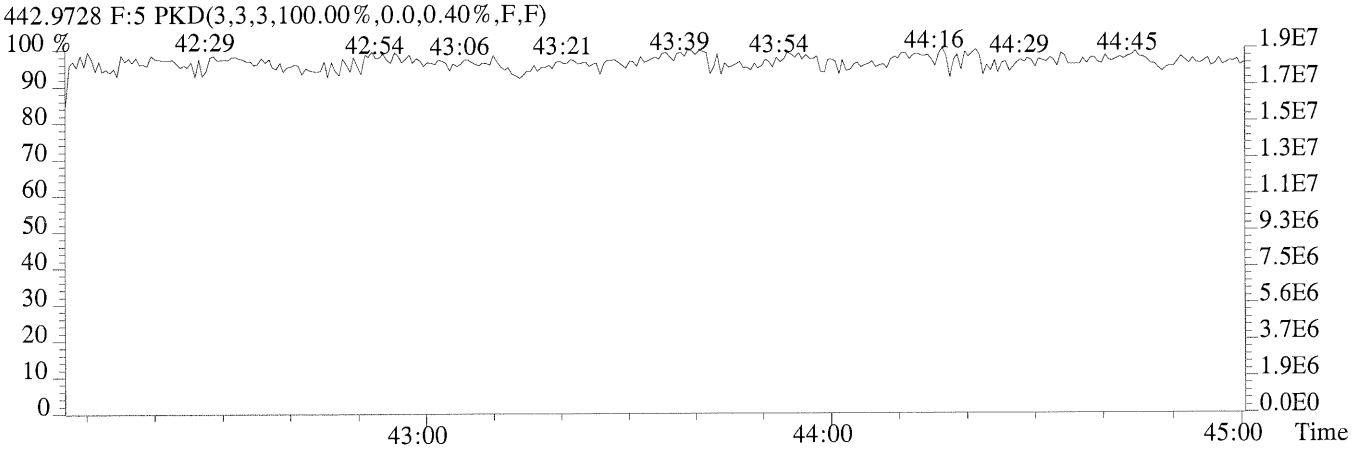
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1272.0,0.40%,F,F)



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

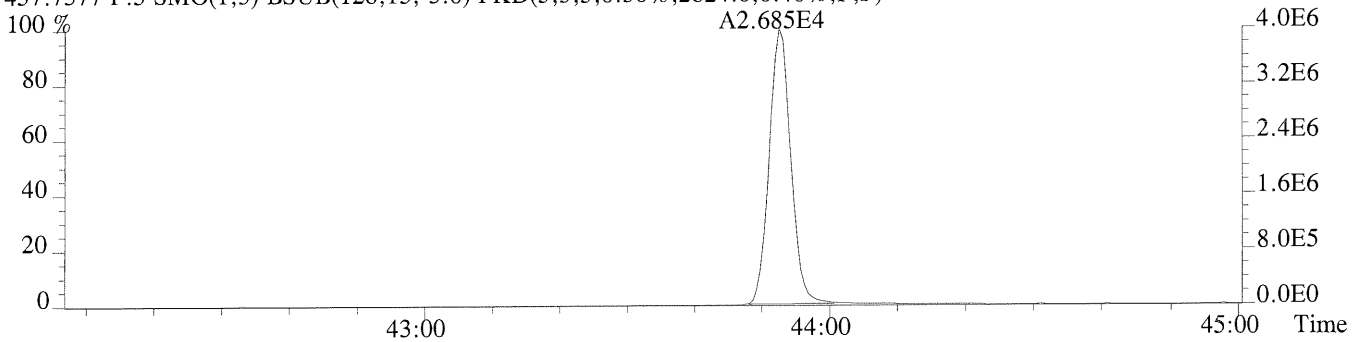


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

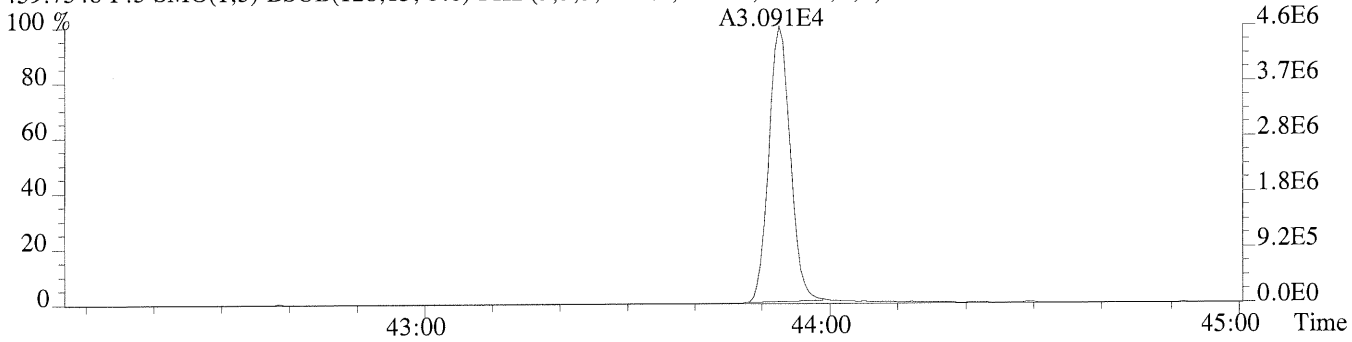


File:U129320 #1-320 Acq: 4-AUG-2008 16:38:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800317-02 LCS

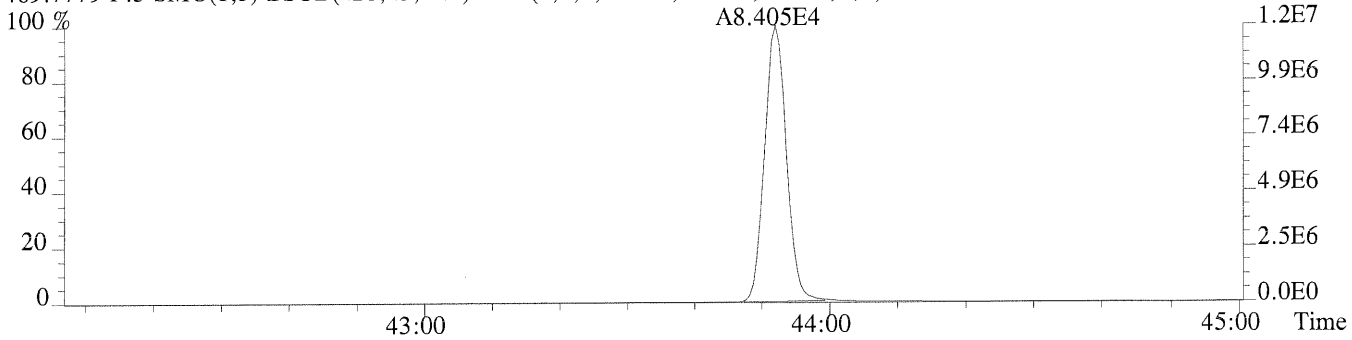
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2824.0,0.40%,F,F)



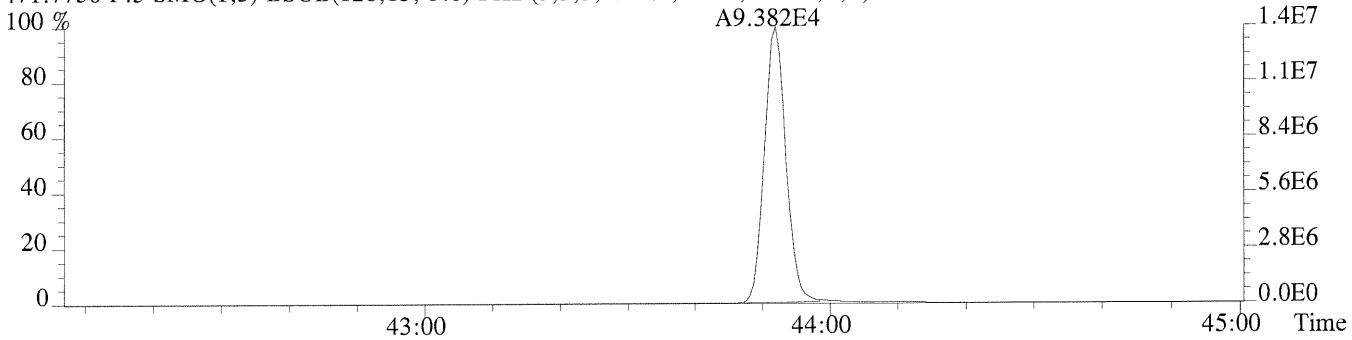
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2496.0,0.40%,F,F)



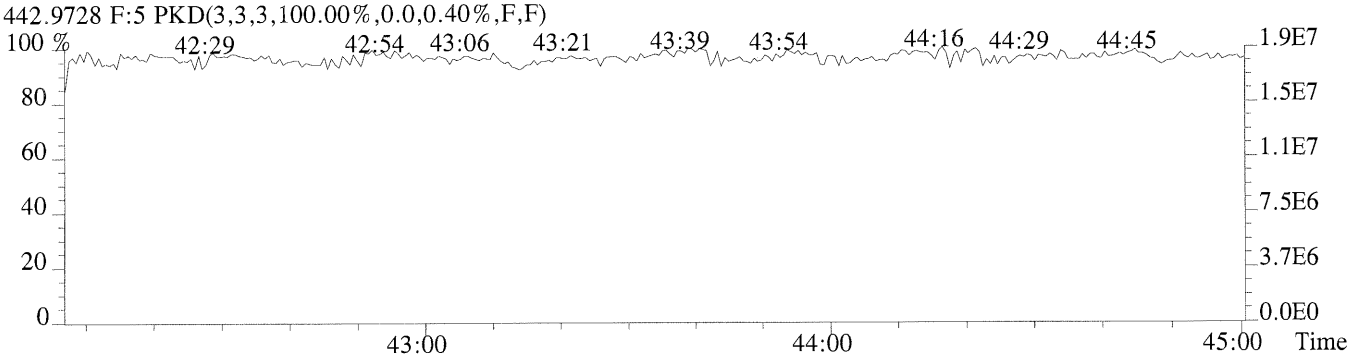
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1188.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,964.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
LCS

Run #7 Filename P200054 Samp: 1 Inj: 1 Acquired: 7-AUG-08 08:40:44
Processed: 13-AUG-08 13:36:41 LAB. ID: EQ0800319-02

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:36	6.019e+02	7.194e+02	0.84	yes	no	0.831
2	Unk	1,2,3,7,8-PeCDF	32:58	2.167e+03	1.438e+03	1.51	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:43	2.232e+03	1.467e+03	1.52	yes	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:32	1.924e+03	1.545e+03	1.24	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:38	2.143e+03	1.624e+03	1.32	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:07	1.749e+03	1.308e+03	1.34	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:49	1.433e+03	1.131e+03	1.27	yes	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:15	1.319e+03	1.257e+03	1.05	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:34	1.167e+03	1.085e+03	1.08	yes	no	0.966
10	Unk	OCDF	43:21	1.447e+03	1.575e+03	0.92	yes	no	1.109
11	Unk	2,3,7,8-TCDD	29:26	5.168e+02	6.958e+02	0.74	yes	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:04	1.693e+03	1.043e+03	1.62	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:14	1.770e+03	1.378e+03	1.28	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:18	1.685e+03	1.363e+03	1.24	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:35	1.350e+03	1.111e+03	1.22	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	9.376e+02	8.508e+02	1.10	yes	no	0.883
17	Unk	OCDD	43:11	1.093e+03	1.220e+03	0.90	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:35	2.466e+03	3.389e+03	0.73	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:58	3.929e+03	2.637e+03	1.49	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:31	4.035e+03	8.018e+03	0.50	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	2.261e+03	5.170e+03	0.44	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:25	2.058e+03	2.703e+03	0.76	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:03	3.071e+03	1.937e+03	1.59	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	6.983e+03	5.596e+03	1.25	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	3.893e+03	3.794e+03	1.03	yes	no	0.831
26	IS	13C-OCDD	43:11	4.074e+03	4.463e+03	0.91	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:13	2.974e+03	3.800e+03	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	4.096e+03	3.289e+03	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:26	4.128e+03					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	28:36		1.323e+03	0.84	yes		0.831
31	Tot	Total Tetra-Dioxins	28:07		1.221e+03	0.67	yes		0.921
32	Tot	Total Penta-Furans	32:38		7.314e+03	1.49	yes		0.845
33	Tot	Total Penta-Dioxins	32:58		2.741e+03	1.35	yes		0.872
34	Tot	Total Hexa-Furans	36:32		1.286e+04	1.24	yes		1.023
35	Tot	Total Hexa-Dioxins	37:14		8.657e+03	1.28	yes		0.985
36	Tot	Total Hepta-Furans	39:15		4.828e+03	1.05	yes		1.142
37	Tot	Total Hepta-Dioxins	40:10		1.788e+03	1.10	yes		0.883

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary LCS

Run #7 Filename P200054 #1 Samp: 1 Inj: 1 Acquired: 7-AUG-08 08:40:44

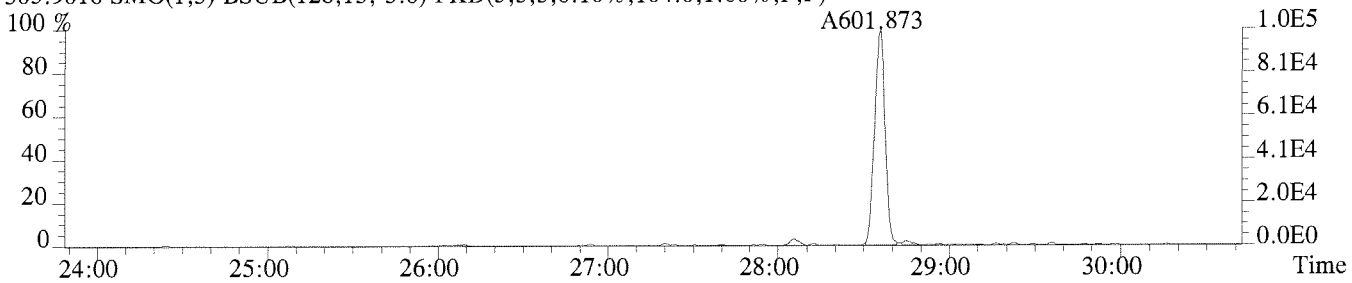
Processed: 13-AUG-08 13:36:41 LAB. ID: EQ0800319-02

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.01e+05	1.04e+02	9.8e+02	1.21e+05	8.80e+01	1.4e+03
2	1,2,3,7,8-PeCDF	4.24e+05	1.28e+02	3.3e+03	2.73e+05	1.32e+02	2.1e+03
3	2,3,4,7,8-PeCDF	4.55e+05	1.28e+02	3.6e+03	2.96e+05	1.32e+02	2.2e+03
4	1,2,3,4,7,8-HxCDF	4.35e+05	6.80e+01	6.4e+03	3.47e+05	8.40e+01	4.1e+03
5	1,2,3,6,7,8-HxCDF	4.40e+05	6.80e+01	6.5e+03	3.24e+05	8.40e+01	3.9e+03
6	2,3,4,6,7,8-HxCDF	3.78e+05	6.80e+01	5.6e+03	2.80e+05	8.40e+01	3.3e+03
7	1,2,3,7,8,9-HxCDF	2.73e+05	6.80e+01	4.0e+03	2.26e+05	8.40e+01	2.7e+03
8	1,2,3,4,6,7,8-HpCDF	2.80e+05	7.60e+01	3.7e+03	2.74e+05	6.00e+01	4.6e+03
9	1,2,3,4,7,8,9-HpCDF	2.26e+05	7.60e+01	3.0e+03	2.13e+05	6.00e+01	3.6e+03
10	OCDF	2.10e+05	8.80e+01	2.4e+03	2.20e+05	6.80e+01	3.2e+03
11	2,3,7,8-TCDD	9.44e+04	8.40e+01	1.1e+03	1.34e+05	7.20e+01	1.9e+03
12	1,2,3,7,8-PeCDD	3.43e+05	8.40e+01	4.1e+03	2.04e+05	8.80e+01	2.3e+03
13	1,2,3,4,7,8-HxCDD	3.91e+05	1.00e+02	3.9e+03	3.00e+05	7.20e+01	4.2e+03
14	1,2,3,6,7,8-HxCDD	3.70e+05	1.00e+02	3.7e+03	2.90e+05	7.20e+01	4.0e+03
15	1,2,3,7,8,9-HxCDD	2.89e+05	1.00e+02	2.9e+03	2.38e+05	7.20e+01	3.3e+03
16	1,2,3,4,6,7,8-HpCDD	1.79e+05	7.60e+01	2.4e+03	1.63e+05	1.16e+02	1.4e+03
17	OCDD	1.60e+05	1.16e+02	1.4e+03	1.81e+05	7.20e+01	2.5e+03
18	13C-2,3,7,8-TCDF	4.35e+05	1.28e+02	3.4e+03	5.91e+05	8.00e+01	7.4e+03
19	13C-1,2,3,7,8-PeCDF	7.68e+05	9.20e+01	8.3e+03	4.93e+05	8.00e+01	6.2e+03
20	13C-1,2,3,4,7,8-HxCDF	8.79e+05	1.16e+02	7.6e+03	1.76e+06	1.28e+02	1.4e+04
21	13C-1,2,3,4,6,7,8-HpCDF	4.71e+05	2.56e+02	1.8e+03	1.10e+06	8.80e+01	1.2e+04
22	13C-2,3,7,8-TCDD	3.80e+05	1.28e+02	3.0e+03	4.85e+05	8.00e+01	6.1e+03
23	13C-1,2,3,7,8-PeCDD	6.32e+05	1.12e+02	5.6e+03	3.88e+05	9.60e+01	4.0e+03
24	13C-1,2,3,6,7,8-HxCDD	1.56e+06	8.80e+01	1.8e+04	1.25e+06	1.24e+02	1.0e+04
25	13C-1,2,3,4,6,7,8-HpCDD	7.51e+05	7.60e+01	9.9e+03	7.44e+05	1.12e+02	6.6e+03
26	13C-OCDD	6.09e+05	8.00e+01	7.6e+03	6.46e+05	1.04e+02	6.2e+03
27	13C-1,2,3,4-TCDD	5.39e+05	1.28e+02	4.2e+03	6.76e+05	8.00e+01	8.5e+03
28	13C-1,2,3,7,8,9-HxCDD	8.46e+05	8.80e+01	9.6e+03	7.13e+05	1.24e+02	5.8e+03
29	37Cl-2,3,7,8-TCDD	7.41e+05	1.04e+02	7.1e+03			

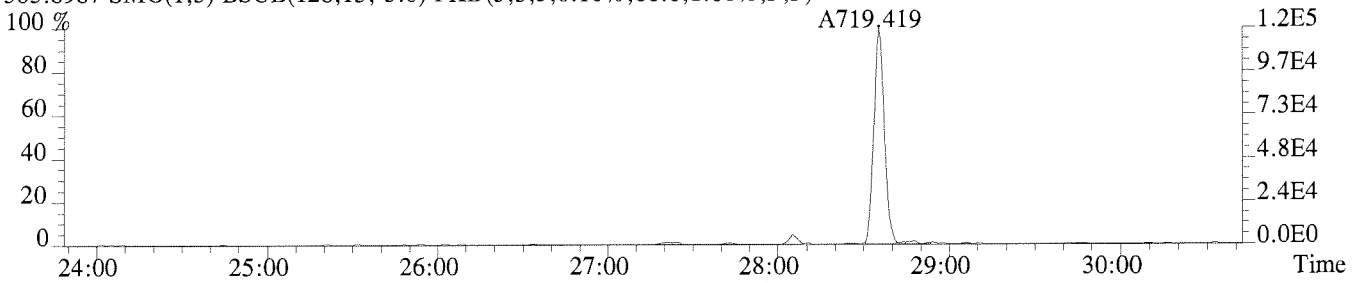
Columbia Analytical Services, Inc.
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Office:(713)266-1599. Fax:(713)266-0130

File:P200054 #1-575 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

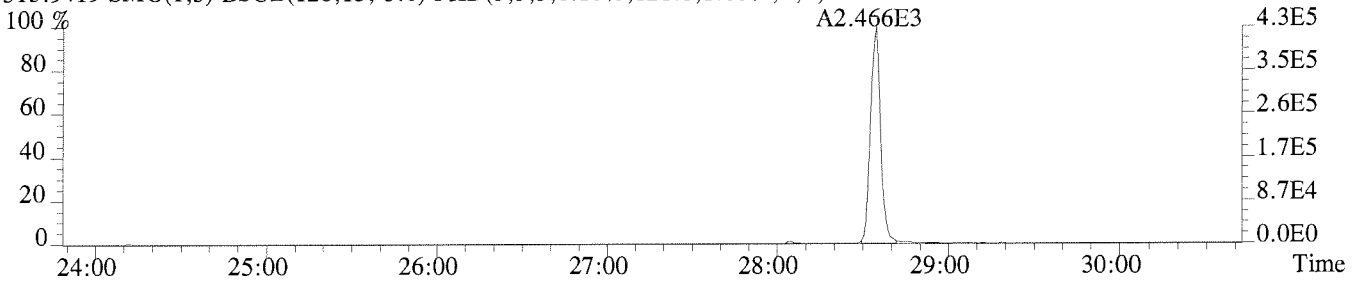
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,104.0,1.00%,F,F)



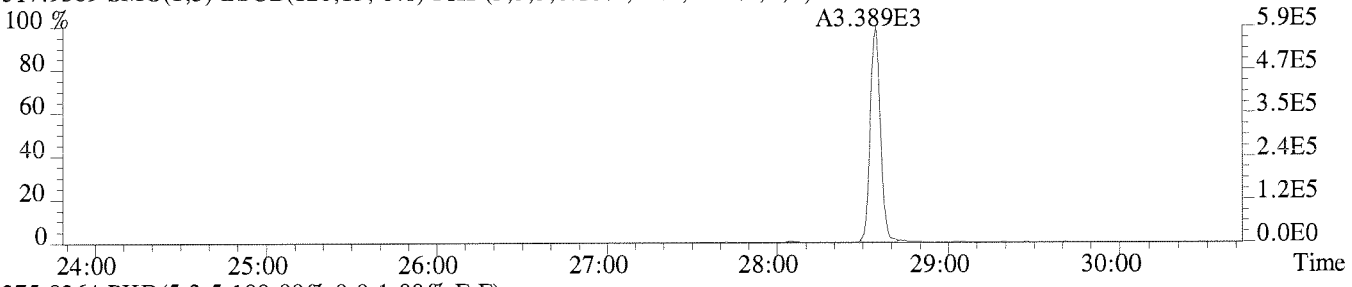
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



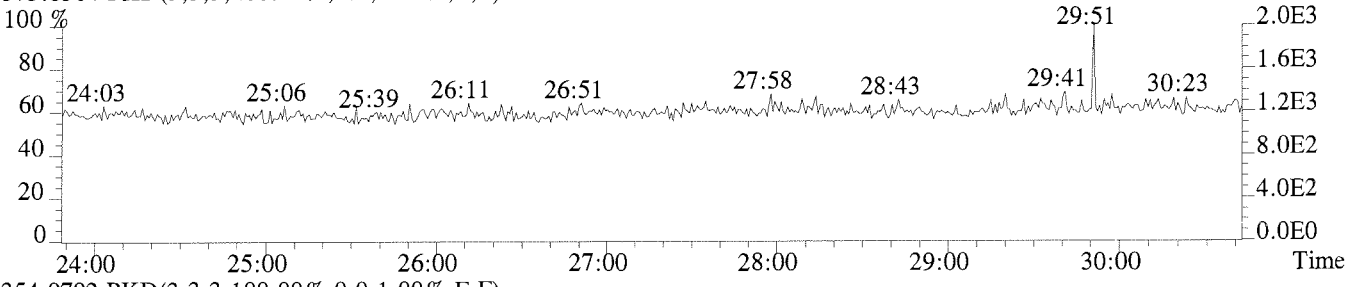
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)



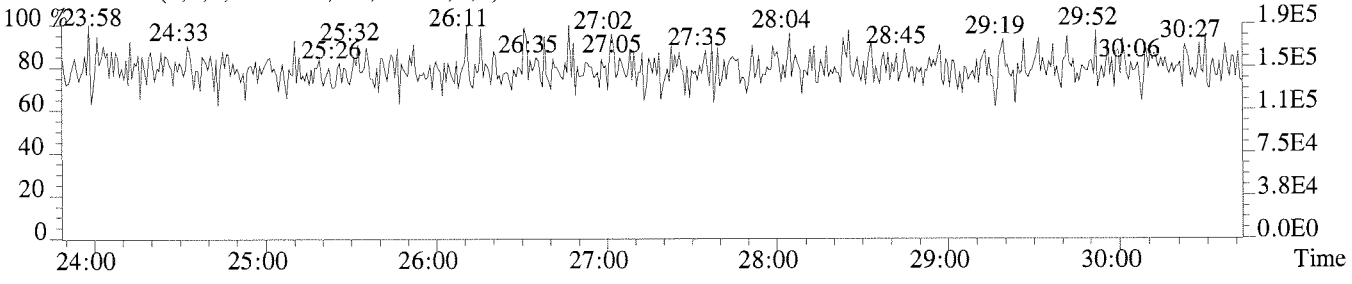
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



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

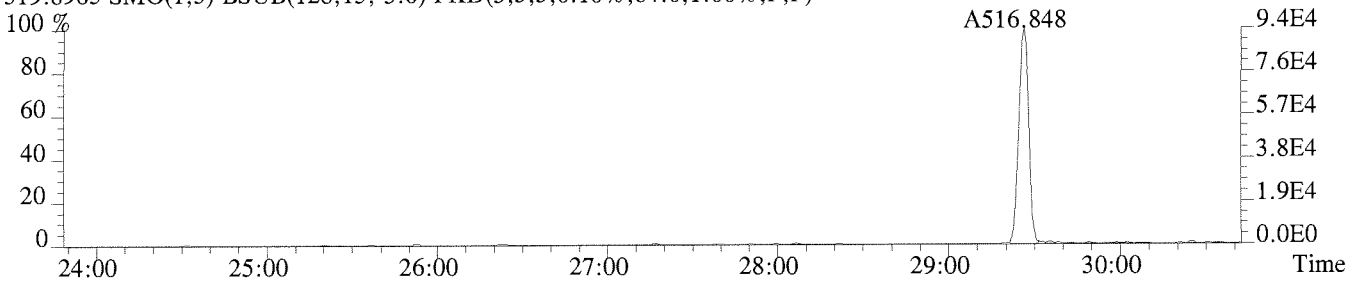


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

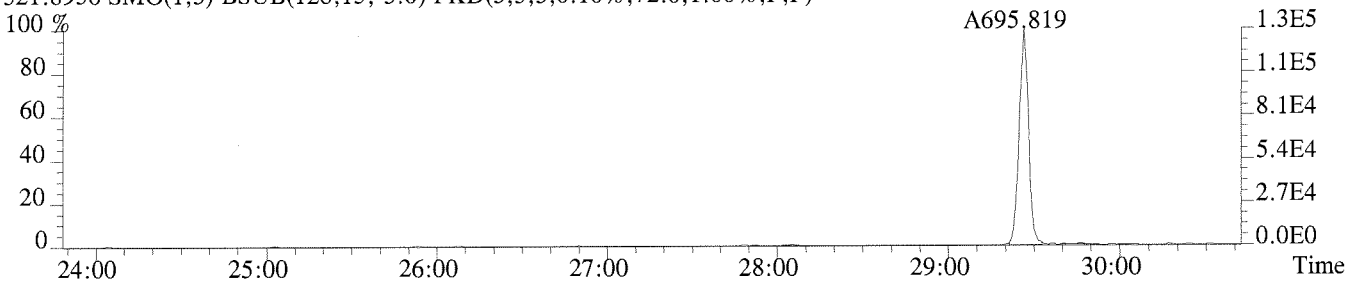


File:P200054 #1-575 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

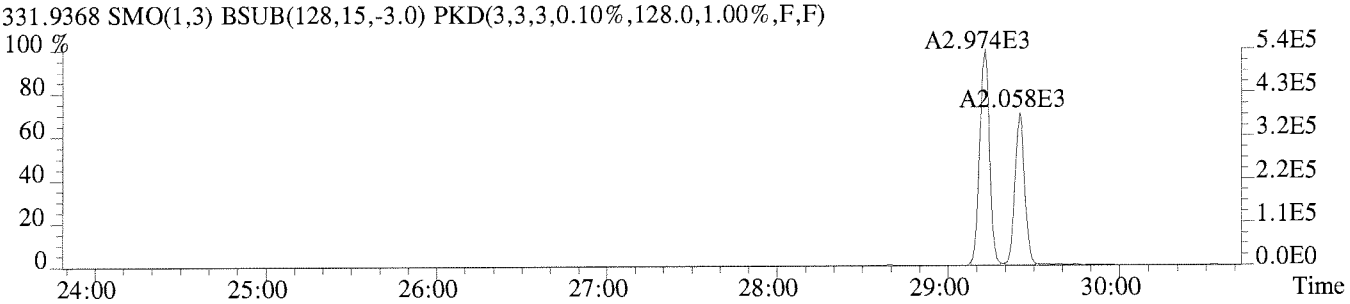
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,84.0,1.00%,F,F)



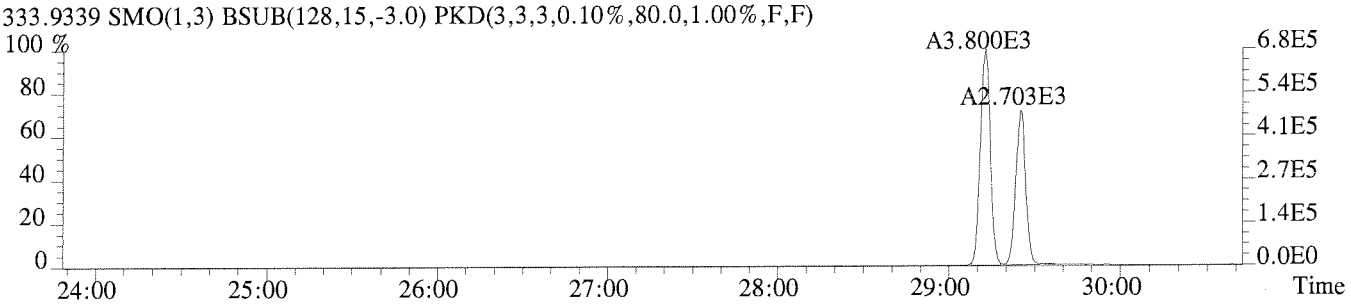
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,72.0,1.00%,F,F)



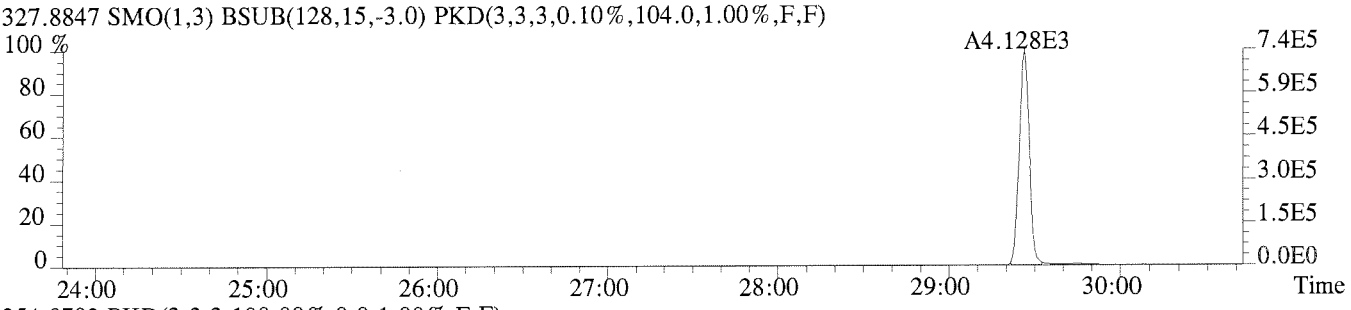
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)



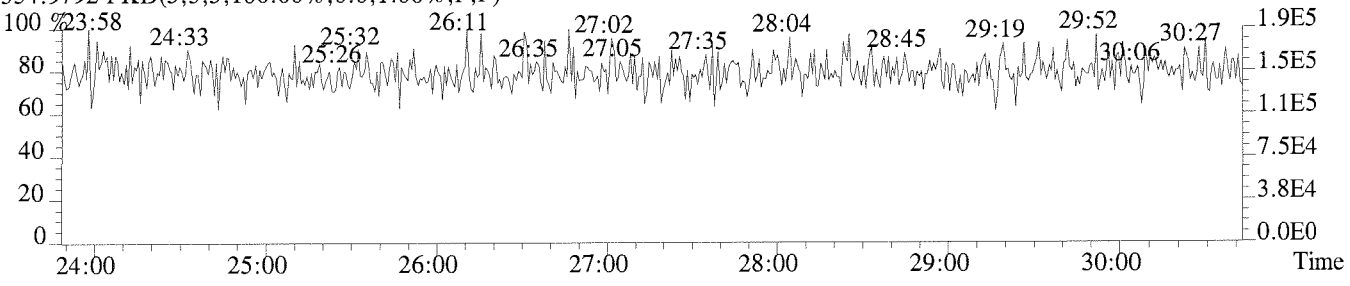
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,104.0,1.00%,F,F)

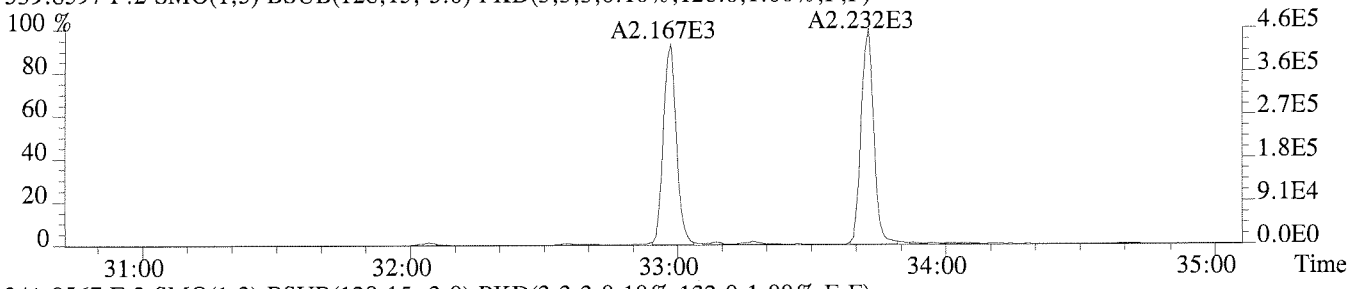


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

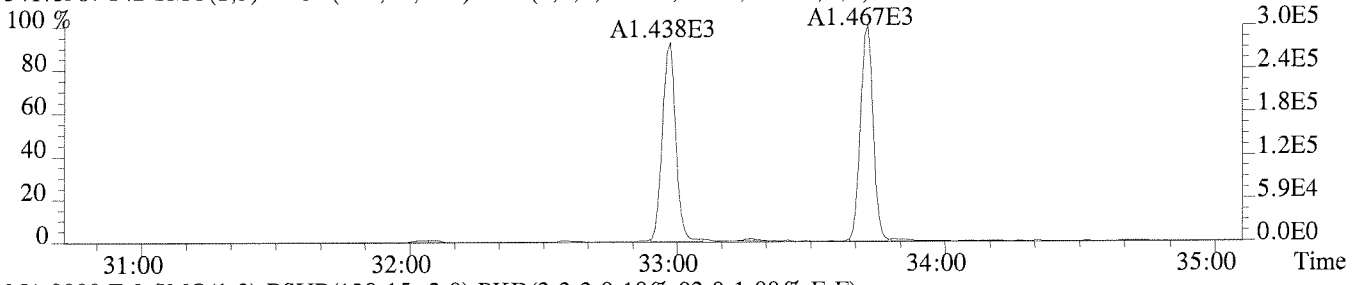


File:P200054 #1-399 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

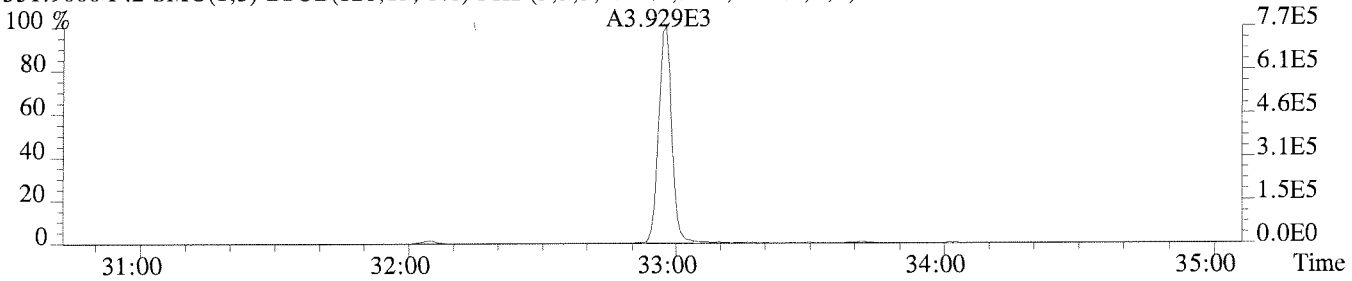
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)



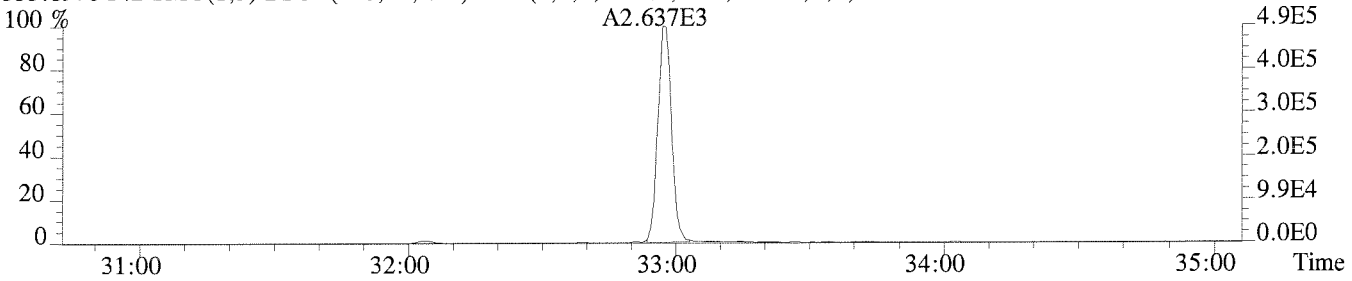
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,F)



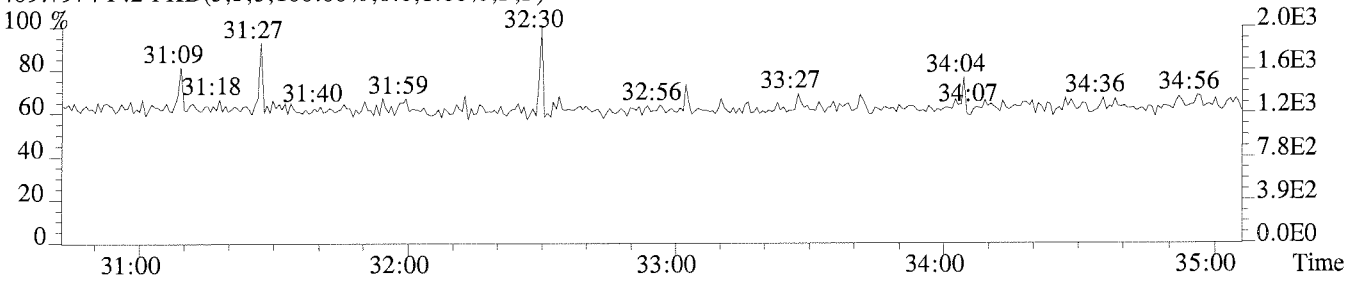
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,F)



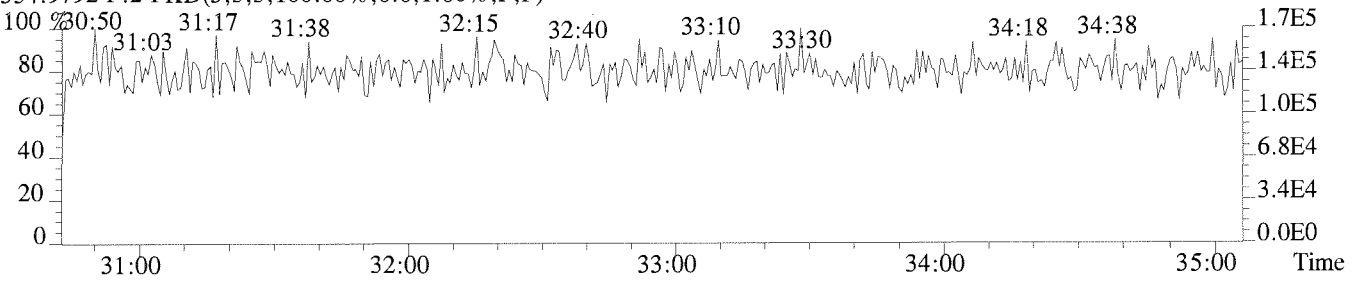
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



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

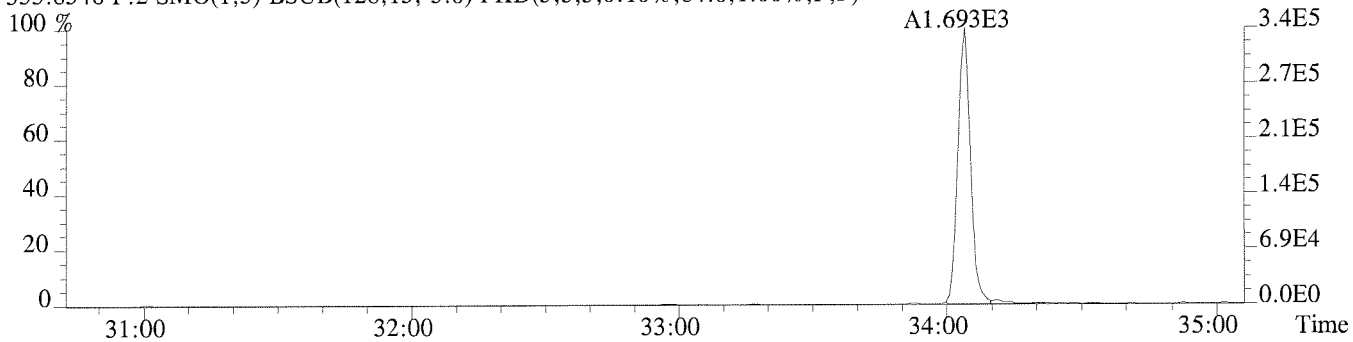


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

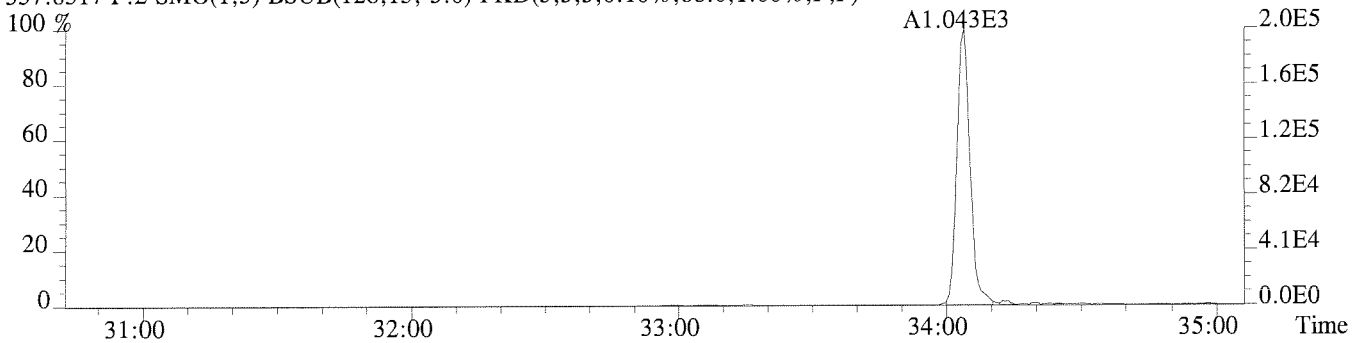


File:P200054 #1-399 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

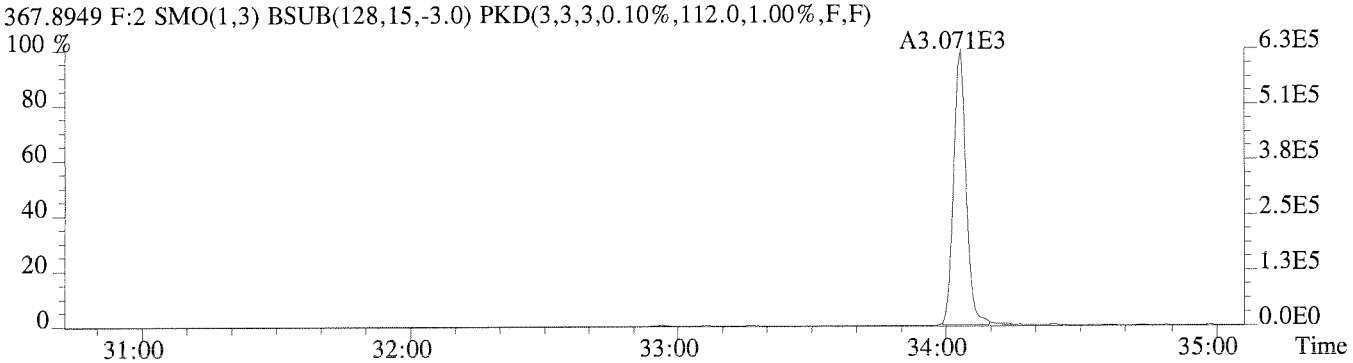
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,84.0,1.00%,F,F)



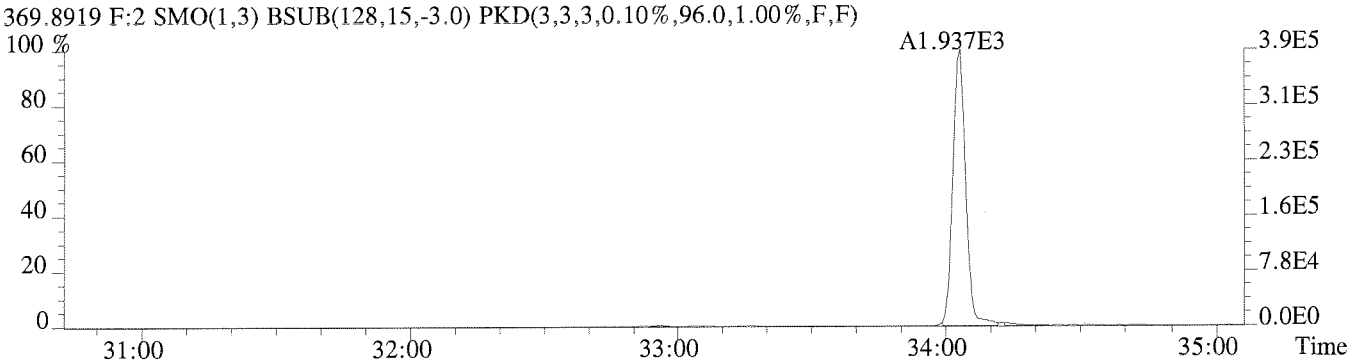
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



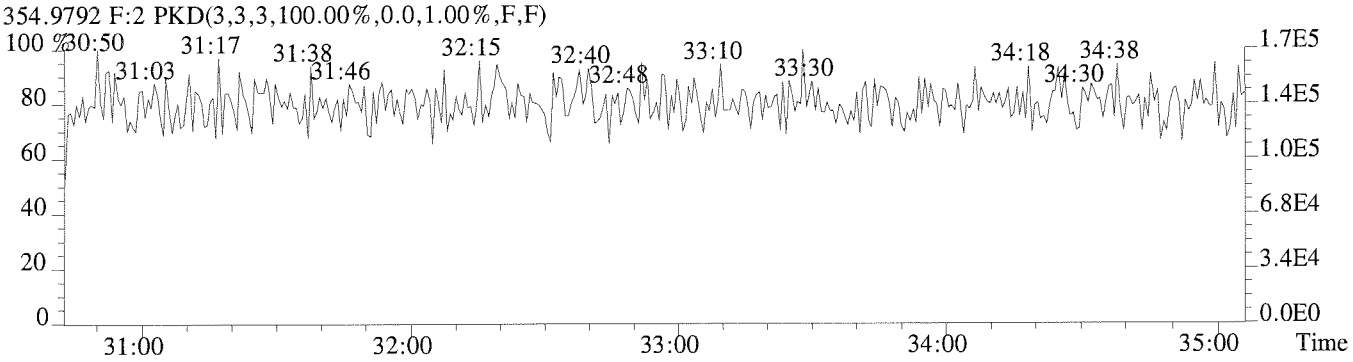
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,F)

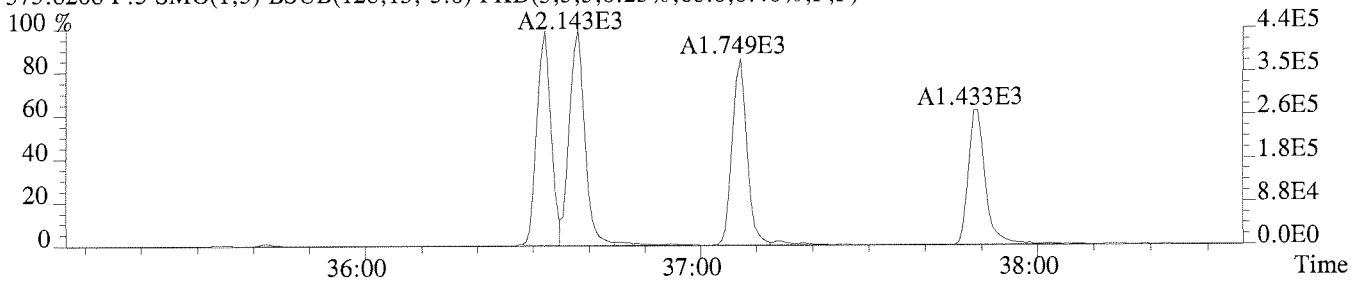


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

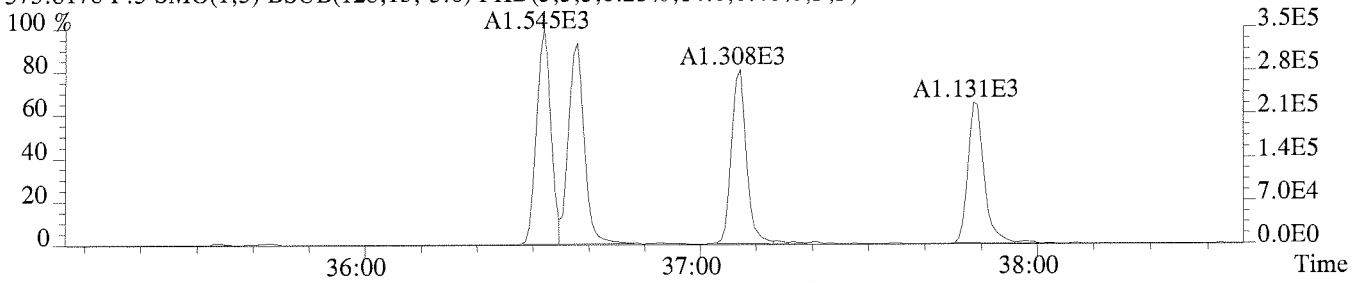


File:P200054 #1-318 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

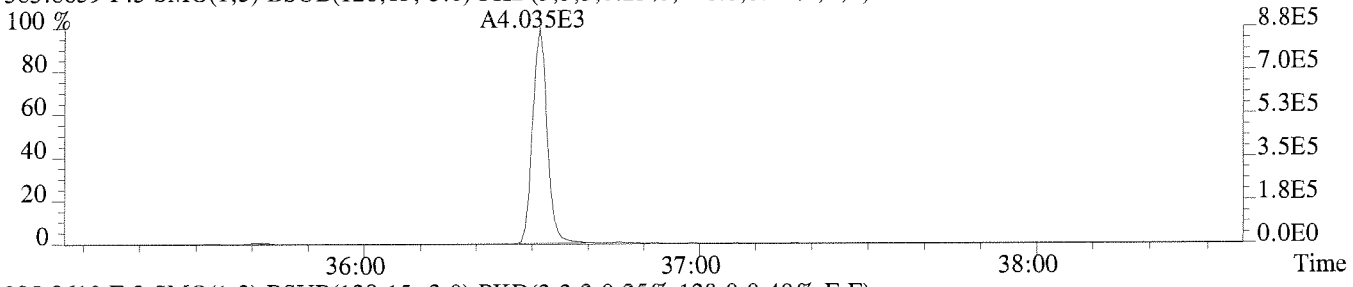
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,F)



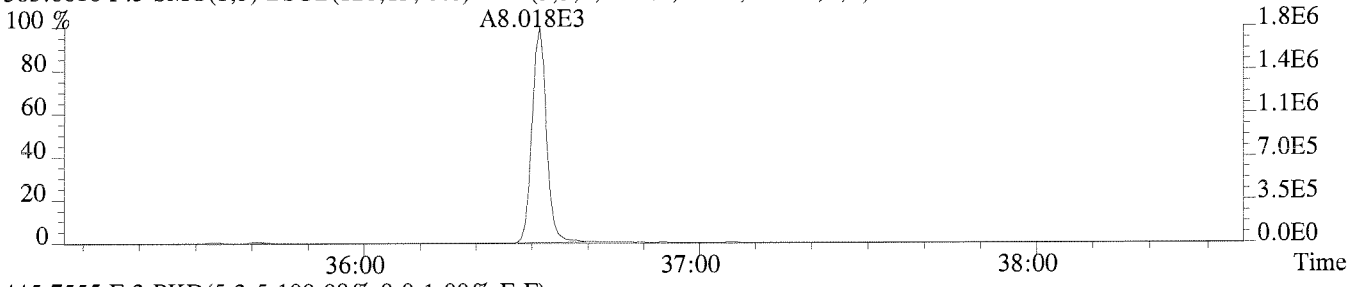
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,F)



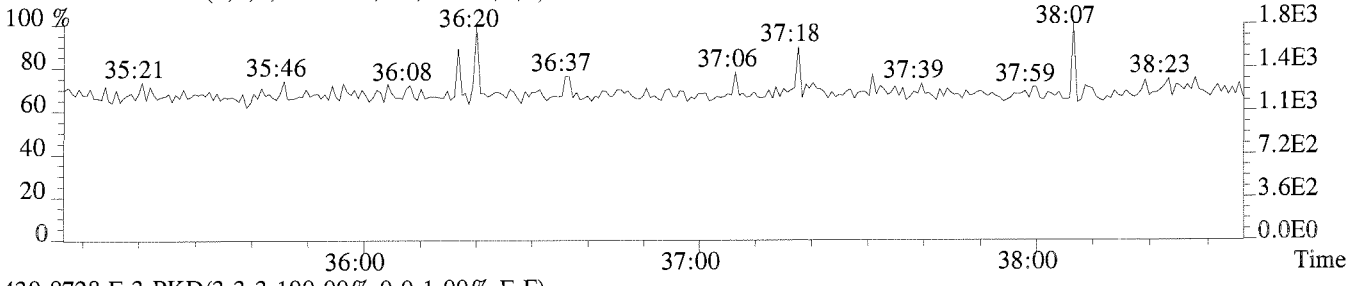
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)



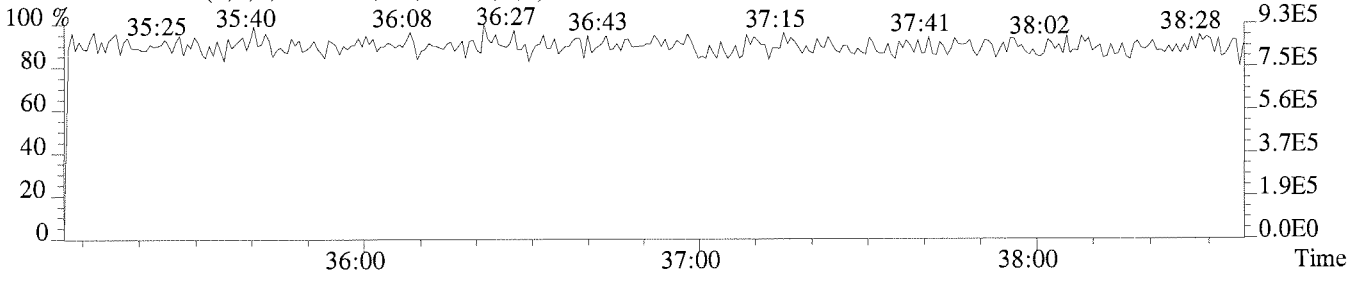
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,128.0,0.40%,F,F)



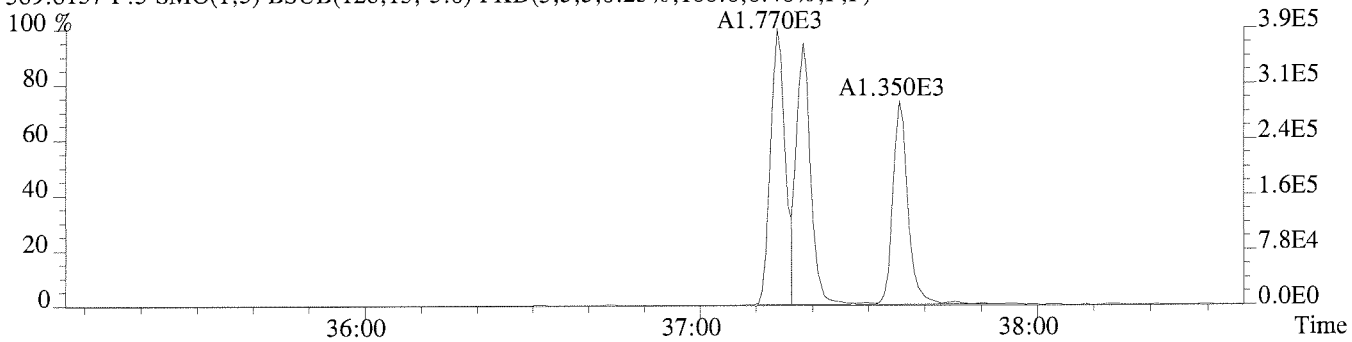
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



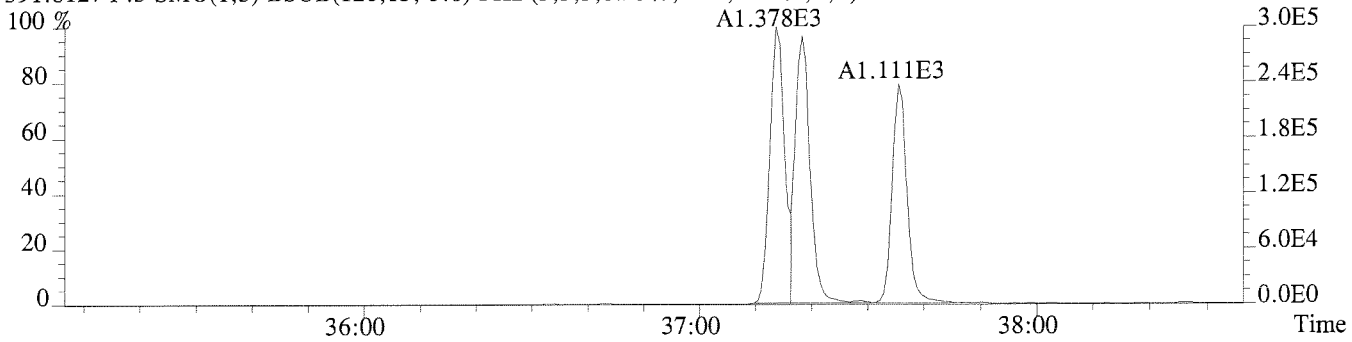
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



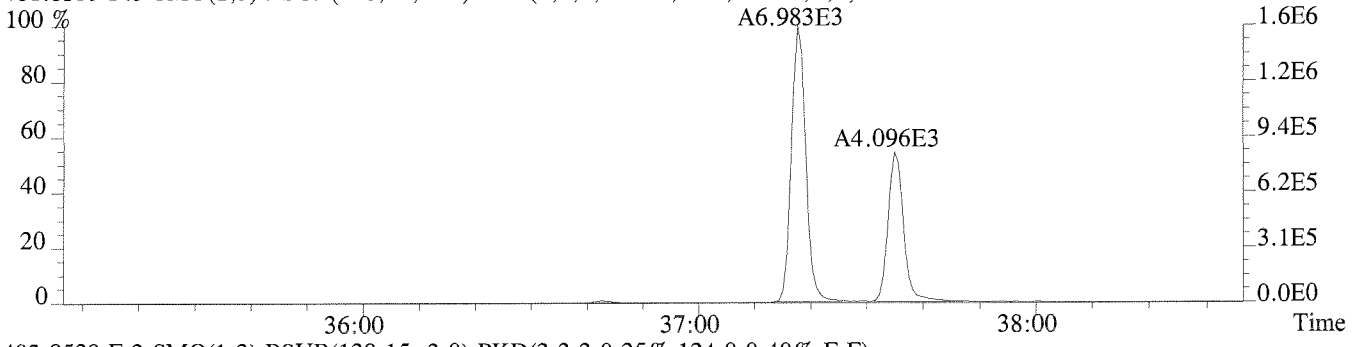
File:P200054 #1-318 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,F)



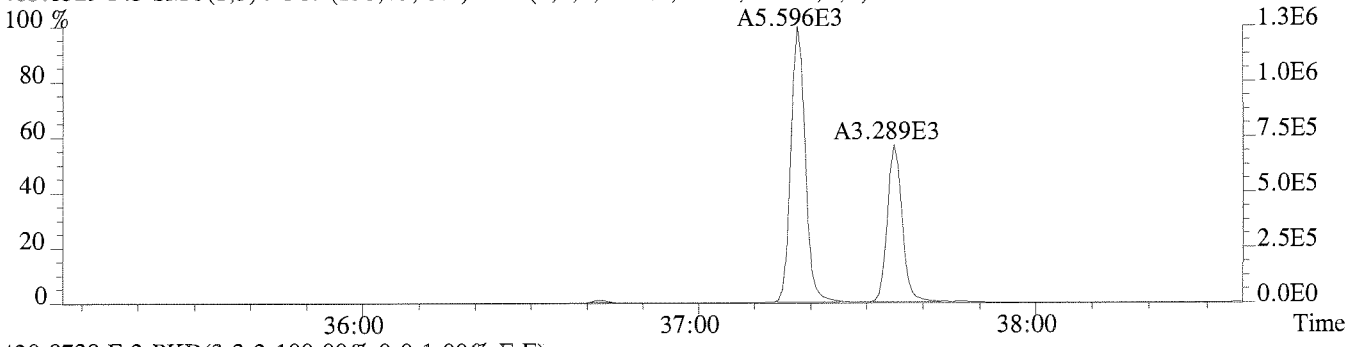
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,F)



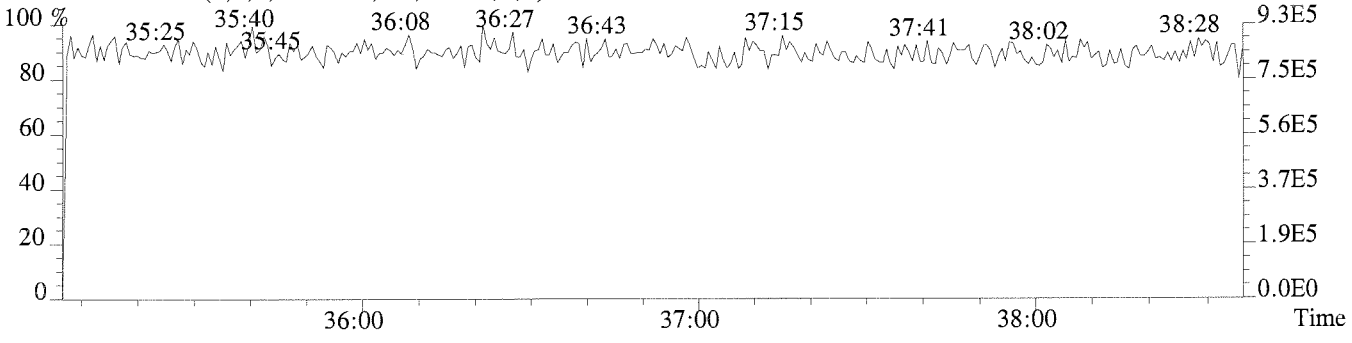
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,124.0,0.40%,F,F)

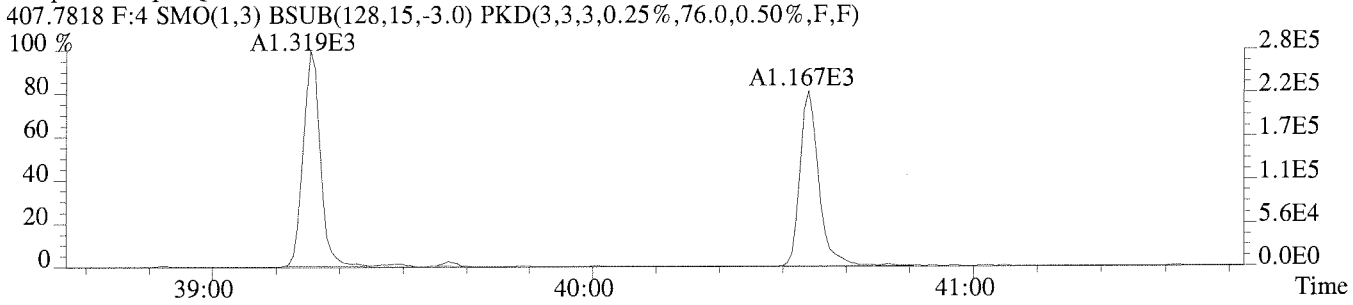


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

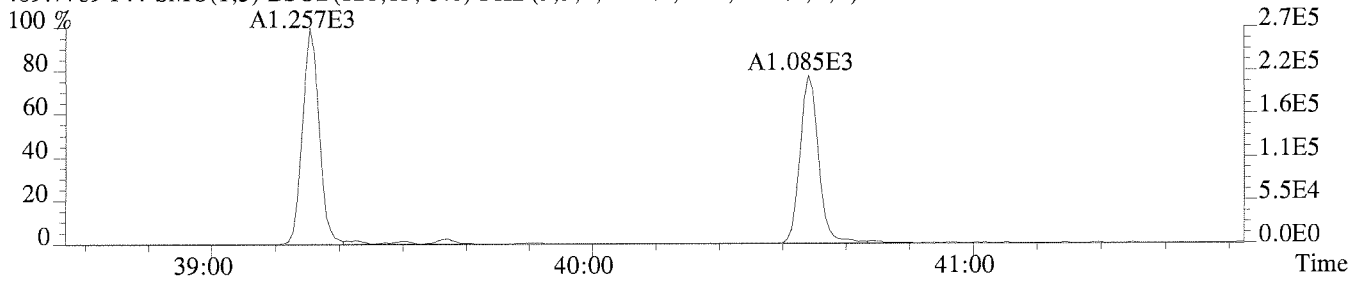


File:P200054 #1-281 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

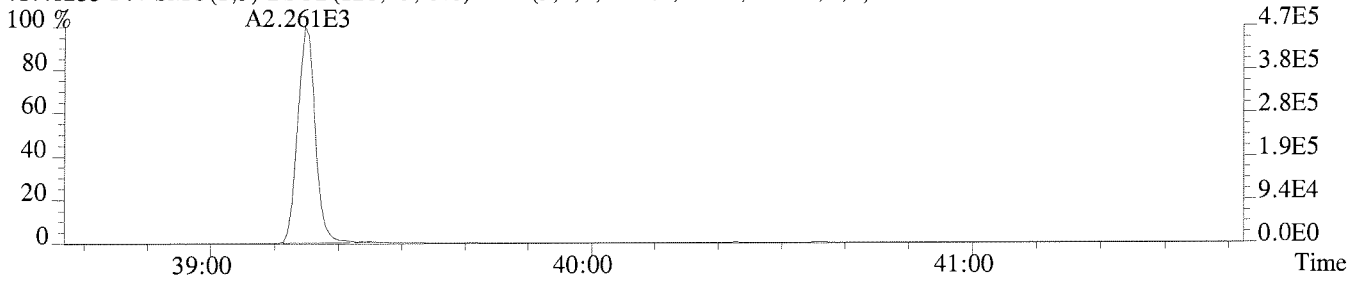
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.50%,F,F)



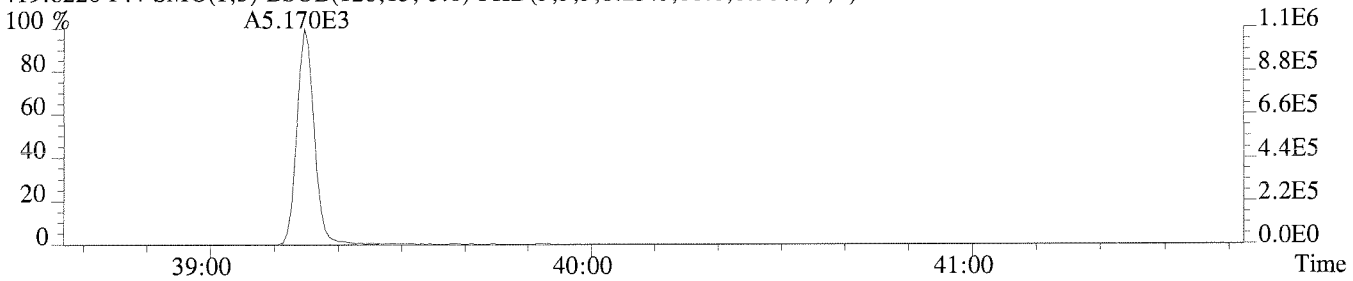
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,60.0,0.50%,F,F)



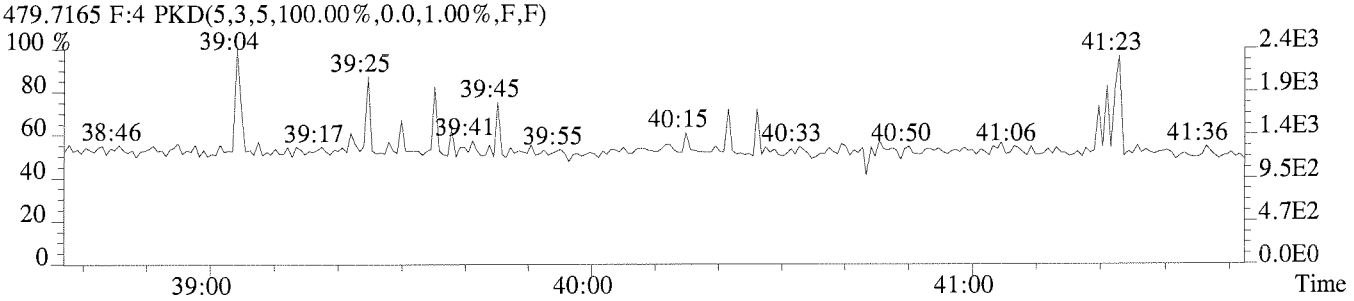
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.50%,F,F)



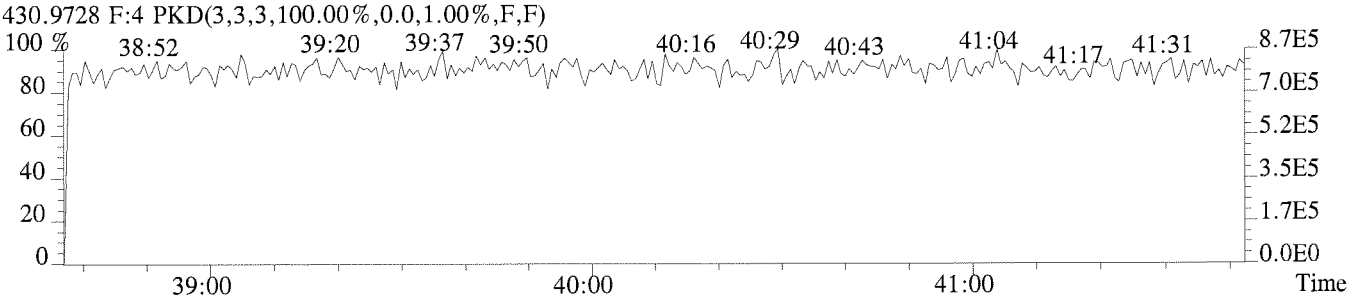
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.50%,F,F)



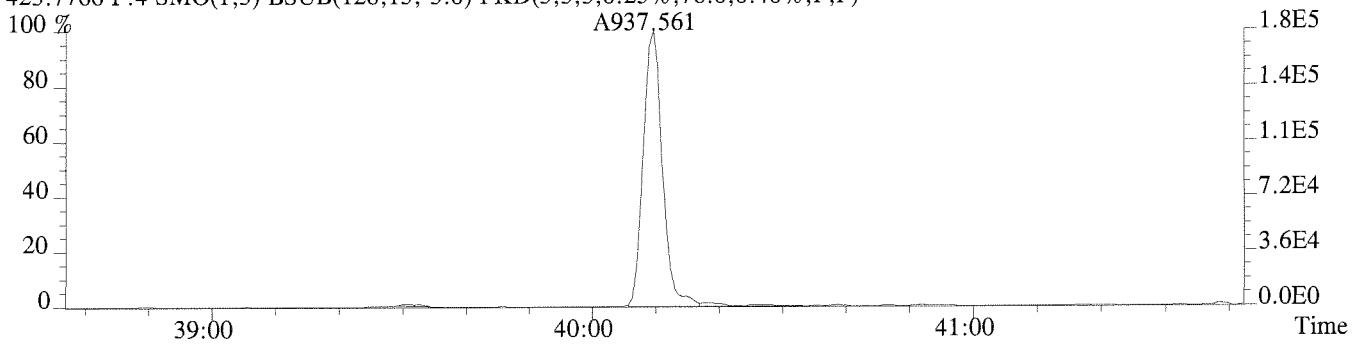
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



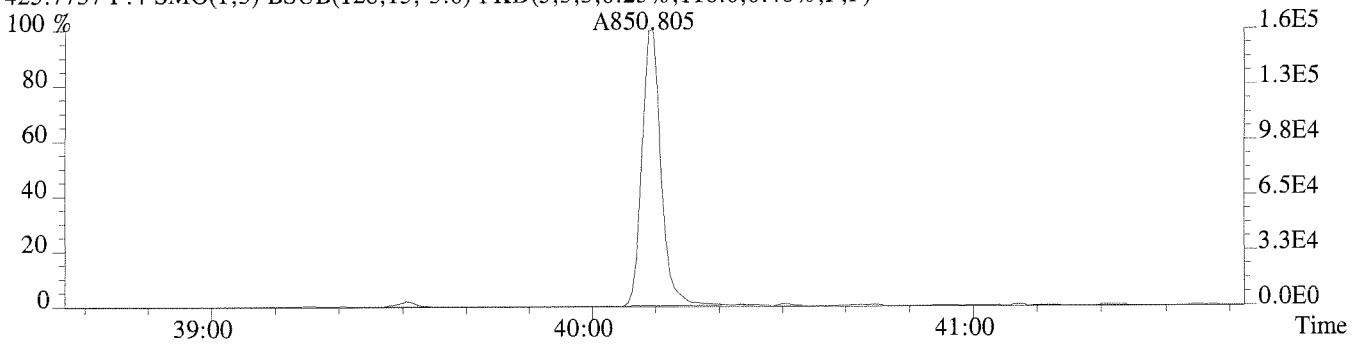
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



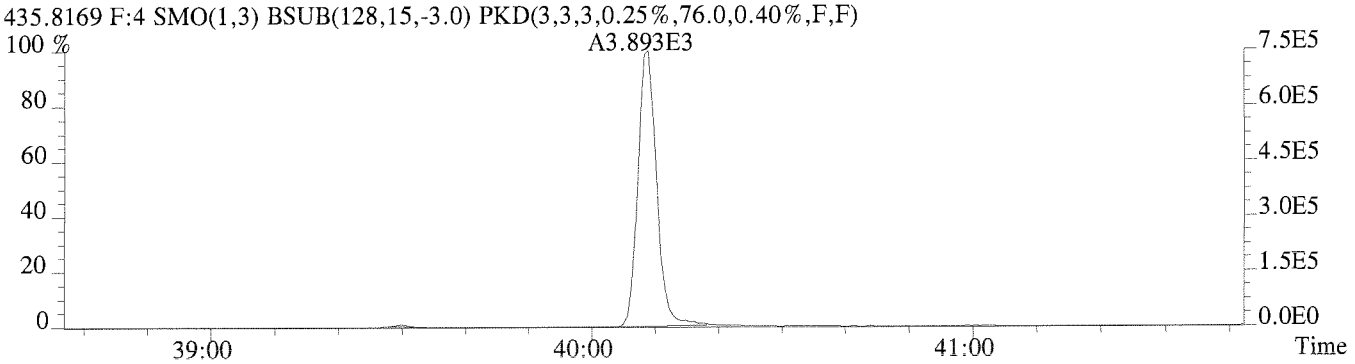
File:P200054 #1-281 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,F)



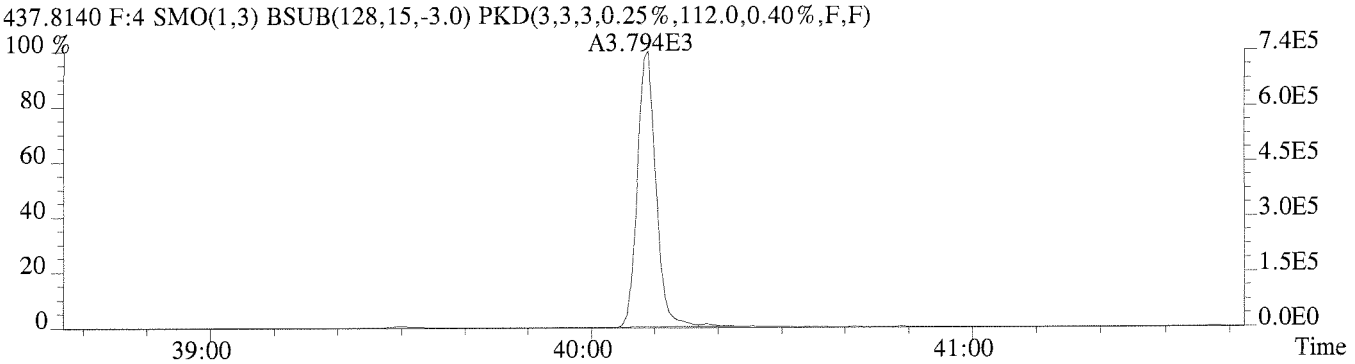
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)



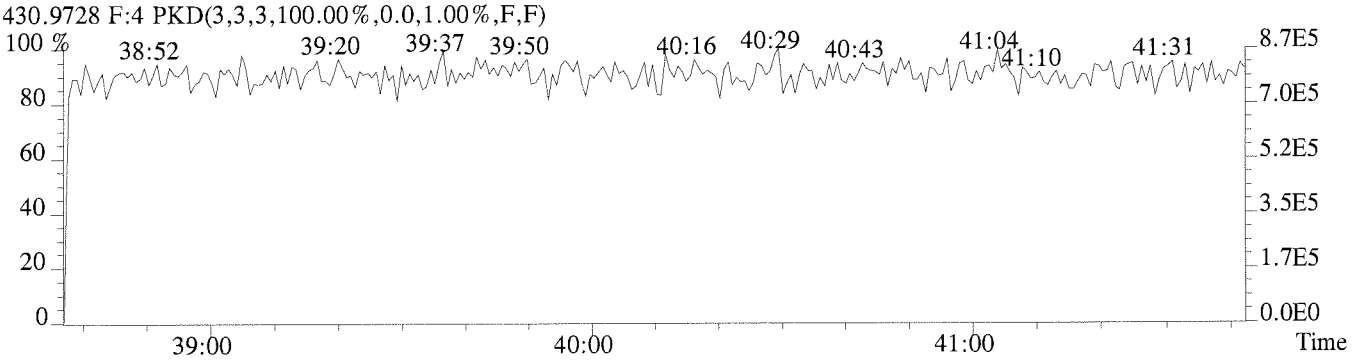
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,112.0,0.40%,F,F)

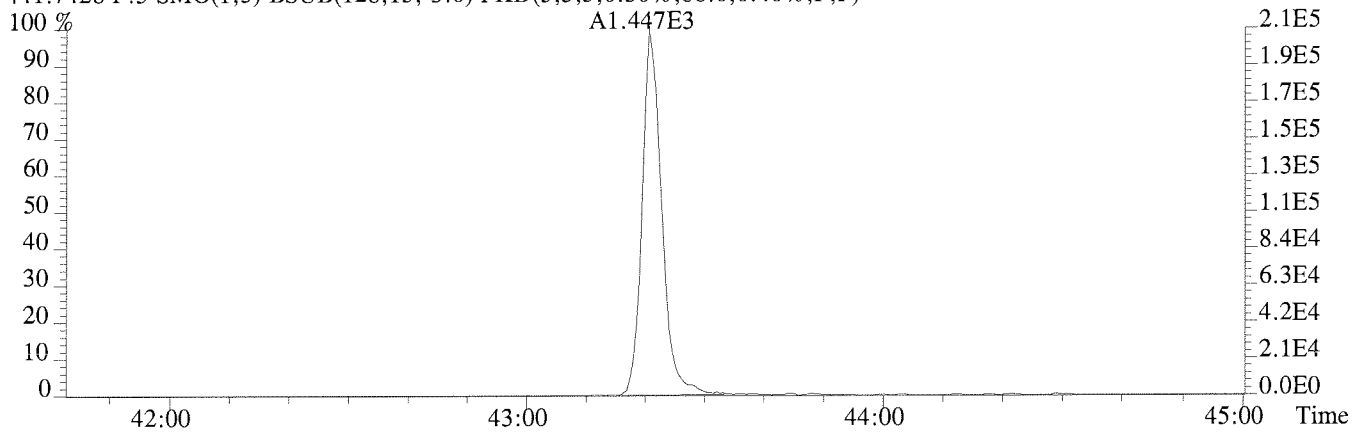


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

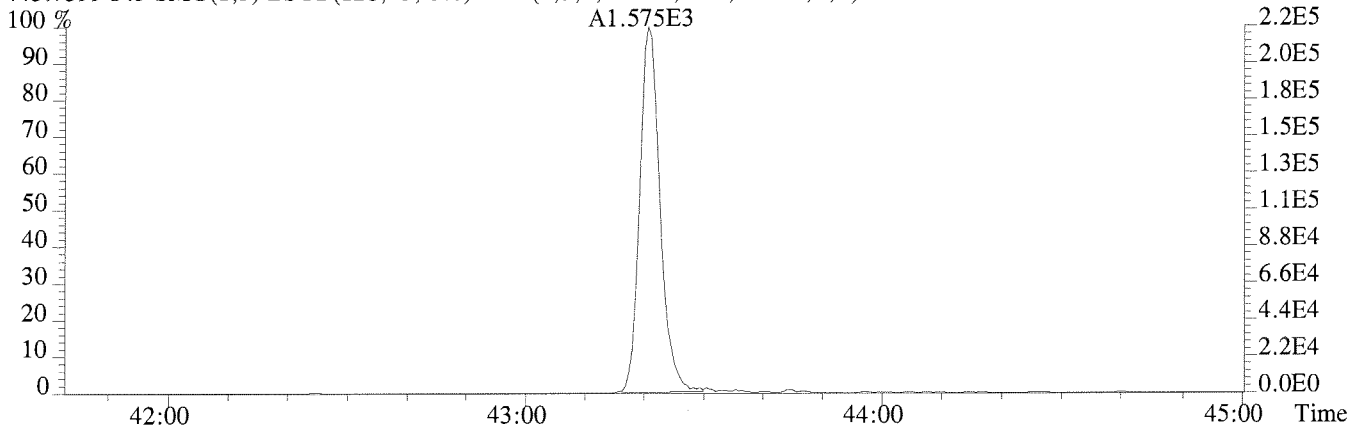


File:P200054 #1-364 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

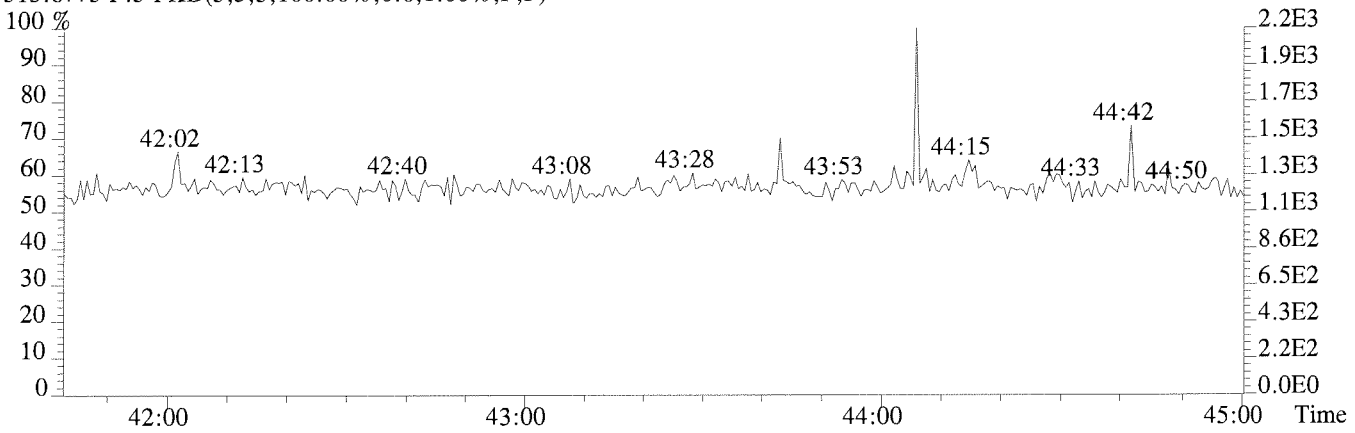
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,88.0,0.40%,F,F)



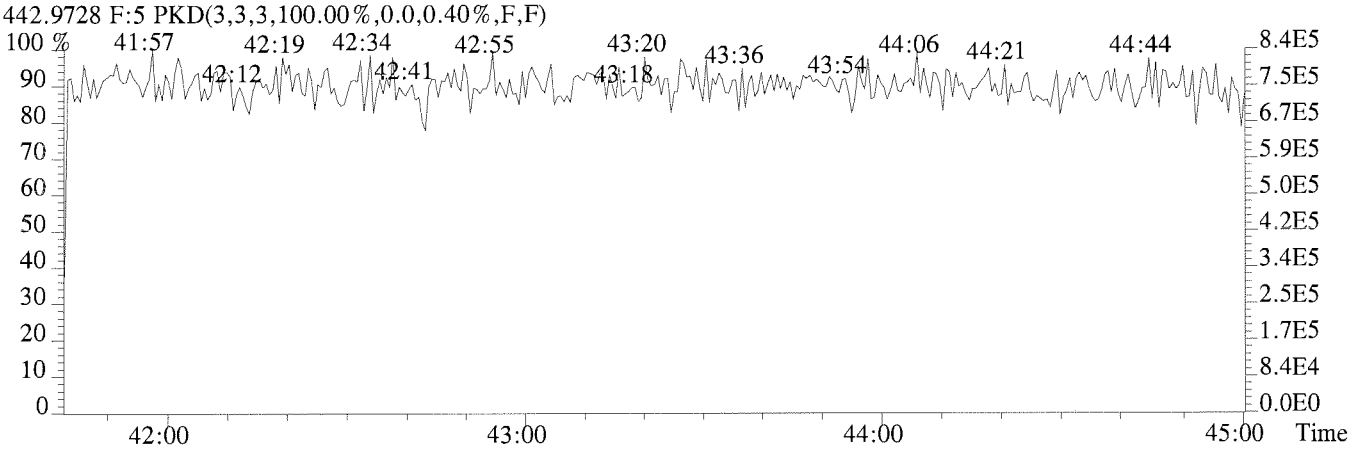
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,68.0,0.40%,F,F)



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

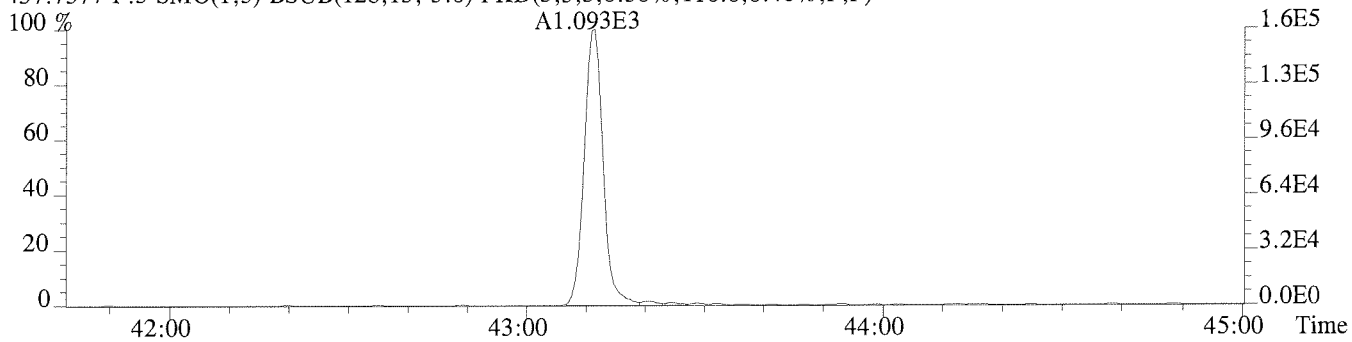


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

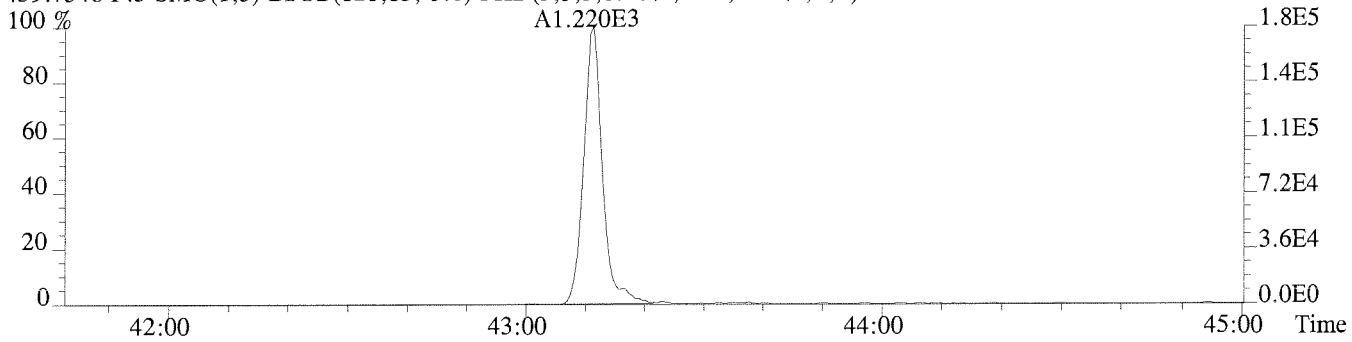


File:P200054 #1-364 Acq: 7-AUG-2008 08:40:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:EQ0800319-02 LCS

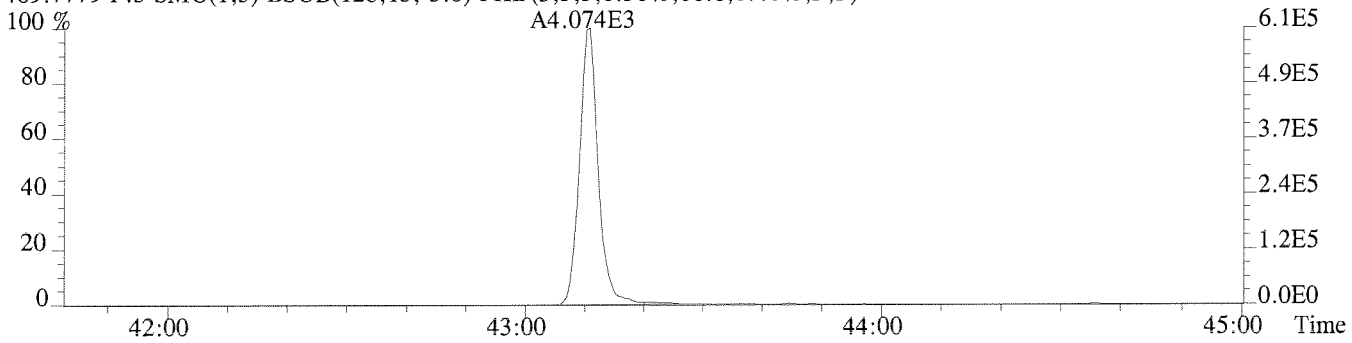
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



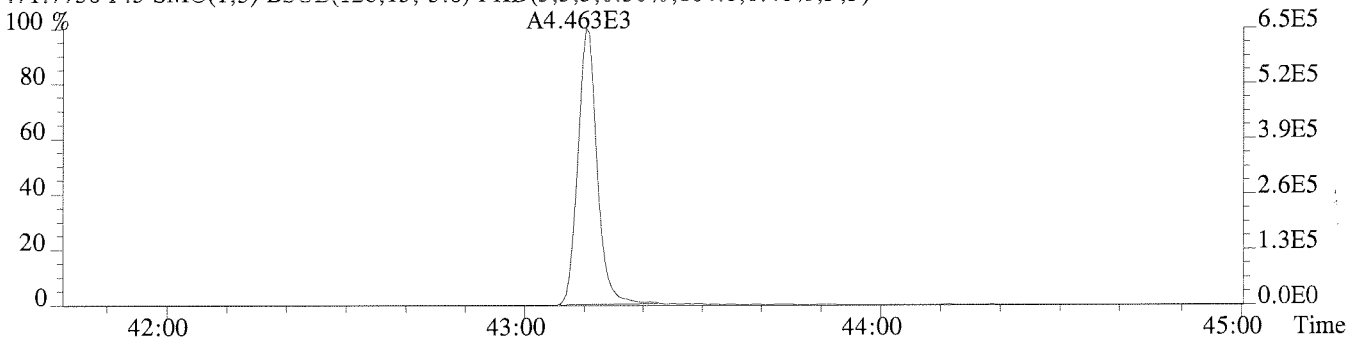
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,72.0,0.40%,F,F)



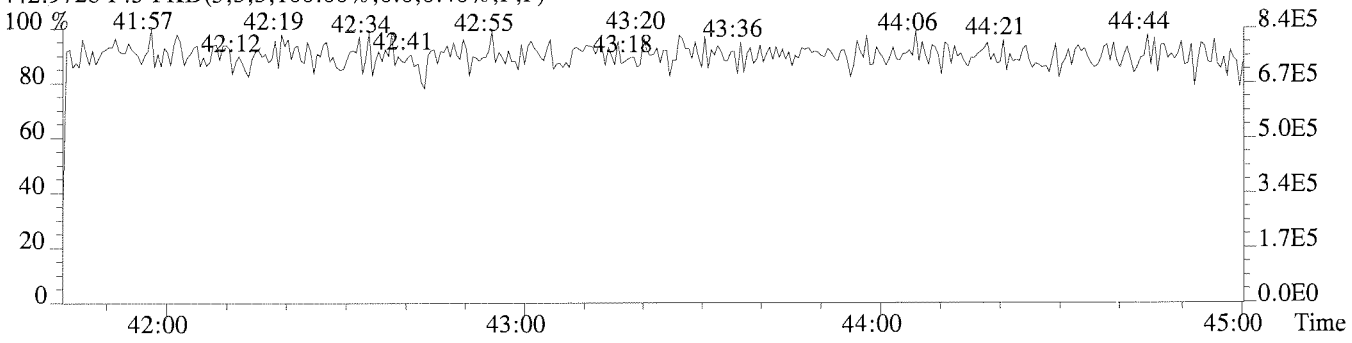
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,80.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
INST. BLANK

Run #7 Filename C15242#3 Samp: 3 Inj: 1 Acquired: 5-AUG-08 11:18:29
Processed: 6-AUG-08 16:08:46 Sample ID: INST. BLANK

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no
2	IS	13C-2,3,7,8-TCDF	18:38	1.279e+07	1.618e+07	0.79	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:40	1.314e+07	1.623e+07	0.81	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:28	2.042e+07				

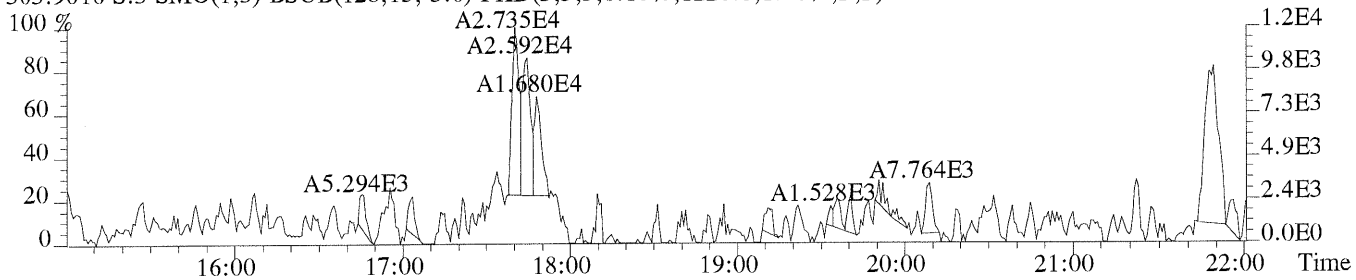
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	*	1.23e+03	*	*	2.36e+03	*
2	13C-2,3,7,8-TCDF	2.82e+06	2.58e+03	1.1e+03	3.54e+06	2.50e+03	1.4e+03
3	13C-1,2,3,4-TCDD	3.67e+06	3.52e+03	1.0e+03	4.53e+06	2.34e+03	1.9e+03
4	37Cl-2,3,7,8-TCDD	5.45e+06	2.37e+03	2.3e+03			

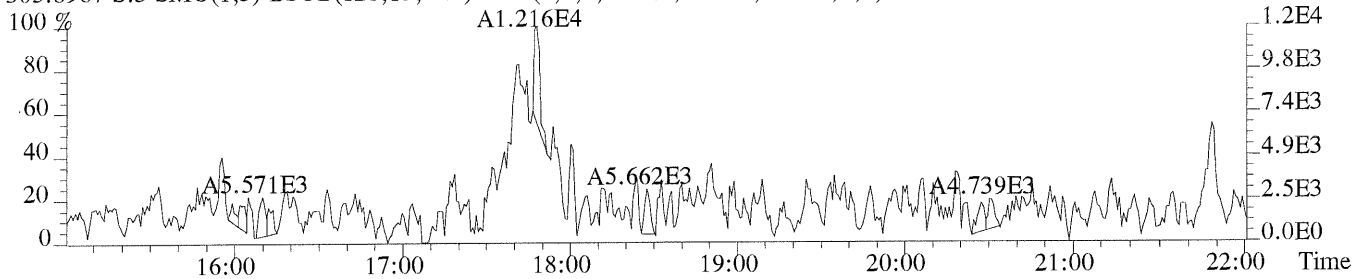
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:C15242 #1-583 Acq: 5-AUG-2008 11:18:29 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:INST. BLANK Exp:TCDF

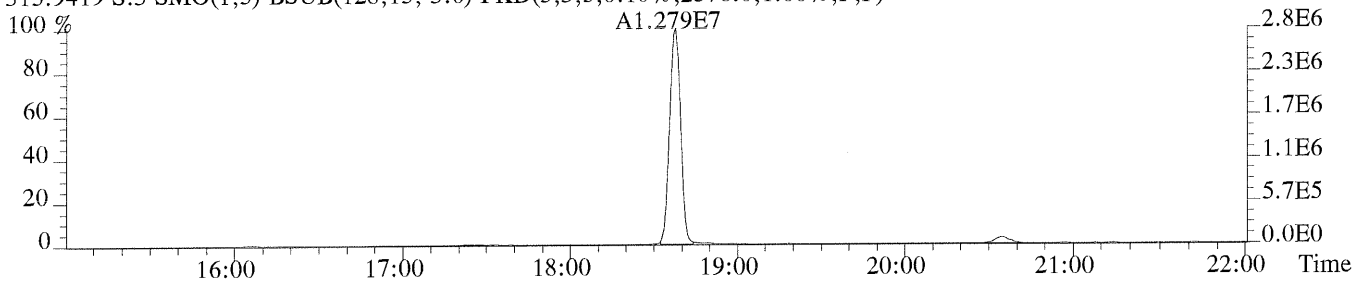
303.9016 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1228.0,1.00%,F,F)



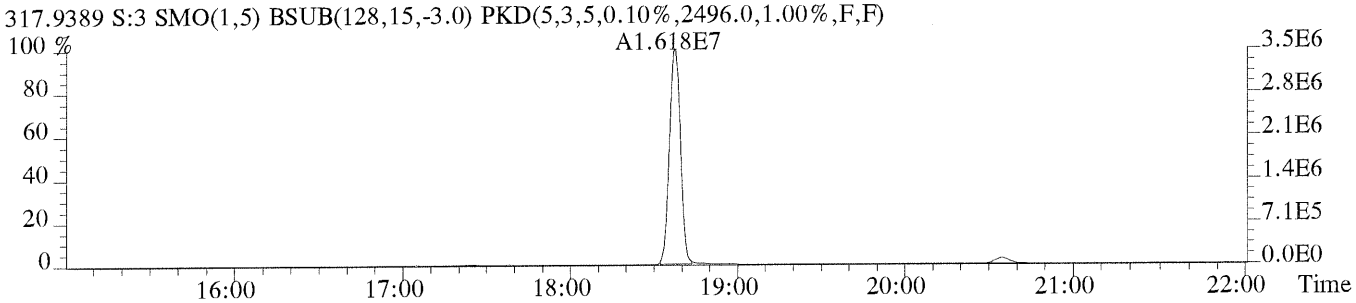
305.8987 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2364.0,1.00%,F,F)



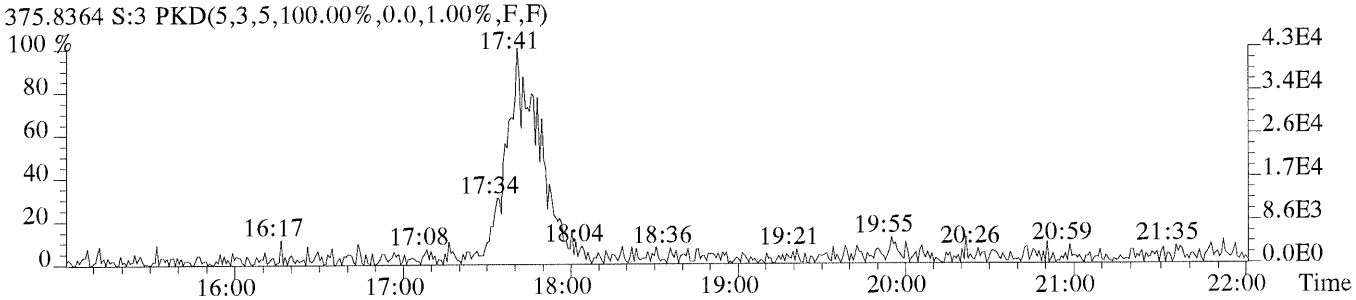
315.9419 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,2576.0,1.00%,F,F)



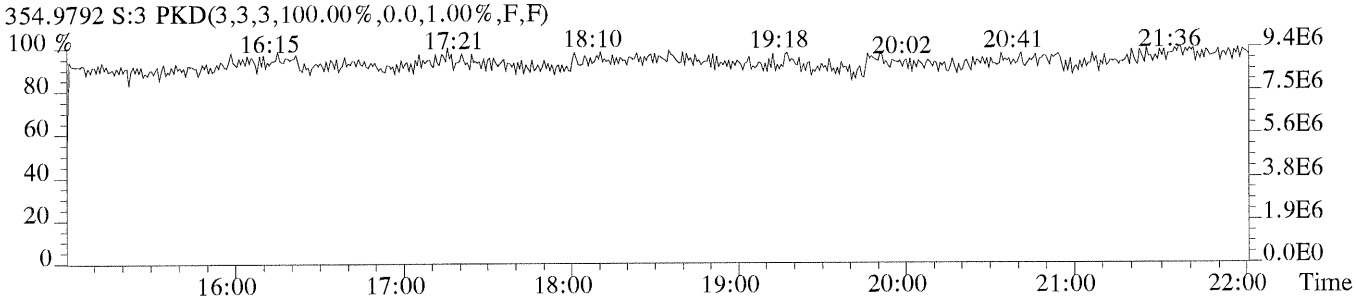
317.9389 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,2496.0,1.00%,F,F)



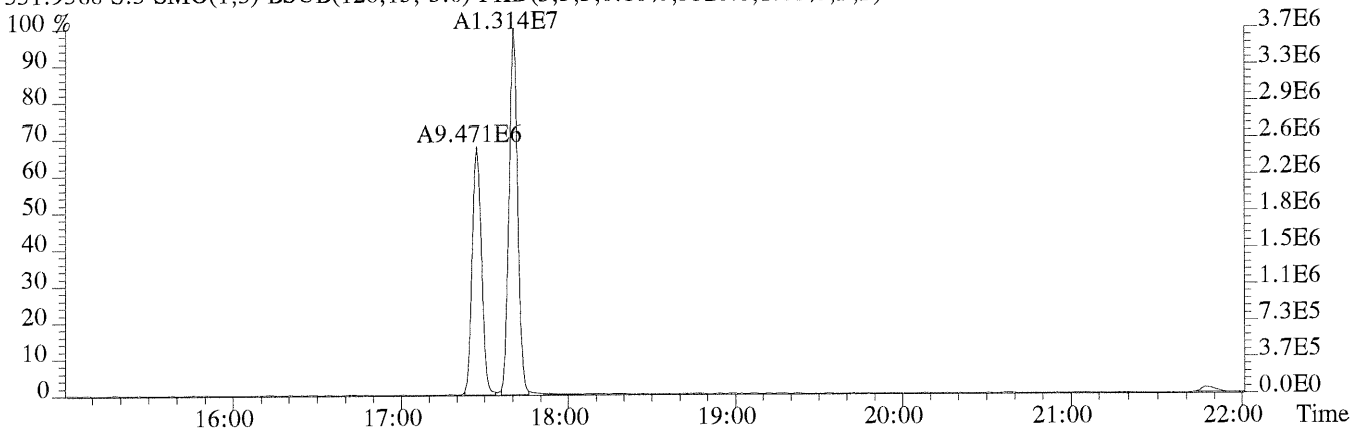
375.8364 S:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



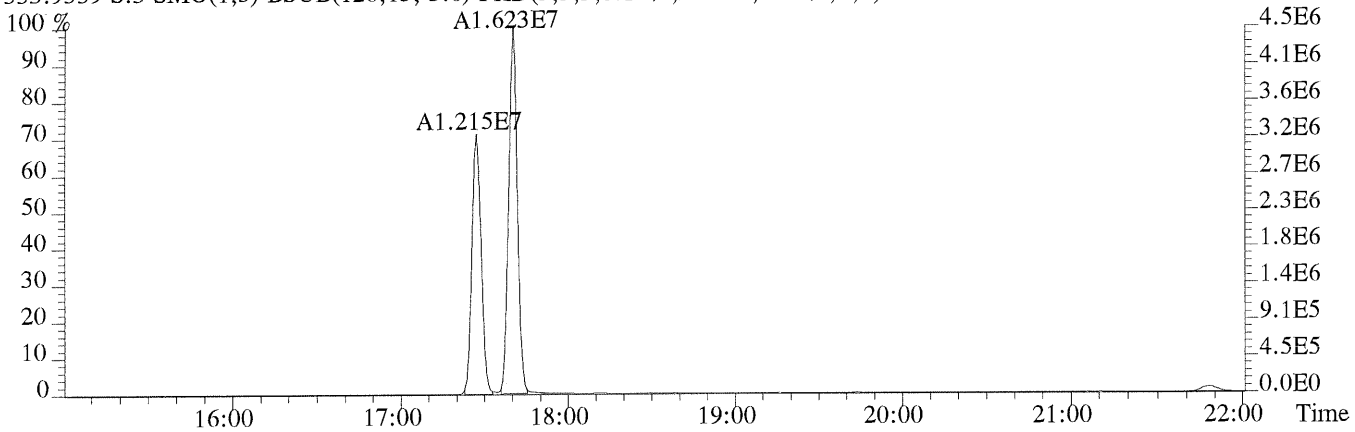
354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



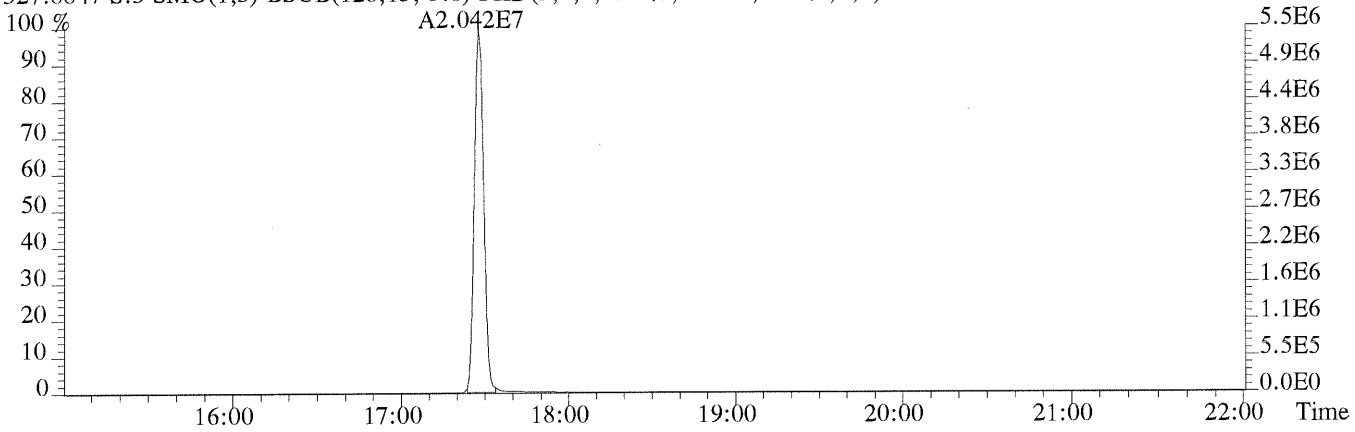
File:C15242 #1-583 Acq: 5-AUG-2008 11:18:29 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:INST. BLANK Exp:TCDF
331.9368 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3520.0,1.00%,F,F)



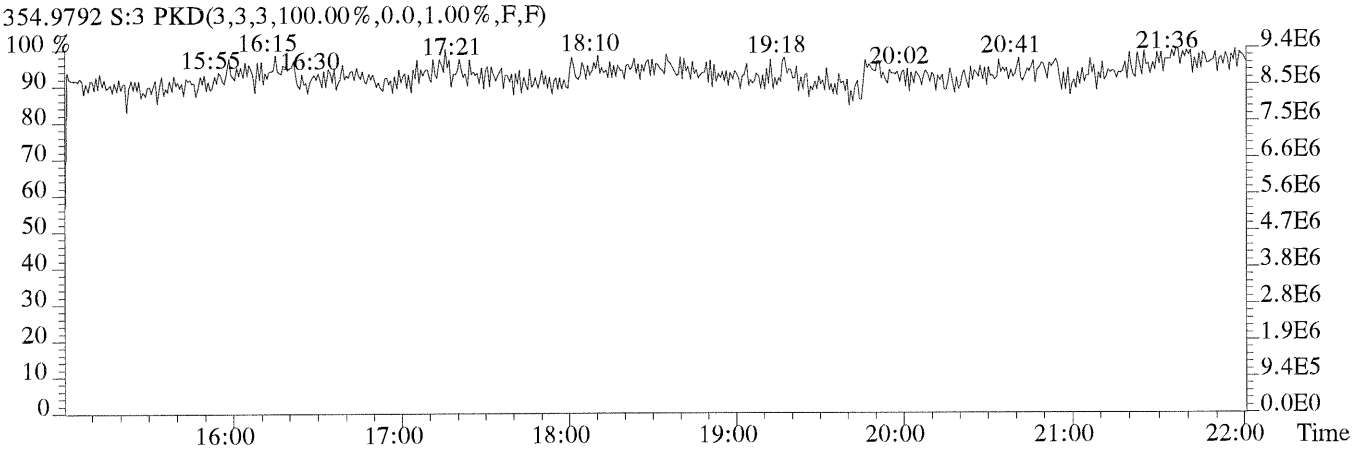
333.9339 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2336.0,1.00%,F,F)



327.8847 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2368.0,1.00%,F,F)



354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
INST. BLANK

Run #7 Filename C15252#3 Samp: 3 Inj: 1 Acquired: 11-AUG-08 08:25:40
Processed: 19-AUG-08 08:30:48 Sample ID: INST. BLANK

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	NotFnd	*	*	*	no	no
2	IS	13C-2,3,7,8-TCDF	18:30	3.817e+07	4.869e+07	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:33	3.705e+07	4.604e+07	0.80	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:20	5.105e+07				

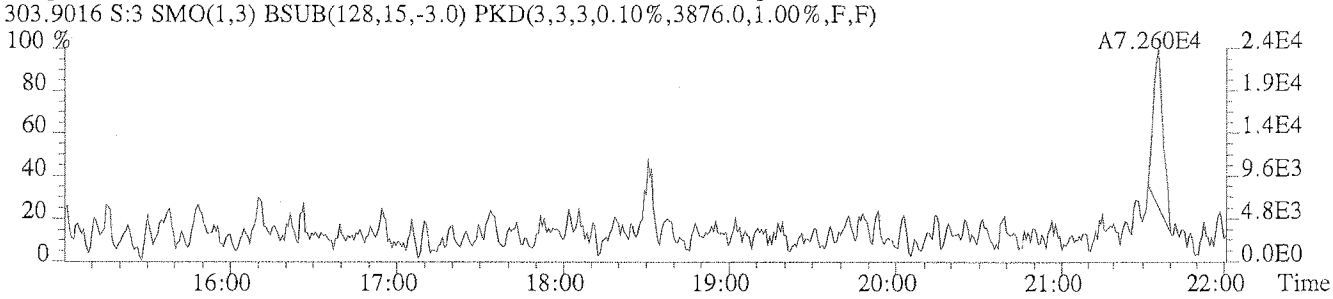
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	*	3.88e+03	*	*	5.82e+03	*
2	13C-2,3,7,8-TCDF	8.71e+06	3.95e+03	2.2e+03	1.12e+07	4.64e+03	2.4e+03
3	13C-1,2,3,4-TCDD	1.11e+07	6.07e+03	1.8e+03	1.39e+07	4.91e+03	2.8e+03
4	37Cl-2,3,7,8-TCDD	1.53e+07	4.17e+03	3.7e+03			

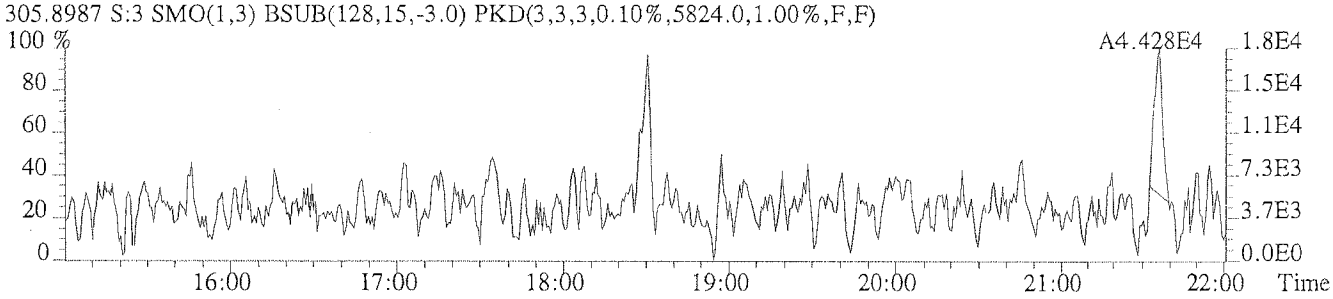
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:C15252 #1-583 Acq:11-AUG-2008 08:25:40 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:INST. BLANK Exp:TCDF

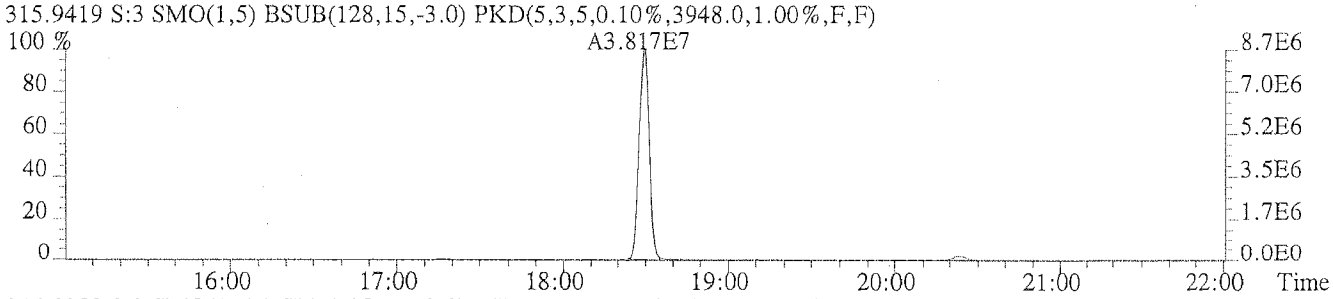
303.9016 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3876.0,1.00%,F,F)



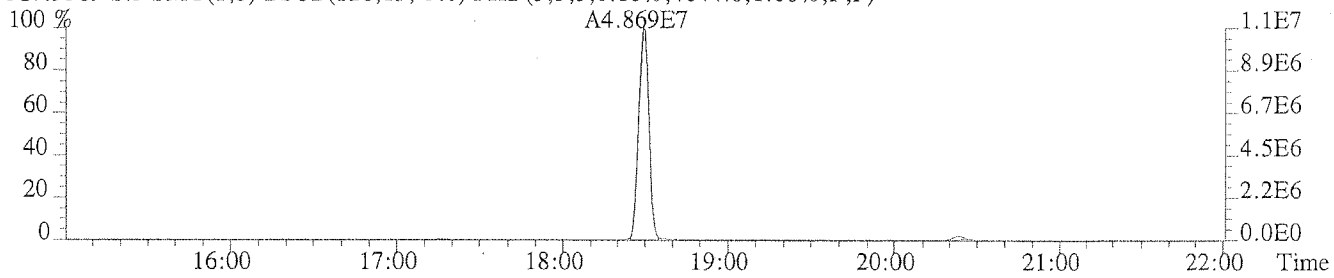
305.8987 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5824.0,1.00%,F,F)



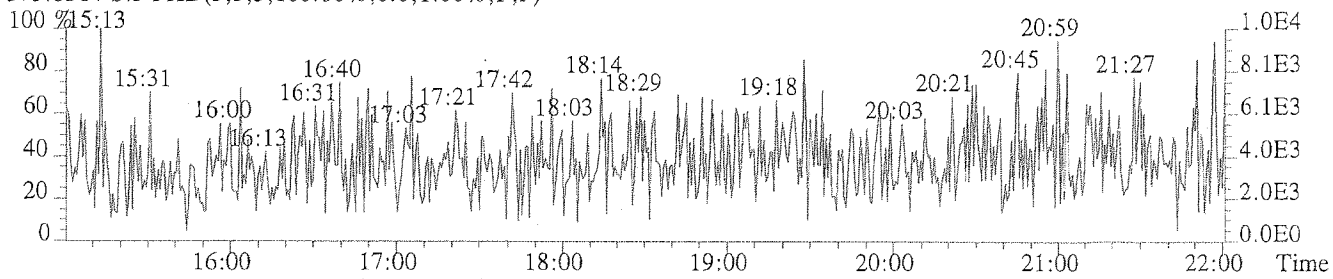
315.9419 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,3948.0,1.00%,F,F)



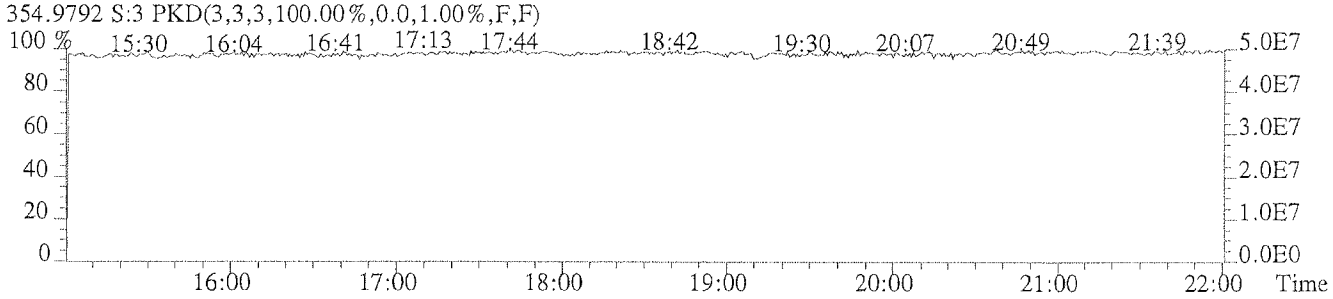
317.9389 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,4644.0,1.00%,F,F)



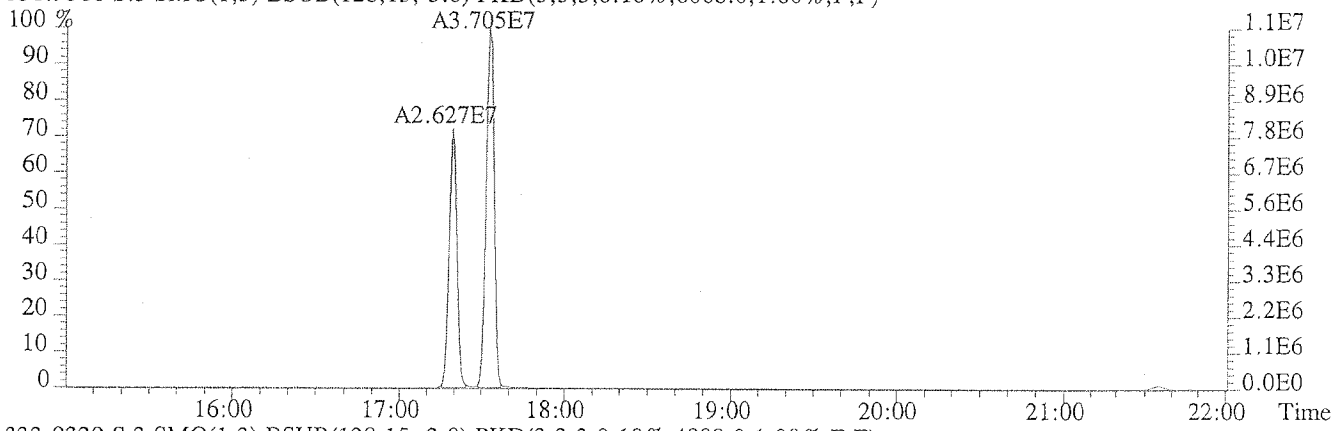
375.8364 S:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



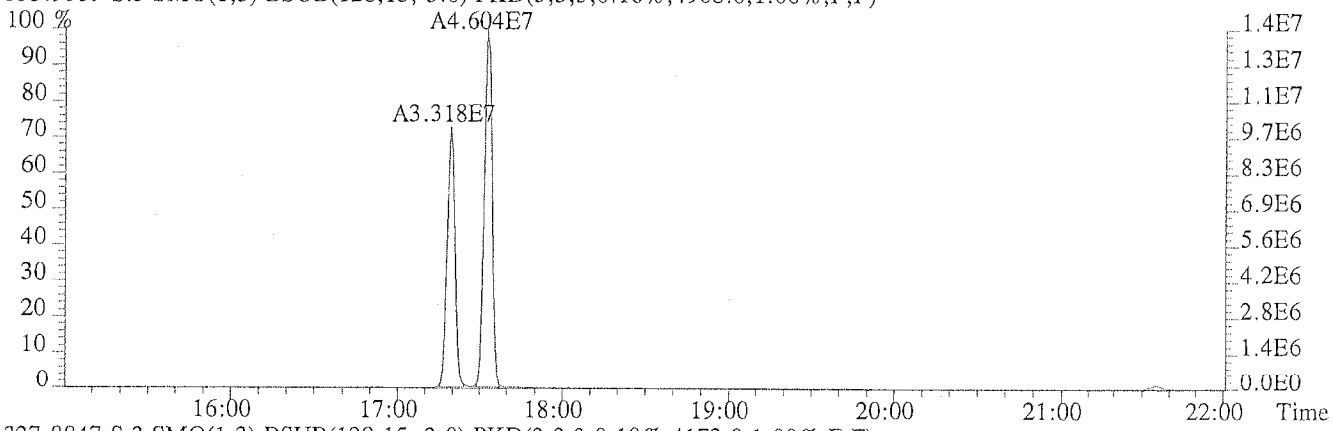
354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



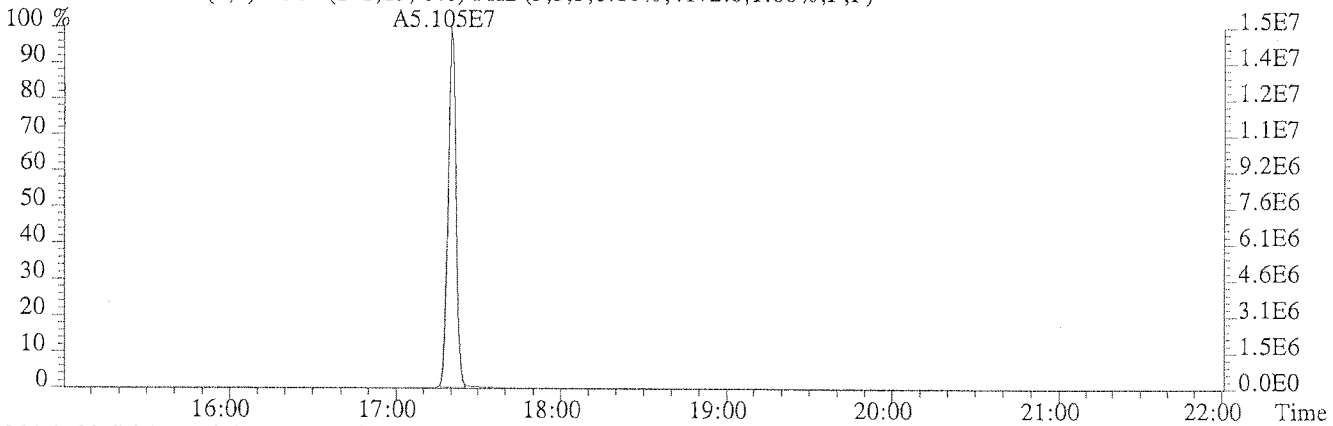
File:C15252 #1-583 Acq:11-AUG-2008 08:25:40 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:INST. BLANK Exp:TCDF
331.9368 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6068.0,1.00%,F,F)



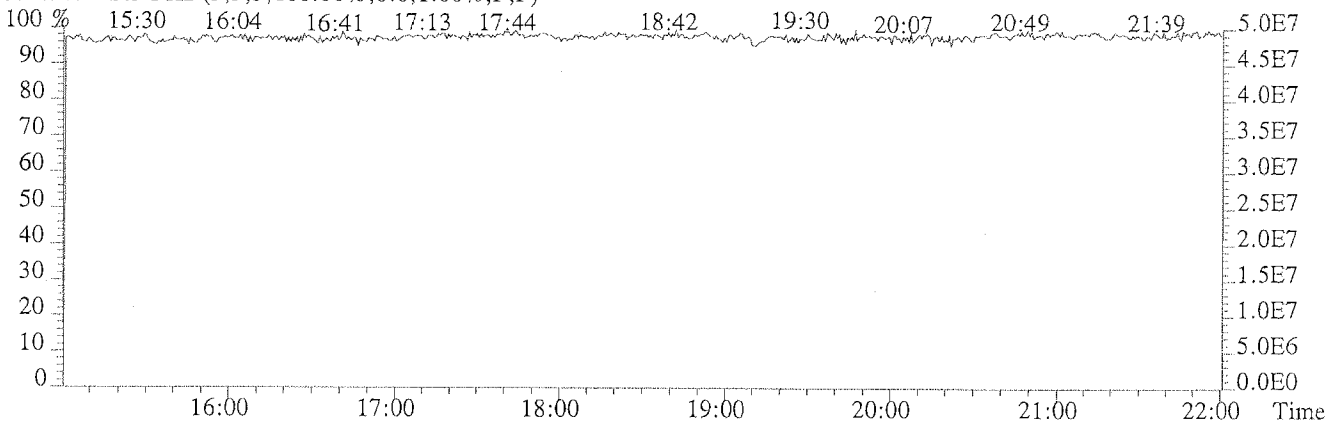
333.9339 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4908.0,1.00%,F,F)



327.8847 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4172.0,1.00%,F,F)



354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services INC

Continuing Calibration

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

RW/CS3 Daily Calibration QC Checklist

Calibration File Name: C152421#2-C152421#15 Circle one: Beginning / Ending

Date: 08/05/08

Method: 1613 / 1613E / Tetra / TCDD Only / TCDF Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	N/A	N/A
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	✓	✓
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: MC Second QC: [illegible]

ccalqc.xls 02/08/00

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-225 ID: 0.25 (mm) Instrument ID: 70S

Init. Calib. Date: 05/30/08

Init. Calib.Times: 16:23

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
COLUMN PERFORMANCE		C15242 #1	5-AUG-08	10:02:21
CCAL CS3		C15242 #2	5-AUG-08	10:35:02
INST. BLANK	INST. BLANK	C15242 #3	5-AUG-08	11:18:29
W-57R(2)_071408_TO£	E0800686-005	C15242 #4	5-AUG-08	11:51:14
W-58R_071408_TO-9	E0800686-006	C15242 #5	5-AUG-08	12:23:58
PW-168(M)_071408_T£	E0800686-007	C15242 #6	5-AUG-08	12:56:41
PW-118R_071408_TO-9	E0800686-009	C15242 #7	5-AUG-08	13:29:24
PW-118_071408_TO-9	E0800686-010	C15242 #8	5-AUG-08	14:02:07
PW-144_071408_TO-9	E0800686-011	C15242 #9	5-AUG-08	14:34:50
H-T5A-2.0	E0800703-001	C15242 #10	5-AUG-08	15:07:35
H-T5-3.0 DUP	E0800704-003	C15242 #11	5-AUG-08	15:40:18
cak071808SQC	E0800710-001	C15242 #12	5-AUG-08	16:13:01
HERBICIDE SOLUTION	E0800733-001	C15242 #13	5-AUG-08	16:45:37
EST-MW1-033	E0800716-004	C15242 #14	5-AUG-08	17:18:20
CCAL CS3	CCAL CS3	C15242 #15	5-AUG-08	17:52:19

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Acq Method: TCOF
GC Method: TCOF

Result File:
EDD File:

Archive Tape:
Instrument ID: VG 70C

Columbia Analytical Services inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
8/1/08	11:08	C15238#6	6080697-015	INCSSB0504		KC	8290	
	11:46	C15239#1	697-013	INCSSB0501				
	12:18	#2	697-016	INCSSB0601				
	12:51	#3	697-017	INCSSB0613				
	13:24	#4	640-001RE	SA67-0.5B			Screen Only	
	13:57	#5	K0806087-008	Composite			~~1613~~ 8290 MC 8/04/08	
	14:29	#6	6080723-002	WT-201 Primary Influent			1613	
	15:02	#7	723-003	WT-202 Bio-Stream Influent			↓	
	15:35	#8	K0806614-032	PB17-GW-071708			8290	
	16:08	#9	6080685-025	T1R_071508_TO-9			TO9	
	16:40	#10	685-027	N1R_071508_TO-9			↓	
	17:30	#11	J0803580-028	Dioxins 28-1			1613	
	18:03	C15239#12	Cal CS3	D9-28-1B				
↓	19:03	C15240	HRMS check					
8/5/08	10:02	C15241	HRMS check					
↓	10:02	C15242#1	Column perform	D4-59-1		↓		

Reviewed by: MC

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: TCDF
GC Method: TCDF

Result File: H:C15242RES
EDD File:

Archive Tape:
Instrument ID: VG 70C

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
8/15/08	10:35	C15242#2	cal CS3	D9-28-1B		KC		
	11:18	#3	Inst. Blank	Inst. Blank			8290	
	11:51	#4	E080686-005	W-57R(2)_071408_TO-9			TO9	
	12:23	#5	686-006	W-58R_071408_TO-9				
	12:56	#6	686-007	PW-168(M)_071408_TO-9				
	13:29	#7	686-009	PW-118R_071408_TO-9				
	14:02	#8	686-010	PW-118_071408_TO-9				
	14:34	#9	686-011	PW-144_071408_TO-9				
	15:07	#10	703-001	H-TSA-2.0			8290	
	15:40	#11	704-003	H-TS-3.0 DUP				
	16:13	#12	710-001	cak071808SQC				
	16:45	#13	733-001	Herbicide Solution				
	17:18	#14	716-004	EST-MW1-033				
	17:52	C15242#15	cal CS3	D9-28-1B				
	18:43	C15243	HRMS check					

Reviewed by: MC

USEPA - CLP
5DFB

EPA SAMPLE NO.

PCDD/PCDF WINDOW DEFINING MIX SUMMARY

Column Perform

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: TX01411 Case No.: _____ Client No.: _____ SDG No.: _____

GC Column: 30m DB-225 ID: 0.25 (mm) Lab File ID: C15242#1

Instrument ID: 70S Date Analyzed: 08/05/08

Time Analyzed: 10:02:21

Percent Valley deterimation for DB-5 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

1478-TCDD/2378-TCDD: _____

QUALITY COTROL (QC) LIMITS: _____

Percent Valley between the TCDD isomers must be less than or equal to 25%.

Percent Valley deterimation for DB-225 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

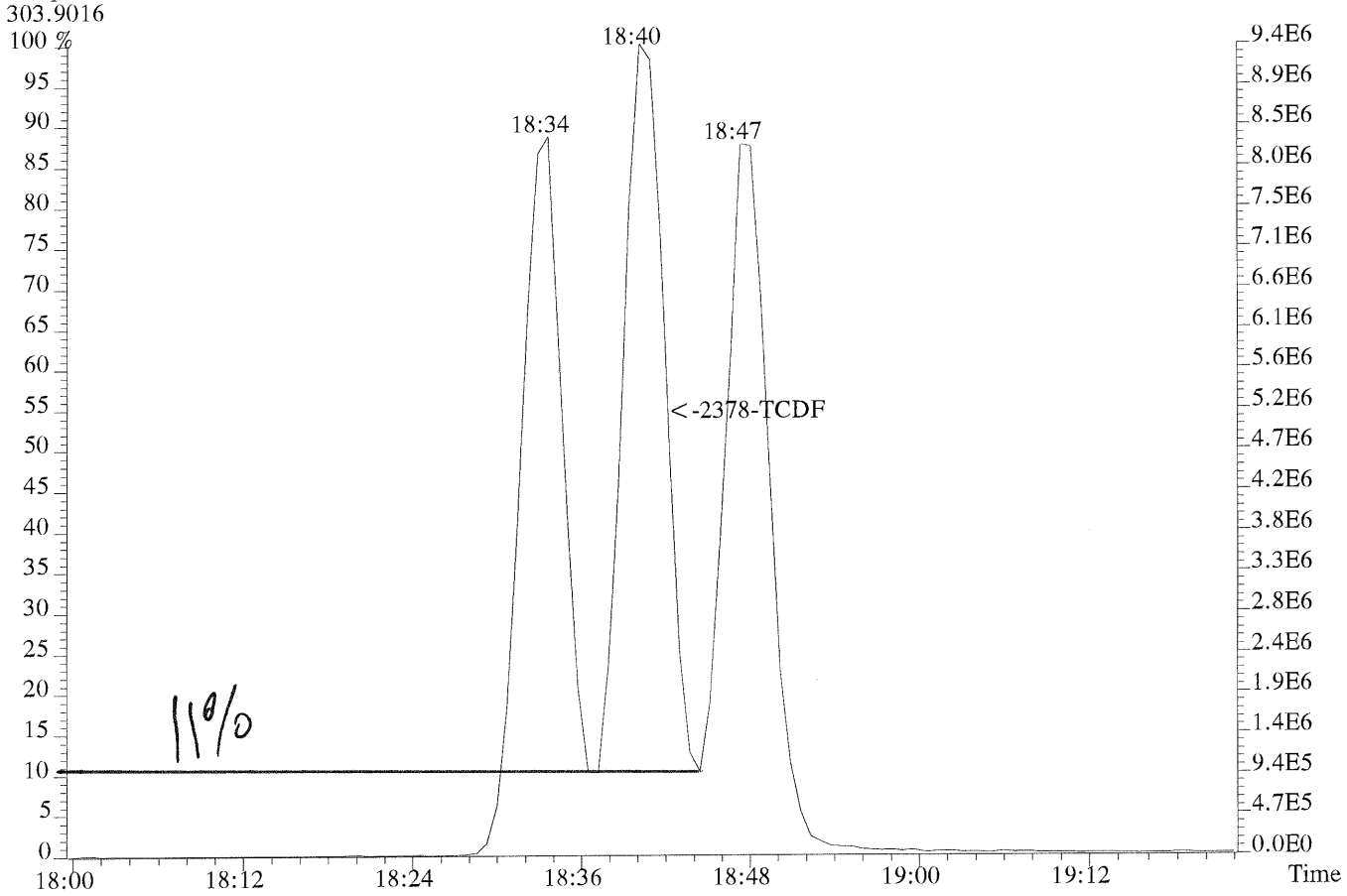
2347-TCDF/2378-TCDF: 11%

QUALITY COTROL (QC) LIMITS:

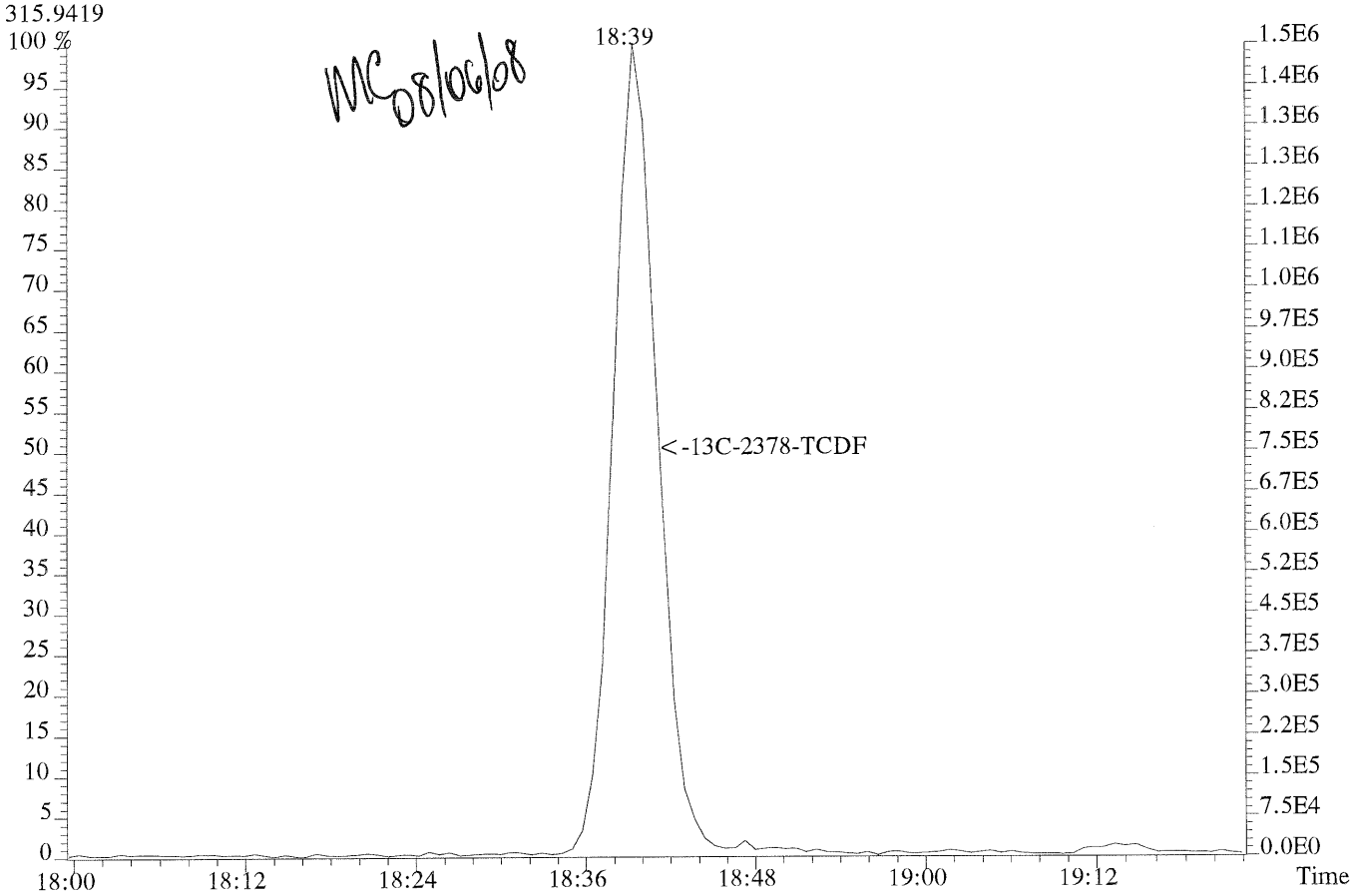
Percent Valley between the TCDF/TCDF isomers must be less than or equal to 25%.

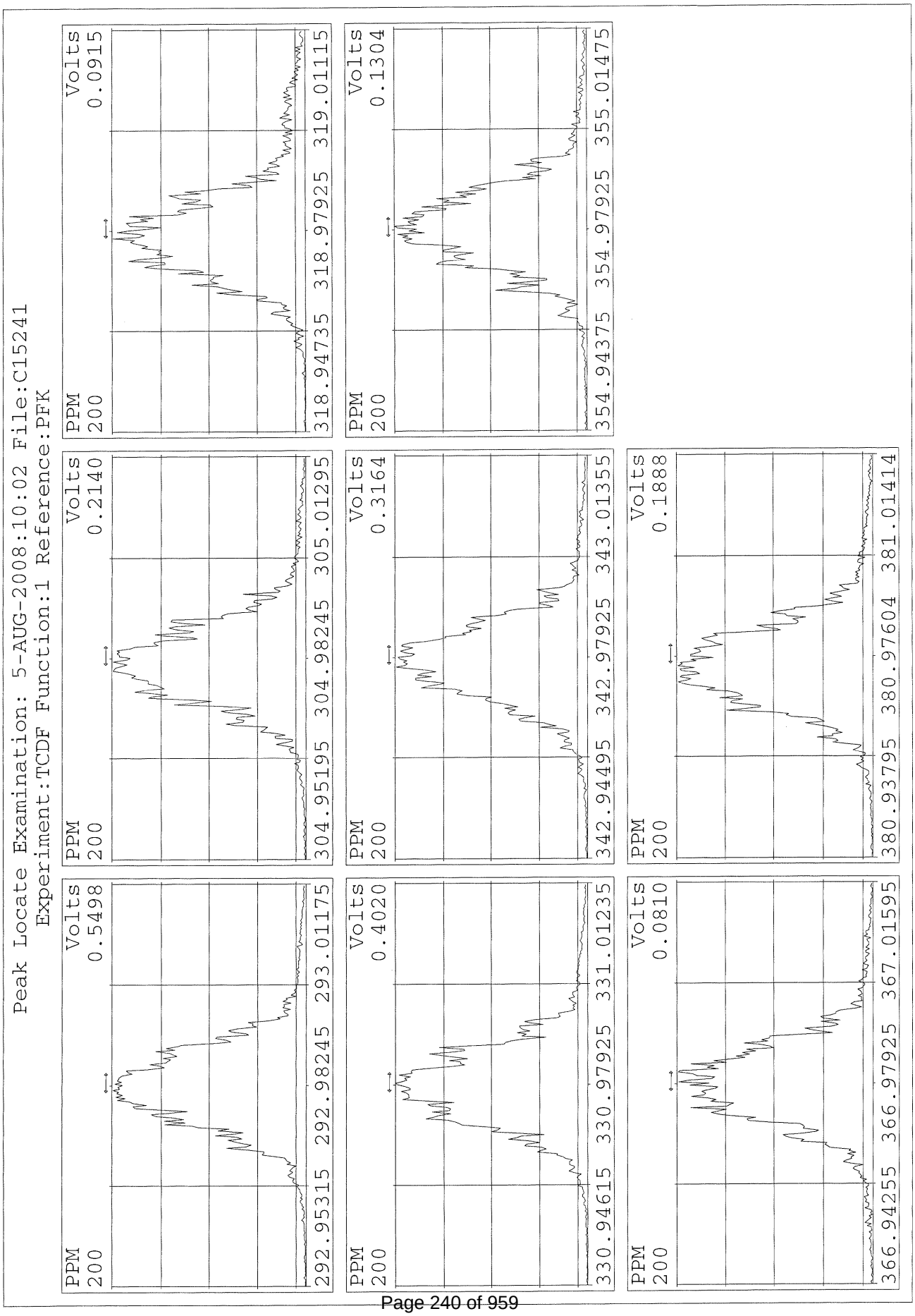
Analyst Init: MC FORM V-HR CDD-2 DLM02.0

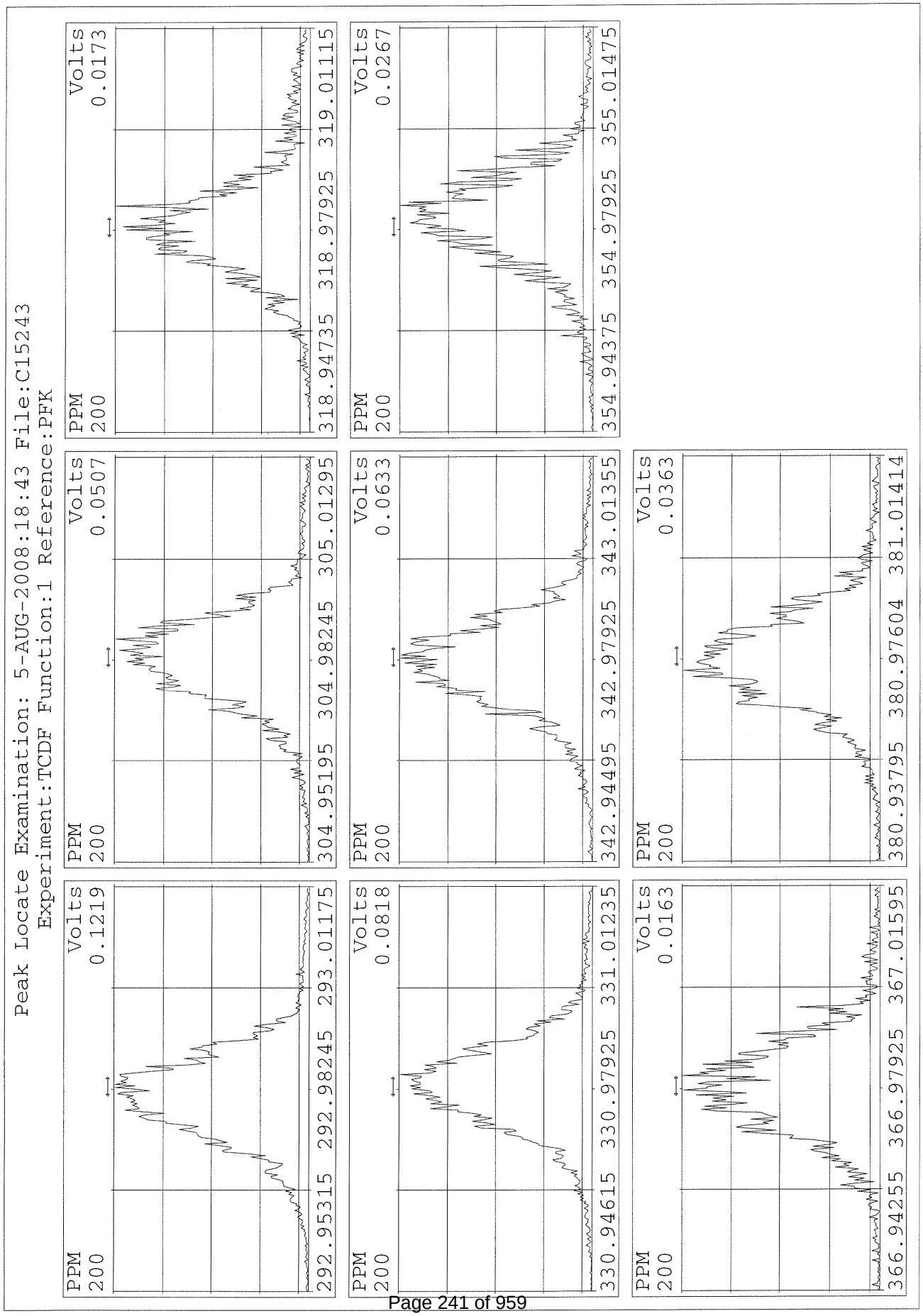
File:C15242 #1-583 Acq: 5-AUG-2008 10:02:21 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:COLUMN PERFORMANCE Exp:TCDF
303.9016



315.9419




Peak Locate Examination: 5-AUG-2008:10:02 File:C15241
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
0.5498
292.95315 292.98245 293.01175
PPM
200
Volts
0.2140
304.95195 304.98245 305.01295
PPM
200
Volts
0.0915
318.94735 318.97925 319.01115
PPM
200
Volts
0.4020
330.94615 330.97925 331.01235
PPM
200
Volts
0.3164
342.94495 342.97925 343.01355
PPM
200
Volts
0.1304
354.94375 354.97925 355.01475
PPM
200
Volts
0.0810
366.94255 366.97925 367.01595
PPM
200
Volts
0.1888
380.93795 380.97604 381.01414


Peak Locate Examination: 5-AUG-2008:18:43 File:C15243
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
0.1219
292.95315 292.98245 293.01175
PPM
200
Volts
0.0507
304.95195 304.98245 305.01295
PPM
200
Volts
0.0173
318.94735 318.97925 319.01115
PPM
200
Volts
0.0818
330.94615 330.97925 331.01235
PPM
200
Volts
0.0633
342.94495 342.97925 343.01355
PPM
200
Volts
0.0267
354.94375 354.97925 355.01475
PPM
200
Volts
0.0163
366.94255 366.97925 367.01595
PPM
200
Volts
0.0363
380.93795 380.97604 381.01414

FORM 4A
TCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Contract No.:

Lab Code: TX01411 Case No.: Client No: SDG No.:

Initial Calibration Date: 05/30/08

Instrument ID: 70S GC COLUMN ID: DB-225

VER Data Filename: C15242#2 Analysis Date: 5-AUG-08 Time: 10:35:02

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	1.14	1.10	3.60
Labeled Compounds						
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.38	1.34	2.95
Cleanup Standard						
37Cl-2,3,7,8-TCDD				1.03	0.95	8.38

Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
CCAL CS3

Run #6 Filename C15242#2 Samp: 2 Inj: 1 Acquired: 5-AUG-08 10:35:02
Processed: 6-AUG-08 16:08:46 Sample ID: CCAL CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:39	1.476e+06	1.962e+06	0.75	yes	no
2	IS	13C-2,3,7,8-TCDF	18:37	1.326e+07	1.702e+07	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:40	9.711e+06	1.219e+07	0.80	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:28	2.253e+06				

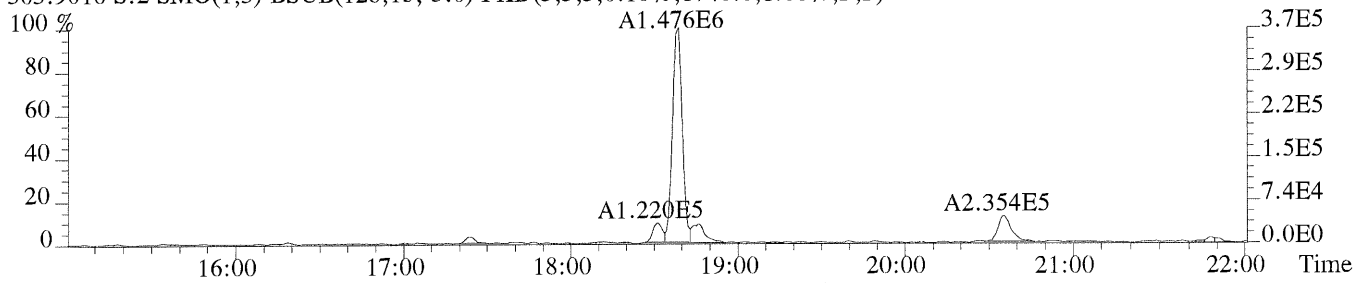
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	3.66e+05	1.74e+03	2.1e+02	4.77e+05	2.92e+03	1.6e+02
2	13C-2,3,7,8-TCDF	2.89e+06	2.58e+03	1.1e+03	3.73e+06	2.51e+03	1.5e+03
3	13C-1,2,3,4-TCDD	2.68e+06	2.95e+03	9.1e+02	3.37e+06	1.72e+03	2.0e+03
4	37Cl-2,3,7,8-TCDD	6.08e+05	1.89e+03	3.2e+02			

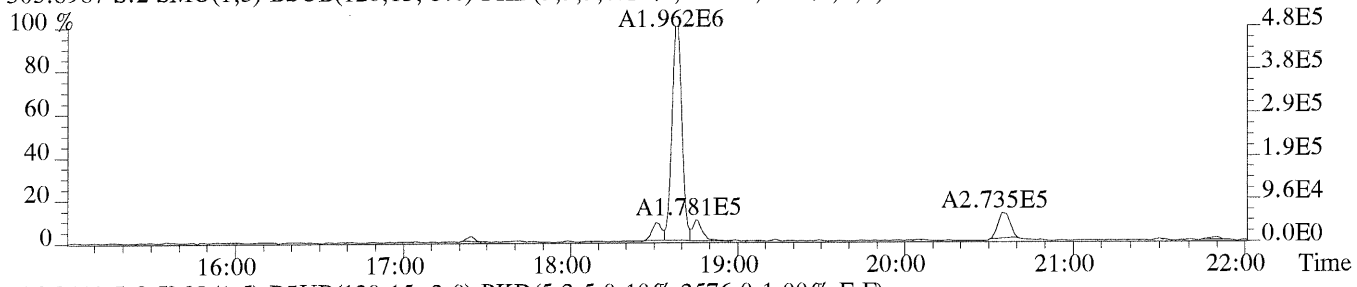
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:C15242 #1-583 Acq: 5-AUG-2008 10:35:02 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF

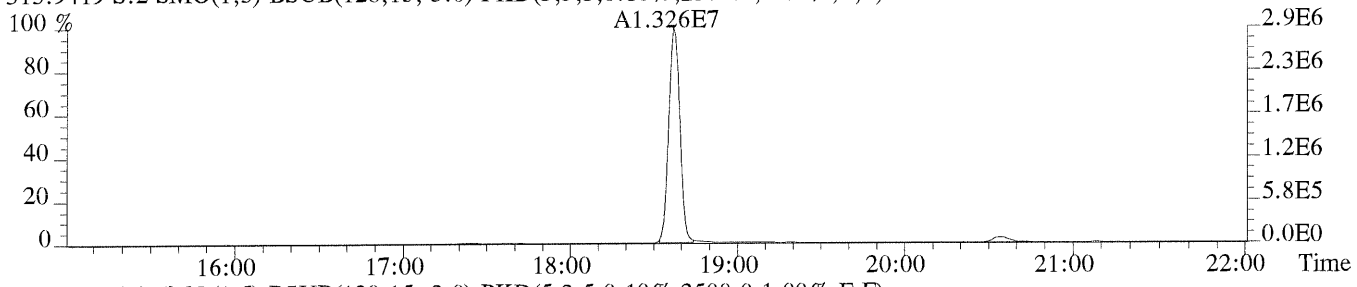
303.9016 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1740.0,1.00%,F,F)



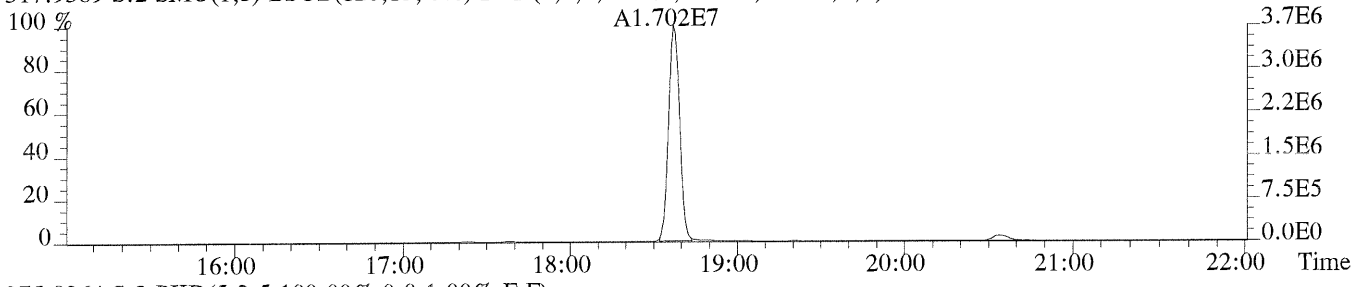
305.8987 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2920.0,1.00%,F,F)



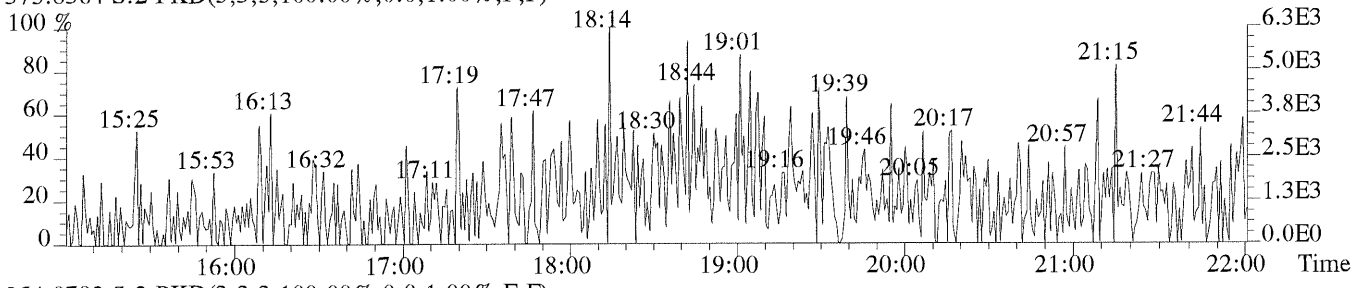
315.9419 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,2576.0,1.00%,F,F)



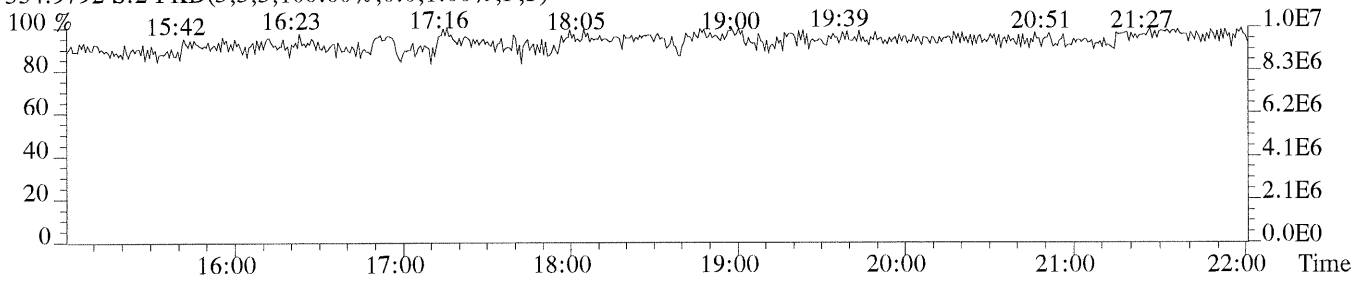
317.9389 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,2508.0,1.00%,F,F)



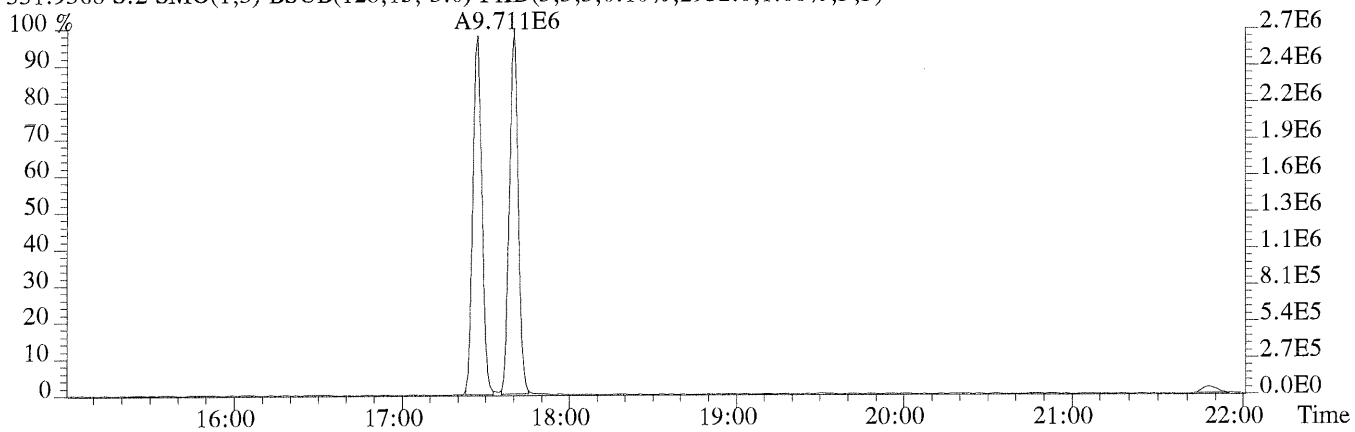
375.8364 S:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



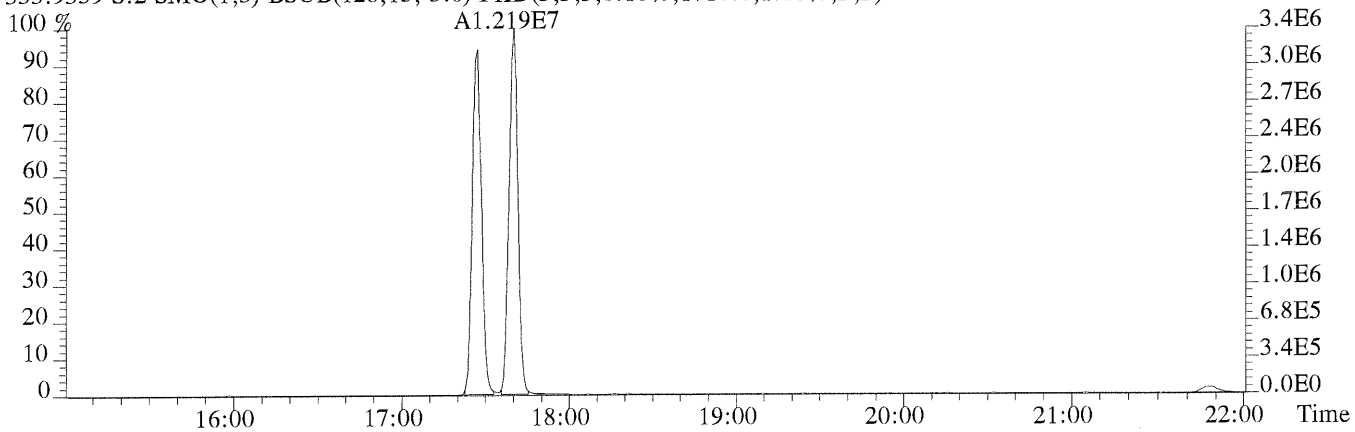
354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



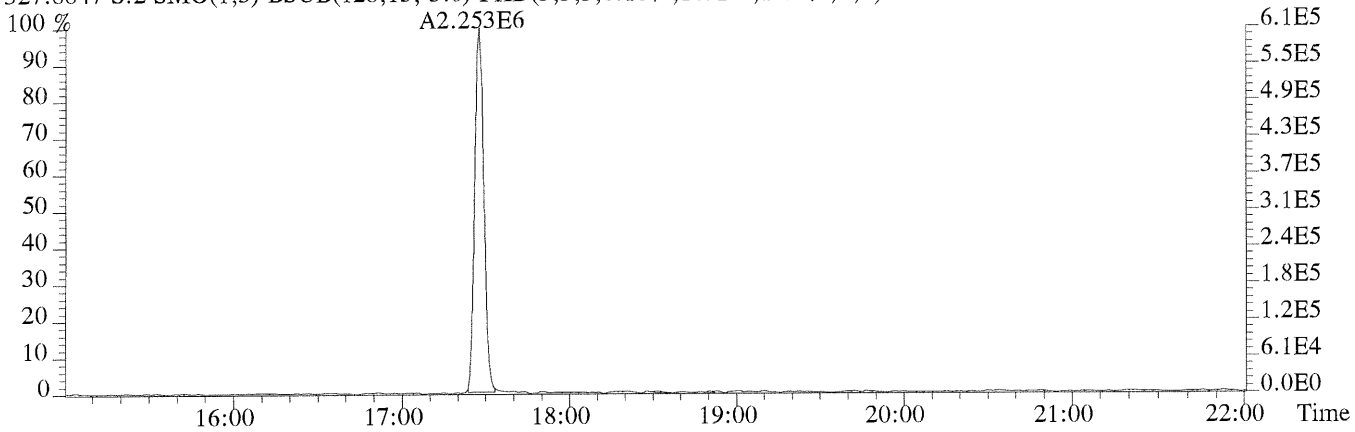
File:C15242 #1-583 Acq: 5-AUG-2008 10:35:02 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF
331.9368 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2952.0,1.00%,F,F)



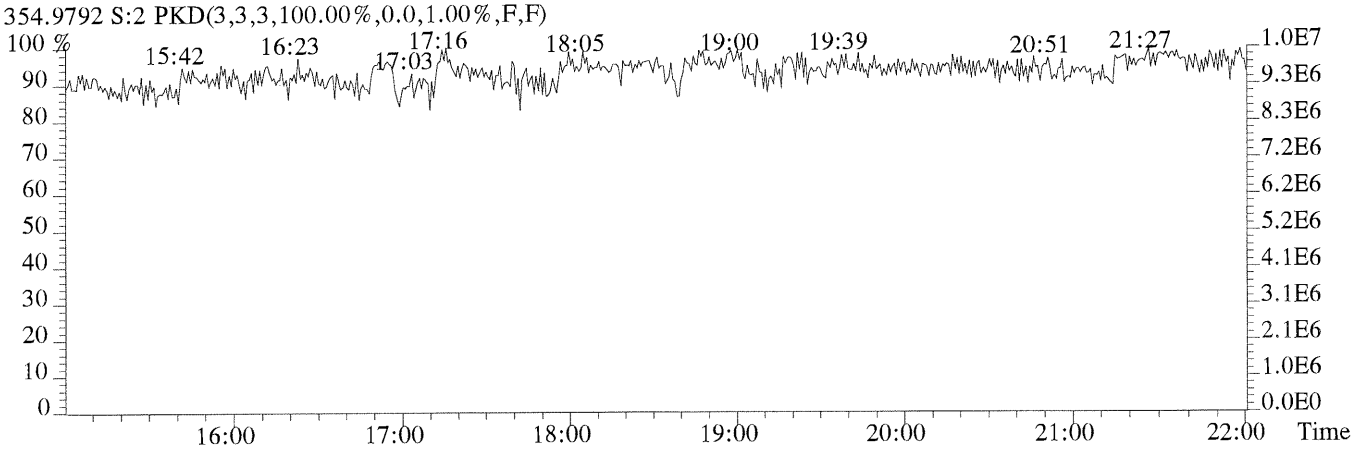
333.9339 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,F)



327.8847 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1892.0,1.00%,F,F)



354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



FORM 4A
TCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Contract No.:

Lab Code: TX01411 Case No.: Client No: SDG No.:

Initial Calibration Date: 05/30/08

Instrument ID: 70S GC COLUMN ID: DB-225

VER Data Filename: C15242#15 Analysis Date: 5-AUG-08 Time: 17:52:19

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	1.16	1.10	5.73
Labeled Compounds						
13C-2,3,7,8-TCDF	M/M+2	0.81	0.65-0.89	1.45	1.34	7.71
Cleanup Standard						
37Cl-2,3,7,8-TCDD				0.99	0.95	4.48

Columbia Analytical Services, Inc.
Sample Response Summary

EPA SAMPLE NO.
CCAL CS3

Run #19 Filename C15242#15 Samp: 15 Inj: 1 Acquired: 5-AUG-08 17:52:19
Processed: 6-AUG-08 16:11:30 Sample ID: CCAL CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:38	1.607e+06	1.927e+06	0.83	yes	no
2	IS	13C-2,3,7,8-TCDF	18:37	1.364e+07	1.686e+07	0.81	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:40	9.424e+06	1.166e+07	0.81	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:28	2.091e+06				

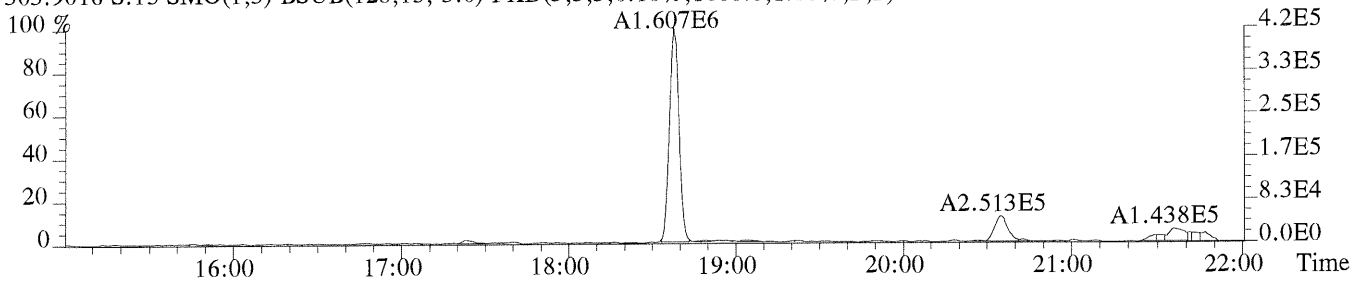
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	4.13e+05	1.67e+03	2.5e+02	4.81e+05	2.13e+03	2.3e+02
2	13C-2,3,7,8-TCDF	2.97e+06	3.30e+03	9.0e+02	3.70e+06	6.64e+03	5.6e+02
3	13C-1,2,3,4-TCDD	2.59e+06	3.94e+03	6.6e+02	3.18e+06	2.76e+03	1.2e+03
4	37Cl-2,3,7,8-TCDD	5.31e+05	2.33e+03	2.3e+02			

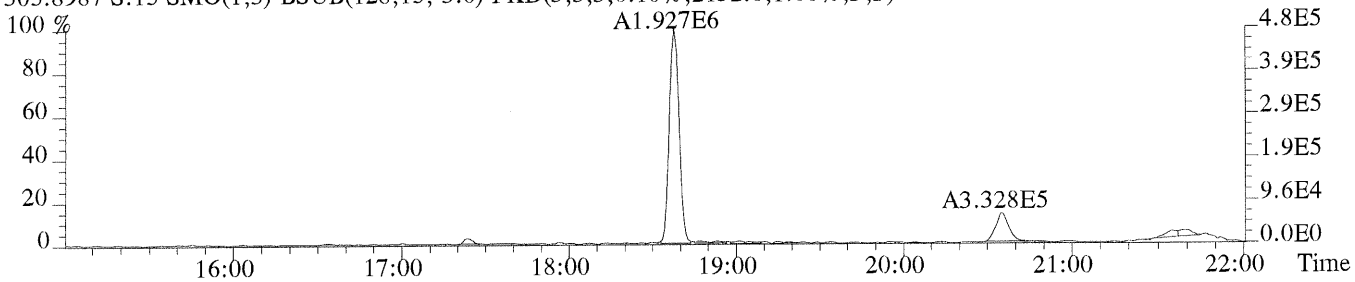
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:C15242 #1-583 Acq: 5-AUG-2008 17:52:19 GC EI+ Voltage SIR 70S
Sample#15 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF

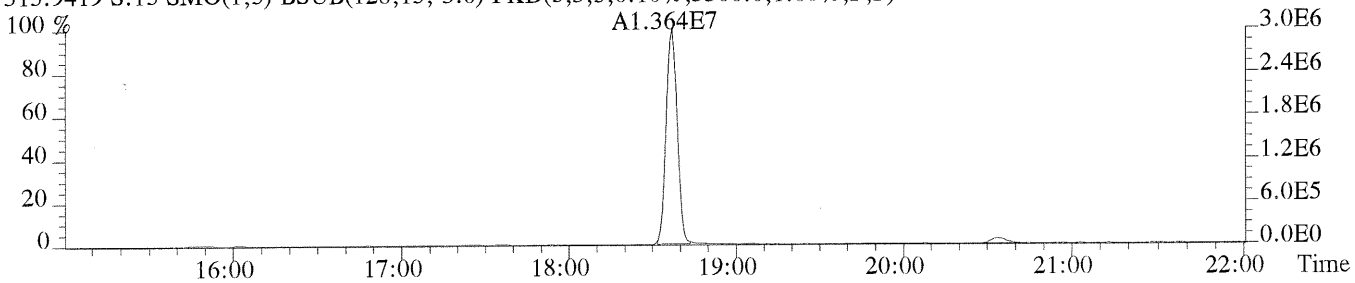
303.9016 S:15 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1668.0,1.00%,F,F)



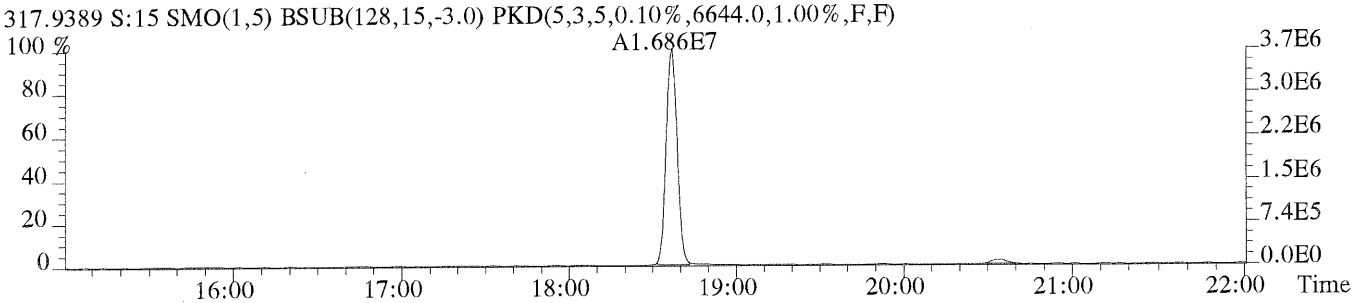
305.8987 S:15 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2132.0,1.00%,F,F)



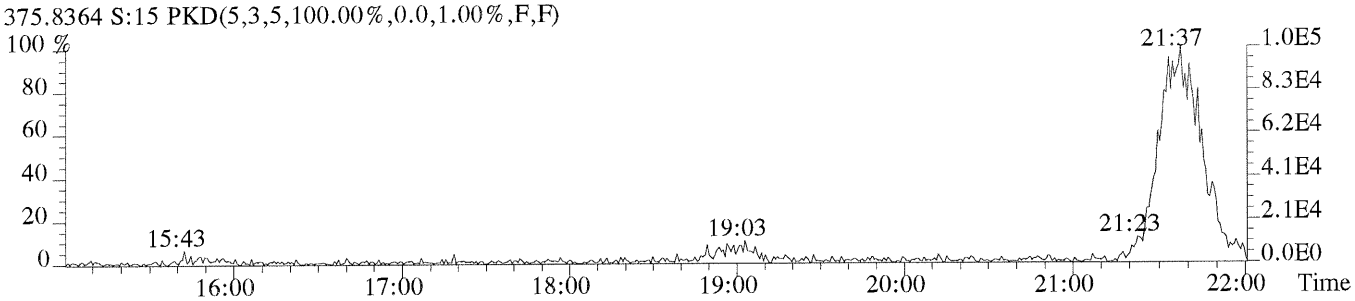
315.9419 S:15 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,3300.0,1.00%,F,F)



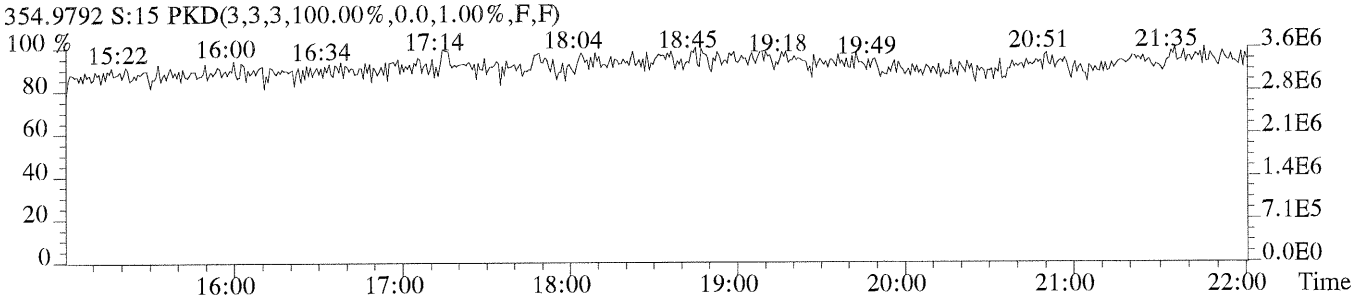
317.9389 S:15 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,6644.0,1.00%,F,F)



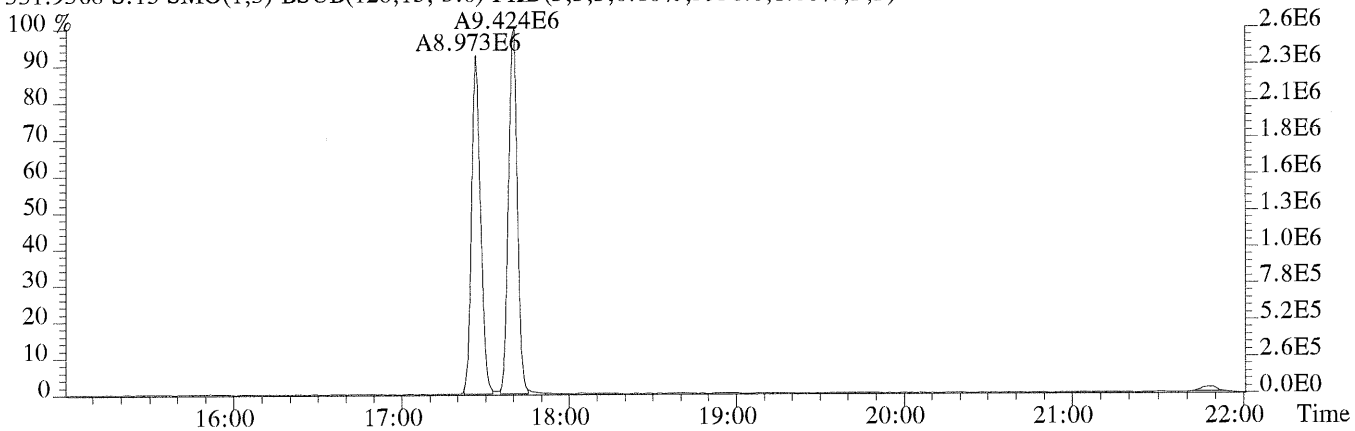
375.8364 S:15 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



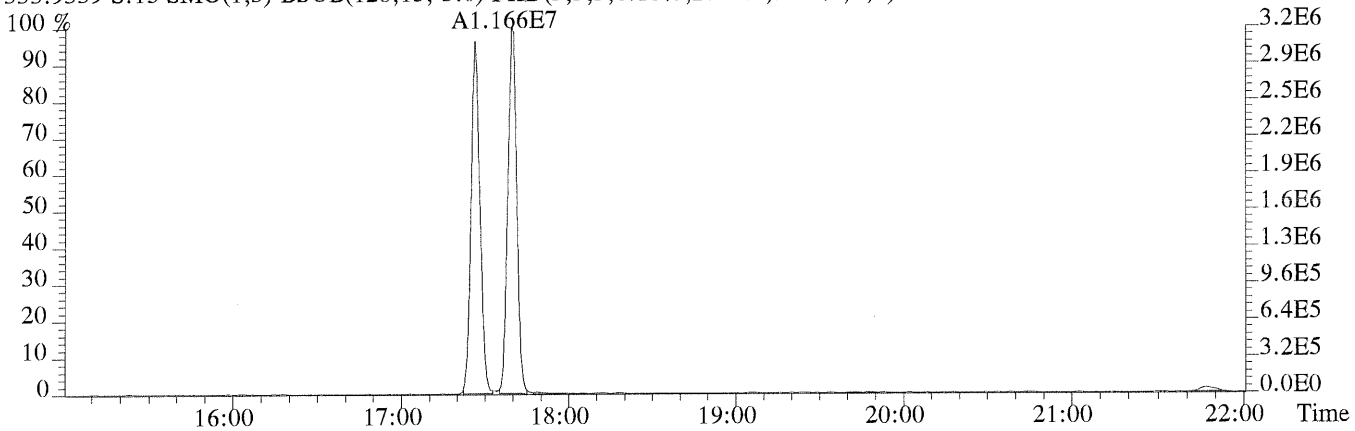
354.9792 S:15 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



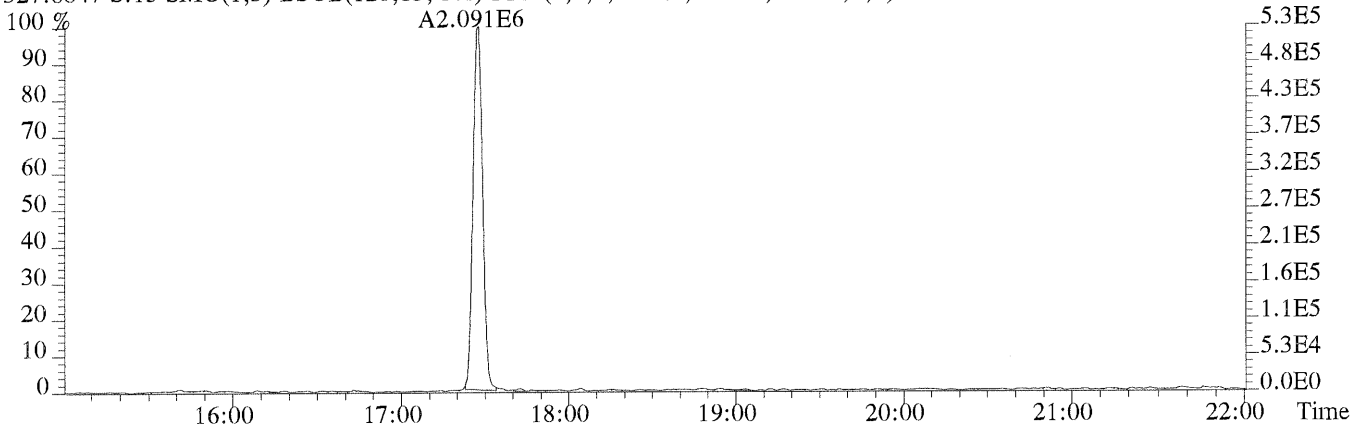
File:C15242 #1-583 Acq: 5-AUG-2008 17:52:19 GC EI+ Voltage SIR 70S
Sample#15 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF
331.9368 S:15 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3936.0,1.00%,F,F)



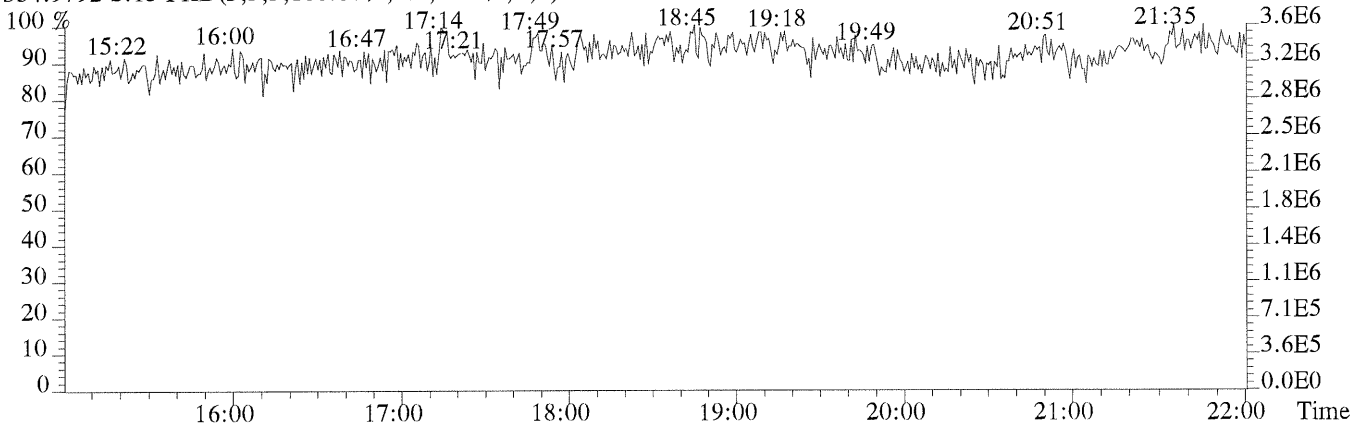
333.9339 S:15 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2760.0,1.00%,F,F)



327.8847 S:15 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2336.0,1.00%,F,F)



354.9792 S:15 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



RW/CS3 Daily Calibration QC Checklist

Calibration File Name: C15252#2-C15252#21 Circle one: Beginning / Ending

Date: 08/11/08

Method: 1613 / 1613E / Tetra / TCDD Only / TCDF Conf / 8280 / M23 / TO-9A

Retention Window/Column Performance Check:	Analyst	Second Check
Windows in and first and last eluters labeled	N/A	NA
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	✓	—
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	NA
Ending Calibration injected prior to end of 12 hour clock	✓	—

Analyst: MC Second QC: GC

ccalqc.xls 02/08/00

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-225 ID: 0.25 (mm) Instrument ID: 70S

Init. Calib. Date: 05/30/08

Init. Calib.Times: 16:23

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
COLUMN PERFORMANCE		C15252 #1	11-AUG-08	06:49:40
CCAL CS3		C15252 #2	11-AUG-08	07:22:20
INST. BLANK	INST. BLANK	C15252 #3	11-AUG-08	08:25:40
H-T5-3.0	E0800704-002	C15252 #4	11-AUG-08	08:58:24
#1,#2,#3,#4	E0800709-001	C15252 #5	11-AUG-08	09:31:08
INCSSB0401	E0800714-002	C15252 #6	11-AUG-08	10:03:51
B23/0-5	K0806515-004	C15252 #7	11-AUG-08	10:36:34
SP 1-2'	K0806515-019	C15252 #8	11-AUG-08	11:09:19
B27/10-15	K0806515-018	C15252 #9	11-AUG-08	11:42:03
B27/5-10	K0806515-017	C15252 #10	11-AUG-08	12:14:48
B23/10-15	K0806515-006	C15252 #11	11-AUG-08	12:47:33
B24/0-5	K0806515-007	C15252 #12	11-AUG-08	13:20:18
B24/5-10	K0806515-008	C15252 #13	11-AUG-08	13:53:03
B24/10-15	K0806515-009	C15252 #14	11-AUG-08	14:25:47
B25/0-5	K0806515-010	C15252 #15	11-AUG-08	14:58:34
B25/5-10	K0806515-011	C15252 #16	11-AUG-08	15:31:20
B25/10-15	K0806515-012	C15252 #17	11-AUG-08	16:04:06
B26/0-5	K0806515-013	C15252 #18	11-AUG-08	16:36:53
B26/5-10	K0806515-014	C15252 #19	11-AUG-08	17:09:39
B27/0-5	K0806515-016	C15252 #20	11-AUG-08	17:42:24
CCAL CS3	CCAL CS3	C15252 #21	11-AUG-08	18:17:00

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Acq Method: TODF
GC Method: TODF
Result File: E:C15249RES
EDD File:
Archive Tape:
Instrument ID: VG 70C

Columbia Analytical Services inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/08/08	06:51	C15245#1	COLUMN PERFORMANCE	D4-59-1			CHANGED OUT GLOVE COLUMN NEEDS REINJECTED	08/08/08
	07:43	C15246#1	COLUMN PERFORMANCE	D4-59-1				
	—	C15247#	COLUMN PERFORMANCE	D4-59-1				
	9:45	C15248	HRMS check					
MC 08/15/08	14:42	C15249#1	Column Performan	D4-59-1				
16:02	15:15	#2	CCAL CS3	~~D8-2-27~~			D4-28-1B 08/08/08	
16:36	~~16:36~~	#3	Test					
17:08	~~17:08~~	#4	Inst. Blank	Inst. Blank			8290	
	~~17:41~~	#5	E0800723-004	WT-Belt Press Cake			1613	
	17:41	#6	K080615-002	B22/5-10				
	18:14	C15249#7	K080615-003	B22/10-15				
	18:56	C15250	HRMS check					
08/11/08	06:47	C15251	HRMS CHECK					
	06:49	C15252#1	COLUMN PERFORMANCE	D4-59-1				
	07:22	#2	CCAL CS3	D4-28-1B				
	08:25	#3	INST. BLANK	Inst. Blank			8290	

Reviewed by: MC

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: TCDF
GC Method: TCDF

Result File: E:C15252RES
EDD File:

Archive Tape:
Instrument ID: VG 70C

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/11/08	08:58	C15252 #4	E080704-002	H-TS-3.0		JB	8290	
	09:31	#5	E080709-001	#1,#2,#3,#4			"	
	10:03	#6	E080714-002	INCSSB0401			"	
	10:36	#7	K080655-004	B23/0-5			1613	
	11:09	#8	-019	SP 1-2'				
	11:42	#9	-018	B27/10-15				
	12:14	#10	-017	B27/5-10				
	12:47	#11	-006	B23/10-15				
	13:20	#12	-007	B24/0-5				
	13:53	#13	-008	B24/5-10				
	14:25	#14	-009	B24/10-15				
	14:58	#15	-010	B25/0-5				
	15:31	#16	-011	B25/5-10				
	16:04	#17	-012	B25/10-15				
	16:36	#18	-013	B26/0-5				
	17:09	C15252 #19	K080655-014	B26/5-10				

Reviewed by: MC

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Acq Method: TCDF
GC Method: TCDF

Result File: E:C15255RES
EDD File:

Archive Tape:
Instrument ID: VG 70C

Columbia Analytical Services inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
8/11/08	17:42	C15252#20	K080675-018	B27/0-5		MC	1613	
↓	18:17	C15252#21	CCal CS3	D9-28-1B		↓		
↓	18:52	C15253	HRGC check					
08/14/08	07:11	C15254	HRMS CHECK					
	07:14	C15255 #1	COLUMN PERFORMANCE	D4-59-1				
	07:46	#2	CCAL CS3	D4-28-1B				
	08:46	#3	LAB BLANK					
	09:19	#4	E080064B-003 RE	ESP-5-070108			8290	
	09:51	#5	↓ 730-001	ESP-8-071608			1613	
	10:24	#6	K080675-020	SP1-5'			↓	
	10:57	#7	↓ 675-021	SP2-2'				
	11:30	#8	↓ 675-022	SP2-5'				
	12:02	#9	E080714-003	INCSSB1201			8290	
12:35	~~13:08~~	#10	↓ 714-004	INCSSB0801				
13:08	~~13:40~~	#11	↓ 714-005	INCSSB0812				
13:40	~~14:13~~	C15255#12	K080714-010	INCSSB0215		↓	↓	

MC 08/18/08 Reviewed by: MC

USEPA - CLP
5DFB

EPA SAMPLE NO.

PCDD/PCDF WINDOW DEFINING MIX SUMMARY

Column Perform

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: TX01411 Case No.: _____ Client No.: _____ SDG No.: _____

GC Column: 30m DB-225 ID: 0.25 (mm) Lab File ID: C15252#1

Instrument ID: 70S Date Analyzed: 08/11/08

Time Analyzed: 06:49:40

Percent Valley deterimation for DB-5 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

1478-TCDD/2378-TCDD: _____

QUALITY COTROL (QC) LIMITS: _____

Percent Valley between the TCDD isomers must be less than or equal to 25%.

Percent Valley deterimation for DB-225 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

2347-TCDF/2378-TCDF: 8%

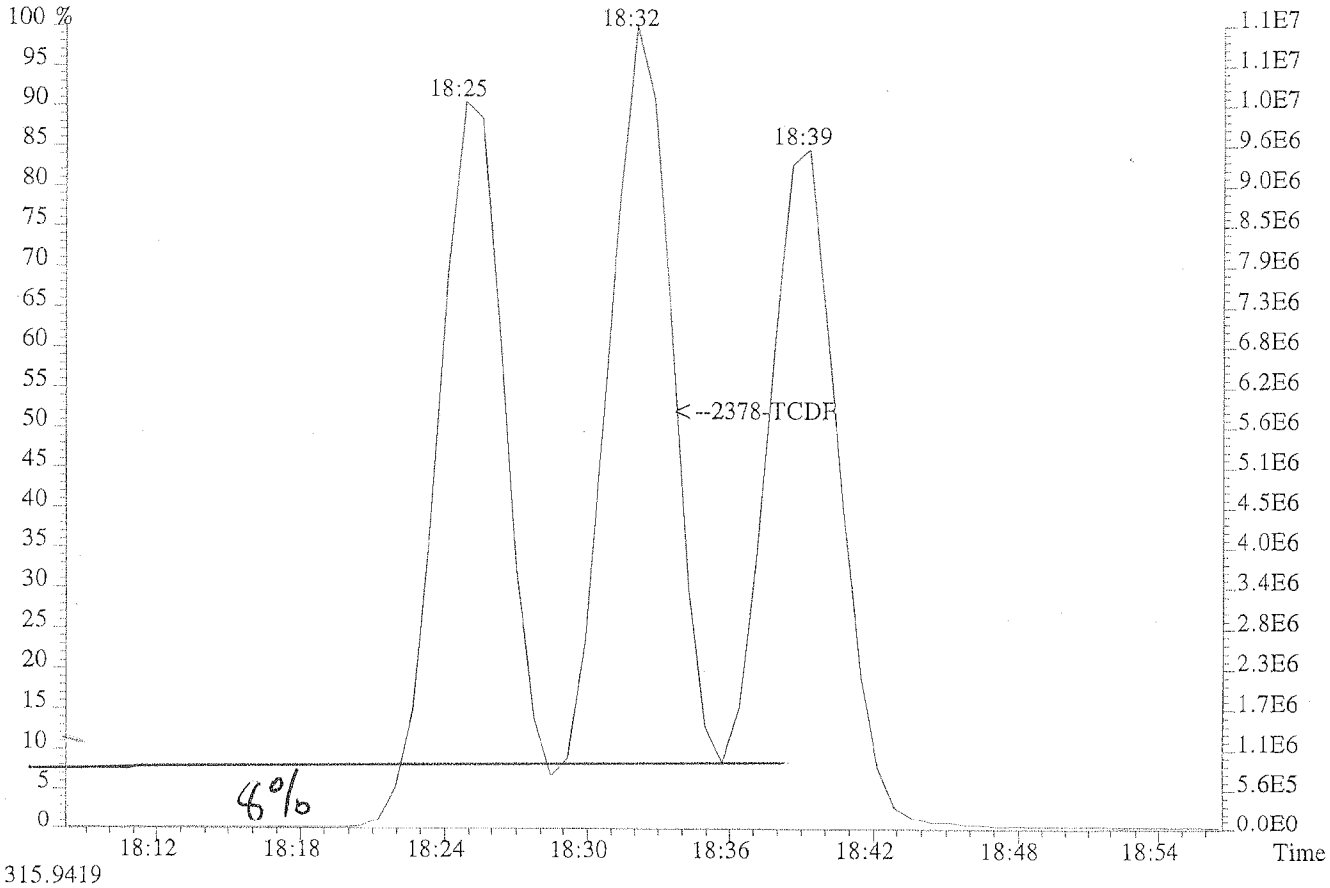
QUALITY COTROL (QC) LIMITS:

Percent Valley between the TCDF/TCDF isomers must be less than or equal to 25%.

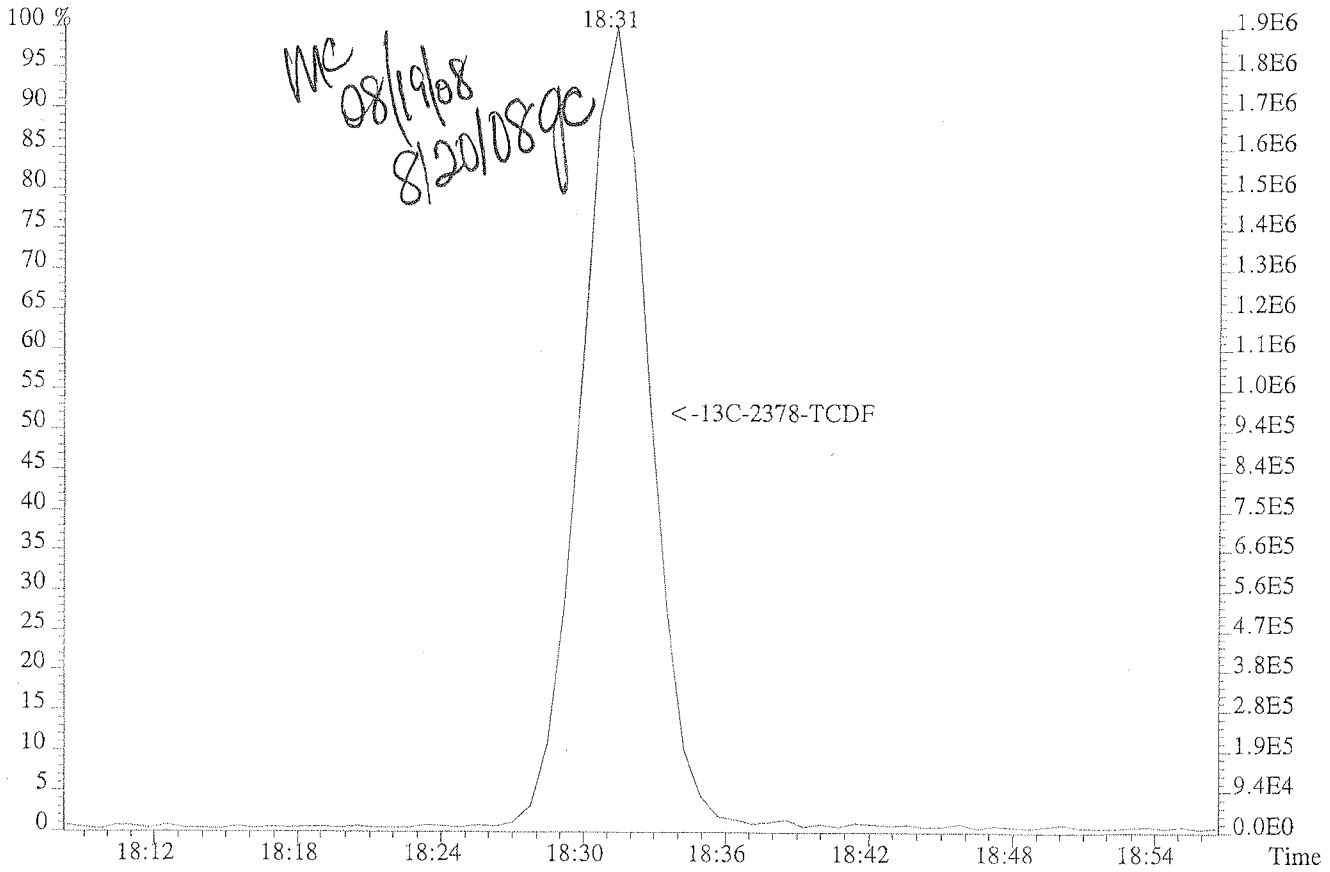
Analyst Init: MC

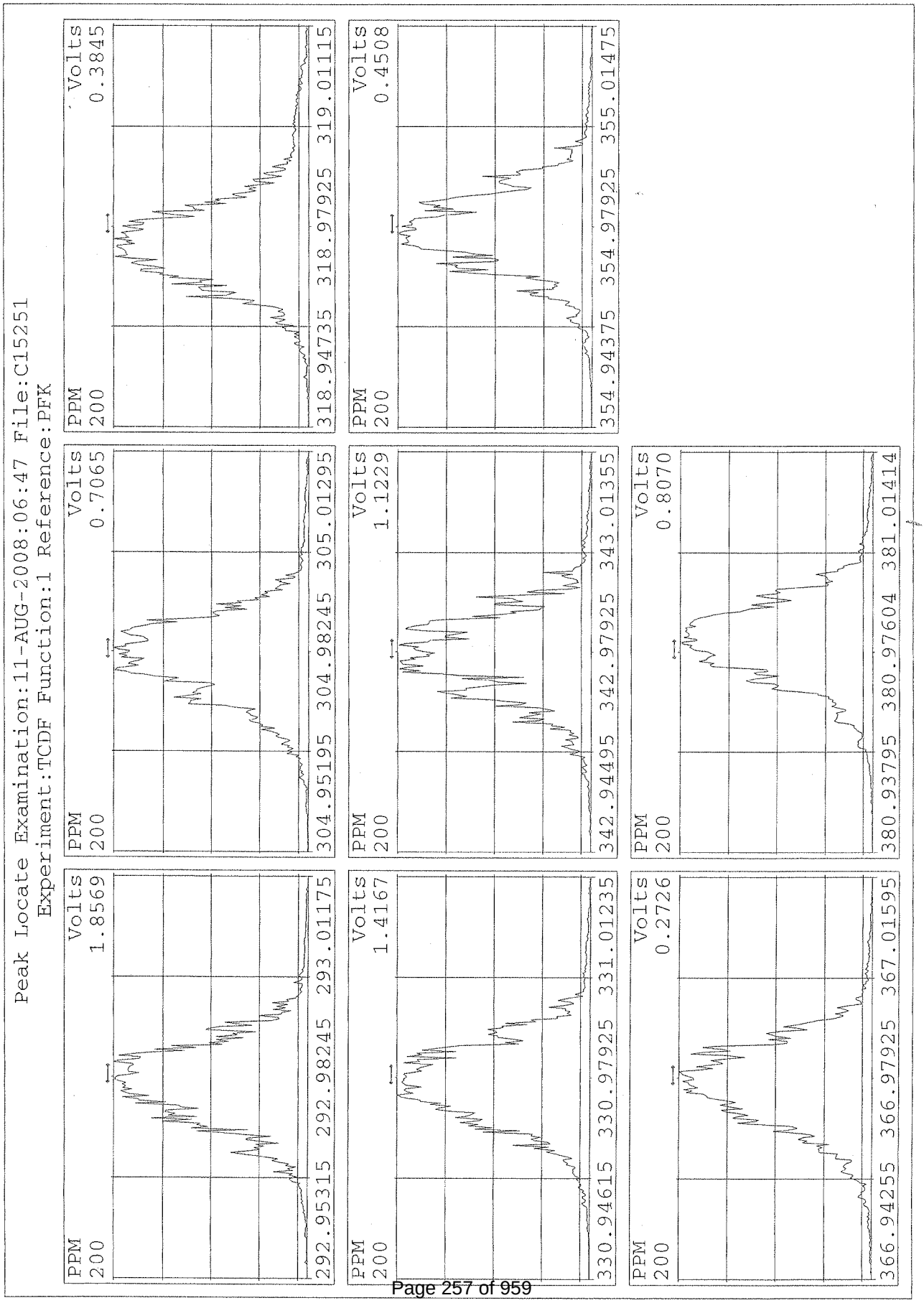
FORM V-HR CDD-2 DLM02.0

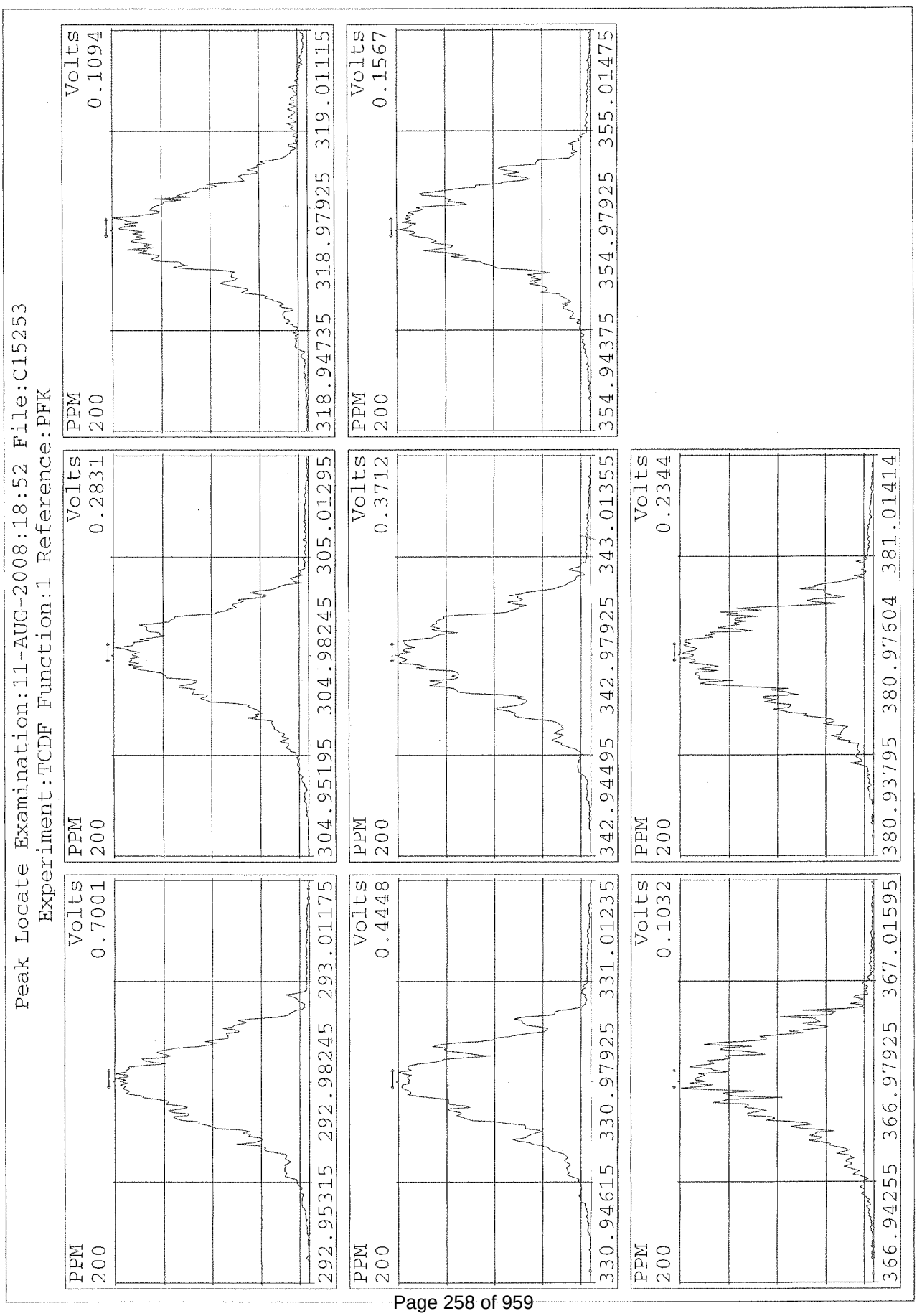
File:C15252 #1-582 Acq:11-AUG-2008 06:49:40 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:COLUMN PERFORMANCE Exp:TCDF
303.9016



315.9419




Peak Locate Examination:11-AUG-2008:06:47 File:C15251
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
1.8569
292.95315 292.98245 293.01175
PPM
200
Volts
0.7065
304.95195 304.98245 305.01295
PPM
200
Volts
0.3845
318.94735 318.97925 319.01115
PPM
200
Volts
1.4167
330.94615 330.97925 331.01235
PPM
200
Volts
1.1229
342.94495 342.97925 343.01355
PPM
200
Volts
0.4508
354.94375 354.97925 355.01475
PPM
200
Volts
0.2726
366.94255 366.97925 367.01595
PPM
200
Volts
0.8070
380.93795 380.97604 381.01414


Peak Locate Examination:11-AUG-2008:18:52 File:C15253
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
0.7001
292.95315 292.98245 293.01175
Volts
0.2831
304.95195 304.98245 305.01295
Volts
0.1094
318.94735 318.97925 319.01115
Volts
0.4448
330.94615 330.97925 331.01235
Volts
0.3712
342.94495 342.97925 343.01355
Volts
0.1567
354.94375 354.97925 355.01475
Volts
0.1032
366.94255 366.97925 367.01595
Volts
0.2344
380.93795 380.97604 381.01414

FORM 4A
TCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Contract No.:

Lab Code: TX01411 Case No.: Client No: SDG No.:

Initial Calibration Date: 05/30/08

Instrument ID: 70S GC COLUMN ID: DB-225

VER Data Filename: C15252#2 Analysis Date: 11-AUG-08 Time: 07:22:20

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	1.01	1.10	-8.19
Labeled Compounds						
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.42	1.34	5.58
Cleanup Standard						
37Cl-2,3,7,8-TCDD				0.98	0.95	3.14

Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
CCAL CS3

Run #6 Filename C15252#2 Samp: 2 Inj: 1 Acquired: 11-AUG-08 07:22:20
Processed: 19-AUG-08 08:30:47 Sample ID: CCAL CS3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:31	5.550e+06	6.985e+06	0.79	yes	no
2	IS	13C-2,3,7,8-TCDF	18:30	5.441e+07	7.019e+07	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:33	3.889e+07	4.896e+07	0.79	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:20	8.601e+06				

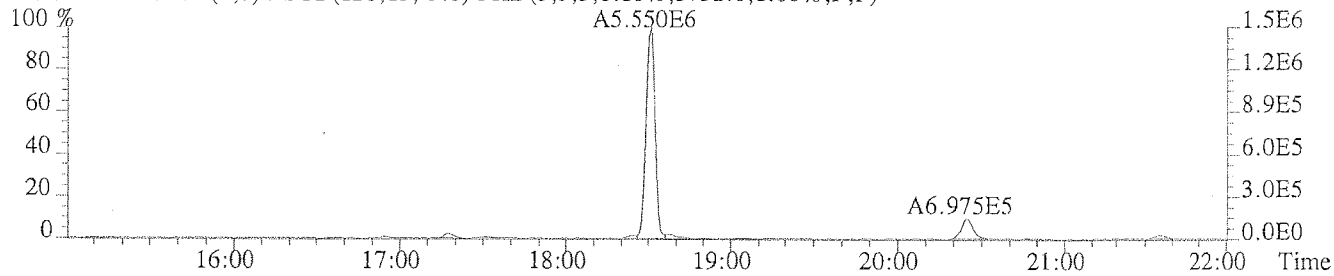
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	1.49e+06	3.75e+03	4.0e+02	1.85e+06	4.94e+03	3.7e+02
2	13C-2,3,7,8-TCDF	1.24e+07	4.05e+03	3.1e+03	1.61e+07	4.88e+03	3.3e+03
3	13C-1,2,3,4-TCDD	1.19e+07	5.77e+03	2.1e+03	1.49e+07	3.47e+03	4.3e+03
4	37Cl-2,3,7,8-TCDD	2.55e+06	2.99e+03	8.5e+02			

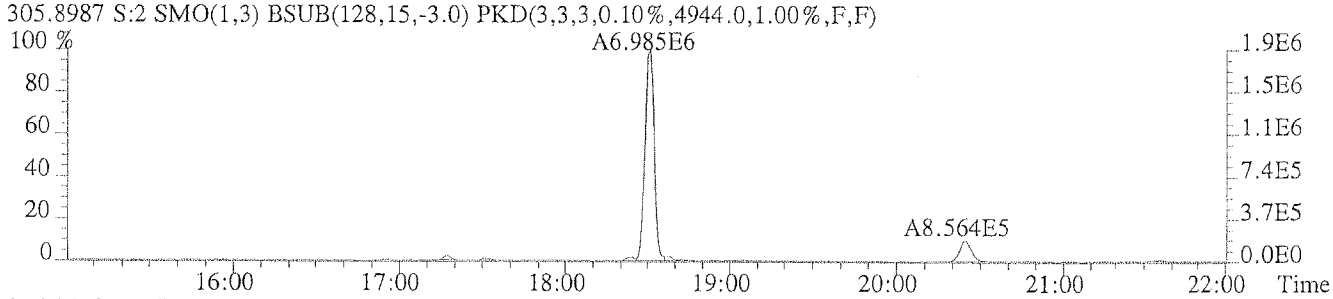
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

File:C15252 #1-582 Acq:11-AUG-2008 07:22:20 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF

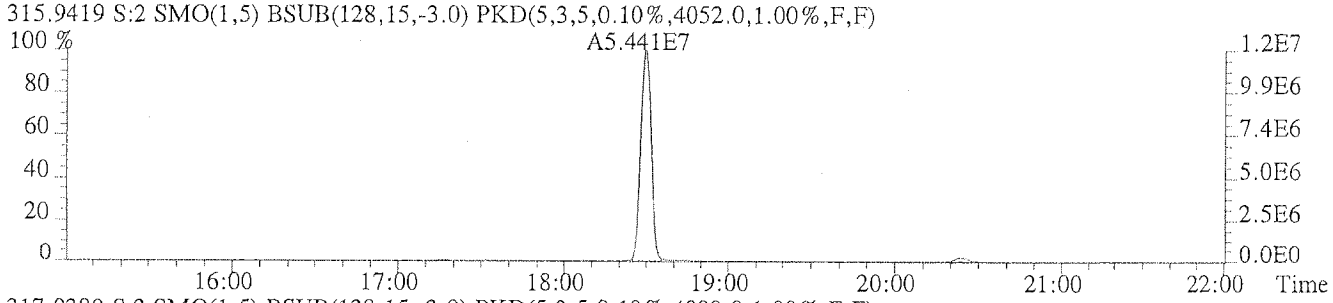
303.9016 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3752.0,1.00%,F,F)



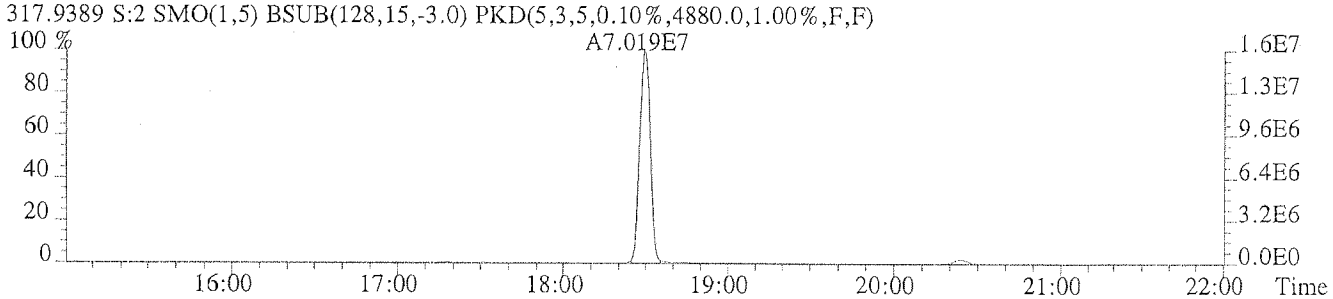
305.8987 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4944.0,1.00%,F,F)



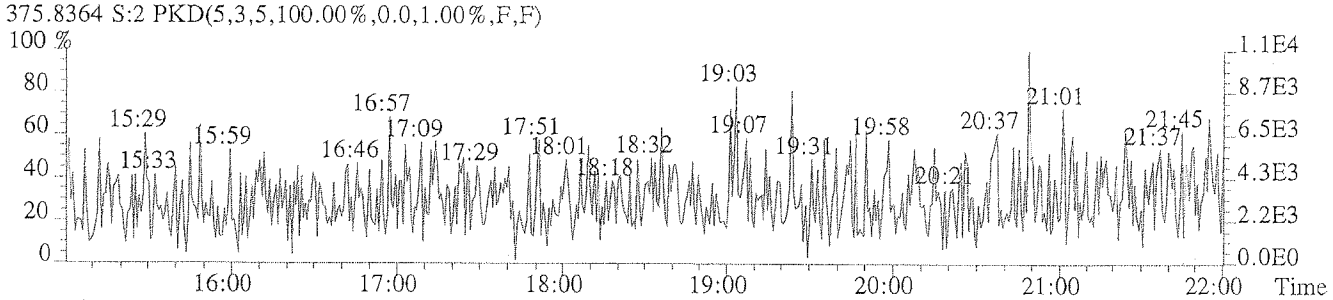
315.9419 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,4052.0,1.00%,F,F)



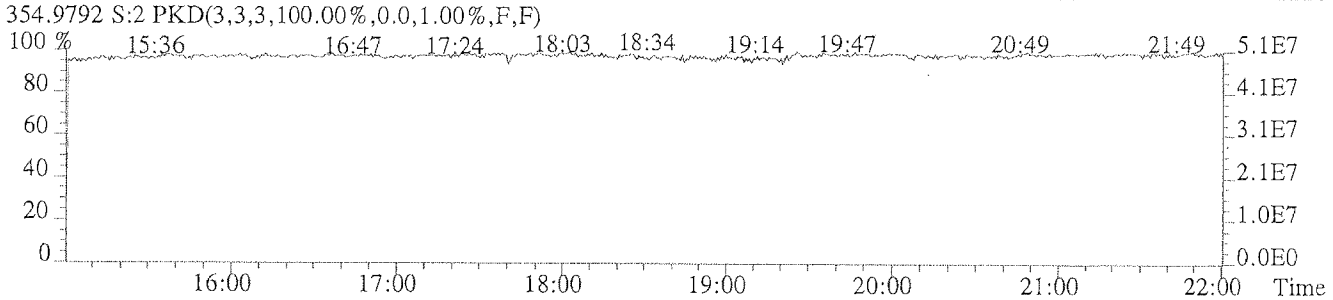
317.9389 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,4880.0,1.00%,F,F)



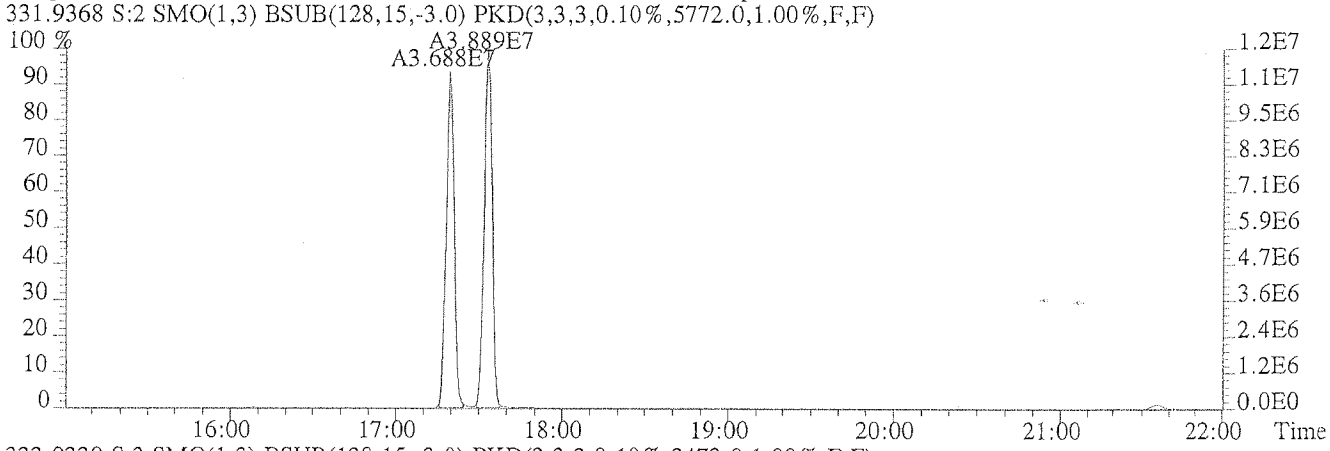
375.8364 S:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



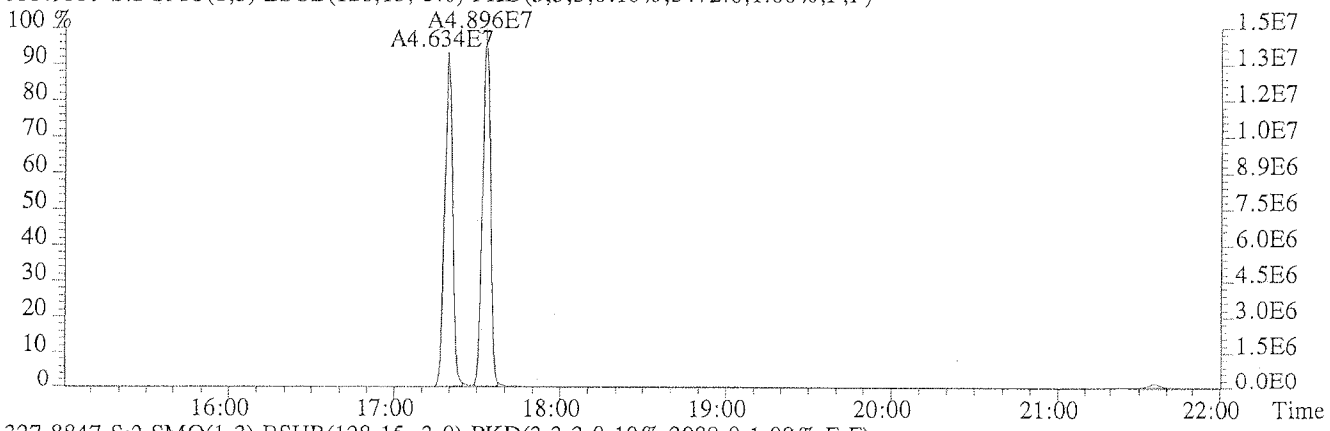
354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



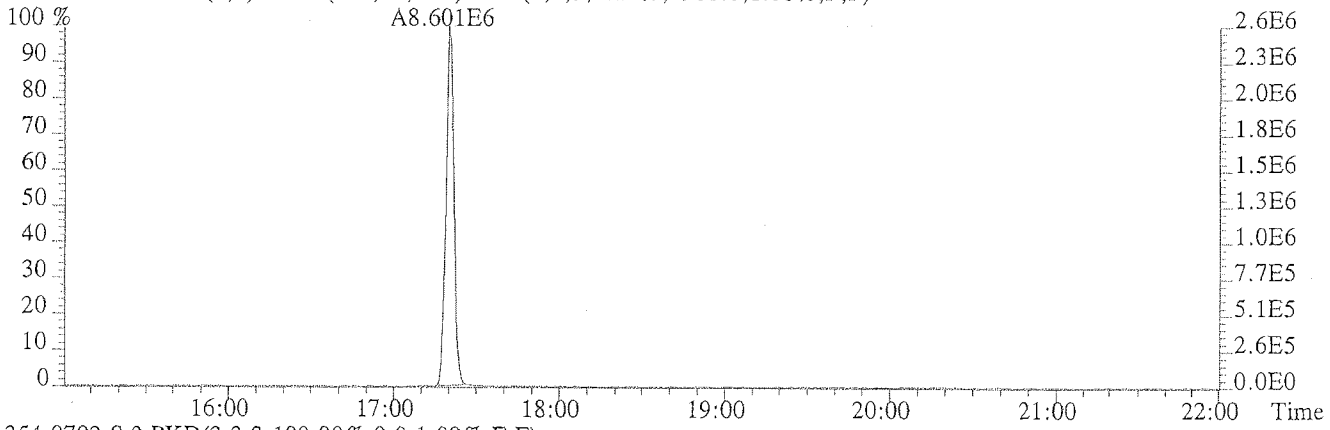
File:C15252 #1-582 Acq:11-AUG-2008 07:22:20 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF
331.9368 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5772.0,1.00%,F,F)



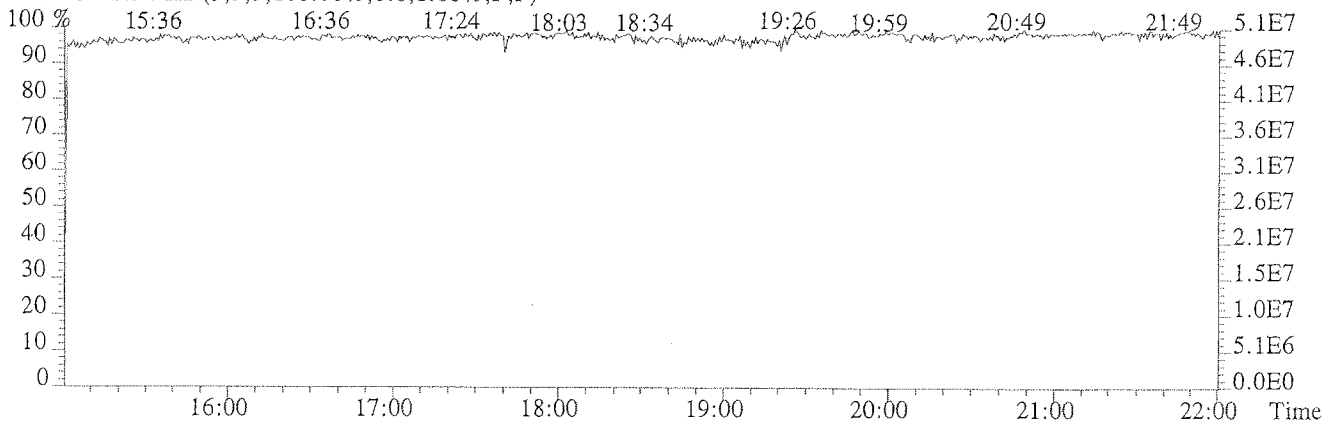
333.9339 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3472.0,1.00%,F,F)



327.8847 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2988.0,1.00%,F,F)



354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



FORM 4A
TCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Contract No.:

Lab Code: TX01411 Case No.: Client No: SDG No.:

Initial Calibration Date: 05/30/08

Instrument ID: 70S GC COLUMN ID: DB-225

VER Data Filename: C15252#21 Analysis Date: 11-AUG-08 Time: 18:17:00

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	0.98	1.10	-10.74
Labeled Compounds						
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	1.44	1.34	6.93
Cleanup Standard						
37Cl-2,3,7,8-TCDD				0.93	0.95	-1.59

Columbia Analytical Services, Inc. Page 25 of 25
Sample Response Summary EPA SAMPLE NO.
CCAL CS3

Run #25 Filename C15252#21 Samp: 21 Inj: 1 Acquired: 11-AUG-08 18:17:00
Processed: 19-AUG-08 08:33:31 Sample ID: CCAL CS3

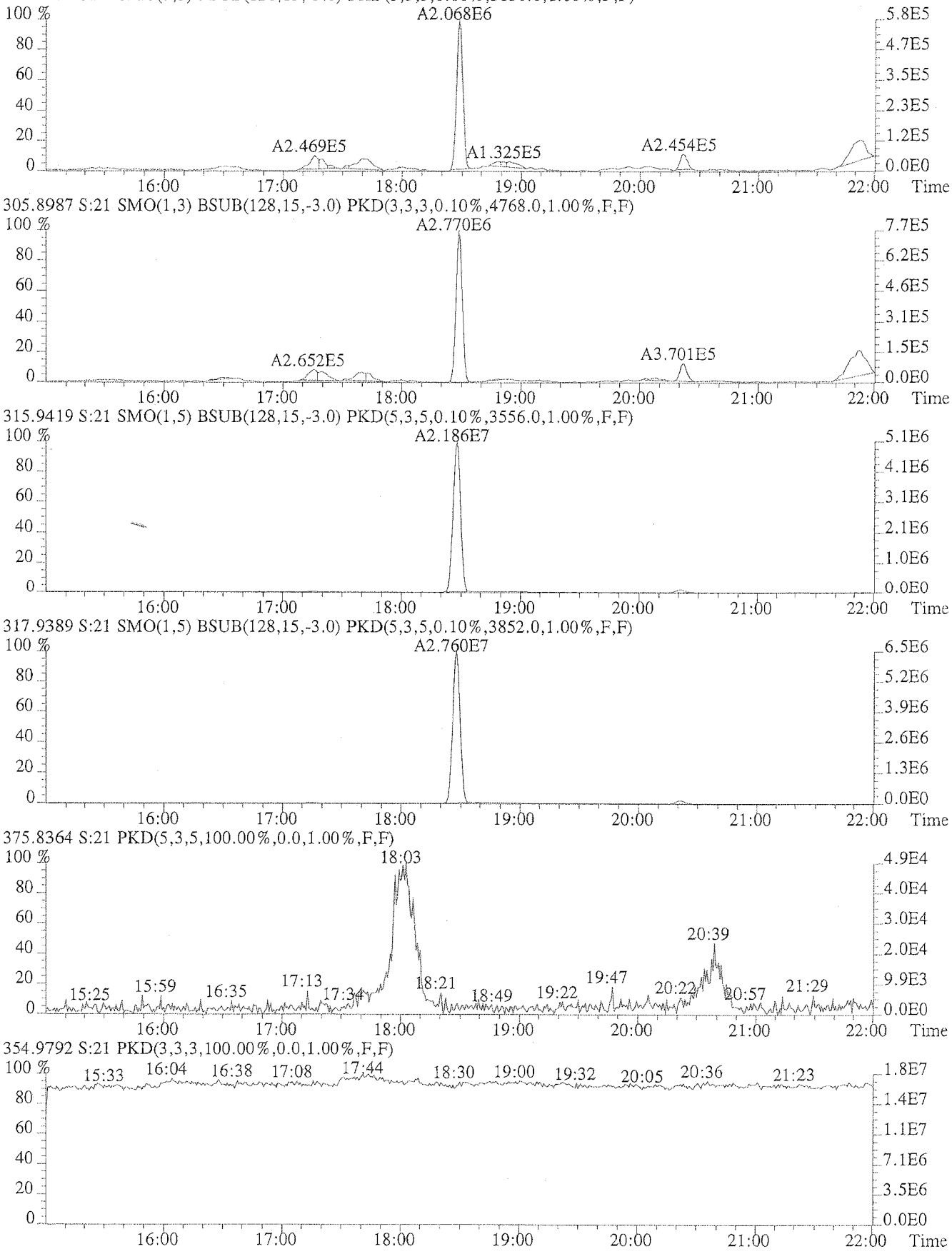
	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:29	2.068e+06	2.770e+06	0.75	yes	no
2	IS	13C-2,3,7,8-TCDF	18:28	2.186e+07	2.760e+07	0.79	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:32	1.527e+07	1.916e+07	0.80	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:19	3.217e+06				

Signal/Noise Height Ratio Summary

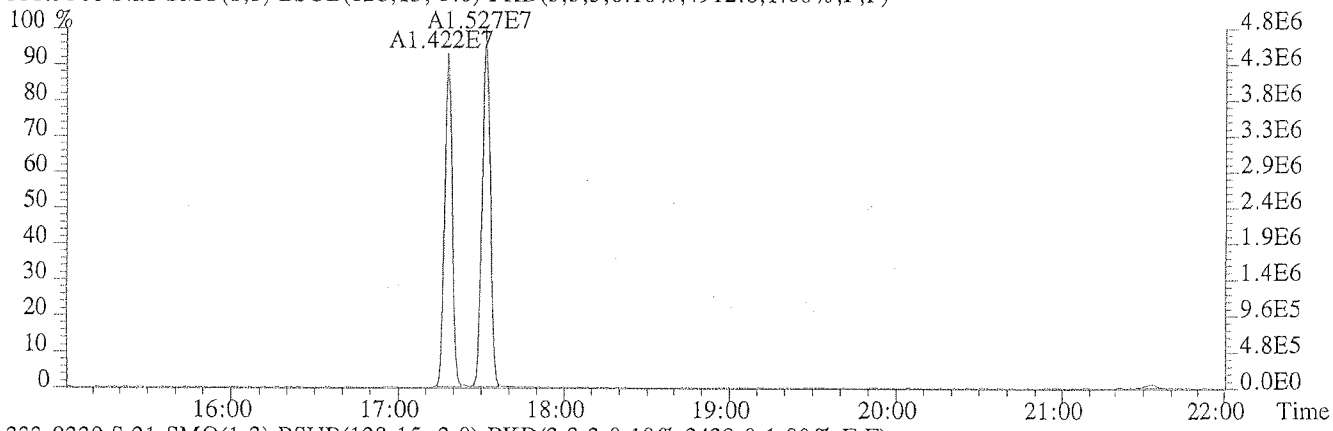
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	5.76e+05	5.14e+03	1.1e+02	7.74e+05	4.77e+03	1.6e+02
2	13C-2,3,7,8-TCDF	5.13e+06	3.56e+03	1.4e+03	6.48e+06	3.85e+03	1.7e+03
3	13C-1,2,3,4-TCDD	4.77e+06	4.91e+03	9.7e+02	6.05e+06	2.43e+03	2.5e+03
4	37Cl-2,3,7,8-TCDD	9.76e+05	2.80e+03	3.5e+02			

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

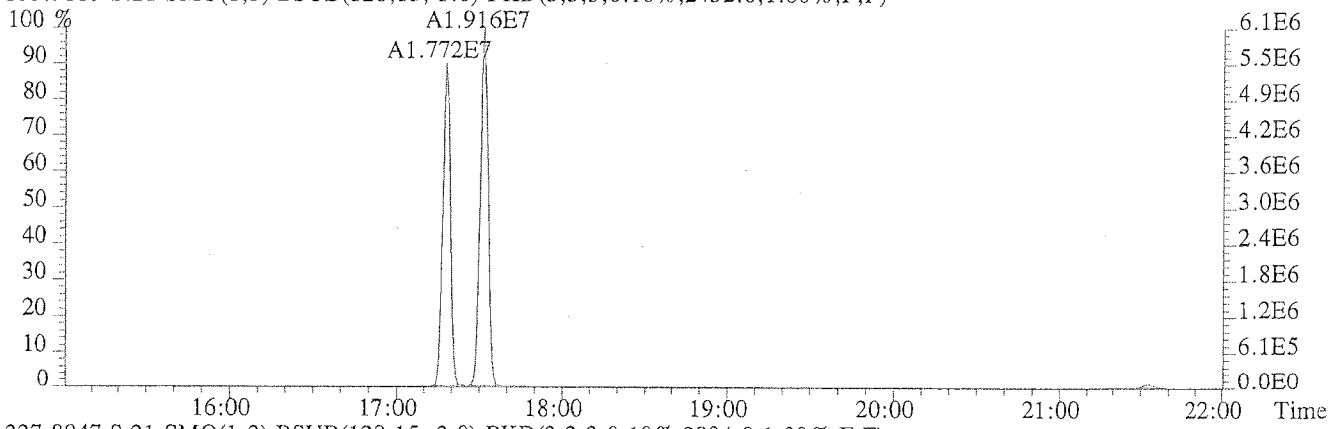
File:C15252 #1-582 Acq:11-AUG-2008 18:17:00 GC EI+ Voltage SIR 70S
Sample#21 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF



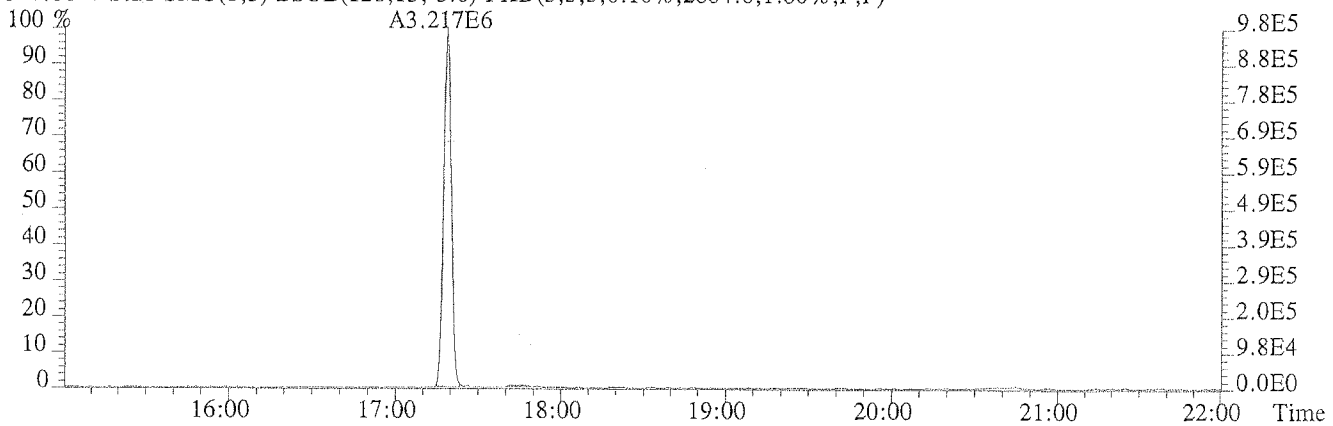
File:C15252 #1-582 Acq:11-AUG-2008 18:17:00 GC EI+ Voltage SIR 70S
Sample#21 File Text:CAS,HOUSTON Text:CCAL CS3 Exp:TCDF
331.9368 S:21 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4912.0,1.00%,F,F)



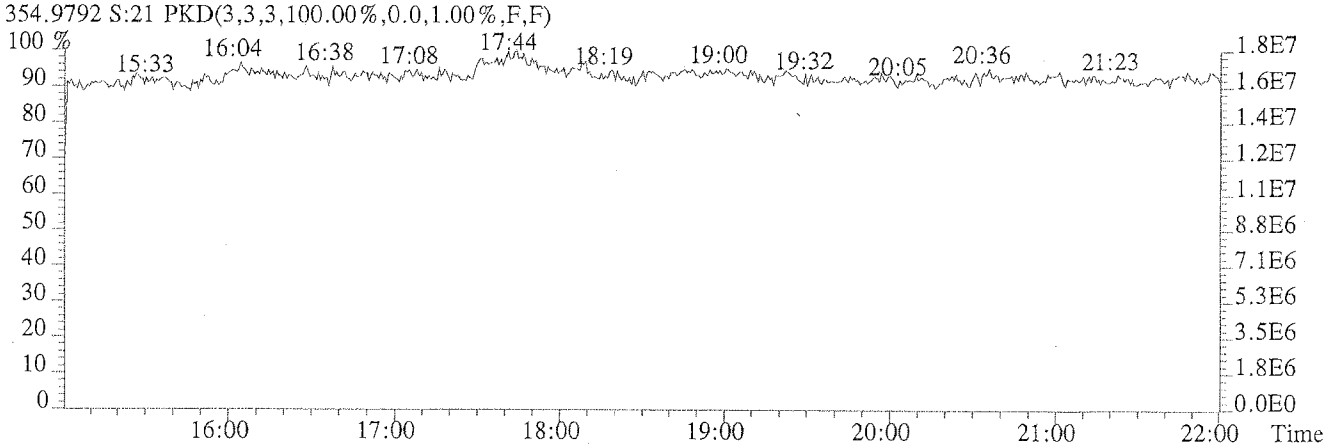
333.9339 S:21 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2432.0,1.00%,F,F)



327.8847 S:21 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2804.0,1.00%,F,F)



354.9792 S:21 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: P100162 - P100172

Circle one: Beginning / Ending

Date: 08/01/08

Method: (8290) / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: BY

Second QC: JC

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 07/02/08

Init. Calib.Times: 09:52

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
WINDOW DEFINE		P100160	1-AUG-08	06:33:24
CCAL HRCC3		P100162	1-AUG-08	08:30:52
METHOD BLANK	EQ0800314-01	P100163	1-AUG-08	10:05:17
PB17-GW-071708	K0806614-032	P100164	1-AUG-08	10:51:49
INCGSB110708	E0800715-003	P100165	1-AUG-08	11:40:13
EST-MW9-030	E0800716-001	P100166	1-AUG-08	12:31:44
EST-MW16-030	E0800716-002	P100167	1-AUG-08	13:23:45
EST-MW4-030	E0800716-003	P100168	1-AUG-08	14:15:57
EST-MW2-030	E0800716-005	P100169	1-AUG-08	15:03:55
EST-MW12-030	E0800716-006	P100170	1-AUG-08	15:55:00
EST-MW3-030	E0800716-007	P100171	1-AUG-08	16:47:41
CCAL HRCC3	CCAL HRCC3	P100172	1-AUG-08	17:47:40

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: 82ROCA 1613 Result File: E:\P100162RES
GC Method: 82ROCA 1611 EDD File:

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RF
07/31/08	10:47	P100151	EQ8C0697-014	INCSSB1304	EQ312			
	11:35	P100152	-015	INCSSB0504				
	12:27	P100153	-016	INCSSB0601				
	13:18	P100154	-017	INCSSB0613				
	14:08	P100155	EQ8C0640-001	SA67-0.5B				
	14:57	P100156	KQ8C0687-008	Composite				
	15:55	P100157	EQ8C0312-02	LCS				
	16:48	P100158	EQ8C0312-03	DLCS				
	17:39	P100159	CCAL 1HRC3	D8-2-2A				
	18:28		HRMS Check					
08/01/08	06:23							
08/01/08	06:33	P100160	Window Define	D4-5-2				
	~~08:30~~	P100161	CCAL 1HRC3	D8-2-2A				
	08:30	P100162	CCAL 1HRC3	D8-2-2A				
	10:05	P100163	EQ8C0314-01	METHOD BLANK				
	10:57	P100164	KQ8C0614-032	TB17-GW-071708				

Reviewed by: BY

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services, Inc.
An Employee Owned Company

Acq Method: S2ppCAS/1613 Result File: H:P100174RES
GC Method: S2ppCAS/1613 EDD File: _____

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/01/08	11:40	P100165	E080715-003	~~IN ESG~~ INCGSB	110708			
	12:31	P100166	E080716-001	EST - MW9 - 030				
	13:23	P100167	-002	EST - MW16 - 030				
	14:15	P100168	-003	EST - MW4 - 030				
	15:03	P100169	-005	EST - MW2 - 030				
	15:55	P100170	-006	EST - MW12 - 030				
	16:47	P100171	-007	EST - MW3 - 030				
	17:46	———	HRMS Check					
		P100172	CCAL HRCC3	D8-2-2A				
HRMS Check @ 07:36	18:37	———	HRMS Check					
08/04/08	07:39	P100173	Window Define					
	08:28	P100174	CCAL HRCC3	D8-2-2A				
	09:52	P100175	EQ080034-01	METHOD BLANK	EQ314			
	10:39	P100176	E080715-005	INCGSB	010708			
	11:27	P100177	E080716-008	EST-MW11-030				
	12:15	P100178	E080716-009	EST-MW11-035				

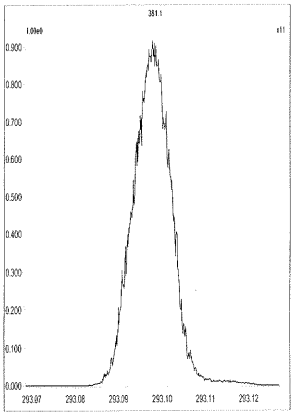
Reviewed by: MC

Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

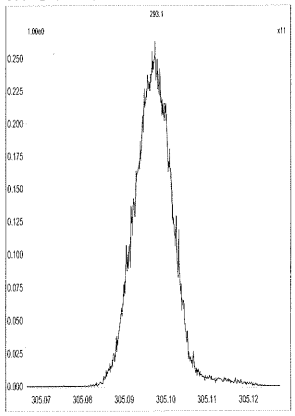
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, August 01, 2008 06:23:31 Central Daylight Time

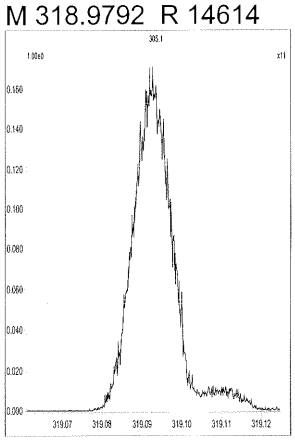
M 292.9824 R 15059



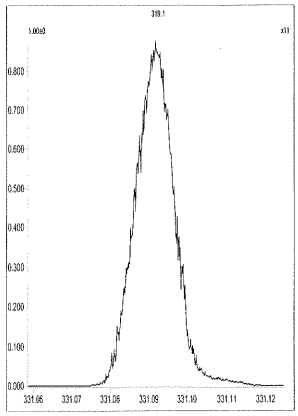
M 304.9824 R 14789



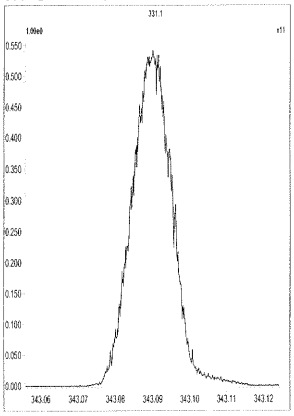
M 318.9792 R 14614



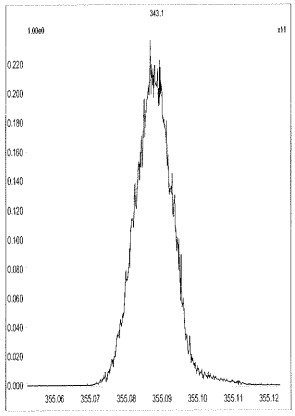
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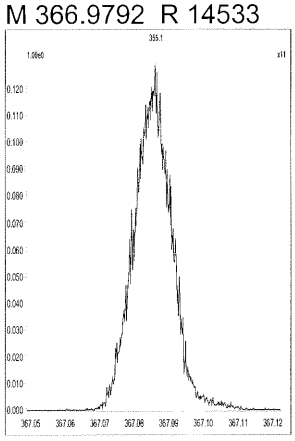
M 342.9792 R 14364



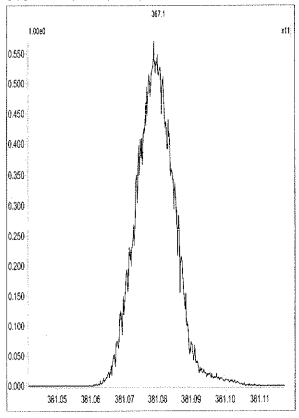
M 354.9792 R 14529



M 366.9792 R 14533



M 380.9760 R 14622

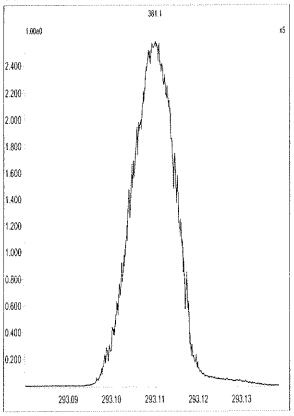


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

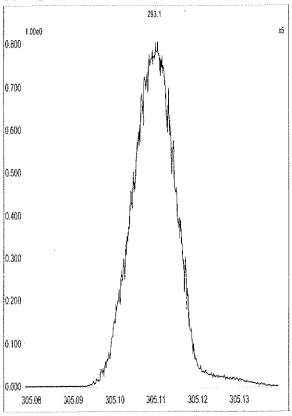
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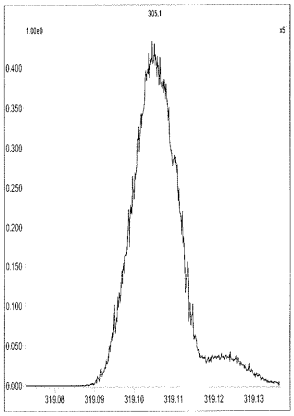
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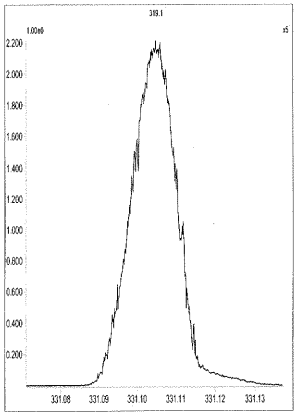
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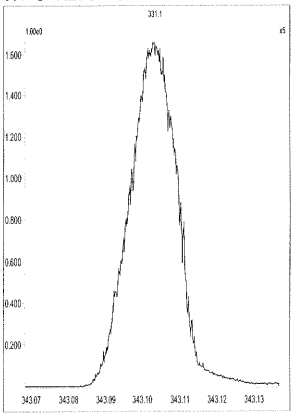
M 318.9792 R 8929



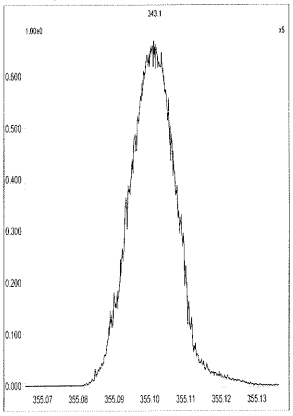
M 330.9792 R 12625



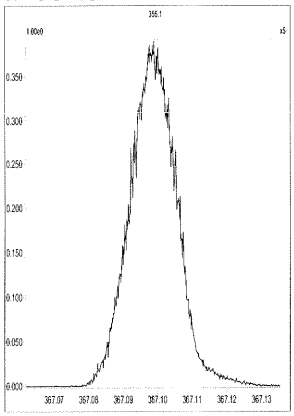
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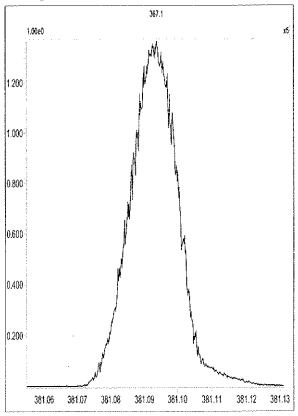
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M 366.9792 R 11960



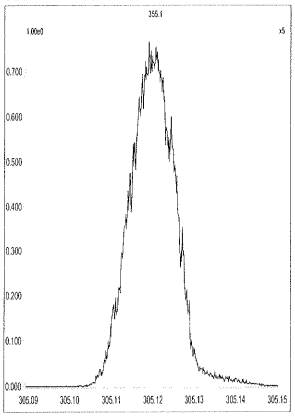
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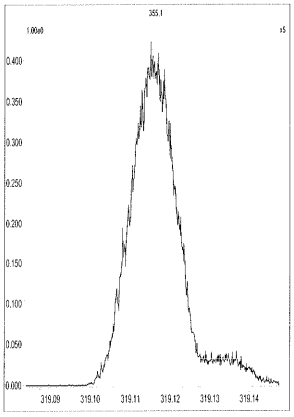
Resolution Check Report **MassLynx 4.1** Page 1 of 1

Printed: Friday, August 01, 2008 18:37:01 Central Daylight Time

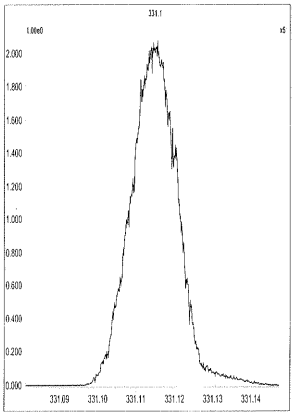
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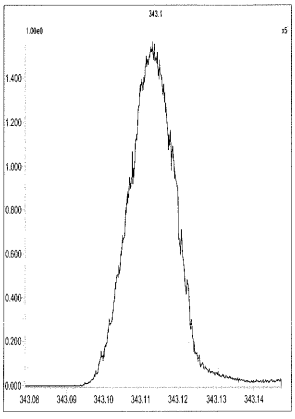
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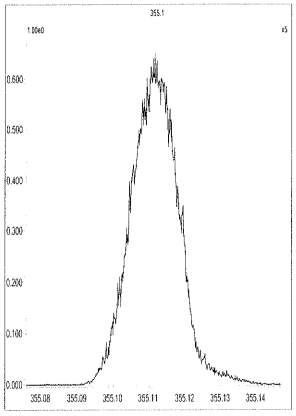
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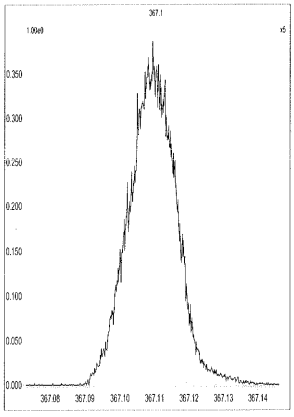
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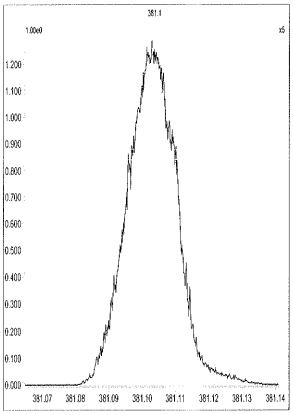
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M 366.9792 R 11547



M 380.9760 R 11014



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

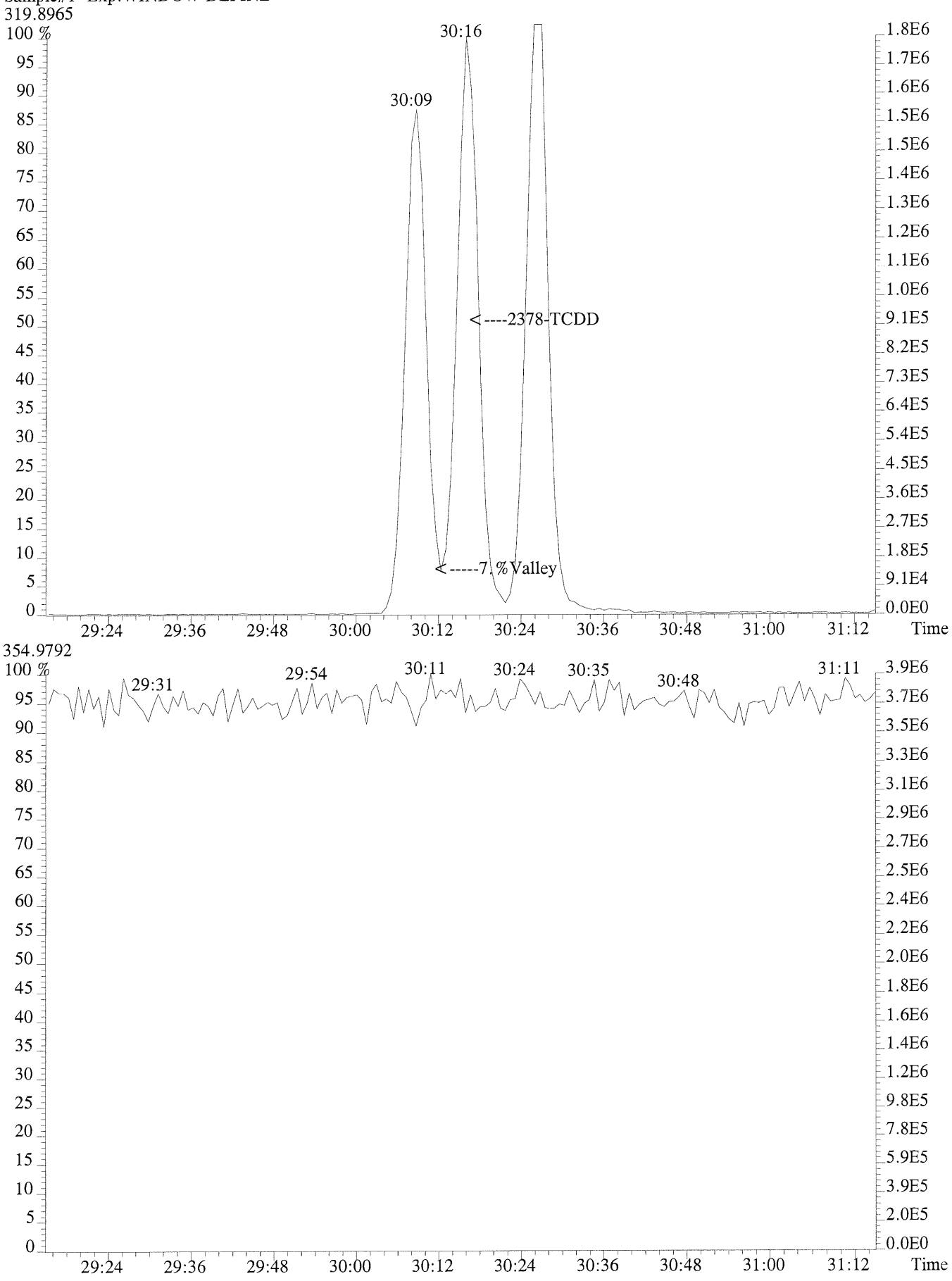
WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: CAS Case No.: _____ SDG No.:
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P100160
Date Analyzed: 1-AUG-2008
Time Analyzed: 06:33:24

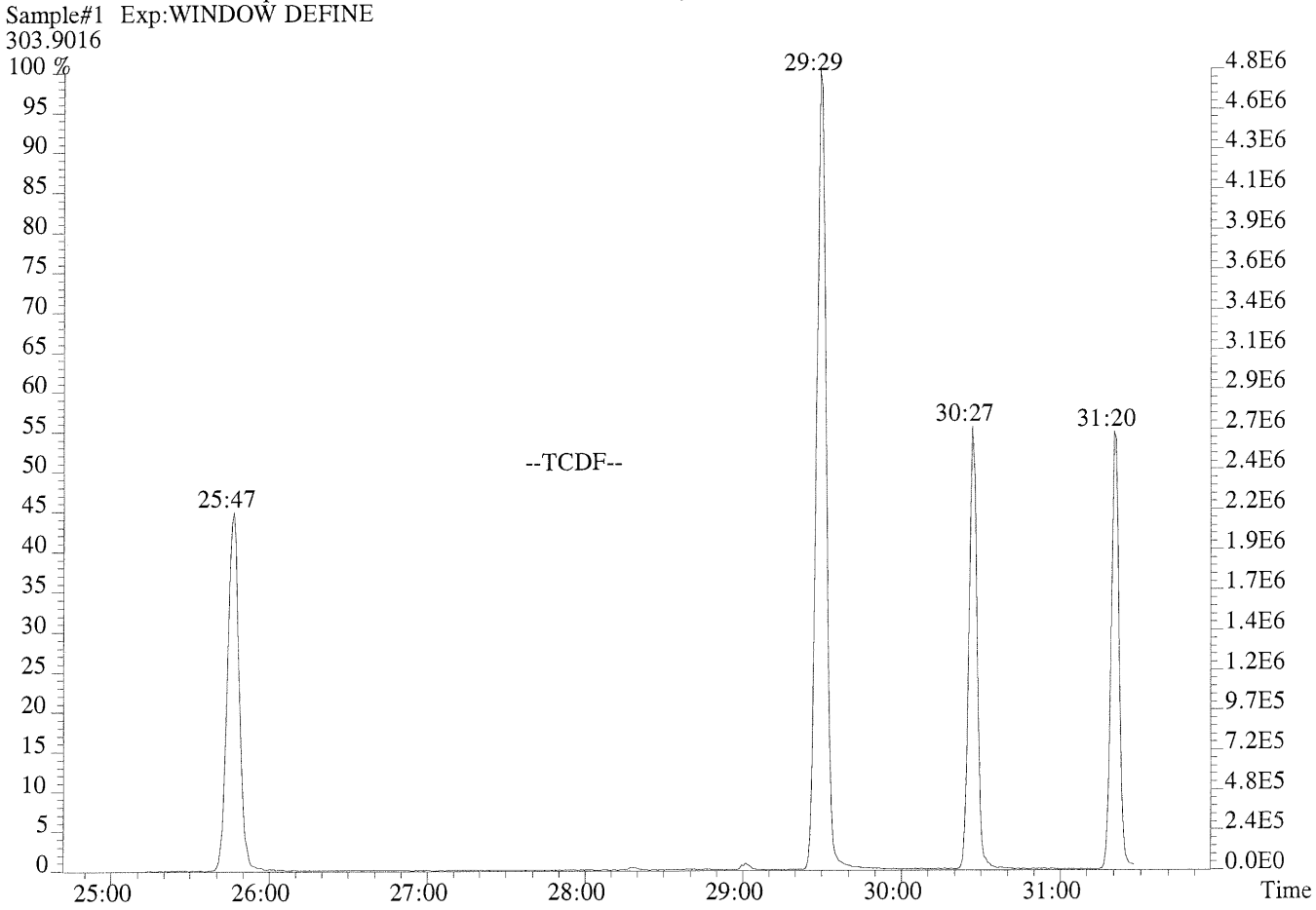
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	25:47	31:20
TCDD	27:25	31:19
PeCDF	31:35	35:18
PeCDD	32:53	35:09
HxCDF	36:09	38:25
HxCDD	36:38	38:05
HpCDF	39:49	41:10
HpCDD	40:04	40:43

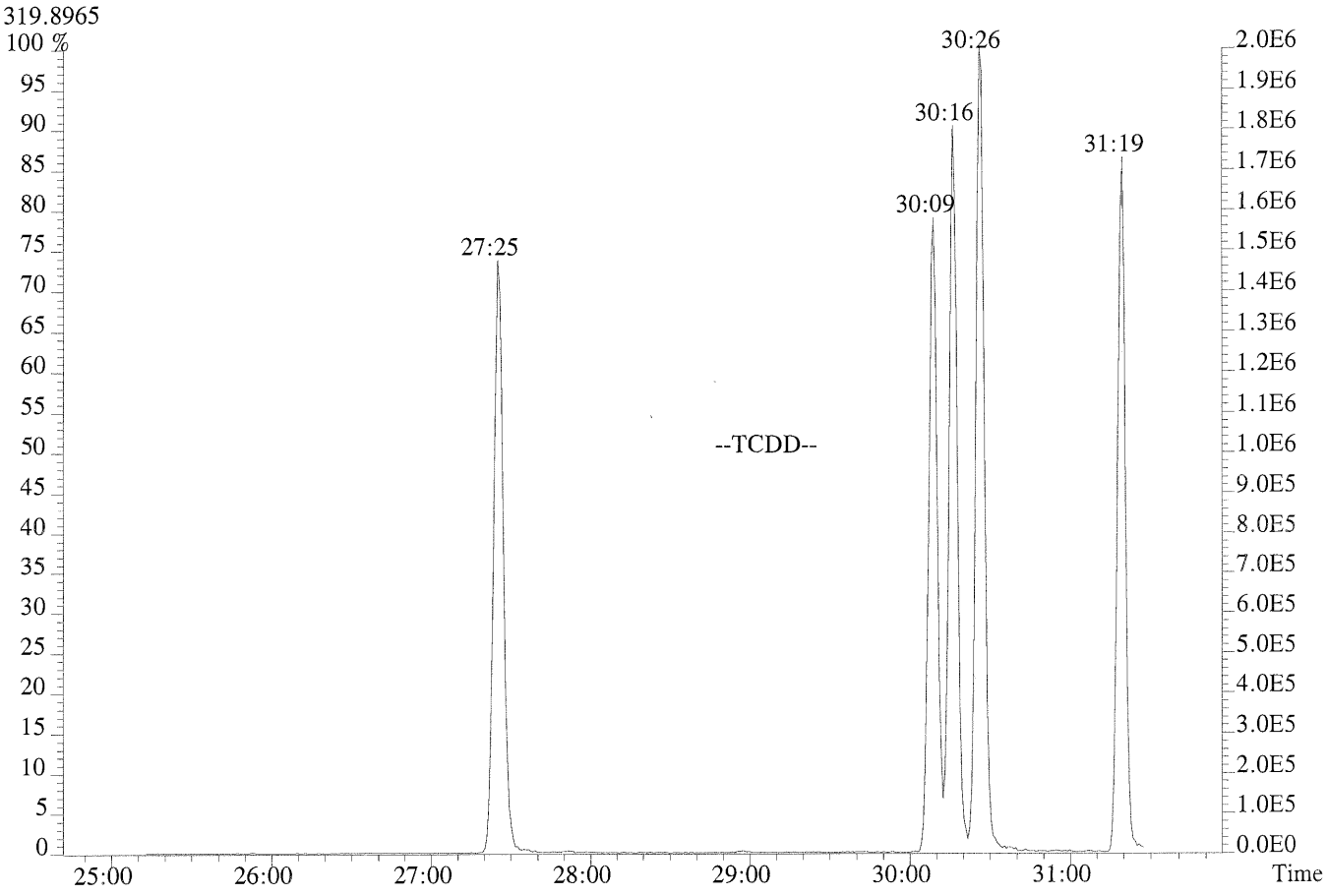
% Valley 2378-TCDD: 7. %

File:P100160 #1-521 Acq: 1-AUG-2008 06:33:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

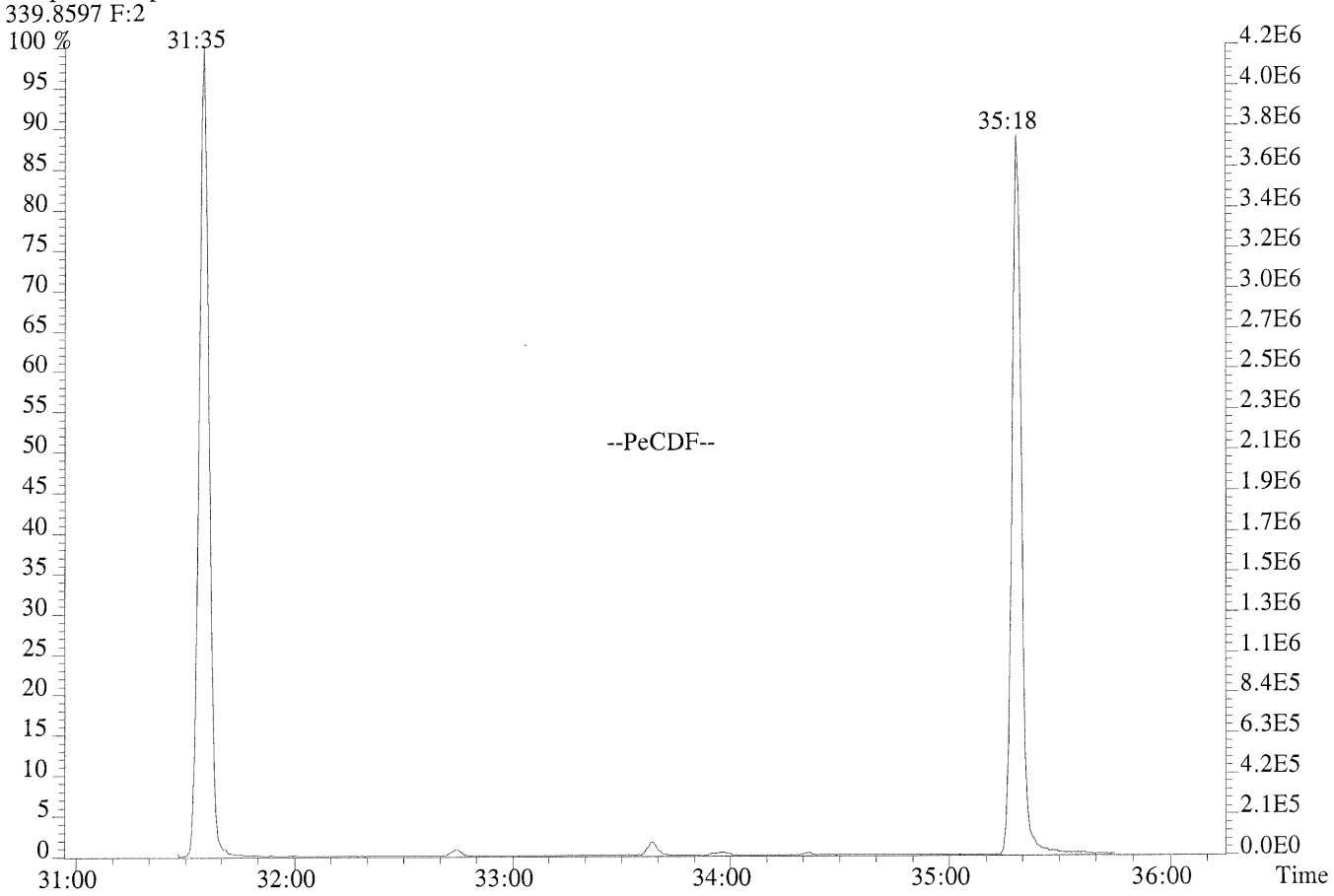


File:P100160 #1-521 Acq: 1-AUG-2008 06:33:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

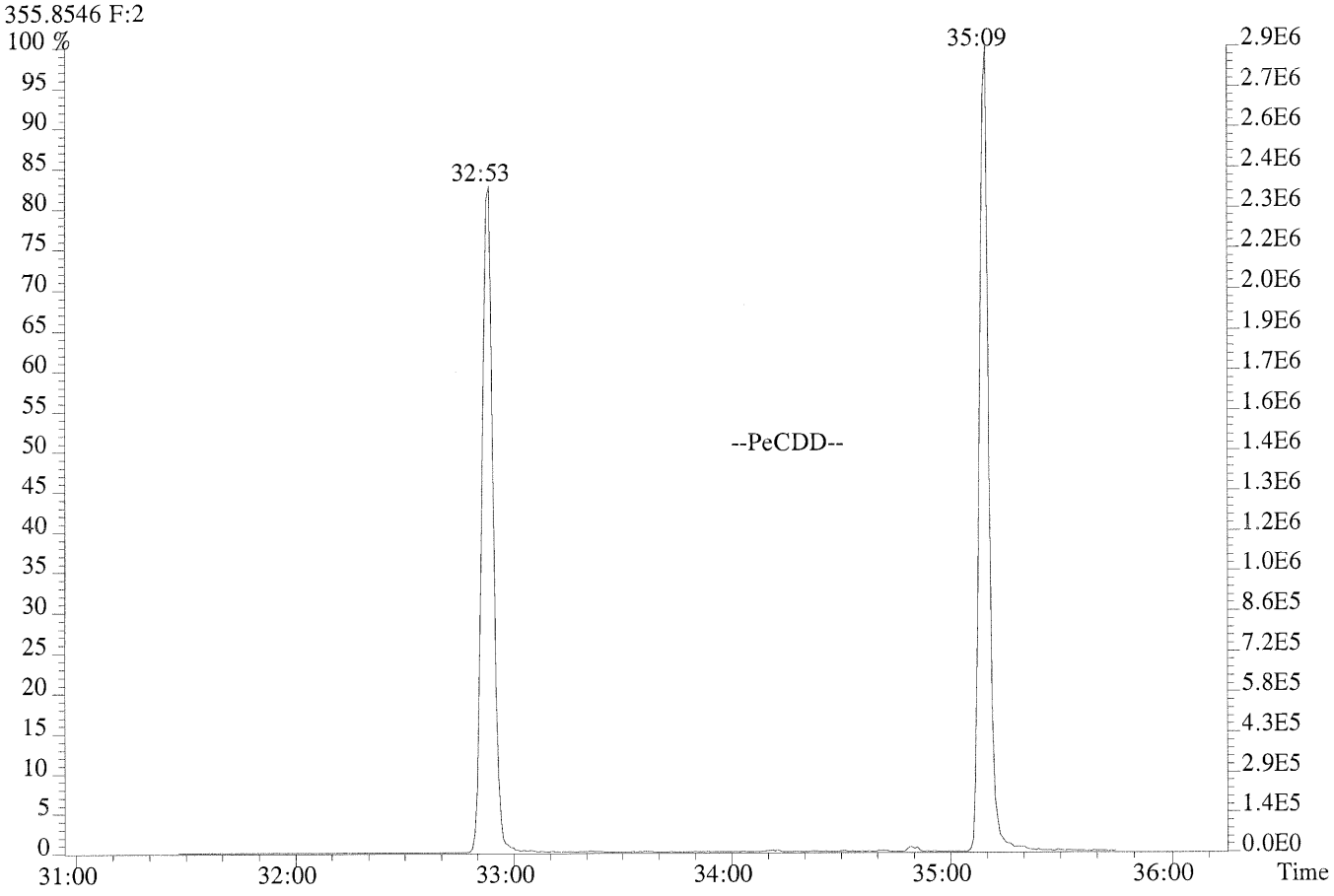




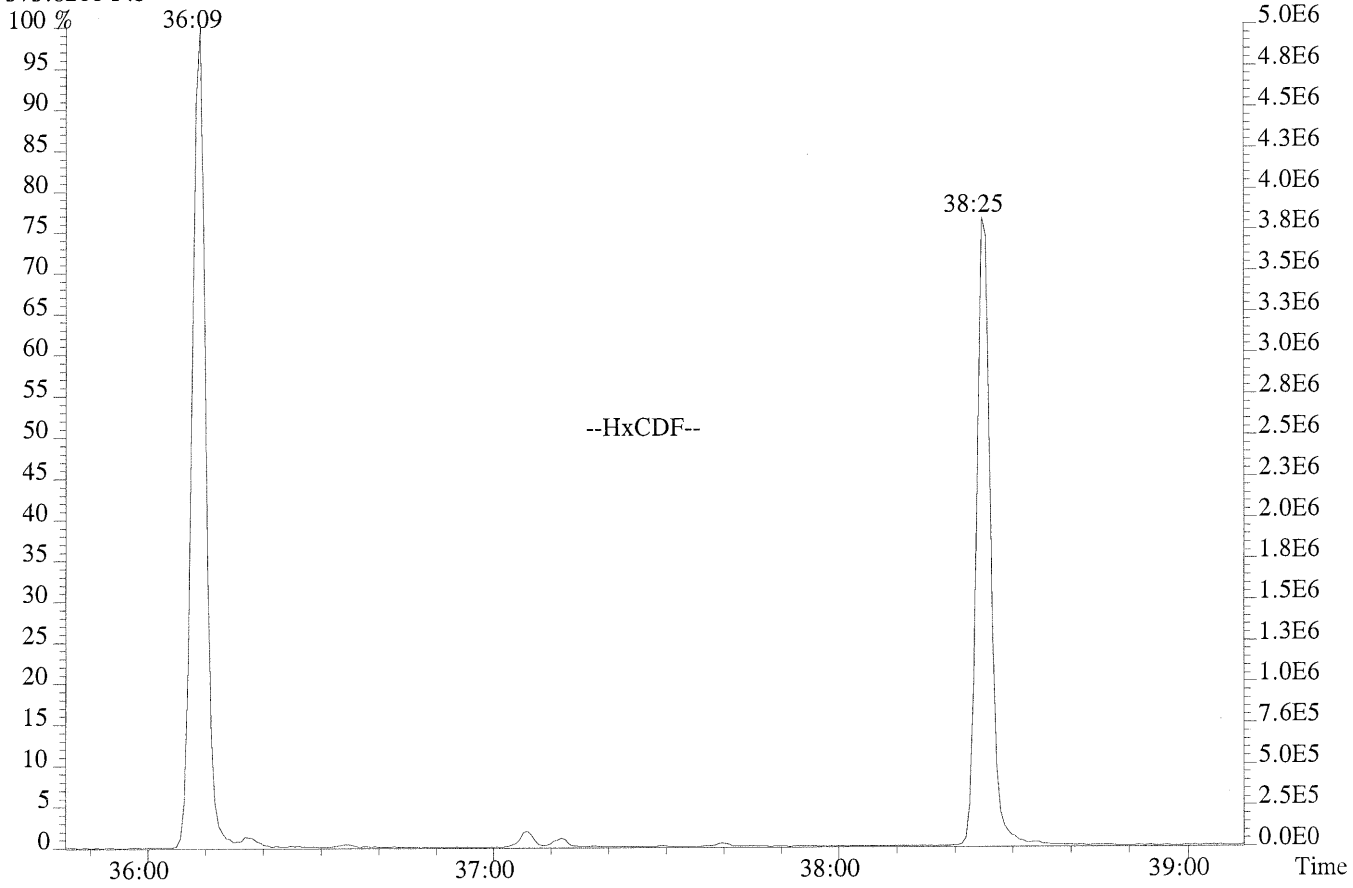
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Sample#1 Exp:WINDOW DEFINE
339.8597 F:2



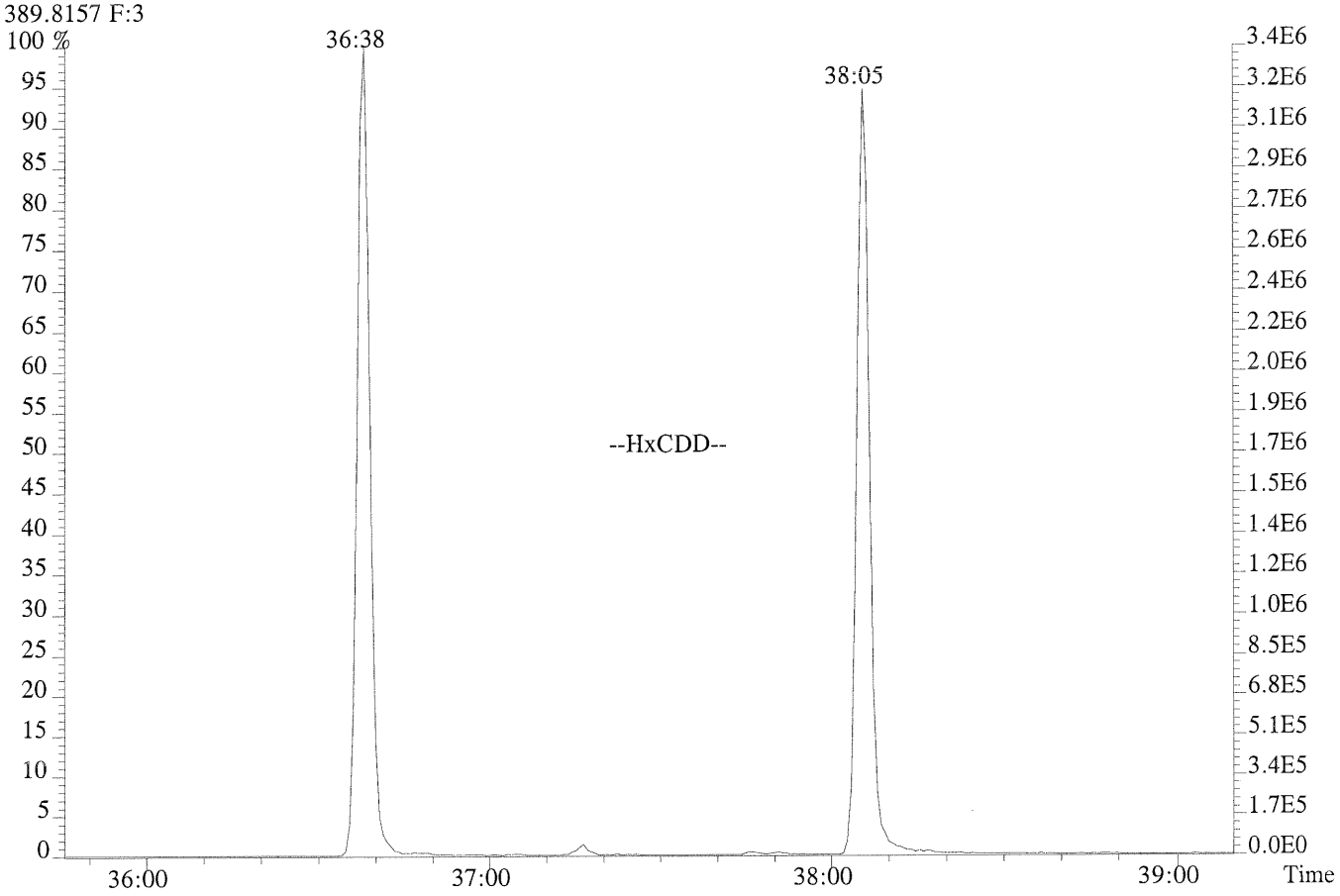
355.8546 F:2



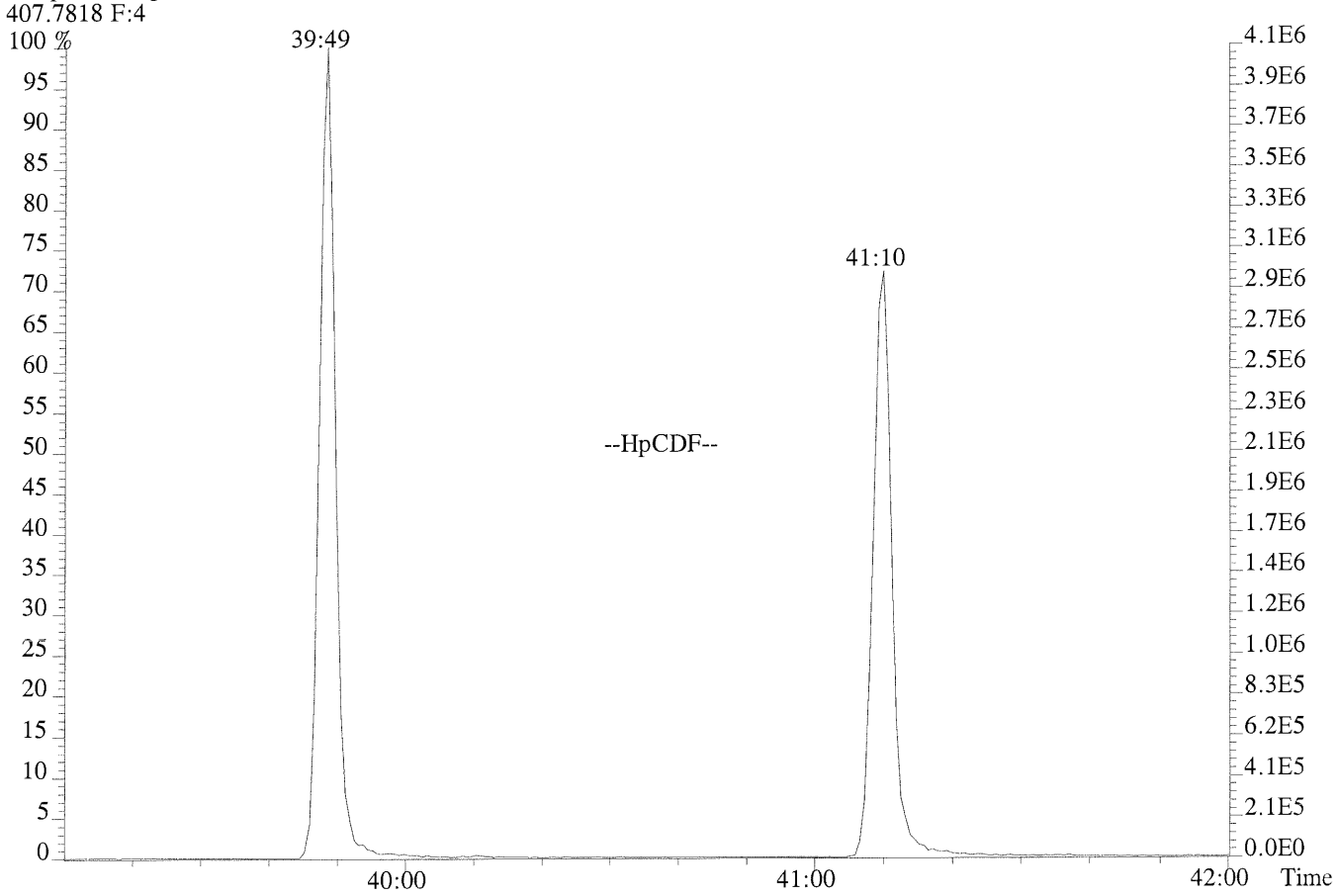
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Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



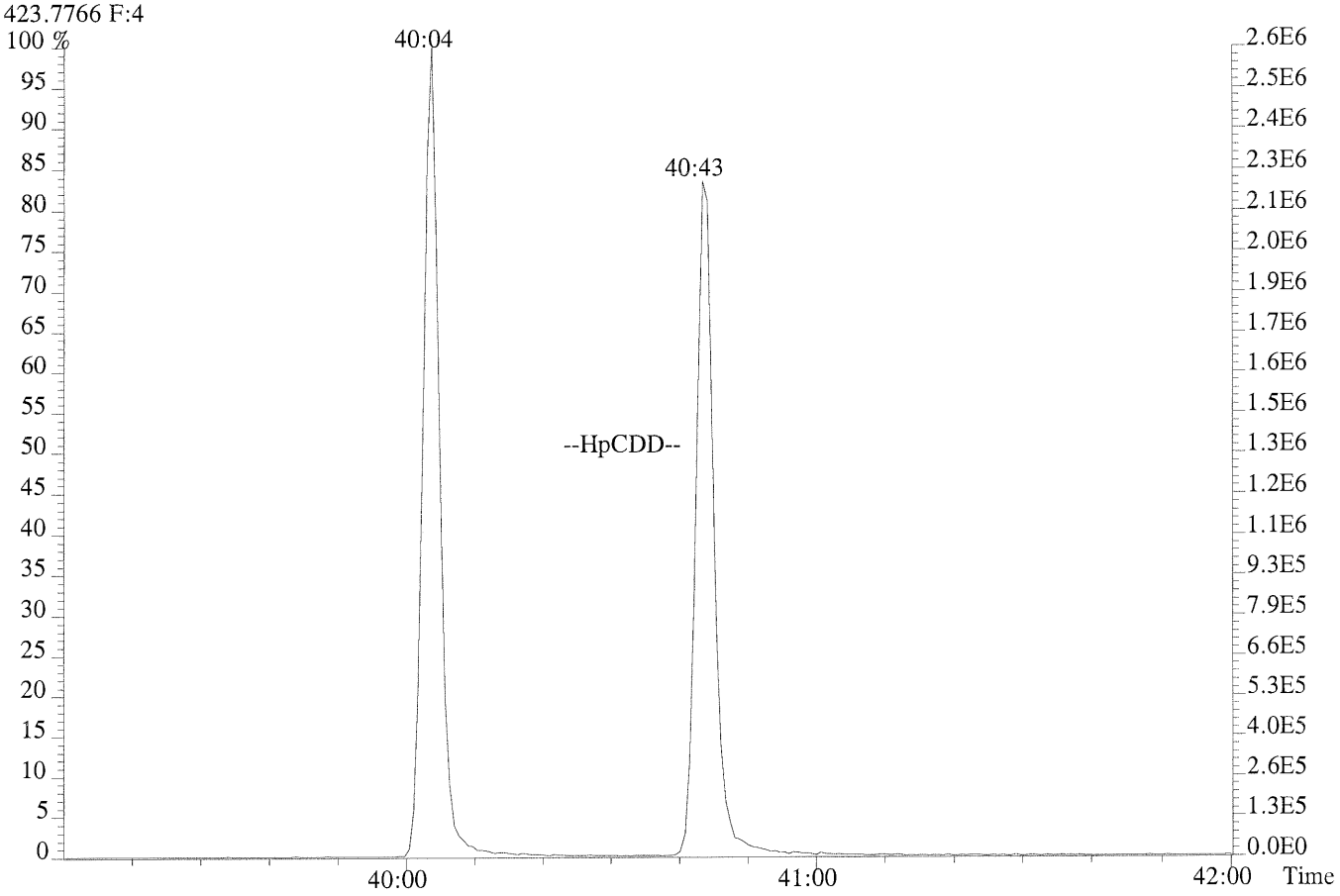
389.8157 F:3



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Sample#1 Exp:WINDOW DEFINE
407.7818 F:4



423.7766 F:4



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P100162 Analysis Date: 1-AUG-08 Time: 08:30:52

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.95	0.92	2.91
1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32-1.78	0.91	0.88	3.56
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	0.96	0.93	3.98
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	1.04	1.13	-8.13
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05-1.43	1.01	1.04	-2.95
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88-1.20	0.99	1.02	-3.61
OCDD	M+2/M+4	0.92	0.76-1.02	1.02	1.02	-0.07
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	0.98	0.98	0.10
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	1.01	0.97	4.29
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	1.07	1.00	7.47
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.29	1.22	5.95
1,2,3,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.28	1.31	-1.76
1,2,3,7,8,9-HxCDF	M+2/M+4	1.29	1.05-1.43	1.03	1.06	-3.31
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.21	1.15	4.34
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	1.55	1.55	-0.23
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	1.18	1.17	0.34
OCDF	M+2/M+4	0.91	0.76-1.02	1.36	1.36	-0.34

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P100162 Analysis Date: 1-AUG-08 Time: 08:30:52

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	1.00	1.10	-9.33
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32-1.78	0.83	0.98	-15.40
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.96	0.99	-2.66
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	0.88	0.85	3.55
13C-OCDD	M+2/M+4	0.91	0.76-1.02	0.88	0.79	10.31
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	1.37	1.41	-2.38
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.65	1.32-1.78	1.17	1.38	-14.75
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.54	0.43-0.59	1.28	1.35	-5.27
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.37-0.51	1.05	1.03	2.18
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.98	1.01	-3.30

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P100162 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 08:30:52
Processed: 7-AUG-08 10:08:49 Sample ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	5.274e+03	6.858e+03	0.77	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:38	1.652e+04	1.017e+04	1.62	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:21	1.738e+04	1.083e+04	1.60	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	1.683e+04	1.331e+04	1.26	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:11	1.671e+04	1.324e+04	1.26	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:40	1.553e+04	1.256e+04	1.24	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	1.349e+04	1.045e+04	1.29	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:49	1.516e+04	1.462e+04	1.04	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:10	1.153e+04	1.115e+04	1.03	yes	no	1.17
10	Unk	OCDF	44:03	2.073e+04	2.267e+04	0.91	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:16	3.728e+03	4.787e+03	0.78	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:41	1.045e+04	6.485e+03	1.61	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:46	9.591e+03	7.420e+03	1.29	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:51	1.038e+04	8.009e+03	1.30	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	1.002e+04	7.750e+03	1.29	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	8.342e+03	7.566e+03	1.10	yes	no	1.02
17	Unk	OCDD	43:52	1.566e+04	1.702e+04	0.92	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:28	2.747e+04	3.418e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	3.281e+04	1.985e+04	1.65	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	4.072e+04	7.581e+04	0.54	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:48	3.015e+04	6.615e+04	0.46	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:15	1.971e+04	2.512e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	2.293e+04	1.424e+04	1.61	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	4.906e+04	3.912e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	4.170e+04	3.881e+04	1.07	yes	no	0.85
26	IS	13C-OCDD	43:52	7.605e+04	8.400e+04	0.91	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:03	1.984e+04	2.508e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	5.090e+04	4.048e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	8.778e+03					1.01

Columbia Analytical Services, Inc.
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Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename P100162 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 08:30:52

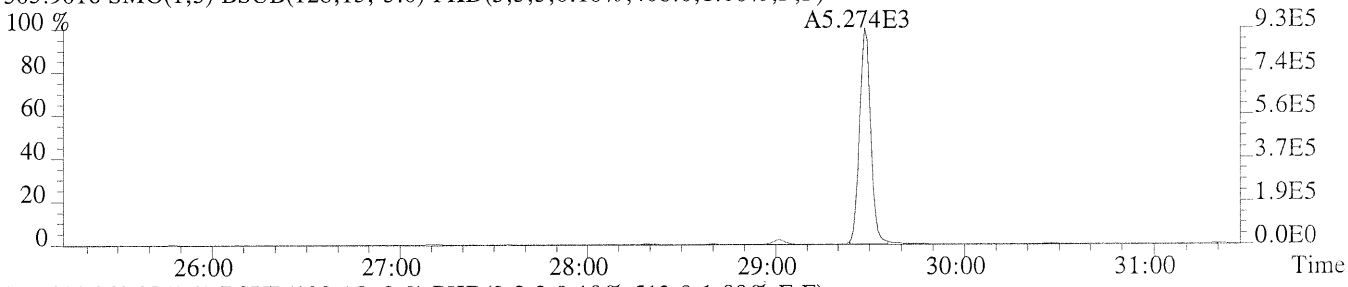
Processed: 7-AUG-08 10:08:49 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.30e+05	4.08e+02	2.3e+03	1.19e+06	5.12e+02	2.3e+03
2	1,2,3,7,8-PeCDF	3.26e+06	6.12e+02	5.3e+03	2.03e+06	5.92e+02	3.4e+03
3	2,3,4,7,8-PeCDF	3.39e+06	6.12e+02	5.5e+03	2.13e+06	5.92e+02	3.6e+03
4	1,2,3,4,7,8-HxCDF	3.62e+06	5.20e+02	7.0e+03	2.90e+06	5.48e+02	5.3e+03
5	1,2,3,6,7,8-HxCDF	3.60e+06	5.20e+02	6.9e+03	2.85e+06	5.48e+02	5.2e+03
6	2,3,4,6,7,8-HxCDF	3.50e+06	5.20e+02	6.7e+03	2.75e+06	5.48e+02	5.0e+03
7	1,2,3,7,8,9-HxCDF	2.86e+06	5.20e+02	5.5e+03	2.17e+06	5.48e+02	4.0e+03
8	1,2,3,4,6,7,8-HpCDF	3.17e+06	1.44e+03	2.2e+03	3.07e+06	1.32e+03	2.3e+03
9	1,2,3,4,7,8,9-HpCDF	2.16e+06	1.44e+03	1.5e+03	2.10e+06	1.32e+03	1.6e+03
10	OCDF	2.93e+06	4.24e+02	6.9e+03	3.22e+06	7.20e+02	4.5e+03
11	2,3,7,8-TCDD	7.05e+05	5.60e+02	1.3e+03	8.93e+05	4.96e+02	1.8e+03
12	1,2,3,7,8-PeCDD	2.15e+06	7.12e+02	3.0e+03	1.32e+06	4.40e+02	3.0e+03
13	1,2,3,4,7,8-HxCDD	2.18e+06	3.48e+02	6.3e+03	1.68e+06	5.48e+02	3.1e+03
14	1,2,3,6,7,8-HxCDD	2.21e+06	3.48e+02	6.4e+03	1.71e+06	5.48e+02	3.1e+03
15	1,2,3,7,8,9-HxCDD	2.18e+06	3.48e+02	6.3e+03	1.72e+06	5.48e+02	3.1e+03
16	1,2,3,4,6,7,8-HpCDD	1.67e+06	4.56e+02	3.7e+03	1.53e+06	4.52e+02	3.4e+03
17	OCDD	2.26e+06	4.20e+02	5.4e+03	2.46e+06	4.40e+02	5.6e+03
18	13C-2,3,7,8-TCDF	4.82e+06	1.14e+03	4.2e+03	5.94e+06	8.12e+02	7.3e+03
19	13C-1,2,3,7,8-PeCDF	6.41e+06	4.36e+02	1.5e+04	3.86e+06	4.20e+02	9.2e+03
20	13C-1,2,3,4,7,8-HxCDF	8.49e+06	4.32e+02	2.0e+04	1.59e+07	5.76e+02	2.8e+04
21	13C-1,2,3,4,6,7,8-HpCDF	6.38e+06	1.13e+03	5.7e+03	1.38e+07	3.20e+03	4.3e+03
22	13C-2,3,7,8-TCDD	3.49e+06	1.36e+03	2.6e+03	4.52e+06	4.64e+02	9.7e+03
23	13C-1,2,3,7,8-PeCDD	4.69e+06	3.96e+02	1.2e+04	2.92e+06	2.92e+02	1.0e+04
24	13C-1,2,3,6,7,8-HxCDD	1.08e+07	6.24e+02	1.7e+04	8.50e+06	5.88e+02	1.4e+04
25	13C-1,2,3,4,6,7,8-HpCDD	8.34e+06	5.92e+02	1.4e+04	7.83e+06	3.56e+02	2.2e+04
26	13C-OCDD	1.09e+07	4.48e+02	2.4e+04	1.20e+07	4.32e+02	2.8e+04
27	13C-1,2,3,4-TCDD	3.67e+06	1.36e+03	2.7e+03	4.69e+06	4.64e+02	1.0e+04
28	13C-1,2,3,7,8,9-HxCDD	1.11e+07	6.24e+02	1.8e+04	8.91e+06	5.88e+02	1.5e+04
29	37Cl-2,3,7,8-TCDD	1.61e+06	3.68e+02	4.4e+03			

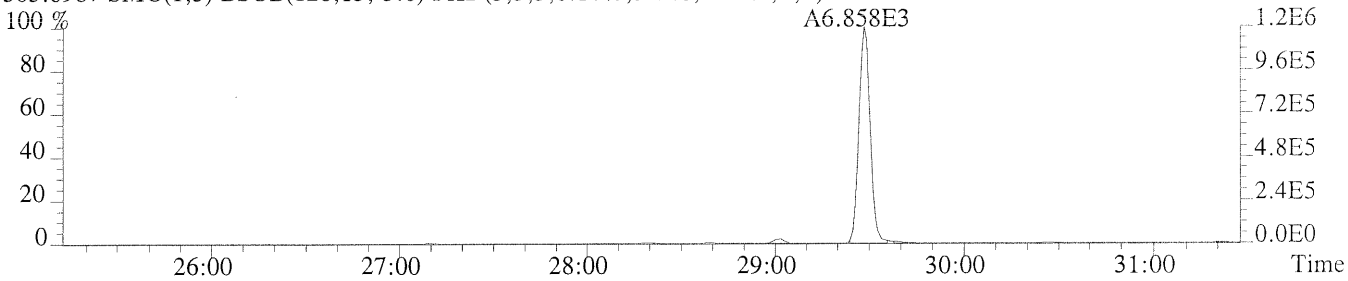
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100162 #1-521 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:CCAL HRCC3

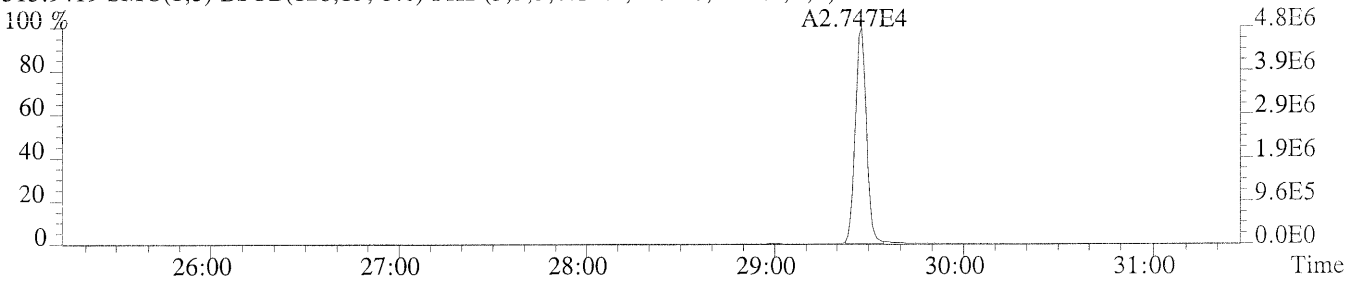
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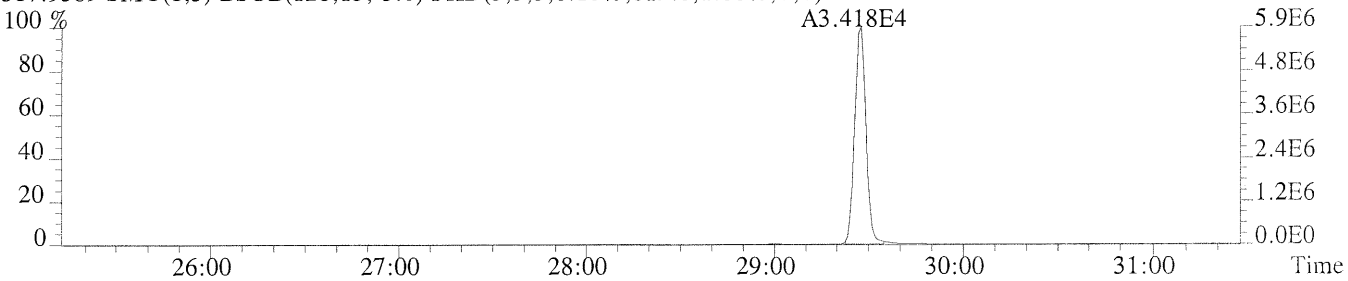
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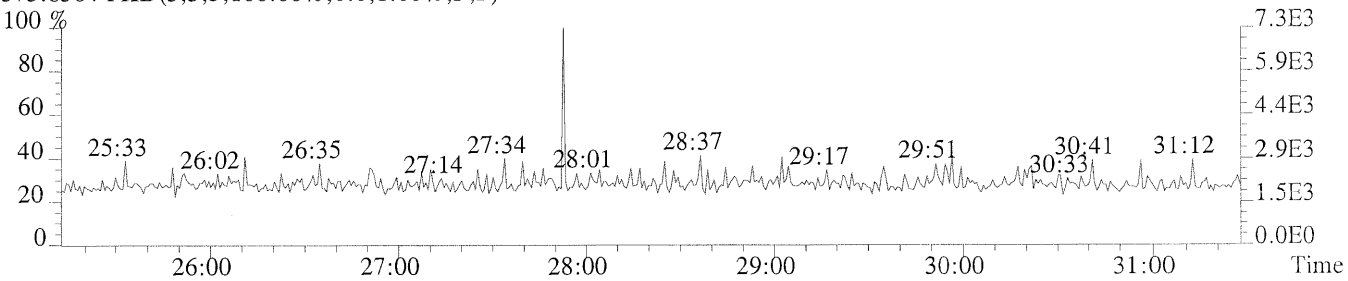
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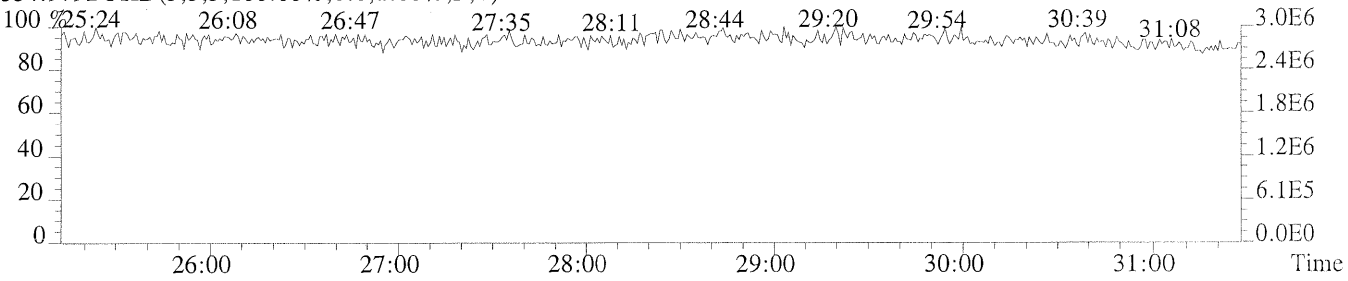
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,F)



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

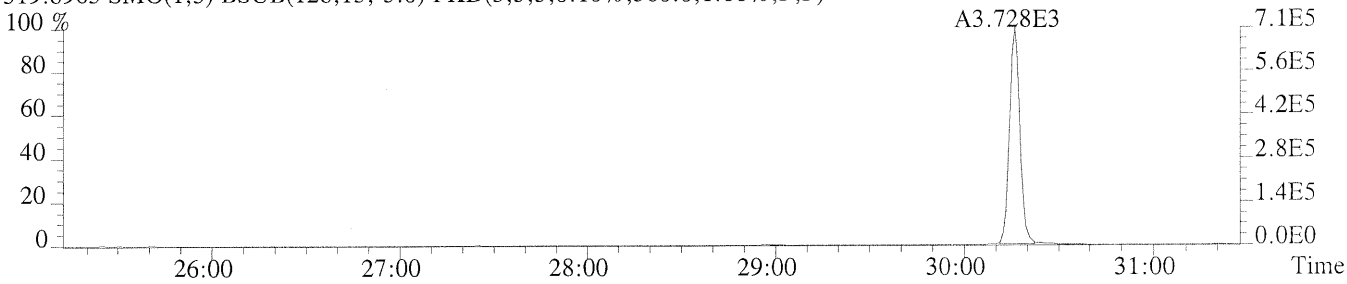


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

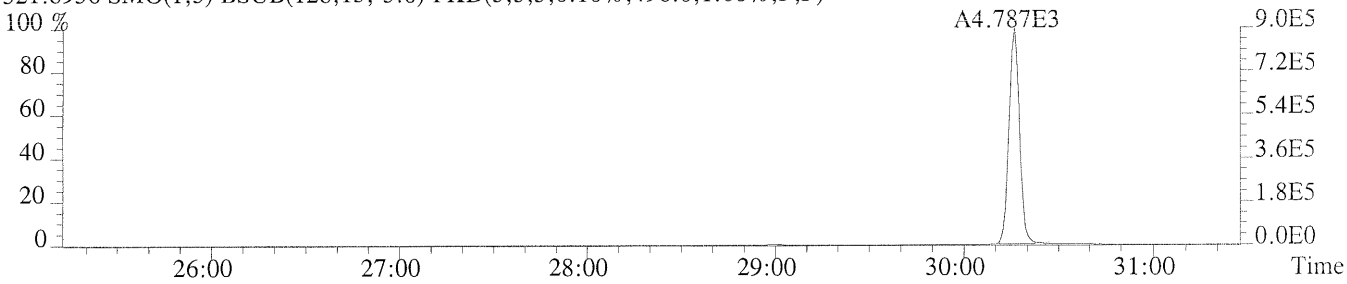


File:P100162 #1-521 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

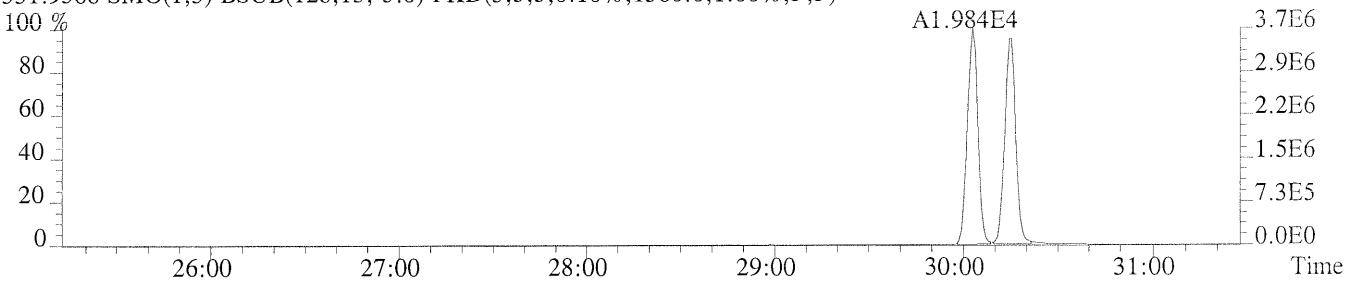
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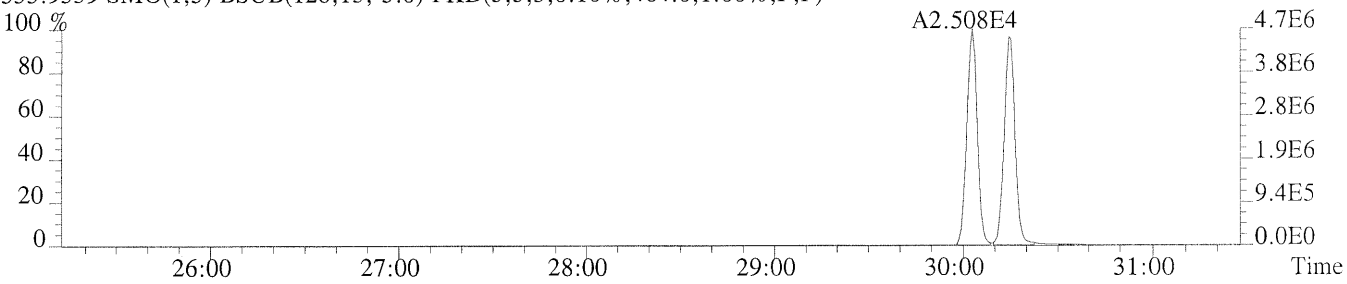
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,F)



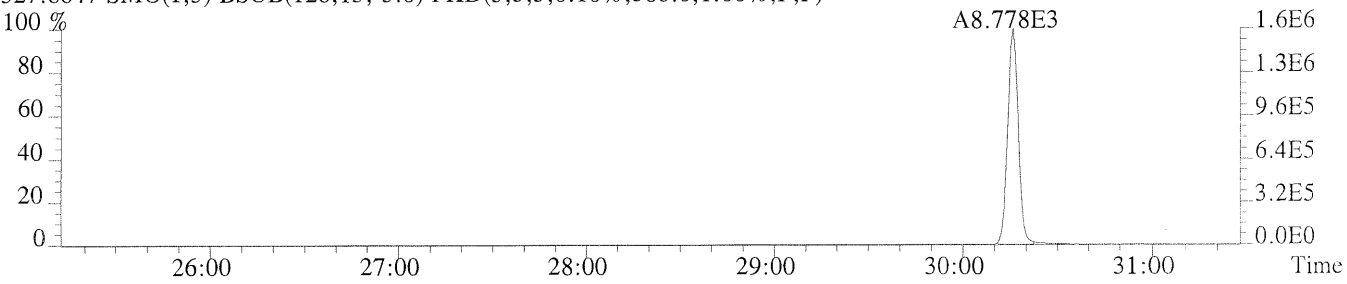
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1360.0,1.00%,F,F)



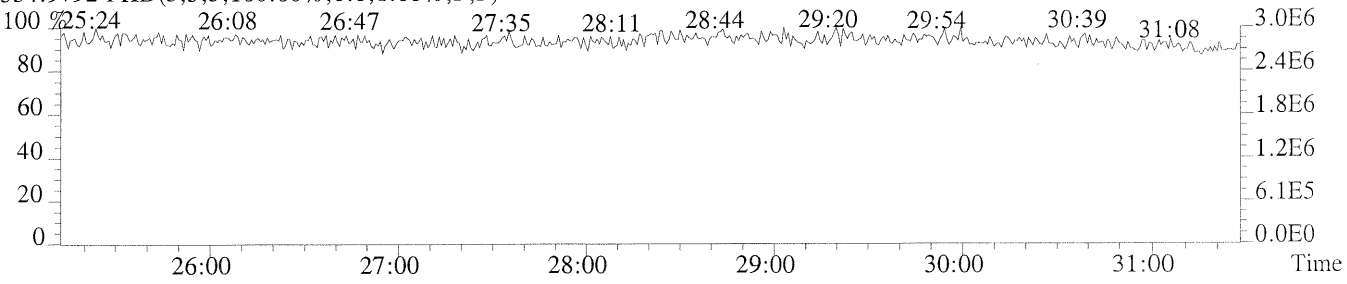
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,464.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,F)

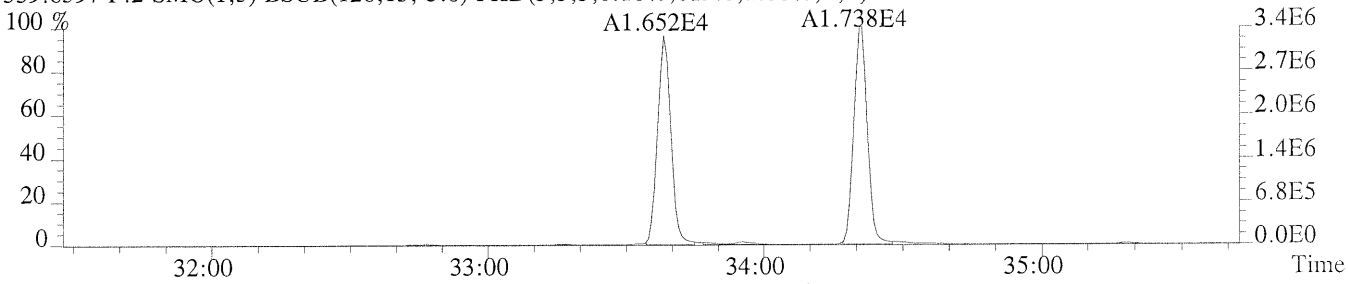


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

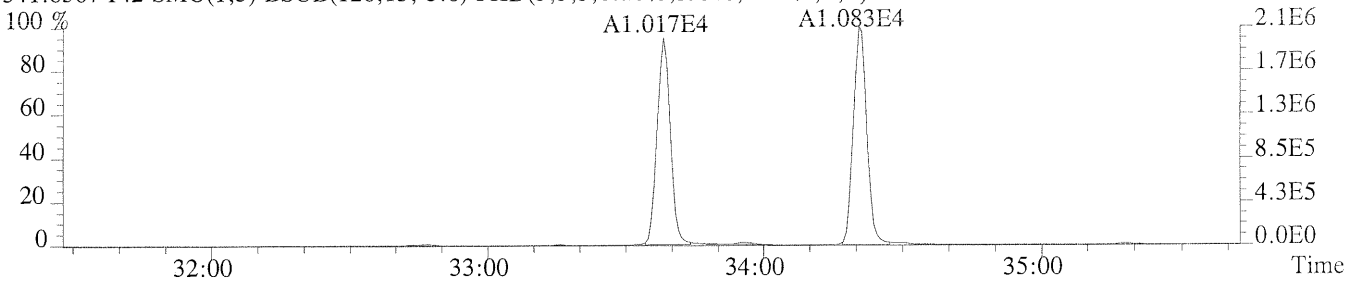


File:P100162 #1-386 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

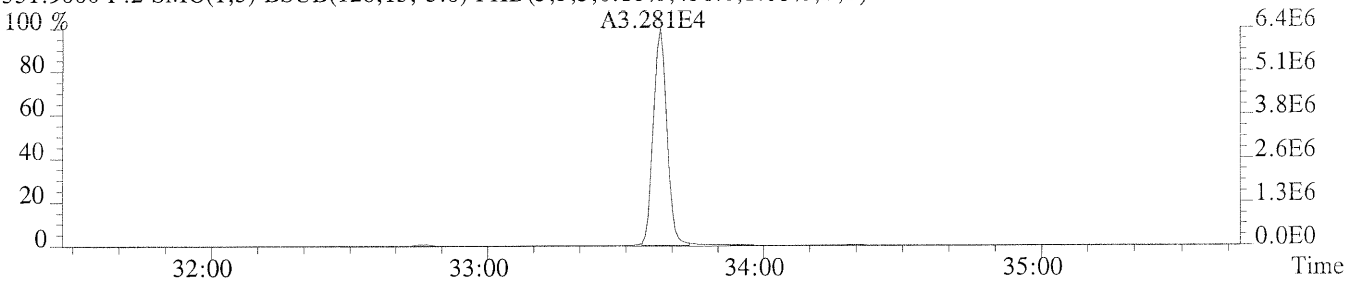
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,F)



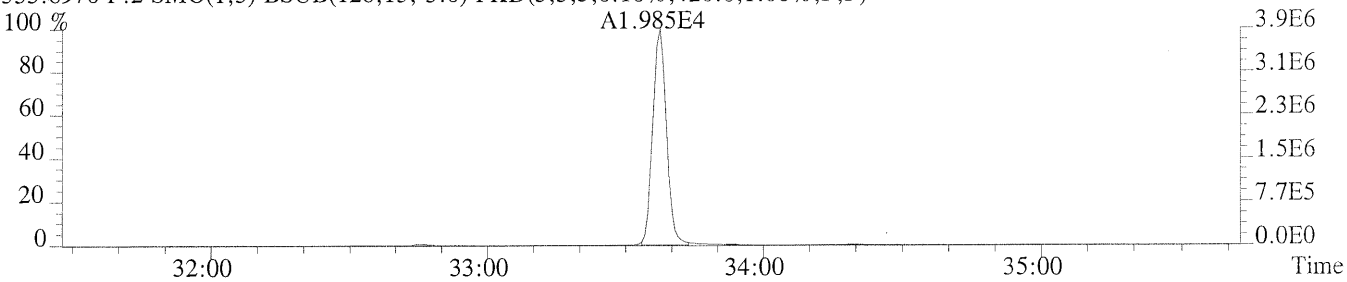
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,F)



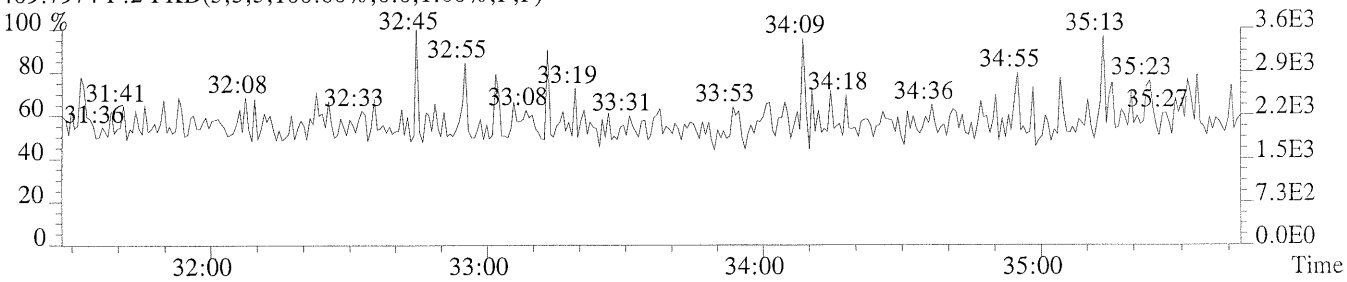
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,F)



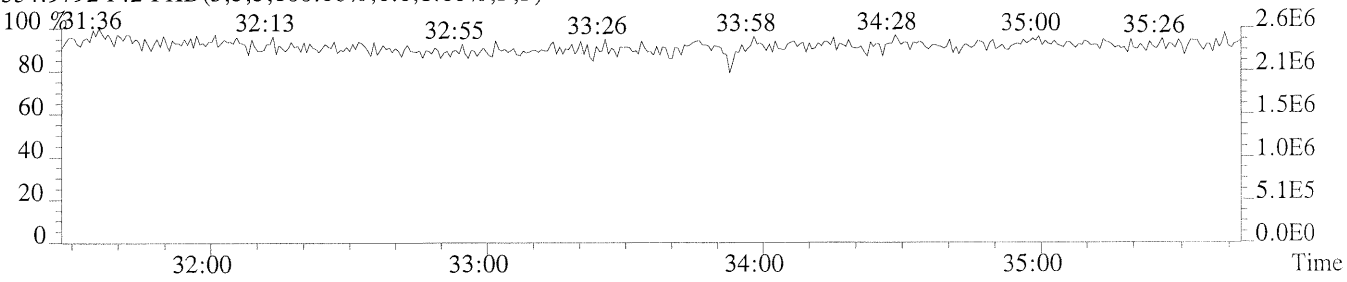
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,F)



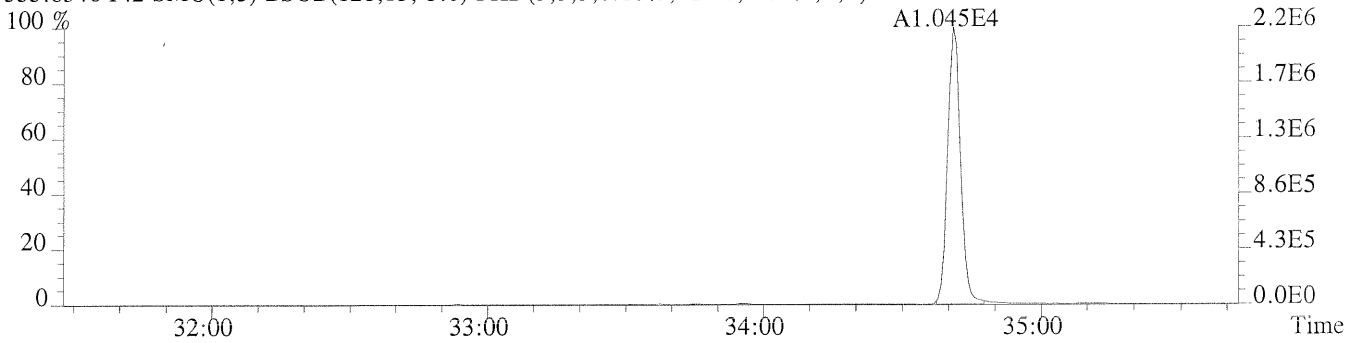
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



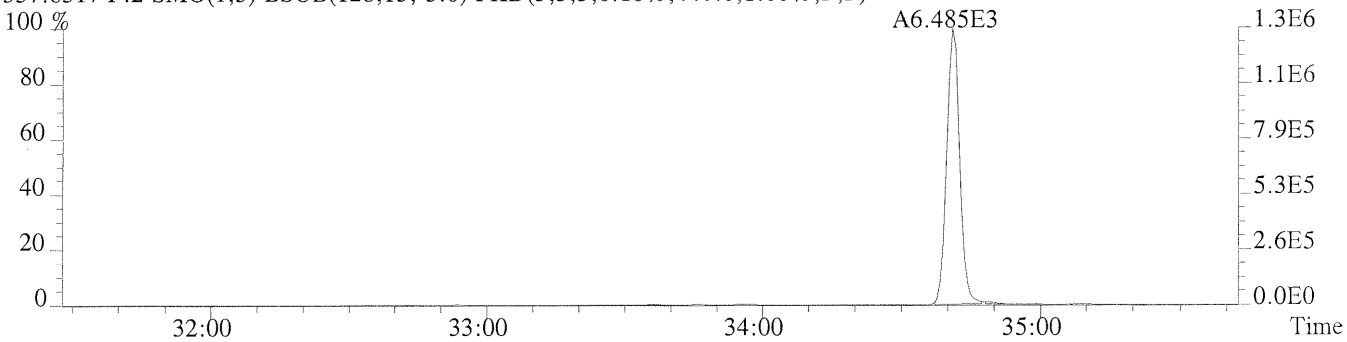
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



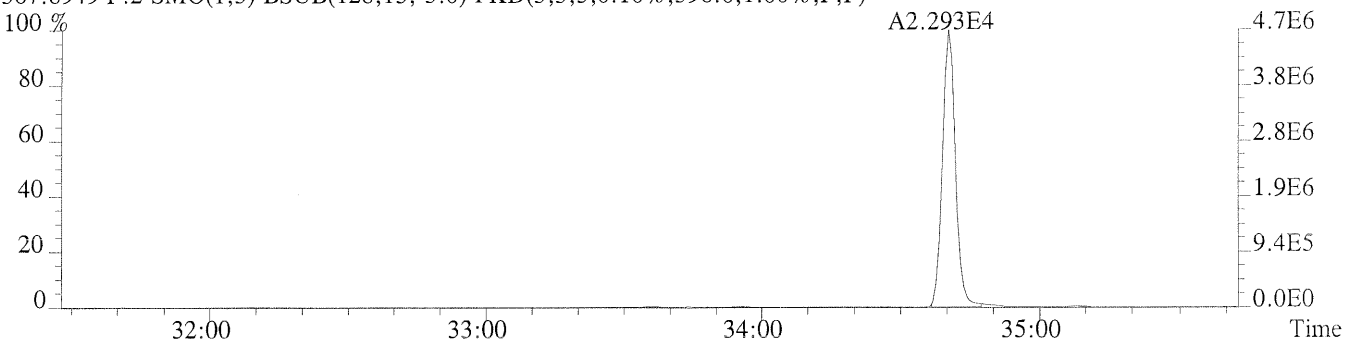
File:P100162 #1-386 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,F)



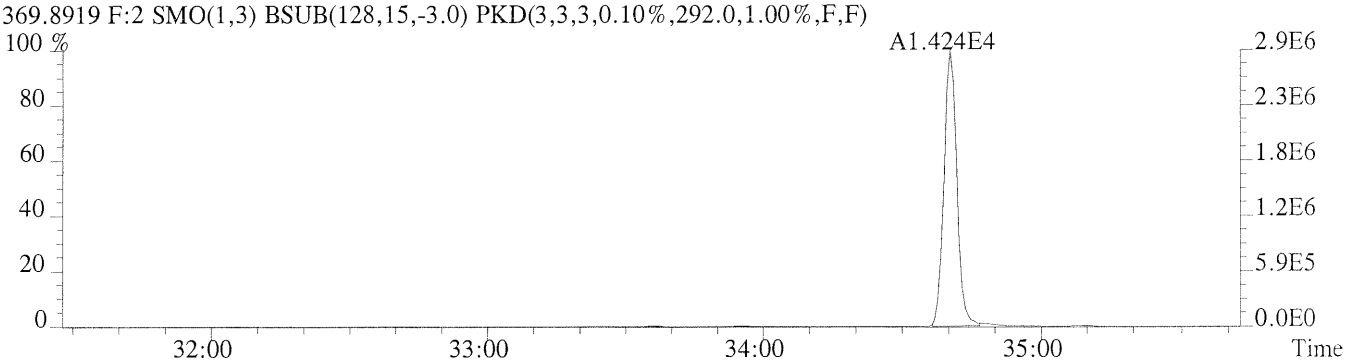
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,440.0,1.00%,F,F)



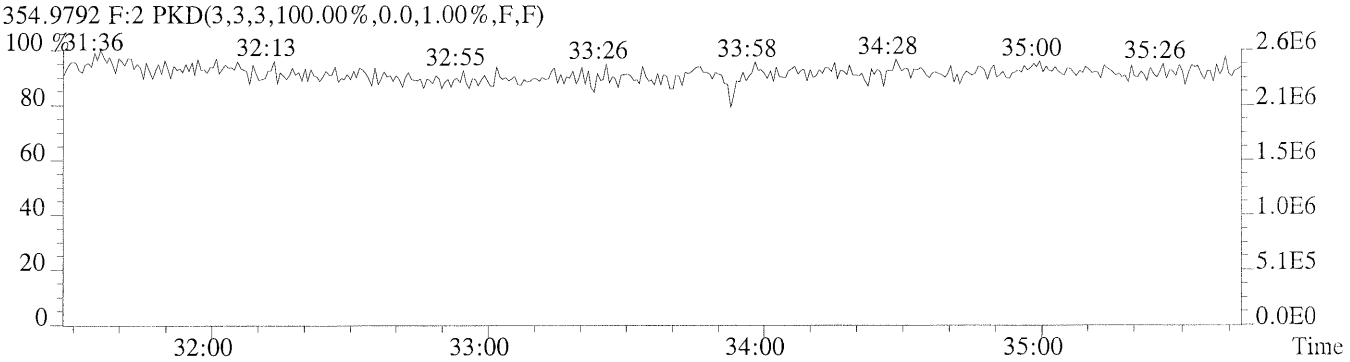
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,396.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,292.0,1.00%,F,F)

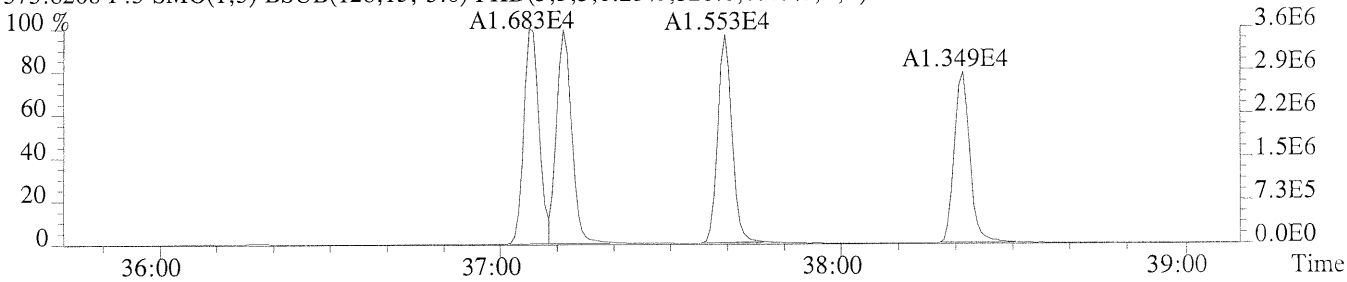


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

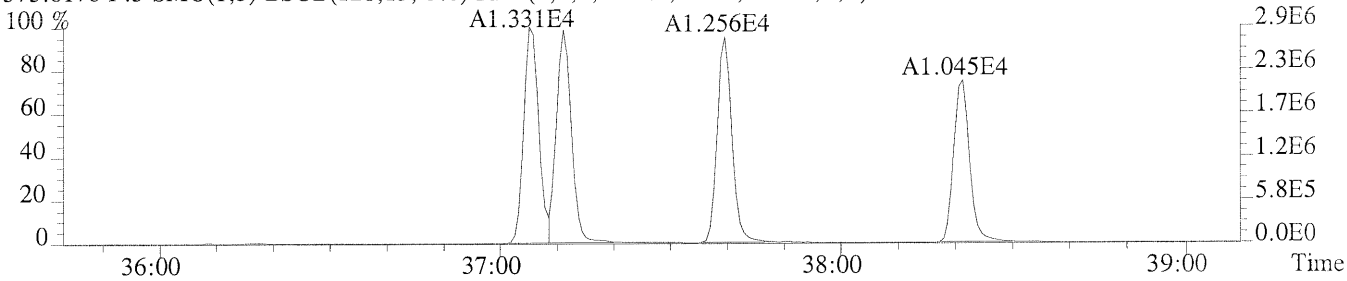


File:P100162 #1-313 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

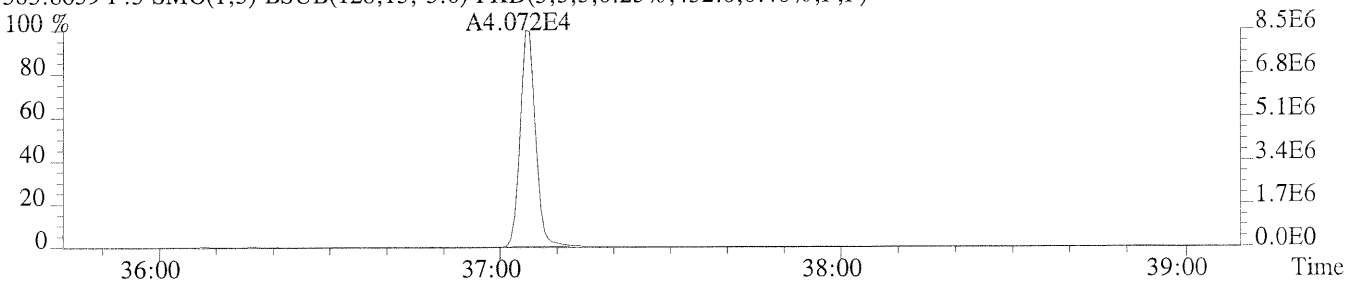
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,F)



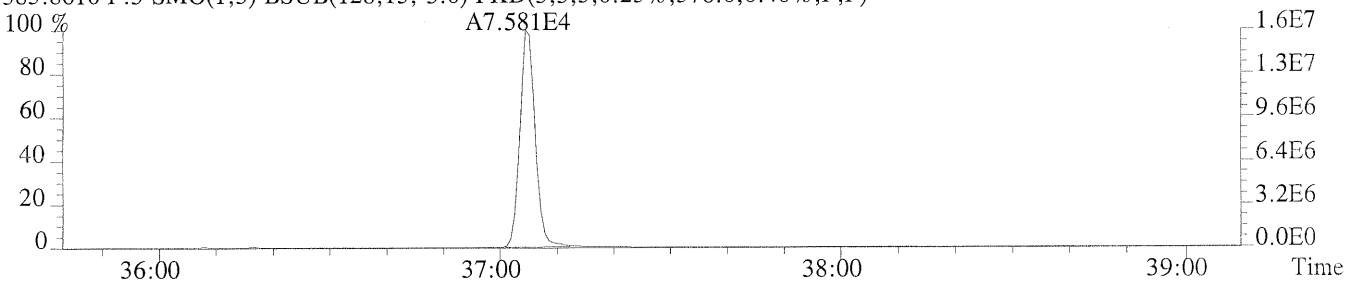
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,F)



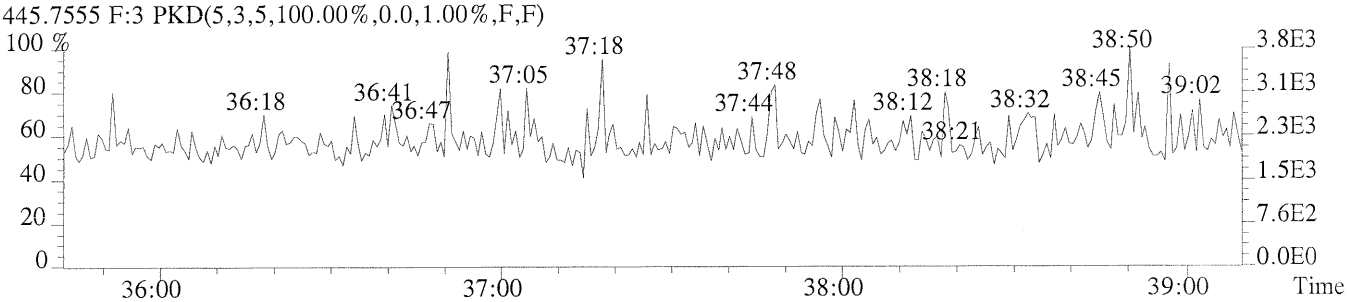
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,432.0,0.40%,F,F)



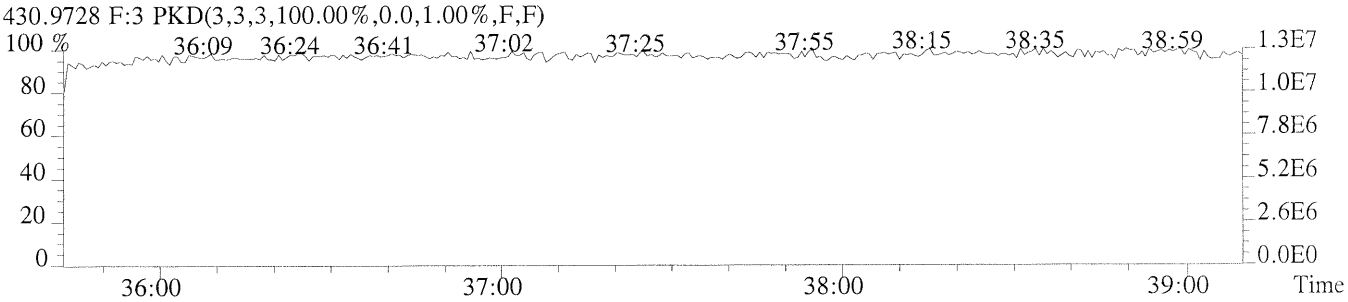
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,F)



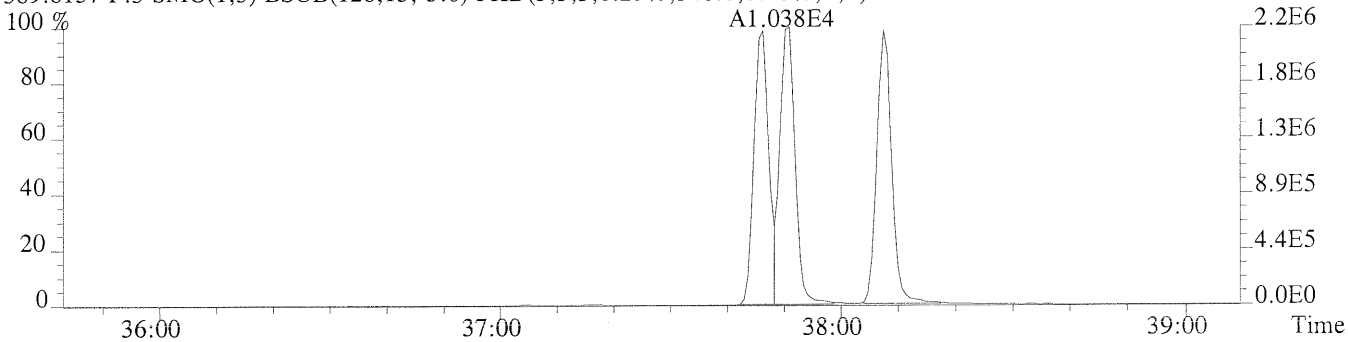
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



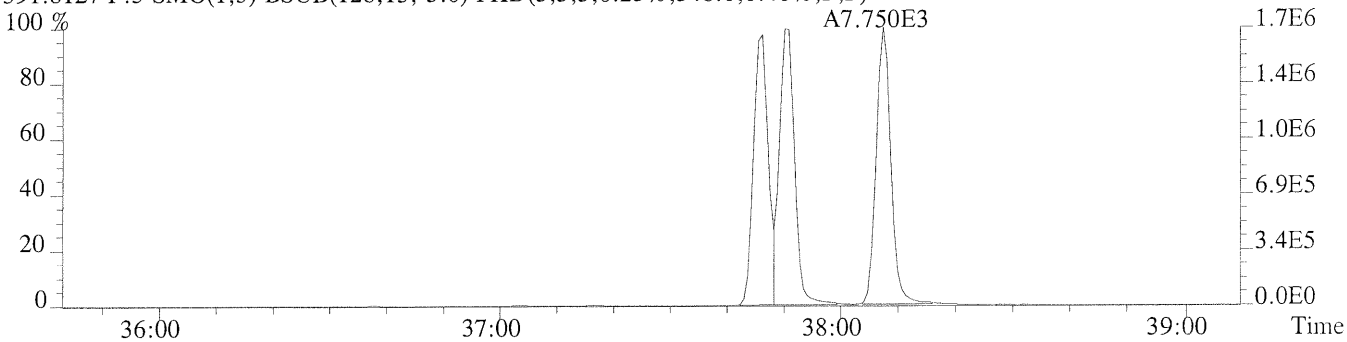
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



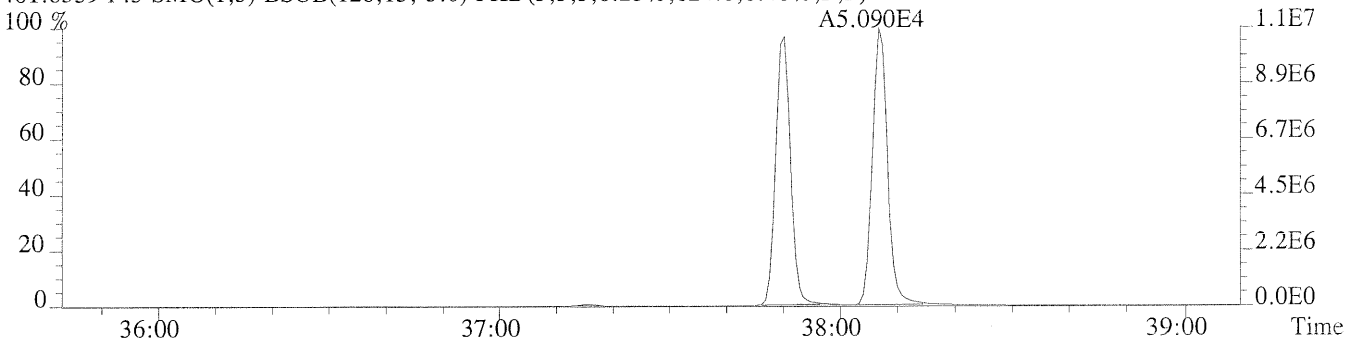
File:P100162 #1-313 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,F)



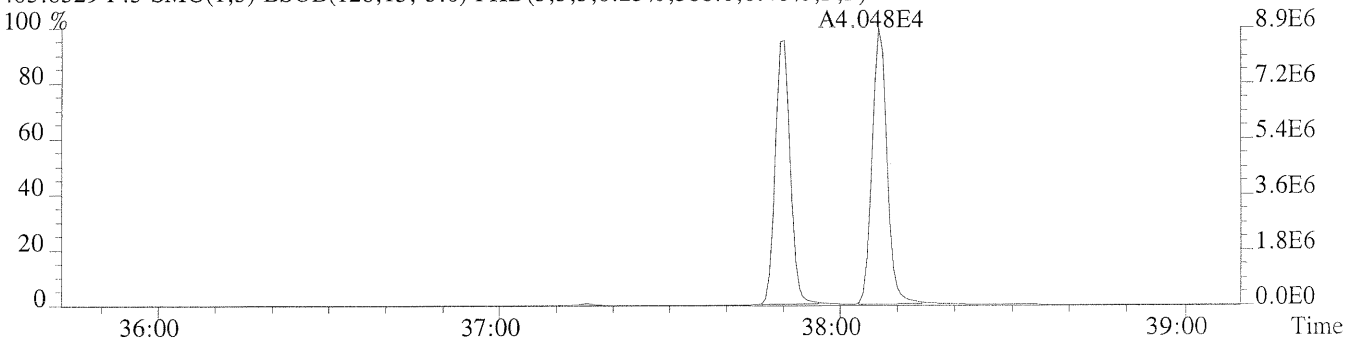
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,F)



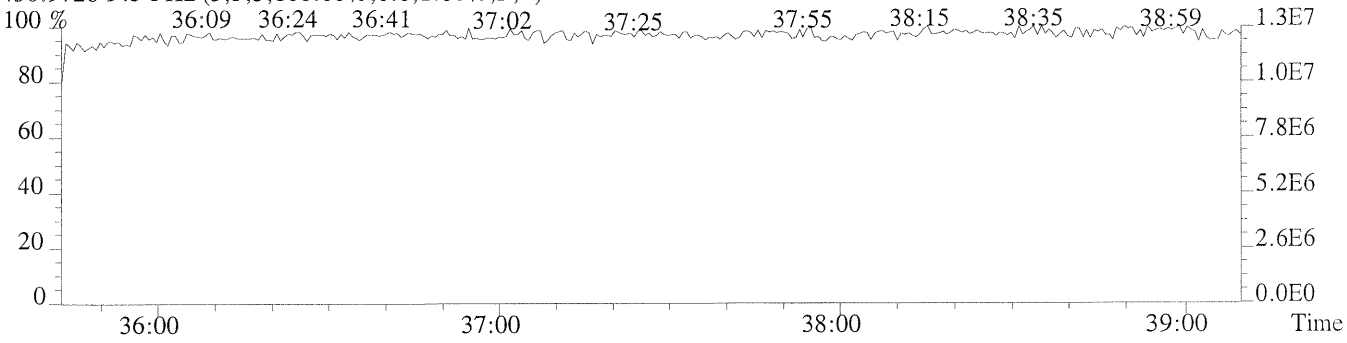
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,624.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,F)

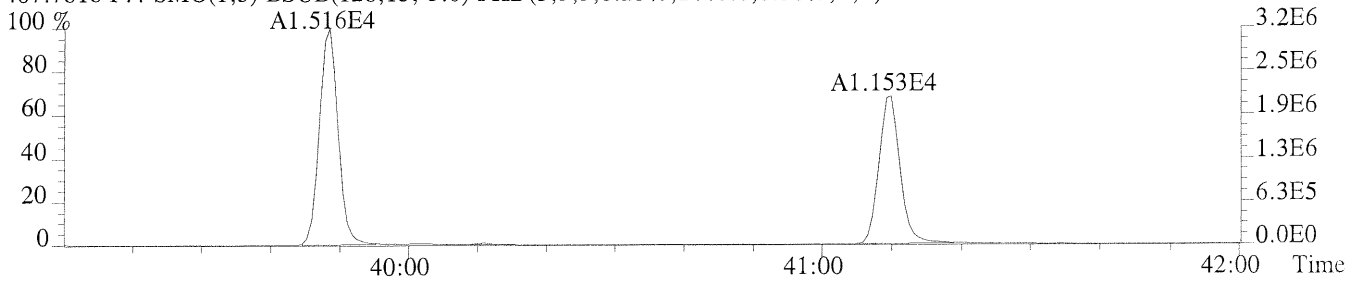


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

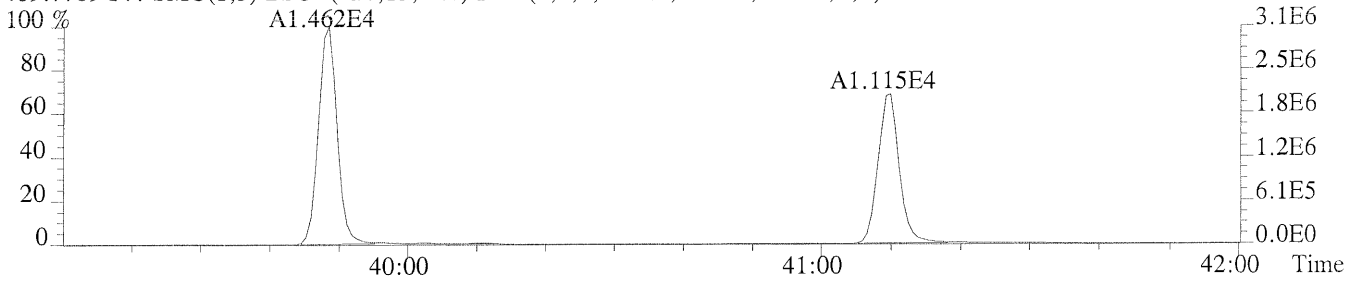


File:P100162 #1-258 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

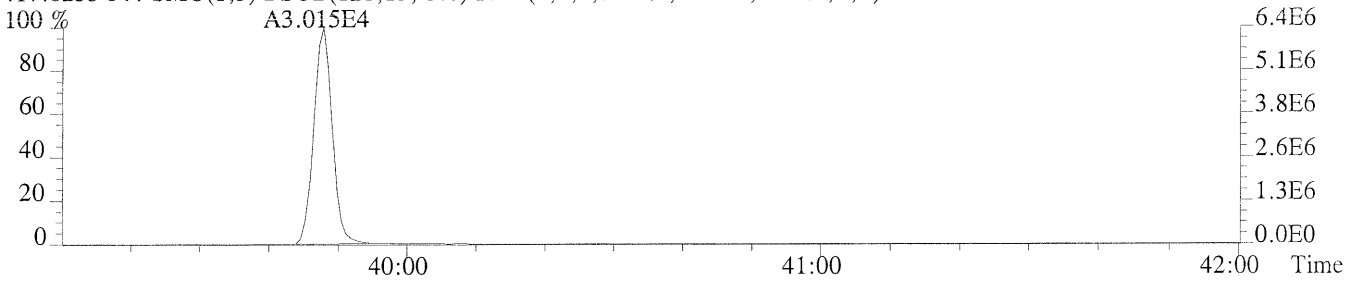
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.50%,F,F)



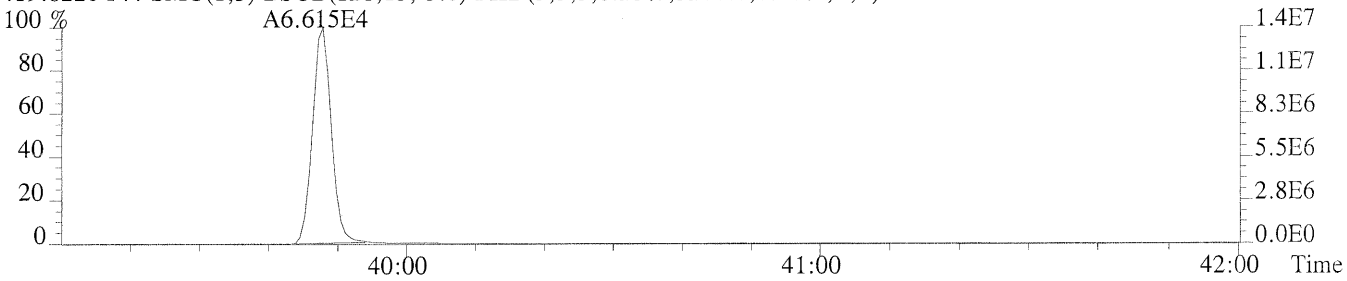
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.50%,F,F)



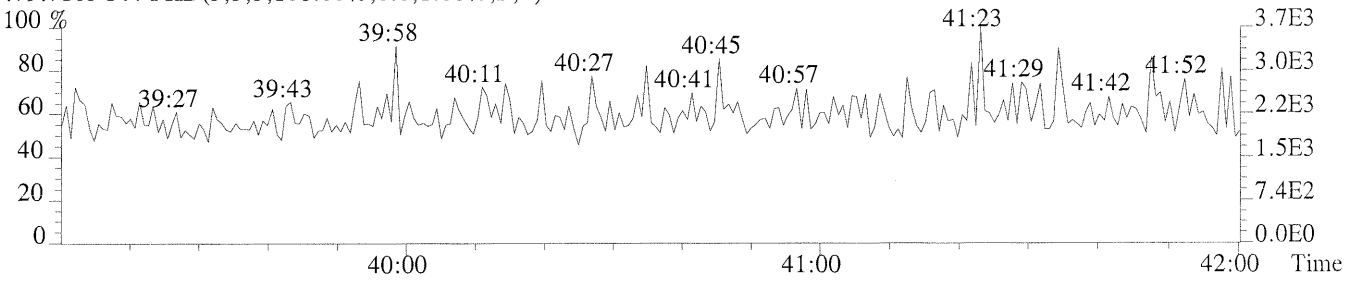
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1128.0,0.50%,F,F)



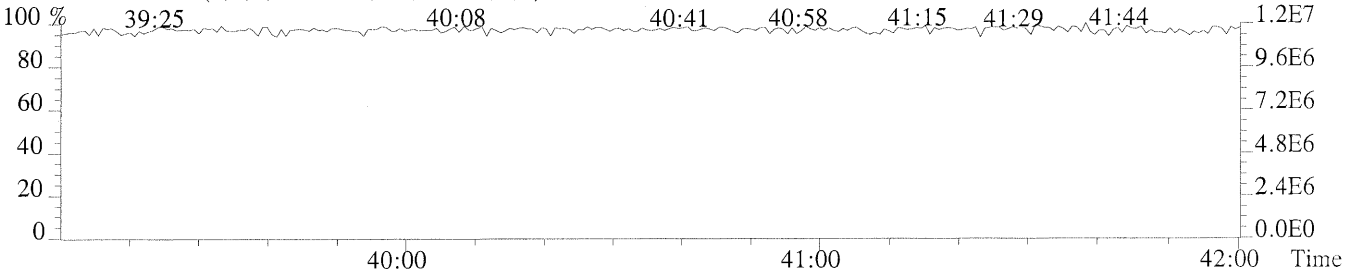
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3200.0,0.50%,F,F)



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

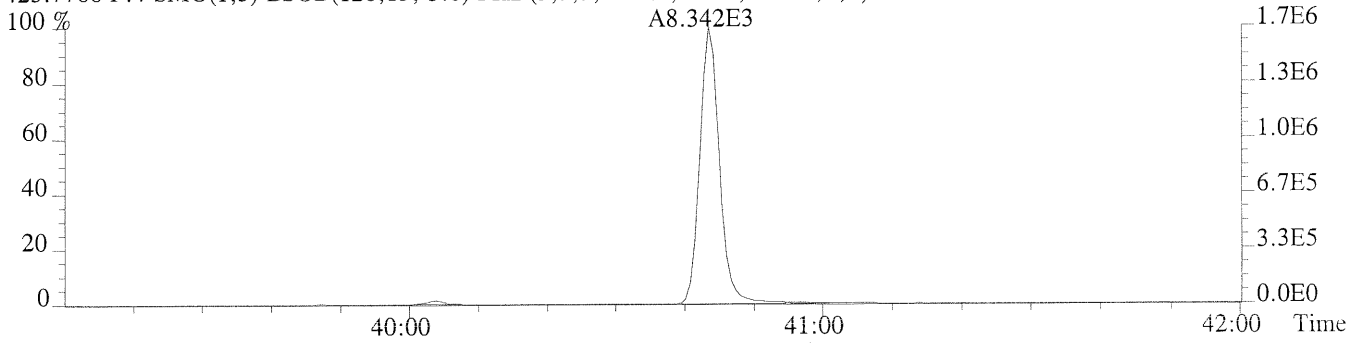


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

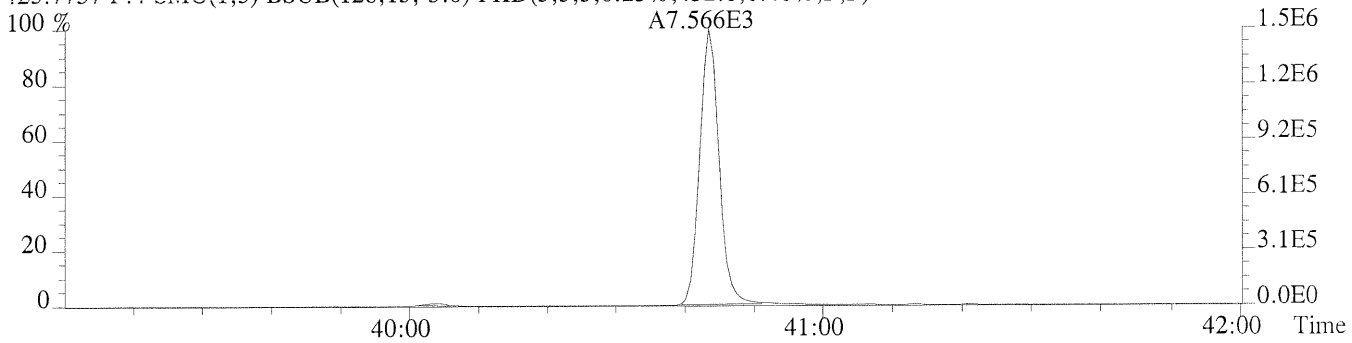


File:P100162 #1-258 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

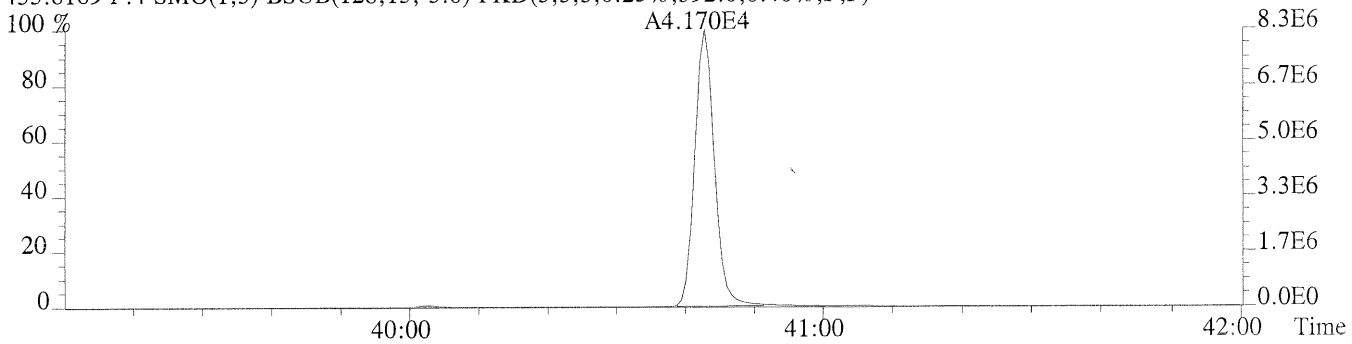
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,456.0,0.40%,F,F)



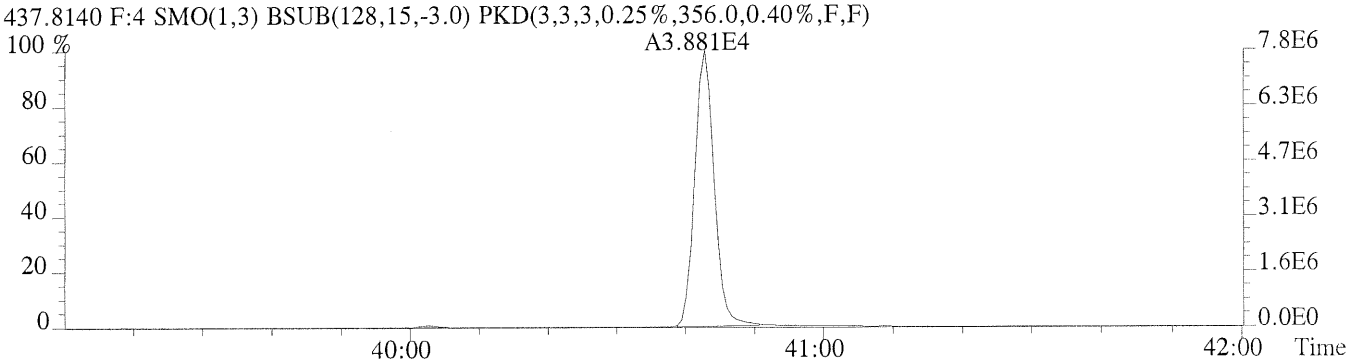
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,452.0,0.40%,F,F)



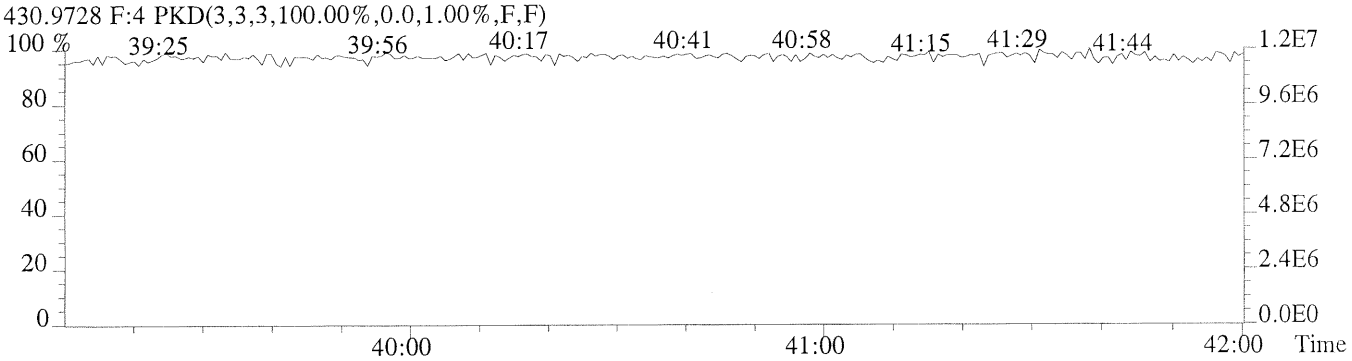
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,592.0,0.40%,F,F)



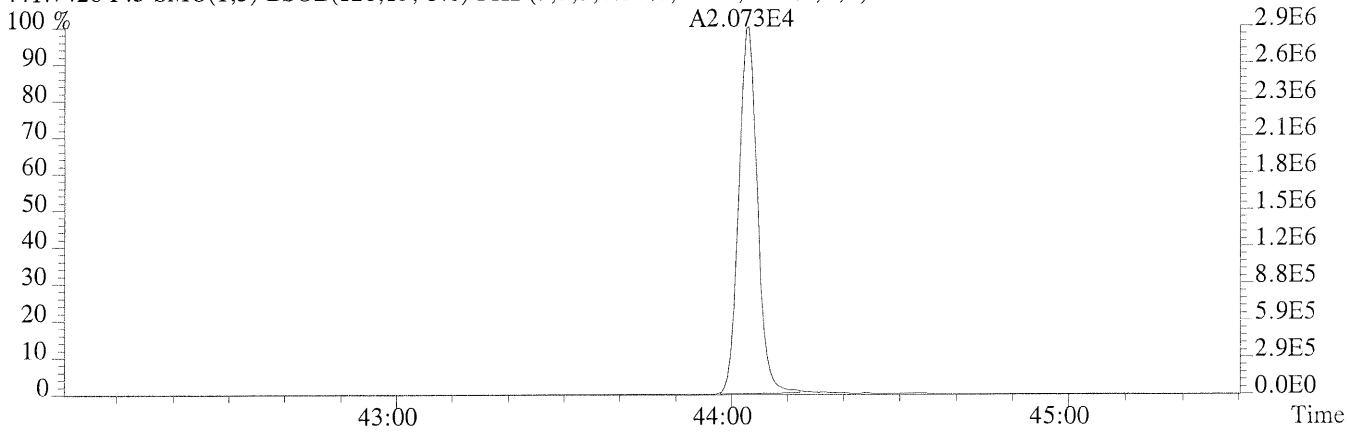
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,356.0,0.40%,F,F)



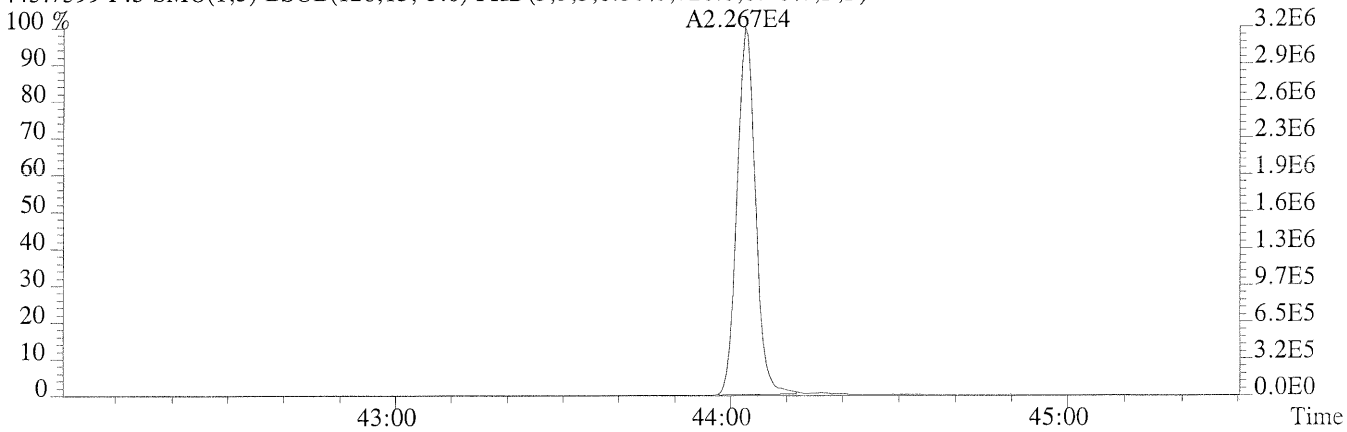
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



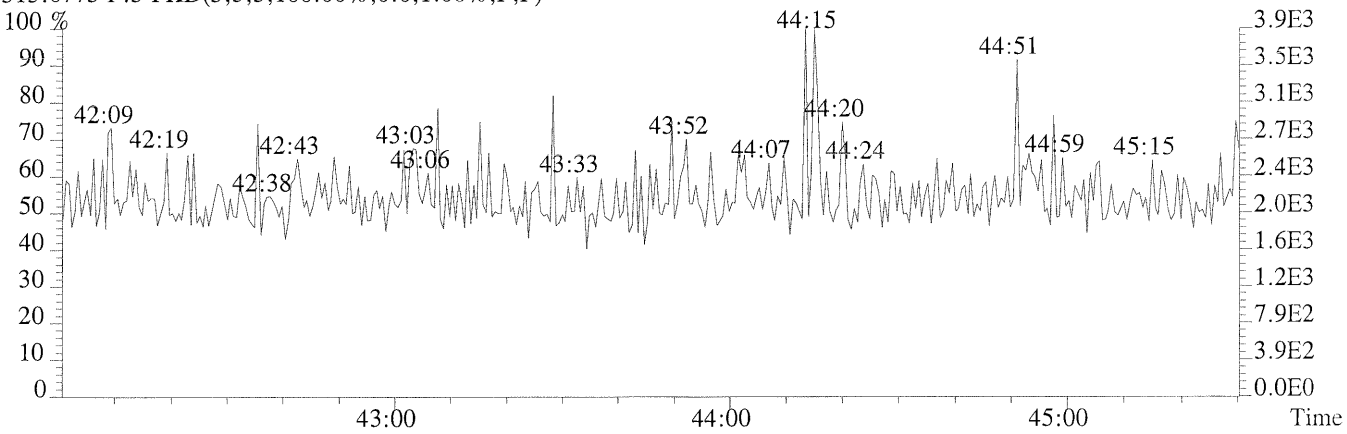
File:P100162 #1-386 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,424.0,0.40%,F,F)



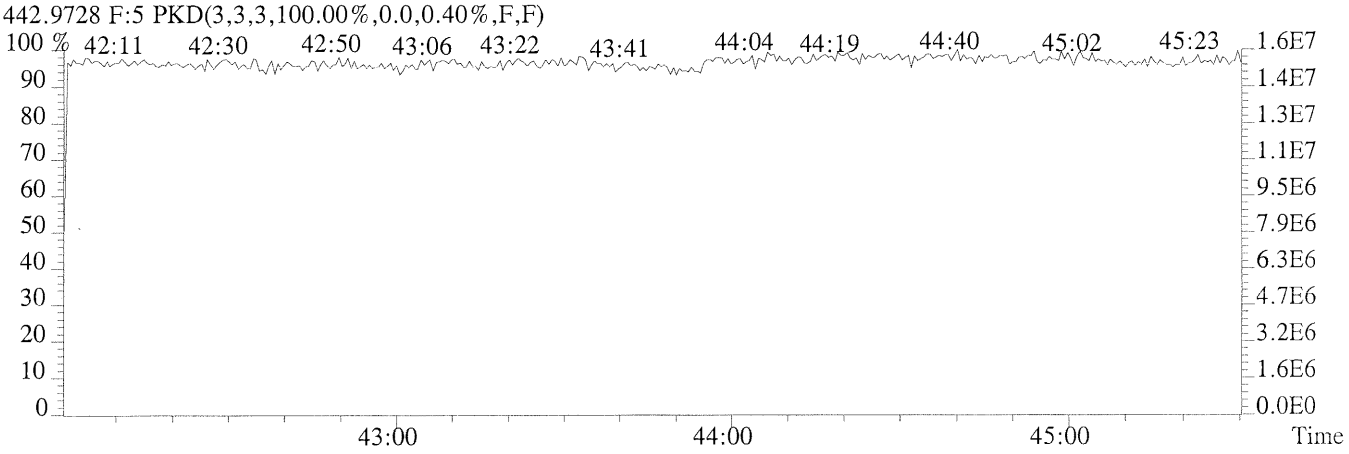
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,720.0,0.40%,F,F)



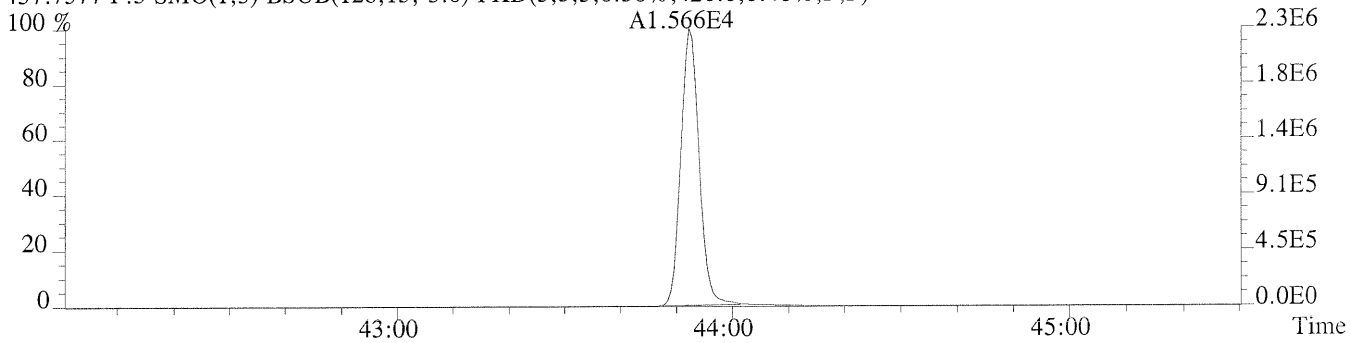
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



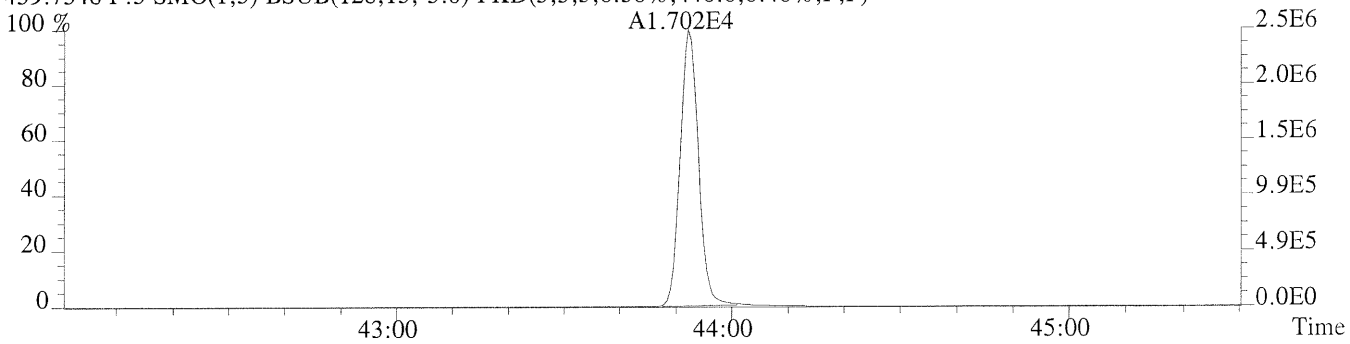
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



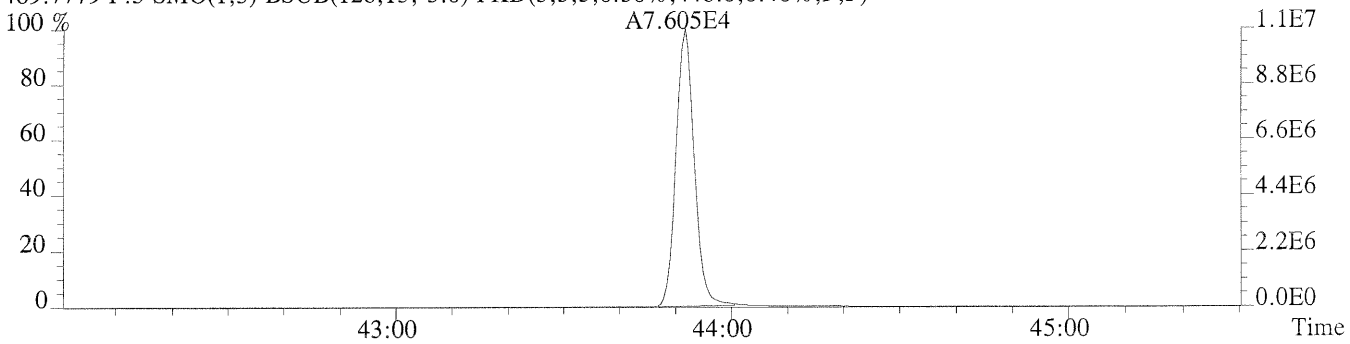
File:P100162 #1-386 Acq: 1-AUG-2008 08:30:52 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,420.0,0.40%,F,F)



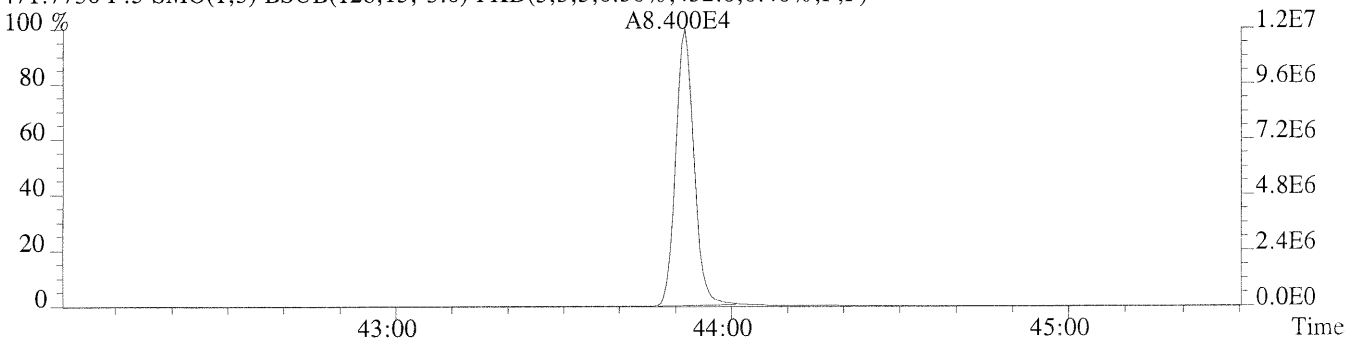
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,440.0,0.40%,F,F)



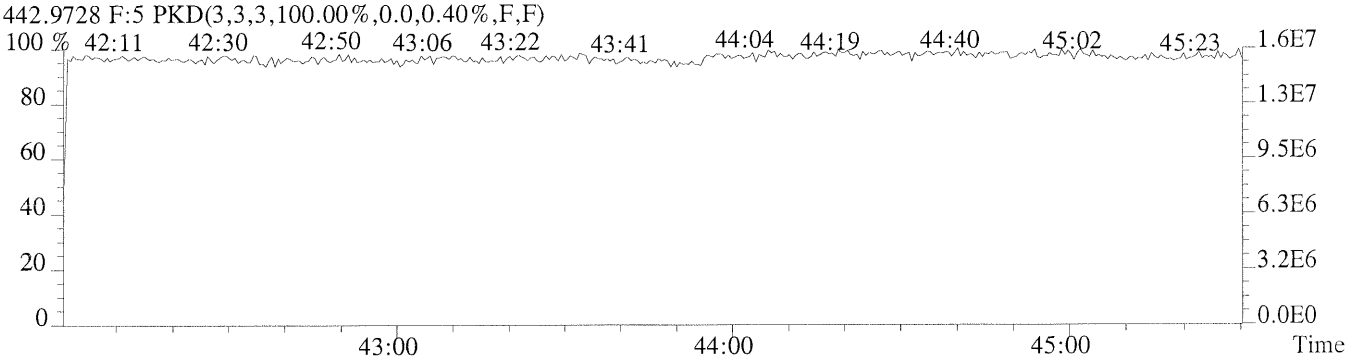
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,448.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,432.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P100172 Analysis Date: 1-AUG-08 Time: 17:47:40

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.75	0.65-0.89	0.94	0.92	1.80
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	0.91	0.88	2.89
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	0.99	0.93	7.10
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	1.02	1.13	-10.37
1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05-1.43	1.00	1.04	-3.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	0.95	1.02	-7.50
OCDD	M+2/M+4	0.91	0.76-1.02	1.01	1.02	-0.94
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	0.98	0.98	0.02
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.01	0.97	3.78
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	1.02	1.00	1.98
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.30	1.22	6.30
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.28	1.31	-2.39
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.05-1.43	1.07	1.06	0.83
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	1.25	1.15	8.31
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	1.53	1.55	-1.57
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.06	0.88-1.20	1.15	1.17	-2.42
OCDF	M+2/M+4	0.90	0.76-1.02	1.26	1.36	-7.62

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P100172 Analysis Date: 1-AUG-08 Time: 17:47:40

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	0.99	1.10	-10.02
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	0.94	0.98	-3.58
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.97	0.99	-2.65
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.88	0.85	3.12
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.90	0.79	12.93
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	1.30	1.41	-7.52
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	1.34	1.38	-2.83
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.19	1.35	-11.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.99	1.03	-3.84
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.95	1.01	-5.50

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #16 Filename P100172 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 17:47:40
Processed: 7-AUG-08 10:15:01 Sample ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:29	5.420e+03	6.824e+03	0.79	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:39	1.979e+04	1.250e+04	1.58	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:21	2.000e+04	1.252e+04	1.60	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:06	1.860e+04	1.511e+04	1.23	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:12	1.827e+04	1.490e+04	1.23	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:40	1.819e+04	1.431e+04	1.27	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:22	1.562e+04	1.221e+04	1.28	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:49	1.686e+04	1.617e+04	1.04	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:10	1.274e+04	1.206e+04	1.06	yes	no	1.17
10	Unk	OCDF	44:04	2.334e+04	2.585e+04	0.90	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:17	3.813e+03	5.099e+03	0.75	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:42	1.256e+04	7.884e+03	1.59	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:46	1.178e+04	9.148e+03	1.29	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:51	1.195e+04	9.479e+03	1.26	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:08	1.192e+04	9.199e+03	1.30	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:44	9.184e+03	8.974e+03	1.02	yes	no	1.02
17	Unk	OCDD	43:53	1.892e+04	2.070e+04	0.91	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:28	2.759e+04	3.468e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:38	3.926e+04	2.473e+04	1.59	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	4.500e+04	8.491e+04	0.53	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:49	3.310e+04	7.516e+04	0.44	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:15	2.089e+04	2.655e+04	0.79	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:41	2.772e+04	1.745e+04	1.59	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	5.852e+04	4.683e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	4.883e+04	4.693e+04	1.04	yes	no	0.85
26	IS	13C-OCDD	43:52	9.241e+04	1.033e+05	0.89	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:04	2.122e+04	2.668e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	6.091e+04	4.824e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:17	9.144e+03					1.01

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #16 Filename P100172 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 17:47:40

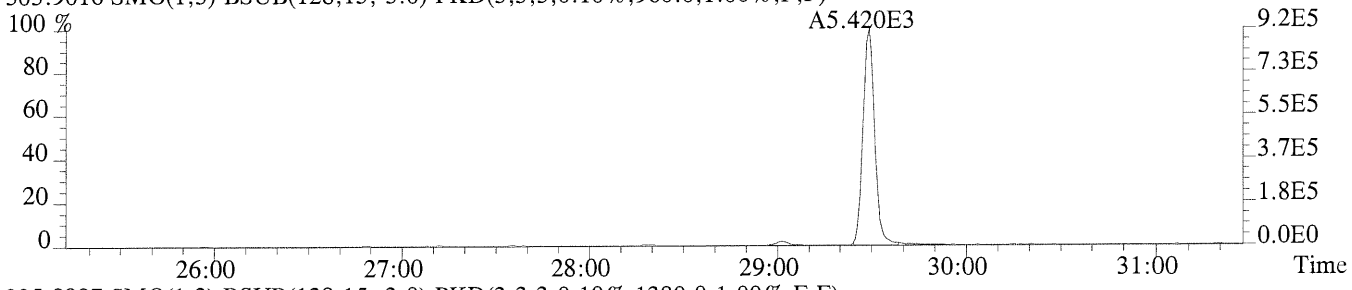
Processed: 7-AUG-08 10:15:01 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.18e+05	9.60e+02	9.6e+02	1.17e+06	1.38e+03	8.5e+02
2	1,2,3,7,8-PeCDF	3.82e+06	3.19e+03	1.2e+03	2.39e+06	2.25e+03	1.1e+03
3	2,3,4,7,8-PeCDF	3.93e+06	3.19e+03	1.2e+03	2.44e+06	2.25e+03	1.1e+03
4	1,2,3,4,7,8-HxCDF	4.10e+06	2.98e+03	1.4e+03	3.32e+06	2.40e+03	1.4e+03
5	1,2,3,6,7,8-HxCDF	3.95e+06	2.98e+03	1.3e+03	3.22e+06	2.40e+03	1.3e+03
6	2,3,4,6,7,8-HxCDF	3.91e+06	2.98e+03	1.3e+03	3.08e+06	2.40e+03	1.3e+03
7	1,2,3,7,8,9-HxCDF	3.20e+06	2.98e+03	1.1e+03	2.51e+06	2.40e+03	1.0e+03
8	1,2,3,4,6,7,8-HpCDF	3.51e+06	3.28e+04	1.1e+02	3.42e+06	2.92e+04	1.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.38e+06	3.28e+04	7.3e+01	2.28e+06	2.92e+04	7.8e+01
10	OCDF	3.30e+06	4.78e+04	6.9e+01	3.71e+06	9.99e+04	3.7e+01
11	2,3,7,8-TCDD	6.89e+05	1.46e+03	4.7e+02	8.94e+05	1.18e+03	7.5e+02
12	1,2,3,7,8-PeCDD	2.51e+06	2.89e+03	8.7e+02	1.58e+06	1.69e+03	9.3e+02
13	1,2,3,4,7,8-HxCDD	2.63e+06	9.00e+03	2.9e+02	2.05e+06	6.49e+03	3.2e+02
14	1,2,3,6,7,8-HxCDD	2.65e+06	9.00e+03	2.9e+02	2.12e+06	6.49e+03	3.3e+02
15	1,2,3,7,8,9-HxCDD	2.57e+06	9.00e+03	2.9e+02	1.99e+06	6.49e+03	3.1e+02
16	1,2,3,4,6,7,8-HpCDD	1.91e+06	5.77e+04	3.3e+01	1.80e+06	8.59e+03	2.1e+02
17	OCDD	2.70e+06	4.79e+03	5.6e+02	3.03e+06	4.18e+04	7.2e+01
18	13C-2,3,7,8-TCDF	4.63e+06	2.67e+03	1.7e+03	5.85e+06	1.71e+03	3.4e+03
19	13C-1,2,3,7,8-PeCDF	7.53e+06	1.07e+03	7.0e+03	4.73e+06	1.34e+03	3.5e+03
20	13C-1,2,3,4,7,8-HxCDF	9.66e+06	8.92e+02	1.1e+04	1.83e+07	1.82e+03	1.0e+04
21	13C-1,2,3,4,6,7,8-HpCDF	6.92e+06	3.85e+03	1.8e+03	1.54e+07	4.27e+03	3.6e+03
22	13C-2,3,7,8-TCDD	3.73e+06	3.85e+03	9.7e+02	4.73e+06	1.50e+03	3.1e+03
23	13C-1,2,3,7,8-PeCDD	5.51e+06	1.06e+03	5.2e+03	3.46e+06	8.32e+02	4.2e+03
24	13C-1,2,3,6,7,8-HxCDD	1.30e+07	9.68e+02	1.3e+04	1.05e+07	1.23e+03	8.6e+03
25	13C-1,2,3,4,6,7,8-HpCDD	9.57e+06	5.35e+03	1.8e+03	9.18e+06	4.04e+03	2.3e+03
26	13C-OCDD	1.31e+07	9.74e+03	1.3e+03	1.46e+07	3.44e+03	4.3e+03
27	13C-1,2,3,4-TCDD	3.80e+06	3.85e+03	9.9e+02	4.73e+06	1.50e+03	3.1e+03
28	13C-1,2,3,7,8,9-HxCDD	1.32e+07	9.68e+02	1.4e+04	1.05e+07	1.23e+03	8.6e+03
29	37Cl-2,3,7,8-TCDD	1.61e+06	7.68e+02	2.1e+03			

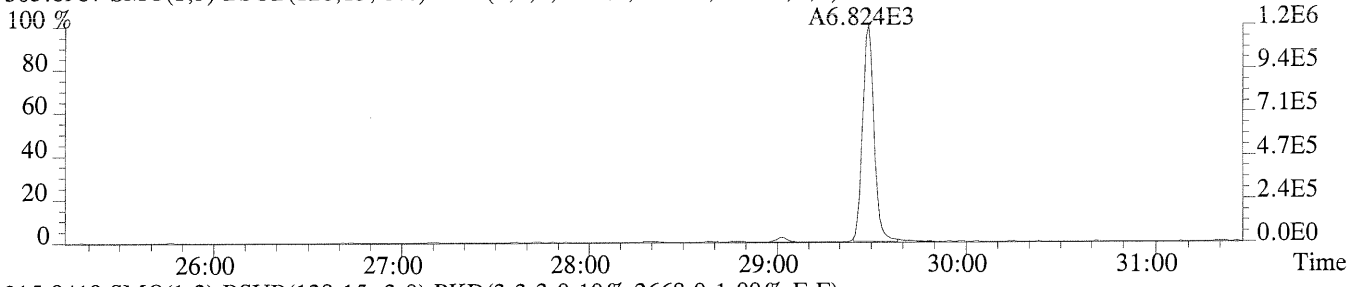
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100172 #1-521 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
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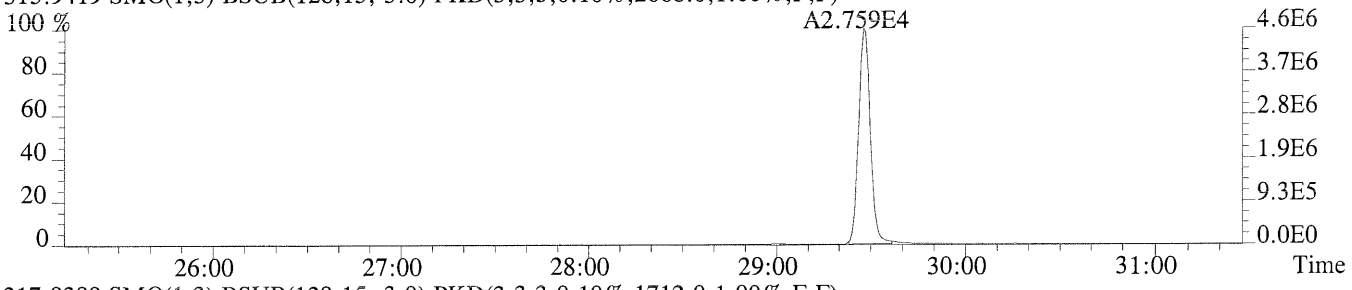
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,F)



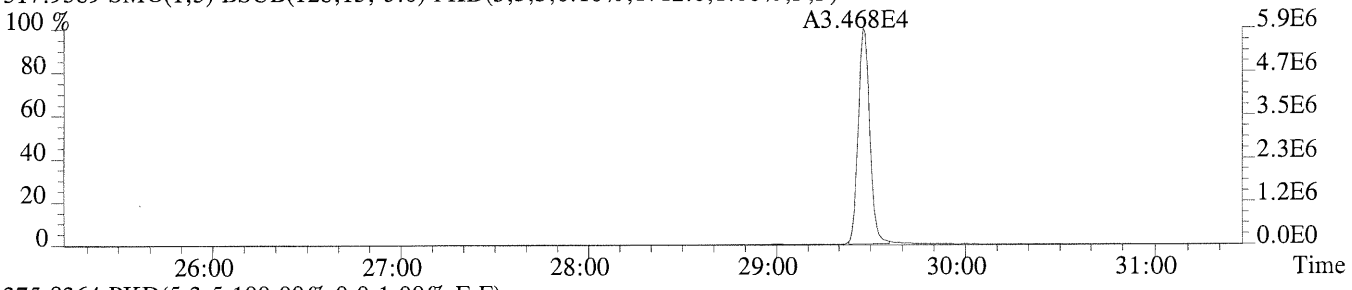
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,F)



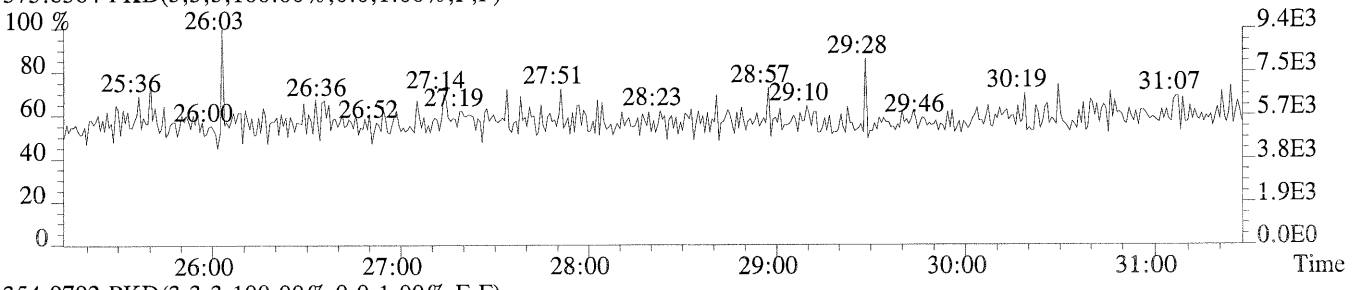
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2668.0,1.00%,F,F)



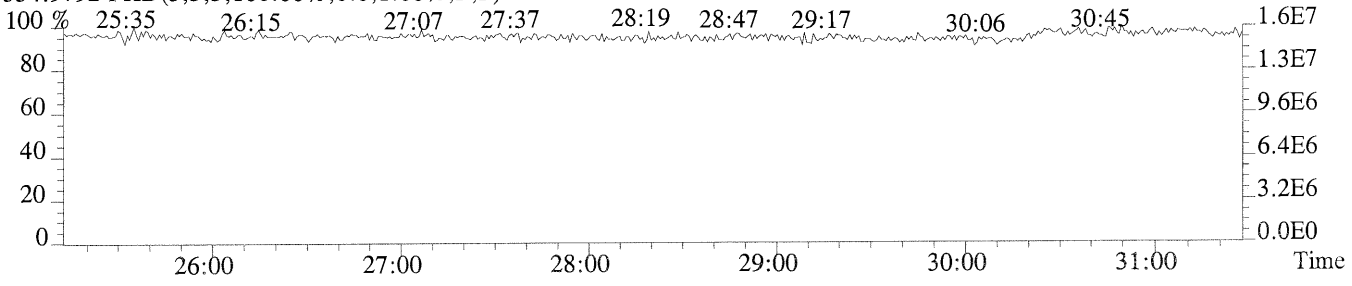
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1712.0,1.00%,F,F)



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

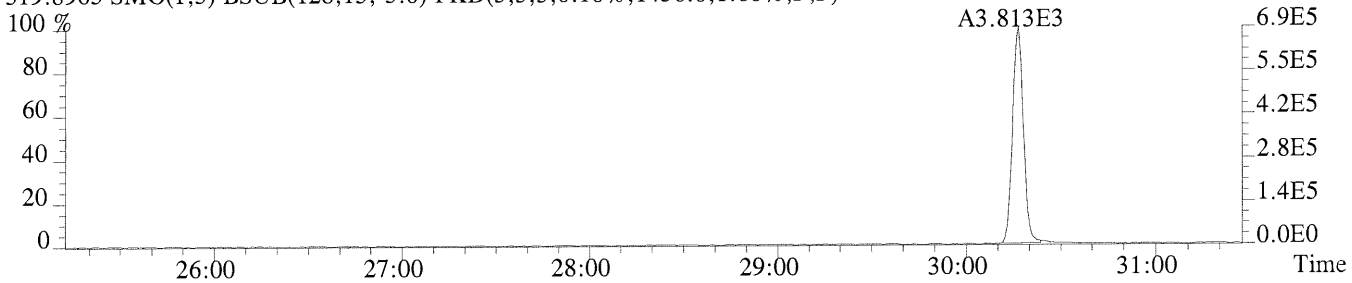


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

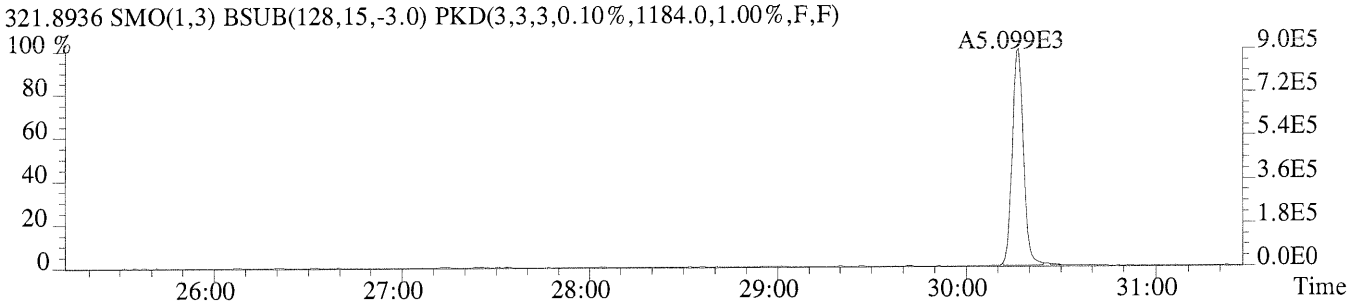


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Sample#1 Exp:CCAL HRCC3

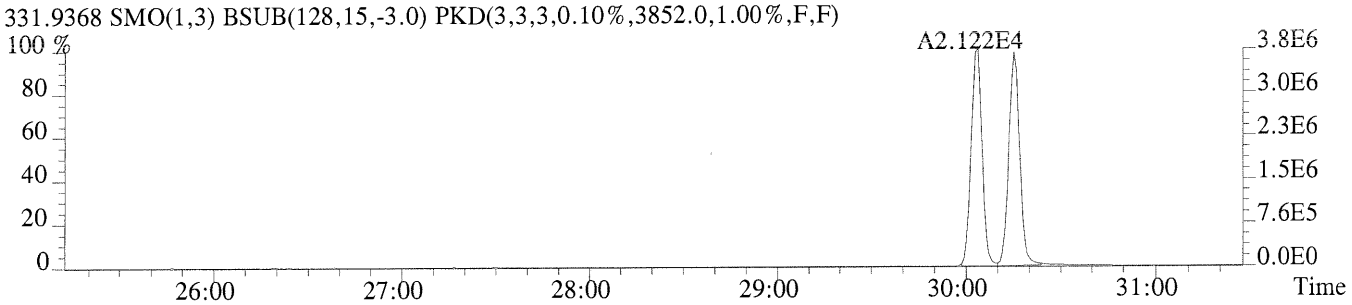
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1456.0,1.00%,F,F)



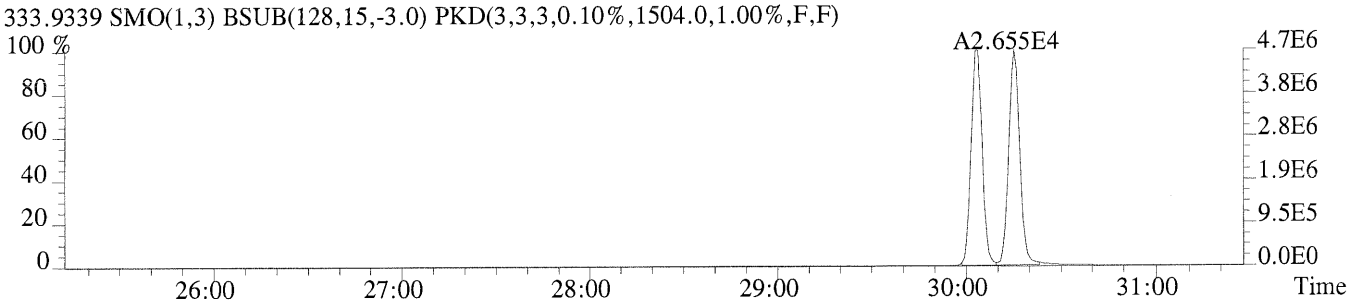
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1184.0,1.00%,F,F)



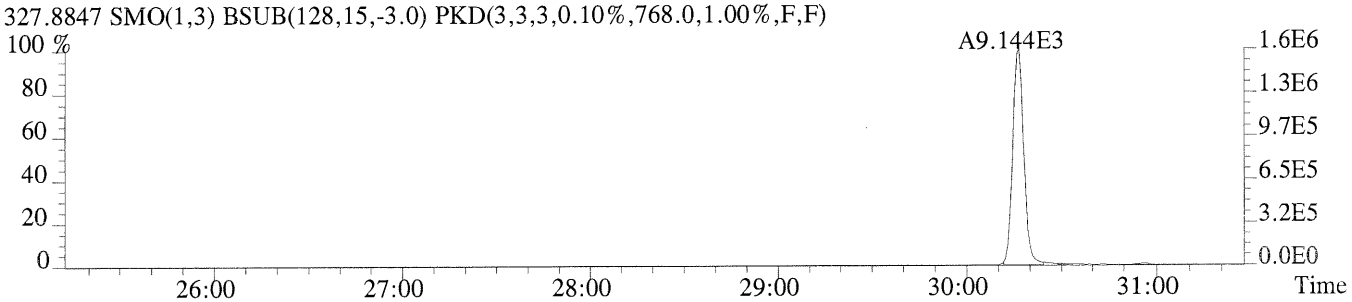
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3852.0,1.00%,F,F)



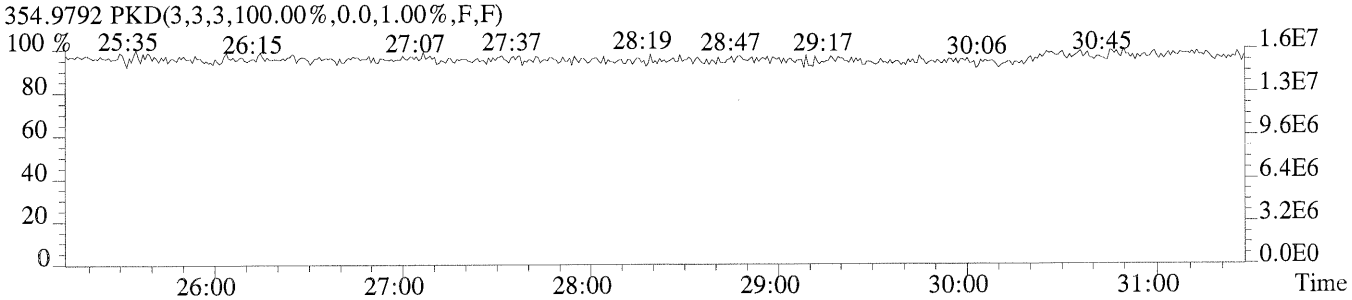
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1504.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,768.0,1.00%,F,F)

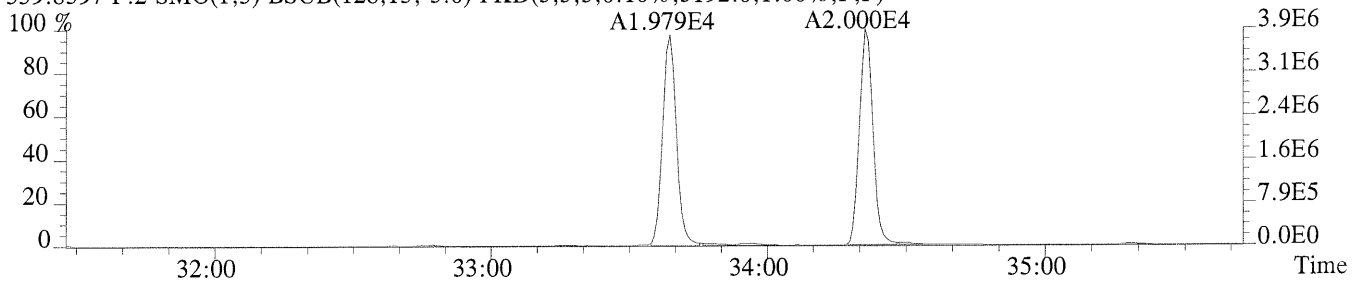


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

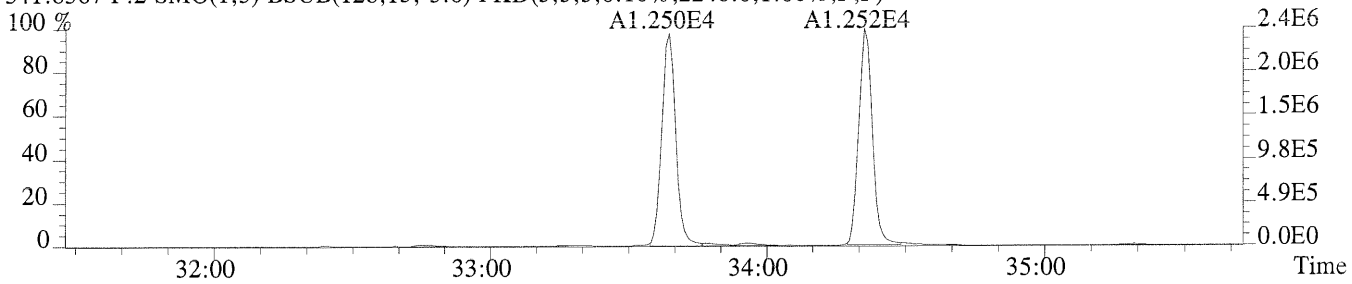


File:P100172 #1-386 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

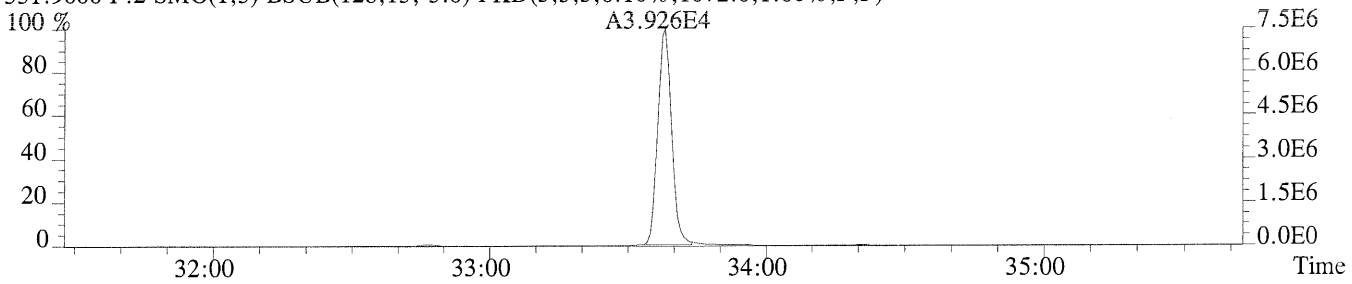
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3192.0,1.00%,F,F)



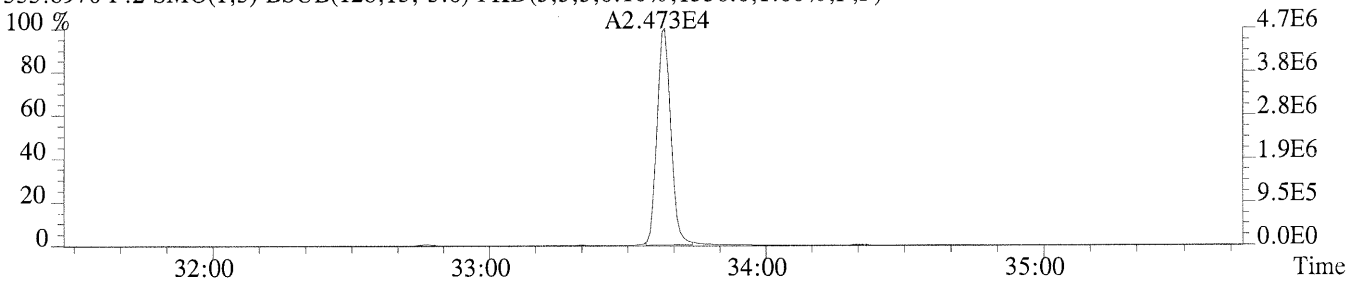
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2248.0,1.00%,F,F)



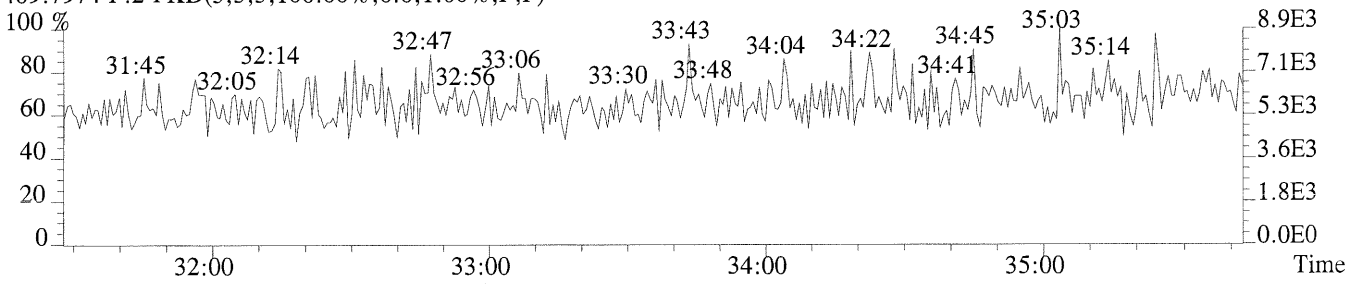
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1072.0,1.00%,F,F)



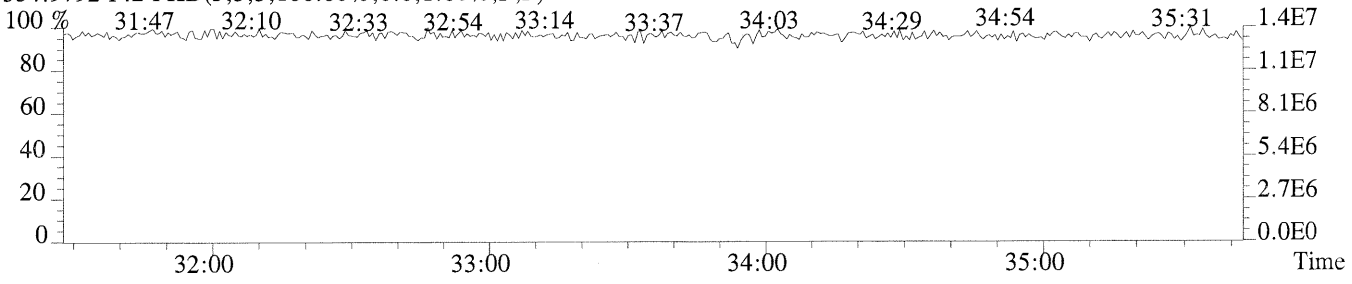
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,F)



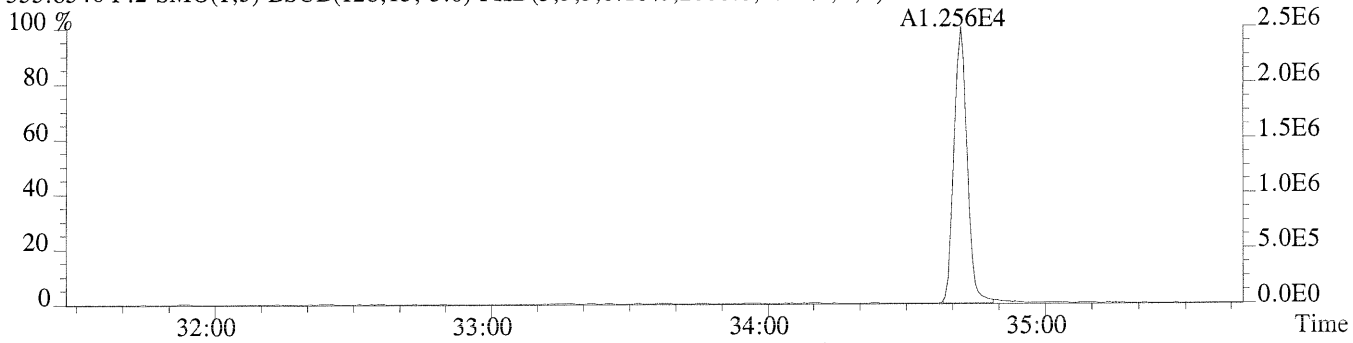
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



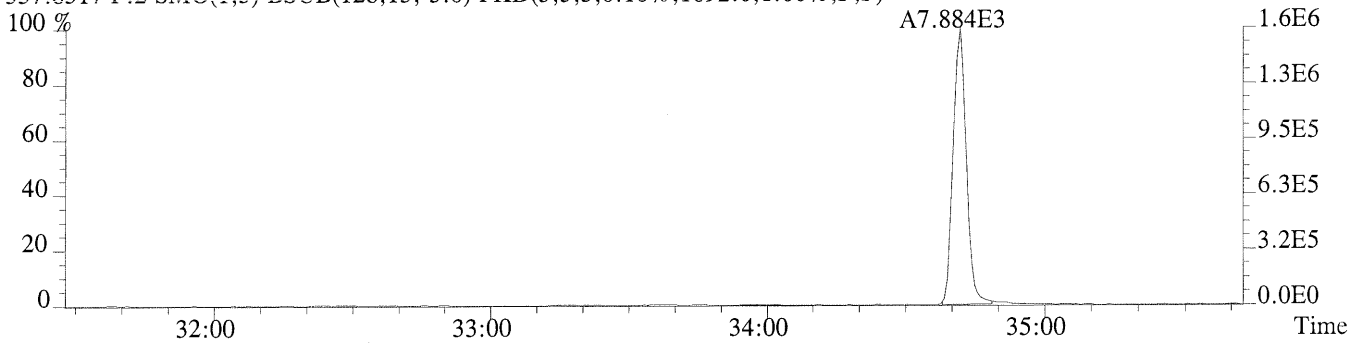
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



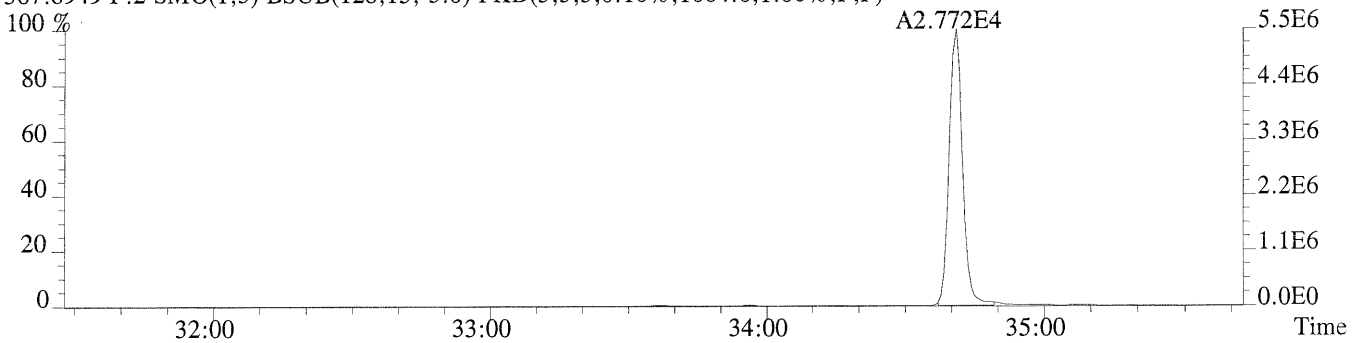
File:P100172 #1-386 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2888.0,1.00%,F,F)



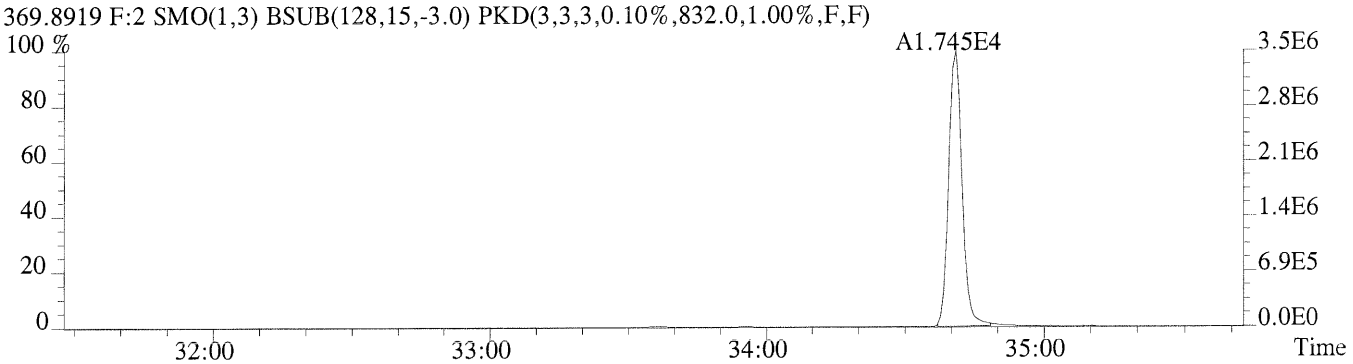
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1692.0,1.00%,F,F)



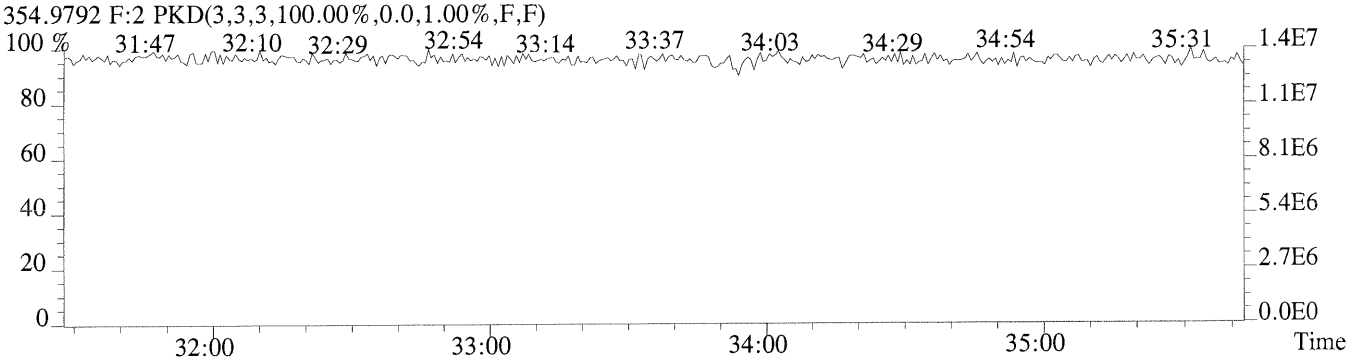
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,832.0,1.00%,F,F)

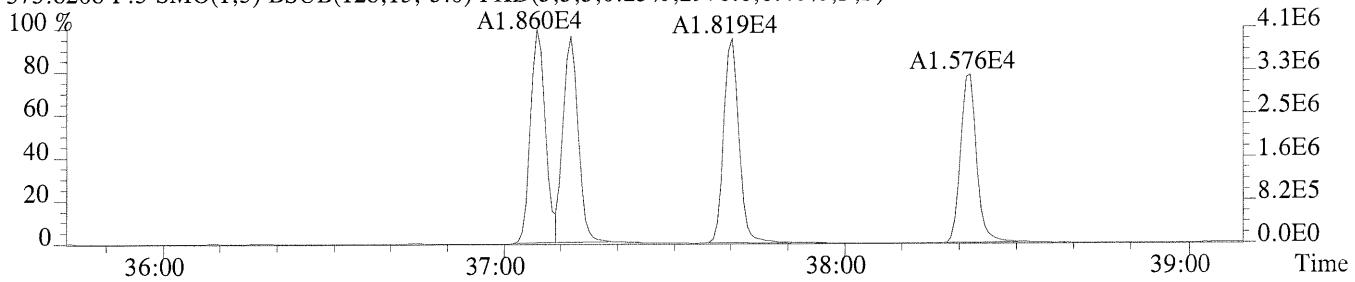


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

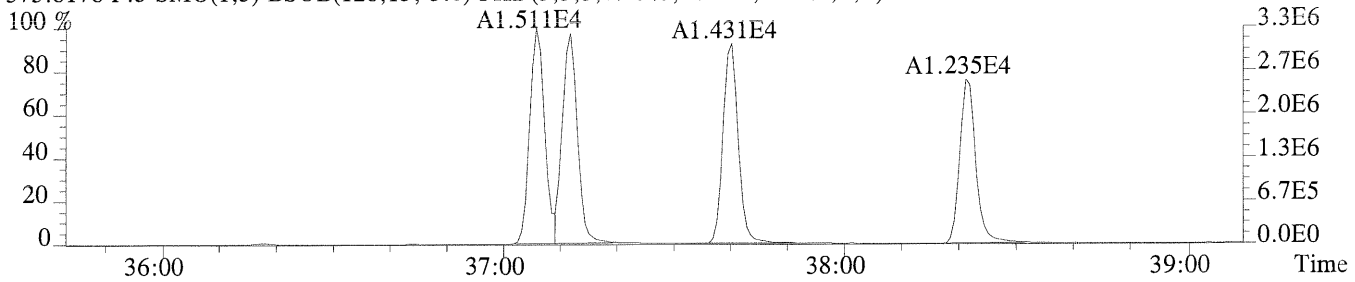


File:P100172 #1-313 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

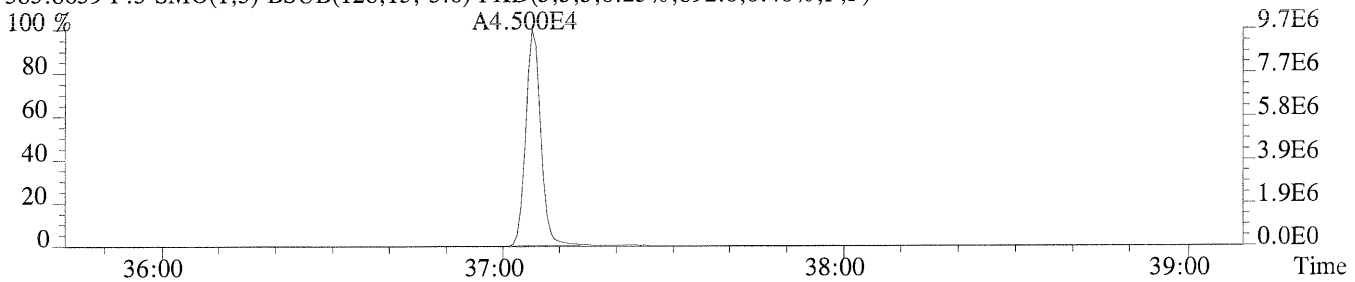
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2976.0,0.40%,F,F)



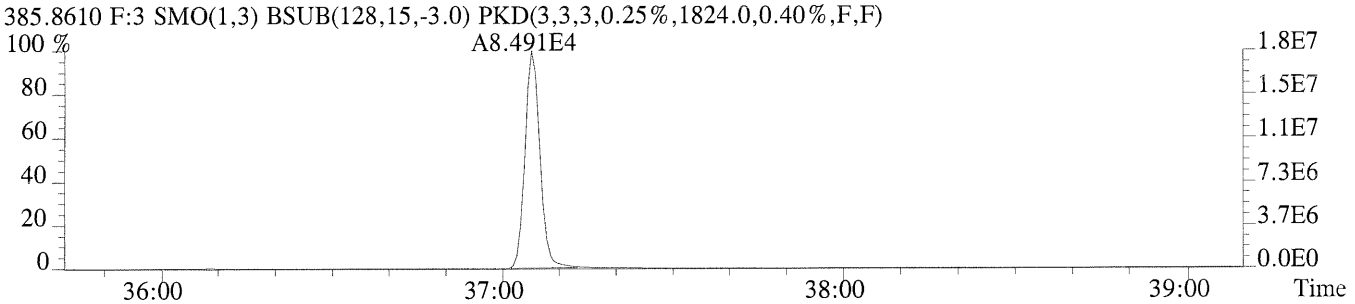
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2404.0,0.40%,F,F)



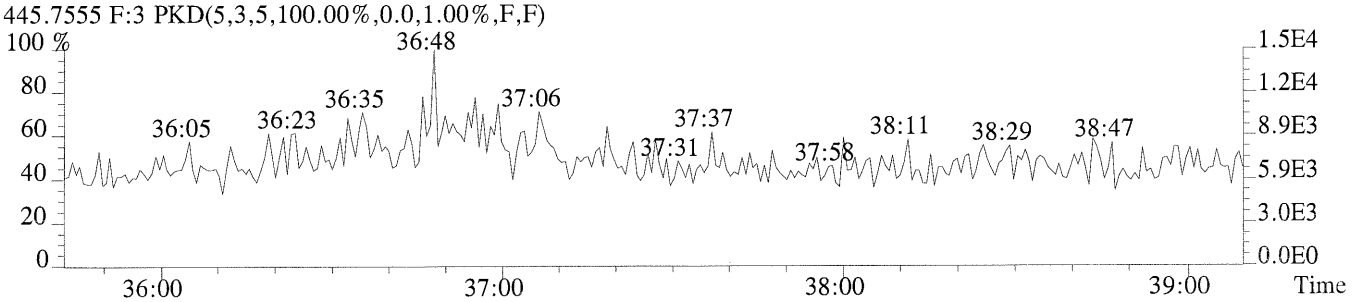
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,892.0,0.40%,F,F)



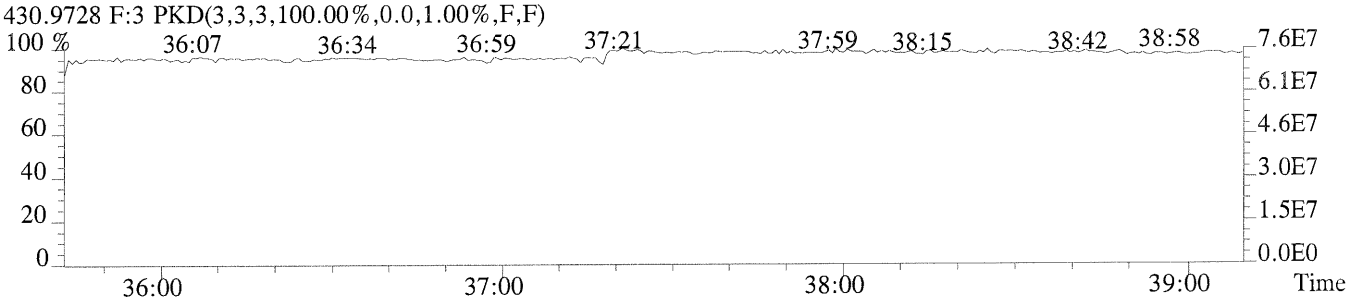
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1824.0,0.40%,F,F)



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

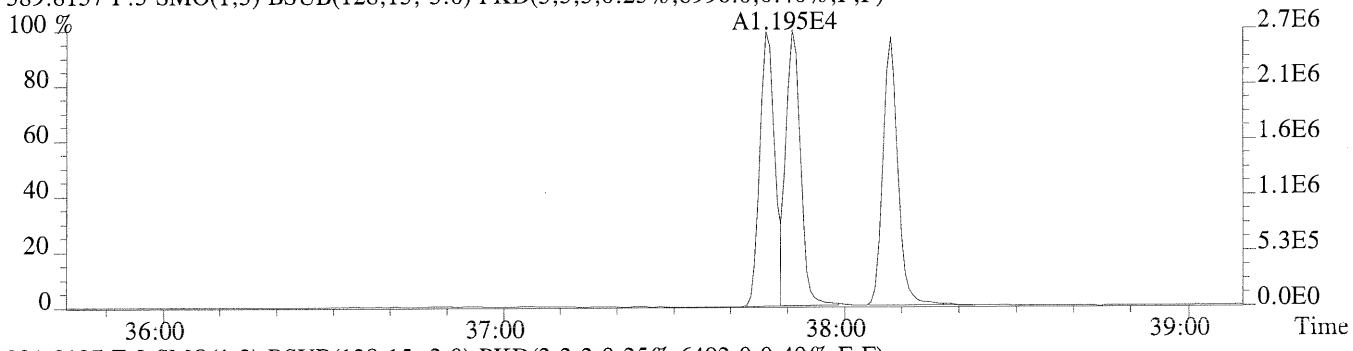


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

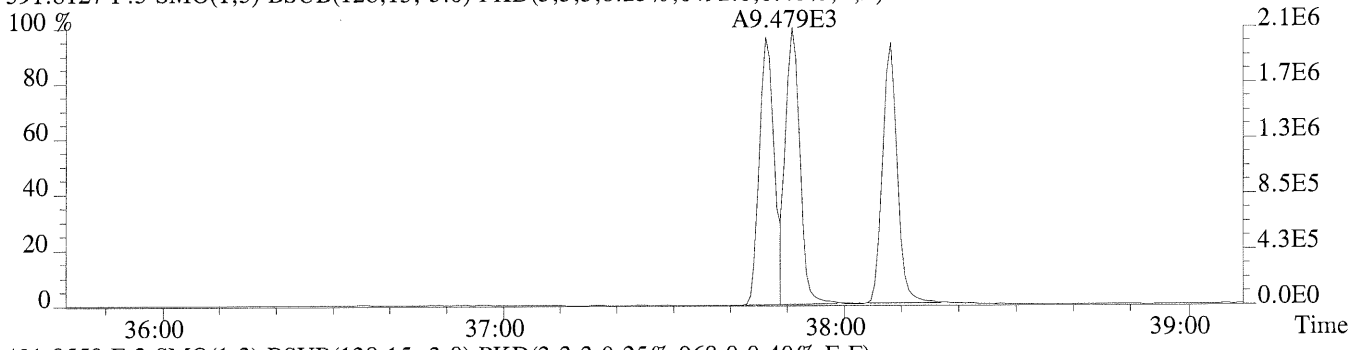


File:P100172 #1-313 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

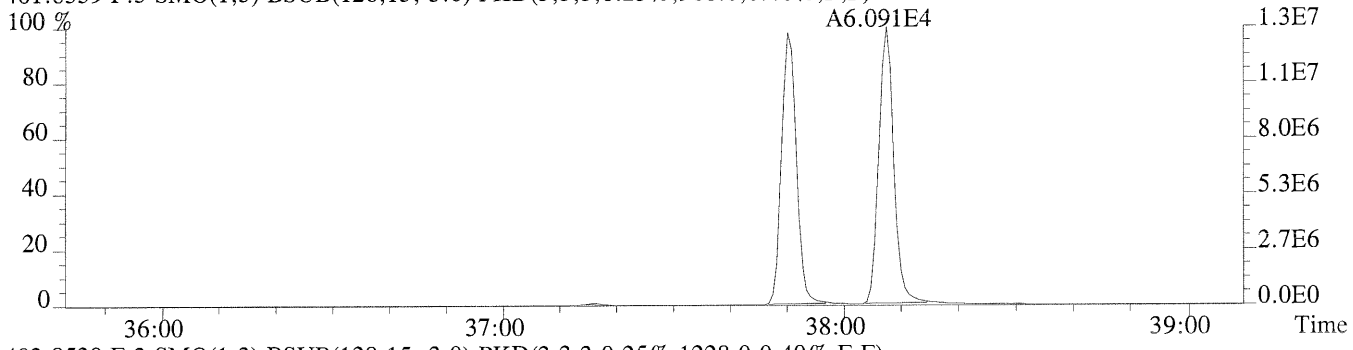
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8996.0,0.40%,F,F)



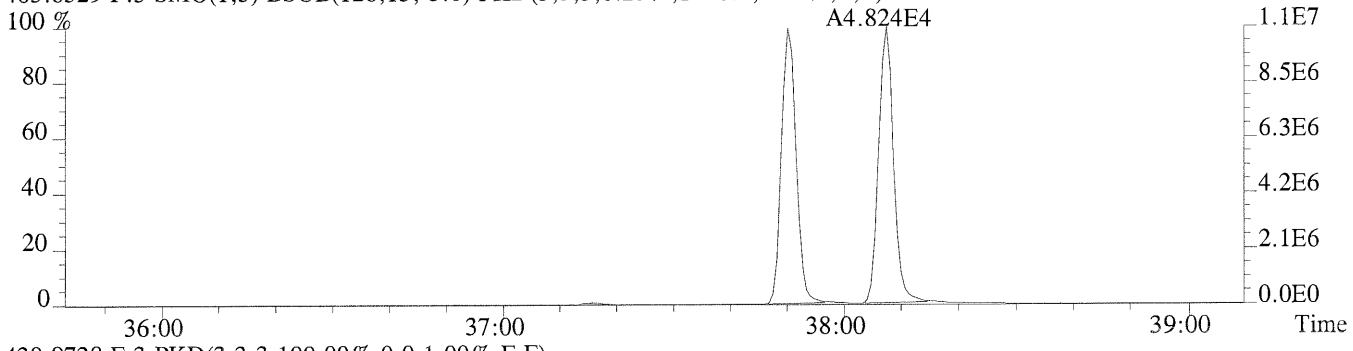
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6492.0,0.40%,F,F)



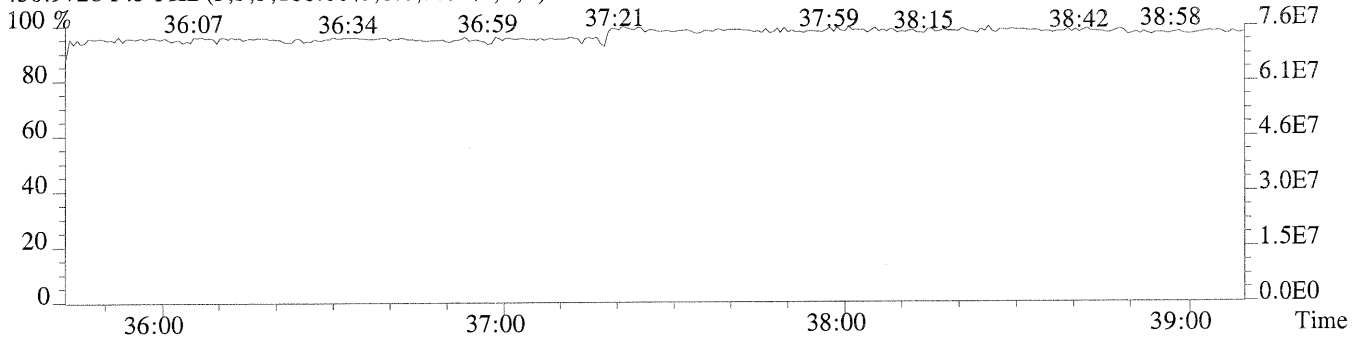
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,968.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,F)

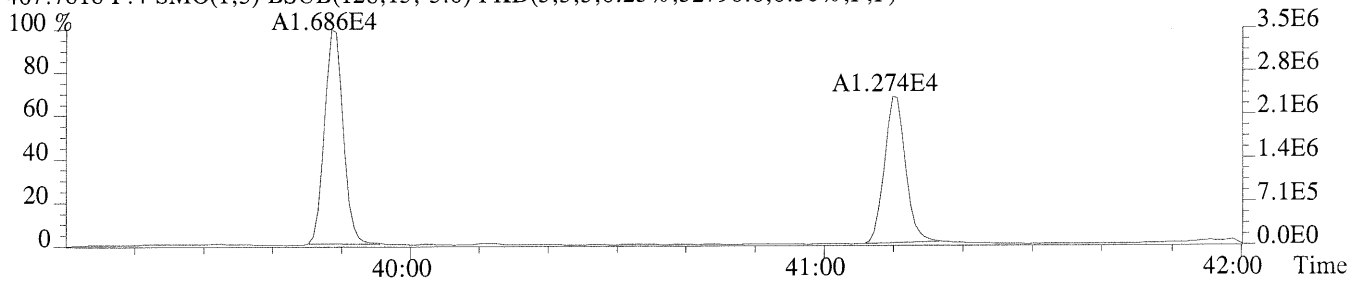


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

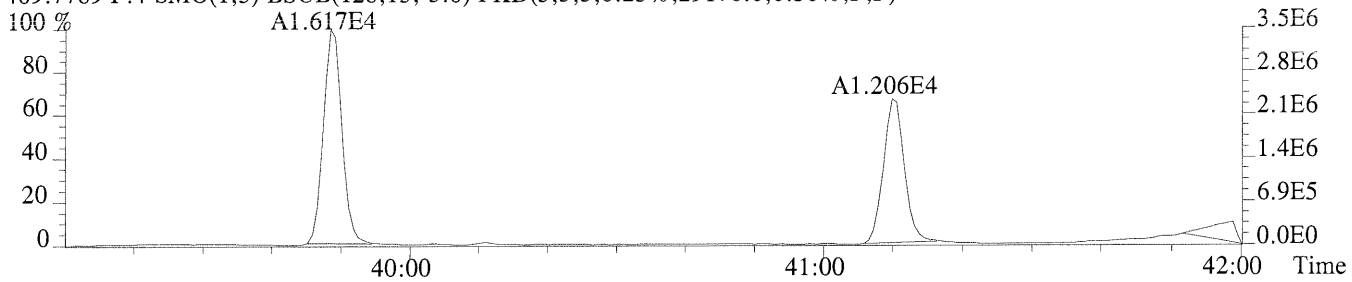


File:P100172 #1-258 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

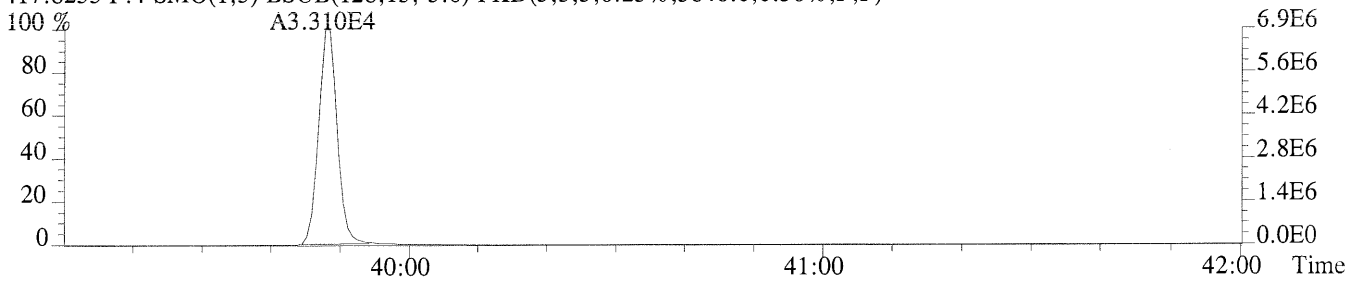
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,32796.0,0.50%,F,F)



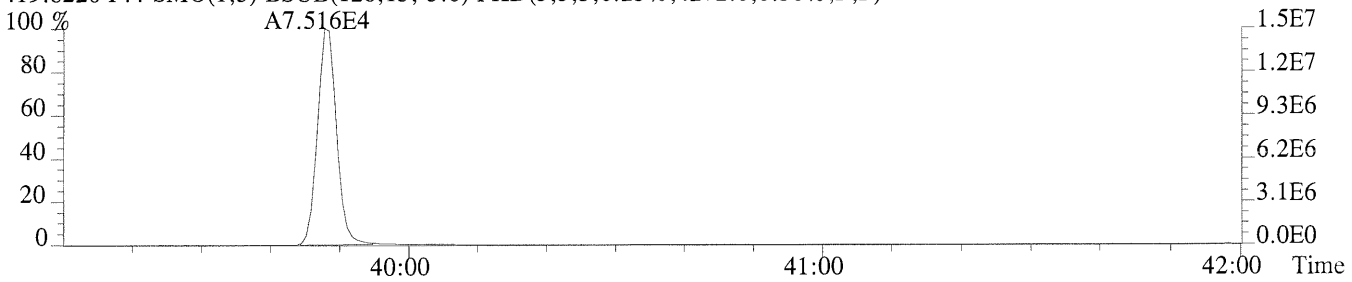
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,29176.0,0.50%,F,F)



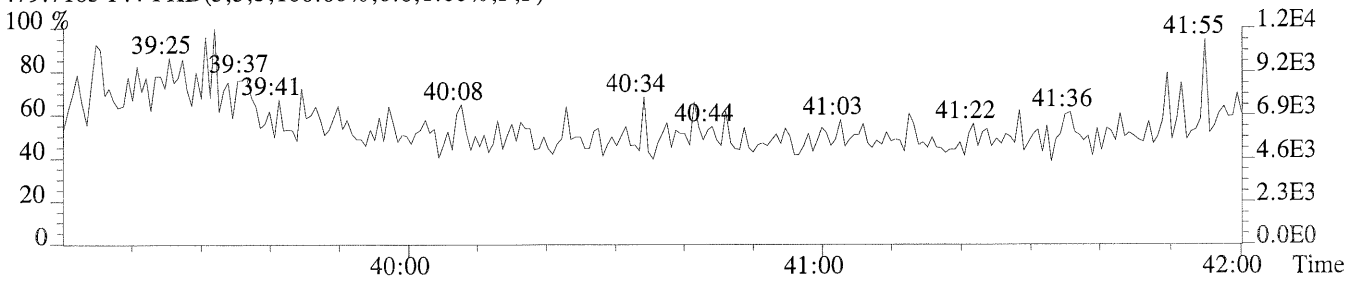
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3848.0,0.50%,F,F)



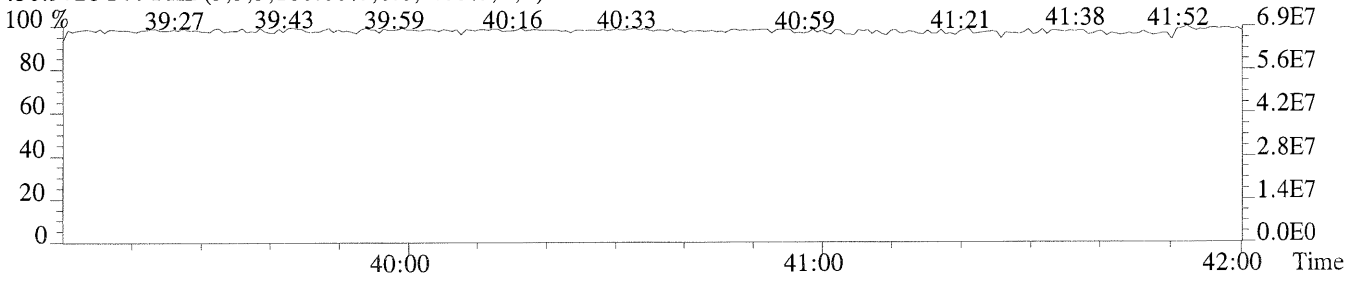
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4272.0,0.50%,F,F)



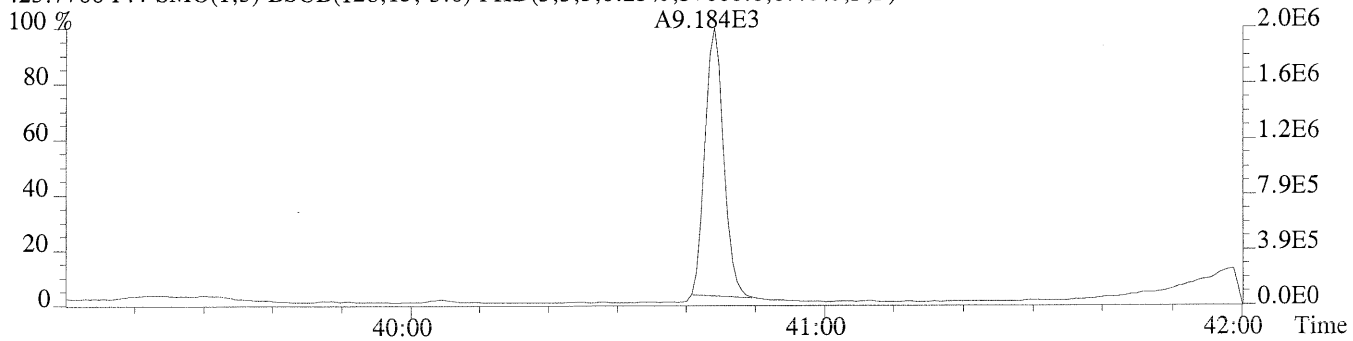
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



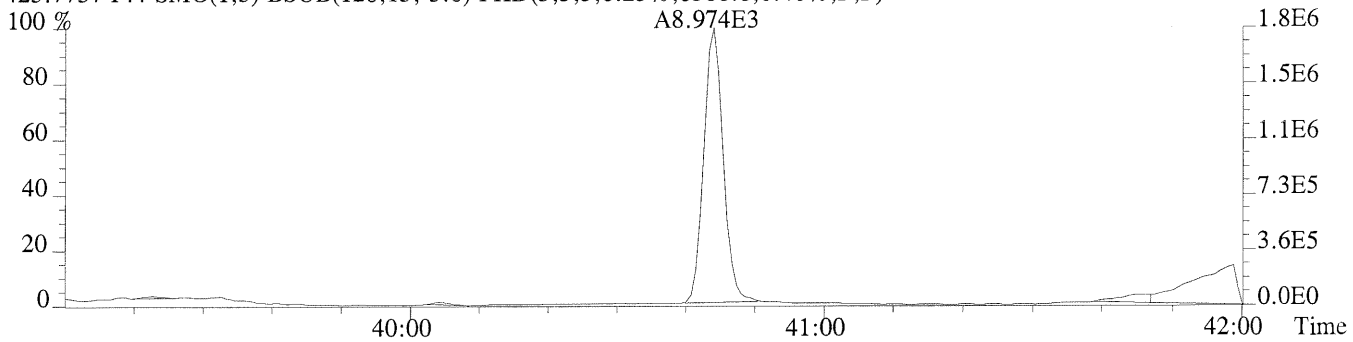
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



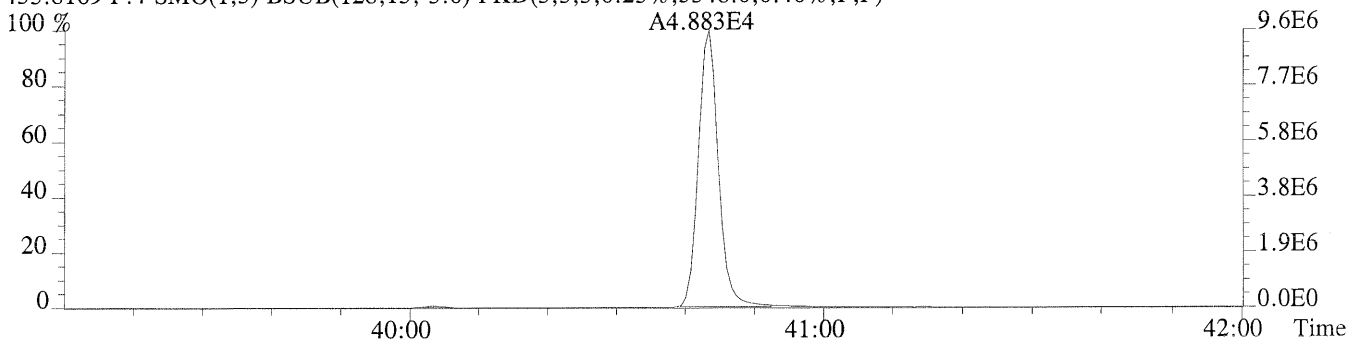
File:P100172 #1-258 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,57660.0,0.40%,F,F)



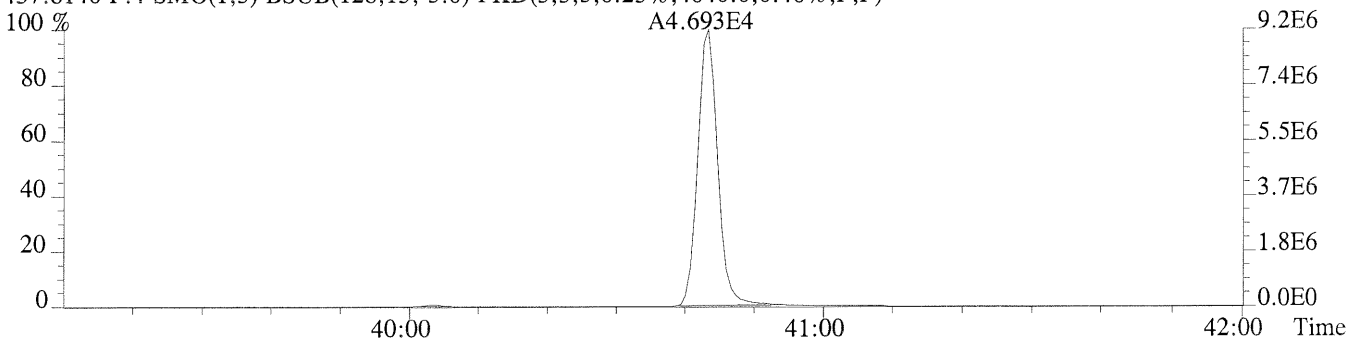
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8588.0,0.40%,F,F)



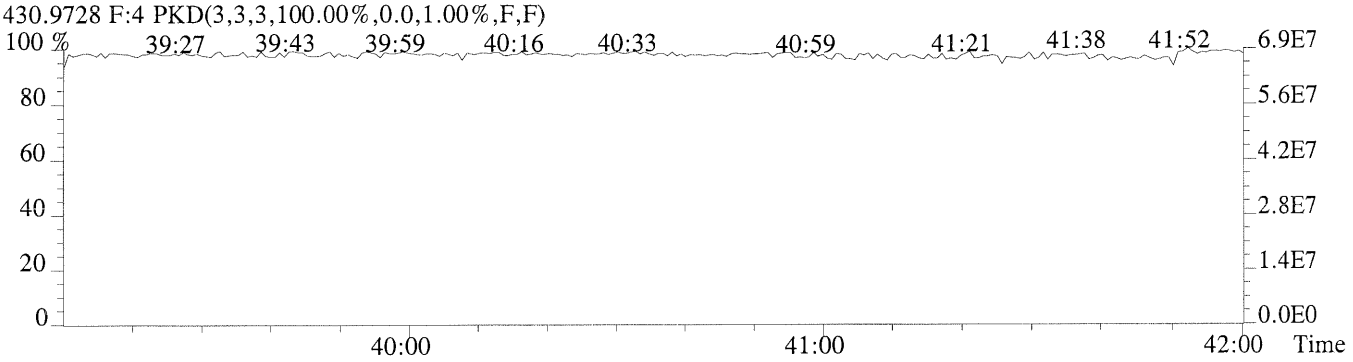
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5348.0,0.40%,F,F)



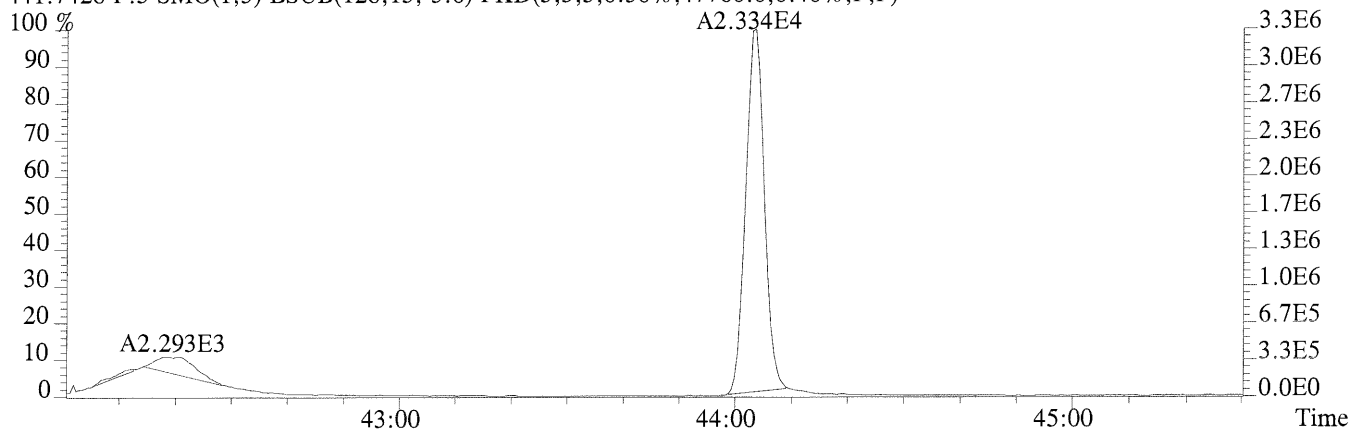
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4040.0,0.40%,F,F)



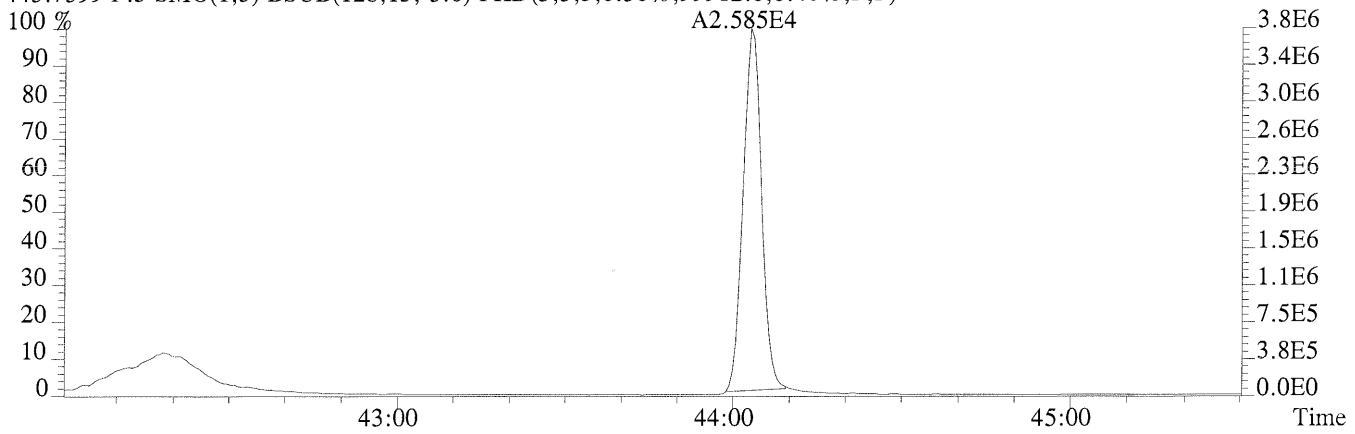
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



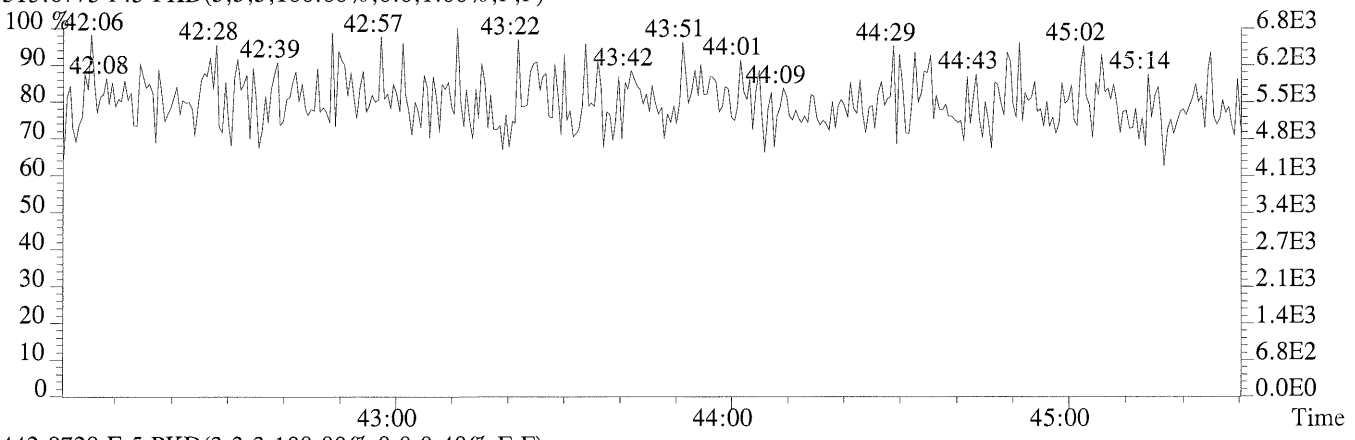
File:P100172 #1-386 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,47760.0,0.40%,F,F)



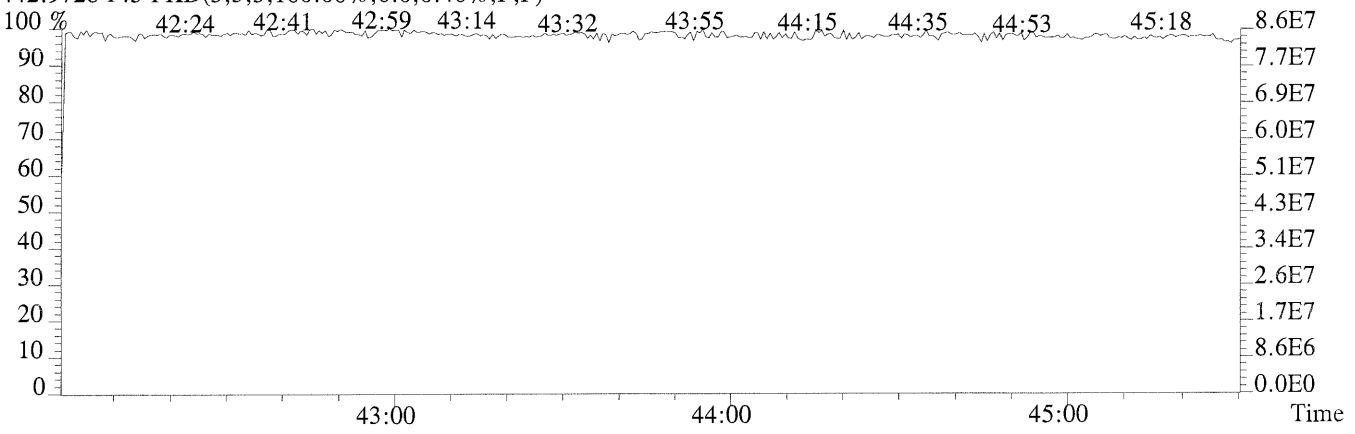
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,99912.0,0.40%,F,F)



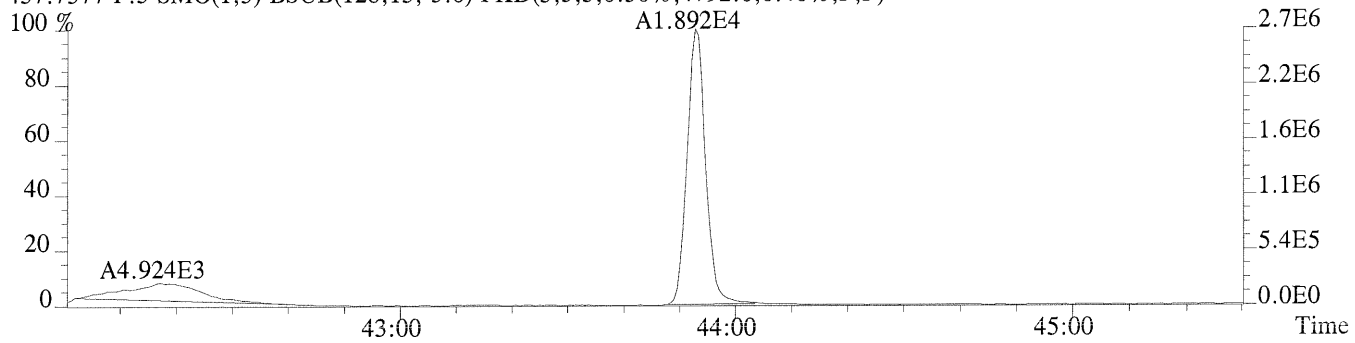
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



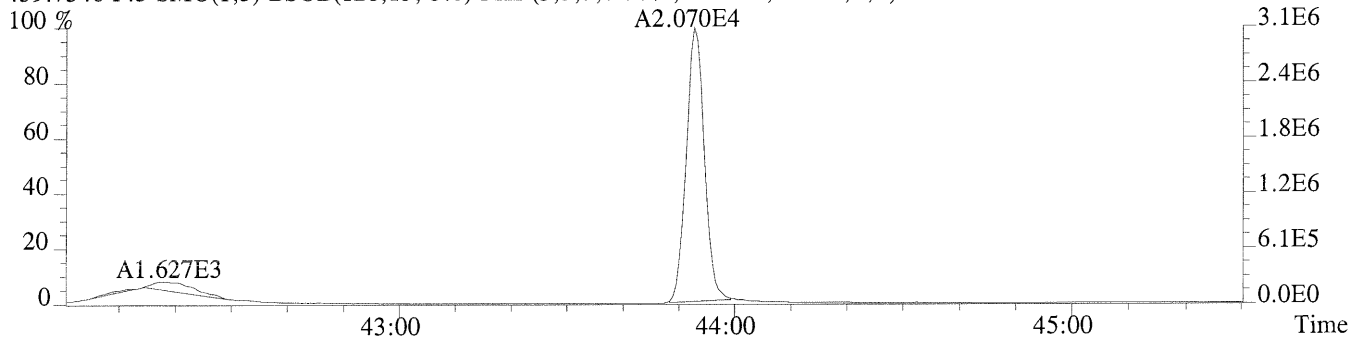
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



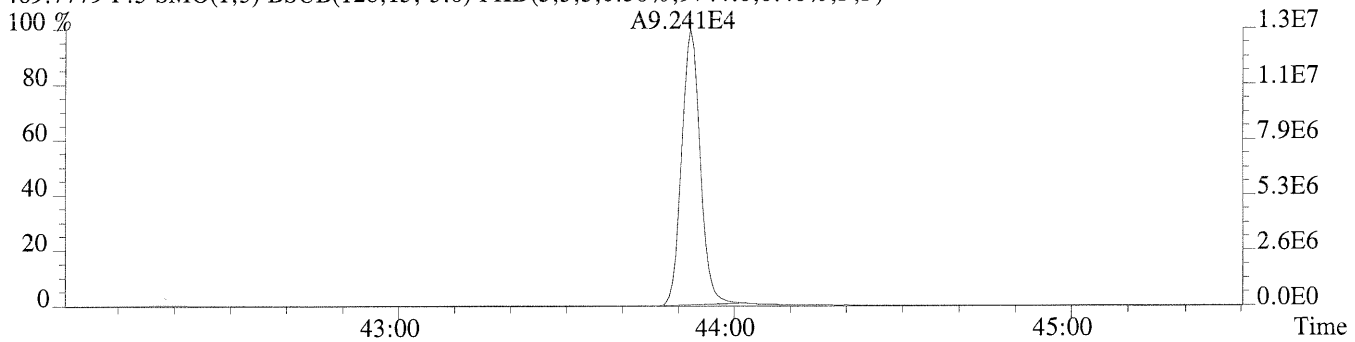
File:P100172 #1-386 Acq: 1-AUG-2008 17:47:40 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4792.0,0.40%,F,F)



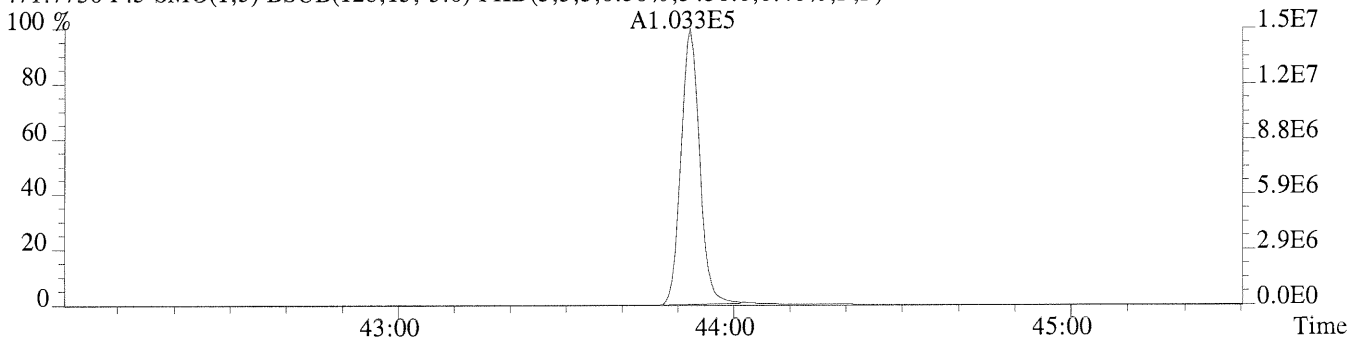
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,41796.0,0.40%,F,F)



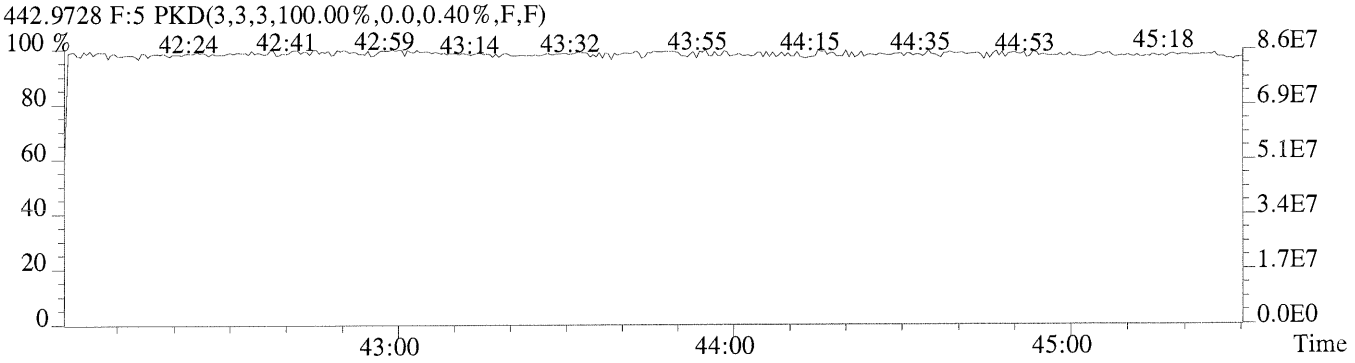
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,9744.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3436.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: P100248~P100257

Date: 12 AUG. '08

Circle one: Beginning / Ending

Method: 8290 / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: _____ Second QC: MC

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Premier

Init. Calib. Date: 07/02/08

Init. Calib.Times: 09:52

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
WINDOW DEFINE		P100245	12-AUG-08	06:34:02
CCAL HRCC3		P100248	12-AUG-08	10:00:44
METHOD BLANK	EQ0800319-01	P100249	12-AUG-08	11:15:39
INCSSB0714	E0800714-008	P100250	12-AUG-08	12:03:12
CCAL HRCC3		P100257	12-AUG-08	18:34:32
INCSSB0714 MS	EQ0800319-03	P100251	12-AUG-08	12:50:07
INCSSB0714 DMS	EQ0800319-04	P100252	12-AUG-08	13:38:30
07-29-08-MW-3	E0800751-003	P100253	12-AUG-08	14:58:17
07-29-08-MW-4	E0800751-004	P100254	12-AUG-08	15:44:54
07-29-08-FDUP-1	E0800751-005	P100255	12-AUG-08	16:42:46
07-29-08-MW-5 MS	EQ0800336-03	P100256	12-AUG-08	17:31:22

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Acq Method: 8290CA5/1613 Result File: D:\P100248.RES

GC Method: 8290CA5/1613 EDD File:

Columbia Analytical Services, Inc.

An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/12/08	06:34	P100245	WINDOW DEFINE	D4-50-2		JB		
	07:21	P100246	CCAL HRCC3	D8-2-2A			NEEDS REINJECTED	
	08:48	———	HRMS Check					
	08:49	P100247	CCAL HRCC3	D8-2-2A			NEEDS REINJECTED	
	10:00	P100248	CCAL HRCC3	D8-2-2A				
	11:15	P100249	EQ0800319-01MB	METHOD BLANK	EQ319			
	12:03	P100250	EQ0800714-008	INCS80714				
	12:50	P100251	EQ0800319-03MS	INCS80714 MS				
	13:38	P100252	EQ0800319-04DMS	INCS80714 DMS				
	14:58	P100253	EQ0800751-003	07-29-08-MW-3	EQ336			
	15:44	P100254	-004	07-29-08-MW-4				
	16:42	P100255	-005	07-29-08-FDUP-1				
	17:31	P100256	EQ0800336-03MS	07-29-08-MW-5MS				
	18:34	P100257	CCAL HRCC3	D8-2-2A				
———	19:22	———	HRMS CHECK					
08/13/08	06:51	———	HRMS CHECK					

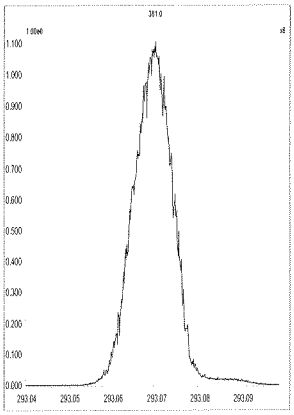
Reviewed by: QC

Experiment Calibration Report **MassLynx 4.1**

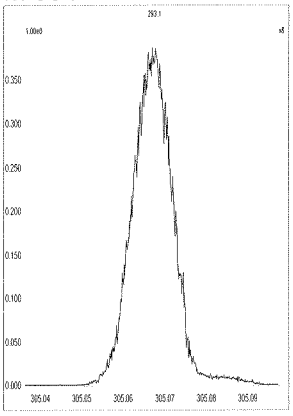
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Tuesday, August 12, 2008 06:29:04 Central Daylight Time

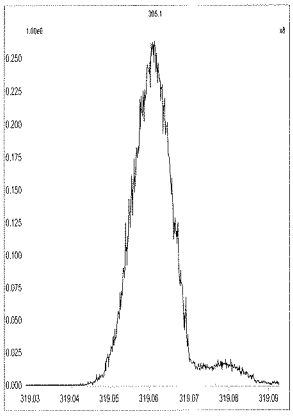
M 292.9824 R 14372



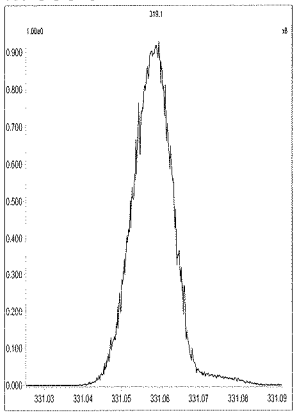
M 304.9824 R 13890



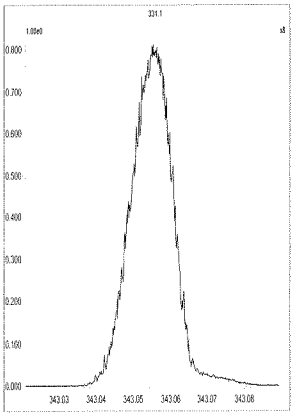
M 318.9792 R 14204



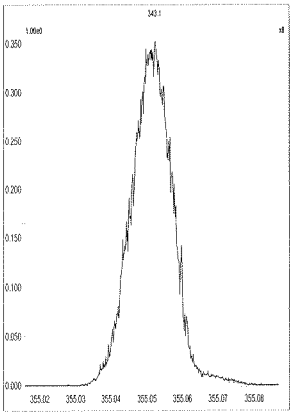
M 330.9792 R 13970



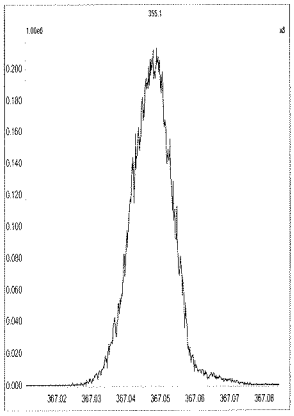
M 342.9792 R 14119



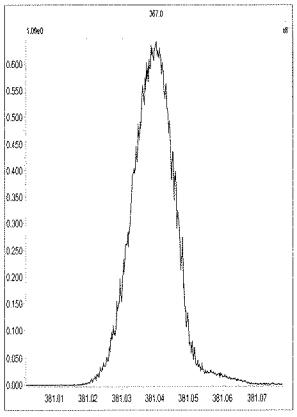
M 354.9792 R 13368



M 366.9792 R 13733



M 380.9760 R 13021

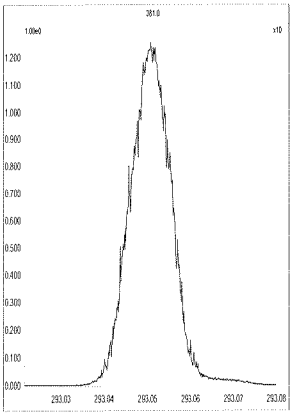


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

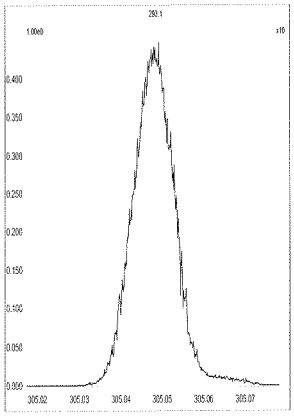
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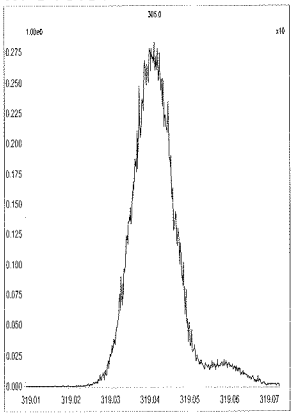
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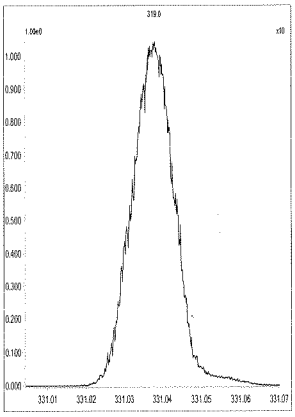
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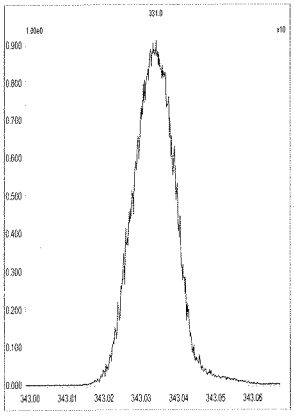
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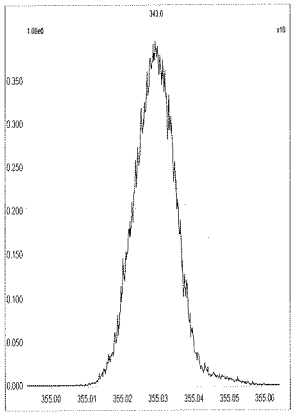
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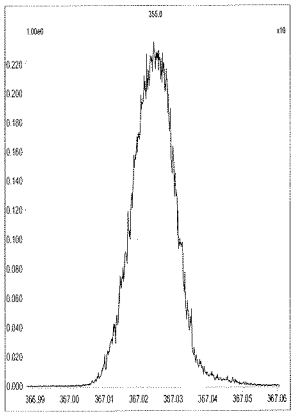
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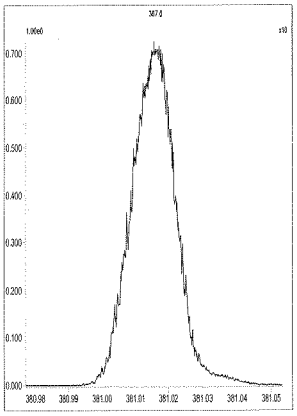
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M 366.9792 R 13022



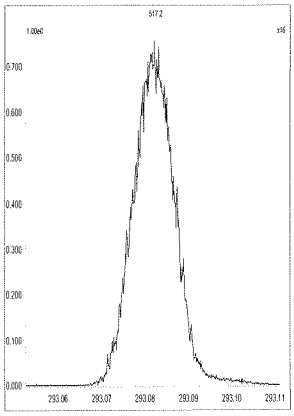
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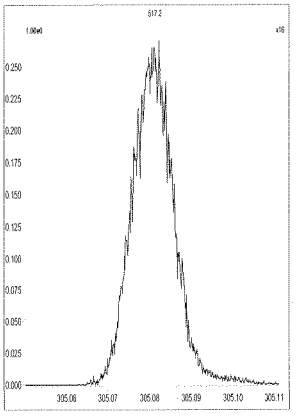
Resolution Check Report **MassLynx 4.1** Page 1 of 1

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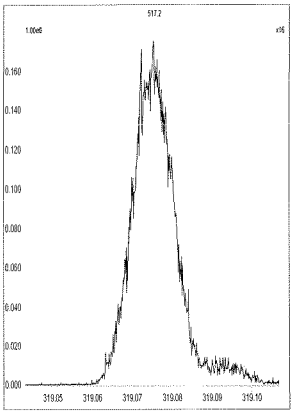
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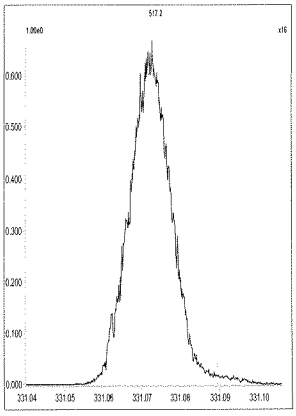
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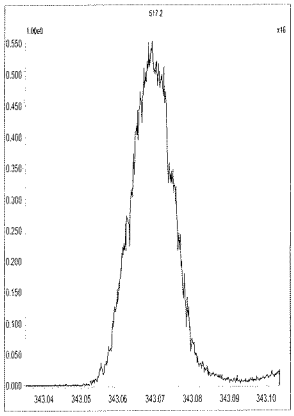
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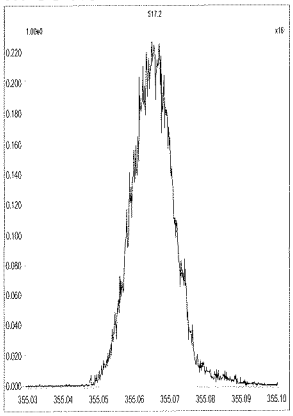
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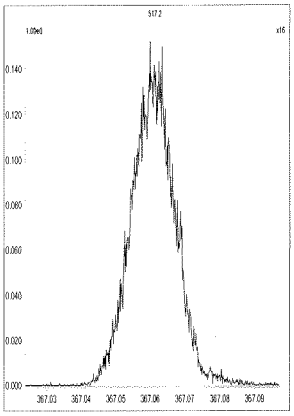
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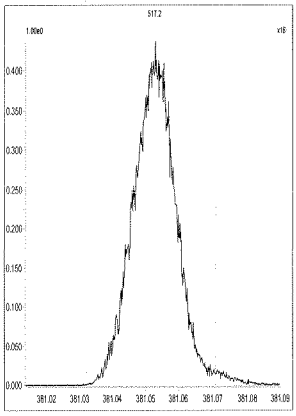
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M 366.9792 R 12823



M 380.9760 R 12631



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P100245

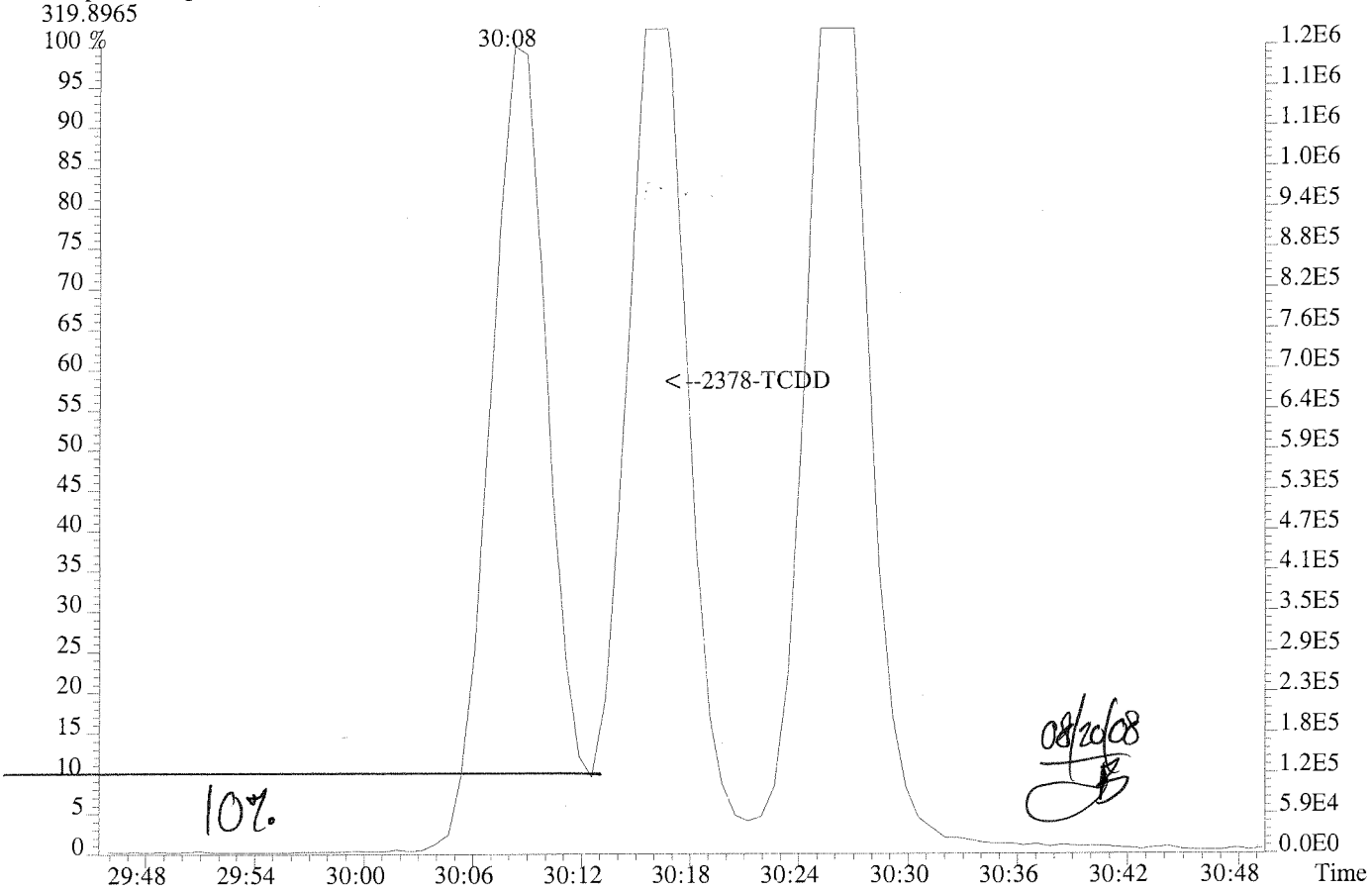
Date Analyzed: 08/12/08

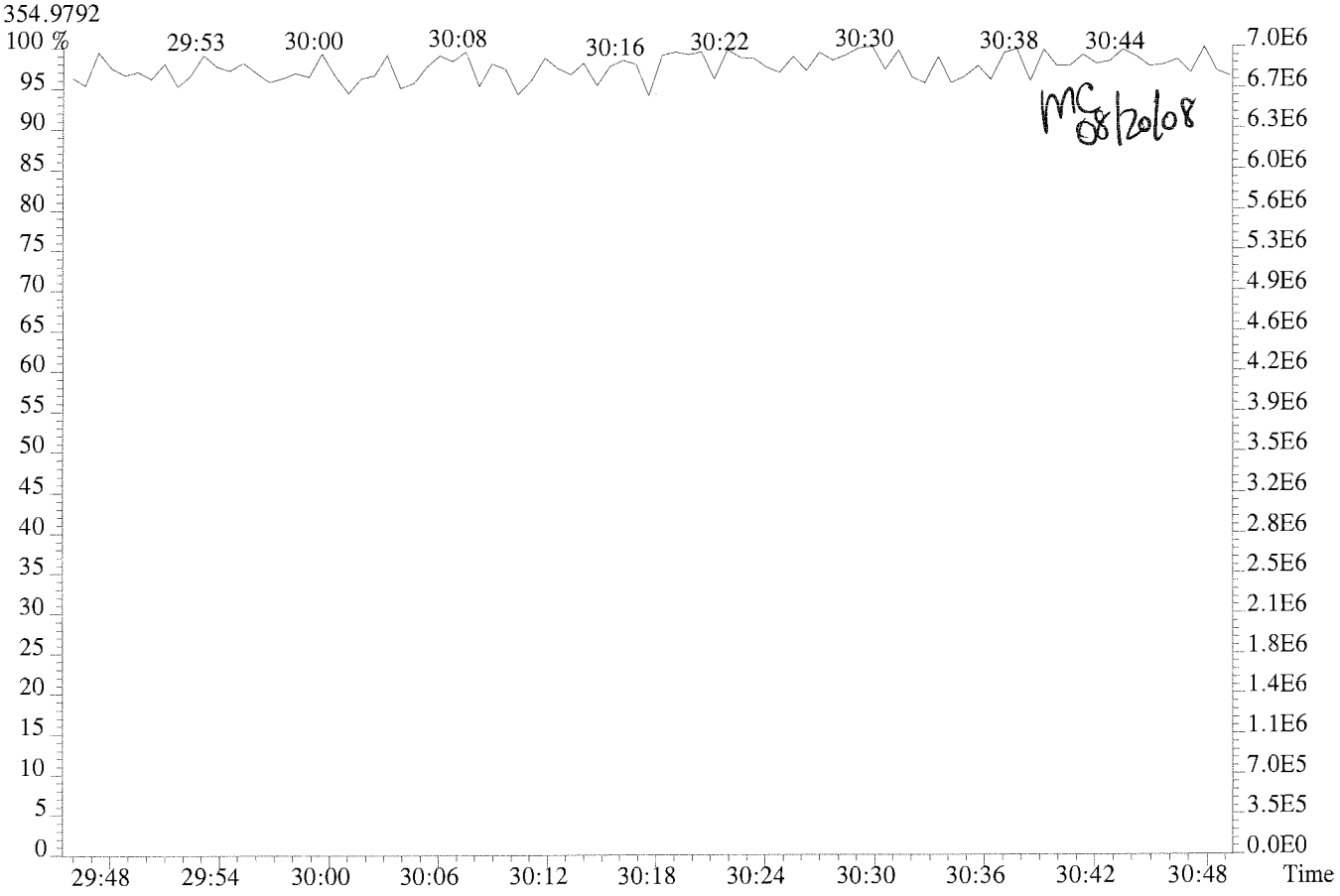
Time Analyzed: 06:34:02

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	25:46	31:20
TCDD	27:25	31:19
PeCDF	31:35	35:19
PeCDD	32:53	35:09
HxCDF	36:09	38:26
HxCDD	36:38	38:06
HpCDF	39:49	41:11
HpCDD	40:04	40:44

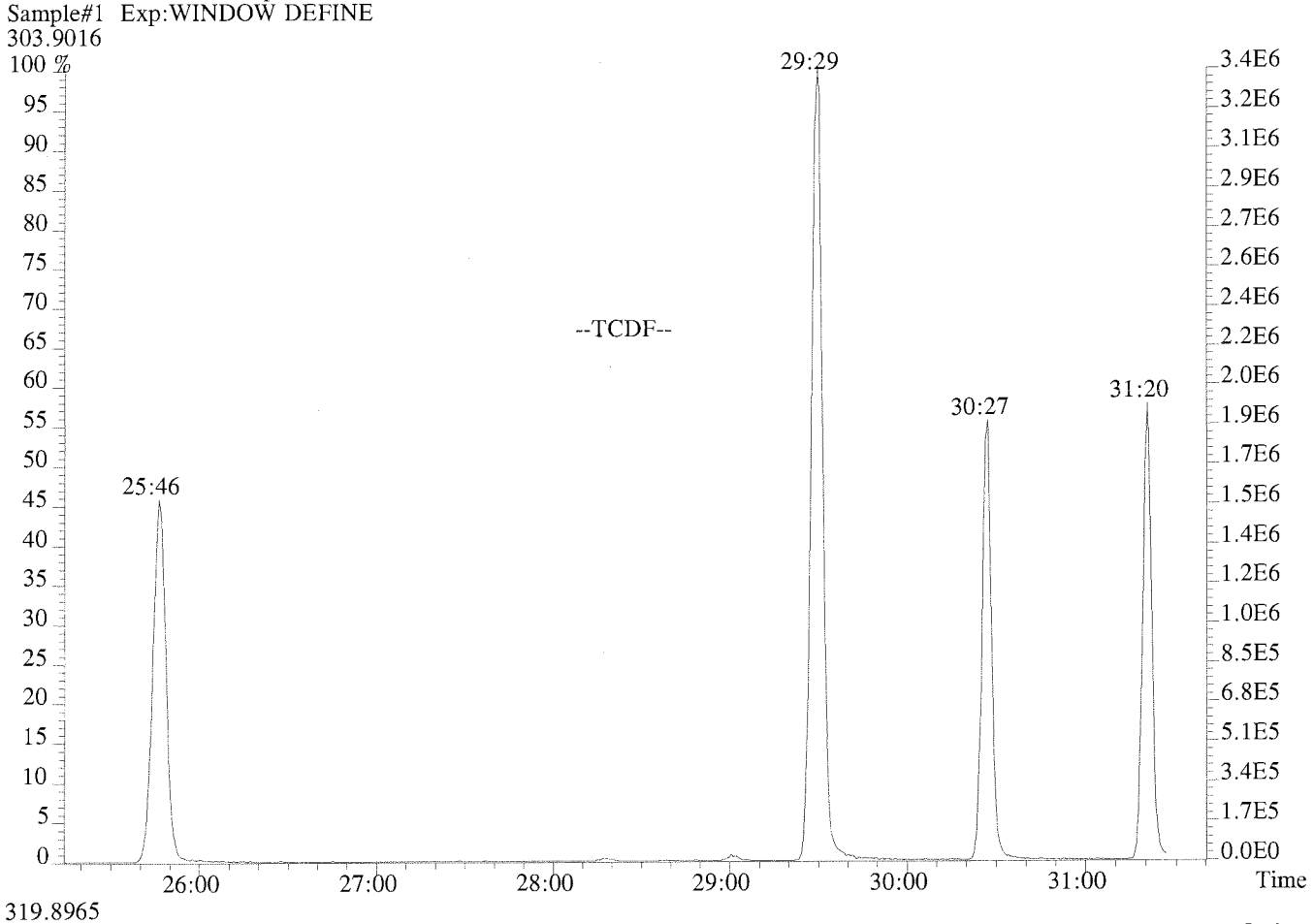
% Valley 2378-TCDD: 10%

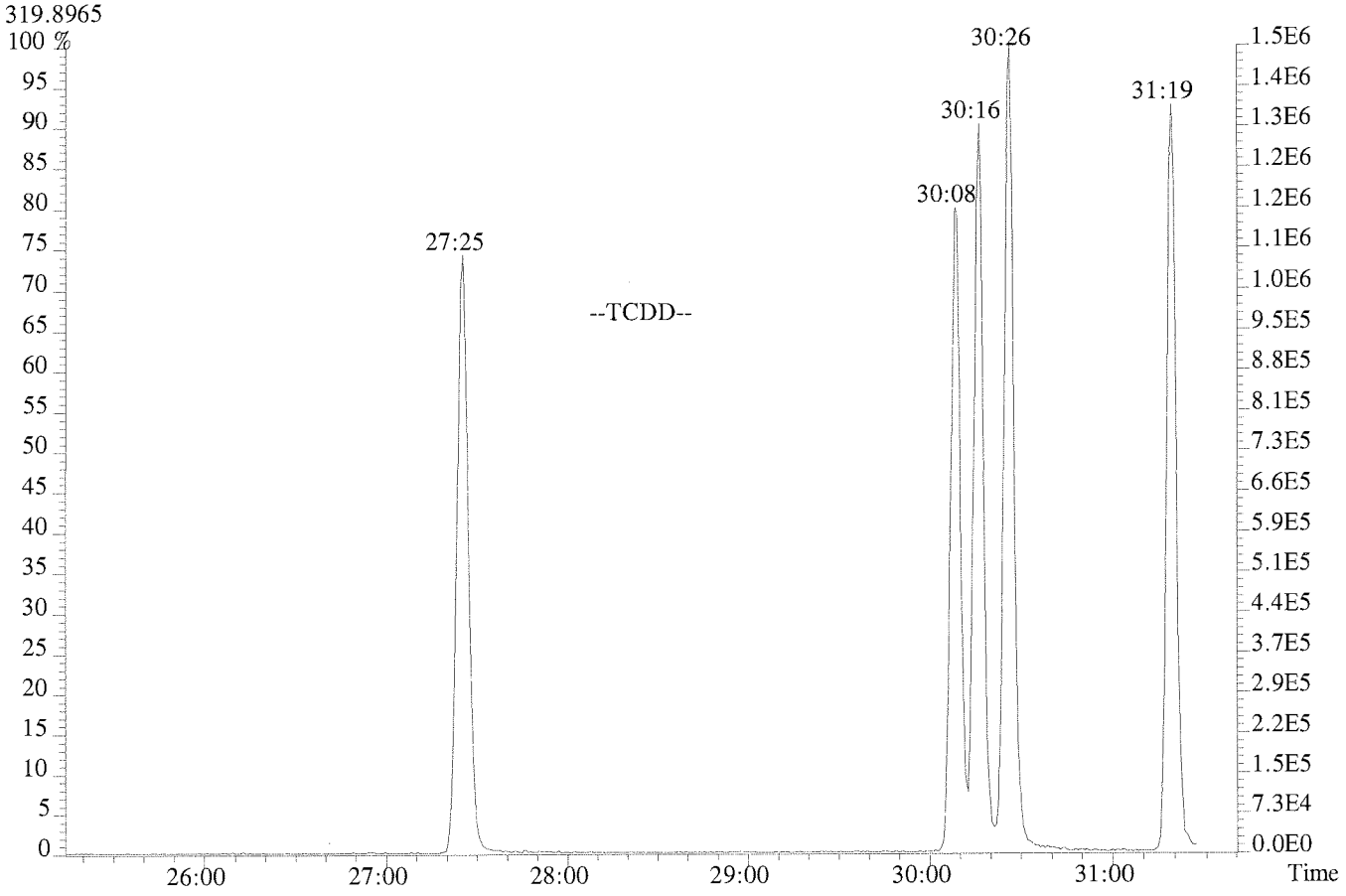
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Sample#1 Exp:WINDOW DEFINE



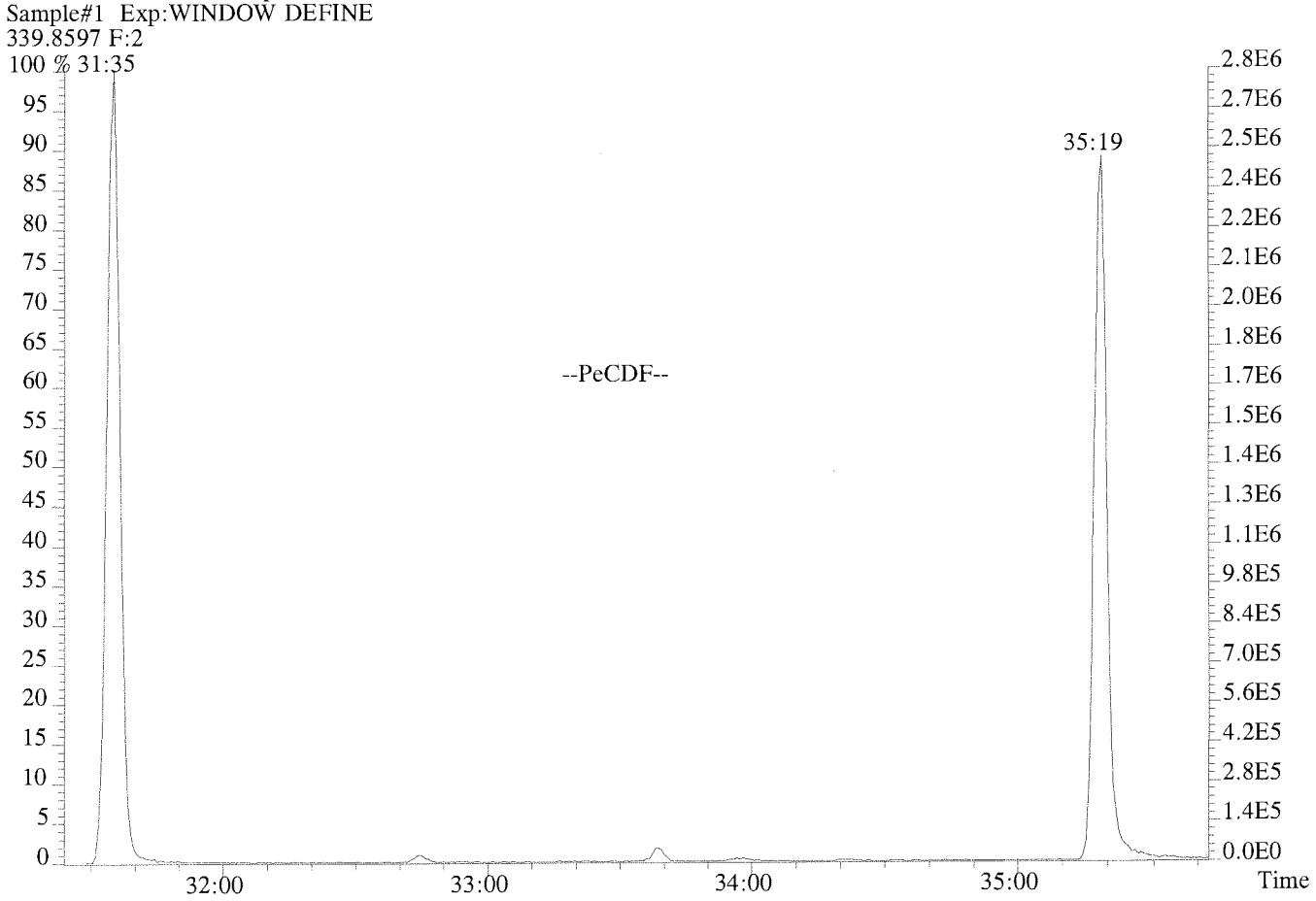


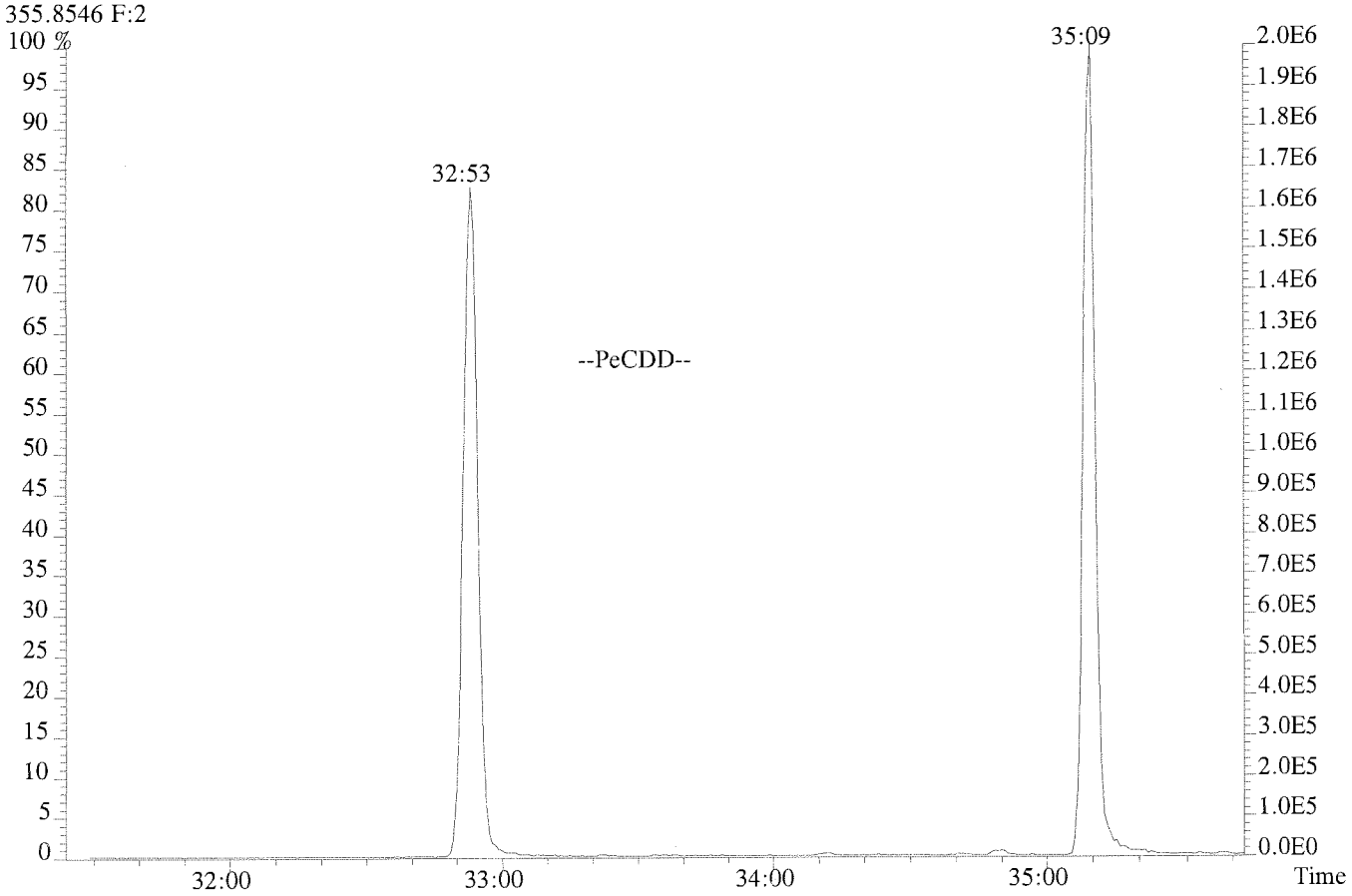
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Sample#1 Exp:WINDOW DEFINE



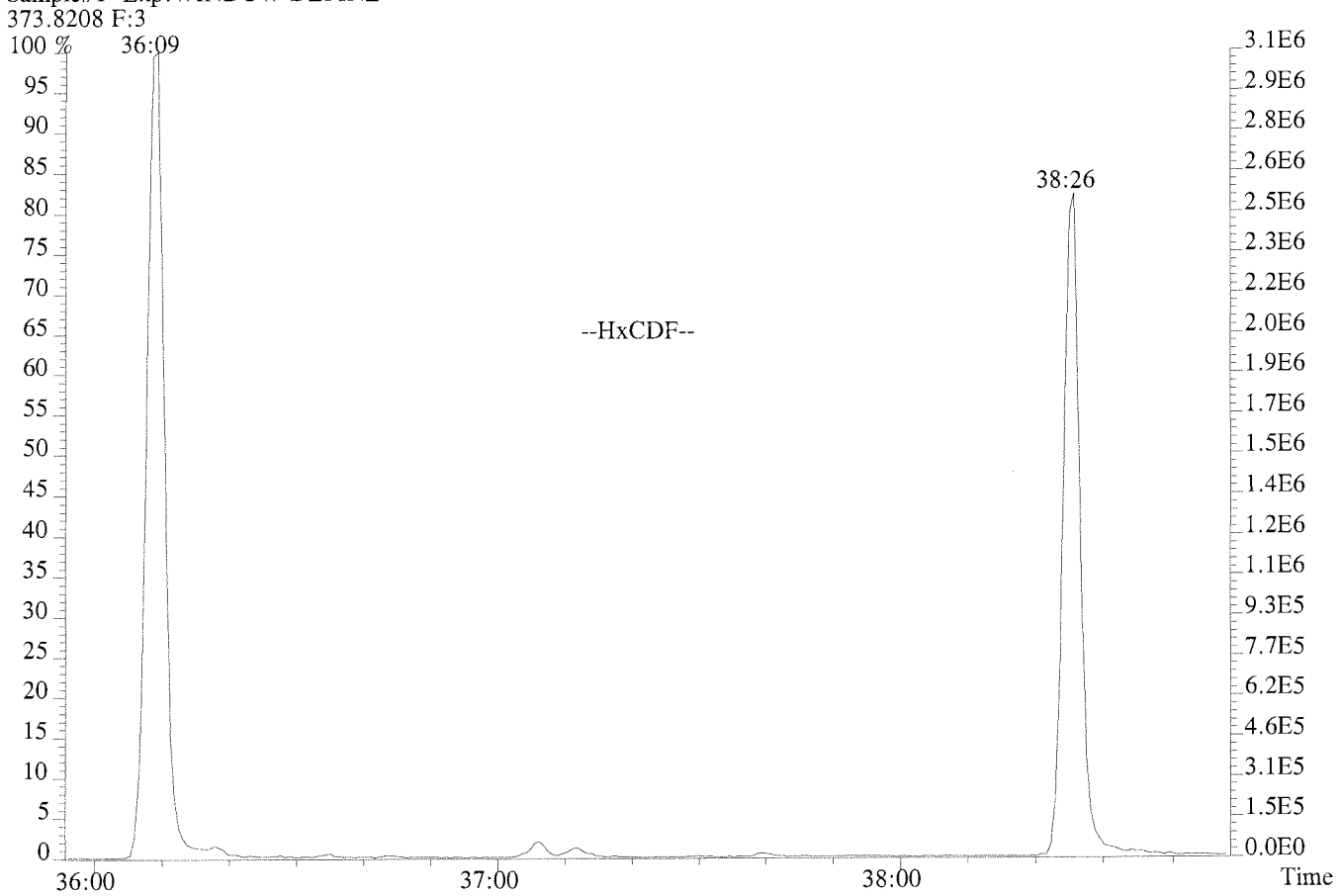


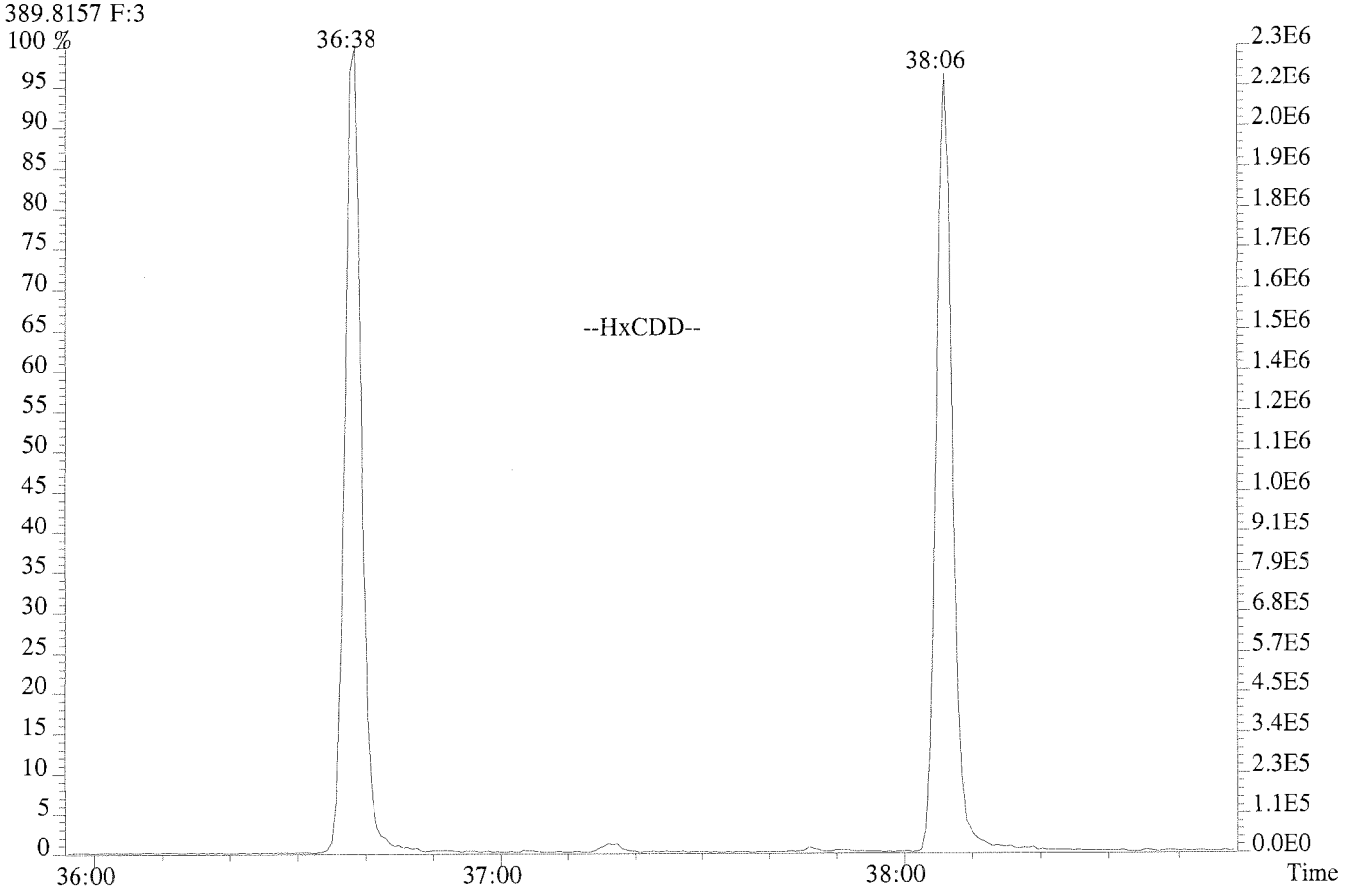
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Sample#1 Exp:WINDOW DEFINE



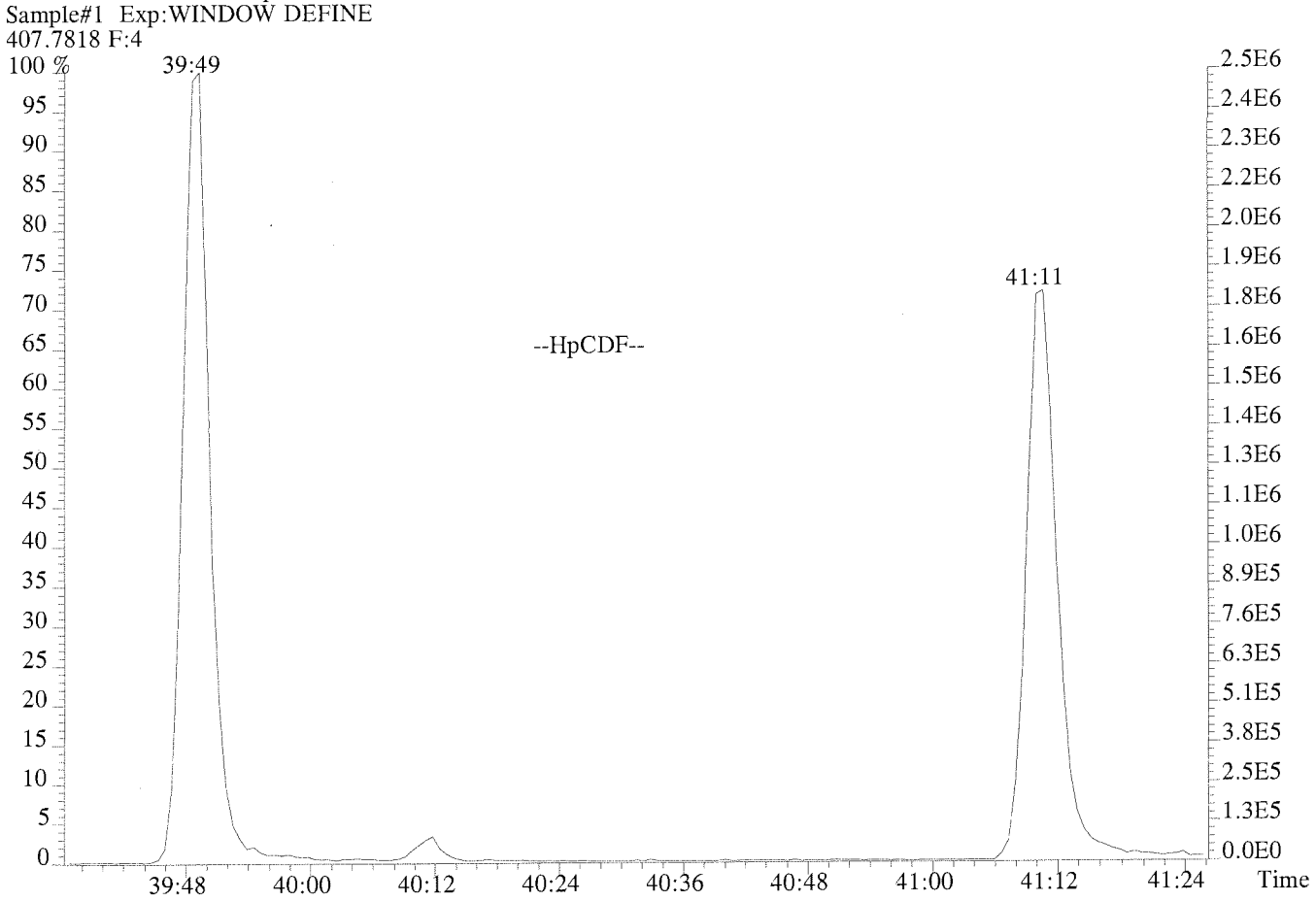


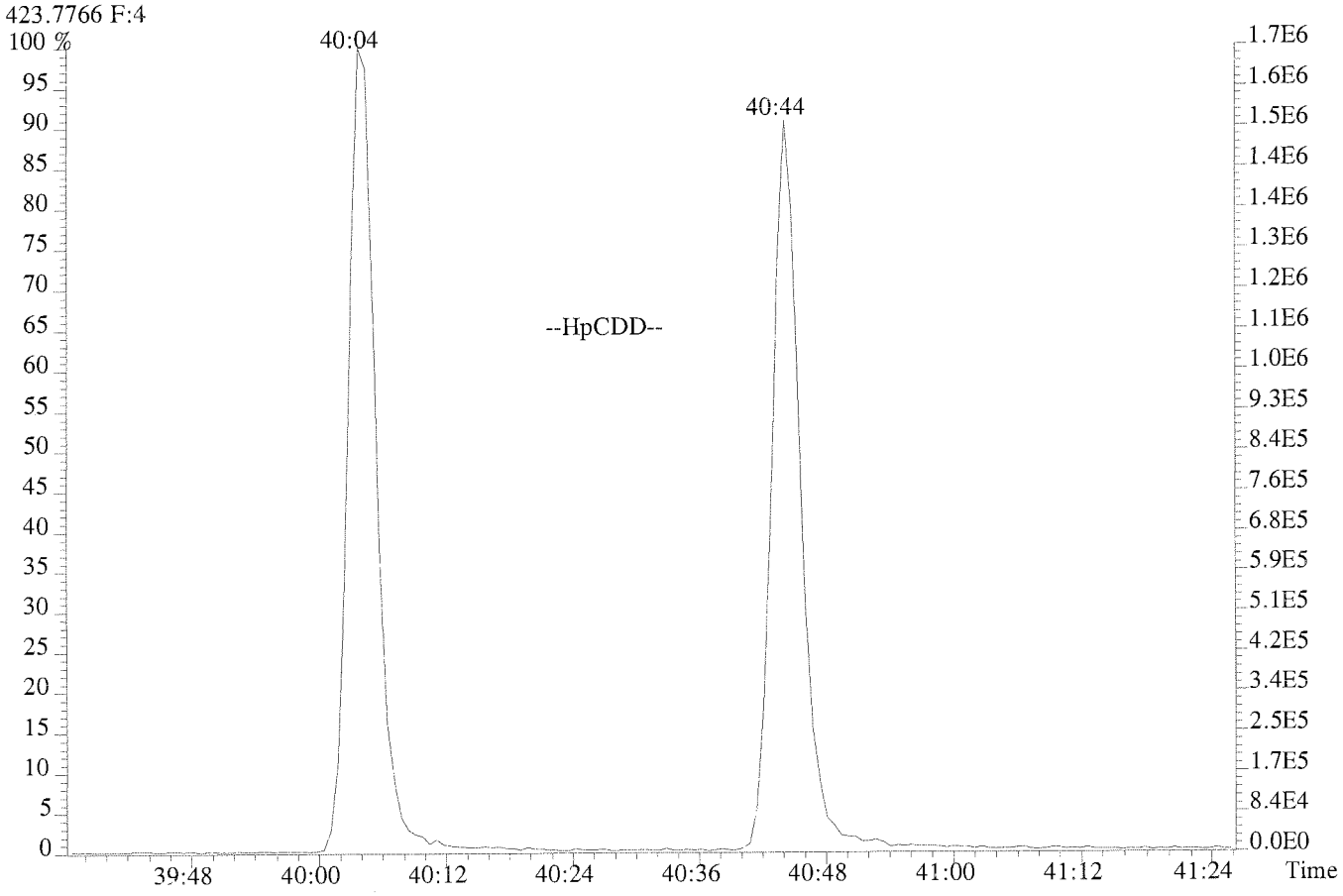
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Sample#1 Exp:WINDOW DEFINE





File:P100245 #1-256 Acq:12-AUG-2008 06:34:02 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Premier GC Column ID: DB-5

VER Data Filename: P100248 Analysis Date: 12-AUG-08 Time: 10:00:44

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.92	0.92	-0.60
1,2,3,7,8-PeCDD	M+2/M+4	1.64	1.32-1.78	0.89	0.88	1.24
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.95	0.93	2.73
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	1.03	1.13	-9.12
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05-1.43	1.00	1.04	-3.74
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	1.06	1.02	3.27
OCDD	M+2/M+4	0.89	0.76-1.02	1.18	1.02	15.56
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	0.96	0.98	-1.95
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	0.99	0.97	2.32
2,3,4,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	1.04	1.00	4.66
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.28	1.22	4.75
1,2,3,6,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	1.30	1.31	-0.79
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	1.09	1.06	2.50
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.21	1.15	4.89
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	1.61	1.55	4.08
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.08	0.88-1.20	1.24	1.17	5.63
OCDF	M+2/M+4	0.91	0.76-1.02	1.36	1.36	-0.29

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Premier GC Column ID: DB-5

VER Data Filename: P100248 Analysis Date: 12-AUG-08 Time: 10:00:44

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	1.04	1.10	-5.70
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	0.97	0.98	-1.17
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.95	0.99	-4.15
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.85	0.85	0.29
13C-OCDD	M+2/M+4	0.90	0.76-1.02	0.87	0.79	9.35
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.36	1.41	-3.33
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	1.32	1.38	-4.04
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.18	1.35	-12.23
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	0.93	1.03	-9.43
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				1.00	1.01	-0.60

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P100248 Samp: 1 Inj: 1 Acquired: 12-AUG-08 10:00:44
Processed: 20-AUG-08 09:04:17 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	2.682e+03	3.463e+03	0.77	yes	no	0.983
2	Unk	1,2,3,7,8-PeCDF	33:38	9.343e+03	6.053e+03	1.54	yes	no	0.972
3	Unk	2,3,4,7,8-PeCDF	34:20	9.842e+03	6.300e+03	1.56	yes	no	0.997
4	Unk	1,2,3,4,7,8-HxCDF	37:06	9.049e+03	7.308e+03	1.24	yes	no	1.221
5	Unk	1,2,3,6,7,8-HxCDF	37:11	9.286e+03	7.316e+03	1.27	yes	no	1.308
6	Unk	2,3,4,6,7,8-HxCDF	37:39	8.645e+03	6.854e+03	1.26	yes	no	1.155
7	Unk	1,2,3,7,8,9-HxCDF	38:21	7.762e+03	6.169e+03	1.26	yes	no	1.062
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	8.385e+03	7.928e+03	1.06	yes	no	1.550
9	Unk	1,2,3,4,7,8,9-HpCDF	41:10	6.509e+03	6.027e+03	1.08	yes	no	1.173
10	Unk	OCDF	44:03	1.212e+04	1.337e+04	0.91	yes	no	1.360
11	Unk	2,3,7,8-TCDD	30:15	1.964e+03	2.502e+03	0.78	yes	no	0.923
12	Unk	1,2,3,7,8-PeCDD	34:41	6.279e+03	3.819e+03	1.64	yes	no	0.880
13	Unk	1,2,3,4,7,8-HxCDD	37:46	5.474e+03	4.331e+03	1.26	yes	no	0.928
14	Unk	1,2,3,6,7,8-HxCDD	37:50	5.973e+03	4.637e+03	1.29	yes	no	1.135
15	Unk	1,2,3,7,8,9-HxCDD	38:07	5.799e+03	4.482e+03	1.29	yes	no	1.038
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	5.038e+03	4.740e+03	1.06	yes	no	1.025
17	Unk	OCDD	43:52	1.044e+04	1.176e+04	0.89	yes	no	1.022
18	IS	13C-2,3,7,8-TCDF	29:27	1.398e+04	1.789e+04	0.78	yes	no	1.406
19	IS	13C-1,2,3,7,8-PeCDF	33:37	1.906e+04	1.189e+04	1.60	yes	no	1.375
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	2.205e+04	4.192e+04	0.53	yes	no	1.346
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	1.572e+04	3.486e+04	0.45	yes	no	1.031
22	IS	13C-2,3,7,8-TCDD	30:14	1.076e+04	1.359e+04	0.79	yes	no	1.101
23	IS	13C-1,2,3,7,8-PeCDD	34:40	1.383e+04	8.838e+03	1.57	yes	no	0.978
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	2.858e+04	2.286e+04	1.25	yes	no	0.991
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	2.366e+04	2.253e+04	1.05	yes	no	0.851
26	IS	13C-OCDD	43:52	4.454e+04	4.947e+04	0.90	yes	no	0.794
27	RS/RT	13C-1,2,3,4-TCDD	30:02	1.035e+04	1.310e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:06	3.027e+04	2.387e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:15	4.710e+03					1.010
					SUM AREA				
30	Tot	Total Tetra-Furans	28:60		6.272e+03	0.82	yes		0.983
31	Tot	Total Tetra-Dioxins	30:15		4.466e+03	0.78	yes		0.923
32	Tot	Total Penta-Furans	33:38		3.163e+04	1.54	yes		0.984
33	Tot	Total Penta-Dioxins	34:41		1.010e+04	1.64	yes		0.880
34	Tot	Total Hexa-Furans	36:17		6.283e+04	1.16	yes		1.186
35	Tot	Total Hexa-Dioxins	37:46		3.070e+04	1.26	yes		1.033
36	Tot	Total Hepta-Furans	39:48		3.011e+04	1.06	yes		1.362
37	Tot	Total Hepta-Dioxins	40:04		1.029e+04	0.96	yes		1.025

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Columbia Analytical Services,Inc.
Signal/Noise Height Ratio Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P100248 #1 Samp: 1 Inj: 1 Acquired: 12-AUG-08 10:00:44

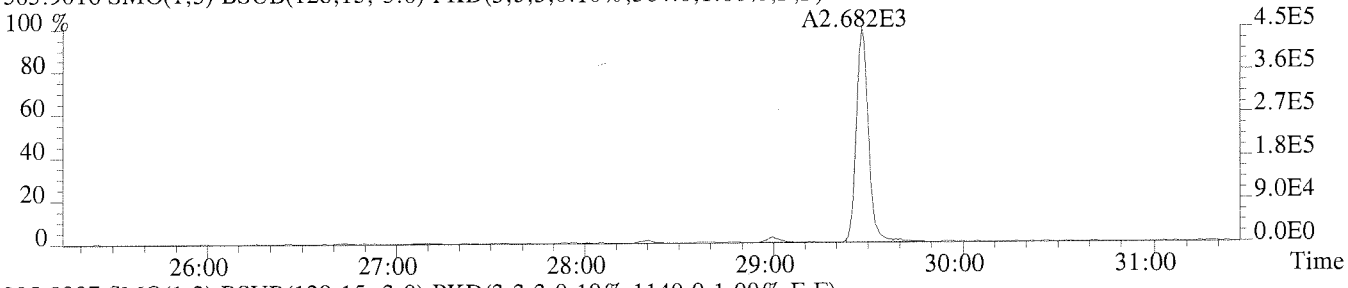
Processed: 20-AUG-08 09:04:17 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.50e+05	5.64e+02	8.0e+02	5.70e+05	1.14e+03	5.0e+02
2	1,2,3,7,8-PeCDF	1.74e+06	8.60e+02	2.0e+03	1.11e+06	1.01e+03	1.1e+03
3	2,3,4,7,8-PeCDF	1.88e+06	8.60e+02	2.2e+03	1.20e+06	1.01e+03	1.2e+03
4	1,2,3,4,7,8-HxCDF	1.93e+06	1.14e+03	1.7e+03	1.56e+06	9.44e+02	1.7e+03
5	1,2,3,6,7,8-HxCDF	1.88e+06	1.14e+03	1.7e+03	1.51e+06	9.44e+02	1.6e+03
6	2,3,4,6,7,8-HxCDF	1.89e+06	1.14e+03	1.7e+03	1.48e+06	9.44e+02	1.6e+03
7	1,2,3,7,8,9-HxCDF	1.56e+06	1.14e+03	1.4e+03	1.25e+06	9.44e+02	1.3e+03
8	1,2,3,4,6,7,8-HpCDF	1.67e+06	3.31e+03	5.0e+02	1.61e+06	1.62e+03	1.0e+03
9	1,2,3,4,7,8,9-HpCDF	1.15e+06	3.31e+03	3.5e+02	1.09e+06	1.62e+03	6.8e+02
10	OCDF	1.66e+06	4.56e+02	3.6e+03	1.80e+06	7.76e+02	2.3e+03
11	2,3,7,8-TCDD	3.44e+05	9.24e+02	3.7e+02	4.43e+05	5.32e+02	8.3e+02
12	1,2,3,7,8-PeCDD	1.26e+06	1.26e+03	1.0e+03	7.44e+05	7.32e+02	1.0e+03
13	1,2,3,4,7,8-HxCDD	1.22e+06	1.21e+03	1.0e+03	9.61e+05	9.72e+02	9.9e+02
14	1,2,3,6,7,8-HxCDD	1.22e+06	1.21e+03	1.0e+03	9.54e+05	9.72e+02	9.8e+02
15	1,2,3,7,8,9-HxCDD	1.22e+06	1.21e+03	1.0e+03	9.40e+05	9.72e+02	9.7e+02
16	1,2,3,4,6,7,8-HpCDD	9.78e+05	1.30e+03	7.5e+02	9.45e+05	9.32e+02	1.0e+03
17	OCDD	1.45e+06	7.24e+02	2.0e+03	1.61e+06	5.48e+02	2.9e+03
18	13C-2,3,7,8-TCDF	2.33e+06	1.12e+03	2.1e+03	2.94e+06	7.84e+02	3.7e+03
19	13C-1,2,3,7,8-PeCDF	3.46e+06	5.56e+02	6.2e+03	2.17e+06	8.44e+02	2.6e+03
20	13C-1,2,3,4,7,8-HxCDF	4.53e+06	4.88e+02	9.3e+03	8.45e+06	1.19e+03	7.1e+03
21	13C-1,2,3,4,6,7,8-HpCDF	3.12e+06	1.30e+03	2.4e+03	6.95e+06	3.27e+03	2.1e+03
22	13C-2,3,7,8-TCDD	1.83e+06	2.18e+03	8.4e+02	2.35e+06	9.44e+02	2.5e+03
23	13C-1,2,3,7,8-PeCDD	2.69e+06	9.92e+02	2.7e+03	1.71e+06	8.56e+02	2.0e+03
24	13C-1,2,3,6,7,8-HxCDD	6.07e+06	8.56e+02	7.1e+03	4.76e+06	6.76e+02	7.0e+03
25	13C-1,2,3,4,6,7,8-HpCDD	4.52e+06	6.08e+02	7.4e+03	4.32e+06	7.56e+02	5.7e+03
26	13C-OCDD	6.09e+06	5.04e+02	1.2e+04	6.83e+06	5.32e+02	1.3e+04
27	13C-1,2,3,4-TCDD	1.83e+06	2.18e+03	8.4e+02	2.33e+06	9.44e+02	2.5e+03
28	13C-1,2,3,7,8,9-HxCDD	6.26e+06	8.56e+02	7.3e+03	5.00e+06	6.76e+02	7.4e+03
29	37Cl-2,3,7,8-TCDD	8.36e+05	4.68e+02	1.8e+03			

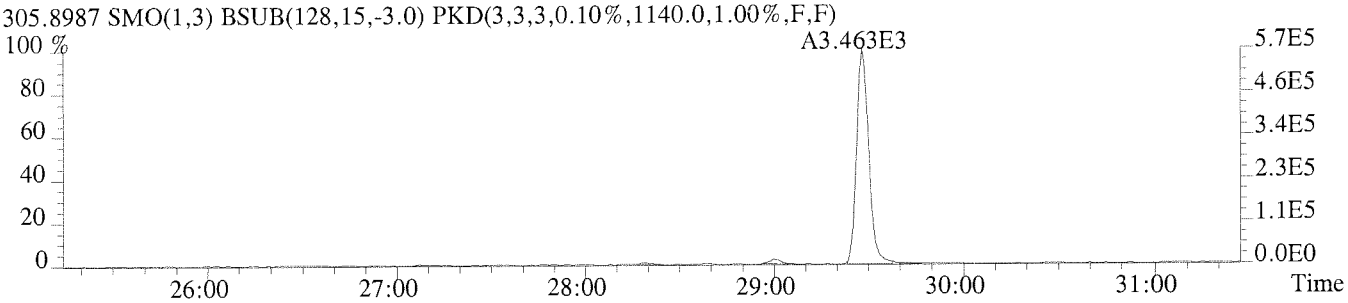
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100248 #1-518 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

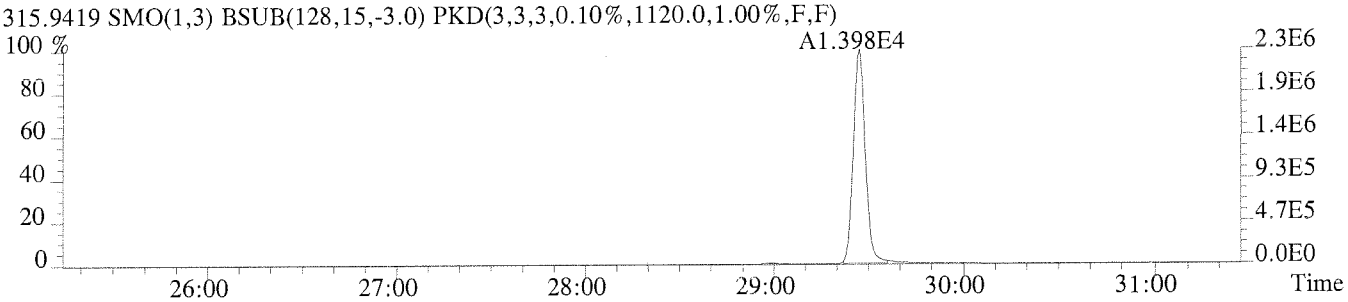
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,564.0,1.00%,F,F)



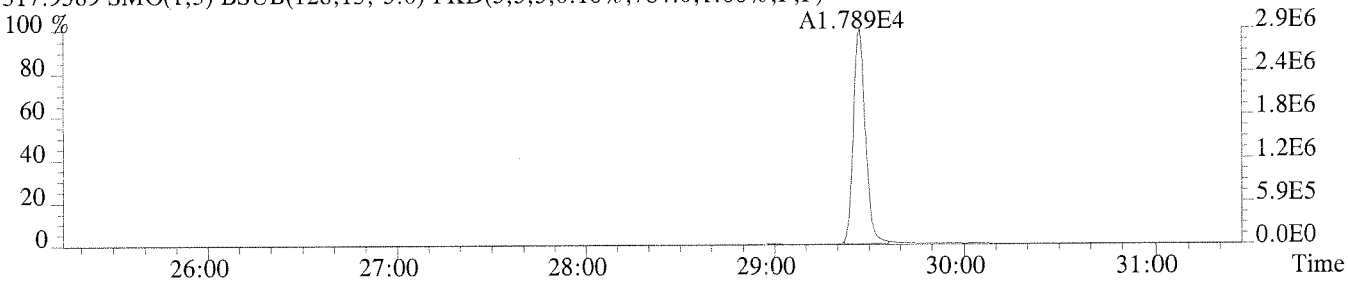
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,F)



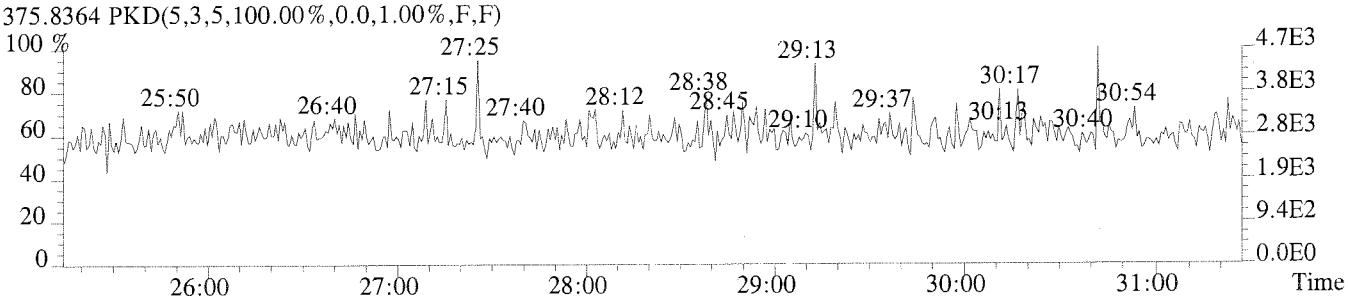
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,F)



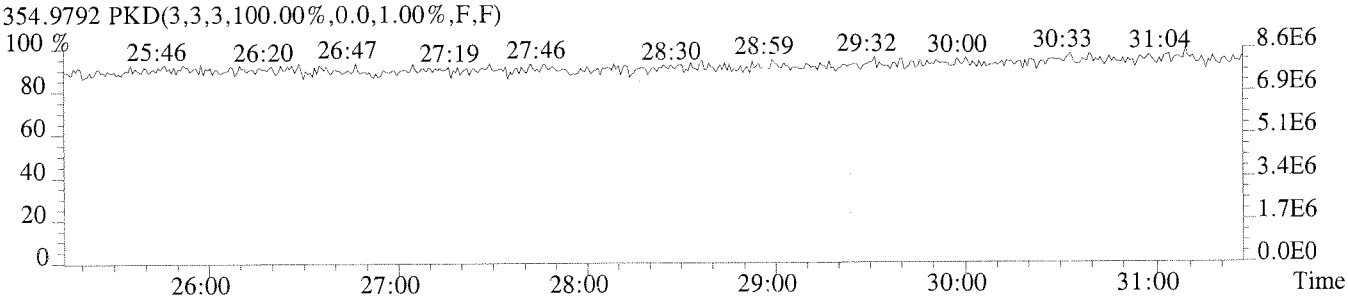
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,F)



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

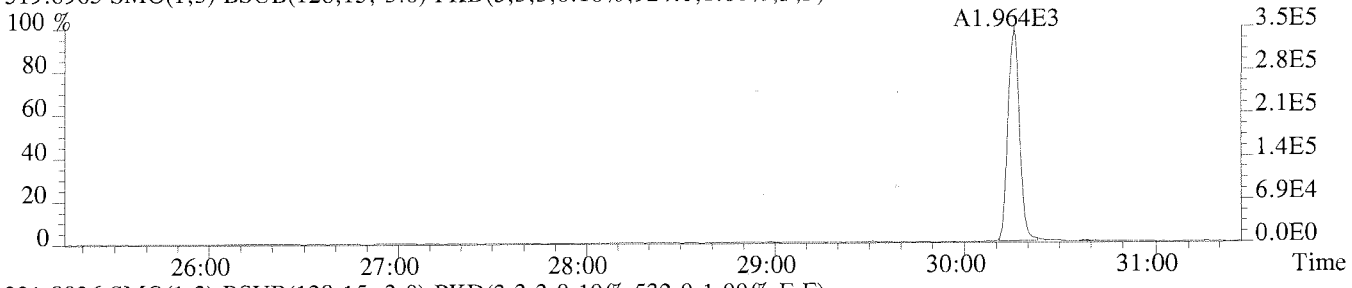


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

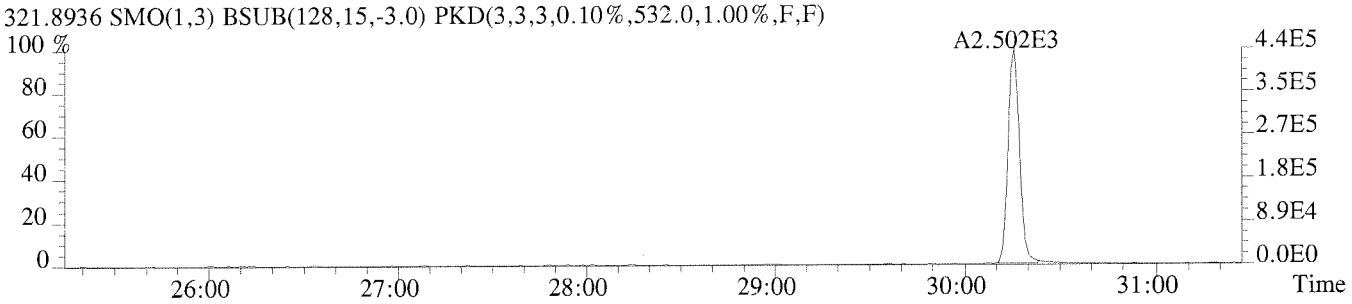


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Sample#1 Exp:CCAL HRCC3

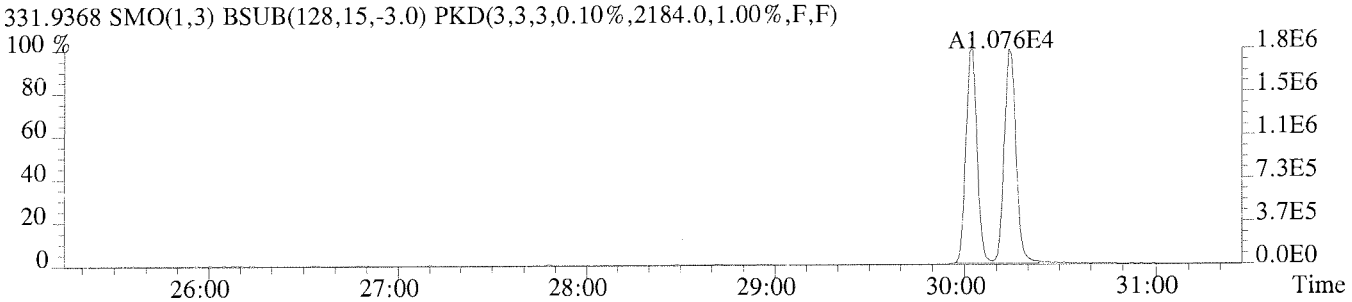
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,F)



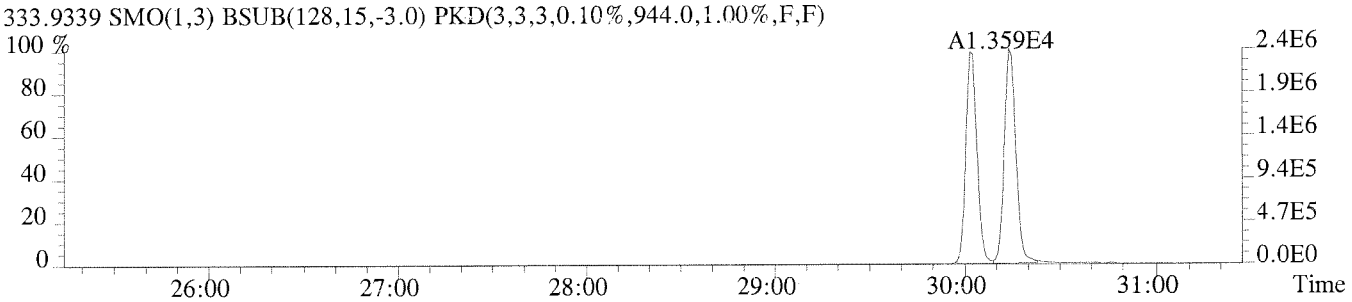
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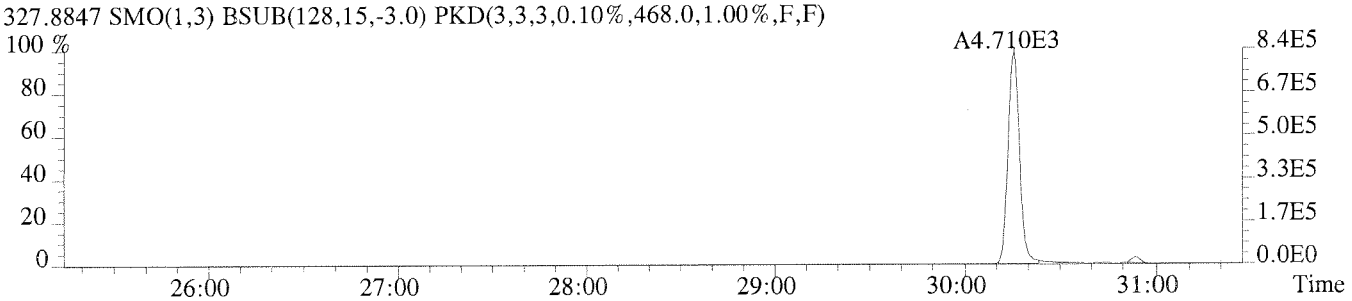
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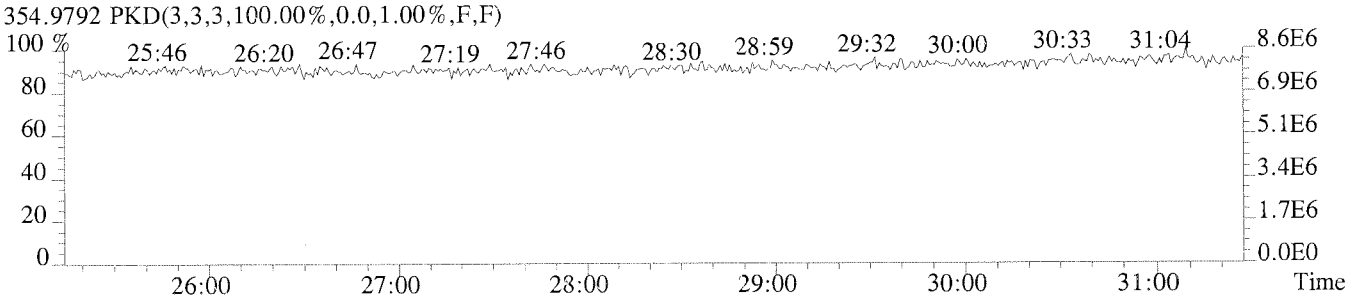
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,944.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,F)

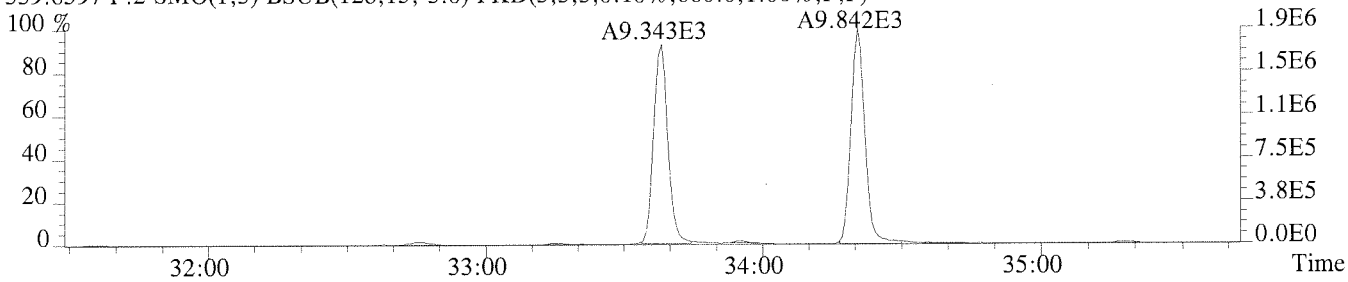


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

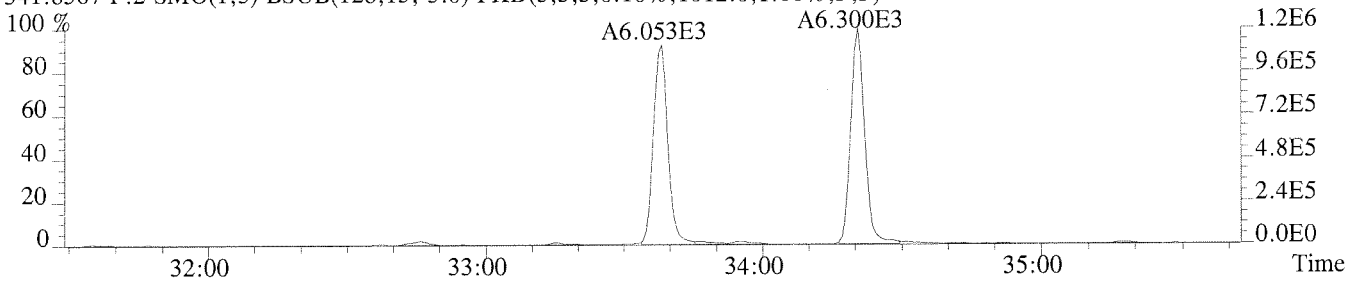


File:P100248 #1-384 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

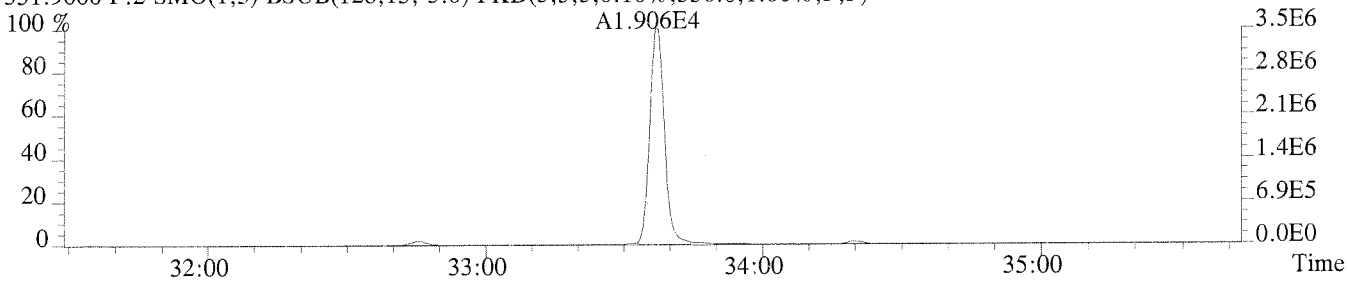
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)



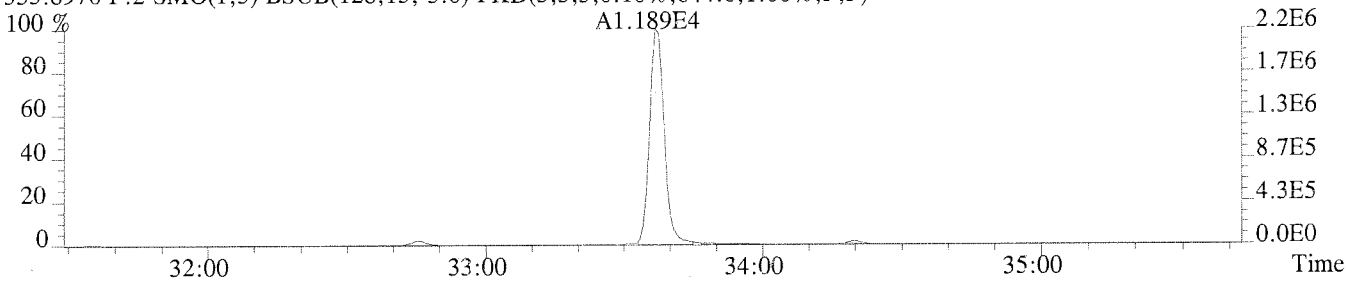
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1012.0,1.00%,F,F)



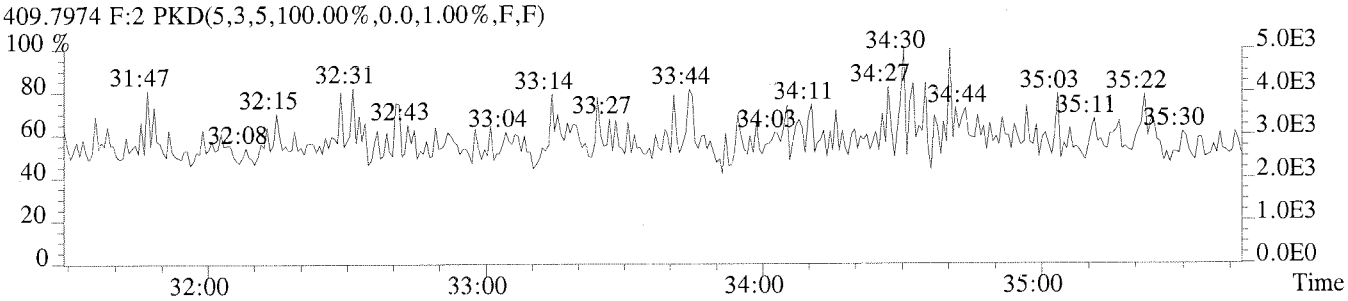
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,F)



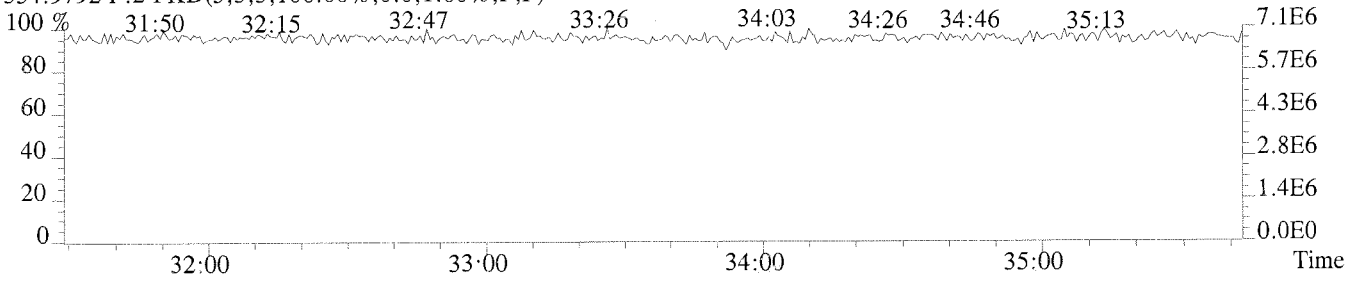
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,F)



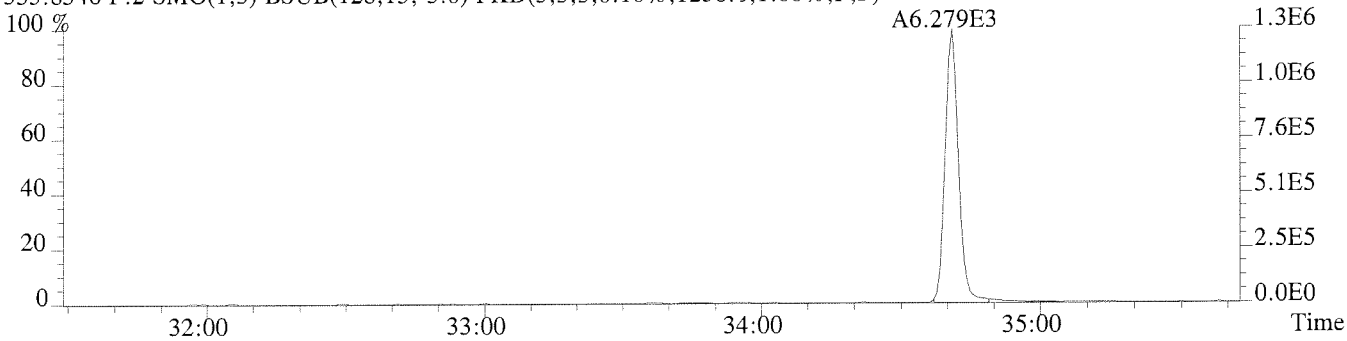
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



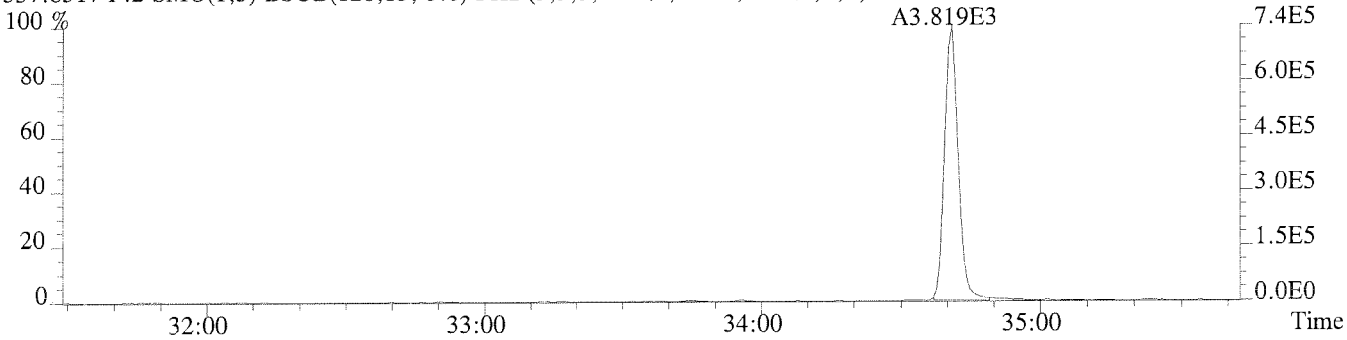
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



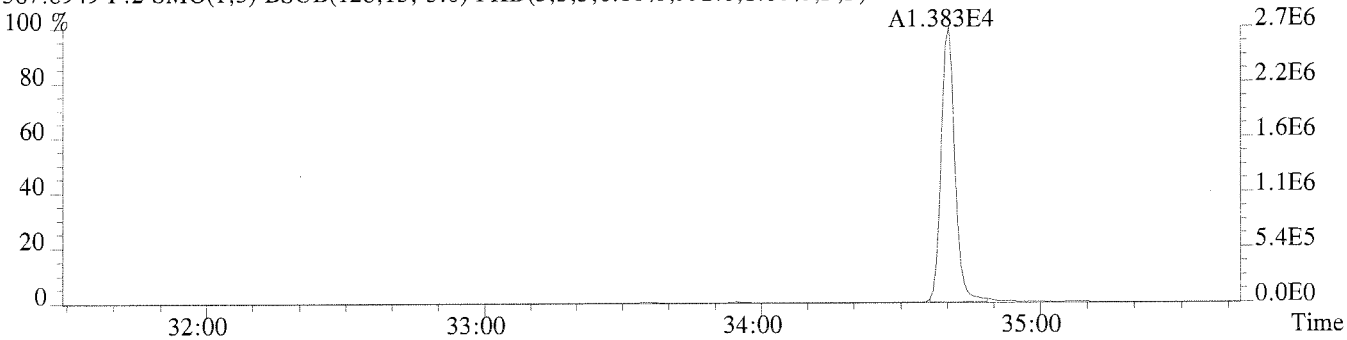
File:P100248 #1-384 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1256.0,1.00%,F,F)



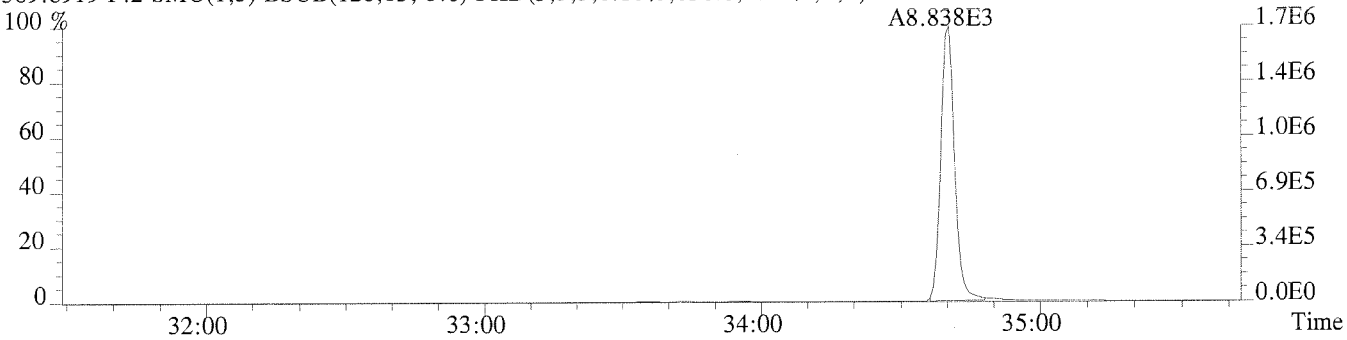
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,732.0,1.00%,F,F)



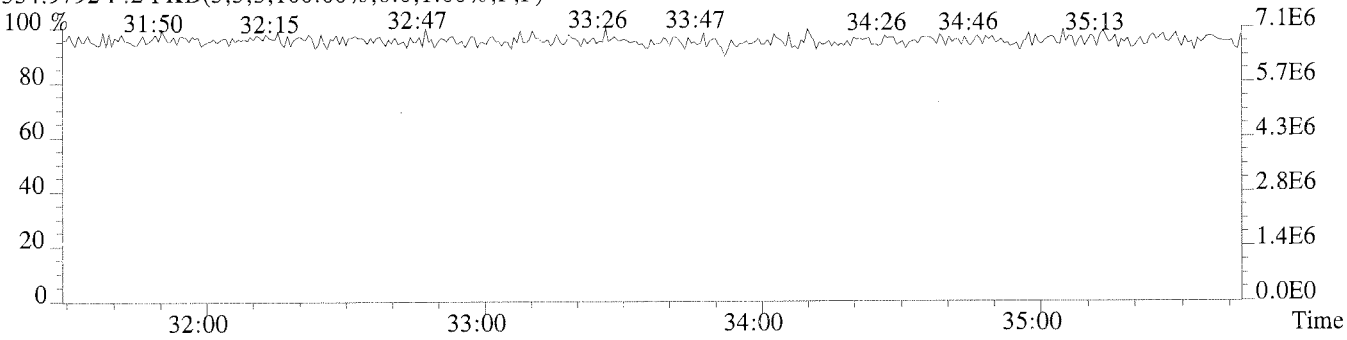
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,992.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,F)

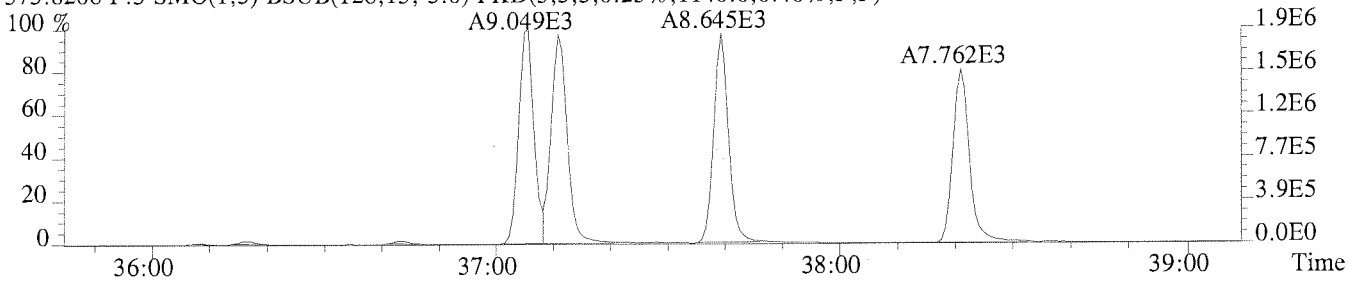


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

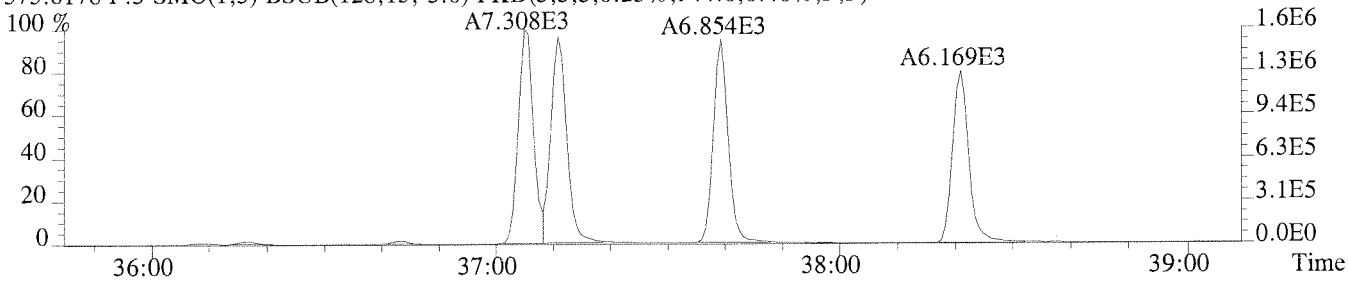


File:P100248 #1-310 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

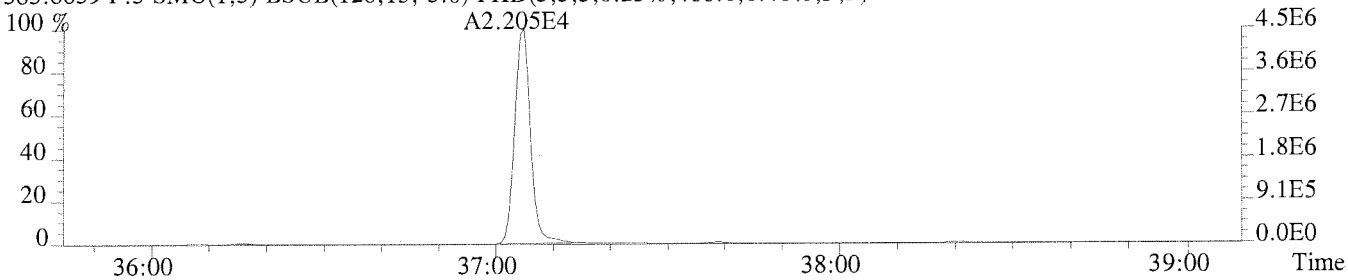
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1140.0,0.40%,F,F)



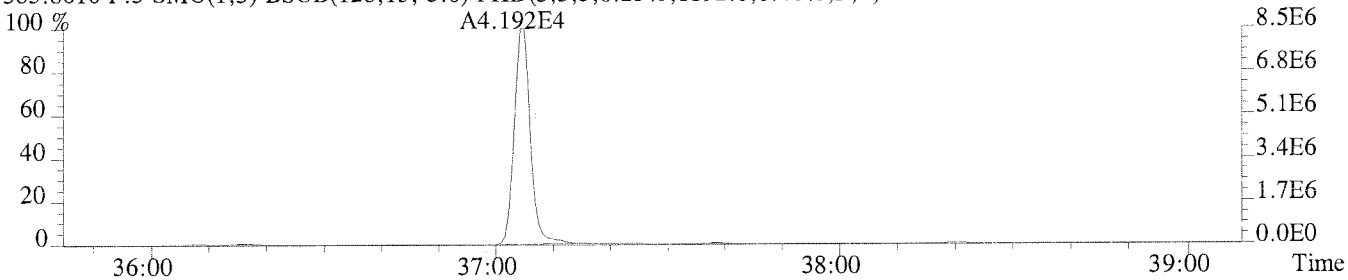
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



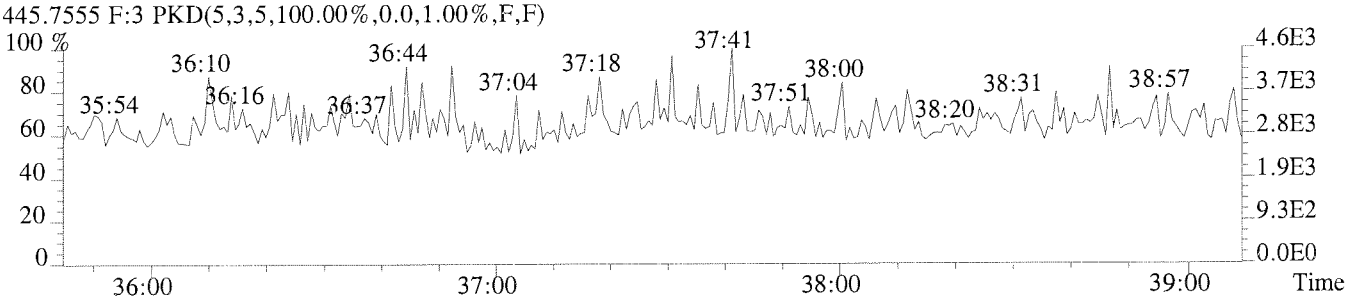
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,488.0,0.40%,F,F)



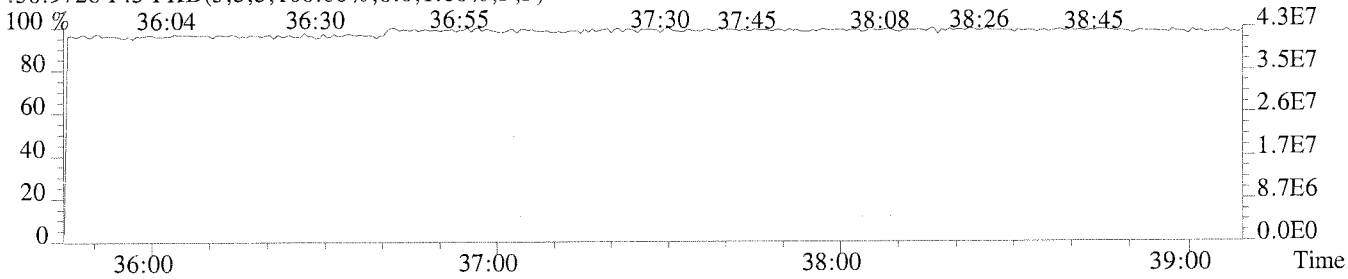
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1192.0,0.40%,F,F)



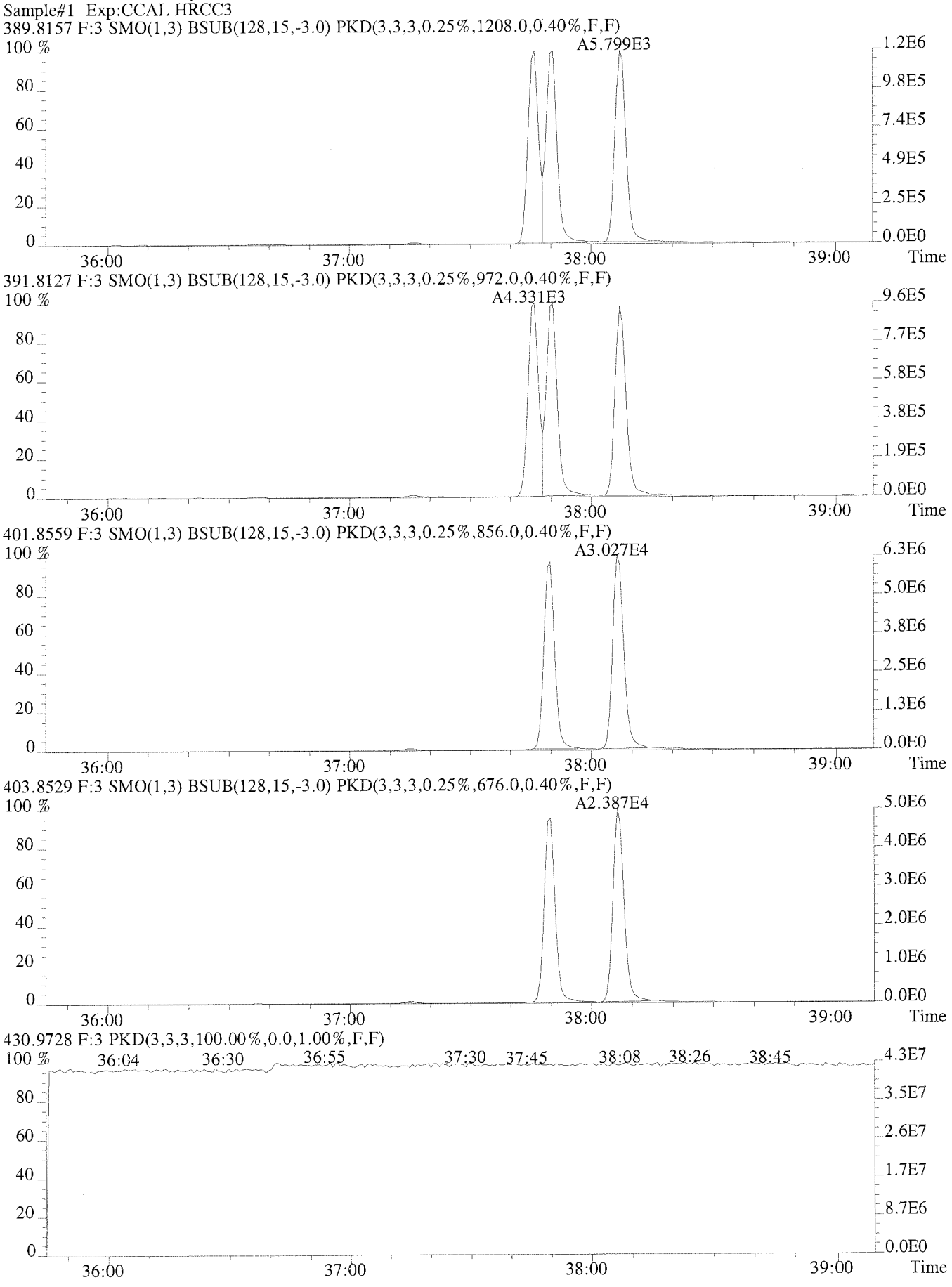
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

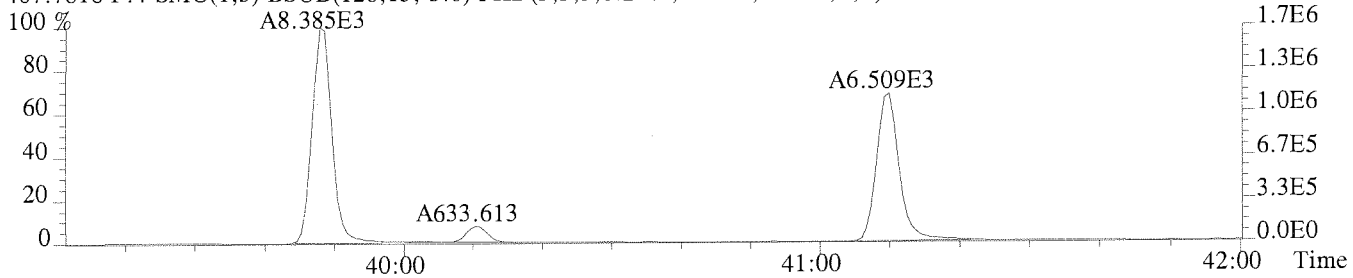


File:P100248 #1-310 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

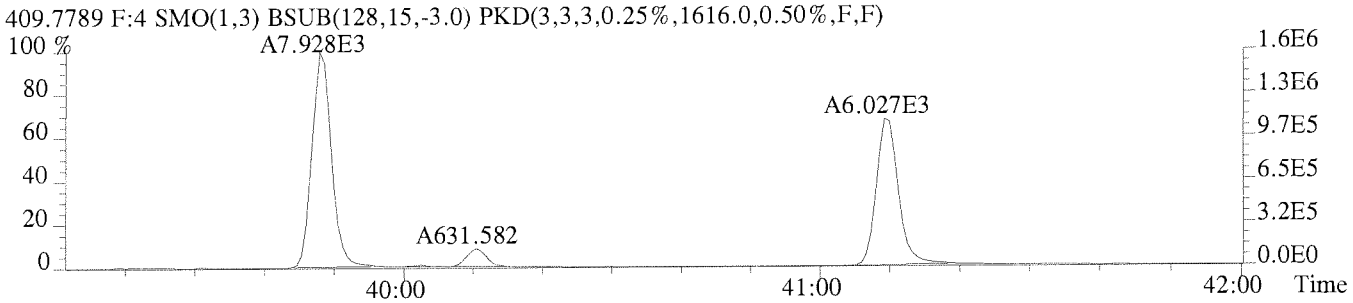


File:P100248 #1-256 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

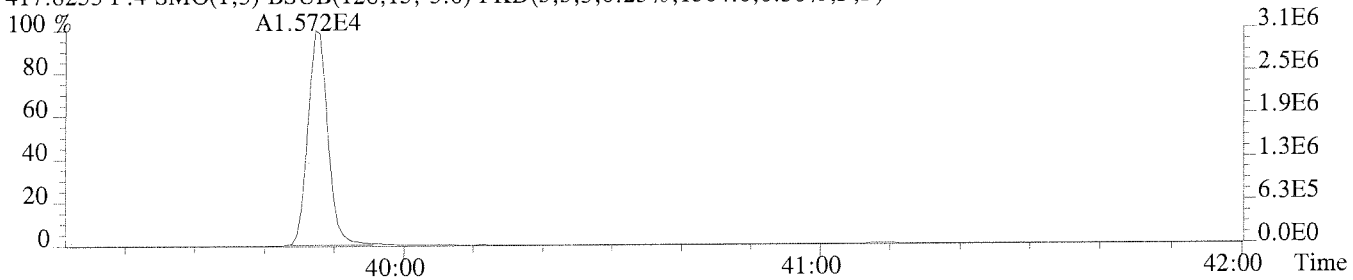
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3312.0,0.50%,F,F)



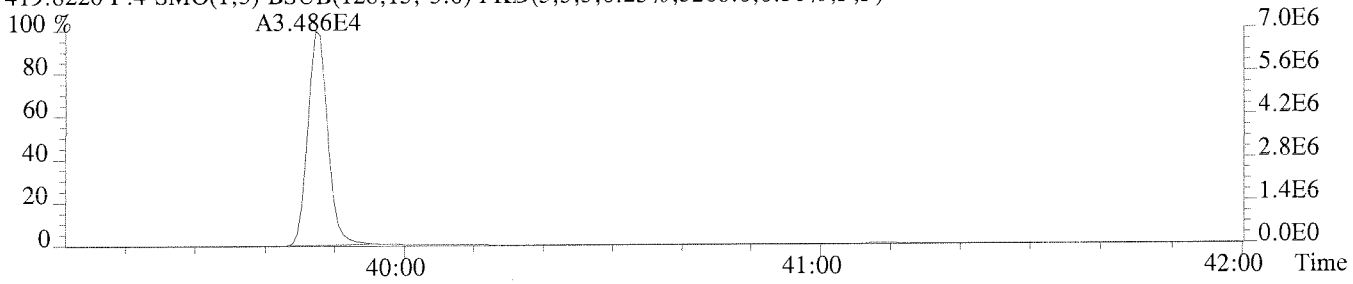
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.50%,F,F)



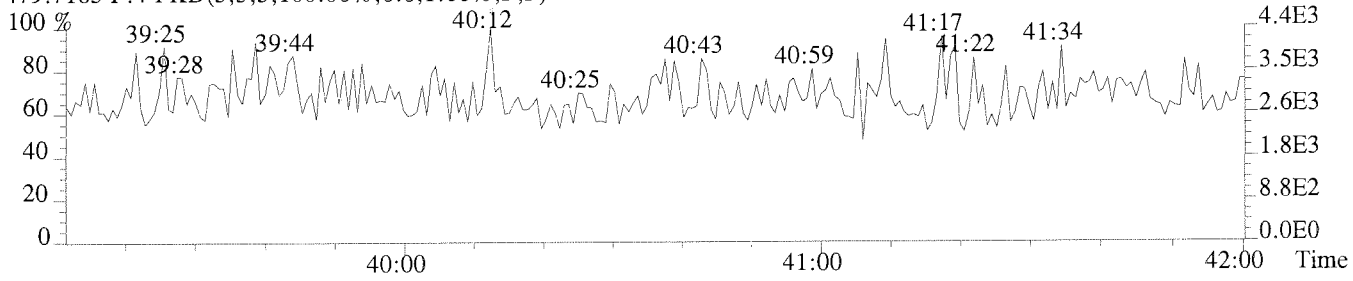
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1304.0,0.50%,F,F)



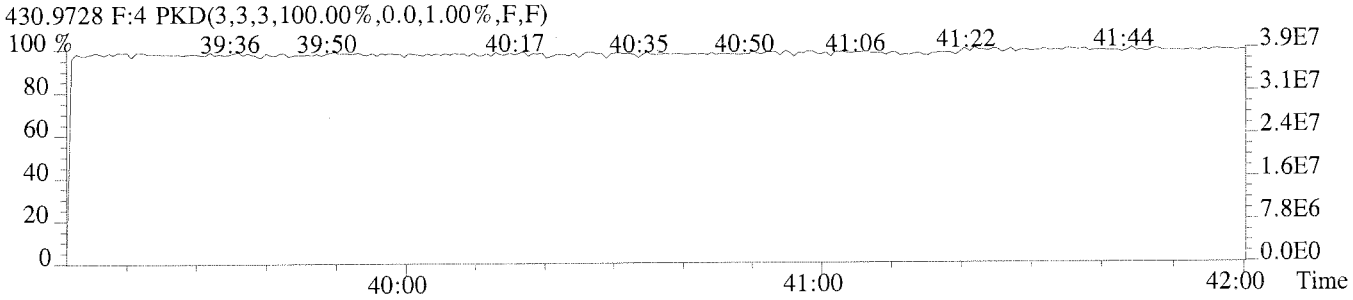
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3268.0,0.50%,F,F)



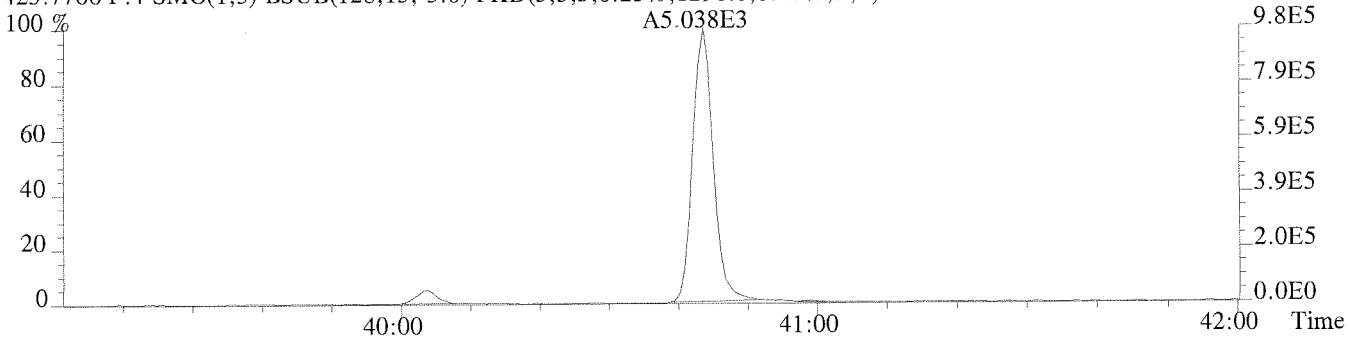
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



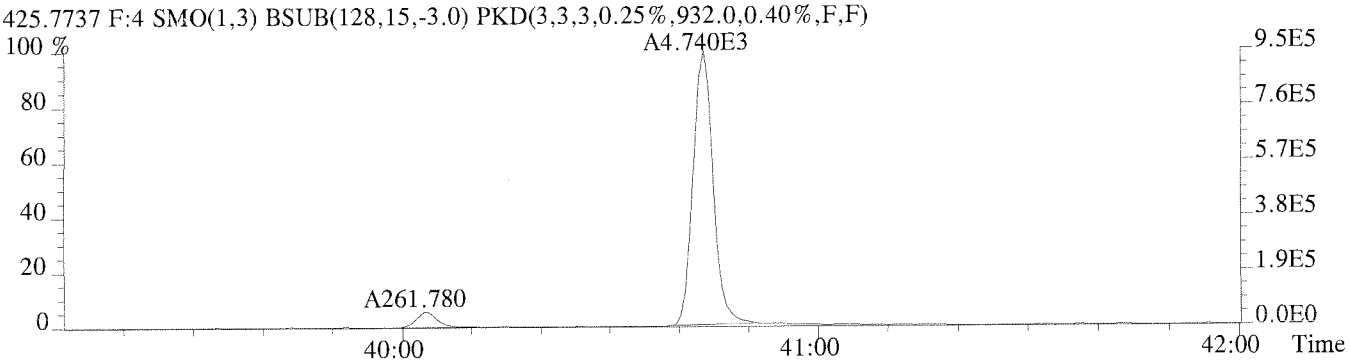
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



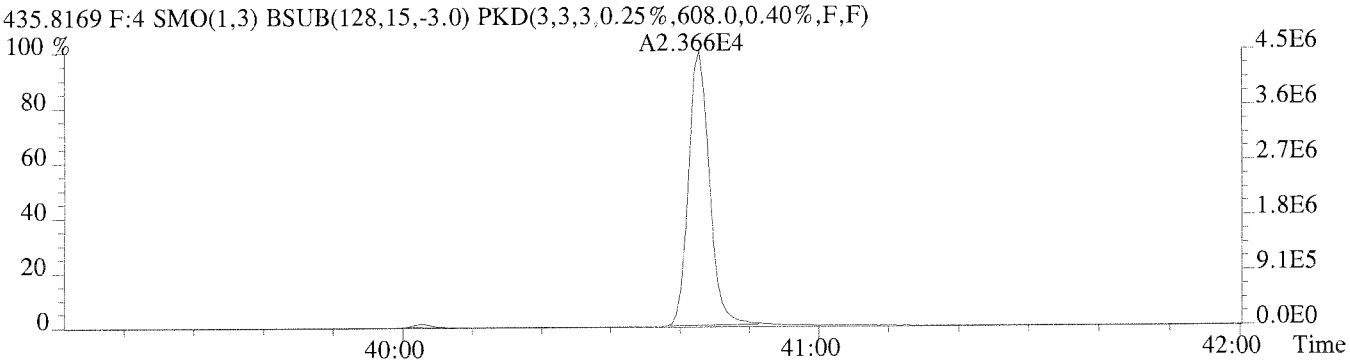
File:P100248 #1-256 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.40%,F,F)



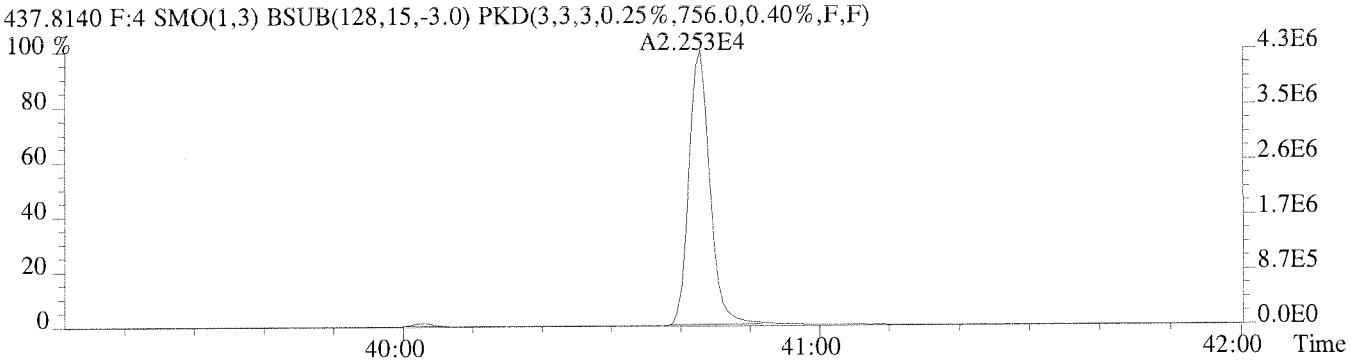
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,F)



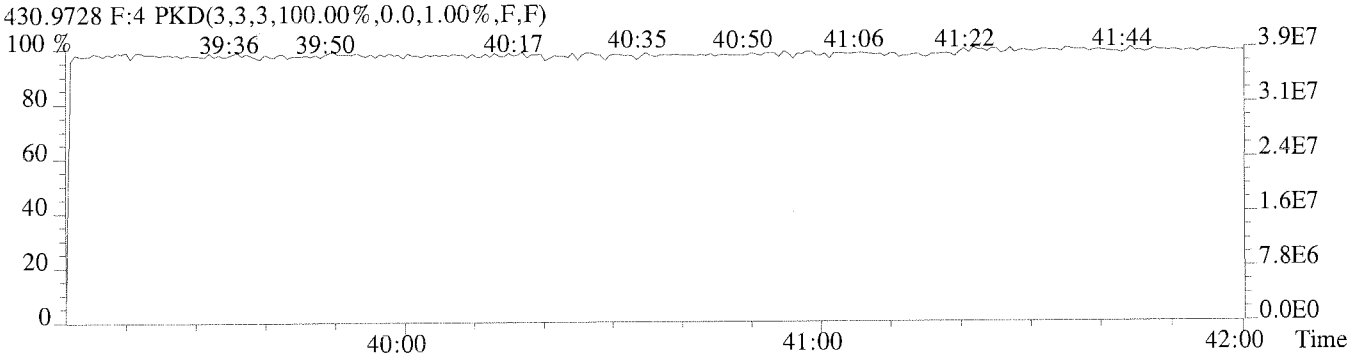
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,608.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,F)

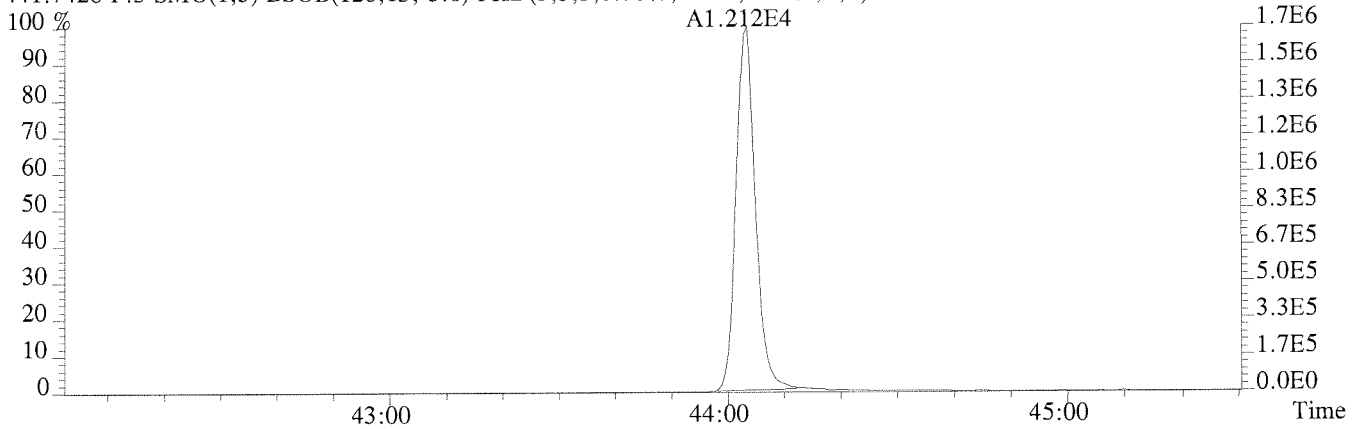


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

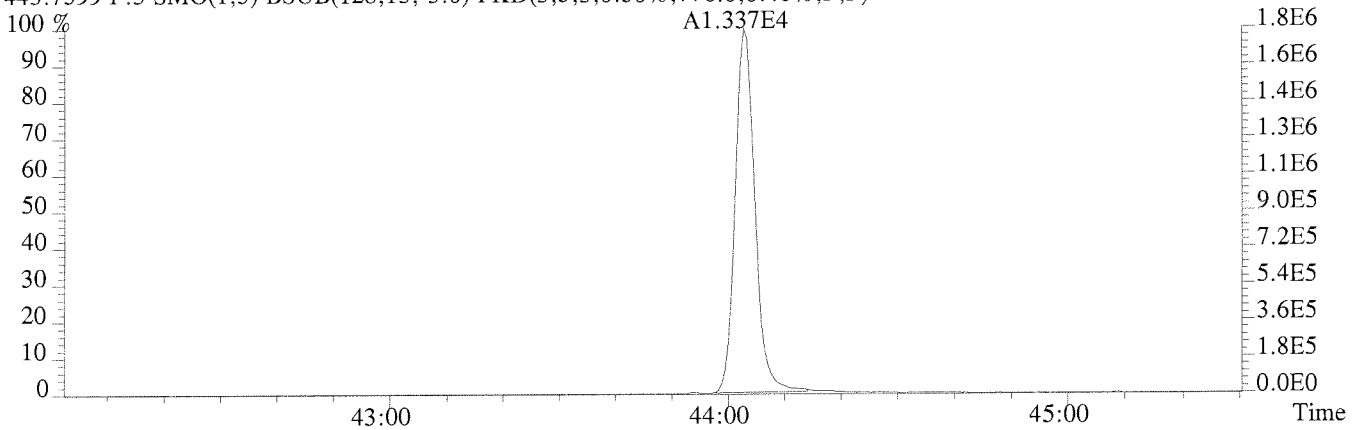


File:P100248 #1-383 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

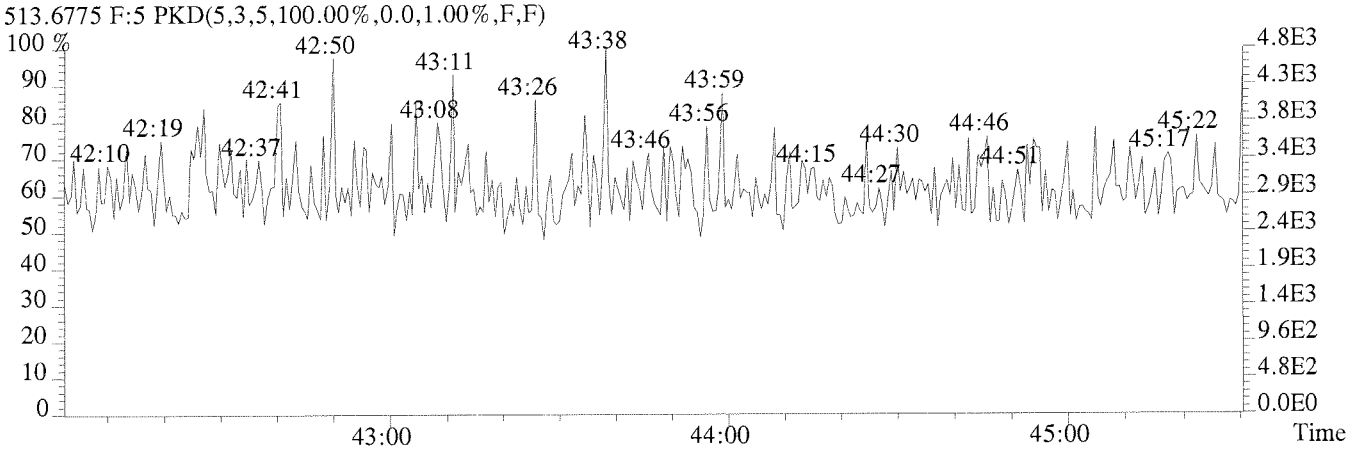
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,456.0,0.40%,F,F)



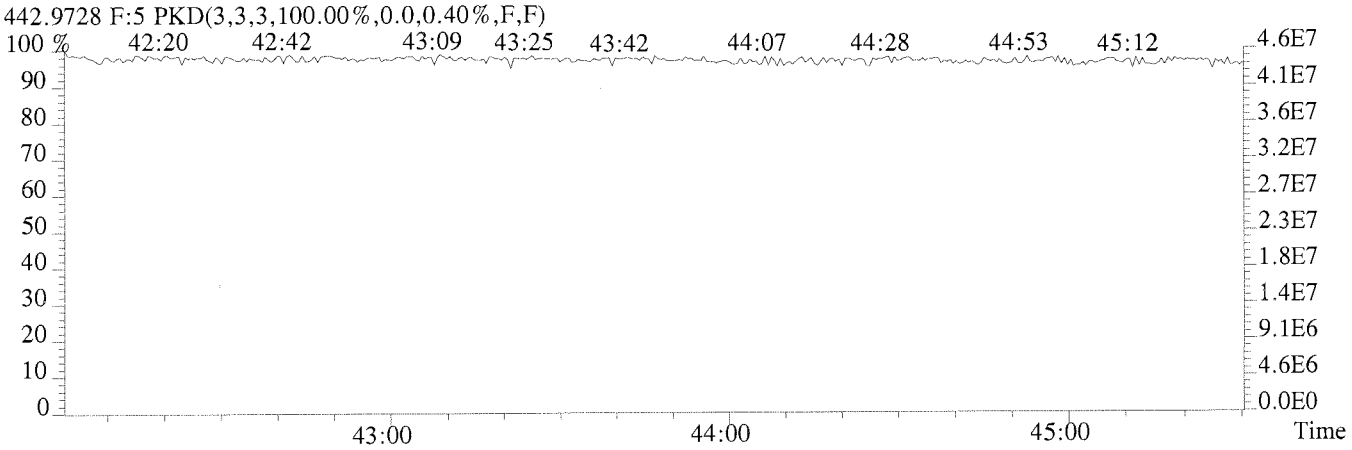
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,F)



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

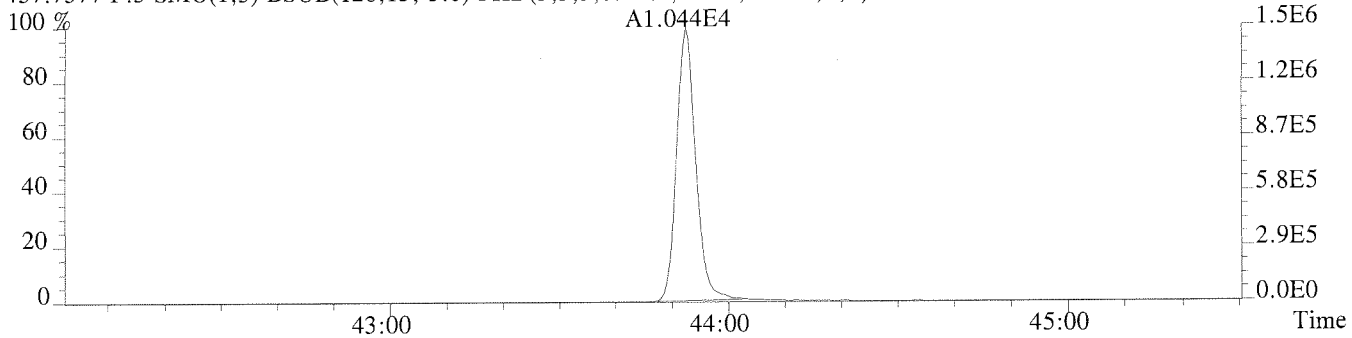


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

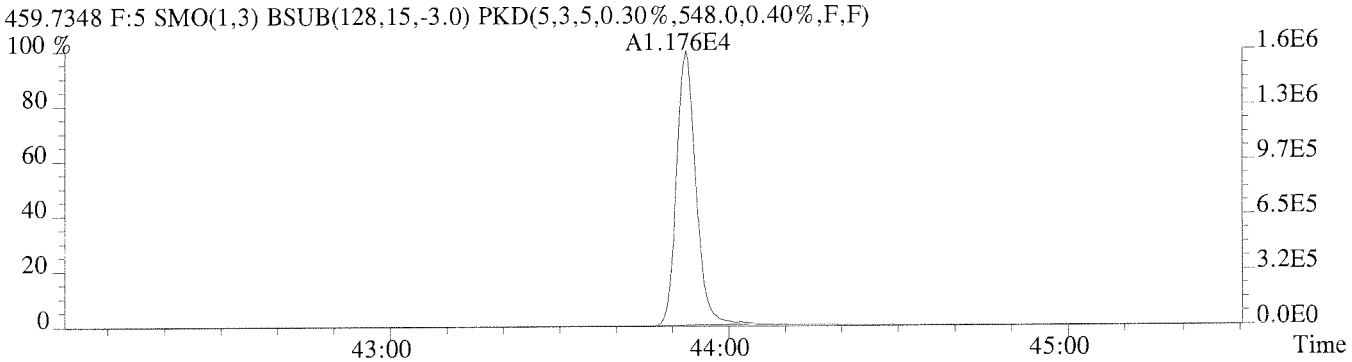


File:P100248 #1-383 Acq:12-AUG-2008 10:00:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

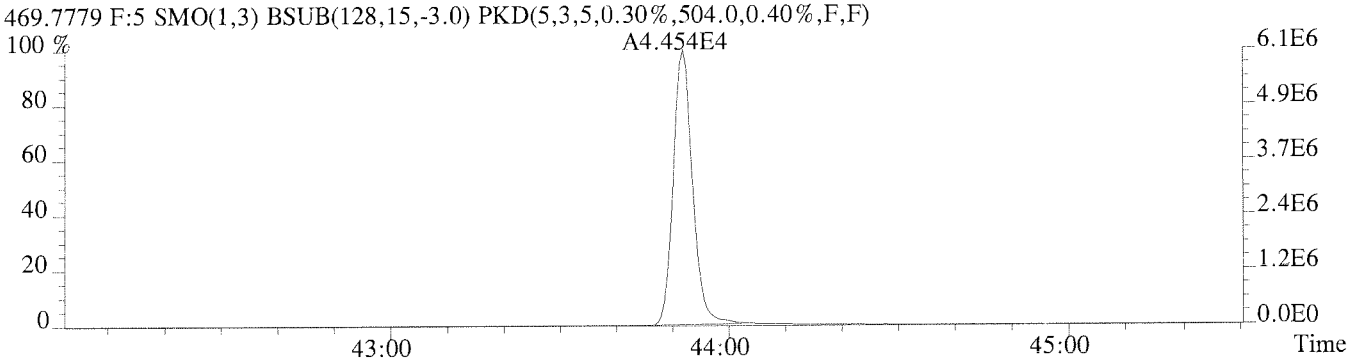
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,724.0,0.40%,F,F)



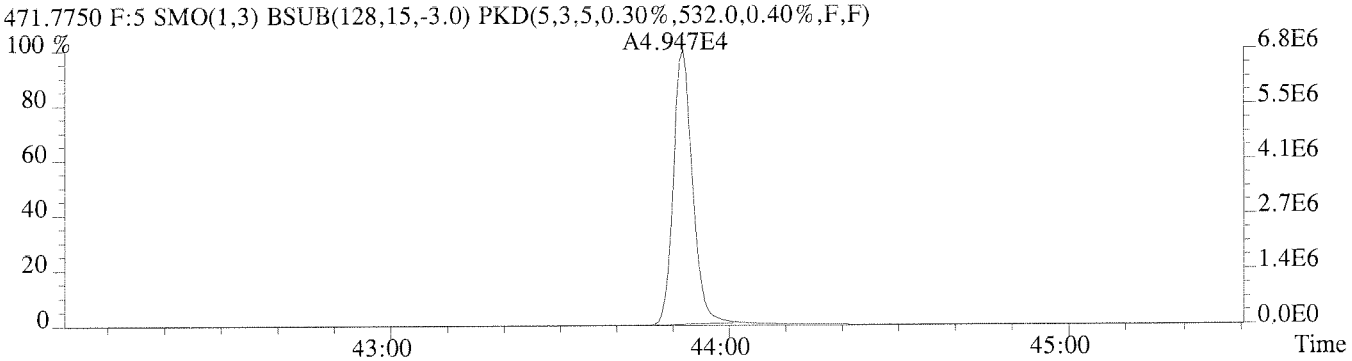
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,548.0,0.40%,F,F)



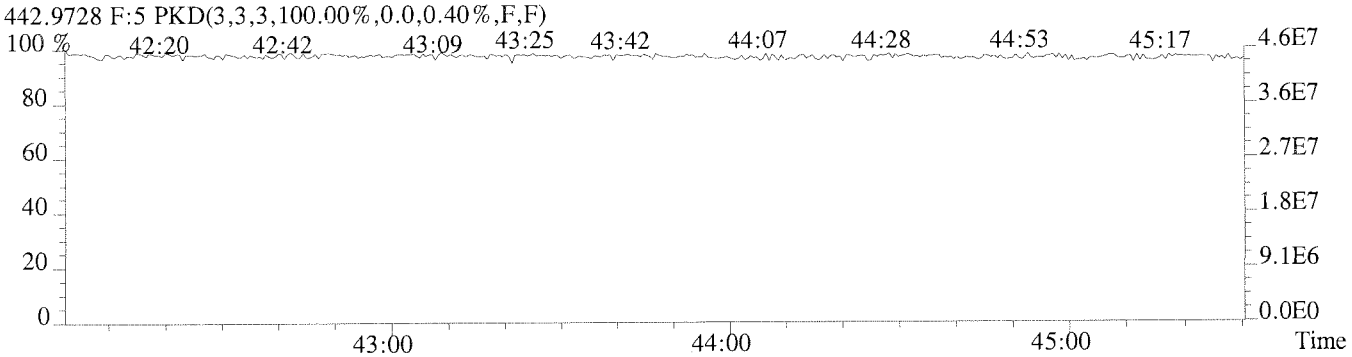
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,504.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,532.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Premier GC Column ID: DB-5

VER Data Filename: P100257 Analysis Date: 12-AUG-08 Time: 18:34:32

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.74	0.65-0.89	0.92	0.92	0.13
1,2,3,7,8-PeCDD	M+2/M+4	1.63	1.32-1.78	0.90	0.88	2.79
1,2,3,4,7,8-HxCDD	M+2/M+4	1.30	1.05-1.43	0.96	0.93	3.18
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	1.03	1.13	-9.00
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	0.98	1.04	-5.92
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88-1.20	0.99	1.02	-3.03
OCDD	M+2/M+4	0.90	0.76-1.02	1.10	1.02	7.83
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	0.97	0.98	-1.56
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.01	0.97	3.97
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.04	1.00	3.96
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.27	1.22	3.95
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.29	1.31	-1.46
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	1.09	1.06	2.17
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.22	1.15	6.06
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	0.88-1.20	1.58	1.55	1.86
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	0.88-1.20	1.19	1.17	1.39
OCDF	M+2/M+4	0.90	0.76-1.02	1.34	1.36	-1.77

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Premier GC Column ID: DB-5

VER Data Filename: P100257 Analysis Date: 12-AUG-08 Time: 18:34:32

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	1.06	1.10	-3.71
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	0.95	0.98	-3.17
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	0.96	0.99	-2.79
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	0.85	0.85	-0.07
13C-OCDD	M+2/M+4	0.90	0.76-1.02	0.83	0.79	4.69
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	1.35	1.41	-4.26
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	1.29	1.38	-6.06
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.16	1.35	-13.53
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	0.94	1.03	-8.79
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.99	1.01	-1.75

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #9 Filename P100257 Samp: 1 Inj: 1 Acquired: 12-AUG-08 18:34:32
Processed: 20-AUG-08 09:04:21 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:29	3.382e+03	4.457e+03	0.76	yes	no	0.983
2	Unk	1,2,3,7,8-PeCDF	33:39	1.204e+04	7.608e+03	1.58	yes	no	0.972
3	Unk	2,3,4,7,8-PeCDF	34:21	1.232e+04	7.818e+03	1.58	yes	no	0.997
4	Unk	1,2,3,4,7,8-HxCDF	37:05	1.087e+04	8.611e+03	1.26	yes	no	1.221
5	Unk	1,2,3,6,7,8-HxCDF	37:11	1.090e+04	8.882e+03	1.23	yes	no	1.308
6	Unk	2,3,4,6,7,8-HxCDF	37:40	1.047e+04	8.329e+03	1.26	yes	no	1.155
7	Unk	1,2,3,7,8,9-HxCDF	38:21	9.265e+03	7.397e+03	1.25	yes	no	1.062
8	Unk	1,2,3,4,6,7,8-HpCDF	39:49	1.008e+04	9.505e+03	1.06	yes	no	1.550
9	Unk	1,2,3,4,7,8,9-HpCDF	41:11	7.531e+03	7.229e+03	1.04	yes	no	1.173
10	Unk	OCDF	44:04	1.390e+04	1.539e+04	0.90	yes	no	1.360
11	Unk	2,3,7,8-TCDD	30:16	2.511e+03	3.383e+03	0.74	yes	no	0.923
12	Unk	1,2,3,7,8-PeCDD	34:42	7.992e+03	4.899e+03	1.63	yes	no	0.880
13	Unk	1,2,3,4,7,8-HxCDD	37:46	6.883e+03	5.283e+03	1.30	yes	no	0.928
14	Unk	1,2,3,6,7,8-HxCDD	37:50	7.398e+03	5.727e+03	1.29	yes	no	1.135
15	Unk	1,2,3,7,8,9-HxCDD	38:08	6.916e+03	5.497e+03	1.26	yes	no	1.038
16	Unk	1,2,3,4,6,7,8-HpCDD	40:44	5.831e+03	5.313e+03	1.10	yes	no	1.025
17	Unk	OCDD	43:53	1.146e+04	1.269e+04	0.90	yes	no	1.022
18	IS	13C-2,3,7,8-TCDF	29:28	1.784e+04	2.266e+04	0.79	yes	no	1.406
19	IS	13C-1,2,3,7,8-PeCDF	33:37	2.411e+04	1.477e+04	1.63	yes	no	1.375
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	2.663e+04	5.012e+04	0.53	yes	no	1.346
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:48	1.922e+04	4.281e+04	0.45	yes	no	1.031
22	IS	13C-2,3,7,8-TCDD	30:15	1.393e+04	1.796e+04	0.78	yes	no	1.101
23	IS	13C-1,2,3,7,8-PeCDD	34:41	1.743e+04	1.107e+04	1.57	yes	no	0.978
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	3.561e+04	2.794e+04	1.27	yes	no	0.991
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	2.892e+04	2.714e+04	1.07	yes	no	0.851
26	IS	13C-OCDD	43:52	5.207e+04	5.755e+04	0.90	yes	no	0.794
27	RS/RT	13C-1,2,3,4-TCDD	30:02	1.324e+04	1.685e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	3.679e+04	2.915e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	5.974e+03					1.010
					SUM AREA				
30	Tot	Total Tetra-Furans	28:19		8.031e+03	0.68	yes		0.983
31	Tot	Total Tetra-Dioxins	30:16		5.894e+03	0.74	yes		0.923
32	Tot	Total Penta-Furans	33:39		3.979e+04	1.58	yes		0.984
33	Tot	Total Penta-Dioxins	34:42		1.291e+04	1.63	yes		0.880
34	Tot	Total Hexa-Furans	36:17		7.481e+04	1.13	yes		1.186
35	Tot	Total Hexa-Dioxins	37:46		3.770e+04	1.30	yes		1.033
36	Tot	Total Hepta-Furans	39:49		3.515e+04	1.06	yes		1.362
37	Tot	Total Hepta-Dioxins	40:04		1.143e+04	0.95	yes		1.025

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #9 Filename P100257 #1 Samp: 1 Inj: 1 Acquired: 12-AUG-08 18:34:32

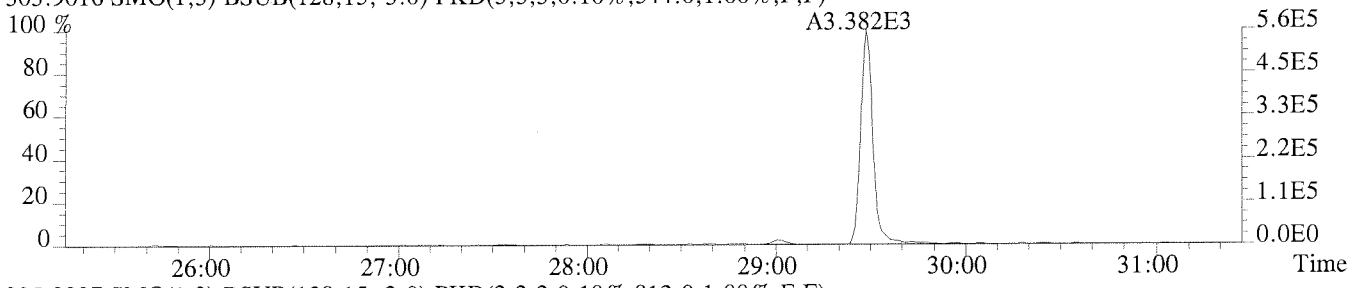
Processed: 20-AUG-08 09:04:21 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.56e+05	5.44e+02	1.0e+03	7.22e+05	8.12e+02	8.9e+02
2	1,2,3,7,8-PeCDF	2.20e+06	4.76e+02	4.6e+03	1.38e+06	9.20e+02	1.5e+03
3	2,3,4,7,8-PeCDF	2.35e+06	4.76e+02	4.9e+03	1.47e+06	9.20e+02	1.6e+03
4	1,2,3,4,7,8-HxCDF	2.30e+06	1.12e+03	2.0e+03	1.84e+06	8.88e+02	2.1e+03
5	1,2,3,6,7,8-HxCDF	2.25e+06	1.12e+03	2.0e+03	1.80e+06	8.88e+02	2.0e+03
6	2,3,4,6,7,8-HxCDF	2.24e+06	1.12e+03	2.0e+03	1.78e+06	8.88e+02	2.0e+03
7	1,2,3,7,8,9-HxCDF	1.84e+06	1.12e+03	1.6e+03	1.48e+06	8.88e+02	1.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.99e+06	1.90e+03	1.0e+03	1.91e+06	1.55e+03	1.2e+03
9	1,2,3,4,7,8,9-HpCDF	1.31e+06	1.90e+03	6.9e+02	1.26e+06	1.55e+03	8.1e+02
10	OCDF	1.84e+06	6.28e+02	2.9e+03	2.02e+06	1.15e+03	1.8e+03
11	2,3,7,8-TCDD	4.37e+05	6.92e+02	6.3e+02	5.71e+05	5.44e+02	1.0e+03
12	1,2,3,7,8-PeCDD	1.58e+06	1.01e+03	1.6e+03	9.29e+05	5.56e+02	1.7e+03
13	1,2,3,4,7,8-HxCDD	1.51e+06	6.64e+02	2.3e+03	1.14e+06	7.16e+02	1.6e+03
14	1,2,3,6,7,8-HxCDD	1.53e+06	6.64e+02	2.3e+03	1.21e+06	7.16e+02	1.7e+03
15	1,2,3,7,8,9-HxCDD	1.45e+06	6.64e+02	2.2e+03	1.16e+06	7.16e+02	1.6e+03
16	1,2,3,4,6,7,8-HpCDD	1.10e+06	6.28e+02	1.8e+03	1.03e+06	5.20e+02	2.0e+03
17	OCDD	1.51e+06	7.20e+02	2.1e+03	1.70e+06	6.20e+02	2.7e+03
18	13C-2,3,7,8-TCDF	2.90e+06	1.36e+03	2.1e+03	3.64e+06	8.68e+02	4.2e+03
19	13C-1,2,3,7,8-PeCDF	4.41e+06	4.92e+02	9.0e+03	2.71e+06	8.00e+02	3.4e+03
20	13C-1,2,3,4,7,8-HxCDF	5.34e+06	6.72e+02	7.9e+03	1.03e+07	1.09e+03	9.4e+03
21	13C-1,2,3,4,6,7,8-HpCDF	3.78e+06	2.56e+03	1.5e+03	8.39e+06	2.22e+03	3.8e+03
22	13C-2,3,7,8-TCDD	2.39e+06	2.06e+03	1.2e+03	3.07e+06	8.56e+02	3.6e+03
23	13C-1,2,3,7,8-PeCDD	3.35e+06	8.36e+02	4.0e+03	2.11e+06	6.40e+02	3.3e+03
24	13C-1,2,3,6,7,8-HxCDD	7.47e+06	7.88e+02	9.5e+03	5.92e+06	8.84e+02	6.7e+03
25	13C-1,2,3,4,6,7,8-HpCDD	5.49e+06	6.28e+02	8.7e+03	5.10e+06	6.28e+02	8.1e+03
26	13C-OCDD	7.00e+06	6.04e+02	1.2e+04	7.66e+06	5.28e+02	1.5e+04
27	13C-1,2,3,4-TCDD	2.36e+06	2.06e+03	1.1e+03	3.00e+06	8.56e+02	3.5e+03
28	13C-1,2,3,7,8,9-HxCDD	7.61e+06	7.88e+02	9.7e+03	6.03e+06	8.84e+02	6.8e+03
29	37Cl-2,3,7,8-TCDD	1.03e+06	6.32e+02	1.6e+03			

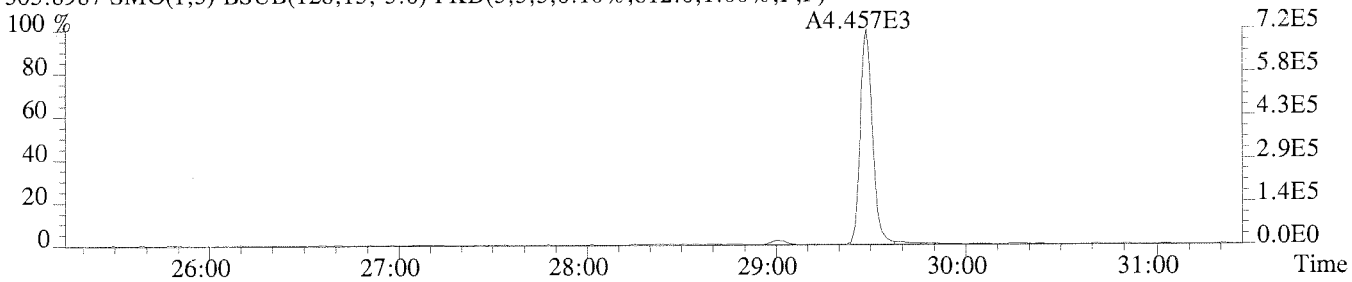
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
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Office:(713)266-1599. Fax:(713)266-0130

File:P100257 #1-518 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

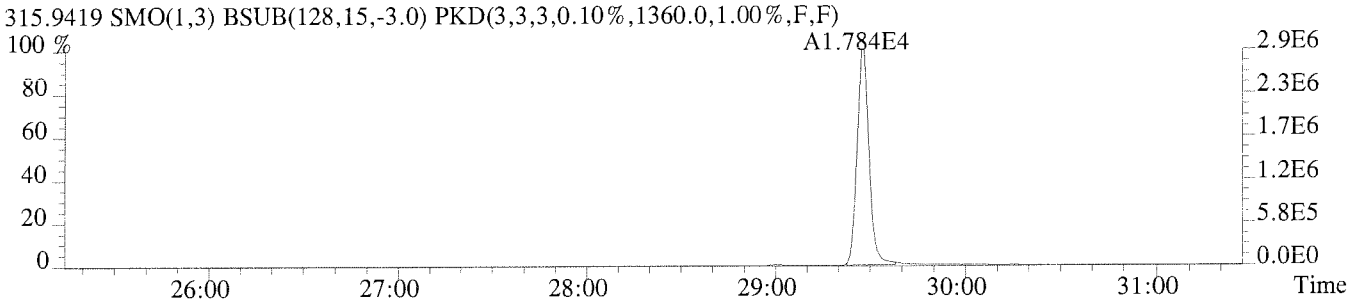
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,F)



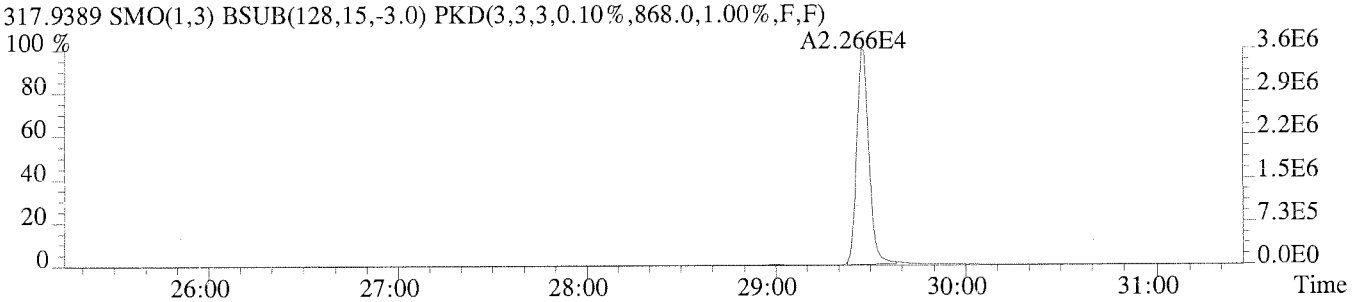
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,F)



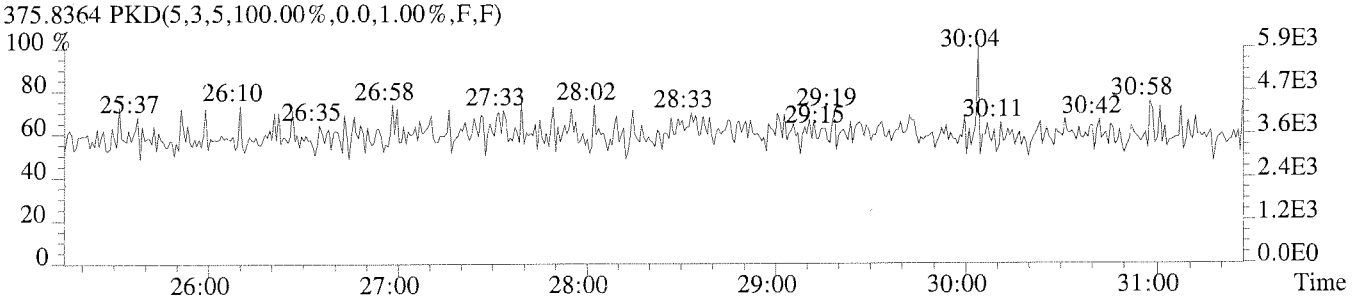
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1360.0,1.00%,F,F)



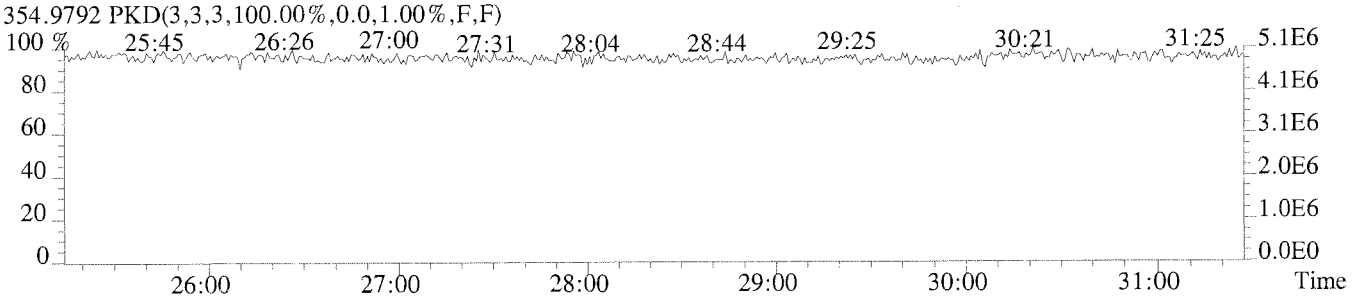
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,F)



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

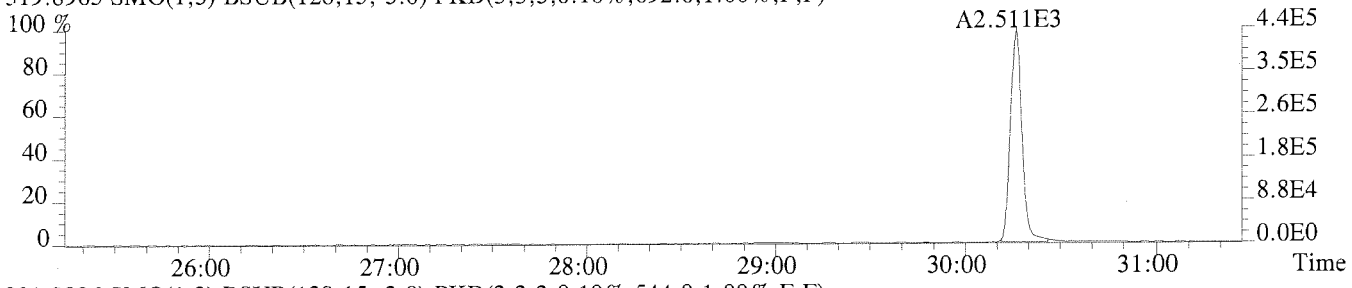


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

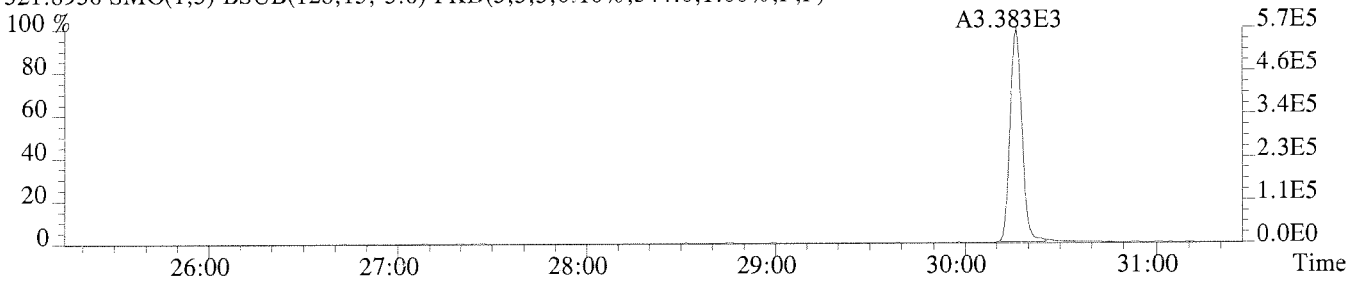


File:P100257 #1-518 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

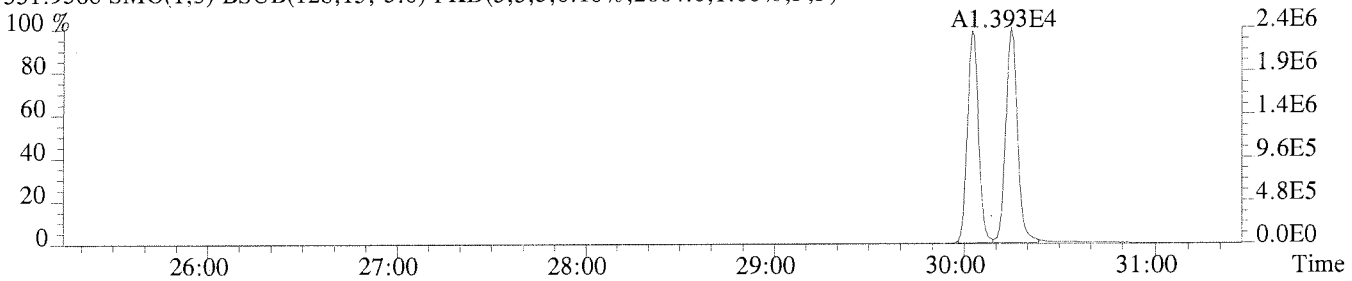
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,692.0,1.00%,F,F)



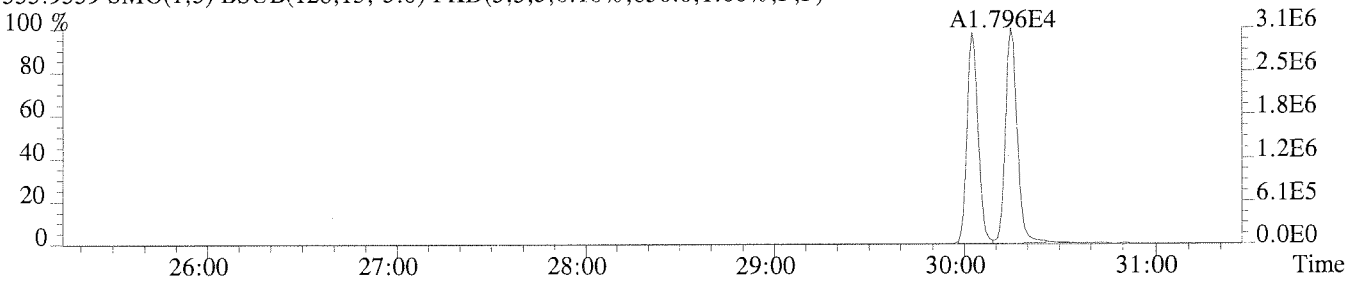
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,F)



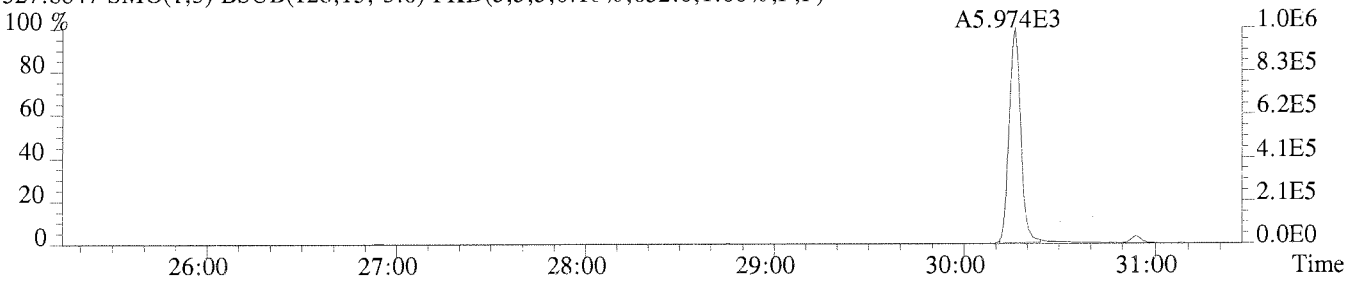
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2064.0,1.00%,F,F)



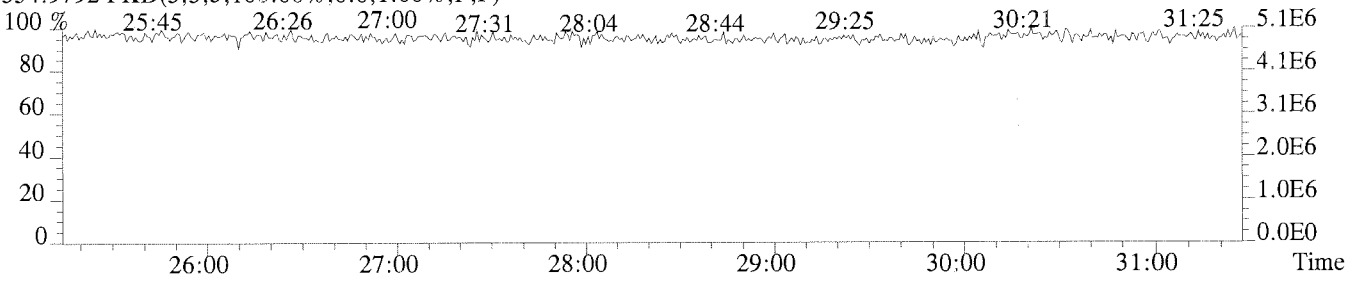
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,F)

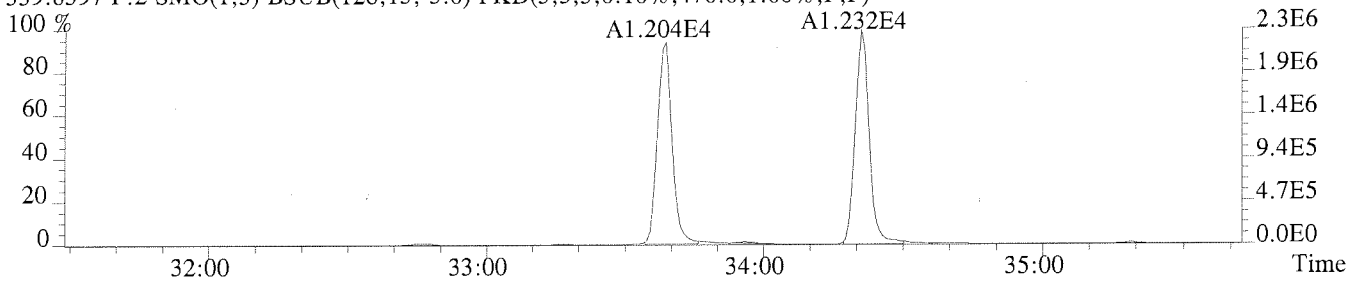


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

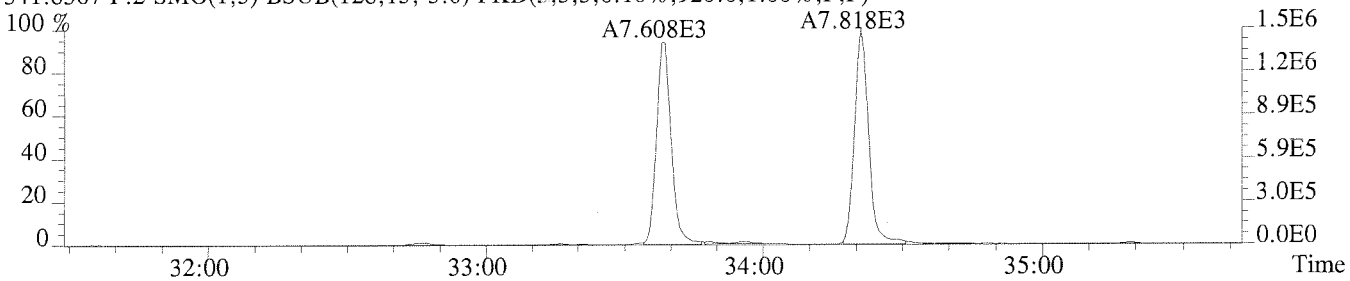


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Sample#1 Exp:CCAL HRCC3

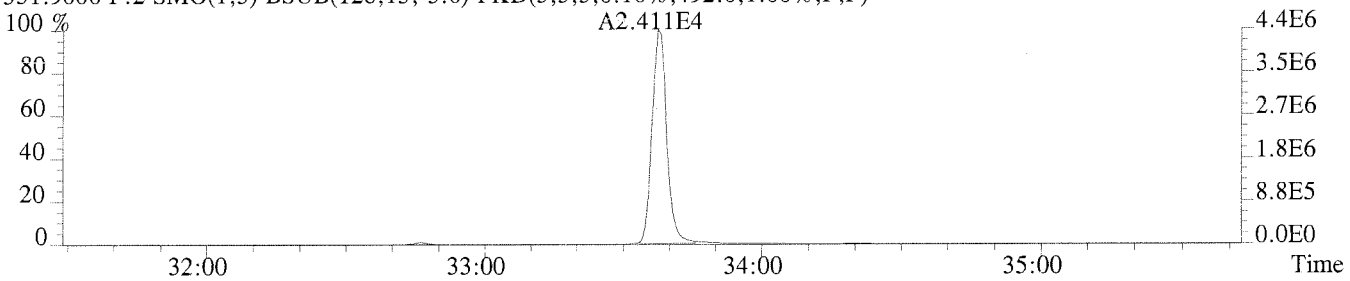
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,F)



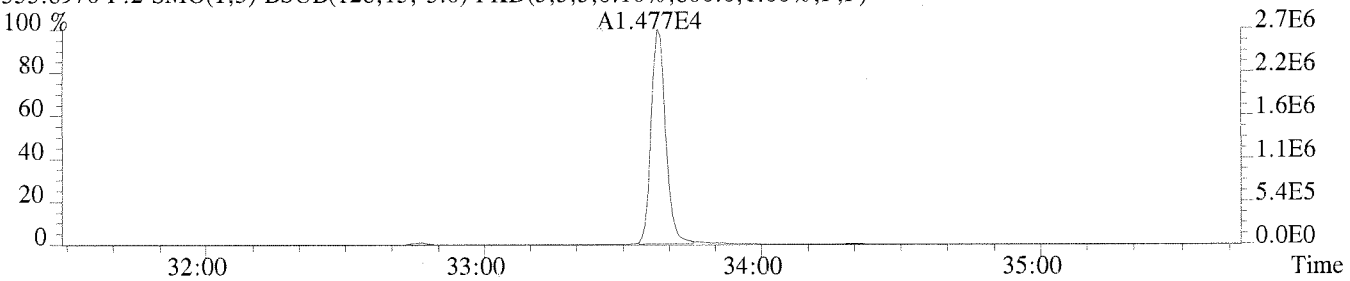
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,920.0,1.00%,F,F)



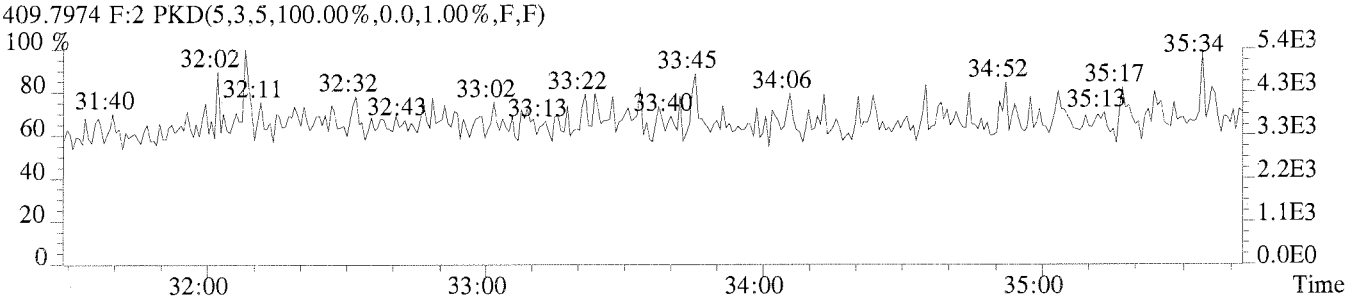
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,F)



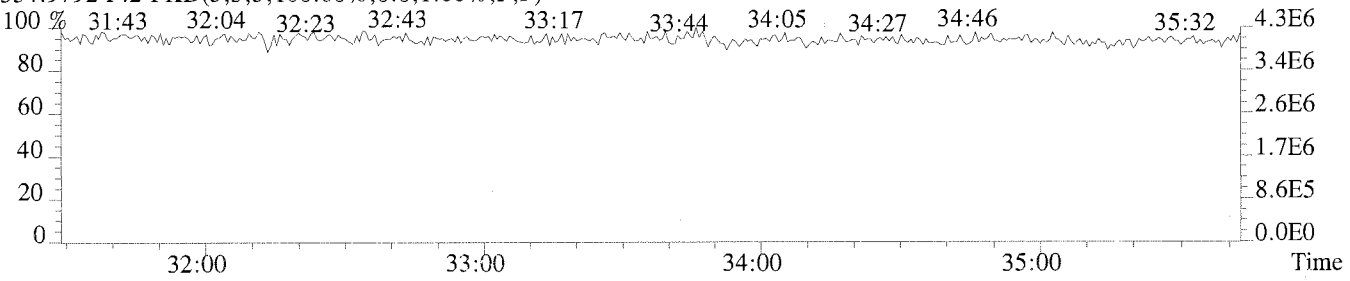
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,800.0,1.00%,F,F)



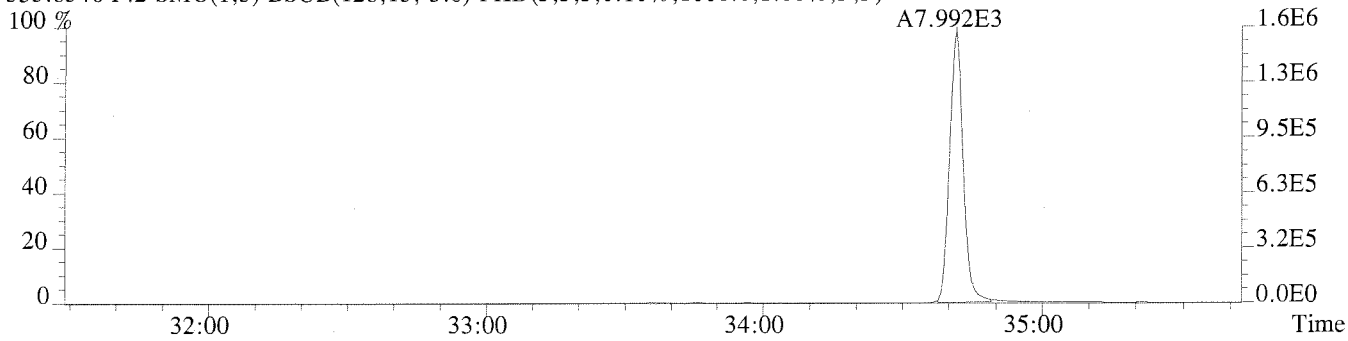
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



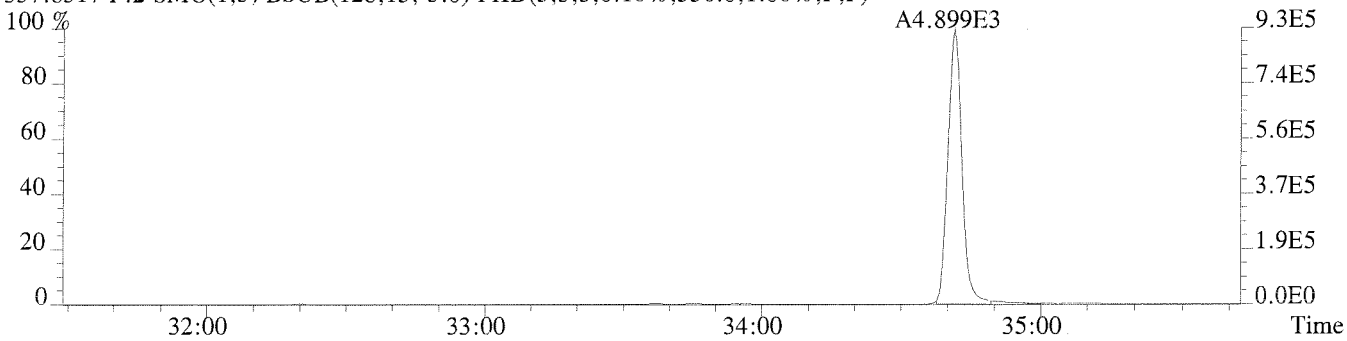
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



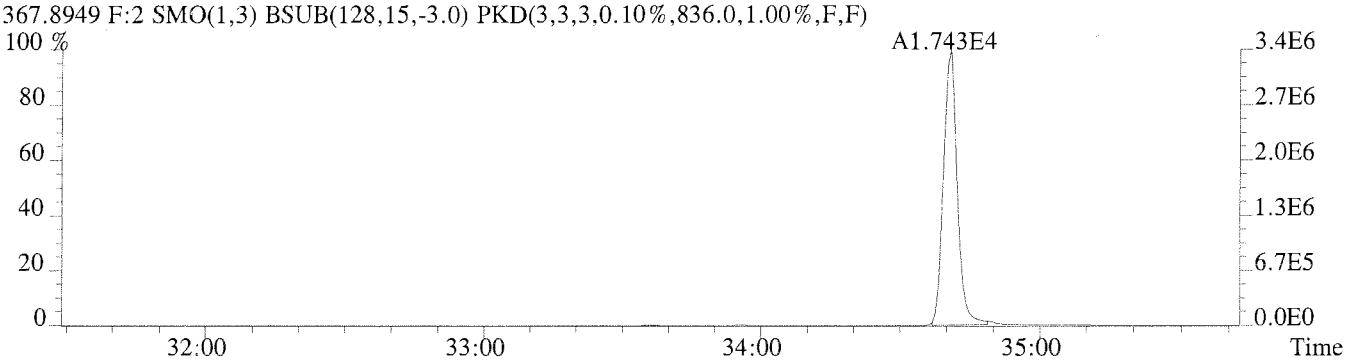
File:P100257 #1-384 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,F)



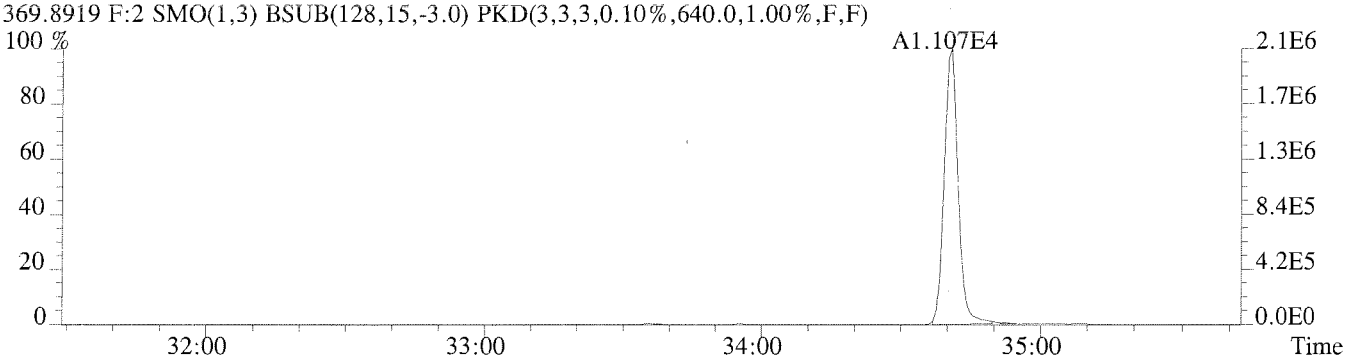
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,F)



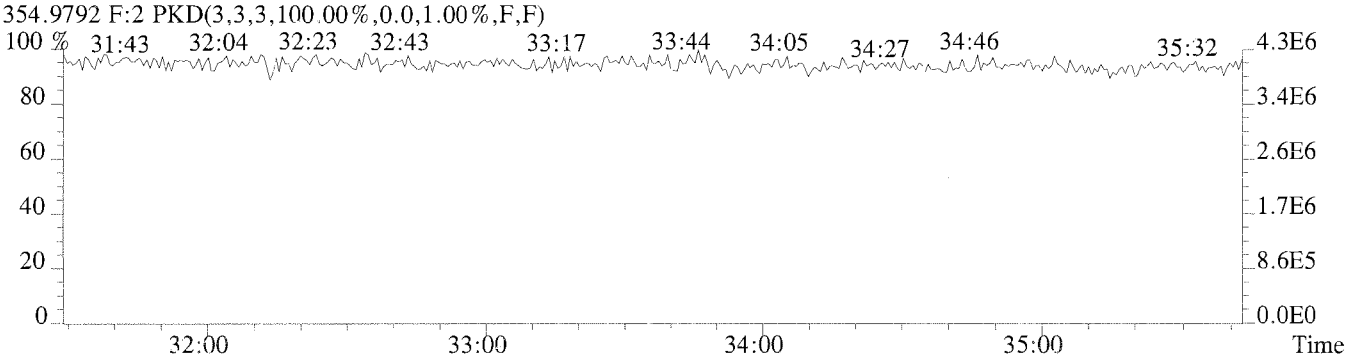
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,836.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,F)

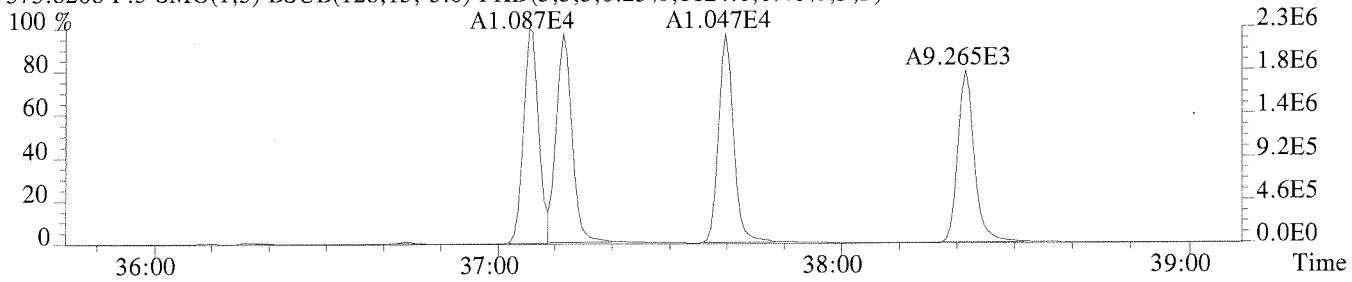


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

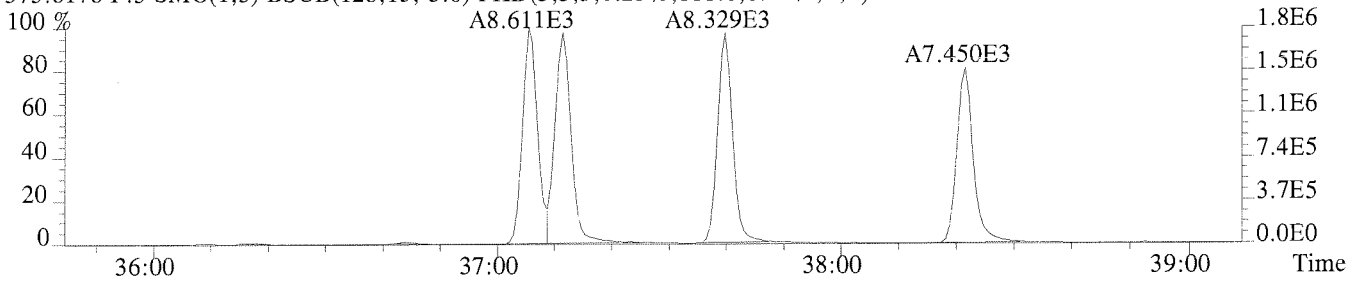


File:P100257 #1-310 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

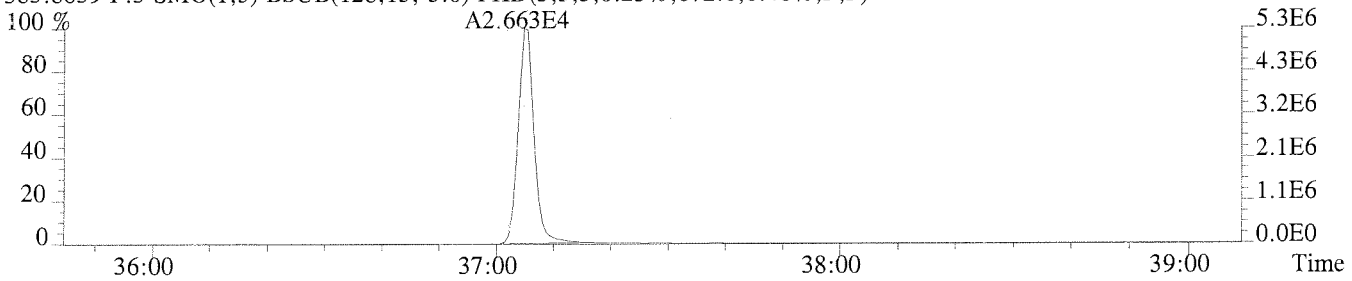
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1124.0,0.40%,F,F)



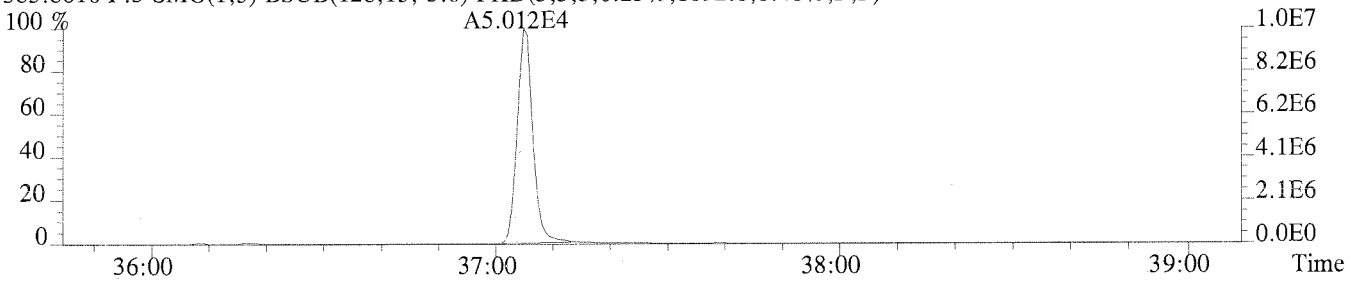
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,F)



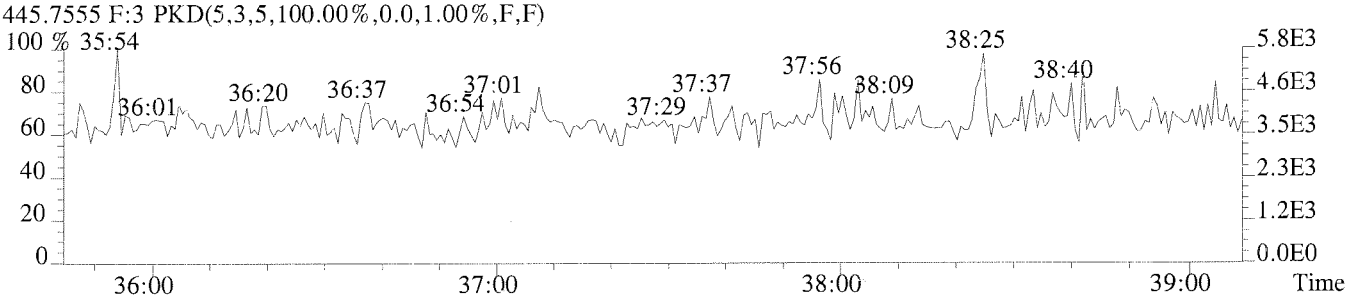
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,F)



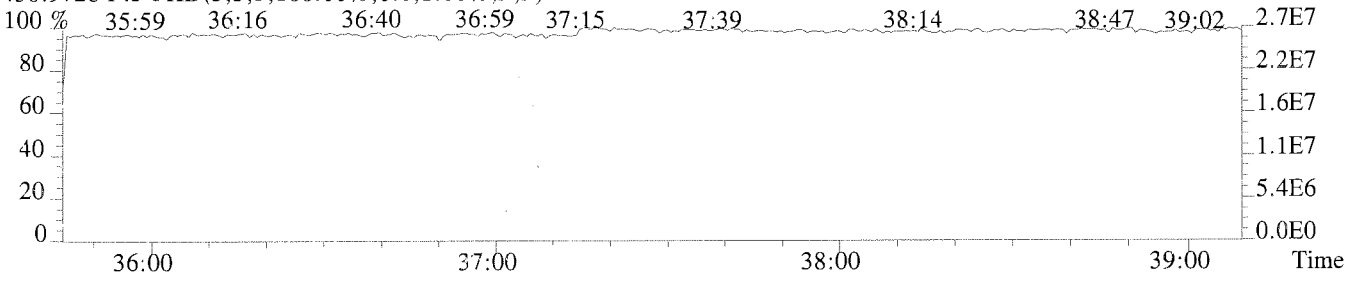
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1092.0,0.40%,F,F)



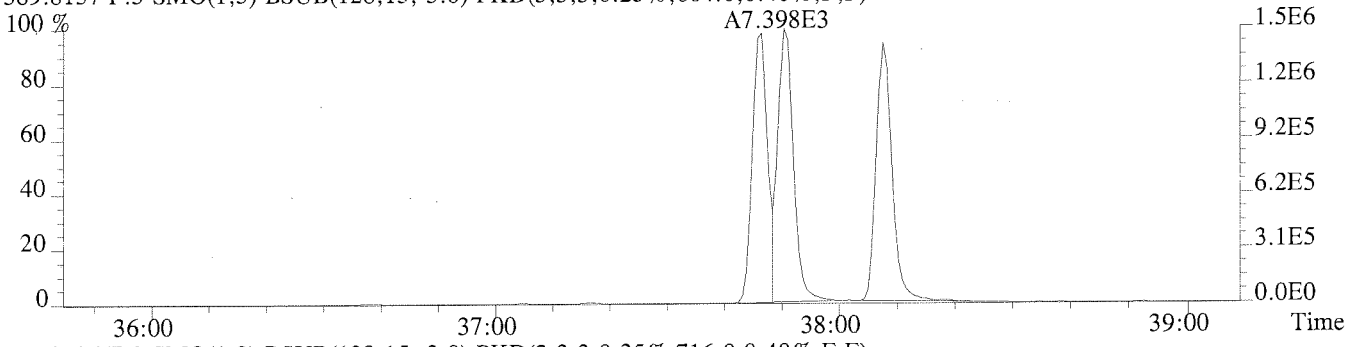
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



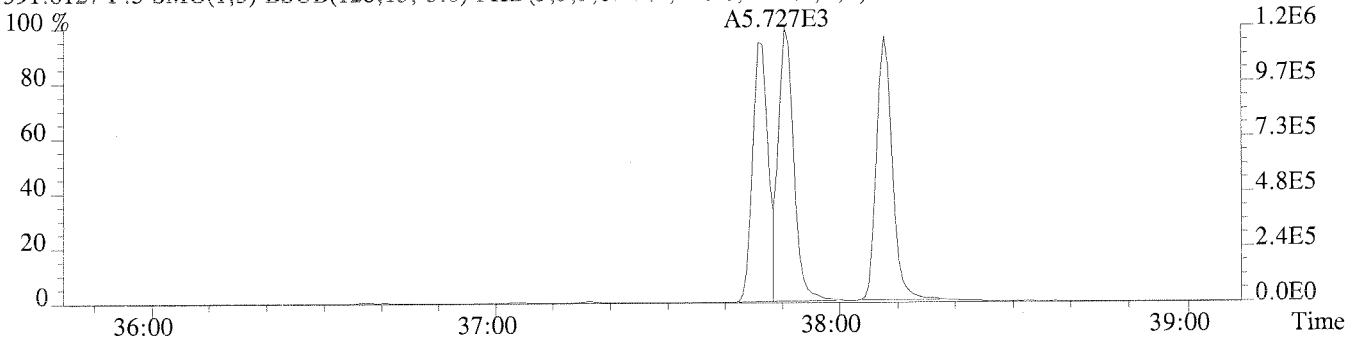
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



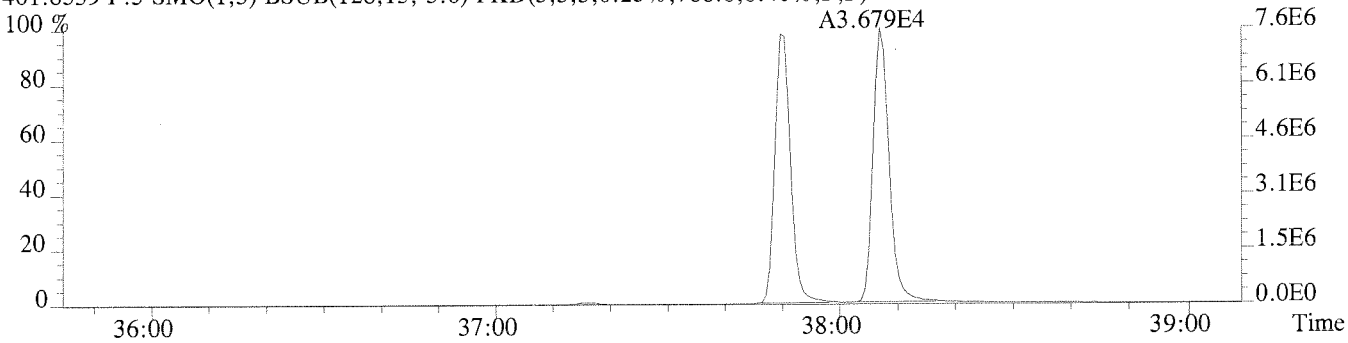
File:P100257 #1-310 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,664.0,0.40%,F,F)



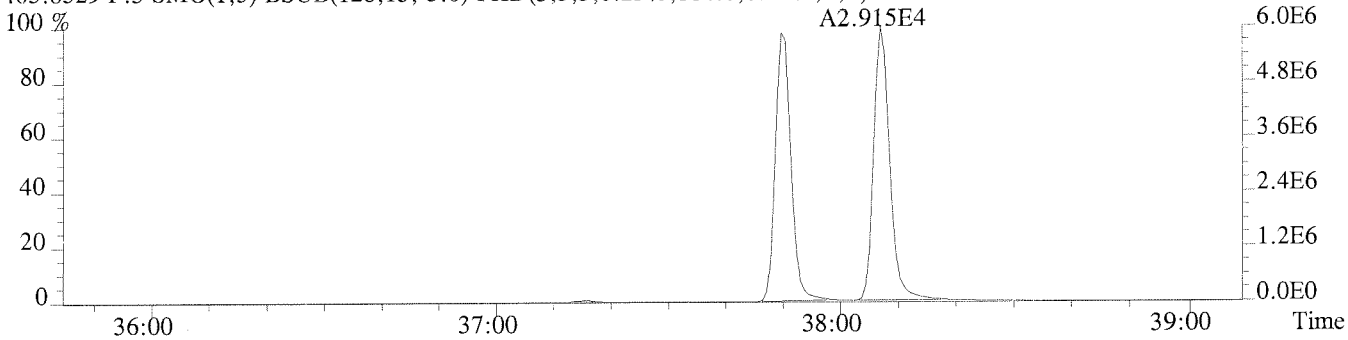
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,716.0,0.40%,F,F)



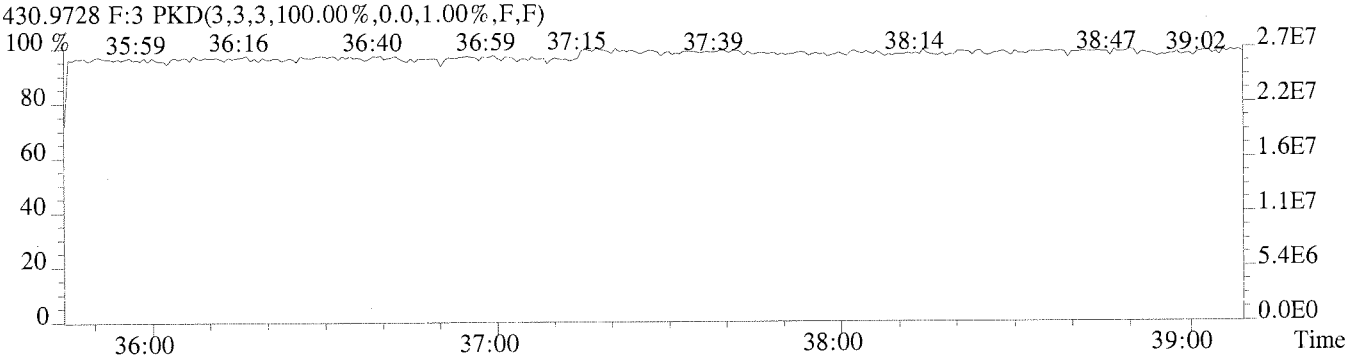
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,788.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,F)

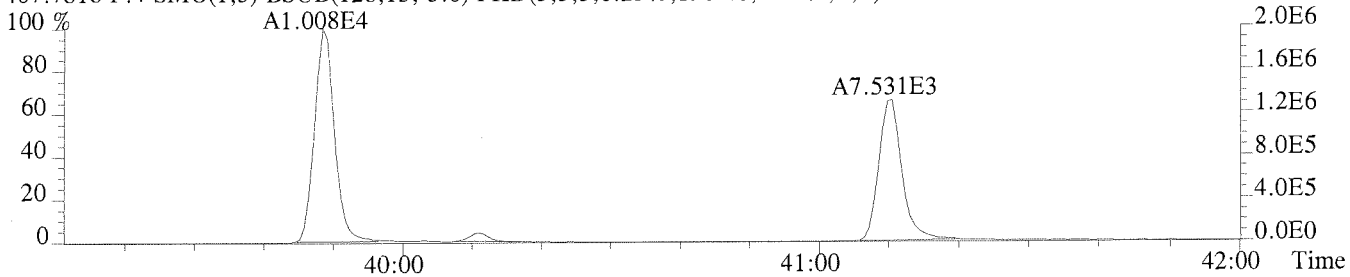


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

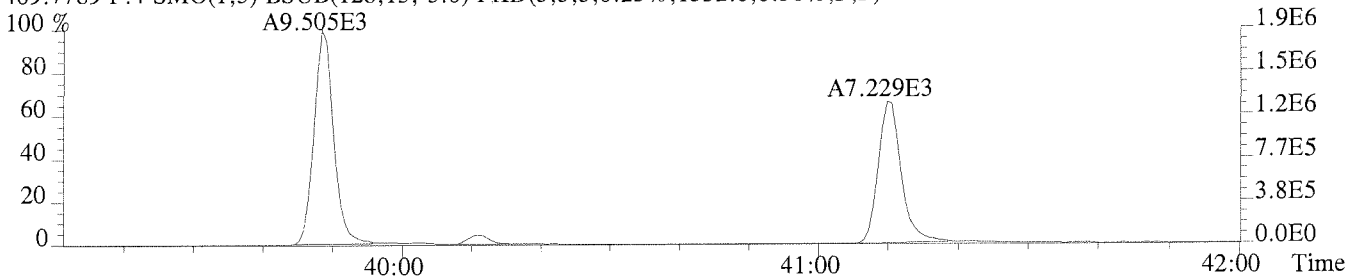


File:P100257 #1-256 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

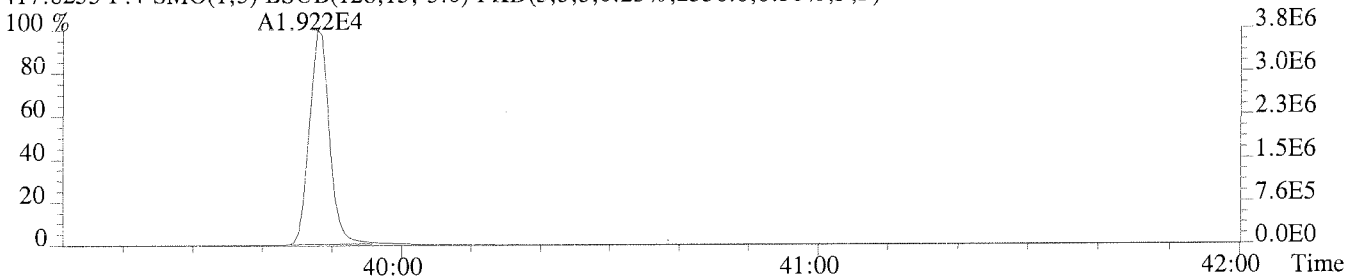
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1904.0,0.50%,F,F)



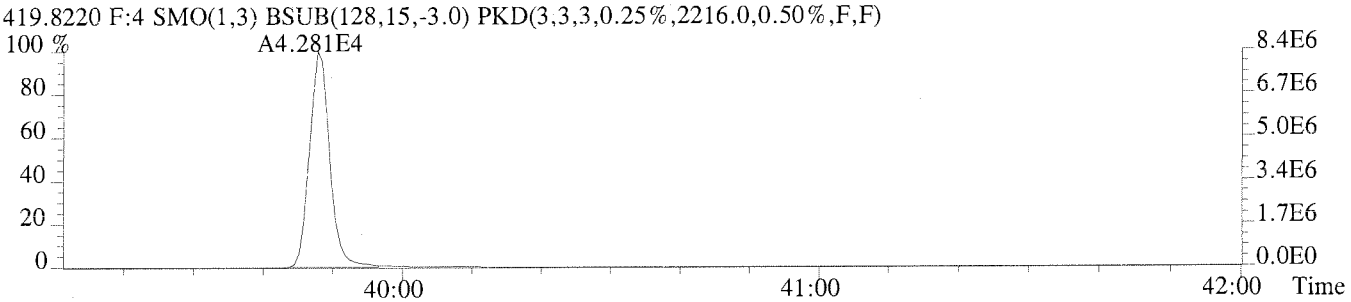
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1552.0,0.50%,F,F)



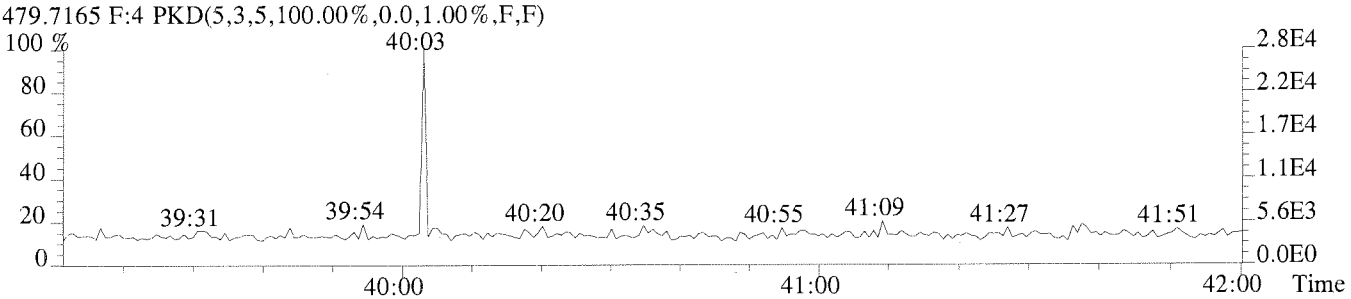
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2556.0,0.50%,F,F)



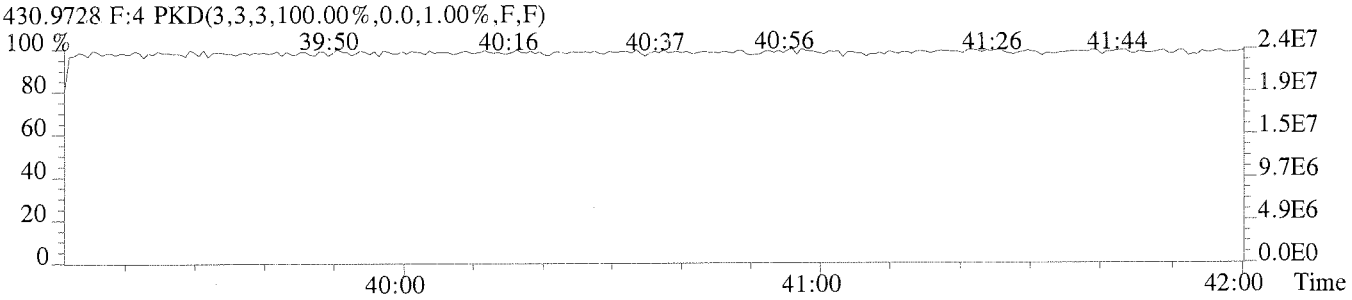
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2216.0,0.50%,F,F)



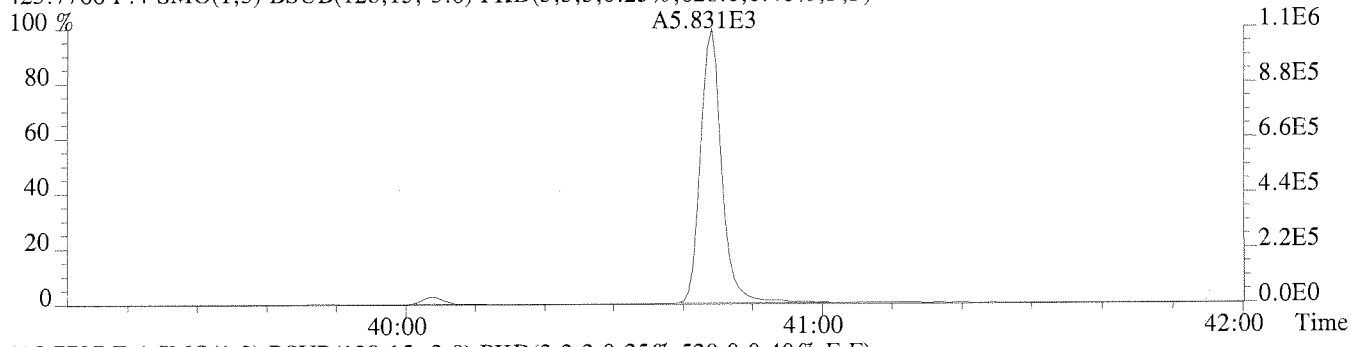
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



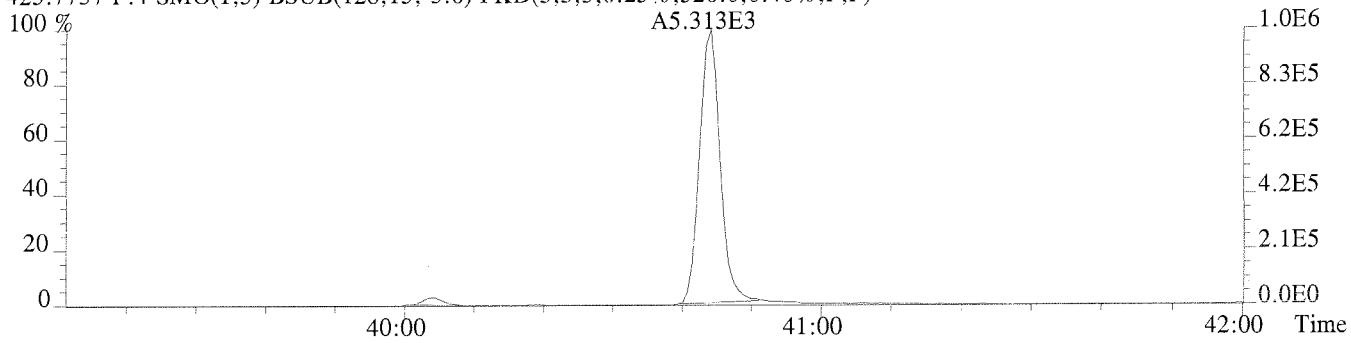
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



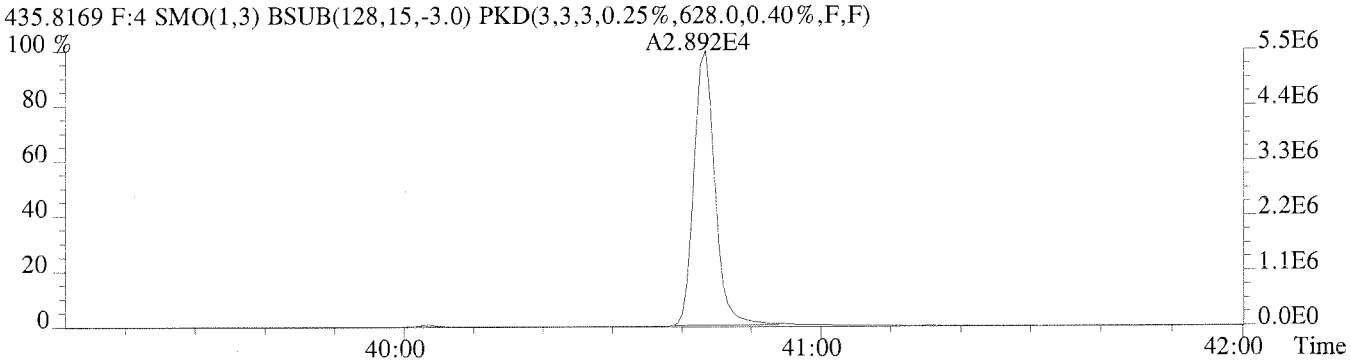
File:P100257 #1-256 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,F)



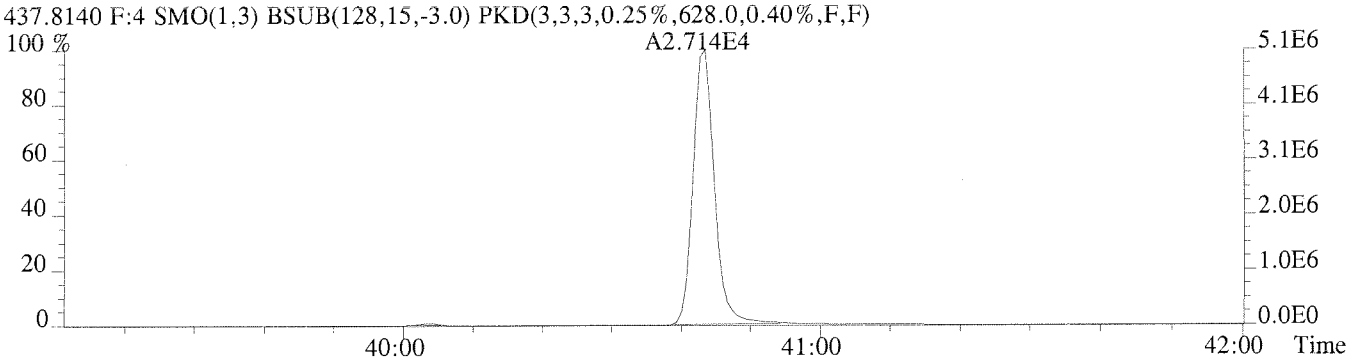
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,F)



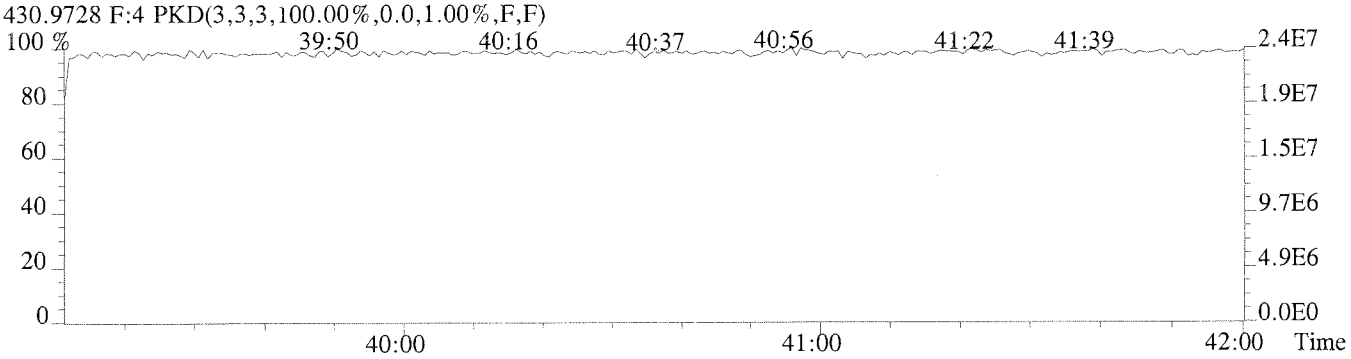
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,F)



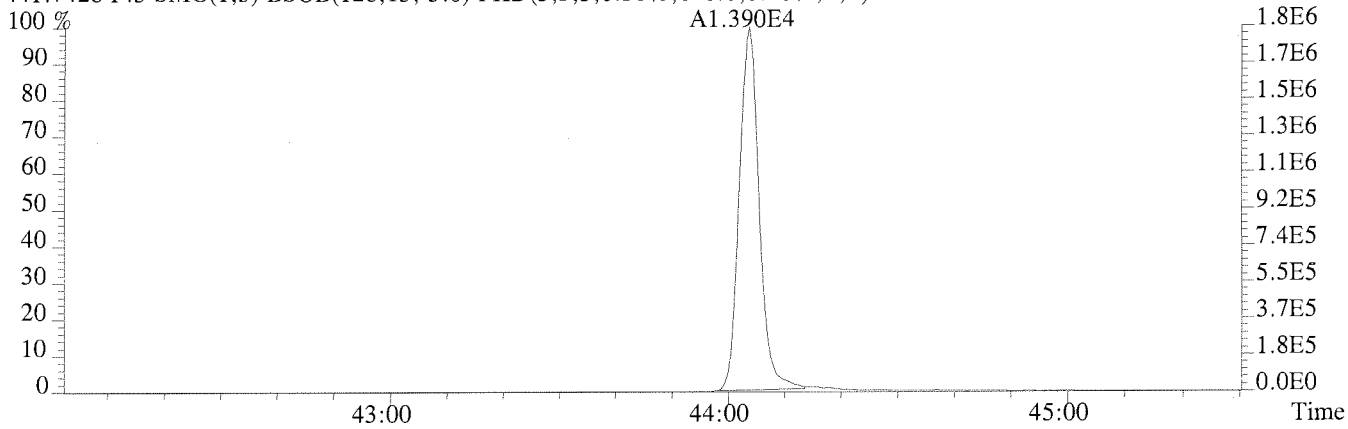
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,628.0,0.40%,F,F)



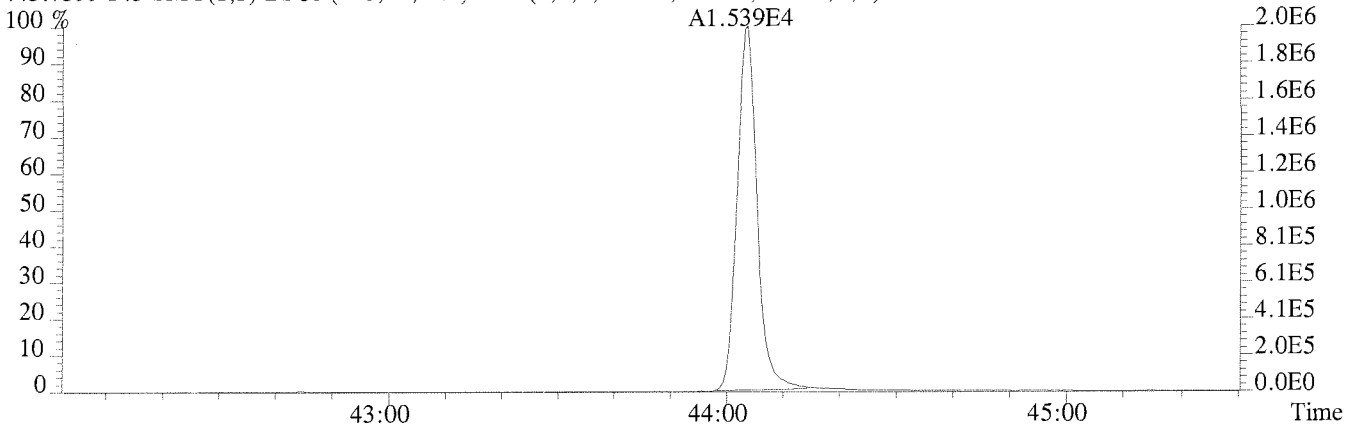
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



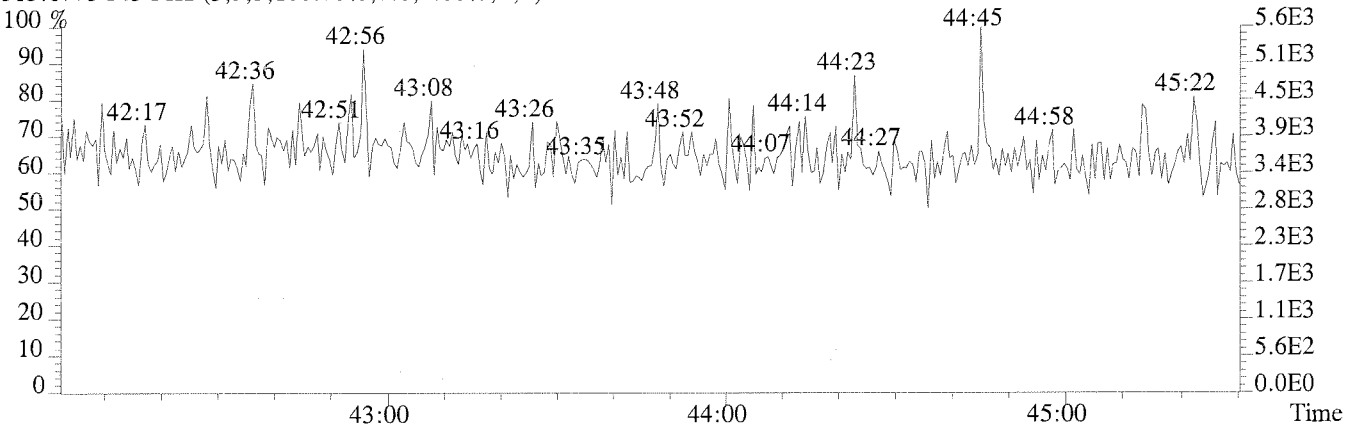
File:P100257 #1-383 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,628.0,0.40%,F,F)



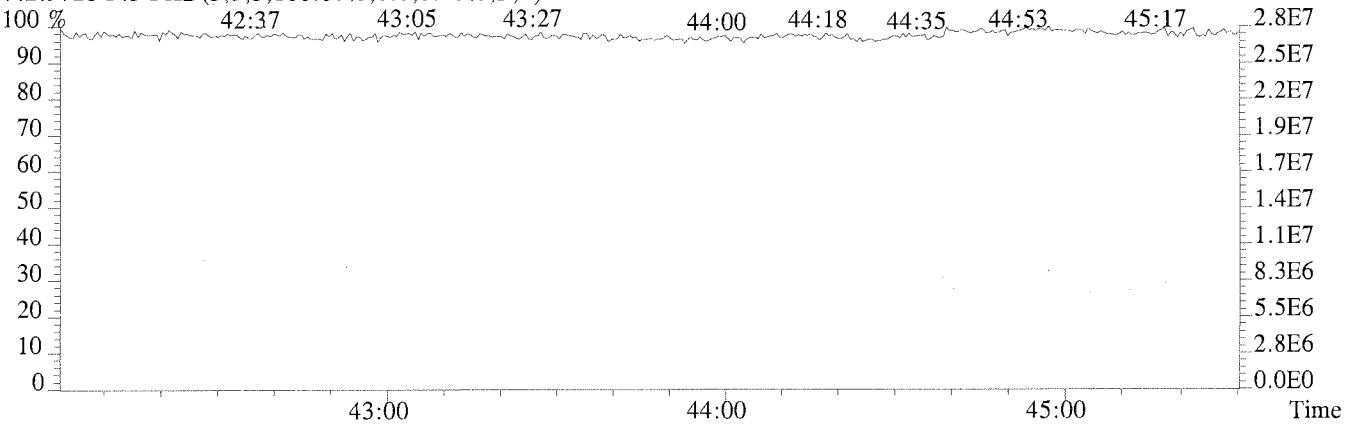
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1152.0,0.40%,F,F)



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

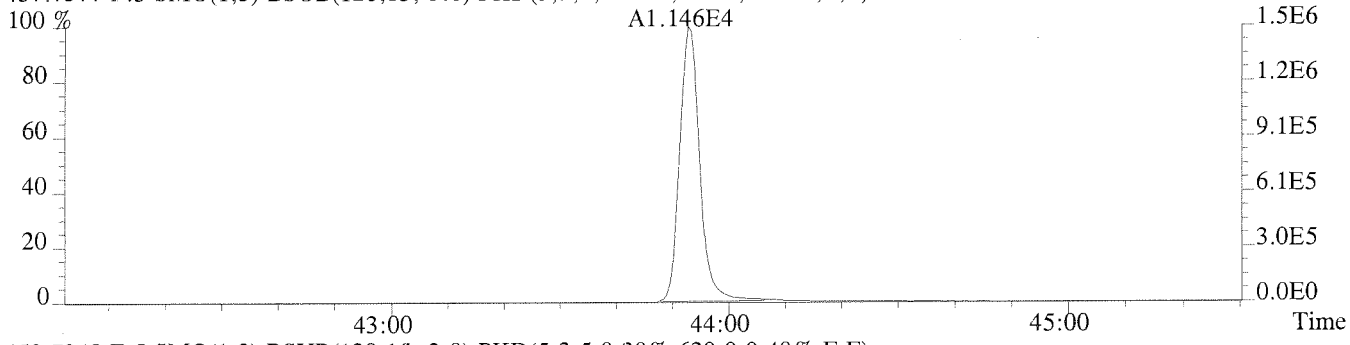


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

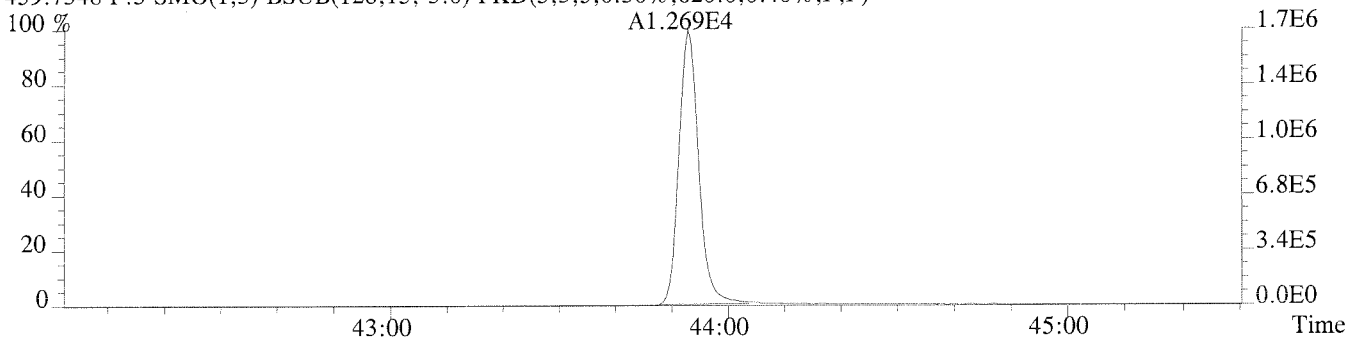


File:P100257 #1-383 Acq:12-AUG-2008 18:34:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

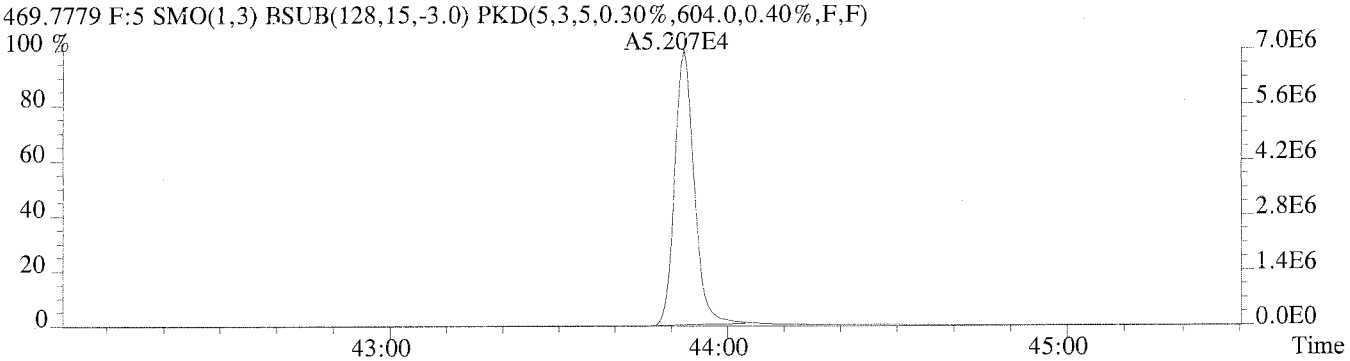
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,720.0,0.40%,F,F)



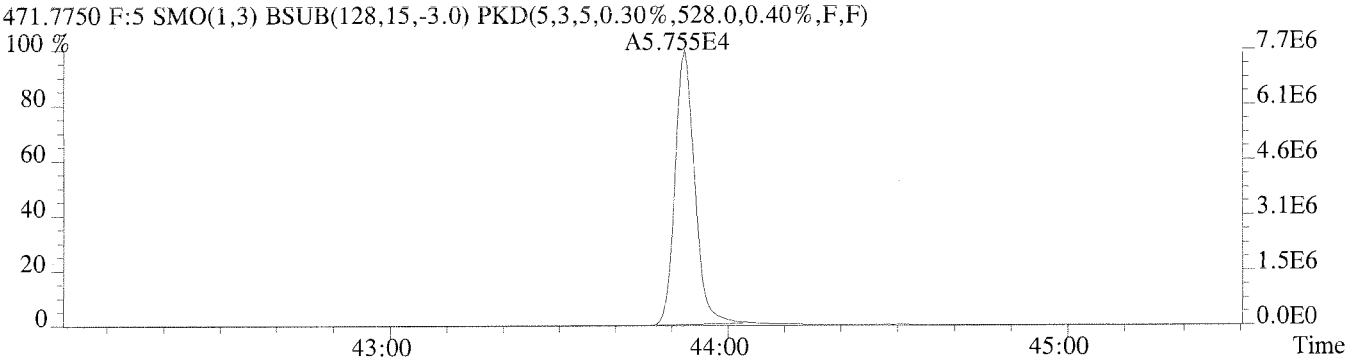
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,620.0,0.40%,F,F)



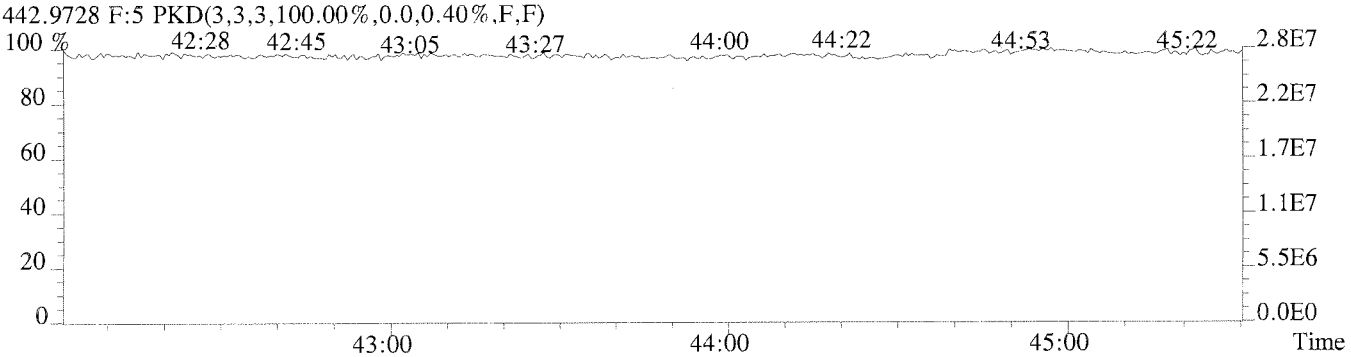
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,604.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,528.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: P200017/P200022 Circle one: Beginning / Ending

Date: 07/31/02

Method: 8290 / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	use Avg	Avg
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: _____ Second QC: _____

8290 CCALQC 03/23/04

CAS HOUSTON INC.

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services, Houston Contract:

Lab Code: CAS Episode No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Premier

Init. Calib. Date: 08/01/08

Init. Calib.Times: 14:25

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
WINDOW DEFINE		P200016	31-JUL-08	07:04:08
CCAL HRCC3		P200017	31-JUL-08	07:59:44
METHOD BLANK	EQ0800314-01	P200018	31-JUL-08	09:13:26
H-EB7162008	E0800703-002	P200019	31-JUL-08	09:59:19
H-EB7182008	E0800704-001	P200020	31-JUL-08	10:49:02
H-EB7172008	E0800705-001	P200021	31-JUL-08	11:37:38
INCGSBO10708	E0800715-001	P200022	31-JUL-08	12:30:30
INCHSBO10708	E0800715-002	P200023	31-JUL-08	13:30:06
INCGSB120708	E0800715-004	P200024	31-JUL-08	15:46:03
INCGSB120708 MS	EQ0800314-03	P200025	31-JUL-08	16:31:59
INCGSB120708 DMS	EQ0800314-04	P200026	31-JUL-08	17:32:21

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Acq Method: 8290CB/1613
GC Method: 8290CB/1613

Result File: P200117CAL/RES
EDD File:

Columbia Analytical Services, Inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
		P200015						
		~~P200016~~	HRMS Check					
07/31/08	06:57		HRMS Check					
	07:04	P200016	Window Defin	D4-90-2				
	07:54	P200017	CCAL HRGC	~~D8-D4~~ D8-2-22				
	09:13	P200018	EQ080314-01	Method Blank				
		P200017		no 08/04/08				
		P200018						
	09:59	P200019	EQ08 EQ80708-02		HFB 7162008			
	10:49	P200020	EQ80704-01		HFB 7182008			
	11:32	P200021	EQ80715-01		HFB 7192008			
	12:36	P200022	EQ80715-	-01	INCGSB1207			
	13:26	P200023		-02	INCHSB1207			
	15:46	P200024		-04	INCGSB1207			
	16:31	P200025	EQ80031		INCGSB1207		INCGSB120708	
	17:32	P200026	EQ80714-04		DMS			

Reviewed by:

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services, Inc.
An Employee Owned Company

Acq Method: 8290CS/1613 Result File: PSCP200536.RES
GC Method: 8290CS/1613 EDD File: F_P080018290I

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
07/31/08	18:42	P200027	CCAL HRCC3	DS-2-2A			Use Avg	
07/31/08	18:41		HRMS Check					
08/01/08	~~14:22~~	w05/01/08						
	07:25	P200028	Window Define					
	08:11	P200029	CCAL HRCC3	DS-2-2A			14:22 HRMS Check	
	14:25	P200030	Window Define	DS-49-2				
	15:21	P200031	ICAL HRCC3	DS-2-2A				
	16:23	P200032	ICAL HRCC2	DS-49-4				
	17:11	P200033	ICAL HRCC1	DS-49-5				
	18:16	P200034	ICAL HRCC4	DS-49-2				
	19:02	P200035	ICAL HRCC5	DS-49-1				
		P200036	HRCC3 CSL	w 08/01/08			19:57 HRMS Check	
	19:57		HRMS Check				08:58	
08/01/08	~~08:28~~						P200036 HRCC3 CSL-DS-49-1	
		P200037	Window Define					
		P200038	CCAL HRCC3					

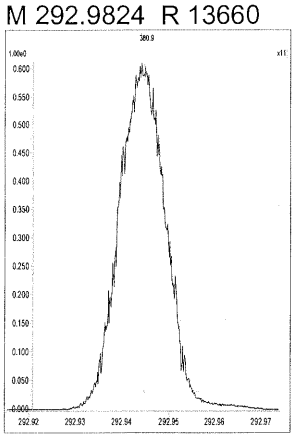
Reviewed by:

Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

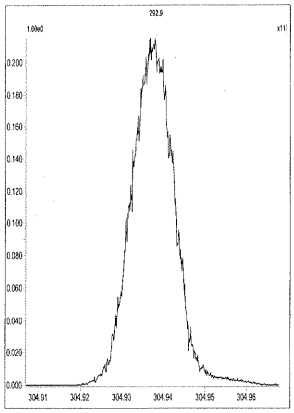
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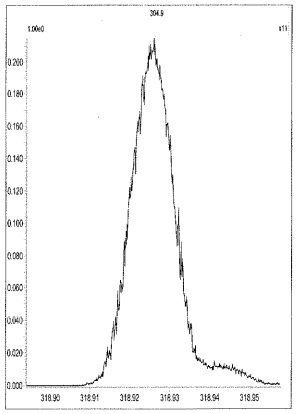
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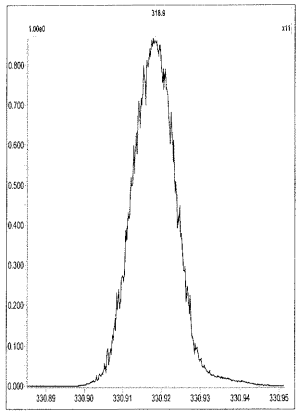
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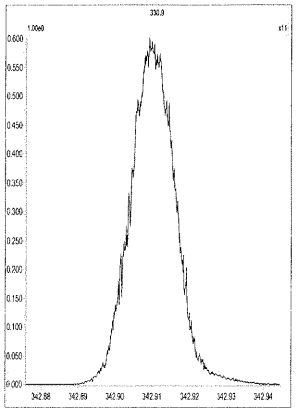
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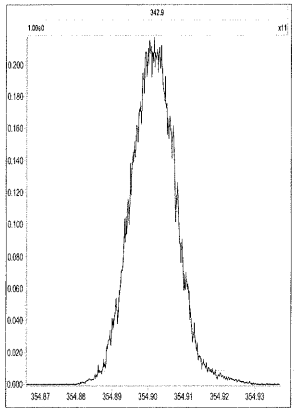
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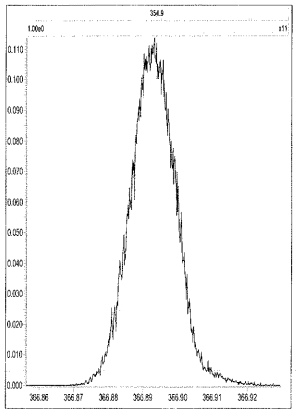
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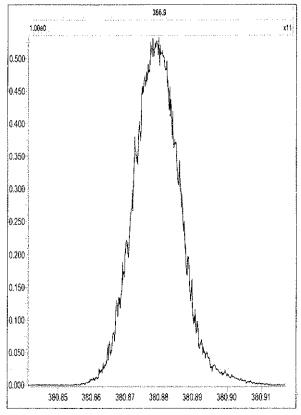
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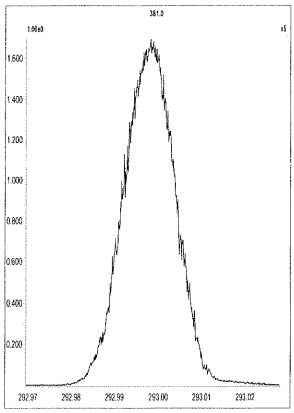
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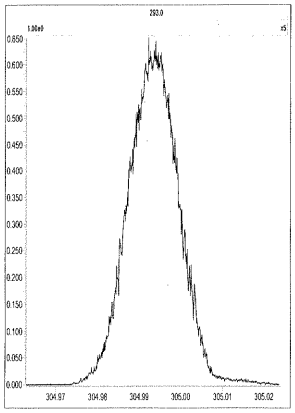
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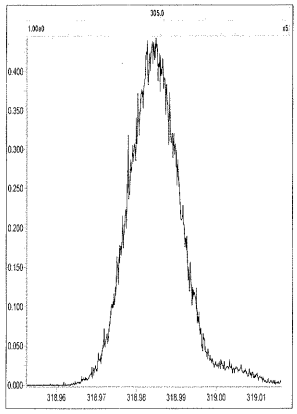
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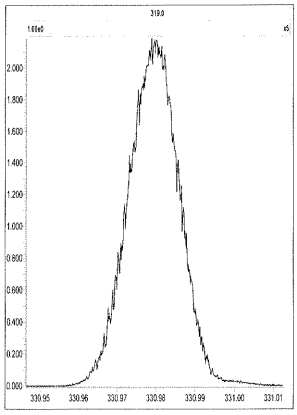
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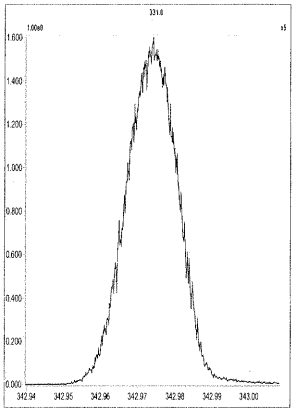
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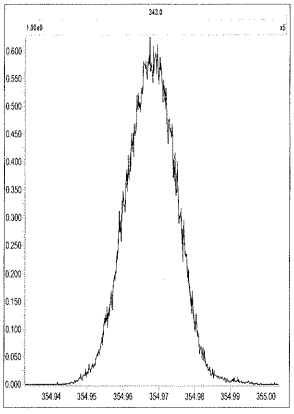
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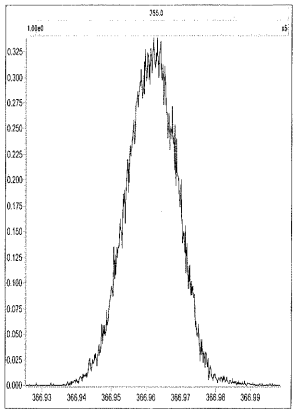
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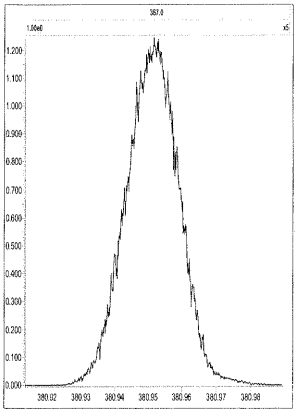
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M 366.9792 R 10869



M 380.9760 R 10506



5DFA

WINDOW DEFINING MIX SUMMARY

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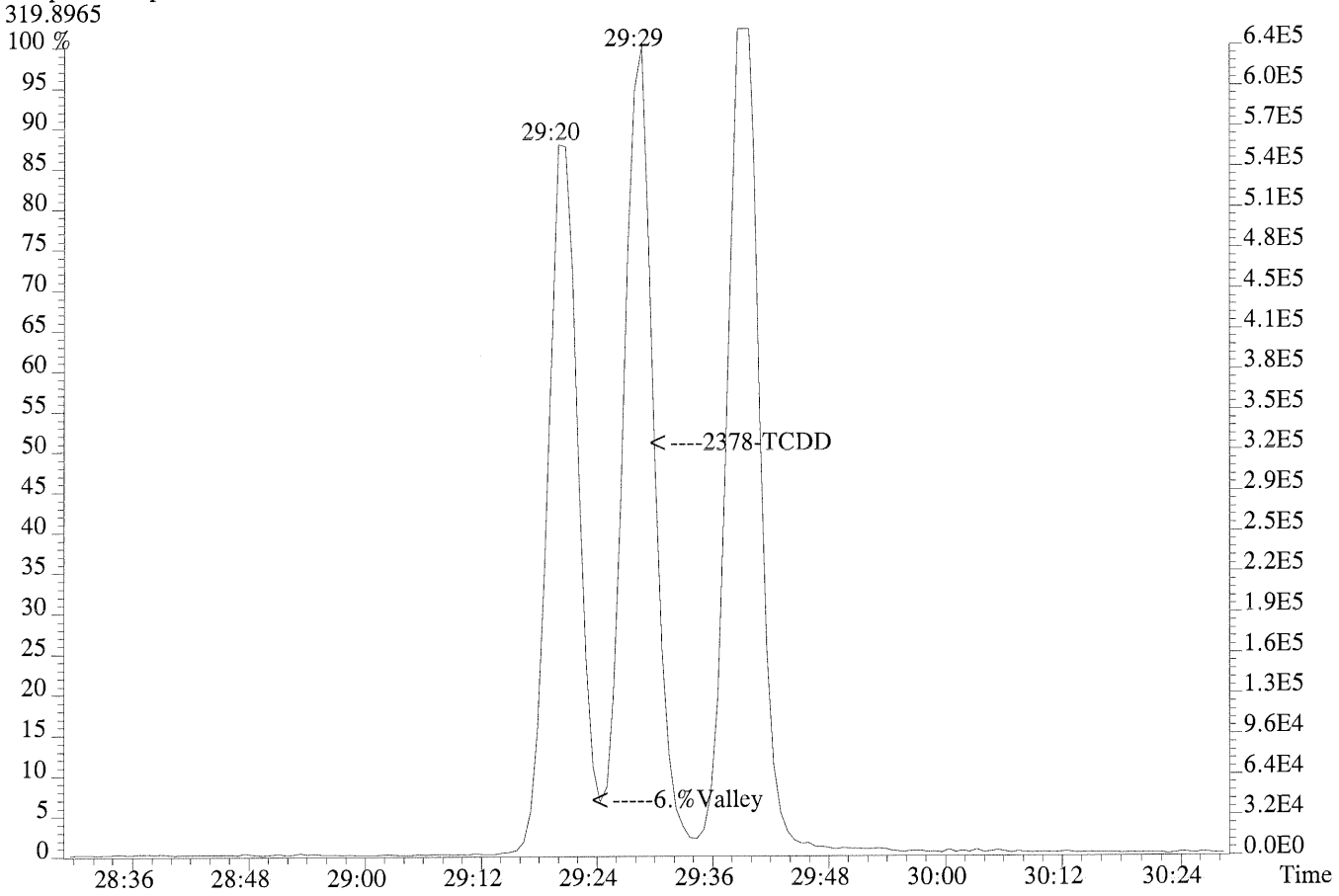
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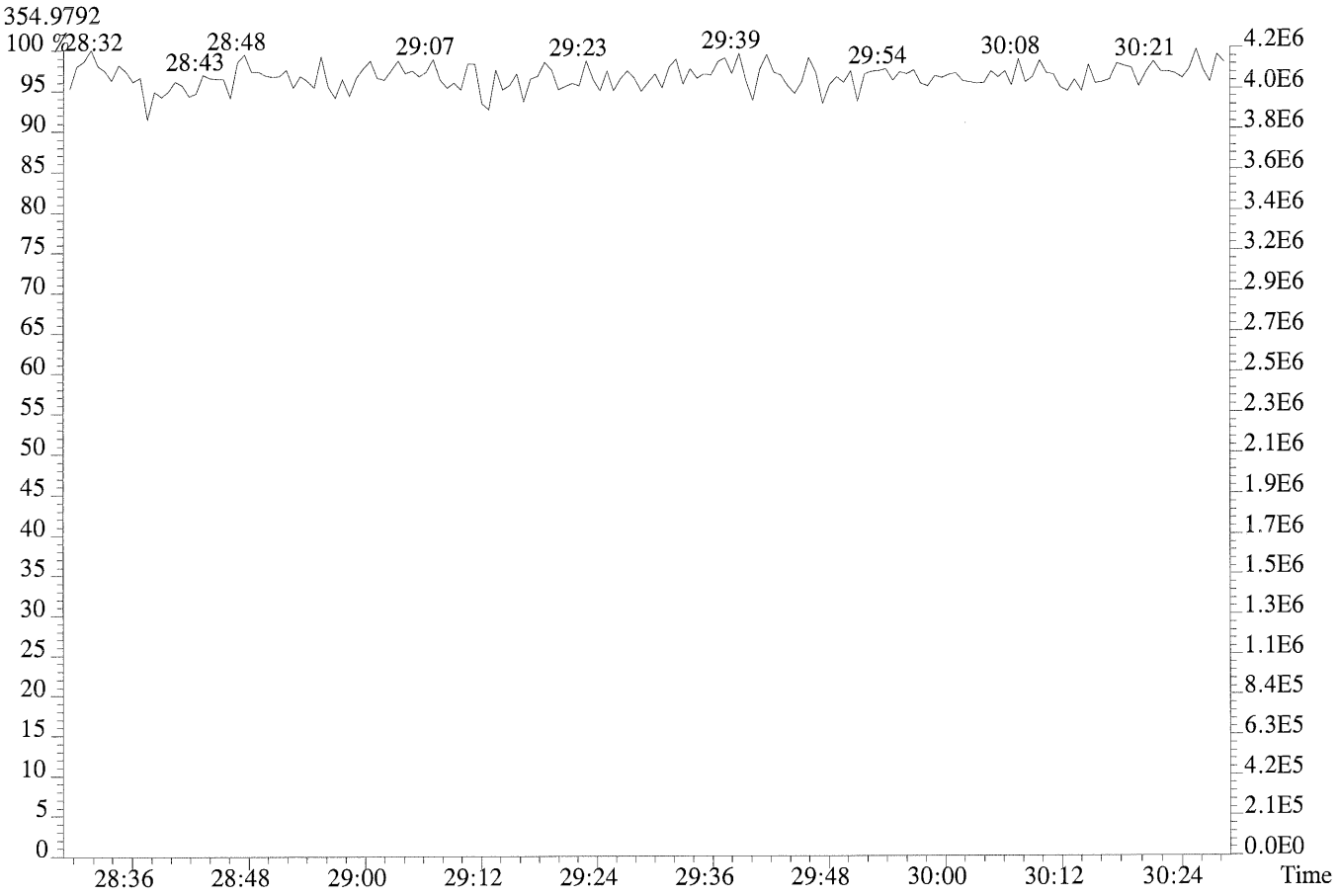
Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: CAS Case No.: _____ SDG No.:
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P200016
Date Analyzed: 31-JUL-2008
Time Analyzed: 07:04:08

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:37	30:36
TCDD	26:25	30:35
PeCDF	30:51	34:43
PeCDD	32:13	34:34
HxCDF	35:35	37:55
HxCDD	36:05	37:35
HpCDF	39:17	40:35
HpCDD	39:32	40:11

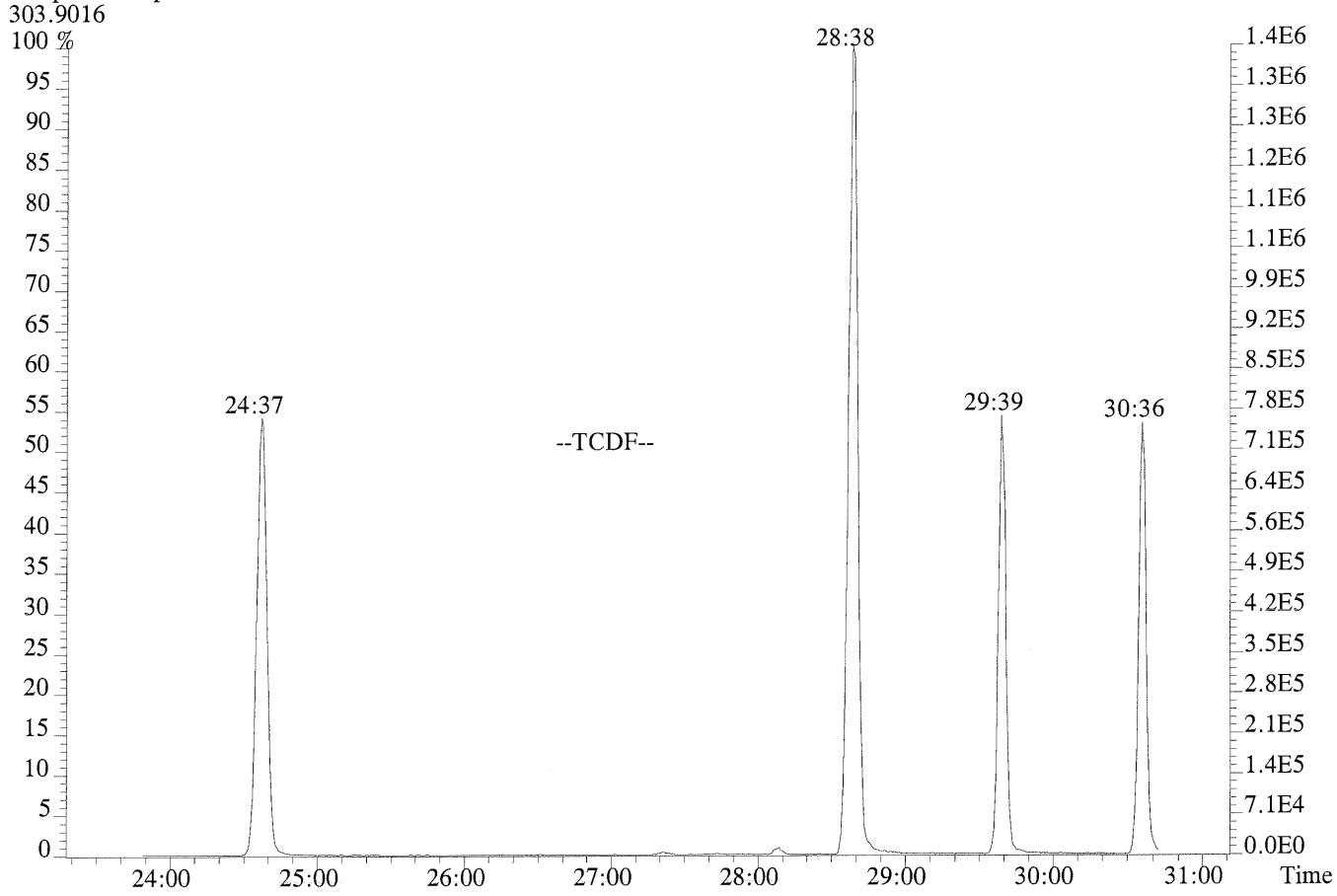
% Valley 2378-TCDD: 6. %

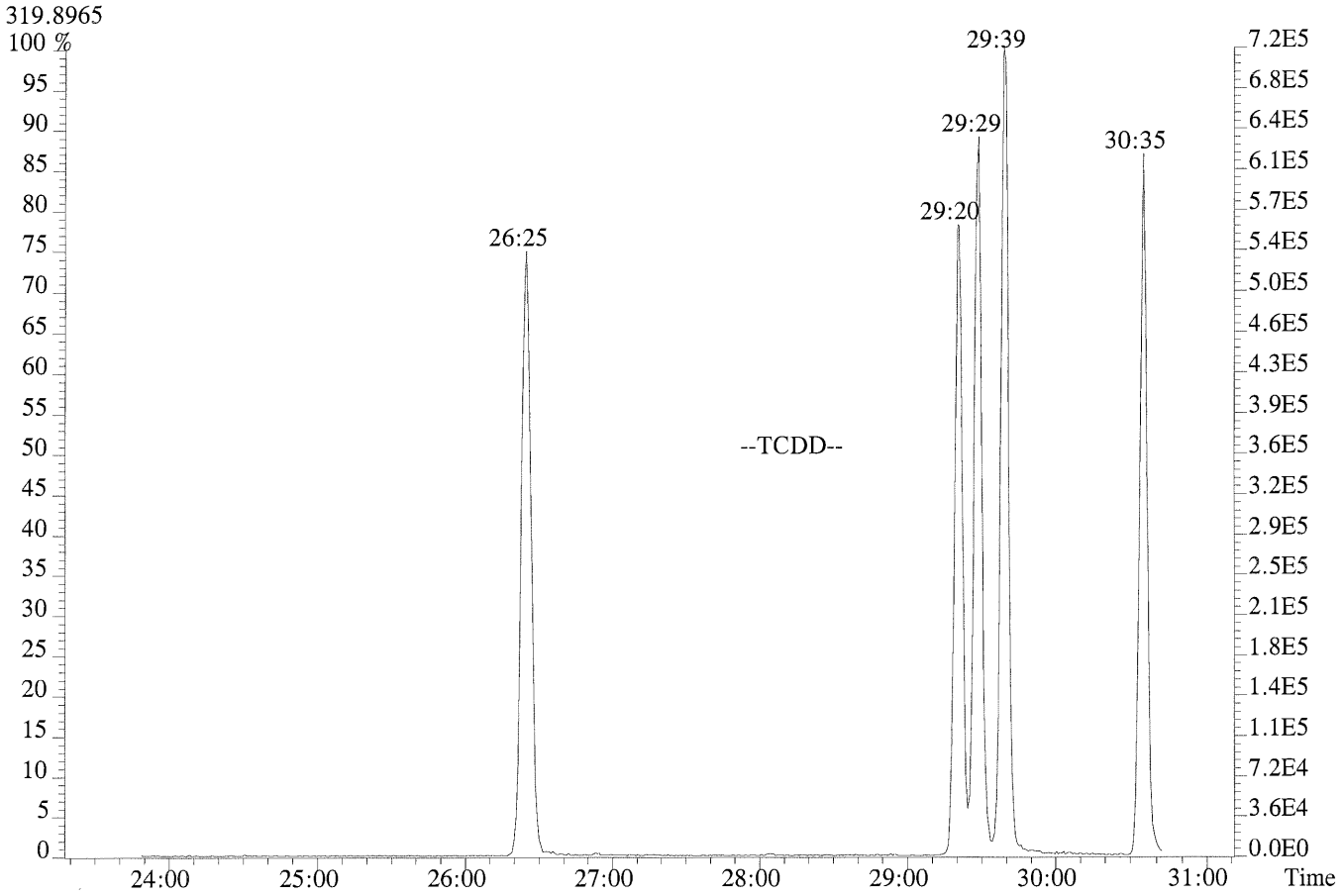
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Sample#1 Exp:Window define



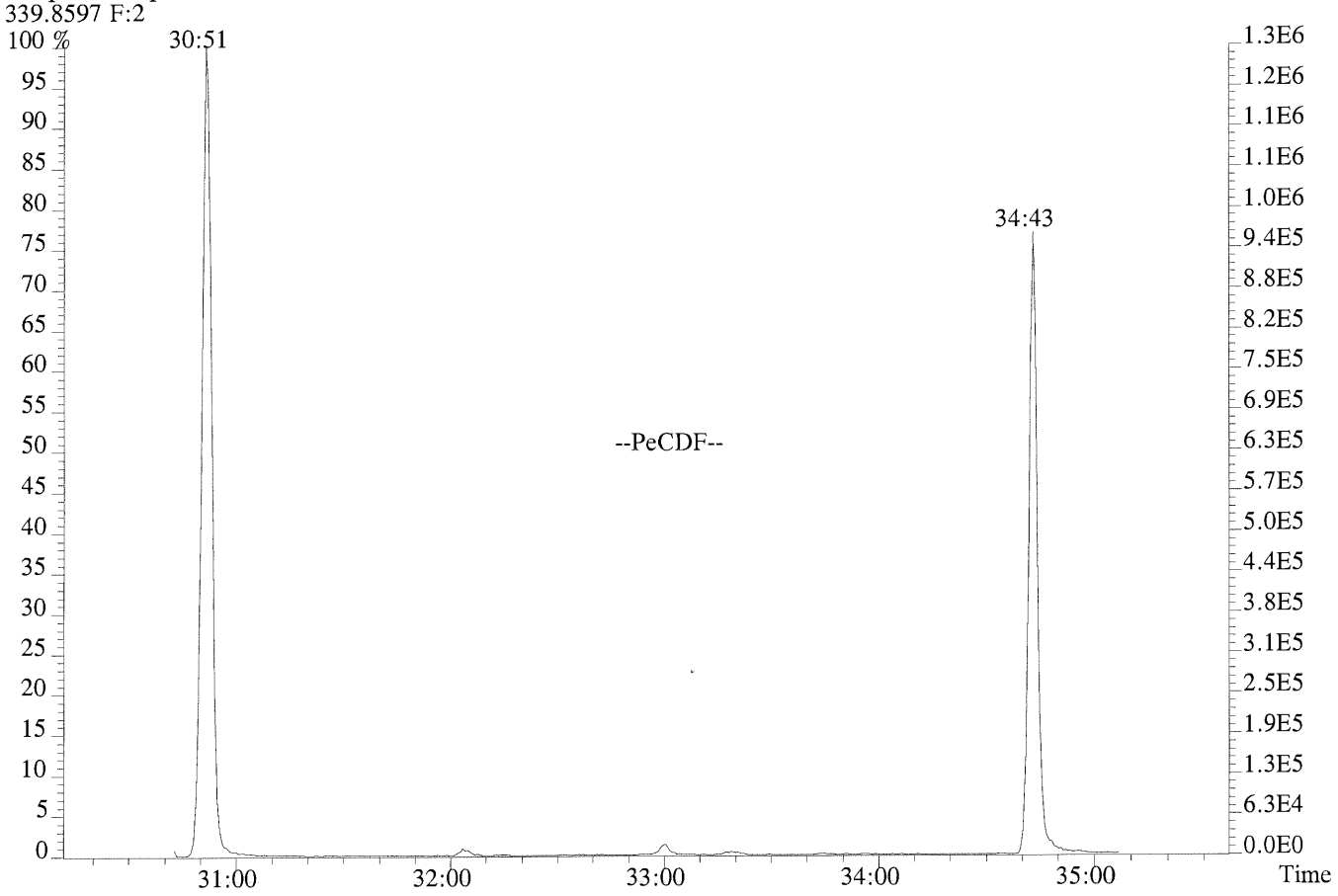


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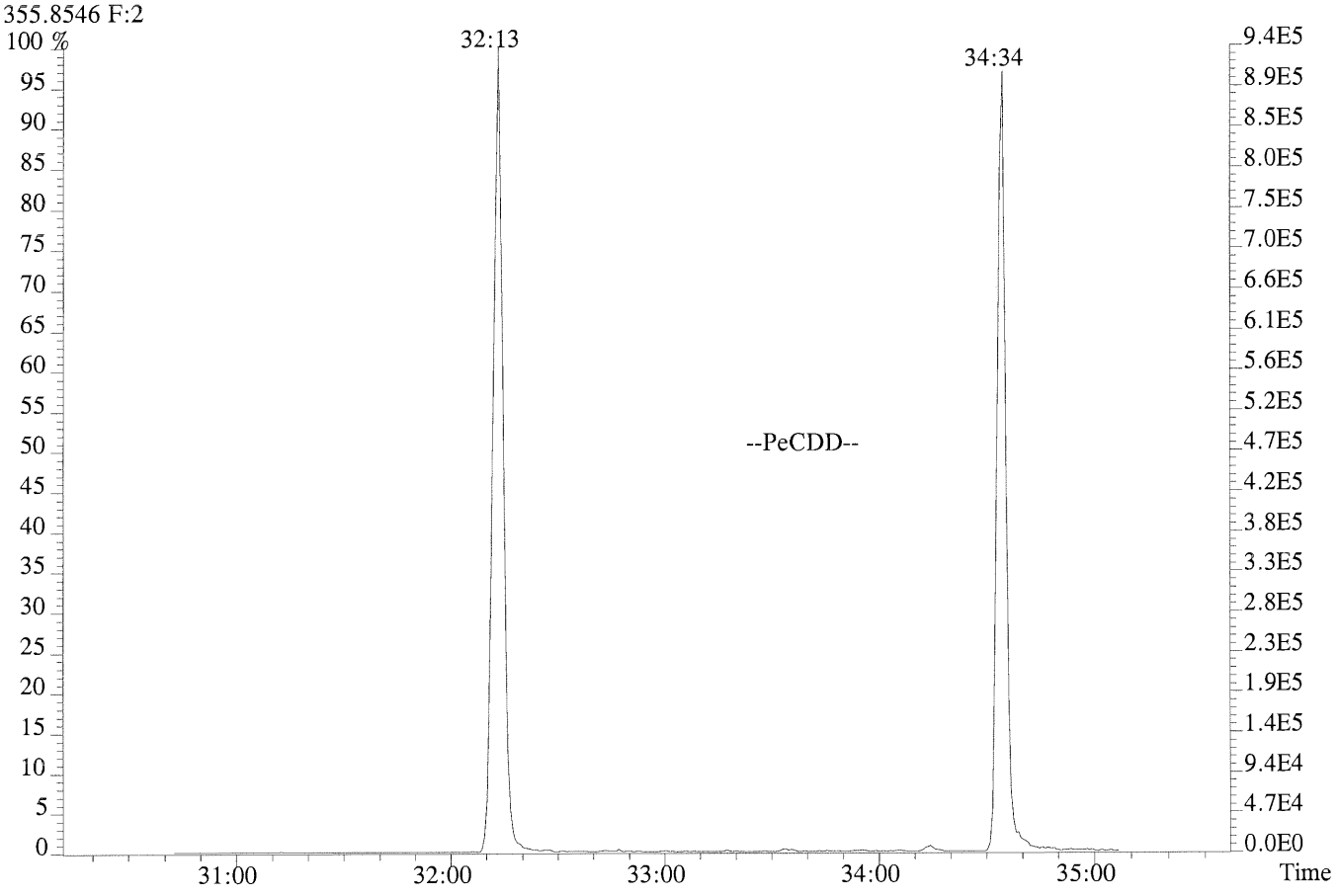




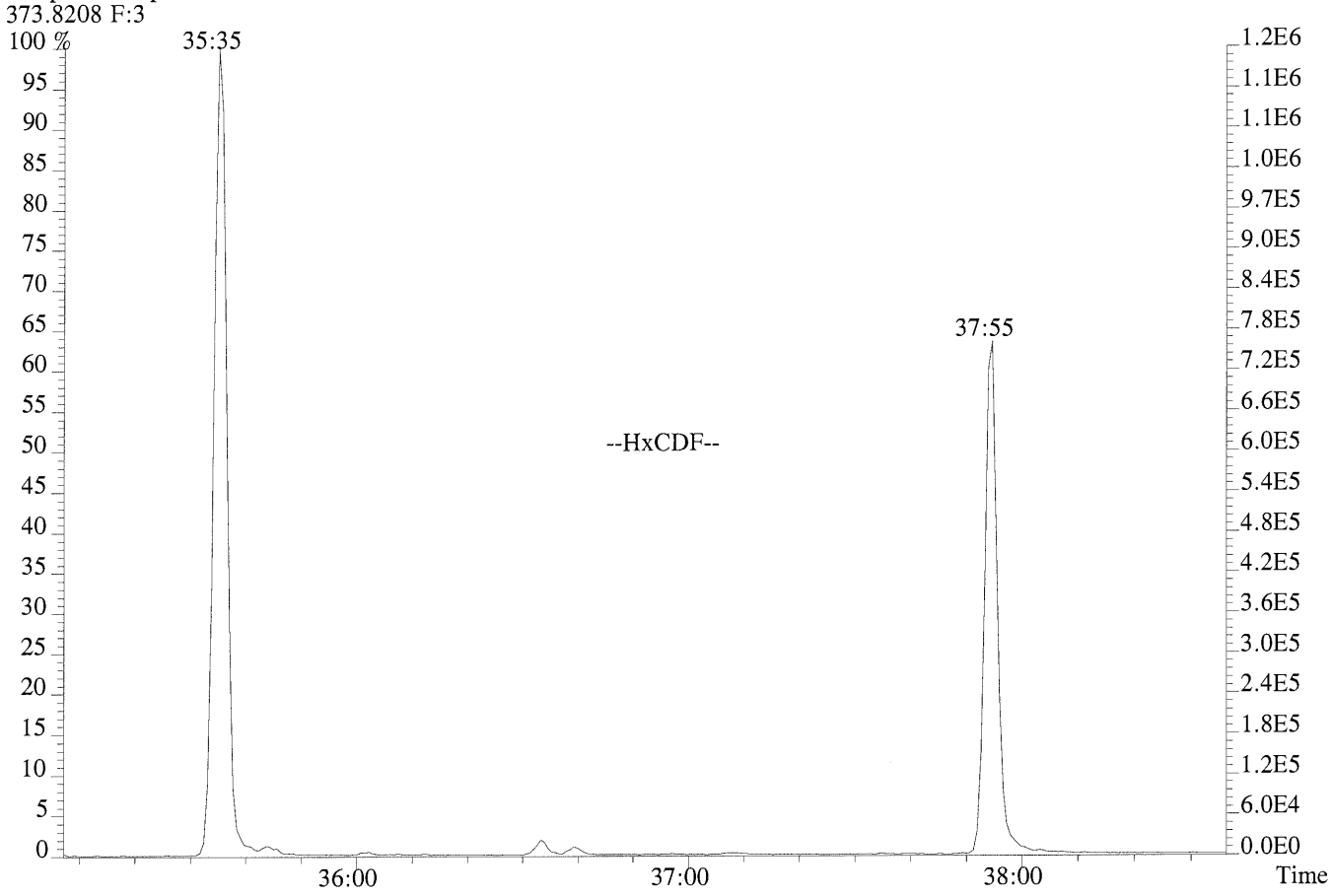
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339.8597 F:2



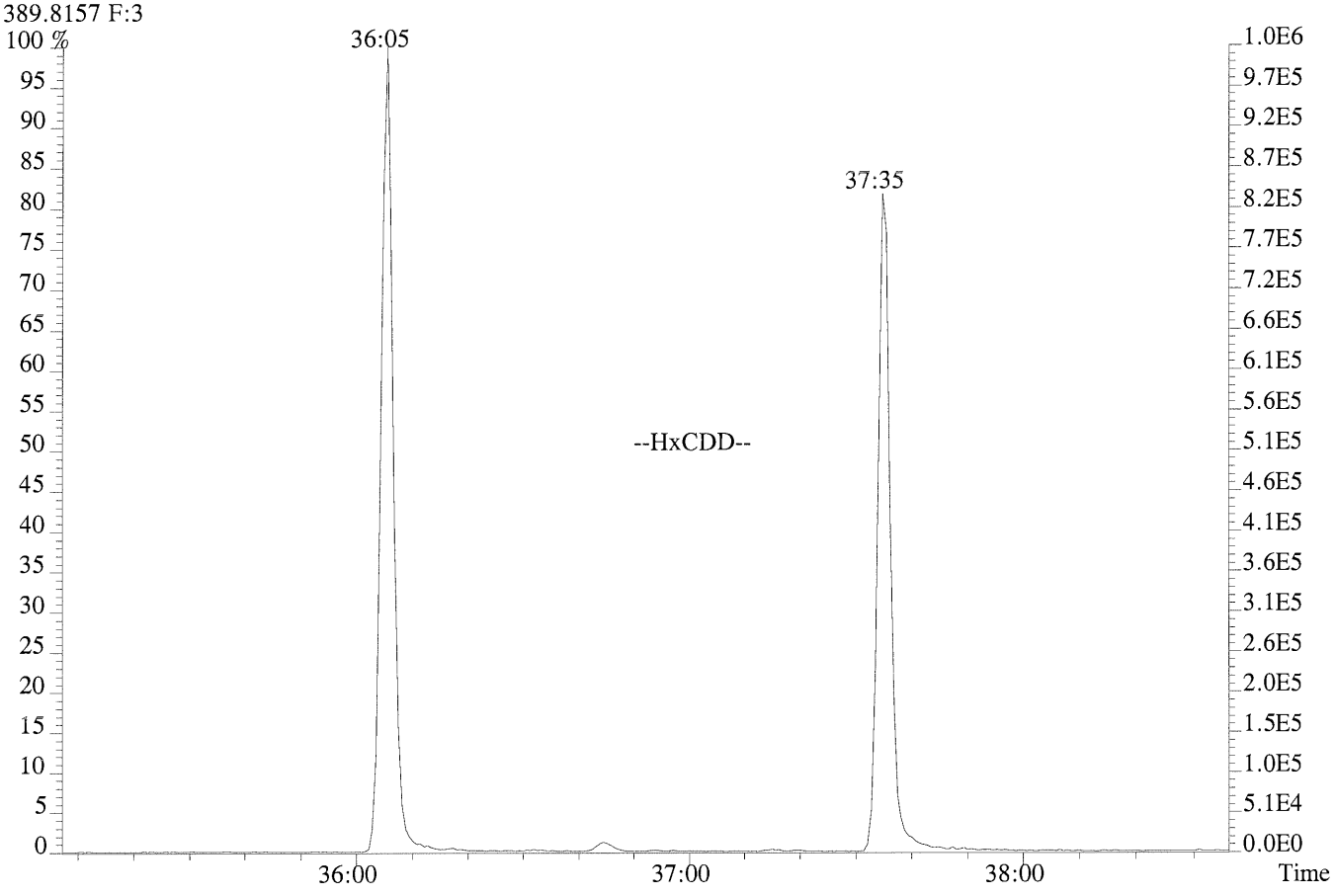
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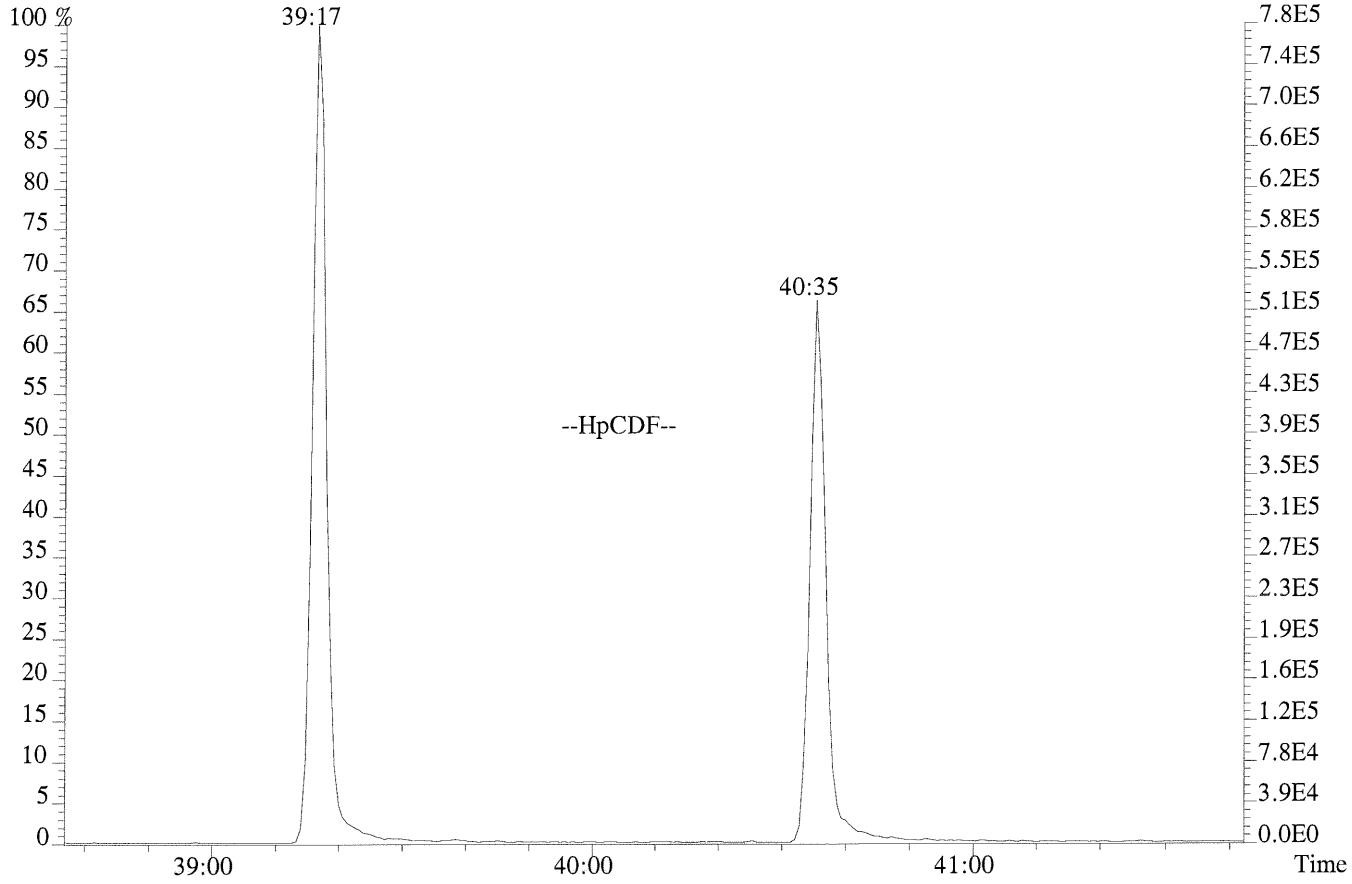
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373.8208 F:3



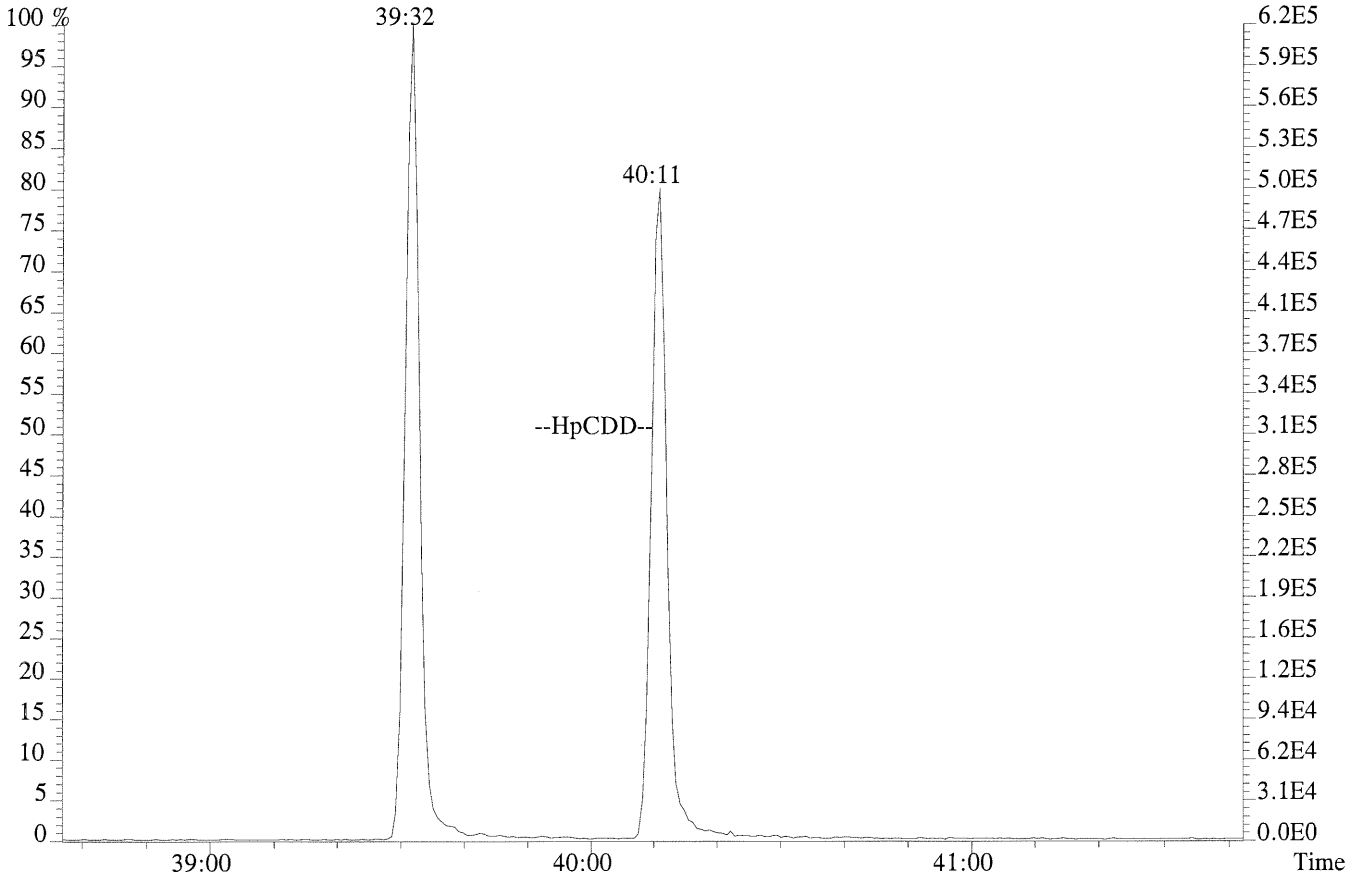
389.8157 F:3



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Sample#1 Exp:Window define
407.7818 F:4



423.7766 F:4



FORM 6A
PCDD/PCDF DAILY CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument: AutoSpec-Ultima GC Column ID: DB-5

Begin CCAL Filename: P200017

End CCAL Filename: P200027

	RELATIVE RESPONSE (RR)		MEAN RR(1)	Cv (RSD)
	Begin CCAL	End CCAL		
NATIVE ANALYTES				
2,3,7,8-TCDD	0.91	0.98	0.94	4.89
1,2,3,7,8-PeCDD	0.85	0.87	0.86	1.67
1,2,3,4,7,8-HxCDD	0.87	0.90	0.89	2.27
1,2,3,6,7,8-HxCDD	0.97	1.00	0.98	2.28
1,2,3,7,8,9-HxCDD	0.89	0.91	0.90	1.66
1,2,3,4,6,7,8-HpCDD	0.80	0.87	0.84	6.48
OCDD	0.93	0.96	0.95	2.13
2,3,7,8-TCDF	0.85	0.88	0.86	2.23
1,2,3,7,8-PeCDF	0.84	0.85	0.84	1.08
2,3,4,7,8-PeCDF	0.86	0.87	0.86	0.97
1,2,3,4,7,8-HxCDF	1.08	1.10	1.09	1.01
1,2,3,6,7,8-HxCDF	1.10	1.11	1.11	0.86
1,2,3,7,8,9-HxCDF	0.83	0.86	0.85	2.31
2,3,4,6,7,8-HxCDF	0.98	1.03	1.01	3.13
1,2,3,4,6,7,8-HpCDF	1.33	1.39	1.36	3.47
1,2,3,4,7,8,9-HpCDF	0.93	0.98	0.95	4.04
OCDF	0.97	1.01	0.99	3.28

(1) Two daily mean RF values are used to compute the analyte and and labeled compouds, see Section 8.3.2.4, Method 8290.

8290F6A

FORM 6B
PCDD/PCDF DAILY CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument: AutoSpec-Ultima GC Column ID: DB-5

Begin CCAL Filename: P200017

End CCAL Filename: P200027

	RELATIVE RESPONSE (RR)		MEAN RR(1)	Cv (RSD)
	Begin CCAL	End CCAL		
LABELED COMPOUNDS				
13C-2,3,7,8-TCDD	0.98	0.99	0.99	1.23
13C-1,2,3,7,8-PeCDD	1.04	0.93	0.99	7.82
13C-1,2,3,6,7,8-HxCDD	0.99	0.99	0.99	0.40
13C-1,2,3,4,6,7,8-HpCDD	0.68	0.85	0.77	15.21
13C-OCDD	0.88	0.82	0.85	4.41
13C-2,3,7,8-TCDF	1.28	1.30	1.29	1.28
13C-1,2,3,7,8-PeCDF	1.35	1.22	1.28	7.31
13C-1,2,3,4,7,8-HxCDF	1.09	1.10	1.09	0.61
13C-1,2,3,4,6,7,8-HpCDF	0.81	0.80	0.81	0.42
CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	0.94	0.97	0.95	2.17

(1) Two daily mean RF values are used to compute the analyte and labeled compounds, see Section 8.3.2.4, Method 8290.

8290F6B

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200017 Analysis Date: 31-JUL-08 Time: 07:59:44

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.91	0.84	8.02
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	0.85	0.79	7.28
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.87	0.81	6.96
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.97	0.92	4.90
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	0.89	0.89	-0.64
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.80	0.79	1.09
OCDD	M+2/M+4	0.88	0.76-1.02	0.93	0.88	6.56
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	0.85	0.72	18.72
1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	0.84	0.71	18.17
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	0.86	0.73	17.16
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.08	0.93	16.50
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.10	0.96	14.57
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	0.83	0.79	4.93
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	0.98	0.86	14.45
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	1.33	1.19	11.68
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	0.93	0.94	-1.22
OCDF	M+2/M+4	0.88	0.76-1.02	0.97	0.83	16.23

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200017 Analysis Date: 31-JUL-08 Time: 07:59:44

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.98	1.10	-11.23
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	1.04	1.05	-0.82
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.99	0.97	2.03
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.68	0.85	-19.38
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.88	0.87	1.04
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.28	1.25	2.55
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.35	1.23	9.23
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	1.09	0.98	11.23
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	0.81	0.69	17.55
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.94	0.99	-5.35

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P200017 Samp: 1 Inj: 1 Acquired: 31-JUL-08 07:59:44
Processed: 11-AUG-08 12:31:44 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	3.140e+03	4.145e+03	0.76	yes	no	0.716
2	Unk	1,2,3,7,8-PeCDF	32:60	1.154e+04	7.400e+03	1.56	yes	no	0.709
3	Unk	2,3,4,7,8-PeCDF	33:44	1.171e+04	7.613e+03	1.54	yes	no	0.730
4	Unk	1,2,3,4,7,8-HxCDF	36:33	1.063e+04	8.674e+03	1.23	yes	no	0.931
5	Unk	1,2,3,6,7,8-HxCDF	36:39	1.083e+04	8.724e+03	1.24	yes	no	0.959
6	Unk	2,3,4,6,7,8-HxCDF	37:08	9.573e+03	7.939e+03	1.21	yes	no	0.860
7	Unk	1,2,3,7,8,9-HxCDF	37:50	8.141e+03	6.660e+03	1.22	yes	no	0.793
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	8.805e+03	8.706e+03	1.01	yes	no	1.188
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	6.130e+03	6.086e+03	1.01	yes	no	0.937
10	Unk	OCDF	43:22	1.295e+04	1.475e+04	0.88	yes	no	0.832
11	Unk	2,3,7,8-TCDD	29:28	2.599e+03	3.371e+03	0.77	yes	no	0.844
12	Unk	1,2,3,7,8-PeCDD	34:05	8.978e+03	5.819e+03	1.54	yes	no	0.790
13	Unk	1,2,3,4,7,8-HxCDD	37:15	7.807e+03	6.219e+03	1.26	yes	no	0.815
14	Unk	1,2,3,6,7,8-HxCDD	37:20	8.665e+03	6.897e+03	1.26	yes	no	0.922
15	Unk	1,2,3,7,8,9-HxCDD	37:37	7.878e+03	6.384e+03	1.23	yes	no	0.892
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	4.563e+03	4.347e+03	1.05	yes	no	0.789
17	Unk	OCDD	43:12	1.255e+04	1.419e+04	0.88	yes	no	0.875
18	IS	13C-2,3,7,8-TCDF	28:36	1.875e+04	2.411e+04	0.78	yes	no	1.247
19	IS	13C-1,2,3,7,8-PeCDF	32:59	2.769e+04	1.749e+04	1.58	yes	no	1.234
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	3.004e+04	5.893e+04	0.51	yes	no	0.979
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	1.999e+04	4.602e+04	0.43	yes	no	0.687
22	IS	13C-2,3,7,8-TCDD	29:27	1.428e+04	1.846e+04	0.77	yes	no	1.100
23	IS	13C-1,2,3,7,8-PeCDD	34:05	2.137e+04	1.355e+04	1.58	yes	no	1.050
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	4.468e+04	3.578e+04	1.25	yes	no	0.966
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	2.858e+04	2.727e+04	1.05	yes	no	0.848
26	IS	13C-OCDD	43:11	6.754e+04	7.578e+04	0.89	yes	no	0.868
27	RS/RT	13C-1,2,3,4-TCDD	29:15	1.478e+04	1.874e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	4.534e+04	3.634e+04	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	6.294e+03					0.992
					SUM AREA				
30	Tot	Total Tetra-Furans	28:09		7.399e+03	0.80	yes		0.716
31	Tot	Total Tetra-Dioxins	29:28		5.969e+03	0.77	yes		0.844
32	Tot	Total Penta-Furans	32:07		3.832e+04	1.36	yes		0.720
33	Tot	Total Penta-Dioxins	34:05		1.480e+04	1.54	yes		0.790
34	Tot	Total Hexa-Furans	36:33		7.118e+04	1.23	yes		0.886
35	Tot	Total Hexa-Dioxins	37:15		4.385e+04	1.26	yes		0.876
36	Tot	Total Hepta-Furans	39:16		2.973e+04	1.01	yes		1.062
37	Tot	Total Hepta-Dioxins	39:31		8.980e+03	1.20	yes		0.789

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename P200017 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-08 07:59:44

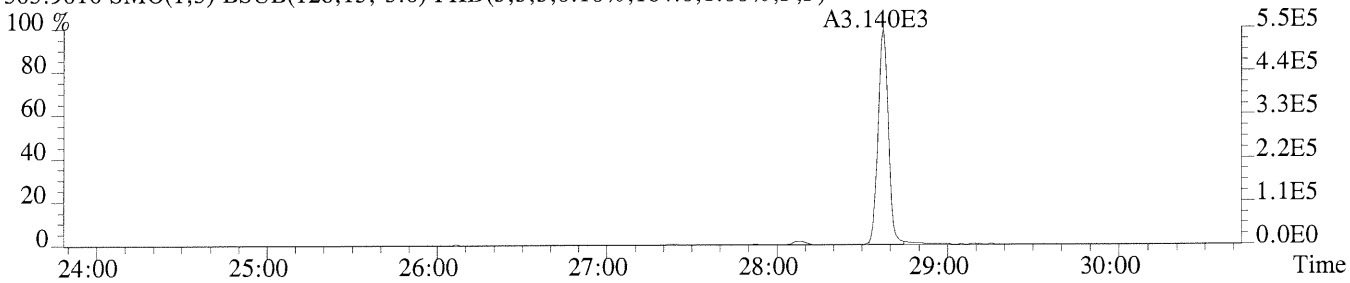
Processed: 11-AUG-08 12:31:44 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.50e+05	1.64e+02	3.4e+03	7.15e+05	3.04e+02	2.4e+03
2	1,2,3,7,8-PeCDF	2.27e+06	1.68e+02	1.4e+04	1.45e+06	1.44e+02	1.0e+04
3	2,3,4,7,8-PeCDF	2.37e+06	1.68e+02	1.4e+04	1.54e+06	1.44e+02	1.1e+04
4	1,2,3,4,7,8-HxCDF	2.32e+06	2.96e+02	7.9e+03	1.91e+06	1.00e+02	1.9e+04
5	1,2,3,6,7,8-HxCDF	2.24e+06	2.96e+02	7.6e+03	1.82e+06	1.00e+02	1.8e+04
6	2,3,4,6,7,8-HxCDF	2.06e+06	2.96e+02	7.0e+03	1.73e+06	1.00e+02	1.7e+04
7	1,2,3,7,8,9-HxCDF	1.77e+06	2.96e+02	6.0e+03	1.43e+06	1.00e+02	1.4e+04
8	1,2,3,4,6,7,8-HpCDF	1.94e+06	2.48e+02	7.8e+03	1.94e+06	2.56e+02	7.6e+03
9	1,2,3,4,7,8,9-HpCDF	1.22e+06	2.48e+02	4.9e+03	1.21e+06	2.56e+02	4.7e+03
10	OCDF	1.95e+06	1.84e+02	1.1e+04	2.21e+06	4.16e+02	5.3e+03
11	2,3,7,8-TCDD	4.74e+05	3.88e+02	1.2e+03	6.12e+05	1.72e+02	3.6e+03
12	1,2,3,7,8-PeCDD	1.87e+06	3.32e+02	5.6e+03	1.20e+06	1.36e+02	8.8e+03
13	1,2,3,4,7,8-HxCDD	1.78e+06	1.08e+02	1.6e+04	1.40e+06	1.80e+02	7.8e+03
14	1,2,3,6,7,8-HxCDD	1.86e+06	1.08e+02	1.7e+04	1.47e+06	1.80e+02	8.2e+03
15	1,2,3,7,8,9-HxCDD	1.74e+06	1.08e+02	1.6e+04	1.40e+06	1.80e+02	7.8e+03
16	1,2,3,4,6,7,8-HpCDD	8.56e+05	2.08e+02	4.1e+03	7.98e+05	1.12e+02	7.1e+03
17	OCDD	1.96e+06	1.28e+02	1.5e+04	2.22e+06	8.80e+01	2.5e+04
18	13C-2,3,7,8-TCDF	3.21e+06	6.28e+02	5.1e+03	4.16e+06	4.24e+02	9.8e+03
19	13C-1,2,3,7,8-PeCDF	5.36e+06	6.40e+01	8.4e+04	3.37e+06	2.00e+02	1.7e+04
20	13C-1,2,3,4,7,8-HxCDF	6.41e+06	1.48e+02	4.3e+04	1.25e+07	2.32e+02	5.4e+04
21	13C-1,2,3,4,6,7,8-HpCDF	4.31e+06	3.96e+02	1.1e+04	9.84e+06	1.82e+03	5.4e+03
22	13C-2,3,7,8-TCDD	2.55e+06	8.60e+02	3.0e+03	3.28e+06	1.76e+02	1.9e+04
23	13C-1,2,3,7,8-PeCDD	4.31e+06	2.92e+02	1.5e+04	2.73e+06	1.68e+02	1.6e+04
24	13C-1,2,3,6,7,8-HxCDD	9.95e+06	1.32e+02	7.5e+04	7.91e+06	1.68e+02	4.7e+04
25	13C-1,2,3,4,6,7,8-HpCDD	6.88e+06	3.40e+02	2.0e+04	6.64e+06	1.32e+02	5.0e+04
26	13C-OCDD	1.03e+07	1.40e+02	7.4e+04	1.16e+07	1.08e+02	1.1e+05
27	13C-1,2,3,4-TCDD	2.62e+06	8.60e+02	3.0e+03	3.33e+06	1.76e+02	1.9e+04
28	13C-1,2,3,7,8,9-HxCDD	9.90e+06	1.32e+02	7.5e+04	7.89e+06	1.68e+02	4.7e+04
29	37Cl-2,3,7,8-TCDD	1.14e+06	1.68e+02	6.8e+03			

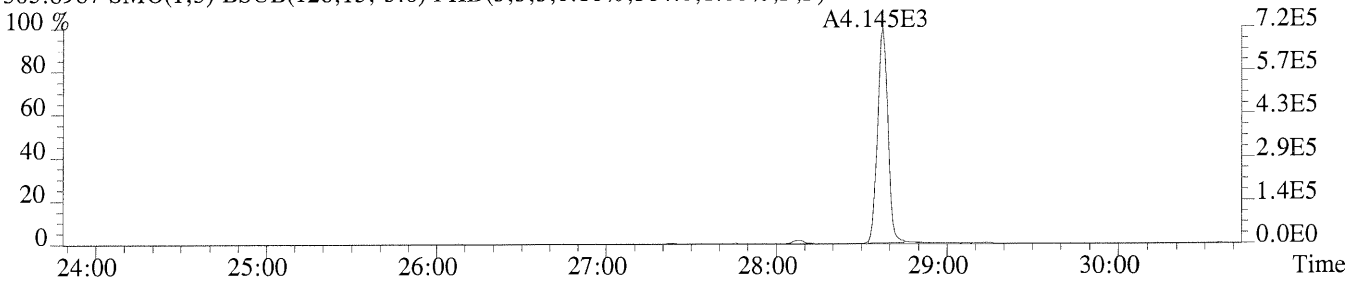
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
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Office:(713)266-1599. Fax:(713)266-0130

File:P200017 #1-576 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

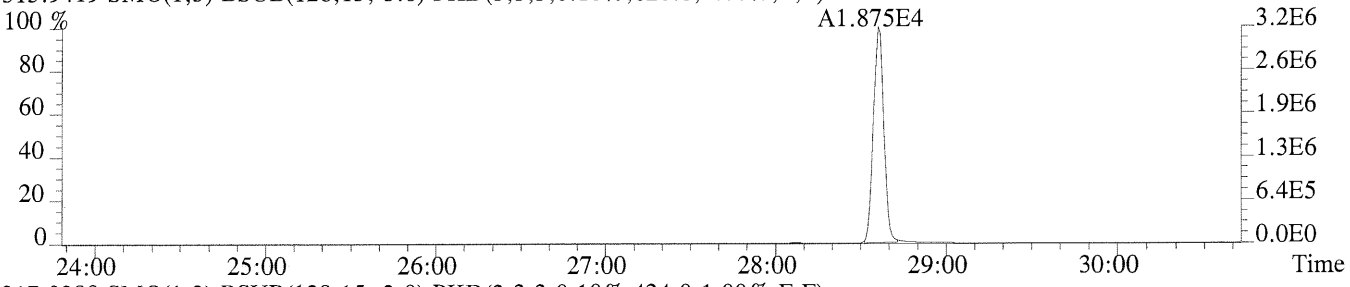
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,164.0,1.00%,F,F)



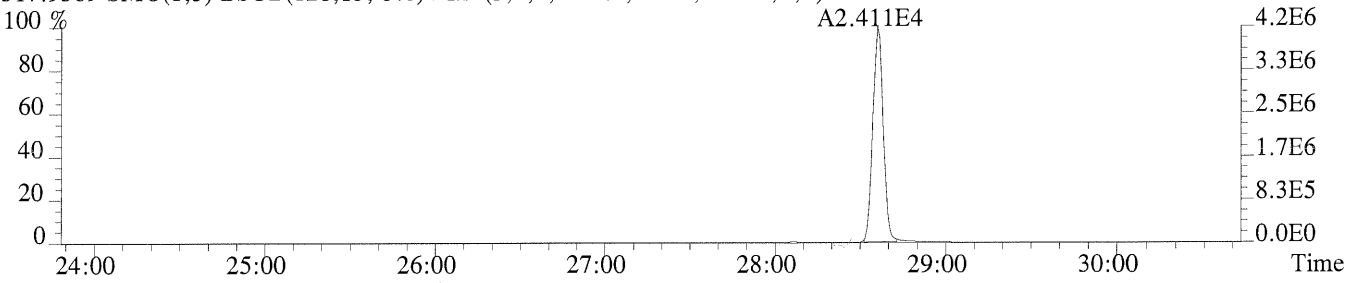
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,F)



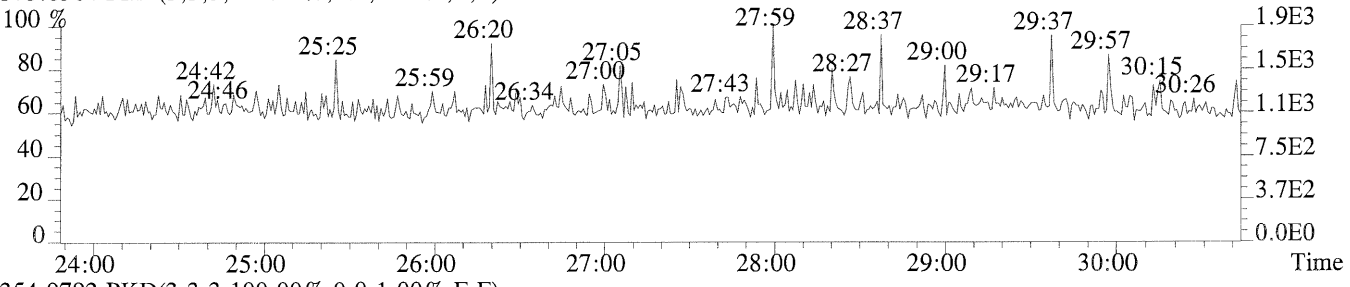
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,F)



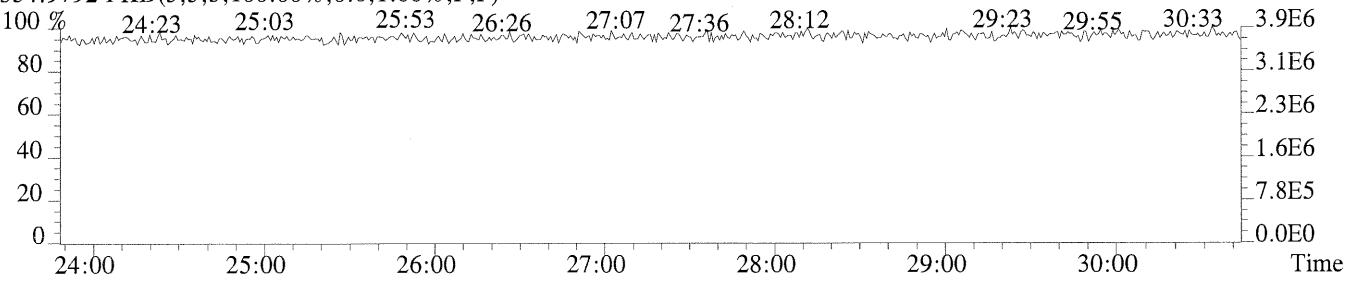
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,F)



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

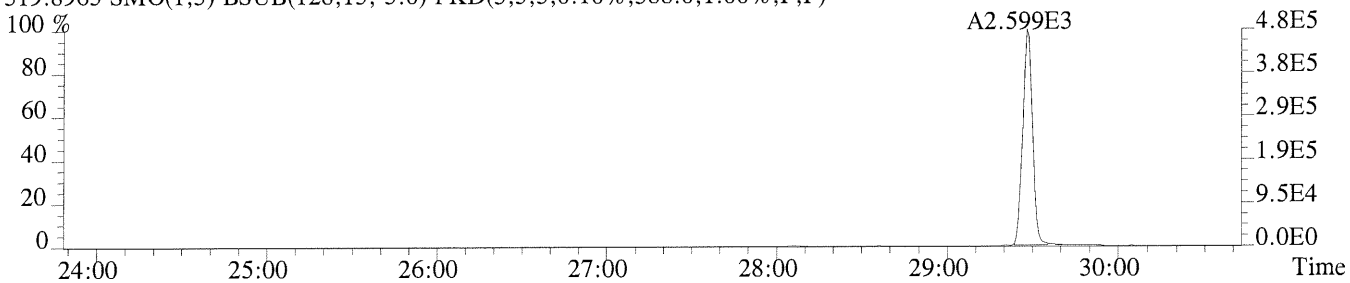


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

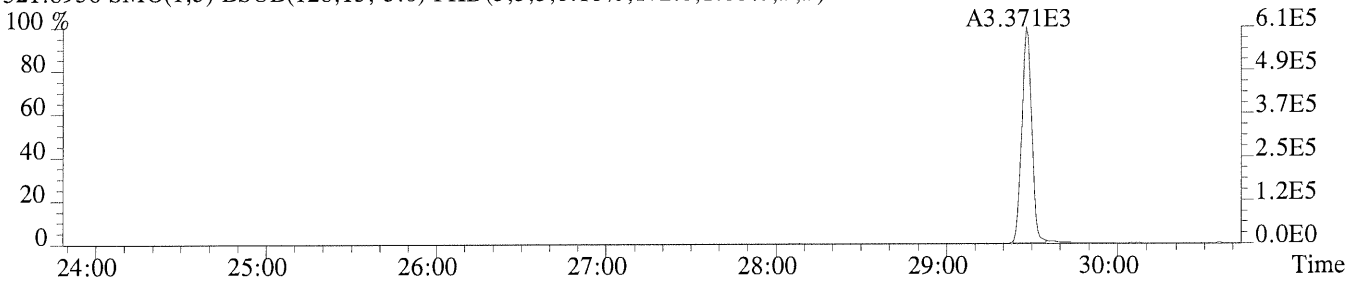


File:P200017 #1-576 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

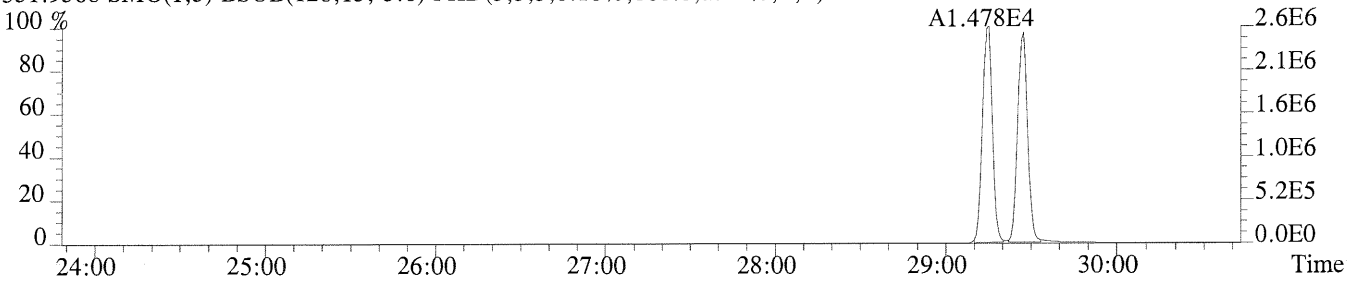
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,388.0,1.00%,F,F)



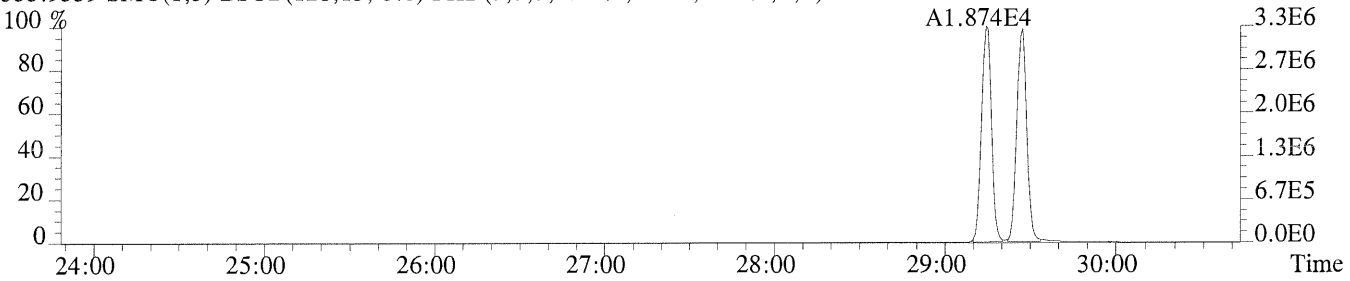
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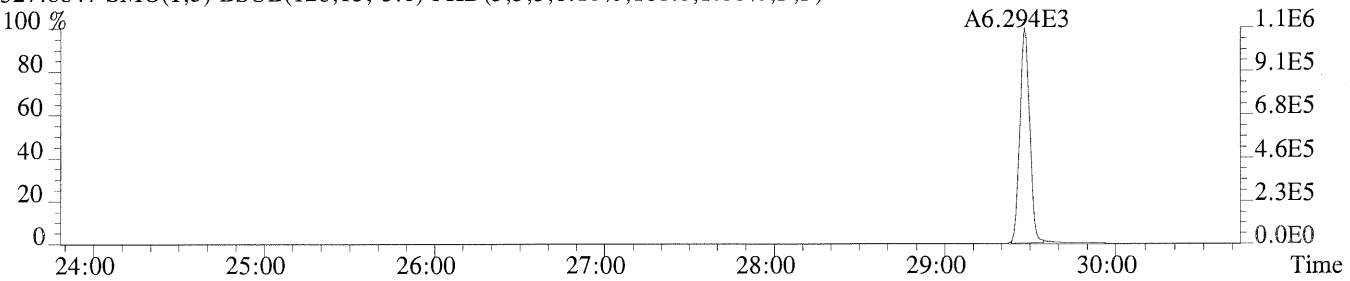
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)



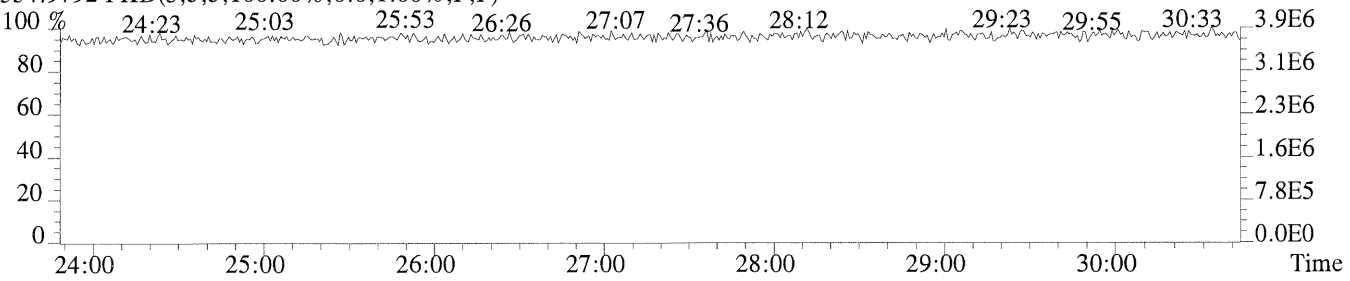
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,176.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,F)

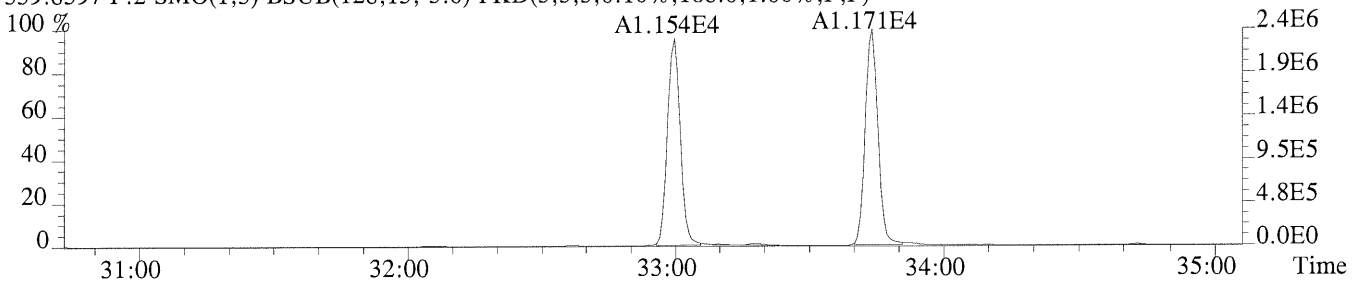


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

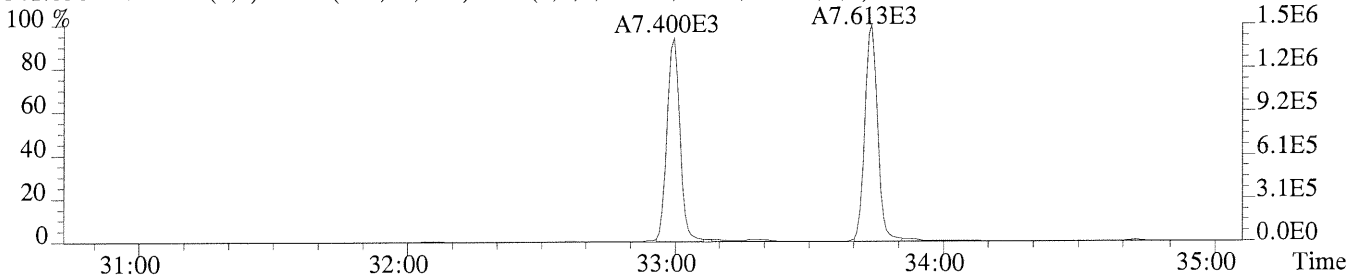


File:P200017 #1-398 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

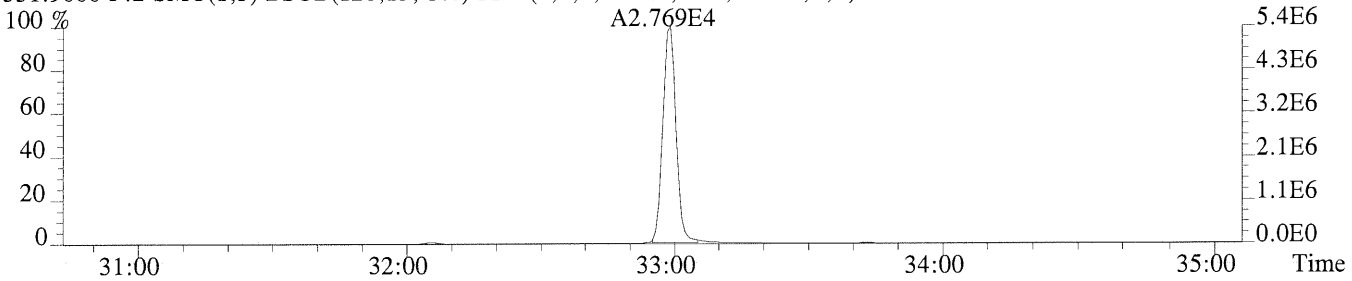
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,F)



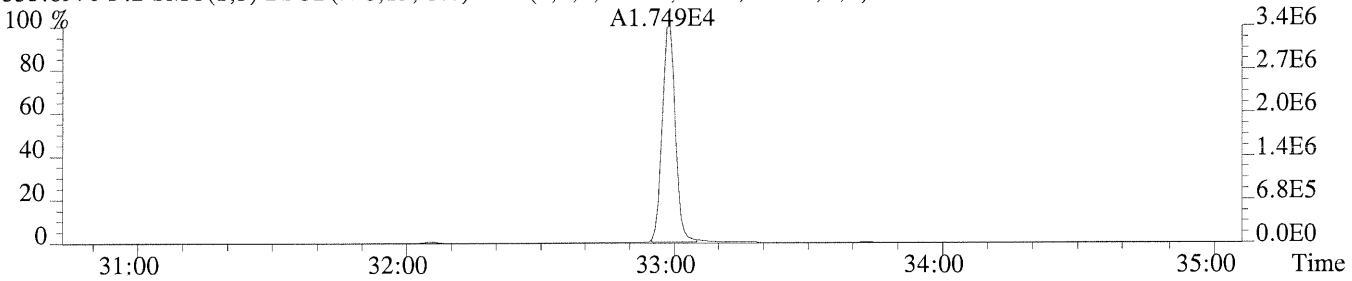
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,144.0,1.00%,F,F)



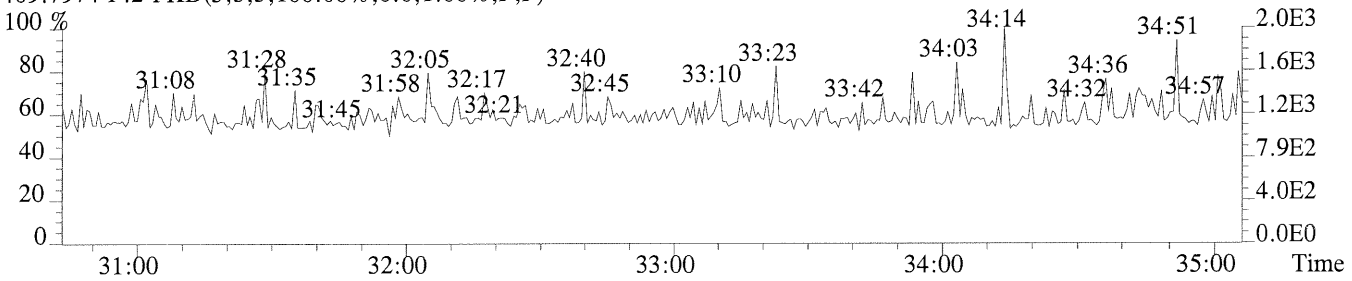
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,F)



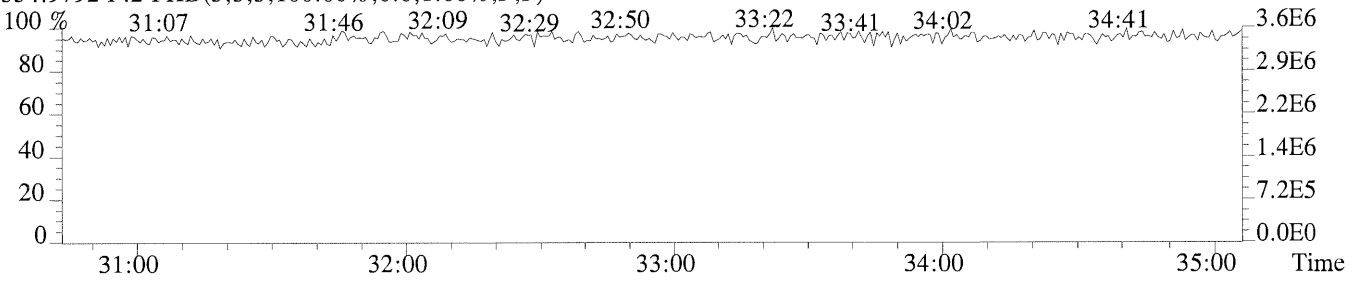
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,F)



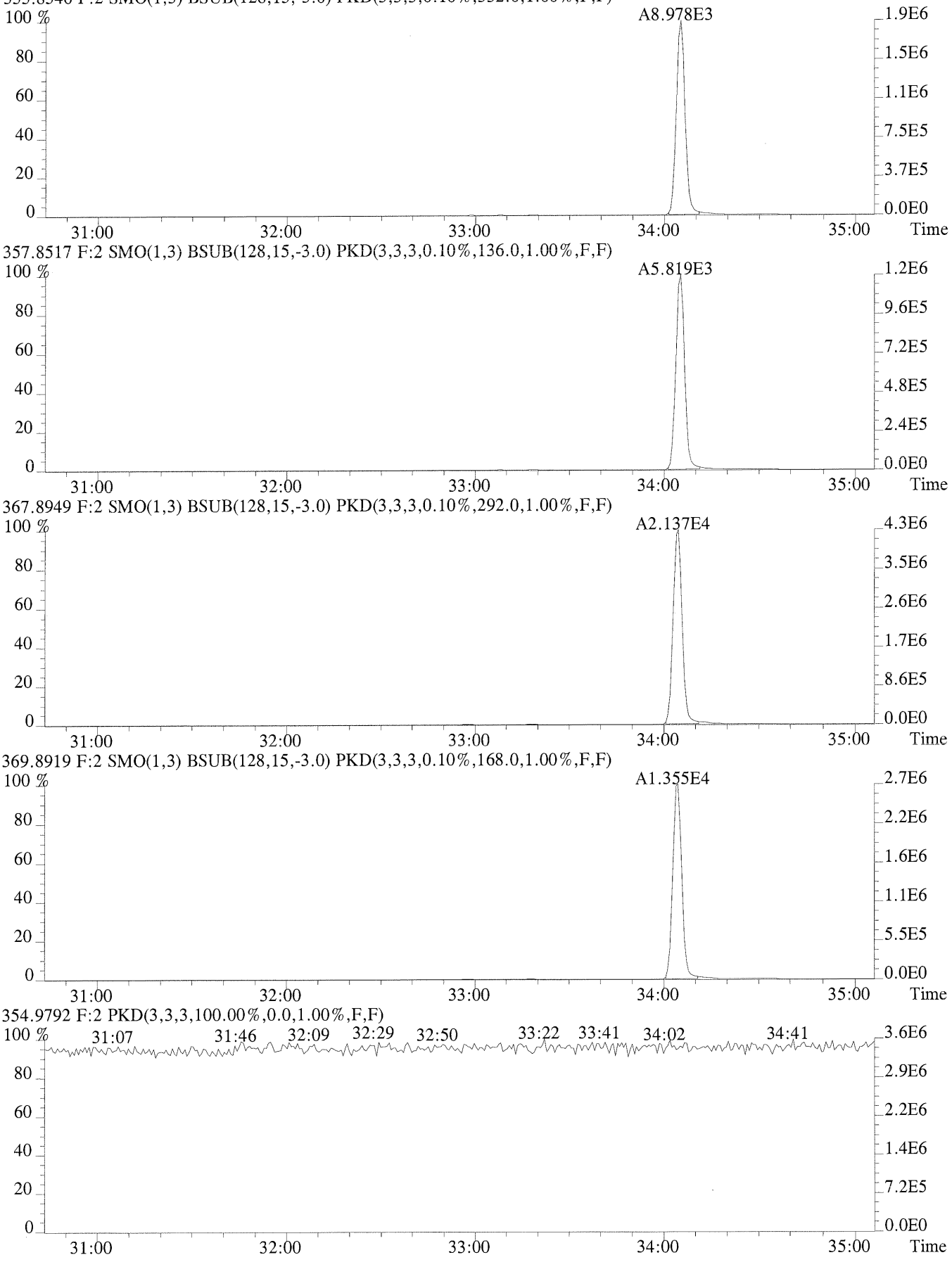
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

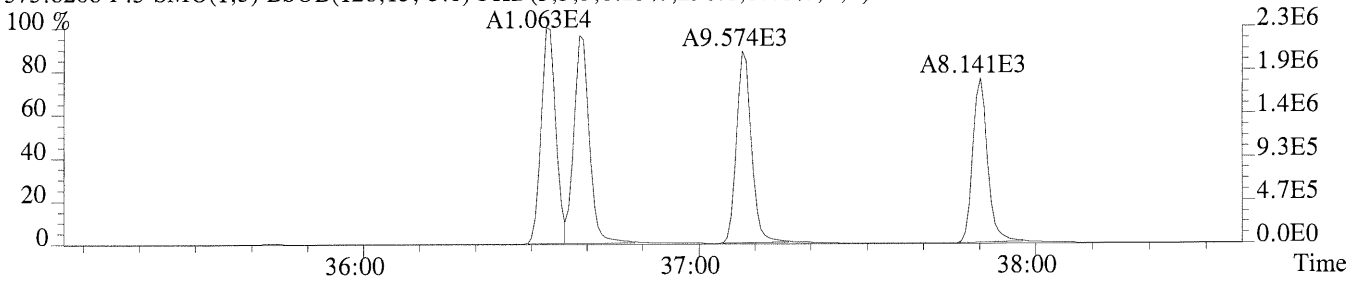


File:P200017 #1-398 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

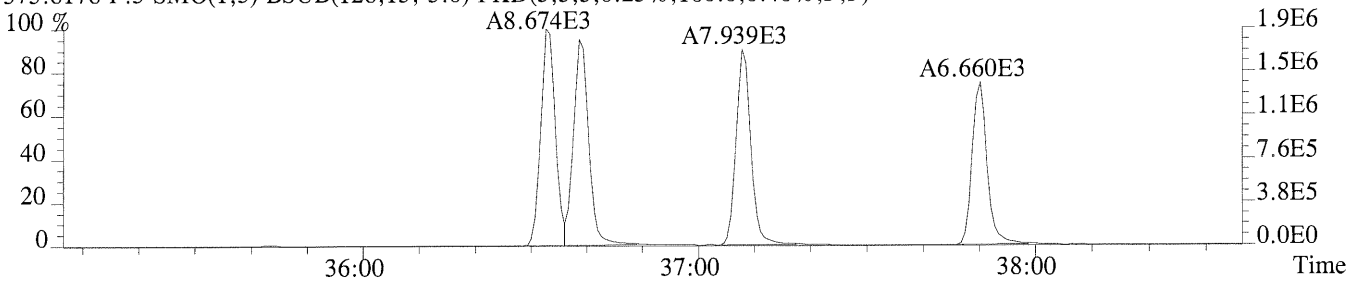


File:P200017 #1-318 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

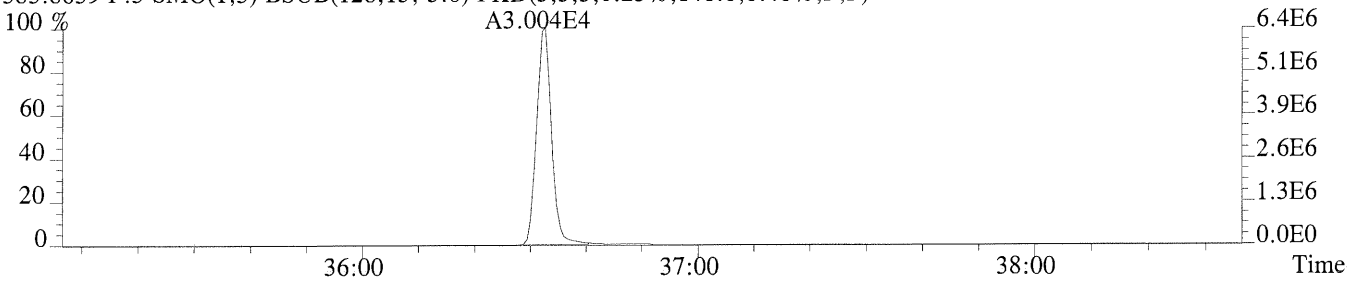
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,F)



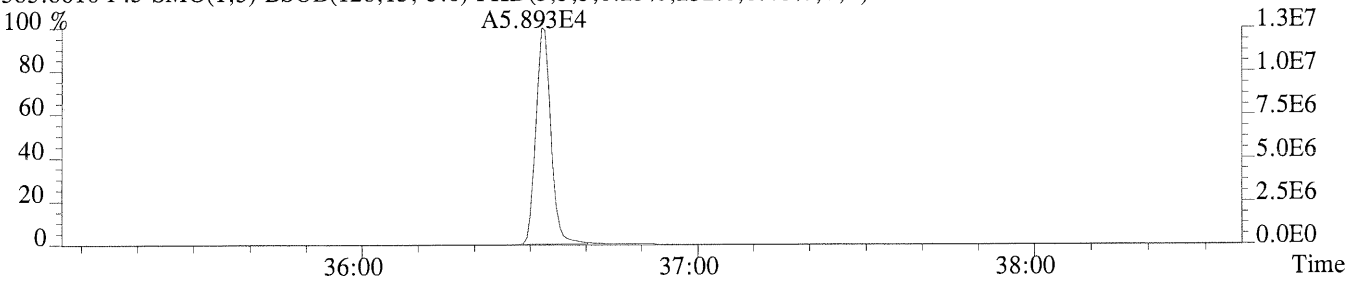
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,F)



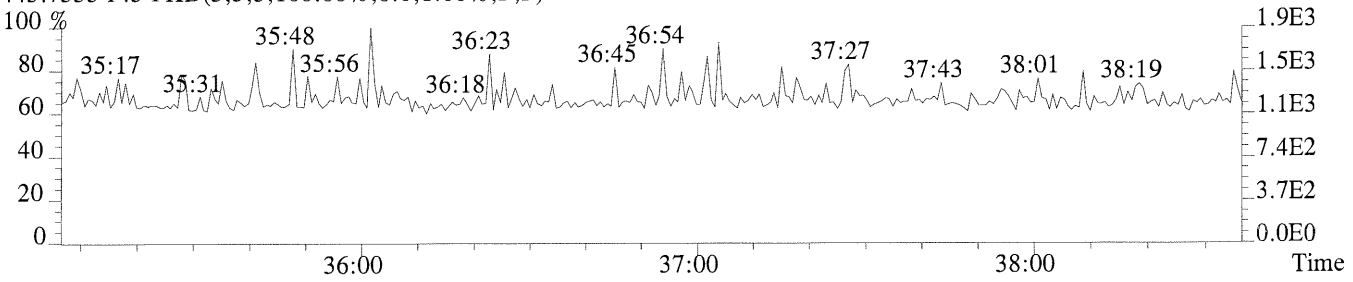
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,148.0,0.40%,F,F)



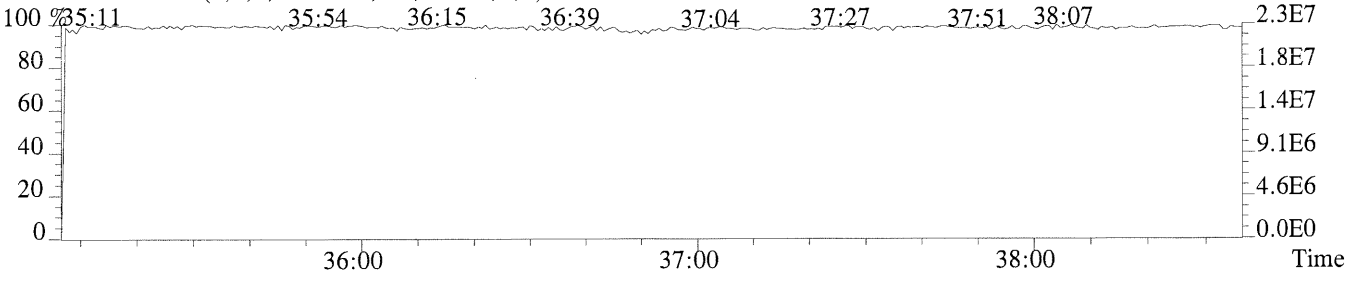
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,F)



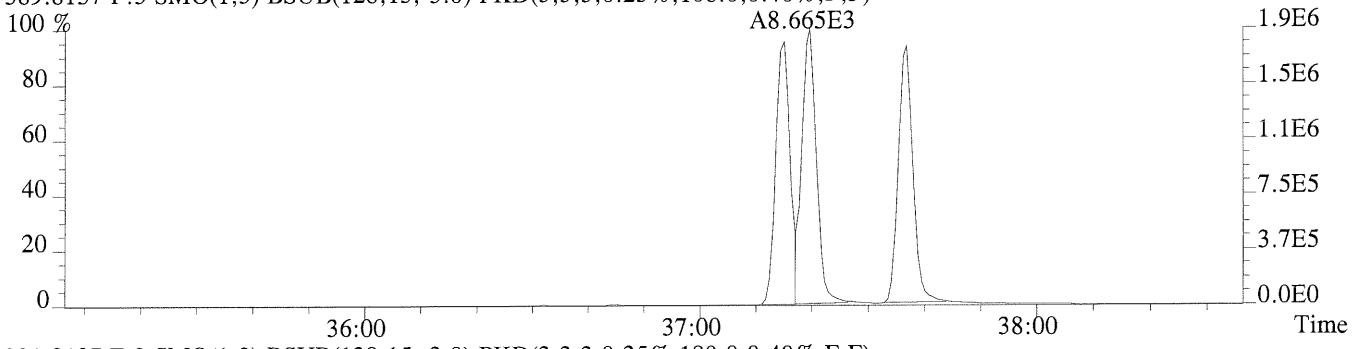
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



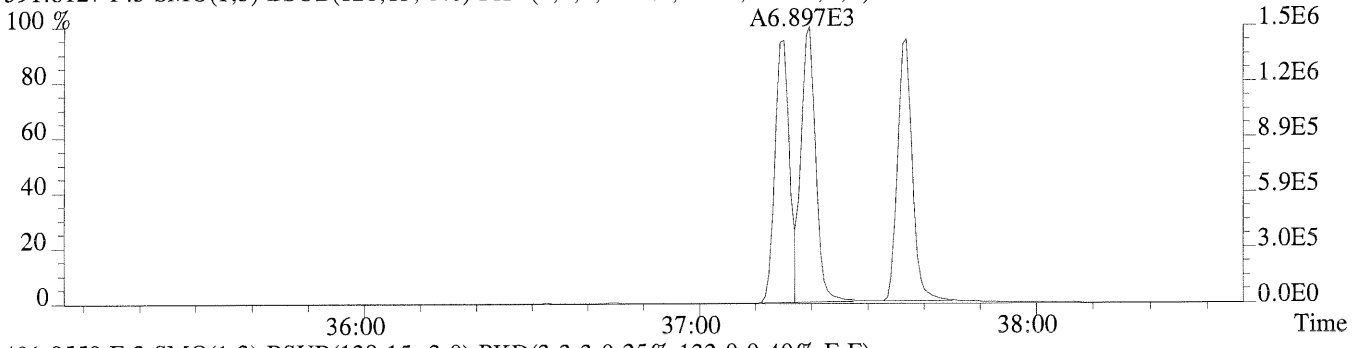
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



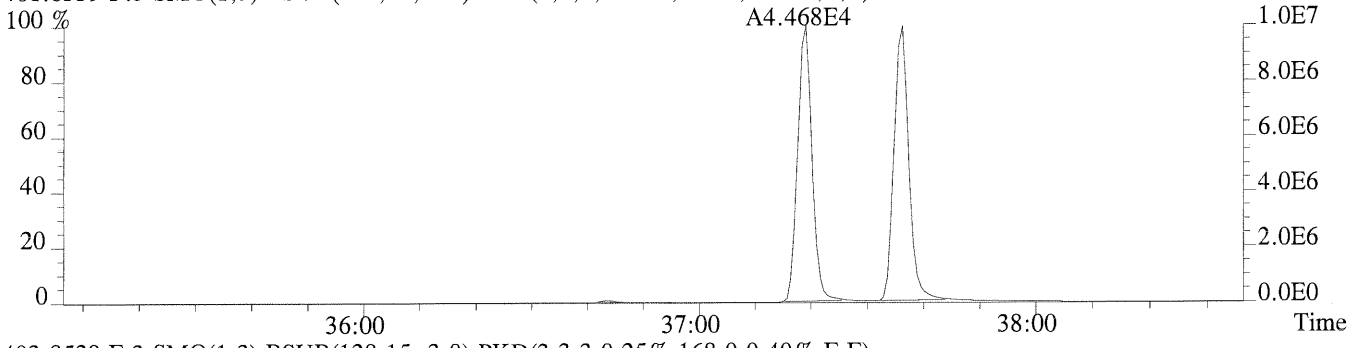
File:P200017 #1-318 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,108.0,0.40%,F,F)



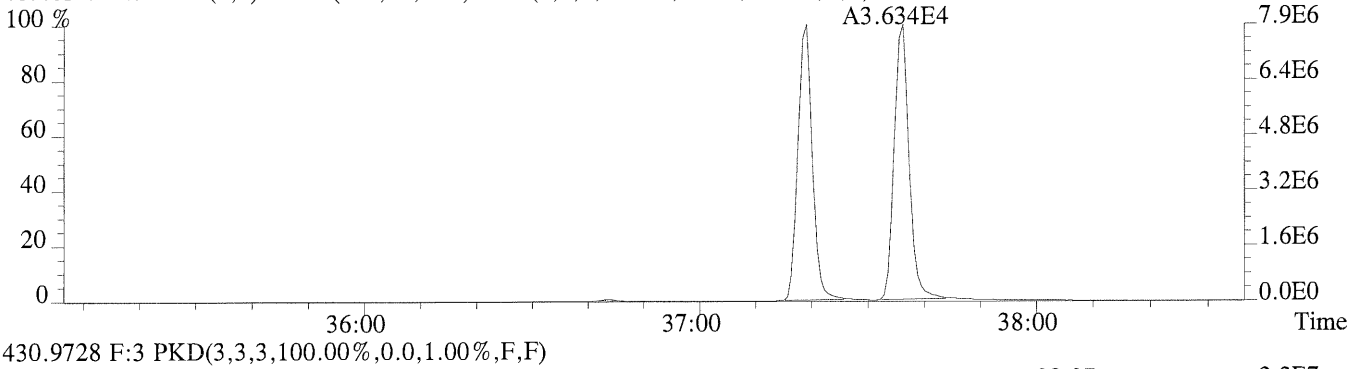
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,F)



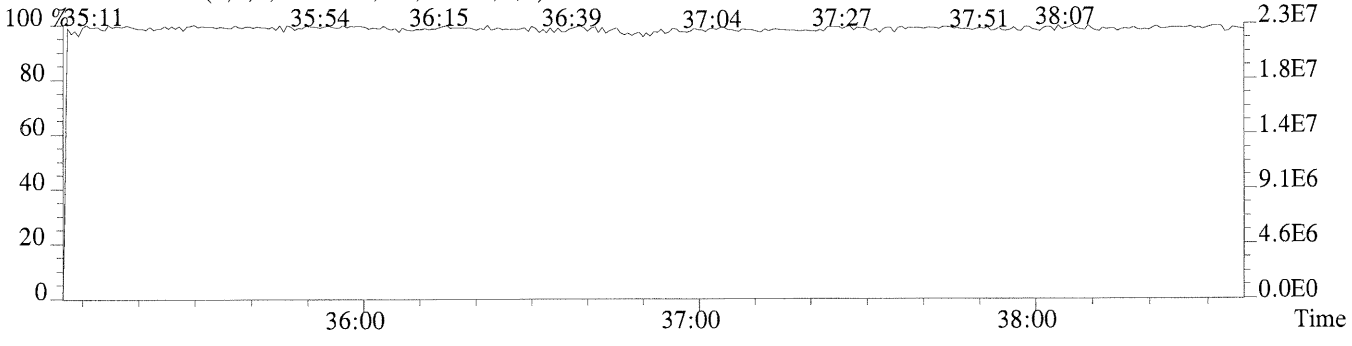
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,168.0,0.40%,F,F)

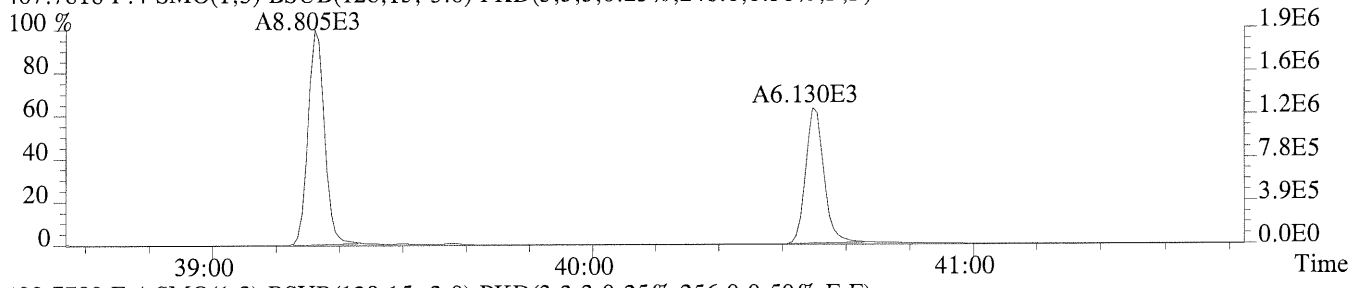


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

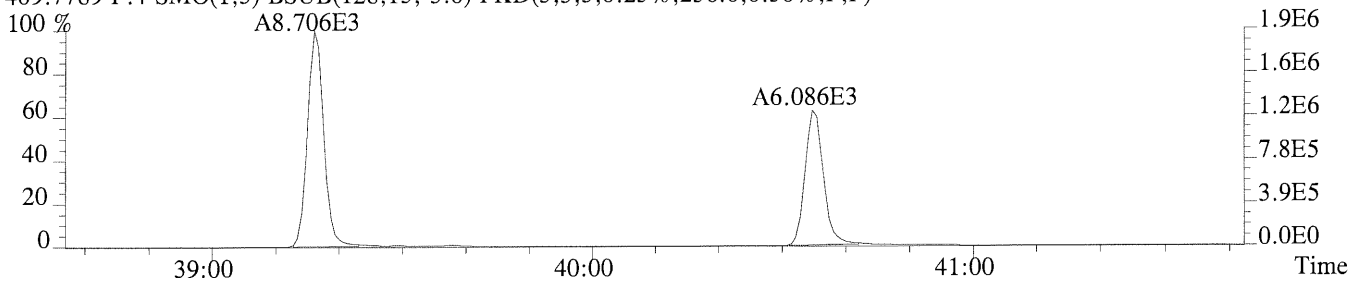


File:P200017 #1-281 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

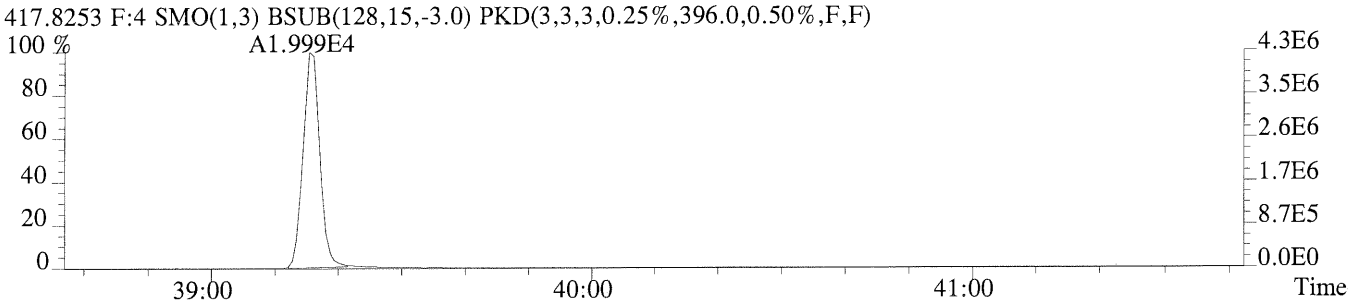
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.50%,F,F)



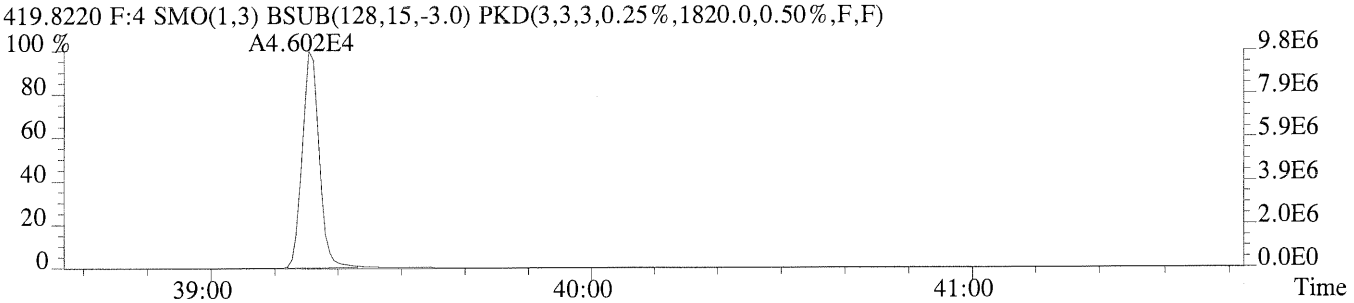
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.50%,F,F)



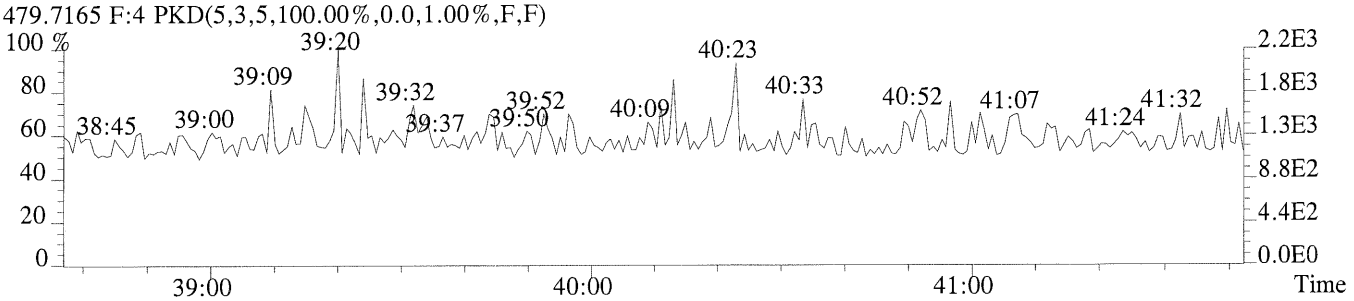
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,396.0,0.50%,F,F)



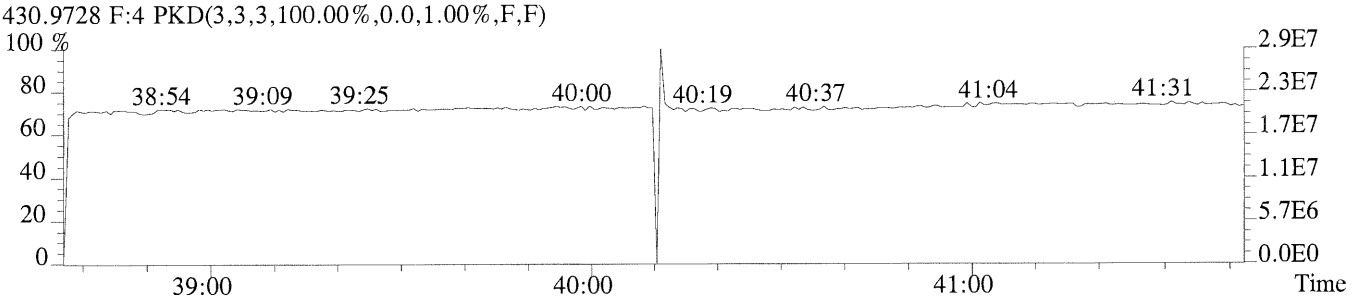
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1820.0,0.50%,F,F)



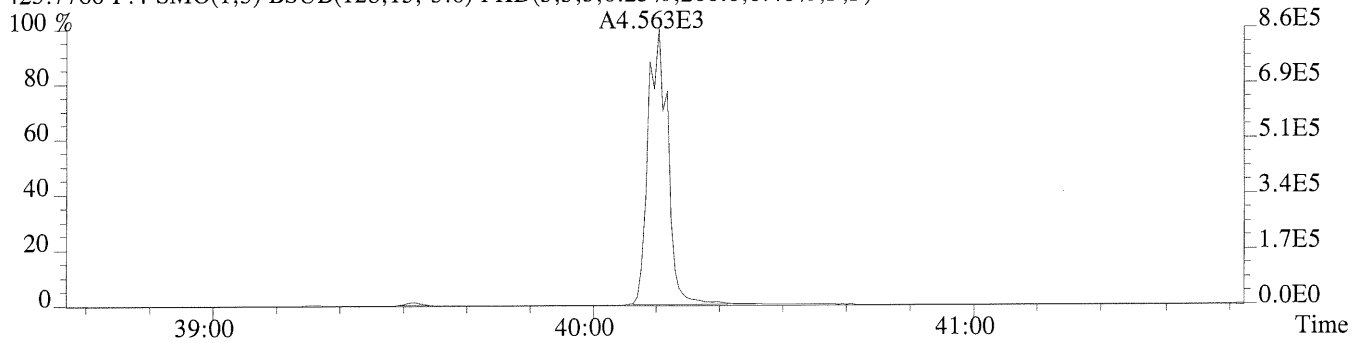
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



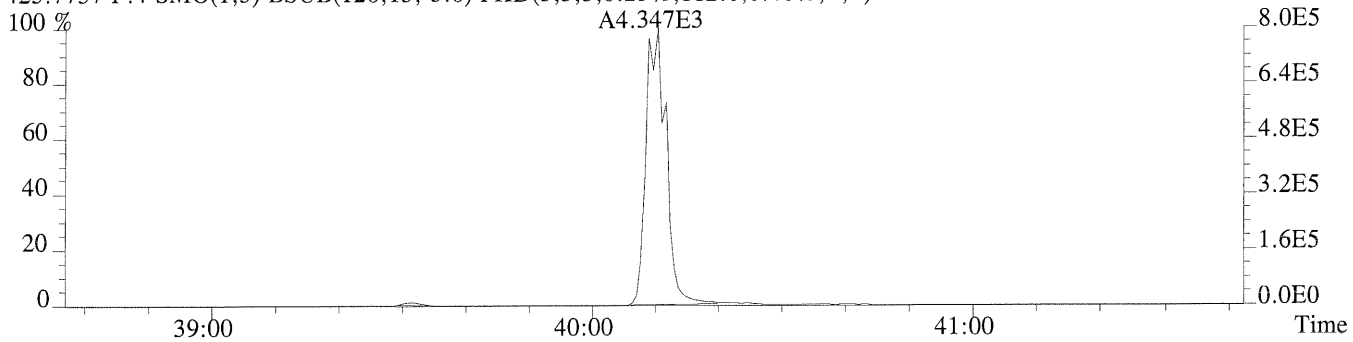
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



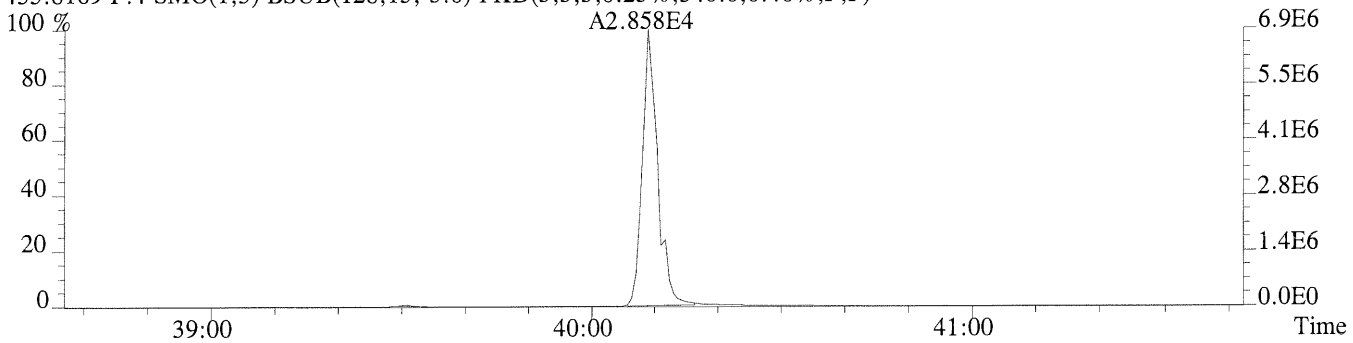
File:P200017 #1-281 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,208.0,0.40%,F,F)



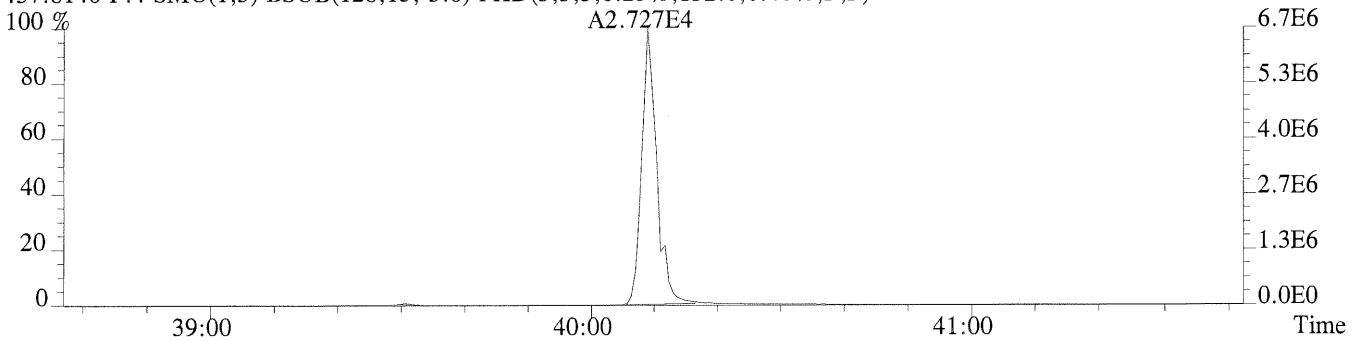
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,112.0,0.40%,F,F)



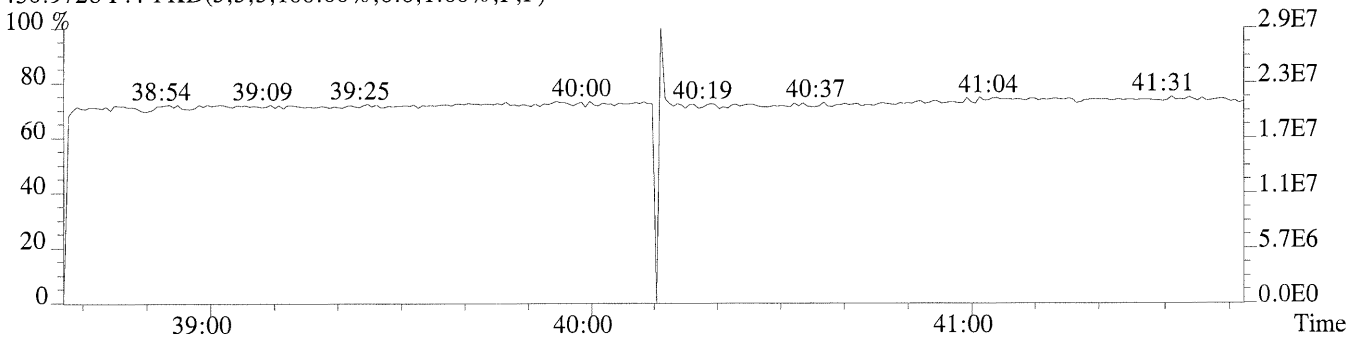
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,F)



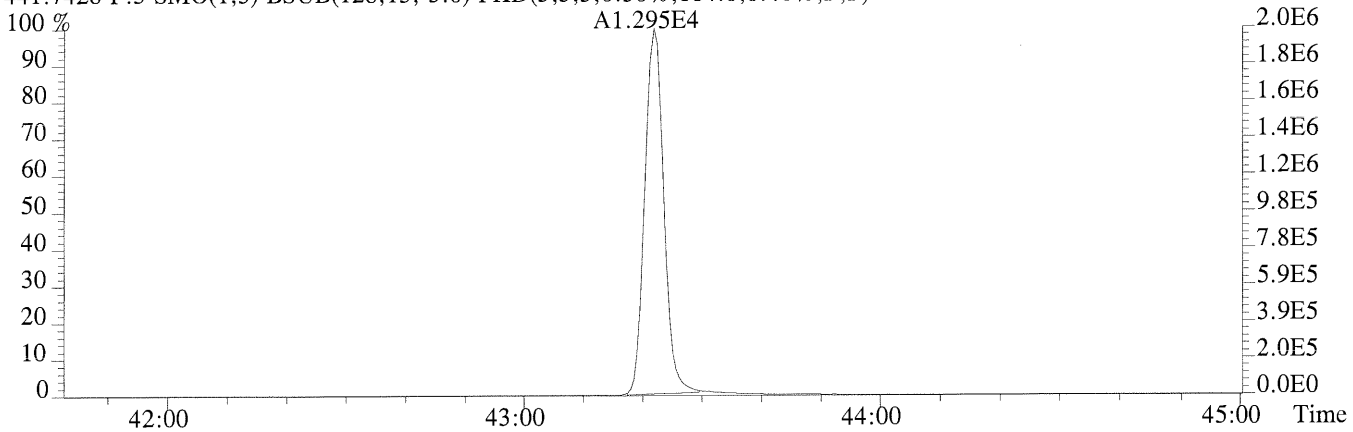
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,F)



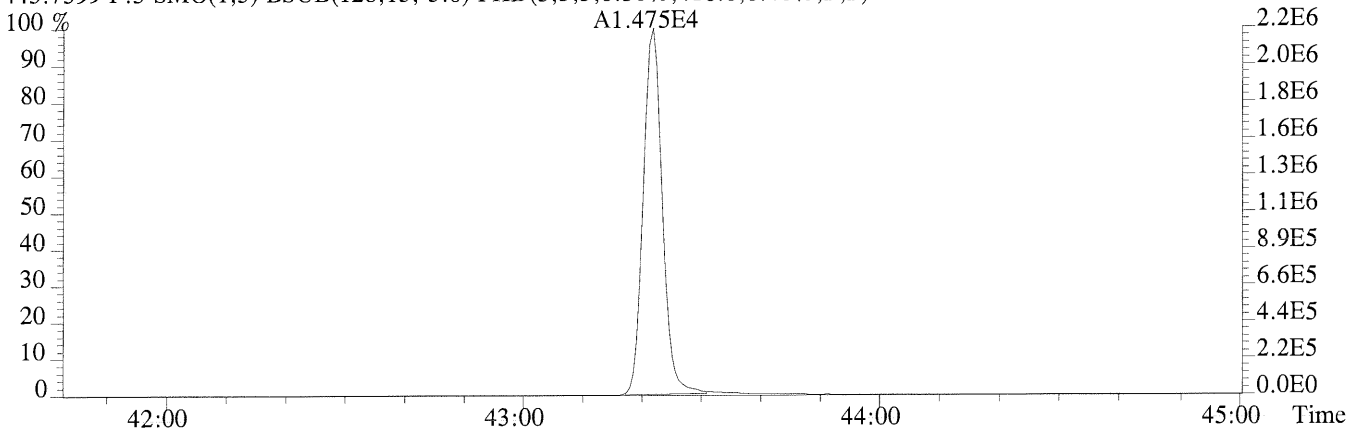
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



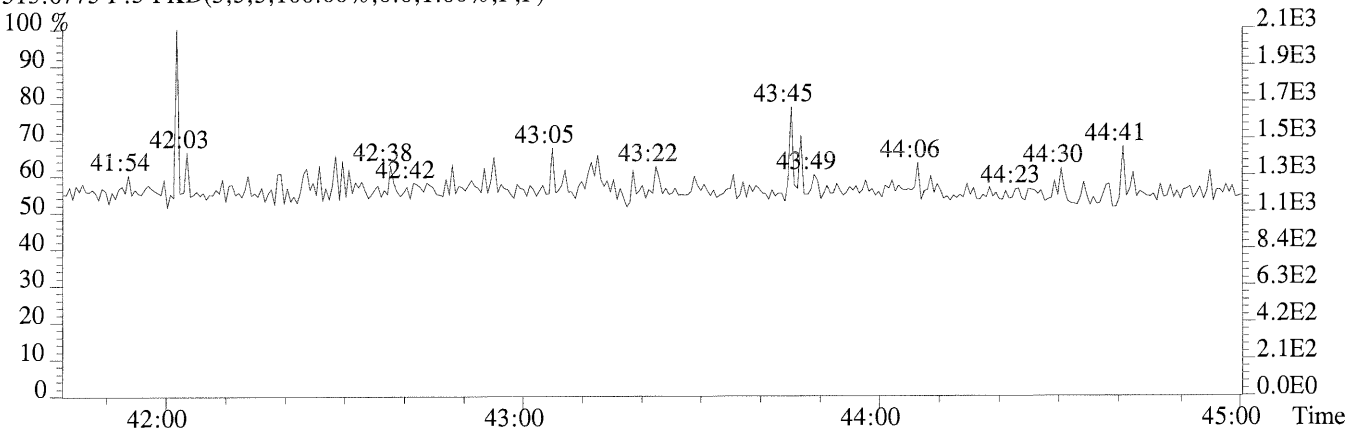
File:P200017 #1-364 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,184.0,0.40%,F,F)



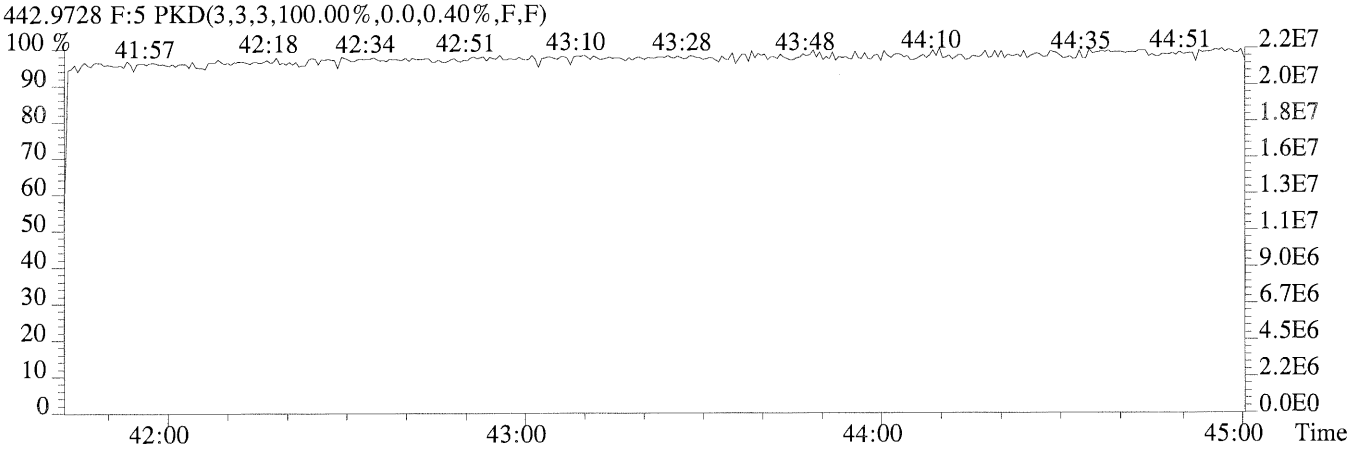
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,416.0,0.40%,F,F)



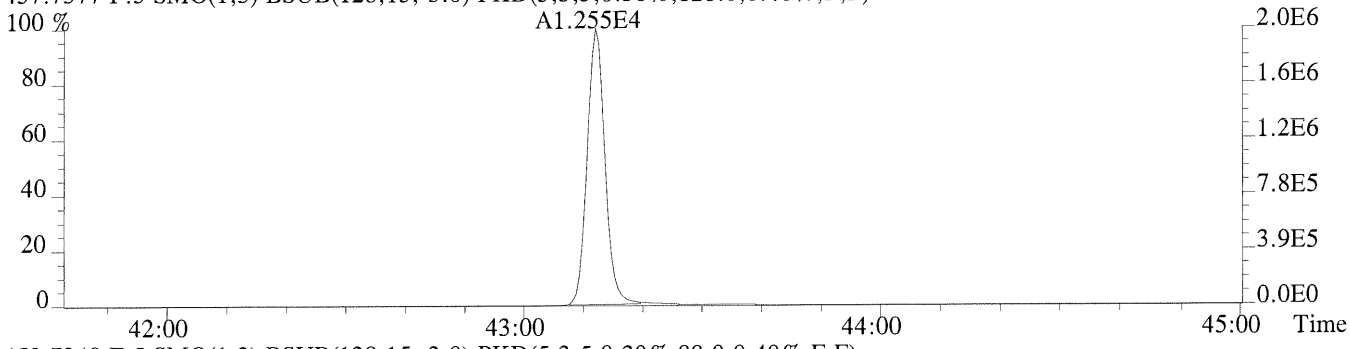
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



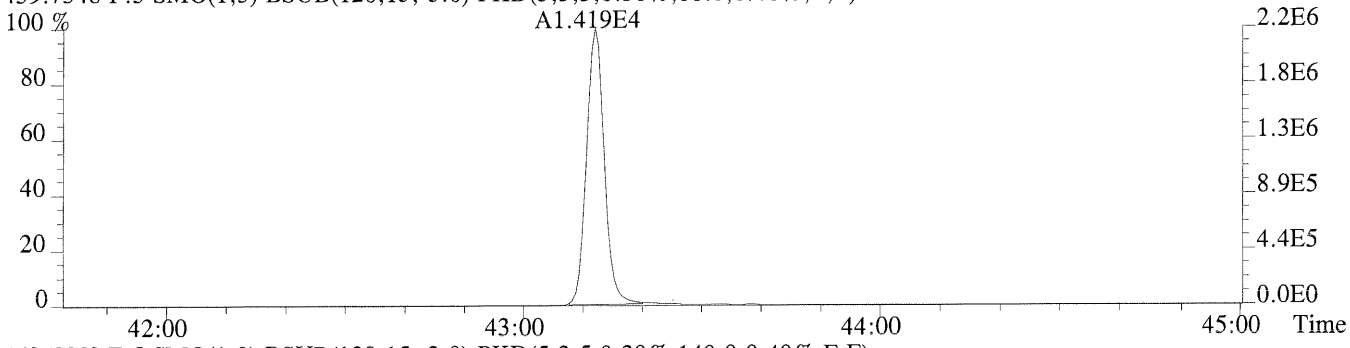
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



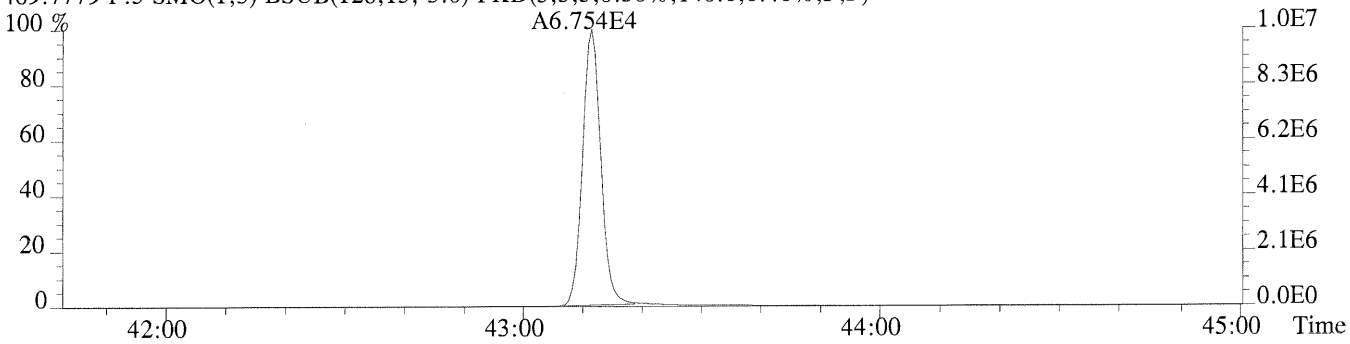
File:P200017 #1-364 Acq:31-JUL-2008 07:59:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,128.0,0.40%,F,F)



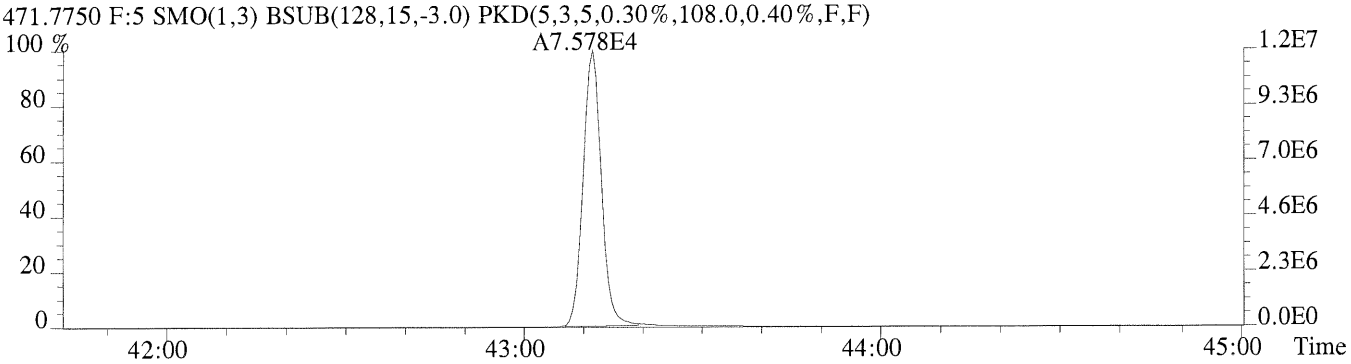
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,88.0,0.40%,F,F)



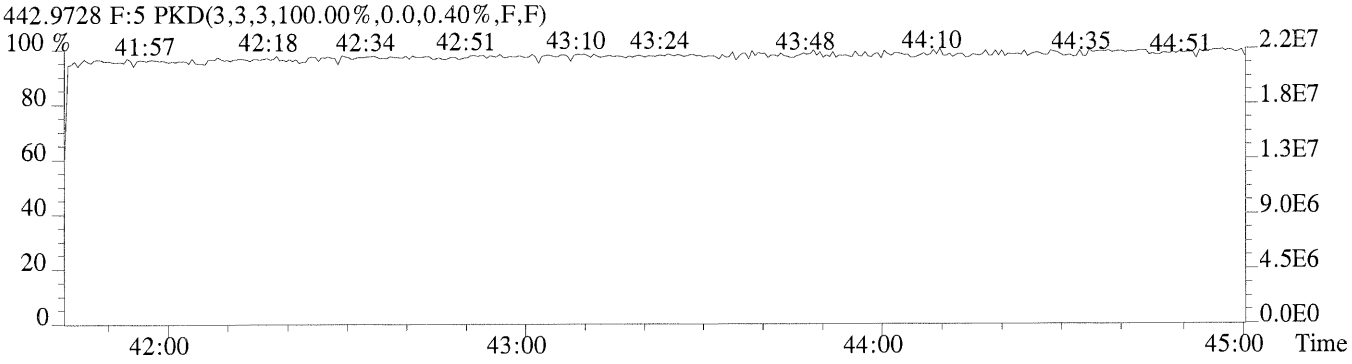
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,140.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,108.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200027 Analysis Date: 31-JUL-08 Time: 18:42:36

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.76	0.65-0.89	0.98	0.84	15.76
1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	0.87	0.79	9.84
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.90	0.81	10.45
1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	1.00	0.92	8.33
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	0.91	0.89	1.72
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	0.87	0.79	10.80
OCDD	M+2/M+4	0.91	0.76-1.02	0.96	0.88	9.82
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	0.88	0.72	22.52
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	0.85	0.71	19.99
2,3,4,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	0.87	0.73	18.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	1.10	0.93	18.18
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	1.11	0.96	15.97
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	0.86	0.79	8.41
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	1.03	0.86	19.63
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	1.39	1.19	17.29
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	0.98	0.94	4.58
OCDF	M+2/M+4	0.89	0.76-1.02	1.01	0.83	21.74

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200027 Analysis Date: 31-JUL-08 Time: 18:42:36

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.99	1.10	-9.68
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	0.93	1.05	-11.21
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.99	0.97	2.60
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	0.85	0.85	0.05
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.82	0.87	-5.08
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	1.30	1.25	4.44
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	1.22	1.23	-1.51
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	1.10	0.98	12.19
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.80	0.69	16.86
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.97	0.99	-2.40

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #7 Filename P200027 Samp: 1 Inj: 1 Acquired: 31-JUL-08 18:42:36
Processed: 11-AUG-08 12:39:25 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	1.383e+04	1.847e+04	0.75	yes	no	0.716
2	Unk	1,2,3,7,8-PeCDF	32:60	4.418e+04	2.899e+04	1.52	yes	no	0.709
3	Unk	2,3,4,7,8-PeCDF	33:44	4.492e+04	2.962e+04	1.52	yes	no	0.730
4	Unk	1,2,3,4,7,8-HxCDF	36:33	4.006e+04	3.286e+04	1.22	yes	no	0.931
5	Unk	1,2,3,6,7,8-HxCDF	36:39	4.055e+04	3.316e+04	1.22	yes	no	0.959
6	Unk	2,3,4,6,7,8-HxCDF	37:08	3.721e+04	3.095e+04	1.20	yes	no	0.860
7	Unk	1,2,3,7,8,9-HxCDF	37:50	3.102e+04	2.592e+04	1.20	yes	no	0.793
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	3.395e+04	3.354e+04	1.01	yes	no	1.188
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	2.408e+04	2.338e+04	1.03	yes	no	0.937
10	Unk	OCDF	43:22	4.741e+04	5.323e+04	0.89	yes	no	0.832
11	Unk	2,3,7,8-TCDD	29:28	1.185e+04	1.562e+04	0.76	yes	no	0.844
12	Unk	1,2,3,7,8-PeCDD	34:05	3.466e+04	2.258e+04	1.54	yes	no	0.790
13	Unk	1,2,3,4,7,8-HxCDD	37:15	2.986e+04	2.391e+04	1.25	yes	no	0.815
14	Unk	1,2,3,6,7,8-HxCDD	37:20	3.334e+04	2.632e+04	1.27	yes	no	0.922
15	Unk	1,2,3,7,8,9-HxCDD	37:37	2.994e+04	2.426e+04	1.23	yes	no	0.892
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	2.300e+04	2.173e+04	1.06	yes	no	0.789
17	Unk	OCDD	43:12	4.558e+04	4.998e+04	0.91	yes	no	0.875
18	IS	13C-2,3,7,8-TCDF	28:37	8.123e+04	1.029e+05	0.79	yes	no	1.247
19	IS	13C-1,2,3,7,8-PeCDF	32:59	1.048e+05	6.711e+04	1.56	yes	no	1.234
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	1.133e+05	2.180e+05	0.52	yes	no	0.979
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	7.344e+04	1.688e+05	0.44	yes	no	0.687
22	IS	13C-2,3,7,8-TCDD	29:27	6.172e+04	7.884e+04	0.78	yes	no	1.100
23	IS	13C-1,2,3,7,8-PeCDD	34:05	8.077e+04	5.112e+04	1.58	yes	no	1.050
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.658e+05	1.329e+05	1.25	yes	no	0.966
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	1.297e+05	1.262e+05	1.03	yes	no	0.848
26	IS	13C-OCDD	43:11	2.337e+05	2.633e+05	0.89	yes	no	0.868
27	RS/RT	13C-1,2,3,4-TCDD	29:14	6.211e+04	7.930e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.670e+05	1.346e+05	1.24	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	2.739e+04					0.992
					SUM AREA				
30	Tot	Total Tetra-Furans	28:08		3.291e+04	0.75	yes		0.716
31	Tot	Total Tetra-Dioxins	29:28		2.747e+04	0.76	yes		0.844
32	Tot	Total Penta-Furans	32:06		1.480e+05	1.68	yes		0.720
33	Tot	Total Penta-Dioxins	34:05		5.723e+04	1.54	yes		0.790
34	Tot	Total Hexa-Furans	36:33		2.717e+05	1.22	yes		0.886
35	Tot	Total Hexa-Dioxins	37:15		1.676e+05	1.25	yes		0.876
36	Tot	Total Hepta-Furans	39:17		1.149e+05	1.01	yes		1.062
37	Tot	Total Hepta-Dioxins	40:10		4.474e+04	1.06	yes		0.789

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #7 Filename P200027 #1 Samp: 1 Inj: 1 Acquired: 31-JUL-08 18:42:36

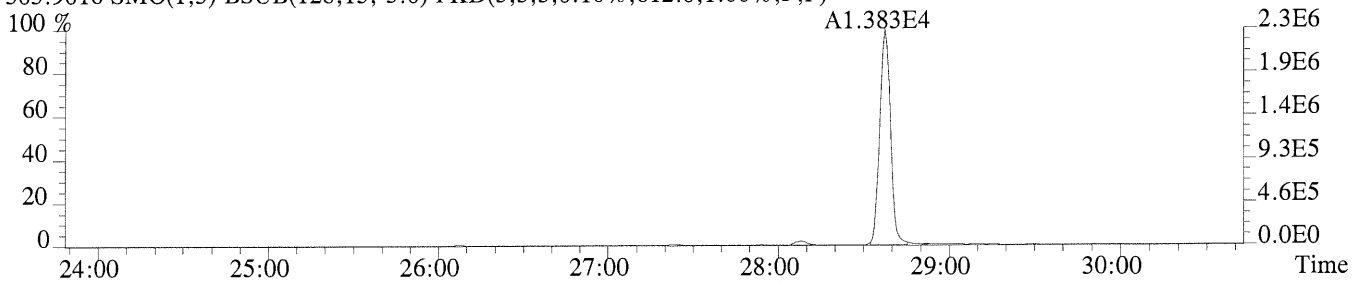
Processed: 11-AUG-08 12:39:25 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.31e+06	6.12e+02	3.8e+03	3.15e+06	1.70e+03	1.9e+03
2	1,2,3,7,8-PeCDF	8.70e+06	3.00e+02	2.9e+04	5.62e+06	1.34e+03	4.2e+03
3	2,3,4,7,8-PeCDF	8.97e+06	3.00e+02	3.0e+04	5.86e+06	1.34e+03	4.4e+03
4	1,2,3,4,7,8-HxCDF	8.70e+06	1.25e+03	6.9e+03	7.06e+06	4.48e+02	1.6e+04
5	1,2,3,6,7,8-HxCDF	8.20e+06	1.25e+03	6.6e+03	6.80e+06	4.48e+02	1.5e+04
6	2,3,4,6,7,8-HxCDF	7.93e+06	1.25e+03	6.3e+03	6.61e+06	4.48e+02	1.5e+04
7	1,2,3,7,8,9-HxCDF	6.55e+06	1.25e+03	5.2e+03	5.41e+06	4.48e+02	1.2e+04
8	1,2,3,4,6,7,8-HpCDF	7.19e+06	5.97e+03	1.2e+03	7.13e+06	3.16e+03	2.3e+03
9	1,2,3,4,7,8,9-HpCDF	4.75e+06	5.97e+03	8.0e+02	4.57e+06	3.16e+03	1.4e+03
10	OCDF	7.04e+06	9.00e+02	7.8e+03	7.82e+06	1.96e+03	4.0e+03
11	2,3,7,8-TCDD	2.08e+06	1.36e+03	1.5e+03	2.76e+06	3.60e+02	7.7e+03
12	1,2,3,7,8-PeCDD	7.15e+06	1.60e+03	4.5e+03	4.61e+06	1.32e+02	3.5e+04
13	1,2,3,4,7,8-HxCDD	6.80e+06	9.60e+01	7.1e+04	5.34e+06	7.72e+02	6.9e+03
14	1,2,3,6,7,8-HxCDD	7.01e+06	9.60e+01	7.3e+04	5.56e+06	7.72e+02	7.2e+03
15	1,2,3,7,8,9-HxCDD	6.55e+06	9.60e+01	6.8e+04	5.25e+06	7.72e+02	6.8e+03
16	1,2,3,4,6,7,8-HpCDD	4.74e+06	9.96e+02	4.8e+03	4.49e+06	4.52e+02	9.9e+03
17	OCDD	6.91e+06	2.40e+02	2.9e+04	7.59e+06	4.36e+02	1.7e+04
18	13C-2,3,7,8-TCDF	1.35e+07	3.96e+03	3.4e+03	1.73e+07	2.73e+03	6.3e+03
19	13C-1,2,3,7,8-PeCDF	2.02e+07	5.60e+01	3.6e+05	1.29e+07	6.20e+02	2.1e+04
20	13C-1,2,3,4,7,8-HxCDF	2.39e+07	7.36e+02	3.3e+04	4.54e+07	1.40e+03	3.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.58e+07	4.62e+03	3.4e+03	3.53e+07	7.67e+03	4.6e+03
22	13C-2,3,7,8-TCDD	1.09e+07	4.90e+03	2.2e+03	1.38e+07	1.05e+03	1.3e+04
23	13C-1,2,3,7,8-PeCDD	1.60e+07	1.49e+03	1.1e+04	1.02e+07	6.36e+02	1.6e+04
24	13C-1,2,3,6,7,8-HxCDD	3.71e+07	6.04e+02	6.1e+04	2.95e+07	1.14e+03	2.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.68e+07	1.18e+03	2.3e+04	2.58e+07	1.53e+03	1.7e+04
26	13C-OCDD	3.52e+07	5.76e+02	6.1e+04	3.98e+07	7.00e+02	5.7e+04
27	13C-1,2,3,4-TCDD	1.09e+07	4.90e+03	2.2e+03	1.40e+07	1.05e+03	1.3e+04
28	13C-1,2,3,7,8,9-HxCDD	3.68e+07	6.04e+02	6.1e+04	2.91e+07	1.14e+03	2.6e+04
29	37Cl-2,3,7,8-TCDD	4.86e+06	5.56e+02	8.7e+03			

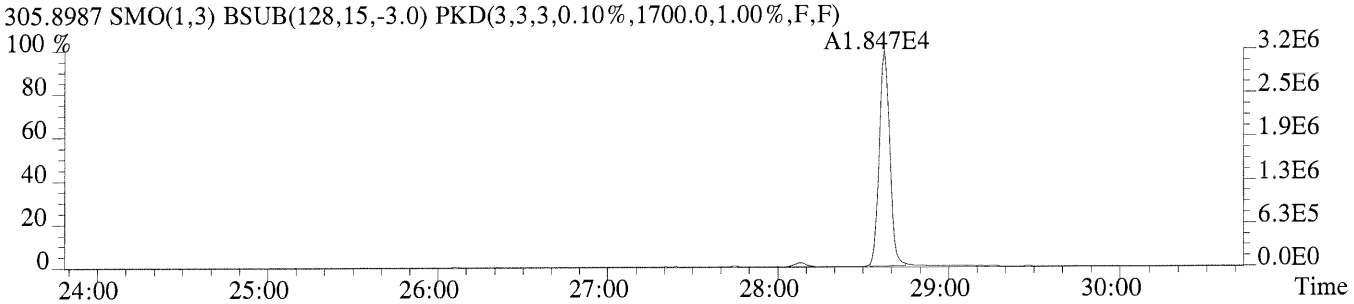
Columbia Analytical Services, Inc.
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File:P200027 #1-576 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

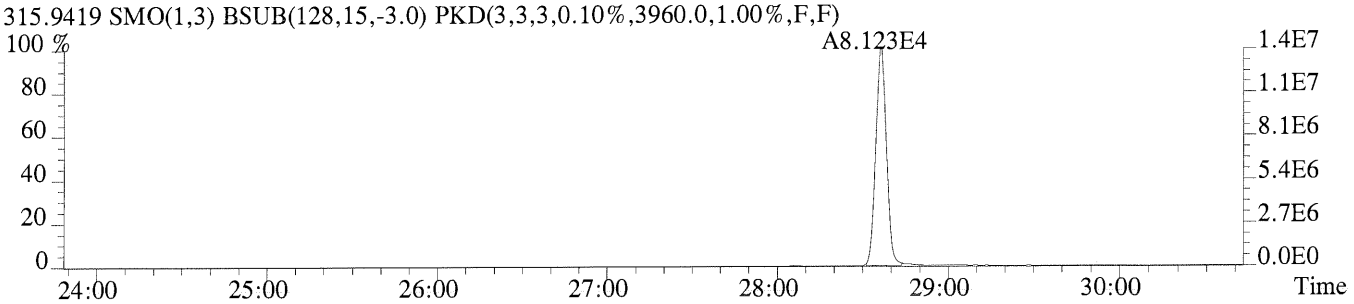
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,612.0,1.00%,F,F)



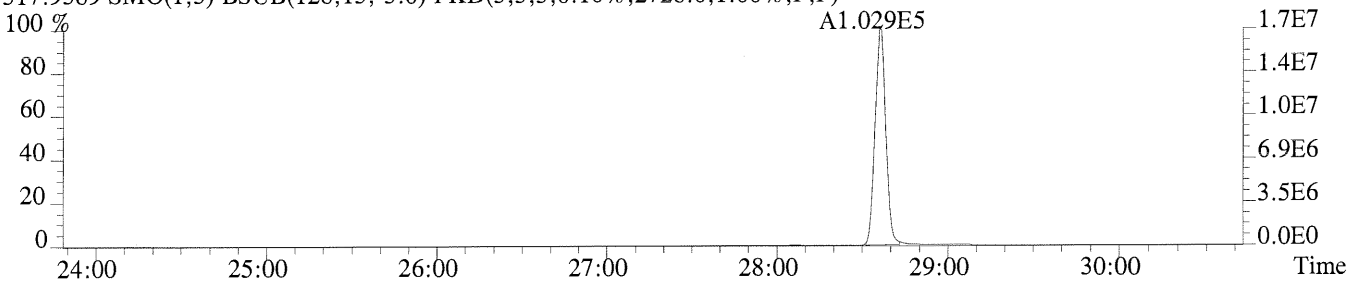
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1700.0,1.00%,F,F)



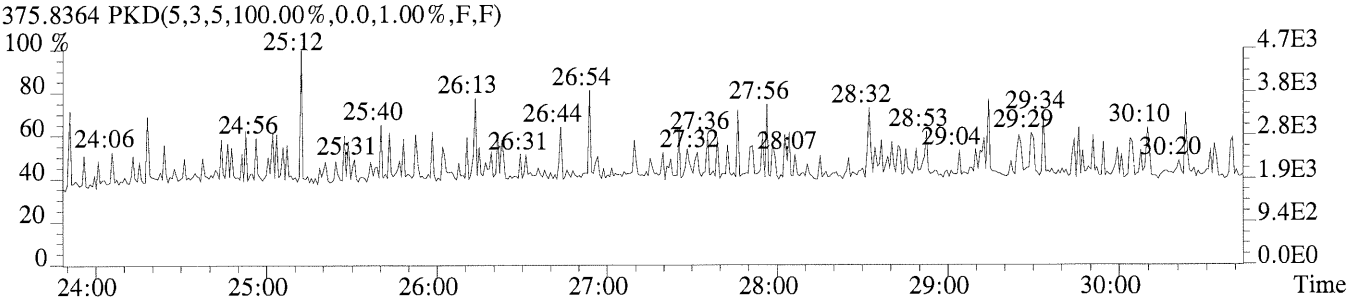
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3960.0,1.00%,F,F)



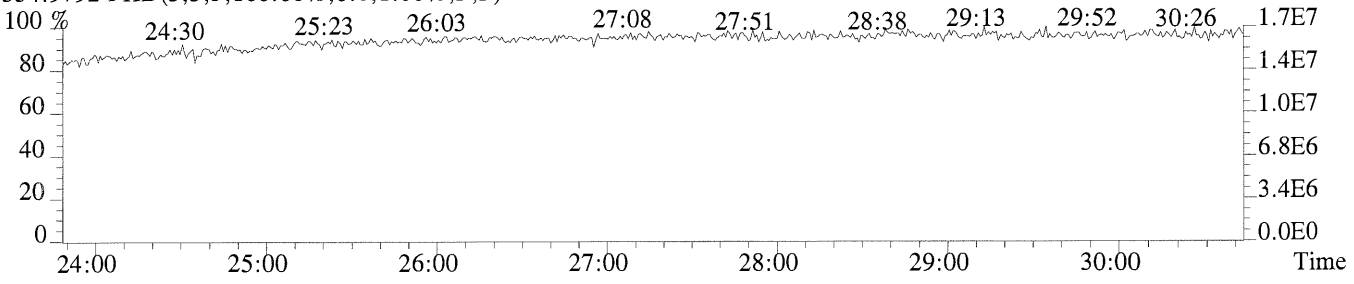
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2728.0,1.00%,F,F)



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

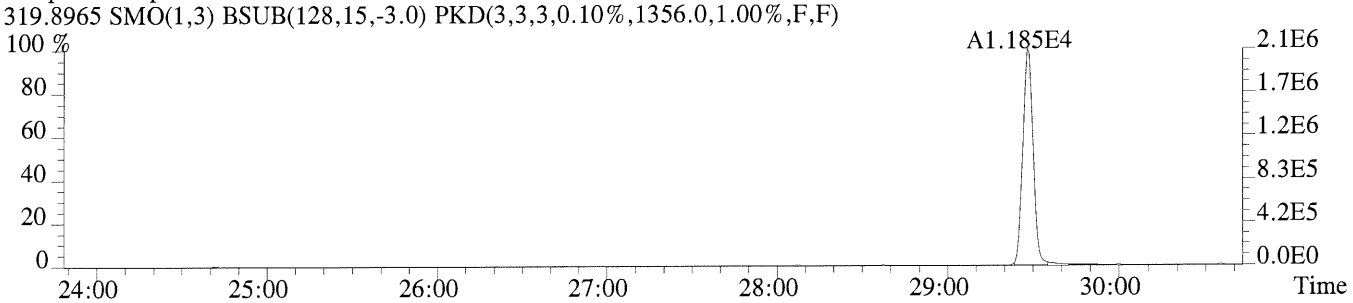


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

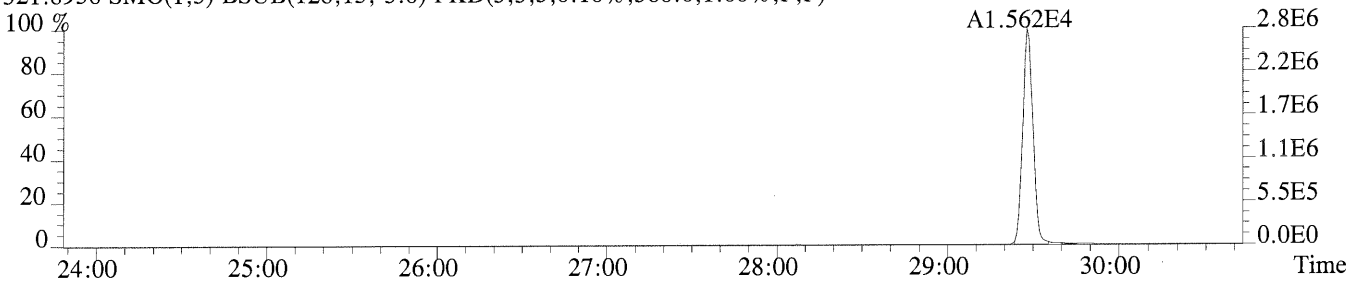


File:P200027 #1-576 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

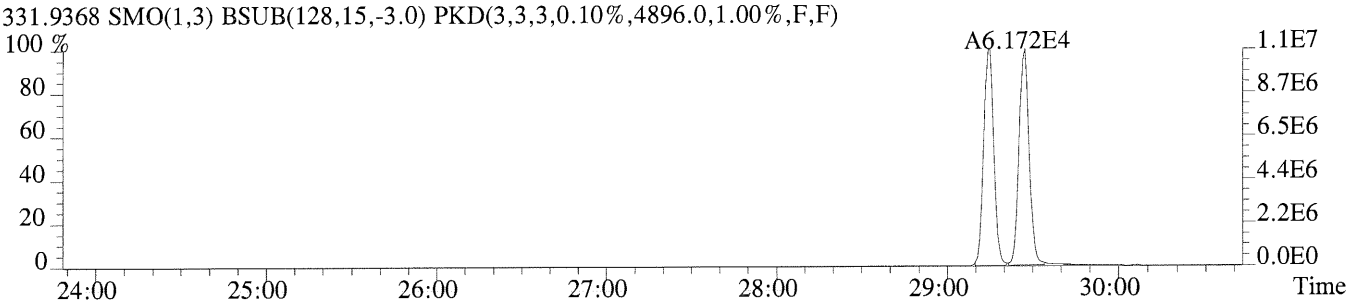
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,F)



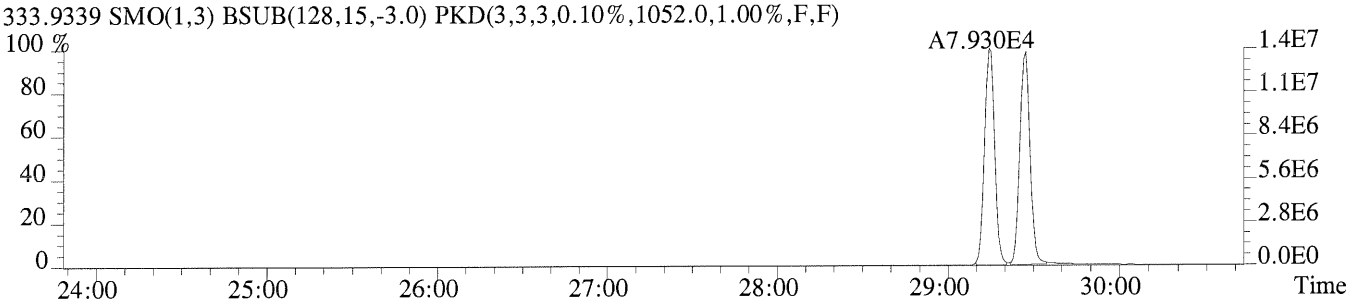
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,F)



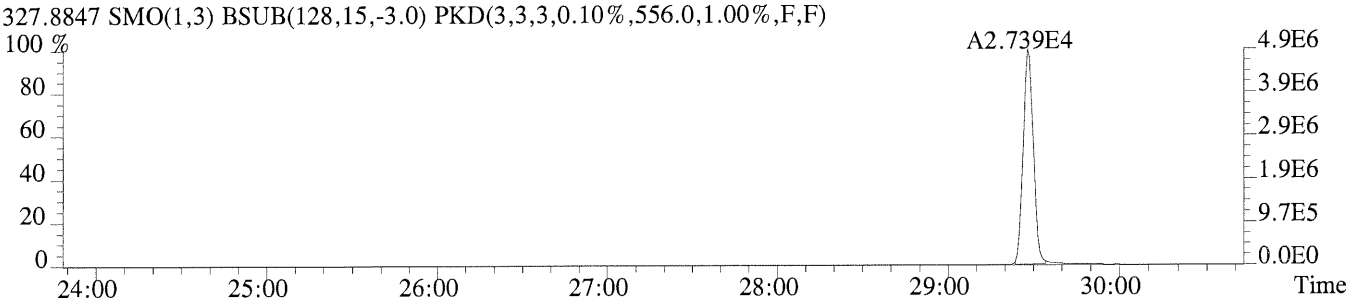
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4896.0,1.00%,F,F)



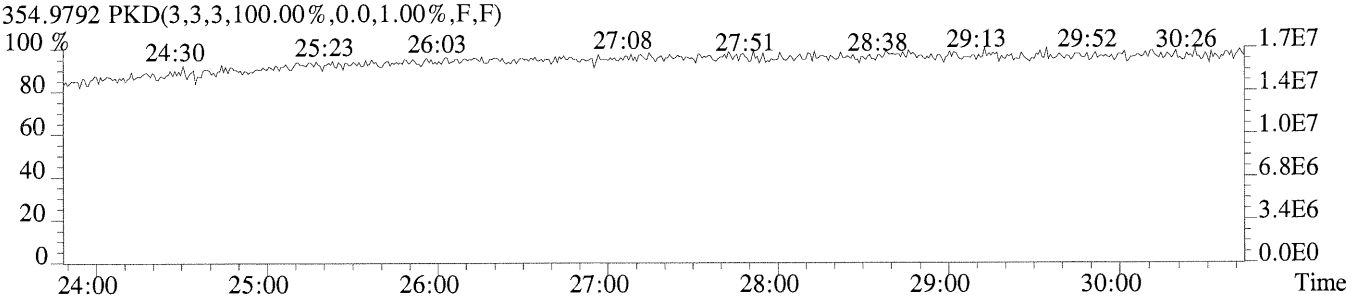
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1052.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,556.0,1.00%,F,F)

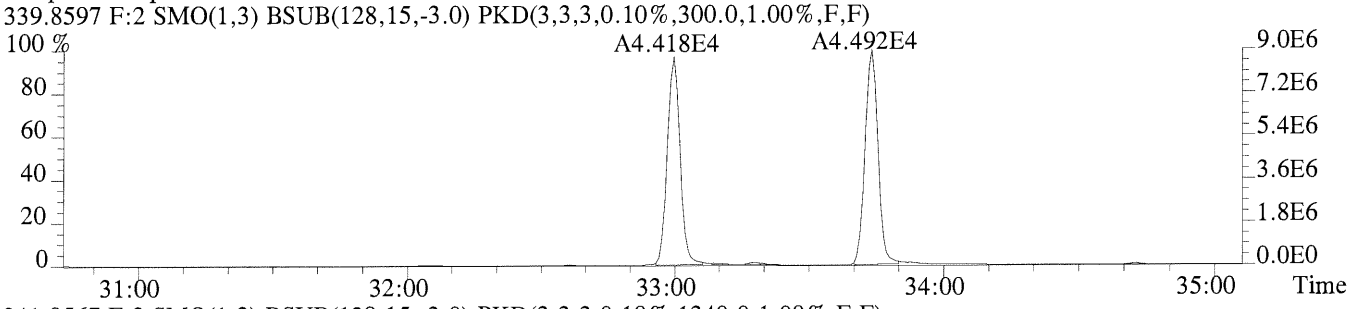


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

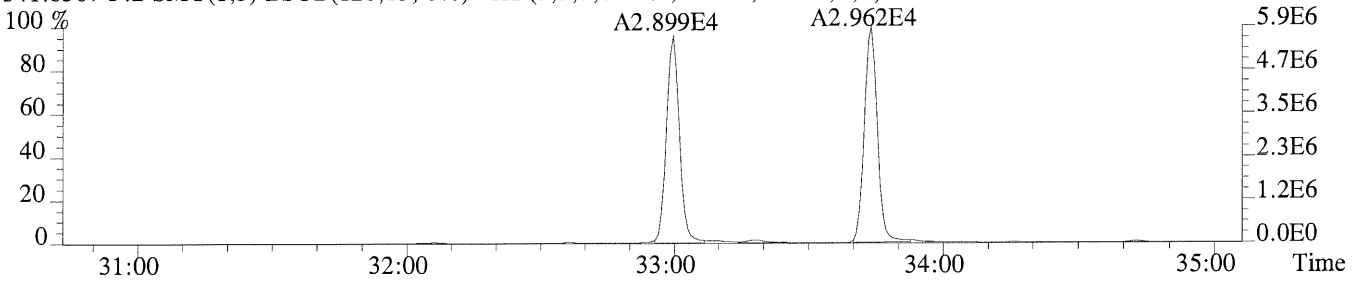


File:P200027 #1-398 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

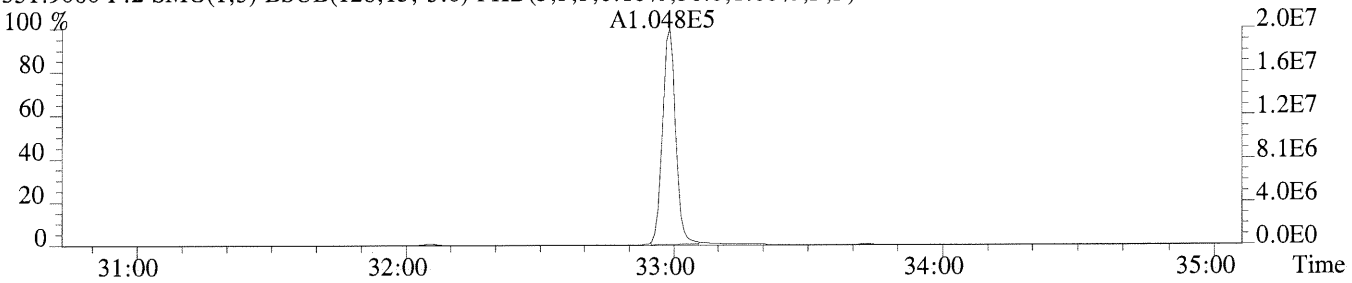
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,F)



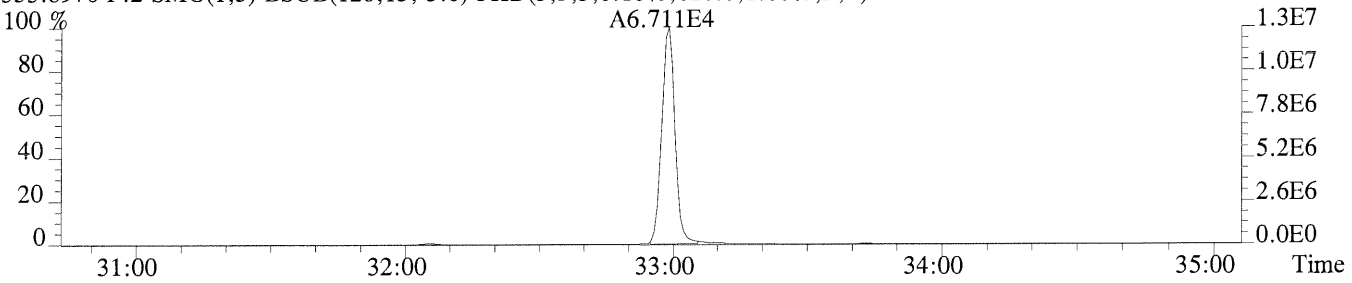
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,F)



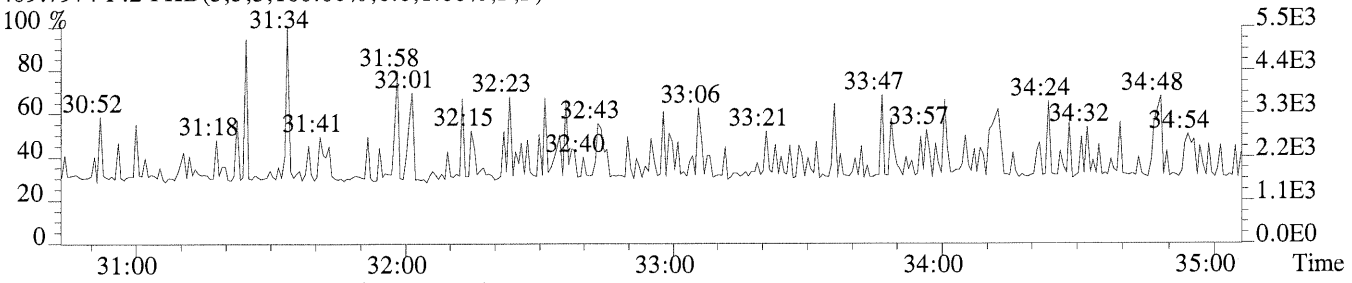
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,56.0,1.00%,F,F)



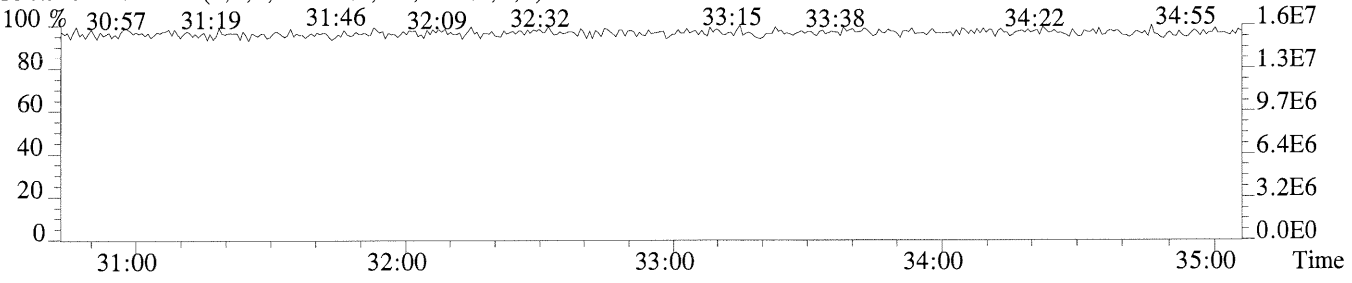
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,620.0,1.00%,F,F)



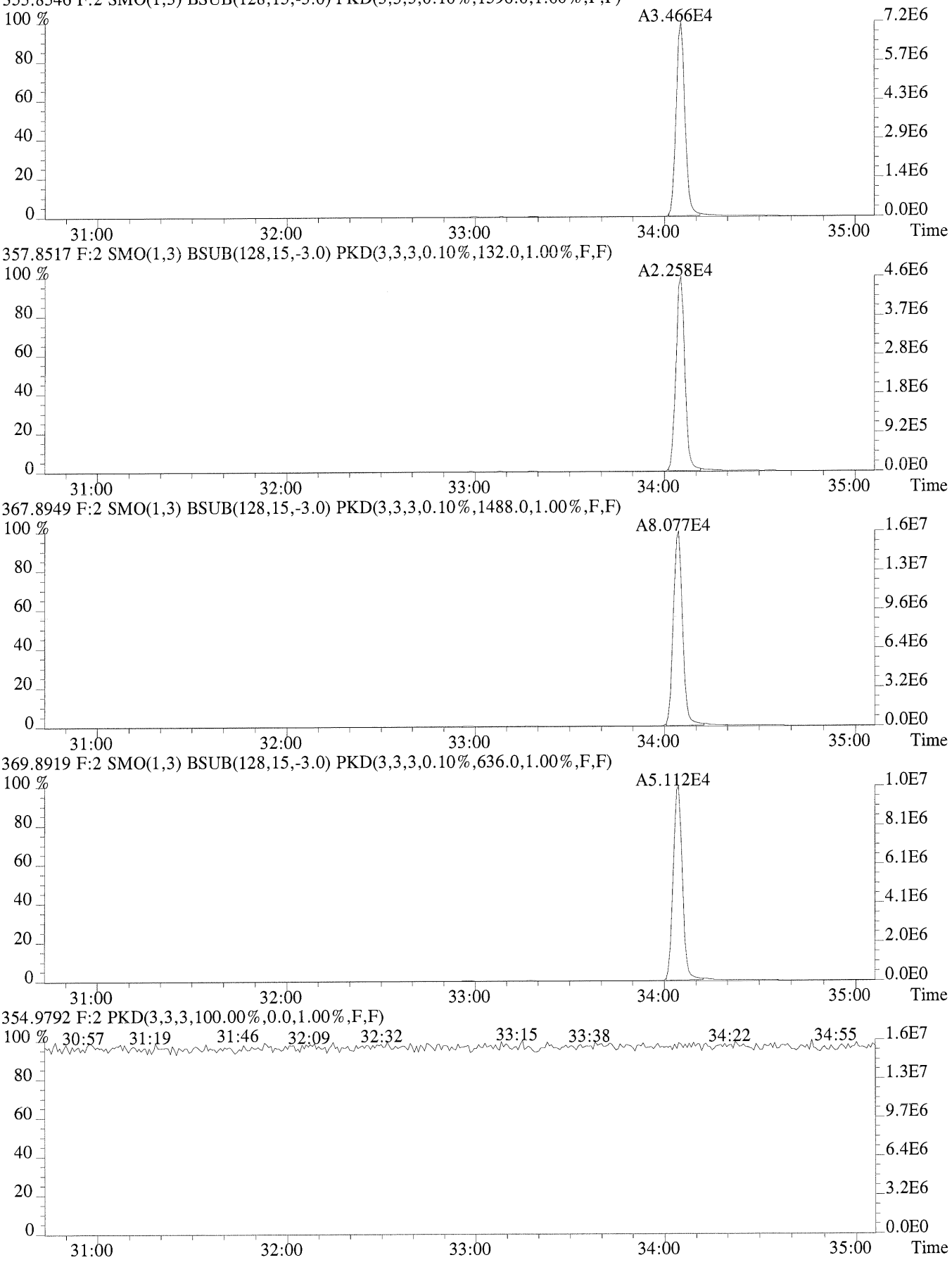
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

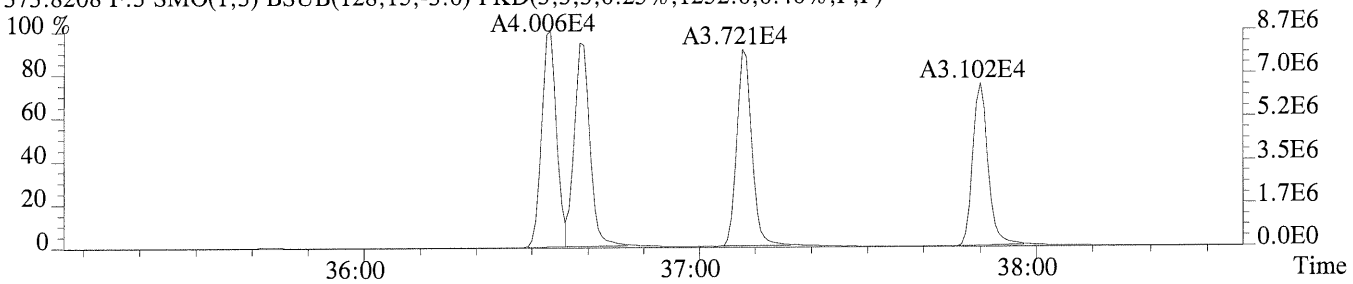


File:P200027 #1-398 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

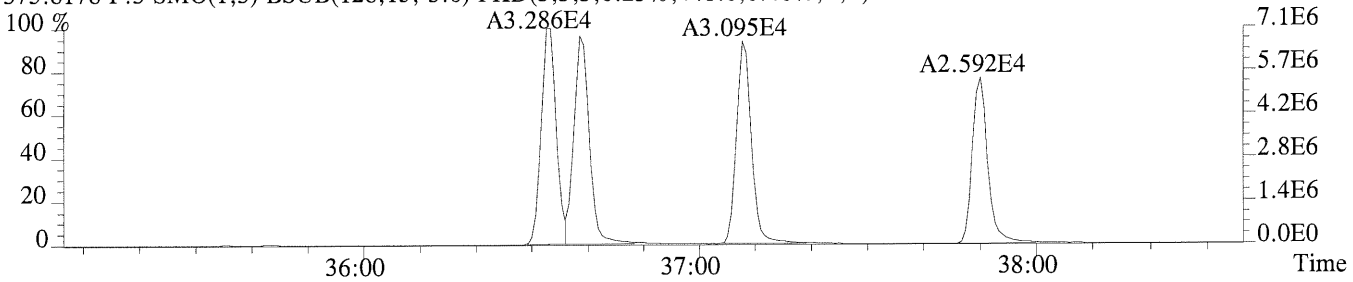


File:P200027 #1-318 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

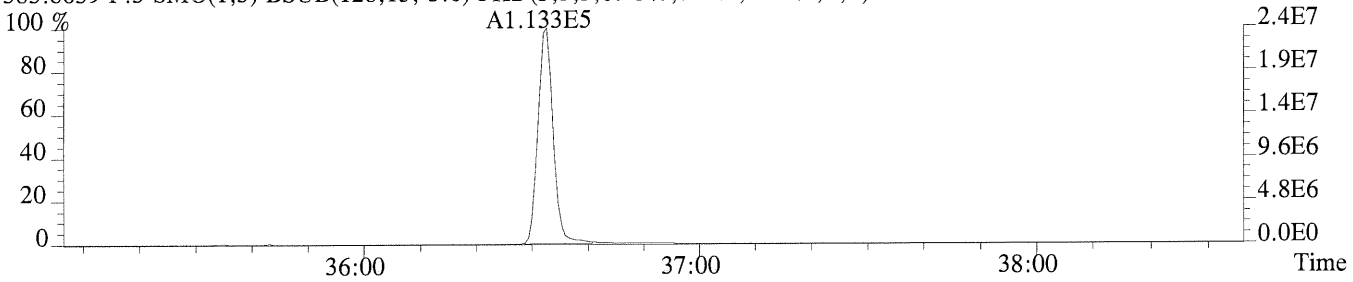
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,F)



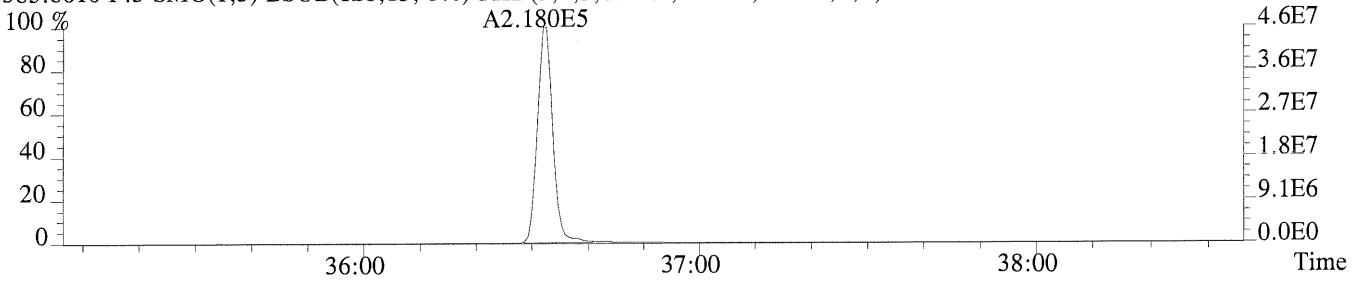
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,448.0,0.40%,F,F)



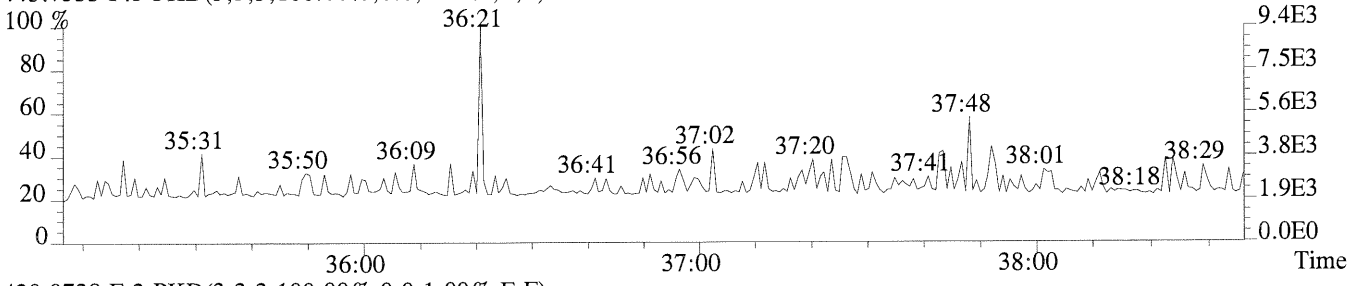
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,F)



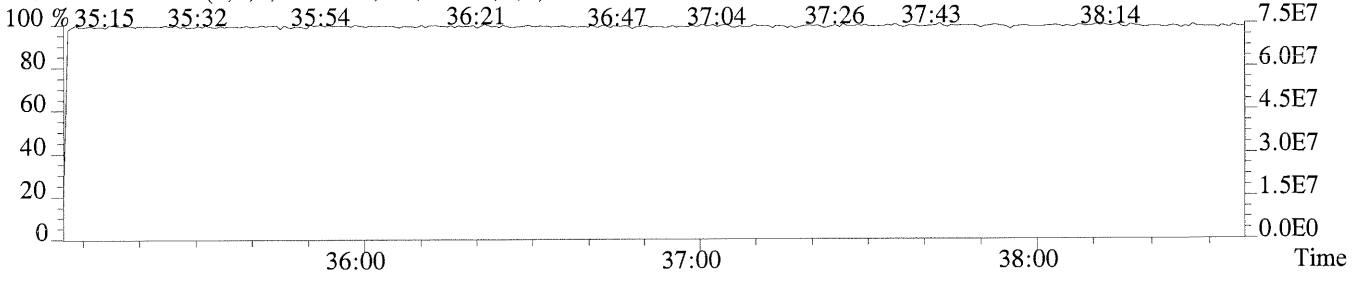
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1400.0,0.40%,F,F)



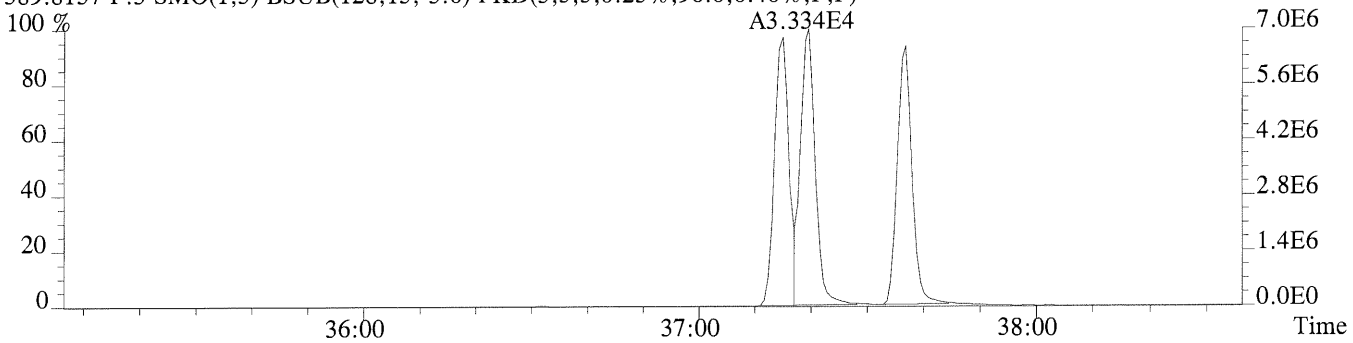
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



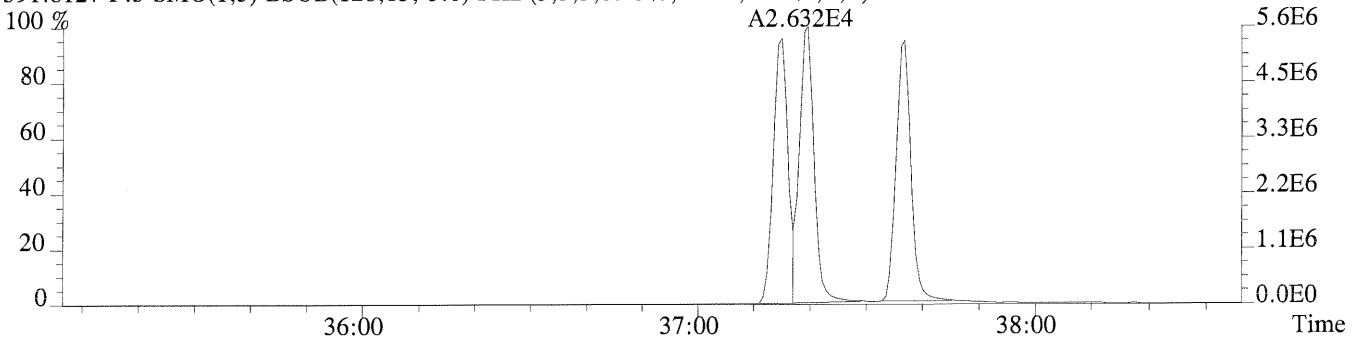
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



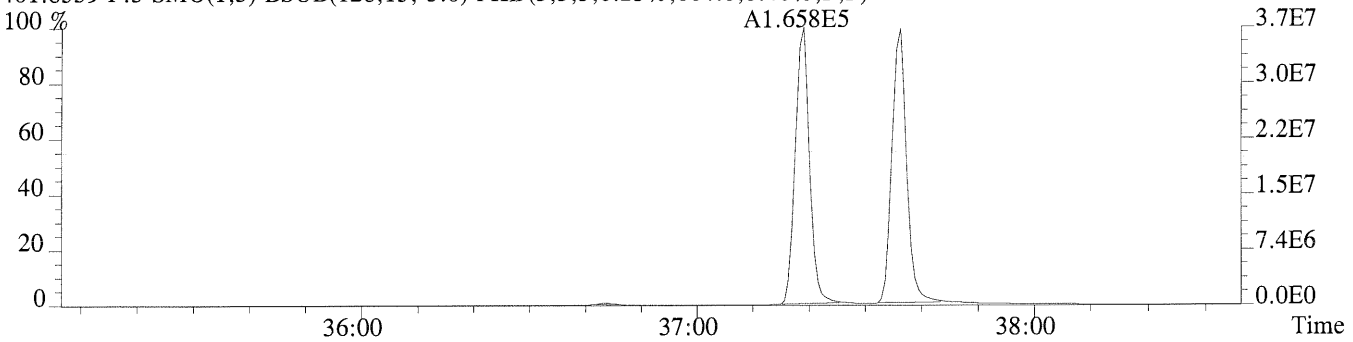
File:P200027 #1-318 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,F)



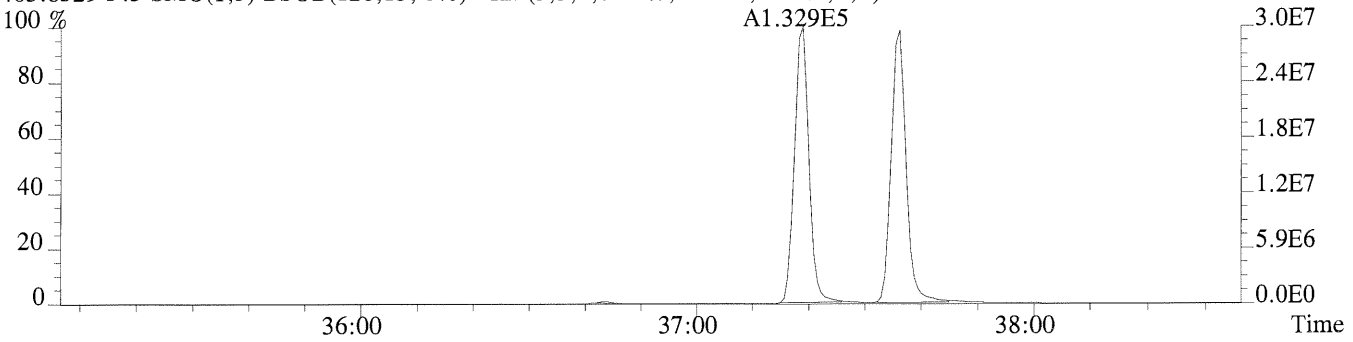
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,772.0,0.40%,F,F)



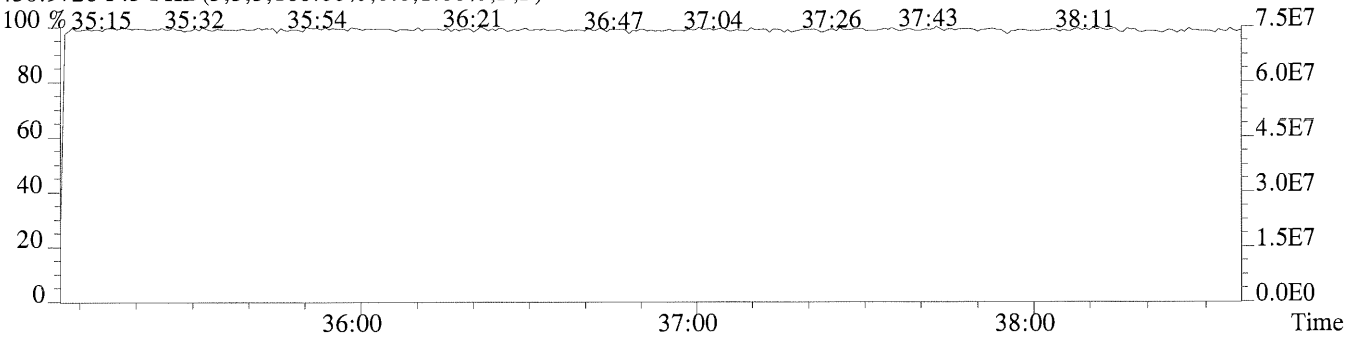
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,604.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1140.0,0.40%,F,F)

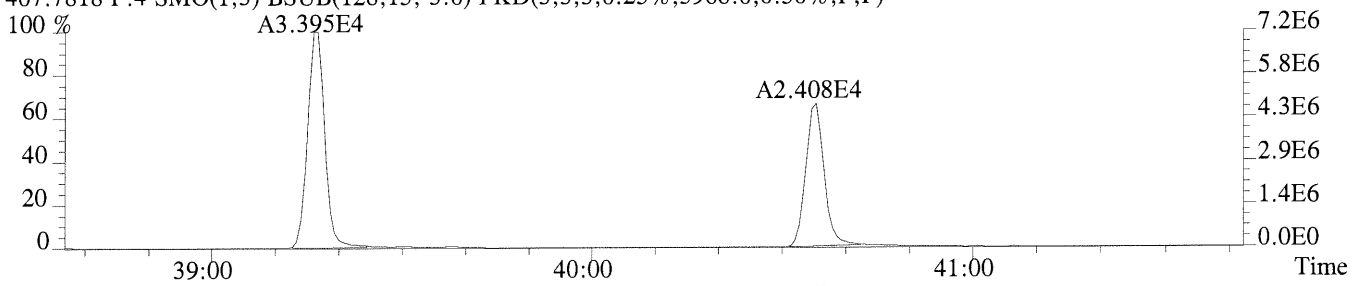


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

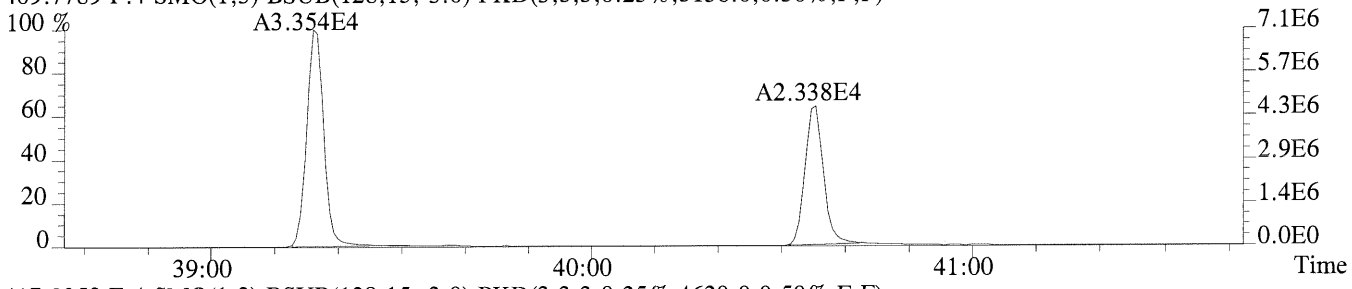


File:P200027 #1-281 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

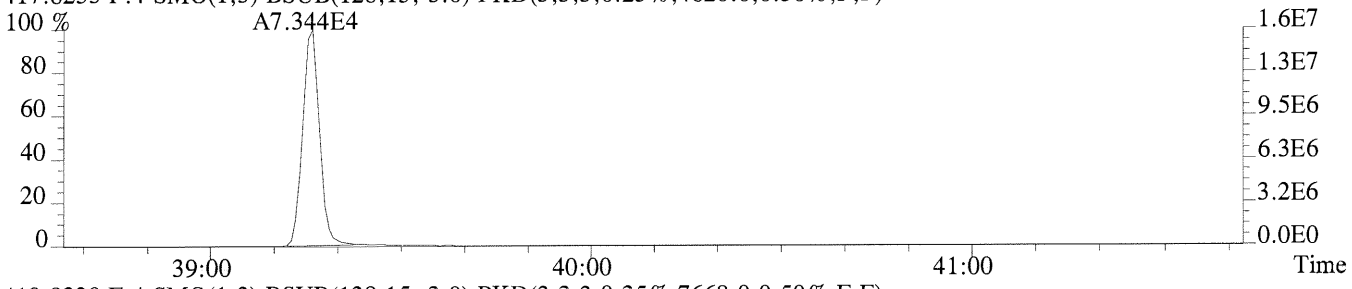
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5968.0,0.50%,F,F)



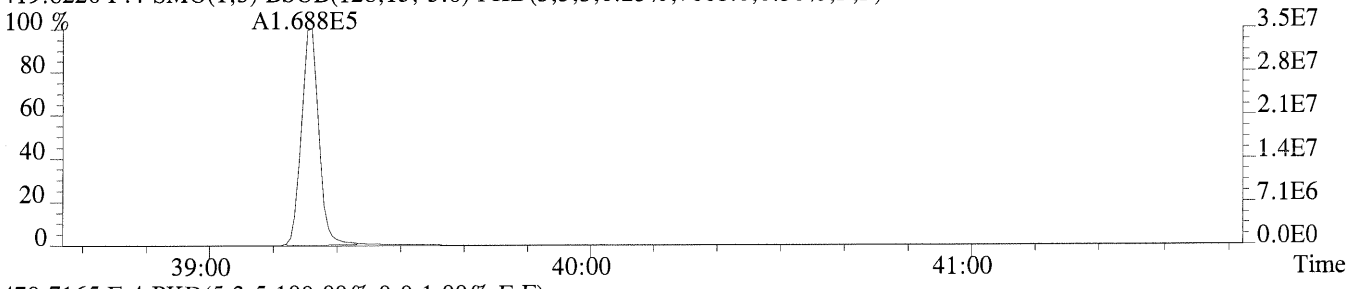
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3156.0,0.50%,F,F)



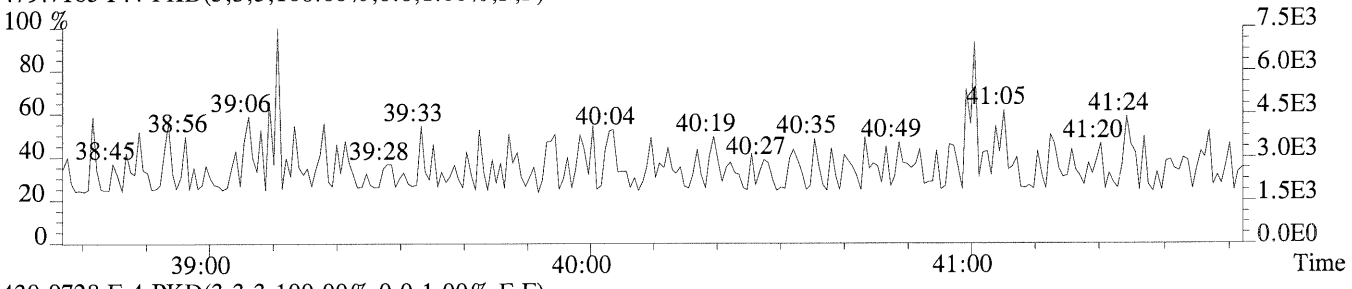
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4620.0,0.50%,F,F)



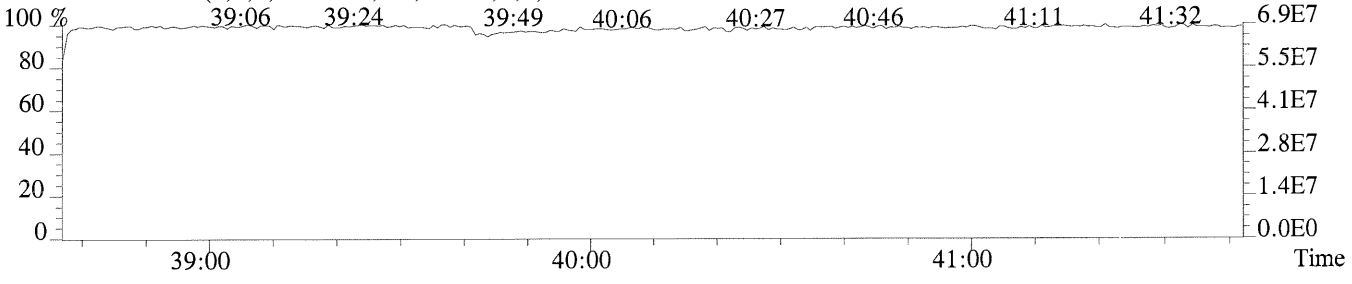
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7668.0,0.50%,F,F)



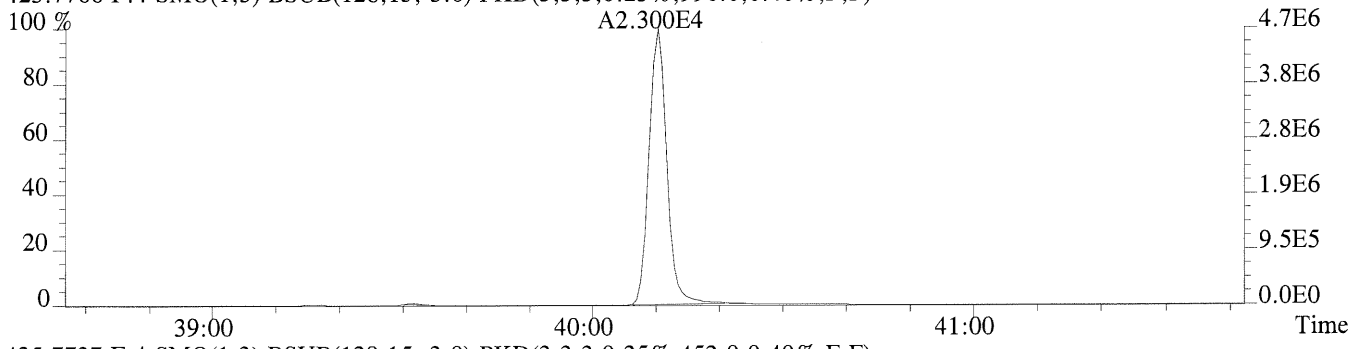
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



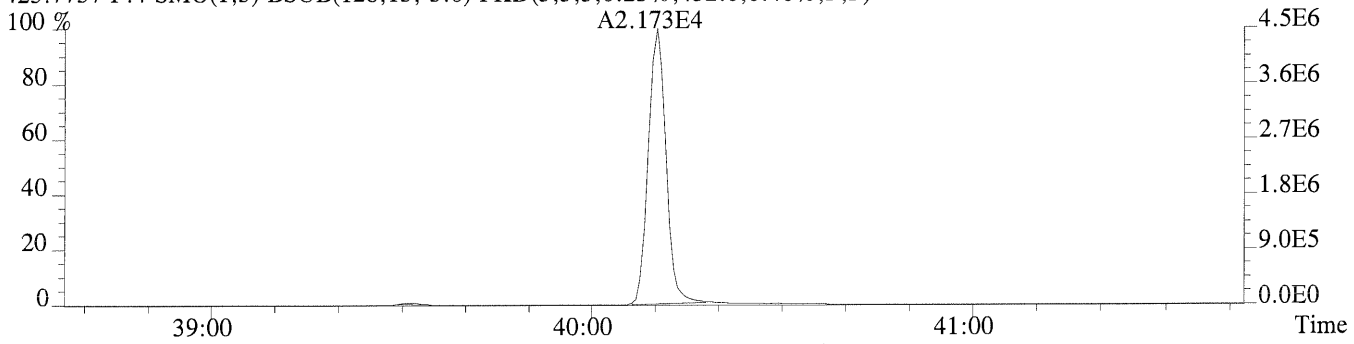
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



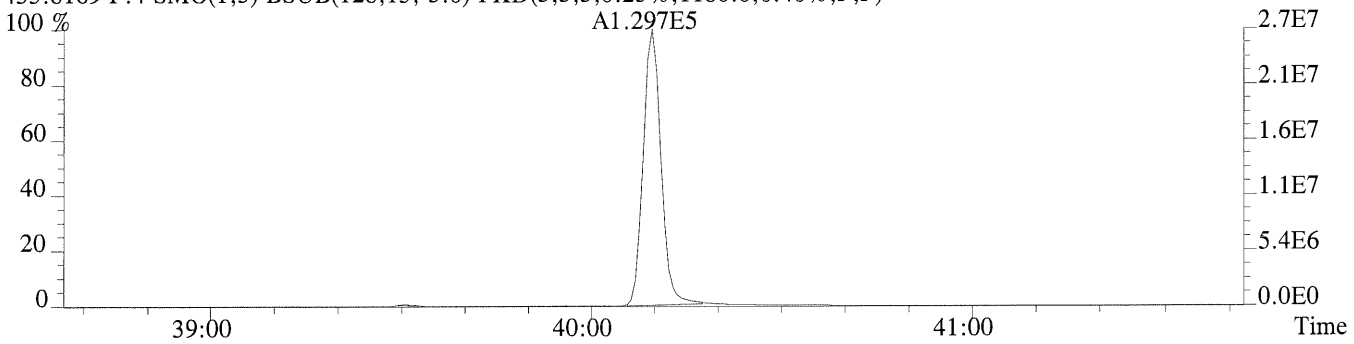
File:P200027 #1-281 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.40%,F,F)



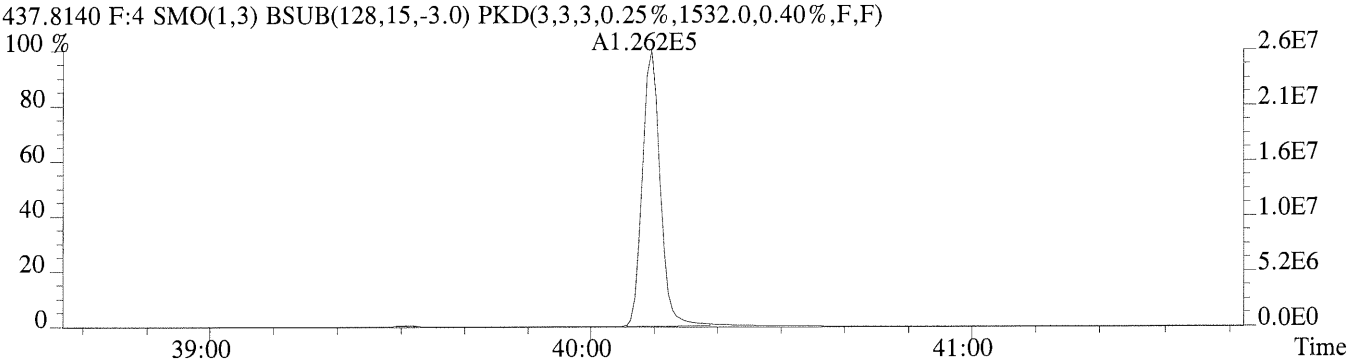
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,452.0,0.40%,F,F)



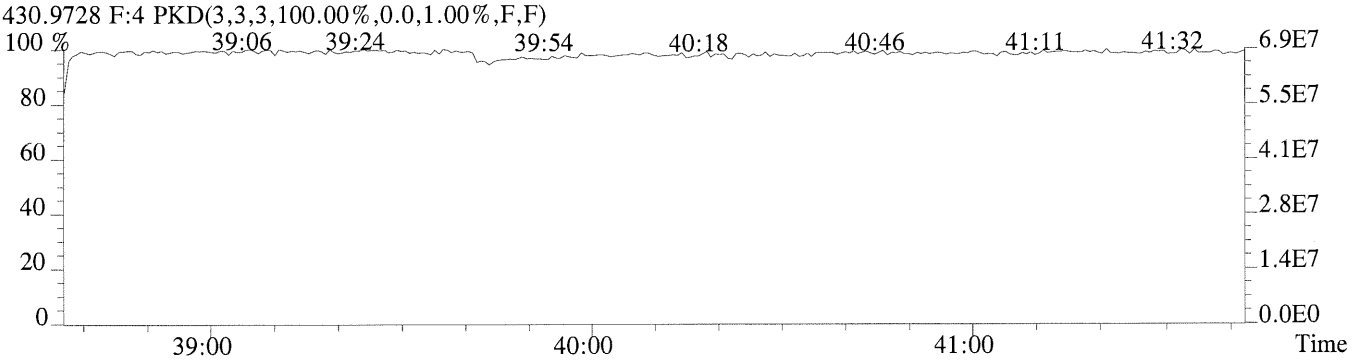
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1180.0,0.40%,F,F)



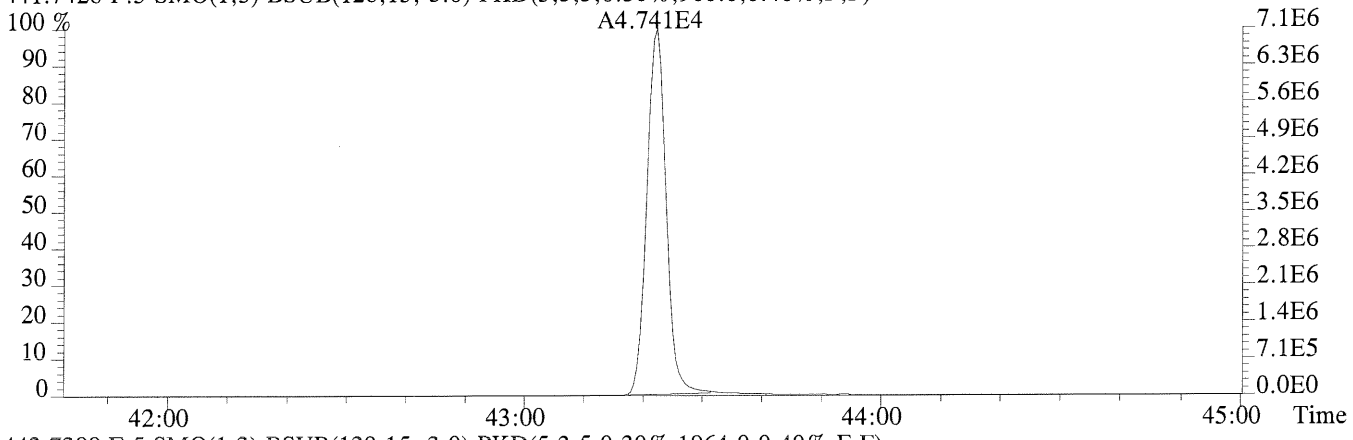
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1532.0,0.40%,F,F)



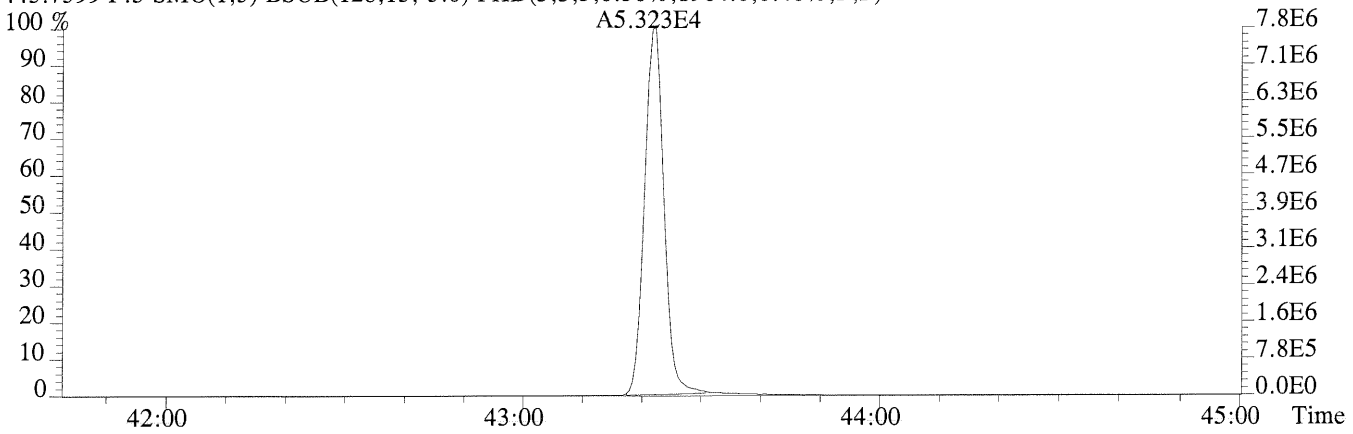
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



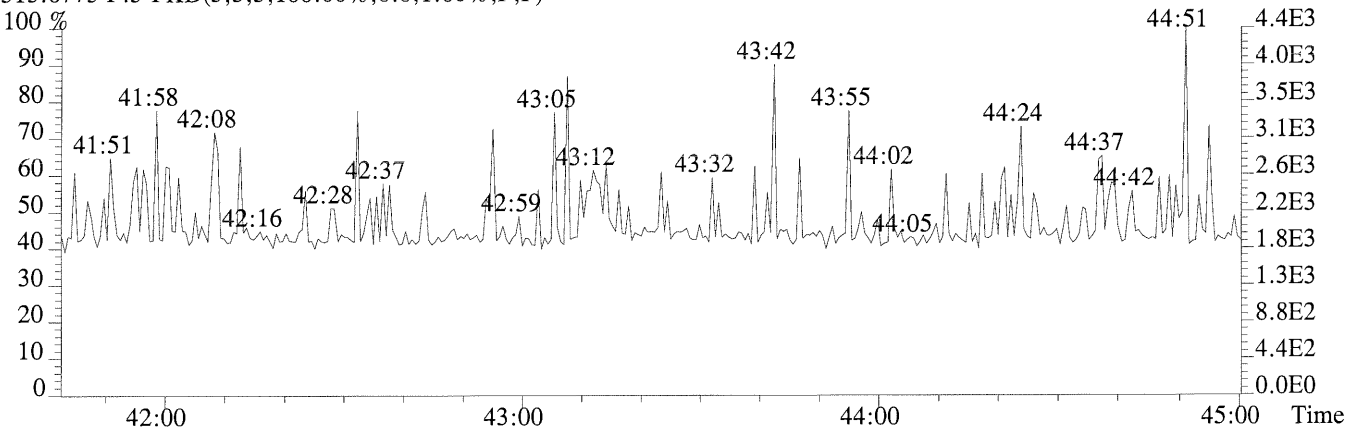
File:P200027 #1-364 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,900.0,0.40%,F,F)



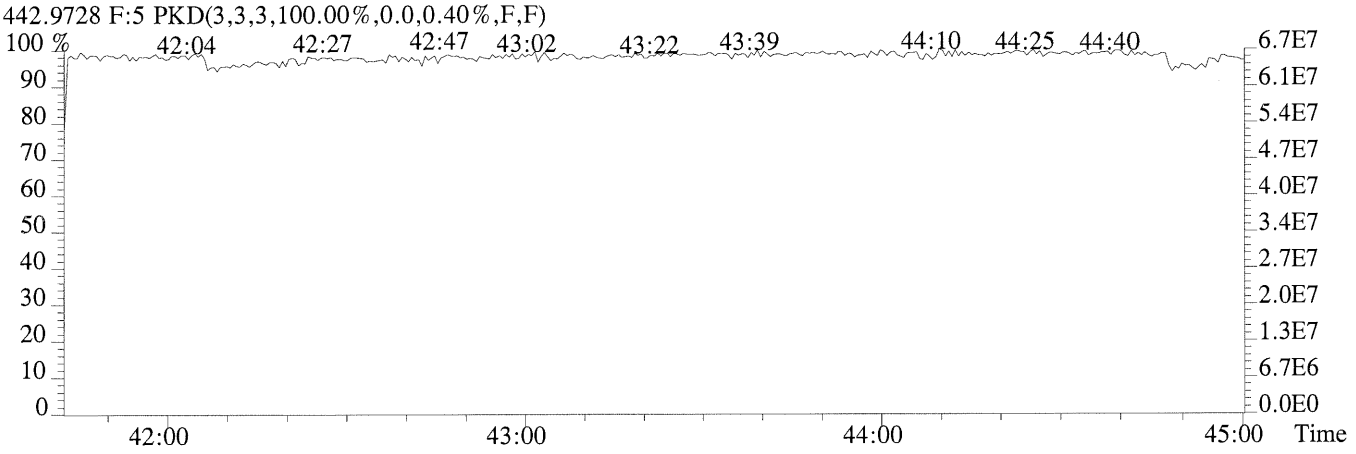
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1964.0,0.40%,F,F)



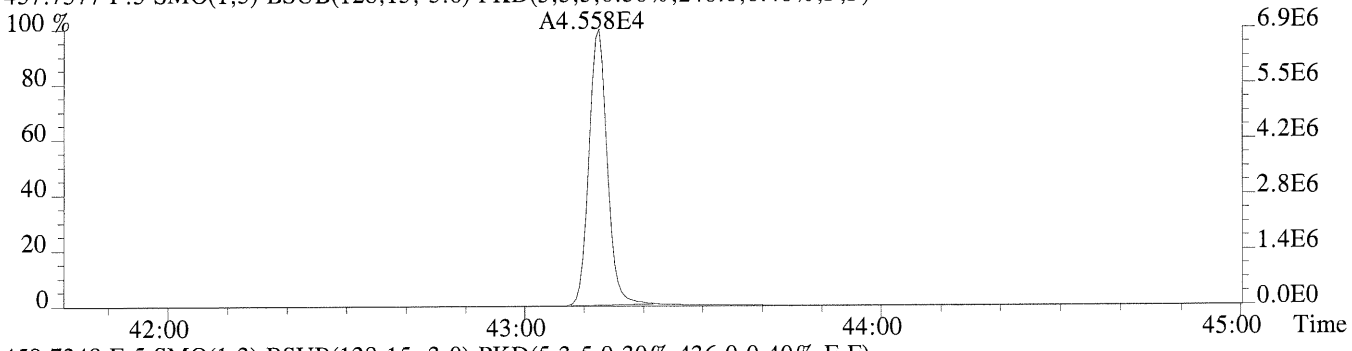
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



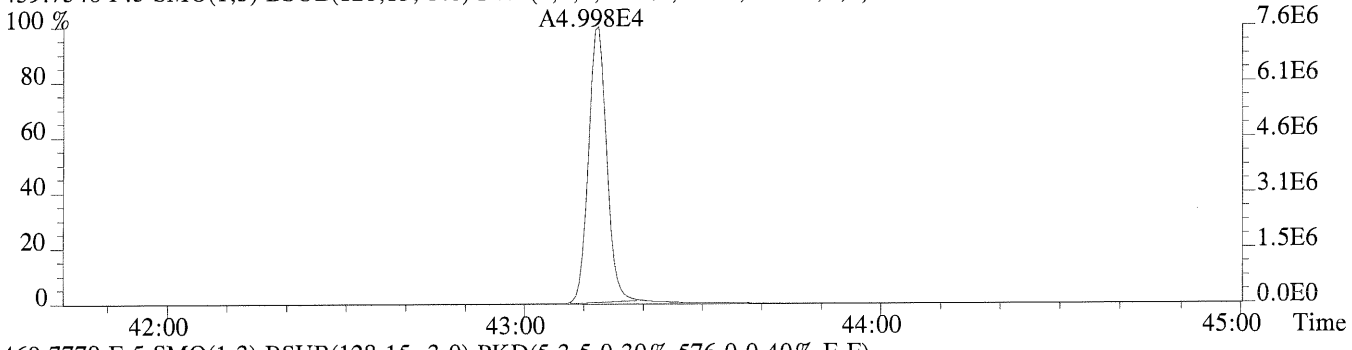
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



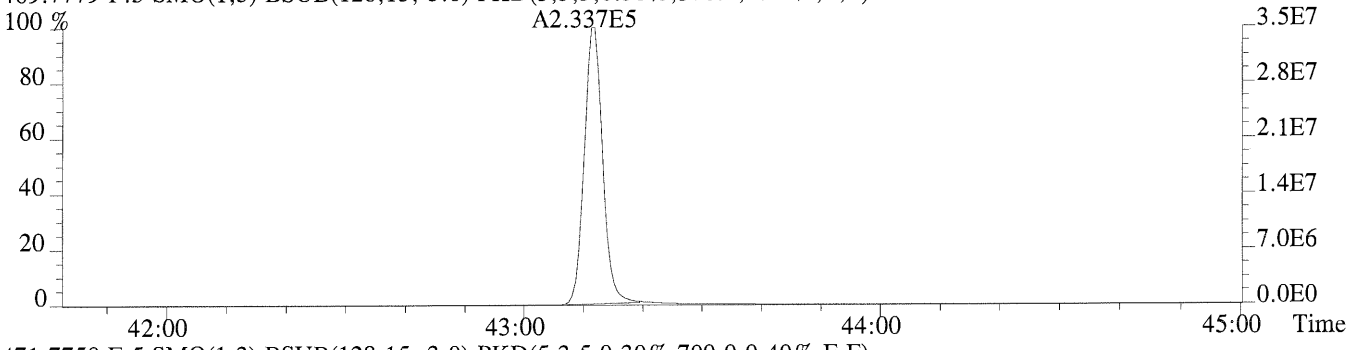
File:P200027 #1-364 Acq:31-JUL-2008 18:42:36 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,F,F)



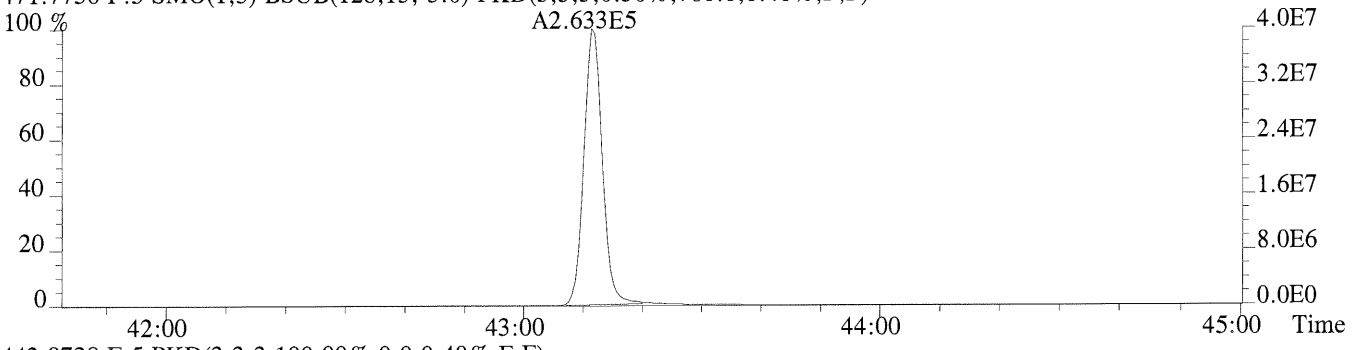
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,436.0,0.40%,F,F)



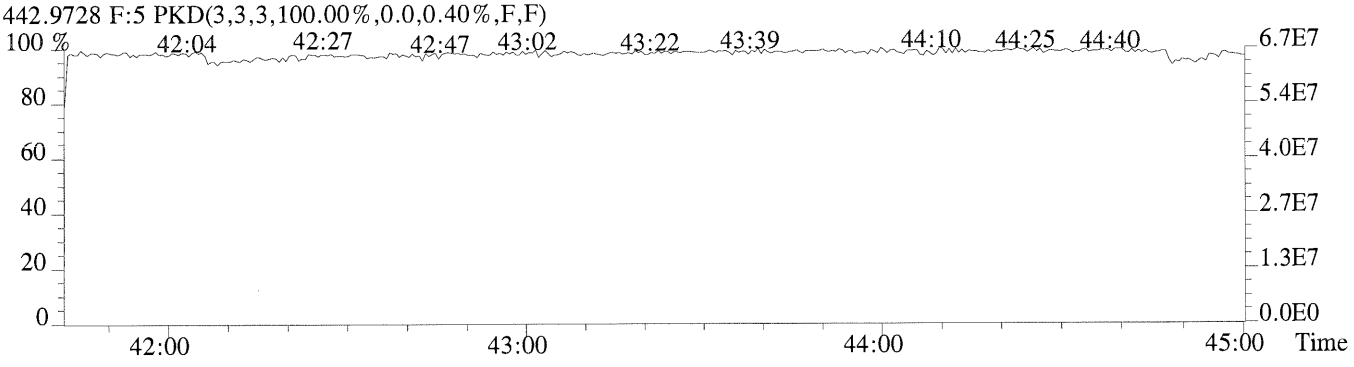
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,576.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,700.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: @ 200039/P200045 Beginning Circle one: / Ending

Date: 08/04/08

Method: 8290 / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: L

Second QC: DZ

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 08/01/08

Init. Calib.Times: 14:25

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
WINDOW DEFINE		P200037	4-AUG-08	09:05:39
CCAL HRCC3		P200039	4-AUG-08	11:52:05
METHOD BLANK	EQ0800317-01	P200040	4-AUG-08	12:59:32
H-T5A-2.0	E0800703-001	P200041	4-AUG-08	13:49:14
H-T5-3.0DUP	E0800704-003	P200042	4-AUG-08	14:44:44
H-T1-2.0	E0800705-002	P200043	4-AUG-08	16:06:26
cak071808SQC	E0800710-001	P200044	4-AUG-08	16:54:12
CCAL HRCC3	CCAL HRCC3	P200045	4-AUG-08	17:54:20

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.

An Employee Owned Company

Acq Method: S290CS/1613 Result File: P8UP200362ES

GC Method: S290CS/1613 EDD File: F P8080182901

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
07/31/08	18:42	P200027	CCAL HRCC3	DS-2-2A		ln	Use Avg	
07/31/08	18:41		HRMS Check					
08/01/08	~~14:22~~	mes/07/08						
	07:25	P200028	Window Define					
	08:11	P200029	CCAL HRCC3	DS-2-2A			14:22 HRMS Check	
	14:25	P200030	Window Define	DS-90-2				
	15:21	P200031	ICAL HRCC3	DS-2-2A				
	16:23	P200032	ICAL HRCC2	DS-49-4				
	17:11	P200033	ICAL HRCC1	DS-49-5				
	18:16	P200034	ICAL HRCC4	DS-49-2				
	19:02	P200035	ICAL HRCC5	DS-49-1				
		P200036	HRCC3 CS/	ln 08/07/08			19:57 HRMS Check	
	14:57		HRMS check				08:58 ↓	
08/04/08	08:58		↓				P200036 HRCC3 CS/DS-61	
	09:05	P200037	Window Define					
		P200038	CCAL HRCC3			↓	needs reinjection	

Reviewed by:

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

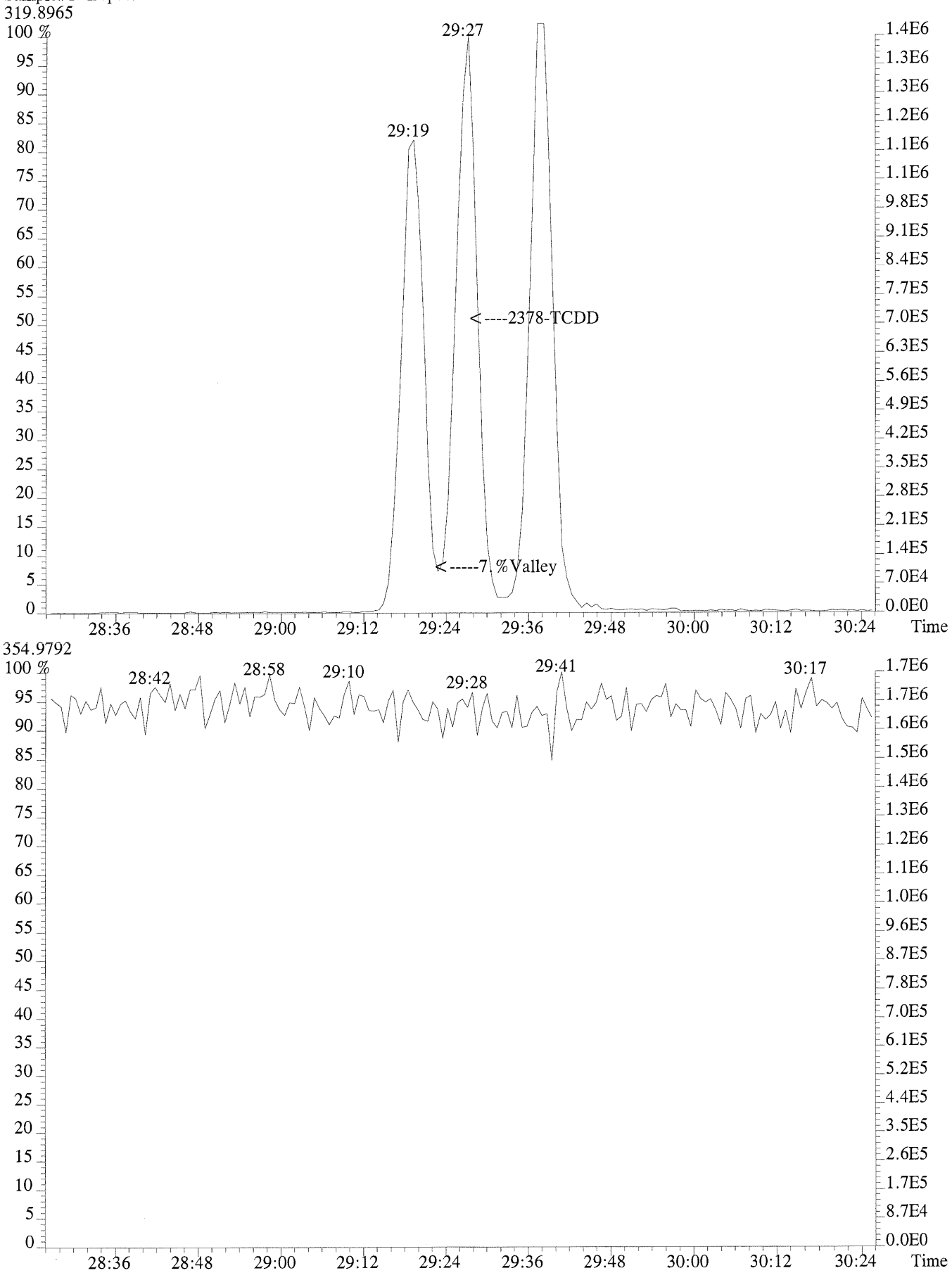
Columbia Analytical Services, Inc.
An Employee Owned Company

Acq Method: 8290CAS/1613
GC Method: 8290CAS/1613
Result File: F-P200039RES
EDD File:

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/04/20	11:52	P200039	CCAL HRGC	DB-2-21		KC		
w 08/14/20	12:59	P200040	EQ0800317-01	Method Blank				
14:04	13:49	P200041	EQ0800703-001	H-TSA-2.0		14:44	P200042	
16:04	16:06	P200042	EQ0800704-003	H-TS-3.000P			w 08/14/20	
16:54	16:54	P200043	EQ0800705-002	H-T1-2.0				
	17:54	P200044	EQ0800710-001	cak 071808SQC		17:54	AS P200045 CCAL HRGC DB-2-21	
	18:43	18:43	HRMS Check					
08/05/20	10:51	P200046	Window Defyn	DY-90-2				
		P200047	CCAL HRGC	DB-2-21				
		P200048	EQ0800326-01					
		P200049	EQ0800716-010					
		P200050	1 -011					
		P200051	CCAL HRGC	DB-2-21				
	06:25		HRMS Check				Use Avg	
		P200052	Window Defyn	DY-90-2				

Reviewed by:

File:P200037 #1-578 Acq: 4-AUG-2008 09:05:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P200037

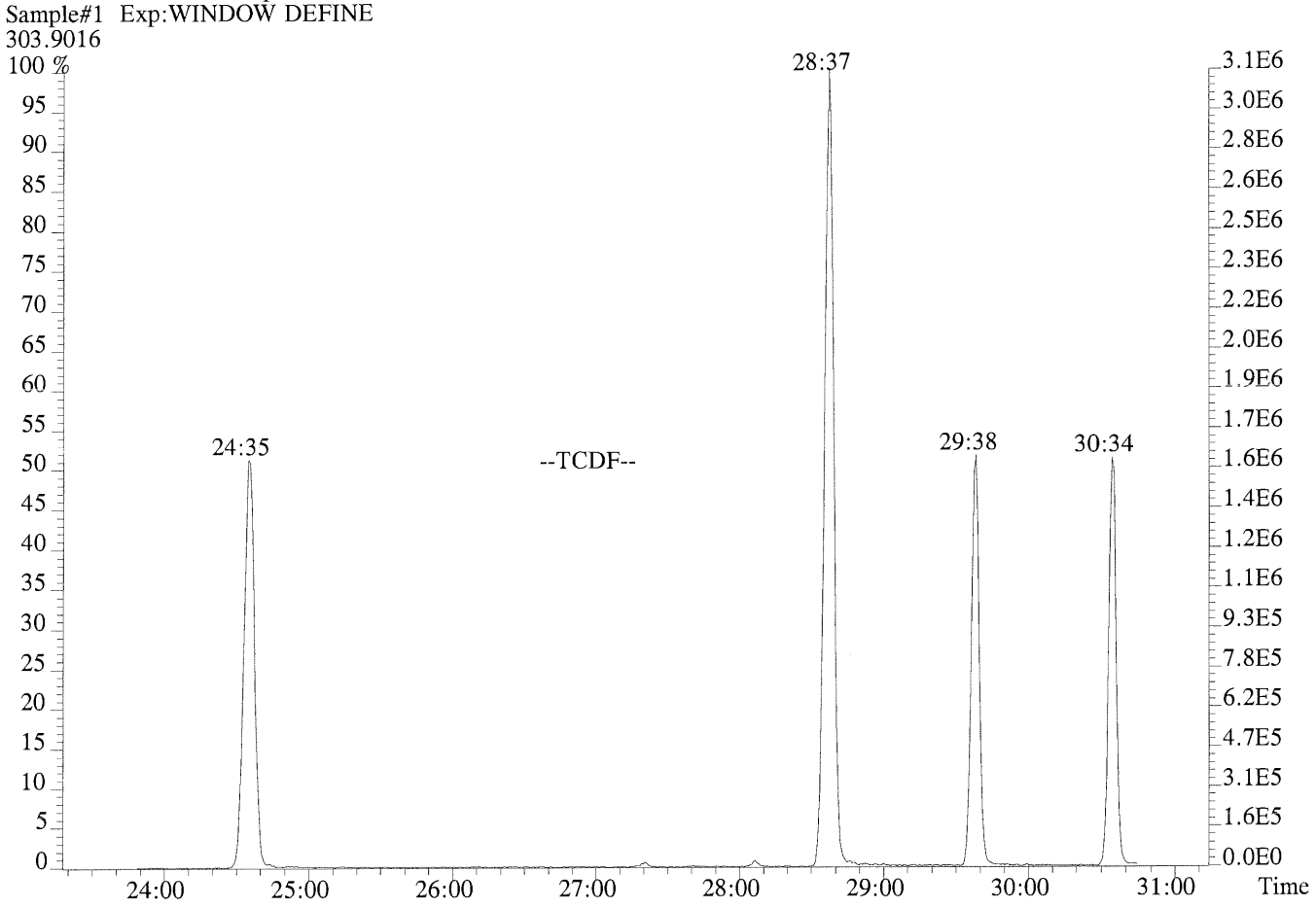
Date Analyzed: 08/04/08

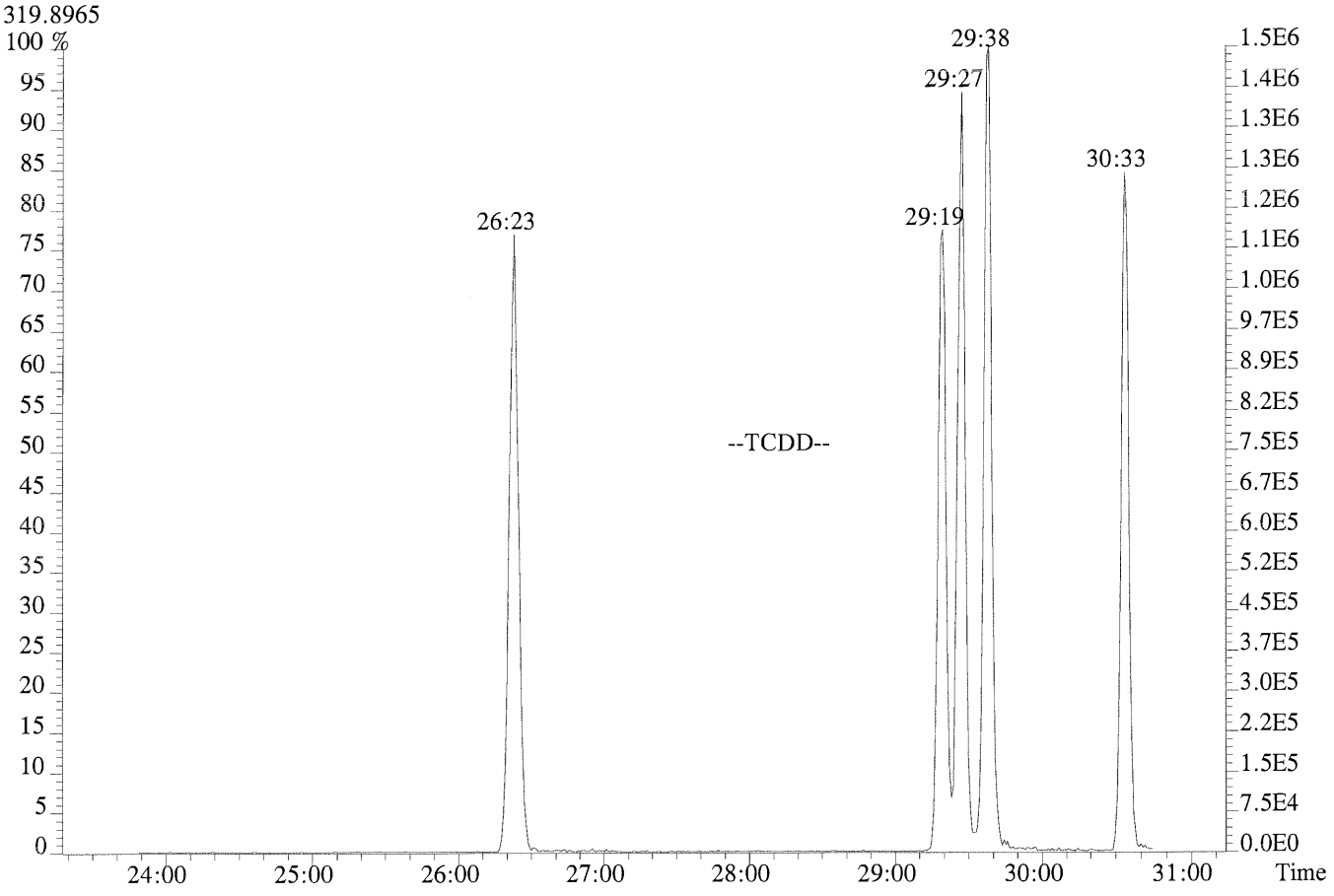
Time Analyzed: 09:05:39

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	24:35	30:34
TCDD	26:23	30:33
PeCDF	30:50	34:42
PeCDD	32:12	34:33
HxCDF	35:35	37:53
HxCDD	36:04	37:34
HpCDF	39:16	40:35
HpCDD	39:31	40:10

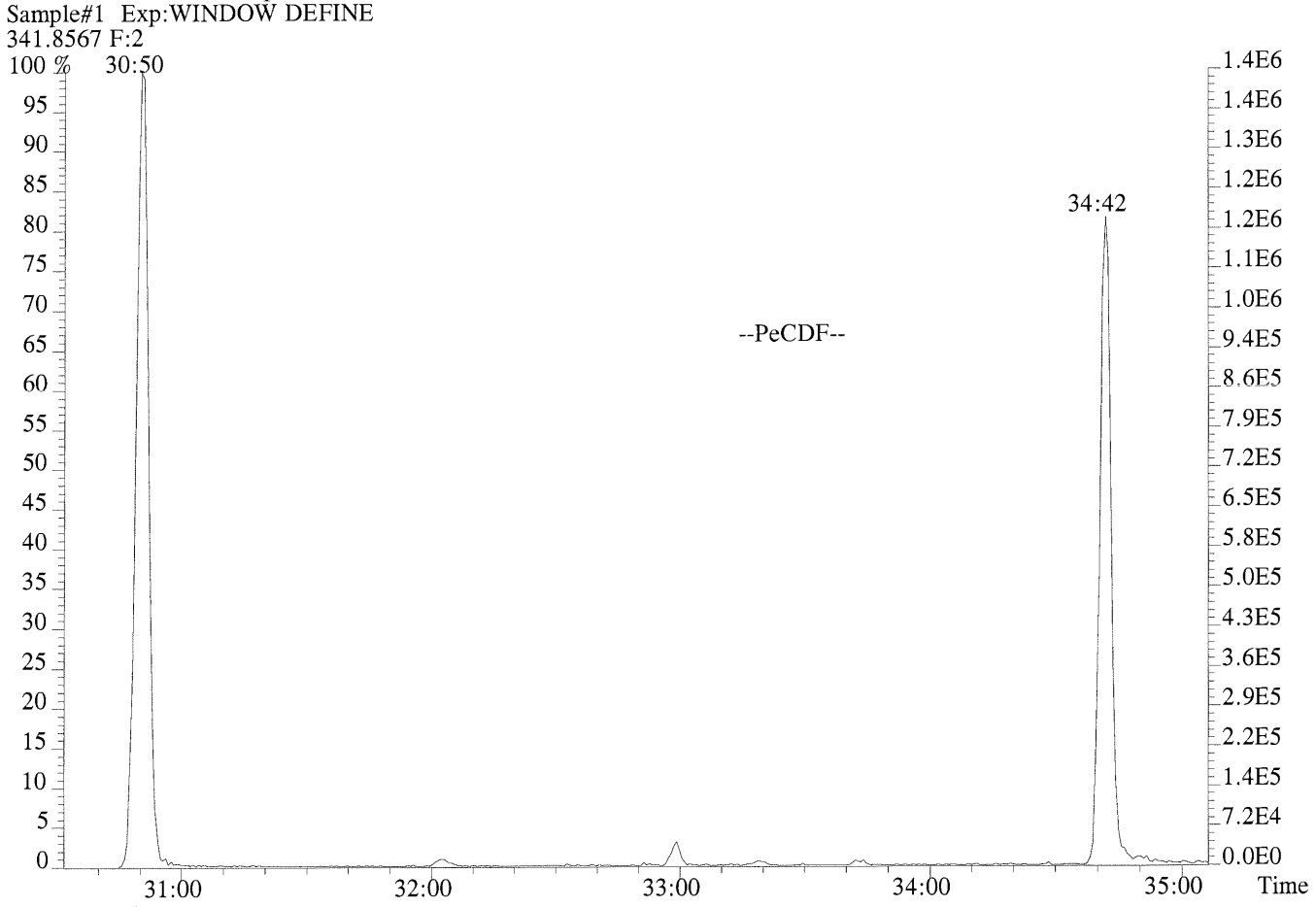
% Valley 2378-TCDD: 7%

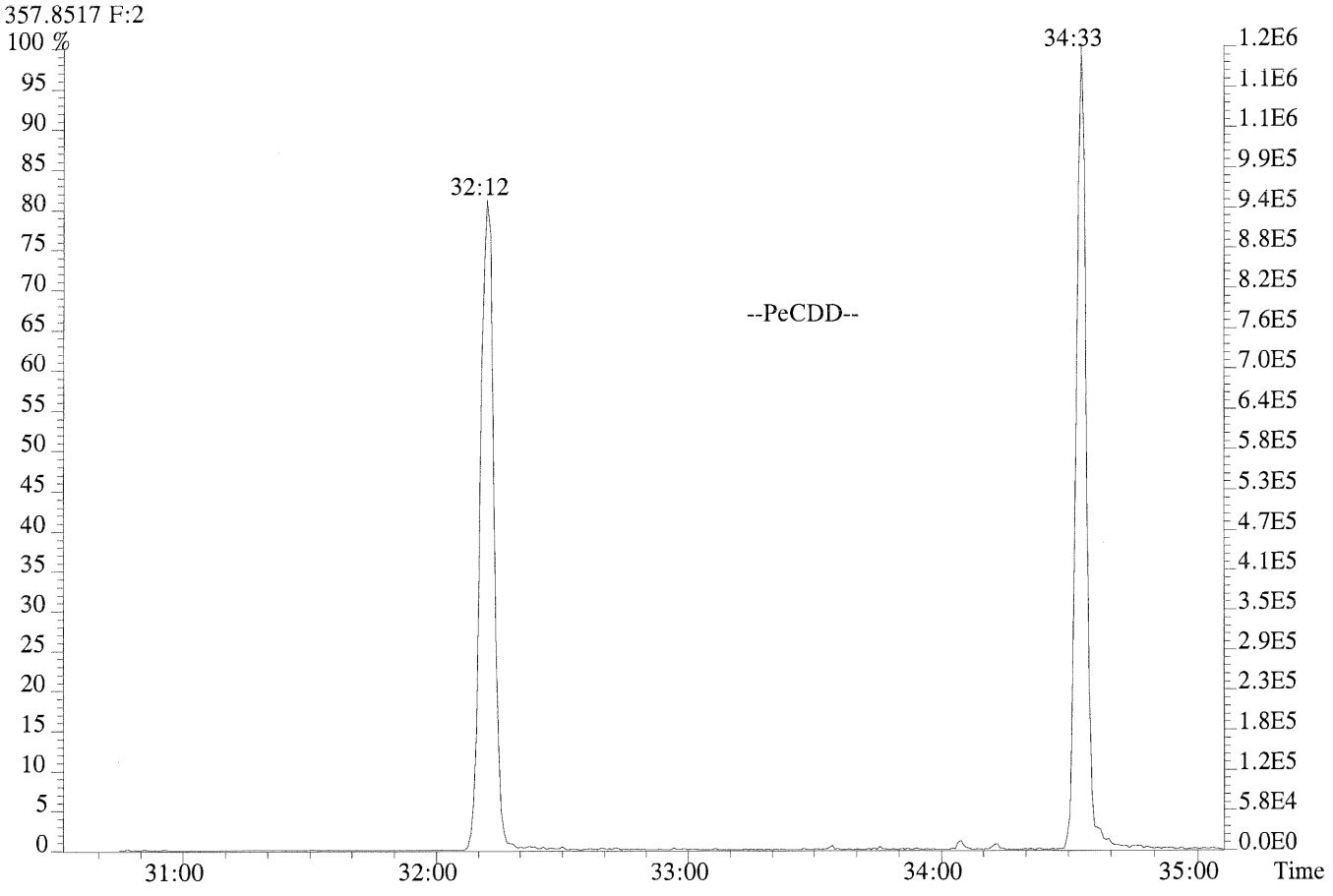
File:P200037 #1-578 Acq: 4-AUG-2008 09:05:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



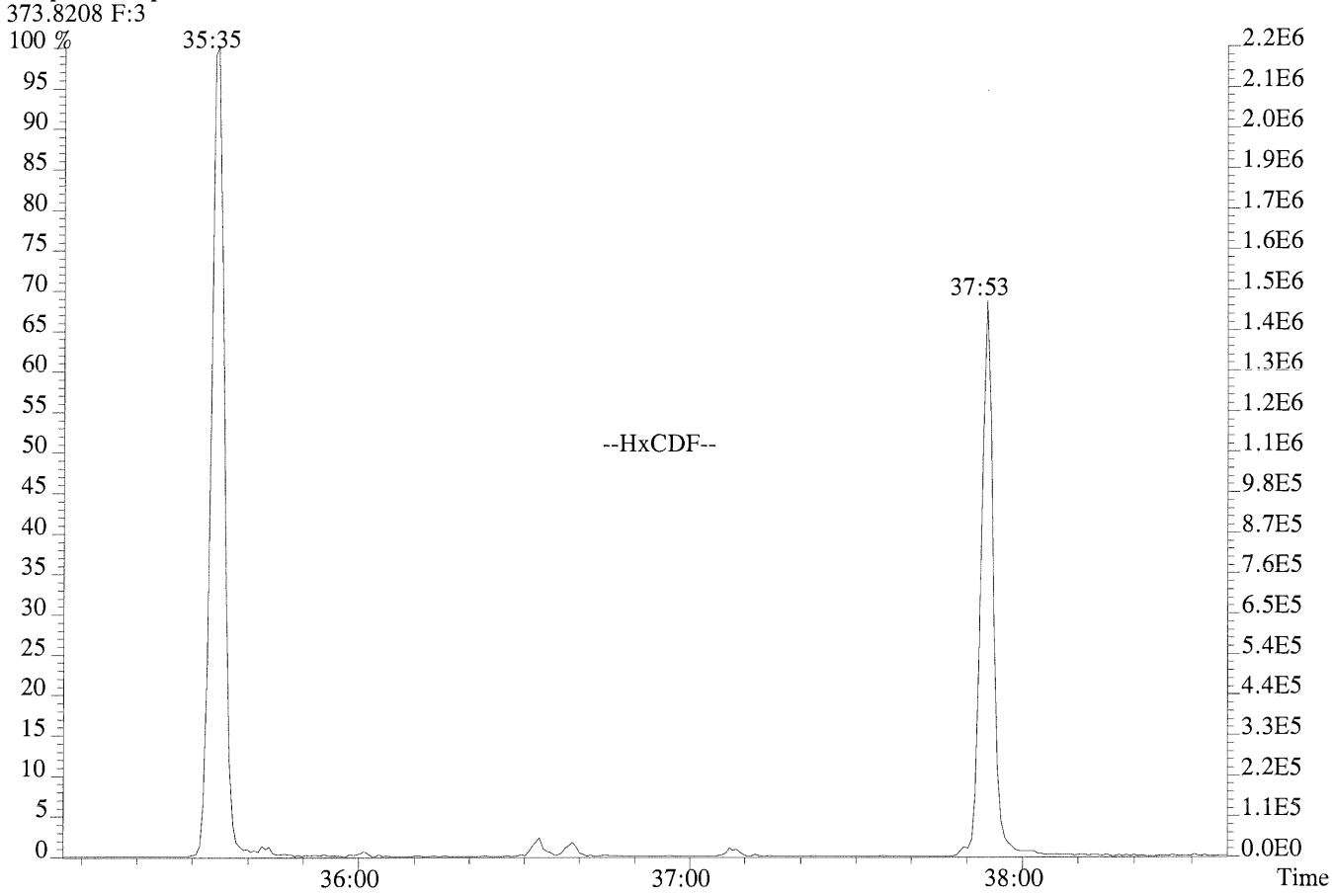


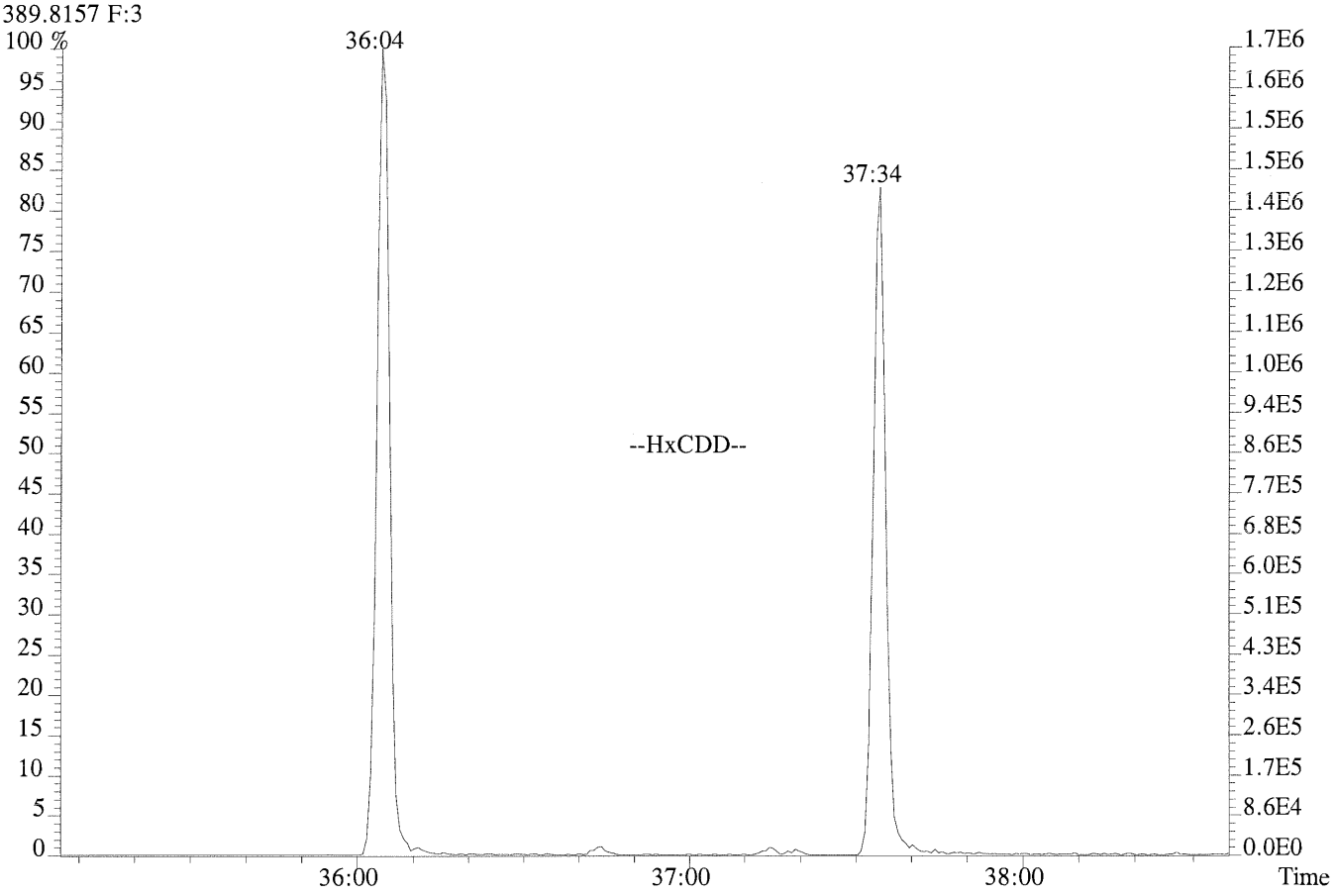
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Sample#1 Exp:WINDOW DEFINE



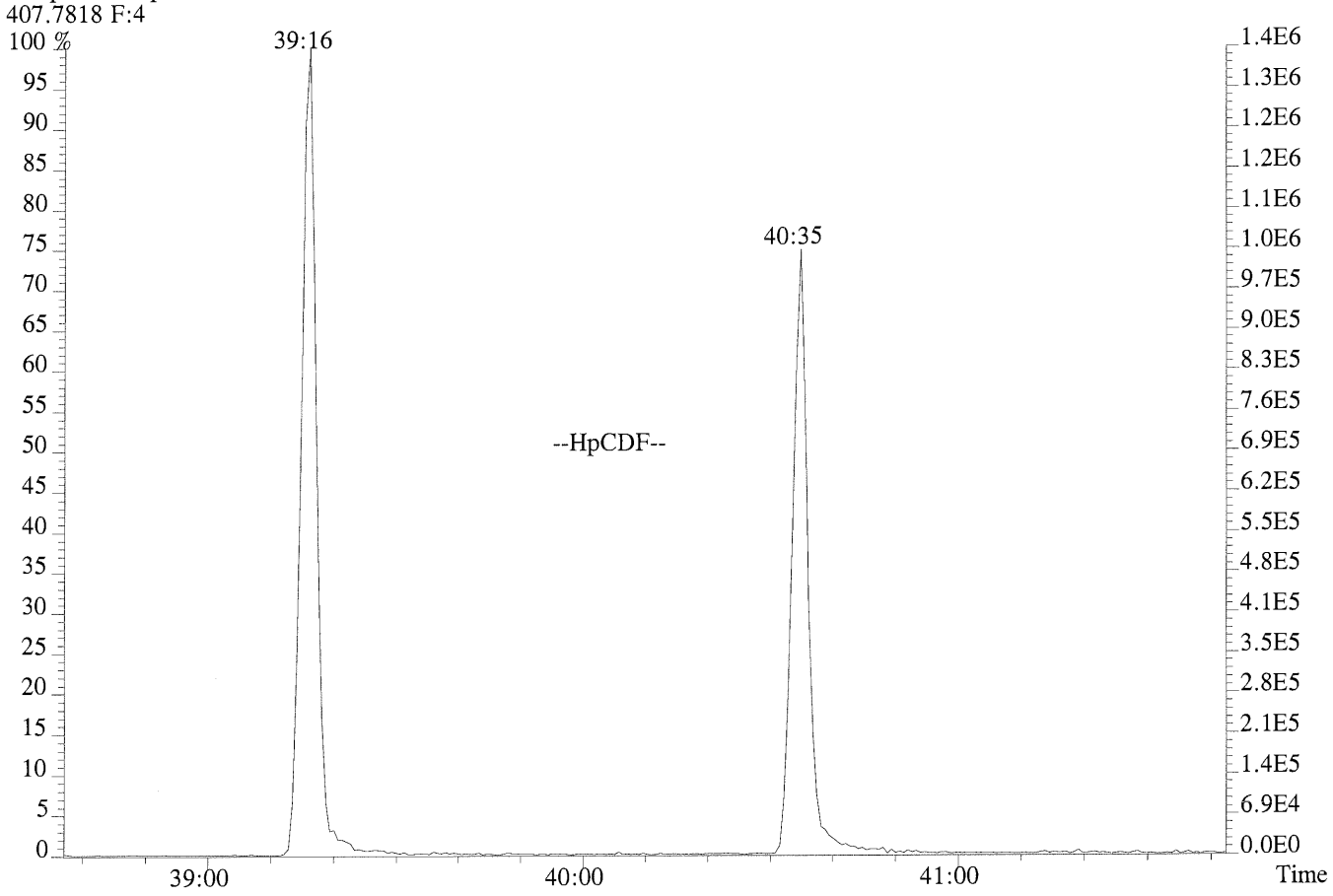


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Sample#1 Exp:WINDOW DEFINE

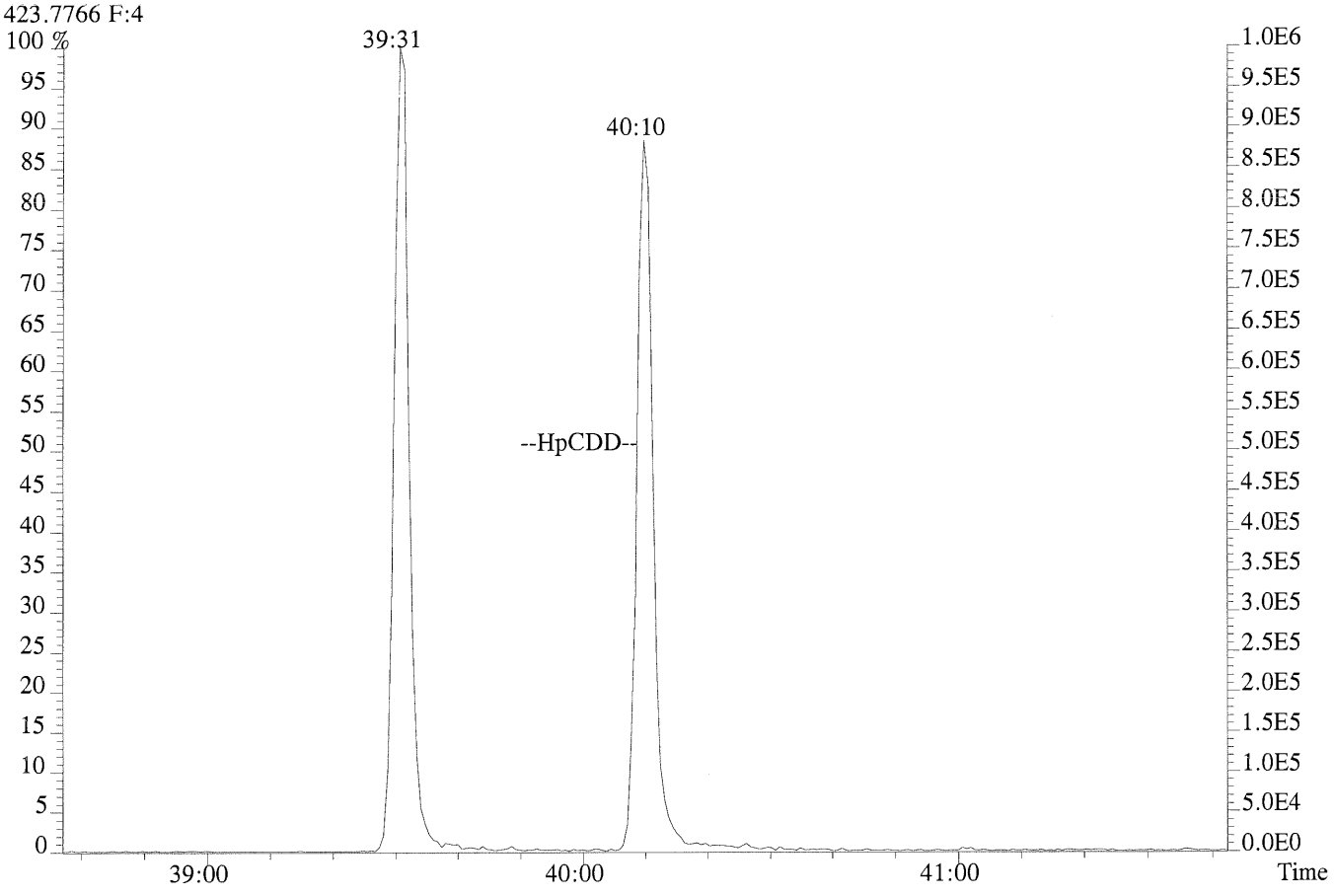




File:P200037 #1-281 Acq: 4-AUG-2008 09:05:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
407.7818 F:4



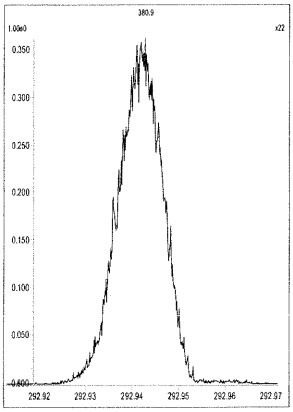
423.7766 F:4



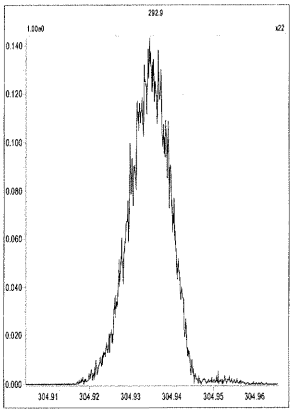
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, August 04, 2008 08:58:47 Central Daylight Time

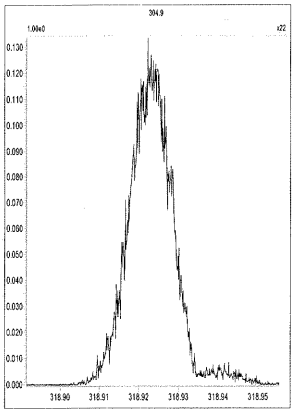
M 292.9824 R 13439



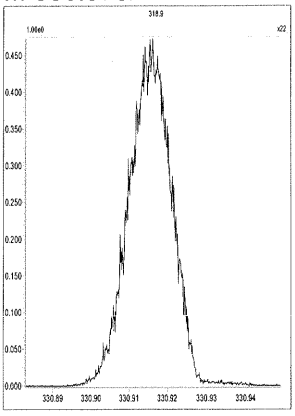
M 304.9824 R 13657



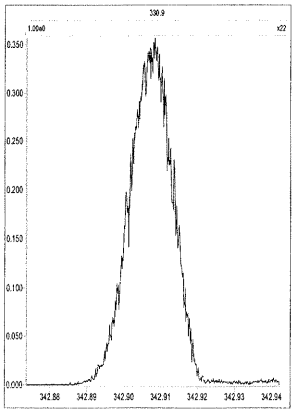
M 318.9792 R 13661



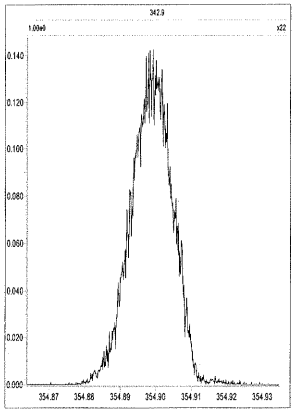
M 330.9792 R 13162



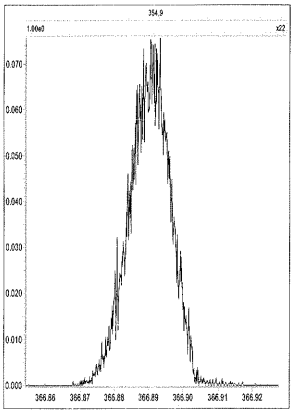
M 342.9792 R 12756



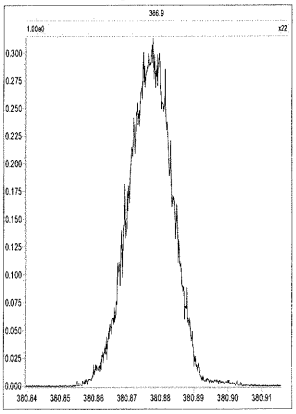
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M 366.9792 R 13663



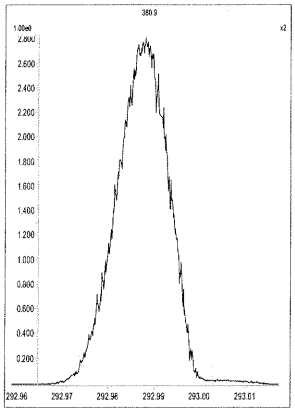
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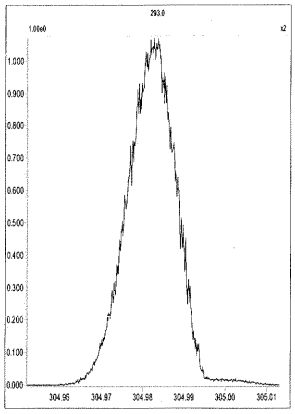
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Printed: Monday, August 04, 2008 18:43:59 Central Daylight Time

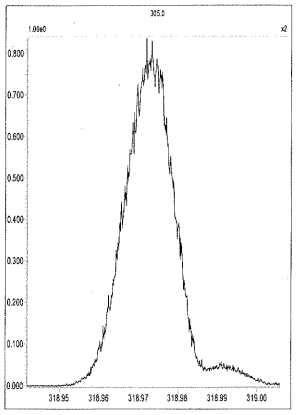
M 292.9824 R 11622



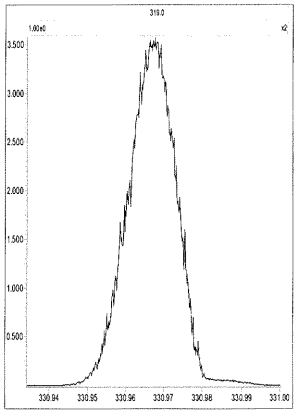
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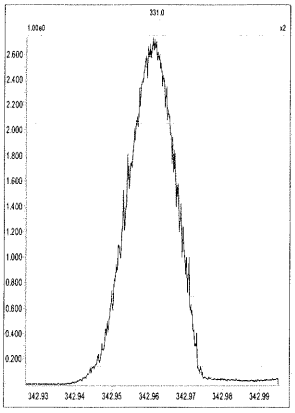
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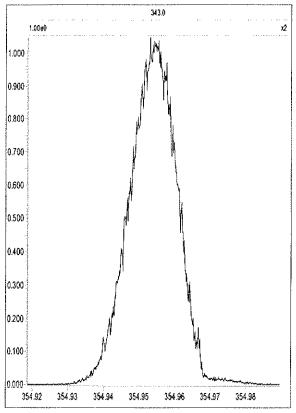
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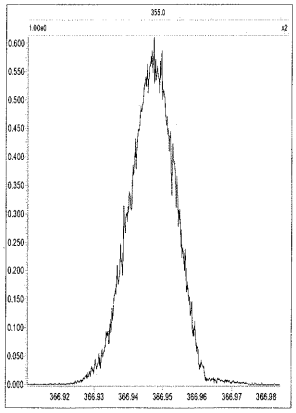
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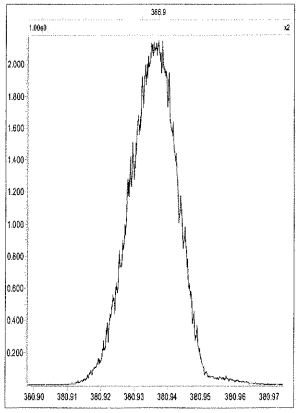
M 354.9792 R 12137



M 366.9792 R 11681



M 380.9760 R 11739



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200039 Analysis Date: 4-AUG-08 Time: 11:52:05

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.97	0.92	5.31
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	0.89	0.87	1.65
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	0.90	0.93	-4.09
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	1.01	1.05	-3.83
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	0.97	0.97	-0.25
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.91	0.88	2.61
OCDD	M+2/M+4	0.90	0.76-1.02	0.98	0.96	1.22
2,3,7,8-TCDF	M/M+2	0.74	0.65-0.89	0.88	0.83	5.41
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	0.87	0.84	3.42
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	0.88	0.85	3.32
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	1.15	1.08	5.76
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	1.16	1.13	2.75
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	0.93	0.87	6.82
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	1.01	1.01	0.12
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	1.44	1.32	9.51
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	1.04	0.97	7.21
OCDF	M+2/M+4	0.89	0.76-1.02	1.00	1.11	-9.45

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200039 Analysis Date: 4-AUG-08 Time: 11:52:05

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	1.02	1.05	-2.51
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	1.00	0.87	15.21
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.97	1.00	-3.27
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.85	0.83	1.93
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.82	0.73	11.87
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.34	1.42	-5.77
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	1.34	1.26	5.87
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	1.10	1.28	-14.24
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.81	0.90	-9.89
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				1.03	0.98	5.07

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P200039 Samp: 1 Inj: 1 Acquired: 4-AUG-08 11:52:05
Processed: 12-AUG-08 08:21:58 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	6.808e+03	9.172e+03	0.74	yes	no	0.831
2	Unk	1,2,3,7,8-PeCDF	32:60	2.397e+04	1.555e+04	1.54	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:43	2.415e+04	1.572e+04	1.54	yes	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.208e+04	1.812e+04	1.22	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.260e+04	1.805e+04	1.25	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:08	1.948e+04	1.600e+04	1.22	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:50	1.796e+04	1.451e+04	1.24	yes	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	1.878e+04	1.866e+04	1.01	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:36	1.352e+04	1.336e+04	1.01	yes	no	0.966
10	Unk	OCDF	43:22	2.466e+04	2.763e+04	0.89	yes	no	1.109
11	Unk	2,3,7,8-TCDD	29:28	5.916e+03	7.623e+03	0.78	yes	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:05	1.837e+04	1.182e+04	1.55	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:15	1.527e+04	1.240e+04	1.23	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:20	1.745e+04	1.386e+04	1.26	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:37	1.661e+04	1.325e+04	1.25	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.251e+04	1.200e+04	1.04	yes	no	0.883
17	Unk	OCDD	43:13	2.406e+04	2.674e+04	0.90	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:36	3.989e+04	5.130e+04	0.78	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:59	5.542e+04	3.552e+04	1.56	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	6.004e+04	1.152e+05	0.52	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	3.938e+04	9.035e+04	0.44	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:26	3.062e+04	3.917e+04	0.78	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:04	4.164e+04	2.648e+04	1.57	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	8.626e+04	6.821e+04	1.26	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	6.903e+04	6.631e+04	1.04	yes	no	0.831
26	IS	13C-OCDD	43:12	1.229e+05	1.376e+05	0.89	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:14	3.005e+04	3.804e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	8.893e+04	7.083e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	1.403e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	28:08		1.631e+04	0.86	yes		0.831
31	Tot	Total Tetra-Dioxins	29:28		1.354e+04	0.78	yes		0.921
32	Tot	Total Penta-Furans	32:06		7.996e+04	1.57	yes		0.845
33	Tot	Total Penta-Dioxins	34:05		3.019e+04	1.55	yes		0.872
34	Tot	Total Hexa-Furans	35:43		1.491e+05	1.25	yes		1.023
35	Tot	Total Hexa-Dioxins	37:15		8.884e+04	1.23	yes		0.985
36	Tot	Total Hepta-Furans	39:16		6.531e+04	1.01	yes		1.142
37	Tot	Total Hepta-Dioxins	39:32		2.489e+04	1.02	yes		0.883

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename P200039 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 11:52:05

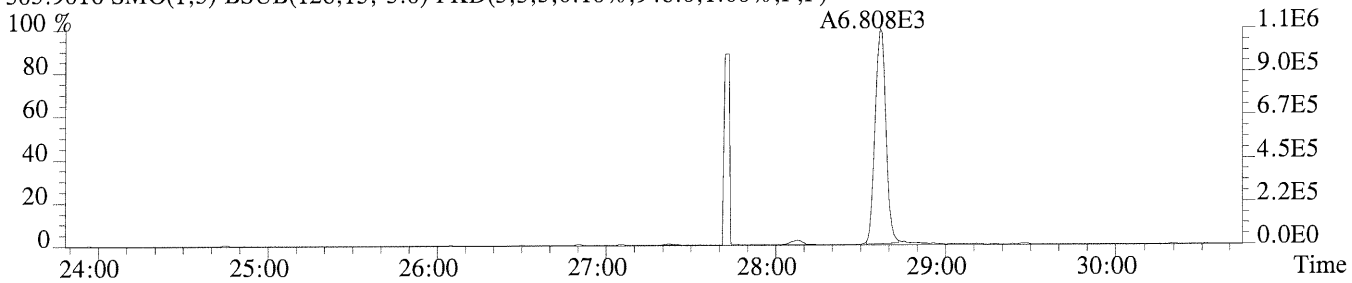
Processed: 12-AUG-08 08:21:58 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.12e+06	9.48e+02	1.2e+03	1.54e+06	2.05e+03	7.5e+02
2	1,2,3,7,8-PeCDF	4.64e+06	5.52e+02	8.4e+03	3.02e+06	1.50e+03	2.0e+03
3	2,3,4,7,8-PeCDF	4.81e+06	5.52e+02	8.7e+03	3.17e+06	1.50e+03	2.1e+03
4	1,2,3,4,7,8-HxCDF	4.79e+06	1.84e+03	2.6e+03	3.94e+06	1.06e+03	3.7e+03
5	1,2,3,6,7,8-HxCDF	4.56e+06	1.84e+03	2.5e+03	3.72e+06	1.06e+03	3.5e+03
6	2,3,4,6,7,8-HxCDF	4.22e+06	1.84e+03	2.3e+03	3.49e+06	1.06e+03	3.3e+03
7	1,2,3,7,8,9-HxCDF	3.78e+06	1.84e+03	2.0e+03	3.04e+06	1.06e+03	2.9e+03
8	1,2,3,4,6,7,8-HpCDF	3.95e+06	3.53e+03	1.1e+03	3.90e+06	1.29e+03	3.0e+03
9	1,2,3,4,7,8,9-HpCDF	2.57e+06	3.53e+03	7.3e+02	2.52e+06	1.29e+03	2.0e+03
10	OCDF	3.53e+06	1.39e+03	2.5e+03	3.96e+06	2.74e+03	1.4e+03
11	2,3,7,8-TCDD	1.06e+06	2.34e+03	4.5e+02	1.36e+06	8.80e+02	1.5e+03
12	1,2,3,7,8-PeCDD	3.72e+06	1.85e+03	2.0e+03	2.41e+06	7.16e+02	3.4e+03
13	1,2,3,4,7,8-HxCDD	3.43e+06	8.24e+02	4.2e+03	2.78e+06	1.46e+03	1.9e+03
14	1,2,3,6,7,8-HxCDD	3.64e+06	8.24e+02	4.4e+03	2.86e+06	1.46e+03	2.0e+03
15	1,2,3,7,8,9-HxCDD	3.50e+06	8.24e+02	4.2e+03	2.75e+06	1.46e+03	1.9e+03
16	1,2,3,4,6,7,8-HpCDD	2.56e+06	1.79e+03	1.4e+03	2.41e+06	8.28e+02	2.9e+03
17	OCDD	3.51e+06	7.80e+02	4.5e+03	3.88e+06	1.10e+03	3.5e+03
18	13C-2,3,7,8-TCDF	6.70e+06	5.04e+03	1.3e+03	8.62e+06	3.70e+03	2.3e+03
19	13C-1,2,3,7,8-PeCDF	1.08e+07	1.18e+03	9.1e+03	7.04e+06	1.30e+03	5.4e+03
20	13C-1,2,3,4,7,8-HxCDF	1.26e+07	1.32e+03	9.6e+03	2.42e+07	2.93e+03	8.3e+03
21	13C-1,2,3,4,6,7,8-HpCDF	8.29e+06	3.42e+03	2.4e+03	1.88e+07	2.84e+03	6.6e+03
22	13C-2,3,7,8-TCDD	5.50e+06	6.53e+03	8.4e+02	7.06e+06	1.24e+03	5.7e+03
23	13C-1,2,3,7,8-PeCDD	8.55e+06	2.59e+03	3.3e+03	5.46e+06	1.29e+03	4.2e+03
24	13C-1,2,3,6,7,8-HxCDD	1.88e+07	8.32e+02	2.3e+04	1.48e+07	1.48e+03	1.0e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.41e+07	2.69e+03	5.2e+03	1.34e+07	8.72e+02	1.5e+04
26	13C-OCDD	1.76e+07	8.72e+02	2.0e+04	1.95e+07	7.60e+02	2.6e+04
27	13C-1,2,3,4-TCDD	5.48e+06	6.53e+03	8.4e+02	6.87e+06	1.24e+03	5.5e+03
28	13C-1,2,3,7,8,9-HxCDD	1.91e+07	8.32e+02	2.3e+04	1.52e+07	1.48e+03	1.0e+04
29	37Cl-2,3,7,8-TCDD	2.51e+06	8.60e+02	2.9e+03			

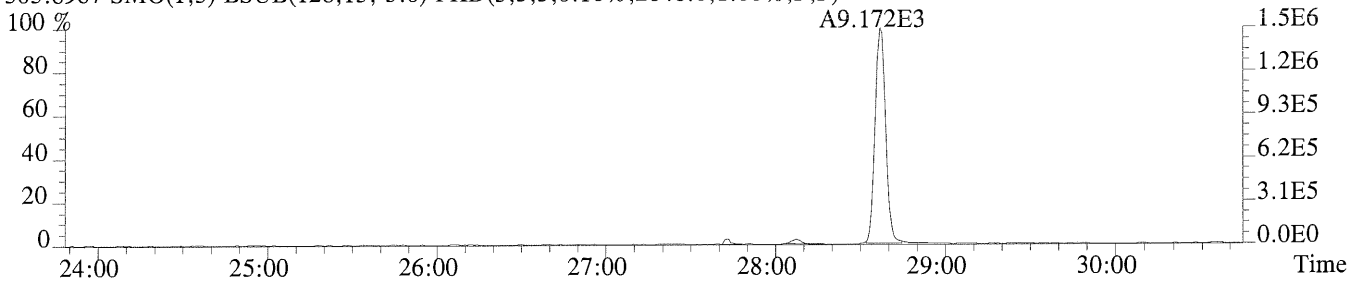
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200039 #1-578 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

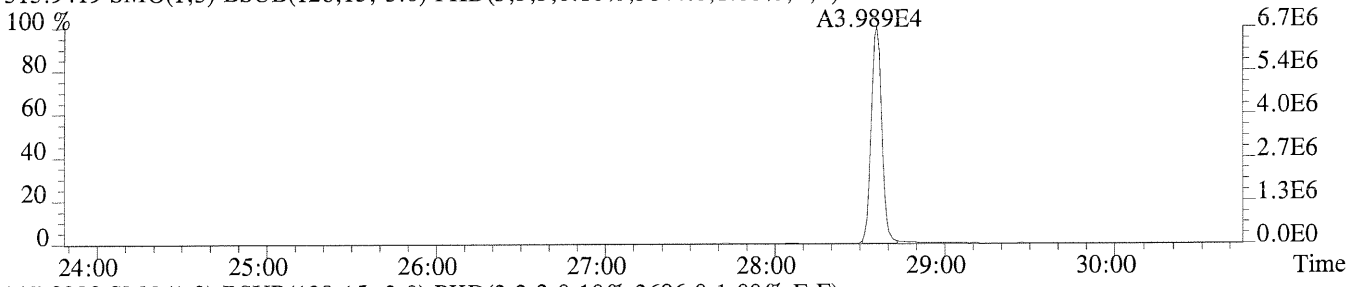
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,948.0,1.00%,F,F)



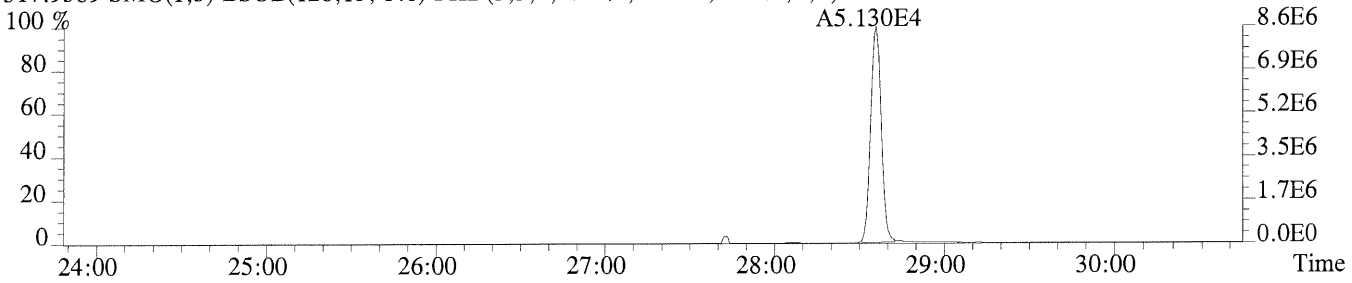
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2048.0,1.00%,F,F)



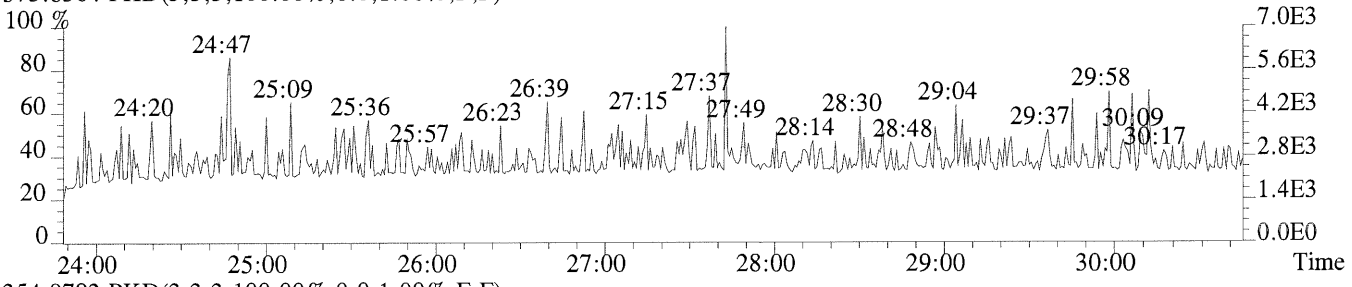
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5044.0,1.00%,F,F)



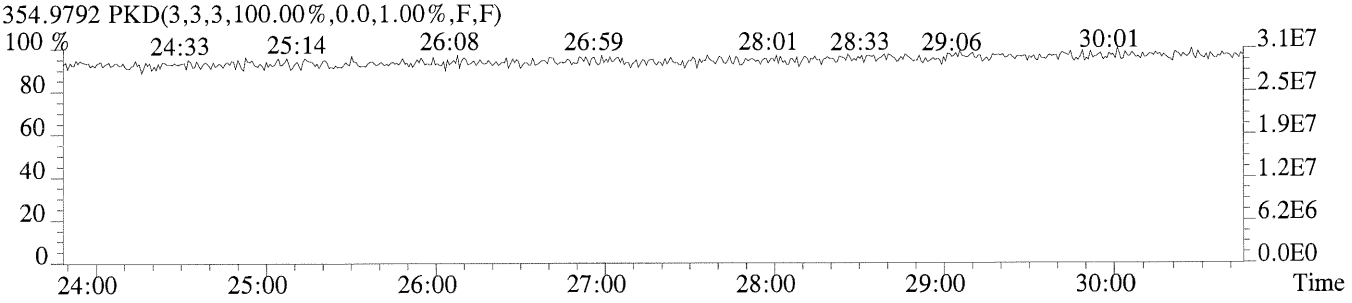
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3696.0,1.00%,F,F)



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

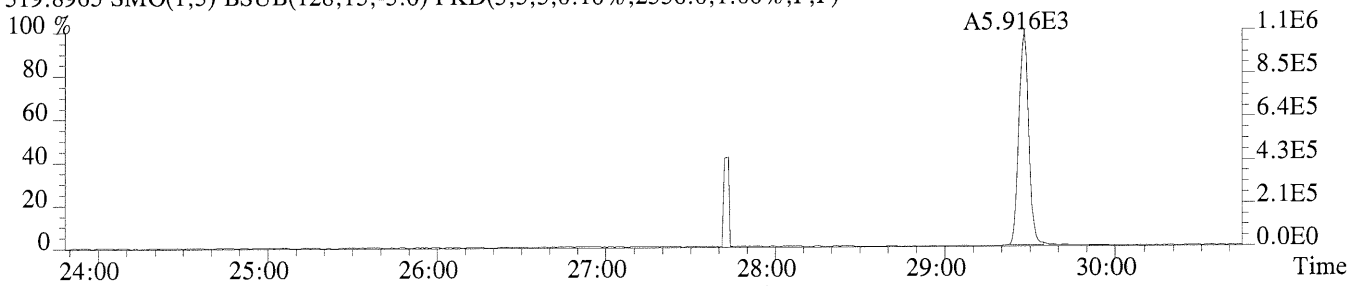


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

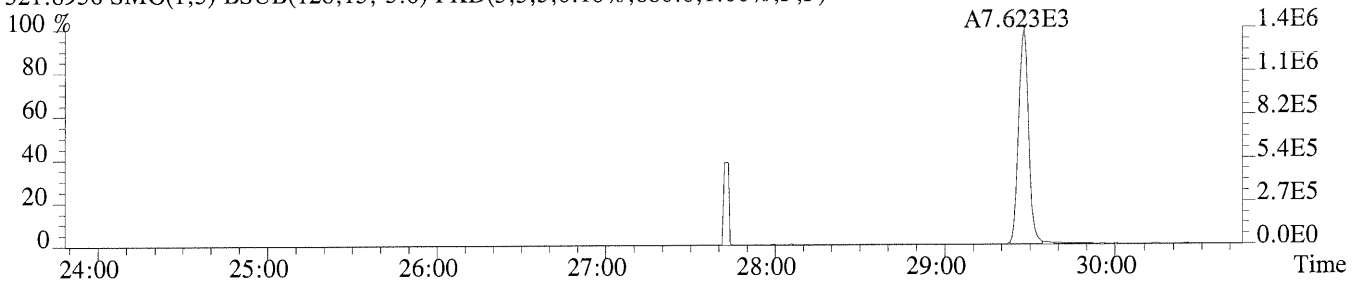


File:P200039 #1-578 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

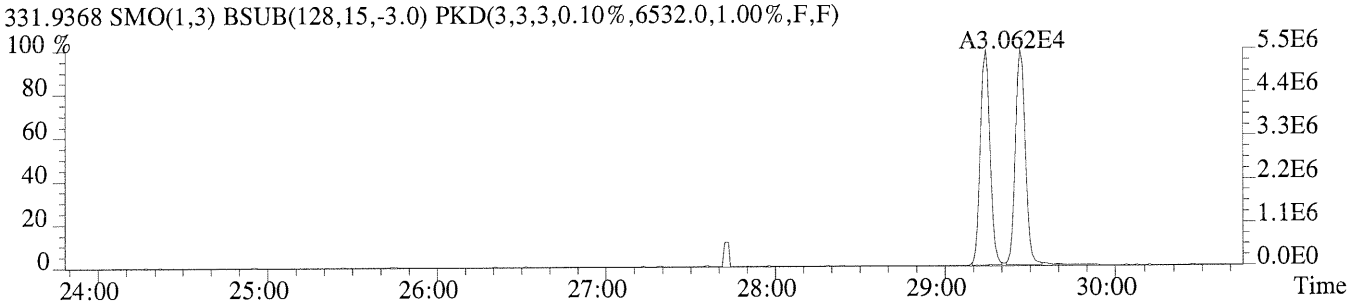
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2336.0,1.00%,F,F)



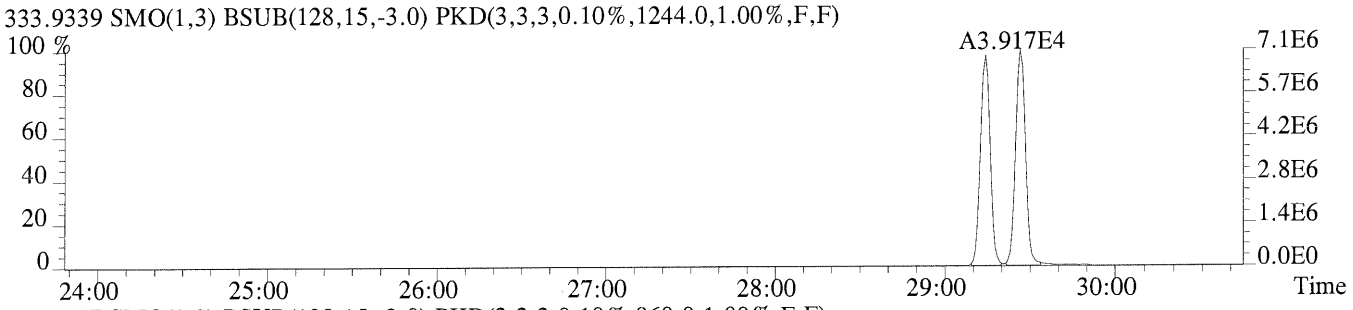
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,880.0,1.00%,F,F)



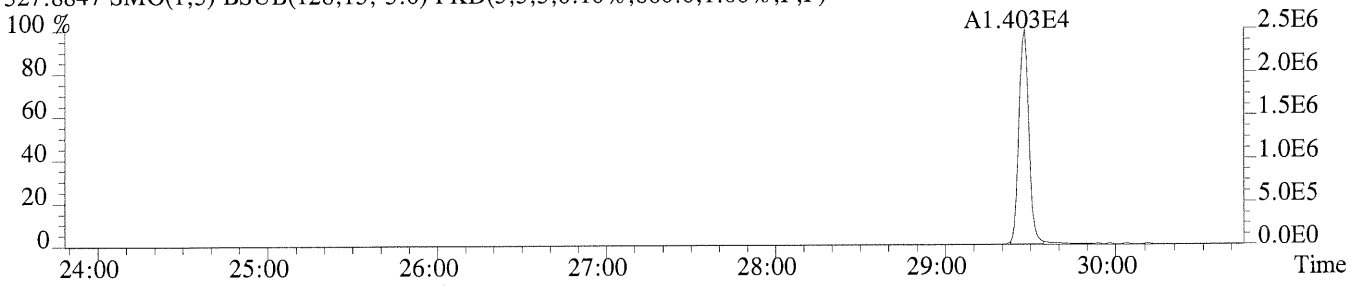
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6532.0,1.00%,F,F)



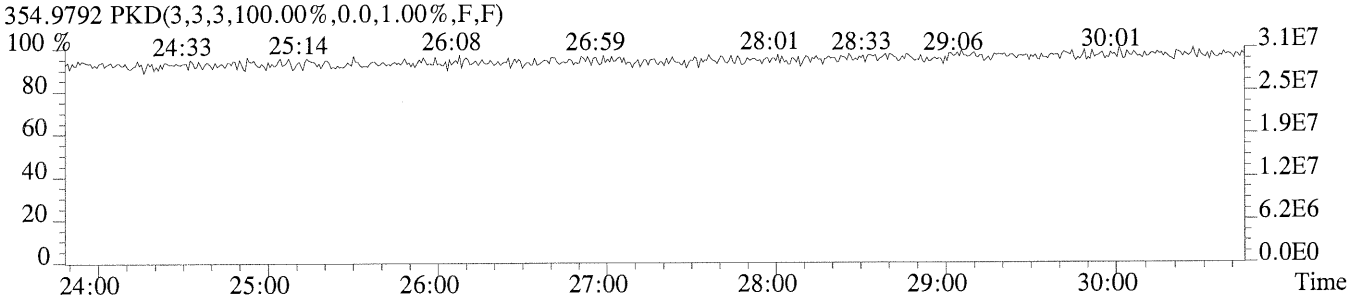
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)

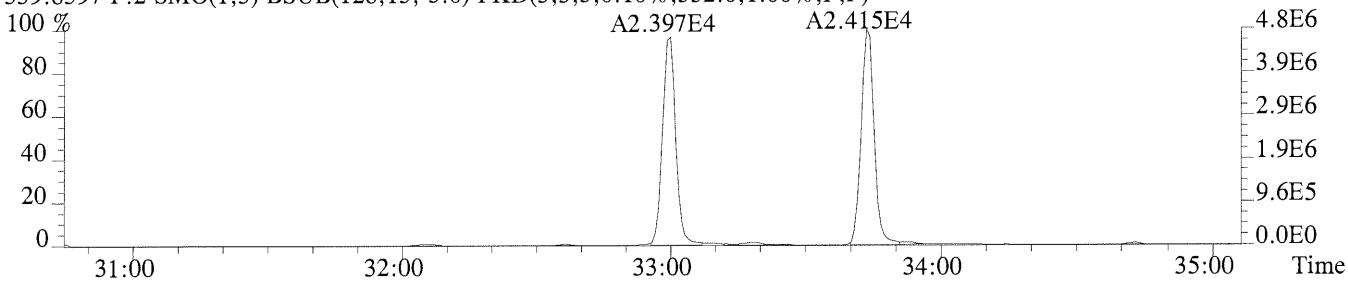


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

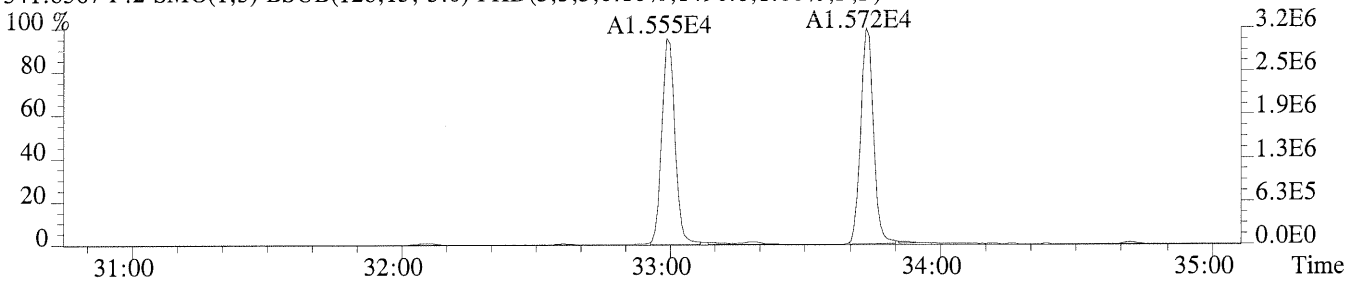


File:P200039 #1-396 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

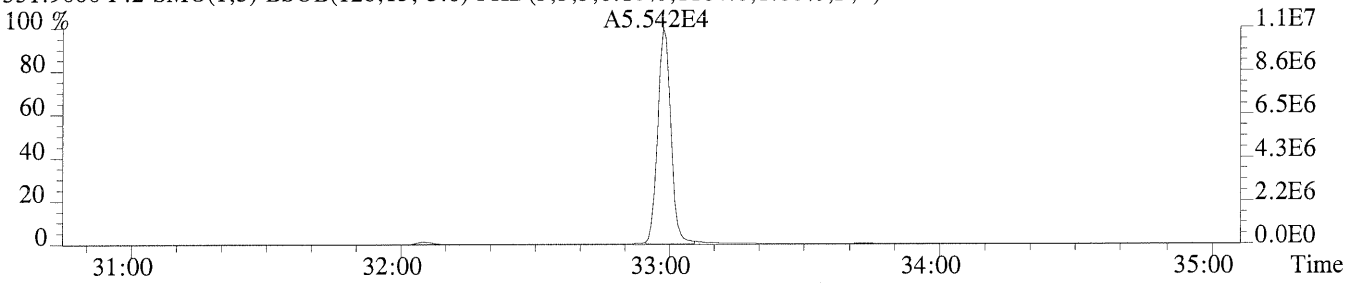
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,F)



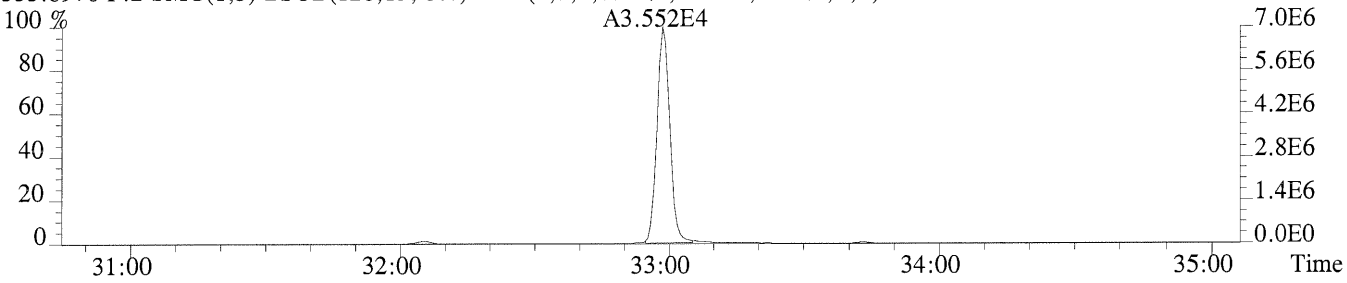
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1496.0,1.00%,F,F)



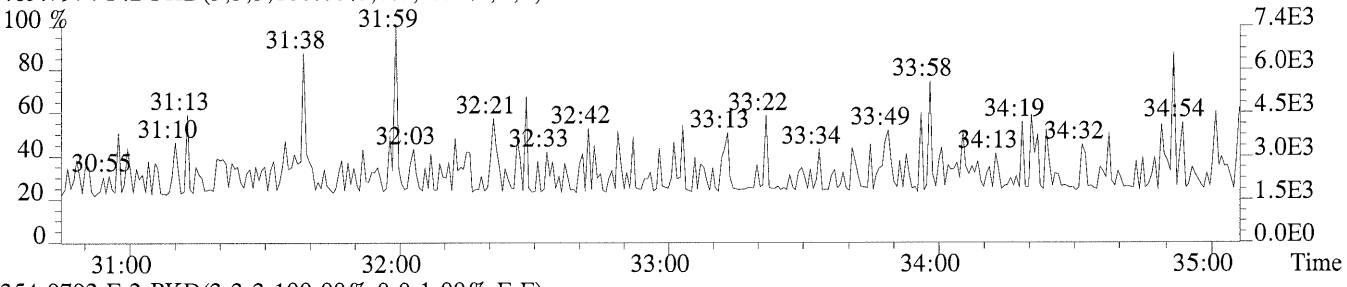
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1184.0,1.00%,F,F)



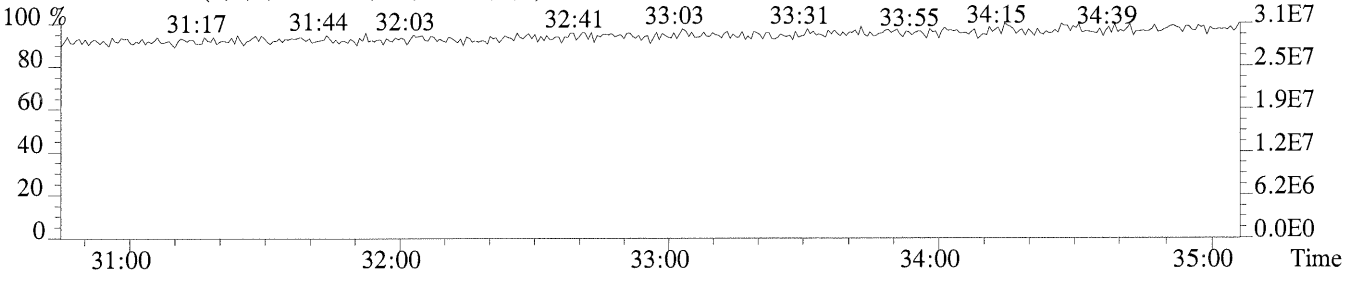
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1296.0,1.00%,F,F)



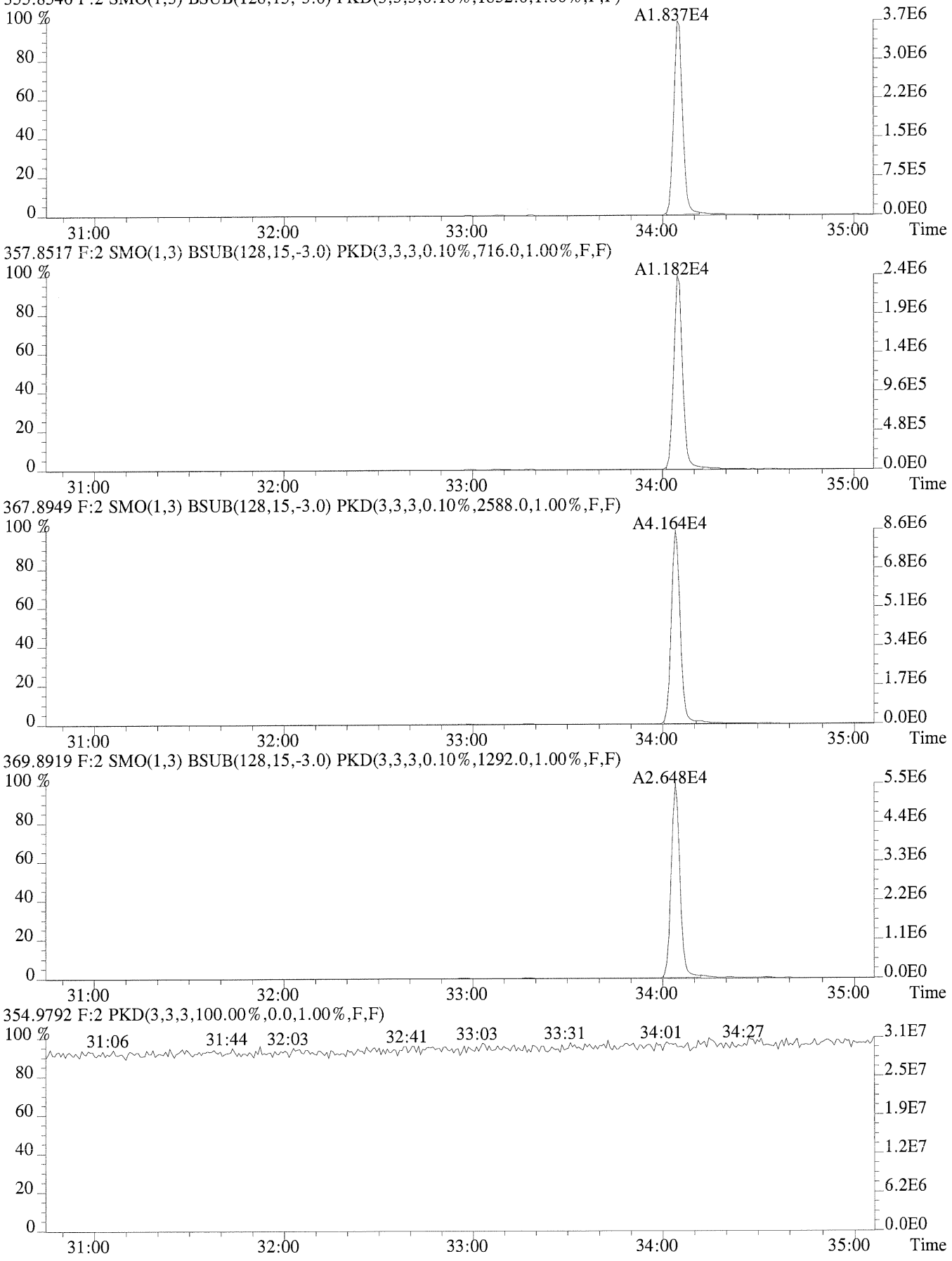
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

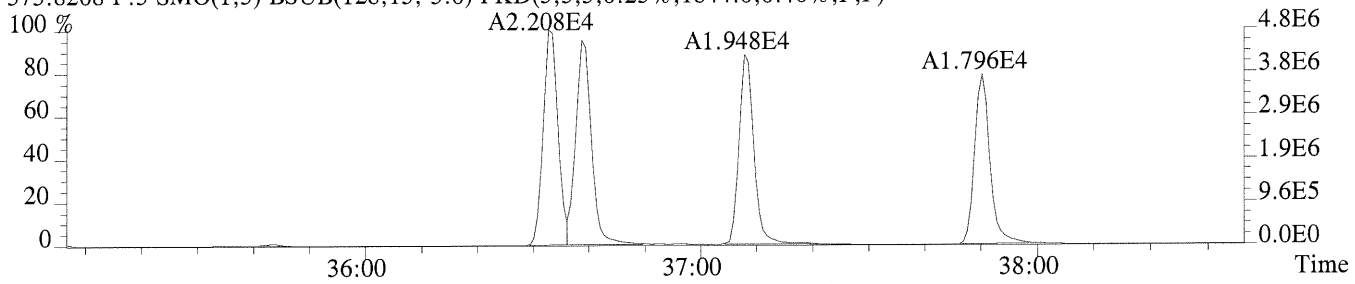


File:P200039 #1-396 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

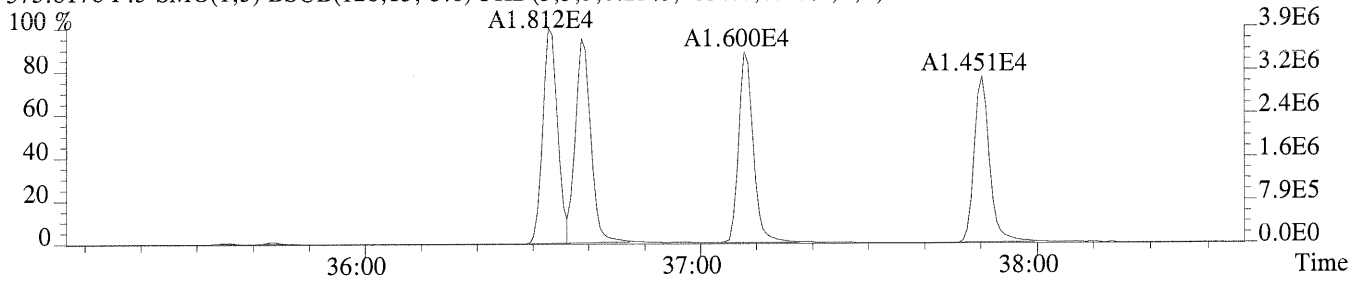


File:P200039 #1-318 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

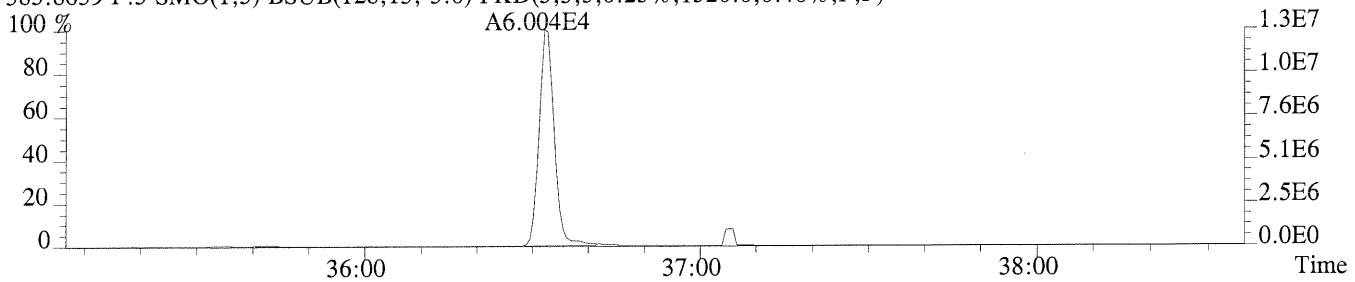
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1844.0,0.40%,F,F)



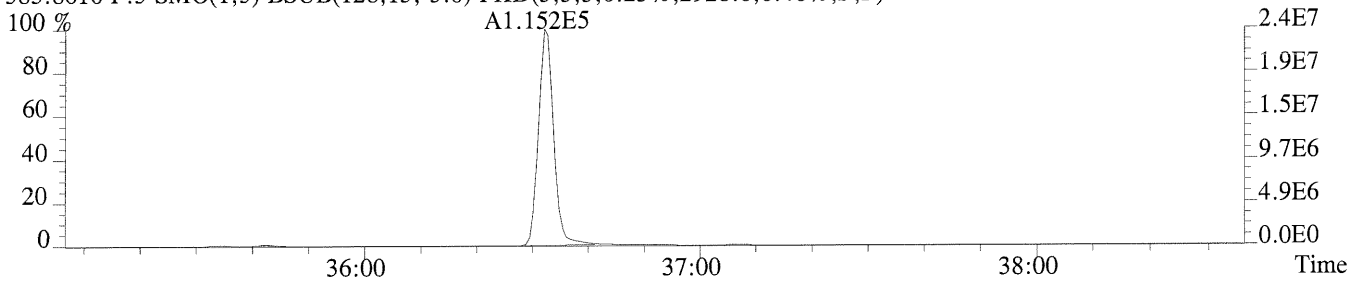
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,F)



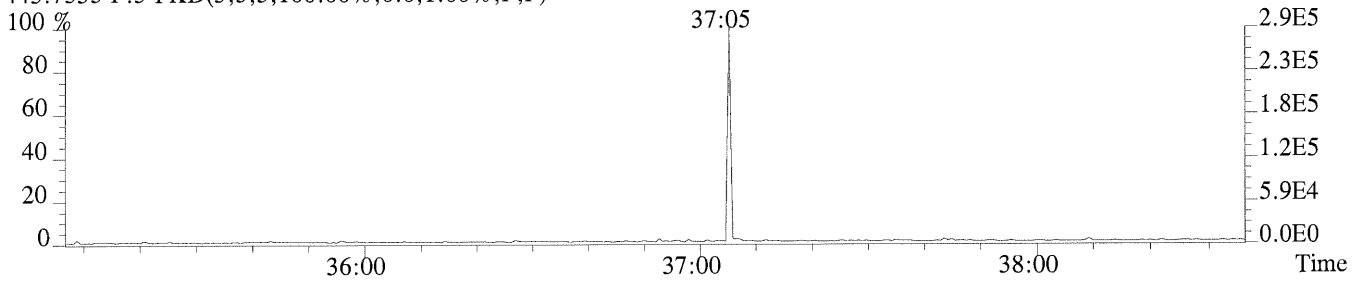
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1320.0,0.40%,F,F)



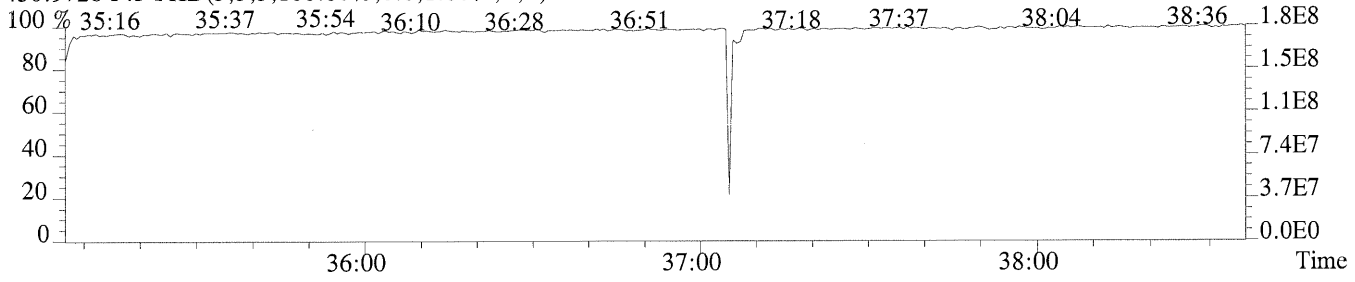
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2928.0,0.40%,F,F)



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

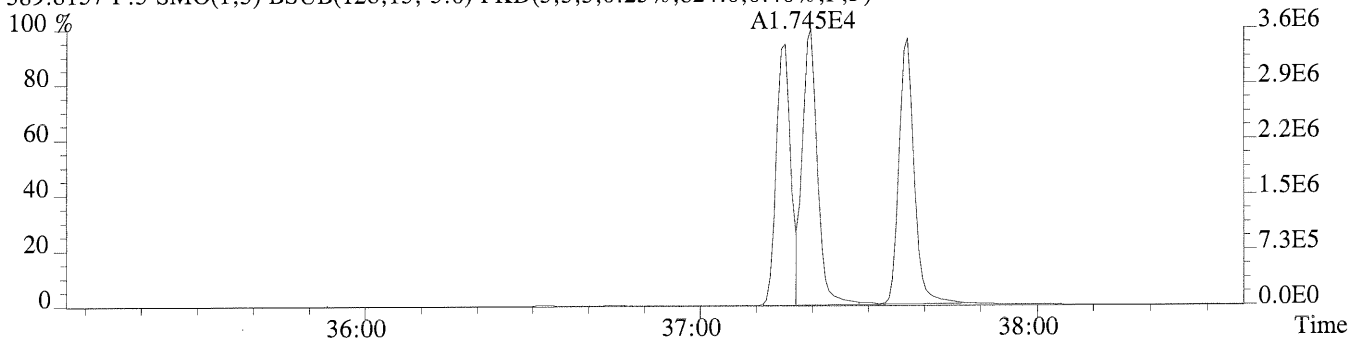


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

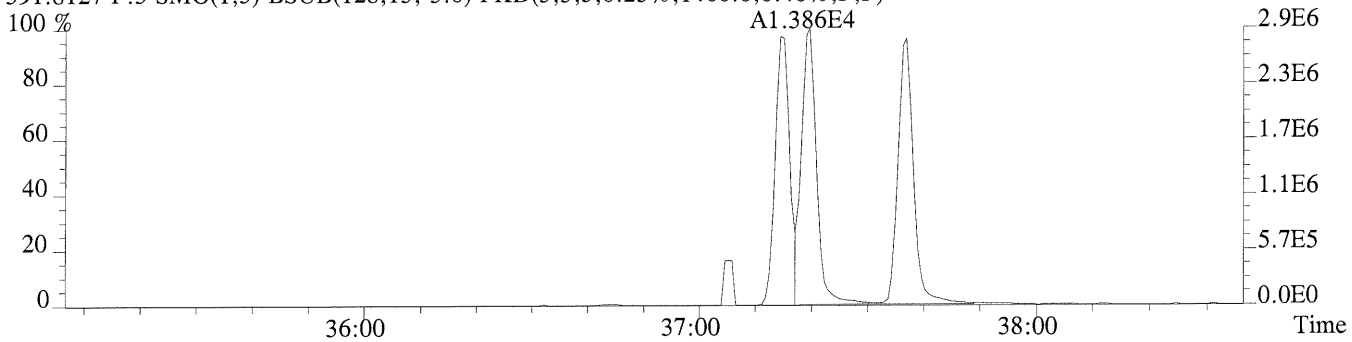


File:P200039 #1-318 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

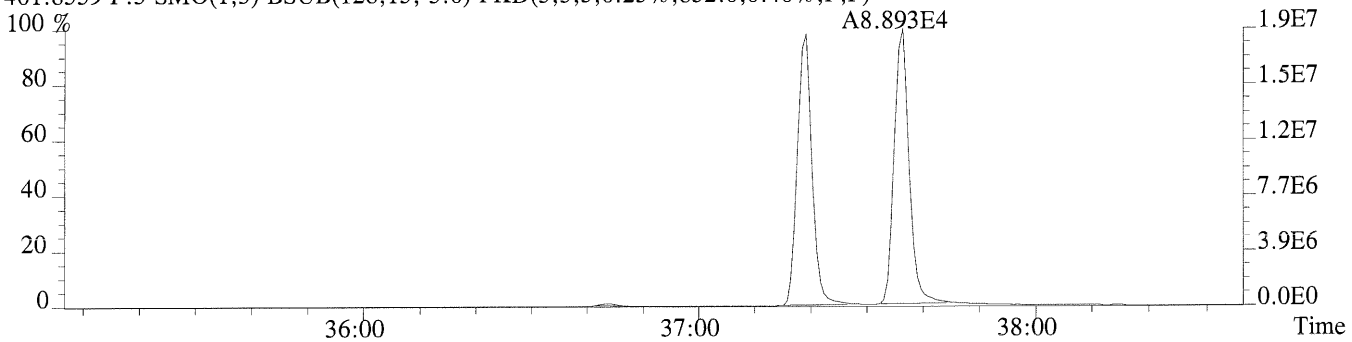
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,824.0,0.40%,F,F)



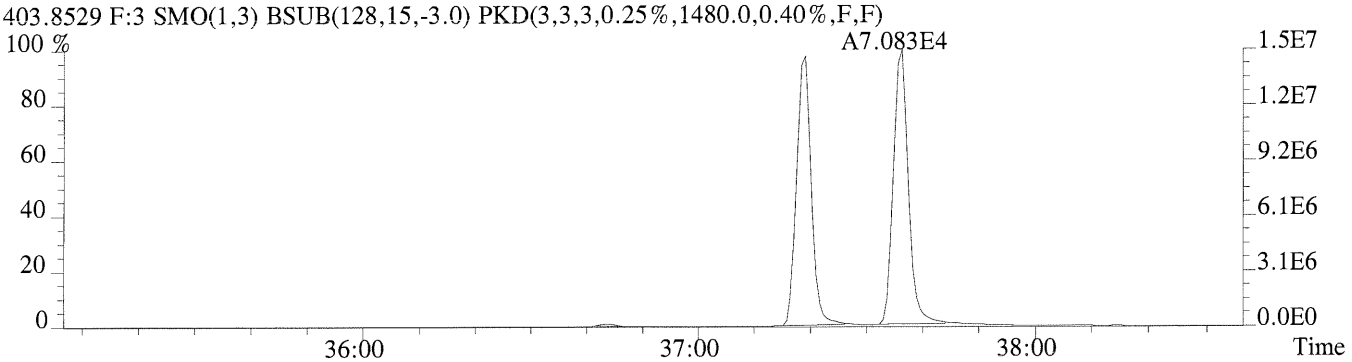
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1460.0,0.40%,F,F)



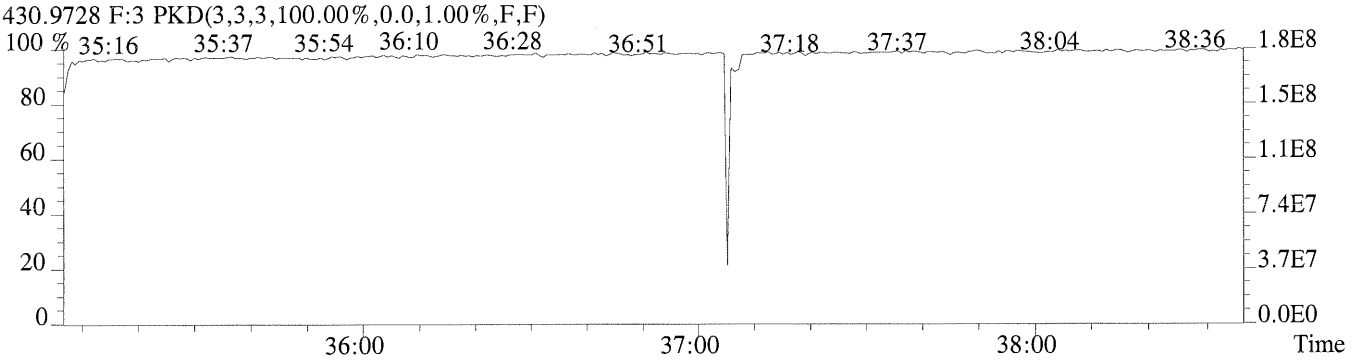
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1480.0,0.40%,F,F)

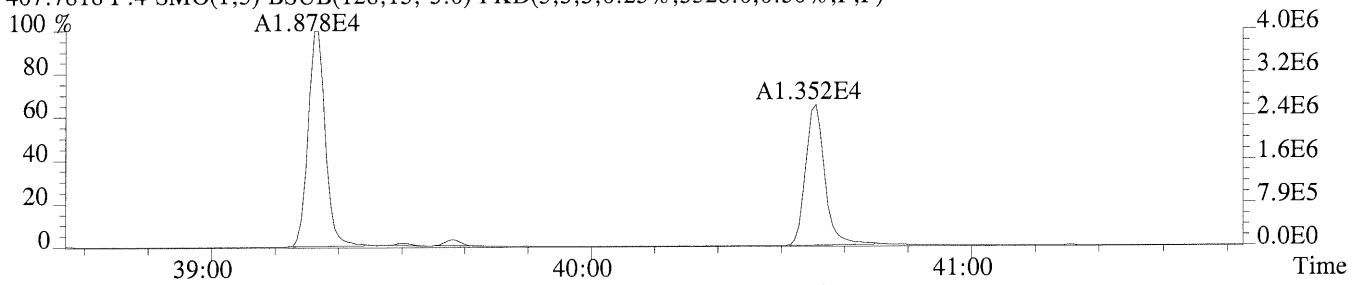


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

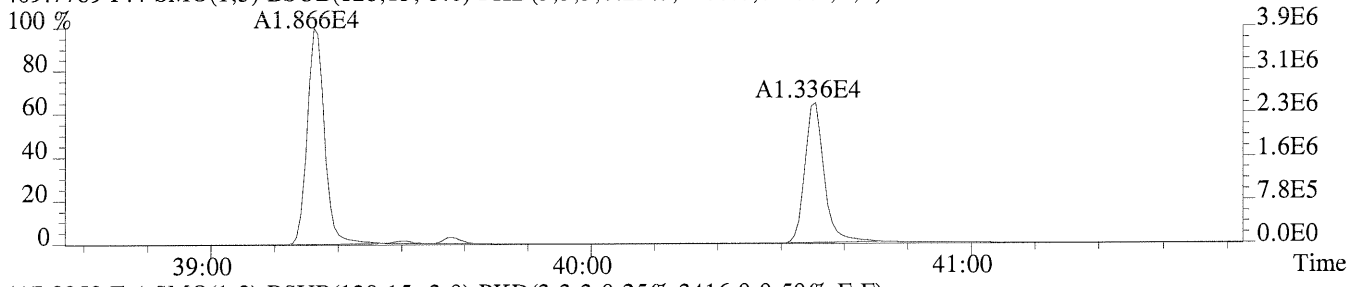


File:P200039 #1-281 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

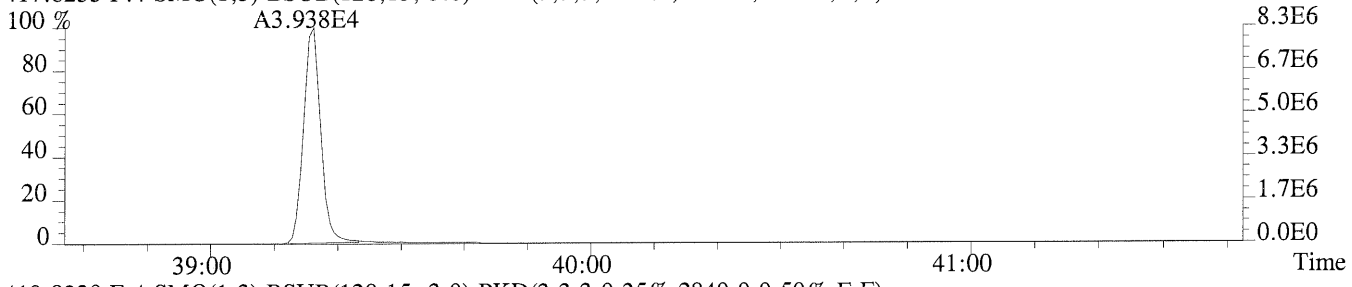
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3528.0,0.50%,F,F)



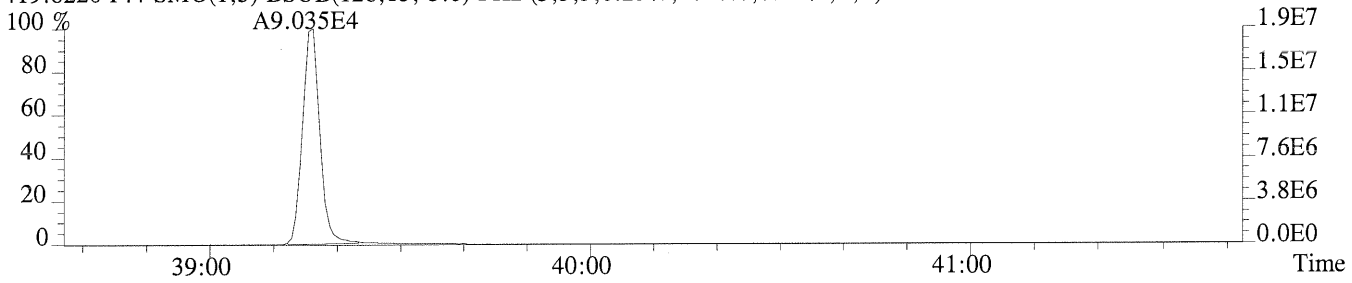
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1288.0,0.50%,F,F)



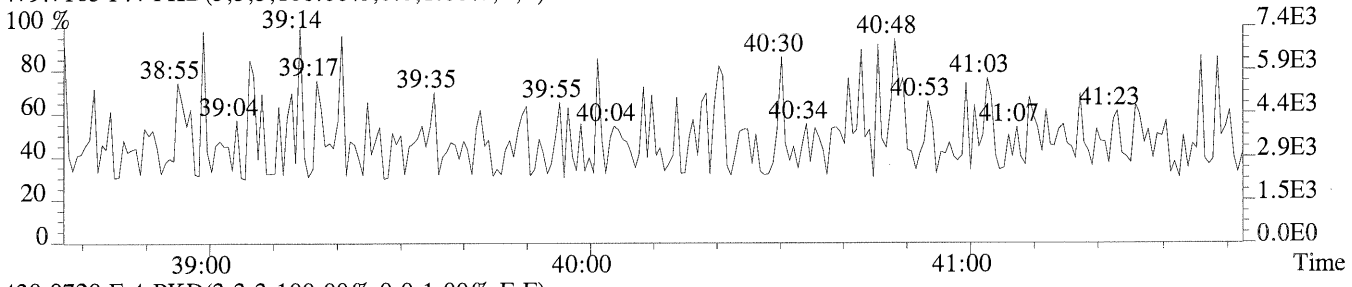
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3416.0,0.50%,F,F)



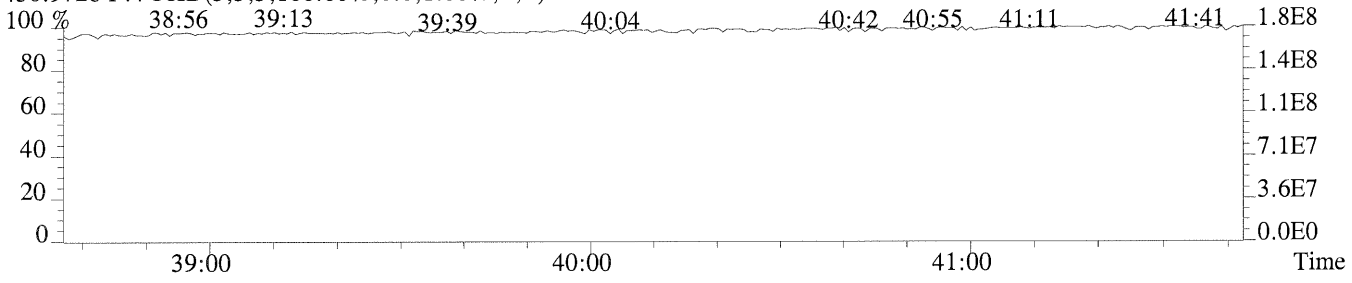
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2840.0,0.50%,F,F)



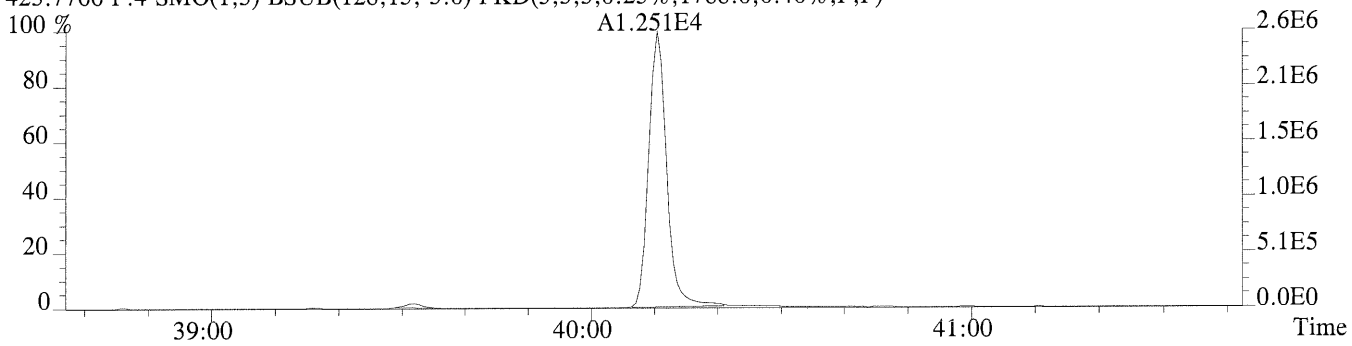
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



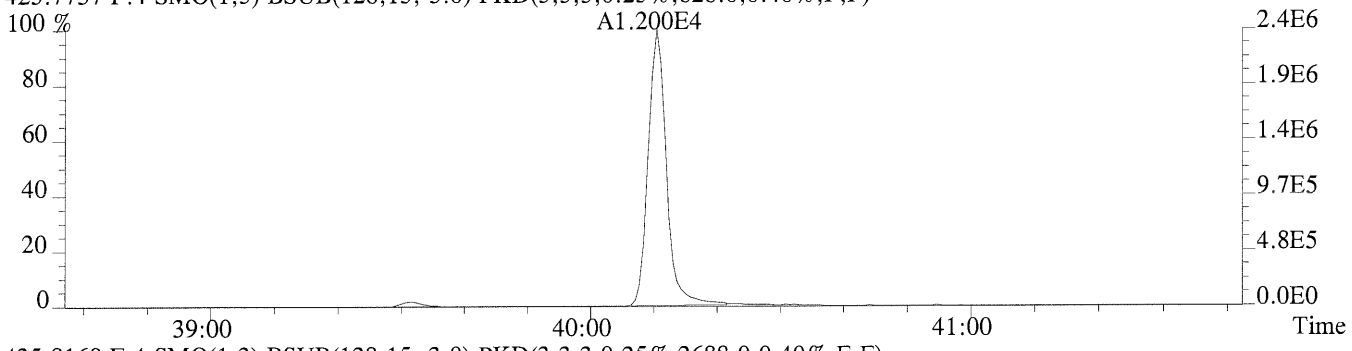
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



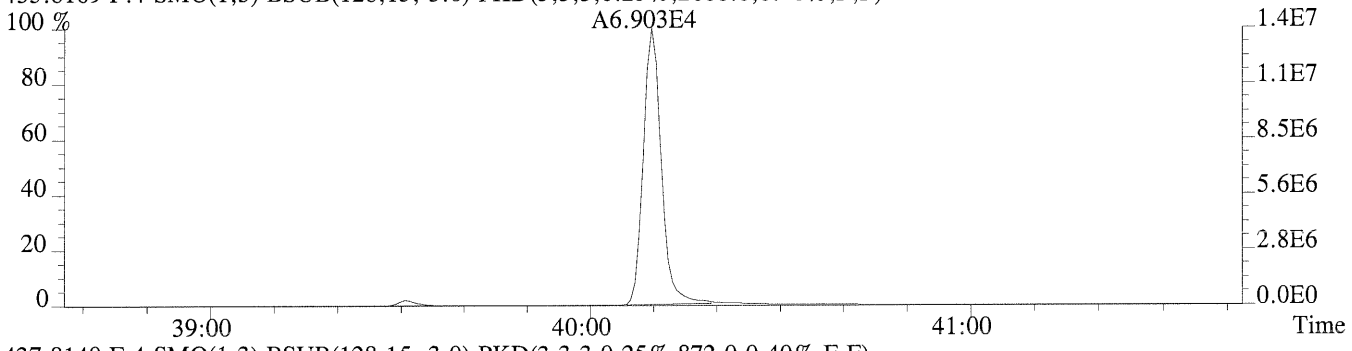
File:P200039 #1-281 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1788.0,0.40%,F,F)



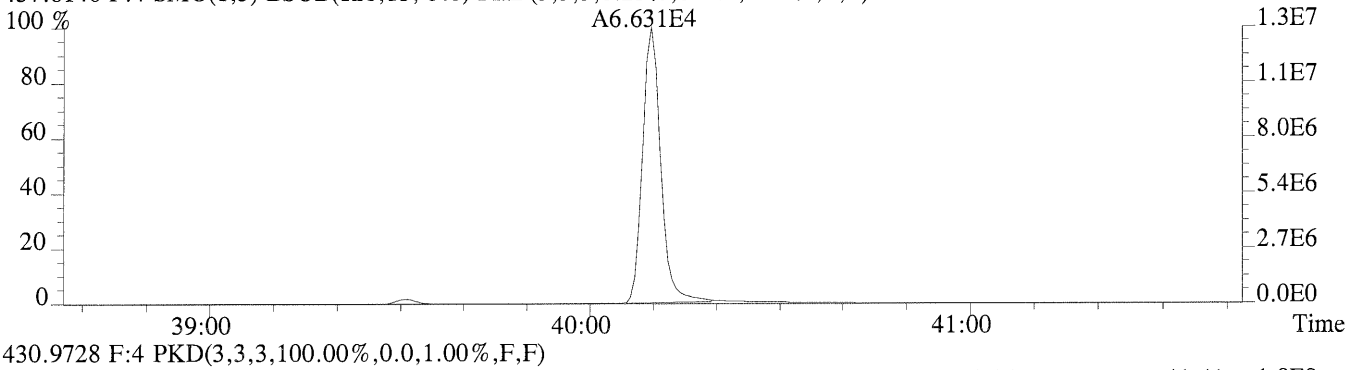
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,828.0,0.40%,F,F)



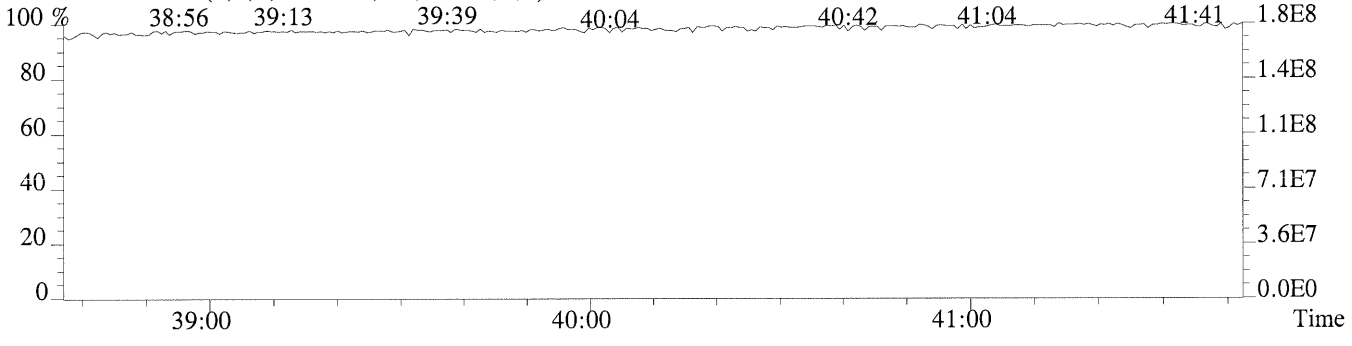
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2688.0,0.40%,F,F)



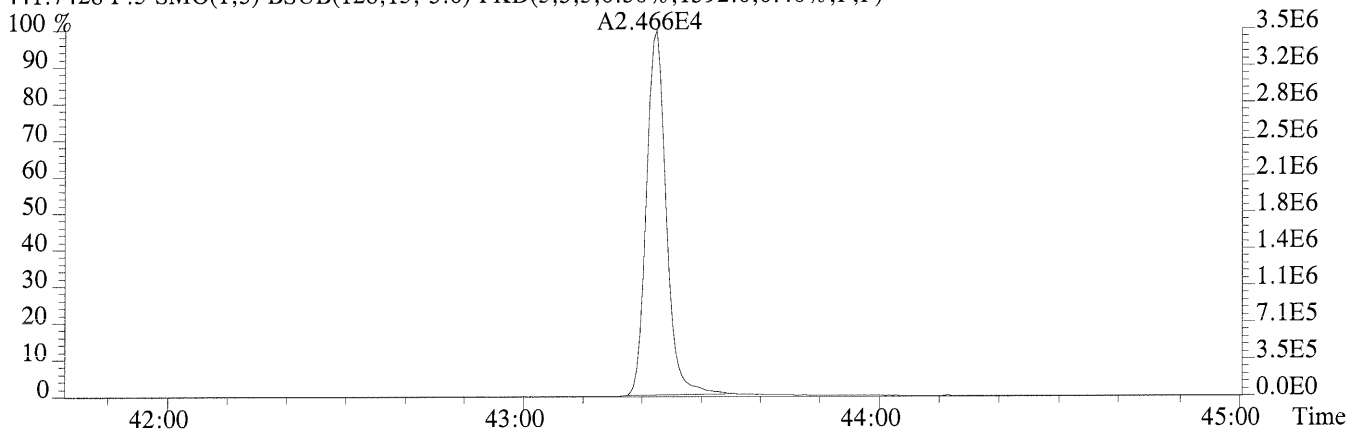
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,F)



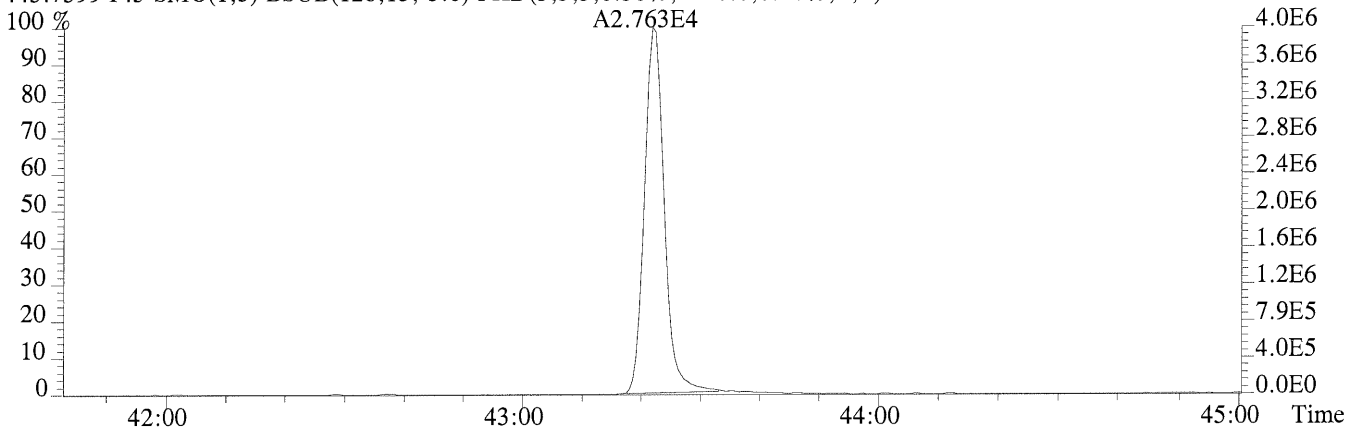
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



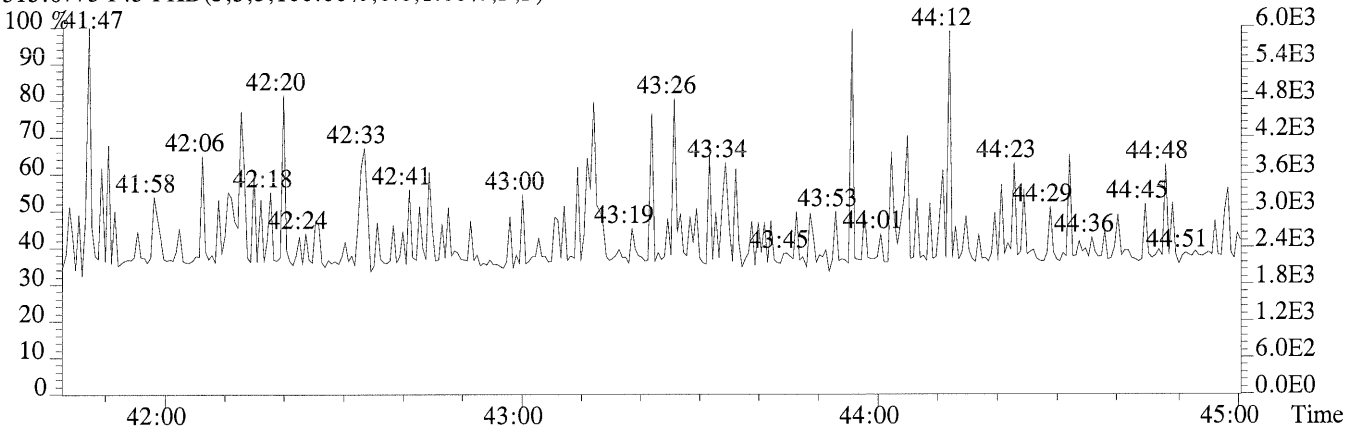
File:P200039 #1-364 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1392.0,0.40%,F,F)



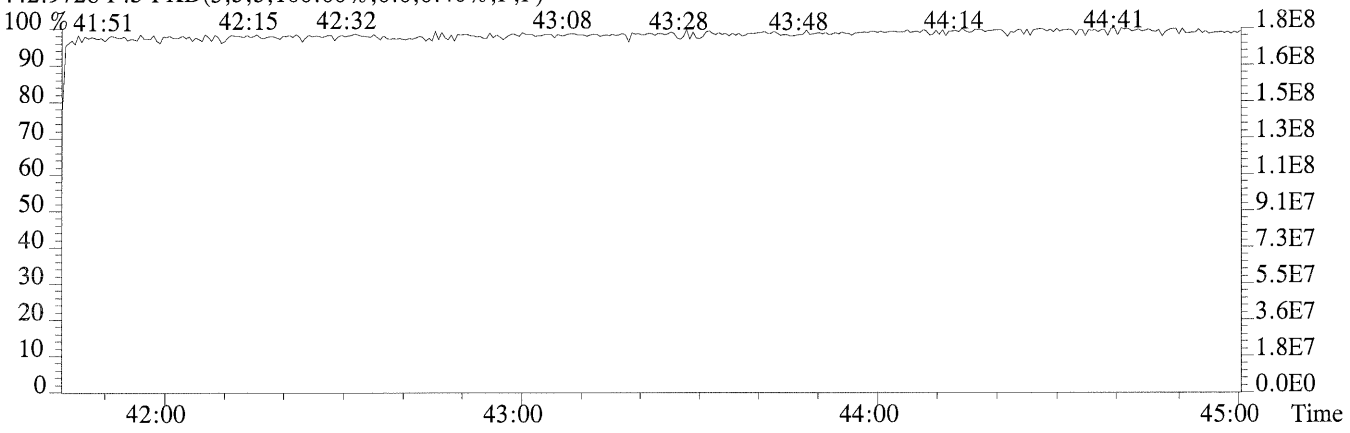
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2740.0,0.40%,F,F)



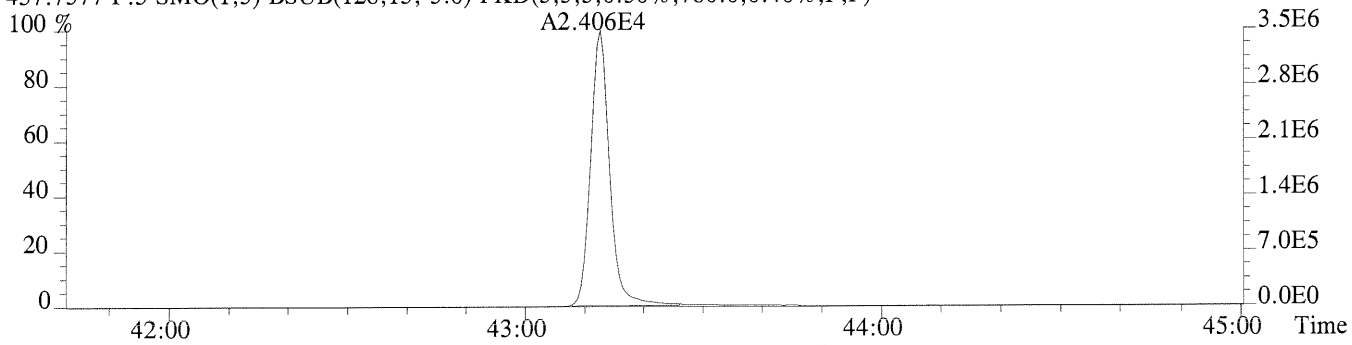
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



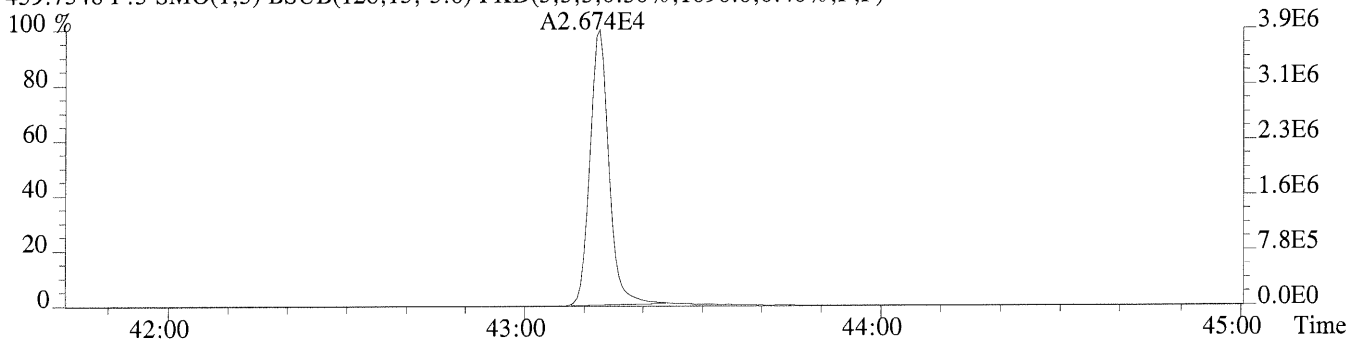
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



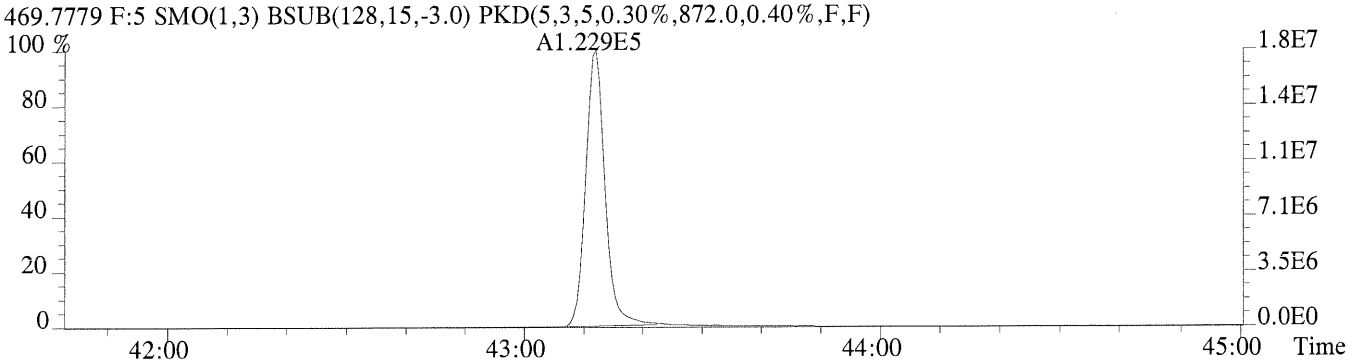
File:P200039 #1-364 Acq: 4-AUG-2008 11:52:05 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,780.0,0.40%,F,F)



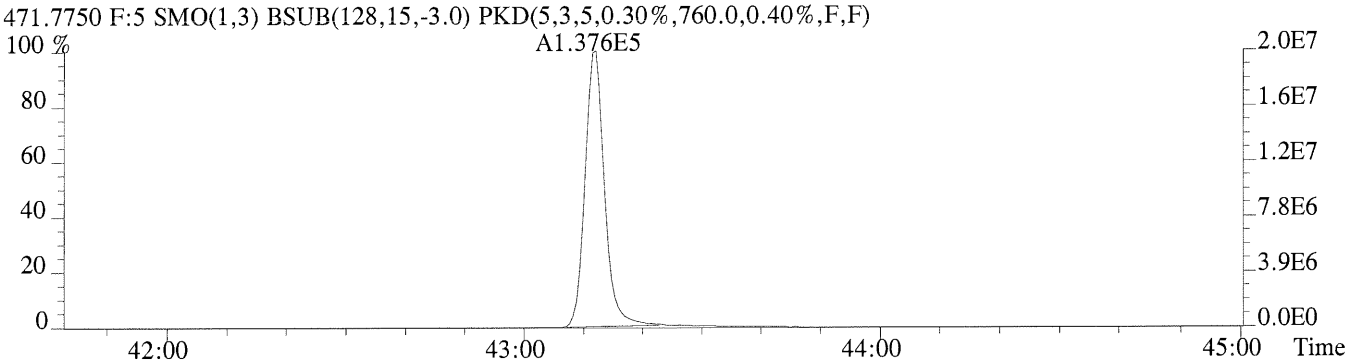
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1096.0,0.40%,F,F)



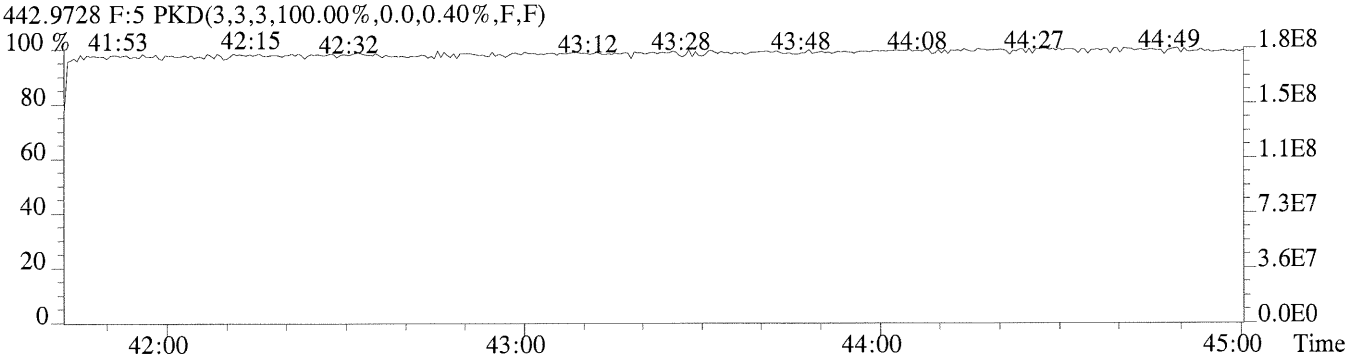
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,872.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200045 Analysis Date: 4-AUG-08 Time: 17:54:20

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	0.99	0.92	7.50
1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.32-1.78	0.90	0.87	3.01
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.98	0.93	4.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	0.93	1.05	-12.00
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	1.02	0.97	5.20
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.90	0.88	1.77
OCDD	M+2/M+4	0.90	0.76-1.02	0.97	0.96	1.05
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	0.89	0.83	7.01
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	0.87	0.84	3.93
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	0.96	0.85	13.16
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	1.16	1.08	7.34
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	1.14	1.13	0.67
1,2,3,7,8,9-HxCDF	M+2/M+4	1.21	1.05-1.43	0.94	0.87	8.69
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.11	1.01	9.85
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	1.38	1.32	4.51
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	1.14	0.97	18.45
OCDF	M+2/M+4	0.90	0.76-1.02	1.05	1.11	-5.73

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200045 Analysis Date: 4-AUG-08 Time: 17:54:20

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	1.01	1.05	-3.54
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	0.96	0.87	10.91
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.91	1.00	-9.13
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.88	0.83	6.28
13C-OCDD	M+2/M+4	0.90	0.76-1.02	0.92	0.73	25.80
13C-2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	1.30	1.42	-8.29
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	1.15	1.26	-8.74
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	0.97	1.28	-24.02
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.80	0.90	-11.29
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.99	0.98	1.30

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #12 Filename P200045 Samp: 1 Inj: 1 Acquired: 4-AUG-08 17:54:20
Processed: 12-AUG-08 08:24:48 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:38	9.728e+03	1.292e+04	0.75	yes	no	0.831
2	Unk	1,2,3,7,8-PeCDF	32:60	2.998e+04	1.911e+04	1.57	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:44	3.300e+04	2.098e+04	1.57	yes	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.960e+04	2.363e+04	1.25	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.850e+04	2.346e+04	1.21	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:09	2.828e+04	2.250e+04	1.26	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:50	2.361e+04	1.948e+04	1.21	yes	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	2.617e+04	2.563e+04	1.02	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:36	2.158e+04	2.148e+04	1.00	yes	no	0.966
10	Unk	OCDF	43:23	4.269e+04	4.745e+04	0.90	yes	no	1.109
11	Unk	2,3,7,8-TCDD	29:29	8.713e+03	1.089e+04	0.80	yes	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:05	2.584e+04	1.639e+04	1.58	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:15	2.321e+04	1.846e+04	1.26	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:20	2.190e+04	1.772e+04	1.24	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:37	2.418e+04	1.938e+04	1.25	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:11	1.913e+04	1.820e+04	1.05	yes	no	0.883
17	Unk	OCDD	43:13	3.973e+04	4.424e+04	0.90	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:37	5.543e+04	7.184e+04	0.77	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:59	6.875e+04	4.366e+04	1.57	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	7.891e+04	1.497e+05	0.53	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	5.734e+04	1.307e+05	0.44	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:27	4.355e+04	5.546e+04	0.79	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:05	5.775e+04	3.629e+04	1.59	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.190e+05	9.471e+04	1.26	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	1.062e+05	1.016e+05	1.04	yes	no	0.831
26	IS	13C-OCDD	43:13	2.037e+05	2.275e+05	0.90	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:15	4.302e+04	5.463e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.308e+05	1.045e+05	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:29	1.940e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	28:09		2.306e+04	0.68	yes		0.831
31	Tot	Total Tetra-Dioxins	29:29		1.961e+04	0.80	yes		0.921
32	Tot	Total Penta-Furans	32:60		1.034e+05	1.57	yes		0.845
33	Tot	Total Penta-Dioxins	34:05		4.222e+04	1.58	yes		0.872
34	Tot	Total Hexa-Furans	36:33		1.991e+05	1.25	yes		1.023
35	Tot	Total Hexa-Dioxins	37:15		1.249e+05	1.26	yes		0.985
36	Tot	Total Hepta-Furans	39:17		9.485e+04	1.02	yes		1.142
37	Tot	Total Hepta-Dioxins	39:32		3.749e+04	1.07	yes		0.883

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #12 Filename P200045 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 17:54:20

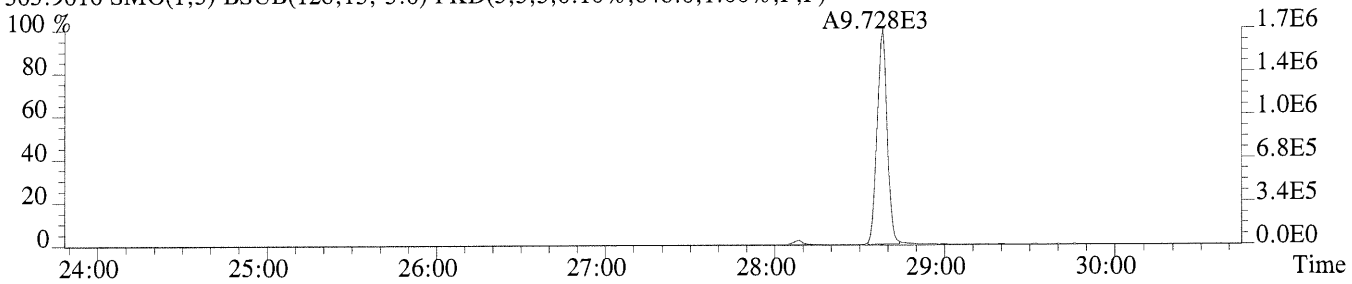
Processed: 12-AUG-08 08:24:48 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.70e+06	8.48e+02	2.0e+03	2.21e+06	1.95e+03	1.1e+03
2	1,2,3,7,8-PeCDF	5.91e+06	6.16e+02	9.6e+03	3.80e+06	1.49e+03	2.5e+03
3	2,3,4,7,8-PeCDF	6.96e+06	6.16e+02	1.1e+04	4.37e+06	1.49e+03	2.9e+03
4	1,2,3,4,7,8-HxCDF	6.72e+06	1.60e+03	4.2e+03	5.48e+06	2.04e+03	2.7e+03
5	1,2,3,6,7,8-HxCDF	6.49e+06	1.60e+03	4.1e+03	5.16e+06	2.04e+03	2.5e+03
6	2,3,4,6,7,8-HxCDF	6.40e+06	1.60e+03	4.0e+03	5.03e+06	2.04e+03	2.5e+03
7	1,2,3,7,8,9-HxCDF	5.27e+06	1.60e+03	3.3e+03	4.38e+06	2.04e+03	2.1e+03
8	1,2,3,4,6,7,8-HpCDF	6.03e+06	6.77e+03	8.9e+02	5.97e+06	2.77e+03	2.2e+03
9	1,2,3,4,7,8,9-HpCDF	4.52e+06	6.77e+03	6.7e+02	4.57e+06	2.77e+03	1.7e+03
10	OCDF	6.47e+06	1.72e+03	3.8e+03	7.17e+06	2.98e+03	2.4e+03
11	2,3,7,8-TCDD	1.60e+06	2.54e+03	6.3e+02	1.97e+06	8.40e+02	2.3e+03
12	1,2,3,7,8-PeCDD	5.38e+06	2.67e+03	2.0e+03	3.46e+06	5.96e+02	5.8e+03
13	1,2,3,4,7,8-HxCDD	5.35e+06	1.31e+03	4.1e+03	4.26e+06	2.10e+03	2.0e+03
14	1,2,3,6,7,8-HxCDD	5.17e+06	1.31e+03	3.9e+03	4.20e+06	2.10e+03	2.0e+03
15	1,2,3,7,8,9-HxCDD	5.62e+06	1.31e+03	4.3e+03	4.55e+06	2.10e+03	2.2e+03
16	1,2,3,4,6,7,8-HpCDD	4.07e+06	2.50e+03	1.6e+03	3.87e+06	1.49e+03	2.6e+03
17	OCDD	6.32e+06	1.25e+03	5.0e+03	7.02e+06	2.11e+03	3.3e+03
18	13C-2,3,7,8-TCDF	9.41e+06	4.96e+03	1.9e+03	1.22e+07	3.48e+03	3.5e+03
19	13C-1,2,3,7,8-PeCDF	1.38e+07	5.44e+02	2.5e+04	8.82e+06	9.12e+02	9.7e+03
20	13C-1,2,3,4,7,8-HxCDF	1.80e+07	1.18e+03	1.5e+04	3.41e+07	2.65e+03	1.3e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.32e+07	3.55e+03	3.7e+03	2.99e+07	3.38e+03	8.9e+03
22	13C-2,3,7,8-TCDD	7.80e+06	5.07e+03	1.5e+03	9.92e+06	1.40e+03	7.1e+03
23	13C-1,2,3,7,8-PeCDD	1.23e+07	2.24e+03	5.5e+03	7.76e+06	1.32e+03	5.9e+03
24	13C-1,2,3,6,7,8-HxCDD	2.76e+07	1.16e+03	2.4e+04	2.21e+07	1.62e+03	1.4e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.28e+07	2.68e+03	8.5e+03	2.19e+07	1.42e+03	1.5e+04
26	13C-OCDD	3.17e+07	1.61e+03	2.0e+04	3.57e+07	1.56e+03	2.3e+04
27	13C-1,2,3,4-TCDD	7.81e+06	5.07e+03	1.5e+03	9.85e+06	1.40e+03	7.0e+03
28	13C-1,2,3,7,8,9-HxCDD	3.04e+07	1.16e+03	2.6e+04	2.44e+07	1.62e+03	1.5e+04
29	37Cl-2,3,7,8-TCDD	3.51e+06	1.17e+03	3.0e+03			

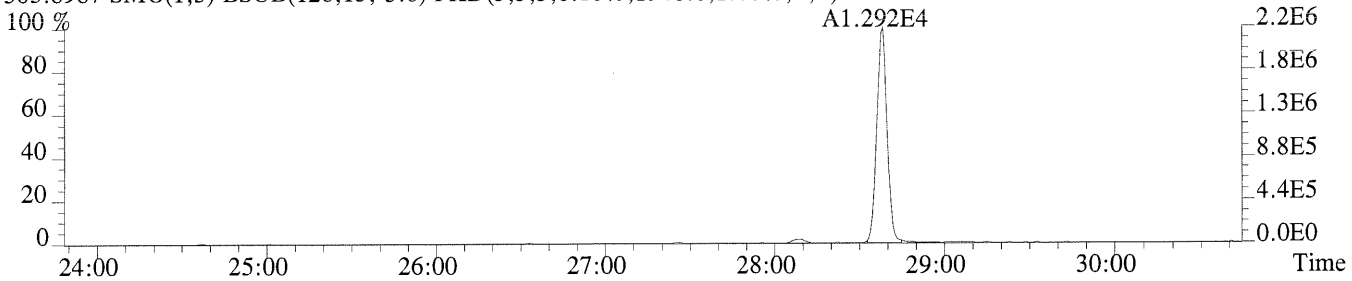
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200045 #1-578 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

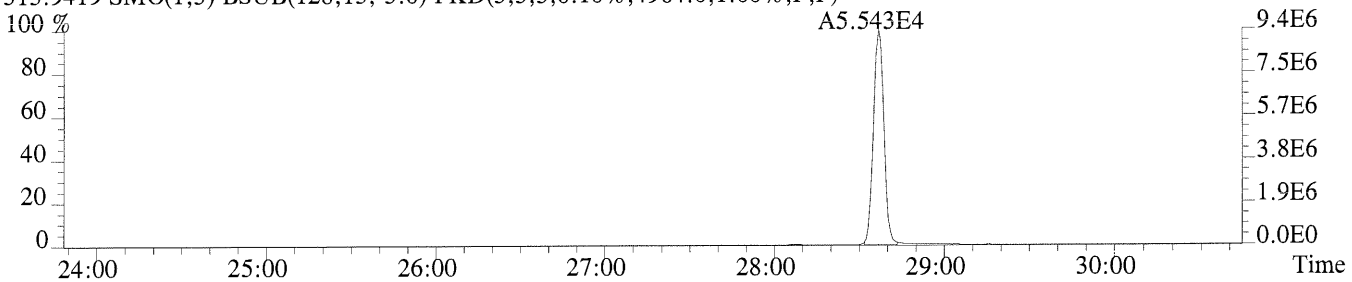
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,F)



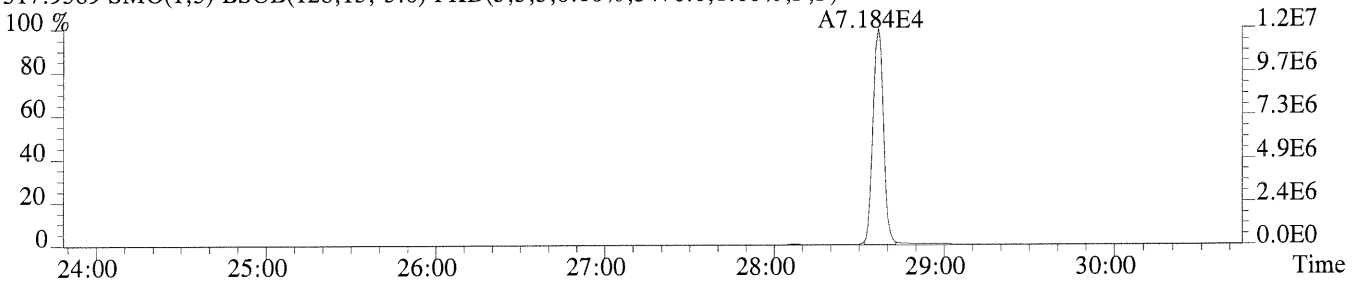
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,F)



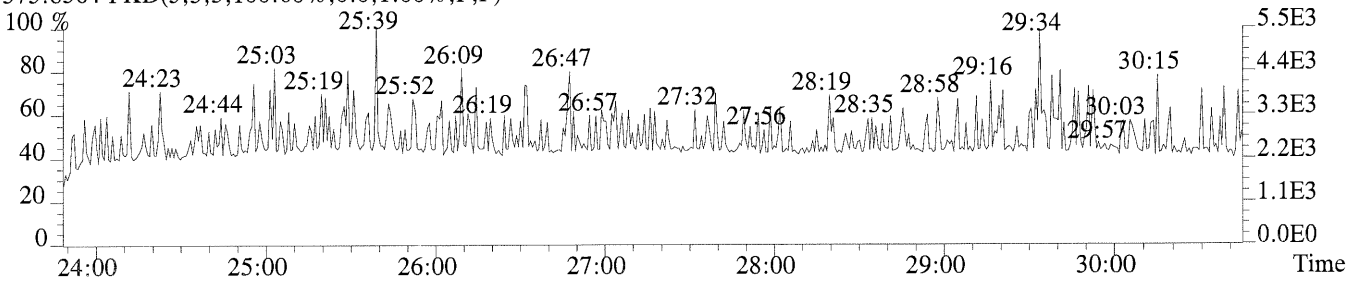
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4964.0,1.00%,F,F)



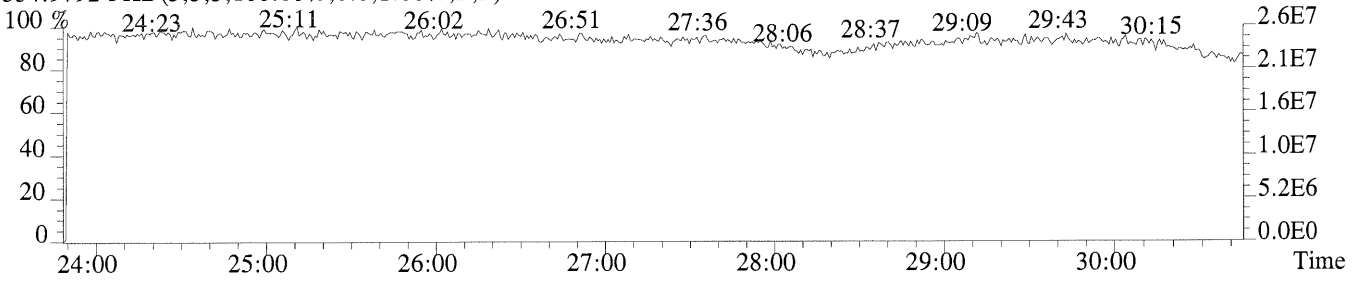
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3476.0,1.00%,F,F)



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

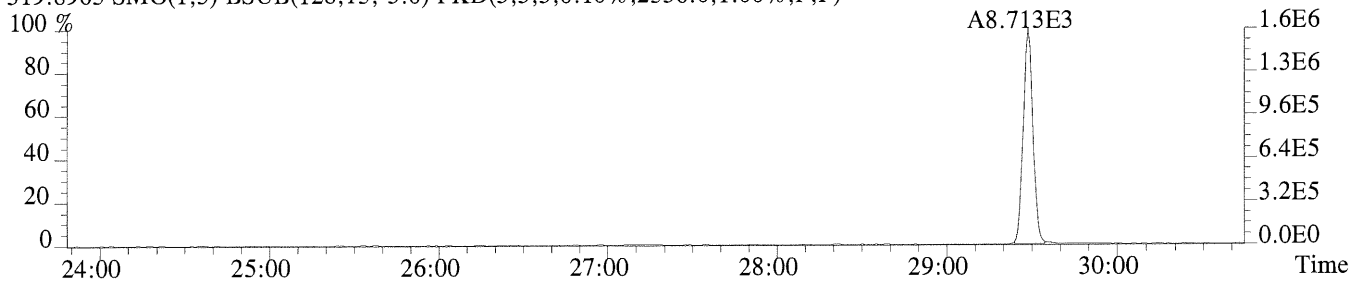


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

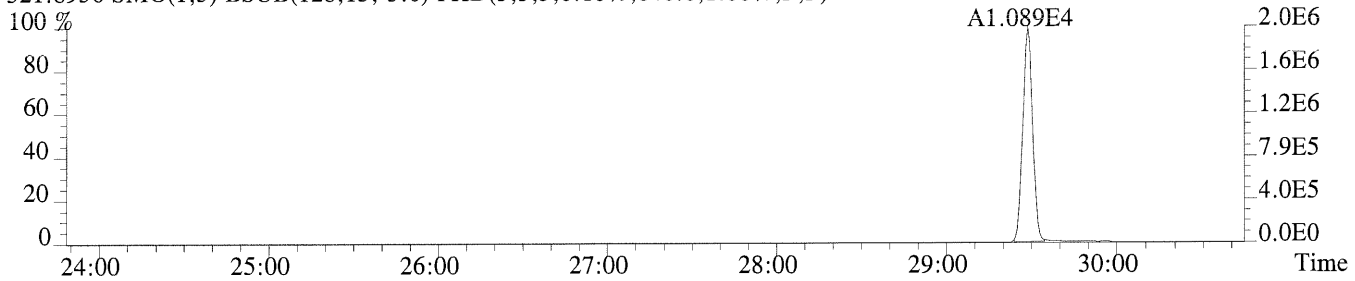


File:P200045 #1-578 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

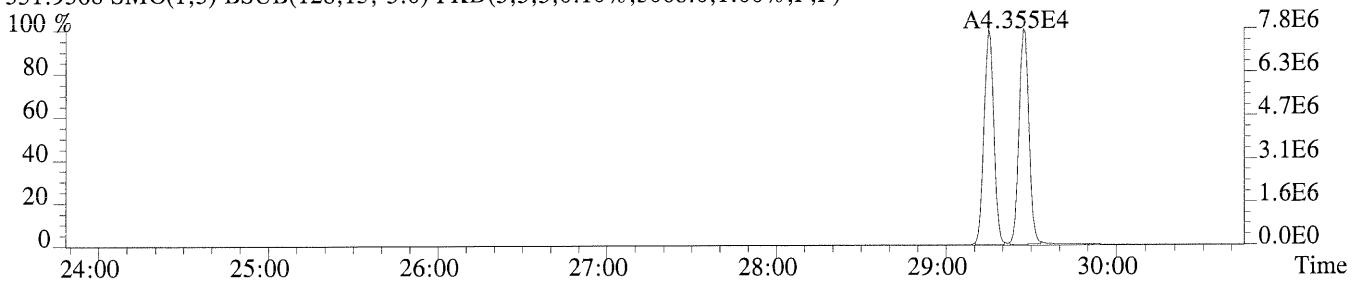
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2536.0,1.00%,F,F)



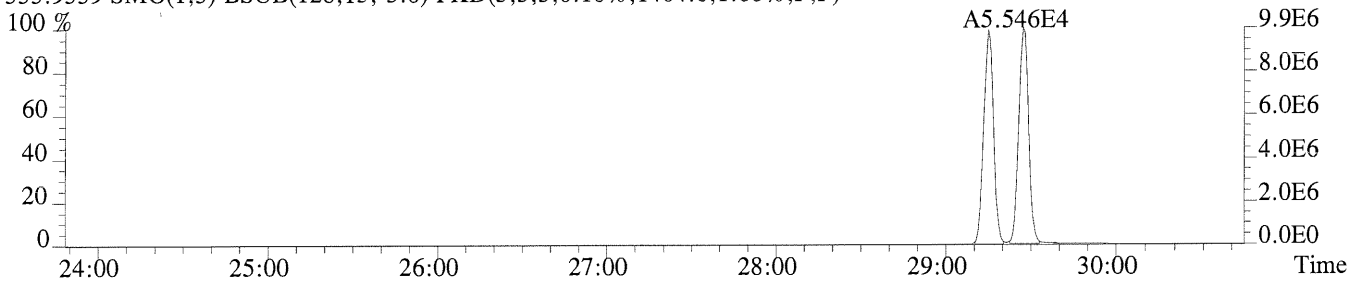
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,840.0,1.00%,F,F)



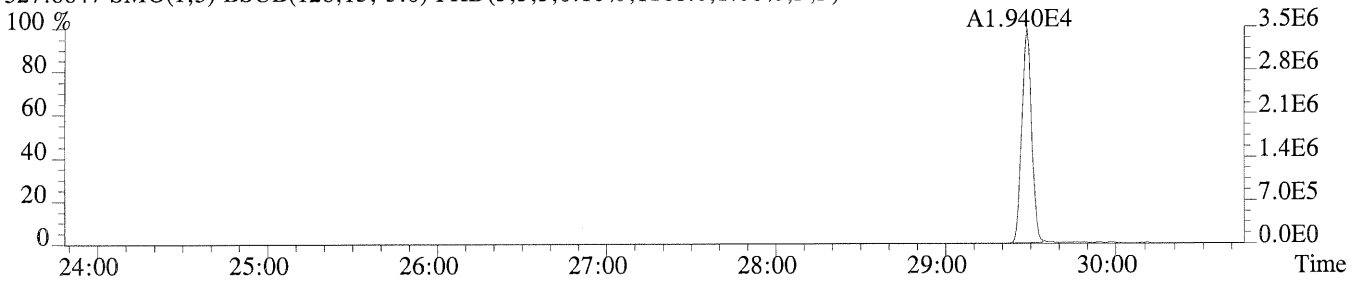
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5068.0,1.00%,F,F)



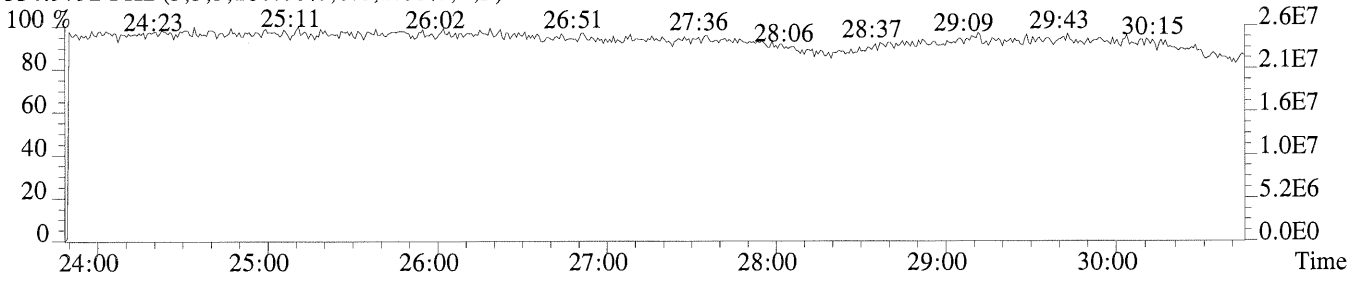
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1404.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1168.0,1.00%,F,F)

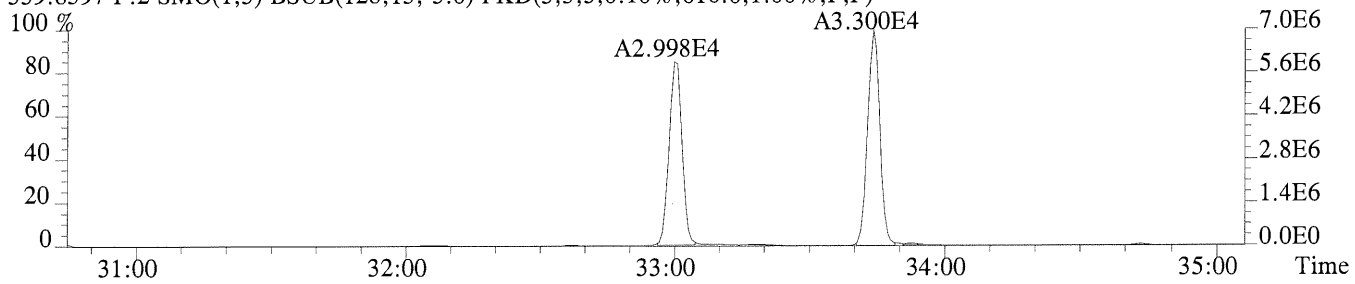


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

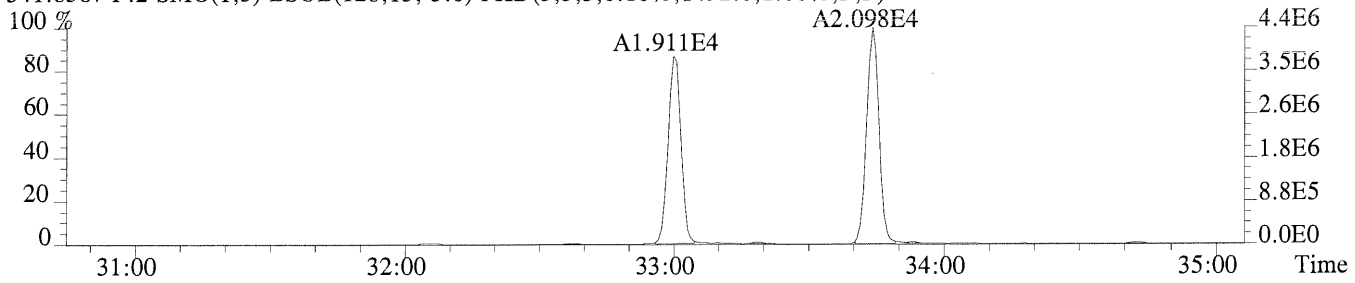


File:P200045 #1-396 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

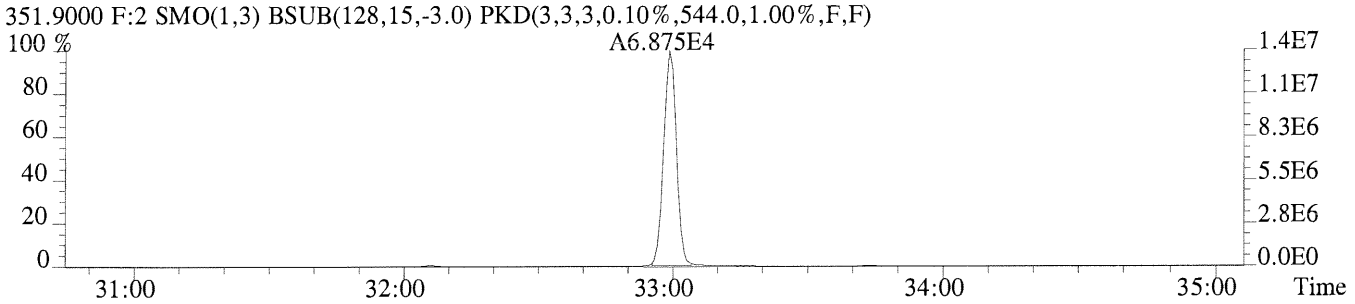
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,F)



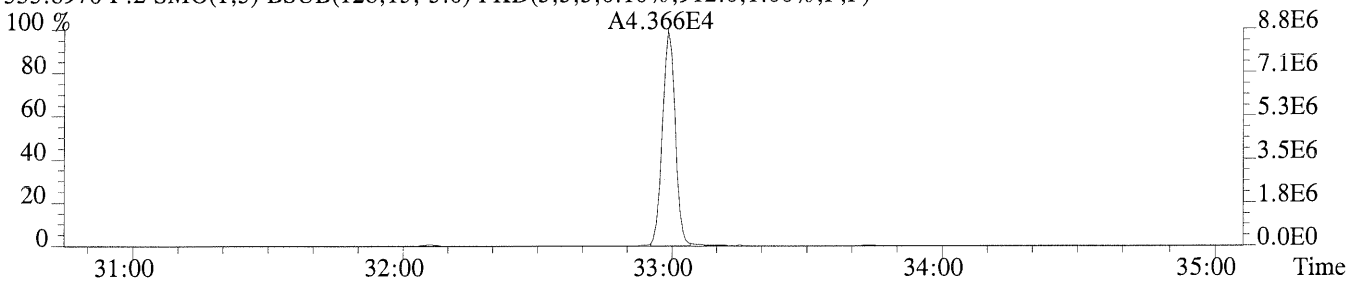
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1492.0,1.00%,F,F)



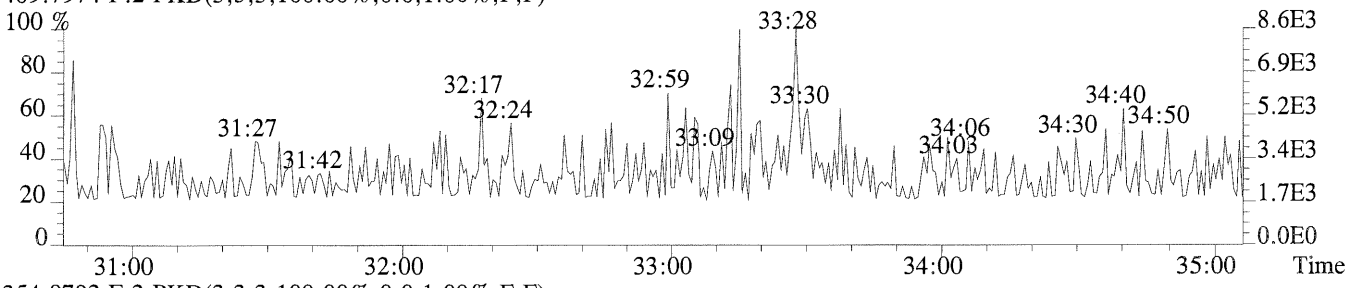
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,F)



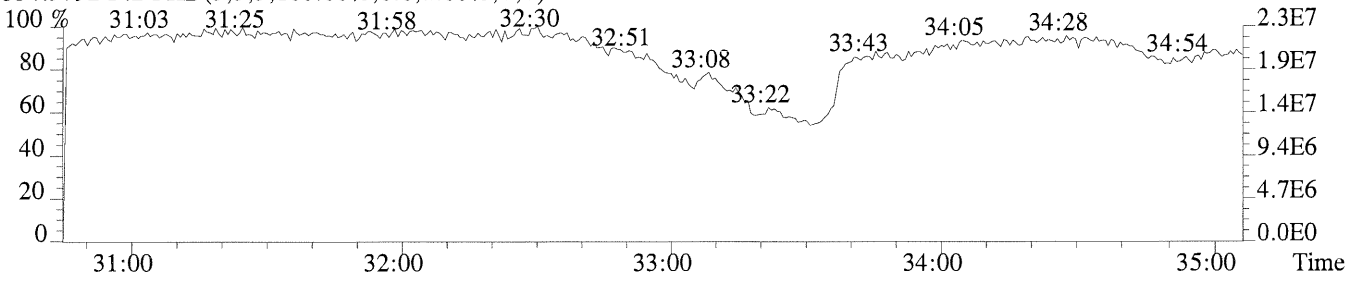
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,912.0,1.00%,F,F)



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

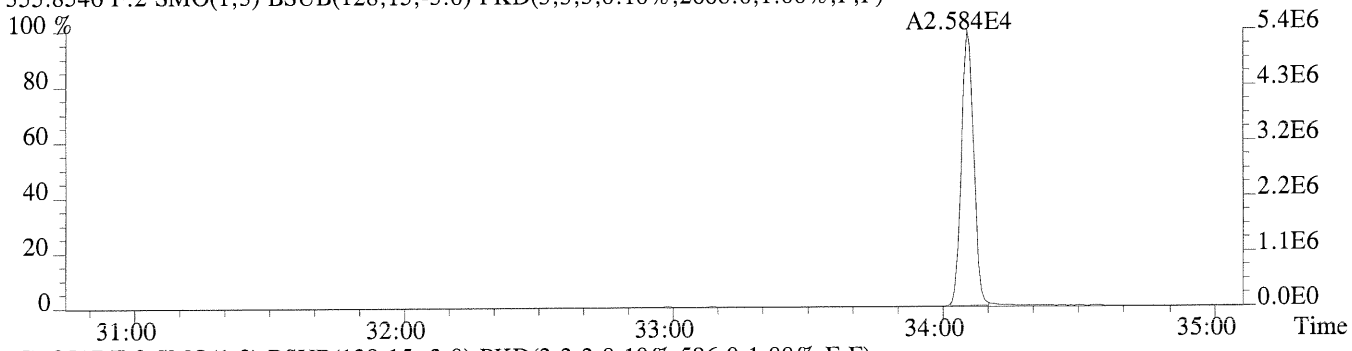


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

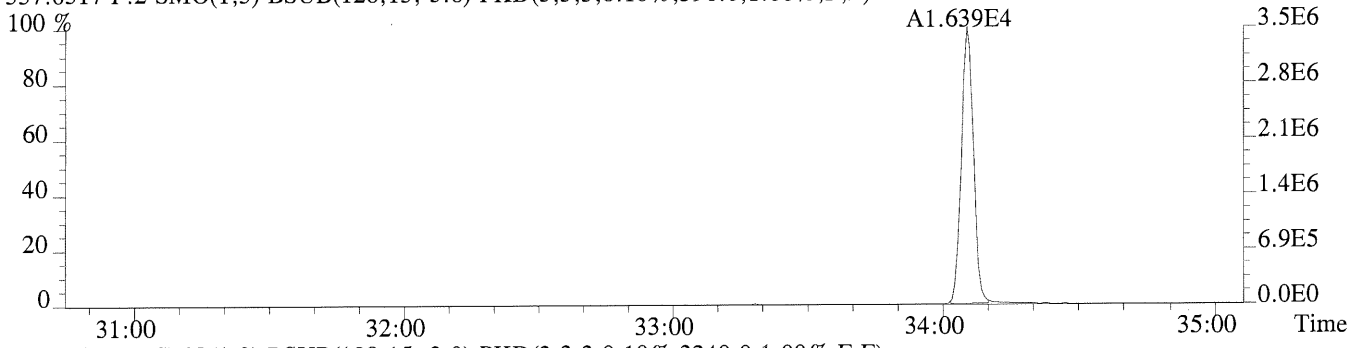


File:P200045 #1-396 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

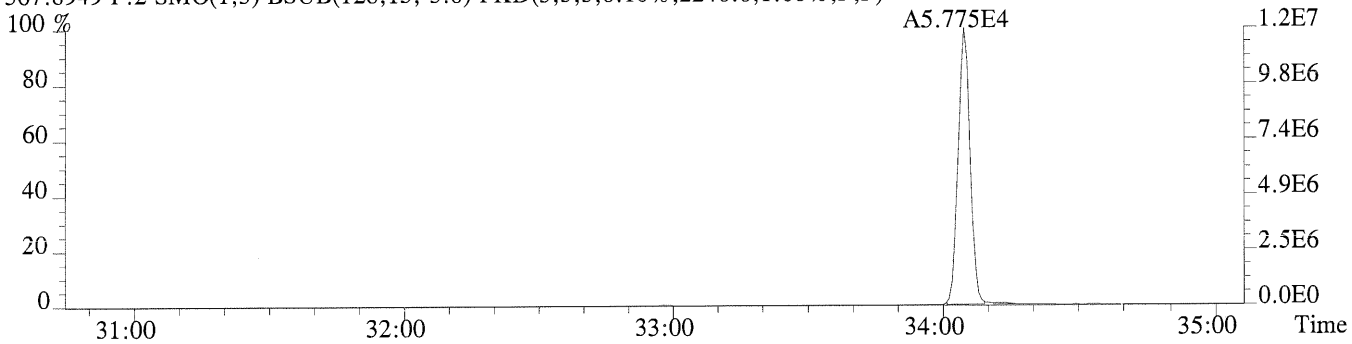
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2668.0,1.00%,F,F)



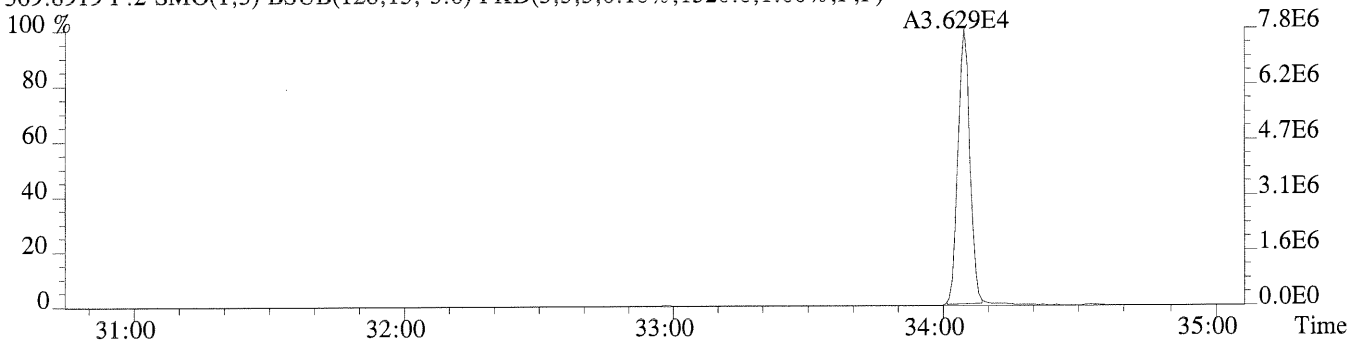
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,F)



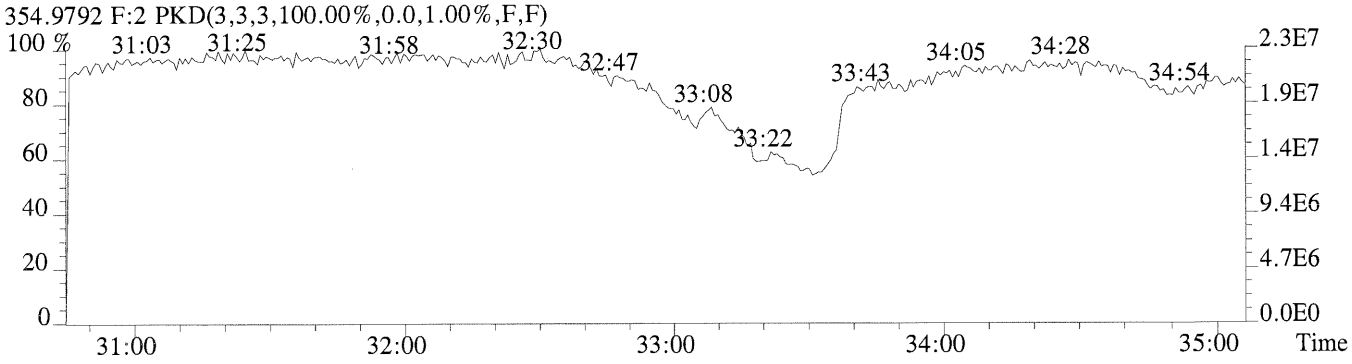
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2240.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1320.0,1.00%,F,F)

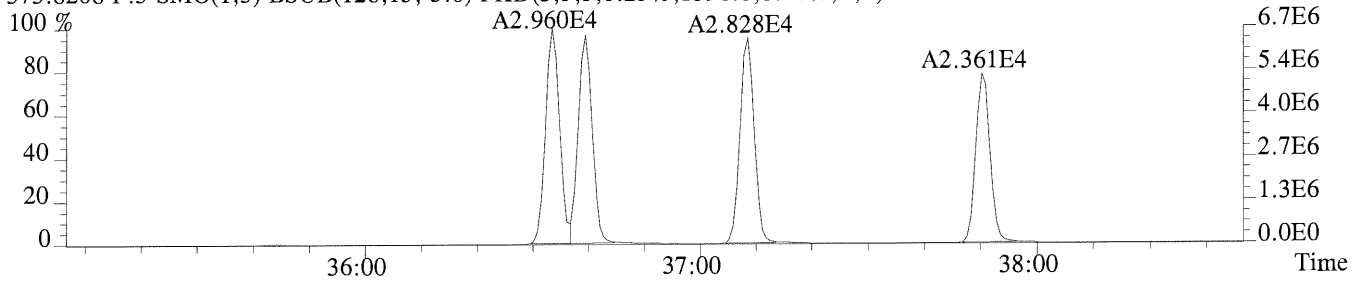


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

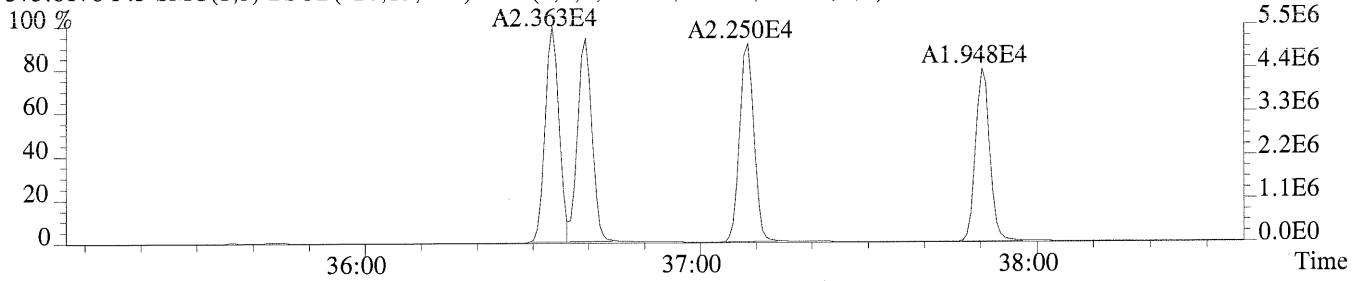


File:P200045 #1-318 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

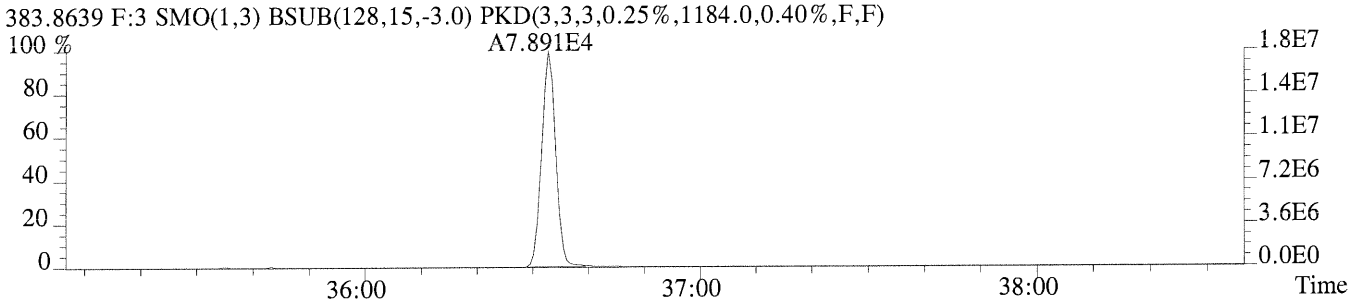
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1596.0,0.40%,F,F)



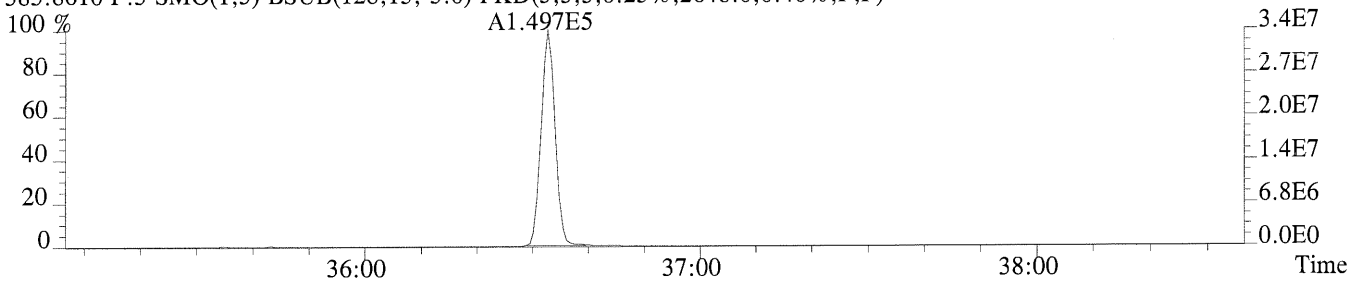
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2036.0,0.40%,F,F)



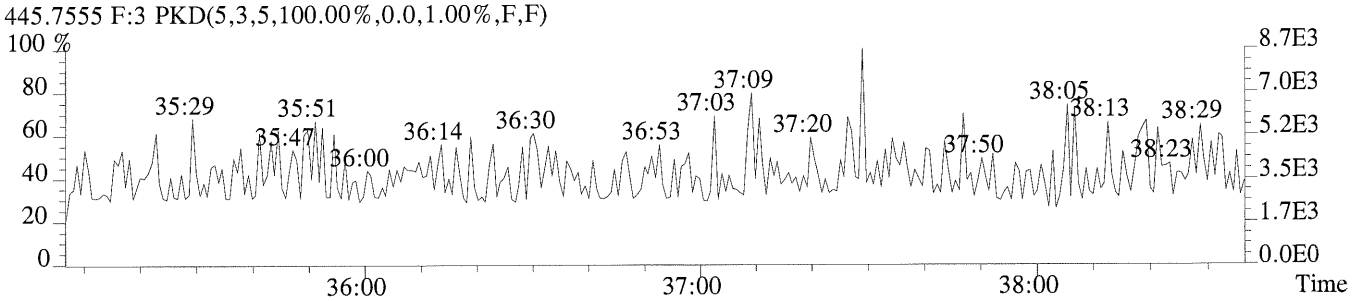
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.40%,F,F)



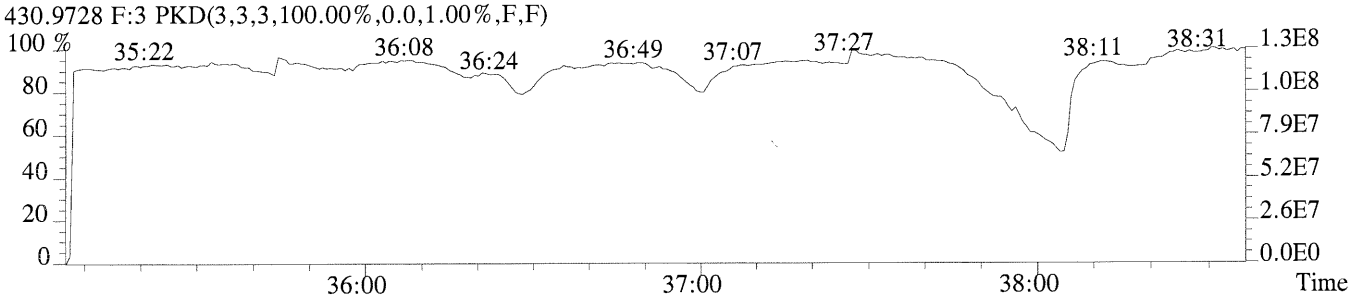
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2648.0,0.40%,F,F)



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

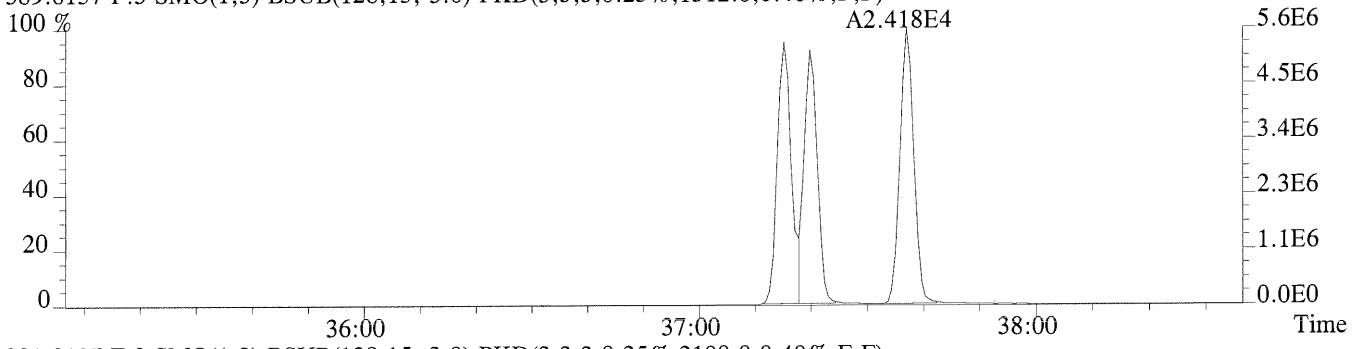


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

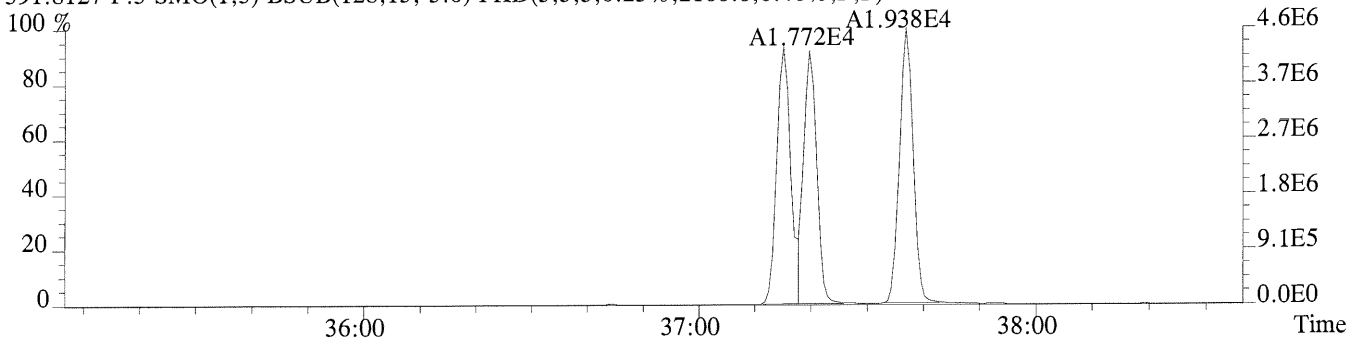


File:P200045 #1-318 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

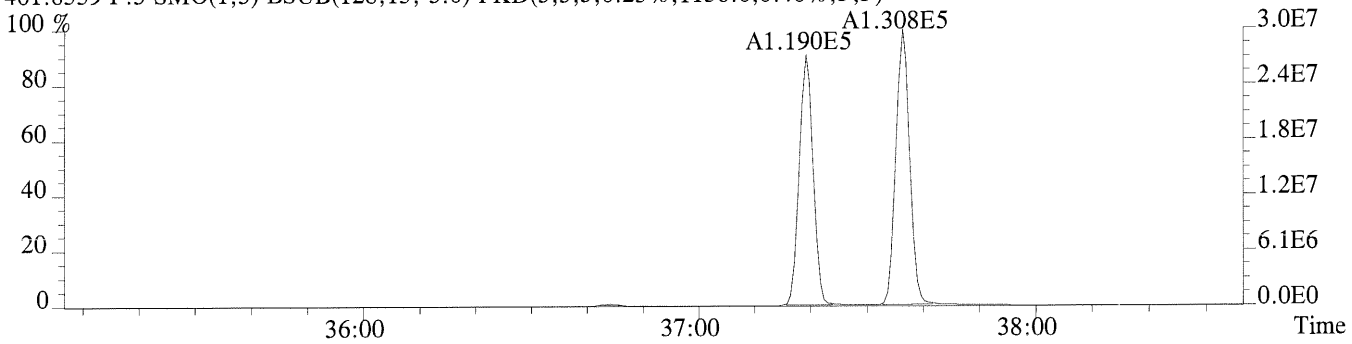
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1312.0,0.40%,F,F)



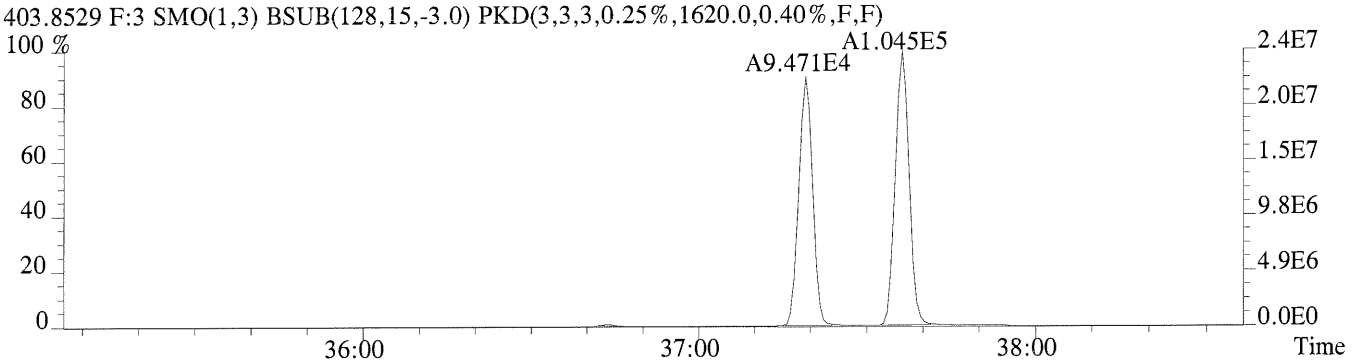
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2100.0,0.40%,F,F)



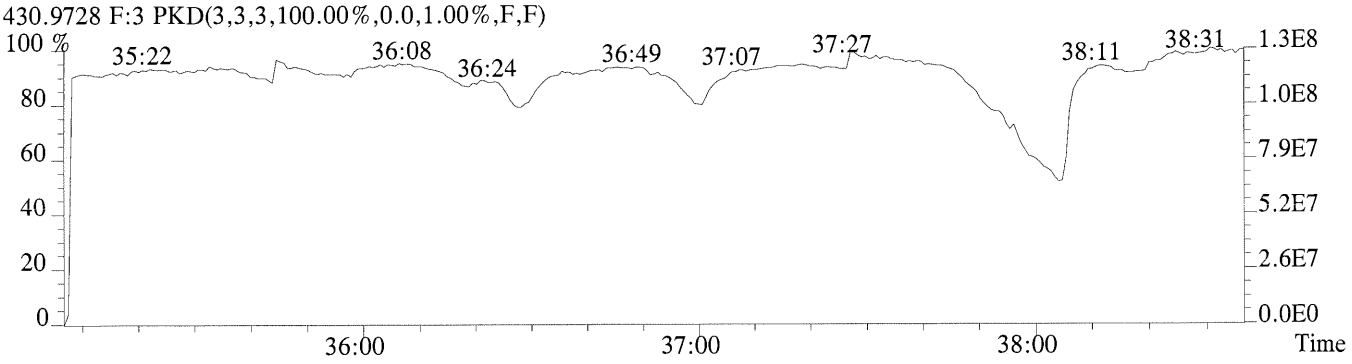
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,F)

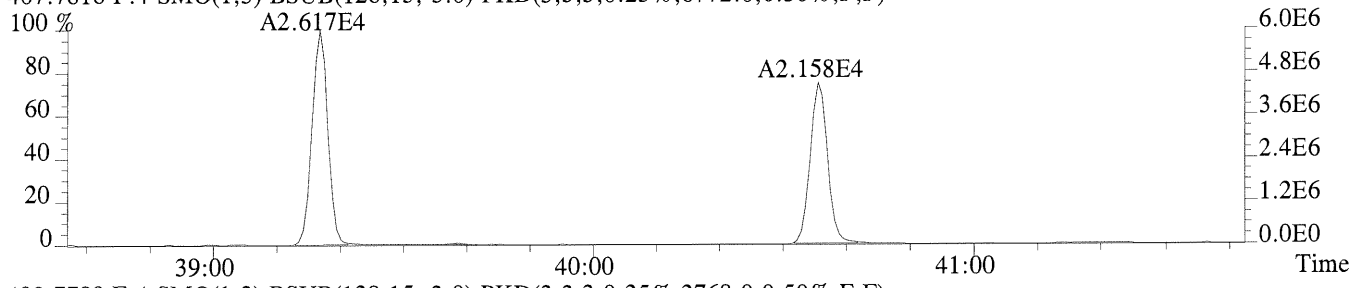


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

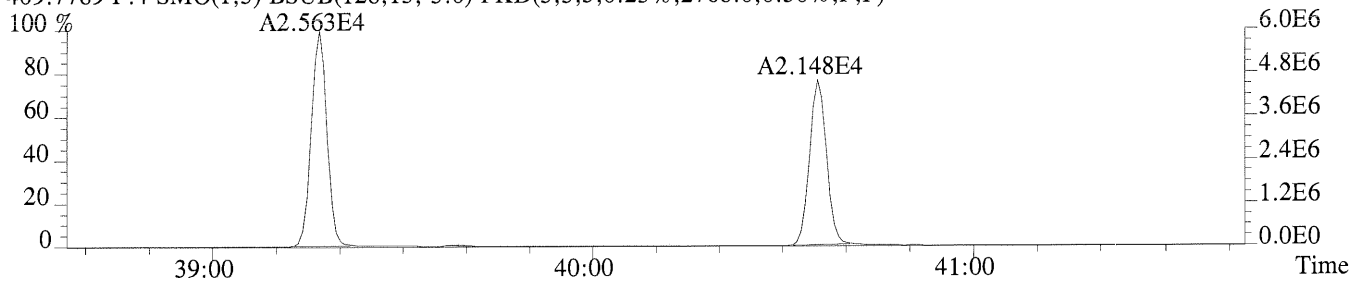


File:P200045 #1-281 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

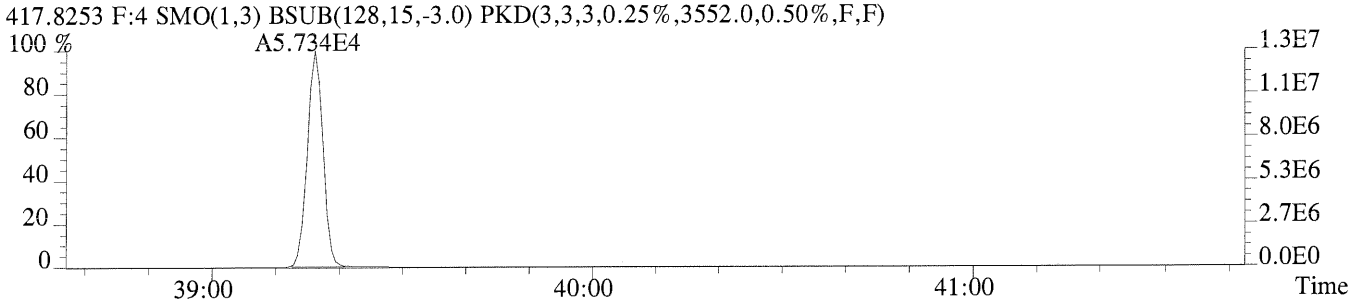
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6772.0,0.50%,F,F)



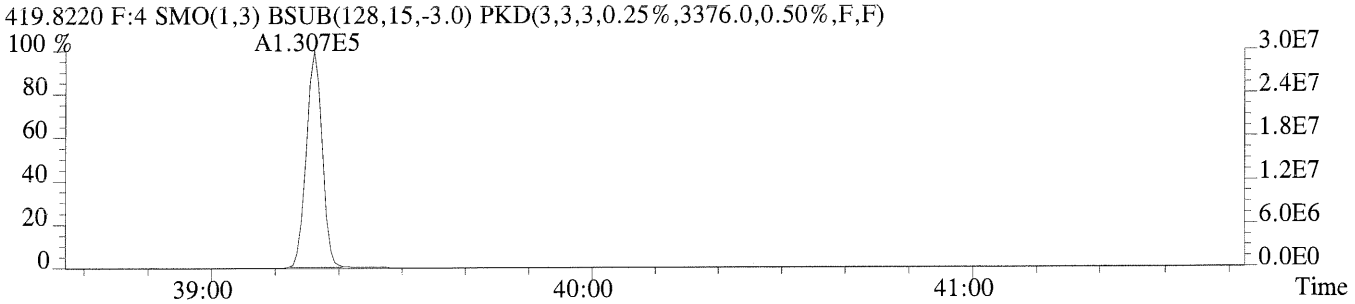
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2768.0,0.50%,F,F)



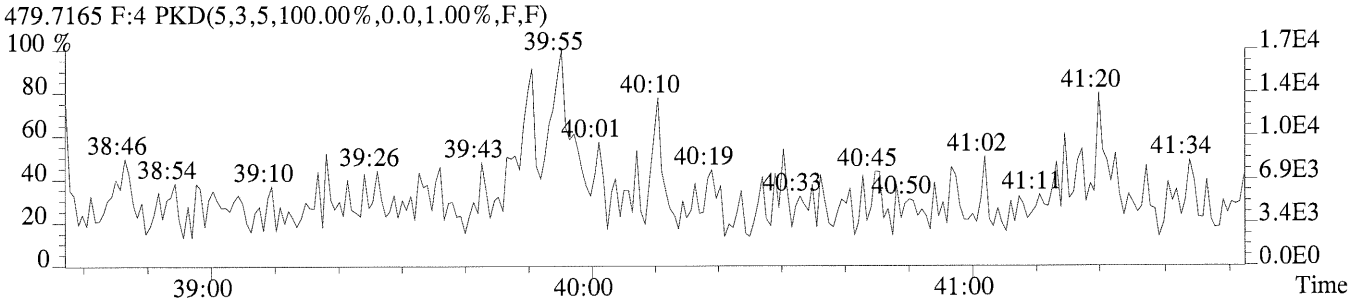
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3552.0,0.50%,F,F)



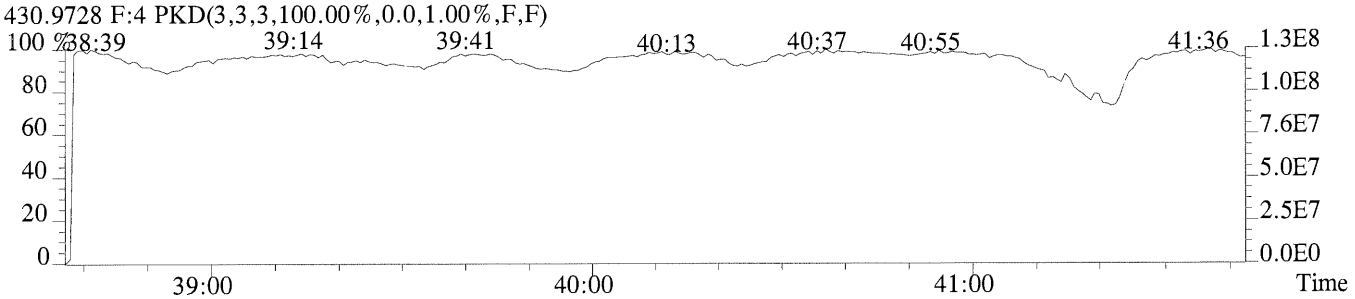
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3376.0,0.50%,F,F)



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

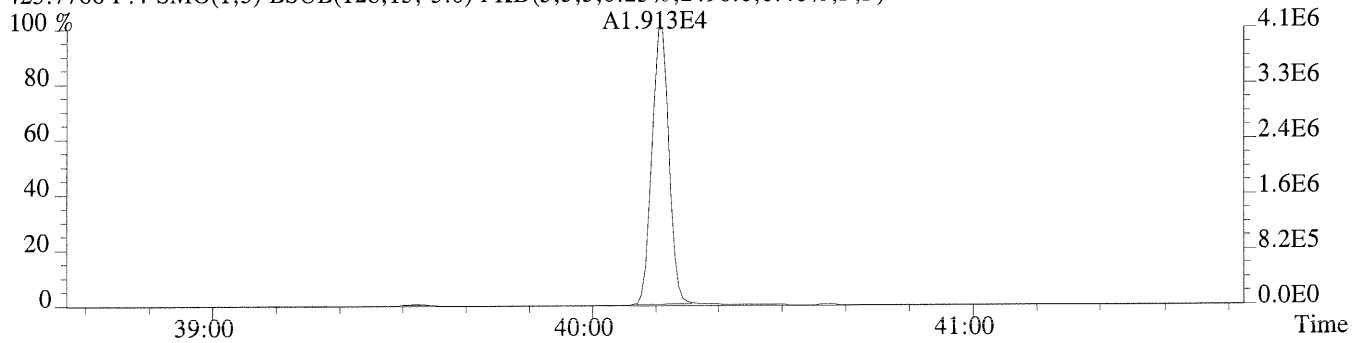


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

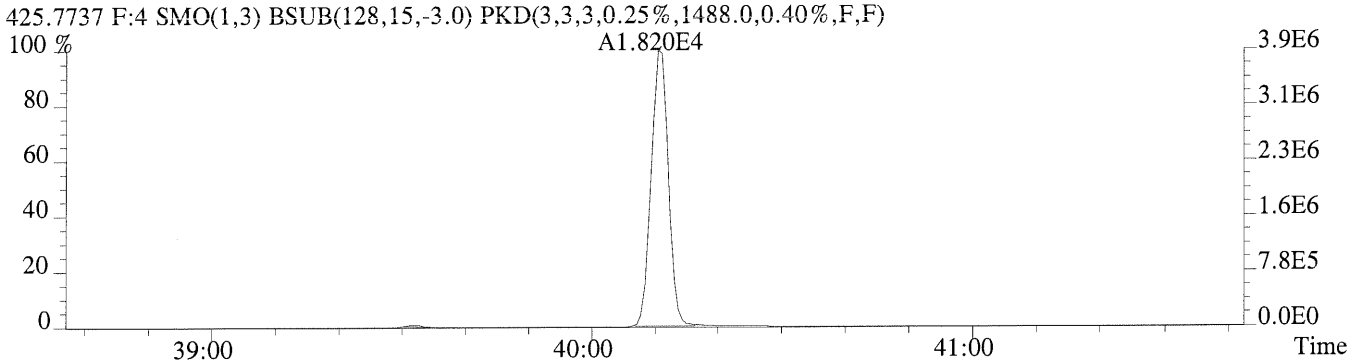


File:P200045 #1-281 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

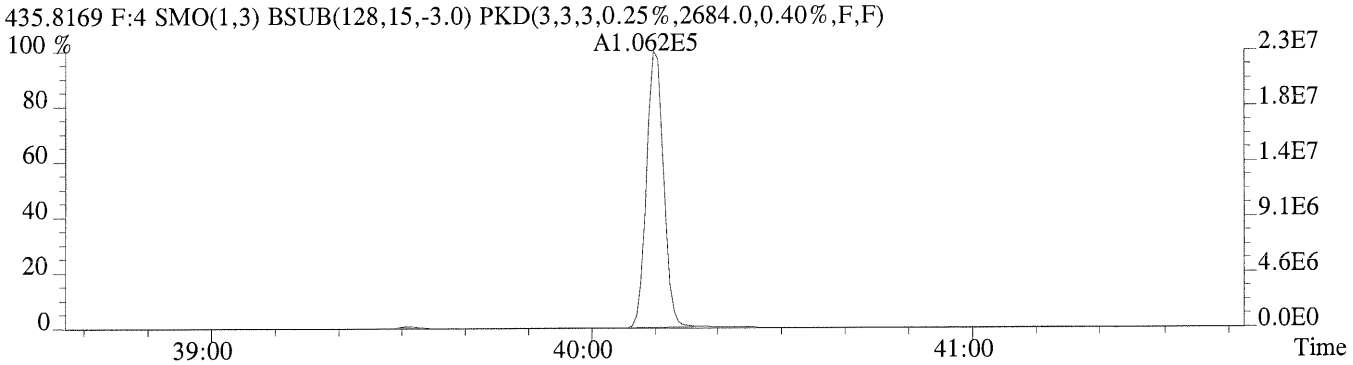
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2496.0,0.40%,F,F)



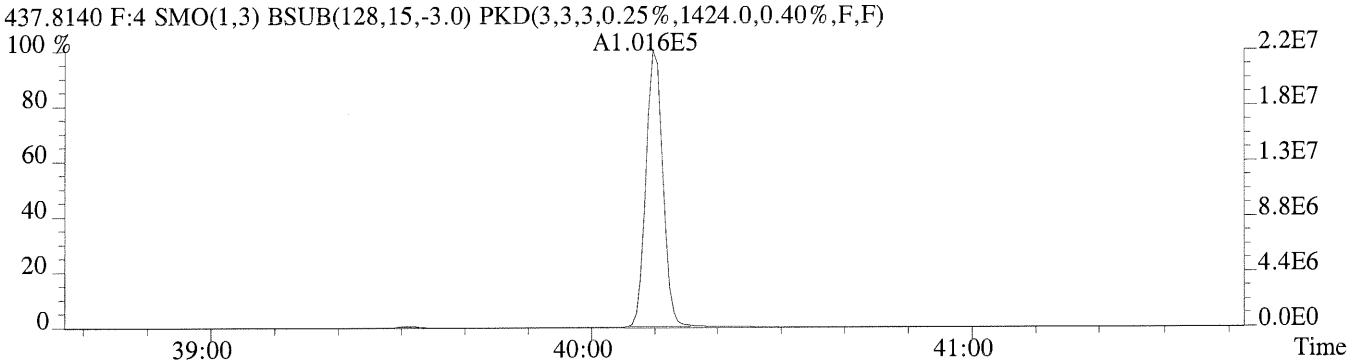
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1488.0,0.40%,F,F)



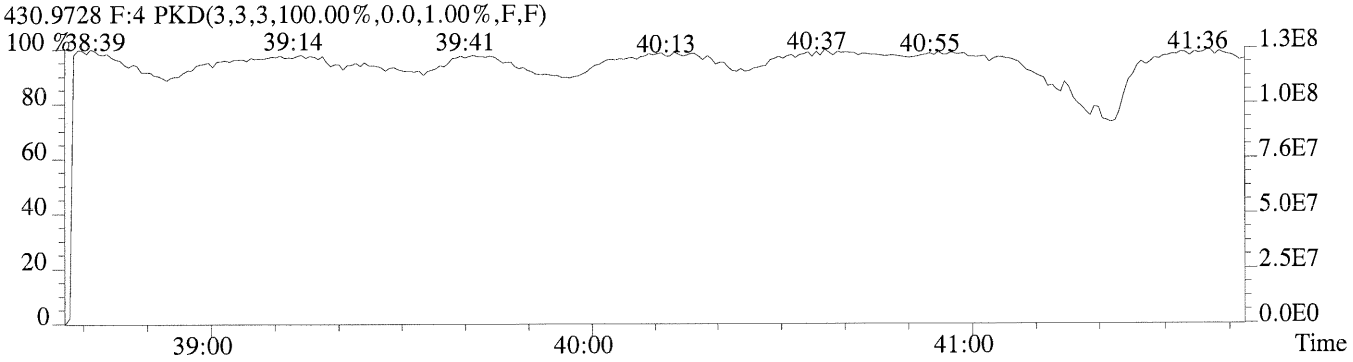
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2684.0,0.40%,F,F)



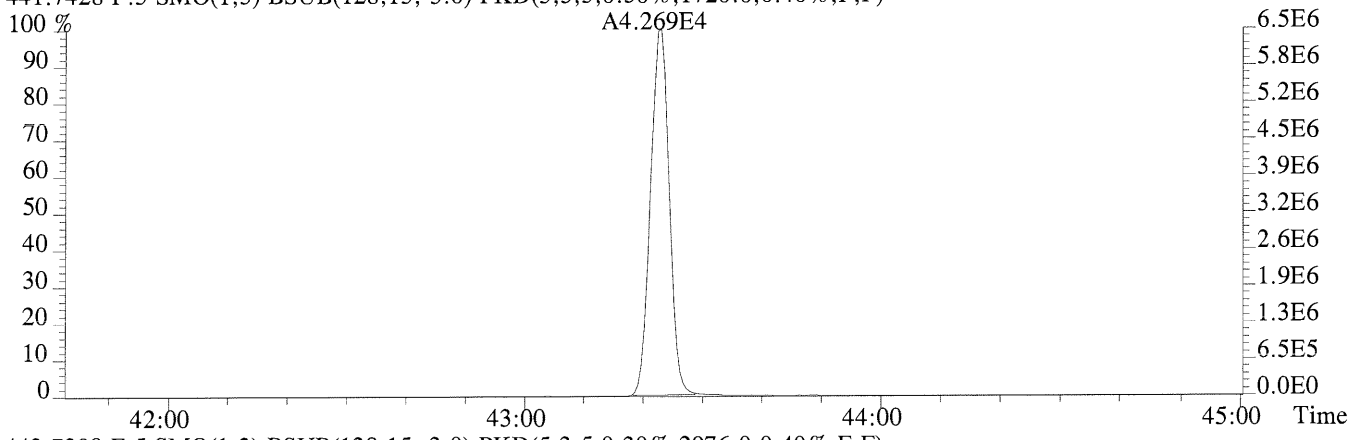
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1424.0,0.40%,F,F)



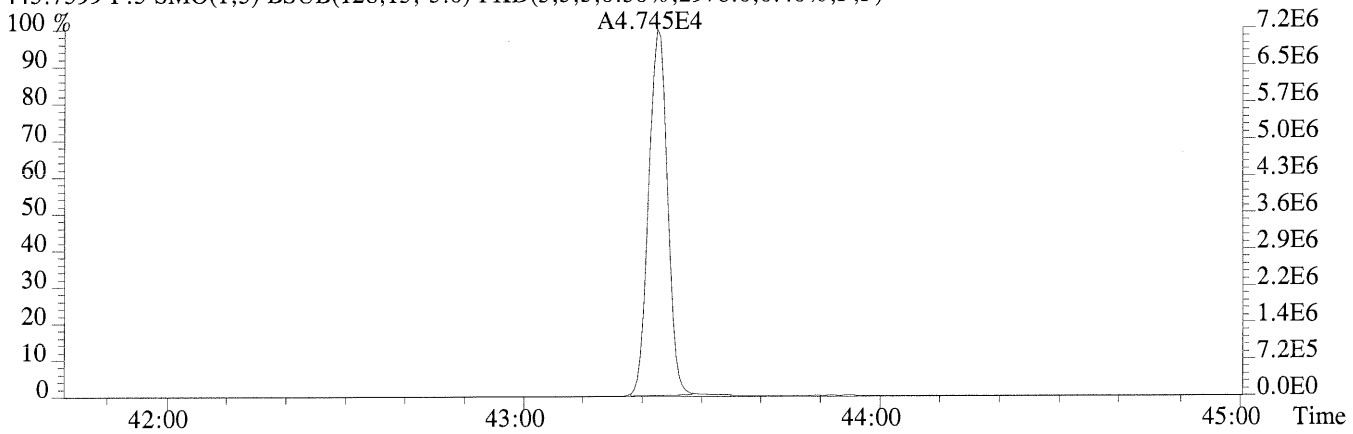
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



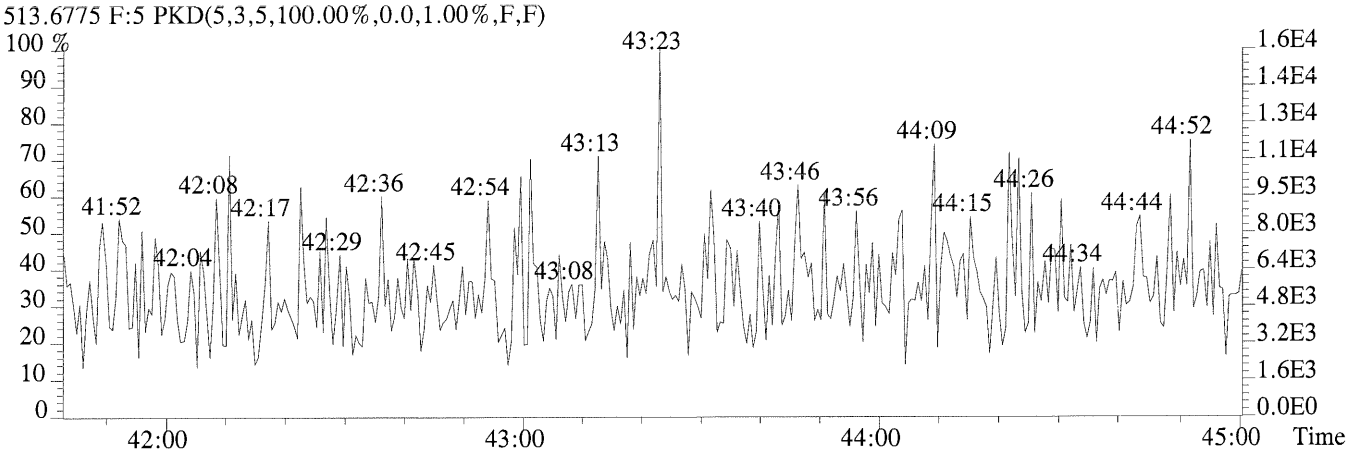
File:P200045 #1-364 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1720.0,0.40%,F,F)



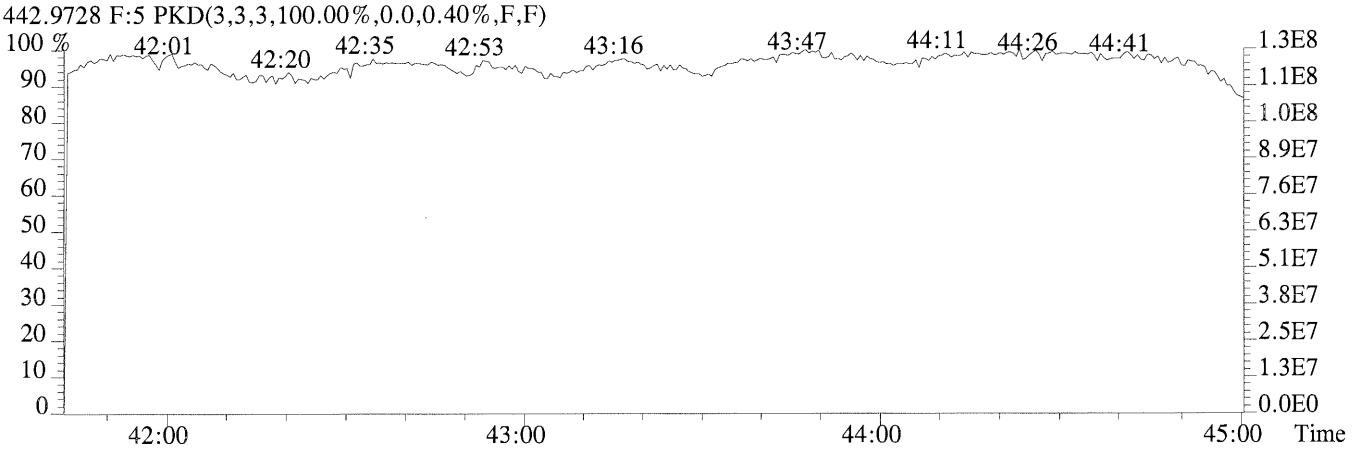
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2976.0,0.40%,F,F)



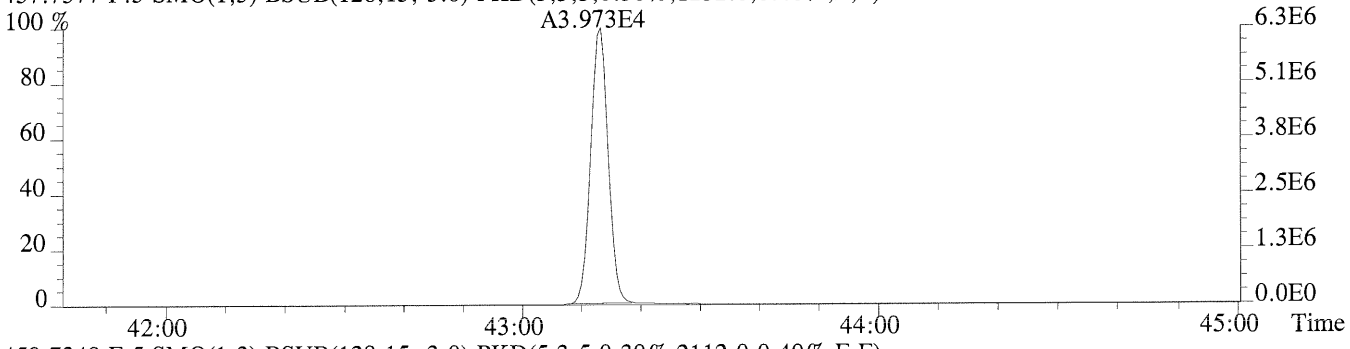
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



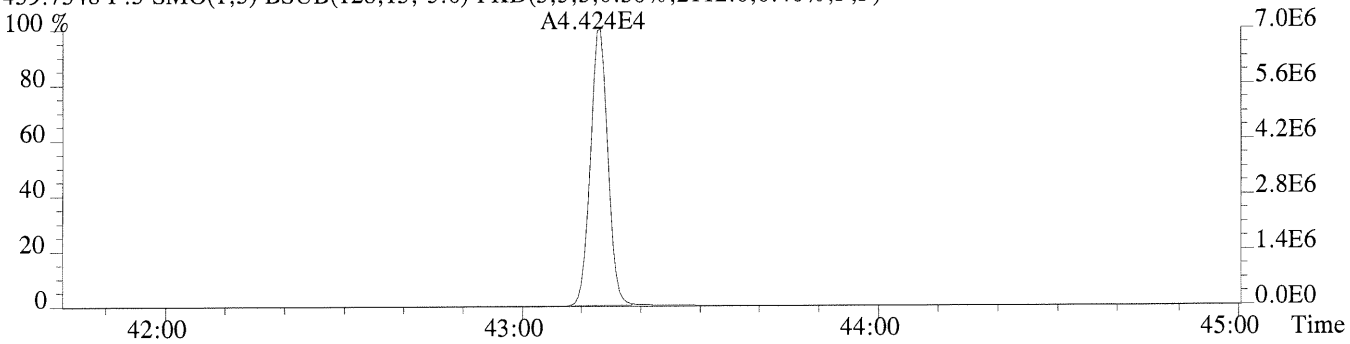
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



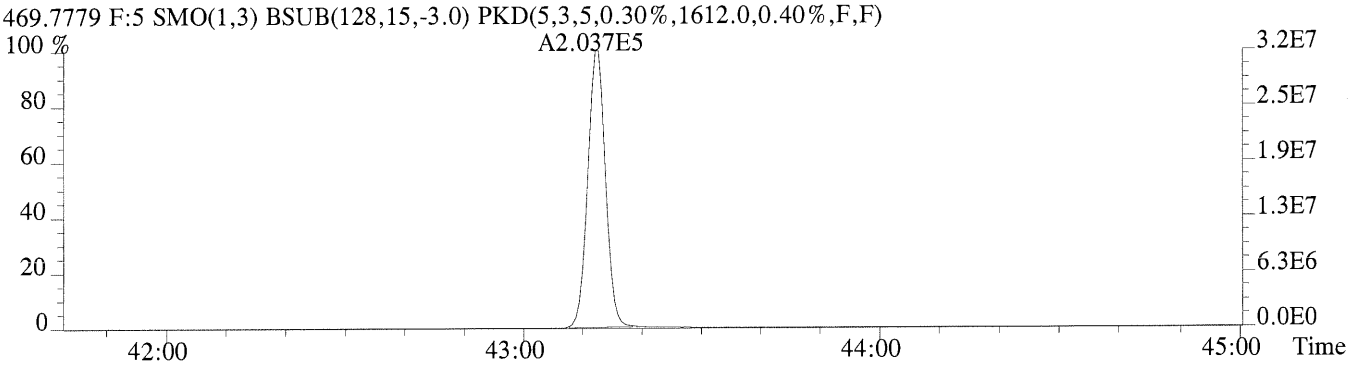
File:P200045 #1-364 Acq: 4-AUG-2008 17:54:20 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1252.0,0.40%,F,F)



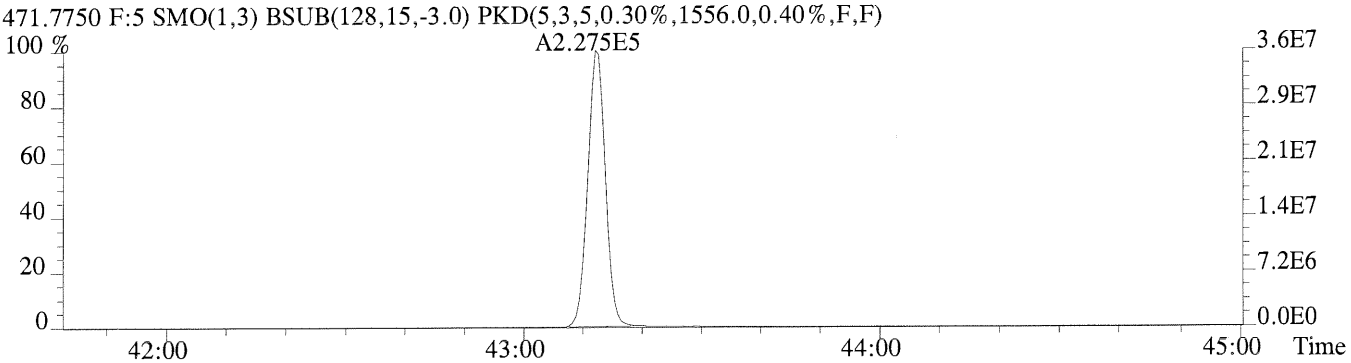
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2112.0,0.40%,F,F)



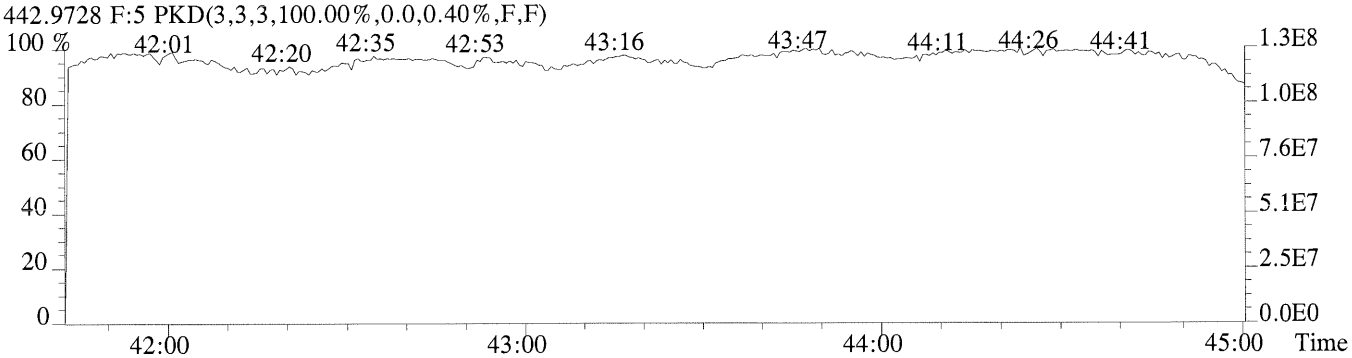
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1612.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1556.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: R200053/R200063

Circle one: Beginning / Ending

Date: 08/07/01

Method: 8290 / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: _____ Second QC: _____

8290 CCALQC 03/23/04

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 08/01/08

Init. Calib.Times: 14:25

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
WINDOW DEFINE		P200052	7-AUG-08	10:17:31
CCAL HRCC3		P200053	7-AUG-08	07:15:39
LCS	EQ0800319-02	P200054	7-AUG-08	08:40:44
DO NOT USE	DO NOT USE	P200055	7-AUG-08	09:26:14
DO NOT USE	DO NOT USE	P200056	7-AUG-08	11:24:22
METHOD BLANK	EQ0800319-01	P200058	7-AUG-08	13:04:00
#1,#2,#3,#4	E0800709-001	P200059	7-AUG-08	14:03:22
DO NOT USE	DO NOT USE	P200060	7-AUG-08	14:53:10
H-T5-3.0	E0800704-002	P200061	7-AUG-08	15:58:54
DLCS	EQ0800324-03	P200062	7-AUG-08	16:51:29
CCAL HRCC3	CCAL HRCC3	P200063	7-AUG-08	17:45:32

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: 8290CAS/1613 Result File: F P200047CAL/RES
GC Method: 8290CAS/1613 EDD File: F P200039RES

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/04/01	11:52	P200039	CCAL HRGC	DB-2-21		JC		
w 08/14/01	12:59	P200040	EQ080317-01	Method Blank				
	13:49	P200041	EQ080703-001	H-TSA-2.0		~~14:44~~	P200042	
14:44	~~16:06~~	P200042	EQ080704-003	H-TS-3.0DUP			w 08/14/01	
16:06	~~16:54~~	P200043	EQ080705-002	H-T1-2.0				
16:54	17:54	P200044	EQ080710-001	Calc 071808SQC		17:54	PQP200045 CCAL HRGC DB-2-21	
	18:43	18:43	HRMS Check					
08/05/01	10:51							
	10:17	P200046	Window Defin	DY-90-2				
	11:09	P200047	CCAL HRGC	DB-2-21				
	12:22	P200048	EQ080326-01	Method Blank				
	13:08	P200049	EQ080716-010	EST-MW6-030				
	16:58	P200050	1 -011	EST-MW7-030				
	17:25	P200051	CCAL HRGC	DB-2-21			Use Avg	
	06:25		HRMS Check				w 08/14/01	
8/07/01	10:17	P200052	Window Defin	DY-90-2		↓	~~Leads rejection~~	

Reviewed by: BH

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Acq Method: 8290 CAS/1613 Result File: F P200538ES

GC Method: 8290 CAS/1613 EDD File:

Columbia Analytical Services inc.

An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/07/01	07:15	P200053	CCAL HRGC	DB-2-2A		JV		
	08:40	P200054	EQ8C0319-02LCS	LCS				
	09:21	P200055	EQ8C0324-02LCS				Needs reinjection	
	11:24	P200056	EQ8C0324-03LCS				Needs reinjection	
	12:14	P200057	EQ8C0319-01MB				needs reinjection	
	13:04	P200058	↓	Method Blank				
	14:03	P200059	EQ8C0319-01	#1, #2 HPMI		JV		
	14:53	P200060	EQ8C0746-001					
	15:58	P200061	EQ8C0804-02	H-T5-3.0				
	16:51	P200062	EQ8C0324-03	DLCS				
	17:44	~~P200063~~	HRMS Check					
	17:45	P200063	CCAL HRGC	DB-2-2A				
	18:36		HRMS Check					
08/08/01	06:21		↓					
		P200064	Window Define	DB-5				
		P200065	CCAL HRGC	DB-225		↓		

Reviewed by: CC

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: _____ SDG No.: _____

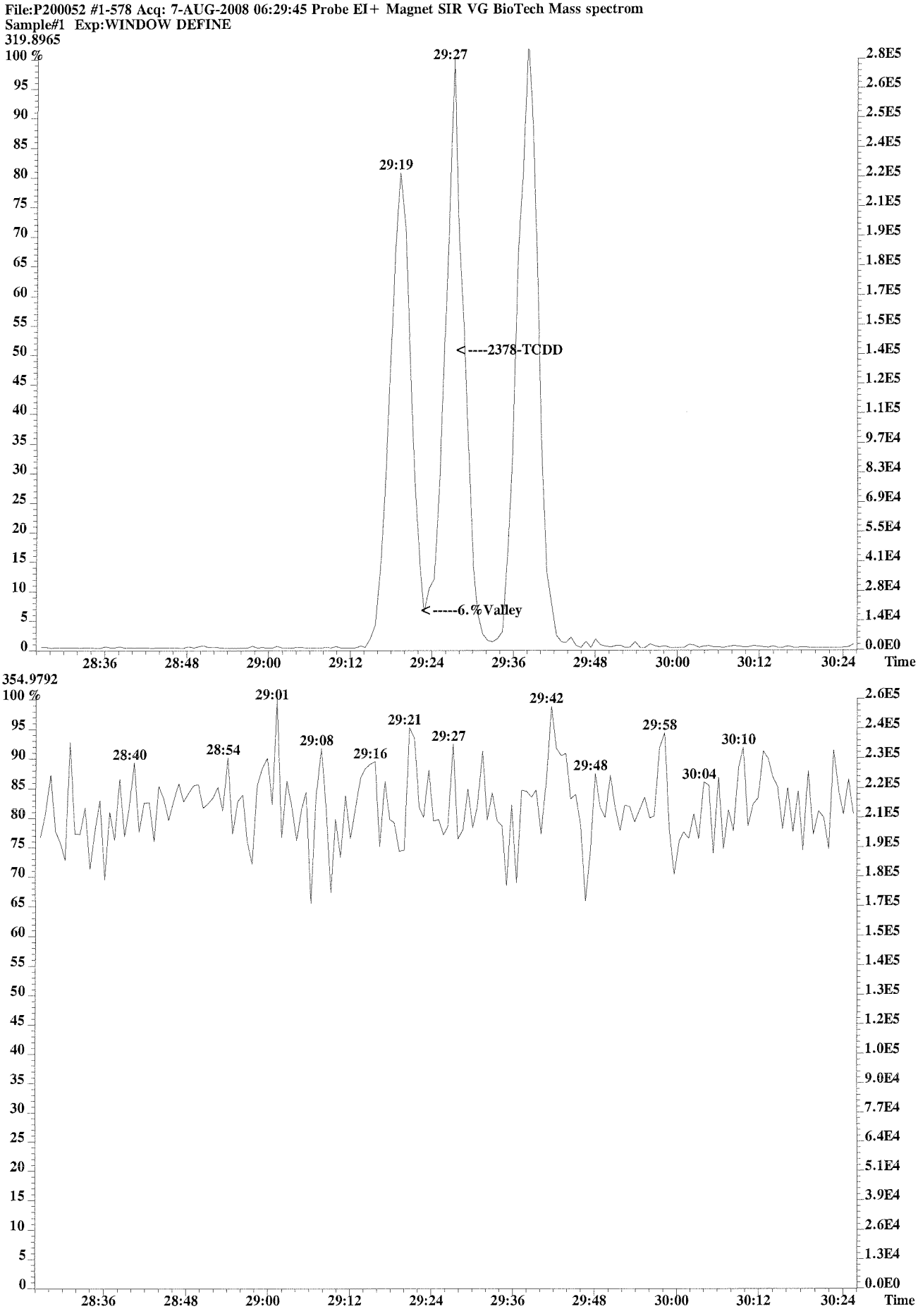
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P200052

Date Analyzed: 08/07/08

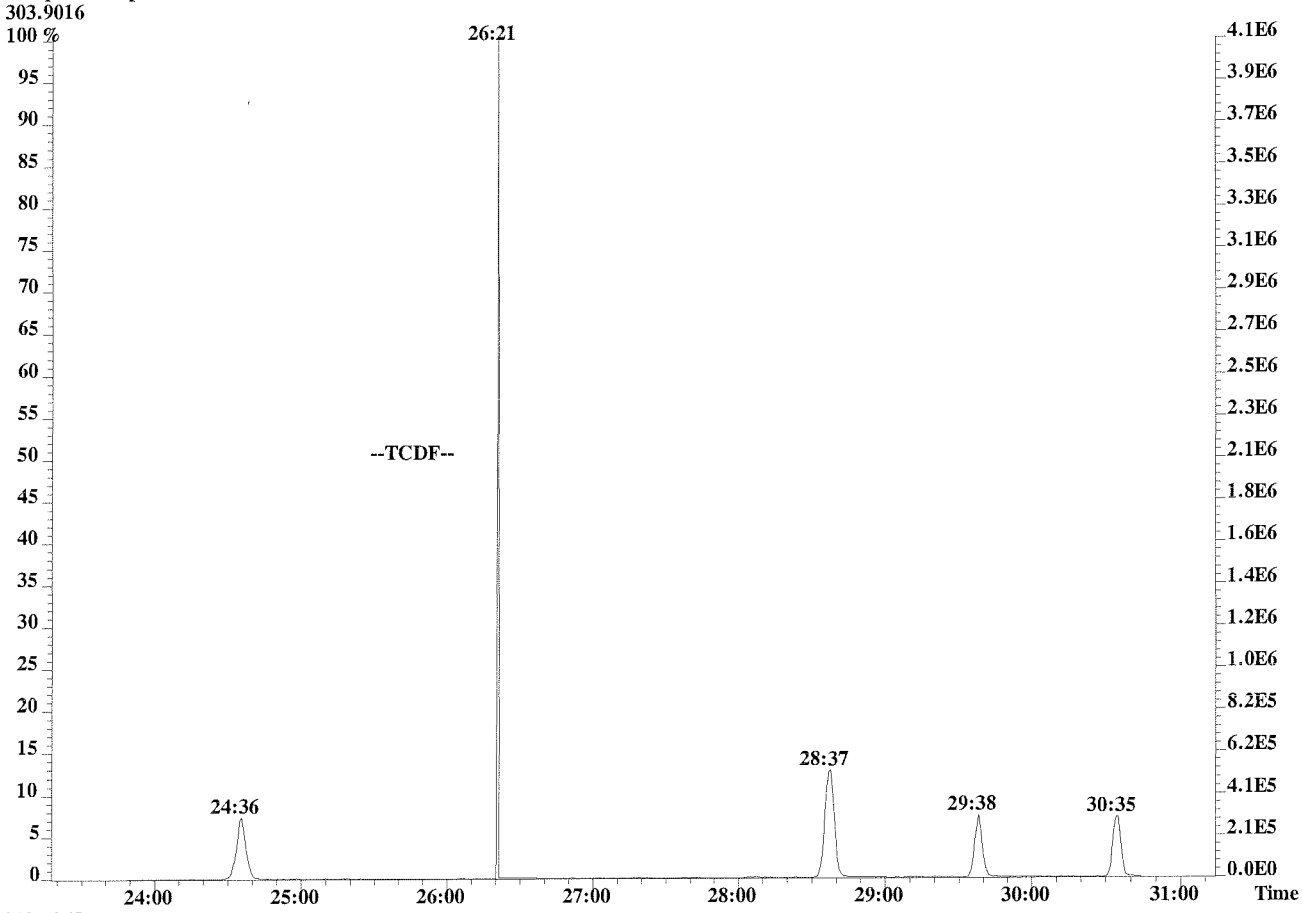
Time Analyzed: 10:17:31

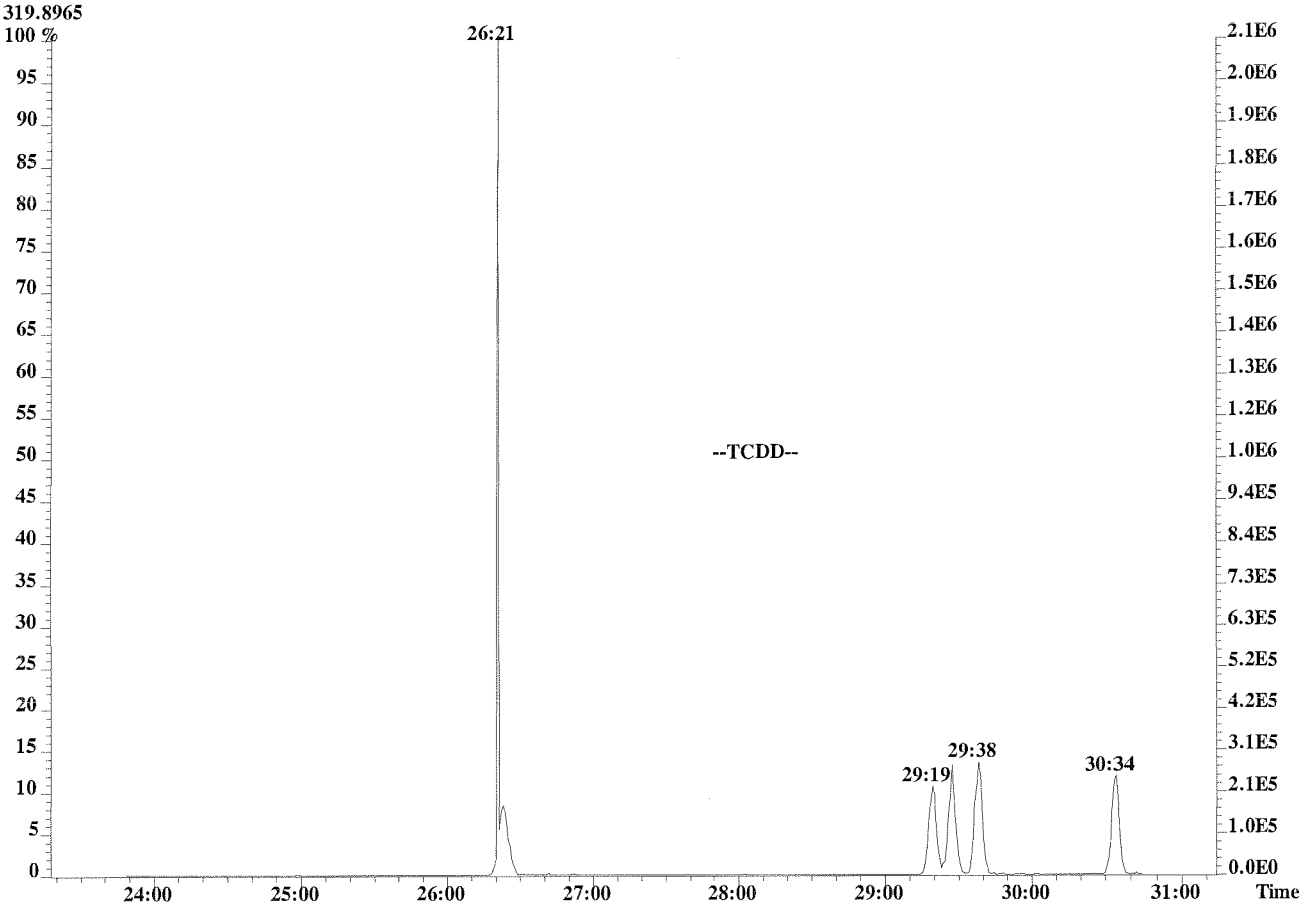
CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	24:36	30:35
TCDD	26:21	30:34
PeCDF	30:50	34:42
PeCDD	32:12	34:33
HxCDF	35:35	37:53
HxCDD	36:04	37:34
HpCDF	39:16	40:34
HpCDD	39:31	40:10

% Valley 2378-TCDD: 6%

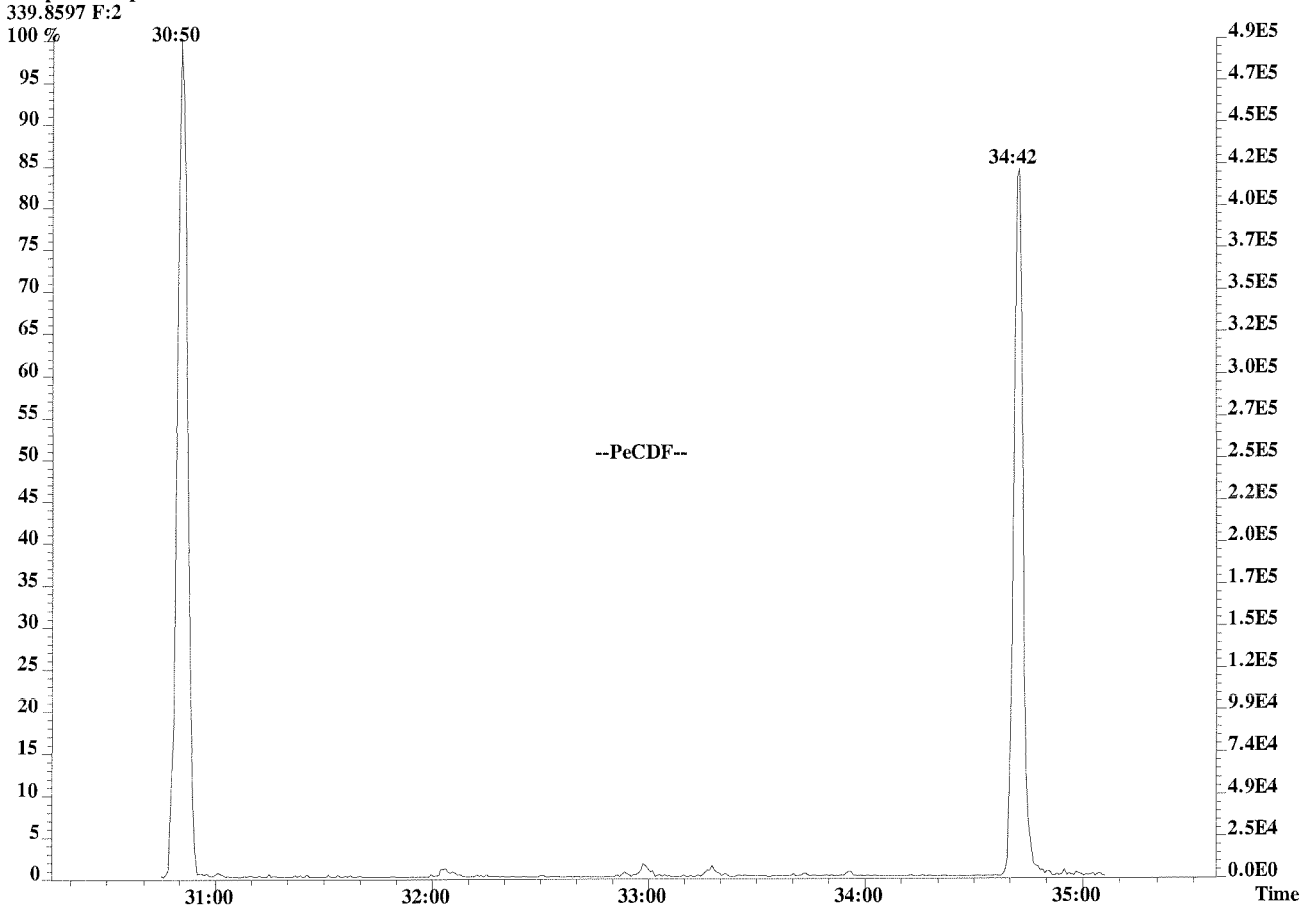

File:P200052 #1-578 Acq: 7-AUG-2008 06:29:45 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE
319.8965
100 %
29:27
29:19
<----2378-TCDD
<-----6.%Valley
28:36
28:48
29:00
29:12
29:24
29:36
29:48
30:00
30:12
30:24
Time
354.9792
100 %
29:01
29:42
29:21
29:08
29:27
29:58
28:40
28:54
29:16
29:48
30:10
30:04
28:36
28:48
29:00
29:12
29:24
29:36
29:48
30:00
30:12
30:24
Time

File:P200052 #1-578 Acq: 7-AUG-2008 06:29:45 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE

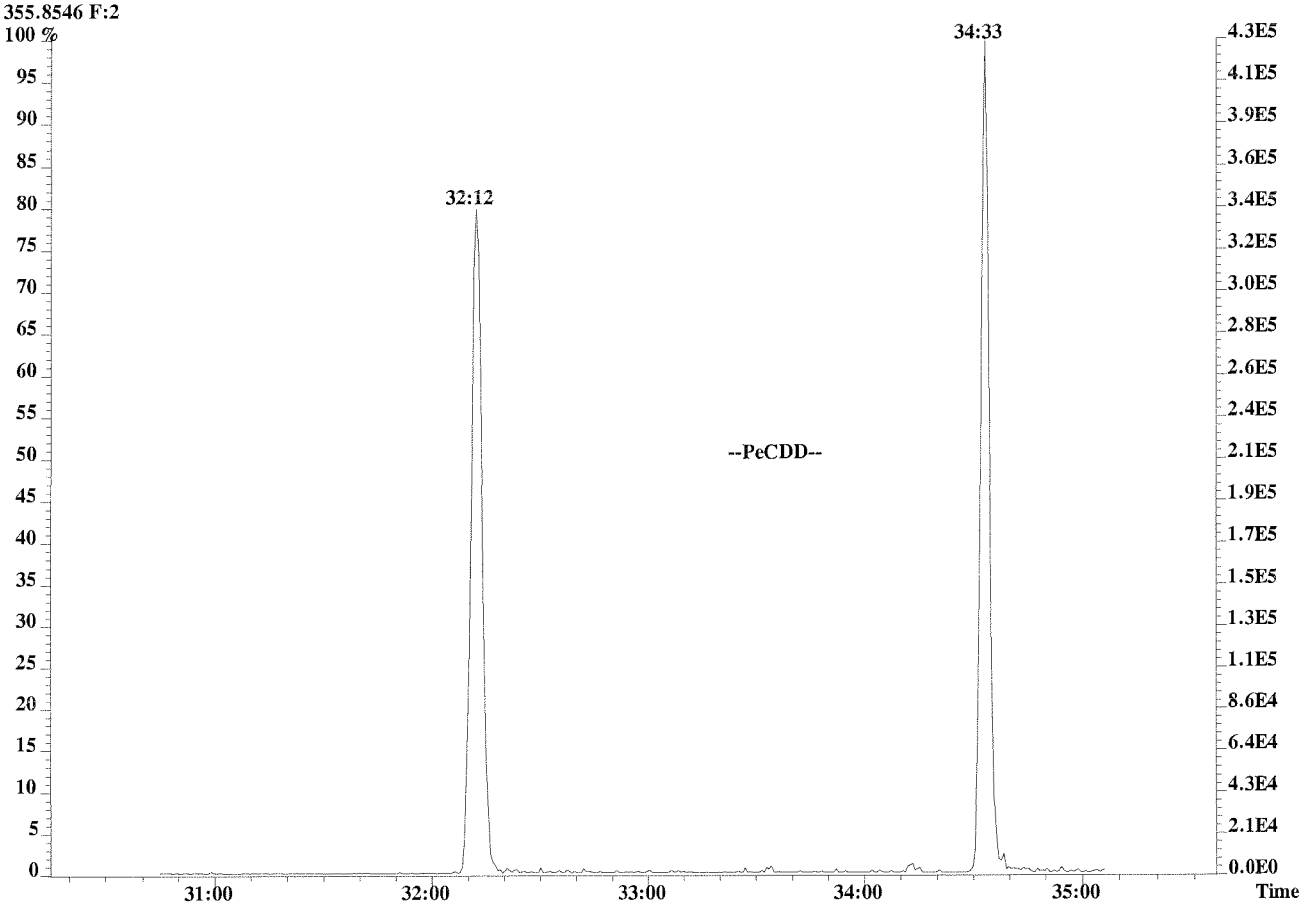




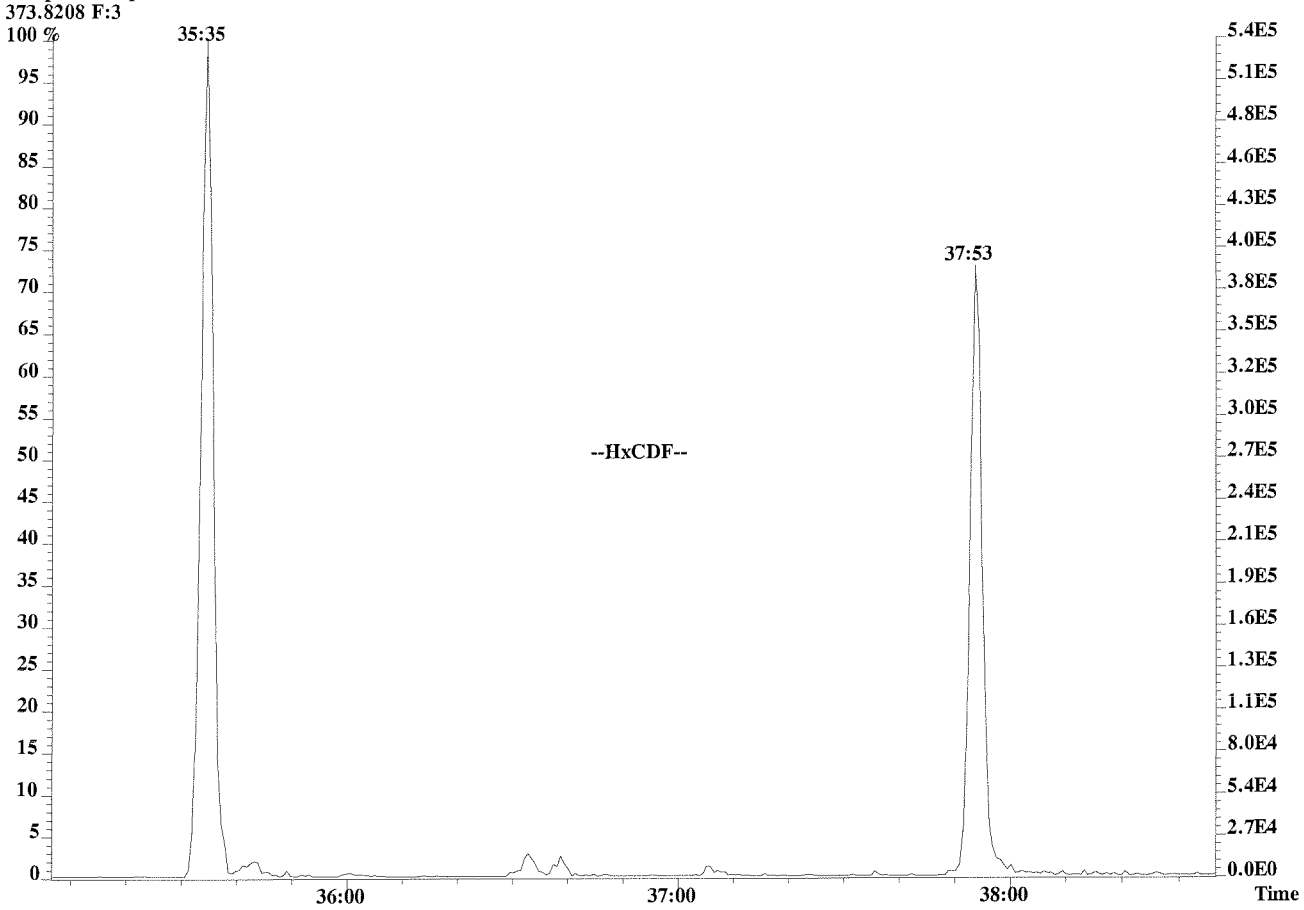
File:P200052 #1-396 Acq: 7-AUG-2008 06:29:45 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE
339.8597 F:2

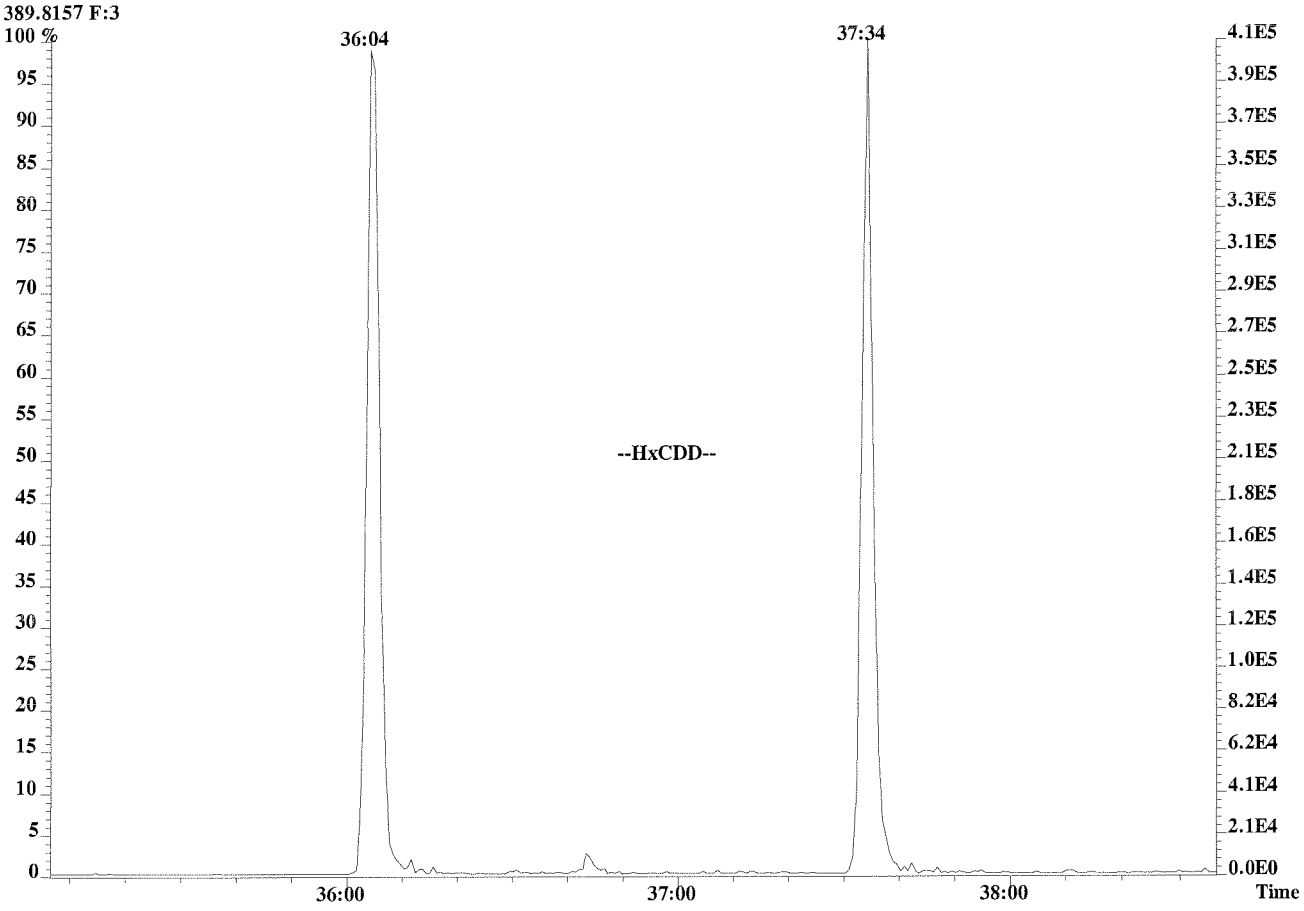


355.8546 F:2

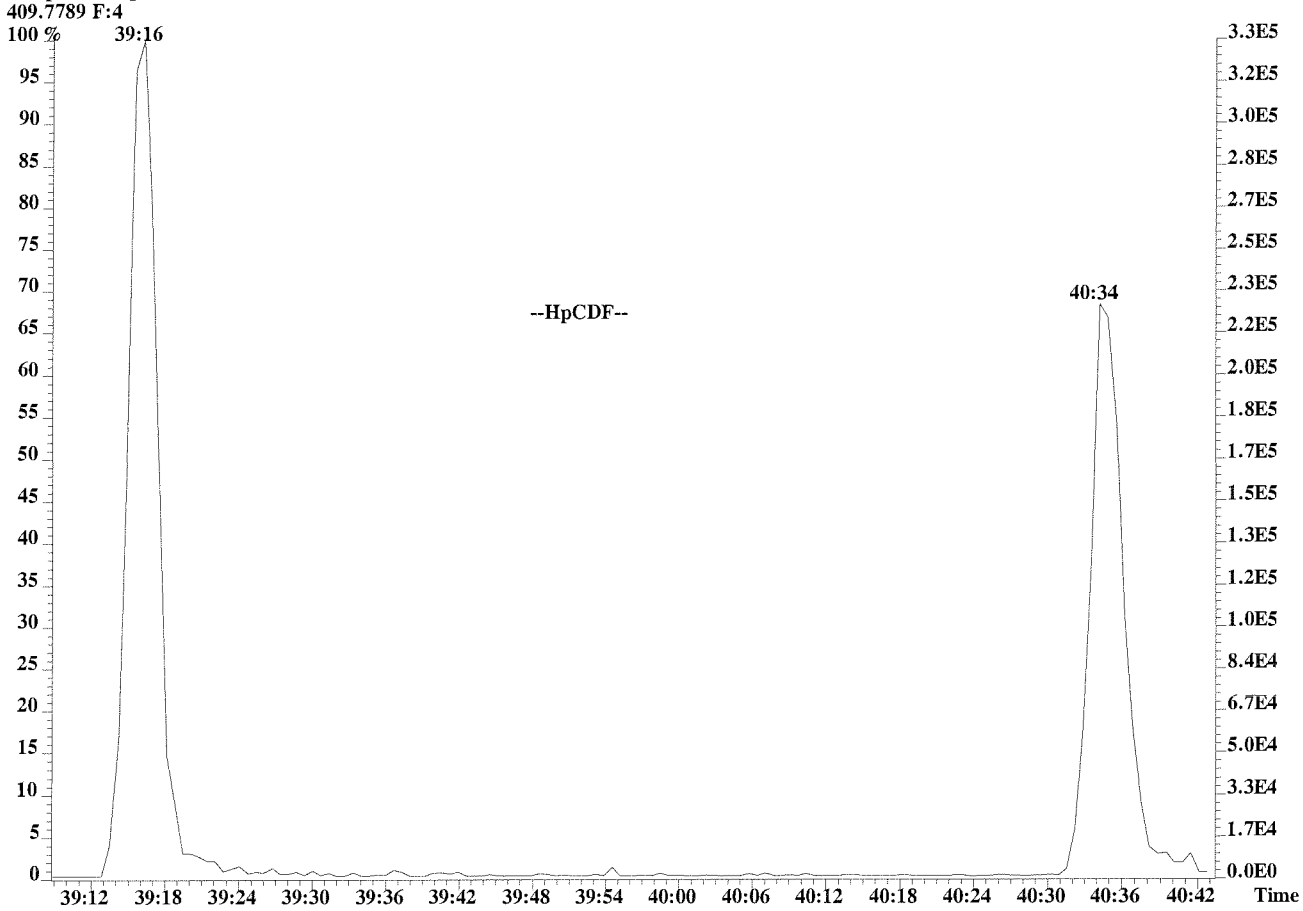


File:P200052 #1-318 Acq: 7-AUG-2008 06:29:45 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE

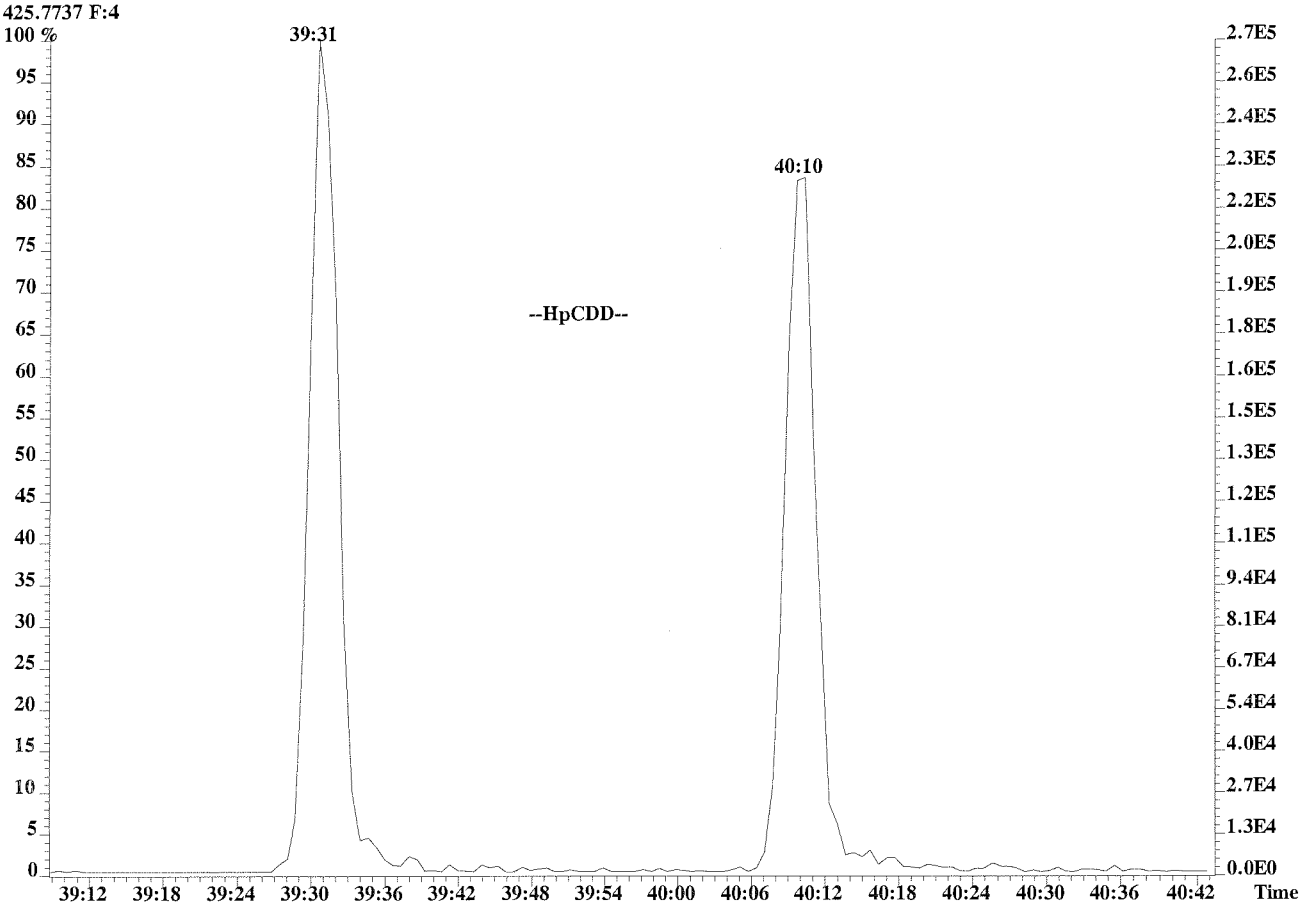




File:P200052 #1-281 Acq: 7-AUG-2008 06:29:45 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE
409.7789 F:4



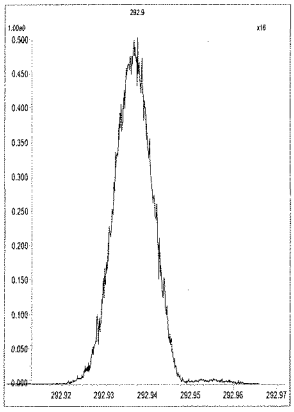
425.7737 F:4



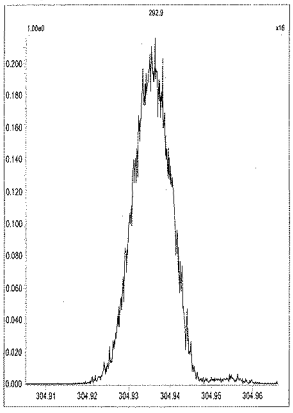
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, August 07, 2008 06:25:11 Central Daylight Time

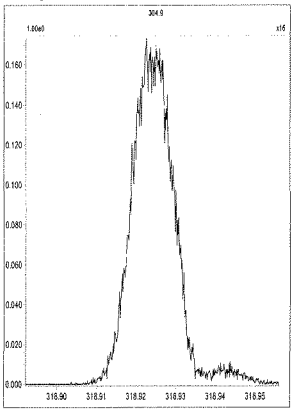
M 292.9824 R 14879



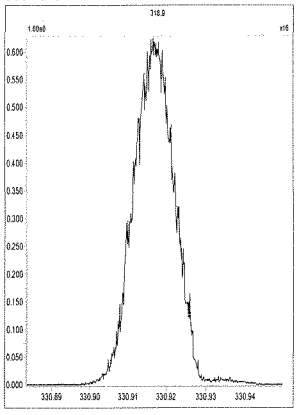
M 304.9824 R 15063



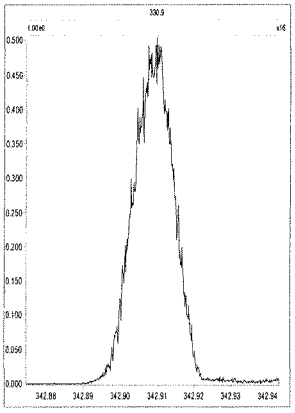
M 318.9792 R 14286



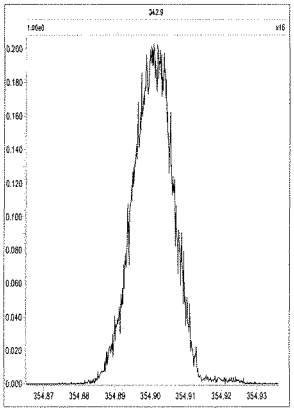
M 330.9792 R 14455



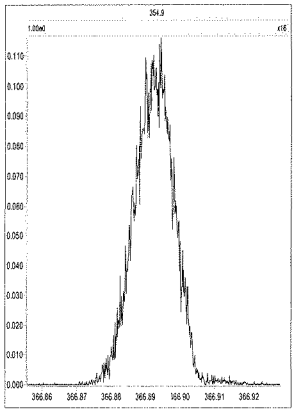
M 342.9792 R 14707



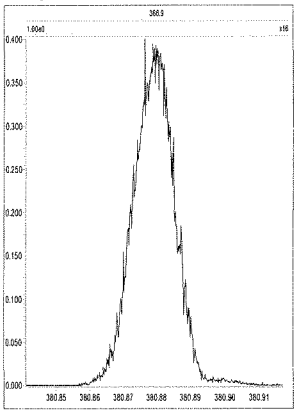
M 354.9792 R 13735



M 366.9792 R 14616



M 380.9760 R 13736

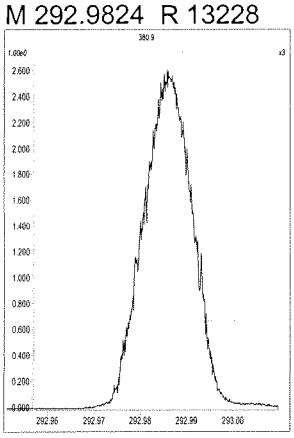


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

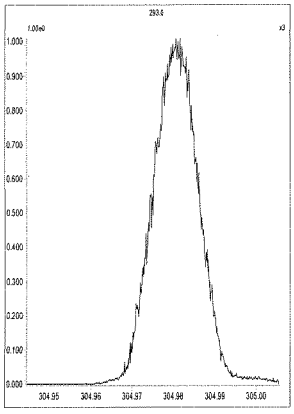
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Printed: Thursday, August 07, 2008 17:44:25 Central Daylight Time

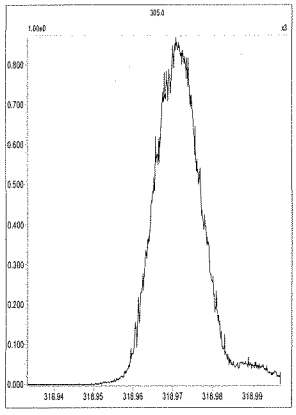
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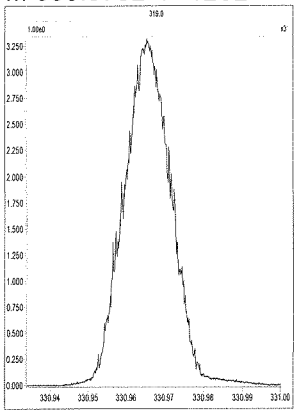
M 304.9824 R 12624



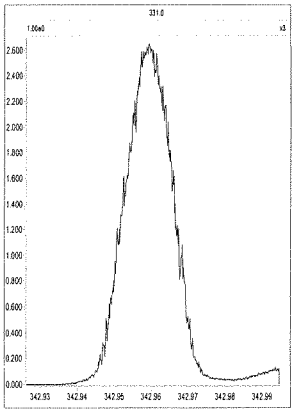
M 318.9792 R 11412



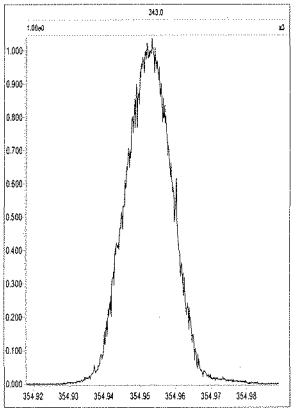
M 330.9792 R 12820



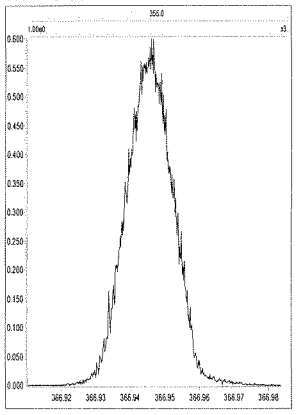
M 342.9792 R 12624



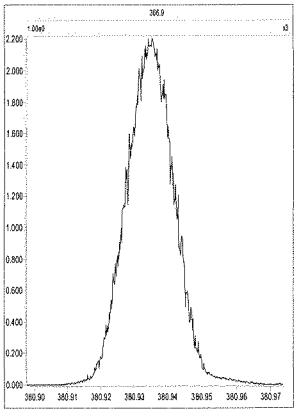
M 354.9792 R 12627



M 366.9792 R 12499



M 380.9760 R 11959

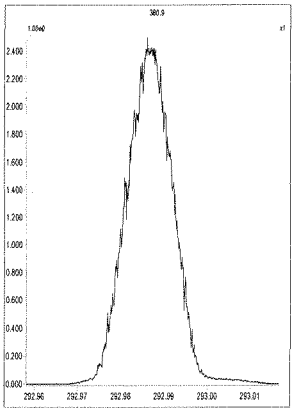


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

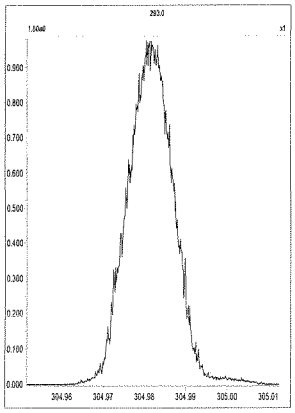
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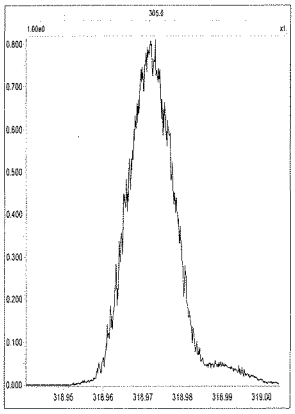
M 292.9824 R 12563



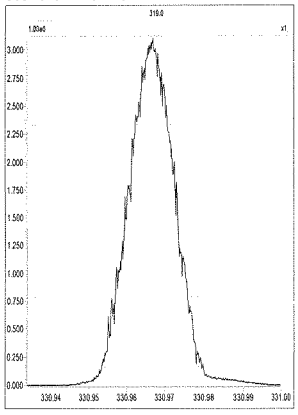
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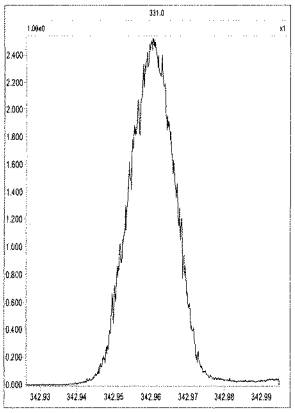
M 318.9792 R 11517



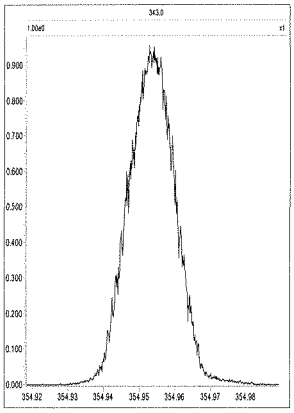
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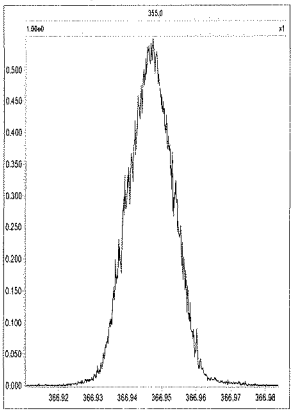
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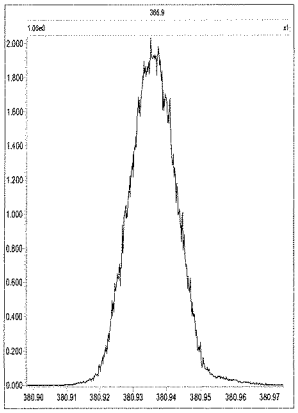
M 354.9792 R 12433



M 366.9792 R 12254



M 380.9760 R 12138



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200063 Analysis Date: 7-AUG-08 Time: 17:45:32

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.96	0.92	4.51
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	0.88	0.87	1.22
1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.96	0.93	3.19
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.96	1.05	-8.45
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	0.97	0.97	-0.31
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.90	0.88	1.79
OCDD	M+2/M+4	0.90	0.76-1.02	0.98	0.96	1.71
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	0.88	0.83	6.21
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	0.86	0.84	2.24
2,3,4,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	0.90	0.85	5.92
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.16	1.08	6.76
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.12	1.13	-0.50
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	0.98	0.87	12.58
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	1.07	1.01	6.11
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	1.37	1.32	4.05
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	1.15	0.97	19.34
OCDF	M+2/M+4	0.89	0.76-1.02	1.04	1.11	-5.86

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200063 Analysis Date: 7-AUG-08 Time: 17:45:32

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	1.03	1.05	-2.33
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	0.90	0.87	3.31
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	0.94	1.00	-5.67
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	0.90	0.83	8.86
13C-OCDD	M+2/M+4	0.90	0.76-1.02	0.89	0.73	22.71
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.28	1.42	-10.05
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.14	1.26	-9.55
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.05	1.28	-18.21
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	0.80	0.90	-11.40
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				1.02	0.98	3.68

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #15 Filename P200063 Samp: 1 Inj: 1 Acquired: 7-AUG-08 17:45:32
Processed: 13-AUG-08 14:16:54 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	1.723e+04	2.211e+04	0.78	yes	no	0.831
2	Unk	1,2,3,7,8-PeCDF	32:60	5.195e+04	3.350e+04	1.55	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:44	5.421e+04	3.519e+04	1.54	yes	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:33	4.961e+04	4.042e+04	1.23	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:39	4.810e+04	3.925e+04	1.23	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:08	4.562e+04	3.780e+04	1.21	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:51	4.196e+04	3.395e+04	1.24	yes	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	4.104e+04	4.033e+04	1.02	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	3.444e+04	3.401e+04	1.01	yes	no	0.966
10	Unk	OCDF	43:23	6.517e+04	7.356e+04	0.89	yes	no	1.109
11	Unk	2,3,7,8-TCDD	29:28	1.497e+04	1.949e+04	0.77	yes	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:05	4.198e+04	2.701e+04	1.55	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:15	3.754e+04	2.999e+04	1.25	yes	no	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:20	3.765e+04	2.996e+04	1.26	yes	no	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:37	3.710e+04	3.060e+04	1.21	yes	no	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:11	3.083e+04	2.959e+04	1.04	yes	no	0.883
17	Unk	OCDD	43:13	6.165e+04	6.862e+04	0.90	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:37	9.789e+04	1.249e+05	0.78	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:59	1.219e+05	7.694e+04	1.58	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	1.340e+05	2.548e+05	0.53	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	8.987e+04	2.069e+05	0.43	yes	yes	0.901
22	IS	13C-2,3,7,8-TCDD	29:27	7.858e+04	1.004e+05	0.78	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:04	9.543e+04	6.094e+04	1.57	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.953e+05	1.551e+05	1.26	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	1.712e+05	1.650e+05	1.04	yes	no	0.831
26	IS	13C-OCDD	43:12	3.151e+05	3.495e+05	0.90	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:15	7.699e+04	9.730e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	2.067e+05	1.650e+05	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	3.544e+04					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	28:07		3.999e+04	0.77	yes		0.831
31	Tot	Total Tetra-Dioxins	29:28		3.445e+04	0.77	yes		0.921
32	Tot	Total Penta-Furans	32:60		1.752e+05	1.55	yes		0.845
33	Tot	Total Penta-Dioxins	34:05		6.899e+04	1.55	yes		0.872
34	Tot	Total Hexa-Furans	36:33		3.367e+05	1.23	yes		1.023
35	Tot	Total Hexa-Dioxins	37:15		2.028e+05	1.25	yes		0.985
36	Tot	Total Hepta-Furans	39:17		1.498e+05	1.02	yes		1.142
37	Tot	Total Hepta-Dioxins	39:32		6.083e+04	1.09	yes		0.883

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #15 Filename P200063 #1 Samp: 1 Inj: 1 Acquired: 7-AUG-08 17:45:32

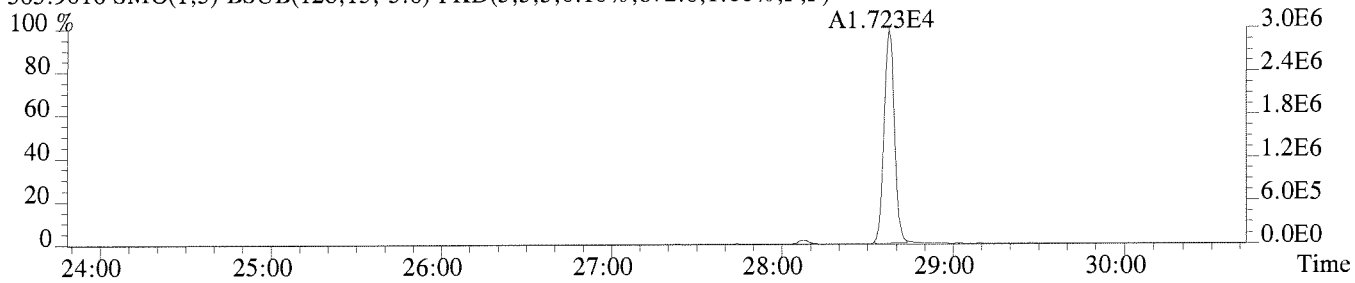
Processed: 13-AUG-08 14:16:54 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.00e+06	8.72e+02	3.4e+03	3.82e+06	2.14e+03	1.8e+03
2	1,2,3,7,8-PeCDF	1.03e+07	7.52e+02	1.4e+04	6.72e+06	1.06e+03	6.4e+03
3	2,3,4,7,8-PeCDF	1.11e+07	7.52e+02	1.5e+04	7.22e+06	1.06e+03	6.8e+03
4	1,2,3,4,7,8-HxCDF	1.11e+07	1.63e+03	6.8e+03	9.08e+06	1.72e+03	5.3e+03
5	1,2,3,6,7,8-HxCDF	1.07e+07	1.63e+03	6.6e+03	8.81e+06	1.72e+03	5.1e+03
6	2,3,4,6,7,8-HxCDF	1.03e+07	1.63e+03	6.3e+03	8.53e+06	1.72e+03	5.0e+03
7	1,2,3,7,8,9-HxCDF	9.18e+06	1.63e+03	5.6e+03	7.42e+06	1.72e+03	4.3e+03
8	1,2,3,4,6,7,8-HpCDF	9.20e+06	1.92e+03	4.8e+03	9.08e+06	1.55e+03	5.9e+03
9	1,2,3,4,7,8,9-HpCDF	6.94e+06	1.92e+03	3.6e+03	6.92e+06	1.55e+03	4.5e+03
10	OCDF	1.03e+07	1.09e+03	9.4e+03	1.12e+07	2.46e+03	4.6e+03
11	2,3,7,8-TCDD	2.63e+06	2.14e+03	1.2e+03	3.49e+06	7.84e+02	4.5e+03
12	1,2,3,7,8-PeCDD	8.74e+06	2.08e+03	4.2e+03	5.64e+06	8.60e+02	6.6e+03
13	1,2,3,4,7,8-HxCDD	8.52e+06	1.74e+03	4.9e+03	6.85e+06	2.21e+03	3.1e+03
14	1,2,3,6,7,8-HxCDD	8.19e+06	1.74e+03	4.7e+03	6.64e+06	2.21e+03	3.0e+03
15	1,2,3,7,8,9-HxCDD	8.38e+06	1.74e+03	4.8e+03	6.96e+06	2.21e+03	3.2e+03
16	1,2,3,4,6,7,8-HpCDD	6.65e+06	1.85e+03	3.6e+03	6.39e+06	1.17e+03	5.5e+03
17	OCDD	9.69e+06	1.22e+03	7.9e+03	1.08e+07	1.66e+03	6.5e+03
18	13C-2,3,7,8-TCDF	1.64e+07	2.86e+03	5.7e+03	2.08e+07	3.06e+03	6.8e+03
19	13C-1,2,3,7,8-PeCDF	2.49e+07	3.92e+02	6.4e+04	1.57e+07	8.68e+02	1.8e+04
20	13C-1,2,3,4,7,8-HxCDF	2.92e+07	1.22e+03	2.4e+04	5.57e+07	2.57e+03	2.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.96e+07	5.02e+03	3.9e+03	4.56e+07	4.72e+03	9.7e+03
22	13C-2,3,7,8-TCDD	1.44e+07	5.92e+03	2.4e+03	1.84e+07	1.09e+03	1.7e+04
23	13C-1,2,3,7,8-PeCDD	2.01e+07	2.09e+03	9.6e+03	1.30e+07	1.12e+03	1.2e+04
24	13C-1,2,3,6,7,8-HxCDD	4.35e+07	1.44e+03	3.0e+04	3.48e+07	2.14e+03	1.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	3.68e+07	2.29e+03	1.6e+04	3.54e+07	2.10e+03	1.7e+04
26	13C-OCDD	4.89e+07	1.60e+03	3.1e+04	5.42e+07	1.41e+03	3.8e+04
27	13C-1,2,3,4-TCDD	1.39e+07	5.92e+03	2.4e+03	1.75e+07	1.09e+03	1.6e+04
28	13C-1,2,3,7,8,9-HxCDD	4.64e+07	1.44e+03	3.2e+04	3.75e+07	2.14e+03	1.7e+04
29	37Cl-2,3,7,8-TCDD	6.34e+06	7.40e+02	8.6e+03			

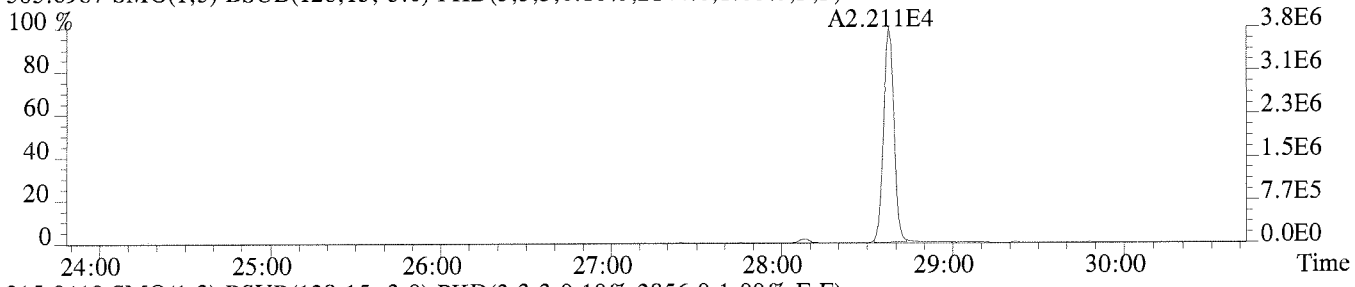
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200063 #1-575 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

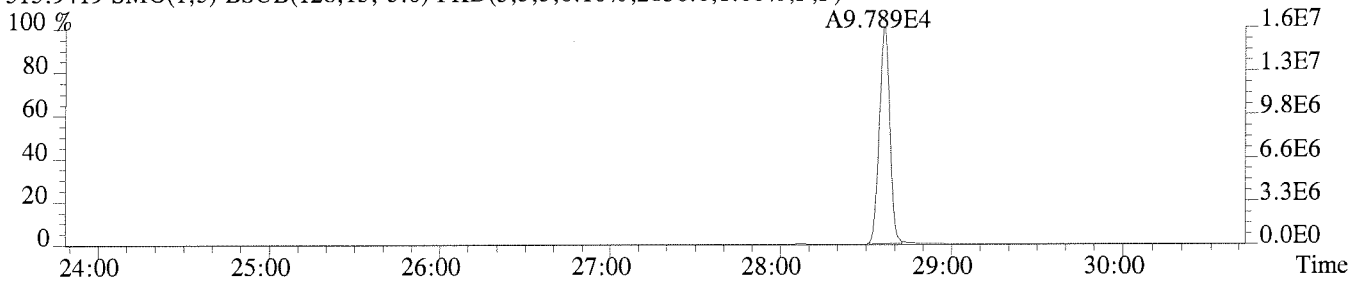
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,872.0,1.00%,F,F)



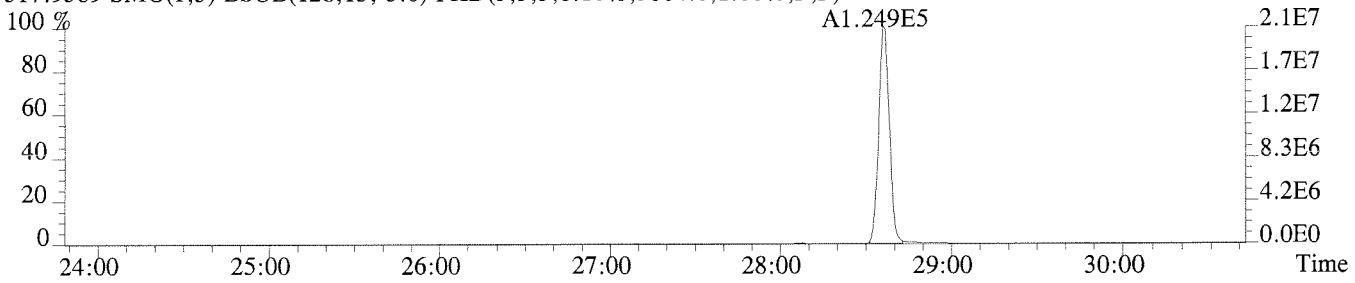
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,F)



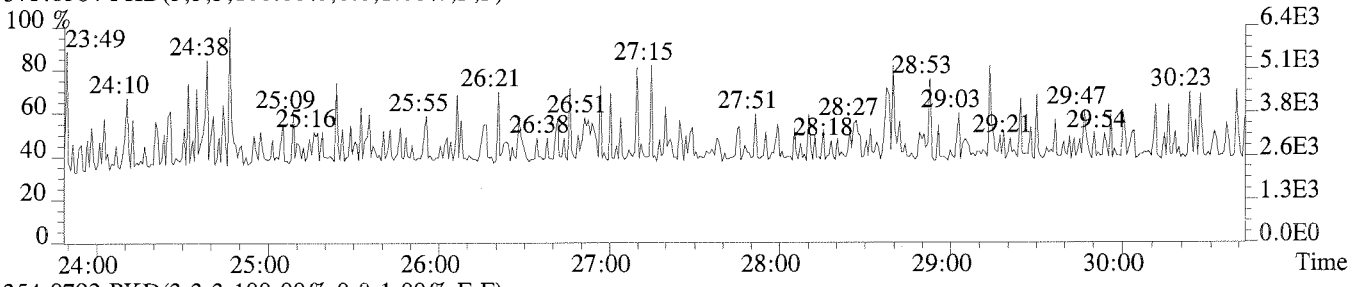
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2856.0,1.00%,F,F)



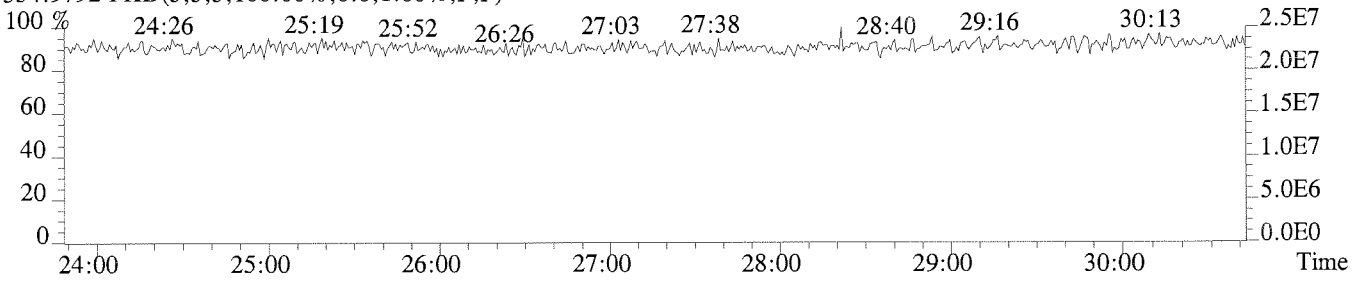
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3064.0,1.00%,F,F)



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

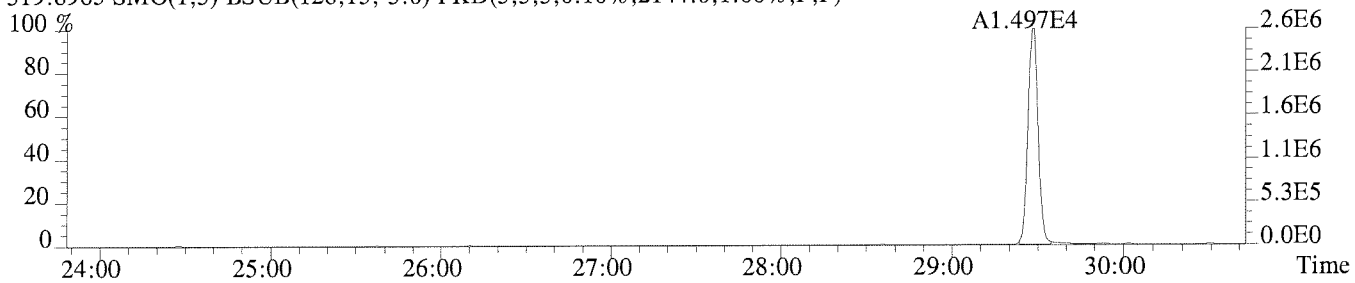


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

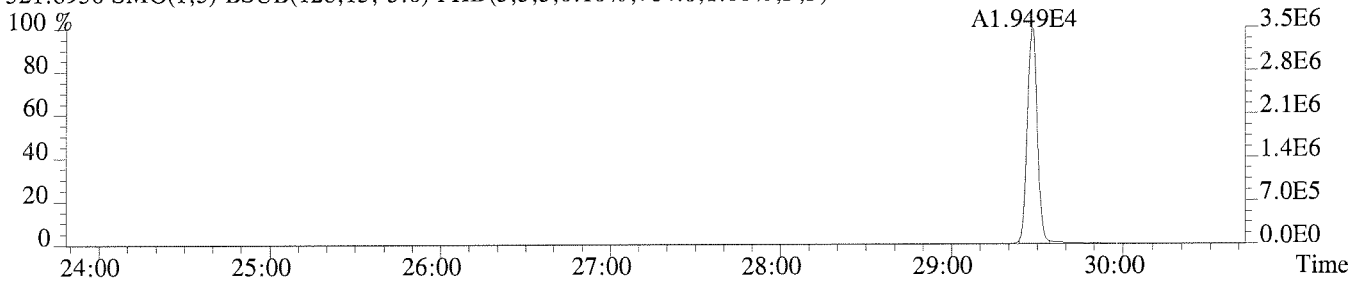


File:P200063 #1-575 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

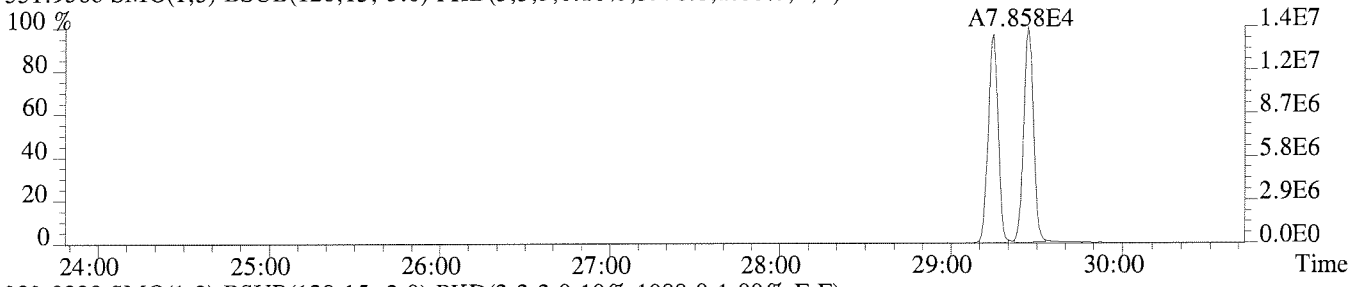
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,F)



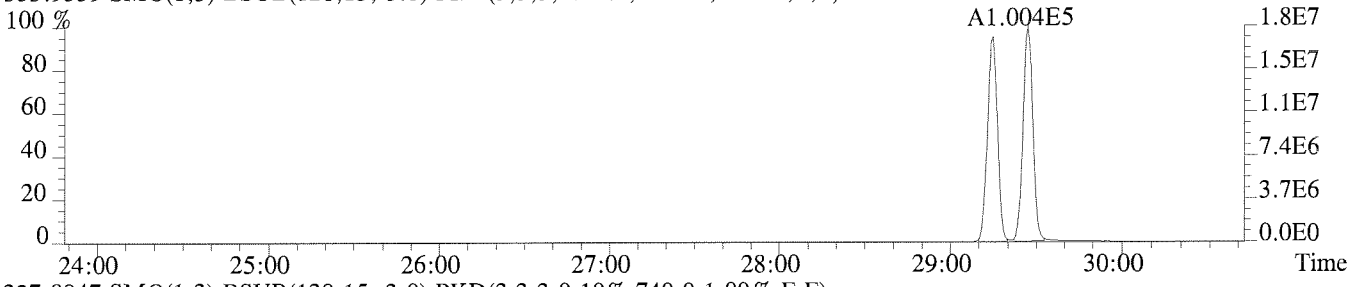
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,784.0,1.00%,F,F)



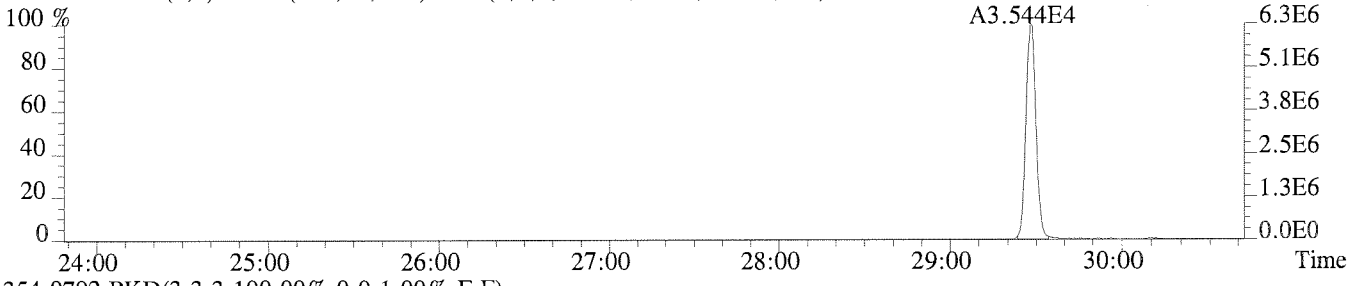
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5916.0,1.00%,F,F)



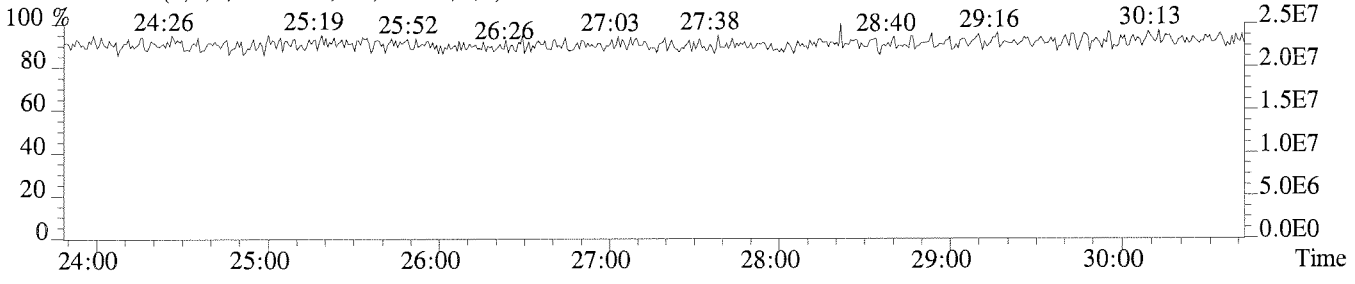
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1088.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,F)

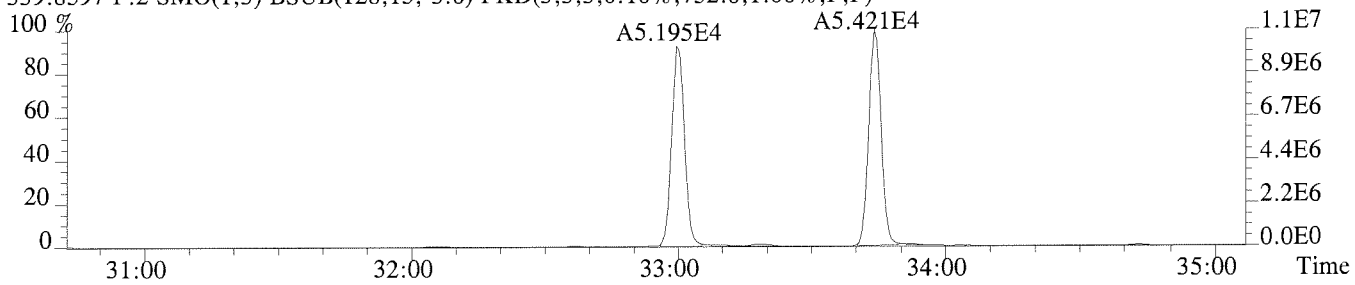


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

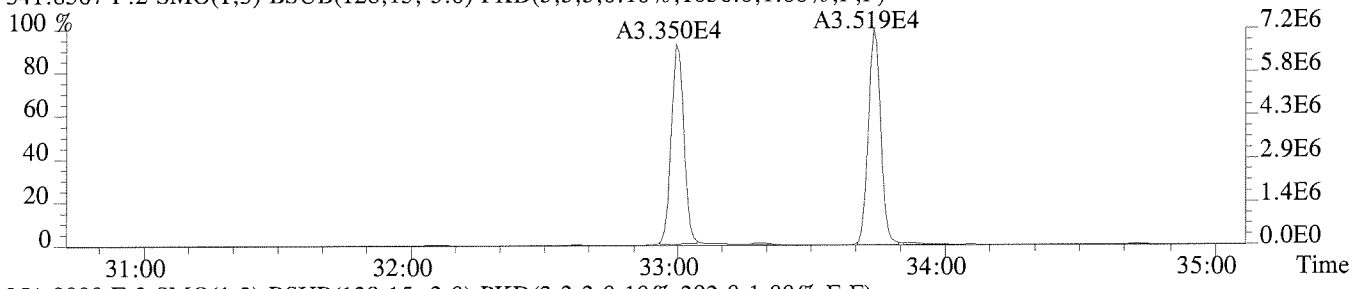


File:P200063 #1-400 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

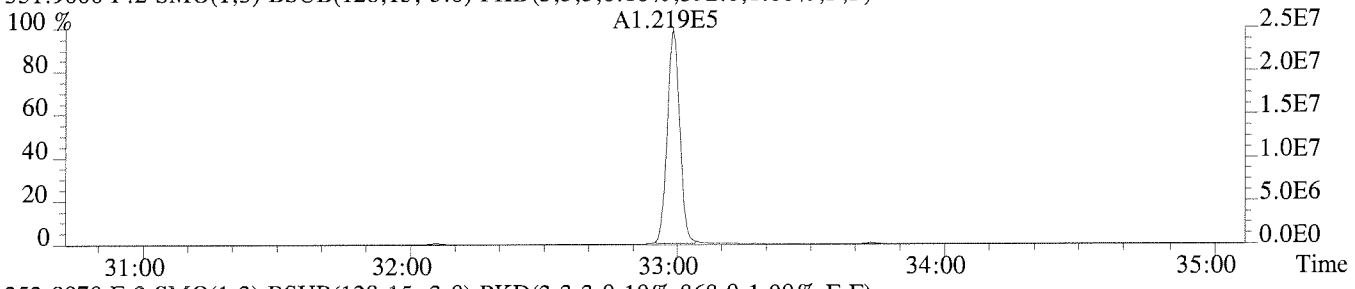
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,F)



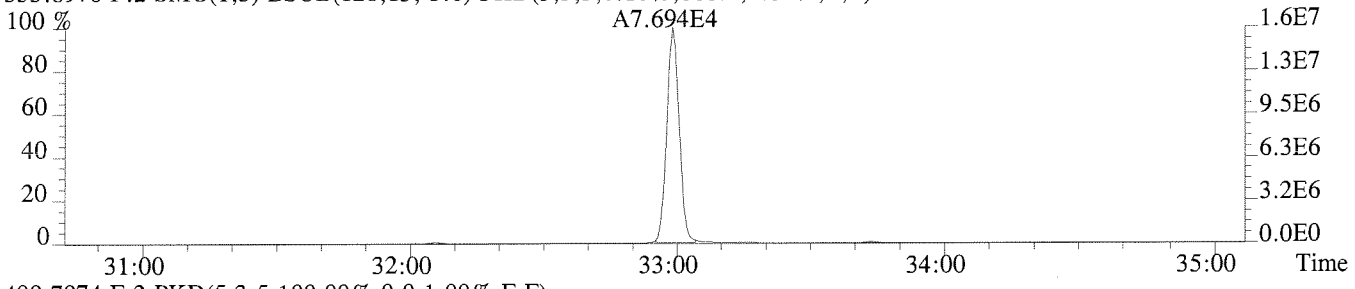
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,F)



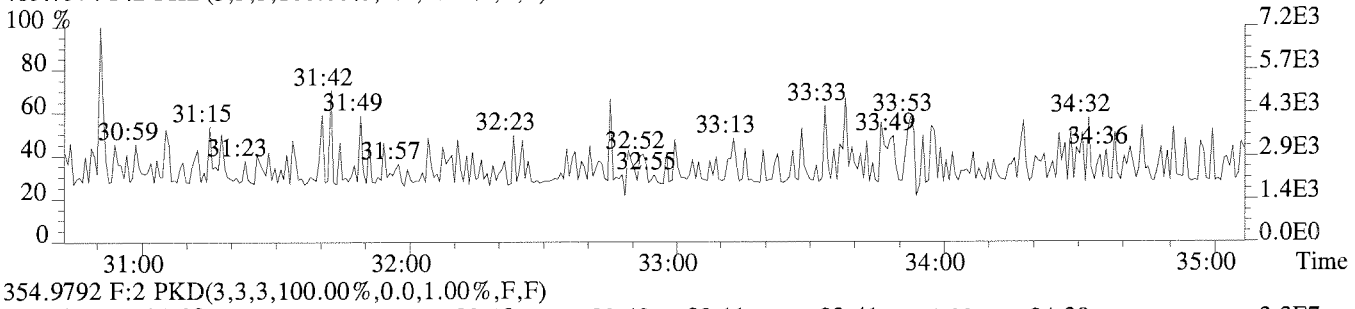
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,392.0,1.00%,F,F)



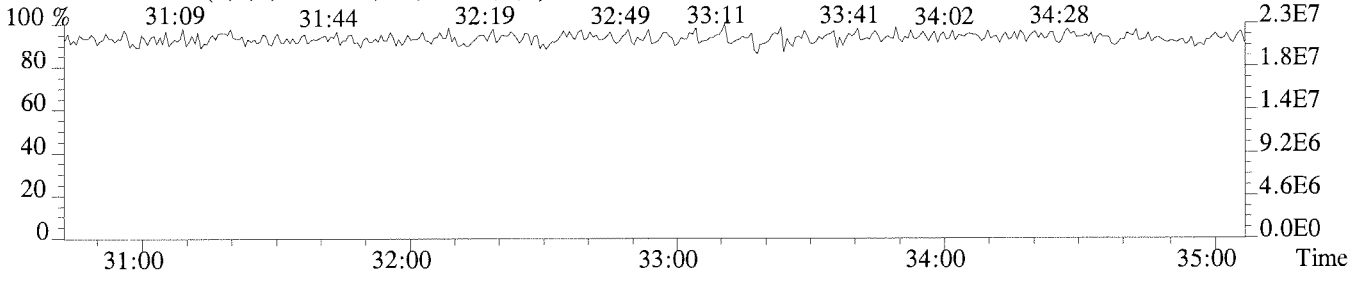
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,F)



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

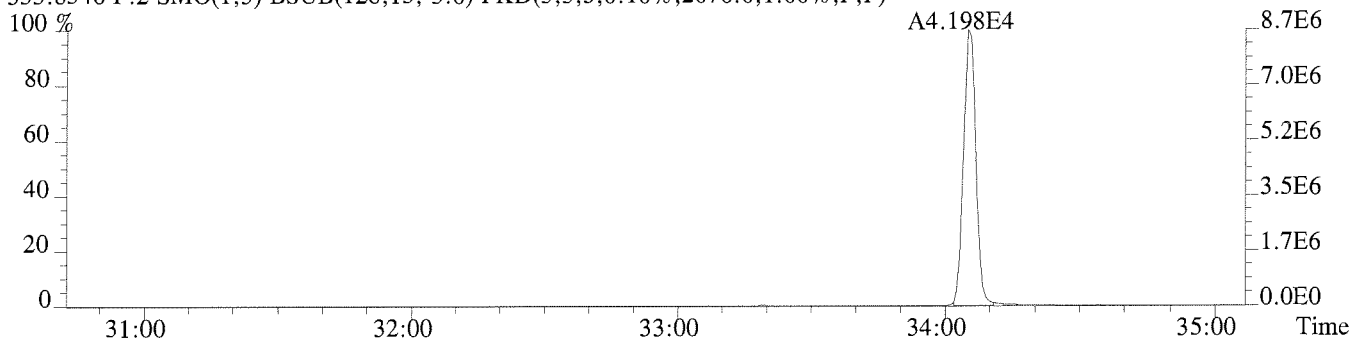


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

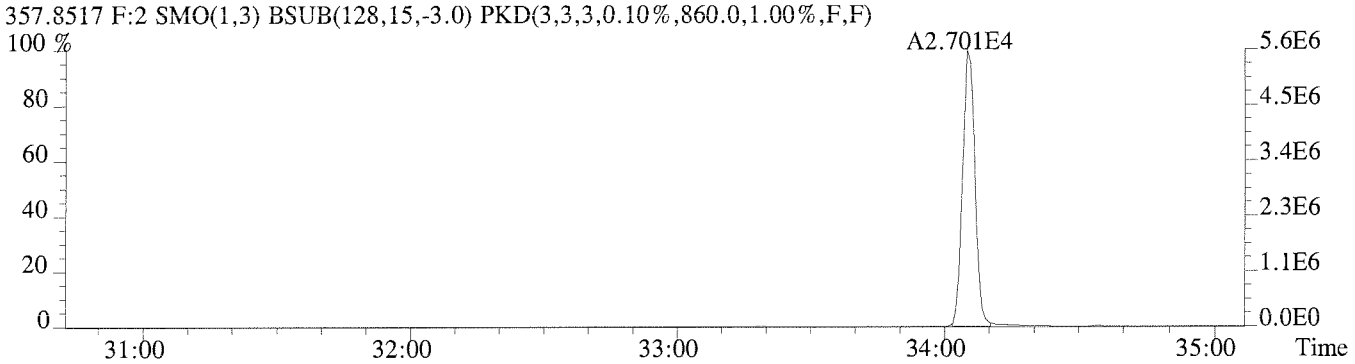


File:P200063 #1-400 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

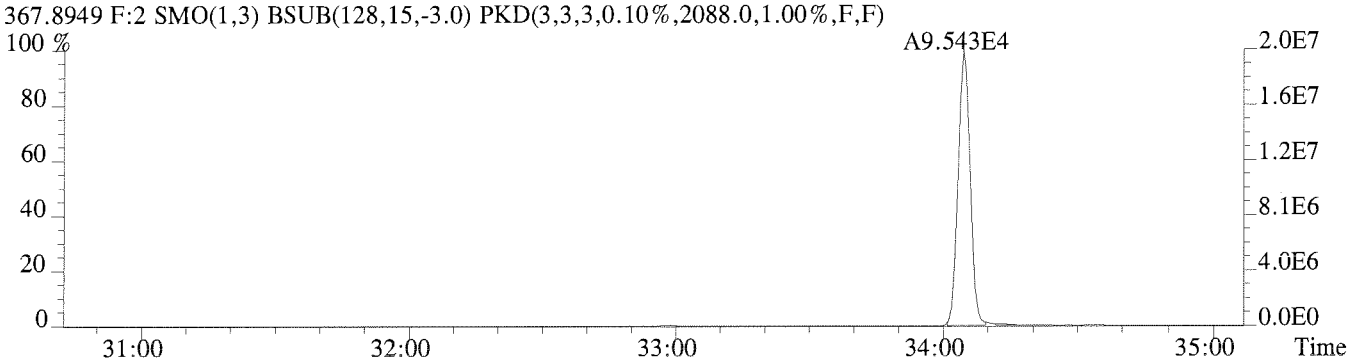
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2076.0,1.00%,F,F)



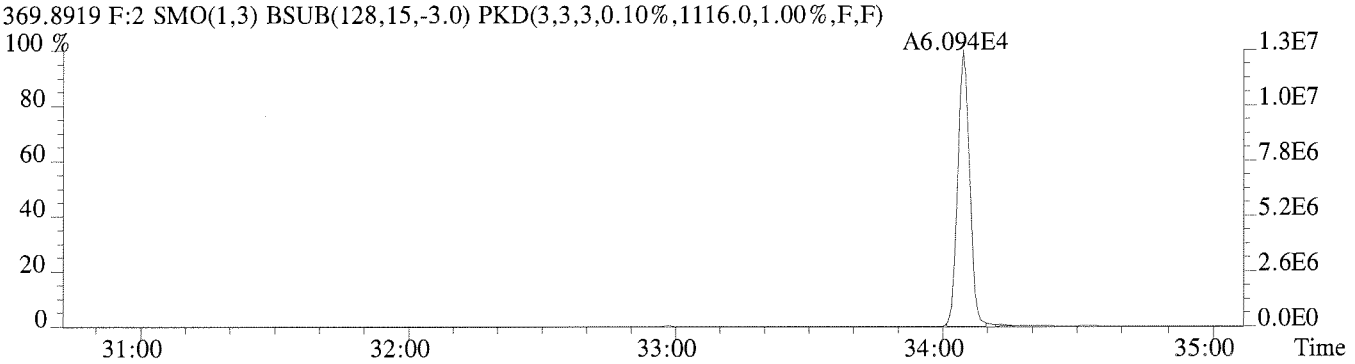
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)



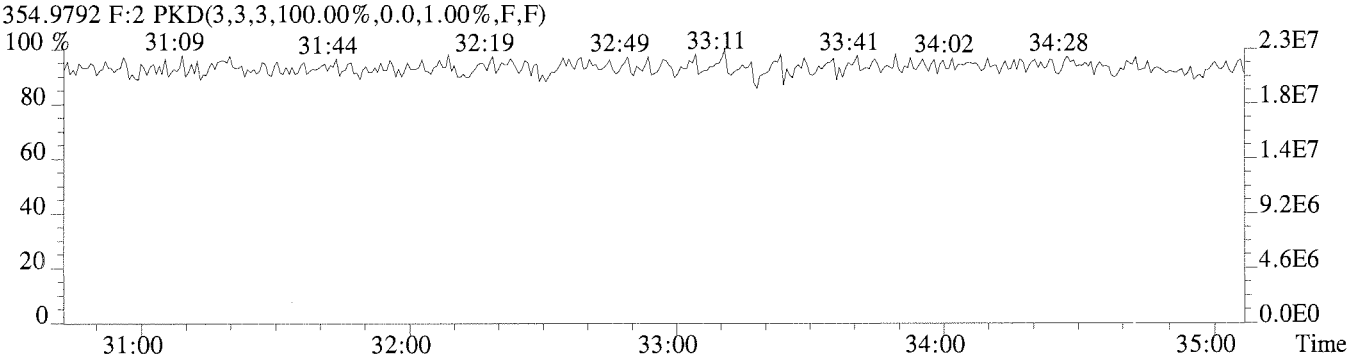
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2088.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1116.0,1.00%,F,F)

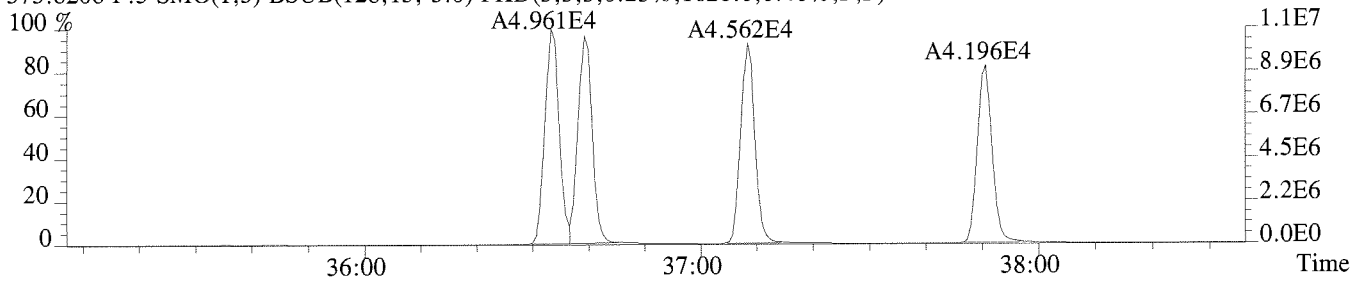


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

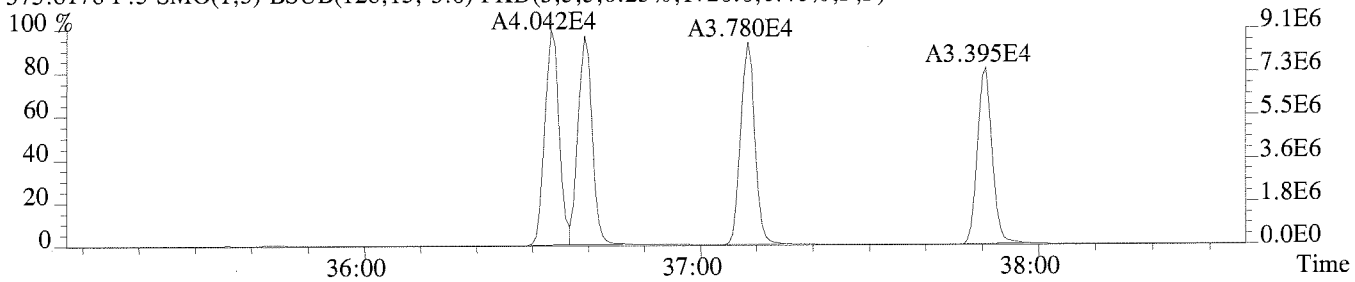


File:P200063 #1-317 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

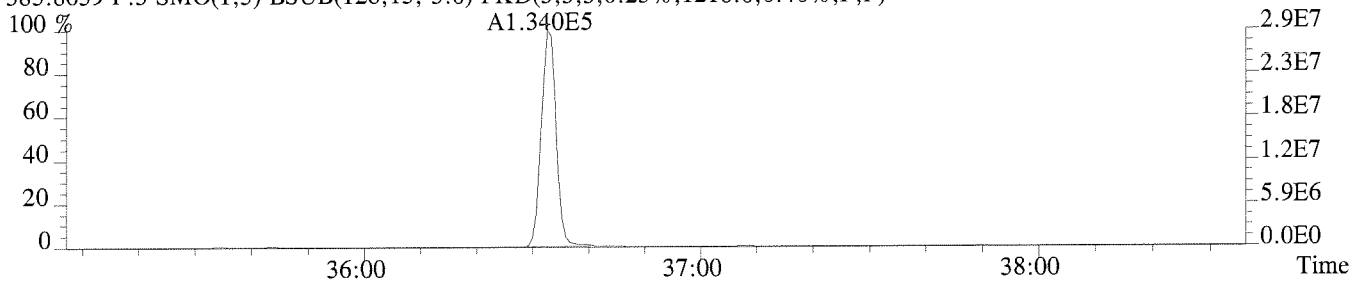
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1628.0,0.40%,F,F)



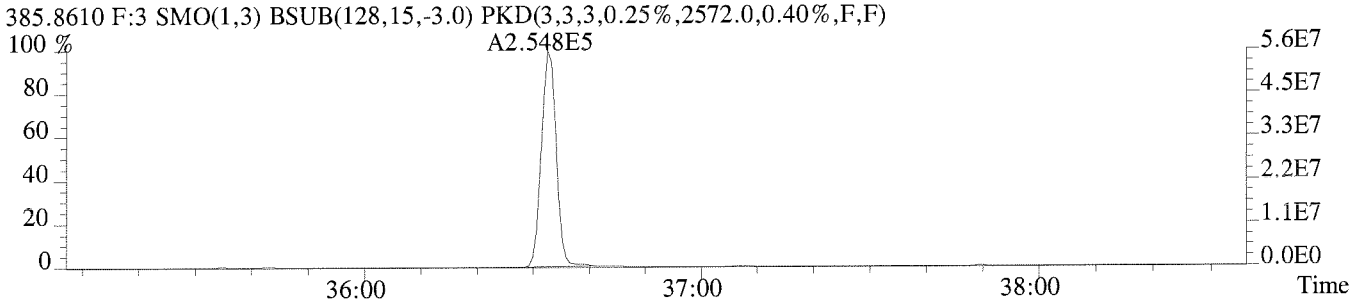
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1720.0,0.40%,F,F)



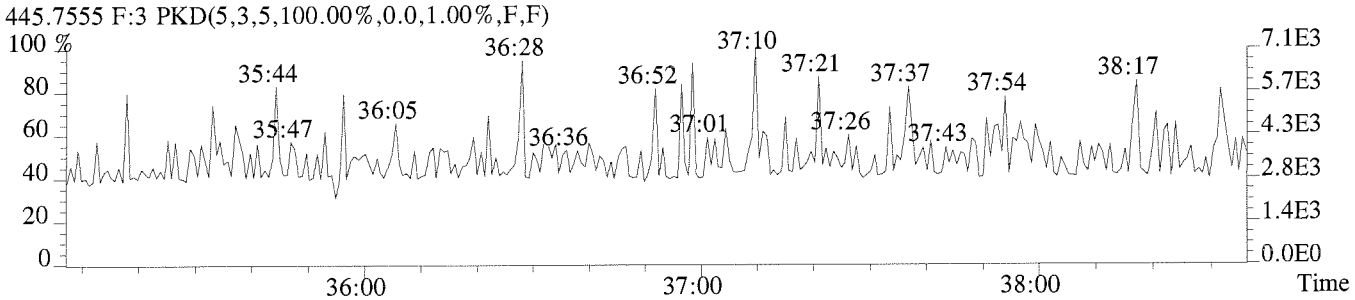
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,F)



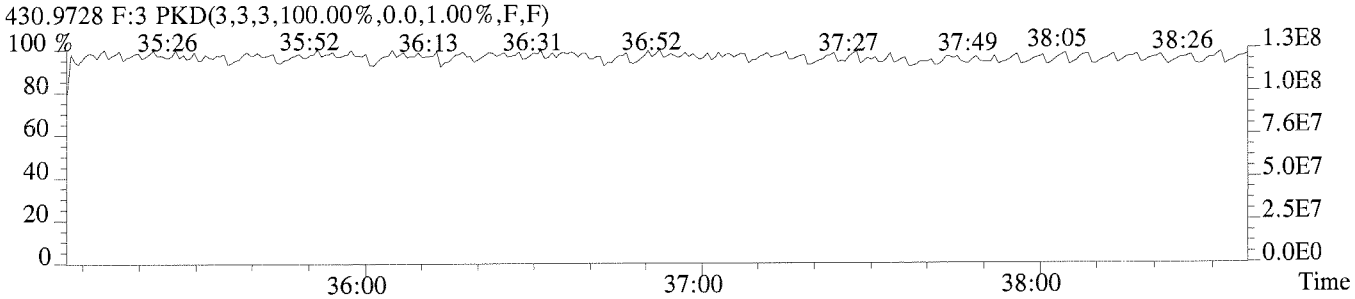
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2572.0,0.40%,F,F)



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

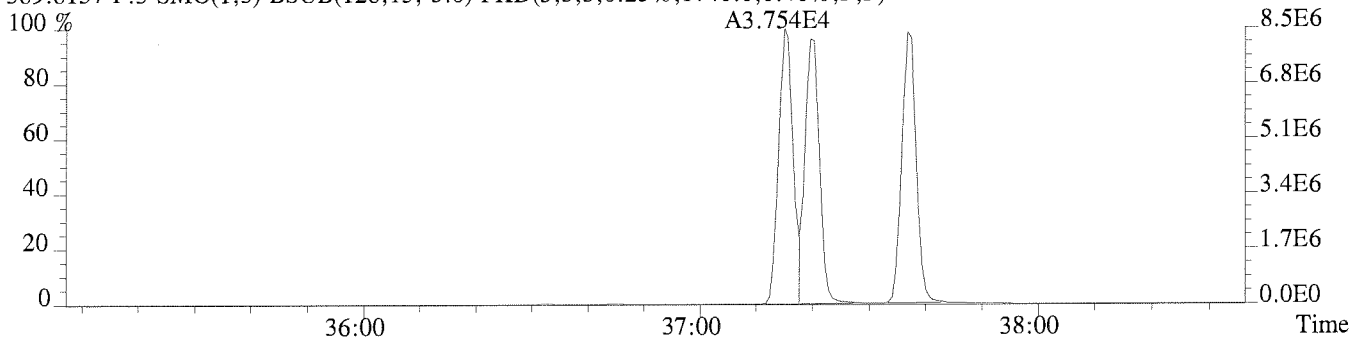


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

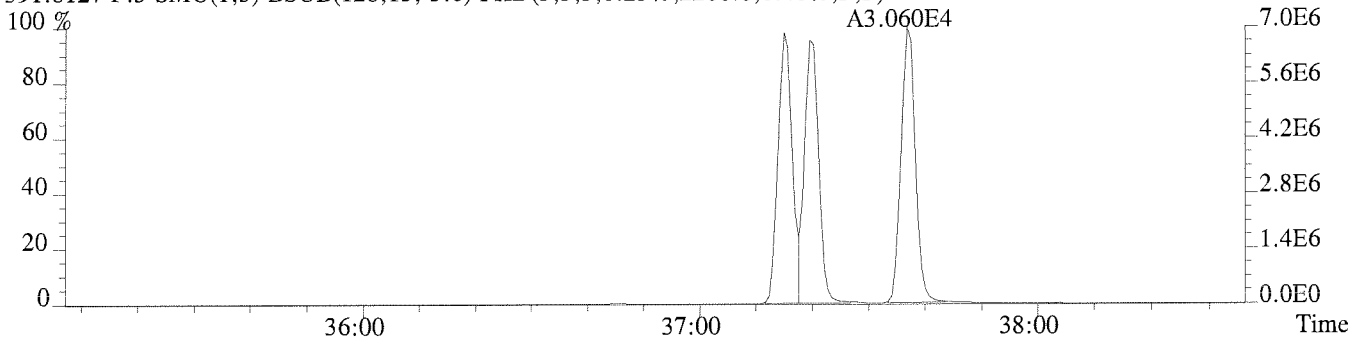


File:P200063 #1-317 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

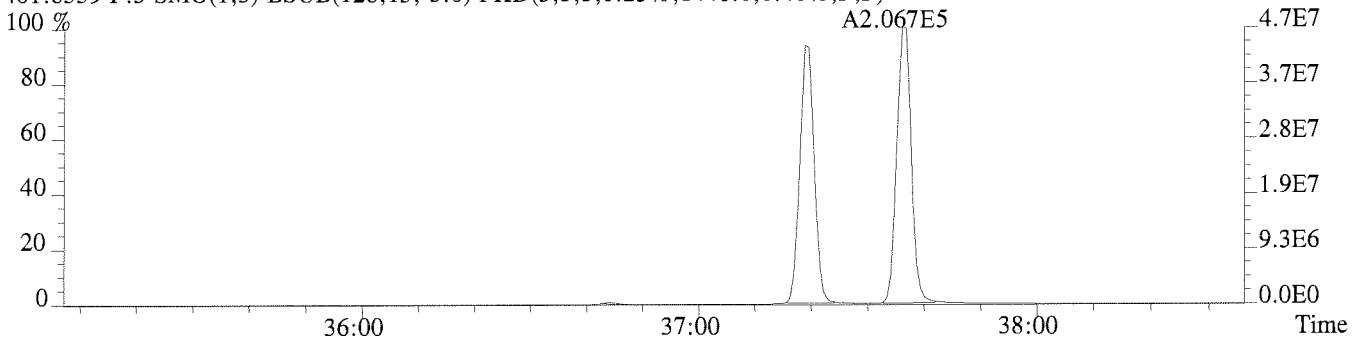
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,F)



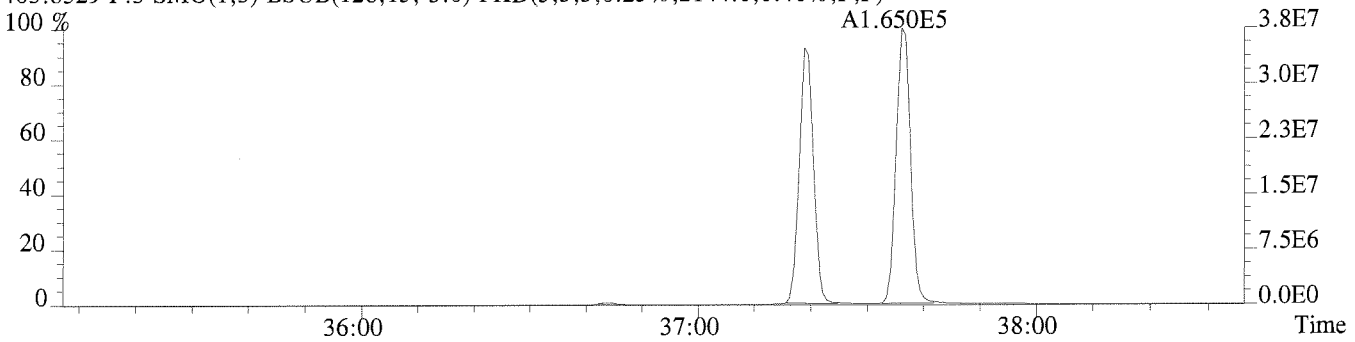
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2208.0,0.40%,F,F)



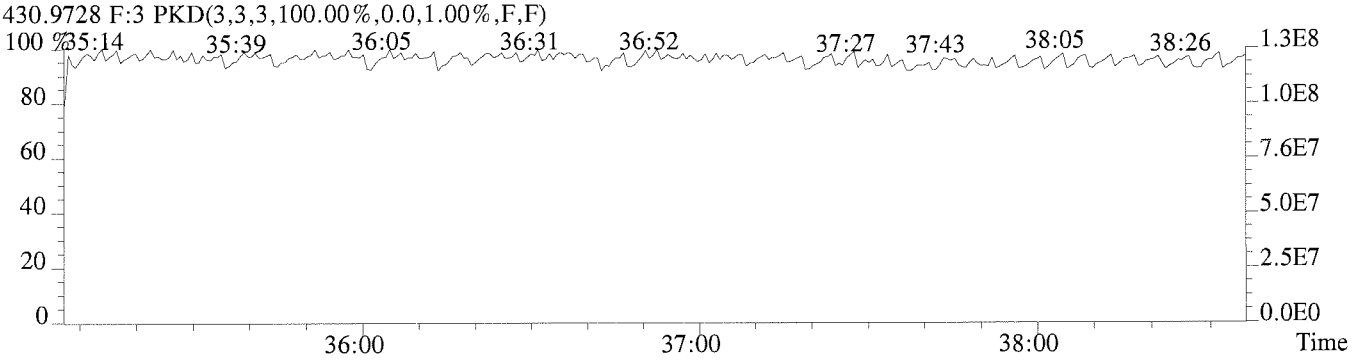
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,F)



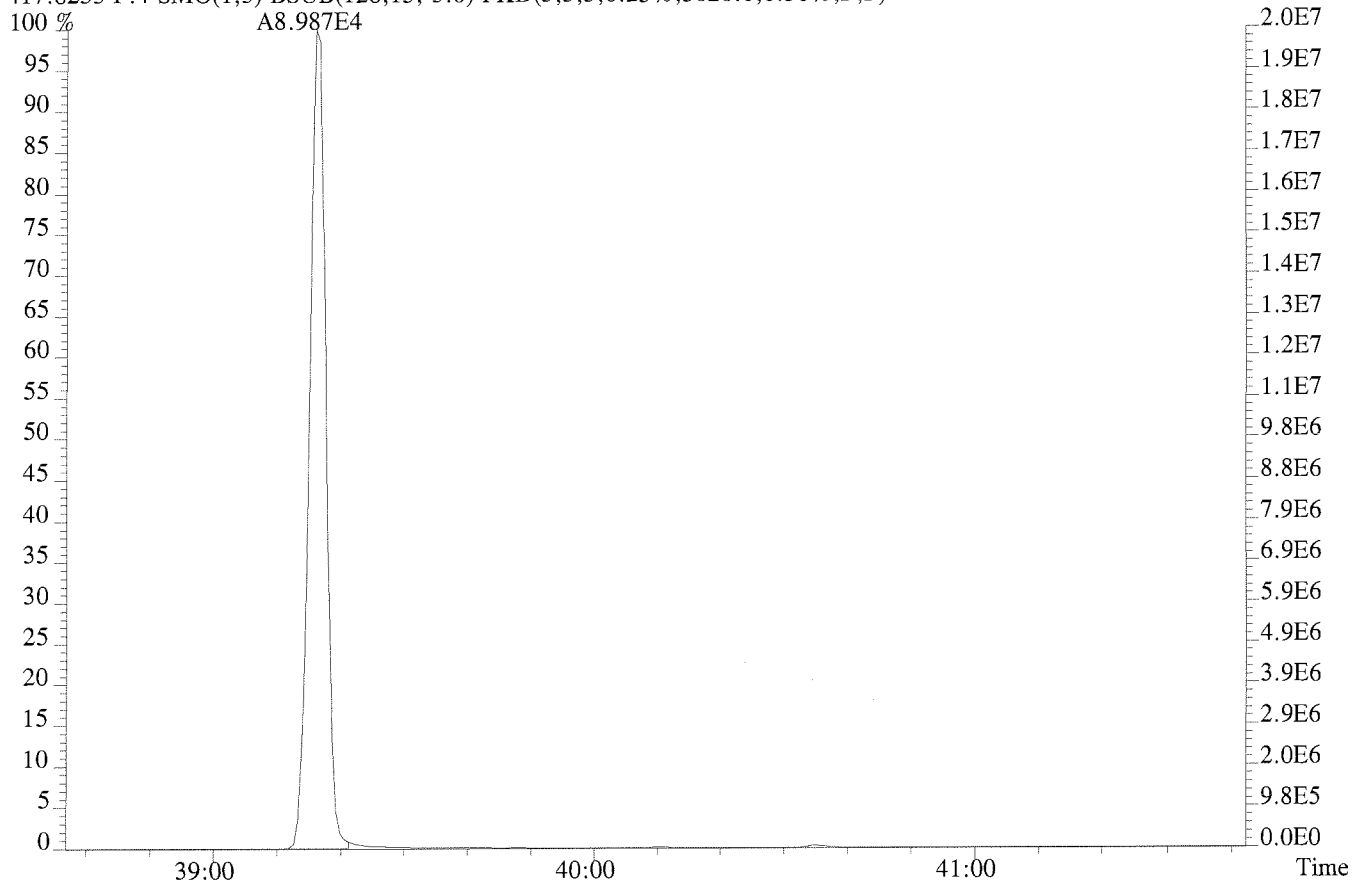
403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2144.0,0.40%,F,F)



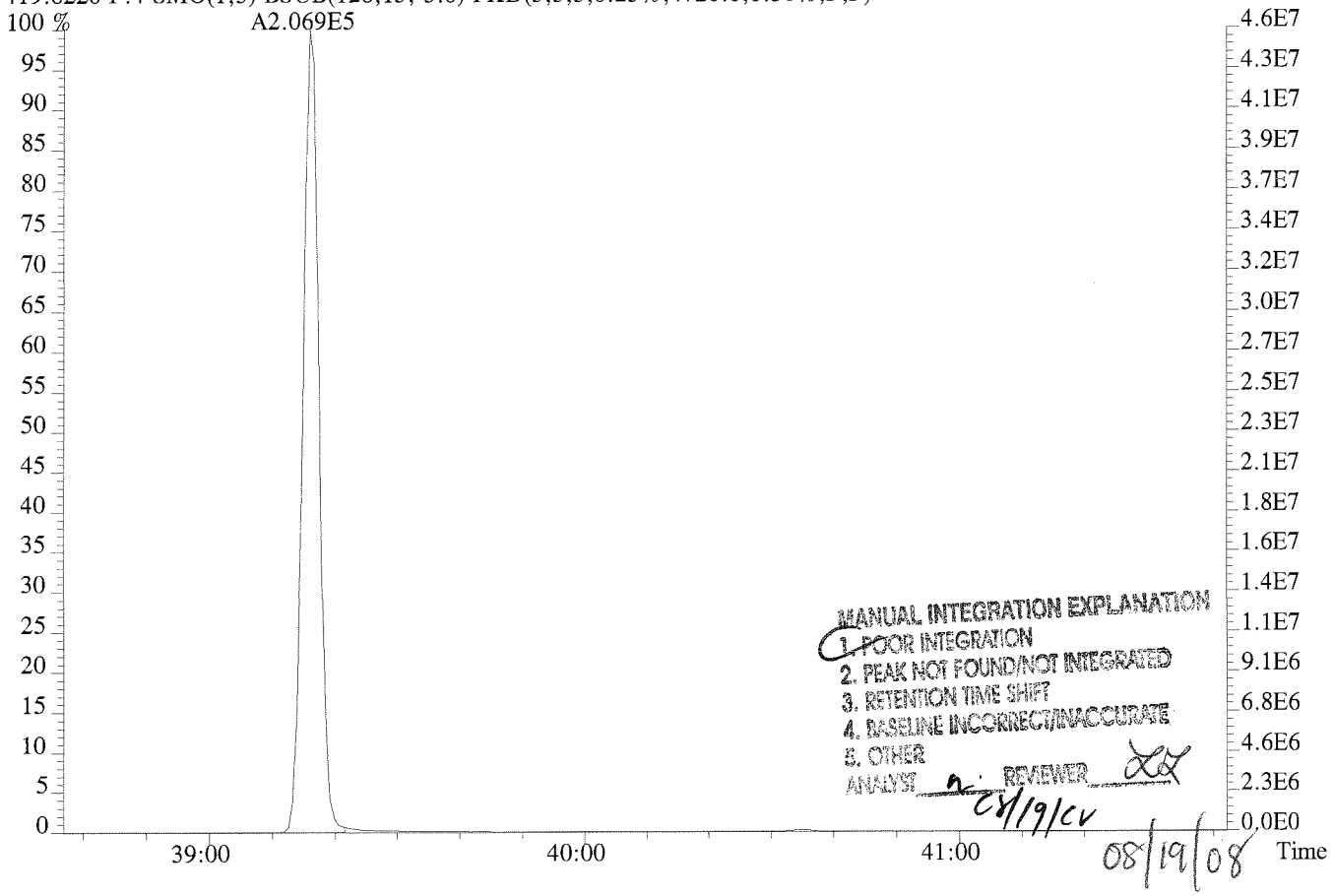
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200063 #1-281 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5020.0,0.50%,F,F)



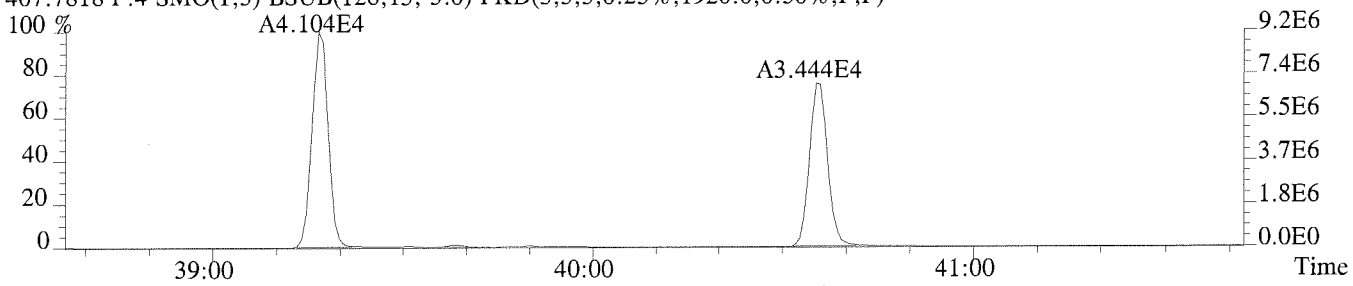
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4720.0,0.50%,F,F)



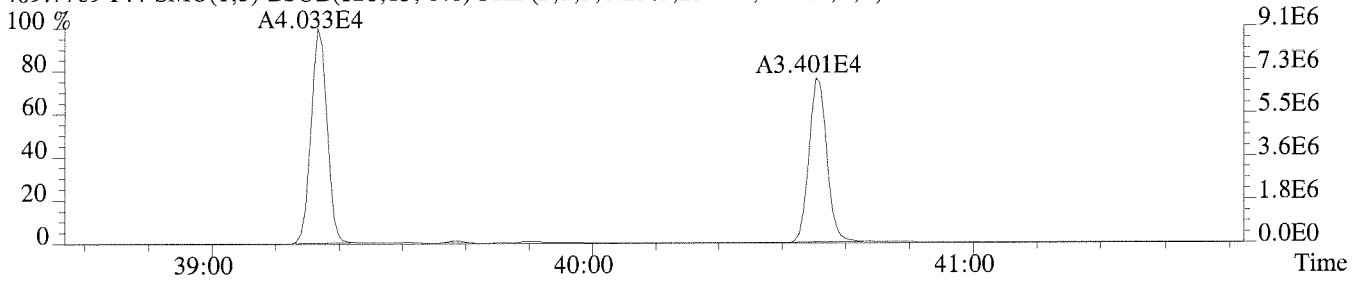
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST CH/19/CV REVIEWER 08/19/08

File:P200063 #1-281 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

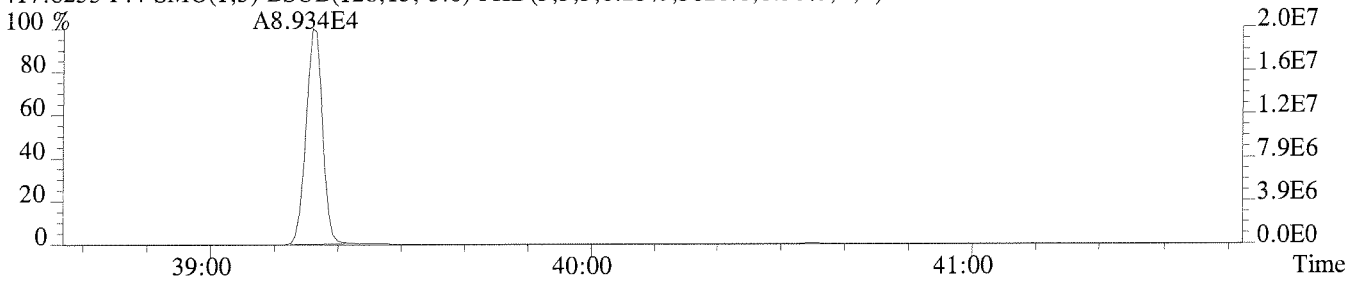
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1920.0,0.50%,F,F)



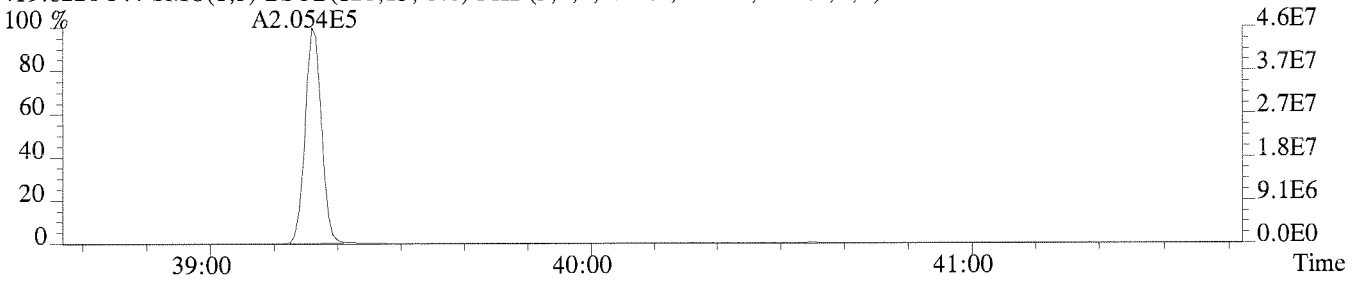
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1548.0,0.50%,F,F)



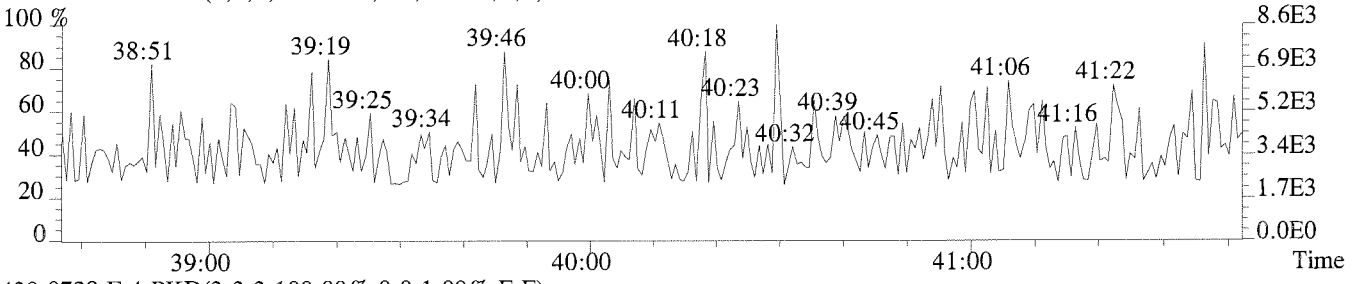
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5020.0,0.50%,F,F)



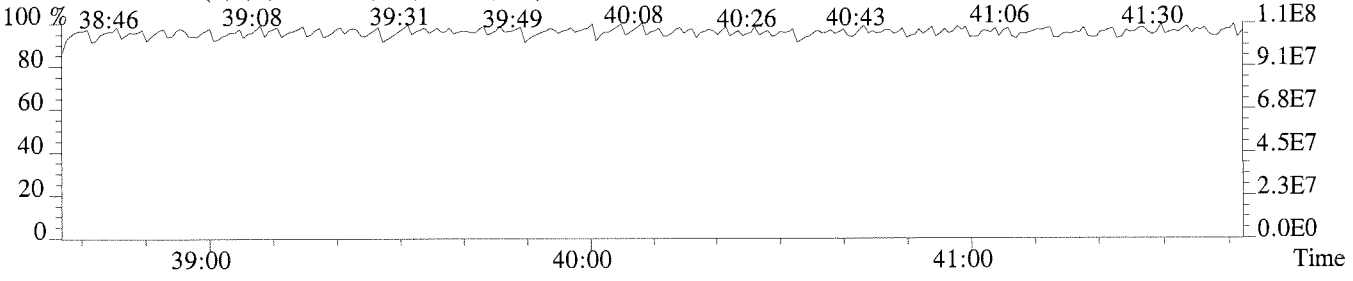
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4720.0,0.50%,F,F)



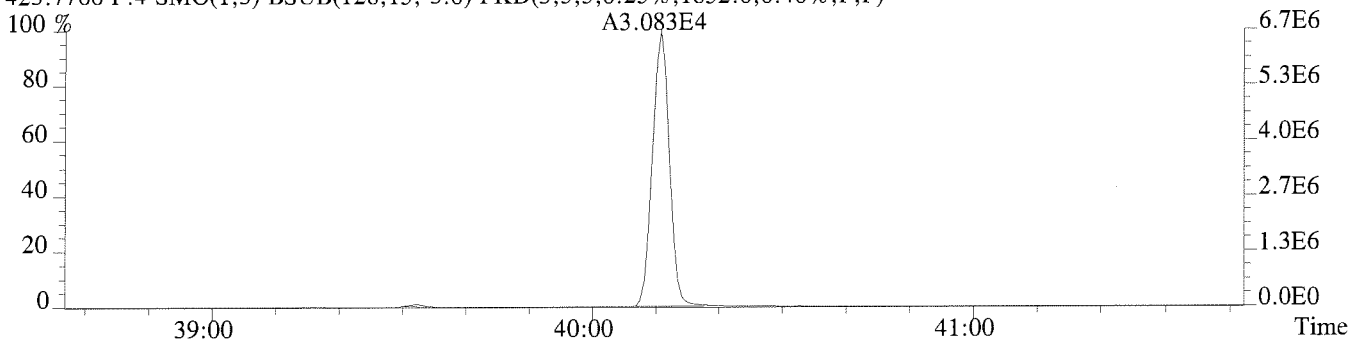
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



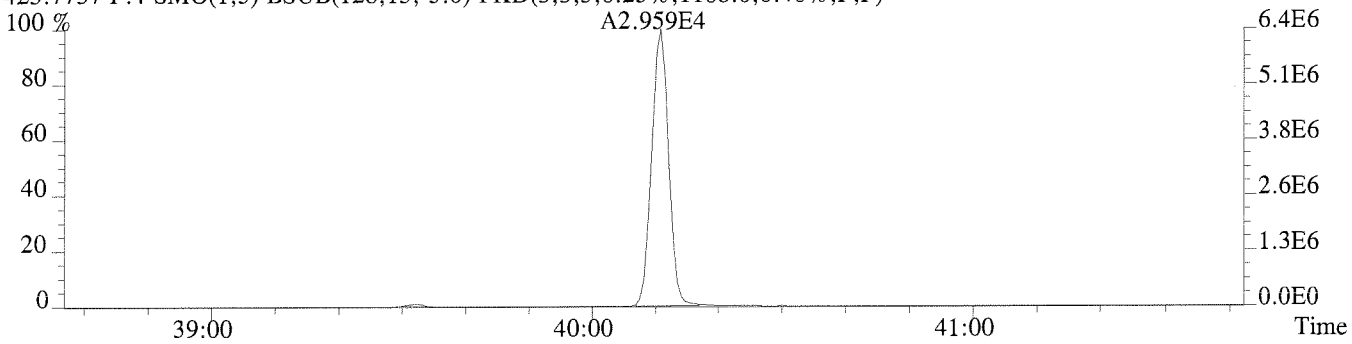
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



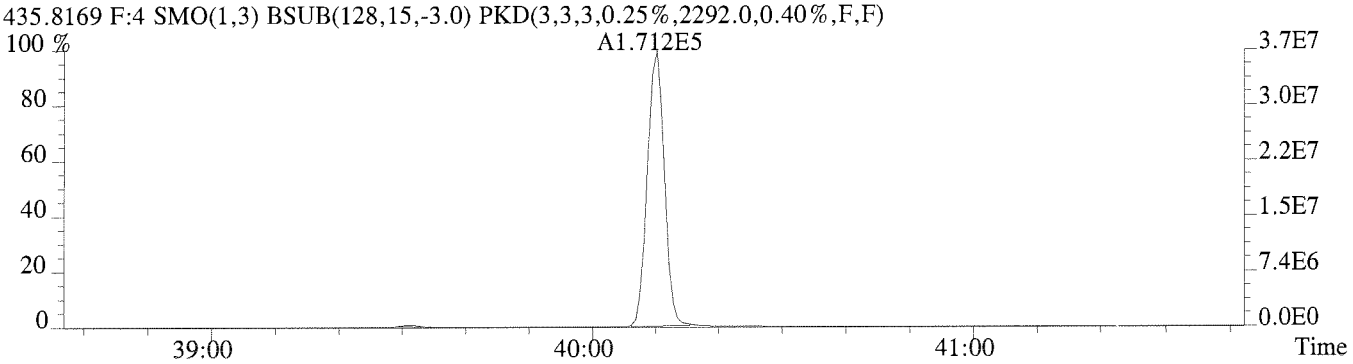
File:P200063 #1-281 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1852.0,0.40%,F,F)



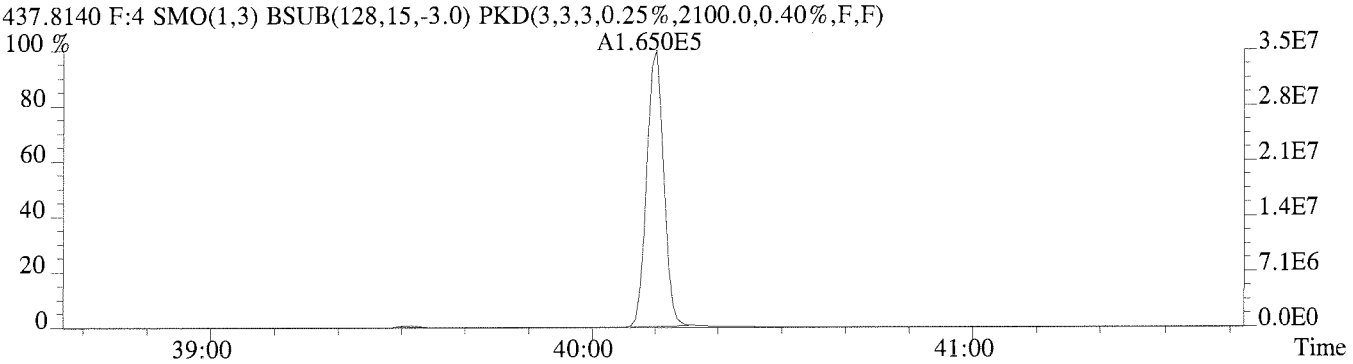
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1168.0,0.40%,F,F)



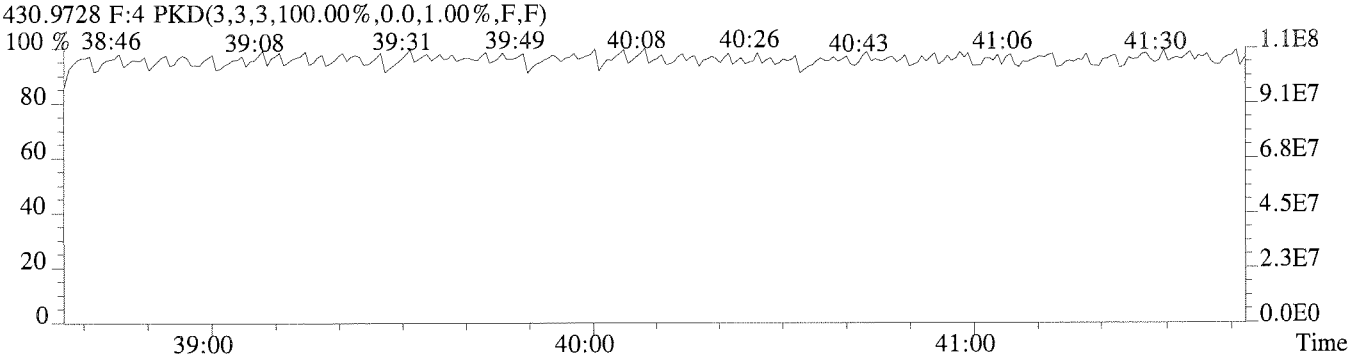
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2292.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2100.0,0.40%,F,F)

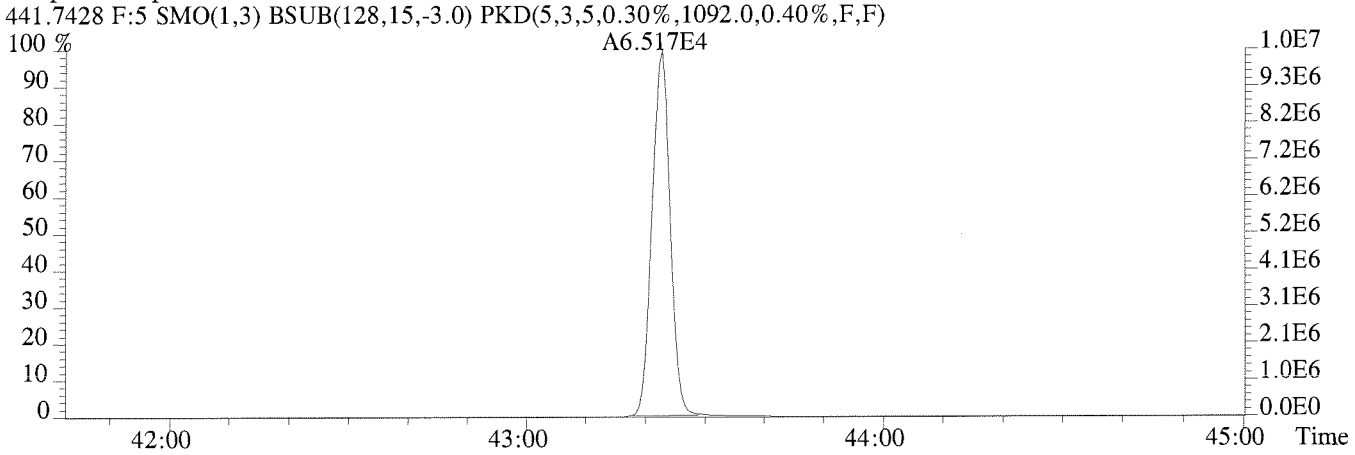


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

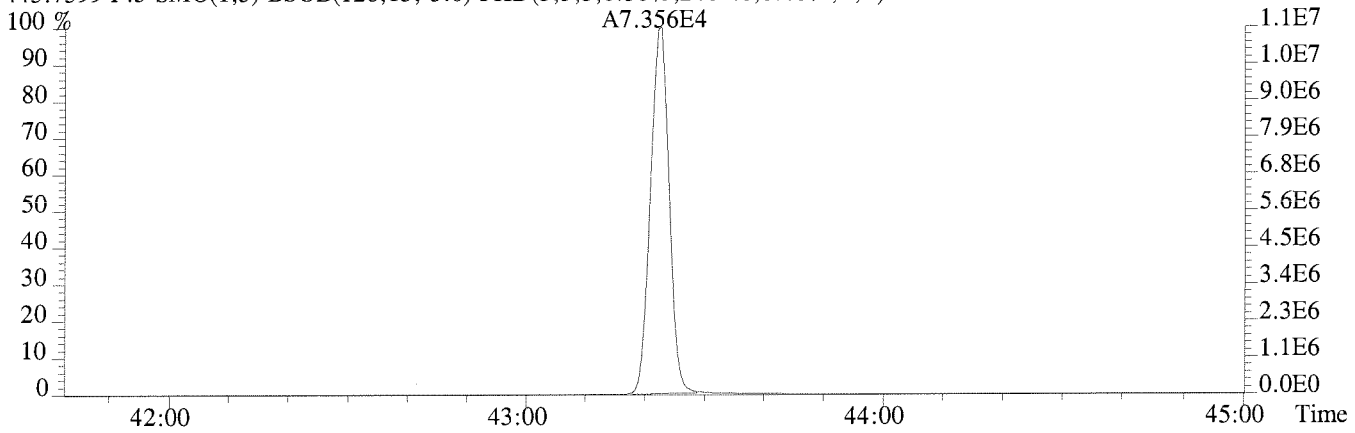


File:P200063 #1-364 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

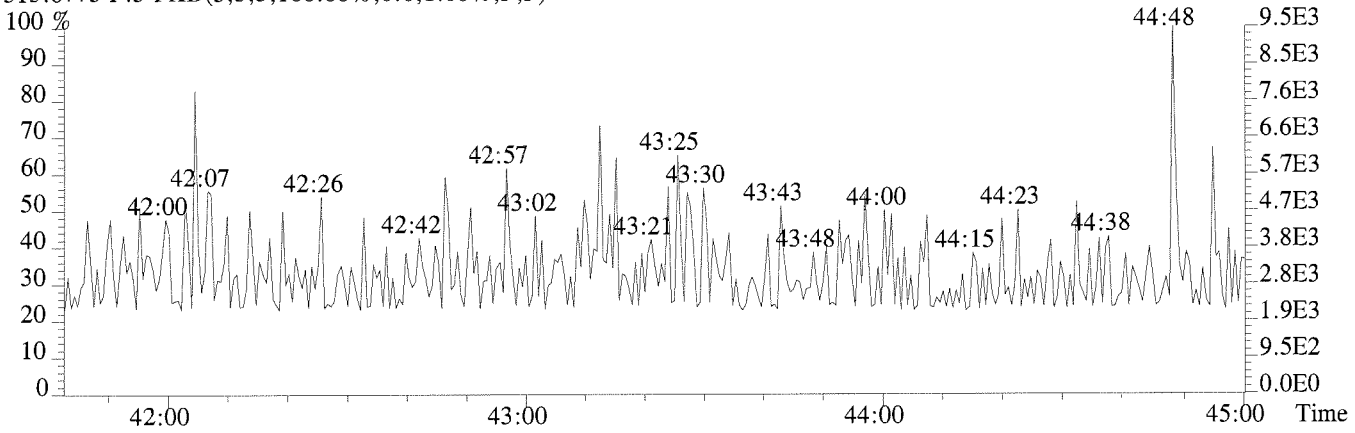
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1092.0,0.40%,F,F)



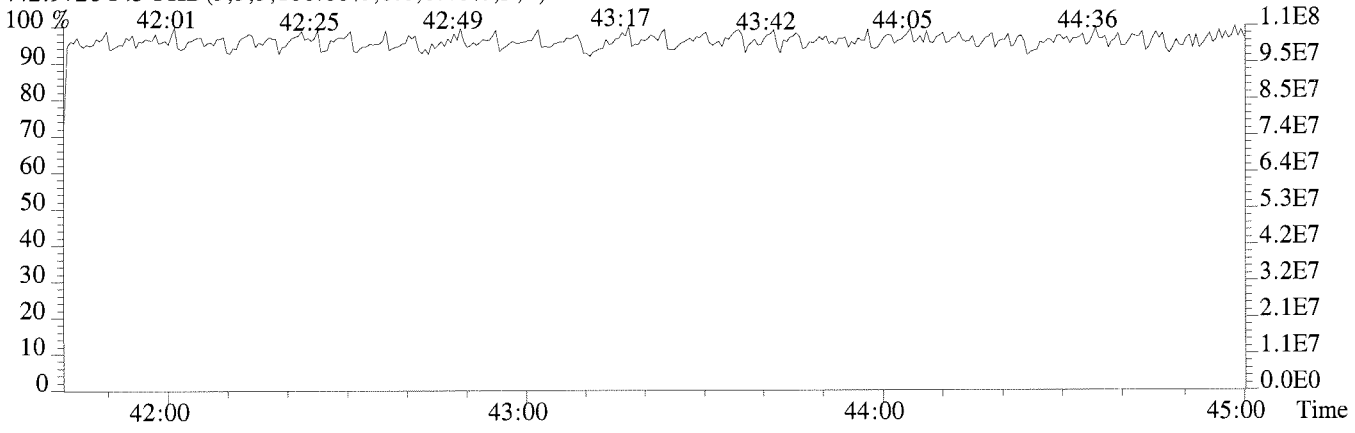
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2464.0,0.40%,F,F)



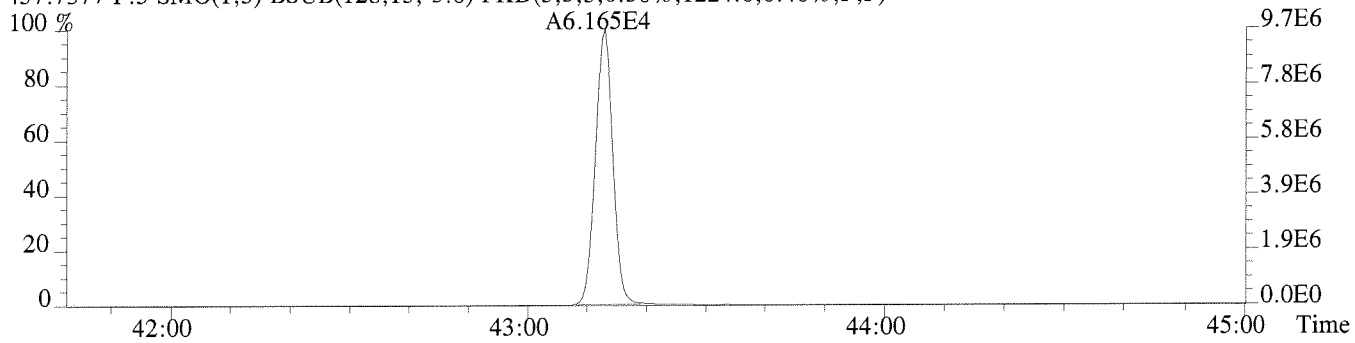
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



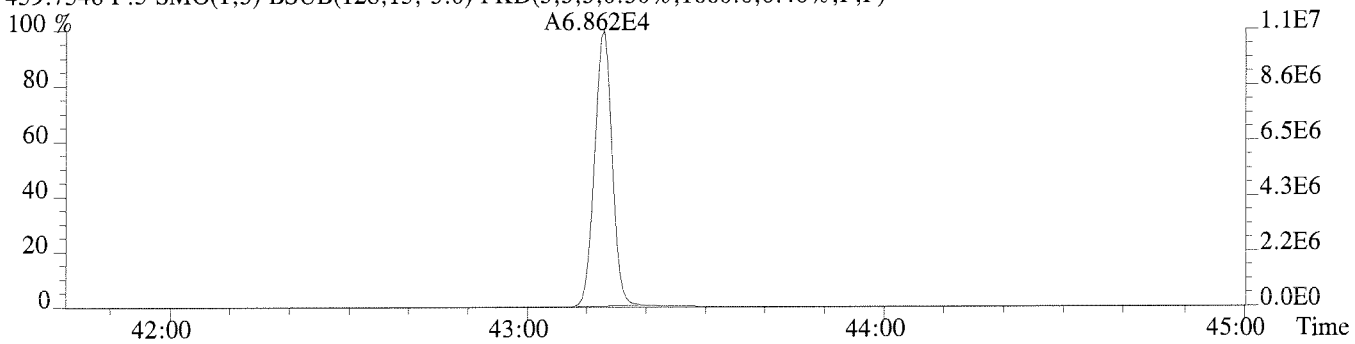
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



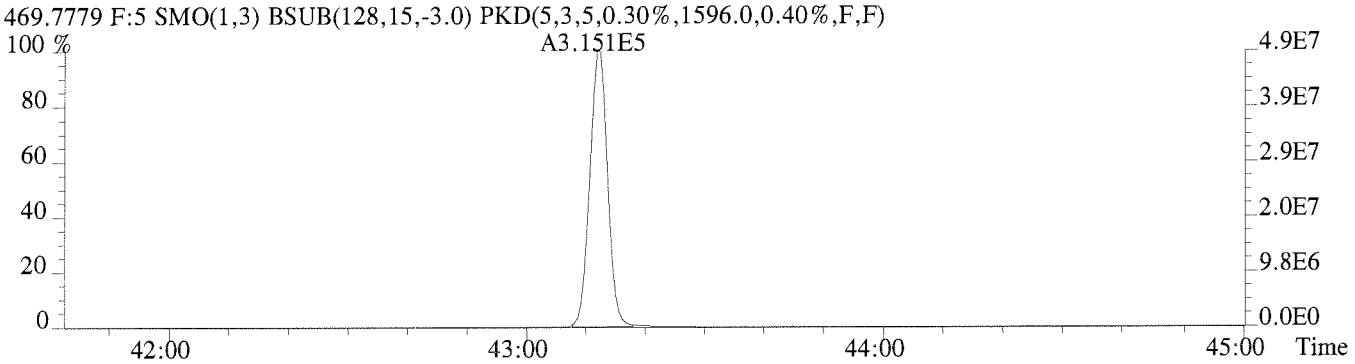
File:P200063 #1-364 Acq: 7-AUG-2008 17:45:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1224.0,0.40%,F,F)



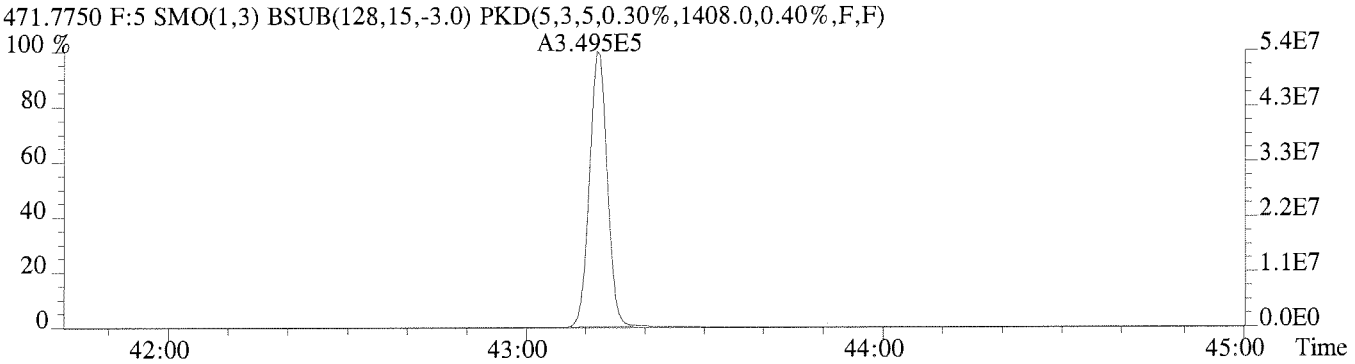
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1660.0,0.40%,F,F)



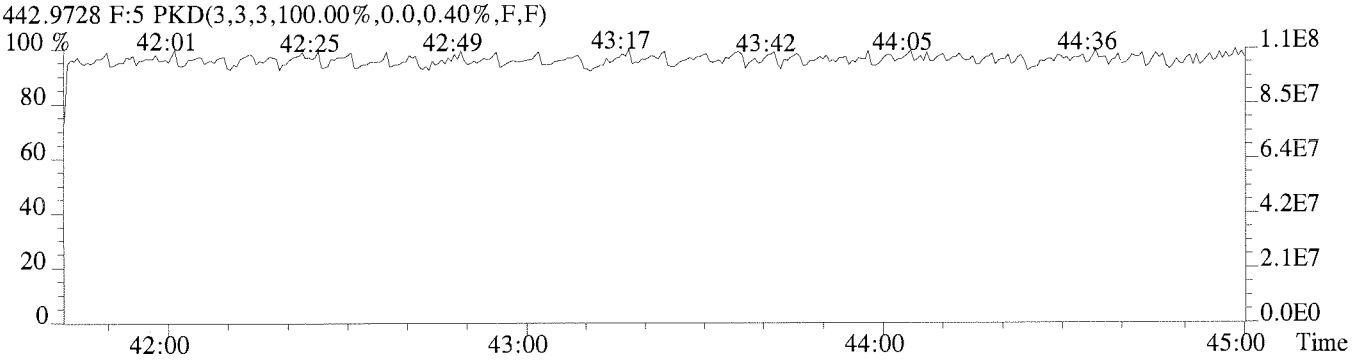
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1596.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1408.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200053 Analysis Date: 7-AUG-08 Time: 07:15:39

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.74	0.65-0.89	0.91	0.92	-0.74
1,2,3,7,8-PeCDD	M+2/M+4	1.47	1.32-1.78	0.88	0.87	1.47
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	0.92	0.93	-1.74
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	0.97	1.05	-7.78
1,2,3,7,8,9-HxCDD	M+2/M+4	1.29	1.05-1.43	0.96	0.97	-0.47
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.10	0.88-1.20	0.90	0.88	1.57
OCDD	M+2/M+4	0.87	0.76-1.02	0.99	0.96	2.63
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	0.90	0.83	8.84
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	0.90	0.84	6.92
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	0.93	0.85	9.21
1,2,3,4,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.13	1.08	4.54
1,2,3,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	1.13	1.13	0.12
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	0.94	0.87	8.22
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	1.08	1.01	6.82
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	1.44	1.32	9.33
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	1.03	0.97	6.86
OCDF	M+2/M+4	0.92	0.76-1.02	0.96	1.11	-13.00

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: P200053 Analysis Date: 7-AUG-08 Time: 07:15:39

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	1.01	1.05	-4.18
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.61	1.32-1.78	1.03	0.87	18.48
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	0.96	1.00	-3.94
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.81	0.83	-2.16
13C-OCDD	M+2/M+4	0.88	0.76-1.02	0.76	0.73	3.97
13C-2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	1.26	1.42	-11.53
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	1.31	1.26	3.69
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	1.03	1.28	-19.68
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.37-0.51	0.75	0.90	-16.44
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.95	0.98	-3.45

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename P200053 Samp: 1 Inj: 1 Acquired: 7-AUG-08 07:15:39
Processed: 13-AUG-08 13:36:40 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:36	7.915e+02	1.003e+03	0.79	yes	no	0.831
2	Unk	1,2,3,7,8-PeCDF	32:58	2.839e+03	1.796e+03	1.58	yes	no	0.840
3	Unk	2,3,4,7,8-PeCDF	33:43	2.942e+03	1.839e+03	1.60	yes	no	0.849
4	Unk	1,2,3,4,7,8-HxCDF	36:32	2.531e+03	2.005e+03	1.26	yes	no	1.085
5	Unk	1,2,3,6,7,8-HxCDF	36:38	2.551e+03	1.971e+03	1.29	yes	no	1.129
6	Unk	2,3,4,6,7,8-HxCDF	37:07	2.411e+03	1.910e+03	1.26	yes	no	1.011
7	Unk	1,2,3,7,8,9-HxCDF	37:49	2.061e+03	1.694e+03	1.22	yes	no	0.867
8	Unk	1,2,3,4,6,7,8-HpCDF	39:15	2.127e+03	2.098e+03	1.01	yes	no	1.318
9	Unk	1,2,3,4,7,8,9-HpCDF	40:34	1.519e+03	1.510e+03	1.01	yes	no	0.966
10	Unk	OCDF	43:21	2.721e+03	2.970e+03	0.92	yes	no	1.109
11	Unk	2,3,7,8-TCDD	29:26	6.196e+02	8.329e+02	0.74	yes	no	0.921
12	Unk	1,2,3,7,8-PeCDD	34:04	2.137e+03	1.451e+03	1.47	yes	no	0.872
13	Unk	1,2,3,4,7,8-HxCDD	37:14	1.900e+03	1.531e+03	1.24	yes	yes	0.934
14	Unk	1,2,3,6,7,8-HxCDD	37:18	1.964e+03	1.669e+03	1.18	yes	yes	1.054
15	Unk	1,2,3,7,8,9-HxCDD	37:35	2.033e+03	1.573e+03	1.29	yes	yes	0.969
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.485e+03	1.354e+03	1.10	yes	no	0.883
17	Unk	OCDD	43:11	2.718e+03	3.117e+03	0.87	yes	no	0.964
18	IS	13C-2,3,7,8-TCDF	28:35	4.277e+03	5.639e+03	0.76	yes	no	1.421
19	IS	13C-1,2,3,7,8-PeCDF	32:58	6.292e+03	4.023e+03	1.56	yes	no	1.262
20	IS	13C-1,2,3,4,7,8-HxCDF	36:31	6.721e+03	1.328e+04	0.51	yes	no	1.279
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	4.444e+03	1.022e+04	0.43	yes	no	0.901
22	IS	13C-2,3,7,8-TCDD	29:25	3.453e+03	4.492e+03	0.77	yes	no	1.051
23	IS	13C-1,2,3,7,8-PeCDD	34:03	5.005e+03	3.108e+03	1.61	yes	no	0.868
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.036e+04	8.339e+03	1.24	yes	no	1.000
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:08	8.120e+03	7.713e+03	1.05	yes	no	0.831
26	IS	13C-OCDD	43:11	1.384e+04	1.567e+04	0.88	yes	no	0.729
27	RS/RT	13C-1,2,3,4-TCDD	29:13	3.460e+03	4.426e+03	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	1.082e+04	8.649e+03	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:26	1.494e+03					0.981
					SUM AREA				
30	Tot	Total Tetra-Furans	27:20		1.798e+03	0.84	yes		0.831
31	Tot	Total Tetra-Dioxins	29:26		1.452e+03	0.74	yes		0.921
32	Tot	Total Penta-Furans	32:58		9.500e+03	1.58	yes		0.845
33	Tot	Total Penta-Dioxins	34:04		3.589e+03	1.47	yes		0.872
34	Tot	Total Hexa-Furans	36:32		1.713e+04	1.26	yes		1.023
35	Tot	Total Hexa-Dioxins	37:14		1.070e+04	1.24	yes		0.985
36	Tot	Total Hepta-Furans	39:15		7.348e+03	1.01	yes		1.142
37	Tot	Total Hepta-Dioxins	40:10		2.839e+03	1.10	yes		0.883

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename P200053 #1 Samp: 1 Inj: 1 Acquired: 7-AUG-08 07:15:39

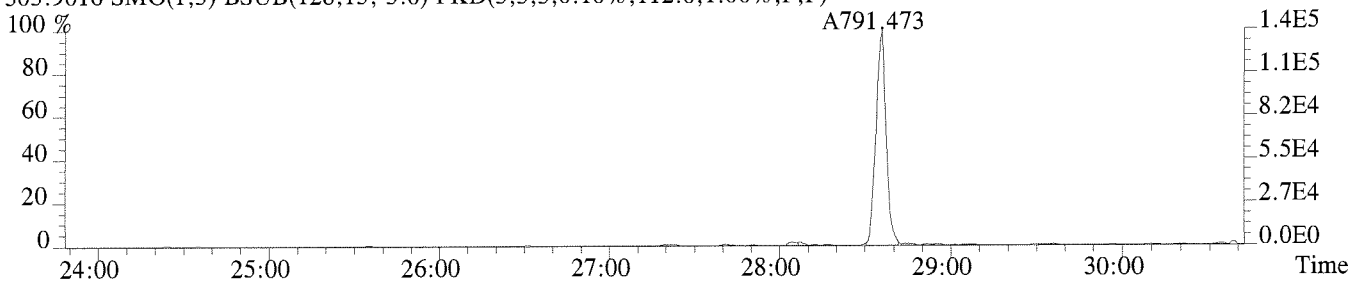
Processed: 13-AUG-08 13:36:40 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.37e+05	1.12e+02	1.2e+03	1.67e+05	1.04e+02	1.6e+03
2	1,2,3,7,8-PeCDF	5.55e+05	1.08e+02	5.1e+03	3.60e+05	7.60e+01	4.7e+03
3	2,3,4,7,8-PeCDF	6.03e+05	1.08e+02	5.6e+03	3.68e+05	7.60e+01	4.8e+03
4	1,2,3,4,7,8-HxCDF	5.60e+05	7.60e+01	7.4e+03	4.49e+05	5.20e+01	8.6e+03
5	1,2,3,6,7,8-HxCDF	5.22e+05	7.60e+01	6.9e+03	4.21e+05	5.20e+01	8.1e+03
6	2,3,4,6,7,8-HxCDF	5.21e+05	7.60e+01	6.9e+03	4.18e+05	5.20e+01	8.0e+03
7	1,2,3,7,8,9-HxCDF	4.16e+05	7.60e+01	5.5e+03	3.28e+05	5.20e+01	6.3e+03
8	1,2,3,4,6,7,8-HpCDF	4.74e+05	2.24e+02	2.1e+03	4.63e+05	1.04e+02	4.5e+03
9	1,2,3,4,7,8,9-HpCDF	2.90e+05	2.24e+02	1.3e+03	2.94e+05	1.04e+02	2.8e+03
10	OCDF	3.93e+05	8.80e+01	4.5e+03	4.27e+05	9.60e+01	4.5e+03
11	2,3,7,8-TCDD	1.22e+05	8.80e+01	1.4e+03	1.54e+05	8.00e+01	1.9e+03
12	1,2,3,7,8-PeCDD	4.41e+05	1.20e+02	3.7e+03	2.92e+05	6.40e+01	4.6e+03
13	1,2,3,4,7,8-HxCDD	4.42e+05	6.40e+01	6.9e+03	3.43e+05	7.20e+01	4.8e+03
14	1,2,3,6,7,8-HxCDD	4.35e+05	6.40e+01	6.8e+03	3.82e+05	7.20e+01	5.3e+03
15	1,2,3,7,8,9-HxCDD	4.36e+05	6.40e+01	6.8e+03	3.43e+05	7.20e+01	4.8e+03
16	1,2,3,4,6,7,8-HpCDD	3.00e+05	1.12e+02	2.7e+03	2.74e+05	8.40e+01	3.3e+03
17	OCDD	4.20e+05	7.20e+01	5.8e+03	4.54e+05	8.00e+01	5.7e+03
18	13C-2,3,7,8-TCDF	7.28e+05	8.80e+01	8.3e+03	9.48e+05	6.40e+01	1.5e+04
19	13C-1,2,3,7,8-PeCDF	1.23e+06	9.20e+01	1.3e+04	7.79e+05	1.16e+02	6.7e+03
20	13C-1,2,3,4,7,8-HxCDF	1.46e+06	8.80e+01	1.7e+04	2.93e+06	5.20e+01	5.6e+04
21	13C-1,2,3,4,6,7,8-HpCDF	9.88e+05	1.40e+02	7.1e+03	2.22e+06	1.41e+03	1.6e+03
22	13C-2,3,7,8-TCDD	6.06e+05	8.00e+01	7.6e+03	7.99e+05	7.60e+01	1.1e+04
23	13C-1,2,3,7,8-PeCDD	1.04e+06	7.60e+01	1.4e+04	6.29e+05	9.20e+01	6.8e+03
24	13C-1,2,3,6,7,8-HxCDD	2.31e+06	8.00e+01	2.9e+04	1.86e+06	8.40e+01	2.2e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.65e+06	1.00e+02	1.6e+04	1.56e+06	1.00e+02	1.6e+04
26	13C-OCDD	2.10e+06	6.00e+01	3.5e+04	2.35e+06	8.00e+01	2.9e+04
27	13C-1,2,3,4-TCDD	6.18e+05	8.00e+01	7.7e+03	8.06e+05	7.60e+01	1.1e+04
28	13C-1,2,3,7,8,9-HxCDD	2.31e+06	8.00e+01	2.9e+04	1.82e+06	8.40e+01	2.2e+04
29	37Cl-2,3,7,8-TCDD	2.67e+05	8.00e+01	3.3e+03			

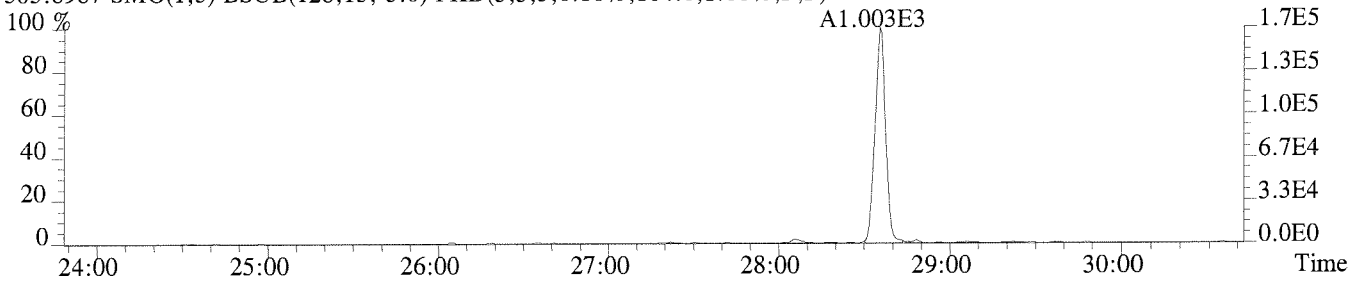
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200053 #1-575 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

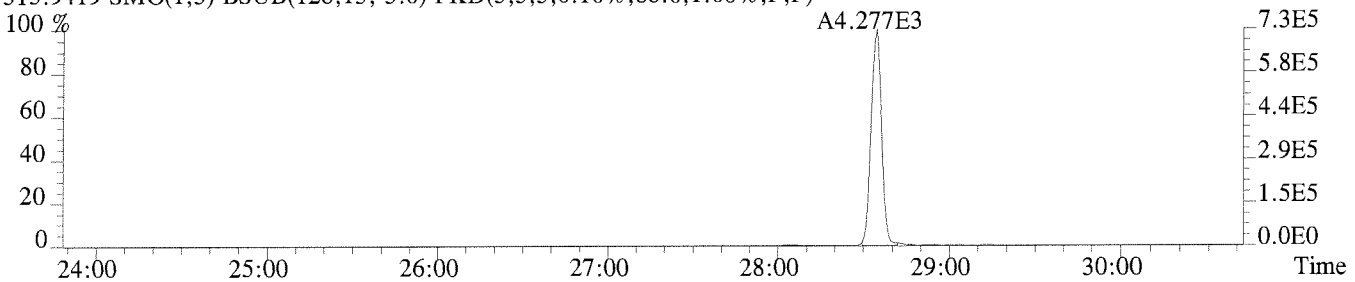
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)



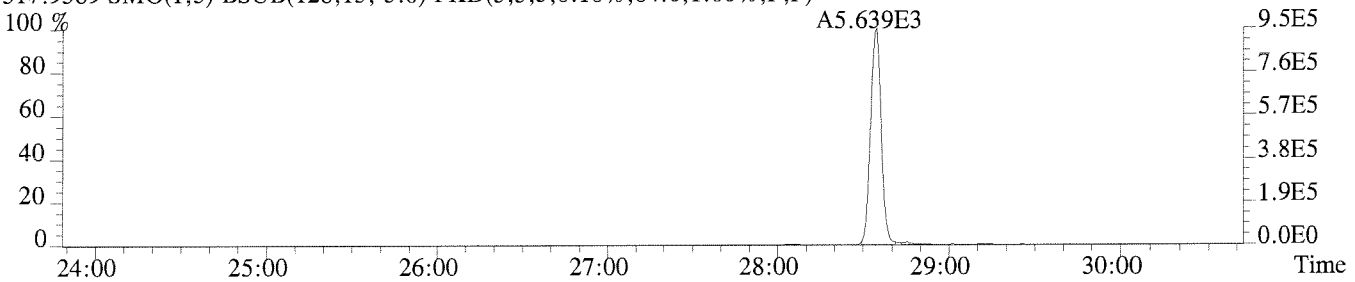
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,104.0,1.00%,F,F)



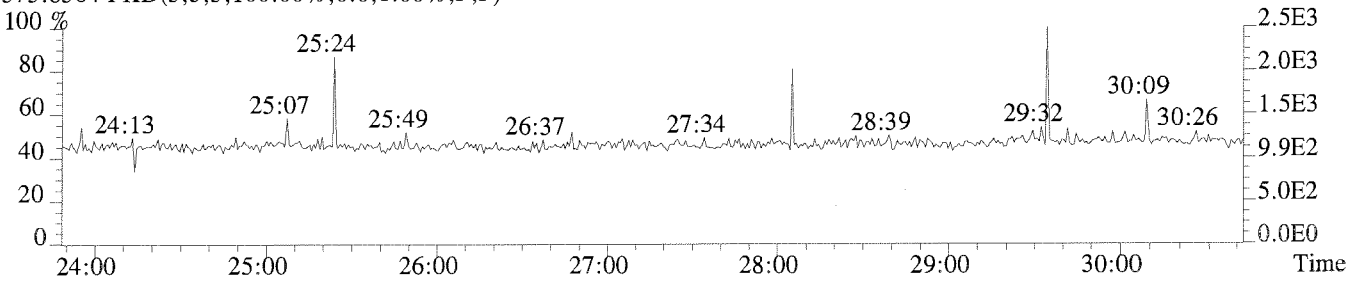
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



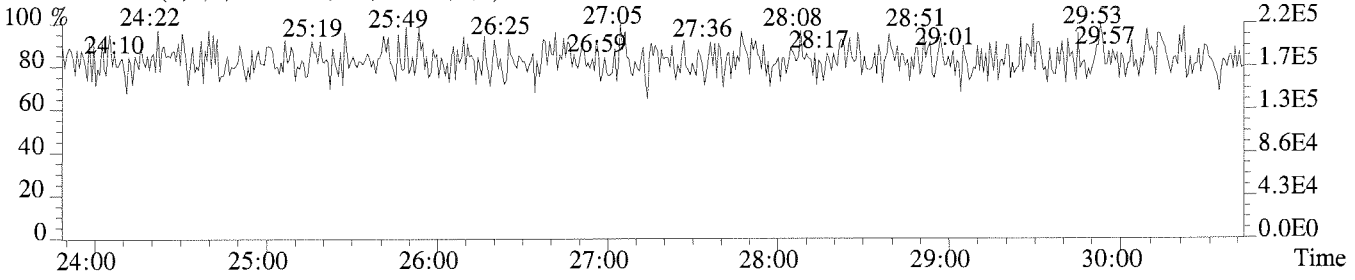
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,F)



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

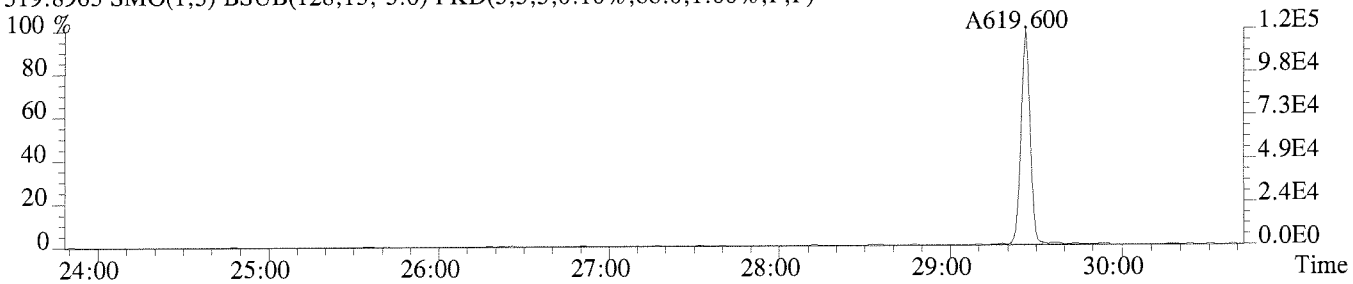


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

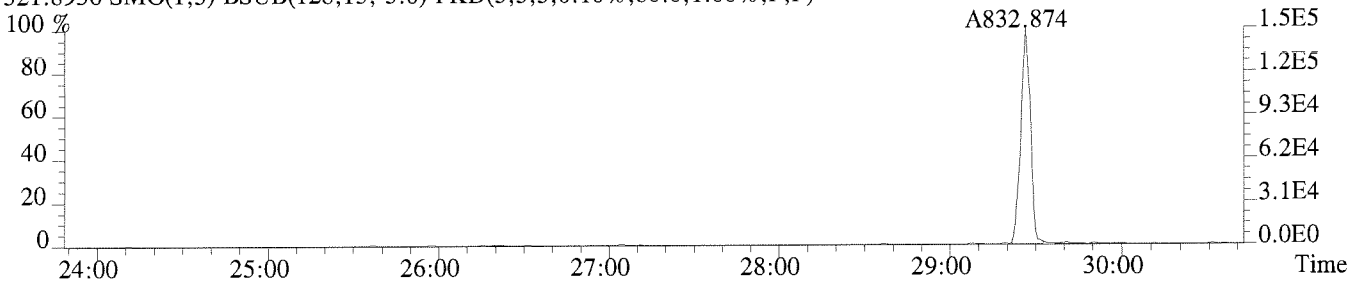


File:P200053 #1-575 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

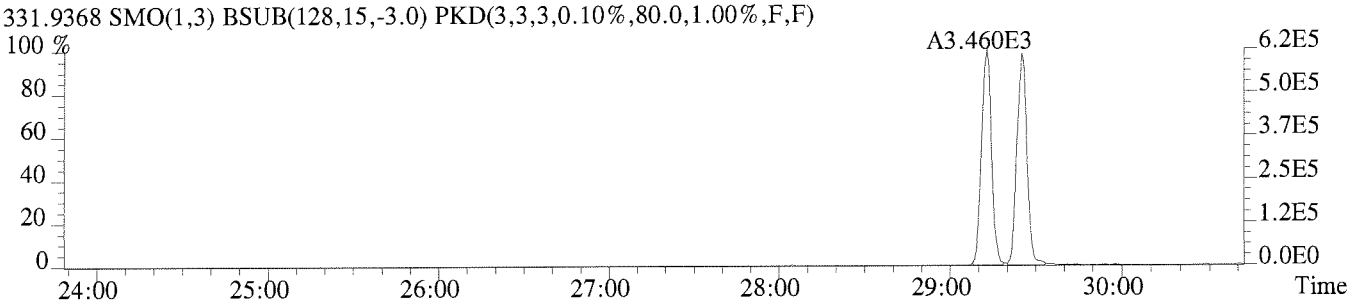
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



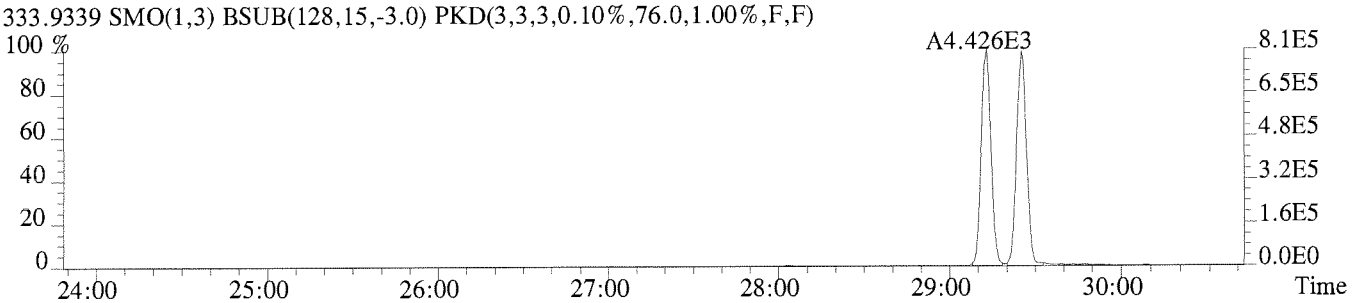
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



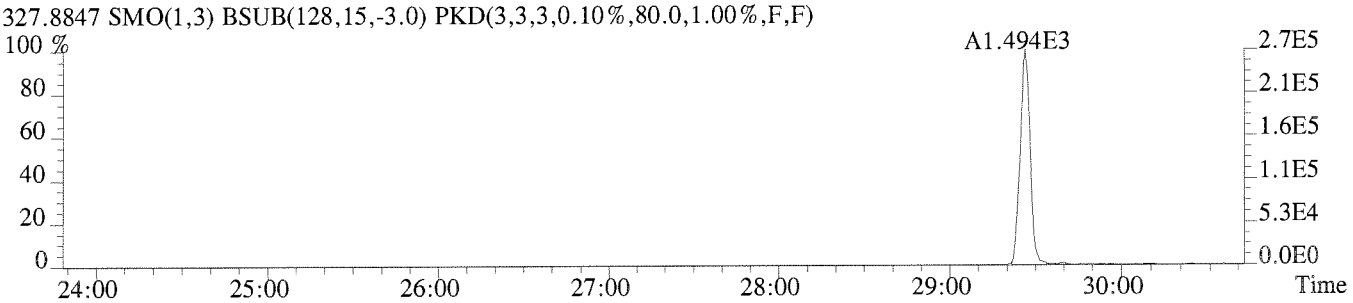
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



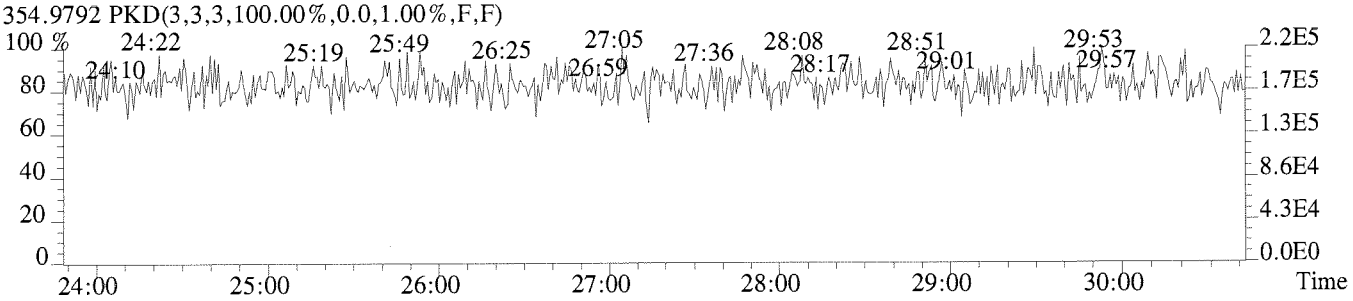
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,F)



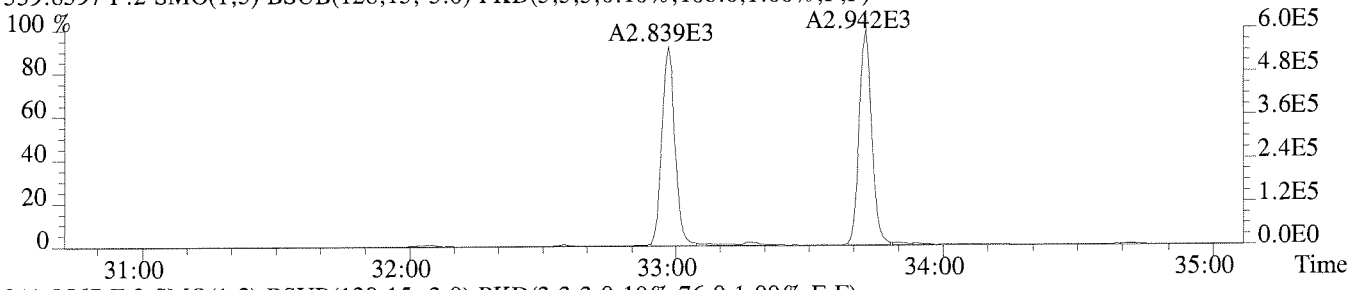
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



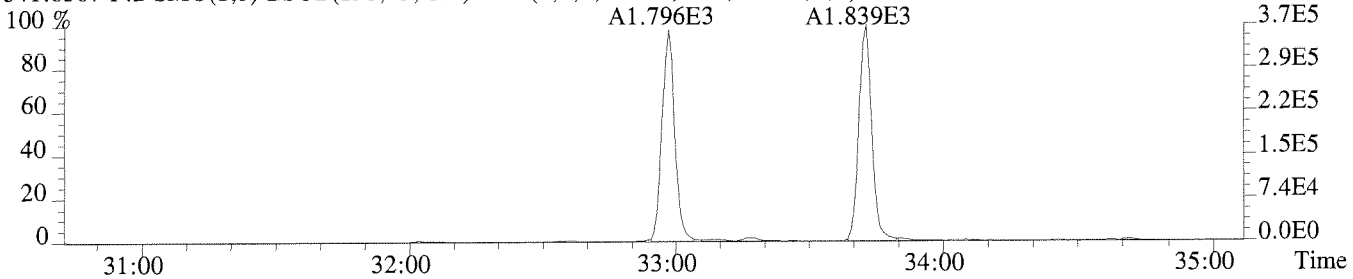
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



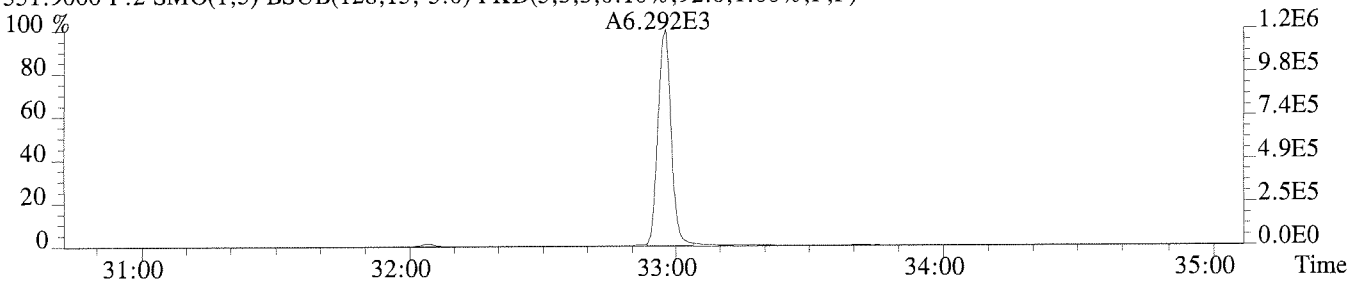
File:P200053 #1-400 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,F)



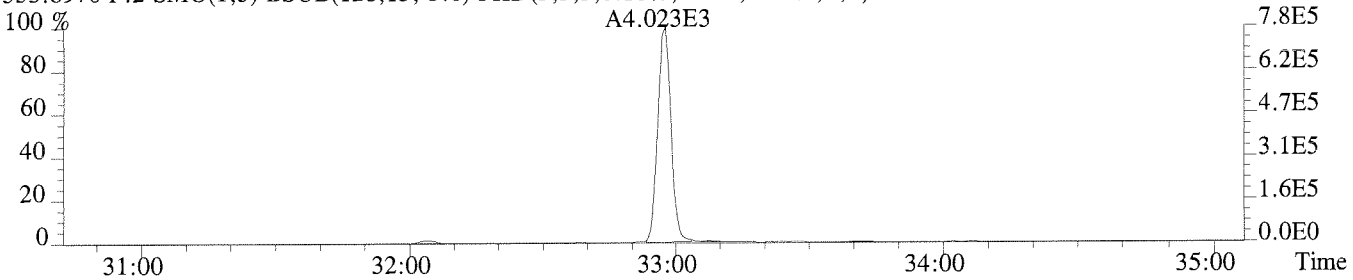
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,F)



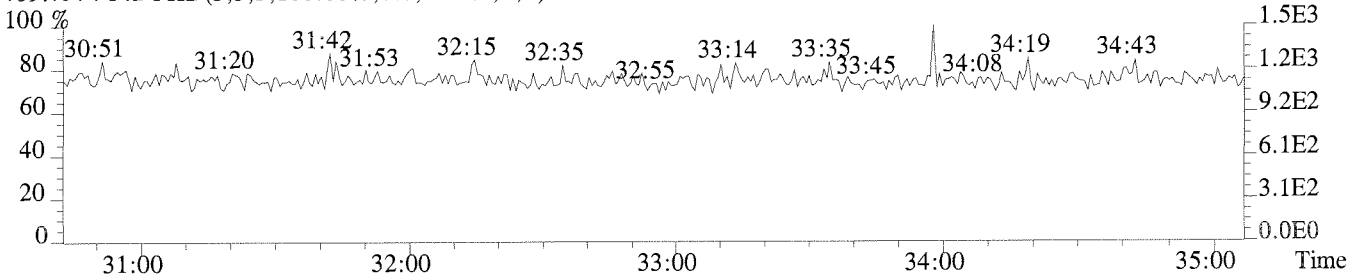
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,F)



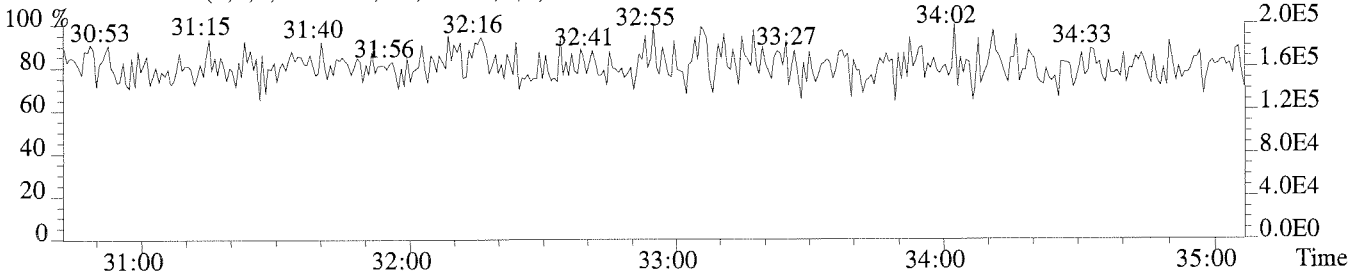
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,116.0,1.00%,F,F)



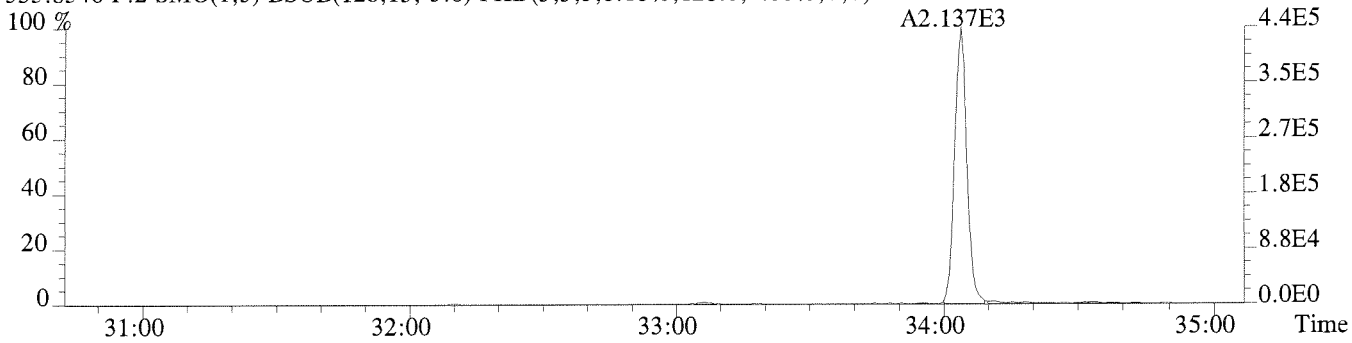
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



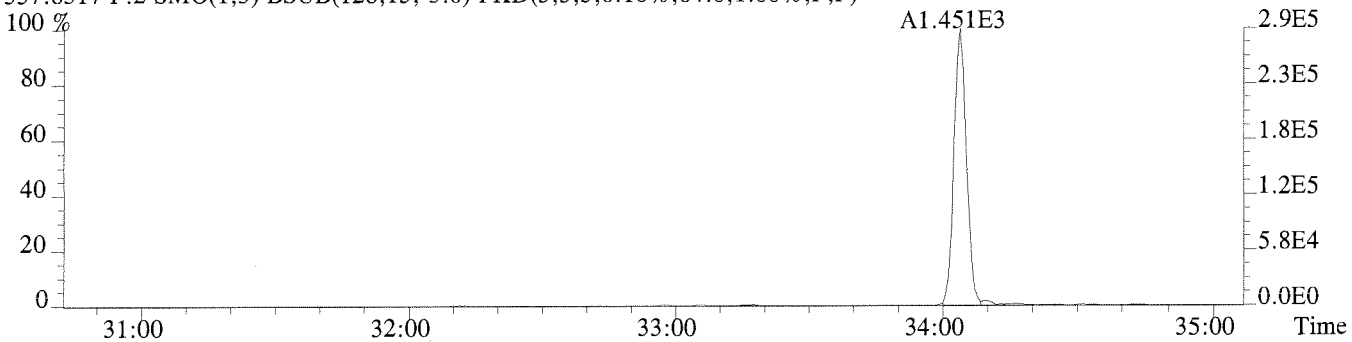
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



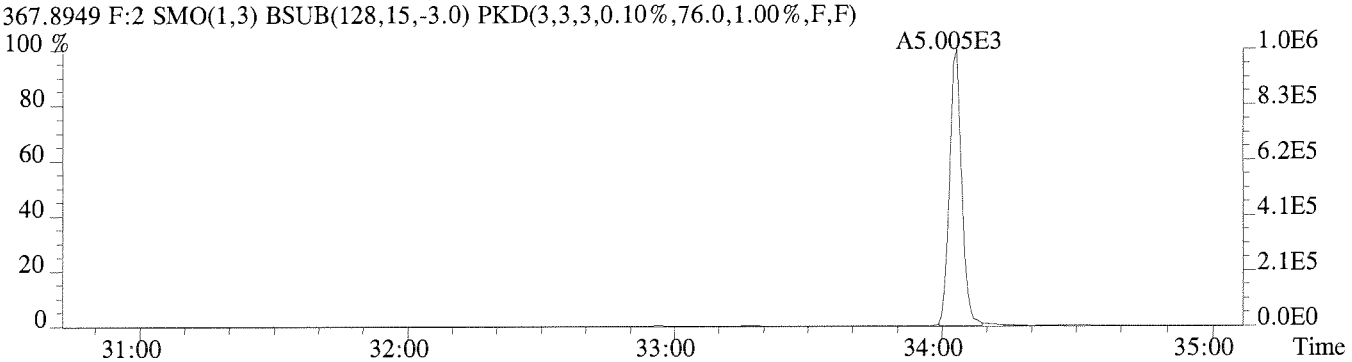
File:P200053 #1-400 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,F)



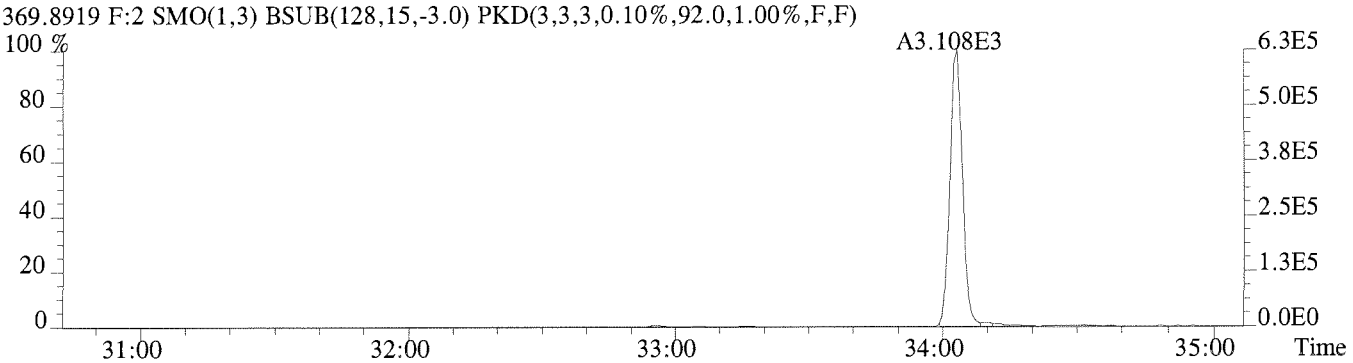
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,64.0,1.00%,F,F)



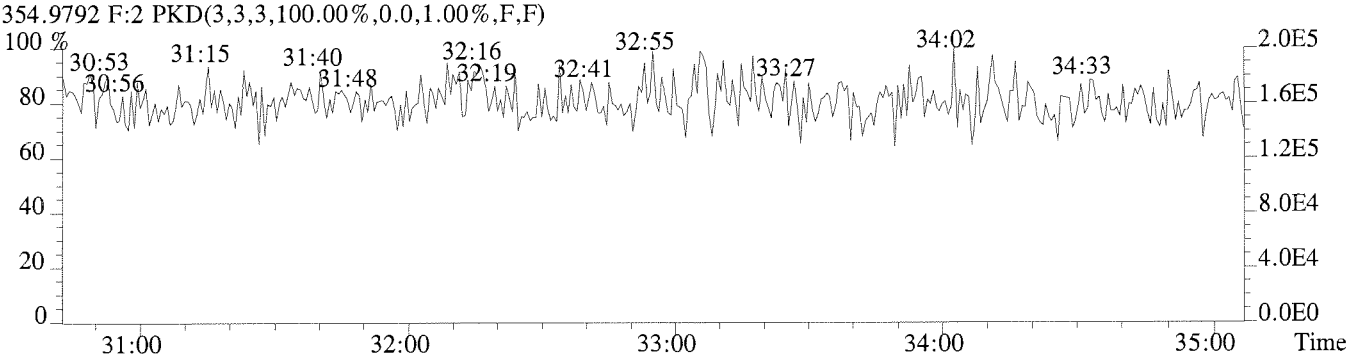
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,76.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,92.0,1.00%,F,F)

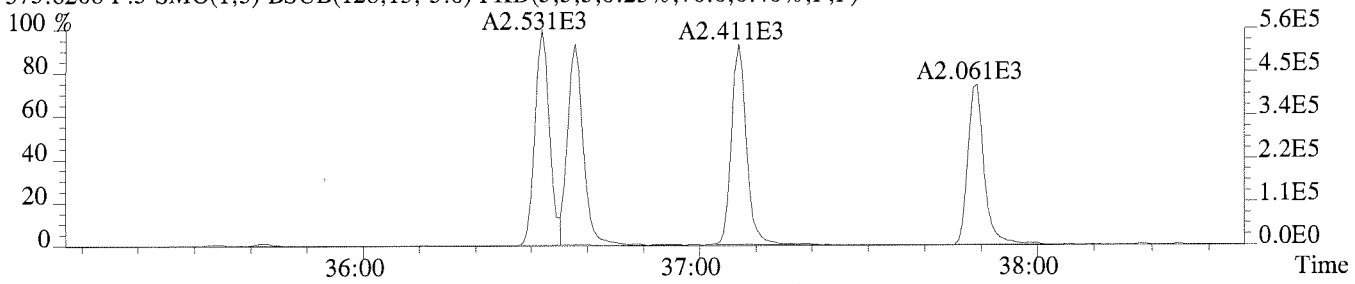


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

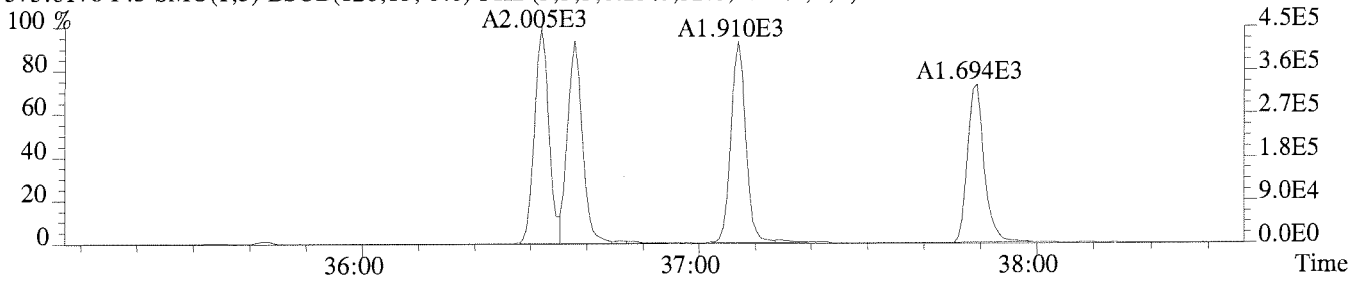


File:P200053 #1-317 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

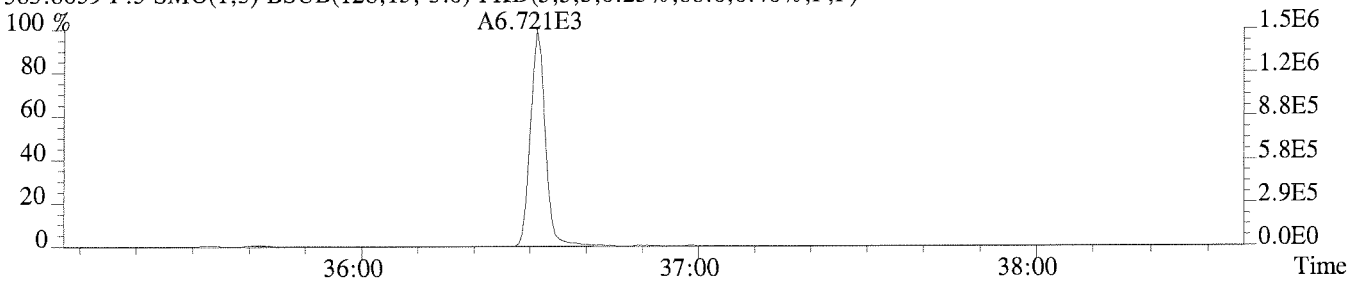
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,76.0,0.40%,F,F)



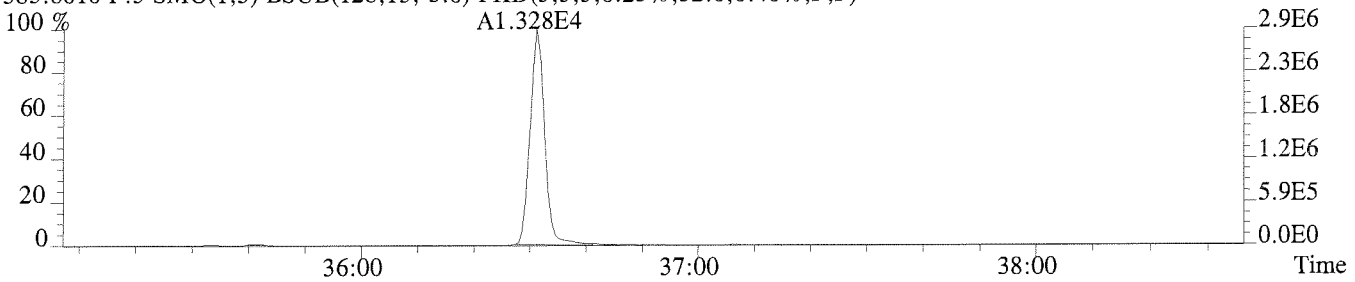
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,F)



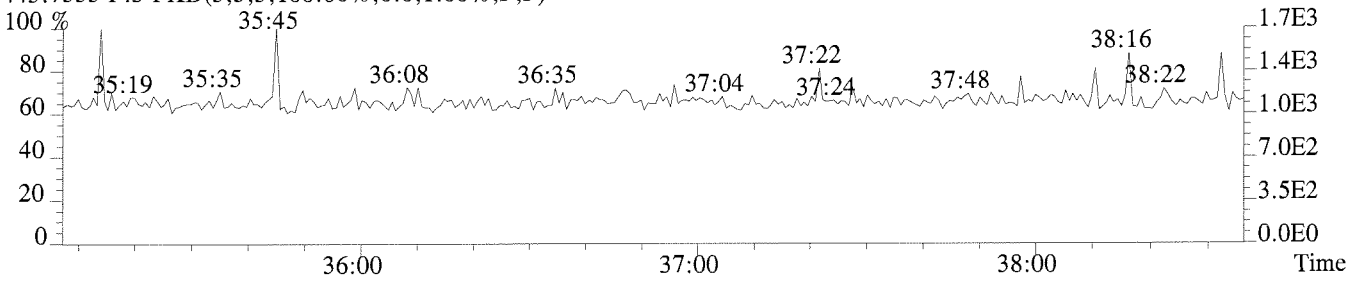
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,F)



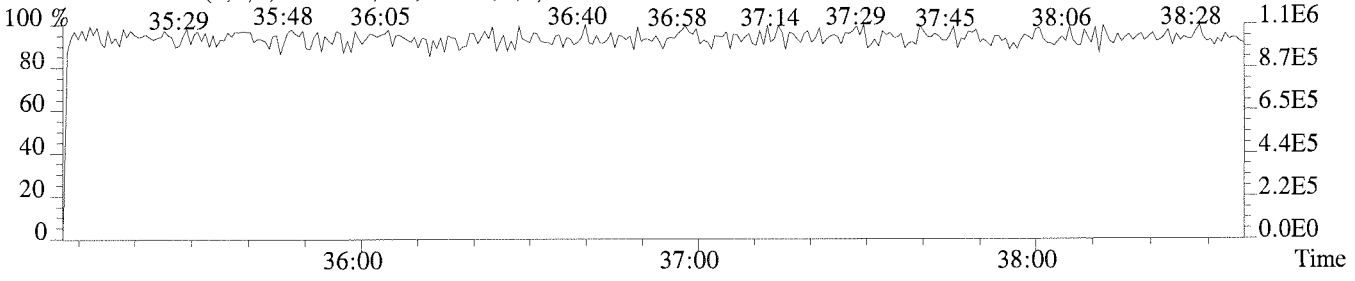
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,52.0,0.40%,F,F)



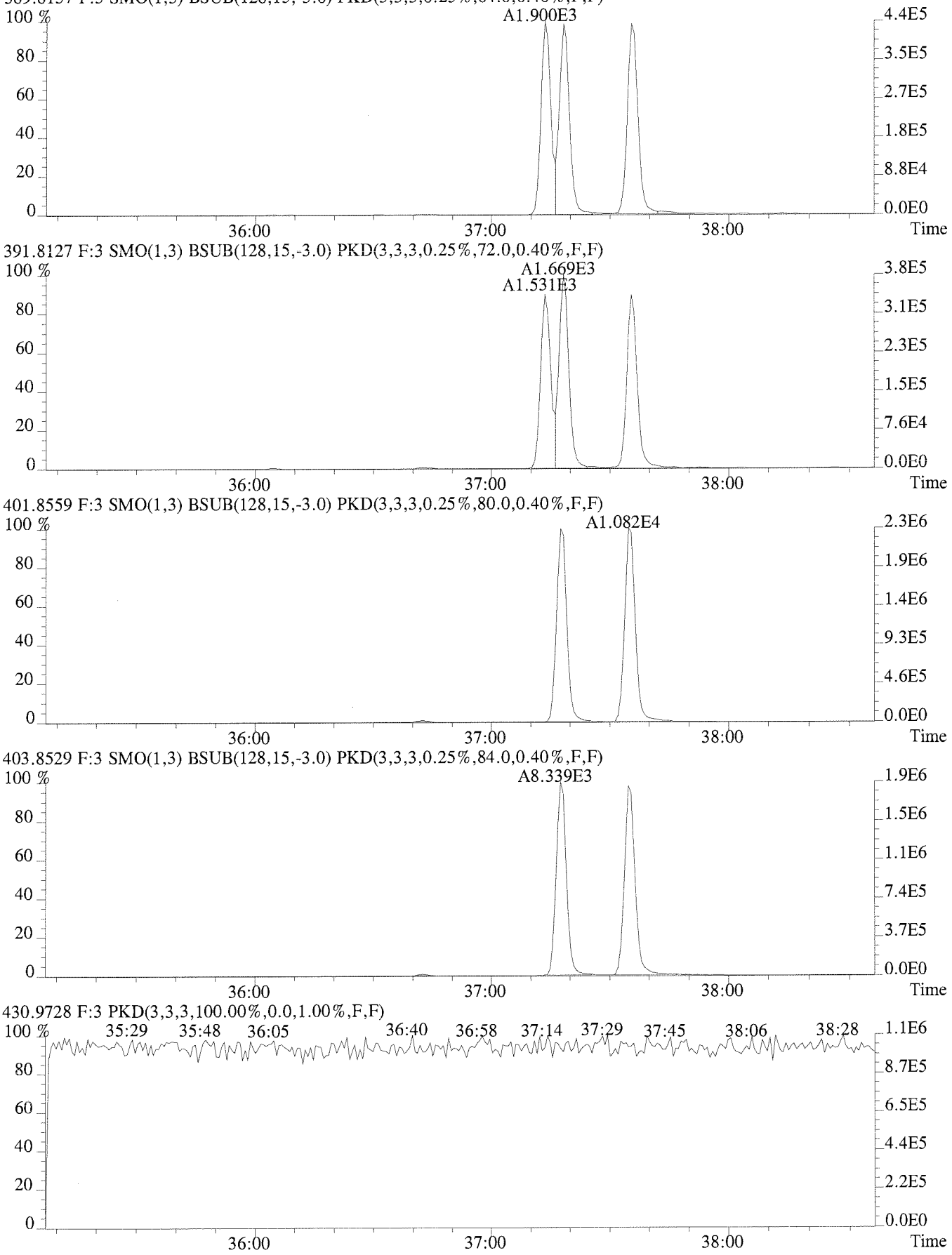
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



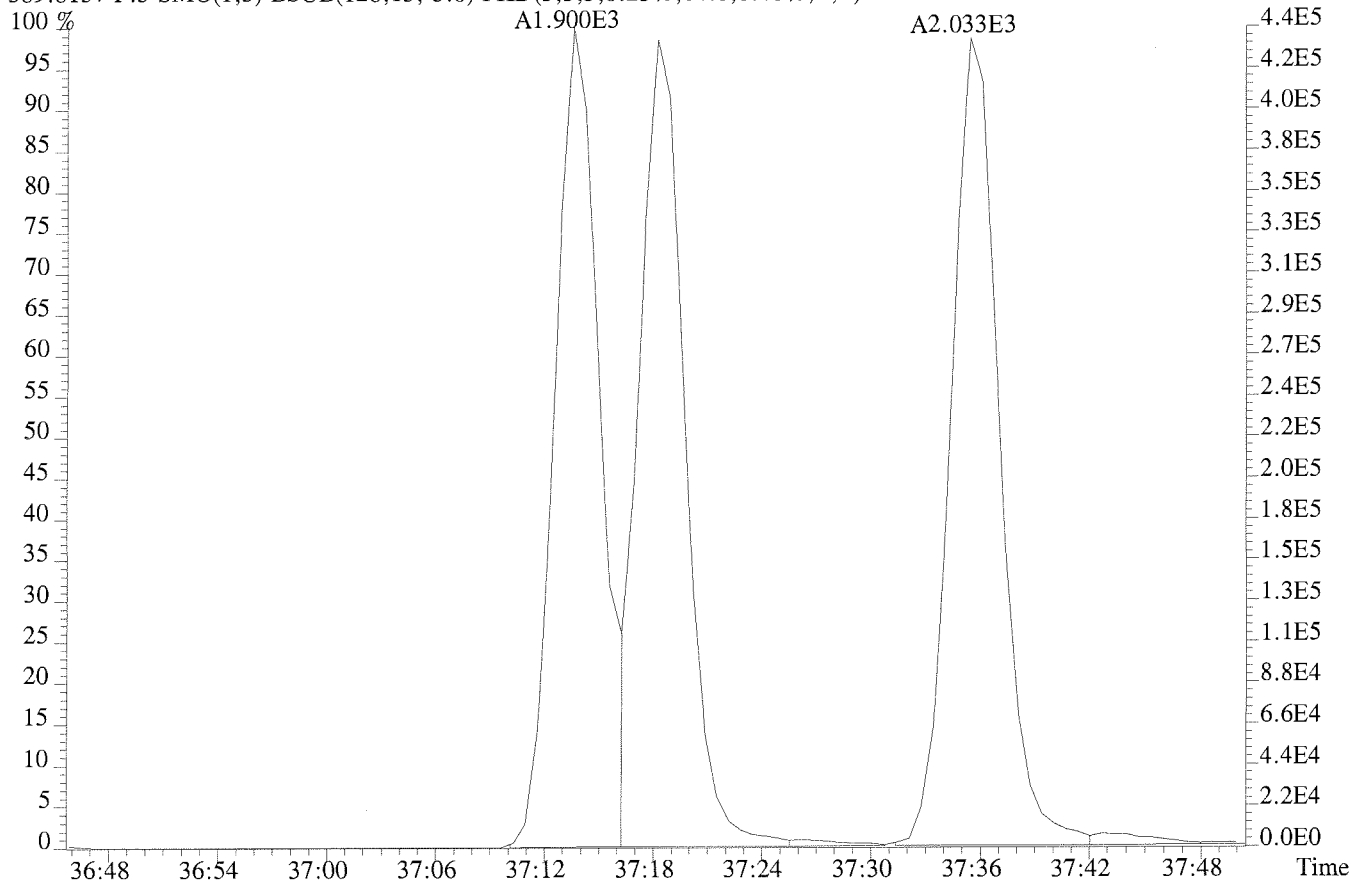
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



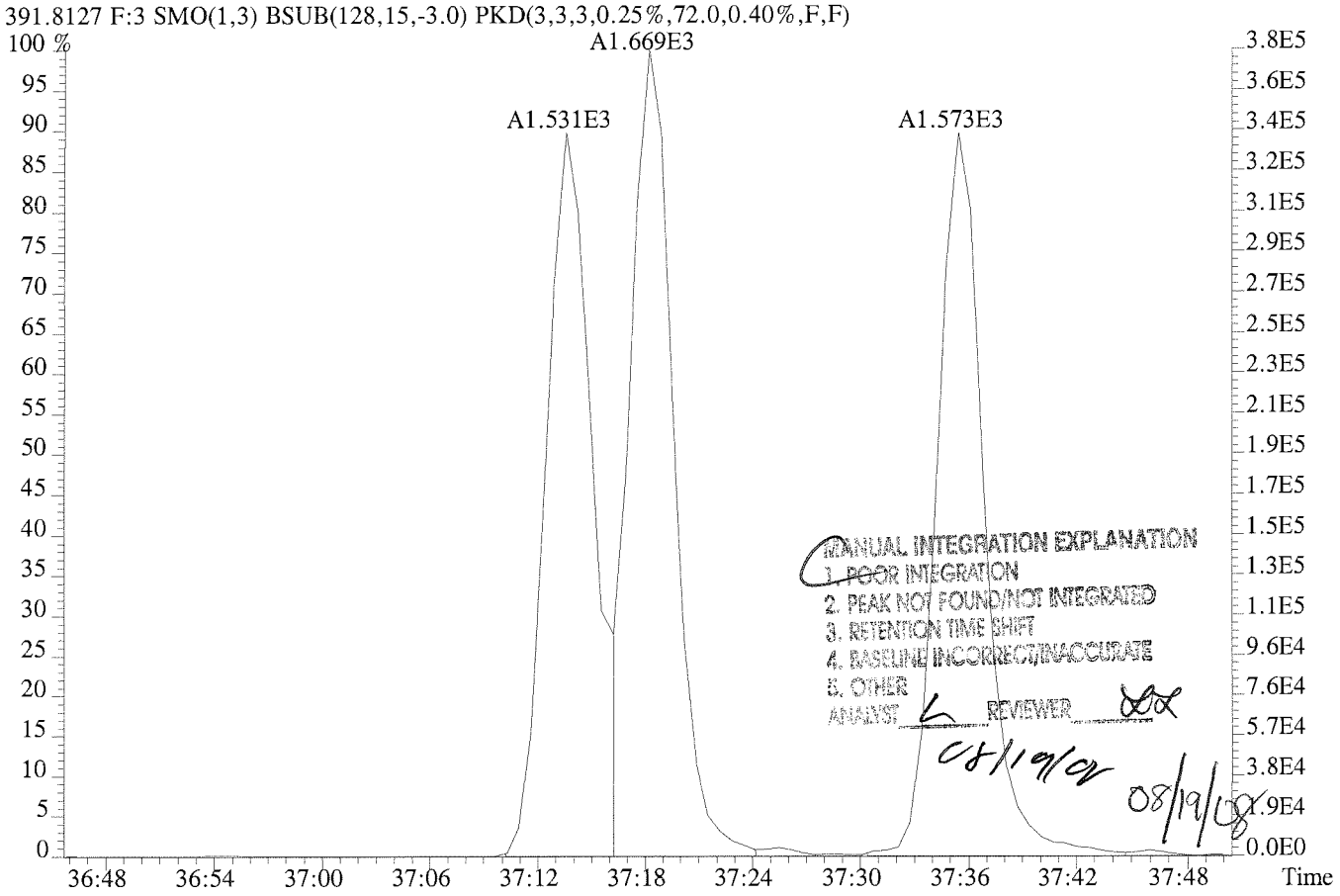
File:P200053 #1-317 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3



File:P200053 #1-317 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,F)

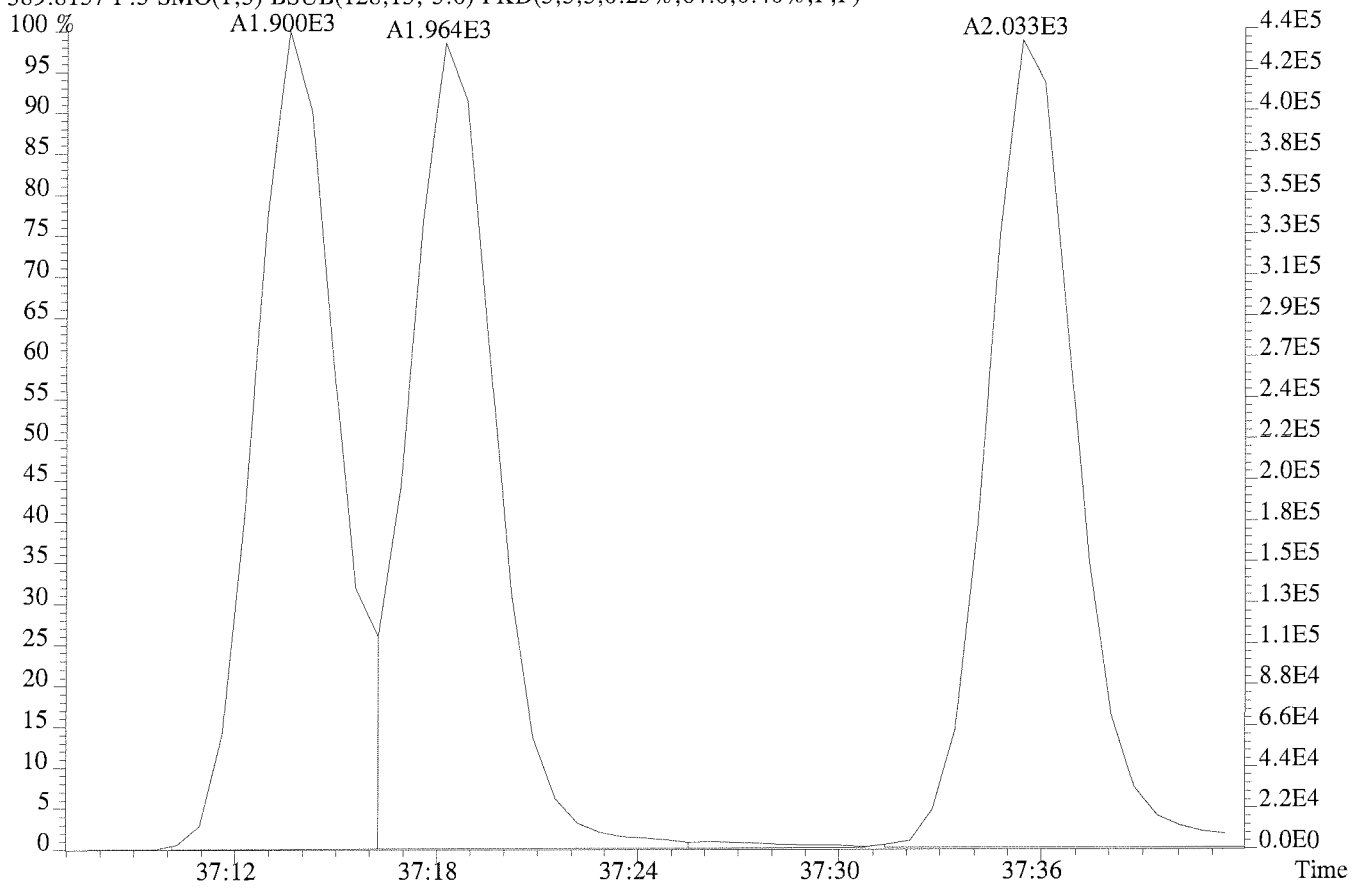


391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,F)

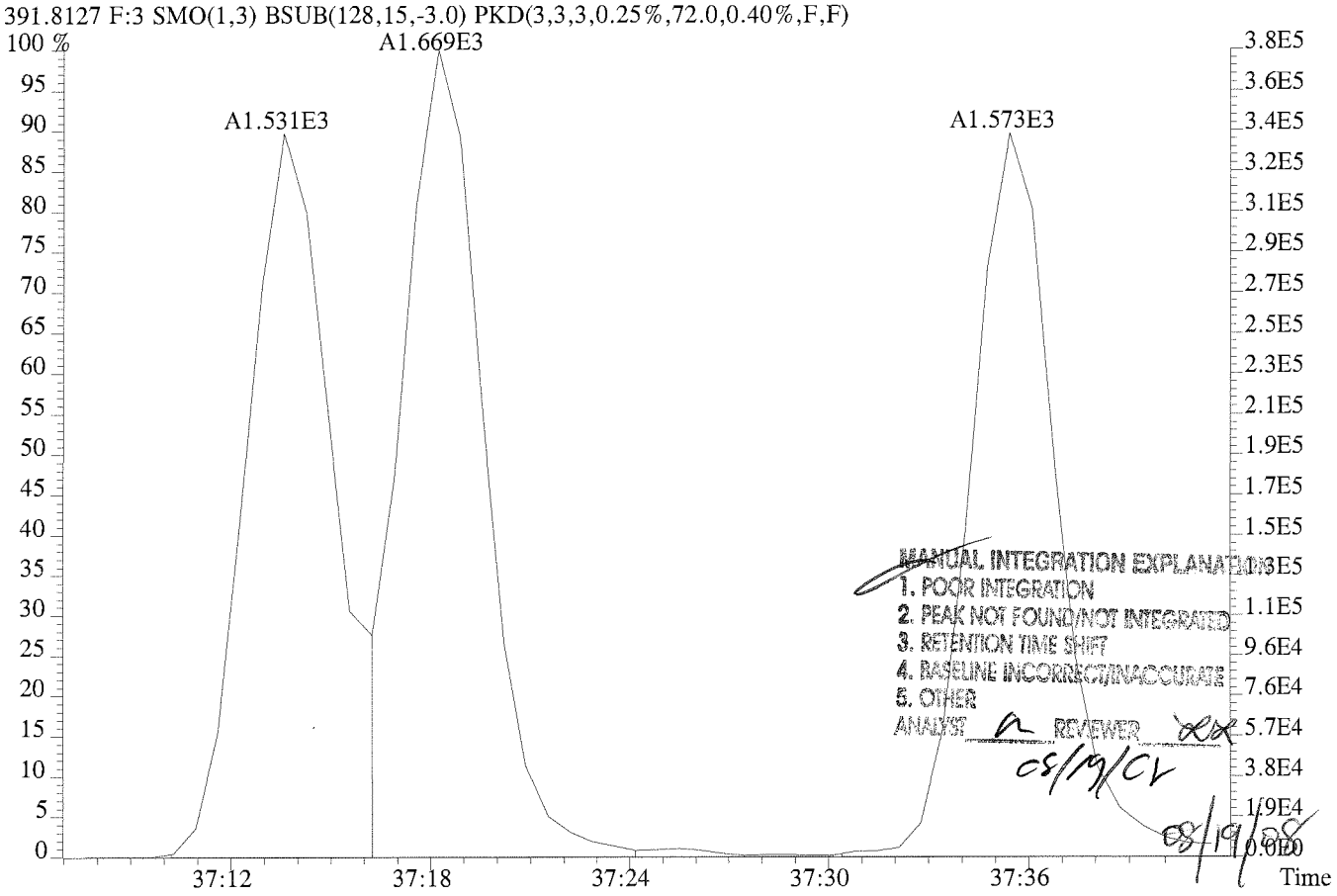


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST _____ REVIEWER _____
08/19/08
08/19/08

File:P200053 #1-317 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,64.0,0.40%,F,F)



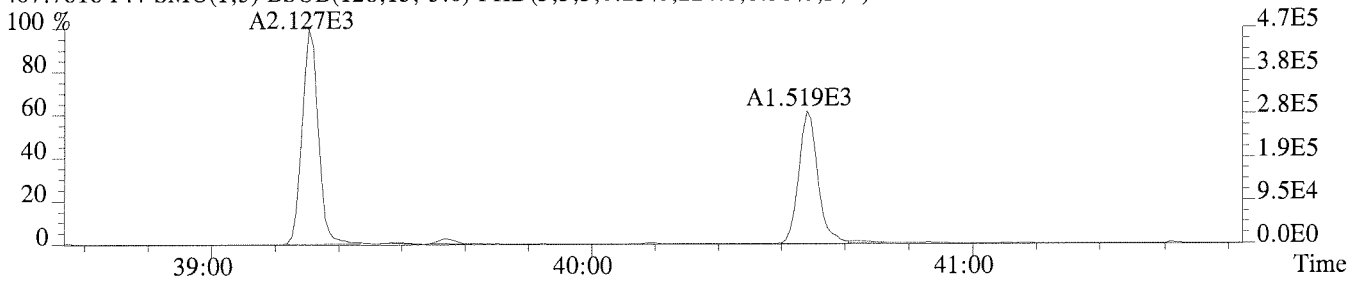
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,72.0,0.40%,F,F)



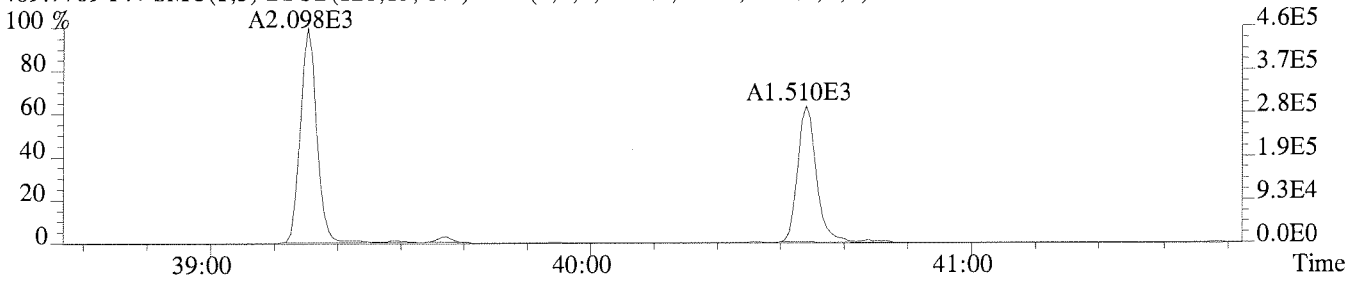
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER
08/19/08
08/19/08

File:P200053 #1-281 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

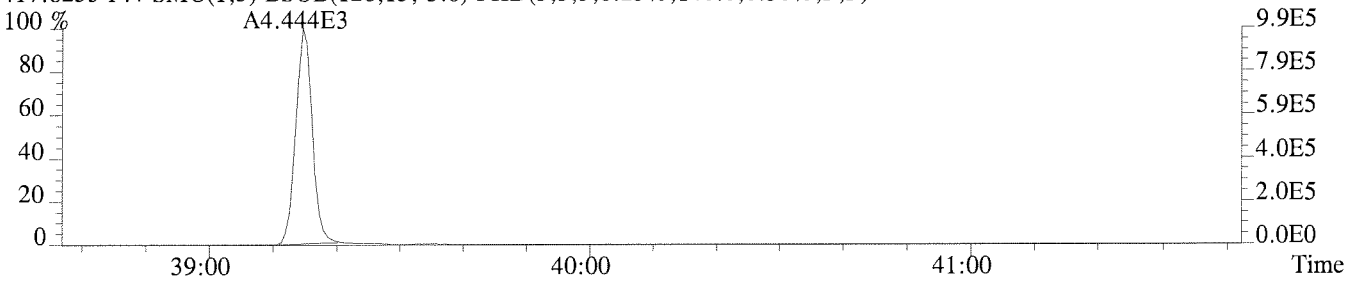
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.50%,F,F)



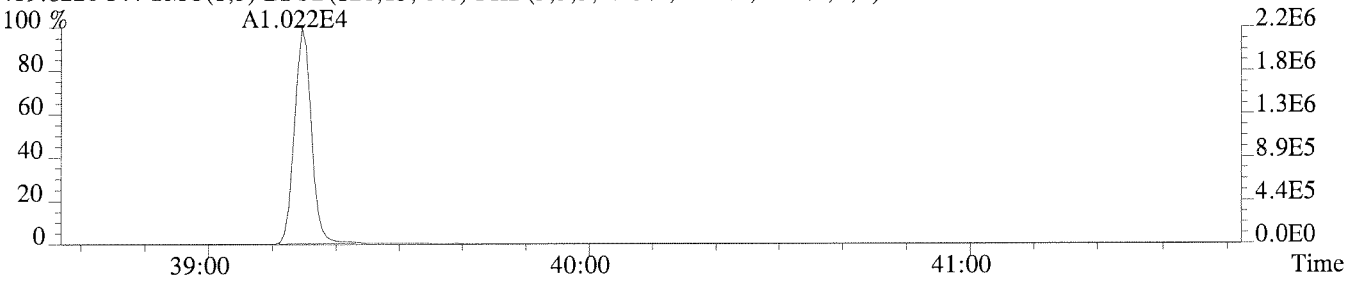
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,104.0,0.50%,F,F)



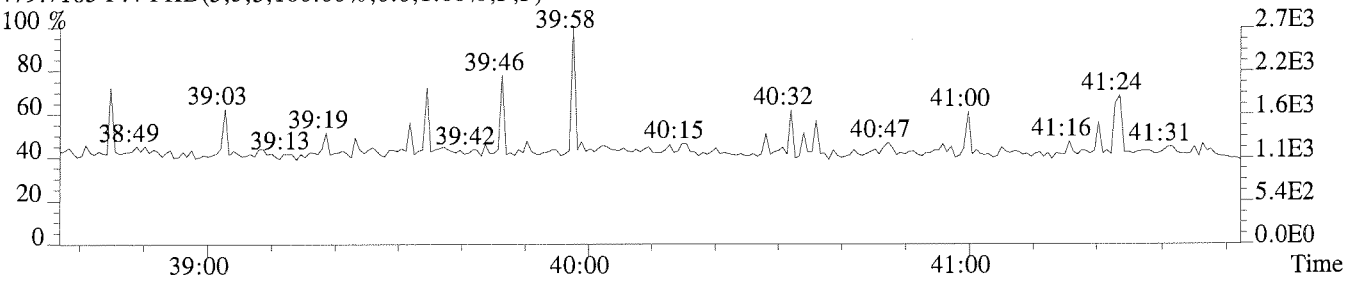
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,140.0,0.50%,F,F)



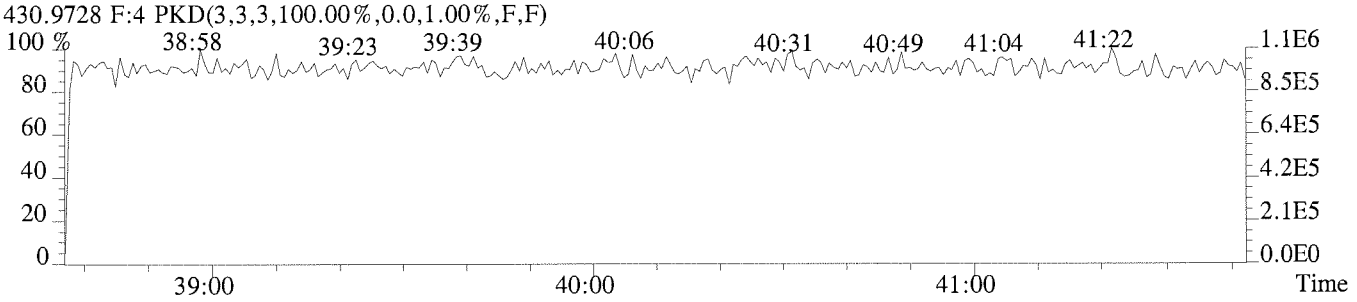
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1412.0,0.50%,F,F)



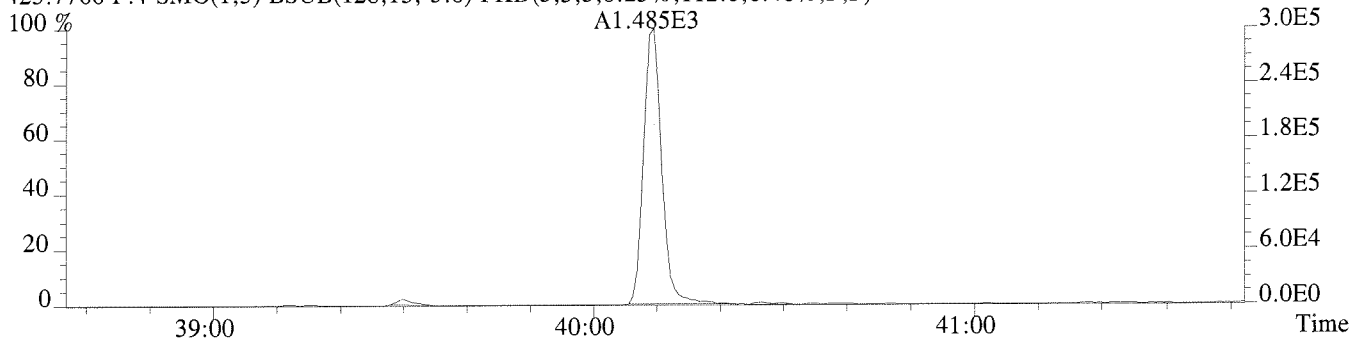
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



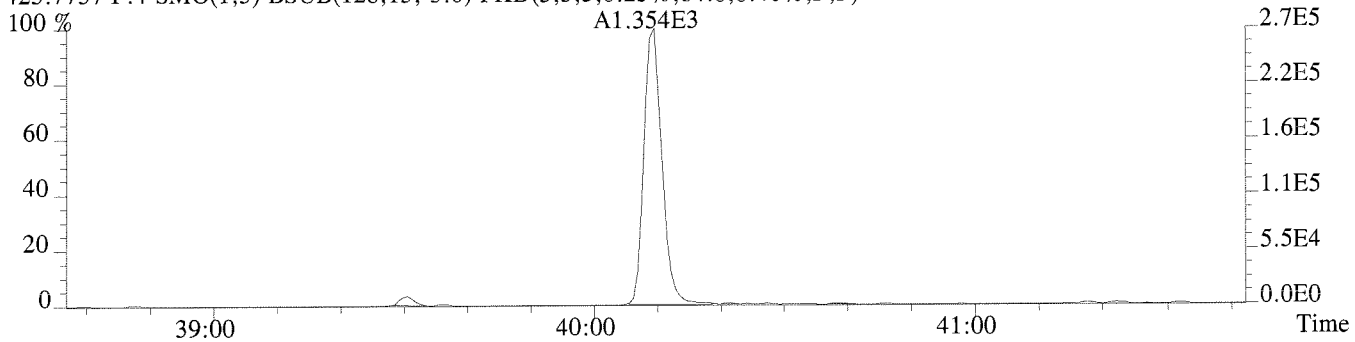
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



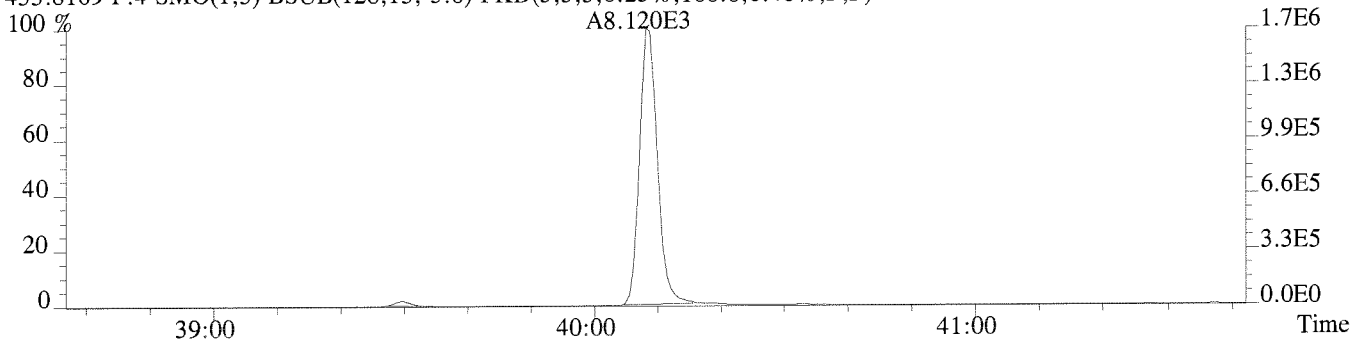
File:P200053 #1-281 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,112.0,0.40%,F,F)



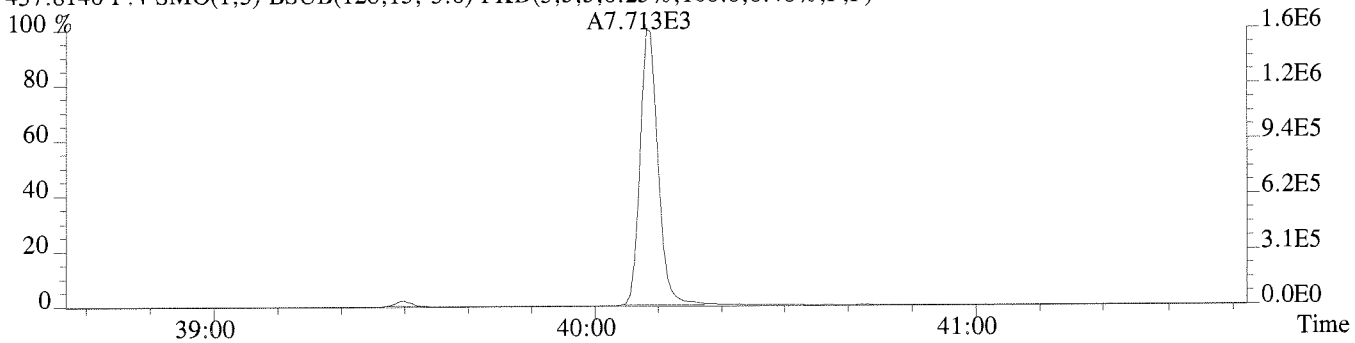
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,84.0,0.40%,F,F)



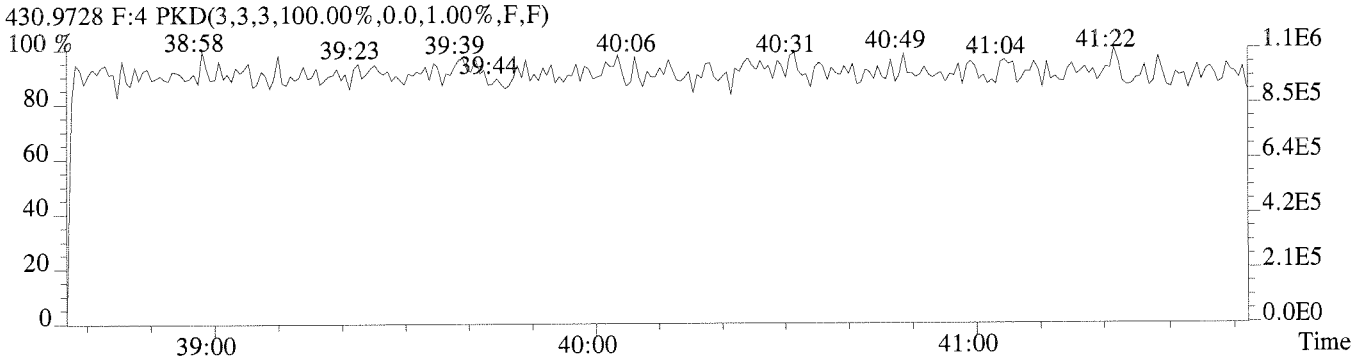
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,F)



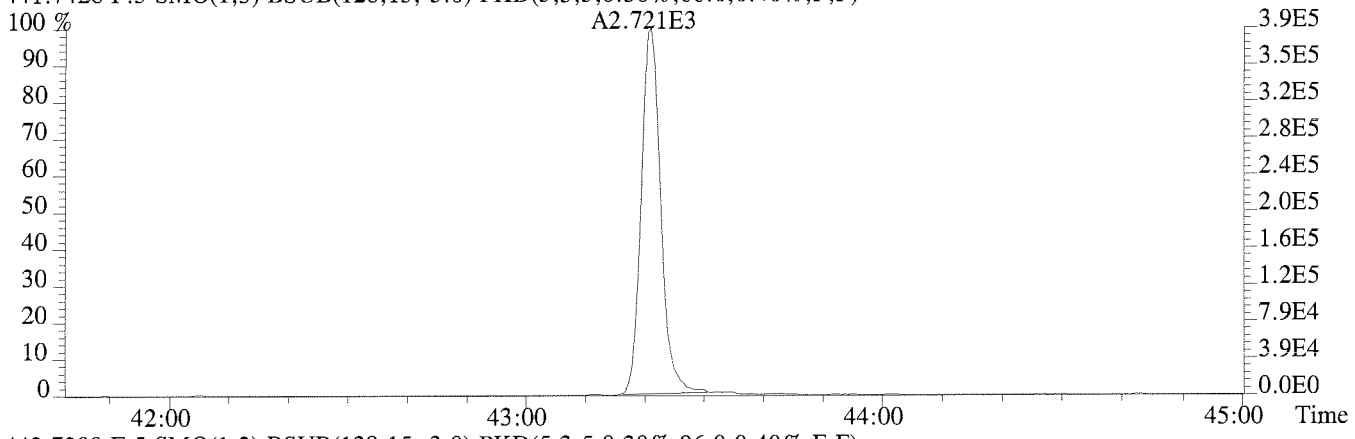
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,100.0,0.40%,F,F)



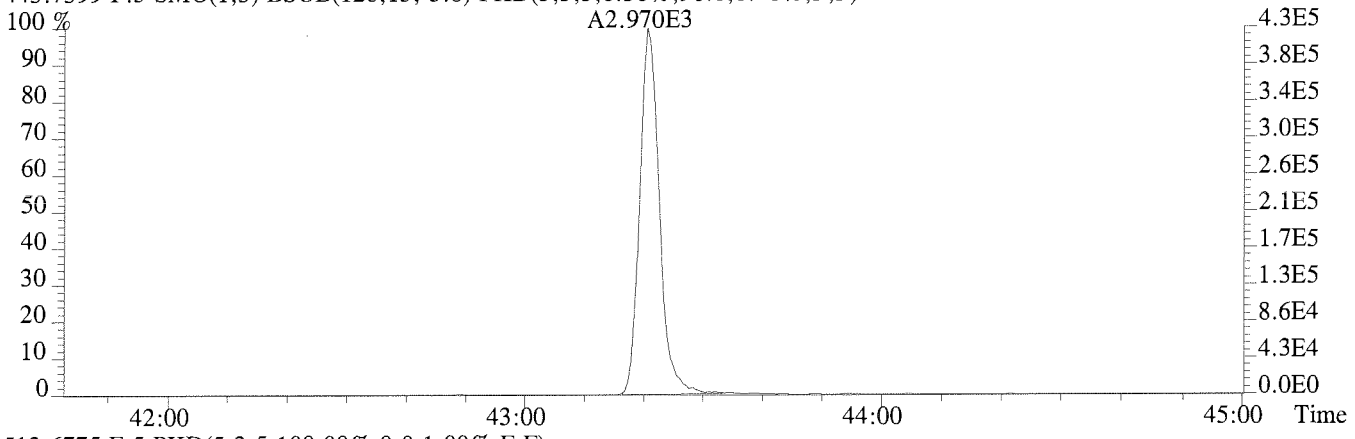
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



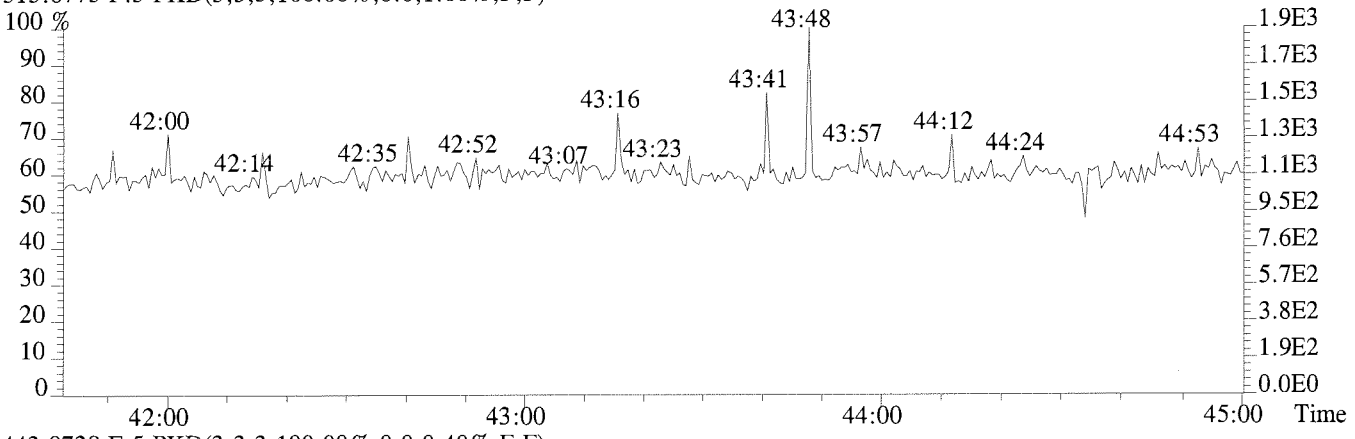
File:P200053 #1-364 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,88.0,0.40%,F,F)



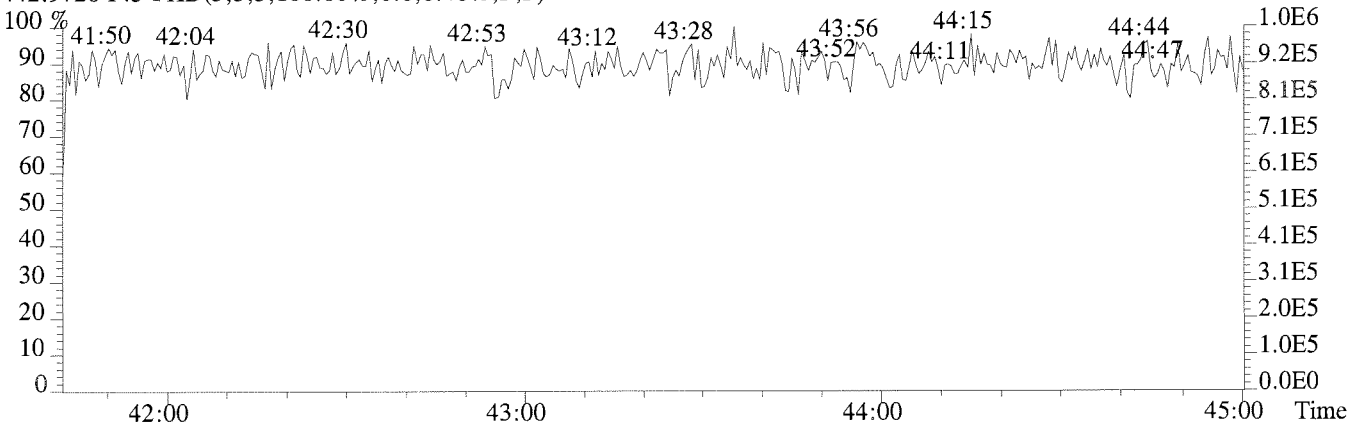
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,96.0,0.40%,F,F)



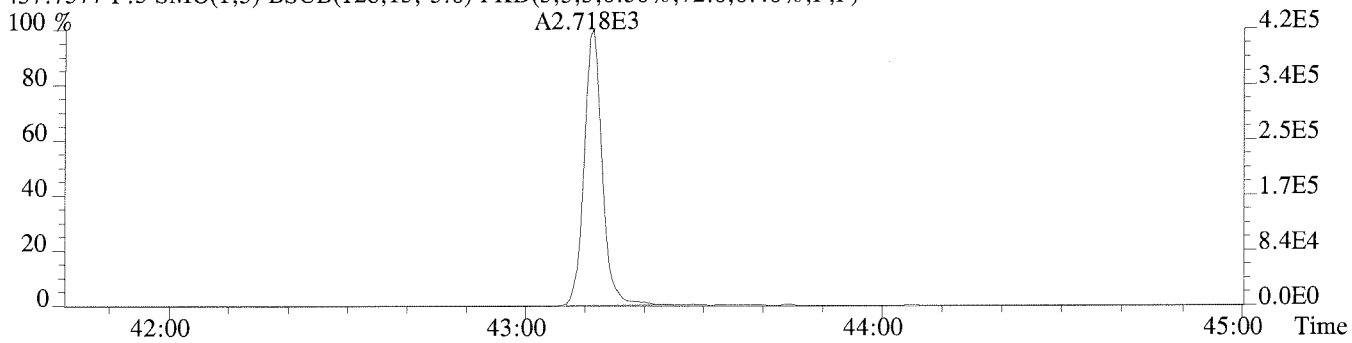
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



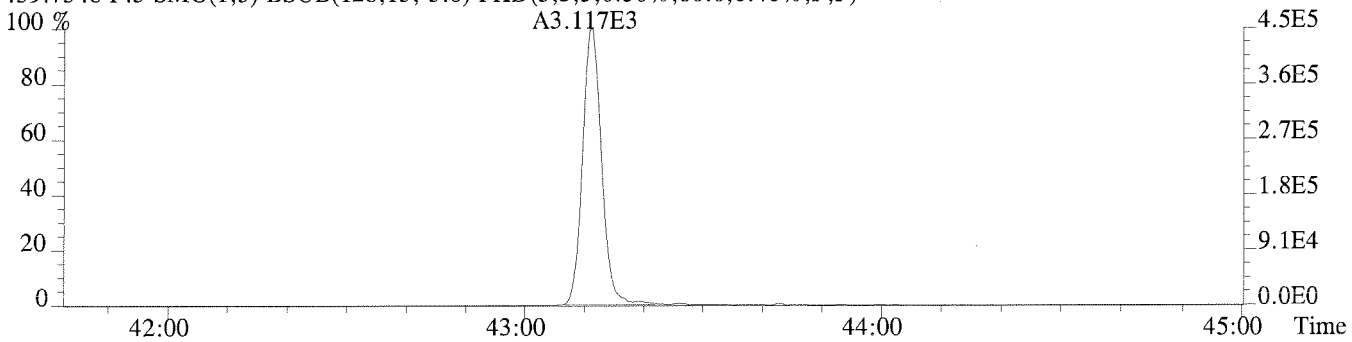
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



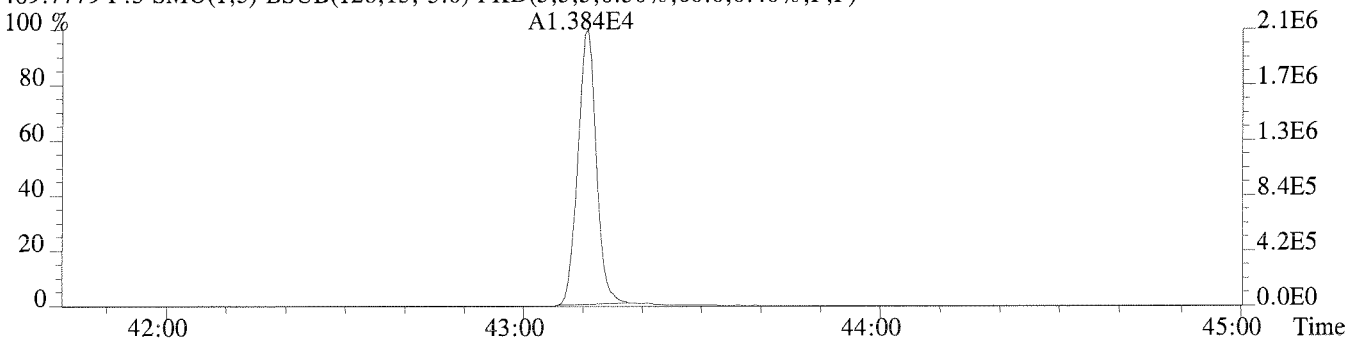
File:P200053 #1-364 Acq: 7-AUG-2008 07:15:39 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,72.0,0.40%,F,F)



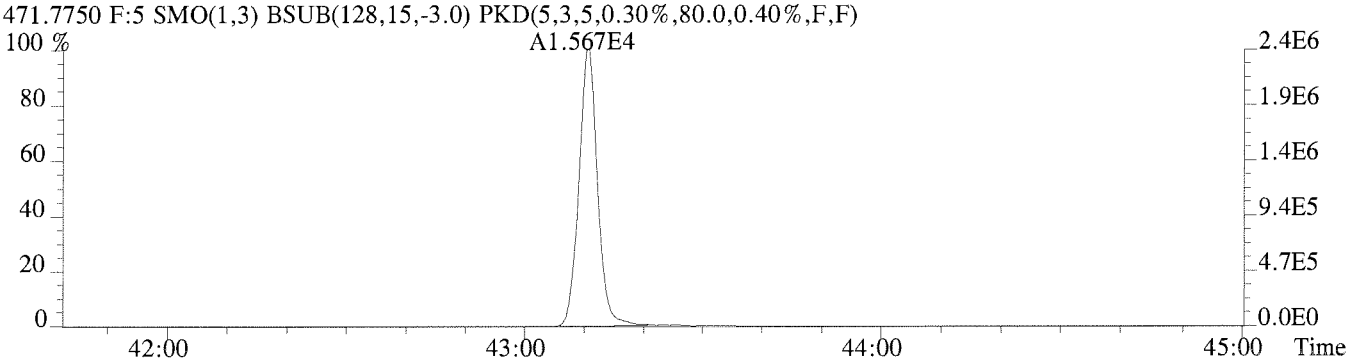
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,80.0,0.40%,F,F)



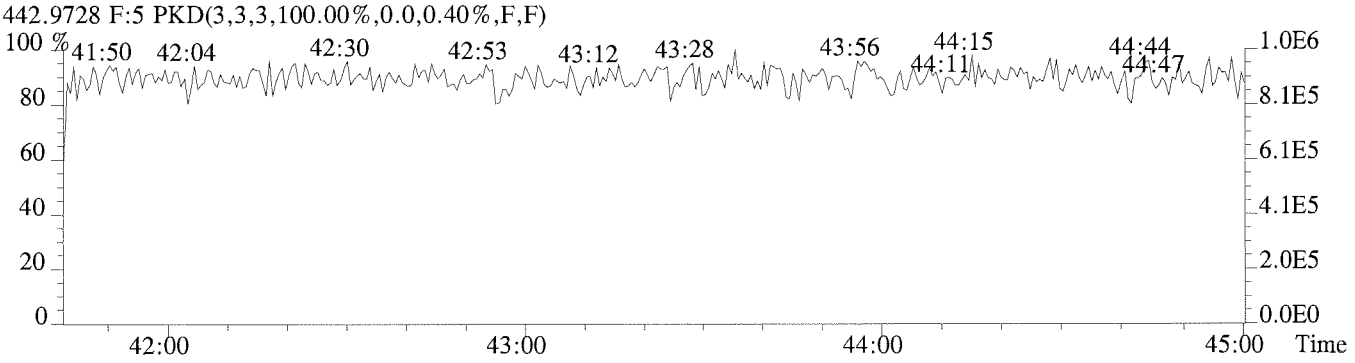
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,60.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,80.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: U129310-U129321

Date: 8/4/08

Circle one: Beginning / Ending

Method: (8290) / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: ~

Second QC: gc

8290 CCALQC 03/23/04

CAS HOUSTON INC.

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services, Houston Contract:

Lab Code: CAS Episode No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 04/02/07

Init. Calib.Times: 11:25

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
WINDOW DEFINE		U129309	4-AUG-08	10:02:38
CCAL HRCC3		U129310	4-AUG-08	07:57:55
METHOD BLANK	EQ0800325-01	U129311	4-AUG-08	09:03:34
0807404001C	E0800731-001	U129312	4-AUG-08	09:49:20
TP-11	E0800677-006RE	U129313	4-AUG-08	10:37:45
TP-13	E0800677-007RE	U129314	4-AUG-08	11:26:16
TP-14	E0800677-008RE	U129315	4-AUG-08	12:14:51
TP-16	E0800677-009RE	U129316	4-AUG-08	13:03:26
DO NOT USE	DO NOT USE	U129316	4-AUG-08	13:03:26
TP-18	E0800677-010RE	U129317	4-AUG-08	13:51:55
INCSSB0112	E0800697-008	U129319	4-AUG-08	15:52:03
LCS	EQ0800317-02	U129320	4-AUG-08	16:38:49

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Acq Method: 8290CAS/1613
GC Method: 8290CAS/1613

Result File: F 0129310 CCAL/RES Archive Tape: _____
EDD File: _____ Instrument ID: VG 70C

Columbia Analytical Services inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/03/01	20:33	0129308	CCAL HRGC	DB-2-20			Use Avg	
↓	21:23		HR MS Check					
08/04/01	07:04		↓					
	07:07	0129309	Window Defn	DY-90-2				
	07:52	0129310	CCAL HRGC	DB-2-2A				
	09:03	0129311	EQ080325-01	Method Blank				
	09:49	0129312	EQ080731-01	CS0704601C				
	10:37	0129313	EQ080627-06RE	TP-11				
	11:26	0129314	-06RE	TP-13				
	12:14	0129315	-06RE	TP-14				
	13:03	0129316	-06RE	TP-16				
	13:51	0129317	-06RE	TP-18				
	14:40	0129318	EQ080729-04	MDL				
	15:52	0129319	EQ080627-05	INCSSB0112				
	16:26	0129320	EQ080317-02	CS				
↓	18:03	0129321	CCAL HRGC	DB-2-2A		↓	Use Avg	

Reviewed by: ee

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: 8290CAS/1613 Result File: _____ Archive Tape: _____
GC Method: 8290CAS/1613 EDD File: _____ Instrument ID: VG 70C

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/09/18	18:58		HRMS Check			a		

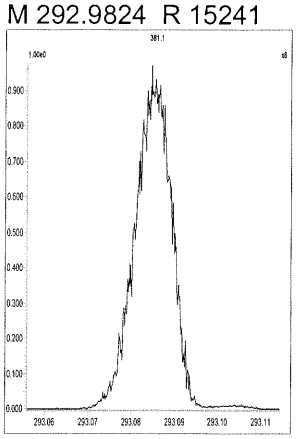
Reviewed by: KJN

Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

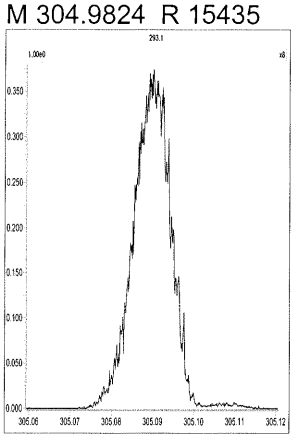
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, August 04, 2008 07:04:13 Central Daylight Time

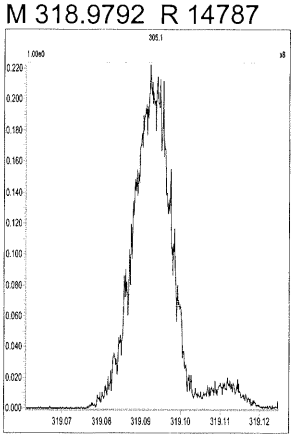
M 292.9824 R 15241



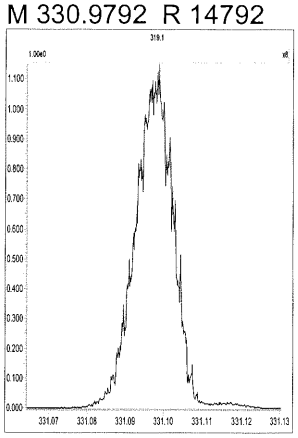
M 304.9824 R 15435



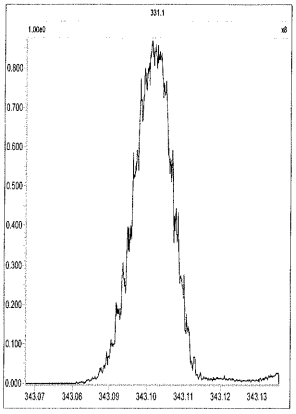
M 318.9792 R 14787



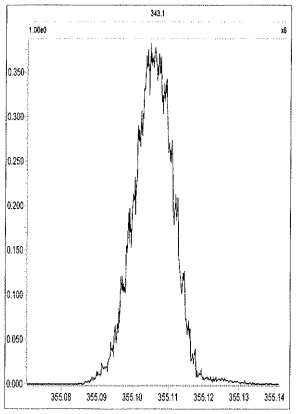
M 330.9792 R 14792



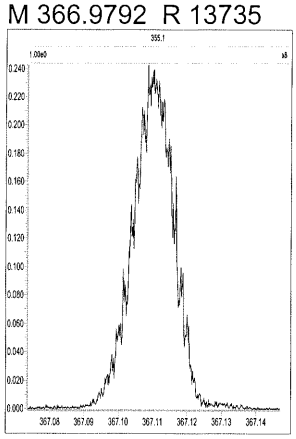
M 342.9792 R 14538



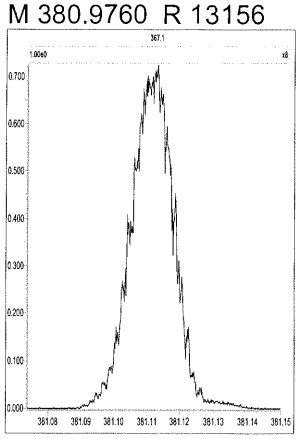
M 354.9792 R 14199



M 366.9792 R 13735



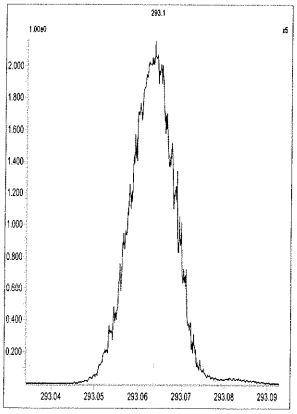
M 380.9760 R 13156



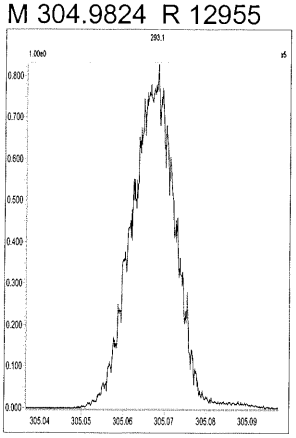
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, August 04, 2008 18:58:52 Central Daylight Time

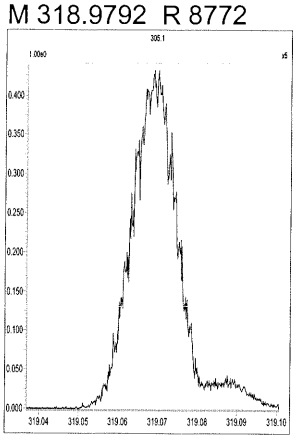
M 292.9824 R 12623



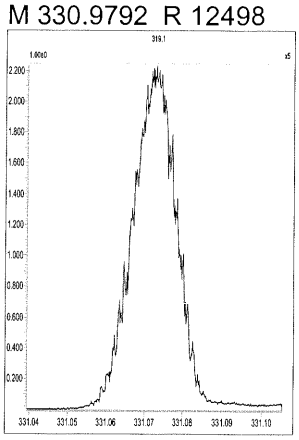
M 304.9824 R 12955



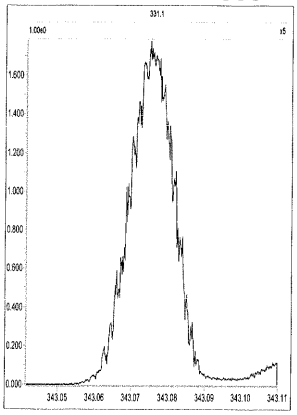
M 318.9792 R 8772



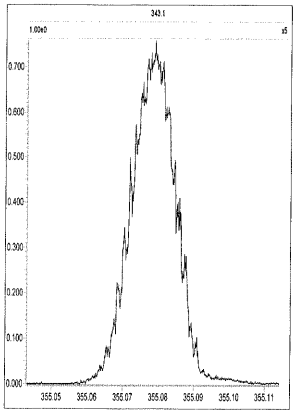
M 330.9792 R 12498



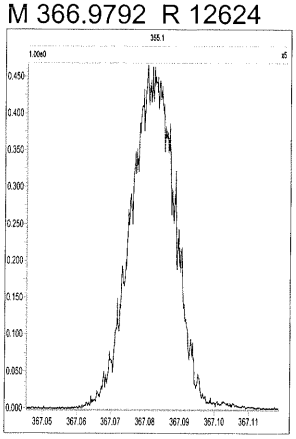
M 342.9792 R 12883



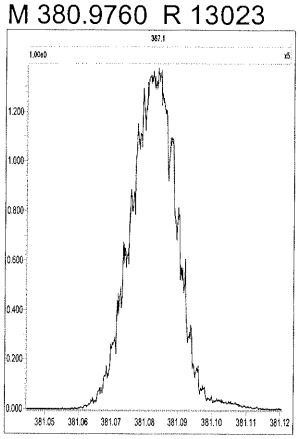
M 354.9792 R 13021



M 366.9792 R 12624



M 380.9760 R 13023



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: _____ SDG No.: _____

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: U129309

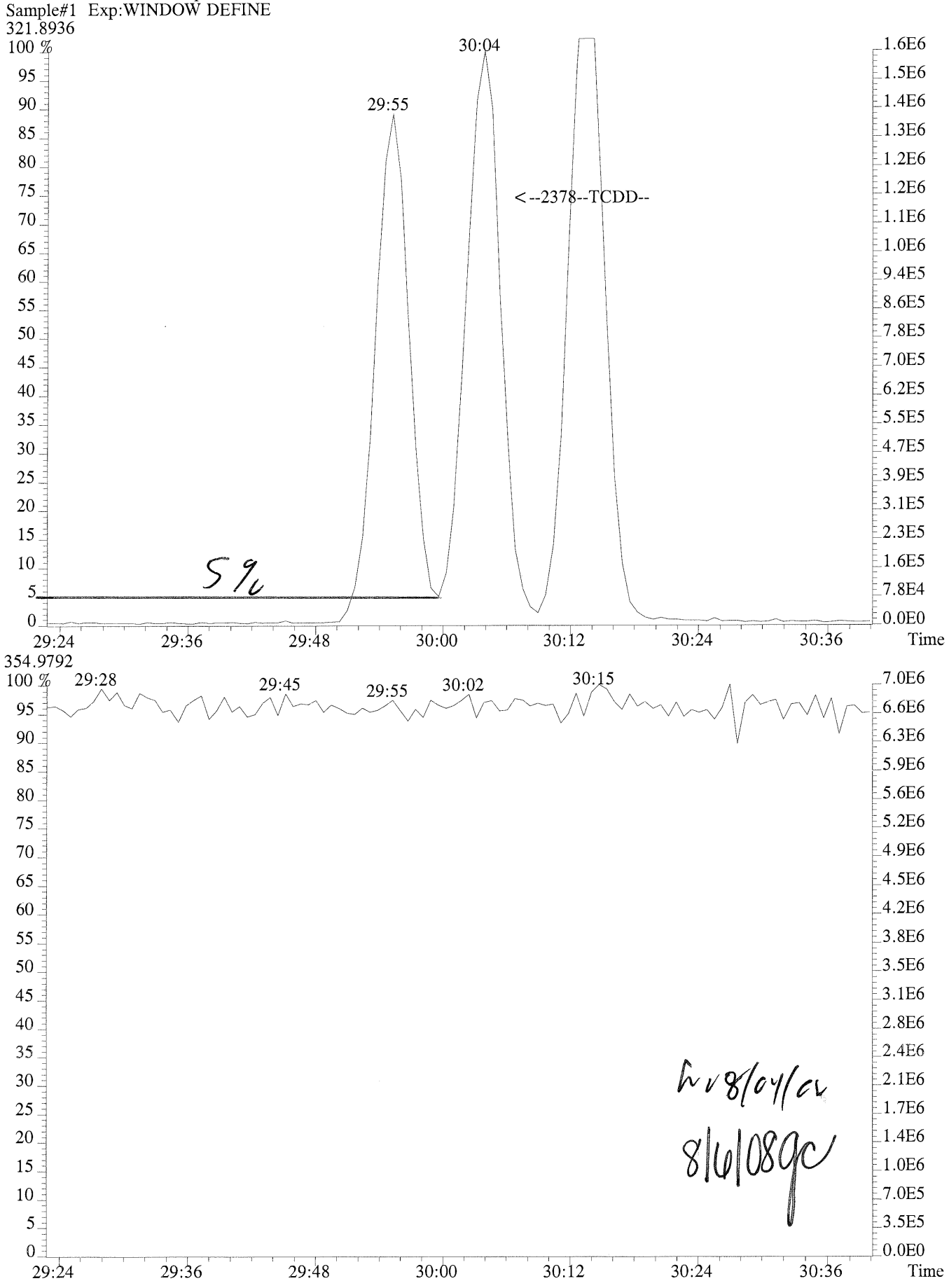
Date Analyzed: 08/04/08

Time Analyzed: 07:07:32

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	25:10	31:10
TCDD	26:59	31:09
PeCDF	31:28	35:20
PeCDD	32:50	35:11
HxCDF	36:14	38:33
HxCDD	36:44	38:13
HpCDF	39:56	41:14
HpCDD	40:11	40:49

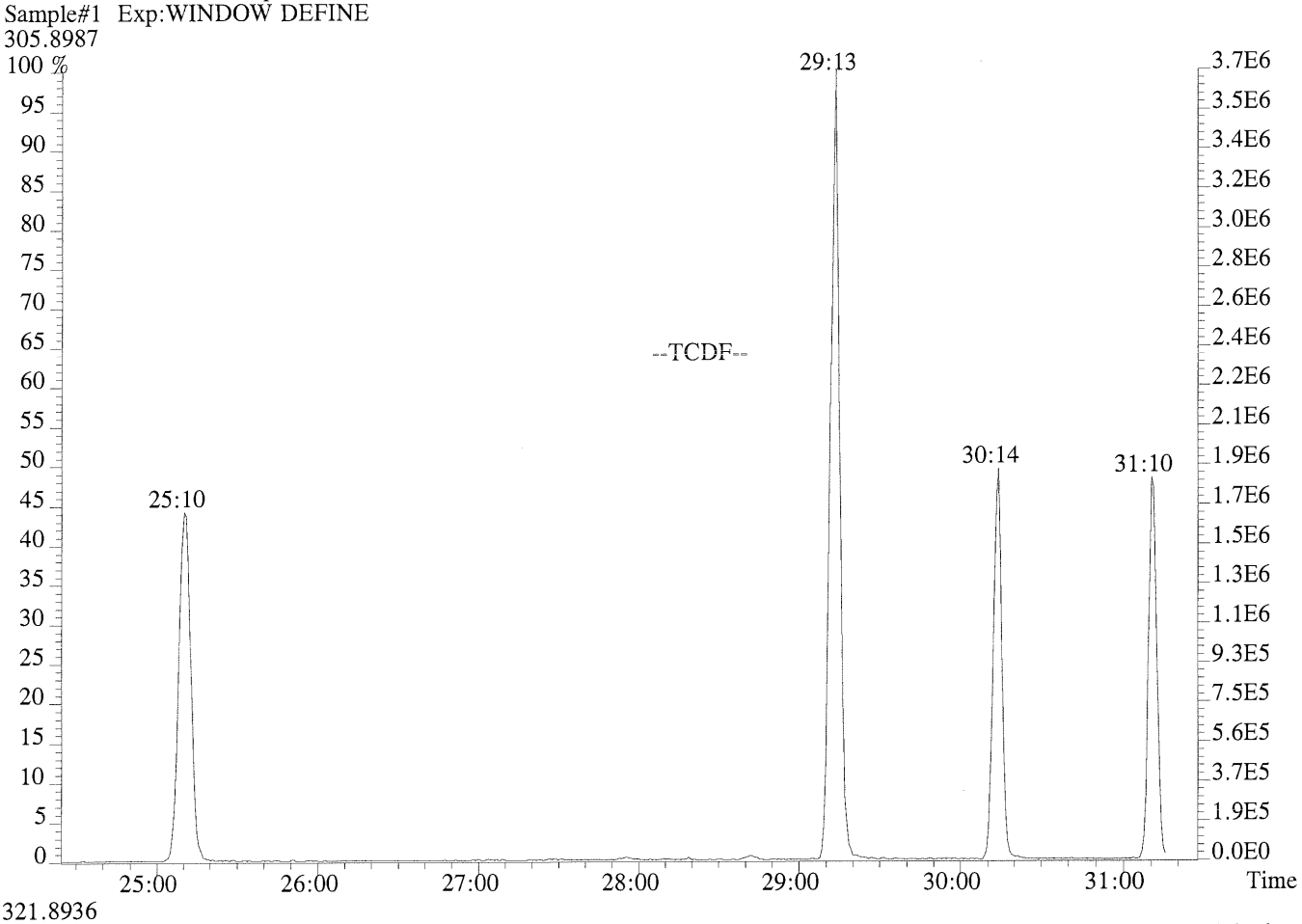
% Valley 2378-TCDD: 5%

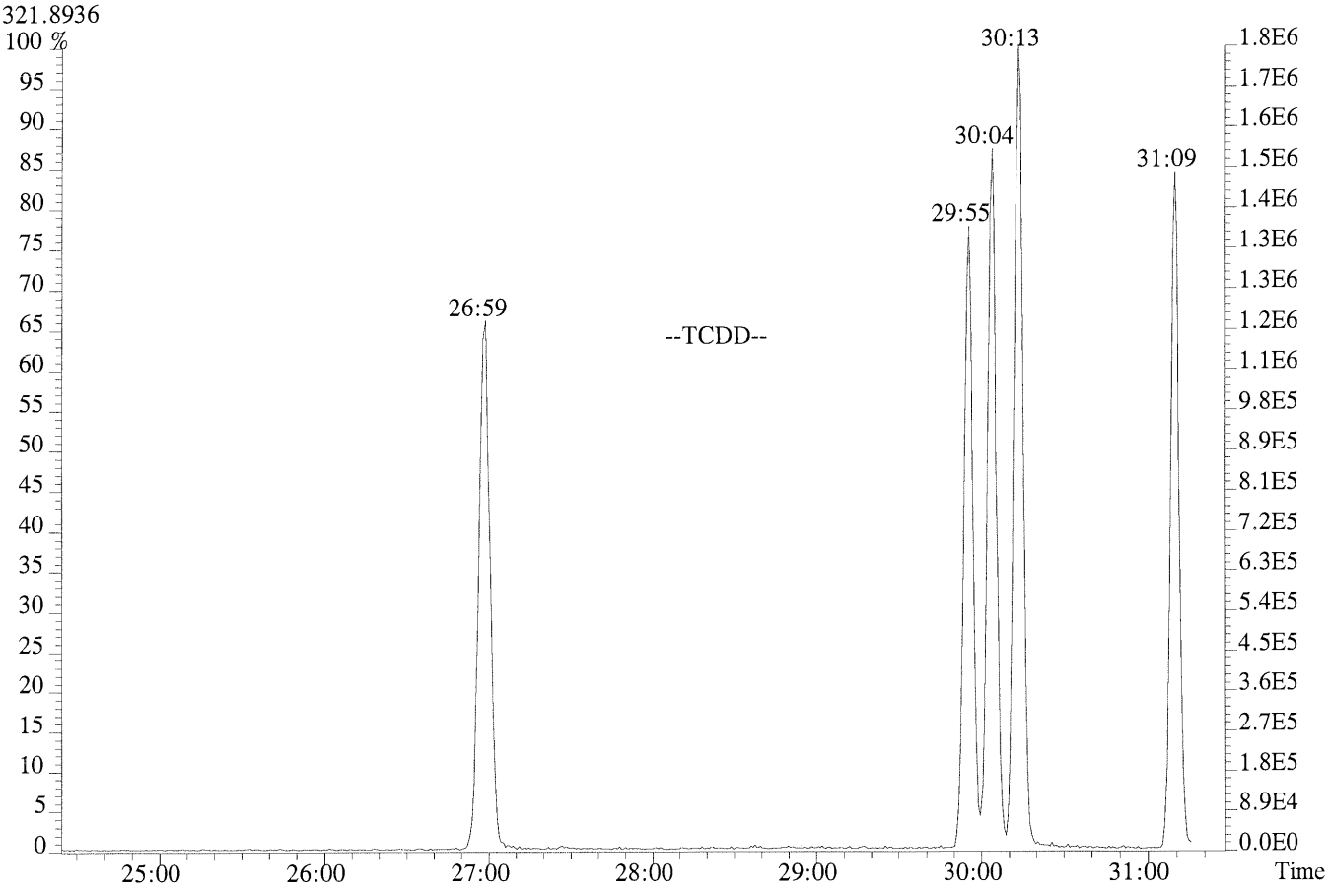
File:U129309 #1-571 Acq: 4-AUG-2008 07:07:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



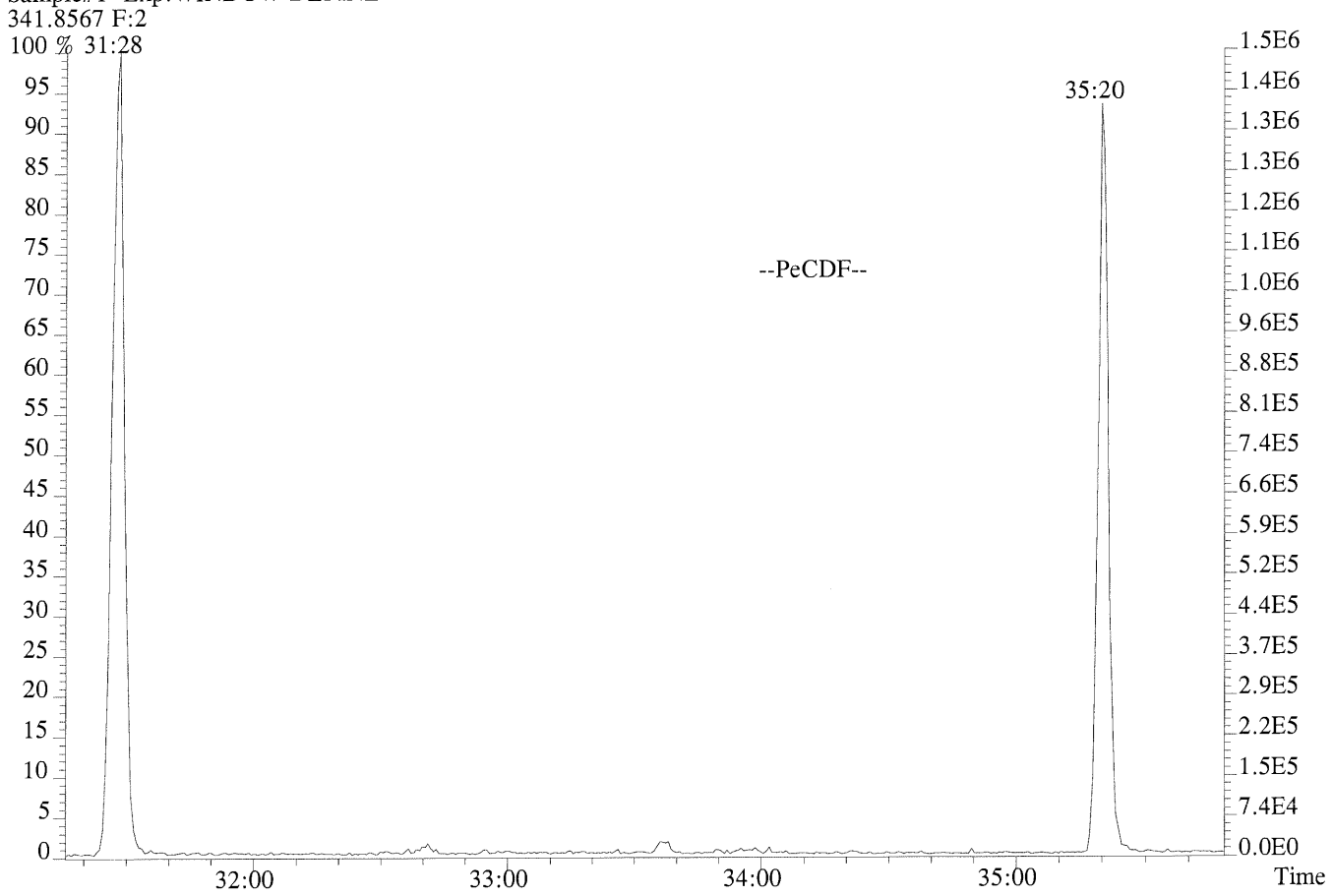
AV 8/04/08
8/6/08 GC

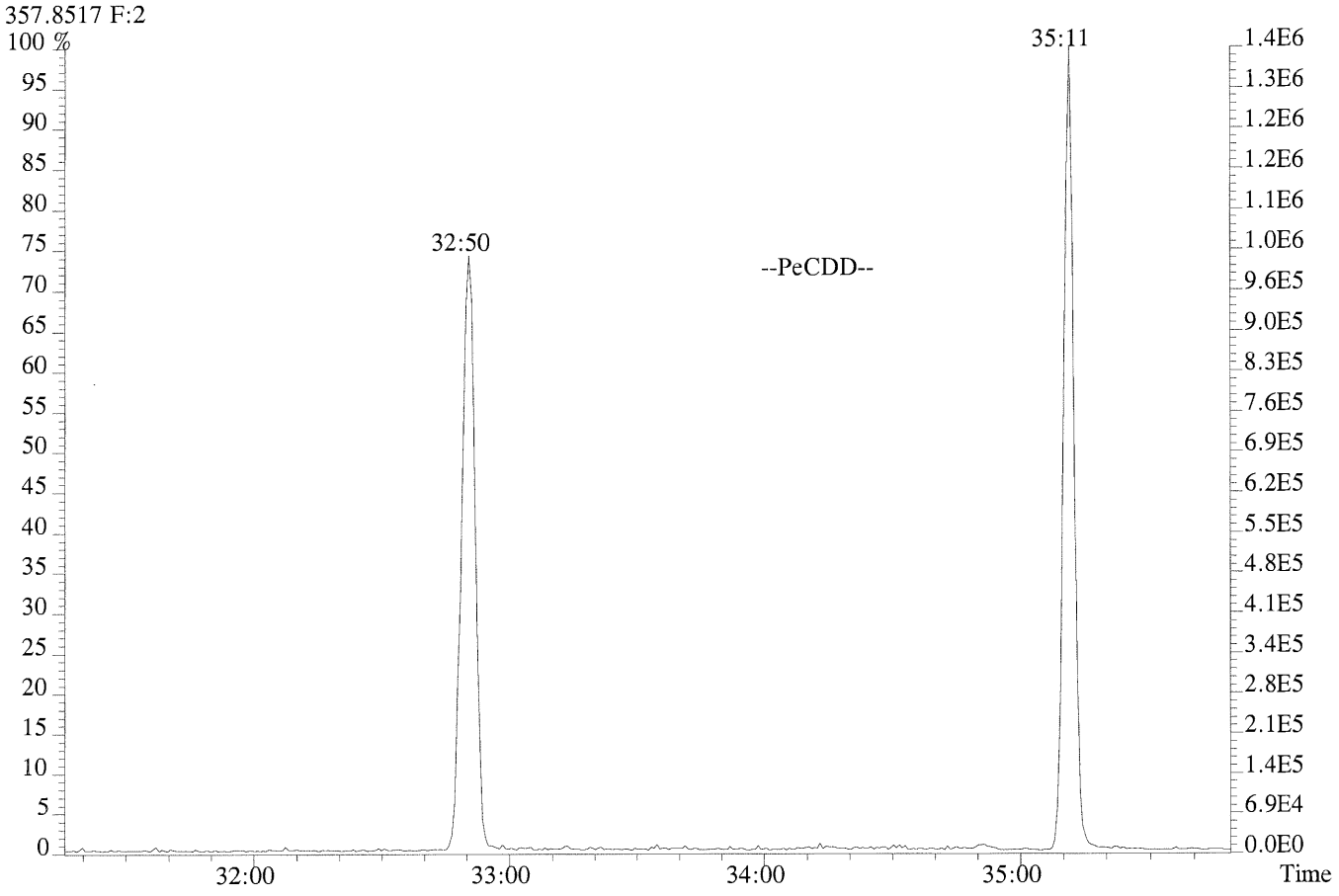
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Sample#1 Exp:WINDOW DEFINE



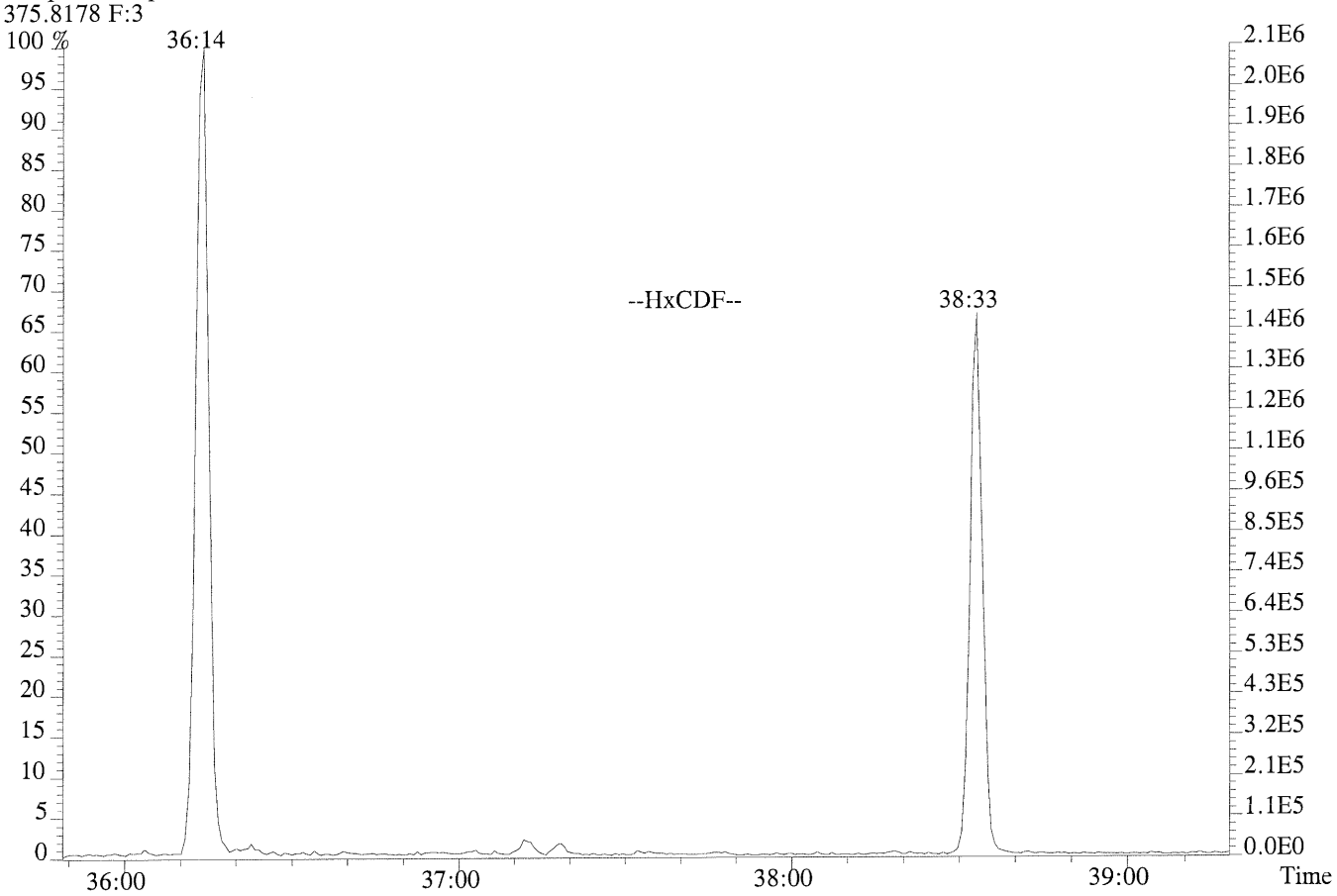


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Sample#1 Exp:WINDOW DEFINE

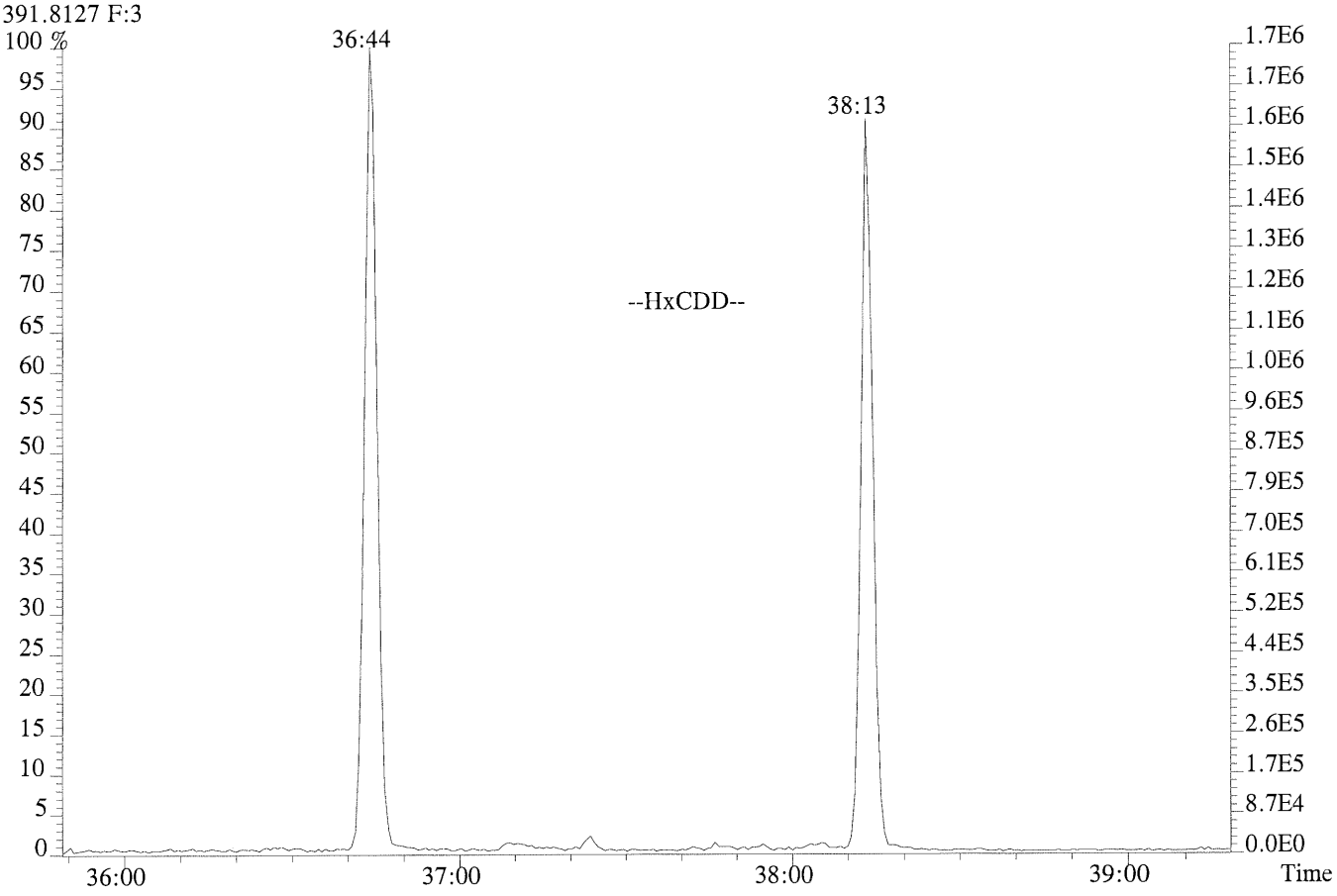




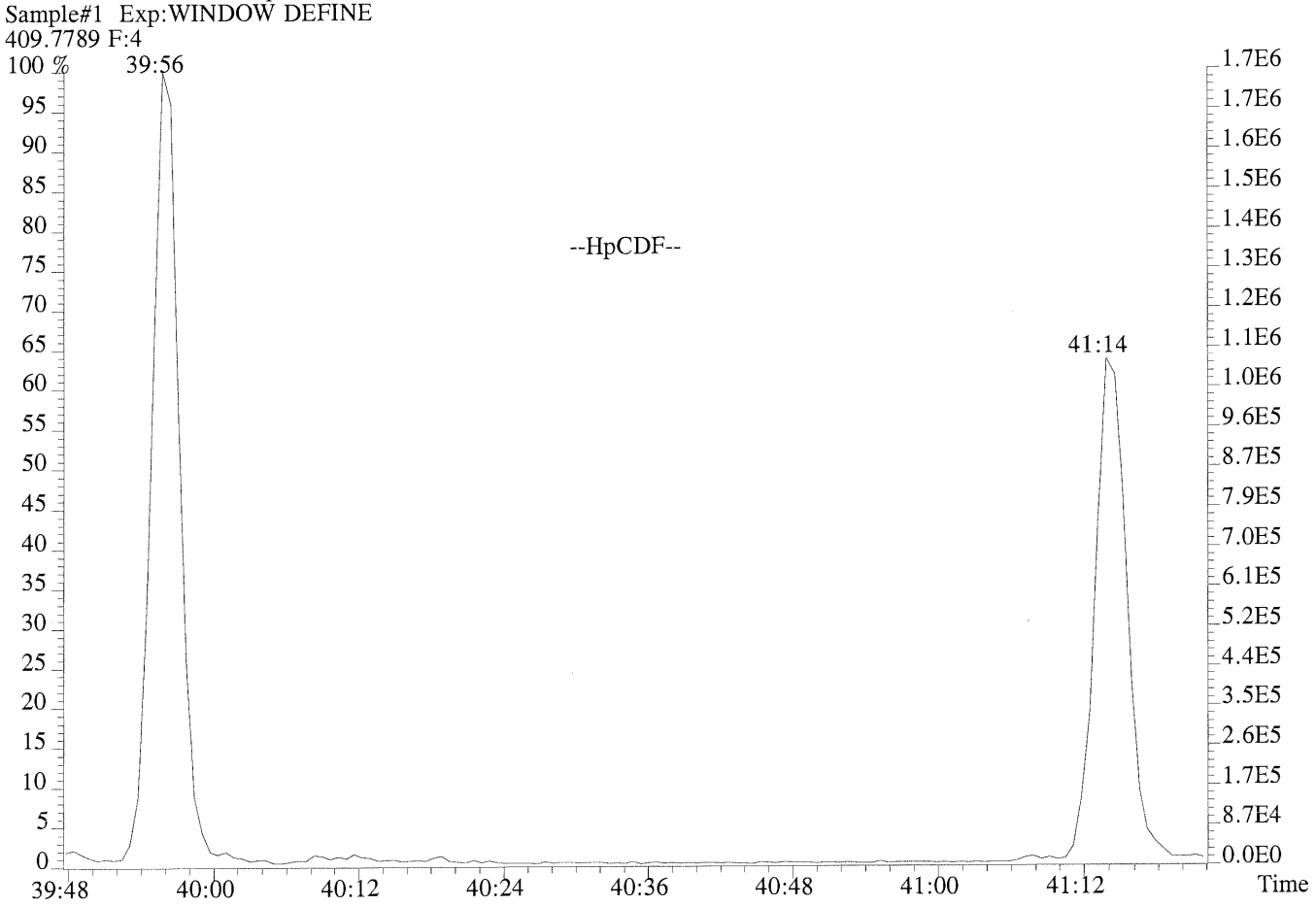
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Sample#1 Exp:WINDOW DEFINE
375.8178 F:3

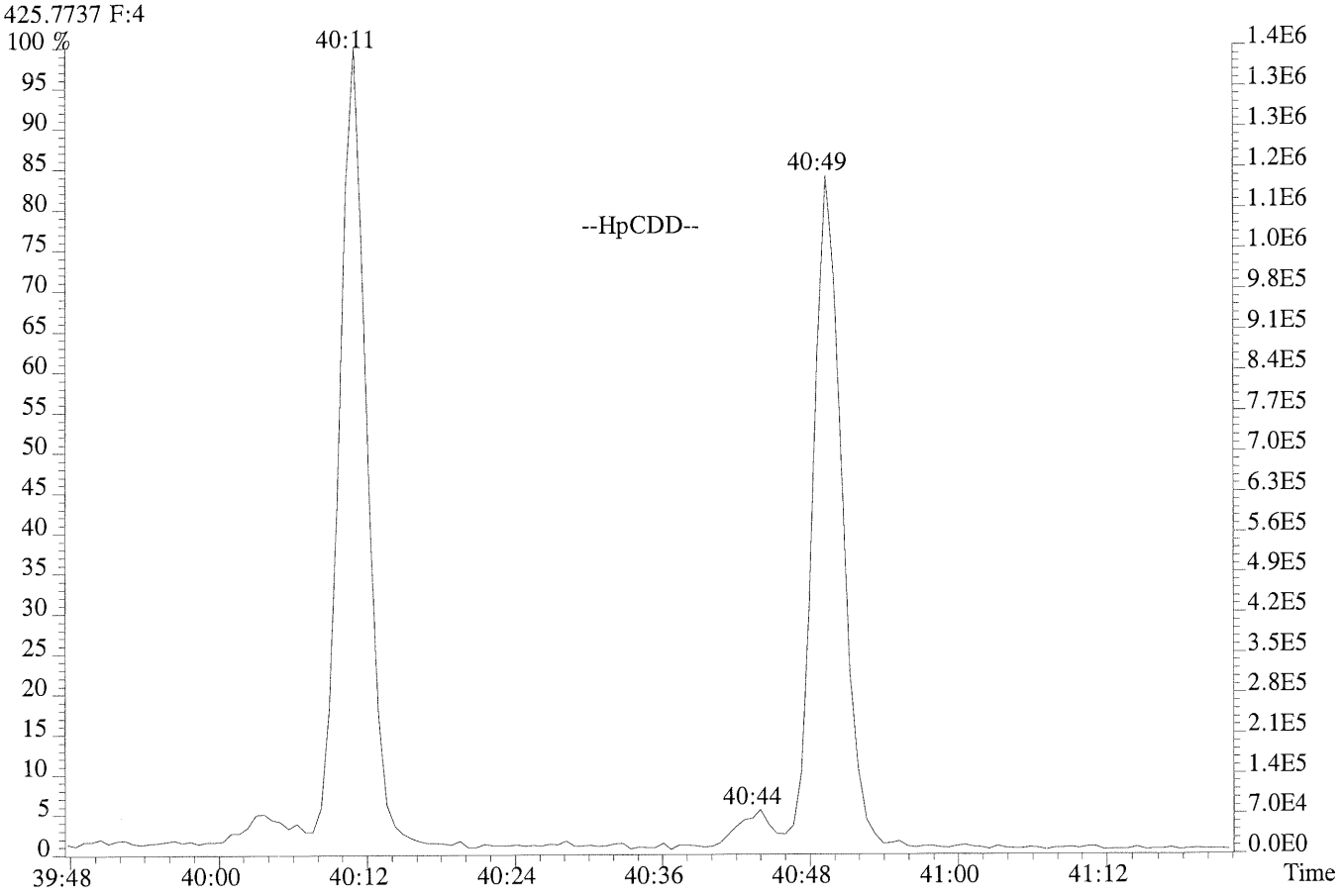


391.8127 F:3



File:U129309 #1-254 Acq: 4-AUG-2008 07:07:32 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





FORM 6A
PCDD/PCDF DAILY CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/3

Instrument: AutoSpec-Ultima GC Column ID: DB-5

Begin CCAL Filename: U129310

End CCAL Filename: U129321

	RELATIVE RESPONSE (RR)		MEAN RR(1)	Cv (RSD)
	Begin CCAL	End CCAL		
NATIVE ANALYTES				
2,3,7,8-TCDD	0.94	0.98	0.96	3.30
1,2,3,7,8-PeCDD	0.87	0.90	0.88	2.77
1,2,3,4,7,8-HxCDD	0.92	0.98	0.95	4.21
1,2,3,6,7,8-HxCDD	1.03	0.95	0.99	5.92
1,2,3,7,8,9-HxCDD	0.92	0.96	0.94	2.90
1,2,3,4,6,7,8-HpCDD	0.89	1.00	0.94	7.56
OCDD	0.99	1.13	1.06	9.64
2,3,7,8-TCDF	0.88	0.91	0.90	2.00
1,2,3,7,8-PeCDF	0.88	0.94	0.91	4.63
2,3,4,7,8-PeCDF	0.93	0.94	0.94	1.17
1,2,3,4,7,8-HxCDF	1.15	1.19	1.17	2.77
1,2,3,6,7,8-HxCDF	1.16	1.19	1.18	1.75
1,2,3,7,8,9-HxCDF	0.83	0.83	0.83	0.47
2,3,4,6,7,8-HxCDF	1.08	1.04	1.06	2.86
1,2,3,4,6,7,8-HpCDF	1.40	1.48	1.44	3.85
1,2,3,4,7,8,9-HpCDF	0.94	0.99	0.96	3.90
OCDF	1.01	1.06	1.03	3.52

(1) Two daily mean RF values are used to compute the analyte and and labeled compouds, see Section 8.3.2.4, Method 8290.

8290F6A

FORM 6B
PCDD/PCDF DAILY CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/3

Instrument: AutoSpec-Ultima GC Column ID: DB-5

Begin CCAL Filename: U129310

End CCAL Filename: U129321

	RELATIVE RESPONSE (RR)		MEAN RR(1)	Cv (RSD)
	Begin CCAL	End CCAL		
LABELED COMPOUNDS				
13C-2,3,7,8-TCDD	0.89	0.98	0.94	6.93
13C-1,2,3,7,8-PeCDD	0.98	0.87	0.93	8.15
13C-1,2,3,6,7,8-HxCDD	1.00	0.98	0.99	0.90
13C-1,2,3,4,6,7,8-HpCDD	0.86	0.68	0.77	16.90
13C-OCDD	0.86	0.56	0.71	30.52
13C-2,3,7,8-TCDF	1.05	1.30	1.18	15.01
13C-1,2,3,7,8-PeCDF	1.22	1.20	1.21	1.46
13C-1,2,3,4,7,8-HxCDF	1.14	1.21	1.18	4.20
13C-1,2,3,4,6,7,8-HpCDF	0.88	0.70	0.79	15.78
CLEANUP STANDARD				
37Cl-2,3,7,8-TCDD	0.83	0.94	0.89	9.01

(1) Two daily mean RF values are used to compute the analyte and labeled compounds, see Section 8.3.2.4, Method 8290.

8290F6B

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U129310 Analysis Date: 4-AUG-08 Time: 07:57:55

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.71	0.65-0.89	0.94	0.96	-2.18
1,2,3,7,8-PeCDD	M+2/M+4	1.51	1.32-1.78	0.87	0.91	-4.87
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	0.92	1.03	-10.99
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	1.03	1.07	-3.29
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	0.92	0.99	-6.53
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	0.89	0.93	-3.33
OCDD	M+2/M+4	0.87	0.76-1.02	0.99	1.02	-2.77
2,3,7,8-TCDF	M/M+2	0.75	0.65-0.89	0.88	0.96	-7.36
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	0.88	0.91	-3.88
2,3,4,7,8-PeCDF	M+2/M+4	1.50	1.32-1.78	0.93	0.95	-1.88
1,2,3,4,7,8-HxCDF	M+2/M+4	1.28	1.05-1.43	1.15	1.17	-1.78
1,2,3,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	1.16	1.14	1.90
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	0.83	0.86	-3.33
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.08	1.03	4.53
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	1.40	1.36	2.88
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	0.94	1.02	-8.19
OCDF	M+2/M+4	0.89	0.76-1.02	1.01	1.09	-7.51

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U129310 Analysis Date: 4-AUG-08 Time: 07:57:55

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.89	0.90	-0.90
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.51	1.32-1.78	0.98	1.06	-7.37
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	1.00	1.01	-1.17
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.86	1.09	-21.29
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.86	1.17	-26.40
13C-2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	1.05	1.20	-12.04
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	1.22	1.52	-19.37
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	1.14	1.28	-11.01
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.88	1.11	-20.97
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.83	0.86	-3.39

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename U129310 Samp: 1 Inj: 1 Acquired: 4-AUG-08 07:57:55
Processed: 5-AUG-08 08:21:22 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:14	2.785e+03	3.697e+03	0.75	yes	no	0.955
2	Unk	1,2,3,7,8-PeCDF	33:38	1.152e+04	7.152e+03	1.61	yes	no	0.911
3	Unk	2,3,4,7,8-PeCDF	34:22	1.186e+04	7.904e+03	1.50	yes	no	0.945
4	Unk	1,2,3,4,7,8-HxCDF	37:13	1.183e+04	9.251e+03	1.28	yes	no	1.166
5	Unk	1,2,3,6,7,8-HxCDF	37:18	1.206e+04	9.343e+03	1.29	yes	no	1.142
6	Unk	2,3,4,6,7,8-HxCDF	37:48	1.100e+04	8.836e+03	1.24	yes	no	1.031
7	Unk	1,2,3,7,8,9-HxCDF	38:30	8.464e+03	6.860e+03	1.23	yes	no	0.862
8	Unk	1,2,3,4,6,7,8-HpCDF	39:56	1.005e+04	9.715e+03	1.03	yes	no	1.359
9	Unk	1,2,3,4,7,8,9-HpCDF	41:15	6.705e+03	6.536e+03	1.03	yes	no	1.020
10	Unk	OCDF	44:00	1.321e+04	1.484e+04	0.89	yes	no	1.090
11	Unk	2,3,7,8-TCDD	30:05	2.431e+03	3.403e+03	0.71	yes	no	0.960
12	Unk	1,2,3,7,8-PeCDD	34:43	8.891e+03	5.902e+03	1.51	yes	no	0.912
13	Unk	1,2,3,4,7,8-HxCDD	37:54	8.121e+03	6.640e+03	1.22	yes	no	1.035
14	Unk	1,2,3,6,7,8-HxCDD	37:59	9.204e+03	7.351e+03	1.25	yes	no	1.068
15	Unk	1,2,3,7,8,9-HxCDD	38:16	8.213e+03	6.591e+03	1.25	yes	no	0.988
16	Unk	1,2,3,4,6,7,8-HpCDD	40:50	6.217e+03	6.185e+03	1.01	yes	no	0.925
17	Unk	OCDD	43:51	1.284e+04	1.469e+04	0.87	yes	no	1.017
18	IS	13C-2,3,7,8-TCDF	29:12	1.552e+04	2.111e+04	0.73	yes	no	1.196
19	IS	13C-1,2,3,7,8-PeCDF	33:37	2.591e+04	1.671e+04	1.55	yes	no	1.518
20	IS	13C-1,2,3,4,7,8-HxCDF	37:12	3.137e+04	6.063e+04	0.52	yes	no	1.284
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:55	2.148e+04	4.919e+04	0.44	yes	no	1.111
22	IS	13C-2,3,7,8-TCDD	30:03	1.351e+04	1.754e+04	0.77	yes	no	0.900
23	IS	13C-1,2,3,7,8-PeCDD	34:43	2.050e+04	1.360e+04	1.51	yes	no	1.057
24	IS	13C-1,2,3,6,7,8-HxCDD	37:58	4.414e+04	3.600e+04	1.23	yes	no	1.007
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:49	3.556e+04	3.378e+04	1.05	yes	no	1.094
26	IS	13C-OCDD	43:50	6.573e+04	7.345e+04	0.89	yes	no	1.174
27	RS/RT	13C-1,2,3,4-TCDD	29:50	1.472e+04	2.011e+04	0.73	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:16	4.383e+04	3.669e+04	1.19	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:05	5.781e+03					0.859
					SUM AREA				
30	Tot	Total Tetra-Furans	28:43		6.643e+03	0.66	yes		0.955
31	Tot	Total Tetra-Dioxins	27:31		5.836e+03	0.78	yes		0.960
32	Tot	Total Penta-Furans	33:38		3.855e+04	1.61	yes		0.928
33	Tot	Total Penta-Dioxins	33:56		1.482e+04	1.49	yes		0.912
34	Tot	Total Hexa-Furans	37:13		7.764e+04	1.28	yes		1.050
35	Tot	Total Hexa-Dioxins	37:54		4.612e+04	1.22	yes		1.030
36	Tot	Total Hepta-Furans	39:56		3.300e+04	1.03	yes		1.190
37	Tot	Total Hepta-Dioxins	40:11		1.257e+04	1.01	yes		0.925

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename U129310 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 07:57:55

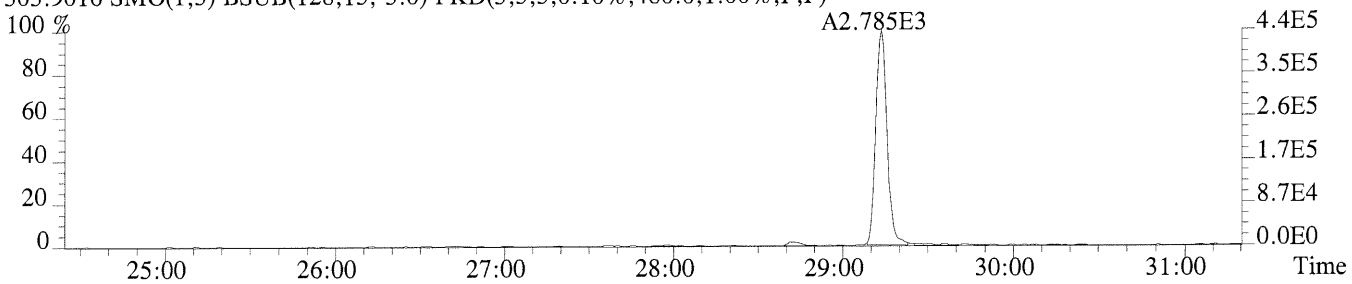
Processed: 5-AUG-08 08:21:22 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.36e+05	4.80e+02	9.1e+02	5.76e+05	5.44e+02	1.1e+03
2	1,2,3,7,8-PeCDF	2.17e+06	8.28e+02	2.6e+03	1.35e+06	7.36e+02	1.8e+03
3	2,3,4,7,8-PeCDF	2.31e+06	8.28e+02	2.8e+03	1.55e+06	7.36e+02	2.1e+03
4	1,2,3,4,7,8-HxCDF	2.54e+06	8.84e+02	2.9e+03	1.93e+06	5.52e+02	3.5e+03
5	1,2,3,6,7,8-HxCDF	2.47e+06	8.84e+02	2.8e+03	1.93e+06	5.52e+02	3.5e+03
6	2,3,4,6,7,8-HxCDF	2.33e+06	8.84e+02	2.6e+03	1.87e+06	5.52e+02	3.4e+03
7	1,2,3,7,8,9-HxCDF	1.71e+06	8.84e+02	1.9e+03	1.40e+06	5.52e+02	2.5e+03
8	1,2,3,4,6,7,8-HpCDF	2.15e+06	1.84e+03	1.2e+03	2.05e+06	1.93e+03	1.1e+03
9	1,2,3,4,7,8,9-HpCDF	1.29e+06	1.84e+03	7.0e+02	1.25e+06	1.93e+03	6.5e+02
10	OCDF	1.91e+06	1.26e+03	1.5e+03	2.15e+06	1.28e+03	1.7e+03
11	2,3,7,8-TCDD	4.06e+05	6.68e+02	6.1e+02	5.69e+05	5.80e+02	9.8e+02
12	1,2,3,7,8-PeCDD	1.78e+06	9.48e+02	1.9e+03	1.18e+06	3.76e+02	3.1e+03
13	1,2,3,4,7,8-HxCDD	1.91e+06	1.39e+03	1.4e+03	1.56e+06	8.48e+02	1.8e+03
14	1,2,3,6,7,8-HxCDD	1.94e+06	1.39e+03	1.4e+03	1.52e+06	8.48e+02	1.8e+03
15	1,2,3,7,8,9-HxCDD	1.81e+06	1.39e+03	1.3e+03	1.43e+06	8.48e+02	1.7e+03
16	1,2,3,4,6,7,8-HpCDD	1.27e+06	1.05e+03	1.2e+03	1.27e+06	8.60e+02	1.5e+03
17	OCDD	1.87e+06	1.57e+03	1.2e+03	2.17e+06	1.16e+03	1.9e+03
18	13C-2,3,7,8-TCDF	2.50e+06	2.48e+03	1.0e+03	3.37e+06	8.64e+02	3.9e+03
19	13C-1,2,3,7,8-PeCDF	4.77e+06	5.08e+02	9.4e+03	3.09e+06	4.96e+02	6.2e+03
20	13C-1,2,3,4,7,8-HxCDF	6.54e+06	7.28e+02	9.0e+03	1.25e+07	1.73e+03	7.2e+03
21	13C-1,2,3,4,6,7,8-HpCDF	4.63e+06	2.61e+03	1.8e+03	1.06e+07	3.47e+03	3.1e+03
22	13C-2,3,7,8-TCDD	2.30e+06	3.73e+03	6.2e+02	2.99e+06	1.23e+03	2.4e+03
23	13C-1,2,3,7,8-PeCDD	4.10e+06	5.40e+02	7.6e+03	2.72e+06	5.52e+02	4.9e+03
24	13C-1,2,3,6,7,8-HxCDD	9.71e+06	1.50e+03	6.5e+03	7.90e+06	8.72e+02	9.1e+03
25	13C-1,2,3,4,6,7,8-HpCDD	7.53e+06	1.34e+03	5.6e+03	7.16e+06	9.24e+02	7.7e+03
26	13C-OCDD	9.59e+06	1.59e+03	6.0e+03	1.08e+07	1.28e+03	8.5e+03
27	13C-1,2,3,4-TCDD	2.60e+06	3.73e+03	7.0e+02	3.52e+06	1.23e+03	2.9e+03
28	13C-1,2,3,7,8,9-HxCDD	9.60e+06	1.50e+03	6.4e+03	8.00e+06	8.72e+02	9.2e+03
29	37Cl-2,3,7,8-TCDD	9.62e+05	5.40e+02	1.8e+03			

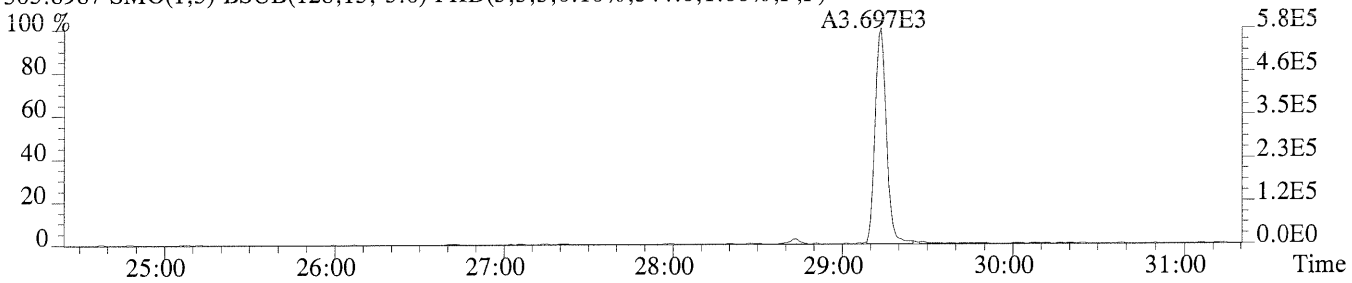
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U129310 #1-578 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

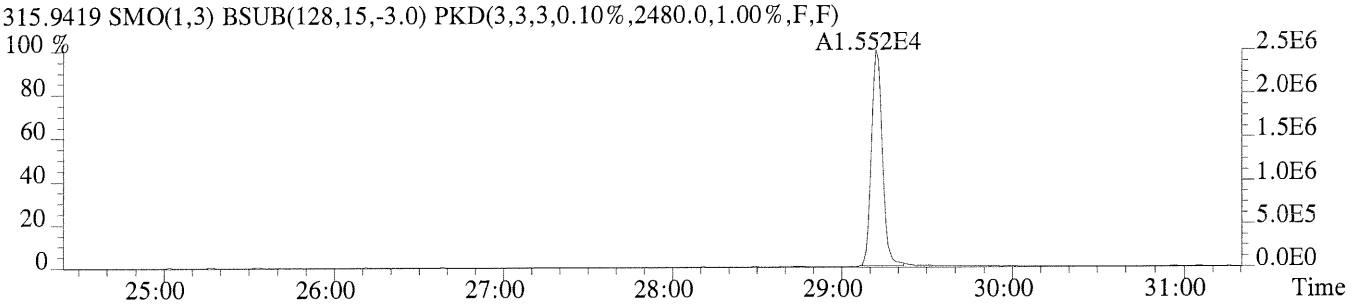
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,F)



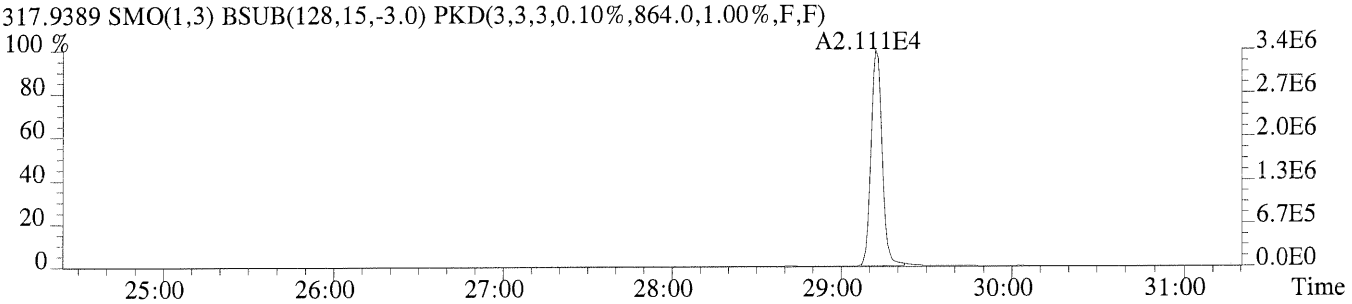
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,544.0,1.00%,F,F)



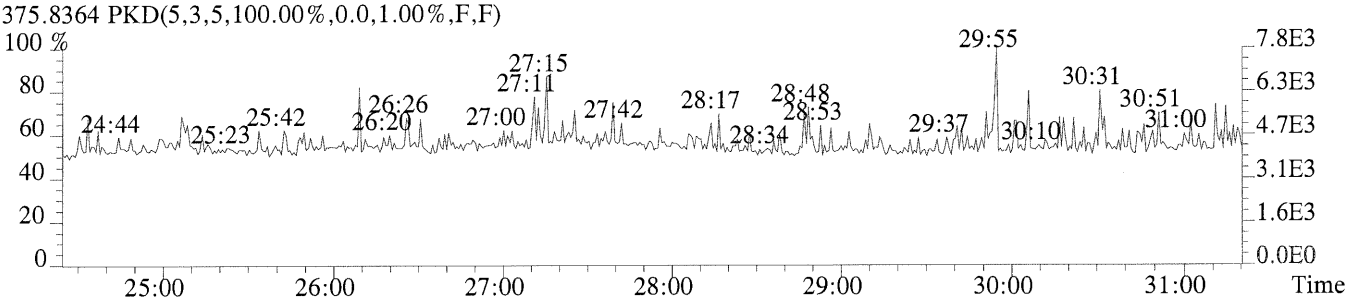
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2480.0,1.00%,F,F)



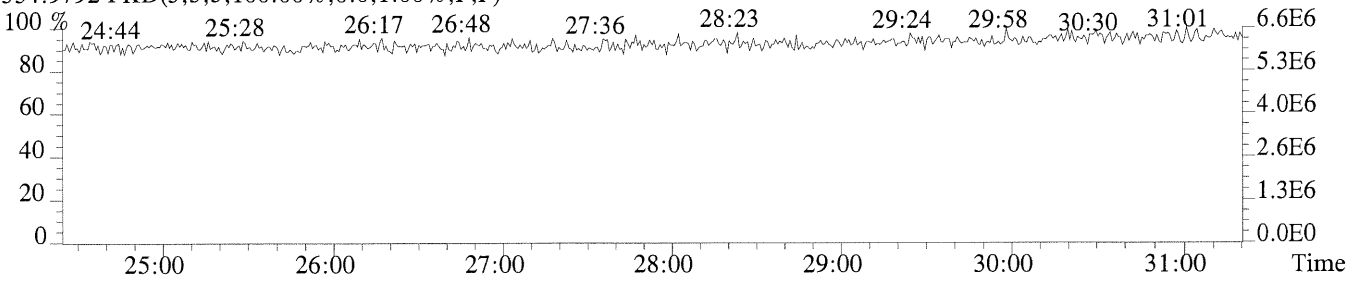
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,F)



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

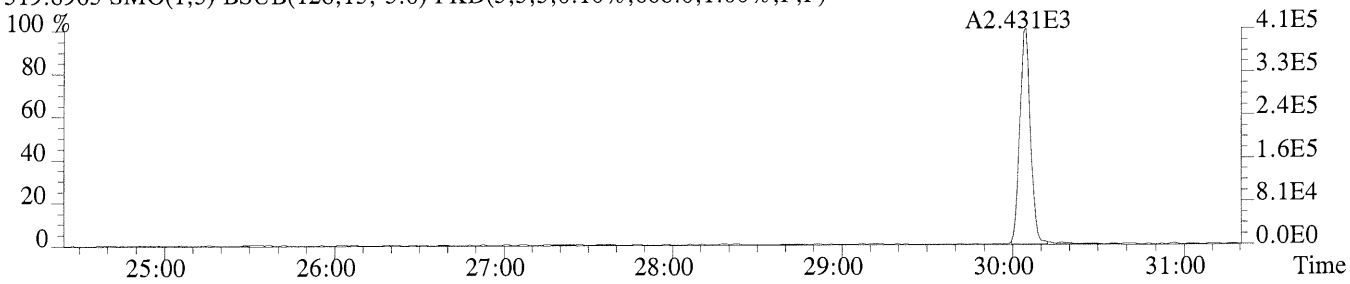


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

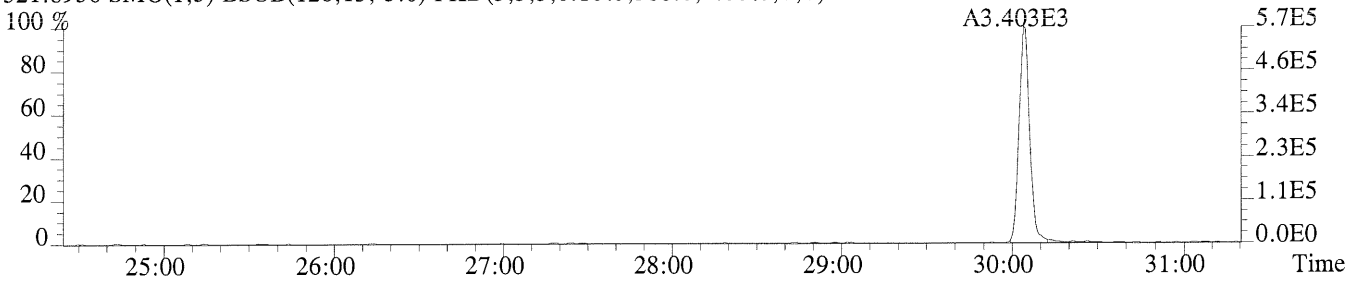


File:U129310 #1-578 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

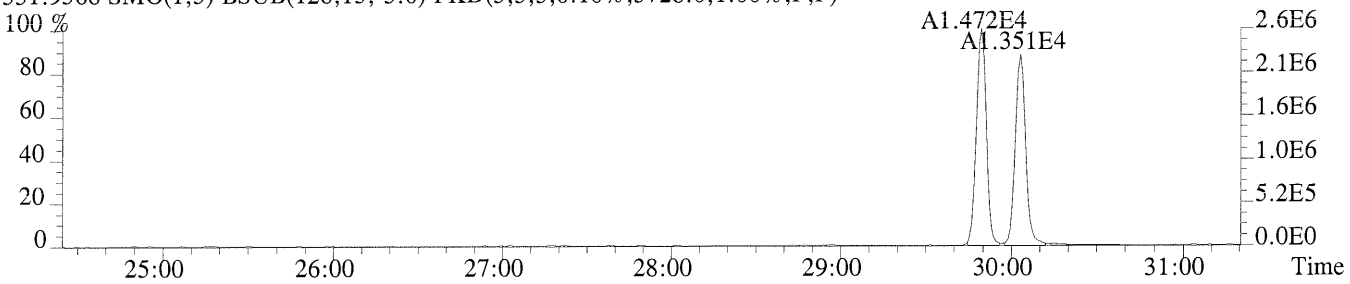
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,F)



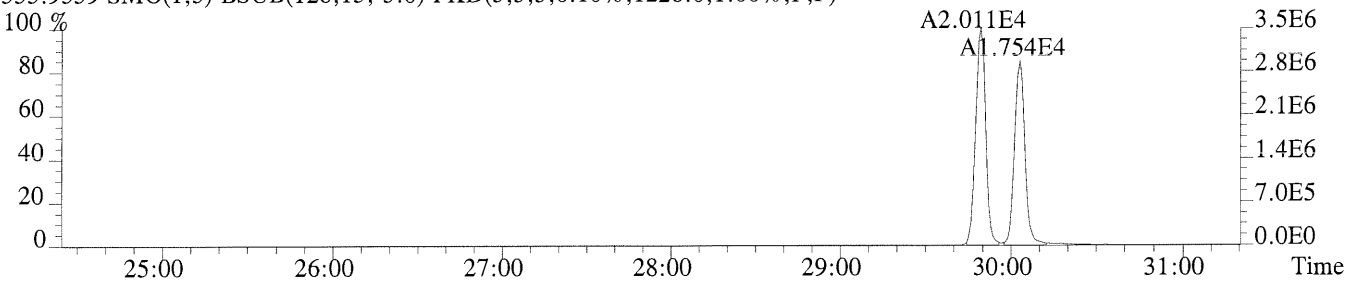
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,580.0,1.00%,F,F)



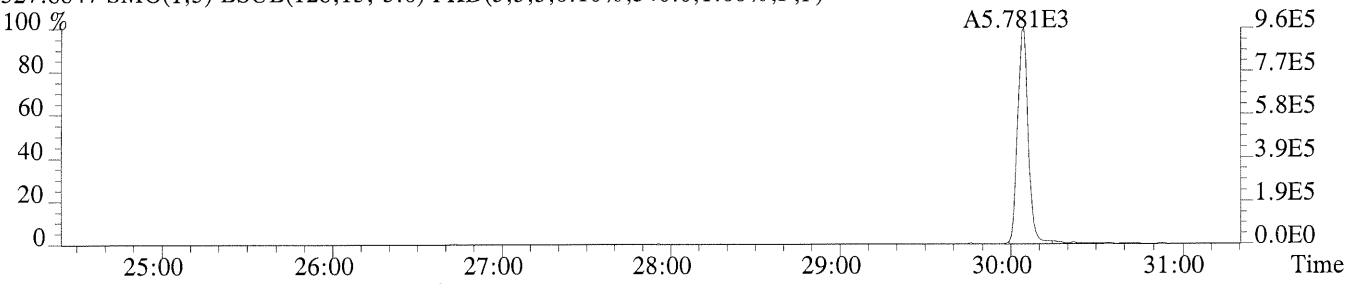
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3728.0,1.00%,F,F)



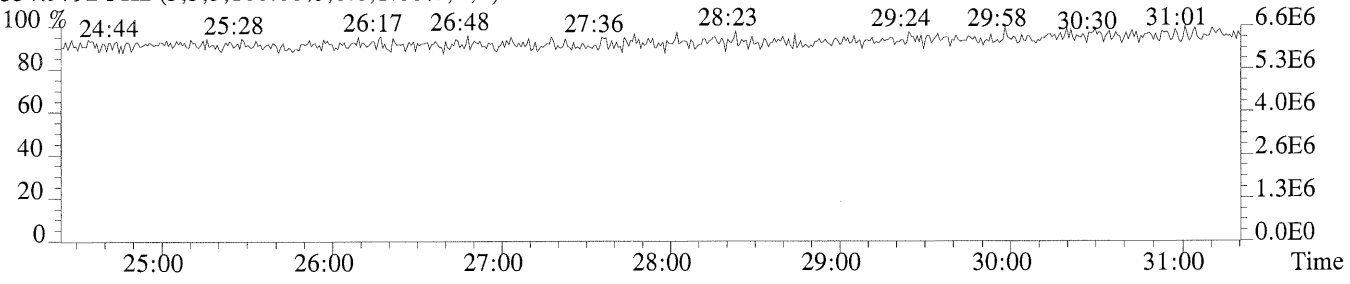
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1228.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,F)

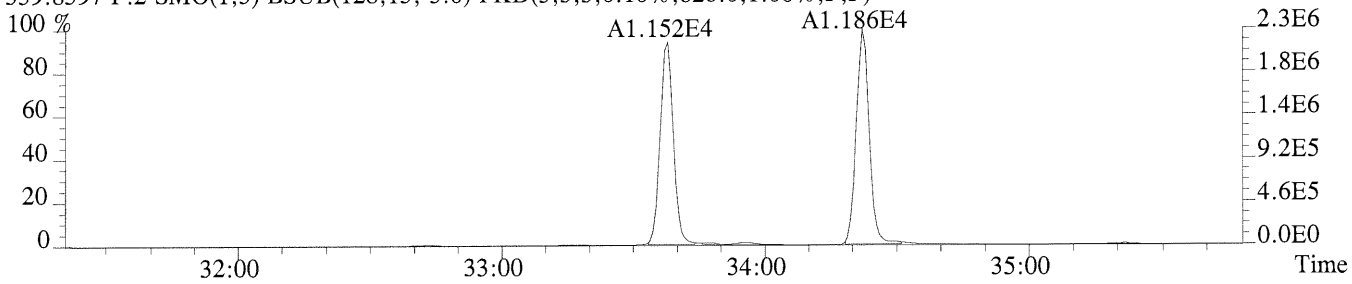


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

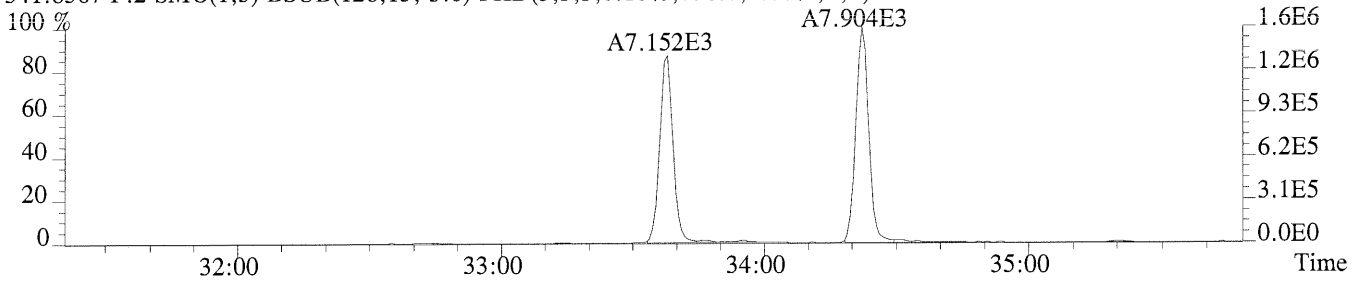


File:U129310 #1-405 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

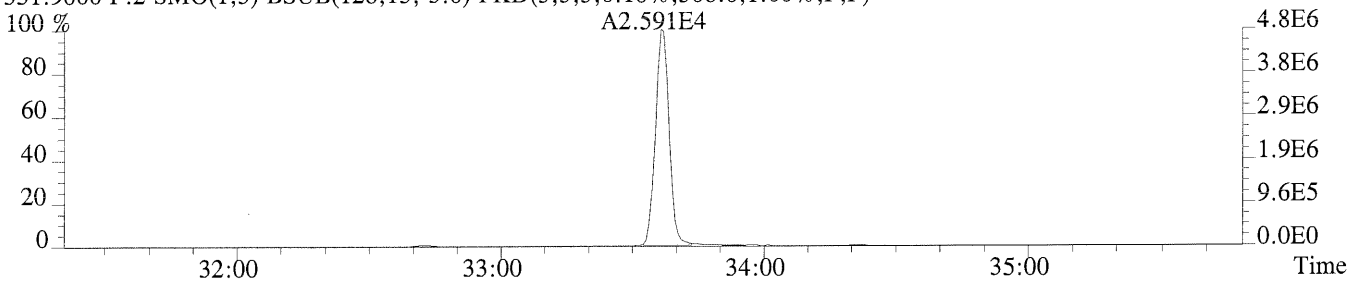
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,828.0,1.00%,F,F)



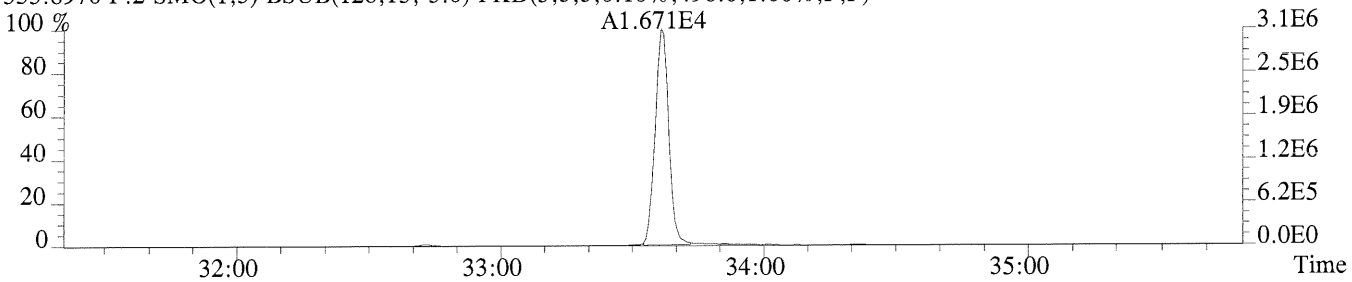
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,736.0,1.00%,F,F)



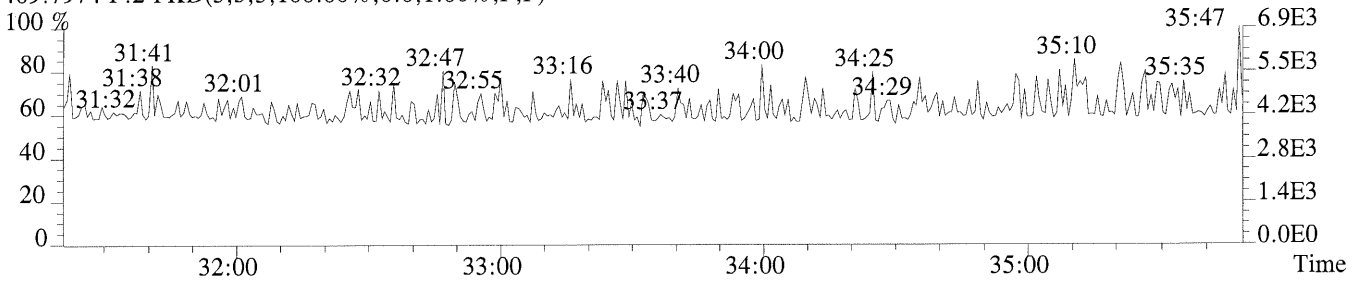
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,F)



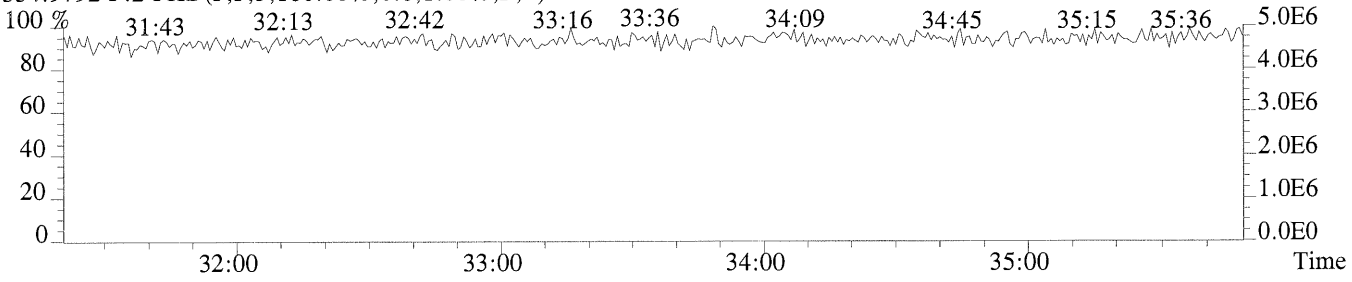
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,F)



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

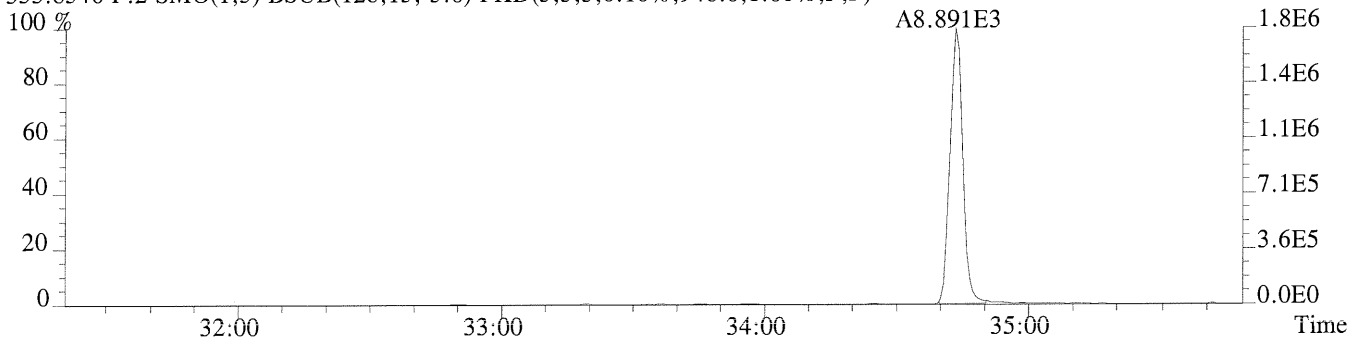


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

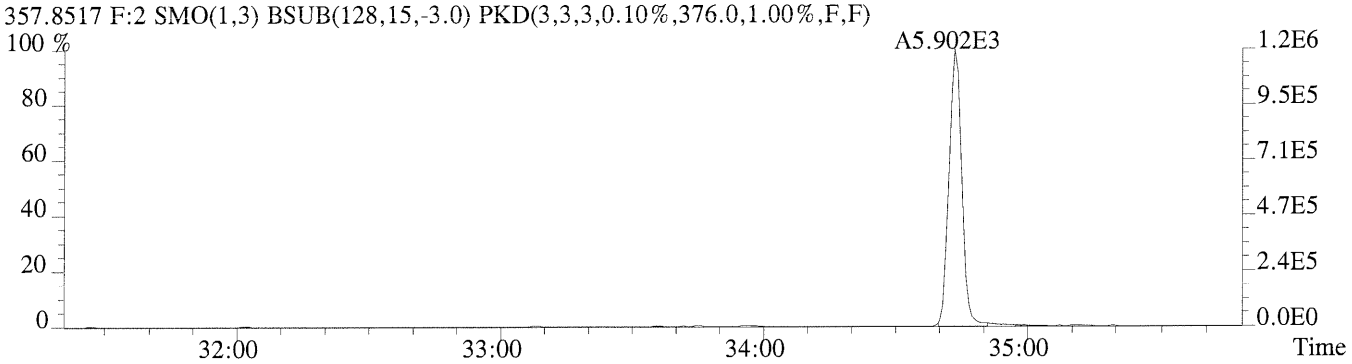


File:U129310 #1-405 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

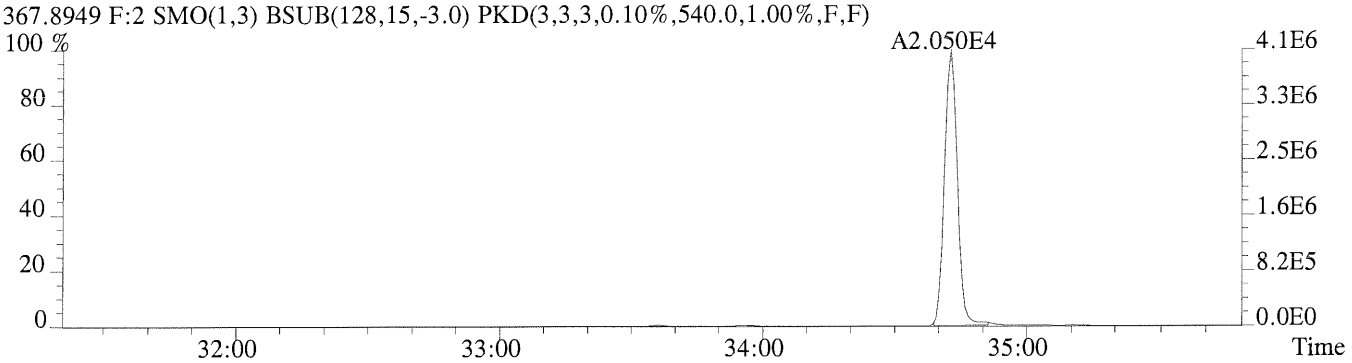
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,948.0,1.00%,F,F)



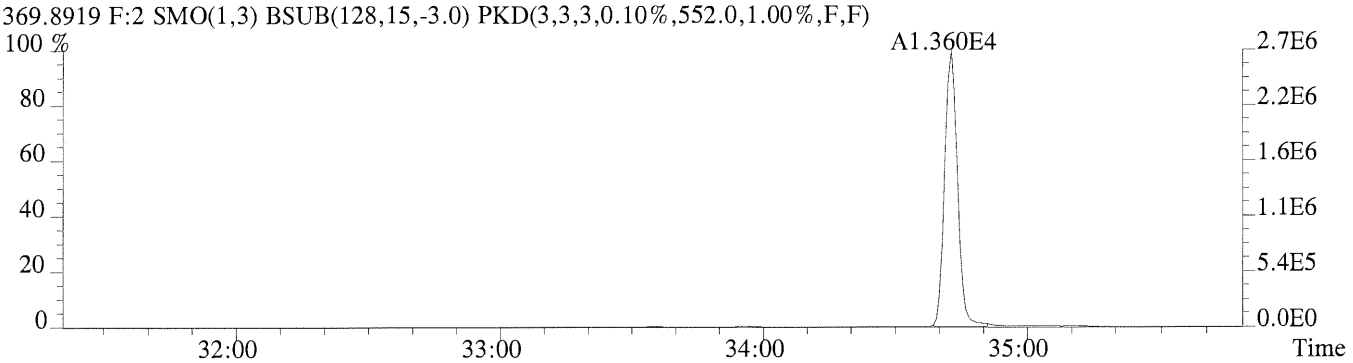
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,376.0,1.00%,F,F)



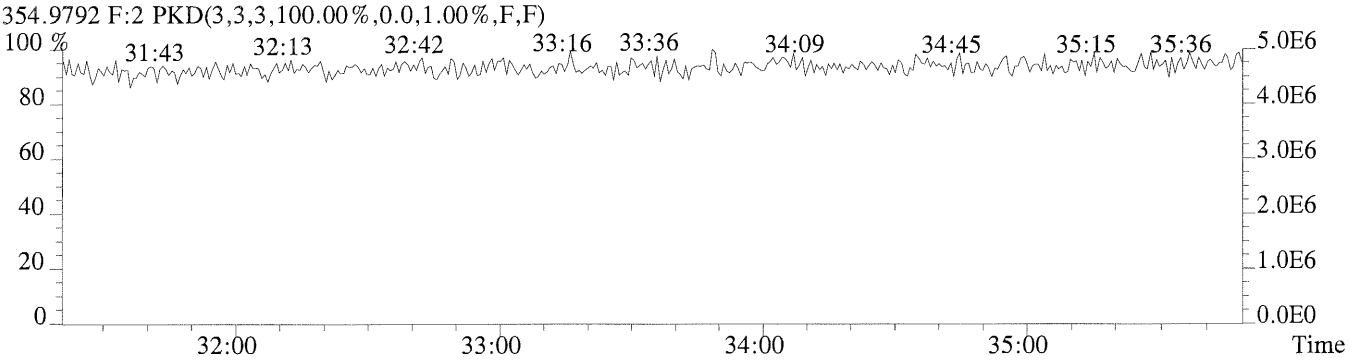
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,540.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,F)

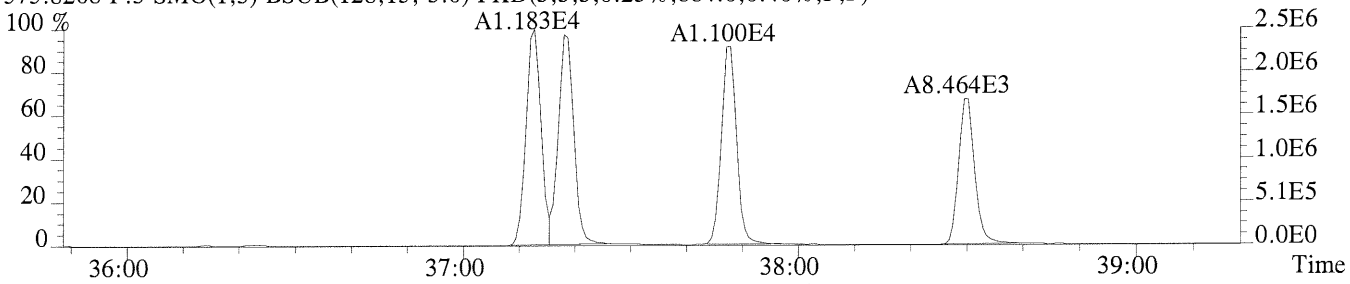


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

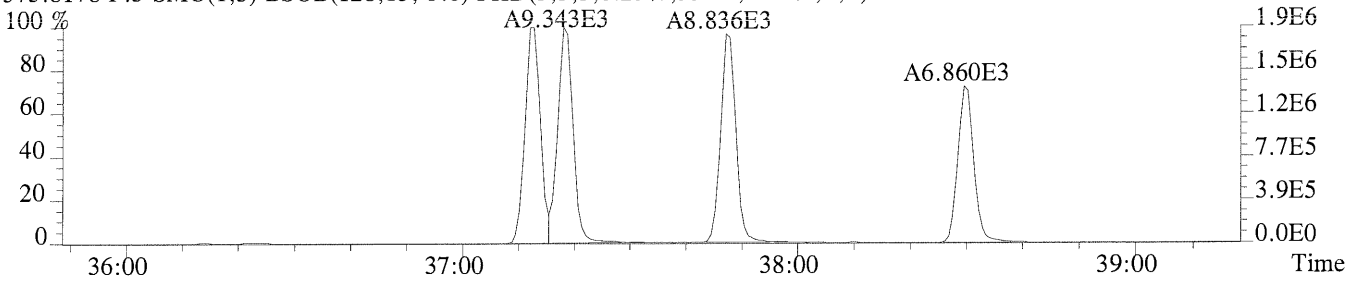


File:U129310 #1-318 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

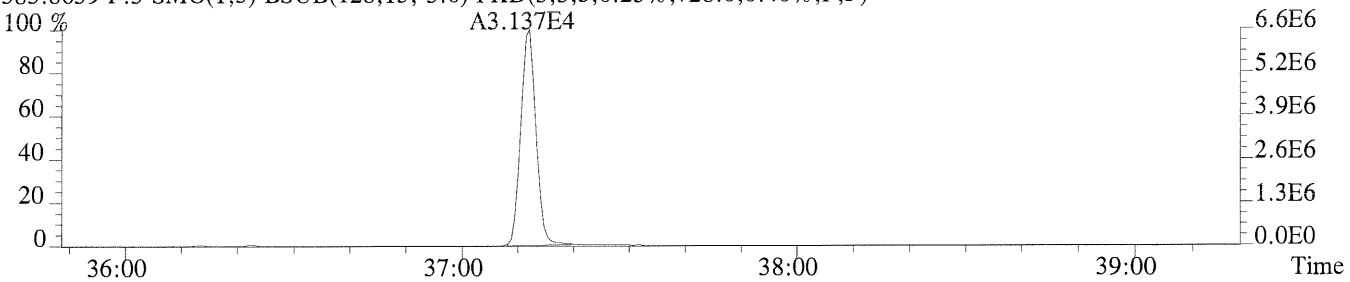
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,884.0,0.40%,F,F)



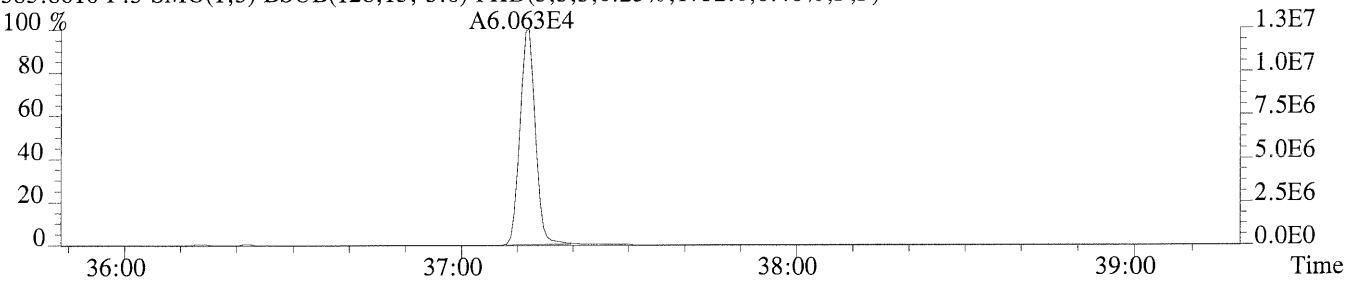
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,552.0,0.40%,F,F)



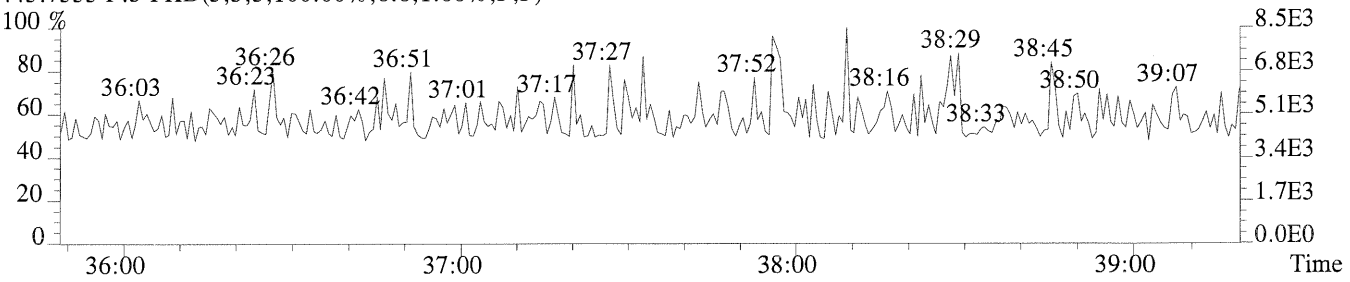
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,728.0,0.40%,F,F)



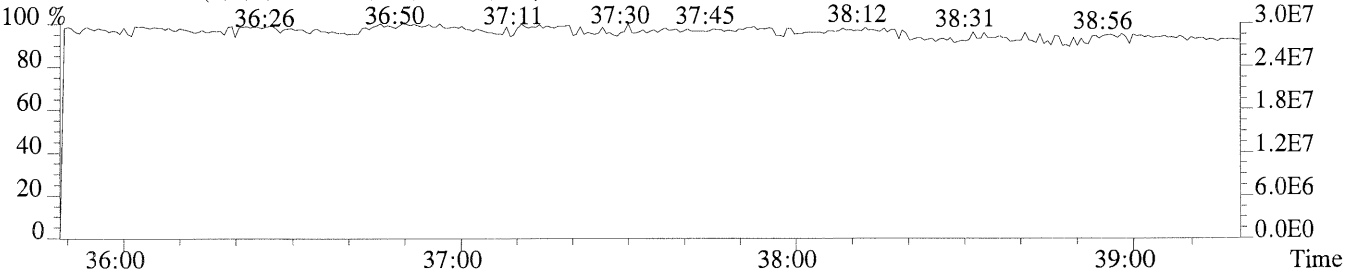
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1732.0,0.40%,F,F)



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

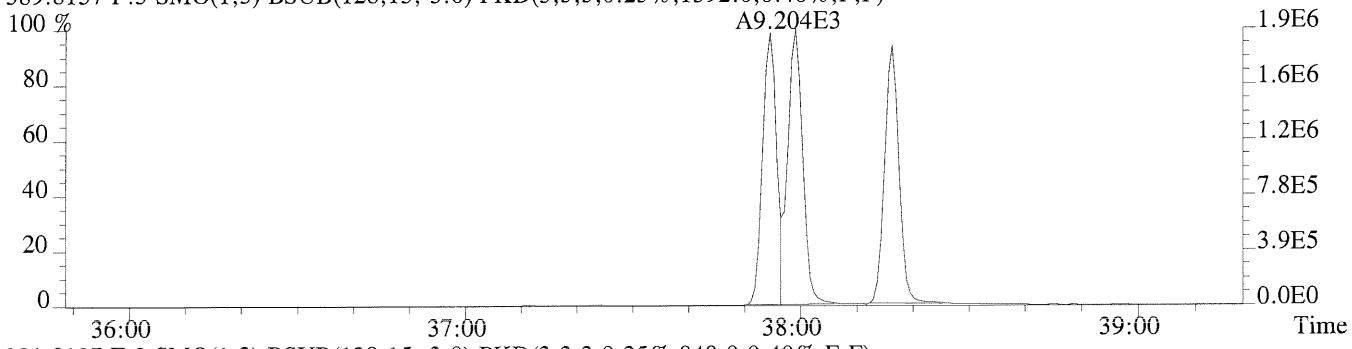


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

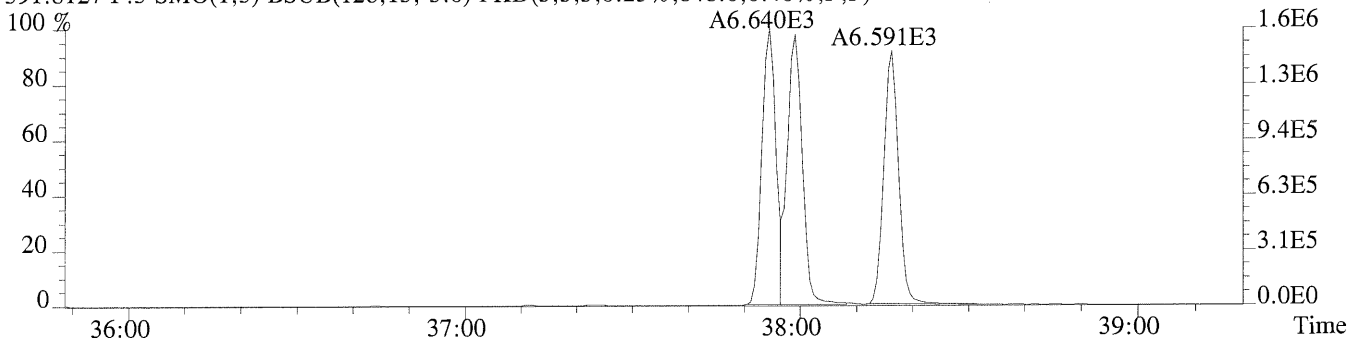


File:U129310 #1-318 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

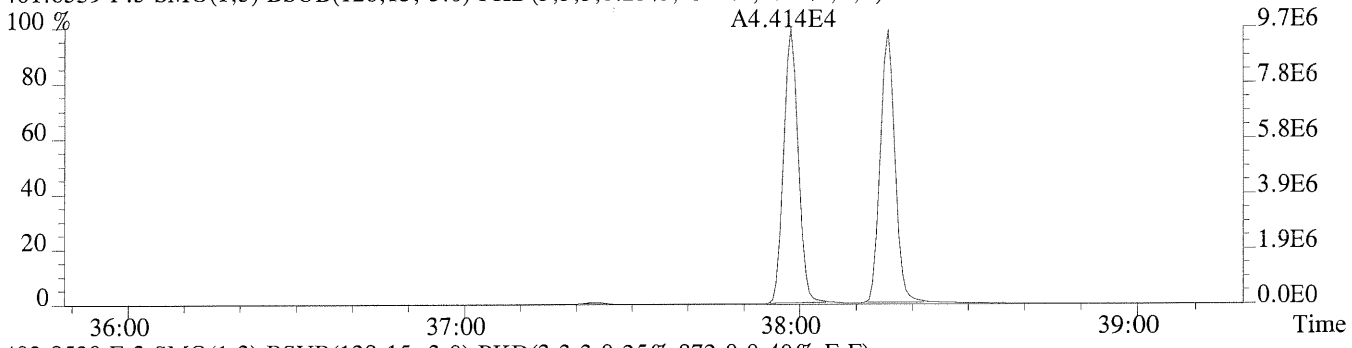
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1392.0,0.40%,F,F)



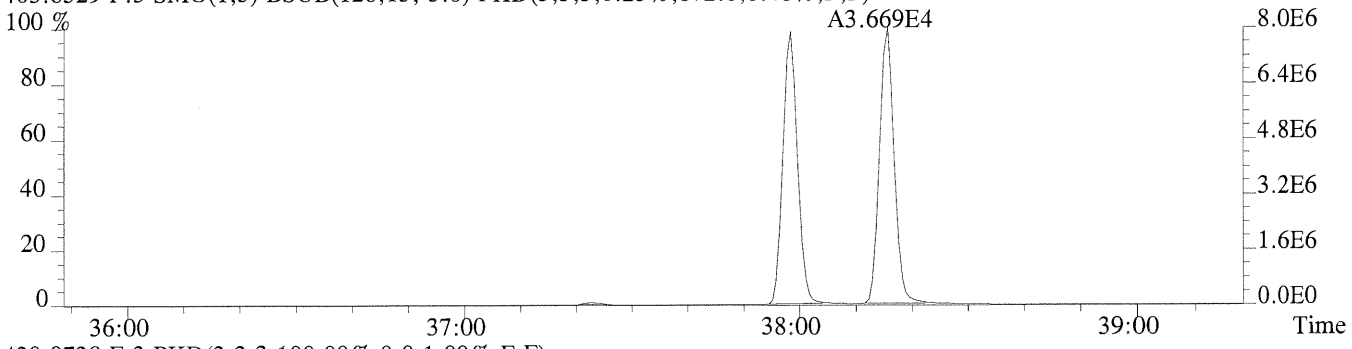
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,F)



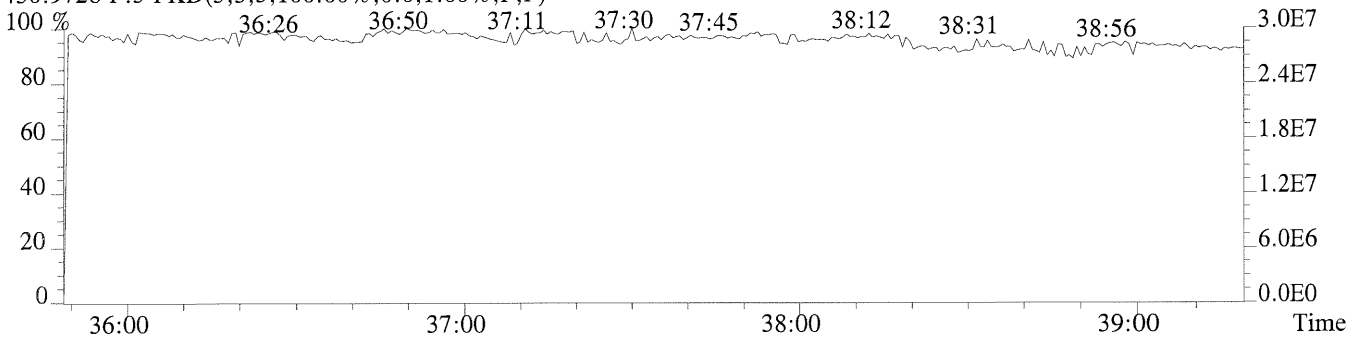
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1500.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,872.0,0.40%,F,F)

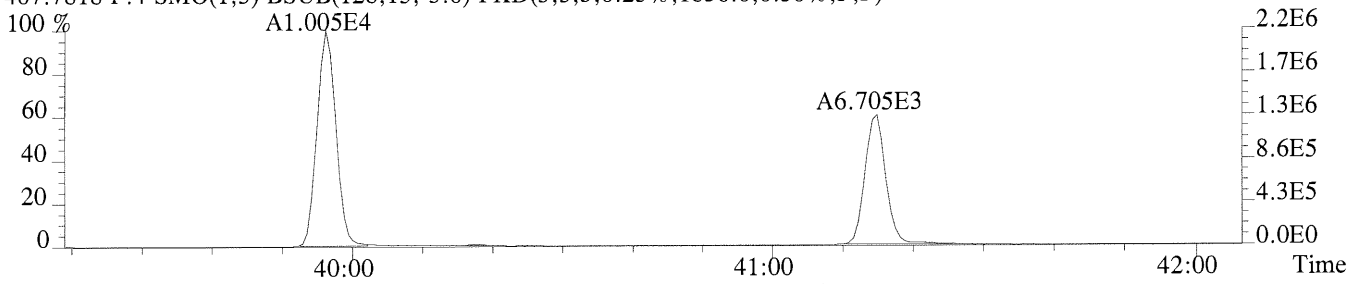


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

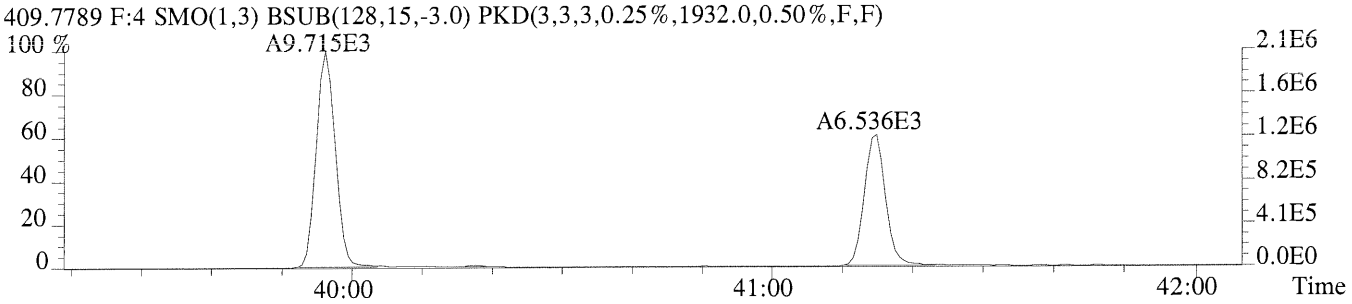


File:U129310 #1-254 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

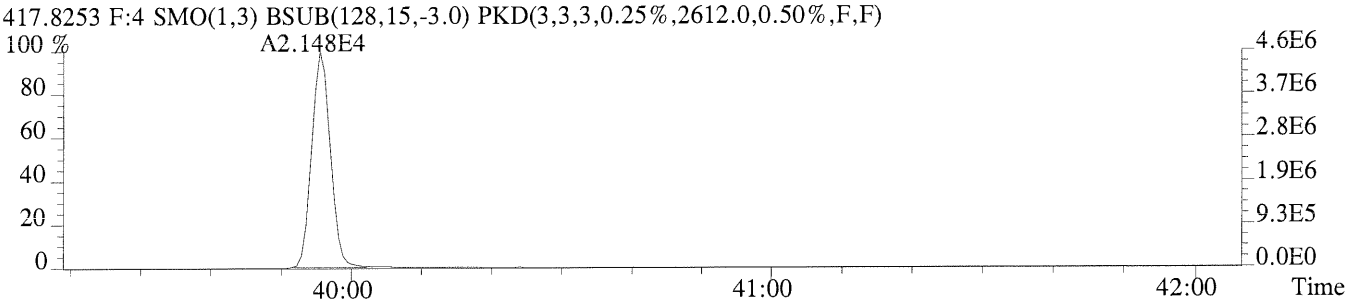
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1836.0,0.50%,F,F)



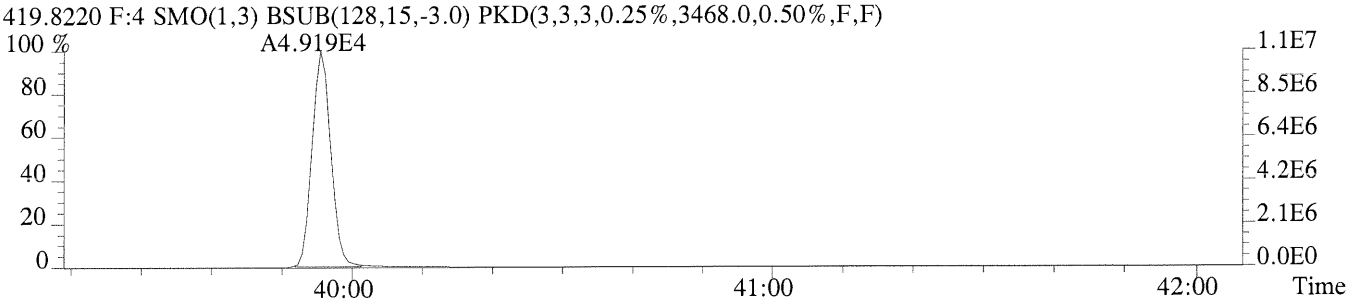
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1932.0,0.50%,F,F)



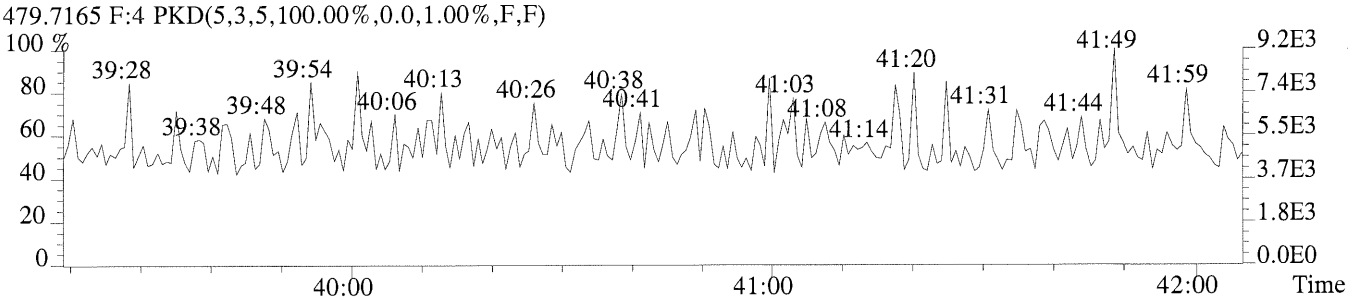
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2612.0,0.50%,F,F)



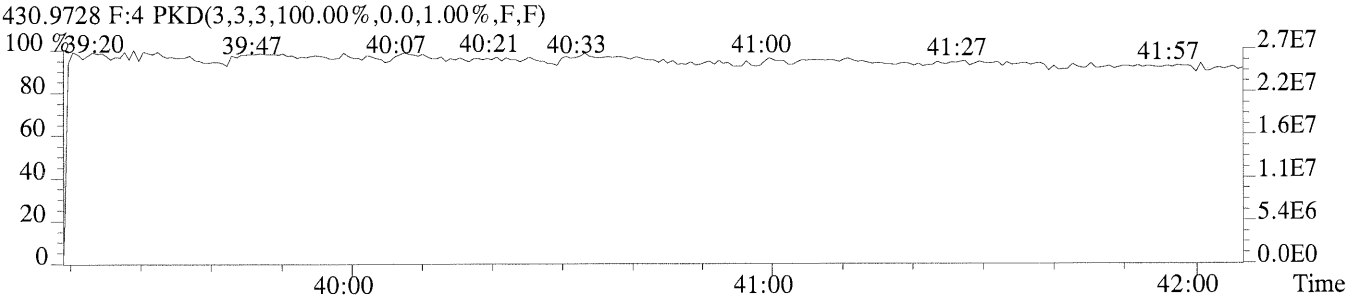
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3468.0,0.50%,F,F)



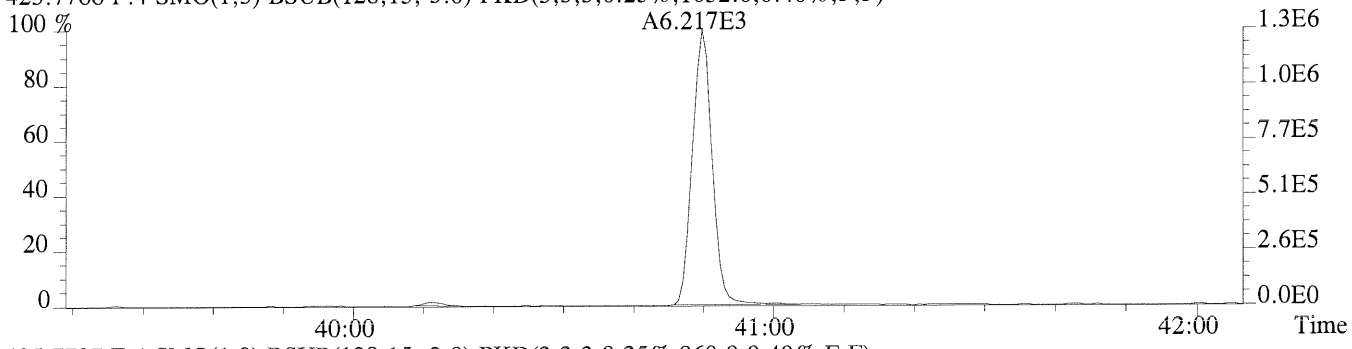
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



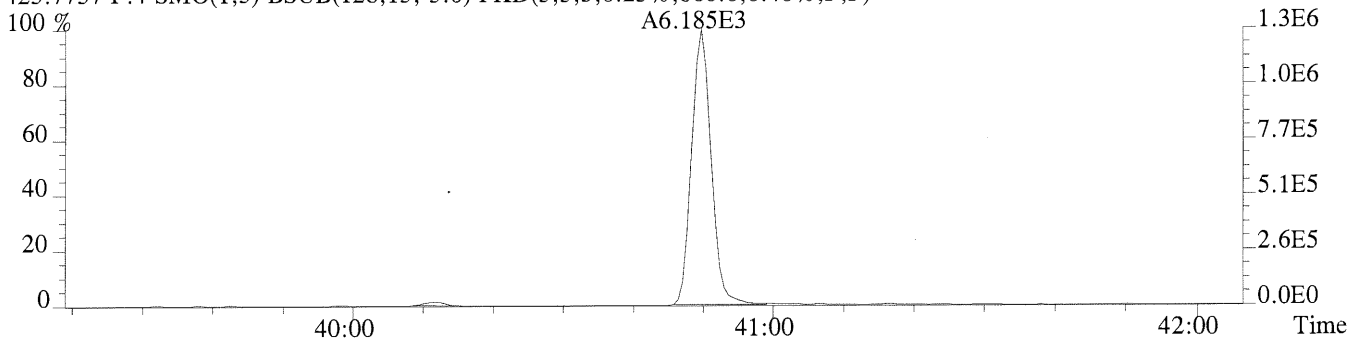
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



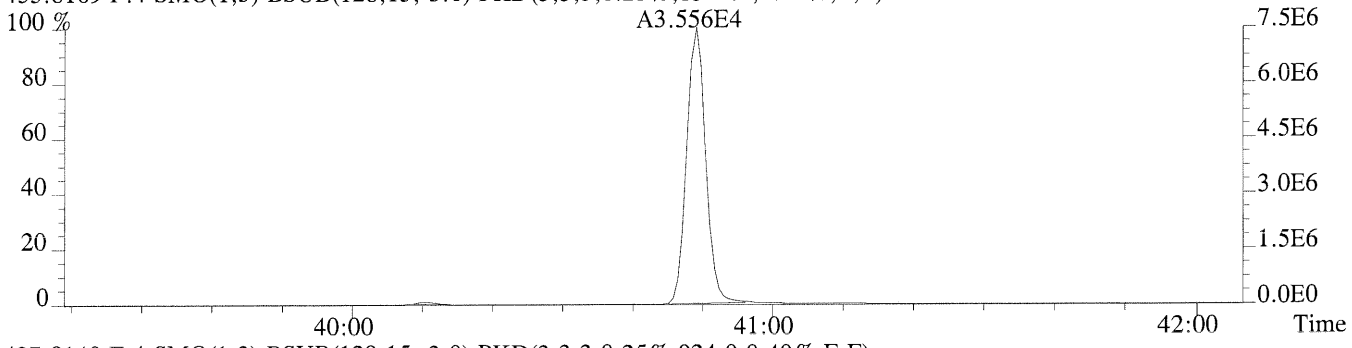
File:U129310 #1-254 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1052.0,0.40%,F,F)



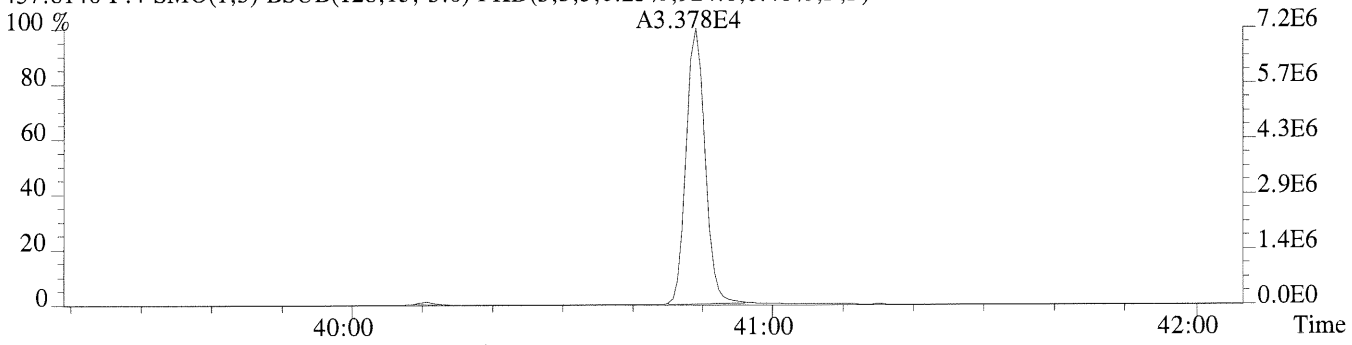
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,860.0,0.40%,F,F)



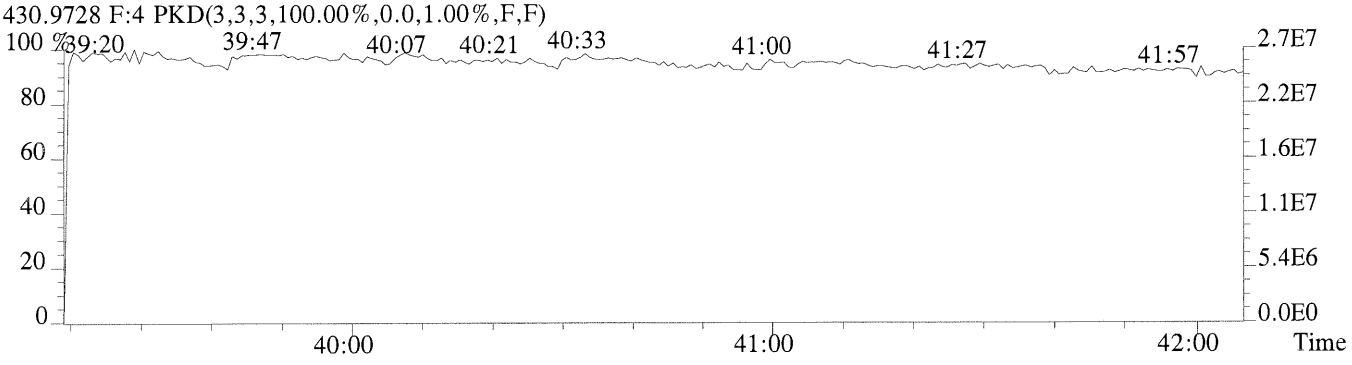
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1344.0,0.40%,F,F)



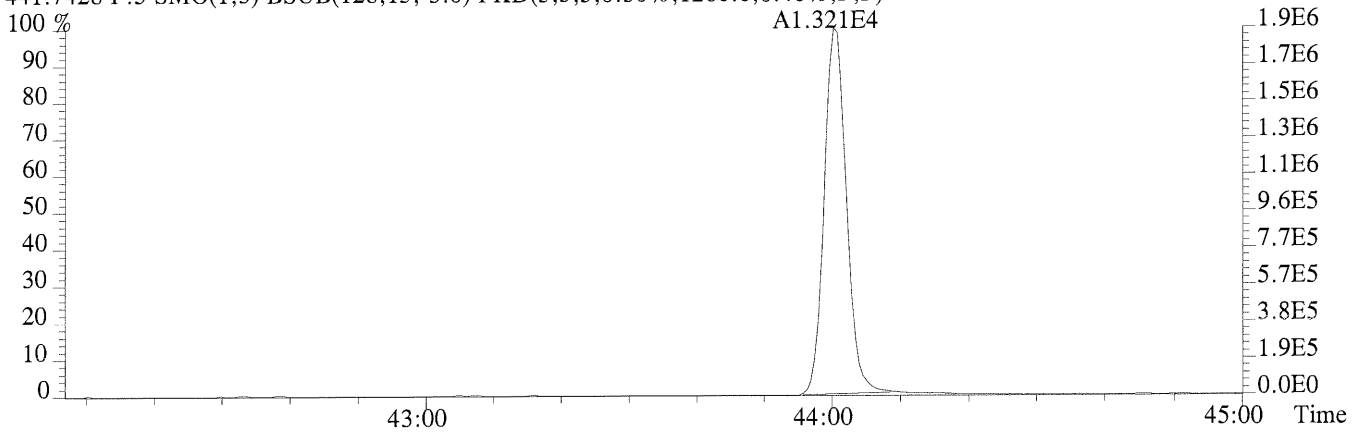
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,924.0,0.40%,F,F)



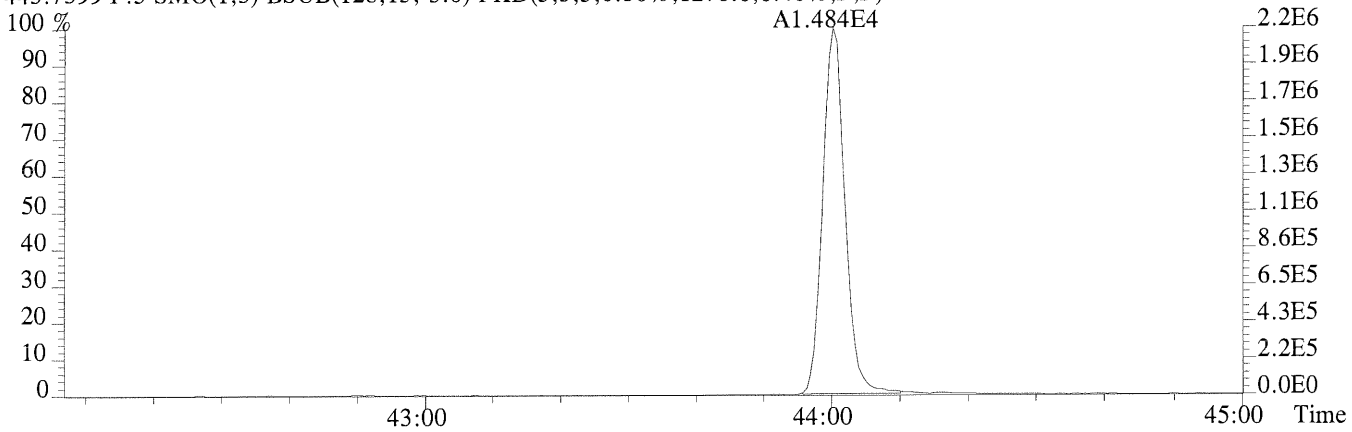
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



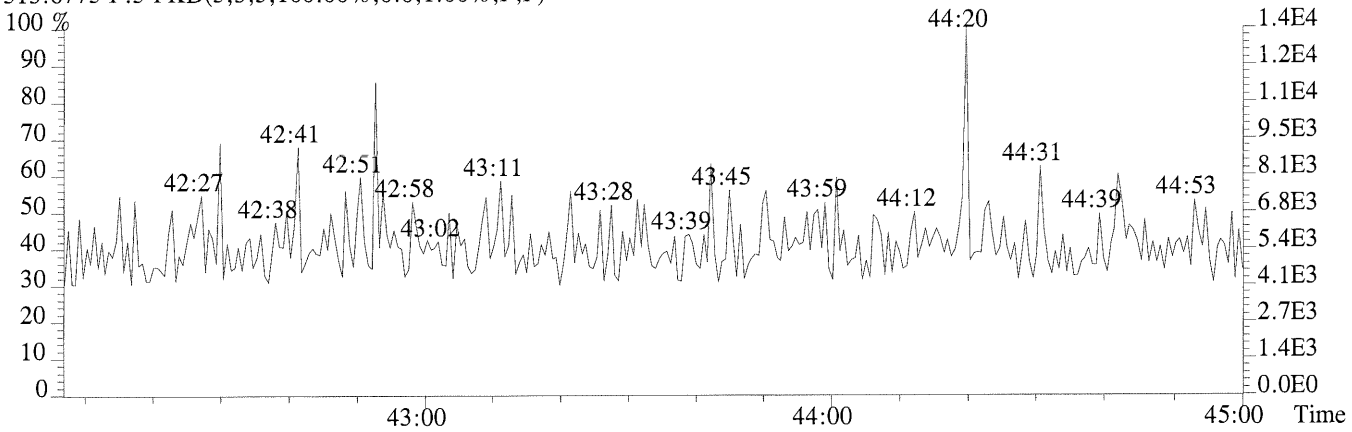
File:U129310 #1-319 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1260.0,0.40%,F,F)



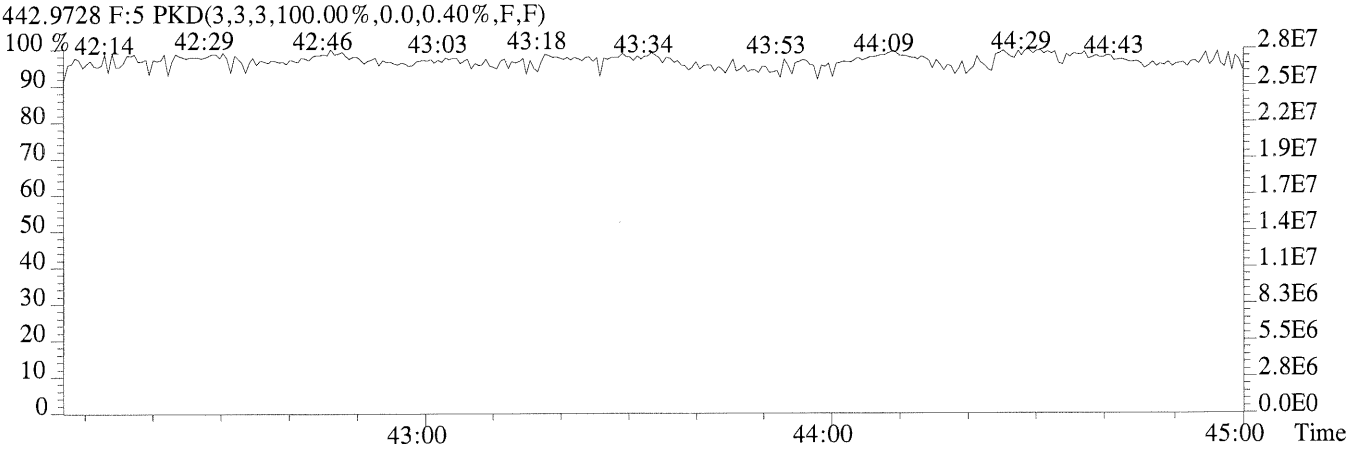
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,F,F)



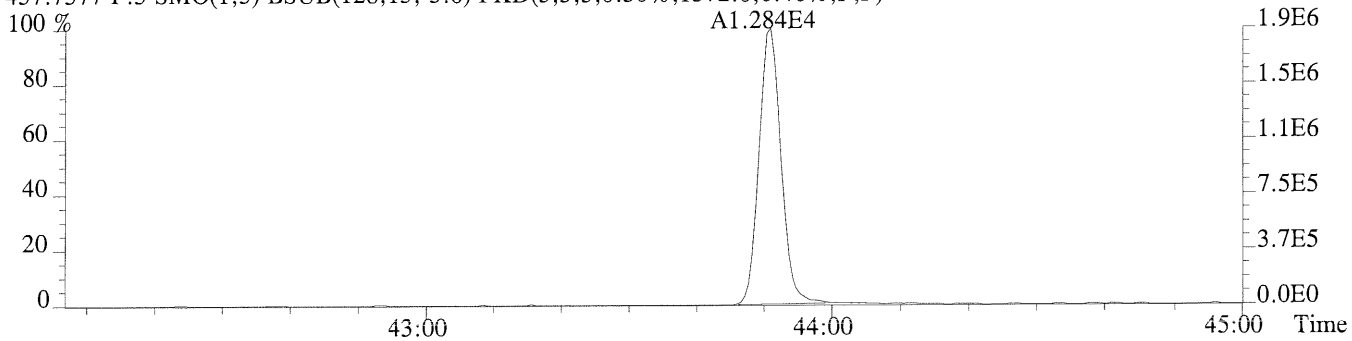
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



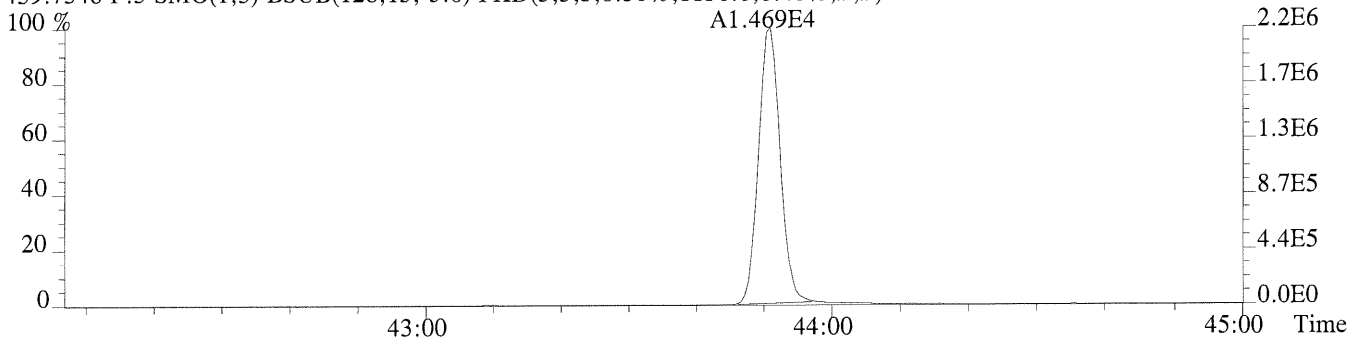
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



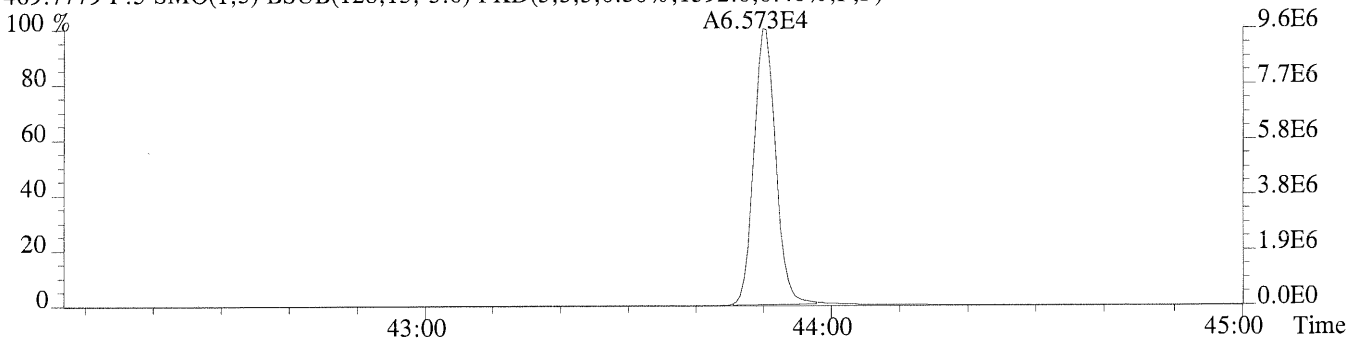
File:U129310 #1-319 Acq: 4-AUG-2008 07:57:55 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1572.0,0.40%,F,F)



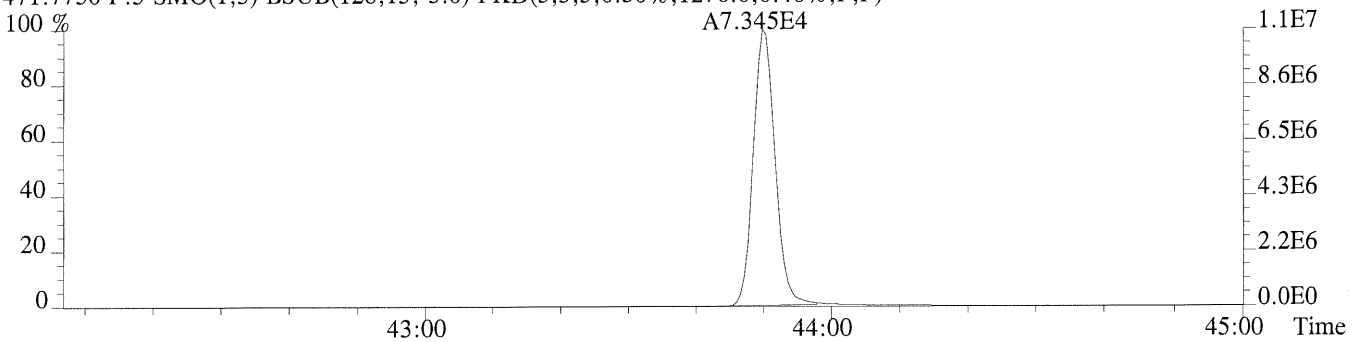
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1156.0,0.40%,F,F)



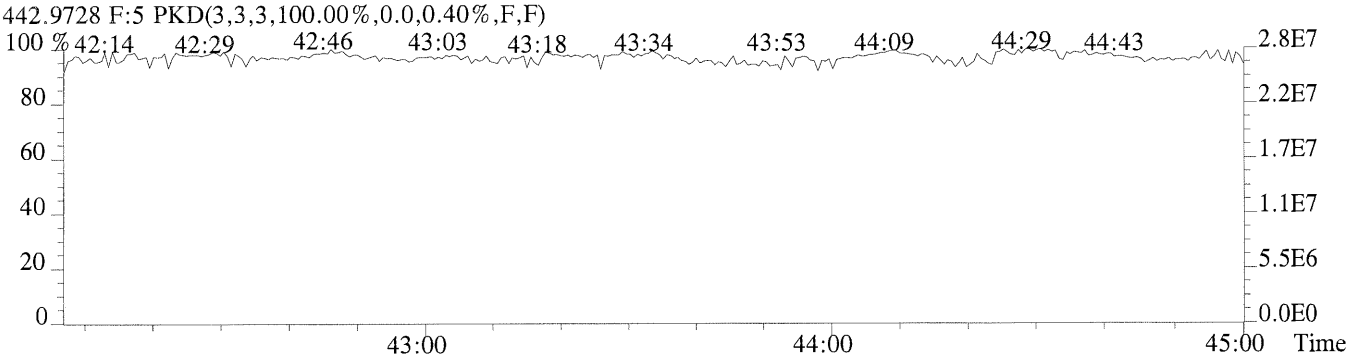
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1592.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1276.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U129321 Analysis Date: 4-AUG-08 Time: 18:03:07

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.98	0.96	2.49
1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.32-1.78	0.90	0.91	-1.06
1,2,3,4,7,8-HxCDD	M+2/M+4	1.33	1.05-1.43	0.98	1.03	-5.53
1,2,3,6,7,8-HxCDD	M+2/M+4	1.11	1.05-1.43	0.95	1.07	-11.06
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	0.96	0.99	-2.62
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	1.00	0.93	7.58
OCDD	M+2/M+4	0.88	0.76-1.02	1.13	1.02	11.47
2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	0.91	0.96	-4.71
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	0.94	0.91	2.63
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	0.94	0.95	-0.25
1,2,3,4,7,8-HxCDF	M+2/M+4	1.30	1.05-1.43	1.19	1.17	2.15
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	1.19	1.14	4.45
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	0.83	0.86	-3.97
2,3,4,6,7,8-HxCDF	M+2/M+4	1.29	1.05-1.43	1.04	1.03	0.40
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	0.88-1.20	1.48	1.36	8.65
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	0.99	1.02	-2.99
OCDF	M+2/M+4	0.88	0.76-1.02	1.06	1.09	-2.79

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U129321 Analysis Date: 4-AUG-08 Time: 18:03:07

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	0.98	0.90	9.31
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	0.87	1.06	-17.46
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	0.98	1.01	-2.41
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.68	1.09	-38.09
13C-OCDD	M+2/M+4	0.89	0.76-1.02	0.56	1.17	-52.53
13C-2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	1.30	1.20	8.86
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	1.20	1.52	-21.02
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.21	1.28	-5.56
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.44	0.37-0.51	0.70	1.11	-36.84
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.94	0.86	9.76

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #7 Filename U129321 Samp: 1 Inj: 1 Acquired: 4-AUG-08 18:03:07
Processed: 5-AUG-08 08:21:27 LAB. ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:15	6.816e+03	8.261e+03	0.83	yes	no	0.955
2	Unk	1,2,3,7,8-PeCDF	33:38	2.178e+04	1.390e+04	1.57	yes	no	0.911
3	Unk	2,3,4,7,8-PeCDF	34:23	2.200e+04	1.397e+04	1.58	yes	no	0.945
4	Unk	1,2,3,4,7,8-HxCDF	37:13	1.648e+04	1.268e+04	1.30	yes	no	1.166
5	Unk	1,2,3,6,7,8-HxCDF	37:18	1.621e+04	1.299e+04	1.25	yes	no	1.142
6	Unk	2,3,4,6,7,8-HxCDF	37:48	1.426e+04	1.108e+04	1.29	yes	no	1.031
7	Unk	1,2,3,7,8,9-HxCDF	38:30	1.123e+04	9.018e+03	1.25	yes	no	0.862
8	Unk	1,2,3,4,6,7,8-HpCDF	39:56	1.065e+04	1.026e+04	1.04	yes	no	1.359
9	Unk	1,2,3,4,7,8,9-HpCDF	41:14	7.099e+03	6.917e+03	1.03	yes	no	1.020
10	Unk	OCDF	43:60	1.114e+04	1.270e+04	0.88	yes	no	1.090
11	Unk	2,3,7,8-TCDD	30:05	5.379e+03	6.942e+03	0.77	yes	no	0.960
12	Unk	1,2,3,7,8-PeCDD	34:44	1.524e+04	9.805e+03	1.55	yes	no	0.912
13	Unk	1,2,3,4,7,8-HxCDD	37:54	1.109e+04	8.306e+03	1.33	yes	no	1.035
14	Unk	1,2,3,6,7,8-HxCDD	37:59	9.896e+03	8.948e+03	1.11	yes	no	1.068
15	Unk	1,2,3,7,8,9-HxCDD	38:16	1.057e+04	8.520e+03	1.24	yes	no	0.988
16	Unk	1,2,3,4,6,7,8-HpCDD	40:50	7.042e+03	6.565e+03	1.07	yes	no	0.925
17	Unk	OCDD	43:50	1.197e+04	1.355e+04	0.88	yes	no	1.017
18	IS	13C-2,3,7,8-TCDF	29:13	3.673e+04	4.611e+04	0.80	yes	no	1.196
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.640e+04	2.989e+04	1.55	yes	no	1.518
20	IS	13C-1,2,3,4,7,8-HxCDF	37:12	4.225e+04	8.014e+04	0.53	yes	no	1.284
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:55	2.168e+04	4.912e+04	0.44	yes	no	1.111
22	IS	13C-2,3,7,8-TCDD	30:04	2.752e+04	3.507e+04	0.78	yes	no	0.900
23	IS	13C-1,2,3,7,8-PeCDD	34:43	3.384e+04	2.168e+04	1.56	yes	no	1.057
24	IS	13C-1,2,3,6,7,8-HxCDD	37:58	5.563e+04	4.355e+04	1.28	yes	no	1.007
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:49	3.495e+04	3.341e+04	1.05	yes	no	1.094
26	IS	13C-OCDD	43:50	5.291e+04	5.961e+04	0.89	yes	no	1.174
27	RS/RT	13C-1,2,3,4-TCDD	29:50	2.822e+04	3.542e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:16	5.527e+04	4.566e+04	1.21	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:05	1.200e+04					0.859
					SUM AREA				
30	Tot	Total Tetra-Furans	29:15		1.508e+04	0.83	yes		0.955
31	Tot	Total Tetra-Dioxins	30:05		1.232e+04	0.77	yes		0.960
32	Tot	Total Penta-Furans	33:38		7.207e+04	1.57	yes		0.928
33	Tot	Total Penta-Dioxins	34:44		2.504e+04	1.55	yes		0.912
34	Tot	Total Hexa-Furans	36:14		1.041e+05	1.20	yes		1.050
35	Tot	Total Hexa-Dioxins	37:18		5.746e+04	1.32	yes		1.030
36	Tot	Total Hepta-Furans	39:56		3.492e+04	1.04	yes		1.190
37	Tot	Total Hepta-Dioxins	40:08		1.484e+04	1.07	yes		0.925

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #7 Filename U129321 #1 Samp: 1 Inj: 1 Acquired: 4-AUG-08 18:03:07

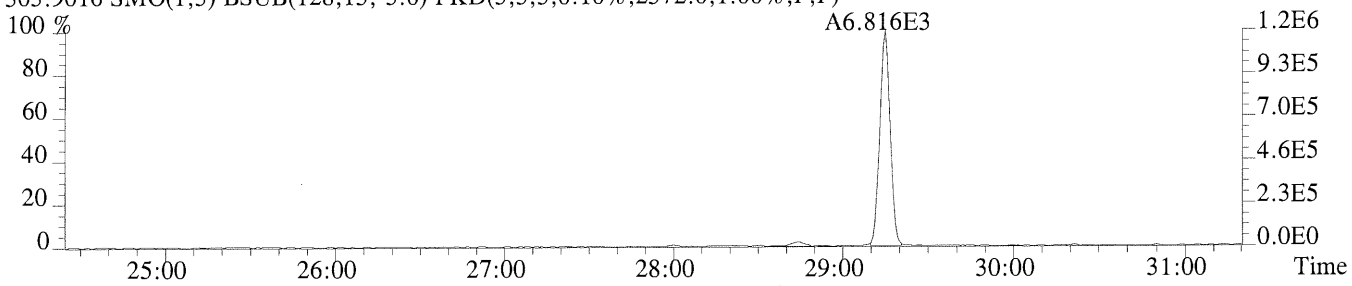
Processed: 5-AUG-08 08:21:27 LAB. ID: CCAL HRCC3

	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+06	2.37e+03	4.9e+02	1.36e+06	3.55e+03	3.8e+02
2	1,2,3,7,8-PeCDF	4.36e+06	3.24e+03	1.3e+03	2.75e+06	5.24e+03	5.3e+02
3	2,3,4,7,8-PeCDF	4.47e+06	3.24e+03	1.4e+03	2.88e+06	5.24e+03	5.5e+02
4	1,2,3,4,7,8-HxCDF	3.58e+06	3.36e+03	1.1e+03	2.81e+06	3.06e+03	9.2e+02
5	1,2,3,6,7,8-HxCDF	3.58e+06	3.36e+03	1.1e+03	2.89e+06	3.06e+03	9.5e+02
6	2,3,4,6,7,8-HxCDF	3.11e+06	3.36e+03	9.3e+02	2.47e+06	3.06e+03	8.1e+02
7	1,2,3,7,8,9-HxCDF	2.48e+06	3.36e+03	7.4e+02	1.96e+06	3.06e+03	6.4e+02
8	1,2,3,4,6,7,8-HpCDF	2.30e+06	4.97e+03	4.6e+02	2.21e+06	4.31e+03	5.1e+02
9	1,2,3,4,7,8,9-HpCDF	1.48e+06	4.97e+03	3.0e+02	1.44e+06	4.31e+03	3.3e+02
10	OCDF	1.76e+06	1.66e+03	1.1e+03	2.00e+06	2.76e+03	7.2e+02
11	2,3,7,8-TCDD	9.74e+05	2.31e+03	4.2e+02	1.27e+06	1.55e+03	8.2e+02
12	1,2,3,7,8-PeCDD	3.20e+06	3.95e+03	8.1e+02	2.07e+06	2.09e+03	9.9e+02
13	1,2,3,4,7,8-HxCDD	2.54e+06	5.47e+03	4.6e+02	2.02e+06	2.67e+03	7.6e+02
14	1,2,3,6,7,8-HxCDD	2.37e+06	5.47e+03	4.3e+02	2.03e+06	2.67e+03	7.6e+02
15	1,2,3,7,8,9-HxCDD	2.45e+06	5.47e+03	4.5e+02	1.96e+06	2.67e+03	7.3e+02
16	1,2,3,4,6,7,8-HpCDD	1.43e+06	9.14e+03	1.6e+02	1.36e+06	7.61e+03	1.8e+02
17	OCDD	1.84e+06	3.19e+03	5.8e+02	2.09e+06	4.24e+03	4.9e+02
18	13C-2,3,7,8-TCDF	6.19e+06	7.14e+03	8.7e+02	7.73e+06	3.46e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.12e+06	2.43e+03	3.8e+03	5.87e+06	3.06e+03	1.9e+03
20	13C-1,2,3,4,7,8-HxCDF	9.13e+06	2.25e+03	4.1e+03	1.76e+07	3.77e+03	4.7e+03
21	13C-1,2,3,4,6,7,8-HpCDF	4.84e+06	5.74e+03	8.4e+02	1.08e+07	4.94e+03	2.2e+03
22	13C-2,3,7,8-TCDD	5.00e+06	1.11e+04	4.5e+02	6.38e+06	3.44e+03	1.9e+03
23	13C-1,2,3,7,8-PeCDD	7.02e+06	2.35e+03	3.0e+03	4.51e+06	2.38e+03	1.9e+03
24	13C-1,2,3,6,7,8-HxCDD	1.31e+07	9.61e+03	1.4e+03	1.03e+07	5.62e+03	1.8e+03
25	13C-1,2,3,4,6,7,8-HpCDD	7.56e+06	2.08e+03	3.6e+03	7.15e+06	1.22e+03	5.8e+03
26	13C-OCDD	8.31e+06	2.06e+03	4.0e+03	9.35e+06	1.86e+03	5.0e+03
27	13C-1,2,3,4-TCDD	5.06e+06	1.11e+04	4.6e+02	6.34e+06	3.44e+03	1.8e+03
28	13C-1,2,3,7,8,9-HxCDD	1.28e+07	9.61e+03	1.3e+03	1.06e+07	5.62e+03	1.9e+03
29	37Cl-2,3,7,8-TCDD	2.21e+06	3.38e+03	6.5e+02			

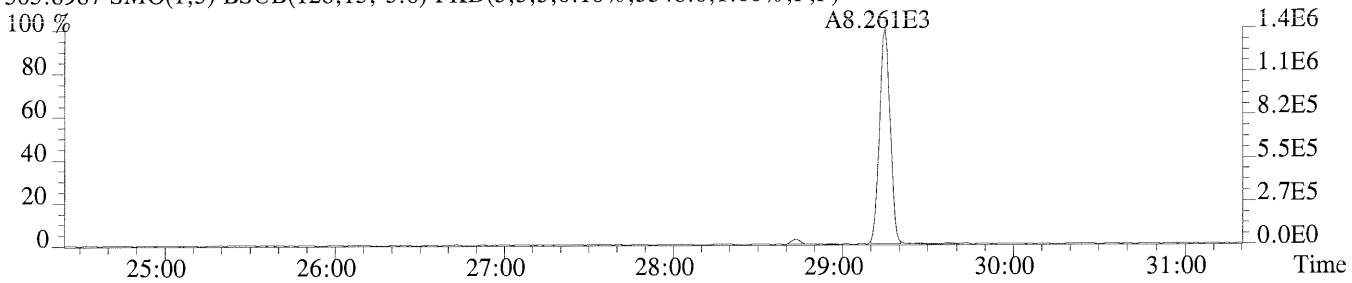
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U129321 #1-578 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

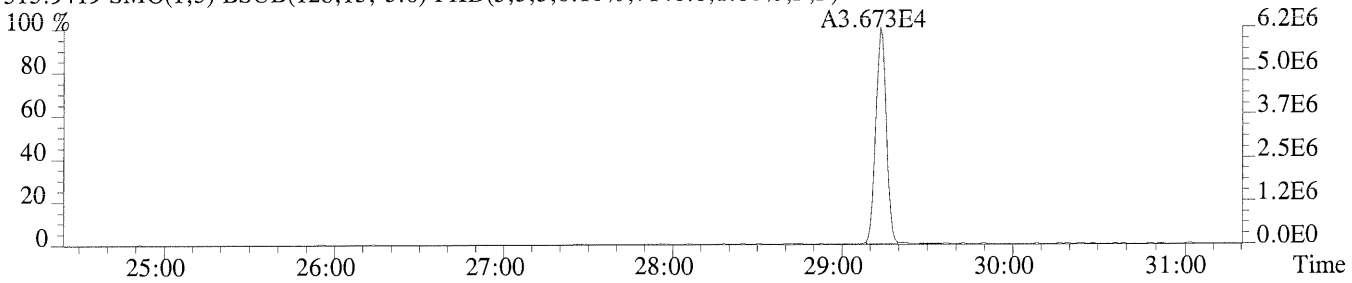
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2372.0,1.00%,F,F)



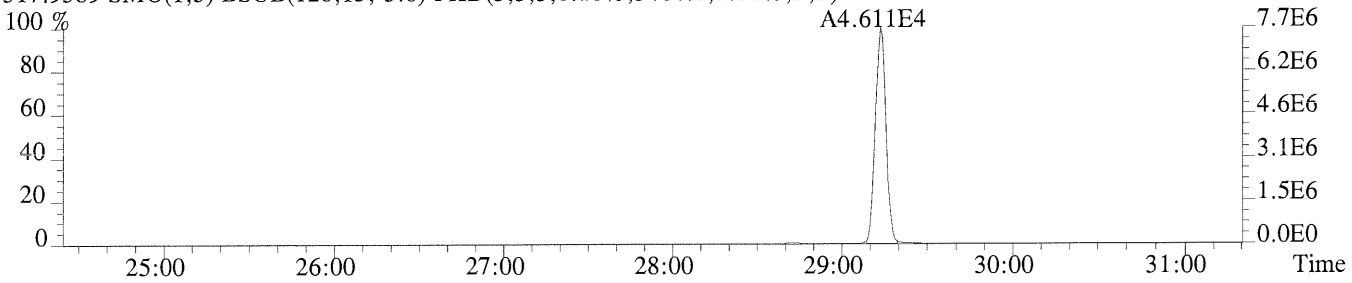
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3548.0,1.00%,F,F)



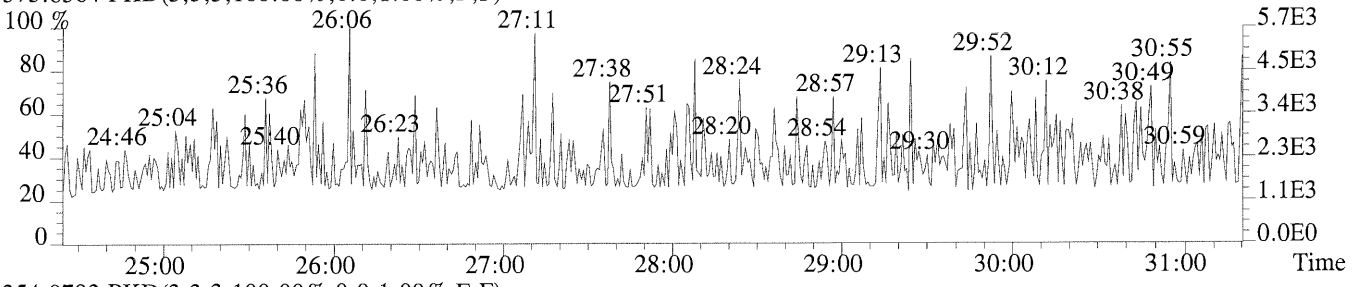
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,7140.0,1.00%,F,F)



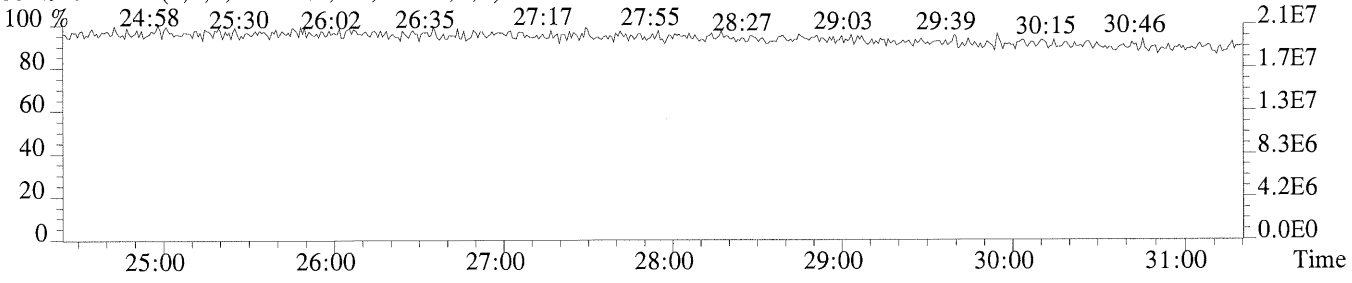
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3464.0,1.00%,F,F)



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

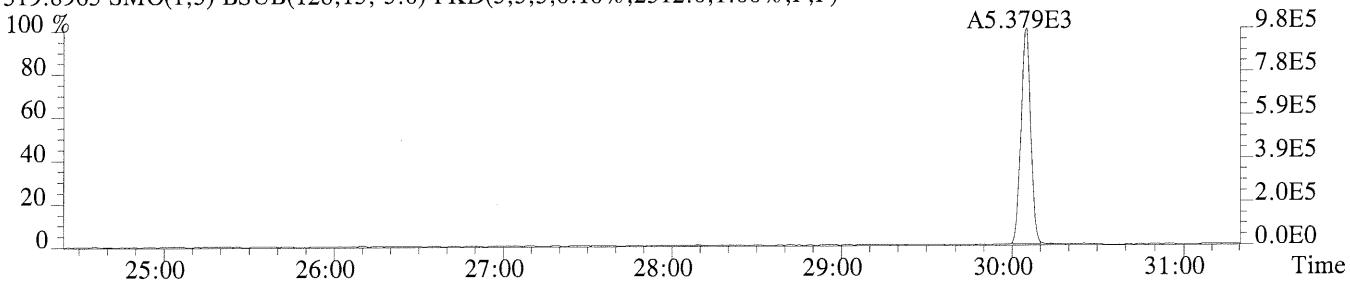


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

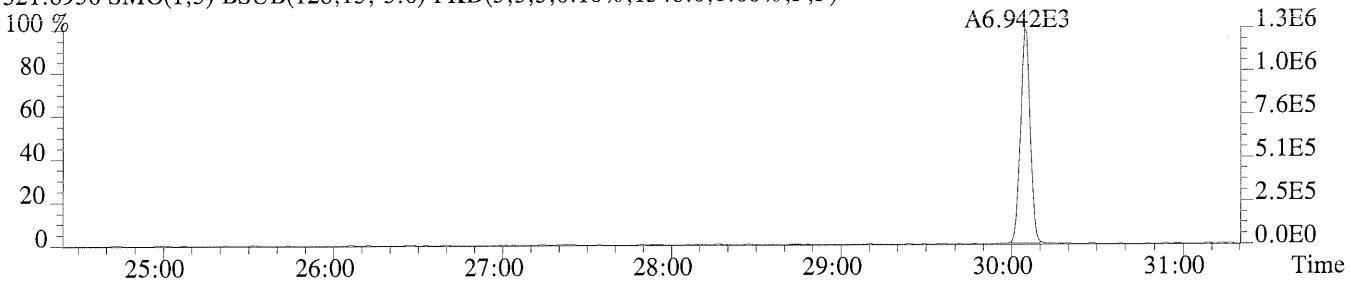


File:U129321 #1-578 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

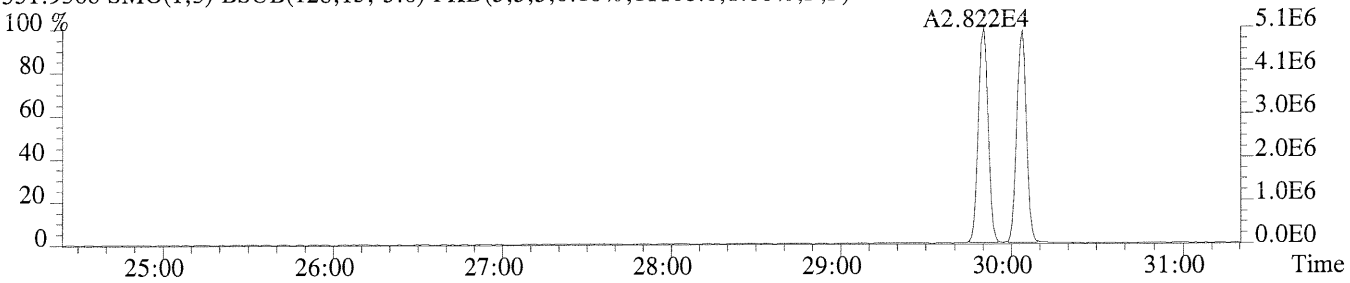
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2312.0,1.00%,F,F)



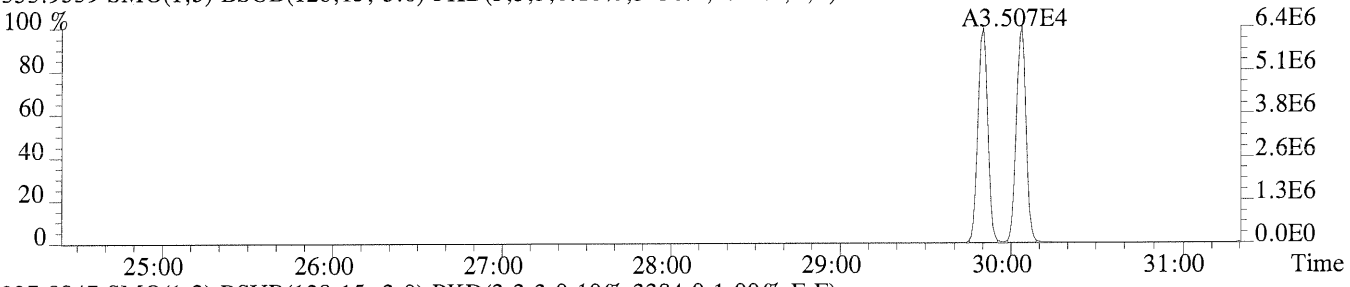
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1548.0,1.00%,F,F)



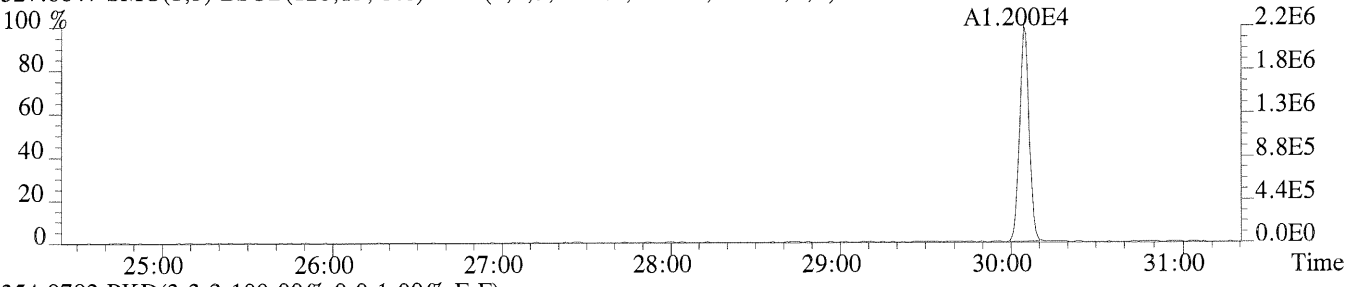
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11108.0,1.00%,F,F)



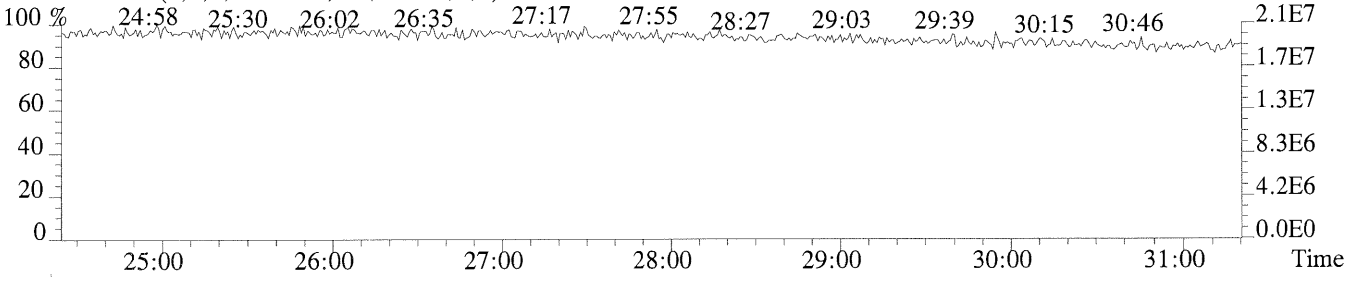
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3436.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3384.0,1.00%,F,F)

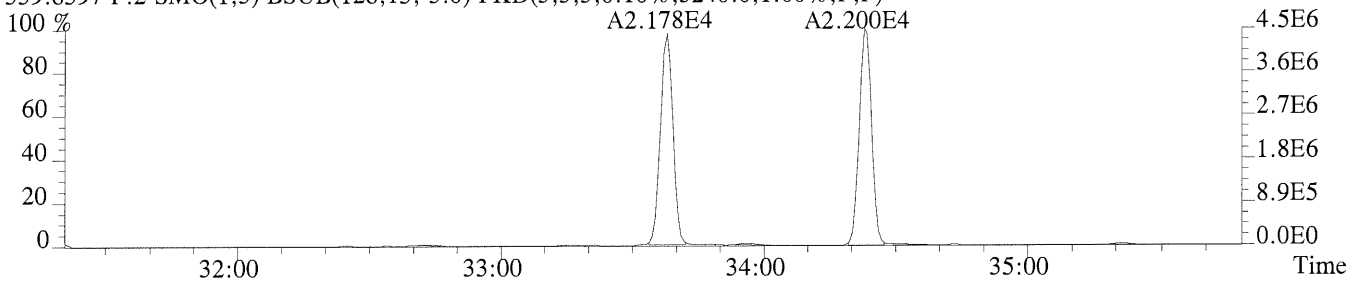


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

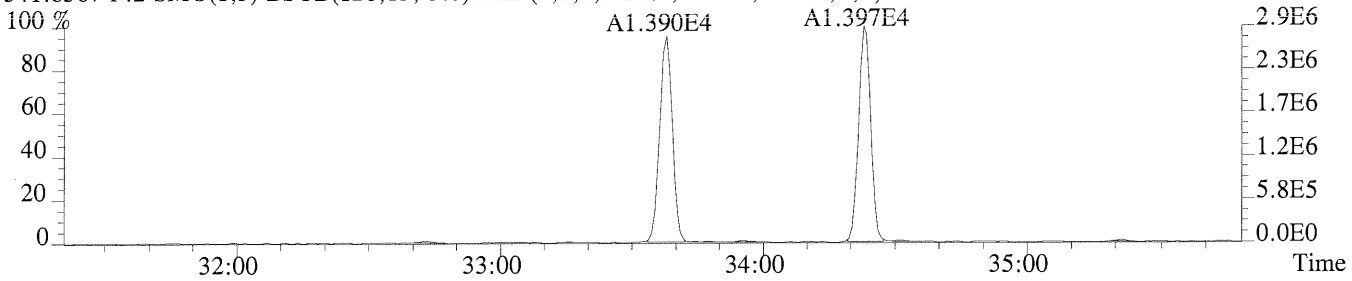


File:U129321 #1-405 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

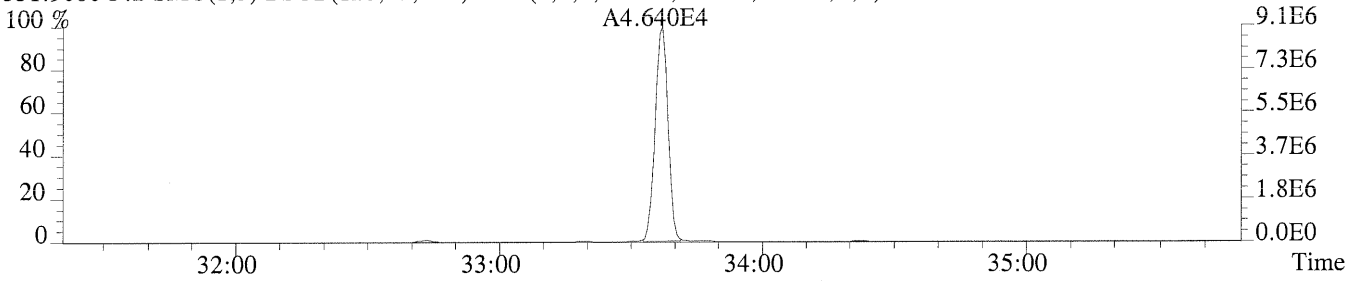
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3240.0,1.00%,F,F)



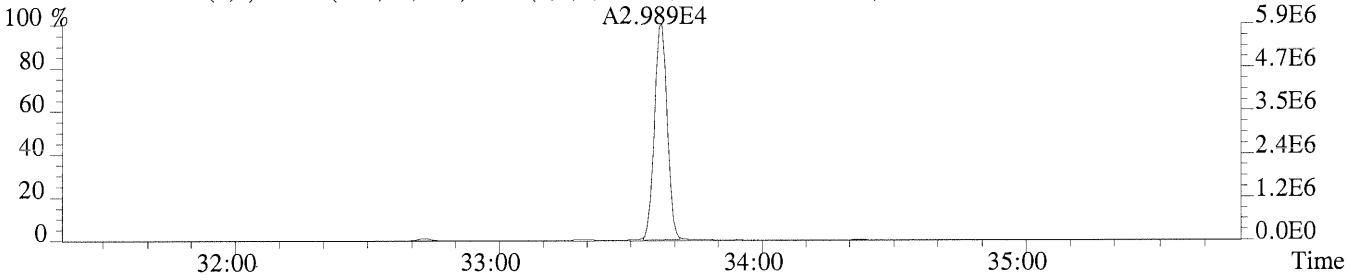
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5236.0,1.00%,F,F)



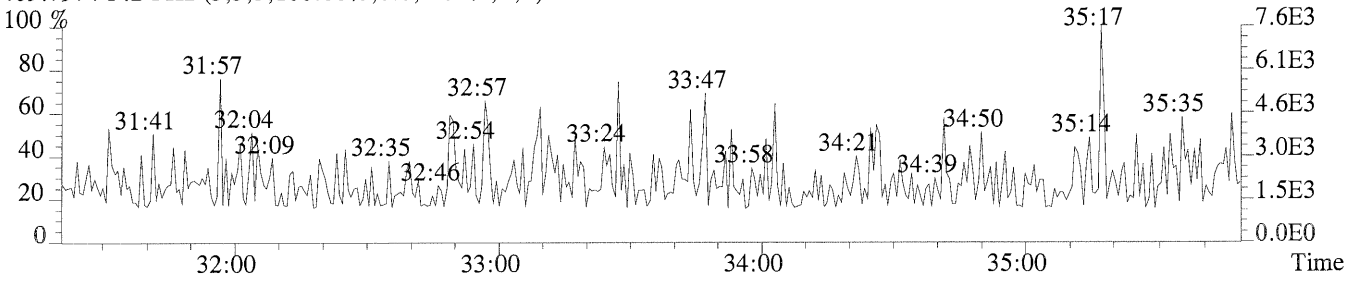
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2432.0,1.00%,F,F)



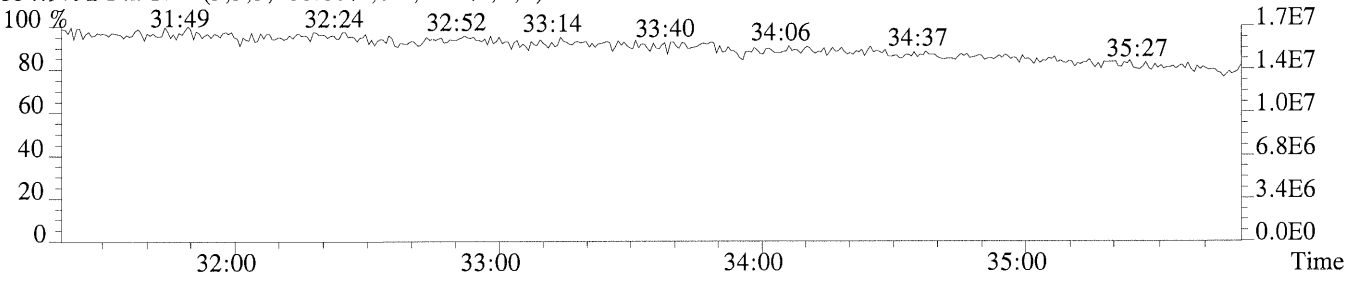
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3056.0,1.00%,F,F)



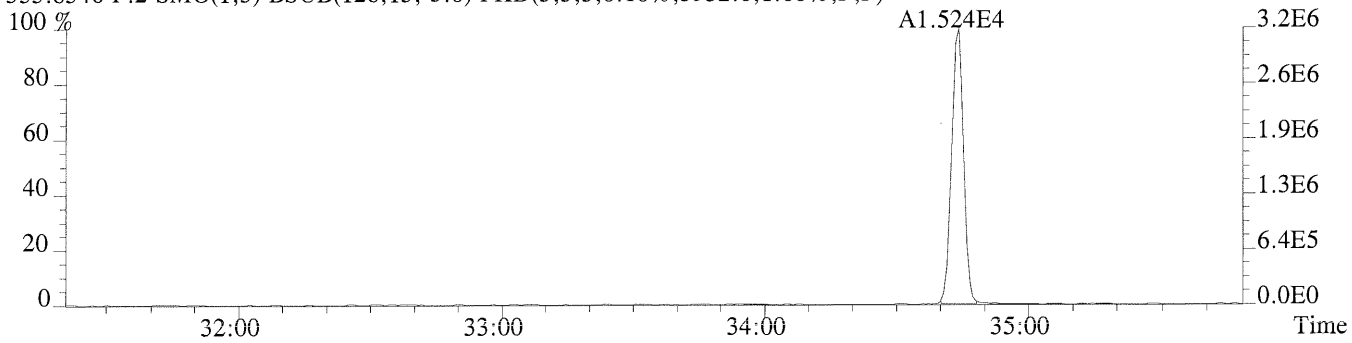
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



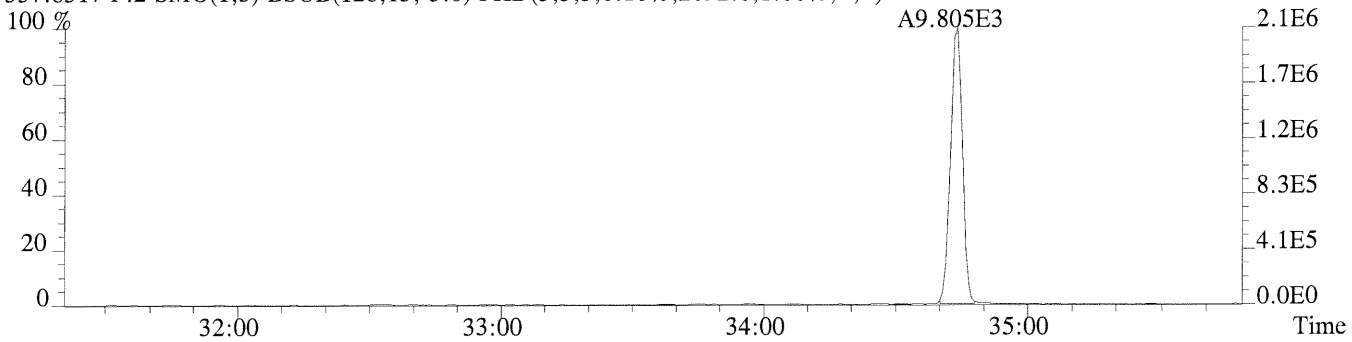
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



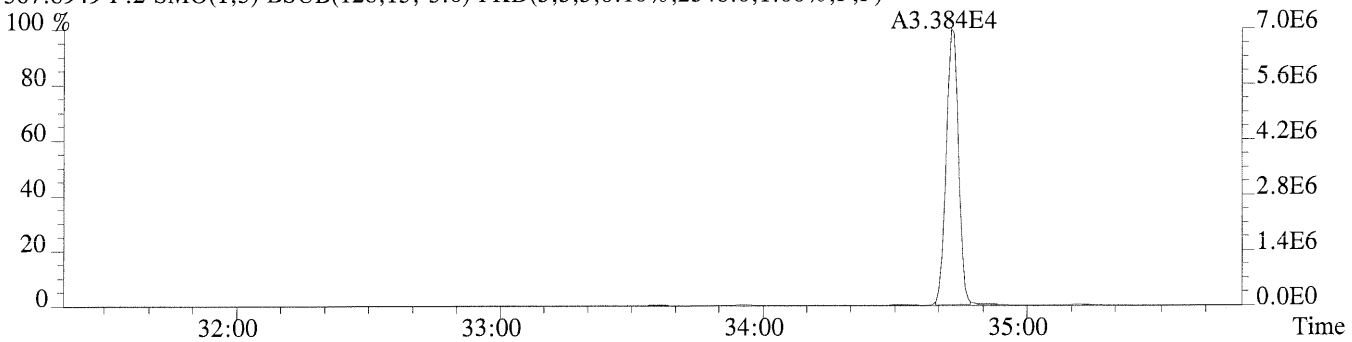
File:U129321 #1-405 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3952.0,1.00%,F,F)



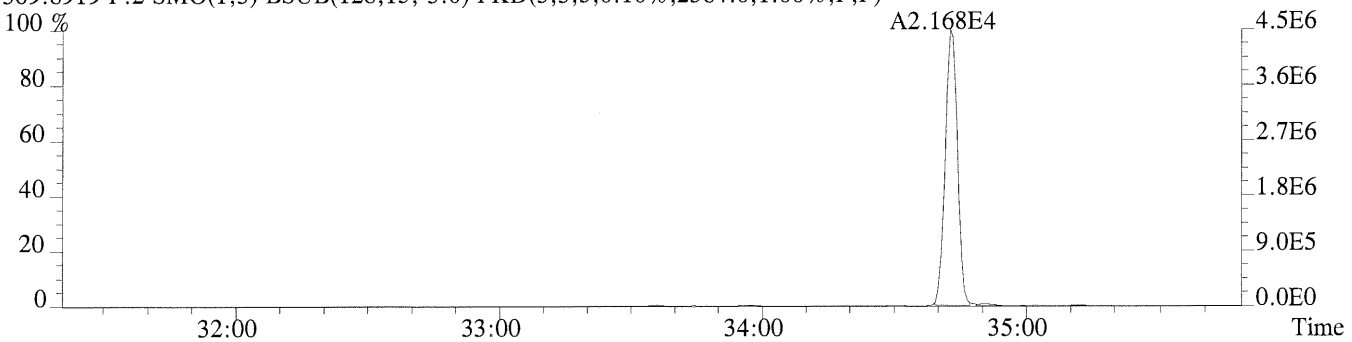
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2092.0,1.00%,F,F)



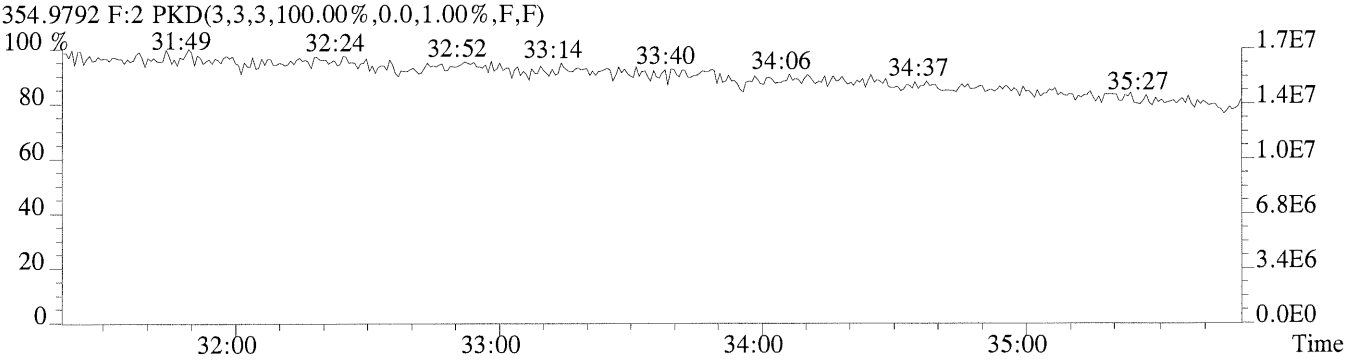
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2348.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2384.0,1.00%,F,F)

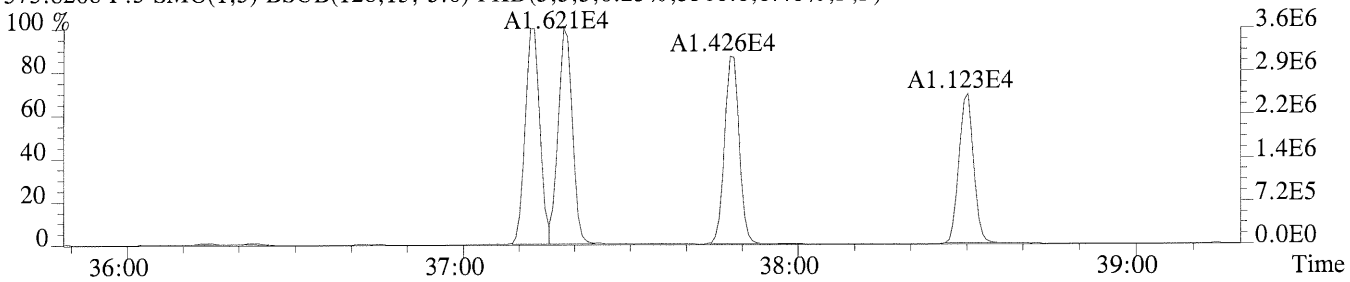


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

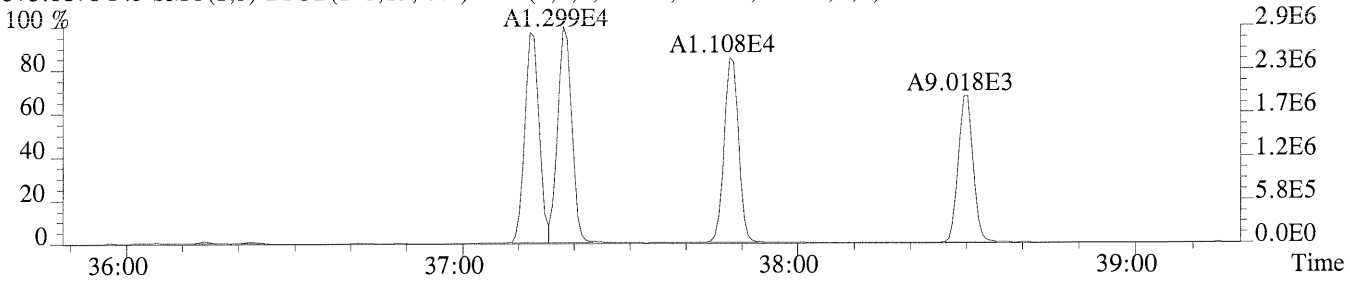


File:U129321 #1-318 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

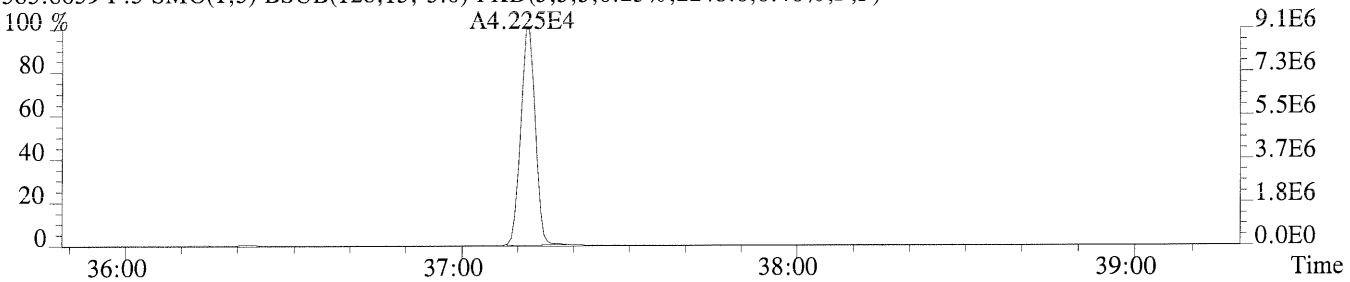
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3360.0,0.40%,F,F)



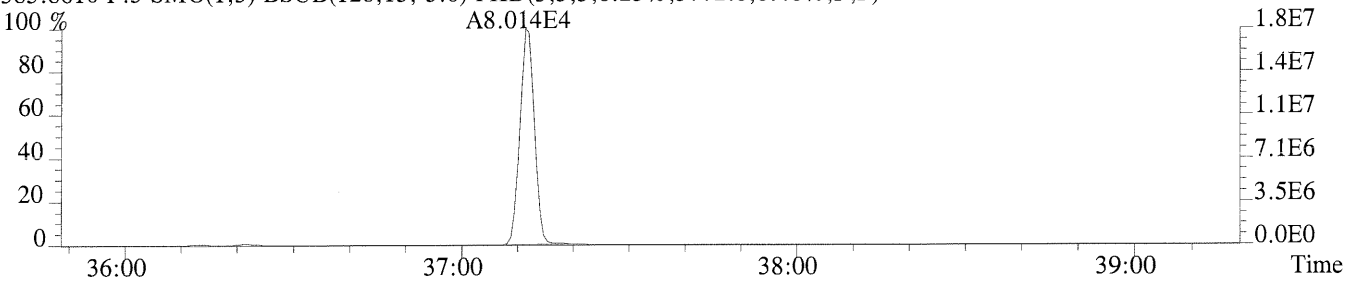
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3056.0,0.40%,F,F)



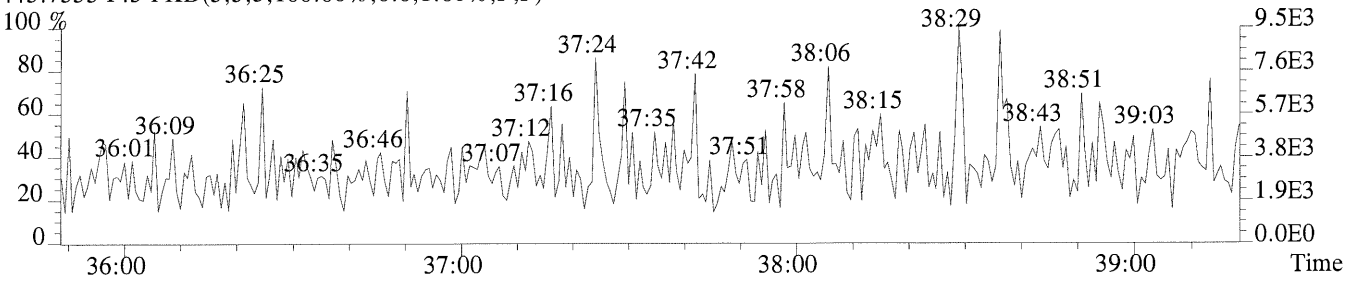
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2248.0,0.40%,F,F)



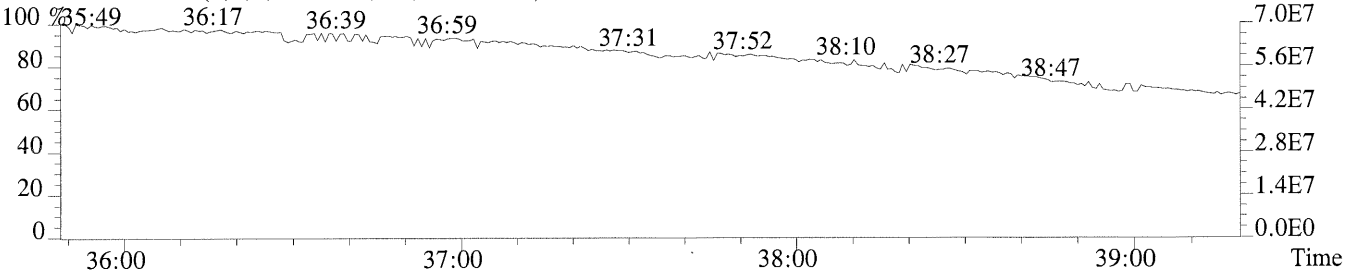
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3772.0,0.40%,F,F)



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

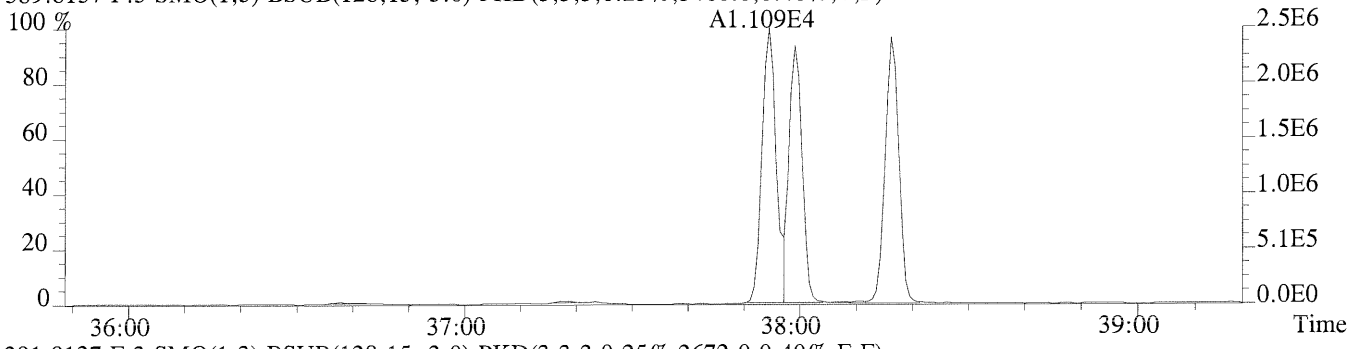


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

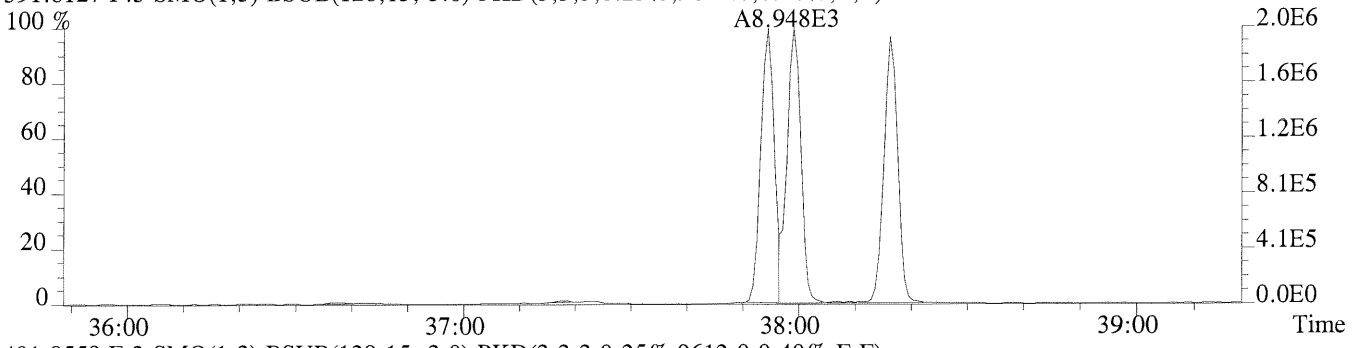


File:U129321 #1-318 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

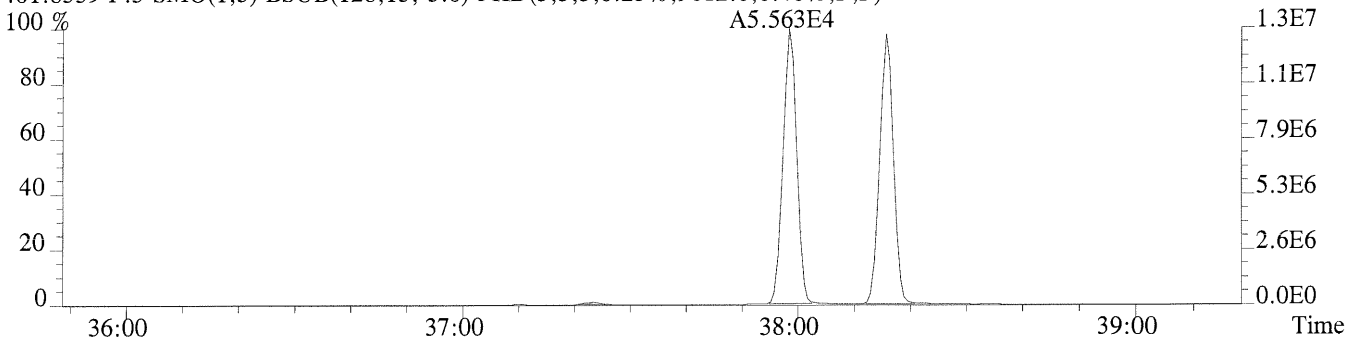
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5468.0,0.40%,F,F)



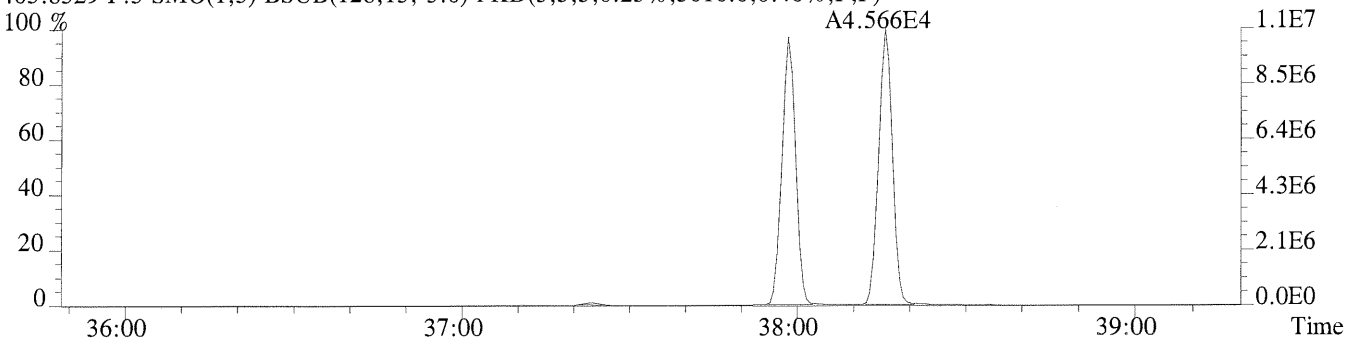
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2672.0,0.40%,F,F)



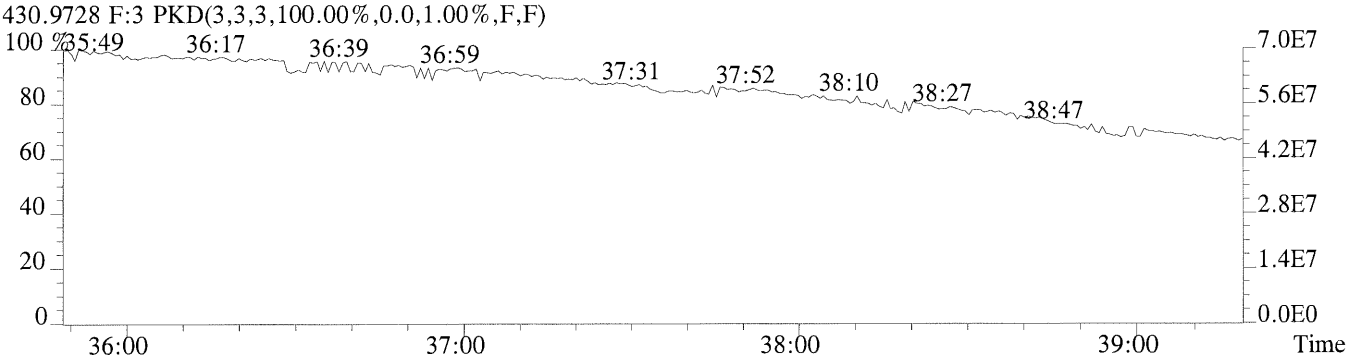
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9612.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5616.0,0.40%,F,F)

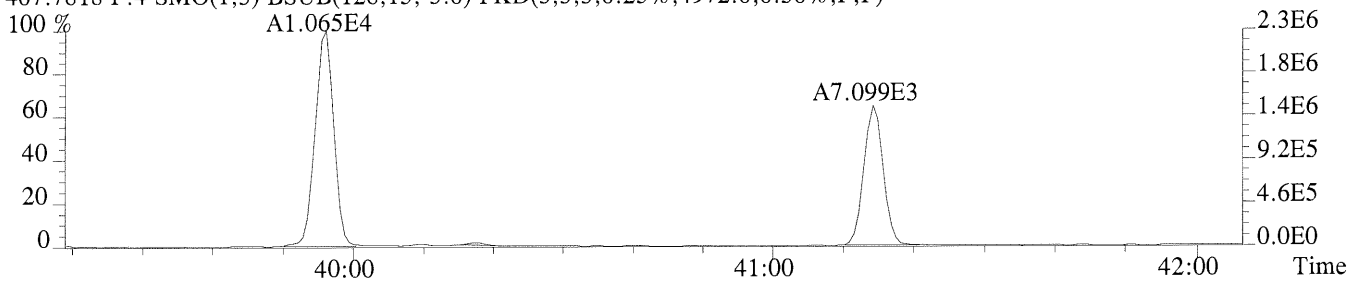


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

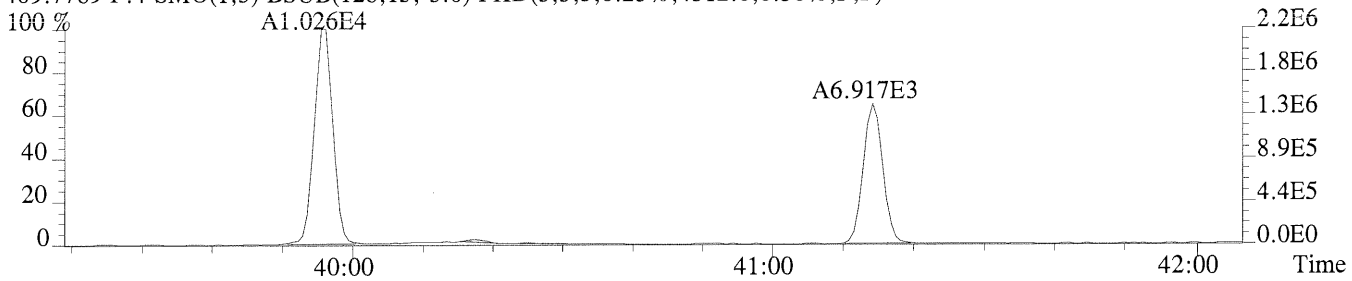


File:U129321 #1-254 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

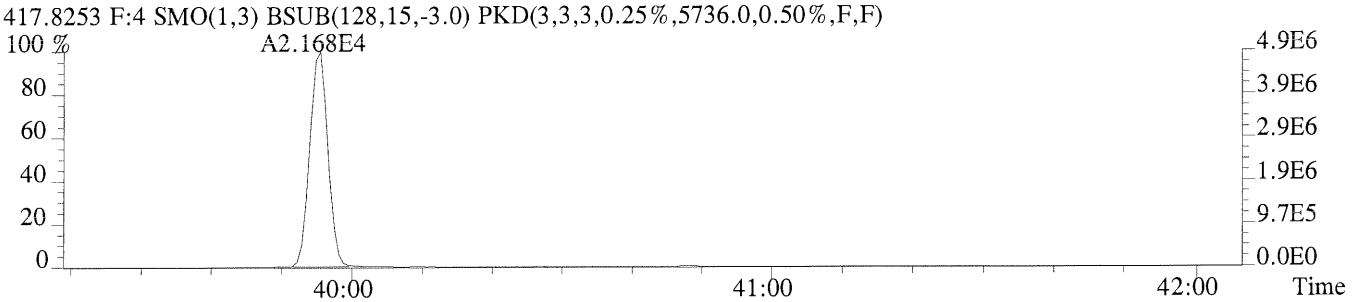
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4972.0,0.50%,F,F)



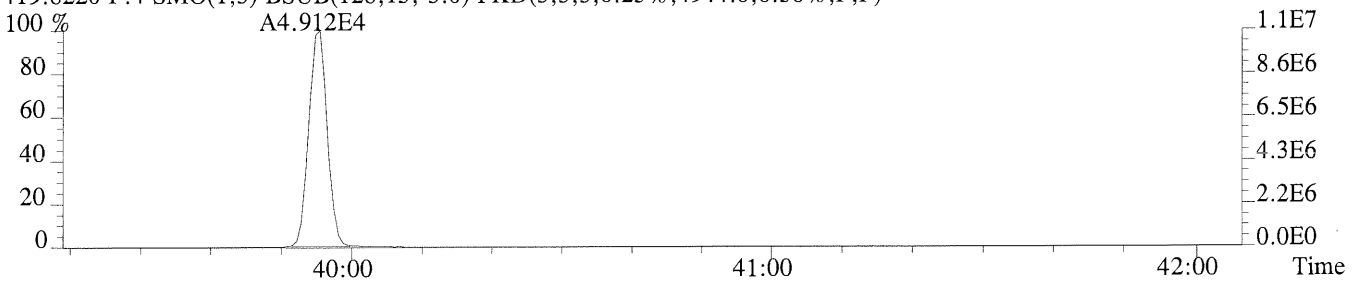
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4312.0,0.50%,F,F)



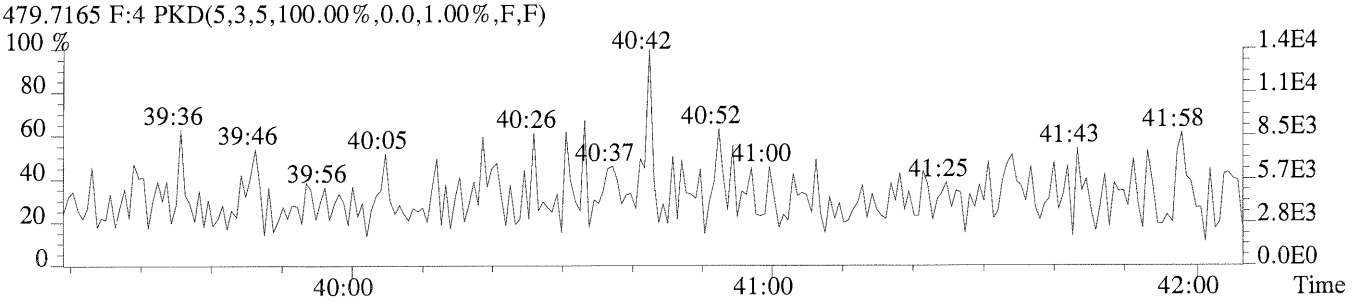
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5736.0,0.50%,F,F)



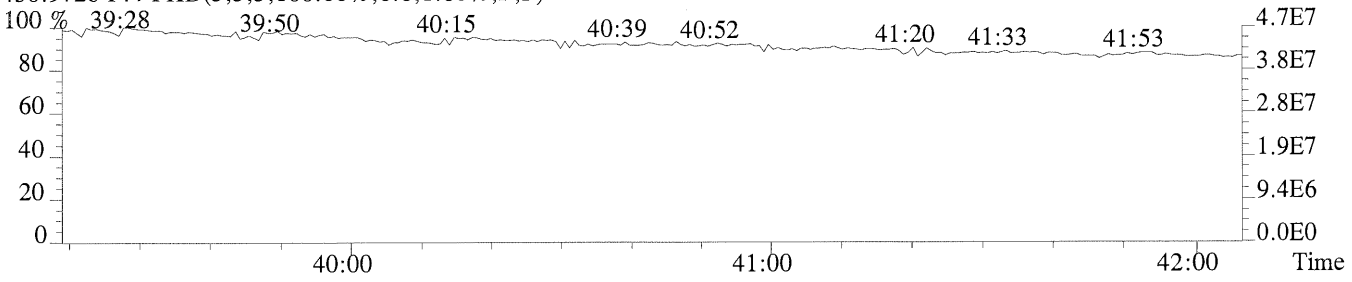
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4944.0,0.50%,F,F)



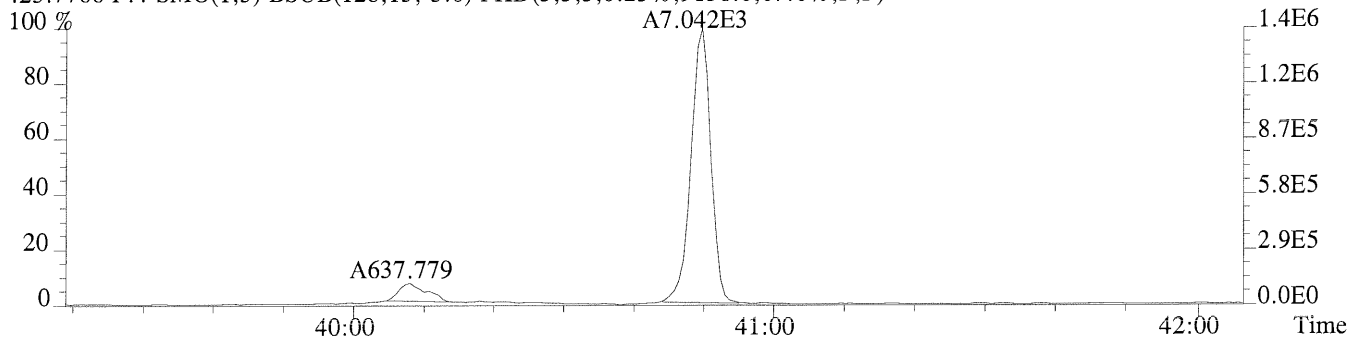
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



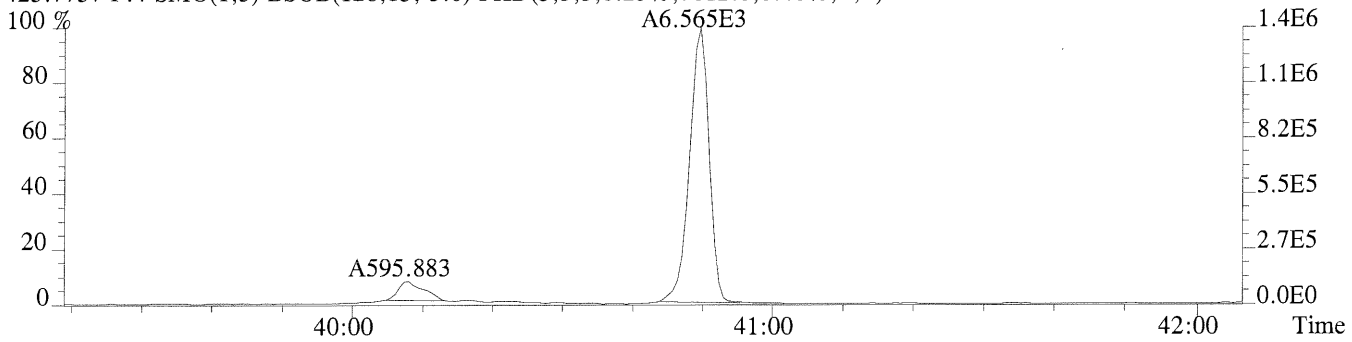
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



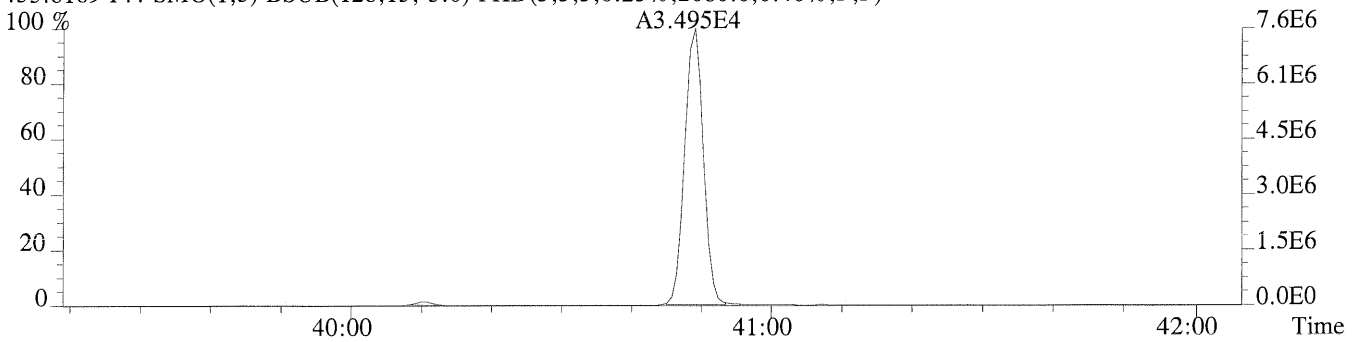
File:U129321 #1-254 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9136.0,0.40%,F,F)



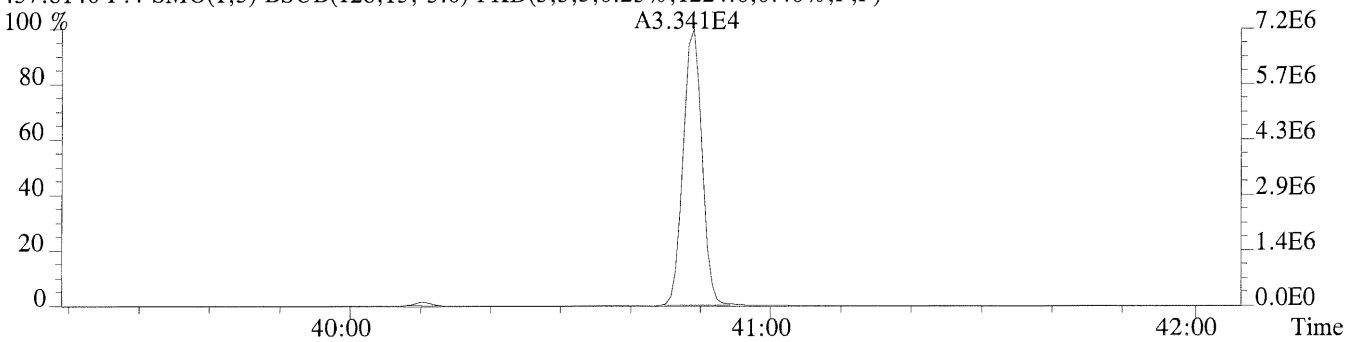
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7612.0,0.40%,F,F)



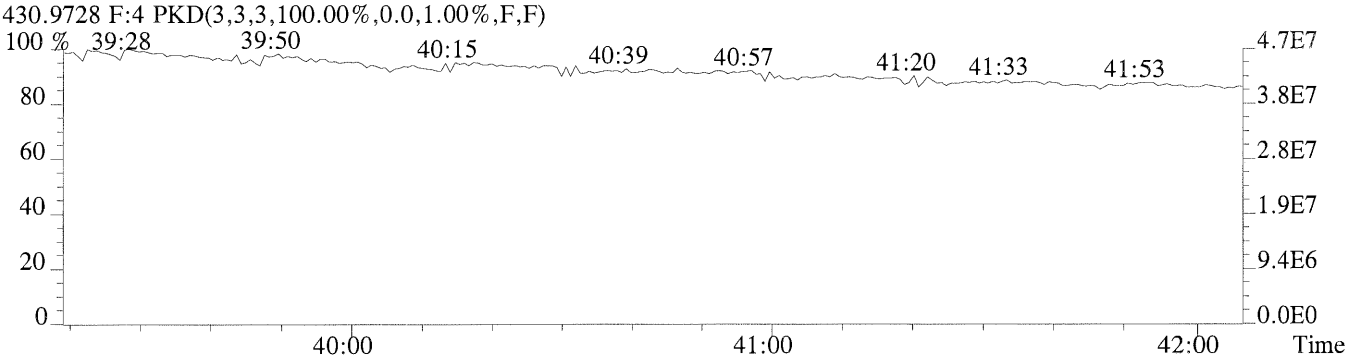
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2080.0,0.40%,F,F)



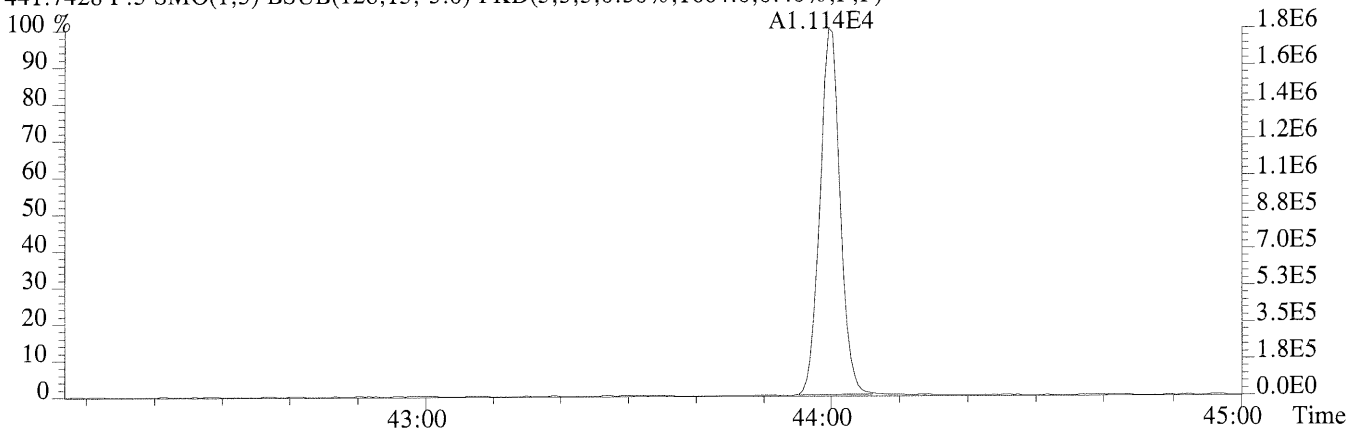
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.40%,F,F)



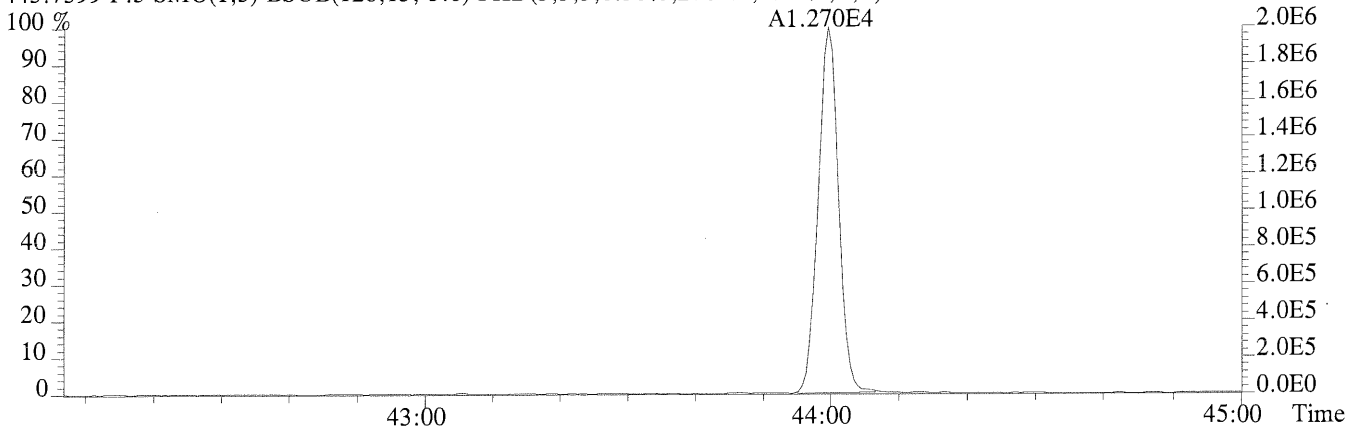
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



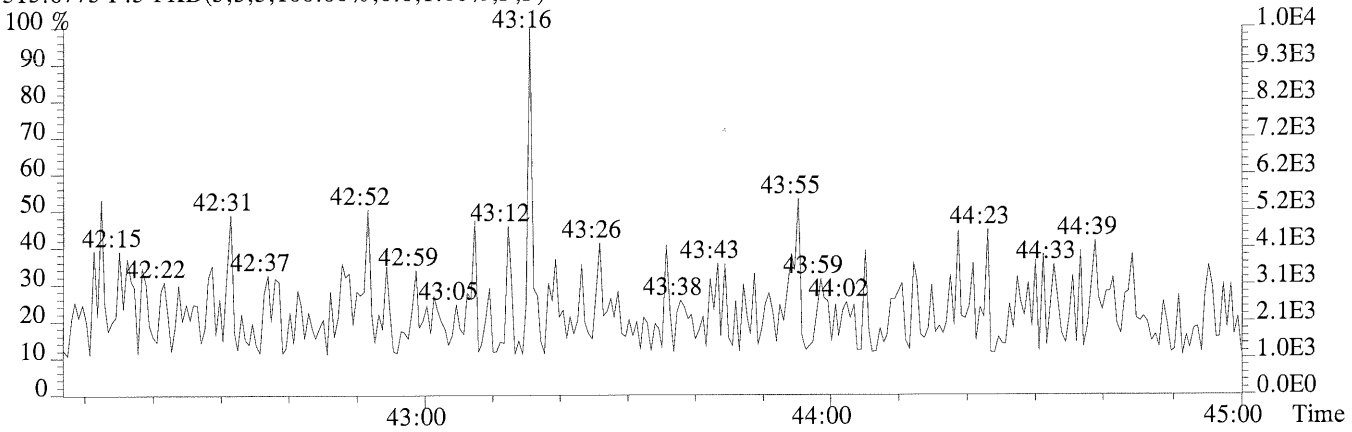
File:U129321 #1-319 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1664.0,0.40%,F,F)



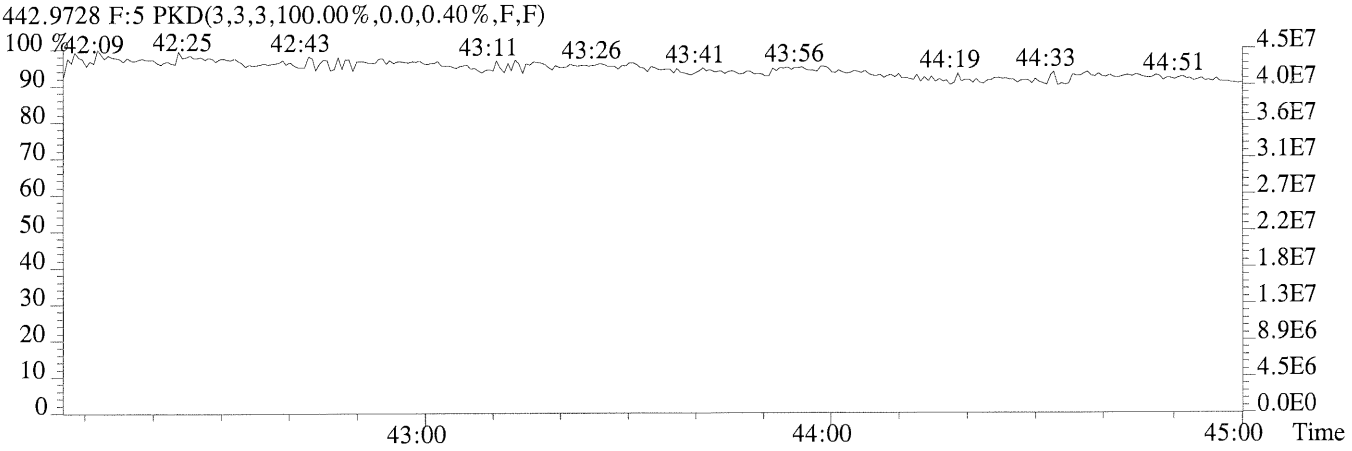
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2764.0,0.40%,F,F)



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

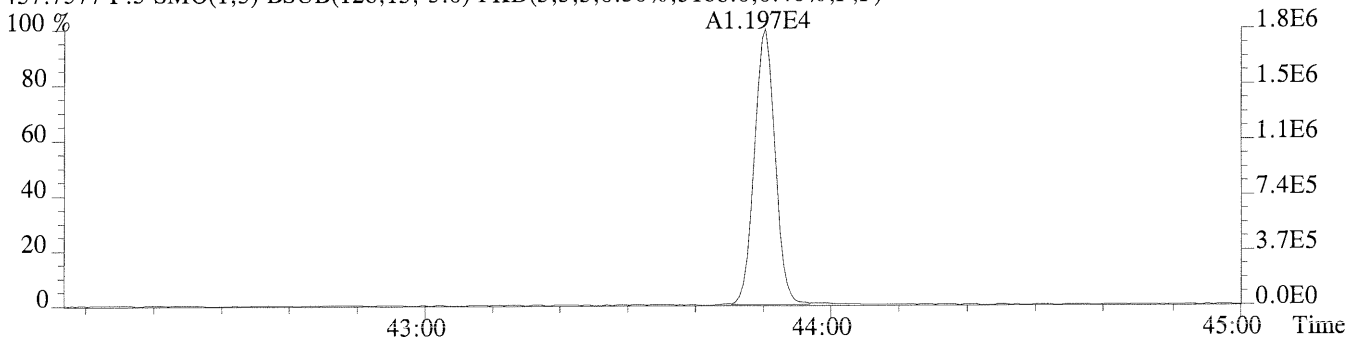


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

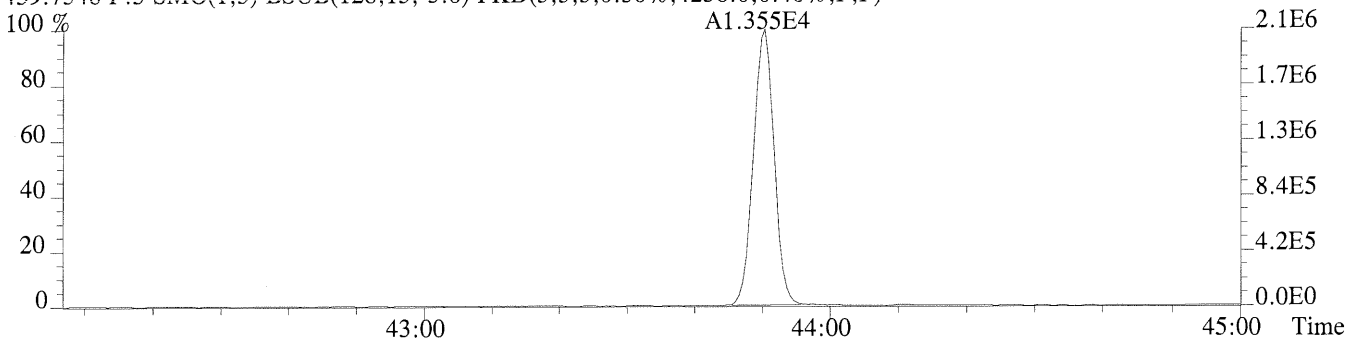


File:U129321 #1-319 Acq: 4-AUG-2008 18:03:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

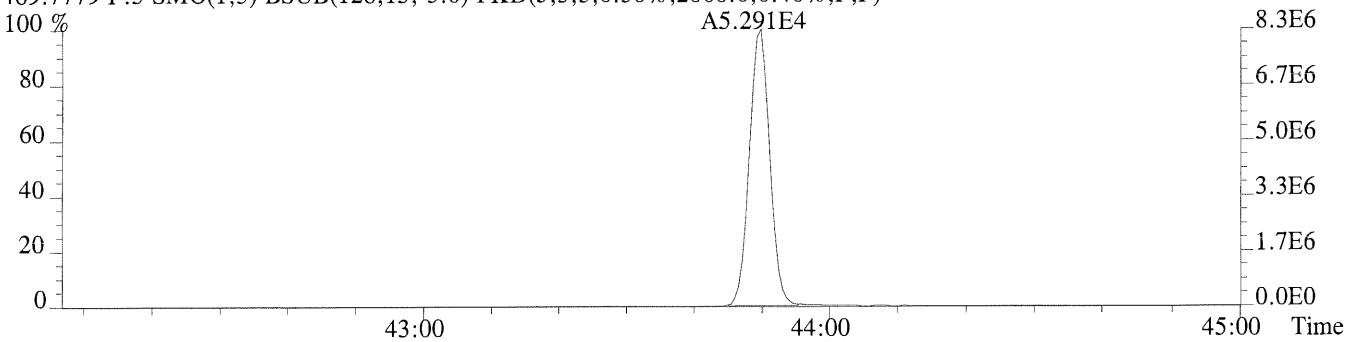
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3188.0,0.40%,F,F)



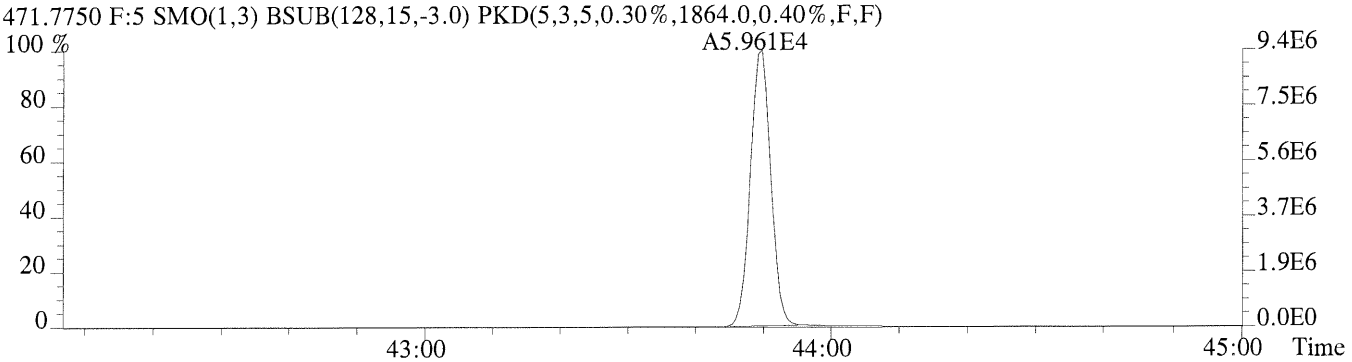
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4236.0,0.40%,F,F)



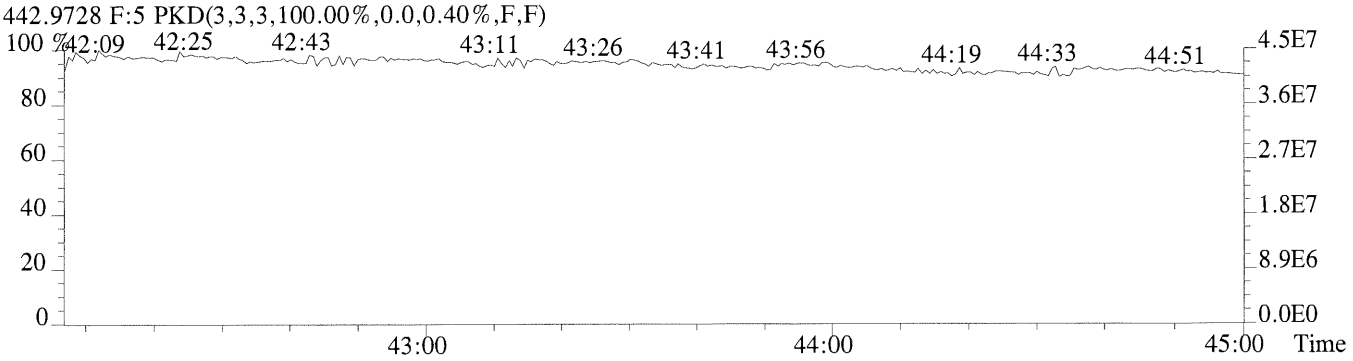
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2060.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1864.0,0.40%,F,F)



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



RW/ HRCC3 Daily Calibration QC Checklist

Calibration File Name: U217127 - U217137

Circle one: Beginning / Ending

Date: 08/14/08

Method: 8290 / Tetra / TCDD Only / TCDF Conf

Retention Window/Column Performance Check:	**Analyst**	**Second Check**
Windows labeled for first and last eluting compounds	✓	✓
Column performance shows less than or equal to 25% valley between column specific 2378 isomer and the closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or the closest eluters	✓	✓

HRCC3 Continuing Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
Signal-to-noise of all target analytes and associated labeled standards at least 2.5:1	✓	✓
Ending Calibration injected prior to end of 12 hour clock	✓	✓

Analyst: BG

Second QC: QC

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 12/10/07

Init. Calib.Times: 08:50

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
WINDOW DEFINE		U217126	14-AUG-08	07:19:52
CCAL HRCC3		U217127	14-AUG-08	08:12:27
METHOD BLANK	EQ0800340-01	U217128	14-AUG-08	09:16:32
PAD 2-3N	E0800745-004RE	U217129	14-AUG-08	10:02:37
2N PAD INTERFACE	E0800745-005RE	U217130	14-AUG-08	10:50:14
07-29-08-MW-5 DMS	EQ0800336-04	U217131	14-AUG-08	11:37:53
DH 1,2,3	E0800746-001RE	U217132	14-AUG-08	12:40:29
310084	E0800764-001	U217133	14-AUG-08	13:26:55
LCS	EQ0800339-02	U217134	14-AUG-08	14:14:35
DLCS	EQ0800339-03	U217135	14-AUG-08	15:02:15
LCS	EQ0800314-02	U217136	14-AUG-08	15:49:54
CCAL HRCC3	CCAL HRCC3	U217137	14-AUG-08	16:58:26

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.

An Employee Owned Company

Acq Method: 8290 CAS/1613 Result File: H:U217127RES

GC Method: 8290 CAS/1613 EDD File:

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
08/14/08	07:00		HRMS Check					
	07:19	U217126	WINDOW DEFINE	D4-90-2				
	08:12	U217127	CCAL HRCC3	D8-2-2A				
	09:16	~~U217128~~ U217128	EQ0800340-01MB	METHOD BLANK				
	10:02	~~U217129~~ U217129	E0800745-004RE	PAD 2-3N				
	10:50	U217130	E0800745 005RE	2ND PAD INTERFACE				
	11:37	U217131	EQ0800336-04DMS	07-29-08-MW-5 DMS				
	12:40	U217132	E0800746-001RE	DH 1, 2, 3				
	13:26	U217133	E0800744-001	310084				
	14:14	U217134	EQ0800339-02LCS	LCS				
	15:02	U217135	EQ0800339-03DLCS	DLCS				
	15:49	U217136	EQ0800314-02LCS	LCS				
	16:58	U217137	CCAL HRCC3	D8-2-2A				
	18:08		HRMS CHECK					
		U217138	WINDOW DEFINE	D4-90-2				
		U217139	EQ0800339-01MB					

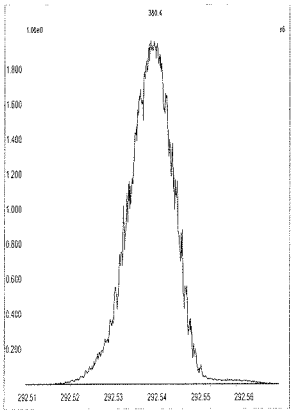
Reviewed by:

Experiment Calibration Report **MassLynx 4.1**

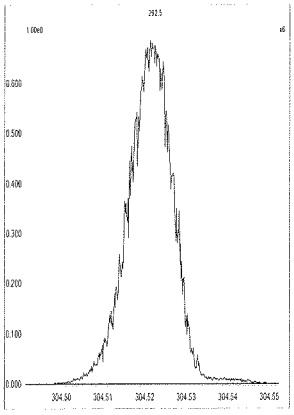
File: Experiment: 8290CAS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, August 14, 2008 07:17:56 Central Daylight Time

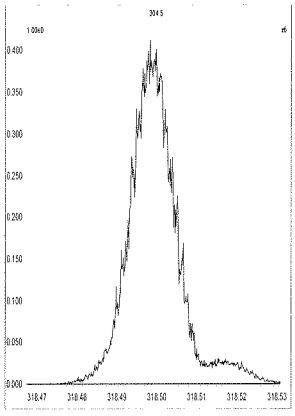
M 292.9824 R 12196



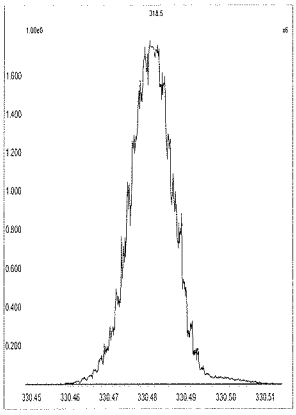
M 304.9824 R 12374



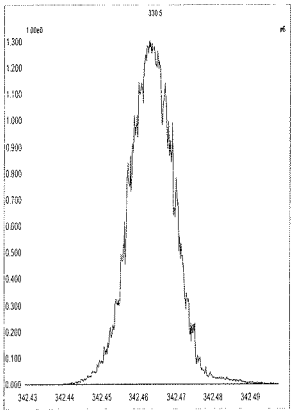
M 318.9792 R 9026



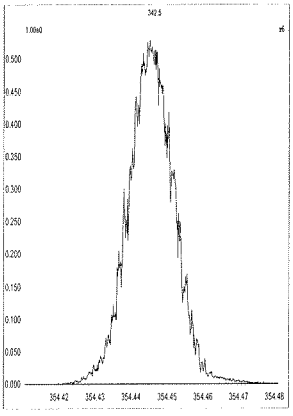
M 330.9792 R 12625



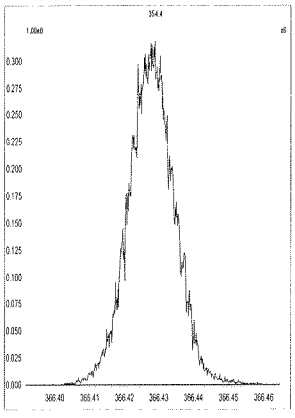
M 342.9792 R 12378



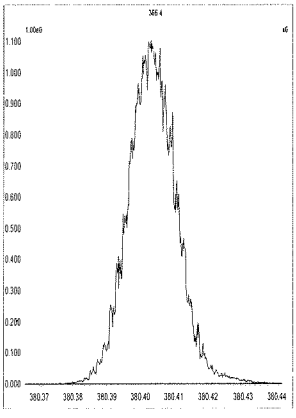
M 354.9792 R 12437



M 366.9792 R 11906



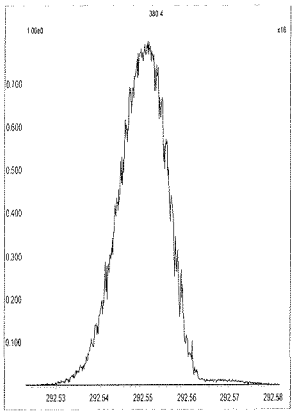
M 380.9760 R 11467



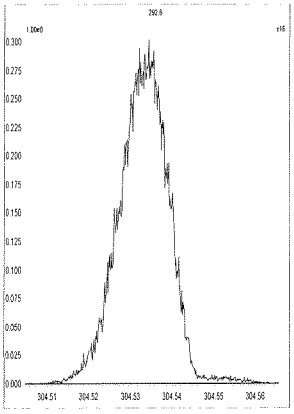
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Printed: Thursday, August 14, 2008 18:08:35 Central Daylight Time

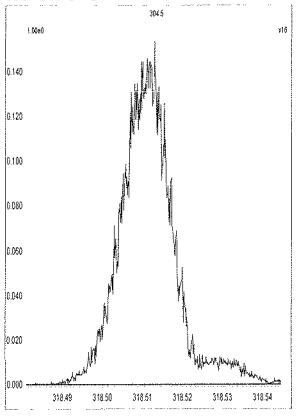
M 292.9824 R 11629



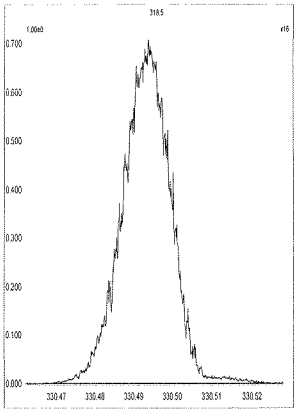
M 304.9824 R 11414



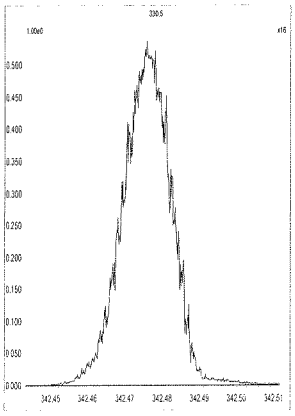
M 318.9792 R 8279



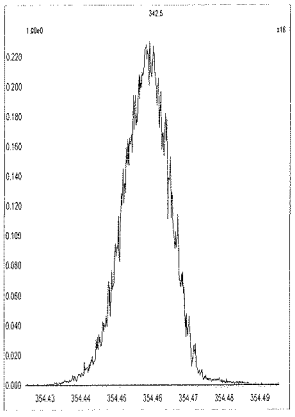
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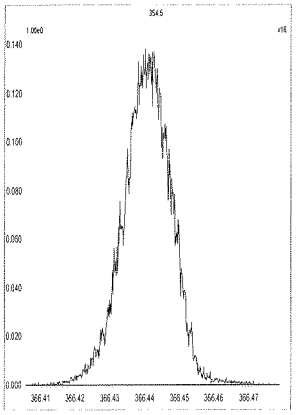
M 342.9792 R 11517



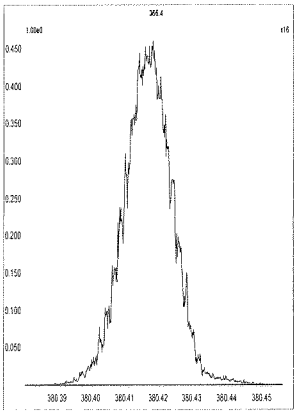
M 354.9792 R 11792



M 366.9792 R 11571



M 380.9760 R 11521



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

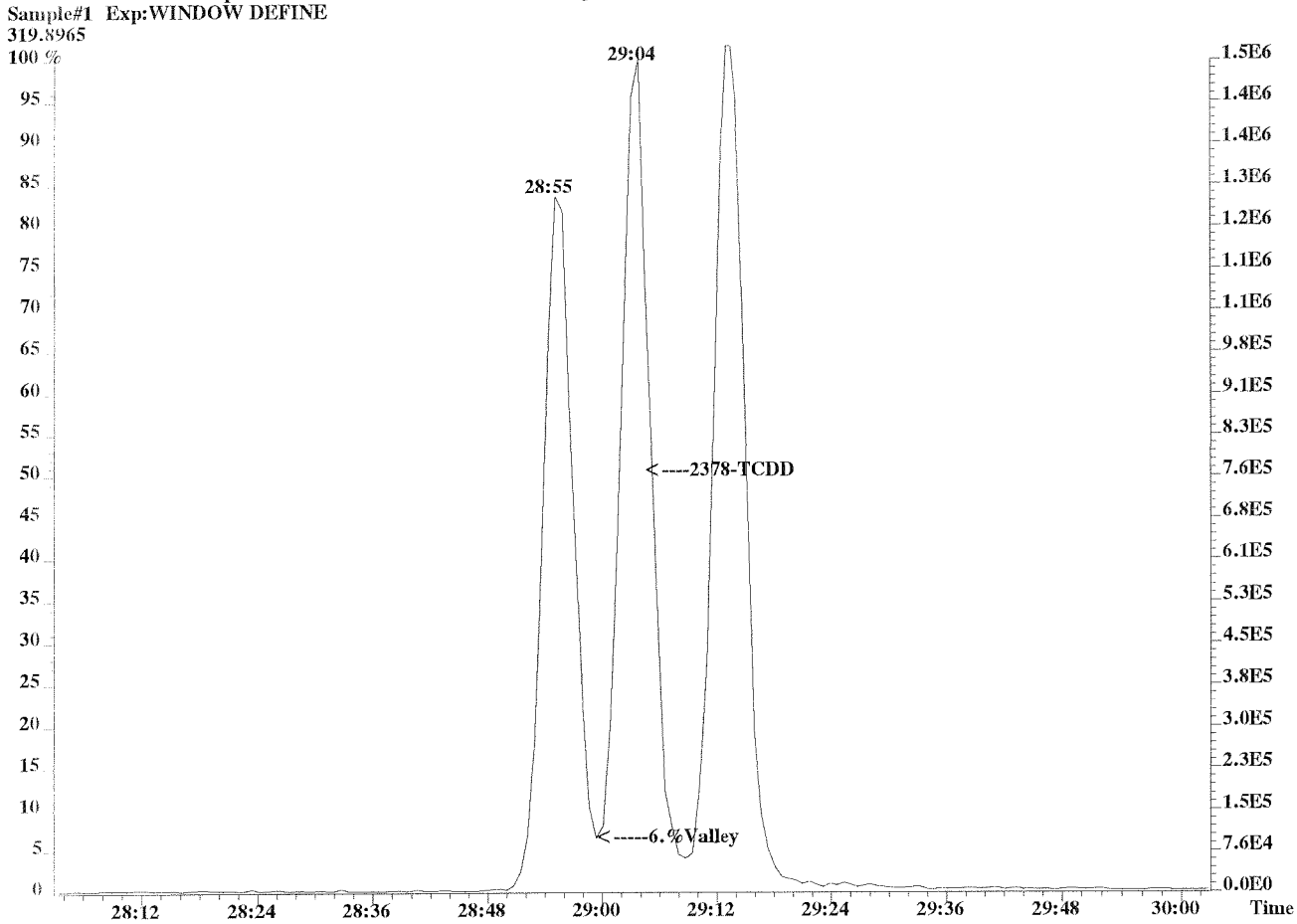
WDM

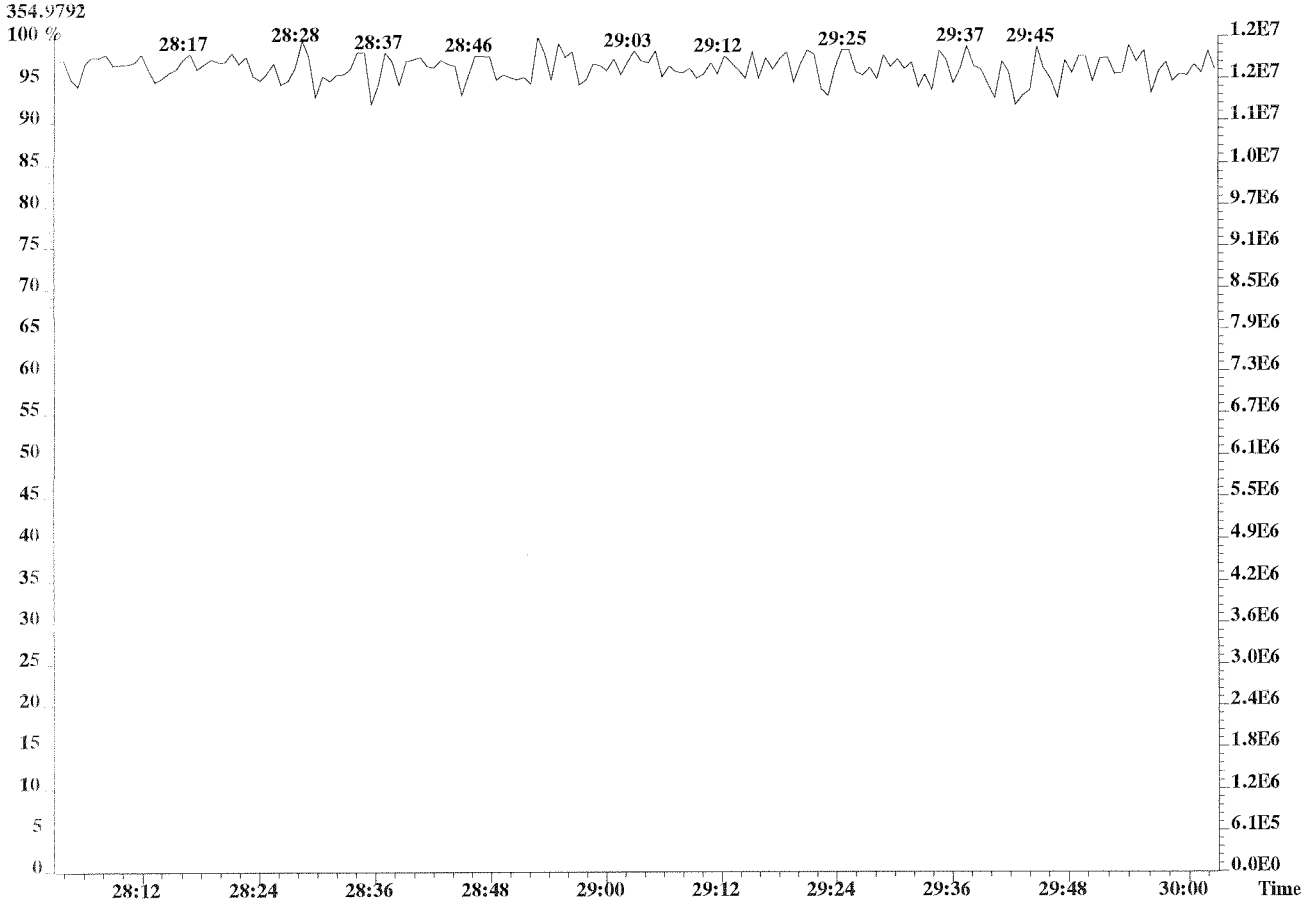
Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: CAS Case No.: _____ SDG No.:
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: U217126
Date Analyzed: 14-AUG-2008
Time Analyzed: 07:19:52

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:18	30:09
TCDD	26:04	30:08
PeCDF	30:25	34:15
PeCDD	31:46	34:05
HxCDF	35:07	37:25
HxCDD	35:37	37:06
HpCDF	38:49	40:08
HpCDD	39:04	39:43

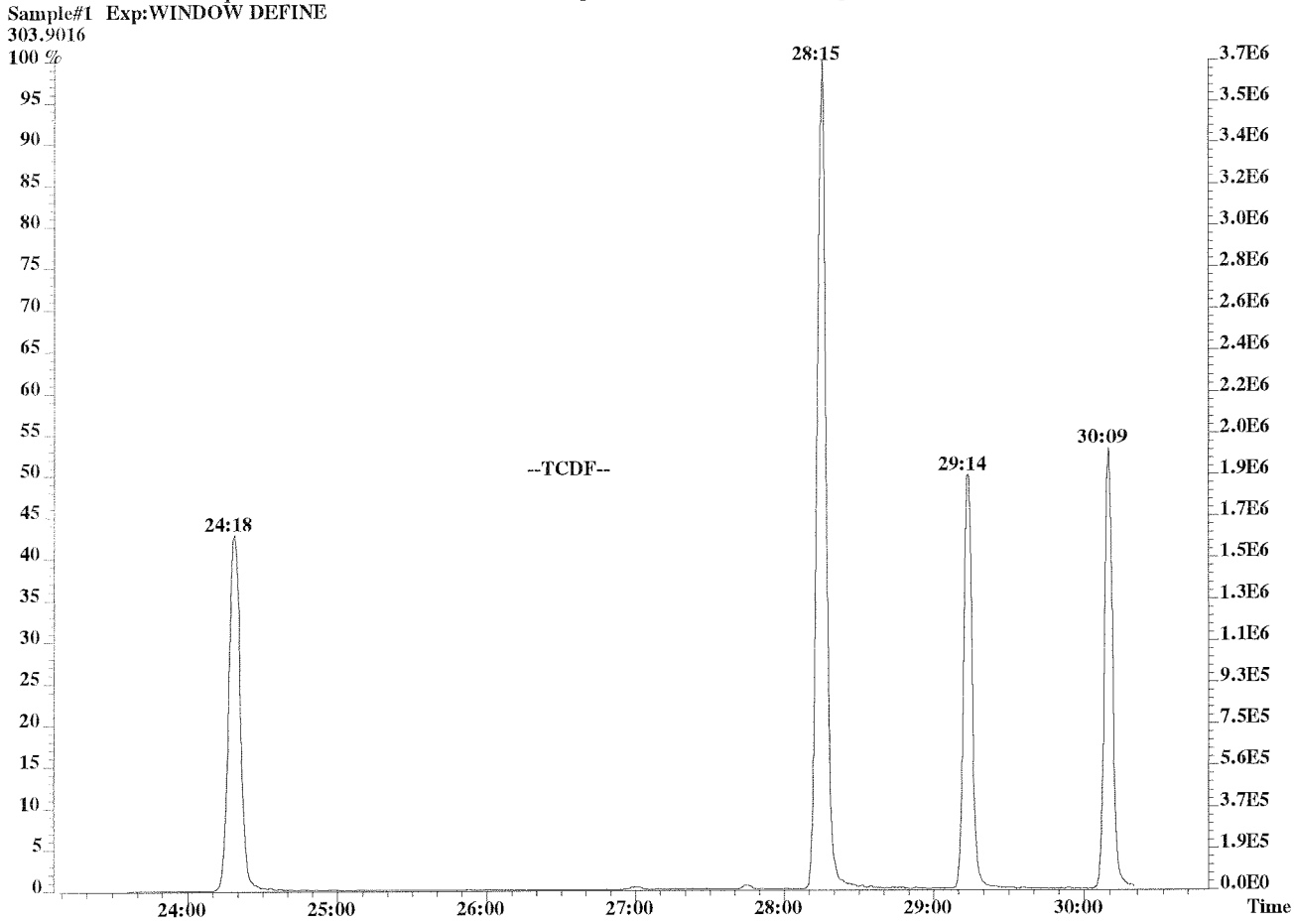
% Valley 2378-TCDD: 6. %

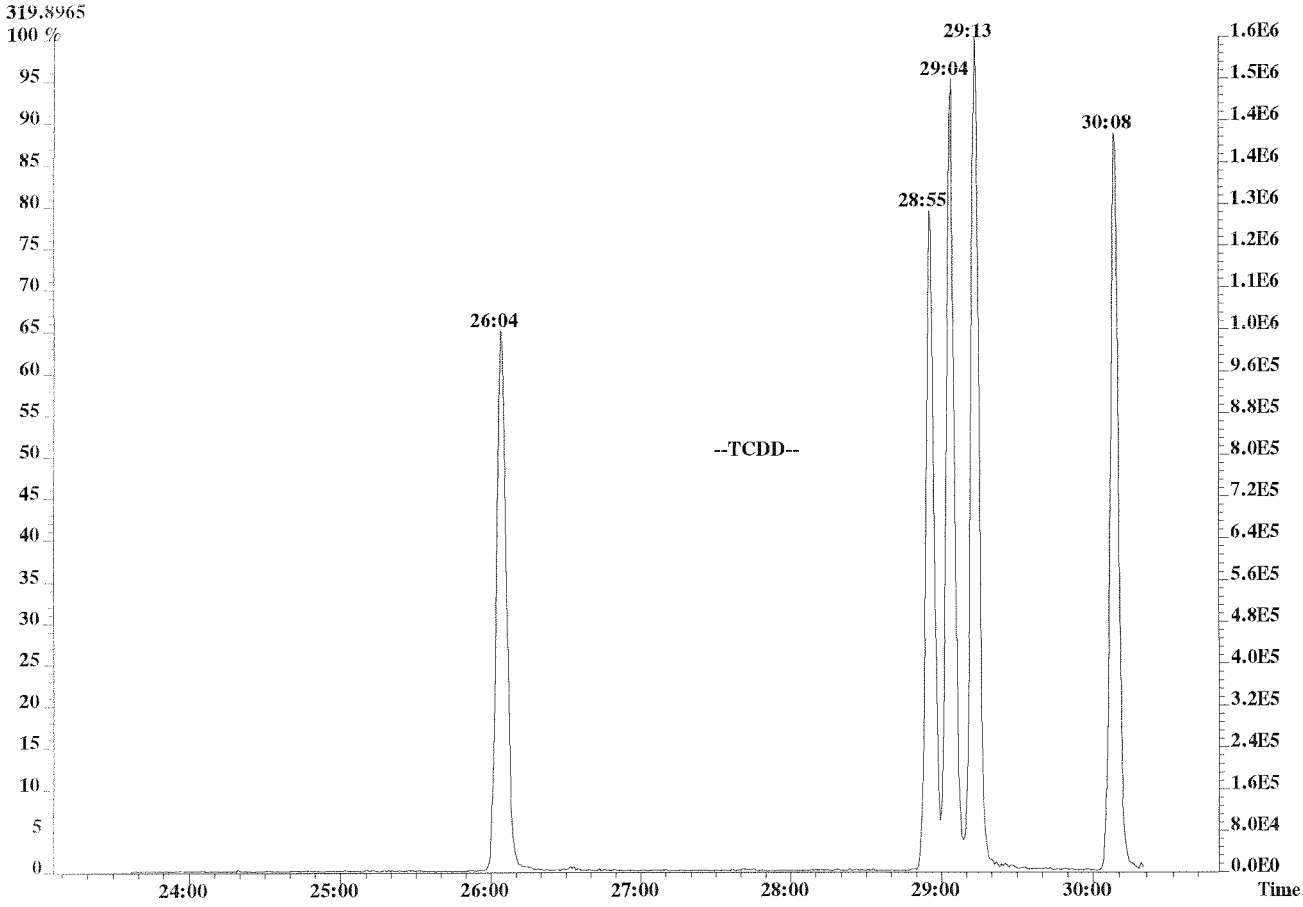
File:U217126 #1-559 Acq:14-AUG-2008 07:19:52 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE



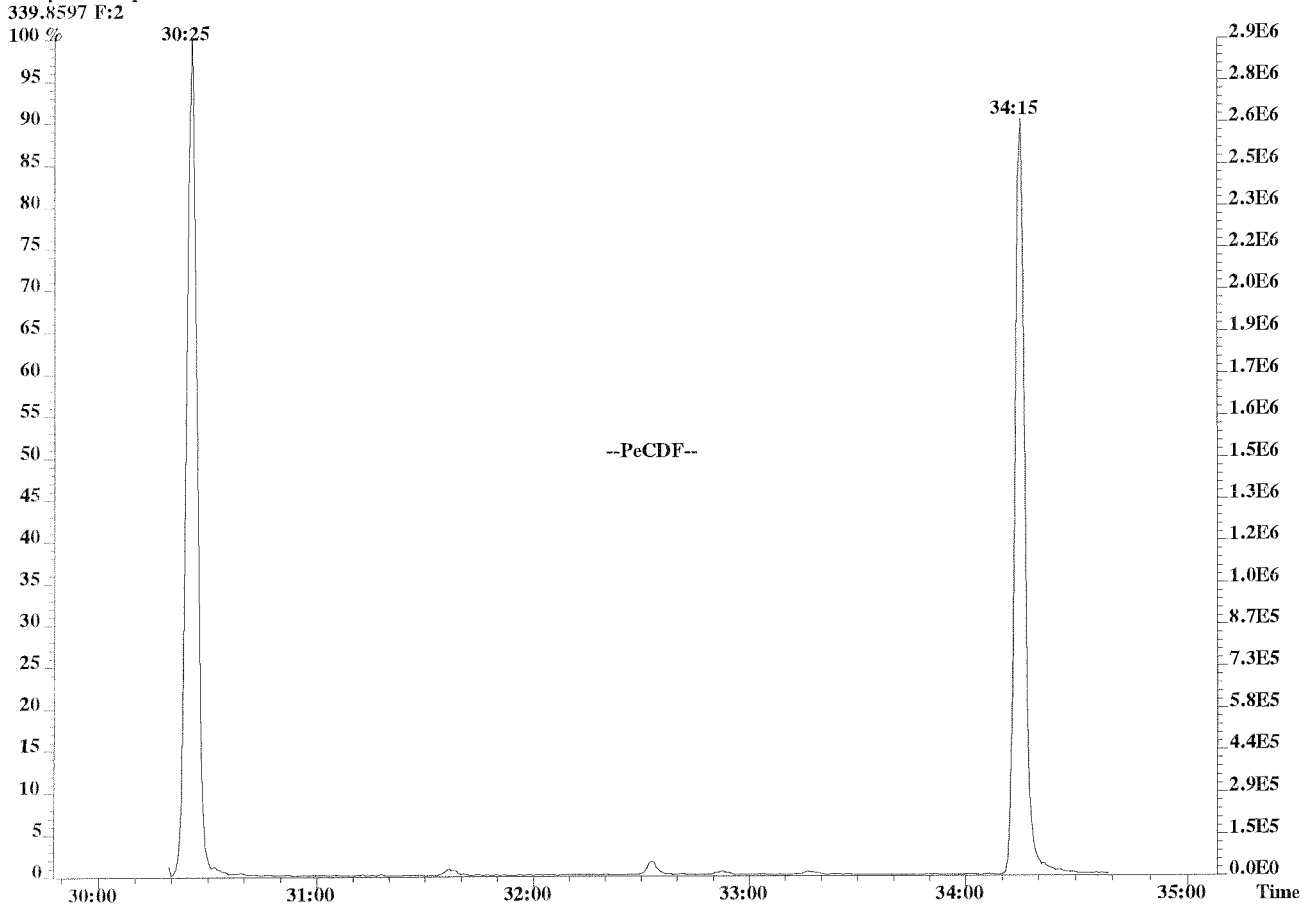


File:U217126 #1-559 Acq:14-AUG-2008 07:19:52 Probe EI+ Magnet SIR VG BioTech Mass spectrom
Sample#1 Exp:WINDOW DEFINE

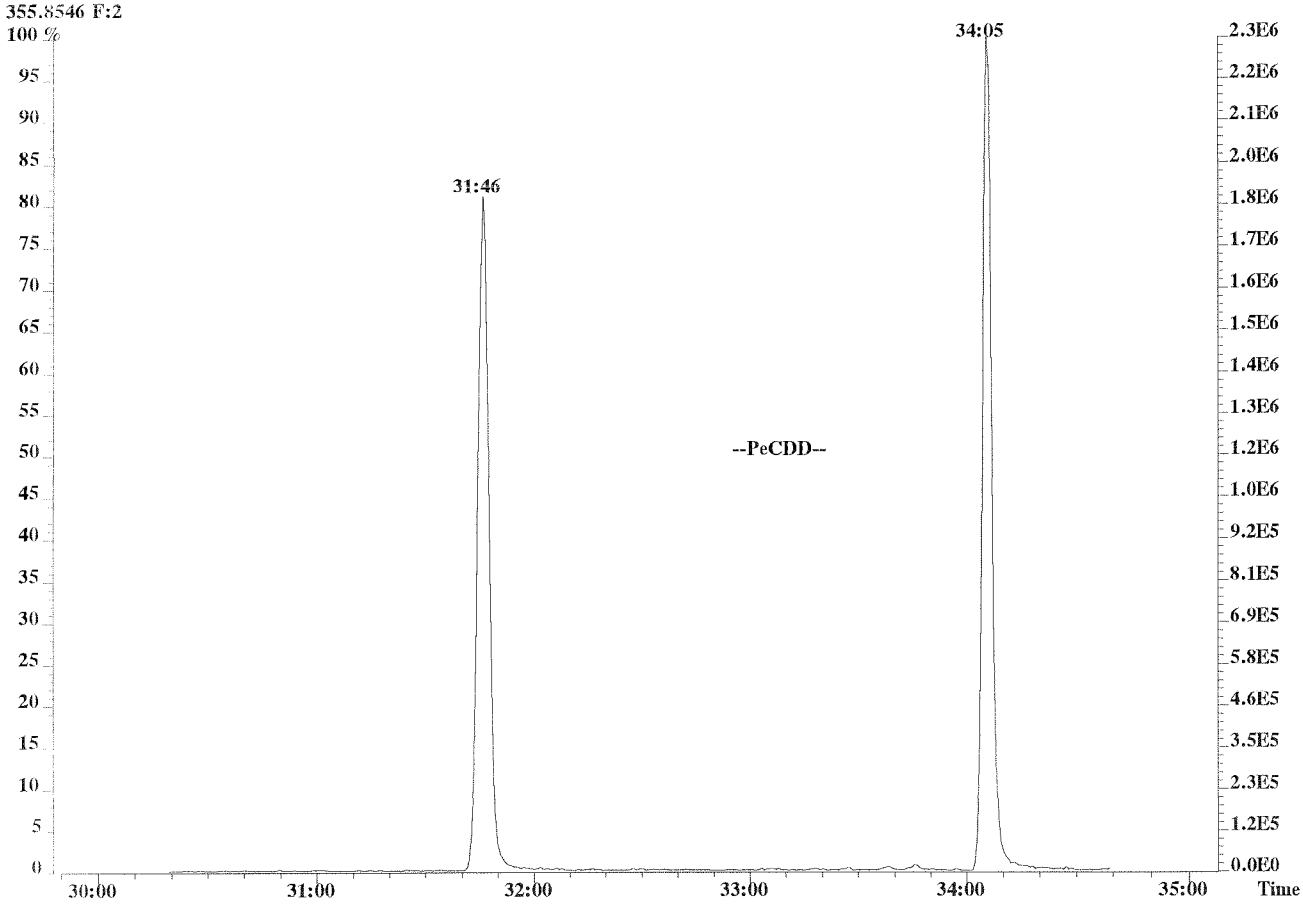




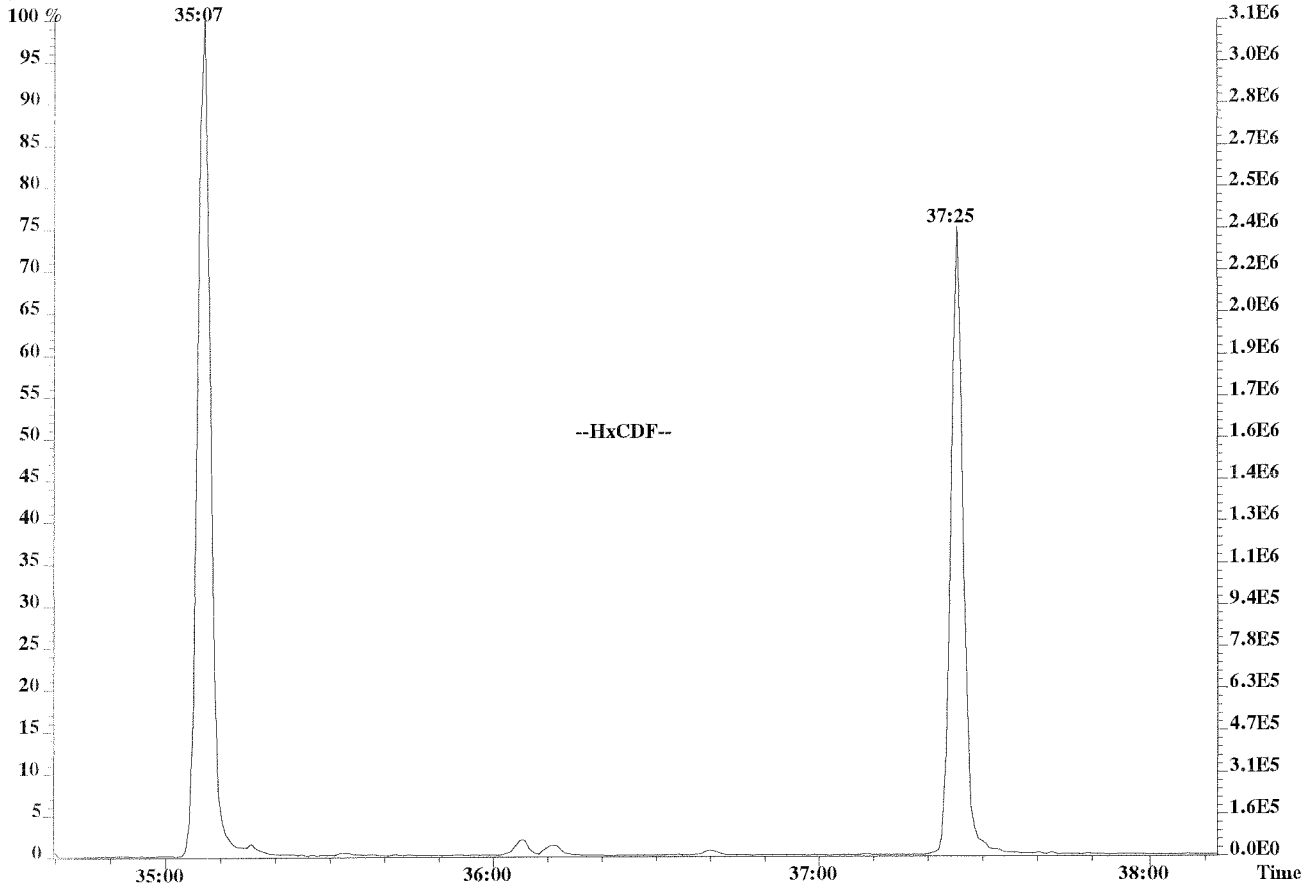
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Sample#1 Exp:WINDOW DEFINE
339.8597 F:2



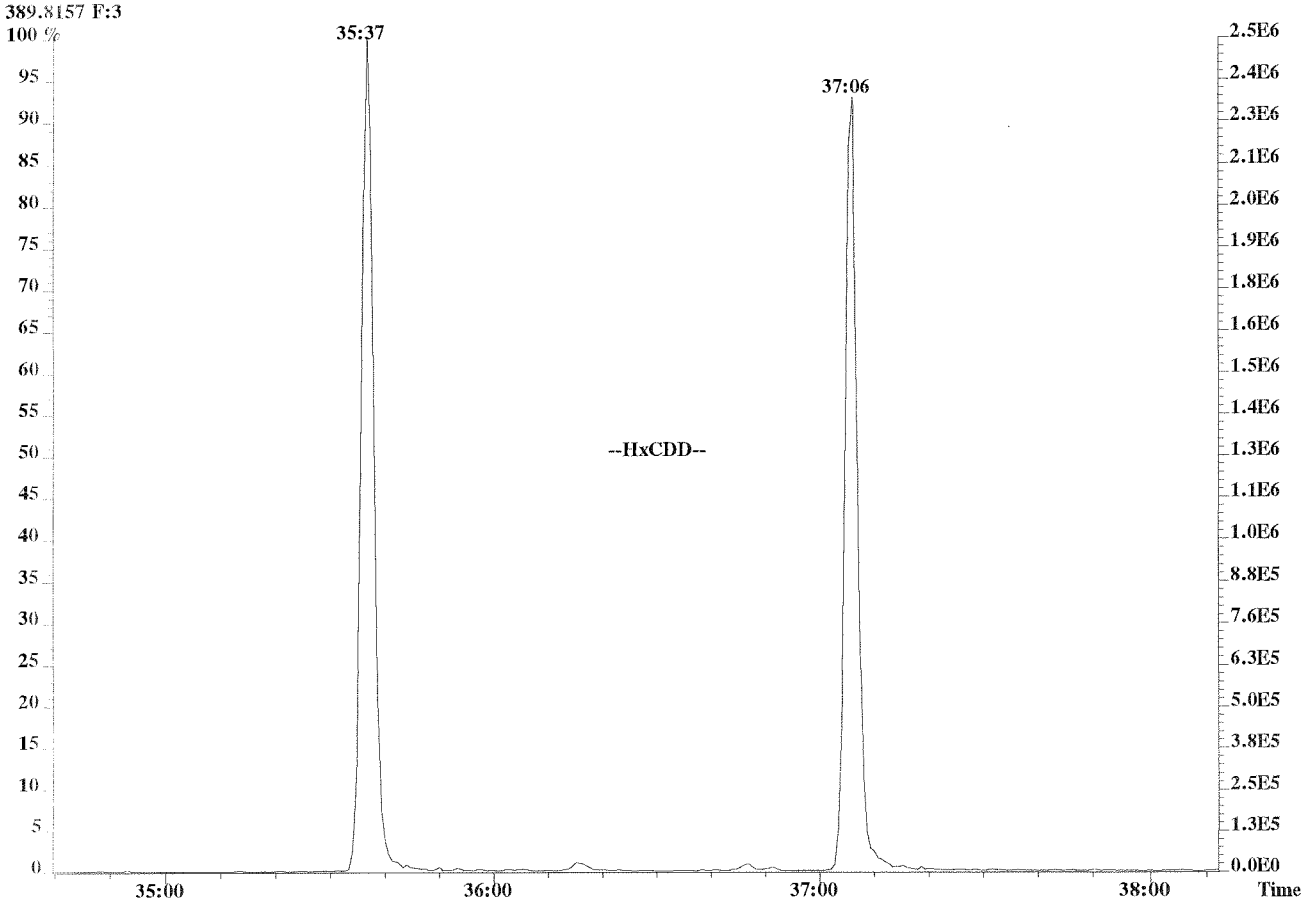
355.8546 F:2



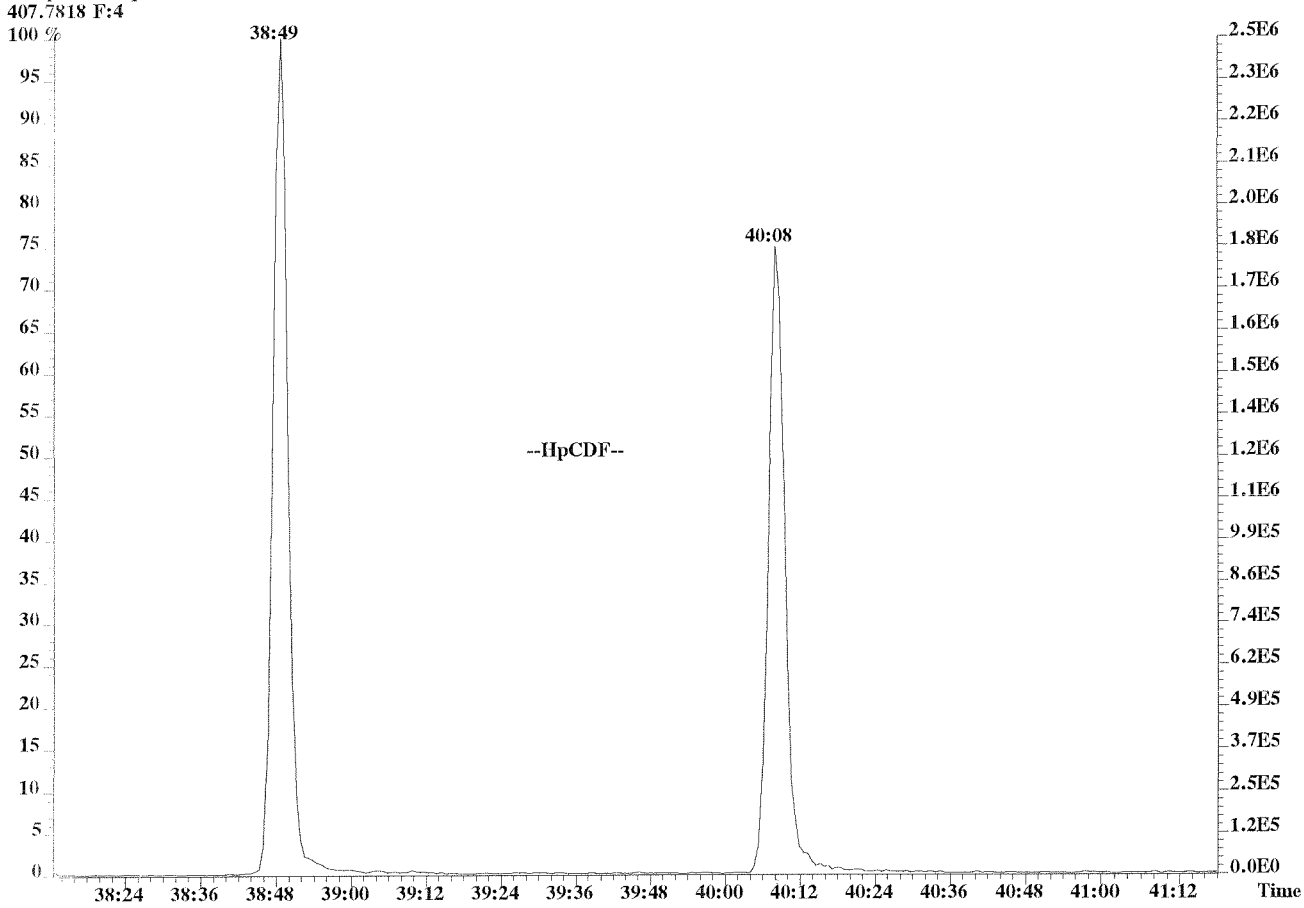
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Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



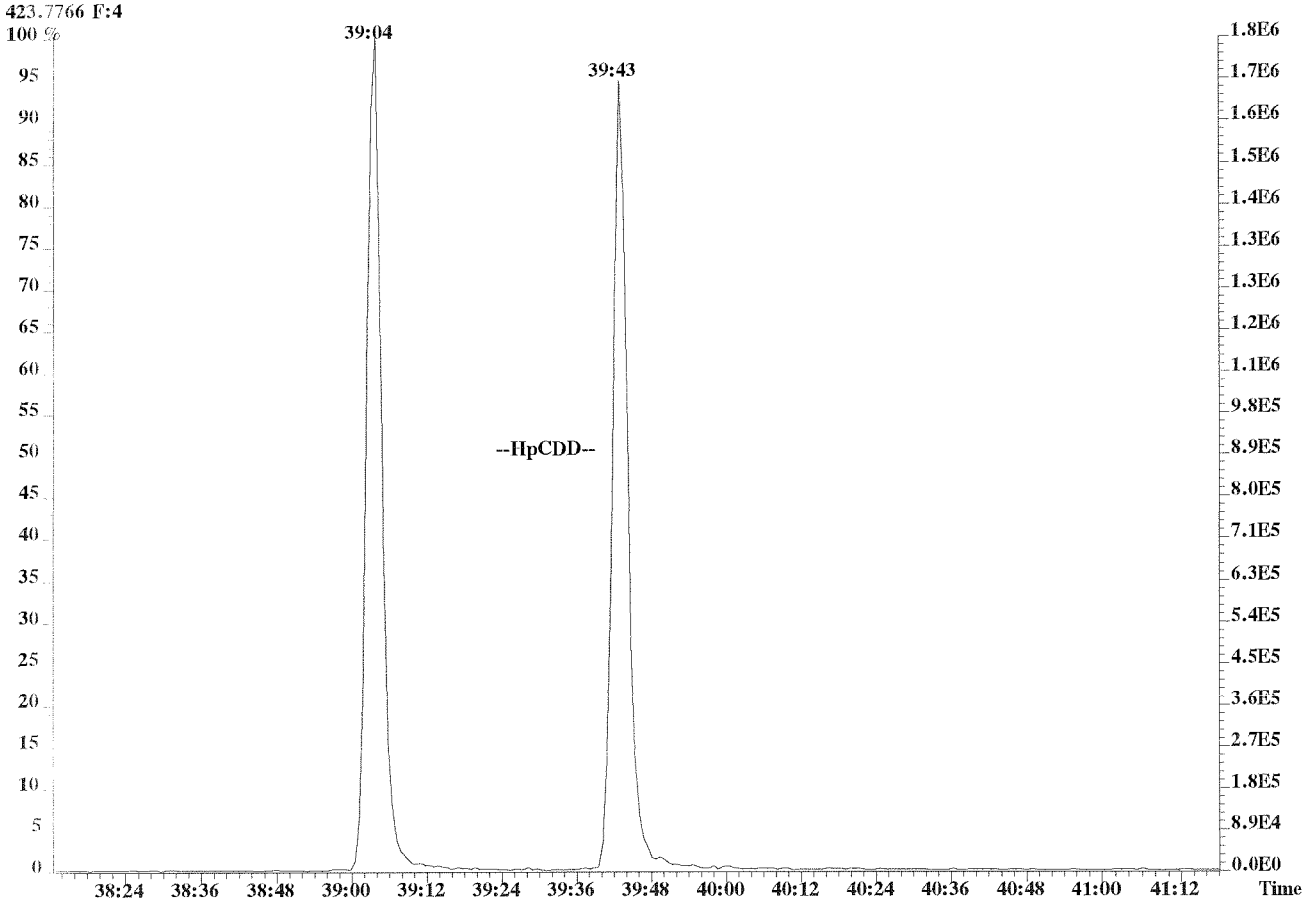
389.8157 F:3



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Sample#1 Exp:WINDOW DEFINE
407.7818 F:4



423.7766 F:4



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U217127 Analysis Date: 14-AUG-08 Time: 08:12:27

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.77	0.65-0.89	0.99	0.93	7.13
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.32-1.78	0.93	0.90	4.04
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	0.96	1.03	-6.51
1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	1.05	1.04	1.37
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	1.03	1.03	0.22
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	0.96	0.92	3.56
OCDD	M+2/M+4	0.88	0.76-1.02	1.03	1.03	0.38
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	0.97	0.91	6.56
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	0.95	0.90	6.01
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.00	0.91	9.86
1,2,3,4,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.25	1.15	8.72
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.22	1.11	10.18
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	1.05	0.89	17.20
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	1.13	1.05	8.19
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	1.45	1.40	3.80
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	1.19	1.07	11.25
OCDF	M+2/M+4	0.90	0.76-1.02	1.22	1.16	5.62

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U217127 Analysis Date: 14-AUG-08 Time: 08:12:27

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	1.02	1.02	-0.39
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.54	1.32-1.78	0.97	0.97	0.07
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.94	0.99	-5.22
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	0.85	0.89	-4.99
13C-OCDD	M+2/M+4	0.90	0.76-1.02	1.03	0.96	6.62
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	1.38	1.32	3.84
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	1.34	1.37	-2.66
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	1.12	1.27	-12.48
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	0.85	0.91	-6.82
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				1.04	0.96	7.88

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #6 Filename U217127 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 08:12:27
Processed: 14-AUG-08 14:56:46 Sample ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:13	7.808e+03	1.014e+04	0.77	yes	no	0.91
2	Unk	1,2,3,7,8-PeCDF	32:32	2.616e+04	1.663e+04	1.57	yes	no	0.90
3	Unk	2,3,4,7,8-PeCDF	33:16	2.767e+04	1.748e+04	1.58	yes	no	0.91
4	Unk	1,2,3,4,7,8-HxCDF	36:04	2.386e+04	1.941e+04	1.23	yes	no	1.15
5	Unk	1,2,3,6,7,8-HxCDF	36:10	2.328e+04	1.876e+04	1.24	yes	no	1.11
6	Unk	2,3,4,6,7,8-HxCDF	36:39	2.155e+04	1.747e+04	1.23	yes	no	1.05
7	Unk	1,2,3,7,8,9-HxCDF	37:21	1.993e+04	1.625e+04	1.23	yes	no	0.89
8	Unk	1,2,3,4,6,7,8-HpCDF	38:48	1.927e+04	1.868e+04	1.03	yes	no	1.40
9	Unk	1,2,3,4,7,8,9-HpCDF	40:08	1.576e+04	1.531e+04	1.03	yes	no	1.07
10	Unk	OCDF	42:57	3.694e+04	4.086e+04	0.90	yes	no	1.16
11	Unk	2,3,7,8-TCDD	29:03	5.921e+03	7.719e+03	0.77	yes	no	0.93
12	Unk	1,2,3,7,8-PeCDD	33:37	1.877e+04	1.181e+04	1.59	yes	no	0.90
13	Unk	1,2,3,4,7,8-HxCDD	36:46	1.539e+04	1.245e+04	1.24	yes	no	1.03
14	Unk	1,2,3,6,7,8-HxCDD	36:51	1.715e+04	1.333e+04	1.29	yes	no	1.04
15	Unk	1,2,3,7,8,9-HxCDD	37:08	1.663e+04	1.312e+04	1.27	yes	no	1.03
16	Unk	1,2,3,4,6,7,8-HpCDD	39:43	1.285e+04	1.219e+04	1.05	yes	no	0.92
17	Unk	OCDD	42:47	3.081e+04	3.484e+04	0.88	yes	no	1.03
18	IS	13C-2,3,7,8-TCDF	28:13	4.071e+04	5.193e+04	0.78	yes	no	1.32
19	IS	13C-1,2,3,7,8-PeCDF	32:31	5.493e+04	3.502e+04	1.57	yes	no	1.37
20	IS	13C-1,2,3,4,7,8-HxCDF	36:04	5.931e+04	1.132e+05	0.52	yes	no	1.27
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:48	4.064e+04	9.037e+04	0.45	yes	no	0.91
22	IS	13C-2,3,7,8-TCDD	29:01	3.015e+04	3.861e+04	0.78	yes	no	1.02
23	IS	13C-1,2,3,7,8-PeCDD	33:36	3.972e+04	2.573e+04	1.54	yes	no	0.97
24	IS	13C-1,2,3,6,7,8-HxCDD	36:50	8.057e+04	6.421e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:42	6.731e+04	6.373e+04	1.06	yes	no	0.89
26	IS	13C-OCDD	42:47	1.509e+05	1.672e+05	0.90	yes	no	0.96
27	RS/RT	13C-1,2,3,4-TCDD	28:49	2.971e+04	3.765e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:07	8.599e+04	6.870e+04	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:03	1.395e+04					0.96

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #6 Filename U217127 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 08:12:27

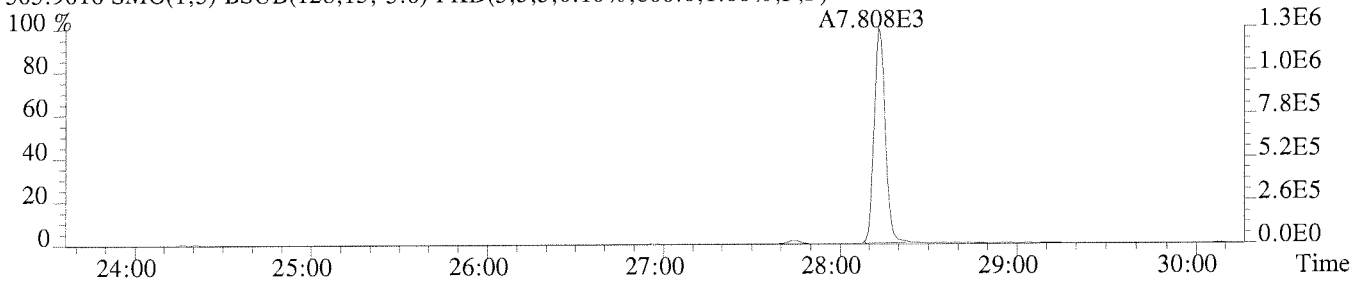
Processed: 14-AUG-08 14:56:46 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.29e+06	8.00e+02	1.6e+03	1.70e+06	1.34e+03	1.3e+03
2	1,2,3,7,8-PeCDF	5.04e+06	4.60e+02	1.1e+04	3.24e+06	1.27e+03	2.6e+03
3	2,3,4,7,8-PeCDF	5.41e+06	4.60e+02	1.2e+04	3.36e+06	1.27e+03	2.7e+03
4	1,2,3,4,7,8-HxCDF	5.33e+06	6.68e+02	8.0e+03	4.28e+06	8.76e+02	4.9e+03
5	1,2,3,6,7,8-HxCDF	4.99e+06	6.68e+02	7.5e+03	4.03e+06	8.76e+02	4.6e+03
6	2,3,4,6,7,8-HxCDF	4.79e+06	6.68e+02	7.2e+03	3.85e+06	8.76e+02	4.4e+03
7	1,2,3,7,8,9-HxCDF	4.14e+06	6.68e+02	6.2e+03	3.42e+06	8.76e+02	3.9e+03
8	1,2,3,4,6,7,8-HpCDF	4.00e+06	1.56e+03	2.6e+03	3.95e+06	1.25e+03	3.2e+03
9	1,2,3,4,7,8,9-HpCDF	3.06e+06	1.56e+03	2.0e+03	2.96e+06	1.25e+03	2.4e+03
10	OCDF	5.33e+06	8.68e+02	6.1e+03	5.85e+06	2.13e+03	2.7e+03
11	2,3,7,8-TCDD	1.05e+06	6.84e+02	1.5e+03	1.41e+06	7.00e+02	2.0e+03
12	1,2,3,7,8-PeCDD	3.86e+06	1.16e+03	3.3e+03	2.42e+06	4.80e+02	5.0e+03
13	1,2,3,4,7,8-HxCDD	3.65e+06	7.92e+02	4.6e+03	2.93e+06	8.64e+02	3.4e+03
14	1,2,3,6,7,8-HxCDD	3.72e+06	7.92e+02	4.7e+03	2.86e+06	8.64e+02	3.3e+03
15	1,2,3,7,8,9-HxCDD	3.71e+06	7.92e+02	4.7e+03	2.90e+06	8.64e+02	3.4e+03
16	1,2,3,4,6,7,8-HpCDD	2.63e+06	1.18e+03	2.2e+03	2.51e+06	4.36e+02	5.8e+03
17	OCDD	4.51e+06	7.72e+02	5.8e+03	5.12e+06	8.20e+02	6.2e+03
18	13C-2,3,7,8-TCDF	6.85e+06	2.41e+03	2.8e+03	8.73e+06	1.10e+03	8.0e+03
19	13C-1,2,3,7,8-PeCDF	1.07e+07	4.52e+02	2.4e+04	6.77e+06	5.72e+02	1.2e+04
20	13C-1,2,3,4,7,8-HxCDF	1.29e+07	3.40e+02	3.8e+04	2.48e+07	8.48e+02	2.9e+04
21	13C-1,2,3,4,6,7,8-HpCDF	8.63e+06	1.46e+03	5.9e+03	1.90e+07	5.54e+03	3.4e+03
22	13C-2,3,7,8-TCDD	5.49e+06	3.43e+03	1.6e+03	6.93e+06	1.06e+03	6.5e+03
23	13C-1,2,3,7,8-PeCDD	8.21e+06	7.96e+02	1.0e+04	5.31e+06	6.60e+02	8.0e+03
24	13C-1,2,3,6,7,8-HxCDD	1.82e+07	1.01e+03	1.8e+04	1.45e+07	8.48e+02	1.7e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.38e+07	7.88e+02	1.8e+04	1.30e+07	5.76e+02	2.3e+04
26	13C-OCDD	2.20e+07	1.24e+03	1.8e+04	2.42e+07	8.00e+02	3.0e+04
27	13C-1,2,3,4-TCDD	5.36e+06	3.43e+03	1.6e+03	6.69e+06	1.06e+03	6.3e+03
28	13C-1,2,3,7,8,9-HxCDD	1.92e+07	1.01e+03	1.9e+04	1.52e+07	8.48e+02	1.8e+04
29	37Cl-2,3,7,8-TCDD	2.49e+06	8.52e+02	2.9e+03			

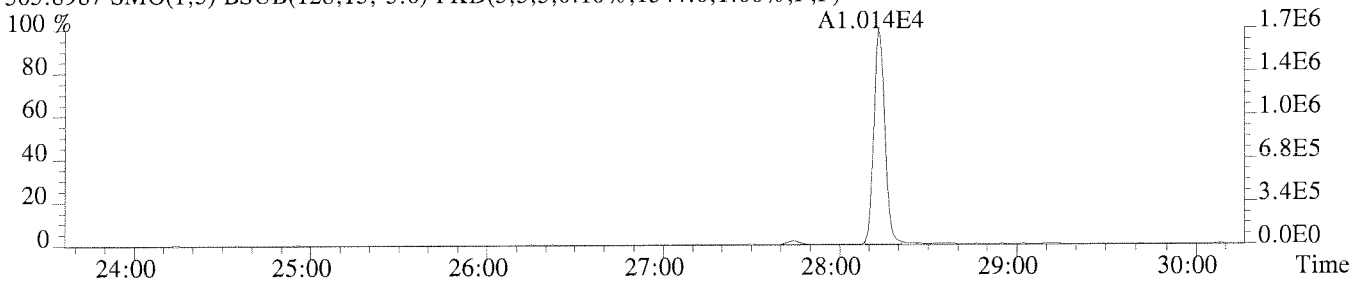
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
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File:U217127 #1-556 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

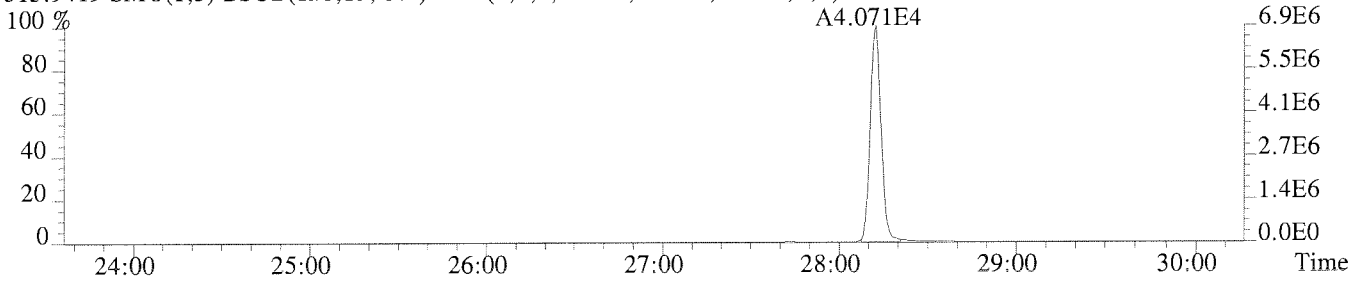
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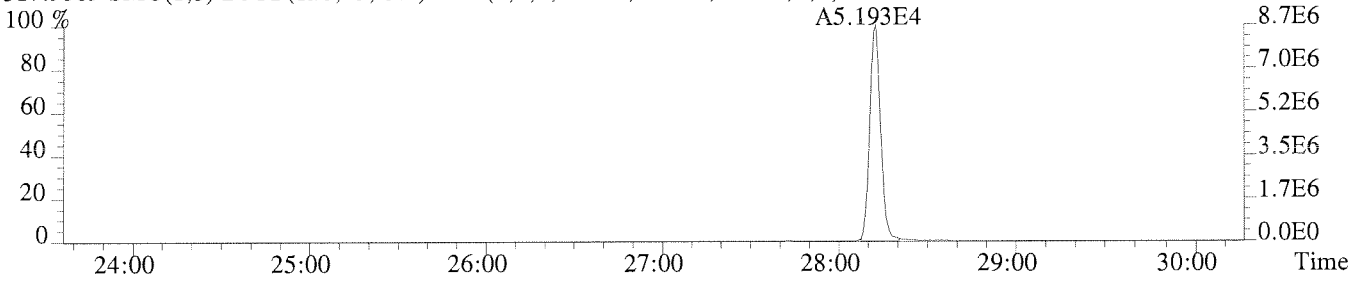
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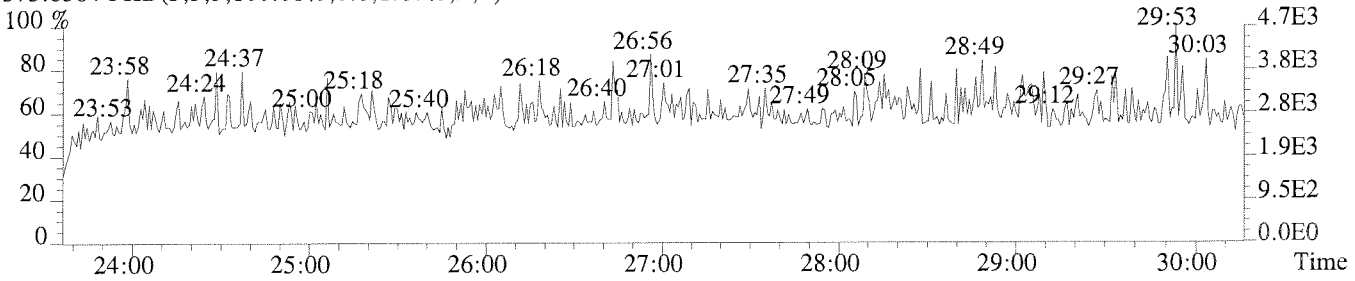
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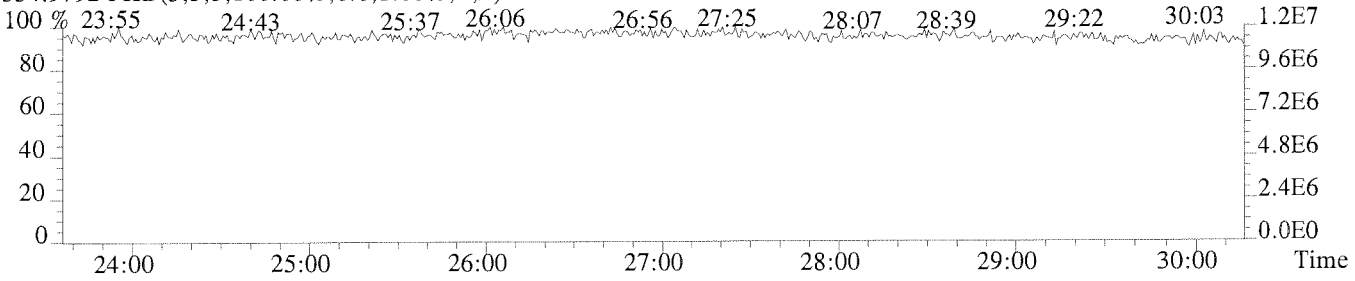
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,F)



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

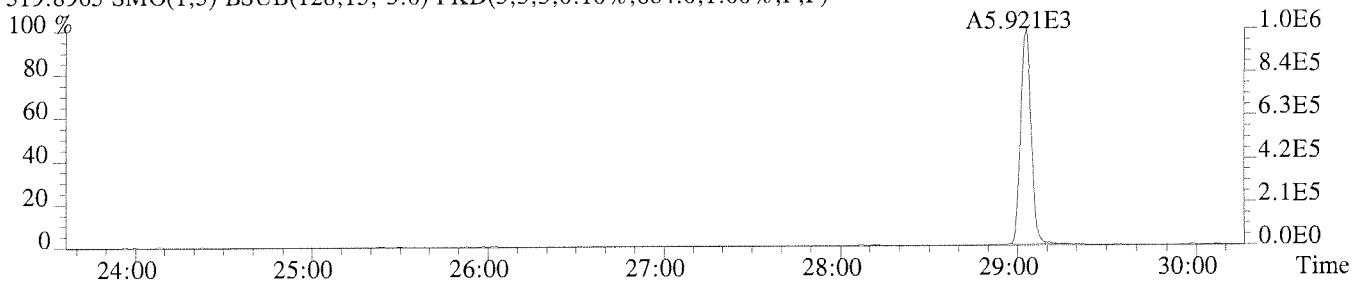


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

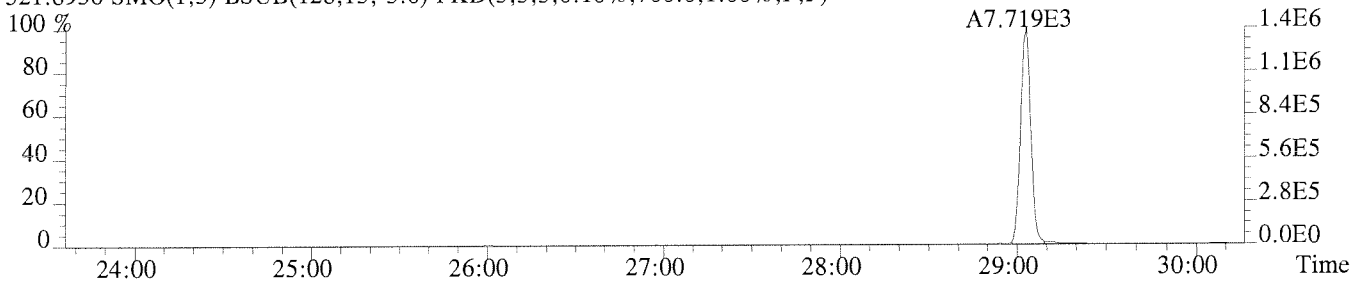


File:U217127 #1-556 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

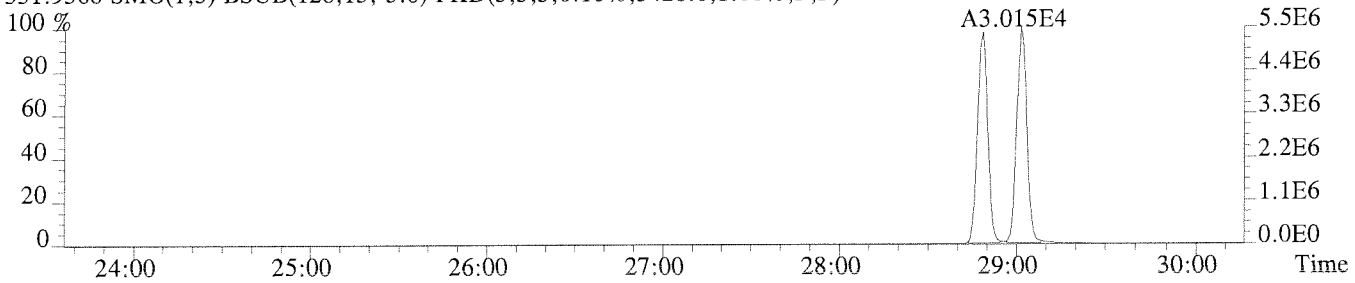
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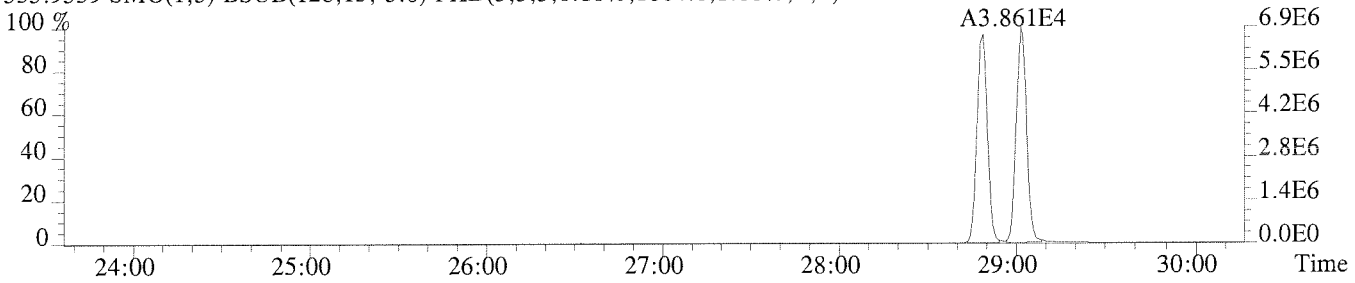
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,F)



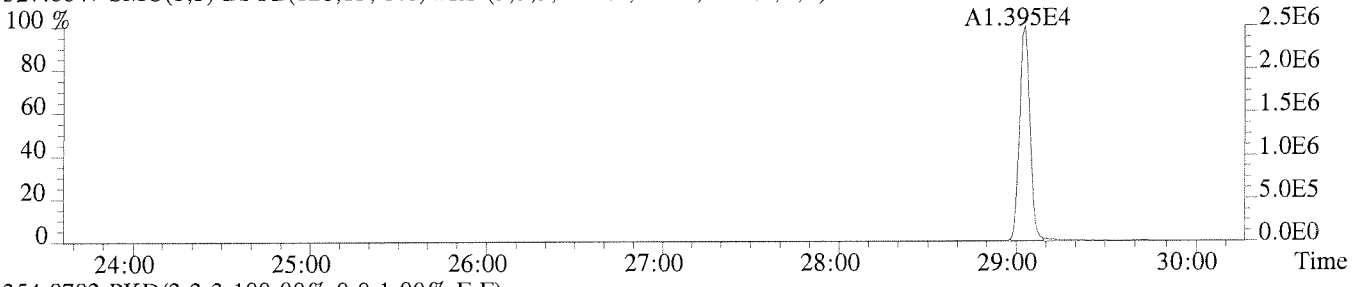
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3428.0,1.00%,F,F)



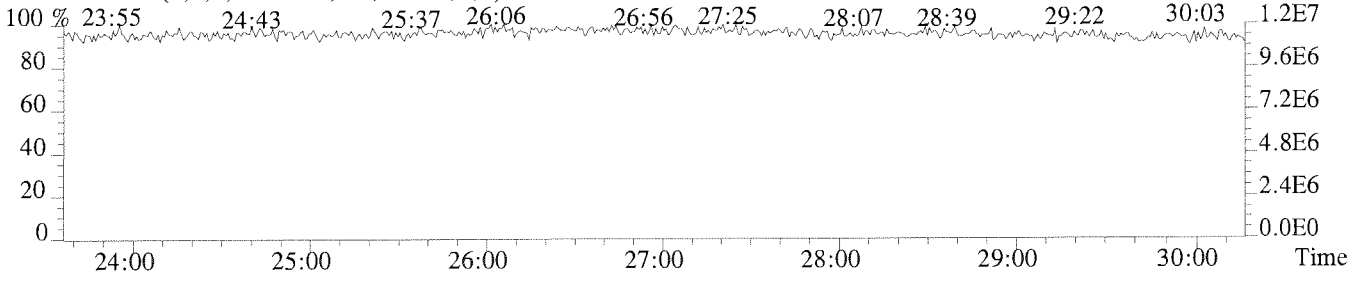
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1064.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,F)

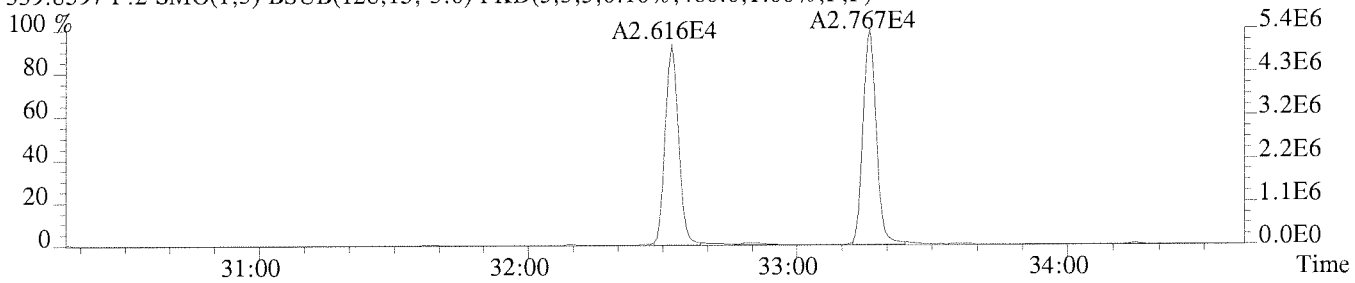


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

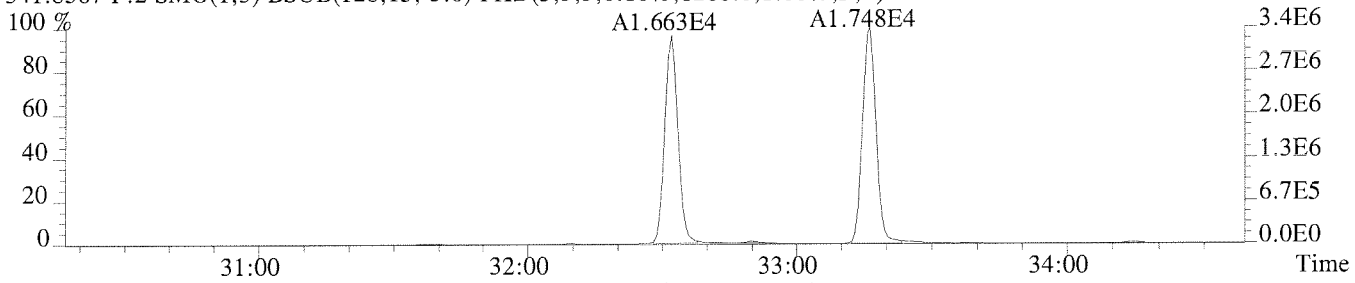


File:U217127 #1-397 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

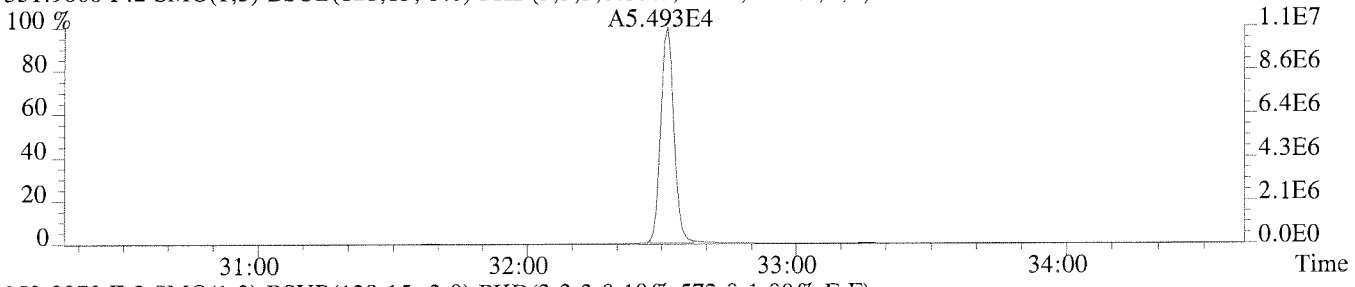
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,F)



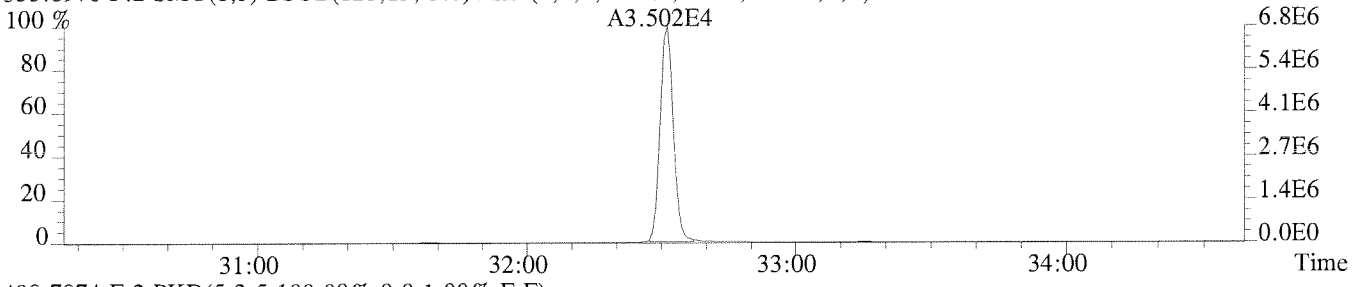
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1268.0,1.00%,F,F)



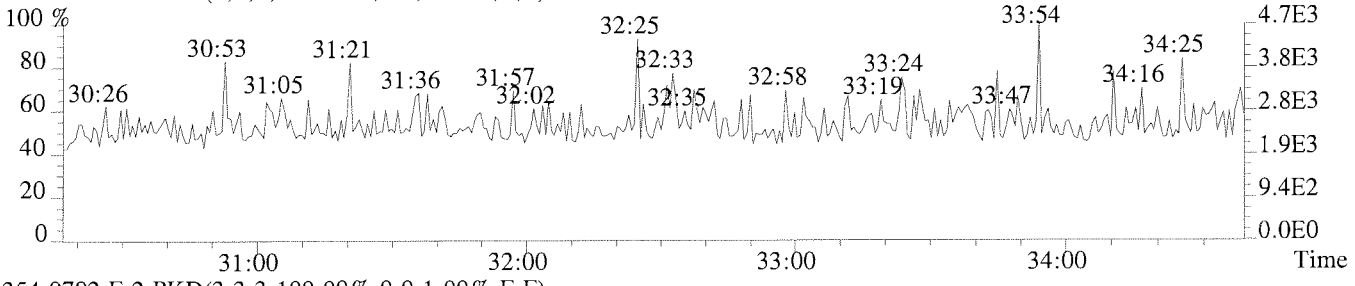
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,F)



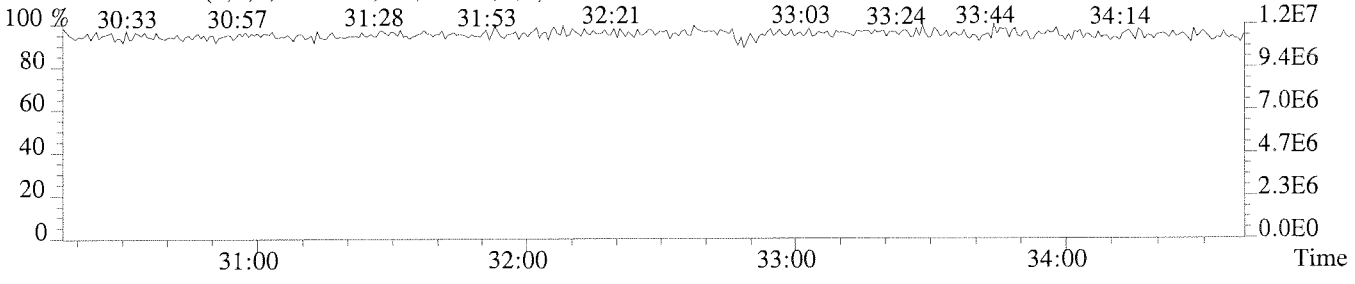
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,F)



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

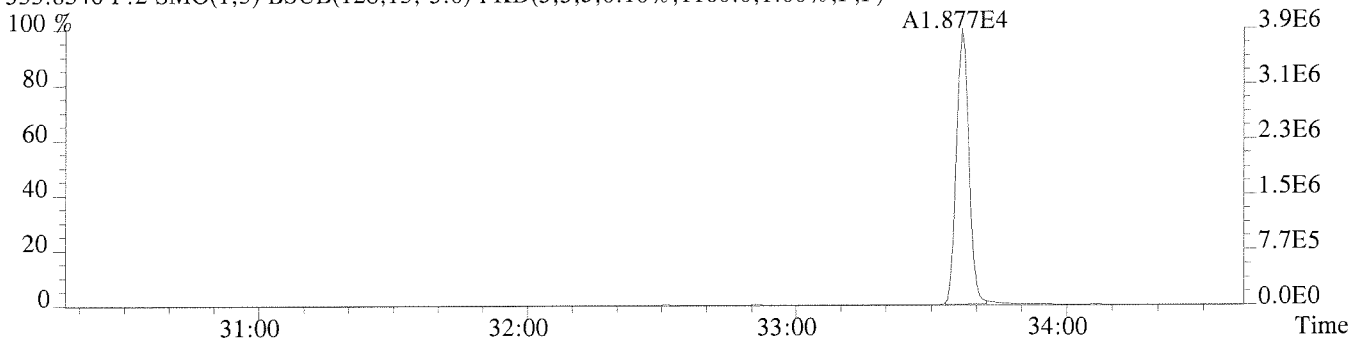


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

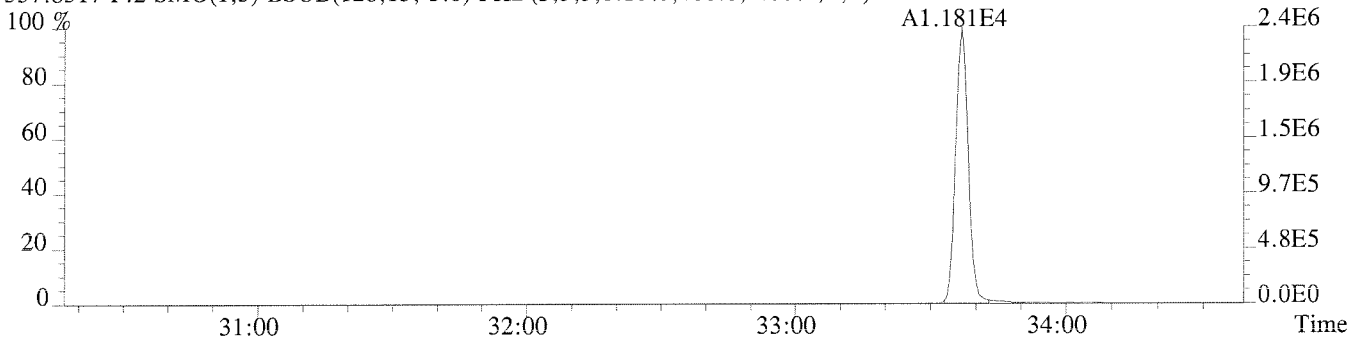


File:U217127 #1-397 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

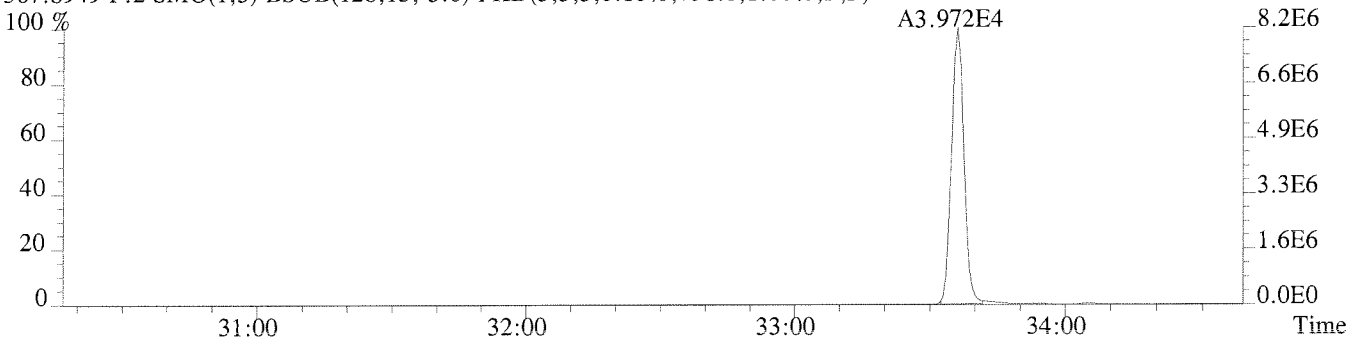
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1160.0,1.00%,F,F)



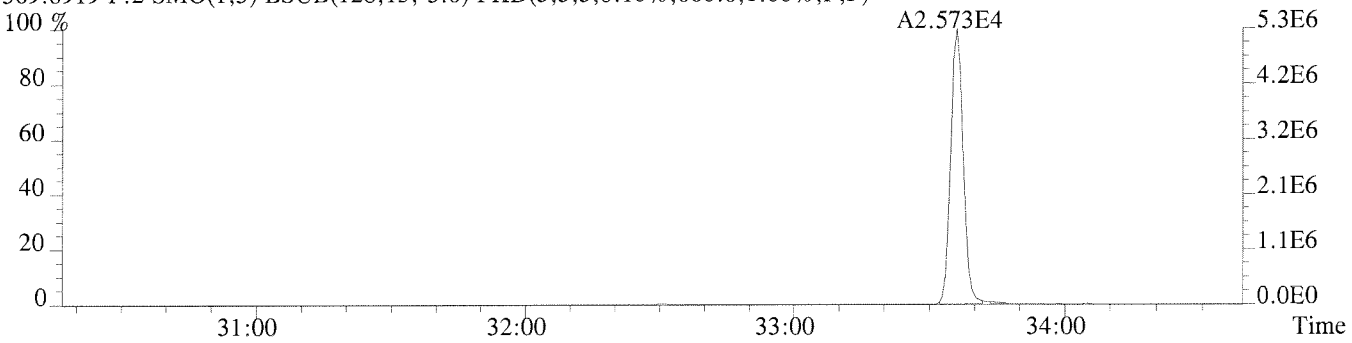
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,480.0,1.00%,F,F)



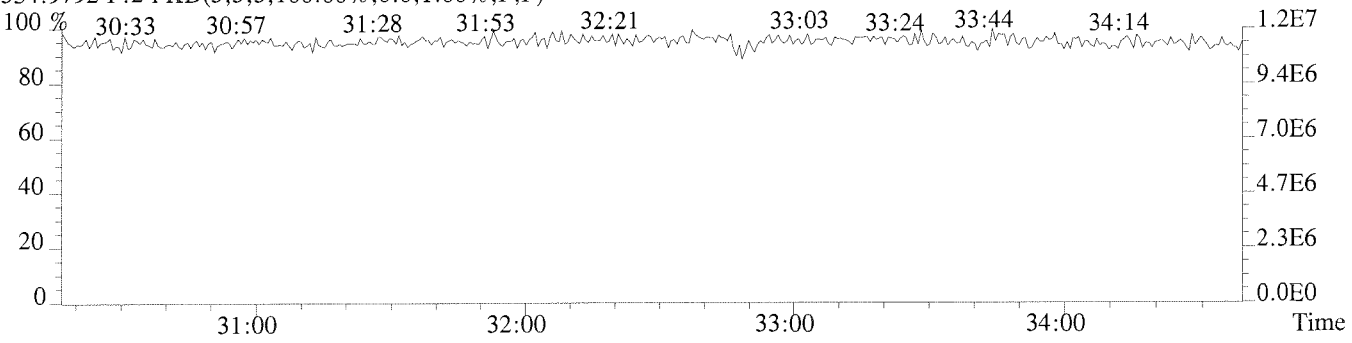
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,796.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,F)

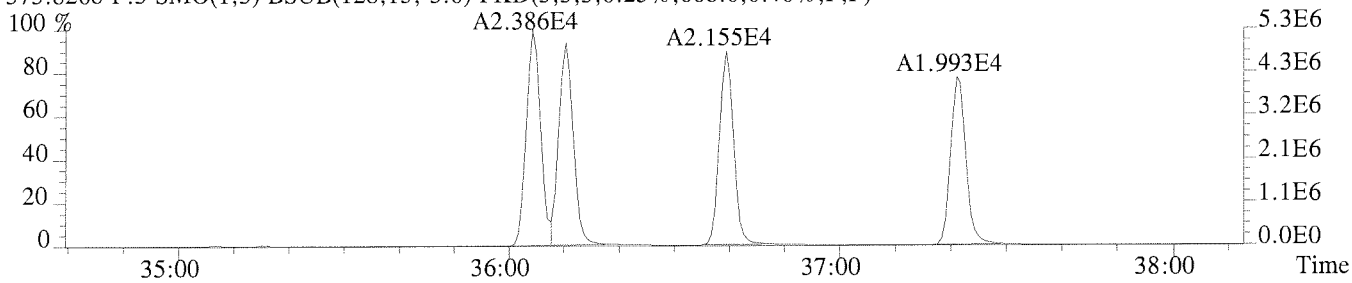


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

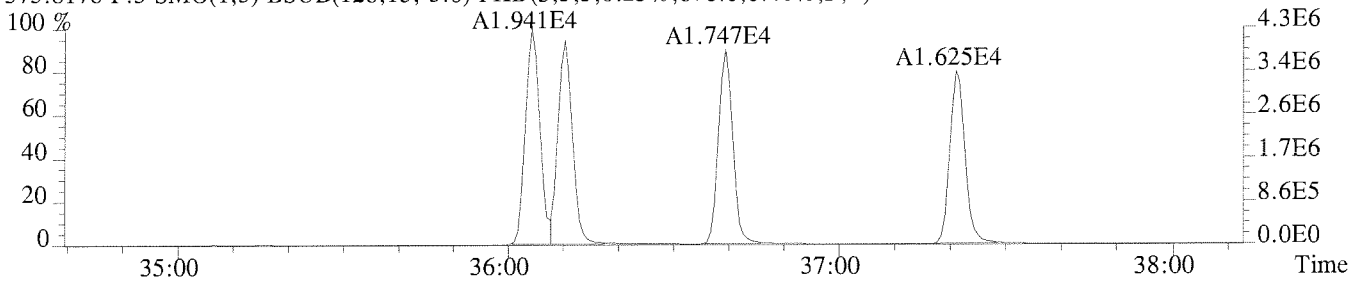


File:U217127 #1-323 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

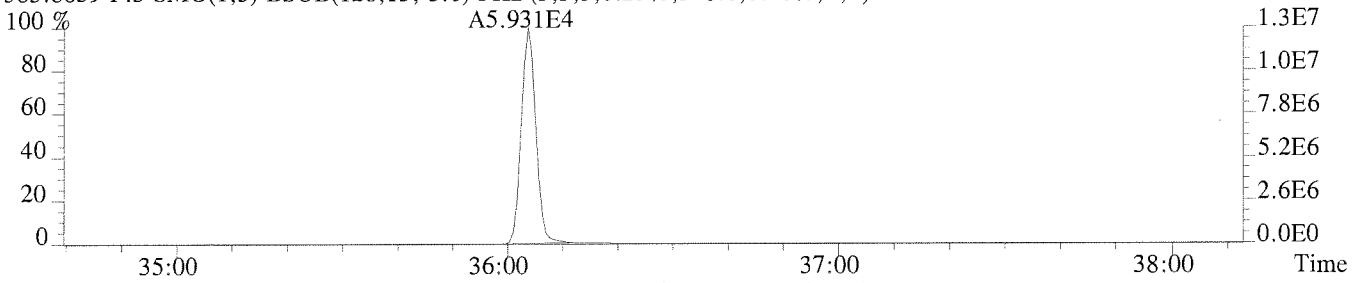
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,668.0,0.40%,F,F)



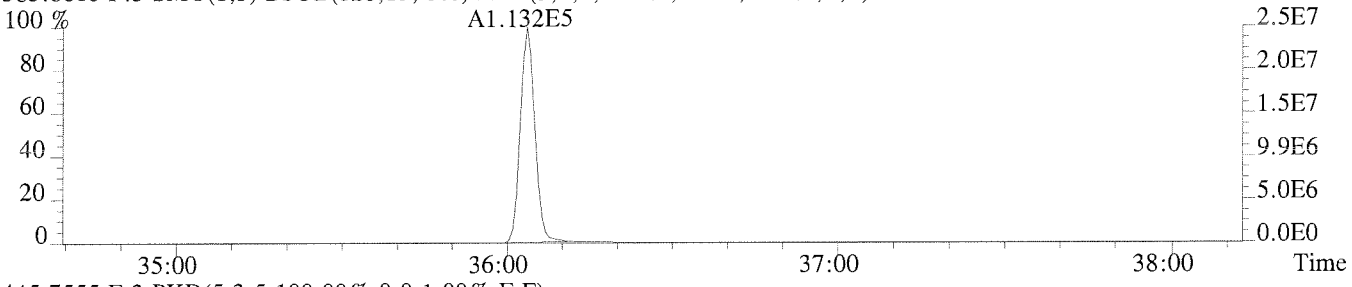
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,F)



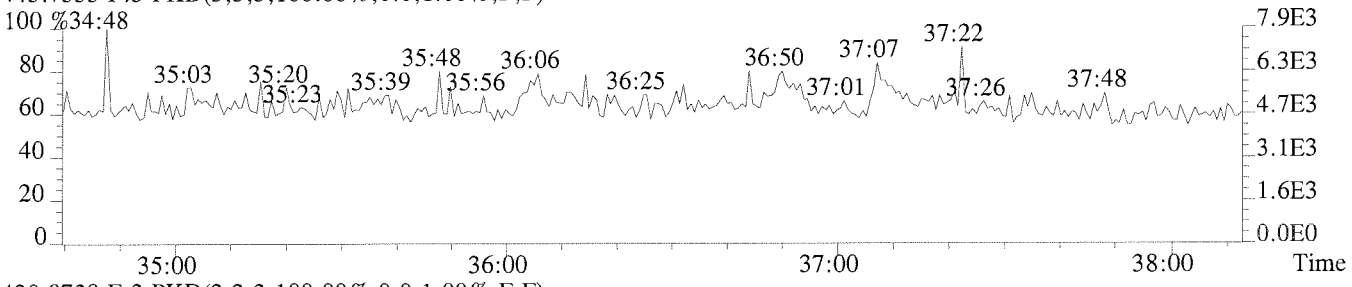
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,340.0,0.40%,F,F)



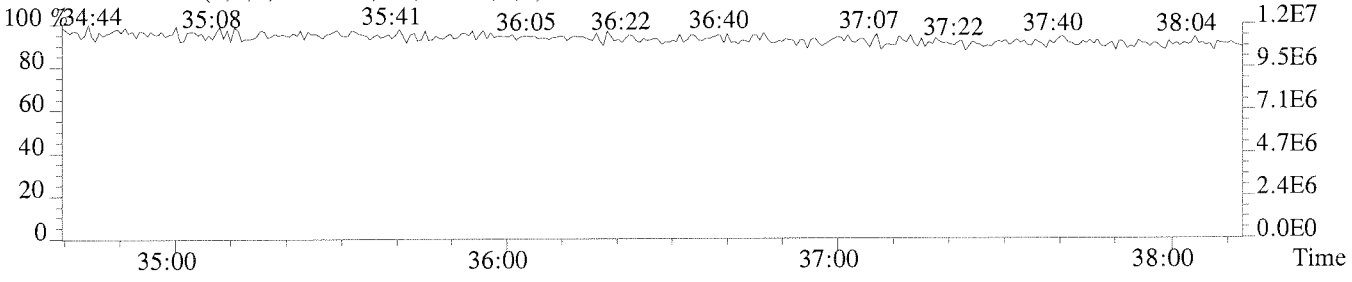
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,F)



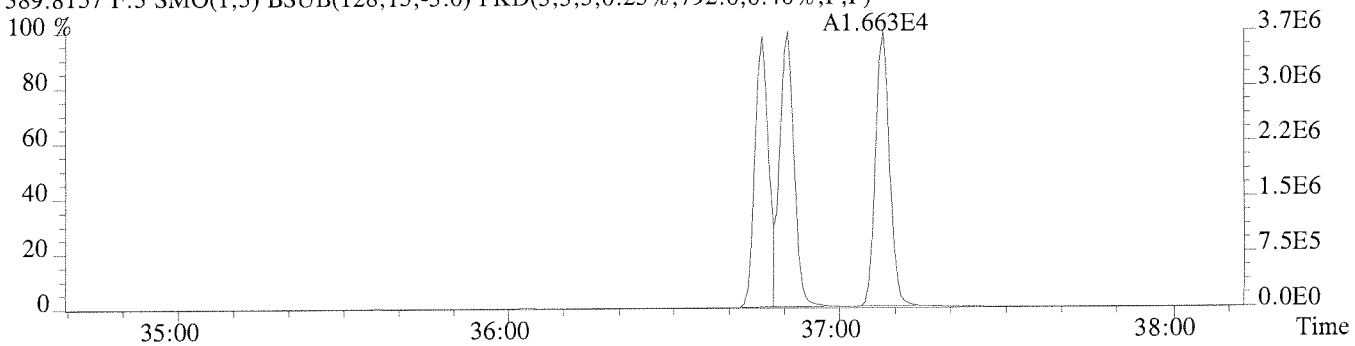
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)

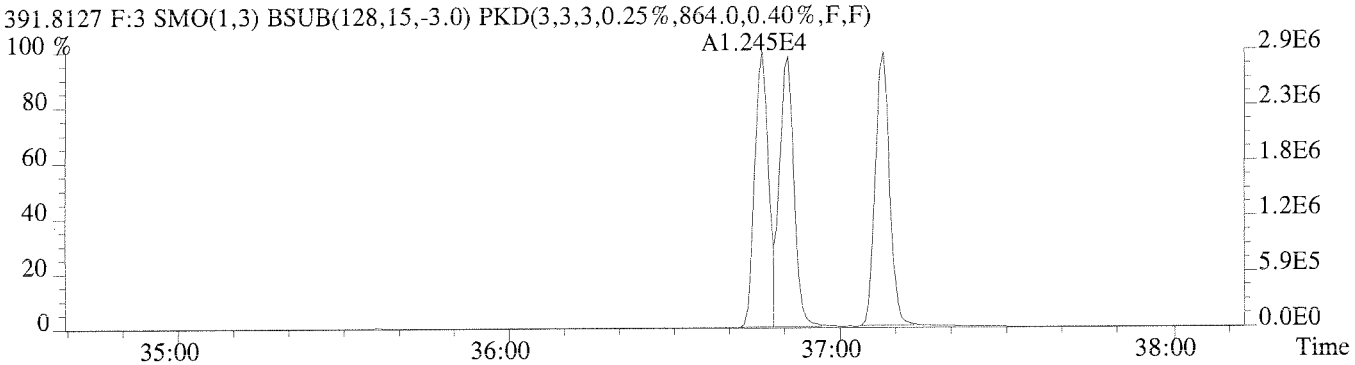


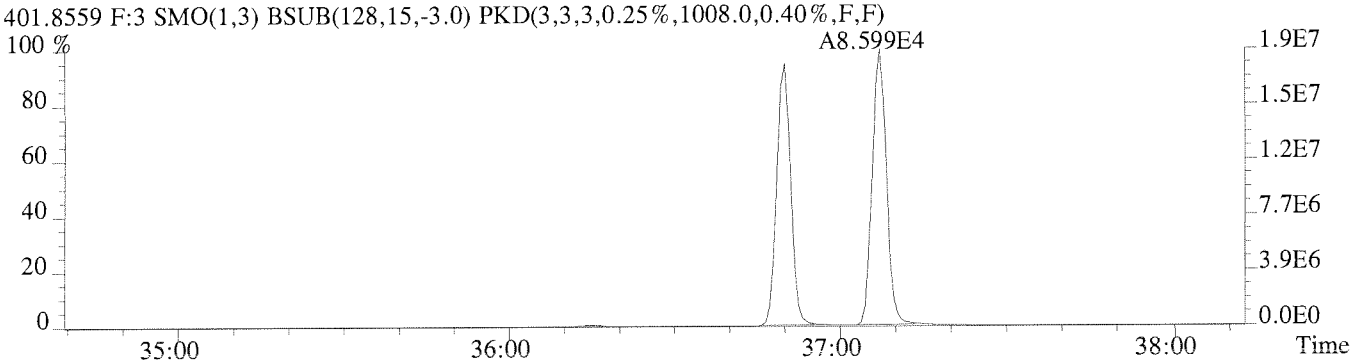
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

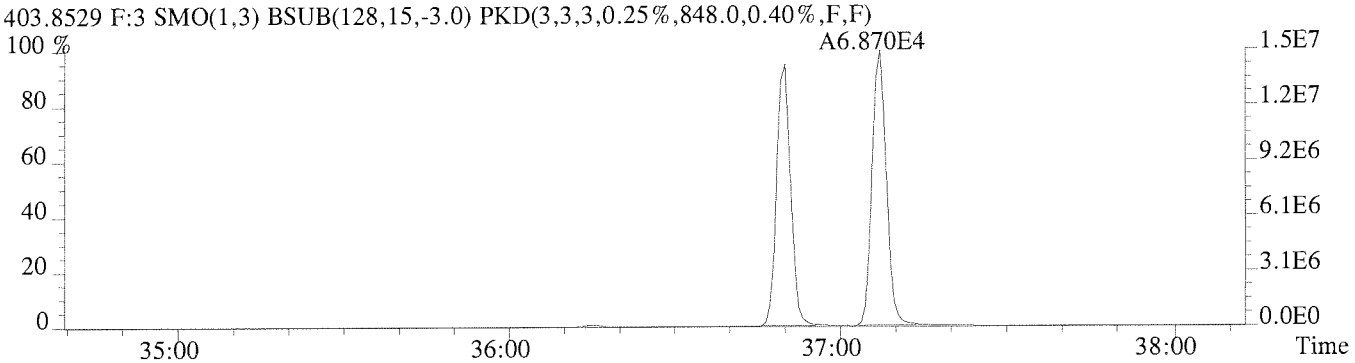


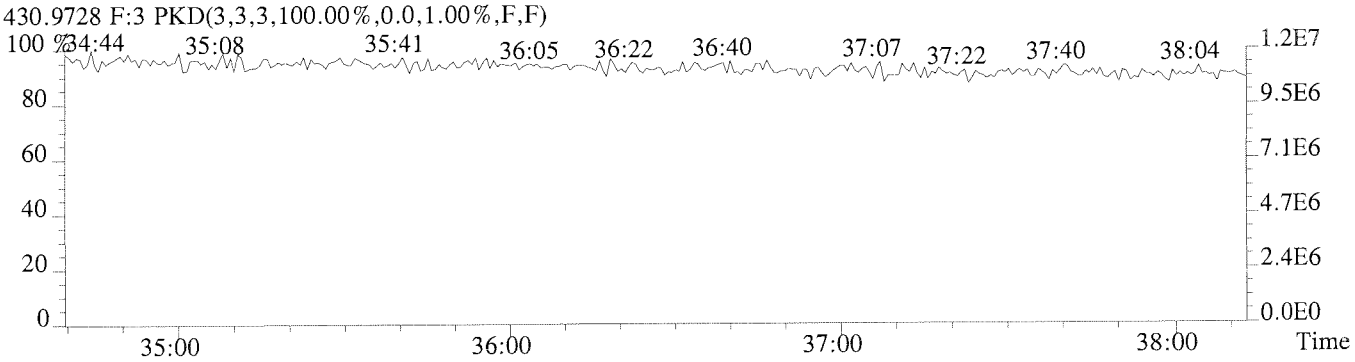
File:U217127 #1-323 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3





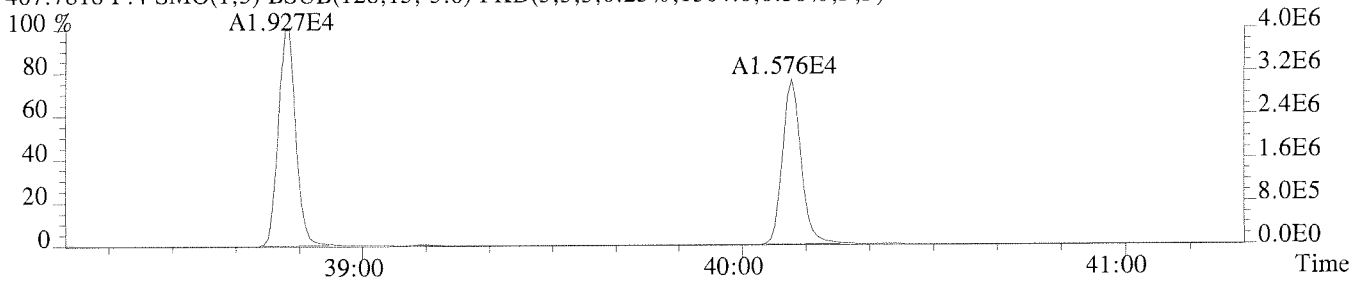




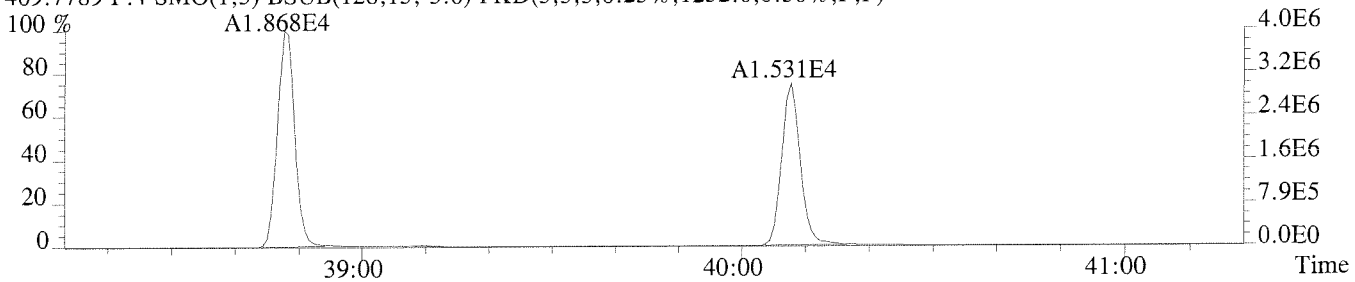


File:U217127 #1-281 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

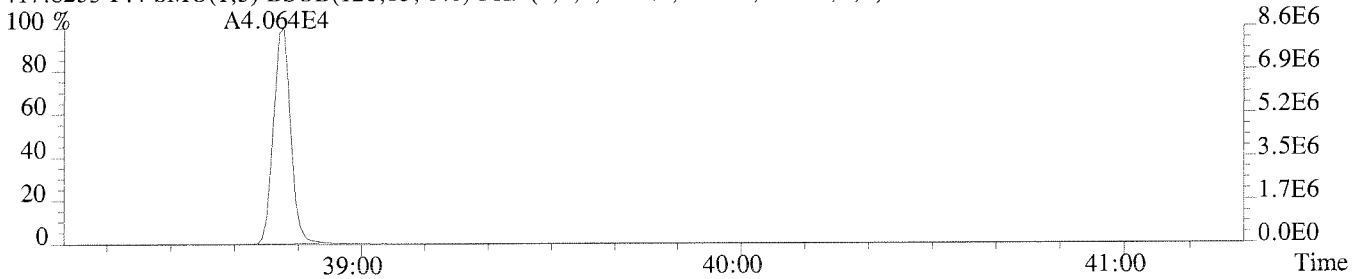
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1564.0,0.50%,F,F)



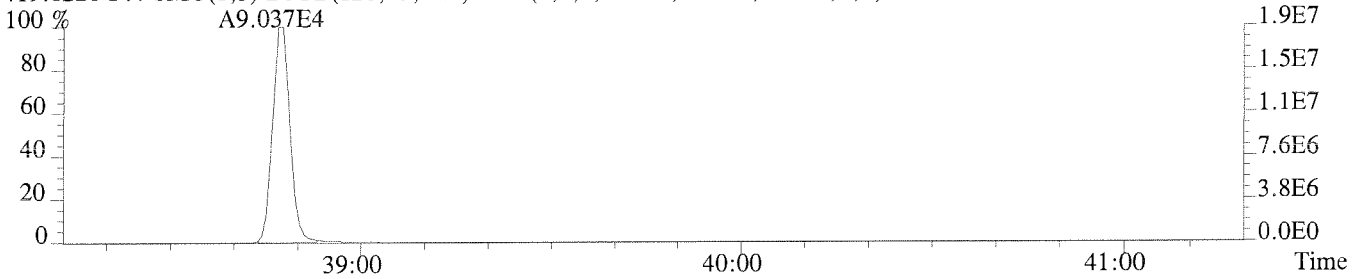
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.50%,F,F)



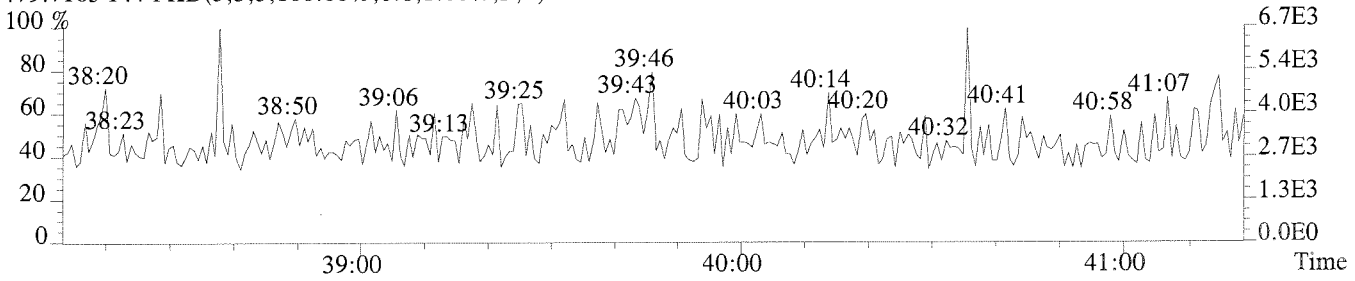
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1456.0,0.50%,F,F)



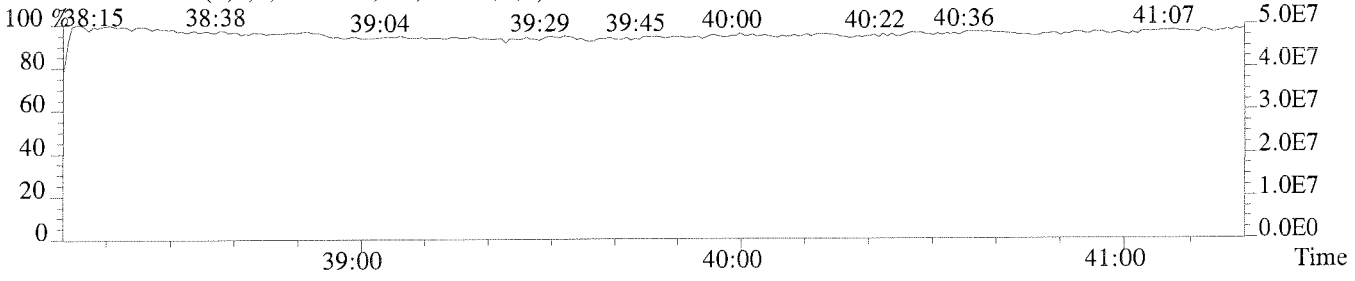
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5544.0,0.50%,F,F)



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

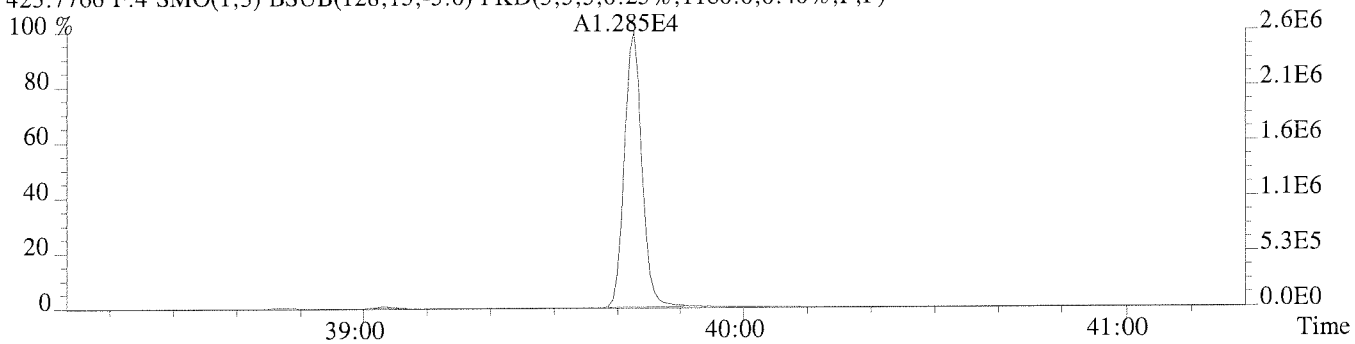


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

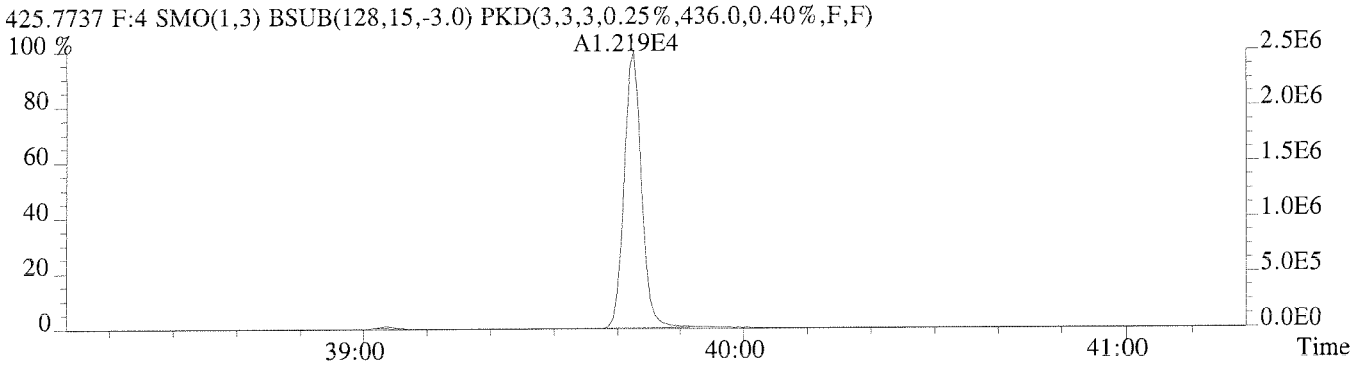


File:U217127 #1-281 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

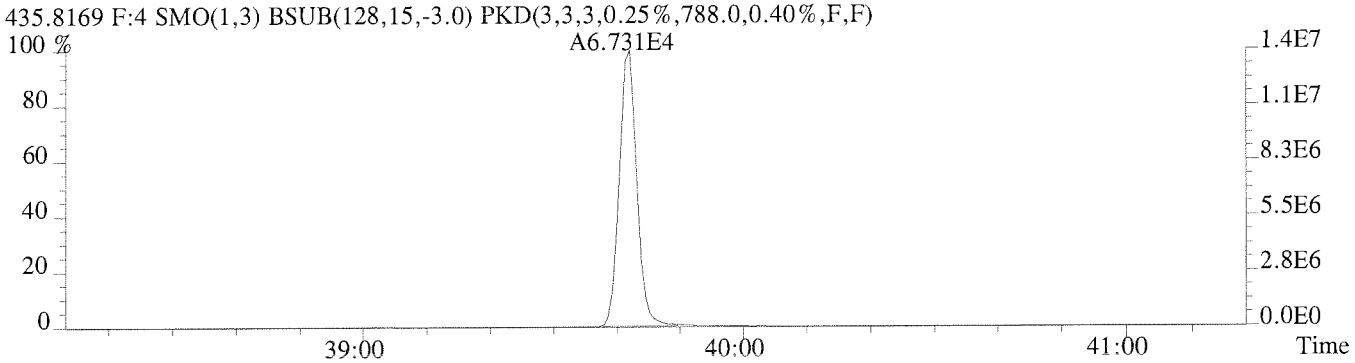
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1180.0,0.40%,F,F)



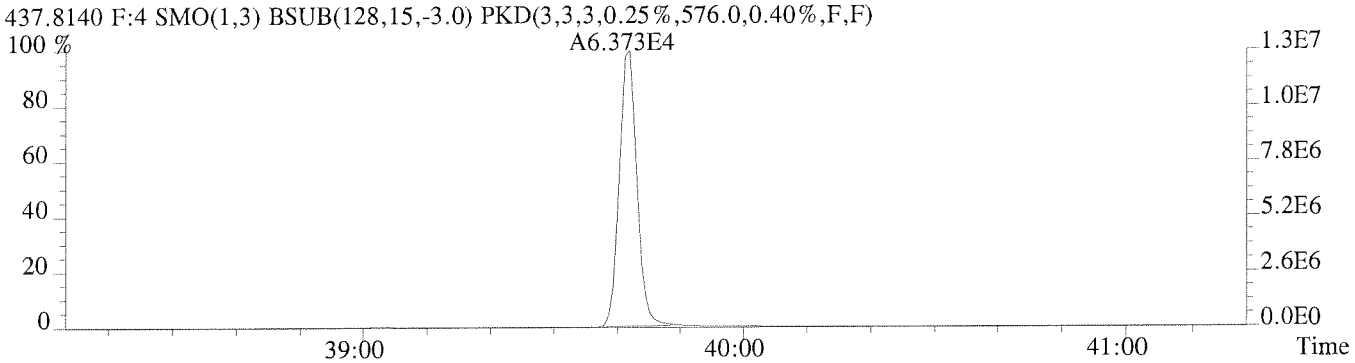
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.40%,F,F)



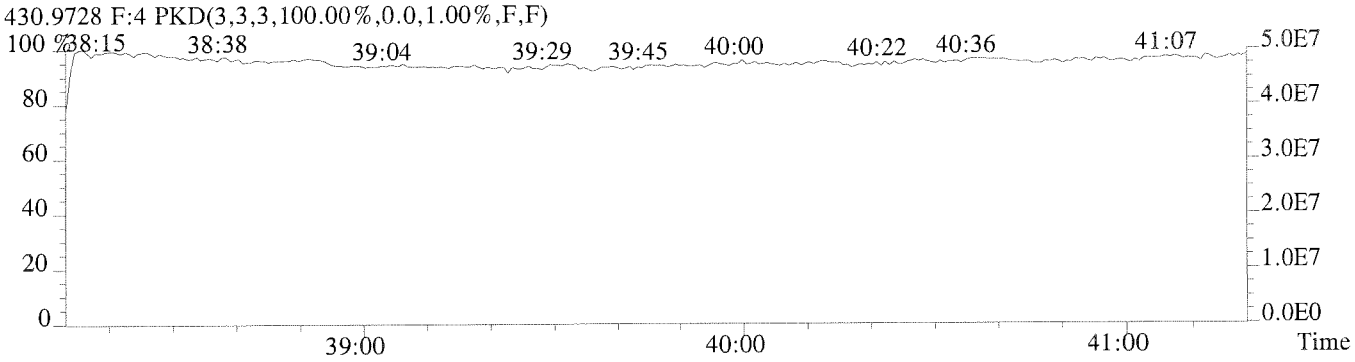
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,788.0,0.40%,F,F)



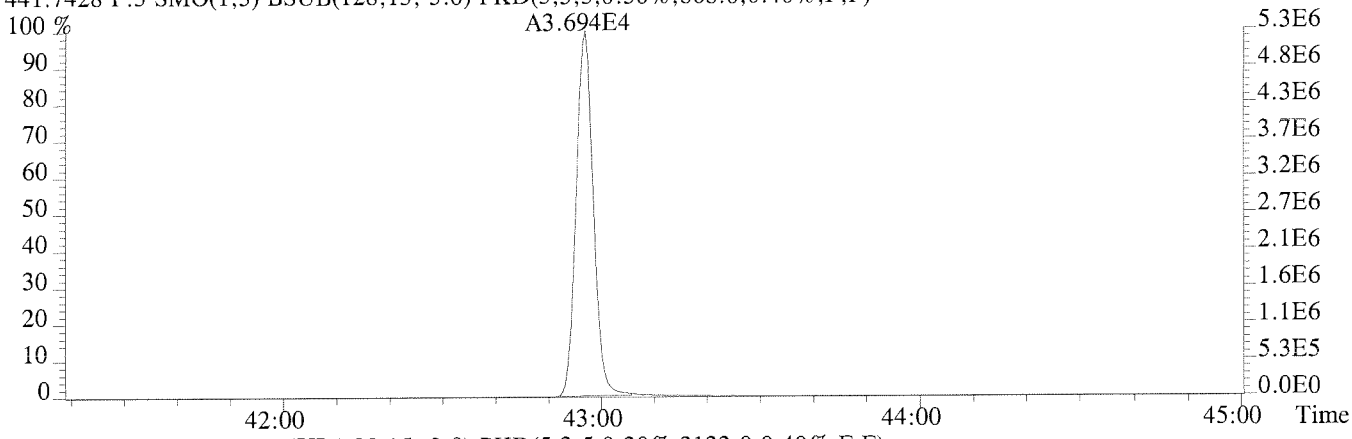
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.40%,F,F)



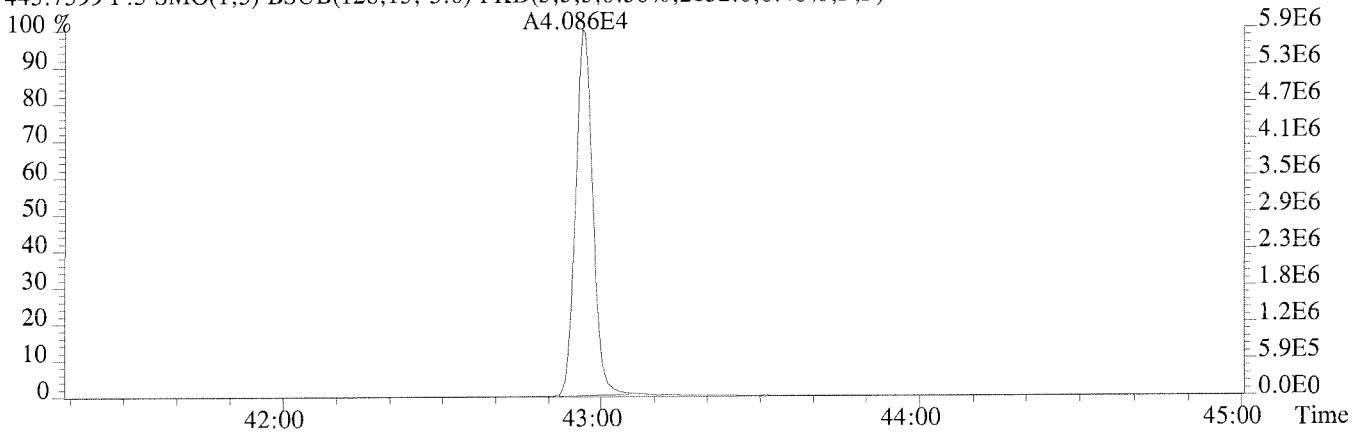
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



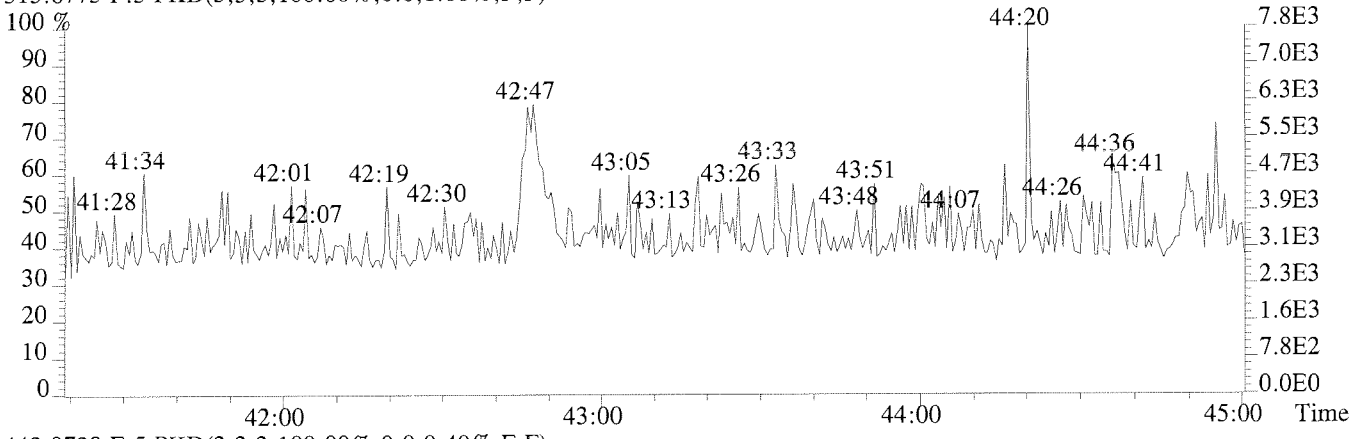
File:U217127 #1-408 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,868.0,0.40%,F,F)



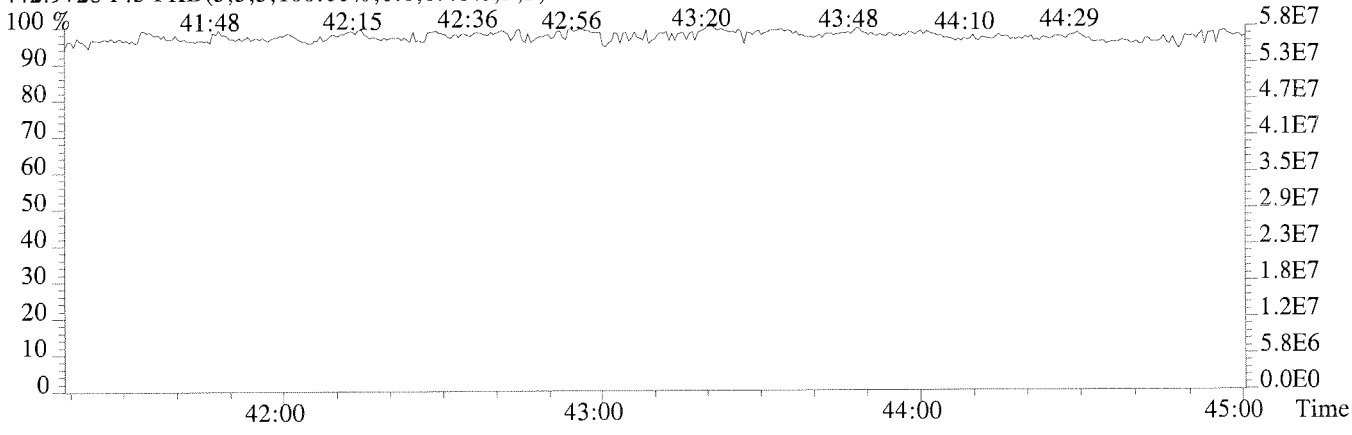
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2132.0,0.40%,F,F)



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

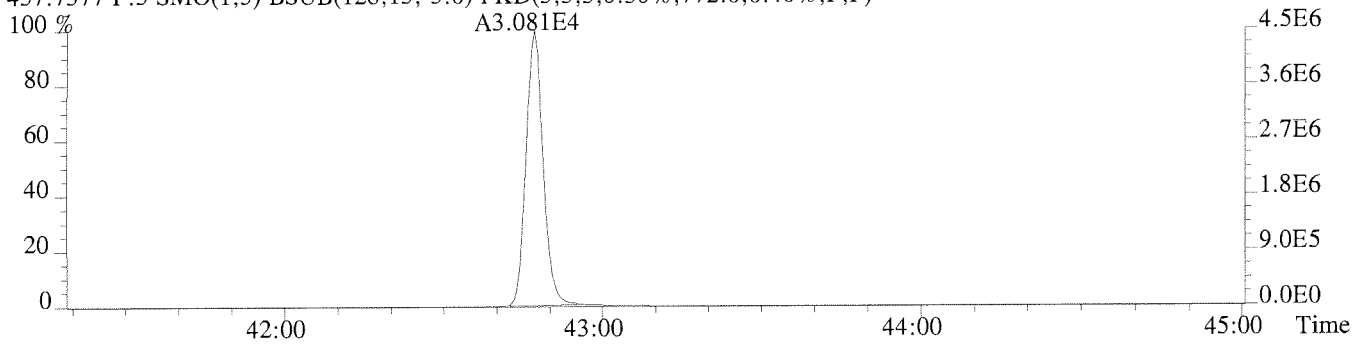


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

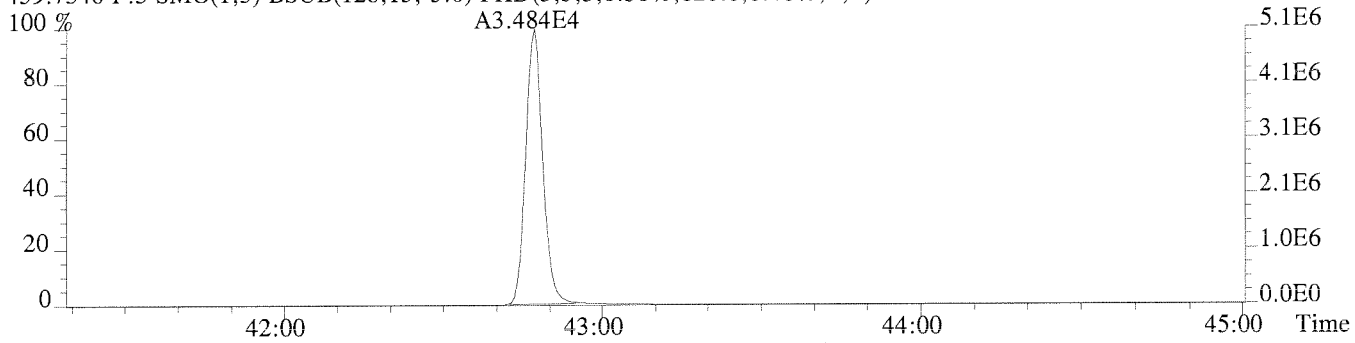


File:U217127 #1-408 Acq:14-AUG-2008 08:12:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

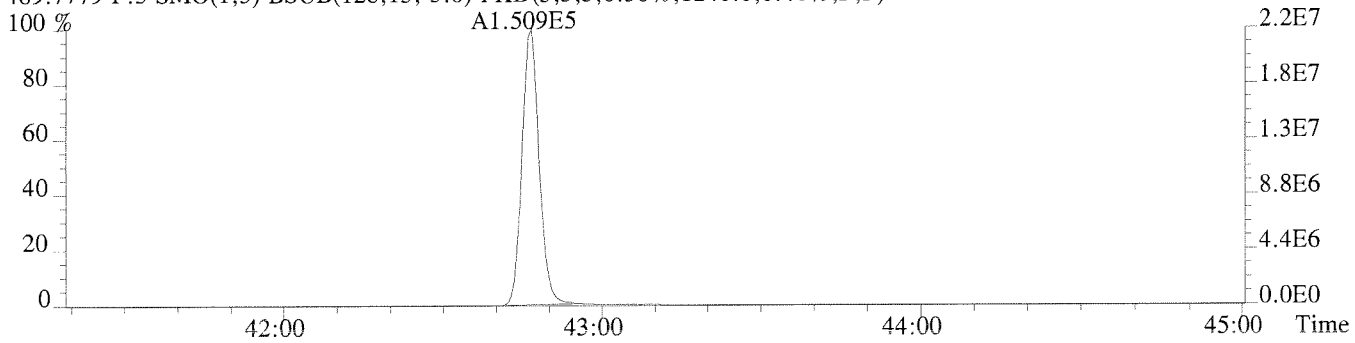
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,772.0,0.40%,F,F)



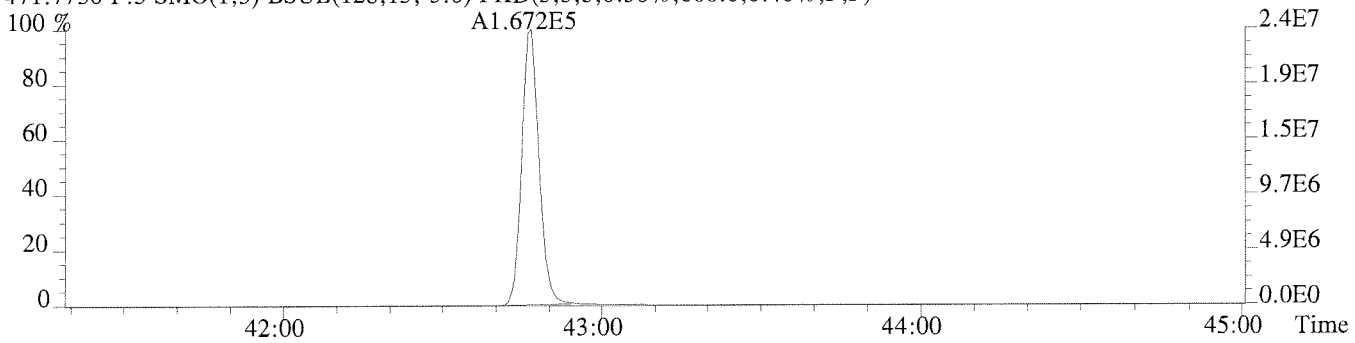
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,820.0,0.40%,F,F)



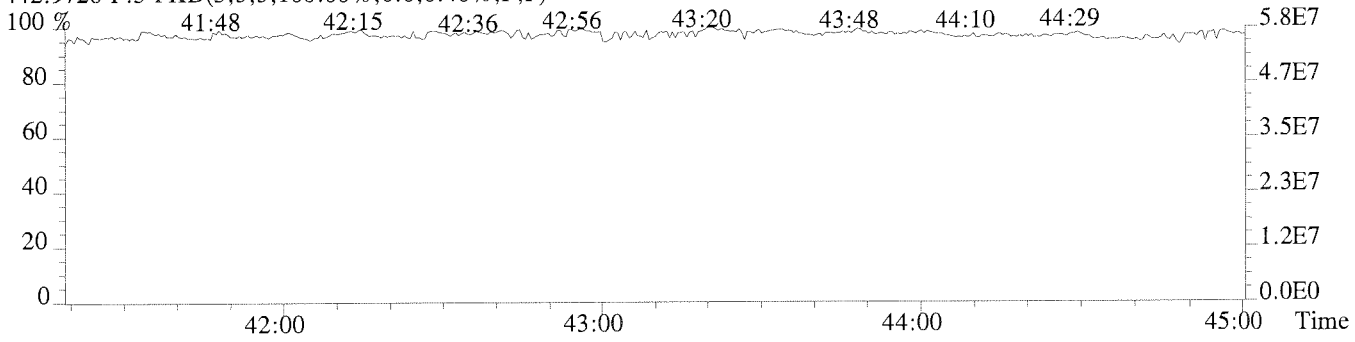
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1240.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,800.0,0.40%,F,F)



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



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U217137 Analysis Date: 14-AUG-08 Time: 16:58:26

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	1.00	0.93	8.43
1,2,3,7,8-PeCDD	M+2/M+4	1.56	1.32-1.78	0.96	0.90	6.76
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	1.01	1.03	-1.60
1,2,3,6,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	1.09	1.04	4.53
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	1.00	1.03	-2.15
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	1.07	0.92	15.76
OCDD	M+2/M+4	0.88	0.76-1.02	1.19	1.03	15.47
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	0.97	0.91	6.86
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	0.98	0.90	9.57
2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	1.00	0.91	9.09
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.24	1.15	7.64
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	1.23	1.11	11.46
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	0.94	0.89	4.81
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	1.14	1.05	8.67
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	1.51	1.40	8.51
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	1.00	1.07	-6.38
OCDF	M+2/M+4	0.91	0.76-1.02	1.24	1.16	6.76

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) 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.

8290F4A

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

VER Data Filename: U217137 Analysis Date: 14-AUG-08 Time: 16:58:26

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CCAL. RRF	MEAN RRF	%D (3)
LABELED COMPOUNDS						
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	0.94	1.02	-8.06
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.32-1.78	0.77	0.97	-21.12
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	0.99	0.99	-0.22
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	0.88	0.89	-1.12
13C-OCDD	M+2/M+4	0.90	0.76-1.02	0.91	0.96	-5.48
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	1.26	1.32	-4.70
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	1.12	1.37	-18.25
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.43-0.59	1.25	1.27	-2.29
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.37-0.51	1.02	0.91	12.46
CLEANUP STANDARD						
37Cl-2,3,7,8-TCDD				0.93	0.96	-3.28

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 8, Method 8290.

(3) The beginning CCAL %RSD for the labeled standard must not exceed +/- 30%, Section 7.7.4.2. The ending CCAL must not exceed +/- 35%, Section 8.3.2.4.

8290F4B

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
CCAL HRCC3

Run #16 Filename U217137 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 16:58:26
Processed: 15-AUG-08 14:44:01 Sample ID: CCAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:12	6.398e+03	8.117e+03	0.79	yes	no	0.91
2	Unk	1,2,3,7,8-PeCDF	32:31	1.982e+04	1.281e+04	1.55	yes	no	0.90
3	Unk	2,3,4,7,8-PeCDF	33:15	2.027e+04	1.281e+04	1.58	yes	no	0.91
4	Unk	1,2,3,4,7,8-HxCDF	36:03	1.711e+04	1.382e+04	1.24	yes	no	1.15
5	Unk	1,2,3,6,7,8-HxCDF	36:09	1.702e+04	1.367e+04	1.25	yes	no	1.11
6	Unk	2,3,4,6,7,8-HxCDF	36:38	1.564e+04	1.265e+04	1.24	yes	no	1.05
7	Unk	1,2,3,7,8,9-HxCDF	37:20	1.282e+04	1.053e+04	1.22	yes	no	0.89
8	Unk	1,2,3,4,6,7,8-HpCDF	38:47	1.565e+04	1.530e+04	1.02	yes	no	1.40
9	Unk	1,2,3,4,7,8,9-HpCDF	40:06	1.045e+04	9.950e+03	1.05	yes	no	1.07
10	Unk	OCDF	42:55	2.141e+04	2.366e+04	0.91	yes	no	1.16
11	Unk	2,3,7,8-TCDD	29:01	4.941e+03	6.252e+03	0.79	yes	no	0.93
12	Unk	1,2,3,7,8-PeCDD	33:35	1.325e+04	8.469e+03	1.56	yes	no	0.90
13	Unk	1,2,3,4,7,8-HxCDD	36:45	1.118e+04	8.766e+03	1.28	yes	no	1.03
14	Unk	1,2,3,6,7,8-HxCDD	36:49	1.211e+04	9.270e+03	1.31	yes	no	1.04
15	Unk	1,2,3,7,8,9-HxCDD	37:06	1.092e+04	8.850e+03	1.23	yes	no	1.03
16	Unk	1,2,3,4,6,7,8-HpCDD	39:41	9.584e+03	9.249e+03	1.04	yes	no	0.92
17	Unk	OCDD	42:46	2.023e+04	2.305e+04	0.88	yes	no	1.03
18	IS	13C-2,3,7,8-TCDF	28:10	3.300e+04	4.169e+04	0.79	yes	no	1.32
19	IS	13C-1,2,3,7,8-PeCDF	32:30	4.074e+04	2.563e+04	1.59	yes	no	1.37
20	IS	13C-1,2,3,4,7,8-HxCDF	36:02	4.317e+04	8.136e+04	0.53	yes	no	1.27
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:46	3.185e+04	7.036e+04	0.45	yes	no	0.91
22	IS	13C-2,3,7,8-TCDD	29:00	2.461e+04	3.114e+04	0.79	yes	no	1.02
23	IS	13C-1,2,3,7,8-PeCDD	33:35	2.769e+04	1.762e+04	1.57	yes	no	0.97
24	IS	13C-1,2,3,6,7,8-HxCDD	36:49	5.471e+04	4.382e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:41	4.538e+04	4.278e+04	1.06	yes	no	0.89
26	IS	13C-OCDD	42:45	8.652e+04	9.581e+04	0.90	yes	no	0.96
27	RS/RT	13C-1,2,3,4-TCDD	28:46	2.633e+04	3.284e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:06	5.601e+04	4.400e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:01	1.099e+04					0.96

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
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Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary CCAL HRCC3

Run #16 Filename U217137 #1 Samp: 1 Inj: 1 Acquired: 14-AUG-08 16:58:26

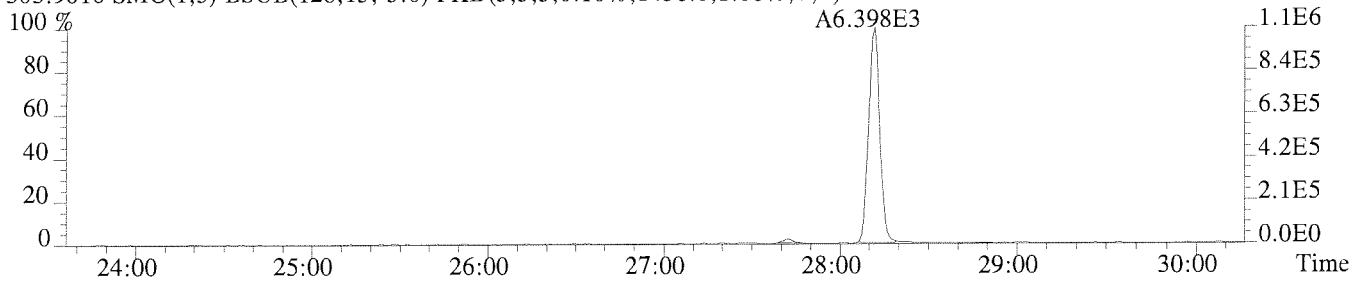
Processed: 15-AUG-08 14:44:01 LAB. ID: CCAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.05e+06	1.44e+03	7.3e+02	1.35e+06	1.63e+03	8.2e+02
2	1,2,3,7,8-PeCDF	3.77e+06	1.25e+03	3.0e+03	2.45e+06	1.62e+03	1.5e+03
3	2,3,4,7,8-PeCDF	3.93e+06	1.25e+03	3.1e+03	2.53e+06	1.62e+03	1.6e+03
4	1,2,3,4,7,8-HxCDF	3.72e+06	1.83e+03	2.0e+03	3.00e+06	3.60e+03	8.3e+02
5	1,2,3,6,7,8-HxCDF	3.64e+06	1.83e+03	2.0e+03	2.92e+06	3.60e+03	8.1e+02
6	2,3,4,6,7,8-HxCDF	3.48e+06	1.83e+03	1.9e+03	2.81e+06	3.60e+03	7.8e+02
7	1,2,3,7,8,9-HxCDF	2.65e+06	1.83e+03	1.5e+03	2.19e+06	3.60e+03	6.1e+02
8	1,2,3,4,6,7,8-HpCDF	3.32e+06	5.76e+03	5.8e+02	3.23e+06	3.45e+03	9.4e+02
9	1,2,3,4,7,8,9-HpCDF	2.06e+06	5.76e+03	3.6e+02	1.93e+06	3.45e+03	5.6e+02
10	OCDF	3.10e+06	2.02e+03	1.5e+03	3.43e+06	2.48e+03	1.4e+03
11	2,3,7,8-TCDD	8.84e+05	1.26e+03	7.0e+02	1.11e+06	1.06e+03	1.1e+03
12	1,2,3,7,8-PeCDD	2.71e+06	2.20e+03	1.2e+03	1.71e+06	1.41e+03	1.2e+03
13	1,2,3,4,7,8-HxCDD	2.69e+06	2.60e+03	1.0e+03	2.08e+06	2.87e+03	7.2e+02
14	1,2,3,6,7,8-HxCDD	2.60e+06	2.60e+03	1.0e+03	1.99e+06	2.87e+03	6.9e+02
15	1,2,3,7,8,9-HxCDD	2.42e+06	2.60e+03	9.3e+02	1.98e+06	2.87e+03	6.9e+02
16	1,2,3,4,6,7,8-HpCDD	1.98e+06	2.37e+03	8.4e+02	1.88e+06	3.40e+03	5.5e+02
17	OCDD	2.94e+06	4.22e+03	7.0e+02	3.33e+06	3.52e+03	9.5e+02
18	13C-2,3,7,8-TCDF	5.48e+06	2.22e+03	2.5e+03	6.89e+06	1.34e+03	5.1e+03
19	13C-1,2,3,7,8-PeCDF	7.75e+06	6.76e+02	1.1e+04	4.89e+06	9.60e+02	5.1e+03
20	13C-1,2,3,4,7,8-HxCDF	9.28e+06	1.04e+03	8.9e+03	1.76e+07	1.42e+03	1.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	6.86e+06	1.78e+03	3.9e+03	1.50e+07	4.50e+03	3.3e+03
22	13C-2,3,7,8-TCDD	4.46e+06	2.57e+03	1.7e+03	5.65e+06	1.20e+03	4.7e+03
23	13C-1,2,3,7,8-PeCDD	5.67e+06	1.04e+03	5.4e+03	3.58e+06	8.16e+02	4.4e+03
24	13C-1,2,3,6,7,8-HxCDD	1.24e+07	1.53e+03	8.1e+03	9.95e+06	1.48e+03	6.7e+03
25	13C-1,2,3,4,6,7,8-HpCDD	9.36e+06	2.22e+03	4.2e+03	8.81e+06	1.32e+03	6.7e+03
26	13C-OCDD	1.27e+07	1.88e+03	6.7e+03	1.41e+07	1.33e+03	1.1e+04
27	13C-1,2,3,4-TCDD	4.59e+06	2.57e+03	1.8e+03	5.79e+06	1.20e+03	4.8e+03
28	13C-1,2,3,7,8,9-HxCDD	1.23e+07	1.53e+03	8.1e+03	9.77e+06	1.48e+03	6.6e+03
29	37Cl-2,3,7,8-TCDD	1.93e+06	1.16e+03	1.7e+03			

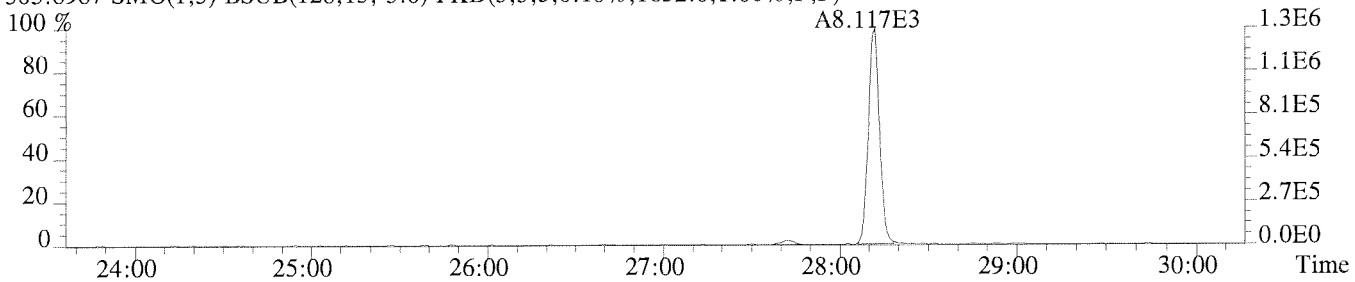
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

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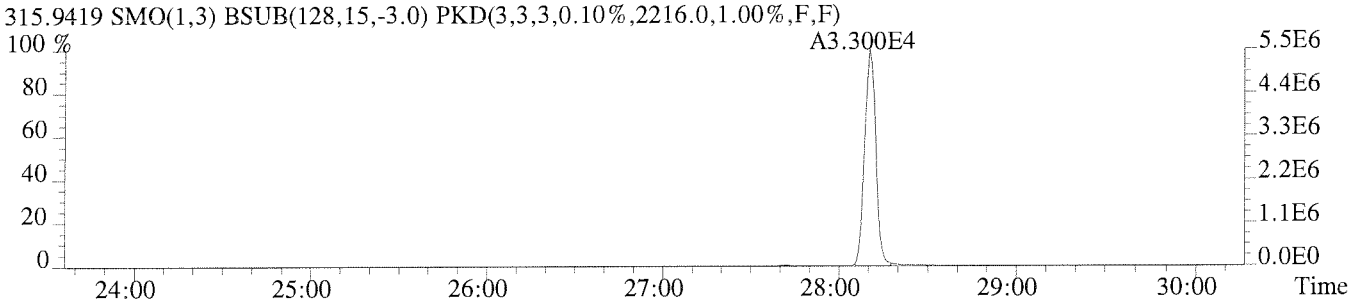
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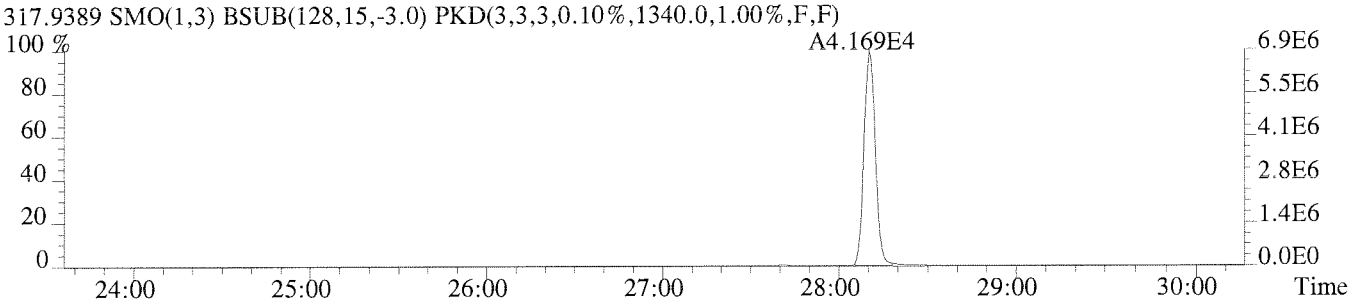
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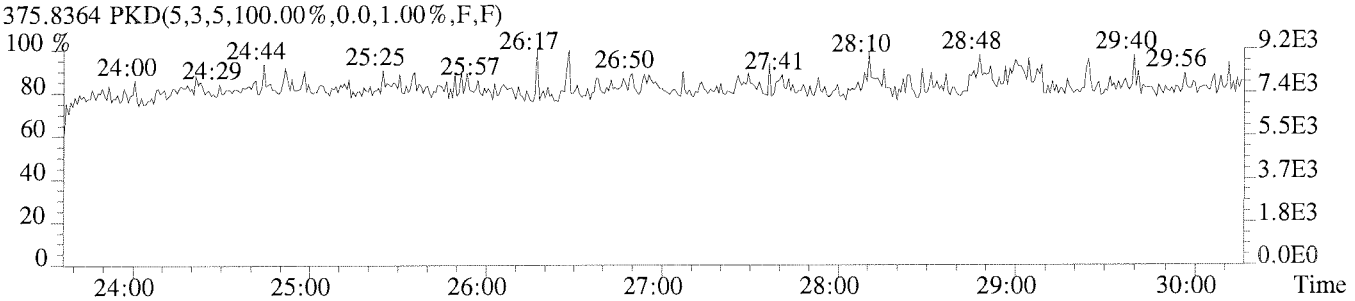
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2216.0,1.00%,F,F)



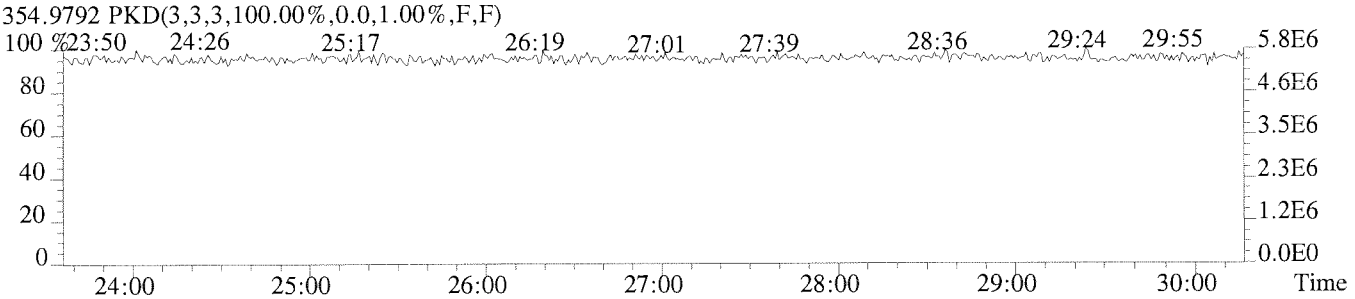
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1340.0,1.00%,F,F)



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

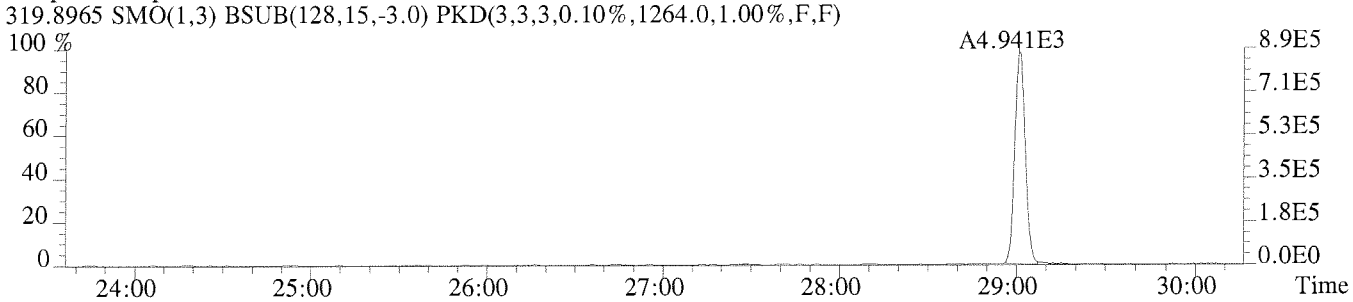


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

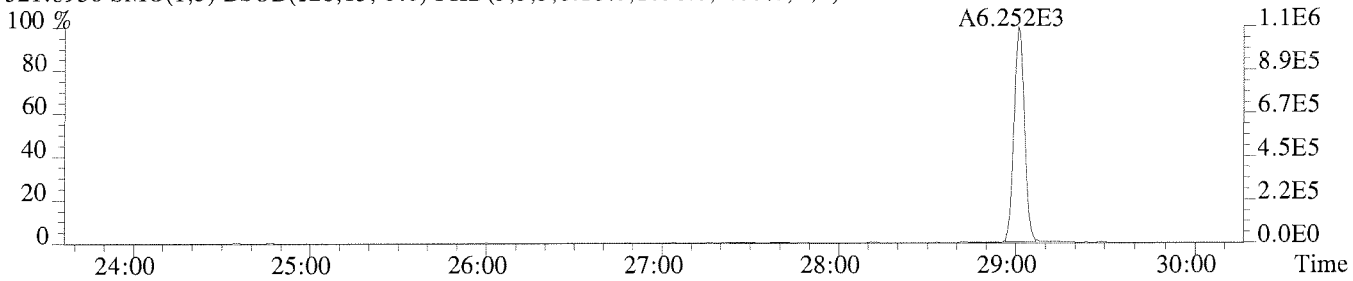


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Sample#1 Exp:CCAL HRCC3

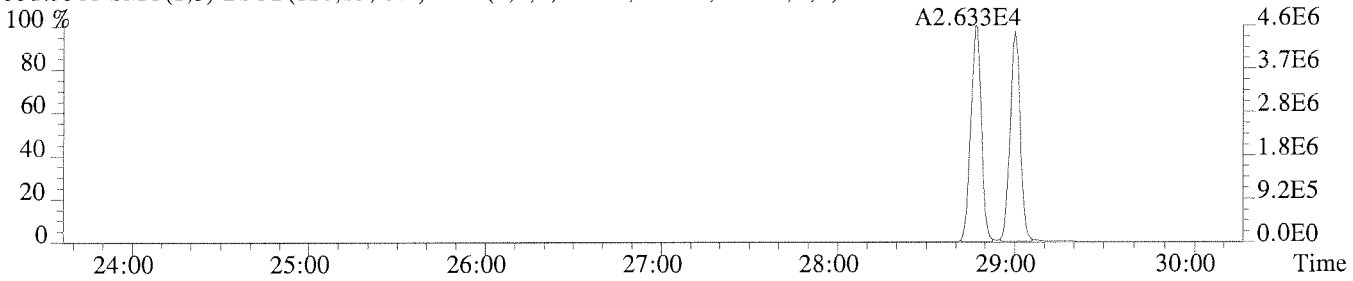
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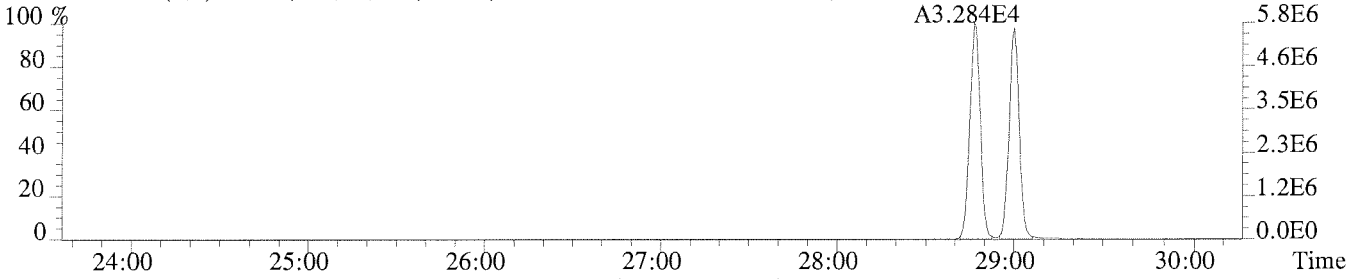
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1056.0,1.00%,F,F)



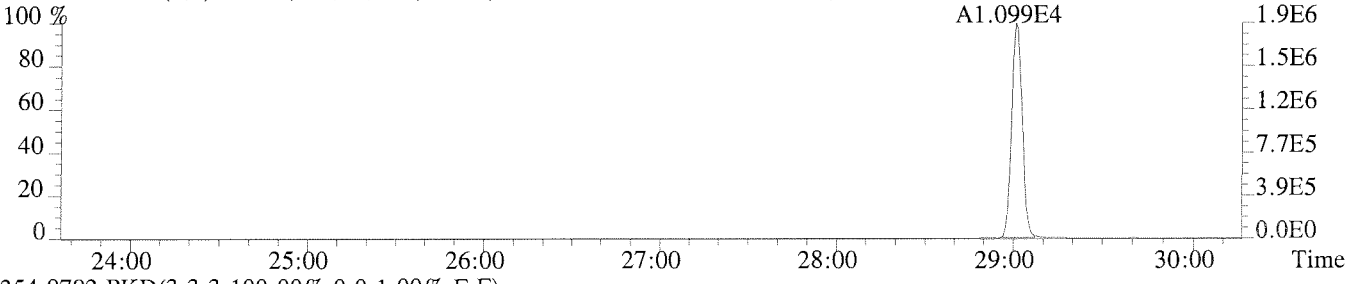
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2572.0,1.00%,F,F)



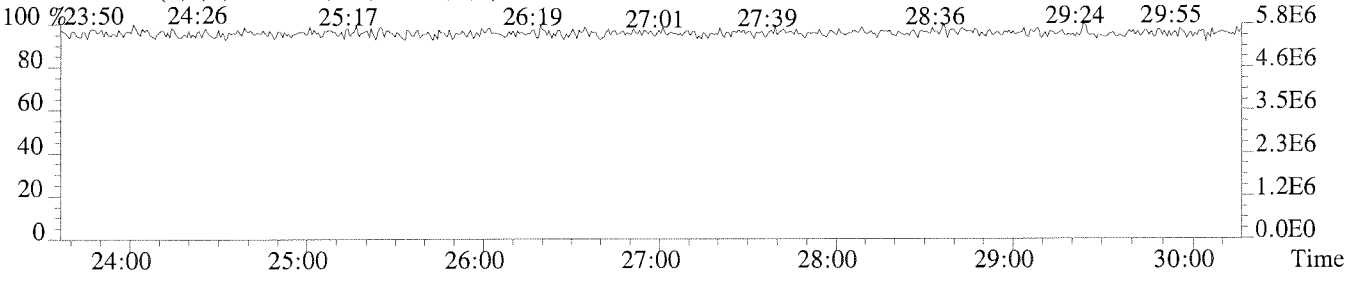
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1156.0,1.00%,F,F)

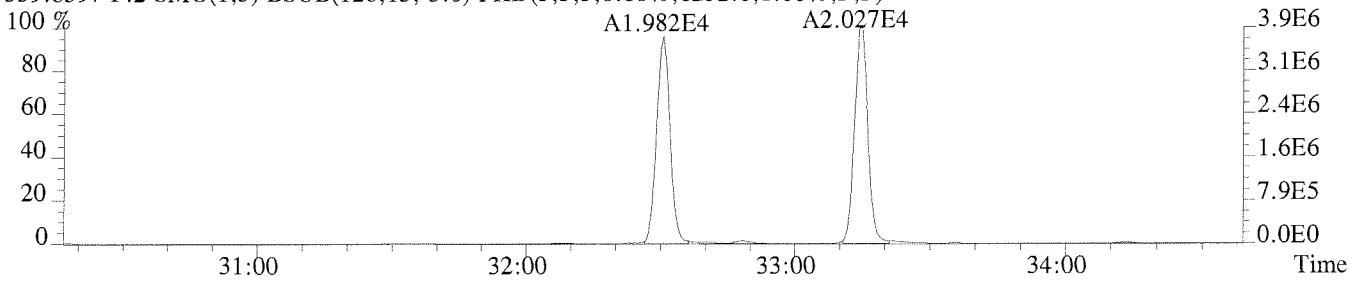


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

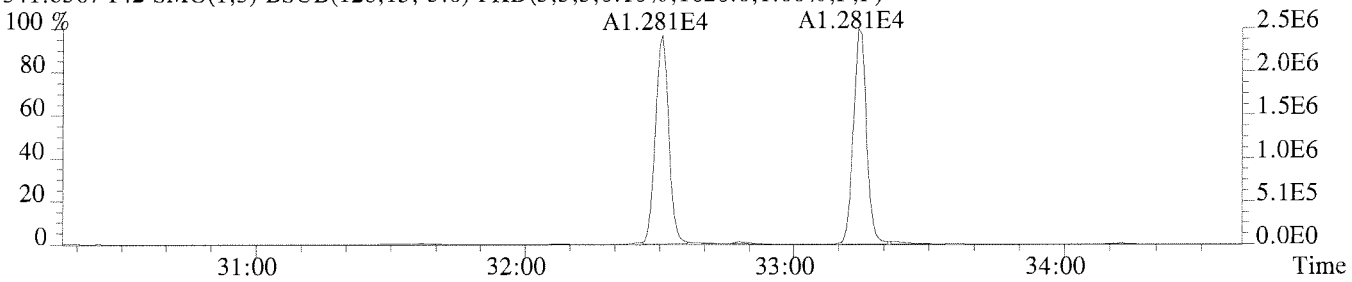


File:U217137 #1-397 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

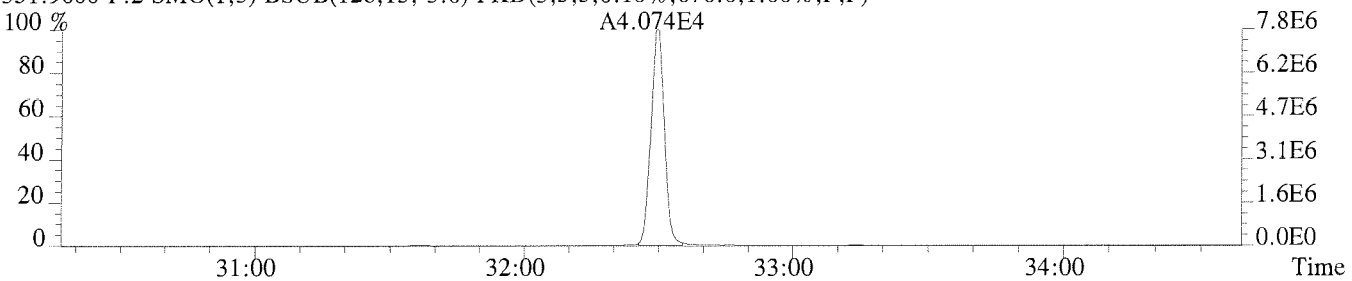
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,F)



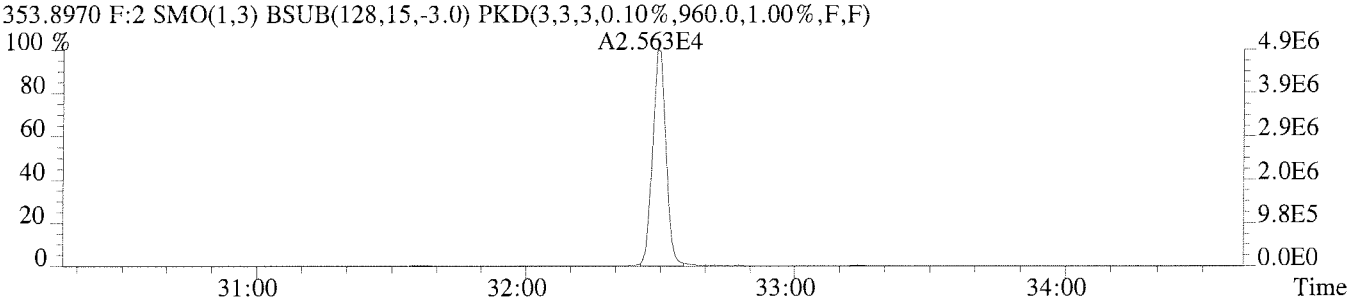
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1620.0,1.00%,F,F)



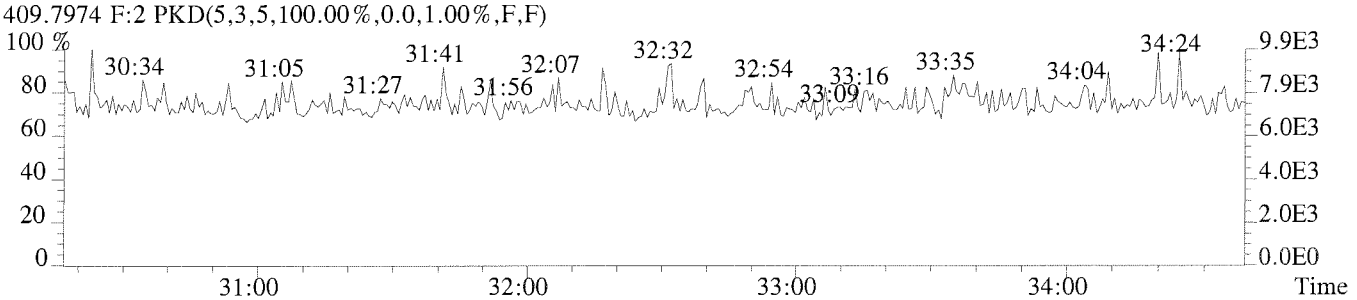
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,676.0,1.00%,F,F)



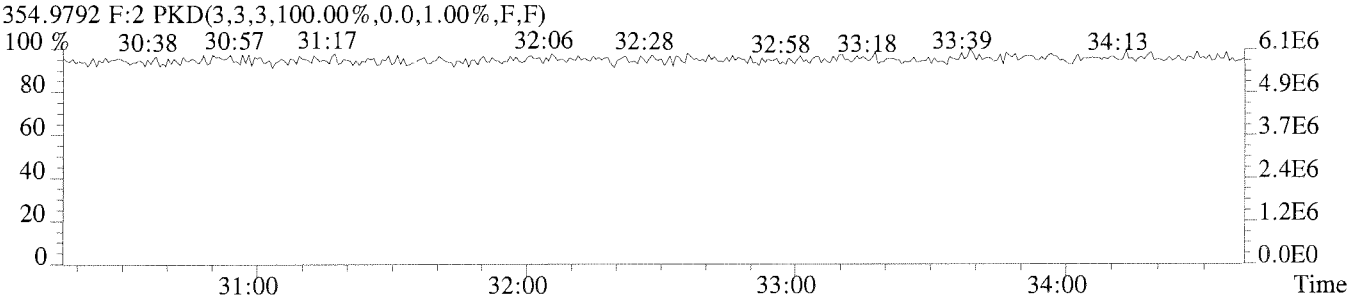
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,F)



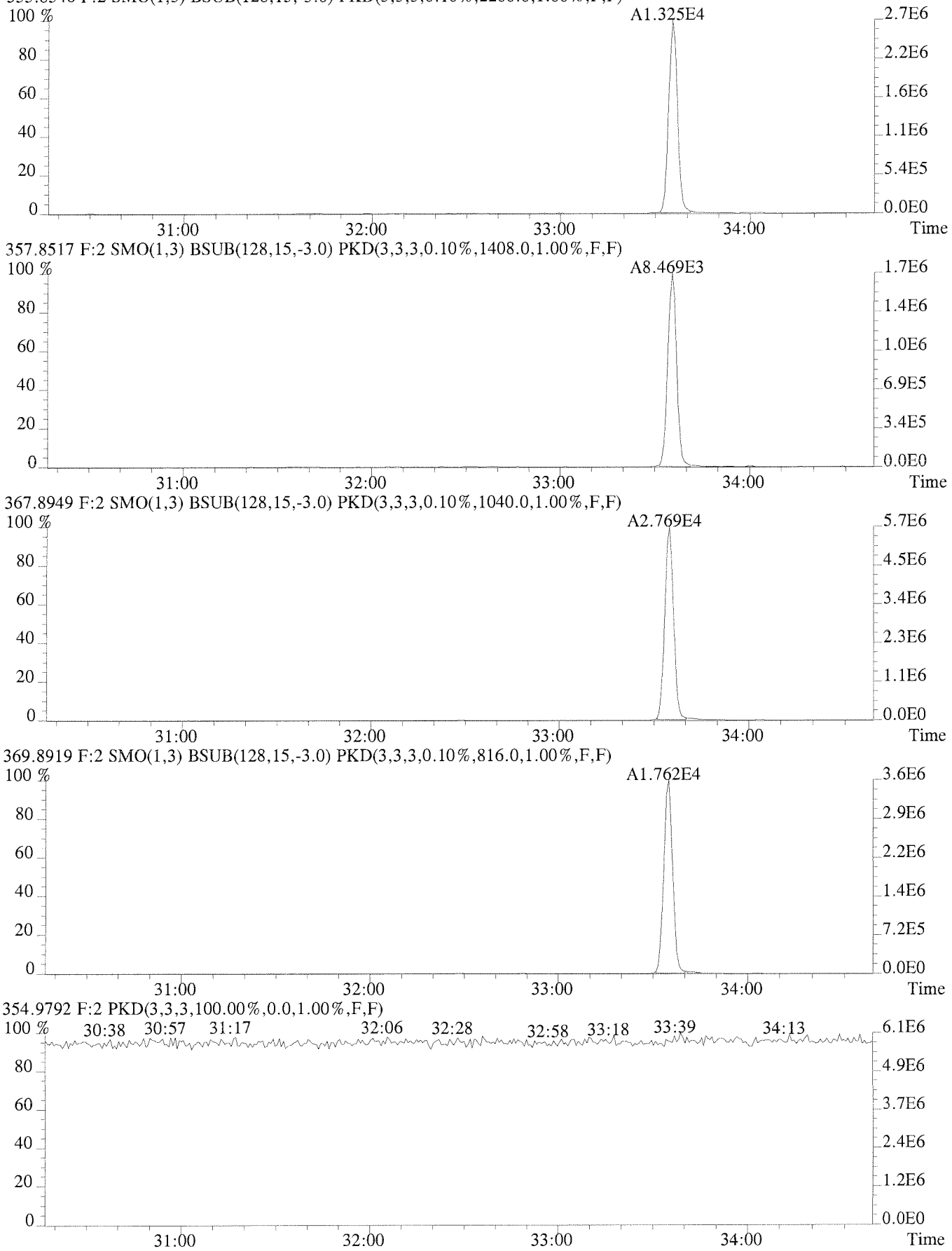
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



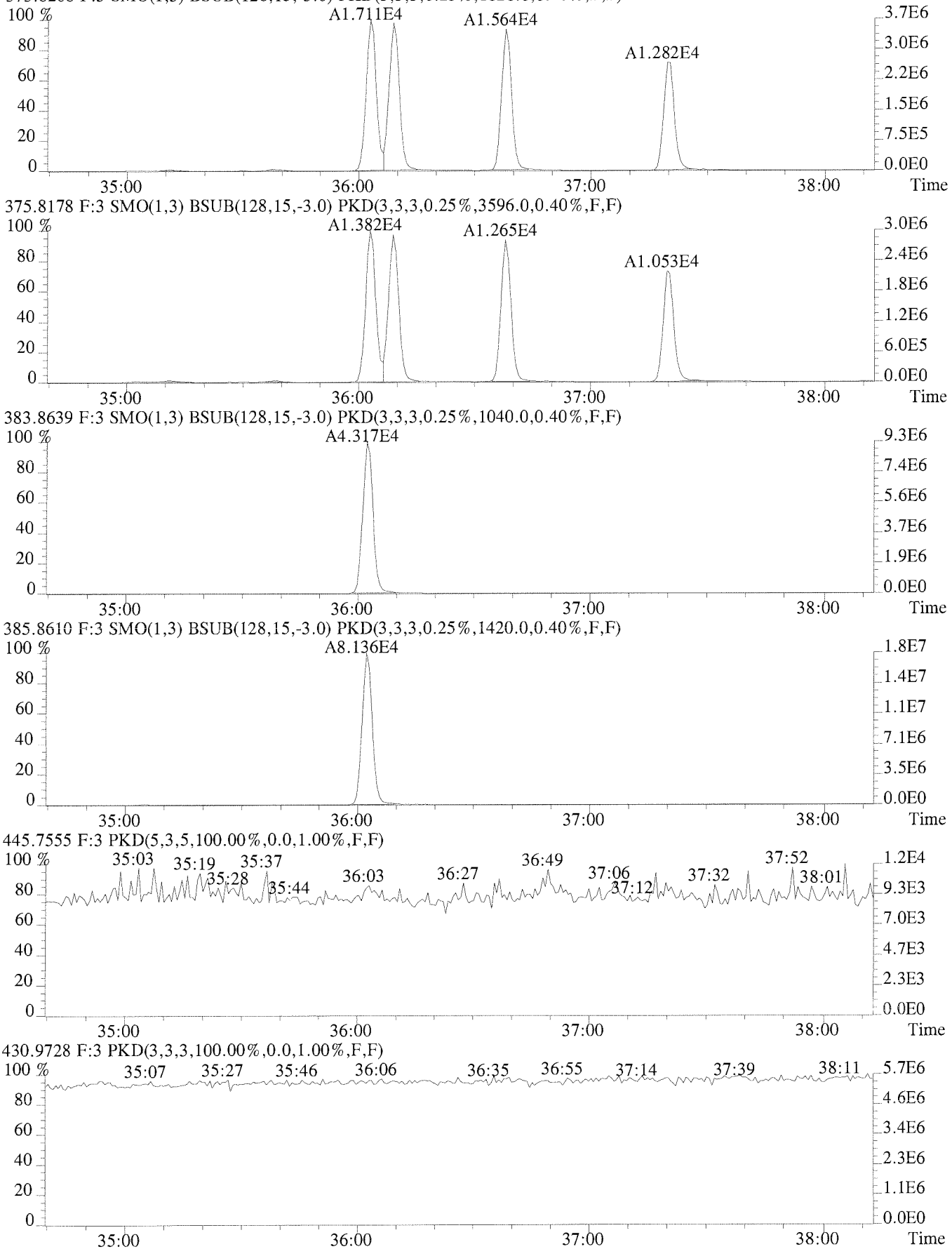
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



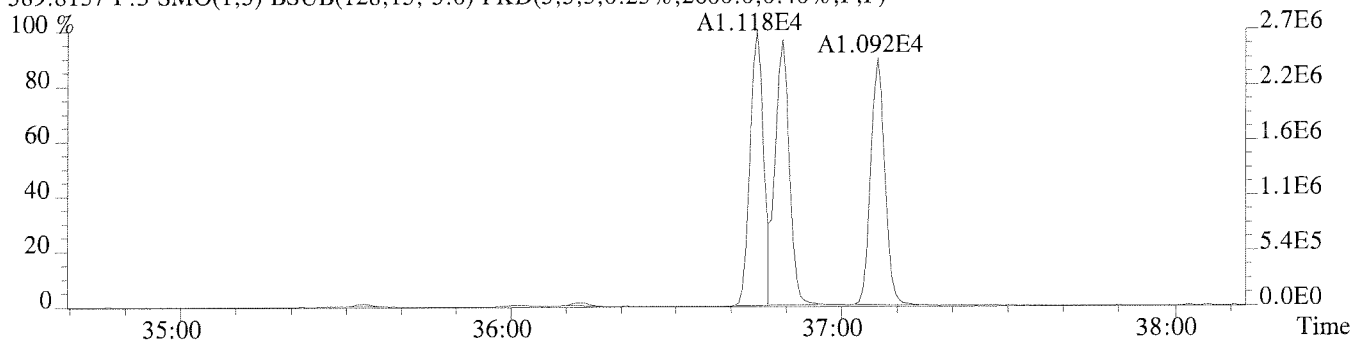
File:U217137 #1-397 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

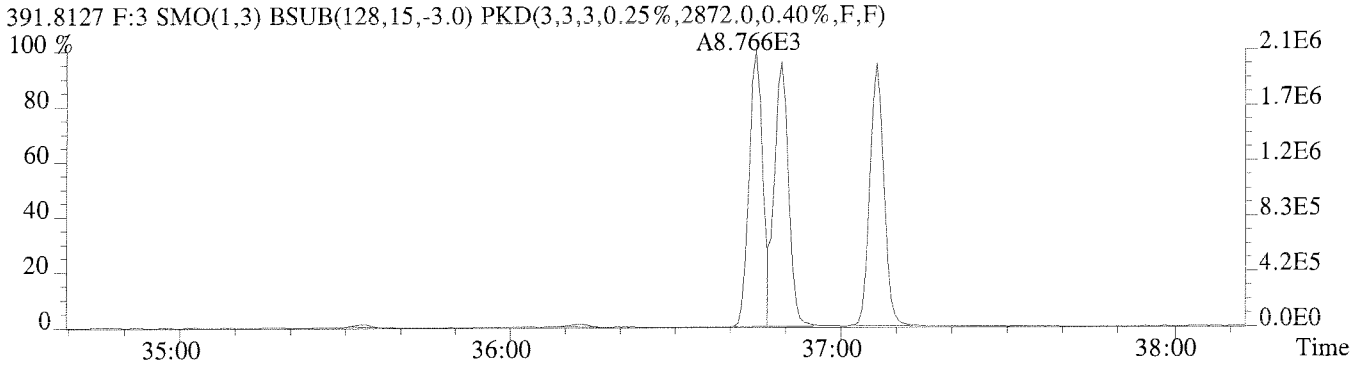


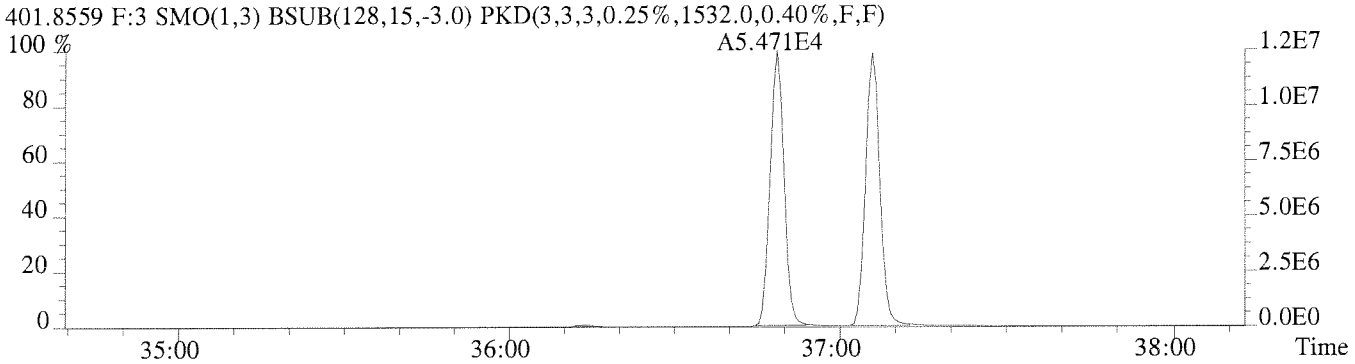
File:U217137 #1-323 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

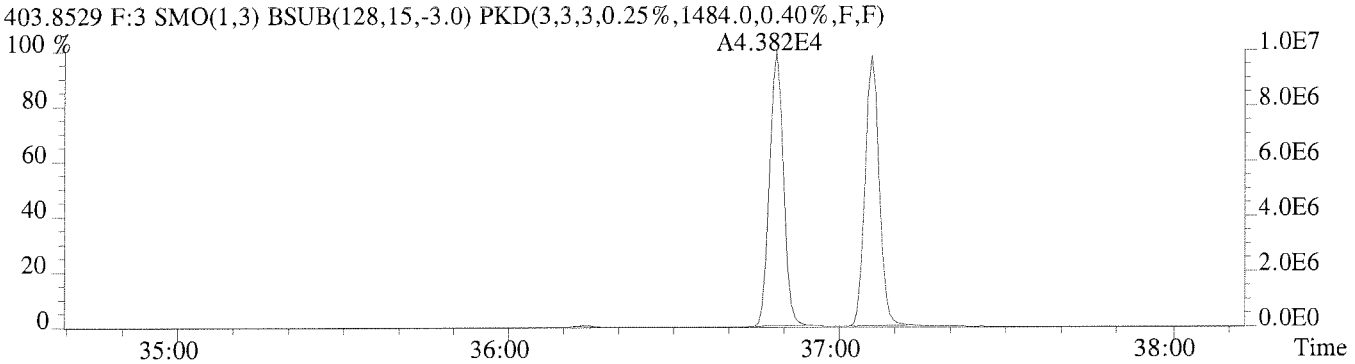


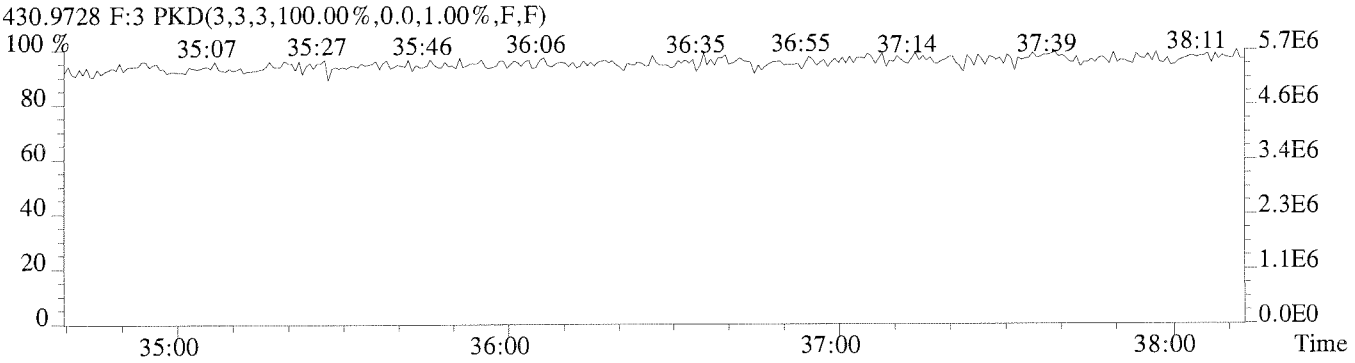
File:U217137 #1-323 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3





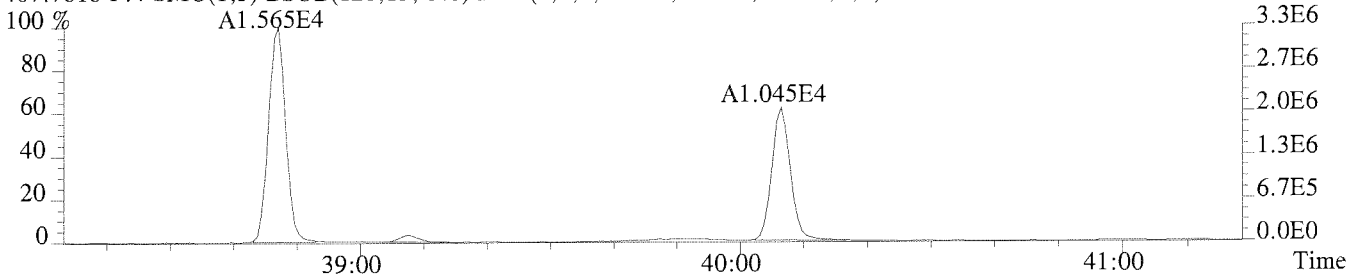




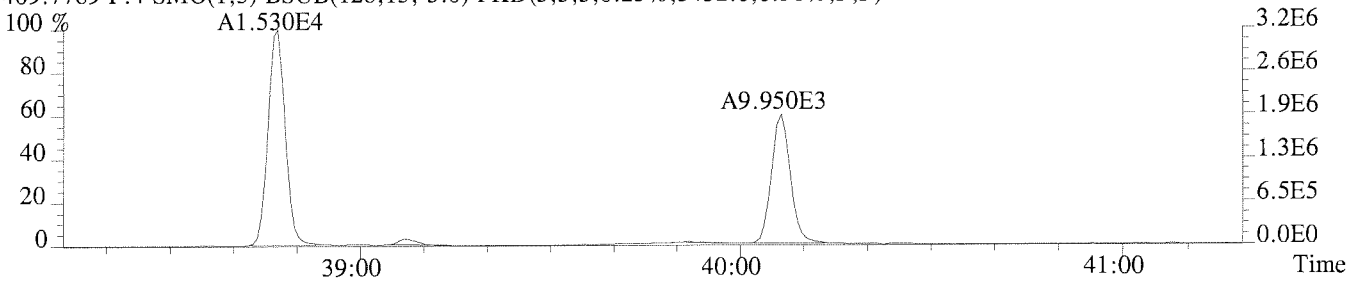


File:U217137 #1-281 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

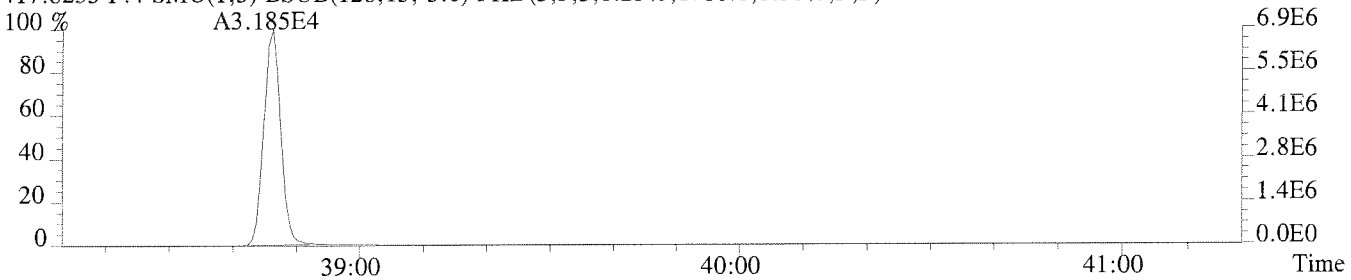
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5764.0,0.50%,F,F)



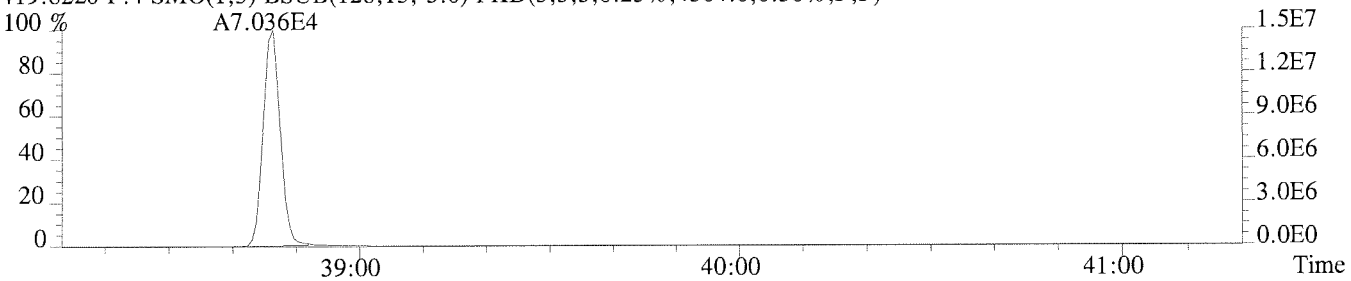
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3452.0,0.50%,F,F)



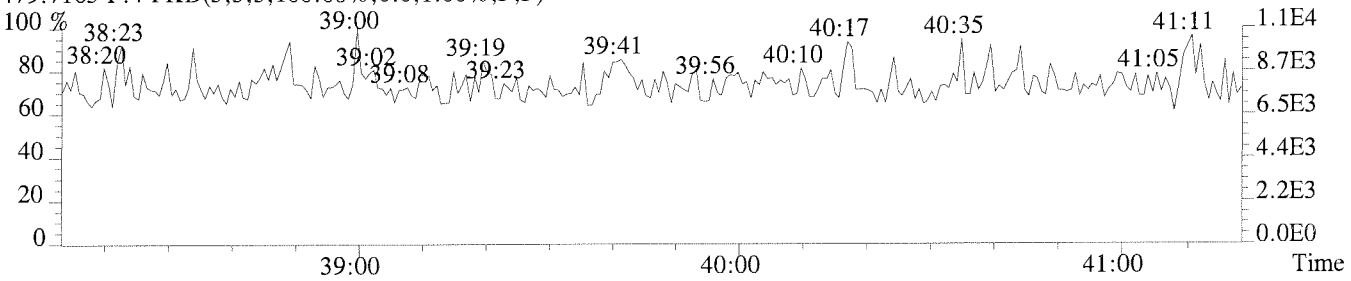
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1780.0,0.50%,F,F)



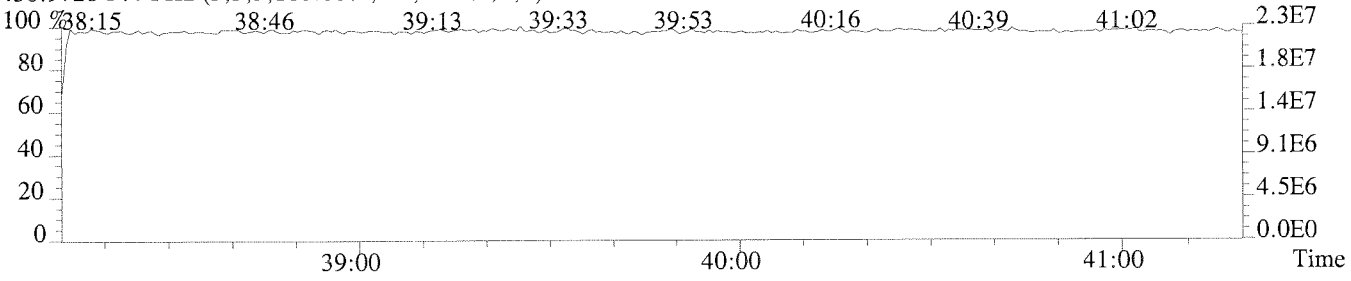
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4504.0,0.50%,F,F)



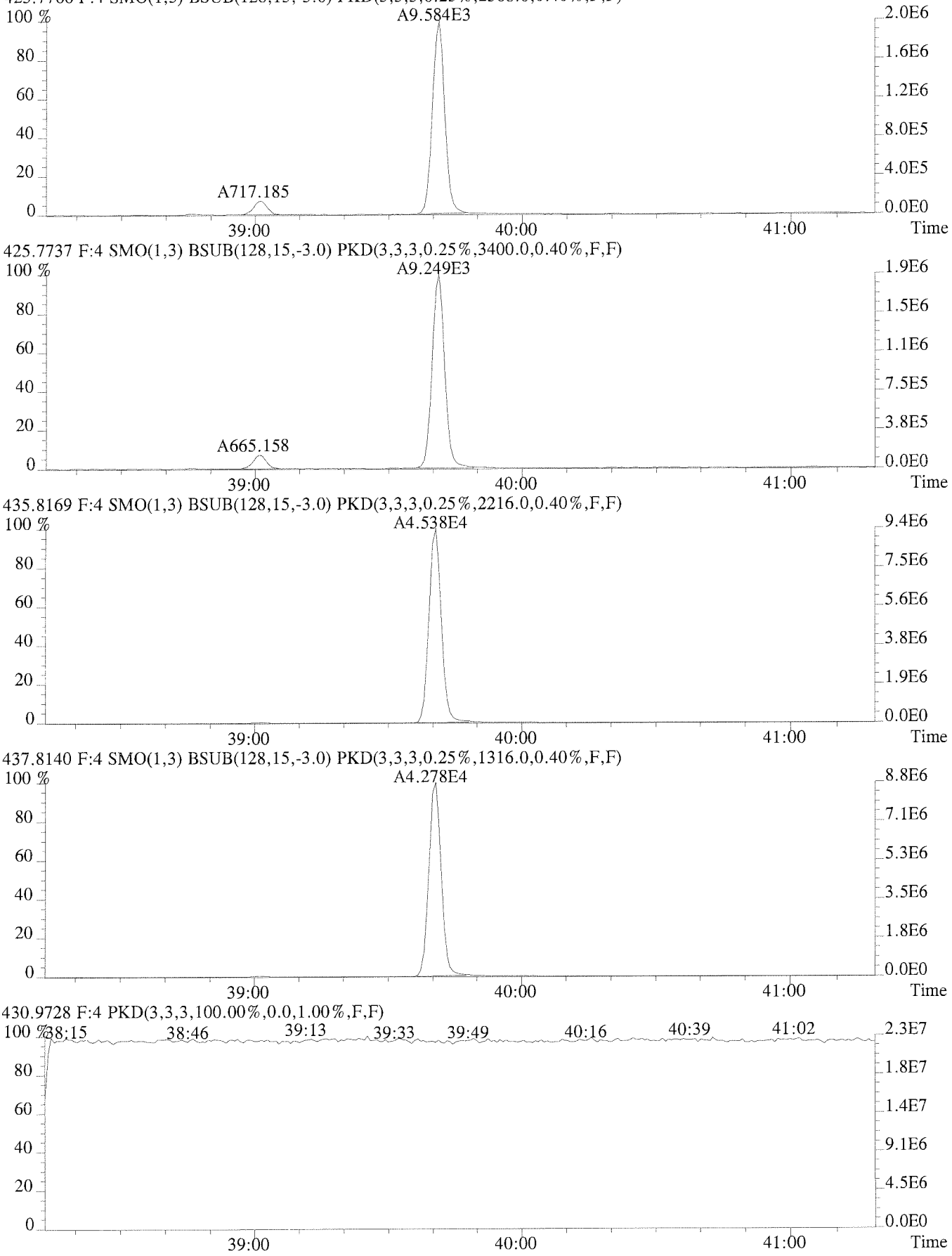
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

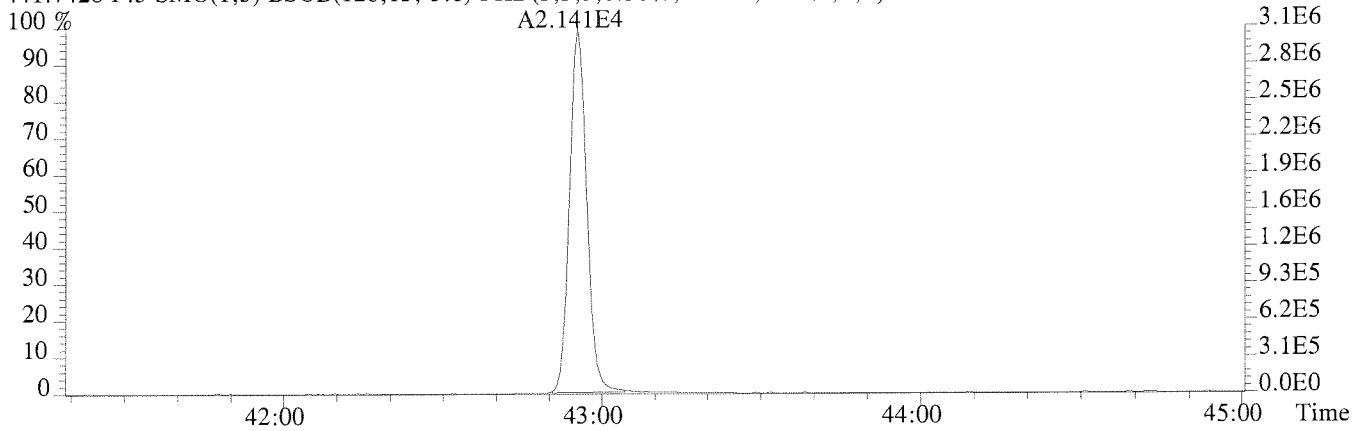


File:U217137 #1-281 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

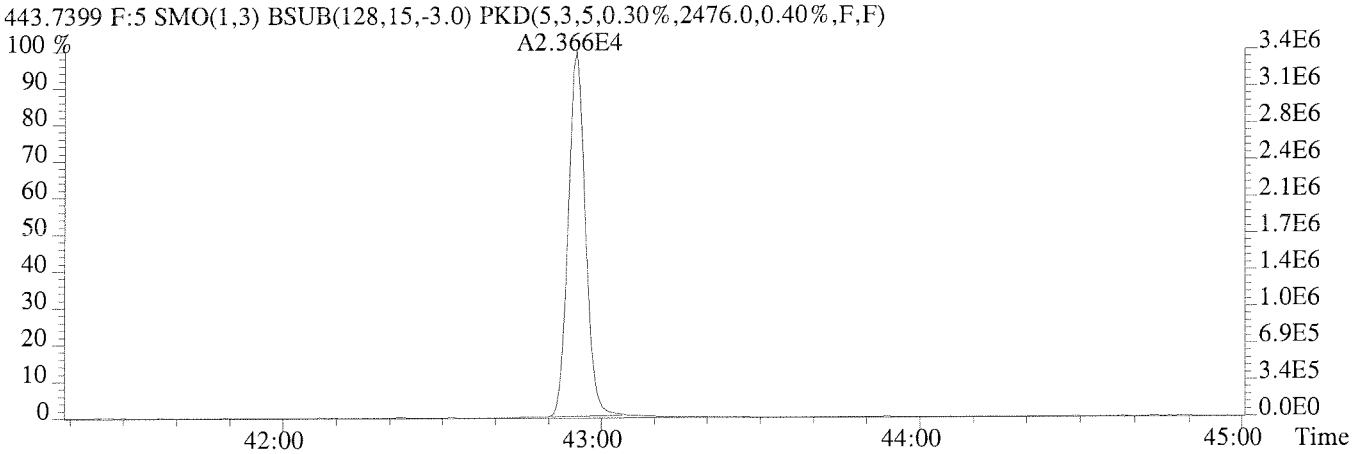


File:U217137 #1-408 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

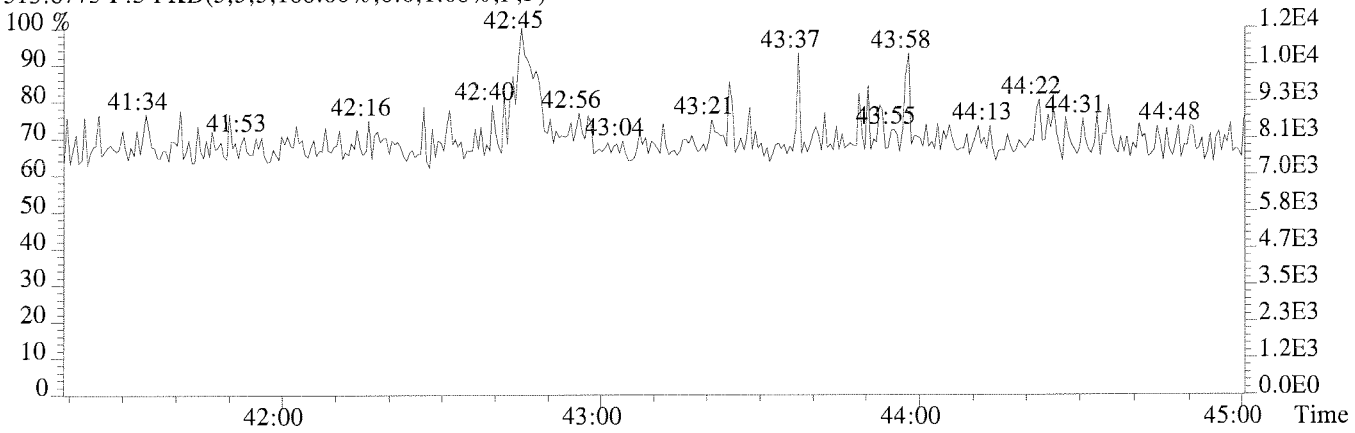
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2020.0,0.40%,F,F)



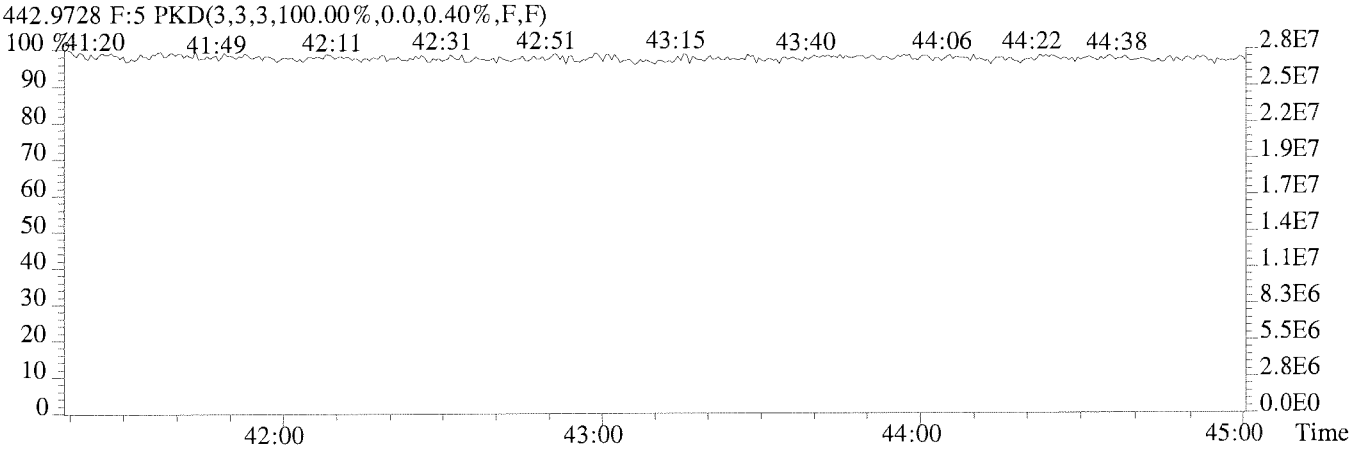
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2476.0,0.40%,F,F)



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

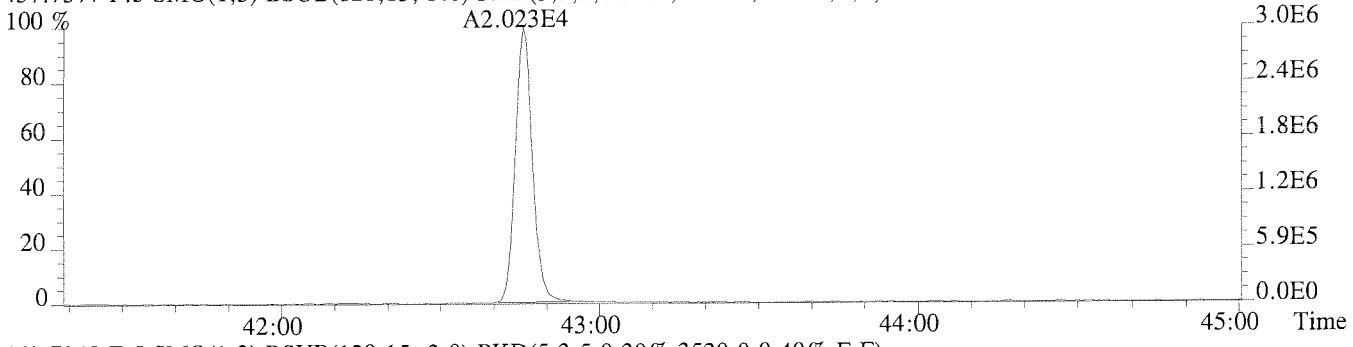


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

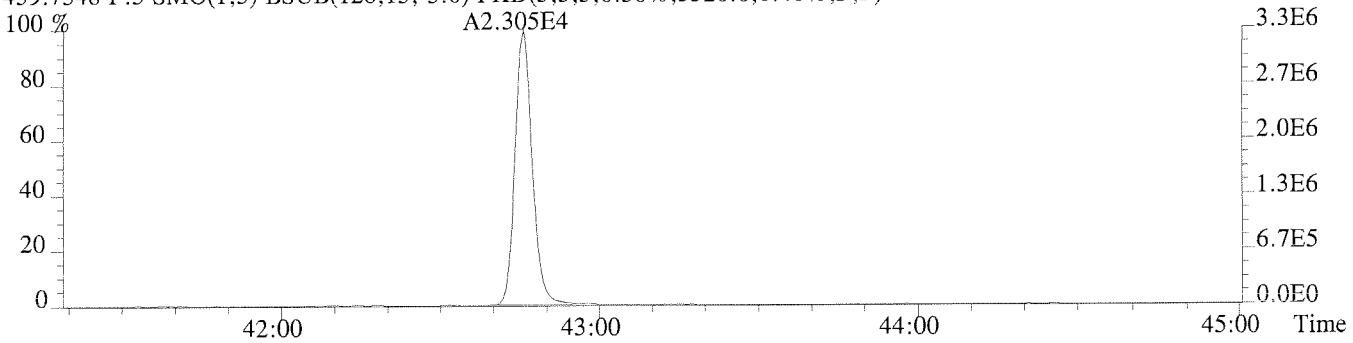


File:U217137 #1-408 Acq:14-AUG-2008 16:58:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

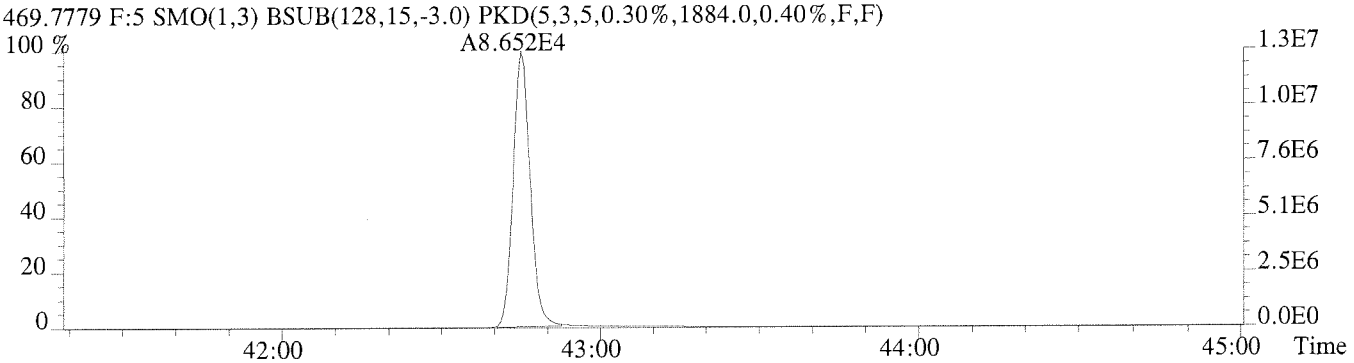
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,4216.0,0.40%,F,F)



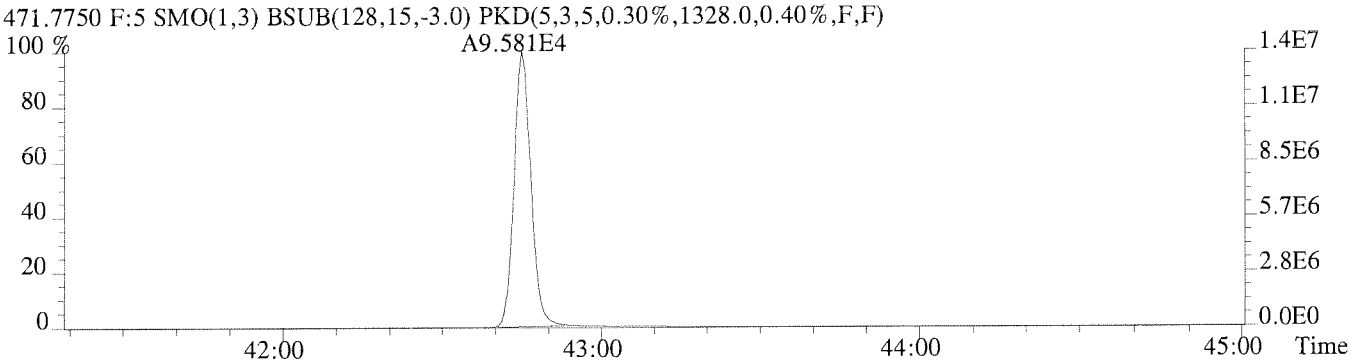
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3520.0,0.40%,F,F)



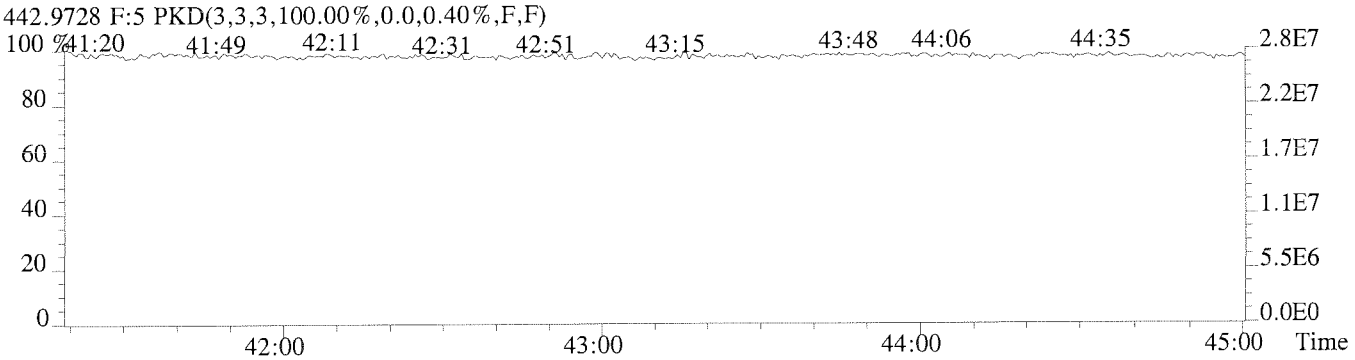
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1884.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1328.0,0.40%,F,F)



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



Columbia Analytical Services INC

Initial Calibration

19408 Park Row, Suite 320, Houston, TX 77084
Phone (713)266-1599 Fax (713)266-0130
www.caslab.com

An Employee Owned Company

Initial Calibration QC Checklist

556

ICAL Name: 4-2 82901

Date: 4/2/07

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

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 it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: _____ Second QC: _____

icalqc.xls 02-23-00

CAS HOUSTON INC.

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Name: Columbia Analytical Services, Houston Contract

Lab Code: TX01411 CASE No.: Client No: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 04/02/07

Init. Calib.Times: 11:25

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
WINDOW DEFINE		U120205	2-APR-07	11:25:17
ICAL HRCC1		U120206	2-APR-07	13:56:35
ICAL HRCC2		U120207	2-APR-07	14:42:23
ICAL HRCC3		U120208	2-APR-07	15:34:13
ICAL HRCC4		U120209	2-APR-07	16:23:37
ICAL HRCC5		U120210	2-APR-07	17:13:27

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Columbia Analytical Services inc. An Employee Owned Company

Acq Method: 8290 CAS/1613 Result File: U120402B290I Archive Tape: _____

GC Method: 8290 CAS/1613 EDD File: _____ Instrument ID: AutoSpec 1

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
03/31/07	00:03	U120200	K0702185-001DL	XA-5-1 DL	EB29049	[illegible]	1:100	
	00:57	U120201	EB29052-LCS	LAB SPIKE	EB29052			
	1:39	U120202	EB29052-DLCS	DUP LAB SPIKE	I			
	2:21	U120203	Test					
	3:15	U120204	CCAL HRCC3	D8-2-2A			use average RF	
4/2/07	11:25	U120205	Window Def. Mix	D4-90-2				
	13:56	U120206	Ical HRCC1	D5-49-5				
	14:42	U120207	Ical HRCC2	D5-49-4				
	15:34	U120208	Ical HRCC3	D8-2-2A				
	16:23	U120209	Ical HRCC4	D5-49-2				
	17:13	U120210	Ical HRCC5	D5-49-1				
↓	18:02	U120211	Test			↓		

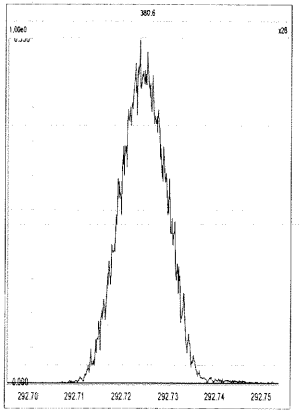
Reviewed by: JB

Experiment Calibration Report **MassLynx 4.0 SCN503** Page 1 of 1

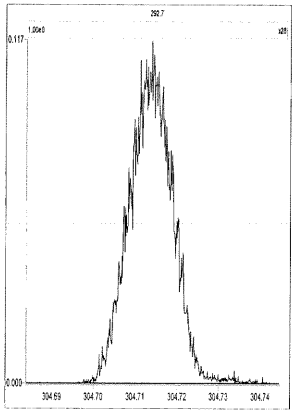
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, April 02, 2007 11:23:56 Central Standard Time

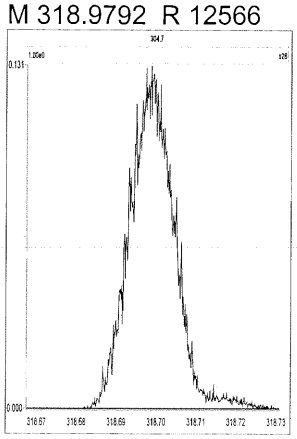
M 292.9824 R 12823



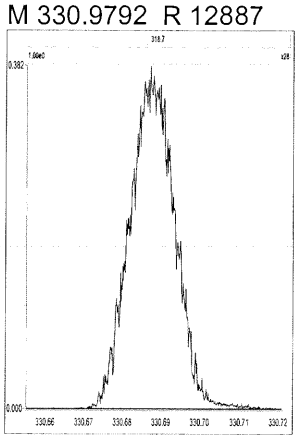
M 304.9824 R 13020



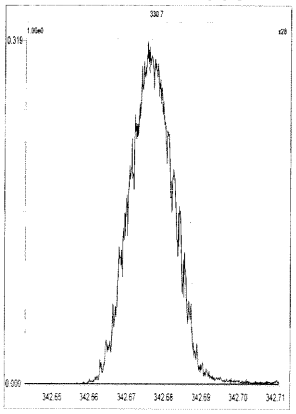
M 318.9792 R 12566



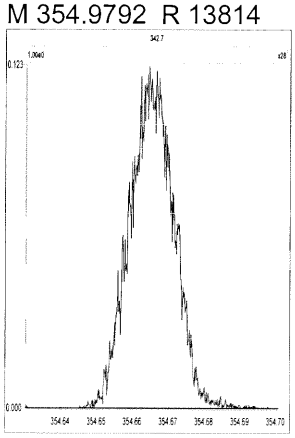
M 330.9792 R 12887



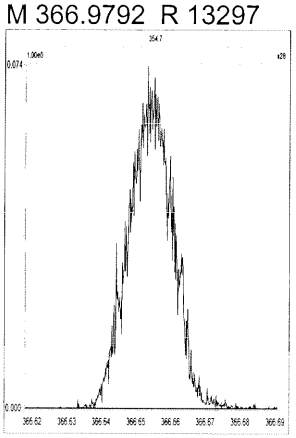
M 342.9792 R 13367



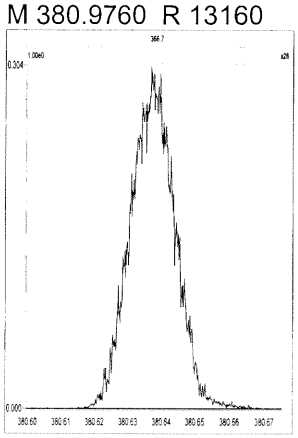
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M 366.9792 R 13297



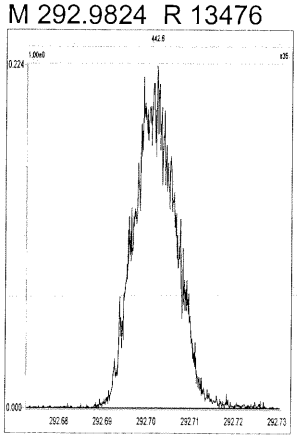
M 380.9760 R 13160



Resolution Check Report **MassLynx 4.0 SCN503** Page 1 of 1

Printed: Monday, April 02, 2007 18:52:37 Central Standard Time

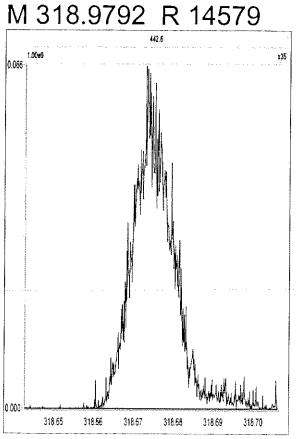
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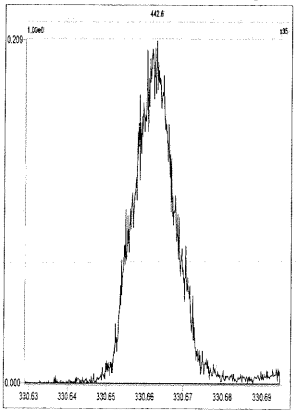
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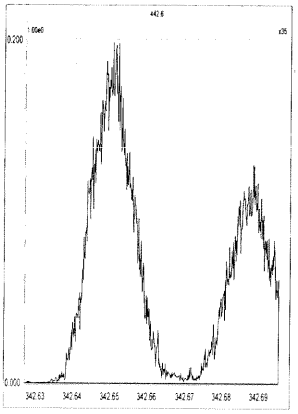
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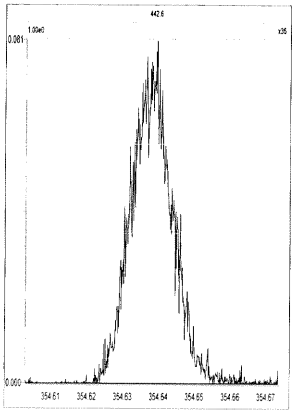
M 330.9792 R 13915



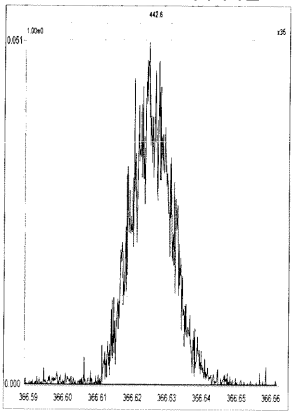
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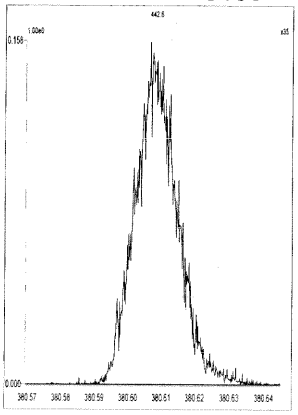
M 354.9792 R 13516



M 366.9792 R 15112



M 380.9760 R 13199



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: _____ SDG No.: _____

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: U120205

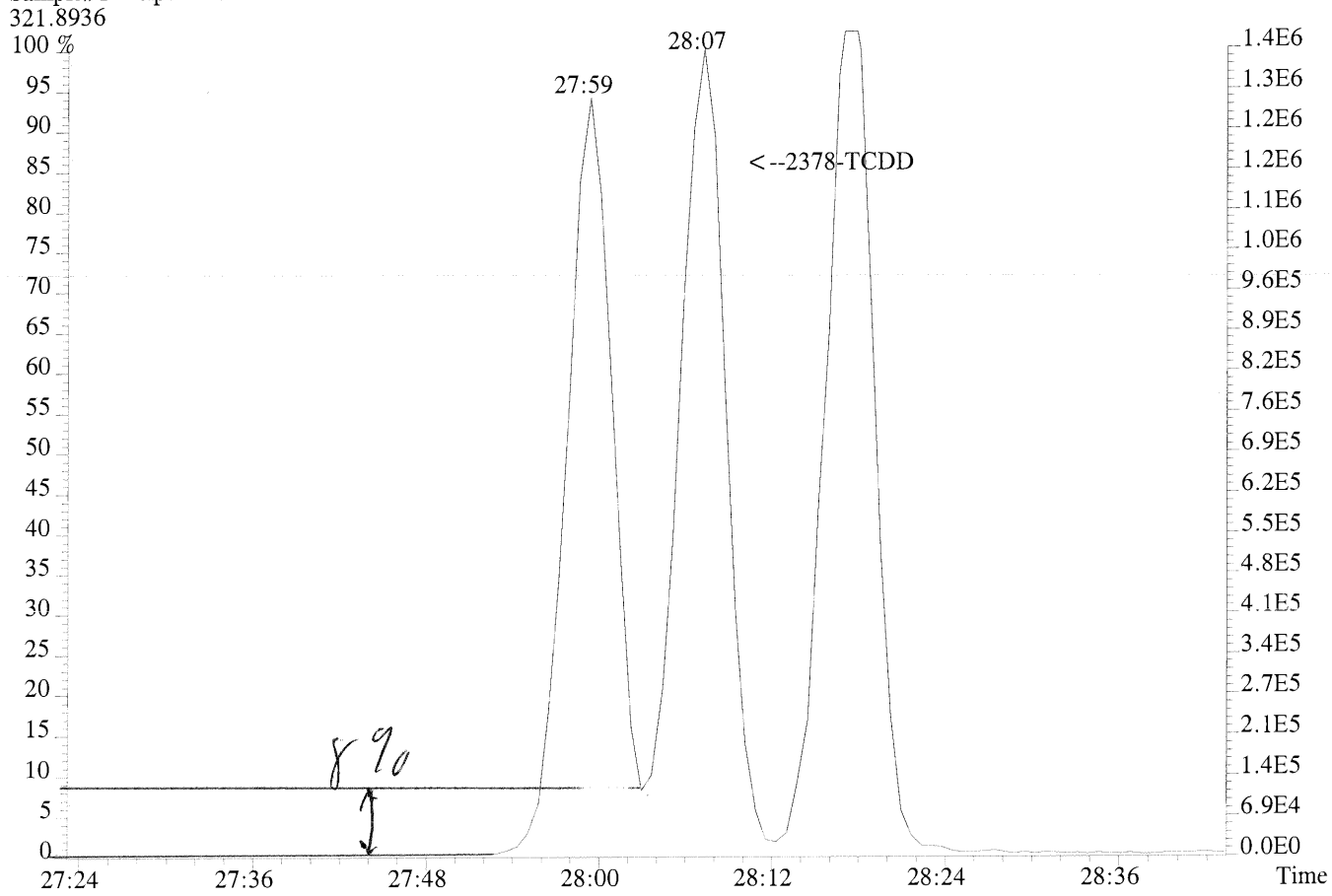
Date Analyzed: 04/02/07

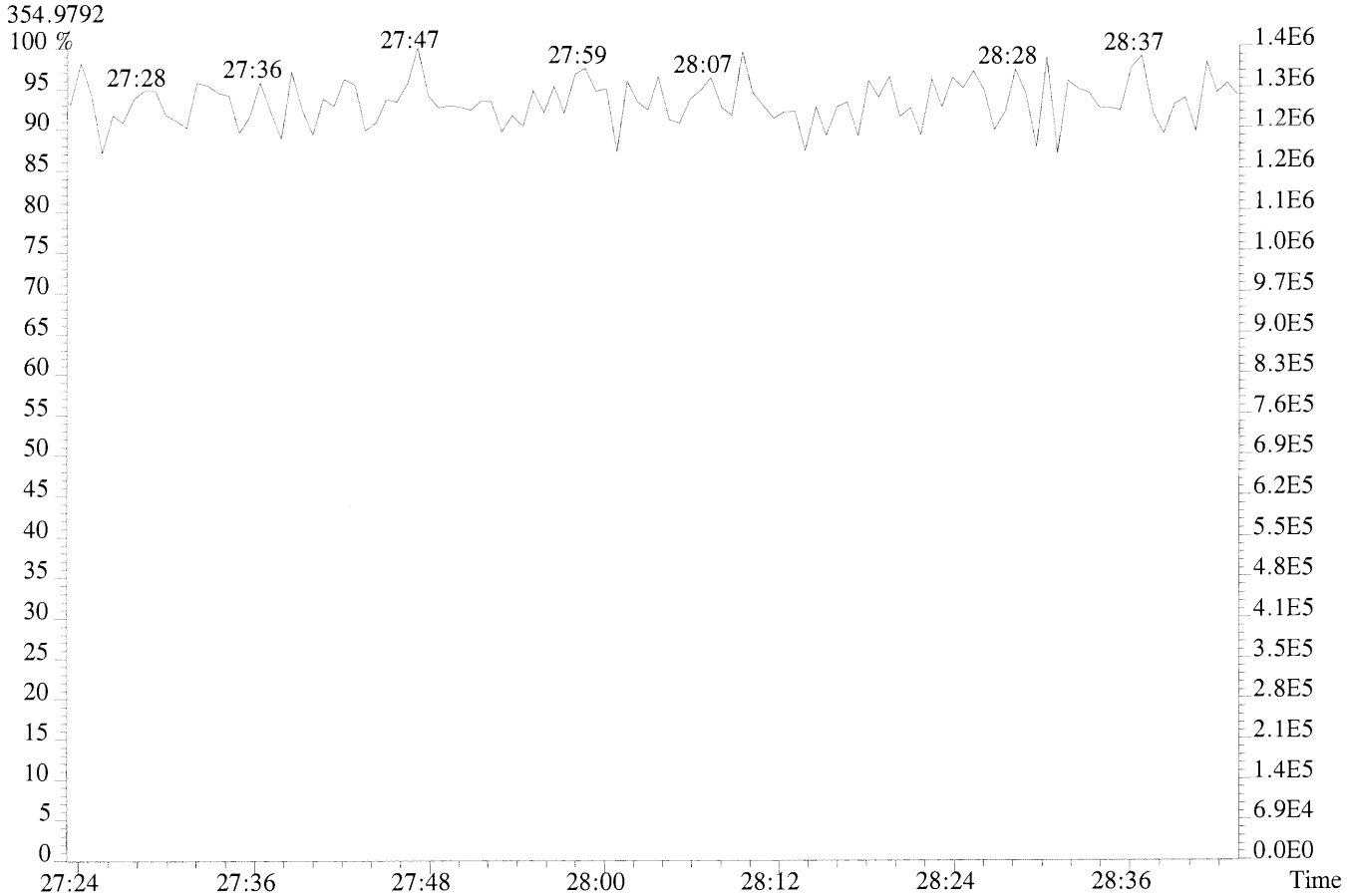
Time Analyzed: 11:25:17

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	23:27	29:13
TCDD	25:10	29:11
PeCDF	29:28	33:15
PeCDD	30:47	33:06
HxCDF	34:06	36:24
HxCDD	34:36	36:04
HpCDF	37:46	39:05
HpCDD	38:01	38:40

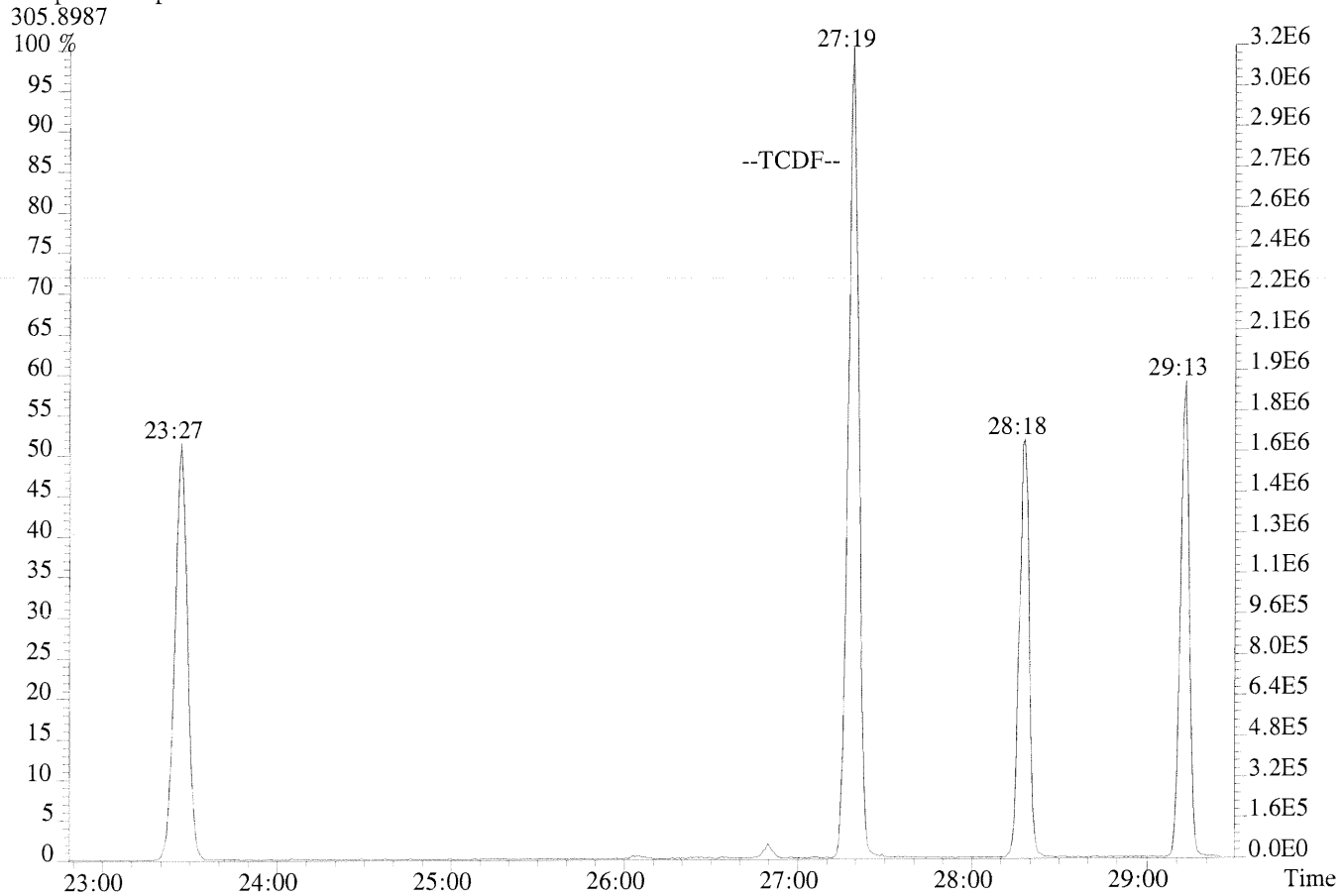
% Valley 2378-TCDD: 8%

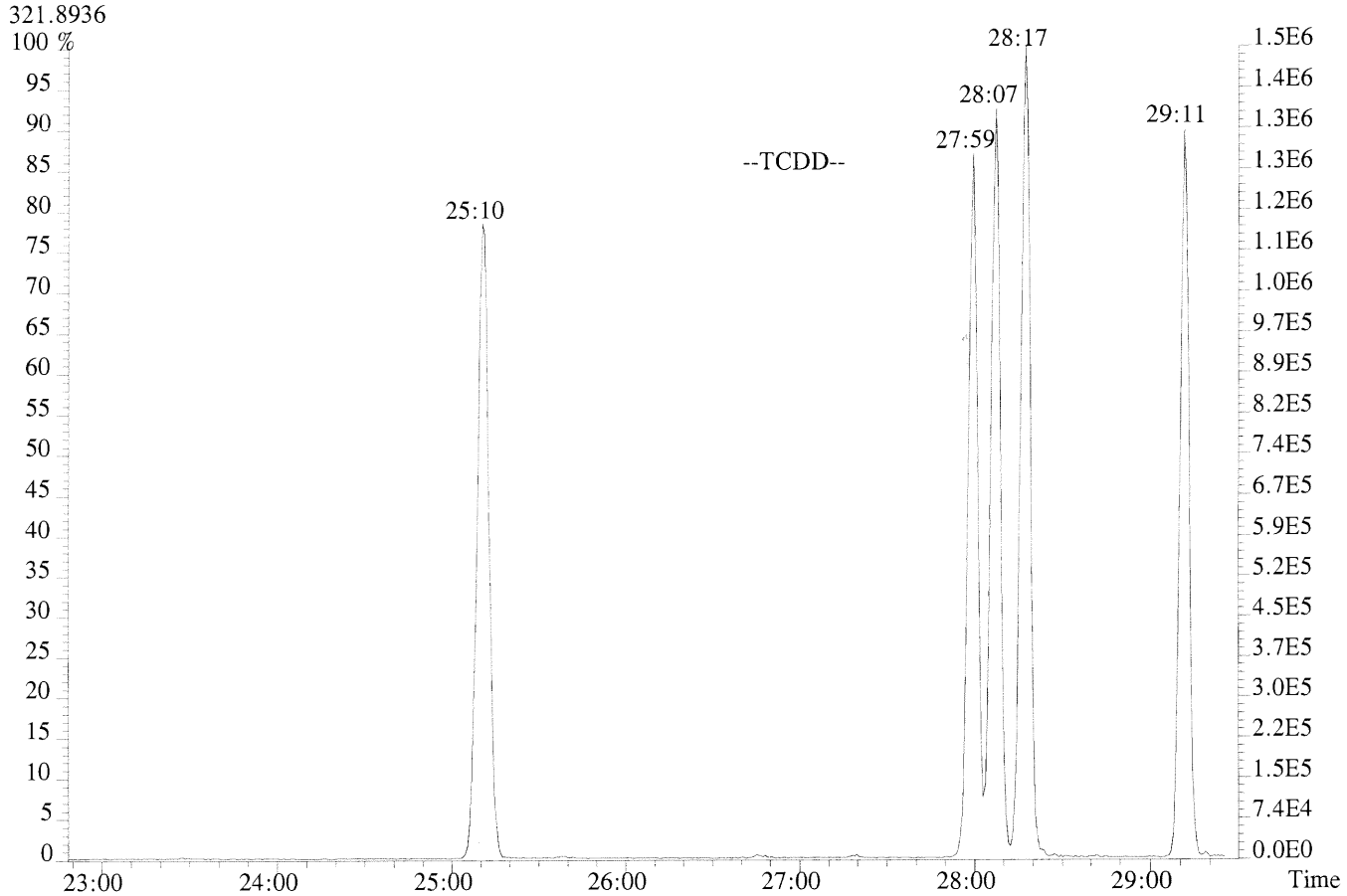
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Sample#1 Exp:WINDOW DEFINE



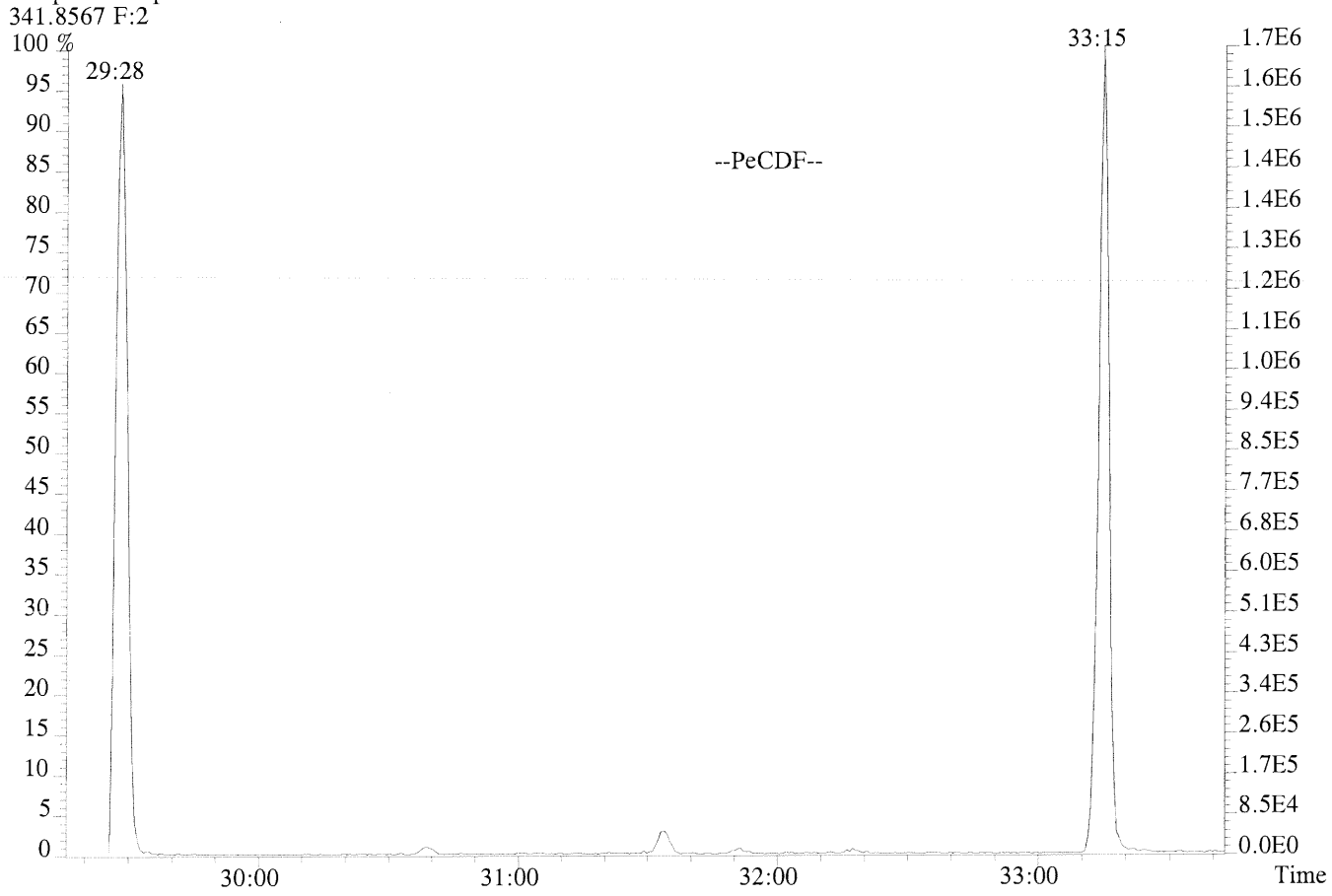


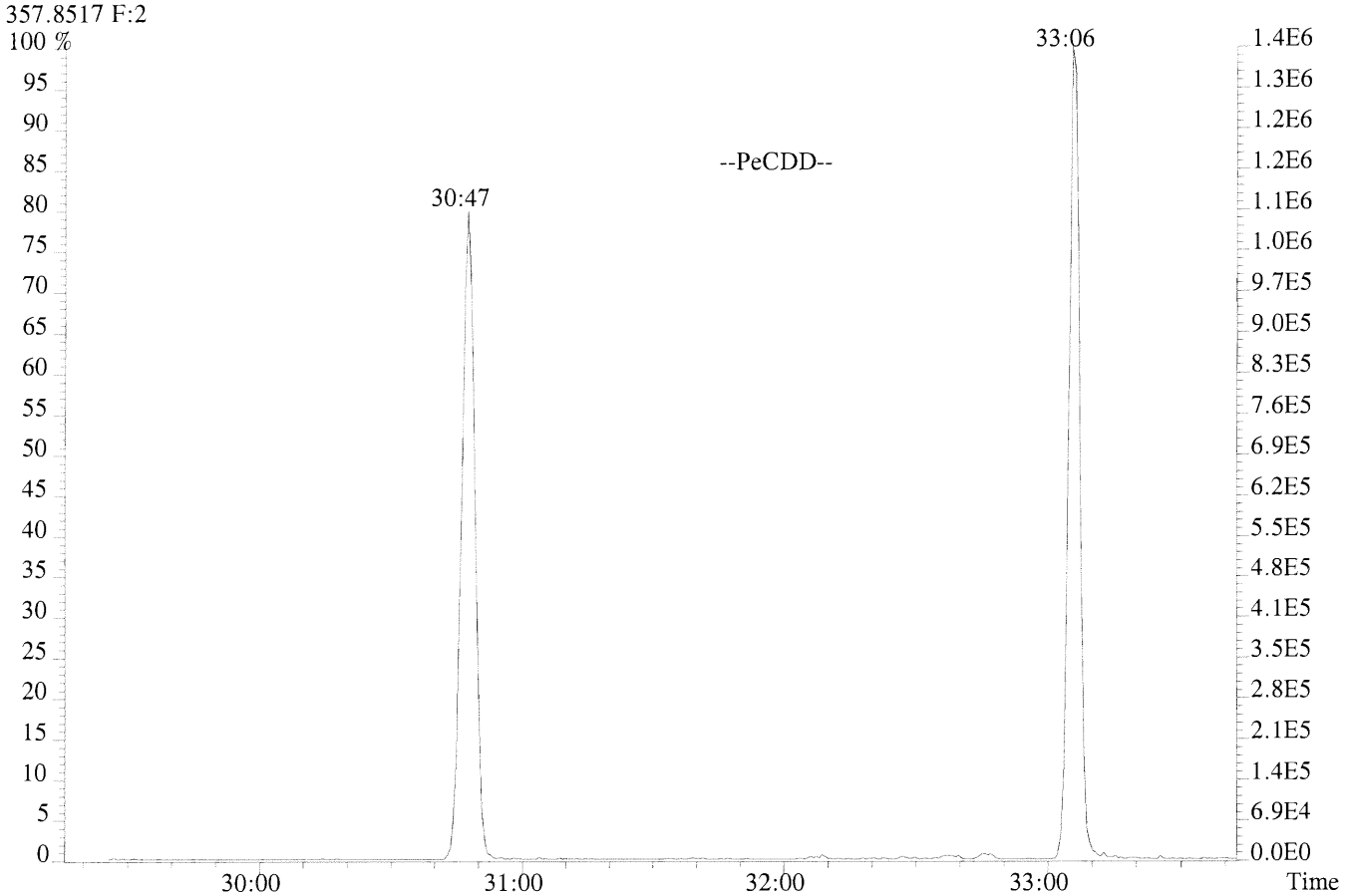
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Sample#1 Exp:WINDOW DEFINE



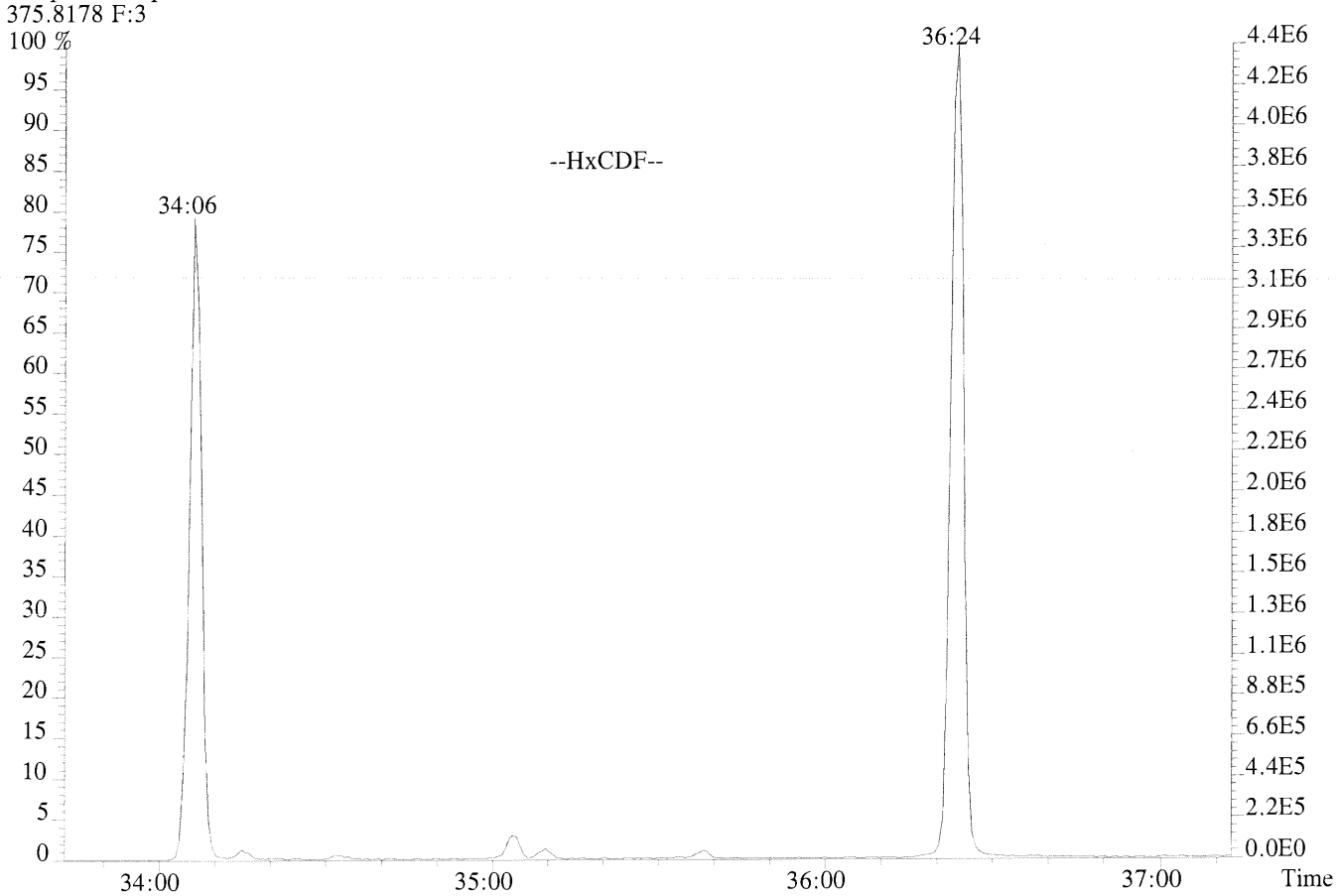


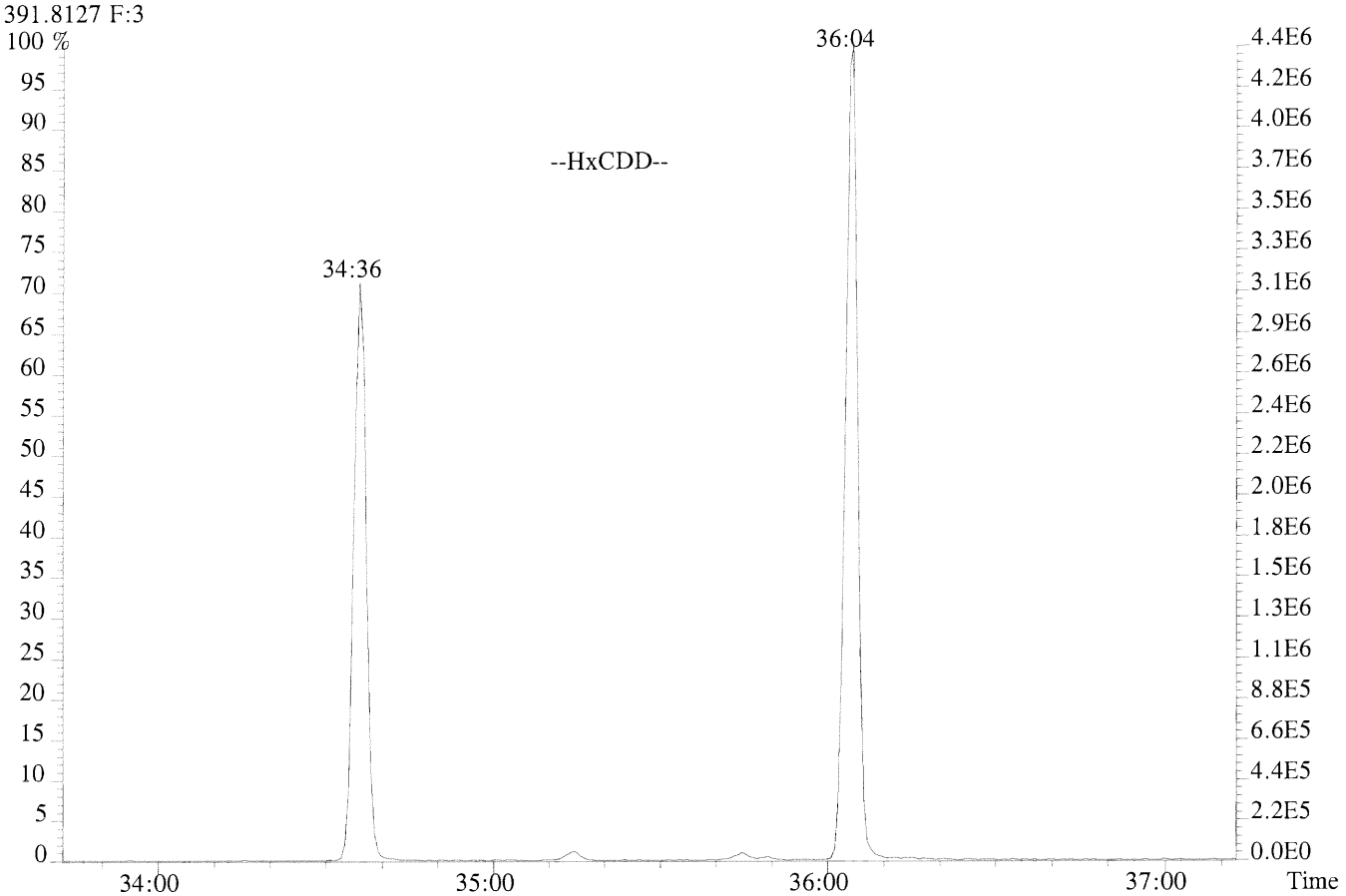
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Sample#1 Exp:WINDOW DEFINE



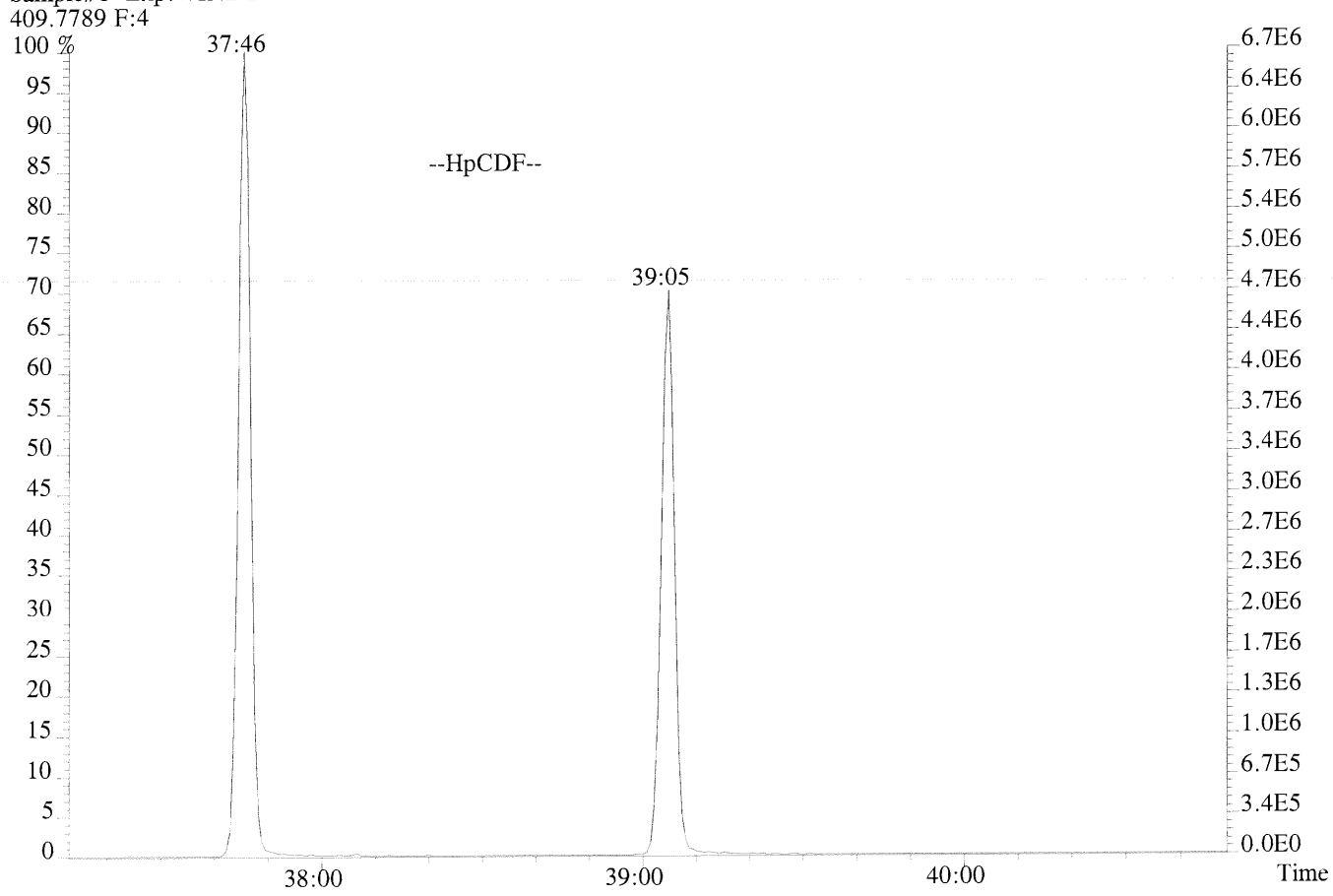


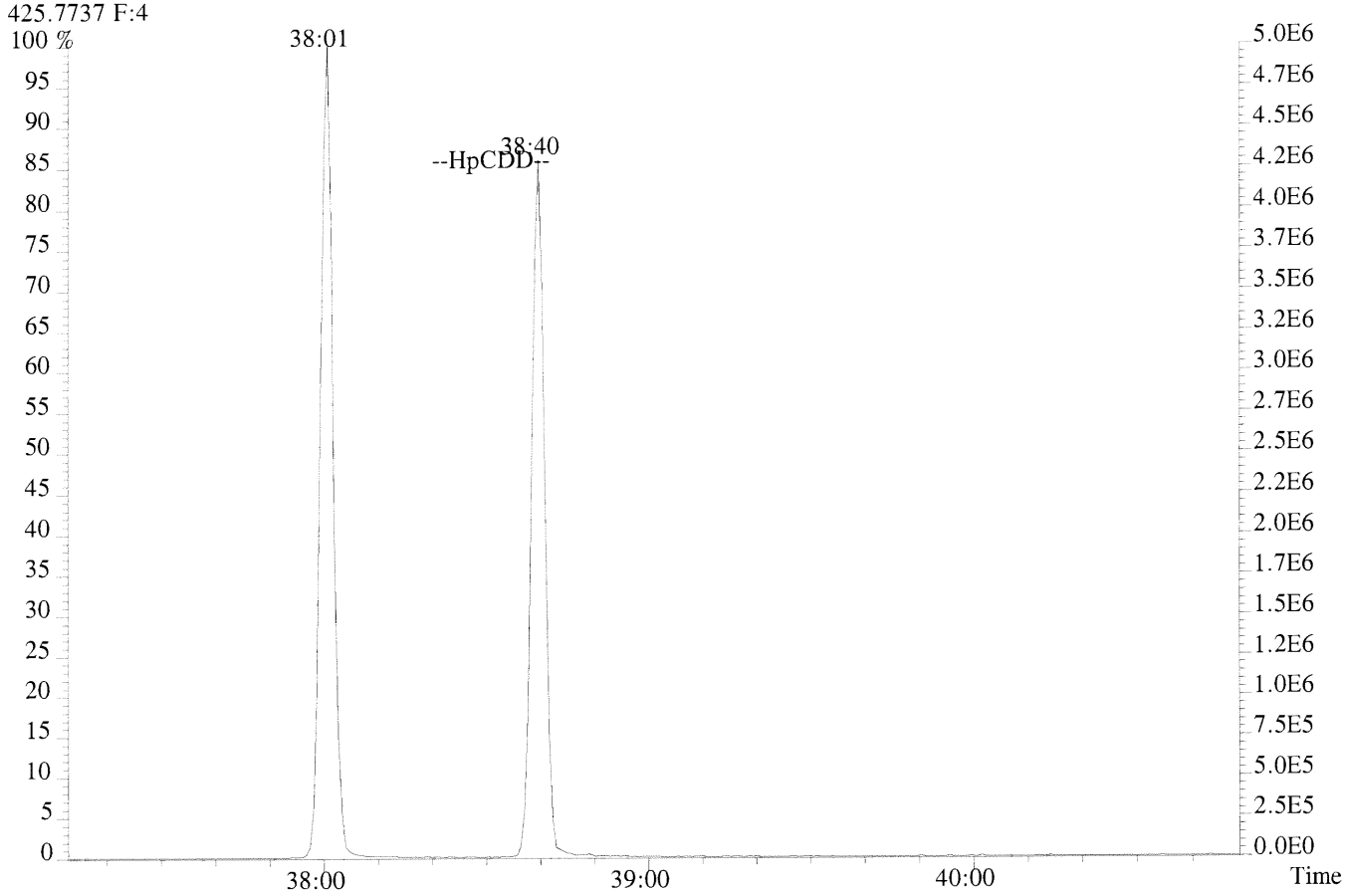
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Sample#1 Exp:WINDOW DEFINE





File:U120205 #1-327 Acq: 2-APR-2007 11:25:17 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE





FORM 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: U120206 HRCC4 Data Filename: U120209

HRCC2 Data Filename: U120207 HRCC5 Data Filename: U120210

HRCC3 Data Filename: U120208

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
NATIVE ANALYTES							
2,3,7,8-TCDD	0.97	0.93	0.98	0.96	0.97	0.96	2.08
1,2,3,7,8-PeCDD	0.86	0.89	0.92	0.93	0.95	0.91	3.92
1,2,3,4,7,8-HxCDD	1.02	1.03	0.97	1.05	1.10	1.03	4.60
1,2,3,6,7,8-HxCDD	1.02	1.07	0.99	1.15	1.10	1.07	6.03
1,2,3,7,8,9-HxCDD	0.95	0.98	0.94	1.03	1.04	0.99	4.60
1,2,3,4,6,7,8-HpCDD	0.91	0.91	0.93	0.93	0.96	0.93	2.31
OCDD	1.04	1.04	0.99	1.01	1.01	1.02	2.11
2,3,7,8-TCDF	0.84	0.85	0.99	1.17	0.93	0.96	13.87
1,2,3,7,8-PeCDF	0.87	0.88	0.93	0.92	0.95	0.91	3.88
2,3,4,7,8-PeCDF	0.89	0.89	0.98	0.94	1.02	0.95	6.13
1,2,3,4,7,8-HxCDF	1.12	1.11	1.22	1.17	1.21	1.17	4.41
1,2,3,6,7,8-HxCDF	1.07	1.13	1.19	1.19	1.13	1.14	4.33
1,2,3,7,8,9-HxCDF	0.81	0.82	0.86	0.88	0.93	0.86	5.64
2,3,4,6,7,8-HxCDF	0.98	1.01	1.07	1.08	1.03	1.03	4.01
1,2,3,4,6,7,8-HpCDF	1.30	1.37	1.37	1.37	1.38	1.36	2.32
1,2,3,4,7,8,9-HpCDF	0.96	0.99	1.02	1.03	1.11	1.02	5.51
OCDF	1.05	1.07	1.08	1.11	1.12	1.09	2.77

(1) The %RSD for the 17 unlabeled standard must not exceed +/- 20%, see Section 7.7.2.1, Method 8290.

8290F3A

FORM 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: U120206 HCC4 Data Filename: U120209

HCC2 Data Filename: U120207 HCC5 Data Filename: U120210

HCC3 Data Filename: U120208

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	0.89	0.89	0.85	0.96	0.91	0.90	4.36
13C-1,2,3,7,8-PeCDD	1.03	1.00	1.03	1.13	1.09	1.06	4.97
13C-1,2,3,6,7,8-HxCDD	1.01	1.02	0.98	1.01	1.02	1.01	1.37
13C-1,2,3,4,6,7,8-HpCDD	1.10	1.09	0.99	1.15	1.15	1.09	6.01
13C-OCDD	1.15	1.13	1.03	1.24	1.31	1.17	9.04
13C-2,3,7,8-TCDF	1.23	1.23	1.14	1.08	1.30	1.20	7.34
13C-1,2,3,7,8-PeCDF	1.46	1.47	1.42	1.66	1.57	1.52	6.43
13C-1,2,3,4,7,8-HxCDF	1.30	1.31	1.15	1.32	1.33	1.28	5.73
13C-1,2,3,4,6,7,8-HpCDF	1.11	1.10	0.99	1.19	1.17	1.11	7.05
CLEANUP STANDARD							
37Cl-2,3,7,8-TCDD	0.84	0.82	0.83	0.91	0.90	0.86	5.13

(1) The %RSD for the nine labeled reference compounds must not exceed +/- 30%, see Section 7.7.2.1, Method 8290.

8290F3B

FORM 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: U120206 HCC4 Data Filename: U120209

HCC2 Data Filename: U120207 HCC5 Data Filename: U120210

HCC3 Data Filename: U120208

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
NATIVE ANALYTES							
2,3,7,8-TCDD	M/M+2	0.85	0.80	0.77	0.79	0.79	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.68	1.49	1.62	1.61	1.57	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.35	1.42	1.30	1.30	1.30	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.37	1.21	1.14	1.26	1.30	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.19	1.26	1.19	1.30	1.31	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.14	1.06	1.05	1.05	1.03	0.88-1.20
OCDD	M+2/M+4	0.91	0.89	0.89	0.89	0.91	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.71	0.87	0.75	0.79	0.79	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.62	1.60	1.58	1.56	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.46	1.57	1.58	1.57	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.25	1.30	1.27	1.21	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.18	1.29	1.24	1.24	1.21	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.28	1.24	1.27	1.23	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.11	1.22	1.22	1.27	1.22	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.92	0.94	1.02	0.99	0.99	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.93	1.08	0.98	1.01	1.01	0.88-1.20
OCDF	M+2/M+4	0.88	0.97	0.92	0.90	0.93	0.76-1.02

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits from Table 8, Method 8290.

8290F3C

USEPA - ITD

FORM 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 04/02/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: U120206 HRCC4 Data Filename: U120209

HRCC2 Data Filename: U120207 HRCC5 Data Filename: U120210

HRCC3 Data Filename: U120208

LABELED COMPOUNDS	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	QC LIMITS (2)
13C-2,3,7,8-TCDD	M/M+2	0.74	0.80	0.81	0.79	0.77	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.53	1.57	1.60	1.55	1.32-1.78
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.24	1.25	1.23	1.24	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.05	1.04	1.05	1.04	0.88-1.20
13C-OCDD	M+2/M+4	0.91	0.89	0.89	0.89	0.90	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.83	0.83	0.84	0.85	0.80	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.61	1.60	1.61	1.57	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.54	0.51	0.54	0.52	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.43	0.44	0.43	0.42	0.42	0.37-0.51

(1) See Table 6, Method 8290, for m/z specifications.Method 8290.

(2) Ion Abundance Ratio Control Limits from Table 8,

8290F3D

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC1

Run #1 Filename U120206 Samp: 1 Inj: 1 Acquired: 2-APR-07 13:56:35
Processed: 3-APR-07 08:05:38 Sample ID: ICAL HRCC1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	27:17	1.472e+02	2.085e+02	0.71	yes	no
2	Unk	1,2,3,7,8-PeCDF	31:33	6.662e+02	4.371e+02	1.52	yes	no
3	Unk	2,3,4,7,8-PeCDF	32:16	6.883e+02	4.342e+02	1.59	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:03	6.333e+02	5.087e+02	1.24	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:09	5.925e+02	5.036e+02	1.18	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	35:37	5.273e+02	4.734e+02	1.11	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:19	4.625e+02	3.693e+02	1.25	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	37:45	5.479e+02	5.962e+02	0.92	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:04	4.038e+02	4.361e+02	0.93	yes	no
10	Unk	OCDF	41:51	8.946e+02	1.017e+03	0.88	yes	no
11	Unk	2,3,7,8-TCDD	28:06	1.361e+02	1.610e+02	0.85	yes	no
12	Unk	1,2,3,7,8-PeCDD	32:37	4.789e+02	2.852e+02	1.68	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	35:44	4.629e+02	3.438e+02	1.35	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	35:48	4.700e+02	3.437e+02	1.37	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:06	4.124e+02	3.452e+02	1.19	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	38:39	4.174e+02	3.659e+02	1.14	yes	no
17	Unk	OCDD	41:41	9.068e+02	9.912e+02	0.91	yes	no
18	IS	13C-2,3,7,8-TCDF	27:16	9.664e+03	1.163e+04	0.83	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	31:32	1.559e+04	9.670e+03	1.61	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:02	1.754e+04	3.367e+04	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	37:44	1.328e+04	3.059e+04	0.43	yes	no
22	IS	13C-2,3,7,8-TCDD	28:04	6.525e+03	8.807e+03	0.74	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	32:36	1.082e+04	6.910e+03	1.57	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	35:48	2.195e+04	1.777e+04	1.24	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	38:38	2.214e+04	2.100e+04	1.05	yes	no
26	IS	13C-OCDD	41:41	4.327e+04	4.770e+04	0.91	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	27:52	7.424e+03	9.849e+03	0.75	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:05	2.180e+04	1.758e+04	1.24	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	28:06	2.889e+02				

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10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC1

Run #1 Filename U120206 Samp: 1 Inj: 1 Acquired: 2-APR-07 13:56:35

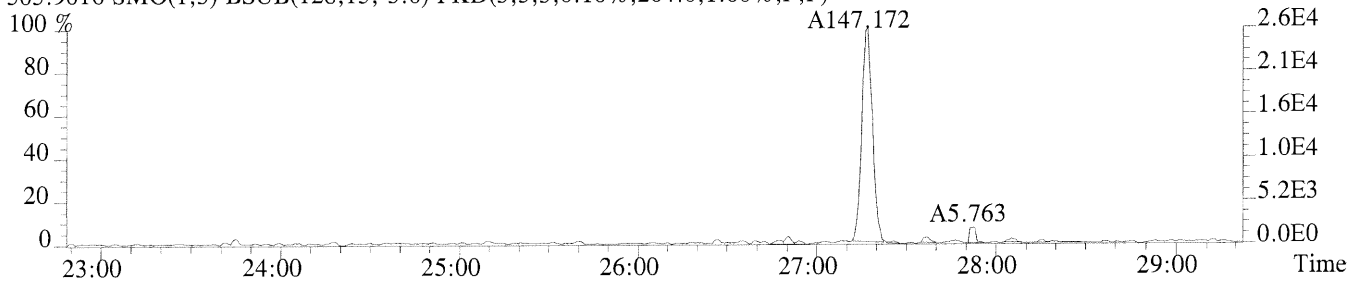
Processed: 3-APR-07 08:05:38 LAB. ID: ICAL HRCC1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.59e+04	2.04e+02	1.3e+02	3.13e+04	2.28e+02	1.4e+02
2	1,2,3,7,8-PeCDF	1.33e+05	3.44e+02	3.9e+02	8.48e+04	2.84e+02	3.0e+02
3	2,3,4,7,8-PeCDF	1.36e+05	3.44e+02	4.0e+02	8.66e+04	2.84e+02	3.1e+02
4	1,2,3,4,7,8-HxCDF	1.46e+05	3.20e+02	4.6e+02	1.15e+05	2.60e+02	4.4e+02
5	1,2,3,6,7,8-HxCDF	1.34e+05	3.20e+02	4.2e+02	1.04e+05	2.60e+02	4.0e+02
6	2,3,4,6,7,8-HxCDF	1.13e+05	3.20e+02	3.5e+02	1.01e+05	2.60e+02	3.9e+02
7	1,2,3,7,8,9-HxCDF	9.79e+04	3.20e+02	3.1e+02	7.92e+04	2.60e+02	3.0e+02
8	1,2,3,4,6,7,8-HpCDF	1.15e+05	5.76e+02	2.0e+02	1.35e+05	2.36e+02	5.7e+02
9	1,2,3,4,7,8,9-HpCDF	8.01e+04	5.76e+02	1.4e+02	8.63e+04	2.36e+02	3.7e+02
10	OCDF	1.33e+05	3.12e+02	4.2e+02	1.42e+05	3.88e+02	3.7e+02
11	2,3,7,8-TCDD	2.43e+04	2.24e+02	1.1e+02	2.73e+04	2.08e+02	1.3e+02
12	1,2,3,7,8-PeCDD	9.82e+04	3.80e+02	2.6e+02	5.65e+04	2.64e+02	2.1e+02
13	1,2,3,4,7,8-HxCDD	9.94e+04	4.92e+02	2.0e+02	7.50e+04	3.48e+02	2.2e+02
14	1,2,3,6,7,8-HxCDD	1.04e+05	4.92e+02	2.1e+02	8.00e+04	3.48e+02	2.3e+02
15	1,2,3,7,8,9-HxCDD	8.38e+04	4.92e+02	1.7e+02	7.62e+04	3.48e+02	2.2e+02
16	1,2,3,4,6,7,8-HpCDD	8.83e+04	3.64e+02	2.4e+02	7.82e+04	1.96e+02	4.0e+02
17	OCDD	1.30e+05	6.32e+02	2.1e+02	1.56e+05	5.40e+02	2.9e+02
18	13C-2,3,7,8-TCDF	1.59e+06	4.24e+02	3.7e+03	1.95e+06	4.28e+02	4.6e+03
19	13C-1,2,3,7,8-PeCDF	2.99e+06	3.24e+02	9.2e+03	1.88e+06	2.88e+02	6.5e+03
20	13C-1,2,3,4,7,8-HxCDF	3.93e+06	3.04e+02	1.3e+04	7.41e+06	3.28e+02	2.3e+04
21	13C-1,2,3,4,6,7,8-HpCDF	2.89e+06	1.08e+03	2.7e+03	6.74e+06	2.02e+03	3.3e+03
22	13C-2,3,7,8-TCDD	1.16e+06	8.04e+02	1.4e+03	1.54e+06	2.32e+02	6.6e+03
23	13C-1,2,3,7,8-PeCDD	2.21e+06	2.24e+02	9.9e+03	1.39e+06	3.60e+02	3.9e+03
24	13C-1,2,3,6,7,8-HxCDD	4.98e+06	3.64e+02	1.4e+04	4.06e+06	5.04e+02	8.1e+03
25	13C-1,2,3,4,6,7,8-HpCDD	4.62e+06	5.68e+02	8.1e+03	4.41e+06	4.72e+02	9.3e+03
26	13C-OCDD	6.64e+06	3.92e+02	1.7e+04	7.34e+06	2.40e+02	3.1e+04
27	13C-1,2,3,4-TCDD	1.30e+06	8.04e+02	1.6e+03	1.73e+06	2.32e+02	7.5e+03
28	13C-1,2,3,7,8,9-HxCDD	4.85e+06	3.64e+02	1.3e+04	3.88e+06	5.04e+02	7.7e+03
29	37Cl-2,3,7,8-TCDD	5.36e+04	2.12e+02	2.5e+02			

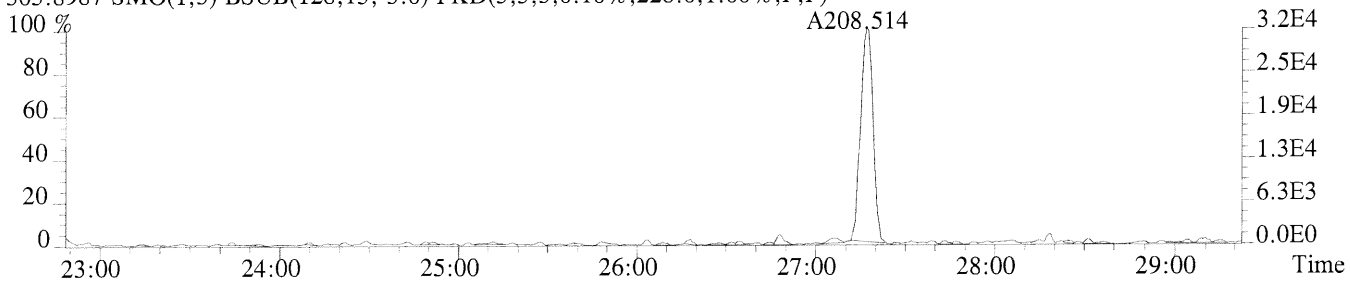
Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office:(713)266-1599. Fax:(713)266-0130

File:U120206 #1-548 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

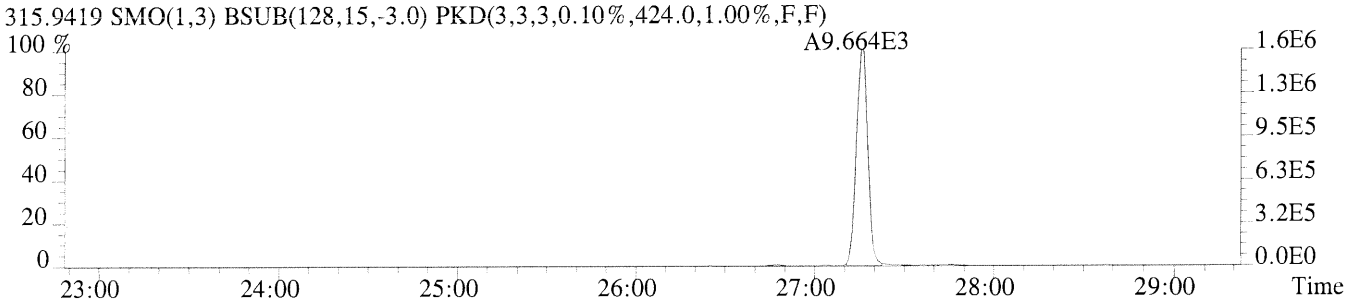
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,F)



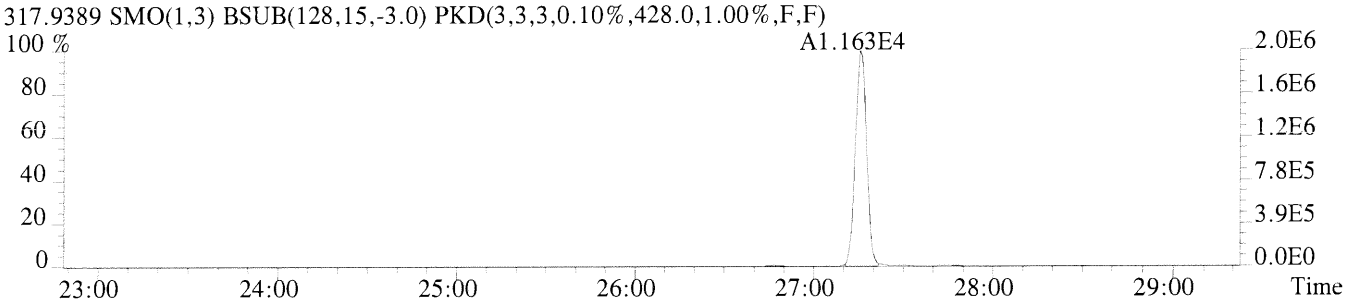
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,F)



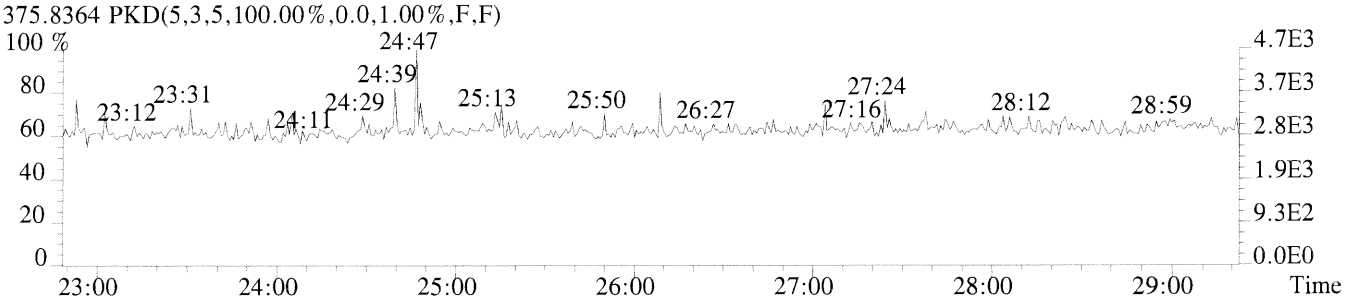
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,424.0,1.00%,F,F)



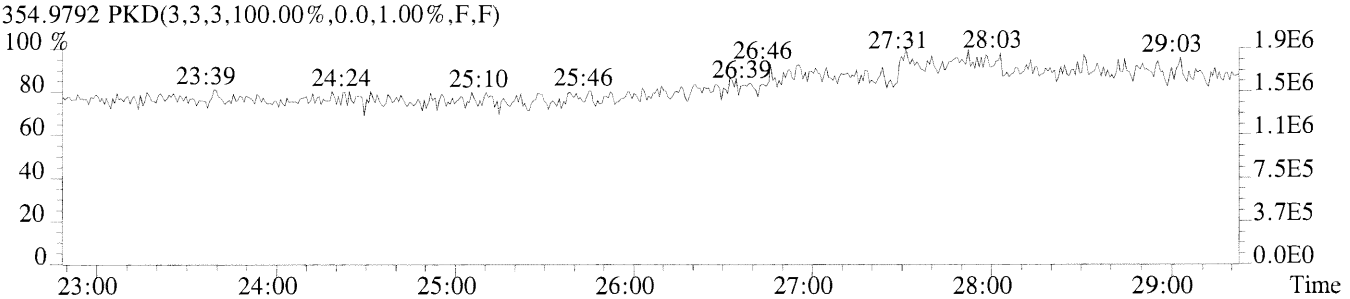
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,428.0,1.00%,F,F)



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

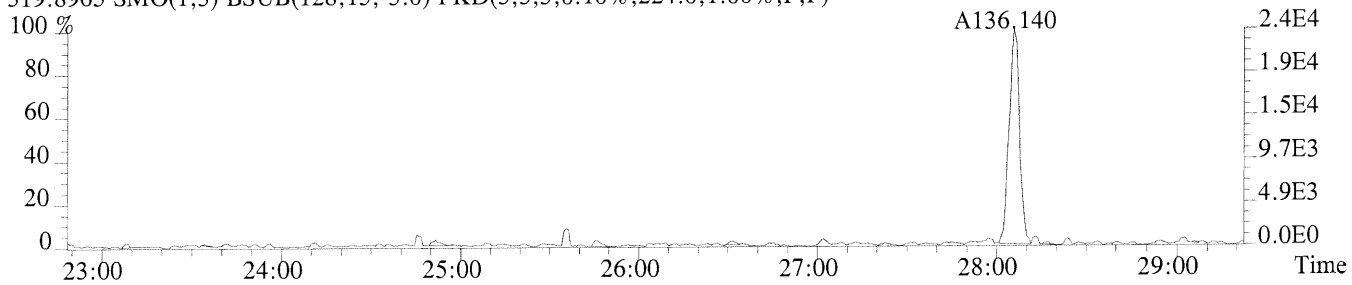


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

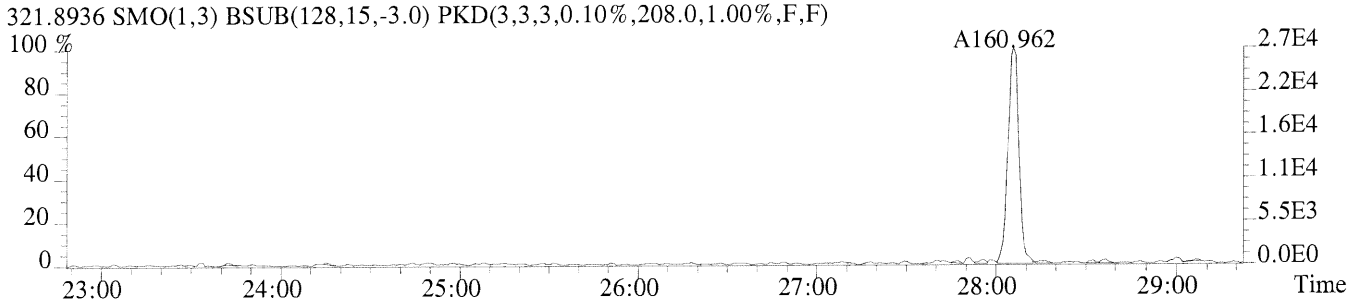


File:U120206 #1-548 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

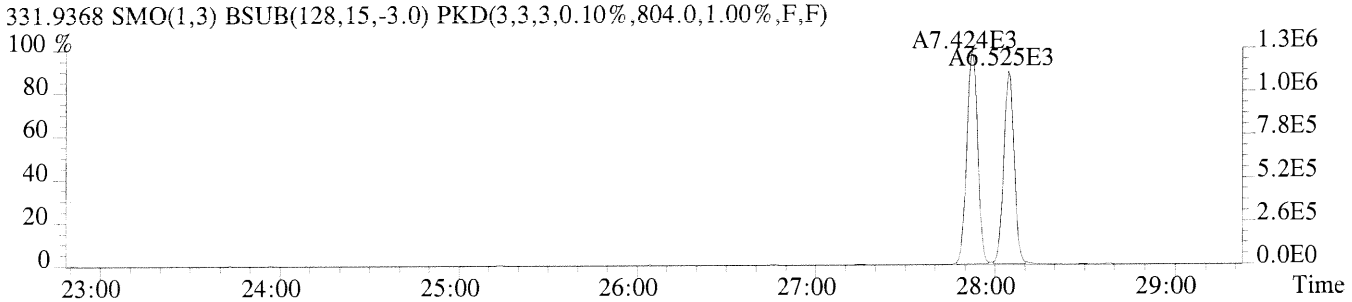
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,F)



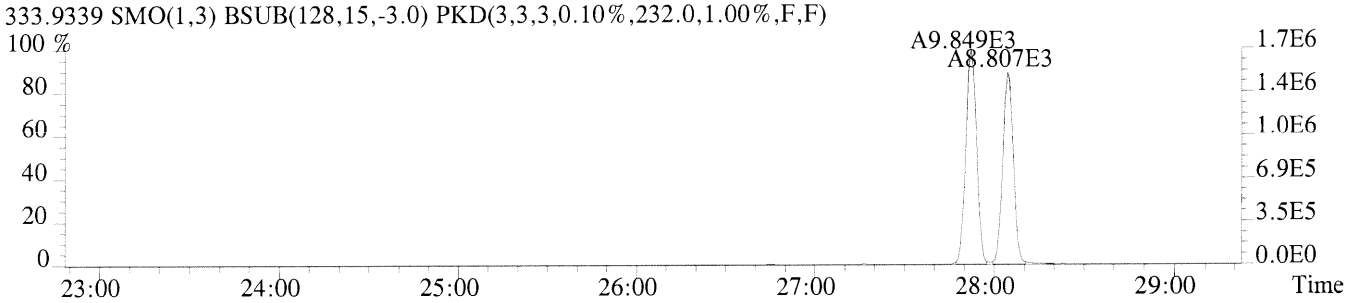
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,208.0,1.00%,F,F)



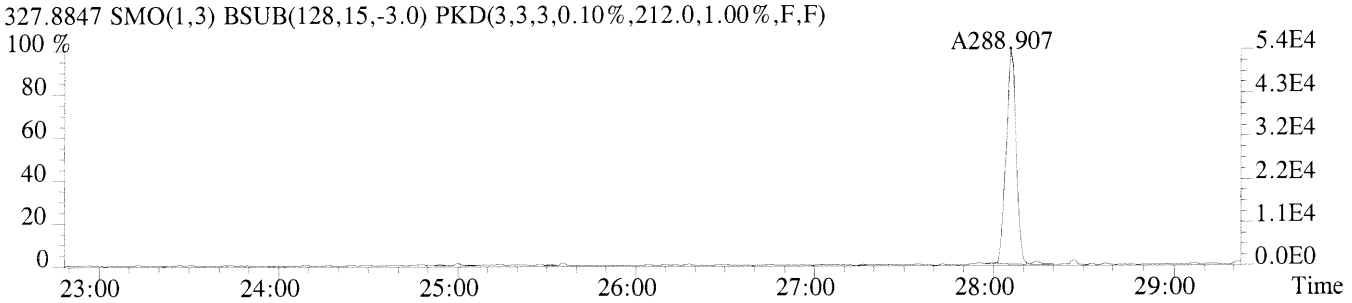
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,F)



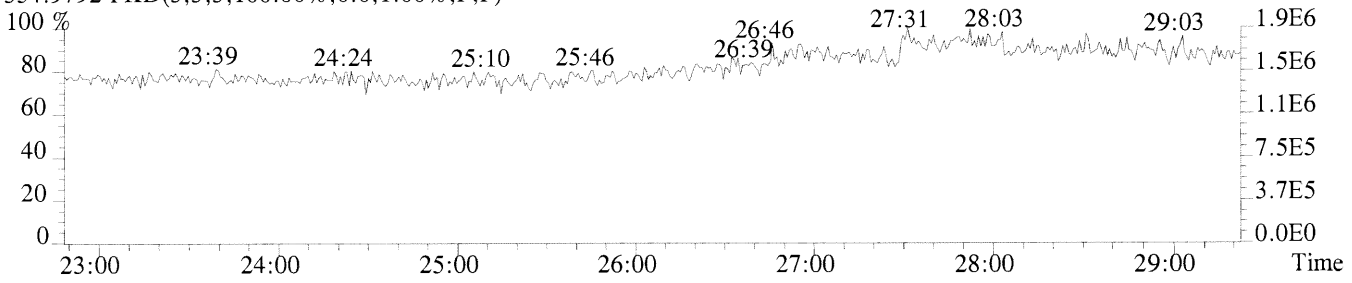
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,232.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,212.0,1.00%,F,F)

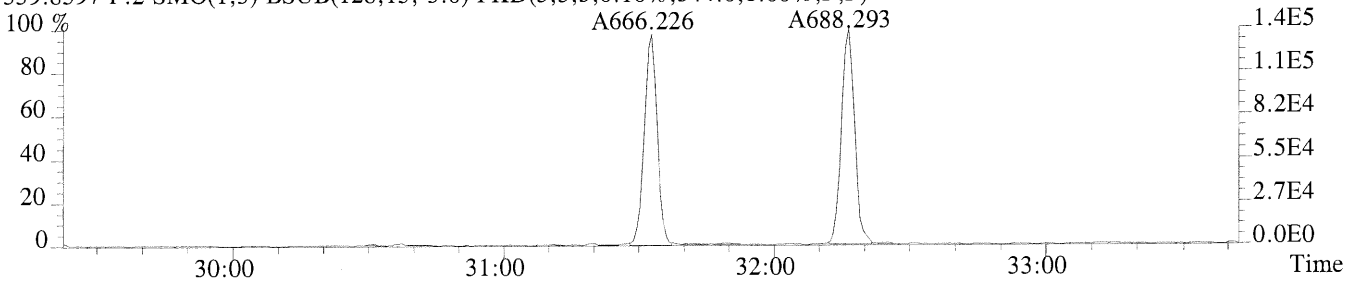


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

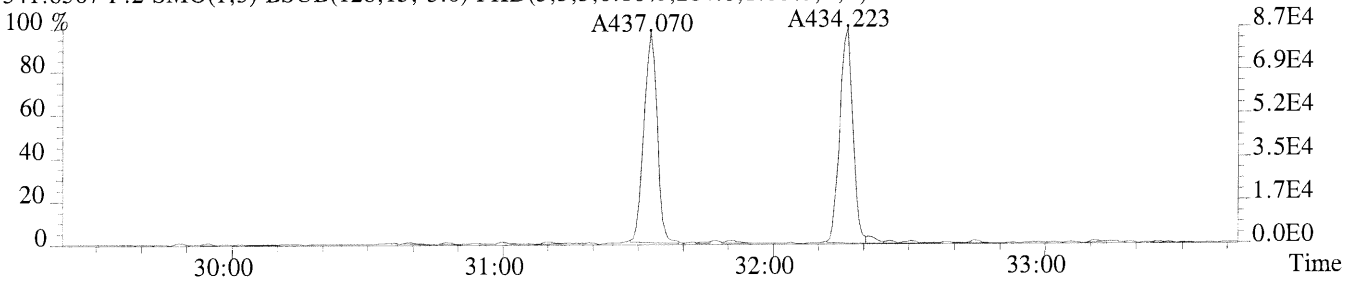


File:U120206 #1-394 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

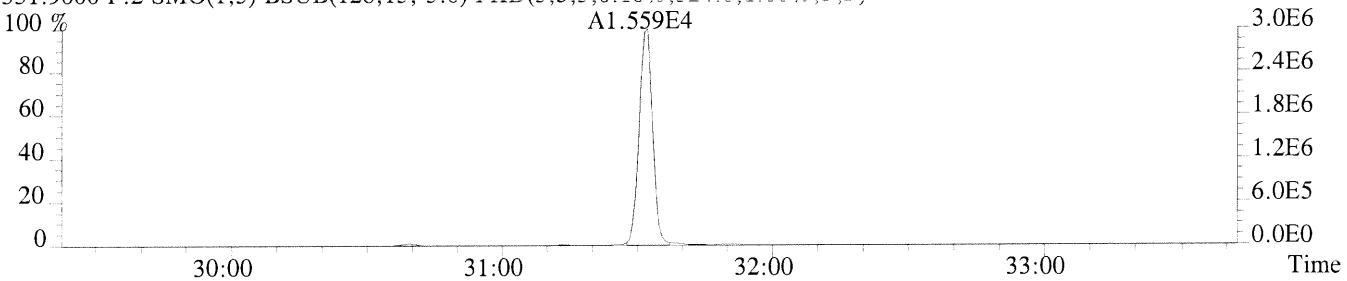
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,F)



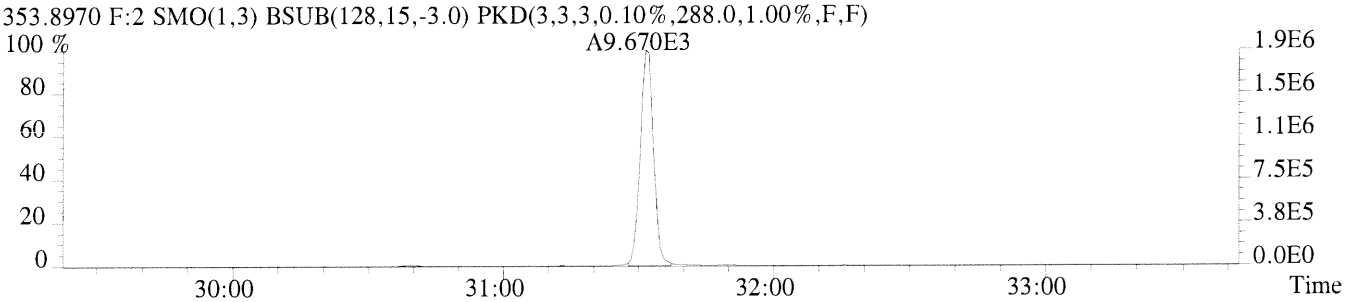
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,F)



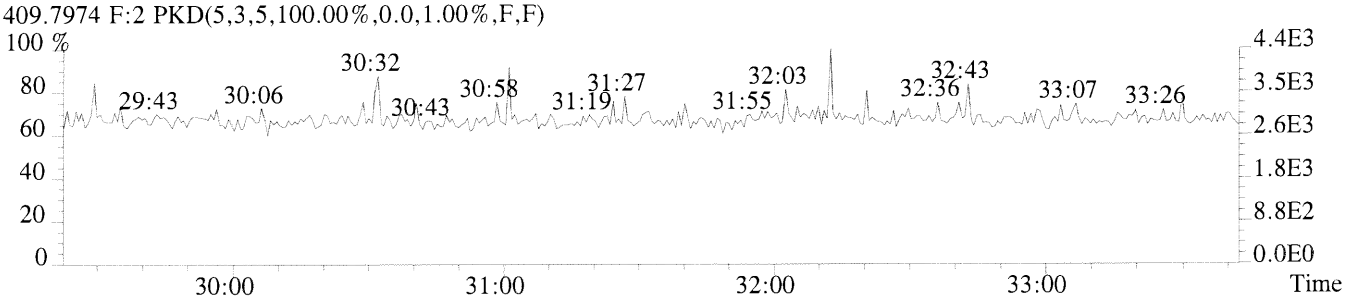
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,324.0,1.00%,F,F)



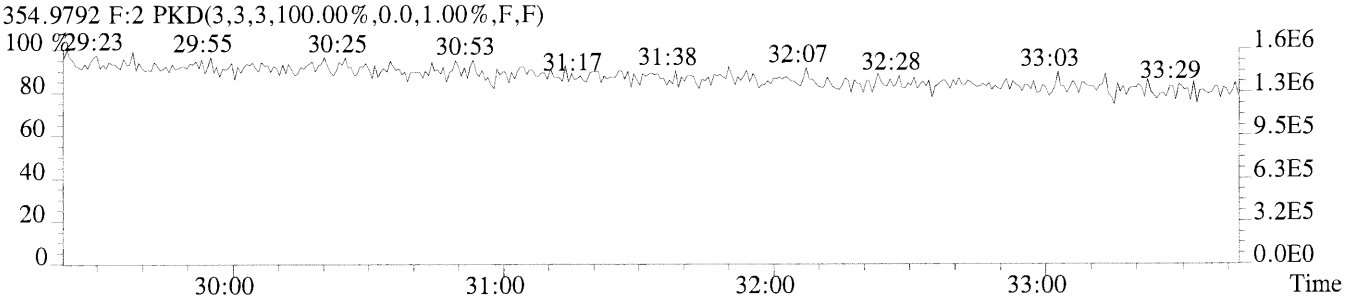
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,F)



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

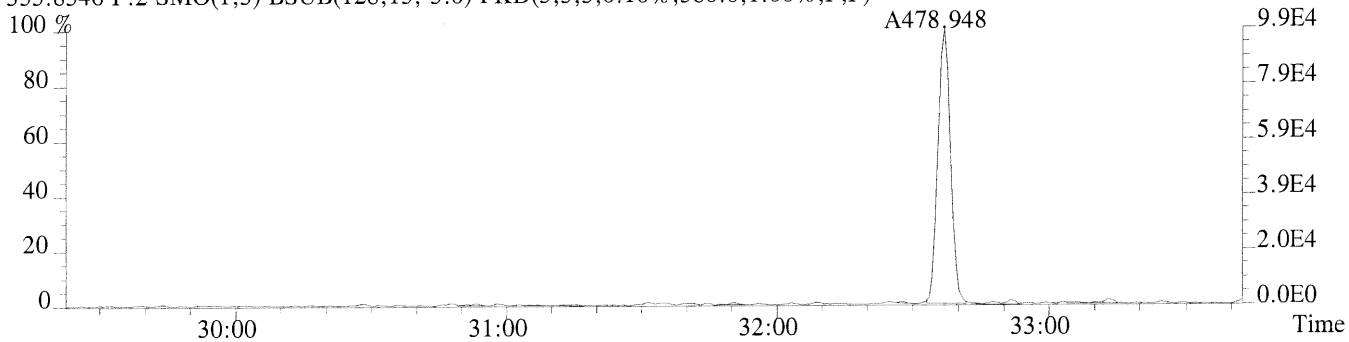


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

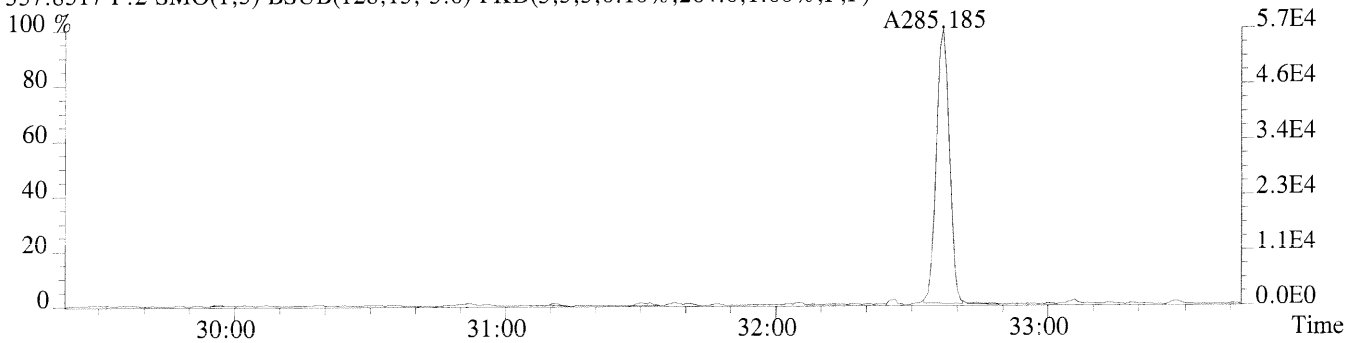


File:U120206 #1-394 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

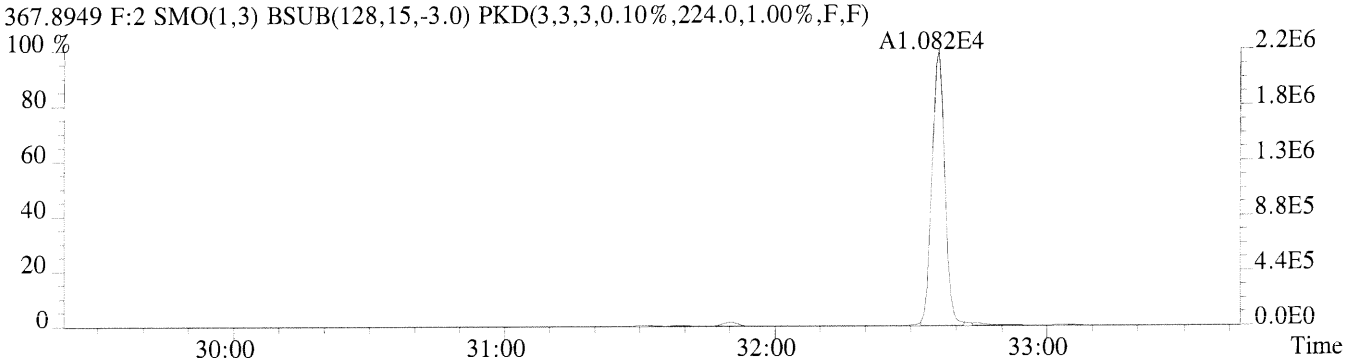
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,380.0,1.00%,F,F)



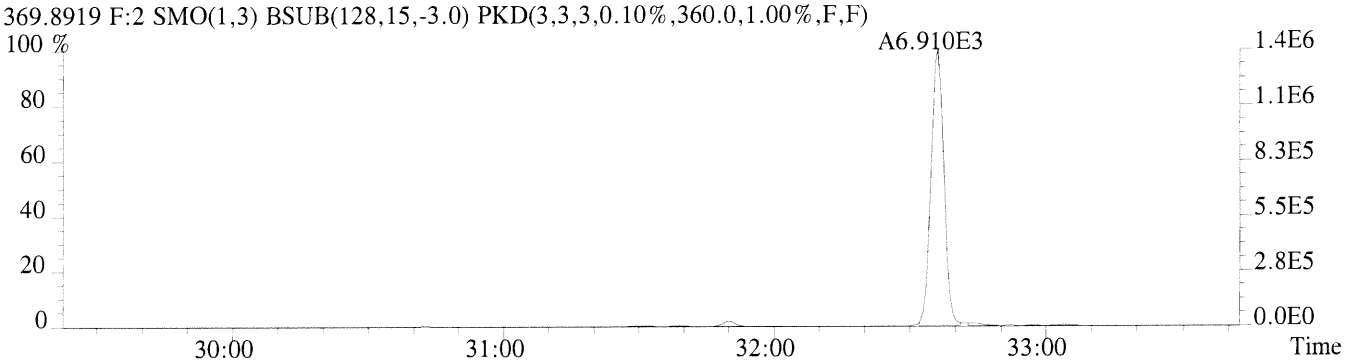
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,F)



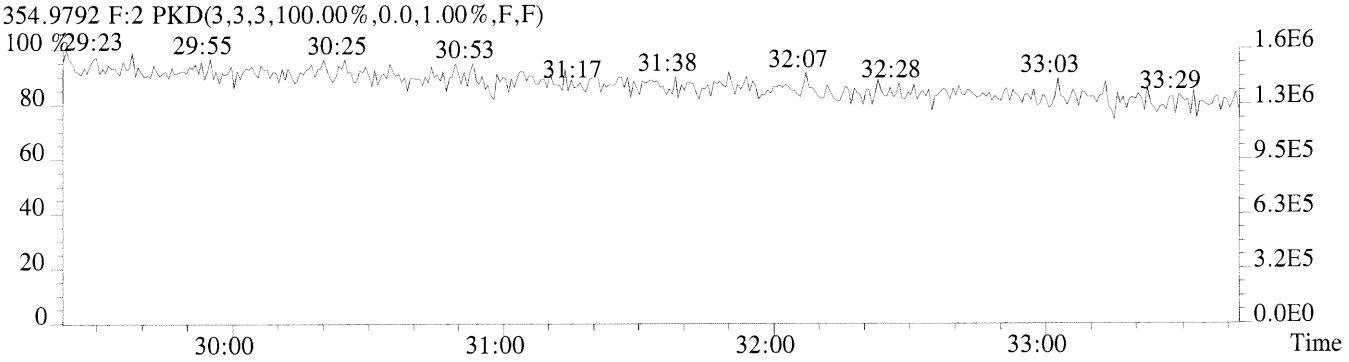
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,360.0,1.00%,F,F)

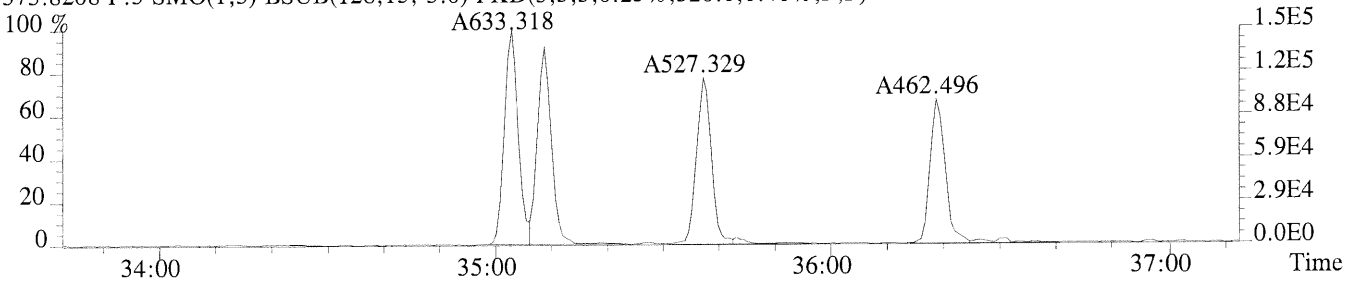


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

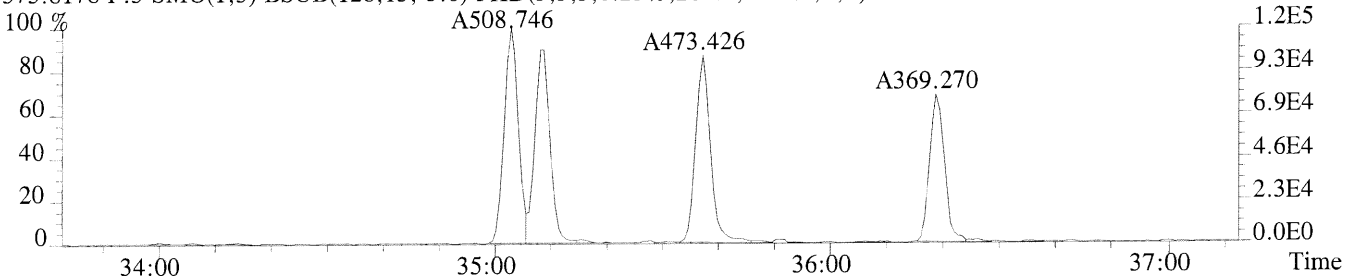


File:U120206 #1-318 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

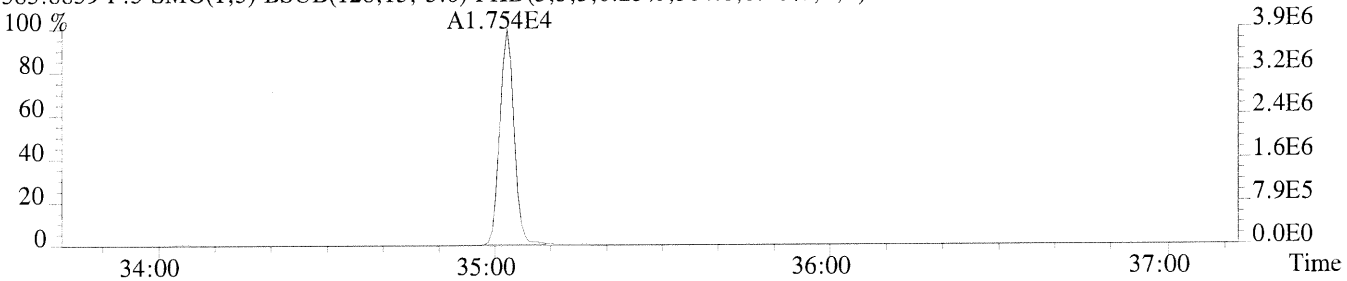
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,320.0,0.40%,F,F)



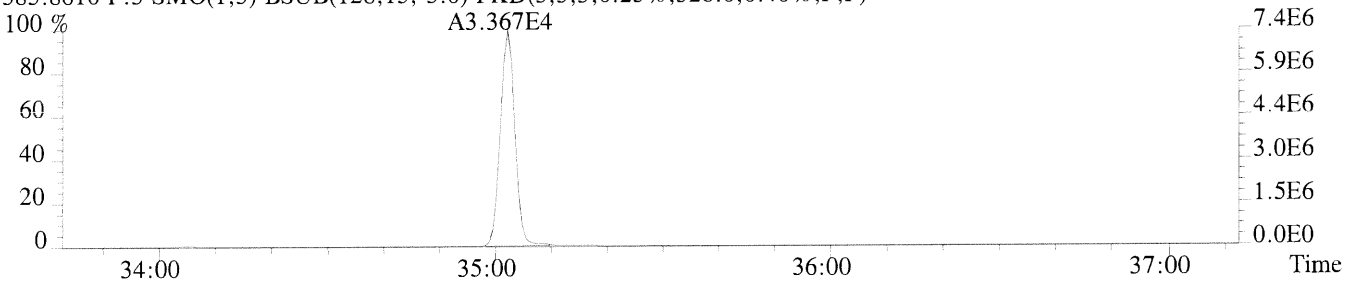
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,260.0,0.40%,F,F)



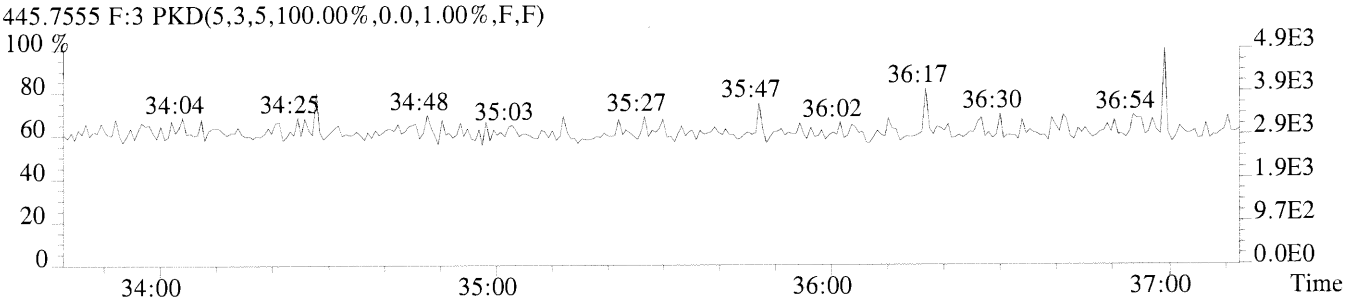
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,304.0,0.40%,F,F)



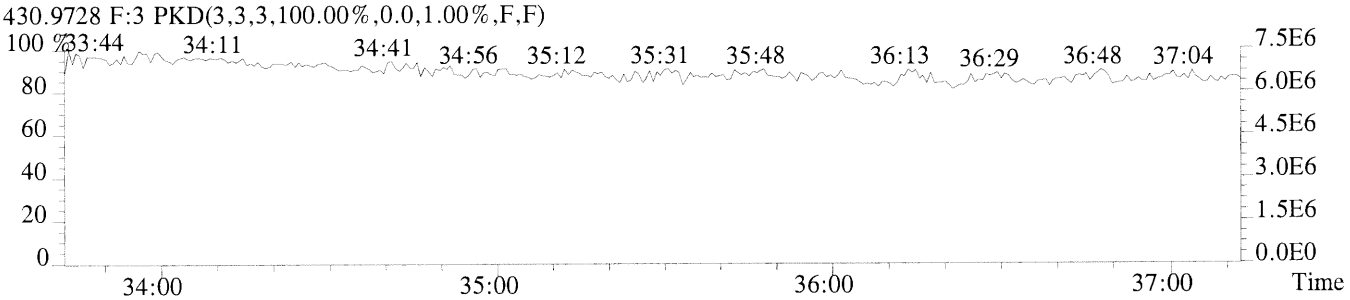
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,328.0,0.40%,F,F)



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

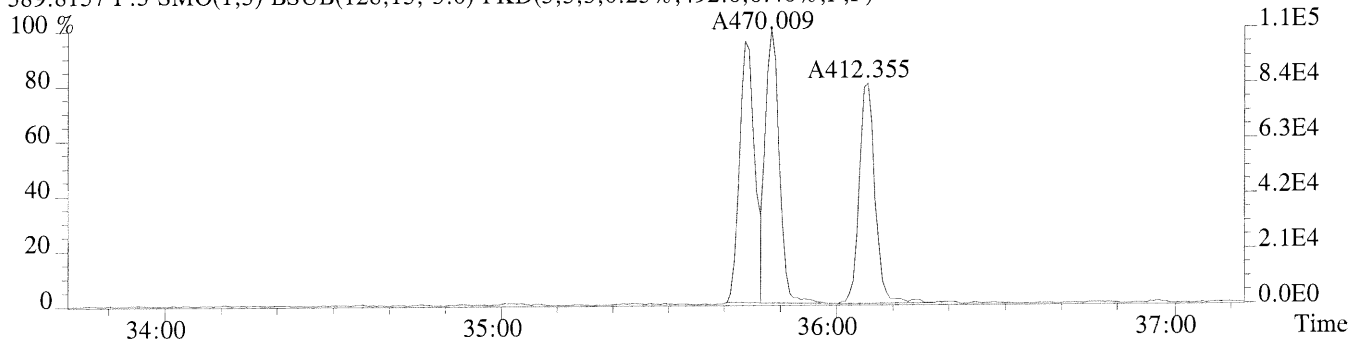


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

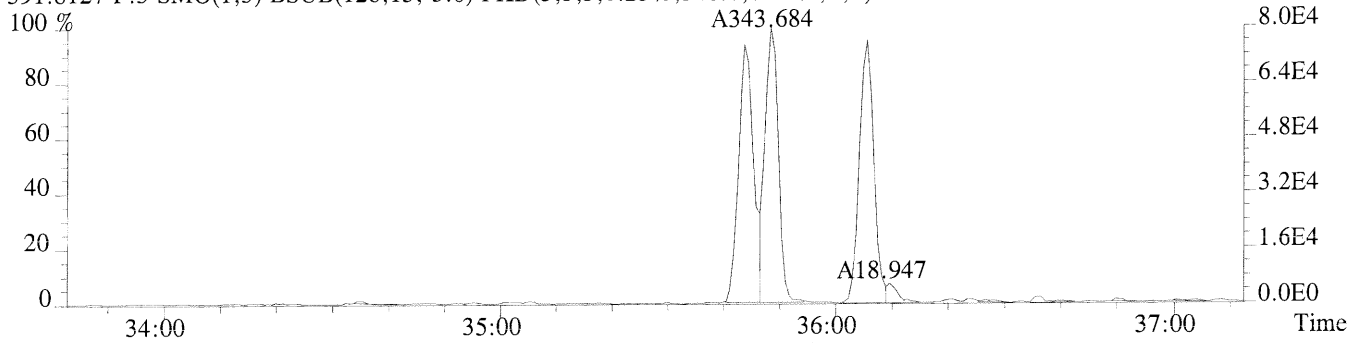


File:U120206 #1-318 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

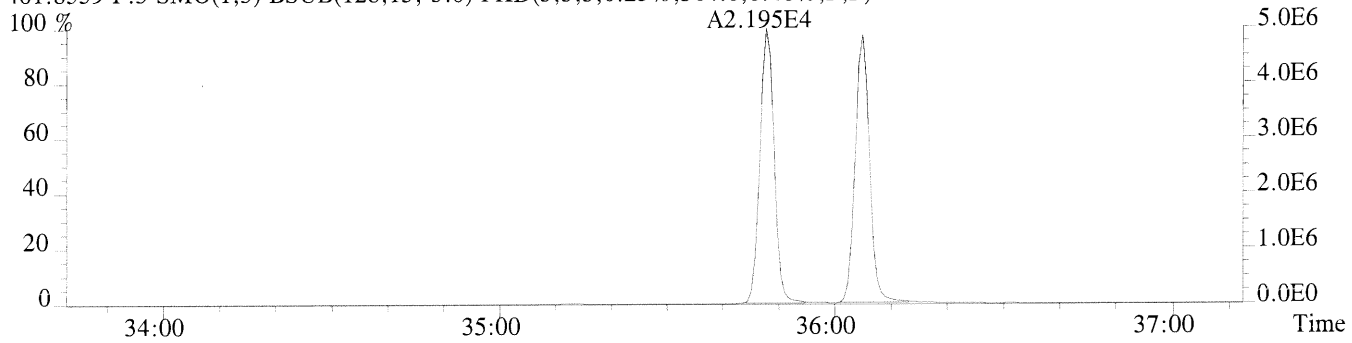
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,492.0,0.40%,F,F)



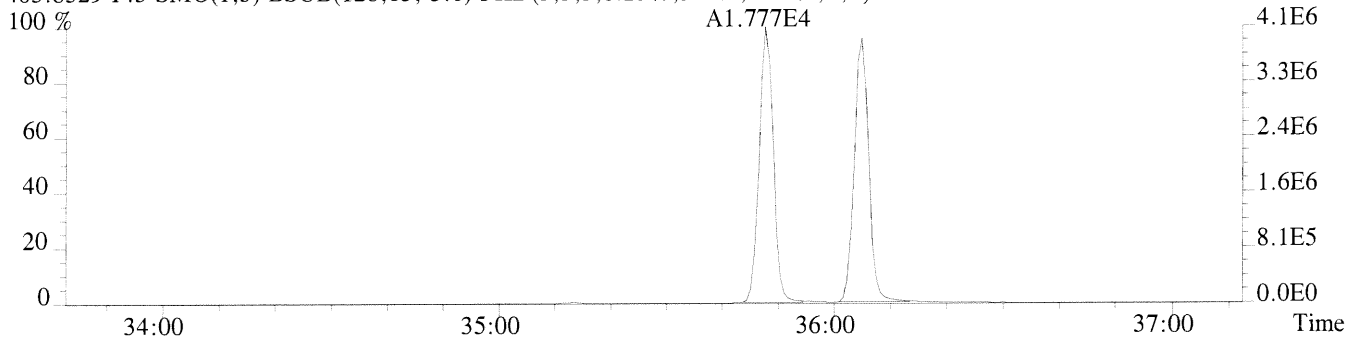
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,F)



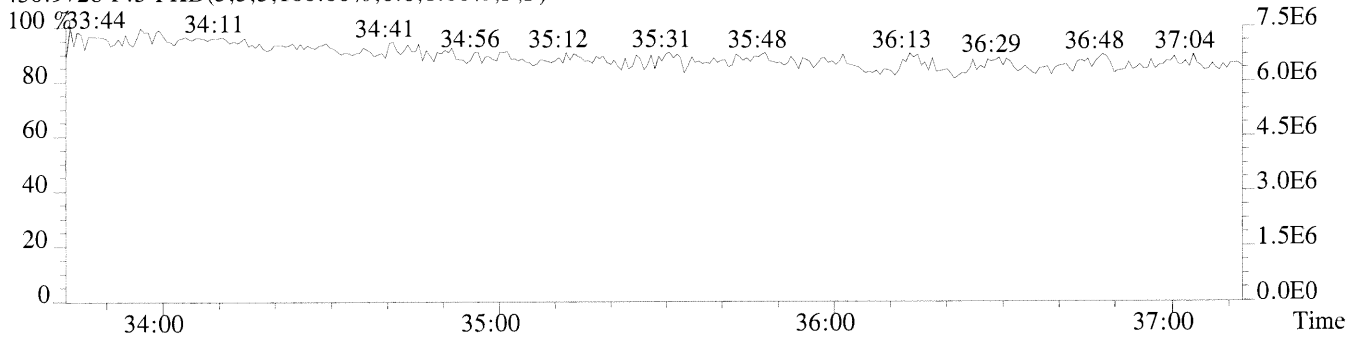
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,504.0,0.40%,F,F)

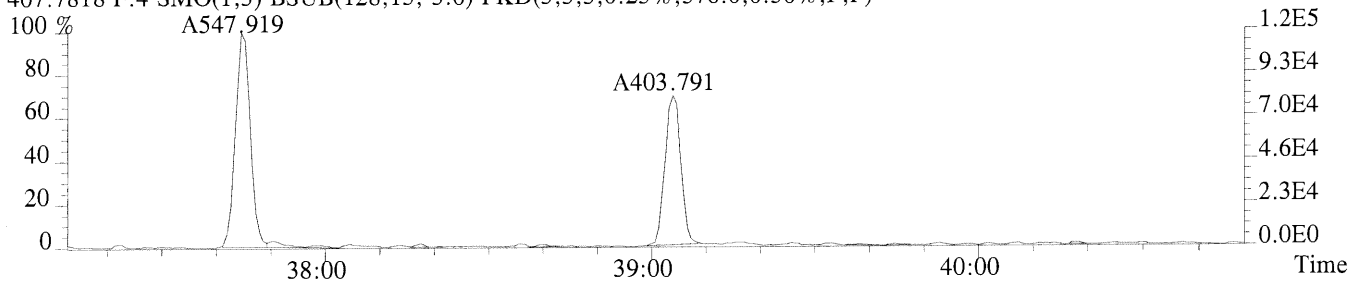


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

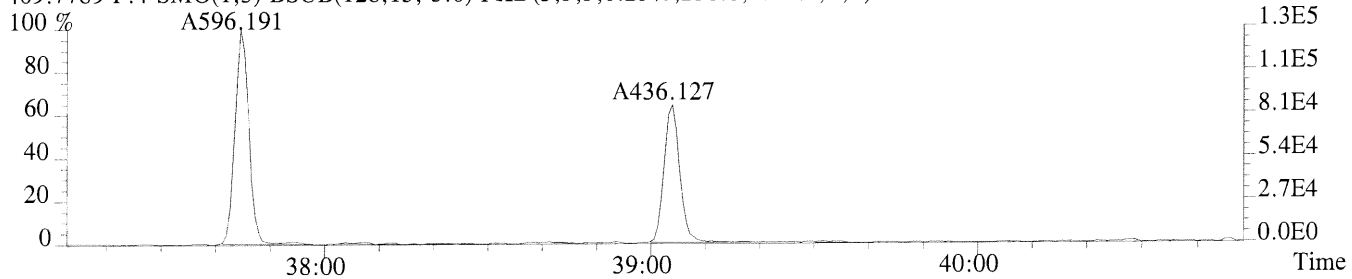


File:U120206 #1-327 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

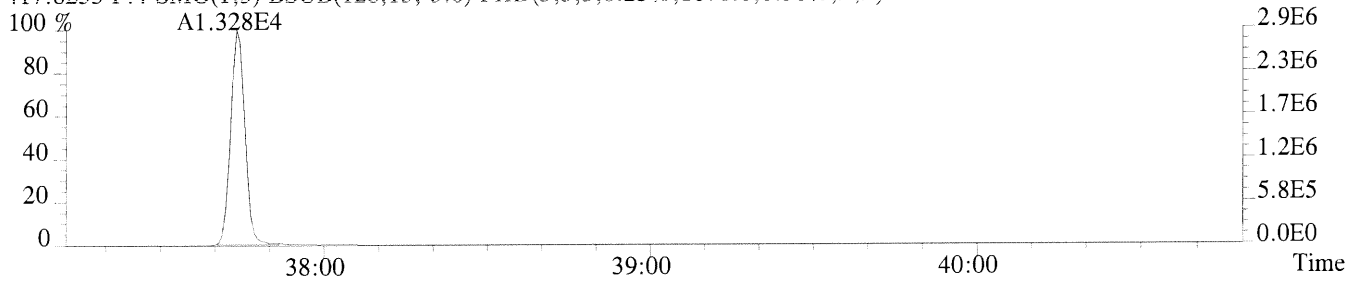
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,576.0,0.50%,F,F)



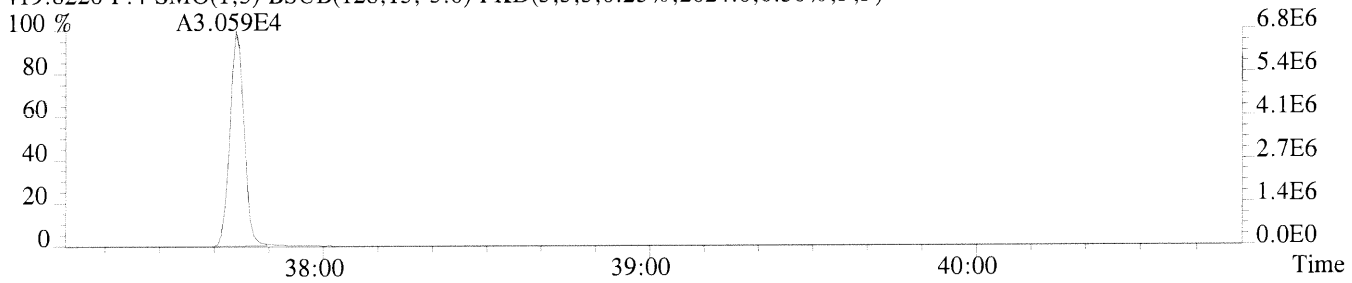
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.50%,F,F)



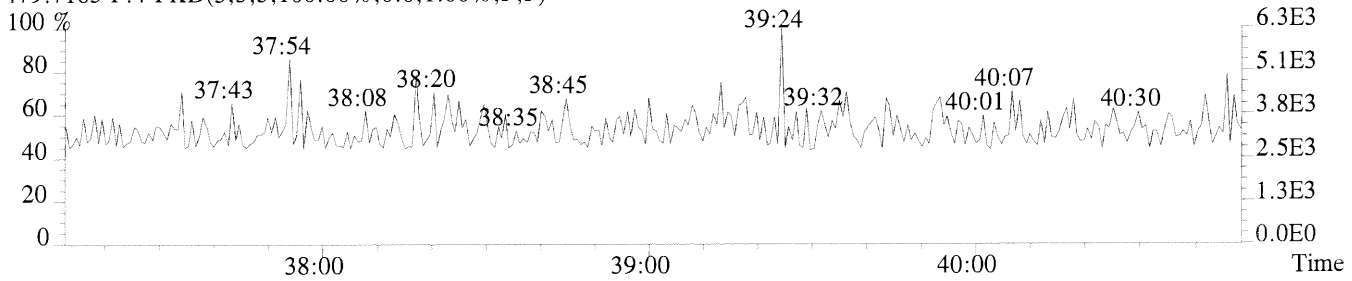
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1076.0,0.50%,F,F)



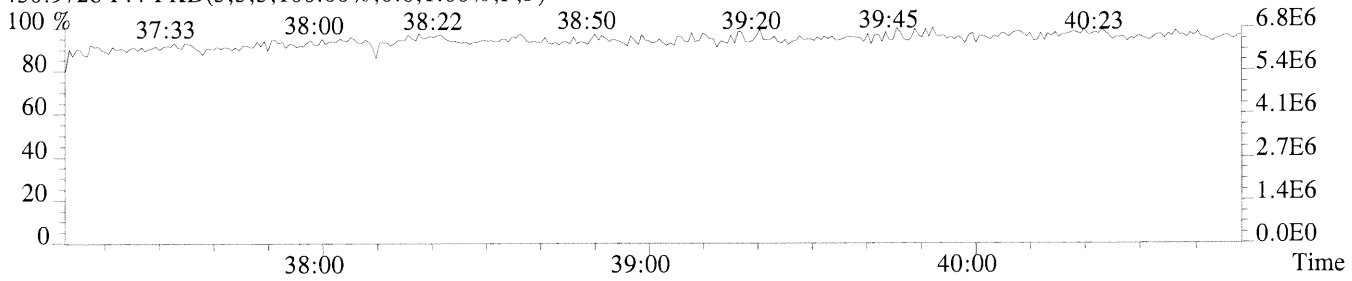
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2024.0,0.50%,F,F)



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

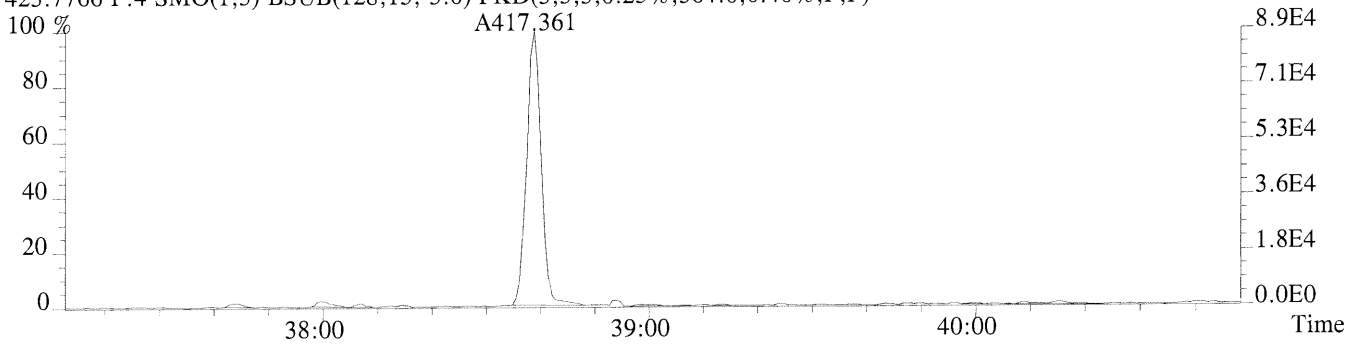


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

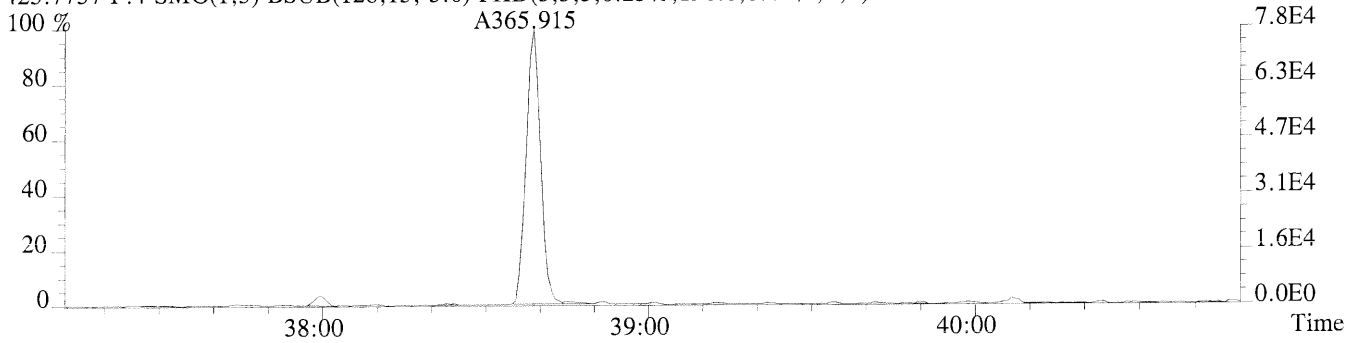


File:U120206 #1-327 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

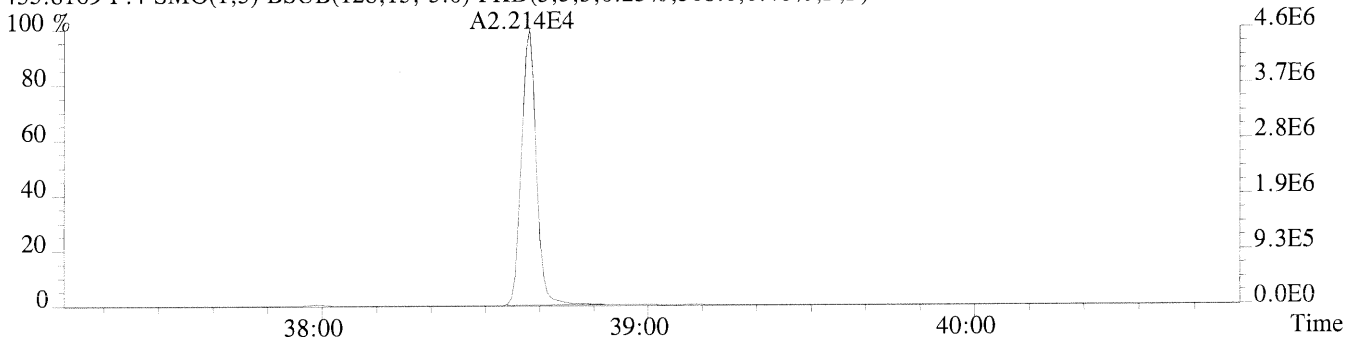
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.40%,F,F)



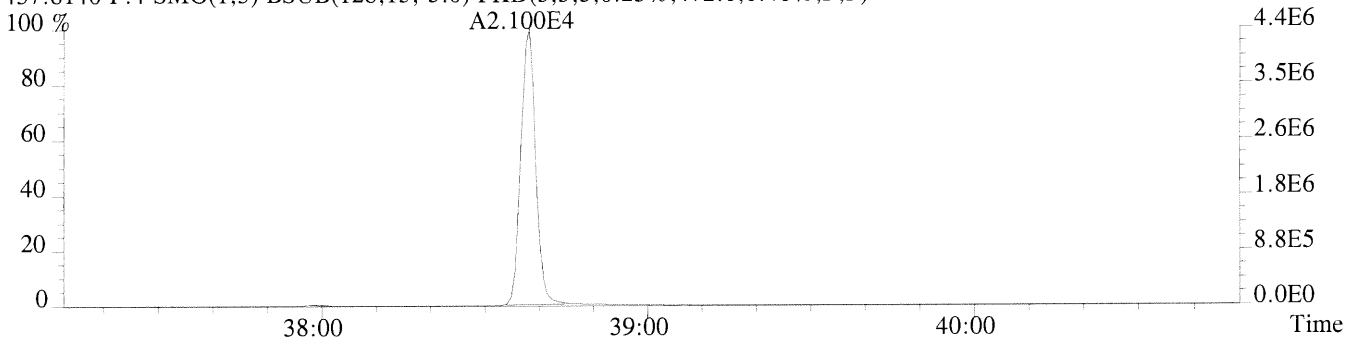
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,196.0,0.40%,F,F)



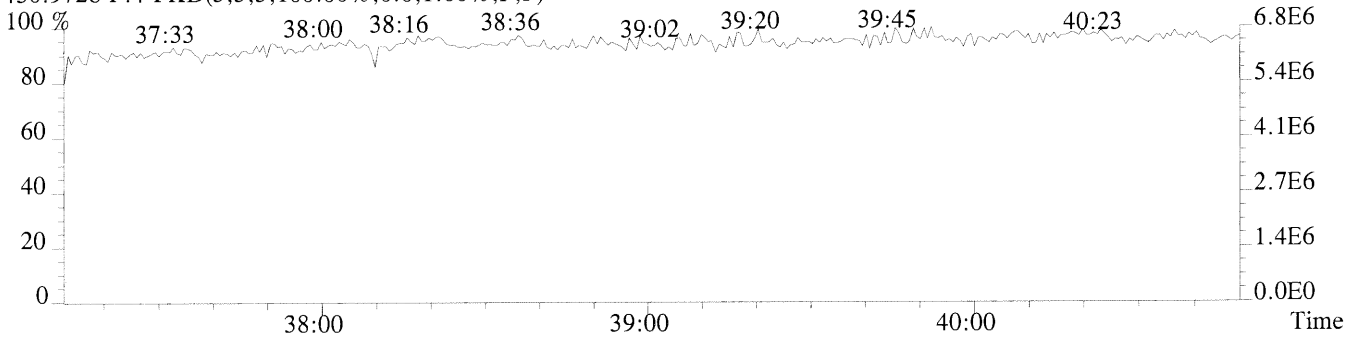
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,568.0,0.40%,F,F)



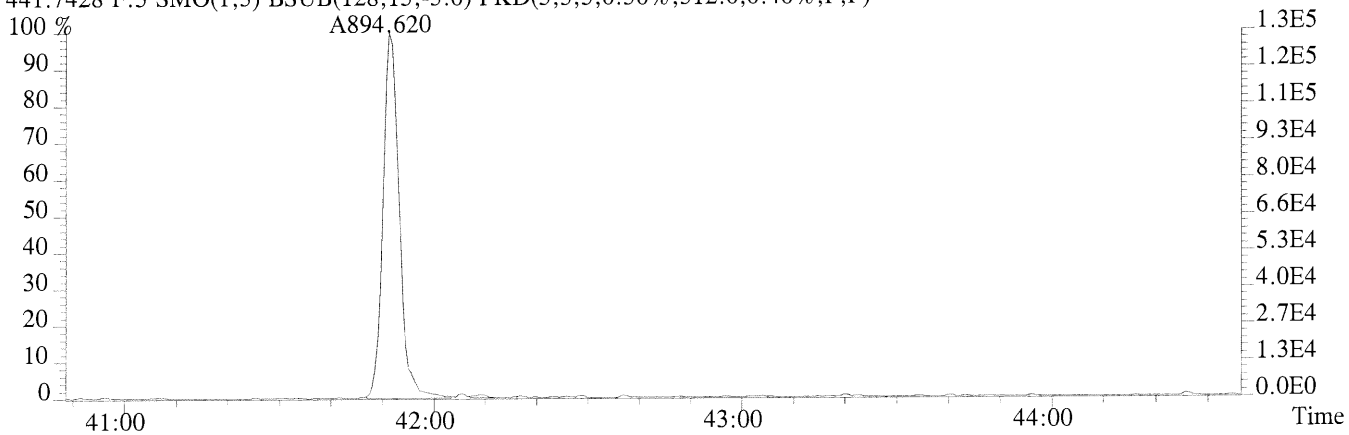
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,F)



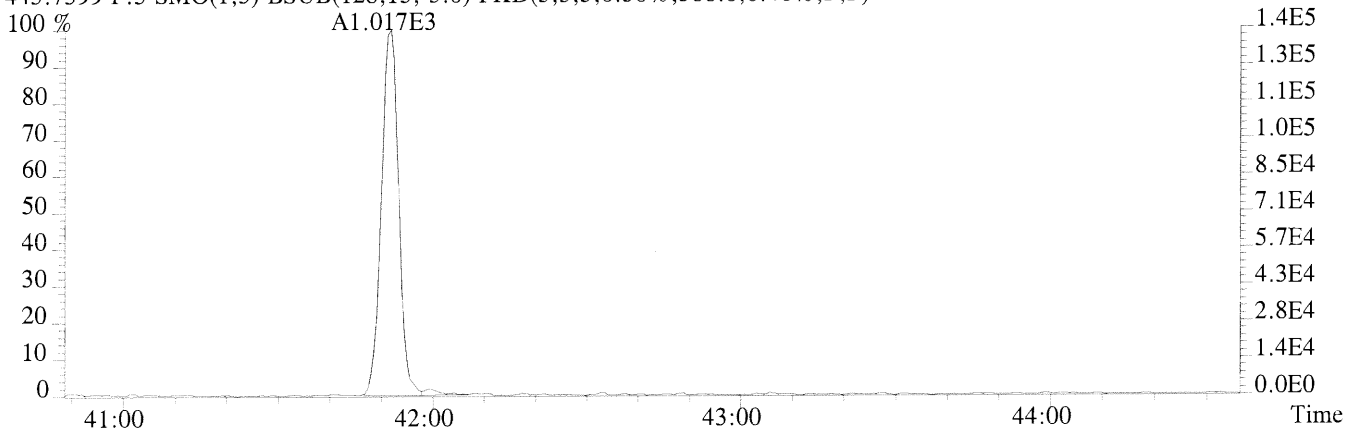
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



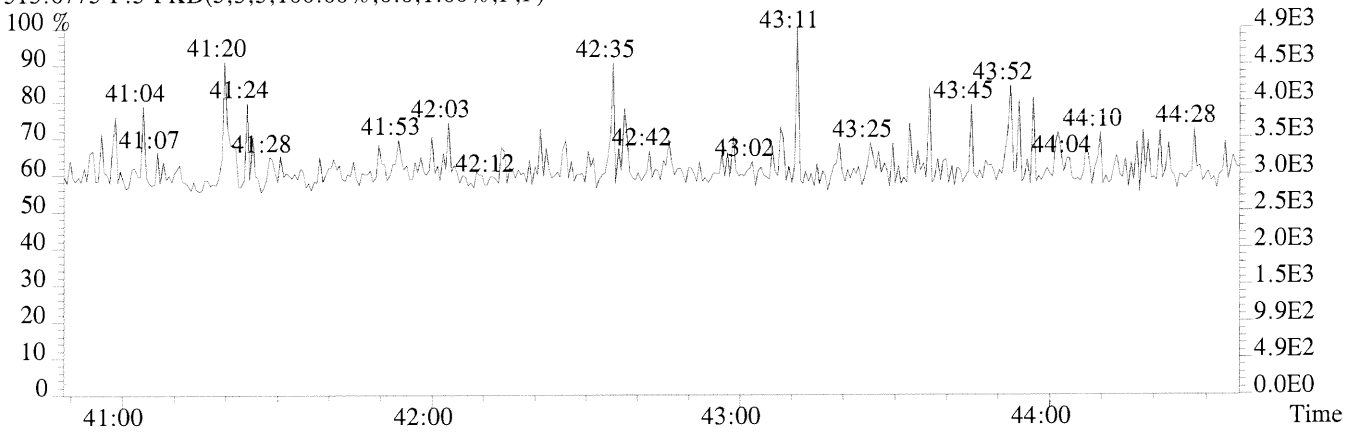
File:U120206 #1-420 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,312.0,0.40%,F,F)



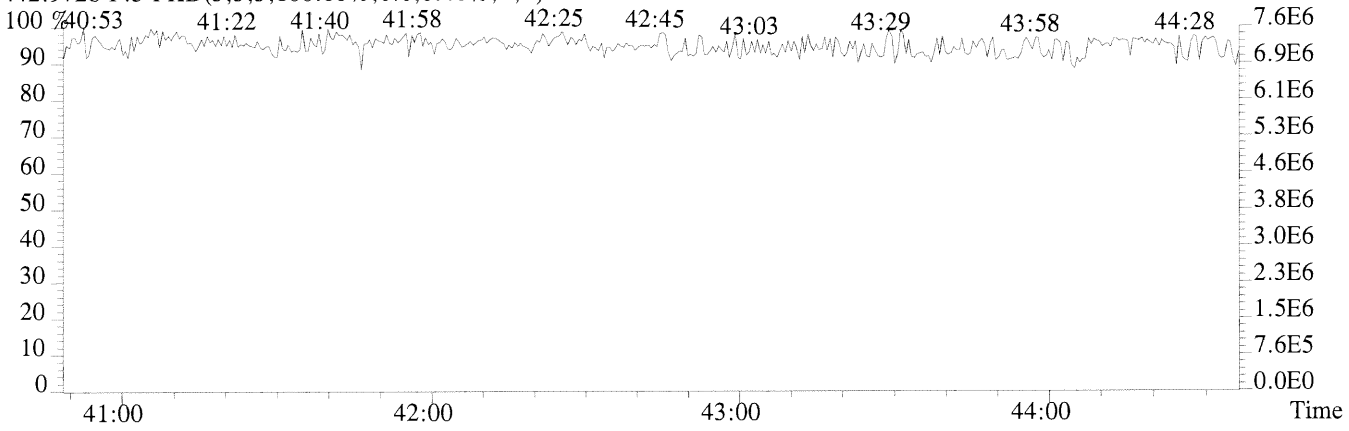
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,388.0,0.40%,F,F)



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

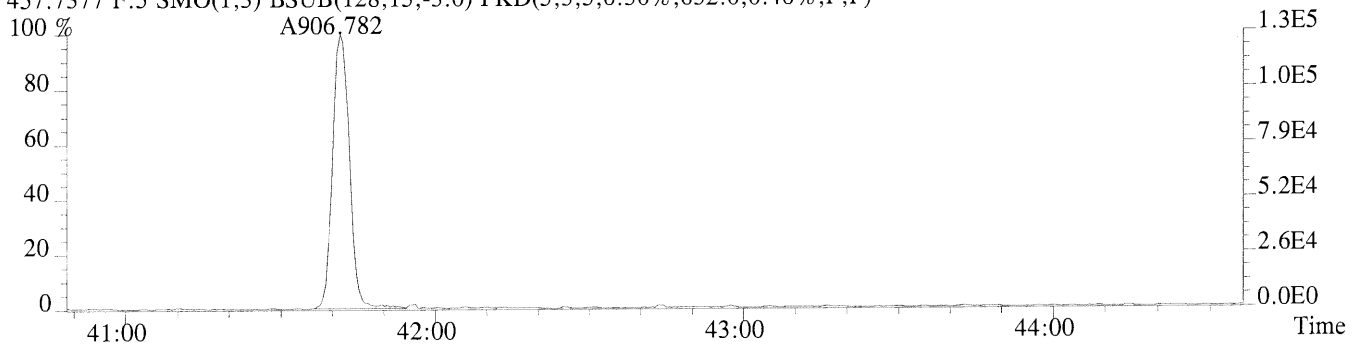


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

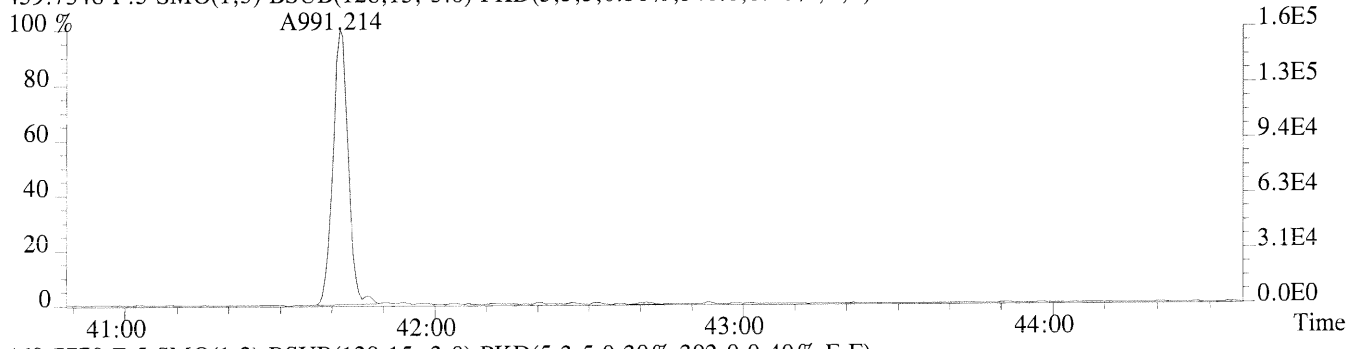


File:U120206 #1-420 Acq: 2-APR-2007 13:56:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

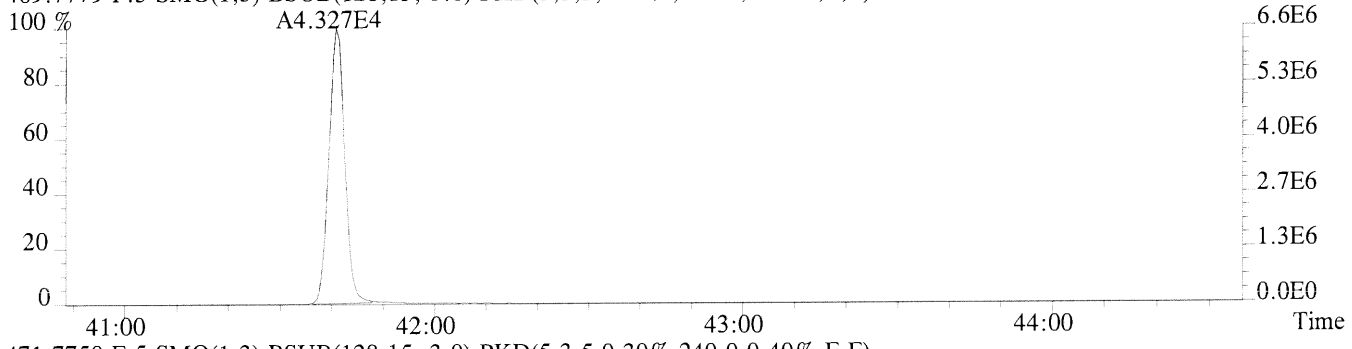
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,F,F)



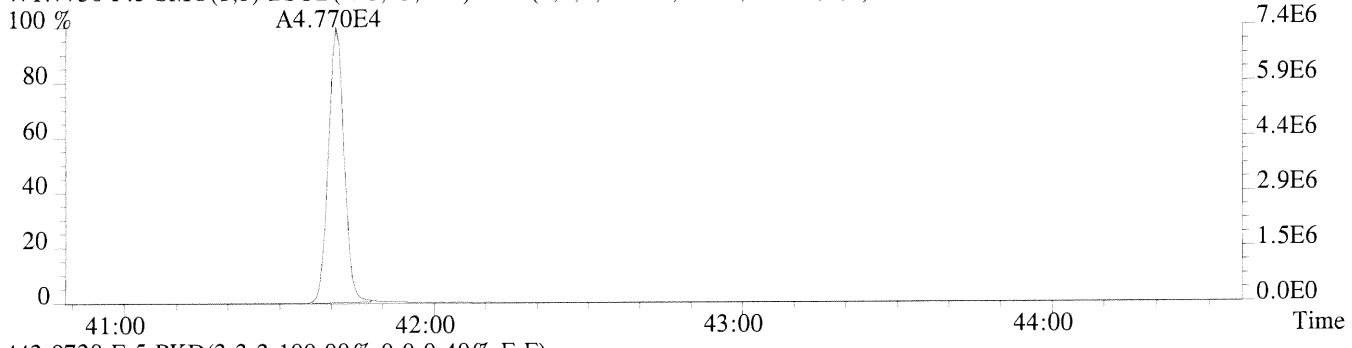
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,540.0,0.40%,F,F)



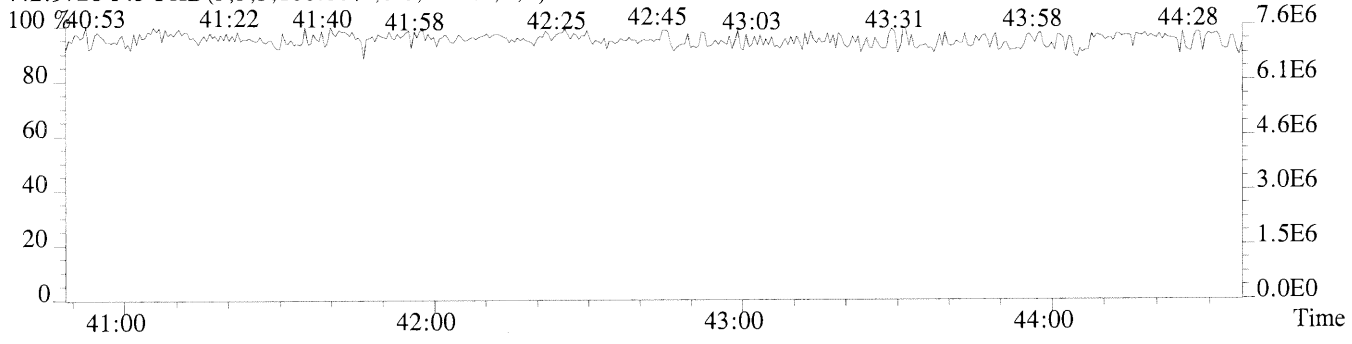
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,392.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,240.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename U120207 Samp: 1 Inj: 1 Acquired: 2-APR-07 14:42:23
Processed: 3-APR-07 08:06:17 Sample ID: ICAL HRCC2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	27:16	4.266e+02	4.917e+02	0.87	yes	no
2	Unk	1,2,3,7,8-PeCDF	31:32	1.737e+03	1.070e+03	1.62	yes	no
3	Unk	2,3,4,7,8-PeCDF	32:16	1.700e+03	1.161e+03	1.46	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:03	1.618e+03	1.291e+03	1.25	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:09	1.665e+03	1.286e+03	1.29	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	35:37	1.445e+03	1.183e+03	1.22	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:19	1.199e+03	9.397e+02	1.28	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	37:45	1.445e+03	1.543e+03	0.94	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:04	1.126e+03	1.043e+03	1.08	yes	no
10	Unk	OCDF	41:52	2.382e+03	2.462e+03	0.97	yes	no
11	Unk	2,3,7,8-TCDD	28:06	3.189e+02	3.997e+02	0.80	yes	no
12	Unk	1,2,3,7,8-PeCDD	32:37	1.166e+03	7.814e+02	1.49	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	35:44	1.226e+03	8.626e+02	1.42	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	35:48	1.185e+03	9.812e+02	1.21	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:06	1.107e+03	8.815e+02	1.26	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	38:39	1.008e+03	9.515e+02	1.06	yes	no
17	Unk	OCDD	41:41	2.203e+03	2.476e+03	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	27:15	9.762e+03	1.174e+04	0.83	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	31:31	1.582e+04	9.843e+03	1.61	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:02	1.826e+04	3.396e+04	0.54	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	37:44	1.327e+04	3.045e+04	0.44	yes	no
22	IS	13C-2,3,7,8-TCDD	28:04	6.892e+03	8.608e+03	0.80	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	32:36	1.057e+04	6.930e+03	1.53	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	35:48	2.238e+04	1.803e+04	1.24	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	38:38	2.220e+04	2.109e+04	1.05	yes	no
26	IS	13C-OCDD	41:41	4.240e+04	4.786e+04	0.89	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	27:52	7.805e+03	9.651e+03	0.81	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:05	2.193e+04	1.785e+04	1.23	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	28:06	7.146e+02				

Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc.
Signal/Noise Height Ratio Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename U120207 Samp: 1 Inj: 1 Acquired: 2-APR-07 14:42:23

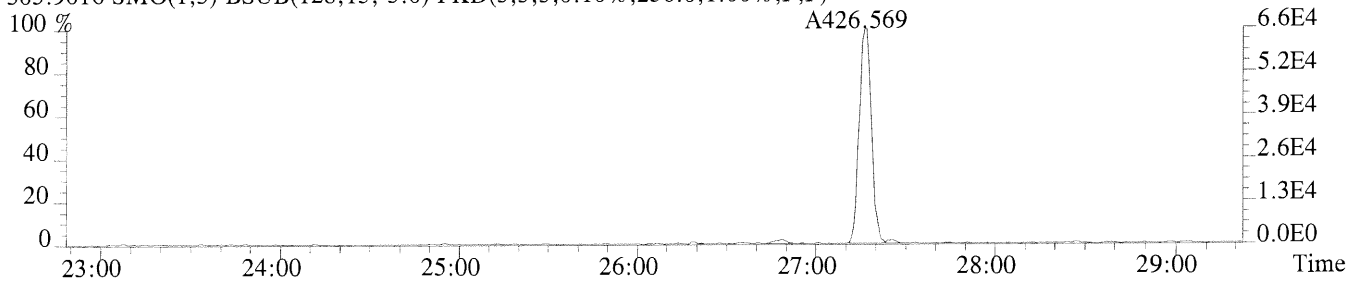
Processed: 3-APR-07 08:06:17 LAB. ID: ICAL HRCC2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	6.54e+04	2.56e+02	2.6e+02	7.68e+04	4.36e+02	1.8e+02
2	1,2,3,7,8-PeCDF	3.25e+05	2.52e+02	1.3e+03	2.10e+05	2.00e+02	1.0e+03
3	2,3,4,7,8-PeCDF	3.23e+05	2.52e+02	1.3e+03	2.23e+05	2.00e+02	1.1e+03
4	1,2,3,4,7,8-HxCDF	3.52e+05	2.80e+02	1.3e+03	2.90e+05	2.04e+02	1.4e+03
5	1,2,3,6,7,8-HxCDF	3.53e+05	2.80e+02	1.3e+03	2.70e+05	2.04e+02	1.3e+03
6	2,3,4,6,7,8-HxCDF	3.13e+05	2.80e+02	1.1e+03	2.50e+05	2.04e+02	1.2e+03
7	1,2,3,7,8,9-HxCDF	2.51e+05	2.80e+02	9.0e+02	2.01e+05	2.04e+02	9.8e+02
8	1,2,3,4,6,7,8-HpCDF	3.16e+05	8.44e+02	3.7e+02	3.29e+05	5.56e+02	5.9e+02
9	1,2,3,4,7,8,9-HpCDF	2.22e+05	8.44e+02	2.6e+02	1.98e+05	5.56e+02	3.6e+02
10	OCDF	3.49e+05	3.20e+02	1.1e+03	3.54e+05	5.72e+02	6.2e+02
11	2,3,7,8-TCDD	5.65e+04	2.88e+02	2.0e+02	6.82e+04	2.72e+02	2.5e+02
12	1,2,3,7,8-PeCDD	2.42e+05	2.88e+02	8.4e+02	1.57e+05	2.60e+02	6.0e+02
13	1,2,3,4,7,8-HxCDD	2.72e+05	4.08e+02	6.7e+02	2.07e+05	2.76e+02	7.5e+02
14	1,2,3,6,7,8-HxCDD	2.60e+05	4.08e+02	6.4e+02	2.02e+05	2.76e+02	7.3e+02
15	1,2,3,7,8,9-HxCDD	2.36e+05	4.08e+02	5.8e+02	1.96e+05	2.76e+02	7.1e+02
16	1,2,3,4,6,7,8-HpCDD	2.13e+05	2.48e+02	8.6e+02	2.02e+05	2.80e+02	7.2e+02
17	OCDD	3.29e+05	3.44e+02	9.6e+02	3.91e+05	3.56e+02	1.1e+03
18	13C-2,3,7,8-TCDF	1.65e+06	5.12e+02	3.2e+03	2.00e+06	4.92e+02	4.1e+03
19	13C-1,2,3,7,8-PeCDF	3.12e+06	3.00e+02	1.0e+04	1.95e+06	3.56e+02	5.5e+03
20	13C-1,2,3,4,7,8-HxCDF	4.02e+06	2.84e+02	1.4e+04	7.49e+06	2.96e+02	2.5e+04
21	13C-1,2,3,4,6,7,8-HpCDF	2.87e+06	1.87e+03	1.5e+03	6.59e+06	2.31e+03	2.9e+03
22	13C-2,3,7,8-TCDD	1.23e+06	7.00e+02	1.8e+03	1.54e+06	1.60e+02	9.6e+03
23	13C-1,2,3,7,8-PeCDD	2.12e+06	2.72e+02	7.8e+03	1.38e+06	2.96e+02	4.7e+03
24	13C-1,2,3,6,7,8-HxCDD	5.07e+06	4.60e+02	1.1e+04	4.10e+06	2.56e+02	1.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	4.57e+06	2.56e+02	1.8e+04	4.38e+06	3.00e+02	1.5e+04
26	13C-OCDD	6.41e+06	2.20e+02	2.9e+04	7.32e+06	3.56e+02	2.1e+04
27	13C-1,2,3,4-TCDD	1.43e+06	7.00e+02	2.0e+03	1.72e+06	1.60e+02	1.1e+04
28	13C-1,2,3,7,8,9-HxCDD	4.83e+06	4.60e+02	1.0e+04	3.92e+06	2.56e+02	1.5e+04
29	37Cl-2,3,7,8-TCDD	1.24e+05	2.48e+02	5.0e+02			

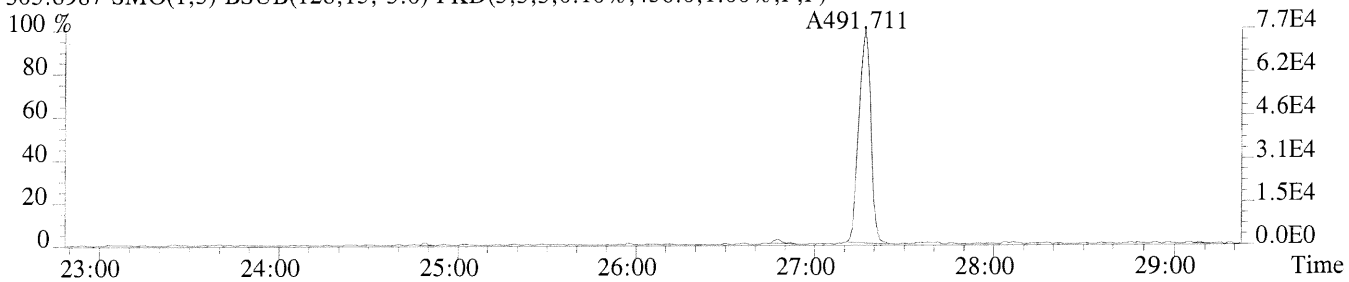
Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office:(713)266-1599. Fax:(713)266-0130

File:U120207 #1-548 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

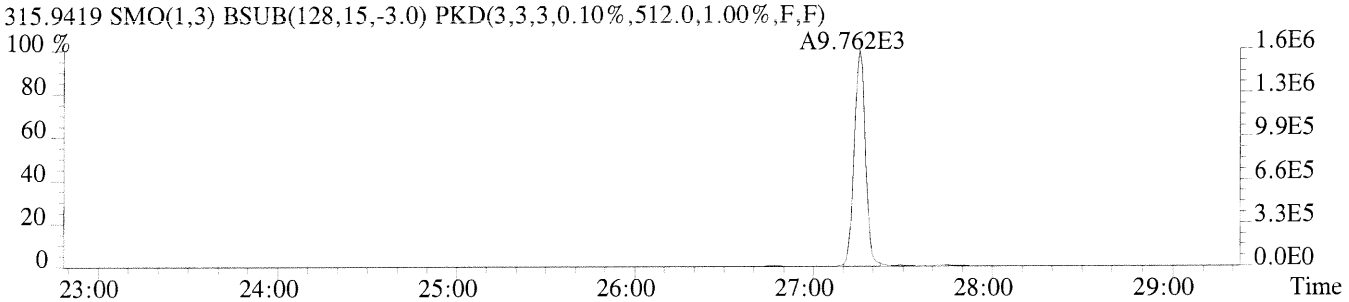
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,256.0,1.00%,F,F)



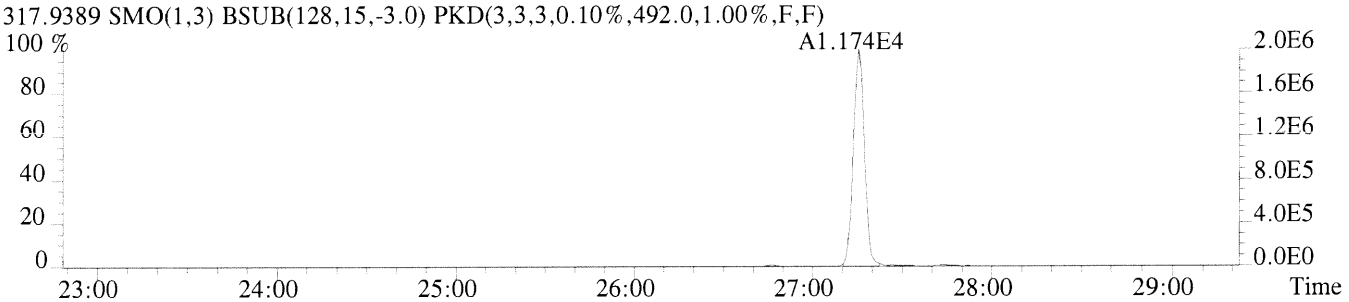
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,F)



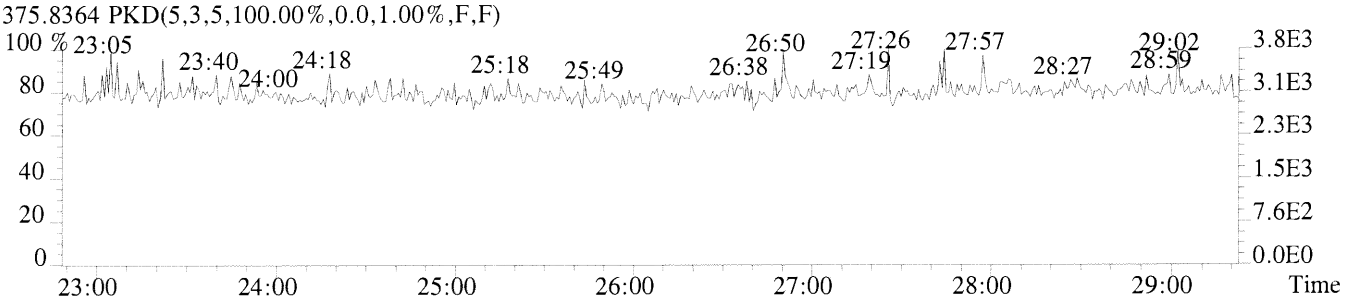
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,F)



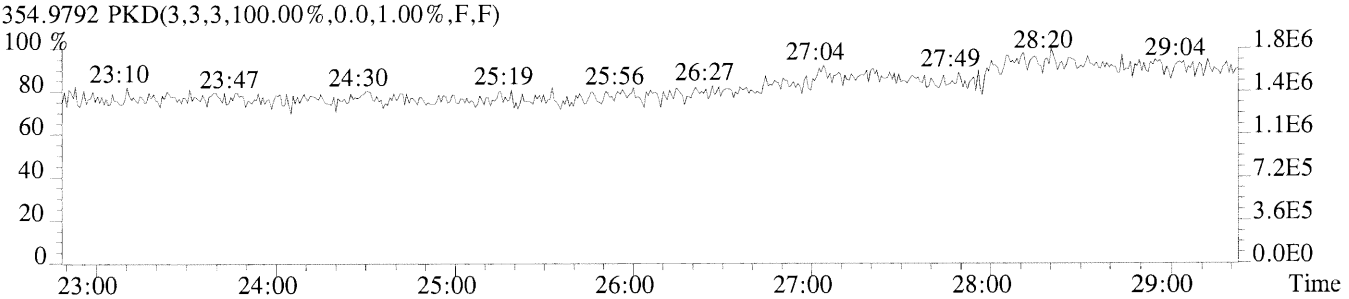
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,F)



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

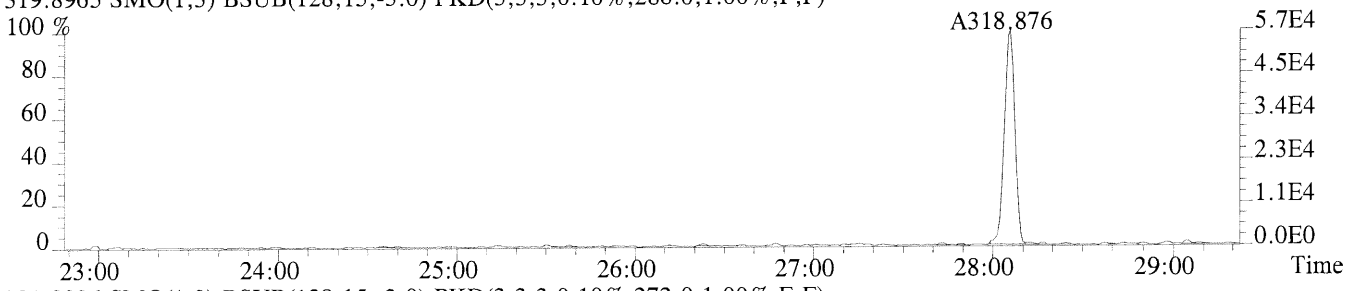


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

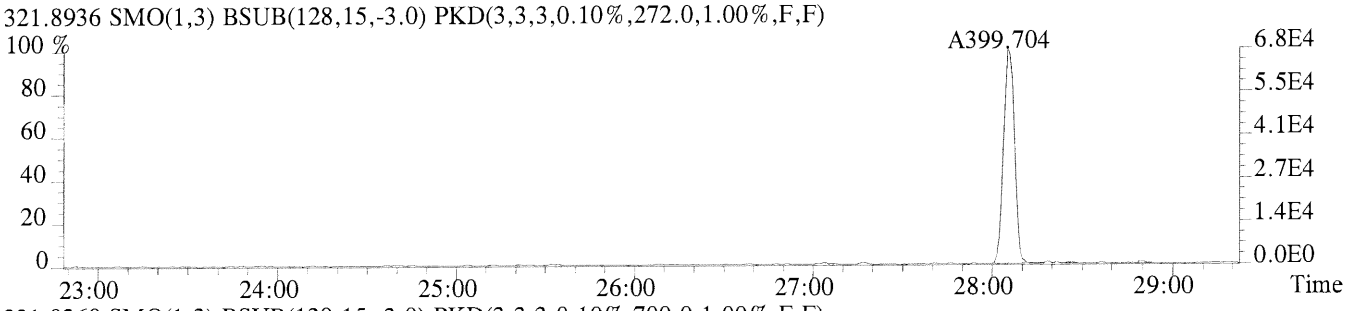


File:U120207 #1-548 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

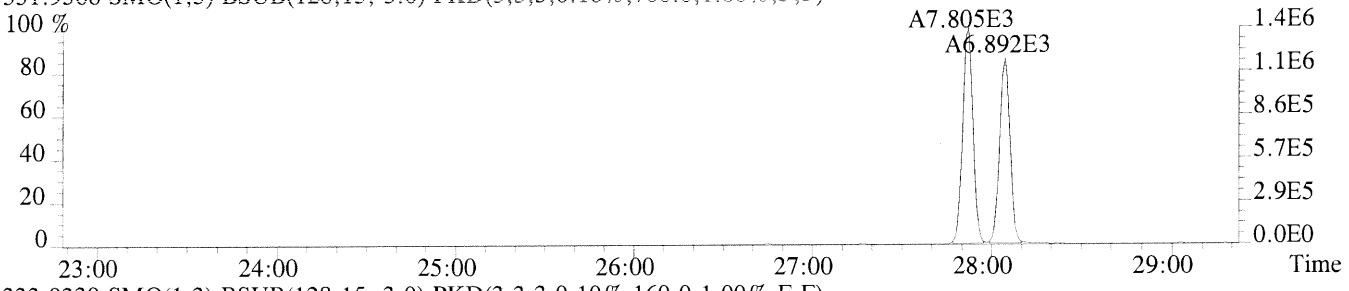
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,F)



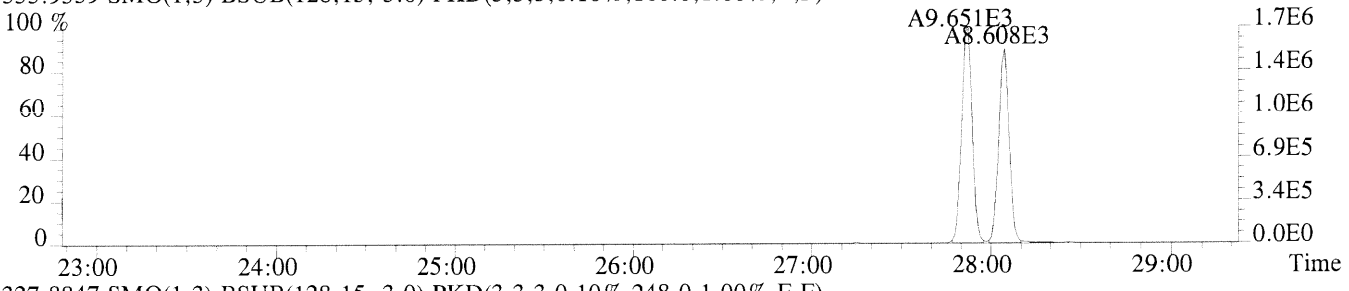
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,272.0,1.00%,F,F)



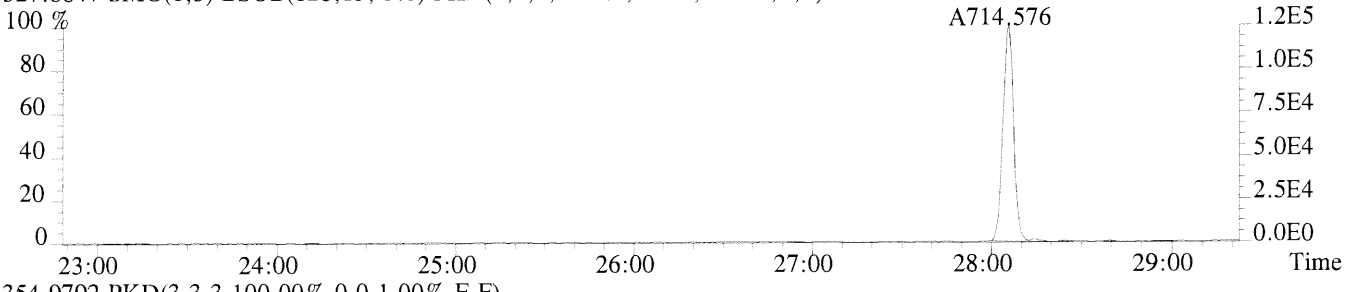
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,700.0,1.00%,F,F)



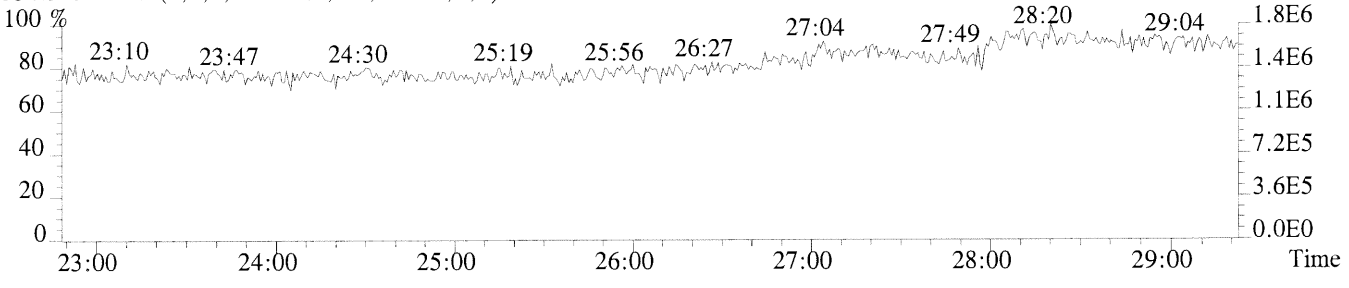
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,248.0,1.00%,F,F)

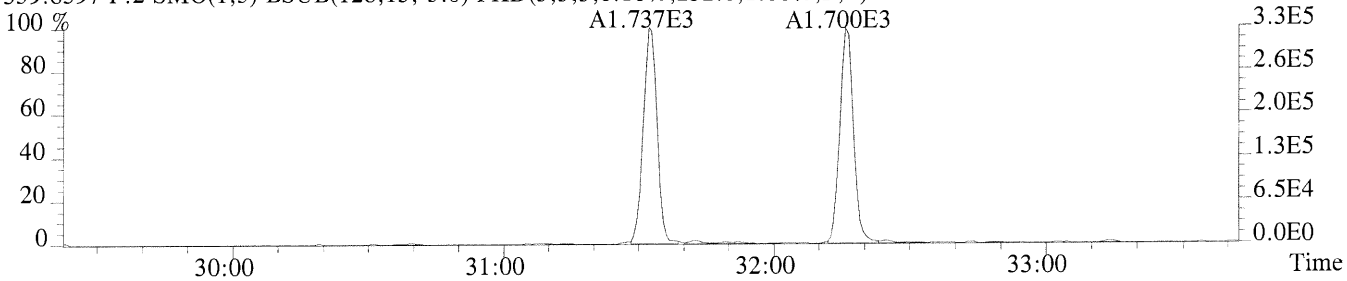


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

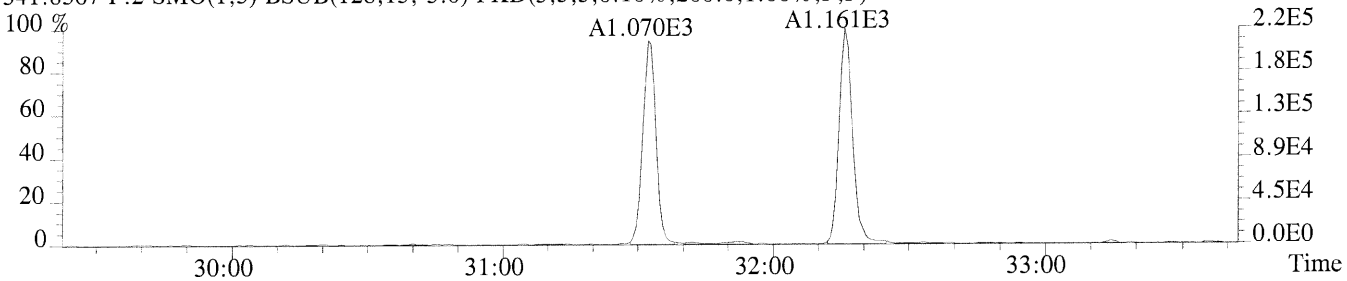


File:U120207 #1-394 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

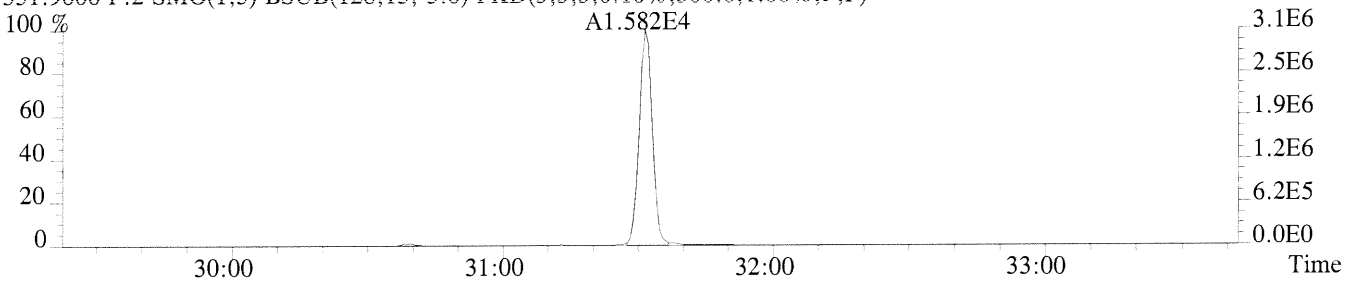
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,F)



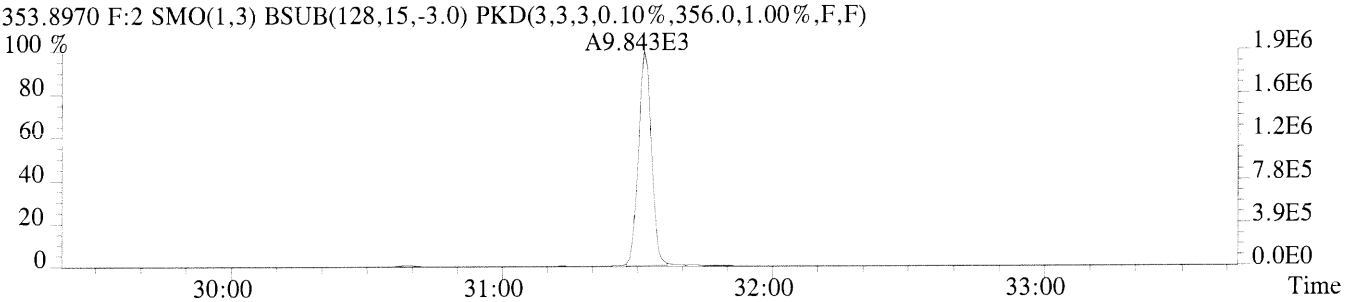
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,F)



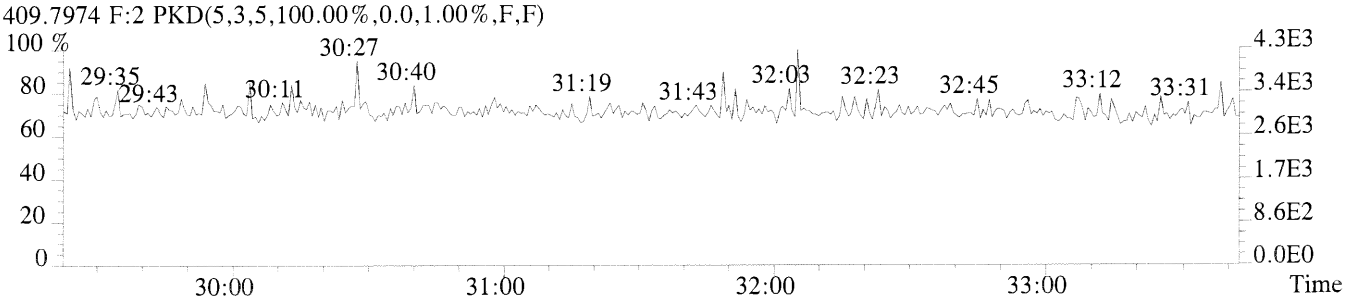
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,F)



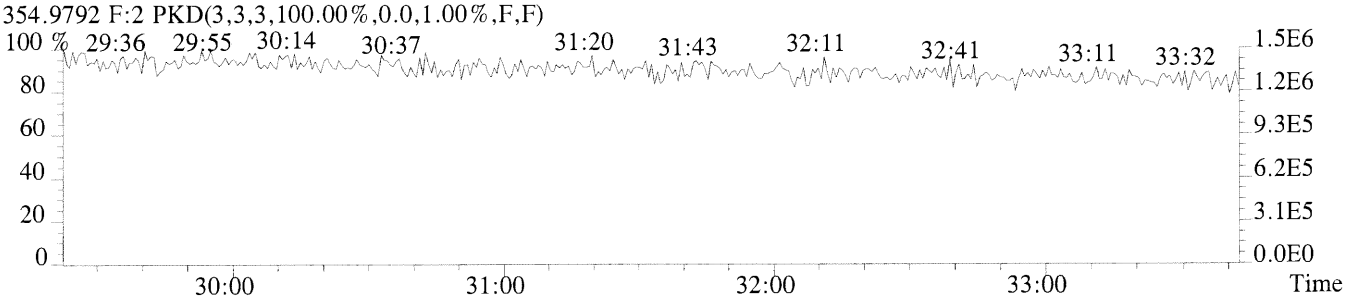
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



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

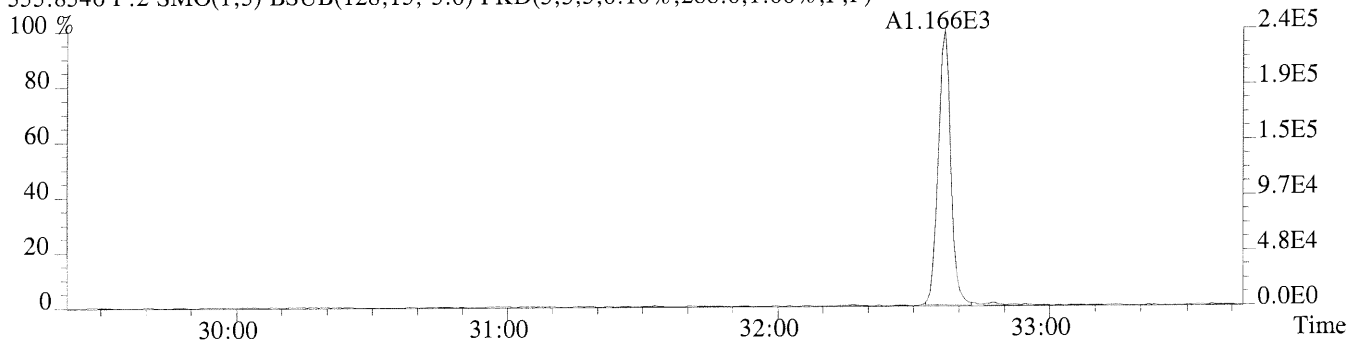


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

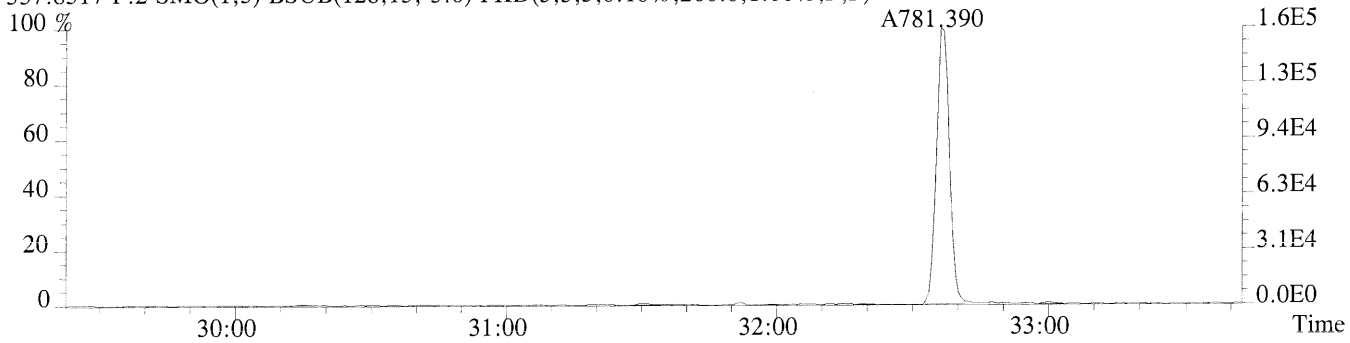


File:U120207 #1-394 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

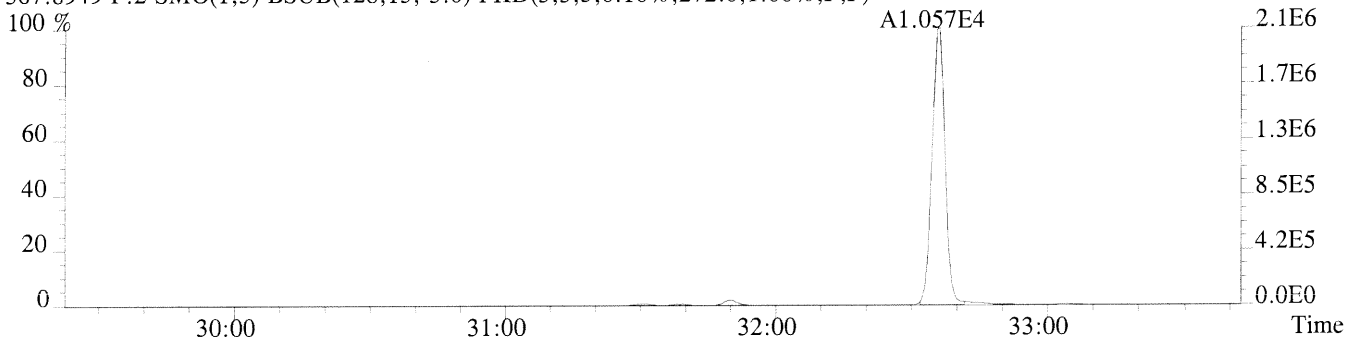
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,F)



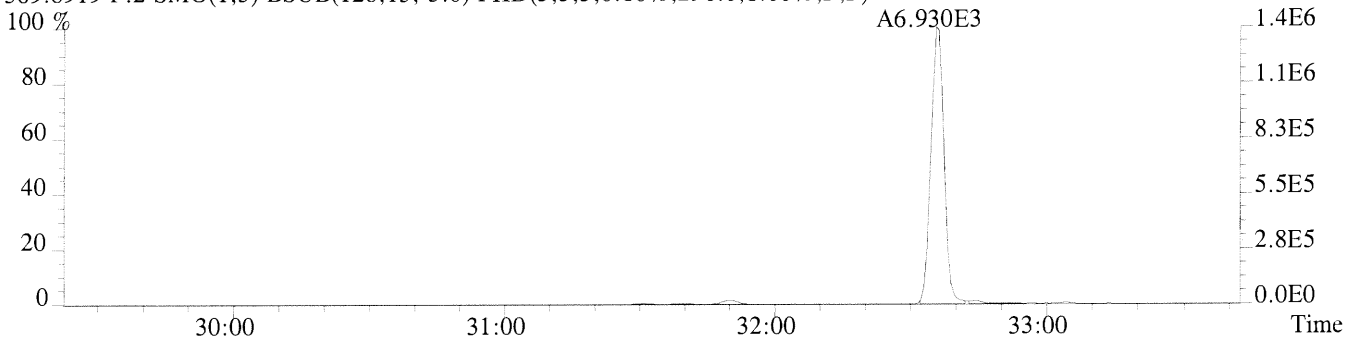
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,F)



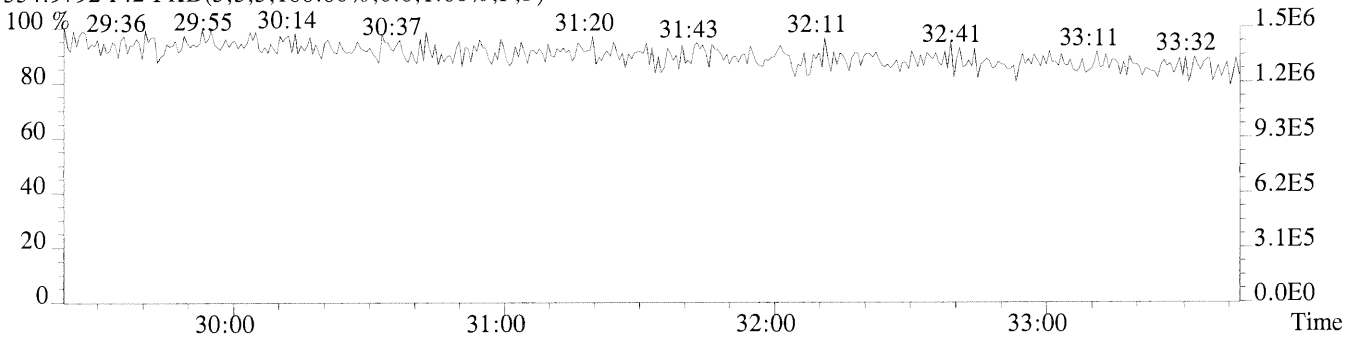
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,272.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,F)

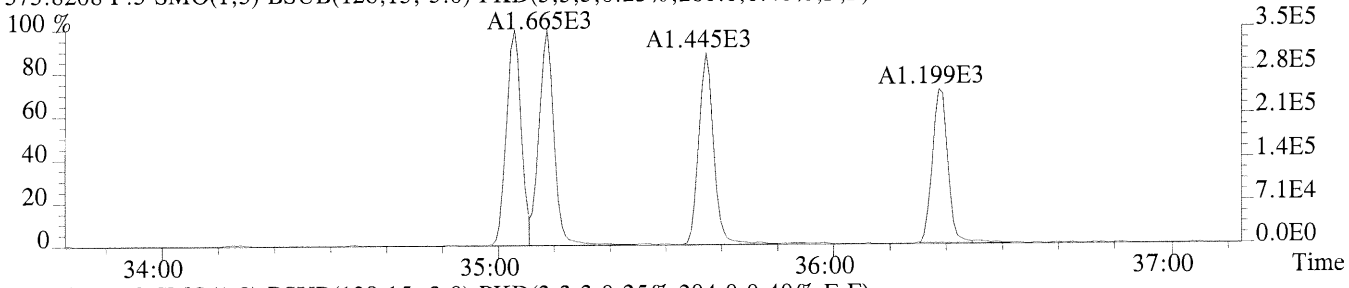


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

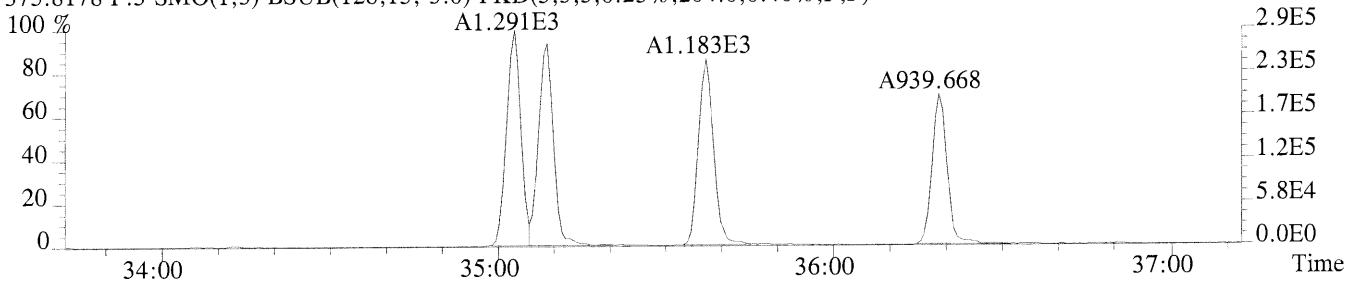


File:U120207 #1-318 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

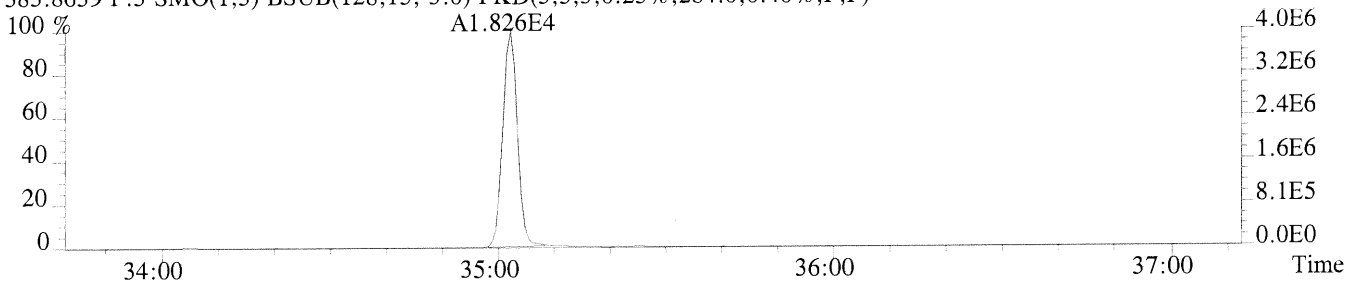
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,F)



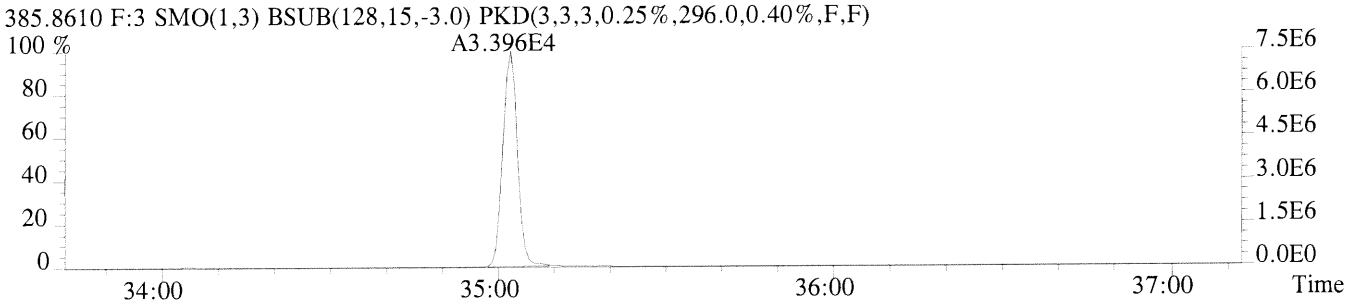
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,204.0,0.40%,F,F)



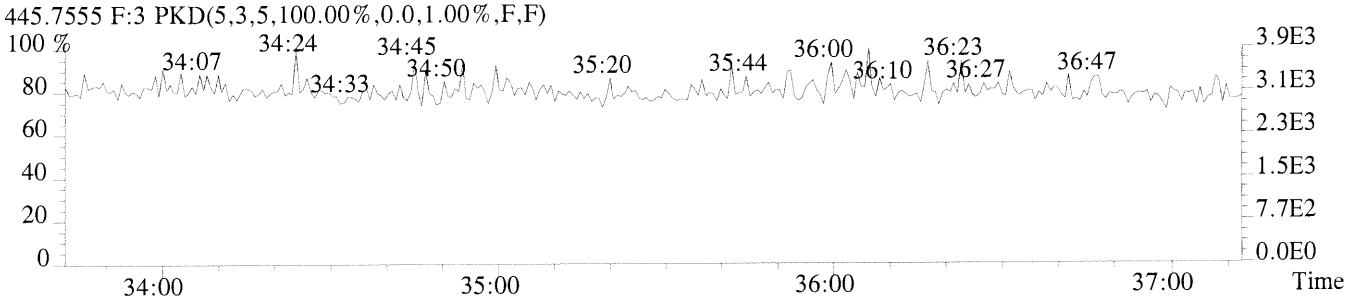
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.40%,F,F)



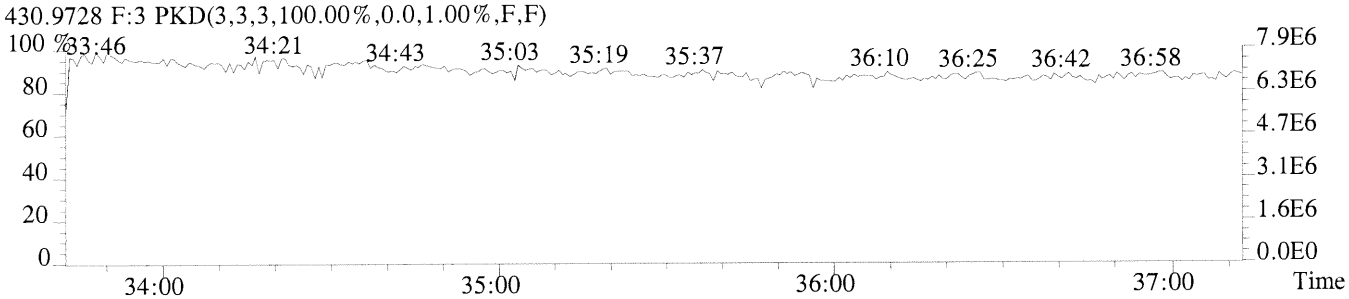
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,F)



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

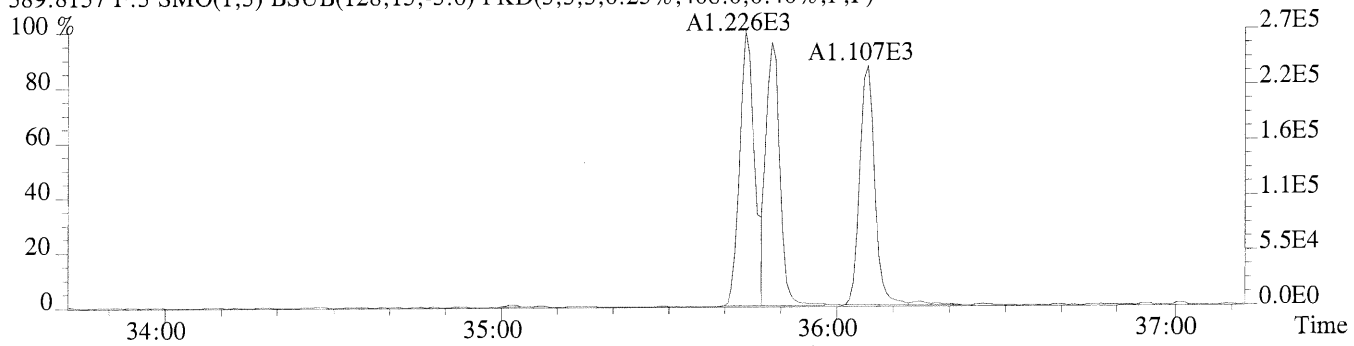


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

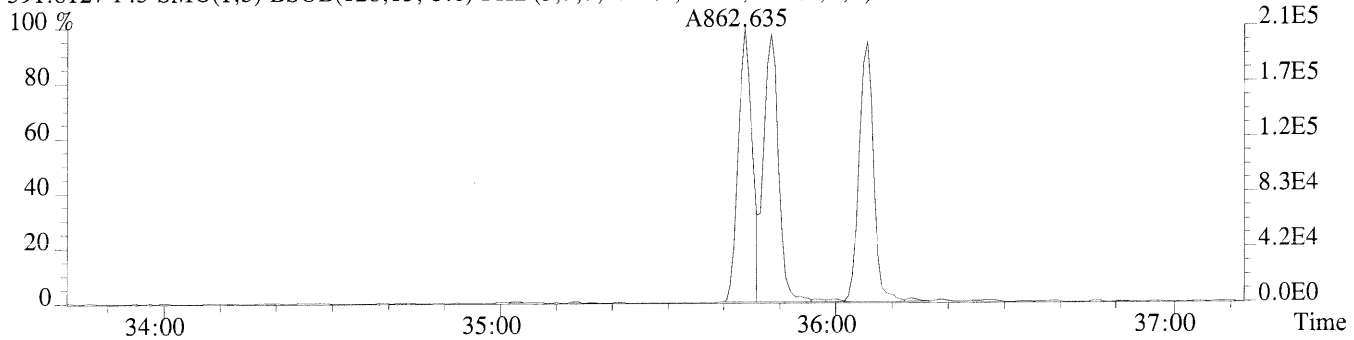


File:U120207 #1-318 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

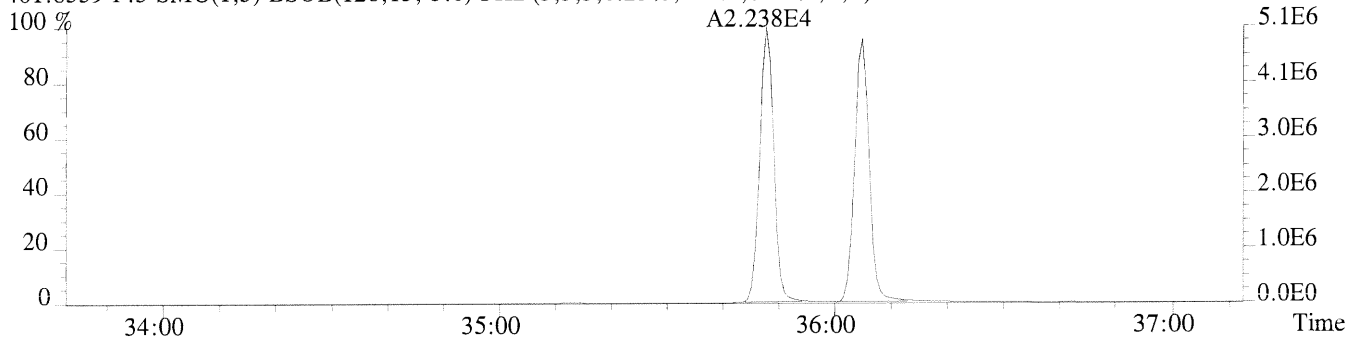
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,408.0,0.40%,F,F)



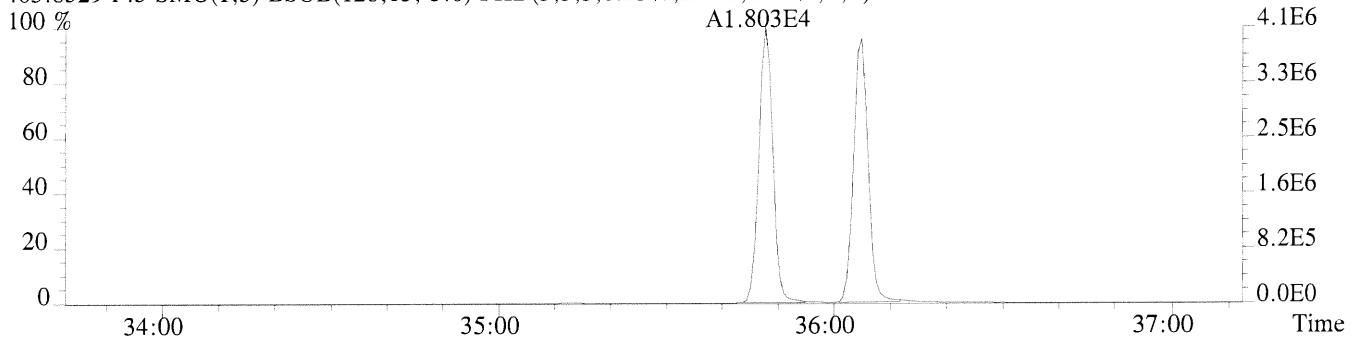
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,F)



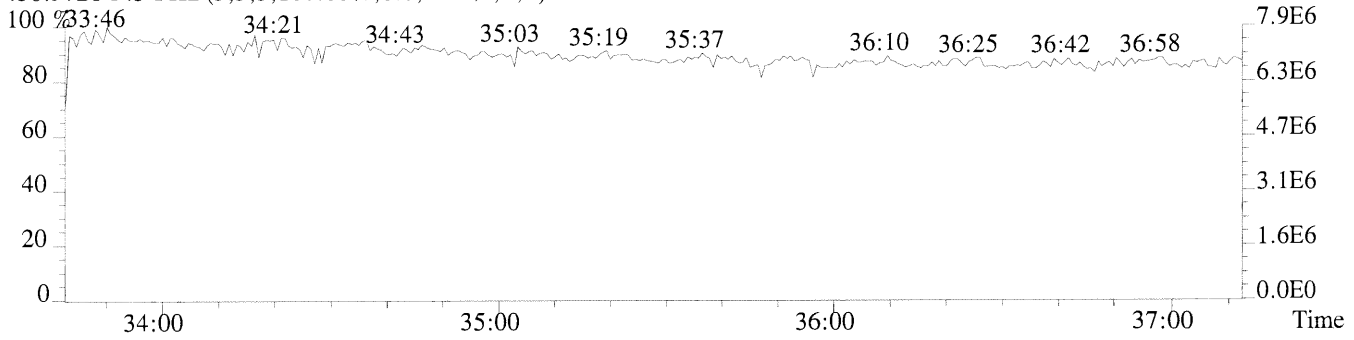
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,460.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,F)

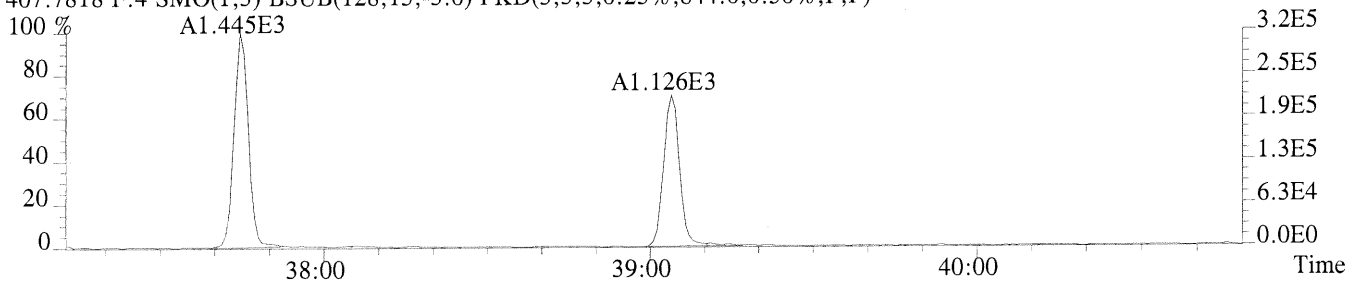


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

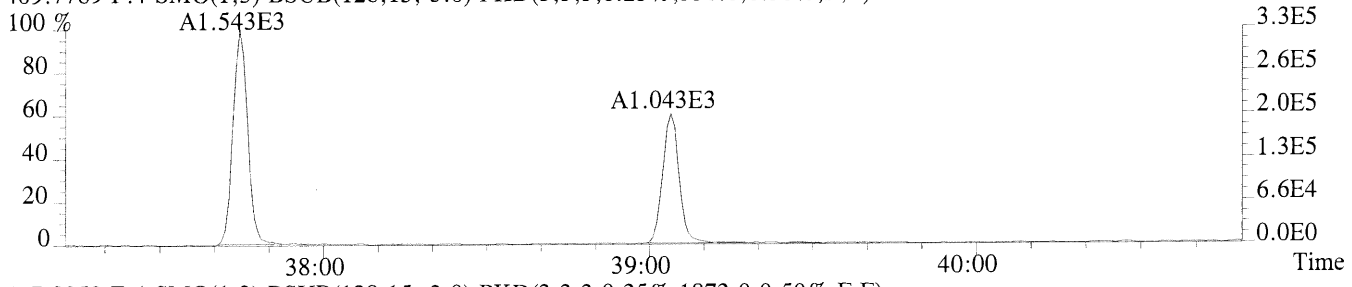


File:U120207 #1-327 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

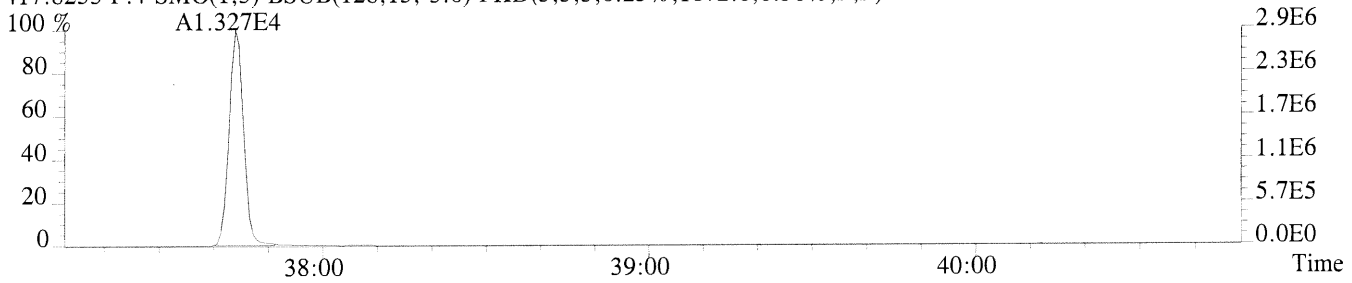
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,844.0,0.50%,F,F)



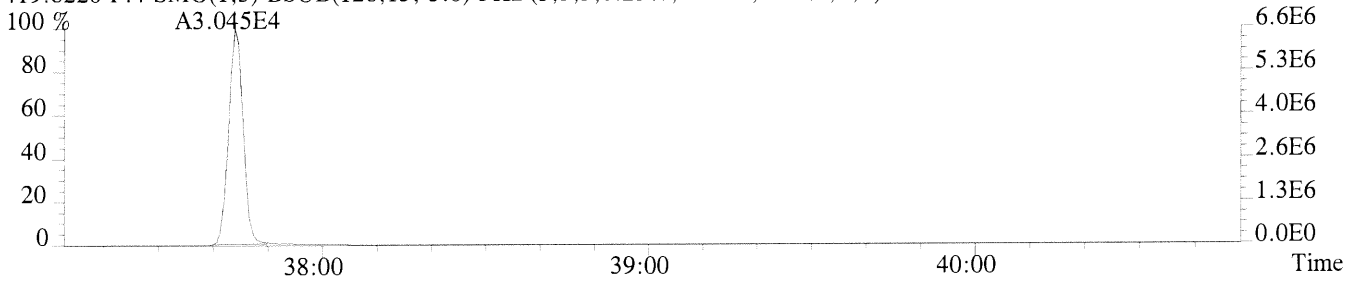
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,556.0,0.50%,F,F)



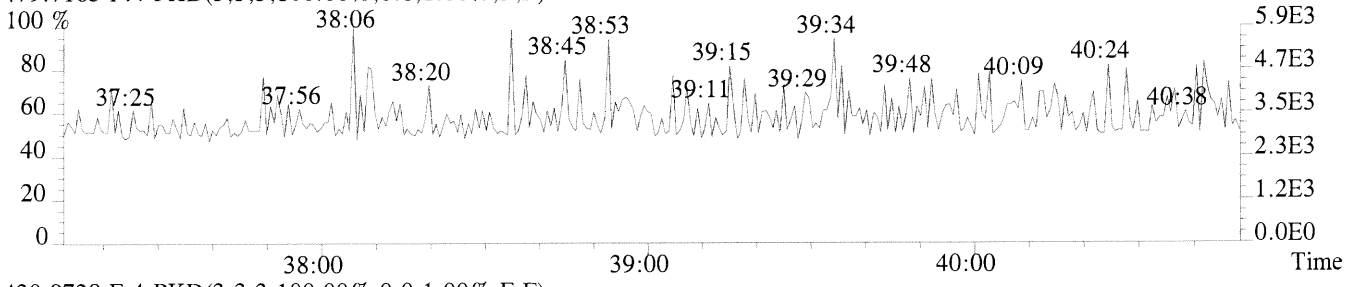
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1872.0,0.50%,F,F)



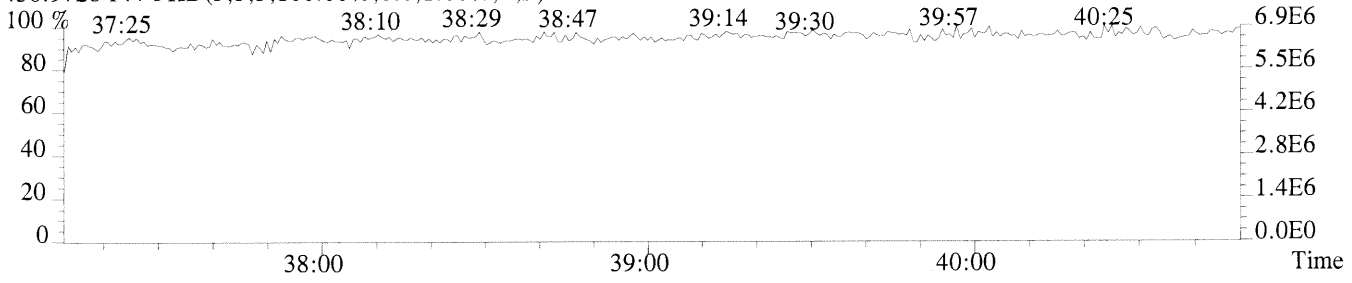
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2312.0,0.50%,F,F)



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

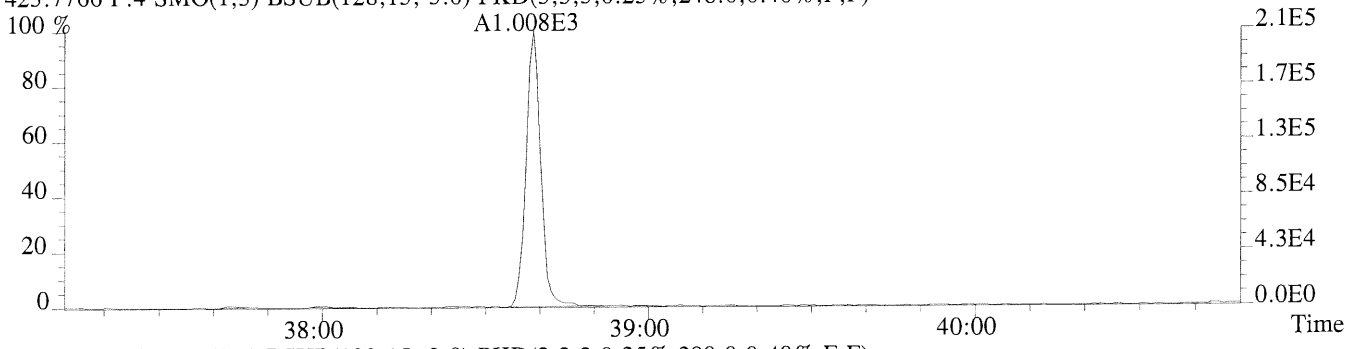


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

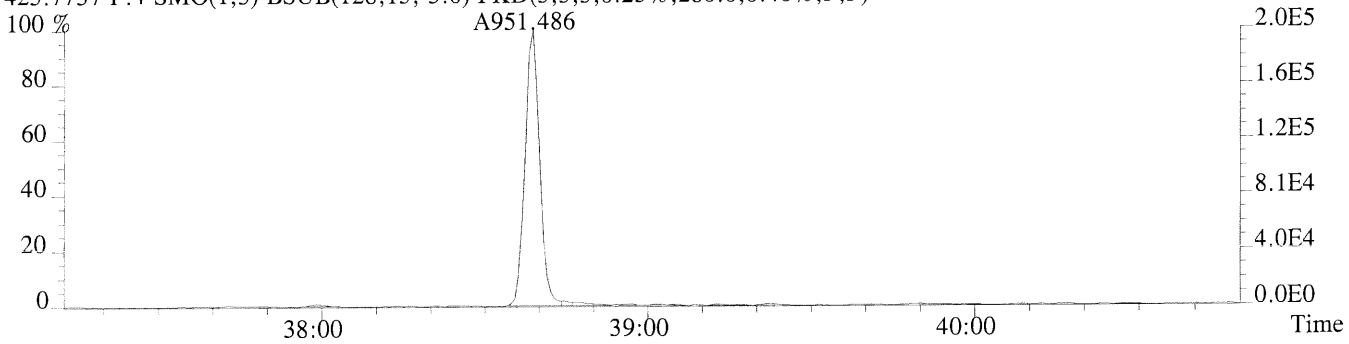


File:U120207 #1-327 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

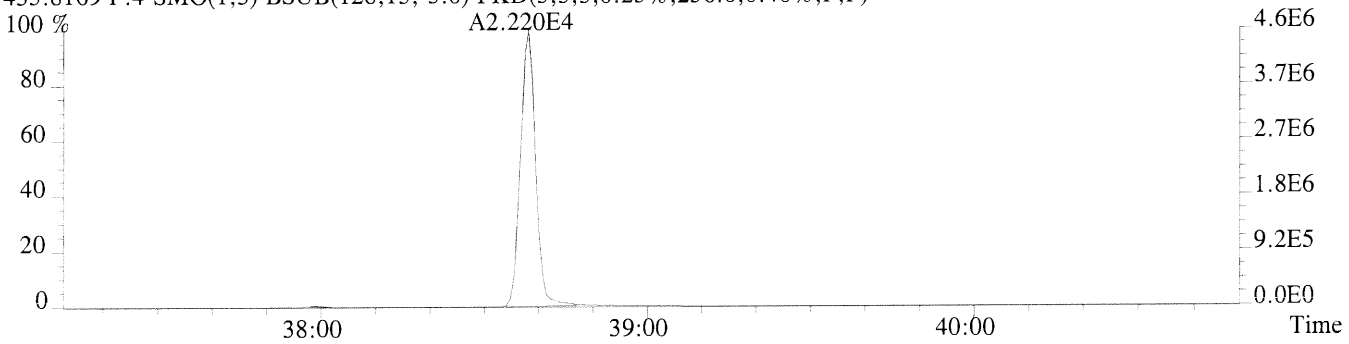
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,248.0,0.40%,F,F)



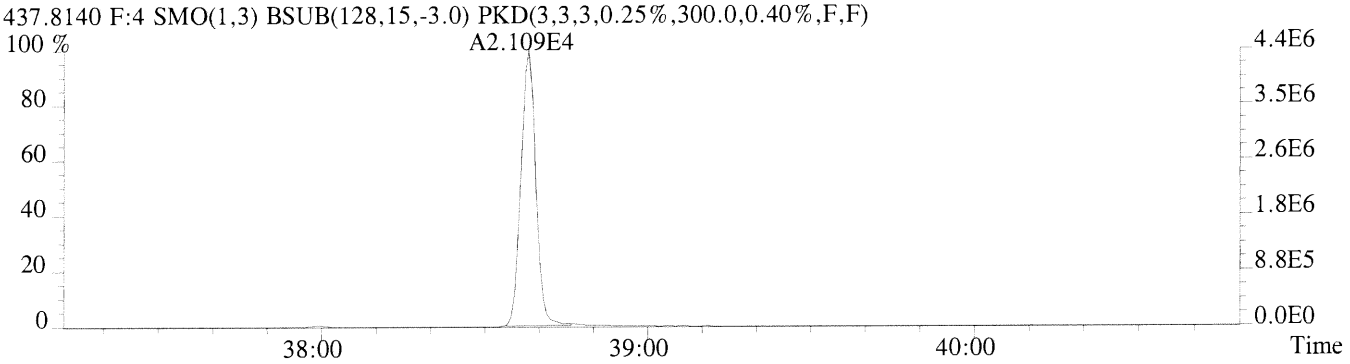
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,F)



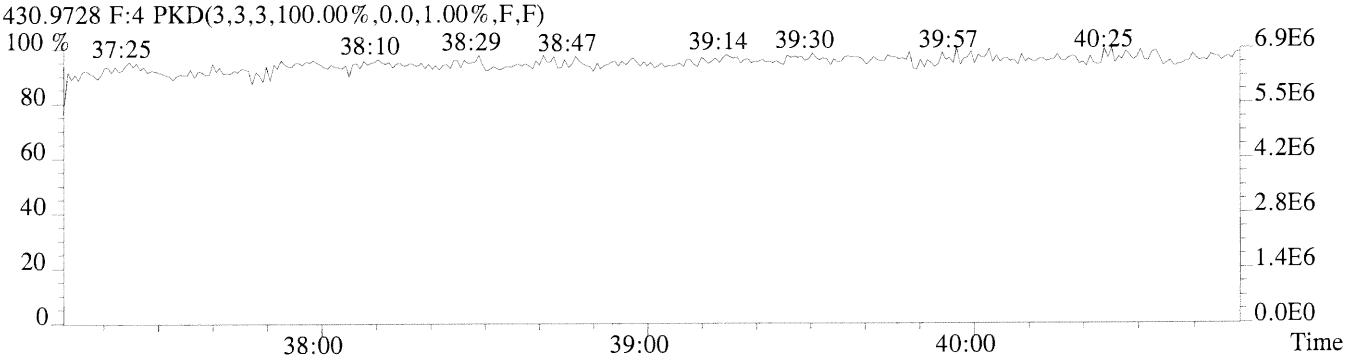
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,256.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,F)

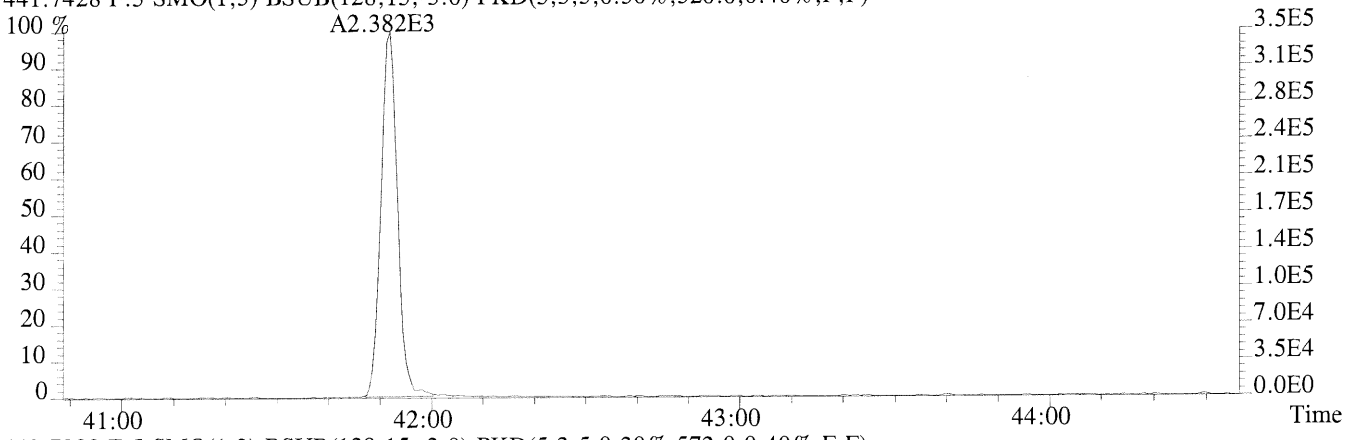


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

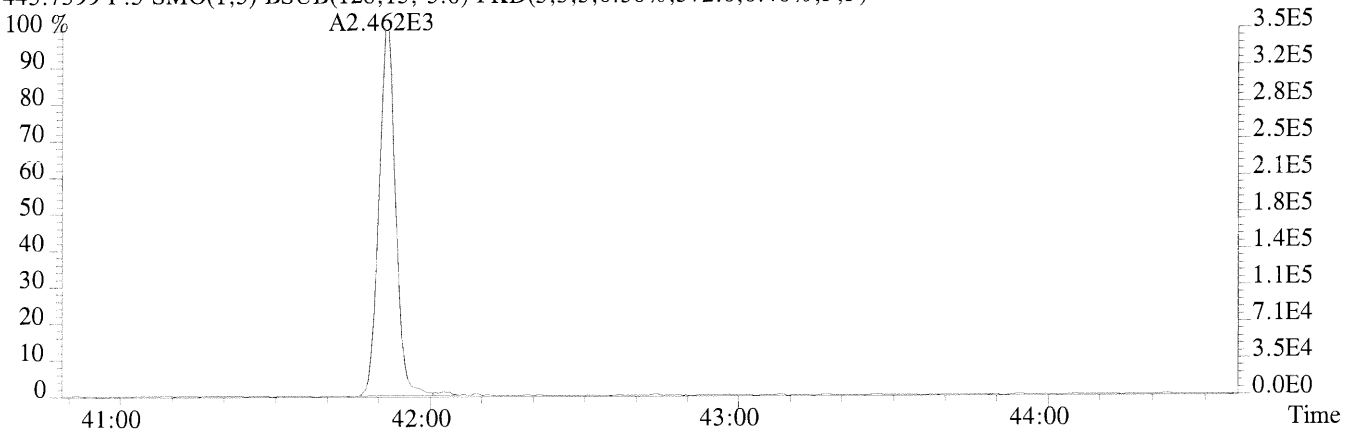


File:U120207 #1-420 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

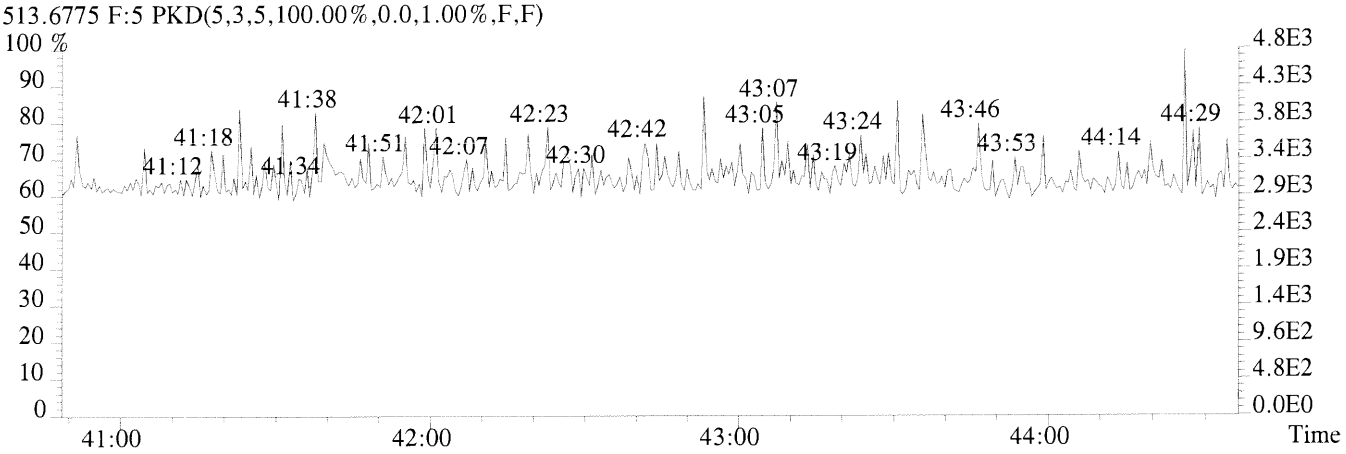
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,320.0,0.40%,F,F)



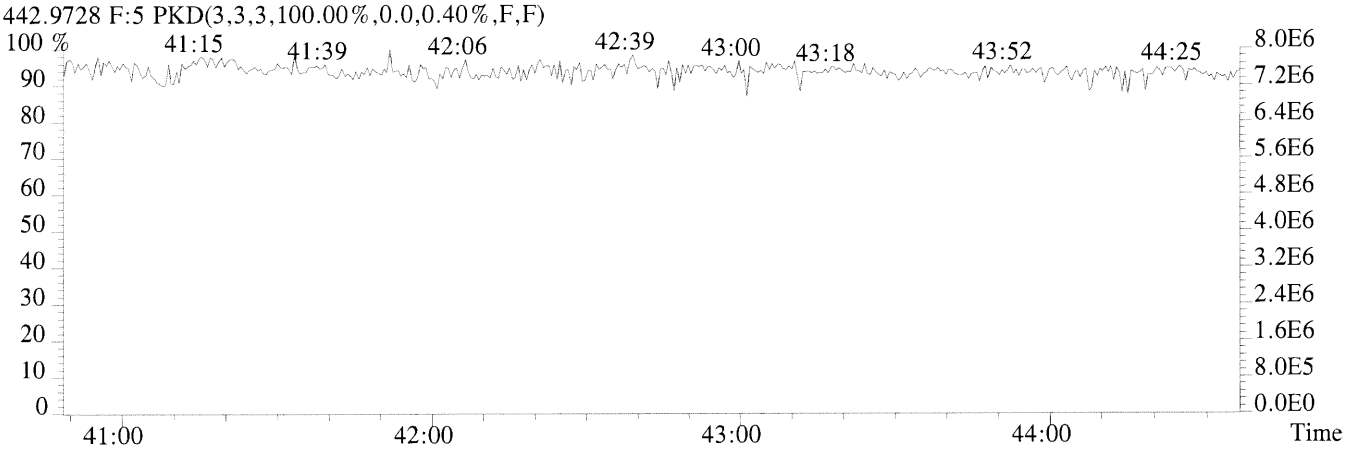
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,572.0,0.40%,F,F)



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

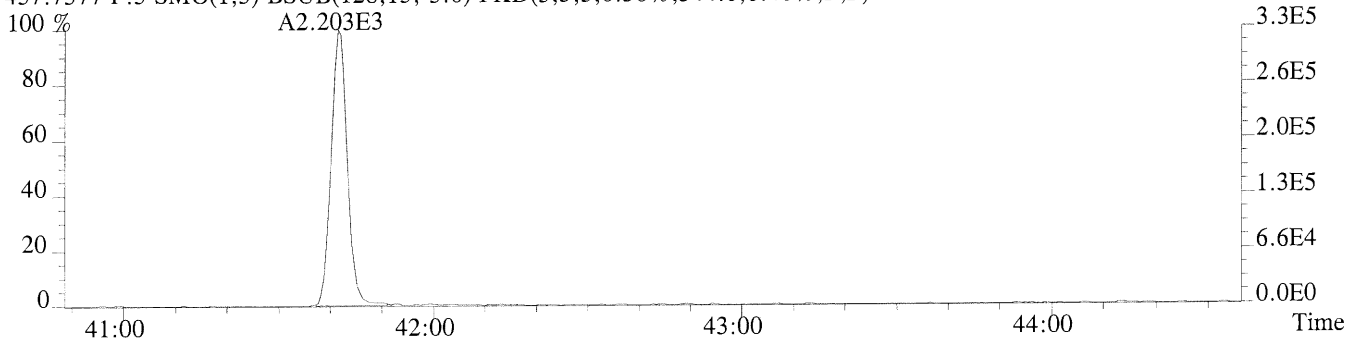


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

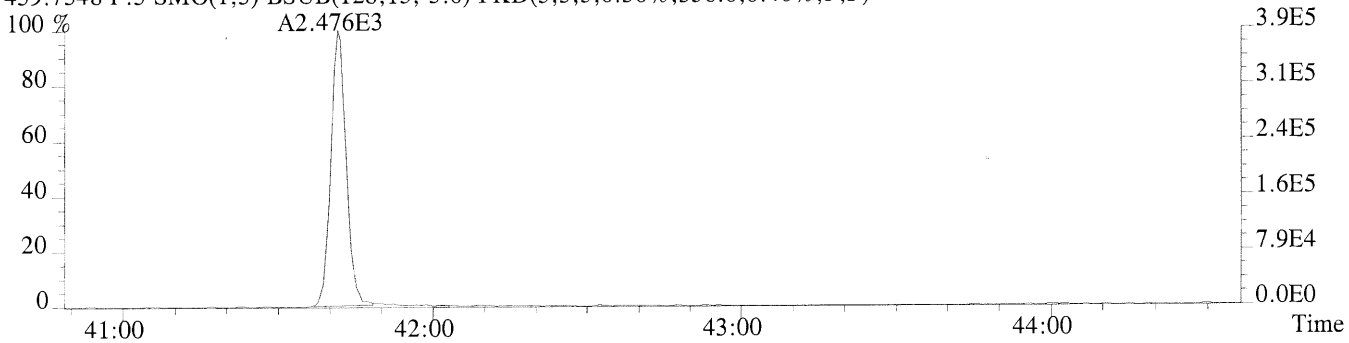


File:U120207 #1-420 Acq: 2-APR-2007 14:42:23 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

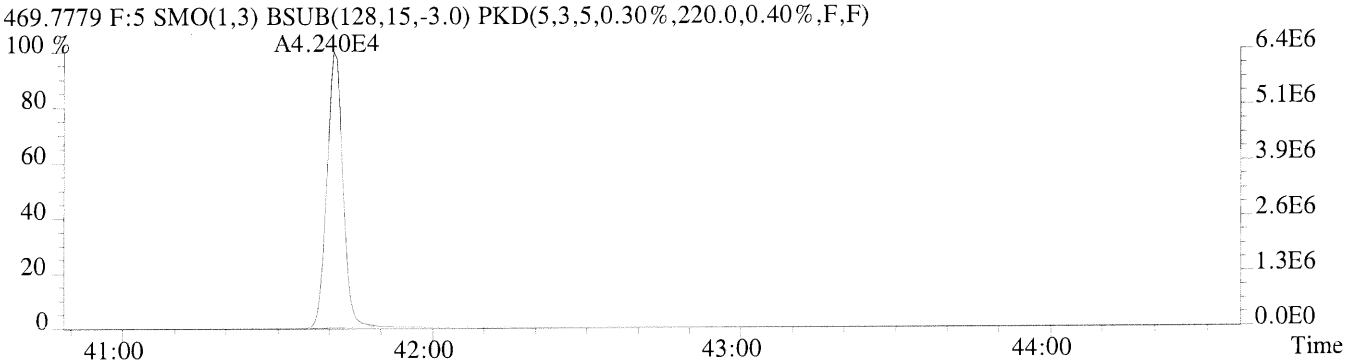
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,344.0,0.40%,F,F)



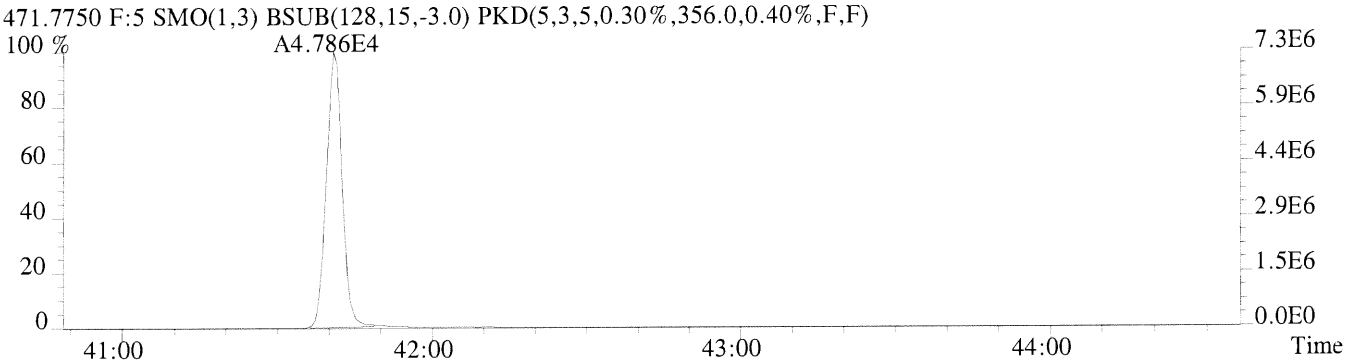
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,356.0,0.40%,F,F)



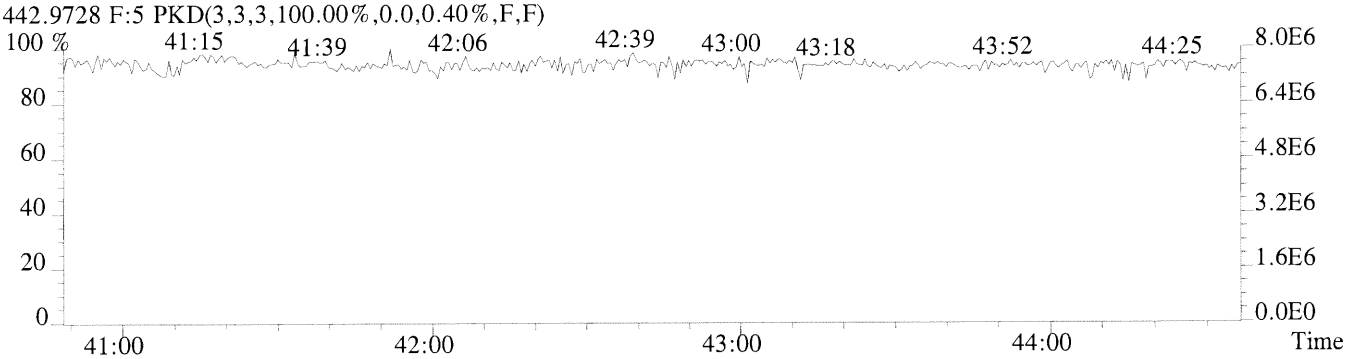
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,356.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename U120208 Samp: 1 Inj: 1 Acquired: 2-APR-07 15:34:13
Processed: 3-APR-07 08:06:18 Sample ID: ICAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	27:16	1.257e+03	1.682e+03	0.75	yes	no
2	Unk	1,2,3,7,8-PeCDF	31:32	5.345e+03	3.351e+03	1.60	yes	no
3	Unk	2,3,4,7,8-PeCDF	32:16	5.574e+03	3.542e+03	1.57	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:03	5.889e+03	4.514e+03	1.30	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:09	5.594e+03	4.513e+03	1.24	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	35:37	5.001e+03	4.084e+03	1.22	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:19	4.059e+03	3.286e+03	1.24	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	37:45	5.042e+03	4.920e+03	1.02	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:04	3.653e+03	3.742e+03	0.98	yes	no
10	Unk	OCDF	41:51	7.930e+03	8.579e+03	0.92	yes	no
11	Unk	2,3,7,8-TCDD	28:05	9.567e+02	1.238e+03	0.77	yes	no
12	Unk	1,2,3,7,8-PeCDD	32:37	3.874e+03	2.391e+03	1.62	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	35:44	3.993e+03	3.083e+03	1.30	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	35:48	3.822e+03	3.364e+03	1.14	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:06	3.694e+03	3.098e+03	1.19	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	38:39	3.463e+03	3.302e+03	1.05	yes	no
17	Unk	OCDD	41:41	7.135e+03	7.995e+03	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	27:16	6.817e+03	8.074e+03	0.84	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	31:31	1.147e+04	7.170e+03	1.60	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:02	1.429e+04	2.829e+04	0.51	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	37:44	1.087e+04	2.552e+04	0.43	yes	no
22	IS	13C-2,3,7,8-TCDD	28:04	5.027e+03	6.178e+03	0.81	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	32:36	8.273e+03	5.275e+03	1.57	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	35:48	2.017e+04	1.614e+04	1.25	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	38:38	1.859e+04	1.789e+04	1.04	yes	no
26	IS	13C-OCDD	41:41	3.588e+04	4.023e+04	0.89	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	27:52	5.824e+03	7.289e+03	0.80	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:05	2.058e+04	1.633e+04	1.26	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	28:05	2.167e+03				

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Columbia Analytical Services,Inc.
Signal/Noise Height Ratio Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename U120208 Samp: 1 Inj: 1 Acquired: 2-APR-07 15:34:13

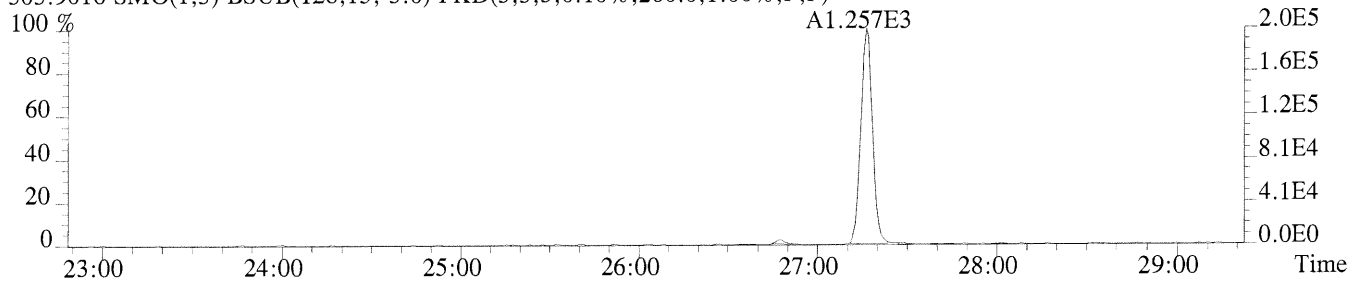
Processed: 3-APR-07 08:06:18 LAB. ID: ICAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.02e+05	2.60e+02	7.8e+02	2.68e+05	3.08e+02	8.7e+02
2	1,2,3,7,8-PeCDF	1.02e+06	2.84e+02	3.6e+03	6.46e+05	2.60e+02	2.5e+03
3	2,3,4,7,8-PeCDF	1.10e+06	2.84e+02	3.9e+03	7.06e+05	2.60e+02	2.7e+03
4	1,2,3,4,7,8-HxCDF	1.31e+06	3.00e+02	4.4e+03	1.03e+06	1.84e+02	5.6e+03
5	1,2,3,6,7,8-HxCDF	1.16e+06	3.00e+02	3.9e+03	9.40e+05	1.84e+02	5.1e+03
6	2,3,4,6,7,8-HxCDF	1.09e+06	3.00e+02	3.6e+03	8.63e+05	1.84e+02	4.7e+03
7	1,2,3,7,8,9-HxCDF	8.53e+05	3.00e+02	2.8e+03	6.82e+05	1.84e+02	3.7e+03
8	1,2,3,4,6,7,8-HpCDF	1.10e+06	1.62e+03	6.8e+02	1.07e+06	7.16e+02	1.5e+03
9	1,2,3,4,7,8,9-HpCDF	7.26e+05	1.62e+03	4.5e+02	7.22e+05	7.16e+02	1.0e+03
10	OCDF	1.18e+06	2.88e+02	4.1e+03	1.31e+06	7.16e+02	1.8e+03
11	2,3,7,8-TCDD	1.69e+05	3.08e+02	5.5e+02	2.11e+05	2.68e+02	7.9e+02
12	1,2,3,7,8-PeCDD	7.78e+05	3.56e+02	2.2e+03	4.76e+05	2.68e+02	1.8e+03
13	1,2,3,4,7,8-HxCDD	8.83e+05	3.56e+02	2.5e+03	7.24e+05	2.16e+02	3.4e+03
14	1,2,3,6,7,8-HxCDD	8.85e+05	3.56e+02	2.5e+03	7.16e+05	2.16e+02	3.3e+03
15	1,2,3,7,8,9-HxCDD	8.15e+05	3.56e+02	2.3e+03	6.75e+05	2.16e+02	3.1e+03
16	1,2,3,4,6,7,8-HpCDD	7.26e+05	2.80e+02	2.6e+03	7.05e+05	3.56e+02	2.0e+03
17	OCDD	1.09e+06	2.28e+02	4.8e+03	1.23e+06	2.16e+02	5.7e+03
18	13C-2,3,7,8-TCDF	1.14e+06	4.96e+02	2.3e+03	1.35e+06	3.52e+02	3.8e+03
19	13C-1,2,3,7,8-PeCDF	2.24e+06	2.28e+02	9.8e+03	1.44e+06	1.40e+02	1.0e+04
20	13C-1,2,3,4,7,8-HxCDF	3.12e+06	1.92e+02	1.6e+04	6.07e+06	4.04e+02	1.5e+04
21	13C-1,2,3,4,6,7,8-HpCDF	2.39e+06	1.98e+03	1.2e+03	5.55e+06	5.60e+02	9.9e+03
22	13C-2,3,7,8-TCDD	8.92e+05	8.04e+02	1.1e+03	1.09e+06	3.04e+02	3.6e+03
23	13C-1,2,3,7,8-PeCDD	1.67e+06	2.52e+02	6.6e+03	1.05e+06	2.52e+02	4.2e+03
24	13C-1,2,3,6,7,8-HxCDD	4.51e+06	3.48e+02	1.3e+04	3.62e+06	3.76e+02	9.6e+03
25	13C-1,2,3,4,6,7,8-HpCDD	3.93e+06	4.04e+02	9.7e+03	3.76e+06	2.40e+02	1.6e+04
26	13C-OCDD	5.43e+06	4.08e+02	1.3e+04	6.01e+06	3.16e+02	1.9e+04
27	13C-1,2,3,4-TCDD	1.01e+06	8.04e+02	1.3e+03	1.25e+06	3.04e+02	4.1e+03
28	13C-1,2,3,7,8,9-HxCDD	4.59e+06	3.48e+02	1.3e+04	3.57e+06	3.76e+02	9.5e+03
29	37Cl-2,3,7,8-TCDD	3.83e+05	2.44e+02	1.6e+03			

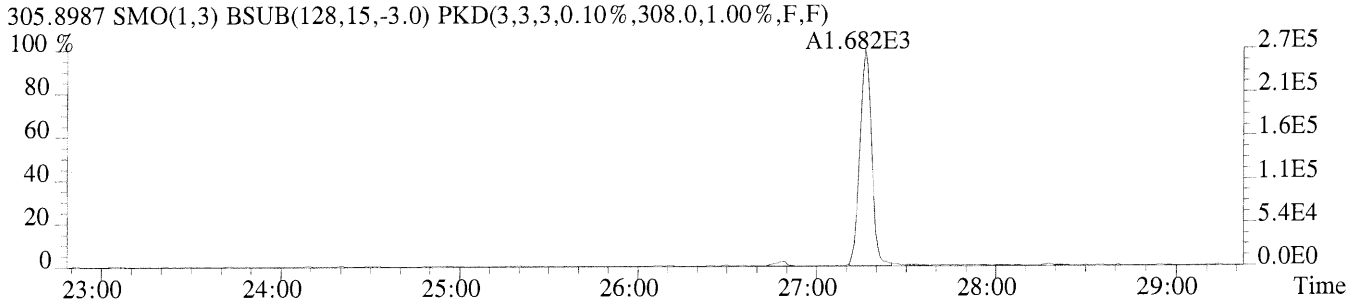
Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office:(713)266-1599. Fax:(713)266-0130

File:U120208 #1-548 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

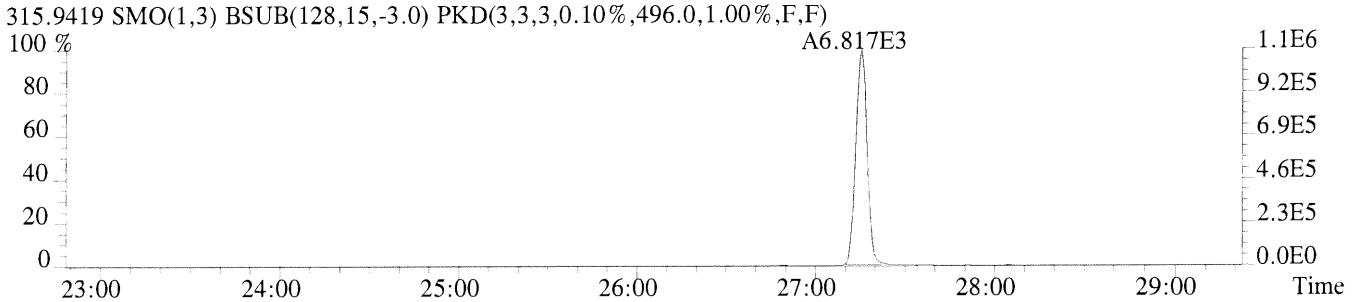
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,F)



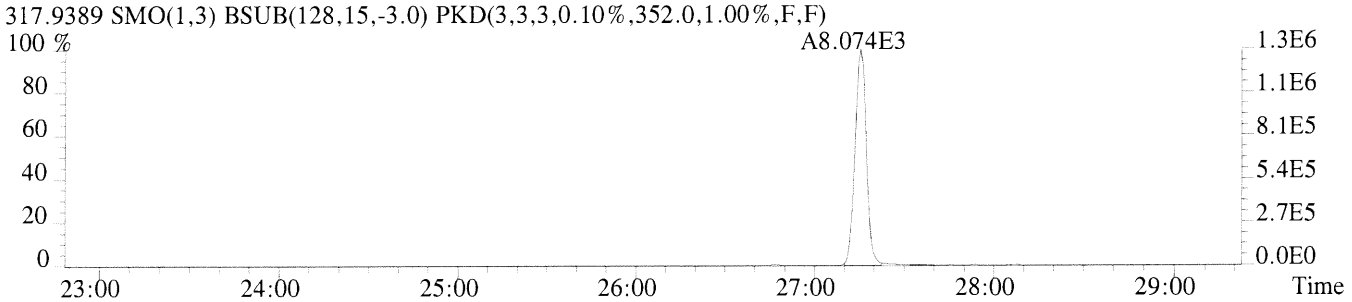
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,F)



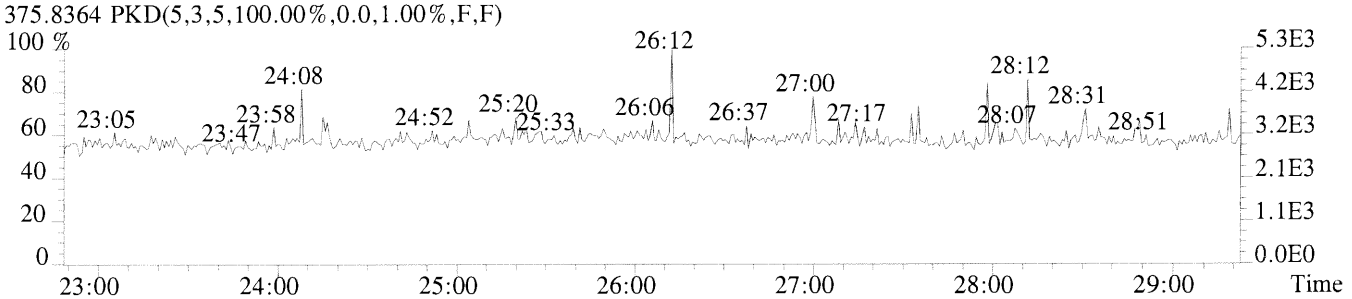
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,F)



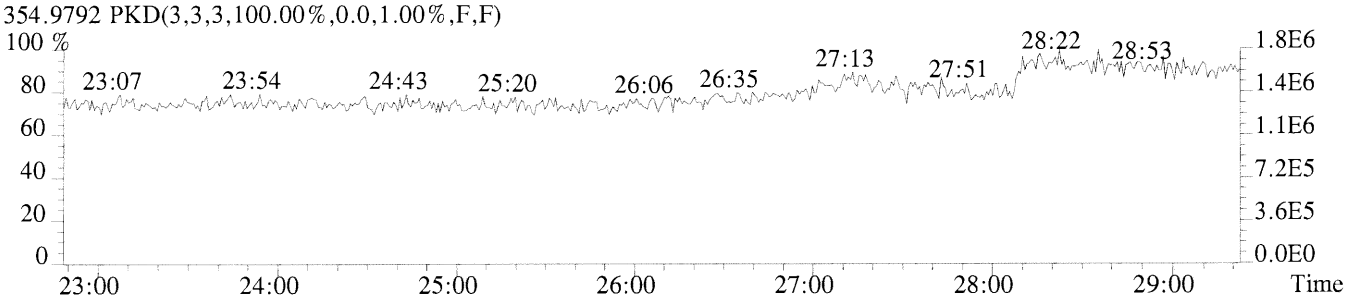
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,F)



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

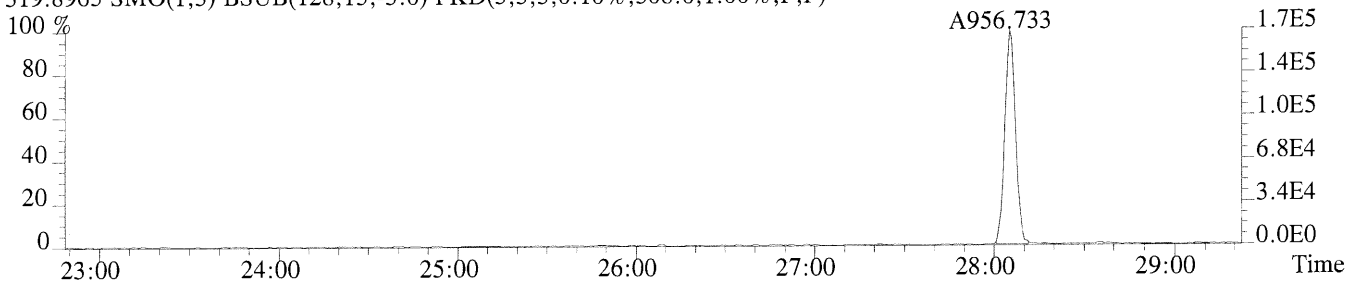


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

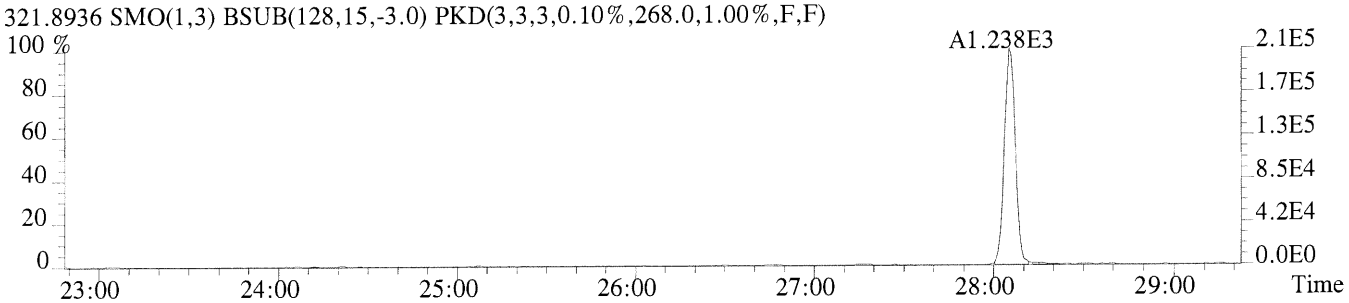


File:U120208 #1-548 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

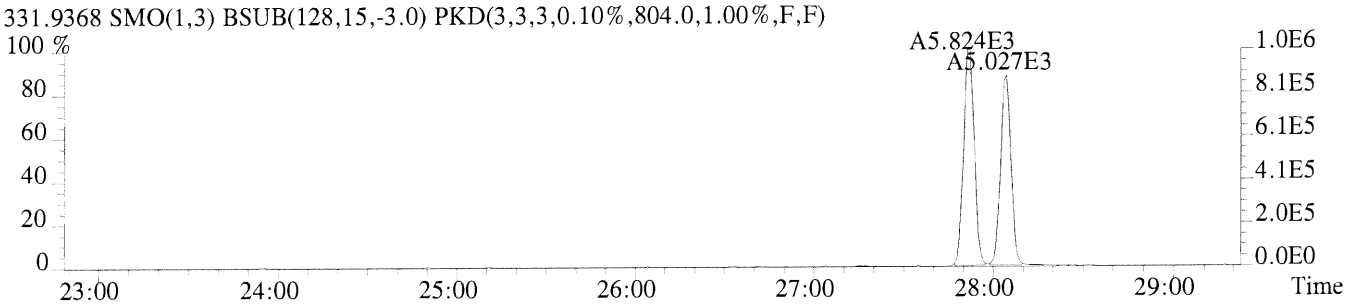
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,F)



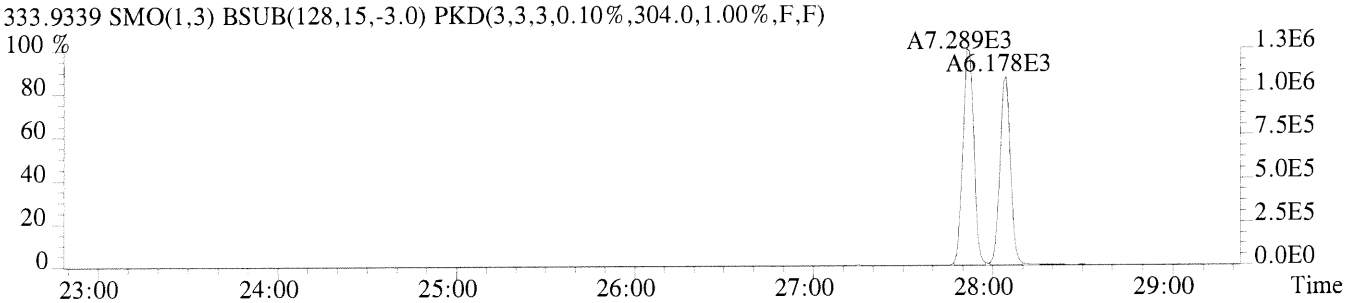
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,F)



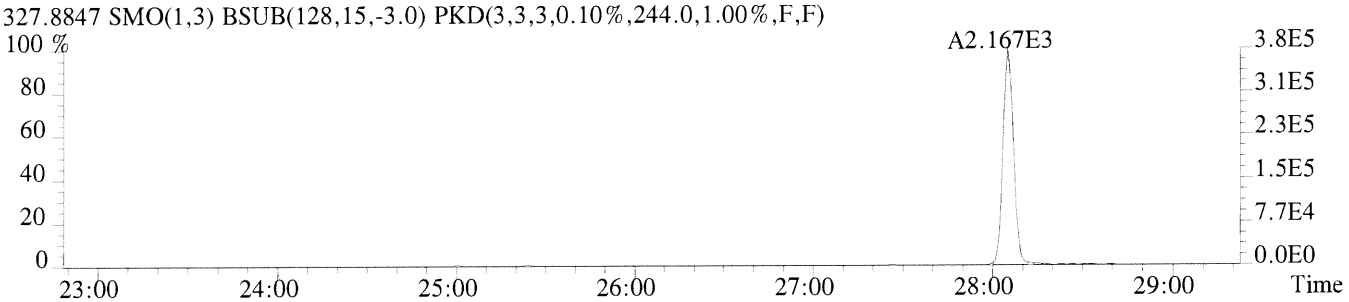
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,804.0,1.00%,F,F)



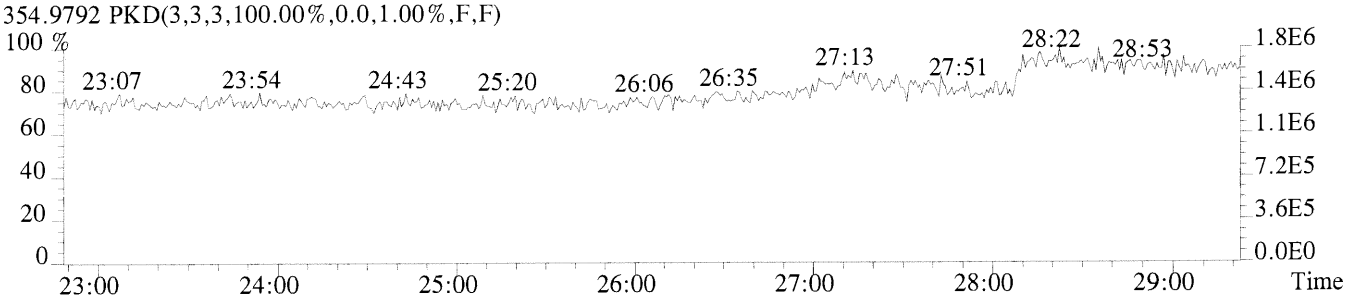
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,304.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,F)

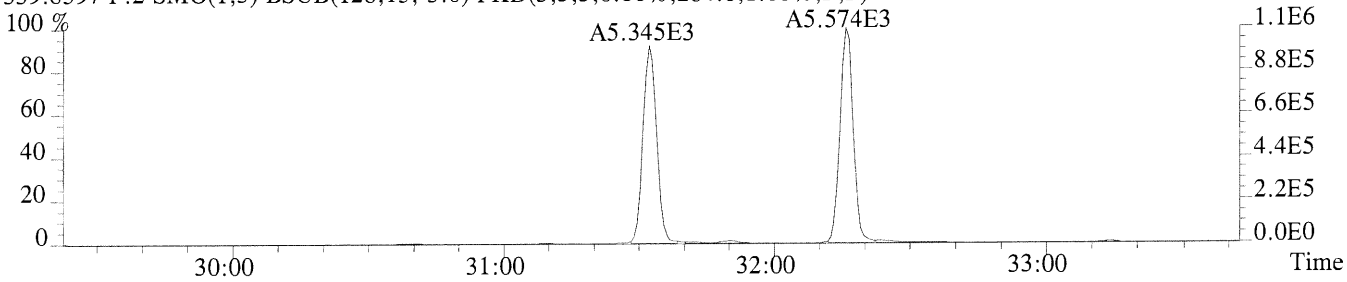


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

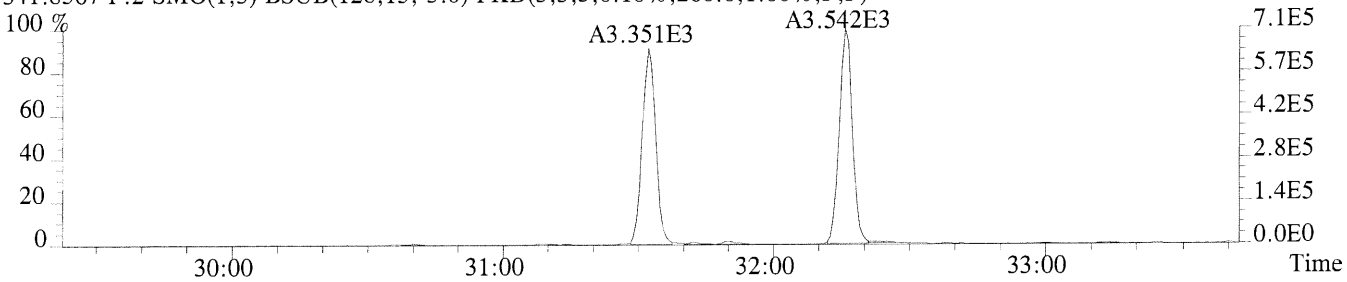


File:U120208 #1-394 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

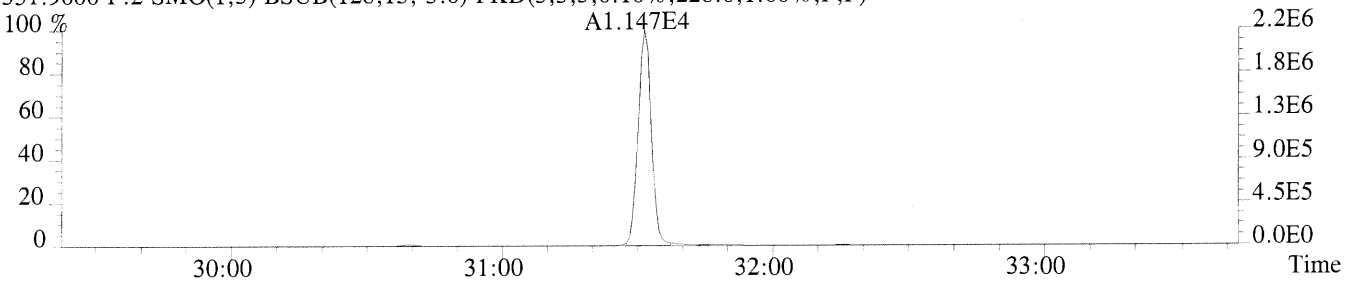
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,F)



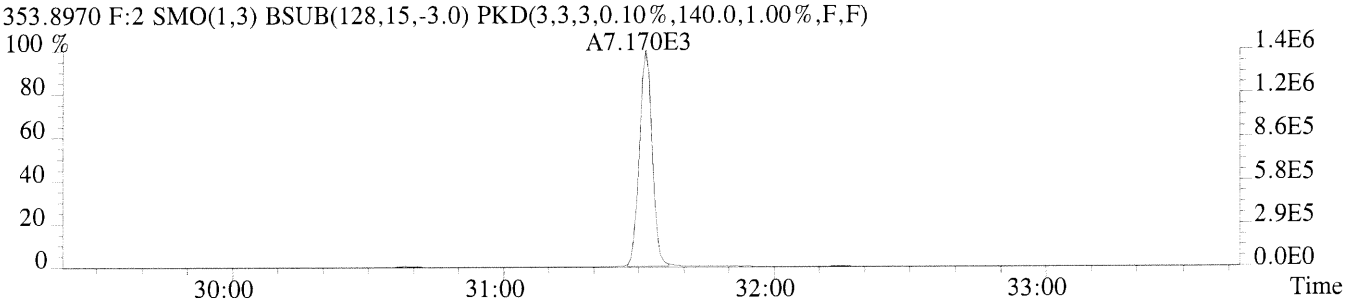
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,260.0,1.00%,F,F)



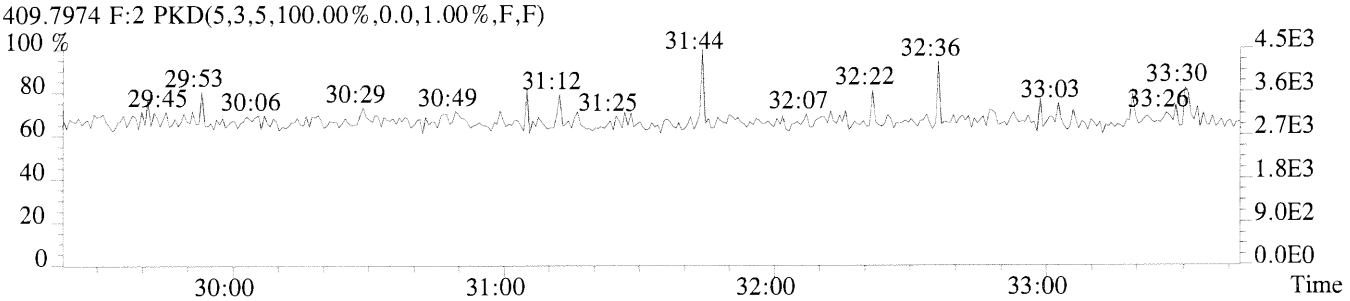
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,F)



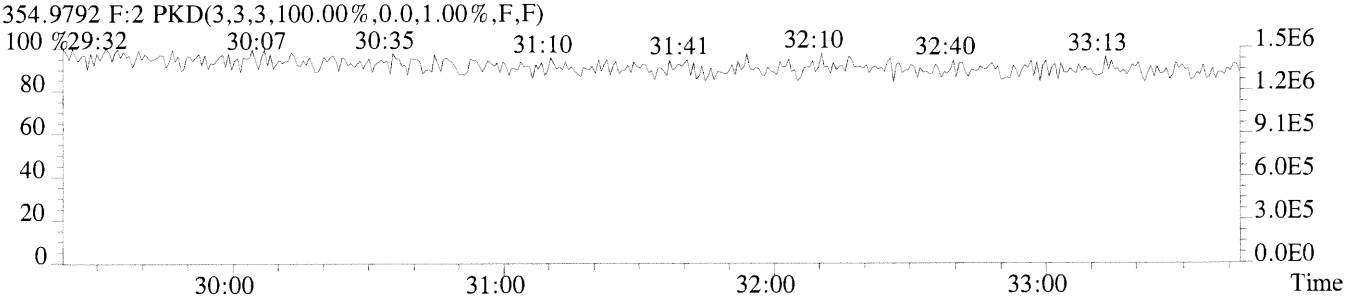
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,140.0,1.00%,F,F)



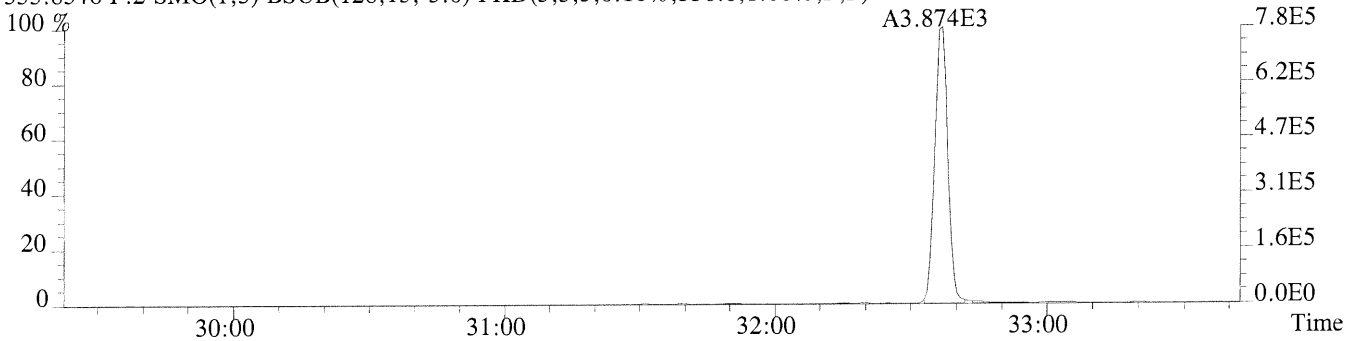
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



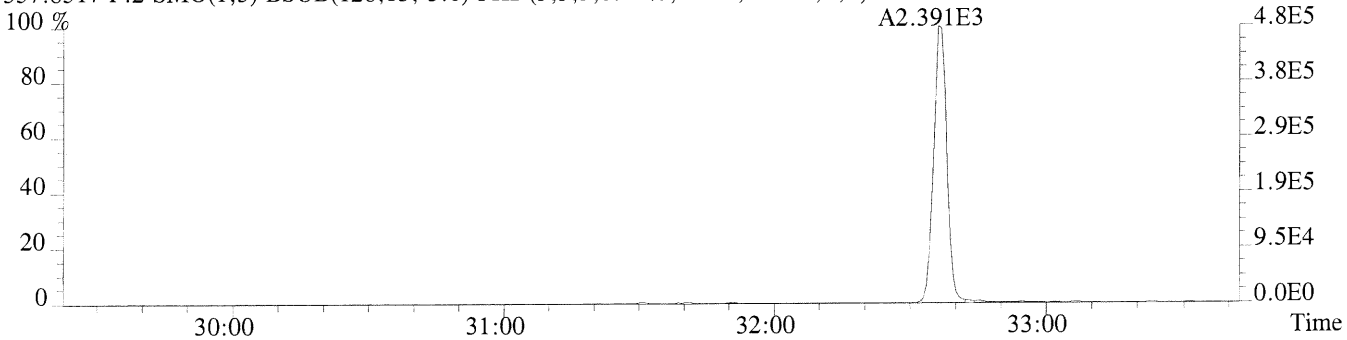
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



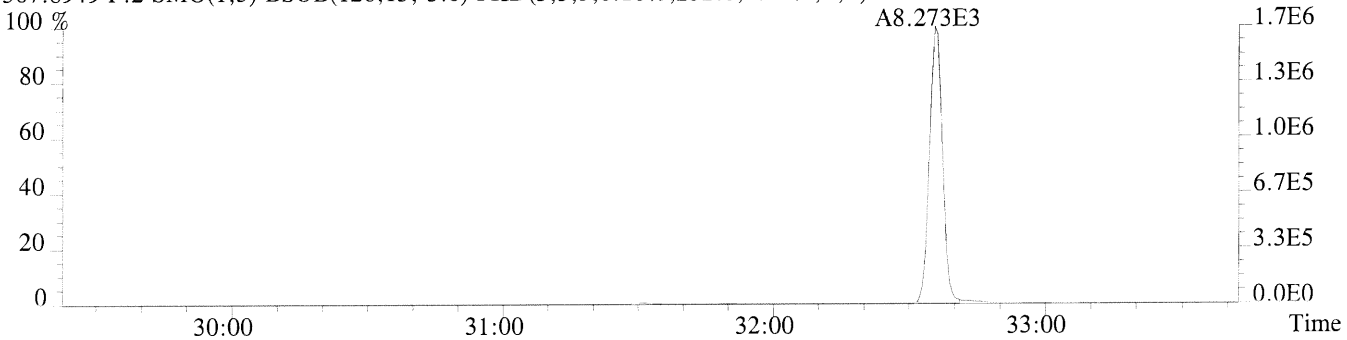
File:U120208 #1-394 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



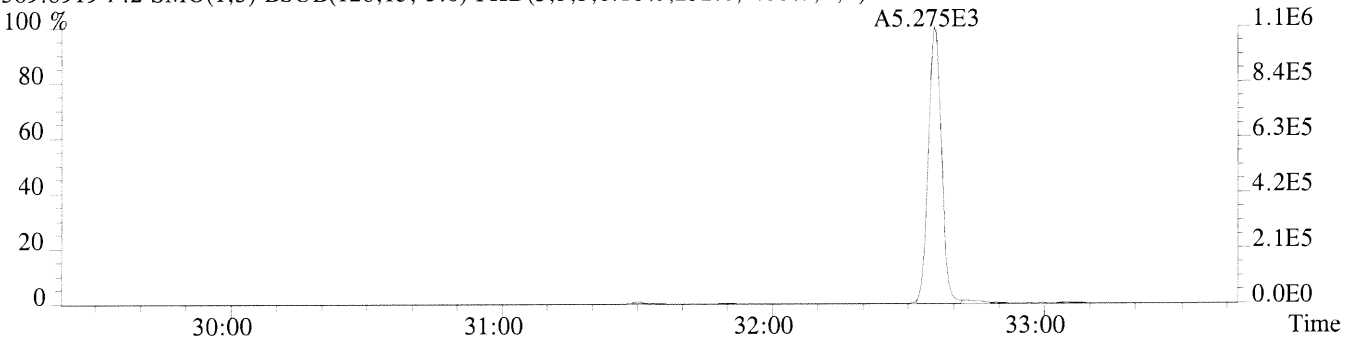
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,F)



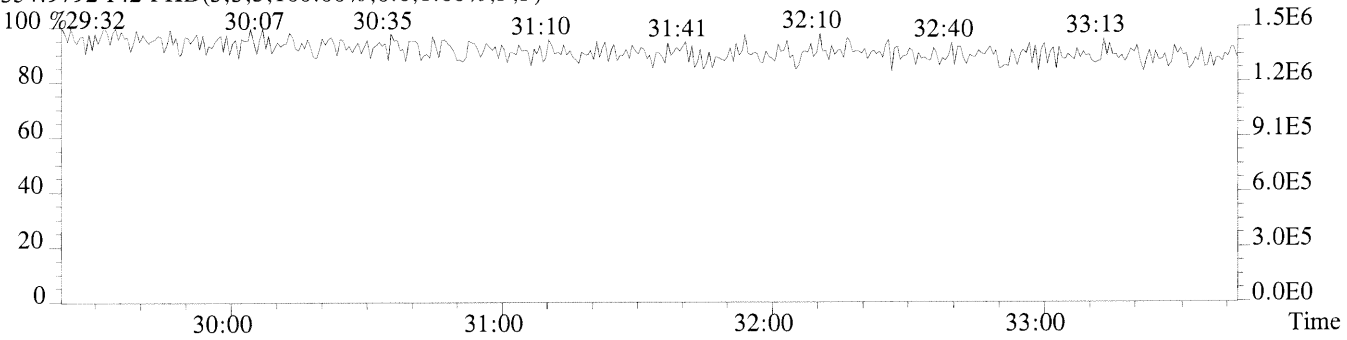
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,F)

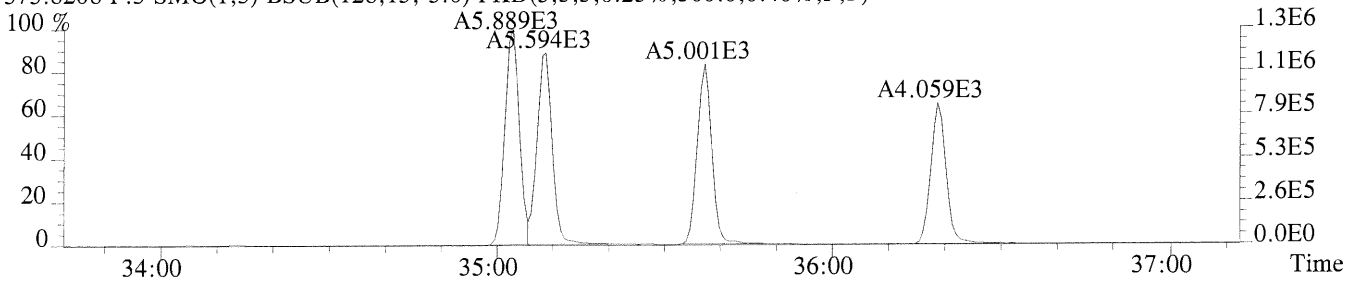


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

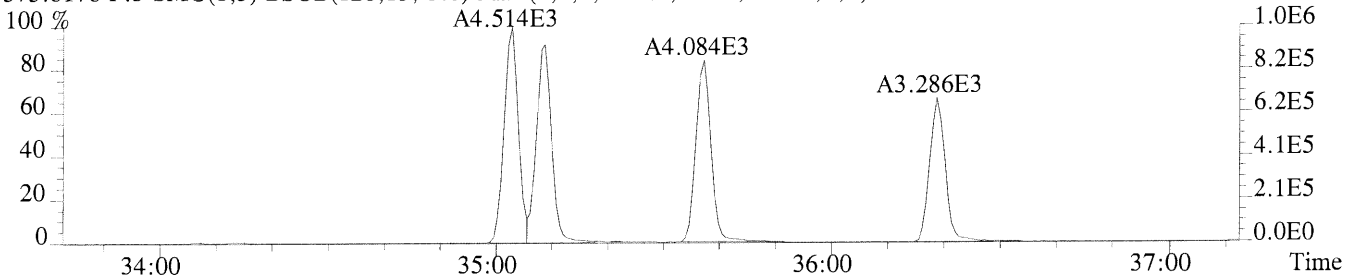


File:U120208 #1-318 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

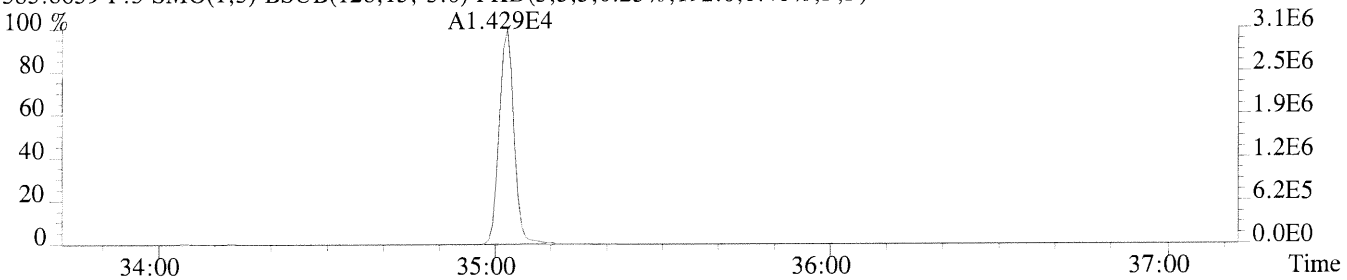
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,F)



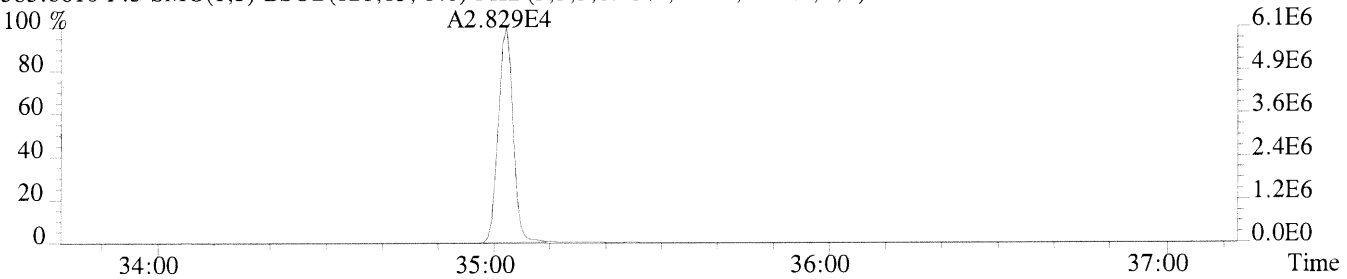
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,184.0,0.40%,F,F)



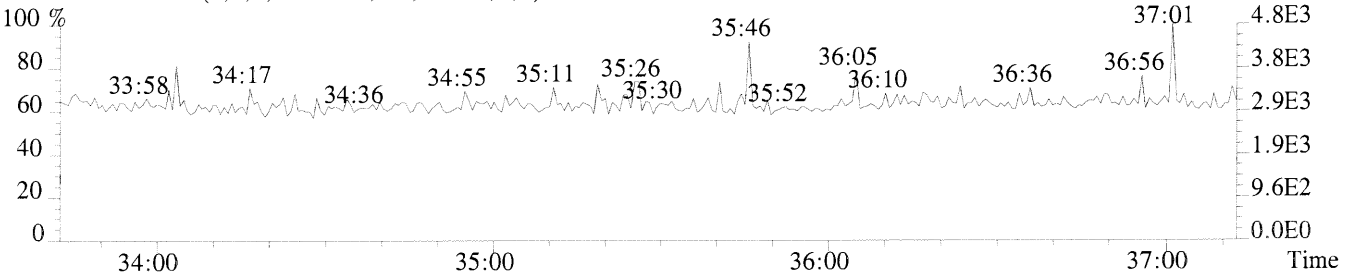
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,192.0,0.40%,F,F)



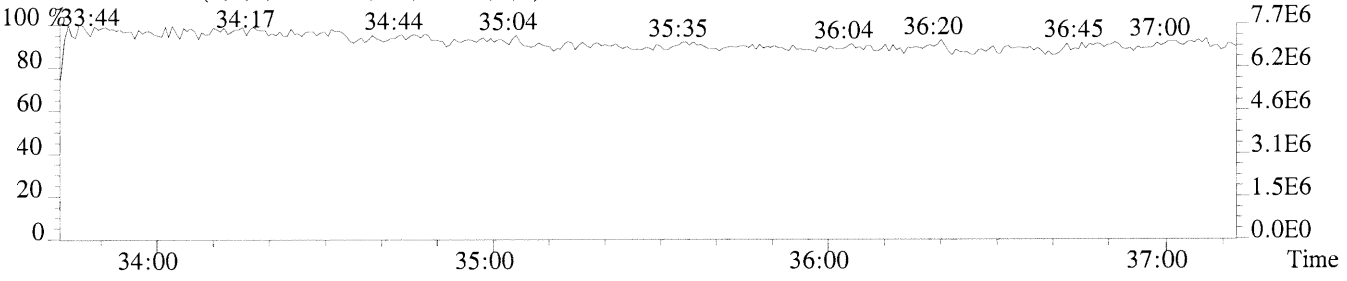
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,404.0,0.40%,F,F)



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

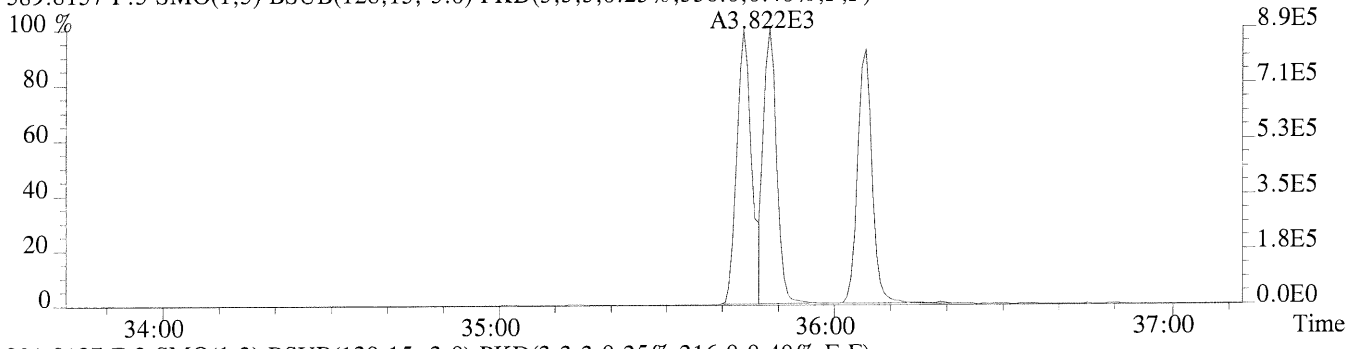


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

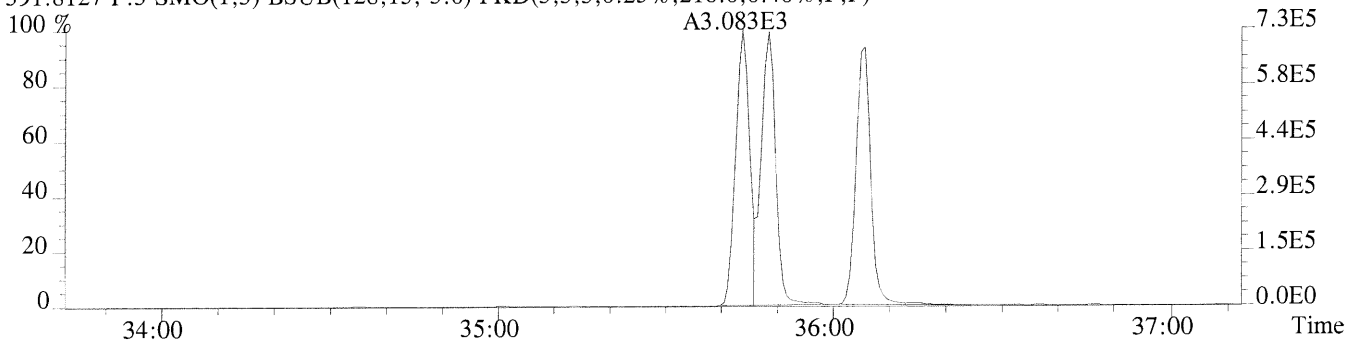


File:U120208 #1-318 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

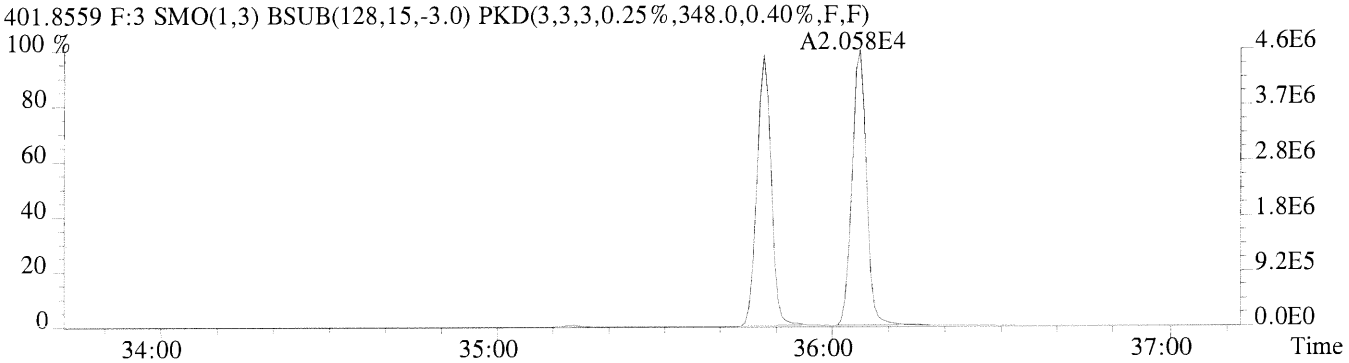
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,356.0,0.40%,F,F)



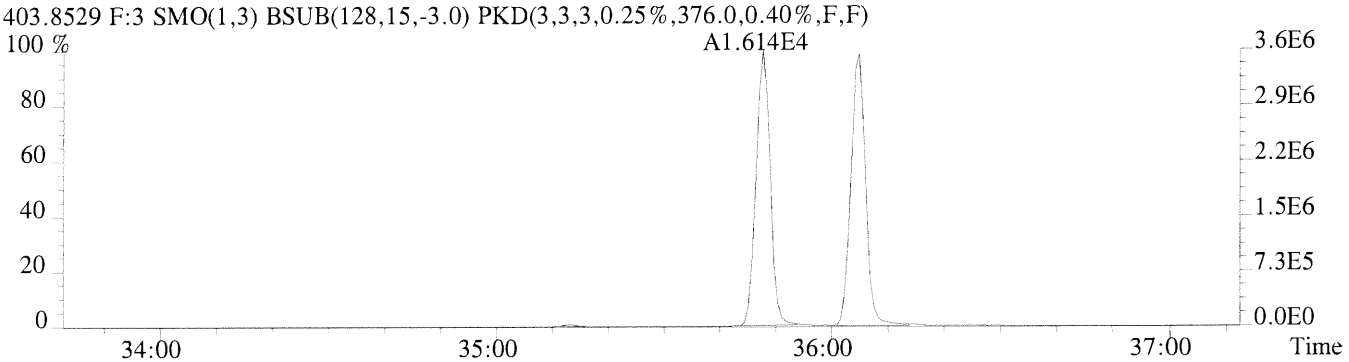
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,216.0,0.40%,F,F)



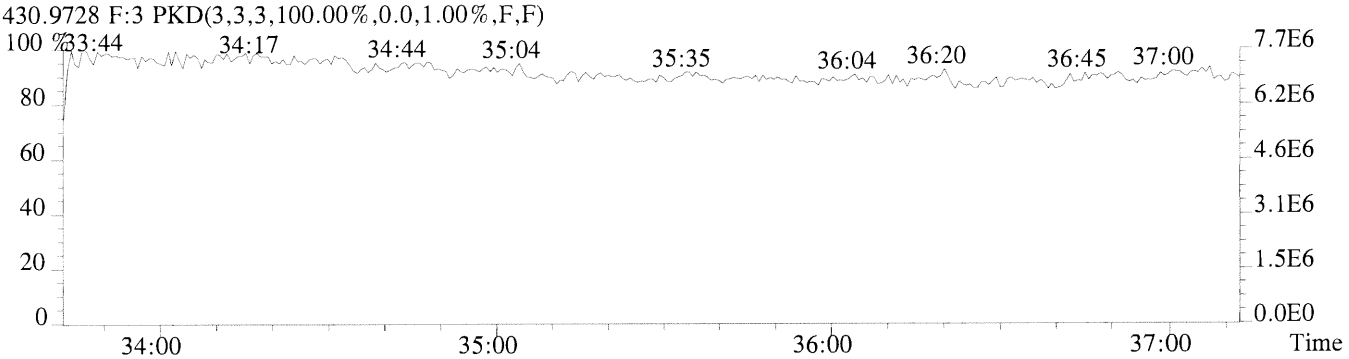
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,348.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,F)

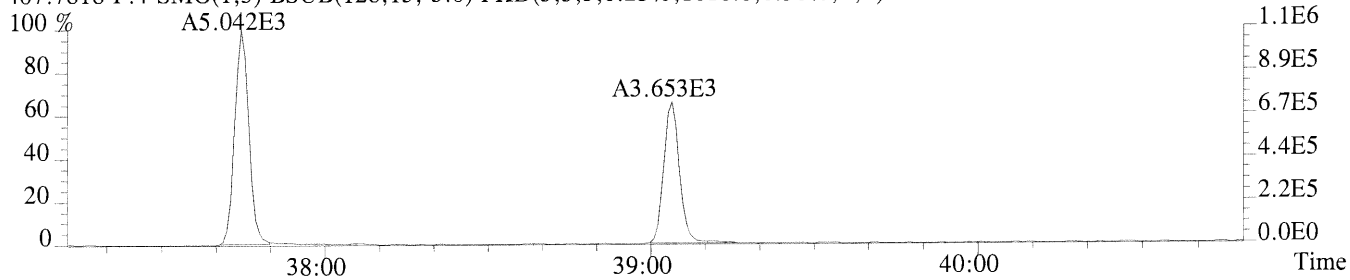


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

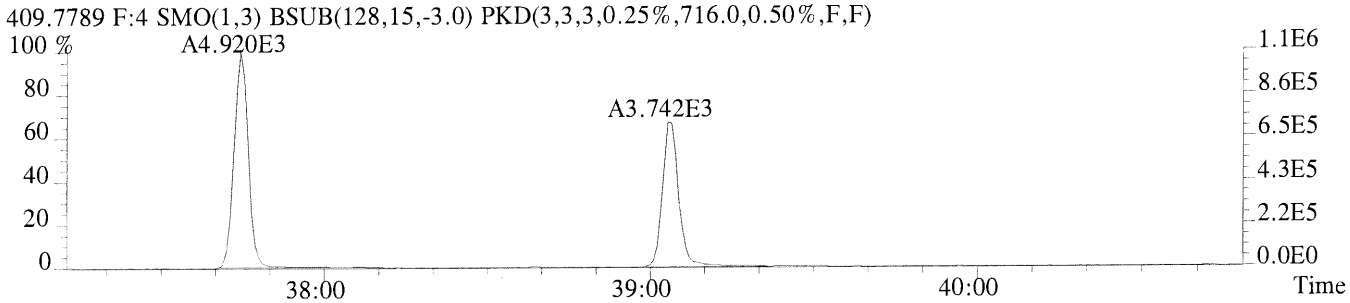


File:U120208 #1-327 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

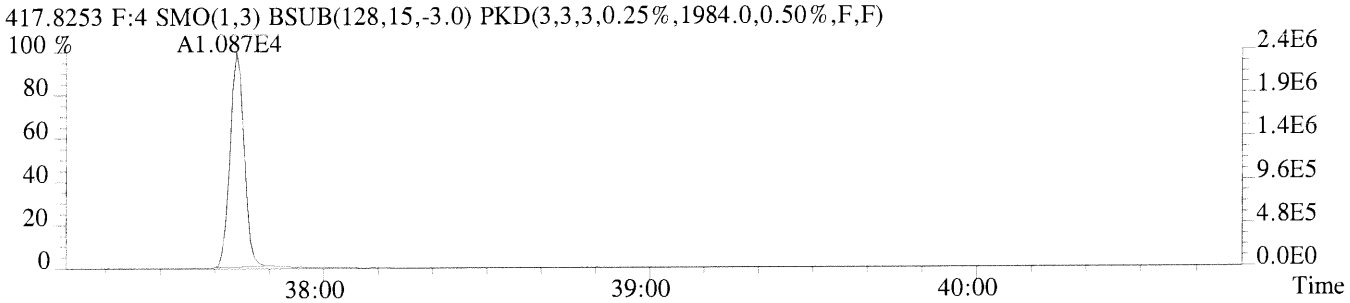
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1616.0,0.50%,F,F)



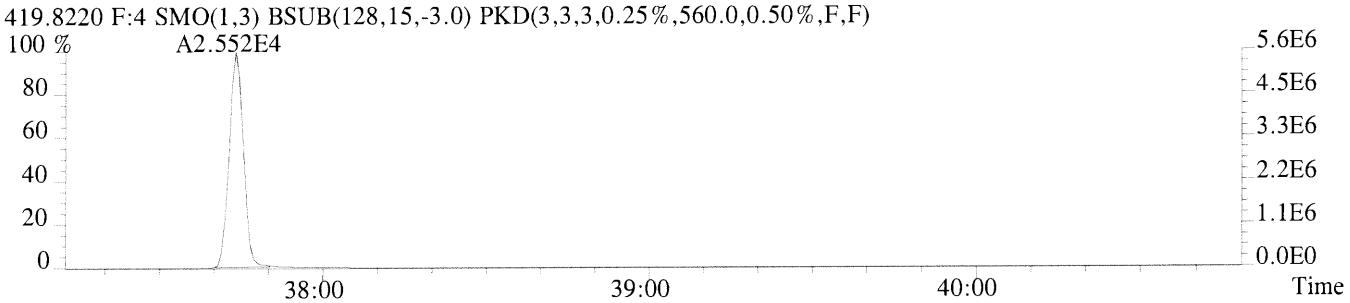
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,716.0,0.50%,F,F)



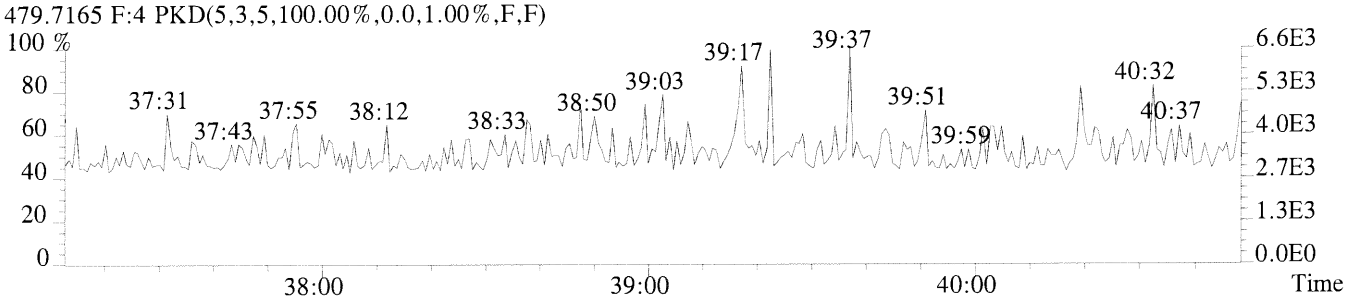
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1984.0,0.50%,F,F)



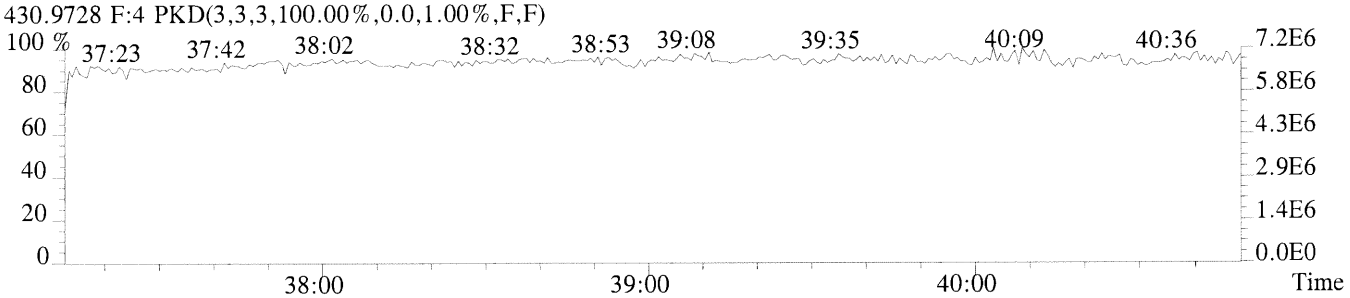
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.50%,F,F)



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

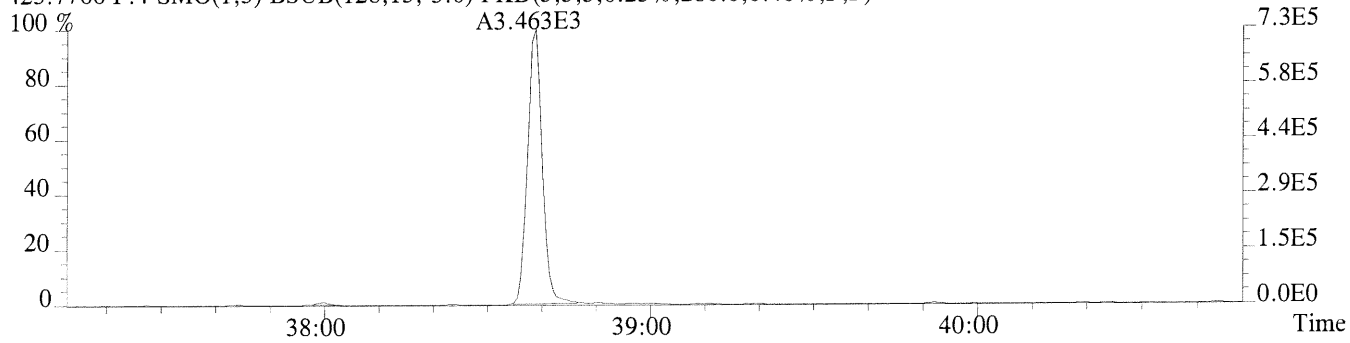


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

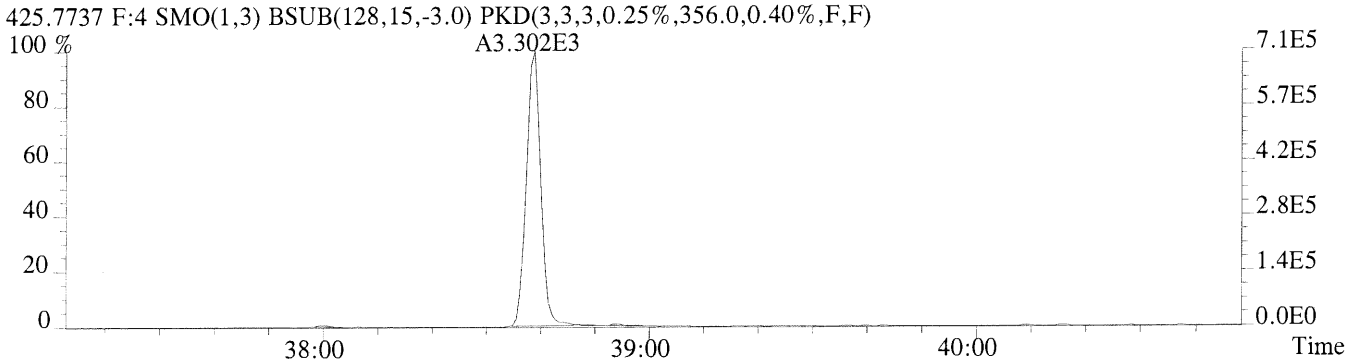


File:U120208 #1-327 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

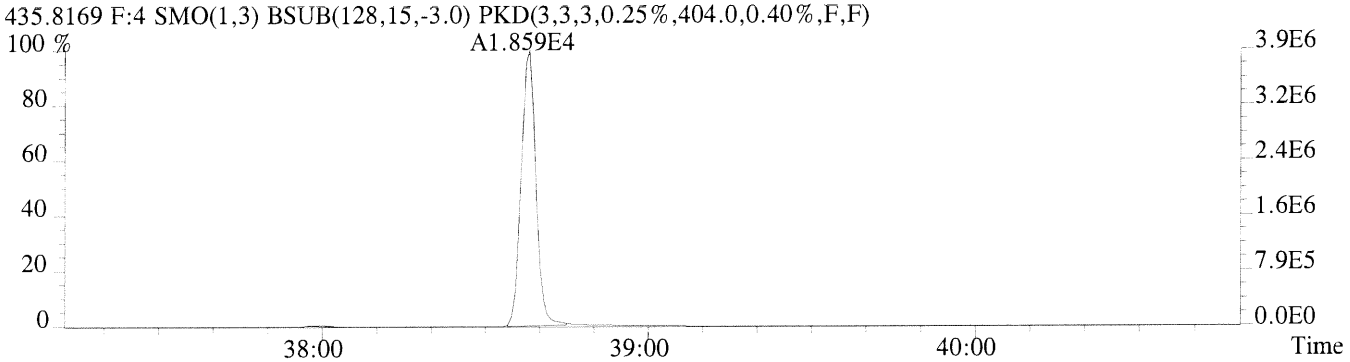
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,280.0,0.40%,F,F)



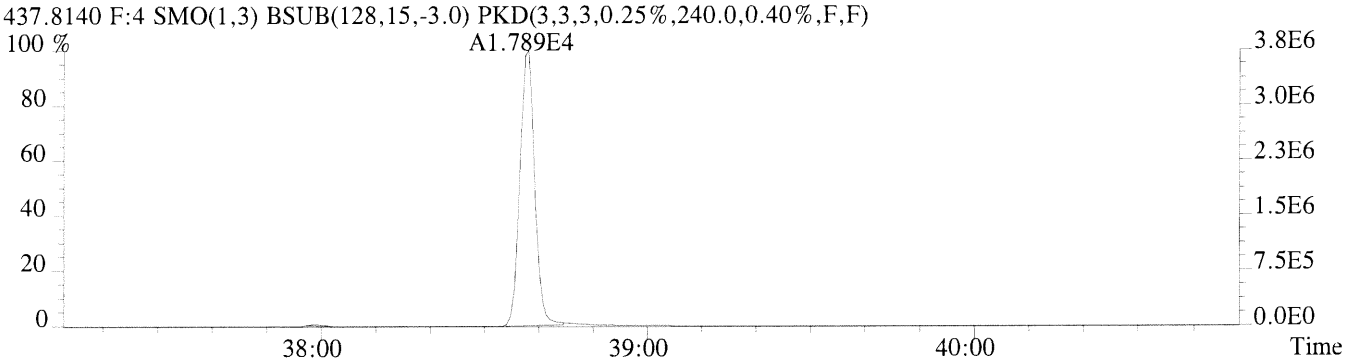
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,356.0,0.40%,F,F)



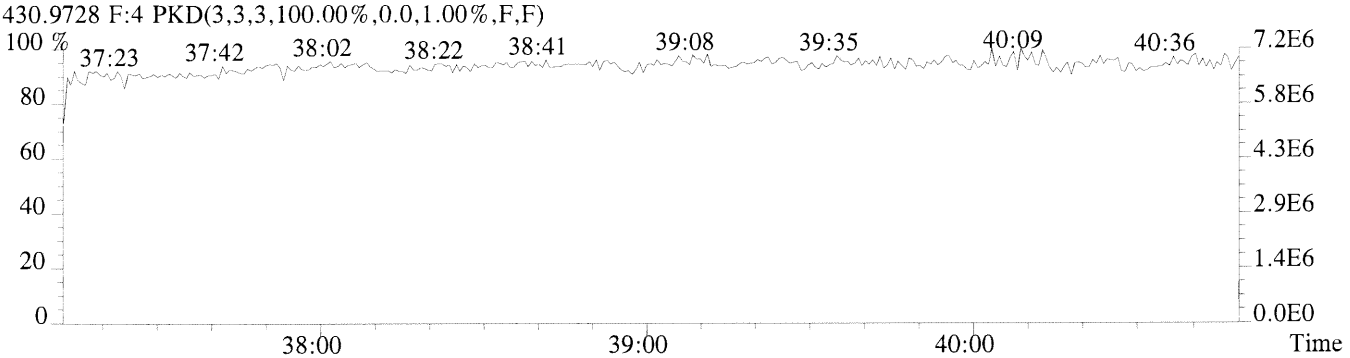
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,404.0,0.40%,F,F)



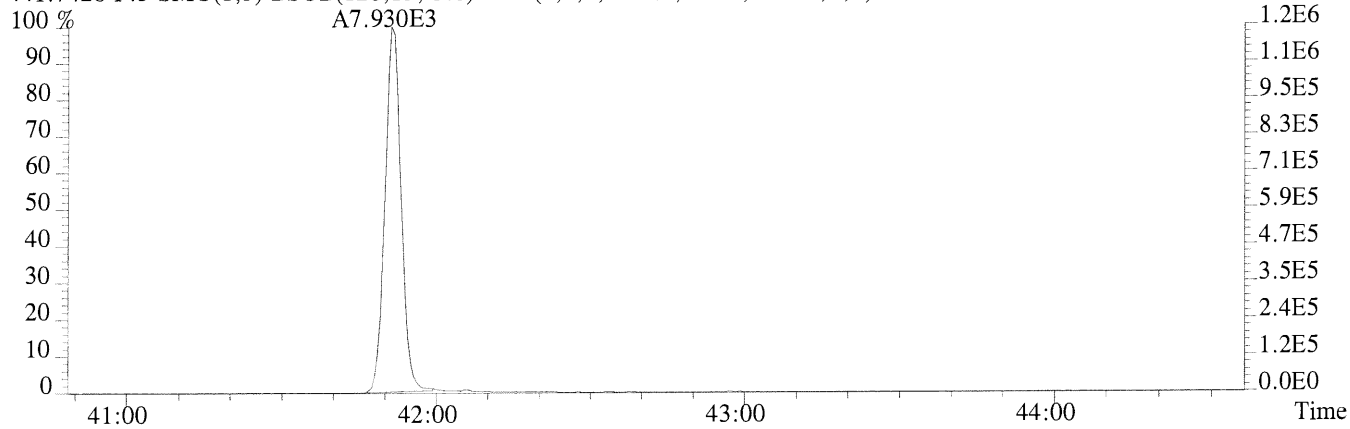
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,240.0,0.40%,F,F)



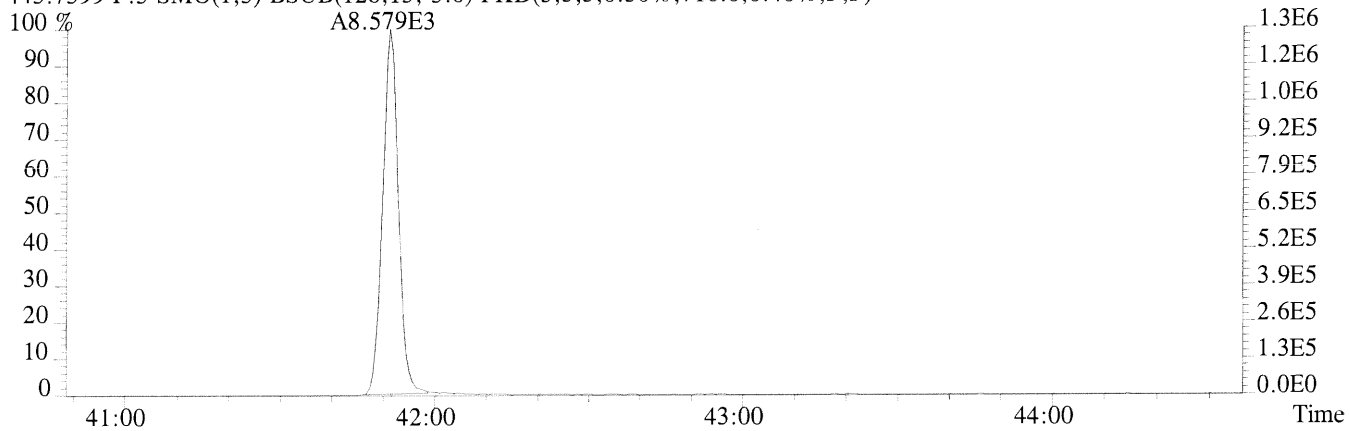
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



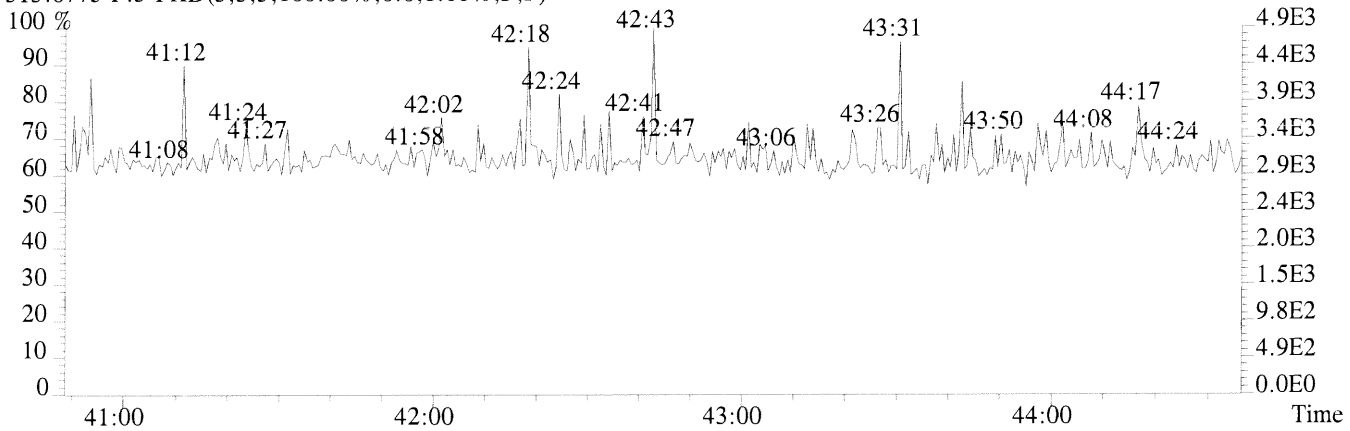
File:U120208 #1-420 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,288.0,0.40%,F,F)



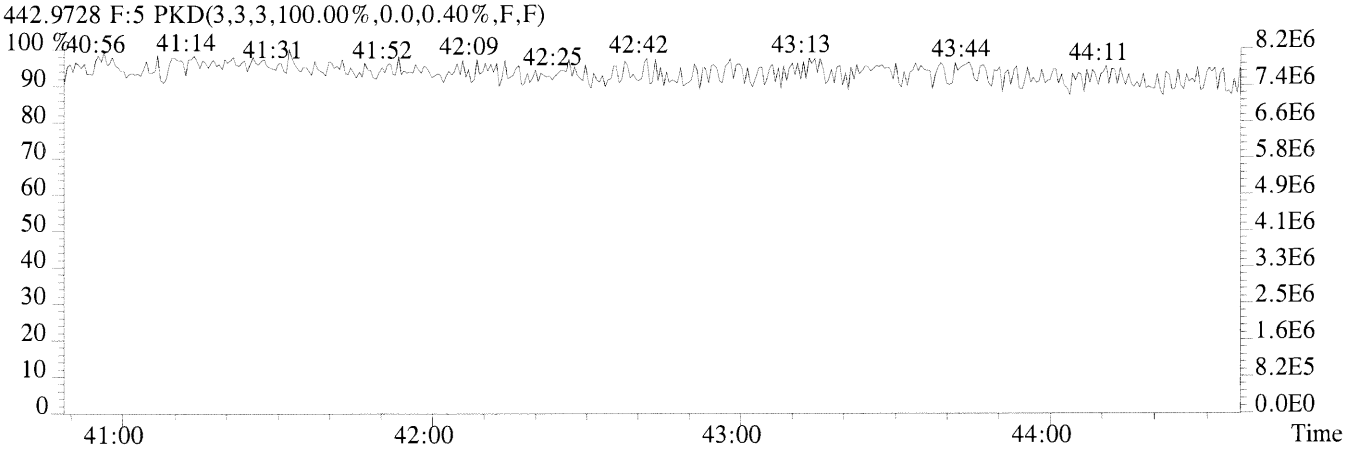
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,716.0,0.40%,F,F)



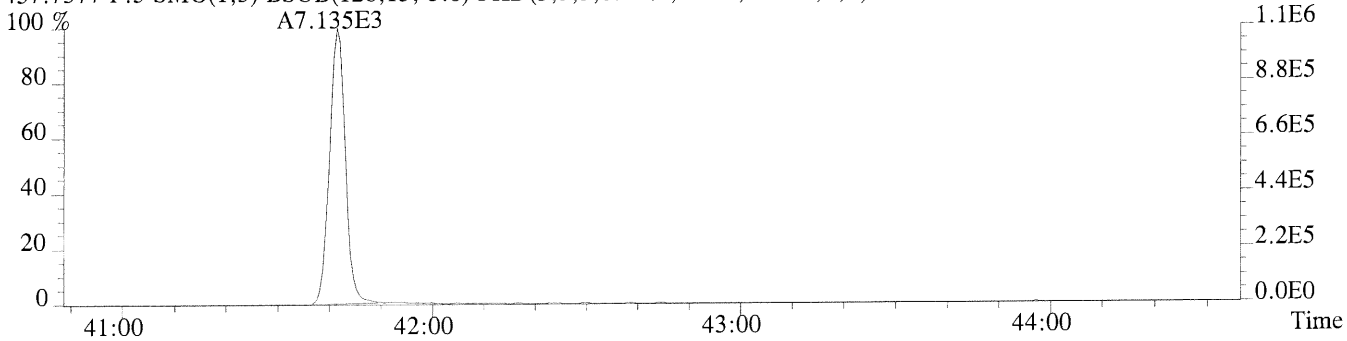
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



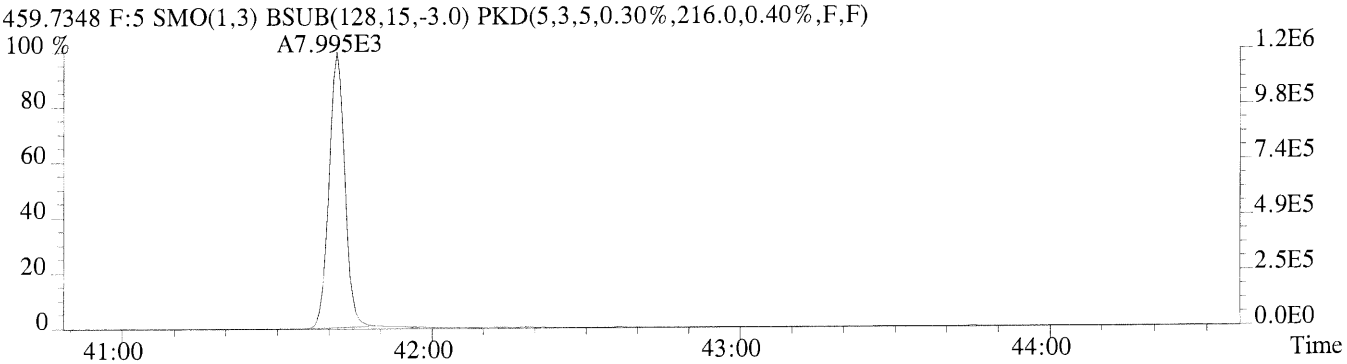
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



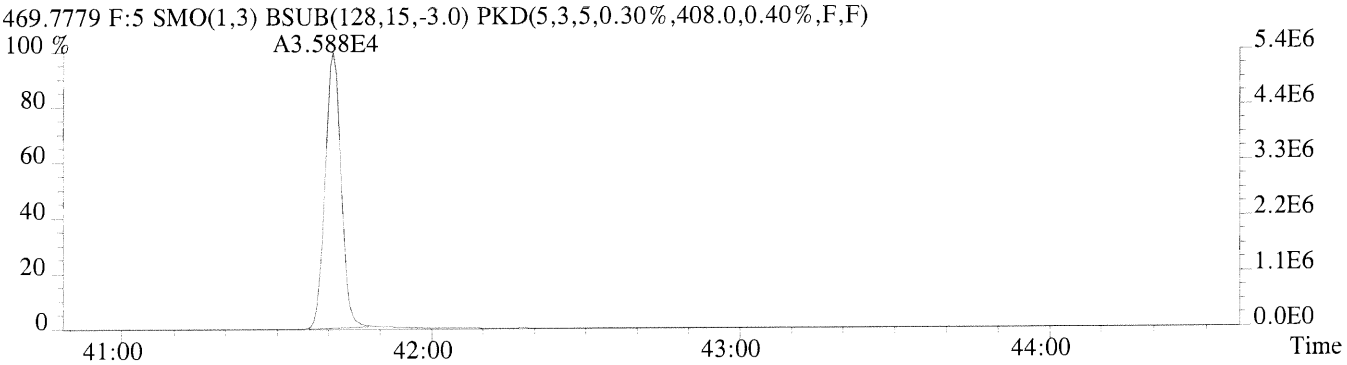
File:U120208 #1-420 Acq: 2-APR-2007 15:34:13 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,228.0,0.40%,F,F)



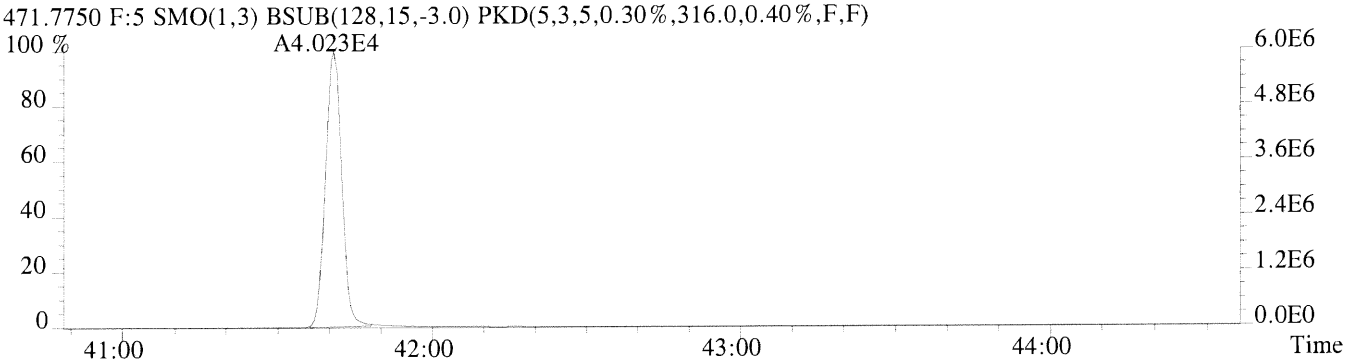
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,216.0,0.40%,F,F)



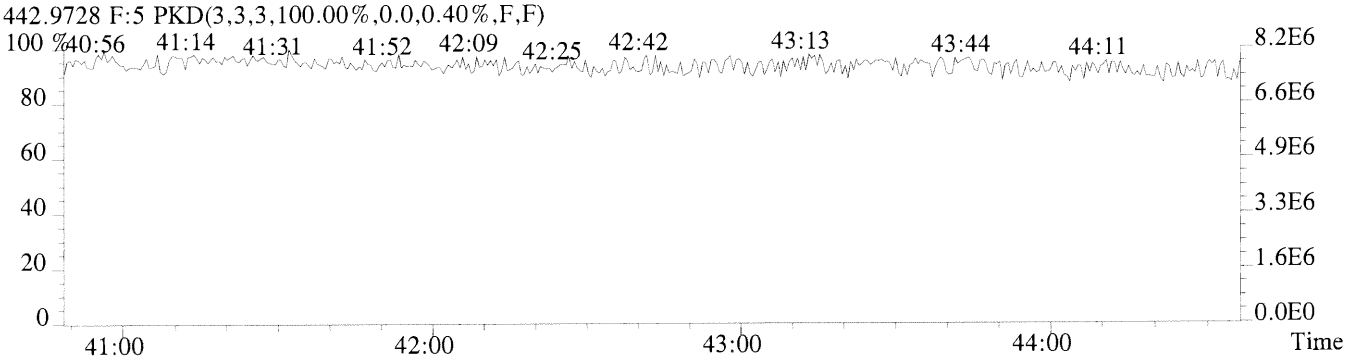
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,408.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,316.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC4

Run #4 Filename U120209 Samp: 1 Inj: 1 Acquired: 2-APR-07 16:23:37
Processed: 3-APR-07 08:06:20 Sample ID: ICAL HRCC4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	27:16	6.792e+03	8.584e+03	0.79	yes	no
2	Unk	1,2,3,7,8-PeCDF	31:32	2.874e+04	1.819e+04	1.58	yes	no
3	Unk	2,3,4,7,8-PeCDF	32:16	2.932e+04	1.856e+04	1.58	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:03	2.896e+04	2.282e+04	1.27	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:09	2.927e+04	2.358e+04	1.24	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	35:37	2.674e+04	2.102e+04	1.27	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:19	2.197e+04	1.726e+04	1.27	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	37:45	2.710e+04	2.742e+04	0.99	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:04	2.051e+04	2.033e+04	1.01	yes	no
10	Unk	OCDF	41:51	4.386e+04	4.892e+04	0.90	yes	no
11	Unk	2,3,7,8-TCDD	28:06	4.960e+03	6.310e+03	0.79	yes	no
12	Unk	1,2,3,7,8-PeCDD	32:37	1.981e+04	1.233e+04	1.61	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	35:44	1.996e+04	1.538e+04	1.30	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	35:48	2.179e+04	1.725e+04	1.26	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:06	1.965e+04	1.513e+04	1.30	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	38:39	1.832e+04	1.747e+04	1.05	yes	no
17	Unk	OCDD	41:41	3.931e+04	4.436e+04	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	27:15	6.069e+03	7.126e+03	0.85	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	31:31	1.253e+04	7.782e+03	1.61	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:02	1.553e+04	2.884e+04	0.54	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	37:44	1.182e+04	2.792e+04	0.42	yes	no
22	IS	13C-2,3,7,8-TCDD	28:04	5.184e+03	6.574e+03	0.79	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	32:36	8.514e+03	5.309e+03	1.60	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	35:48	1.862e+04	1.518e+04	1.23	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	38:38	1.981e+04	1.881e+04	1.05	yes	no
26	IS	13C-OCDD	41:41	3.927e+04	4.395e+04	0.89	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	27:52	5.745e+03	6.490e+03	0.89	yes	yes
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:05	1.851e+04	1.501e+04	1.23	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	28:05	1.113e+04				

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC4

Run #4 Filename U120209 Samp: 1 Inj: 1 Acquired: 2-APR-07 16:23:37

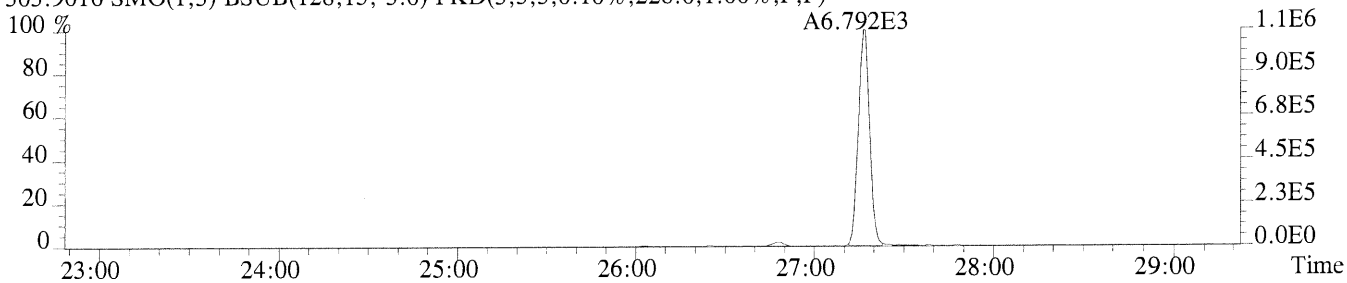
Processed: 3-APR-07 08:06:20 LAB. ID: ICAL HRCC4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.13e+06	2.28e+02	4.9e+03	1.45e+06	3.16e+02	4.6e+03
2	1,2,3,7,8-PeCDF	5.92e+06	3.12e+02	1.9e+04	3.76e+06	3.20e+02	1.2e+04
3	2,3,4,7,8-PeCDF	6.05e+06	3.12e+02	1.9e+04	3.82e+06	3.20e+02	1.2e+04
4	1,2,3,4,7,8-HxCDF	6.39e+06	2.88e+02	2.2e+04	5.10e+06	2.32e+02	2.2e+04
5	1,2,3,6,7,8-HxCDF	6.31e+06	2.88e+02	2.2e+04	4.97e+06	2.32e+02	2.1e+04
6	2,3,4,6,7,8-HxCDF	6.08e+06	2.88e+02	2.1e+04	4.73e+06	2.32e+02	2.0e+04
7	1,2,3,7,8,9-HxCDF	4.88e+06	2.88e+02	1.7e+04	3.87e+06	2.32e+02	1.7e+04
8	1,2,3,4,6,7,8-HpCDF	5.93e+06	2.50e+03	2.4e+03	6.05e+06	9.08e+02	6.7e+03
9	1,2,3,4,7,8,9-HpCDF	4.03e+06	2.50e+03	1.6e+03	4.03e+06	9.08e+02	4.4e+03
10	OCDF	6.59e+06	2.04e+02	3.2e+04	7.36e+06	4.80e+02	1.5e+04
11	2,3,7,8-TCDD	9.12e+05	2.96e+02	3.1e+03	1.16e+06	1.80e+02	6.4e+03
12	1,2,3,7,8-PeCDD	4.09e+06	3.96e+02	1.0e+04	2.58e+06	2.44e+02	1.1e+04
13	1,2,3,4,7,8-HxCDD	4.81e+06	2.84e+02	1.7e+04	3.67e+06	2.96e+02	1.2e+04
14	1,2,3,6,7,8-HxCDD	4.72e+06	2.84e+02	1.7e+04	3.74e+06	2.96e+02	1.3e+04
15	1,2,3,7,8,9-HxCDD	4.39e+06	2.84e+02	1.5e+04	3.42e+06	2.96e+02	1.2e+04
16	1,2,3,4,6,7,8-HpCDD	3.89e+06	3.96e+02	9.8e+03	3.62e+06	3.72e+02	9.7e+03
17	OCDD	5.99e+06	2.48e+02	2.4e+04	6.72e+06	2.68e+02	2.5e+04
18	13C-2,3,7,8-TCDF	1.02e+06	3.56e+02	2.9e+03	1.22e+06	3.84e+02	3.2e+03
19	13C-1,2,3,7,8-PeCDF	2.56e+06	2.76e+02	9.3e+03	1.58e+06	2.04e+02	7.7e+03
20	13C-1,2,3,4,7,8-HxCDF	3.44e+06	2.24e+02	1.5e+04	6.27e+06	3.56e+02	1.8e+04
21	13C-1,2,3,4,6,7,8-HpCDF	2.56e+06	1.80e+03	1.4e+03	6.15e+06	3.20e+03	1.9e+03
22	13C-2,3,7,8-TCDD	9.86e+05	6.68e+02	1.5e+03	1.21e+06	2.96e+02	4.1e+03
23	13C-1,2,3,7,8-PeCDD	1.77e+06	2.68e+02	6.6e+03	1.12e+06	3.28e+02	3.4e+03
24	13C-1,2,3,6,7,8-HxCDD	4.29e+06	3.24e+02	1.3e+04	3.50e+06	3.24e+02	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	4.11e+06	4.80e+02	8.6e+03	3.84e+06	4.72e+02	8.1e+03
26	13C-OCDD	5.91e+06	4.88e+02	1.2e+04	6.65e+06	2.20e+02	3.0e+04
27	13C-1,2,3,4-TCDD	1.07e+06	6.68e+02	1.6e+03	1.17e+06	2.96e+02	4.0e+03
28	13C-1,2,3,7,8,9-HxCDD	4.12e+06	3.24e+02	1.3e+04	3.34e+06	3.24e+02	1.0e+04
29	37Cl-2,3,7,8-TCDD	2.03e+06	2.28e+02	8.9e+03			

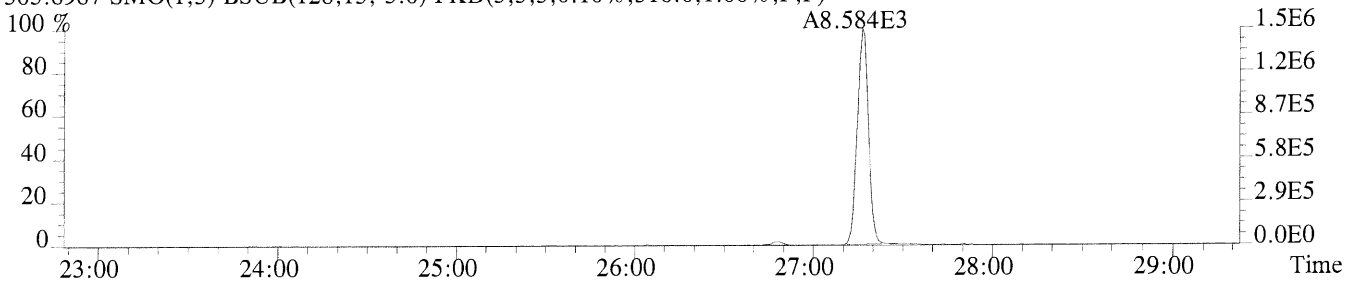
Columbia Analytical Services, Inc.
10655 Richmond Ave., Suite 130A
Houston, TX 77042
Office:(713)266-1599. Fax:(713)266-0130

File:U120209 #1-548 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

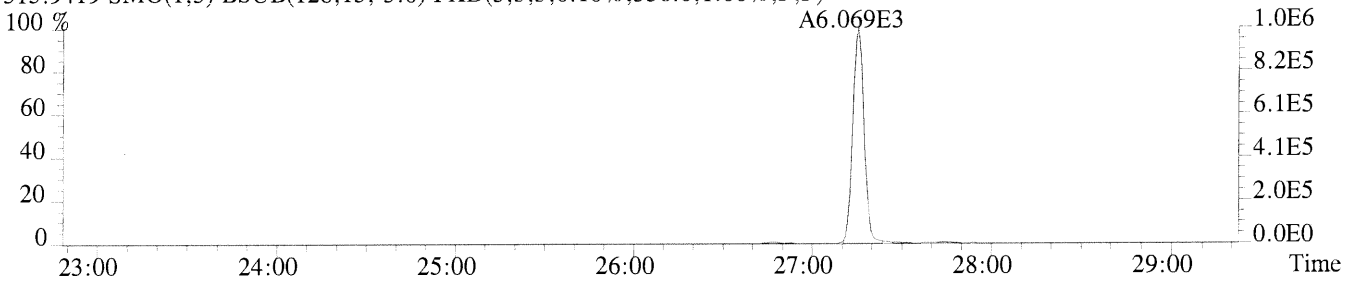
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,F)



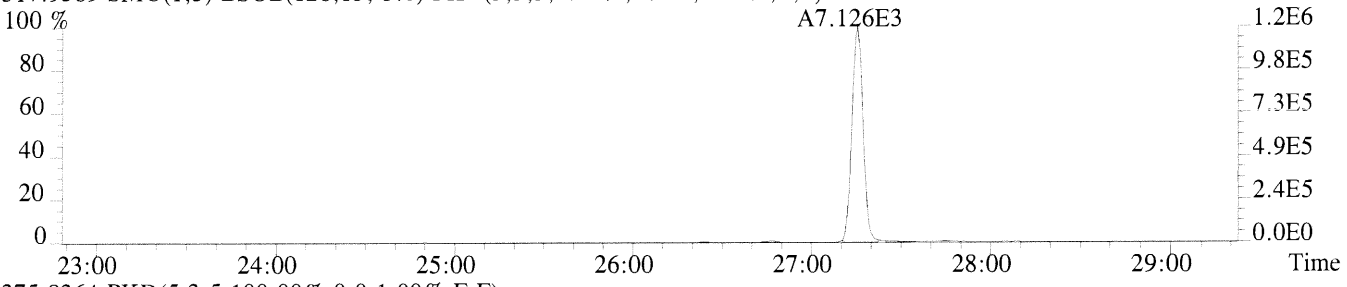
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,316.0,1.00%,F,F)



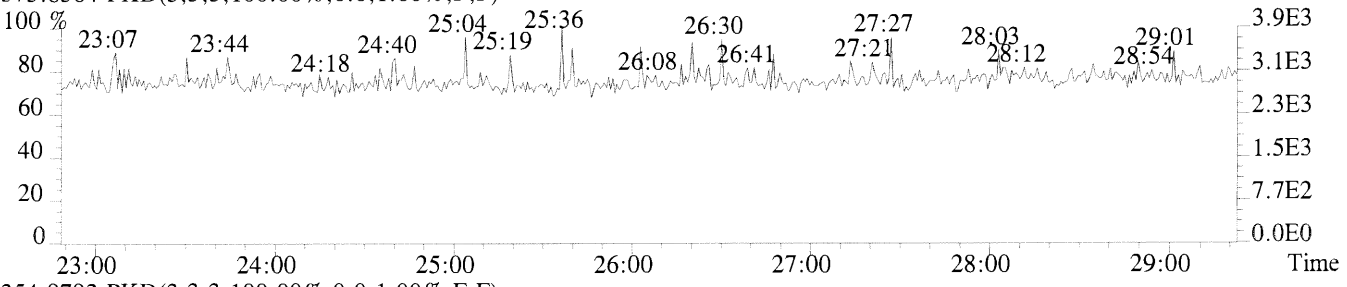
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



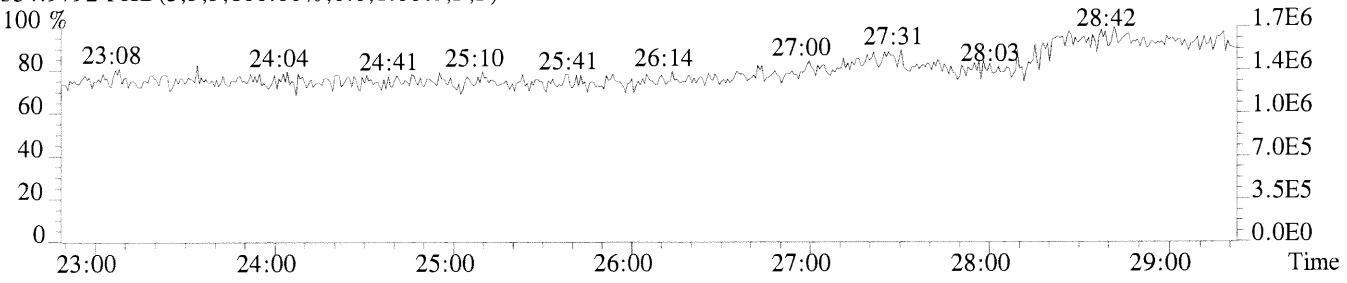
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,384.0,1.00%,F,F)



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

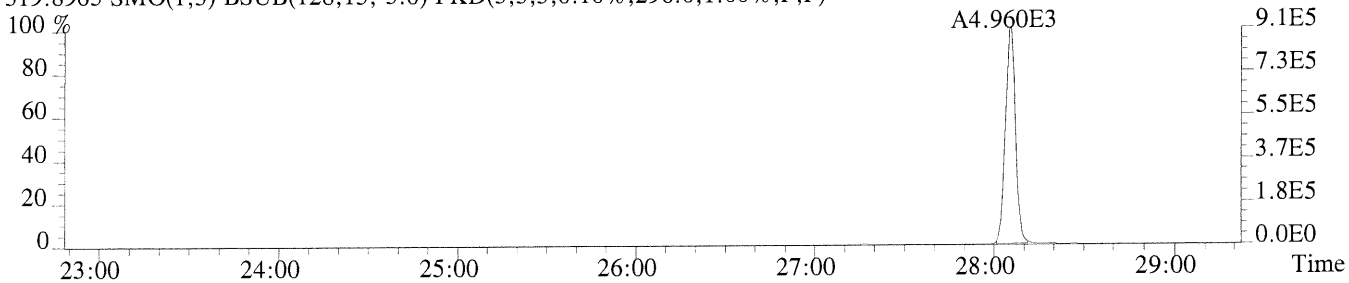


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

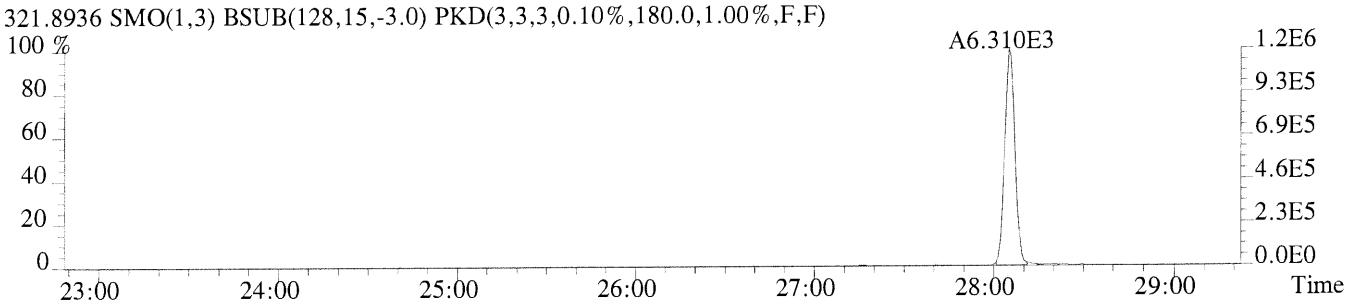


File:U120209 #1-548 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:ICAL HRCC4

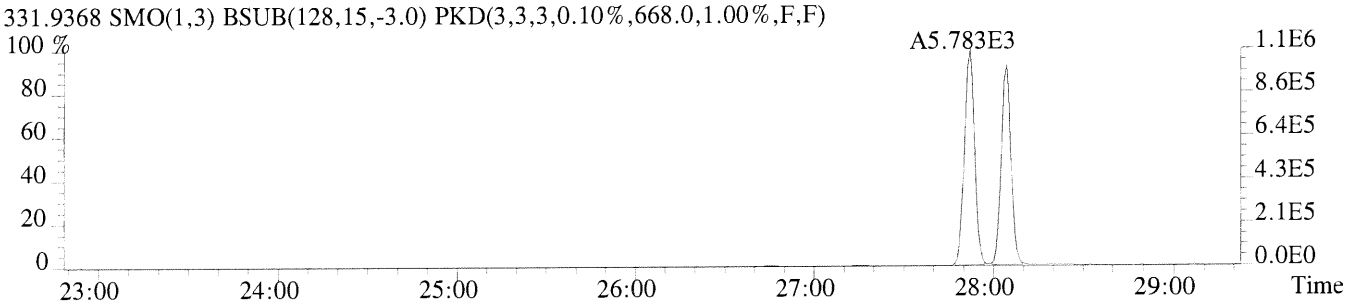
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,F)



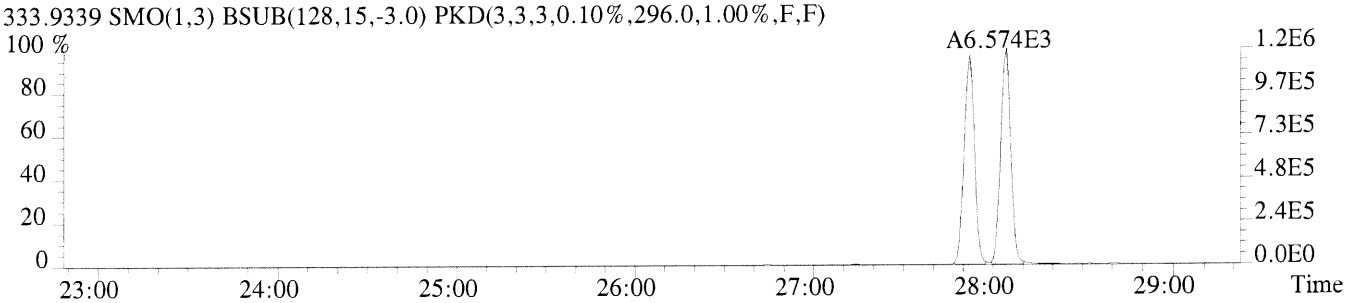
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,180.0,1.00%,F,F)



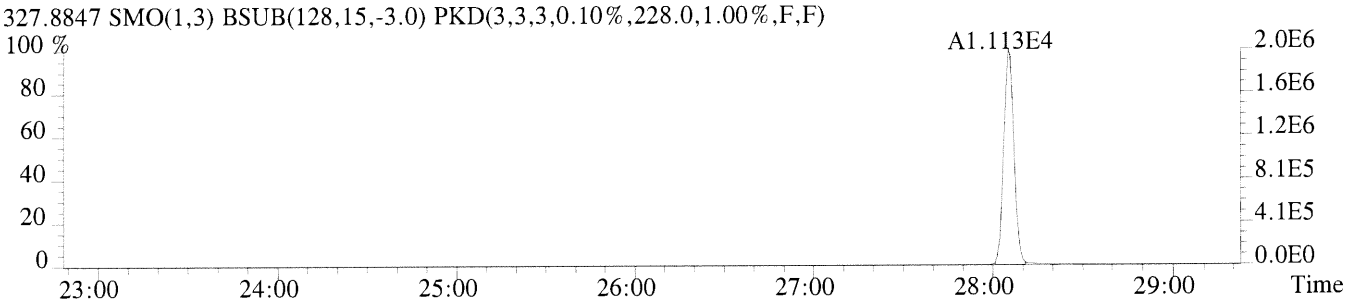
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,F)



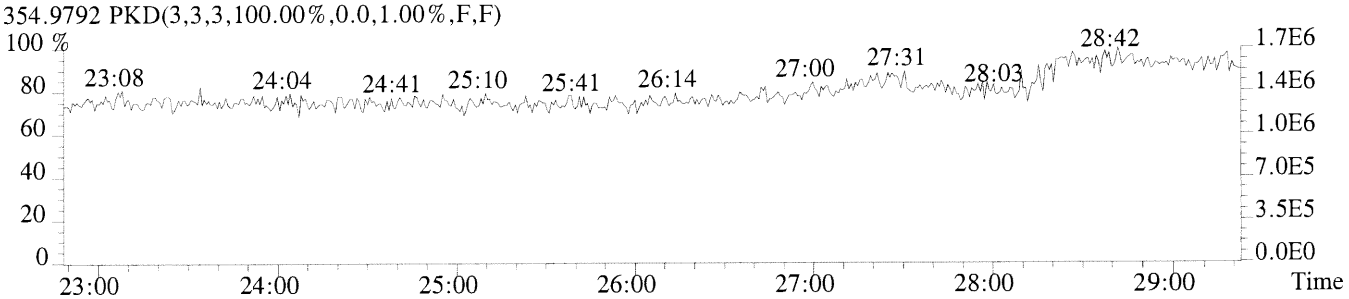
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,F)



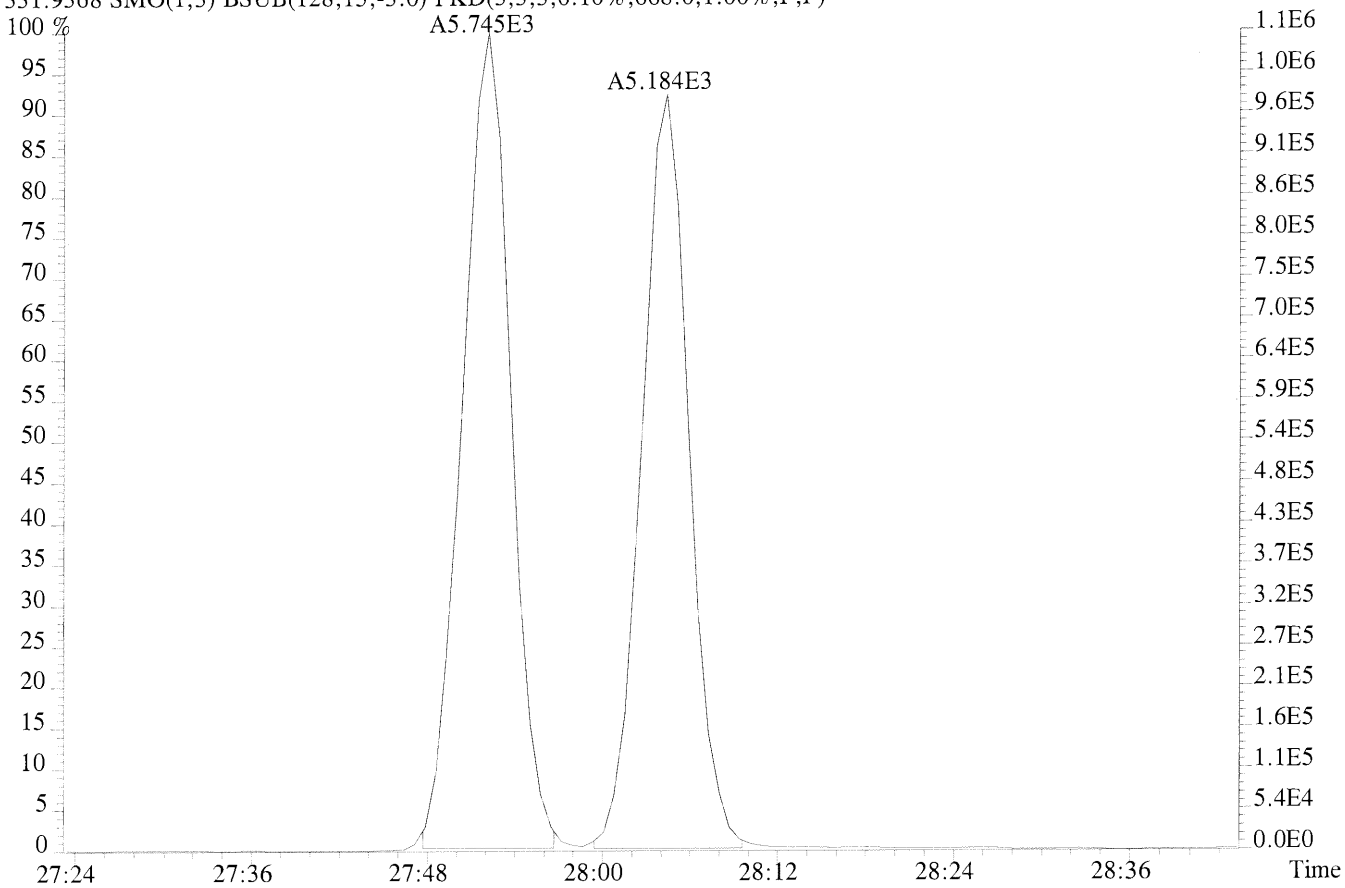
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,228.0,1.00%,F,F)



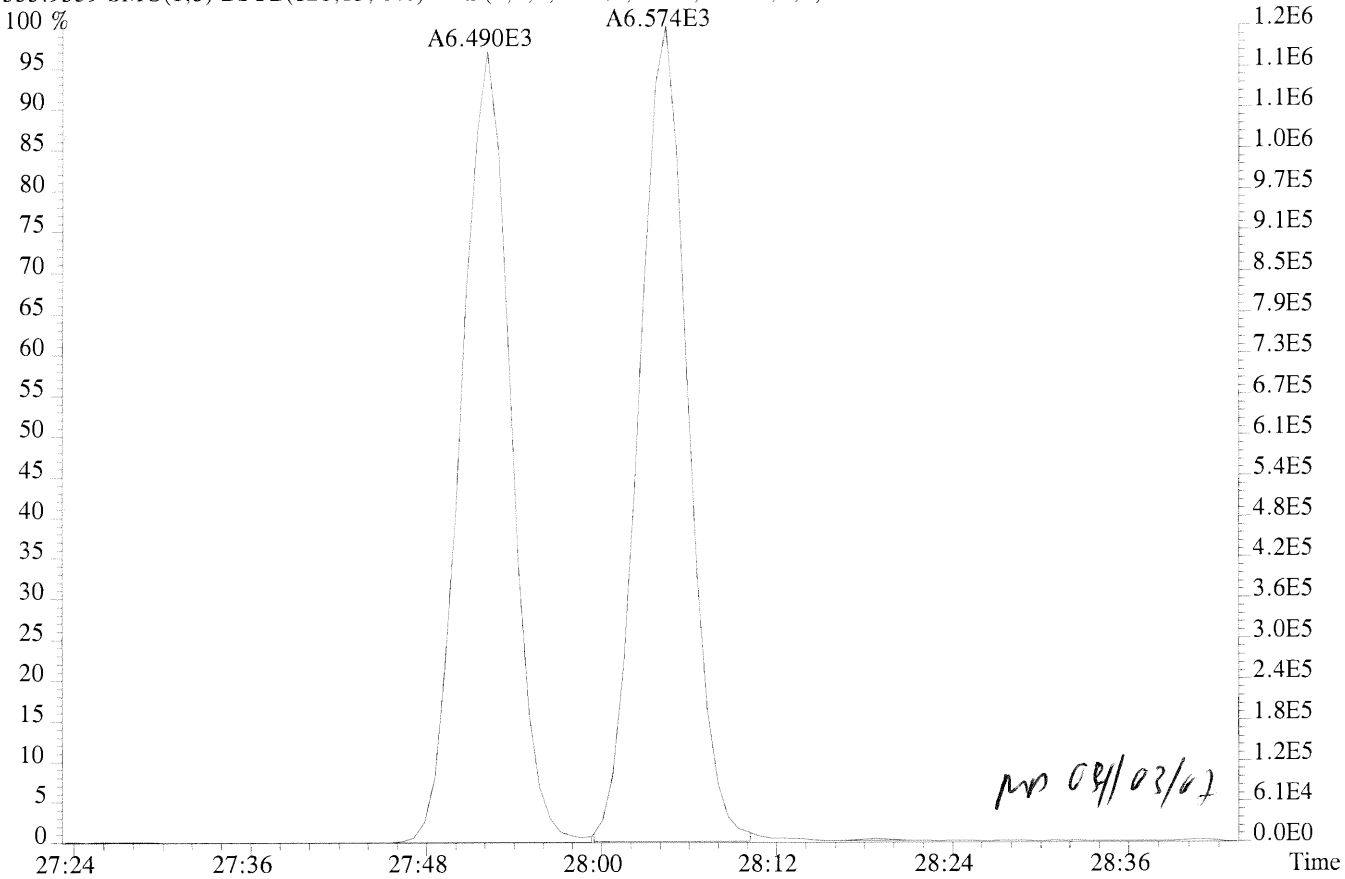
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:U120209 #1-548 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,F)



333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,296.0,1.00%,F,F)

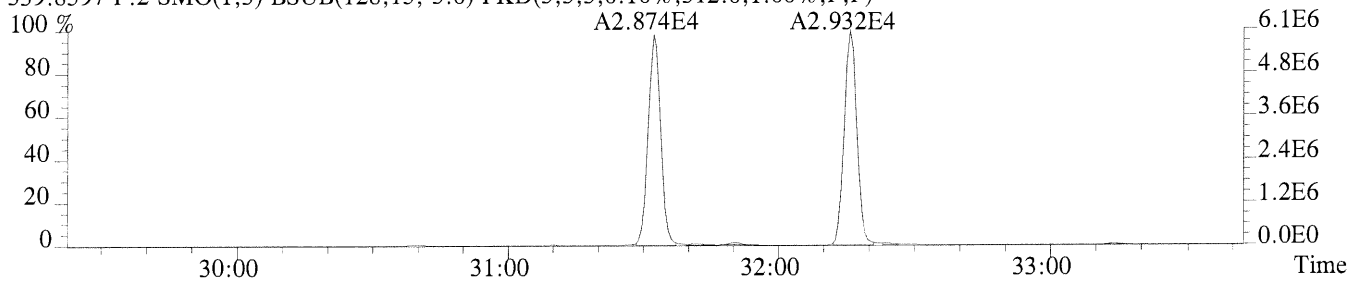


MD 04/03/07

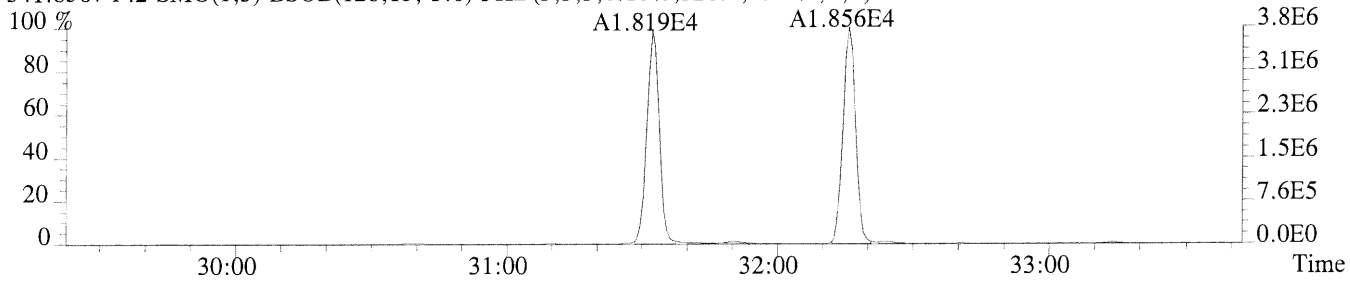
 4/3/07

File:U120209 #1-394 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

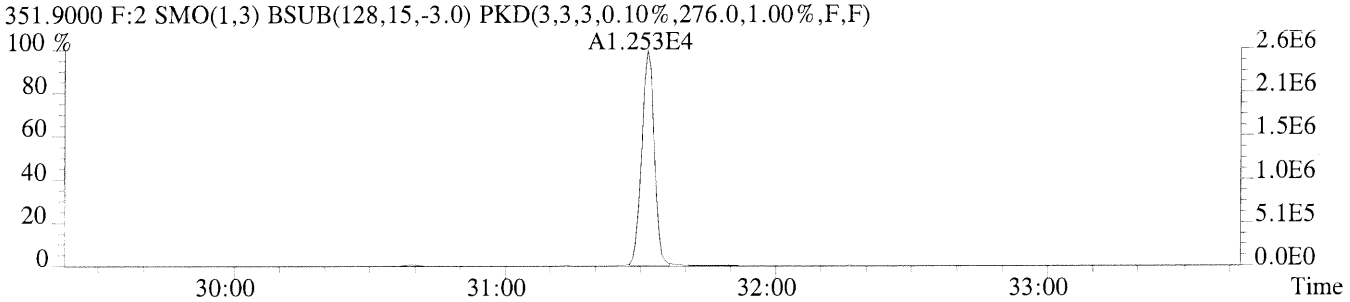
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,F)



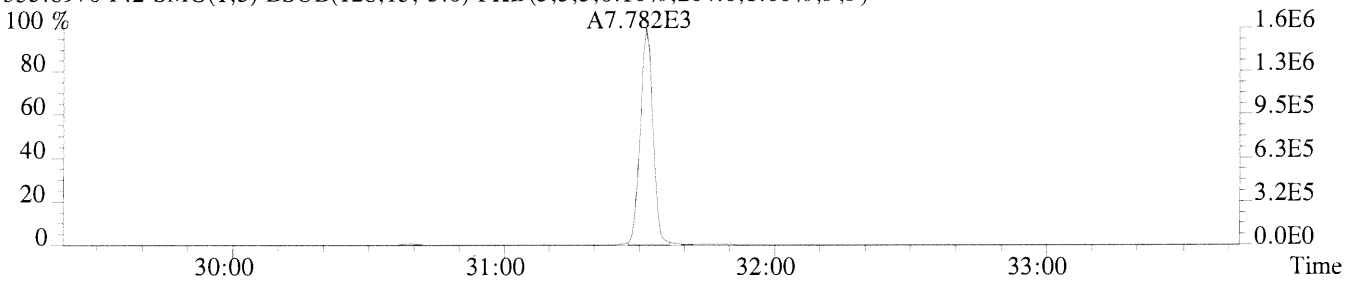
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,320.0,1.00%,F,F)



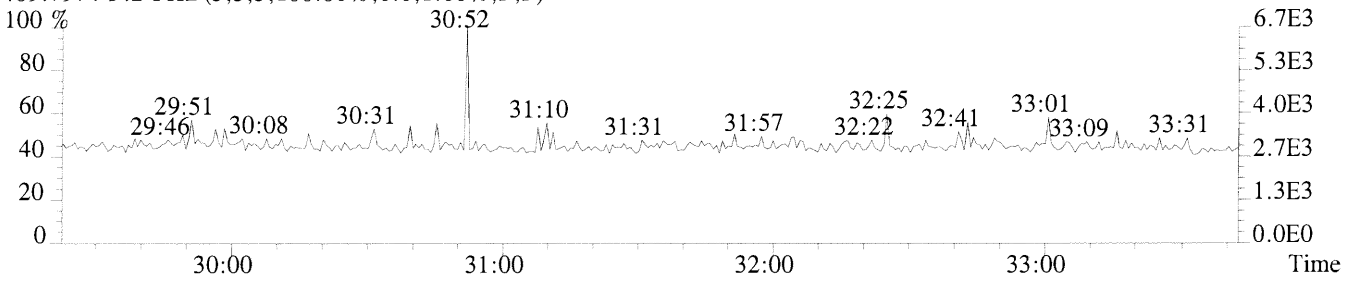
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,F)



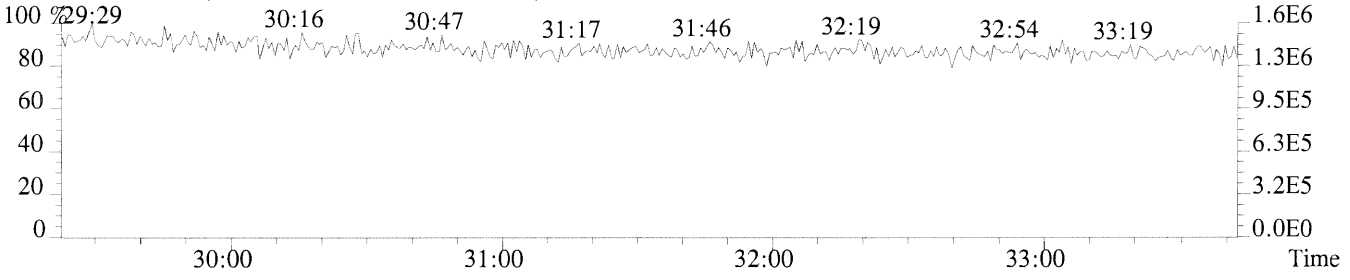
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,204.0,1.00%,F,F)



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

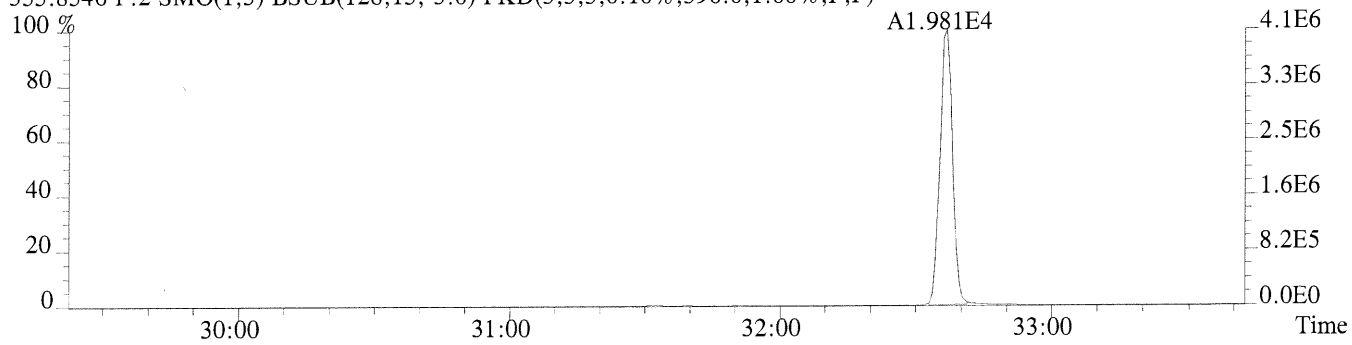


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

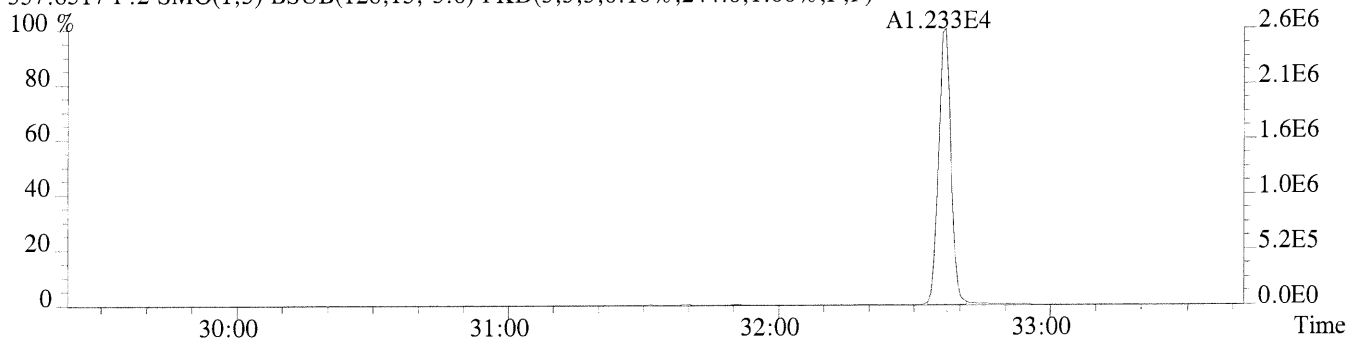


File:U120209 #1-394 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

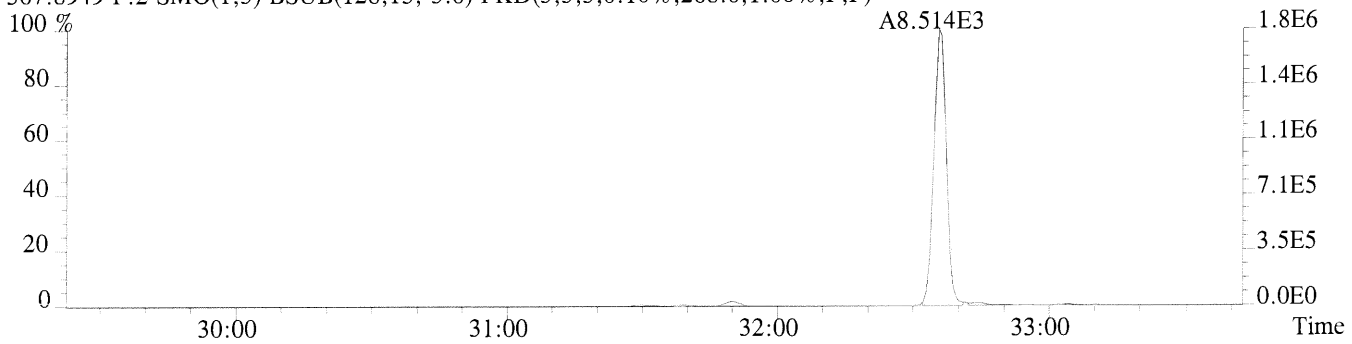
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,396.0,1.00%,F,F)



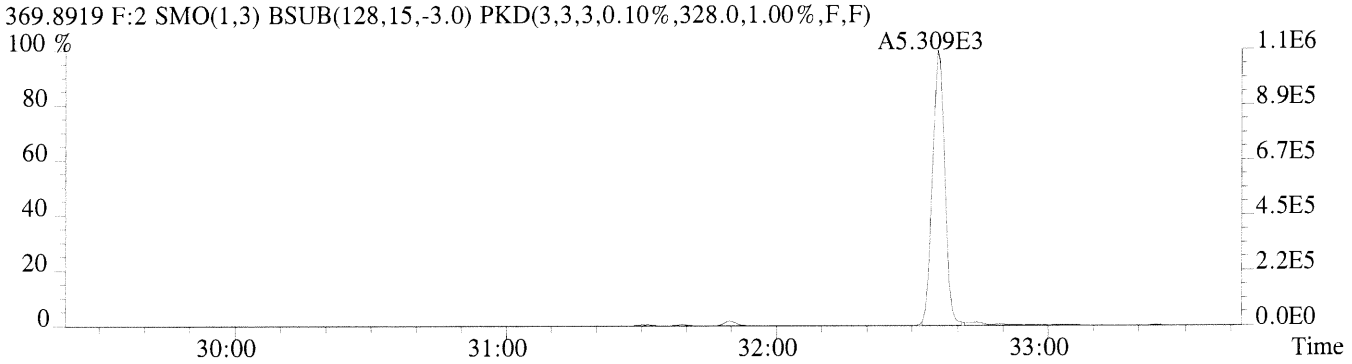
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,F)



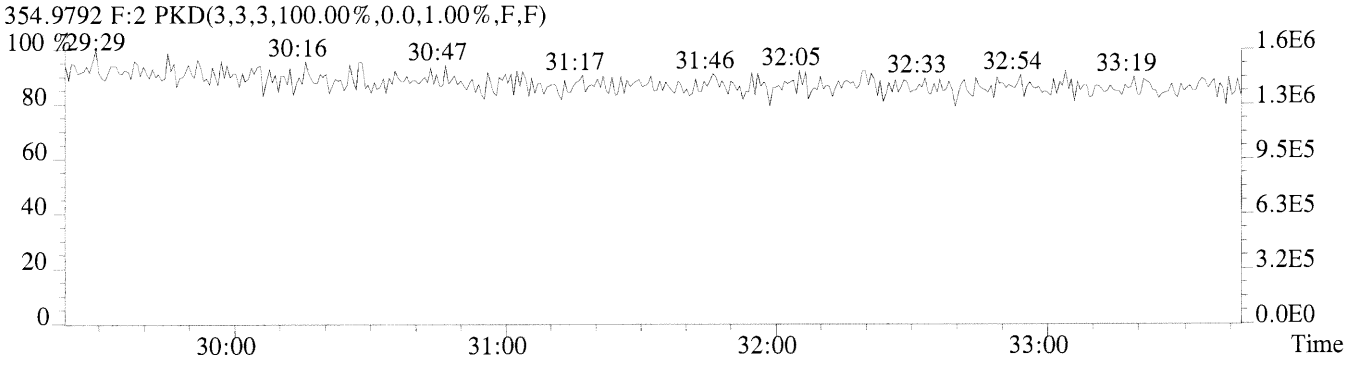
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,268.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,F)

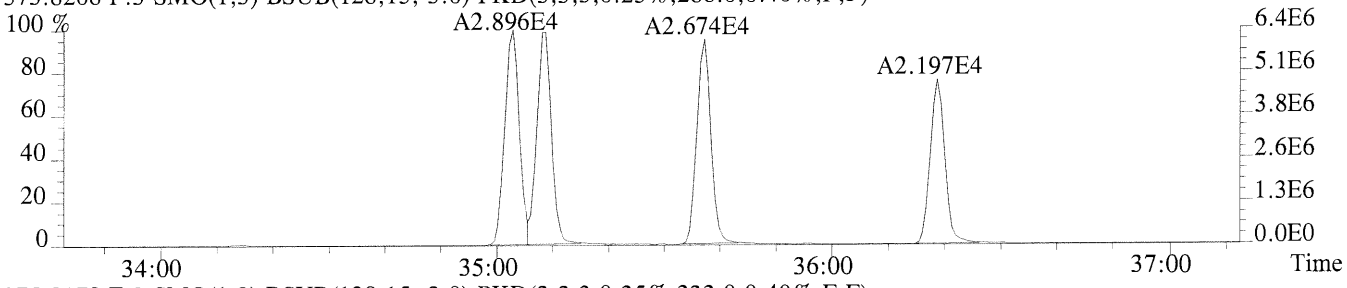


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

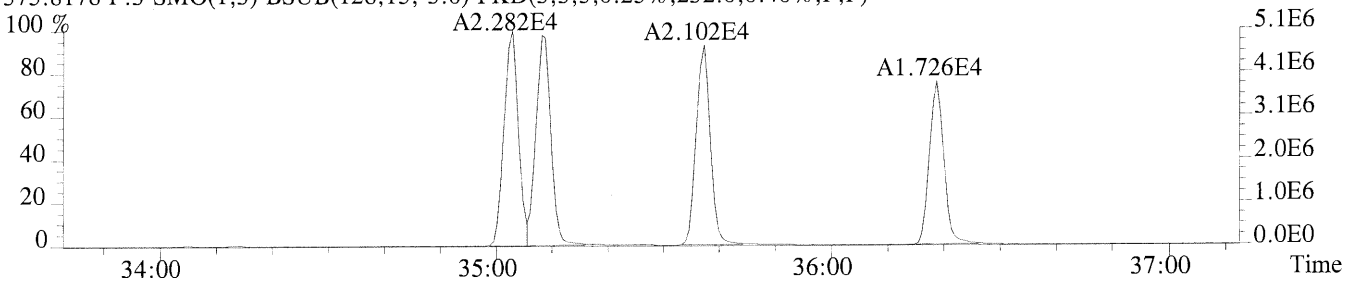


File:U120209 #1-318 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

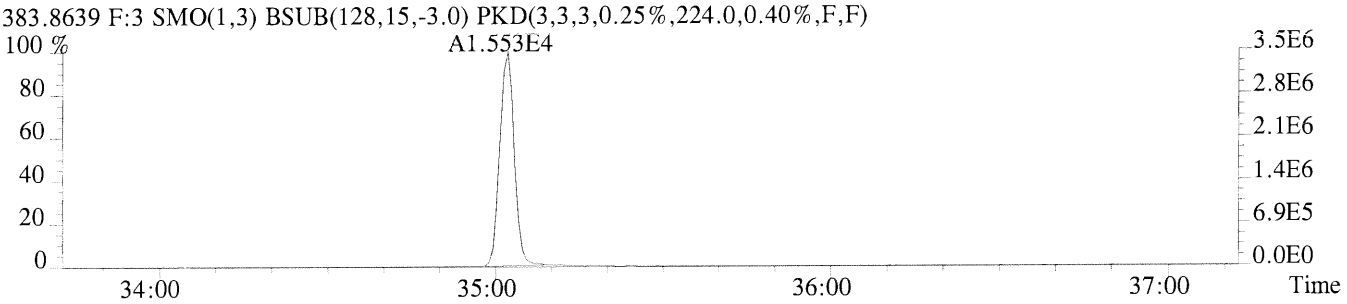
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,F)



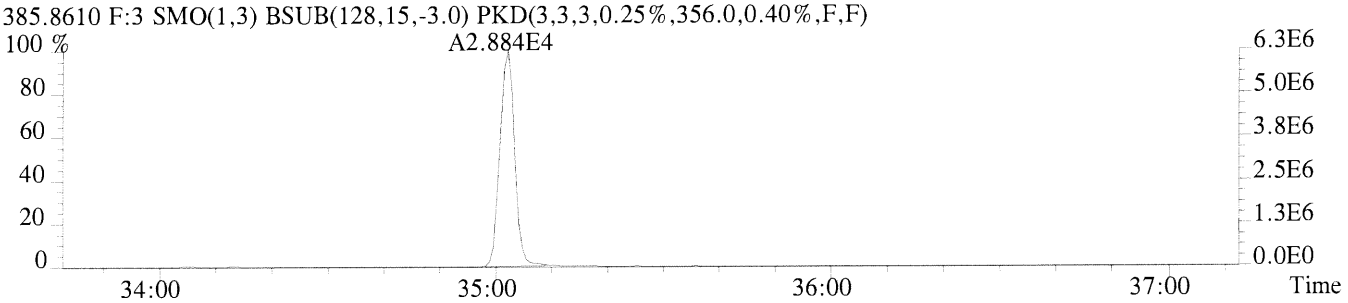
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,232.0,0.40%,F,F)



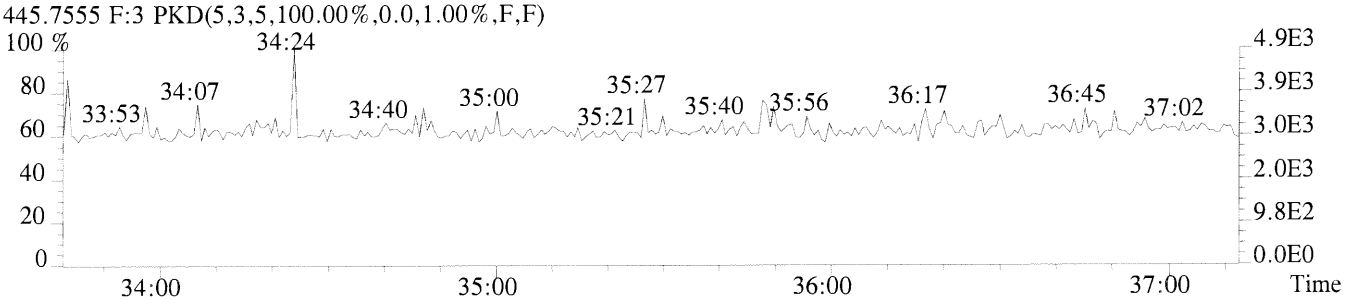
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,224.0,0.40%,F,F)



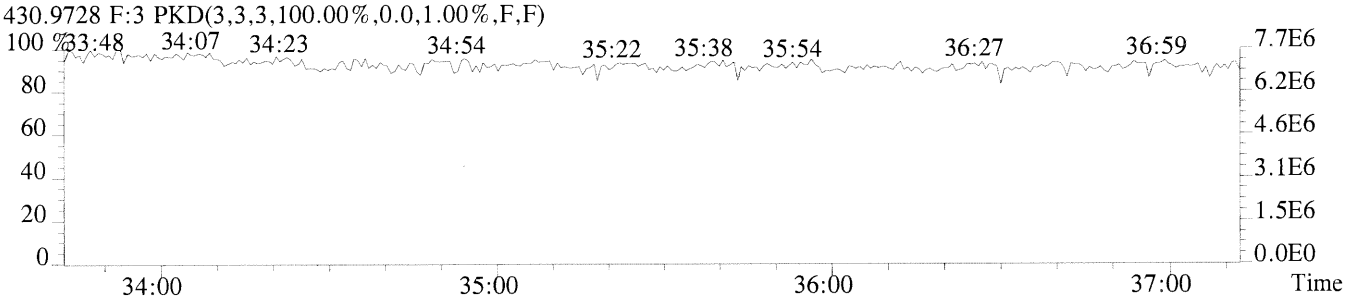
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,356.0,0.40%,F,F)



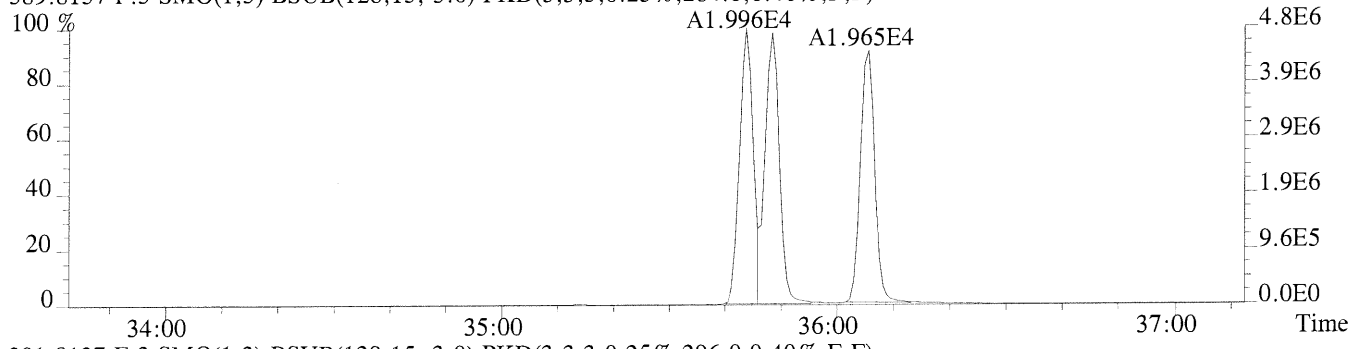
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



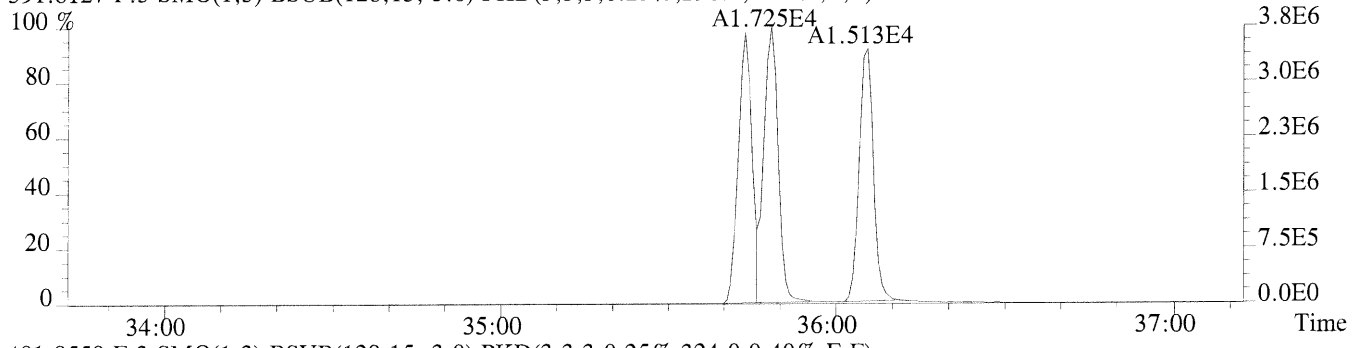
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



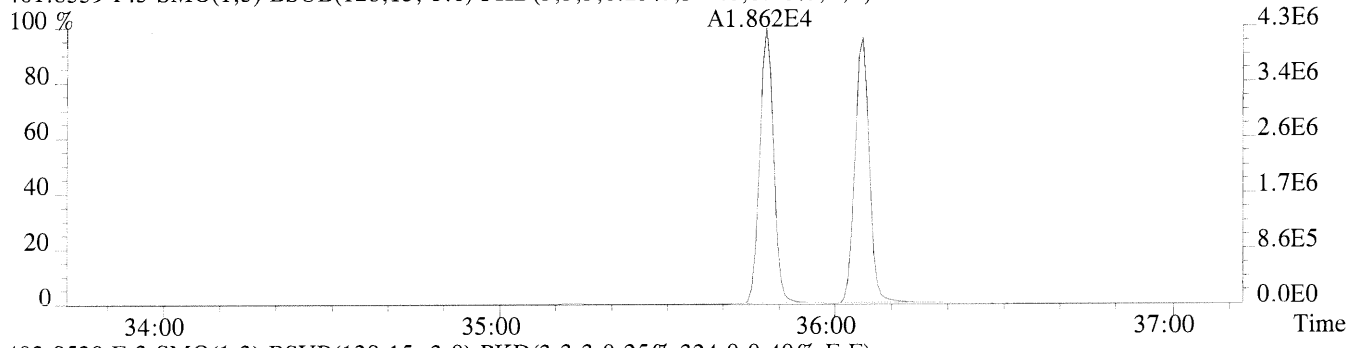
File:U120209 #1-318 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:ICAL HRCC4
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.40%,F,F)



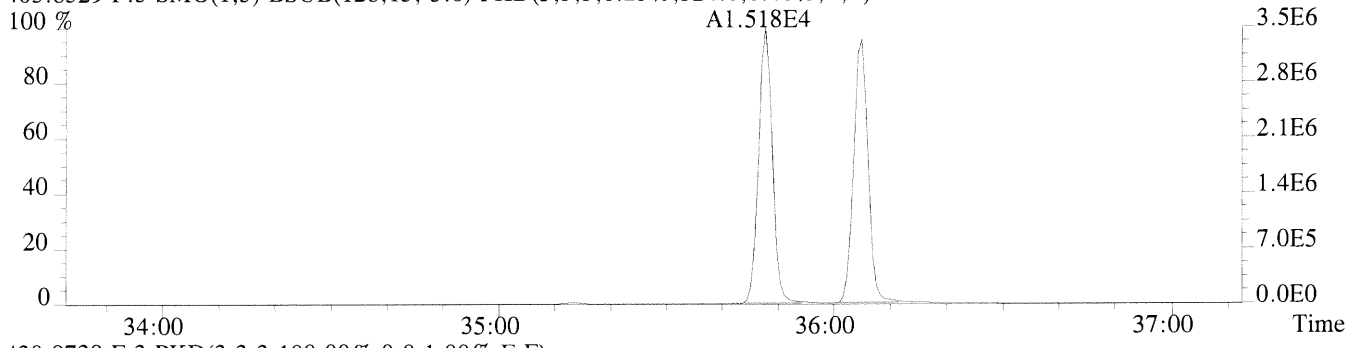
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,296.0,0.40%,F,F)



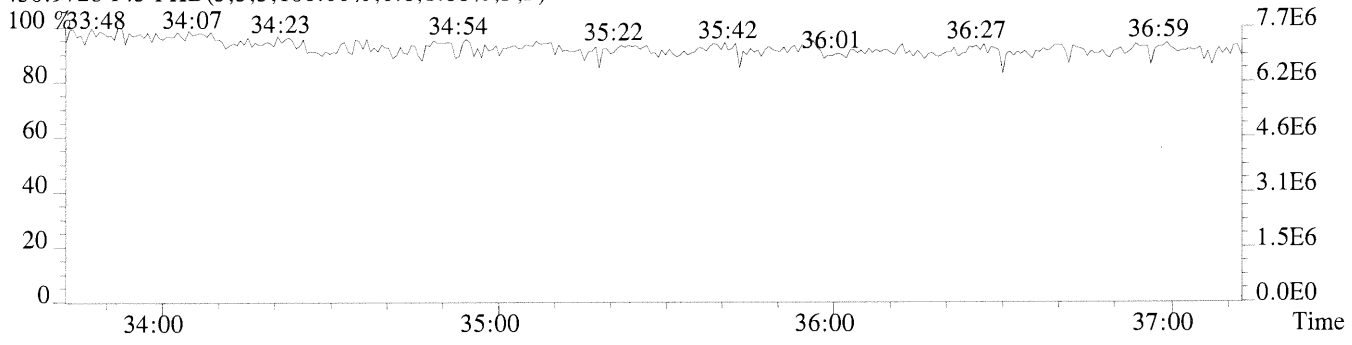
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,324.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,324.0,0.40%,F,F)

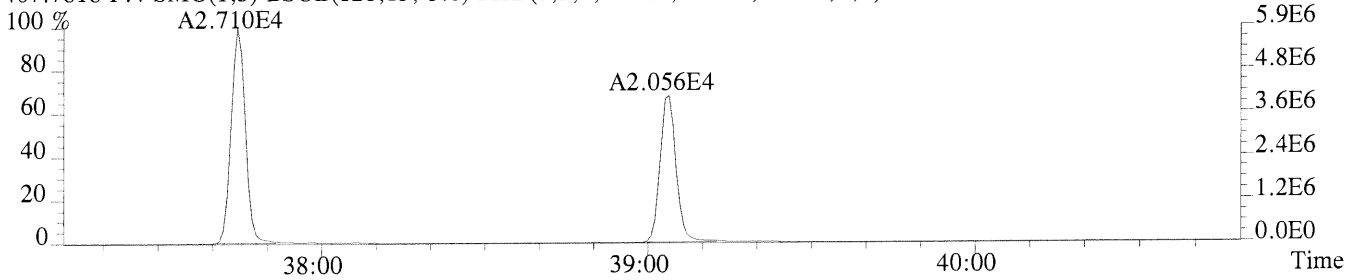


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

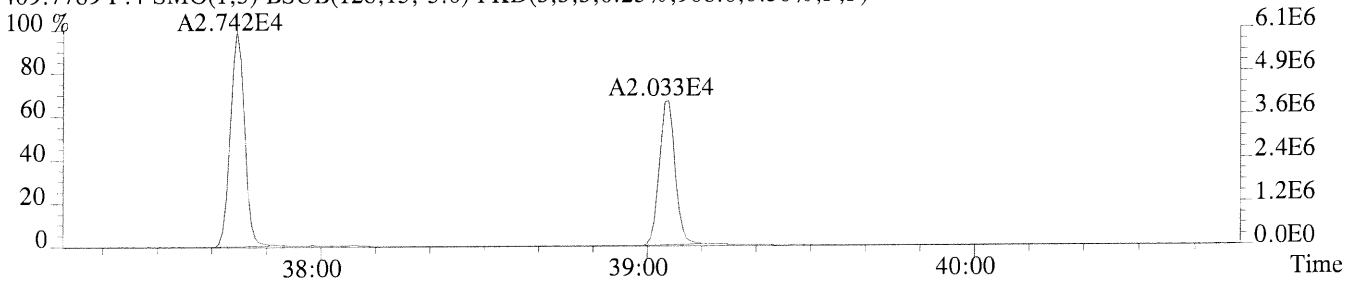


File:U120209 #1-327 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

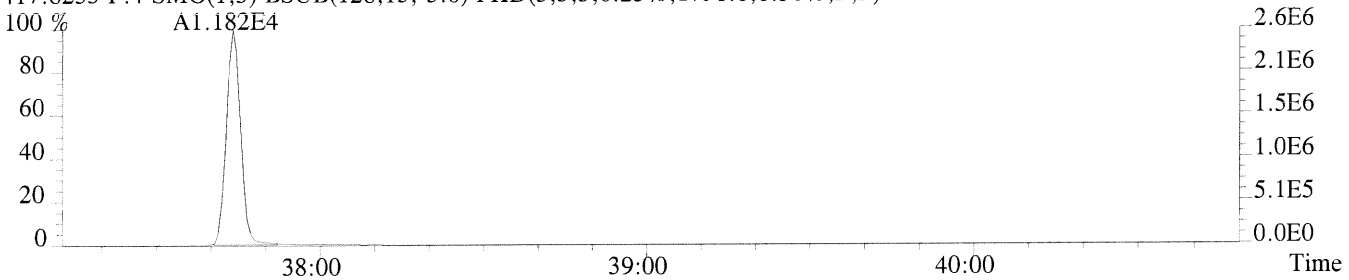
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2504.0,0.50%,F,F)



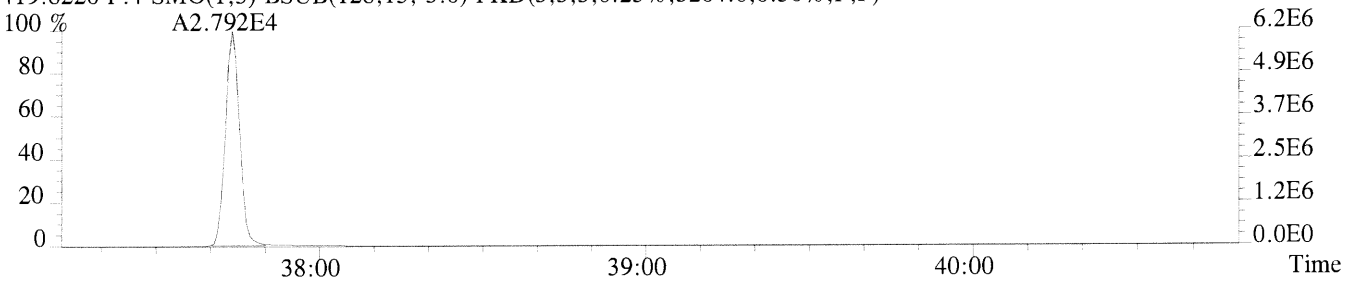
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,908.0,0.50%,F,F)



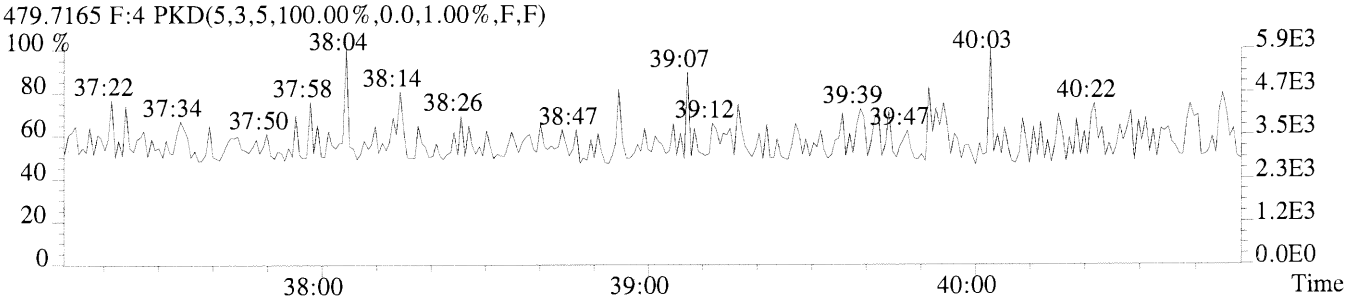
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.50%,F,F)



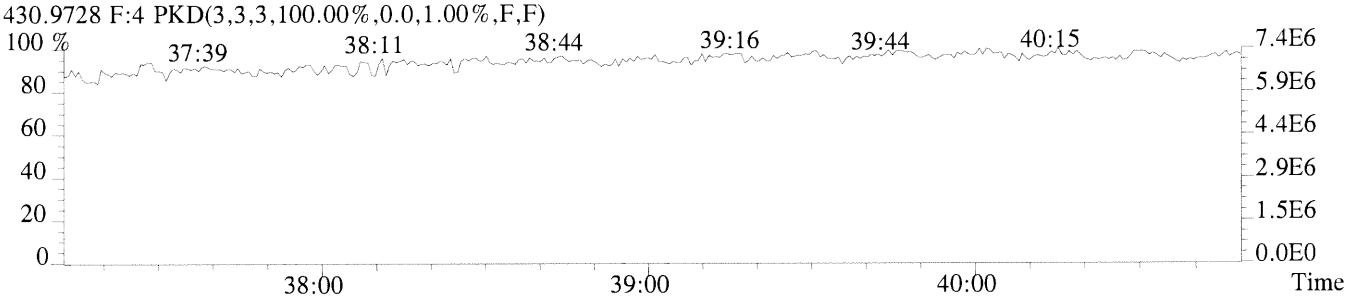
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3204.0,0.50%,F,F)



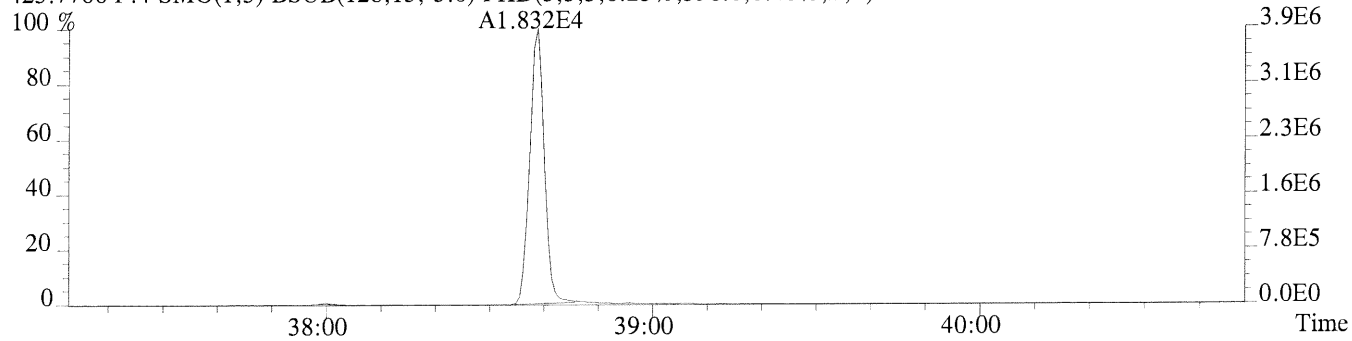
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



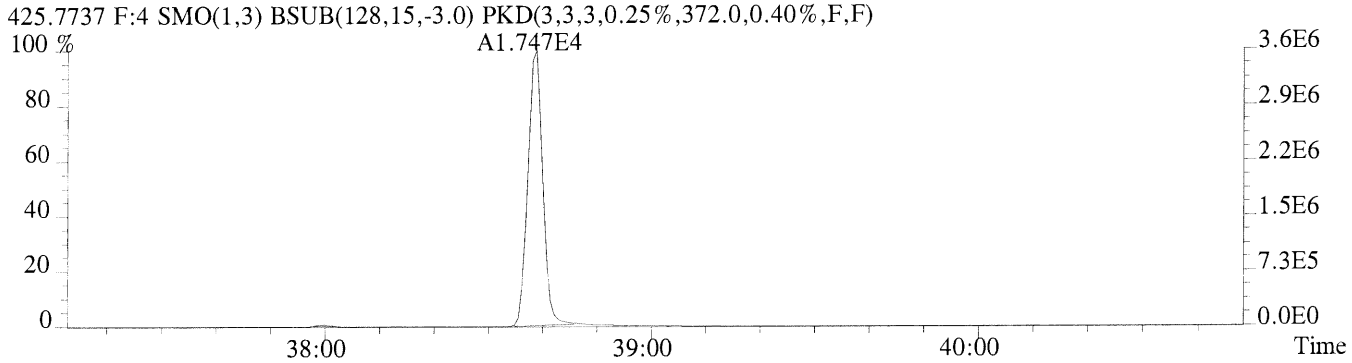
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



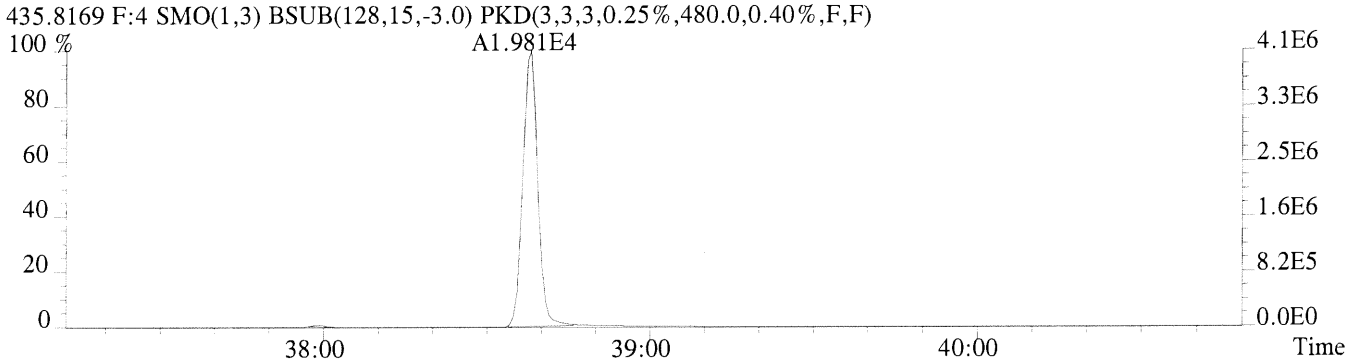
File:U120209 #1-327 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,396.0,0.40%,F,F)



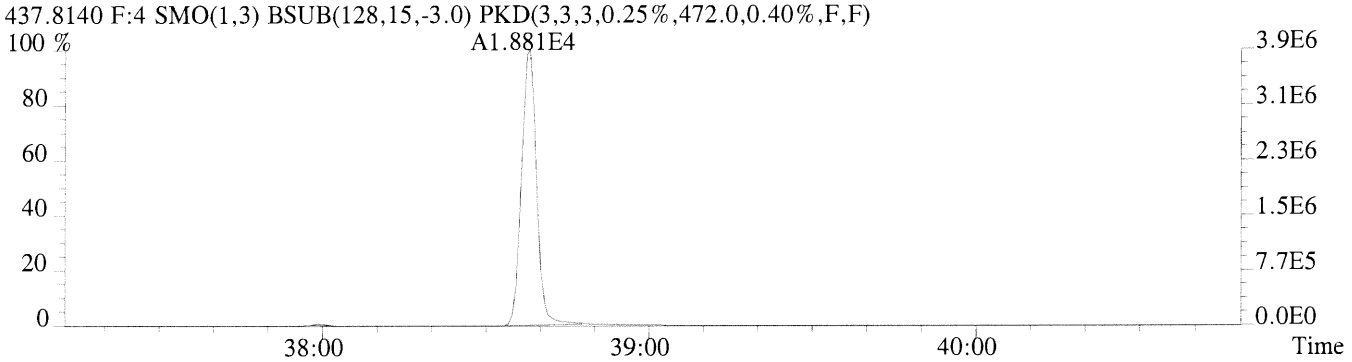
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,372.0,0.40%,F,F)



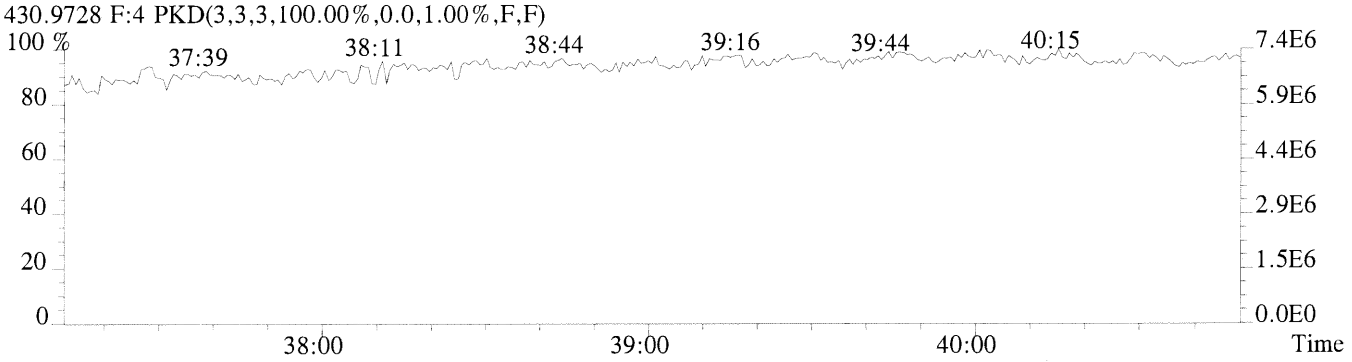
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,480.0,0.40%,F,F)



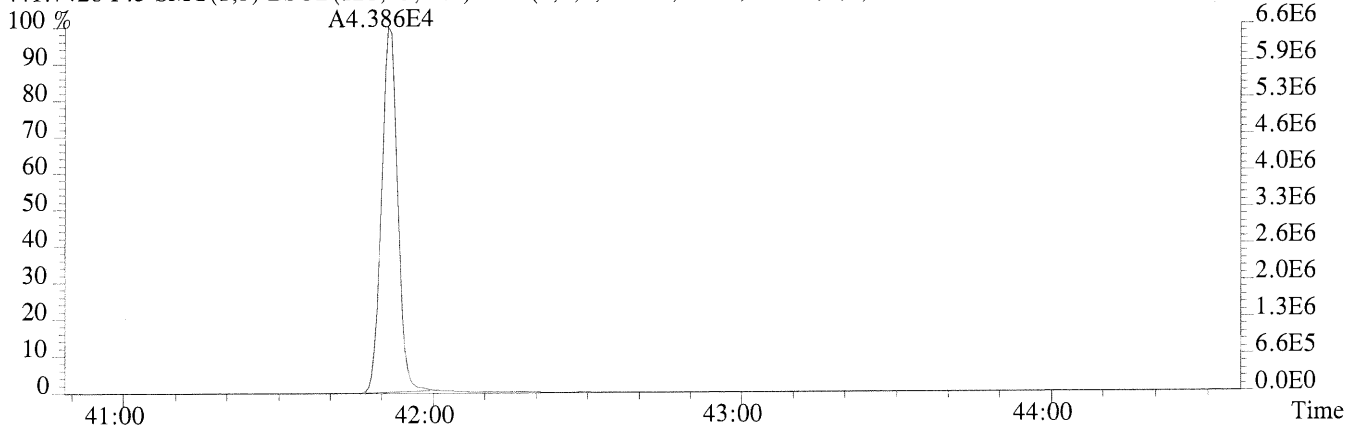
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,F)



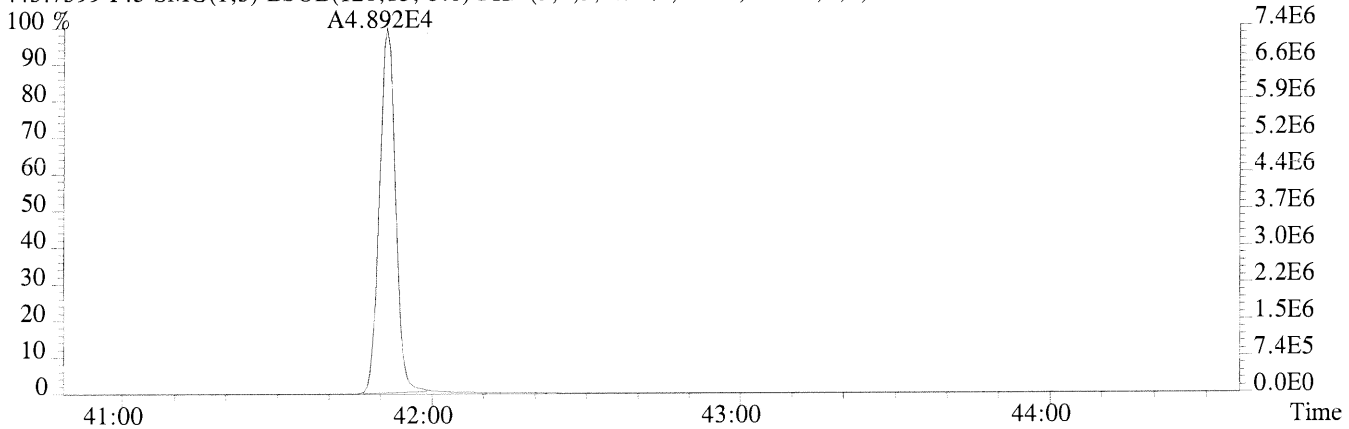
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



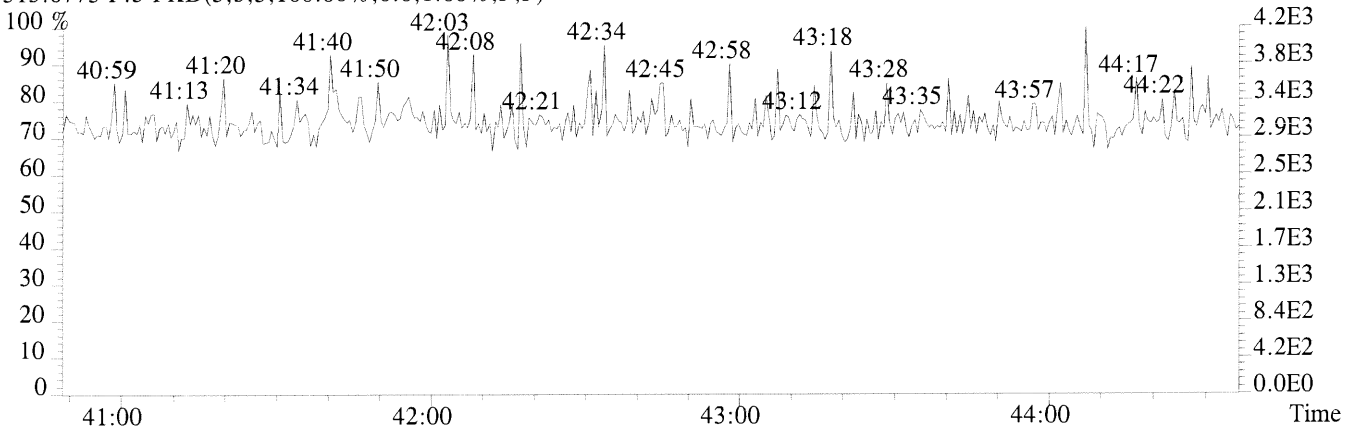
File:U120209 #1-420 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,204.0,0.40%,F,F)



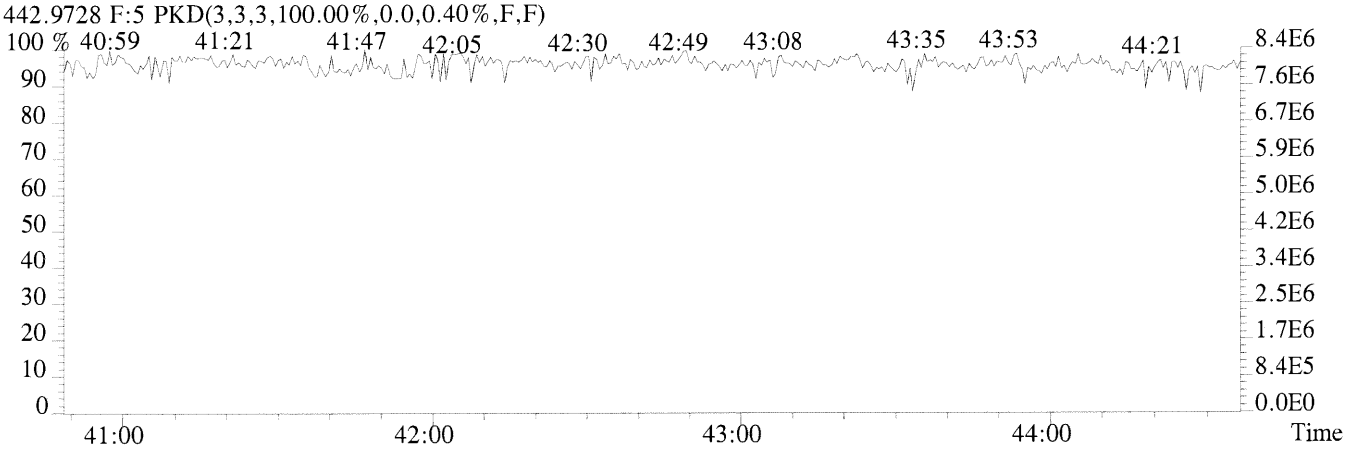
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,480.0,0.40%,F,F)



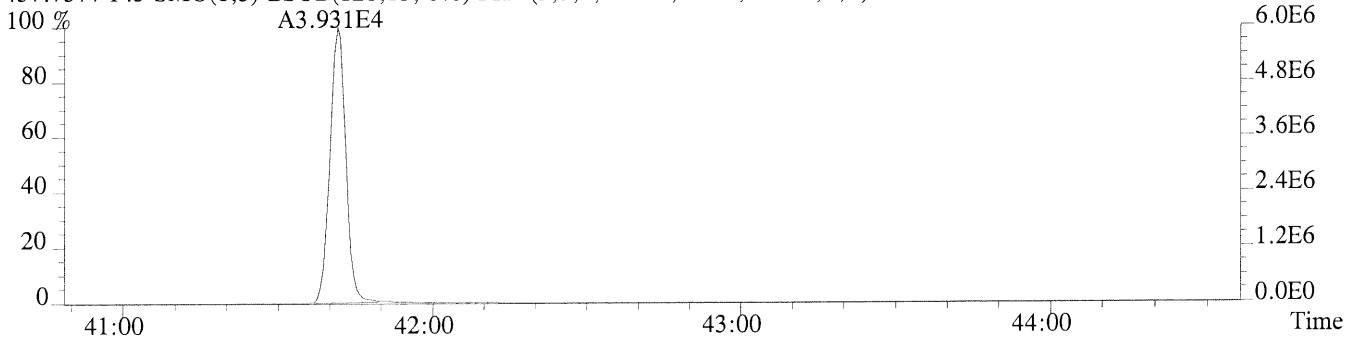
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



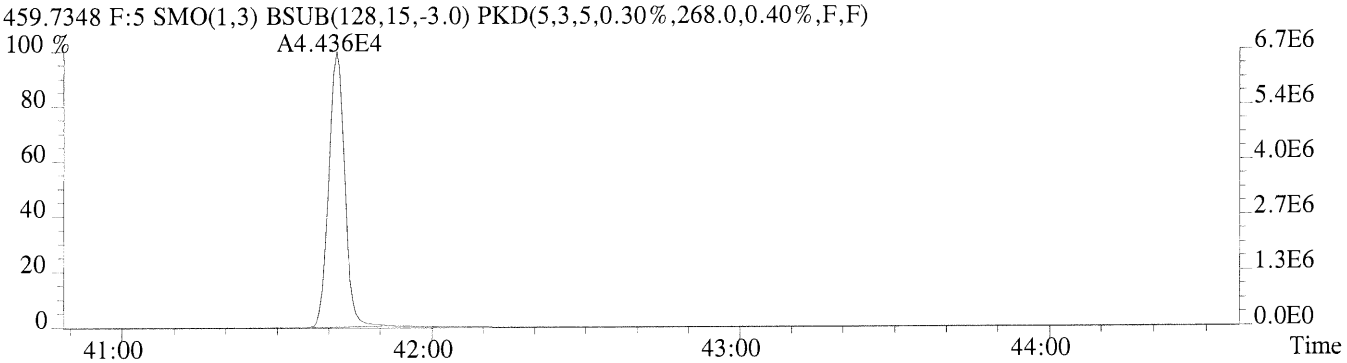
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



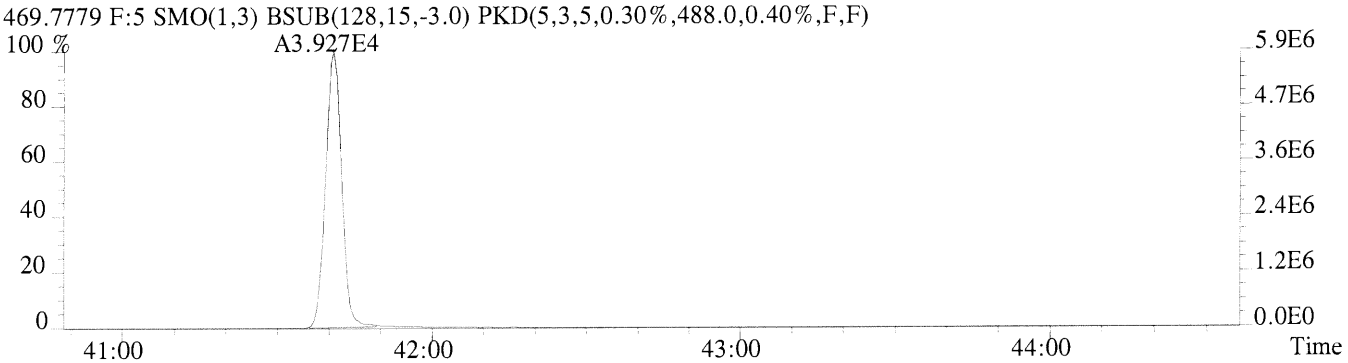
File:U120209 #1-420 Acq: 2-APR-2007 16:23:37 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,248.0,0.40%,F,F)



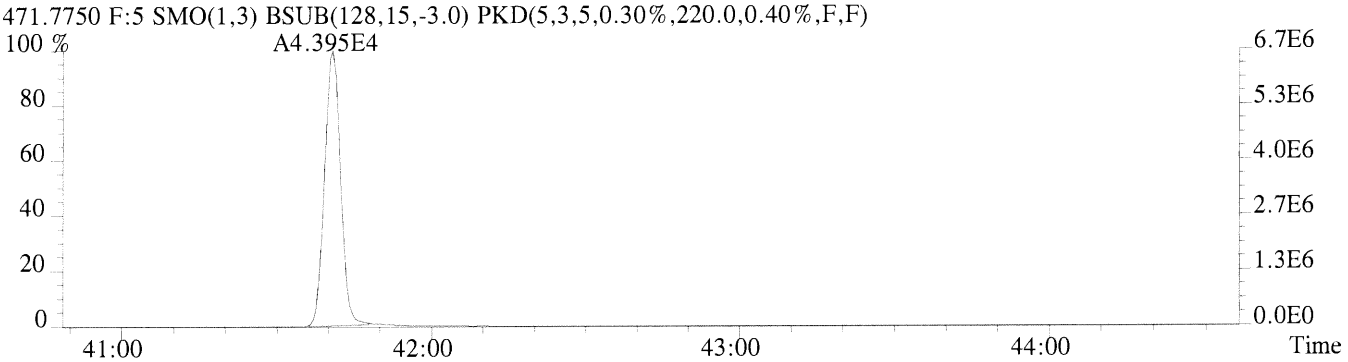
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,268.0,0.40%,F,F)



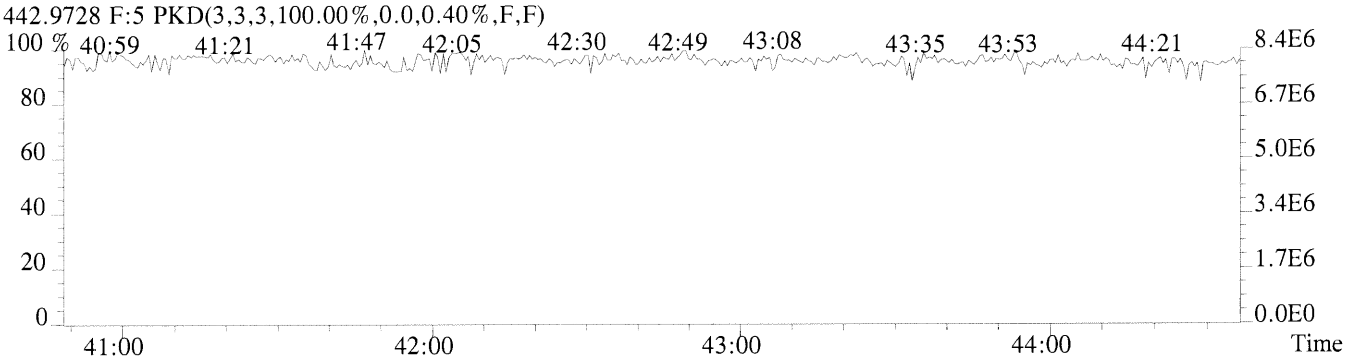
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,488.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,220.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename U120210 Samp: 1 Inj: 1 Acquired: 2-APR-07 17:13:27
Processed: 3-APR-07 08:06:21 Sample ID: ICAL HRCC5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	27:16	3.073e+04	3.868e+04	0.79	yes	no
2	Unk	1,2,3,7,8-PeCDF	31:32	1.305e+05	8.373e+04	1.56	yes	no
3	Unk	2,3,4,7,8-PeCDF	32:15	1.410e+05	8.973e+04	1.57	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:02	1.432e+05	1.188e+05	1.21	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:08	1.340e+05	1.103e+05	1.21	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	35:37	1.219e+05	1.002e+05	1.22	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:18	1.109e+05	8.991e+04	1.23	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	37:45	1.305e+05	1.322e+05	0.99	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:03	1.055e+05	1.048e+05	1.01	yes	no
10	Unk	OCDF	41:51	2.306e+05	2.476e+05	0.93	yes	no
11	Unk	2,3,7,8-TCDD	28:04	2.217e+04	2.804e+04	0.79	yes	no
12	Unk	1,2,3,7,8-PeCDD	32:36	9.088e+04	5.795e+04	1.57	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	35:43	1.032e+05	7.963e+04	1.30	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	35:48	1.028e+05	7.916e+04	1.30	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:05	9.762e+04	7.432e+04	1.31	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	38:38	9.041e+04	8.809e+04	1.03	yes	no
17	Unk	OCDD	41:41	2.038e+05	2.246e+05	0.91	yes	no
18	IS	13C-2,3,7,8-TCDF	27:15	8.247e+03	1.033e+04	0.80	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	31:31	1.377e+04	8.745e+03	1.57	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:02	1.836e+04	3.563e+04	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	37:44	1.415e+04	3.329e+04	0.42	yes	no
22	IS	13C-2,3,7,8-TCDD	28:04	5.637e+03	7.338e+03	0.77	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	32:36	9.489e+03	6.140e+03	1.55	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	35:47	2.287e+04	1.850e+04	1.24	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	38:37	2.374e+04	2.282e+04	1.04	yes	no
26	IS	13C-OCDD	41:40	5.044e+04	5.591e+04	0.90	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	27:51	6.234e+03	8.066e+03	0.77	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:04	2.258e+04	1.804e+04	1.25	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	28:05	5.168e+04				

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10655 Richmond Ave., Suite 130A
Houston, TX 77042
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Columbia Analytical Services,Inc.
Signal/Noise Height Ratio Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename U120210 Samp: 1 Inj: 1 Acquired: 2-APR-07 17:13:27

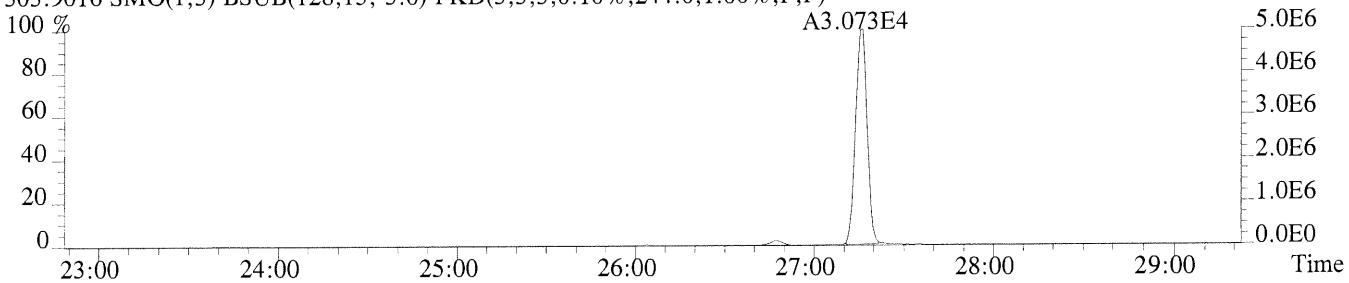
Processed: 3-APR-07 08:06:21 LAB. ID: ICAL HRCC5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.01e+06	2.44e+02	2.1e+04	6.46e+06	2.84e+02	2.3e+04
2	1,2,3,7,8-PeCDF	2.56e+07	2.76e+02	9.3e+04	1.61e+07	3.44e+02	4.7e+04
3	2,3,4,7,8-PeCDF	2.84e+07	2.76e+02	1.0e+05	1.82e+07	3.44e+02	5.3e+04
4	1,2,3,4,7,8-HxCDF	3.21e+07	3.76e+02	8.5e+04	2.67e+07	3.84e+02	6.9e+04
5	1,2,3,6,7,8-HxCDF	2.93e+07	3.76e+02	7.8e+04	2.45e+07	3.84e+02	6.4e+04
6	2,3,4,6,7,8-HxCDF	2.70e+07	3.76e+02	7.2e+04	2.26e+07	3.84e+02	5.9e+04
7	1,2,3,7,8,9-HxCDF	2.42e+07	3.76e+02	6.4e+04	1.99e+07	3.84e+02	5.2e+04
8	1,2,3,4,6,7,8-HpCDF	2.77e+07	6.20e+03	4.5e+03	2.83e+07	5.89e+03	4.8e+03
9	1,2,3,4,7,8,9-HpCDF	2.17e+07	6.20e+03	3.5e+03	2.17e+07	5.89e+03	3.7e+03
10	OCDF	3.44e+07	2.96e+02	1.2e+05	3.73e+07	4.68e+02	8.0e+04
11	2,3,7,8-TCDD	4.01e+06	2.76e+02	1.5e+04	5.03e+06	2.44e+02	2.1e+04
12	1,2,3,7,8-PeCDD	1.92e+07	4.72e+02	4.1e+04	1.23e+07	3.08e+02	4.0e+04
13	1,2,3,4,7,8-HxCDD	2.28e+07	2.72e+02	8.4e+04	1.78e+07	2.68e+02	6.6e+04
14	1,2,3,6,7,8-HxCDD	2.30e+07	2.72e+02	8.5e+04	1.79e+07	2.68e+02	6.7e+04
15	1,2,3,7,8,9-HxCDD	2.22e+07	2.72e+02	8.2e+04	1.70e+07	2.68e+02	6.3e+04
16	1,2,3,4,6,7,8-HpCDD	1.89e+07	4.36e+02	4.3e+04	1.87e+07	8.52e+02	2.2e+04
17	OCDD	3.10e+07	1.28e+02	2.4e+05	3.43e+07	3.68e+02	9.3e+04
18	13C-2,3,7,8-TCDF	1.35e+06	4.52e+02	3.0e+03	1.77e+06	4.08e+02	4.3e+03
19	13C-1,2,3,7,8-PeCDF	2.68e+06	3.08e+02	8.7e+03	1.69e+06	3.20e+02	5.3e+03
20	13C-1,2,3,4,7,8-HxCDF	4.09e+06	2.88e+02	1.4e+04	7.87e+06	4.68e+02	1.7e+04
21	13C-1,2,3,4,6,7,8-HpCDF	3.05e+06	1.43e+03	2.1e+03	7.10e+06	8.80e+02	8.1e+03
22	13C-2,3,7,8-TCDD	1.02e+06	6.36e+02	1.6e+03	1.33e+06	2.64e+02	5.0e+03
23	13C-1,2,3,7,8-PeCDD	2.01e+06	2.88e+02	7.0e+03	1.28e+06	3.36e+02	3.8e+03
24	13C-1,2,3,6,7,8-HxCDD	5.11e+06	2.00e+02	2.6e+04	4.20e+06	4.72e+02	8.9e+03
25	13C-1,2,3,4,6,7,8-HpCDD	5.11e+06	5.88e+02	8.7e+03	4.85e+06	4.12e+02	1.2e+04
26	13C-OCDD	7.73e+06	2.76e+02	2.8e+04	8.47e+06	2.92e+02	2.9e+04
27	13C-1,2,3,4-TCDD	1.10e+06	6.36e+02	1.7e+03	1.40e+06	2.64e+02	5.3e+03
28	13C-1,2,3,7,8,9-HxCDD	5.02e+06	2.00e+02	2.5e+04	4.10e+06	4.72e+02	8.7e+03
29	37Cl-2,3,7,8-TCDD	9.27e+06	2.24e+02	4.1e+04			

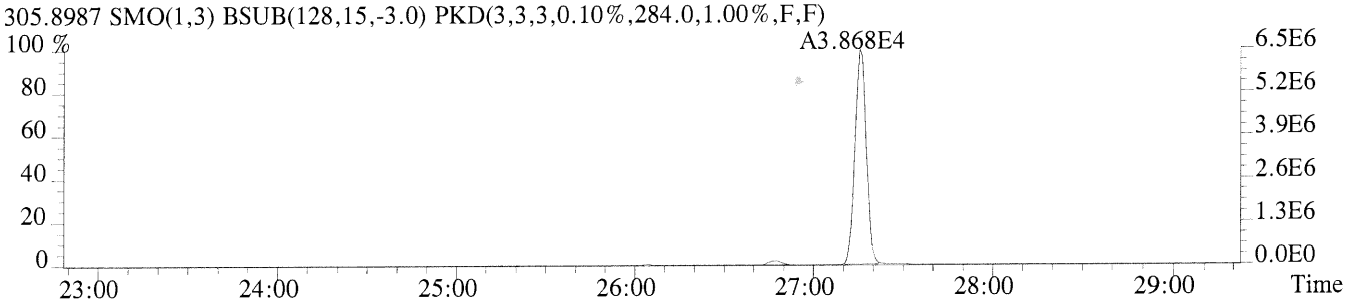
Columbia Analytical Services, Inc.
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File:U120210 #1-548 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

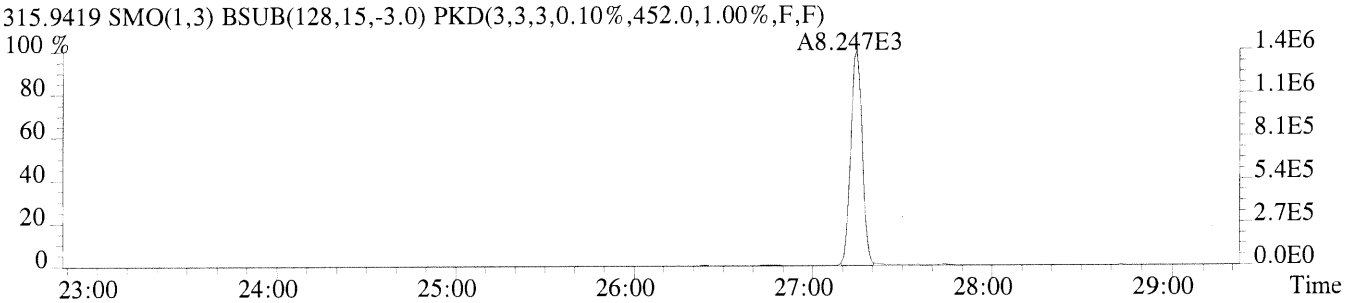
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,F)



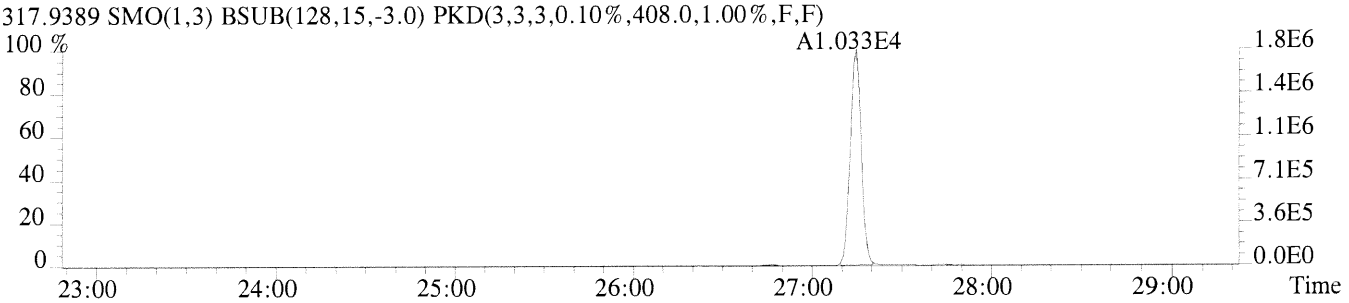
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,F)



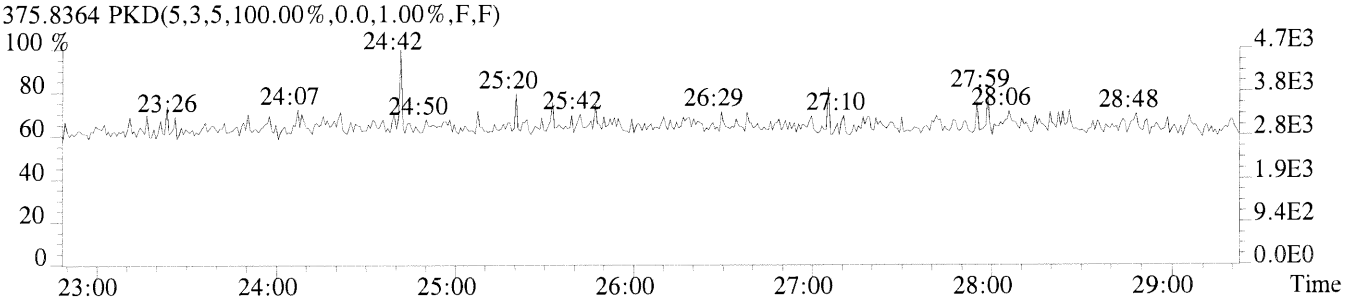
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,F)



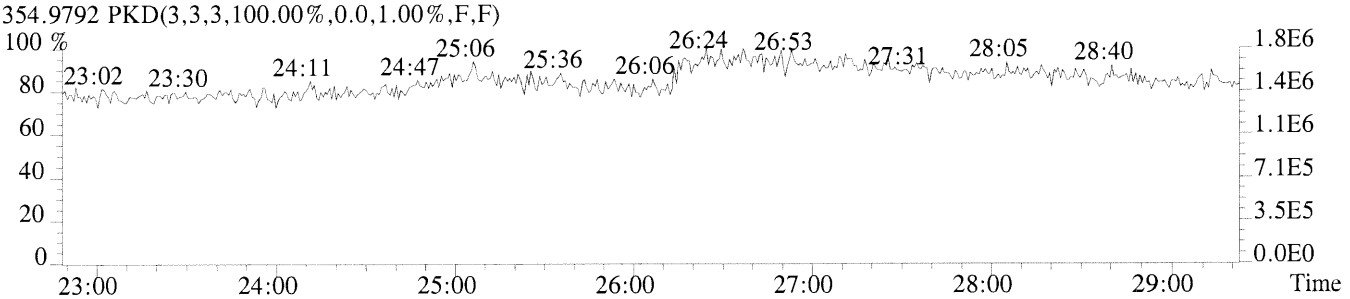
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,408.0,1.00%,F,F)



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

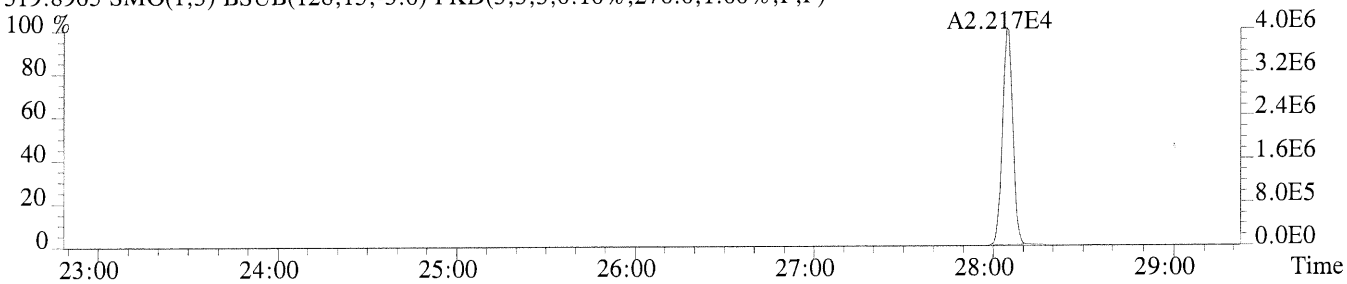


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

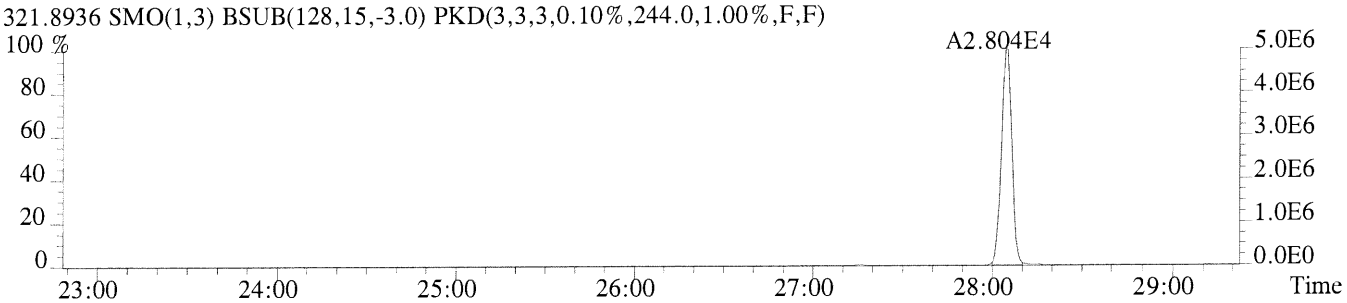


File:U120210 #1-548 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

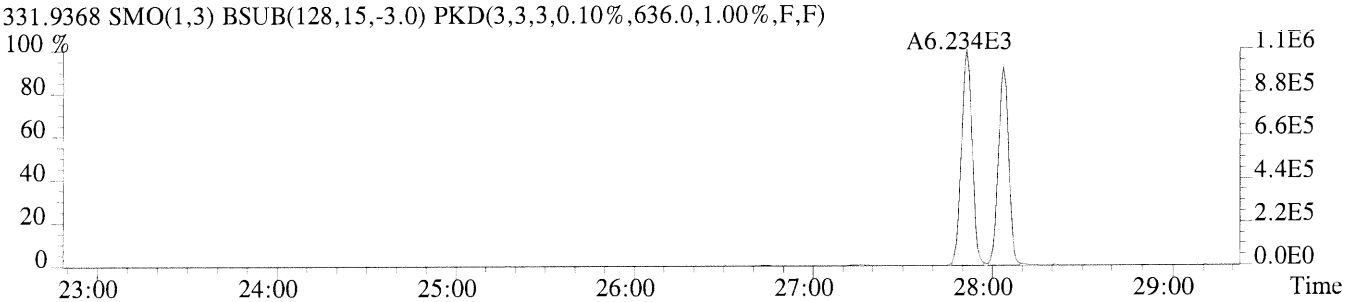
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,F)



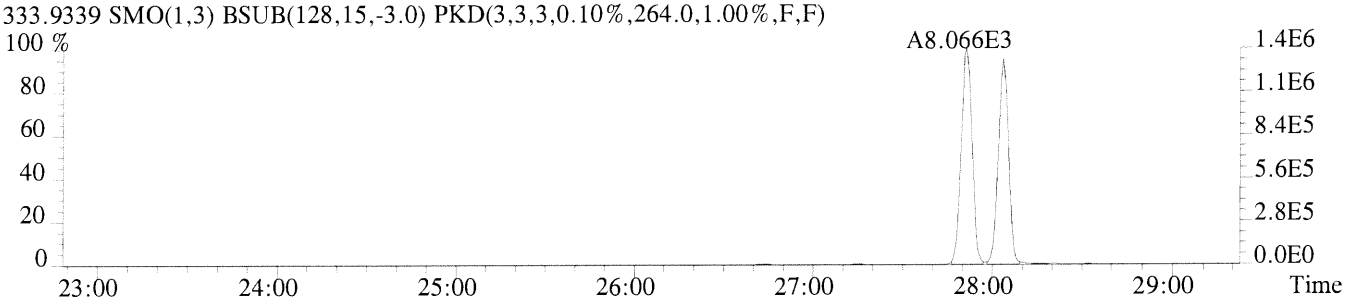
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,244.0,1.00%,F,F)



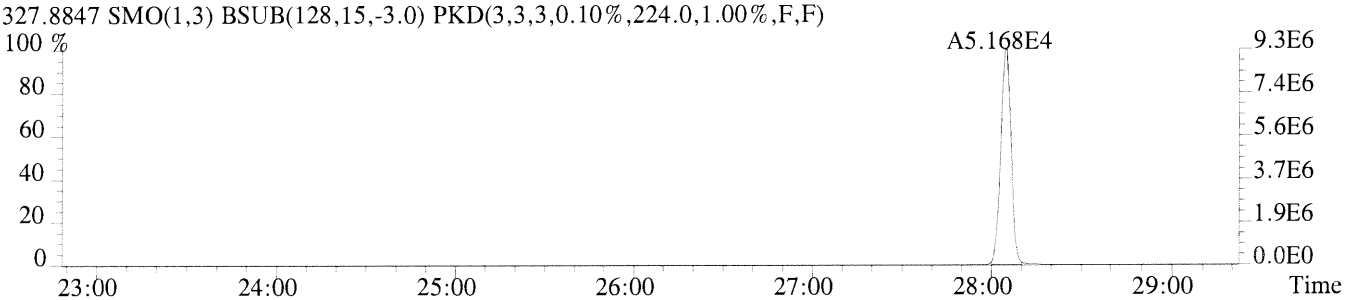
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,F)



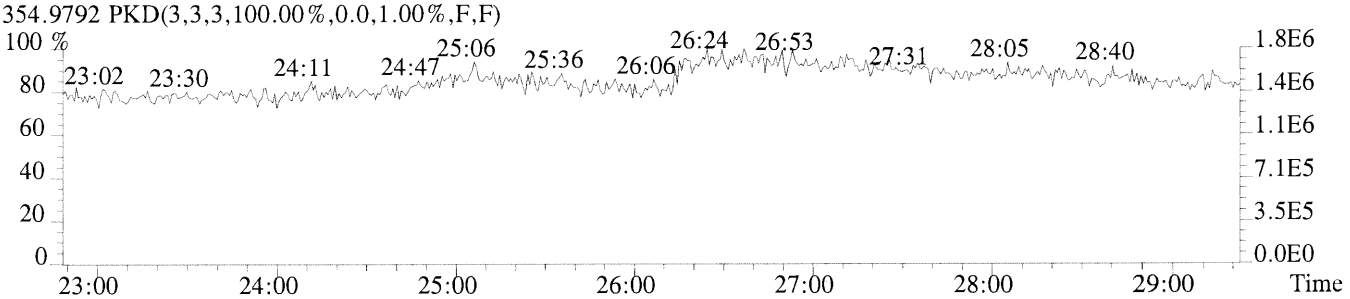
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,264.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,224.0,1.00%,F,F)

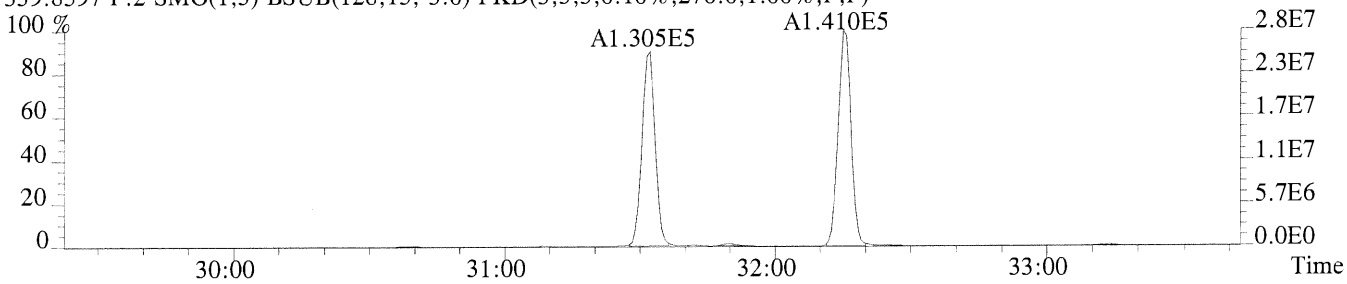


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

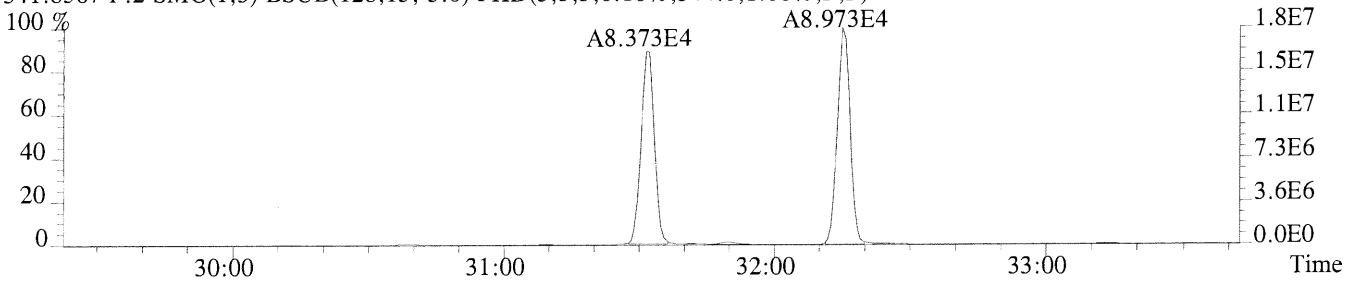


File:U120210 #1-394 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

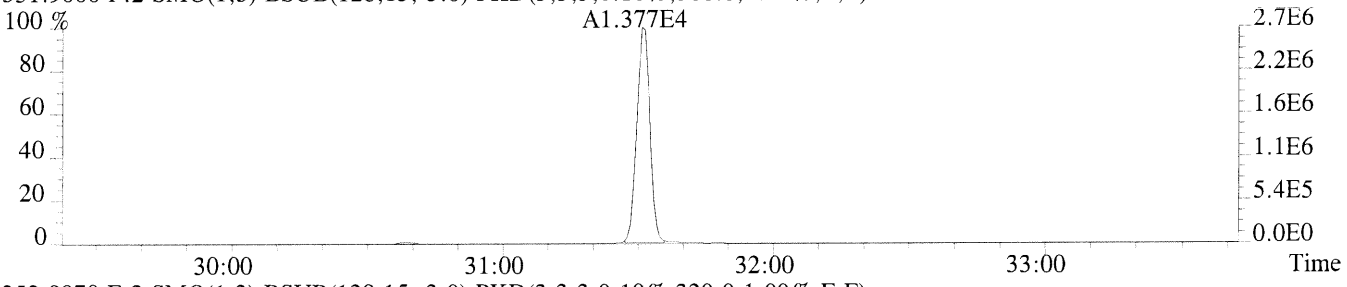
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,276.0,1.00%,F,F)



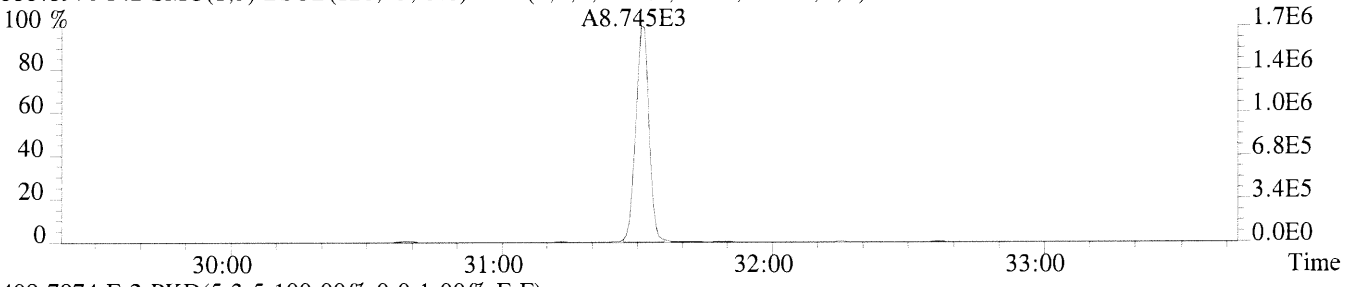
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,F)



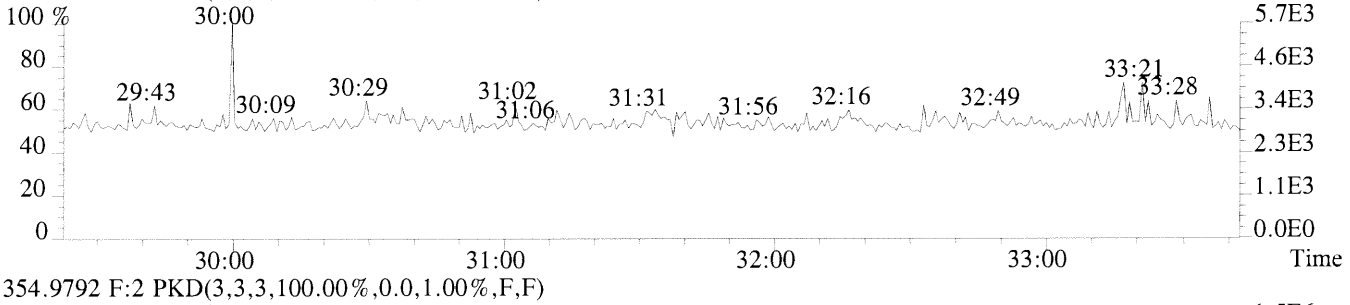
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,F)



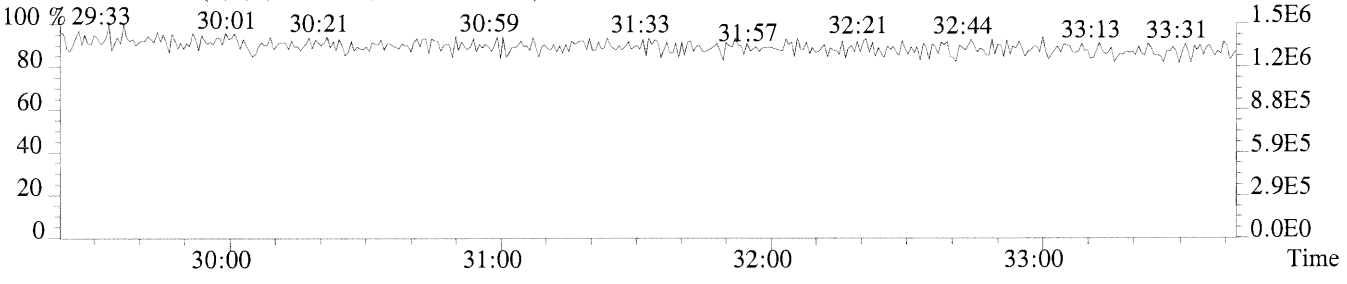
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,320.0,1.00%,F,F)



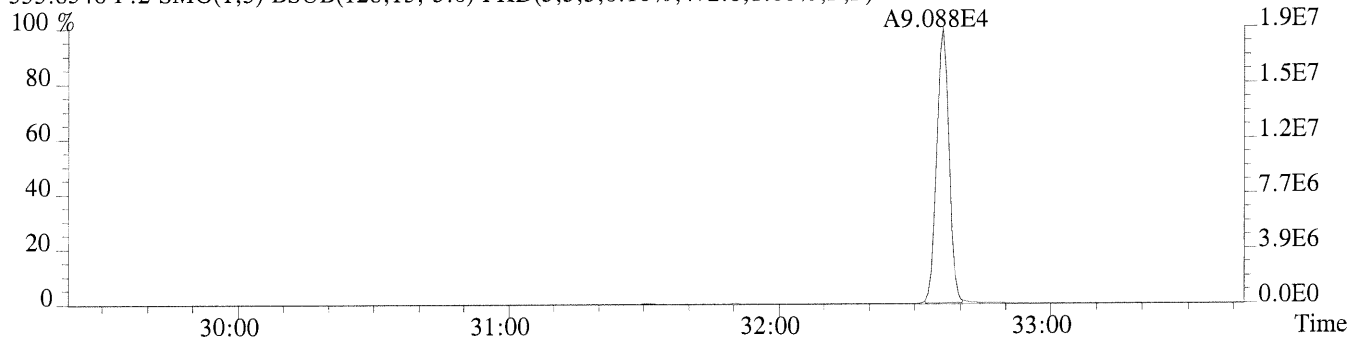
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



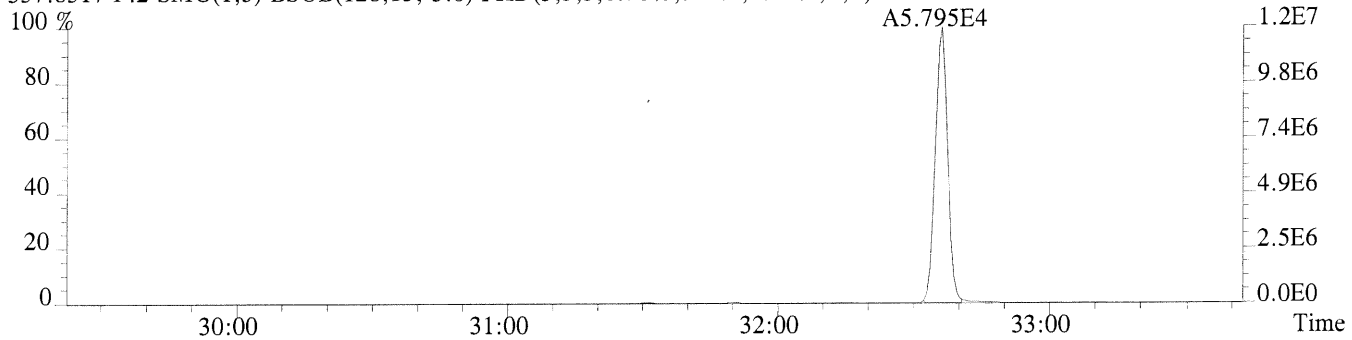
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



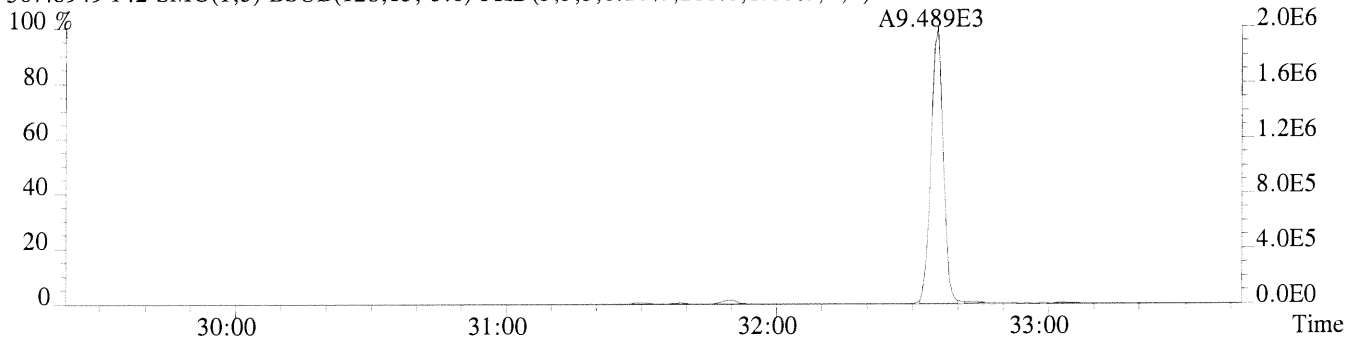
File:U120210 #1-394 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,472.0,1.00%,F,F)



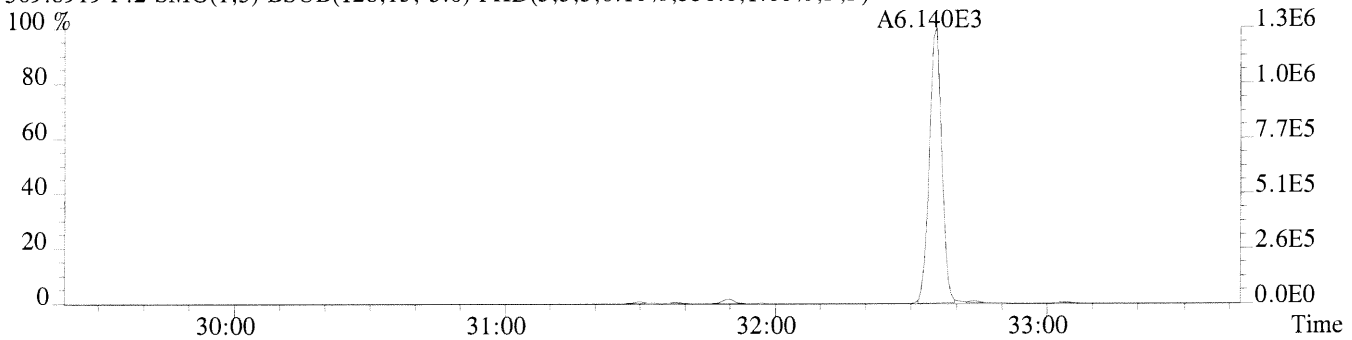
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,F)



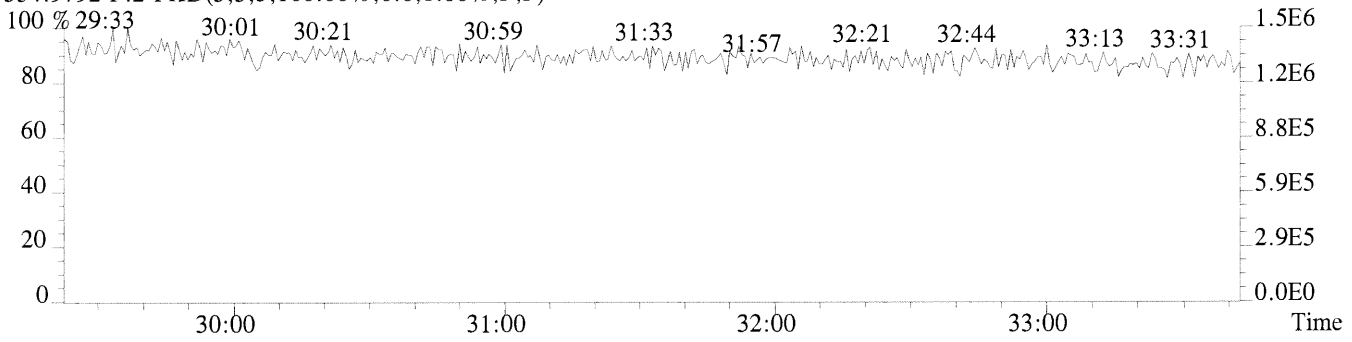
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,288.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,336.0,1.00%,F,F)

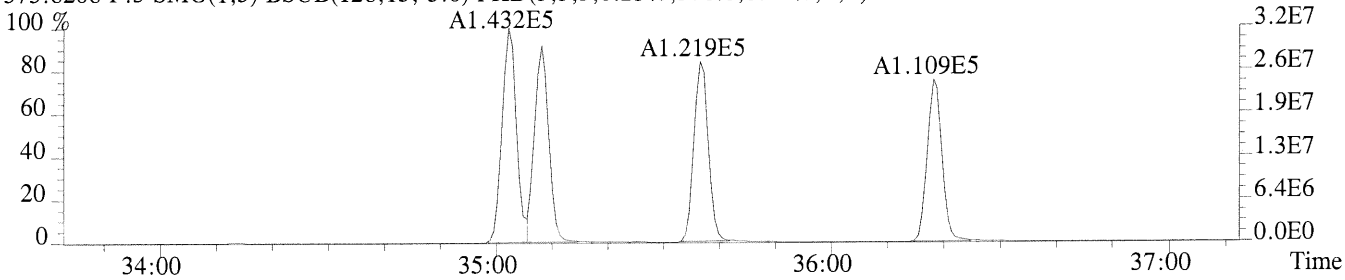


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

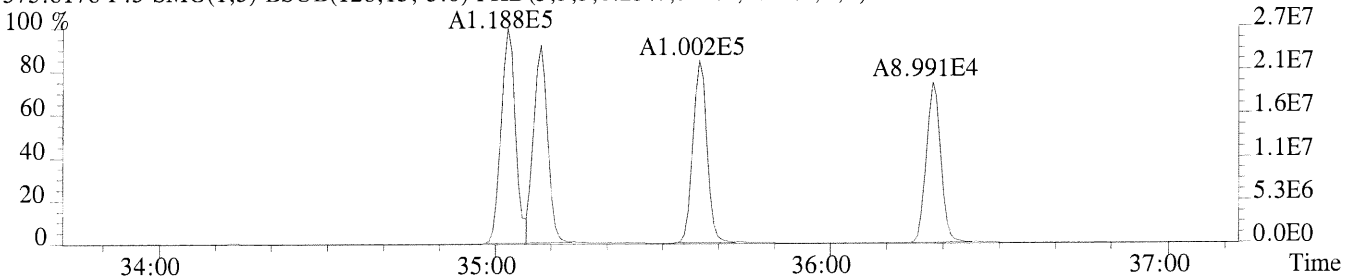


File:U120210 #1-318 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

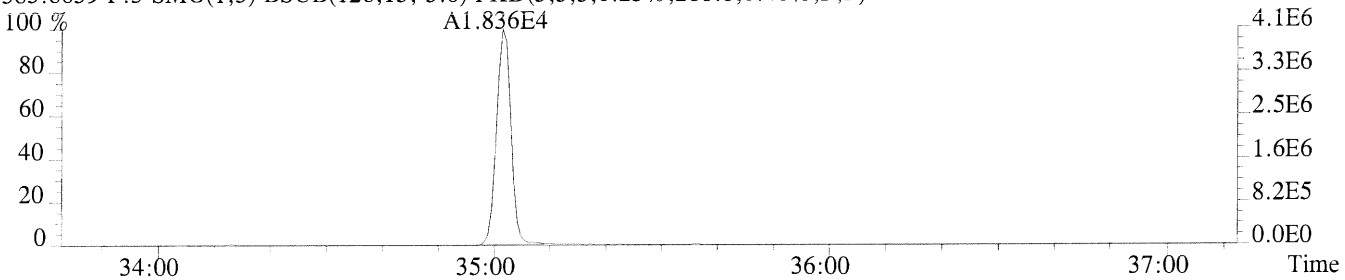
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,376.0,0.40%,F,F)



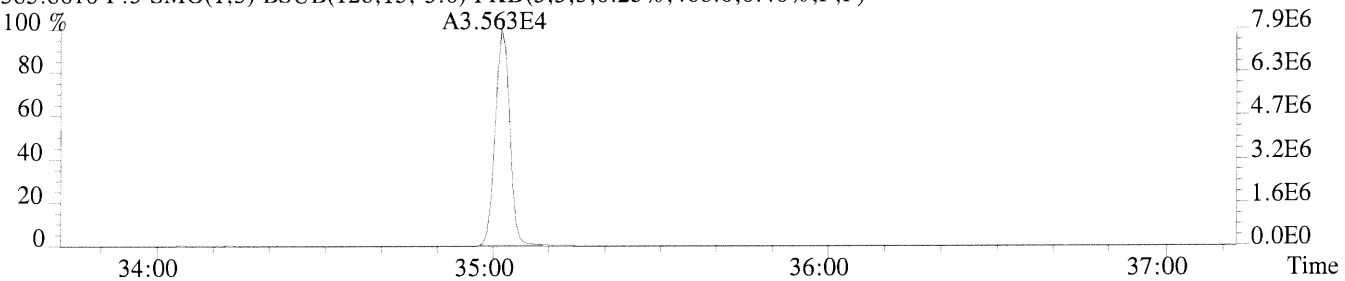
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,384.0,0.40%,F,F)



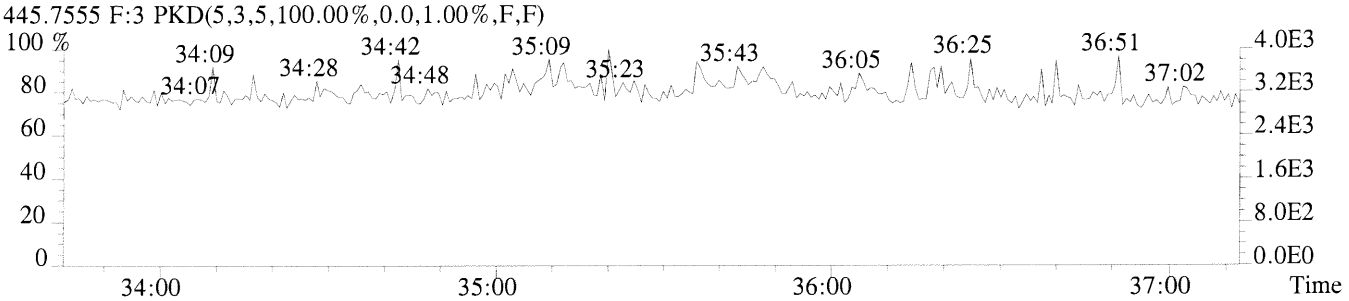
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,F)



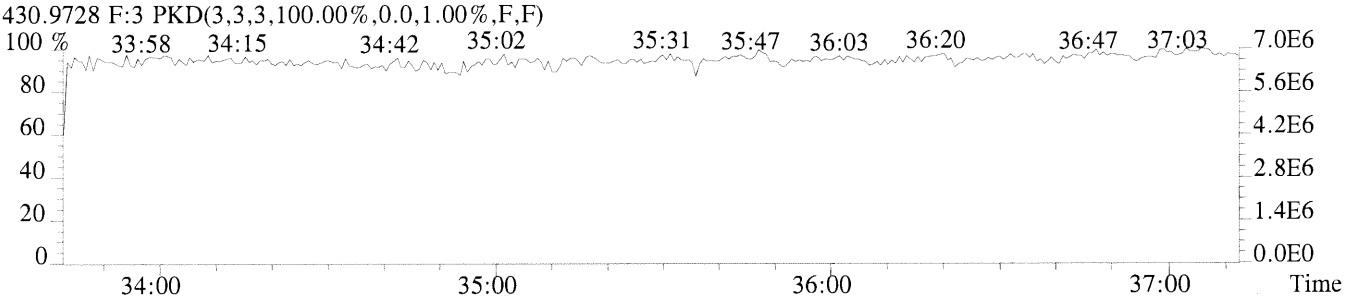
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,F)



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

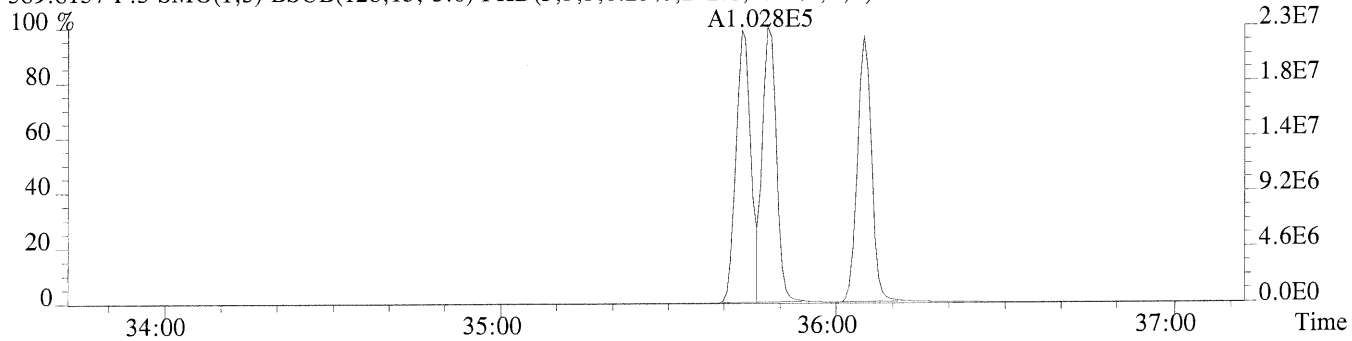


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

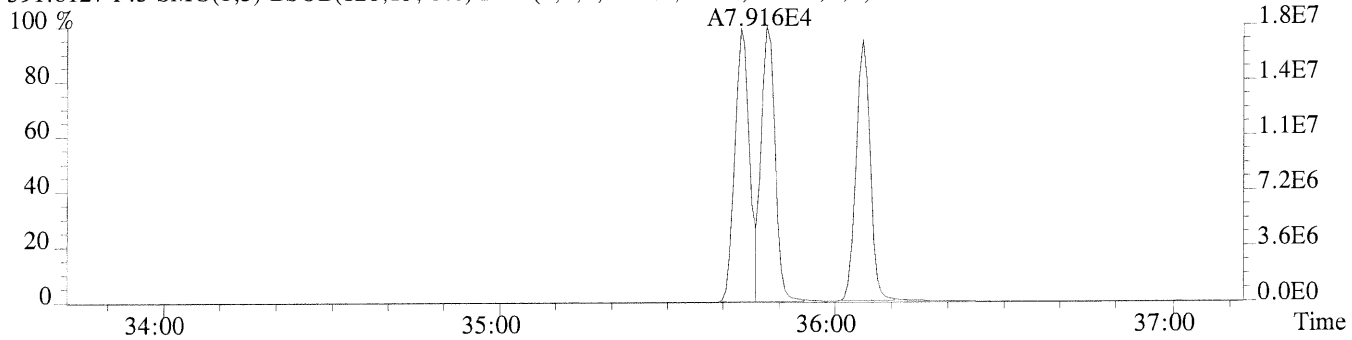


File:U120210 #1-318 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

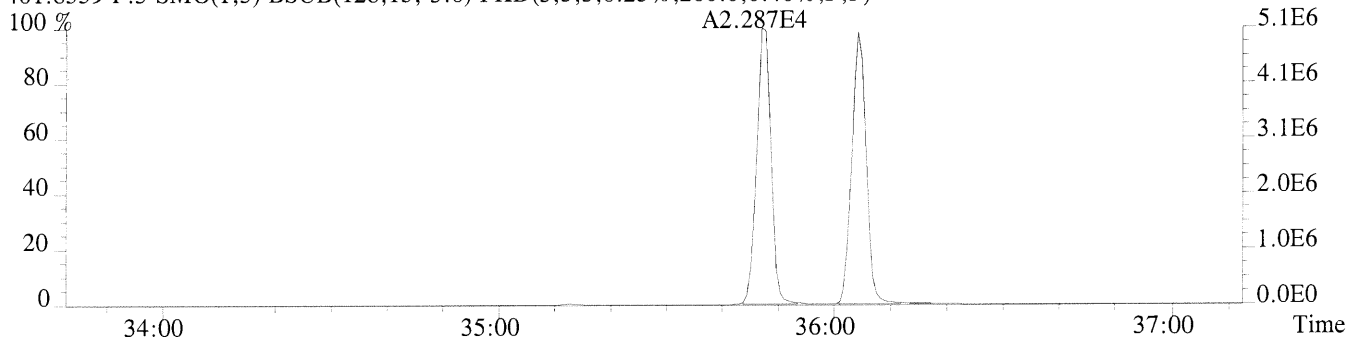
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,272.0,0.40%,F,F)



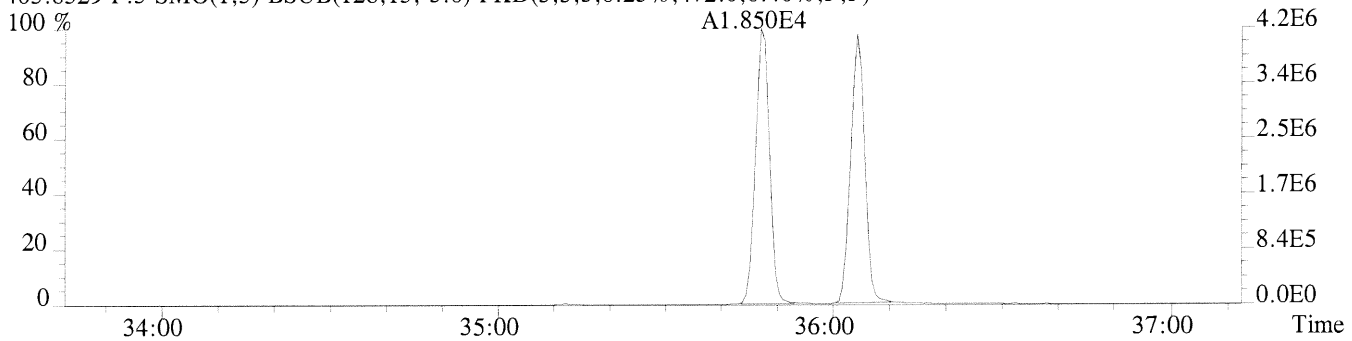
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,268.0,0.40%,F,F)



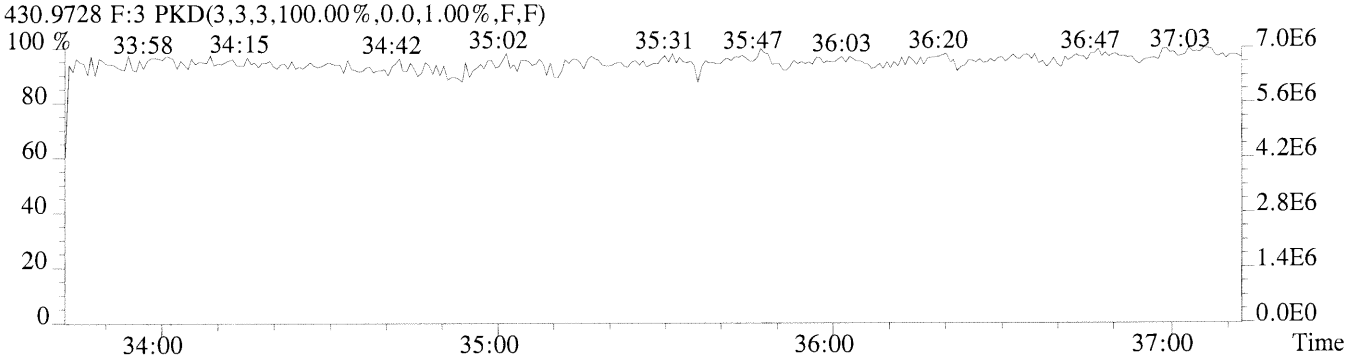
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,472.0,0.40%,F,F)

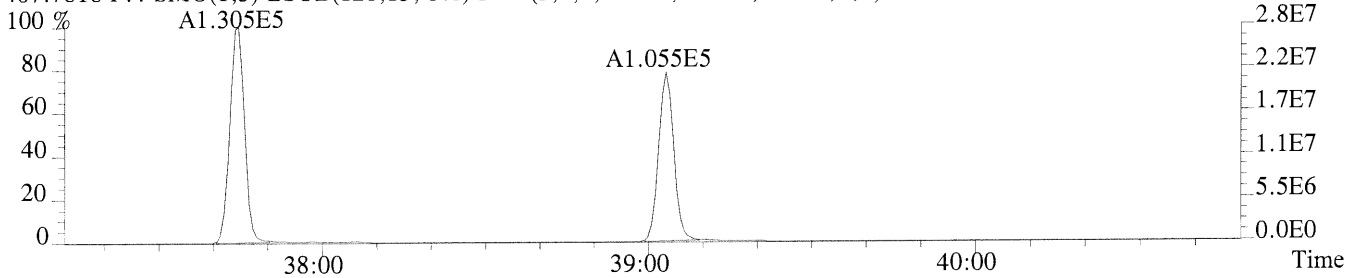


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

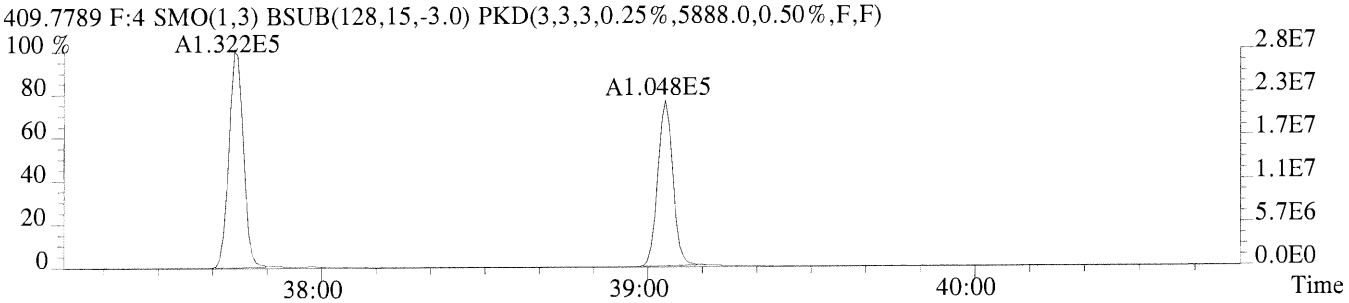


File:U120210 #1-327 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

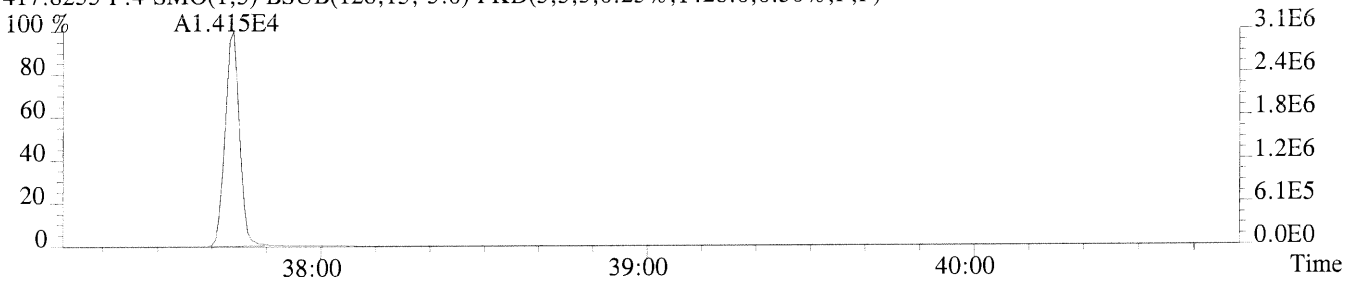
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6196.0,0.50%,F,F)



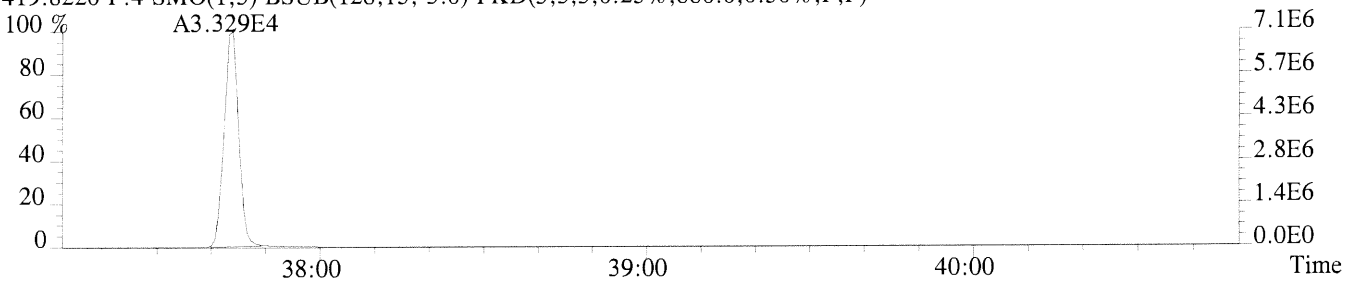
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5888.0,0.50%,F,F)



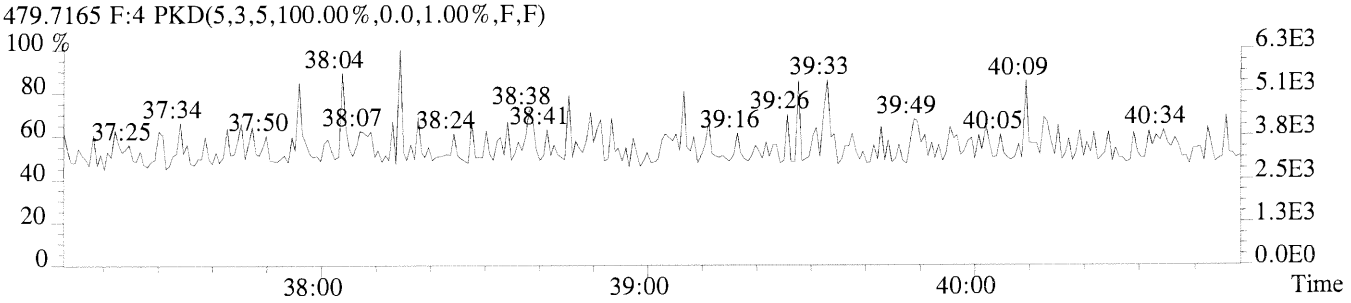
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1428.0,0.50%,F,F)



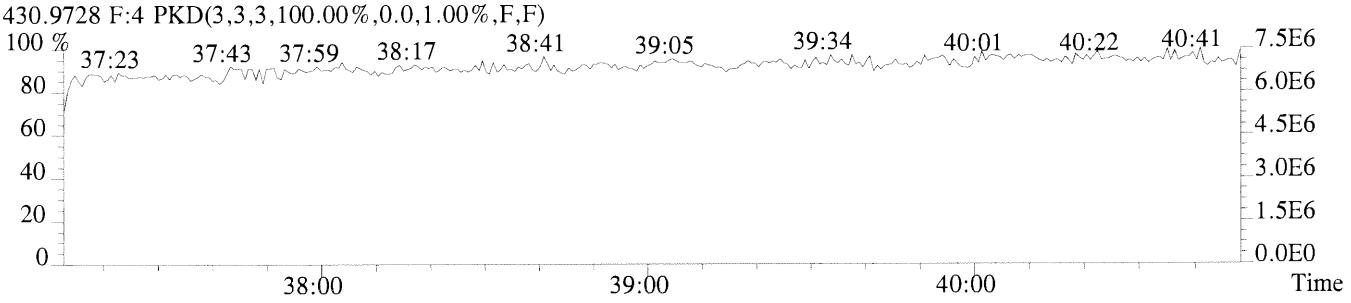
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.50%,F,F)



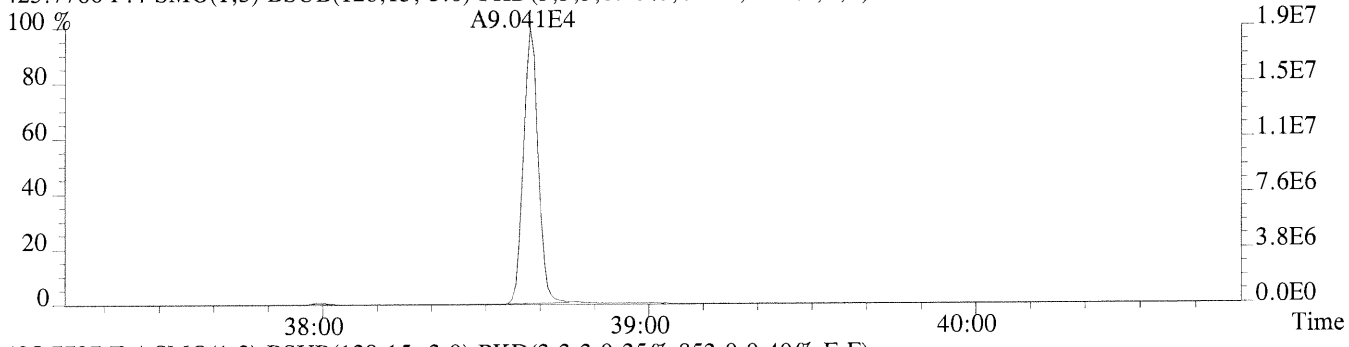
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



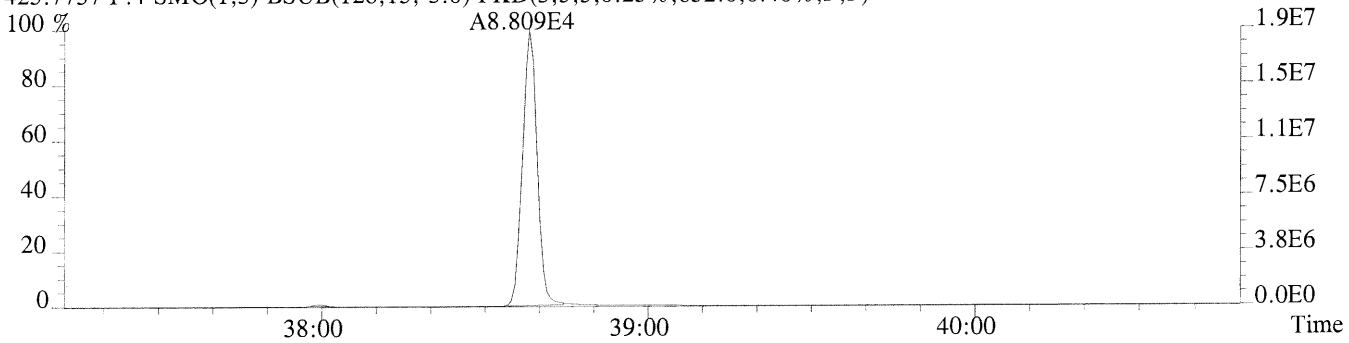
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



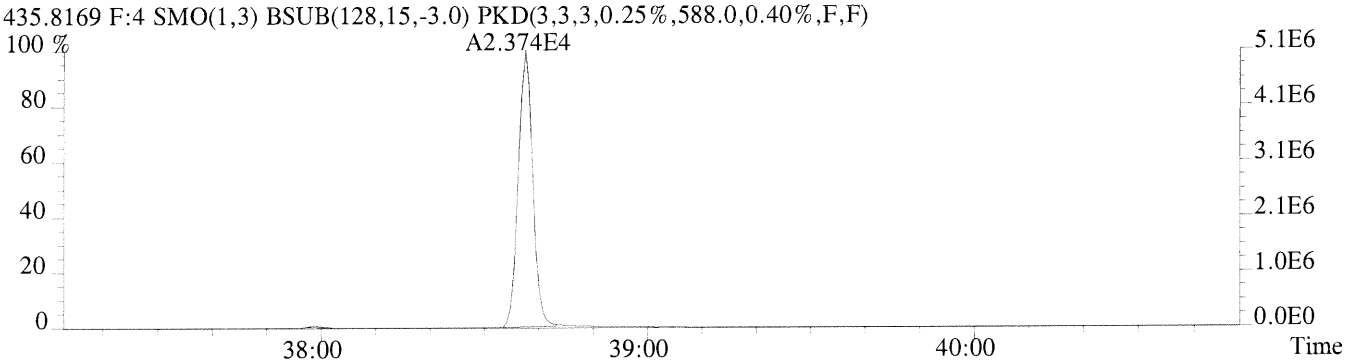
File:U120210 #1-327 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,436.0,0.40%,F,F)



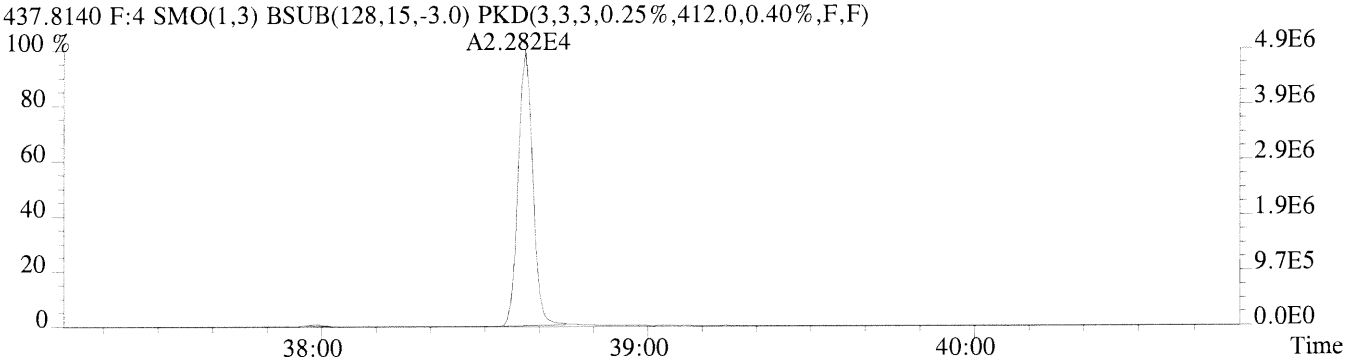
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,852.0,0.40%,F,F)



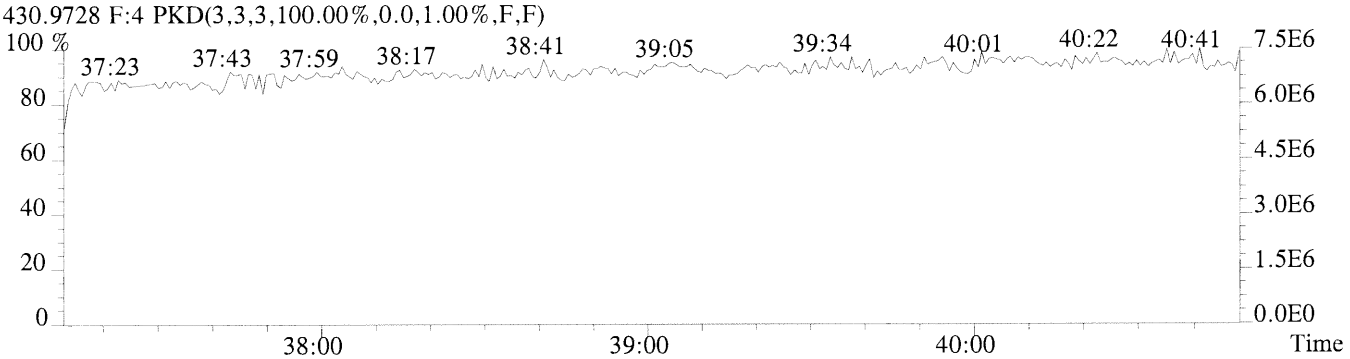
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,F)



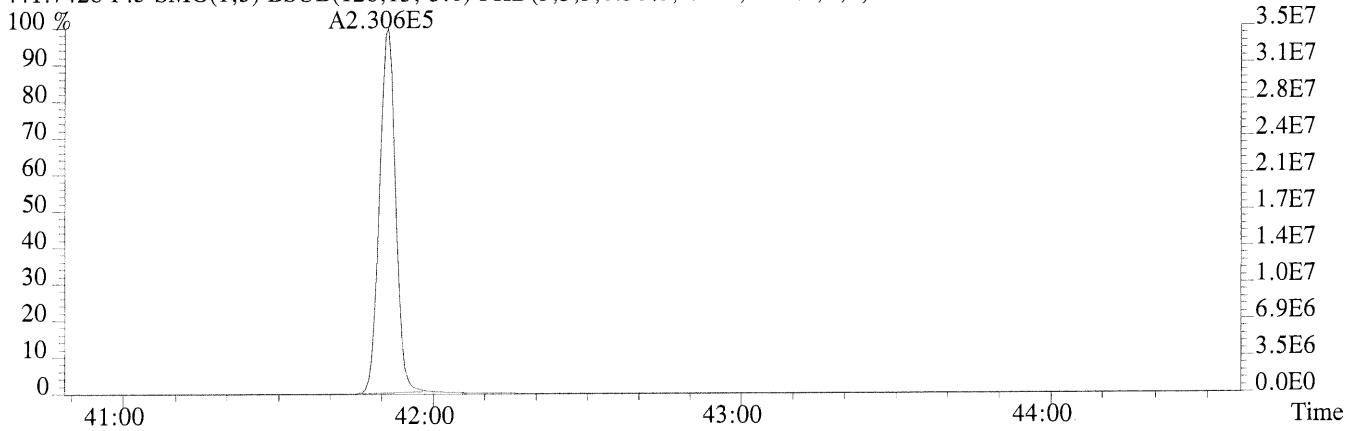
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,412.0,0.40%,F,F)



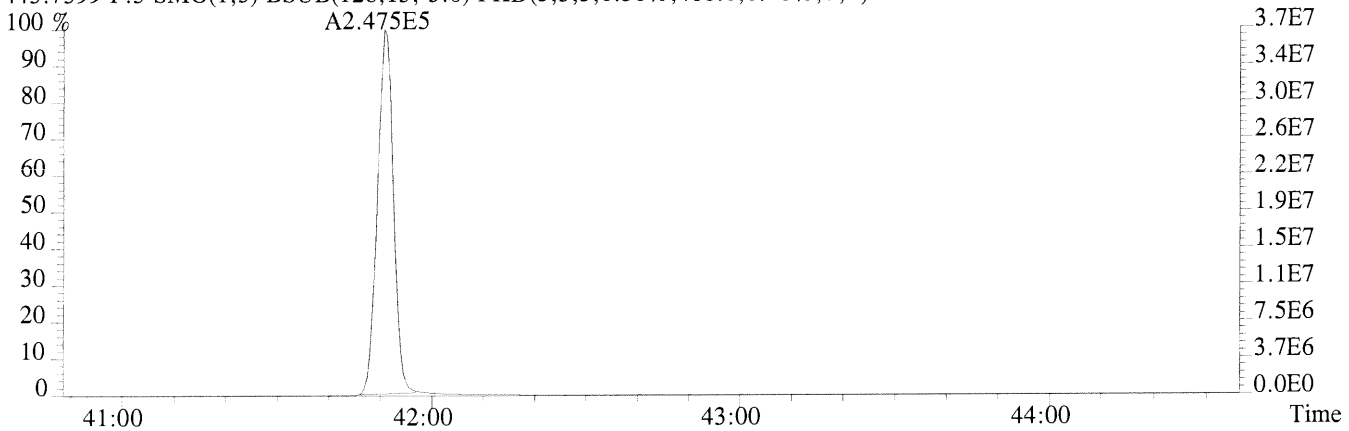
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



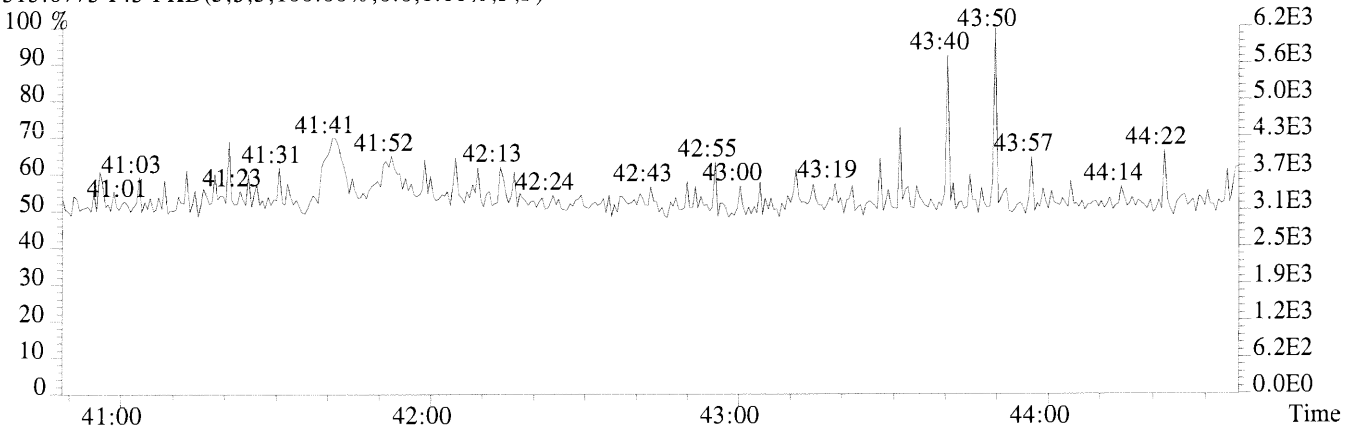
File:U120210 #1-420 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,296.0,0.40%,F,F)



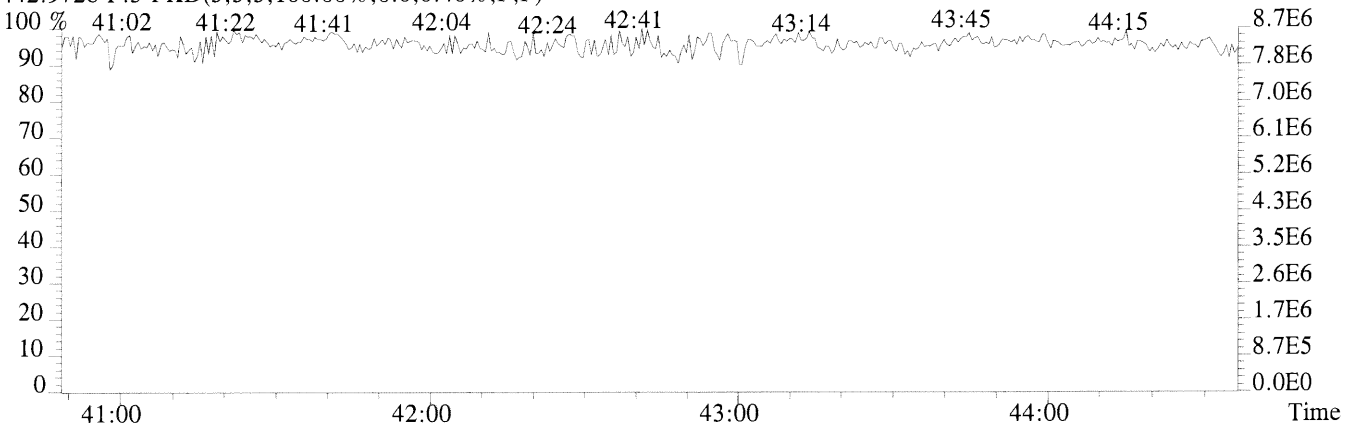
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,468.0,0.40%,F,F)



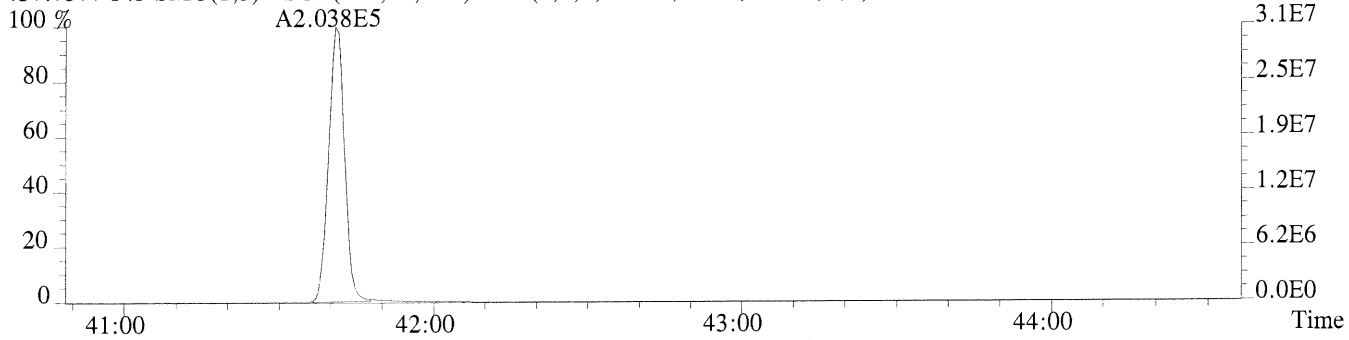
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



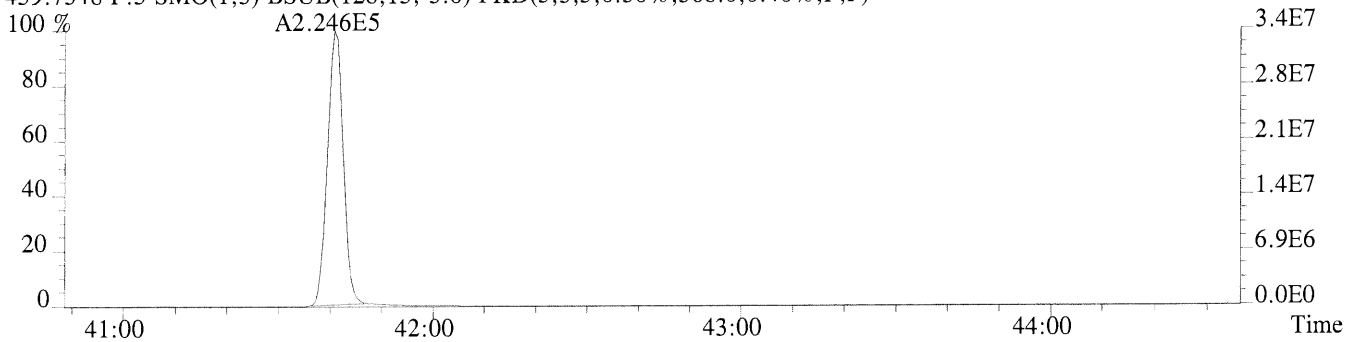
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



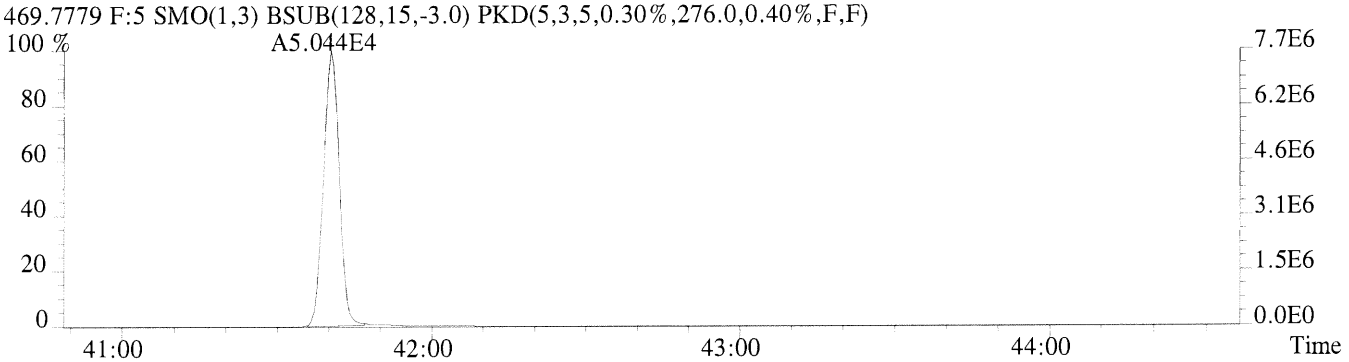
File:U120210 #1-420 Acq: 2-APR-2007 17:13:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,128.0,0.40%,F,F)



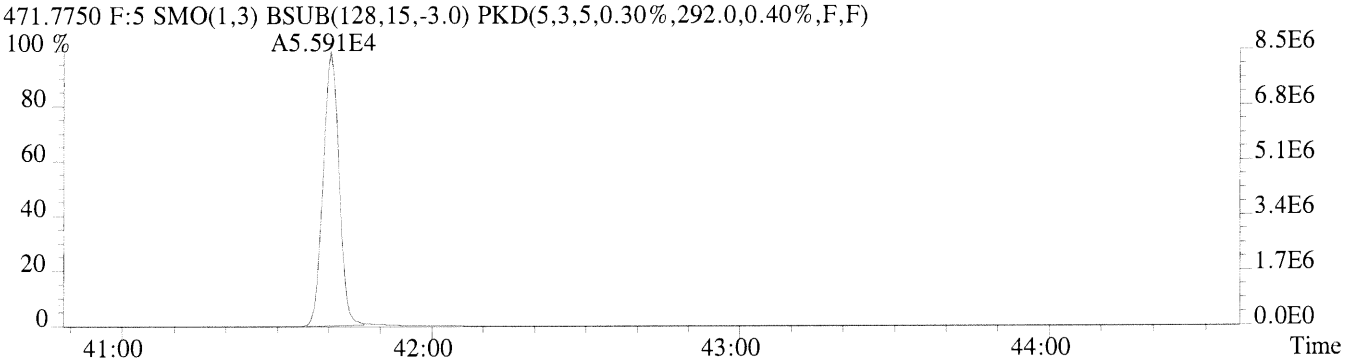
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,368.0,0.40%,F,F)



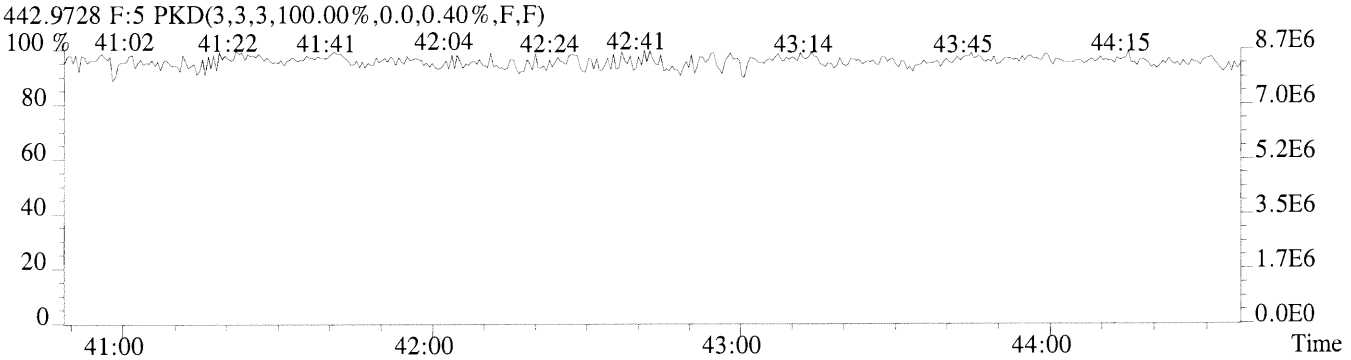
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,276.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,292.0,0.40%,F,F)



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



Initial Calibration QC Checklist

ICAL Name: C80530TCDFI

Date: 05/30/08

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

Retention Window/Column Performance Check	Analyst	Second Check
Windows in and first and last eluters labeled	N/A	N/A
Column Performance shows less than or equal to 25% valley between column specific 2378 isomer and it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: ✓ Second QC: MC

CAS HOUSTON INC.

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Name: Columbia Analytical Services, Houston Contract

Lab Code: TX01411 CASE No.: Client No: SDG No.:

GC Column: DB-225 ID: 0.25 (mm) Instrument ID: 70S

Init. Calib. Date: 05/30/08

Init. Calib.Times: 16:23

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
COLUMN PERFORMANCE		C15076#1	30-MAY-08	16:23:17
ICAL CS1		C15077#1	30-MAY-08	16:55:46
ICAL CS2		C15078#1	30-MAY-08	17:29:10
ICAL CS3		C15079#1	30-MAY-08	17:56:36
ICAL CS4		C15079#2	30-MAY-08	18:29:15
ICAL CS5		C15079#3	30-MAY-08	19:03:14

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

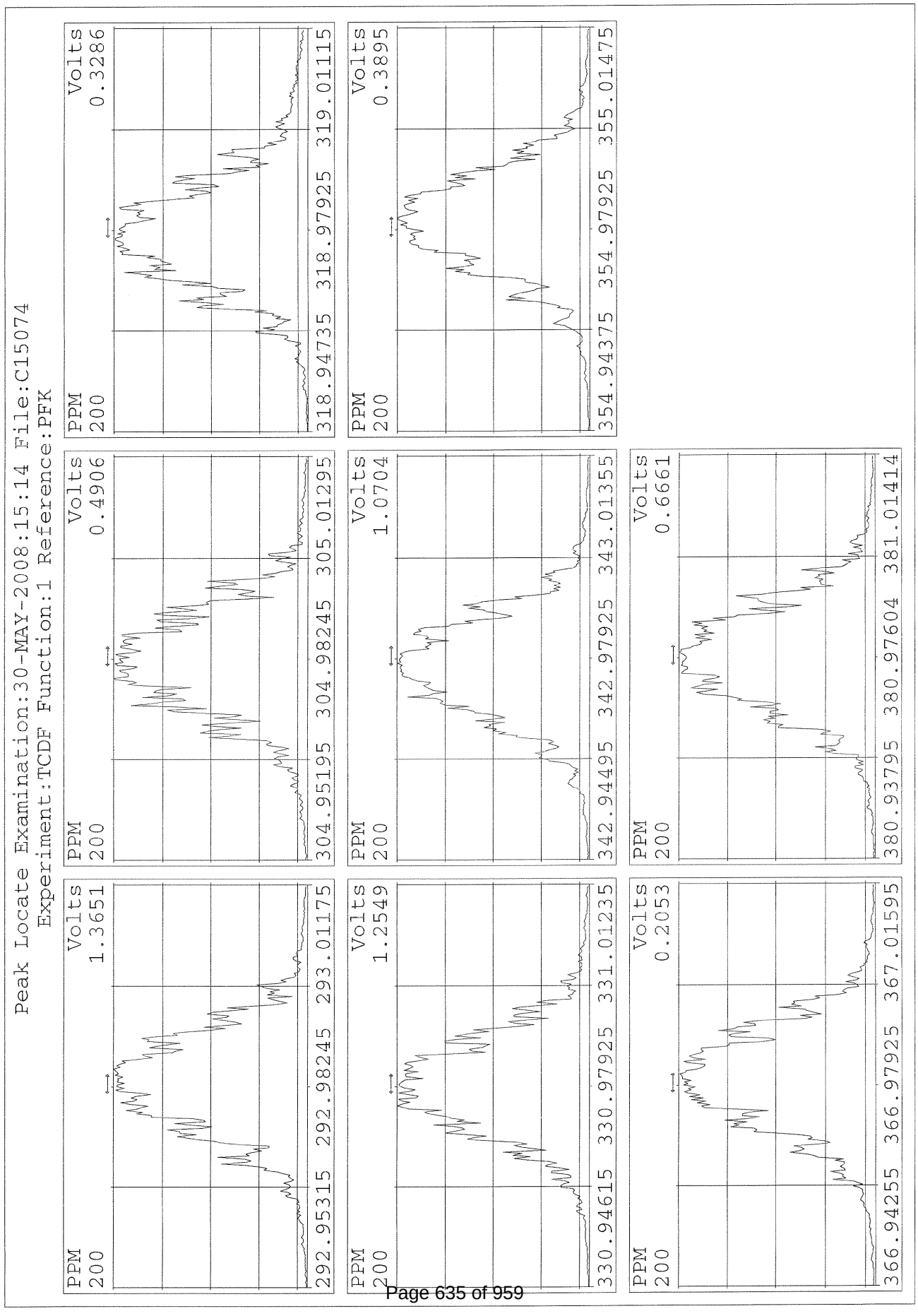
Acq Method: TCDF Result File: CF0530TCDFI Archive Tape: _____

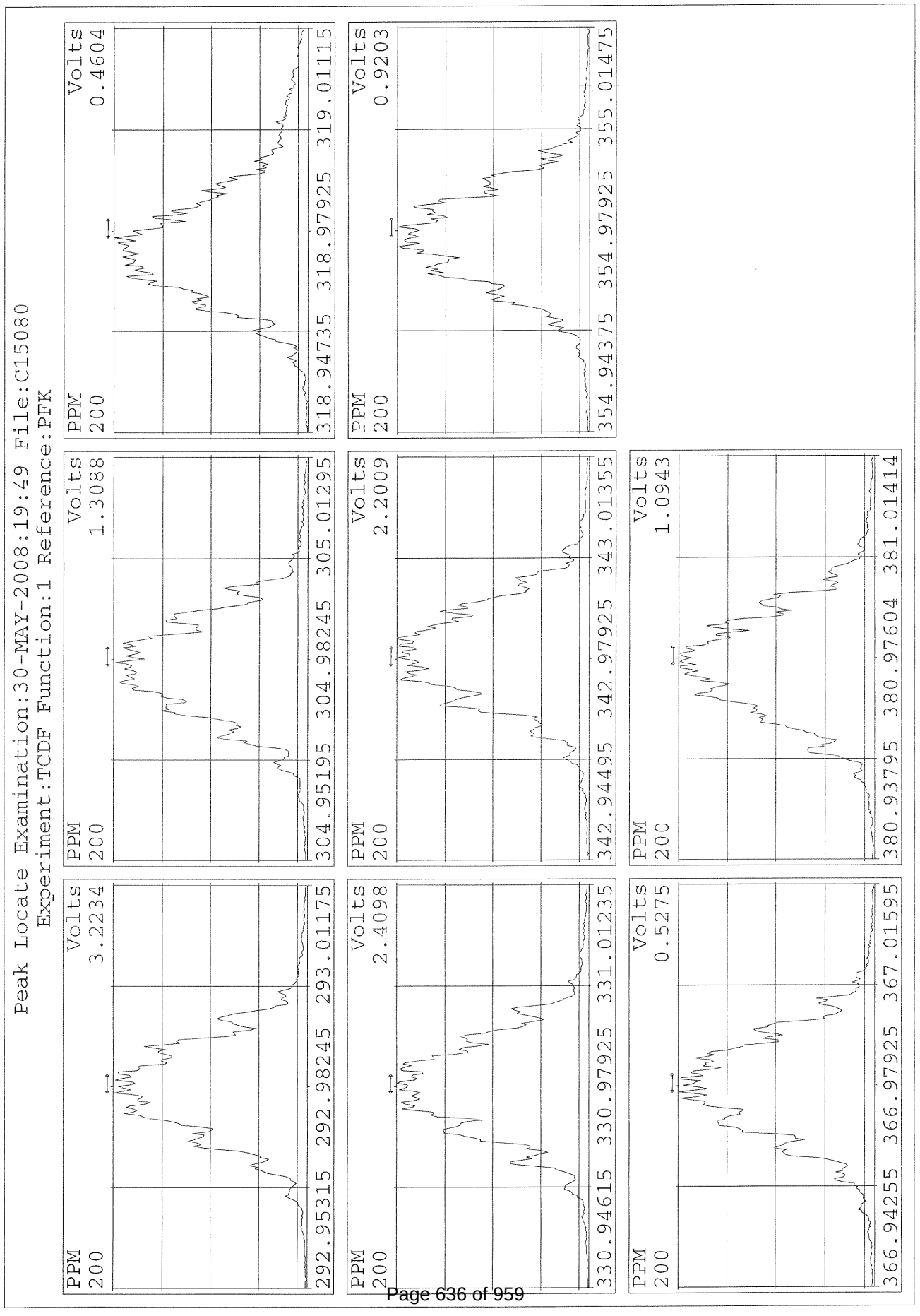
GC Method: TCDF EDD File: _____ Instrument ID: VG 70C

Columbia Analytical Services inc.
An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
5/30/08	15:14	C150734	HRMS check			VK		
	15:14	C150735#1	column Perform	D4-59-1			Needs reinjection	
	16:23	C150736#1	column Perform	D4-59-1				
	16:55	C150737#1	Ical CS1	D4-95-1				
	17:29	C150738#1	Ical CS2	D4-17-1B				
	17:56	C150739#1	Ical CS3	D9-28-1				
	18:29	1 #2	Ical CS4	D4-77-1				
	19:03	C150743#3	Ical CS5	D4-78-1				
	19:49	C150830	HRMS check					
		C150831#1	column Perform	D4-59-1				
		#2	Ical CS3	D9-28-1				
		#3	Test					
		#4	Inst Blank				8290	
		#5	E050043J-001					
		#6	1 43J-002					
		C150851#1	E050043J-003					

Reviewed by: _____


Peak Locate Examination:30-MAY-2008:15:14 File:C15074
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
1.3651
292.95315 292.98245 293.01175
Volts
0.4906
304.95195 304.98245 305.01295
Volts
0.3286
318.94735 318.97925 319.01115
Volts
1.2549
330.94615 330.97925 331.01235
Volts
1.0704
342.94495 342.97925 343.01355
Volts
0.3895
354.94375 354.97925 355.01475
Volts
0.2053
366.94255 366.97925 367.01595
Volts
0.6661
380.93795 380.97604 381.01414


Peak Locate Examination:30-MAY-2008:19:49 File:C15080
Experiment:TCDF Function:1 Reference:PFK
PPM
200
Volts
3.2234
292.95315 292.98245 293.01175
PPM
200
Volts
1.3088
304.95195 304.98245 305.01295
PPM
200
Volts
0.4604
318.94735 318.97925 319.01115
PPM
200
Volts
2.4098
330.94615 330.97925 331.01235
PPM
200
Volts
2.2009
342.94495 342.97925 343.01355
PPM
200
Volts
0.9203
354.94375 354.97925 355.01475
PPM
200
Volts
0.5275
366.94255 366.97925 367.01595
PPM
200
Volts
1.0943
380.93795 380.97604 381.01414

USEPA - CLP
5DFB

EPA SAMPLE NO.

PCDD/PCDF WINDOW DEFINING MIX SUMMARY

Column Perform

Lab Name: Columbia Analytical Services Contract: _____

Lab Code: TX01411 Case No.: _____ Client No.: _____ SDG No.: _____

GC Column: 30m DB-225 ID: 0.25 (mm) Lab File ID: C15076#1

Instrument ID: 70S Date Analyzed: 05/30/08

Time Analyzed: 16:23:17

Percent Valley deterimation for DB-5 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

1478-TCDD/2378-TCDD: _____

QUALITY COTROL (QC) LIMITS: _____

Percent Valley between the TCDD isomers must be less than or equal to 25%.

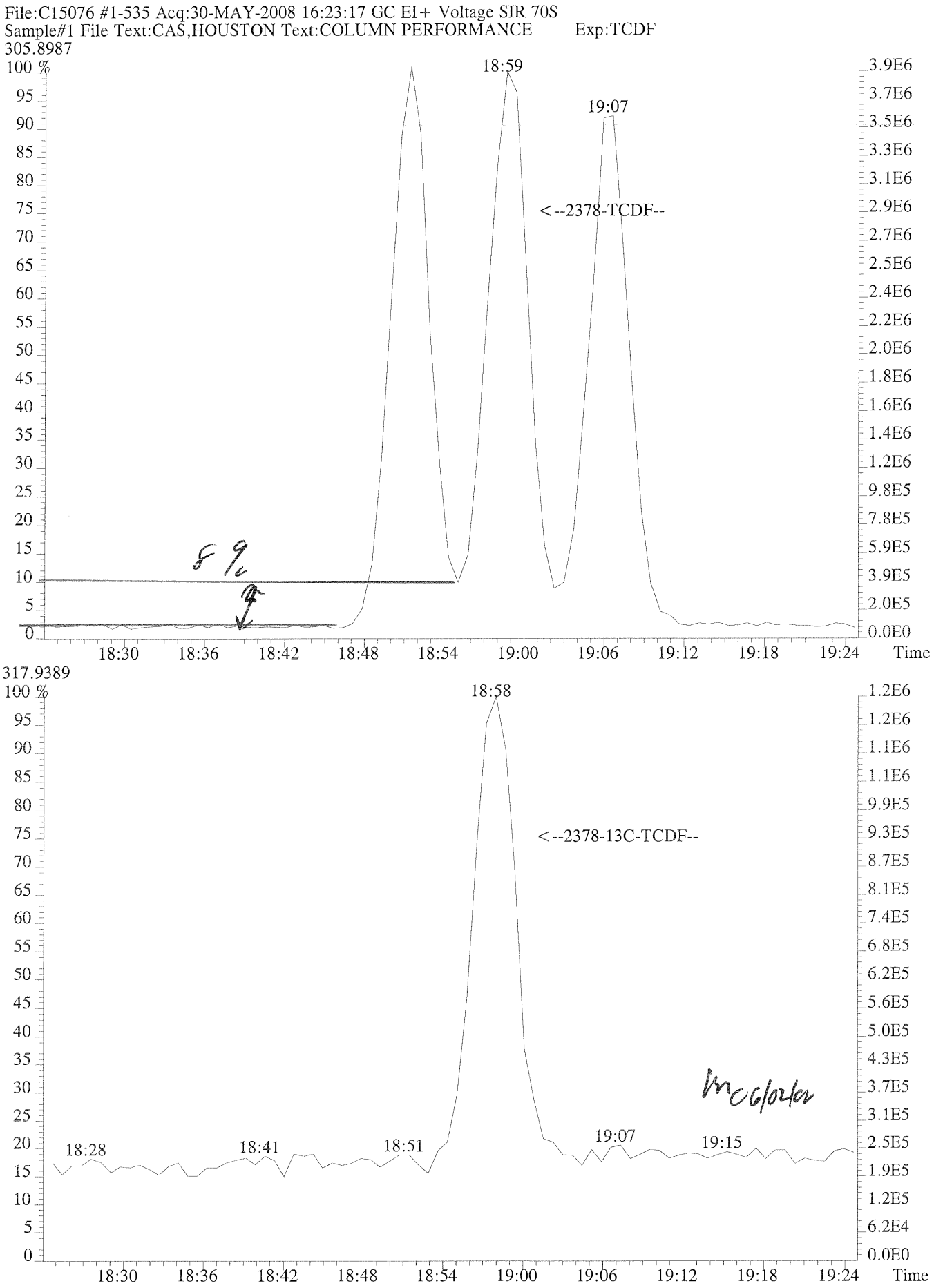
Percent Valley deterimation for DB-225 (or equivalent) Column -
For the Column Performance Solution beginning the 12-hour period:

2347-TCDF/2378-TCDF: 8%

QUALITY COTROL (QC) LIMITS:

Percent Valley between the TCDF/TCDF isomers must be less than or equal to 25%.

Analyst Init: _____ FORM V-HR CDD-2 DLM02.0


File:C15076 #1-535 Acq:30-MAY-2008 16:23:17 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:COLUMN PERFORMANCE Exp:TCDF
305.8987
100 %
18:59
19:07
<--2378-TCDF--
3.9E6
3.7E6
3.5E6
3.3E6
3.1E6
2.9E6
2.7E6
2.5E6
2.4E6
2.2E6
2.0E6
1.8E6
1.6E6
1.4E6
1.2E6
9.8E5
7.8E5
5.9E5
3.9E5
2.0E5
0.0E0
18:30
18:36
18:42
18:48
18:54
19:00
19:06
19:12
19:18
19:24
Time
317.9389
100 %
18:58
<--2378-13C-TCDF--
18:28
18:41
18:51
19:07
19:15
1.2E6
1.2E6
1.1E6
1.1E6
9.9E5
9.3E5
8.7E5
8.1E5
7.4E5
6.8E5
6.2E5
5.6E5
5.0E5
4.3E5
3.7E5
3.1E5
2.5E5
1.9E5
1.2E5
6.2E4
0.0E0
18:30
18:36
18:42
18:48
18:54
19:00
19:06
19:12
19:18
19:24
Time

USEPA - CLP
6DFA
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name: Columbia Analytical Services Contract No.:
Lab Code: TX01411 Case No.: To No.: SDG No.:
GC Column: db5 ID: 0.25(mm) Instrument ID: 70S
Init. Calib. Date(s).: 05/30/08
Init. Calib. Time.: 16:23

	RR/RRF					MEAN		QC
	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	LIMITS
Target Analyte								
2,3,7,8-TCDF	1.37	1.01	0.99	1.05	1.06	1.10	14.27	+/-20%
Labeled Compounds								
13C-2,3,7,8-TCDF	1.28	1.30	1.31	1.38	1.44	1.34	4.80	+/-35%
37Cl-2,3,7,8-TCDD	0.88	0.92	0.93	0.95	1.06	0.95	6.77	+/-35%

USEPA - CLP
6DFA
CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY
HIGH RESOLUTION

Lab Name: Columbia Analytical Services Contract No.:
Lab Code: TX01411 Case No.: To No.: SDG No.:
GC Column: DB-225 ID: 0.25(mm) Instrument ID: 70S
Init. Calib. Date(s).: 05/30/08
Init. Calib. Time.: 16:23

	RR/RRF					MEAN		QC
	CS1	CS2	CS3	CS4	CS5	RR/RRF	%RSD	LIMITS
Target Analyte								
2,3,7,8-TCDF	1.37	1.01	0.99	1.05	1.06	1.10	14.27	+/-20%
Labeled Compounds								
13C-2,3,7,8-TCDF	1.28	1.30	1.31	1.38	1.44	1.34	4.80	+/-35%
37Cl-2,3,7,8-TCDD	0.88	0.92	0.93	0.95	1.06	0.95	6.77	+/-35%

Columbia Analytical Services, Inc. Page 1 of 5
Sample Response Summary EPA SAMPLE NO.
ICAL CS1

Run #1 Filename C15077#1 Samp: 1 Inj: 1 Acquired: 30-MAY-08 16:55:46
Processed: 2-JUN-08 12:56:01 Sample ID:

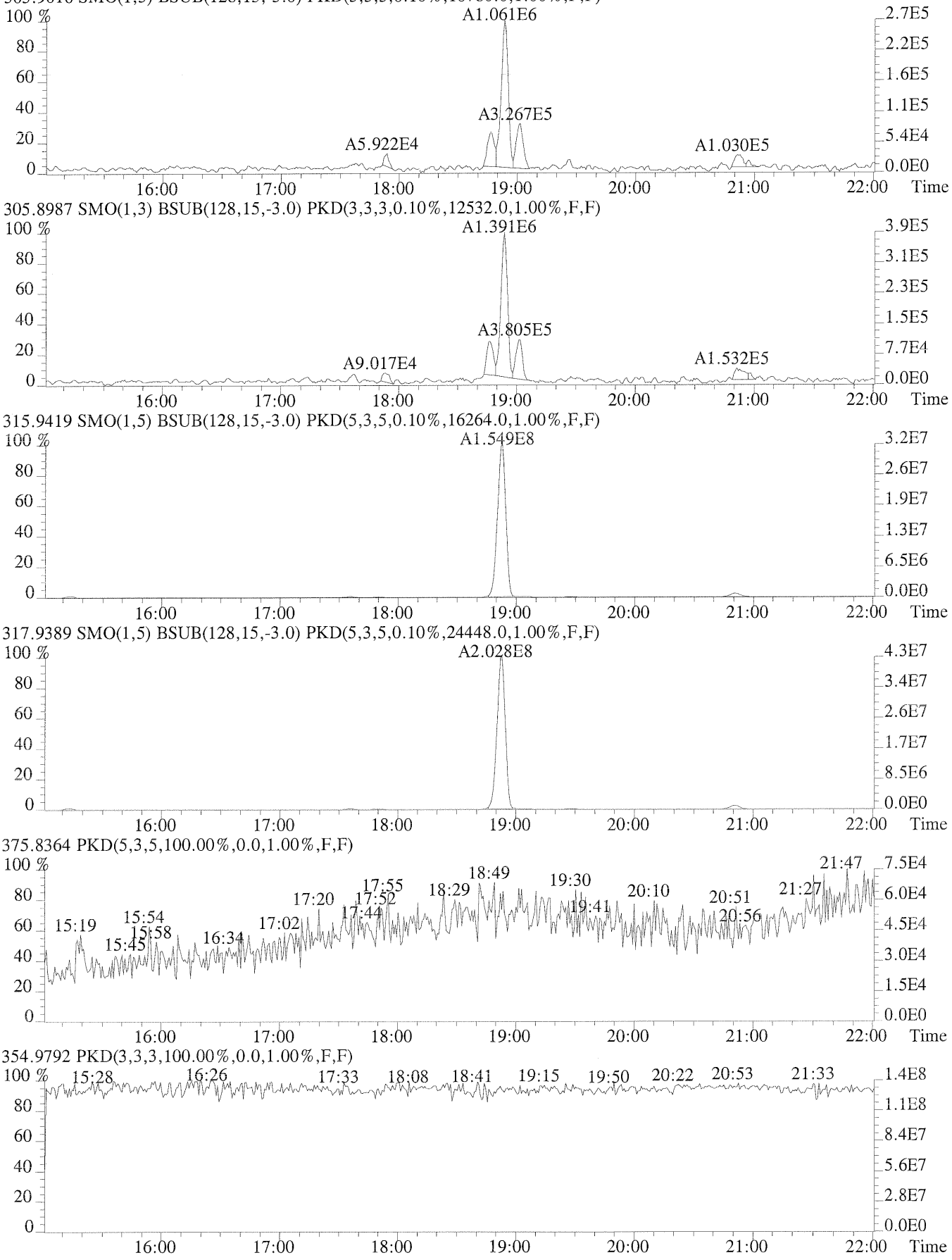
	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:54	1.061e+06	1.391e+06	0.76	yes	no
2	IS	13C-2,3,7,8-TCDF	18:53	1.549e+08	2.028e+08	0.76	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:53	1.236e+08	1.560e+08	0.79	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:39	1.236e+06				

Signal/Noise Height Ratio Summary

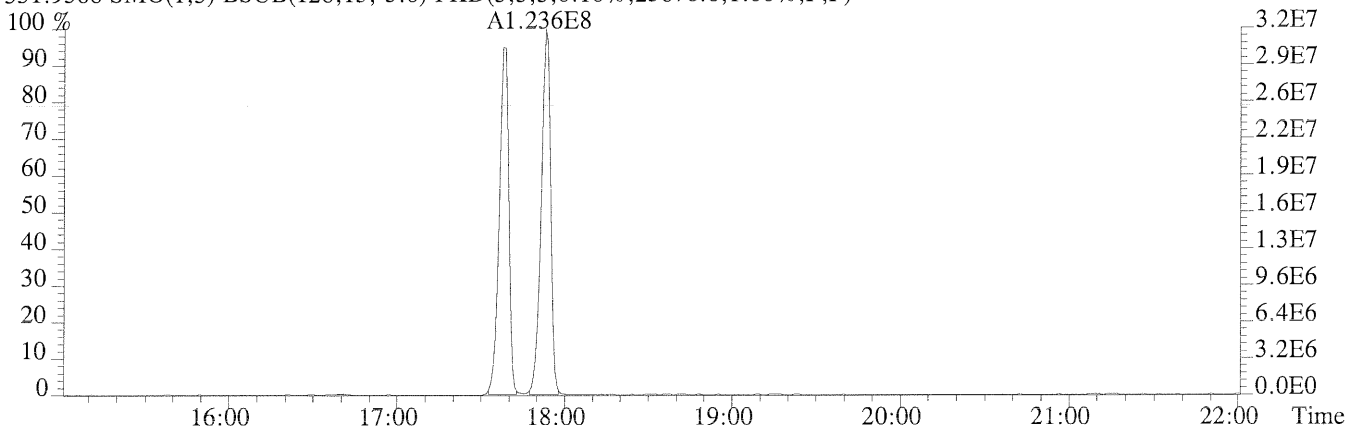
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	2.62e+05	1.08e+04	2.4e+01	3.67e+05	1.25e+04	2.9e+01
2	13C-2,3,7,8-TCDF	3.24e+07	1.63e+04	2.0e+03	4.26e+07	2.44e+04	1.7e+03
3	13C-1,2,3,4-TCDD	3.21e+07	2.59e+04	1.2e+03	4.10e+07	1.48e+04	2.8e+03
4	37Cl-2,3,7,8-TCDD	3.55e+05	1.61e+04	2.2e+01			

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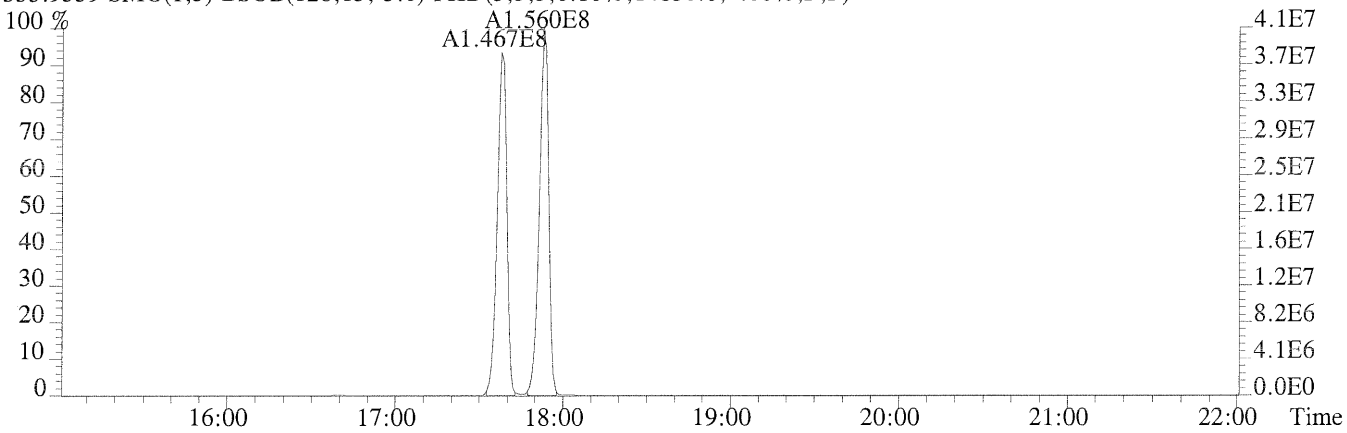
File:C15077 #1-582 Acq:30-MAY-2008 16:55:46 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS1 Exp:TCDF



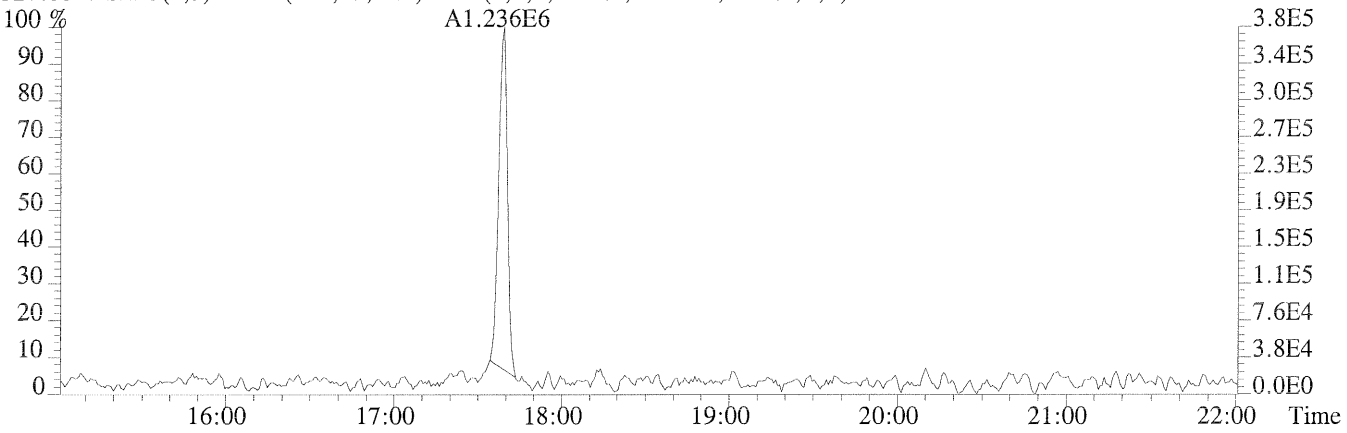
File:C15077 #1-582 Acq:30-MAY-2008 16:55:46 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS1 Exp:TCDF
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25876.0,1.00%,F,F)



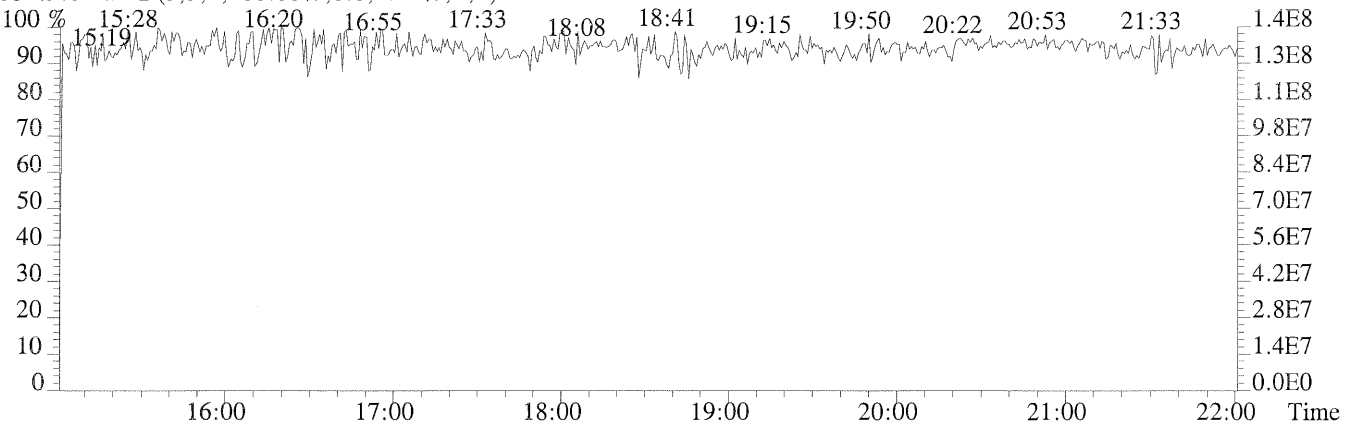
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14836.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16088.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
ICAL CS2

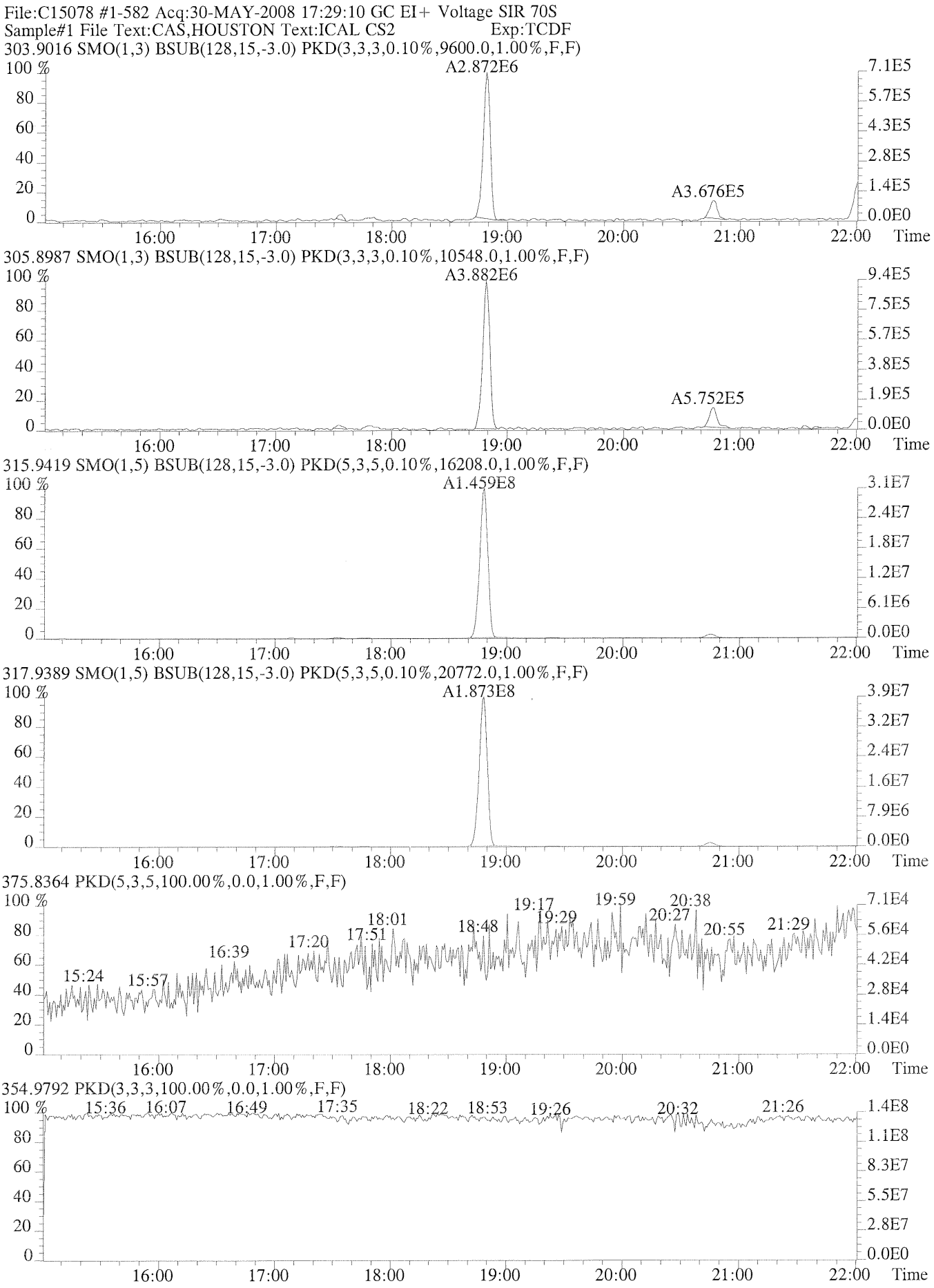
Run #2 Filename C15078#1 Samp: 1 Inj: 1 Acquired: 30-MAY-08 17:29:10
Processed: 2-JUN-08 12:56:01 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:49	2.872e+06	3.882e+06	0.74	yes	no
2	IS	13C-2,3,7,8-TCDF	18:48	1.459e+08	1.873e+08	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:49	1.133e+08	1.423e+08	0.80	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:35	4.706e+06				

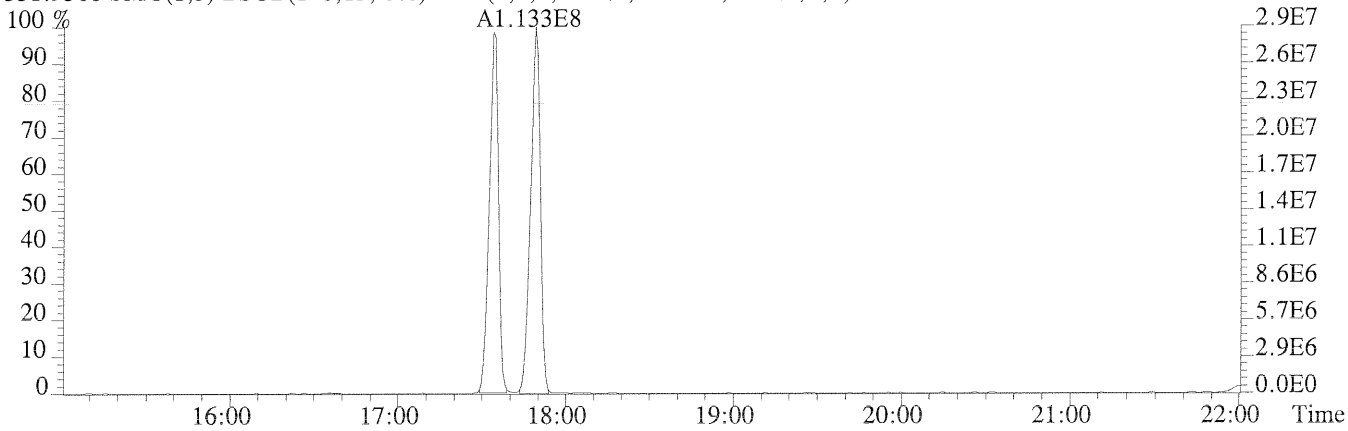
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	6.95e+05	9.60e+03	7.2e+01	9.35e+05	1.05e+04	8.9e+01
2	13C-2,3,7,8-TCDF	3.06e+07	1.62e+04	1.9e+03	3.93e+07	2.08e+04	1.9e+03
3	13C-1,2,3,4-TCDD	2.86e+07	2.20e+04	1.3e+03	3.62e+07	1.38e+04	2.6e+03
4	37Cl-2,3,7,8-TCDD	1.26e+06	1.26e+04	1.0e+02			

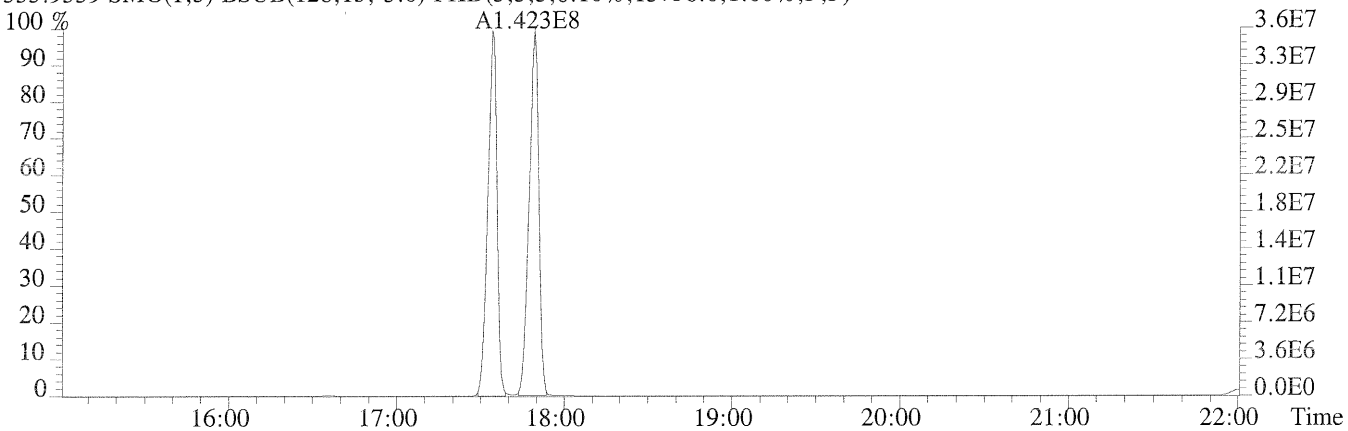
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File:C15078 #1-582 Acq:30-MAY-2008 17:29:10 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS2 Exp:TCDF
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9600.0,1.00%,F,F)
A2.872E6
A3.676E5
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10548.0,1.00%,F,F)
A3.882E6
A5.752E5
315.9419 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,16208.0,1.00%,F,F)
A1.459E8
317.9389 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,20772.0,1.00%,F,F)
A1.873E8
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)
15:24
15:57
16:39
17:20
17:51
18:01
18:48
19:17
19:29
19:59
20:27
20:38
20:55
21:29
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)
15:36
16:07
16:49
17:35
18:22
18:53
19:26
20:32
21:26
Time

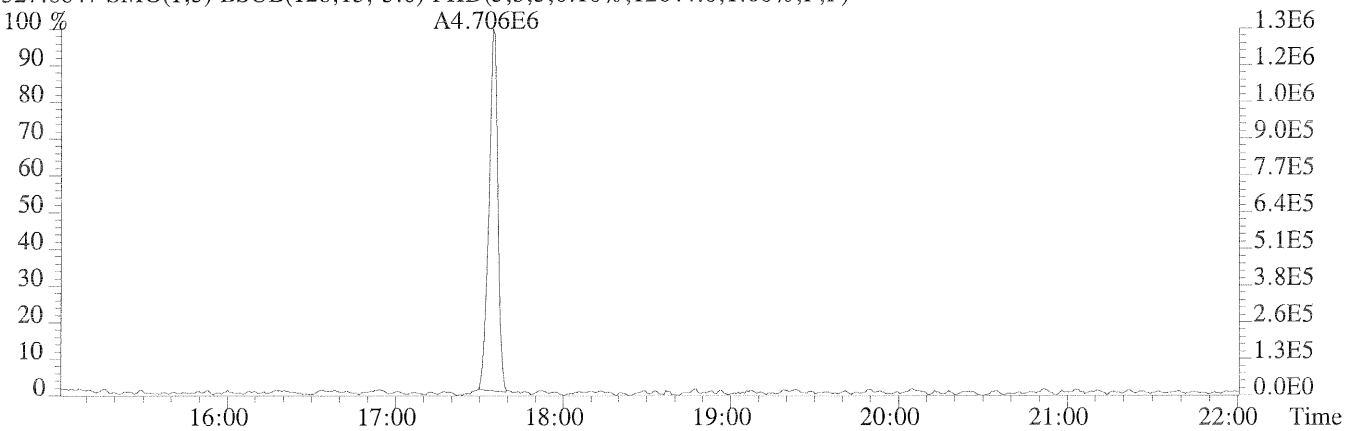
File:C15078 #1-582 Acq:30-MAY-2008 17:29:10 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS2 Exp:TCDF
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,21972.0,1.00%,F,F)



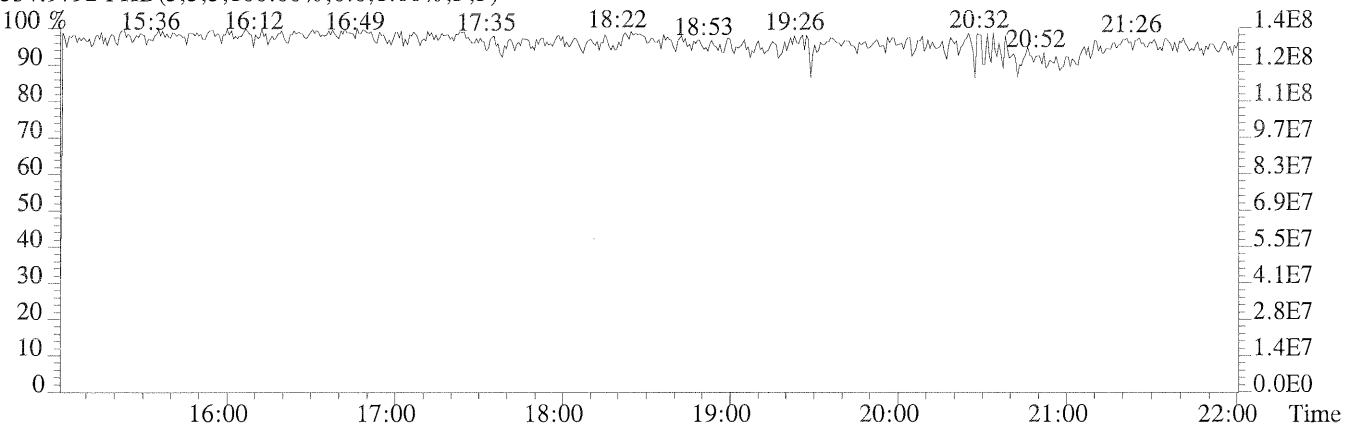
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13756.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12644.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



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Sample Response Summary
EPA SAMPLE NO.
ICAL CS3

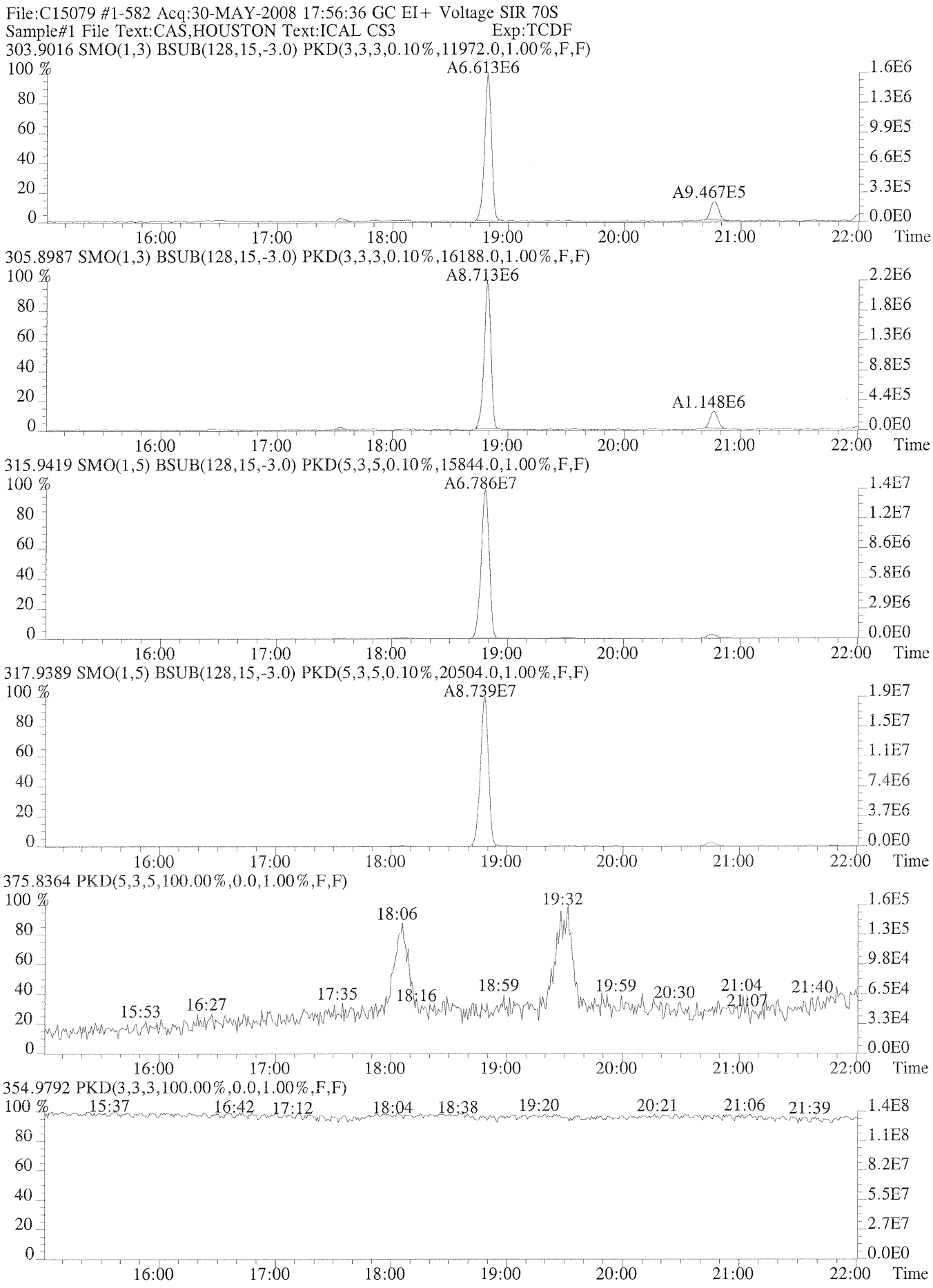
Run #3 Filename C15079#1 Samp: 1 Inj: 1 Acquired: 30-MAY-08 17:56:36
Processed: 2-JUN-08 12:56:01 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:49	6.613e+06	8.713e+06	0.76	yes	no
2	IS	13C-2,3,7,8-TCDF	18:49	6.786e+07	8.739e+07	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:49	5.269e+07	6.546e+07	0.80	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:36	1.103e+07				

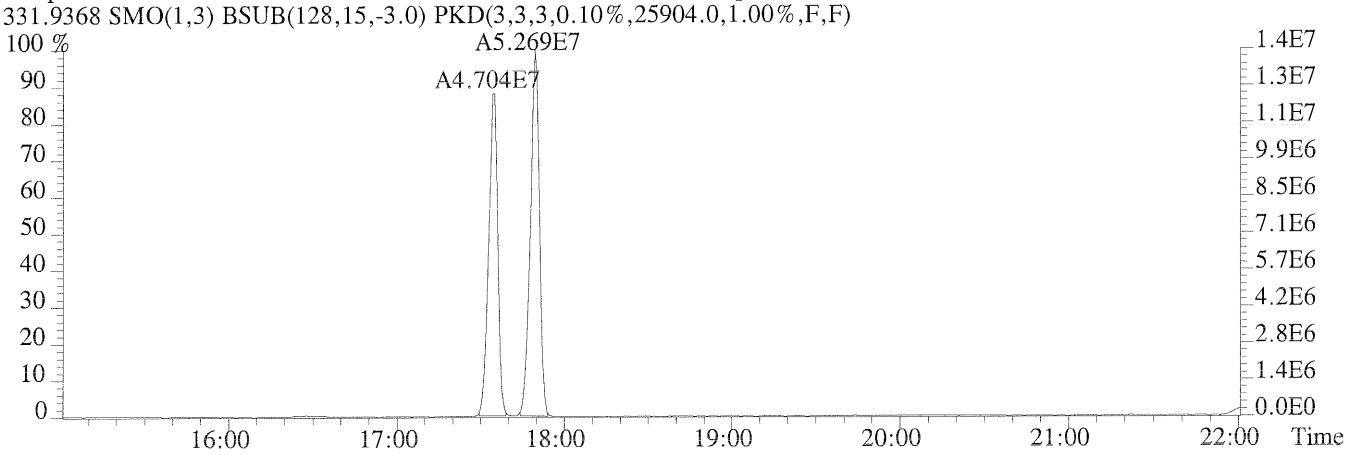
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	1.63e+06	1.20e+04	1.4e+02	2.19e+06	1.62e+04	1.4e+02
2	13C-2,3,7,8-TCDF	1.44e+07	1.58e+04	9.1e+02	1.85e+07	2.05e+04	9.0e+02
3	13C-1,2,3,4-TCDD	1.41e+07	2.59e+04	5.5e+02	1.76e+07	1.71e+04	1.0e+03
4	37Cl-2,3,7,8-TCDD	2.87e+06	1.66e+04	1.7e+02			

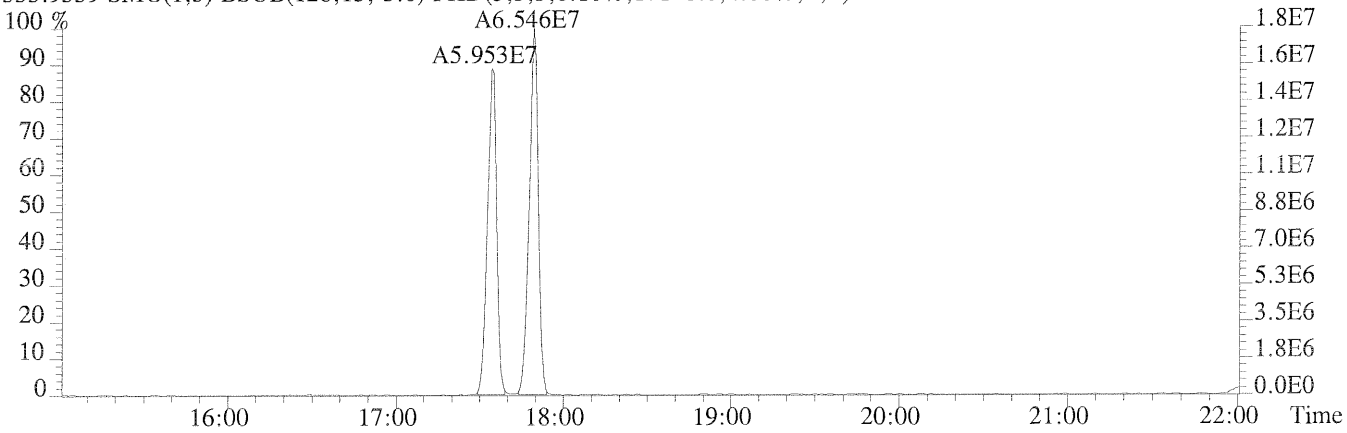
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File:C15079 #1-582 Acq:30-MAY-2008 17:56:36 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS3 Exp:TCDF
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11972.0,1.00%,F,F)
A6.613E6
A9.467E5
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16188.0,1.00%,F,F)
A8.713E6
A1.148E6
315.9419 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,15844.0,1.00%,F,F)
A6.786E7
317.9389 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,20504.0,1.00%,F,F)
A8.739E7
375.8364 PKD(5,3,5,100.00%,0.0,1.00%,F,F)
15:53
16:27
17:35
18:06
18:16
18:59
19:32
19:59
20:30
21:04
21:07
21:40
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)
15:37
16:42
17:12
18:04
18:38
19:20
20:21
21:06
21:39
100 %
80
60
40
20
0
16:00
17:00
18:00
19:00
20:00
21:00
22:00
Time

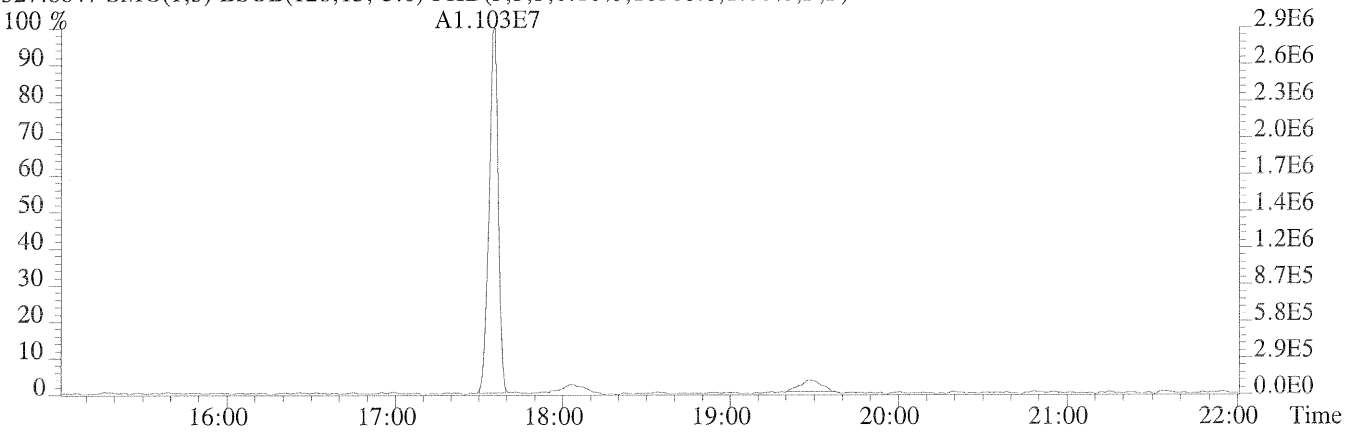
File:C15079 #1-582 Acq:30-MAY-2008 17:56:36 GC EI+ Voltage SIR 70S
Sample#1 File Text:CAS,HOUSTON Text:ICAL CS3 Exp:TCDF
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,25904.0,1.00%,F,F)



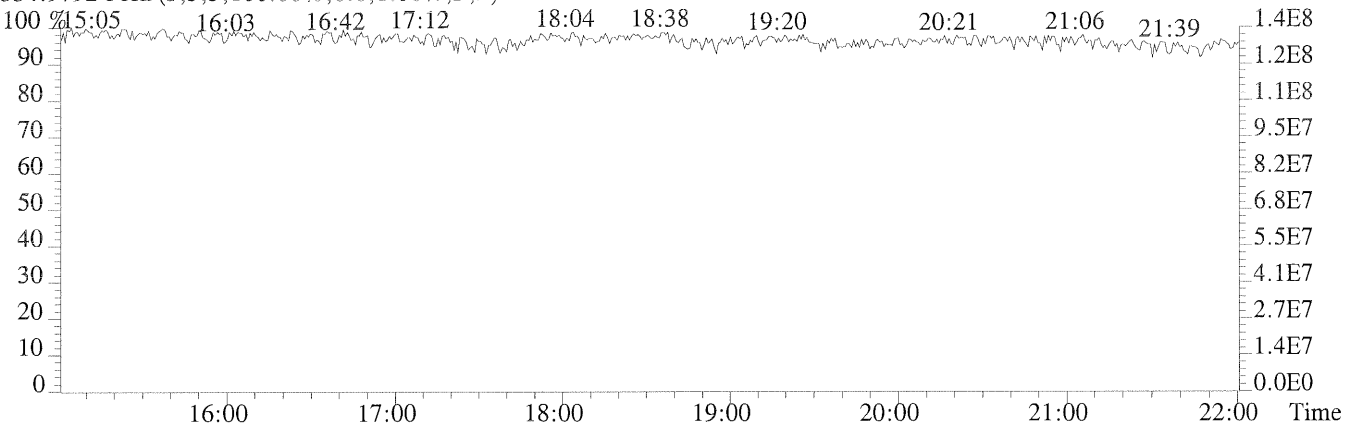
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,17148.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16560.0,1.00%,F,F)



354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
ICAL CS4

Run #4 Filename C15079#2 Samp: 2 Inj: 1 Acquired: 30-MAY-08 18:29:15
Processed: 2-JUN-08 12:56:01 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:48	5.778e+07	7.527e+07	0.77	yes	no
2	IS	13C-2,3,7,8-TCDF	18:47	1.391e+08	1.791e+08	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:48	9.955e+07	1.303e+08	0.76	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:34	8.756e+07				

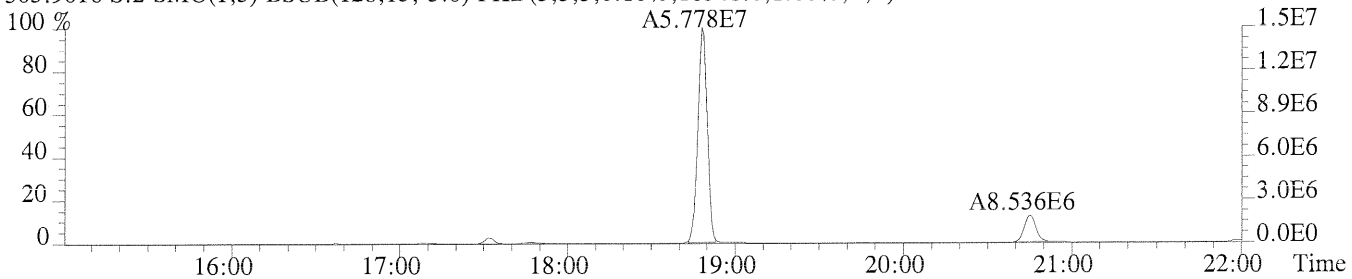
Signal/Noise Height Ratio Summary

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	1.49e+07	1.05e+04	1.4e+03	1.94e+07	1.28e+04	1.5e+03
2	13C-2,3,7,8-TCDF	3.10e+07	1.31e+04	2.4e+03	3.98e+07	2.67e+04	1.5e+03
3	13C-1,2,3,4-TCDD	2.78e+07	2.02e+04	1.4e+03	3.66e+07	1.49e+04	2.4e+03
4	37Cl-2,3,7,8-TCDD	2.43e+07	1.62e+04	1.5e+03			

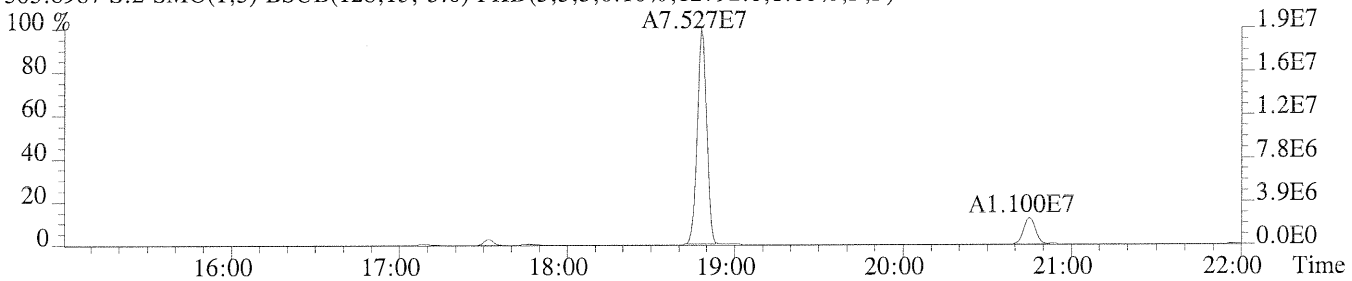
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File:C15079 #1-582 Acq:30-MAY-2008 18:29:15 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:ICAL CS4 Exp:TCDF

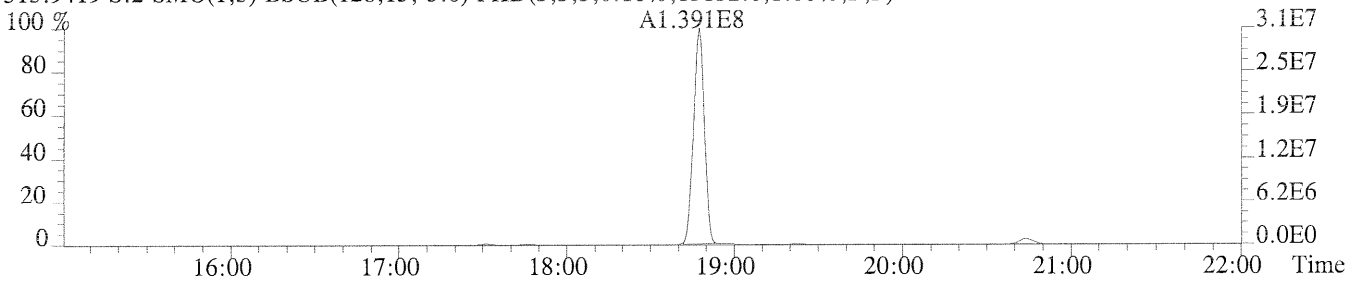
303.9016 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,10548.0,1.00%,F,F)



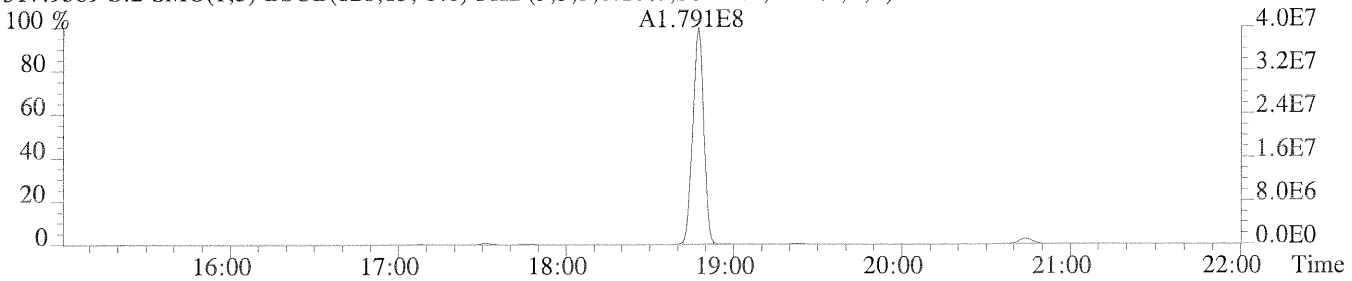
305.8987 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,12792.0,1.00%,F,F)



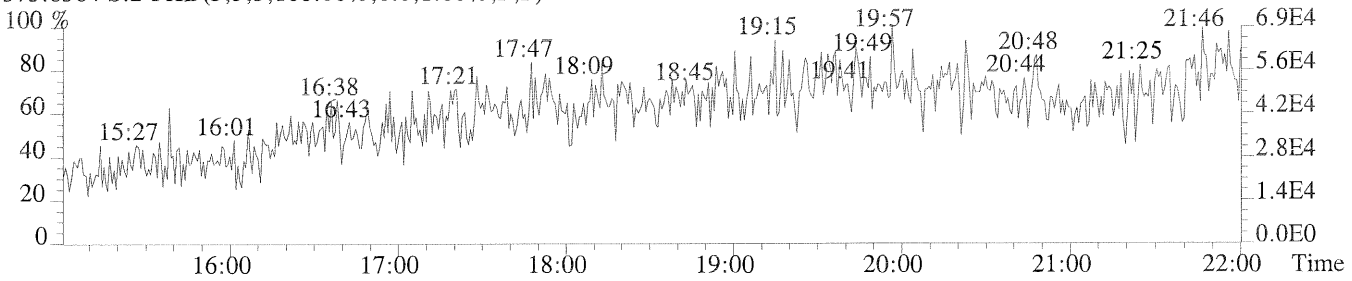
315.9419 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,13132.0,1.00%,F,F)



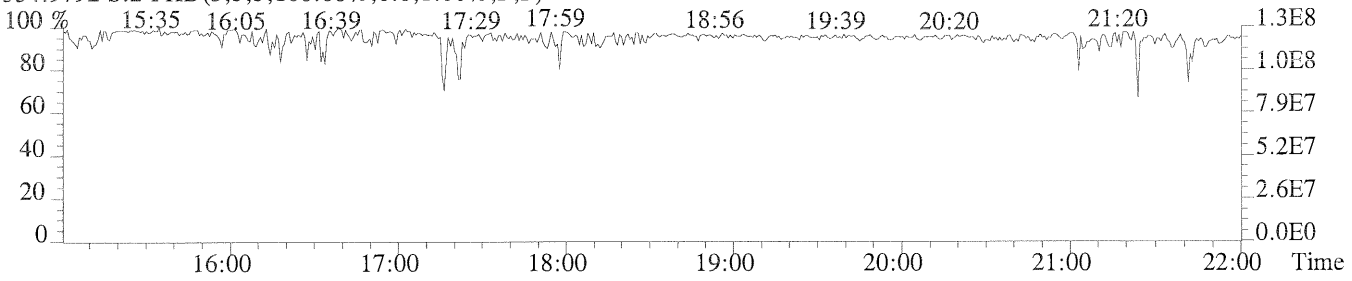
317.9389 S:2 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,26668.0,1.00%,F,F)



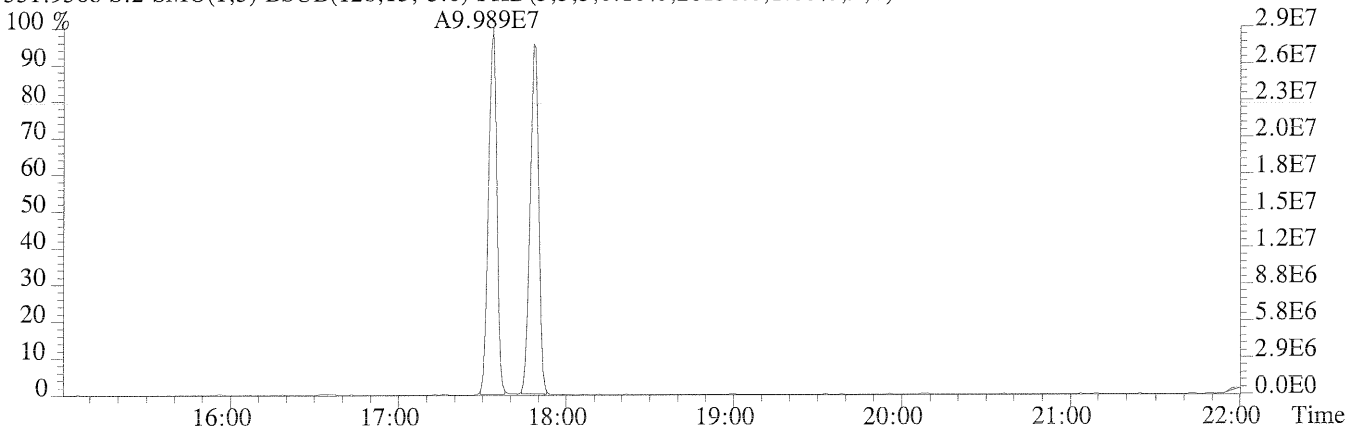
375.8364 S:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



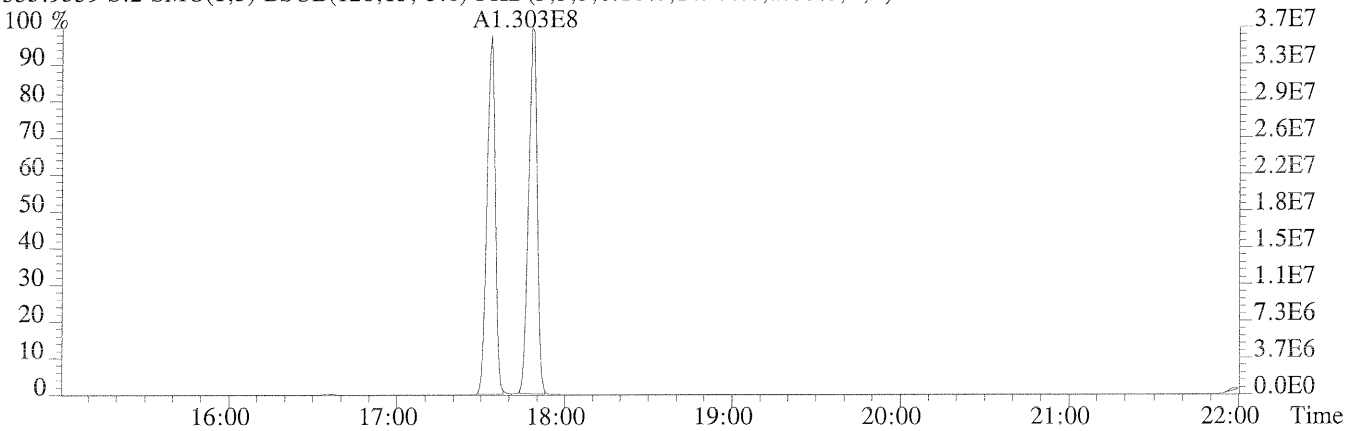
354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



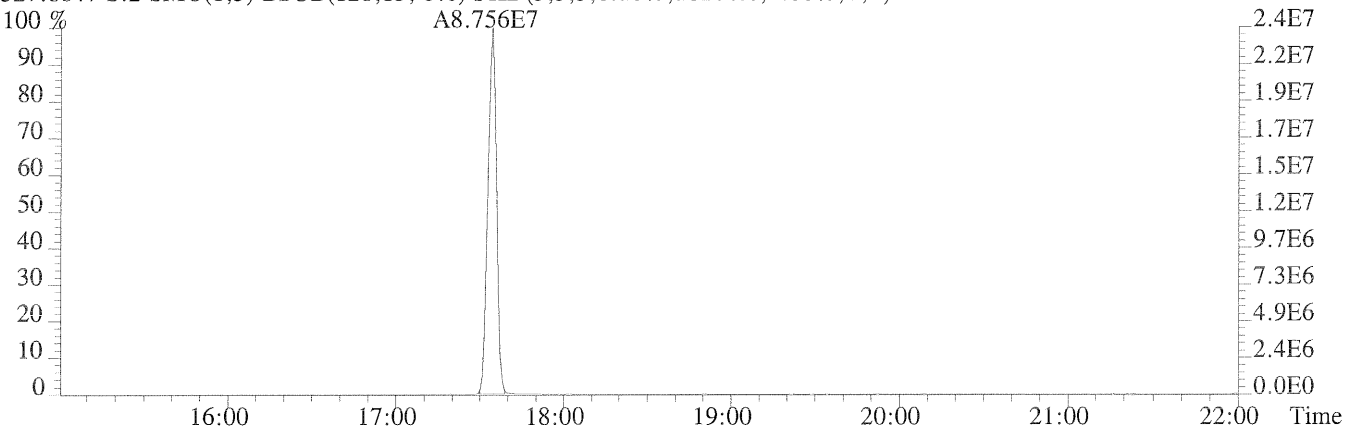
File:C15079 #1-582 Acq:30-MAY-2008 18:29:15 GC EI+ Voltage SIR 70S
Sample#2 File Text:CAS,HOUSTON Text:ICAL CS4 Exp:TCDF
331.9368 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,20156.0,1.00%,F,F)



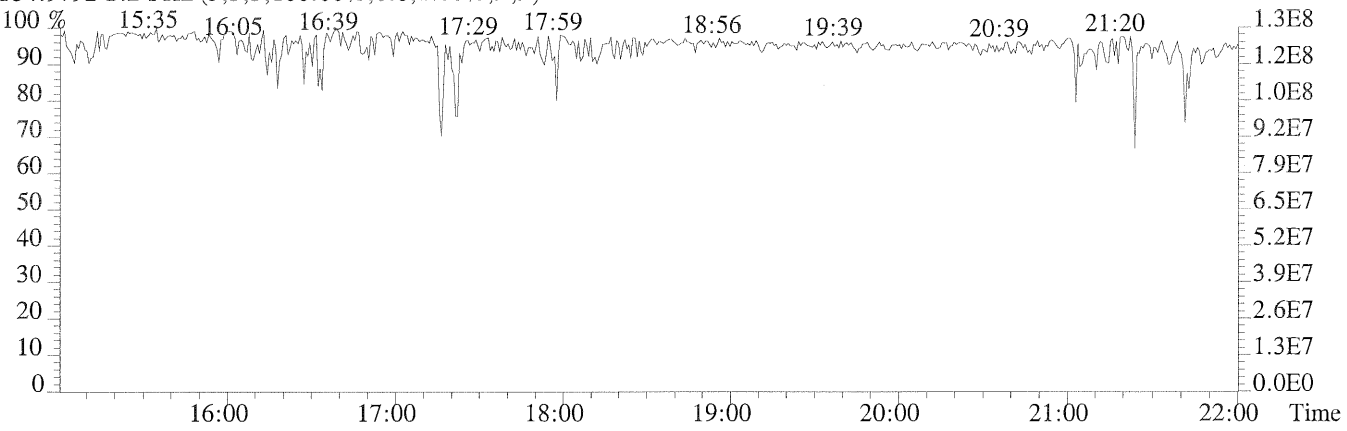
333.9339 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14944.0,1.00%,F,F)



327.8847 S:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,16184.0,1.00%,F,F)



354.9792 S:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Columbia Analytical Services, Inc.
Sample Response Summary
EPA SAMPLE NO.
ICAL CS5

Run #5 Filename C15079#3 Samp: 3 Inj: 1 Acquired: 30-MAY-08 19:03:14
Processed: 2-JUN-08 12:56:02 Sample ID:

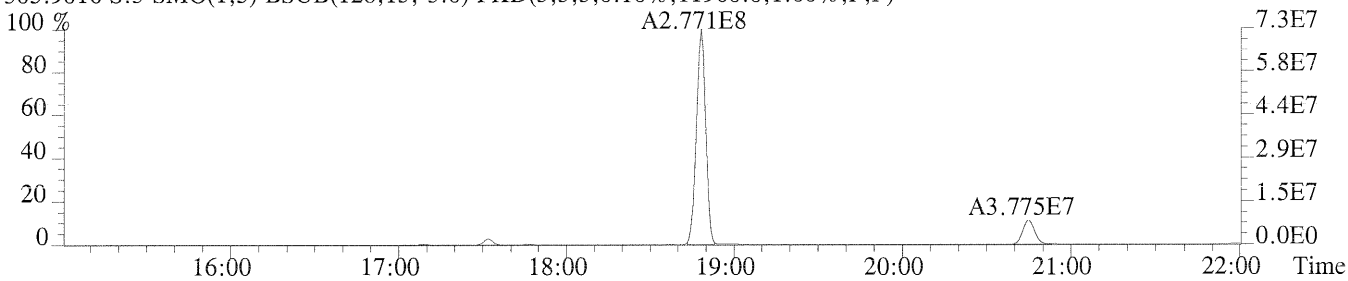
	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	18:48	2.771e+08	3.611e+08	0.77	yes	no
2	IS	13C-2,3,7,8-TCDF	18:47	1.315e+08	1.690e+08	0.78	yes	no
3	RS/RT	13C-1,2,3,4-TCDD	17:48	9.224e+07	1.171e+08	0.79	yes	no
4	C/Up	37Cl-2,3,7,8-TCDD	17:35	4.417e+08				

Signal/Noise Height Ratio Summary

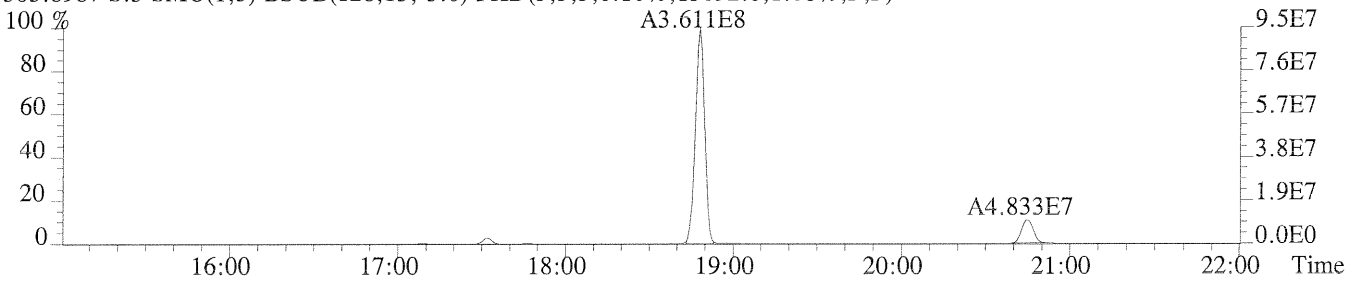
	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N
1	2,3,7,8-TCDF	7.29e+07	1.20e+04	6.1e+03	9.54e+07	1.39e+04	6.9e+03
2	13C-2,3,7,8-TCDF	2.95e+07	1.92e+04	1.5e+03	3.79e+07	1.84e+04	2.1e+03
3	13C-1,2,3,4-TCDD	2.65e+07	2.15e+04	1.2e+03	3.41e+07	1.48e+04	2.3e+03
4	37Cl-2,3,7,8-TCDD	1.29e+08	1.53e+04	8.4e+03			

Columbia Analytical Services, Inc.
19408 Park Row., Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

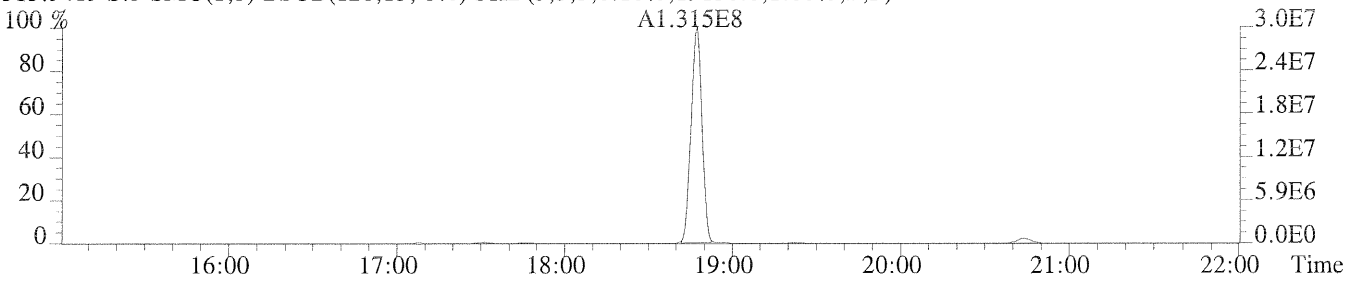
File:C15079 #1-582 Acq:30-MAY-2008 19:03:14 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:ICAL CS5 Exp:TCDF
303.9016 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,11960.0,1.00%,F,F)



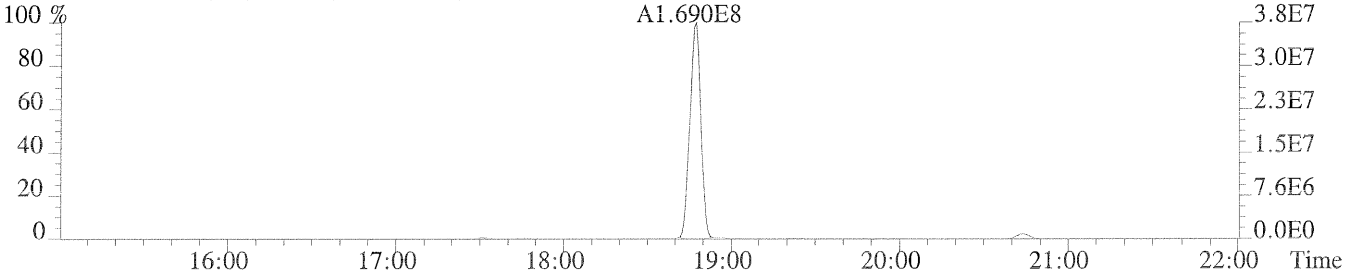
305.8987 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,13892.0,1.00%,F,F)



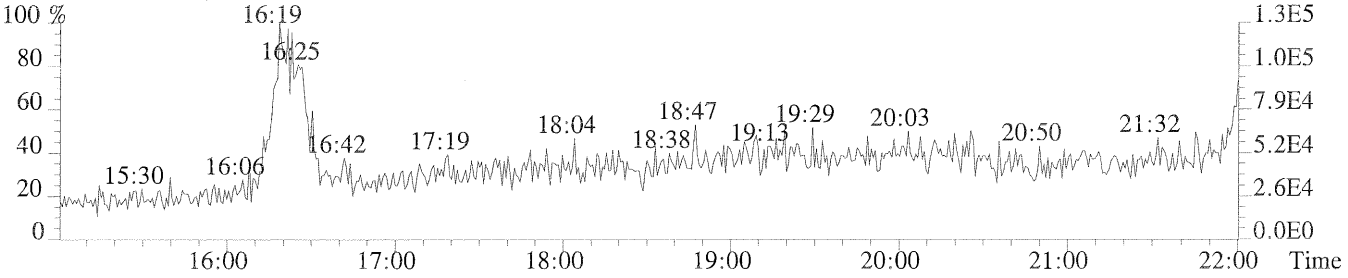
315.9419 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,19156.0,1.00%,F,F)



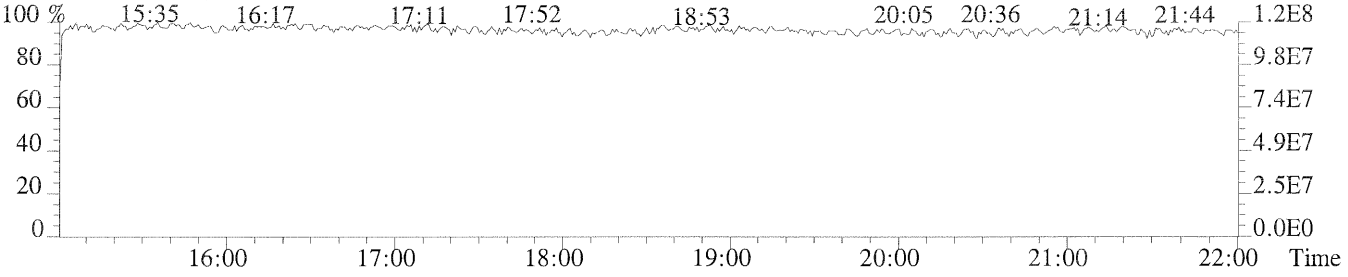
317.9389 S:3 SMO(1,5) BSUB(128,15,-3.0) PKD(5,3,5,0.10%,18404.0,1.00%,F,F)



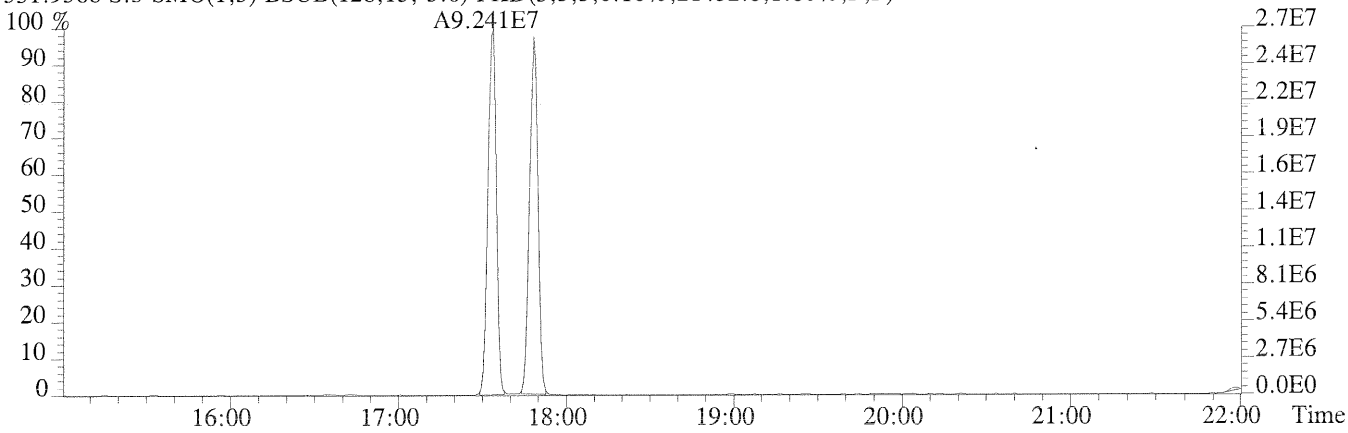
375.8364 S:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



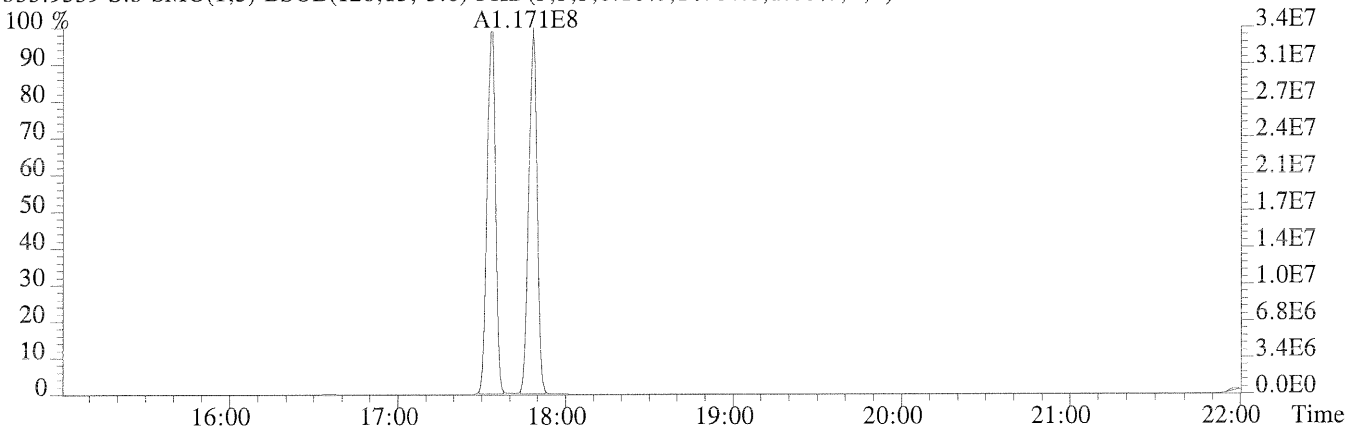
354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



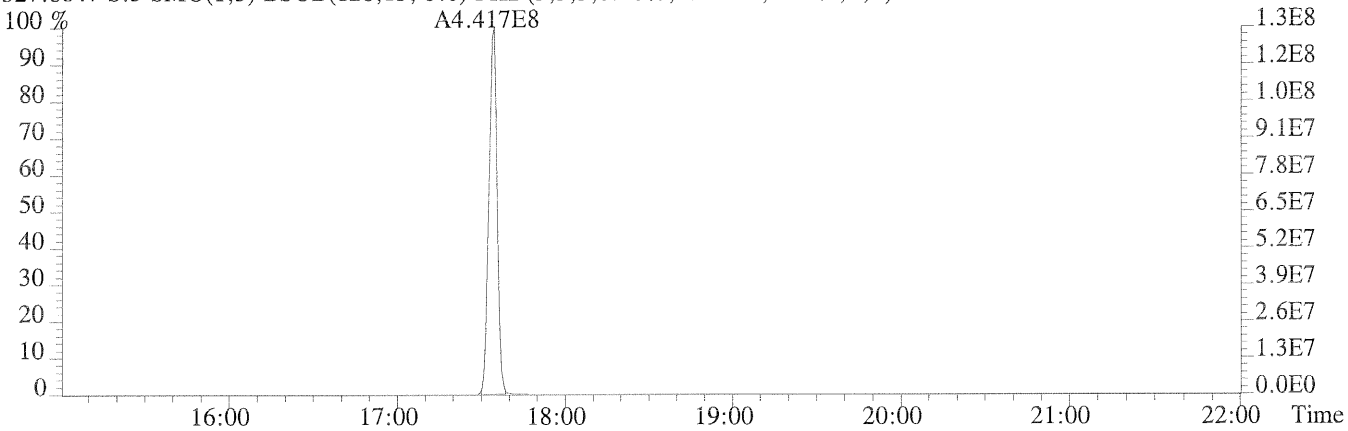
File:C15079 #1-582 Acq:30-MAY-2008 19:03:14 GC EI+ Voltage SIR 70S
Sample#3 File Text:CAS,HOUSTON Text:ICAL CS5 Exp:TCDF
331.9368 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,21452.0,1.00%,F,F)



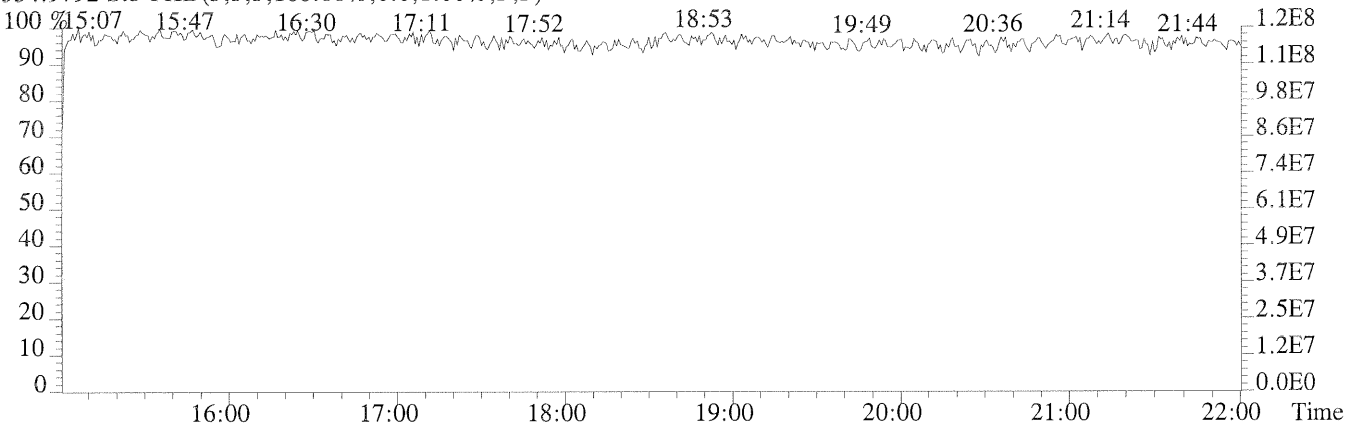
333.9339 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,14764.0,1.00%,F,F)



327.8847 S:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,15332.0,1.00%,F,F)



354.9792 S:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



Initial Calibration QC Checklist

ICAL Name: __P807028290I_____

Date: __2 Jul 2008_____

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

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 it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	NA	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: cee Second QC: MC

icalqc.xls 02-23-00

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: db5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 07/02/08

Init. Calib.Times: 09:52

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
WINDOW DEFINE		P100005	2-JUL-08	09:52:48
ICAL HRCC1		P100006	2-JUL-08	11:02:24
ICAL HRCC2	ICAL HRCC2	P100007	2-JUL-08	11:56:08
ICAL HRCC3	ICAL HRCC3	P100008	2-JUL-08	12:44:22
ICAL HRCC4	ICAL HRCC4	P100009	2-JUL-08	13:43:26
ICAL HRCC5	ICAL HRCC5	P100010	2-JUL-08	14:37:42

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.

An Employee Owned Company

Acq Method: ~~8290CA5~~/1613 Result File: P8702829021

GC Method: ~~8290CA5~~/1613 EDD File: P100013RES

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
6/26/08		P100001	WINDOW DEFINE	D4-90-2		JS	Run Aborted Ground column Broke	
		P100002	ICAL HRCC3	D8-2-2A				
		P100003	Window define	D4-90-2				
		P100004	ccal cs3	D8-2-2A				
7/2/08	9:52	P100005	Window define	D4-90-2		VC		
	11:02	P100006	ICal HRCC1	~~D449-5~~ VC	7/2/08		D5-49-5	
	11:56	P100007	ICal HRCC2	D5-49-4				
	12:44	P100008	ICal HRCC3	D8-2-2A				
	13:43	P100009	ICal HRCC4	D5-49-2				
	14:37	P100010	ICal HRCC5	D5-49-1				
	15:44	P100011	HRCC3 CSV	D4-61-1				
	08:27	P100012	Window Define	D4-90-2		VC		
	09:27	P100013	CCAL HRCC3	D8-2-2A				
	10:45	P100014	EQ0800275-01	METHOD BLANK				
	11:33	P100015	LCS 0800603-006	AAFBMBTCRAS022				
	~~14:50~~ 12:20	P100016	E0800603-007	1	023	VC		

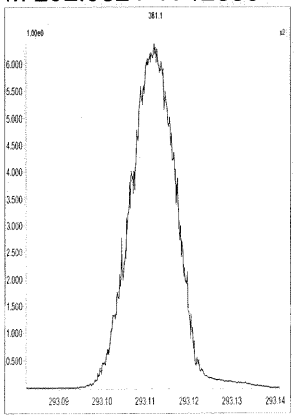
Reviewed by: CCe

Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

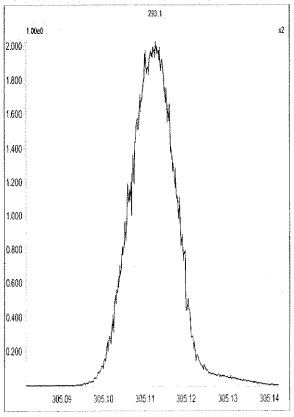
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Wednesday, July 02, 2008 09:43:17 Central Daylight Time

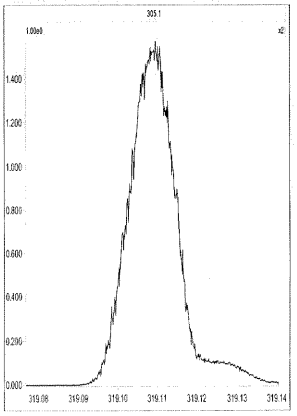
M 292.9824 R 12886



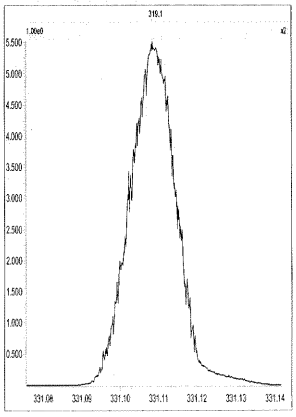
M 304.9824 R 12373



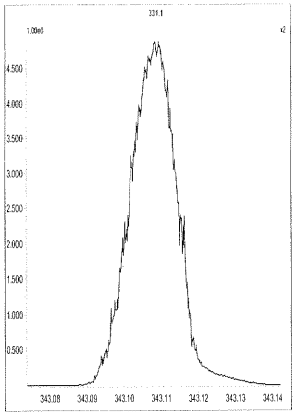
M 318.9792 R 9364



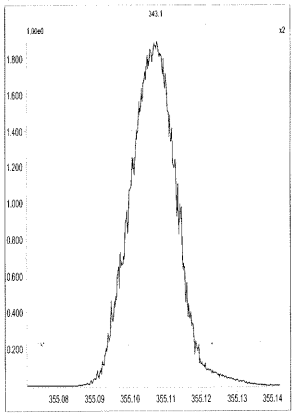
M 330.9792 R 12135



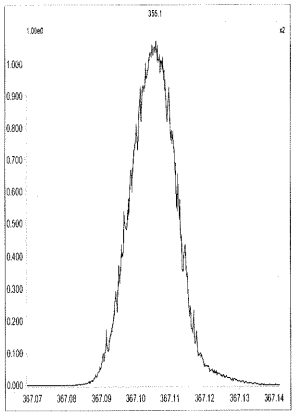
M 342.9792 R 11685



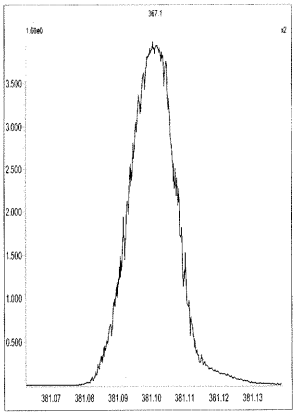
M 354.9792 R 12137



M 366.9792 R 11627



M 380.9760 R 11630

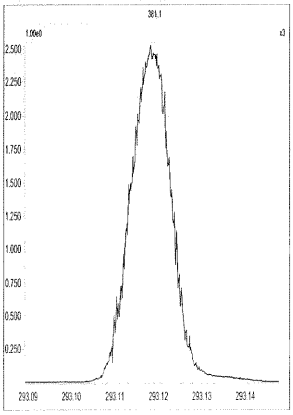


Experiment Calibration Report **MassLynx 4.1**

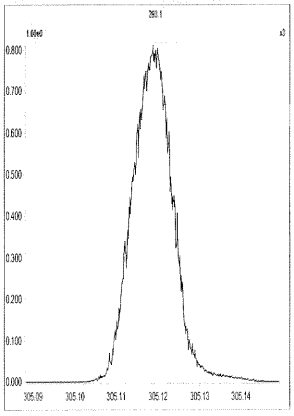
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Printed: Wednesday, July 02, 2008 16:52:31 Central Daylight Time

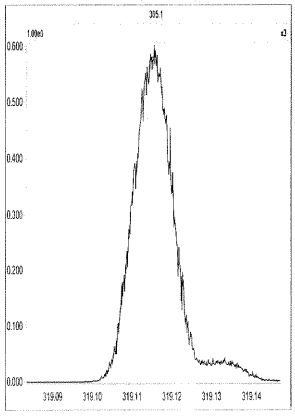
M 292.9824 R 14367



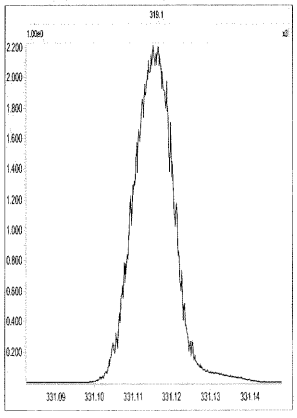
M 304.9824 R 14283



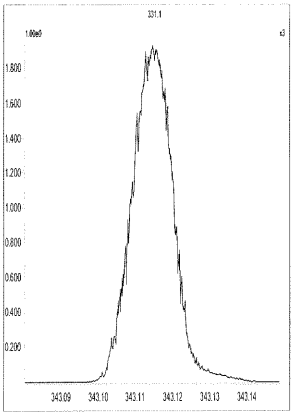
M 318.9792 R 10201



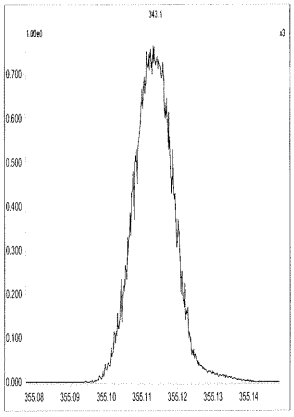
M 330.9792 R 14285



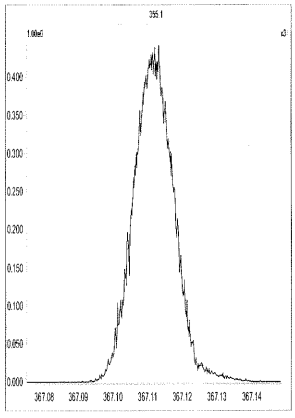
M 342.9792 R 14042



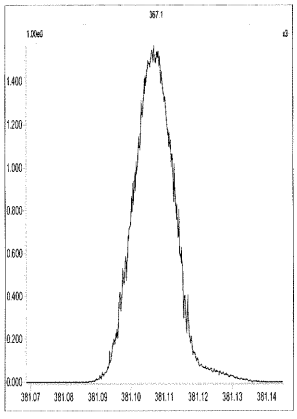
M 354.9792 R 14369



M 366.9792 R 14123



M 380.9760 R 14048



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

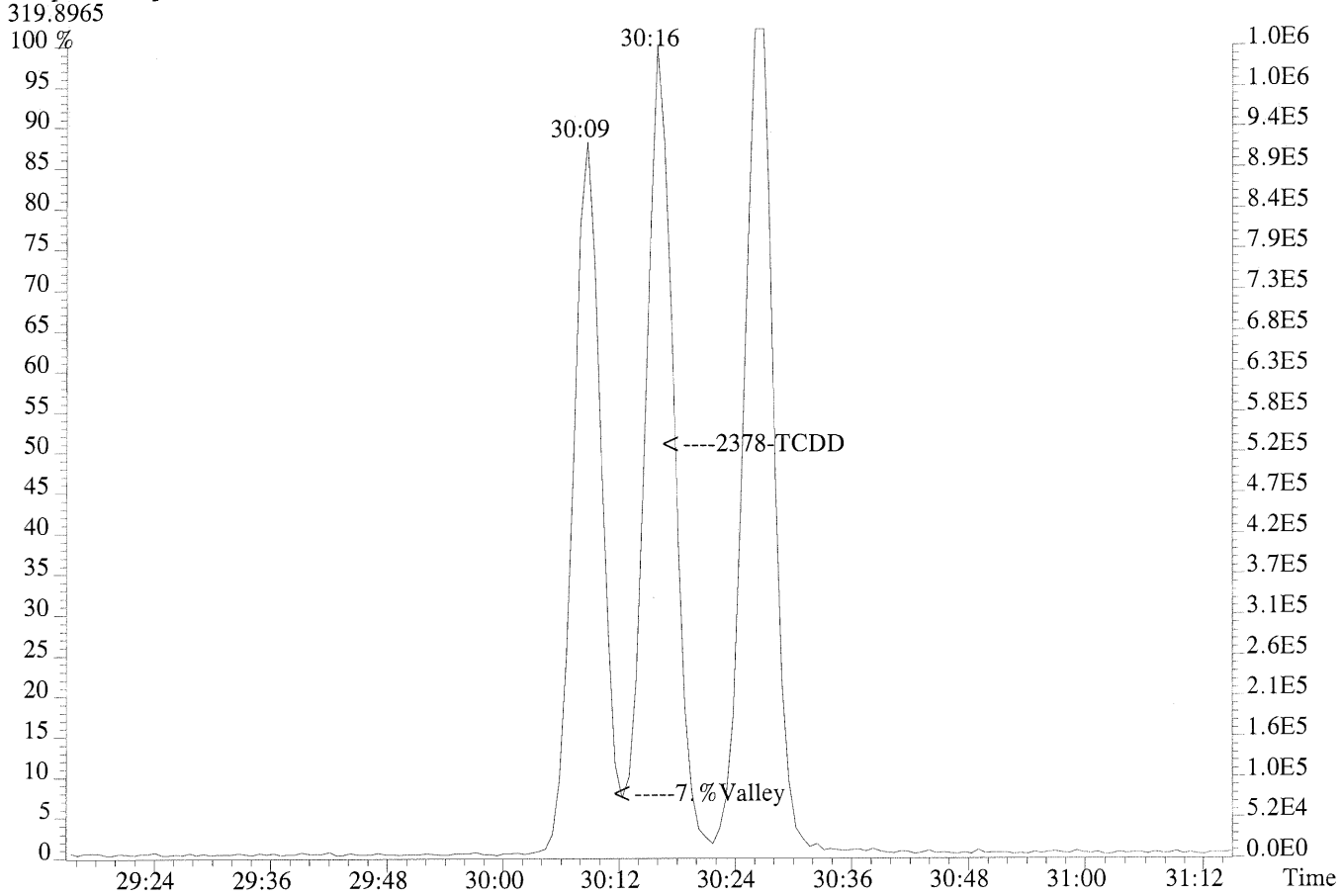
WDM

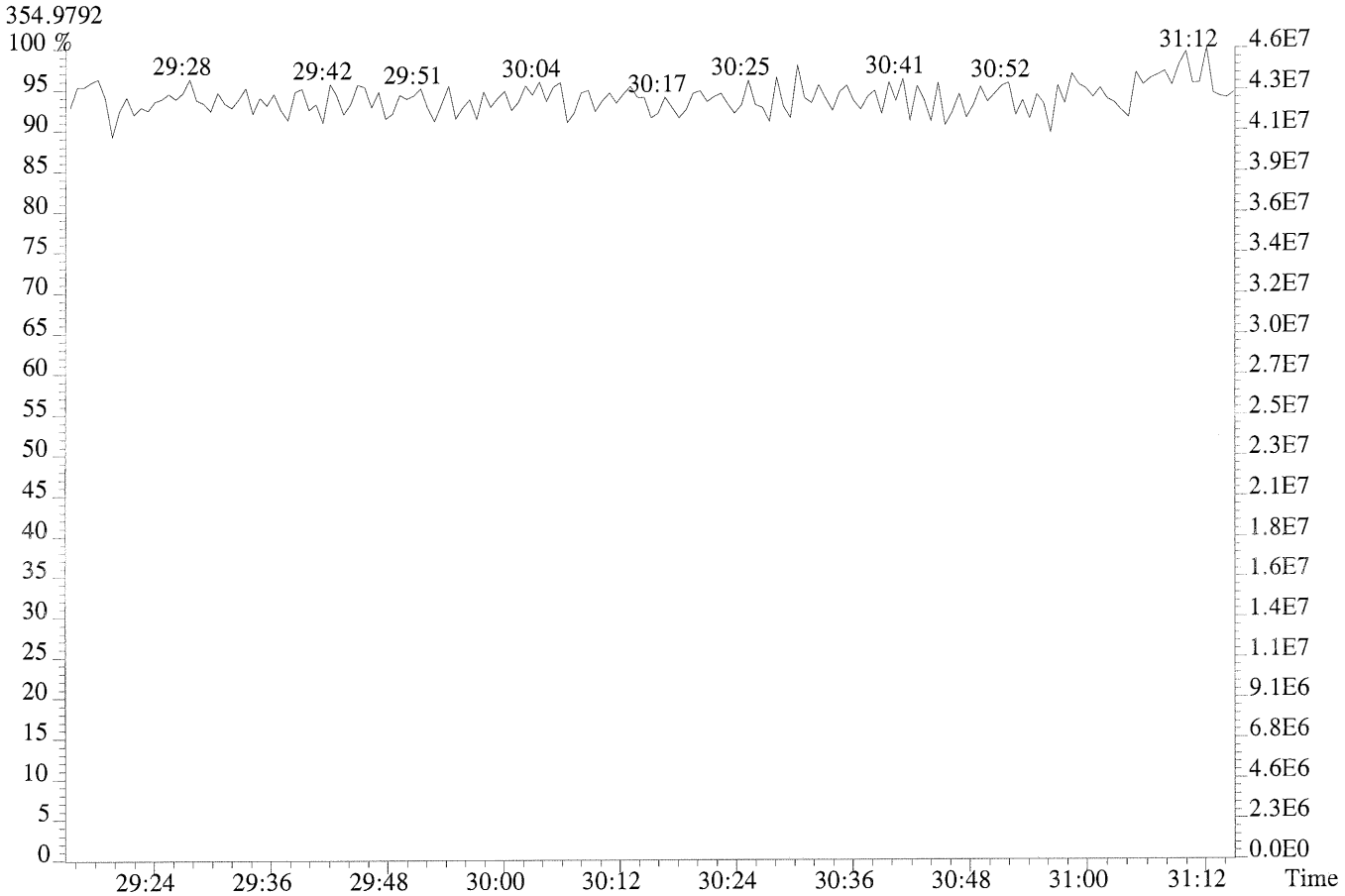
Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: CAS Case No.: _____ SDG No.:
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P100005
Date Analyzed: 2-JUL-2008
Time Analyzed: 09:52:48

Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	25:46	31:21
TCDD	27:25	31:19
PeCDF	31:35	35:18
PeCDD	32:53	35:10
HxCDF	36:08	38:25
HxCDD	36:38	38:05
HpCDF	39:48	41:09
HpCDD	40:03	40:44

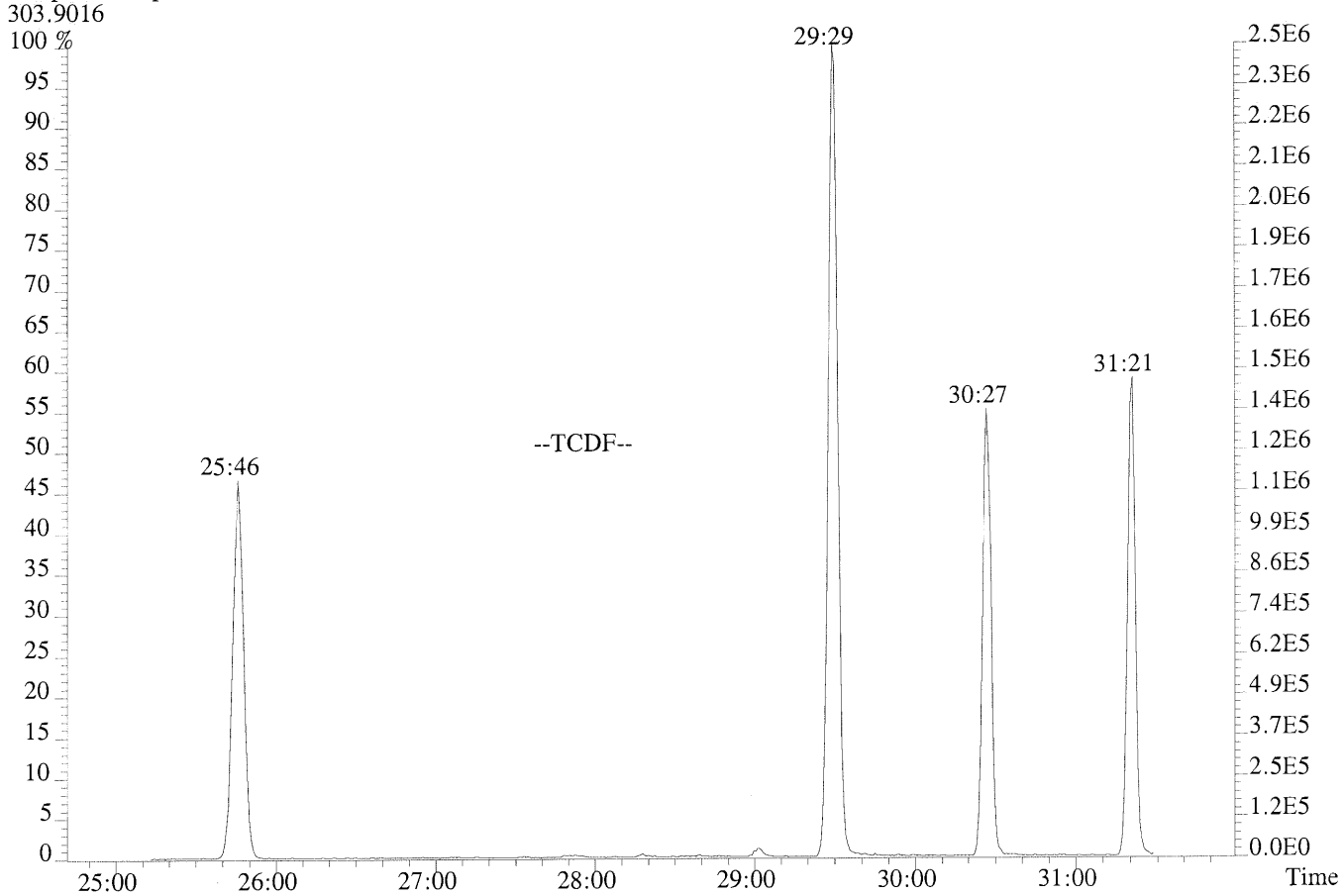
% Valley 2378-TCDD: 7. %

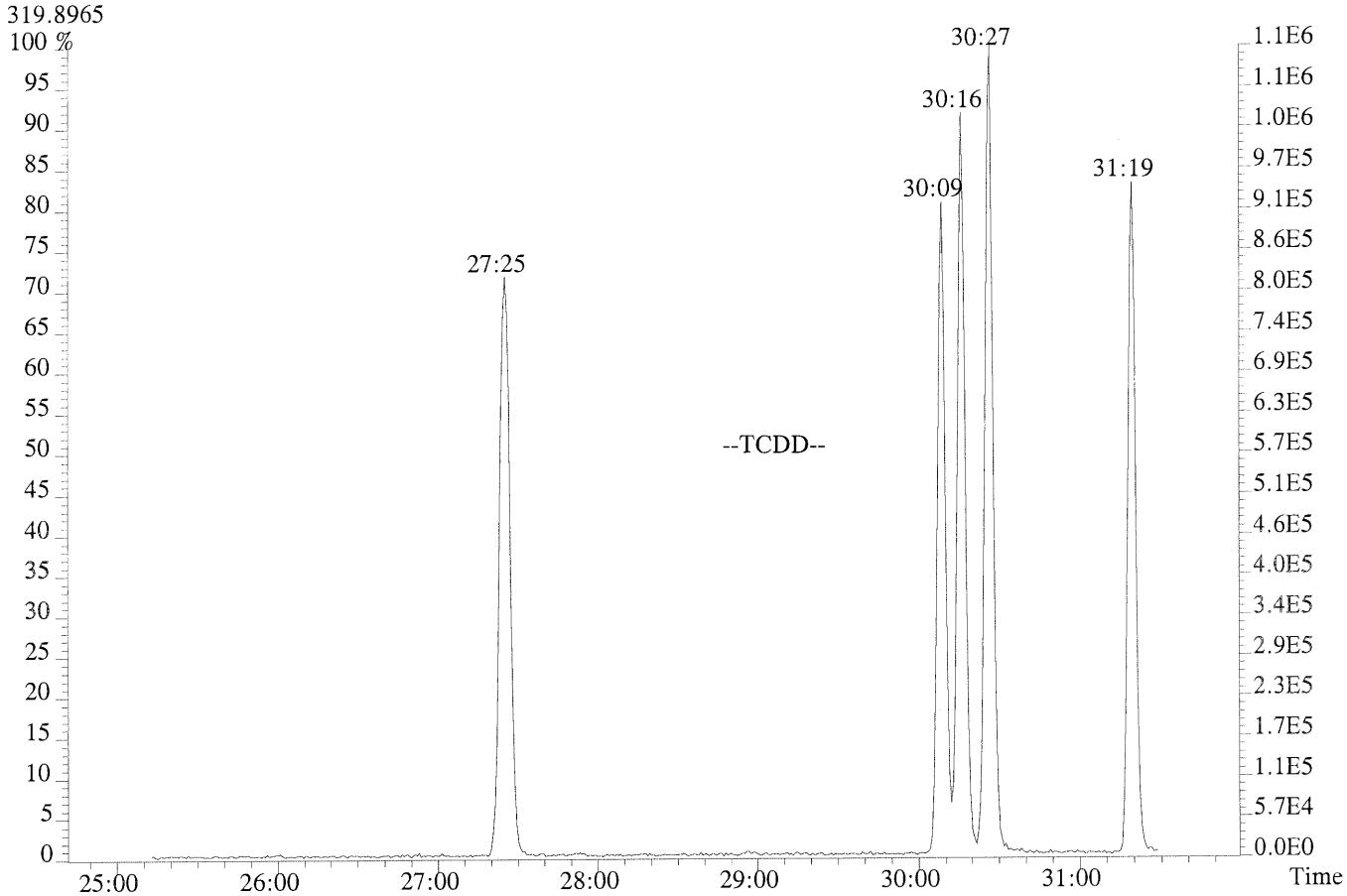
File:P100005 #1-523 Acq: 2-JUL-2008 09:52:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:Window define D4-90-2



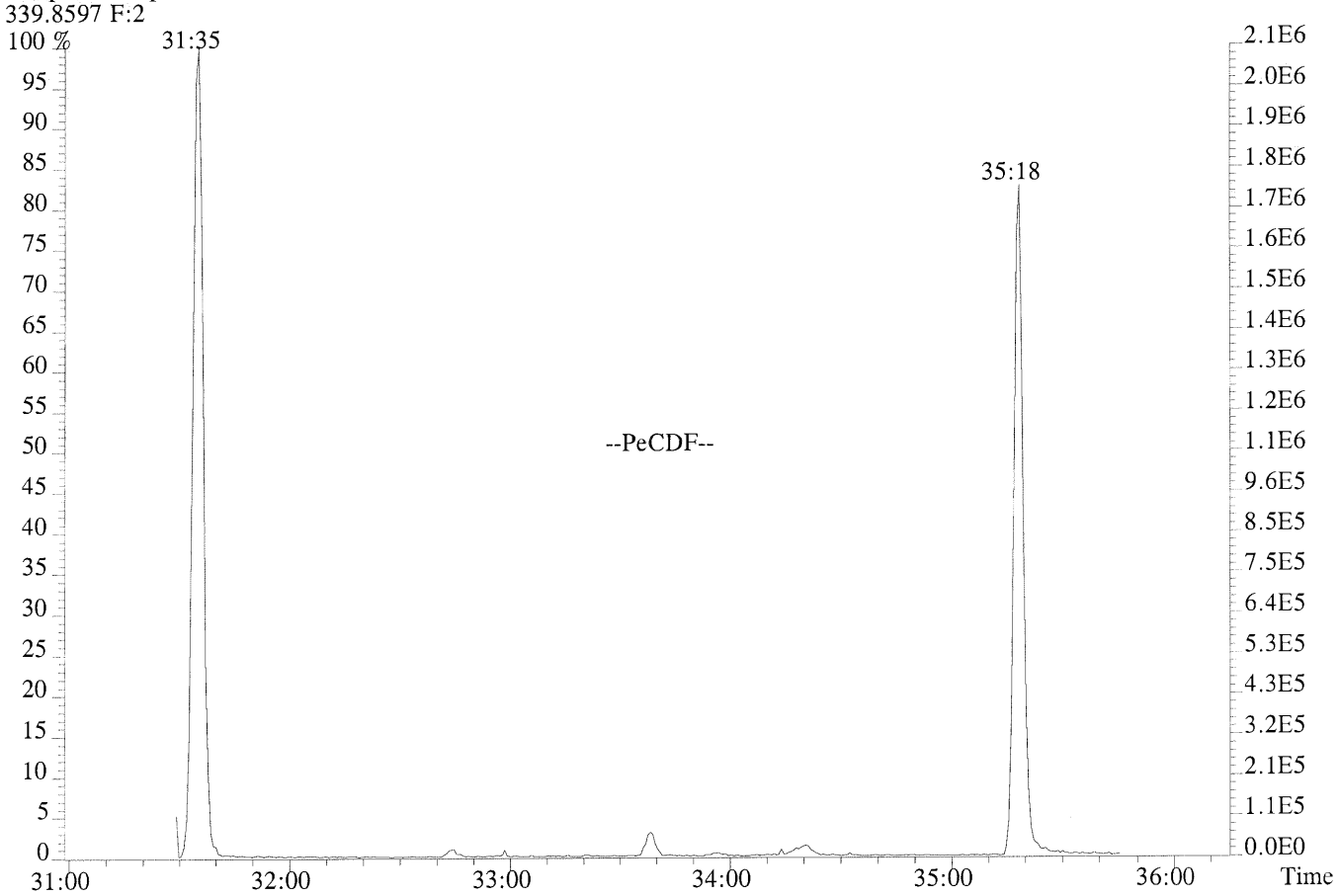


File:P100005 #1-523 Acq: 2-JUL-2008 09:52:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:Window define D4-90-2

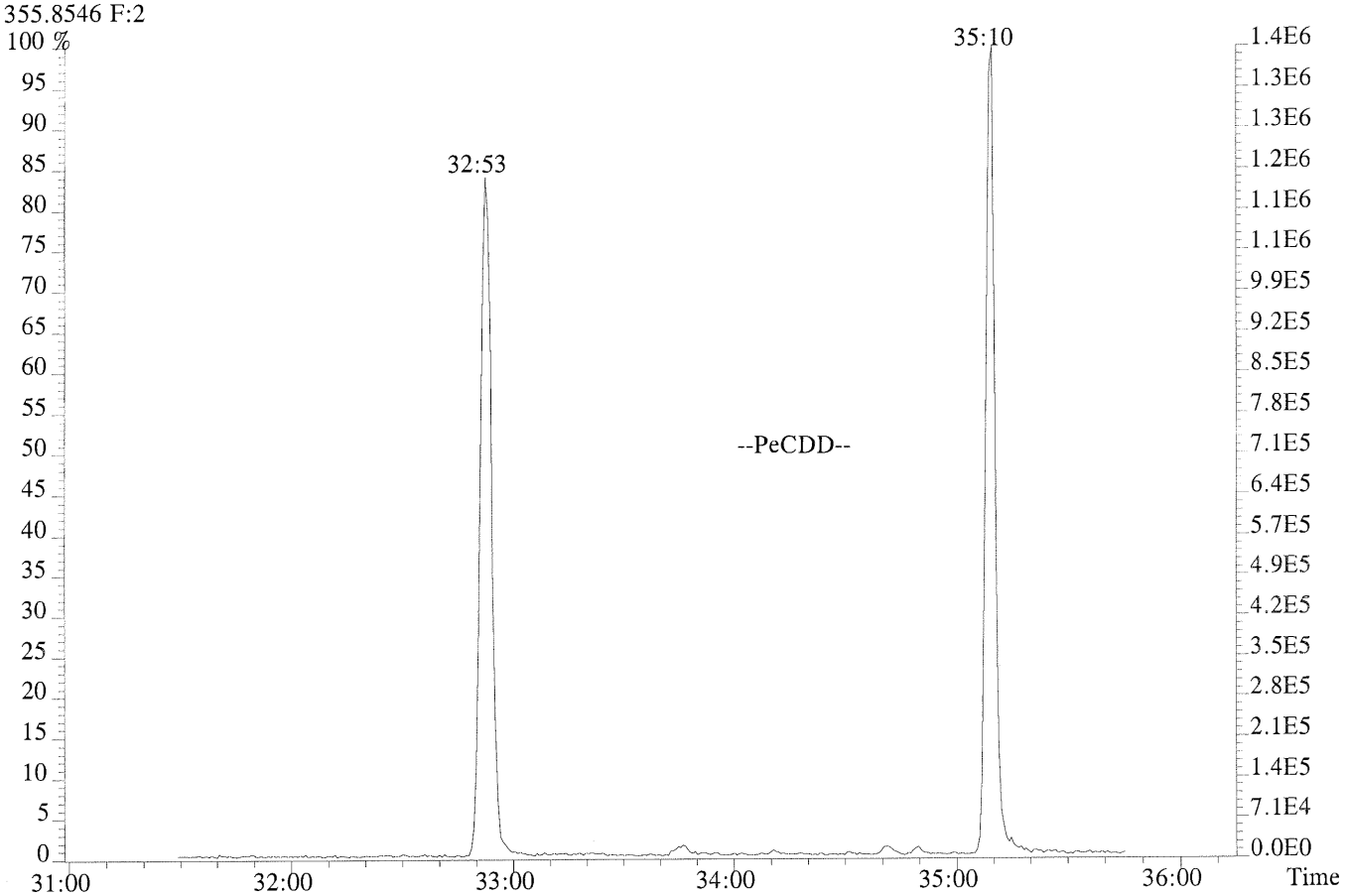




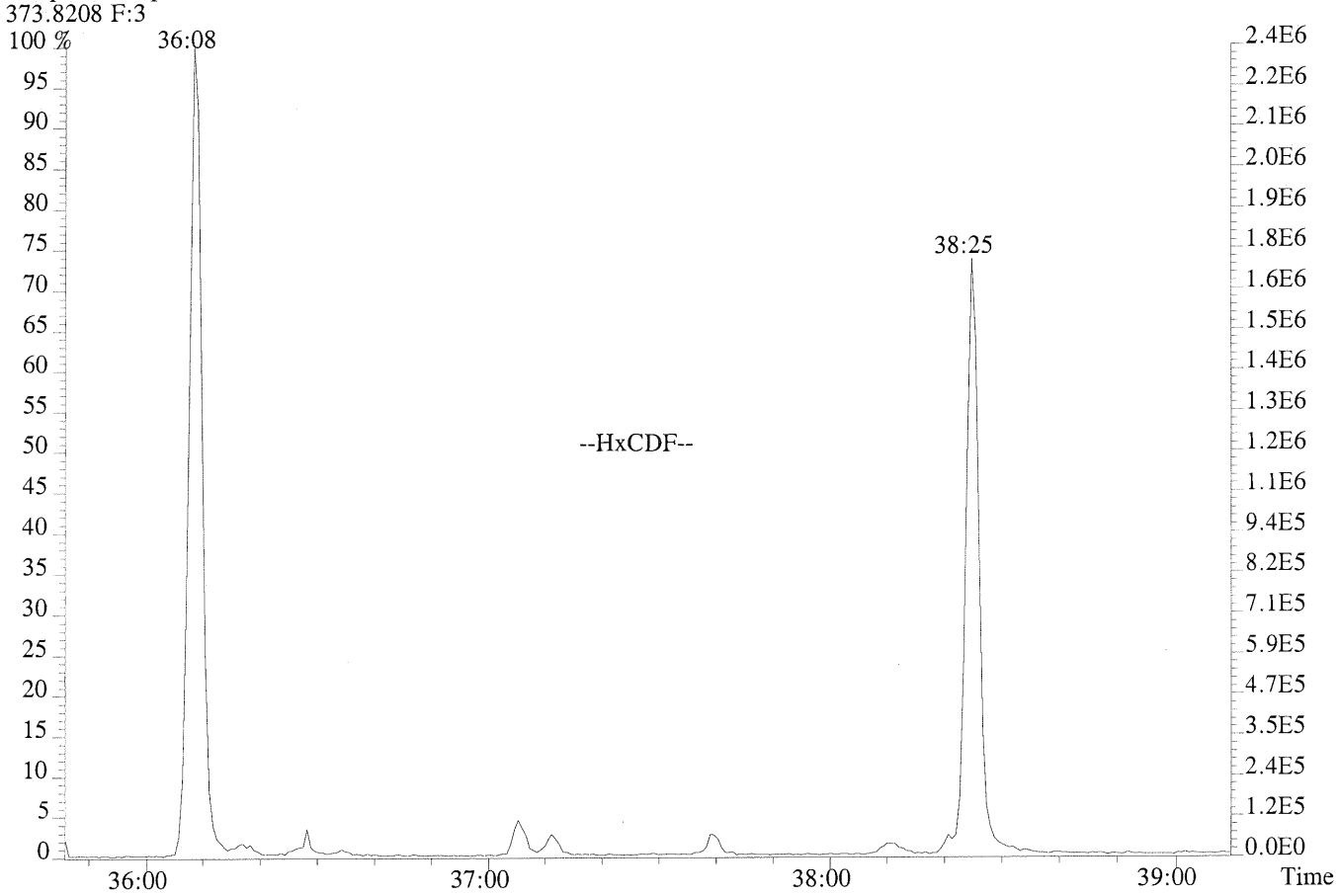
File:P100005 #1-388 Acq: 2-JUL-2008 09:52:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:Window define D4-90-2
339.8597 F:2



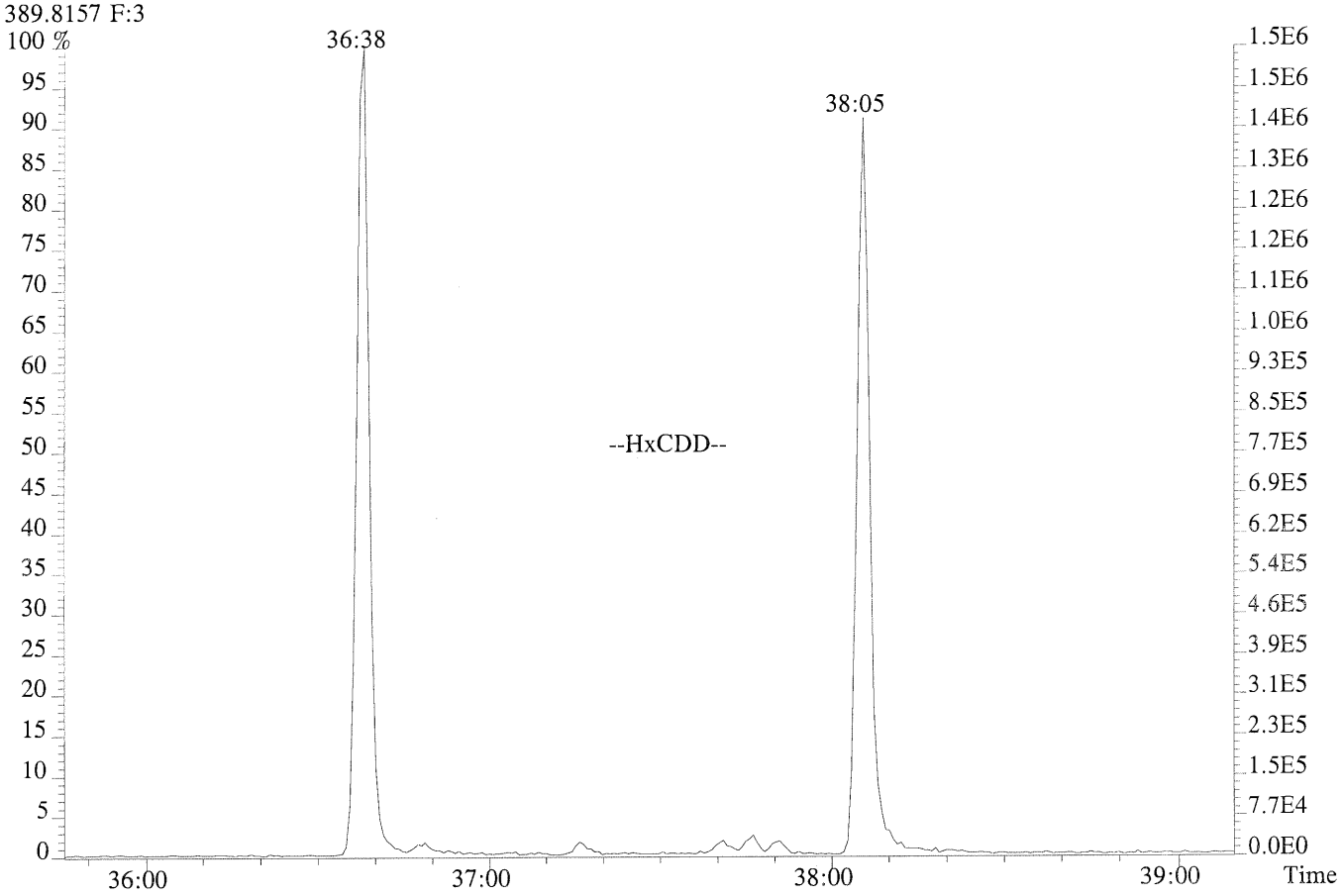
355.8546 F:2



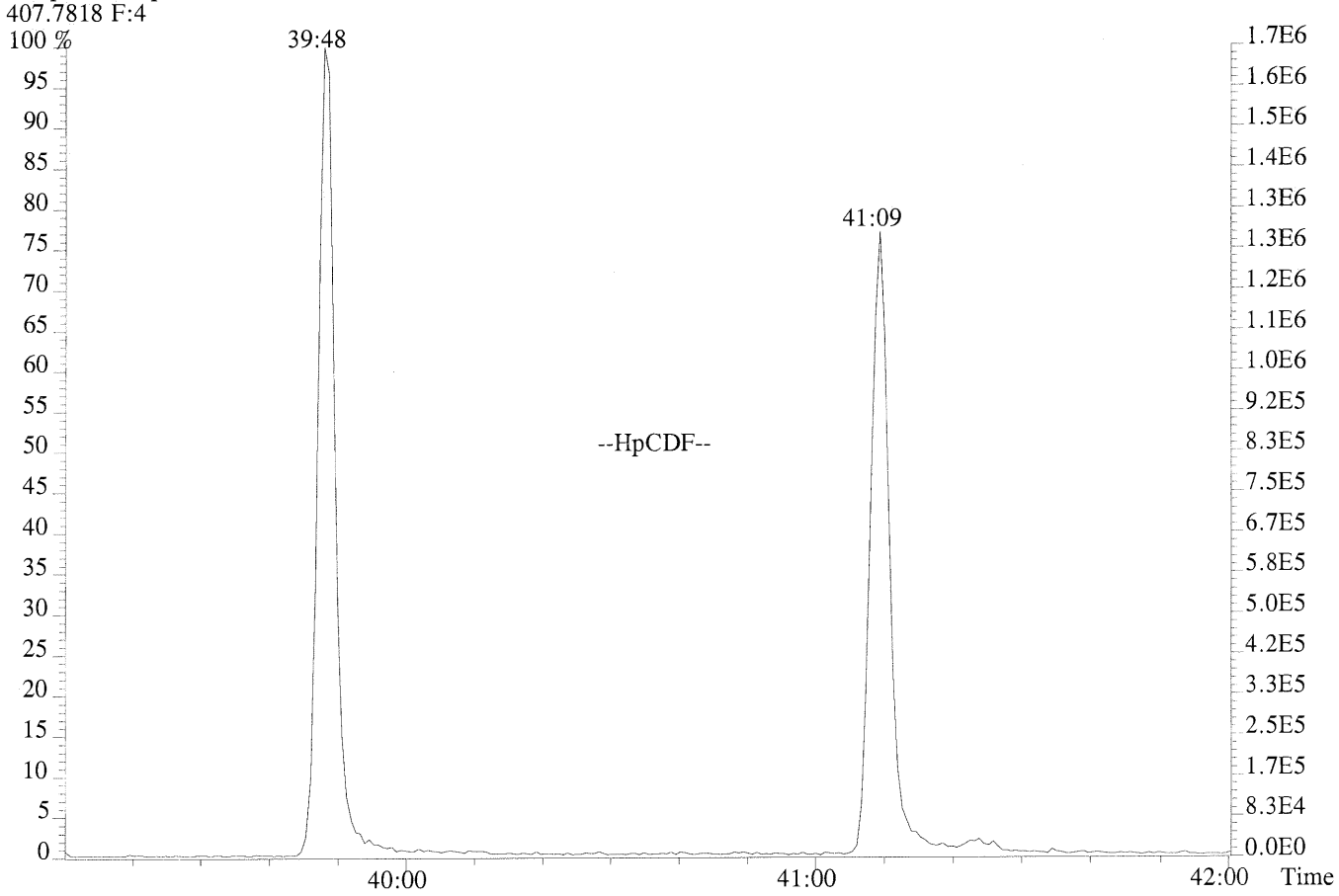
File:P100005 #1-309 Acq: 2-JUL-2008 09:52:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:Window define D4-90-2
373.8208 F:3



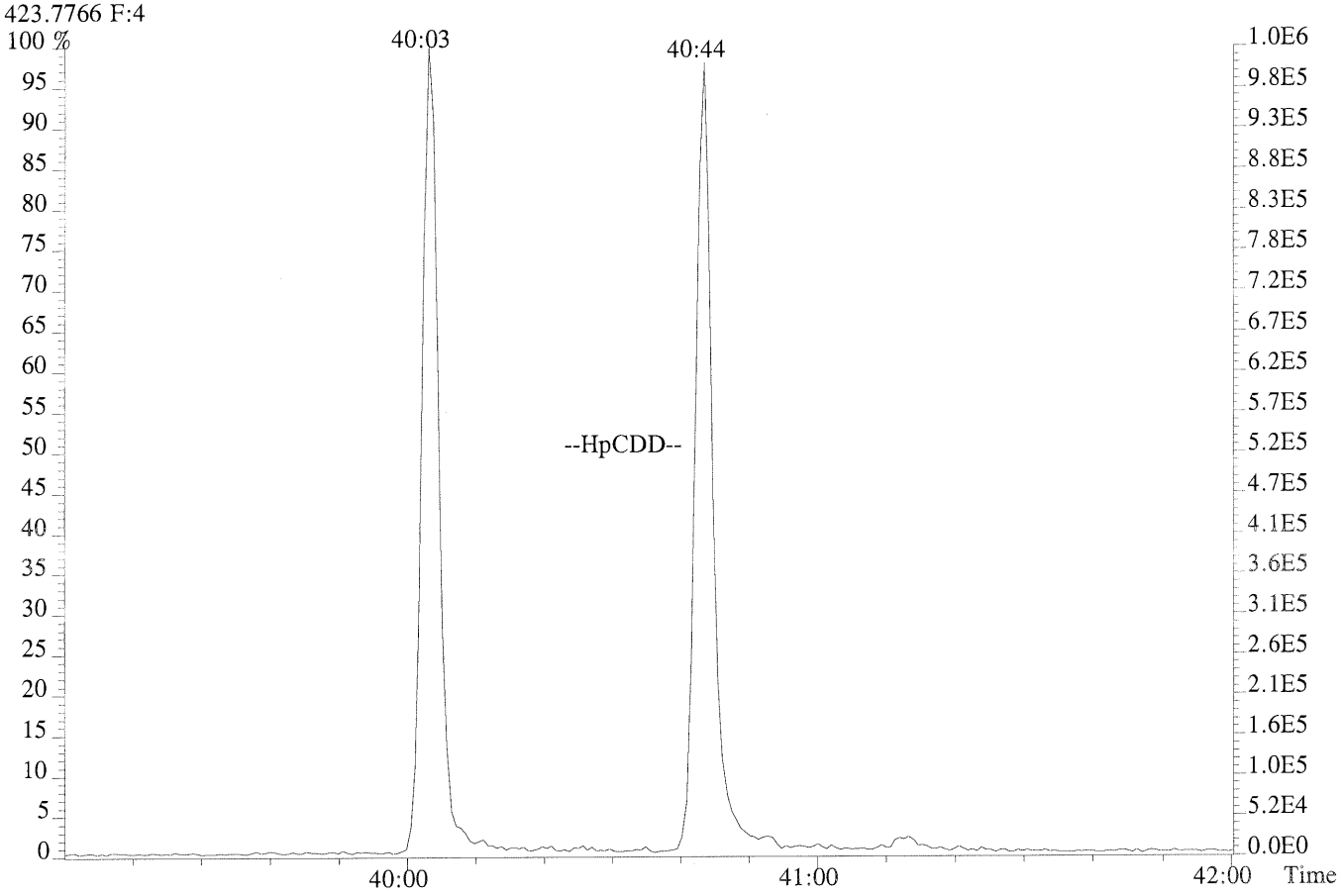
389.8157 F:3



File:P100005 #1-258 Acq: 2-JUL-2008 09:52:48 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:Window define D4-90-2
407.7818 F:4



423.7766 F:4



FORM 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P100006 HRCC4 Data Filename: P100009

HRCC2 Data Filename: P100007 HRCC5 Data Filename: P100010

HRCC3 Data Filename: P100008

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
NATIVE ANALYTES							
2,3,7,8-TCDD	0.93	0.87	0.96	0.92	0.94	0.92	3.47
1,2,3,7,8-PeCDD	0.80	0.86	0.90	0.91	0.93	0.88	5.79
1,2,3,4,7,8-HxCDD	0.89	0.92	0.85	0.94	1.03	0.93	7.13
1,2,3,6,7,8-HxCDD	1.02	1.17	1.16	1.21	1.12	1.13	6.27
1,2,3,7,8,9-HxCDD	1.09	1.04	1.00	1.02	1.04	1.04	3.41
1,2,3,4,6,7,8-HpCDD	1.16	0.99	0.98	0.98	1.01	1.02	7.35
OCDD	1.10	1.00	1.00	1.00	1.02	1.02	4.36
2,3,7,8-TCDF	0.99	0.93	1.02	0.98	1.00	0.98	3.05
1,2,3,7,8-PeCDF	0.87	0.95	1.02	1.00	1.03	0.97	6.73
2,3,4,7,8-PeCDF	0.90	0.98	1.04	1.01	1.05	1.00	5.98
1,2,3,4,7,8-HxCDF	1.19	1.21	1.26	1.22	1.23	1.22	2.17
1,2,3,6,7,8-HxCDF	1.16	1.27	1.39	1.34	1.38	1.31	7.40
1,2,3,7,8,9-HxCDF	1.09	1.04	1.06	1.04	1.08	1.06	2.34
2,3,4,6,7,8-HxCDF	1.08	1.12	1.20	1.16	1.21	1.15	4.82
1,2,3,4,6,7,8-HpCDF	1.66	1.48	1.57	1.49	1.54	1.55	4.49
1,2,3,4,7,8,9-HpCDF	1.29	1.13	1.13	1.15	1.17	1.17	5.87
OCDF	1.40	1.31	1.34	1.36	1.39	1.36	2.62

(1) The %RSD for the 17 unlabeled standard must not exceed +/- 20%, see Section 7.7.2.1, Method 8290.

8290F3A

FORM 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P100006 HCC4 Data Filename: P100009

HCC2 Data Filename: P100007 HCC5 Data Filename: P100010

HCC3 Data Filename: P100008

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	1.09	1.09	1.05	1.12	1.15	1.10	3.58
13C-1,2,3,7,8-PeCDD	0.99	0.96	0.97	0.96	1.01	0.98	2.33
13C-1,2,3,6,7,8-HxCDD	0.99	0.98	0.98	1.00	1.01	0.99	1.31
13C-1,2,3,4,6,7,8-HpCDD	0.88	0.87	0.79	0.87	0.84	0.85	4.62
13C-OCDD	0.80	0.84	0.71	0.83	0.79	0.79	6.26
13C-2,3,7,8-TCDF	1.39	1.41	1.36	1.41	1.46	1.41	2.65
13C-1,2,3,7,8-PeCDF	1.37	1.35	1.34	1.38	1.44	1.38	2.73
13C-1,2,3,4,7,8-HxCDF	1.36	1.38	1.24	1.40	1.36	1.35	4.64
13C-1,2,3,4,6,7,8-HpCDF	1.06	1.05	0.95	1.06	1.03	1.03	4.43
CLEANUP STANDARD							
37Cl-2,3,7,8-TCDD	0.93	0.98	1.02	1.03	1.09	1.01	6.14

(1) The %RSD for the nine labeled reference compounds must not exceed +/- 30%, see Section 7.7.2.1, Method 8290.

8290F3B

FORM 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P100006 HCC4 Data Filename: P100009

HCC2 Data Filename: P100007 HCC5 Data Filename: P100010

HCC3 Data Filename: P100008

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
NATIVE ANALYTES							
2,3,7,8-TCDD	M/M+2	0.80	0.81	0.77	0.78	0.78	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.65	1.60	1.59	1.58	1.57	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.29	1.27	1.27	1.27	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.28	1.30	1.27	1.28	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.29	1.25	1.28	1.26	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.07	1.06	1.07	1.07	0.88-1.20
OCDD	M+2/M+4	0.89	0.92	0.88	0.91	0.90	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.80	0.80	0.81	0.78	0.79	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.58	1.57	1.59	1.61	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.58	1.57	1.60	1.61	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.25	1.28	1.26	1.26	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.39	1.27	1.28	1.25	1.27	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.28	1.30	1.29	1.27	1.28	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.24	1.29	1.30	1.26	1.26	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.10	1.02	1.08	1.04	1.05	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.04	1.02	1.05	1.06	1.05	0.88-1.20
OCDF	M+2/M+4	0.89	0.89	0.91	0.93	0.91	0.76-1.02

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits from Table 8, Method 8290.

8290F3C

FORM 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/02/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P100006 HRCC4 Data Filename: P100009

HRCC2 Data Filename: P100007 HRCC5 Data Filename: P100010

HRCC3 Data Filename: P100008

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	M/M+2	0.78	0.78	0.78	0.78	0.78	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.55	1.55	1.59	1.57	1.57	1.32-1.78
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.26	1.27	1.25	1.25	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	1.07	1.05	1.02	1.03	0.88-1.20
13C-OCDD	M+2/M+4	0.91	0.91	0.90	0.90	0.90	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.80	0.80	0.80	0.80	0.80	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.57	1.58	1.61	1.59	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.53	0.54	0.53	0.54	0.54	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.46	0.45	0.44	0.45	0.37-0.51

(1) See Table 6, Method 8290, for m/z specifications.Method 8290.

(2) Ion Abundance Ratio Control Limits from Table 8,

8290F3D

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC1

Run #1 Filename P100006 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 11:02:24
Processed: 3-JUL-08 14:49:02 Sample ID: ICAL HRCC1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	6.269e+02	7.844e+02	0.80	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:38	1.896e+03	1.165e+03	1.63	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:20	1.938e+03	1.247e+03	1.55	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	1.873e+03	1.505e+03	1.24	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:10	1.919e+03	1.382e+03	1.39	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:39	1.706e+03	1.371e+03	1.24	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	1.754e+03	1.365e+03	1.28	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	1.930e+03	1.762e+03	1.10	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:09	1.465e+03	1.414e+03	1.04	yes	no	1.17
10	Unk	OCDF	44:02	2.206e+03	2.465e+03	0.89	yes	yes	1.36
11	Unk	2,3,7,8-TCDD	30:16	4.666e+02	5.827e+02	0.80	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:41	1.272e+03	7.693e+02	1.65	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:45	1.044e+03	8.148e+02	1.28	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:50	1.180e+03	9.400e+02	1.25	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	1.285e+03	9.855e+02	1.30	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	1.104e+03	1.048e+03	1.05	yes	yes	1.02
17	Unk	OCDD	43:52	1.736e+03	1.940e+03	0.89	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:27	3.172e+04	3.982e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.356e+04	2.702e+04	1.61	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:04	4.957e+04	9.290e+04	0.53	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	3.457e+04	7.685e+04	0.45	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:14	2.457e+04	3.167e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	3.094e+04	1.994e+04	1.55	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:49	5.754e+04	4.634e+04	1.24	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:42	4.732e+04	4.567e+04	1.04	yes	no	0.85
26	IS	13C-OCDD	43:51	7.984e+04	8.726e+04	0.91	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:03	2.278e+04	2.882e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	5.795e+04	4.712e+04	1.23	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	9.576e+02					1.01

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC1

Run #1 Filename P100006 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 11:02:24

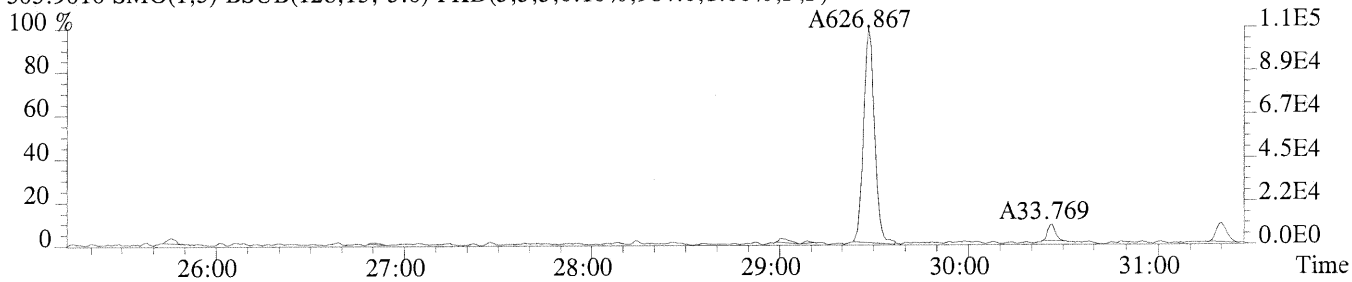
Processed: 3-JUL-08 14:49:02 LAB. ID:

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1	2,3,7,8-TCDF	1.10e+05	9.84e+02	1.1e+02	1.41e+05	2.11e+03	6.7e+01
2	1,2,3,7,8-PeCDF	3.63e+05	1.08e+03	3.3e+02	2.22e+05	1.92e+03	1.2e+02
3	2,3,4,7,8-PeCDF	3.75e+05	1.08e+03	3.5e+02	2.57e+05	1.92e+03	1.3e+02
4	1,2,3,4,7,8-HxCDF	4.11e+05	1.60e+03	2.6e+02	3.22e+05	1.15e+03	2.8e+02
5	1,2,3,6,7,8-HxCDF	3.83e+05	1.60e+03	2.4e+02	2.84e+05	1.15e+03	2.5e+02
6	2,3,4,6,7,8-HxCDF	3.80e+05	1.60e+03	2.4e+02	2.99e+05	1.15e+03	2.6e+02
7	1,2,3,7,8,9-HxCDF	3.30e+05	1.60e+03	2.1e+02	2.43e+05	1.15e+03	2.1e+02
8	1,2,3,4,6,7,8-HpCDF	3.92e+05	1.01e+03	3.9e+02	3.52e+05	1.22e+03	2.9e+02
9	1,2,3,4,7,8,9-HpCDF	2.45e+05	1.01e+03	2.4e+02	2.47e+05	1.22e+03	2.0e+02
10	OCDF	2.81e+05	1.41e+03	2.0e+02	3.19e+05	2.77e+03	1.2e+02
11	2,3,7,8-TCDD	8.42e+04	2.18e+03	3.9e+01	1.03e+05	8.60e+02	1.2e+02
12	1,2,3,7,8-PeCDD	2.55e+05	2.16e+03	1.2e+02	1.50e+05	7.24e+02	2.1e+02
13	1,2,3,4,7,8-HxCDD	2.40e+05	1.33e+03	1.8e+02	1.94e+05	1.57e+03	1.2e+02
14	1,2,3,6,7,8-HxCDD	2.50e+05	1.33e+03	1.9e+02	1.90e+05	1.57e+03	1.2e+02
15	1,2,3,7,8,9-HxCDD	2.50e+05	1.33e+03	1.9e+02	1.92e+05	1.57e+03	1.2e+02
16	1,2,3,4,6,7,8-HpCDD	2.08e+05	1.27e+03	1.6e+02	2.05e+05	9.44e+02	2.2e+02
17	OCDD	2.35e+05	1.05e+03	2.2e+02	2.66e+05	1.24e+03	2.1e+02
18	13C-2,3,7,8-TCDF	5.63e+06	3.46e+03	1.6e+03	7.06e+06	2.48e+03	2.8e+03
19	13C-1,2,3,7,8-PeCDF	8.40e+06	7.44e+02	1.1e+04	5.23e+06	9.76e+02	5.4e+03
20	13C-1,2,3,4,7,8-HxCDF	1.04e+07	1.26e+03	8.3e+03	1.92e+07	2.34e+03	8.2e+03
21	13C-1,2,3,4,6,7,8-HpCDF	7.12e+06	3.18e+03	2.2e+03	1.57e+07	4.32e+03	3.6e+03
22	13C-2,3,7,8-TCDD	4.53e+06	5.16e+03	8.8e+02	5.86e+06	1.94e+03	3.0e+03
23	13C-1,2,3,7,8-PeCDD	5.98e+06	1.09e+03	5.5e+03	3.92e+06	1.53e+03	2.6e+03
24	13C-1,2,3,6,7,8-HxCDD	1.27e+07	1.12e+03	1.1e+04	1.01e+07	1.38e+03	7.3e+03
25	13C-1,2,3,4,6,7,8-HpCDD	9.11e+06	1.74e+03	5.2e+03	8.77e+06	1.21e+03	7.3e+03
26	13C-OCDD	1.07e+07	8.36e+02	1.3e+04	1.17e+07	1.08e+03	1.1e+04
27	13C-1,2,3,4-TCDD	4.30e+06	5.16e+03	8.3e+02	5.42e+06	1.94e+03	2.8e+03
28	13C-1,2,3,7,8,9-HxCDD	1.20e+07	1.12e+03	1.1e+04	9.63e+06	1.38e+03	7.0e+03
29	37Cl-2,3,7,8-TCDD	1.76e+05	1.19e+03	1.5e+02			

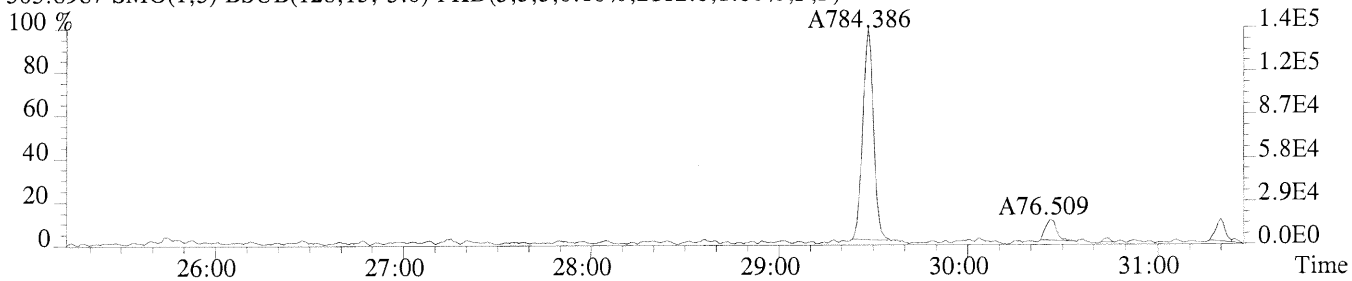
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100006 #1-521 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

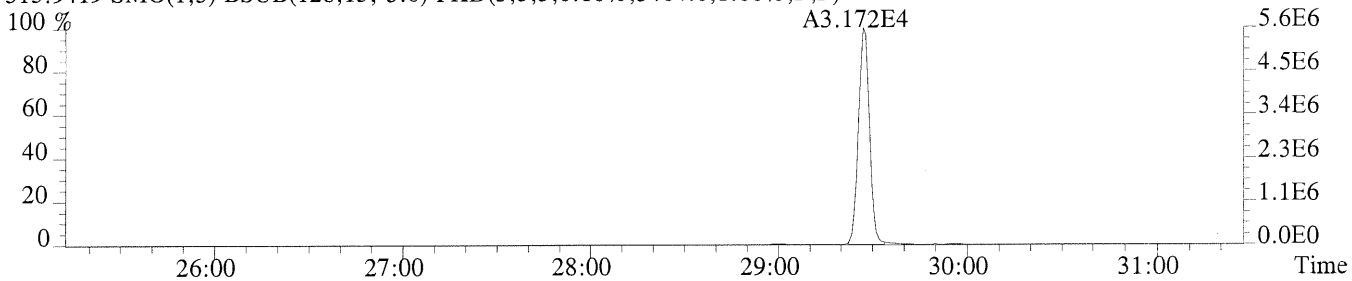
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,F)



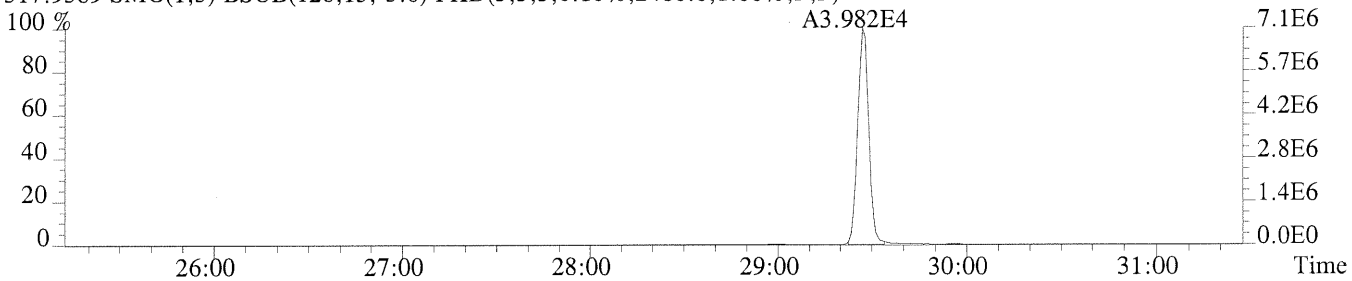
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2112.0,1.00%,F,F)



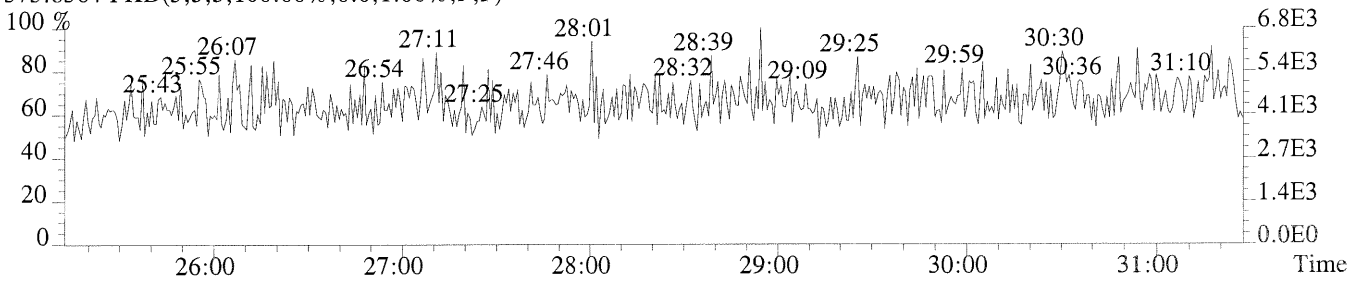
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3464.0,1.00%,F,F)



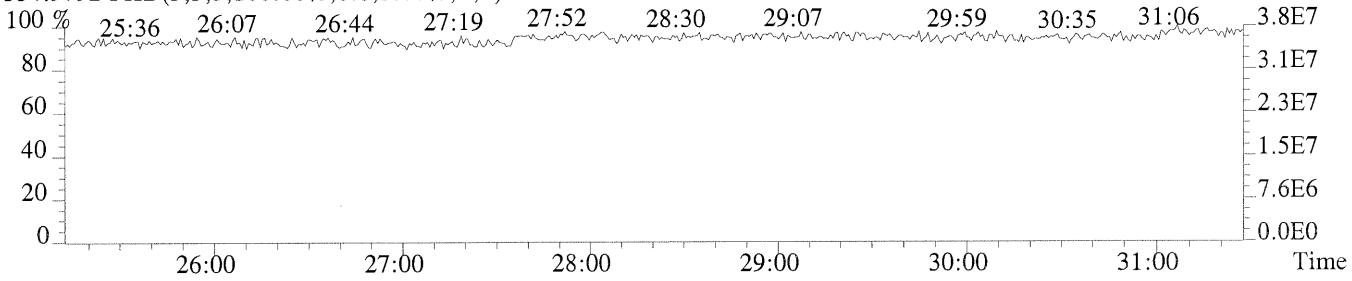
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2480.0,1.00%,F,F)



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

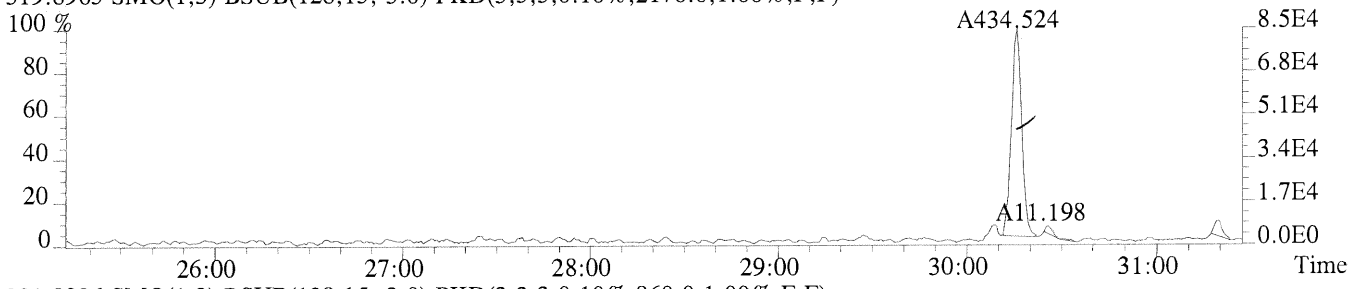


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

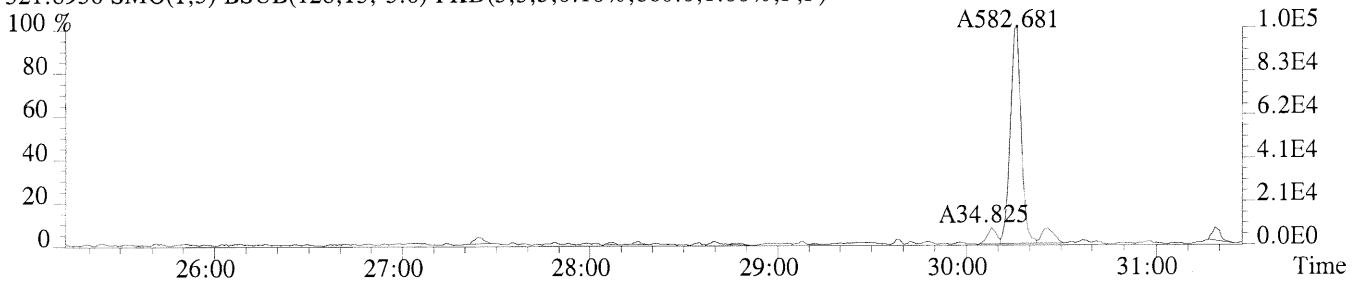


File:P100006 #1-521 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

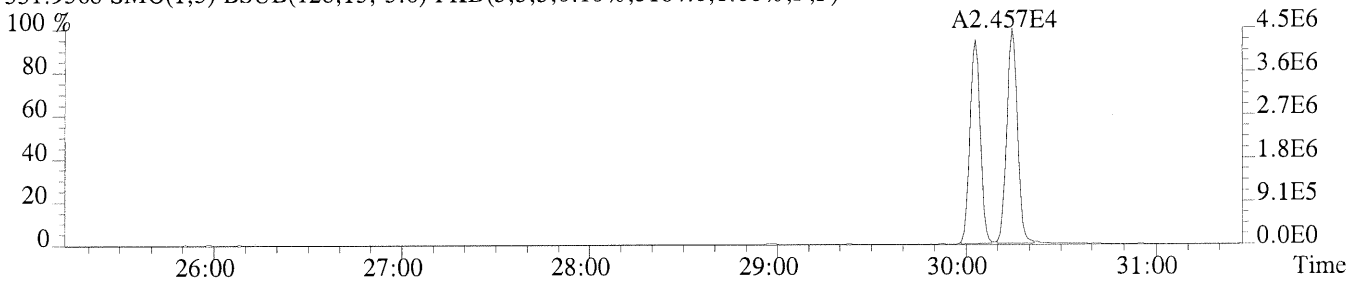
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2176.0,1.00%,F,F)



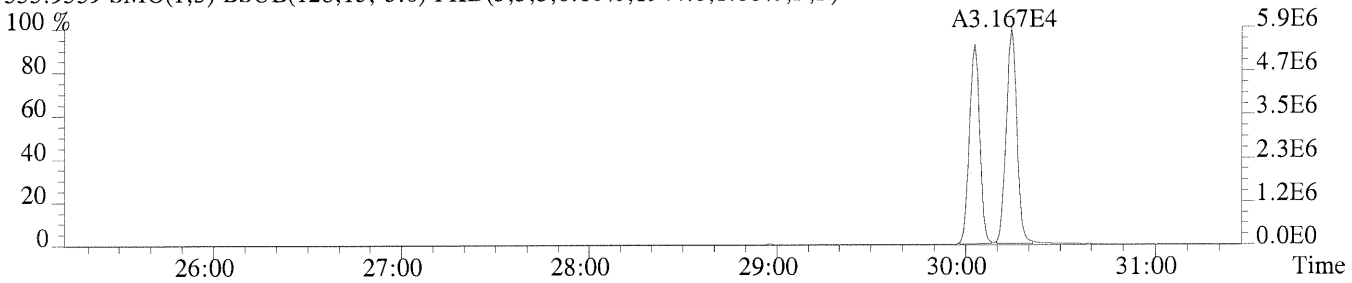
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)



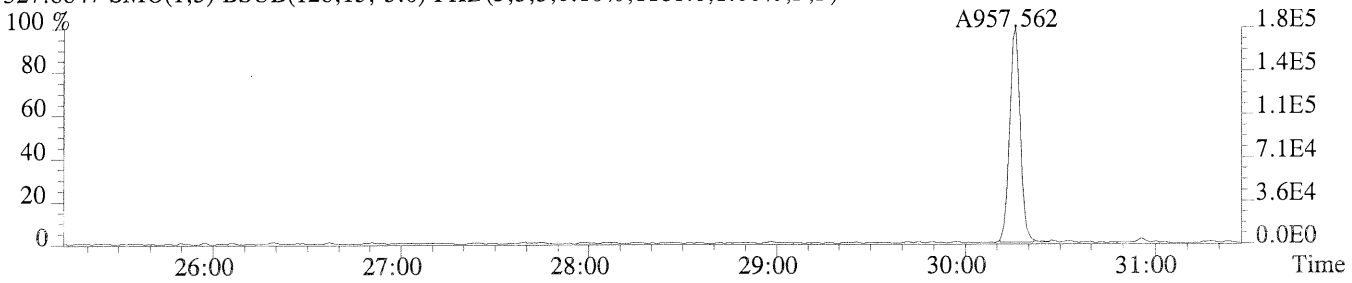
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5164.0,1.00%,F,F)



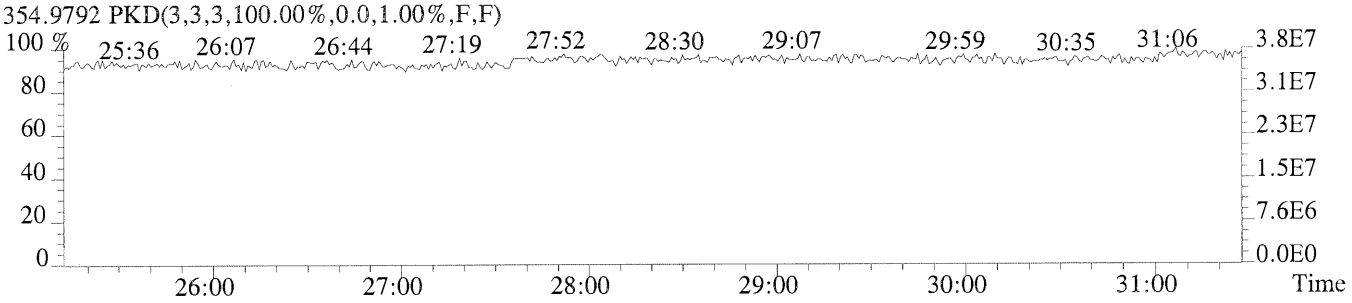
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1944.0,1.00%,F,F)



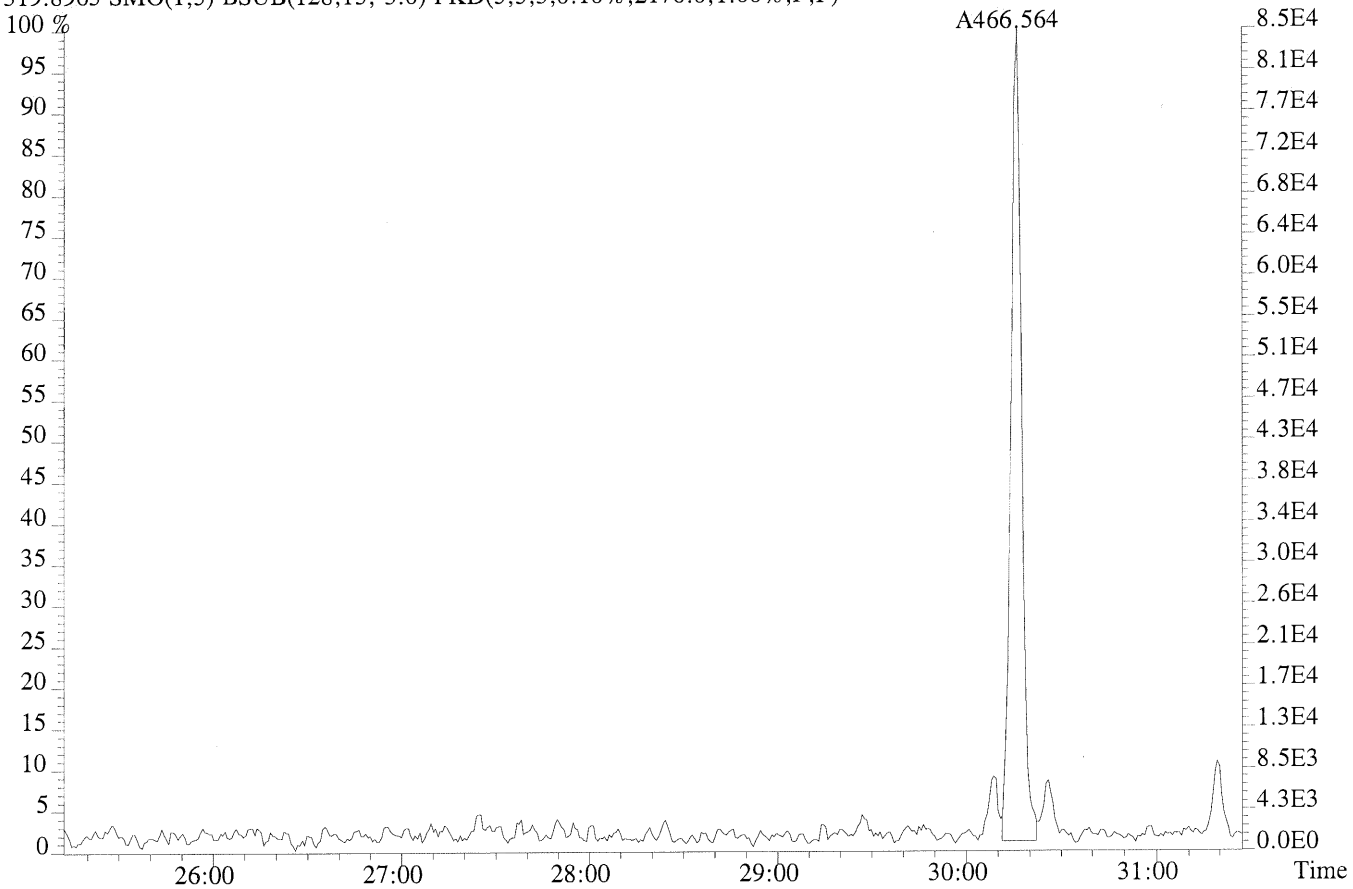
327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1188.0,1.00%,F,F)



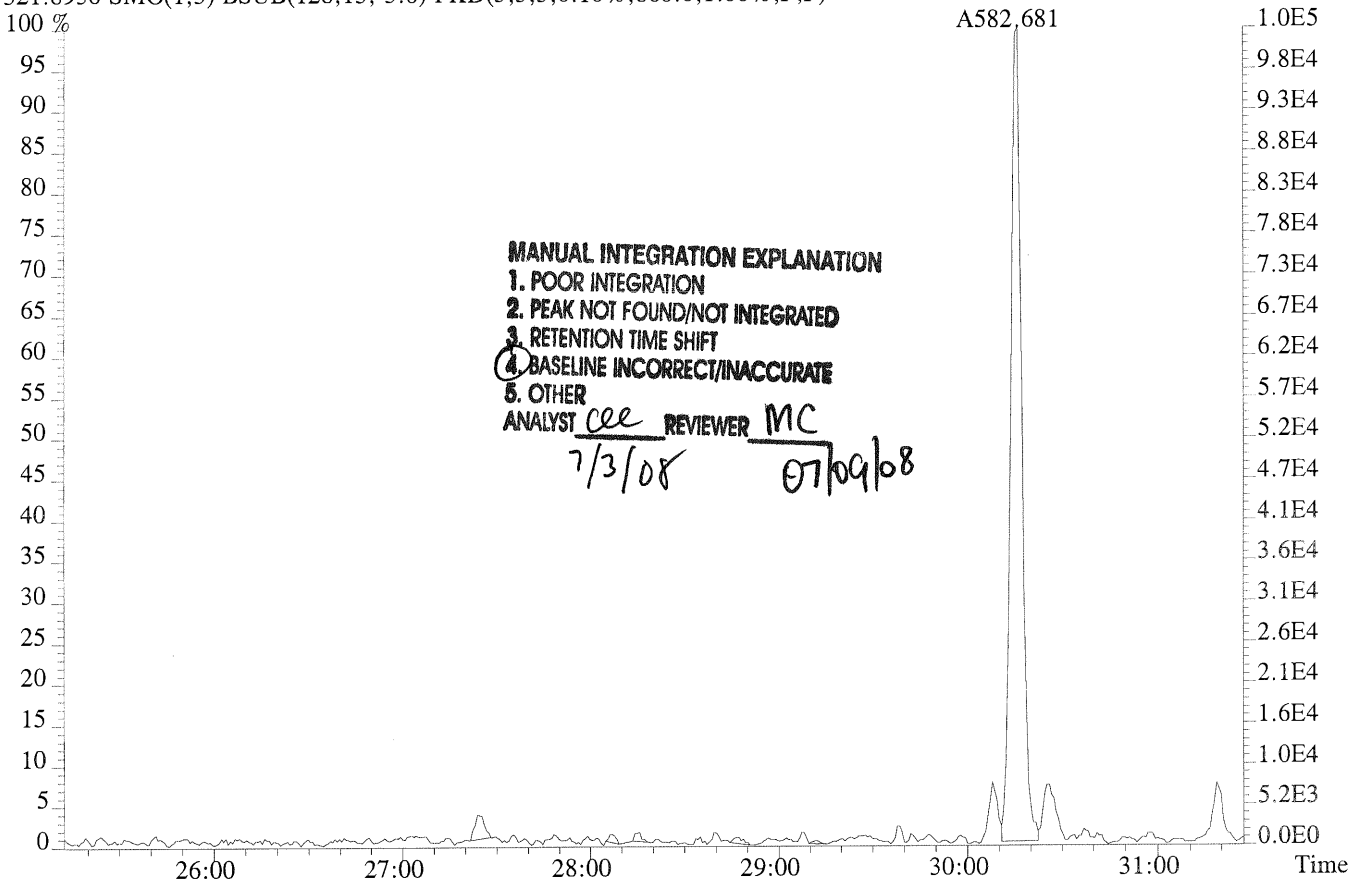
354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100006 #1-521 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2176.0,1.00%,F,F)



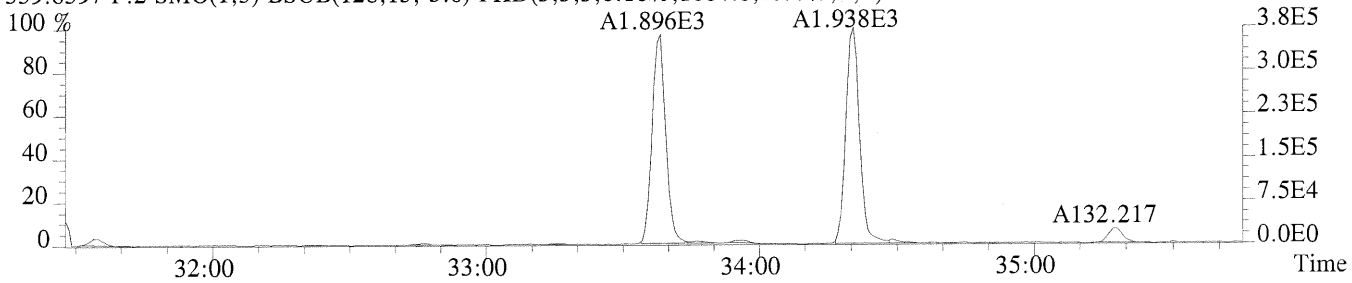
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,860.0,1.00%,F,F)



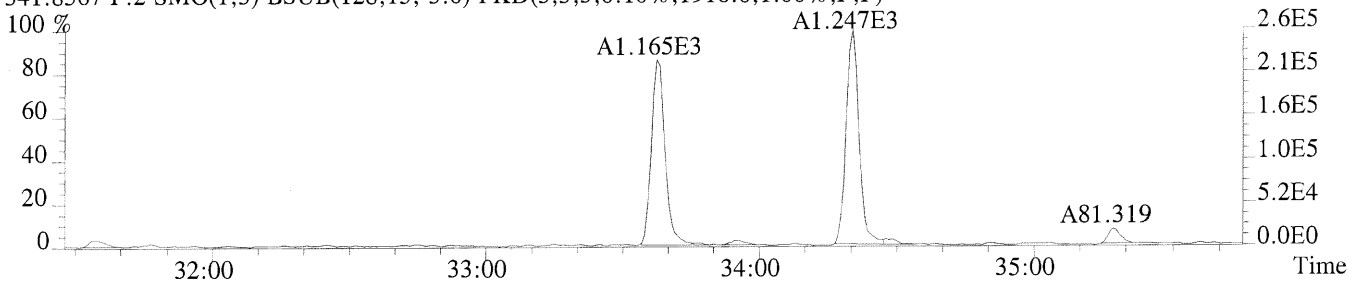
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
(4.) BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST cee REVIEWER MC
7/3/08 07/09/08

File:P100006 #1-390 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

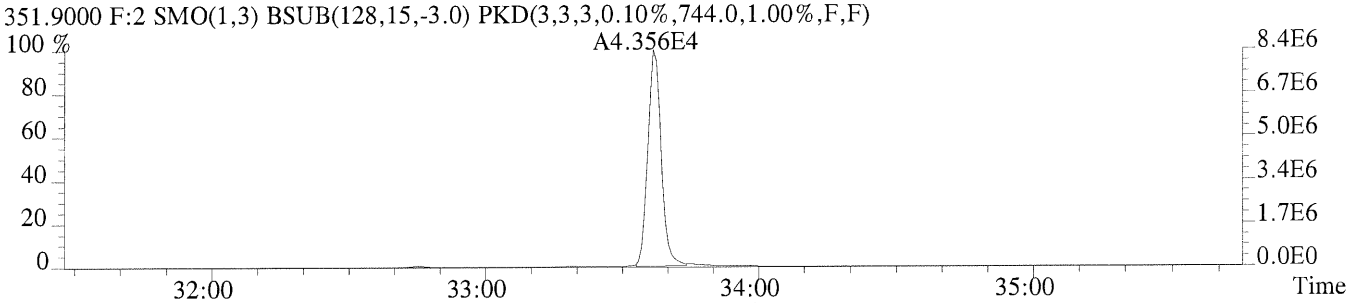
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1084.0,1.00%,F,F)



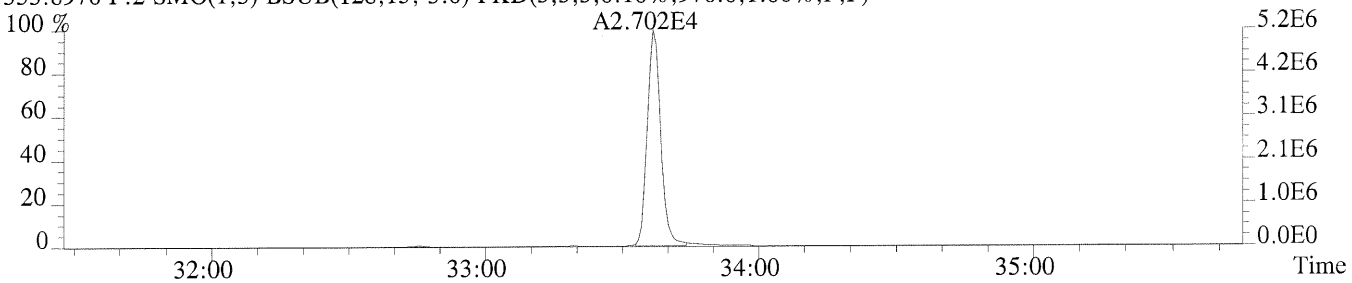
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1916.0,1.00%,F,F)



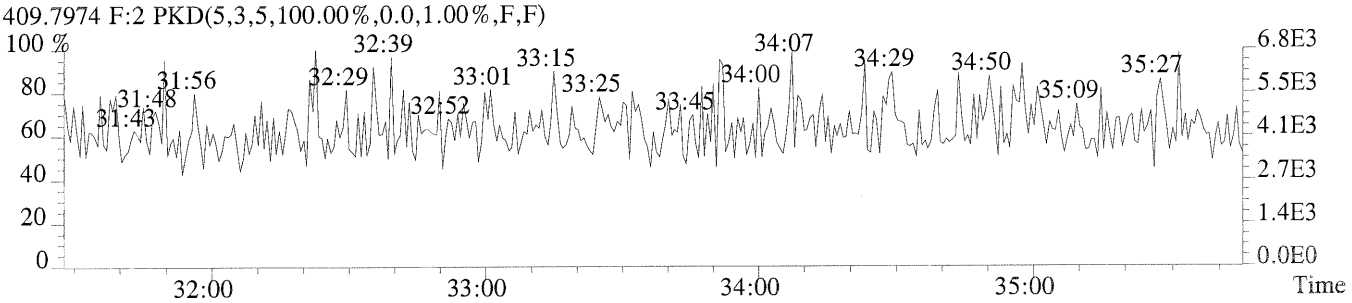
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,F)



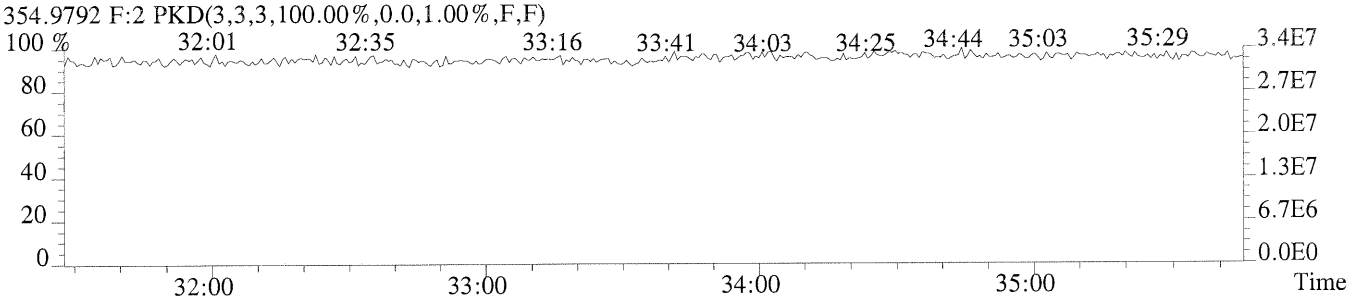
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,F)



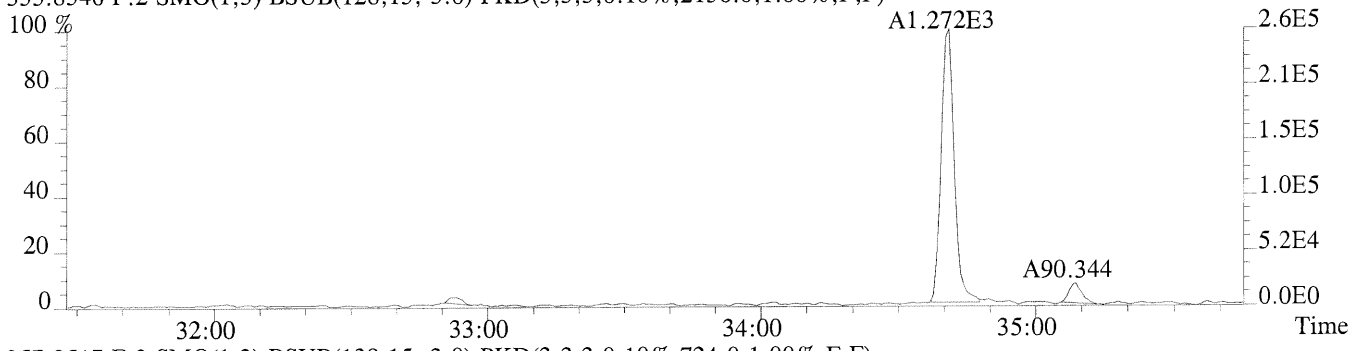
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



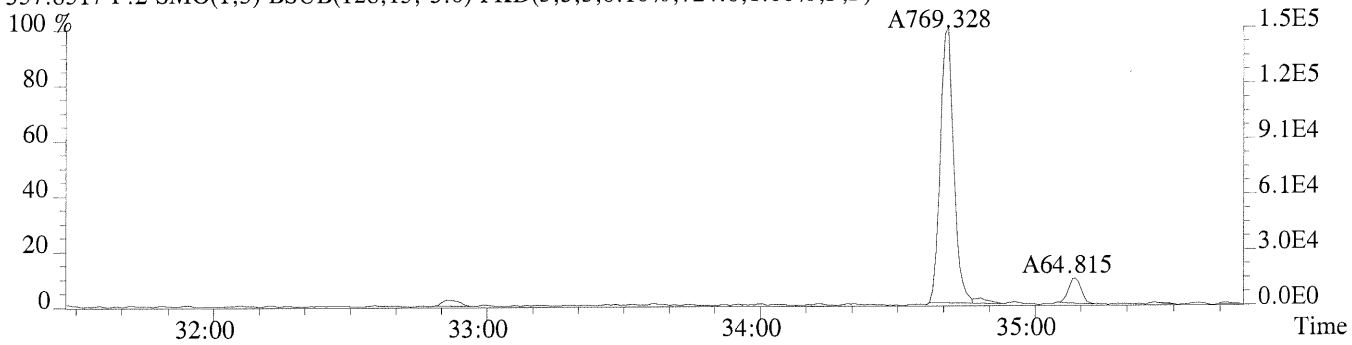
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



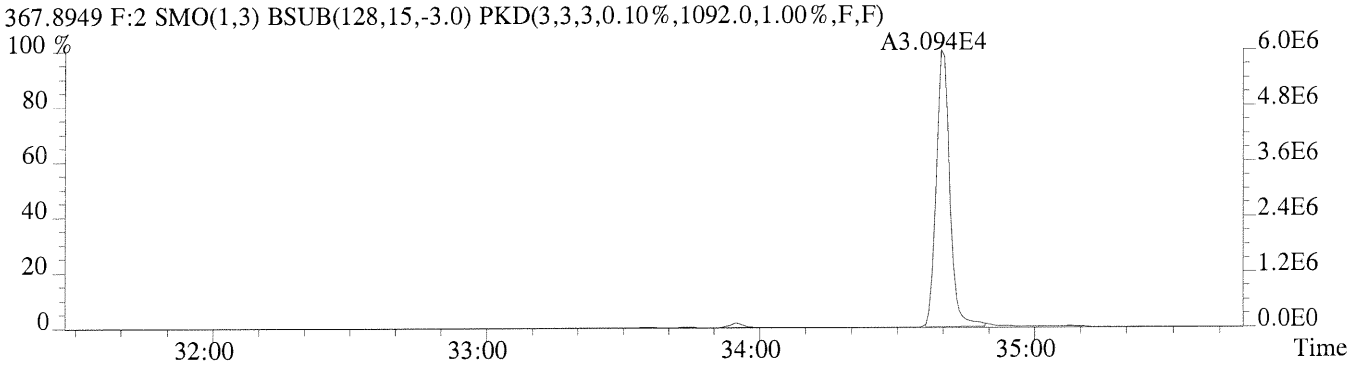
File:P100006 #1-390 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2156.0,1.00%,F,F)



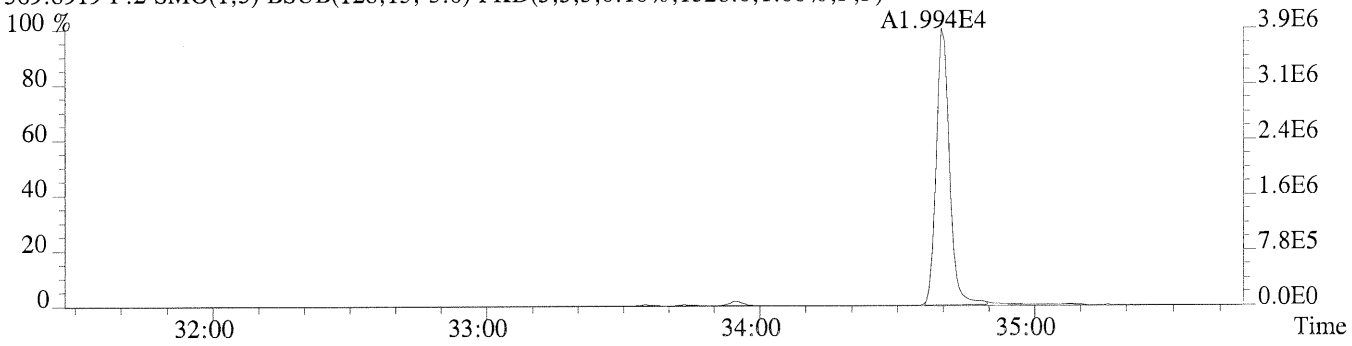
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,724.0,1.00%,F,F)



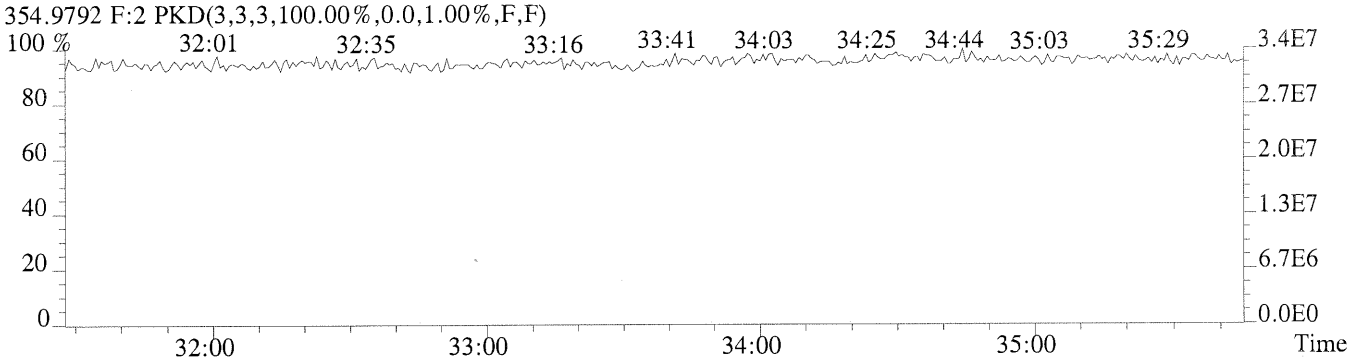
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1092.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1528.0,1.00%,F,F)

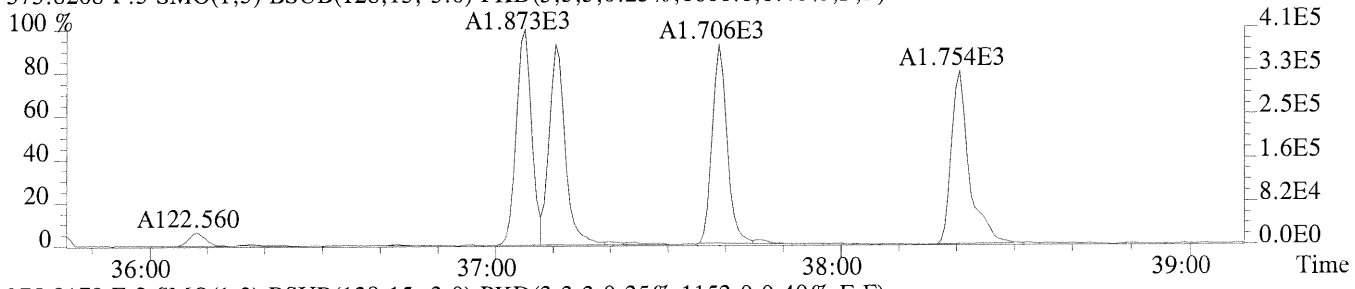


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

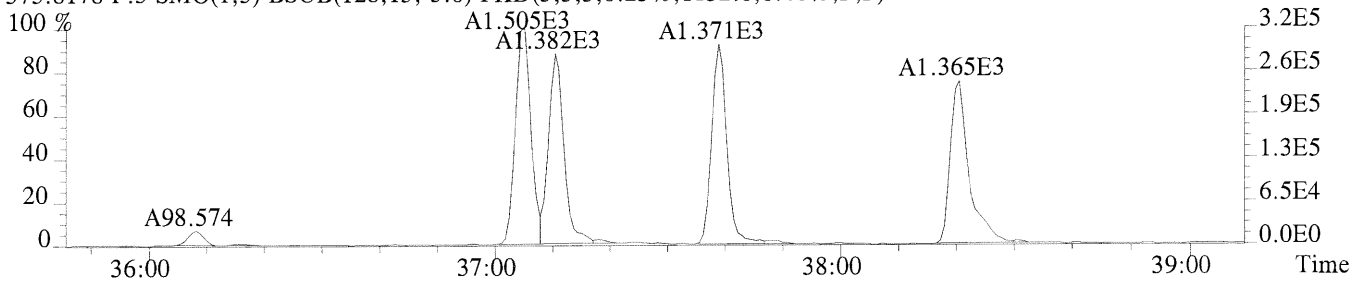


File:P100006 #1-309 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

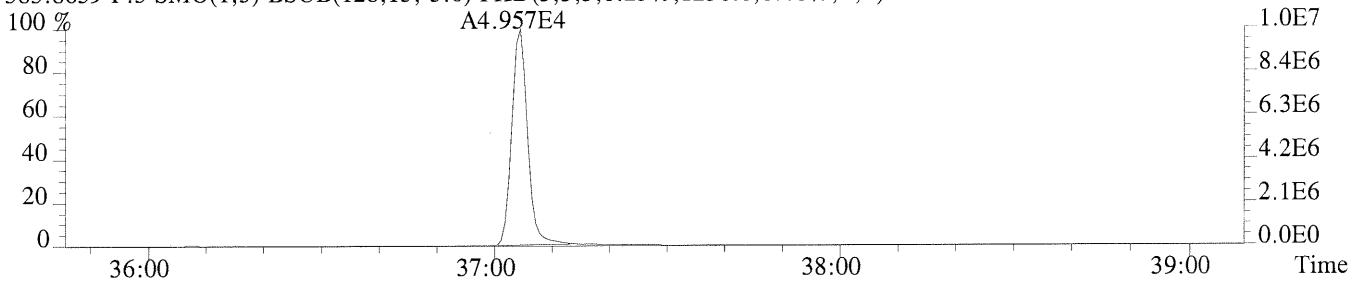
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,F)



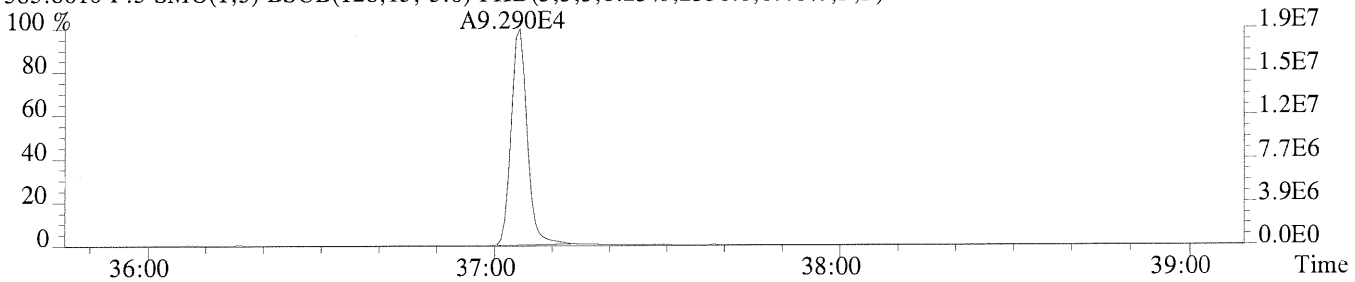
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1152.0,0.40%,F,F)



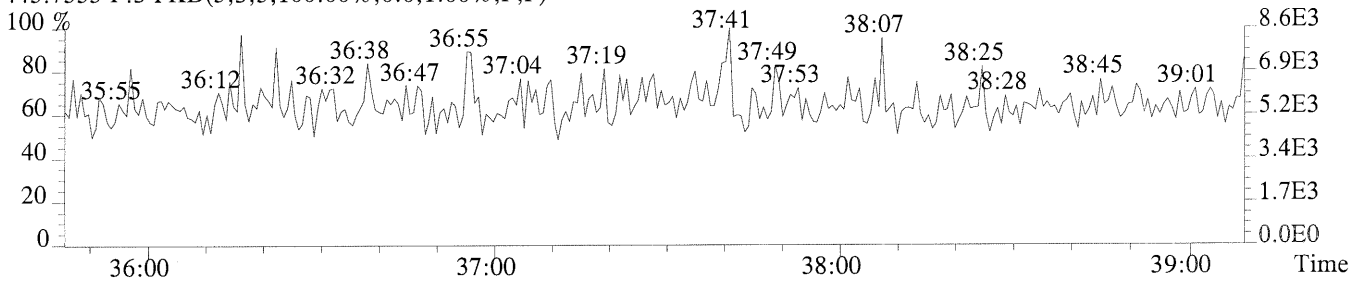
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,F)



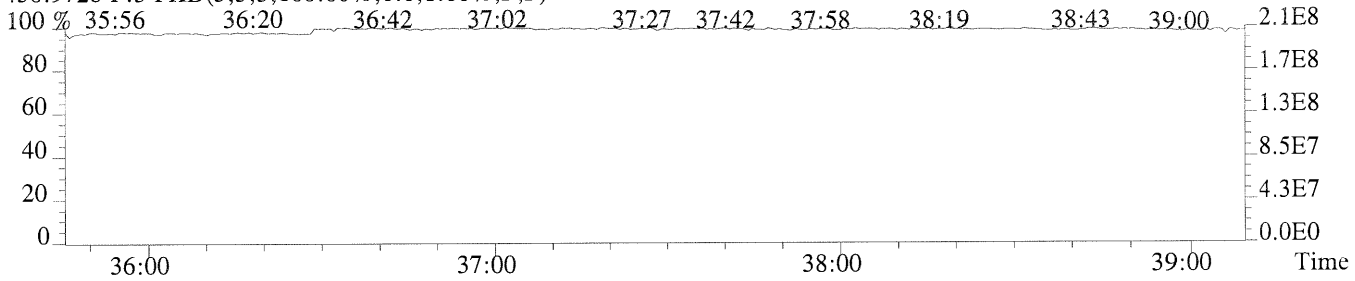
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2336.0,0.40%,F,F)



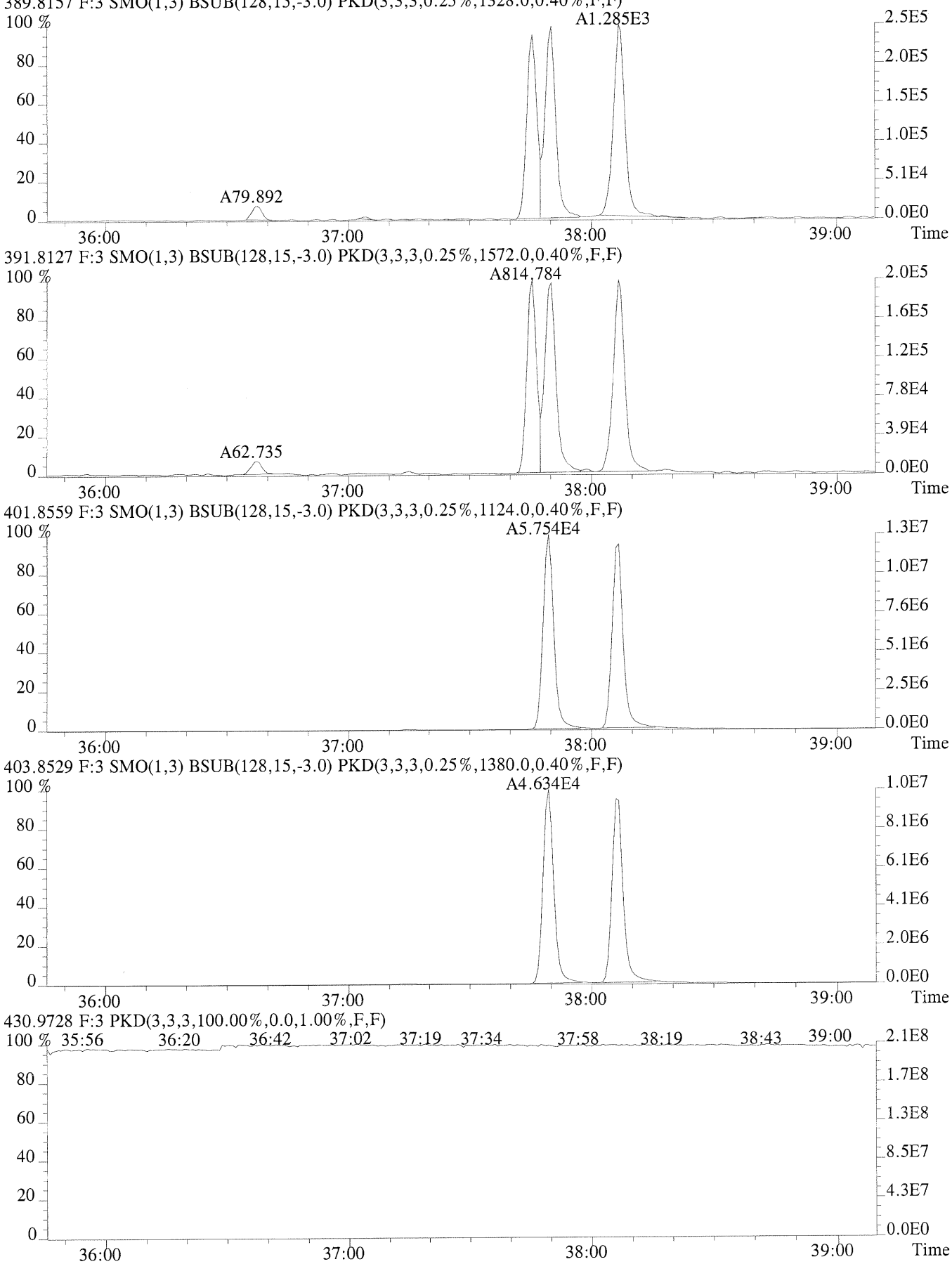
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

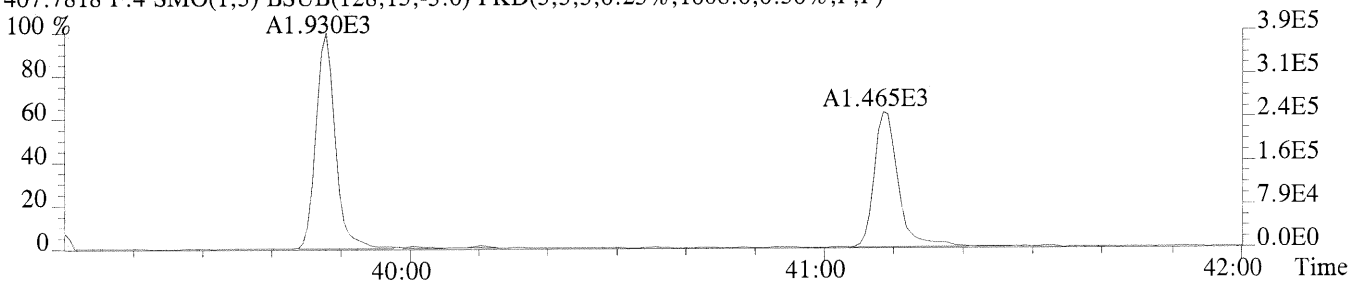


File:P100006 #1-309 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

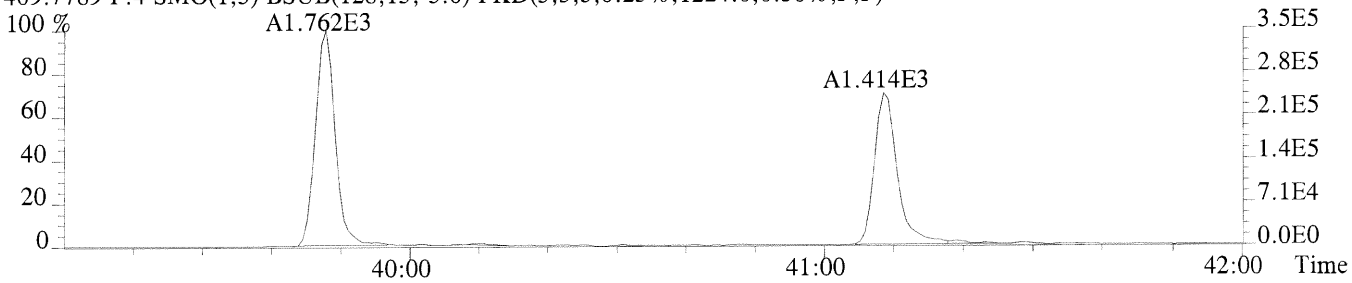


File:P100006 #1-258 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

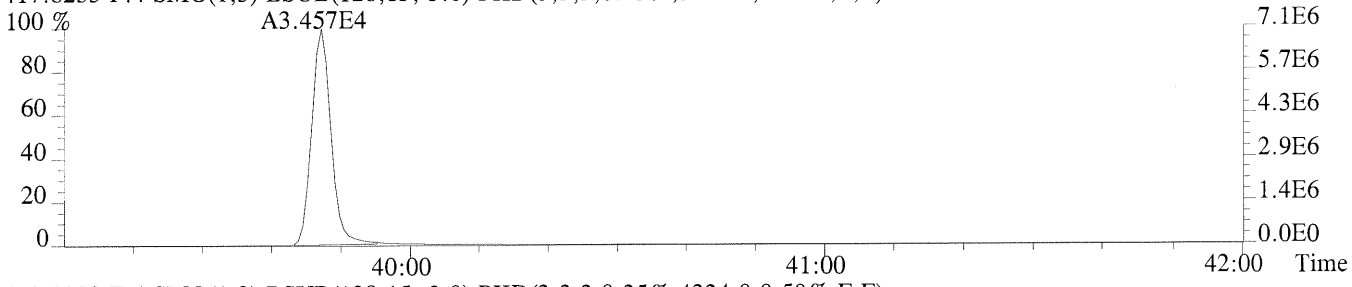
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1008.0,0.50%,F,F)



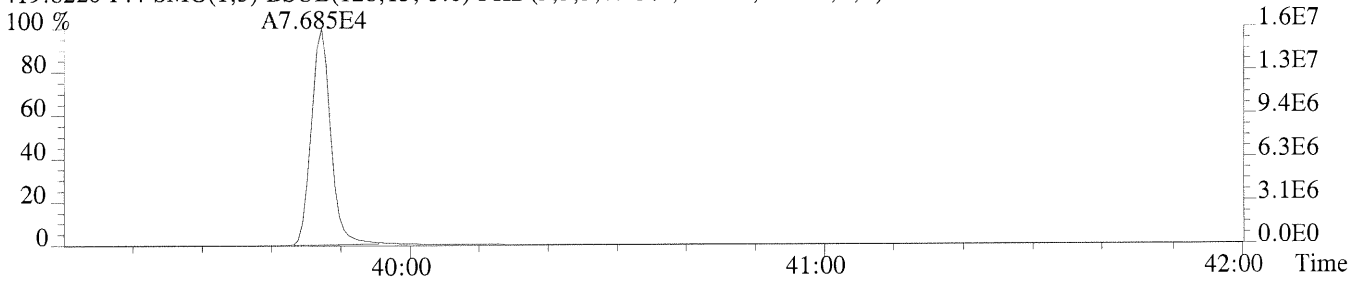
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1224.0,0.50%,F,F)



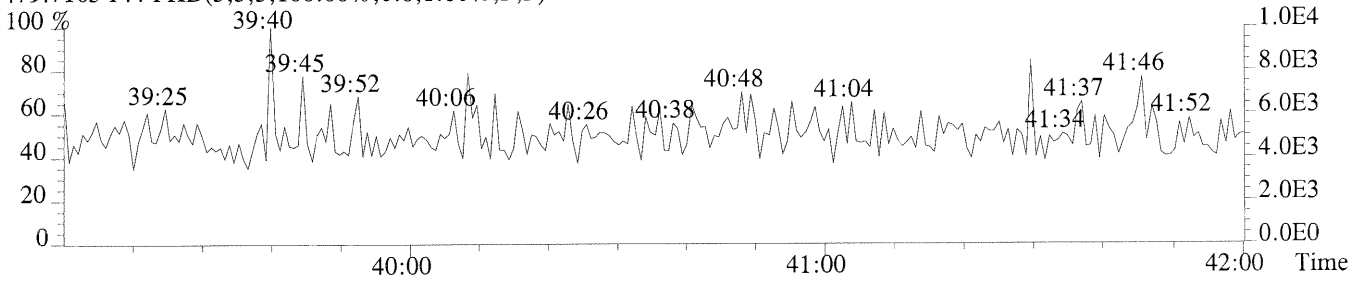
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3176.0,0.50%,F,F)



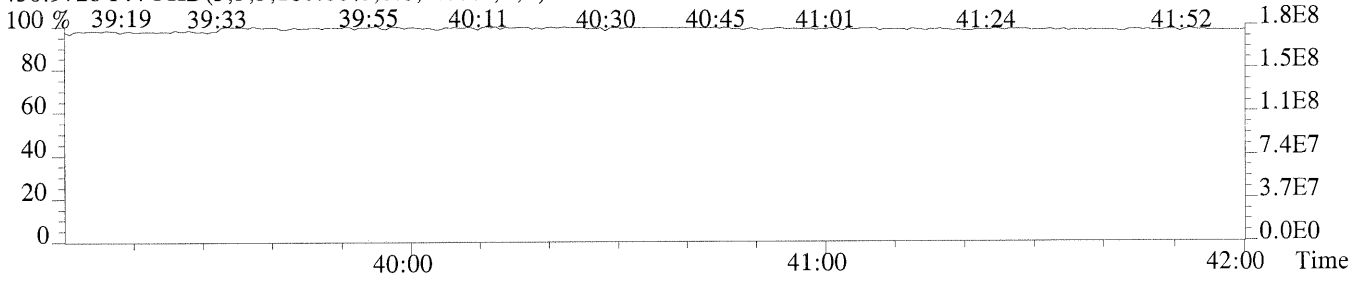
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4324.0,0.50%,F,F)



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

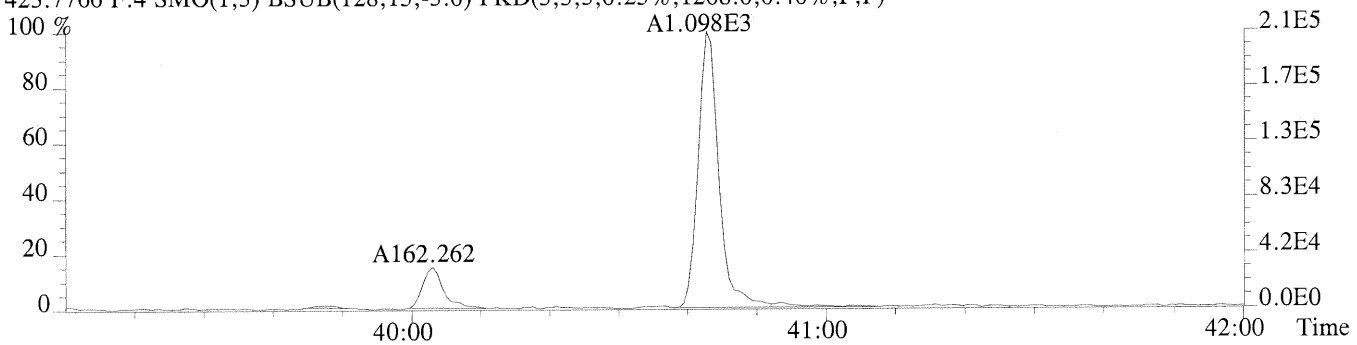


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

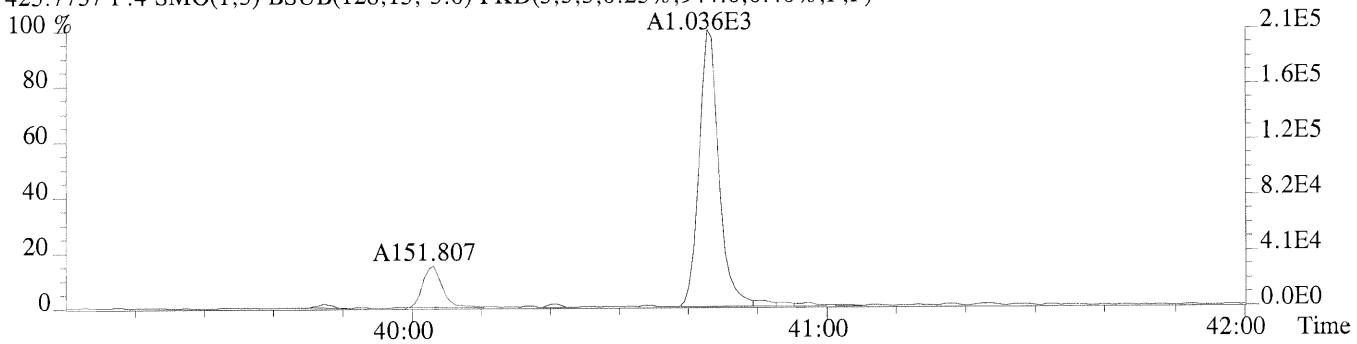


File:P100006 #1-258 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

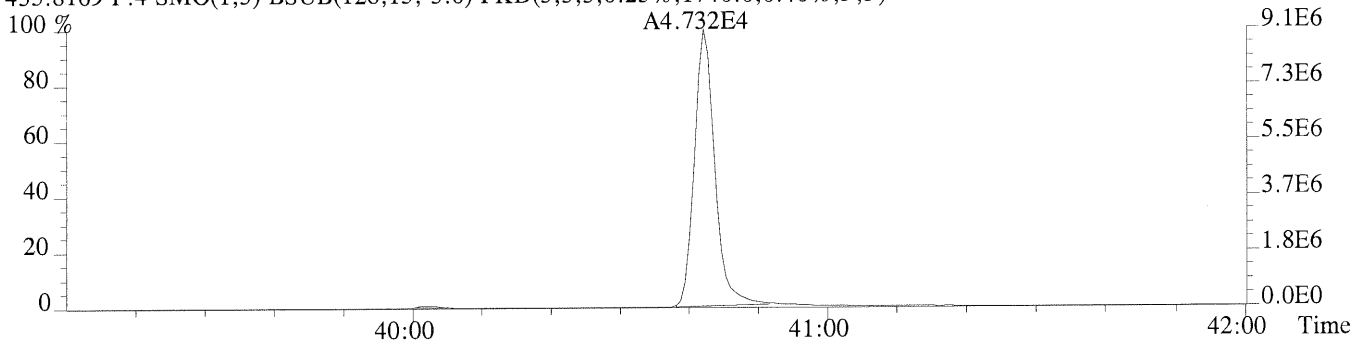
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,F)



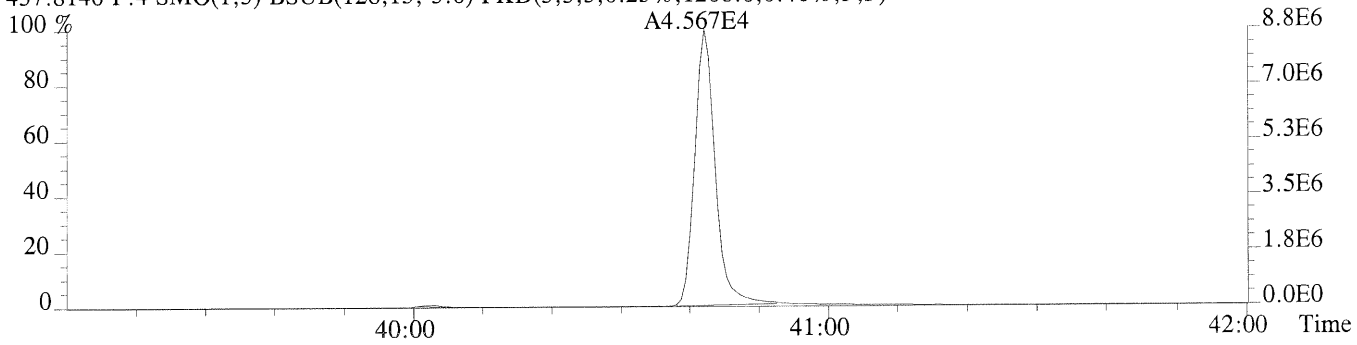
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



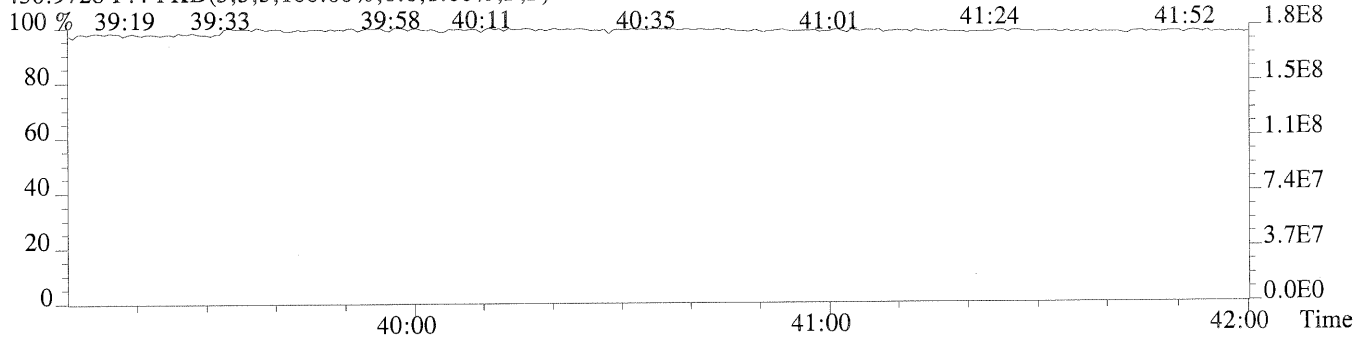
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1740.0,0.40%,F,F)



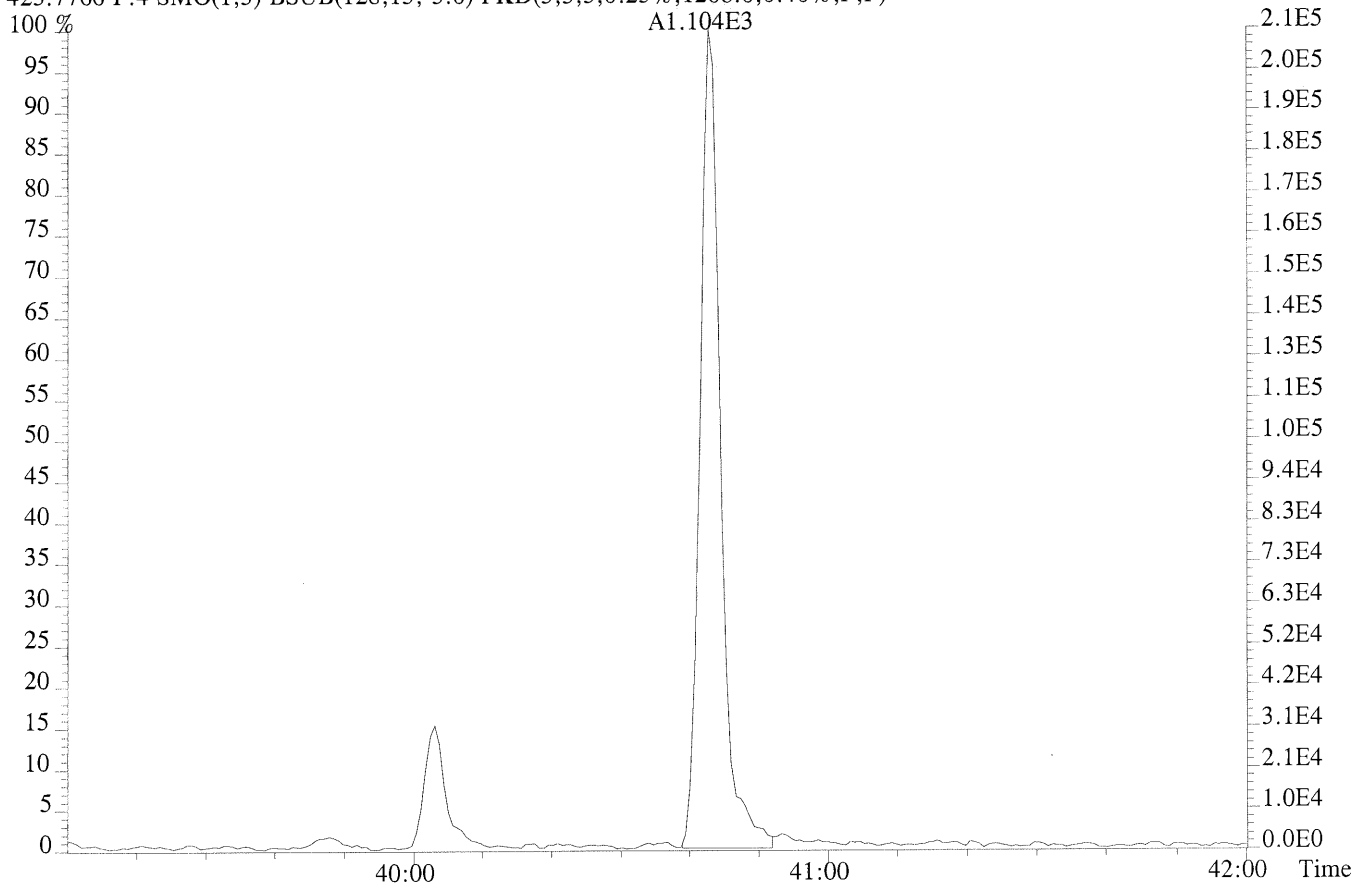
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1208.0,0.40%,F,F)



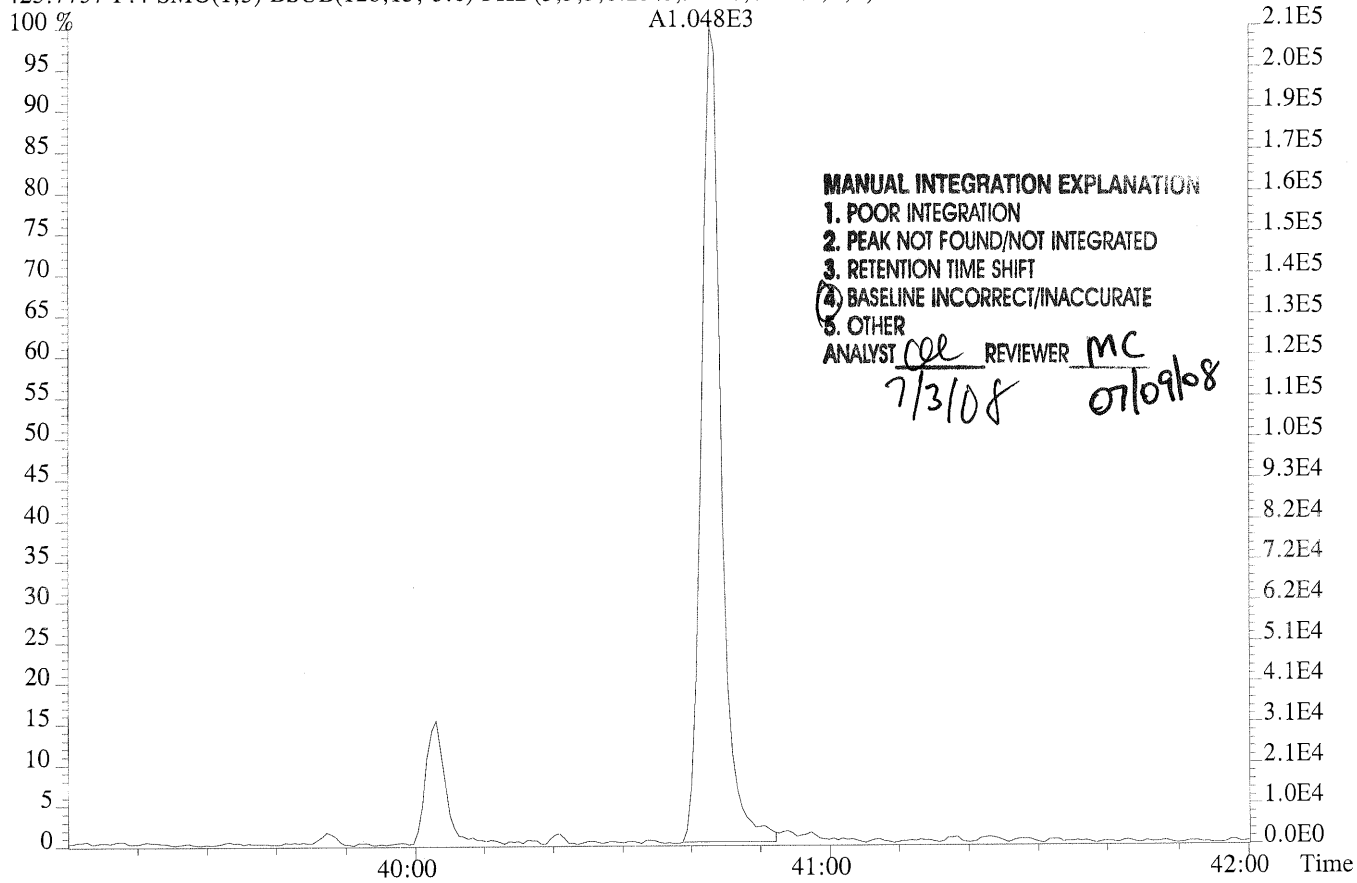
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P100006 #1-258 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1268.0,0.40%,F,F)



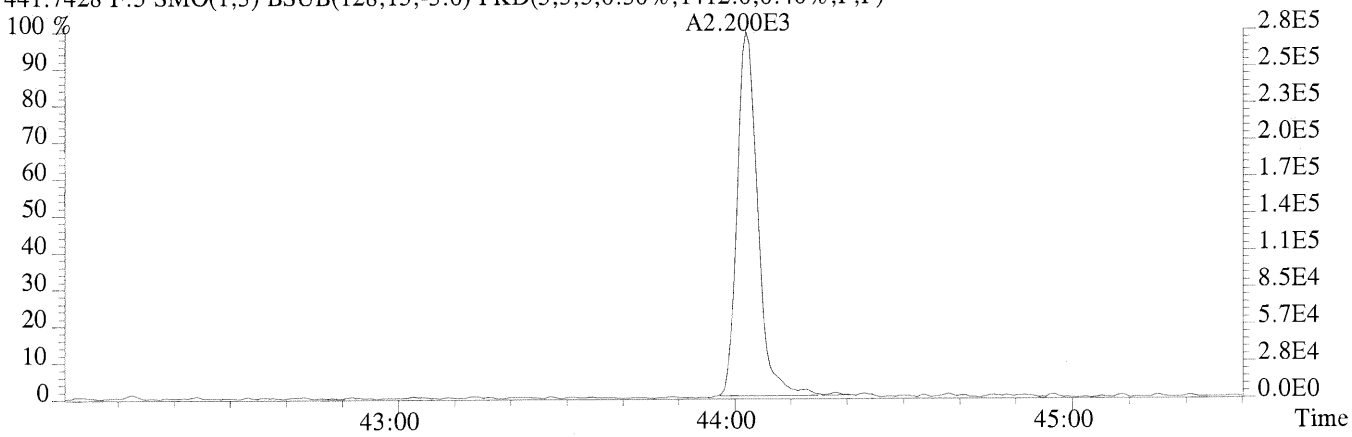
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



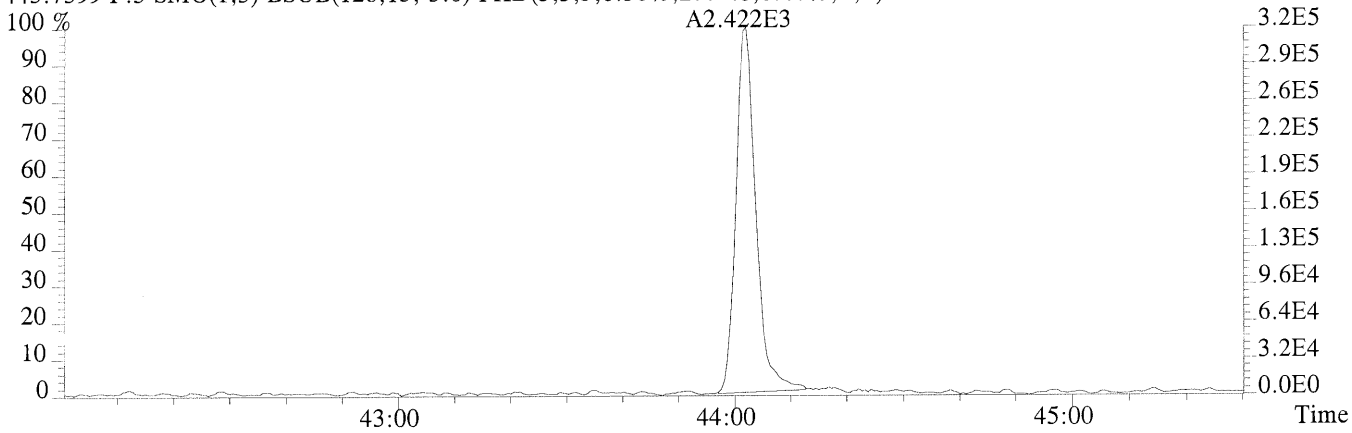
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST CE REVIEWER MC
7/3/08 07/09/08

File:P100006 #1-386 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

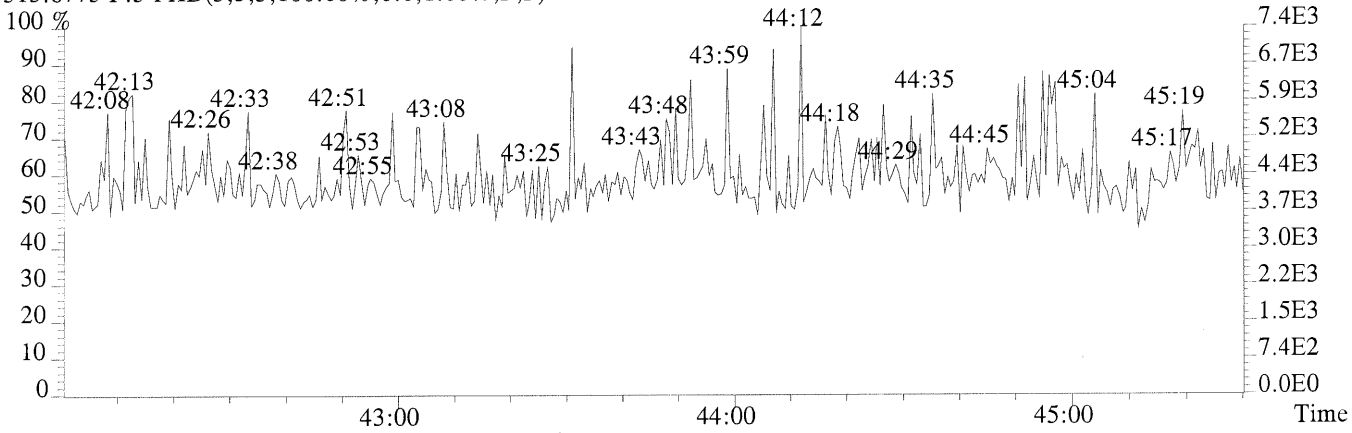
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1412.0,0.40%,F,F)



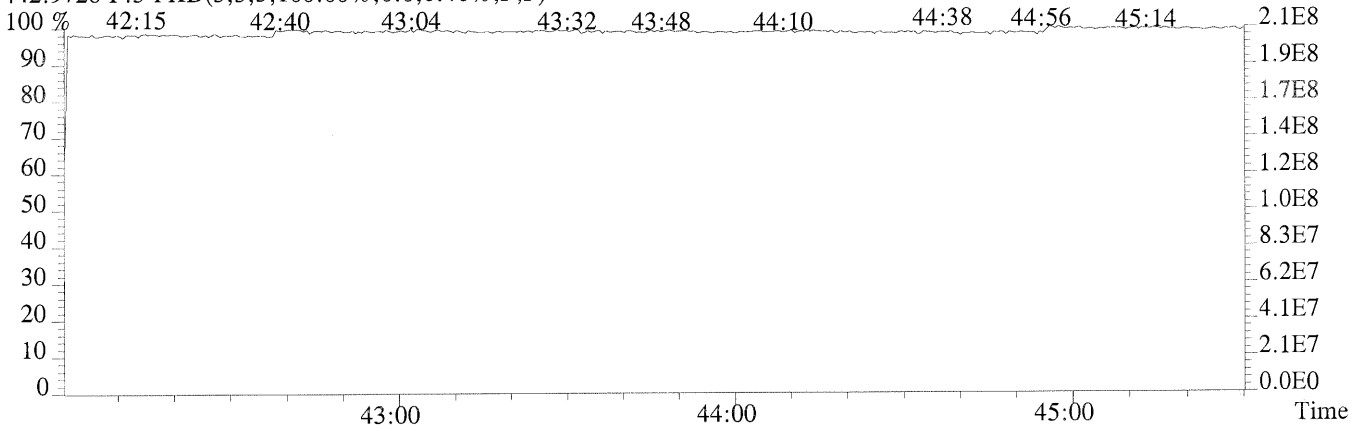
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2772.0,0.40%,F,F)



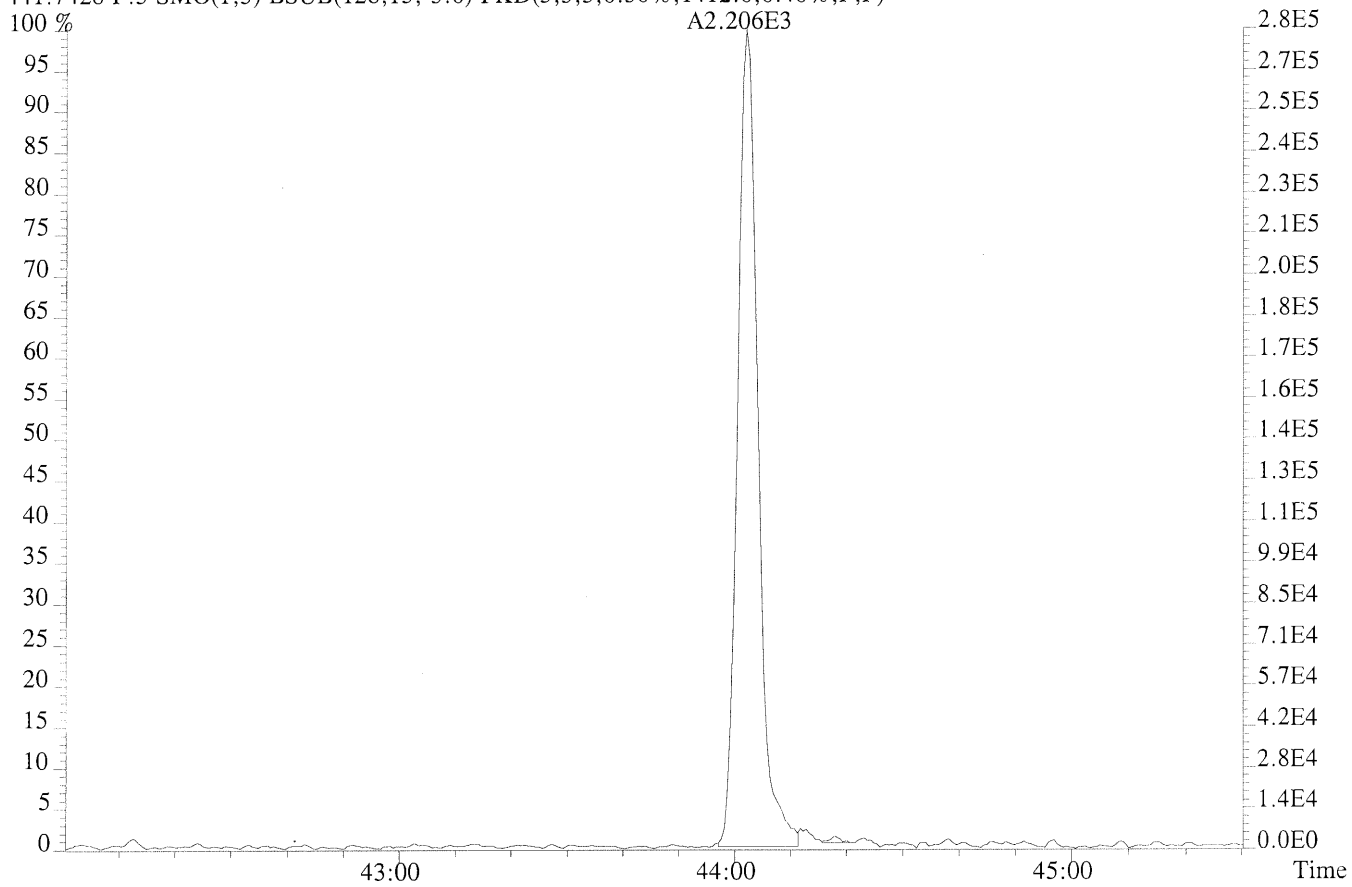
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



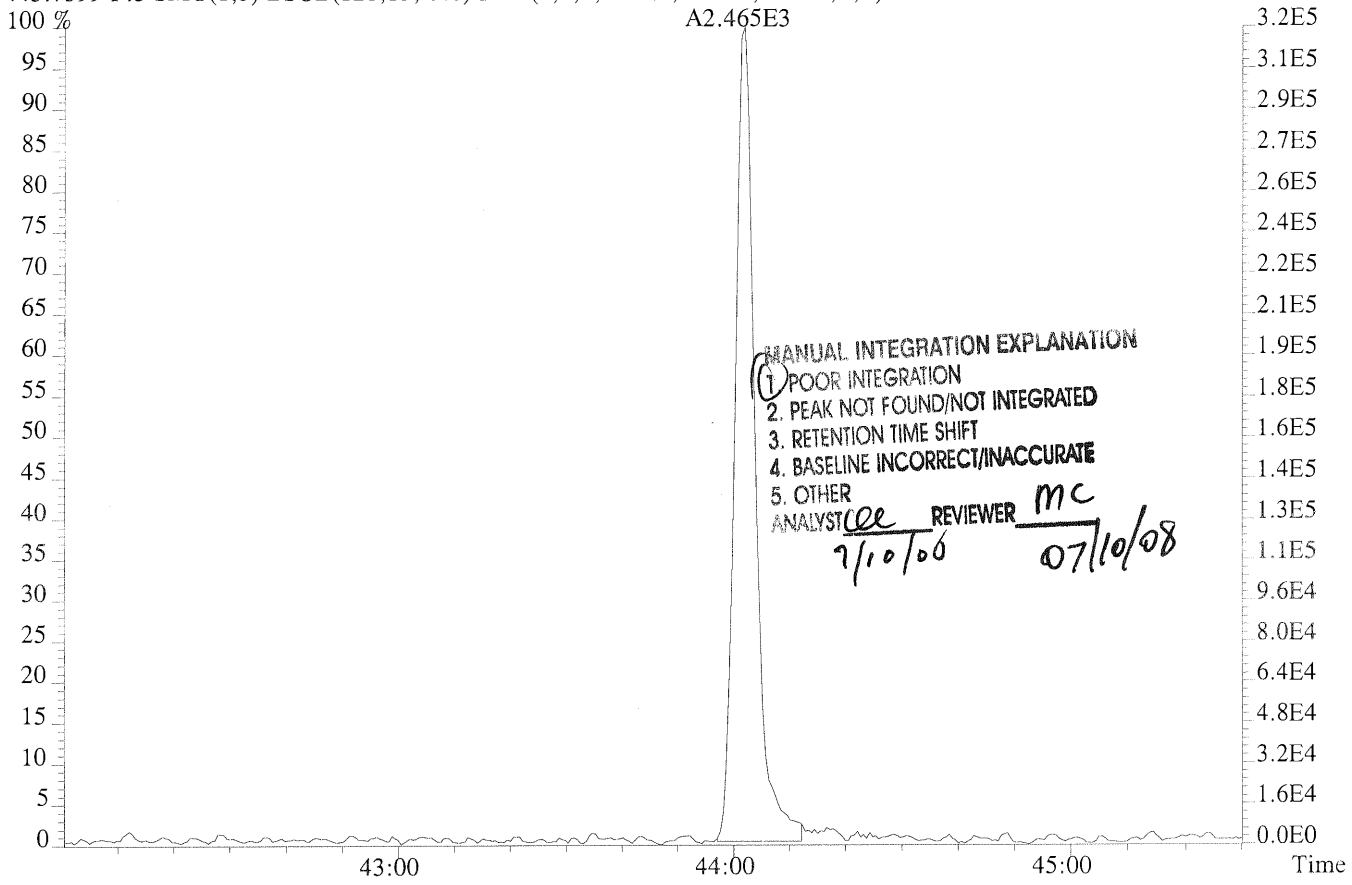
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



File:P100006 #1-386 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1412.0,0.40%,F,F)



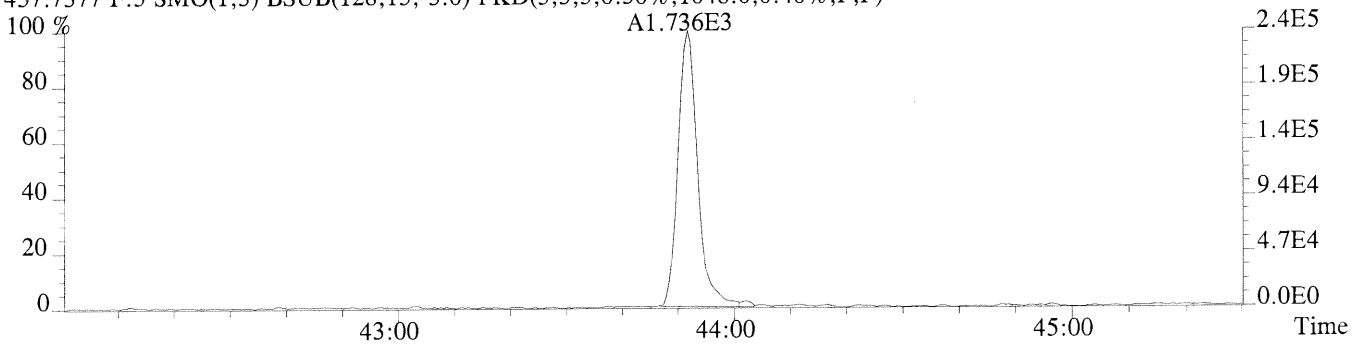
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2772.0,0.40%,F,F)



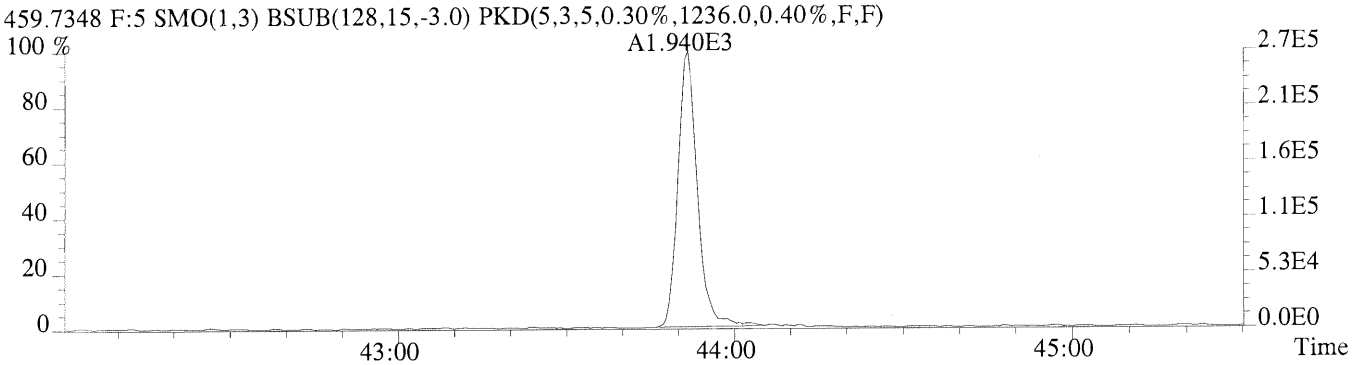
MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST cee REVIEWER mc
7/10/08 07/10/08

File:P100006 #1-386 Acq: 2-JUL-2008 11:02:24 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

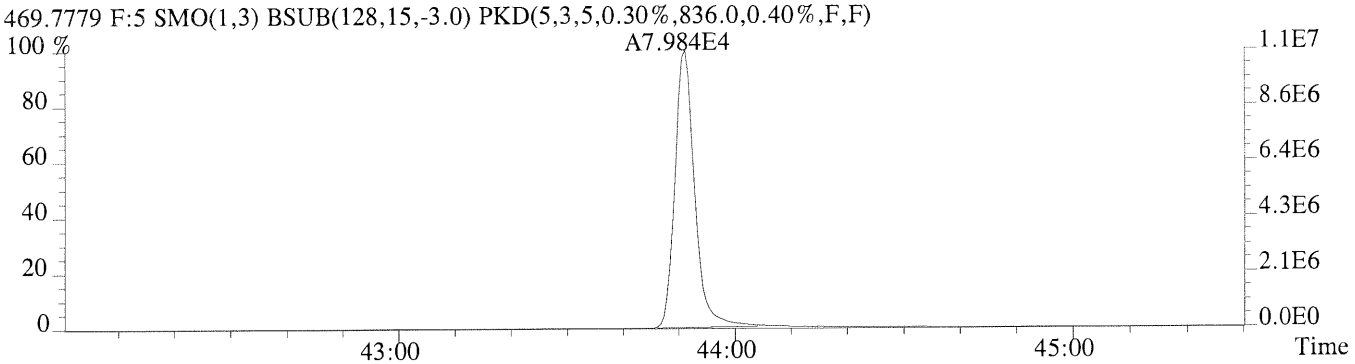
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1048.0,0.40%,F,F)



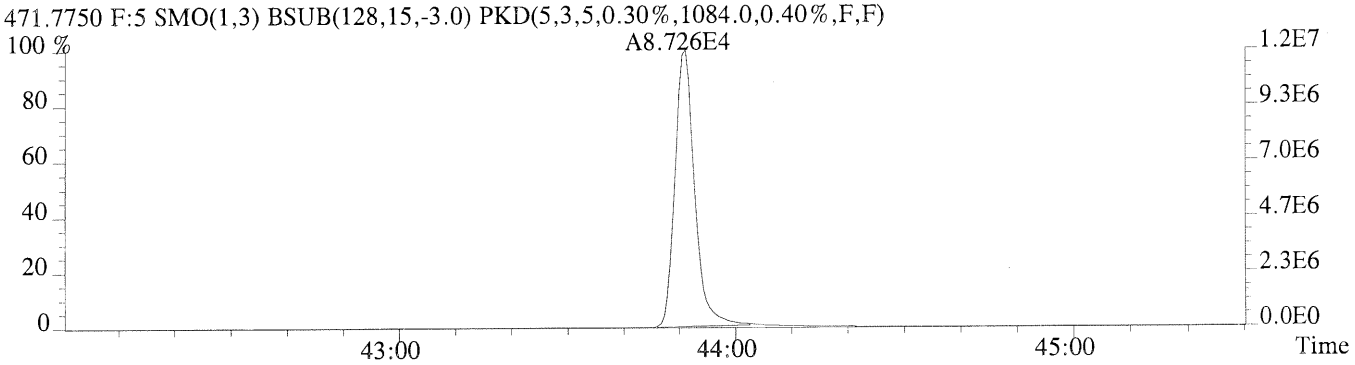
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1236.0,0.40%,F,F)



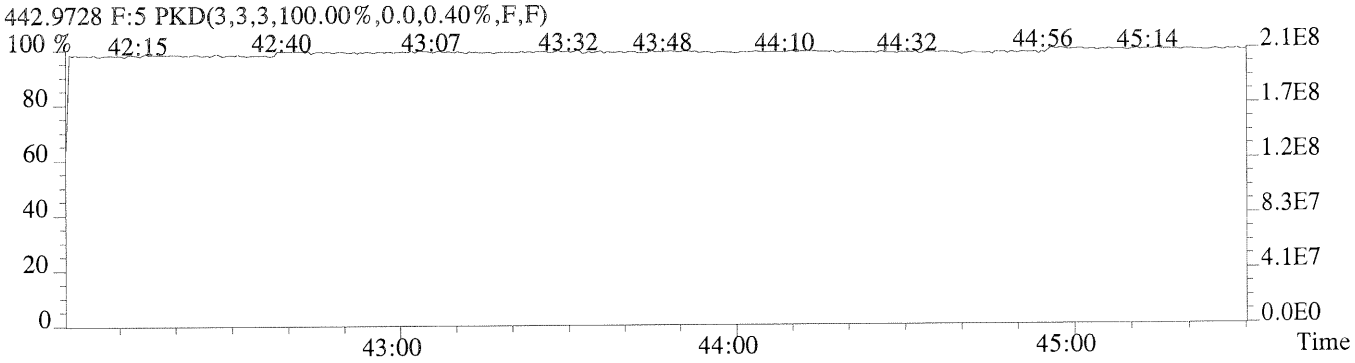
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,836.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1084.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename P100007 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 11:56:08
Processed: 3-JUL-08 14:49:03 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	2.137e+03	2.682e+03	0.80	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:37	7.147e+03	4.526e+03	1.58	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:20	7.373e+03	4.658e+03	1.58	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	6.721e+03	5.356e+03	1.25	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:10	7.073e+03	5.578e+03	1.27	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:39	6.294e+03	4.877e+03	1.29	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	5.851e+03	4.508e+03	1.30	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	5.675e+03	5.581e+03	1.02	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:09	4.312e+03	4.229e+03	1.02	yes	no	1.17
10	Unk	OCDF	44:02	7.532e+03	8.417e+03	0.89	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:15	1.557e+03	1.910e+03	0.81	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:40	4.625e+03	2.899e+03	1.60	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:45	3.676e+03	2.849e+03	1.29	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:50	4.644e+03	3.617e+03	1.28	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	4.145e+03	3.225e+03	1.29	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	3.216e+03	3.015e+03	1.07	yes	no	1.02
17	Unk	OCDD	43:52	5.790e+03	6.319e+03	0.92	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:27	4.571e+04	5.744e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	6.006e+04	3.820e+04	1.57	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:04	6.965e+04	1.302e+05	0.54	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	4.776e+04	1.041e+05	0.46	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:14	3.477e+04	4.474e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	4.271e+04	2.762e+04	1.55	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:49	7.889e+04	6.261e+04	1.26	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:42	6.483e+04	6.087e+04	1.07	yes	no	0.85
26	IS	13C-OCDD	43:51	1.154e+05	1.273e+05	0.91	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:02	3.222e+04	4.070e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	8.056e+04	6.398e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:15	3.558e+03					1.01

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC2

Run #2 Filename P100007 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 11:56:08

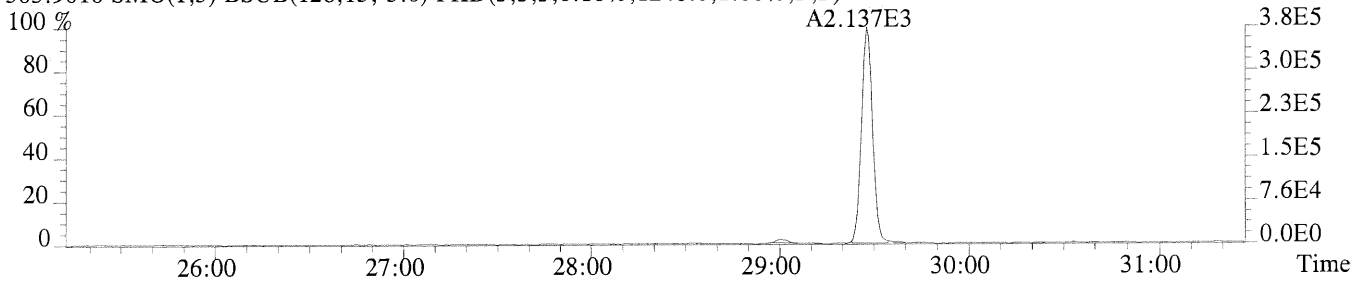
Processed: 3-JUL-08 14:49:03 LAB. ID:

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.79e+05	1.24e+03	3.1e+02	4.88e+05	2.75e+03	1.8e+02
2	1,2,3,7,8-PeCDF	1.38e+06	1.00e+03	1.4e+03	8.77e+05	2.16e+03	4.1e+02
3	2,3,4,7,8-PeCDF	1.42e+06	1.00e+03	1.4e+03	9.11e+05	2.16e+03	4.2e+02
4	1,2,3,4,7,8-HxCDF	1.49e+06	1.44e+03	1.0e+03	1.17e+06	7.20e+02	1.6e+03
5	1,2,3,6,7,8-HxCDF	1.37e+06	1.44e+03	9.5e+02	1.12e+06	7.20e+02	1.6e+03
6	2,3,4,6,7,8-HxCDF	1.32e+06	1.44e+03	9.2e+02	1.03e+06	7.20e+02	1.4e+03
7	1,2,3,7,8,9-HxCDF	1.15e+06	1.44e+03	8.0e+02	8.87e+05	7.20e+02	1.2e+03
8	1,2,3,4,6,7,8-HpCDF	1.17e+06	1.82e+03	6.5e+02	1.15e+06	1.56e+03	7.3e+02
9	1,2,3,4,7,8,9-HpCDF	7.62e+05	1.82e+03	4.2e+02	7.23e+05	1.56e+03	4.6e+02
10	OCDF	9.96e+05	1.35e+03	7.4e+02	1.08e+06	3.48e+03	3.1e+02
11	2,3,7,8-TCDD	2.89e+05	1.35e+03	2.1e+02	3.48e+05	1.02e+03	3.4e+02
12	1,2,3,7,8-PeCDD	9.22e+05	2.40e+03	3.8e+02	5.72e+05	7.76e+02	7.4e+02
13	1,2,3,4,7,8-HxCDD	8.66e+05	9.52e+02	9.1e+02	6.61e+05	1.65e+03	4.0e+02
14	1,2,3,6,7,8-HxCDD	9.29e+05	9.52e+02	9.8e+02	7.12e+05	1.65e+03	4.3e+02
15	1,2,3,7,8,9-HxCDD	8.10e+05	9.52e+02	8.5e+02	6.32e+05	1.65e+03	3.8e+02
16	1,2,3,4,6,7,8-HpCDD	6.11e+05	1.26e+03	4.9e+02	5.61e+05	7.84e+02	7.2e+02
17	OCDD	7.79e+05	8.88e+02	8.8e+02	8.64e+05	1.51e+03	5.7e+02
18	13C-2,3,7,8-TCDF	8.02e+06	4.52e+03	1.8e+03	1.01e+07	3.78e+03	2.7e+03
19	13C-1,2,3,7,8-PeCDF	1.15e+07	9.84e+02	1.2e+04	7.41e+06	1.12e+03	6.6e+03
20	13C-1,2,3,4,7,8-HxCDF	1.46e+07	1.55e+03	9.4e+03	2.68e+07	1.70e+03	1.6e+04
21	13C-1,2,3,4,6,7,8-HpCDF	9.72e+06	6.67e+03	1.5e+03	2.12e+07	6.86e+03	3.1e+03
22	13C-2,3,7,8-TCDD	6.19e+06	6.55e+03	9.5e+02	7.89e+06	1.86e+03	4.2e+03
23	13C-1,2,3,7,8-PeCDD	8.33e+06	2.16e+03	3.9e+03	5.44e+06	1.46e+03	3.7e+03
24	13C-1,2,3,6,7,8-HxCDD	1.69e+07	1.29e+03	1.3e+04	1.35e+07	1.04e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.22e+07	2.24e+03	5.4e+03	1.15e+07	1.16e+03	1.0e+04
26	13C-OCDD	1.55e+07	1.38e+03	1.1e+04	1.71e+07	1.08e+03	1.6e+04
27	13C-1,2,3,4-TCDD	6.04e+06	6.55e+03	9.2e+02	7.65e+06	1.86e+03	4.1e+03
28	13C-1,2,3,7,8,9-HxCDD	1.64e+07	1.29e+03	1.3e+04	1.29e+07	1.04e+03	1.2e+04
29	37Cl-2,3,7,8-TCDD	6.52e+05	1.33e+03	4.9e+02			

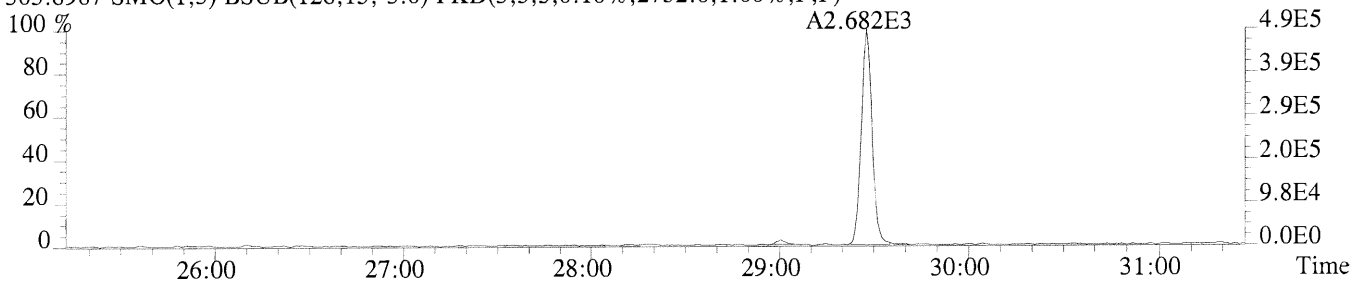
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100007 #1-521 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

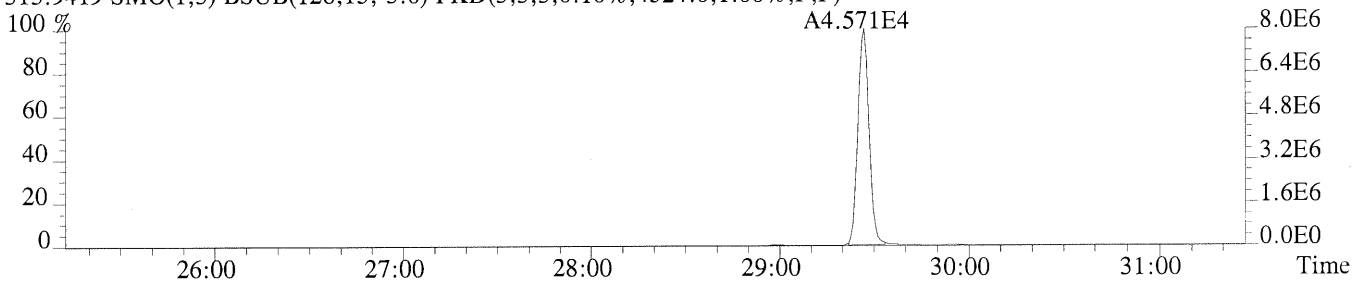
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,F)



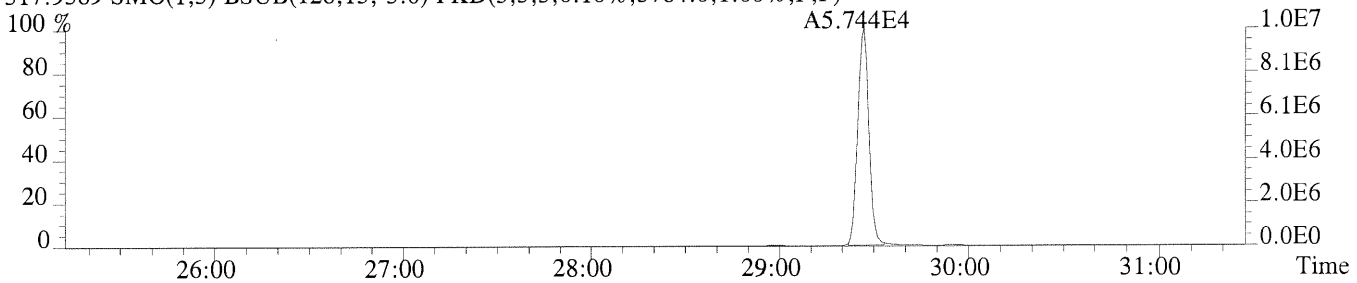
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2752.0,1.00%,F,F)



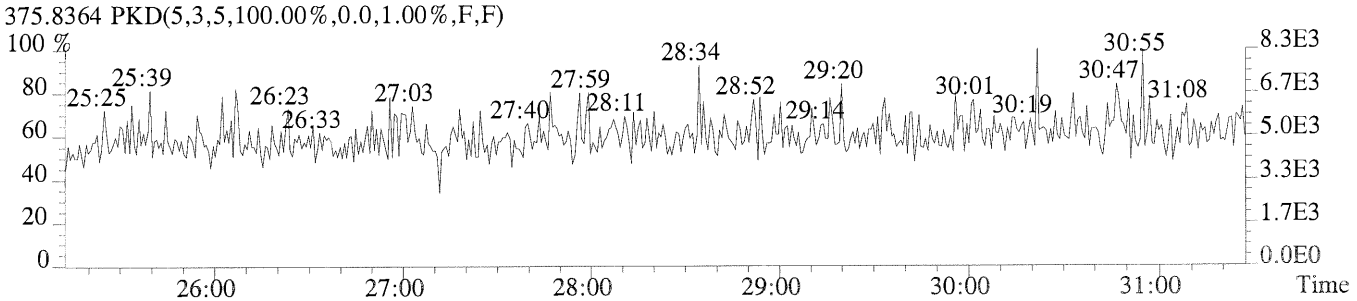
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4524.0,1.00%,F,F)



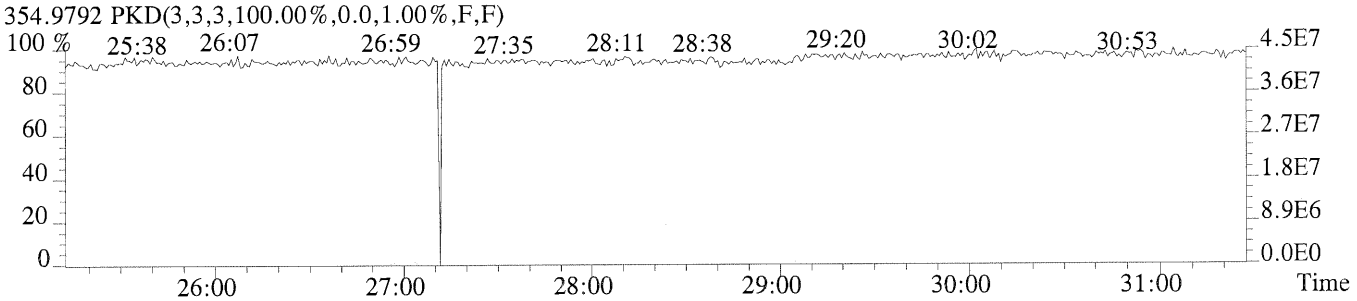
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3784.0,1.00%,F,F)



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

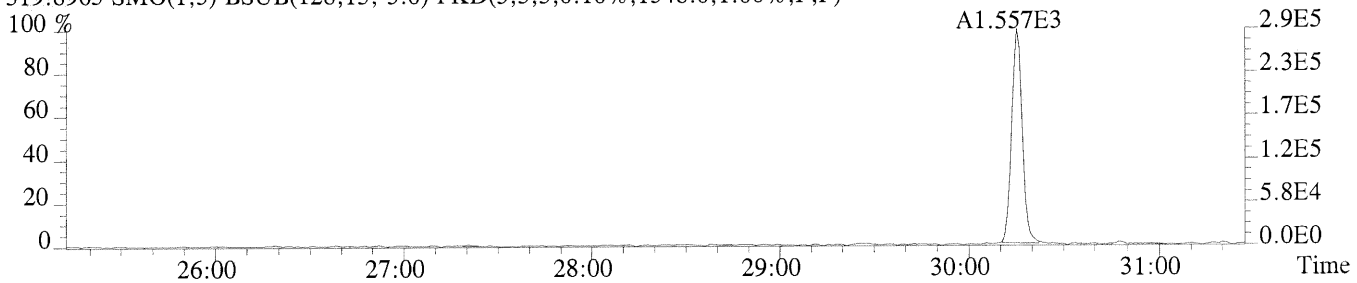


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

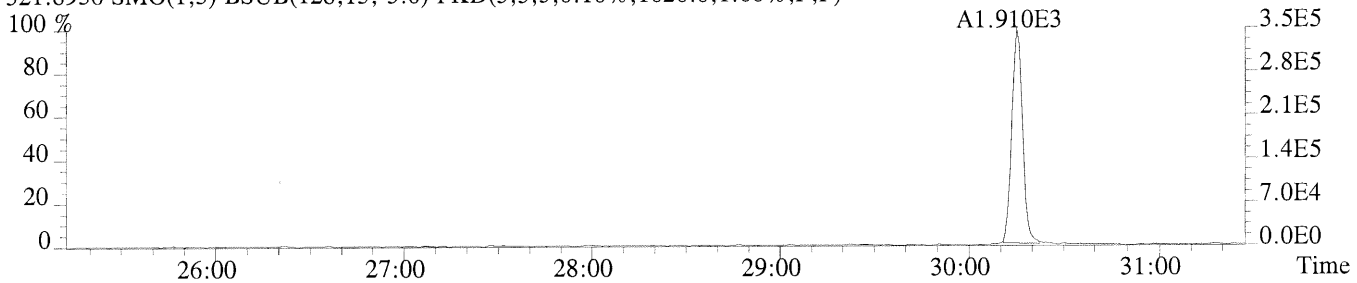


File:P100007 #1-521 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

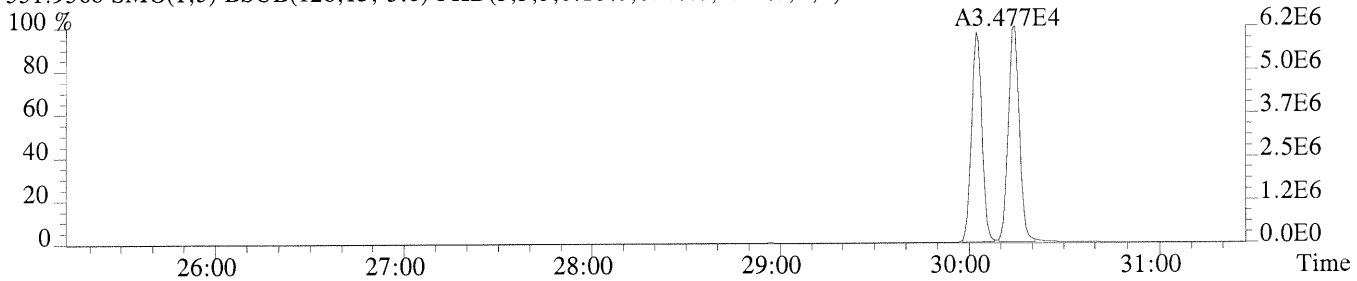
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1348.0,1.00%,F,F)



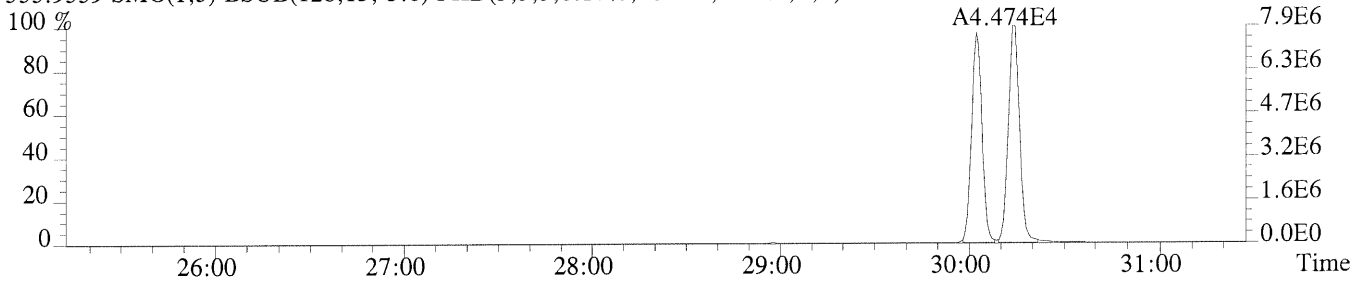
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1020.0,1.00%,F,F)



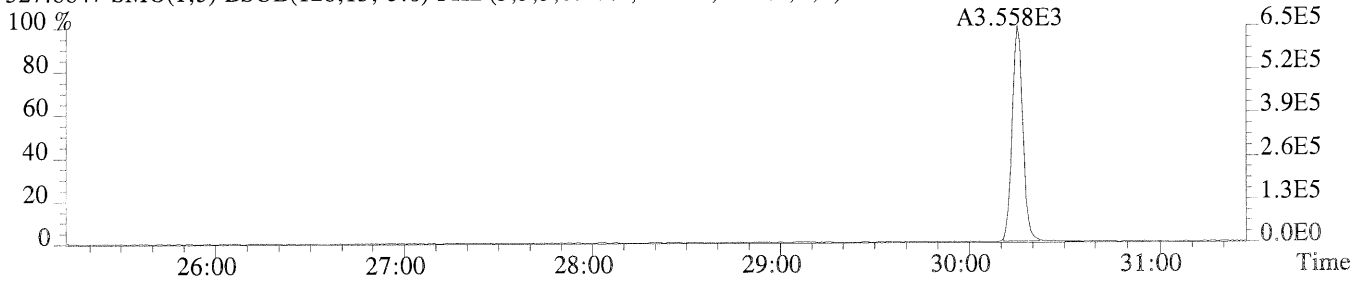
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6548.0,1.00%,F,F)



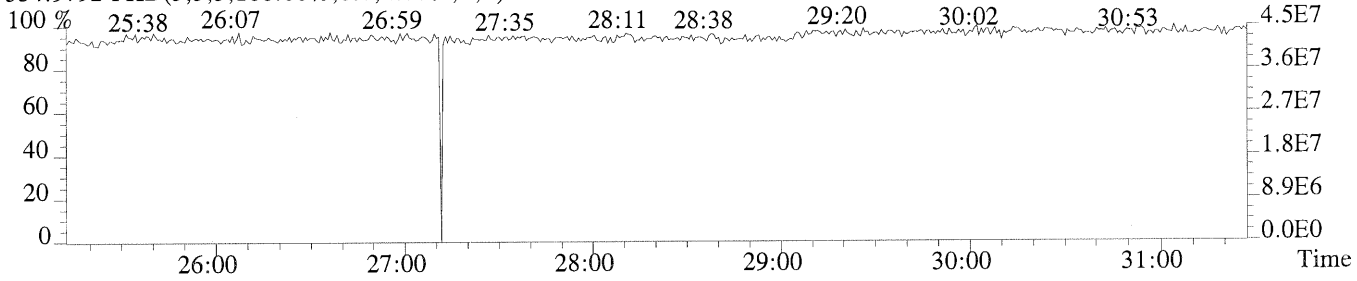
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1856.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1332.0,1.00%,F,F)

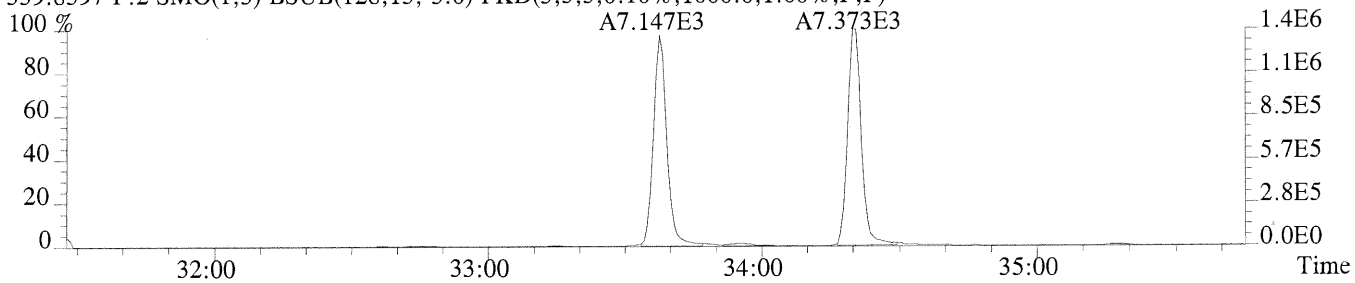


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

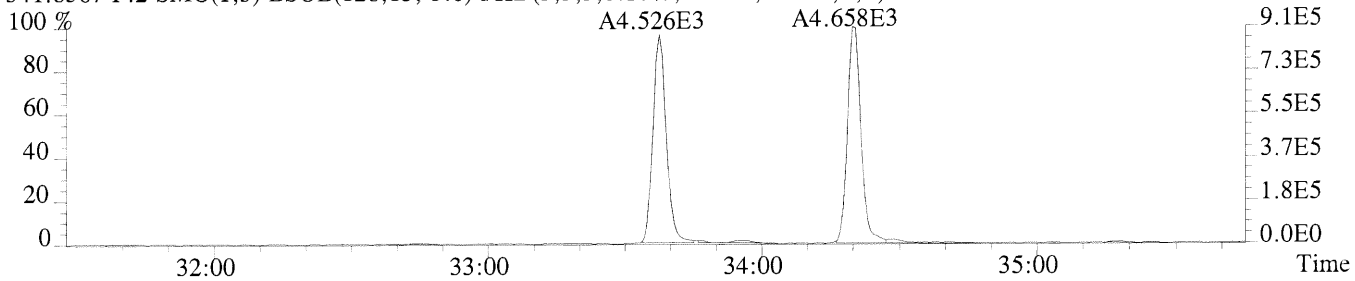


File:P100007 #1-390 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

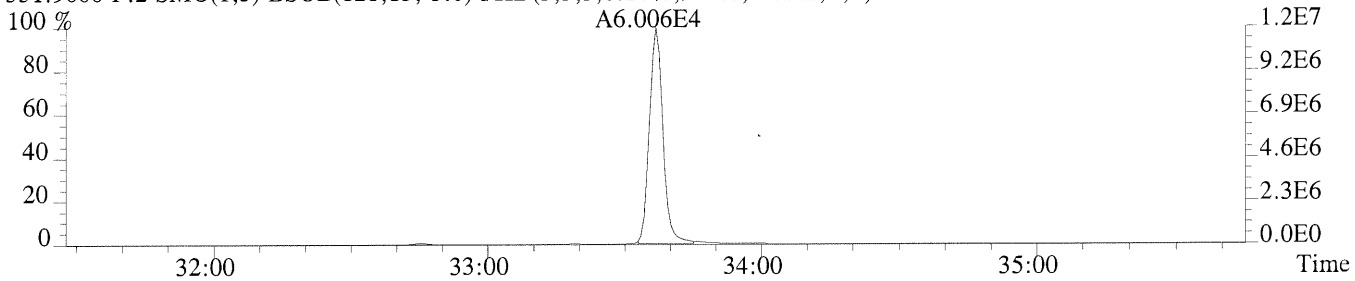
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1000.0,1.00%,F,F)



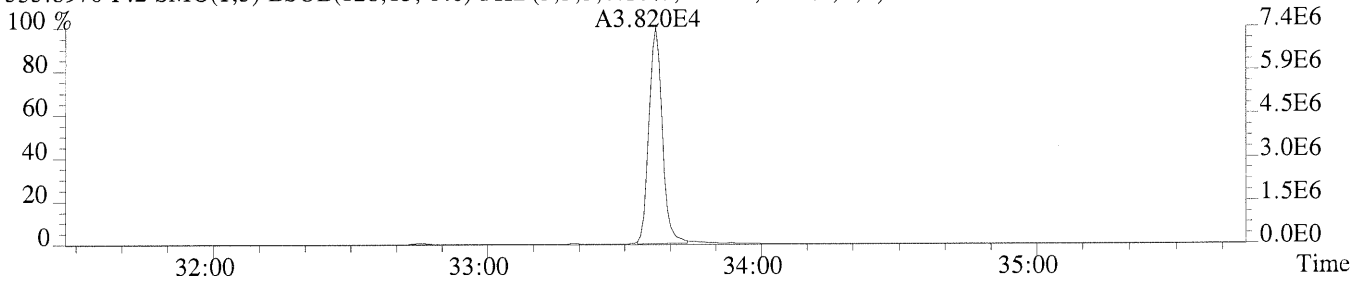
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2156.0,1.00%,F,F)



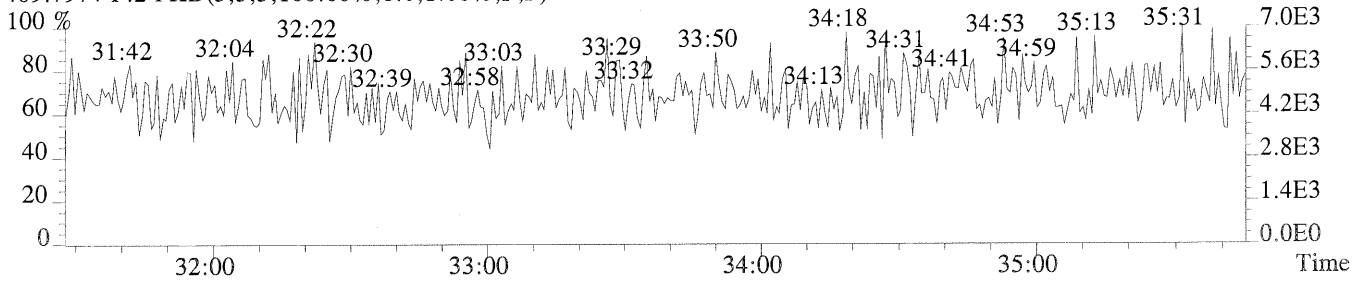
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,984.0,1.00%,F,F)



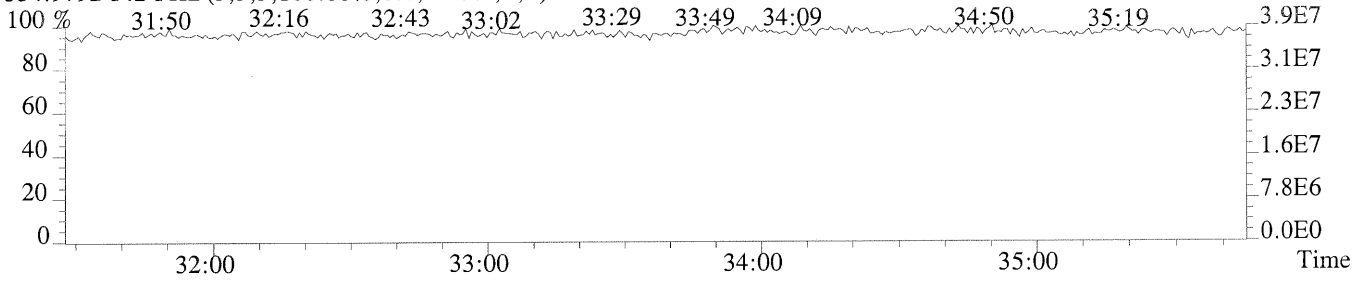
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,F)



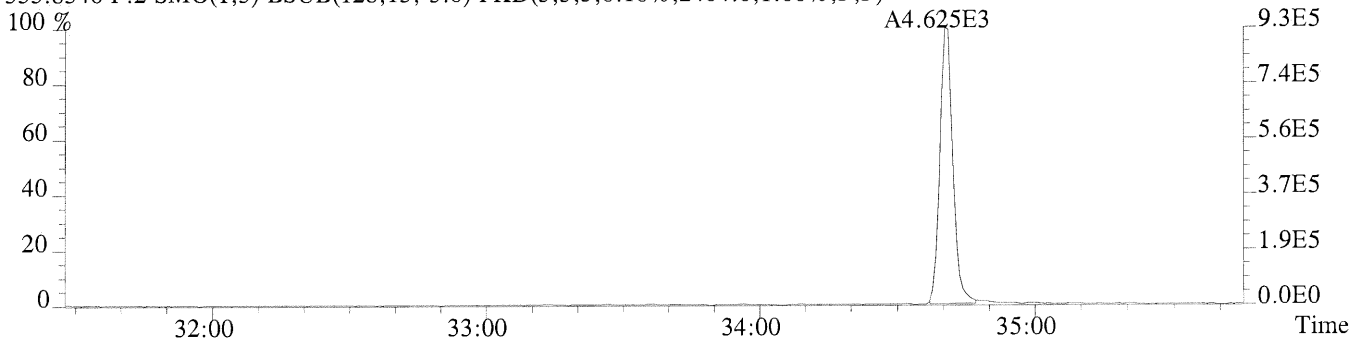
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



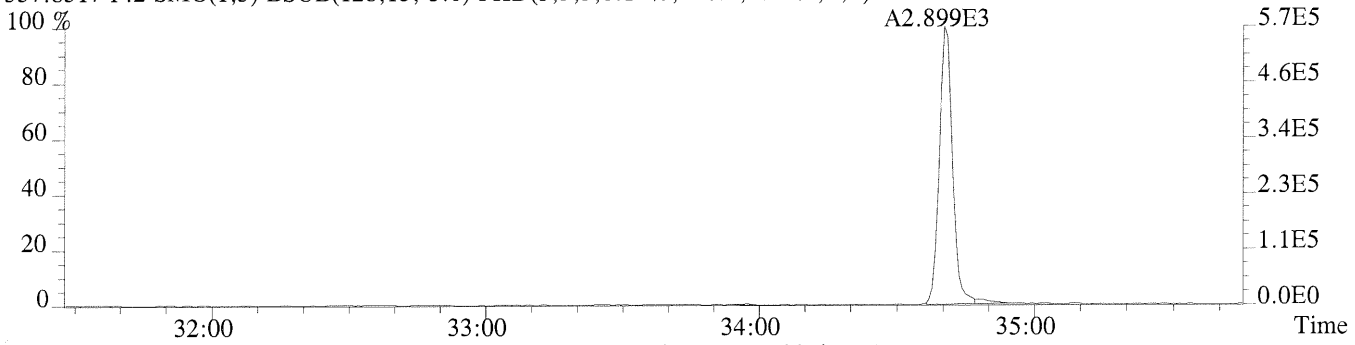
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



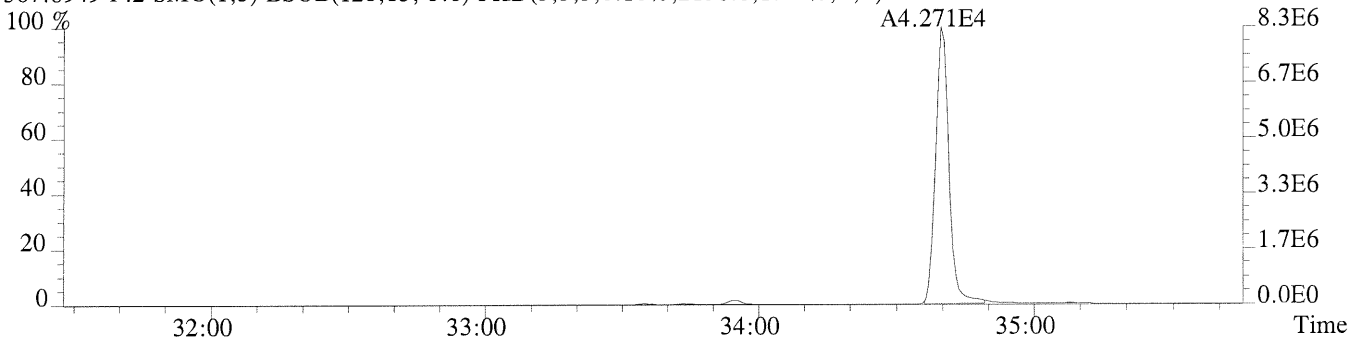
File:P100007 #1-390 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2404.0,1.00%,F,F)



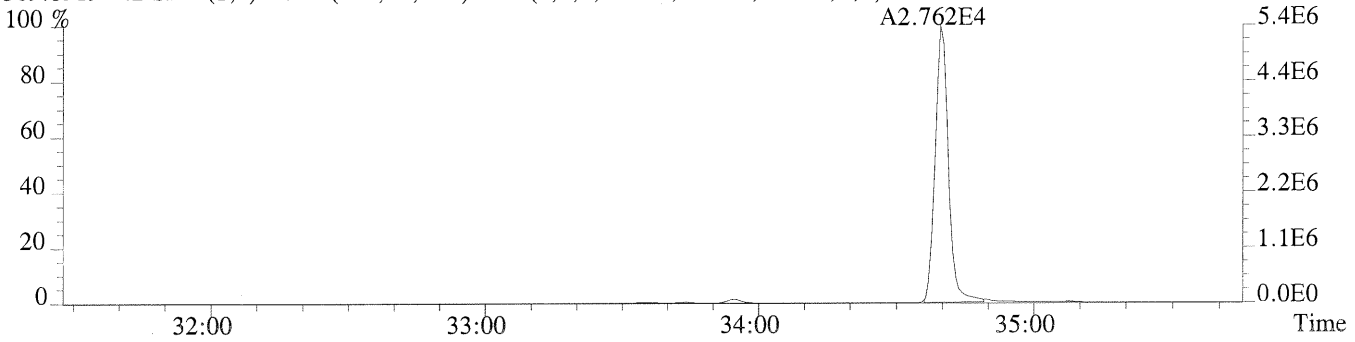
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,776.0,1.00%,F,F)



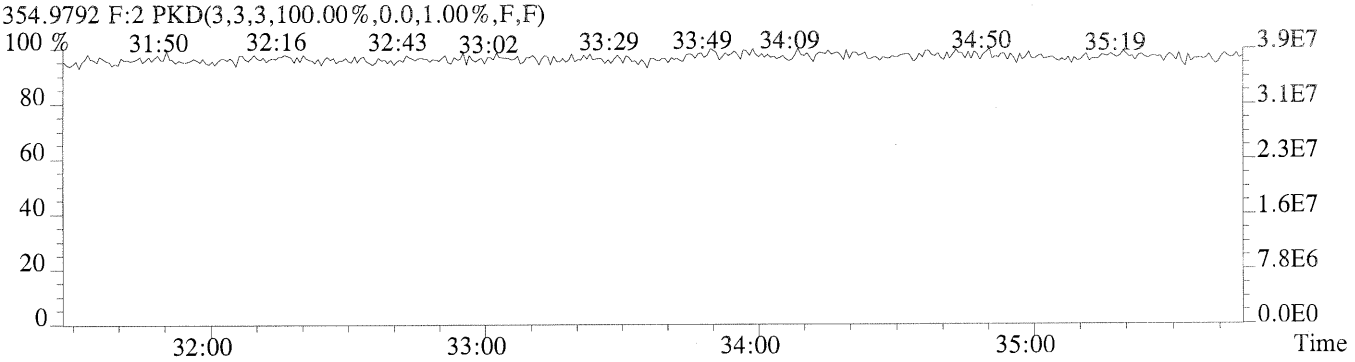
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2156.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1460.0,1.00%,F,F)

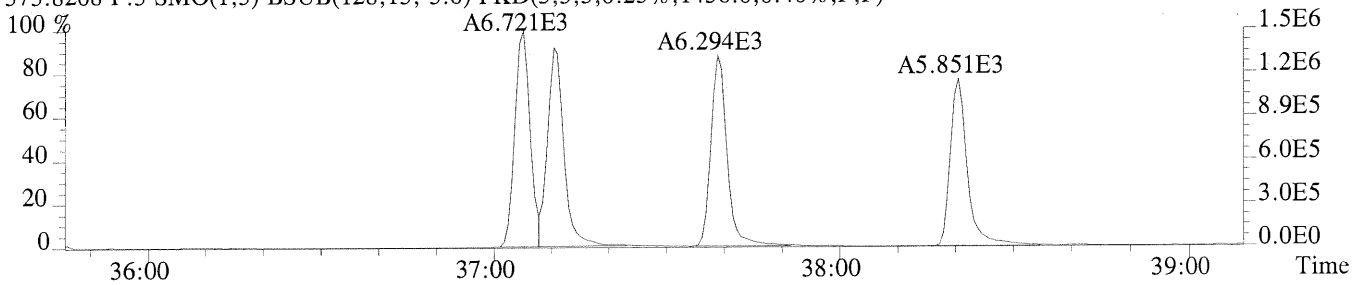


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

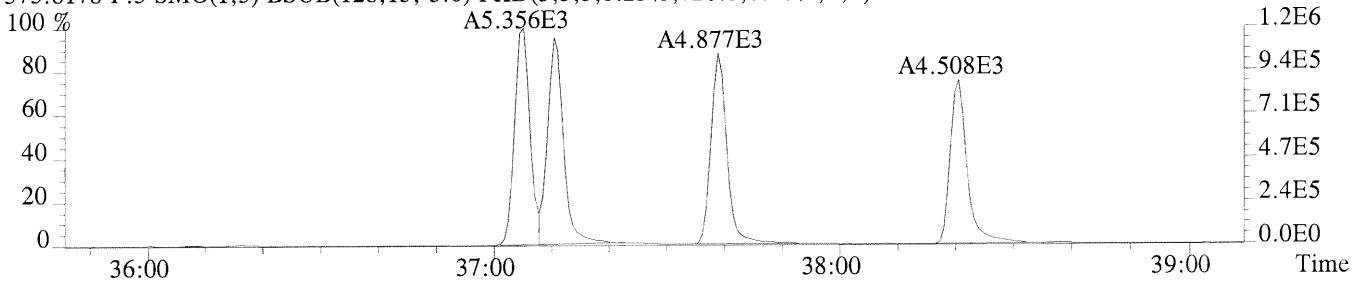


File:P100007 #1-309 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

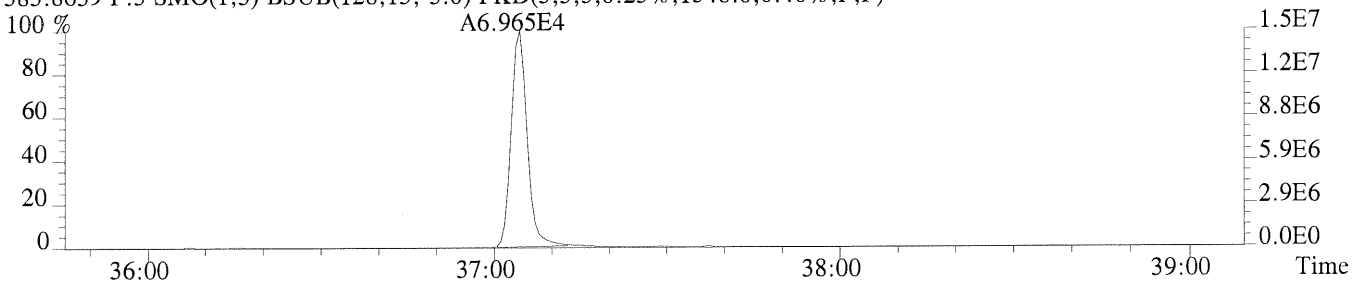
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1436.0,0.40%,F,F)



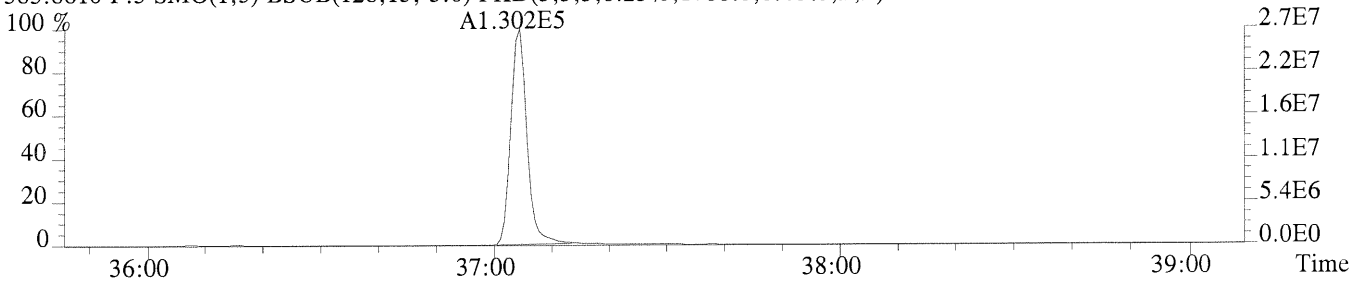
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,F)



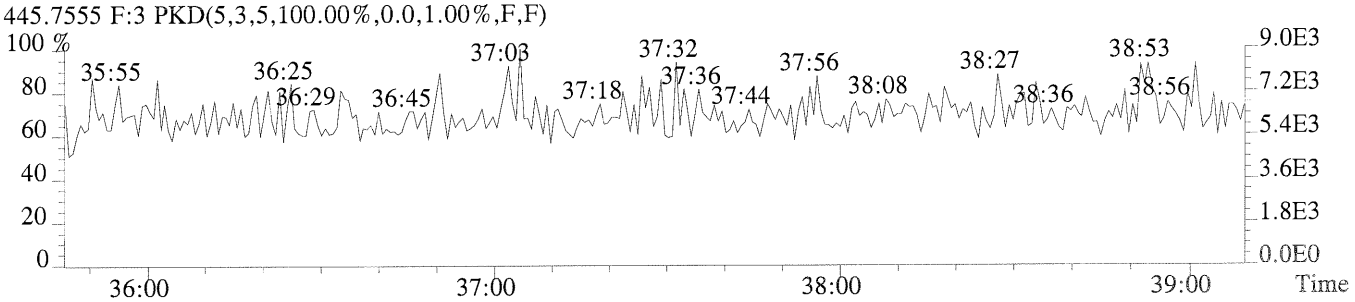
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1548.0,0.40%,F,F)



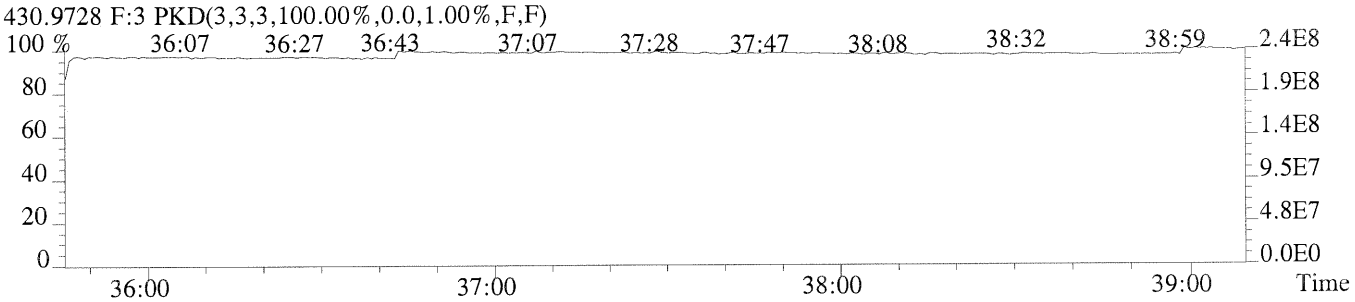
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.40%,F,F)



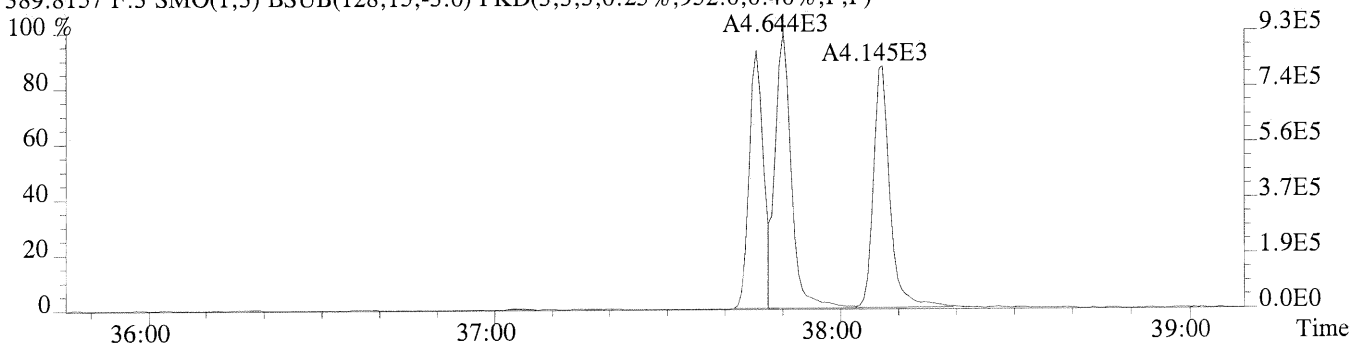
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



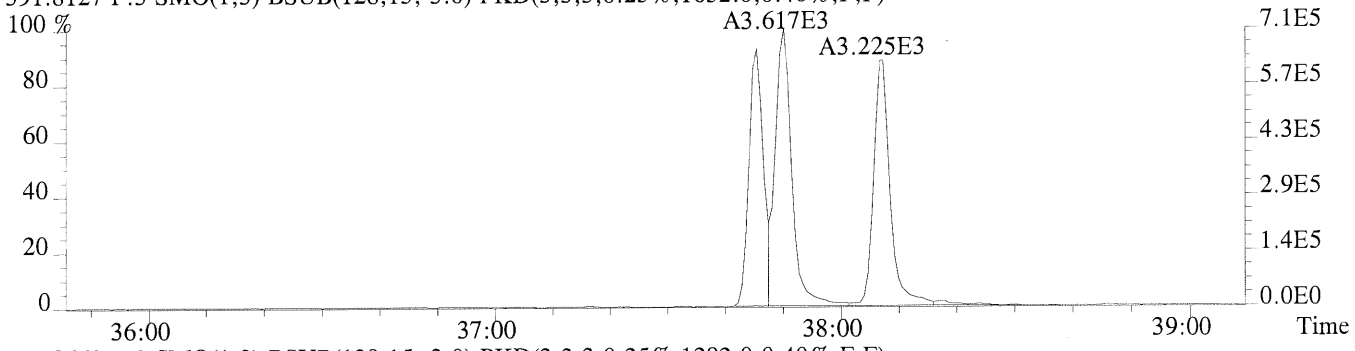
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



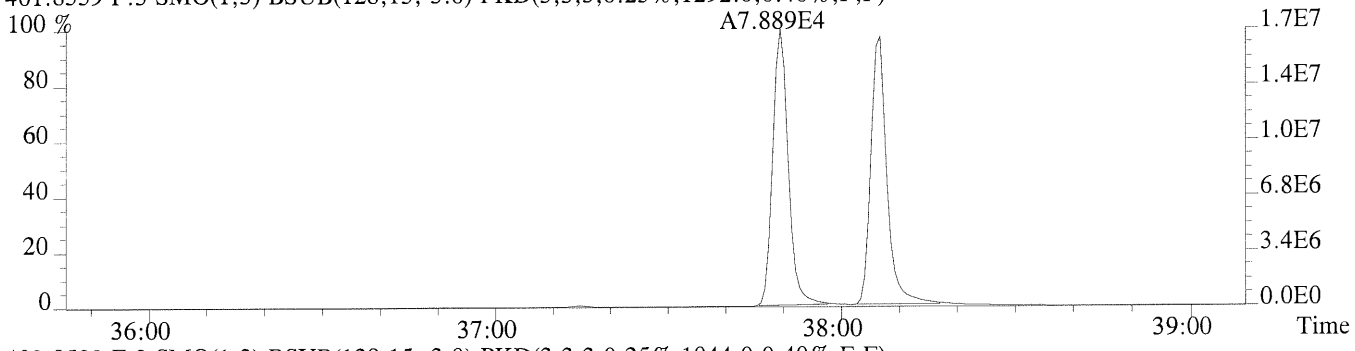
File:P100007 #1-309 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,F)



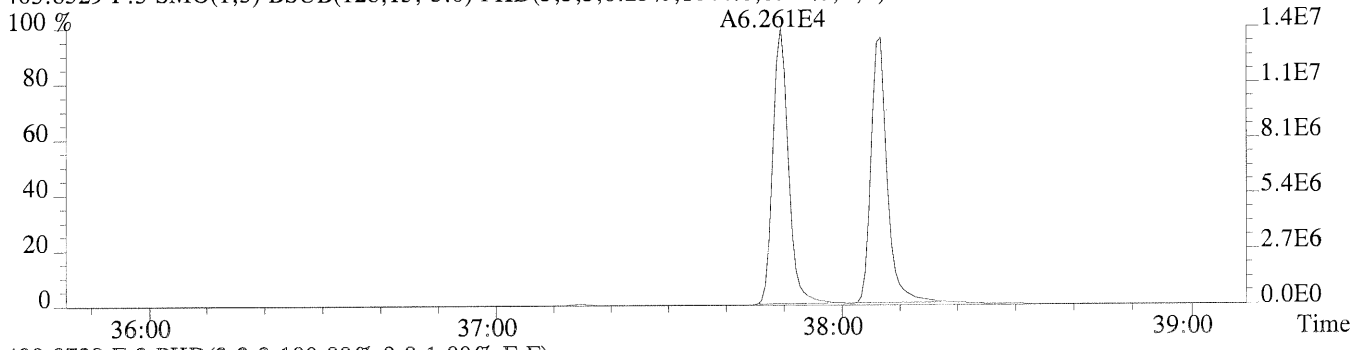
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1652.0,0.40%,F,F)



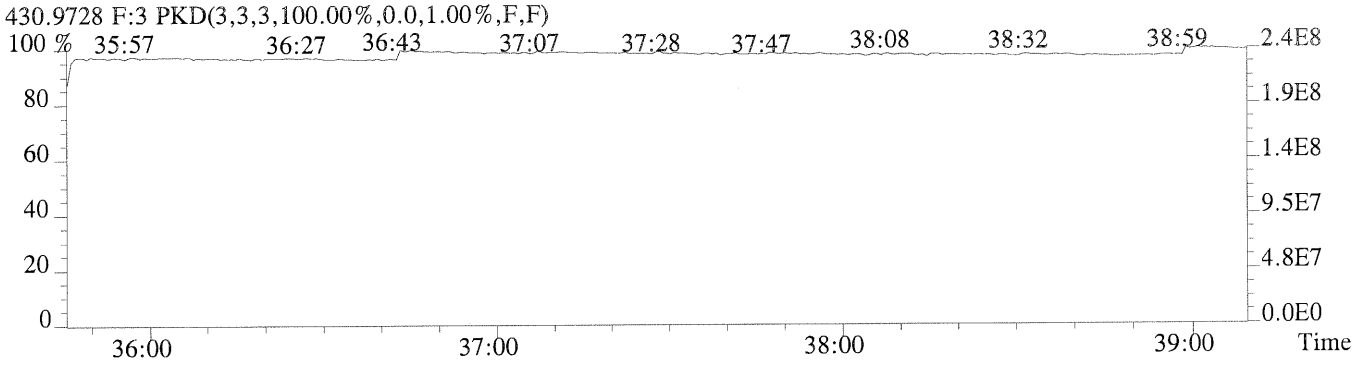
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)

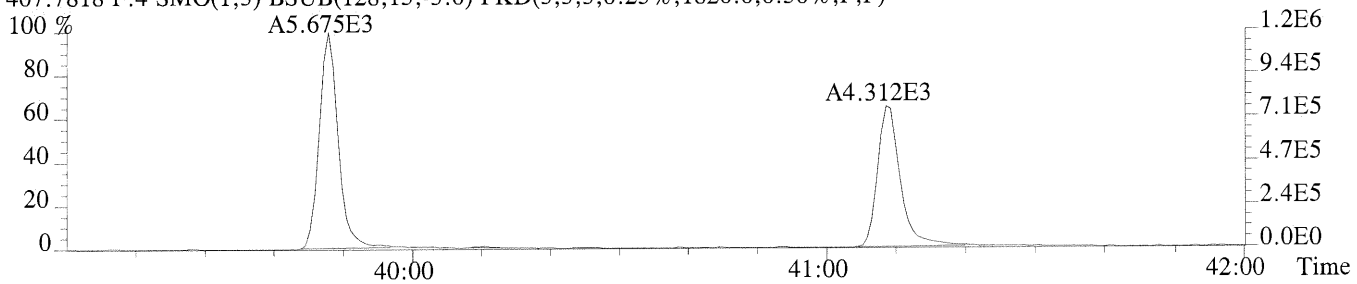


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

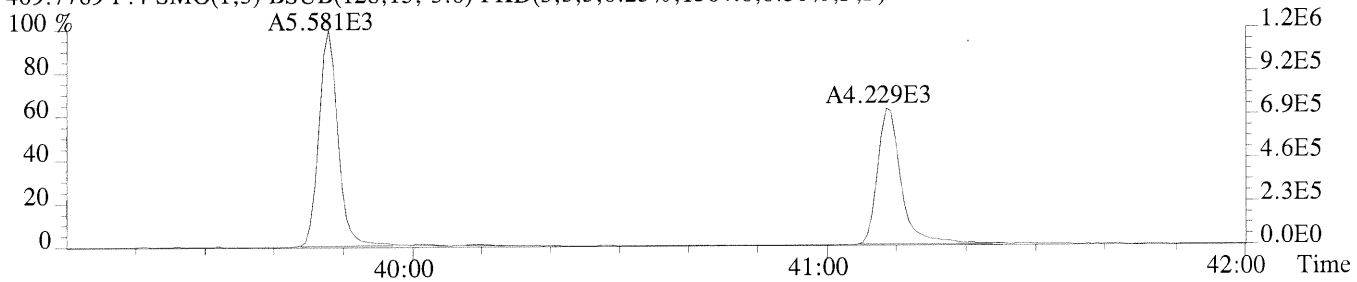


File:P100007 #1-258 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

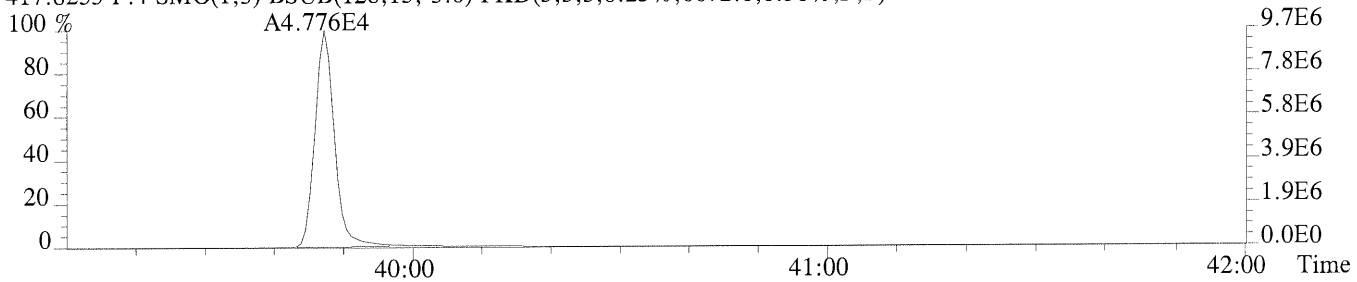
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1820.0,0.50%,F,F)



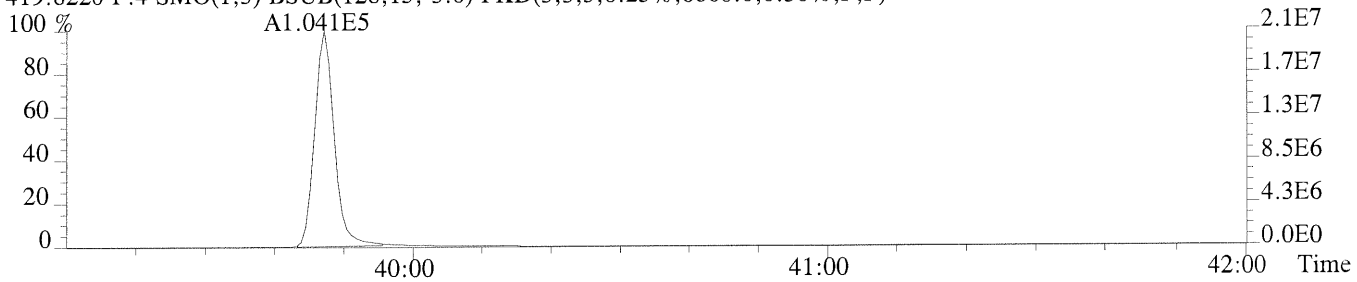
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1564.0,0.50%,F,F)



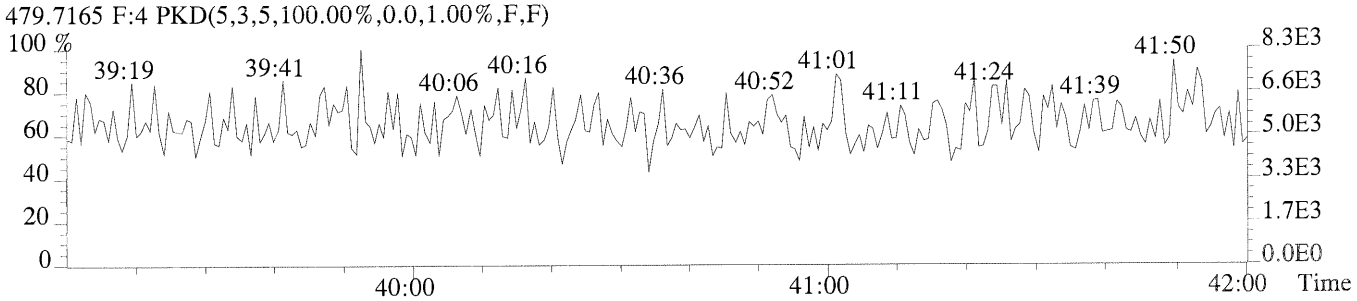
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6672.0,0.50%,F,F)



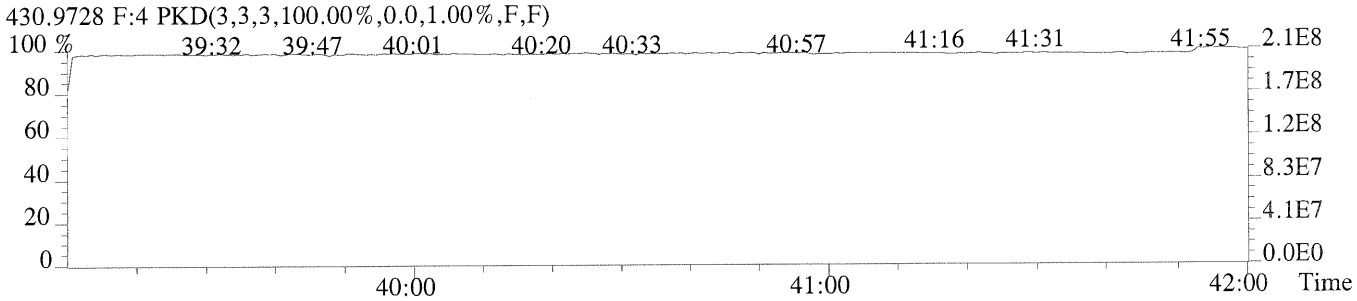
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,6860.0,0.50%,F,F)



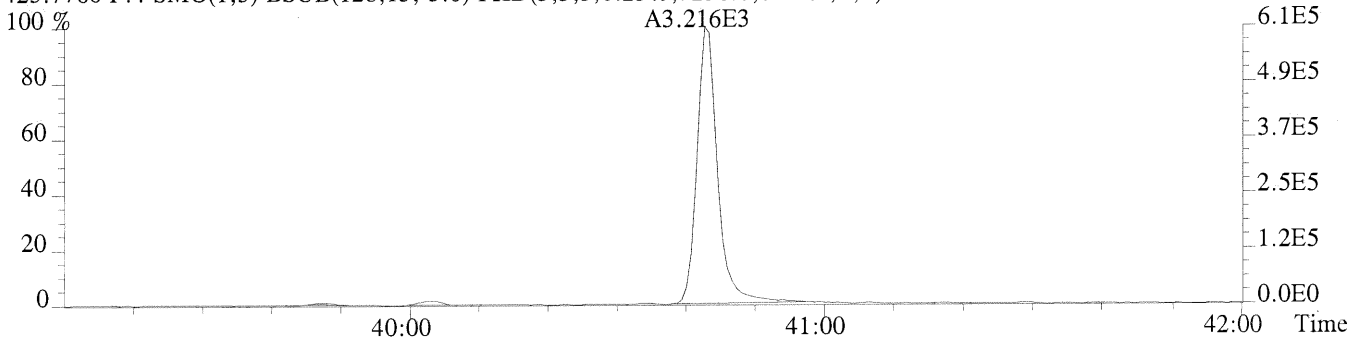
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



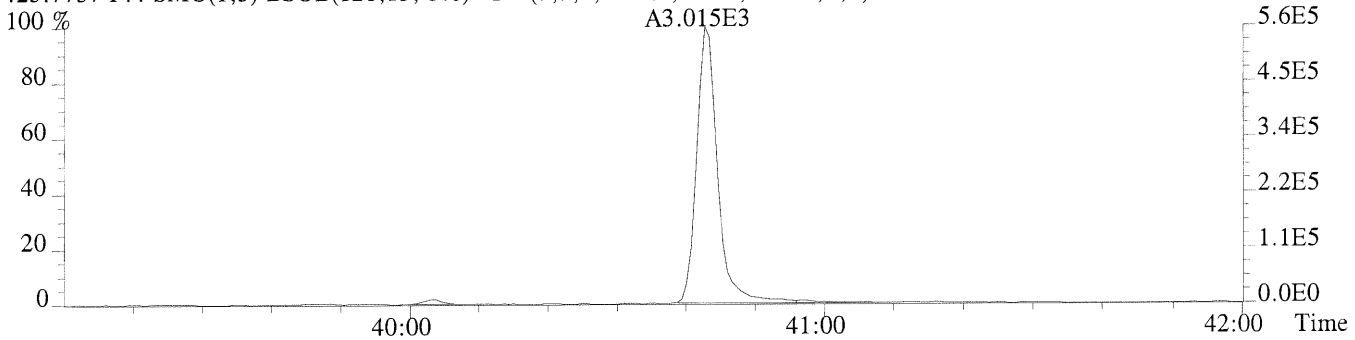
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



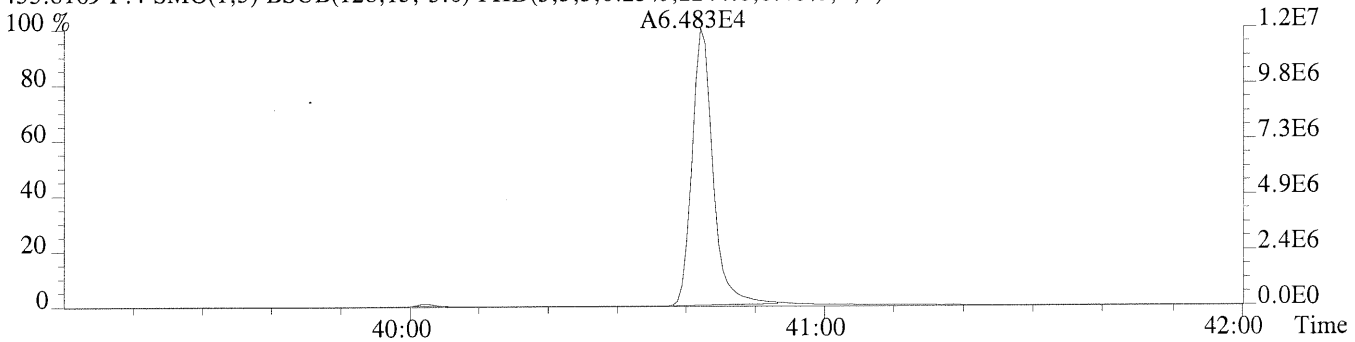
File:P100007 #1-258 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,F)



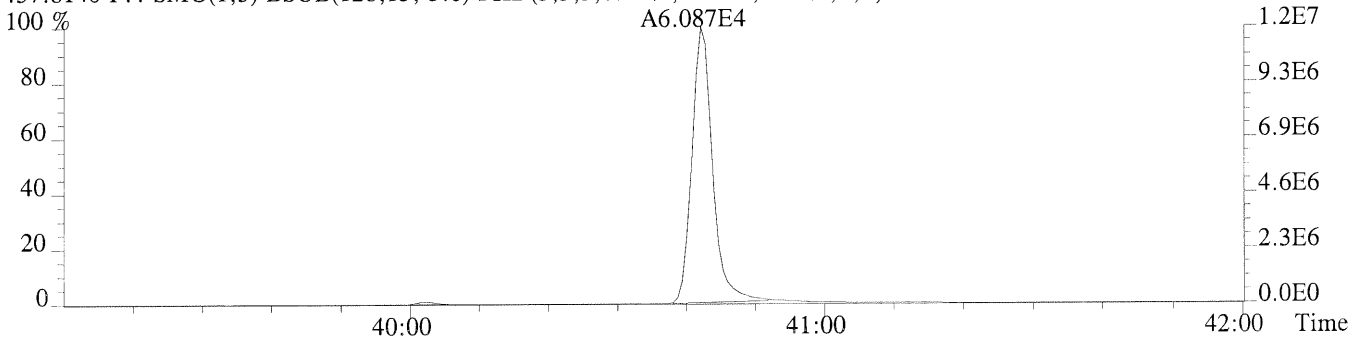
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,784.0,0.40%,F,F)



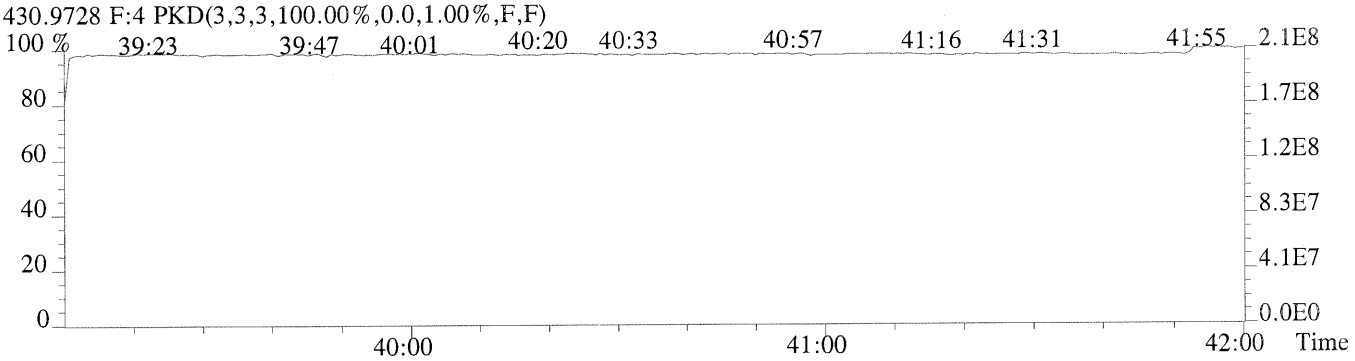
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2244.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,F)

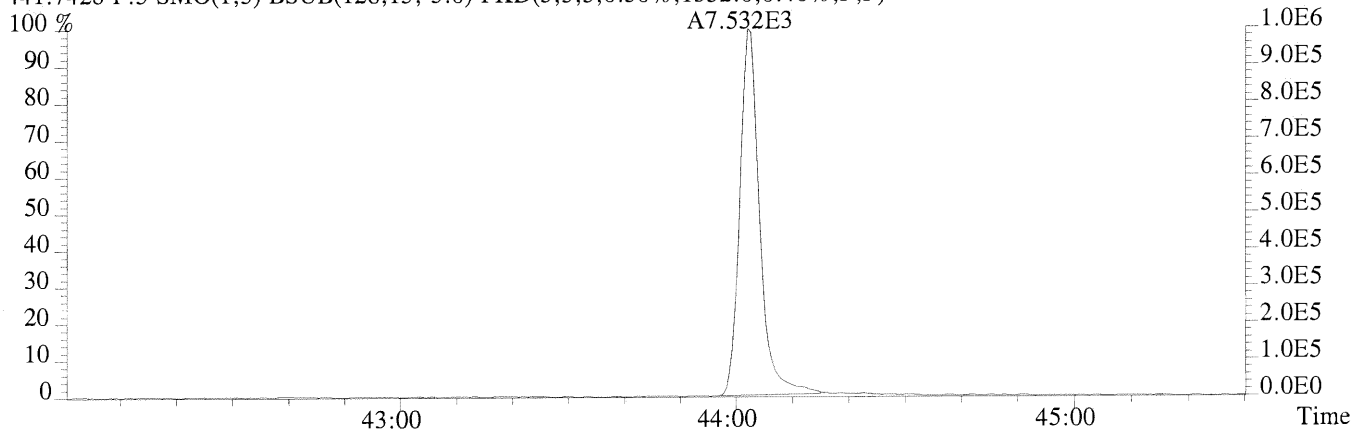


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

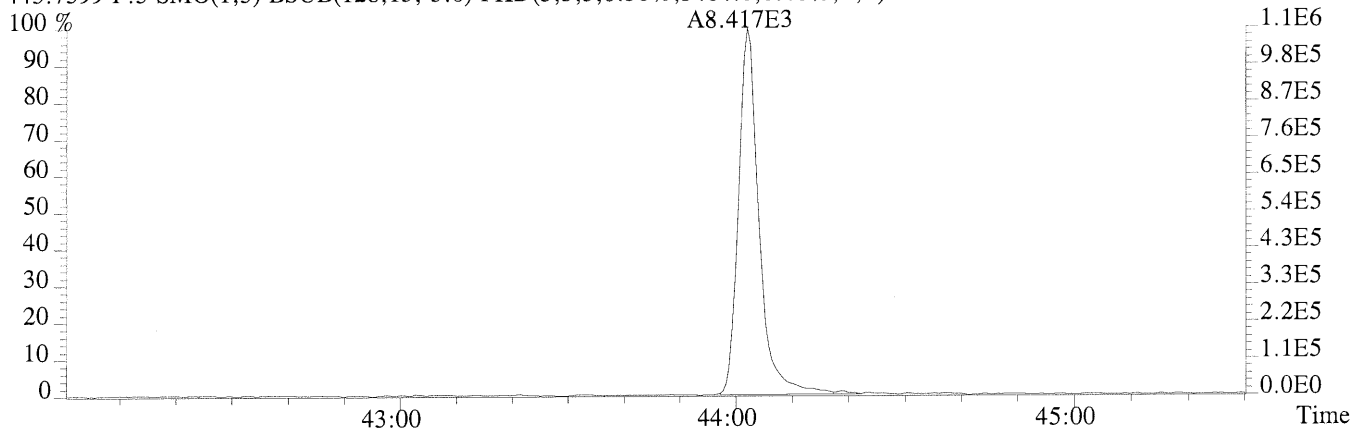


File:P100007 #1-386 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

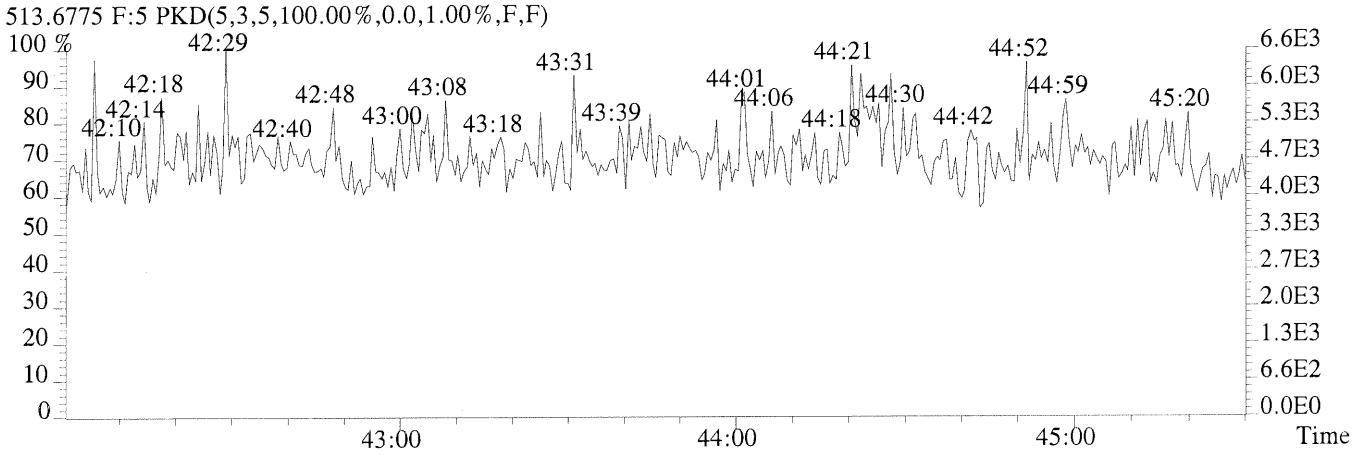
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1352.0,0.40%,F,F)



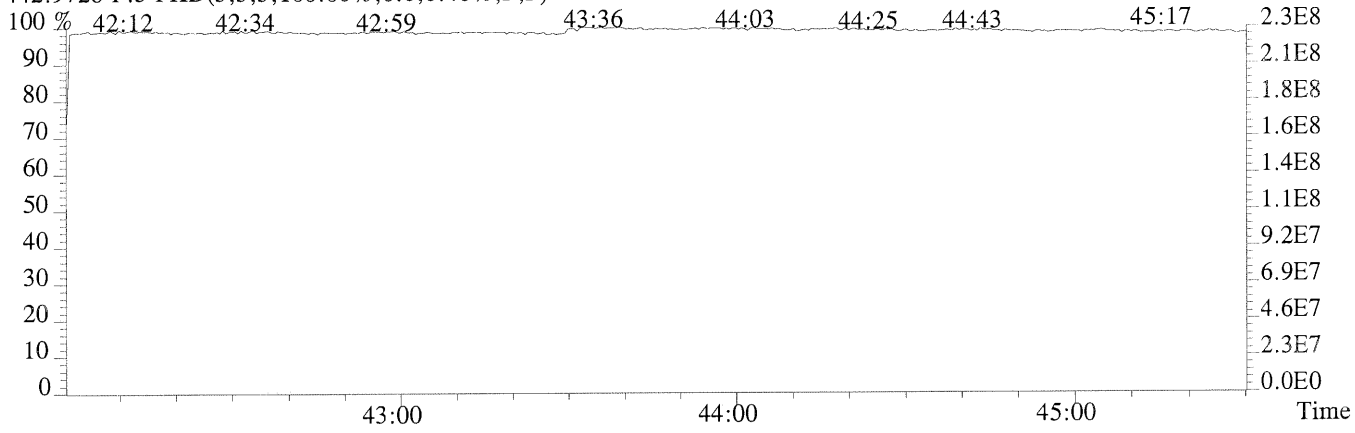
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3484.0,0.40%,F,F)



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

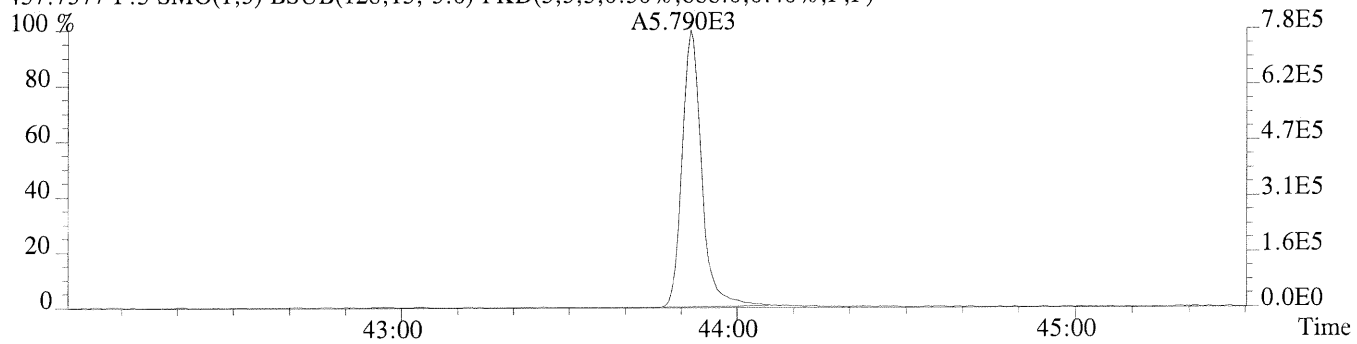


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

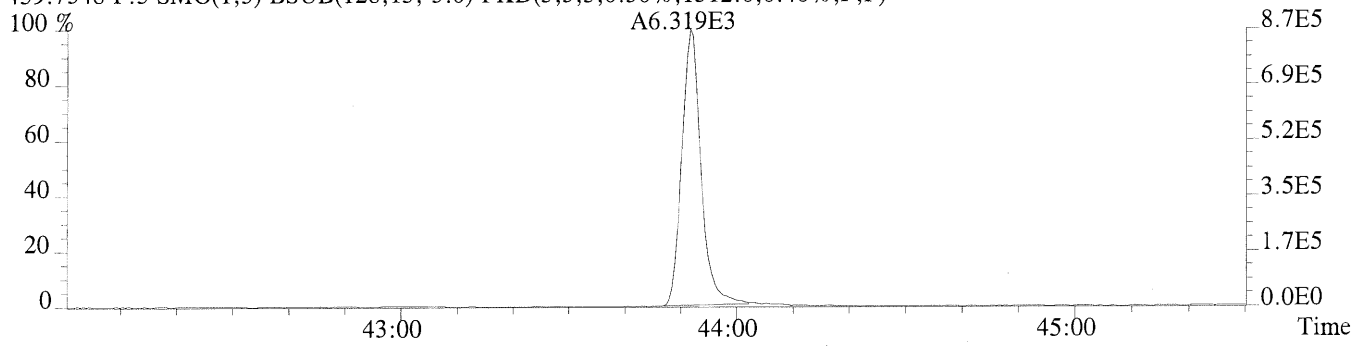


File:P100007 #1-386 Acq: 2-JUL-2008 11:56:08 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

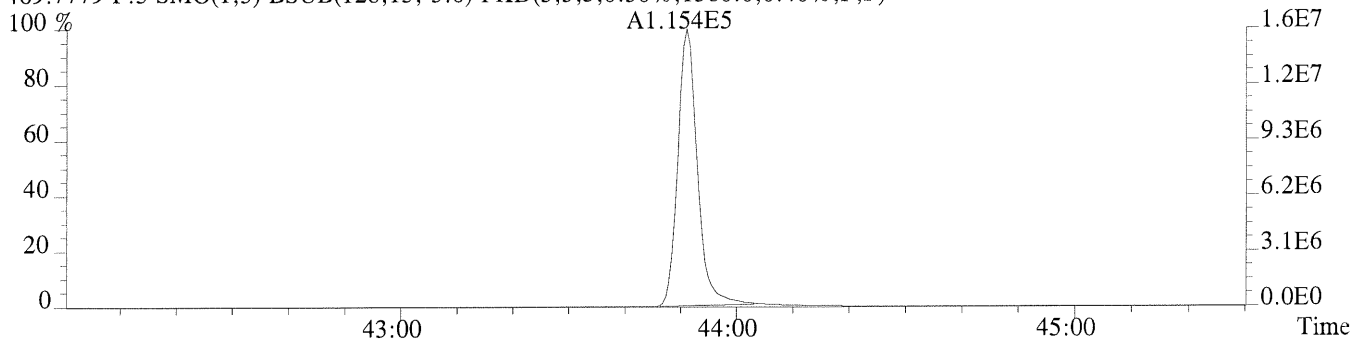
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,888.0,0.40%,F,F)



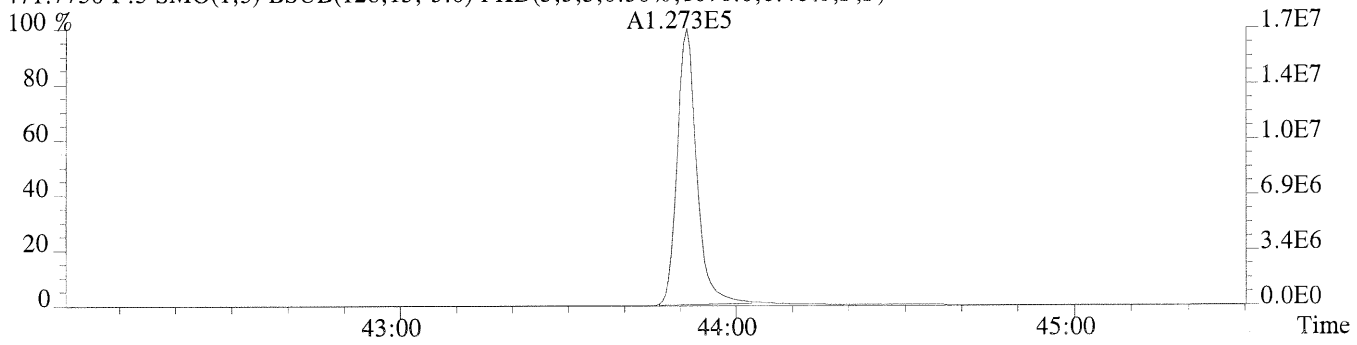
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1512.0,0.40%,F,F)



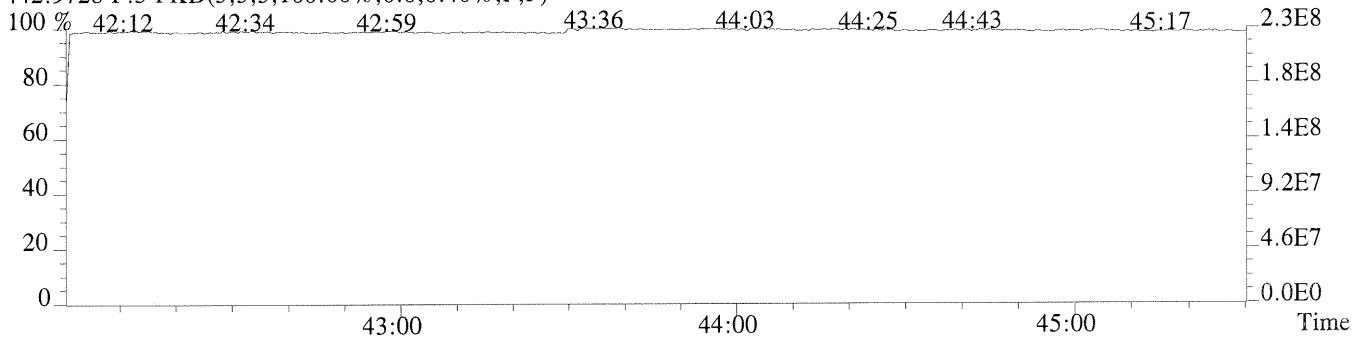
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1380.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1076.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename P100008 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 12:44:22
Processed: 3-JUL-08 14:49:03 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	6.852e+03	8.463e+03	0.81	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:37	2.307e+04	1.474e+04	1.57	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:20	2.374e+04	1.510e+04	1.57	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	2.210e+04	1.721e+04	1.28	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:11	2.444e+04	1.902e+04	1.28	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:39	2.122e+04	1.638e+04	1.30	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	1.871e+04	1.454e+04	1.29	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	1.957e+04	1.820e+04	1.08	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:09	1.391e+04	1.328e+04	1.05	yes	no	1.17
10	Unk	OCDF	44:02	2.296e+04	2.522e+04	0.91	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:16	4.845e+03	6.290e+03	0.77	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:41	1.492e+04	9.367e+03	1.59	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:45	1.179e+04	9.287e+03	1.27	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:50	1.620e+04	1.247e+04	1.30	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	1.371e+04	1.096e+04	1.25	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	9.987e+03	9.465e+03	1.06	yes	no	1.02
17	Unk	OCDD	43:52	1.687e+04	1.909e+04	0.88	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:27	3.348e+04	4.193e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.559e+04	2.879e+04	1.58	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:04	5.390e+04	1.025e+05	0.53	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	3.762e+04	8.269e+04	0.45	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:14	2.545e+04	3.268e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	3.300e+04	2.069e+04	1.59	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:49	6.928e+04	5.449e+04	1.27	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:42	5.096e+04	4.853e+04	1.05	yes	no	0.85
26	IS	13C-OCDD	43:51	8.536e+04	9.468e+04	0.90	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:03	2.440e+04	3.107e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	7.019e+04	5.608e+04	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	1.135e+04					1.01

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC3

Run #3 Filename P100008 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 12:44:22

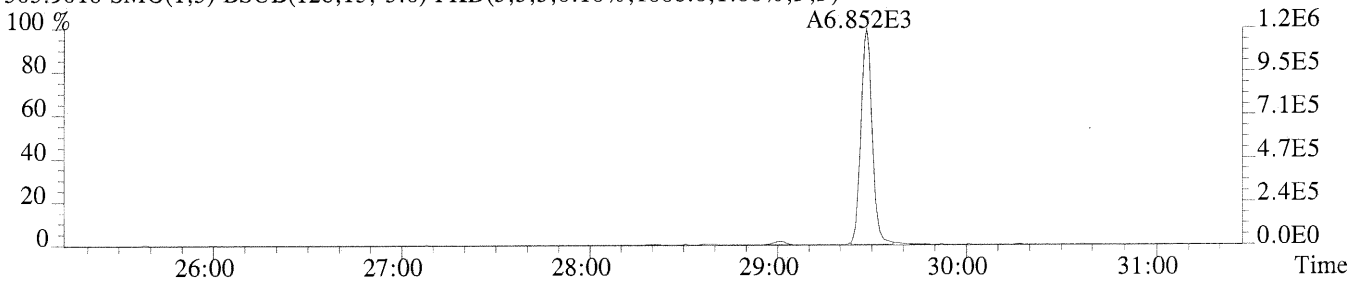
Processed: 3-JUL-08 14:49:03 LAB. ID:

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.18e+06	1.01e+03	1.2e+03	1.48e+06	2.27e+03	6.5e+02
2	1,2,3,7,8-PeCDF	4.24e+06	7.40e+02	5.7e+03	2.70e+06	2.04e+03	1.3e+03
3	2,3,4,7,8-PeCDF	4.62e+06	7.40e+02	6.2e+03	2.94e+06	2.04e+03	1.4e+03
4	1,2,3,4,7,8-HxCDF	4.88e+06	2.02e+03	2.4e+03	3.74e+06	1.12e+03	3.4e+03
5	1,2,3,6,7,8-HxCDF	4.47e+06	2.02e+03	2.2e+03	3.50e+06	1.12e+03	3.1e+03
6	2,3,4,6,7,8-HxCDF	4.12e+06	2.02e+03	2.0e+03	3.28e+06	1.12e+03	2.9e+03
7	1,2,3,7,8,9-HxCDF	3.56e+06	2.02e+03	1.8e+03	2.77e+06	1.12e+03	2.5e+03
8	1,2,3,4,6,7,8-HpCDF	3.85e+06	5.33e+03	7.2e+02	3.64e+06	2.06e+03	1.8e+03
9	1,2,3,4,7,8,9-HpCDF	2.43e+06	5.33e+03	4.5e+02	2.27e+06	2.06e+03	1.1e+03
10	OCDF	2.90e+06	1.58e+03	1.8e+03	3.20e+06	2.83e+03	1.1e+03
11	2,3,7,8-TCDD	8.82e+05	1.72e+03	5.1e+02	1.13e+06	1.13e+03	1.0e+03
12	1,2,3,7,8-PeCDD	2.84e+06	2.58e+03	1.1e+03	1.78e+06	9.60e+02	1.9e+03
13	1,2,3,4,7,8-HxCDD	2.75e+06	1.17e+03	2.4e+03	2.16e+06	1.54e+03	1.4e+03
14	1,2,3,6,7,8-HxCDD	3.07e+06	1.17e+03	2.6e+03	2.38e+06	1.54e+03	1.5e+03
15	1,2,3,7,8,9-HxCDD	2.63e+06	1.17e+03	2.2e+03	2.12e+06	1.54e+03	1.4e+03
16	1,2,3,4,6,7,8-HpCDD	1.81e+06	1.13e+03	1.6e+03	1.73e+06	9.96e+02	1.7e+03
17	OCDD	2.25e+06	1.16e+03	1.9e+03	2.54e+06	1.34e+03	1.9e+03
18	13C-2,3,7,8-TCDF	5.81e+06	3.40e+03	1.7e+03	7.33e+06	3.70e+03	2.0e+03
19	13C-1,2,3,7,8-PeCDF	8.39e+06	9.36e+02	9.0e+03	5.38e+06	1.37e+03	3.9e+03
20	13C-1,2,3,4,7,8-HxCDF	1.10e+07	9.52e+02	1.2e+04	2.07e+07	1.90e+03	1.1e+04
21	13C-1,2,3,4,6,7,8-HpCDF	7.40e+06	3.35e+03	2.2e+03	1.62e+07	5.82e+03	2.8e+03
22	13C-2,3,7,8-TCDD	4.61e+06	5.57e+03	8.3e+02	5.94e+06	1.91e+03	3.1e+03
23	13C-1,2,3,7,8-PeCDD	6.19e+06	2.28e+03	2.7e+03	3.88e+06	1.95e+03	2.0e+03
24	13C-1,2,3,6,7,8-HxCDD	1.45e+07	1.69e+03	8.6e+03	1.13e+07	1.32e+03	8.6e+03
25	13C-1,2,3,4,6,7,8-HpCDD	9.38e+06	1.48e+03	6.3e+03	8.82e+06	8.48e+02	1.0e+04
26	13C-OCDD	1.13e+07	1.00e+03	1.1e+04	1.26e+07	1.14e+03	1.1e+04
27	13C-1,2,3,4-TCDD	4.60e+06	5.57e+03	8.3e+02	5.85e+06	1.91e+03	3.1e+03
28	13C-1,2,3,7,8,9-HxCDD	1.39e+07	1.69e+03	8.2e+03	1.10e+07	1.32e+03	8.3e+03
29	37Cl-2,3,7,8-TCDD	2.04e+06	9.96e+02	2.0e+03			

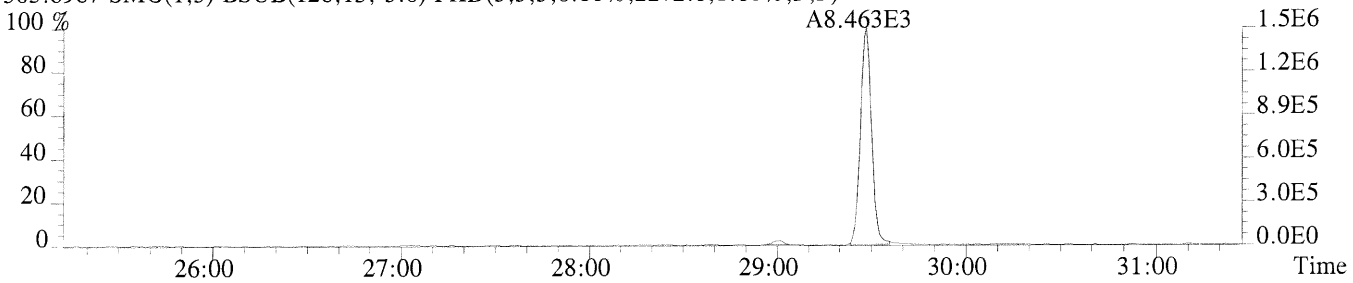
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100008 #1-521 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

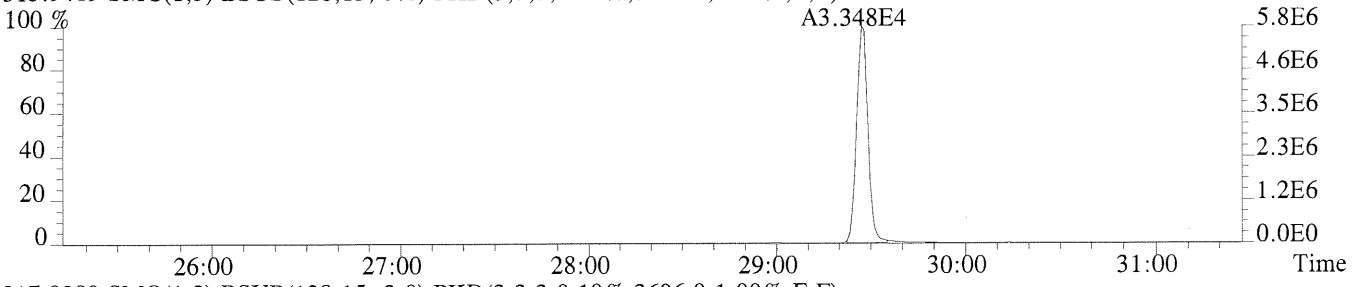
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,F)



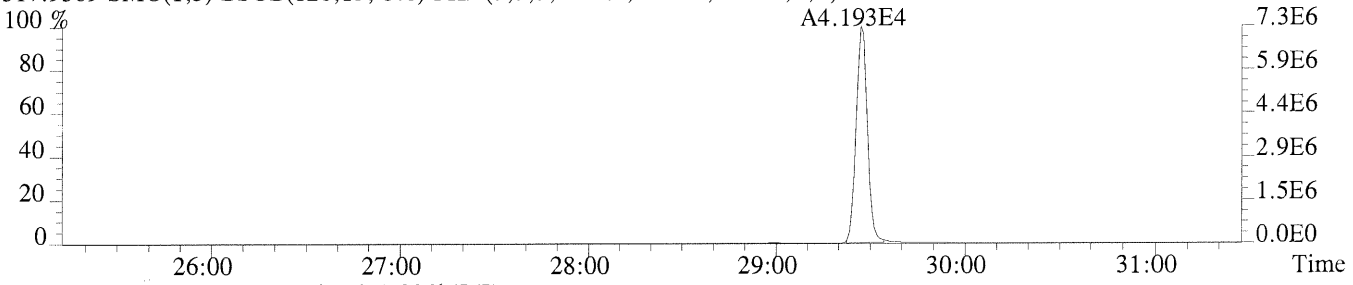
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2272.0,1.00%,F,F)



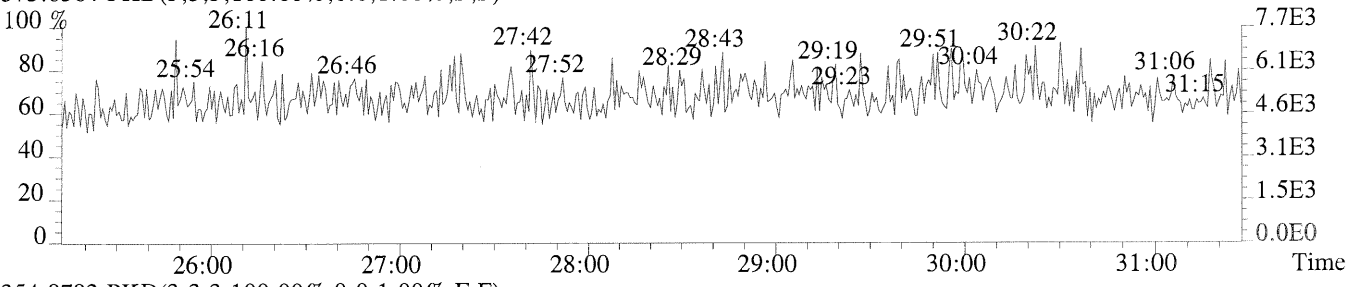
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3396.0,1.00%,F,F)



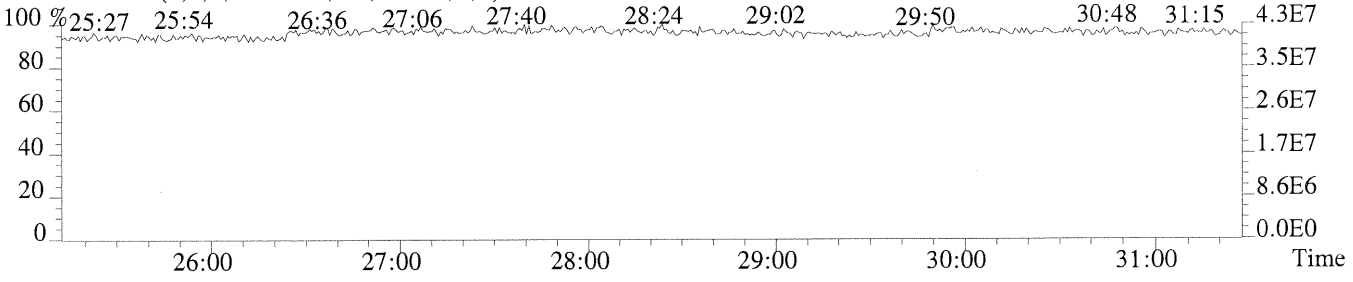
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3696.0,1.00%,F,F)



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

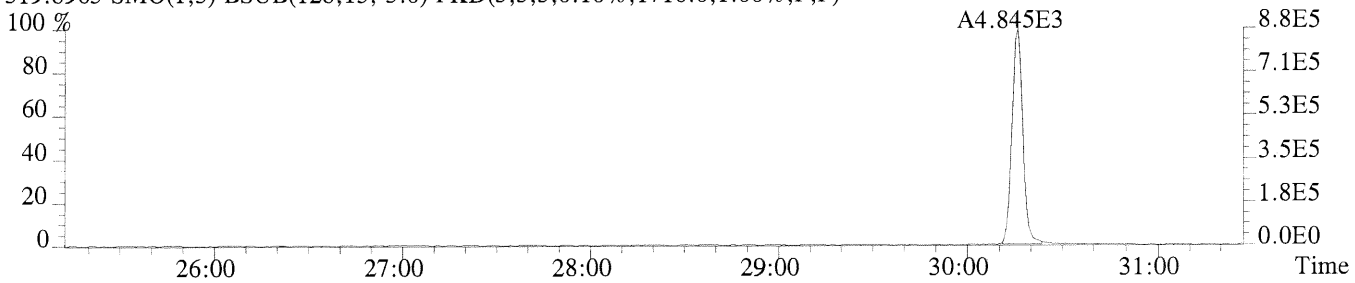


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

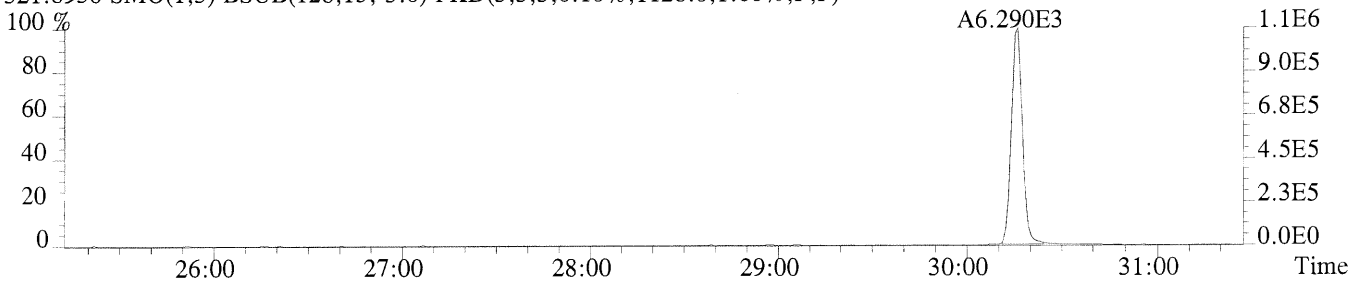


File:P100008 #1-521 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

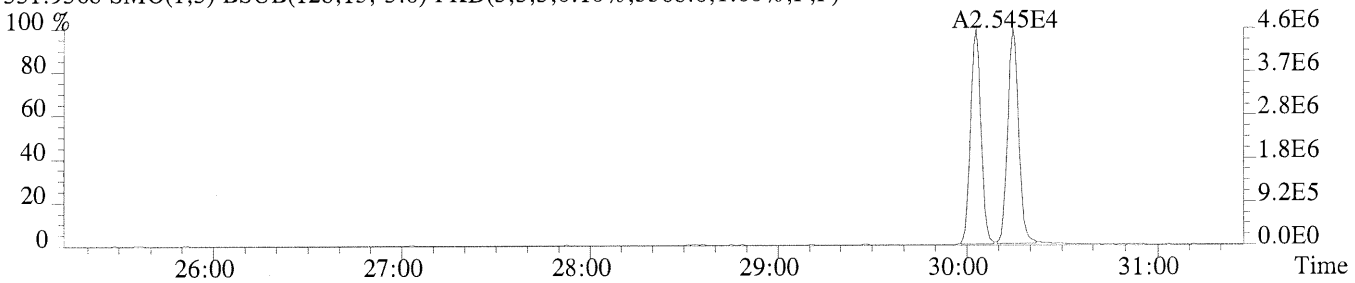
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1716.0,1.00%,F,F)



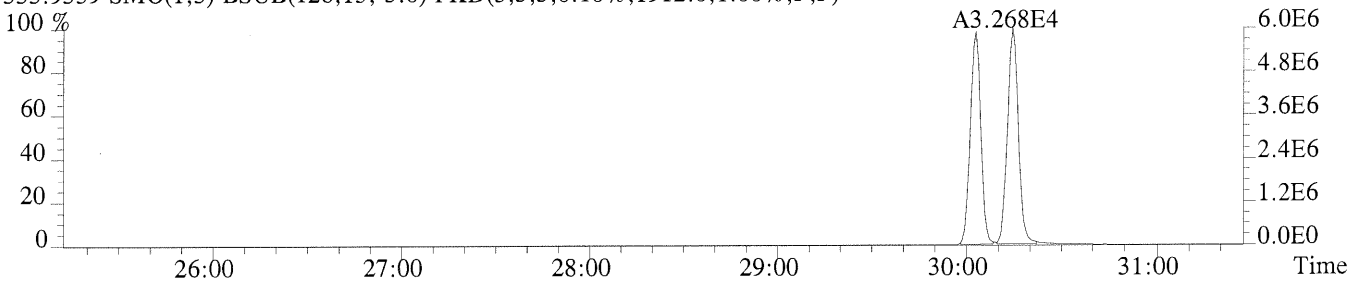
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,F)



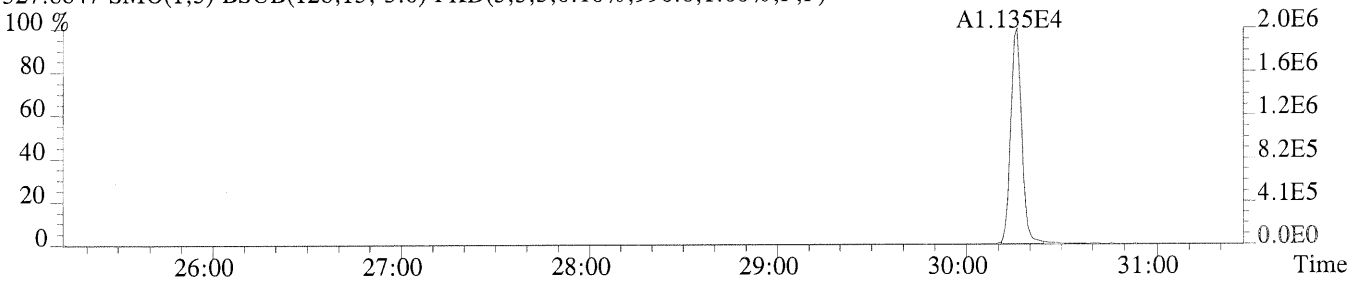
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5568.0,1.00%,F,F)



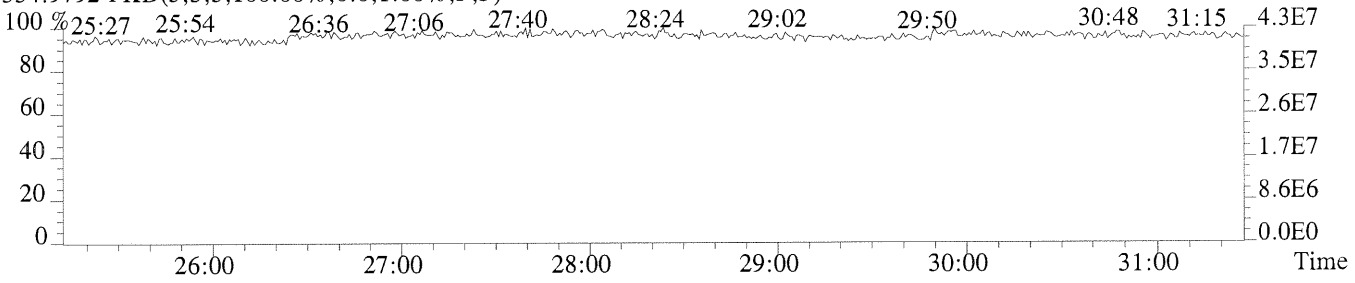
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1912.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,996.0,1.00%,F,F)

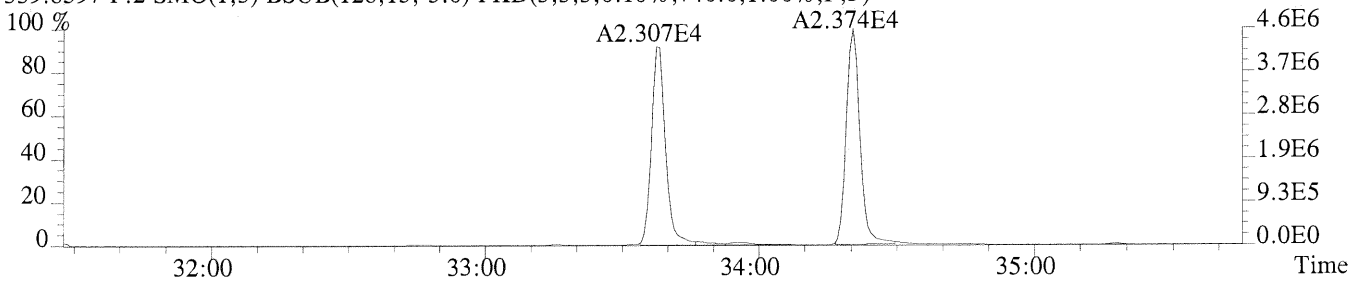


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

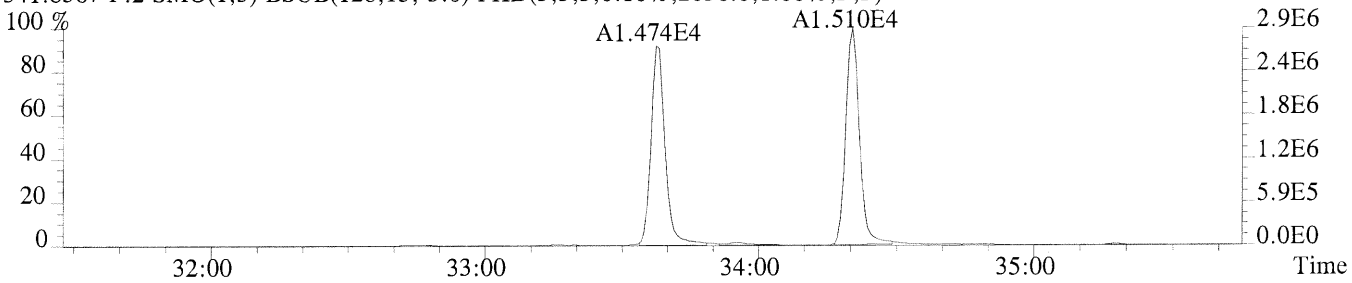


File:P100008 #1-390 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

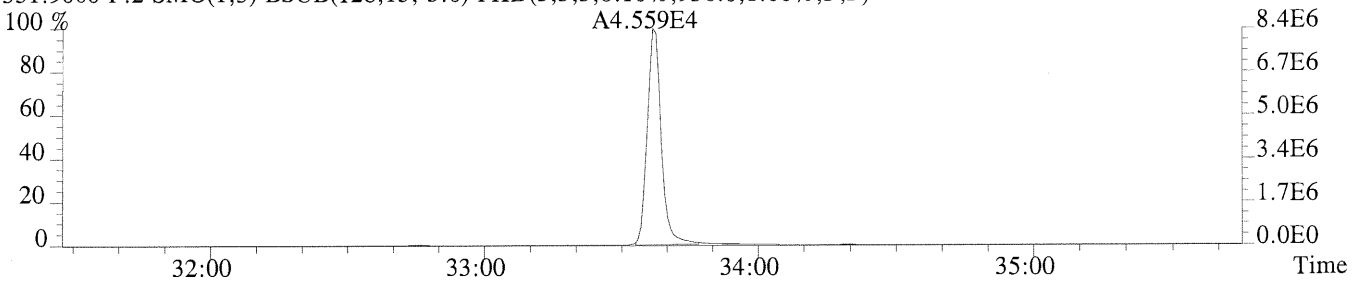
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,740.0,1.00%,F,F)



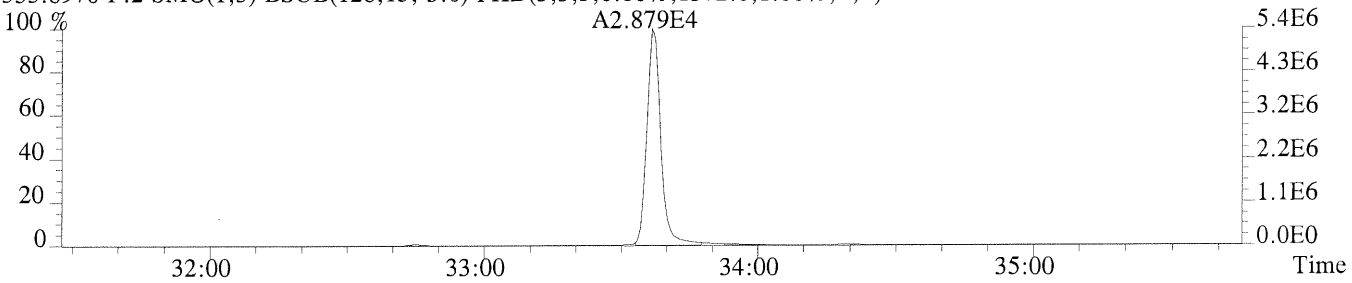
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2036.0,1.00%,F,F)



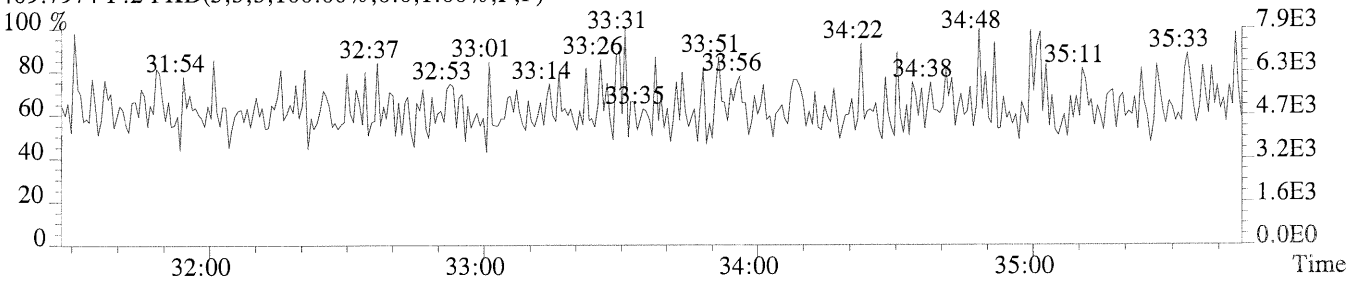
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,936.0,1.00%,F,F)



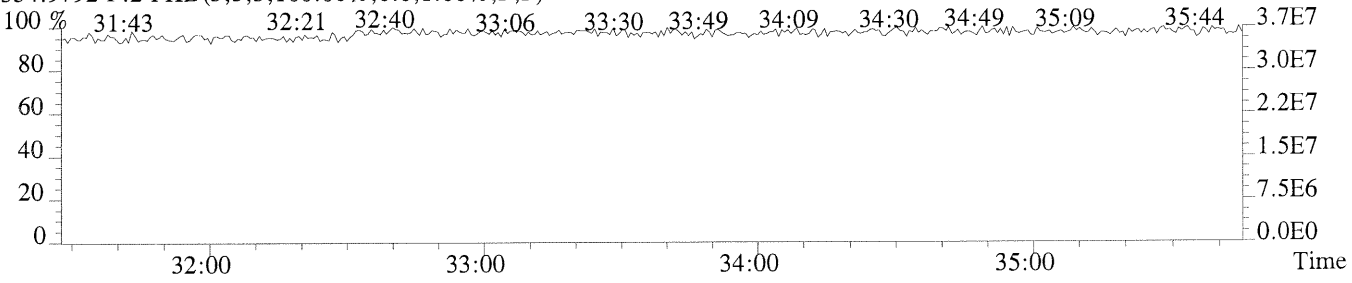
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1372.0,1.00%,F,F)



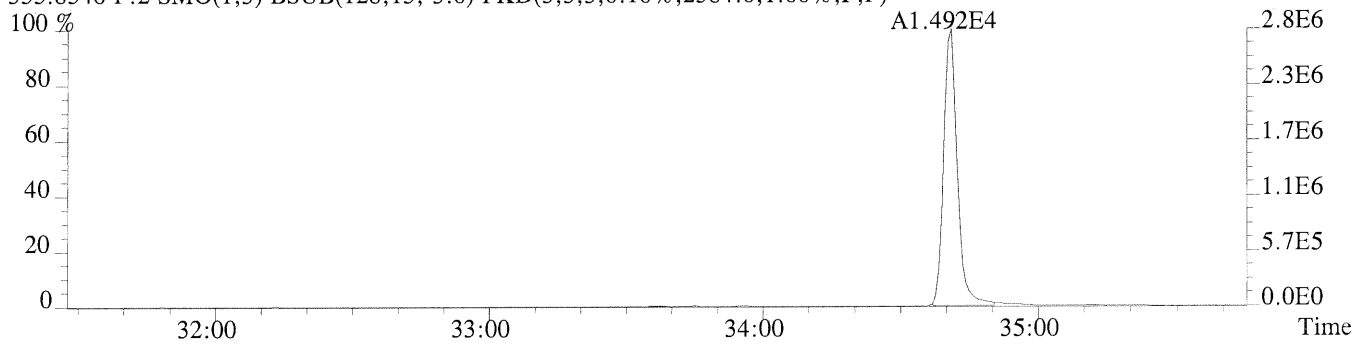
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



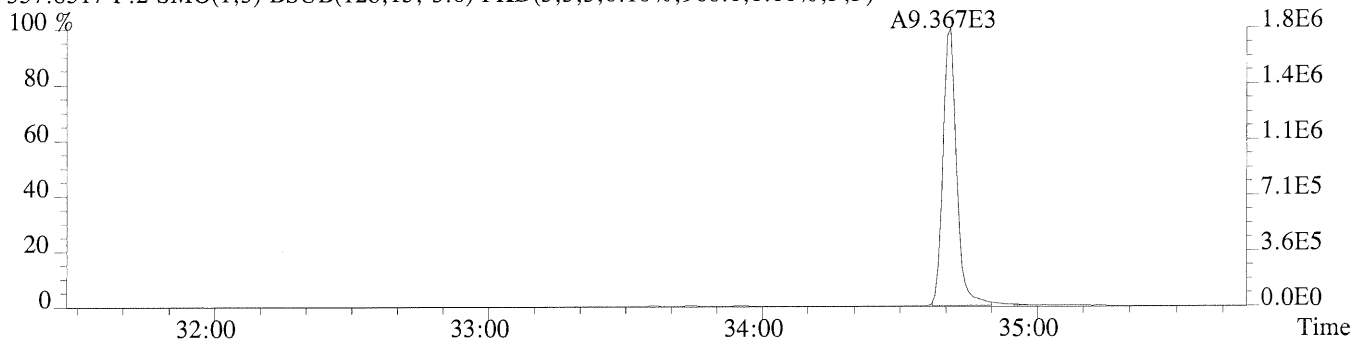
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



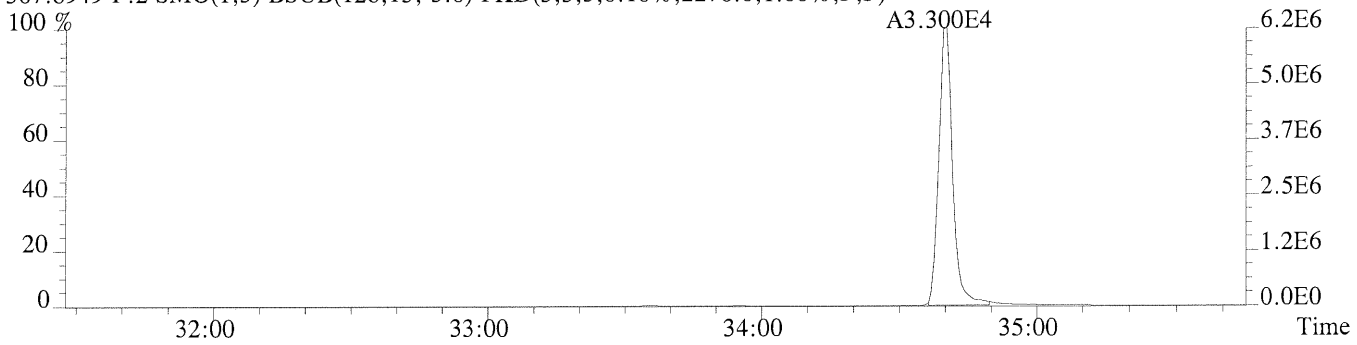
File:P100008 #1-390 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2584.0,1.00%,F,F)



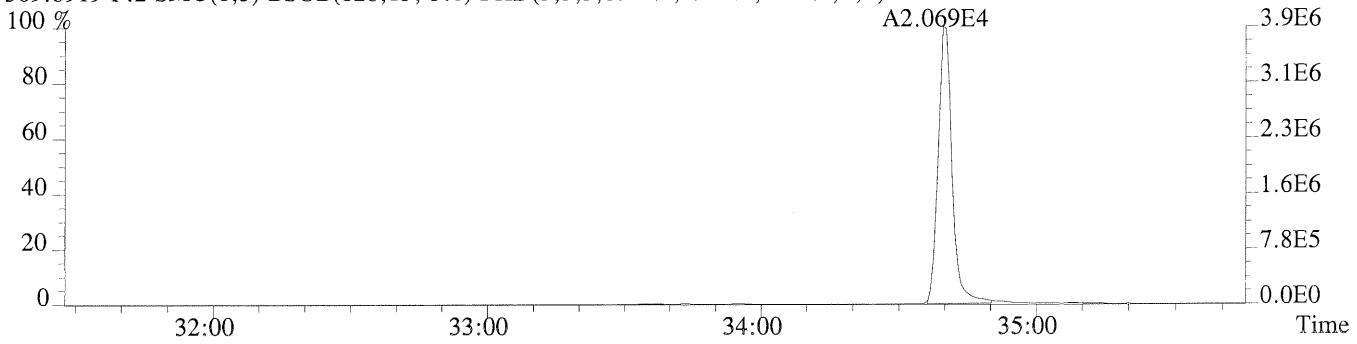
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,960.0,1.00%,F,F)



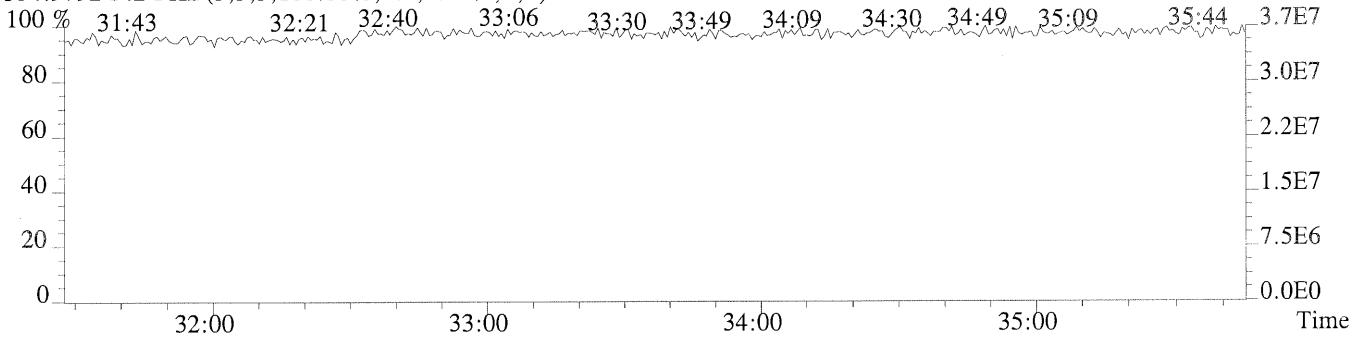
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2276.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1952.0,1.00%,F,F)

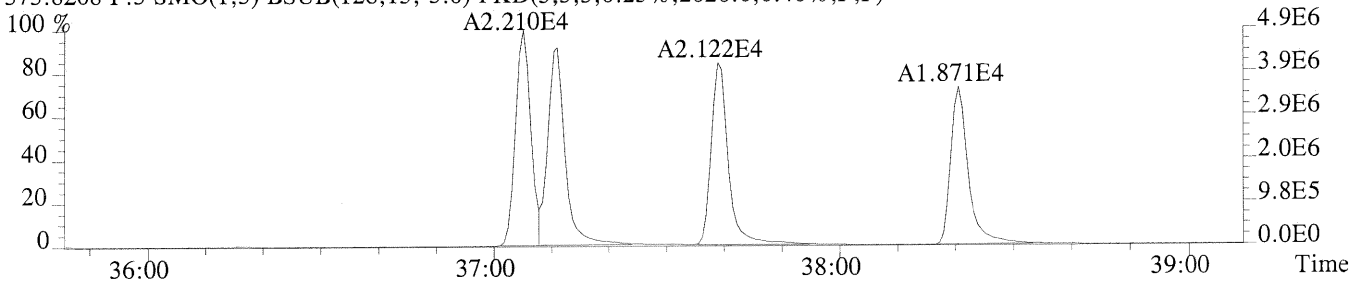


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

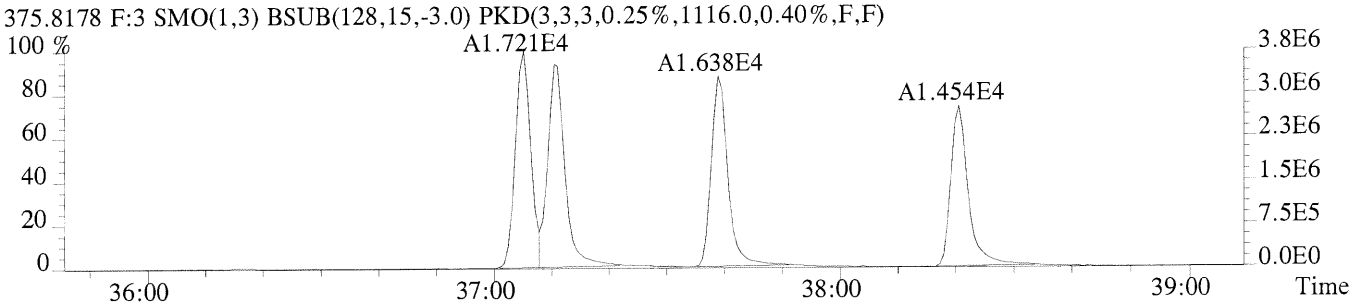


File:P100008 #1-309 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

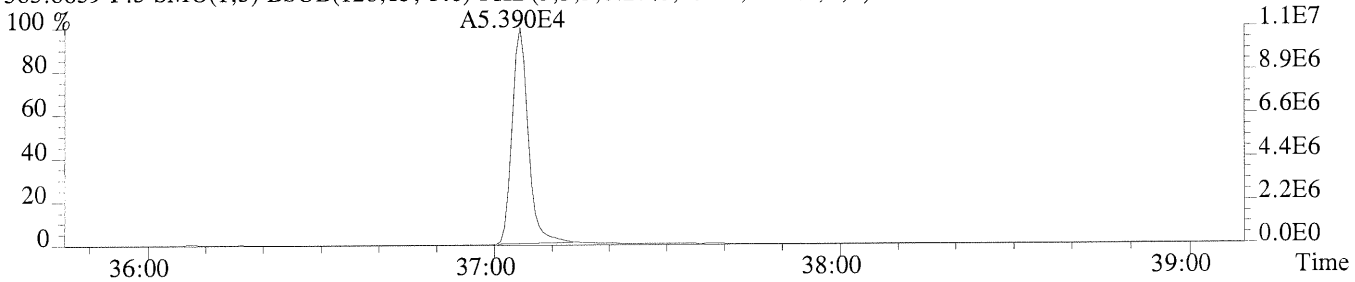
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2020.0,0.40%,F,F)



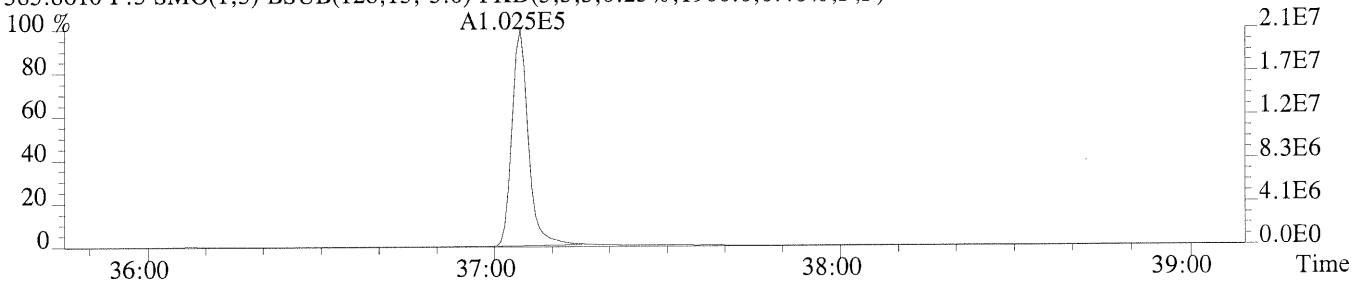
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1116.0,0.40%,F,F)



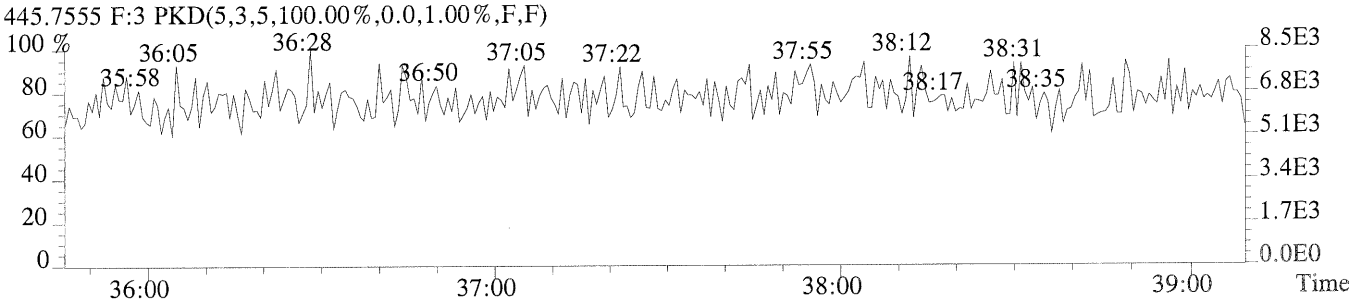
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,F)



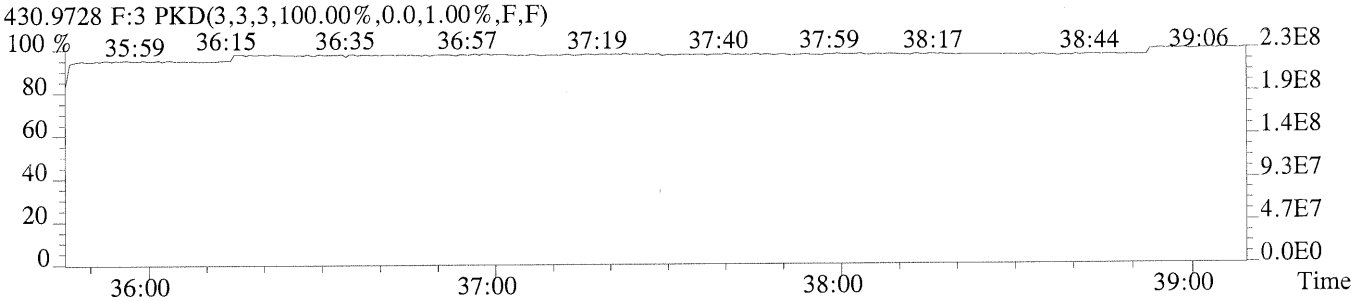
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1900.0,0.40%,F,F)



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

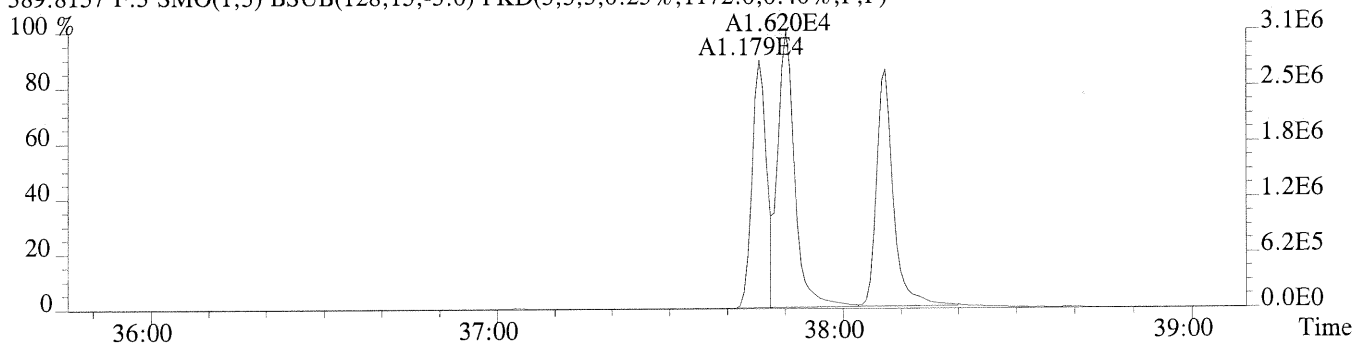


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

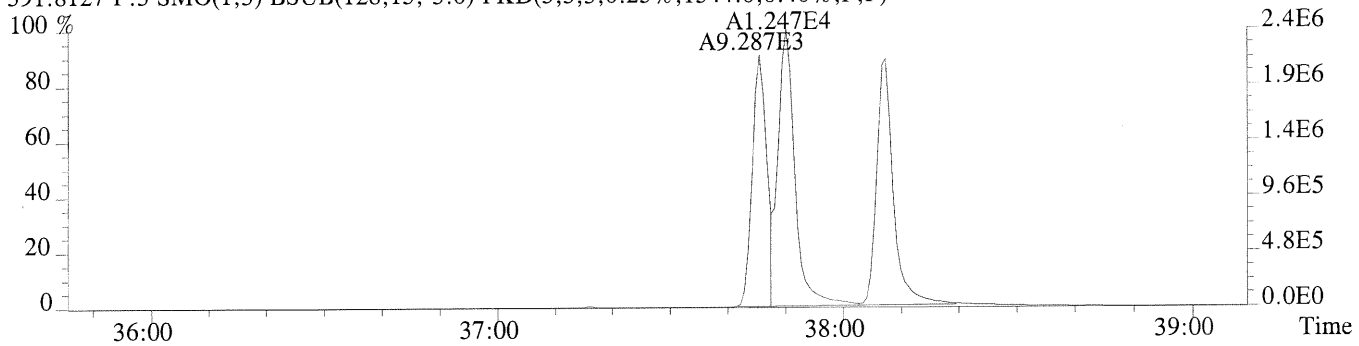


File:P100008 #1-309 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

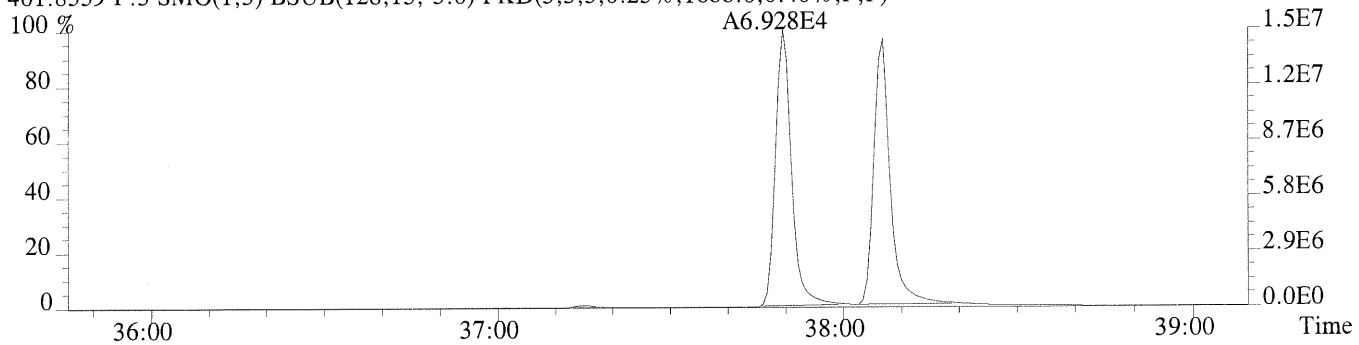
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,F)



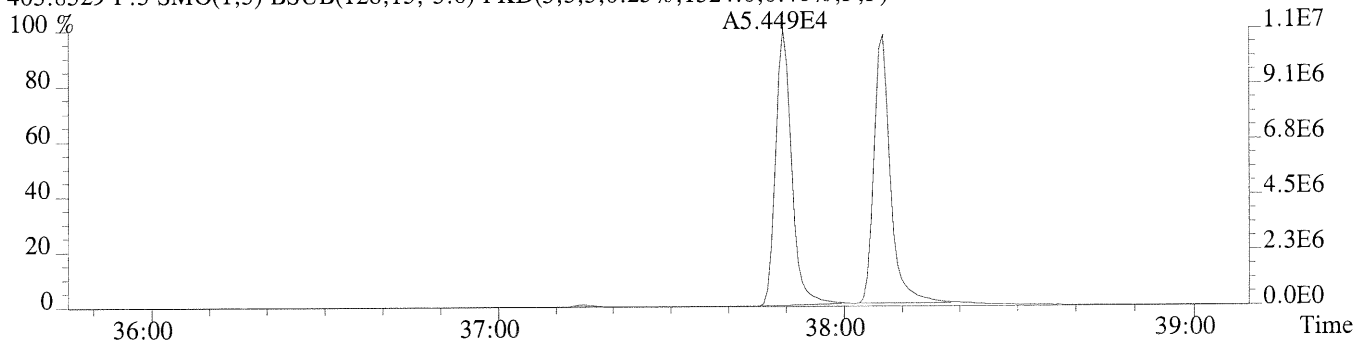
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1544.0,0.40%,F,F)



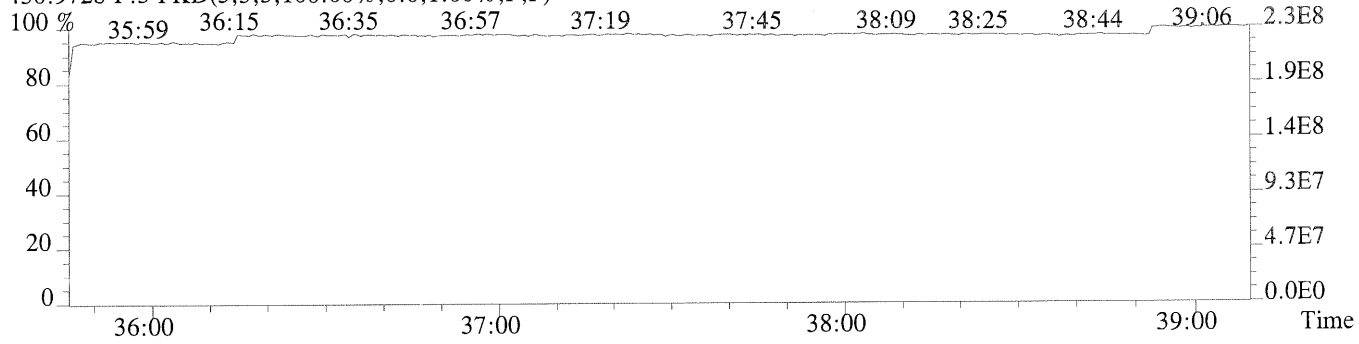
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.40%,F,F)

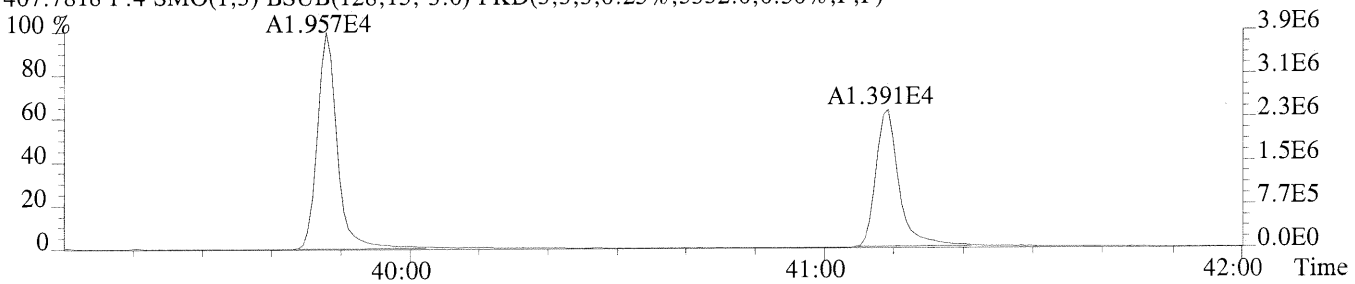


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

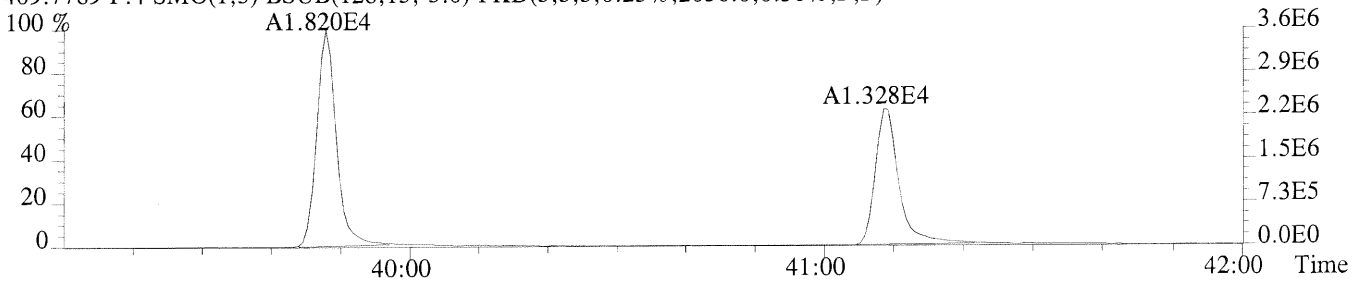


File:P100008 #1-258 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

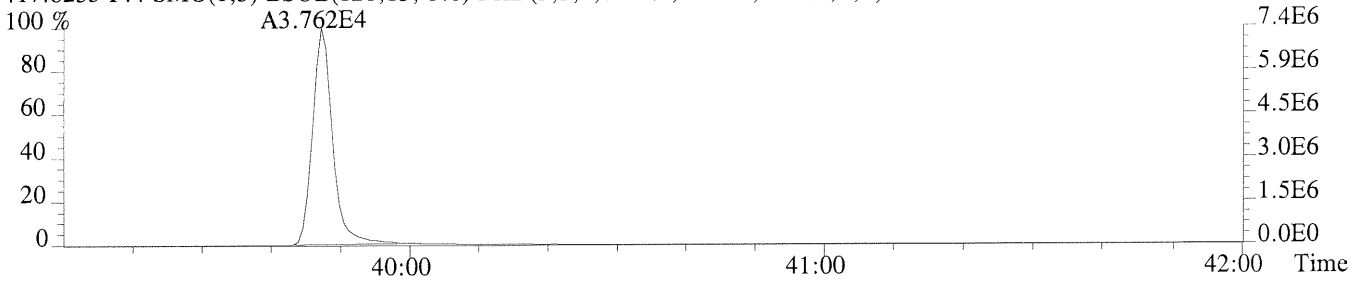
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5332.0,0.50%,F,F)



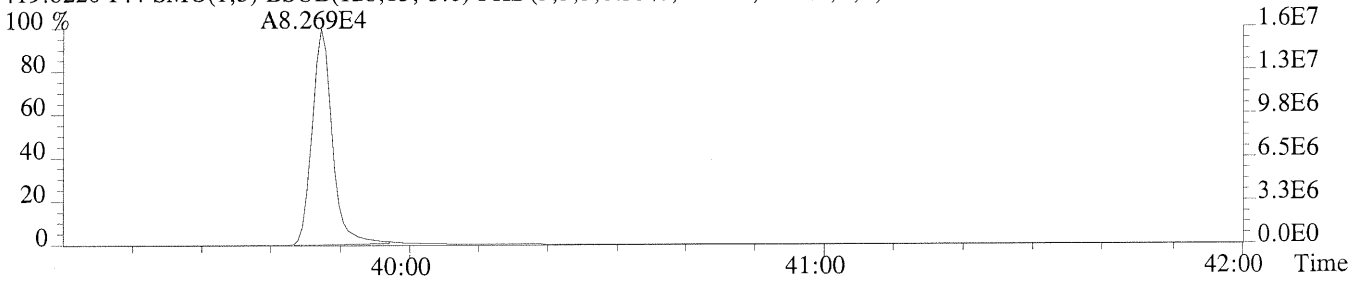
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2056.0,0.50%,F,F)



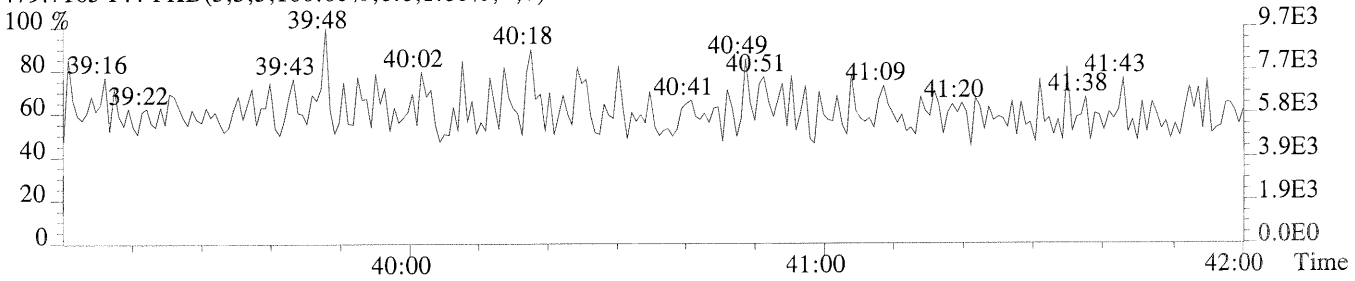
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3352.0,0.50%,F,F)



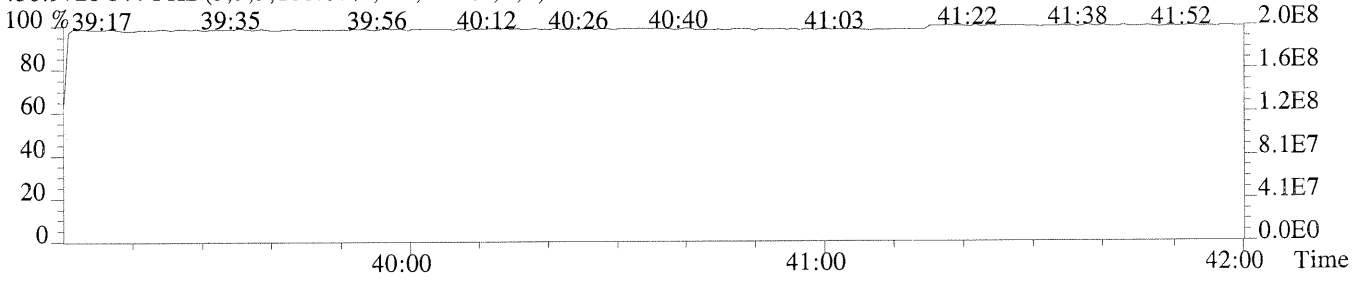
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5816.0,0.50%,F,F)



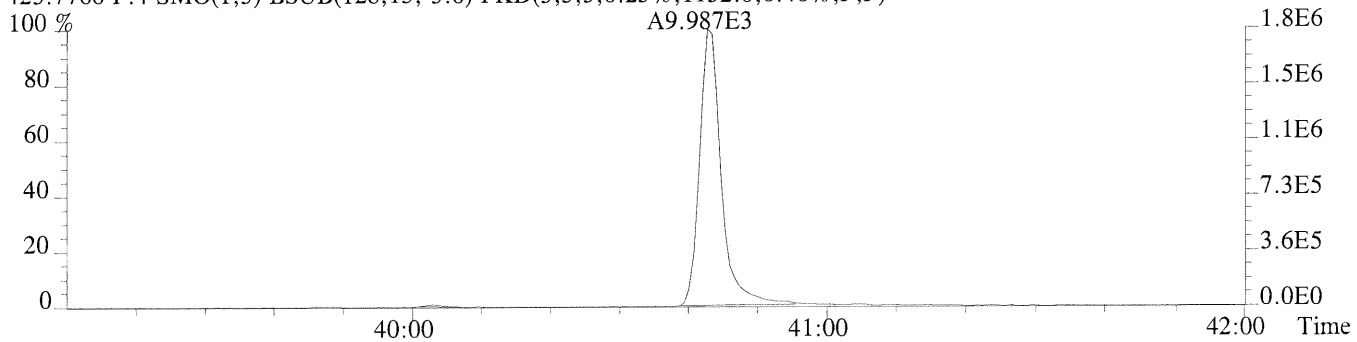
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



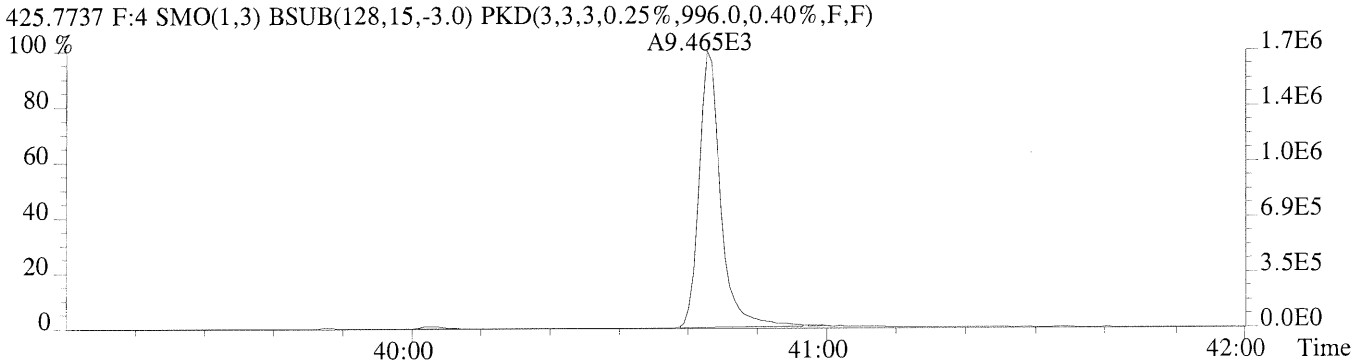
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



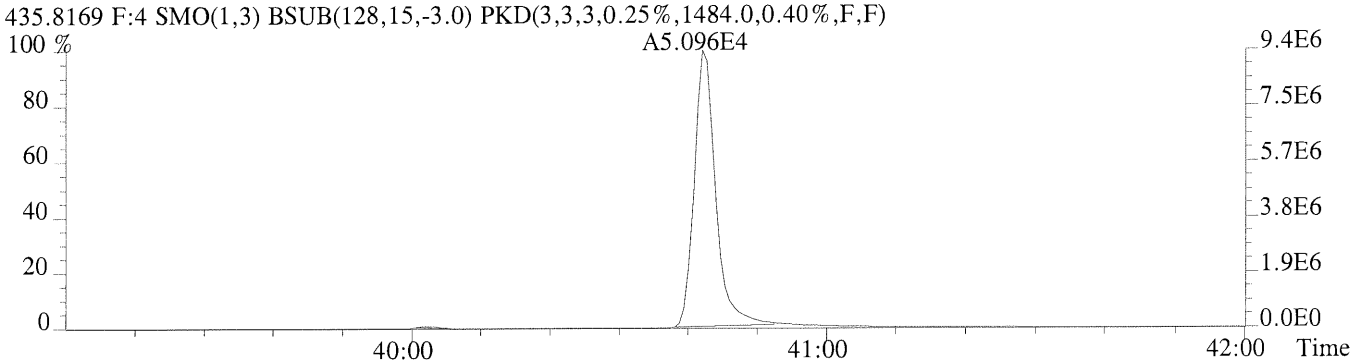
File:P100008 #1-258 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1132.0,0.40%,F,F)



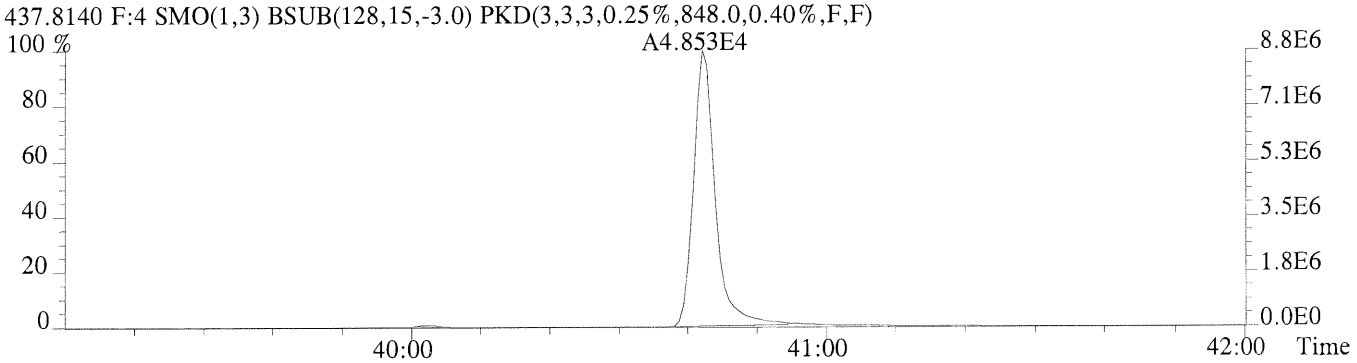
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.40%,F,F)



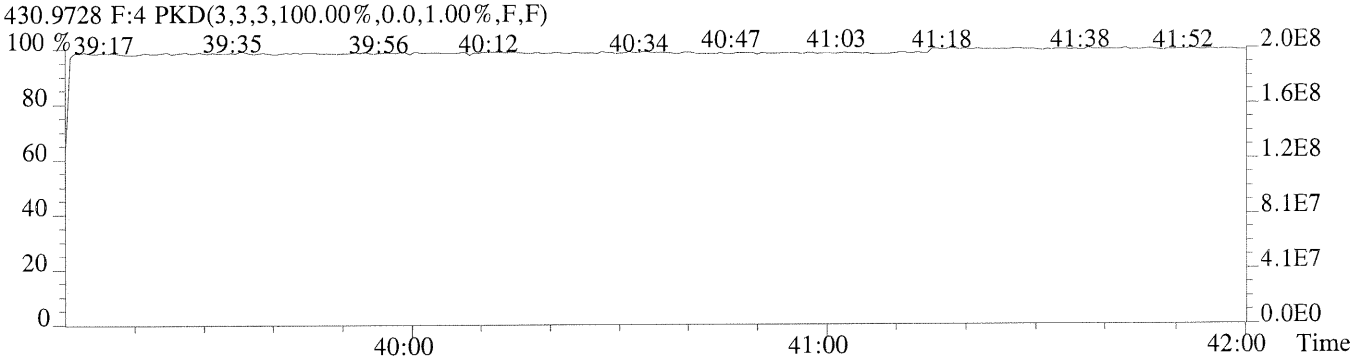
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1484.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,F)

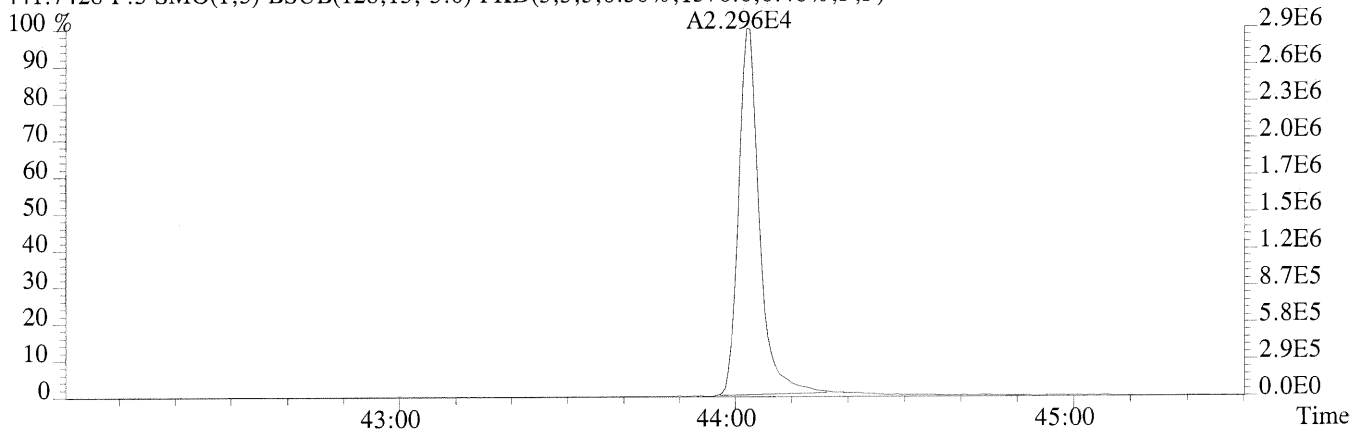


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

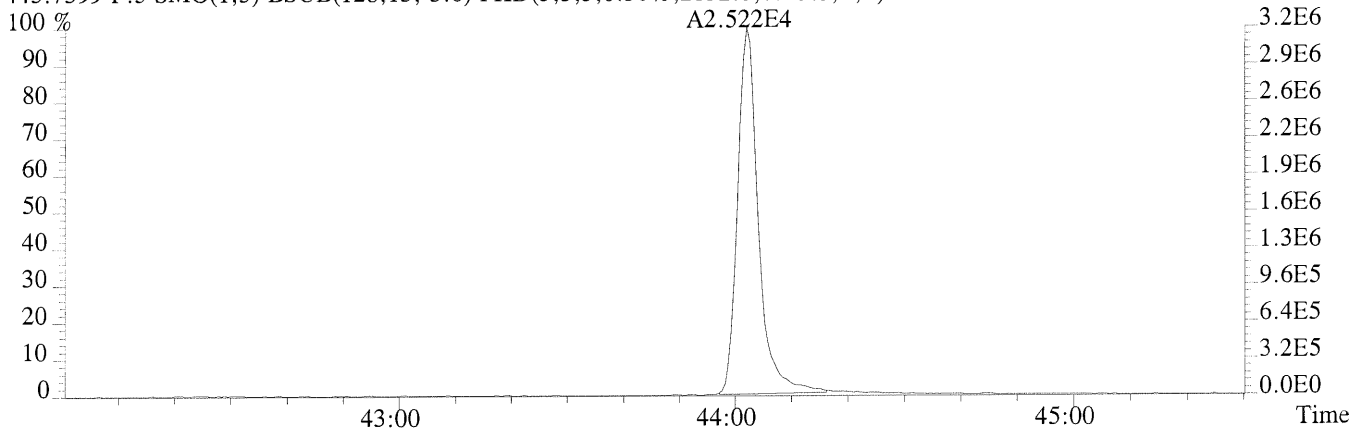


File:P100008 #1-386 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

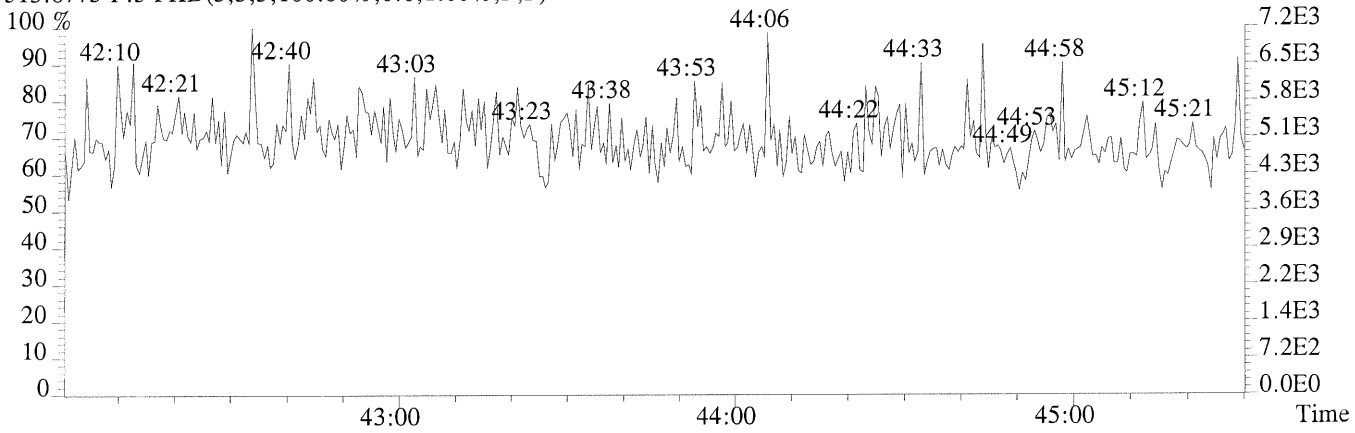
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1576.0,0.40%,F,F)



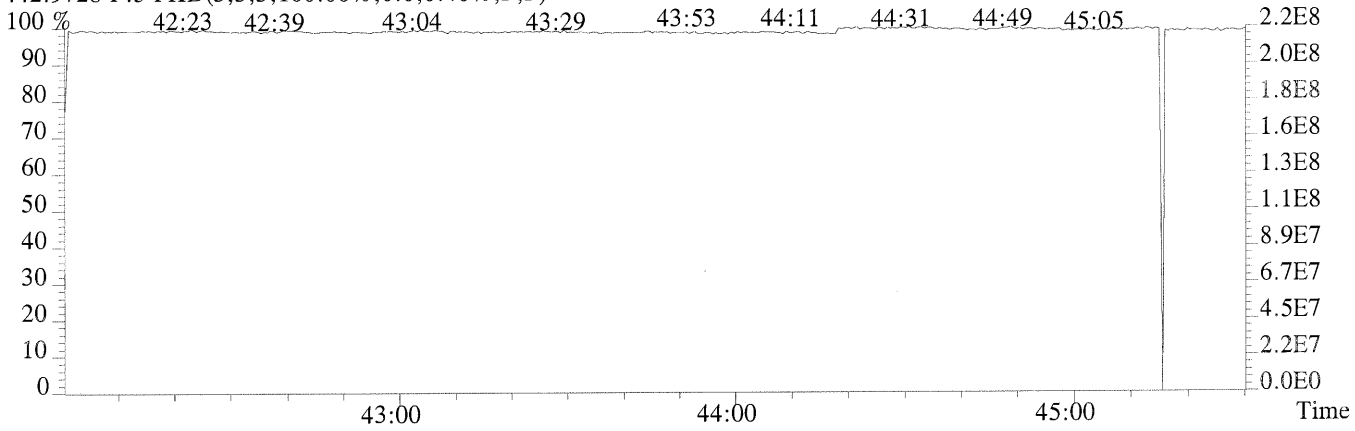
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2832.0,0.40%,F,F)



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

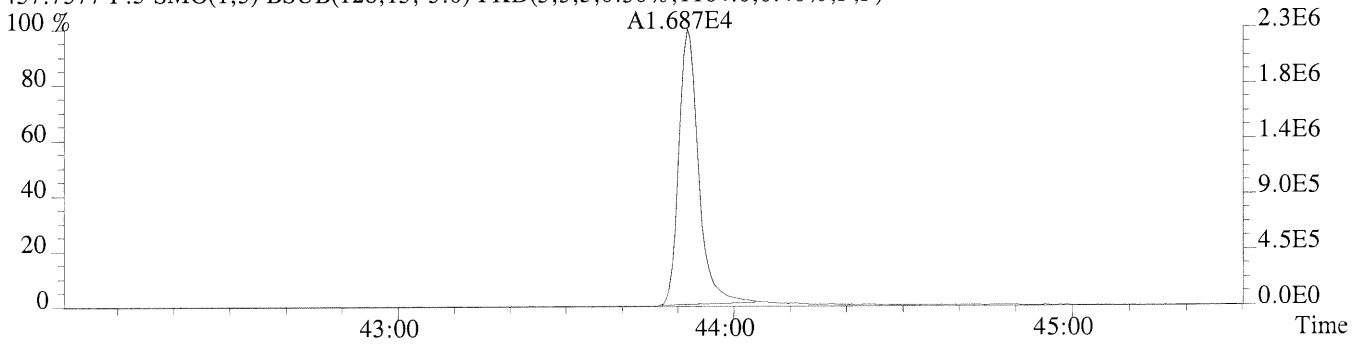


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

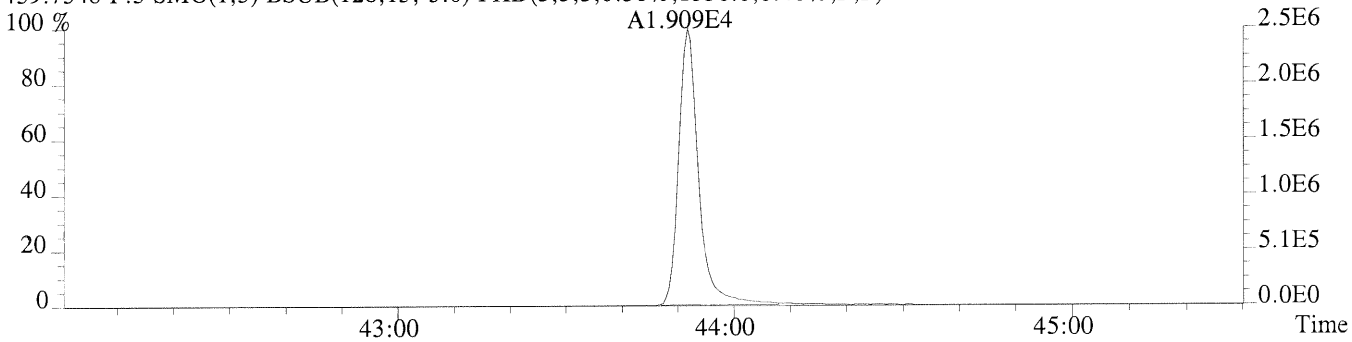


File:P100008 #1-386 Acq: 2-JUL-2008 12:44:22 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

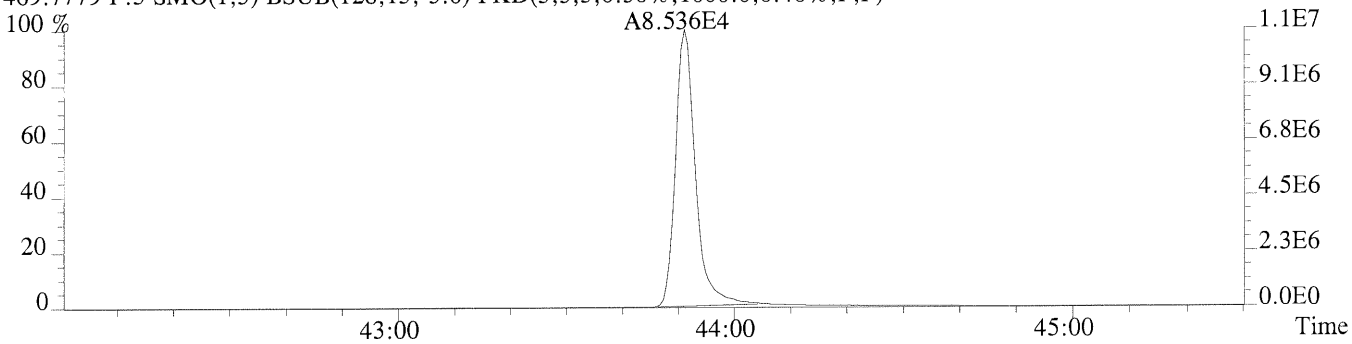
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1164.0,0.40%,F,F)



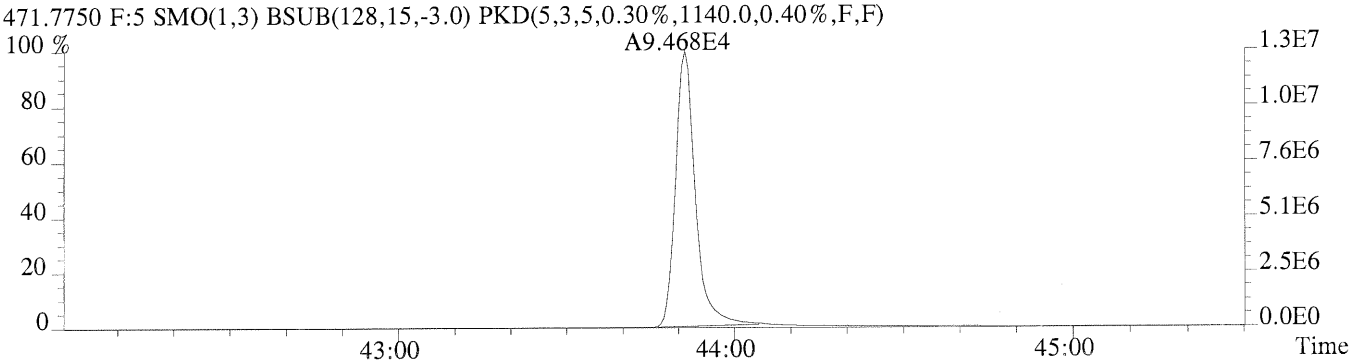
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1336.0,0.40%,F,F)



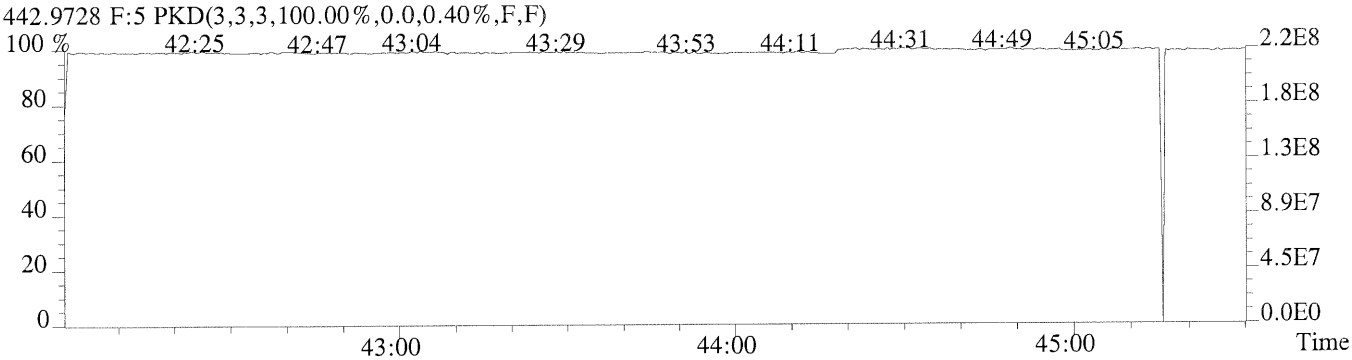
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1000.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1140.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC4

Run #4 Filename P100009 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 13:43:26
Processed: 3-JUL-08 14:49:03 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	3.130e+04	4.004e+04	0.78	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:38	1.097e+05	6.878e+04	1.59	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:21	1.109e+05	6.919e+04	1.60	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	9.673e+04	7.701e+04	1.26	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:11	1.064e+05	8.500e+04	1.25	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:39	9.249e+04	7.335e+04	1.26	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	8.271e+04	6.531e+04	1.27	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	8.267e+04	7.924e+04	1.04	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:09	6.411e+04	6.029e+04	1.06	yes	no	1.17
10	Unk	OCDF	44:03	1.104e+05	1.192e+05	0.93	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:16	2.326e+04	2.968e+04	0.78	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:41	6.870e+04	4.356e+04	1.58	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:46	5.359e+04	4.221e+04	1.27	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:50	6.895e+04	5.417e+04	1.27	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	5.843e+04	4.571e+04	1.28	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	4.527e+04	4.239e+04	1.07	yes	no	1.02
17	Unk	OCDD	43:52	8.044e+04	8.793e+04	0.91	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:27	3.219e+04	4.039e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.405e+04	2.728e+04	1.61	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:05	4.971e+04	9.272e+04	0.54	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	3.335e+04	7.496e+04	0.44	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:14	2.533e+04	3.245e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	3.016e+04	1.921e+04	1.57	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:50	5.665e+04	4.531e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:42	4.500e+04	4.407e+04	1.02	yes	no	0.85
26	IS	13C-OCDD	43:51	8.013e+04	8.893e+04	0.90	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:03	2.267e+04	2.890e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	5.604e+04	4.590e+04	1.22	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	5.317e+04					1.01

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC4

Run #4 Filename P100009 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 13:43:26

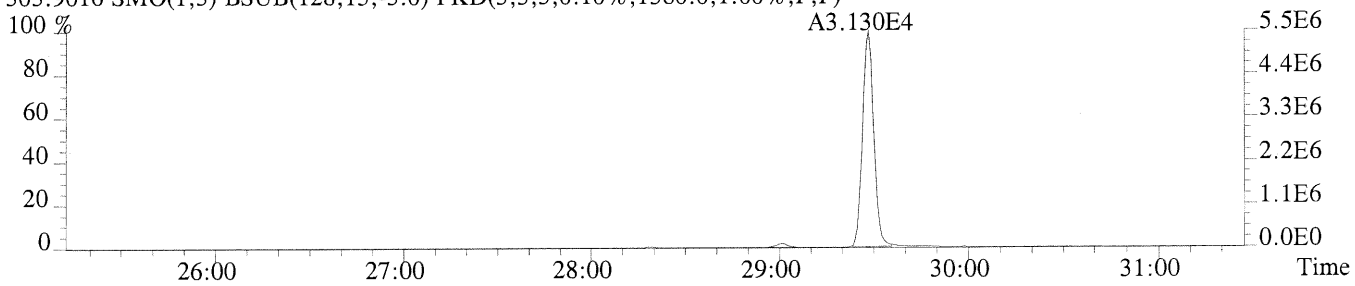
Processed: 3-JUL-08 14:49:03 LAB. ID:

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.48e+06	1.38e+03	4.0e+03	6.93e+06	2.87e+03	2.4e+03
2	1,2,3,7,8-PeCDF	2.02e+07	9.80e+02	2.1e+04	1.26e+07	1.66e+03	7.6e+03
3	2,3,4,7,8-PeCDF	2.17e+07	9.80e+02	2.2e+04	1.35e+07	1.66e+03	8.1e+03
4	1,2,3,4,7,8-HxCDF	2.13e+07	1.43e+03	1.5e+04	1.70e+07	1.31e+03	1.3e+04
5	1,2,3,6,7,8-HxCDF	2.01e+07	1.43e+03	1.4e+04	1.59e+07	1.31e+03	1.2e+04
6	2,3,4,6,7,8-HxCDF	1.87e+07	1.43e+03	1.3e+04	1.49e+07	1.31e+03	1.1e+04
7	1,2,3,7,8,9-HxCDF	1.63e+07	1.43e+03	1.1e+04	1.28e+07	1.31e+03	9.8e+03
8	1,2,3,4,6,7,8-HpCDF	1.65e+07	4.64e+03	3.6e+03	1.58e+07	4.52e+03	3.5e+03
9	1,2,3,4,7,8,9-HpCDF	1.09e+07	4.64e+03	2.3e+03	1.03e+07	4.52e+03	2.3e+03
10	OCDF	1.40e+07	1.20e+03	1.2e+04	1.54e+07	2.50e+03	6.2e+03
11	2,3,7,8-TCDD	4.29e+06	1.95e+03	2.2e+03	5.42e+06	1.11e+03	4.9e+03
12	1,2,3,7,8-PeCDD	1.34e+07	2.06e+03	6.5e+03	8.38e+06	1.16e+03	7.2e+03
13	1,2,3,4,7,8-HxCDD	1.25e+07	9.40e+02	1.3e+04	9.83e+06	1.90e+03	5.2e+03
14	1,2,3,6,7,8-HxCDD	1.37e+07	9.40e+02	1.5e+04	1.09e+07	1.90e+03	5.7e+03
15	1,2,3,7,8,9-HxCDD	1.19e+07	9.40e+02	1.3e+04	9.27e+06	1.90e+03	4.9e+03
16	1,2,3,4,6,7,8-HpCDD	8.17e+06	1.69e+03	4.8e+03	7.78e+06	6.88e+02	1.1e+04
17	OCDD	1.08e+07	1.12e+03	9.6e+03	1.19e+07	6.32e+02	1.9e+04
18	13C-2,3,7,8-TCDF	5.59e+06	3.66e+03	1.5e+03	7.01e+06	3.38e+03	2.1e+03
19	13C-1,2,3,7,8-PeCDF	8.05e+06	9.76e+02	8.2e+03	5.05e+06	1.24e+03	4.1e+03
20	13C-1,2,3,4,7,8-HxCDF	1.02e+07	1.00e+03	1.0e+04	1.90e+07	2.06e+03	9.2e+03
21	13C-1,2,3,4,6,7,8-HpCDF	6.60e+06	4.34e+03	1.5e+03	1.45e+07	8.31e+03	1.7e+03
22	13C-2,3,7,8-TCDD	4.56e+06	6.06e+03	7.5e+02	5.85e+06	2.16e+03	2.7e+03
23	13C-1,2,3,7,8-PeCDD	5.74e+06	1.77e+03	3.2e+03	3.62e+06	1.30e+03	2.8e+03
24	13C-1,2,3,6,7,8-HxCDD	1.21e+07	1.54e+03	7.9e+03	9.72e+06	9.52e+02	1.0e+04
25	13C-1,2,3,4,6,7,8-HpCDD	8.08e+06	1.70e+03	4.8e+03	7.81e+06	7.44e+02	1.0e+04
26	13C-OCDD	1.07e+07	1.08e+03	9.9e+03	1.18e+07	7.32e+02	1.6e+04
27	13C-1,2,3,4-TCDD	4.16e+06	6.06e+03	6.9e+02	5.32e+06	2.16e+03	2.5e+03
28	13C-1,2,3,7,8,9-HxCDD	1.13e+07	1.54e+03	7.4e+03	9.04e+06	9.52e+02	9.5e+03
29	37Cl-2,3,7,8-TCDD	9.62e+06	1.31e+03	7.4e+03			

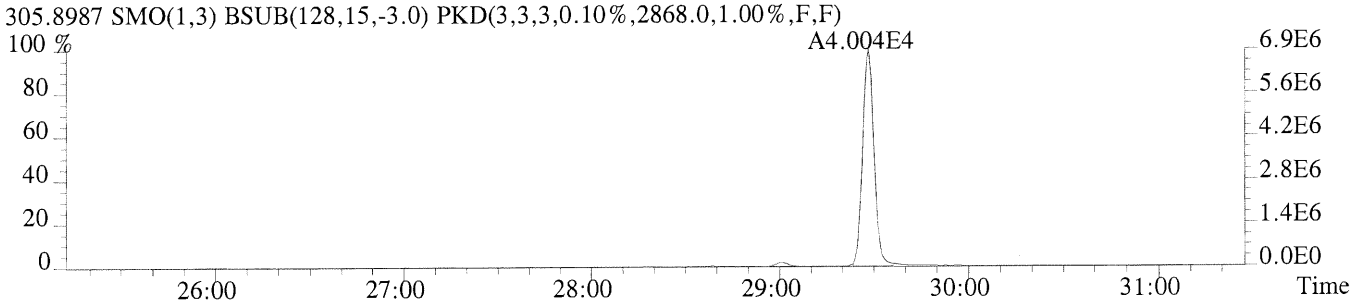
Columbia Analytical Services, Inc.
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File:P100009 #1-521 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

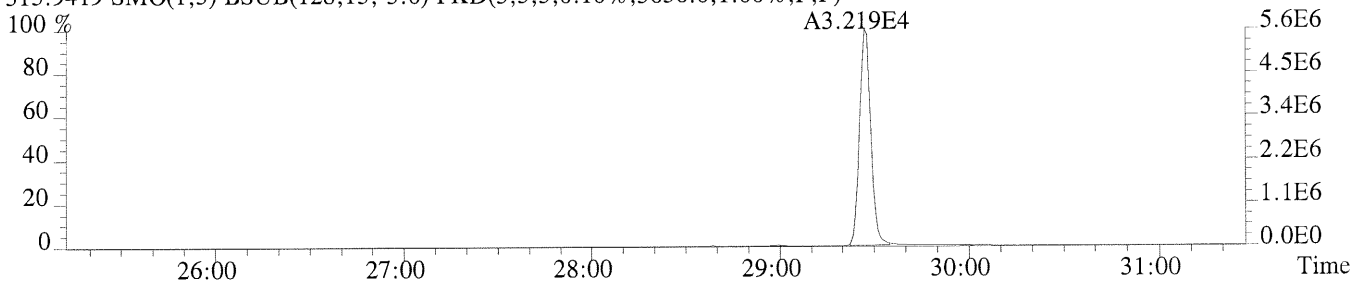
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,F)



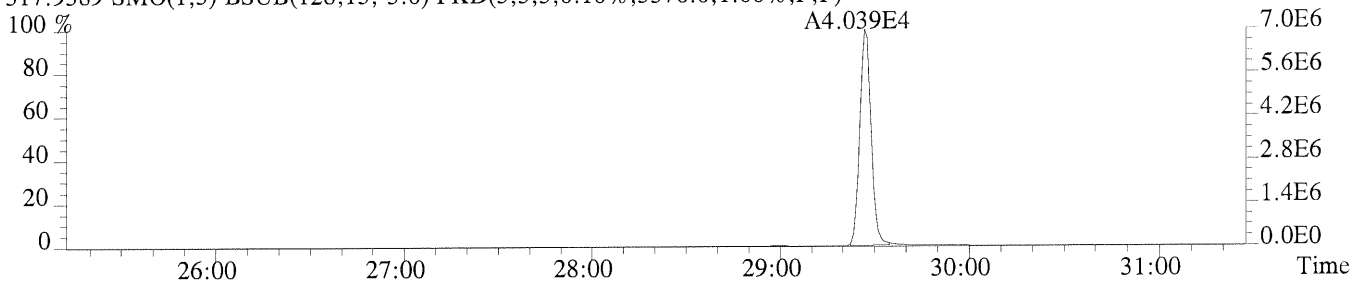
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2868.0,1.00%,F,F)



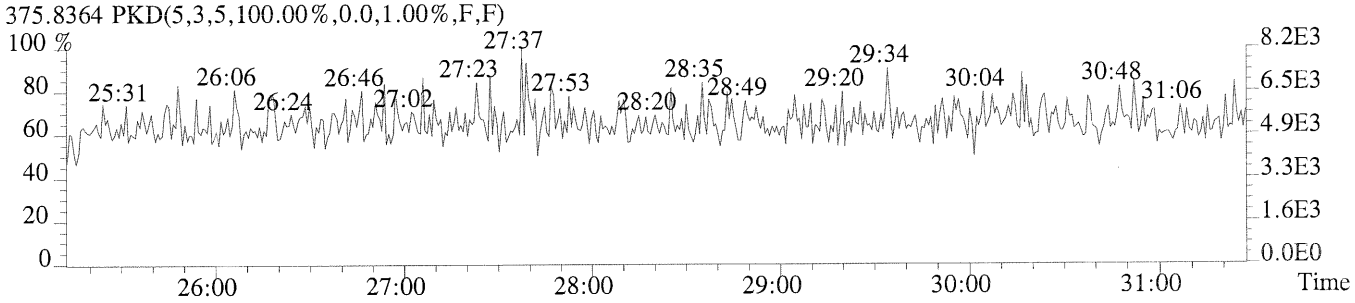
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3656.0,1.00%,F,F)



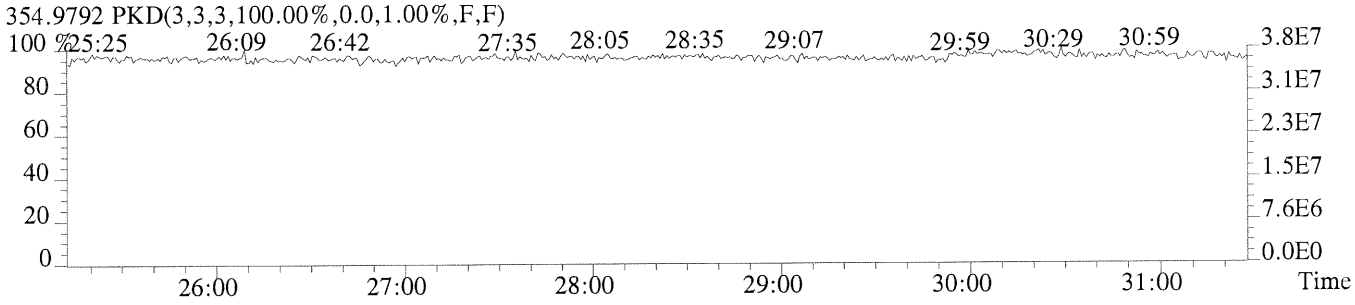
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3376.0,1.00%,F,F)



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

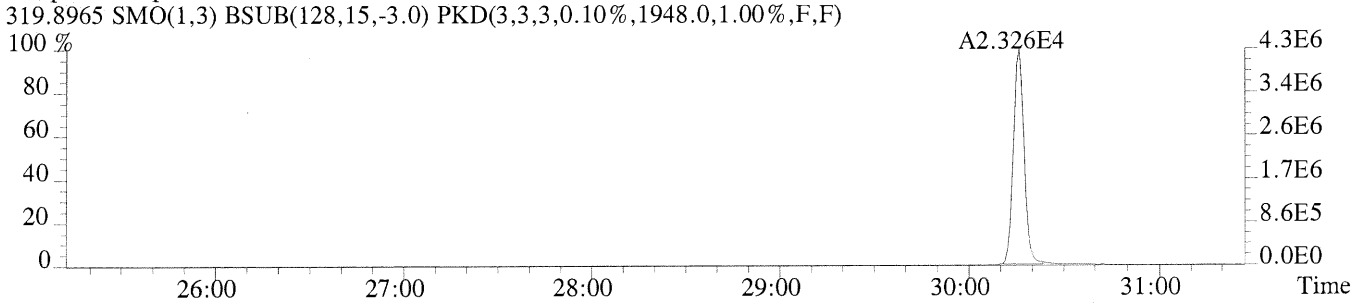


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

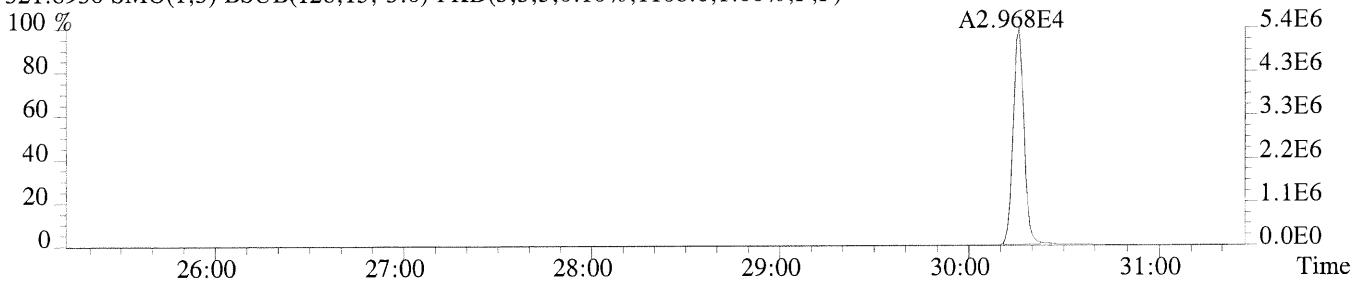


File:P100009 #1-521 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

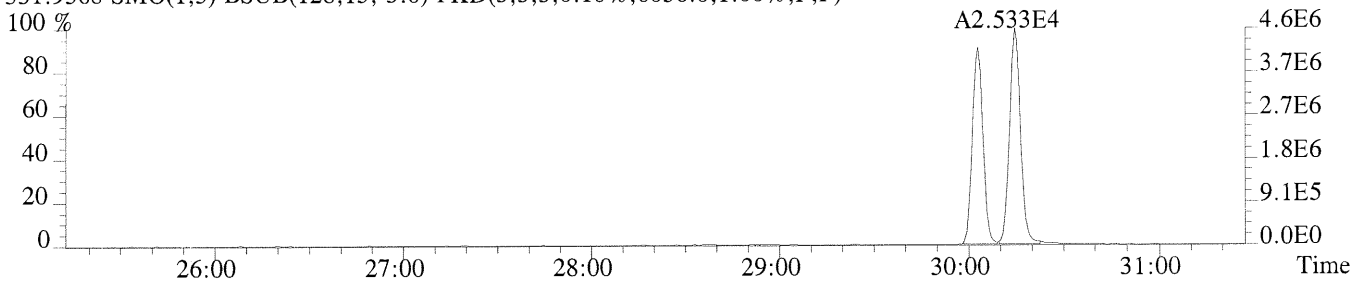
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1948.0,1.00%,F,F)



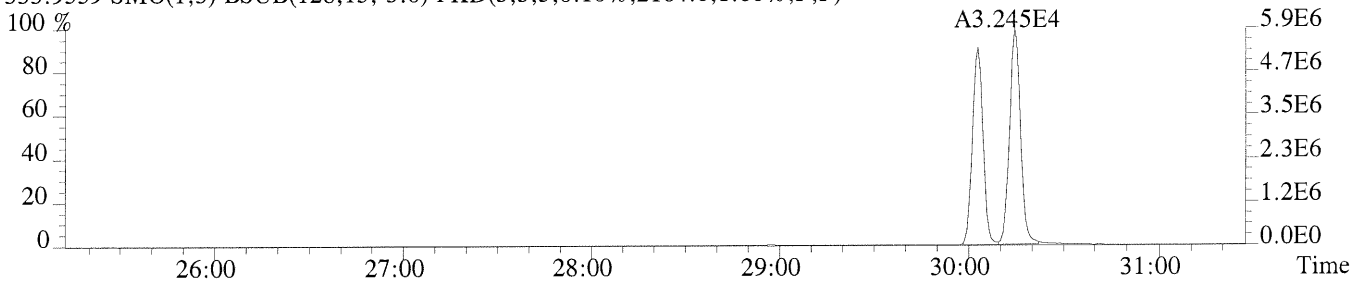
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1108.0,1.00%,F,F)



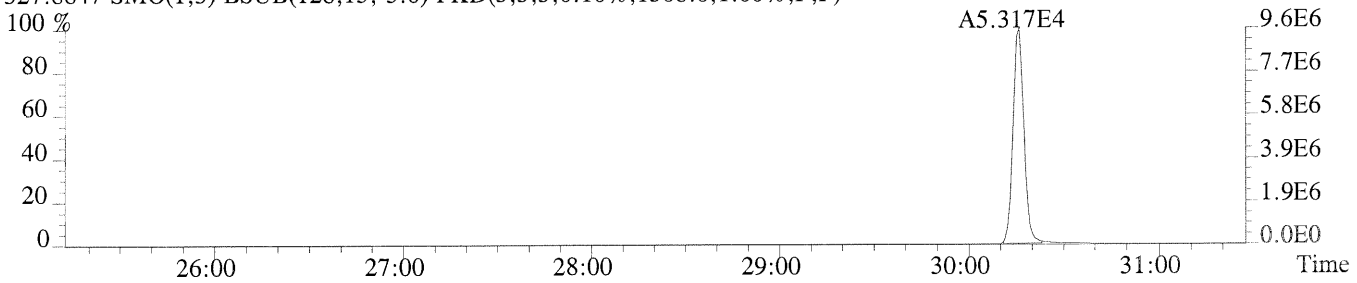
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6056.0,1.00%,F,F)



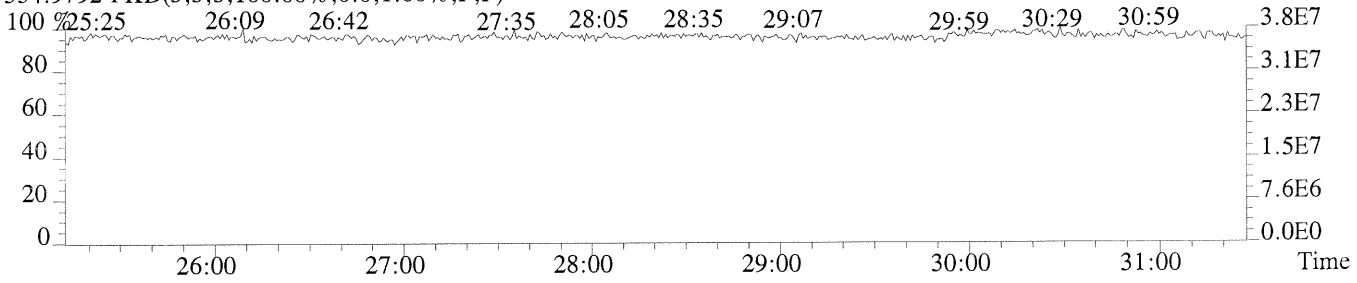
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2164.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1308.0,1.00%,F,F)

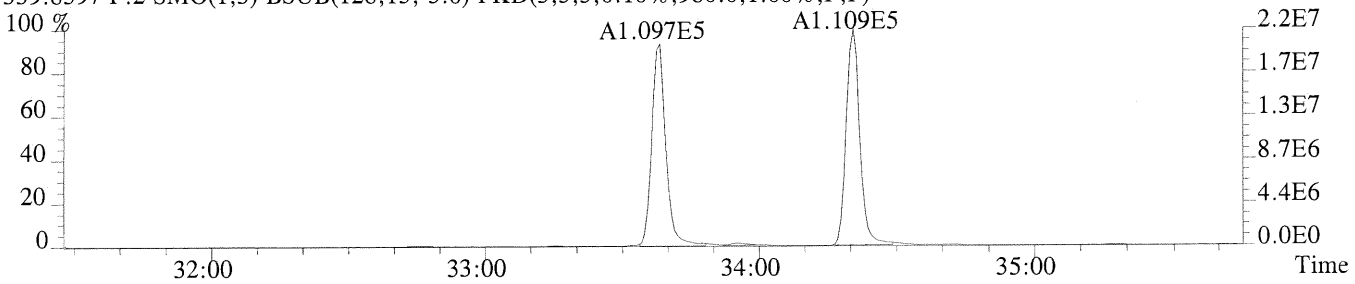


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

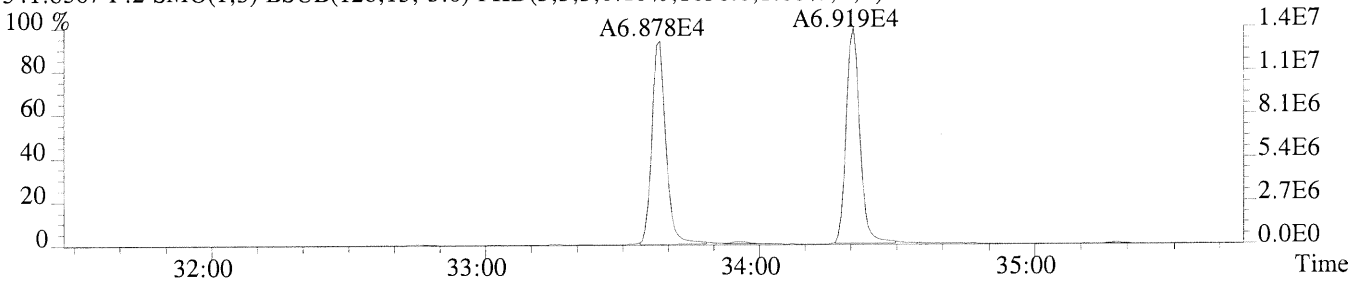


File:P100009 #1-390 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

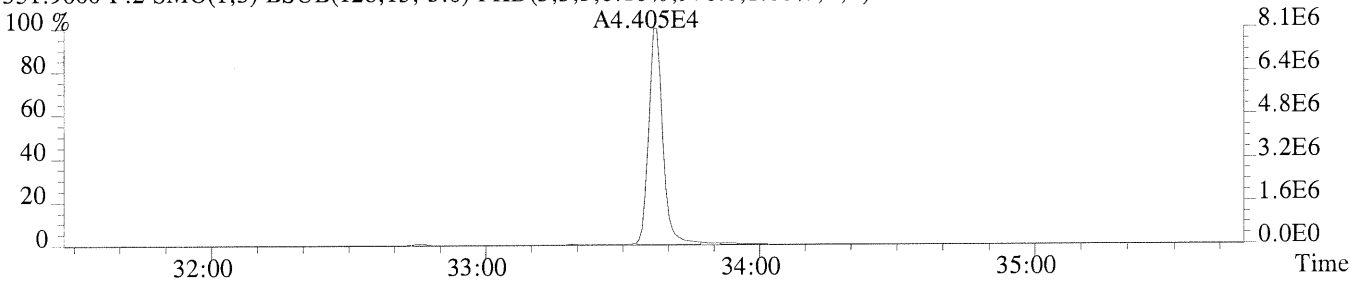
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,980.0,1.00%,F,F)



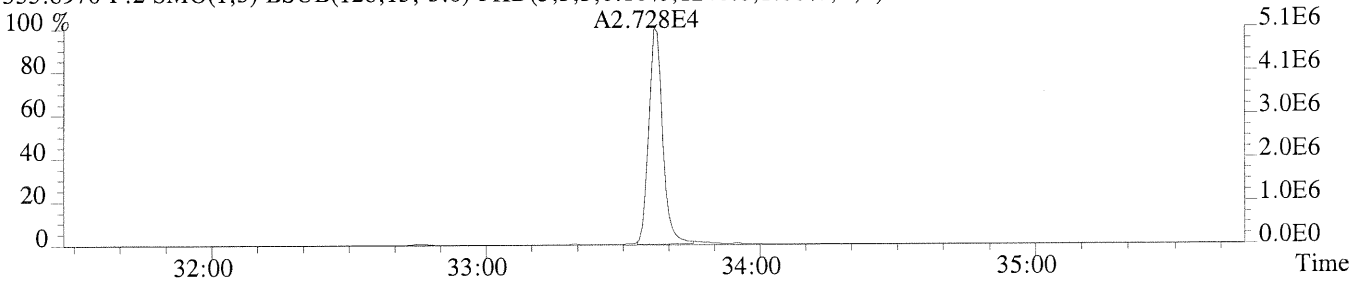
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1656.0,1.00%,F,F)



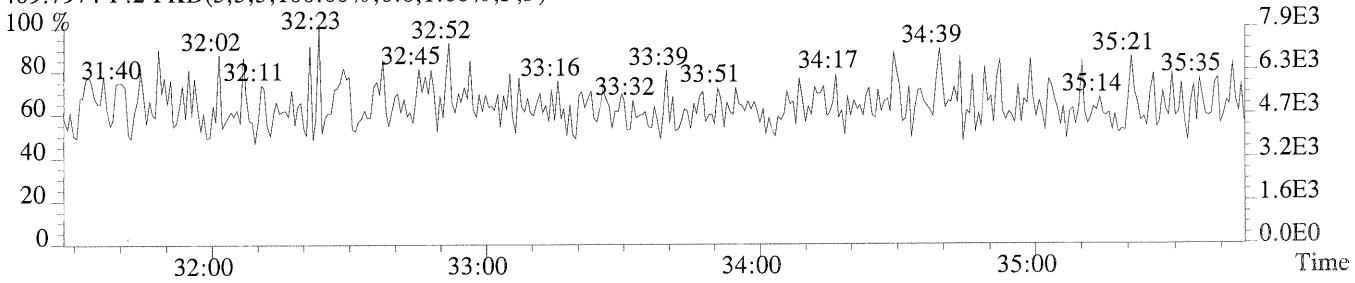
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,F)



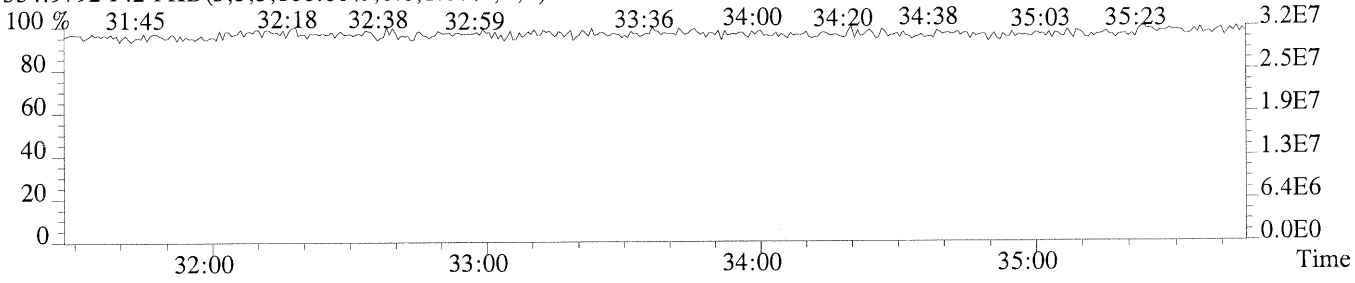
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1240.0,1.00%,F,F)



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

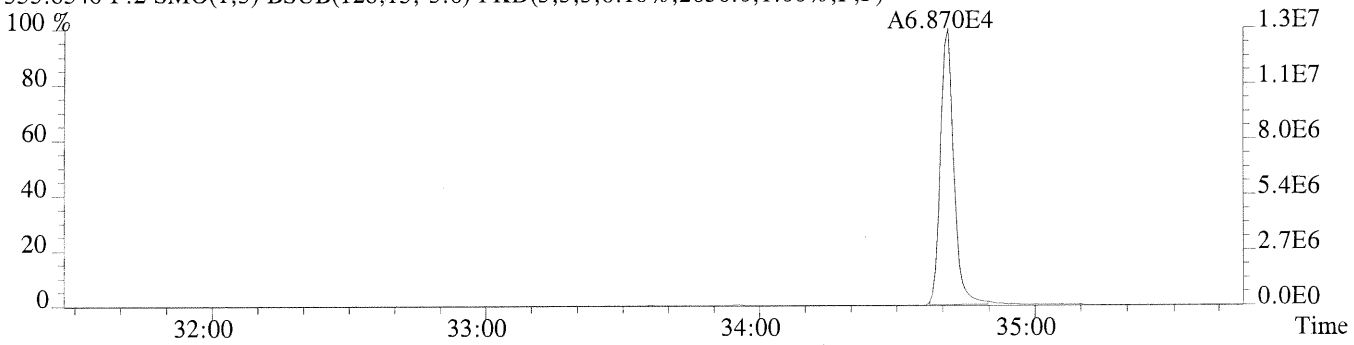


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

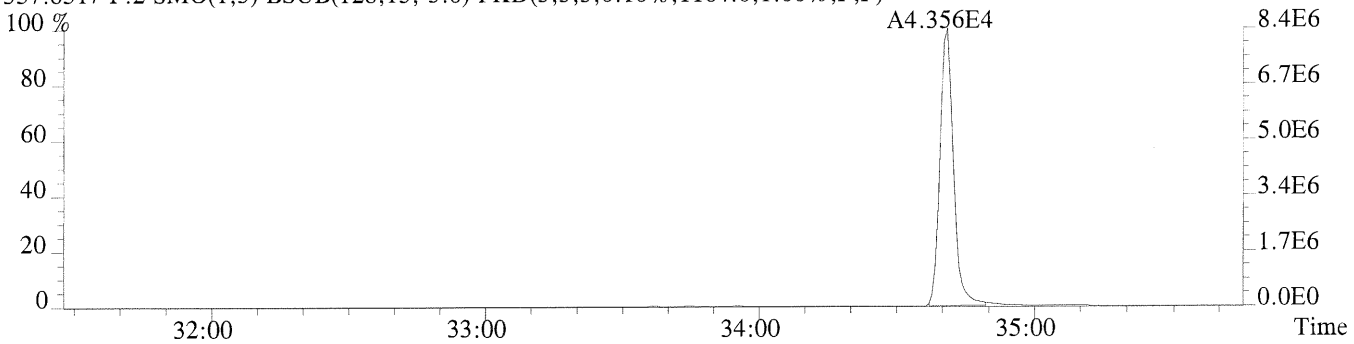


File:P100009 #1-390 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

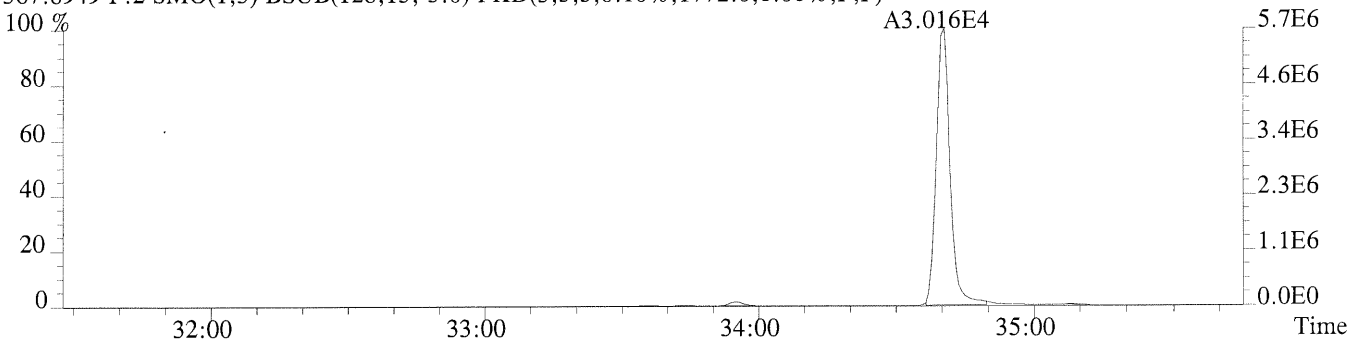
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2056.0,1.00%,F,F)



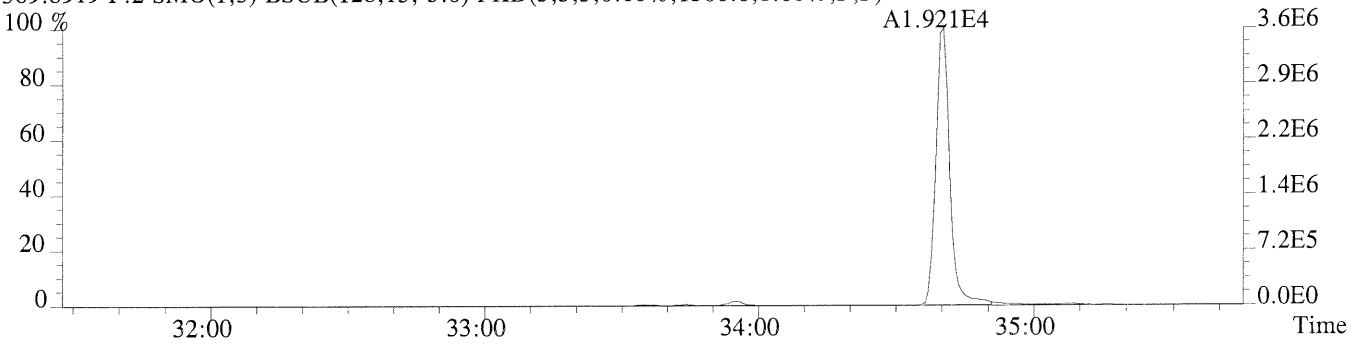
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,F)



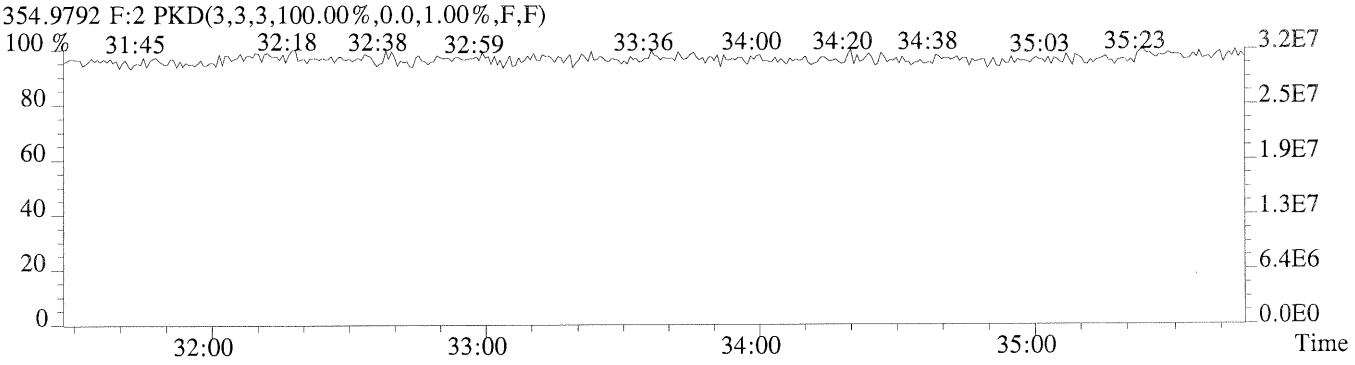
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1772.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1300.0,1.00%,F,F)

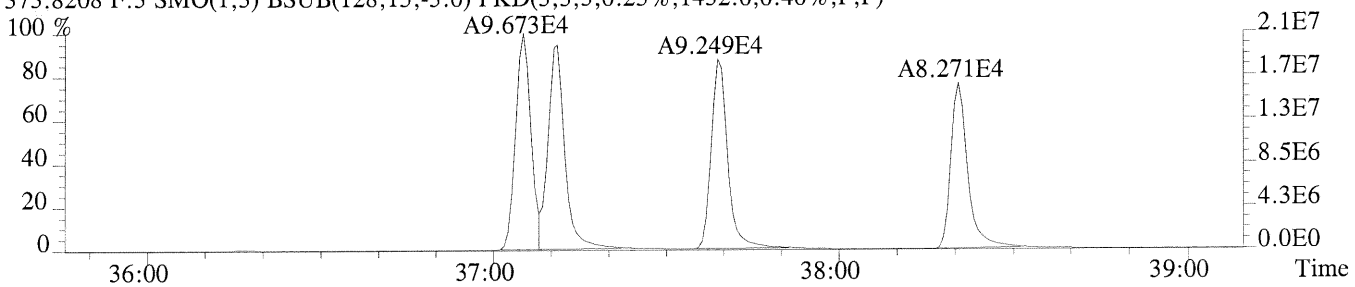


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

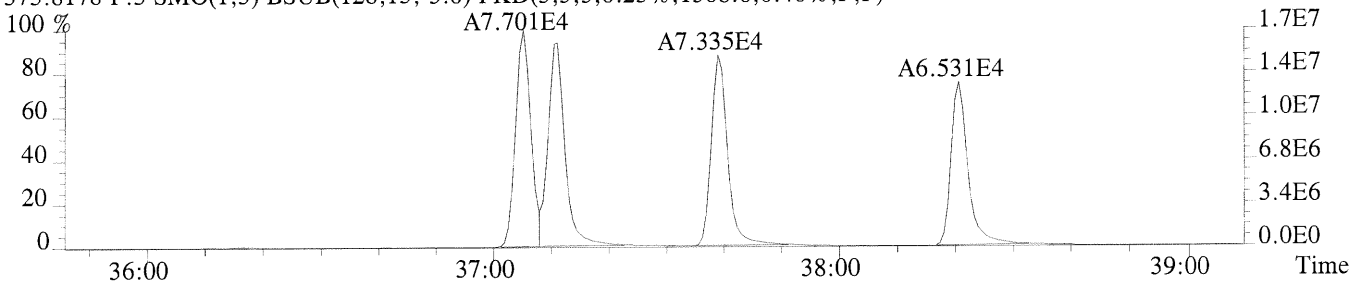


File:P100009 #1-309 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

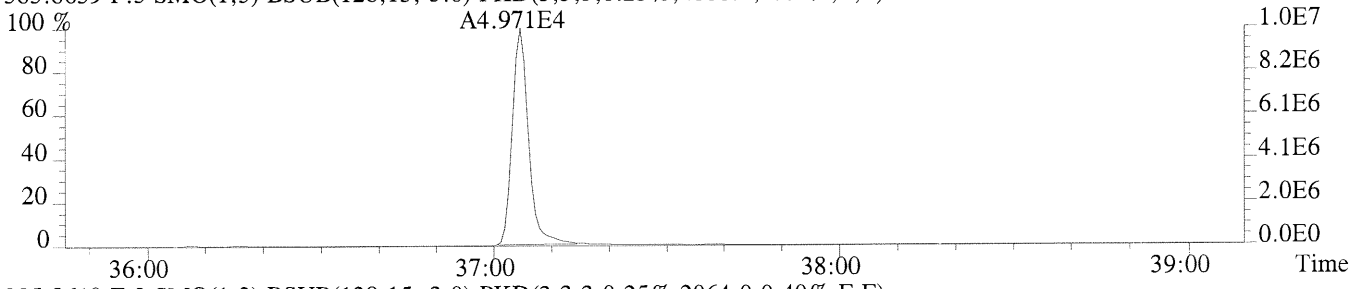
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,F)



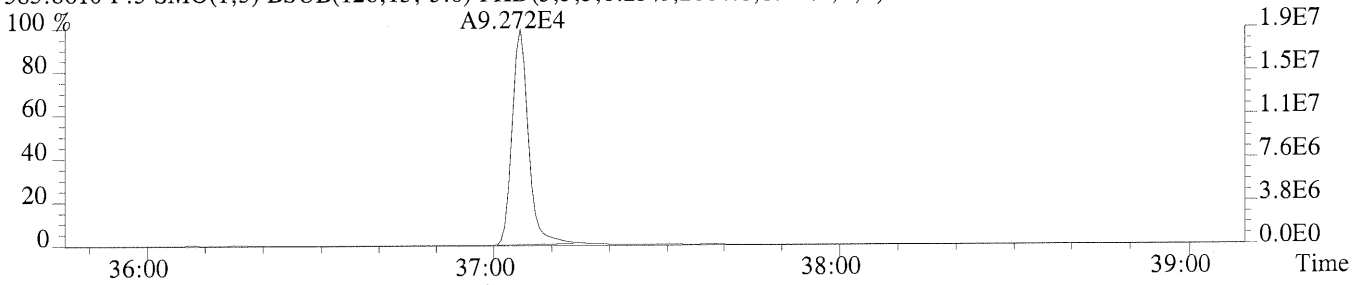
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1308.0,0.40%,F,F)



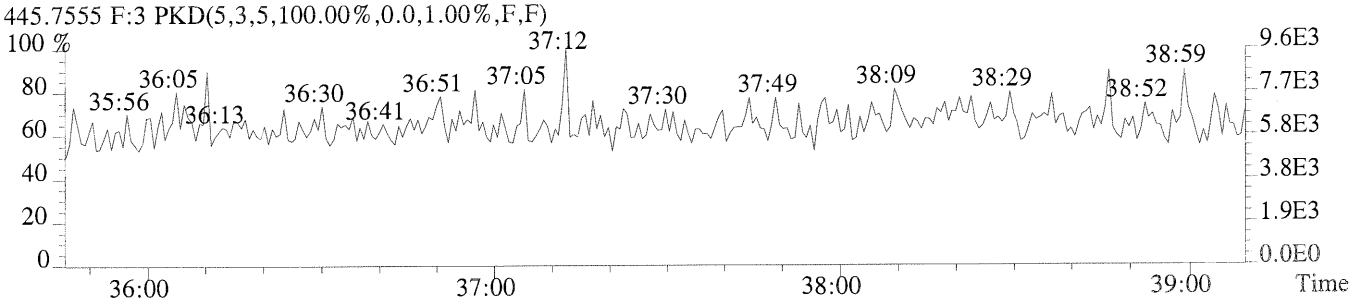
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,F)



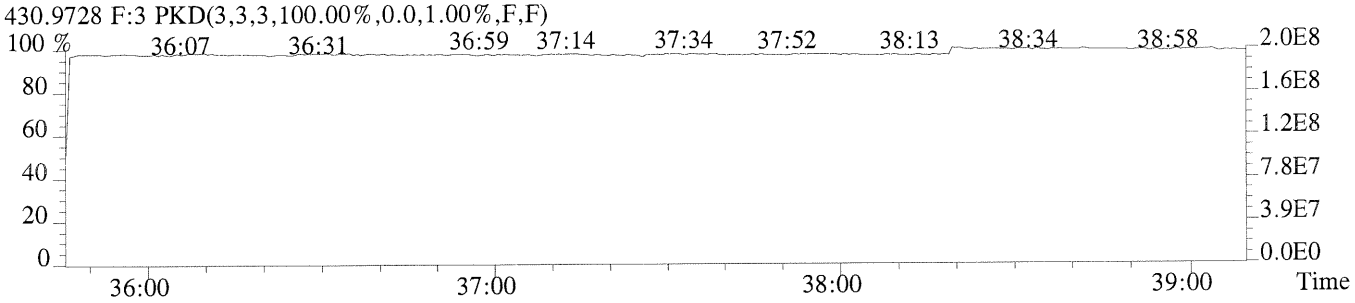
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2064.0,0.40%,F,F)



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

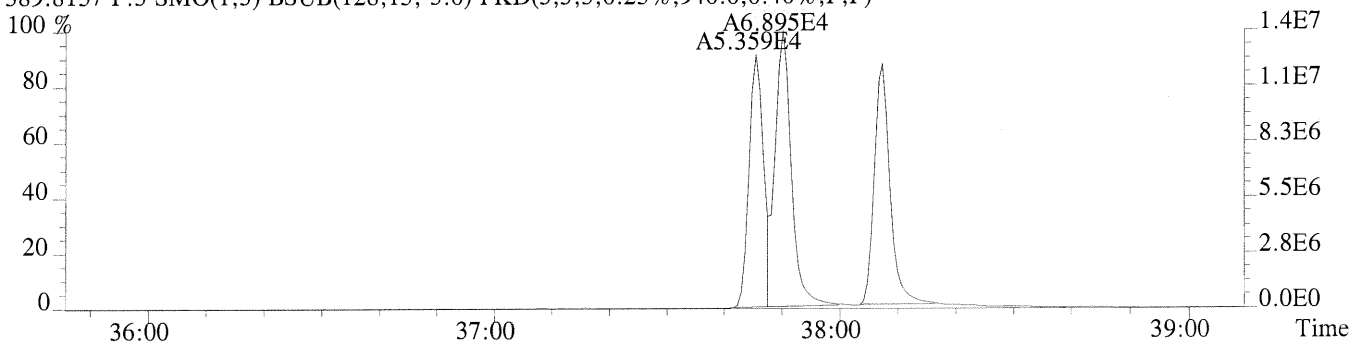


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

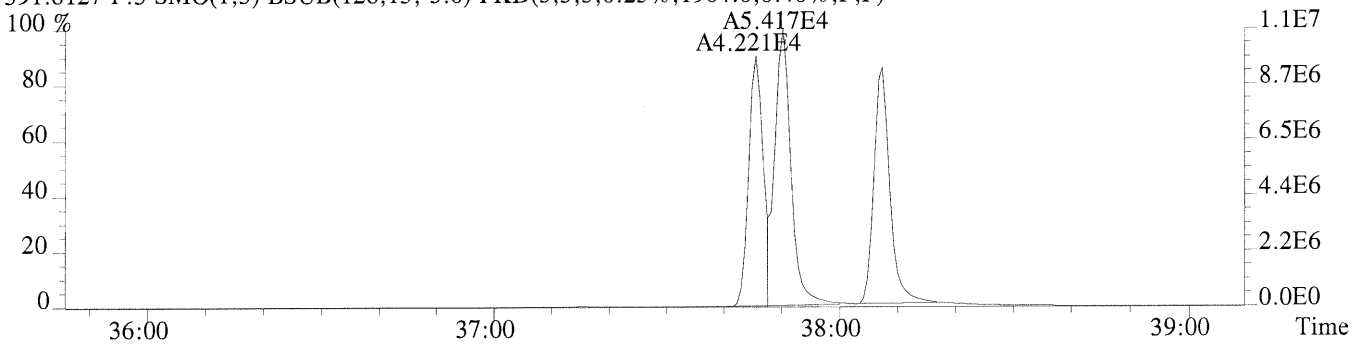


File:P100009 #1-309 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

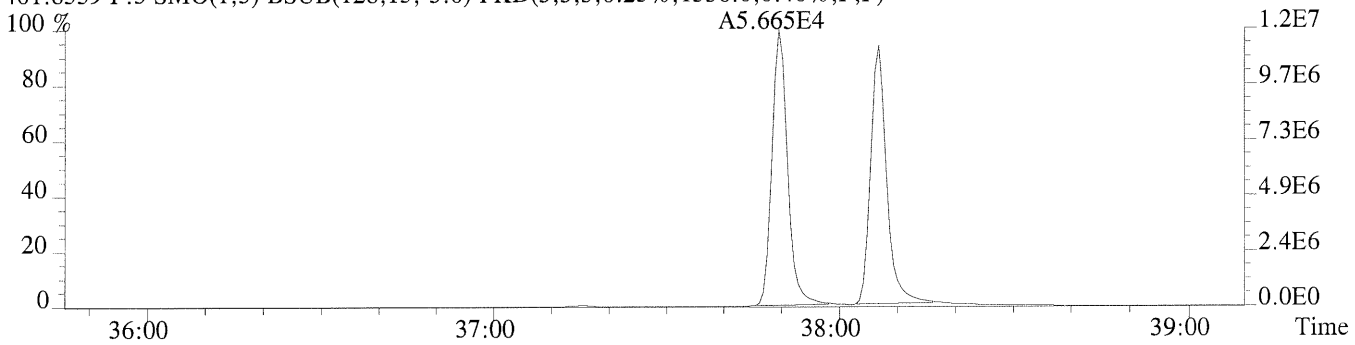
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,940.0,0.40%,F,F)



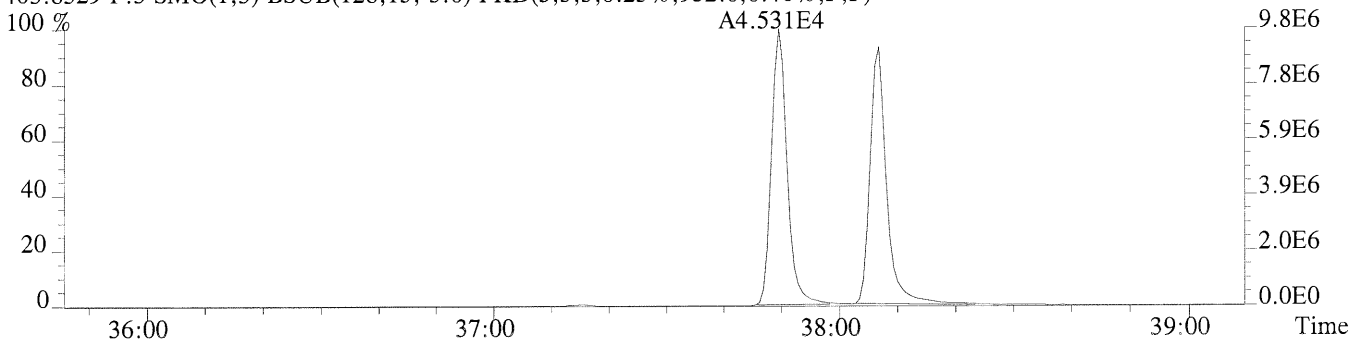
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1904.0,0.40%,F,F)



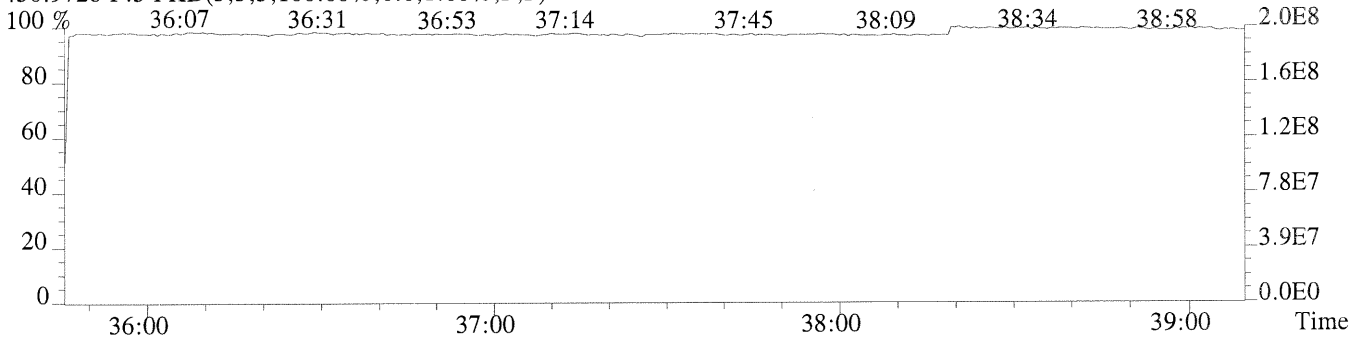
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1536.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,952.0,0.40%,F,F)

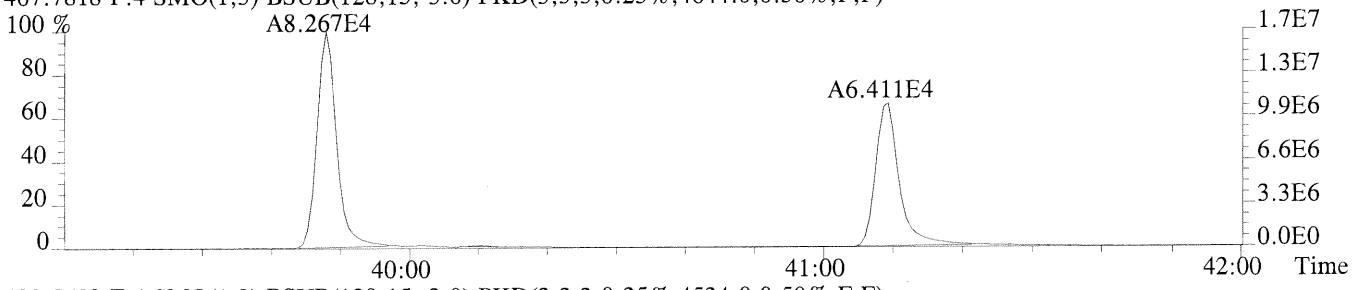


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

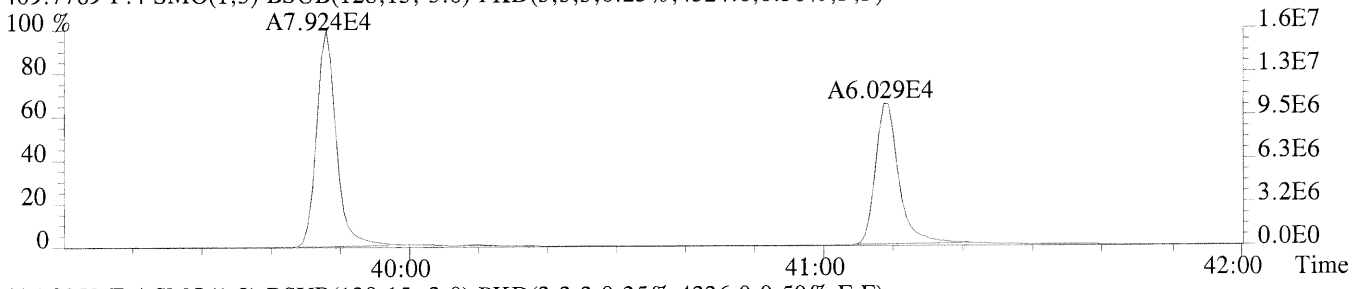


File:P100009 #1-258 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

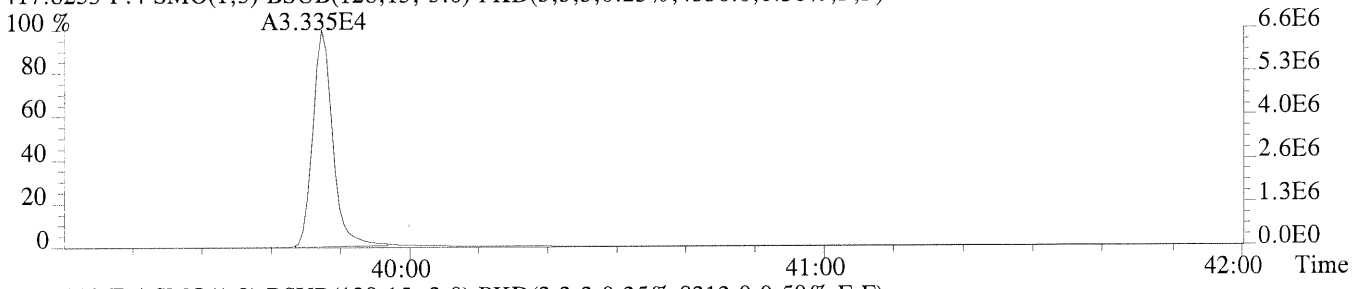
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4644.0,0.50%,F,F)



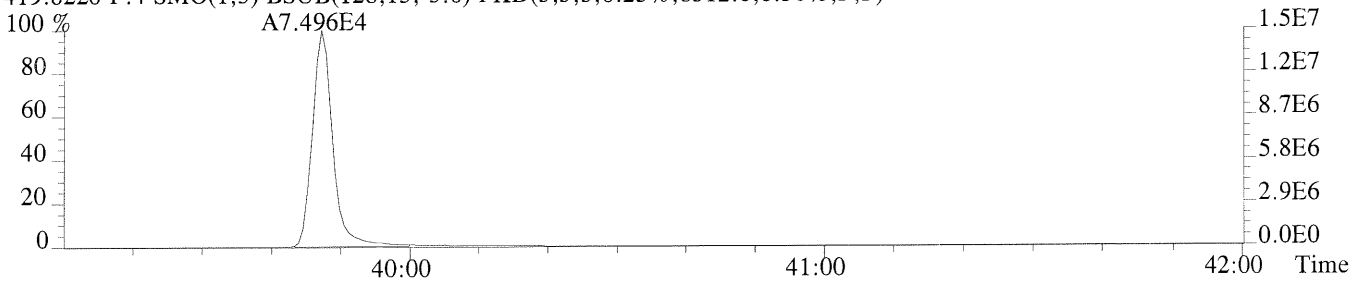
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4524.0,0.50%,F,F)



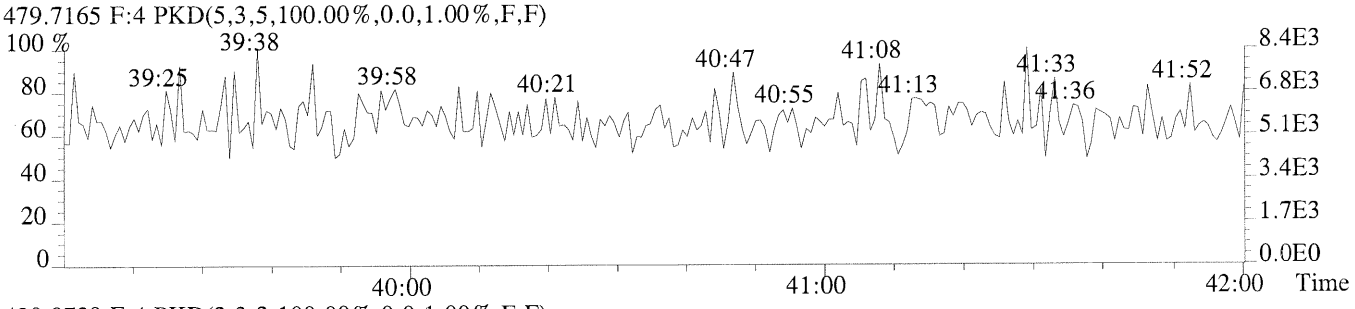
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4336.0,0.50%,F,F)



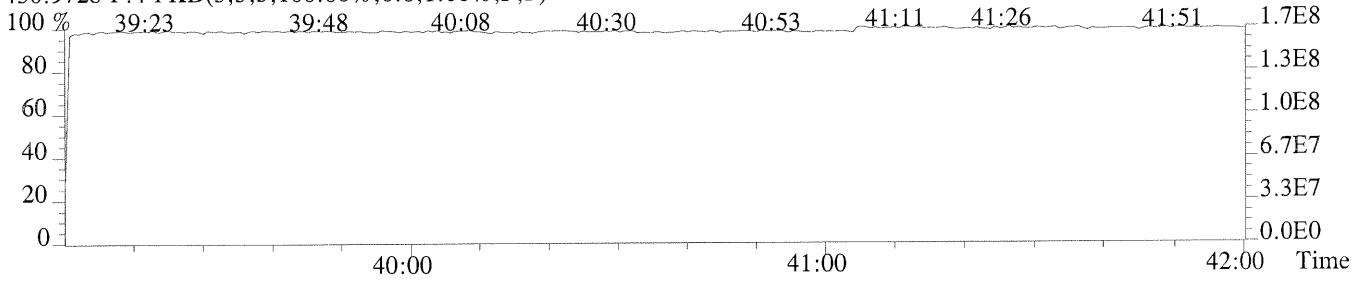
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8312.0,0.50%,F,F)



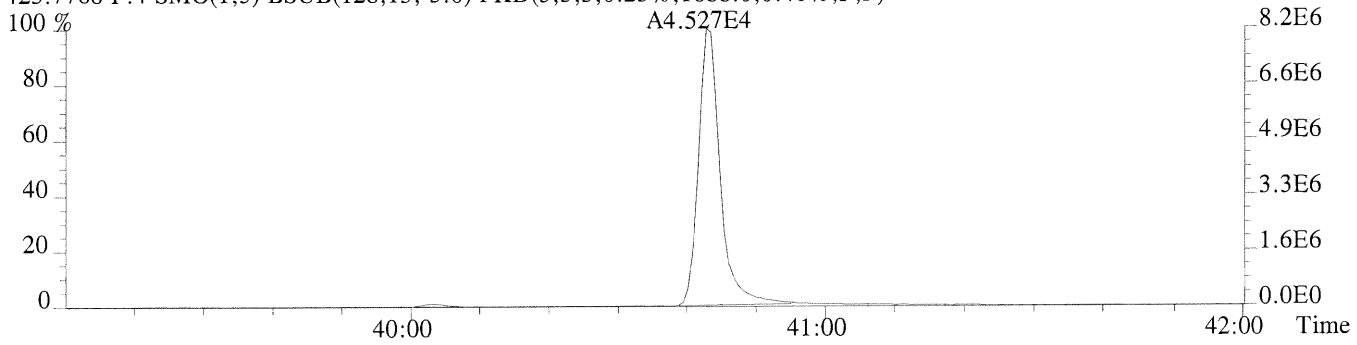
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



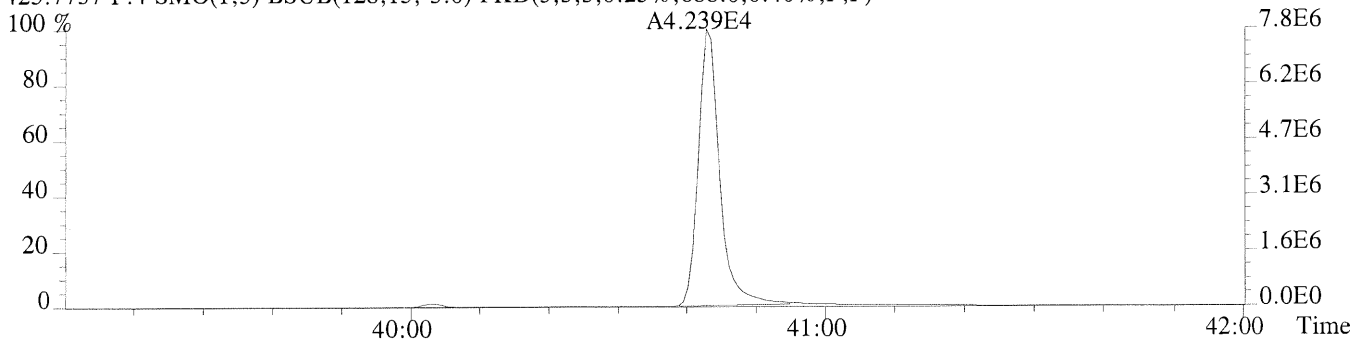
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



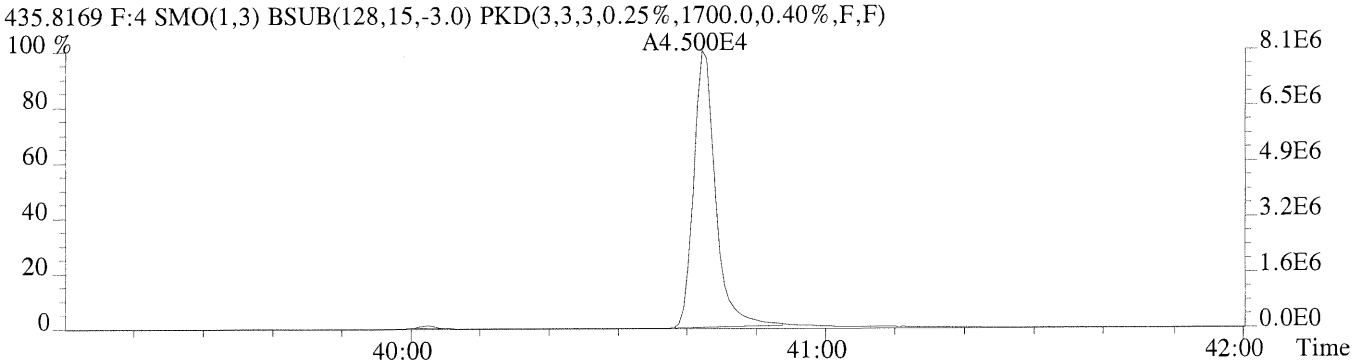
File:P100009 #1-258 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,F)



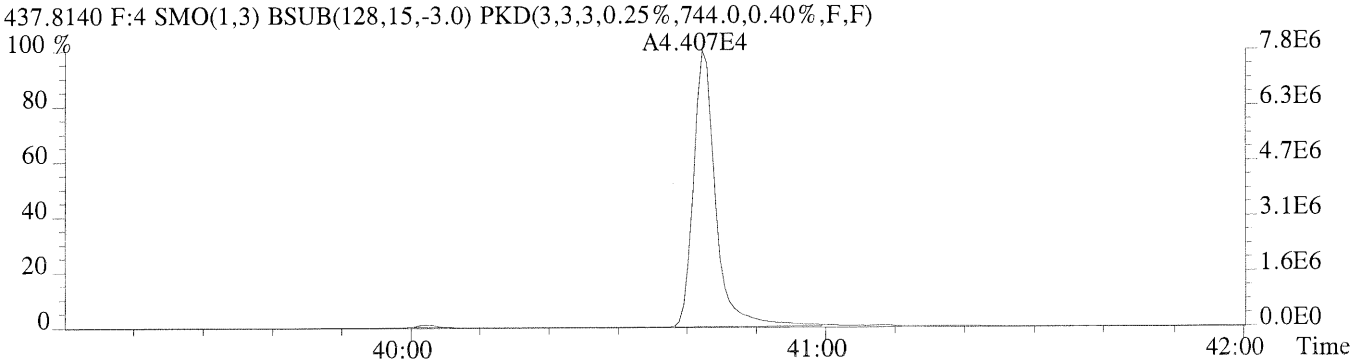
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,F)



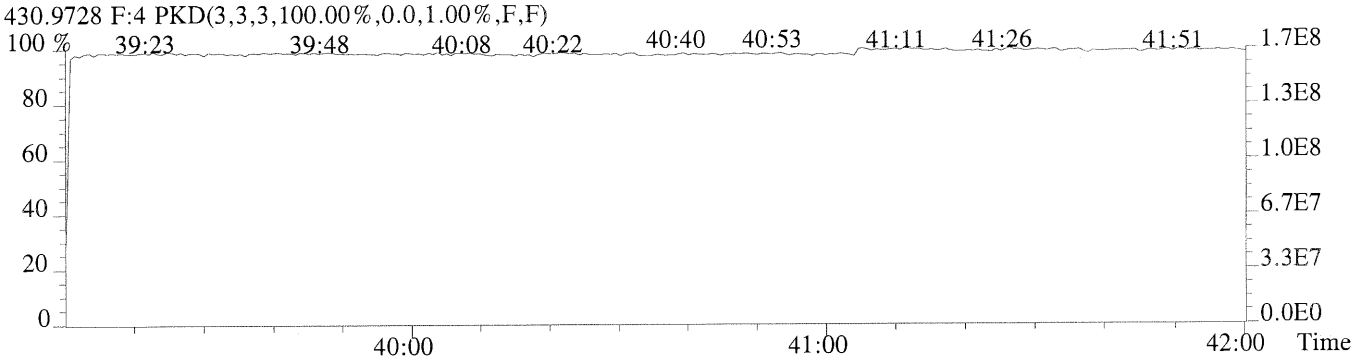
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.40%,F,F)



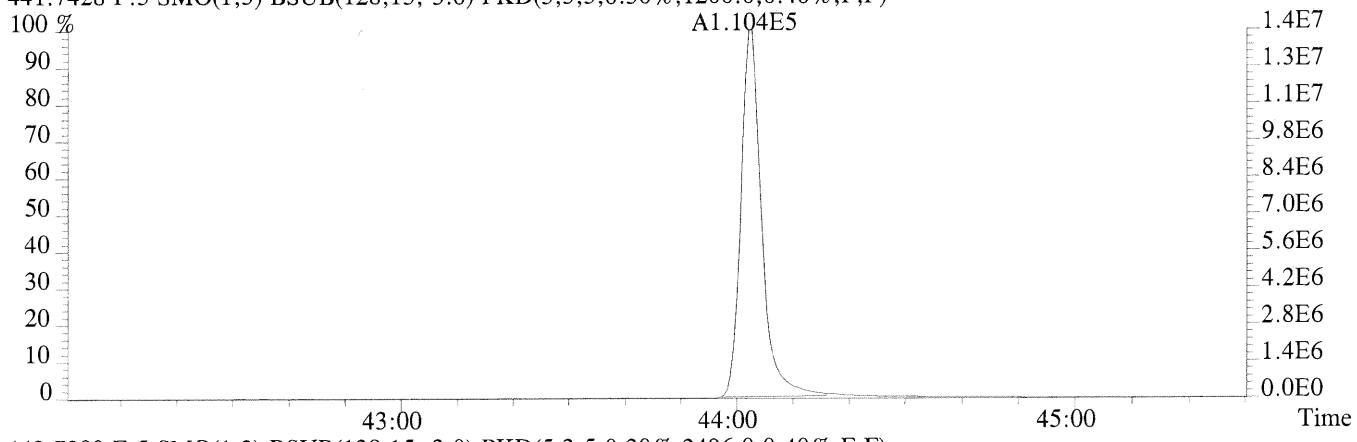
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,744.0,0.40%,F,F)



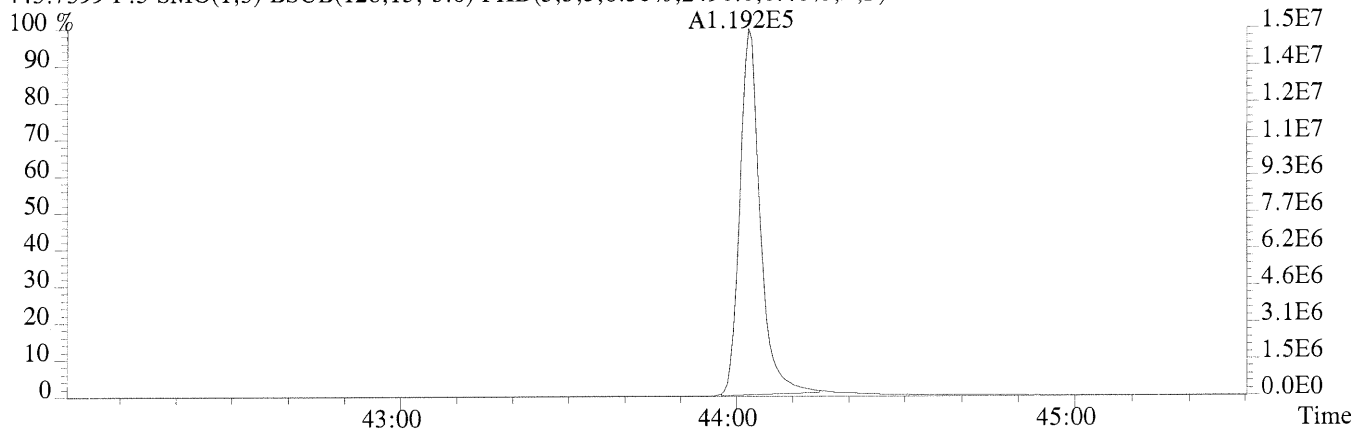
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



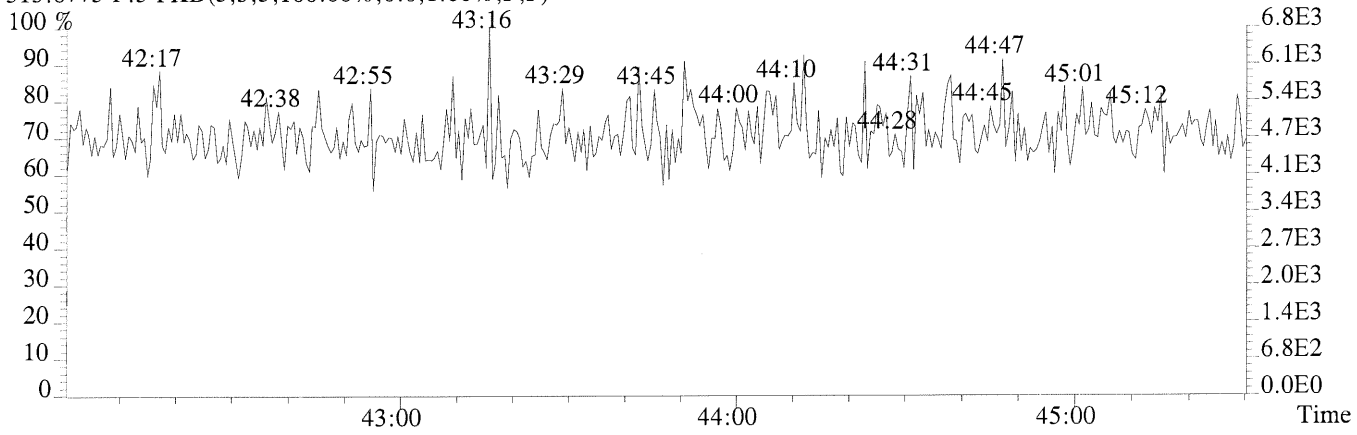
File:P100009 #1-386 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1200.0,0.40%,F,F)



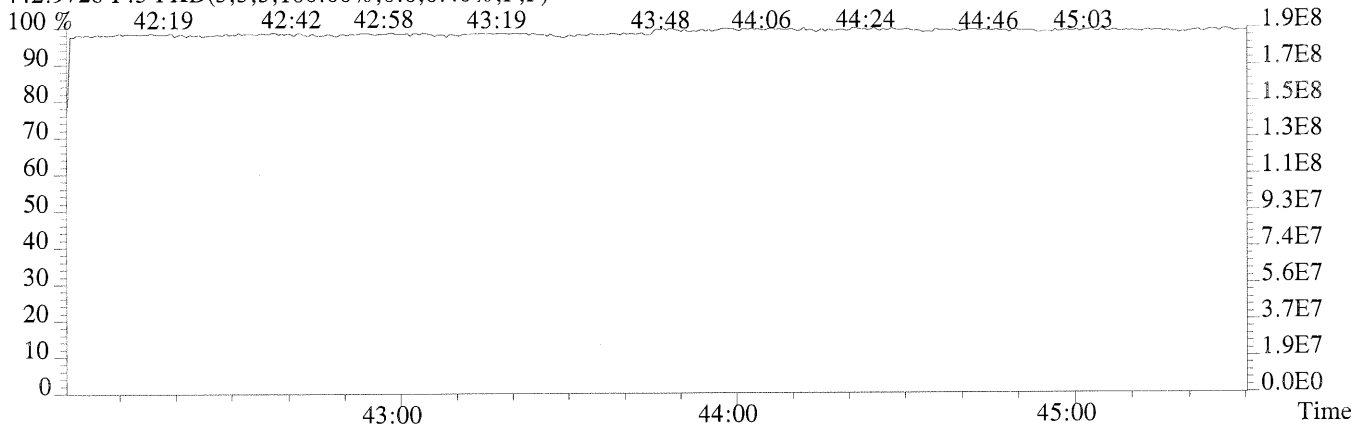
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2496.0,0.40%,F,F)



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

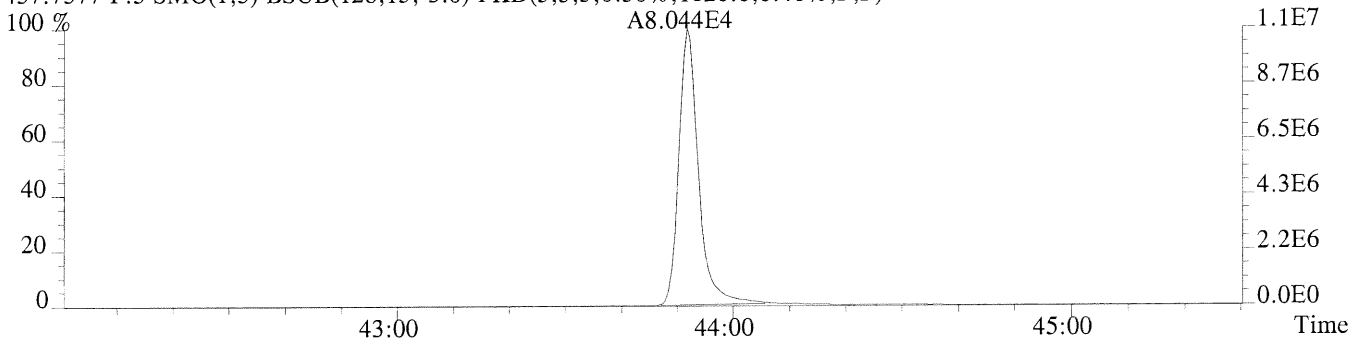


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

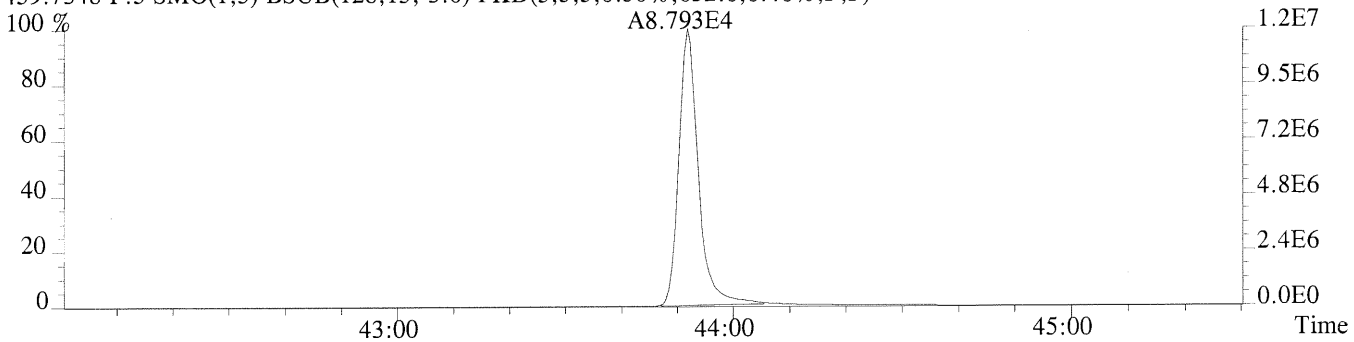


File:P100009 #1-386 Acq: 2-JUL-2008 13:43:26 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

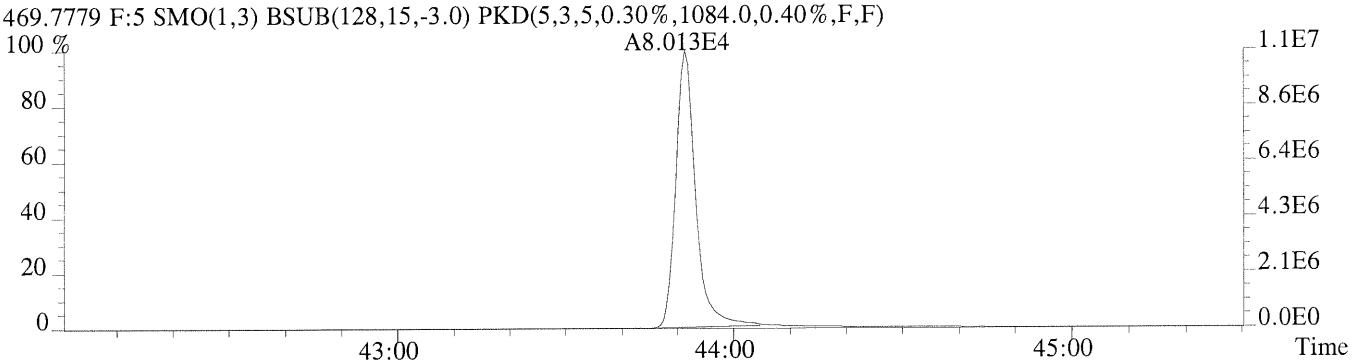
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1120.0,0.40%,F,F)



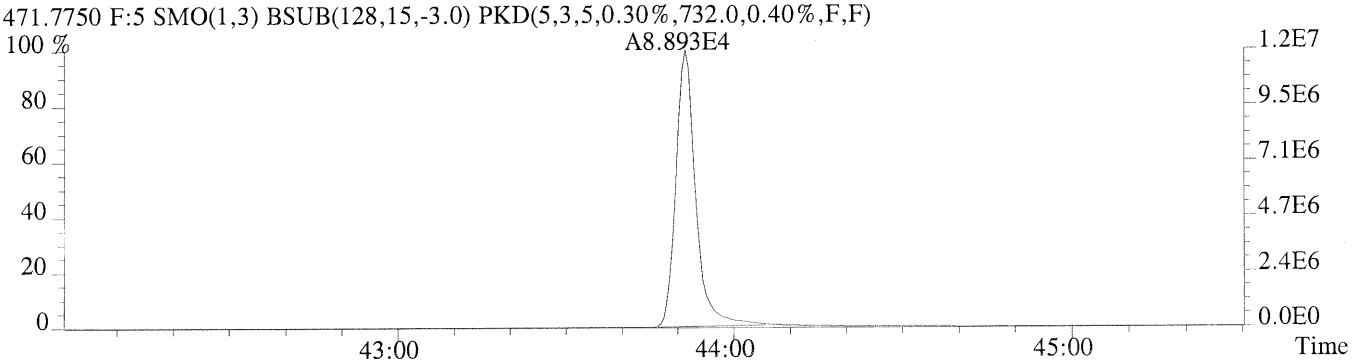
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,632.0,0.40%,F,F)



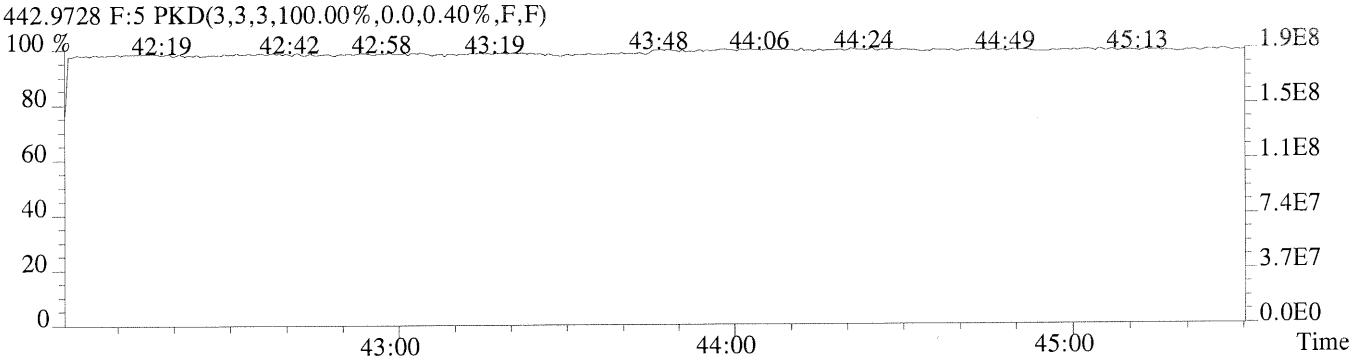
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1084.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,732.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename P100010 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 14:37:42
Processed: 3-JUL-08 14:49:03 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	29:28	1.232e+05	1.551e+05	0.79	yes	no	0.98
2	Unk	1,2,3,7,8-PeCDF	33:38	4.342e+05	2.702e+05	1.61	yes	no	0.97
3	Unk	2,3,4,7,8-PeCDF	34:20	4.435e+05	2.758e+05	1.61	yes	no	1.00
4	Unk	1,2,3,4,7,8-HxCDF	37:05	3.776e+05	2.987e+05	1.26	yes	no	1.22
5	Unk	1,2,3,6,7,8-HxCDF	37:11	4.242e+05	3.344e+05	1.27	yes	no	1.31
6	Unk	2,3,4,6,7,8-HxCDF	37:40	3.706e+05	2.939e+05	1.26	yes	no	1.15
7	Unk	1,2,3,7,8,9-HxCDF	38:21	3.319e+05	2.601e+05	1.28	yes	no	1.06
8	Unk	1,2,3,4,6,7,8-HpCDF	39:48	3.304e+05	3.138e+05	1.05	yes	no	1.55
9	Unk	1,2,3,4,7,8,9-HpCDF	41:09	2.505e+05	2.381e+05	1.05	yes	no	1.17
10	Unk	OCDF	44:03	4.267e+05	4.667e+05	0.91	yes	no	1.36
11	Unk	2,3,7,8-TCDD	30:16	9.037e+04	1.162e+05	0.78	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:41	2.750e+05	1.751e+05	1.57	yes	no	0.88
13	Unk	1,2,3,4,7,8-HxCDD	37:45	2.354e+05	1.852e+05	1.27	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:50	2.566e+05	2.008e+05	1.28	yes	no	1.13
15	Unk	1,2,3,7,8,9-HxCDD	38:07	2.364e+05	1.871e+05	1.26	yes	no	1.04
16	Unk	1,2,3,4,6,7,8-HpCDD	40:43	1.775e+05	1.662e+05	1.07	yes	no	1.02
17	Unk	OCDD	43:52	3.091e+05	3.433e+05	0.90	yes	no	1.02
18	IS	13C-2,3,7,8-TCDF	29:27	3.101e+04	3.885e+04	0.80	yes	no	1.41
19	IS	13C-1,2,3,7,8-PeCDF	33:37	4.216e+04	2.650e+04	1.59	yes	no	1.38
20	IS	13C-1,2,3,4,7,8-HxCDF	37:04	4.820e+04	8.904e+04	0.54	yes	no	1.35
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:47	3.243e+04	7.187e+04	0.45	yes	no	1.03
22	IS	13C-2,3,7,8-TCDD	30:14	2.413e+04	3.108e+04	0.78	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:40	2.961e+04	1.890e+04	1.57	yes	no	0.98
24	IS	13C-1,2,3,6,7,8-HxCDD	37:49	5.673e+04	4.535e+04	1.25	yes	no	0.99
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:43	4.304e+04	4.172e+04	1.03	yes	no	0.85
26	IS	13C-OCDD	43:52	7.619e+04	8.423e+04	0.90	yes	no	0.79
27	RS/RT	13C-1,2,3,4-TCDD	30:03	2.109e+04	2.675e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	38:07	5.652e+04	4.467e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	30:16	2.092e+05					1.01

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC5

Run #5 Filename P100010 #1 Samp: 1 Inj: 1 Acquired: 2-JUL-08 14:37:42

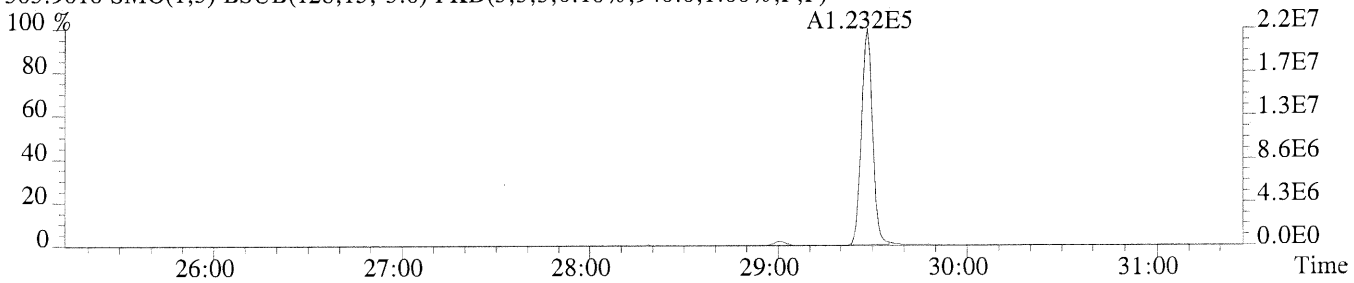
Processed: 3-JUL-08 14:49:03 LAB. ID:

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.15e+07	9.40e+02	2.3e+04	2.71e+07	2.02e+03	1.3e+04
2	1,2,3,7,8-PeCDF	8.29e+07	1.18e+03	7.0e+04	5.11e+07	2.26e+03	2.3e+04
3	2,3,4,7,8-PeCDF	8.97e+07	1.18e+03	7.6e+04	5.58e+07	2.26e+03	2.5e+04
4	1,2,3,4,7,8-HxCDF	8.52e+07	2.29e+03	3.7e+04	6.71e+07	1.83e+03	3.7e+04
5	1,2,3,6,7,8-HxCDF	8.44e+07	2.29e+03	3.7e+04	6.64e+07	1.83e+03	3.6e+04
6	2,3,4,6,7,8-HxCDF	7.51e+07	2.29e+03	3.3e+04	6.01e+07	1.83e+03	3.3e+04
7	1,2,3,7,8,9-HxCDF	6.67e+07	2.29e+03	2.9e+04	5.25e+07	1.83e+03	2.9e+04
8	1,2,3,4,6,7,8-HpCDF	6.71e+07	1.47e+04	4.6e+03	6.39e+07	1.52e+04	4.2e+03
9	1,2,3,4,7,8,9-HpCDF	4.59e+07	1.47e+04	3.1e+03	4.32e+07	1.52e+04	2.8e+03
10	OCDF	5.86e+07	1.74e+03	3.4e+04	6.32e+07	2.69e+03	2.3e+04
11	2,3,7,8-TCDD	1.66e+07	1.64e+03	1.0e+04	2.14e+07	1.10e+03	1.9e+04
12	1,2,3,7,8-PeCDD	5.55e+07	2.56e+03	2.2e+04	3.52e+07	1.22e+03	2.9e+04
13	1,2,3,4,7,8-HxCDD	5.19e+07	6.76e+02	7.7e+04	4.07e+07	1.21e+03	3.4e+04
14	1,2,3,6,7,8-HxCDD	5.46e+07	6.76e+02	8.1e+04	4.30e+07	1.21e+03	3.6e+04
15	1,2,3,7,8,9-HxCDD	4.94e+07	6.76e+02	7.3e+04	3.87e+07	1.21e+03	3.2e+04
16	1,2,3,4,6,7,8-HpCDD	3.34e+07	2.52e+03	1.3e+04	3.09e+07	1.22e+03	2.5e+04
17	OCDD	4.28e+07	1.30e+03	3.3e+04	4.73e+07	9.12e+02	5.2e+04
18	13C-2,3,7,8-TCDF	5.29e+06	4.12e+03	1.3e+03	6.69e+06	2.89e+03	2.3e+03
19	13C-1,2,3,7,8-PeCDF	7.93e+06	1.16e+03	6.8e+03	4.96e+06	1.24e+03	4.0e+03
20	13C-1,2,3,4,7,8-HxCDF	9.99e+06	1.36e+03	7.4e+03	1.85e+07	1.97e+03	9.4e+03
21	13C-1,2,3,4,6,7,8-HpCDF	6.42e+06	5.18e+03	1.2e+03	1.43e+07	3.60e+03	4.0e+03
22	13C-2,3,7,8-TCDD	4.35e+06	5.48e+03	7.9e+02	5.66e+06	1.72e+03	3.3e+03
23	13C-1,2,3,7,8-PeCDD	5.82e+06	2.12e+03	2.8e+03	3.69e+06	1.49e+03	2.5e+03
24	13C-1,2,3,6,7,8-HxCDD	1.20e+07	1.29e+03	9.3e+03	9.73e+06	1.59e+03	6.1e+03
25	13C-1,2,3,4,6,7,8-HpCDD	8.05e+06	1.98e+03	4.1e+03	7.64e+06	1.49e+03	5.1e+03
26	13C-OCDD	1.04e+07	1.18e+03	8.8e+03	1.14e+07	9.92e+02	1.1e+04
27	13C-1,2,3,4-TCDD	3.94e+06	5.48e+03	7.2e+02	4.95e+06	1.72e+03	2.9e+03
28	13C-1,2,3,7,8,9-HxCDD	1.15e+07	1.29e+03	8.9e+03	9.28e+06	1.59e+03	5.8e+03
29	37Cl-2,3,7,8-TCDD	3.82e+07	1.41e+03	2.7e+04			

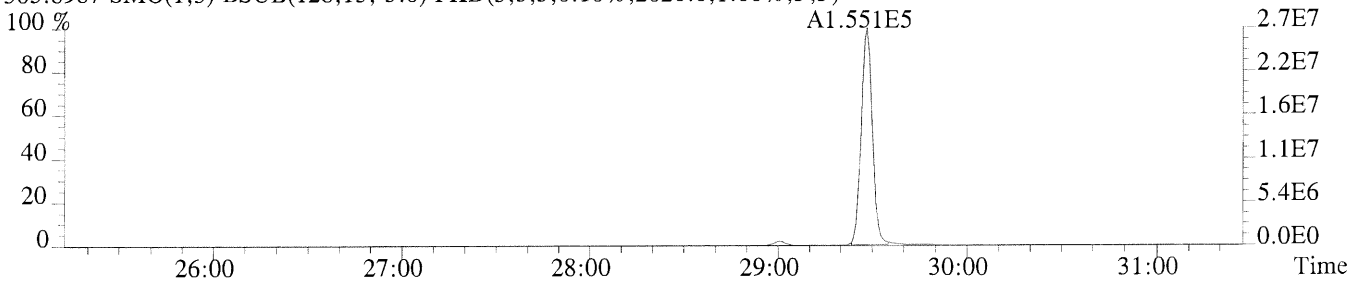
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P100010 #1-521 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

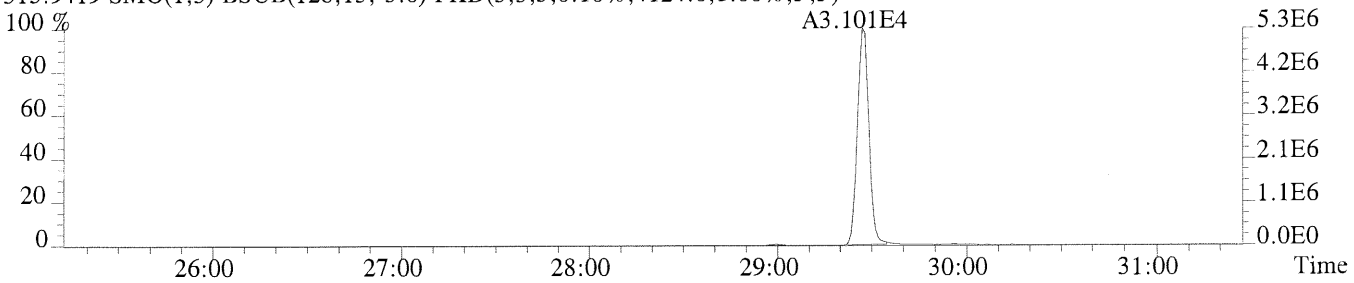
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,F)



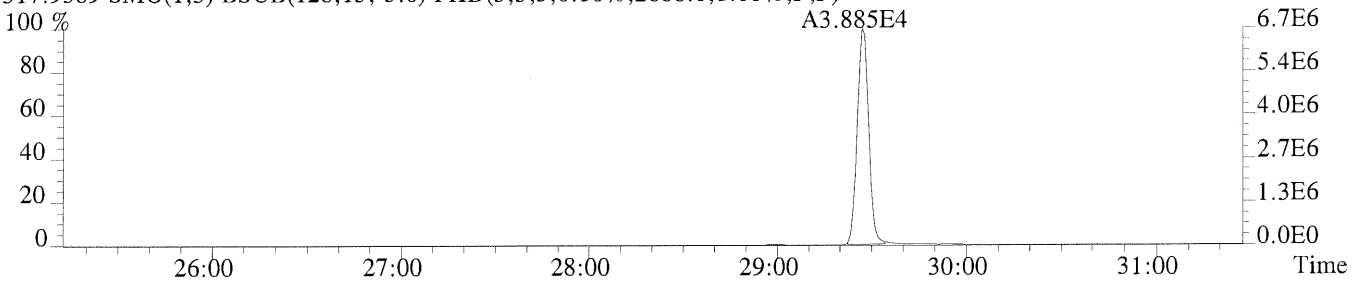
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2020.0,1.00%,F,F)



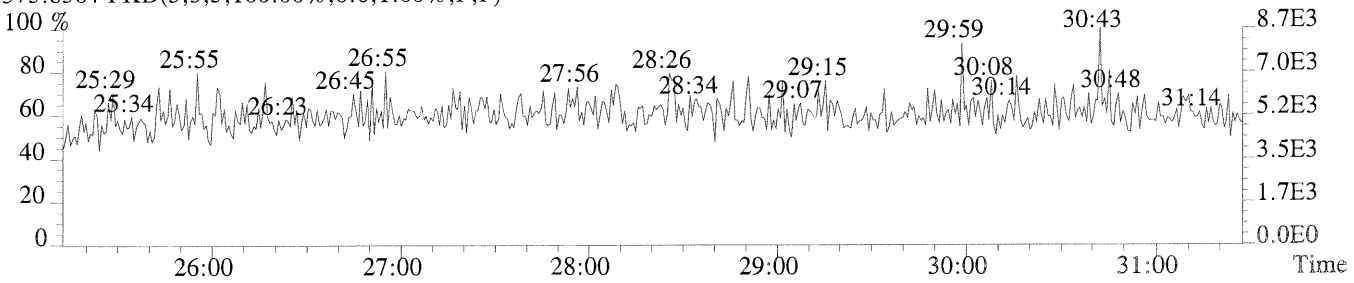
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4124.0,1.00%,F,F)



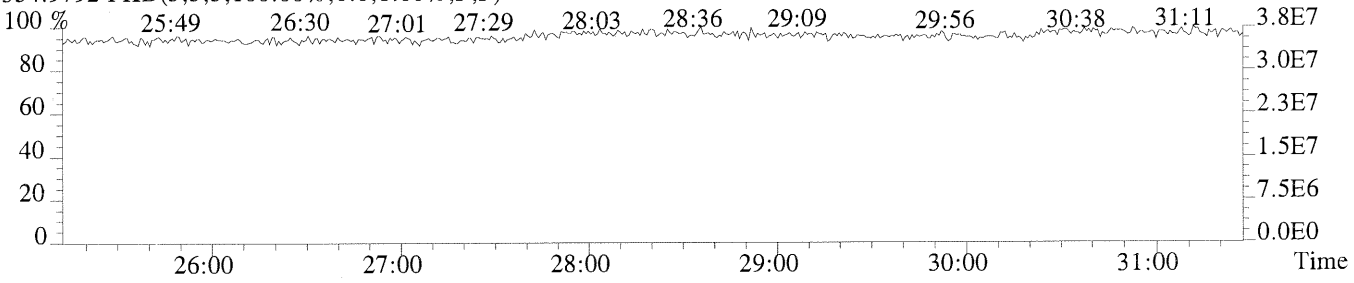
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2888.0,1.00%,F,F)



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

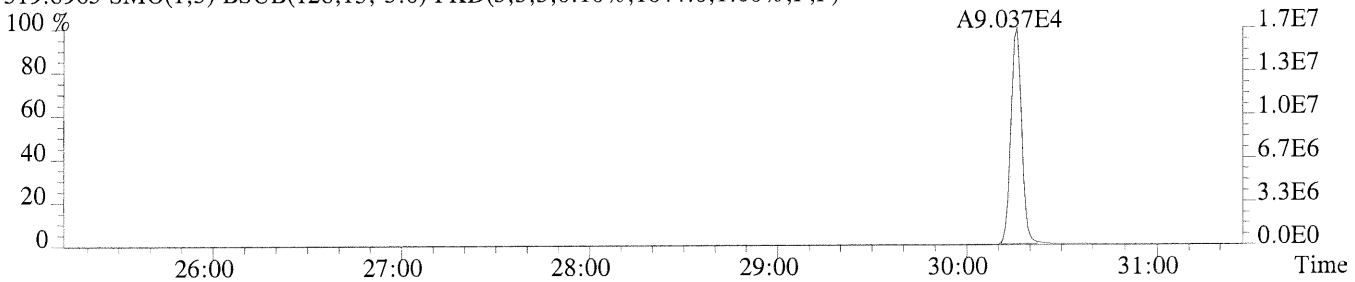


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

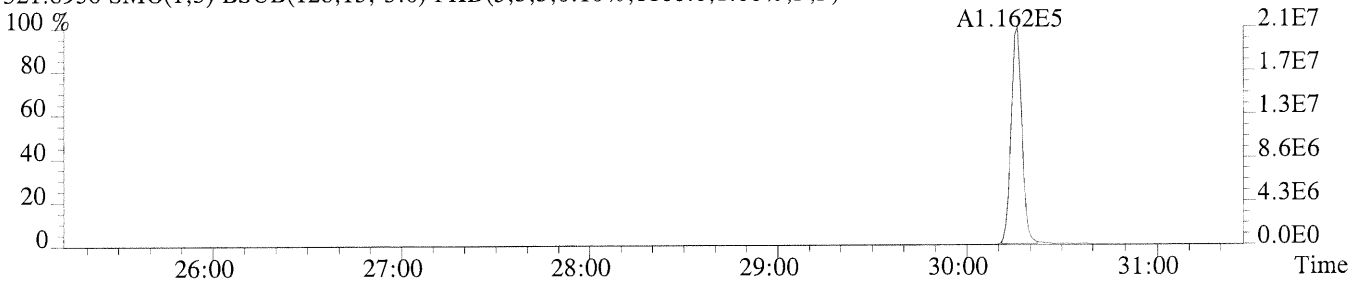


File:P100010 #1-521 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

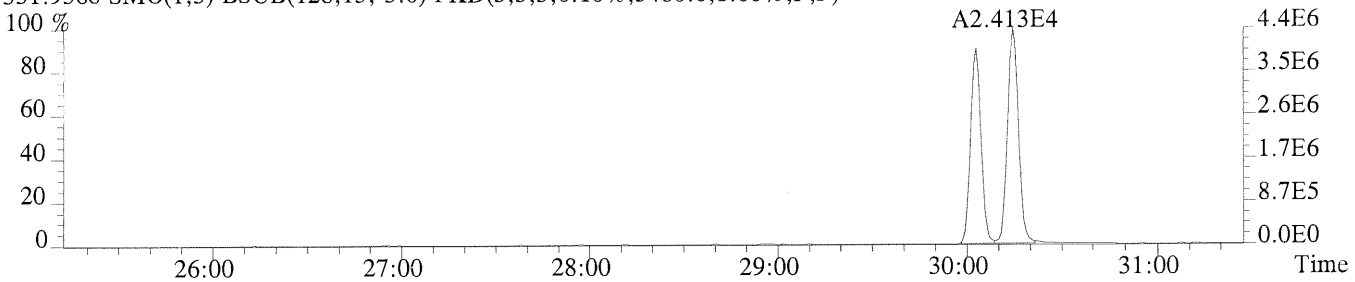
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1644.0,1.00%,F,F)



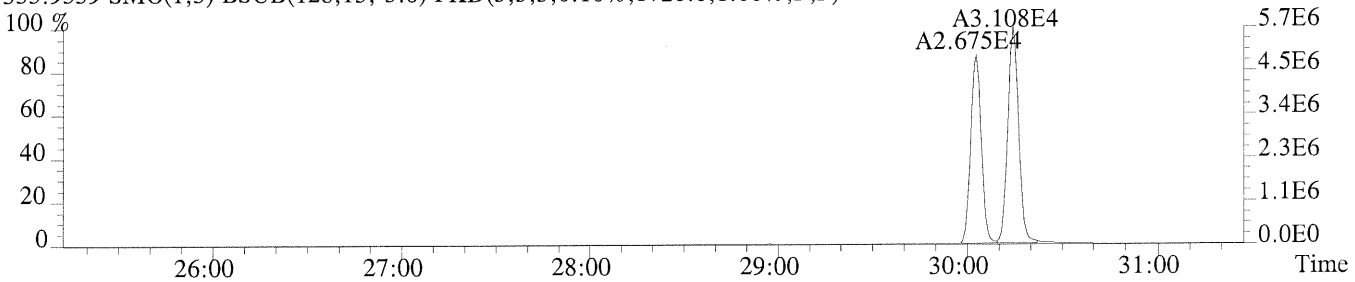
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1100.0,1.00%,F,F)



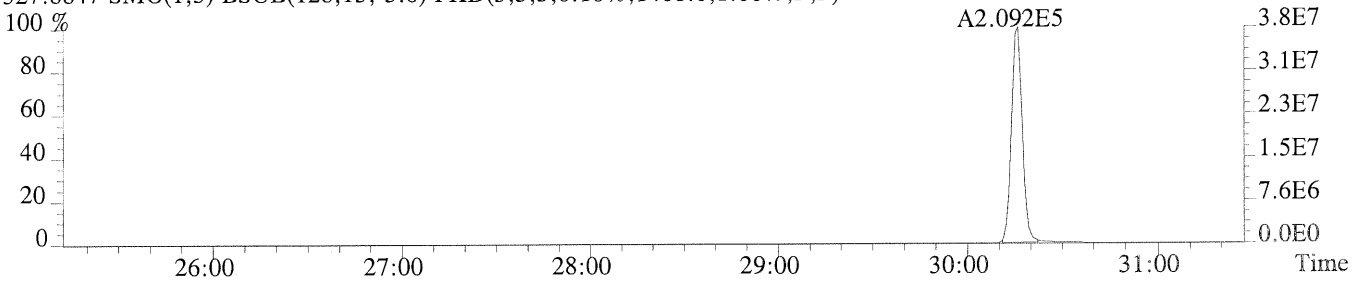
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5480.0,1.00%,F,F)



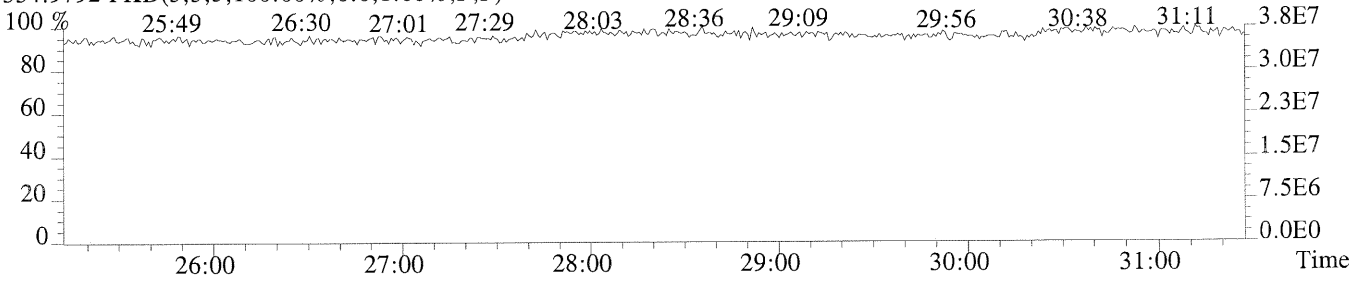
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1408.0,1.00%,F,F)

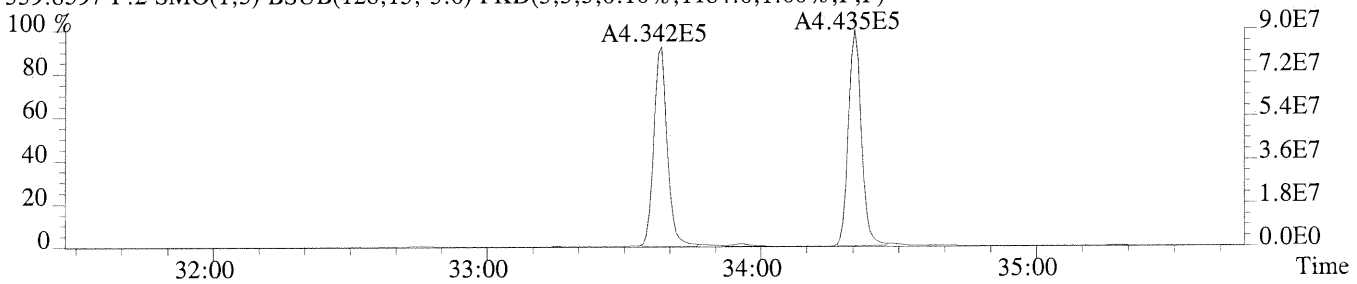


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

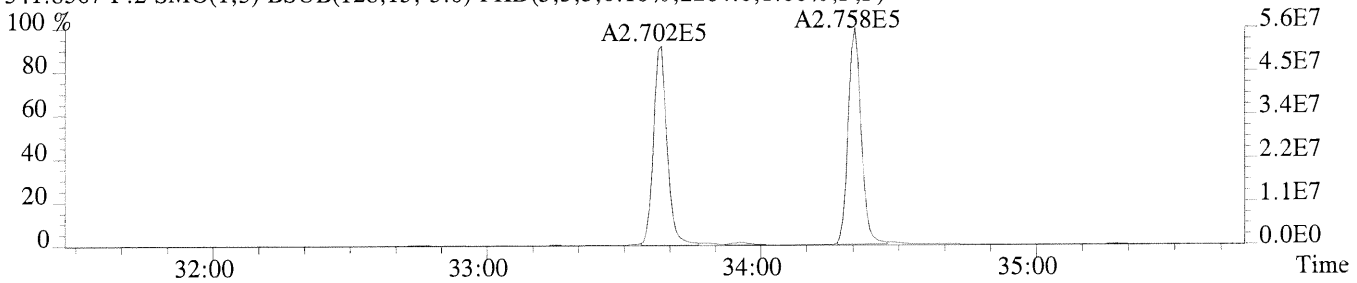


File:P100010 #1-390 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

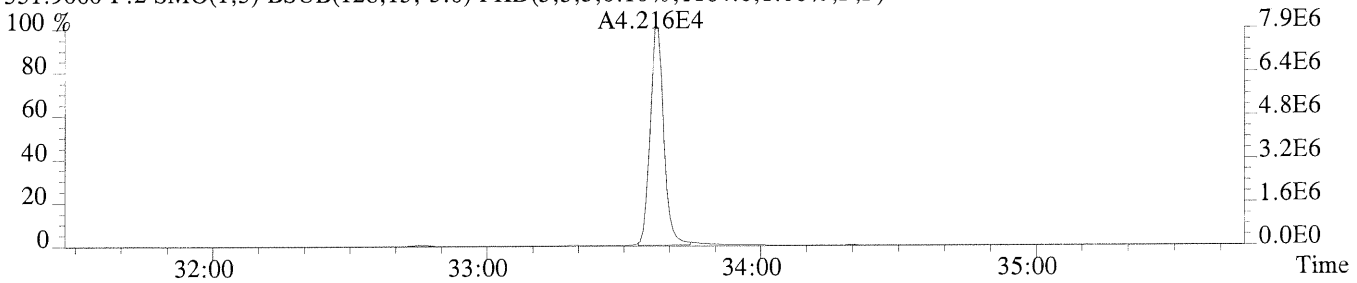
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1184.0,1.00%,F,F)



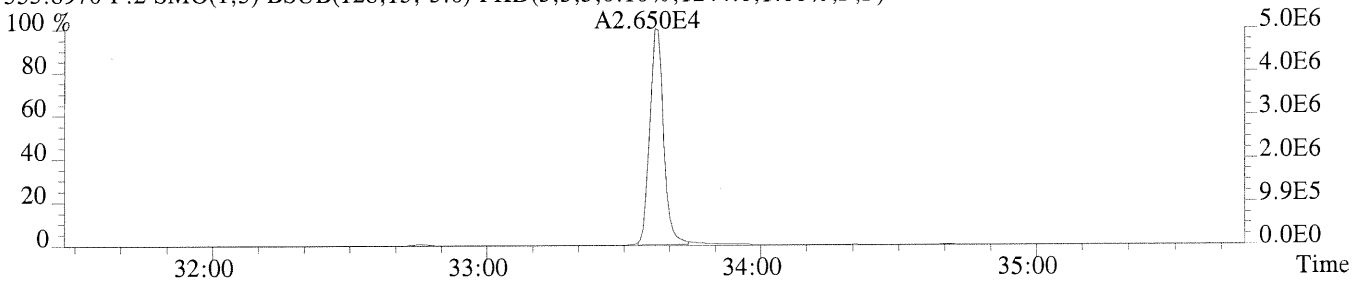
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2264.0,1.00%,F,F)



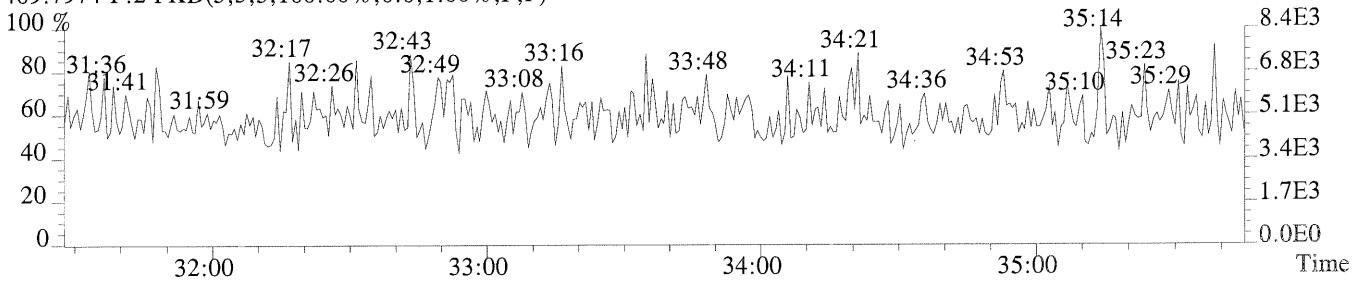
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,F)



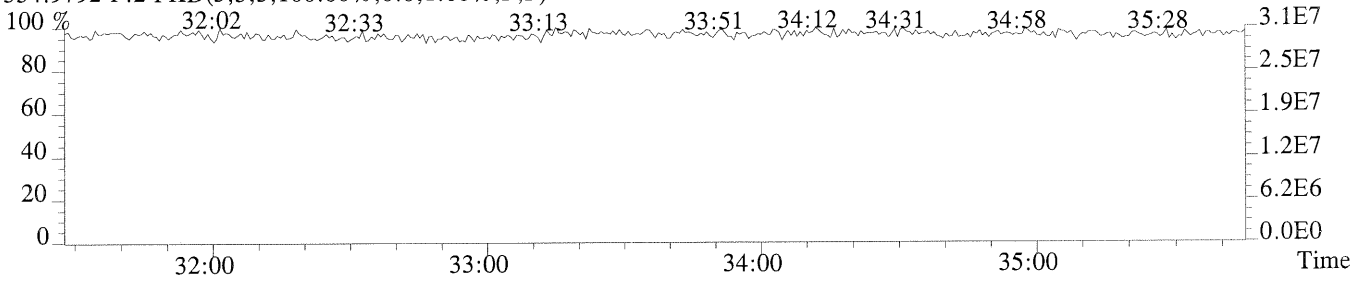
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1244.0,1.00%,F,F)



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

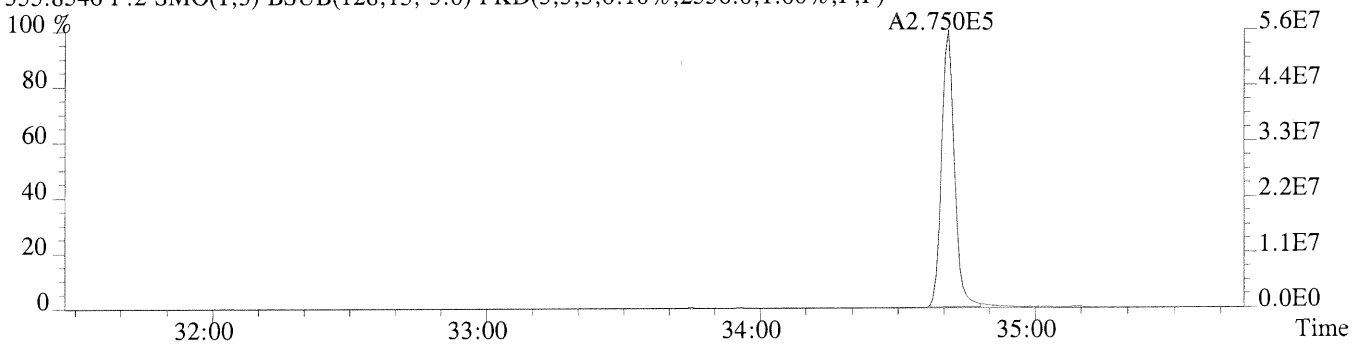


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

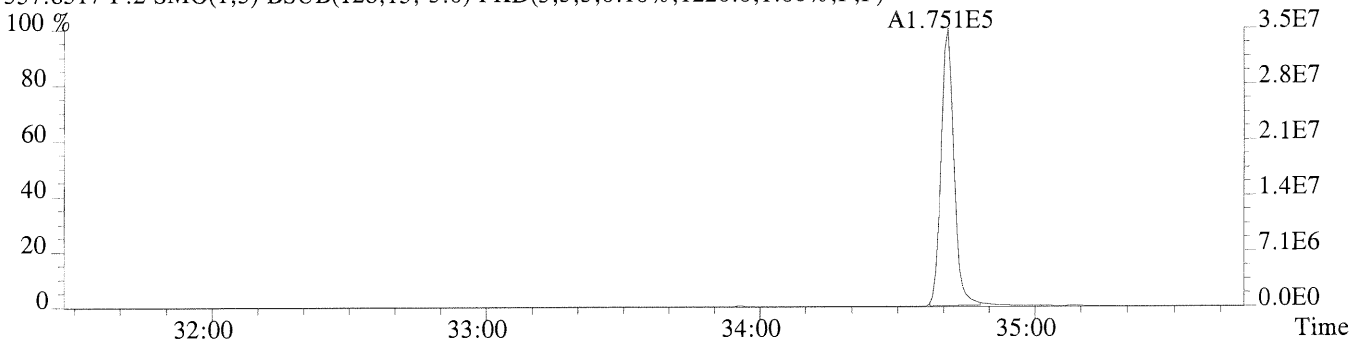


File:P100010 #1-390 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

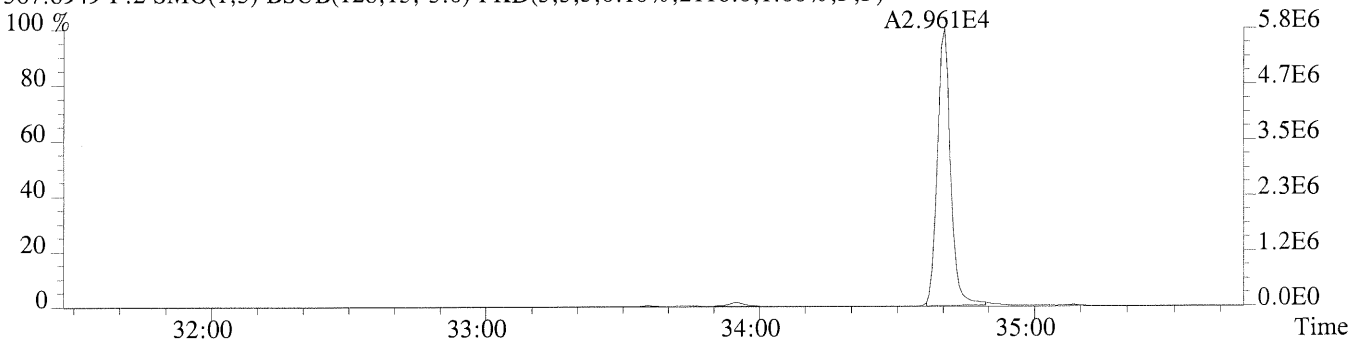
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2556.0,1.00%,F,F)



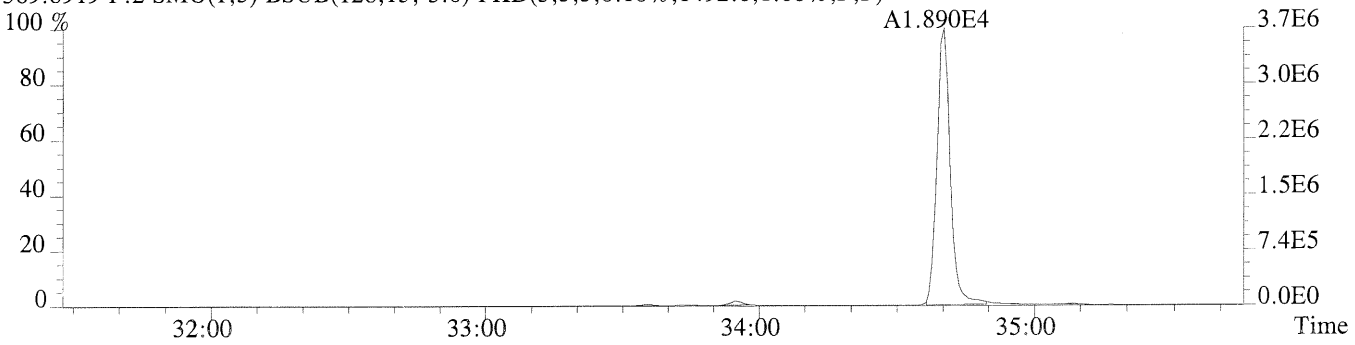
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1220.0,1.00%,F,F)



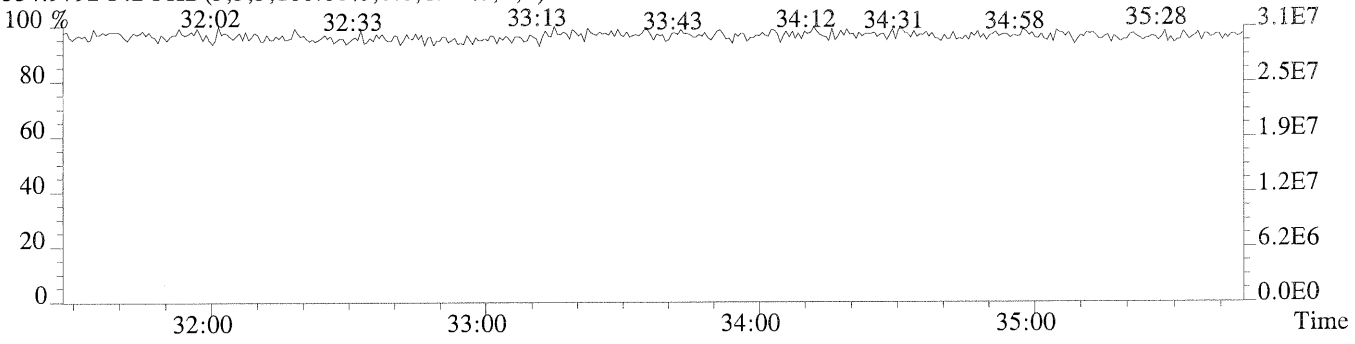
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2116.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1492.0,1.00%,F,F)

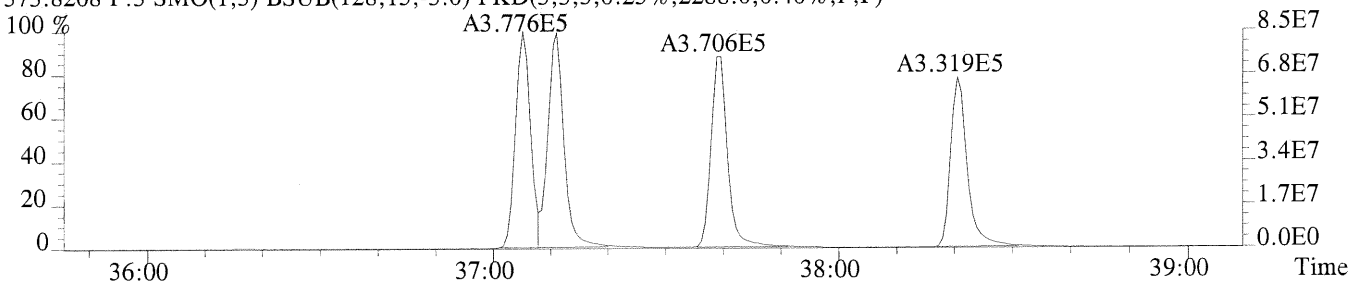


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

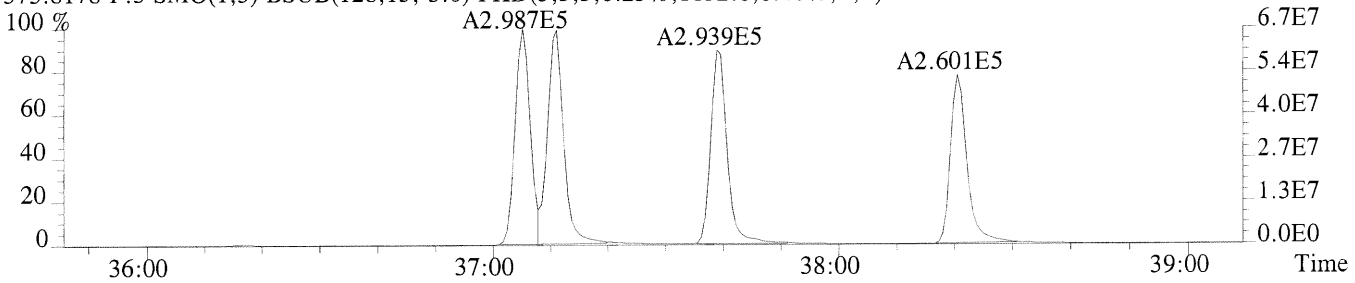


File:P100010 #1-309 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

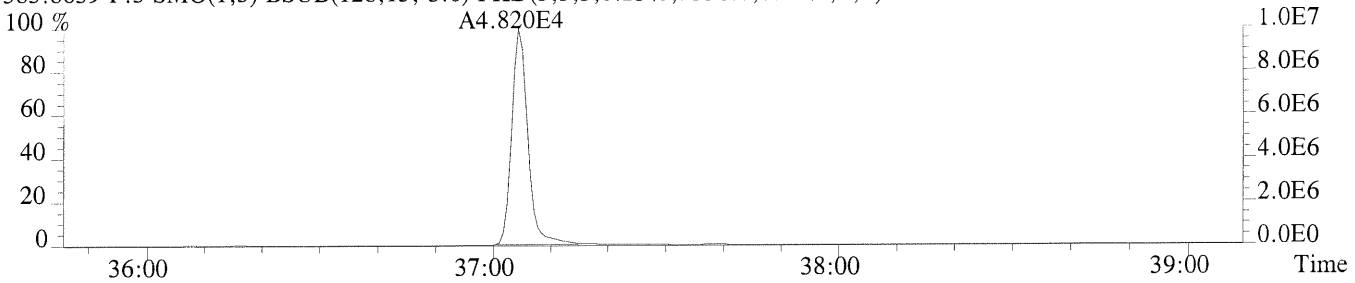
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2288.0,0.40%,F,F)



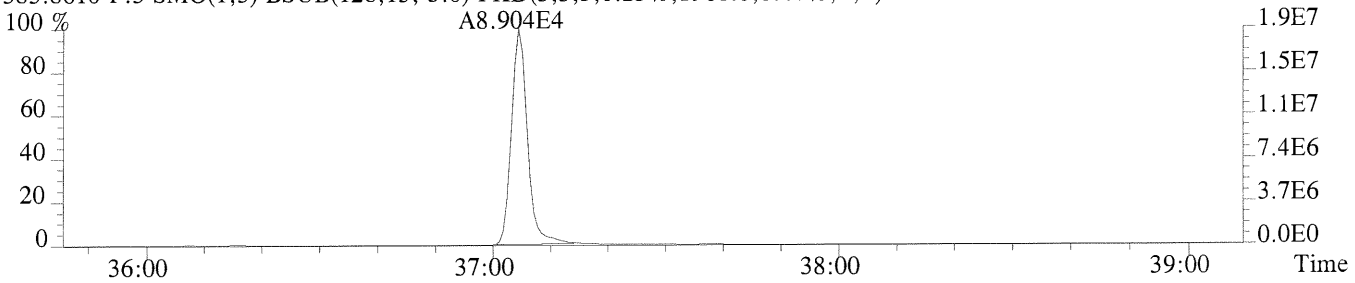
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1832.0,0.40%,F,F)



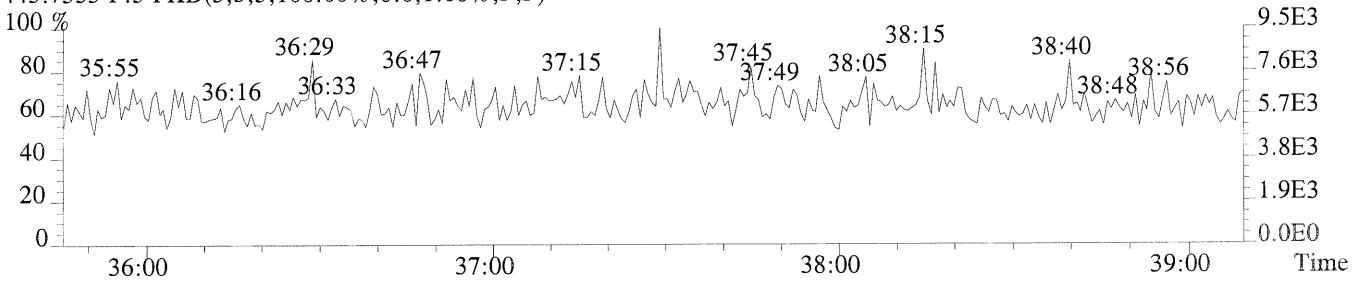
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1356.0,0.40%,F,F)



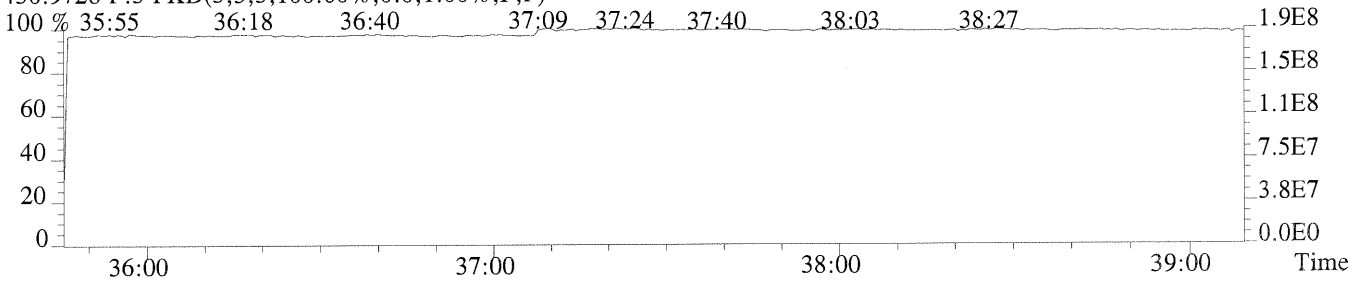
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1968.0,0.40%,F,F)



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

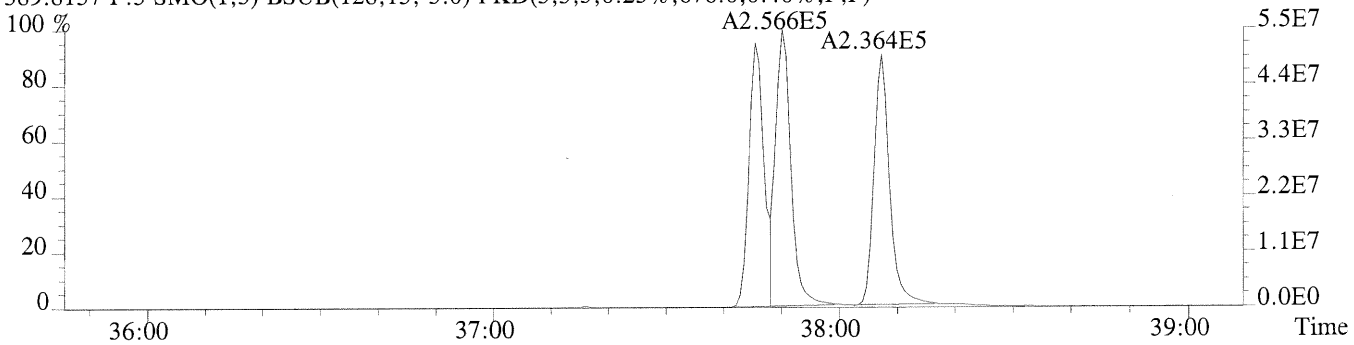


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

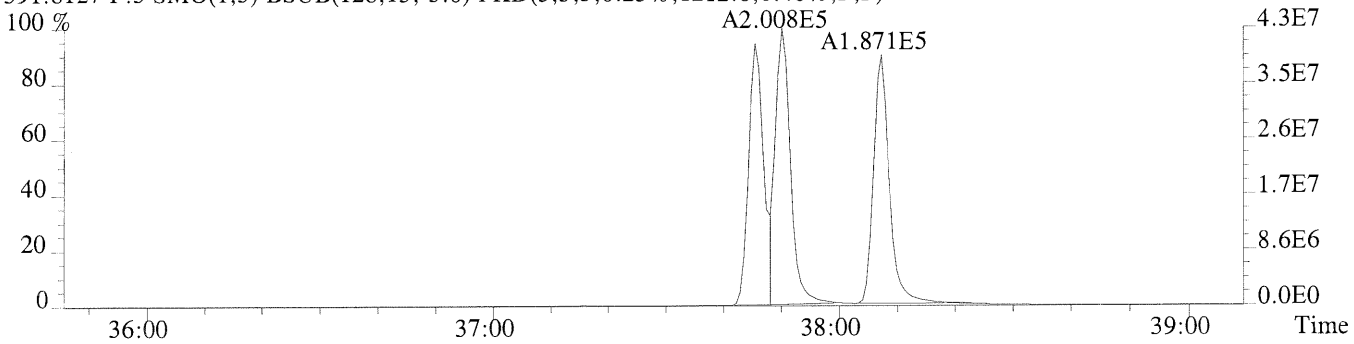


File:P100010 #1-309 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

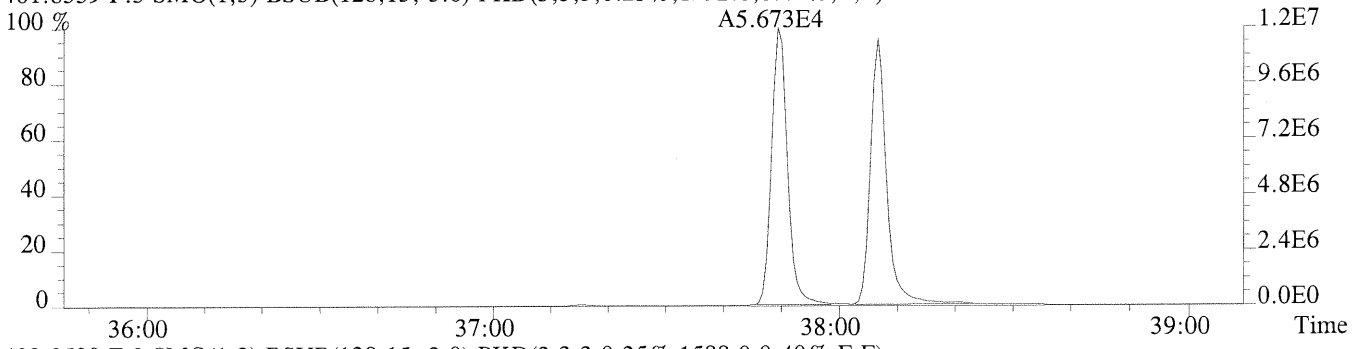
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,676.0,0.40%,F,F)



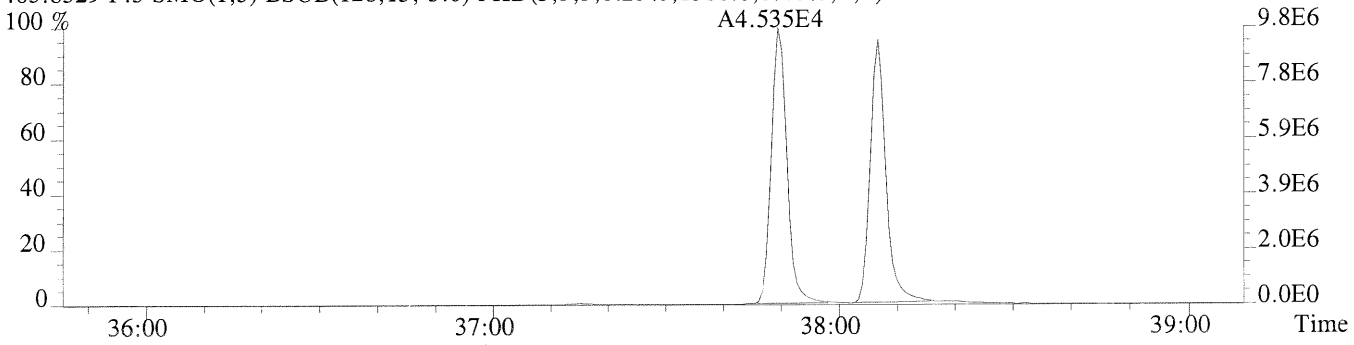
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1212.0,0.40%,F,F)



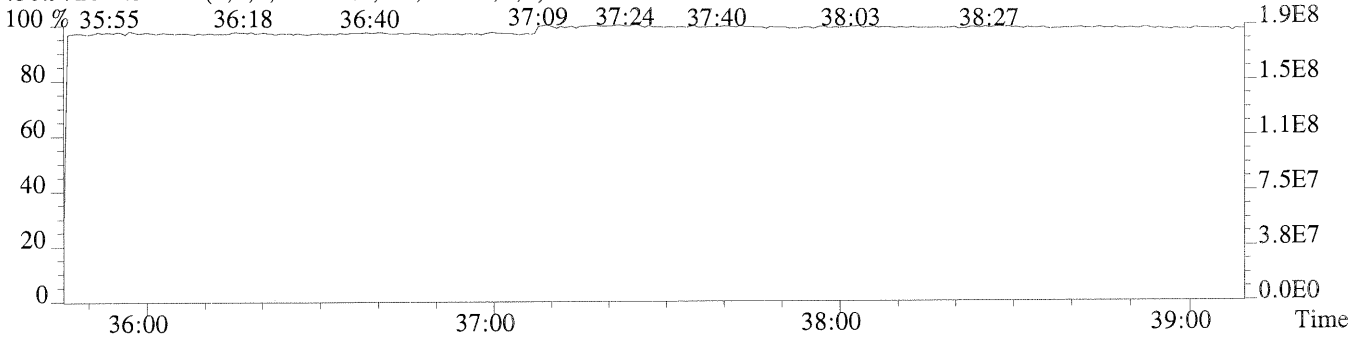
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1588.0,0.40%,F,F)

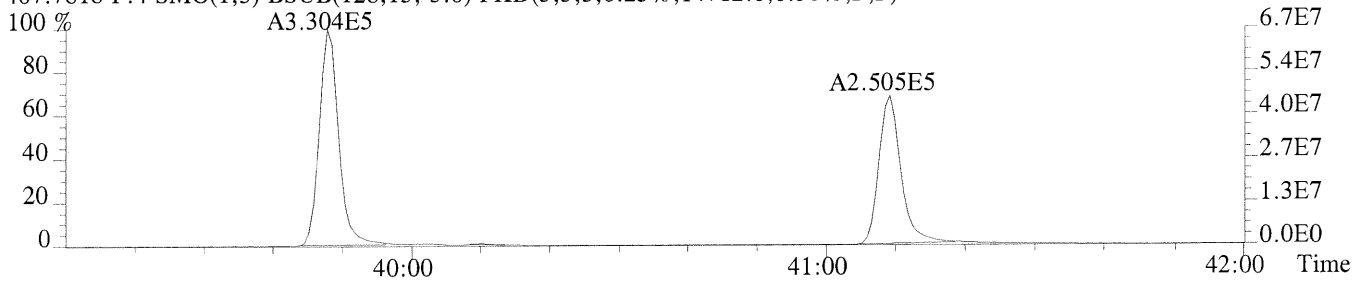


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

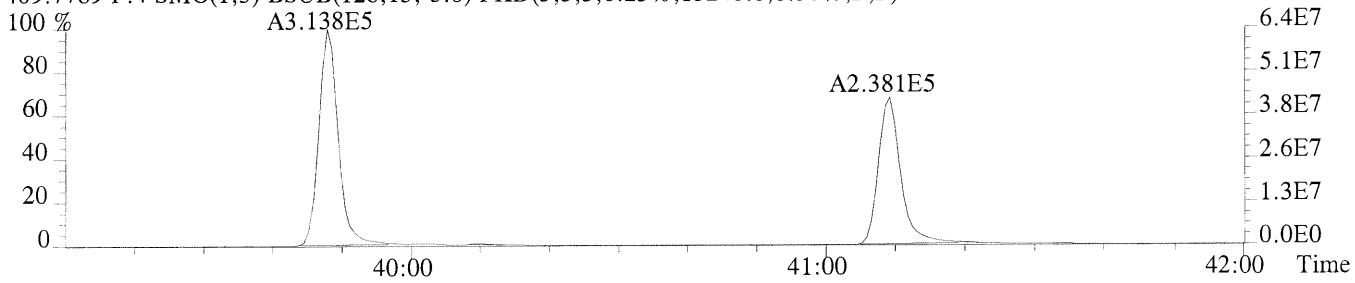


File:P100010 #1-258 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

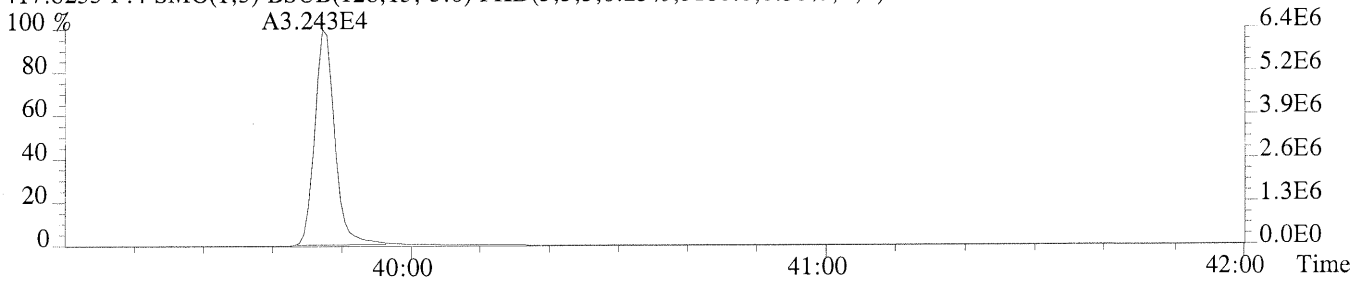
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,14712.0,0.50%,F,F)



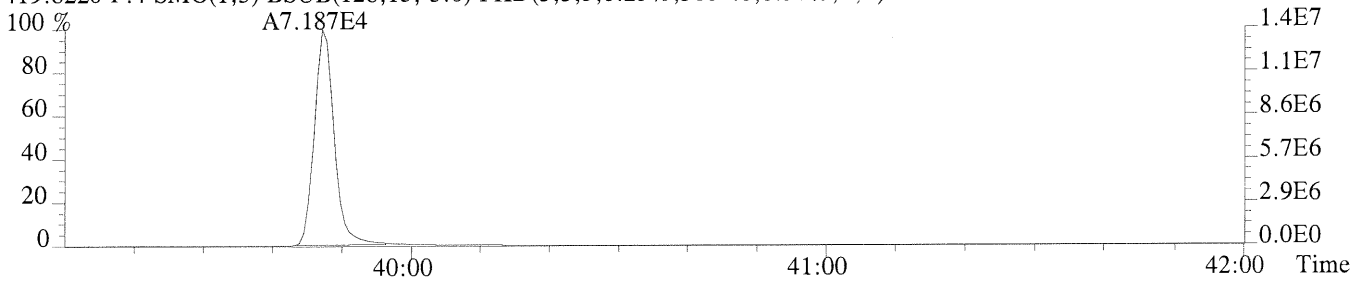
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,15248.0,0.50%,F,F)



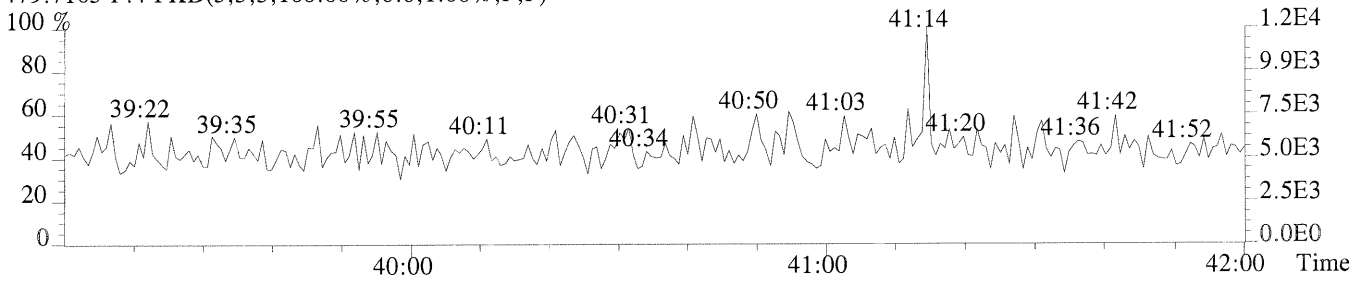
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5180.0,0.50%,F,F)



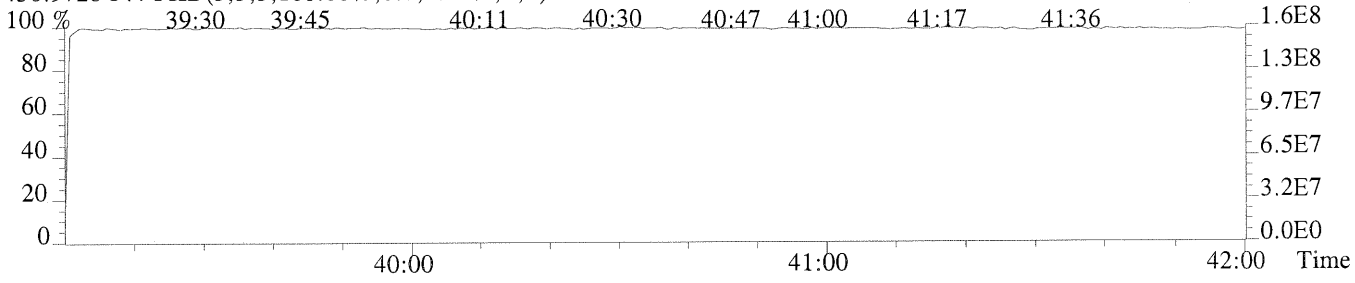
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3604.0,0.50%,F,F)



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

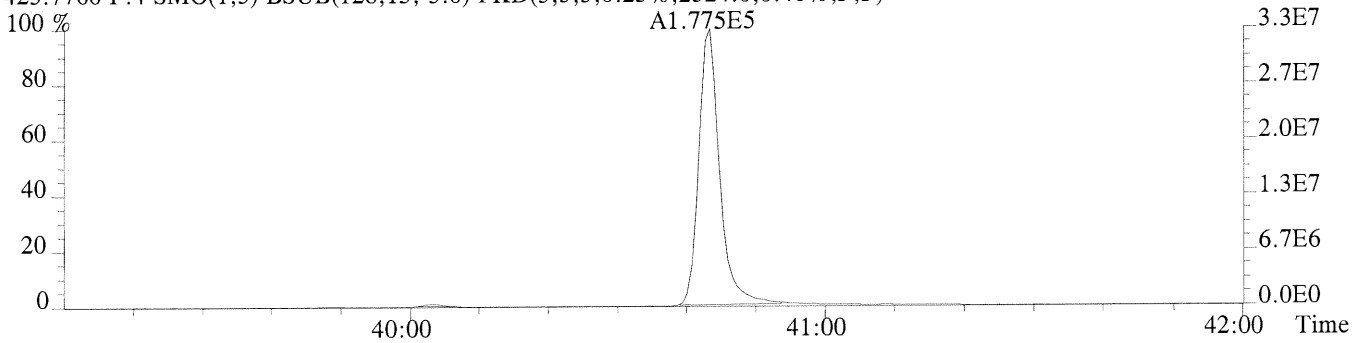


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

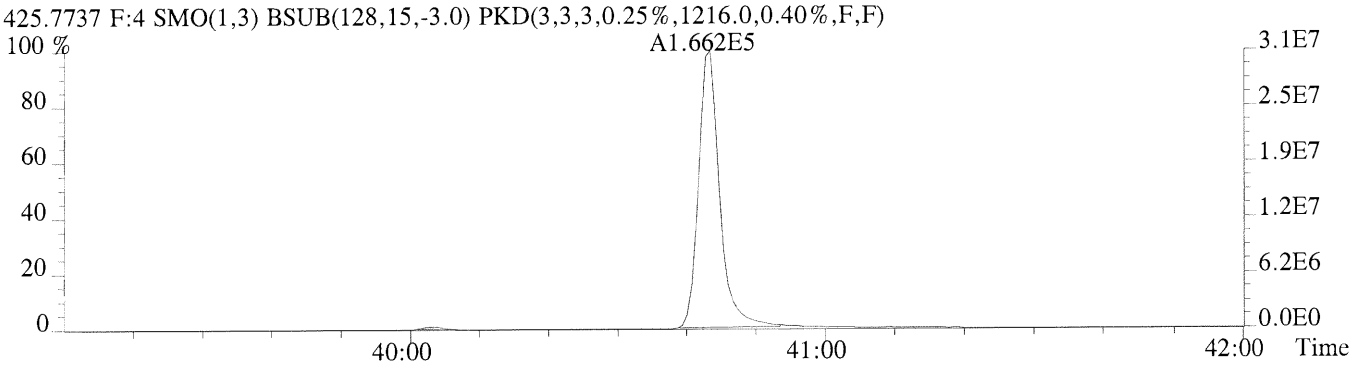


File:P100010 #1-258 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

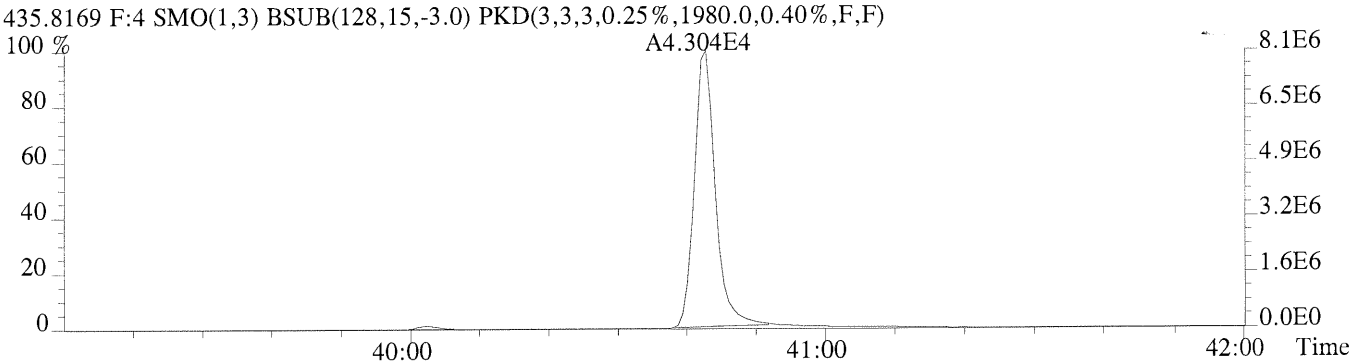
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2524.0,0.40%,F,F)



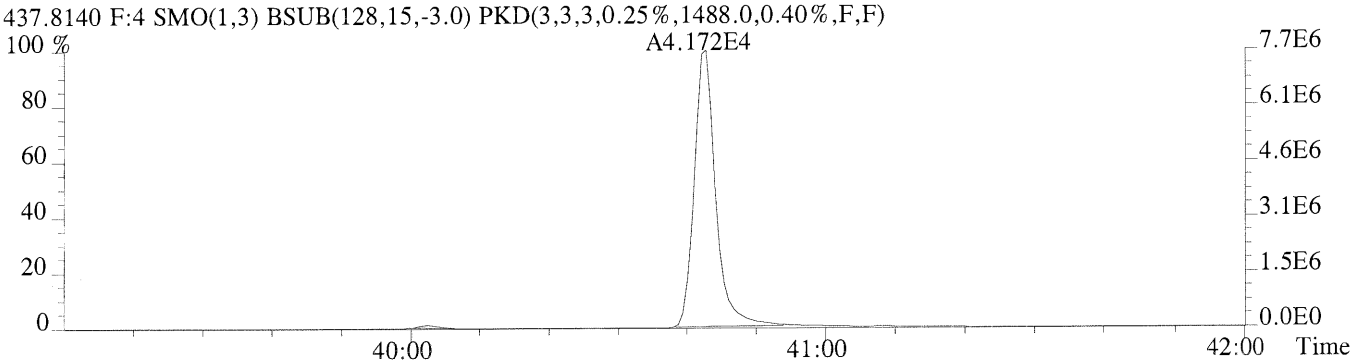
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1216.0,0.40%,F,F)



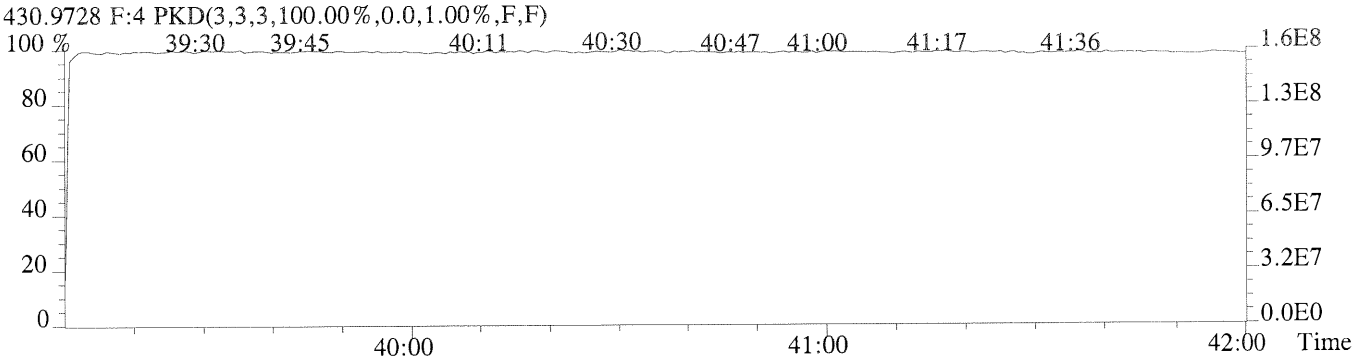
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1980.0,0.40%,F,F)



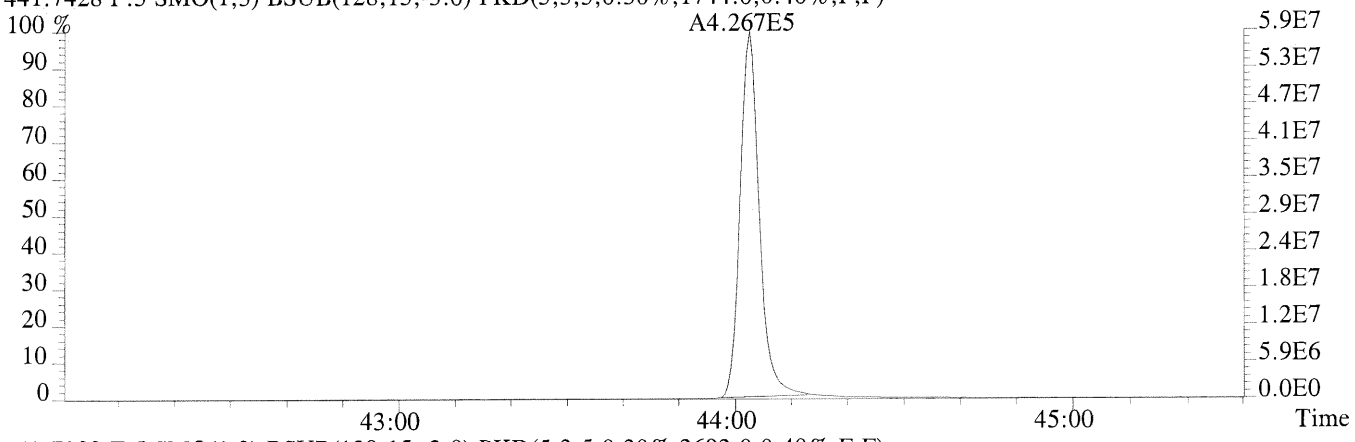
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1488.0,0.40%,F,F)



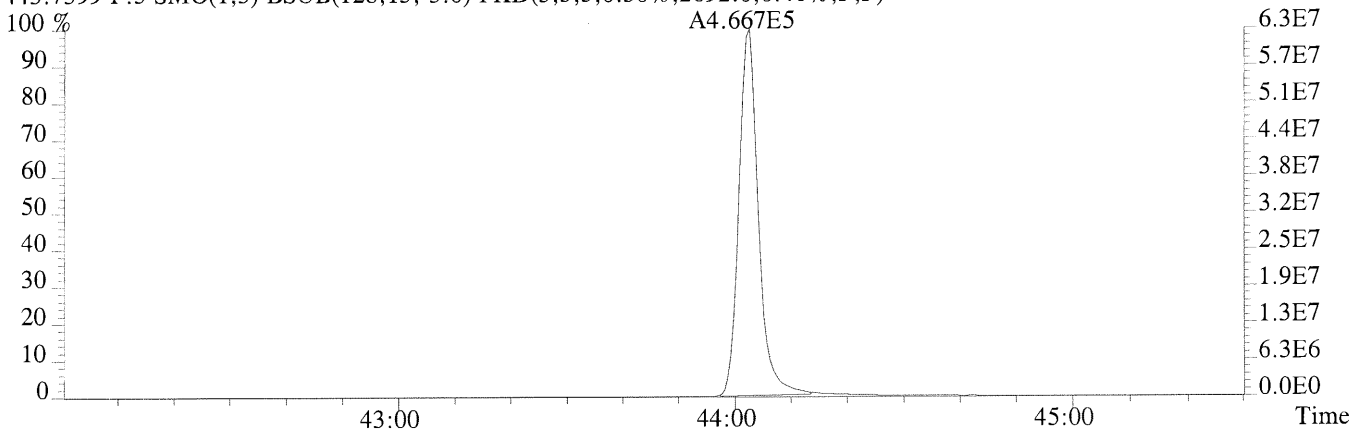
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



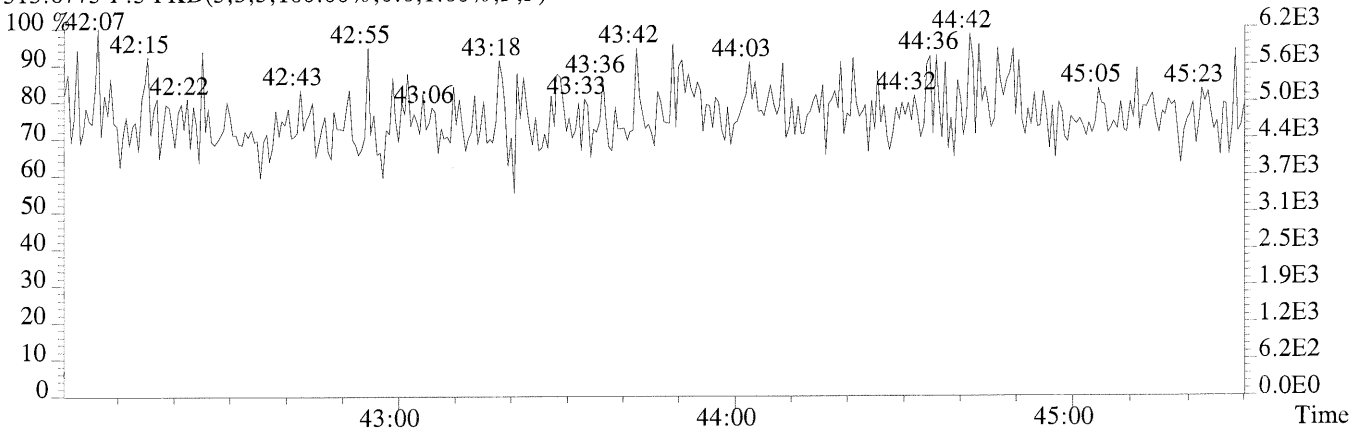
File:P100010 #1-386 Acq: 2-JUL-2008 14:37:42 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1744.0,0.40%,F,F)



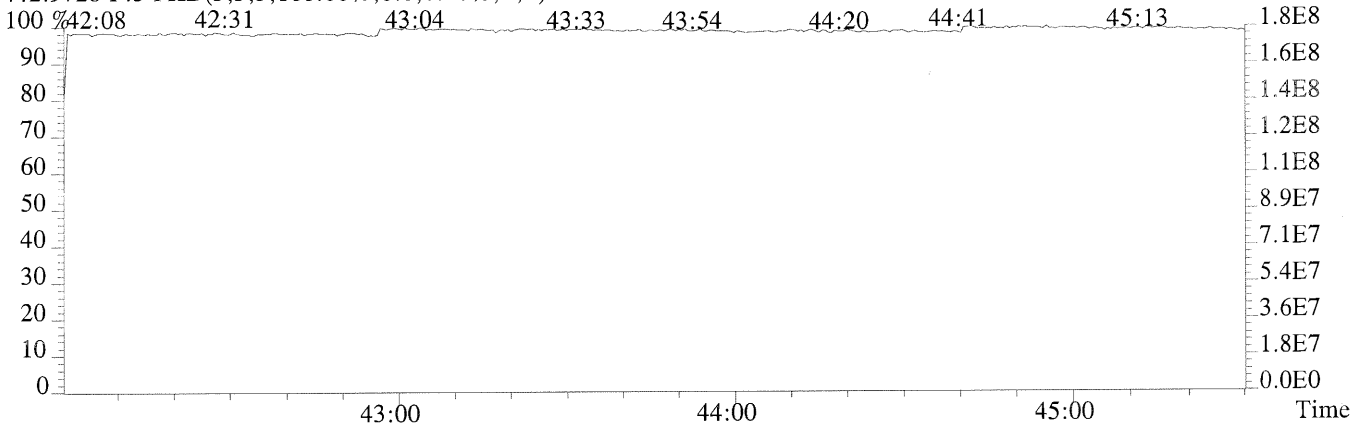
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2692.0,0.40%,F,F)



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

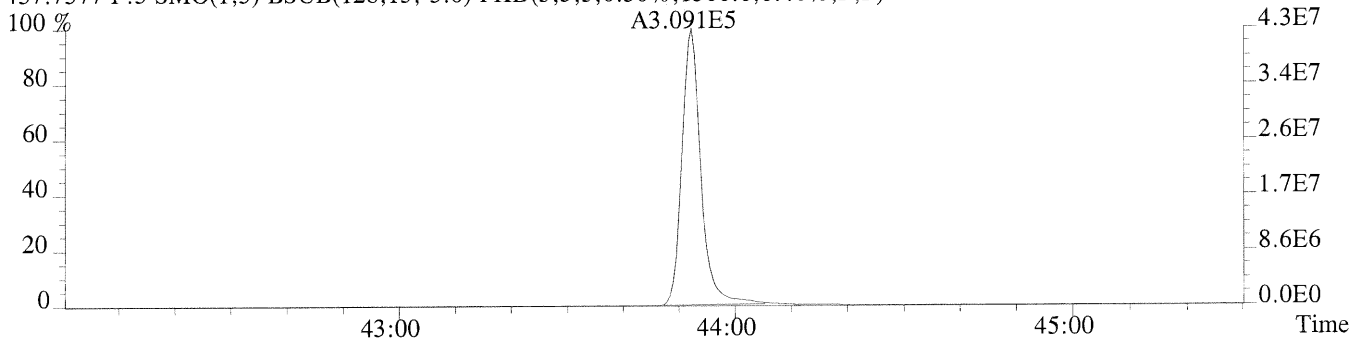


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

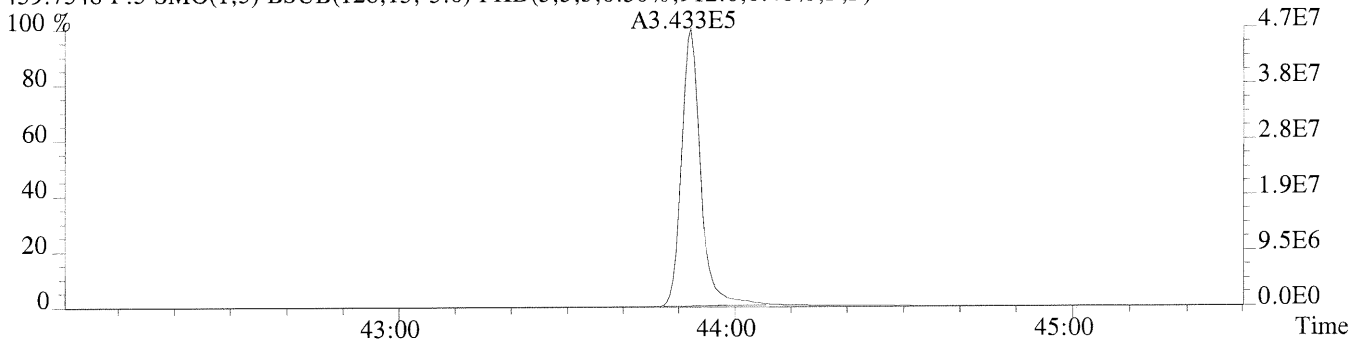


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Sample#1 Exp:ICAL HRCC5

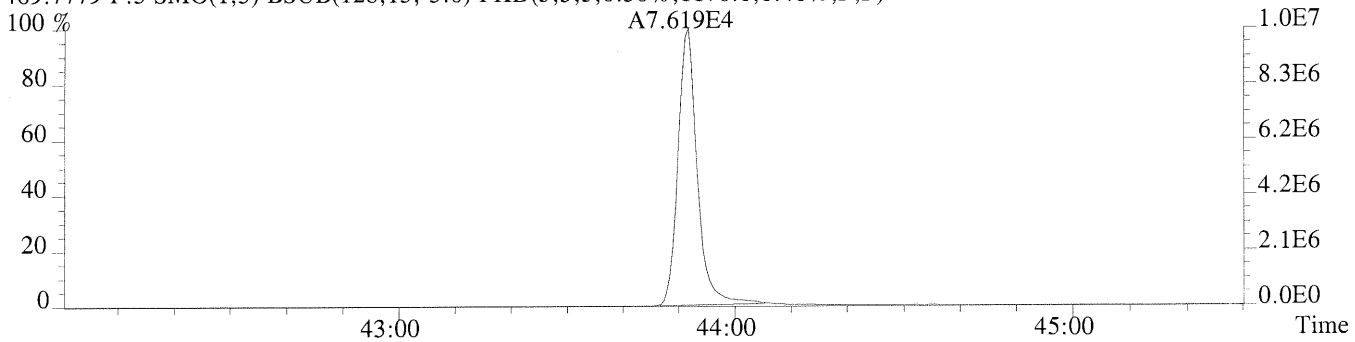
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1300.0,0.40%,F,F)



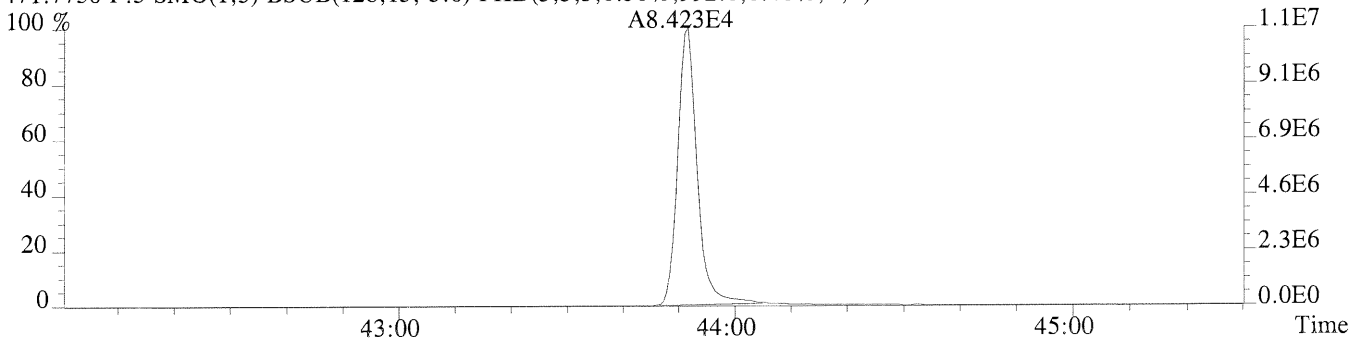
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,912.0,0.40%,F,F)



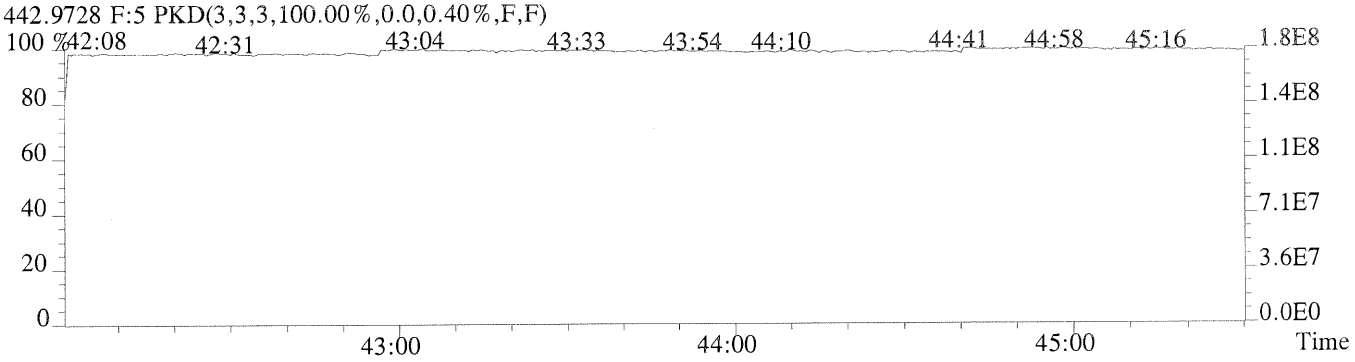
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1176.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,992.0,0.40%,F,F)



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



Initial Calibration QC Checklist

734

ICAL Name: P807182901

Date: 07/18/01

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

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 it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	N/A	N4
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: _____ Second QC: _____

icalqc.xls 02-23-00

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 07/18/08

Init. Calib.Times: 12:27:56

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
WINDOW DEFINE		P200003	18-JUL-08	12:27:56
ICAL HRCC1	ICAL HRCC1	P200006	18-JUL-08	16:12:01
ICAL HRCC2	ICAL HRCC2	P200005	18-JUL-08	15:25:44
ICAL HRCC3	ICAL HRCC3	P200004	18-JUL-08	14:23:04
ICAL HRCC4	ICAL HRCC4	P200007	18-JUL-08	17:03:35
ICAL HRCC5	ICAL HRCC5	P200008	18-JUL-08	17:50:46

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Columbia Analytical Services inc.

An Employee Owned Company

Acq Method: 8290CAS

GC Method: 8290CAS

Result File: F P807188290I

EDD File: F P200004AES

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
		P200001	Windows defined	D4-90-2		KL		
		P200002	CS3					
07/18/07	12:27	P200003	Windows Defined	D4-90-2				
	14:23	P200004	IcalHRCC3	D5-2-2A				
	15:25	P200005	IcalHRCC2	D5-49-4				
	16:12	P200006	IcalHRCC1	D5-49-5				
	17:03	P200007	Ical(HRCC4	D5-49-2				
	17:50	P200008	IcalHRCC5	D5-49-1				
	18:51	P200009	HRCC3 CSV	P4-61-1				

Reviewed by: QC

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P200003

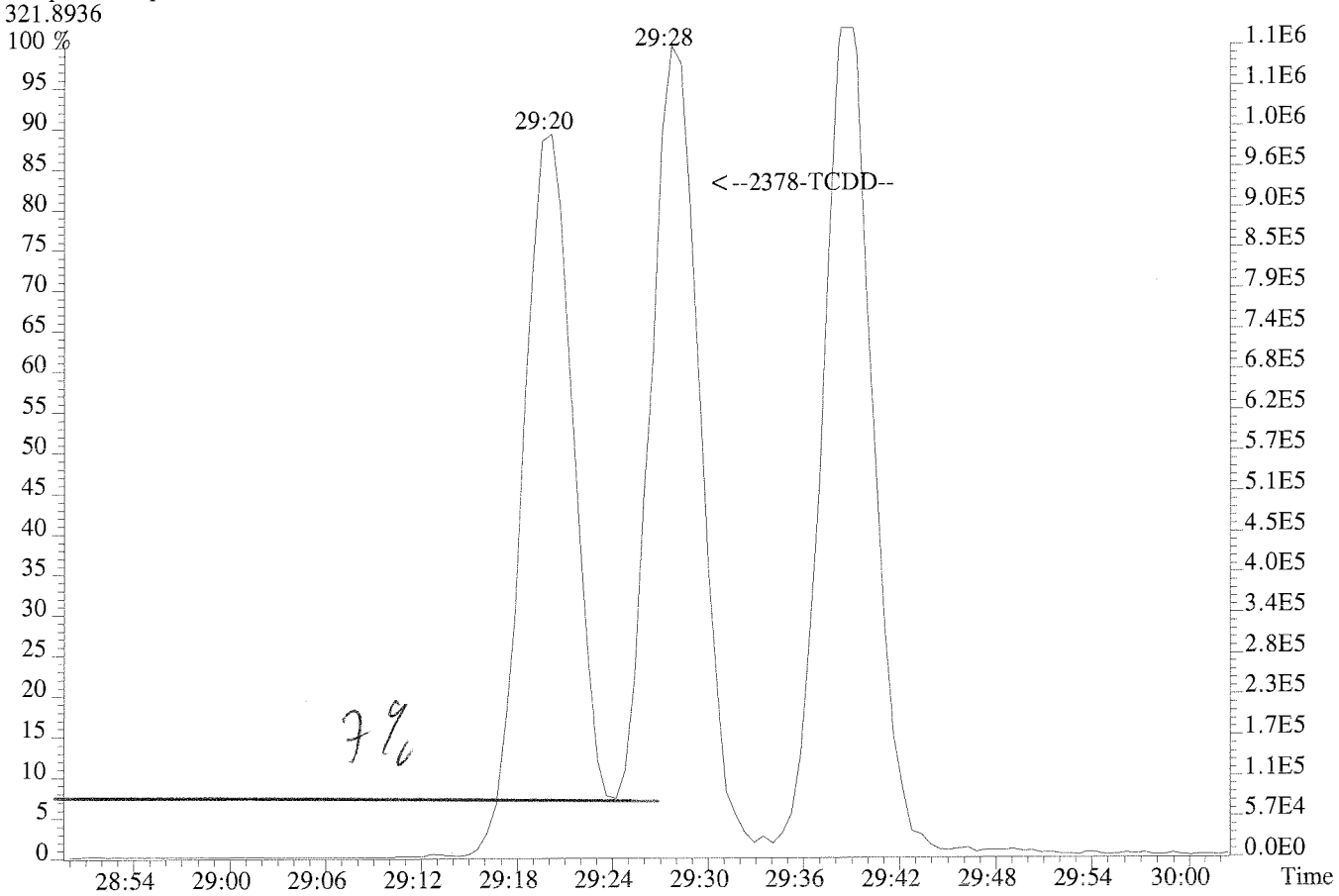
Date Analyzed: 07/18/08

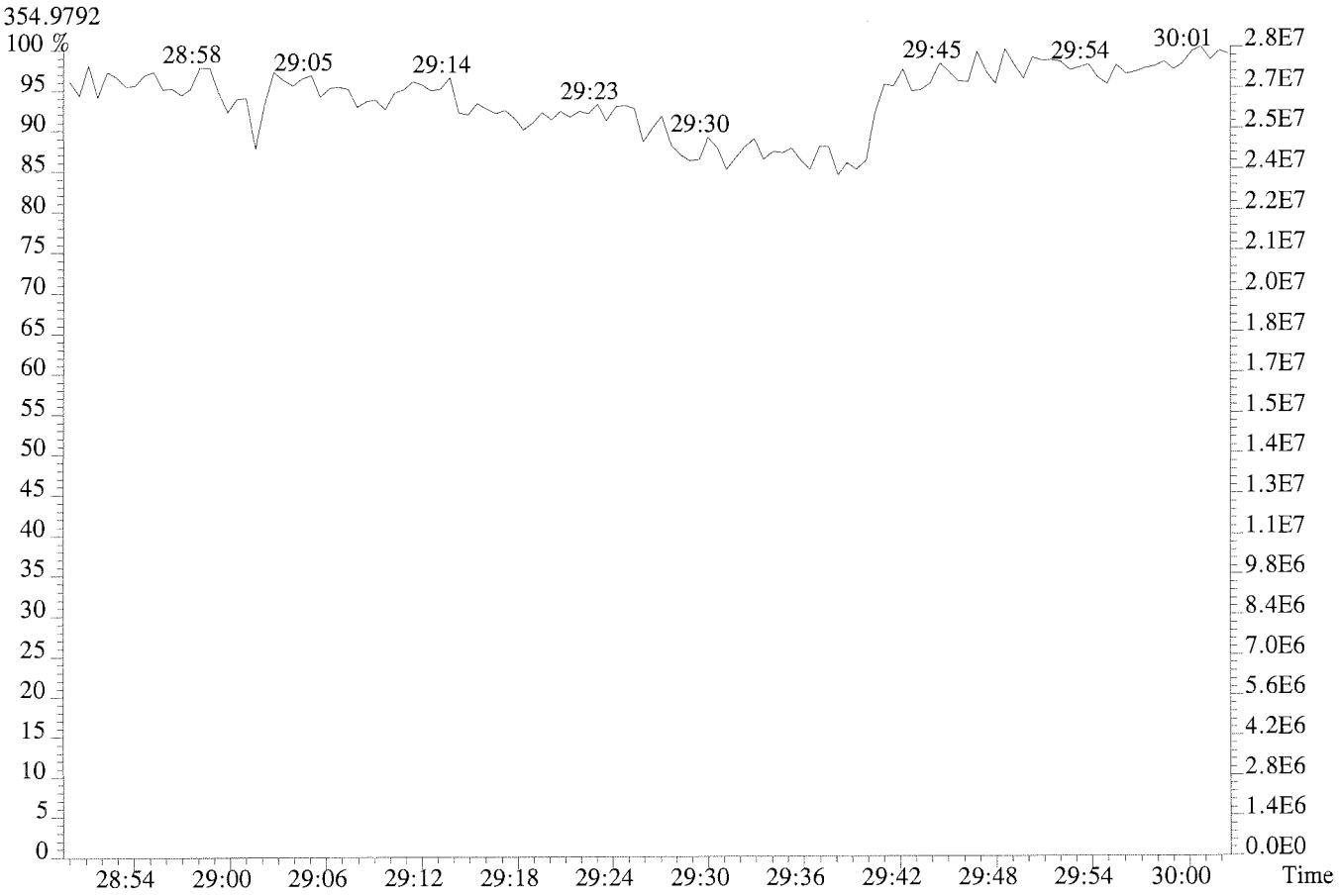
Time Analyzed: 12:27:56

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	24:36	30:35
TCDD	26:24	30:34
PeCDF	30:51	34:42
PeCDD	32:12	34:34
HxCDF	35:35	37:54
HxCDD	36:05	37:34
HpCDF	39:16	40:35
HpCDD	39:31	40:10

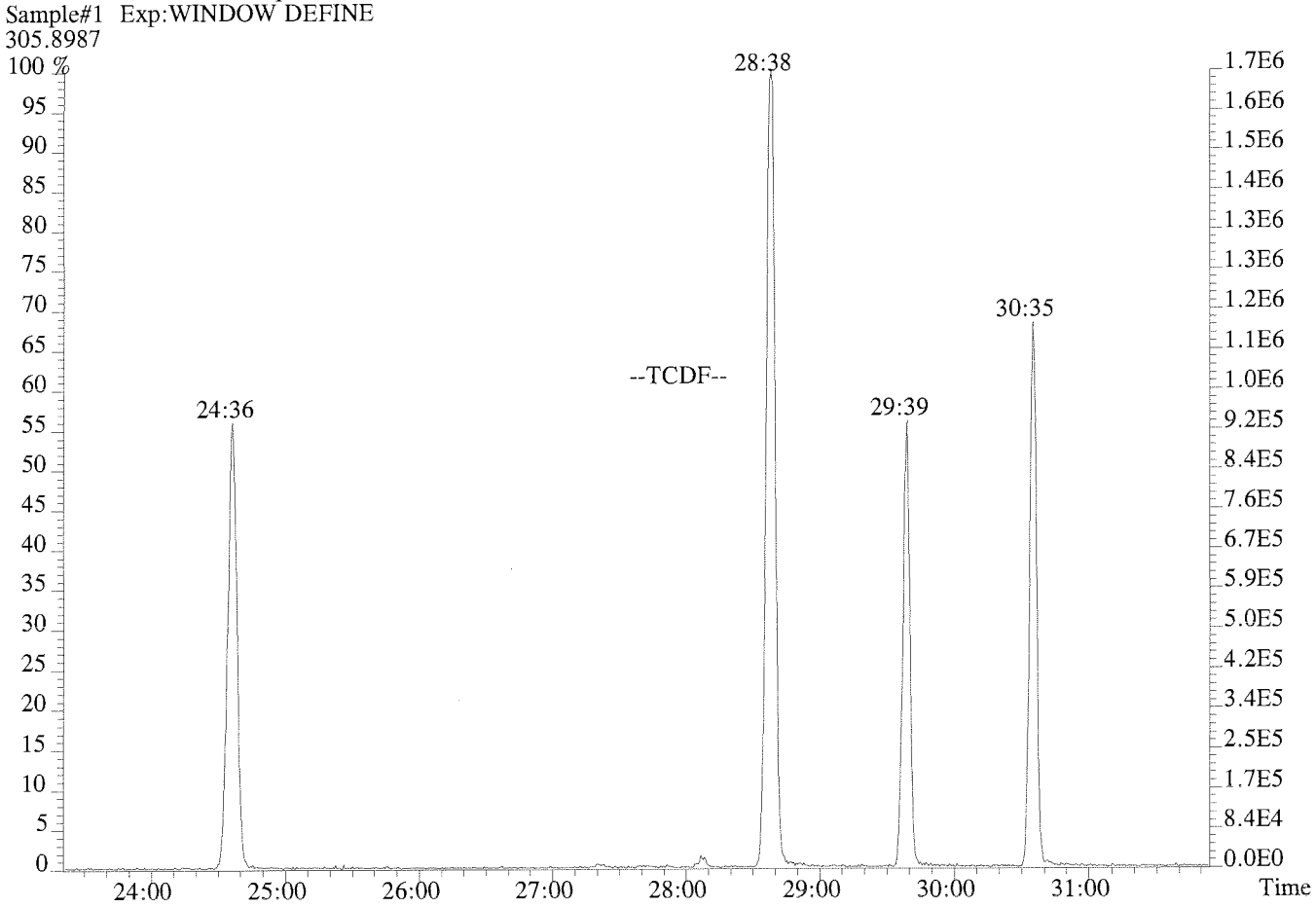
% Valley 2378-TCDD: 7%

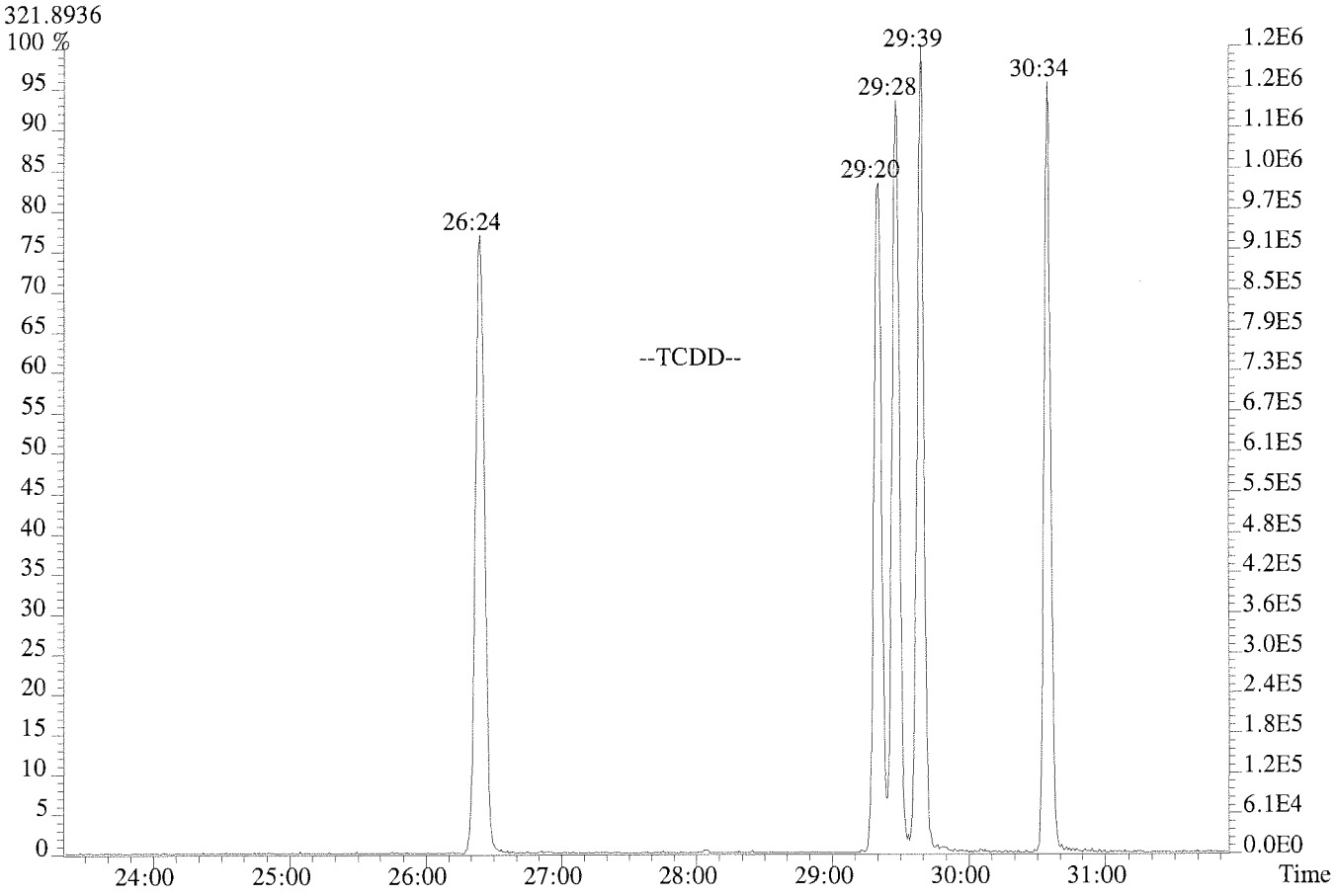
File:P200003 #1-2744 Acq:18-JUL-2008 12:27:56 Probe EI+ Magnet SIR VG BioTech Mass spec£
Sample#1 Exp:WINDOW DEFINE



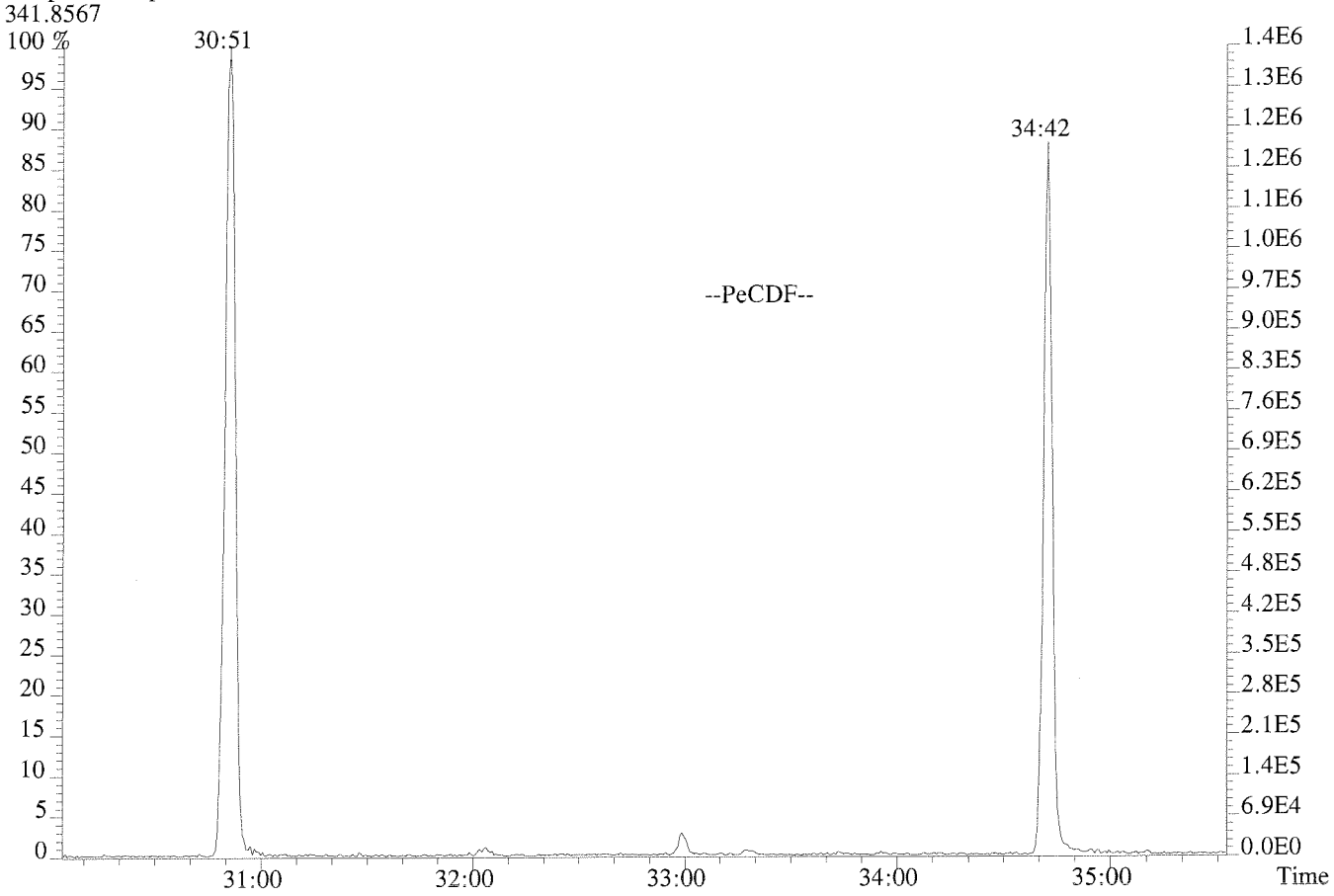


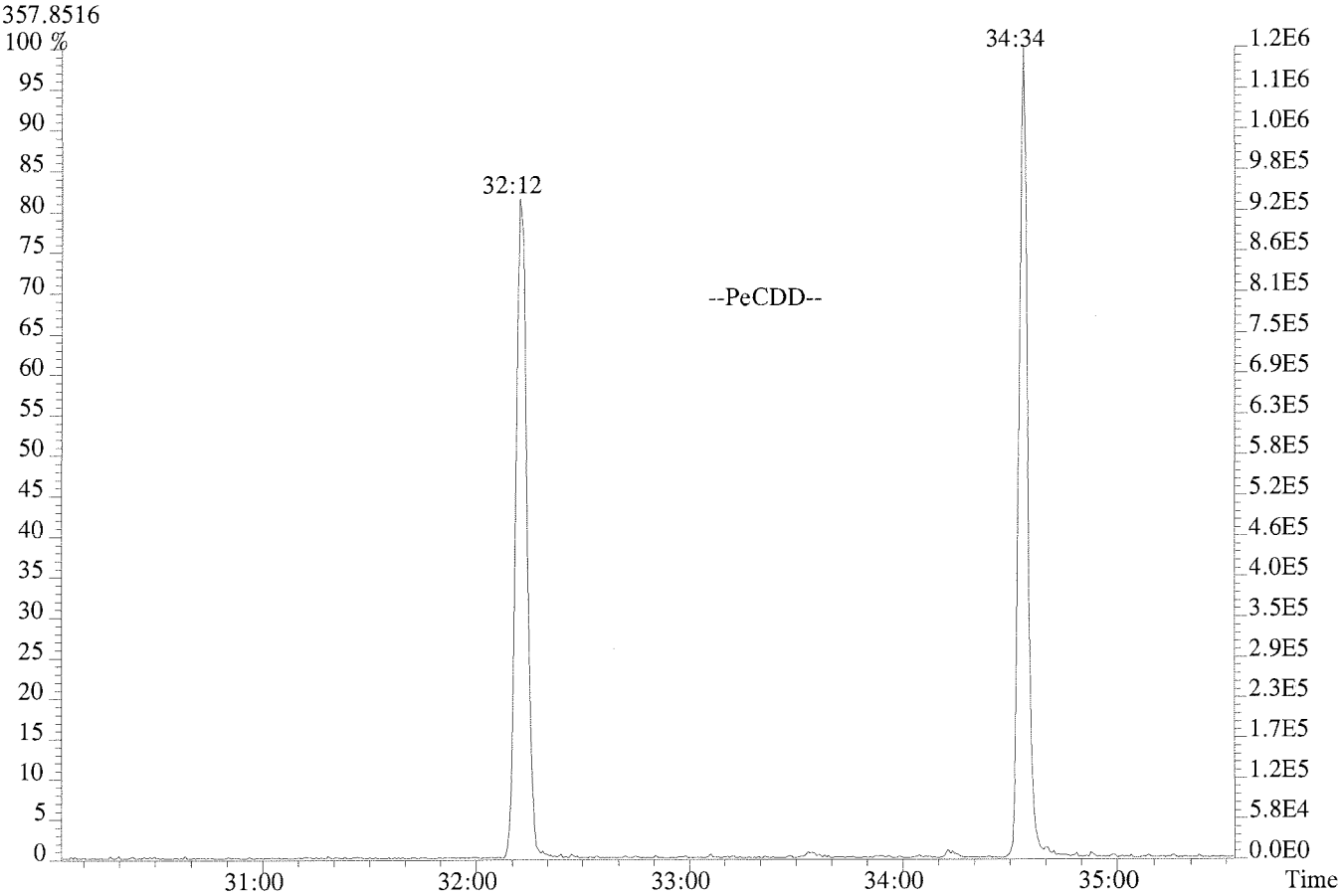
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Sample#1 Exp:WINDOW DEFINE



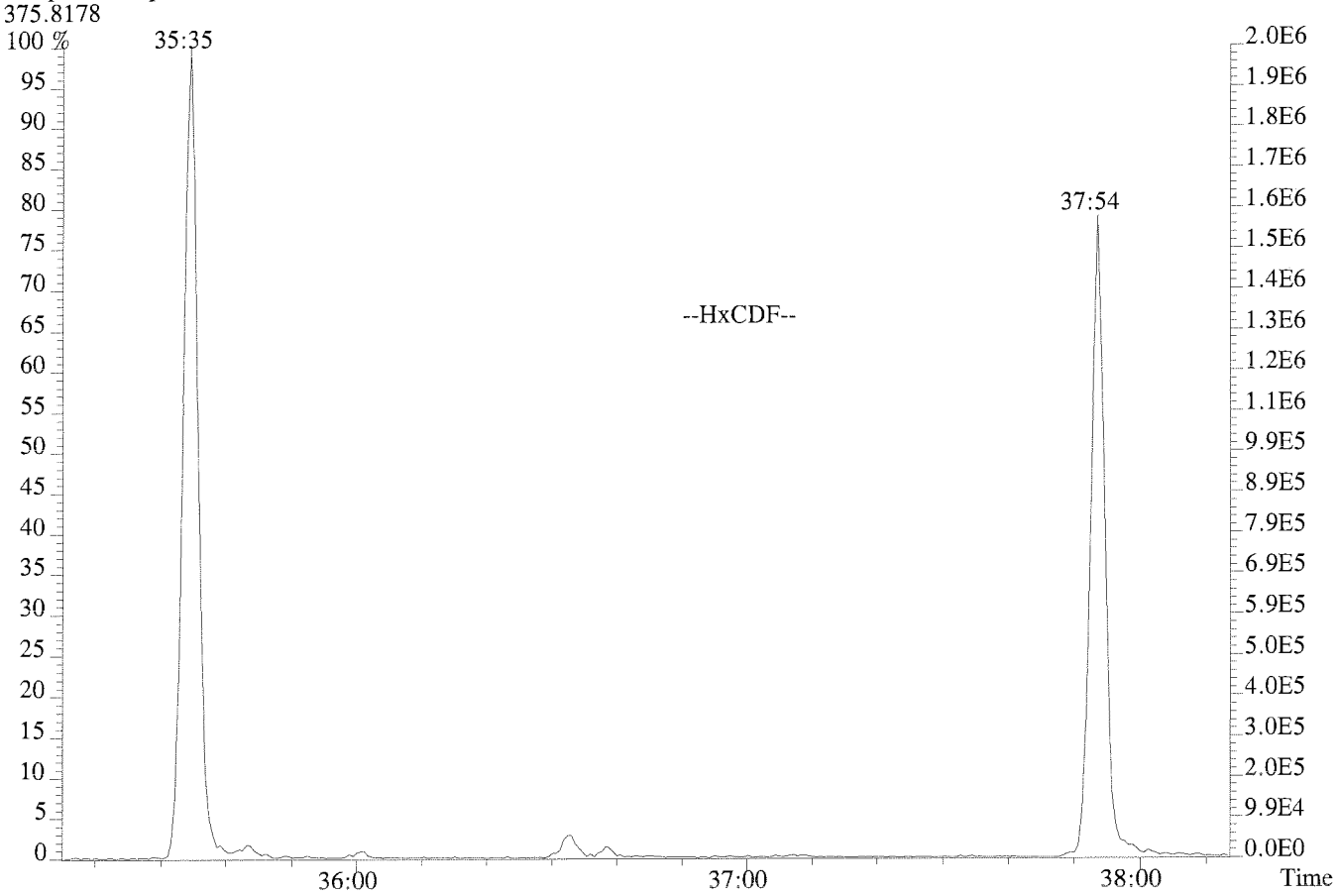


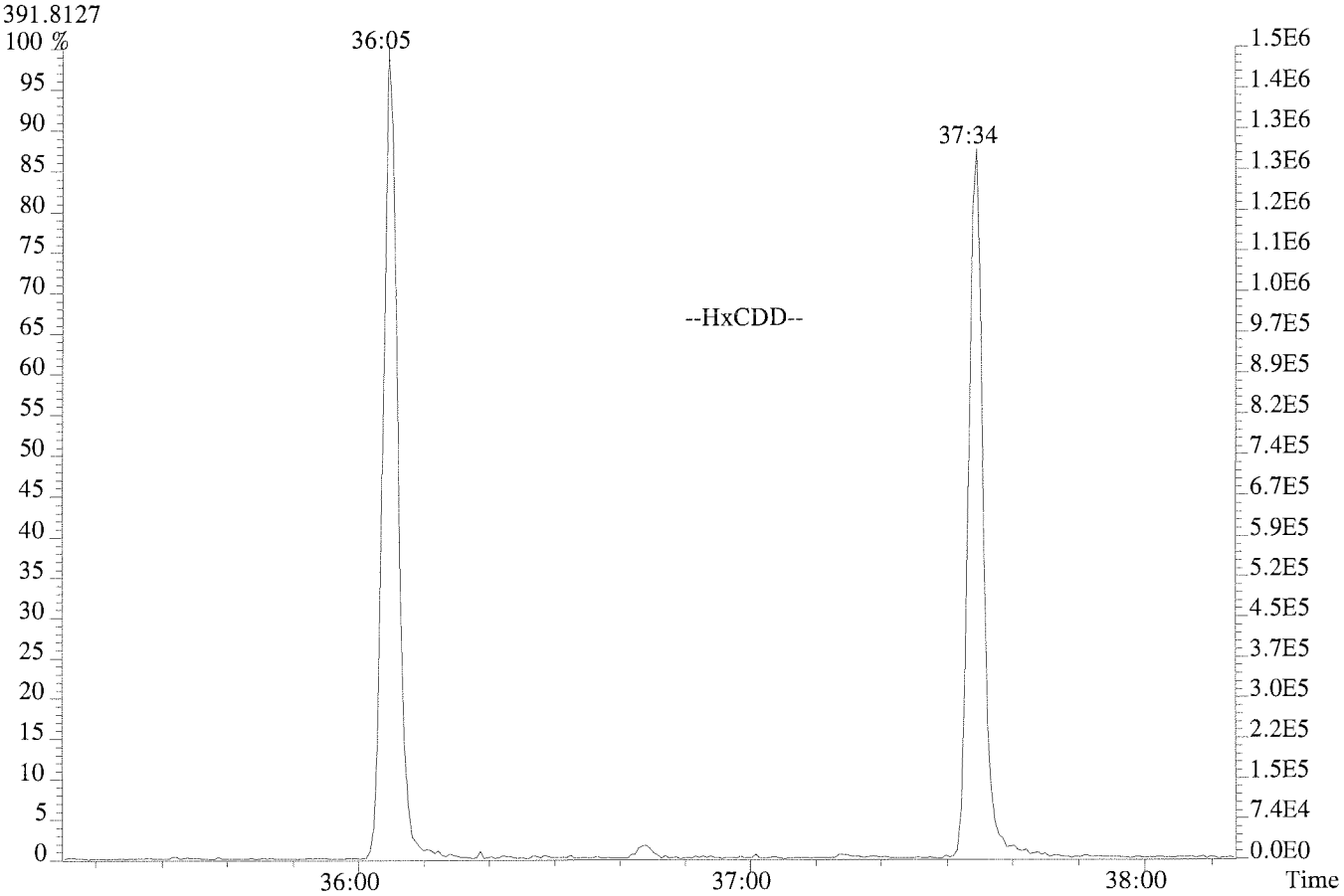
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Sample#1 Exp:WINDOW DEFINE



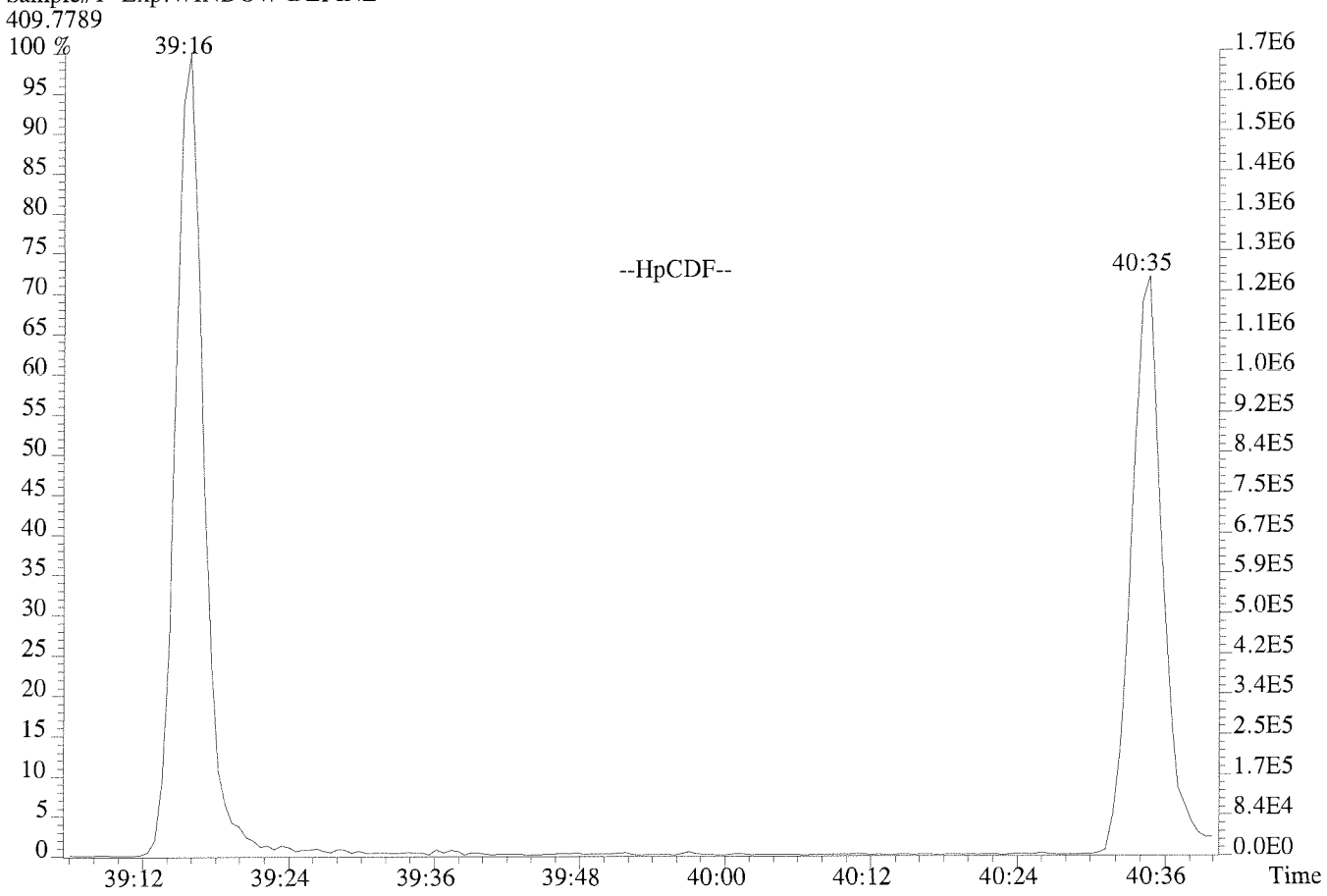


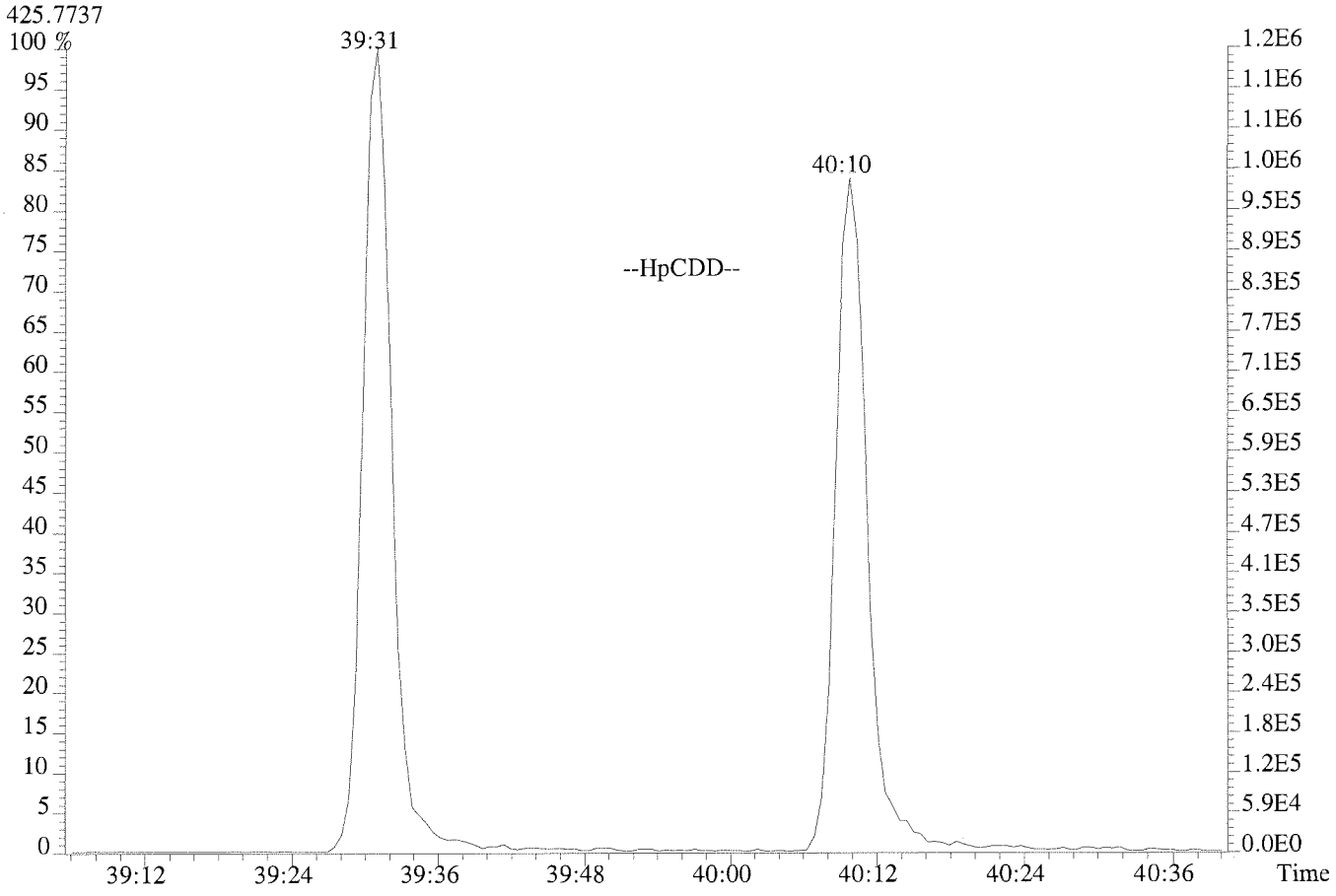
File:P200003 #1-2744 Acq:18-JUL-2008 12:27:56 Probe EI+ Magnet SIR VG BioTech Mass spec£
Sample#1 Exp:WINDOW DEFINE





File:P200003 #1-2744 Acq:18-JUL-2008 12:27:56 Probe EI+ Magnet SIR VG BioTech Mass spec£
Sample#1 Exp:WINDOW DEFINE



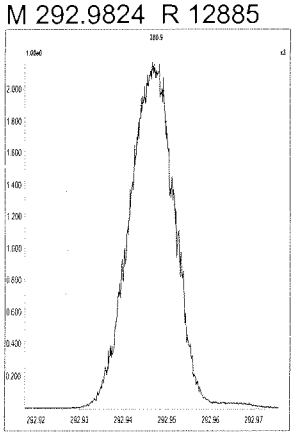


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

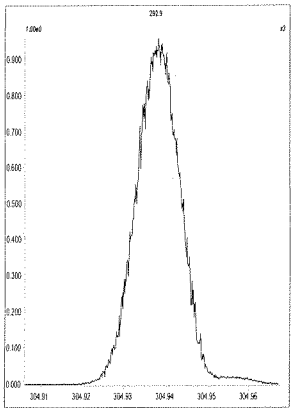
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Printed: Friday, July 18, 2008 12:24:41 Central Daylight Time

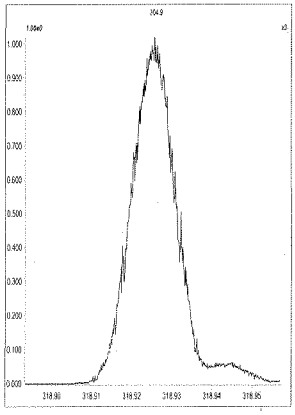
M 292.9824 R 12885



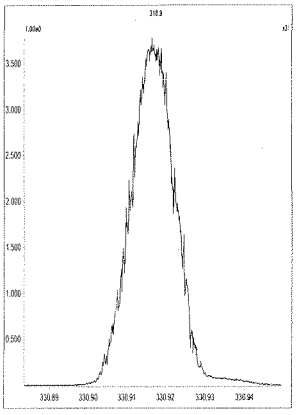
M 304.9824 R 13023



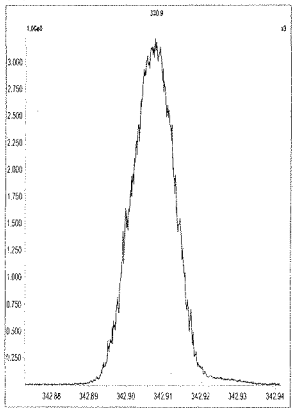
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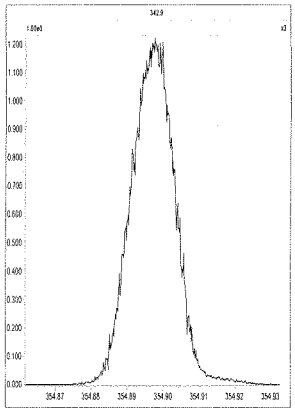
M 330.9792 R 12818



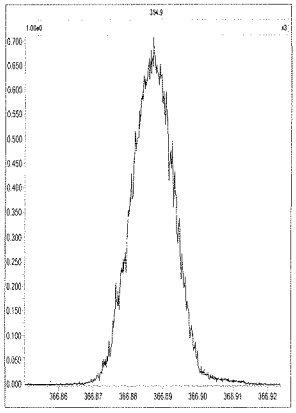
M 342.9792 R 13159



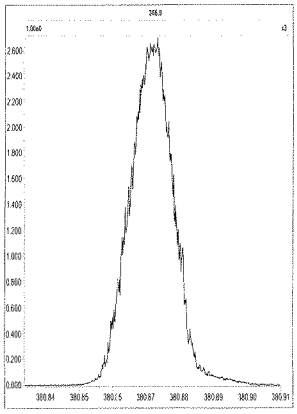
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M 366.9792 R 13300



M 380.9760 R 13513

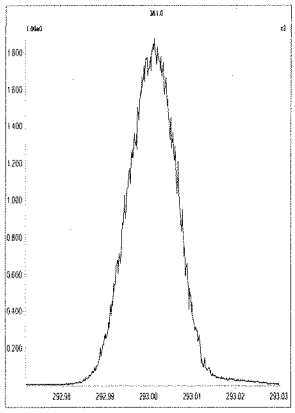


Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

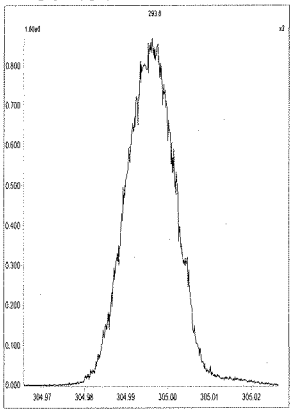
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Printed: Friday, July 18, 2008 18:49:03 Central Daylight Time

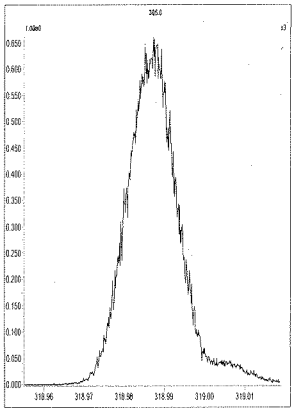
M 292.9824 R 11569



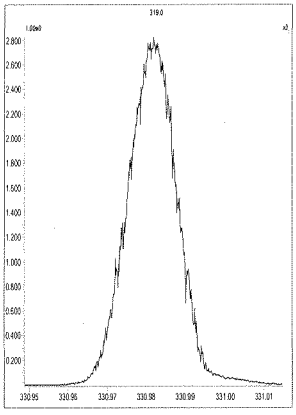
M 304.9824 R 11736



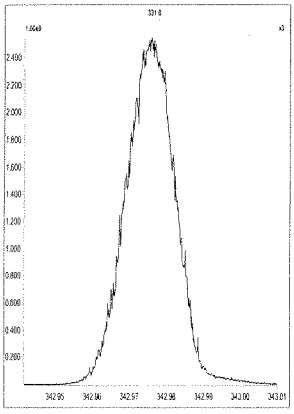
M 318.9792 R 8867



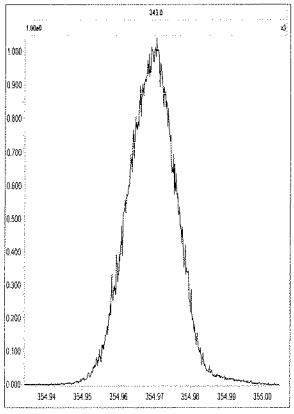
M 330.9792 R 11962



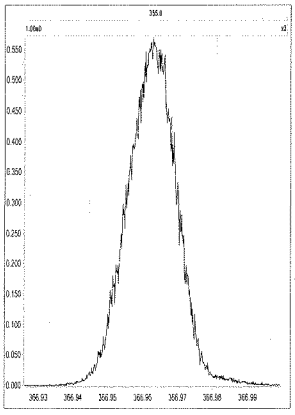
M 342.9792 R 11903



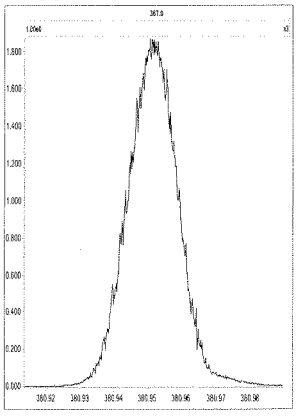
M 354.9792 R 11469



M 366.9792 R 11686



M 380.9760 R 11310



FORM 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P200006 HRCC4 Data Filename: P200007

HRCC2 Data Filename: P200005 HRCC5 Data Filename: P200008

HRCC3 Data Filename: P200004

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
NATIVE ANALYTES							
2,3,7,8-TCDD	0.81	0.79	0.89	0.85	0.87	0.84	4.69
1,2,3,7,8-PeCDD	0.76	0.78	0.80	0.81	0.81	0.79	2.54
1,2,3,4,7,8-HxCDD	0.74	0.80	0.80	0.85	0.88	0.81	6.84
1,2,3,6,7,8-HxCDD	0.92	0.94	0.88	0.93	0.95	0.92	2.68
1,2,3,7,8,9-HxCDD	0.88	0.85	0.87	0.92	0.93	0.89	3.77
1,2,3,4,6,7,8-HpCDD	0.77	0.77	0.79	0.81	0.81	0.79	2.46
OCDD	0.87	0.84	0.89	0.88	0.90	0.88	2.44
2,3,7,8-TCDF	0.65	0.70	0.75	0.74	0.75	0.72	6.22
1,2,3,7,8-PeCDF	0.66	0.69	0.74	0.73	0.74	0.71	4.91
2,3,4,7,8-PeCDF	0.69	0.69	0.76	0.75	0.77	0.73	5.55
1,2,3,4,7,8-HxCDF	0.88	0.90	0.95	0.96	0.97	0.93	4.22
1,2,3,6,7,8-HxCDF	0.87	0.95	1.03	0.97	0.97	0.96	5.99
1,2,3,7,8,9-HxCDF	0.70	0.74	0.85	0.83	0.85	0.79	8.85
2,3,4,6,7,8-HxCDF	0.78	0.82	0.89	0.91	0.90	0.86	6.61
1,2,3,4,6,7,8-HpCDF	1.12	1.16	1.22	1.21	1.23	1.19	3.89
1,2,3,4,7,8,9-HpCDF	0.86	0.90	0.96	0.97	1.00	0.94	6.12
OCDF	0.78	0.80	0.84	0.86	0.88	0.83	4.88

(1) The %RSD for the 17 unlabeled standard must not exceed +/- 20%, see Section 7.7.2.1, Method 8290.

8290F3A

FORM 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P200006 HCC4 Data Filename: P200007

HCC2 Data Filename: P200005 HCC5 Data Filename: P200008

HCC3 Data Filename: P200004

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	1.11	1.10	1.06	1.11	1.12	1.10	2.15
13C-1,2,3,7,8-PeCDD	1.05	0.95	0.96	1.11	1.18	1.05	9.18
13C-1,2,3,6,7,8-HxCDD	0.98	0.97	0.95	0.98	0.95	0.97	1.47
13C-1,2,3,4,6,7,8-HpCDD	0.87	0.84	0.80	0.87	0.85	0.85	3.28
13C-OCDD	0.88	0.84	0.81	0.89	0.92	0.87	4.56
13C-2,3,7,8-TCDF	1.26	1.24	1.22	1.25	1.27	1.25	1.56
13C-1,2,3,7,8-PeCDF	1.24	1.13	1.11	1.31	1.38	1.23	9.33
13C-1,2,3,4,7,8-HxCDF	1.02	1.01	0.90	0.98	0.98	0.98	4.67
13C-1,2,3,4,6,7,8-HpCDF	0.72	0.69	0.64	0.71	0.69	0.69	4.61
CLEANUP STANDARD							
37Cl-2,3,7,8-TCDD	0.94	0.98	1.02	1.00	1.02	0.99	3.41

(1) The %RSD for the nine labeled reference compounds must not exceed +/- 30%, see Section 7.7.2.1, Method 8290.

8290F3B

USEPA - ITD

FORM 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P200006 HCC4 Data Filename: P200007

HCC2 Data Filename: P200005 HCC5 Data Filename: P200008

HCC3 Data Filename: P200004

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
NATIVE ANALYTES							
2,3,7,8-TCDD	M/M+2	0.78	0.70	0.78	0.77	0.76	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.52	1.52	1.53	1.51	1.52	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.35	1.21	1.24	1.21	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.17	1.17	1.30	1.24	1.23	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.16	1.23	1.24	1.22	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	1.04	0.99	1.03	1.01	0.88-1.20
OCDD	M+2/M+4	0.91	0.86	0.90	0.88	0.88	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.80	0.73	0.74	0.75	0.74	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.53	1.52	1.49	1.50	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.42	1.63	1.55	1.52	1.50	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.19	1.18	1.19	1.18	1.20	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.17	1.21	1.18	1.16	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.16	1.20	1.20	1.17	1.17	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.17	1.21	1.15	1.14	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.95	0.95	1.02	1.00	0.98	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	1.04	0.97	1.01	0.99	0.88-1.20
OCDF	M+2/M+4	0.86	0.87	0.89	0.88	0.87	0.76-1.02

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits from Table 8, Method 8290.

8290F3C

FORM 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 07/18/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P200006 HRCC4 Data Filename: P200007

HRCC2 Data Filename: P200005 HRCC5 Data Filename: P200008

HRCC3 Data Filename: P200004

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	M/M+2	0.76	0.76	0.77	0.76	0.77	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.55	1.56	1.56	1.56	1.32-1.78
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.24	1.24	1.23	1.23	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	1.02	1.02	1.03	1.02	0.88-1.20
13C-OCDD	M+2/M+4	0.89	0.88	0.89	0.89	0.89	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.76	0.76	0.76	0.76	0.76	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.58	1.56	1.55	1.56	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.52	0.51	0.52	0.51	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.42	0.44	0.42	0.44	0.43	0.37-0.51

(1) See Table 6, Method 8290, for m/z specifications.Method 8290.

(2) Ion Abundance Ratio Control Limits from Table 8,

8290F3D

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC1

Run #1 Filename P200006 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 16:12:01
Processed: 30-JUL-08 09:37:37 Sample ID: ICAL HRCC1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	6.456e+02	8.103e+02	0.80	yes	no	0.72
2	Unk	1,2,3,7,8-PeCDF	32:60	2.258e+03	1.427e+03	1.58	yes	no	0.71
3	Unk	2,3,4,7,8-PeCDF	33:44	2.241e+03	1.583e+03	1.42	yes	no	0.73
4	Unk	1,2,3,4,7,8-HxCDF	36:33	1.829e+03	1.542e+03	1.19	yes	no	0.93
5	Unk	1,2,3,6,7,8-HxCDF	36:39	1.838e+03	1.484e+03	1.24	yes	no	0.96
6	Unk	2,3,4,6,7,8-HxCDF	37:08	1.663e+03	1.318e+03	1.26	yes	no	0.86
7	Unk	1,2,3,7,8,9-HxCDF	37:50	1.436e+03	1.240e+03	1.16	yes	no	0.79
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	1.470e+03	1.544e+03	0.95	yes	no	1.19
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	1.170e+03	1.135e+03	1.03	yes	no	0.94
10	Unk	OCDF	43:22	2.392e+03	2.767e+03	0.86	yes	no	0.83
11	Unk	2,3,7,8-TCDD	29:28	7.105e+02	9.165e+02	0.78	yes	no	0.84
12	Unk	1,2,3,7,8-PeCDD	34:05	2.160e+03	1.425e+03	1.52	yes	no	0.79
13	Unk	1,2,3,4,7,8-HxCDD	37:15	1.500e+03	1.218e+03	1.23	yes	no	0.81
14	Unk	1,2,3,6,7,8-HxCDD	37:20	1.809e+03	1.551e+03	1.17	yes	no	0.92
15	Unk	1,2,3,7,8,9-HxCDD	37:37	1.764e+03	1.465e+03	1.20	yes	no	0.89
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.281e+03	1.235e+03	1.04	yes	no	0.79
17	Unk	OCDD	43:12	2.724e+03	2.994e+03	0.91	yes	no	0.88
18	IS	13C-2,3,7,8-TCDF	28:36	4.890e+04	6.392e+04	0.76	yes	no	1.25
19	IS	13C-1,2,3,7,8-PeCDF	32:59	6.760e+04	4.399e+04	1.54	yes	no	1.23
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	6.462e+04	1.266e+05	0.51	yes	no	0.98
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	4.004e+04	9.441e+04	0.42	yes	no	0.69
22	IS	13C-2,3,7,8-TCDD	29:26	4.318e+04	5.685e+04	0.76	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.765e+04	3.678e+04	1.57	yes	no	1.05
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.016e+05	8.191e+04	1.24	yes	no	0.97
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	8.250e+04	8.062e+04	1.02	yes	no	0.85
26	IS	13C-OCDD	43:11	1.552e+05	1.745e+05	0.89	yes	no	0.87
27	RS/RT	13C-1,2,3,4-TCDD	29:14	3.947e+04	5.035e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.047e+05	8.277e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	1.690e+03					0.99

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC1

Run #1 Filename P200006 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 16:12:01

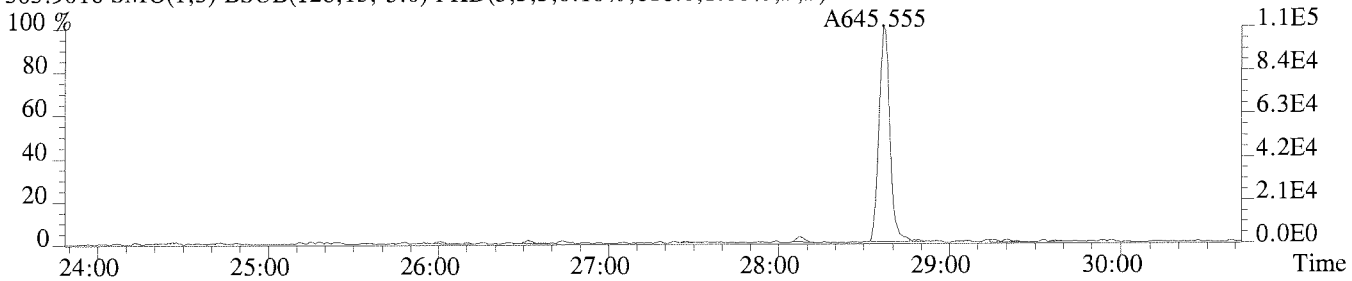
Processed: 30-JUL-08 09:37:37 LAB. ID: ICAL HRCC1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.05e+05	6.16e+02	1.7e+02	1.36e+05	2.13e+03	6.4e+01
2	1,2,3,7,8-PeCDF	4.41e+05	4.20e+02	1.0e+03	2.62e+05	1.31e+03	2.0e+02
3	2,3,4,7,8-PeCDF	4.29e+05	4.20e+02	1.0e+03	2.89e+05	1.31e+03	2.2e+02
4	1,2,3,4,7,8-HxCDF	3.96e+05	1.60e+03	2.5e+02	3.36e+05	3.64e+02	9.2e+02
5	1,2,3,6,7,8-HxCDF	3.44e+05	1.60e+03	2.1e+02	2.91e+05	3.64e+02	8.0e+02
6	2,3,4,6,7,8-HxCDF	3.29e+05	1.60e+03	2.1e+02	2.53e+05	3.64e+02	6.9e+02
7	1,2,3,7,8,9-HxCDF	2.86e+05	1.60e+03	1.8e+02	2.50e+05	3.64e+02	6.9e+02
8	1,2,3,4,6,7,8-HpCDF	3.01e+05	1.08e+03	2.8e+02	3.15e+05	1.03e+03	3.1e+02
9	1,2,3,4,7,8,9-HpCDF	2.11e+05	1.08e+03	2.0e+02	2.01e+05	1.03e+03	2.0e+02
10	OCDF	3.26e+05	8.00e+02	4.1e+02	3.81e+05	2.70e+03	1.4e+02
11	2,3,7,8-TCDD	1.26e+05	1.68e+03	7.5e+01	1.49e+05	6.00e+02	2.5e+02
12	1,2,3,7,8-PeCDD	4.29e+05	2.11e+03	2.0e+02	2.69e+05	5.12e+02	5.3e+02
13	1,2,3,4,7,8-HxCDD	3.53e+05	2.76e+02	1.3e+03	2.79e+05	9.88e+02	2.8e+02
14	1,2,3,6,7,8-HxCDD	3.69e+05	2.76e+02	1.3e+03	3.07e+05	9.88e+02	3.1e+02
15	1,2,3,7,8,9-HxCDD	3.56e+05	2.76e+02	1.3e+03	2.87e+05	9.88e+02	2.9e+02
16	1,2,3,4,6,7,8-HpCDD	2.43e+05	1.38e+03	1.8e+02	2.38e+05	3.44e+02	6.9e+02
17	OCDD	3.76e+05	6.00e+02	6.3e+02	4.12e+05	7.04e+02	5.9e+02
18	13C-2,3,7,8-TCDF	8.12e+06	3.34e+03	2.4e+03	1.07e+07	2.56e+03	4.2e+03
19	13C-1,2,3,7,8-PeCDF	1.25e+07	2.16e+02	5.8e+04	8.18e+06	1.37e+03	6.0e+03
20	13C-1,2,3,4,7,8-HxCDF	1.34e+07	8.48e+02	1.6e+04	2.58e+07	1.62e+03	1.6e+04
21	13C-1,2,3,4,6,7,8-HpCDF	8.27e+06	3.50e+03	2.4e+03	1.92e+07	8.78e+03	2.2e+03
22	13C-2,3,7,8-TCDD	7.58e+06	6.82e+03	1.1e+03	9.88e+06	9.76e+02	1.0e+04
23	13C-1,2,3,7,8-PeCDD	1.10e+07	2.08e+03	5.3e+03	7.06e+06	1.22e+03	5.8e+03
24	13C-1,2,3,6,7,8-HxCDD	2.16e+07	4.80e+02	4.5e+04	1.74e+07	1.26e+03	1.4e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.61e+07	2.07e+03	7.8e+03	1.57e+07	1.60e+03	9.8e+03
26	13C-OCDD	2.19e+07	4.96e+02	4.4e+04	2.49e+07	5.28e+02	4.7e+04
27	13C-1,2,3,4-TCDD	7.10e+06	6.82e+03	1.0e+03	9.02e+06	9.76e+02	9.2e+03
28	13C-1,2,3,7,8,9-HxCDD	2.17e+07	4.80e+02	4.5e+04	1.75e+07	1.26e+03	1.4e+04
29	37Cl-2,3,7,8-TCDD	3.02e+05	5.28e+02	5.7e+02			

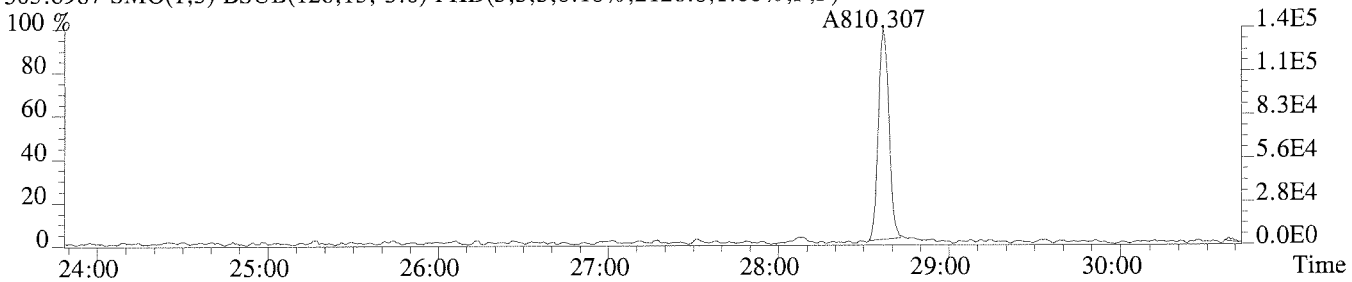
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200006 #1-575 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

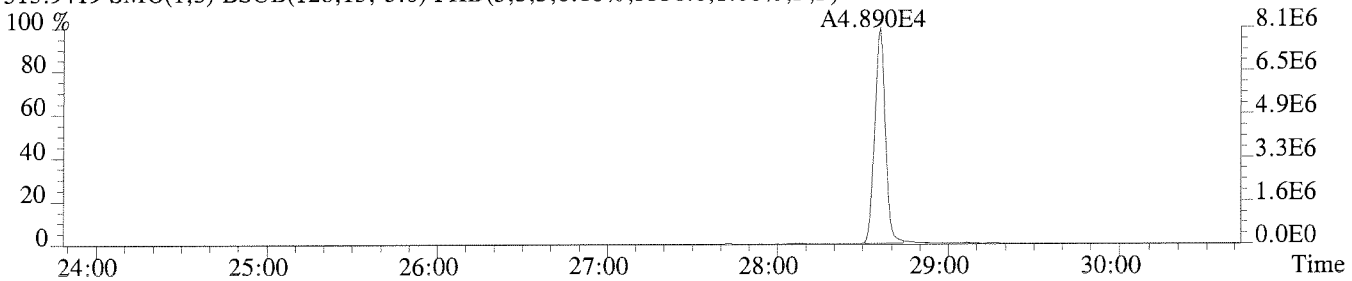
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,616.0,1.00%,F,F)



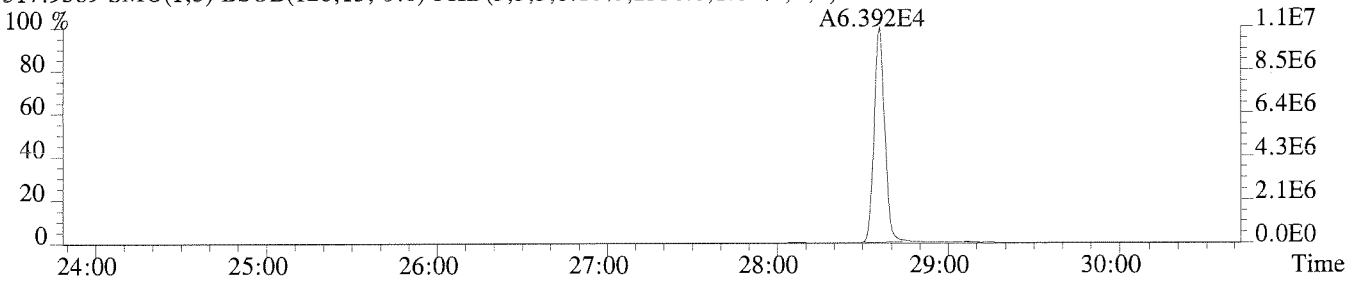
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2128.0,1.00%,F,F)



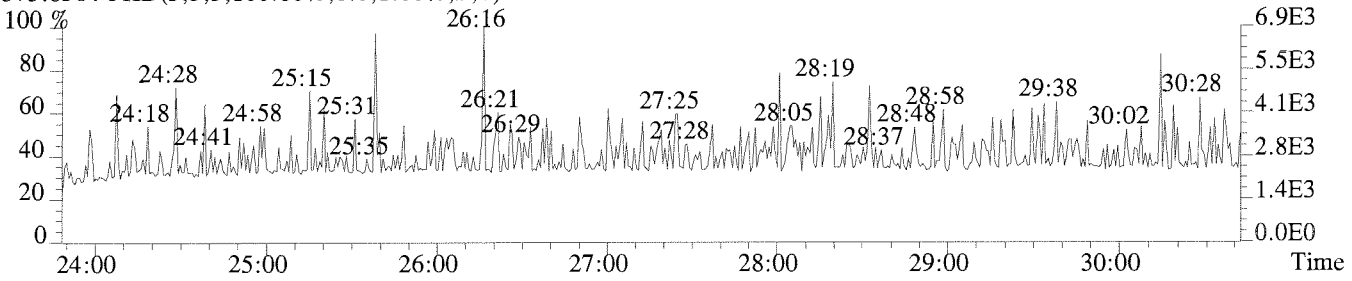
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3336.0,1.00%,F,F)



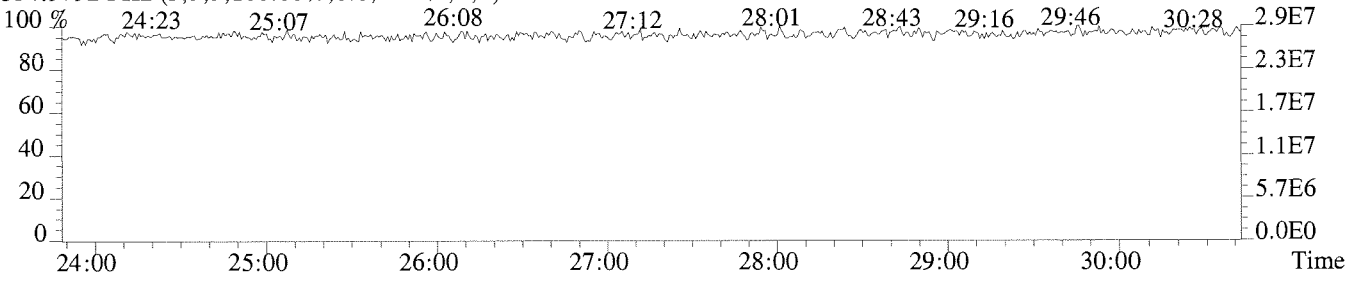
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2556.0,1.00%,F,F)



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

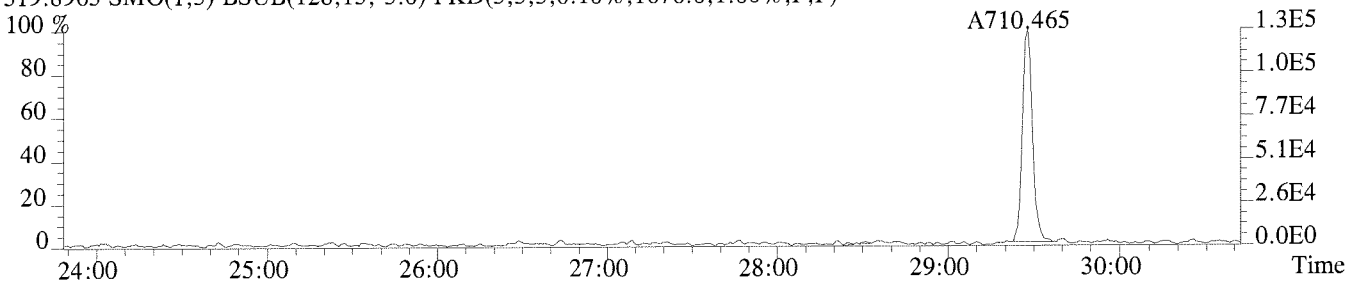


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

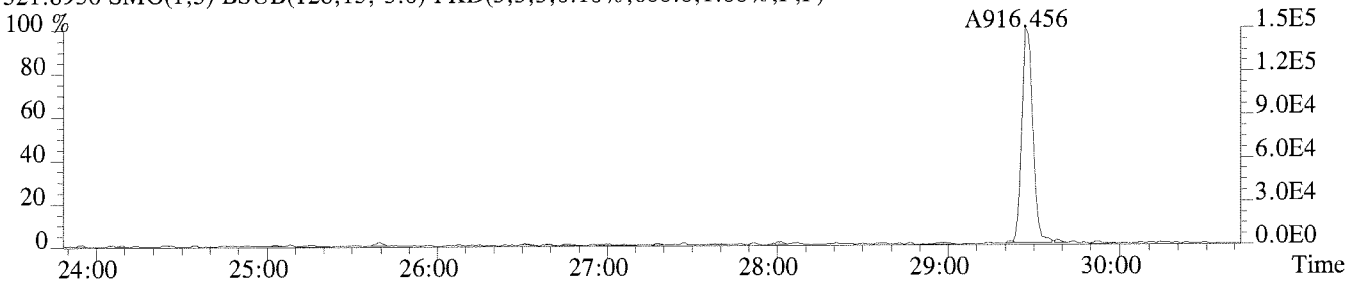


File:P200006 #1-575 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

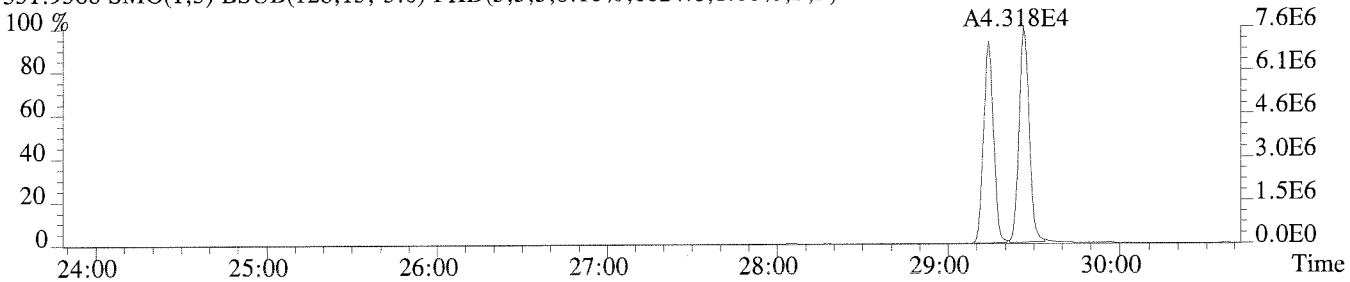
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1676.0,1.00%,F,F)



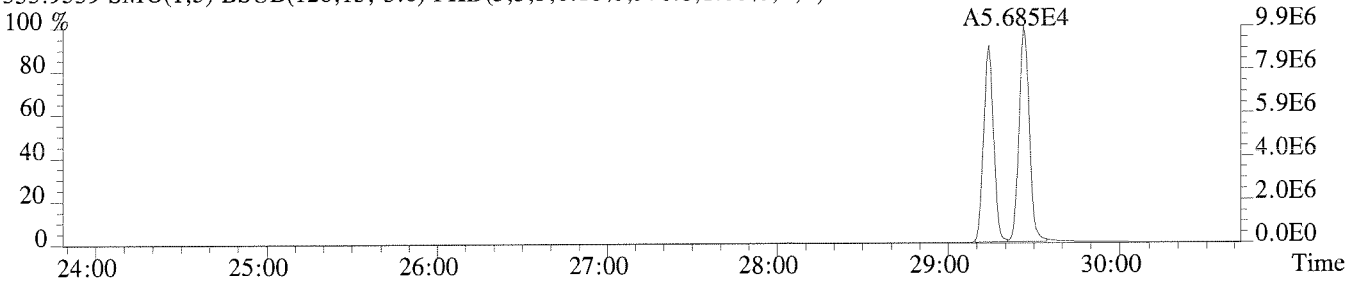
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,600.0,1.00%,F,F)



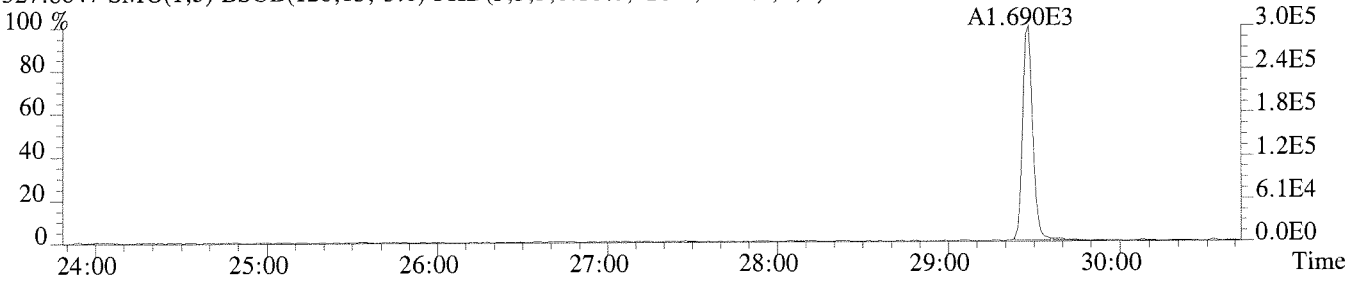
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,6824.0,1.00%,F,F)



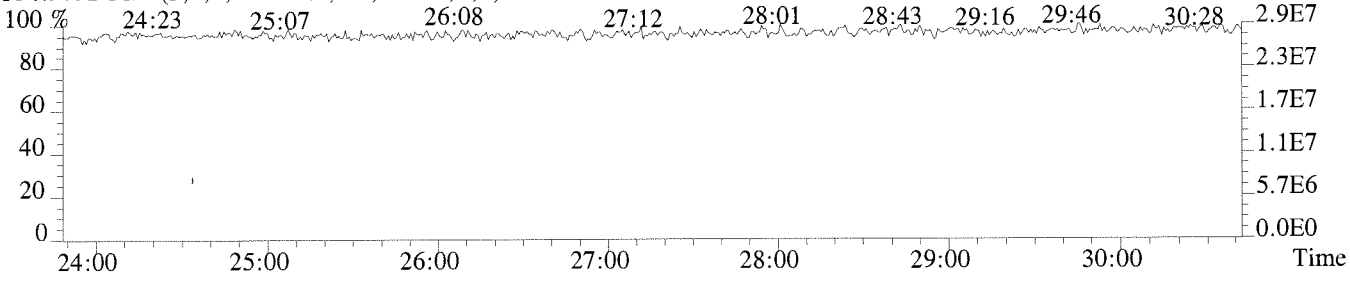
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,F)

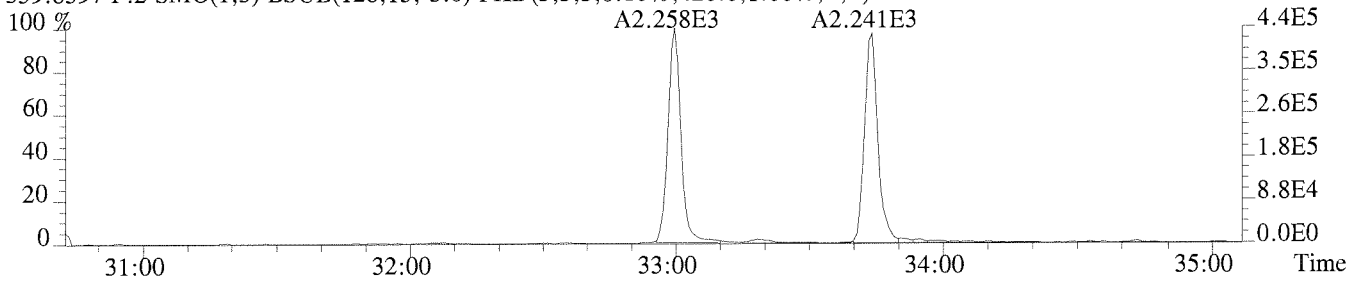


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

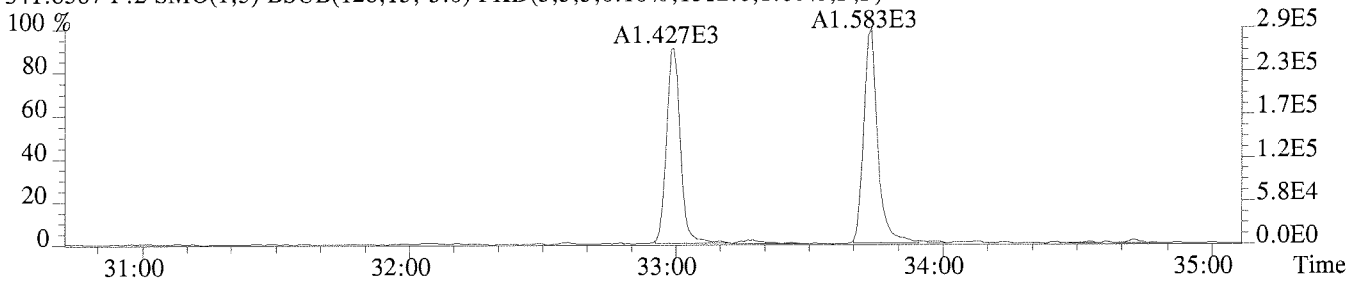


File:P200006 #1-400 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

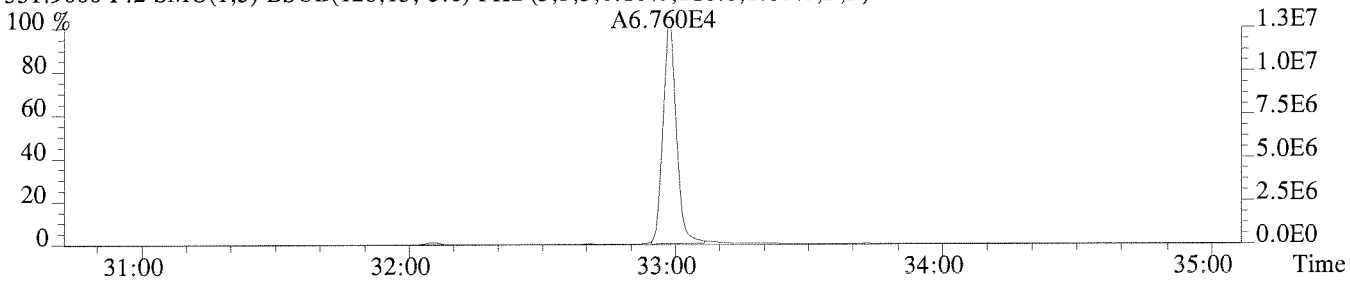
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,420.0,1.00%,F,F)



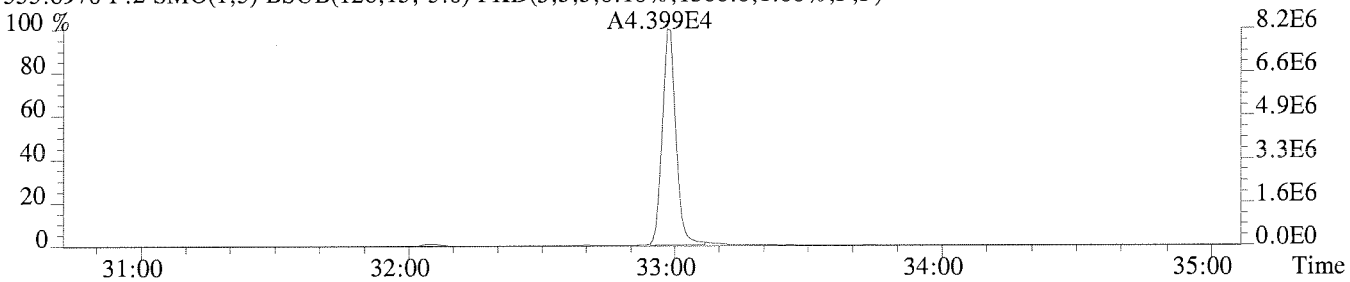
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1312.0,1.00%,F,F)



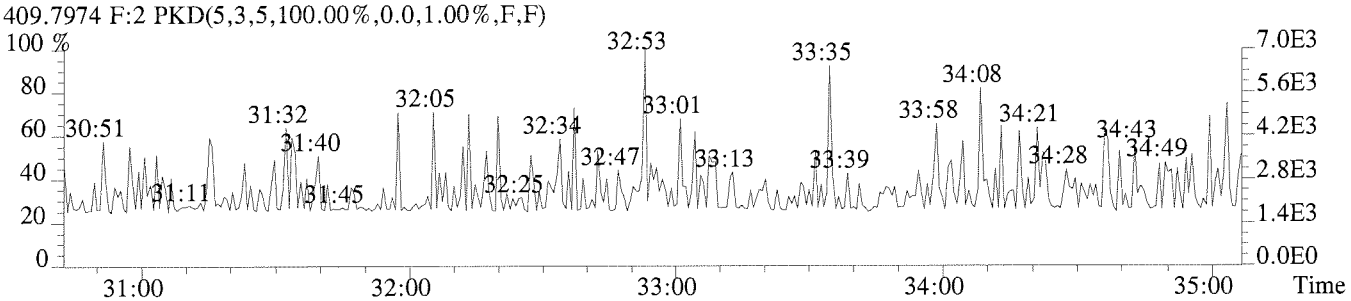
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,F)



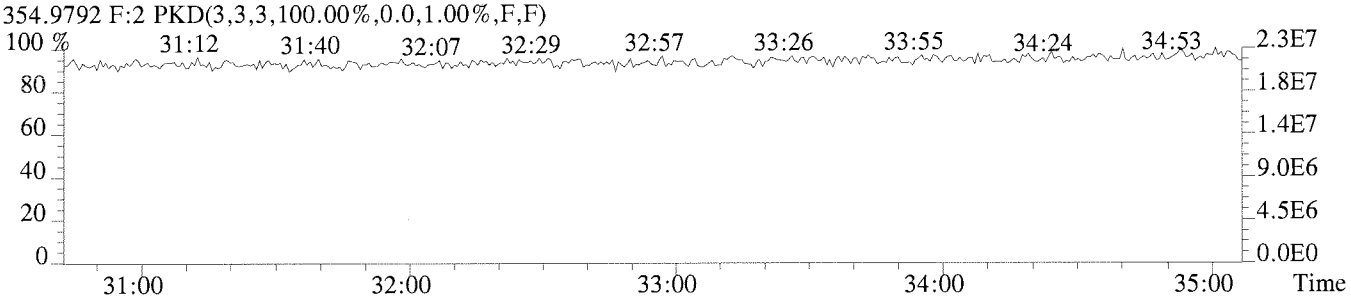
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1368.0,1.00%,F,F)



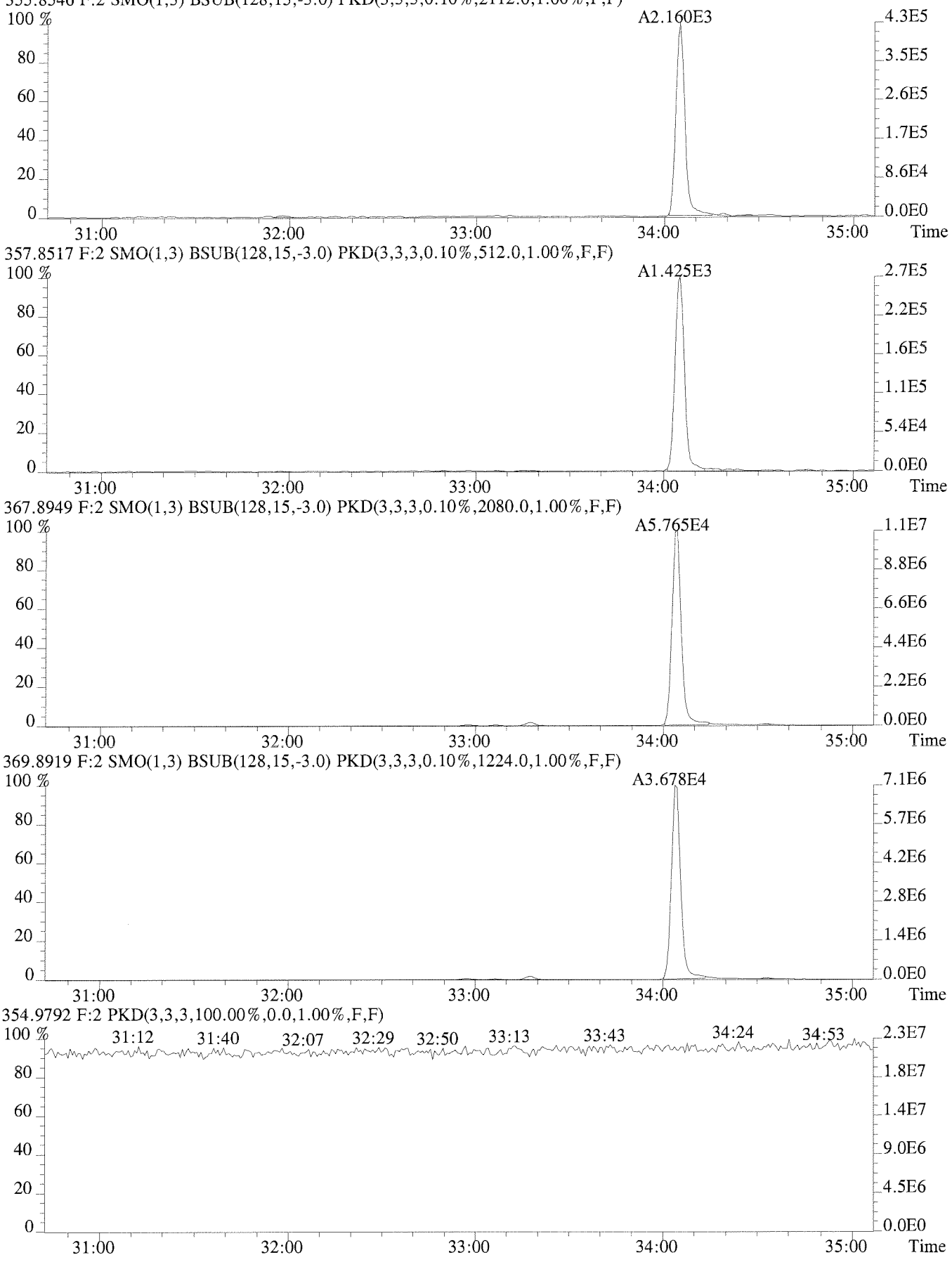
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

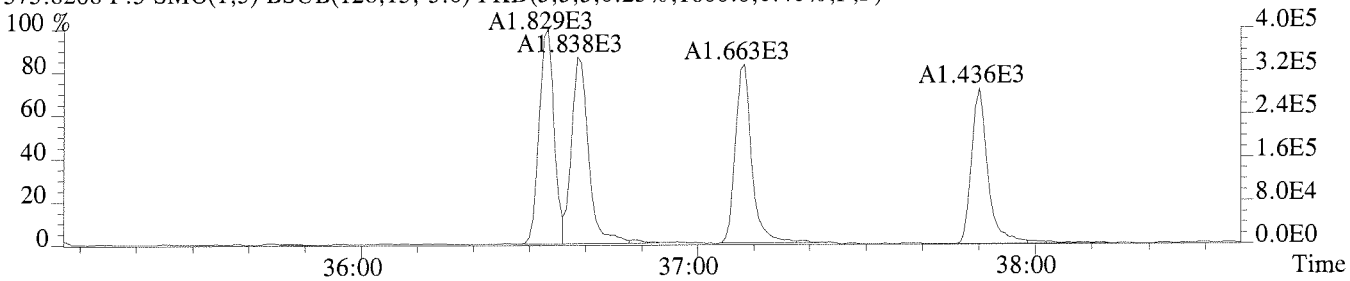


File:P200006 #1-400 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

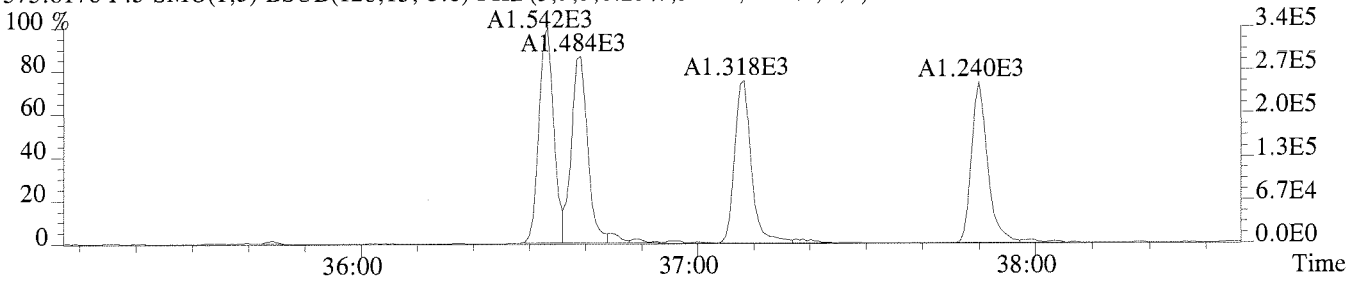


File:P200006 #1-317 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

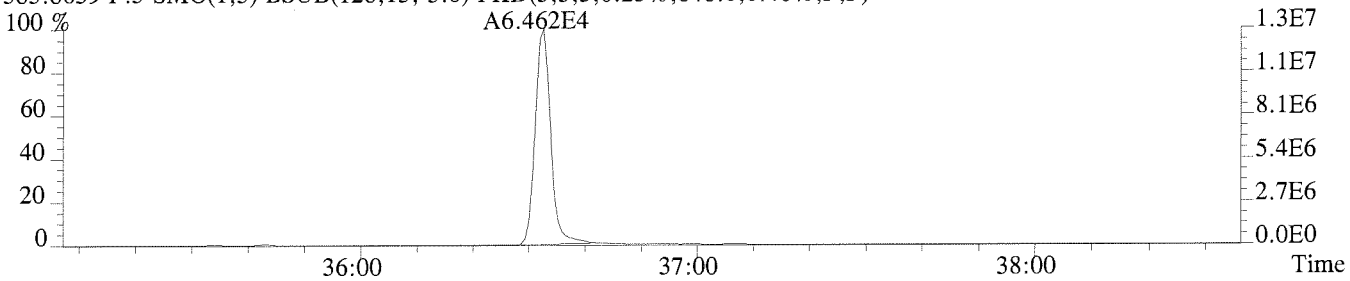
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1600.0,0.40%,F,F)



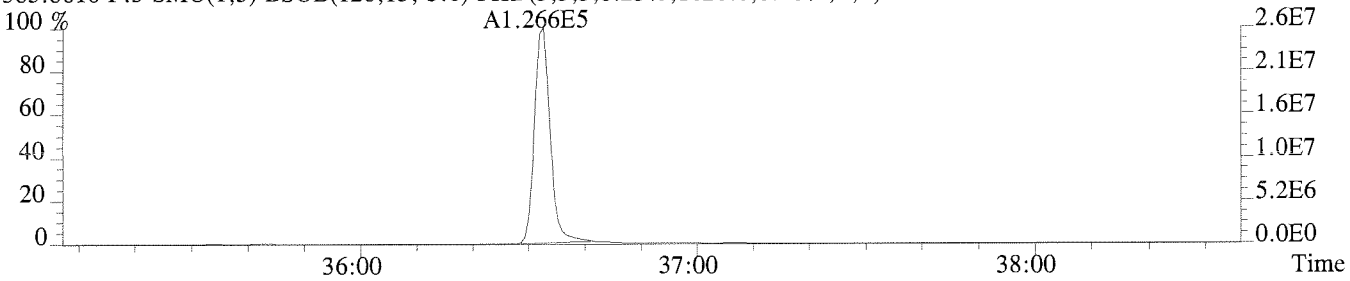
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,364.0,0.40%,F,F)



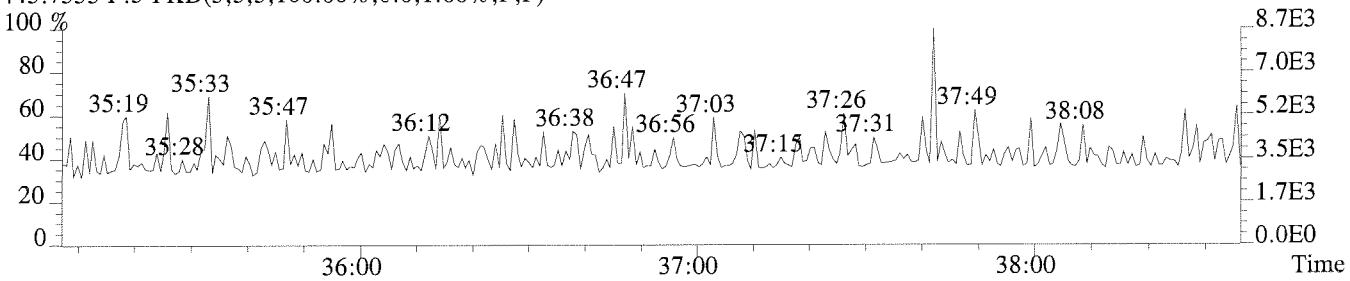
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,848.0,0.40%,F,F)



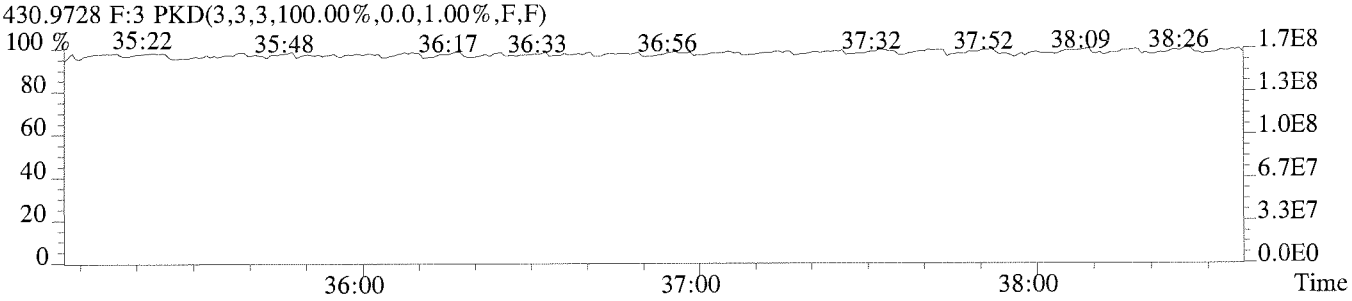
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1620.0,0.40%,F,F)



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

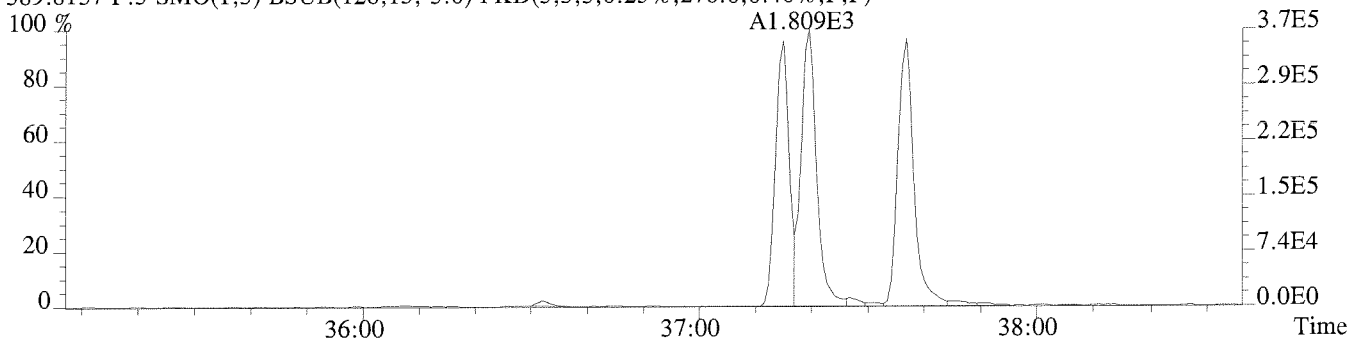


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

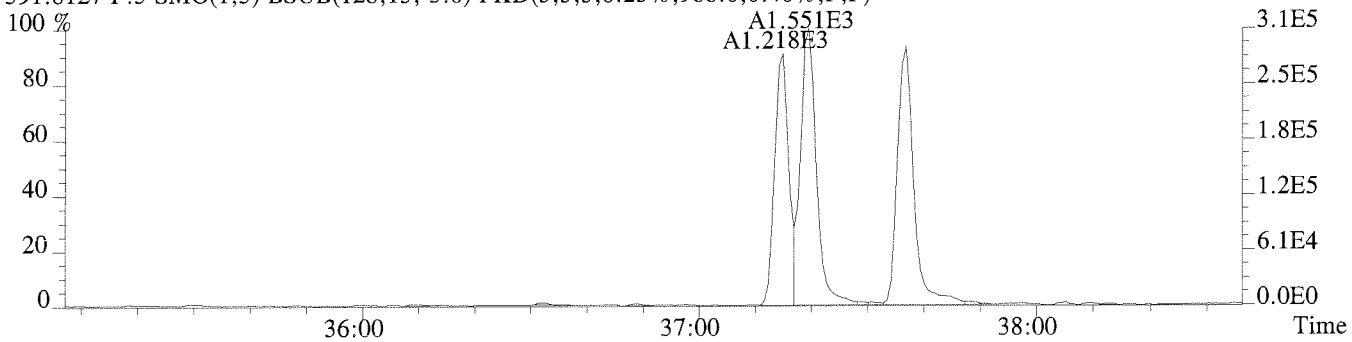


File:P200006 #1-317 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

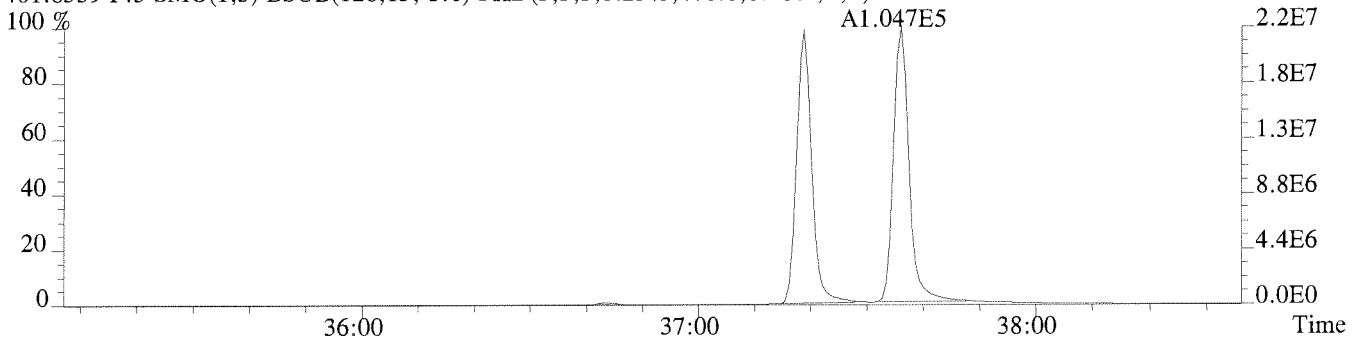
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,276.0,0.40%,F,F)



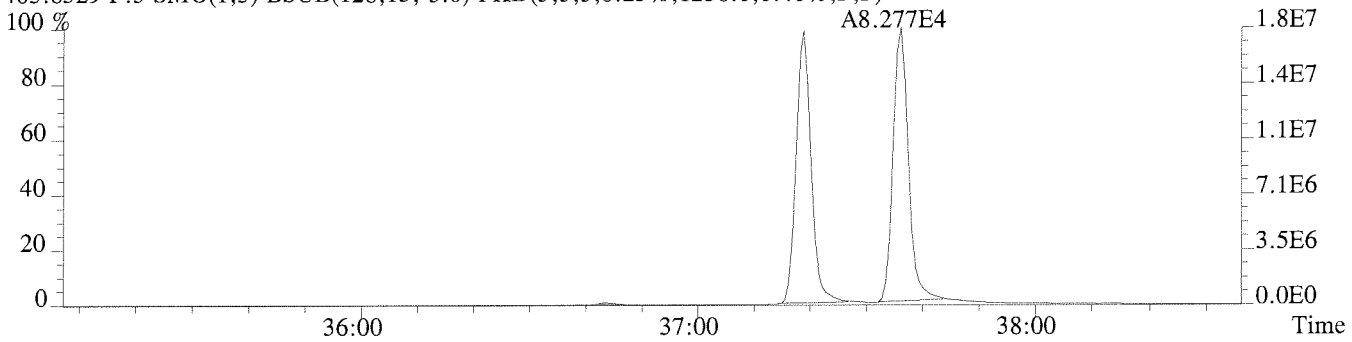
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,988.0,0.40%,F,F)



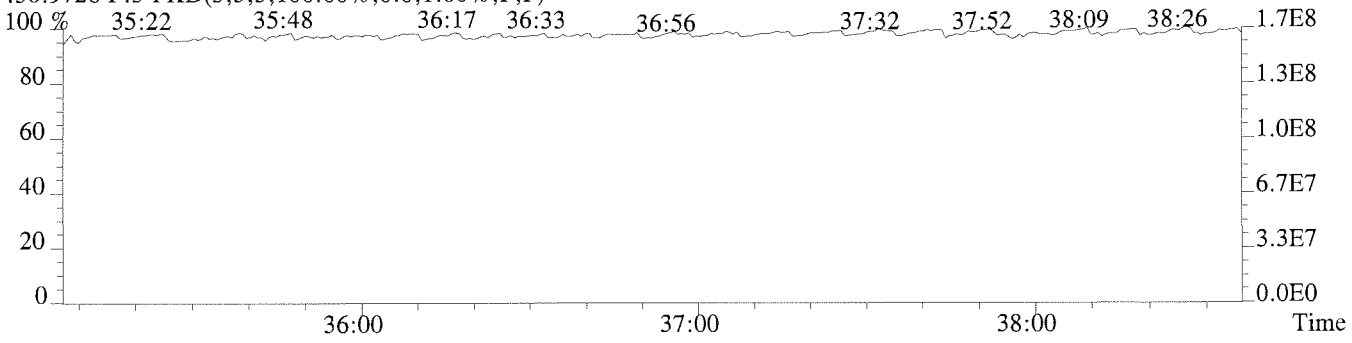
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,480.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1256.0,0.40%,F,F)

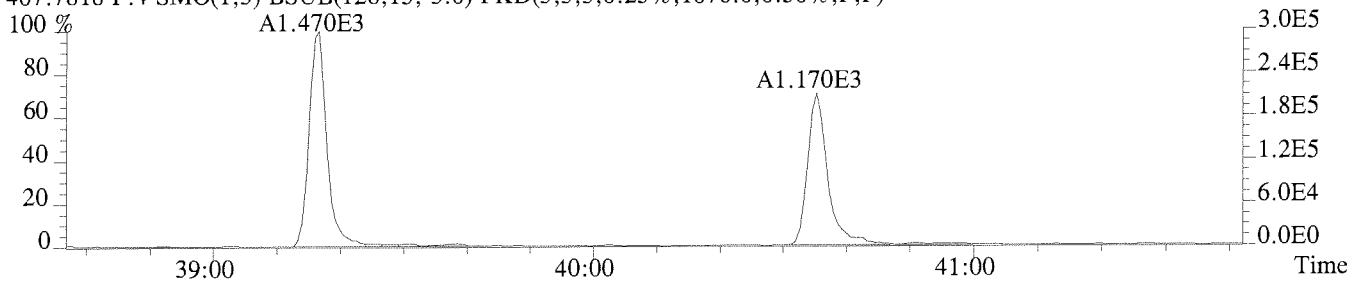


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

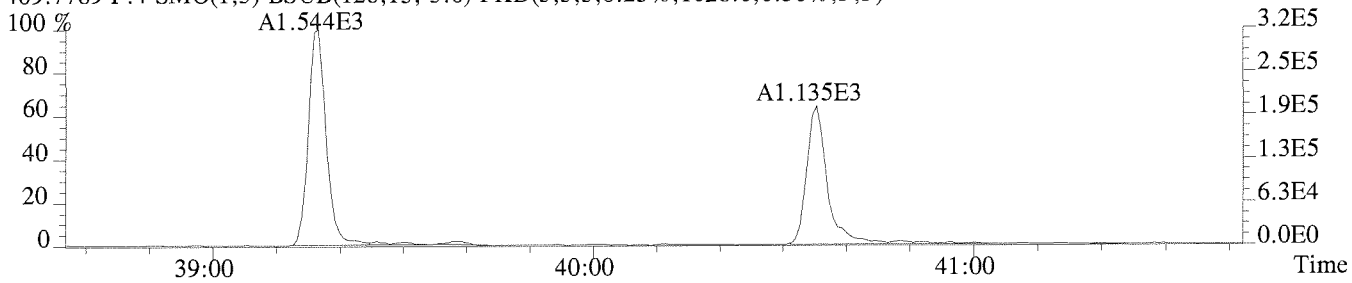


File:P200006 #1-281 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

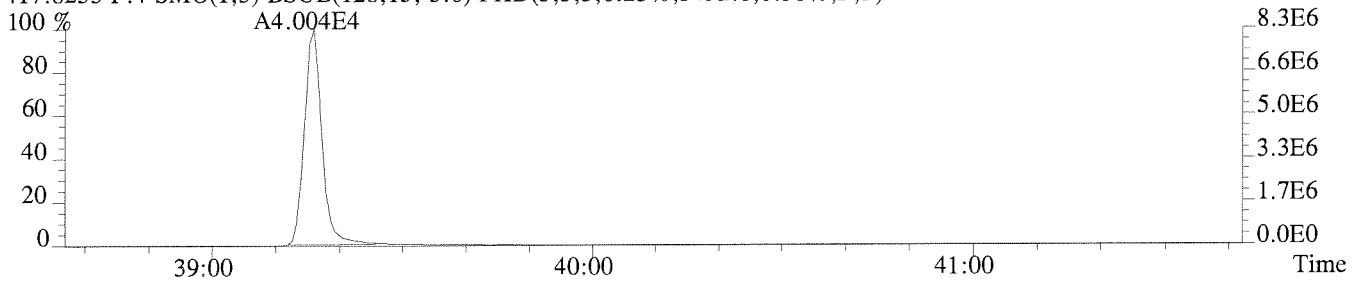
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1076.0,0.50%,F,F)



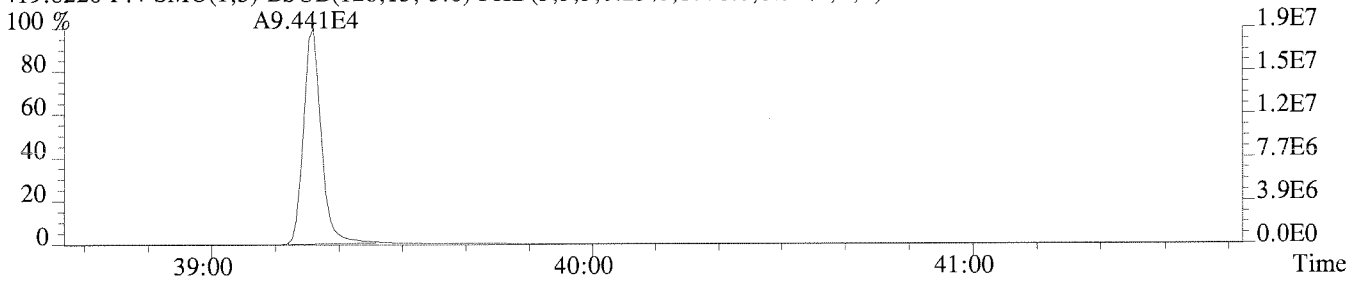
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1028.0,0.50%,F,F)



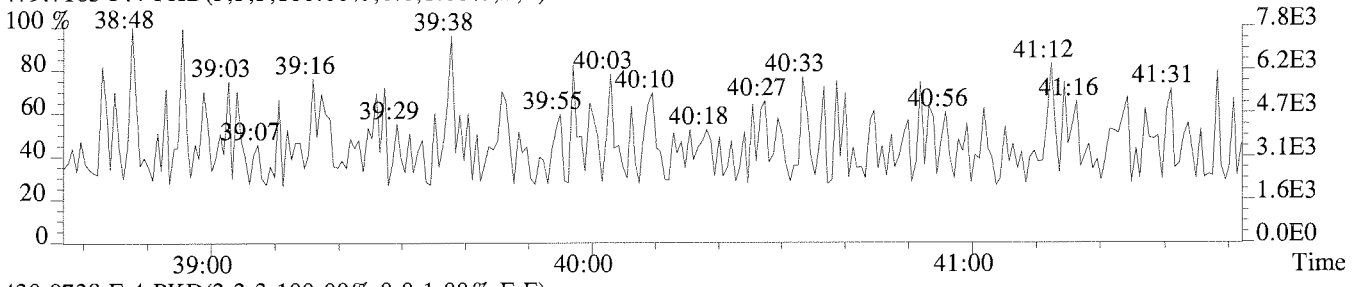
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3492.0,0.50%,F,F)



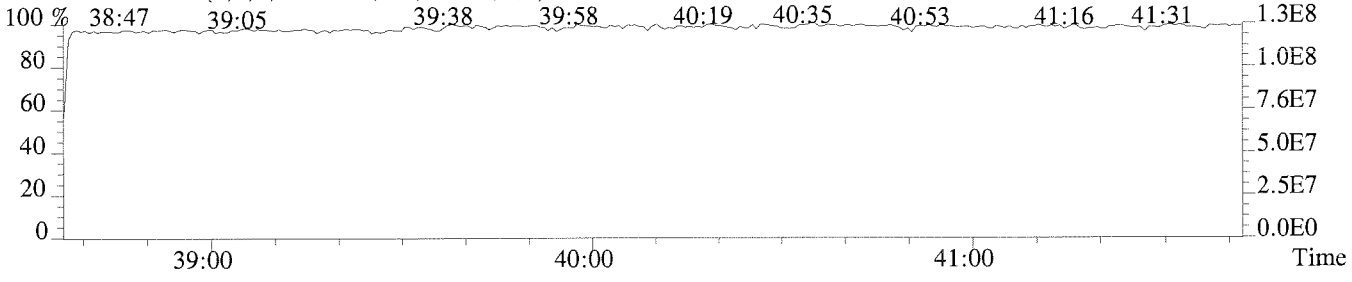
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8776.0,0.50%,F,F)



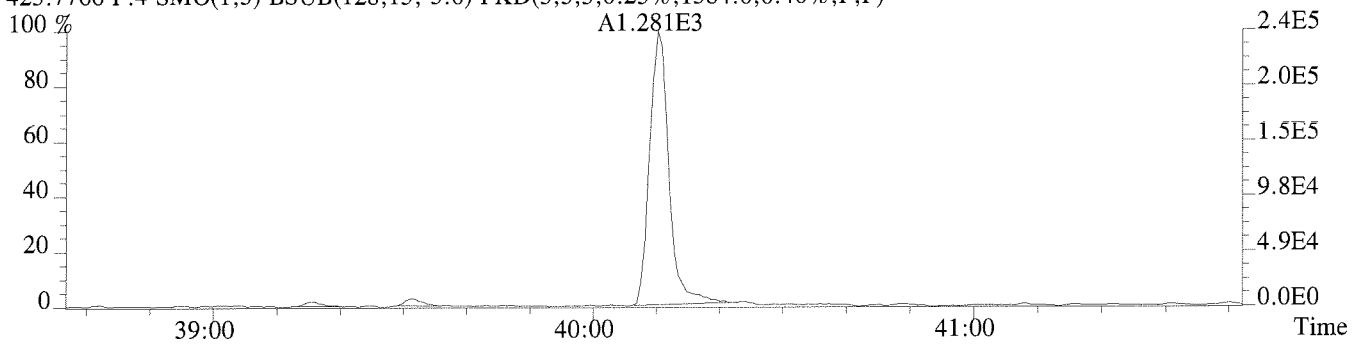
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



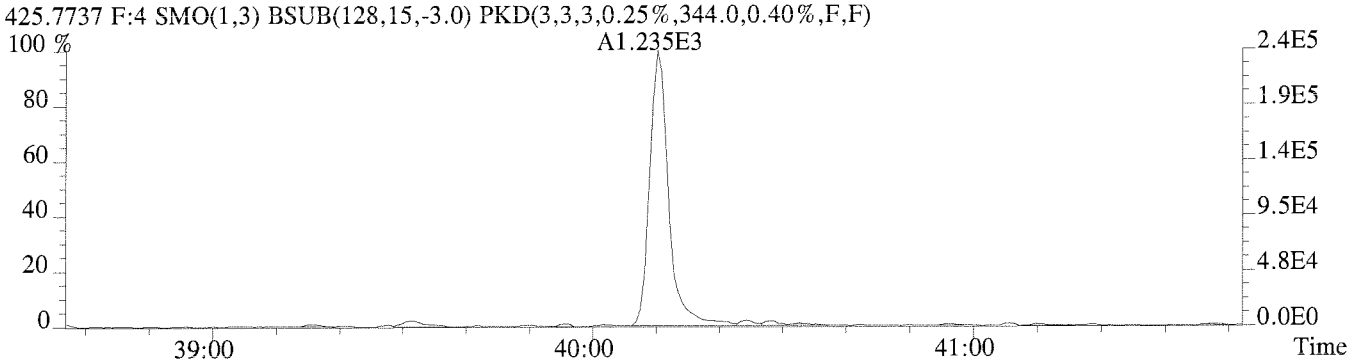
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



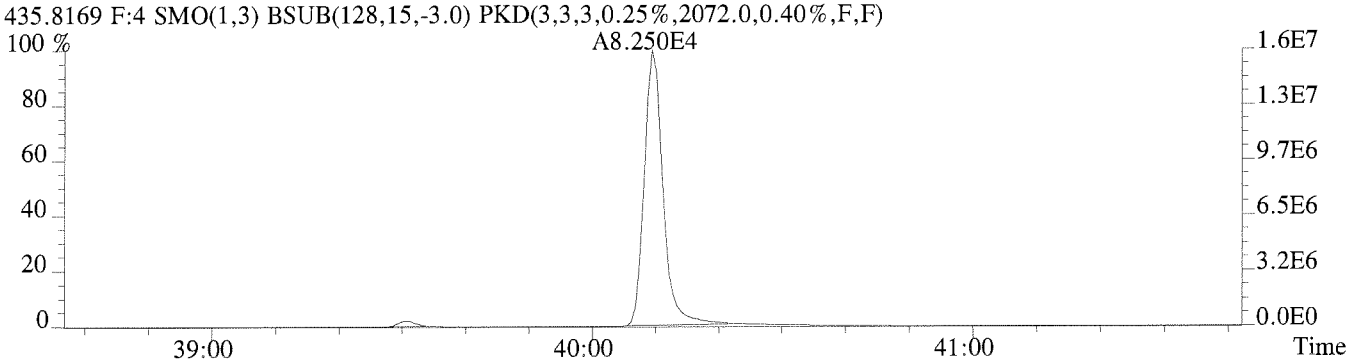
File:P200006 #1-281 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,F)



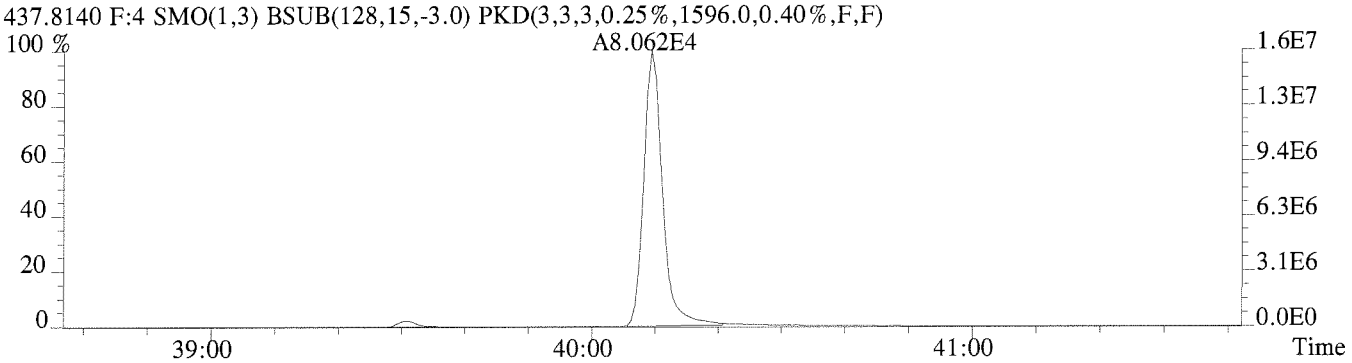
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,F)



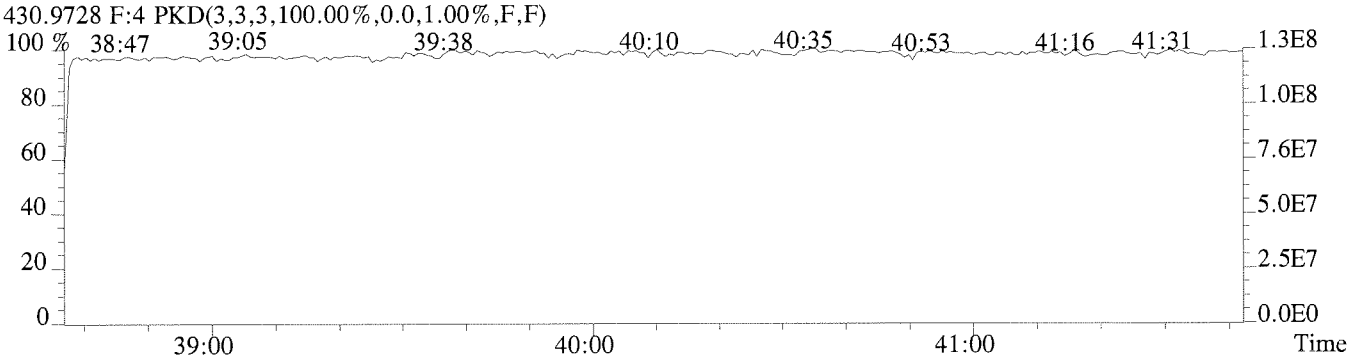
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2072.0,0.40%,F,F)



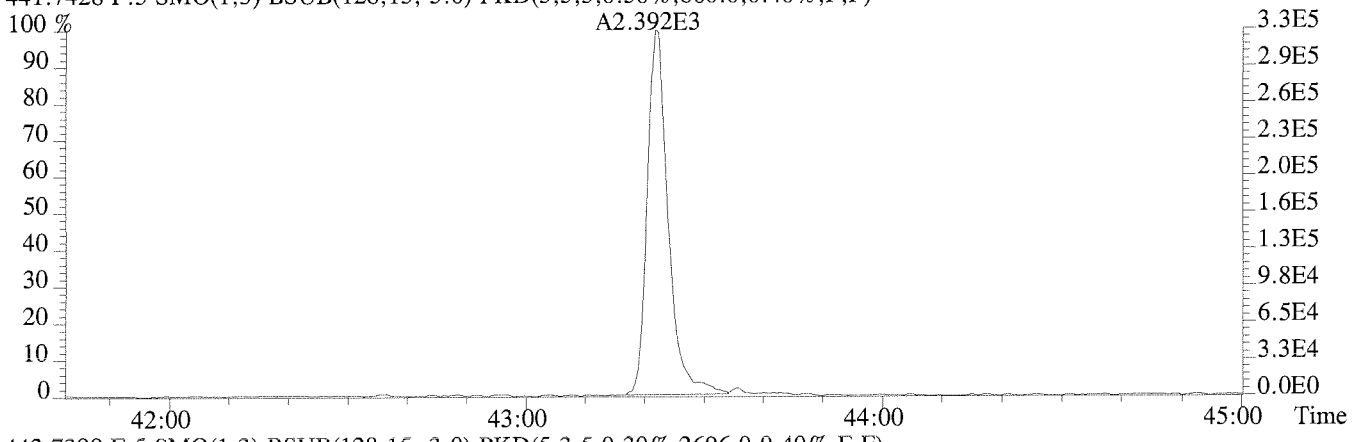
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1596.0,0.40%,F,F)



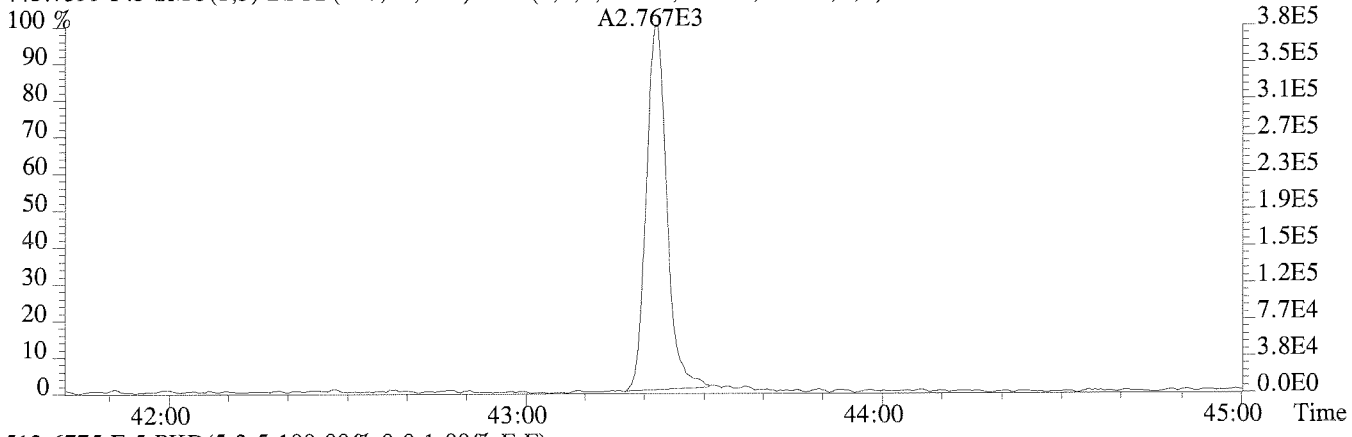
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



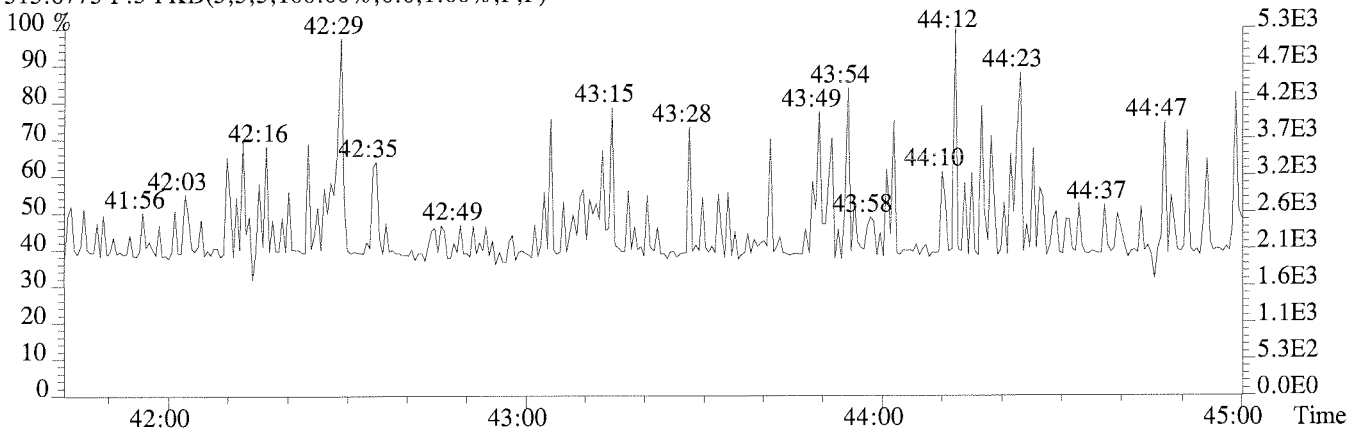
File:P200006 #1-364 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,800.0,0.40%,F,F)



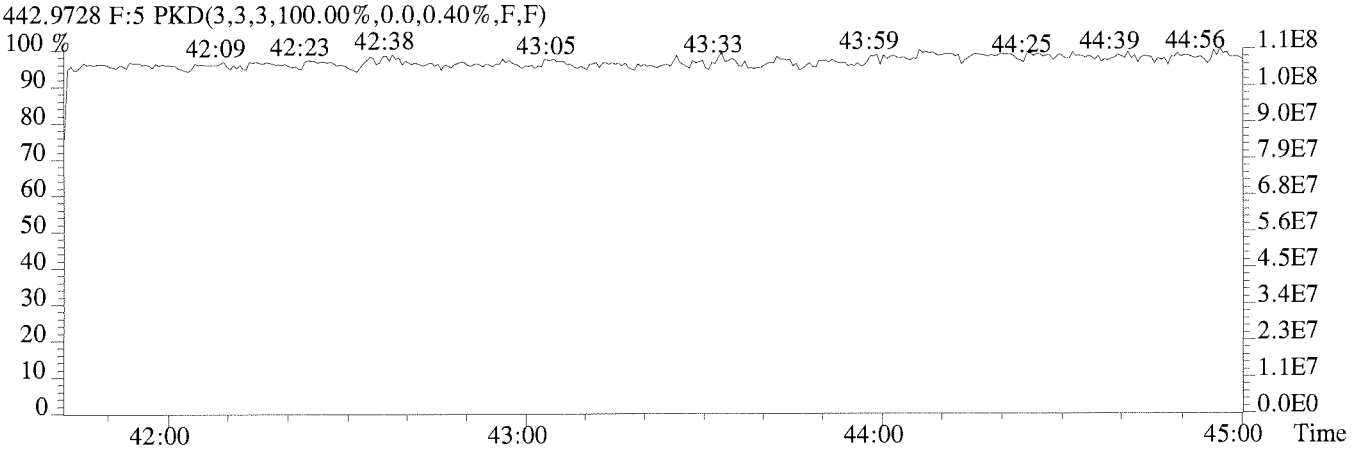
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2696.0,0.40%,F,F)



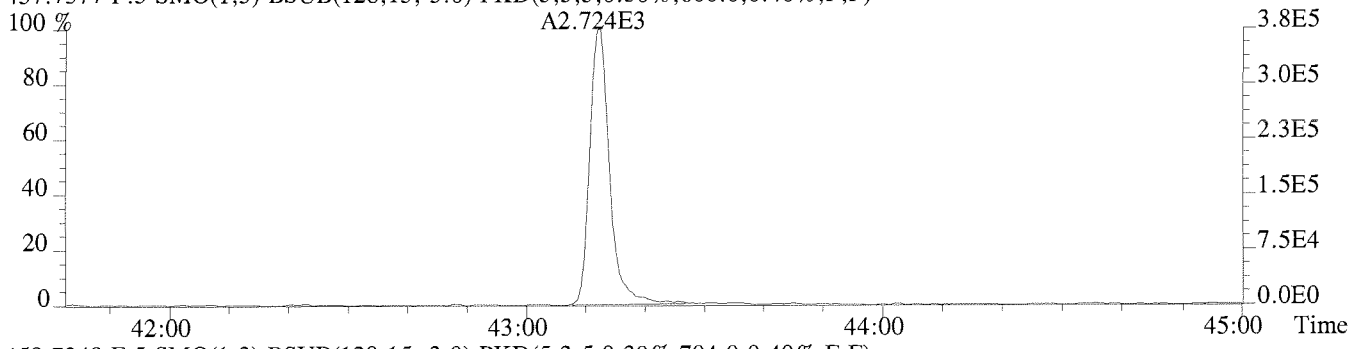
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



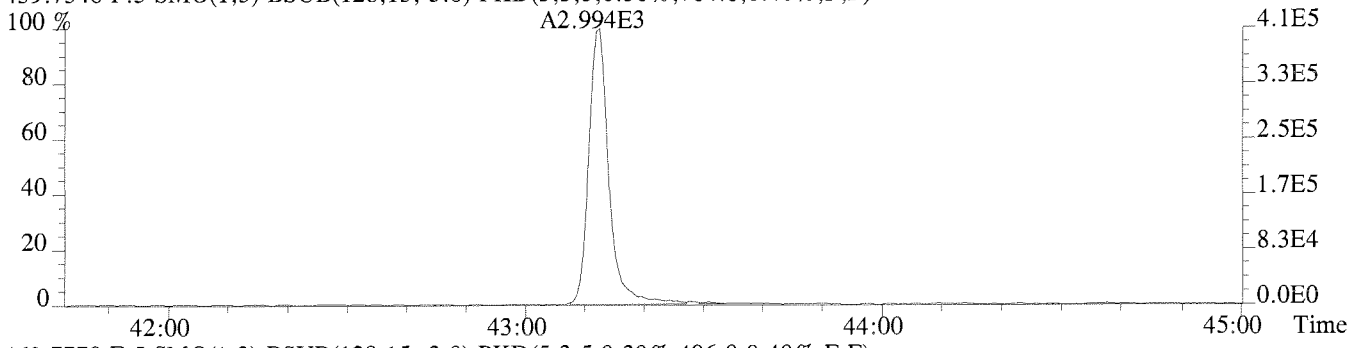
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



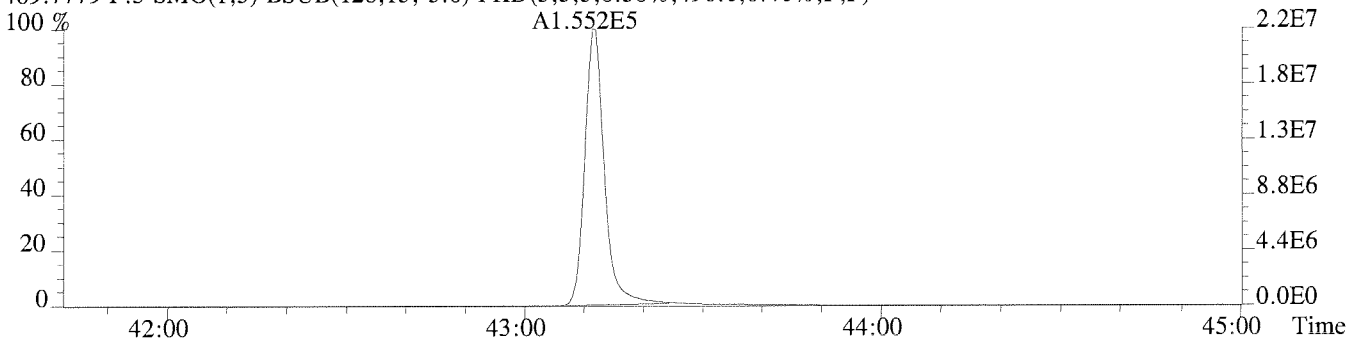
File:P200006 #1-364 Acq:18-JUL-2008 16:12:01 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,600.0,0.40%,F,F)



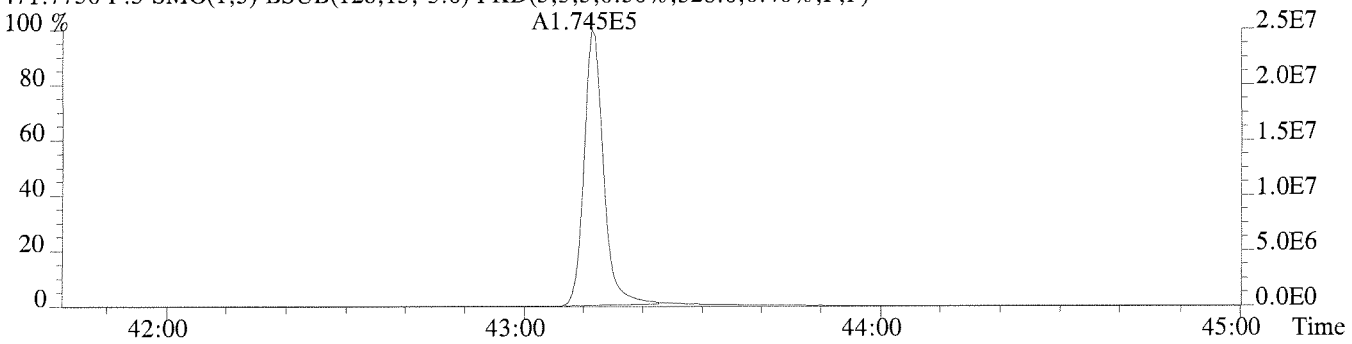
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,704.0,0.40%,F,F)



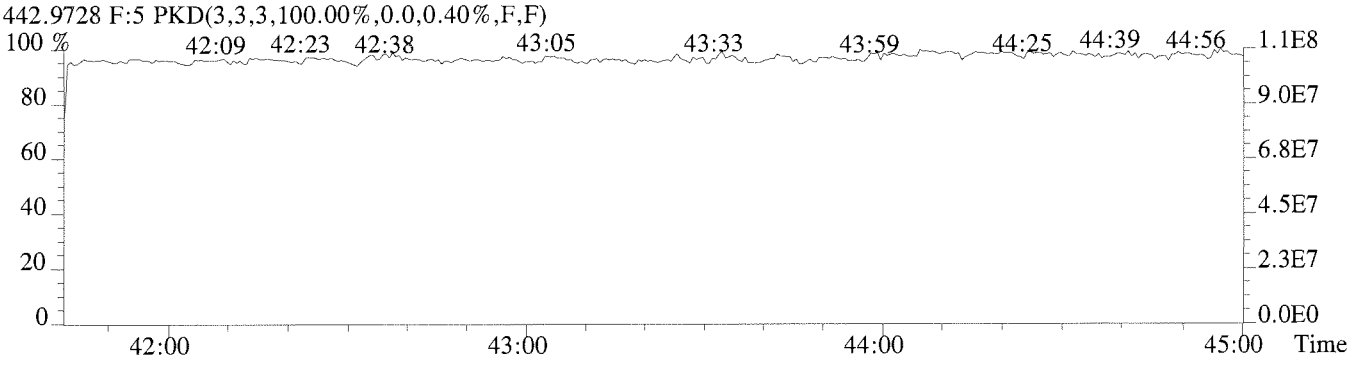
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,496.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,528.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename P200005 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 15:25:44
Processed: 30-JUL-08 09:37:37 Sample ID: ICAL HRCC2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:38	1.838e+03	2.513e+03	0.73	yes	no	0.72
2	Unk	1,2,3,7,8-PeCDF	32:60	5.862e+03	3.824e+03	1.53	yes	no	0.71
3	Unk	2,3,4,7,8-PeCDF	33:44	6.017e+03	3.698e+03	1.63	yes	no	0.73
4	Unk	1,2,3,4,7,8-HxCDF	36:33	4.703e+03	4.002e+03	1.18	yes	no	0.93
5	Unk	1,2,3,6,7,8-HxCDF	36:39	4.994e+03	4.264e+03	1.17	yes	no	0.96
6	Unk	2,3,4,6,7,8-HxCDF	37:08	4.288e+03	3.672e+03	1.17	yes	no	0.86
7	Unk	1,2,3,7,8,9-HxCDF	37:50	3.883e+03	3.247e+03	1.20	yes	no	0.79
8	Unk	1,2,3,4,6,7,8-HpCDF	39:17	3.724e+03	3.912e+03	0.95	yes	no	1.19
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	3.024e+03	2.908e+03	1.04	yes	no	0.94
10	Unk	OCDF	43:22	6.044e+03	6.913e+03	0.87	yes	no	0.83
11	Unk	2,3,7,8-TCDD	29:28	1.819e+03	2.583e+03	0.70	yes	no	0.84
12	Unk	1,2,3,7,8-PeCDD	34:05	5.643e+03	3.707e+03	1.52	yes	no	0.79
13	Unk	1,2,3,4,7,8-HxCDD	37:15	4.256e+03	3.144e+03	1.35	yes	no	0.81
14	Unk	1,2,3,6,7,8-HxCDD	37:20	4.673e+03	4.002e+03	1.17	yes	no	0.92
15	Unk	1,2,3,7,8,9-HxCDD	37:37	4.257e+03	3.665e+03	1.16	yes	no	0.89
16	Unk	1,2,3,4,6,7,8-HpCDD	40:11	3.162e+03	3.048e+03	1.04	yes	no	0.79
17	Unk	OCDD	43:12	6.308e+03	7.317e+03	0.86	yes	no	0.88
18	IS	13C-2,3,7,8-TCDF	28:36	5.390e+04	7.057e+04	0.76	yes	no	1.25
19	IS	13C-1,2,3,7,8-PeCDF	32:59	6.923e+04	4.388e+04	1.58	yes	no	1.23
20	IS	13C-1,2,3,4,7,8-HxCDF	36:33	6.610e+04	1.279e+05	0.52	yes	no	0.98
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	4.010e+04	9.181e+04	0.44	yes	no	0.69
22	IS	13C-2,3,7,8-TCDD	29:27	4.801e+04	6.276e+04	0.76	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:05	5.823e+04	3.752e+04	1.55	yes	no	1.05
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.025e+05	8.281e+04	1.24	yes	no	0.97
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	8.157e+04	8.023e+04	1.02	yes	no	0.85
26	IS	13C-OCDD	43:12	1.519e+05	1.717e+05	0.88	yes	no	0.87
27	RS/RT	13C-1,2,3,4-TCDD	29:14	4.443e+04	5.598e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.057e+05	8.575e+04	1.23	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	4.910e+03					0.99

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC2

Run #2 Filename P200005 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 15:25:44

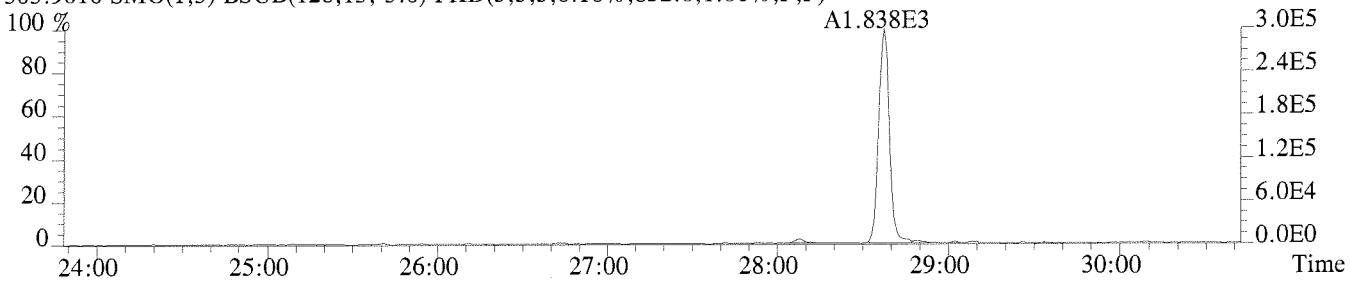
Processed: 30-JUL-08 09:37:37 LAB. ID: ICAL HRCC2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	3.02e+05	8.52e+02	3.5e+02	4.03e+05	1.68e+03	2.4e+02
2	1,2,3,7,8-PeCDF	1.14e+06	1.68e+02	6.8e+03	7.49e+05	1.38e+03	5.4e+02
3	2,3,4,7,8-PeCDF	1.16e+06	1.68e+02	6.9e+03	7.39e+05	1.38e+03	5.4e+02
4	1,2,3,4,7,8-HxCDF	1.06e+06	1.54e+03	6.9e+02	9.02e+05	7.08e+02	1.3e+03
5	1,2,3,6,7,8-HxCDF	9.84e+05	1.54e+03	6.4e+02	8.11e+05	7.08e+02	1.1e+03
6	2,3,4,6,7,8-HxCDF	8.83e+05	1.54e+03	5.7e+02	7.48e+05	7.08e+02	1.1e+03
7	1,2,3,7,8,9-HxCDF	7.76e+05	1.54e+03	5.0e+02	6.39e+05	7.08e+02	9.0e+02
8	1,2,3,4,6,7,8-HpCDF	7.77e+05	8.76e+02	8.9e+02	8.08e+05	1.91e+03	4.2e+02
9	1,2,3,4,7,8,9-HpCDF	5.44e+05	8.76e+02	6.2e+02	5.23e+05	1.91e+03	2.7e+02
10	OCDF	8.50e+05	9.40e+02	9.0e+02	9.53e+05	3.31e+03	2.9e+02
11	2,3,7,8-TCDD	3.34e+05	2.20e+03	1.5e+02	4.53e+05	8.56e+02	5.3e+02
12	1,2,3,7,8-PeCDD	1.12e+06	2.39e+03	4.7e+02	7.29e+05	5.60e+02	1.3e+03
13	1,2,3,4,7,8-HxCDD	9.37e+05	6.72e+02	1.4e+03	7.33e+05	1.01e+03	7.2e+02
14	1,2,3,6,7,8-HxCDD	9.99e+05	6.72e+02	1.5e+03	8.03e+05	1.01e+03	7.9e+02
15	1,2,3,7,8,9-HxCDD	9.17e+05	6.72e+02	1.4e+03	8.00e+05	1.01e+03	7.9e+02
16	1,2,3,4,6,7,8-HpCDD	6.10e+05	1.26e+03	4.8e+02	6.03e+05	4.20e+02	1.4e+03
17	OCDD	9.23e+05	5.52e+02	1.7e+03	1.07e+06	8.56e+02	1.3e+03
18	13C-2,3,7,8-TCDF	8.82e+06	4.03e+03	2.2e+03	1.16e+07	3.61e+03	3.2e+03
19	13C-1,2,3,7,8-PeCDF	1.31e+07	4.48e+02	2.9e+04	8.42e+06	1.12e+03	7.5e+03
20	13C-1,2,3,4,7,8-HxCDF	1.40e+07	9.44e+02	1.5e+04	2.73e+07	2.87e+03	9.5e+03
21	13C-1,2,3,4,6,7,8-HpCDF	8.44e+06	9.04e+03	9.3e+02	1.91e+07	4.75e+03	4.0e+03
22	13C-2,3,7,8-TCDD	8.31e+06	5.35e+03	1.6e+03	1.09e+07	1.16e+03	9.3e+03
23	13C-1,2,3,7,8-PeCDD	1.14e+07	2.12e+03	5.4e+03	7.36e+06	1.53e+03	4.8e+03
24	13C-1,2,3,6,7,8-HxCDD	2.23e+07	8.76e+02	2.5e+04	1.81e+07	1.71e+03	1.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.57e+07	2.68e+03	5.9e+03	1.57e+07	1.00e+03	1.6e+04
26	13C-OCDD	2.19e+07	4.64e+02	4.7e+04	2.45e+07	6.24e+02	3.9e+04
27	13C-1,2,3,4-TCDD	7.80e+06	5.35e+03	1.5e+03	9.87e+06	1.16e+03	8.5e+03
28	13C-1,2,3,7,8,9-HxCDD	2.24e+07	8.76e+02	2.6e+04	1.81e+07	1.71e+03	1.1e+04
29	37Cl-2,3,7,8-TCDD	8.71e+05	9.04e+02	9.6e+02			

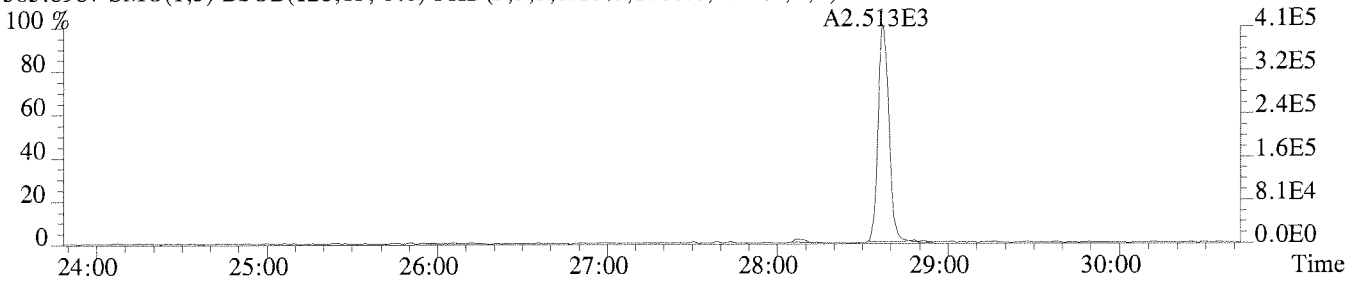
Columbia Analytical Services, Inc.
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Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200005 #1-575 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

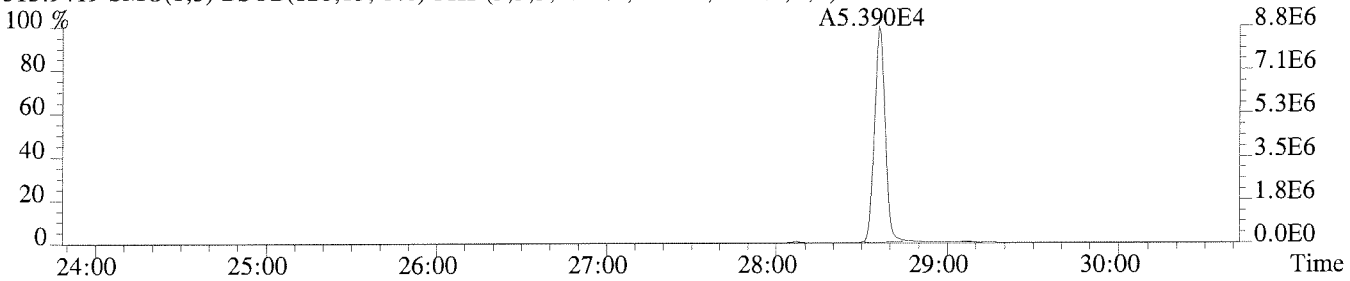
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,852.0,1.00%,F,F)



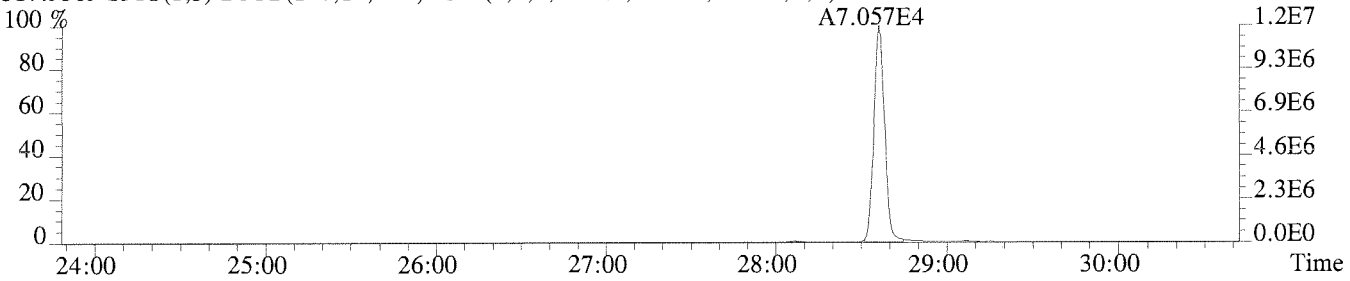
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1680.0,1.00%,F,F)



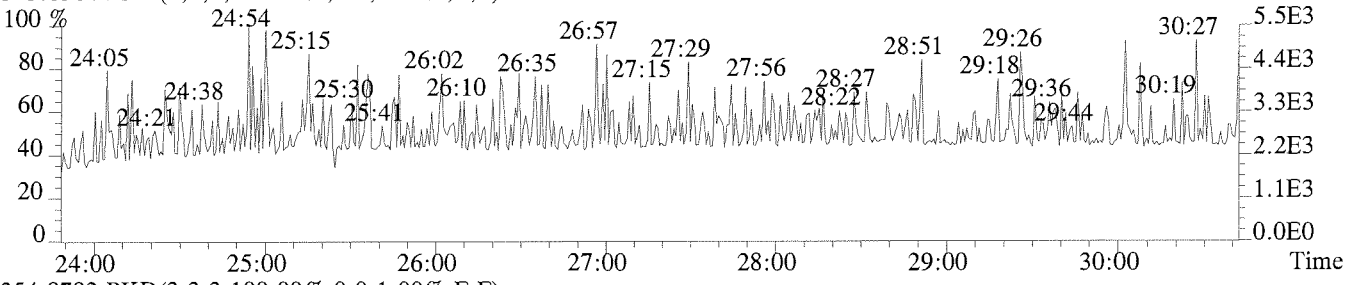
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,4032.0,1.00%,F,F)



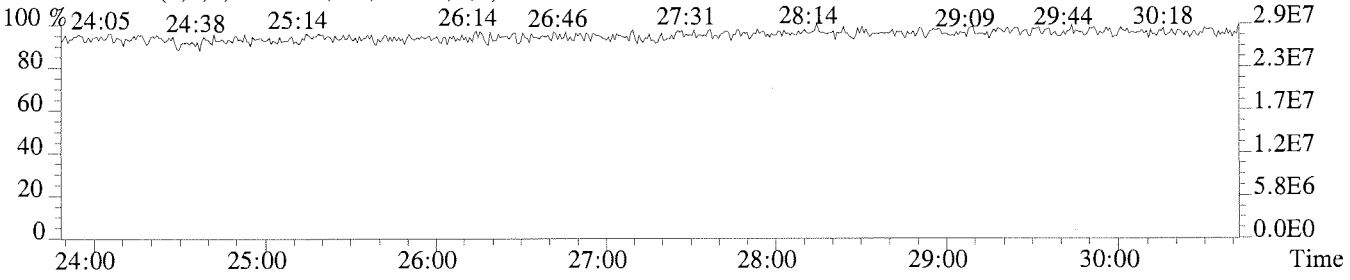
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3612.0,1.00%,F,F)



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

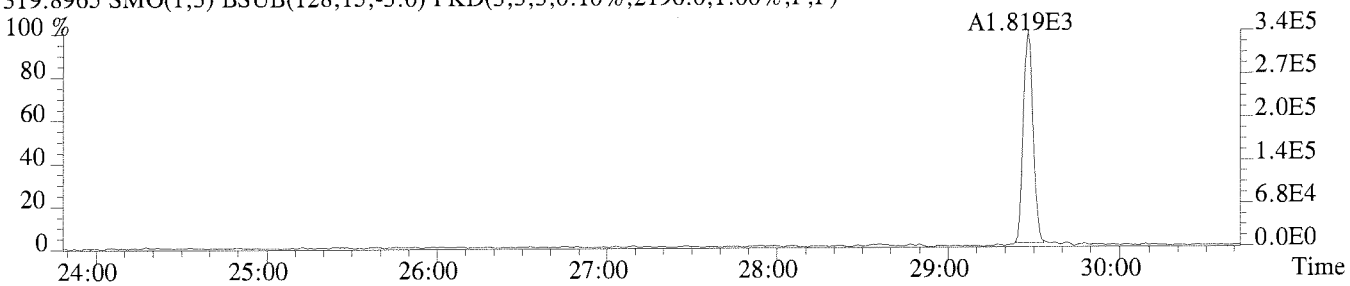


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

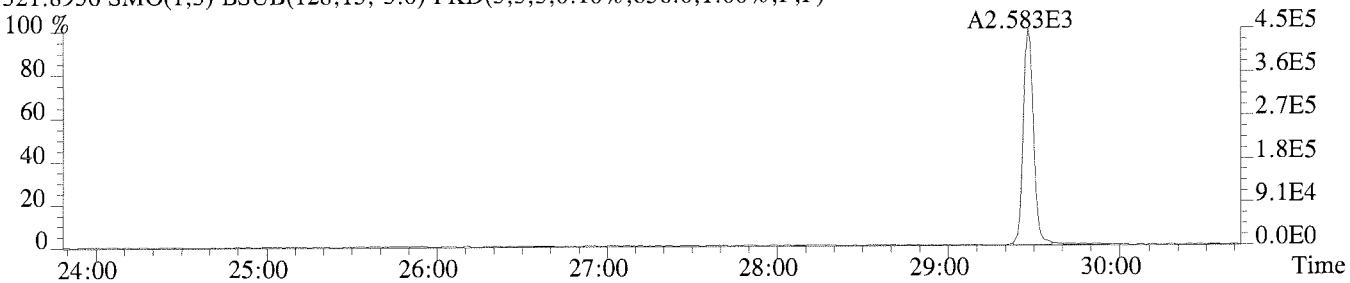


File:P200005 #1-575 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

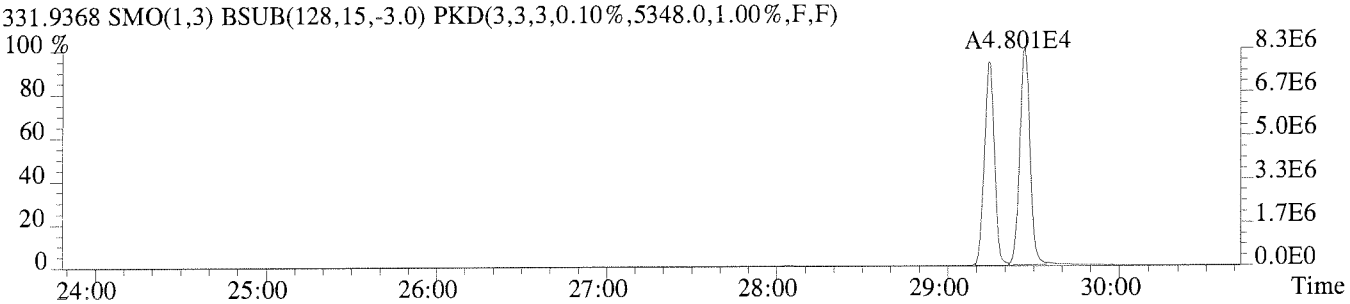
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2196.0,1.00%,F,F)



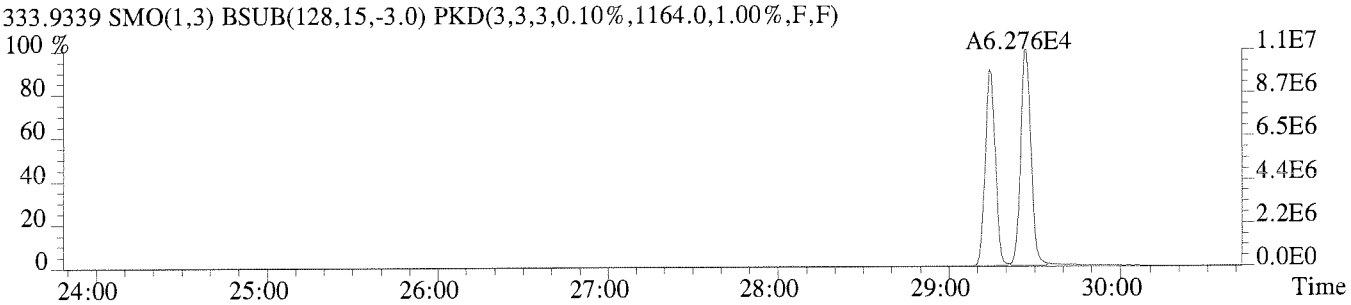
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,F)



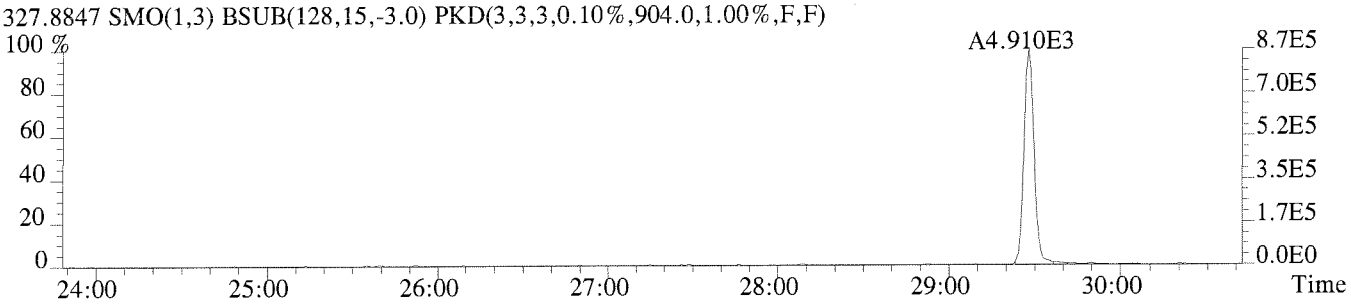
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5348.0,1.00%,F,F)



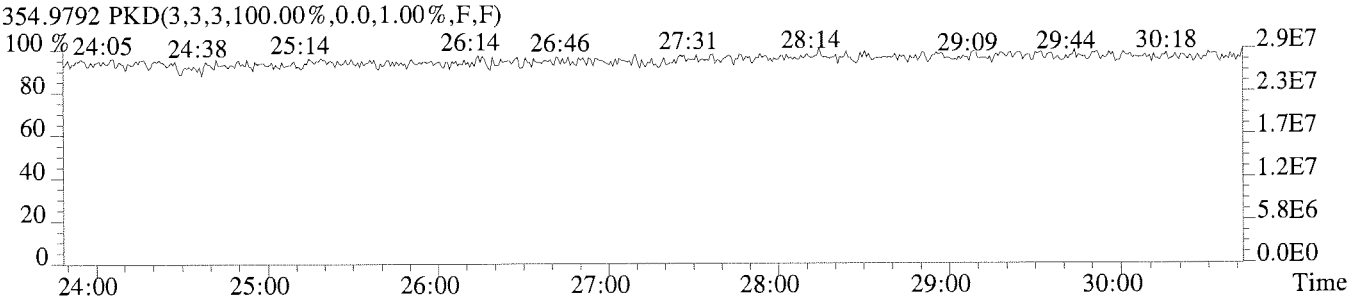
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1164.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,904.0,1.00%,F,F)

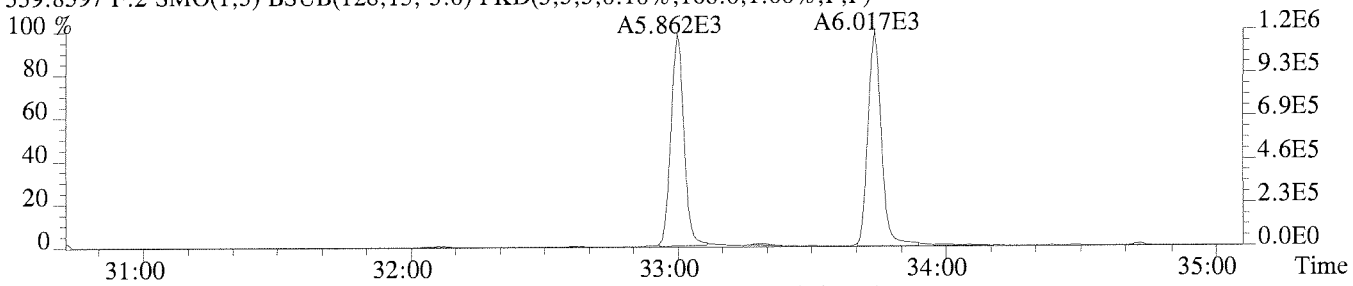


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

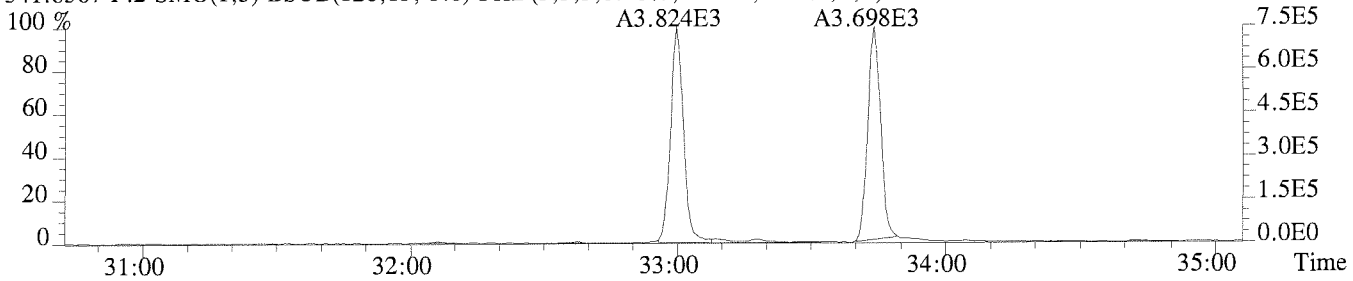


File:P200005 #1-399 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

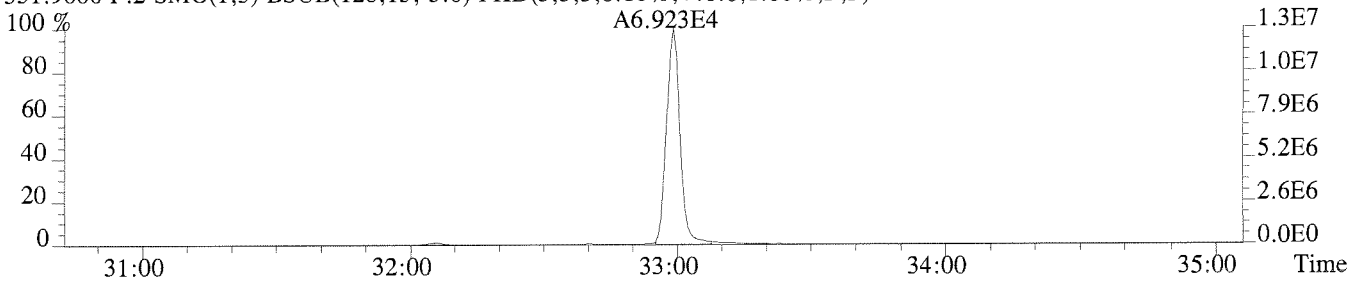
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,168.0,1.00%,F,F)



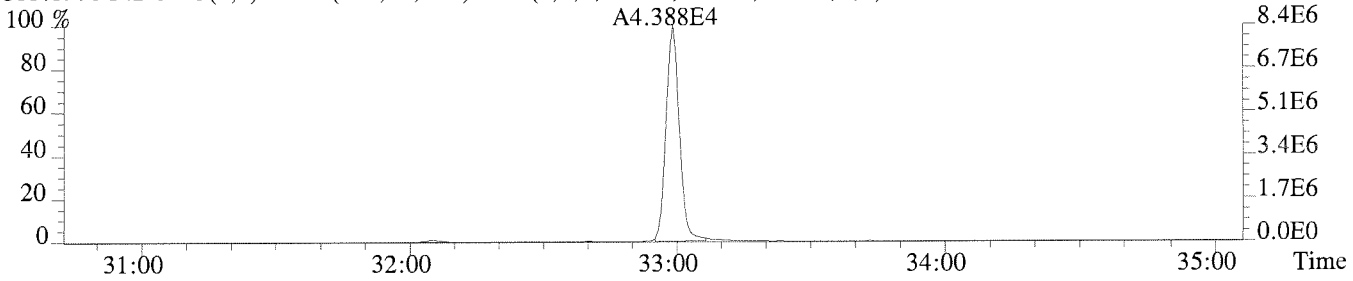
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1380.0,1.00%,F,F)



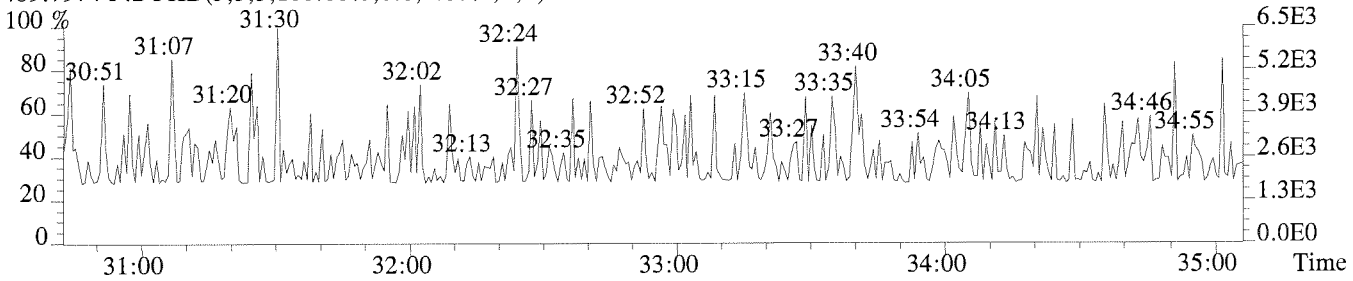
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,448.0,1.00%,F,F)



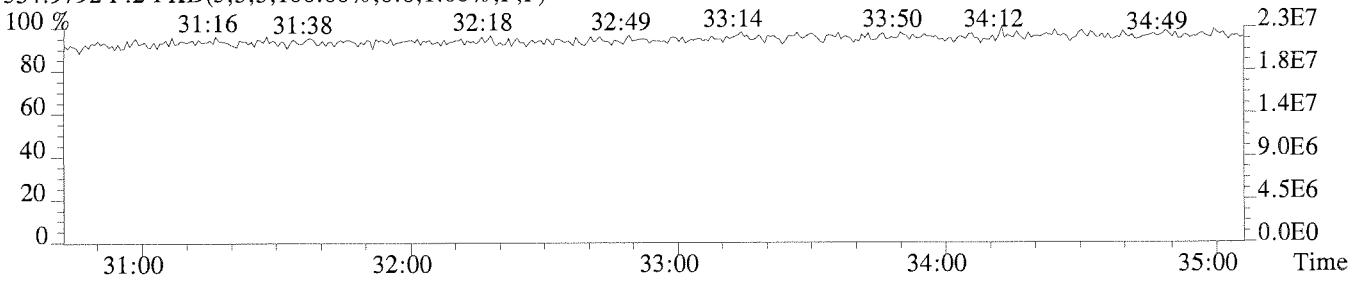
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1124.0,1.00%,F,F)



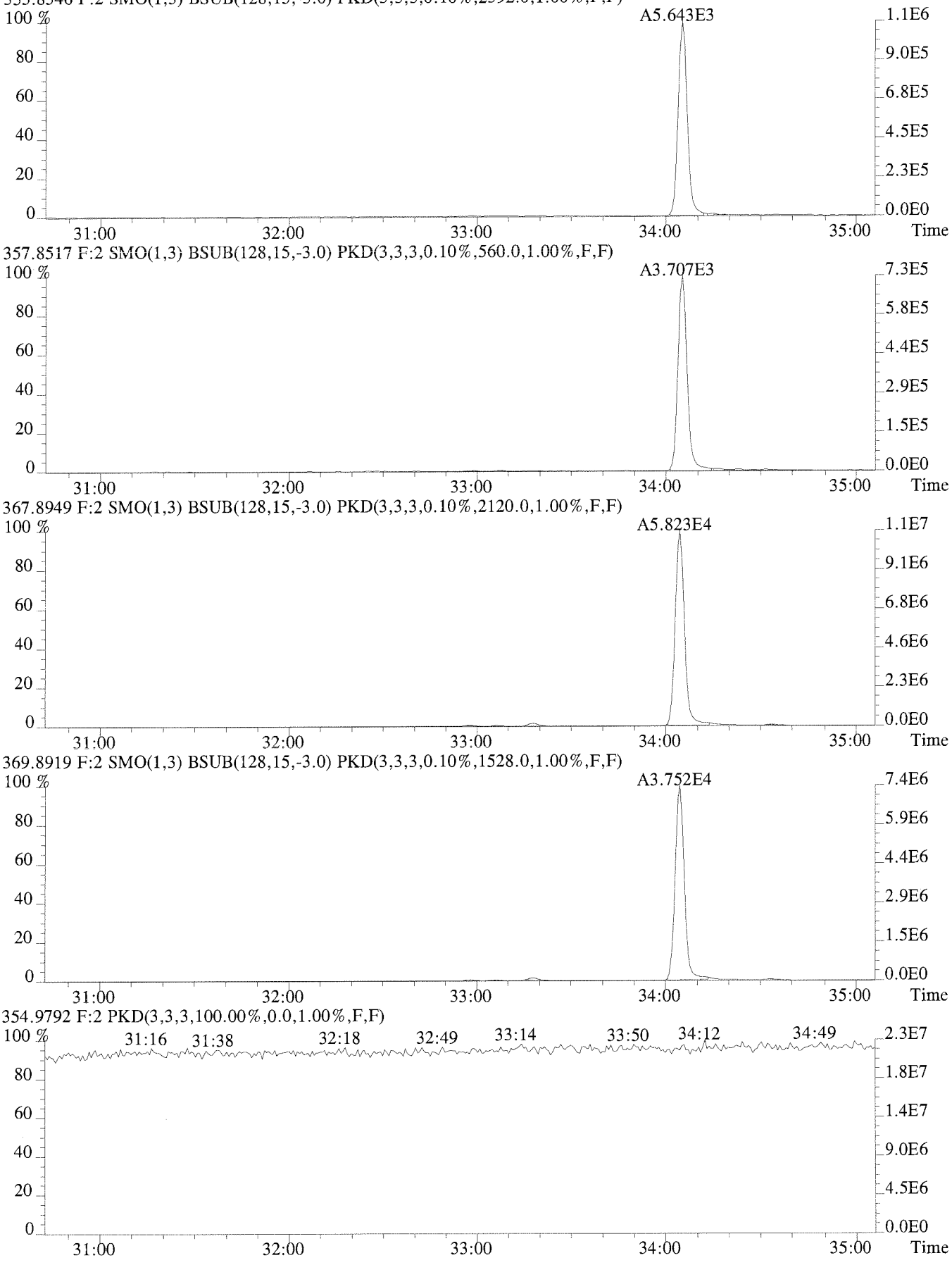
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

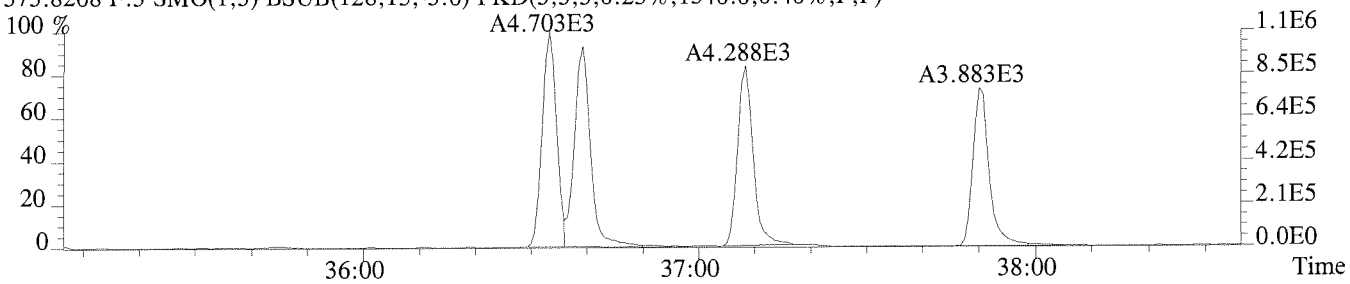


File:P200005 #1-399 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

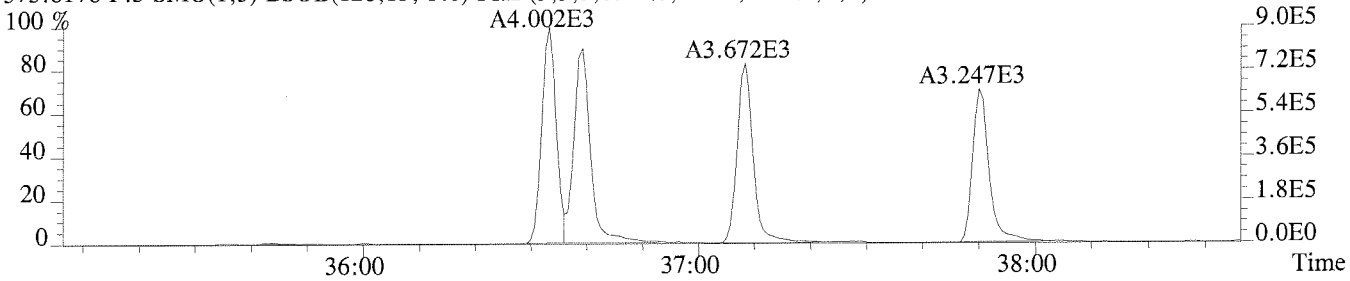


File:P200005 #1-318 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

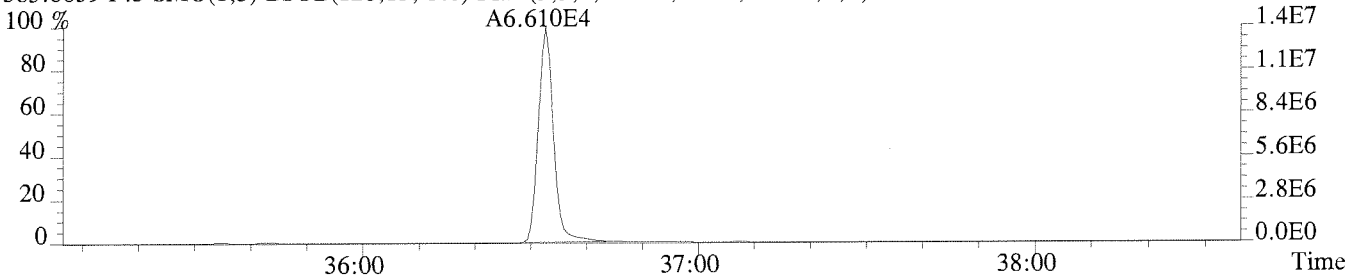
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1540.0,0.40%,F,F)



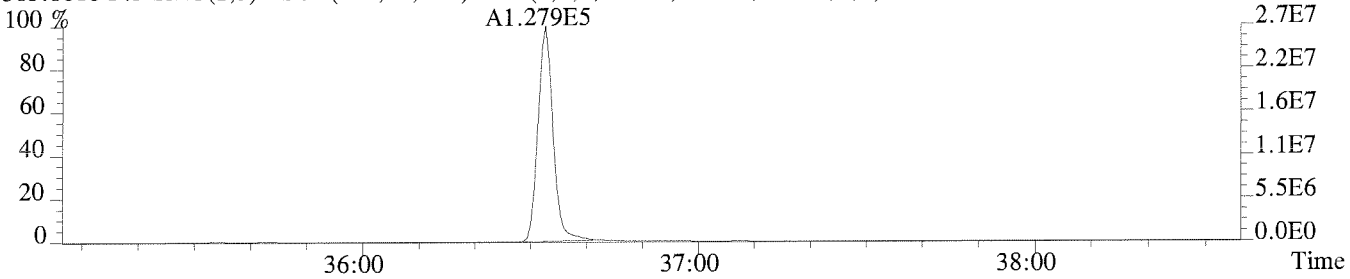
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,F)



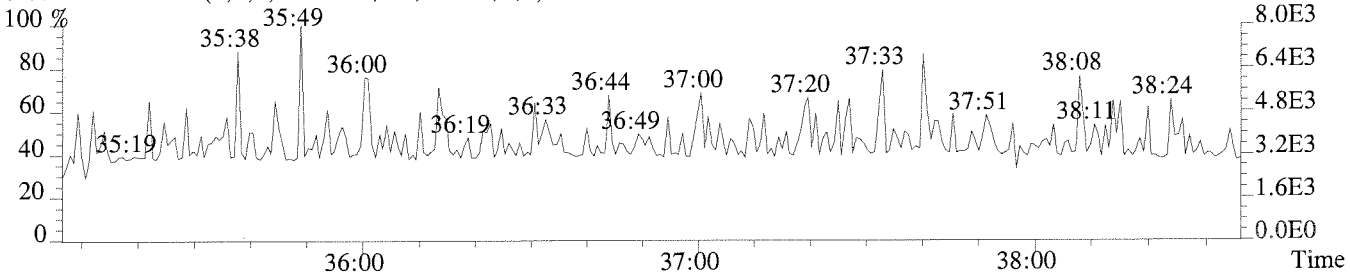
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



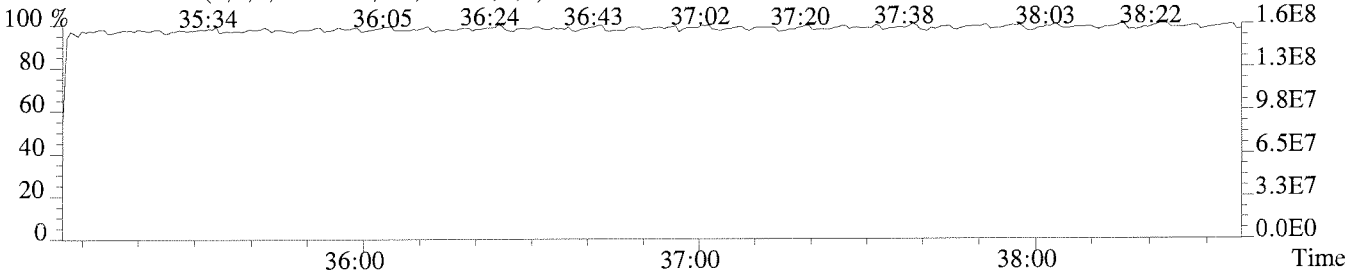
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2872.0,0.40%,F,F)



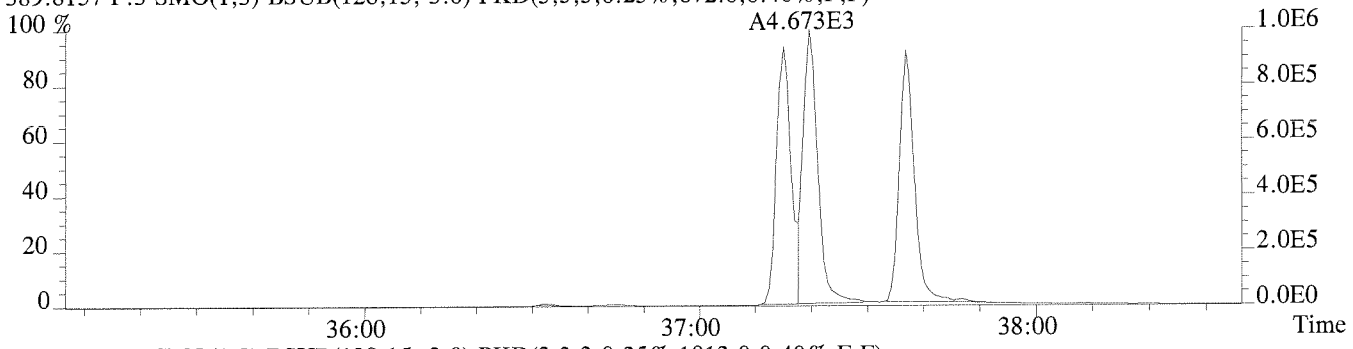
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



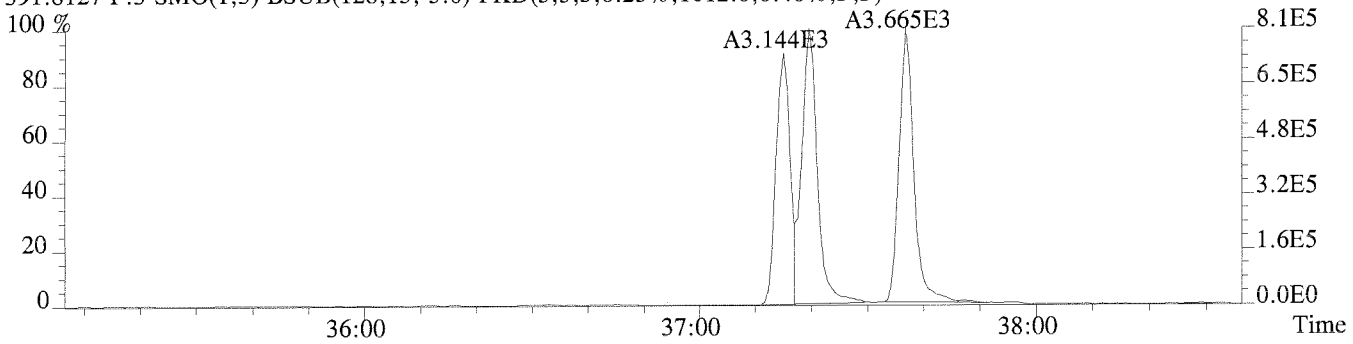
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



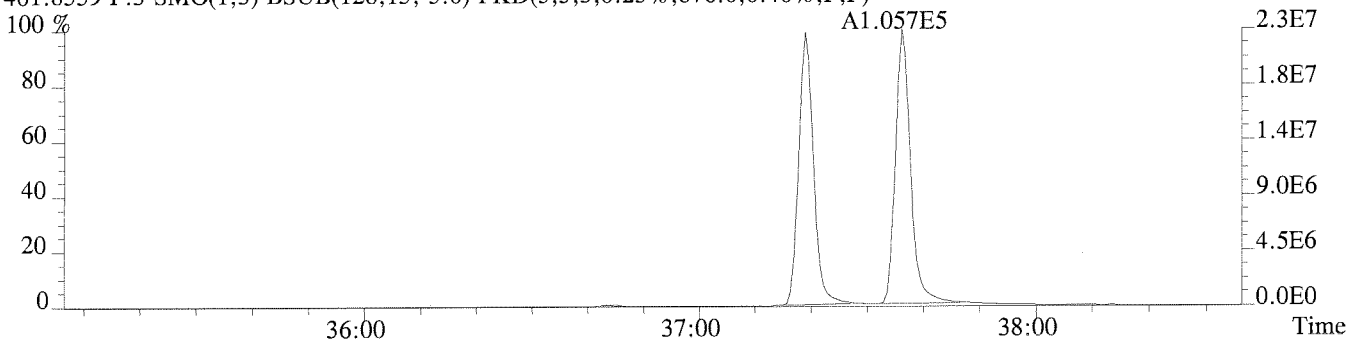
File:P200005 #1-318 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,672.0,0.40%,F,F)



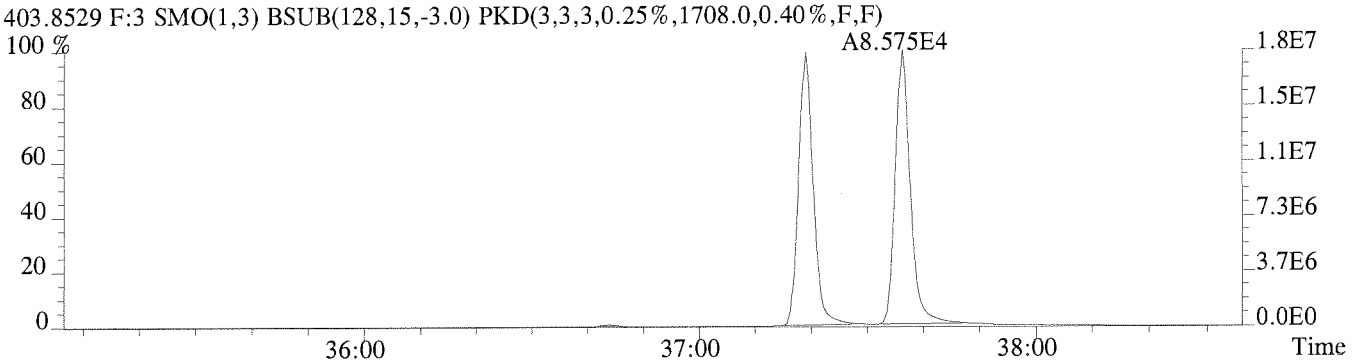
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.40%,F,F)



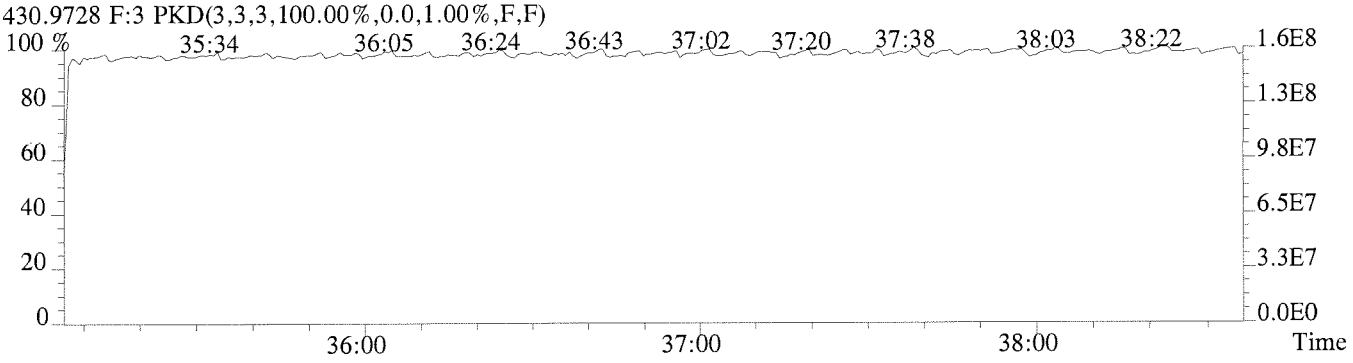
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1708.0,0.40%,F,F)

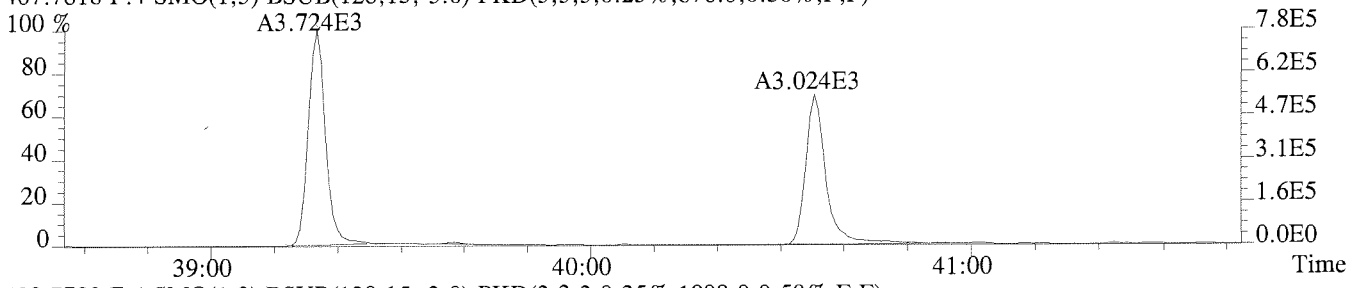


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

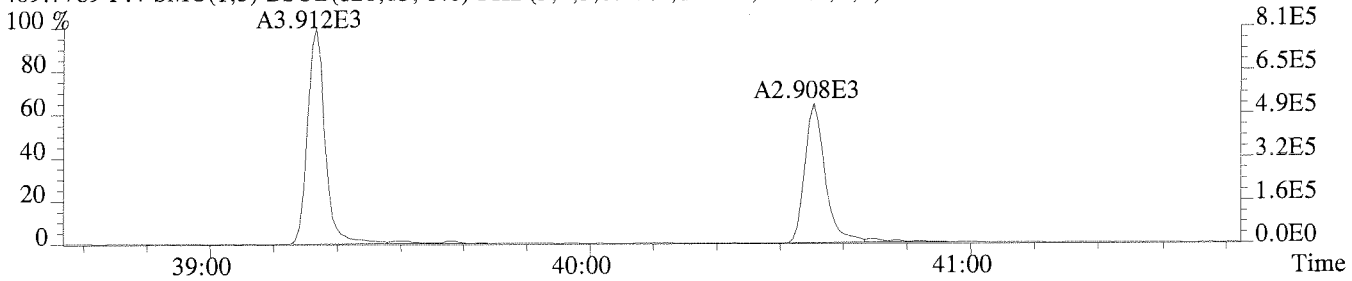


File:P200005 #1-281 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

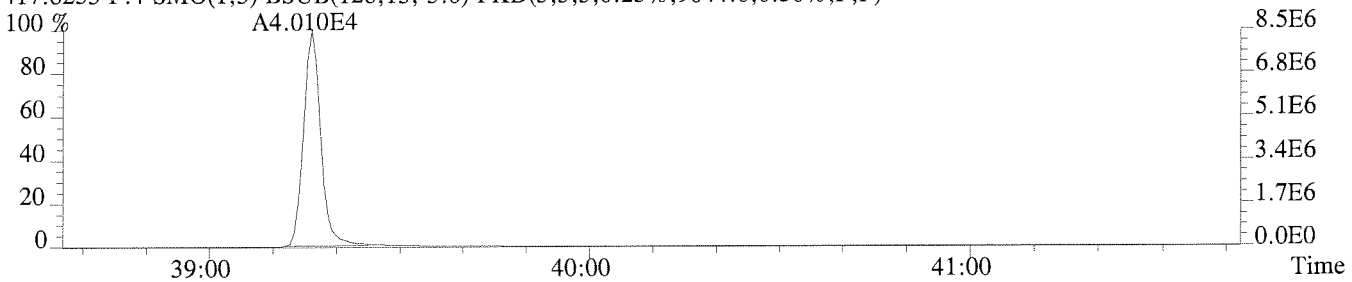
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,876.0,0.50%,F,F)



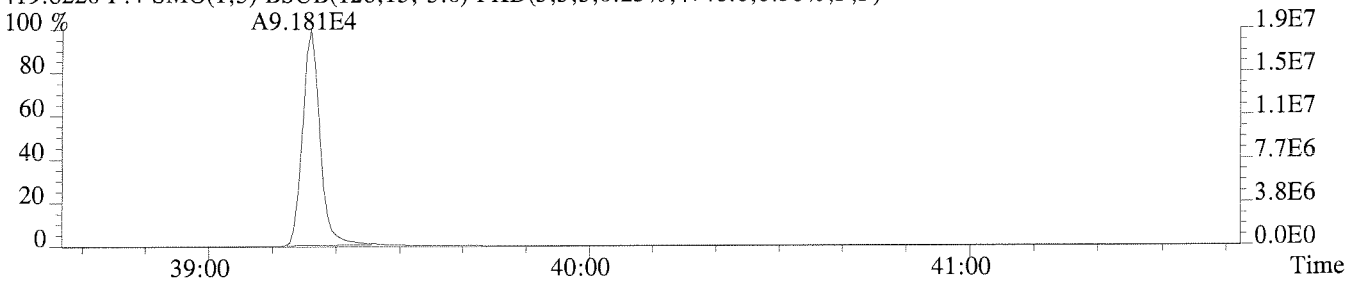
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1908.0,0.50%,F,F)



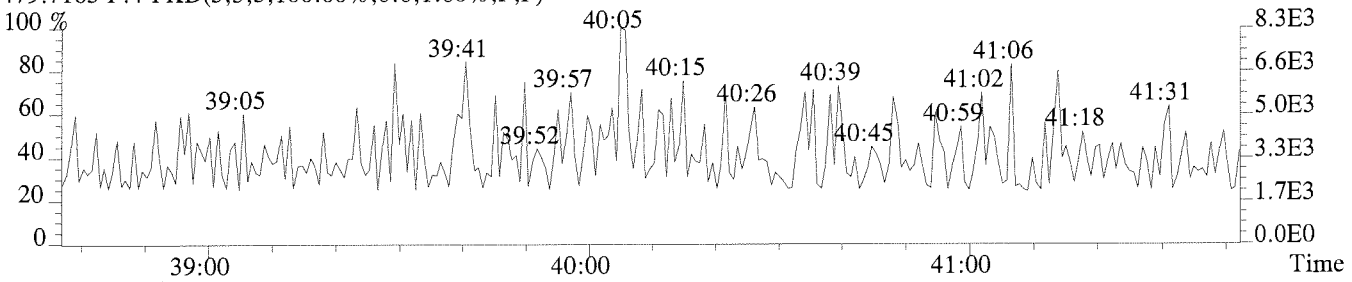
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9044.0,0.50%,F,F)



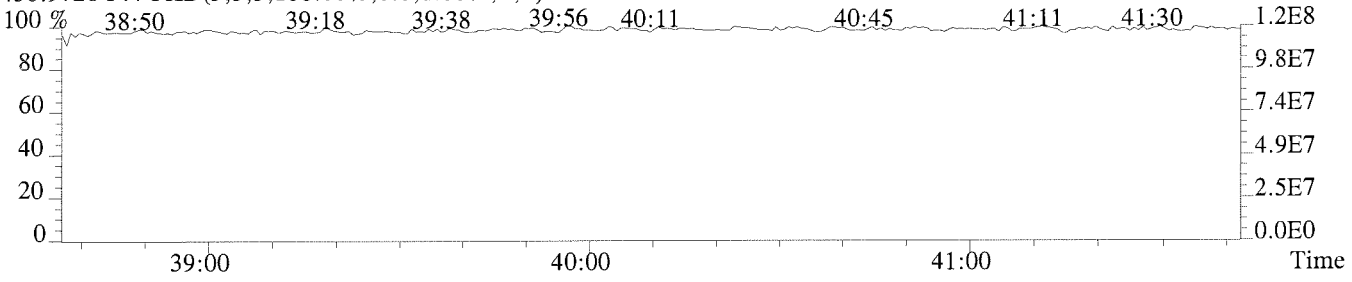
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4748.0,0.50%,F,F)



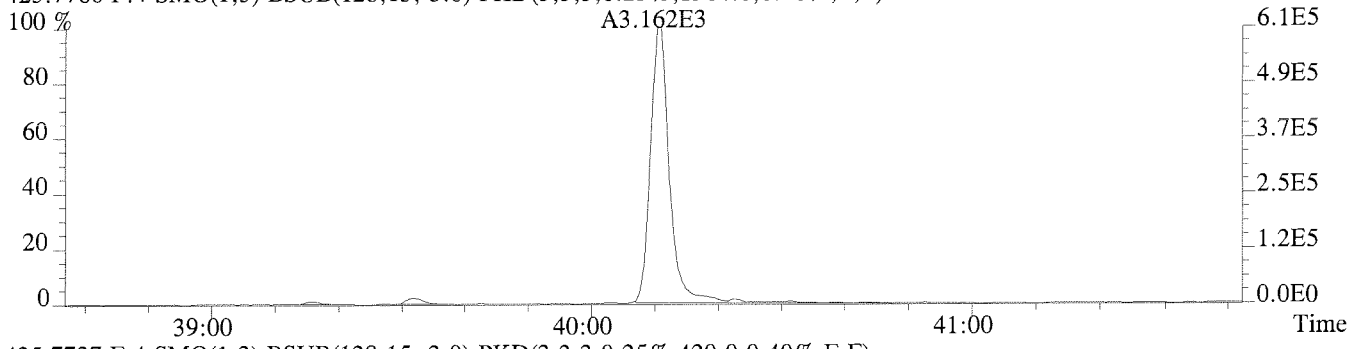
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



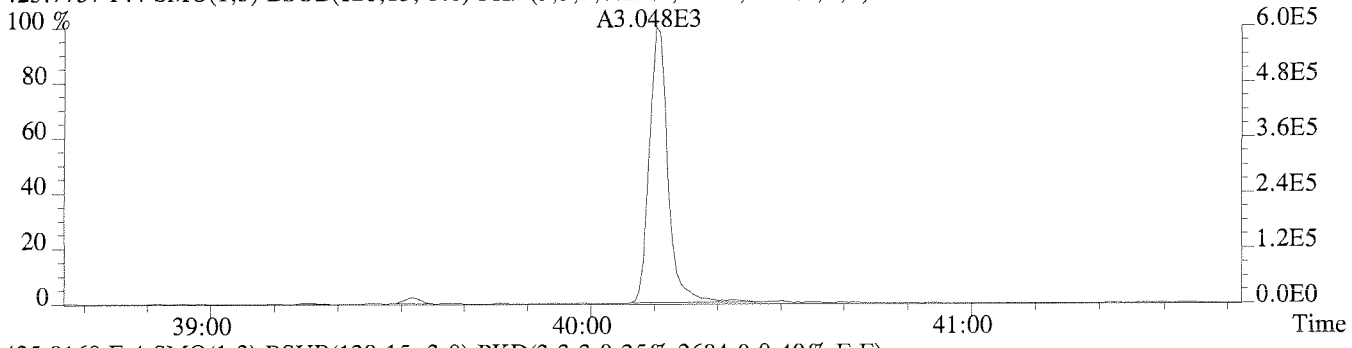
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



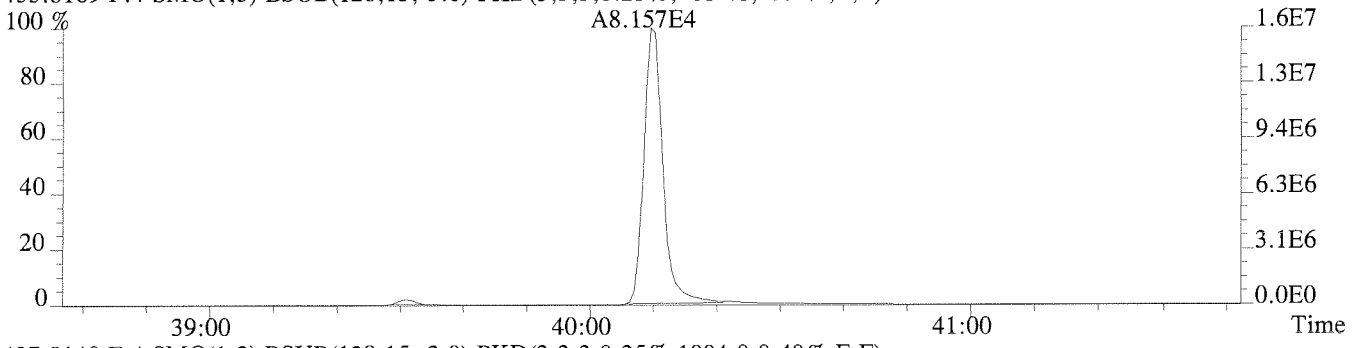
File:P200005 #1-281 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1264.0,0.40%,F,F)



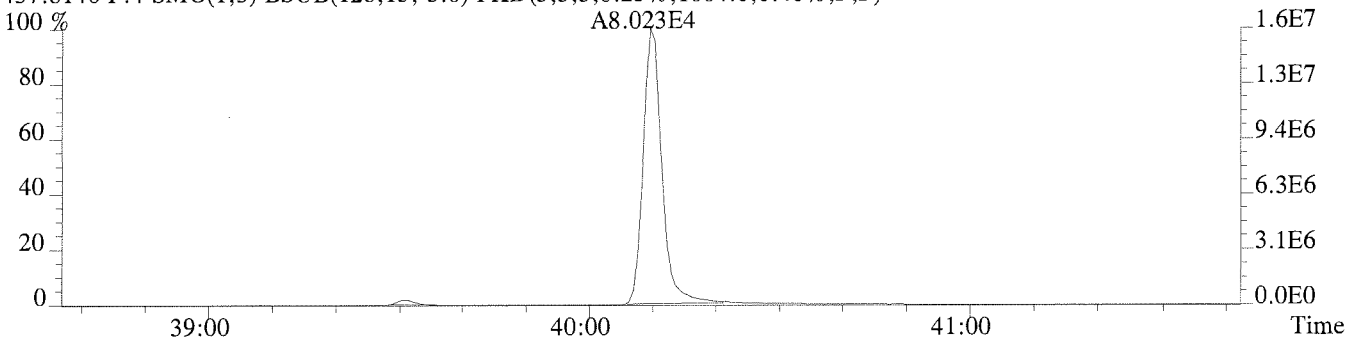
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,420.0,0.40%,F,F)



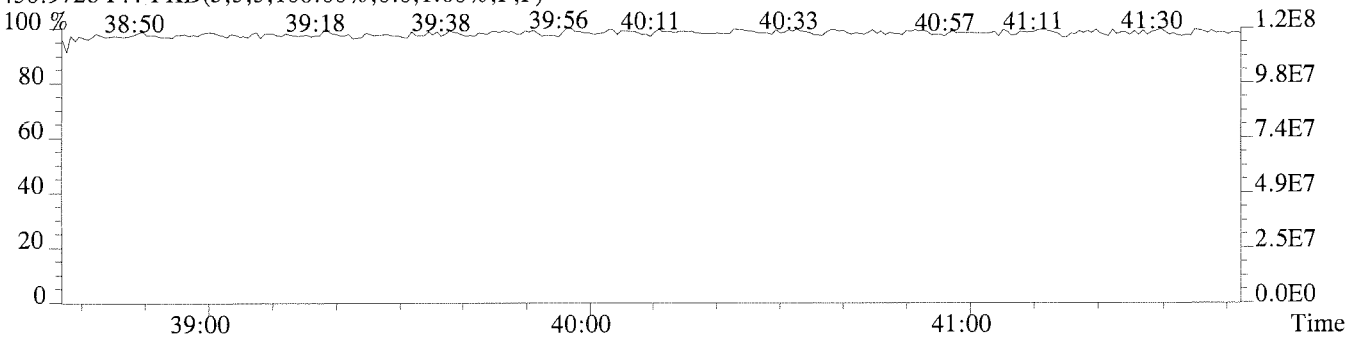
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2684.0,0.40%,F,F)



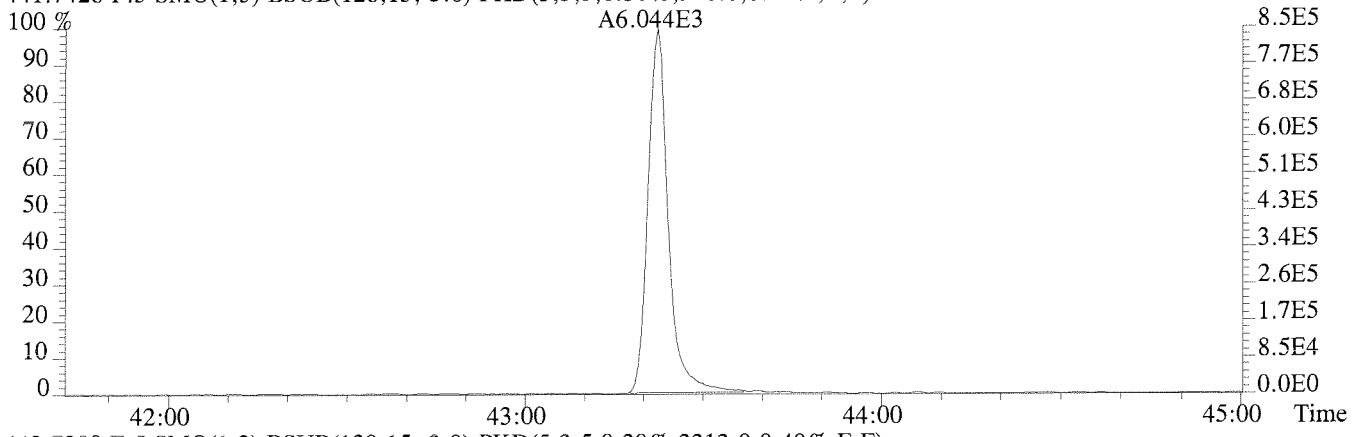
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1004.0,0.40%,F,F)



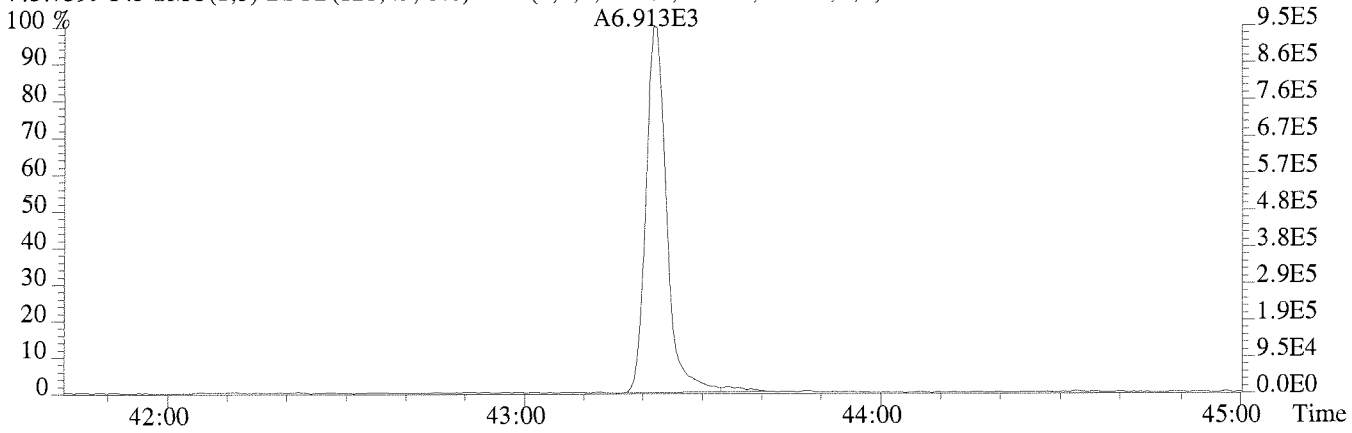
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



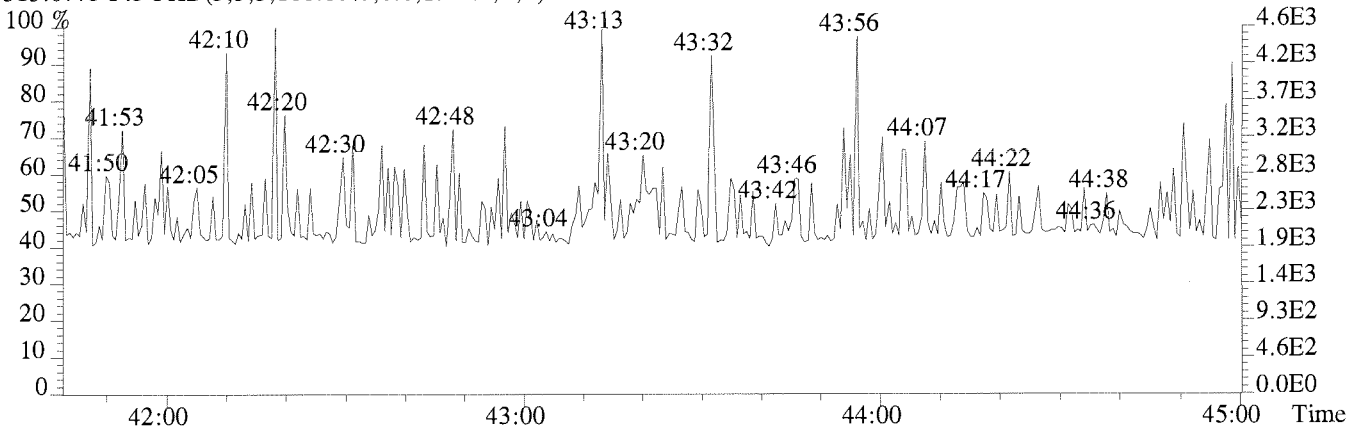
File:P200005 #1-364 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,940.0,0.40%,F,F)



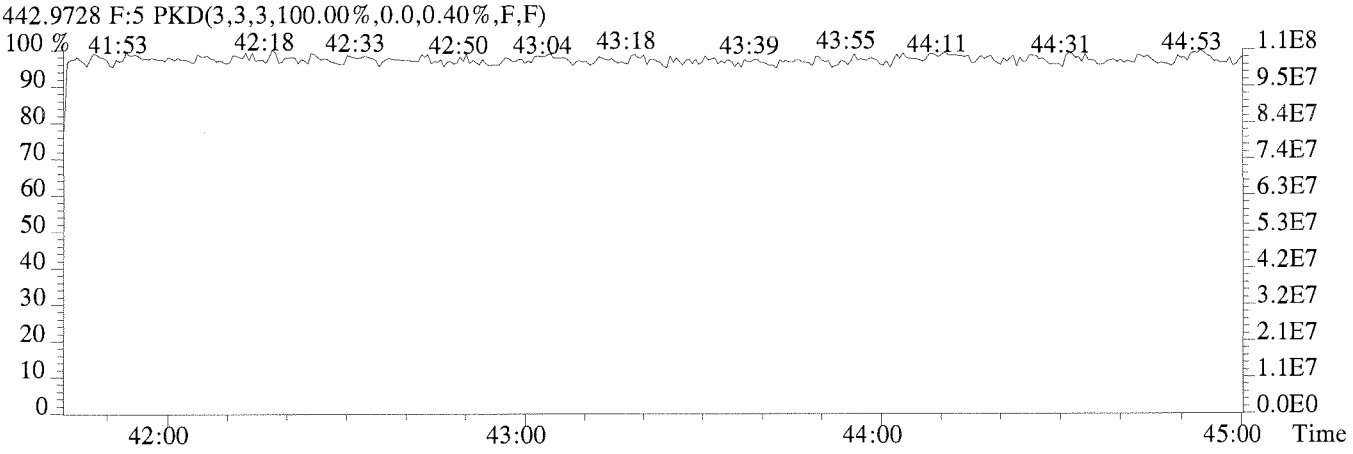
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,3312.0,0.40%,F,F)



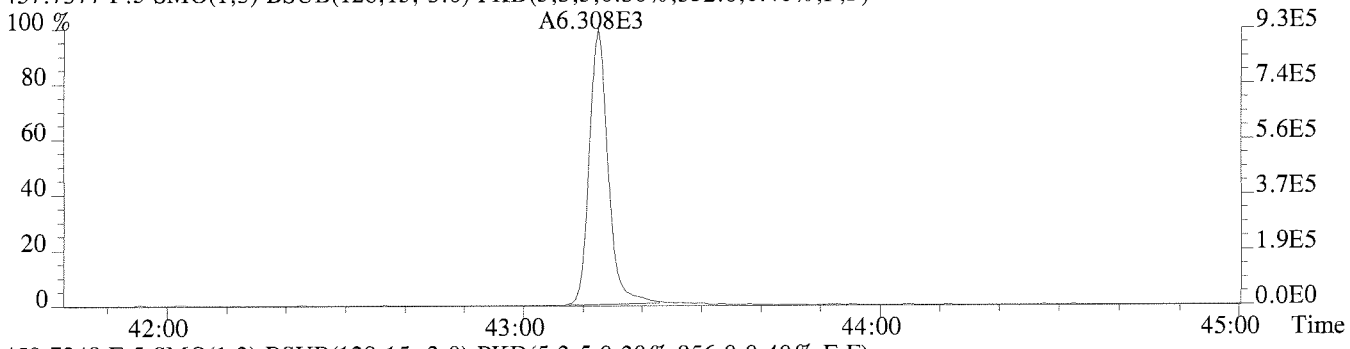
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



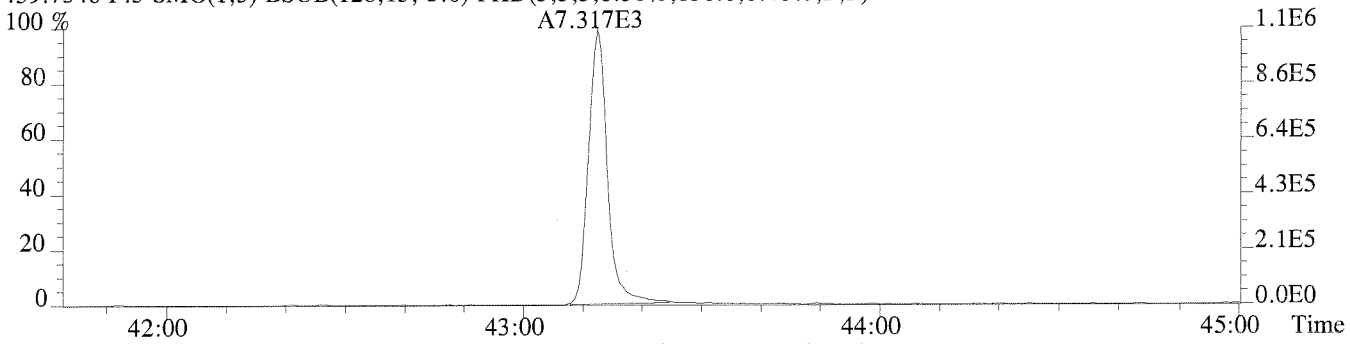
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



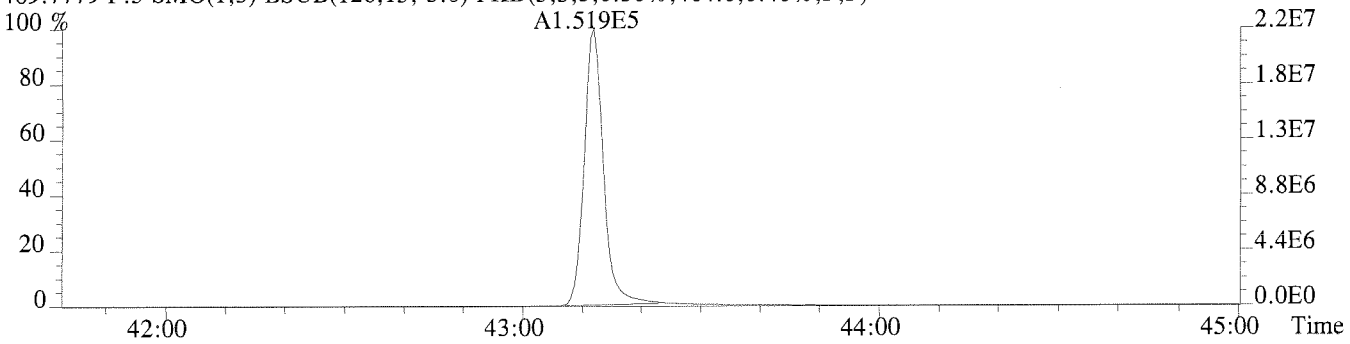
File:P200005 #1-364 Acq:18-JUL-2008 15:25:44 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,F)



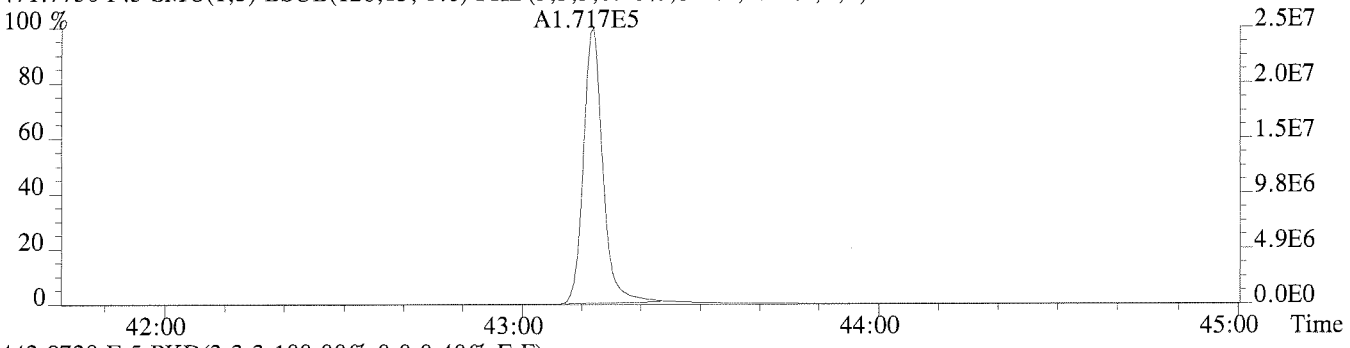
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,856.0,0.40%,F,F)



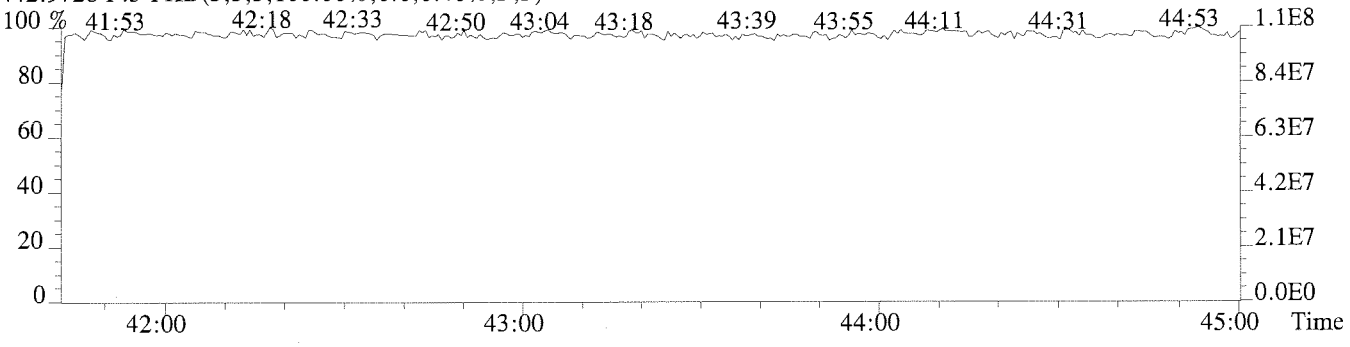
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,464.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,624.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename P200004 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 14:23:04
Processed: 30-JUL-08 09:37:37 Sample ID: ICAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	7.585e+03	1.030e+04	0.74	yes	no	0.72
2	Unk	1,2,3,7,8-PeCDF	32:59	2.415e+04	1.592e+04	1.52	yes	no	0.71
3	Unk	2,3,4,7,8-PeCDF	33:43	2.499e+04	1.617e+04	1.55	yes	no	0.73
4	Unk	1,2,3,4,7,8-HxCDF	36:33	1.894e+04	1.587e+04	1.19	yes	no	0.93
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.065e+04	1.704e+04	1.21	yes	no	0.96
6	Unk	2,3,4,6,7,8-HxCDF	37:08	1.790e+04	1.474e+04	1.21	yes	no	0.86
7	Unk	1,2,3,7,8,9-HxCDF	37:49	1.697e+04	1.414e+04	1.20	yes	no	0.79
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	1.591e+04	1.554e+04	1.02	yes	no	1.19
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	1.215e+04	1.254e+04	0.97	yes	no	0.94
10	Unk	OCDF	43:22	2.593e+04	2.925e+04	0.89	yes	no	0.83
11	Unk	2,3,7,8-TCDD	29:27	8.122e+03	1.036e+04	0.78	yes	no	0.84
12	Unk	1,2,3,7,8-PeCDD	34:04	2.267e+04	1.481e+04	1.53	yes	no	0.79
13	Unk	1,2,3,4,7,8-HxCDD	37:14	1.685e+04	1.390e+04	1.21	yes	no	0.81
14	Unk	1,2,3,6,7,8-HxCDD	37:19	1.921e+04	1.482e+04	1.30	yes	no	0.92
15	Unk	1,2,3,7,8,9-HxCDD	37:36	1.849e+04	1.506e+04	1.23	yes	no	0.89
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.284e+04	1.292e+04	0.99	yes	no	0.79
17	Unk	OCDD	43:12	2.776e+04	3.093e+04	0.90	yes	no	0.88
18	IS	13C-2,3,7,8-TCDF	28:35	5.160e+04	6.776e+04	0.76	yes	no	1.25
19	IS	13C-1,2,3,7,8-PeCDF	32:58	6.631e+04	4.255e+04	1.56	yes	no	1.23
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	6.167e+04	1.218e+05	0.51	yes	no	0.98
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	3.810e+04	9.078e+04	0.42	yes	no	0.69
22	IS	13C-2,3,7,8-TCDD	29:26	4.507e+04	5.861e+04	0.77	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.726e+04	3.661e+04	1.56	yes	no	1.05
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.067e+05	8.601e+04	1.24	yes	no	0.97
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	8.229e+04	8.060e+04	1.02	yes	no	0.85
26	IS	13C-OCDD	43:11	1.552e+05	1.749e+05	0.89	yes	no	0.87
27	RS/RT	13C-1,2,3,4-TCDD	29:14	4.284e+04	5.499e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	1.122e+05	9.066e+04	1.24	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.997e+04					0.99

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC3

Run #3 Filename P200004 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 14:23:04

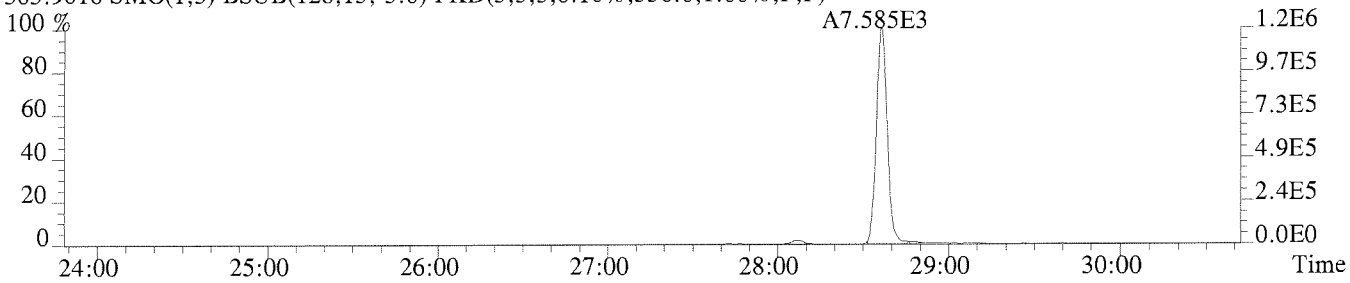
Processed: 30-JUL-08 09:37:37 LAB. ID: ICAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.22e+06	3.56e+02	3.4e+03	1.67e+06	2.10e+03	8.0e+02
2	1,2,3,7,8-PeCDF	4.61e+06	4.00e+02	1.2e+04	3.04e+06	1.19e+03	2.5e+03
3	2,3,4,7,8-PeCDF	4.80e+06	4.00e+02	1.2e+04	3.08e+06	1.19e+03	2.6e+03
4	1,2,3,4,7,8-HxCDF	4.24e+06	1.27e+03	3.3e+03	3.49e+06	6.48e+02	5.4e+03
5	1,2,3,6,7,8-HxCDF	4.15e+06	1.27e+03	3.3e+03	3.39e+06	6.48e+02	5.2e+03
6	2,3,4,6,7,8-HxCDF	3.72e+06	1.27e+03	2.9e+03	3.10e+06	6.48e+02	4.8e+03
7	1,2,3,7,8,9-HxCDF	3.42e+06	1.27e+03	2.7e+03	2.83e+06	6.48e+02	4.4e+03
8	1,2,3,4,6,7,8-HpCDF	3.29e+06	2.98e+03	1.1e+03	3.31e+06	1.34e+03	2.5e+03
9	1,2,3,4,7,8,9-HpCDF	2.36e+06	2.98e+03	7.9e+02	2.32e+06	1.34e+03	1.7e+03
10	OCDF	3.65e+06	1.00e+03	3.6e+03	4.09e+06	2.45e+03	1.7e+03
11	2,3,7,8-TCDD	1.40e+06	1.94e+03	7.2e+02	1.78e+06	7.60e+02	2.3e+03
12	1,2,3,7,8-PeCDD	4.53e+06	1.93e+03	2.3e+03	3.00e+06	4.16e+02	7.2e+03
13	1,2,3,4,7,8-HxCDD	3.65e+06	5.16e+02	7.1e+03	3.01e+06	1.80e+03	1.7e+03
14	1,2,3,6,7,8-HxCDD	4.10e+06	5.16e+02	8.0e+03	3.18e+06	1.80e+03	1.8e+03
15	1,2,3,7,8,9-HxCDD	3.94e+06	5.16e+02	7.6e+03	3.22e+06	1.80e+03	1.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.49e+06	1.44e+03	1.7e+03	2.51e+06	6.92e+02	3.6e+03
17	OCDD	3.99e+06	5.52e+02	7.2e+03	4.47e+06	4.72e+02	9.5e+03
18	13C-2,3,7,8-TCDF	8.56e+06	3.42e+03	2.5e+03	1.13e+07	3.39e+03	3.3e+03
19	13C-1,2,3,7,8-PeCDF	1.26e+07	4.44e+02	2.8e+04	8.09e+06	1.10e+03	7.4e+03
20	13C-1,2,3,4,7,8-HxCDF	1.28e+07	6.12e+02	2.1e+04	2.56e+07	1.47e+03	1.7e+04
21	13C-1,2,3,4,6,7,8-HpCDF	7.90e+06	3.44e+03	2.3e+03	1.88e+07	8.06e+03	2.3e+03
22	13C-2,3,7,8-TCDD	7.74e+06	5.99e+03	1.3e+03	1.00e+07	1.13e+03	8.9e+03
23	13C-1,2,3,7,8-PeCDD	1.12e+07	1.92e+03	5.8e+03	7.11e+06	1.31e+03	5.4e+03
24	13C-1,2,3,6,7,8-HxCDD	2.28e+07	5.88e+02	3.9e+04	1.87e+07	1.20e+03	1.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.57e+07	1.94e+03	8.1e+03	1.57e+07	2.30e+03	6.8e+03
26	13C-OCDD	2.23e+07	4.08e+02	5.5e+04	2.53e+07	4.96e+02	5.1e+04
27	13C-1,2,3,4-TCDD	7.45e+06	5.99e+03	1.2e+03	9.58e+06	1.13e+03	8.5e+03
28	13C-1,2,3,7,8,9-HxCDD	2.37e+07	5.88e+02	4.0e+04	1.90e+07	1.20e+03	1.6e+04
29	37Cl-2,3,7,8-TCDD	3.45e+06	8.68e+02	4.0e+03			

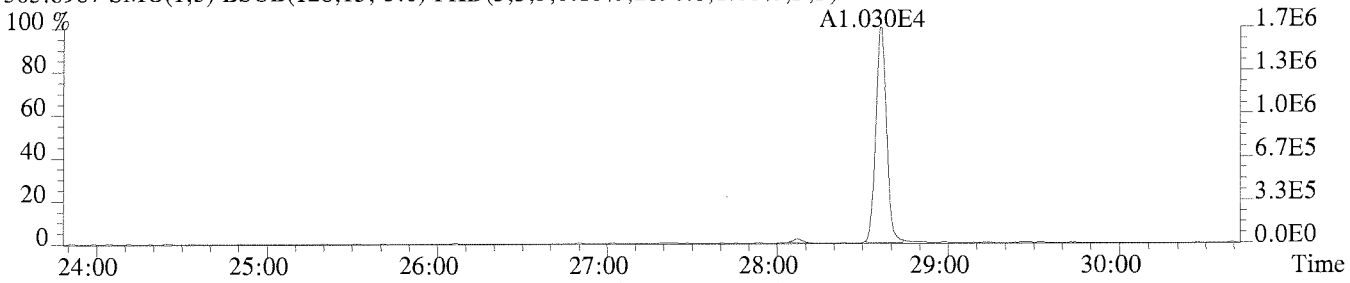
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200004 #1-575 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

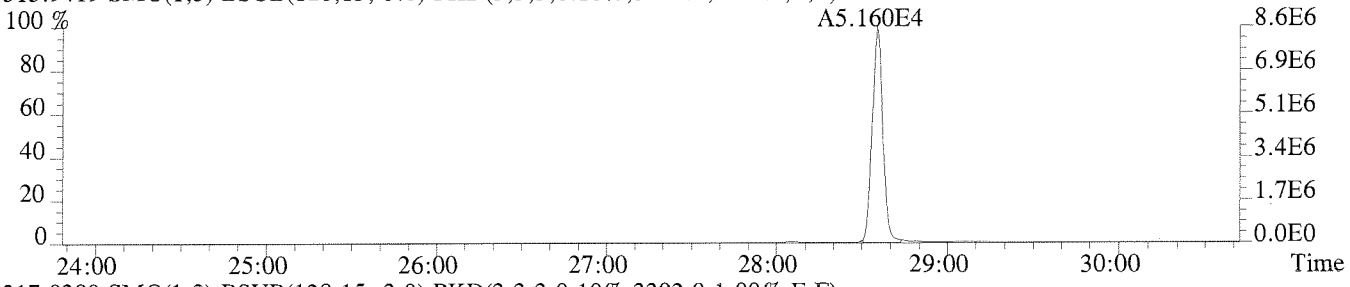
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



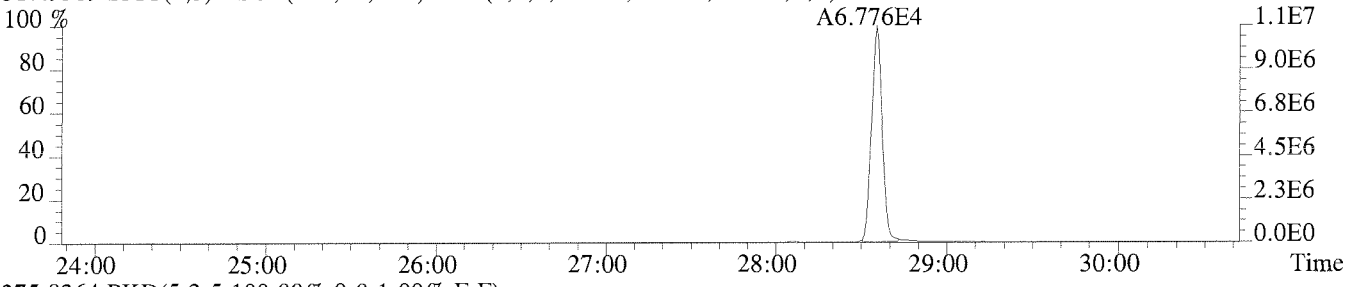
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2096.0,1.00%,F,F)



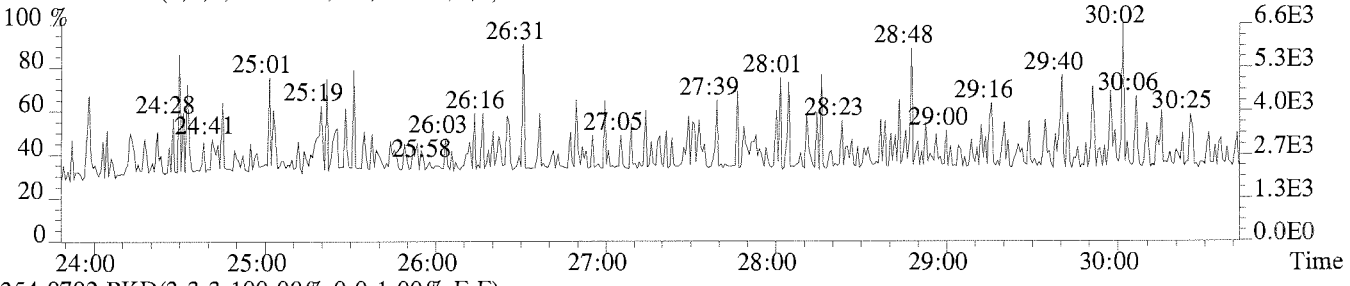
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3420.0,1.00%,F,F)



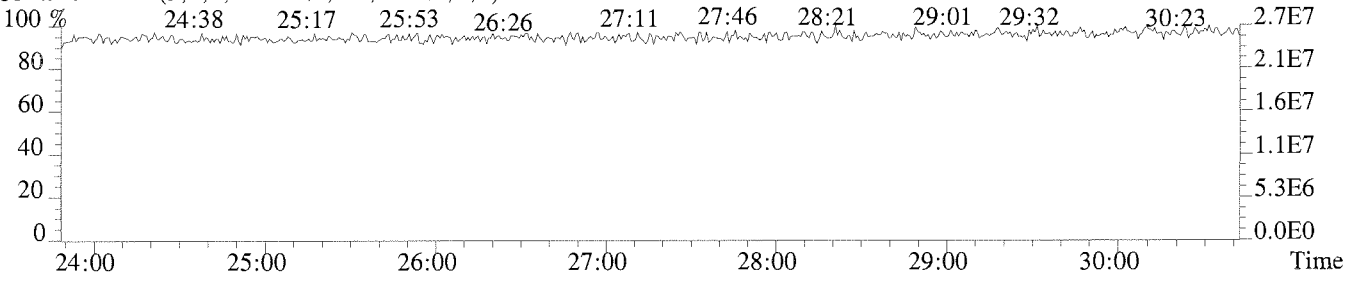
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3392.0,1.00%,F,F)



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

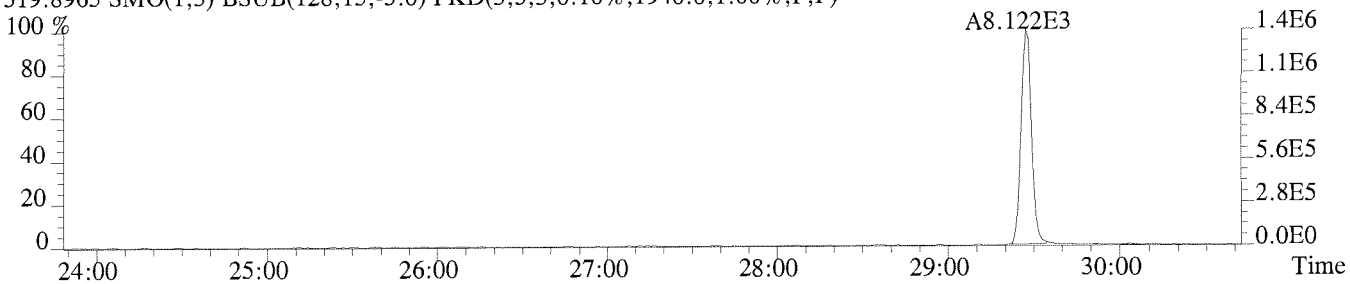


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

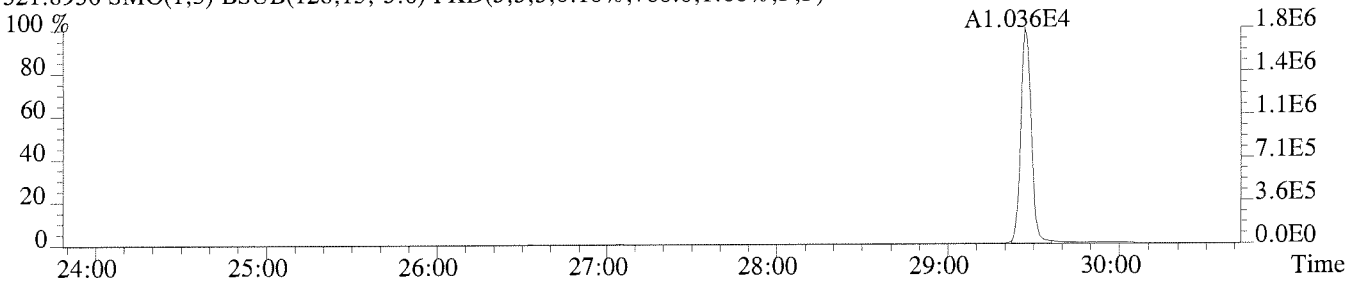


File:P200004 #1-575 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

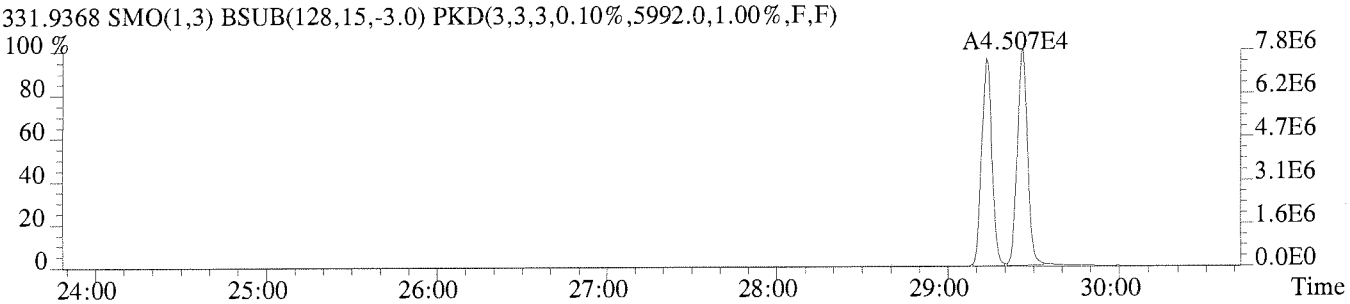
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1940.0,1.00%,F,F)



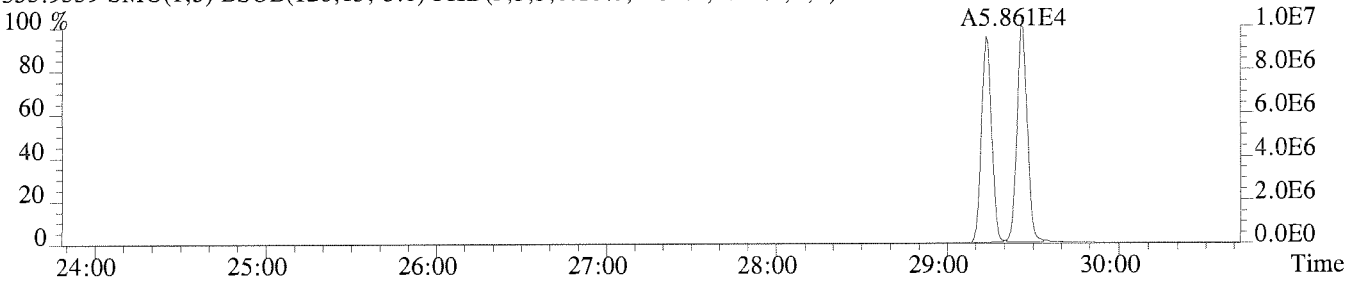
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,760.0,1.00%,F,F)



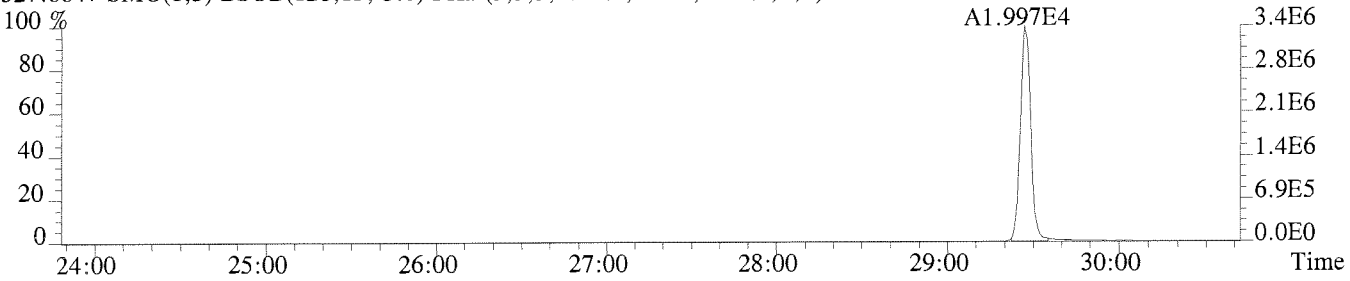
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5992.0,1.00%,F,F)



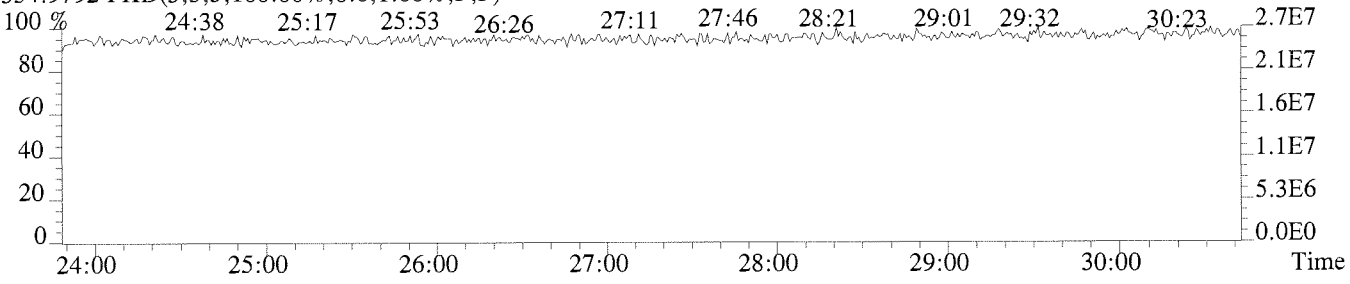
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1132.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,F)

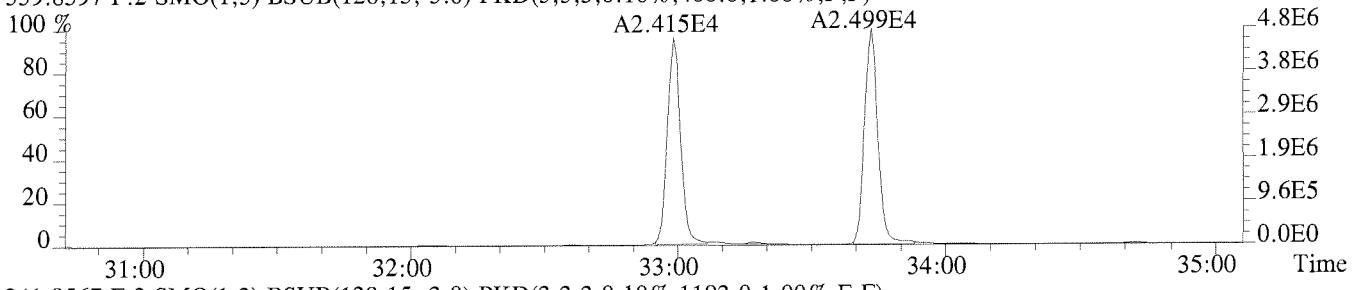


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

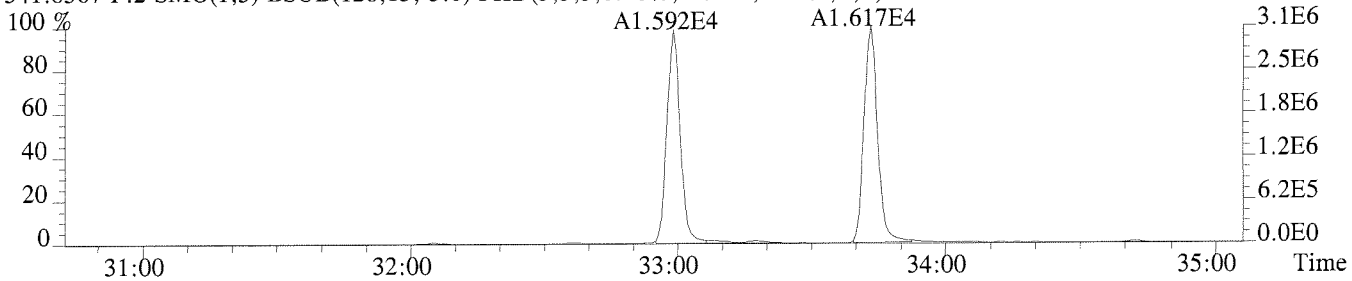


File:P200004 #1-399 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

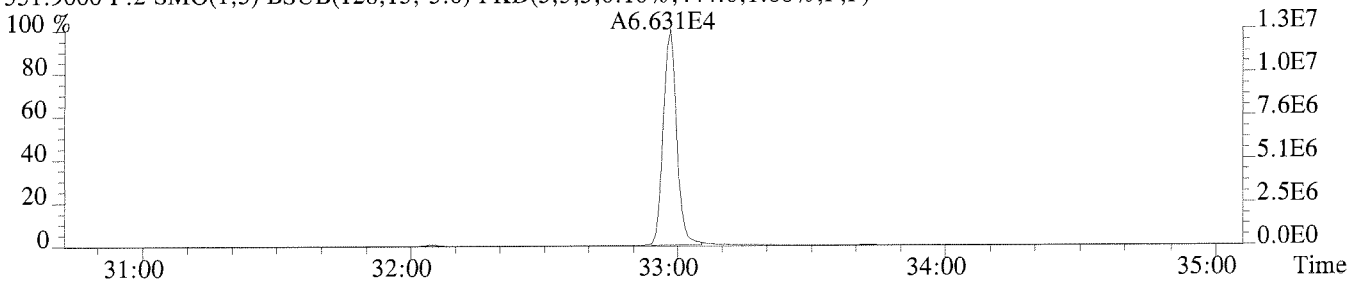
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,F)



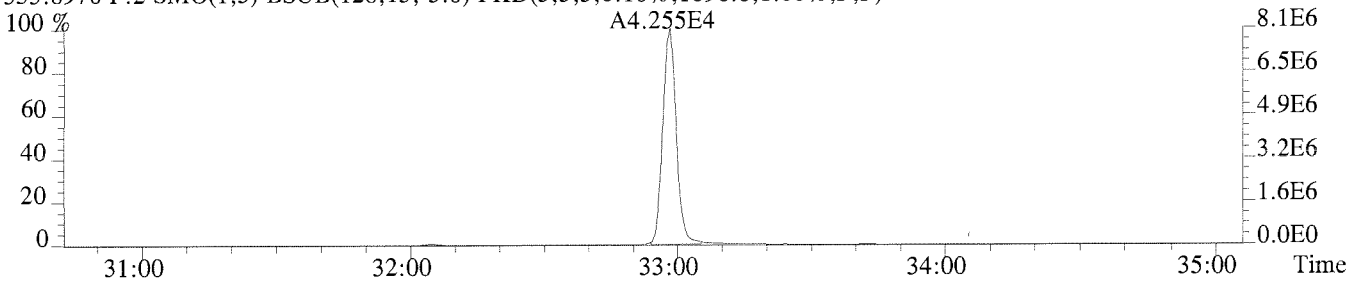
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1192.0,1.00%,F,F)



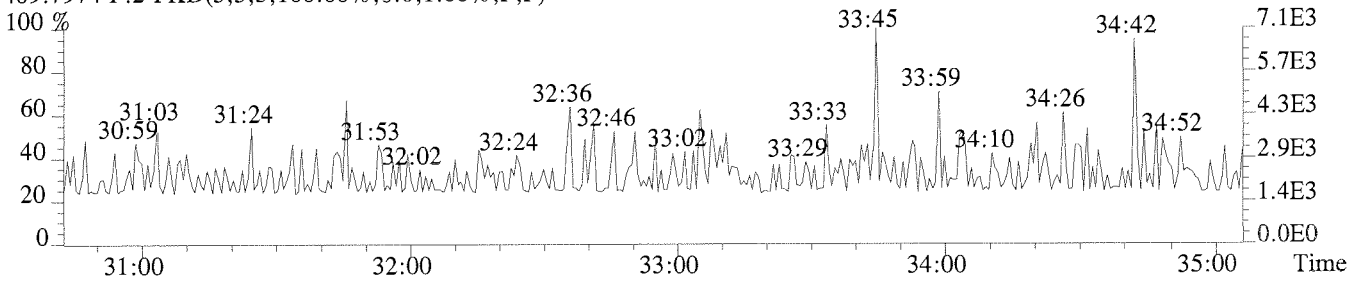
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,444.0,1.00%,F,F)



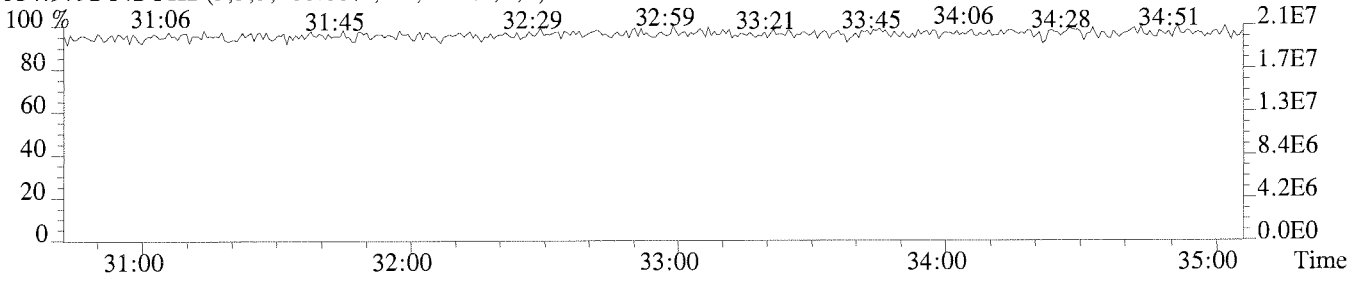
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,F)



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

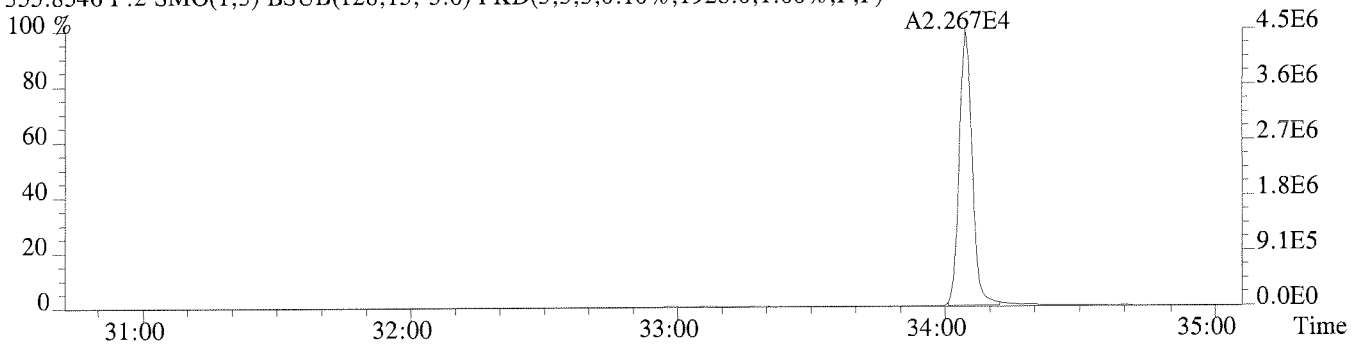


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

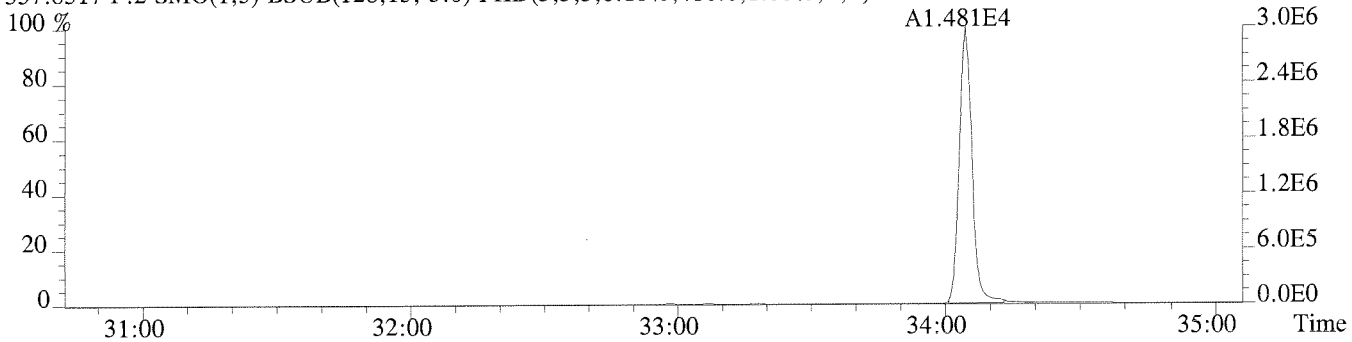


File:P200004 #1-399 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

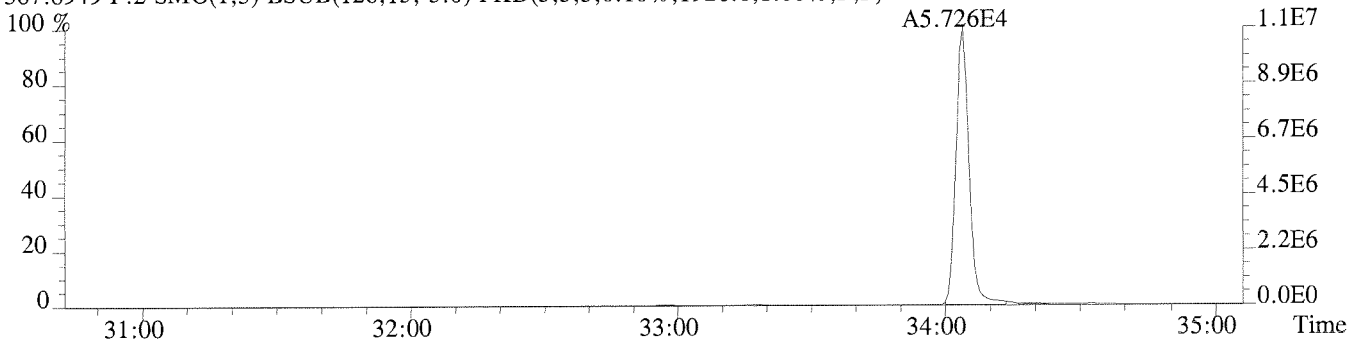
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1928.0,1.00%,F,F)



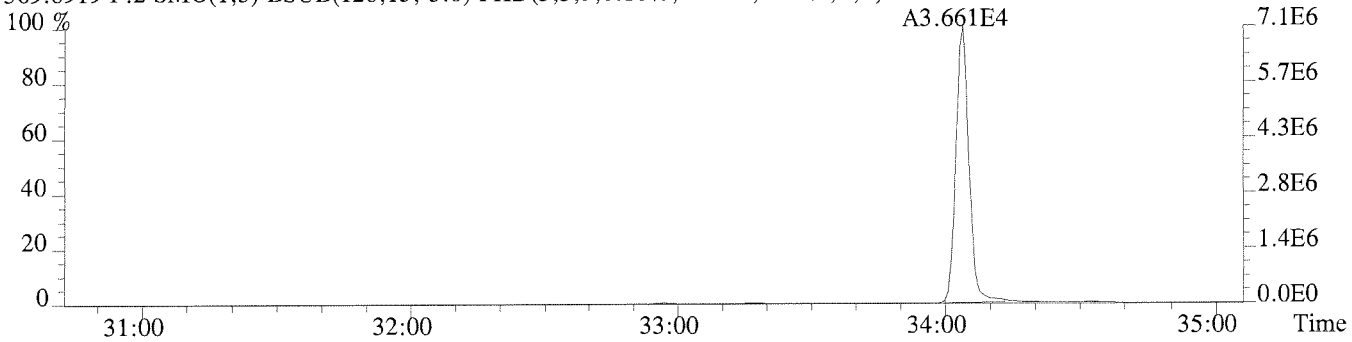
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,416.0,1.00%,F,F)



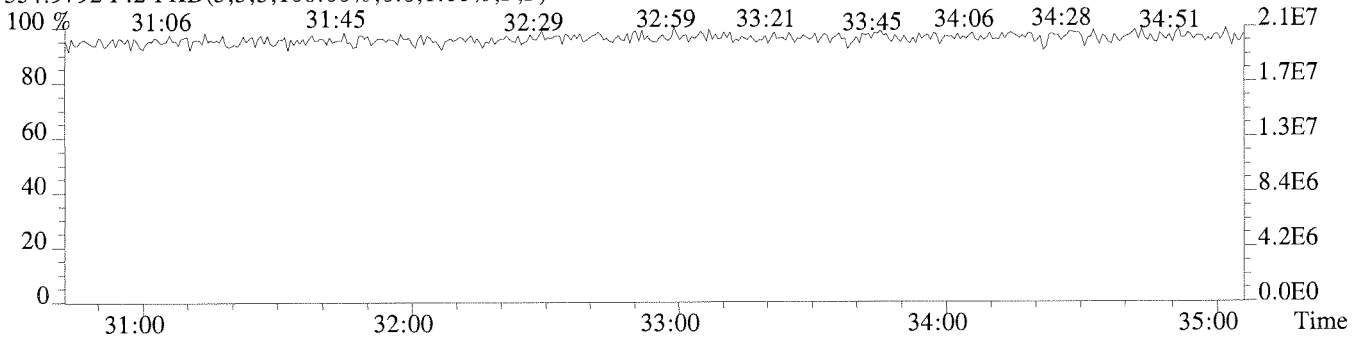
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1920.0,1.00%,F,F)



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

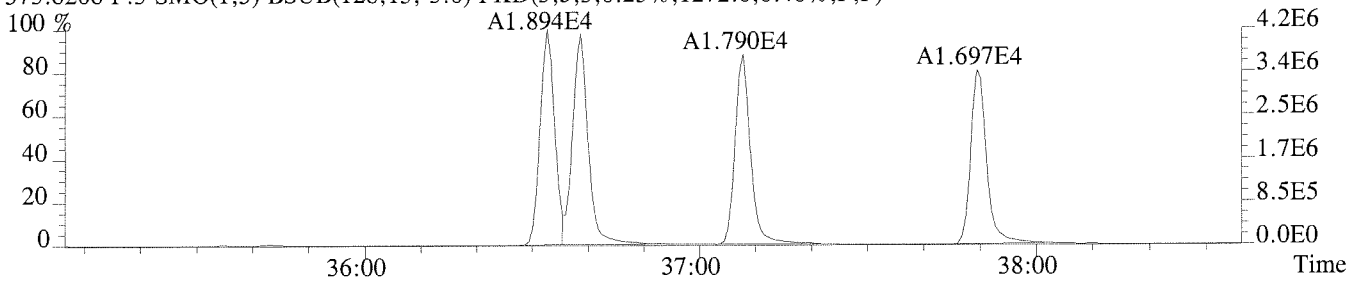


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

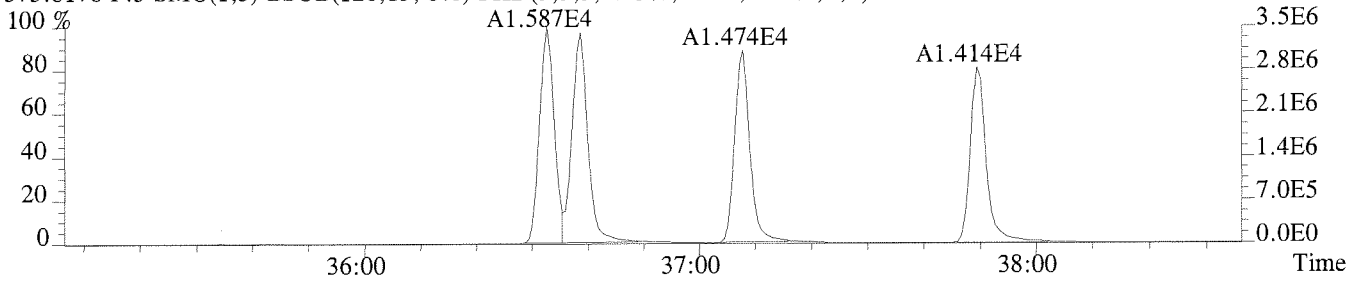


File:P200004 #1-318 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spectf
Sample#1 Exp:ICAL HRCC3

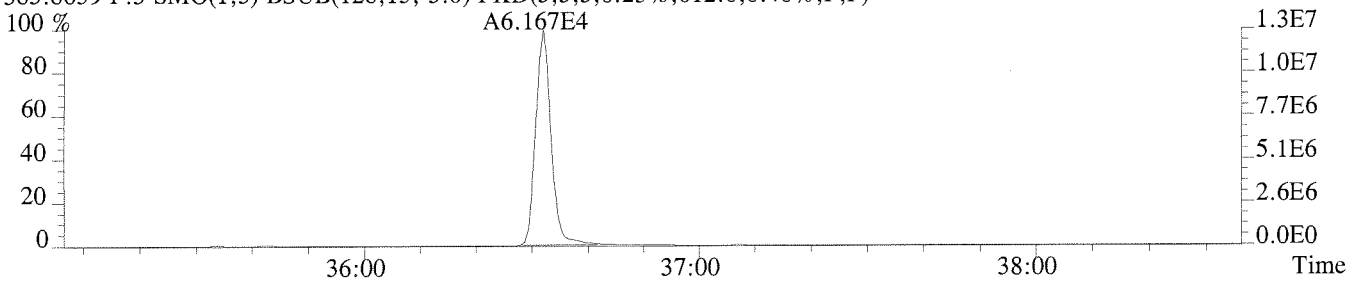
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1272.0,0.40%,F,F)



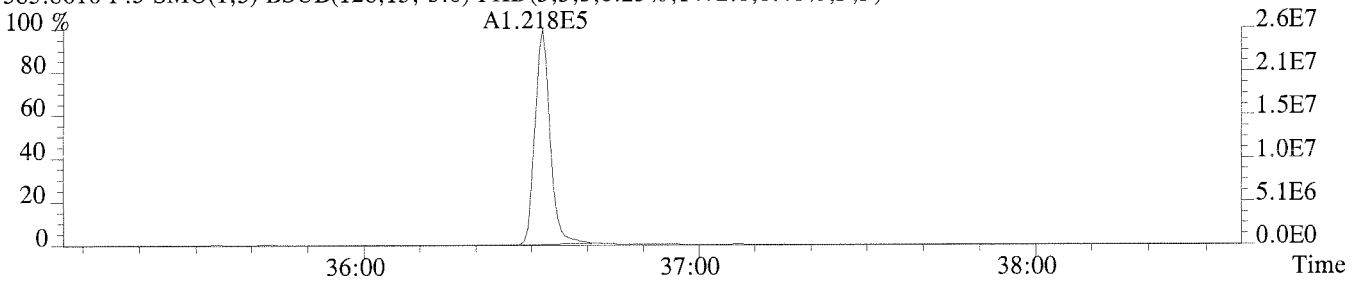
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,648.0,0.40%,F,F)



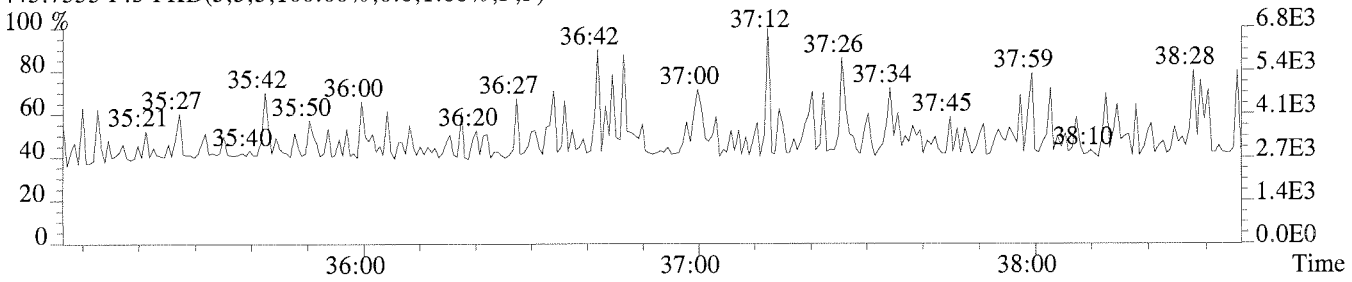
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,612.0,0.40%,F,F)



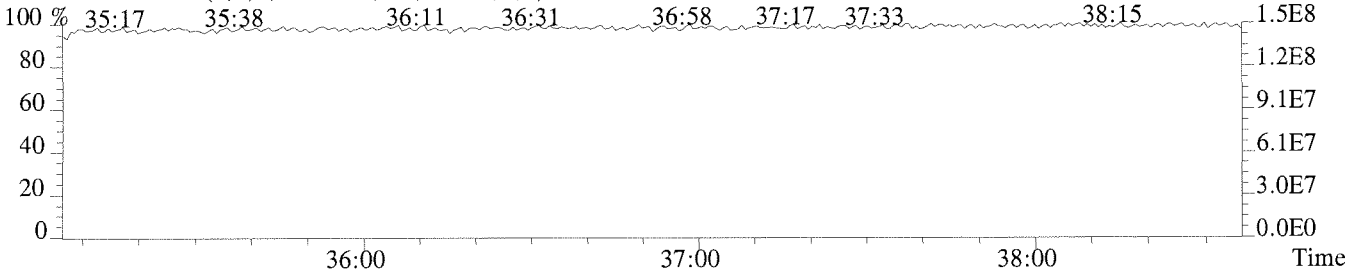
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1472.0,0.40%,F,F)



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

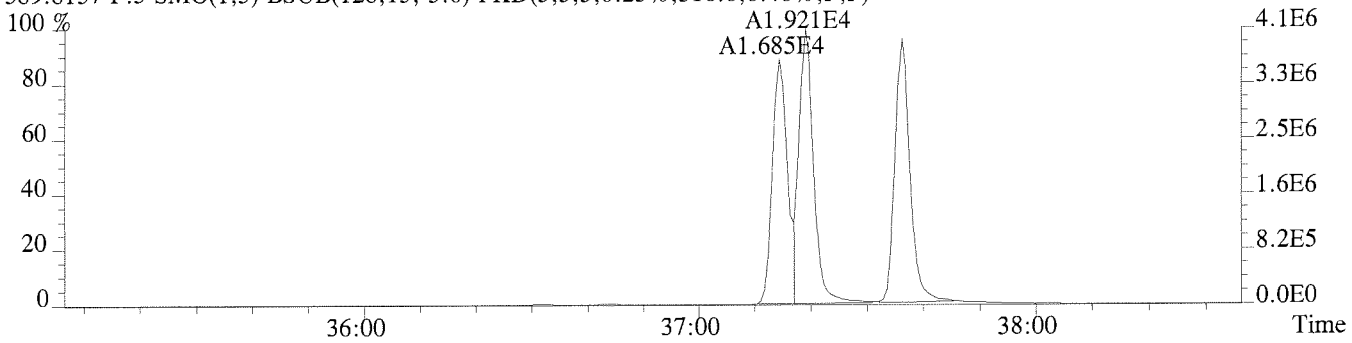


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

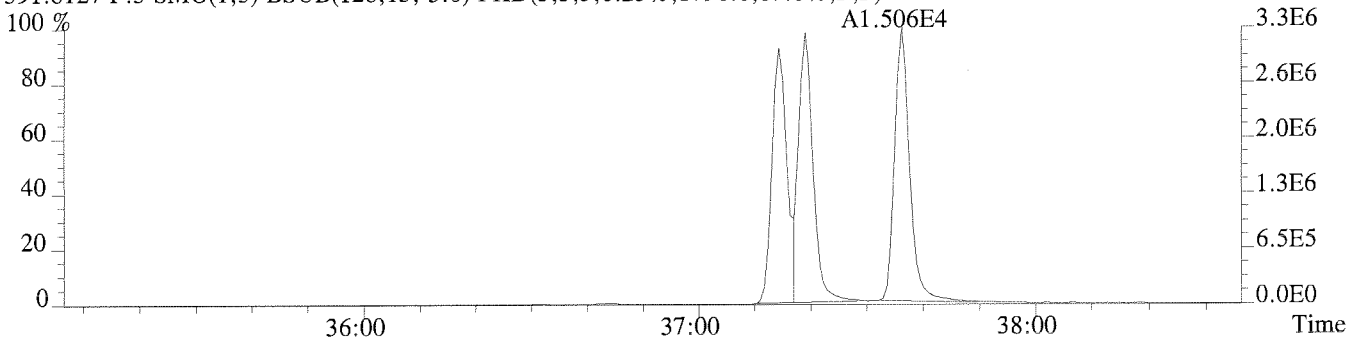


File:P200004 #1-318 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

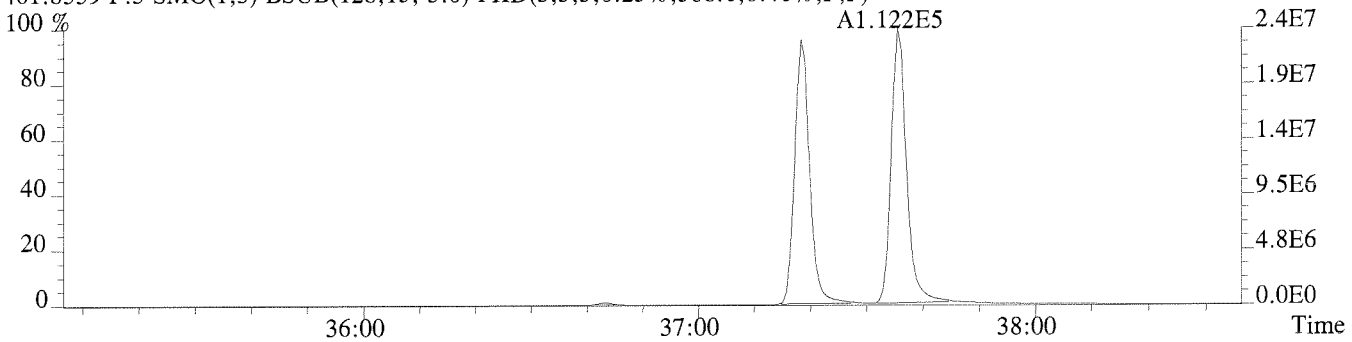
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,516.0,0.40%,F,F)



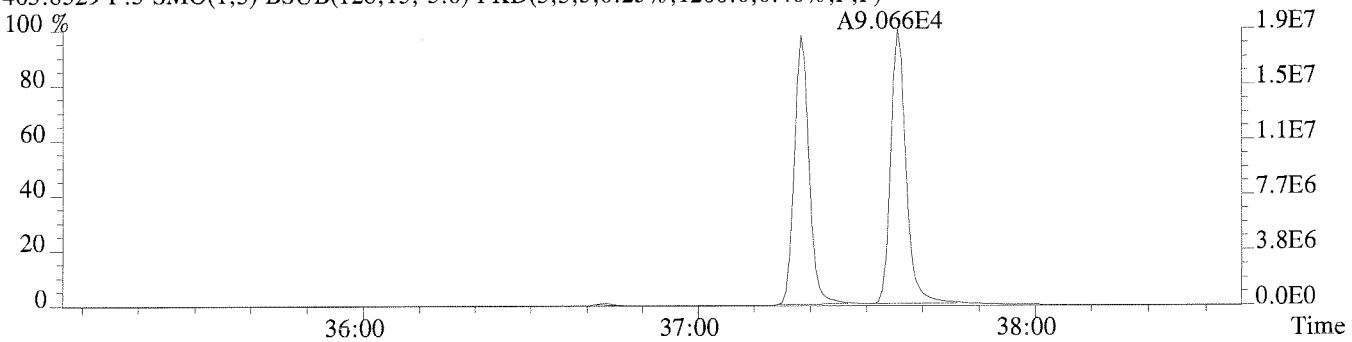
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1796.0,0.40%,F,F)



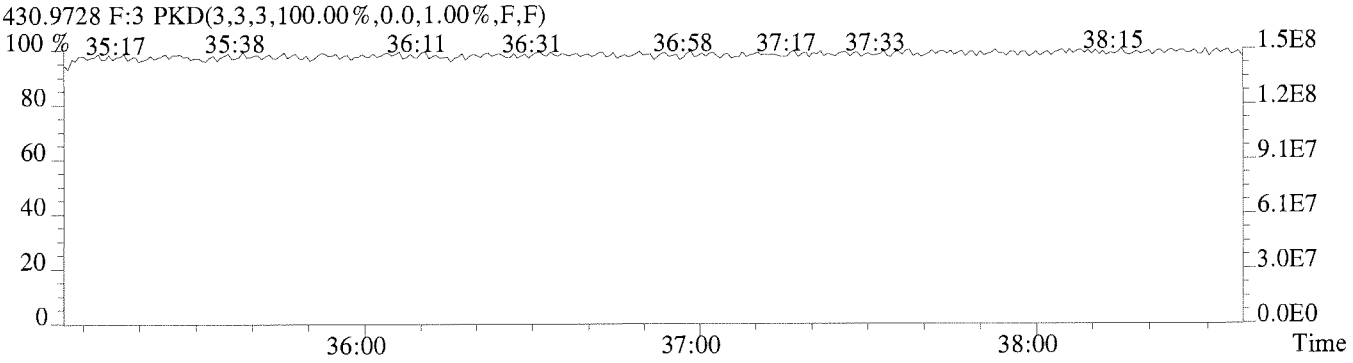
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1200.0,0.40%,F,F)

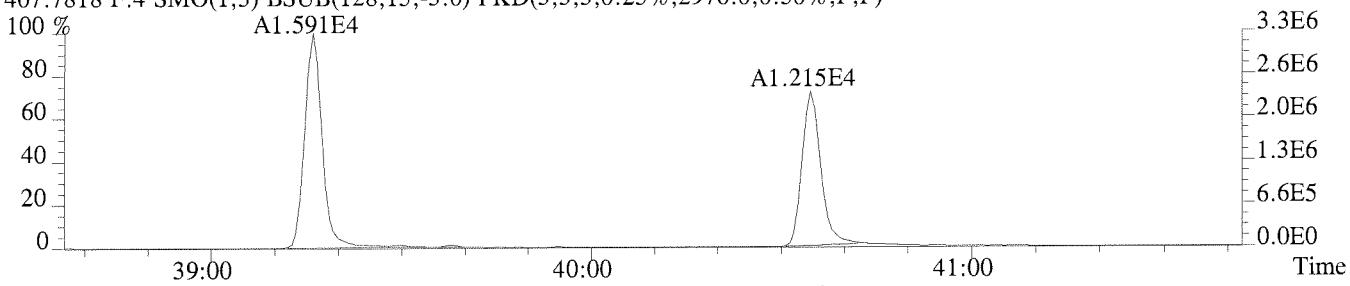


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

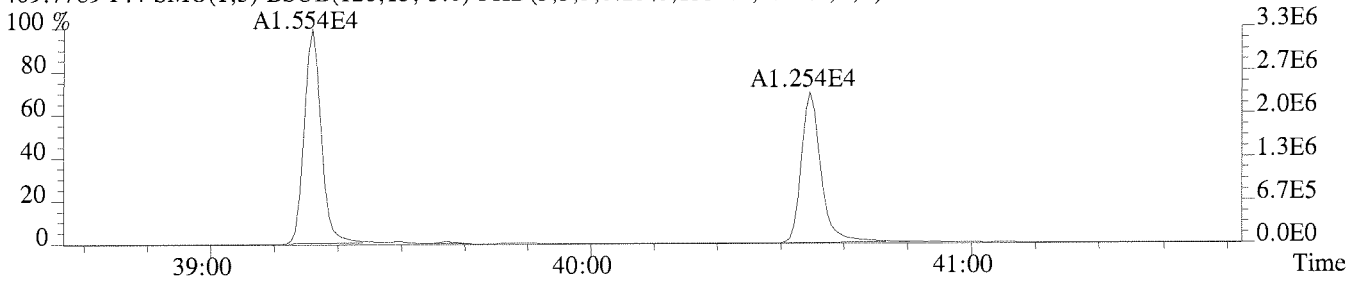


File:P200004 #1-281 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

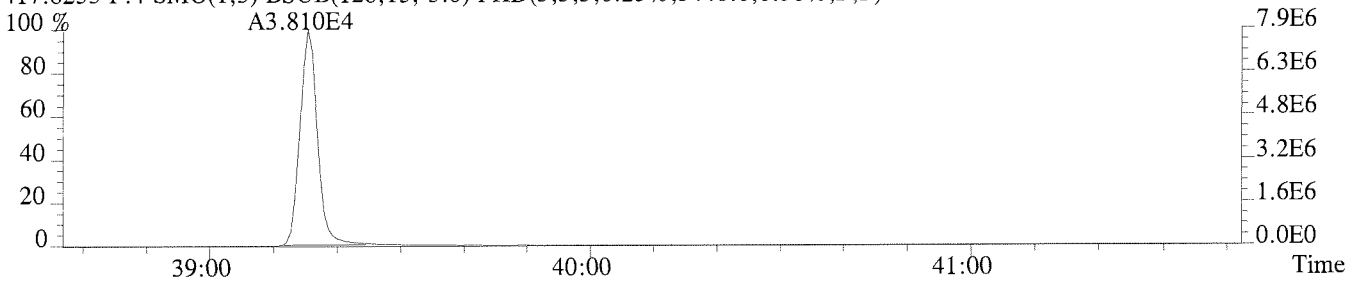
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2976.0,0.50%,F,F)



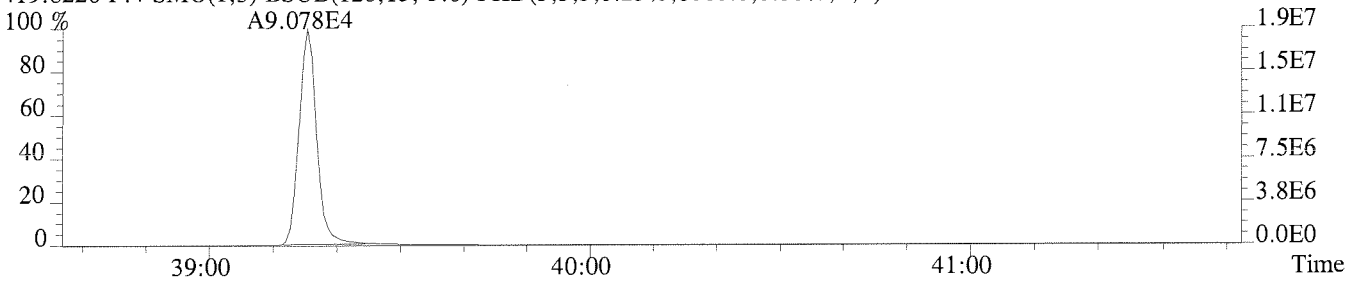
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1336.0,0.50%,F,F)



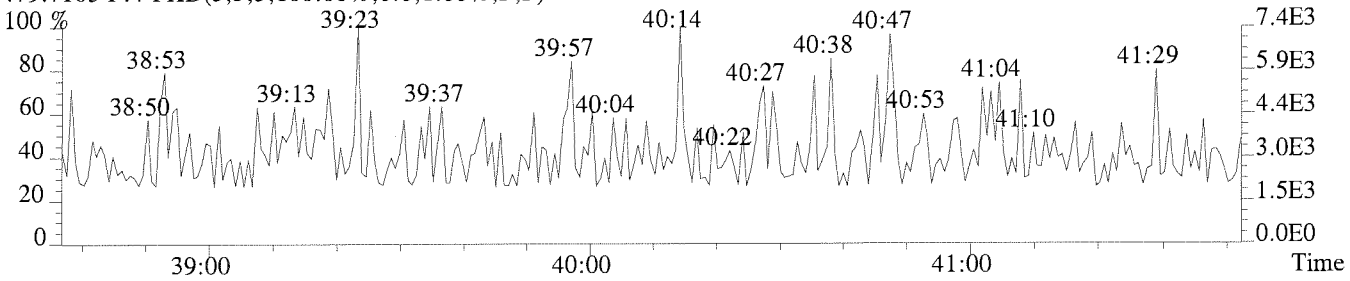
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3440.0,0.50%,F,F)



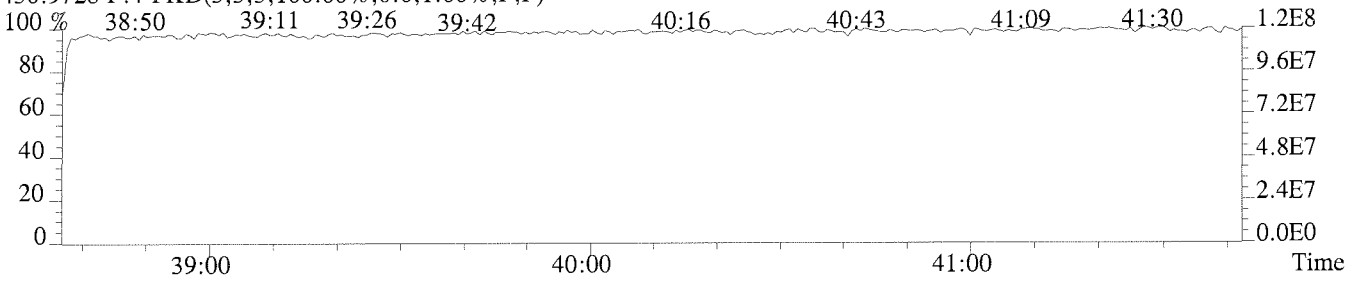
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8060.0,0.50%,F,F)



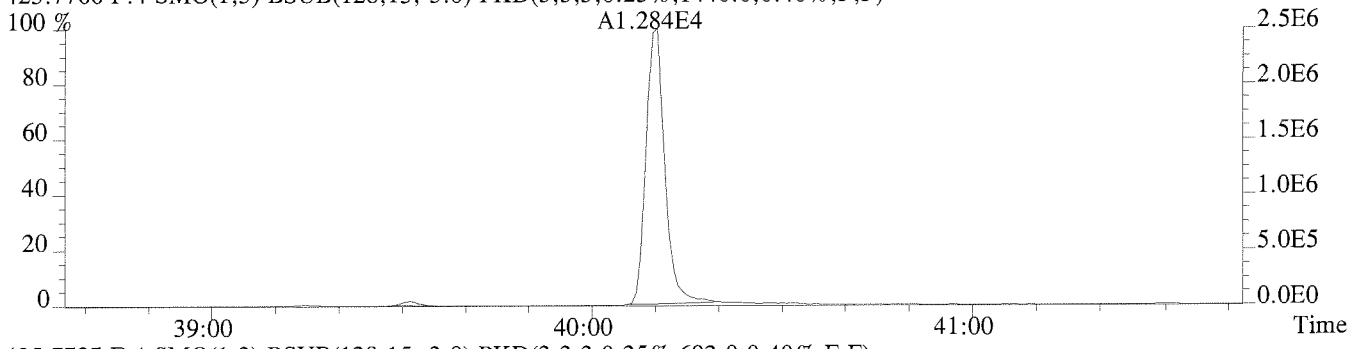
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



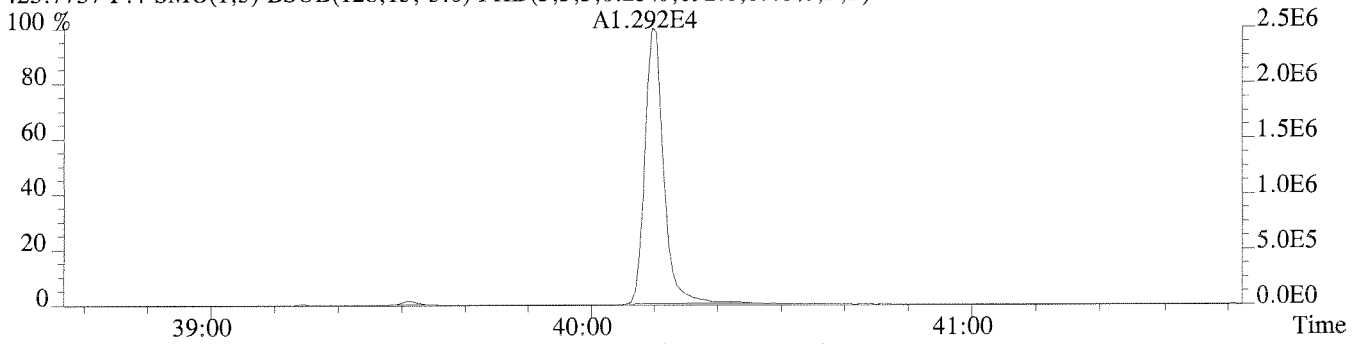
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



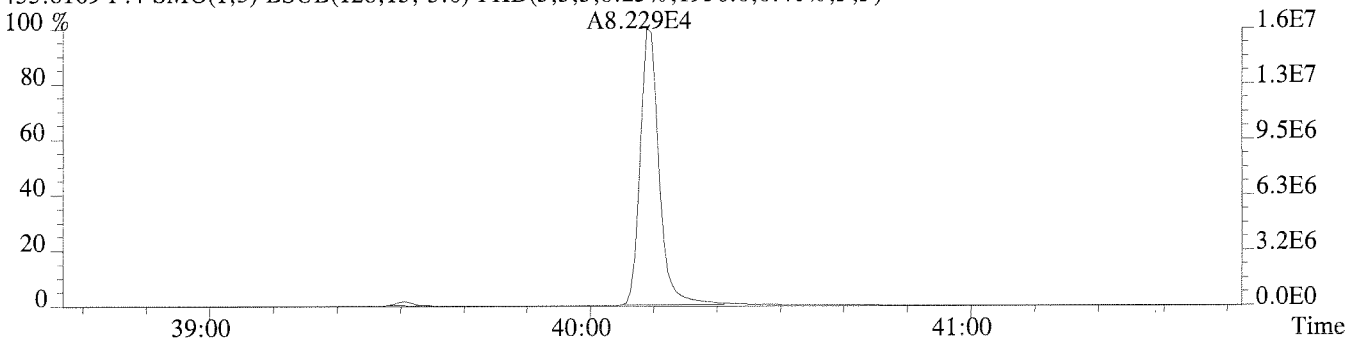
File:P200004 #1-281 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1440.0,0.40%,F,F)



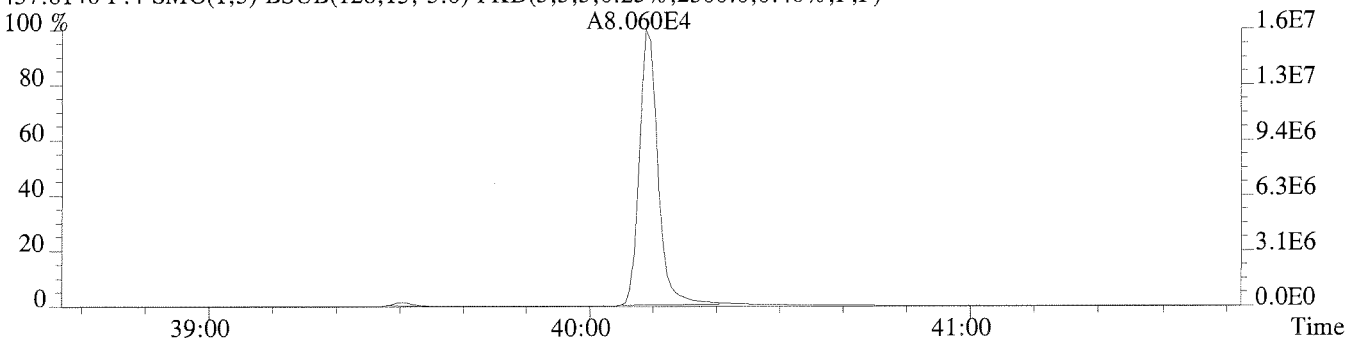
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,692.0,0.40%,F,F)



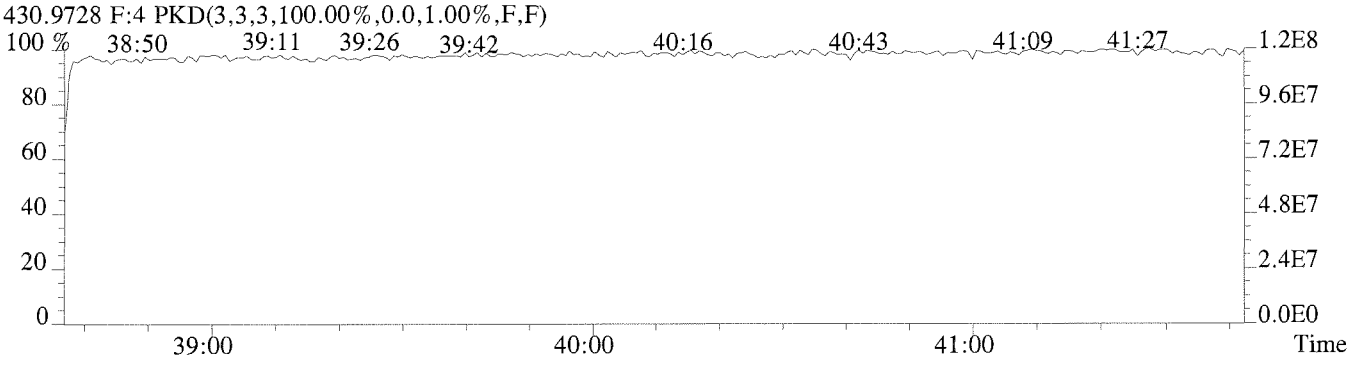
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1936.0,0.40%,F,F)



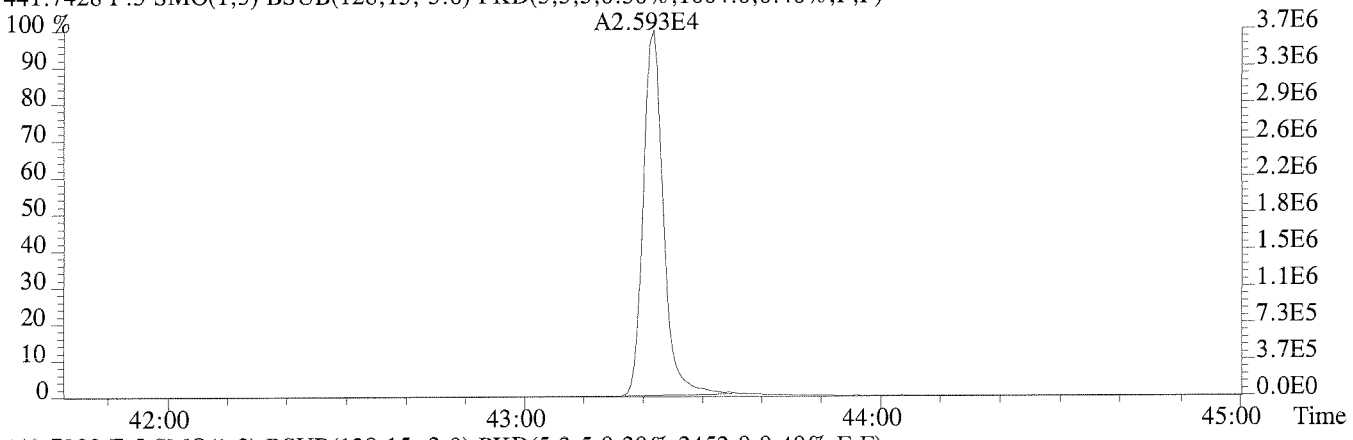
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2300.0,0.40%,F,F)



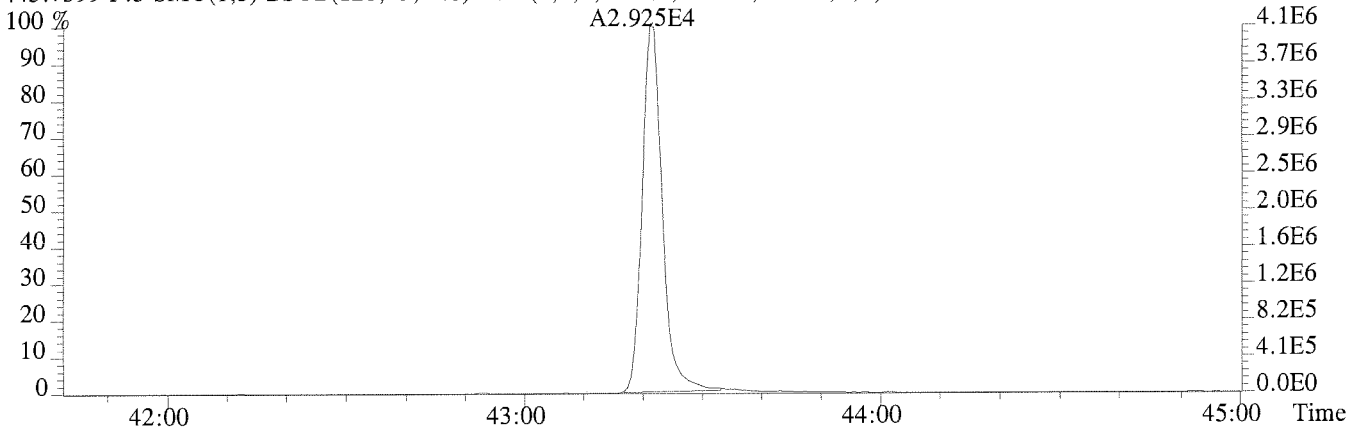
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



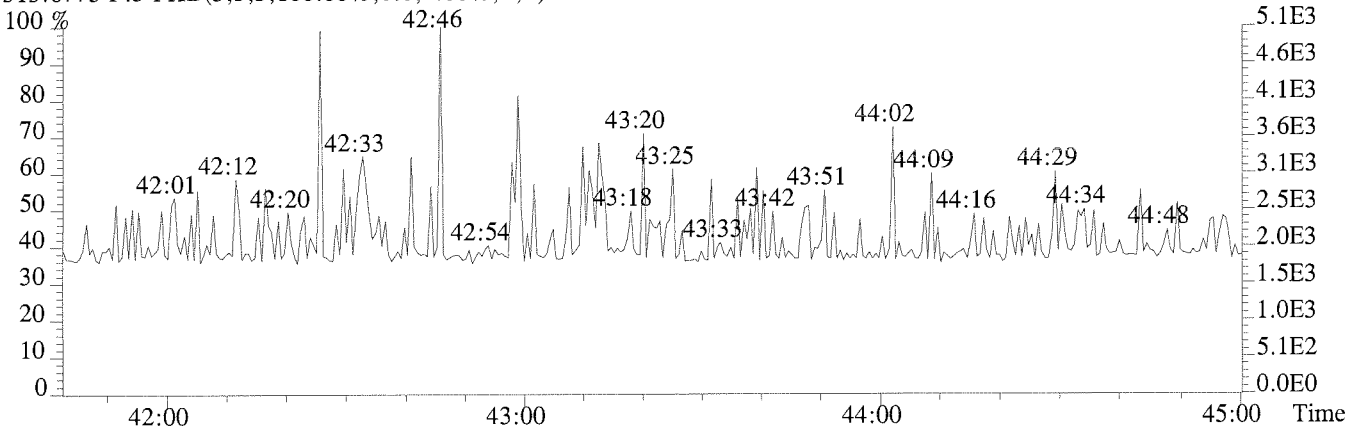
File:P200004 #1-364 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1004.0,0.40%,F,F)



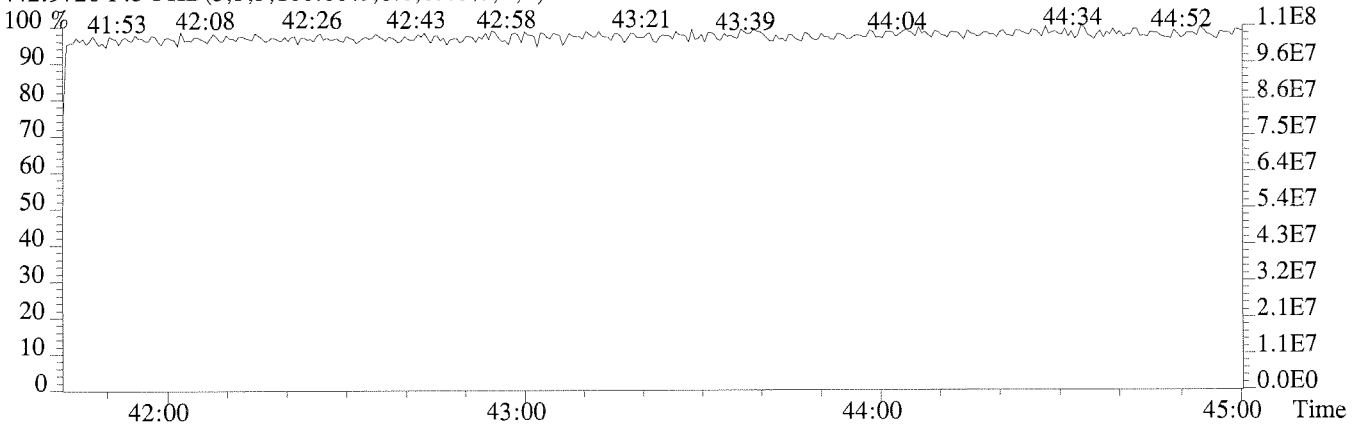
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2452.0,0.40%,F,F)



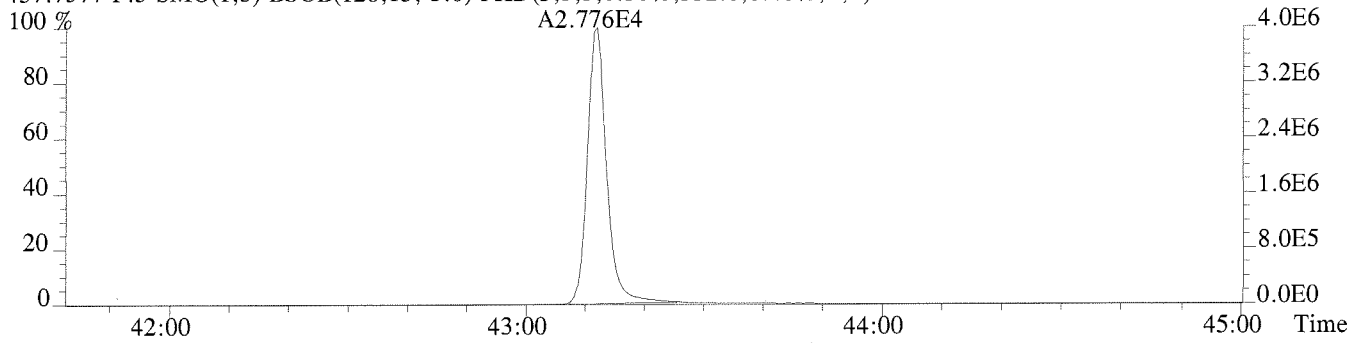
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



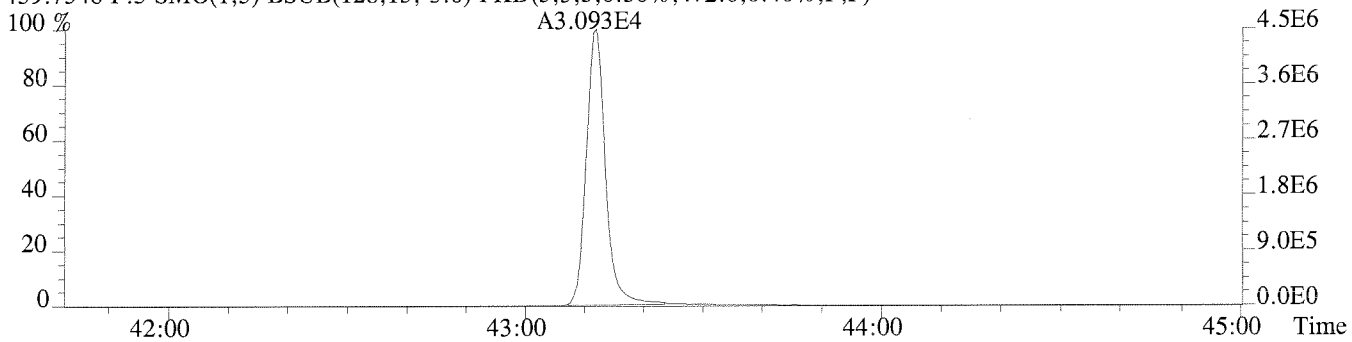
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



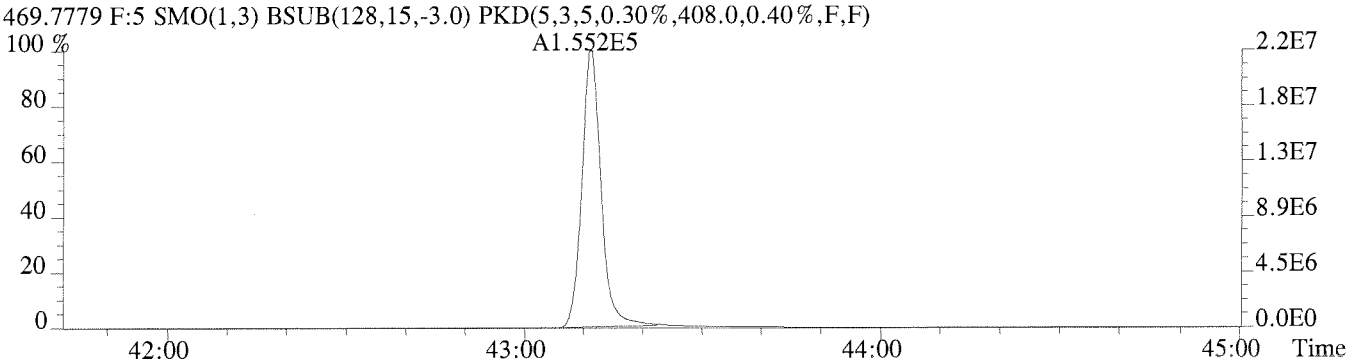
File:P200004 #1-364 Acq:18-JUL-2008 14:23:04 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,552.0,0.40%,F,F)



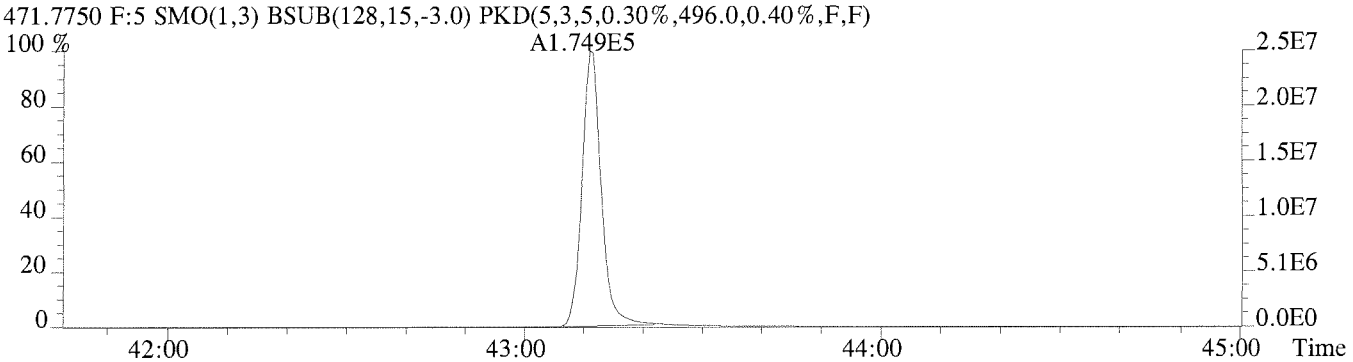
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,F)



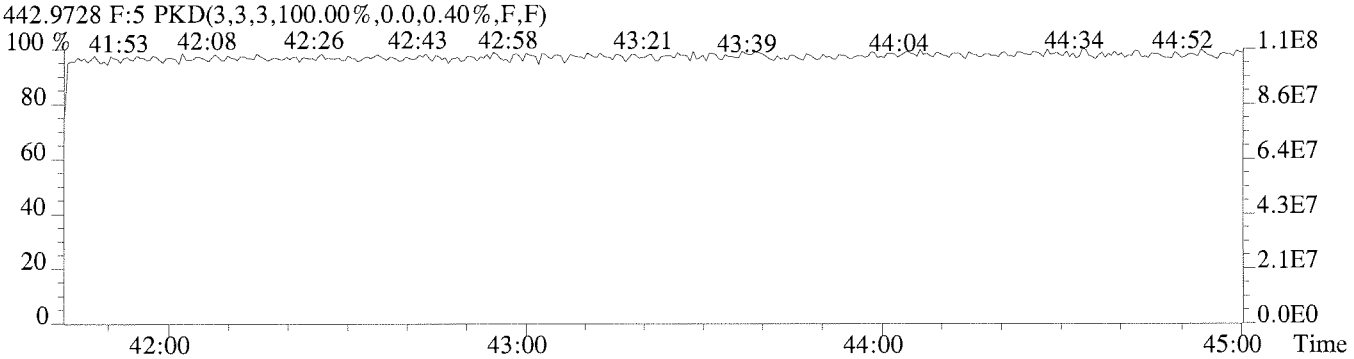
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,408.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,496.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC4

Run #4 Filename P200007 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 17:03:35
Processed: 30-JUL-08 09:37:38 Sample ID: ICAL HRCC4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	3.263e+04	4.375e+04	0.75	yes	no	0.72
2	Unk	1,2,3,7,8-PeCDF	32:59	1.189e+05	7.963e+04	1.49	yes	no	0.71
3	Unk	2,3,4,7,8-PeCDF	33:43	1.238e+05	8.147e+04	1.52	yes	no	0.73
4	Unk	1,2,3,4,7,8-HxCDF	36:33	9.648e+04	8.207e+04	1.18	yes	no	0.93
5	Unk	1,2,3,6,7,8-HxCDF	36:39	9.767e+04	8.297e+04	1.18	yes	no	0.96
6	Unk	2,3,4,6,7,8-HxCDF	37:08	8.991e+04	7.851e+04	1.15	yes	no	0.86
7	Unk	1,2,3,7,8,9-HxCDF	37:49	8.371e+04	7.147e+04	1.17	yes	no	0.79
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	8.117e+04	8.148e+04	1.00	yes	no	1.19
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	6.546e+04	6.475e+04	1.01	yes	no	0.94
10	Unk	OCDF	43:22	1.349e+05	1.535e+05	0.88	yes	no	0.83
11	Unk	2,3,7,8-TCDD	29:27	3.406e+04	4.452e+04	0.77	yes	no	0.84
12	Unk	1,2,3,7,8-PeCDD	34:04	1.120e+05	7.410e+04	1.51	yes	no	0.79
13	Unk	1,2,3,4,7,8-HxCDD	37:14	8.770e+04	7.054e+04	1.24	yes	no	0.81
14	Unk	1,2,3,6,7,8-HxCDD	37:19	9.526e+04	7.674e+04	1.24	yes	no	0.92
15	Unk	1,2,3,7,8,9-HxCDD	37:36	9.481e+04	7.619e+04	1.24	yes	no	0.89
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	6.746e+04	6.563e+04	1.03	yes	no	0.79
17	Unk	OCDD	43:12	1.388e+05	1.583e+05	0.88	yes	no	0.88
18	IS	13C-2,3,7,8-TCDF	28:35	4.465e+04	5.907e+04	0.76	yes	no	1.25
19	IS	13C-1,2,3,7,8-PeCDF	32:58	6.638e+04	4.273e+04	1.55	yes	no	1.23
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	6.357e+04	1.224e+05	0.52	yes	no	0.98
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	4.079e+04	9.333e+04	0.44	yes	no	0.69
22	IS	13C-2,3,7,8-TCDD	29:26	3.985e+04	5.221e+04	0.76	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.638e+04	3.608e+04	1.56	yes	no	1.05
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.023e+05	8.327e+04	1.23	yes	no	0.97
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	8.390e+04	8.129e+04	1.03	yes	no	0.85
26	IS	13C-OCDD	43:11	1.581e+05	1.782e+05	0.89	yes	no	0.87
27	RS/RT	13C-1,2,3,4-TCDD	29:13	3.648e+04	4.674e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	1.047e+05	8.474e+04	1.24	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	8.325e+04					0.99

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC4

Run #4 Filename P200007 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 17:03:35

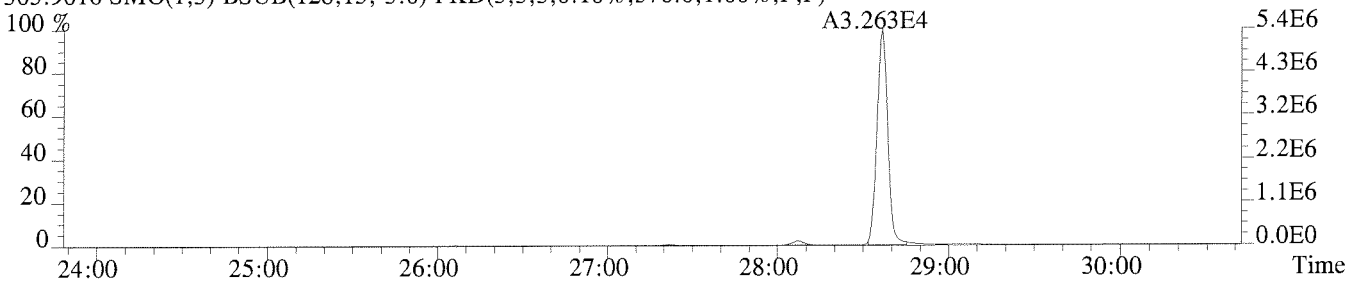
Processed: 30-JUL-08 09:37:38 LAB. ID: ICAL HRCC4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.38e+06	5.76e+02	9.3e+03	7.16e+06	1.82e+03	3.9e+03
2	1,2,3,7,8-PeCDF	2.26e+07	2.16e+02	1.0e+05	1.52e+07	1.04e+03	1.5e+04
3	2,3,4,7,8-PeCDF	2.41e+07	2.16e+02	1.1e+05	1.59e+07	1.04e+03	1.5e+04
4	1,2,3,4,7,8-HxCDF	2.10e+07	1.06e+03	2.0e+04	1.77e+07	1.36e+03	1.3e+04
5	1,2,3,6,7,8-HxCDF	2.02e+07	1.06e+03	1.9e+04	1.70e+07	1.36e+03	1.3e+04
6	2,3,4,6,7,8-HxCDF	1.86e+07	1.06e+03	1.8e+04	1.62e+07	1.36e+03	1.2e+04
7	1,2,3,7,8,9-HxCDF	1.69e+07	1.06e+03	1.6e+04	1.45e+07	1.36e+03	1.1e+04
8	1,2,3,4,6,7,8-HpCDF	1.68e+07	4.12e+03	4.1e+03	1.70e+07	5.07e+03	3.4e+03
9	1,2,3,4,7,8,9-HpCDF	1.22e+07	4.12e+03	3.0e+03	1.21e+07	5.07e+03	2.4e+03
10	OCDF	1.90e+07	7.60e+02	2.5e+04	2.15e+07	1.99e+03	1.1e+04
11	2,3,7,8-TCDD	5.93e+06	2.14e+03	2.8e+03	7.85e+06	9.76e+02	8.0e+03
12	1,2,3,7,8-PeCDD	2.26e+07	2.96e+03	7.6e+03	1.49e+07	4.60e+02	3.2e+04
13	1,2,3,4,7,8-HxCDD	1.94e+07	6.36e+02	3.0e+04	1.54e+07	1.24e+03	1.2e+04
14	1,2,3,6,7,8-HxCDD	2.01e+07	6.36e+02	3.2e+04	1.62e+07	1.24e+03	1.3e+04
15	1,2,3,7,8,9-HxCDD	1.97e+07	6.36e+02	3.1e+04	1.59e+07	1.24e+03	1.3e+04
16	1,2,3,4,6,7,8-HpCDD	1.32e+07	1.38e+03	9.6e+03	1.27e+07	7.60e+02	1.7e+04
17	OCDD	2.04e+07	6.48e+02	3.1e+04	2.30e+07	4.16e+02	5.5e+04
18	13C-2,3,7,8-TCDF	7.32e+06	3.72e+03	2.0e+03	9.77e+06	2.44e+03	4.0e+03
19	13C-1,2,3,7,8-PeCDF	1.27e+07	6.60e+02	1.9e+04	8.12e+06	9.24e+02	8.8e+03
20	13C-1,2,3,4,7,8-HxCDF	1.31e+07	6.16e+02	2.1e+04	2.56e+07	2.44e+03	1.0e+04
21	13C-1,2,3,4,6,7,8-HpCDF	8.45e+06	3.38e+03	2.5e+03	1.95e+07	5.54e+03	3.5e+03
22	13C-2,3,7,8-TCDD	6.96e+06	9.53e+03	7.3e+02	9.08e+06	1.30e+03	7.0e+03
23	13C-1,2,3,7,8-PeCDD	1.11e+07	2.20e+03	5.0e+03	7.23e+06	1.25e+03	5.8e+03
24	13C-1,2,3,6,7,8-HxCDD	2.19e+07	7.52e+02	2.9e+04	1.80e+07	1.37e+03	1.3e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.61e+07	2.46e+03	6.6e+03	1.57e+07	1.67e+03	9.4e+03
26	13C-OCDD	2.28e+07	6.96e+02	3.3e+04	2.54e+07	7.00e+02	3.6e+04
27	13C-1,2,3,4-TCDD	6.36e+06	9.53e+03	6.7e+02	8.11e+06	1.30e+03	6.3e+03
28	13C-1,2,3,7,8,9-HxCDD	2.17e+07	7.52e+02	2.9e+04	1.78e+07	1.37e+03	1.3e+04
29	37Cl-2,3,7,8-TCDD	1.47e+07	9.08e+02	1.6e+04			

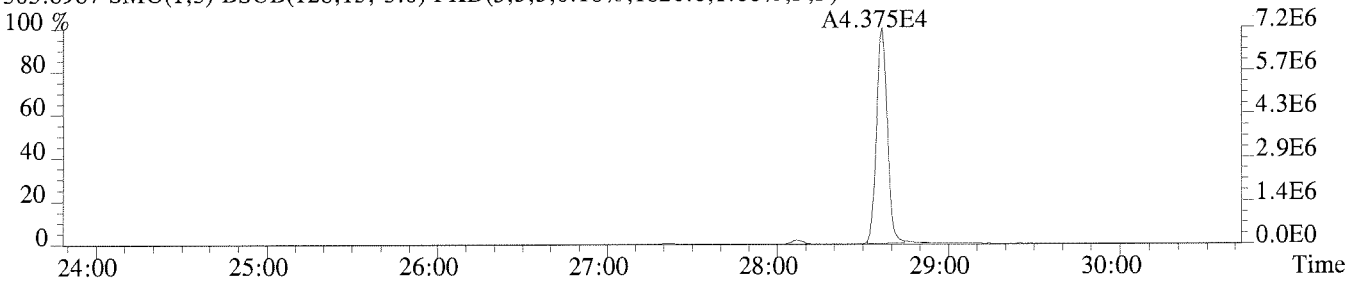
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200007 #1-575 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

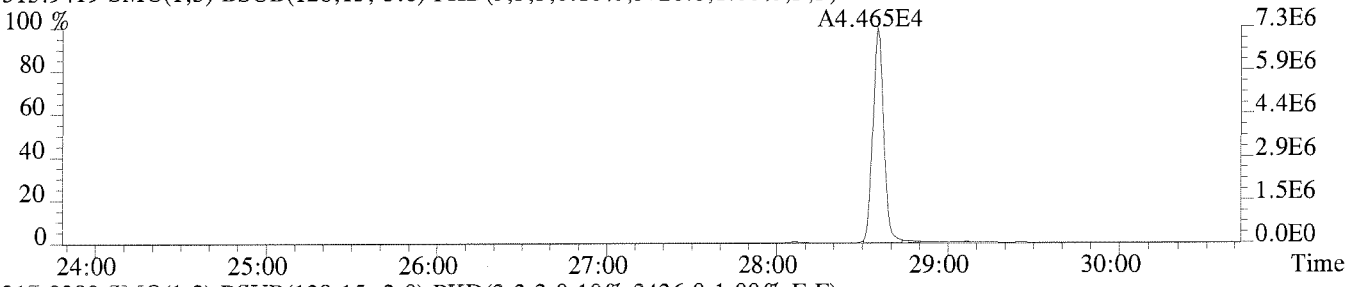
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,F)



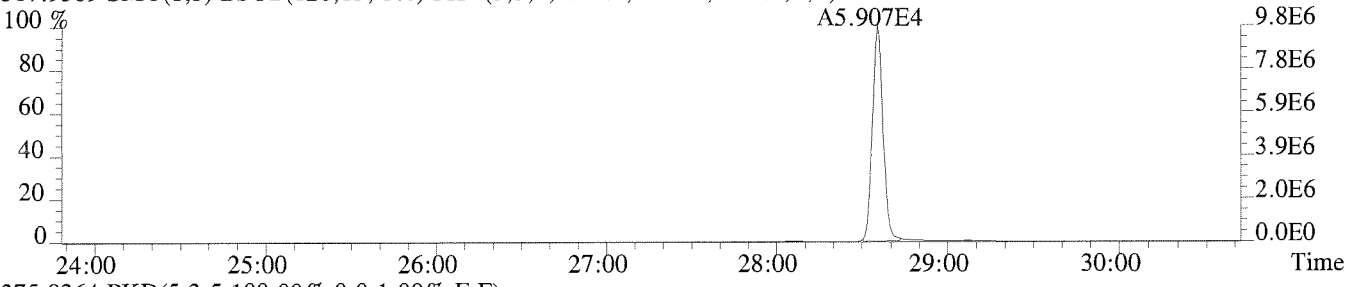
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1820.0,1.00%,F,F)



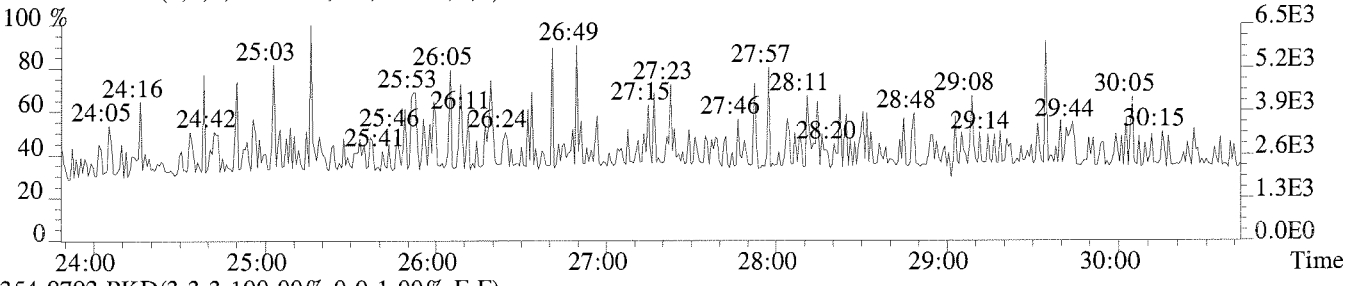
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3720.0,1.00%,F,F)



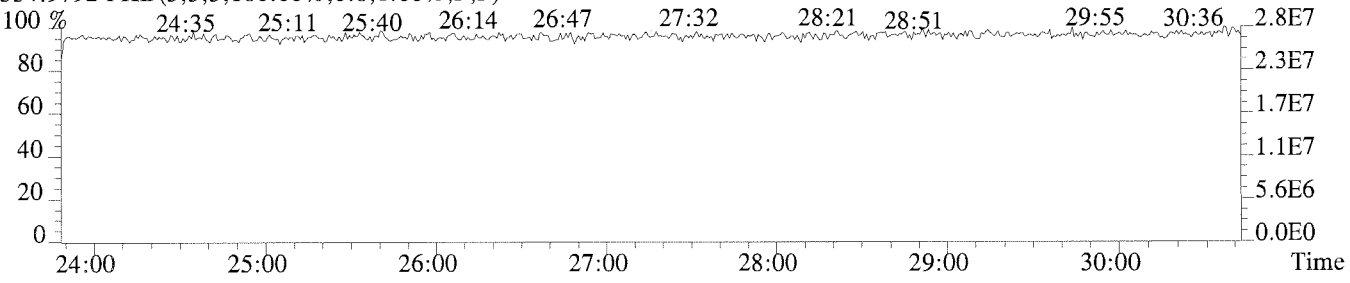
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2436.0,1.00%,F,F)



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

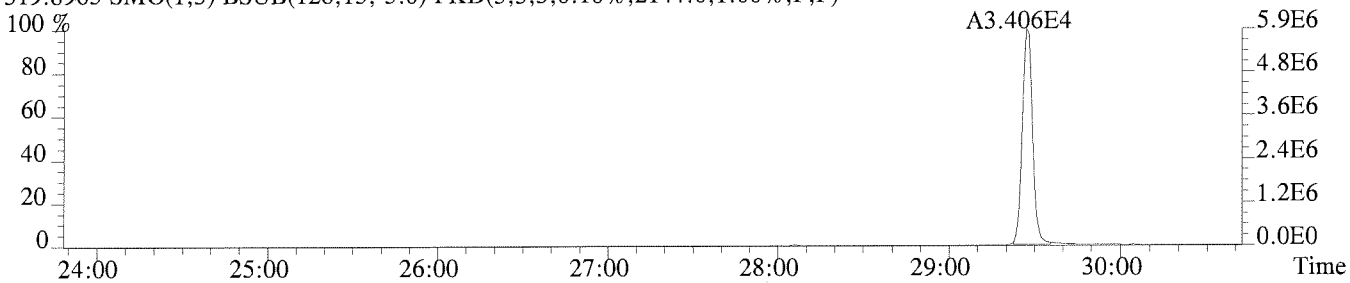


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

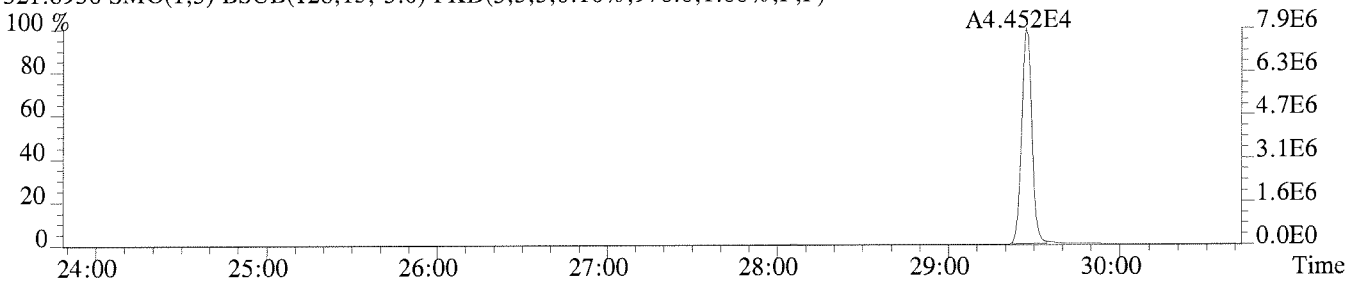


File:P200007 #1-575 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

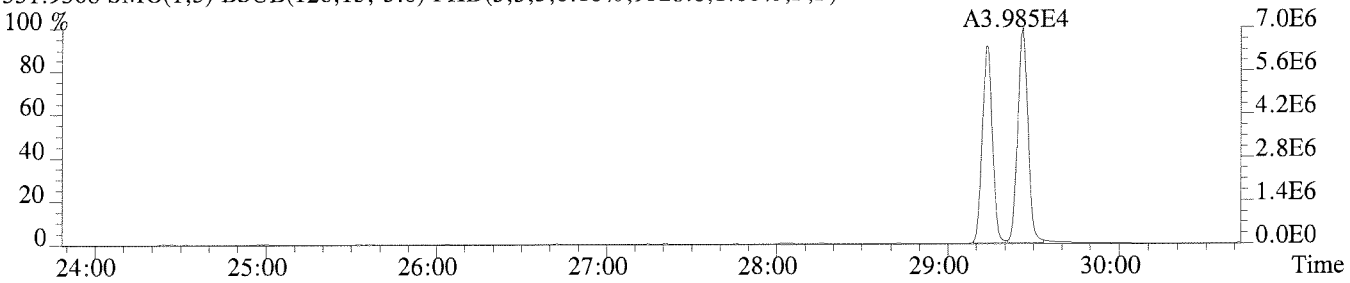
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2144.0,1.00%,F,F)



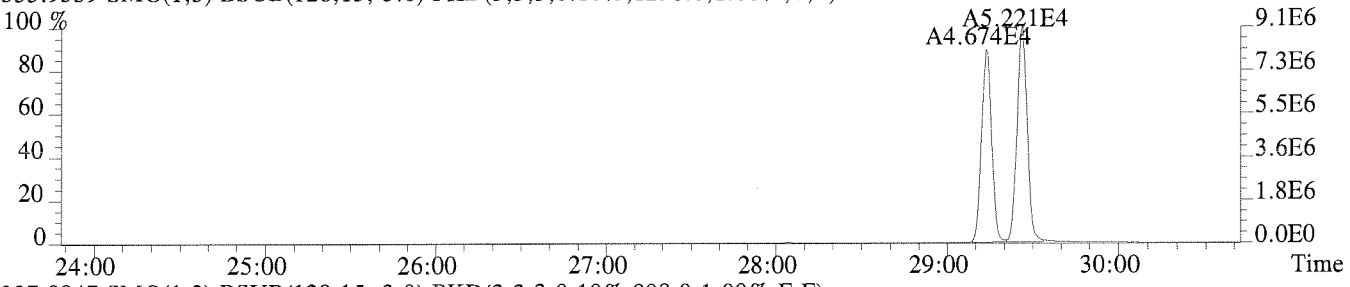
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,976.0,1.00%,F,F)



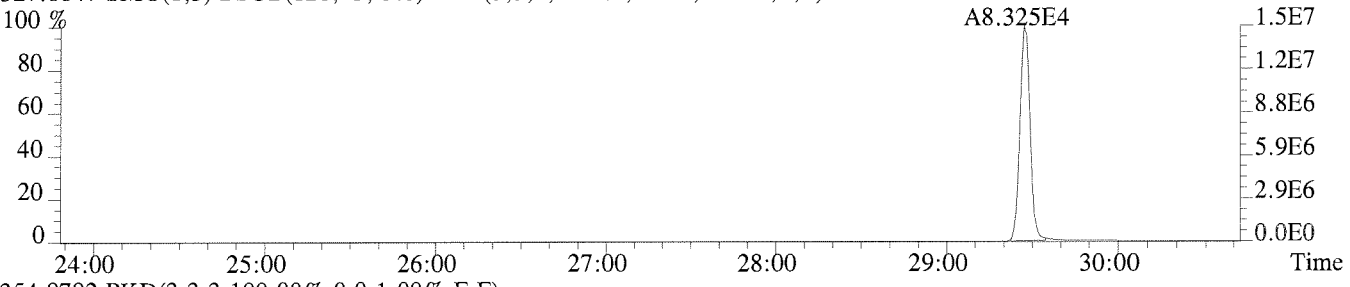
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,9528.0,1.00%,F,F)



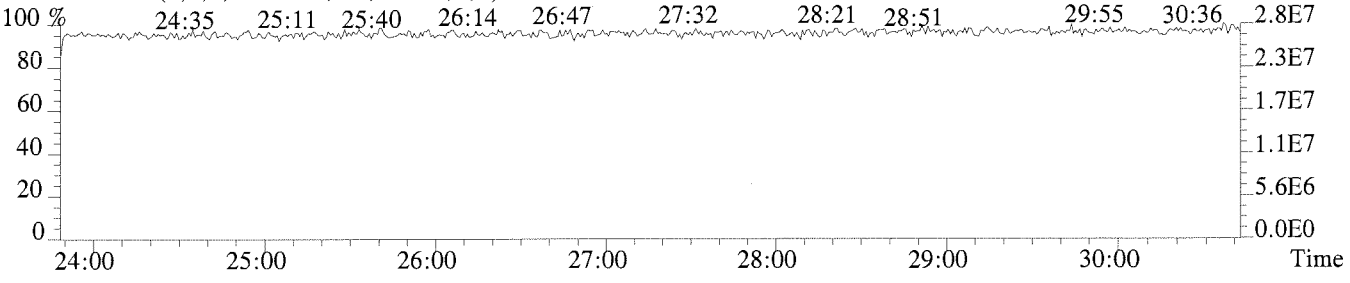
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1296.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,F)

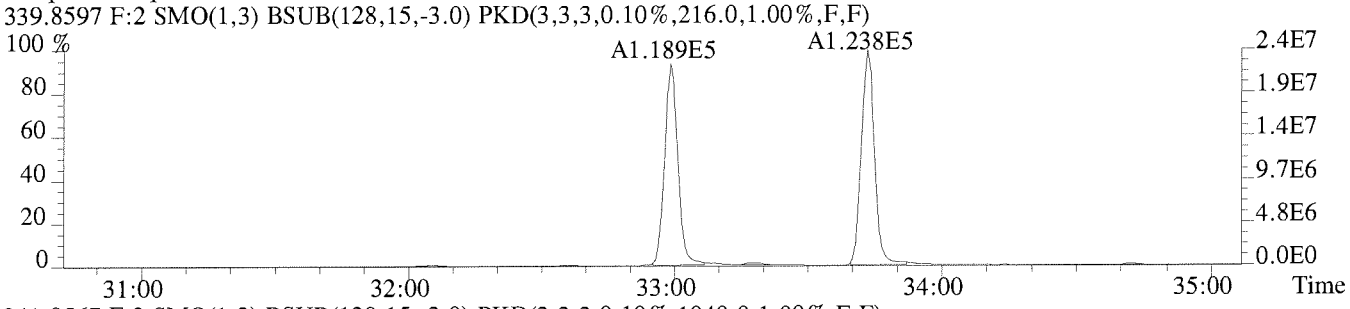


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

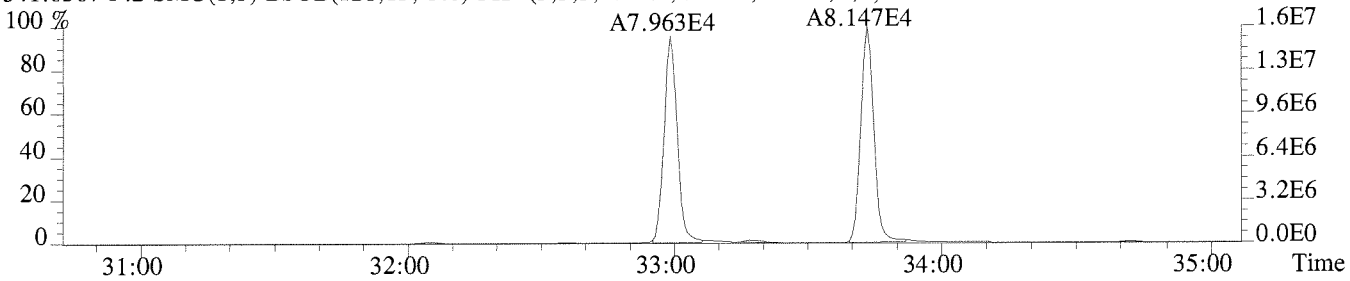


File:P200007 #1-400 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

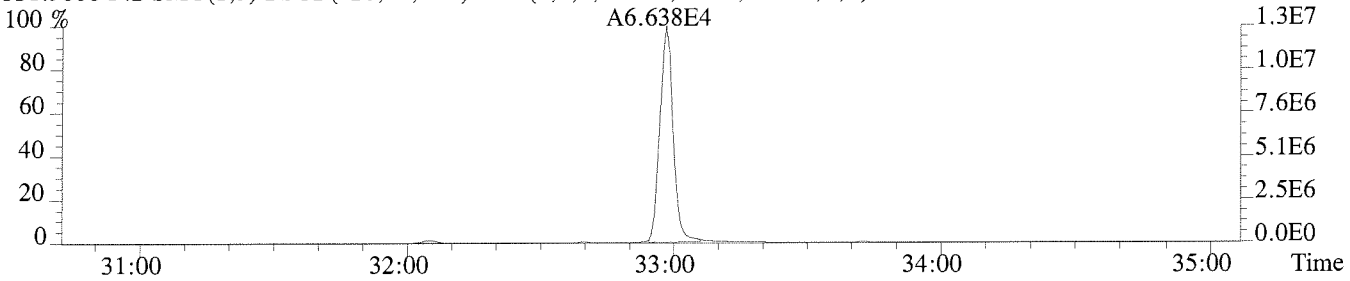
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,216.0,1.00%,F,F)



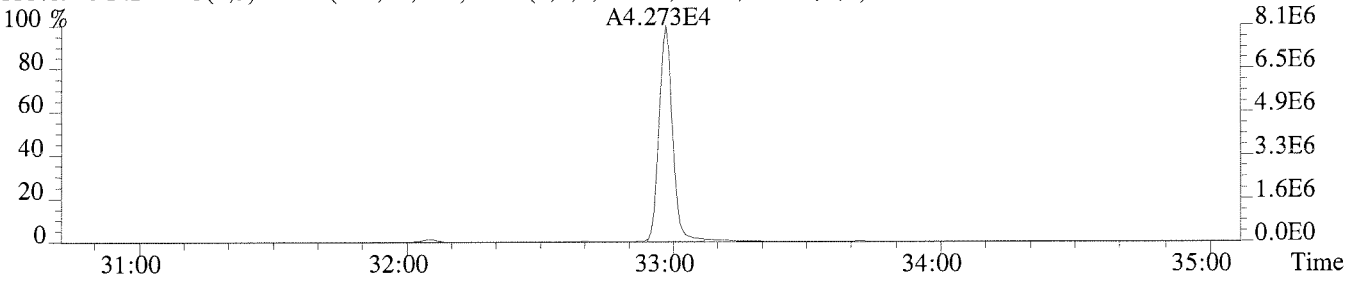
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1040.0,1.00%,F,F)



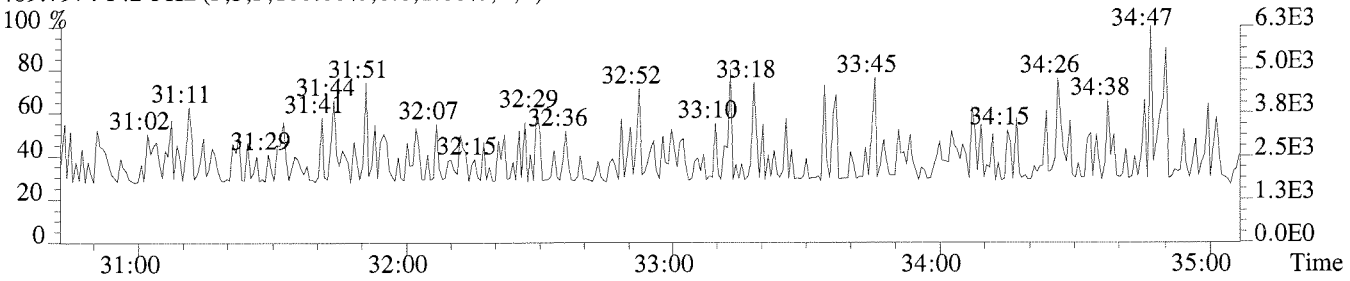
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,660.0,1.00%,F,F)



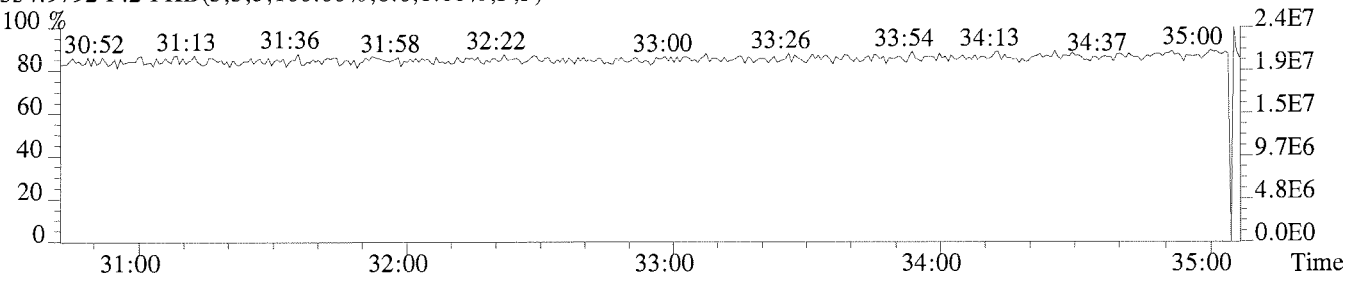
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,924.0,1.00%,F,F)



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

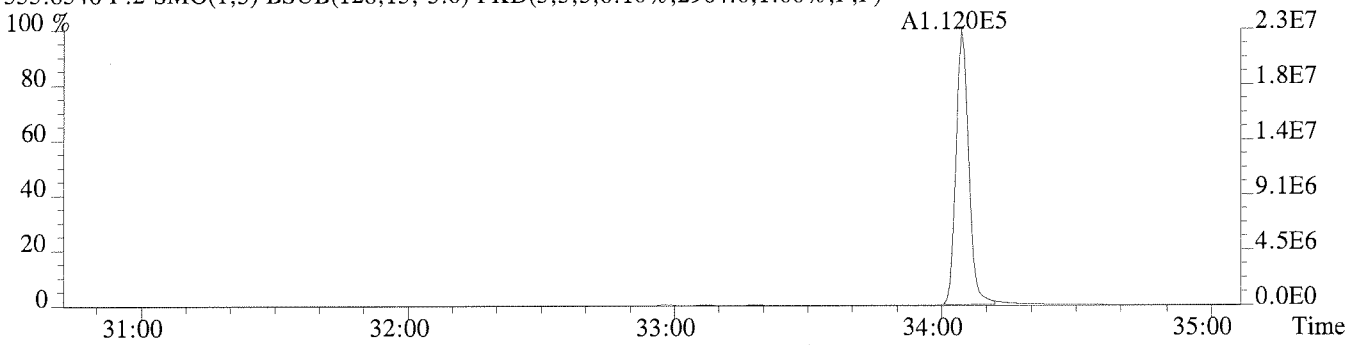


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

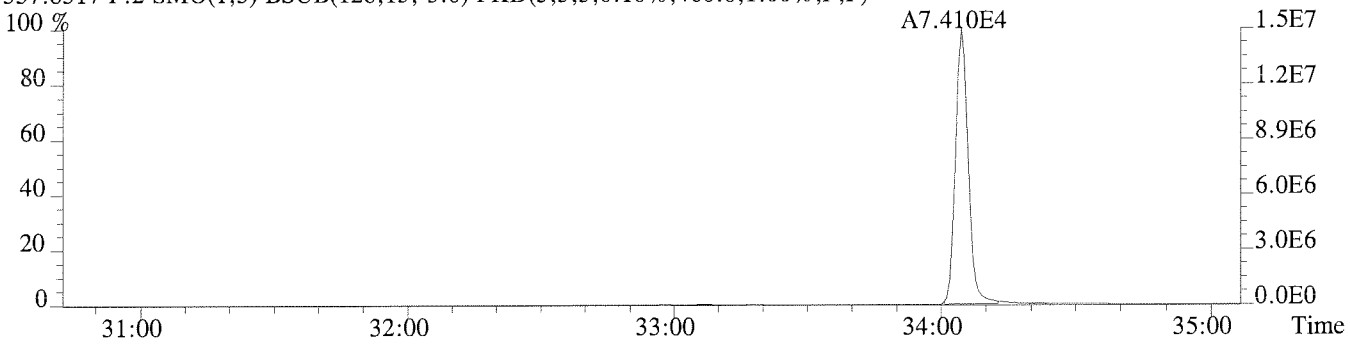


File:P200007 #1-400 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

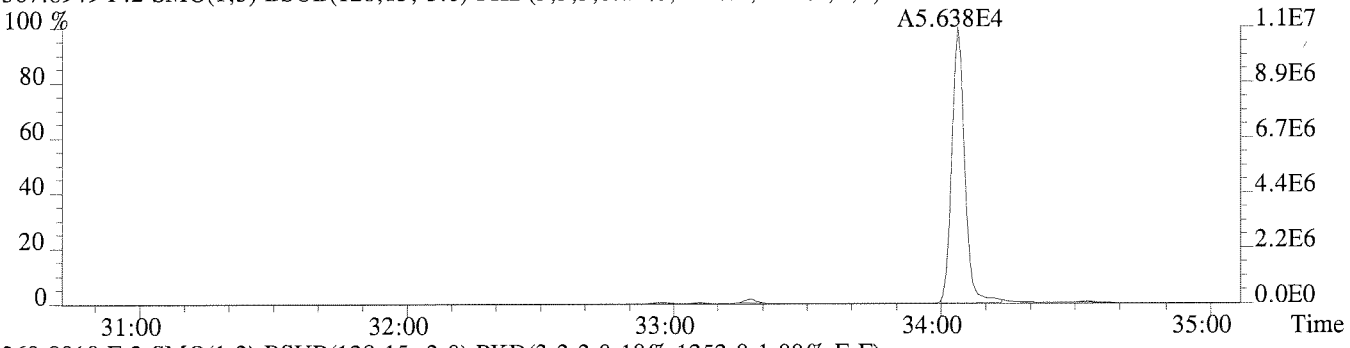
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2964.0,1.00%,F,F)



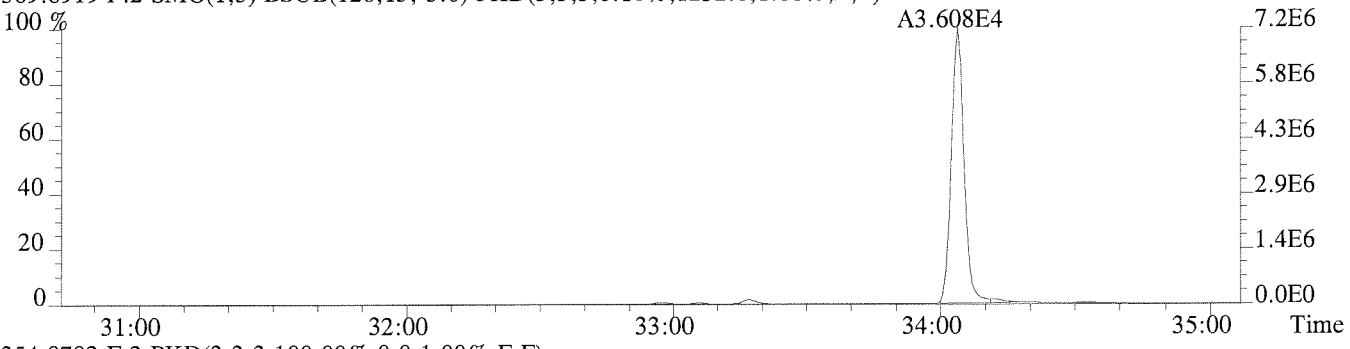
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,F)



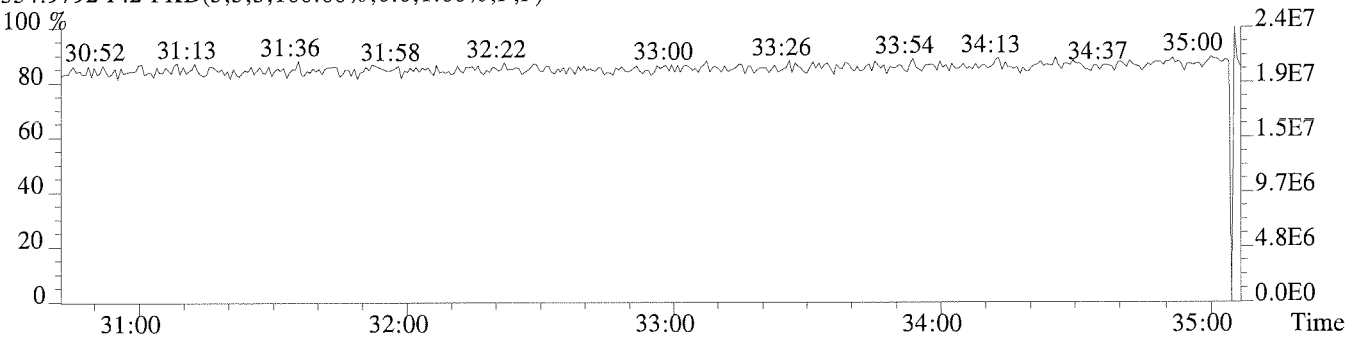
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1252.0,1.00%,F,F)

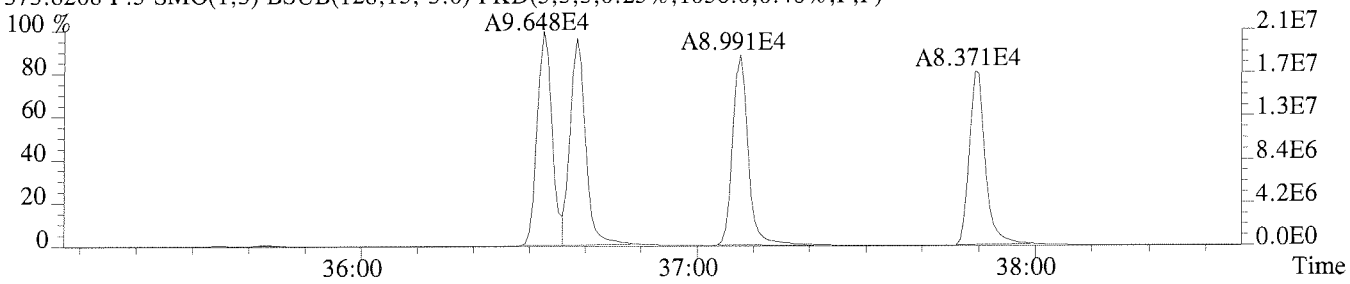


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

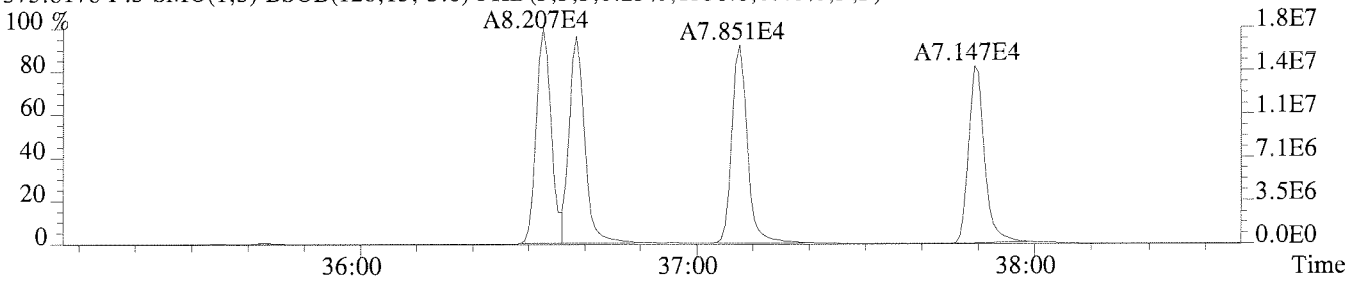


File:P200007 #1-317 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

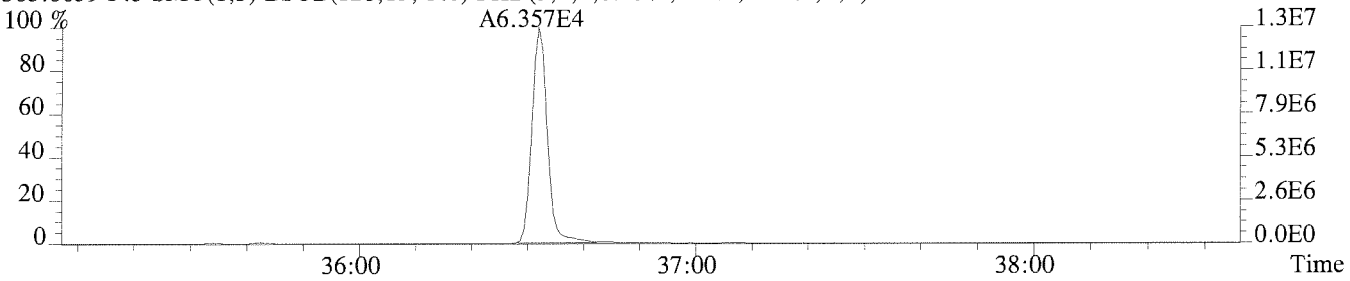
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1056.0,0.40%,F,F)



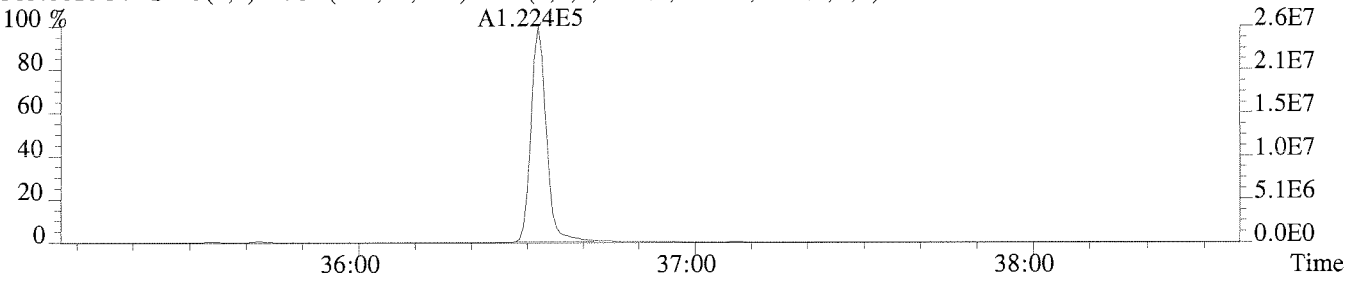
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1356.0,0.40%,F,F)



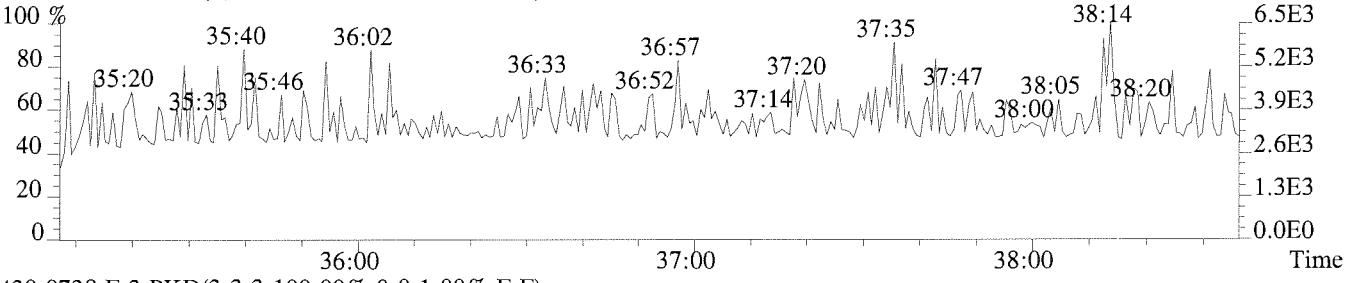
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,616.0,0.40%,F,F)



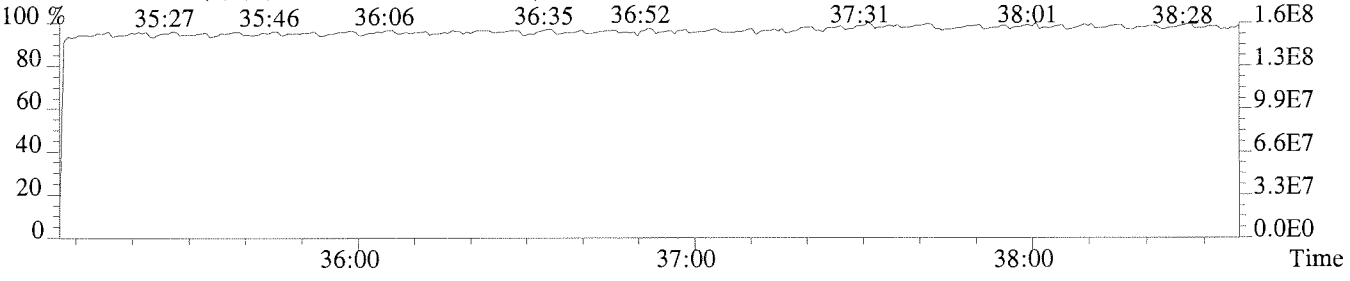
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2444.0,0.40%,F,F)



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

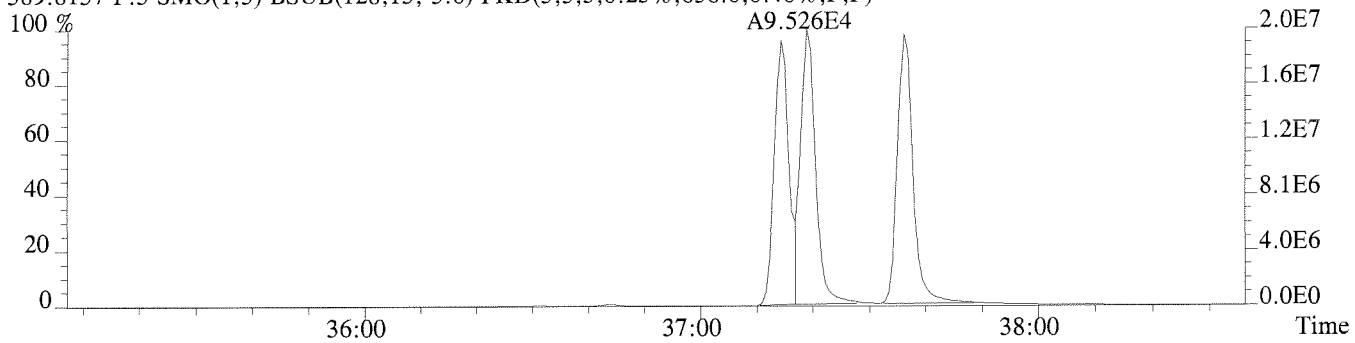


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

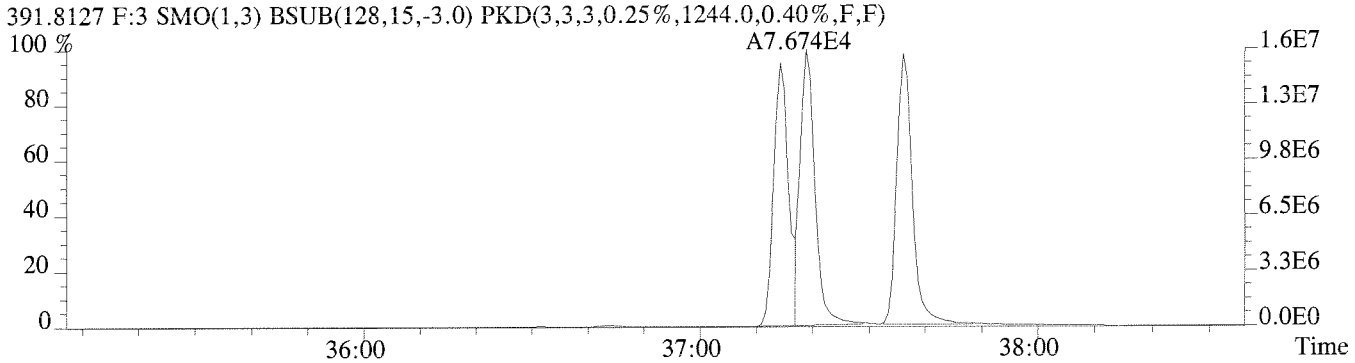


File:P200007 #1-317 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

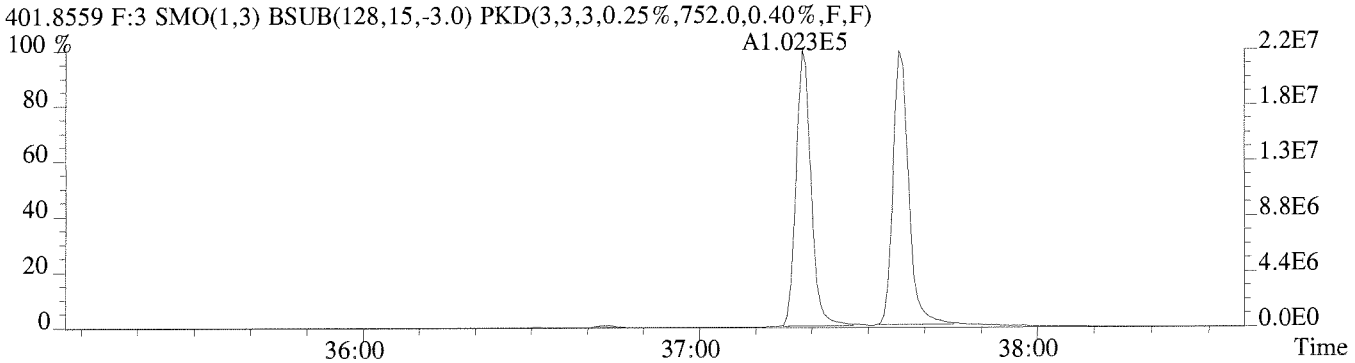
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,636.0,0.40%,F,F)



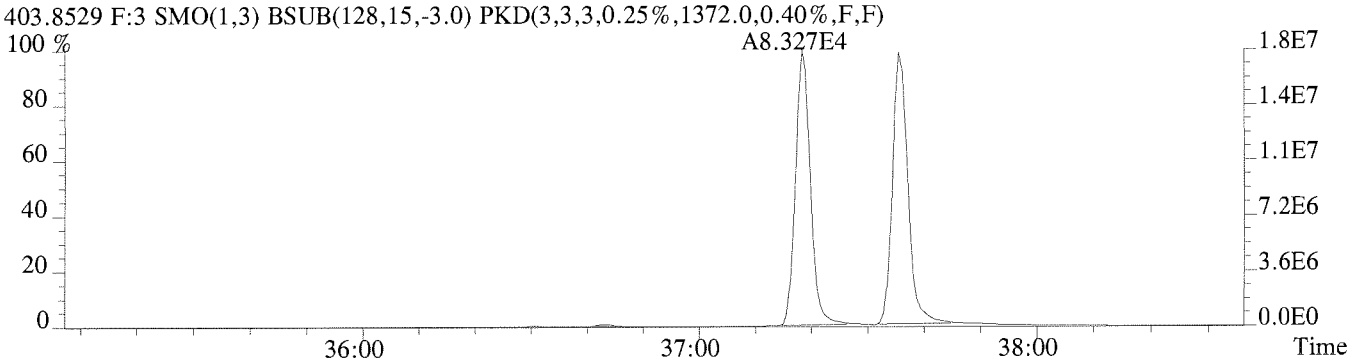
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1244.0,0.40%,F,F)



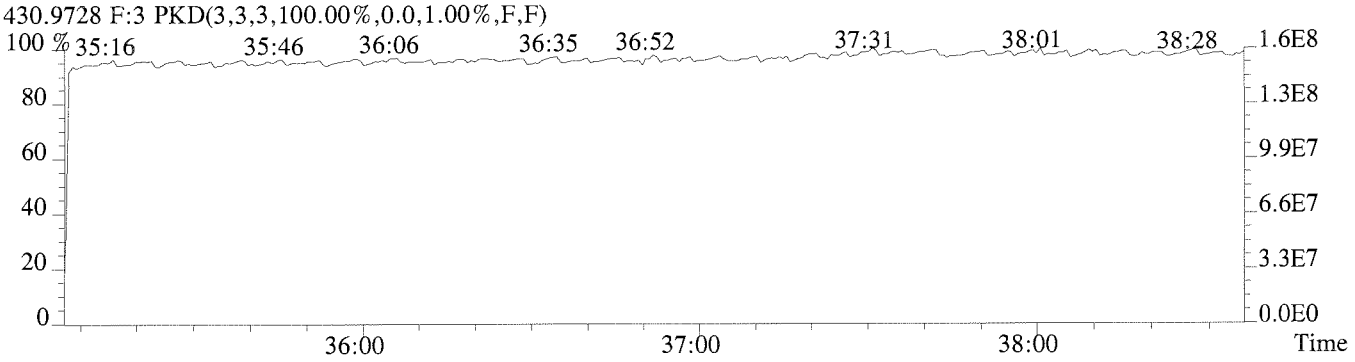
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1372.0,0.40%,F,F)

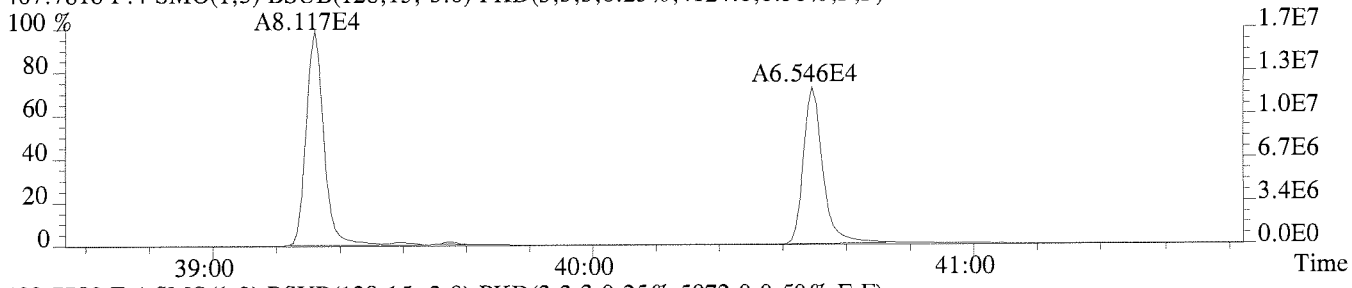


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

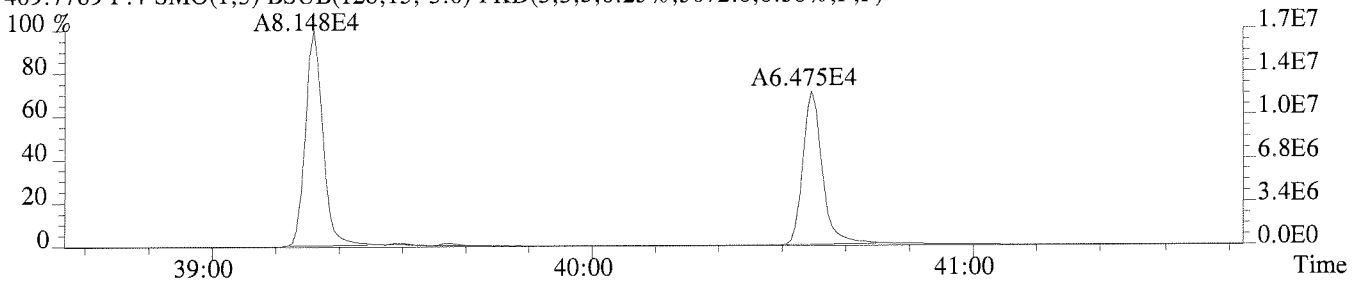


File:P200007 #1-281 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

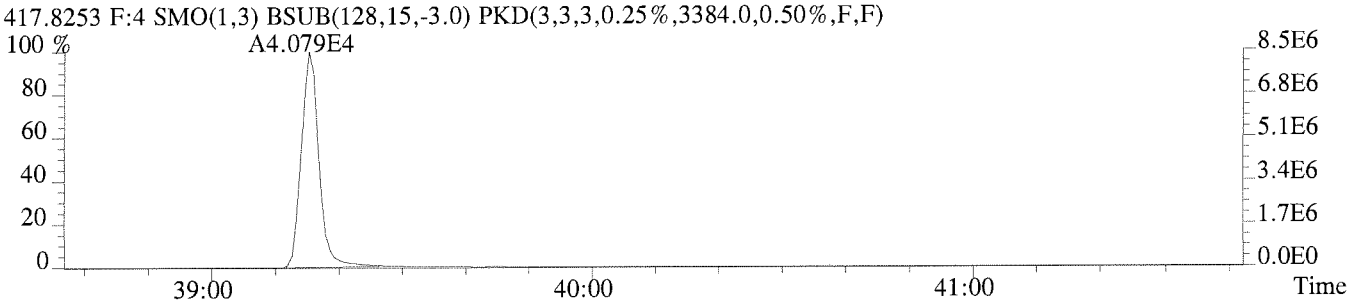
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4124.0,0.50%,F,F)



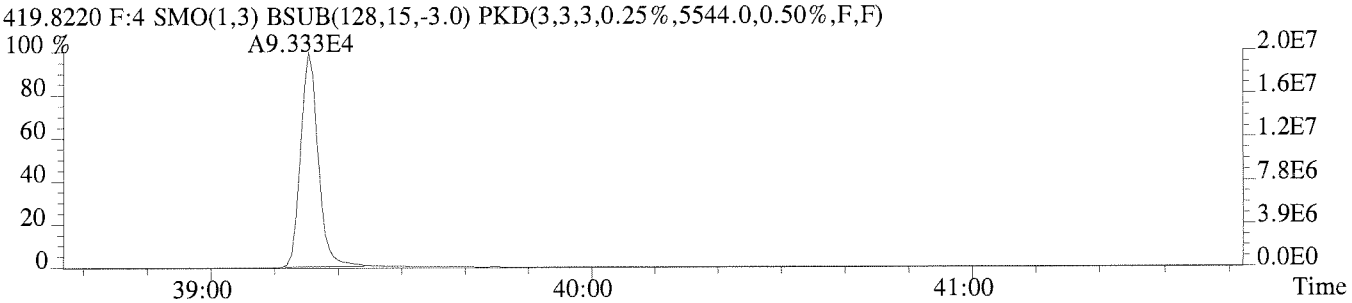
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5072.0,0.50%,F,F)



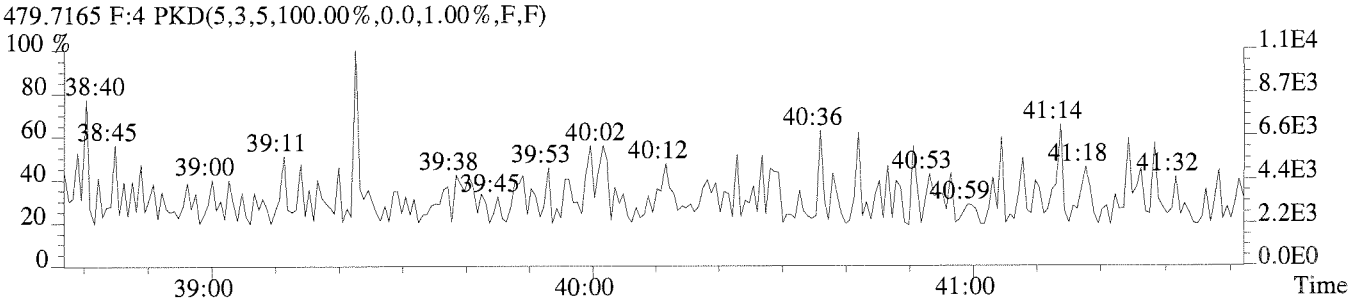
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3384.0,0.50%,F,F)



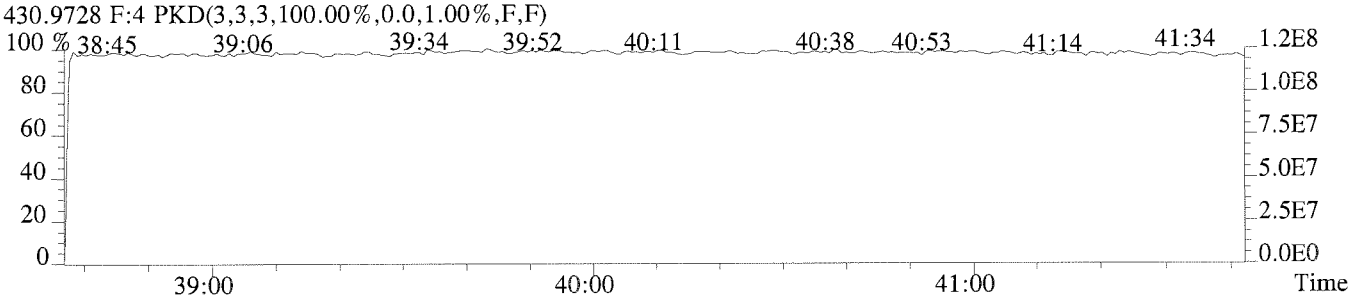
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5544.0,0.50%,F,F)



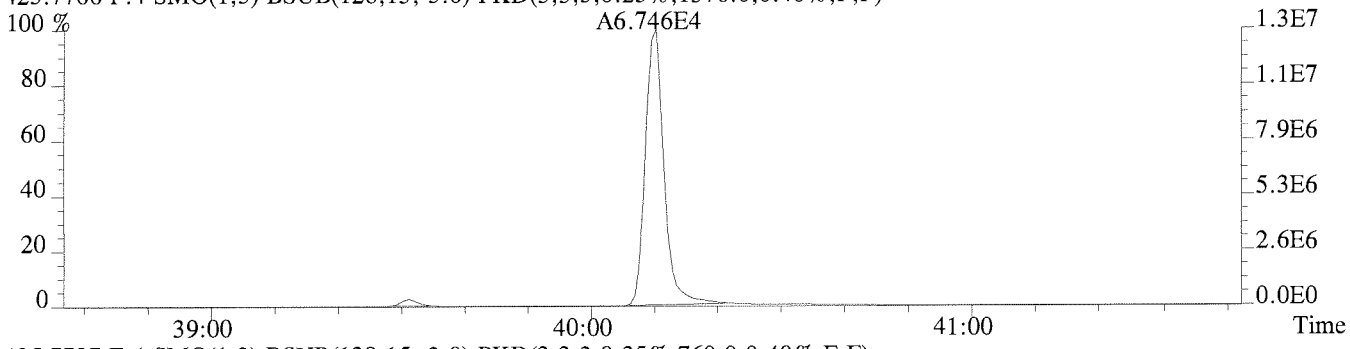
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



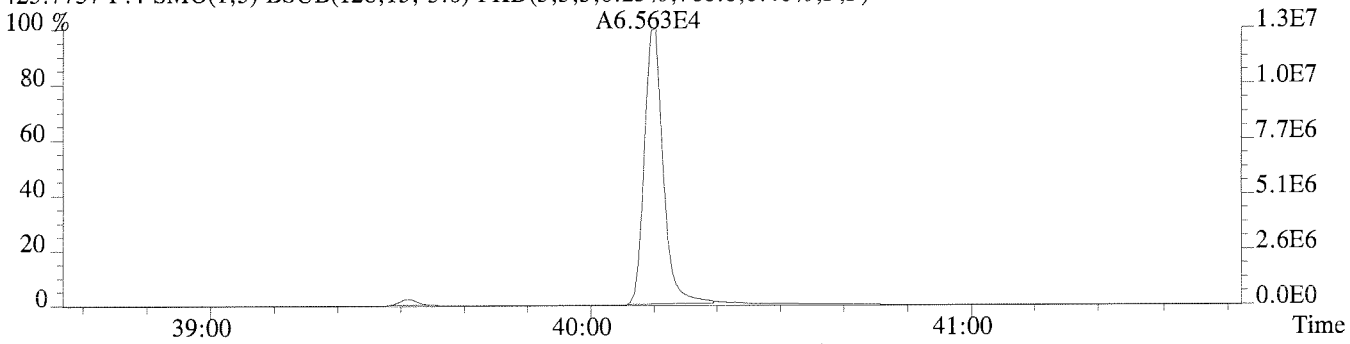
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



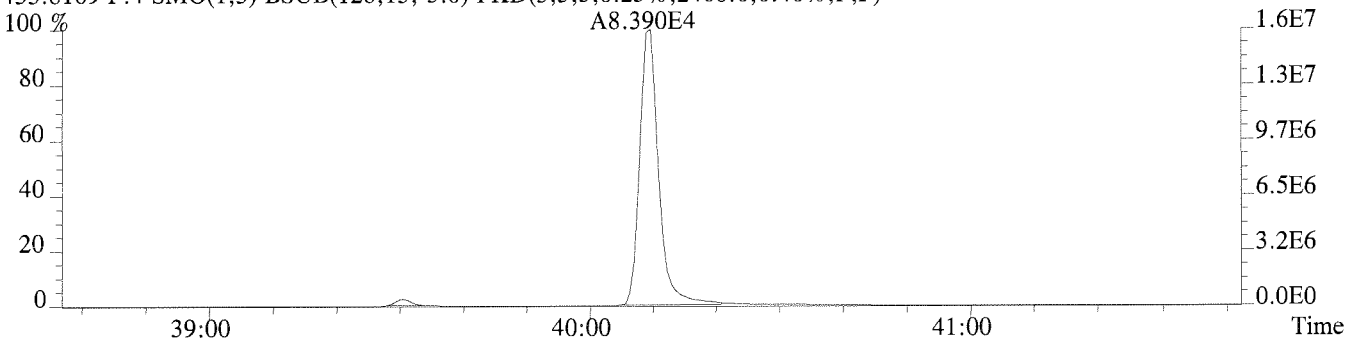
File:P200007 #1-281 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1376.0,0.40%,F,F)



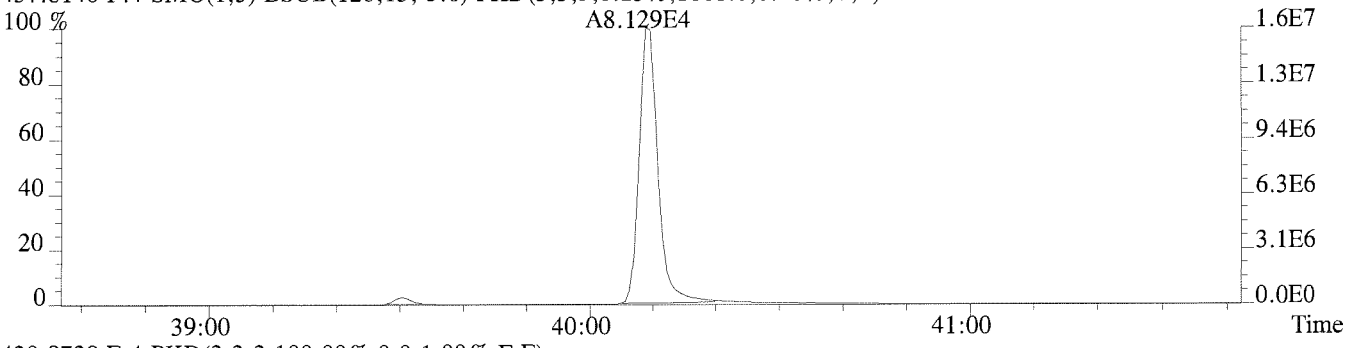
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,760.0,0.40%,F,F)



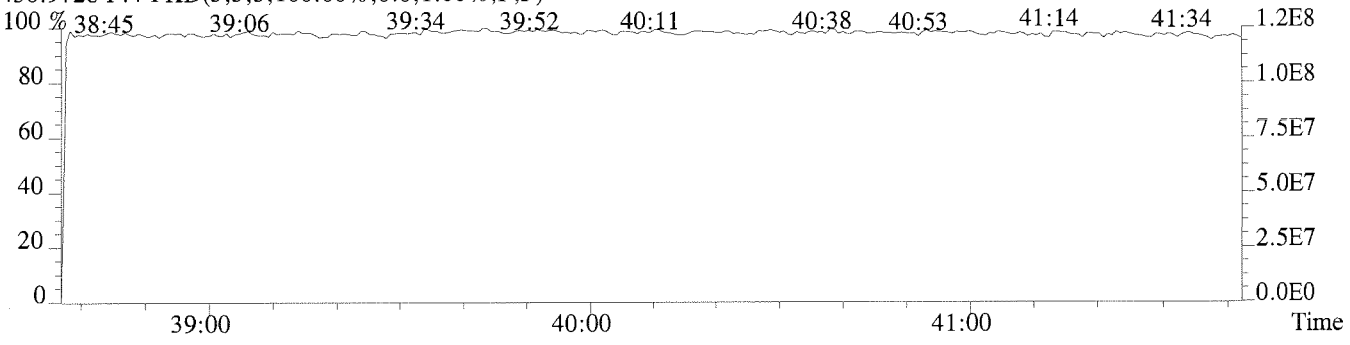
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2460.0,0.40%,F,F)



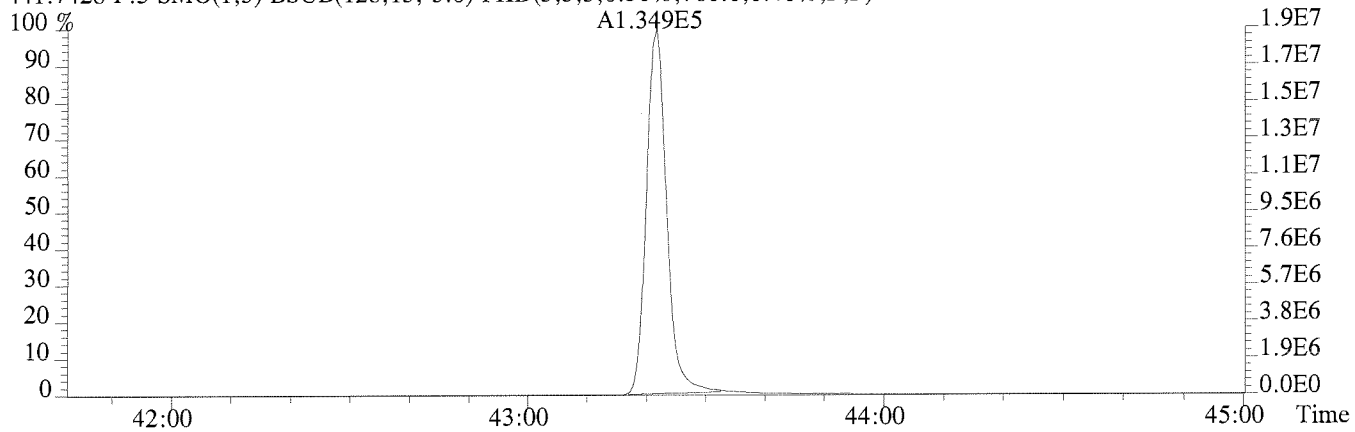
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1668.0,0.40%,F,F)



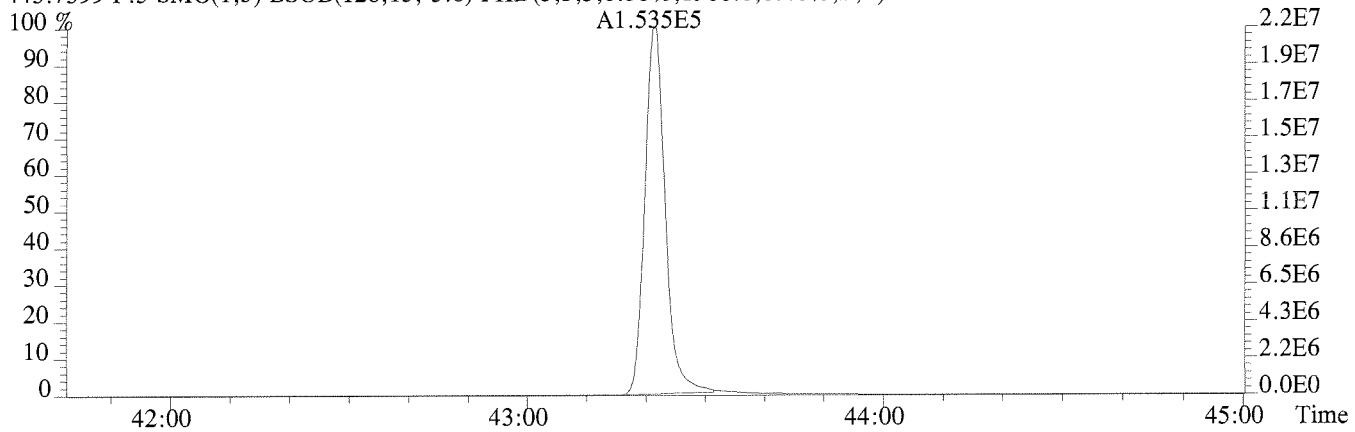
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



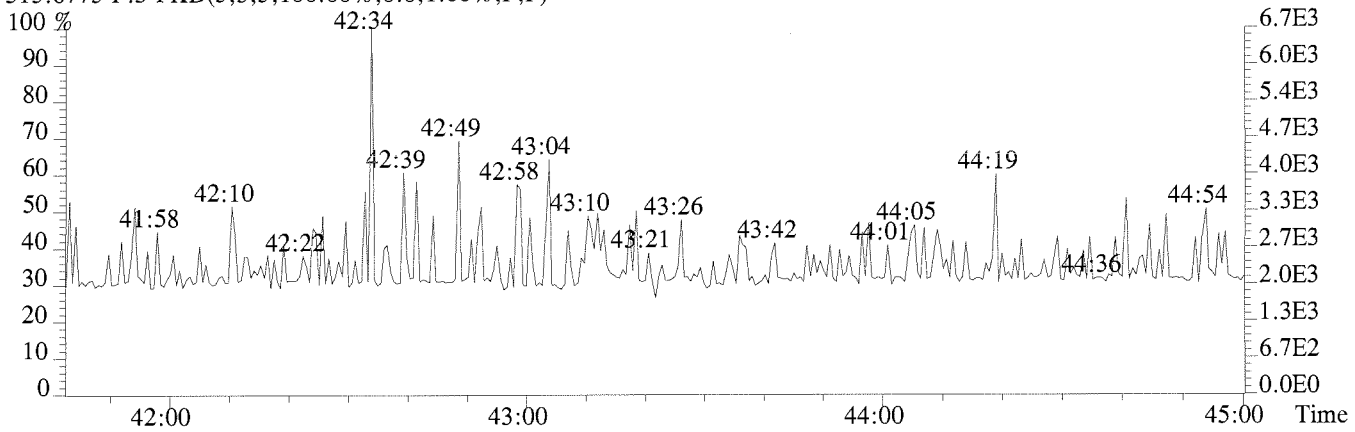
File:P200007 #1-364 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,760.0,0.40%,F,F)



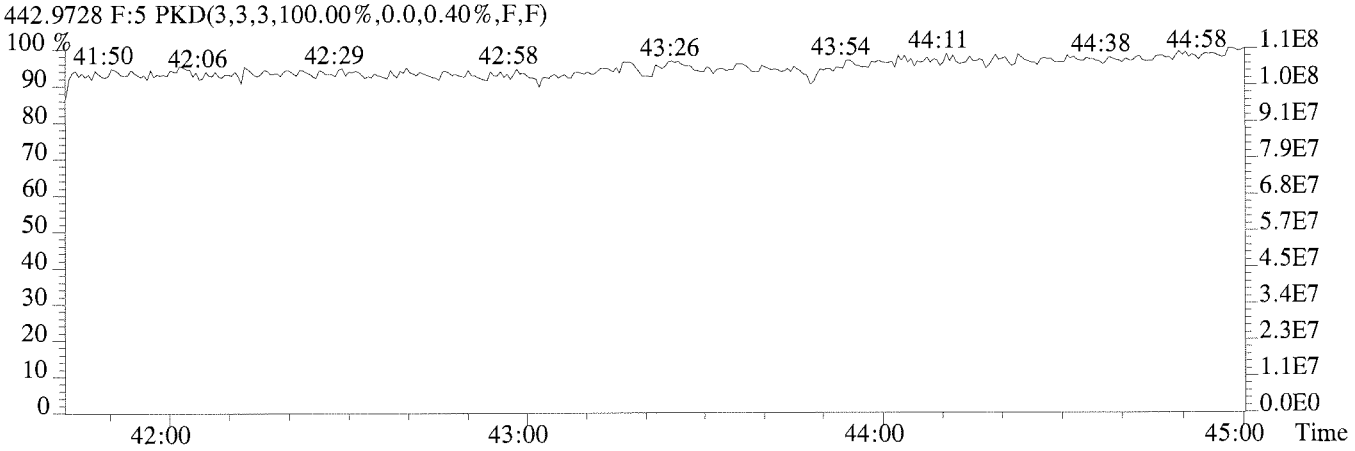
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1988.0,0.40%,F,F)



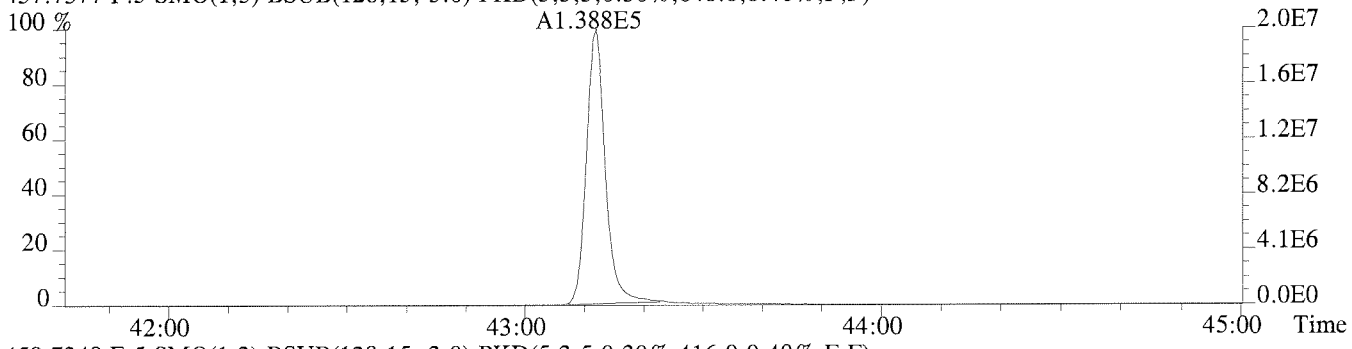
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



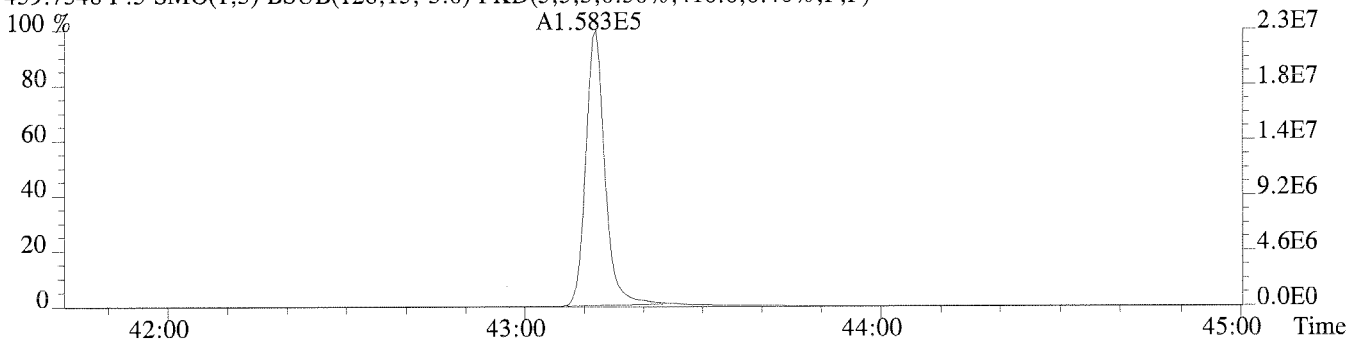
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



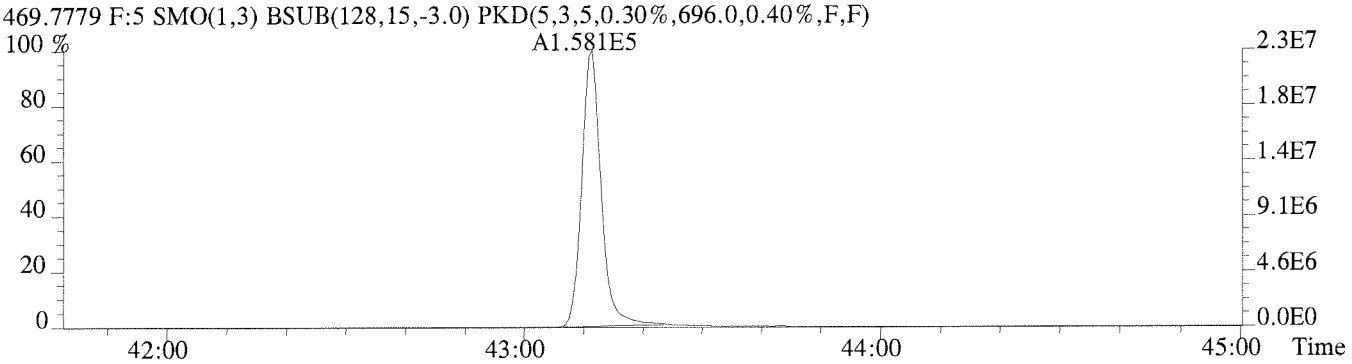
File:P200007 #1-364 Acq:18-JUL-2008 17:03:35 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,648.0,0.40%,F,F)



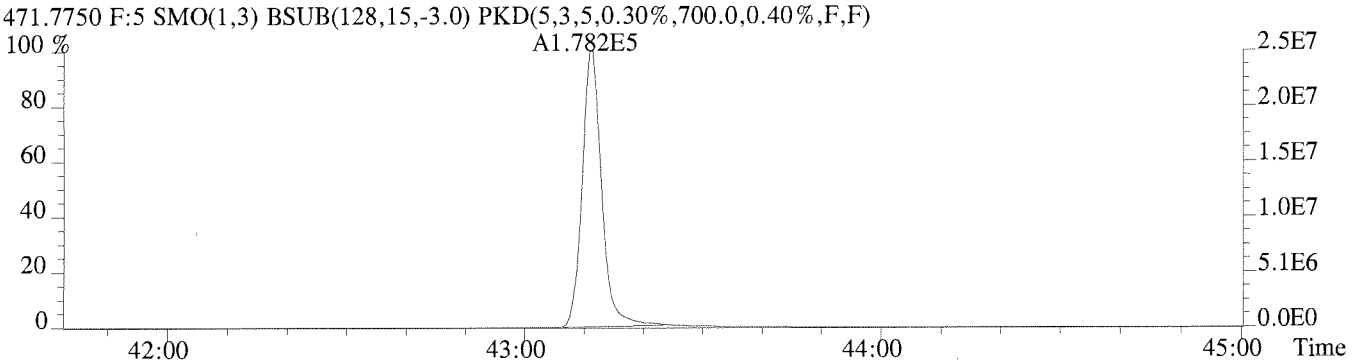
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,416.0,0.40%,F,F)



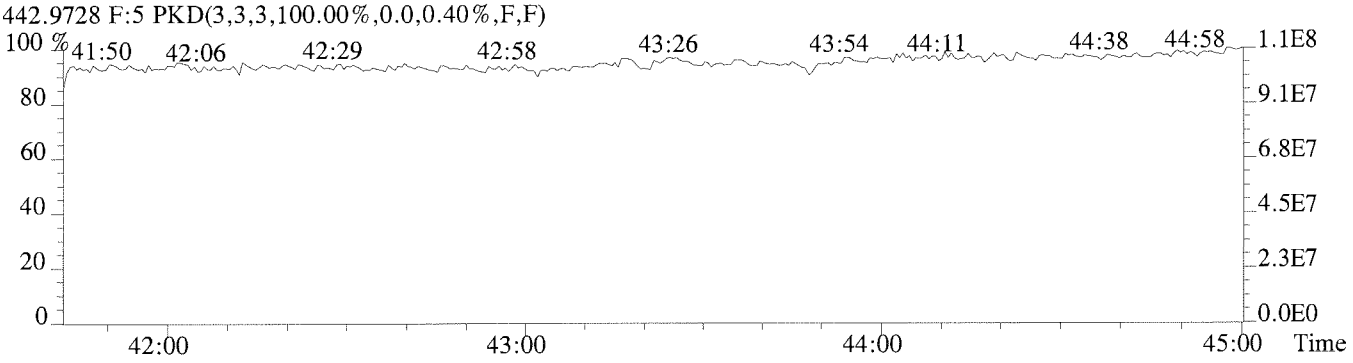
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,696.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,700.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename P200008 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 17:50:46
Processed: 30-JUL-08 09:37:38 Sample ID: ICAL HRCC5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	9.378e+04	1.259e+05	0.74	yes	no	0.72
2	Unk	1,2,3,7,8-PeCDF	32:59	3.512e+05	2.345e+05	1.50	yes	no	0.71
3	Unk	2,3,4,7,8-PeCDF	33:43	3.665e+05	2.445e+05	1.50	yes	no	0.73
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.902e+05	2.423e+05	1.20	yes	no	0.93
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.875e+05	2.482e+05	1.16	yes	no	0.96
6	Unk	2,3,4,6,7,8-HxCDF	37:08	2.647e+05	2.323e+05	1.14	yes	no	0.86
7	Unk	1,2,3,7,8,9-HxCDF	37:50	2.512e+05	2.142e+05	1.17	yes	no	0.79
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	2.347e+05	2.399e+05	0.98	yes	no	1.19
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	1.921e+05	1.942e+05	0.99	yes	no	0.94
10	Unk	OCDF	43:22	4.236e+05	4.846e+05	0.87	yes	no	0.83
11	Unk	2,3,7,8-TCDD	29:28	9.626e+04	1.274e+05	0.76	yes	no	0.84
12	Unk	1,2,3,7,8-PeCDD	34:04	3.295e+05	2.171e+05	1.52	yes	no	0.79
13	Unk	1,2,3,4,7,8-HxCDD	37:14	2.596e+05	2.139e+05	1.21	yes	no	0.81
14	Unk	1,2,3,6,7,8-HxCDD	37:19	2.798e+05	2.272e+05	1.23	yes	no	0.92
15	Unk	1,2,3,7,8,9-HxCDD	37:36	2.740e+05	2.251e+05	1.22	yes	no	0.89
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.951e+05	1.926e+05	1.01	yes	no	0.79
17	Unk	OCDD	43:12	4.313e+05	4.907e+05	0.88	yes	no	0.88
18	IS	13C-2,3,7,8-TCDF	28:35	3.163e+04	4.164e+04	0.76	yes	no	1.25
19	IS	13C-1,2,3,7,8-PeCDF	32:58	4.840e+04	3.098e+04	1.56	yes	no	1.23
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	4.617e+04	9.123e+04	0.51	yes	no	0.98
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	2.909e+04	6.761e+04	0.43	yes	no	0.69
22	IS	13C-2,3,7,8-TCDD	29:26	2.800e+04	3.646e+04	0.77	yes	no	1.10
23	IS	13C-1,2,3,7,8-PeCDD	34:04	4.128e+04	2.649e+04	1.56	yes	no	1.05
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	7.371e+04	6.005e+04	1.23	yes	no	0.97
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	6.030e+04	5.932e+04	1.02	yes	no	0.85
26	IS	13C-OCDD	43:11	1.212e+05	1.363e+05	0.89	yes	no	0.87
27	RS/RT	13C-1,2,3,4-TCDD	29:14	2.500e+04	3.259e+04	0.77	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:35	7.702e+04	6.357e+04	1.21	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	2.353e+05					0.99

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC5

Run #5 Filename P200008 #1 Samp: 1 Inj: 1 Acquired: 18-JUL-08 17:50:46

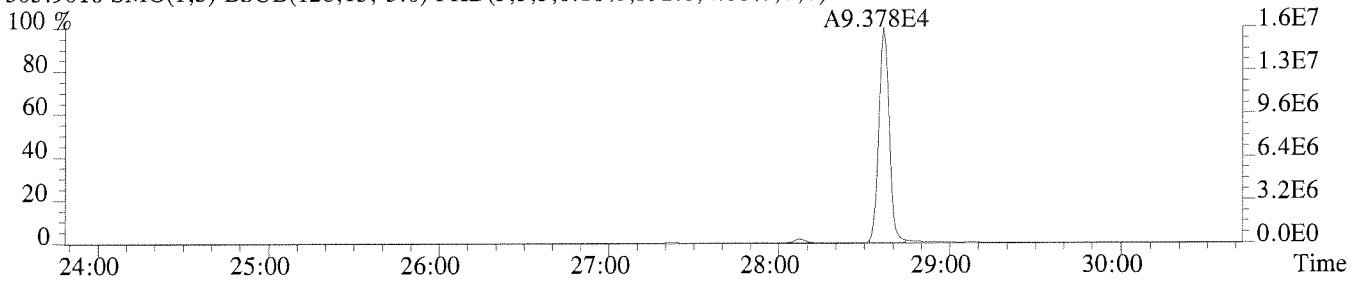
Processed: 30-JUL-08 09:37:38 LAB. ID: ICAL HRCC5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.59e+07	5.92e+02	2.7e+04	2.14e+07	1.92e+03	1.1e+04
2	1,2,3,7,8-PeCDF	6.70e+07	3.68e+02	1.8e+05	4.50e+07	1.04e+03	4.3e+04
3	2,3,4,7,8-PeCDF	7.42e+07	3.68e+02	2.0e+05	4.92e+07	1.04e+03	4.7e+04
4	1,2,3,4,7,8-HxCDF	6.50e+07	2.09e+03	3.1e+04	5.39e+07	1.16e+03	4.7e+04
5	1,2,3,6,7,8-HxCDF	6.02e+07	2.09e+03	2.9e+04	5.25e+07	1.16e+03	4.5e+04
6	2,3,4,6,7,8-HxCDF	5.74e+07	2.09e+03	2.7e+04	5.03e+07	1.16e+03	4.3e+04
7	1,2,3,7,8,9-HxCDF	5.16e+07	2.09e+03	2.5e+04	4.44e+07	1.16e+03	3.8e+04
8	1,2,3,4,6,7,8-HpCDF	4.99e+07	1.05e+04	4.8e+03	5.17e+07	9.82e+03	5.3e+03
9	1,2,3,4,7,8,9-HpCDF	3.80e+07	1.05e+04	3.6e+03	3.84e+07	9.82e+03	3.9e+03
10	OCDF	6.25e+07	1.01e+03	6.2e+04	7.06e+07	3.08e+03	2.3e+04
11	2,3,7,8-TCDD	1.70e+07	1.83e+03	9.3e+03	2.25e+07	6.68e+02	3.4e+04
12	1,2,3,7,8-PeCDD	6.70e+07	2.24e+03	3.0e+04	4.43e+07	3.72e+02	1.2e+05
13	1,2,3,4,7,8-HxCDD	5.80e+07	9.44e+02	6.1e+04	4.77e+07	1.42e+03	3.4e+04
14	1,2,3,6,7,8-HxCDD	6.00e+07	9.44e+02	6.4e+04	4.93e+07	1.42e+03	3.5e+04
15	1,2,3,7,8,9-HxCDD	5.86e+07	9.44e+02	6.2e+04	4.82e+07	1.42e+03	3.4e+04
16	1,2,3,4,6,7,8-HpCDD	3.86e+07	1.98e+03	2.0e+04	3.78e+07	2.45e+03	1.5e+04
17	OCDD	6.44e+07	4.92e+02	1.3e+05	7.31e+07	3.72e+02	2.0e+05
18	13C-2,3,7,8-TCDF	5.20e+06	3.66e+03	1.4e+03	6.90e+06	3.16e+03	2.2e+03
19	13C-1,2,3,7,8-PeCDF	9.18e+06	3.00e+02	3.1e+04	5.93e+06	1.13e+03	5.3e+03
20	13C-1,2,3,4,7,8-HxCDF	9.96e+06	8.36e+02	1.2e+04	1.95e+07	3.08e+03	6.3e+03
21	13C-1,2,3,4,6,7,8-HpCDF	6.14e+06	4.09e+03	1.5e+03	1.41e+07	3.69e+03	3.8e+03
22	13C-2,3,7,8-TCDD	4.97e+06	5.87e+03	8.5e+02	6.53e+06	1.29e+03	5.1e+03
23	13C-1,2,3,7,8-PeCDD	8.48e+06	2.24e+03	3.8e+03	5.48e+06	1.35e+03	4.1e+03
24	13C-1,2,3,6,7,8-HxCDD	1.59e+07	6.96e+02	2.3e+04	1.31e+07	2.01e+03	6.5e+03
25	13C-1,2,3,4,6,7,8-HpCDD	1.17e+07	1.83e+03	6.4e+03	1.14e+07	7.92e+02	1.4e+04
26	13C-OCDD	1.79e+07	7.88e+02	2.3e+04	2.01e+07	8.84e+02	2.3e+04
27	13C-1,2,3,4-TCDD	4.44e+06	5.87e+03	7.6e+02	5.81e+06	1.29e+03	4.5e+03
28	13C-1,2,3,7,8,9-HxCDD	1.61e+07	6.96e+02	2.3e+04	1.33e+07	2.01e+03	6.6e+03
29	37Cl-2,3,7,8-TCDD	4.13e+07	6.88e+02	6.0e+04			

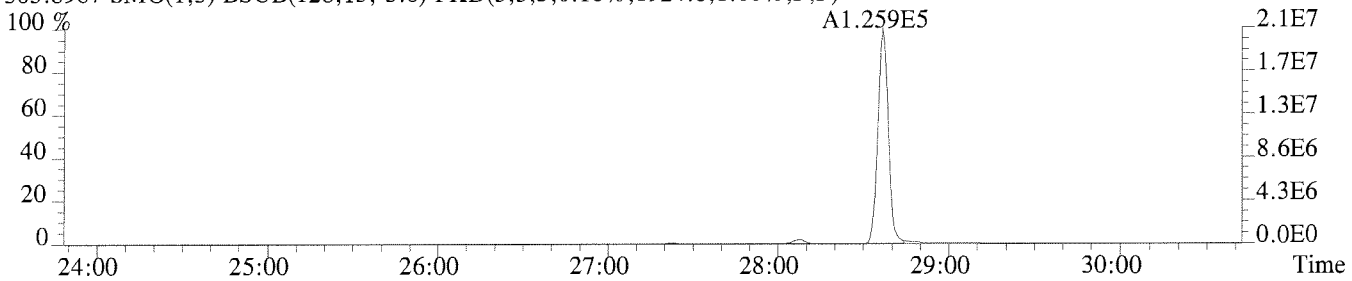
Columbia Analytical Services, Inc.
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Office:(713)266-1599. Fax:(713)266-0130

File:P200008 #1-575 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

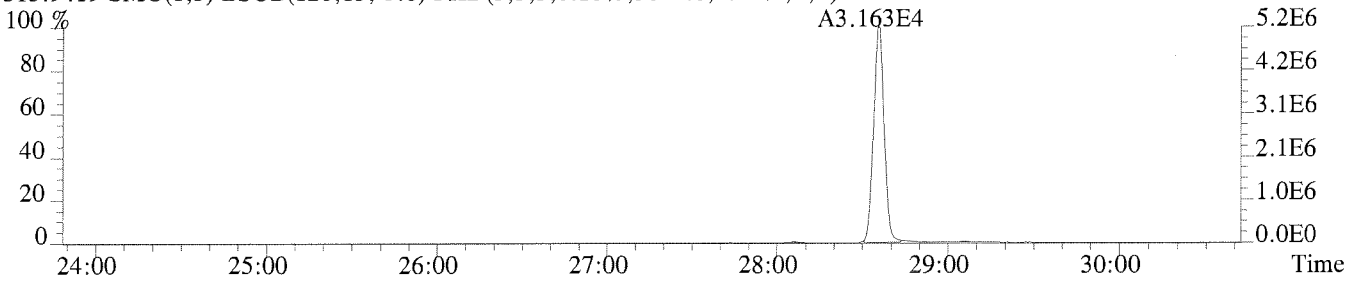
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,F)



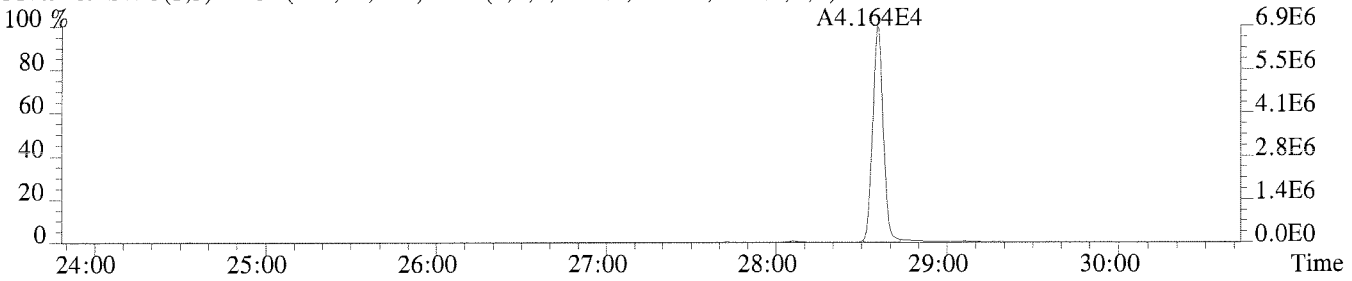
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1924.0,1.00%,F,F)



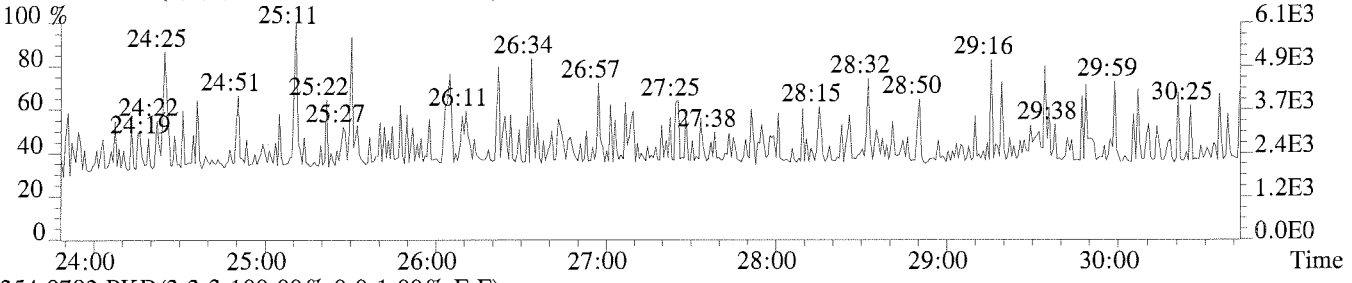
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3664.0,1.00%,F,F)



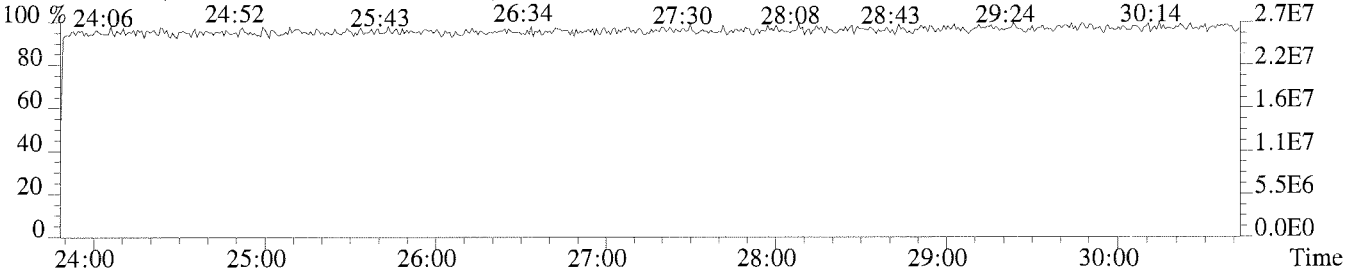
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3164.0,1.00%,F,F)



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

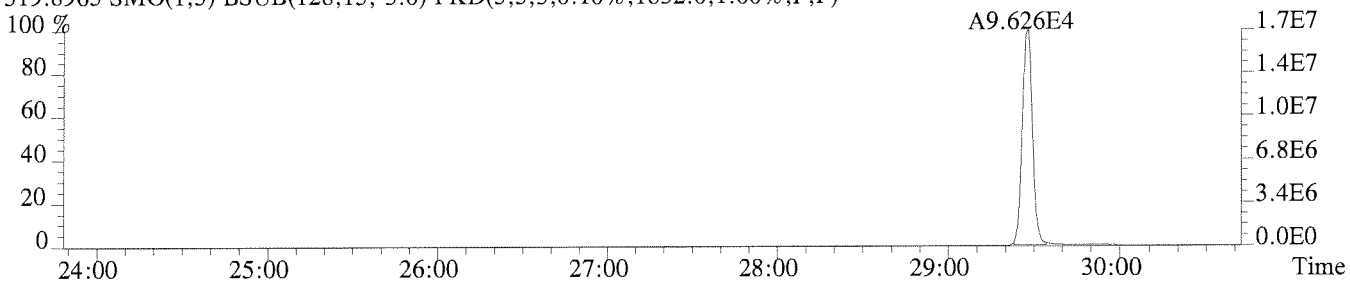


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

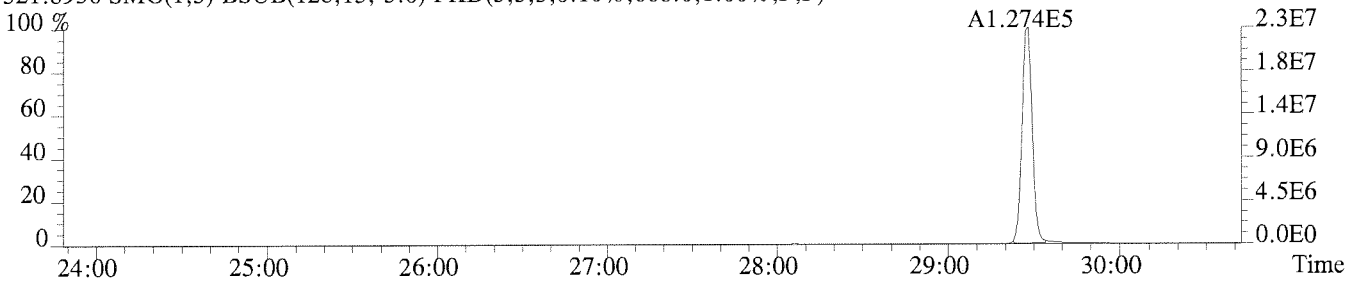


File:P200008 #1-575 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

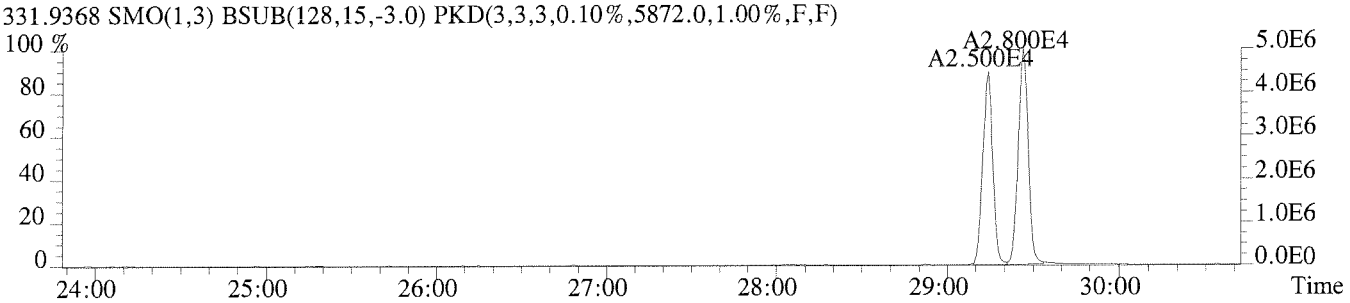
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1832.0,1.00%,F,F)



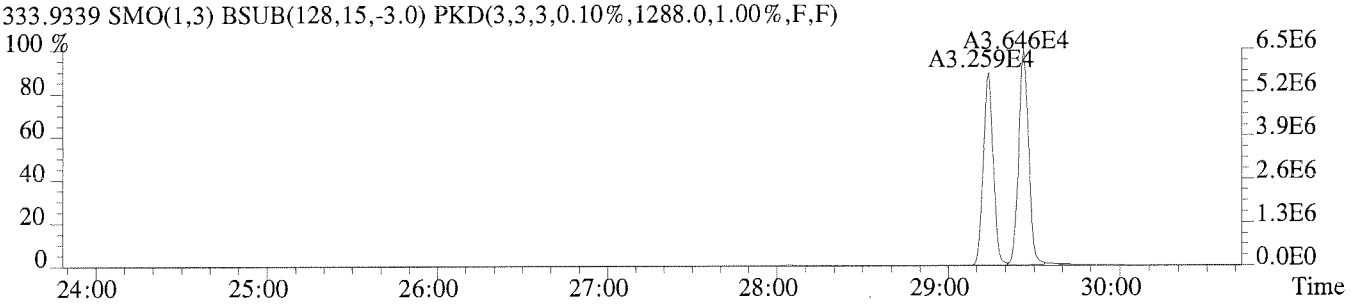
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,F)



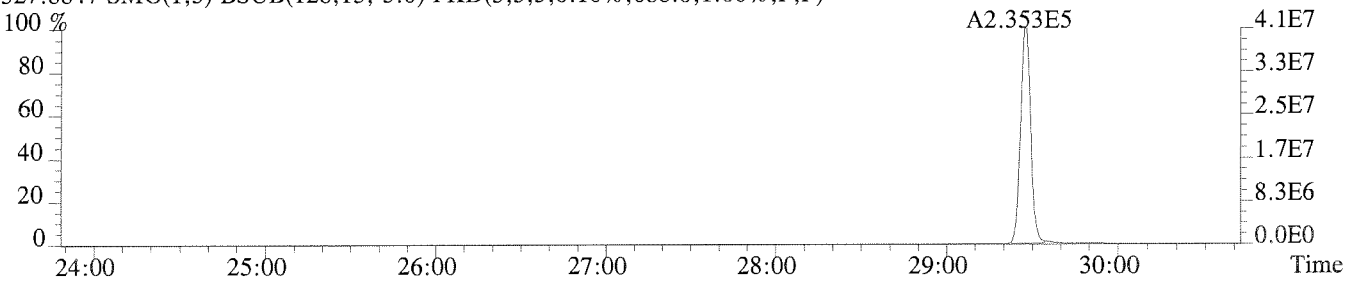
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,5872.0,1.00%,F,F)



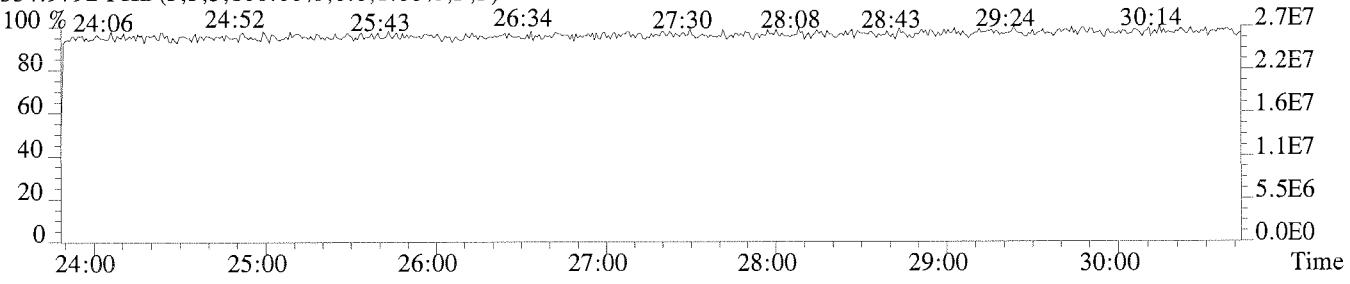
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1288.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,688.0,1.00%,F,F)

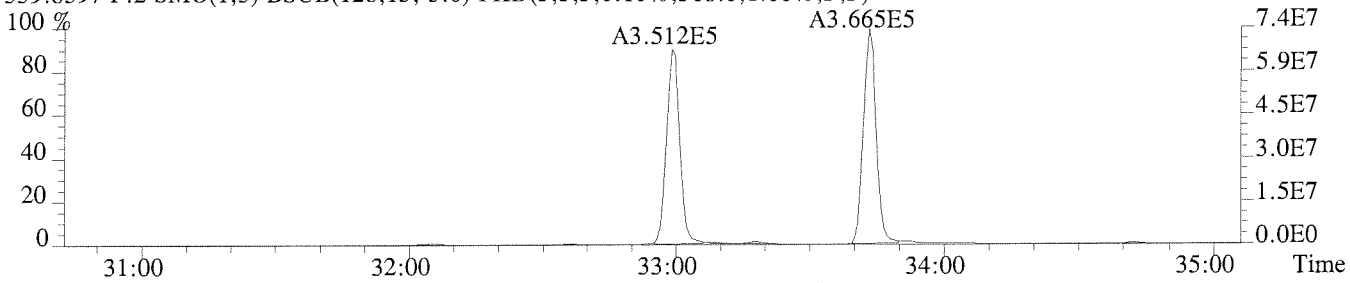


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

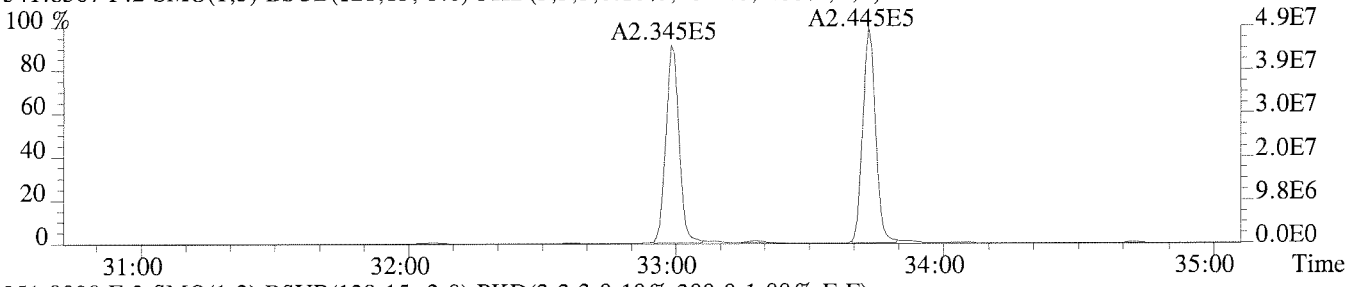


File:P200008 #1-399 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

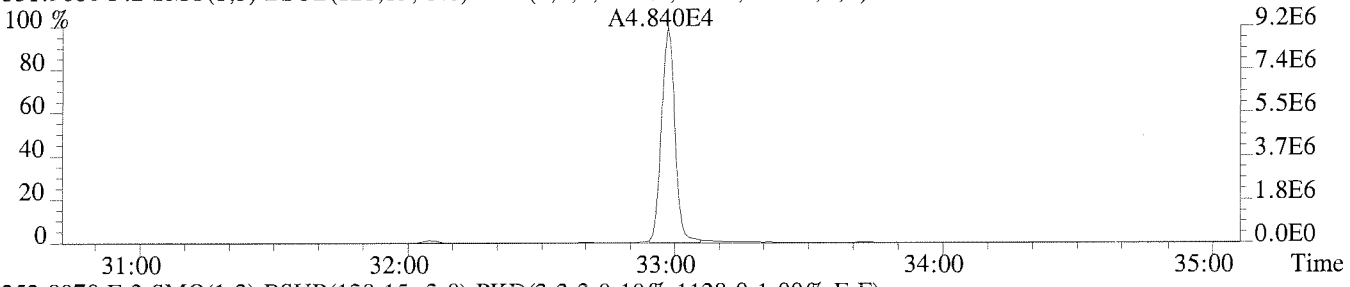
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,368.0,1.00%,F,F)



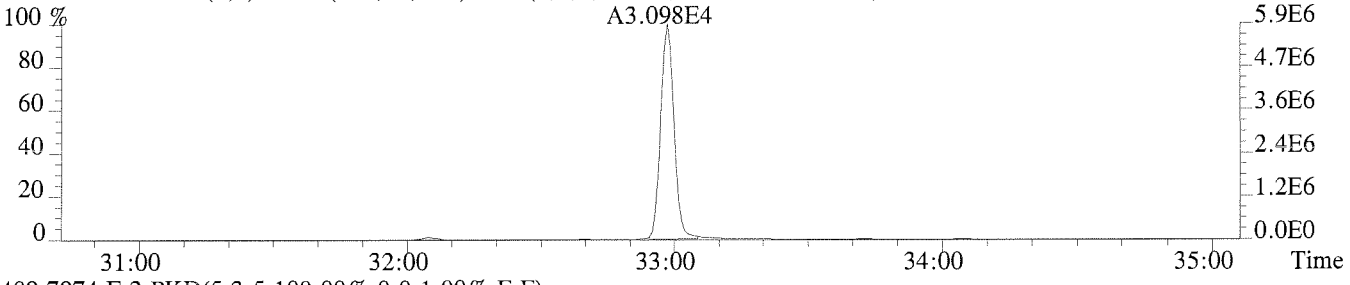
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1044.0,1.00%,F,F)



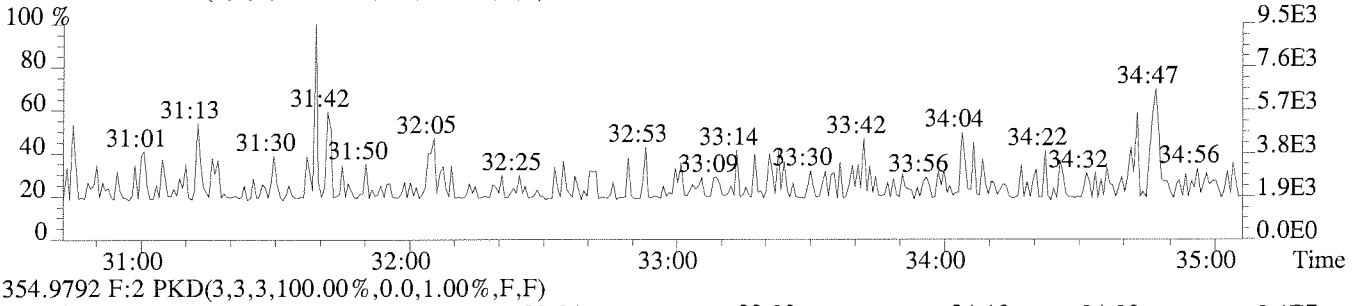
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,F)



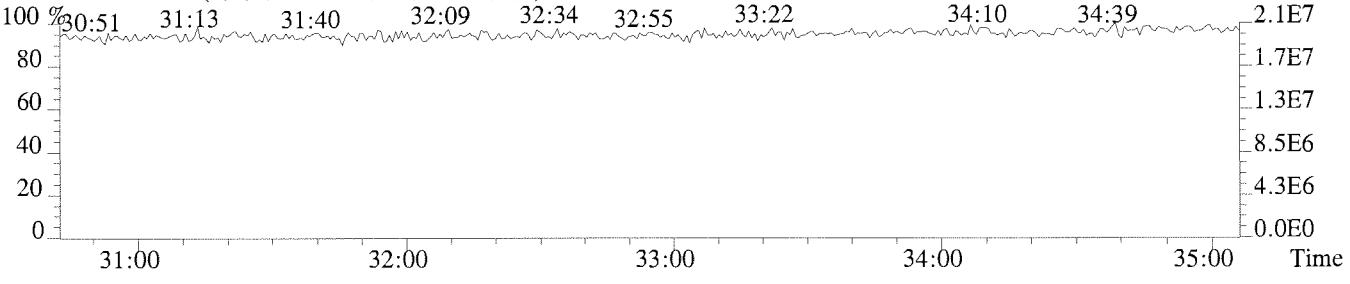
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1128.0,1.00%,F,F)



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

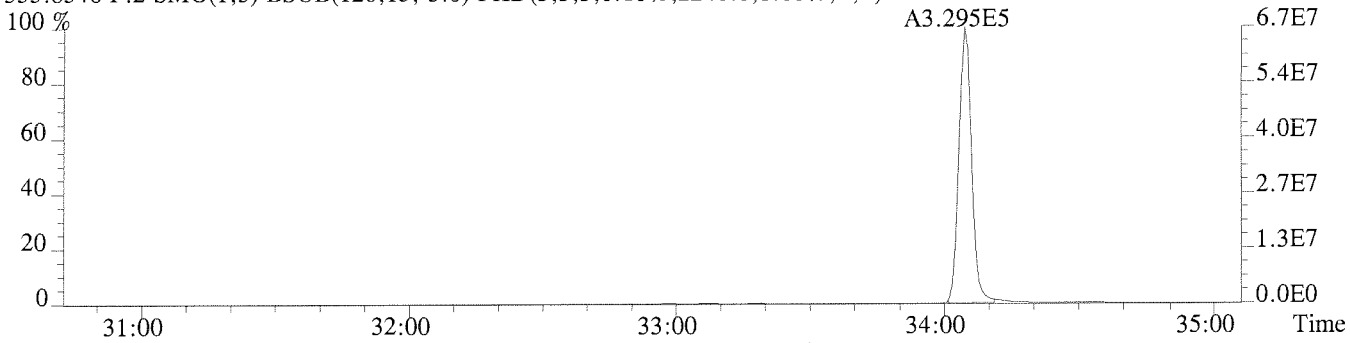


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

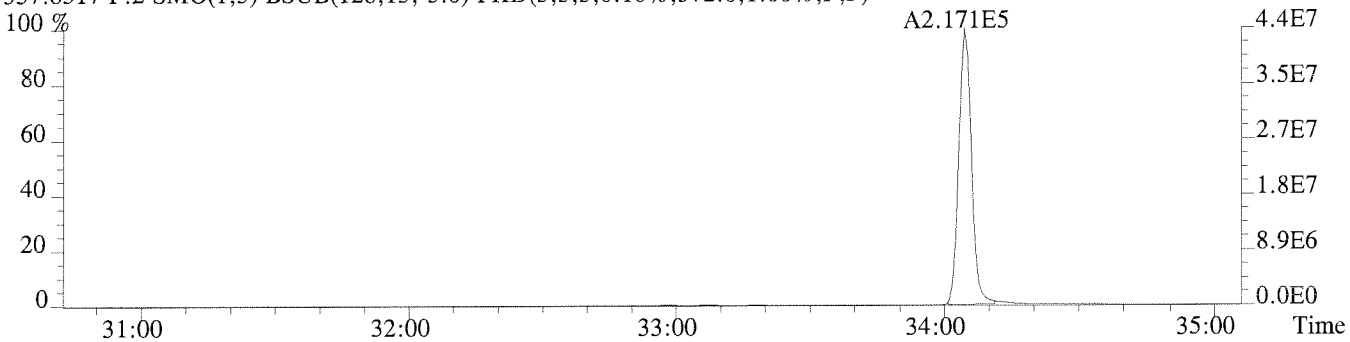


File:P200008 #1-399 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

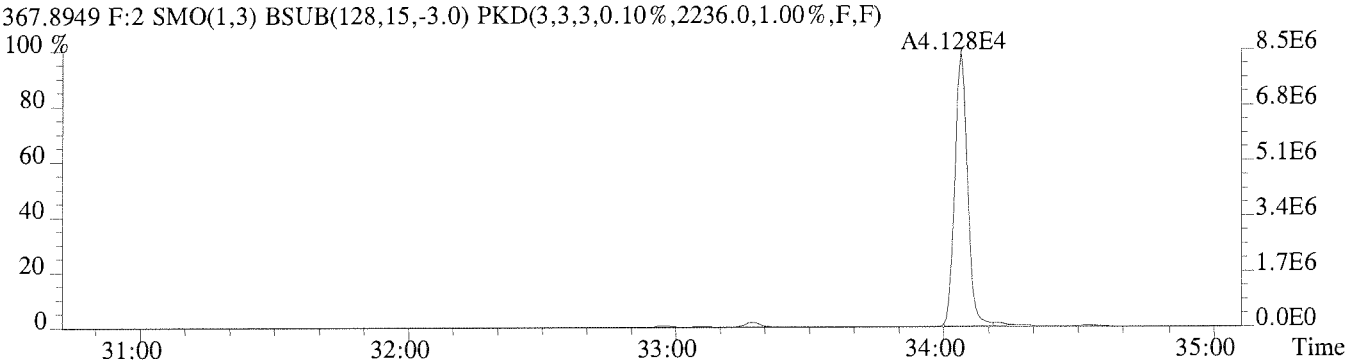
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2240.0,1.00%,F,F)



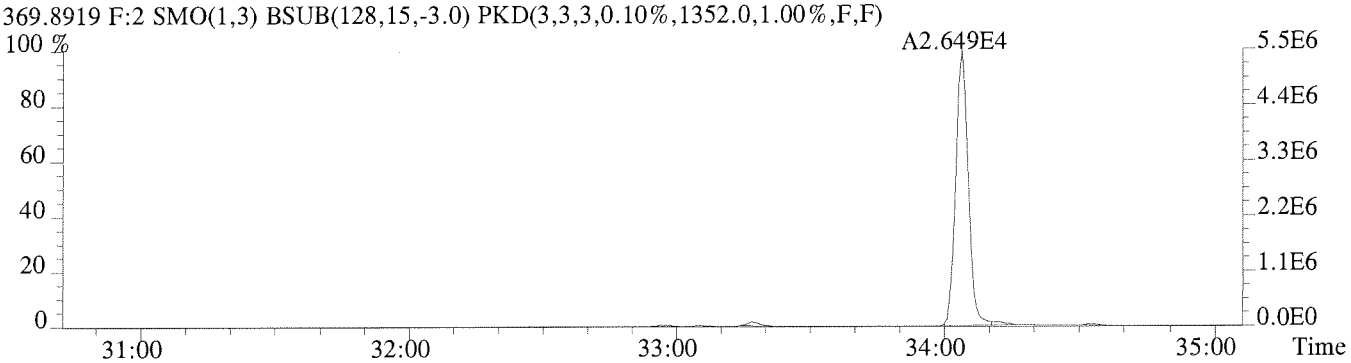
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,372.0,1.00%,F,F)



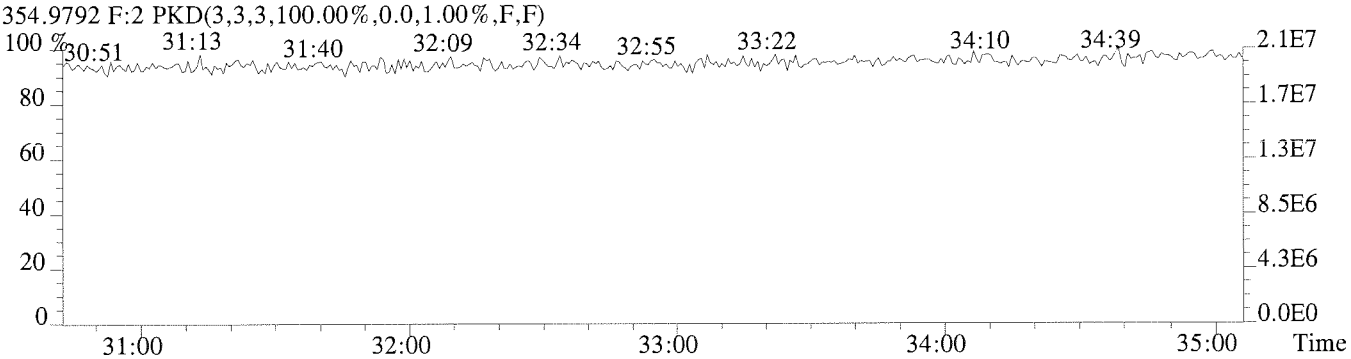
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2236.0,1.00%,F,F)



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

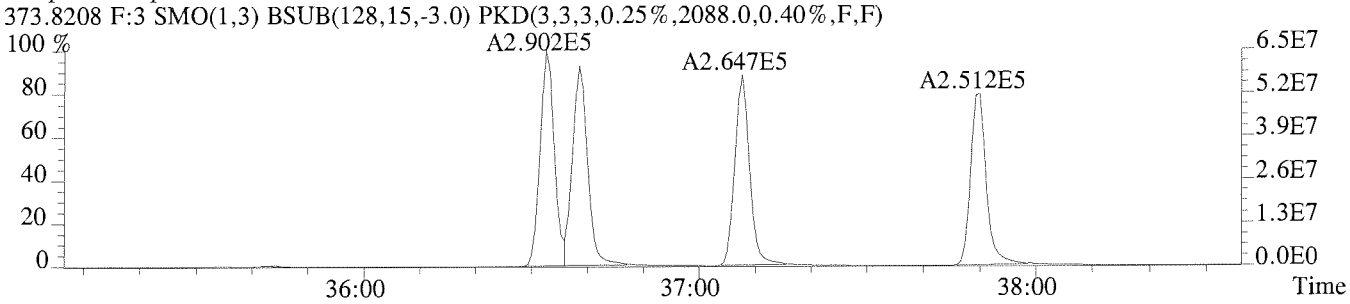


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

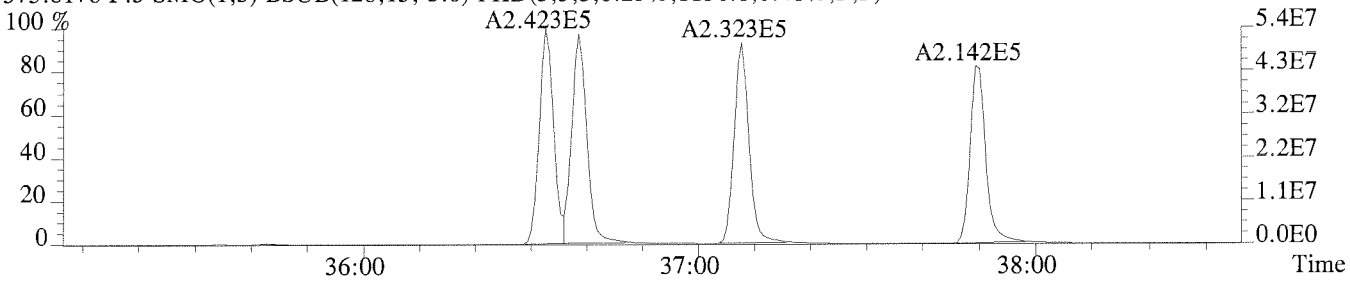


File:P200008 #1-318 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

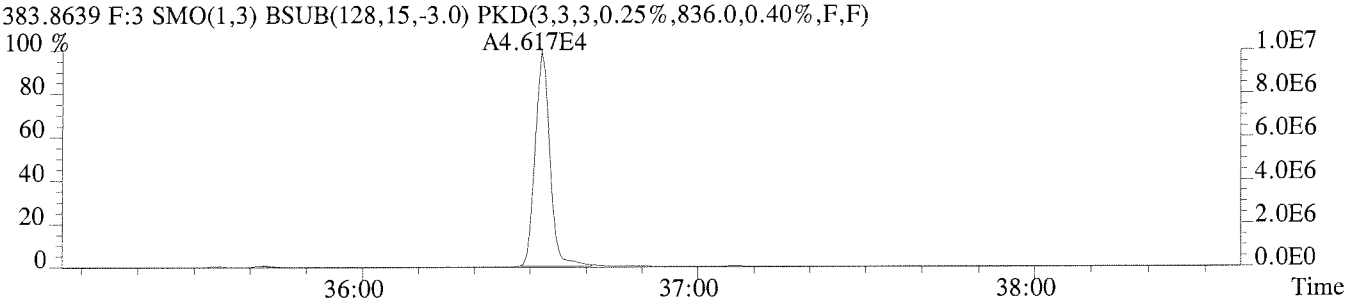
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2088.0,0.40%,F,F)



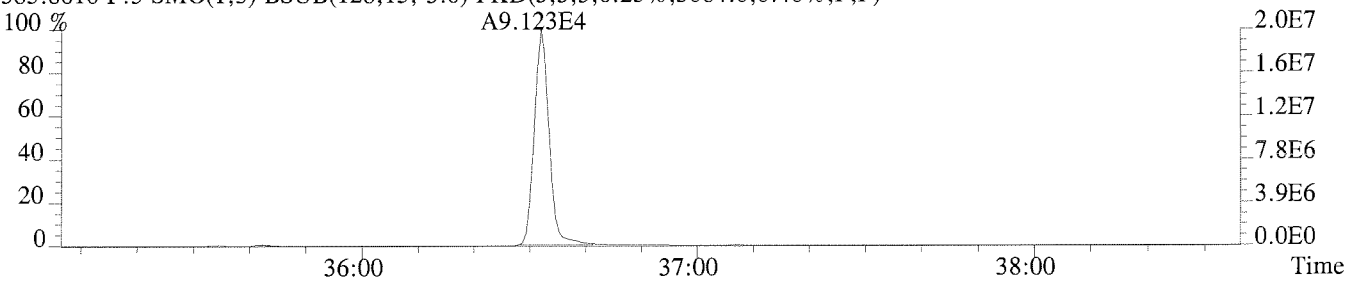
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1156.0,0.40%,F,F)



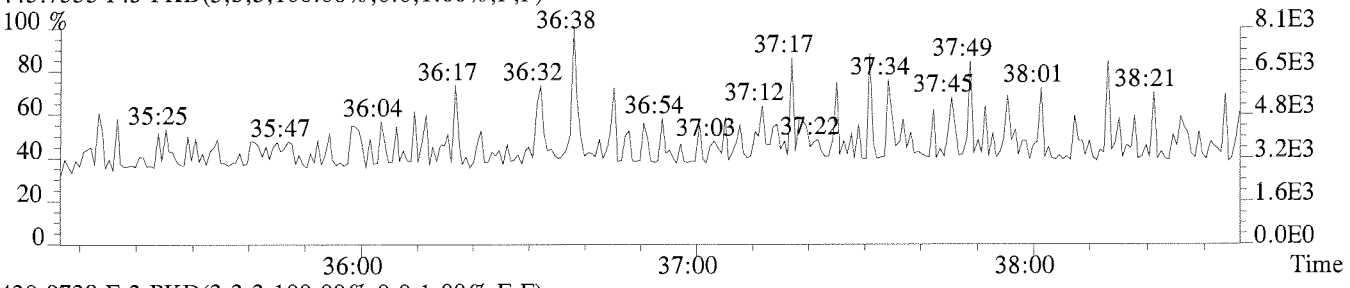
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,F)



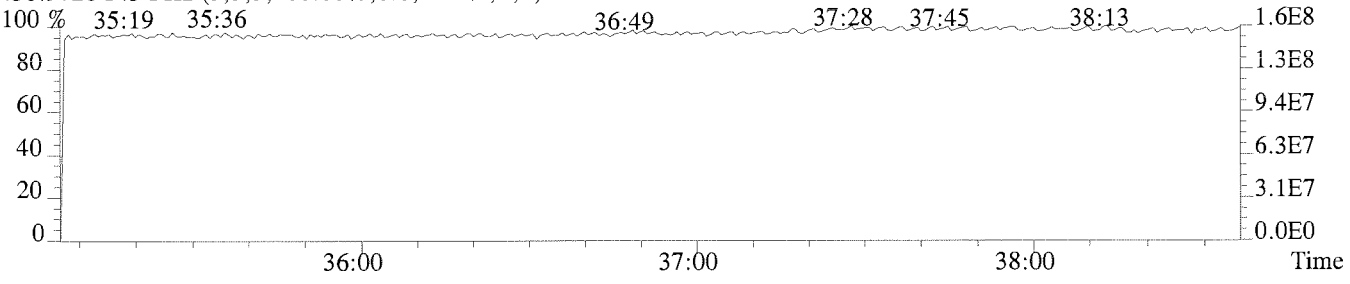
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3084.0,0.40%,F,F)



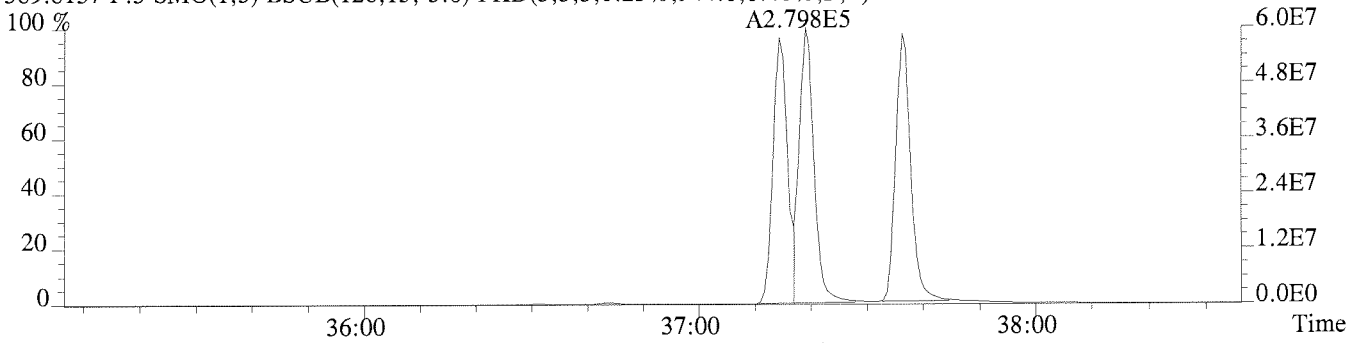
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



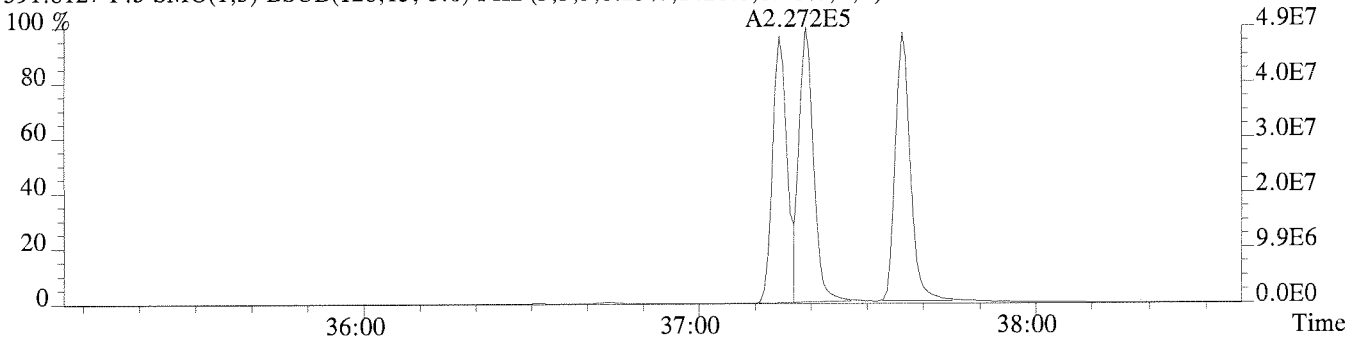
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



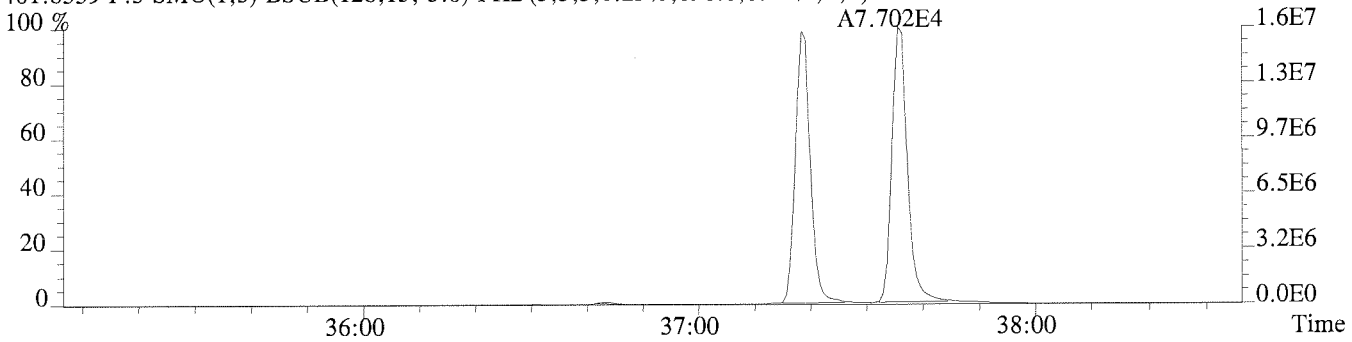
File:P200008 #1-318 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



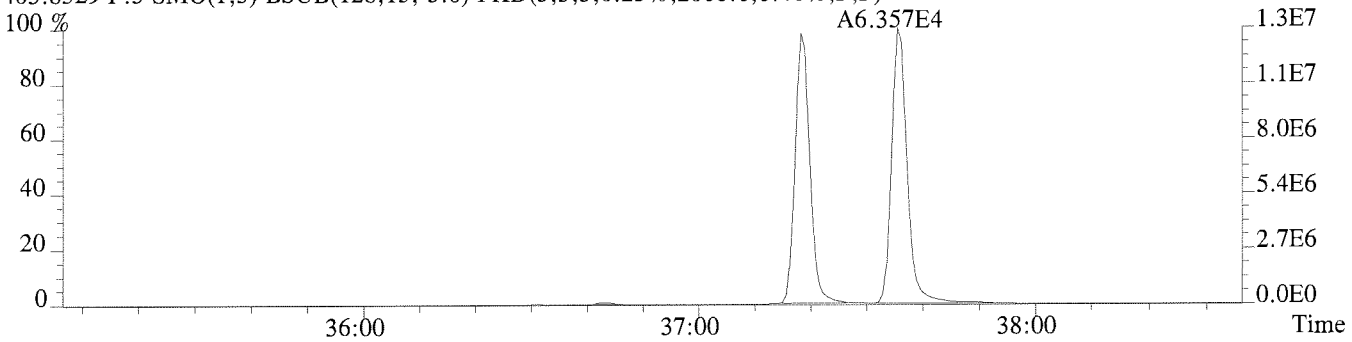
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,F)



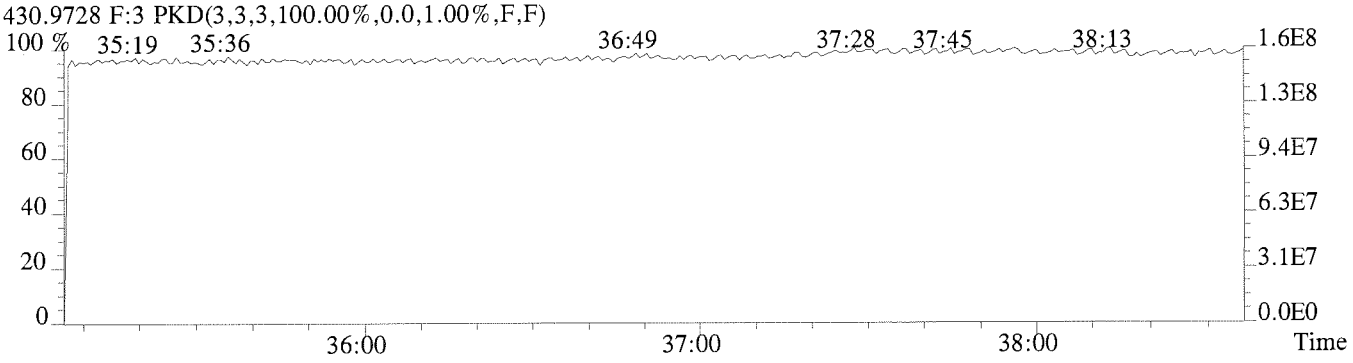
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2008.0,0.40%,F,F)

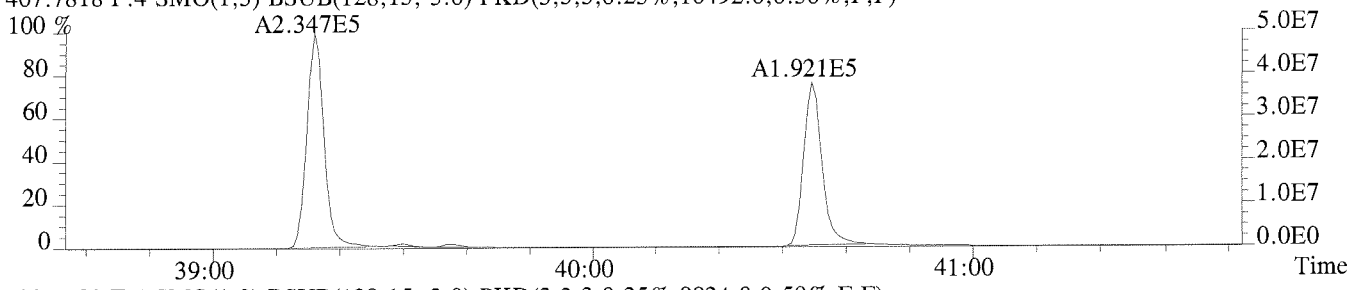


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

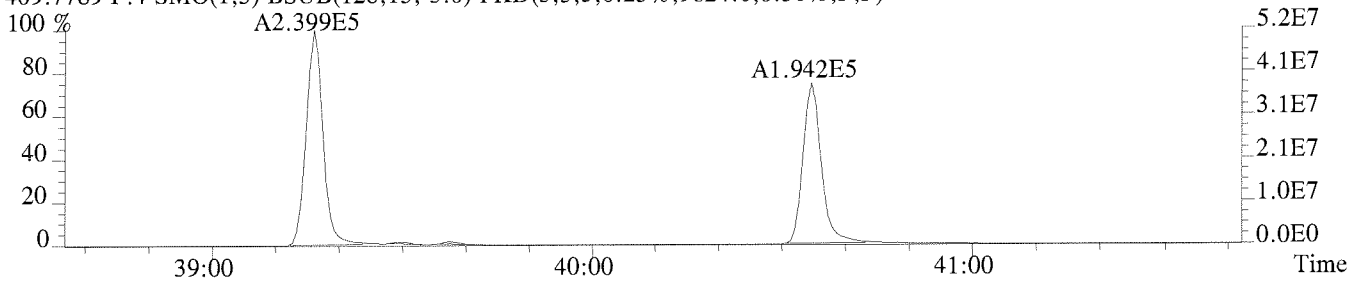


File:P200008 #1-281 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

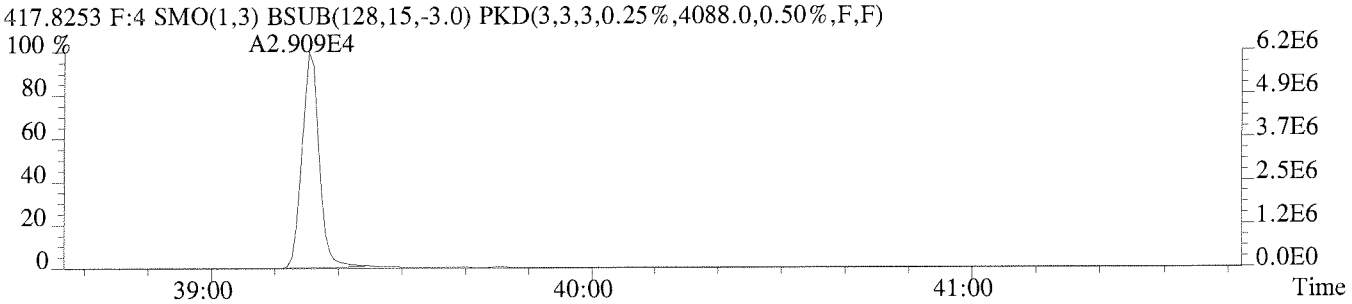
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,10492.0,0.50%,F,F)



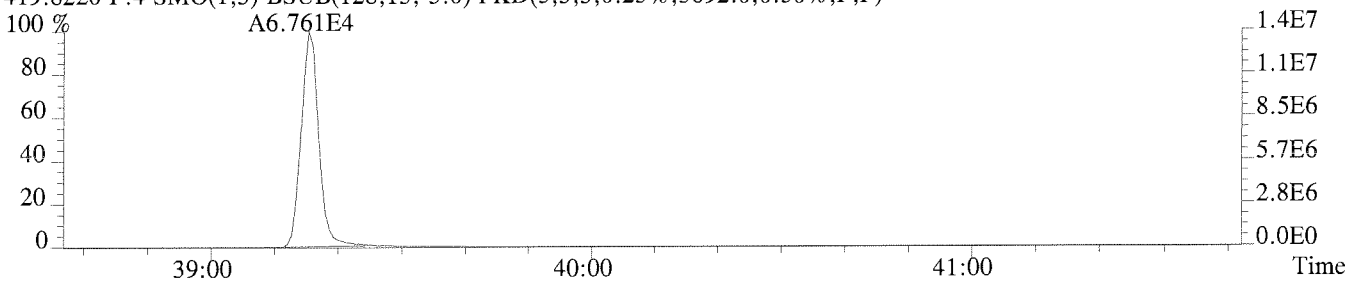
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,9824.0,0.50%,F,F)



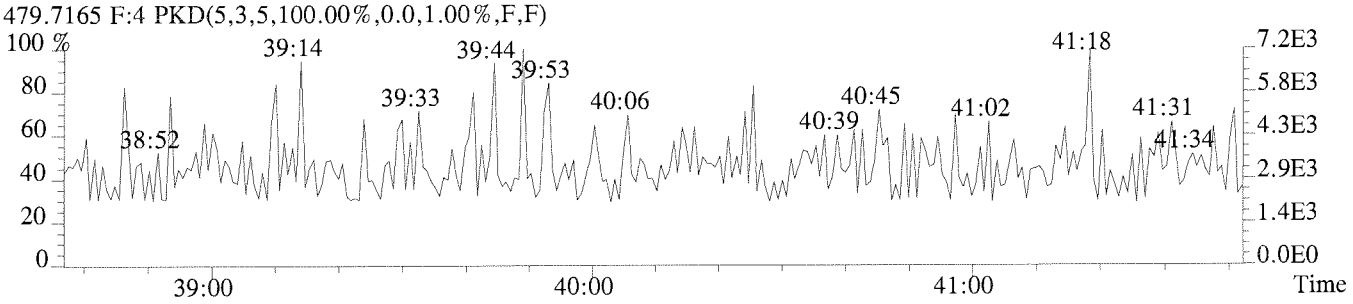
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4088.0,0.50%,F,F)



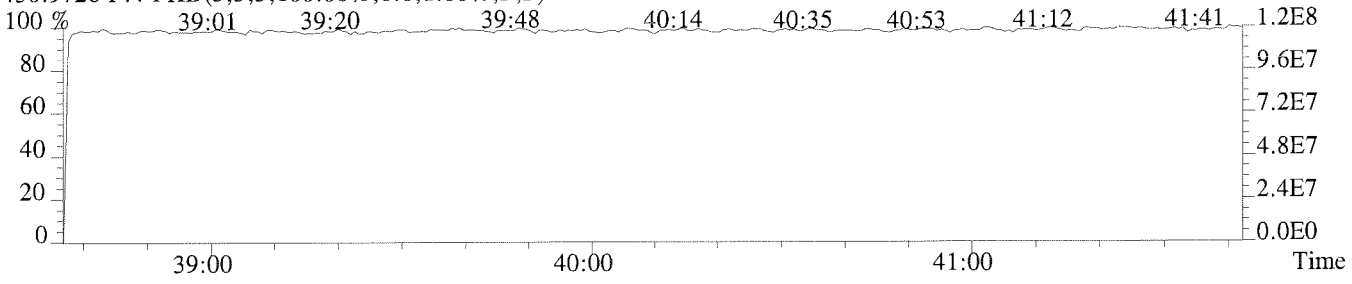
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3692.0,0.50%,F,F)



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

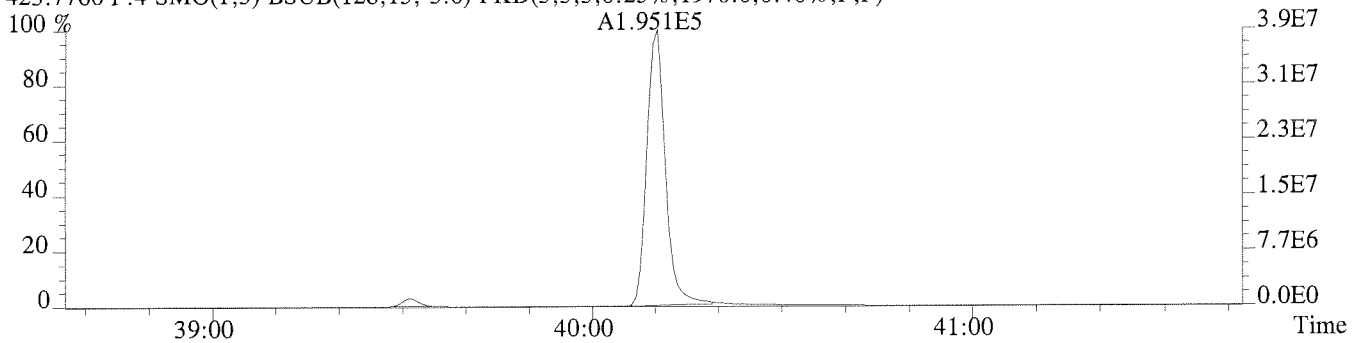


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

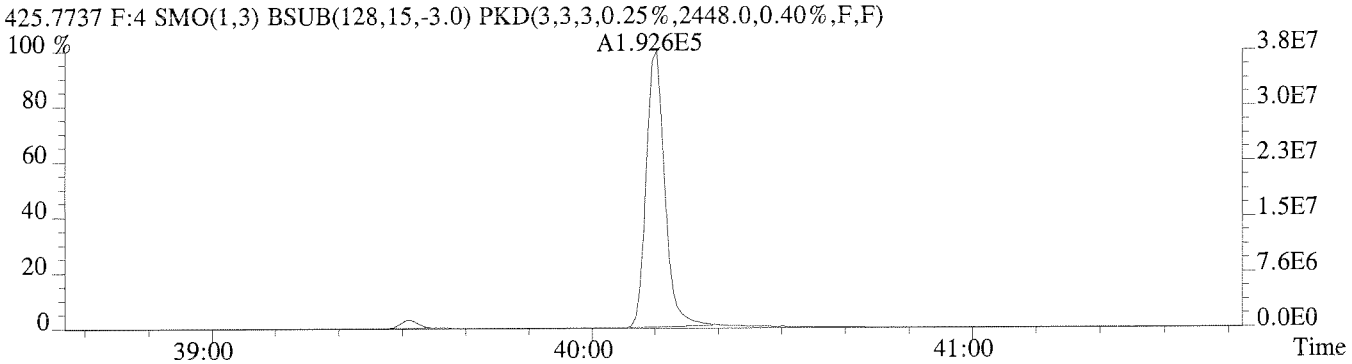


File:P200008 #1-281 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

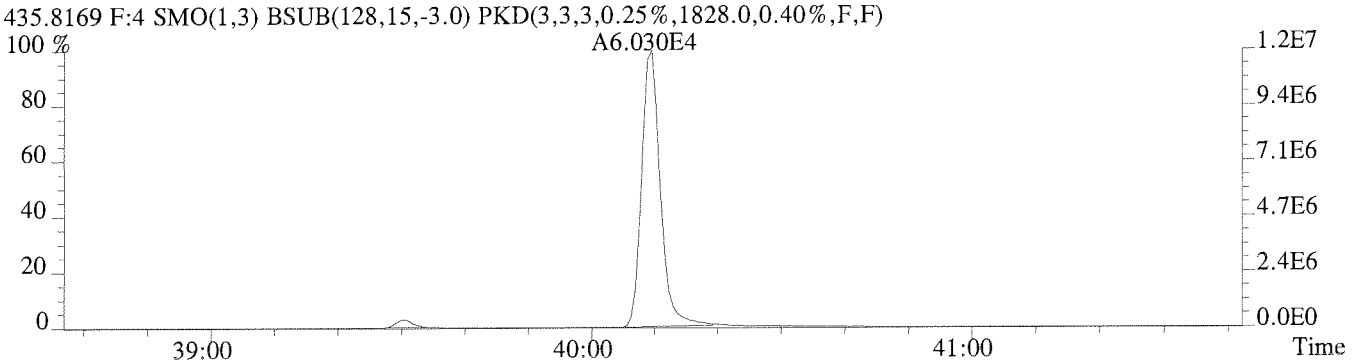
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1976.0,0.40%,F,F)



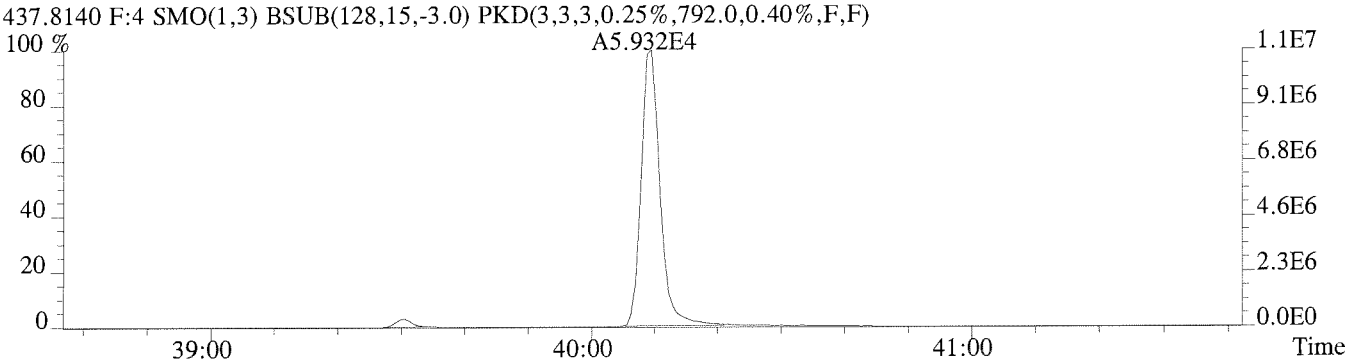
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2448.0,0.40%,F,F)



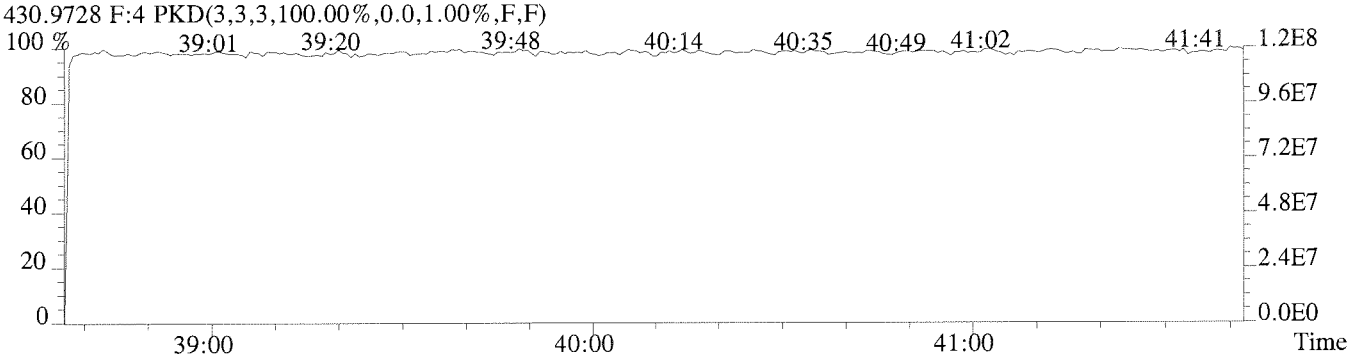
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1828.0,0.40%,F,F)



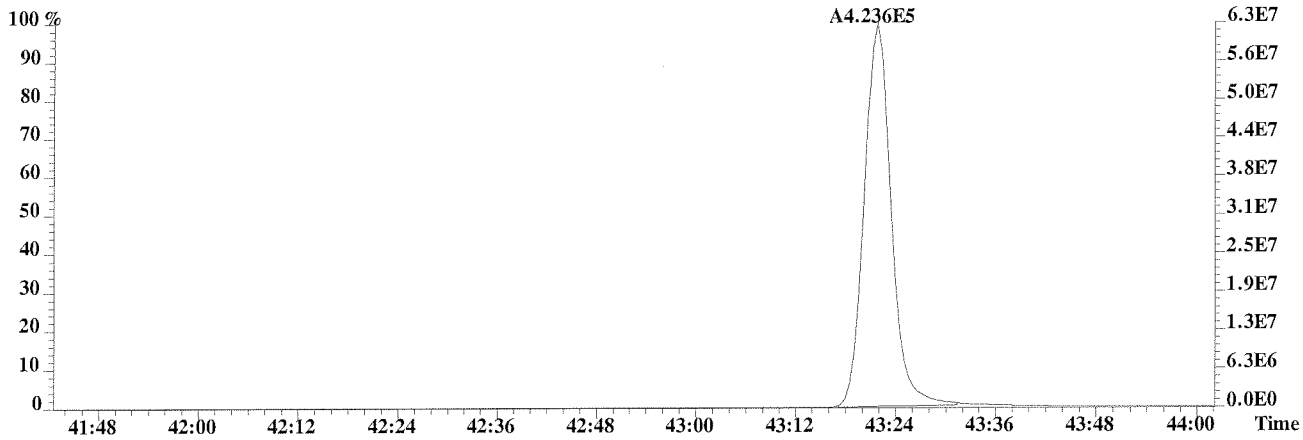
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,792.0,0.40%,F,F)

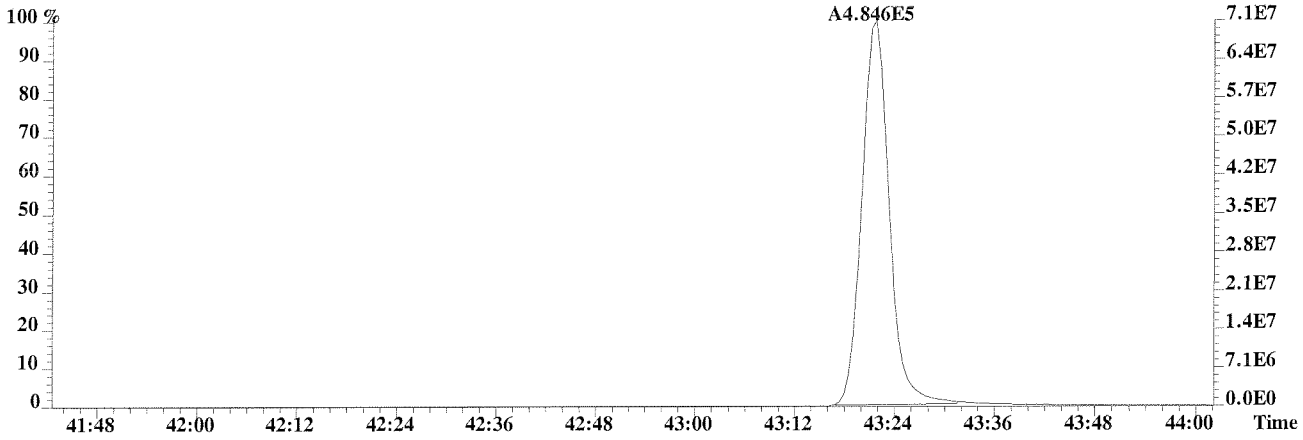


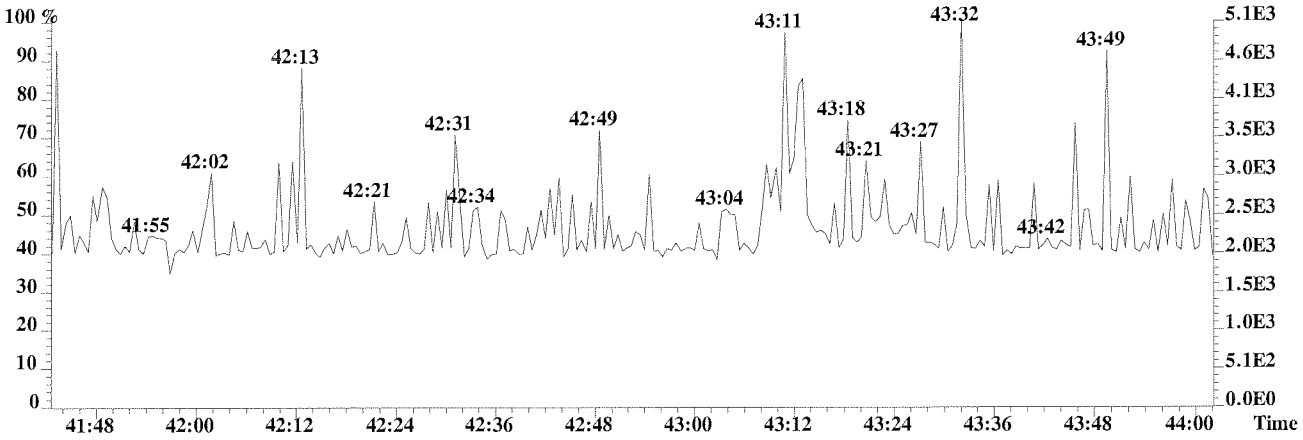
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

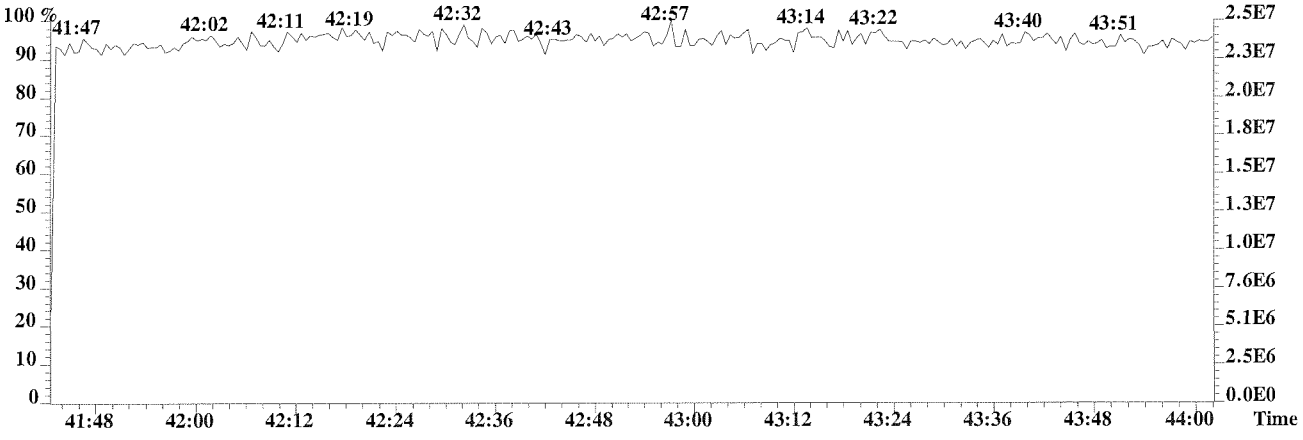


File:P200008 #1-364 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spectrom
441.7428 F:5 Exp:ICAL HRCC5

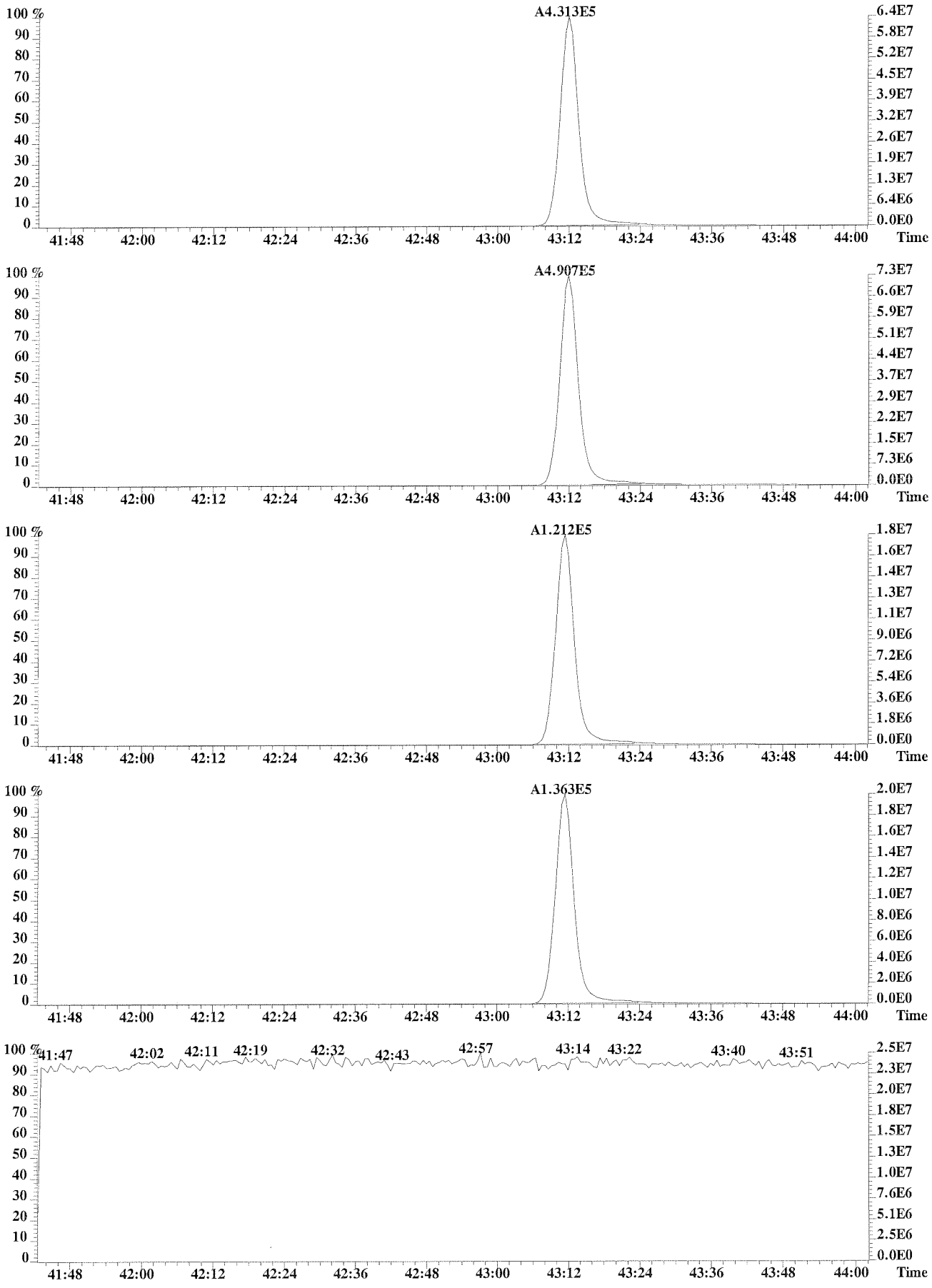








File:P200008 #1-364 Acq:18-JUL-2008 17:50:46 Probe EI+ Magnet SIR VG BioTech Mass spectrom
457.7377 F:5 Exp:ICAL HRCC5



Initial Calibration QC Checklist

ICAL Name: P8080182ICAL

Date: 08/01/08

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

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 it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	N/A	N/A
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: KLM Second QC: MC

icalqc.xls 02-23-00

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Lab Name: Columbia Analytical Services Contract:

Lab Code: TX01411 Case No.: Client No.: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Premier

Init. Calib. Date: 08/01/08

Init. Calib.Times: 14:25

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
WINDOW DEFINE		P200031	1-AUG-08	14:25:15
ICAL HRCC1		P200033	1-AUG-08	17:11:30
ICAL HRCC2		P200032	1-AUG-08	16:23:43
ICAL HRCC3		P200031	1-AUG-08	15:21:27
ICAL HRCC4		P200034	1-AUG-08	18:16:07
ICAL HRCC5		P200035	1-AUG-08	19:02:53

HRGC/HRMS RUN LOG

CAS HOUSTON 19408 Park Row, Suite 320 Houston, TX 77084

Acq Method: 8290CAS/1613 Result File: P8OP200136RES

GC Method: 8290CAS/1613 EDD File: F P8080182901

Columbia Analytical Services inc.

An Employee Owned Company

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
		P200027	CCAL HRCC3	D8-2-2A			Use Any	
07/31/08	18:41		HRMS Check					
08/01/08	~~14:22~~	m08/07/08						
	07:25	P200028	Window Define					
	08:11	P200029	CCAL HRCC3	D8-2-2A			14:22 HRMS Check	
	14:25	P200030	Window Define	D4-9-2				
	15:21	P200031	ICAL HRCC3	D8-2-2A				
	16:23	P200032	ICAL HRCC2	D5-49-4				
	17:11	P200033	ICAL HRCC1	D5-49-5				
	18:16	P200034	ICAL HRCC4	D5-49-2				
	19:02	P200035	ICAL HRCC5	D5-49-1				
		~~P200036~~	~~HRCC3 CSA~~	in 08/07/8			19:57 HRMS Check	
	~~14:57~~		~~HRMS check~~				08:58	
08/04/08	08:58						P200036 HRCC3 CSC D4-6H	
		P200037	Window Define					
		P200038	CCAL HRCC3					

Reviewed by:

5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID:

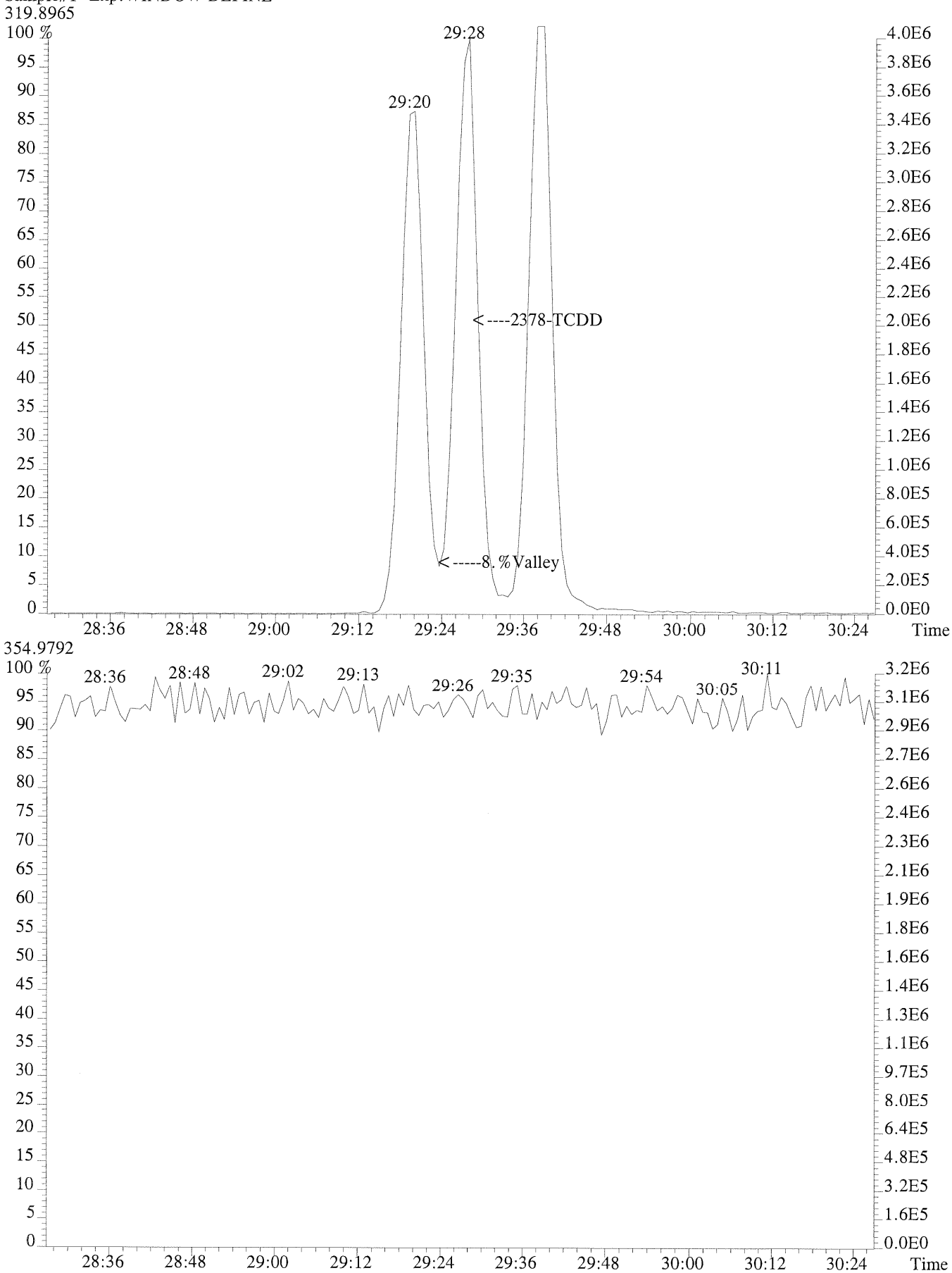
WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES
Lab Code: CAS Case No.: _____ SDG No.:
GC Column: DB-5 ID: 0.25 (mm) Lab File ID: P200030
Date Analyzed: 1-AUG-2008
Time Analyzed: 14:25:15

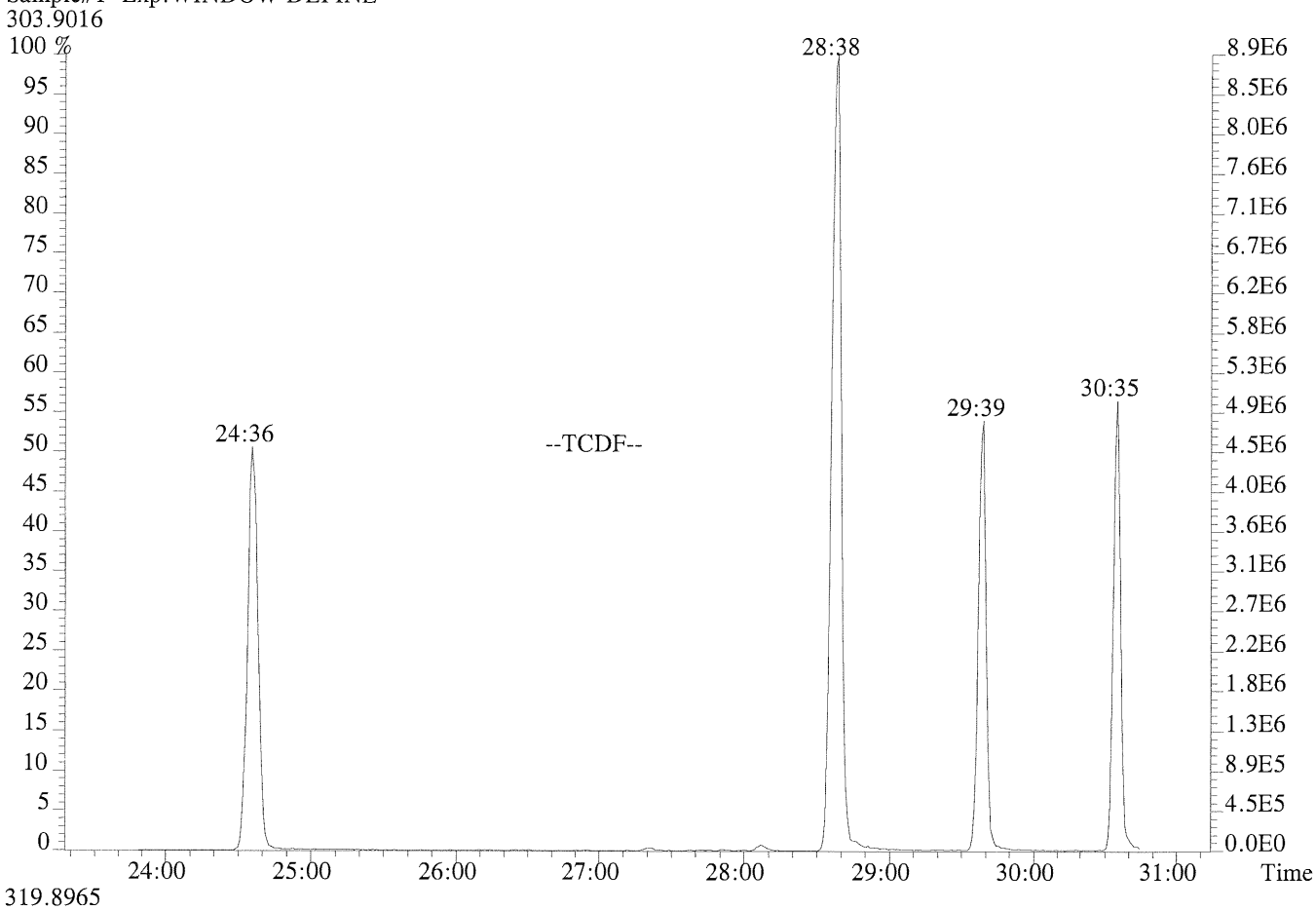
Congener	Retention Time First Eluting	Retention Time Last Eluting
TCDF	24:36	30:35
TCDD	26:24	30:34
PeCDF	30:51	34:42
PeCDD	32:13	34:34
HxCDF	35:35	37:53
HxCDD	36:05	37:34
HpCDF	39:16	40:35
HpCDD	39:31	40:10

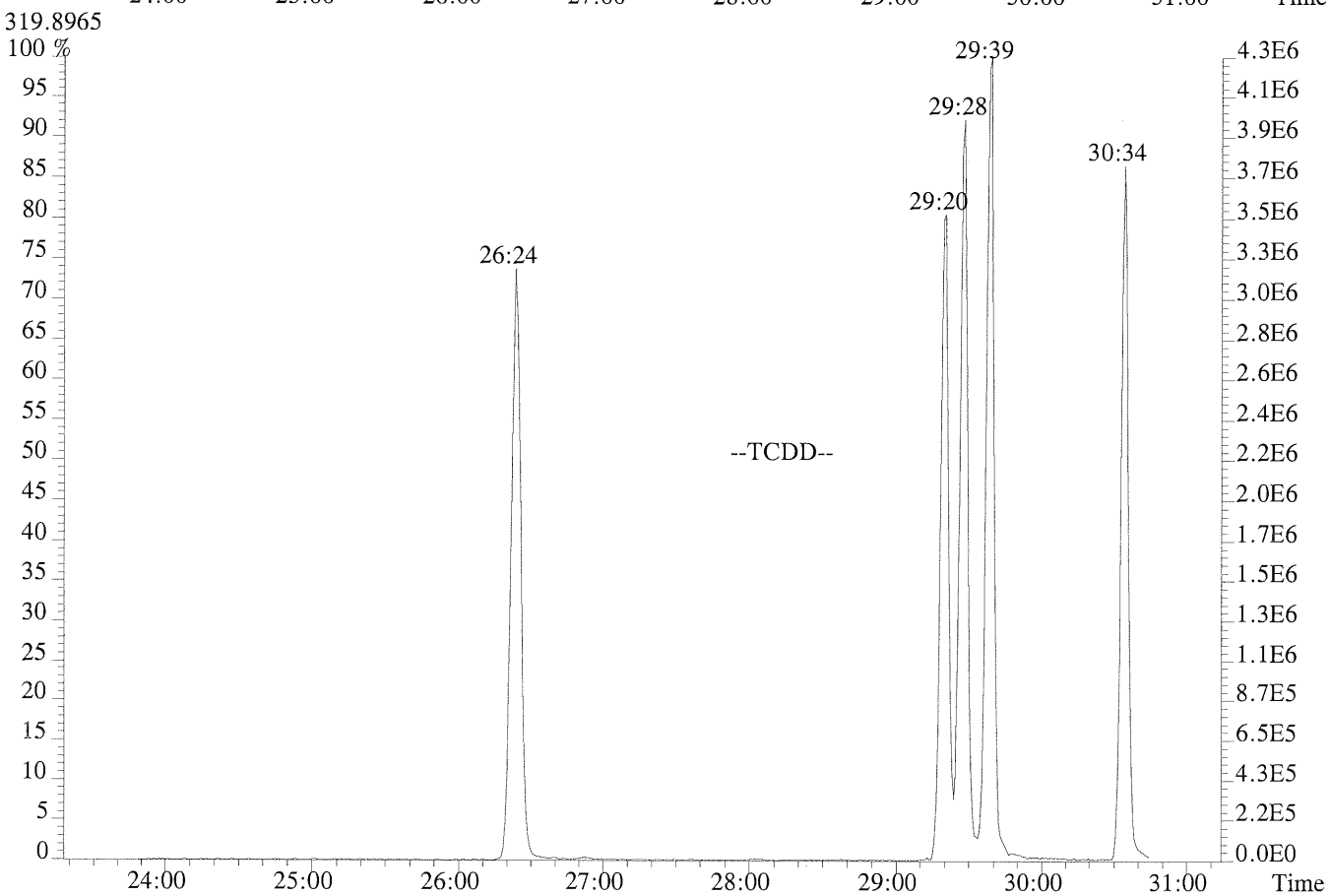
% Valley 2378-TCDD: 8. %

File:P200030 #1-578 Acq: 1-AUG-2008 14:25:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

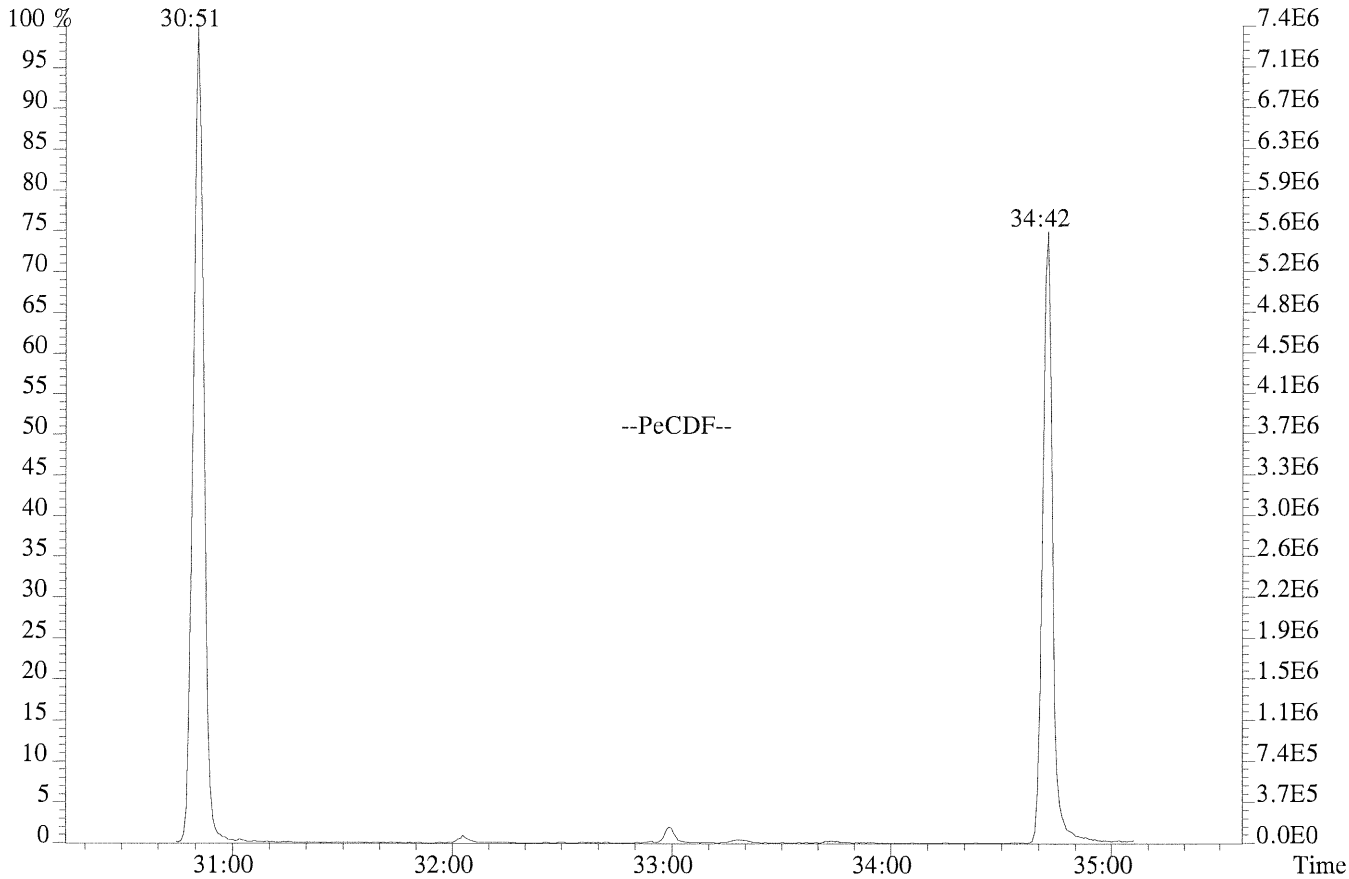


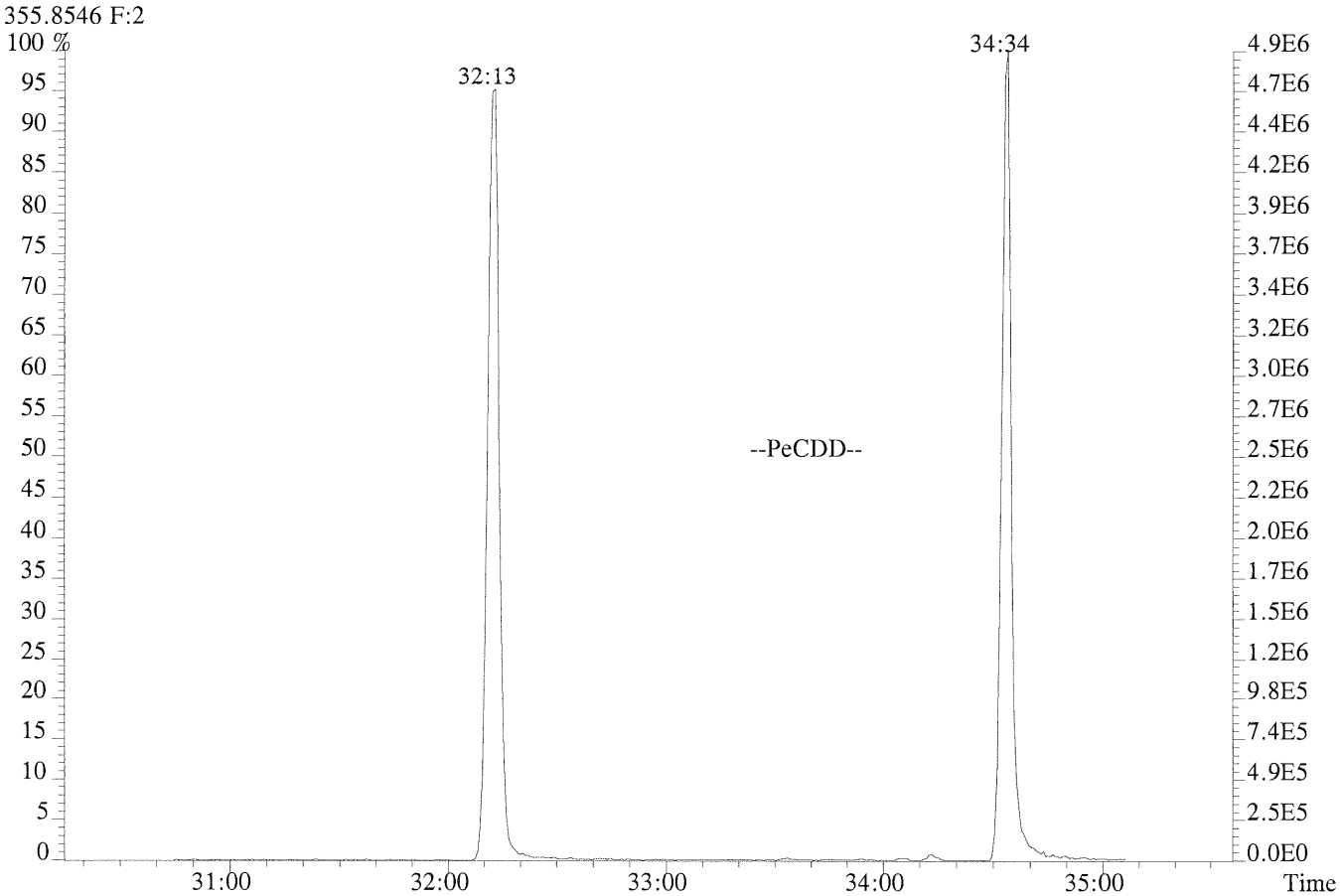
File:P200030 #1-578 Acq: 1-AUG-2008 14:25:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE



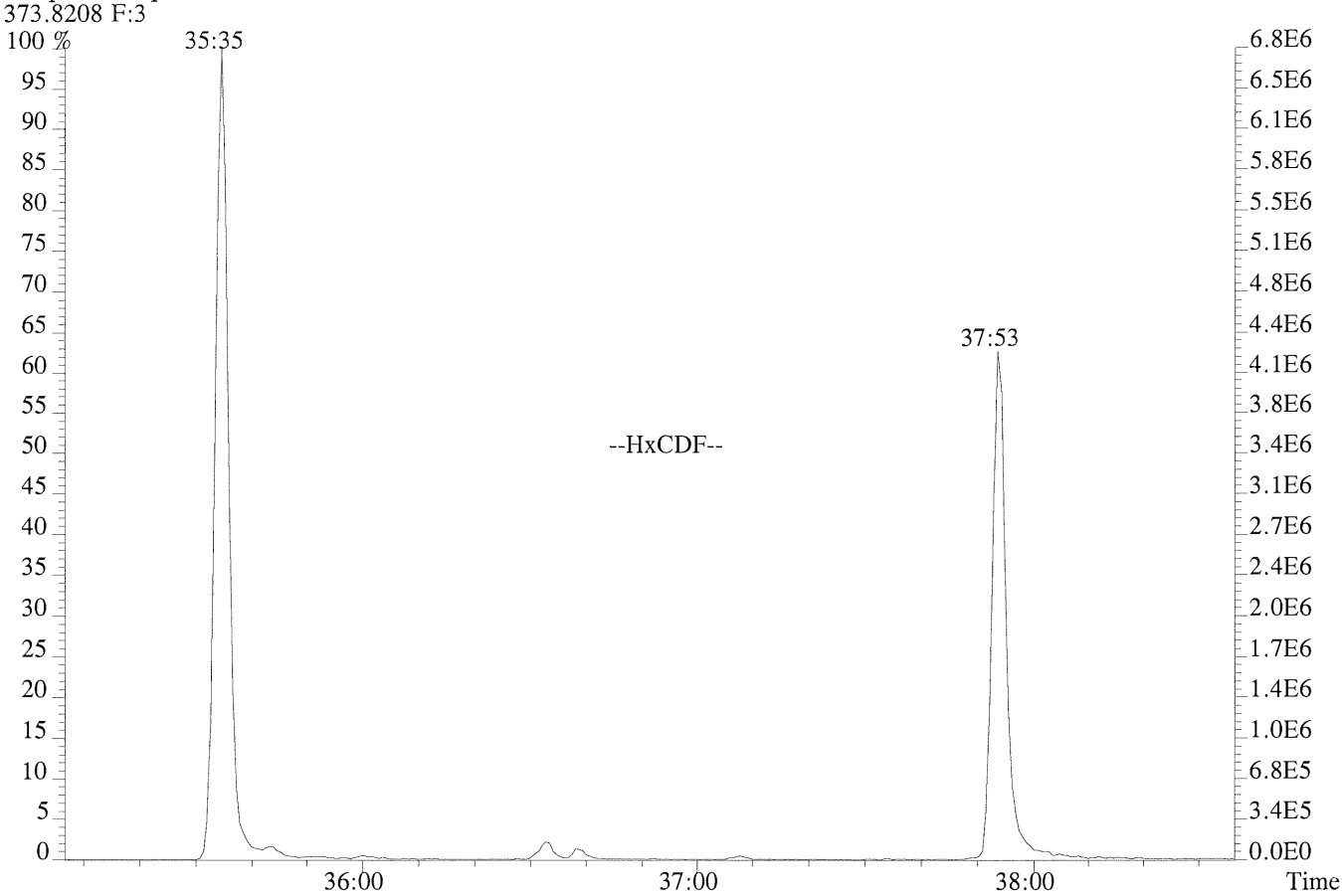


File:P200030 #1-396 Acq: 1-AUG-2008 14:25:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE

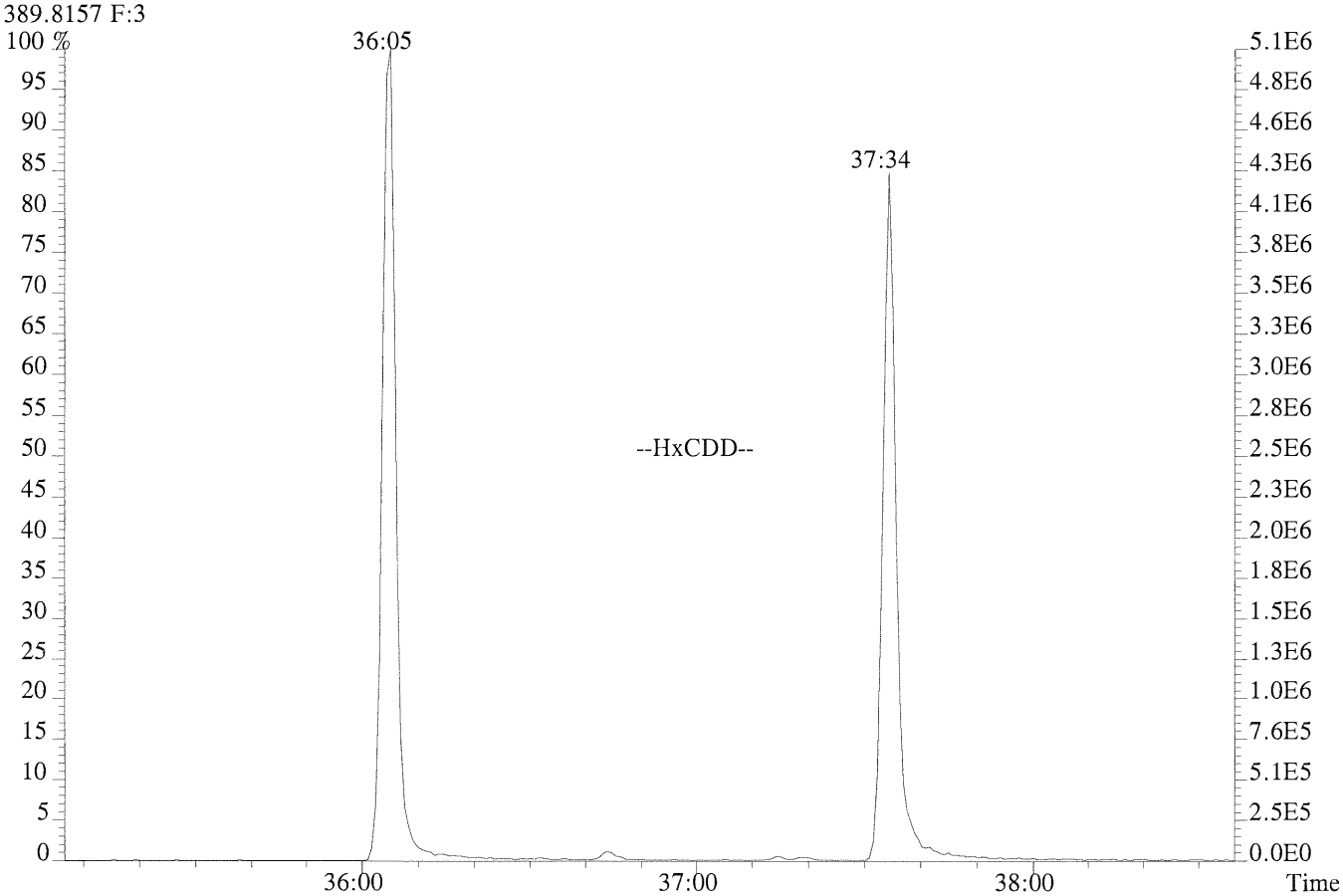




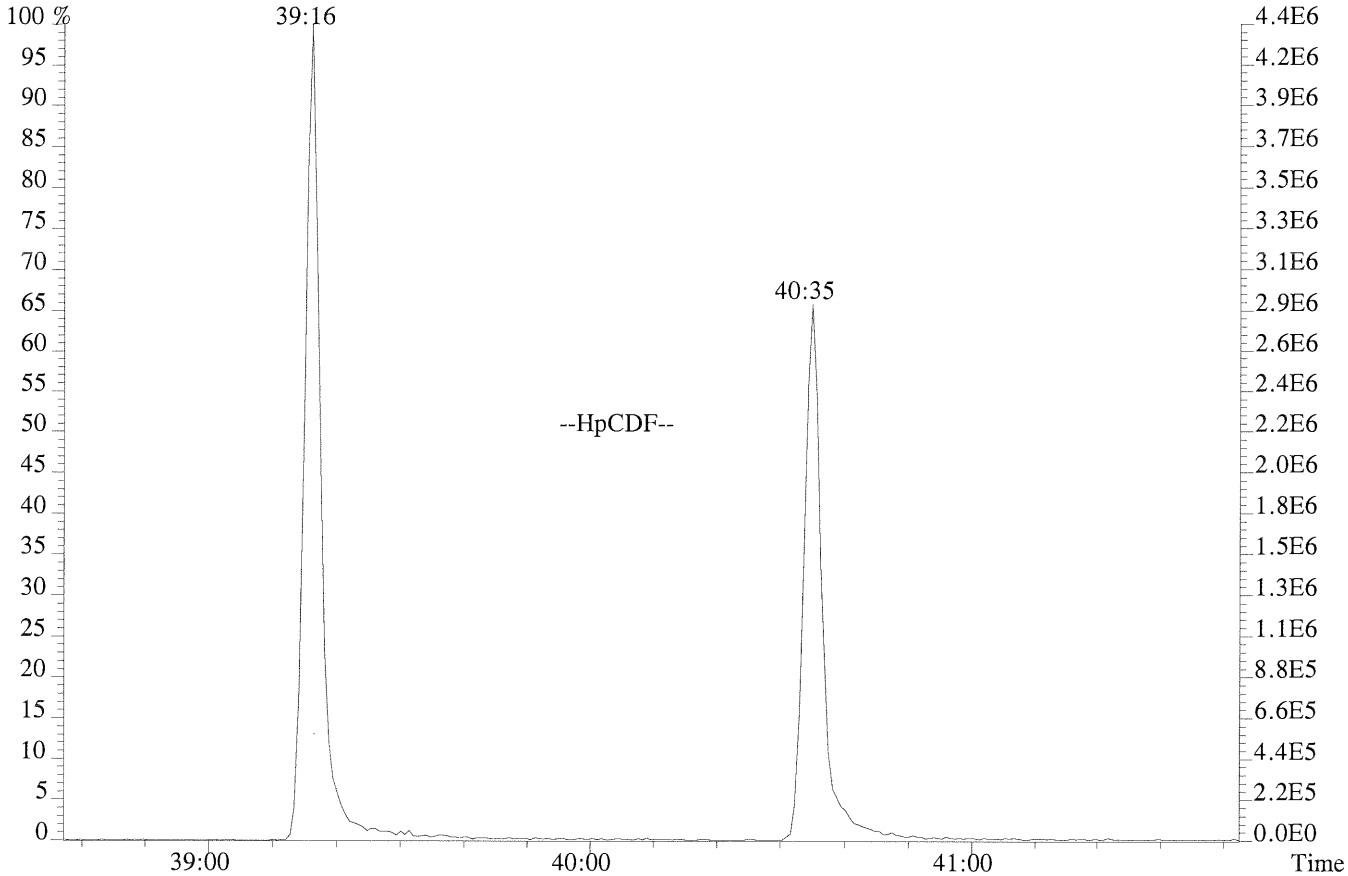
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Sample#1 Exp:WINDOW DEFINE
373.8208 F:3



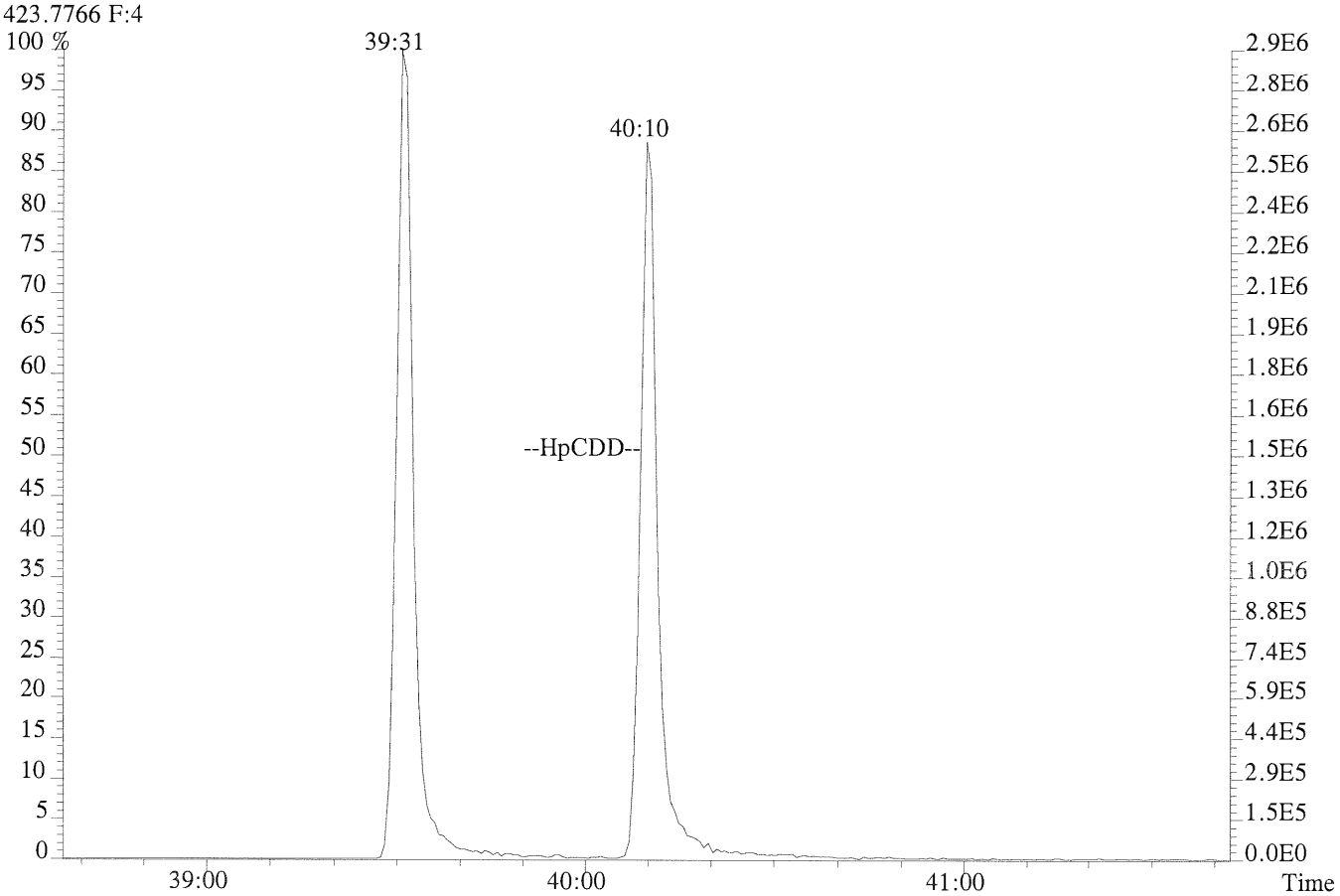
389.8157 F:3



File:P200030 #1-281 Acq: 1-AUG-2008 14:25:15 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:WINDOW DEFINE
407.7818 F:4



423.7766 F:4

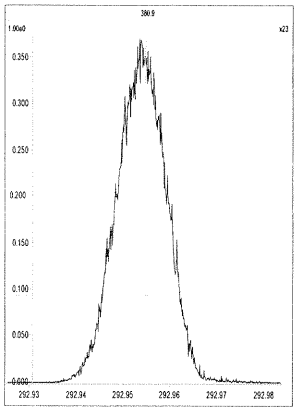


Experiment Calibration Report **MassLynx 4.1**

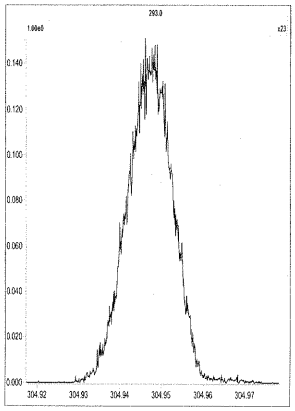
File: Experiment: 8290CAS.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, August 01, 2008 14:22:07 Central Daylight Time

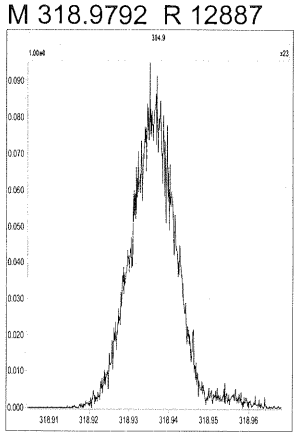
M 292.9824 R 12254



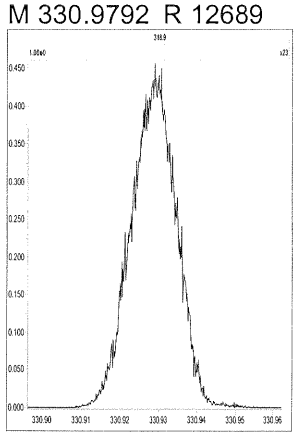
M 304.9824 R 12434



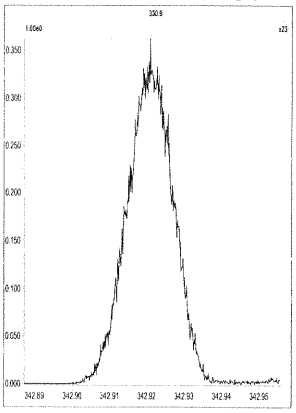
M 318.9792 R 12887



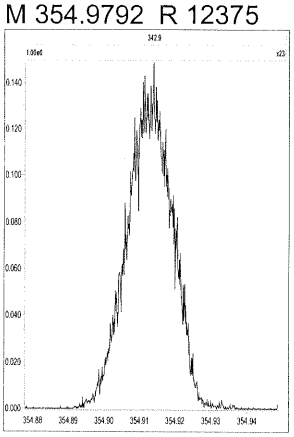
M 330.9792 R 12689



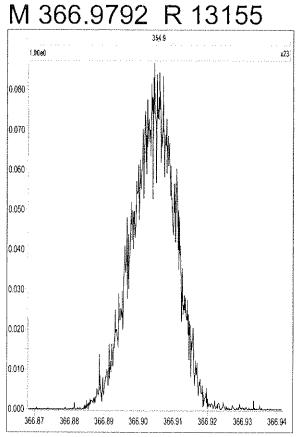
M 342.9792 R 12191



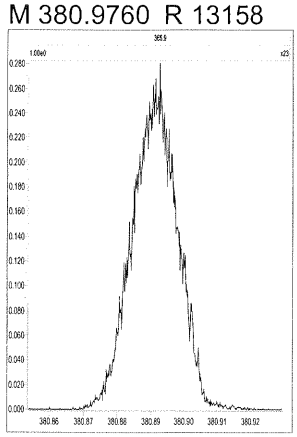
M 354.9792 R 12375



M 366.9792 R 13155



M 380.9760 R 13158

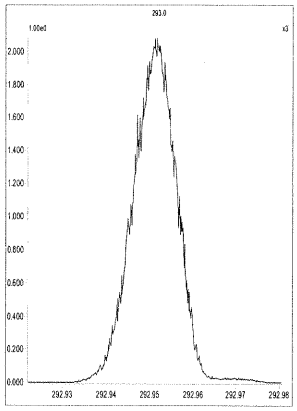


Experiment Calibration Report **MassLynx 4.1**

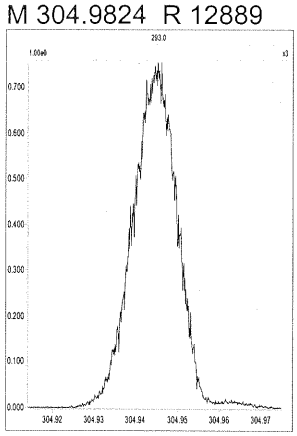
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Printed: Friday, August 01, 2008 19:57:10 Central Daylight Time

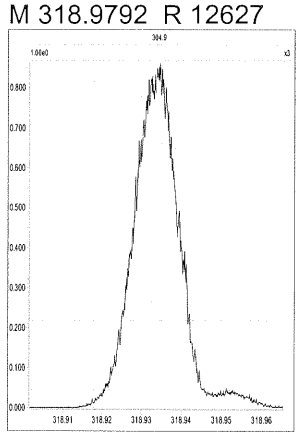
M 292.9824 R 12952



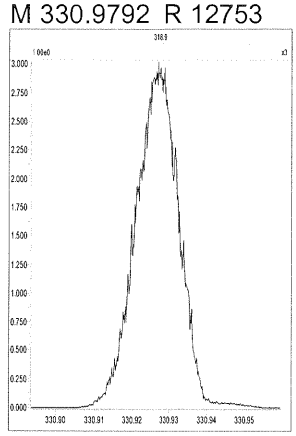
M 304.9824 R 12889



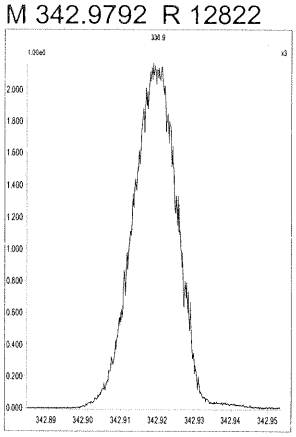
M 318.9792 R 12627



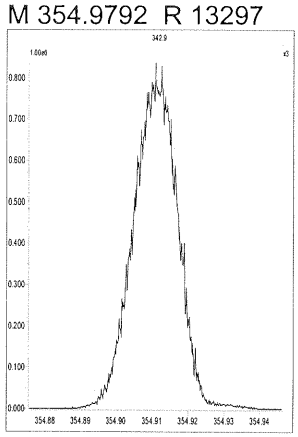
M 330.9792 R 12753



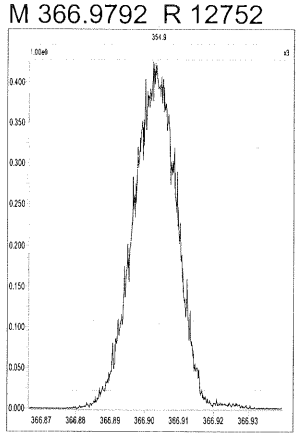
M 342.9792 R 12822



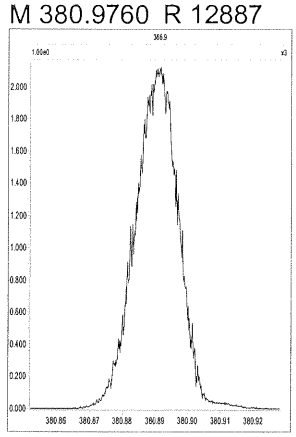
M 354.9792 R 13297



M 366.9792 R 12752



M 380.9760 R 12887



FORM 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P200033 HRCC4 Data Filename: P200034

HRCC2 Data Filename: P200032 HRCC5 Data Filename: P200035

HRCC3 Data Filename: P200031

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
NATIVE ANALYTES	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
2,3,7,8-TCDD	0.91	0.89	0.96	0.92	0.92	0.92	2.74
1,2,3,7,8-PeCDD	0.86	0.86	0.87	0.87	0.90	0.87	1.69
1,2,3,4,7,8-HxCDD	0.95	0.91	0.91	0.94	0.96	0.93	2.56
1,2,3,6,7,8-HxCDD	1.07	1.07	0.99	1.07	1.07	1.05	3.57
1,2,3,7,8,9-HxCDD	0.98	0.97	0.92	0.97	1.00	0.97	3.00
1,2,3,4,6,7,8-HpCDD	0.88	0.86	0.89	0.89	0.90	0.88	1.61
OCDD	0.96	0.95	0.97	0.95	0.98	0.96	1.13
2,3,7,8-TCDF	0.79	0.81	0.87	0.84	0.85	0.83	3.60
1,2,3,7,8-PeCDF	0.81	0.82	0.87	0.84	0.85	0.84	2.80
2,3,4,7,8-PeCDF	0.81	0.83	0.88	0.86	0.87	0.85	3.59
1,2,3,4,7,8-HxCDF	1.08	1.08	1.10	1.07	1.09	1.08	0.86
1,2,3,6,7,8-HxCDF	1.09	1.12	1.18	1.13	1.12	1.13	2.83
1,2,3,7,8,9-HxCDF	0.85	0.84	0.89	0.86	0.89	0.87	2.62
2,3,4,6,7,8-HxCDF	0.97	0.99	1.06	1.01	1.03	1.01	3.31
1,2,3,4,6,7,8-HpCDF	1.28	1.31	1.36	1.32	1.33	1.32	2.15
1,2,3,4,7,8,9-HpCDF	0.94	0.94	0.97	0.99	1.00	0.97	2.76
OCDF	1.12	1.10	1.13	1.14	1.05	1.11	3.04

(1) The %RSD for the 17 unlabeled standard must not exceed +/- 20%, see Section 7.7.2.1, Method 8290.

8290F3A

FORM 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P200033 HCC4 Data Filename: P200034

HCC2 Data Filename: P200032 HCC5 Data Filename: P200035

HCC3 Data Filename: P200031

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	1.06	1.06	0.98	1.07	1.09	1.05	3.76
13C-1,2,3,7,8-PeCDD	0.81	0.79	0.98	0.81	0.95	0.87	10.16
13C-1,2,3,6,7,8-HxCDD	1.01	1.01	0.99	1.01	0.98	1.00	1.23
13C-1,2,3,4,6,7,8-HpCDD	0.86	0.84	0.78	0.87	0.81	0.83	4.45
13C-OCDD	0.77	0.74	0.67	0.63	0.83	0.73	10.62
13C-2,3,7,8-TCDF	1.42	1.42	1.46	1.43	1.38	1.42	2.14
13C-1,2,3,7,8-PeCDF	1.22	1.19	1.37	1.19	1.33	1.26	6.65
13C-1,2,3,4,7,8-HxCDF	1.39	1.34	1.12	1.33	1.23	1.28	8.38
13C-1,2,3,4,6,7,8-HpCDF	0.96	0.93	0.84	0.95	0.83	0.90	6.89
CLEANUP STANDARD							
37Cl-2,3,7,8-TCDD	0.95	0.97	0.97	0.99	1.02	0.98	2.75

(1) The %RSD for the nine labeled reference compounds must not exceed +/- 30%, see Section 7.7.2.1, Method 8290.

8290F3B

FORM 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: P200033 HCC4 Data Filename: P200034

HCC2 Data Filename: P200032 HCC5 Data Filename: P200035

HCC3 Data Filename: P200031

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
NATIVE ANALYTES							
2,3,7,8-TCDD	M/M+2	0.80	0.79	0.77	0.77	0.78	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.42	1.53	1.56	1.54	1.55	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.35	1.24	1.24	1.24	1.26	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.09	1.25	1.28	1.26	1.26	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.22	1.29	1.26	1.24	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	1.02	1.02	1.05	1.04	0.88-1.20
OCDD	M+2/M+4	0.93	0.88	0.90	0.89	0.89	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.73	0.72	0.76	0.77	0.77	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.54	1.56	1.53	1.54	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.47	1.57	1.51	1.53	1.53	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.23	1.23	1.22	1.22	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.25	1.28	1.20	1.22	1.23	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.32	1.23	1.21	1.22	1.23	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.27	1.22	1.23	1.23	1.23	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.06	1.00	1.03	1.01	1.02	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.96	1.04	1.02	1.02	0.88-1.20
OCDF	M+2/M+4	0.88	0.89	0.90	0.89	0.89	0.76-1.02

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits from Table 8, Method 8290.

8290F3C

FORM 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 08/01/08

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: P200033 HRCC4 Data Filename: P200034

HRCC2 Data Filename: P200032 HRCC5 Data Filename: P200035

HRCC3 Data Filename: P200031

LABELED COMPOUNDS	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	QC LIMITS (2)
13C-2,3,7,8-TCDD	M/M+2	0.78	0.78	0.79	0.77	0.78	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.58	1.58	1.58	1.54	1.57	1.32-1.78
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.27	1.26	1.25	1.26	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	1.04	1.05	1.04	1.04	0.88-1.20
13C-OCDD	M+2/M+4	0.90	0.89	0.91	0.90	0.89	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.79	0.77	0.78	0.78	0.78	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.57	1.58	1.57	1.55	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.52	0.52	0.52	0.52	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.45	0.44	0.44	0.44	0.45	0.37-0.51

(1) See Table 6, Method 8290, for m/z specifications.Method 8290.

(2) Ion Abundance Ratio Control Limits from Table 8,

8290F3D

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC1

Run #1 Filename P200033 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 17:11:30
Processed: 7-AUG-08 06:33:19 Sample ID: ICAL HRCC1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	1.109e+03	1.513e+03	0.73	yes	no	0.83
2	Unk	1,2,3,7,8-PeCDF	32:59	3.548e+03	2.237e+03	1.59	yes	no	0.84
3	Unk	2,3,4,7,8-PeCDF	33:43	3.424e+03	2.326e+03	1.47	yes	no	0.85
4	Unk	1,2,3,4,7,8-HxCDF	36:33	3.006e+03	2.359e+03	1.27	yes	no	1.01
5	Unk	1,2,3,6,7,8-HxCDF	36:39	3.025e+03	2.416e+03	1.25	yes	no	1.05
6	Unk	2,3,4,6,7,8-HxCDF	37:08	2.702e+03	2.133e+03	1.27	yes	no	0.94
7	Unk	1,2,3,7,8,9-HxCDF	37:50	2.408e+03	1.828e+03	1.32	yes	yes	0.81
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	2.265e+03	2.138e+03	1.06	yes	no	1.32
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	1.648e+03	1.600e+03	1.03	yes	no	0.97
10	Unk	OCDF	43:22	2.914e+03	3.296e+03	0.88	yes	no	1.11
11	Unk	2,3,7,8-TCDD	29:27	9.983e+02	1.242e+03	0.80	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:05	2.387e+03	1.686e+03	1.42	yes	no	0.87
13	Unk	1,2,3,4,7,8-HxCDD	37:14	1.994e+03	1.473e+03	1.35	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:19	2.044e+03	1.870e+03	1.09	yes	no	1.05
15	Unk	1,2,3,7,8,9-HxCDD	37:36	2.007e+03	1.573e+03	1.28	yes	no	0.97
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.393e+03	1.316e+03	1.06	yes	no	0.88
17	Unk	OCDD	43:12	2.572e+03	2.755e+03	0.93	yes	no	0.96
18	IS	13C-2,3,7,8-TCDF	28:35	7.275e+04	9.239e+04	0.79	yes	no	1.42
19	IS	13C-1,2,3,7,8-PeCDF	32:59	8.691e+04	5.560e+04	1.56	yes	no	1.26
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	8.565e+04	1.636e+05	0.52	yes	no	1.28
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	5.319e+04	1.193e+05	0.45	yes	no	0.90
22	IS	13C-2,3,7,8-TCDD	29:26	5.391e+04	6.949e+04	0.78	yes	no	1.05
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.817e+04	3.673e+04	1.58	yes	no	0.87
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.017e+05	8.057e+04	1.26	yes	no	1.00
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	7.906e+04	7.538e+04	1.05	yes	no	0.83
26	IS	13C-OCDD	43:12	1.309e+05	1.459e+05	0.90	yes	no	0.73
27	RS/RT	13C-1,2,3,4-TCDD	29:14	5.140e+04	6.515e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	9.892e+04	8.099e+04	1.22	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	2.216e+03					0.98

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC1

Run #1 Filename P200033 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 17:11:30

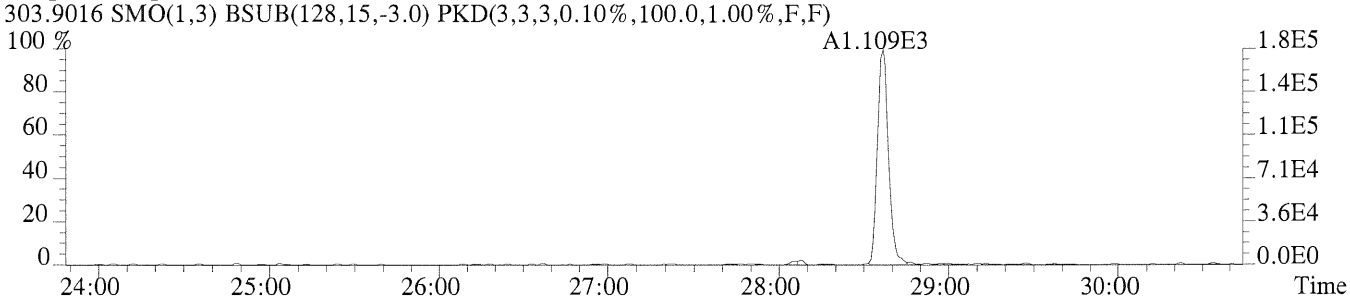
Processed: 7-AUG-08 06:33:19 LAB. ID: ICAL HRCC1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.78e+05	1.00e+02	1.8e+03	2.26e+05	4.76e+02	4.8e+02
2	1,2,3,7,8-PeCDF	6.75e+05	1.20e+02	5.6e+03	4.41e+05	8.12e+02	5.4e+02
3	2,3,4,7,8-PeCDF	6.51e+05	1.20e+02	5.4e+03	4.41e+05	8.12e+02	5.4e+02
4	1,2,3,4,7,8-HxCDF	6.36e+05	1.80e+02	3.5e+03	5.17e+05	1.28e+02	4.0e+03
5	1,2,3,6,7,8-HxCDF	6.02e+05	1.80e+02	3.3e+03	4.64e+05	1.28e+02	3.6e+03
6	2,3,4,6,7,8-HxCDF	5.45e+05	1.80e+02	3.0e+03	4.33e+05	1.28e+02	3.4e+03
7	1,2,3,7,8,9-HxCDF	4.51e+05	1.80e+02	2.5e+03	3.45e+05	1.28e+02	2.7e+03
8	1,2,3,4,6,7,8-HpCDF	4.70e+05	1.16e+03	4.1e+02	4.39e+05	4.76e+02	9.2e+02
9	1,2,3,4,7,8,9-HpCDF	2.92e+05	1.16e+03	2.5e+02	3.01e+05	4.76e+02	6.3e+02
10	OCDF	3.85e+05	1.60e+02	2.4e+03	4.50e+05	3.92e+02	1.1e+03
11	2,3,7,8-TCDD	1.74e+05	1.52e+02	1.1e+03	2.17e+05	1.32e+02	1.6e+03
12	1,2,3,7,8-PeCDD	4.78e+05	6.44e+02	7.4e+02	3.39e+05	1.48e+02	2.3e+03
13	1,2,3,4,7,8-HxCDD	4.39e+05	1.28e+02	3.4e+03	3.48e+05	6.80e+01	5.1e+03
14	1,2,3,6,7,8-HxCDD	4.34e+05	1.28e+02	3.4e+03	3.62e+05	6.80e+01	5.3e+03
15	1,2,3,7,8,9-HxCDD	4.06e+05	1.28e+02	3.2e+03	3.23e+05	6.80e+01	4.8e+03
16	1,2,3,4,6,7,8-HpCDD	2.59e+05	1.24e+02	2.1e+03	2.49e+05	1.16e+02	2.1e+03
17	OCDD	3.54e+05	1.16e+02	3.1e+03	3.93e+05	9.60e+01	4.1e+03
18	13C-2,3,7,8-TCDF	1.19e+07	9.16e+02	1.3e+04	1.52e+07	8.68e+02	1.8e+04
19	13C-1,2,3,7,8-PeCDF	1.68e+07	1.12e+02	1.5e+05	1.07e+07	1.96e+02	5.5e+04
20	13C-1,2,3,4,7,8-HxCDF	1.80e+07	2.84e+02	6.3e+04	3.45e+07	4.24e+02	8.1e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.10e+07	5.33e+03	2.1e+03	2.45e+07	7.77e+03	3.2e+03
22	13C-2,3,7,8-TCDD	9.41e+06	1.58e+03	6.0e+03	1.22e+07	5.60e+02	2.2e+04
23	13C-1,2,3,7,8-PeCDD	1.15e+07	4.68e+02	2.4e+04	7.23e+06	1.52e+02	4.8e+04
24	13C-1,2,3,6,7,8-HxCDD	2.20e+07	4.52e+02	4.9e+04	1.74e+07	3.00e+02	5.8e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.49e+07	4.20e+02	3.6e+04	1.44e+07	1.60e+02	9.0e+04
26	13C-OCDD	1.83e+07	1.12e+02	1.6e+05	2.02e+07	1.08e+02	1.9e+05
27	13C-1,2,3,4-TCDD	8.91e+06	1.58e+03	5.7e+03	1.13e+07	5.60e+02	2.0e+04
28	13C-1,2,3,7,8,9-HxCDD	2.08e+07	4.52e+02	4.6e+04	1.67e+07	3.00e+02	5.6e+04
29	37Cl-2,3,7,8-TCDD	3.87e+05	1.44e+02	2.7e+03			

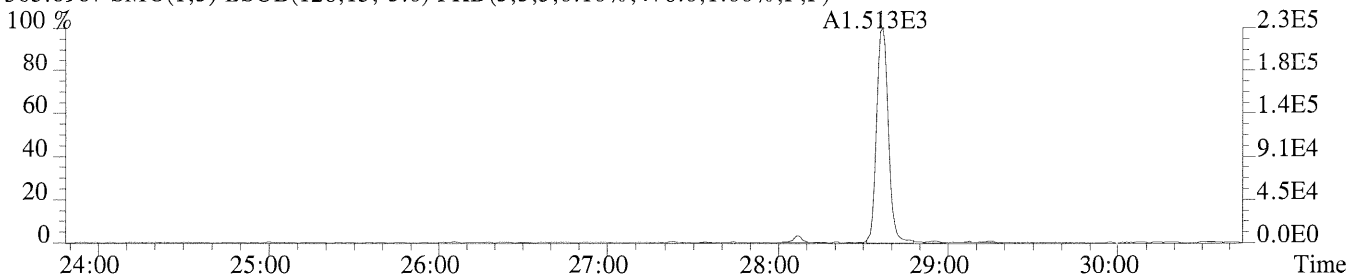
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
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Office:(713)266-1599. Fax:(713)266-0130

File:P200033 #1-578 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

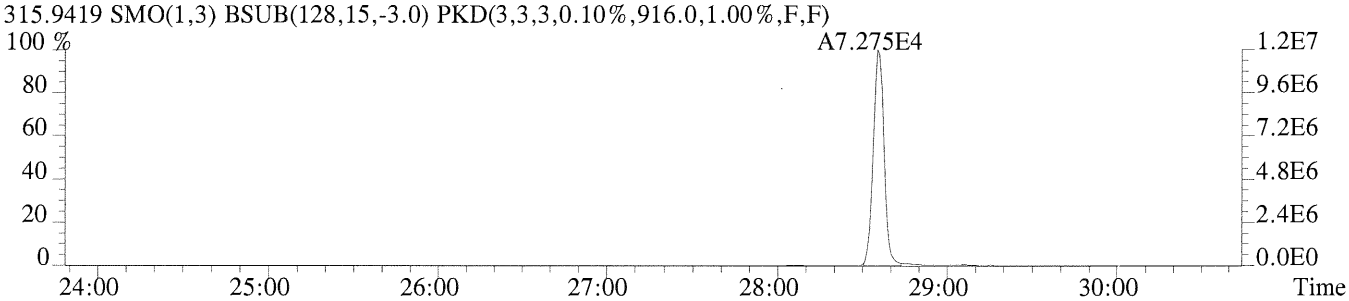
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,F)



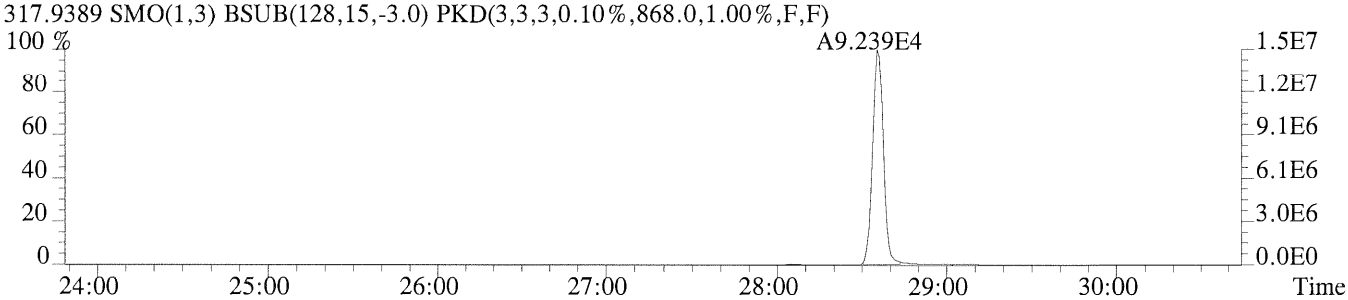
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,F)



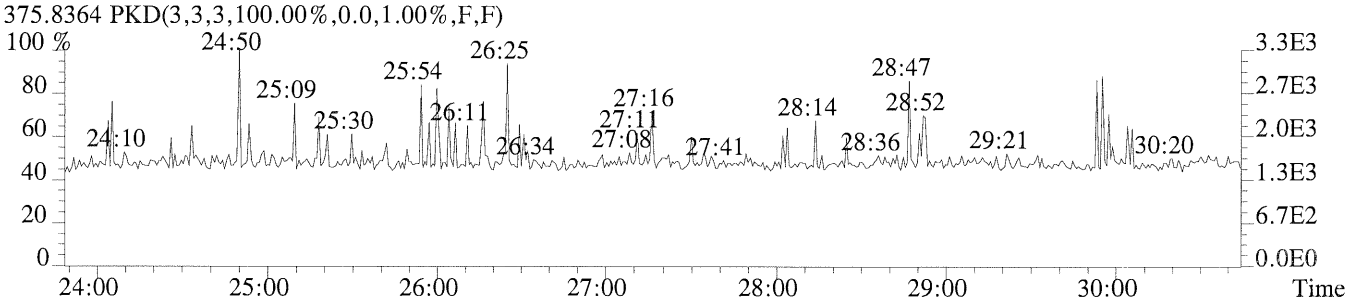
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,916.0,1.00%,F,F)



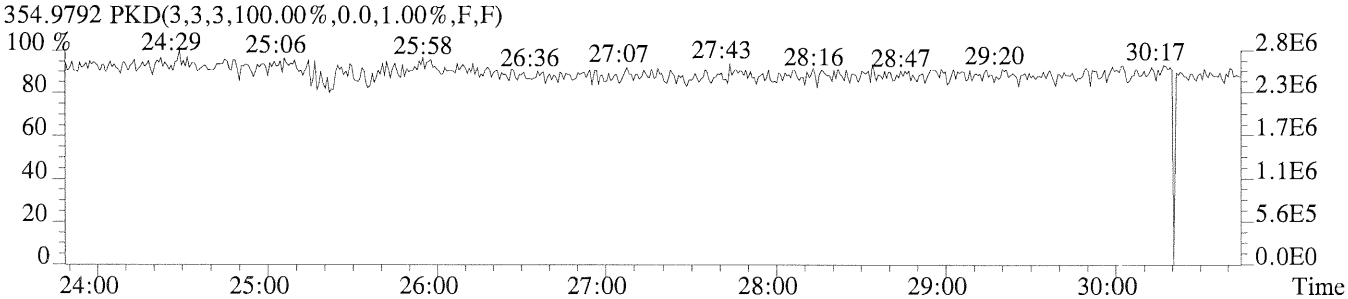
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,868.0,1.00%,F,F)



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

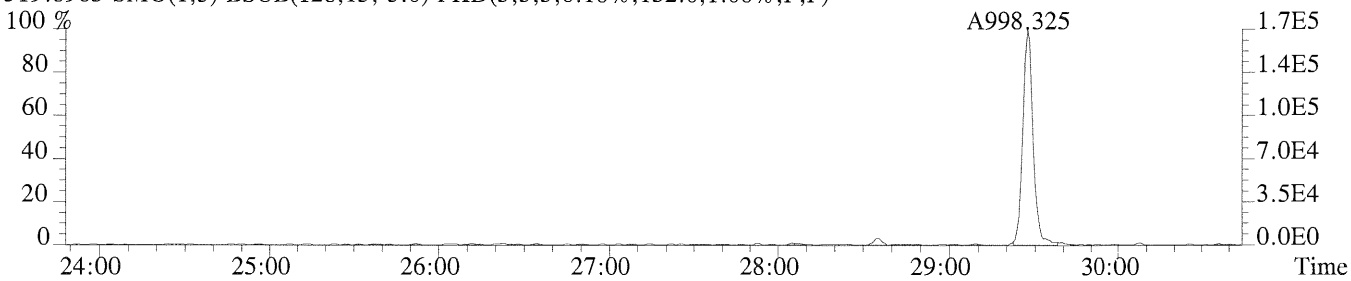


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

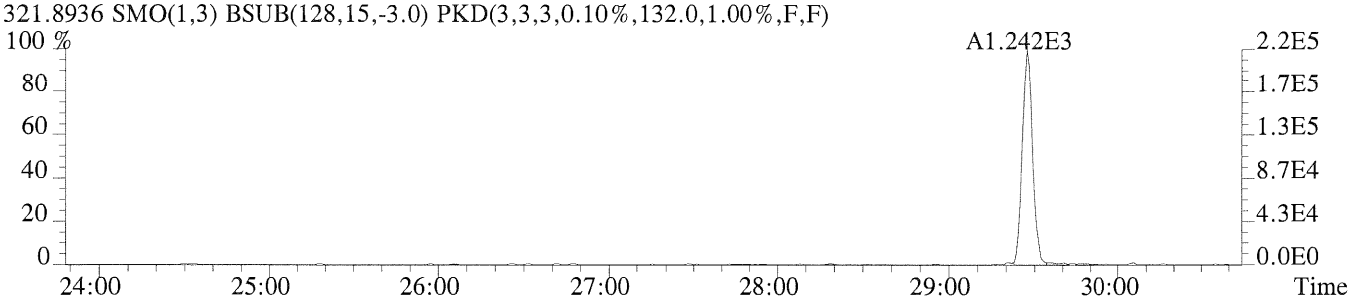


File:P200033 #1-578 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

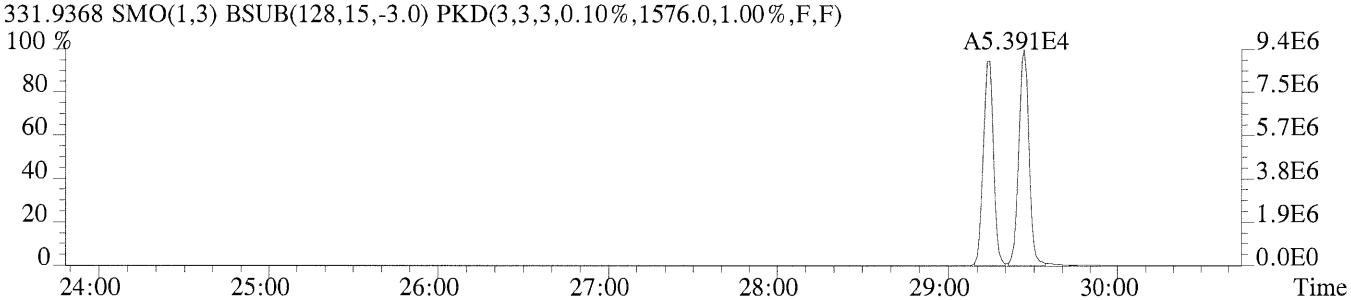
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,F)



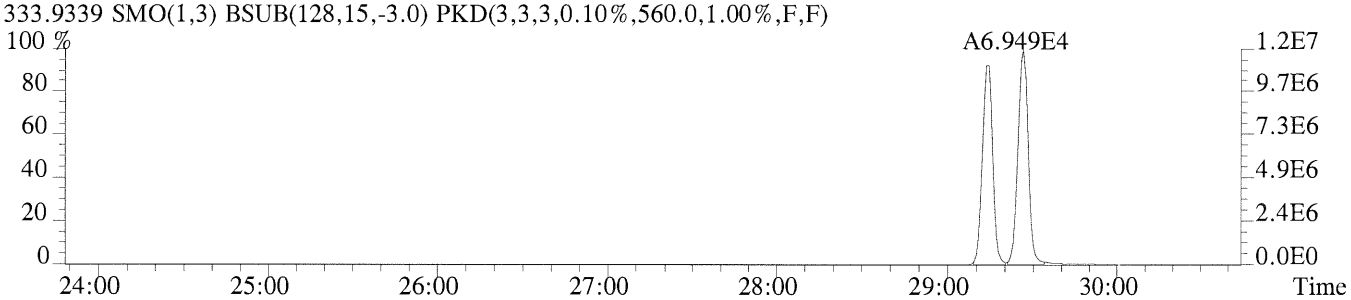
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,F)



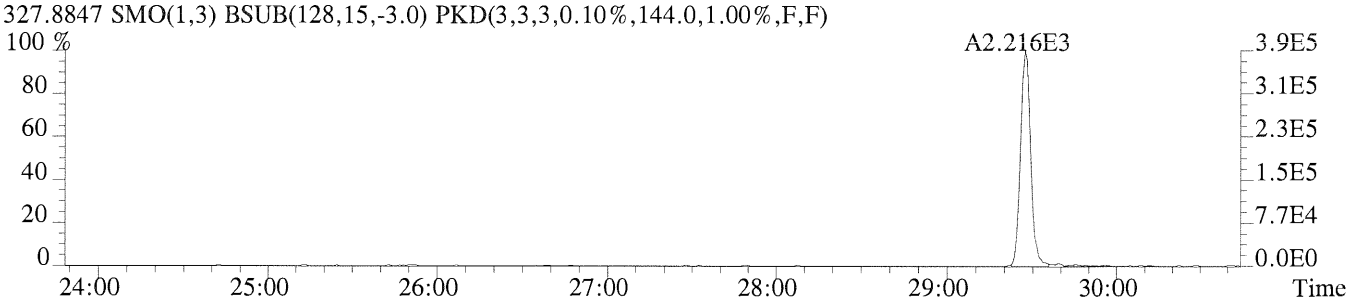
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1576.0,1.00%,F,F)



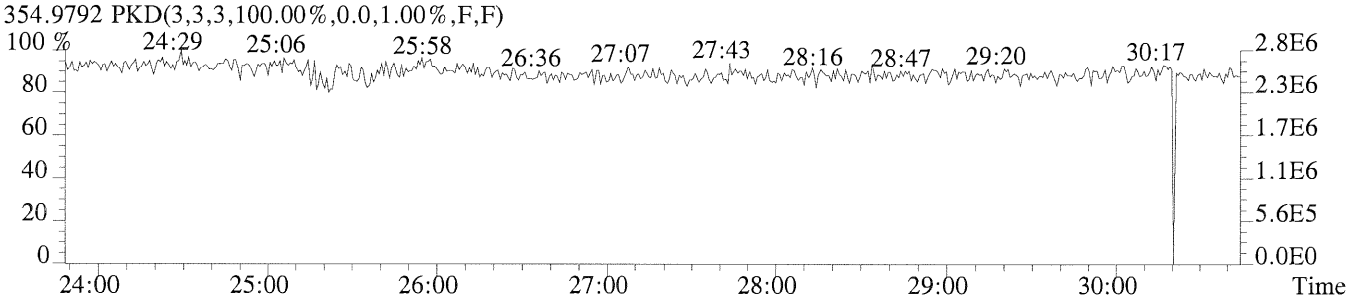
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,560.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,144.0,1.00%,F,F)

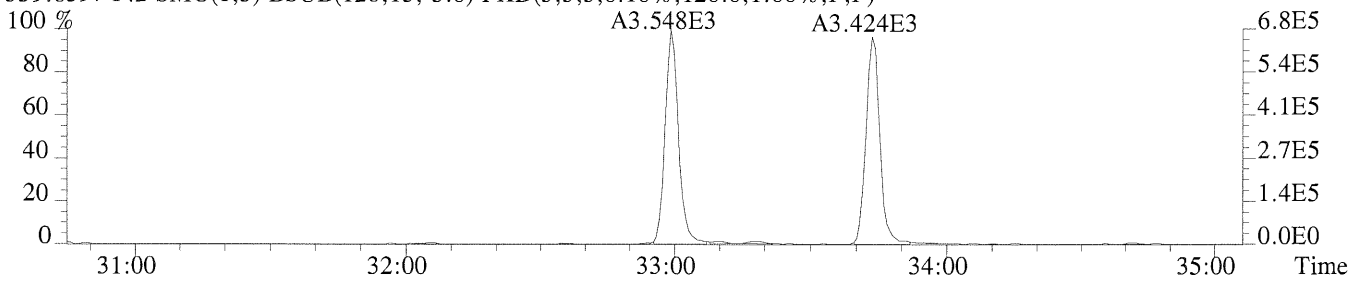


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

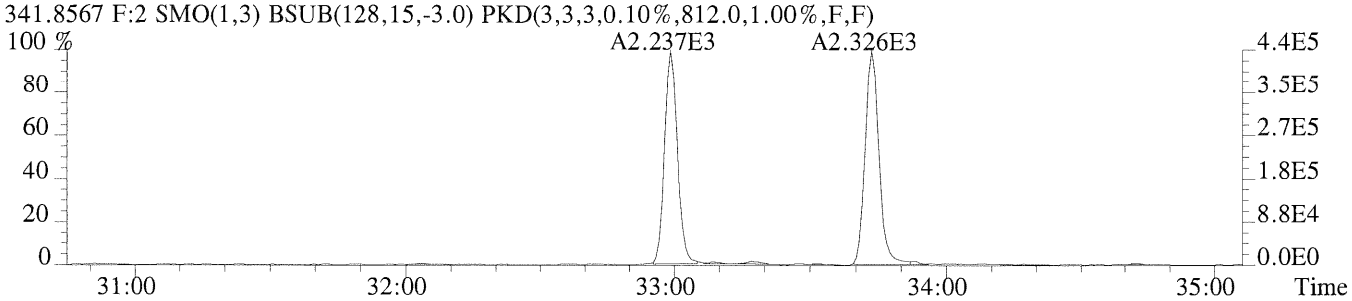


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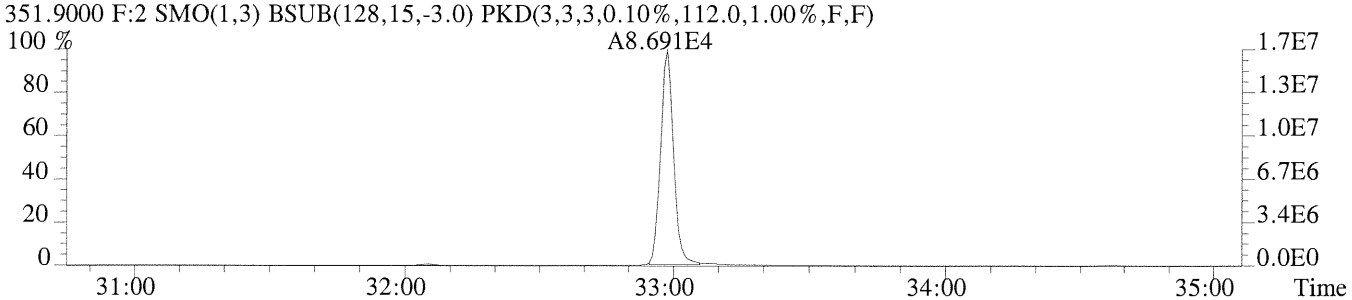
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,F)



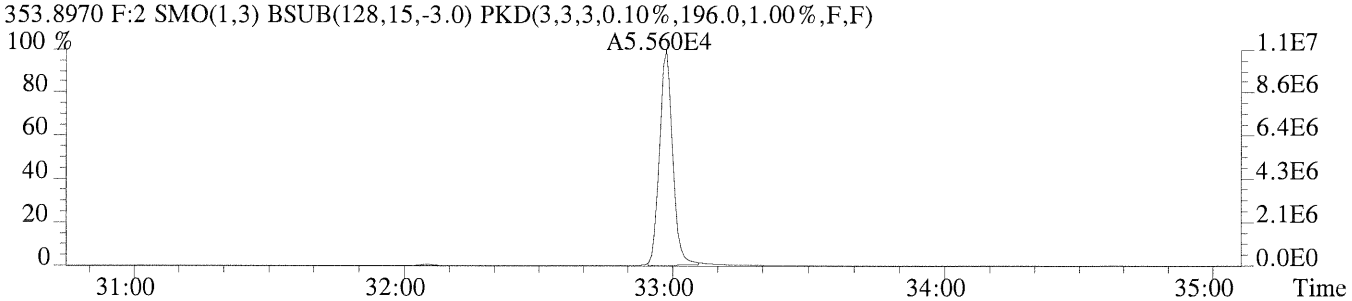
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,812.0,1.00%,F,F)



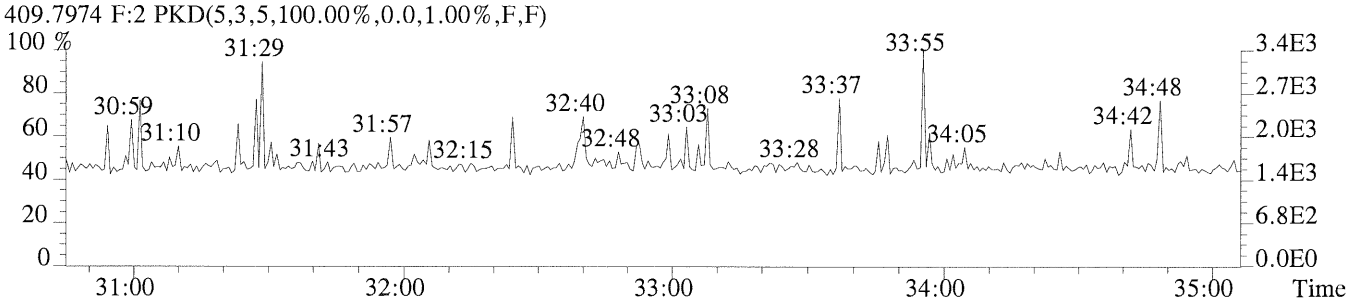
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)



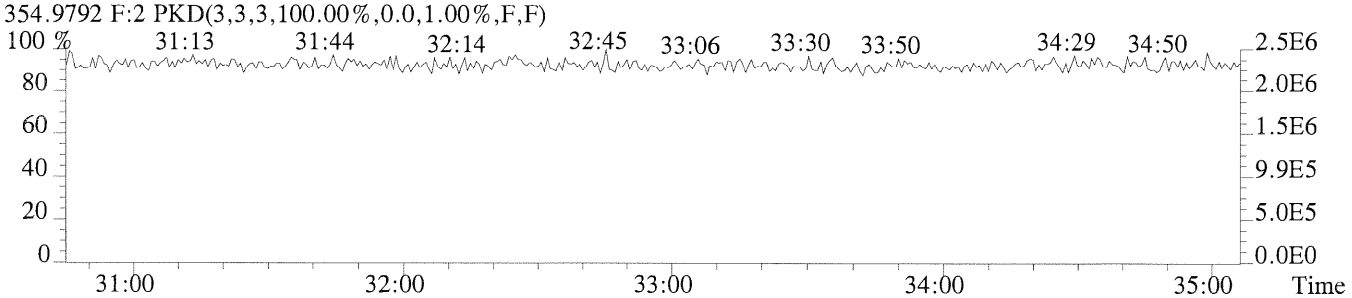
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,196.0,1.00%,F,F)



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

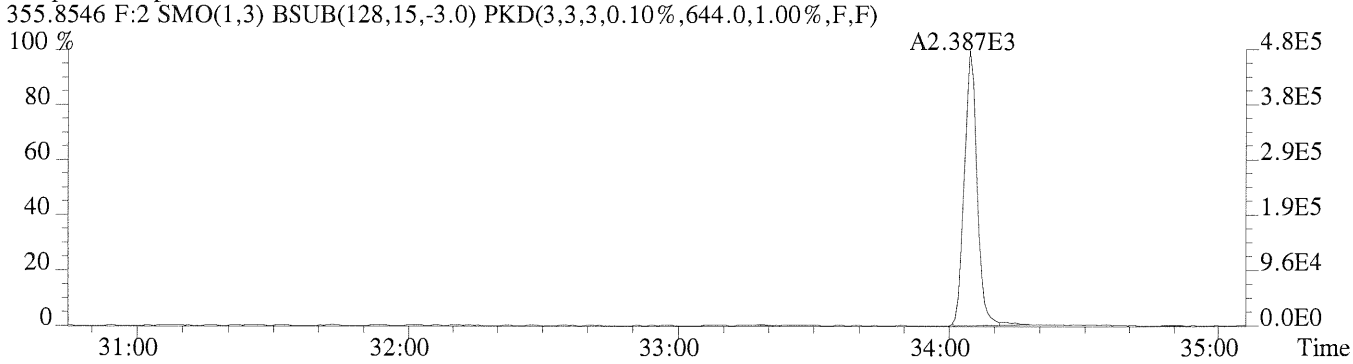


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

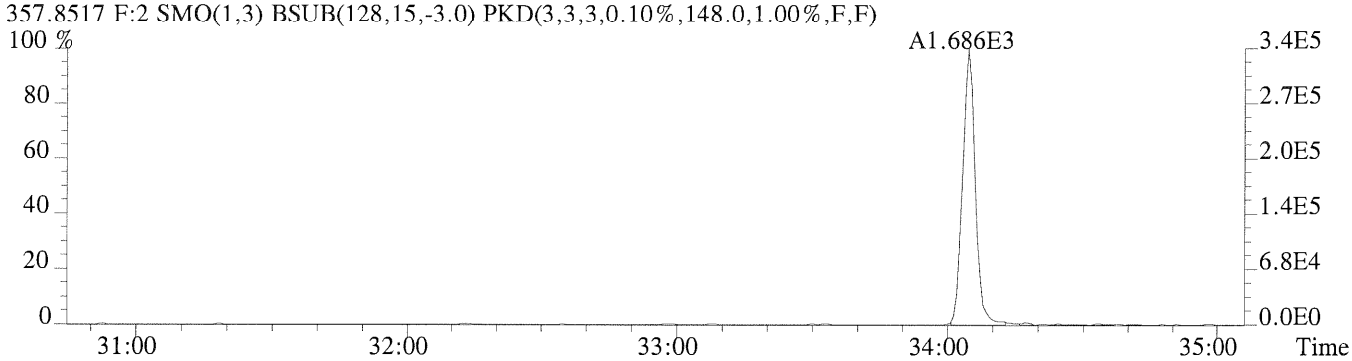


File:P200033 #1-396 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

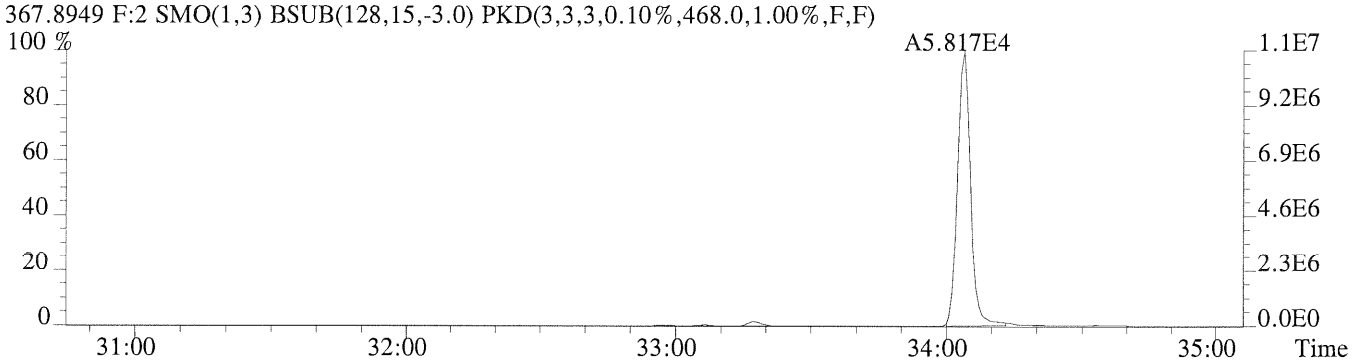
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,F)



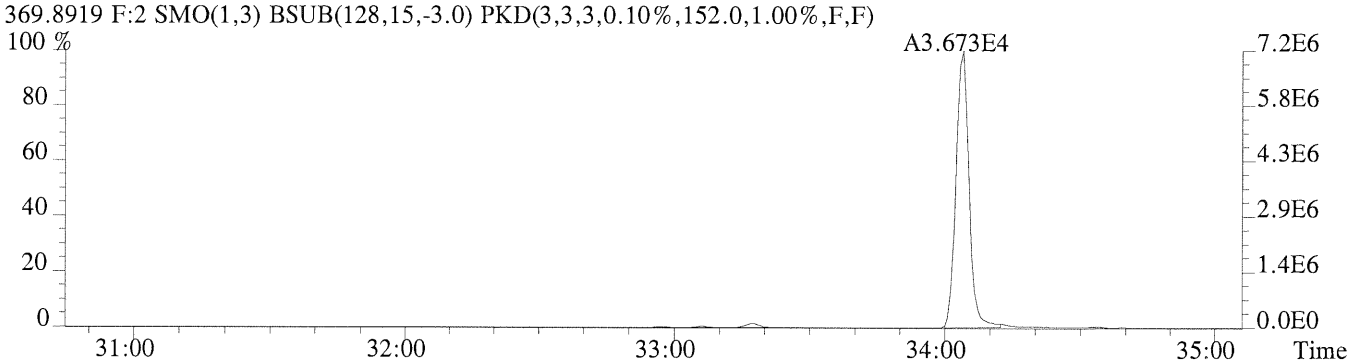
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,F)



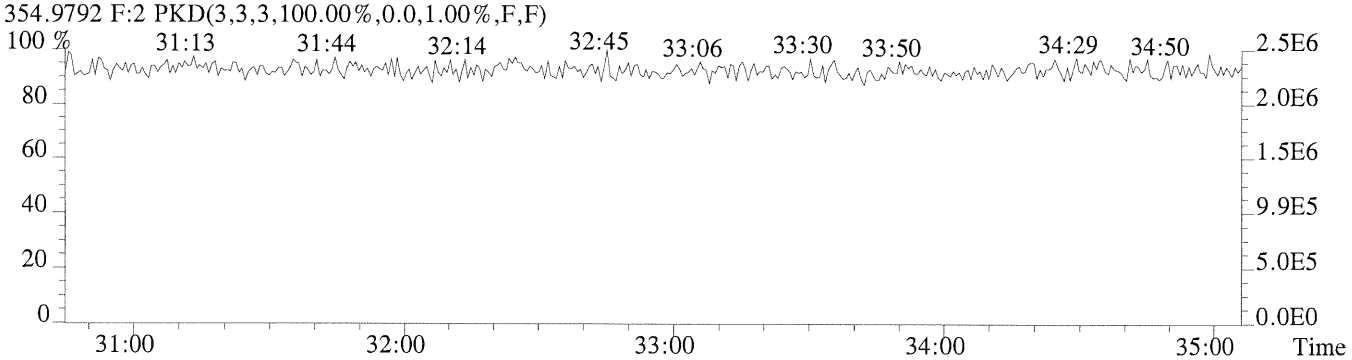
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,152.0,1.00%,F,F)

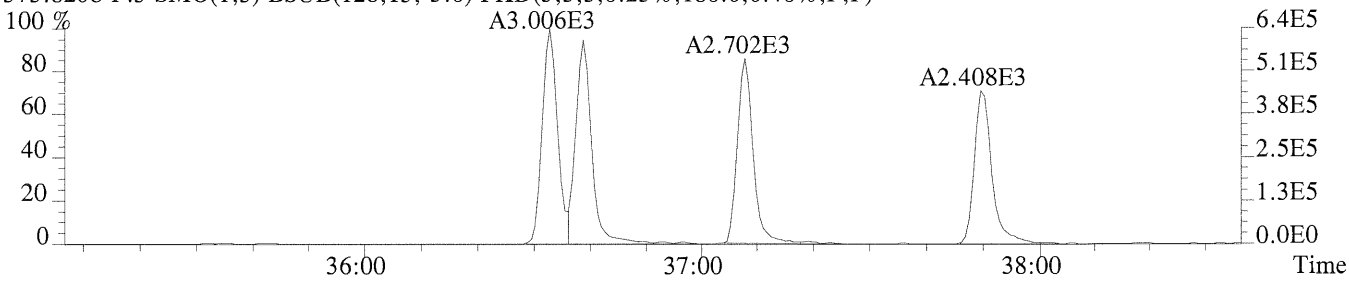


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

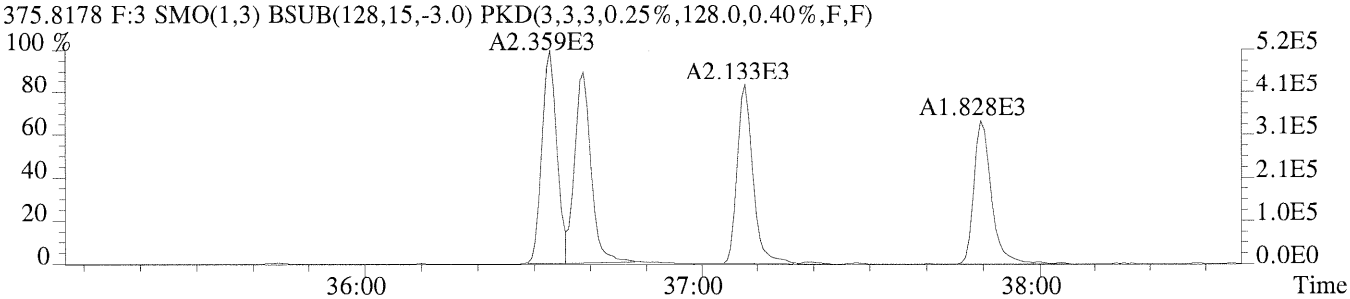


File:P200033 #1-318 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

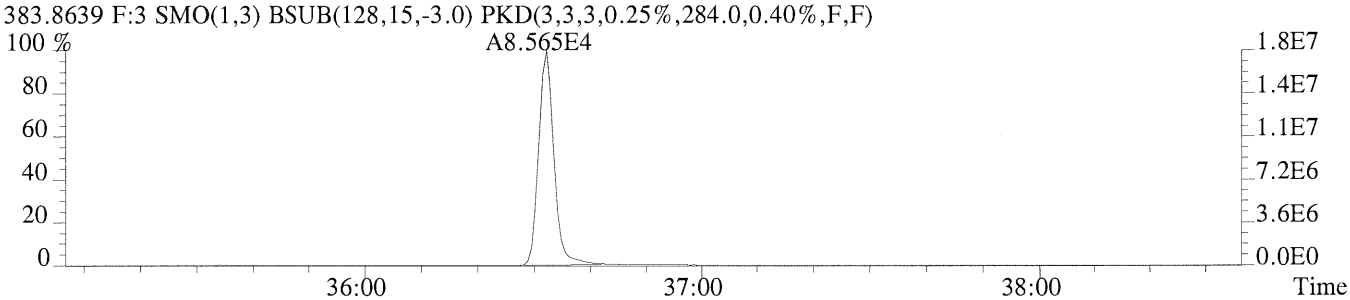
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,180.0,0.40%,F,F)



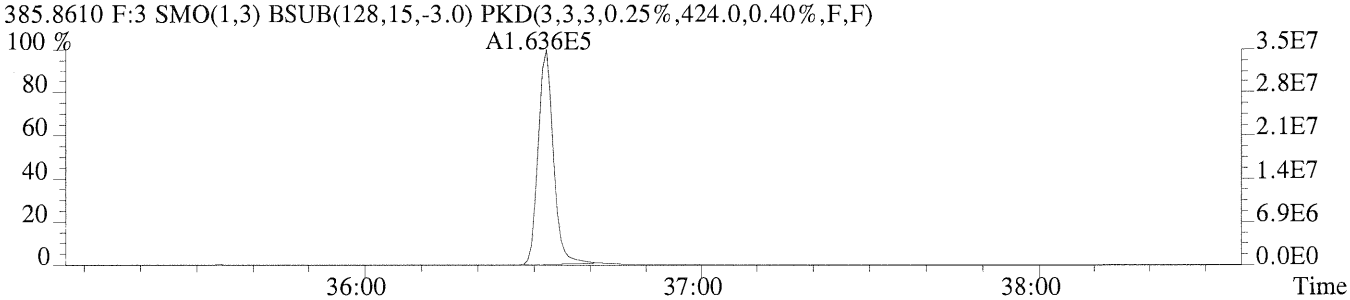
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,128.0,0.40%,F,F)



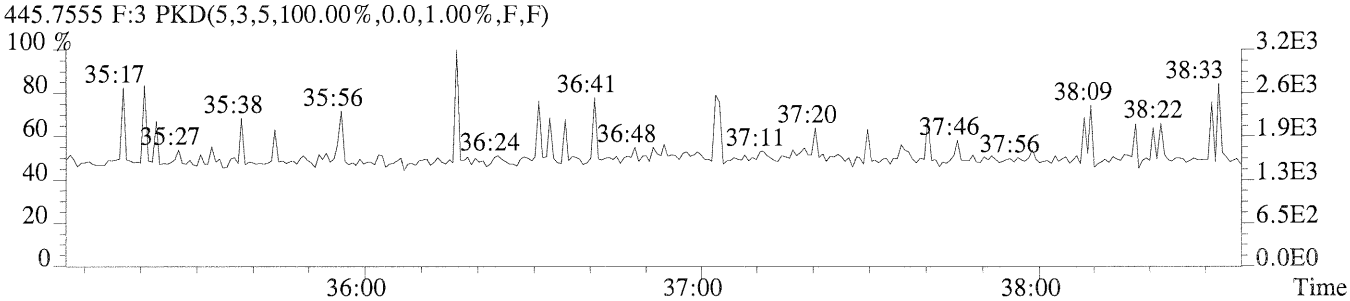
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.40%,F,F)



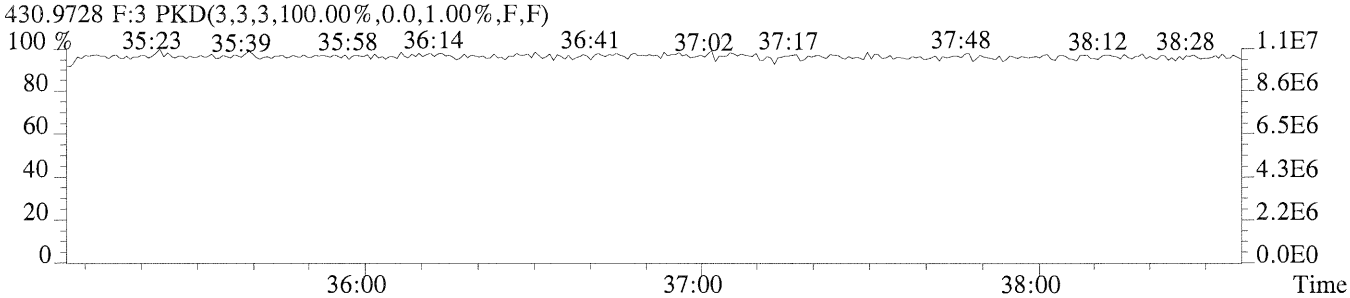
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,424.0,0.40%,F,F)



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

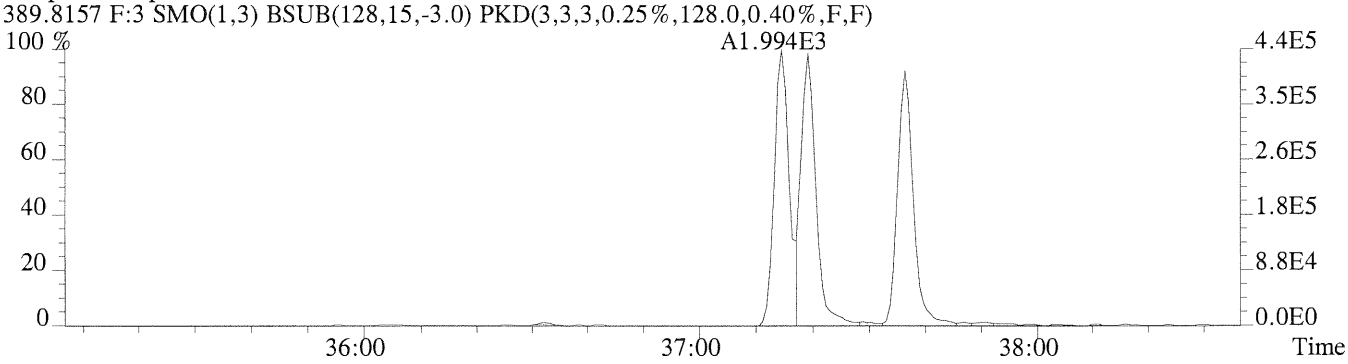


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

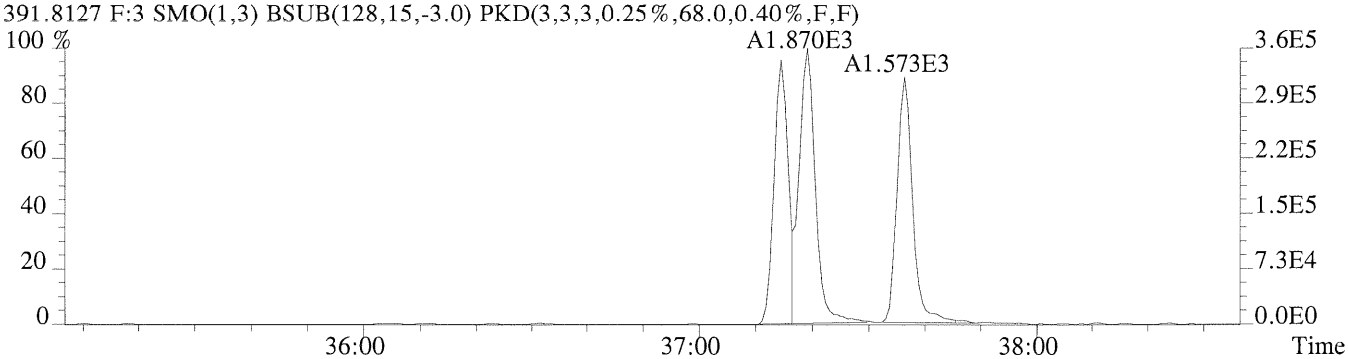


File:P200033 #1-318 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

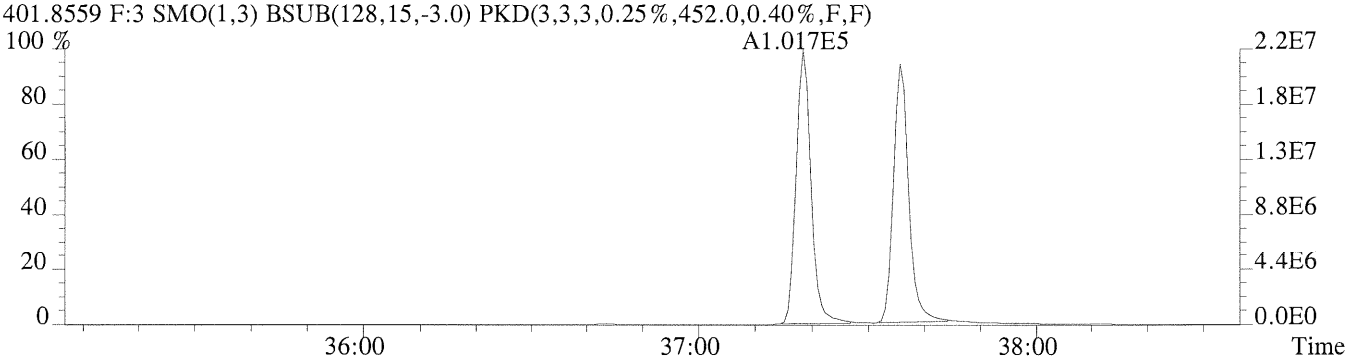
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,128.0,0.40%,F,F)



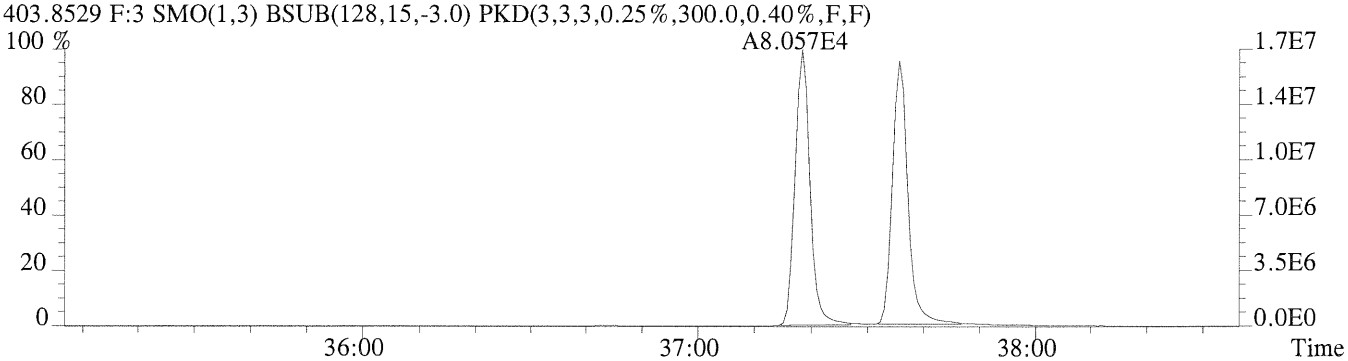
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,68.0,0.40%,F,F)



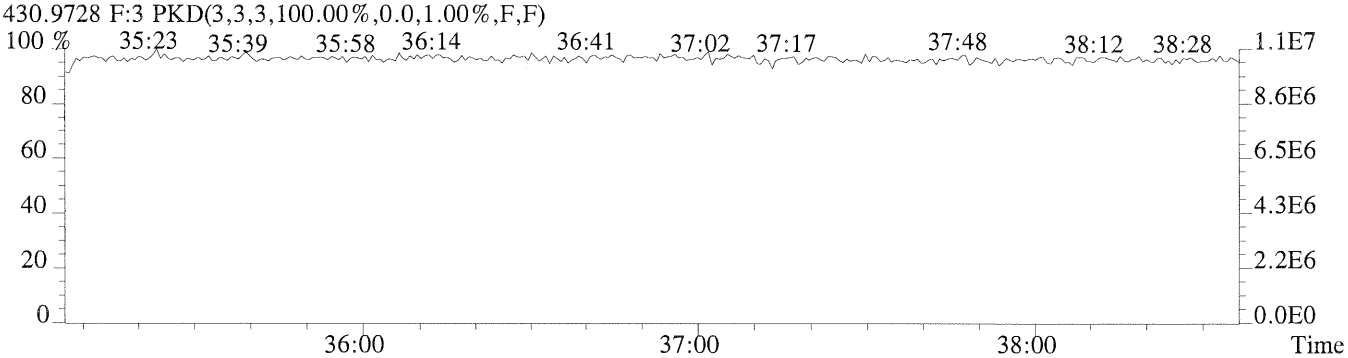
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,452.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,300.0,0.40%,F,F)

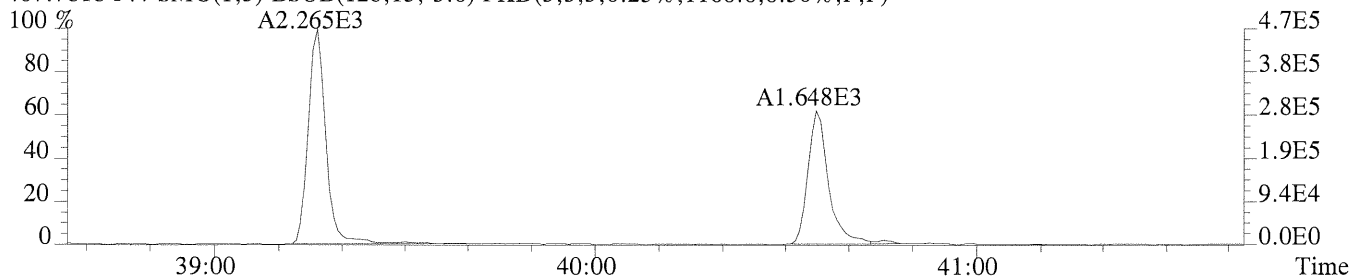


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

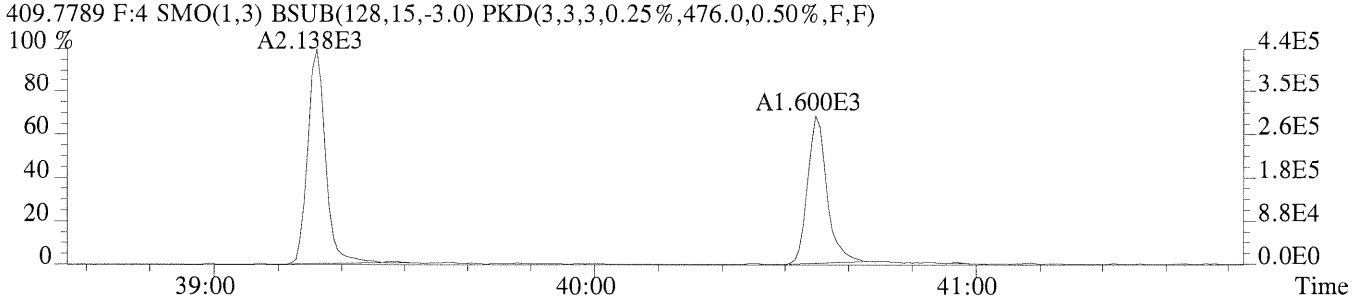


File:P200033 #1-281 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

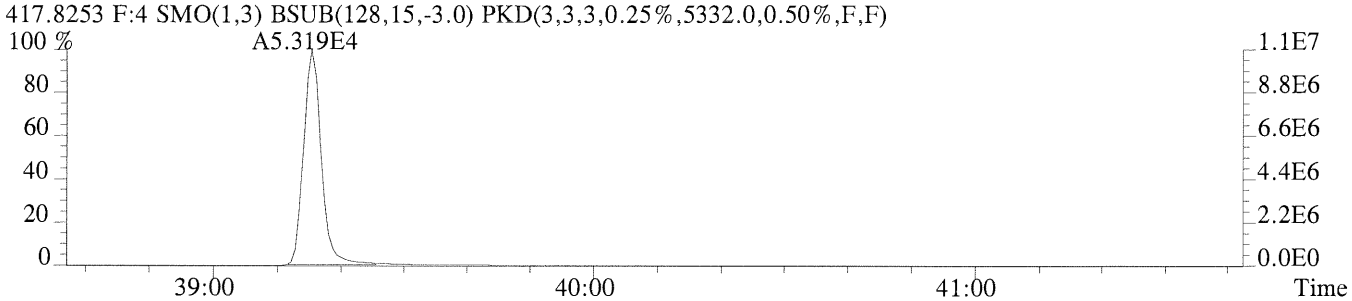
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1160.0,0.50%,F,F)



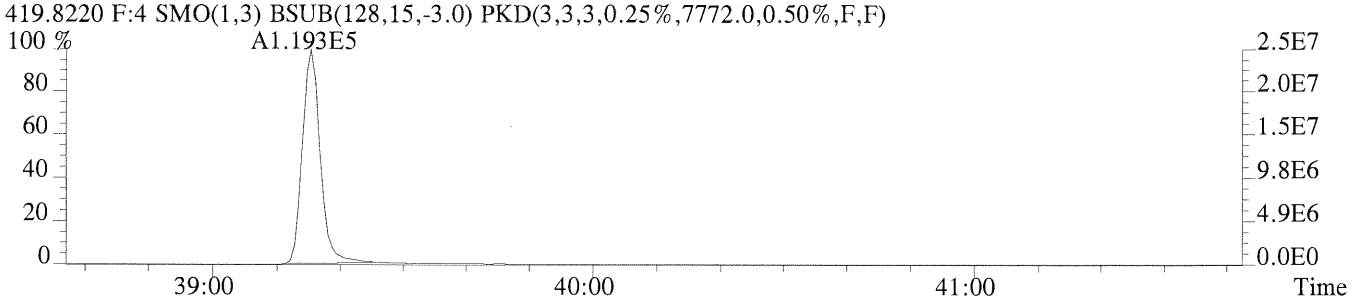
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,476.0,0.50%,F,F)



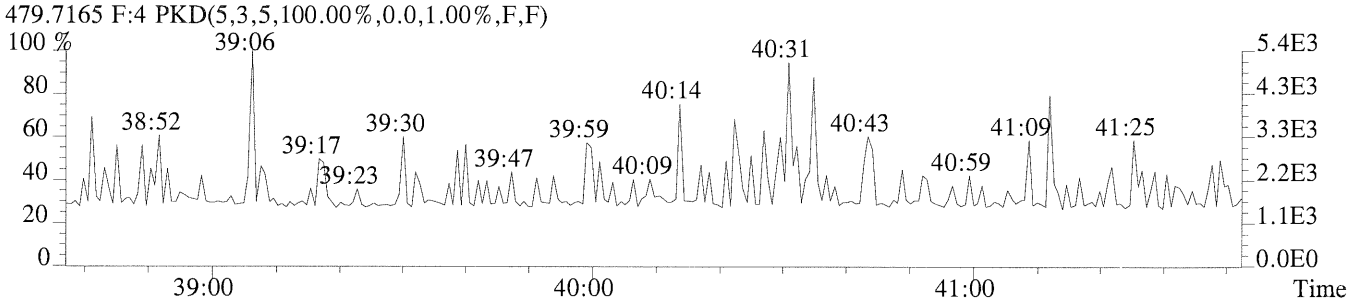
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5332.0,0.50%,F,F)



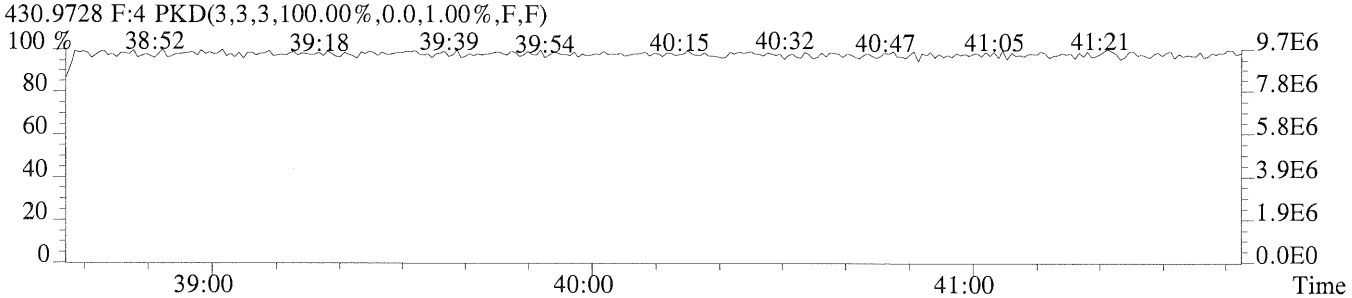
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7772.0,0.50%,F,F)



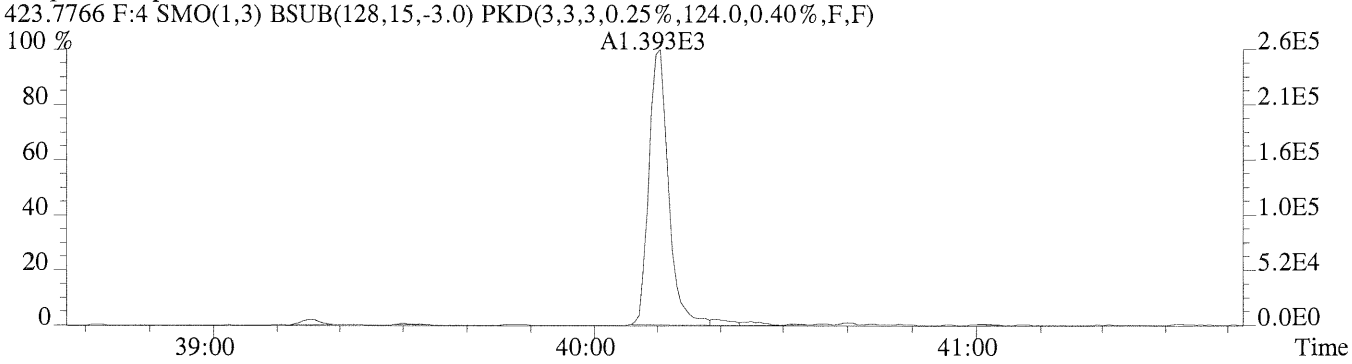
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



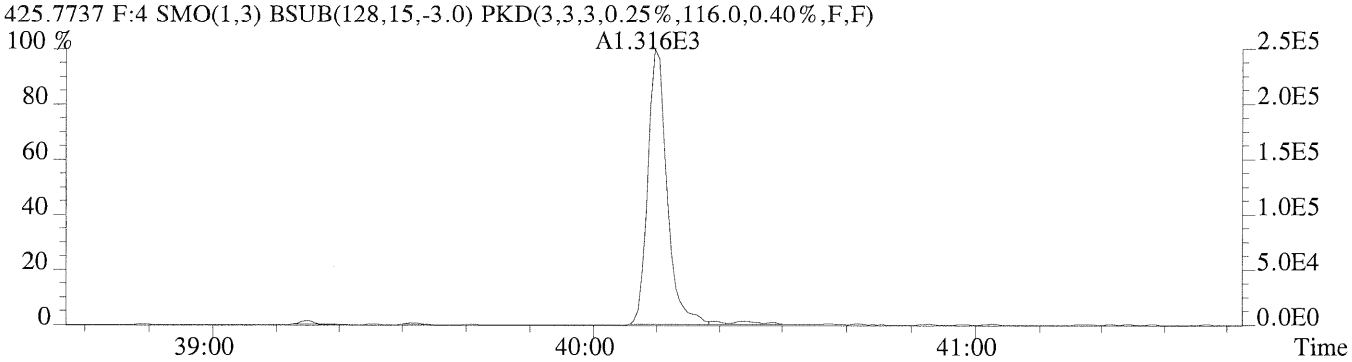
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



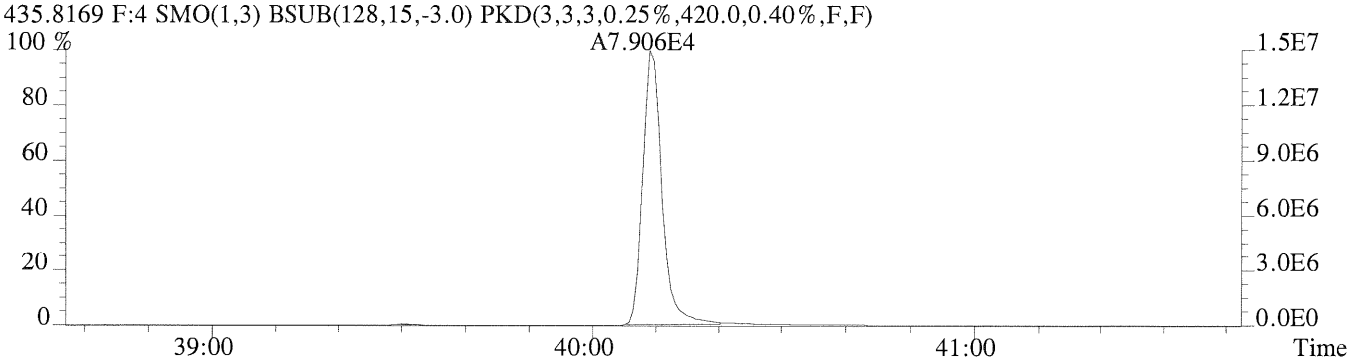
File:P200033 #1-281 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,124.0,0.40%,F,F)



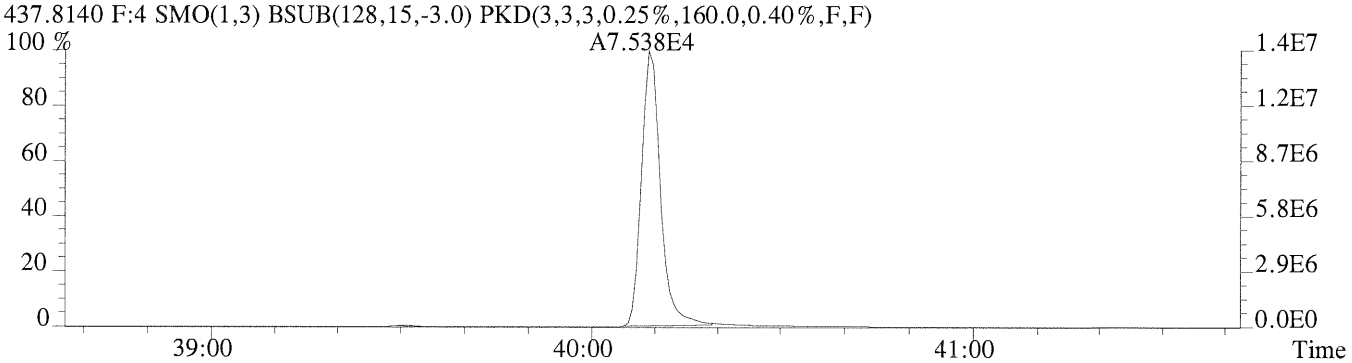
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)



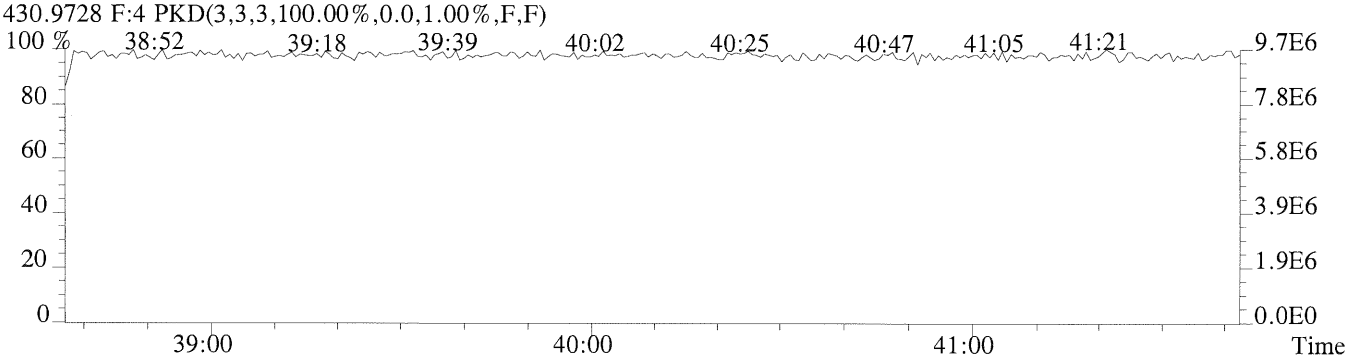
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,420.0,0.40%,F,F)



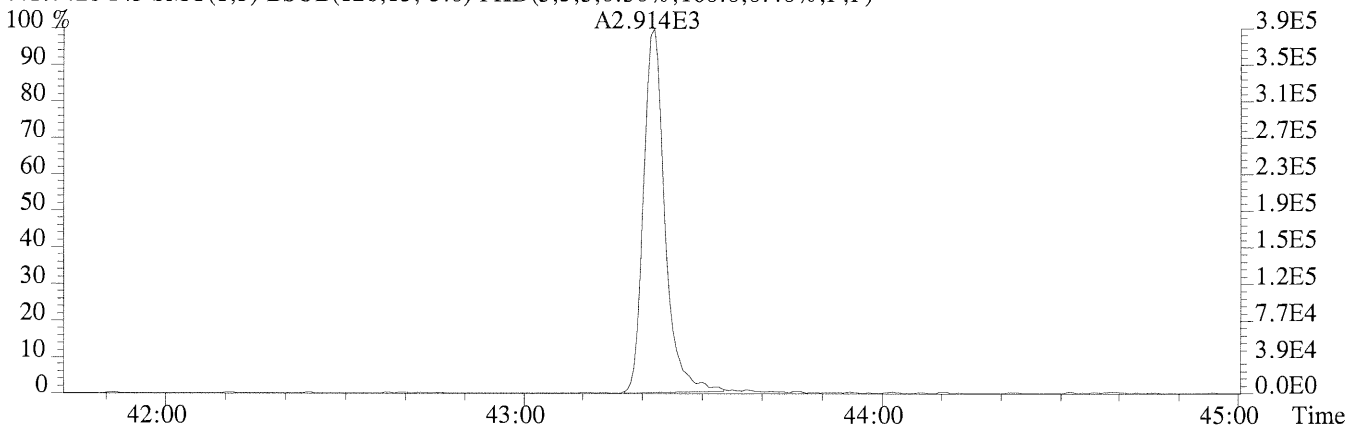
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,160.0,0.40%,F,F)



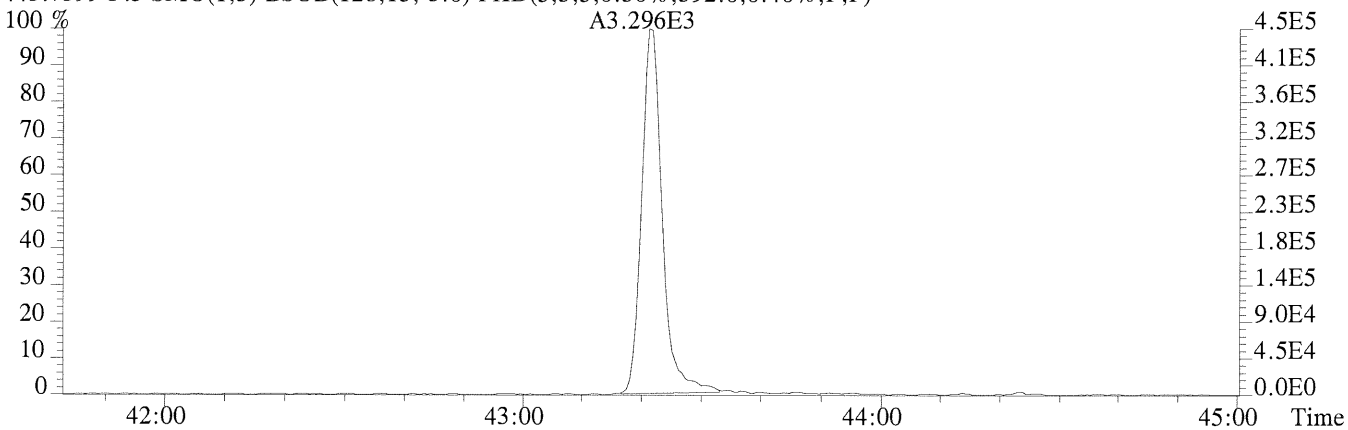
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



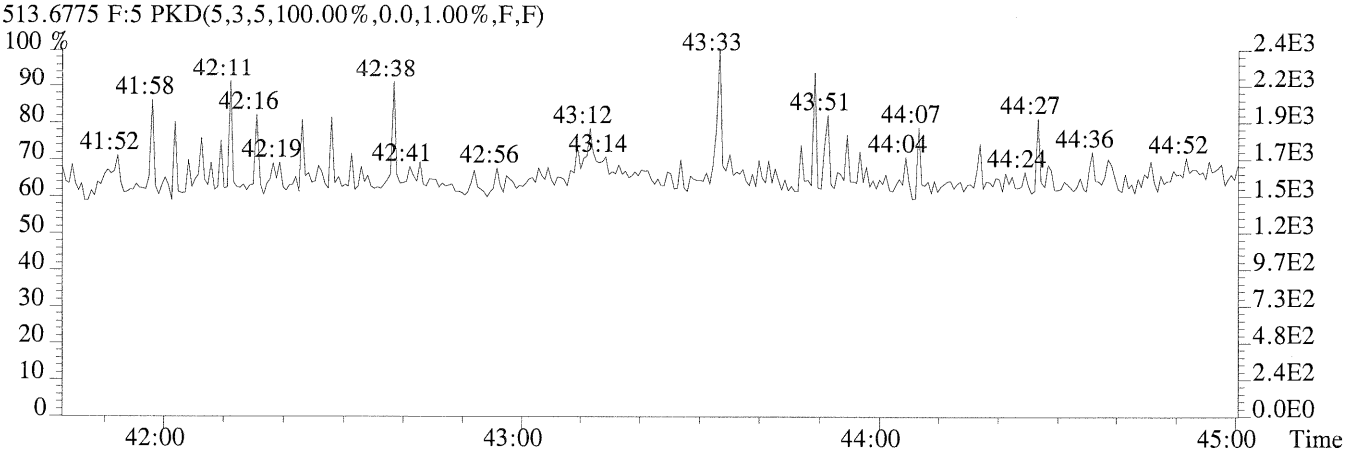
File:P200033 #1-364 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,160.0,0.40%,F,F)



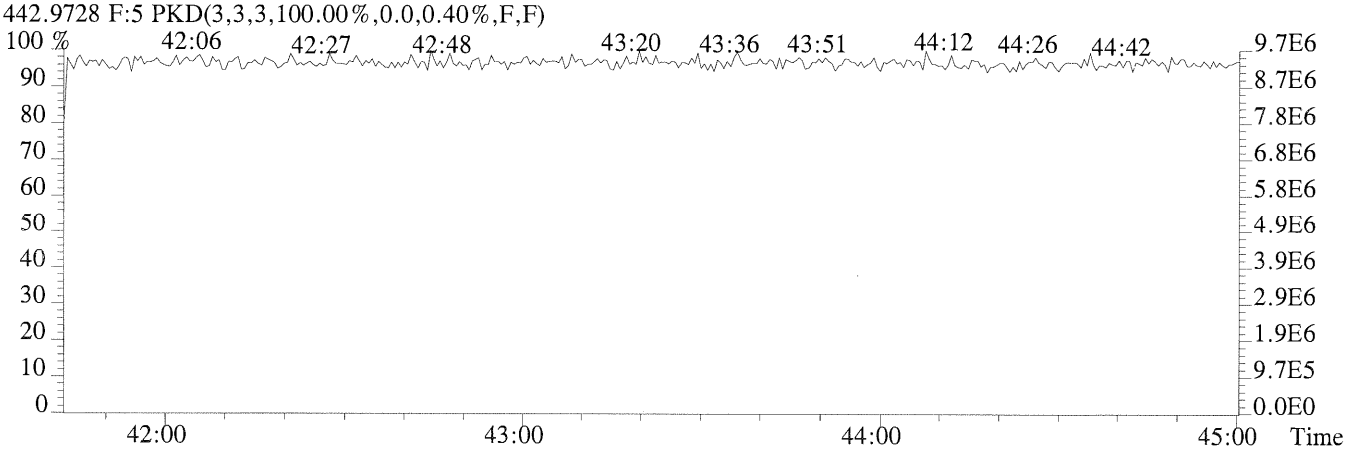
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,392.0,0.40%,F,F)



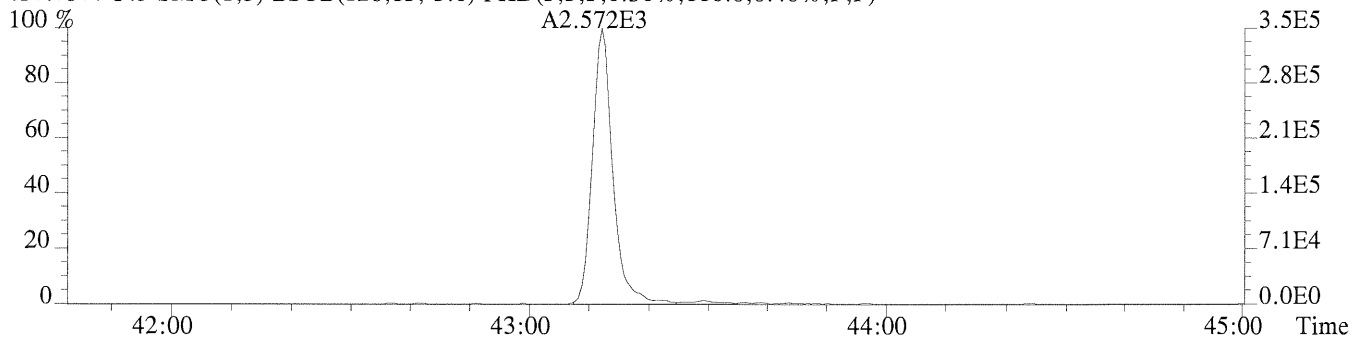
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



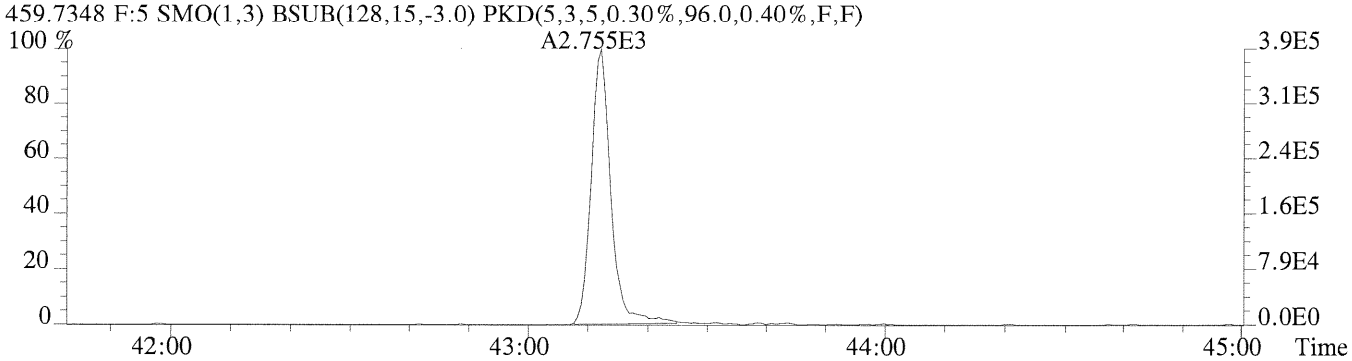
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



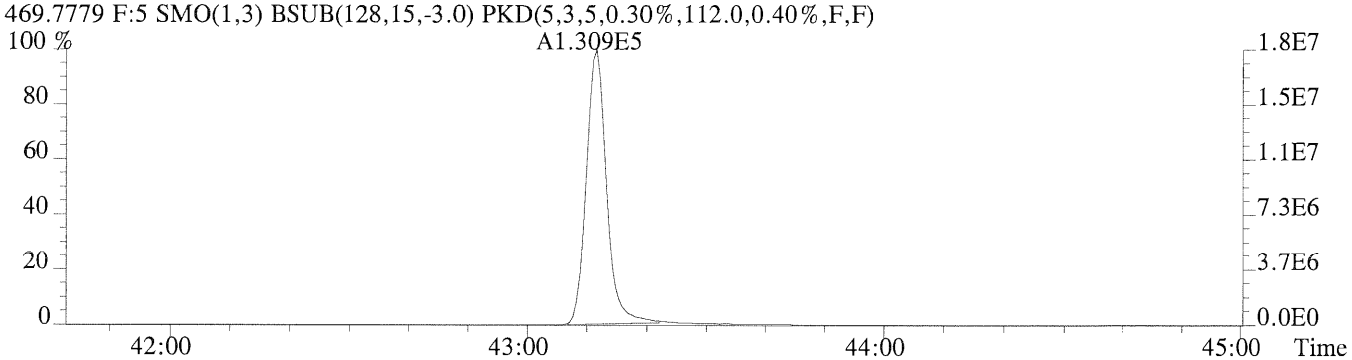
File:P200033 #1-364 Acq: 1-AUG-2008 17:11:30 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



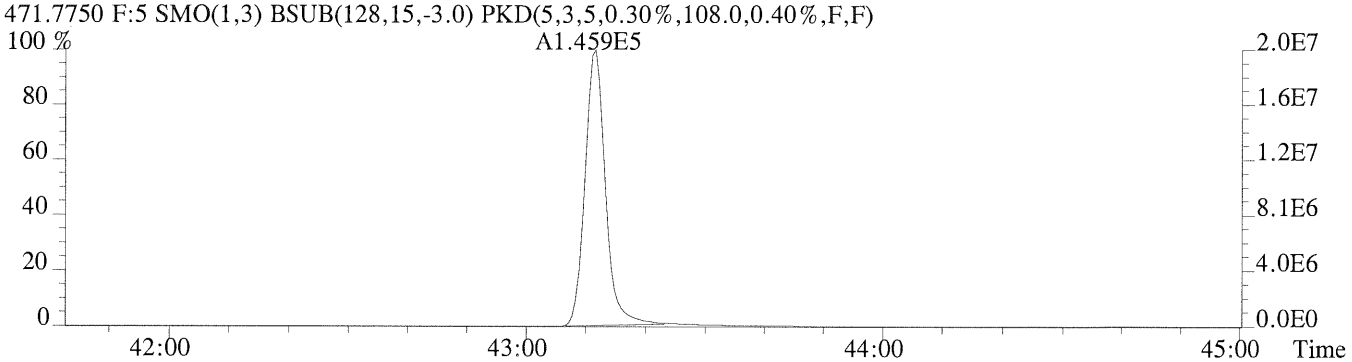
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,96.0,0.40%,F,F)



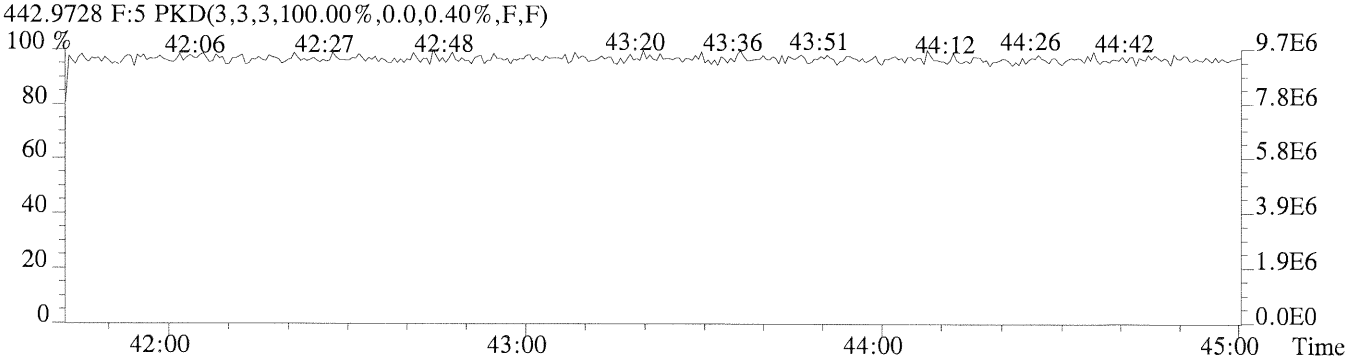
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,112.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,108.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename P200032 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 16:23:43
Processed: 7-AUG-08 06:33:19 Sample ID: ICAL HRCC2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	3.143e+03	4.336e+03	0.72	yes	no	0.83
2	Unk	1,2,3,7,8-PeCDF	33:00	9.728e+03	6.301e+03	1.54	yes	no	0.84
3	Unk	2,3,4,7,8-PeCDF	33:44	9.827e+03	6.270e+03	1.57	yes	no	0.85
4	Unk	1,2,3,4,7,8-HxCDF	36:33	8.090e+03	6.556e+03	1.23	yes	no	1.08
5	Unk	1,2,3,6,7,8-HxCDF	36:39	8.521e+03	6.649e+03	1.28	yes	no	1.13
6	Unk	2,3,4,6,7,8-HxCDF	37:08	7.370e+03	6.050e+03	1.22	yes	no	1.01
7	Unk	1,2,3,7,8,9-HxCDF	37:50	6.262e+03	5.105e+03	1.23	yes	yes	0.87
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	6.165e+03	6.169e+03	1.00	yes	no	1.32
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	4.313e+03	4.477e+03	0.96	yes	no	0.97
10	Unk	OCDF	43:22	7.780e+03	8.777e+03	0.89	yes	no	1.11
11	Unk	2,3,7,8-TCDD	29:28	2.719e+03	3.453e+03	0.79	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:05	6.737e+03	4.404e+03	1.53	yes	no	0.87
13	Unk	1,2,3,4,7,8-HxCDD	37:15	5.124e+03	4.117e+03	1.24	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:20	6.035e+03	4.813e+03	1.25	yes	no	1.05
15	Unk	1,2,3,7,8,9-HxCDD	37:37	5.437e+03	4.452e+03	1.22	yes	no	0.97
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	3.665e+03	3.607e+03	1.02	yes	no	0.88
17	Unk	OCDD	43:13	6.705e+03	7.626e+03	0.88	yes	no	0.96
18	IS	13C-2,3,7,8-TCDF	28:36	8.078e+04	1.045e+05	0.77	yes	no	1.42
19	IS	13C-1,2,3,7,8-PeCDF	32:58	9.491e+04	6.061e+04	1.57	yes	no	1.26
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	9.271e+04	1.774e+05	0.52	yes	no	1.28
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	5.769e+04	1.303e+05	0.44	yes	no	0.90
22	IS	13C-2,3,7,8-TCDD	29:26	6.086e+04	7.753e+04	0.78	yes	no	1.05
23	IS	13C-1,2,3,7,8-PeCDD	34:04	6.336e+04	4.021e+04	1.58	yes	no	0.87
24	IS	13C-1,2,3,6,7,8-HxCDD	37:19	1.136e+05	8.980e+04	1.27	yes	no	1.00
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	8.632e+04	8.262e+04	1.04	yes	no	0.83
26	IS	13C-OCDD	43:12	1.421e+05	1.589e+05	0.89	yes	no	0.73
27	RS/RT	13C-1,2,3,4-TCDD	29:14	5.797e+04	7.242e+04	0.80	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.126e+05	8.966e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	6.321e+03					0.98

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC2

Run #2 Filename P200032 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 16:23:43

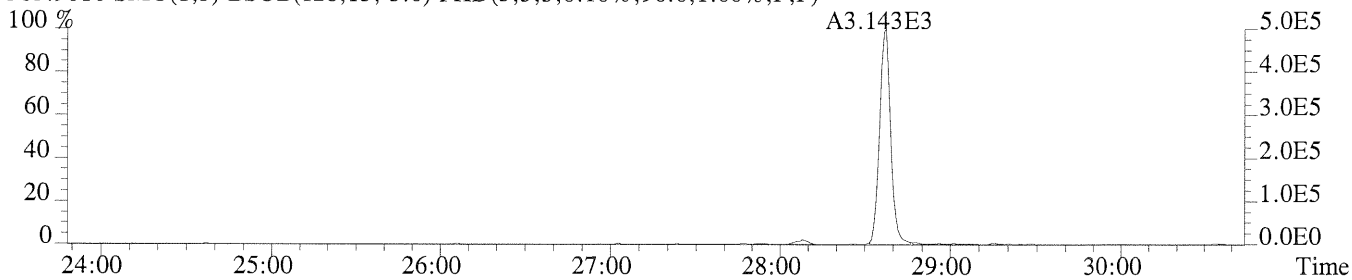
Processed: 7-AUG-08 06:33:19 LAB. ID: ICAL HRCC2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.00e+05	9.60e+01	5.2e+03	7.03e+05	2.84e+02	2.5e+03
2	1,2,3,7,8-PeCDF	1.79e+06	1.24e+02	1.4e+04	1.18e+06	4.88e+02	2.4e+03
3	2,3,4,7,8-PeCDF	1.84e+06	1.24e+02	1.5e+04	1.17e+06	4.88e+02	2.4e+03
4	1,2,3,4,7,8-HxCDF	1.70e+06	2.36e+02	7.2e+03	1.37e+06	1.16e+02	1.2e+04
5	1,2,3,6,7,8-HxCDF	1.59e+06	2.36e+02	6.7e+03	1.30e+06	1.16e+02	1.1e+04
6	2,3,4,6,7,8-HxCDF	1.43e+06	2.36e+02	6.0e+03	1.19e+06	1.16e+02	1.0e+04
7	1,2,3,7,8,9-HxCDF	1.23e+06	2.36e+02	5.2e+03	9.87e+05	1.16e+02	8.5e+03
8	1,2,3,4,6,7,8-HpCDF	1.19e+06	2.39e+03	5.0e+02	1.24e+06	5.00e+02	2.5e+03
9	1,2,3,4,7,8,9-HpCDF	7.68e+05	2.39e+03	3.2e+02	7.71e+05	5.00e+02	1.5e+03
10	OCDF	1.05e+06	1.80e+02	5.8e+03	1.18e+06	3.76e+02	3.1e+03
11	2,3,7,8-TCDD	4.64e+05	5.12e+02	9.1e+02	5.91e+05	1.08e+02	5.5e+03
12	1,2,3,7,8-PeCDD	1.33e+06	4.00e+02	3.3e+03	8.48e+05	8.40e+01	1.0e+04
13	1,2,3,4,7,8-HxCDD	1.13e+06	9.60e+01	1.2e+04	9.02e+05	1.04e+02	8.7e+03
14	1,2,3,6,7,8-HxCDD	1.21e+06	9.60e+01	1.3e+04	9.45e+05	1.04e+02	9.1e+03
15	1,2,3,7,8,9-HxCDD	1.09e+06	9.60e+01	1.1e+04	8.65e+05	1.04e+02	8.3e+03
16	1,2,3,4,6,7,8-HpCDD	7.28e+05	1.20e+02	6.1e+03	6.91e+05	8.80e+01	7.9e+03
17	OCDD	9.33e+05	1.08e+02	8.6e+03	1.05e+06	1.28e+02	8.2e+03
18	13C-2,3,7,8-TCDF	1.32e+07	1.02e+03	1.3e+04	1.71e+07	9.28e+02	1.8e+04
19	13C-1,2,3,7,8-PeCDF	1.70e+07	1.60e+02	1.1e+05	1.10e+07	1.32e+02	8.3e+04
20	13C-1,2,3,4,7,8-HxCDF	1.83e+07	2.00e+02	9.2e+04	3.58e+07	4.60e+02	7.8e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.15e+07	5.46e+03	2.1e+03	2.60e+07	1.32e+04	2.0e+03
22	13C-2,3,7,8-TCDD	1.02e+07	1.72e+03	5.9e+03	1.32e+07	5.08e+02	2.6e+04
23	13C-1,2,3,7,8-PeCDD	1.21e+07	8.80e+01	1.4e+05	7.81e+06	1.32e+02	5.9e+04
24	13C-1,2,3,6,7,8-HxCDD	2.38e+07	1.16e+02	2.1e+05	1.87e+07	5.80e+02	3.2e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.64e+07	1.48e+02	1.1e+05	1.57e+07	6.96e+02	2.3e+04
26	13C-OCDD	1.98e+07	1.24e+02	1.6e+05	2.22e+07	1.44e+02	1.5e+05
27	13C-1,2,3,4-TCDD	9.88e+06	1.72e+03	5.7e+03	1.24e+07	5.08e+02	2.4e+04
28	13C-1,2,3,7,8,9-HxCDD	2.31e+07	1.16e+02	2.0e+05	1.84e+07	5.80e+02	3.2e+04
29	37Cl-2,3,7,8-TCDD	1.13e+06	1.16e+02	9.7e+03			

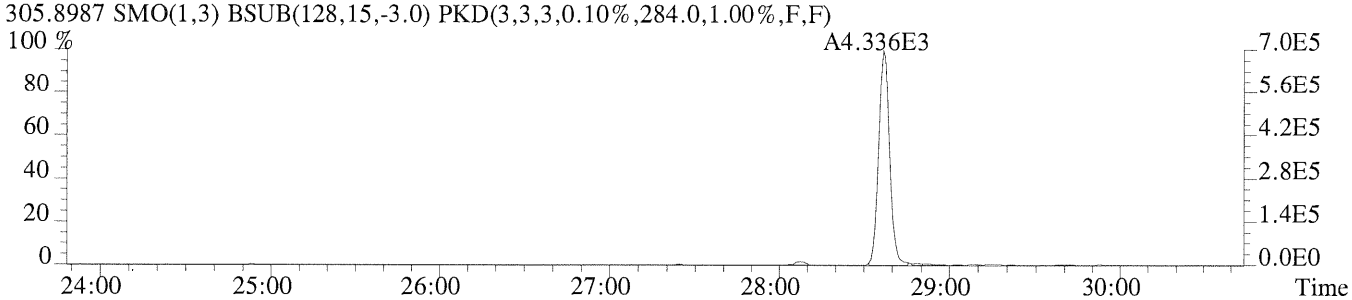
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
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Office:(713)266-1599. Fax:(713)266-0130

File:P200032 #1-578 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

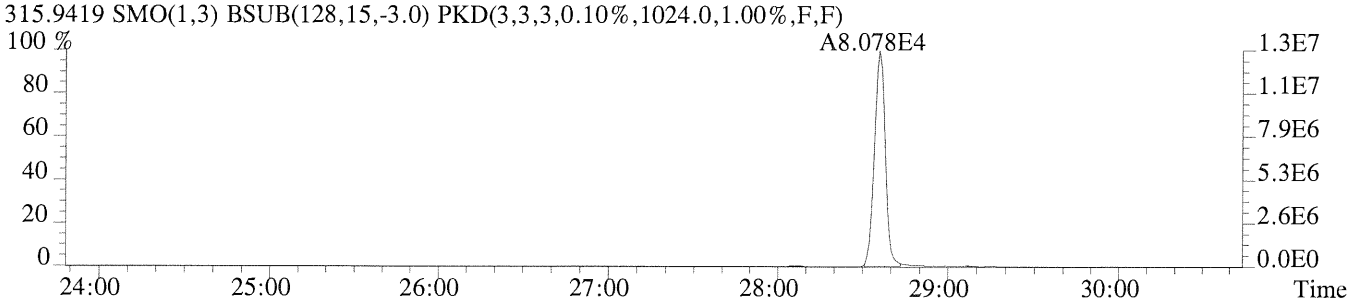
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,F)



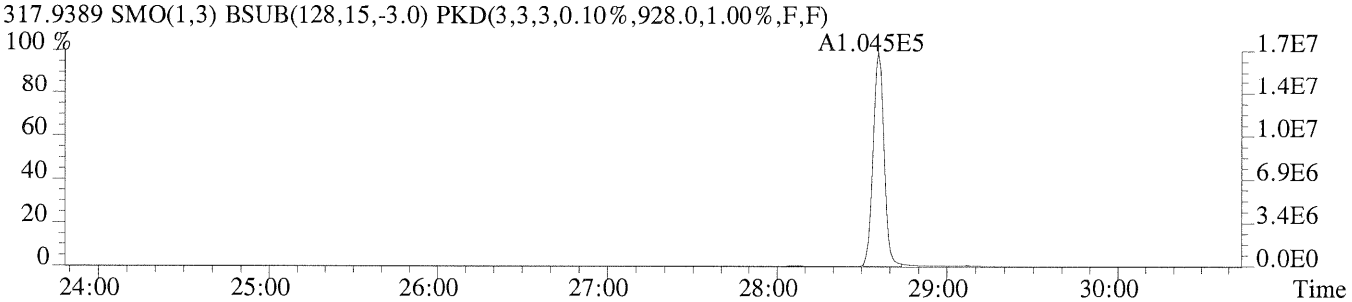
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,F)



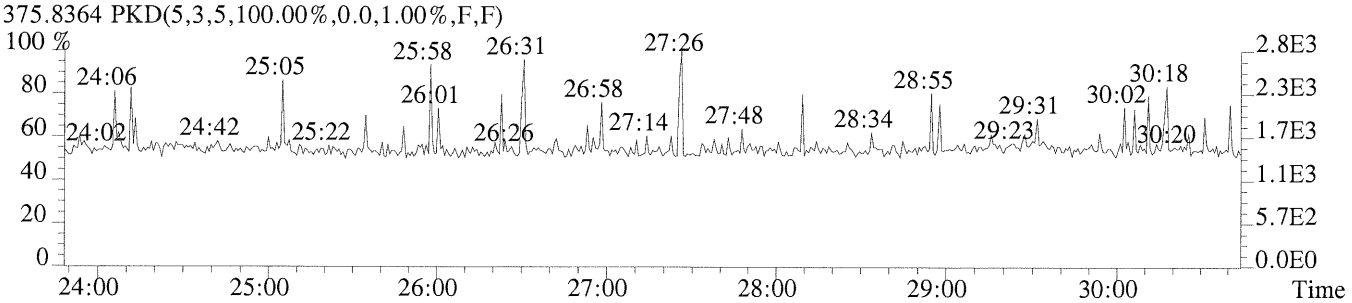
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1024.0,1.00%,F,F)



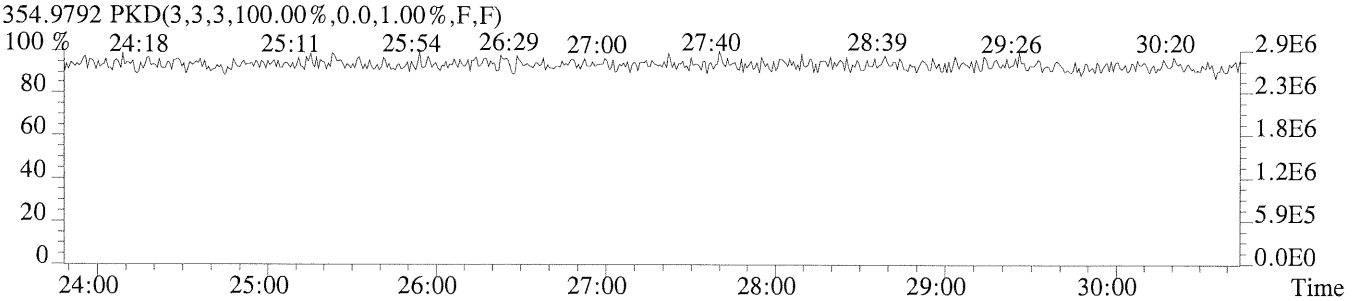
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,928.0,1.00%,F,F)



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

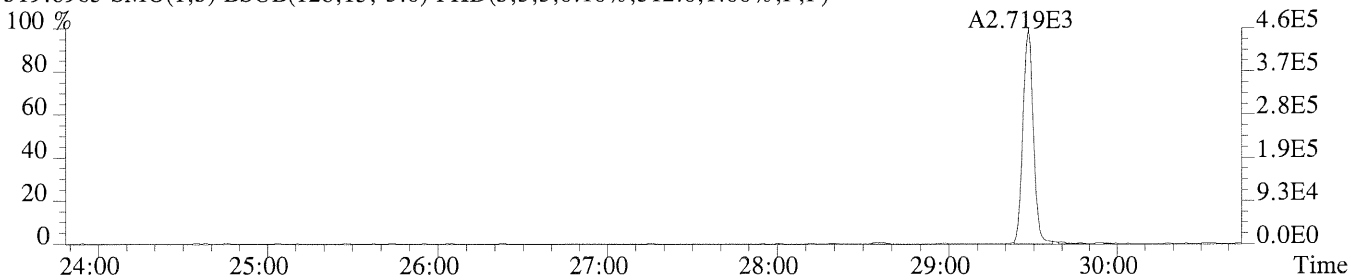


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

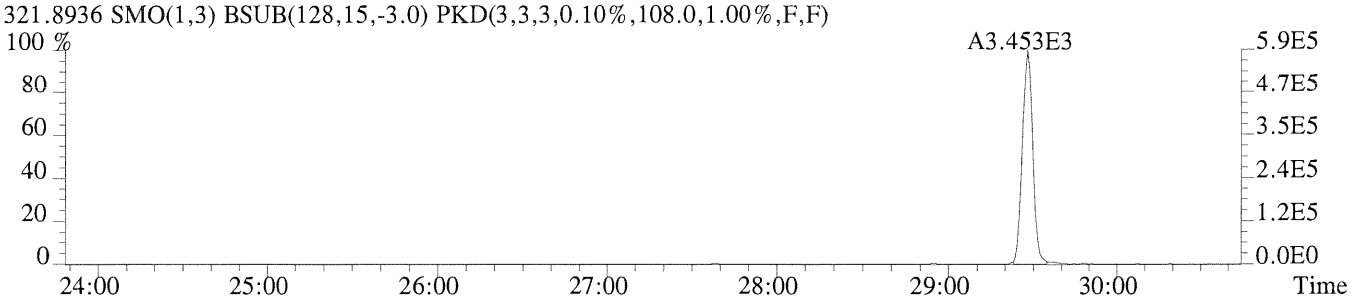


File:P200032 #1-578 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

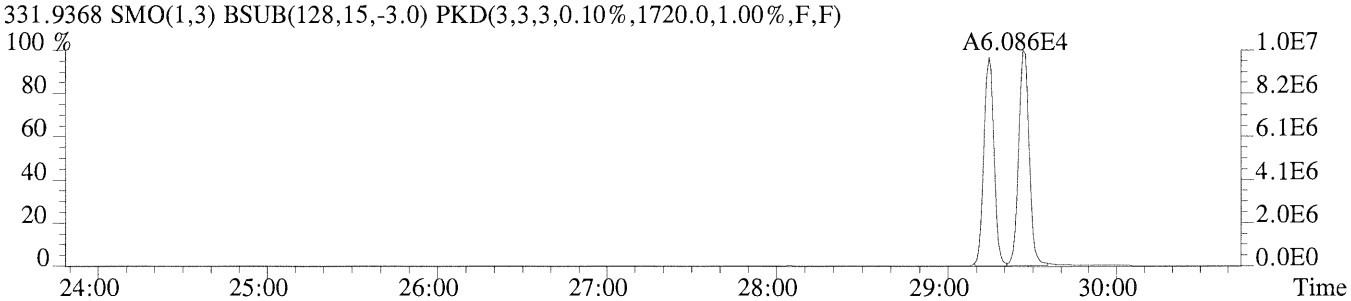
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,F)



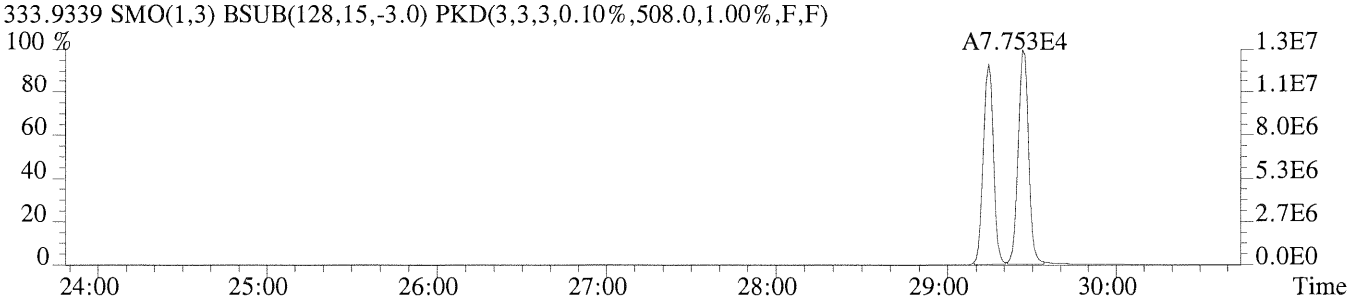
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,F)



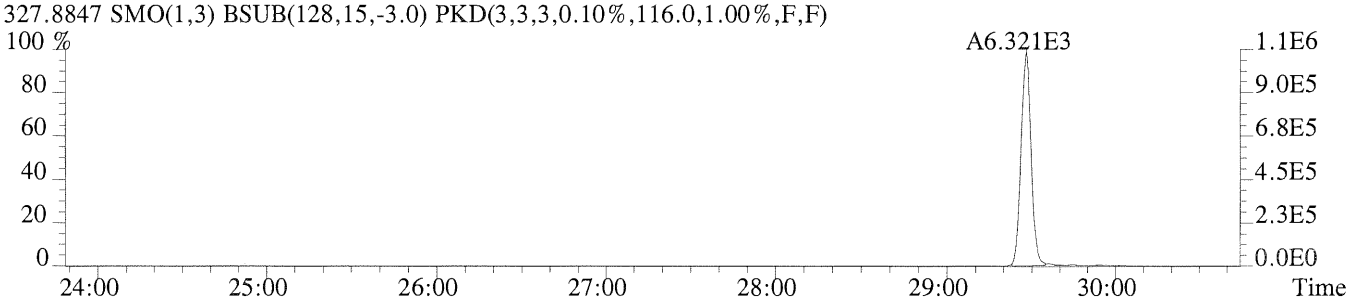
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1720.0,1.00%,F,F)



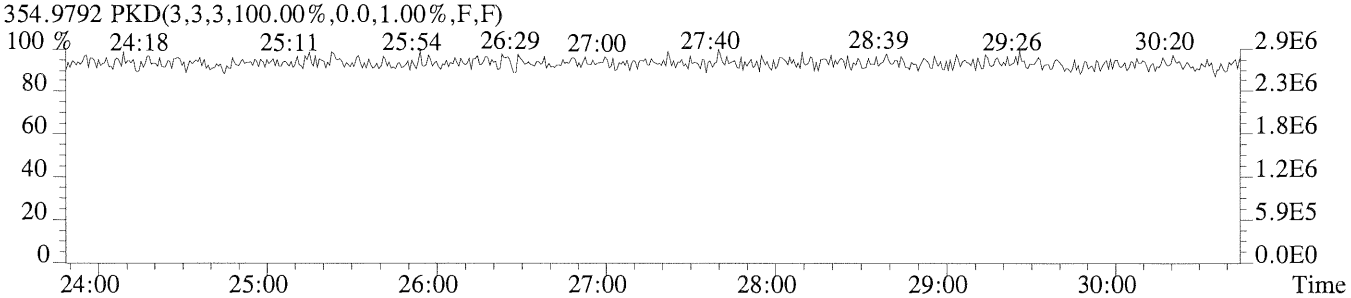
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,508.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,116.0,1.00%,F,F)

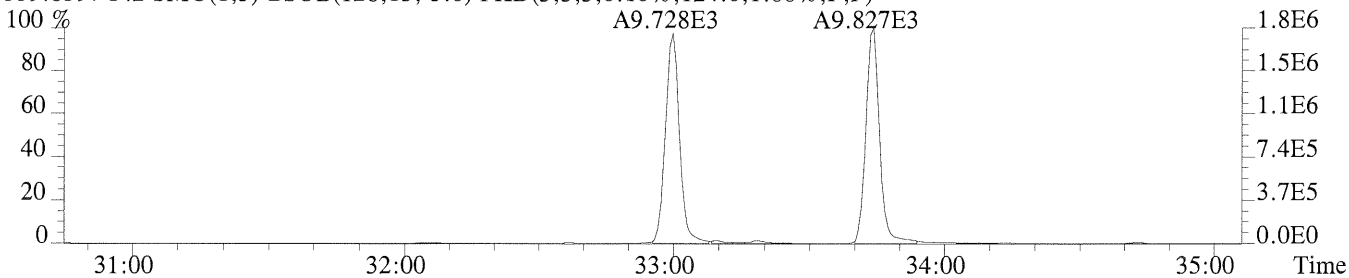


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

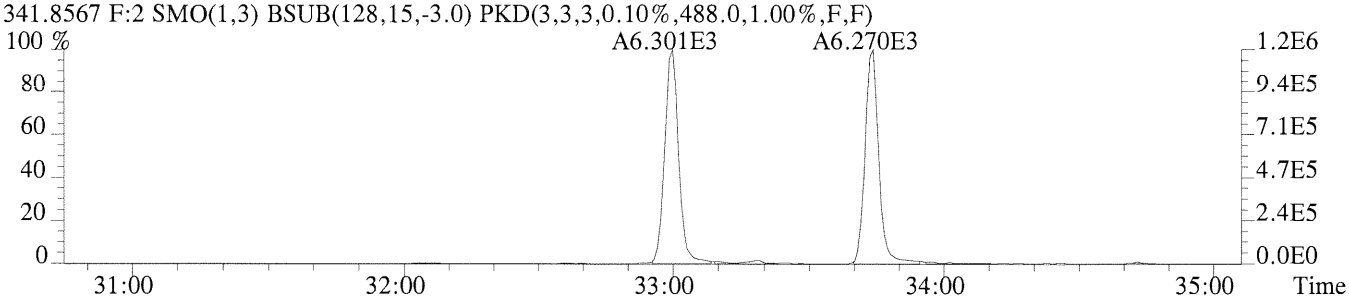


File:P200032 #1-396 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

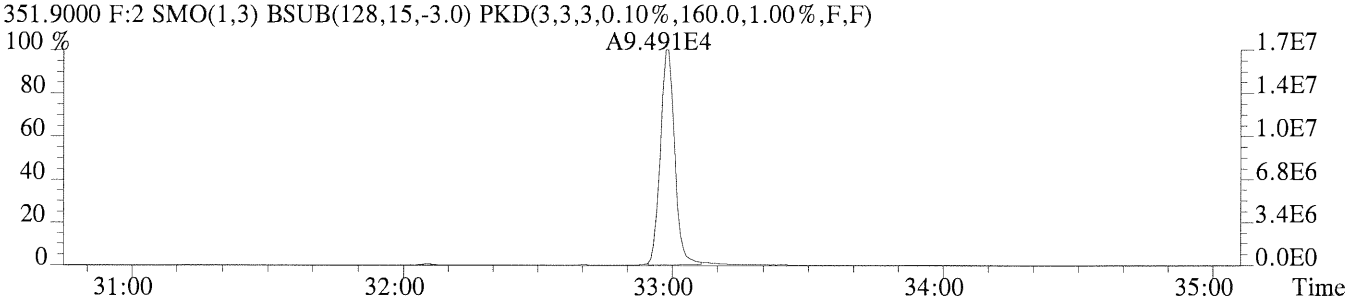
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,124.0,1.00%,F,F)



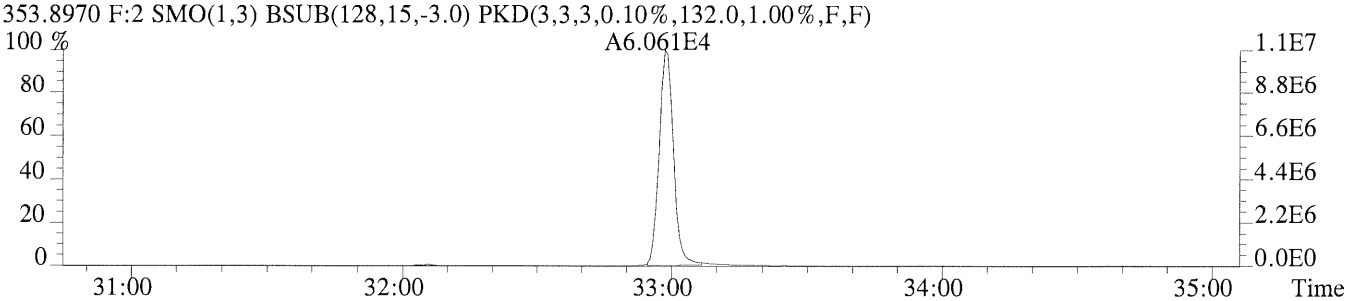
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,F)



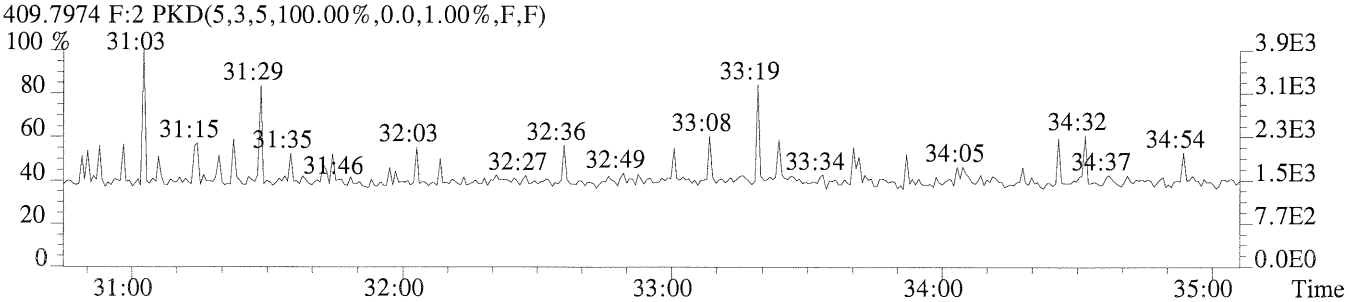
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,F)



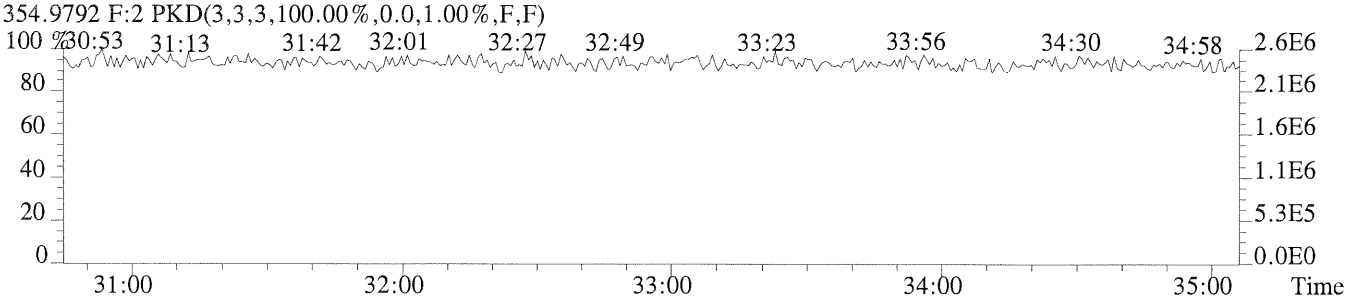
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,F)



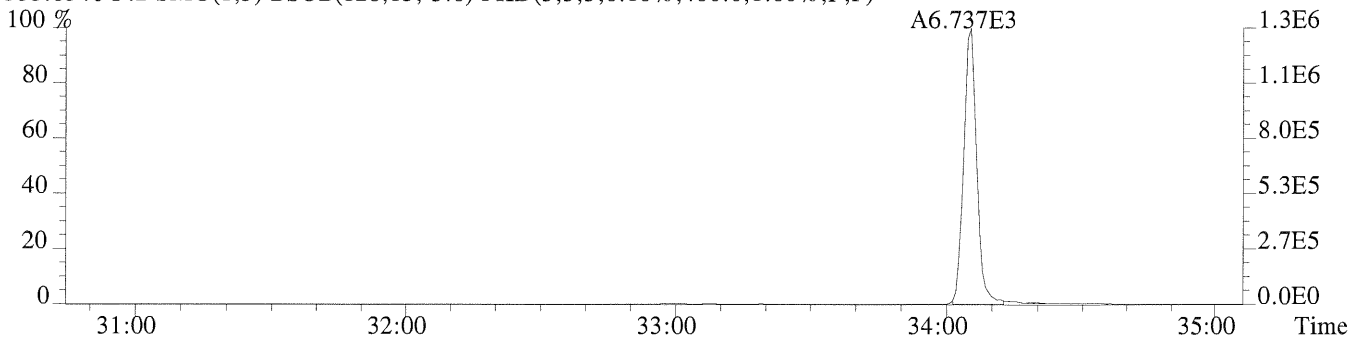
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



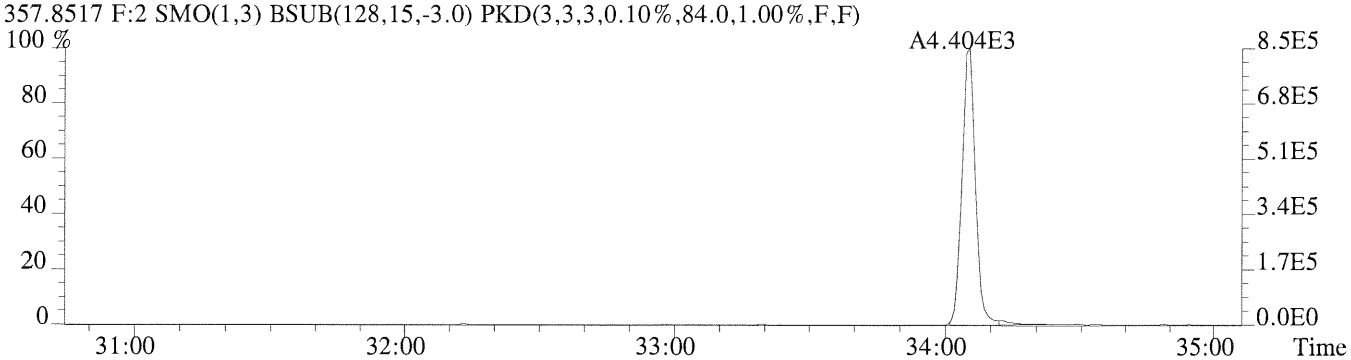
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



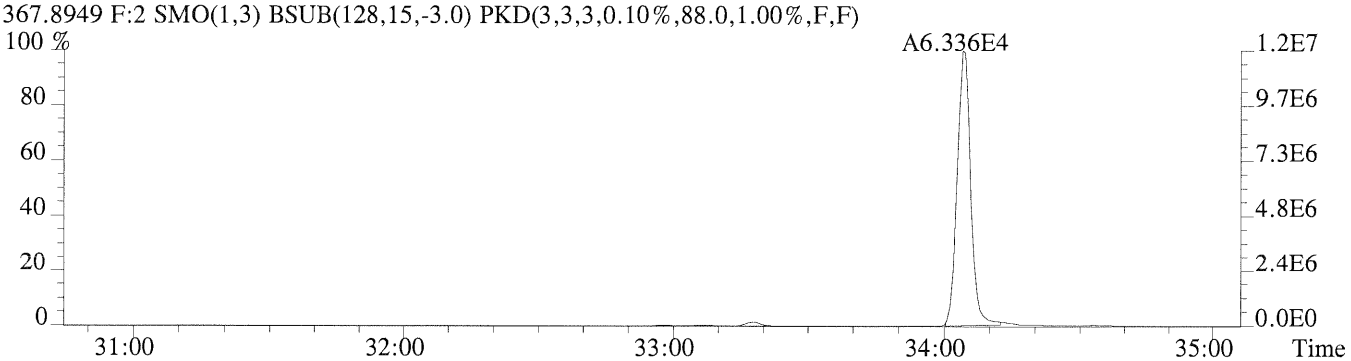
File:P200032 #1-396 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,400.0,1.00%,F,F)



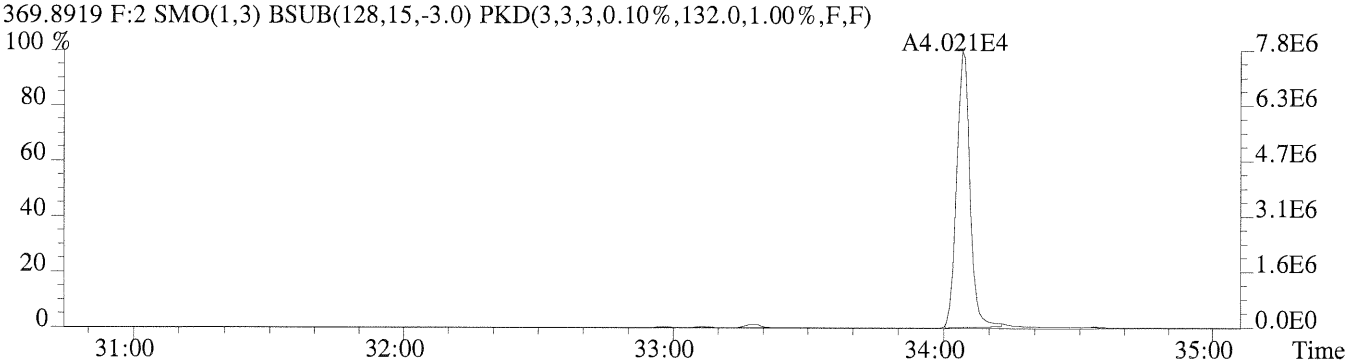
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,84.0,1.00%,F,F)



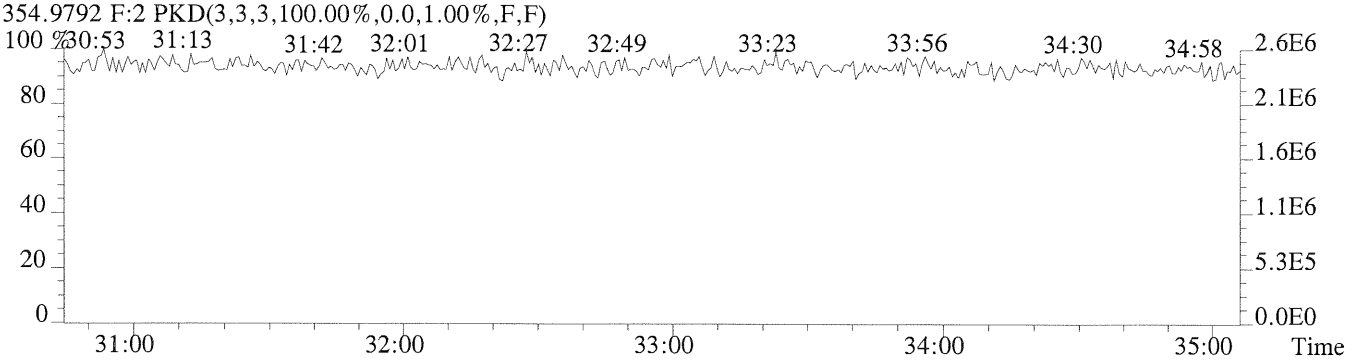
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,88.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,F)

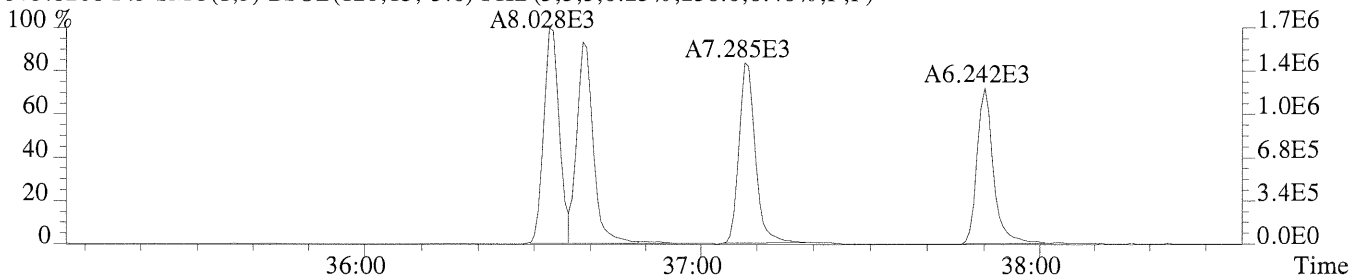


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

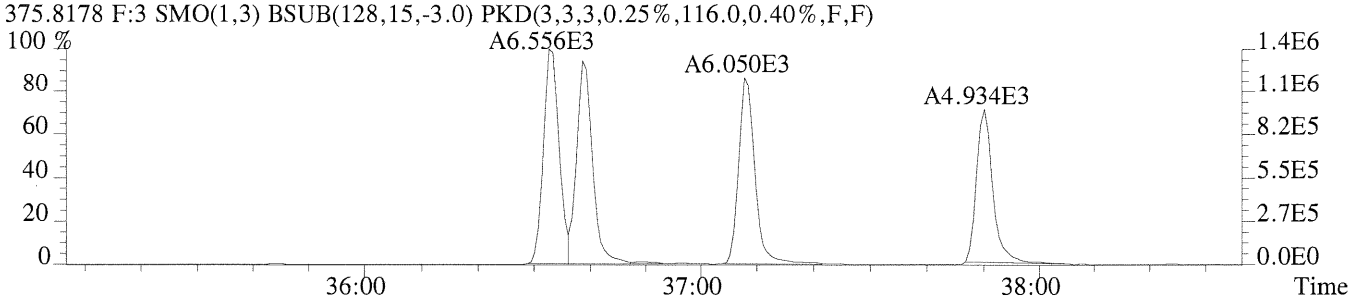


File:P200032 #1-318 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

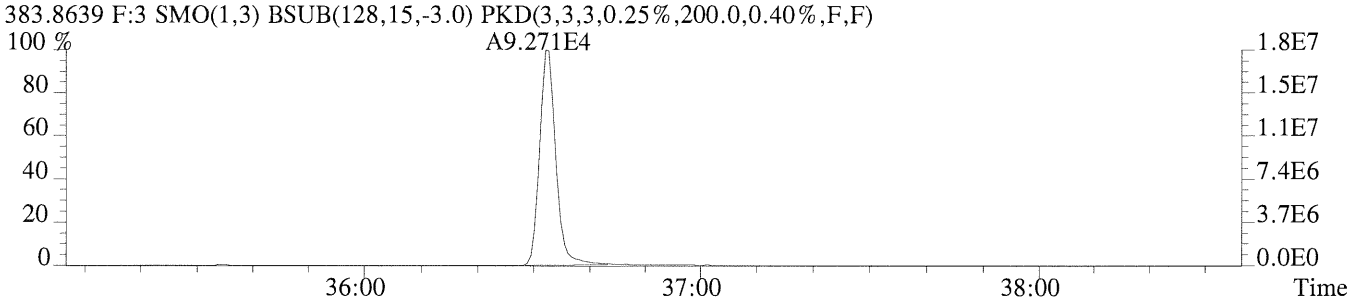
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,236.0,0.40%,F,F)



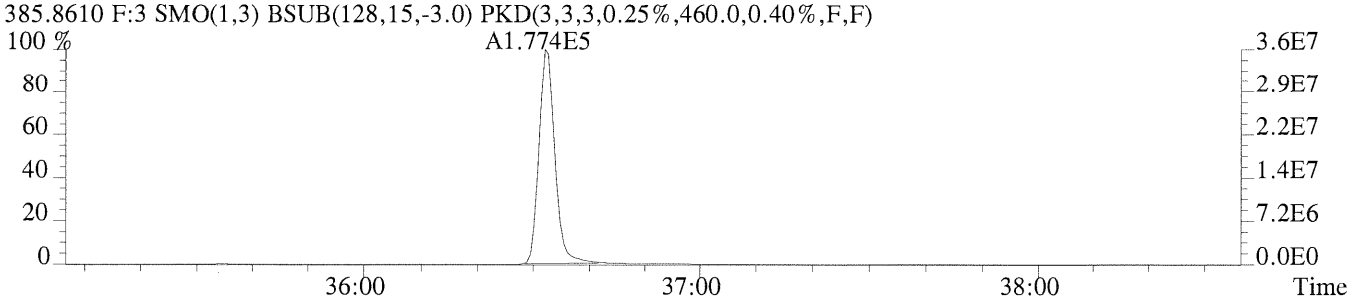
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)



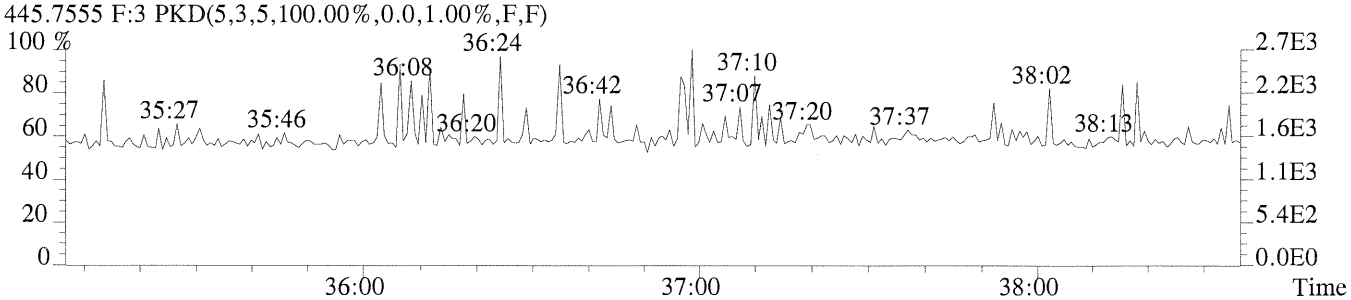
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,200.0,0.40%,F,F)



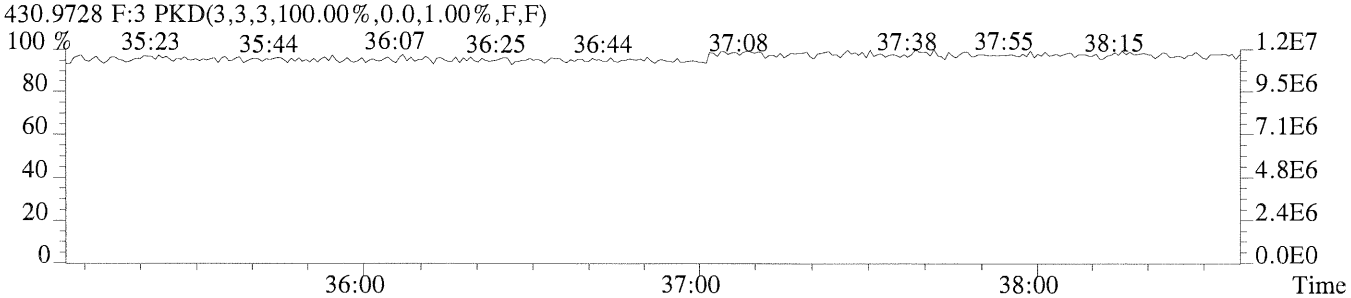
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,460.0,0.40%,F,F)



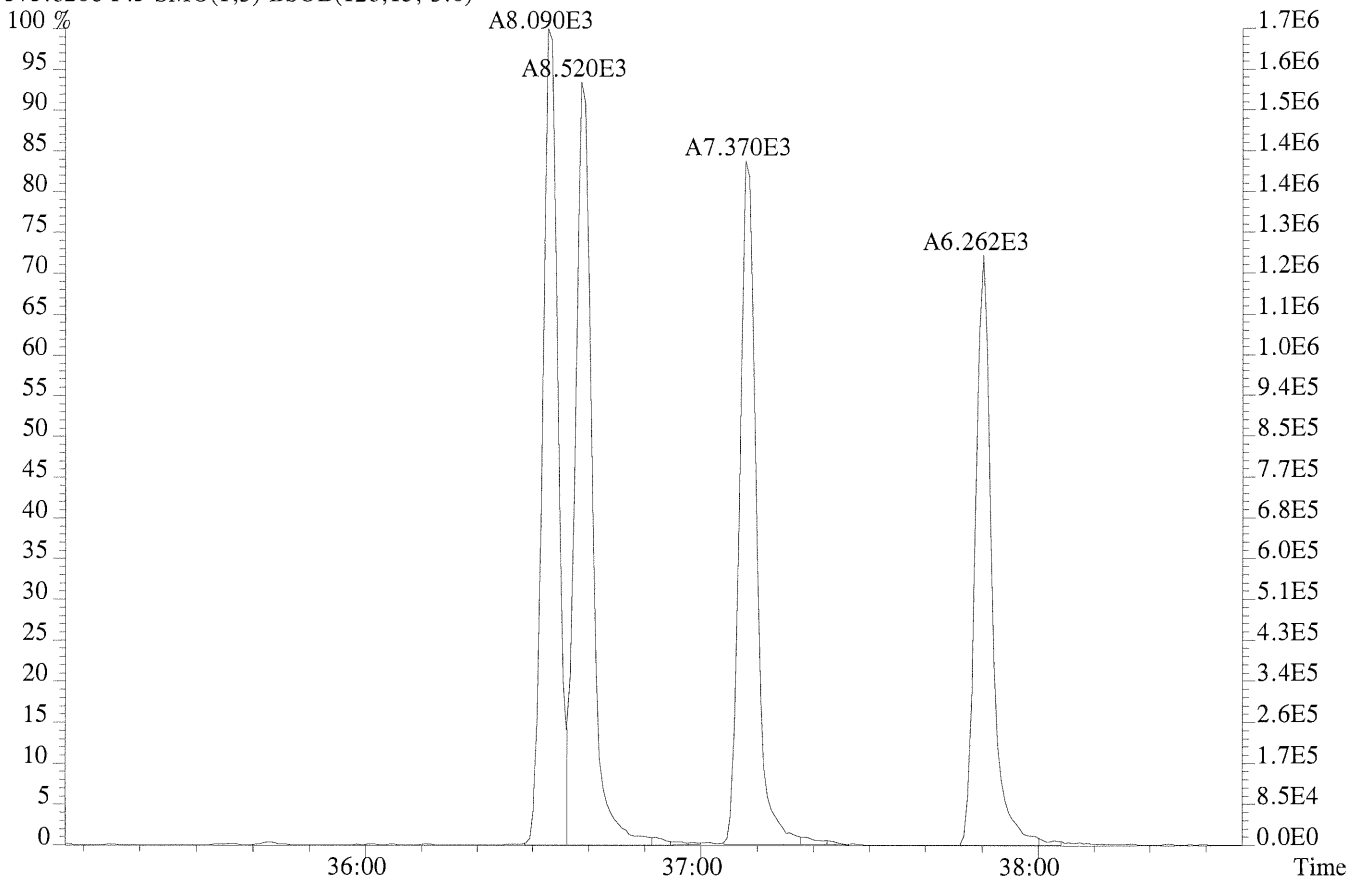
445.7555 F:3 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



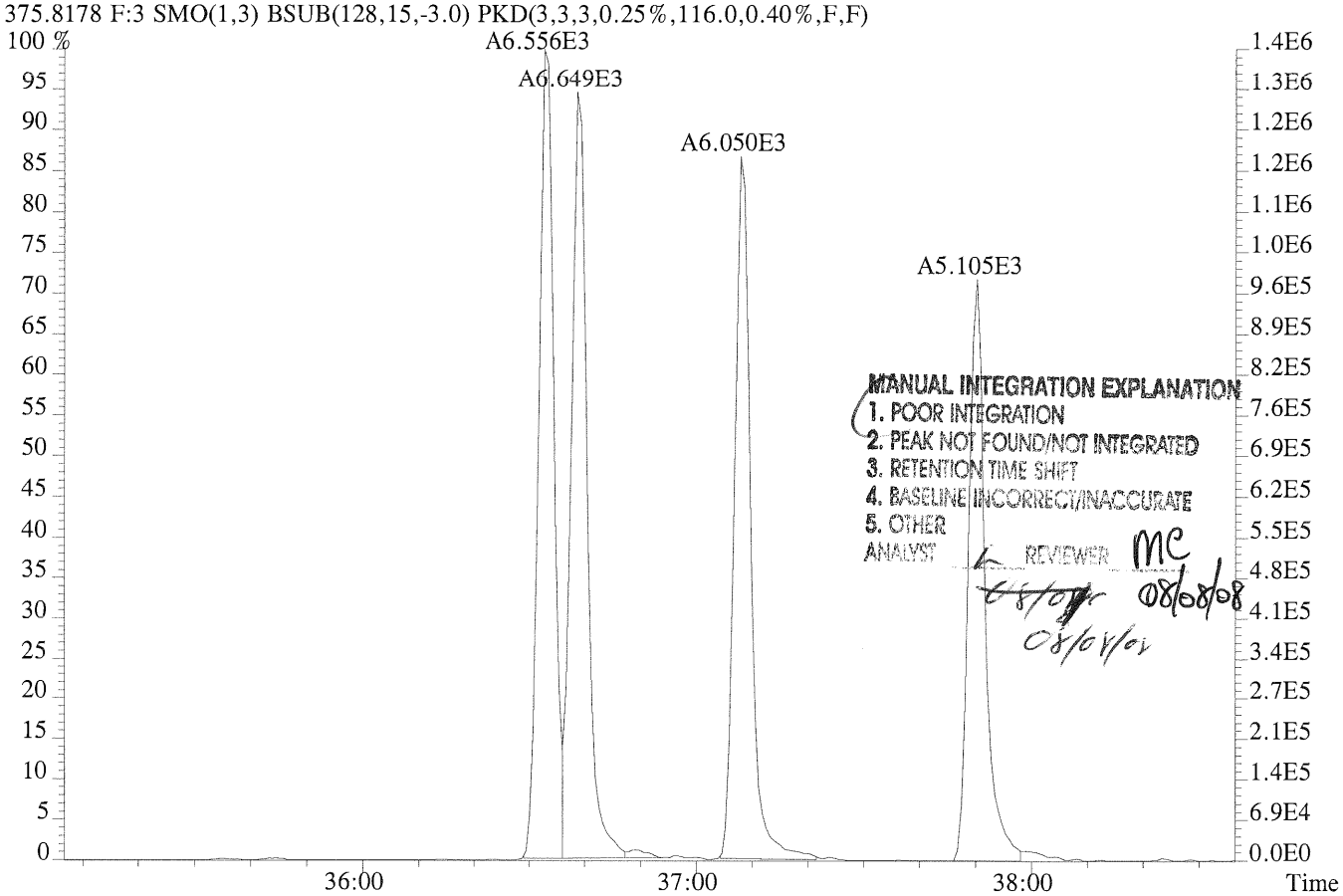
430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



File:P200032 #1-318 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0)

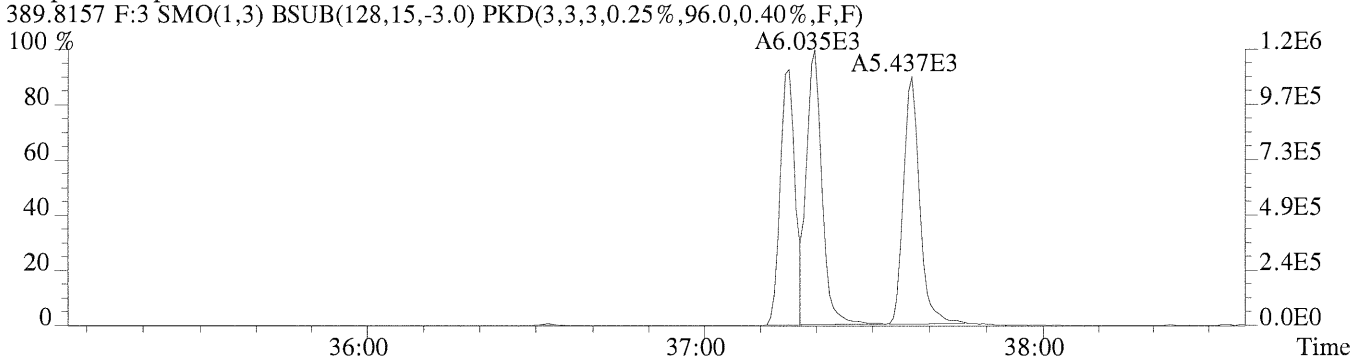


375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)

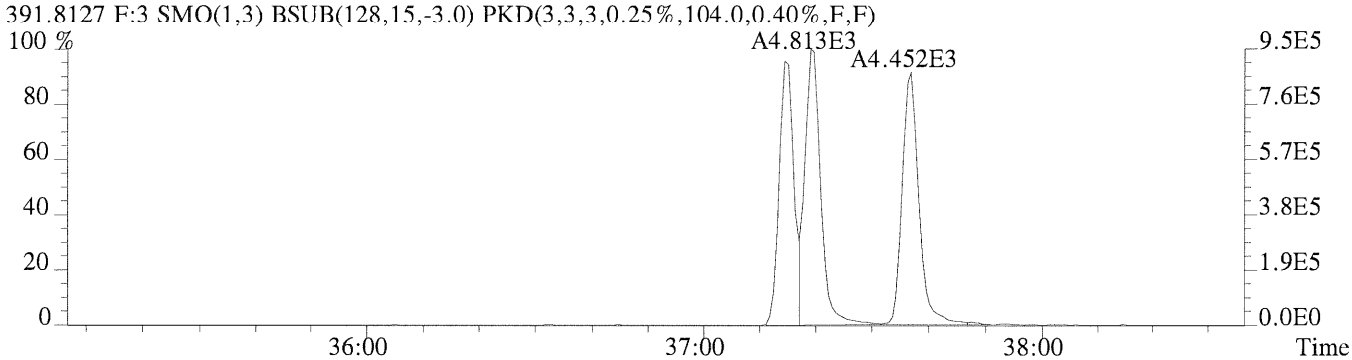


MANUAL INTEGRATION EXPLANATION
1. POOR INTEGRATION
2. PEAK NOT FOUND/NOT INTEGRATED
3. RETENTION TIME SHIFT
4. BASELINE INCORRECT/INACCURATE
5. OTHER
ANALYST REVIEWER MC
08/08/08
08/08/08

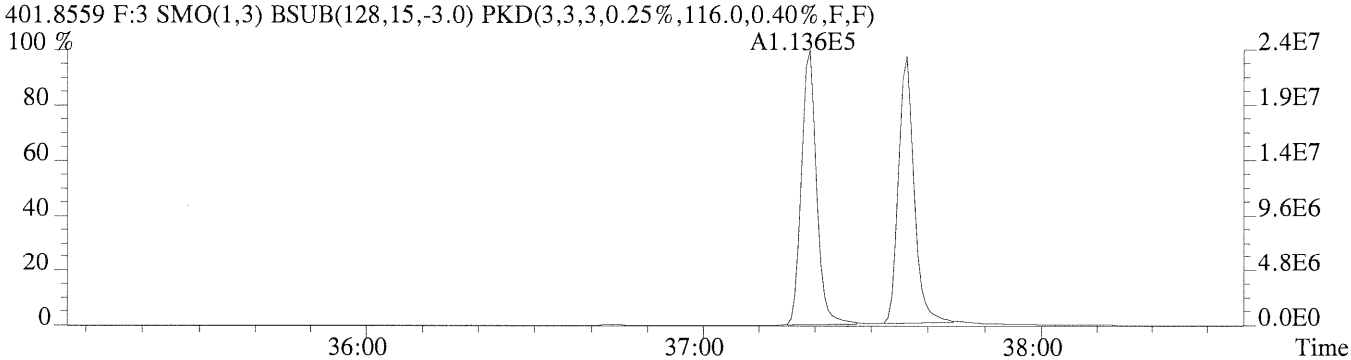
File:P200032 #1-318 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,96.0,0.40%,F,F)



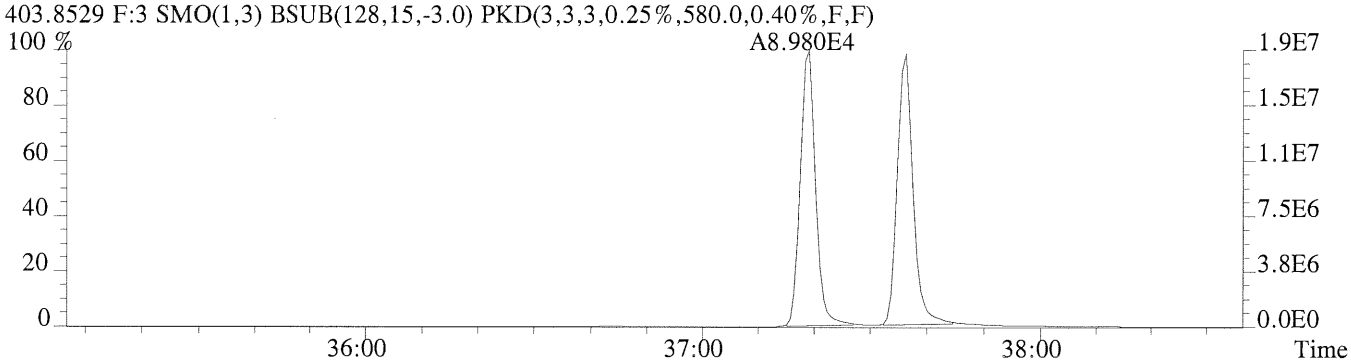
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,104.0,0.40%,F,F)



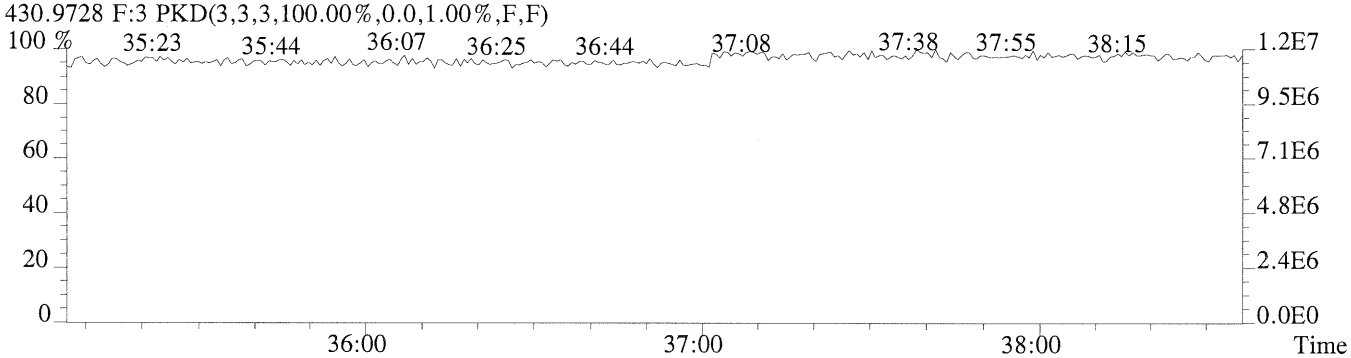
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,116.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,580.0,0.40%,F,F)

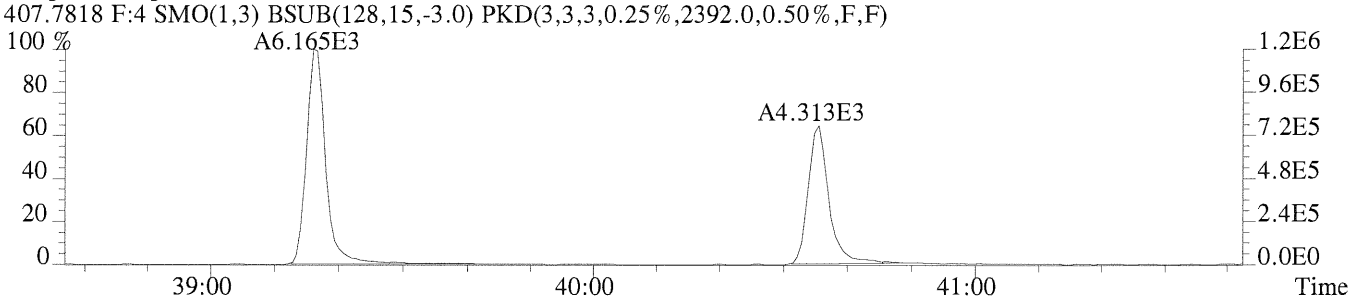


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

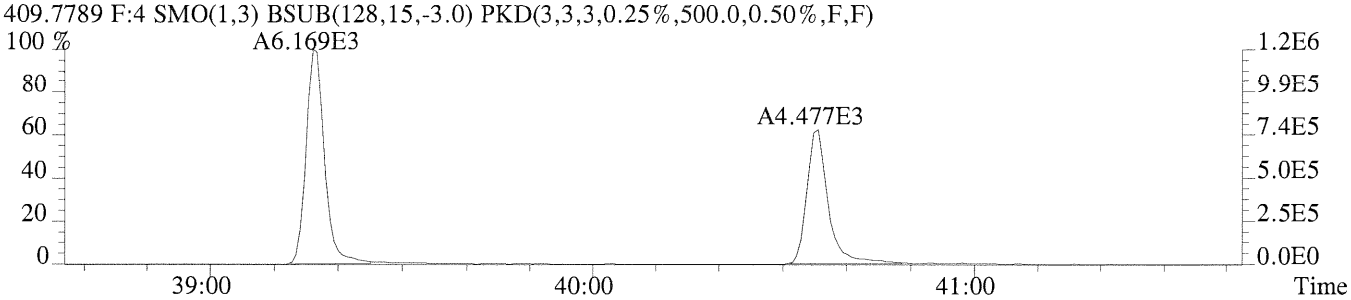


File:P200032 #1-281 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

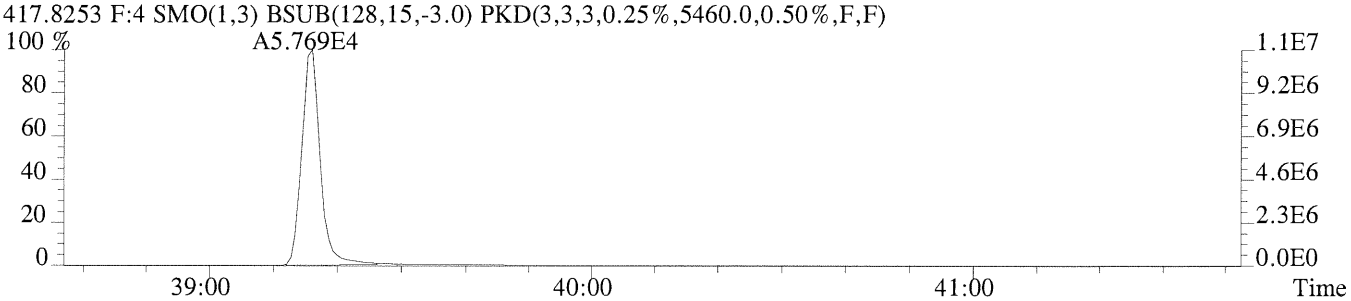
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2392.0,0.50%,F,F)



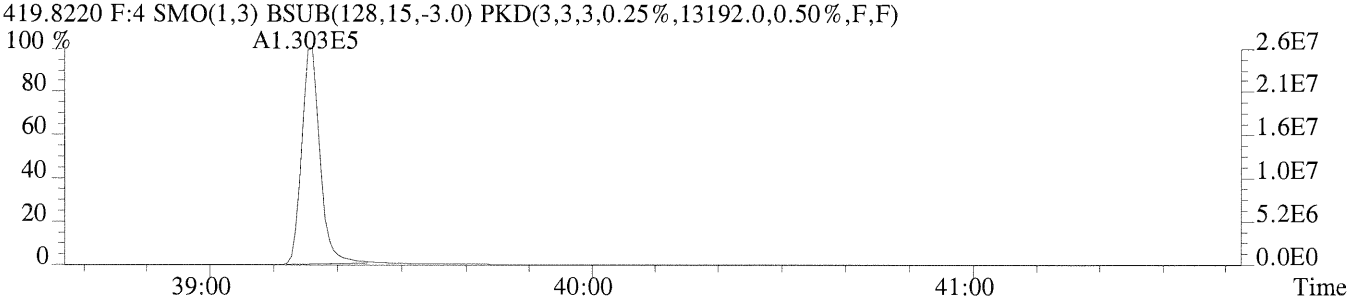
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,500.0,0.50%,F,F)



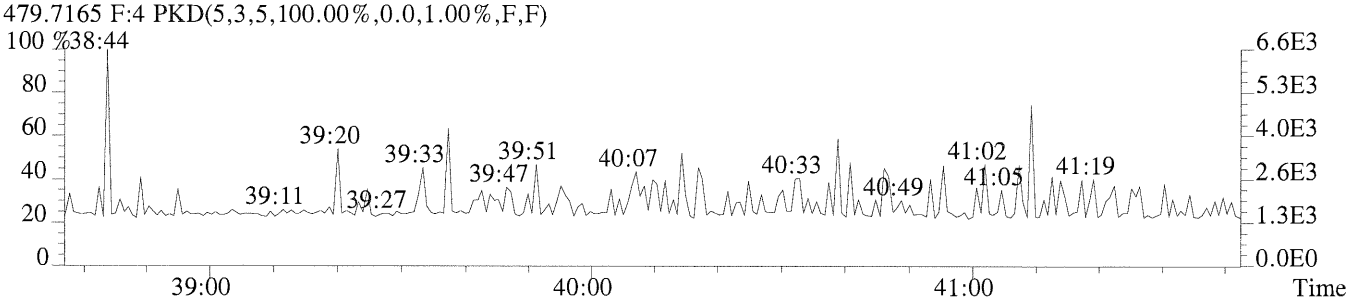
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5460.0,0.50%,F,F)



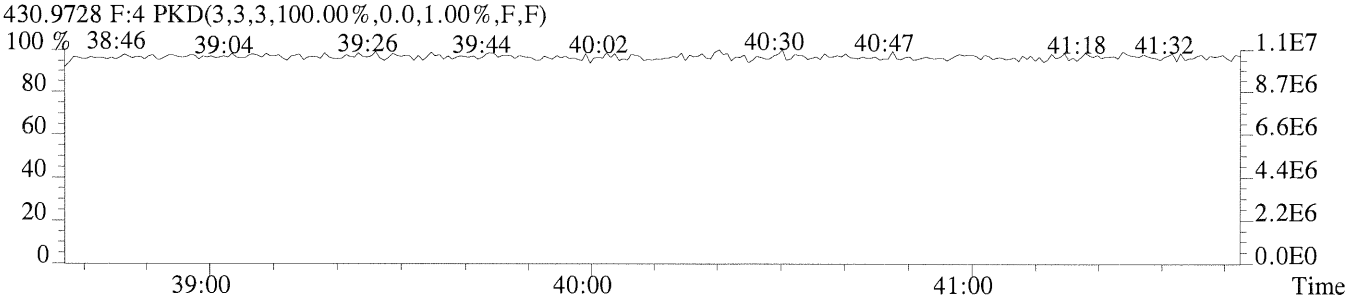
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,13192.0,0.50%,F,F)



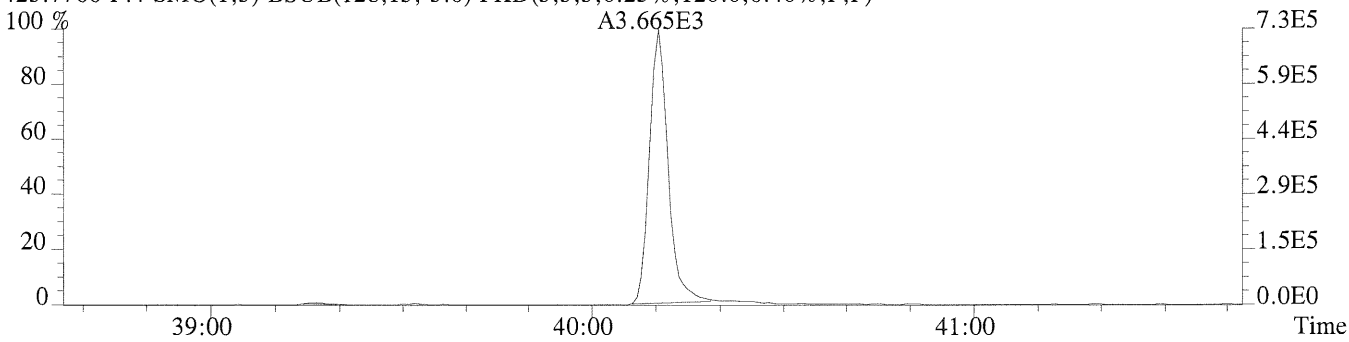
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



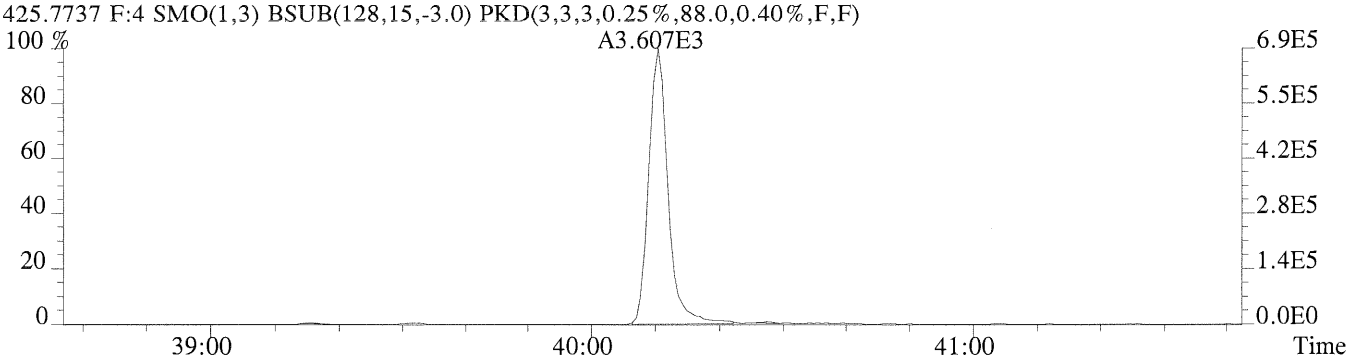
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



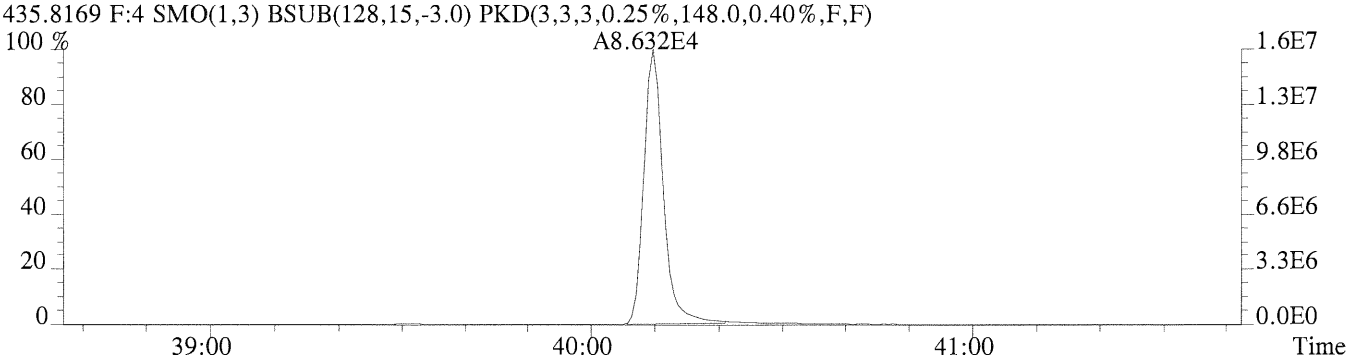
File:P200032 #1-281 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,120.0,0.40%,F,F)



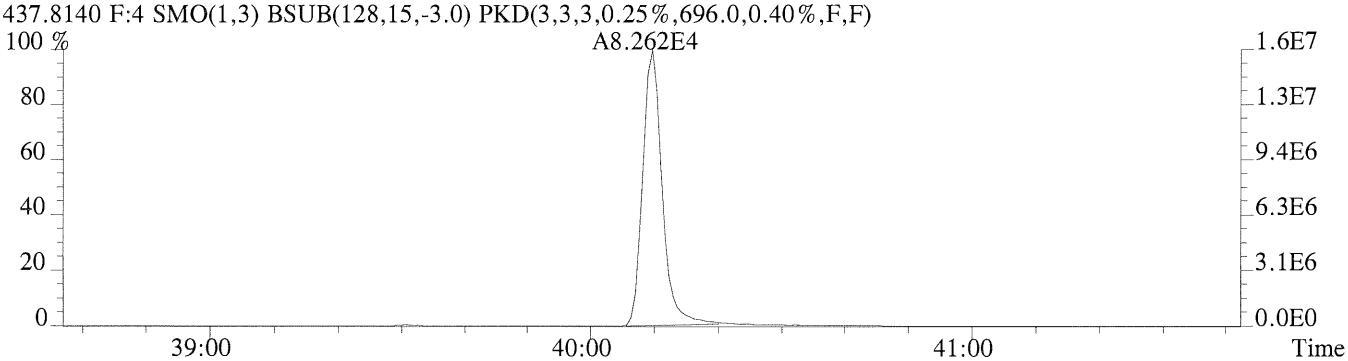
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,88.0,0.40%,F,F)



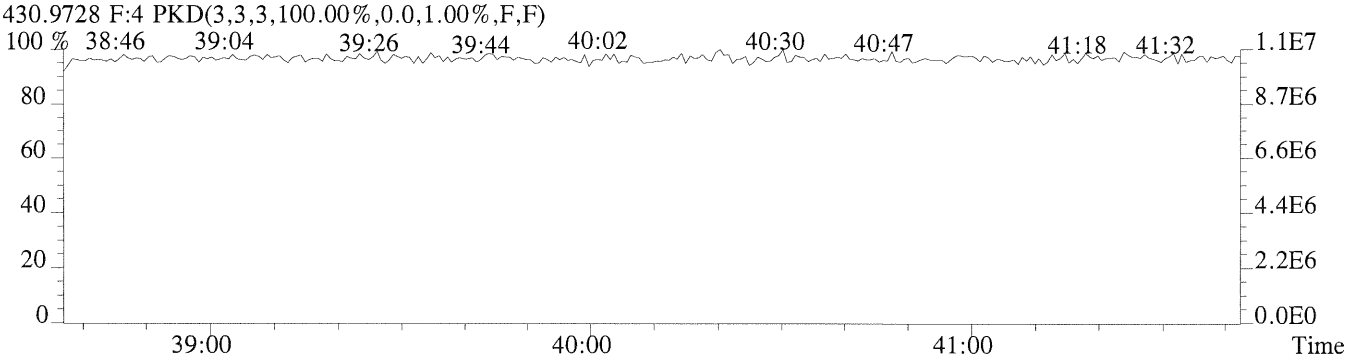
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,148.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,696.0,0.40%,F,F)

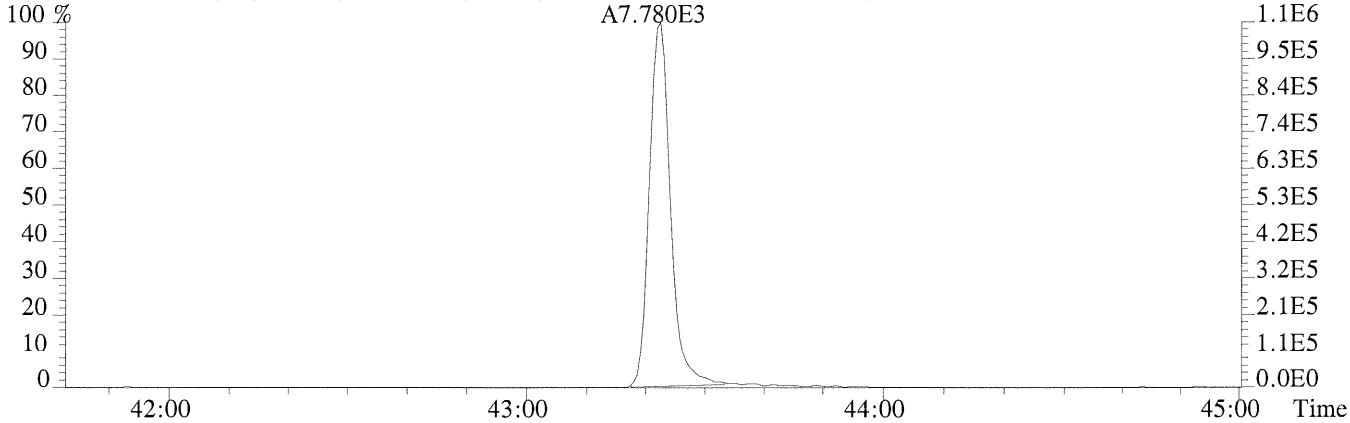


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

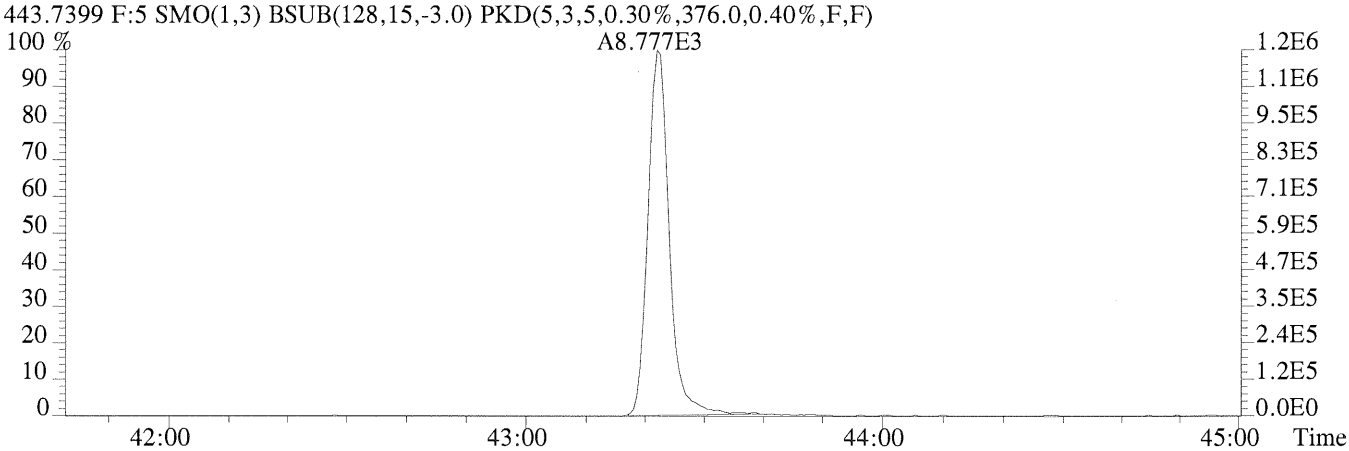


File:P200032 #1-364 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

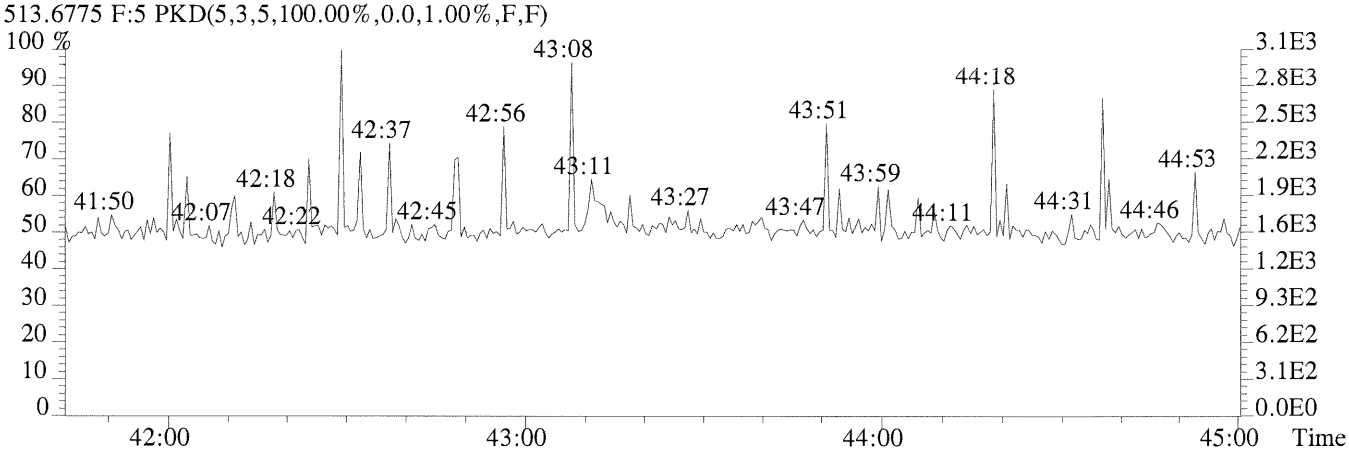
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,180.0,0.40%,F,F)



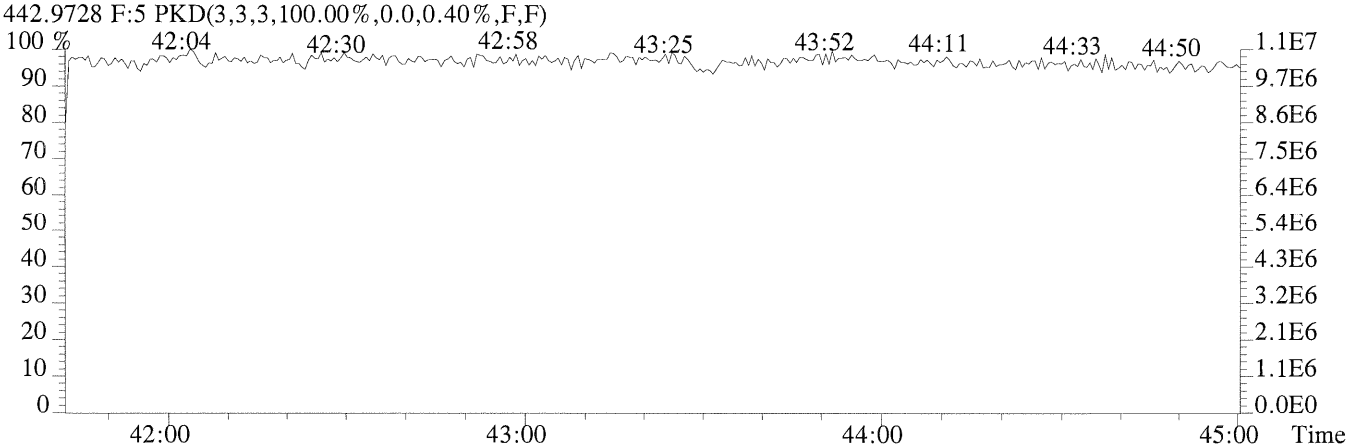
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,376.0,0.40%,F,F)



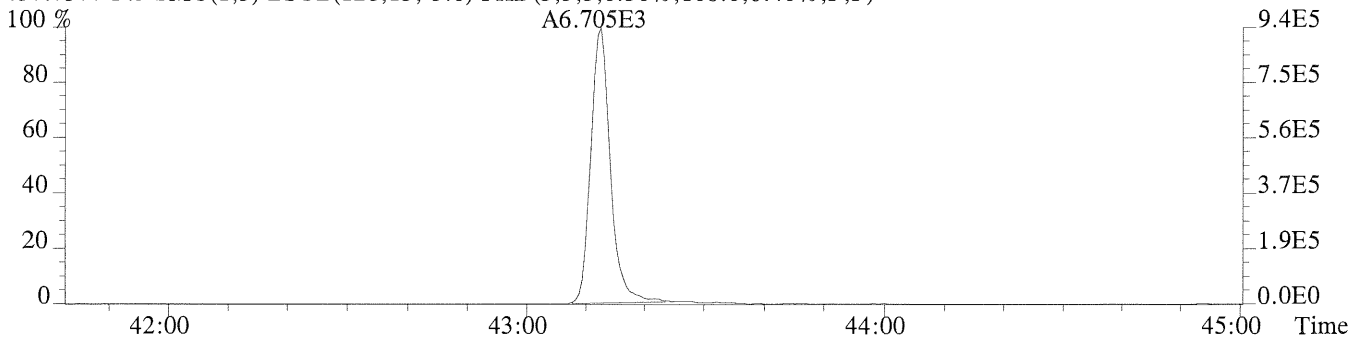
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



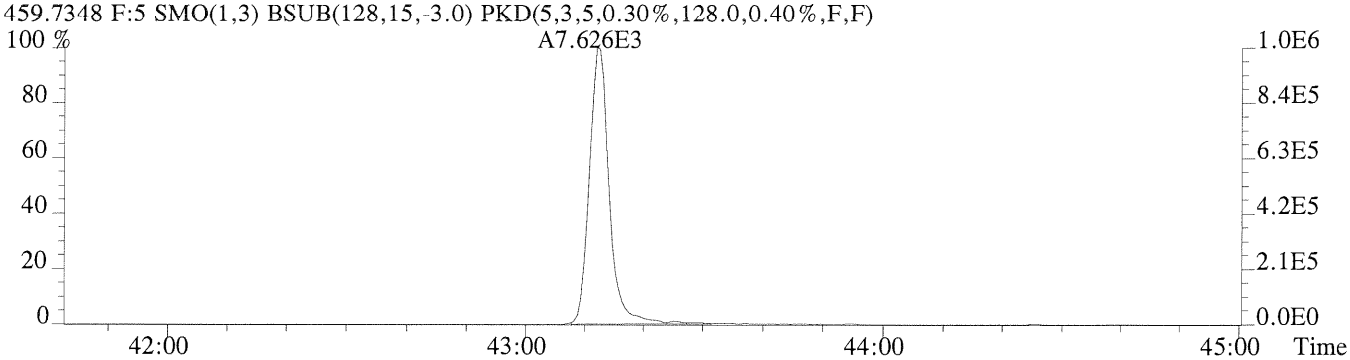
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



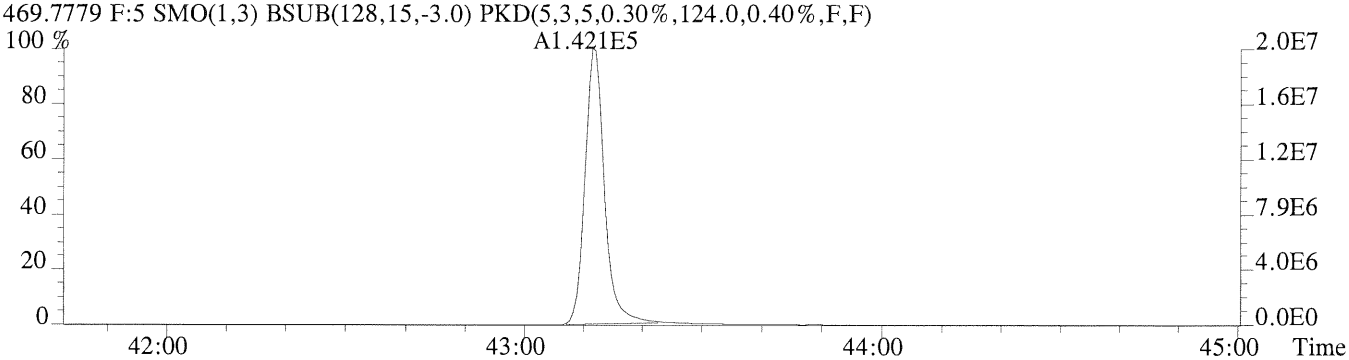
File:P200032 #1-364 Acq: 1-AUG-2008 16:23:43 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,108.0,0.40%,F,F)



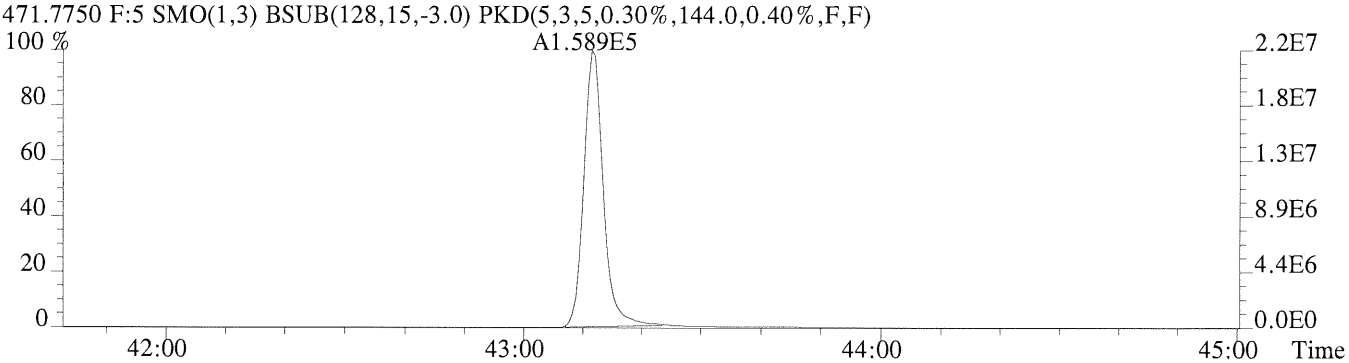
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,128.0,0.40%,F,F)



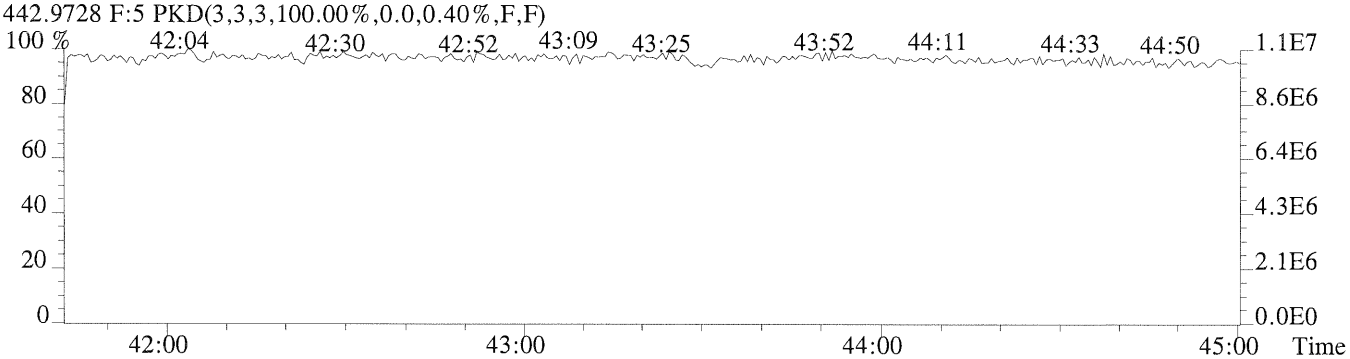
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,124.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,144.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename P200031 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 15:21:27
Processed: 7-AUG-08 06:33:20 Sample ID: ICAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	9.711e+03	1.284e+04	0.76	yes	no	0.83
2	Unk	1,2,3,7,8-PeCDF	32:59	3.257e+04	2.085e+04	1.56	yes	no	0.84
3	Unk	2,3,4,7,8-PeCDF	33:43	3.247e+04	2.147e+04	1.51	yes	no	0.85
4	Unk	1,2,3,4,7,8-HxCDF	36:33	2.528e+04	2.048e+04	1.23	yes	no	1.01
5	Unk	1,2,3,6,7,8-HxCDF	36:39	2.688e+04	2.243e+04	1.20	yes	no	1.05
6	Unk	2,3,4,6,7,8-HxCDF	37:08	2.434e+04	1.982e+04	1.23	yes	no	0.94
7	Unk	1,2,3,7,8,9-HxCDF	37:50	2.048e+04	1.688e+04	1.21	yes	no	0.81
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	2.148e+04	2.087e+04	1.03	yes	no	1.32
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	1.551e+04	1.488e+04	1.04	yes	no	0.97
10	Unk	OCDF	43:22	2.681e+04	2.984e+04	0.90	yes	no	1.11
11	Unk	2,3,7,8-TCDD	29:28	7.325e+03	9.496e+03	0.77	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:05	2.318e+04	1.489e+04	1.56	yes	no	0.87
13	Unk	1,2,3,4,7,8-HxCDD	37:14	1.866e+04	1.508e+04	1.24	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:19	2.053e+04	1.601e+04	1.28	yes	no	1.05
15	Unk	1,2,3,7,8,9-HxCDD	37:36	1.923e+04	1.491e+04	1.29	yes	no	0.97
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	1.314e+04	1.283e+04	1.02	yes	no	0.88
17	Unk	OCDD	43:12	2.318e+04	2.566e+04	0.90	yes	no	0.96
18	IS	13C-2,3,7,8-TCDF	28:36	5.699e+04	7.314e+04	0.78	yes	no	1.42
19	IS	13C-1,2,3,7,8-PeCDF	32:59	7.487e+04	4.749e+04	1.58	yes	no	1.26
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	7.178e+04	1.372e+05	0.52	yes	no	1.28
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	4.778e+04	1.084e+05	0.44	yes	no	0.90
22	IS	13C-2,3,7,8-TCDD	29:26	3.865e+04	4.896e+04	0.79	yes	no	1.05
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.357e+04	3.386e+04	1.58	yes	no	0.87
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.032e+05	8.197e+04	1.26	yes	no	1.00
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:10	7.484e+04	7.109e+04	1.05	yes	no	0.83
26	IS	13C-OCDD	43:12	1.198e+05	1.317e+05	0.91	yes	no	0.73
27	RS/RT	13C-1,2,3,4-TCDD	29:14	3.880e+04	5.026e+04	0.77	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.046e+05	8.232e+04	1.27	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:28	1.729e+04					0.98

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC3

Run #3 Filename P200031 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 15:21:27

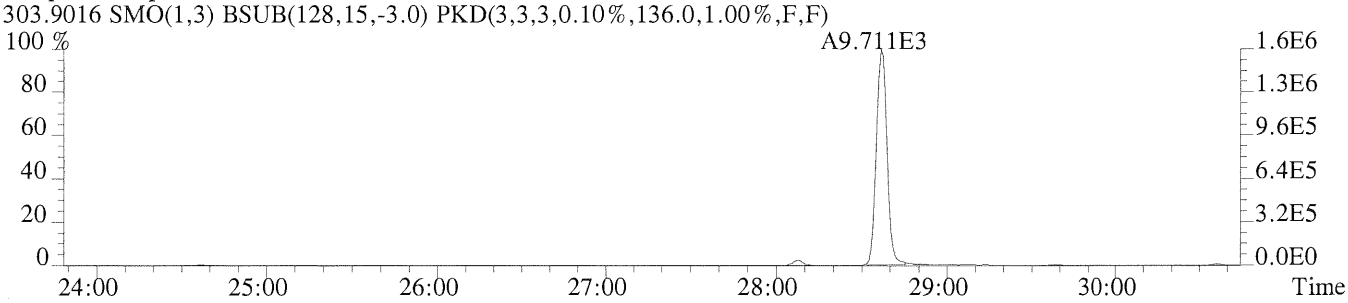
Processed: 7-AUG-08 06:33:20 LAB. ID: ICAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.60e+06	1.36e+02	1.2e+04	2.17e+06	8.00e+01	2.7e+04
2	1,2,3,7,8-PeCDF	6.18e+06	1.00e+02	6.2e+04	4.03e+06	4.76e+02	8.5e+03
3	2,3,4,7,8-PeCDF	6.42e+06	1.00e+02	6.4e+04	4.17e+06	4.76e+02	8.8e+03
4	1,2,3,4,7,8-HxCDF	5.52e+06	3.44e+02	1.6e+04	4.46e+06	1.72e+02	2.6e+04
5	1,2,3,6,7,8-HxCDF	5.55e+06	3.44e+02	1.6e+04	4.58e+06	1.72e+02	2.7e+04
6	2,3,4,6,7,8-HxCDF	5.01e+06	3.44e+02	1.5e+04	4.07e+06	1.72e+02	2.4e+04
7	1,2,3,7,8,9-HxCDF	4.08e+06	3.44e+02	1.2e+04	3.27e+06	1.72e+02	1.9e+04
8	1,2,3,4,6,7,8-HpCDF	4.48e+06	1.30e+03	3.5e+03	4.44e+06	1.18e+03	3.8e+03
9	1,2,3,4,7,8,9-HpCDF	2.86e+06	1.30e+03	2.2e+03	2.80e+06	1.18e+03	2.4e+03
10	OCDF	3.74e+06	7.60e+01	4.9e+04	4.12e+06	4.84e+02	8.5e+03
11	2,3,7,8-TCDD	1.33e+06	2.00e+02	6.6e+03	1.70e+06	1.12e+02	1.5e+04
12	1,2,3,7,8-PeCDD	4.51e+06	4.60e+02	9.8e+03	2.97e+06	1.08e+02	2.7e+04
13	1,2,3,4,7,8-HxCDD	4.13e+06	1.36e+02	3.0e+04	3.34e+06	1.28e+02	2.6e+04
14	1,2,3,6,7,8-HxCDD	4.20e+06	1.36e+02	3.1e+04	3.34e+06	1.28e+02	2.6e+04
15	1,2,3,7,8,9-HxCDD	3.80e+06	1.36e+02	2.8e+04	3.06e+06	1.28e+02	2.4e+04
16	1,2,3,4,6,7,8-HpCDD	2.53e+06	3.20e+02	7.9e+03	2.42e+06	5.60e+01	4.3e+04
17	OCDD	3.26e+06	1.16e+02	2.8e+04	3.67e+06	1.08e+02	3.4e+04
18	13C-2,3,7,8-TCDF	9.37e+06	6.96e+02	1.3e+04	1.21e+07	7.20e+02	1.7e+04
19	13C-1,2,3,7,8-PeCDF	1.44e+07	1.60e+02	9.0e+04	9.08e+06	1.20e+02	7.6e+04
20	13C-1,2,3,4,7,8-HxCDF	1.49e+07	1.32e+02	1.1e+05	2.89e+07	5.60e+02	5.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	9.95e+06	5.04e+03	2.0e+03	2.26e+07	5.44e+03	4.1e+03
22	13C-2,3,7,8-TCDD	6.77e+06	1.14e+03	5.9e+03	8.52e+06	6.40e+02	1.3e+04
23	13C-1,2,3,7,8-PeCDD	1.05e+07	1.12e+02	9.4e+04	6.65e+06	1.08e+02	6.2e+04
24	13C-1,2,3,6,7,8-HxCDD	2.19e+07	2.20e+02	9.9e+04	1.75e+07	2.88e+02	6.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.41e+07	7.52e+02	1.9e+04	1.35e+07	3.72e+02	3.6e+04
26	13C-OCDD	1.70e+07	1.16e+02	1.5e+05	1.89e+07	9.60e+01	2.0e+05
27	13C-1,2,3,4-TCDD	6.97e+06	1.14e+03	6.1e+03	8.89e+06	6.40e+02	1.4e+04
28	13C-1,2,3,7,8,9-HxCDD	2.11e+07	2.20e+02	9.6e+04	1.68e+07	2.88e+02	5.8e+04
29	37Cl-2,3,7,8-TCDD	3.07e+06	9.60e+01	3.2e+04			

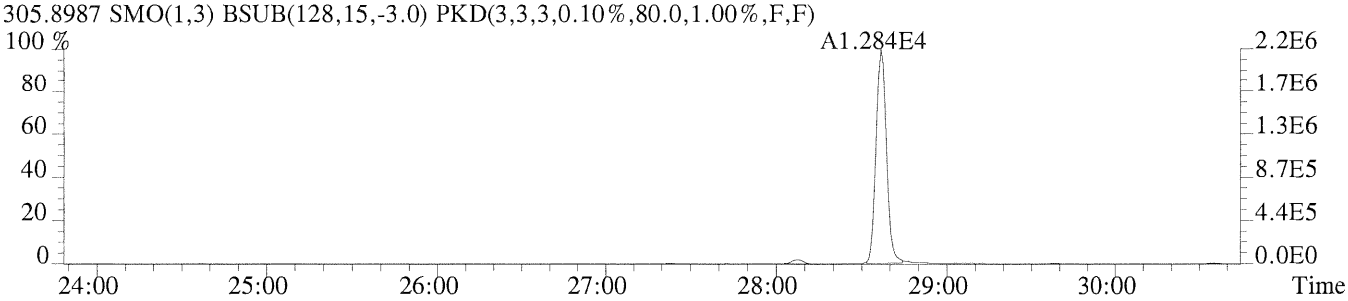
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200031 #1-578 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

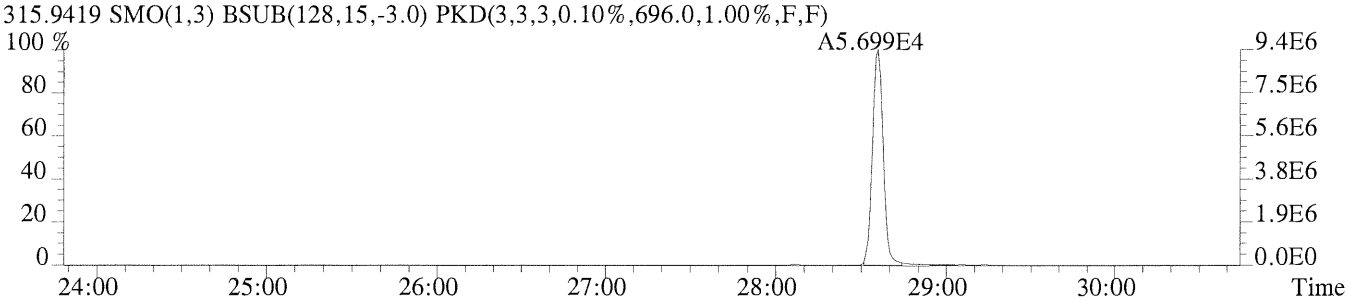
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,136.0,1.00%,F,F)



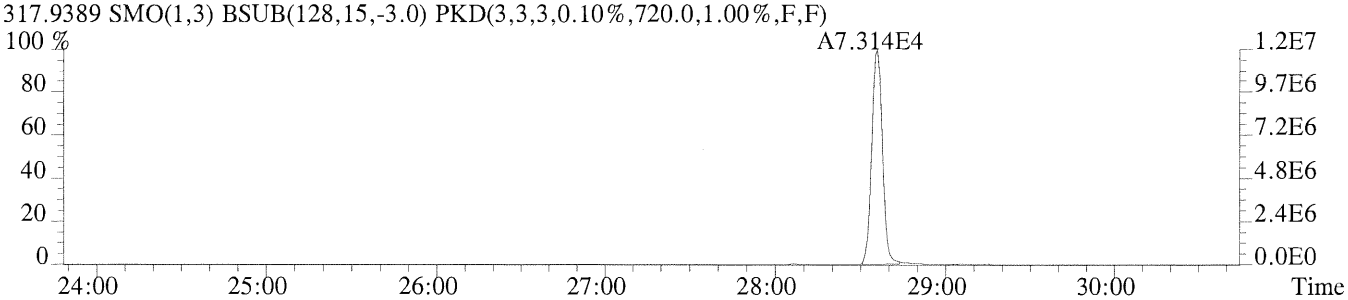
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,80.0,1.00%,F,F)



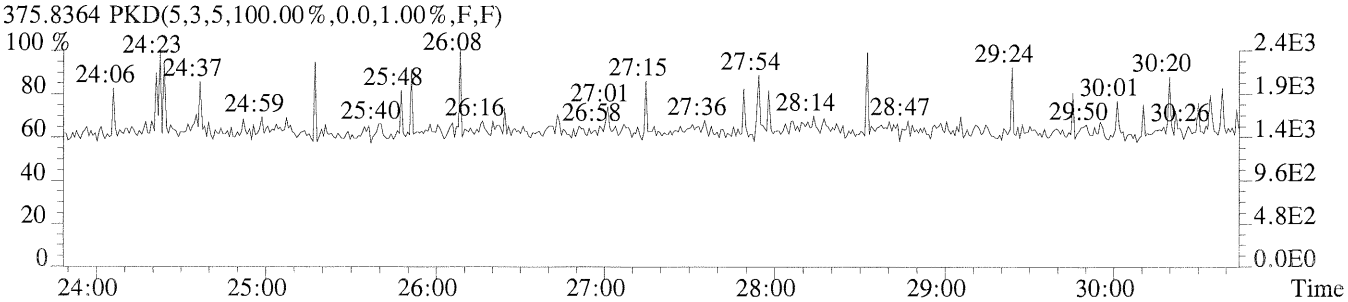
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,696.0,1.00%,F,F)



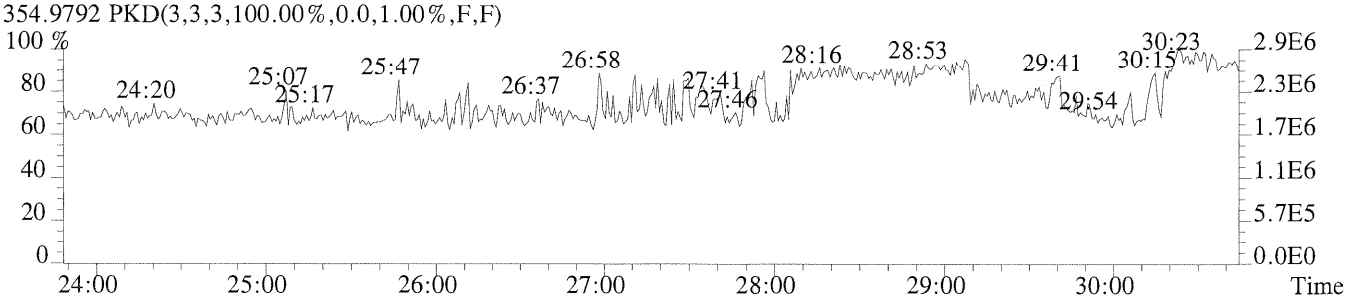
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,720.0,1.00%,F,F)



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

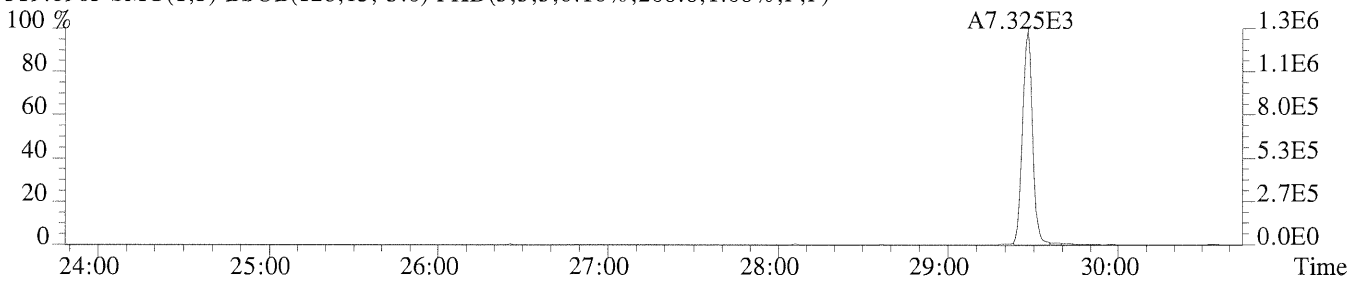


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

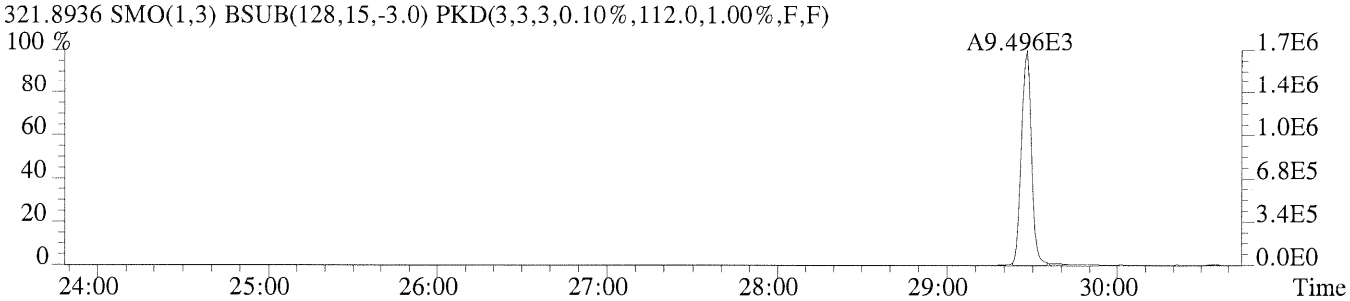


File:P200031 #1-578 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

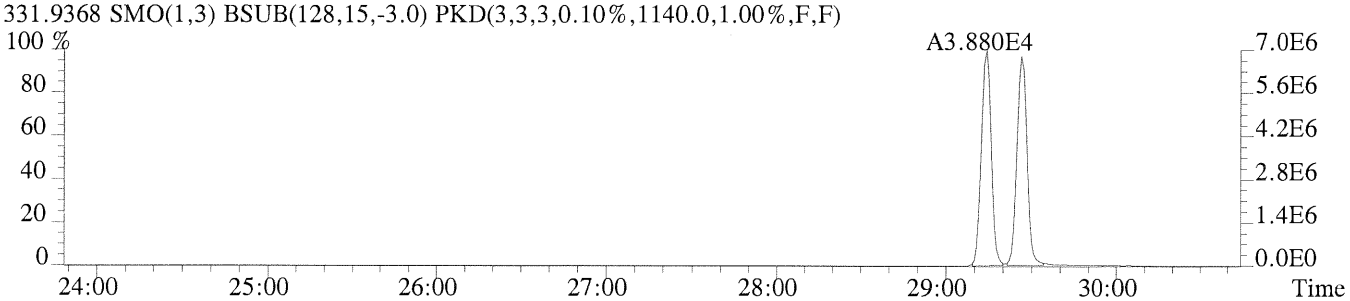
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,200.0,1.00%,F,F)



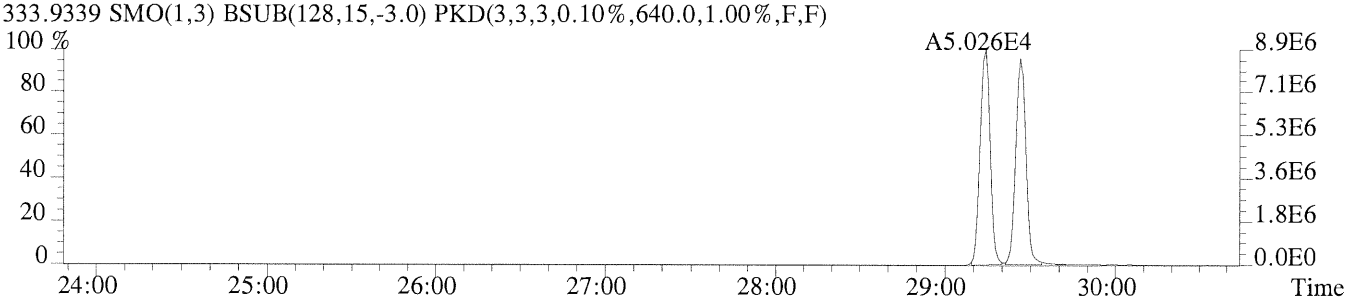
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)



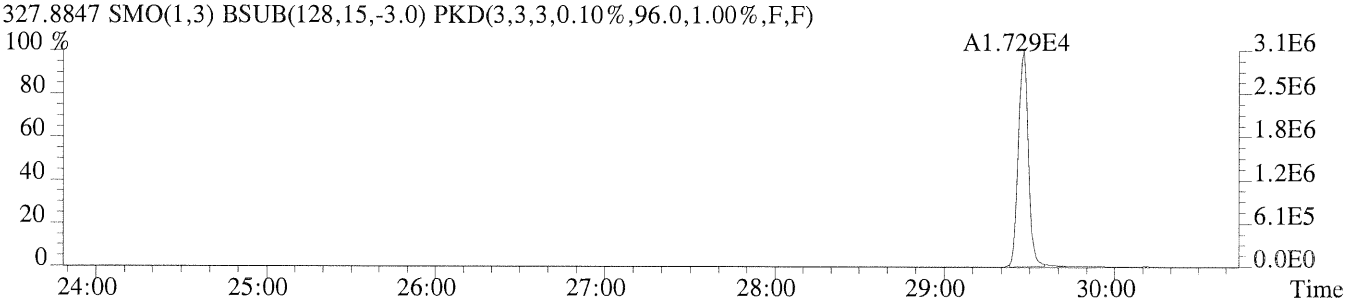
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1140.0,1.00%,F,F)



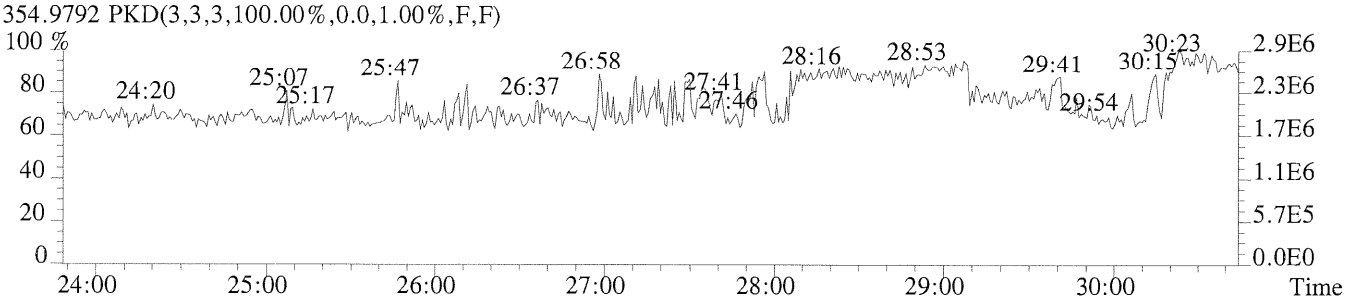
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,640.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,F)

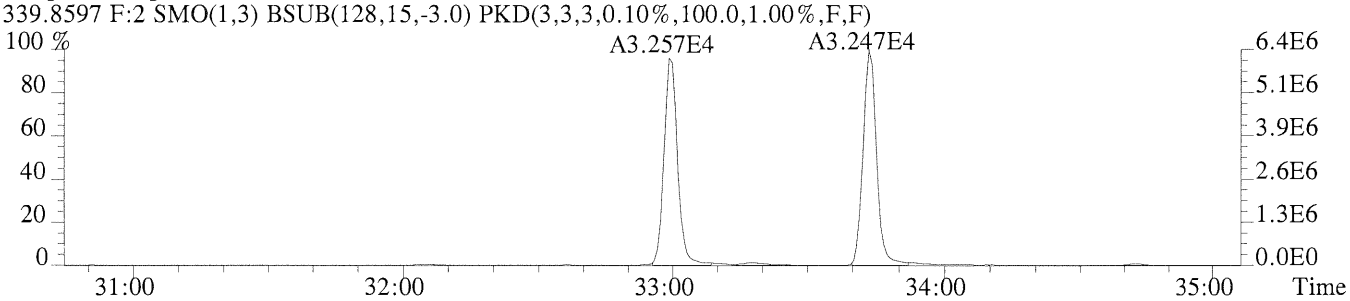


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

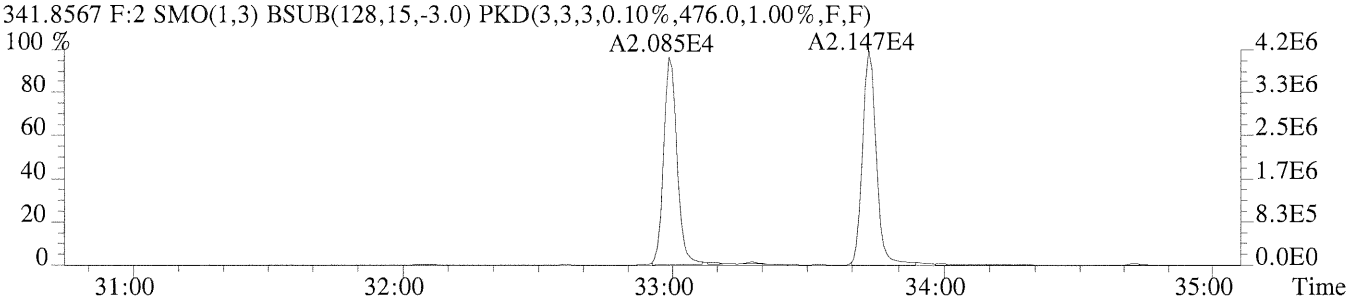


File:P200031 #1-396 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

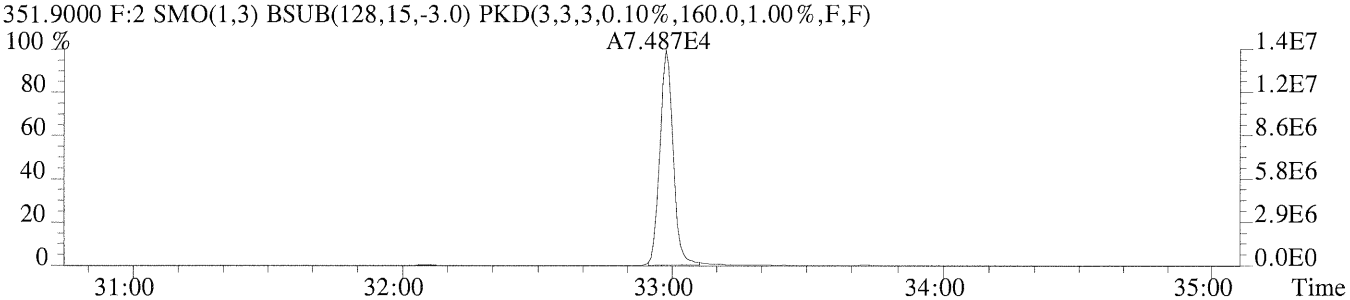
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,100.0,1.00%,F,F)



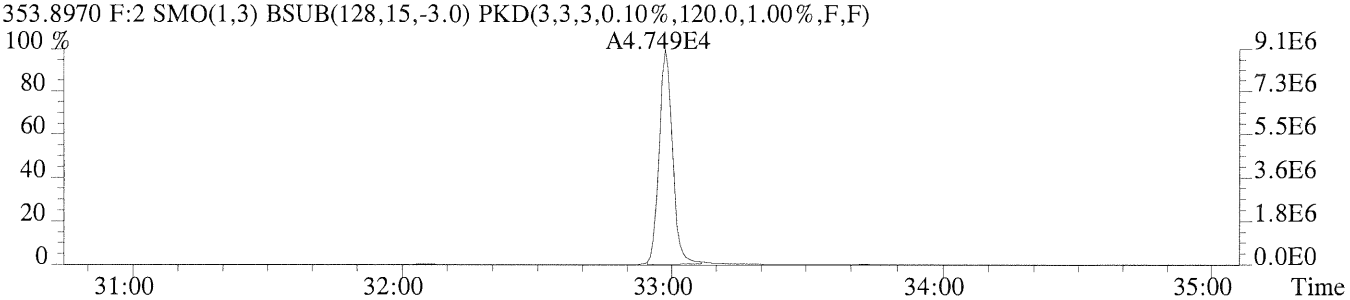
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,476.0,1.00%,F,F)



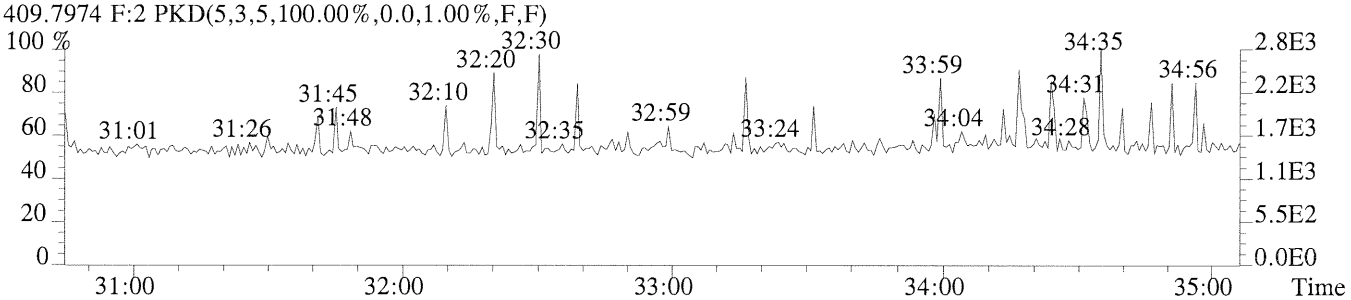
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,F)



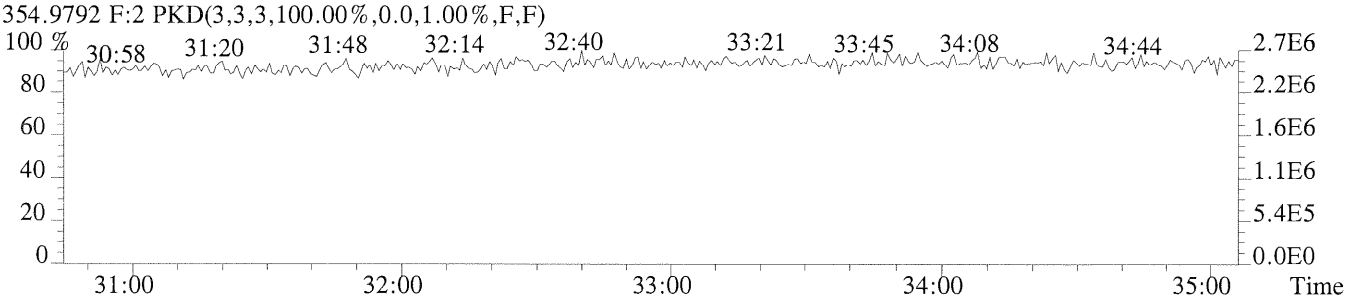
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,F)



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

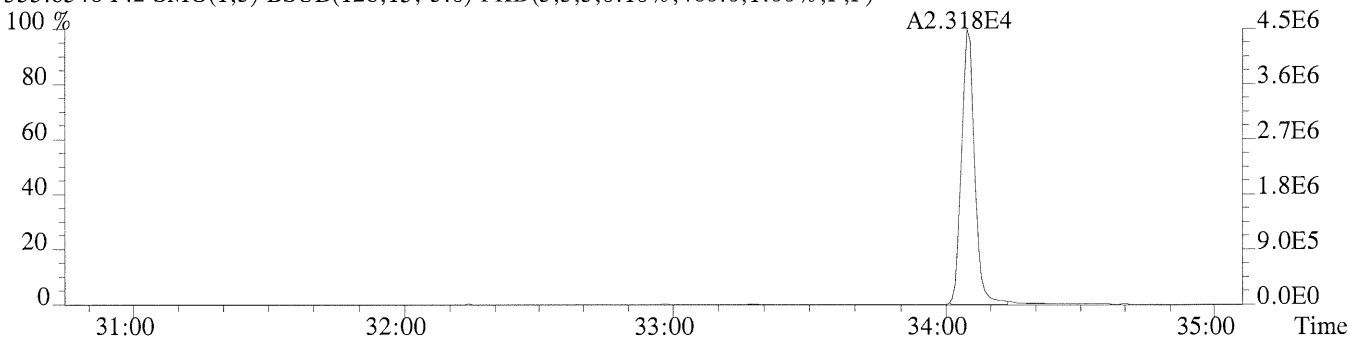


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

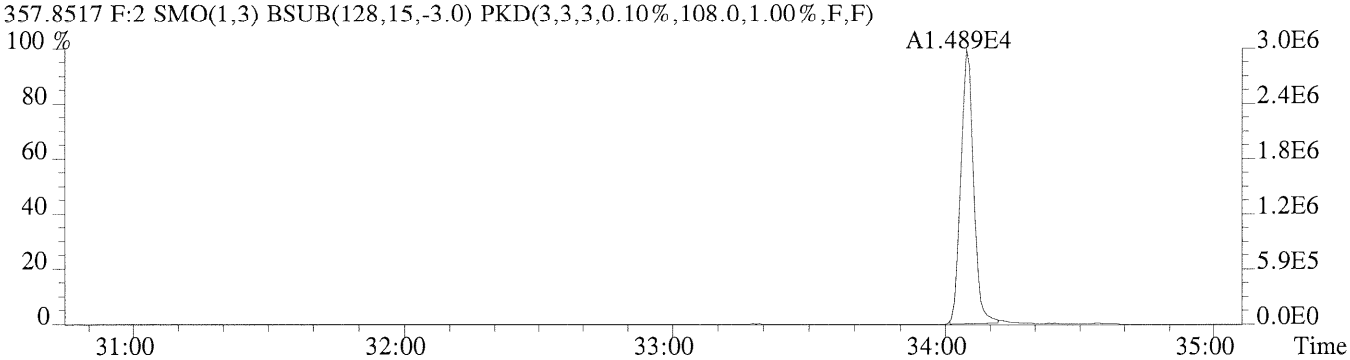


File:P200031 #1-396 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

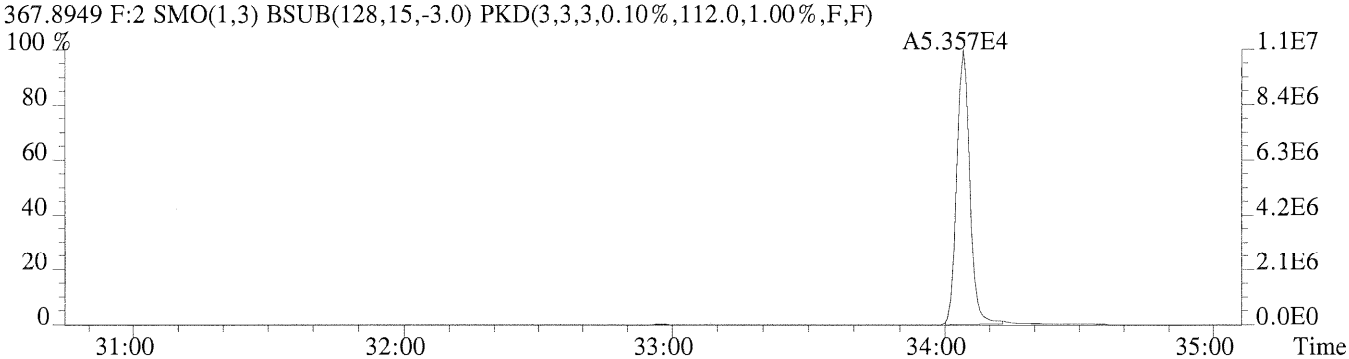
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,F)



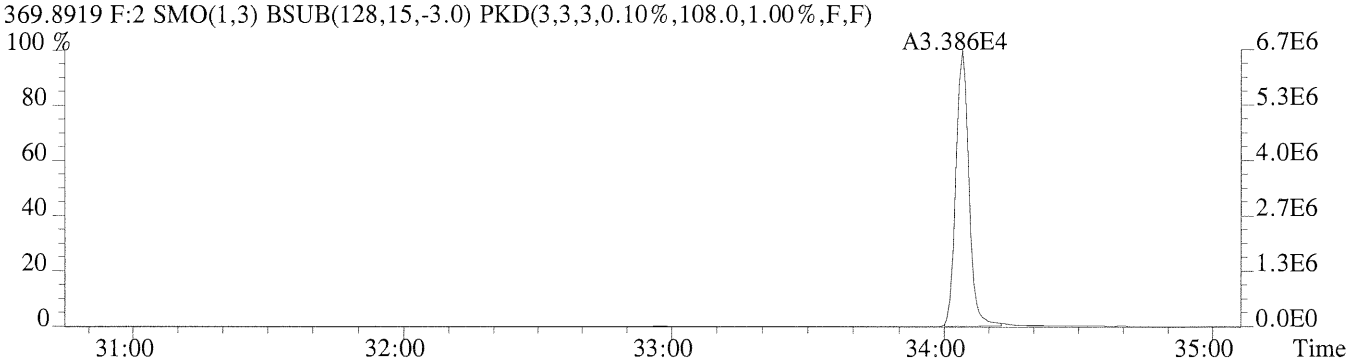
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,F)



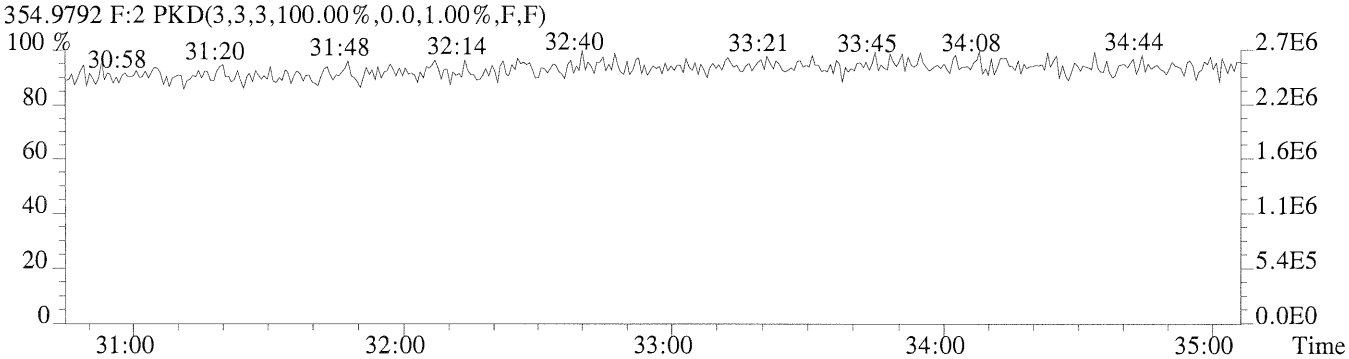
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,F)

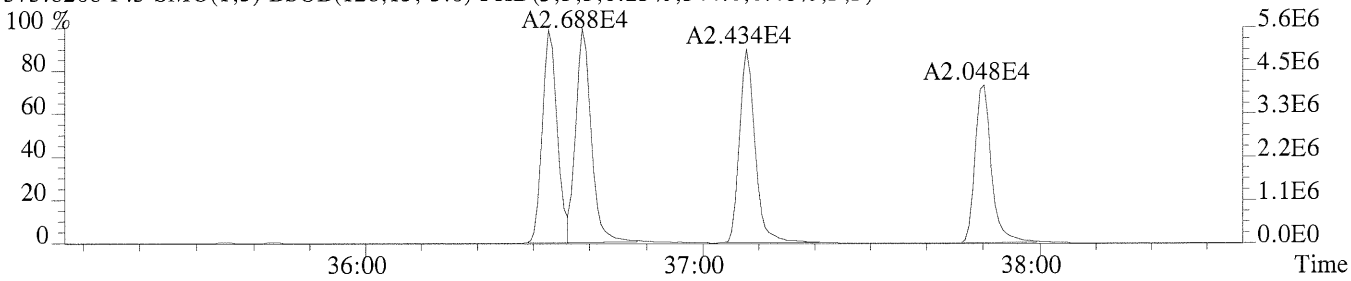


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

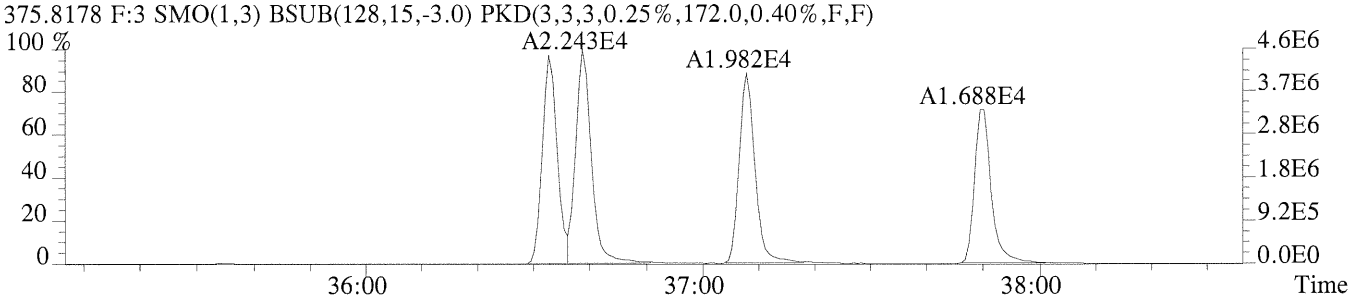


File:P200031 #1-318 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

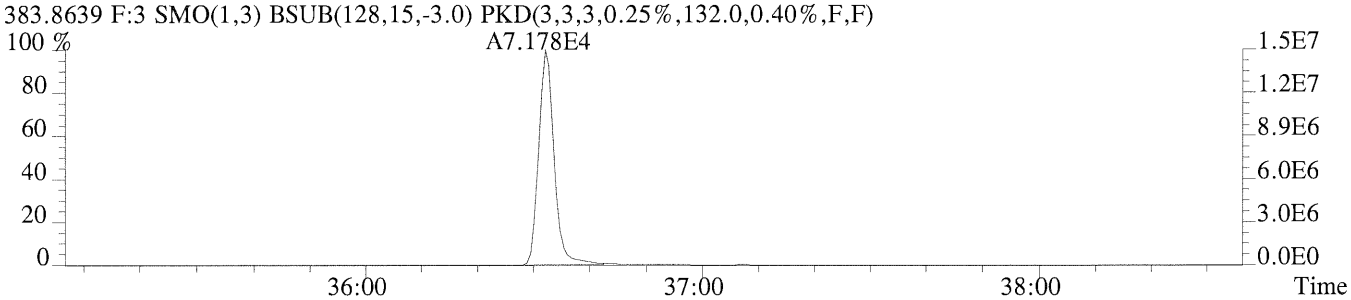
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,344.0,0.40%,F,F)



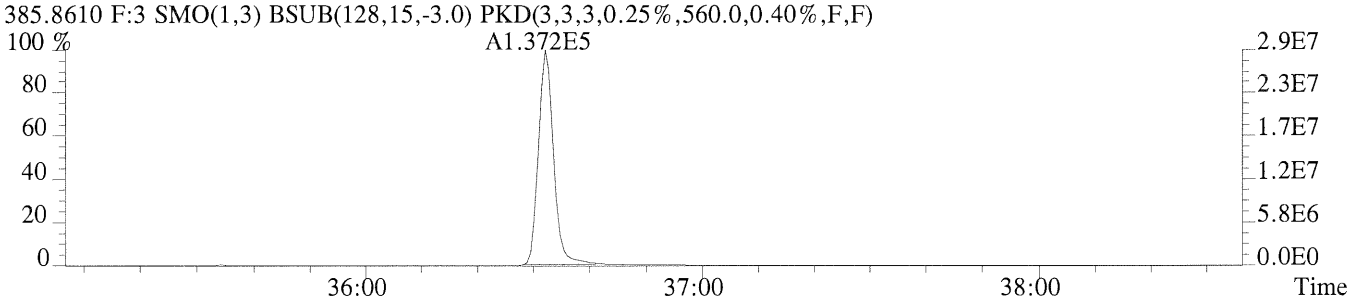
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,172.0,0.40%,F,F)



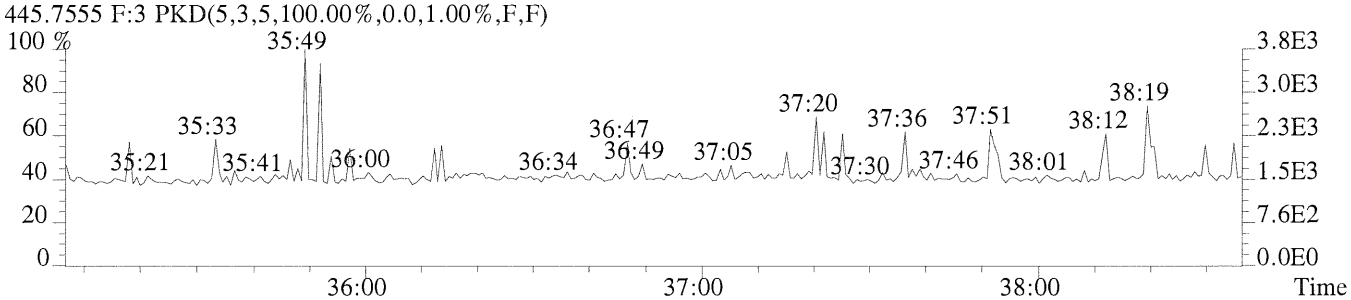
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,132.0,0.40%,F,F)



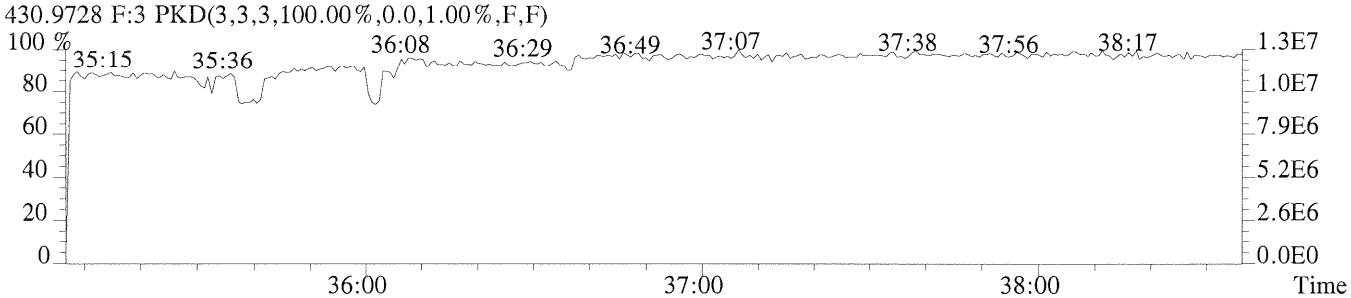
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,560.0,0.40%,F,F)



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

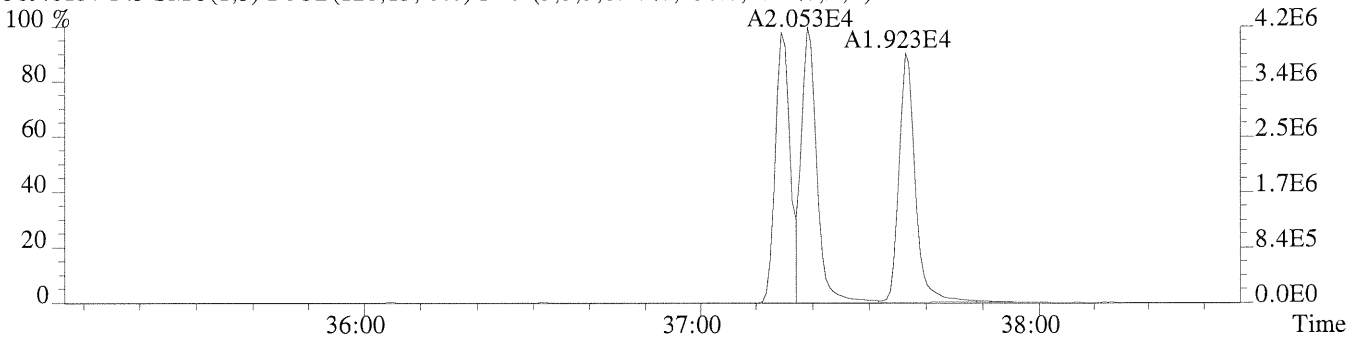


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

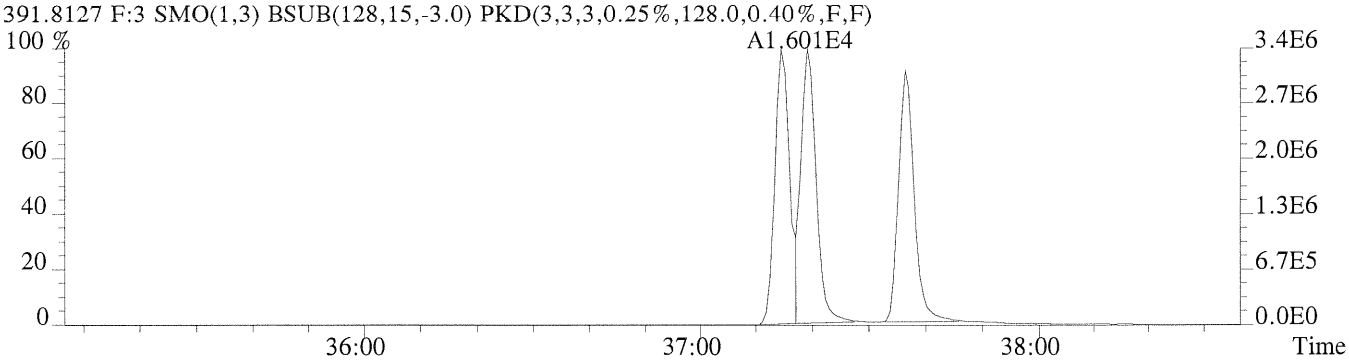


File:P200031 #1-318 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

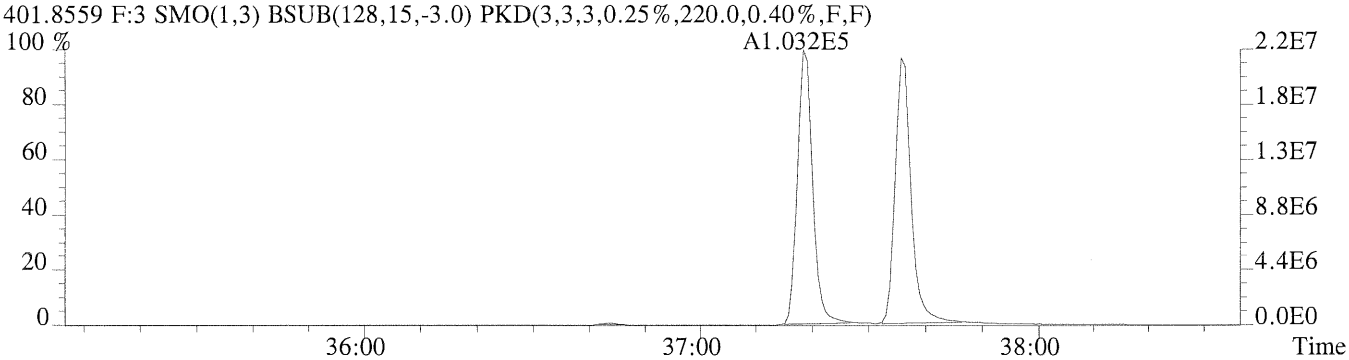
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,136.0,0.40%,F,F)



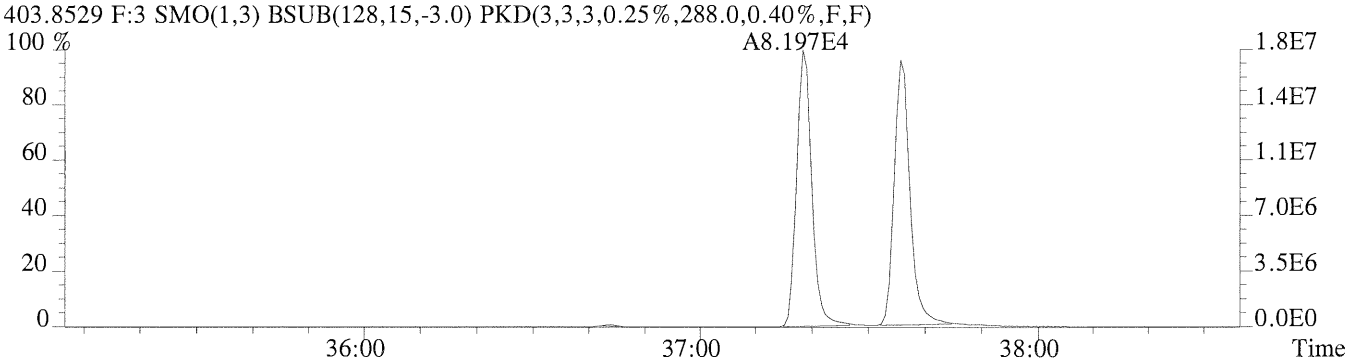
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,128.0,0.40%,F,F)



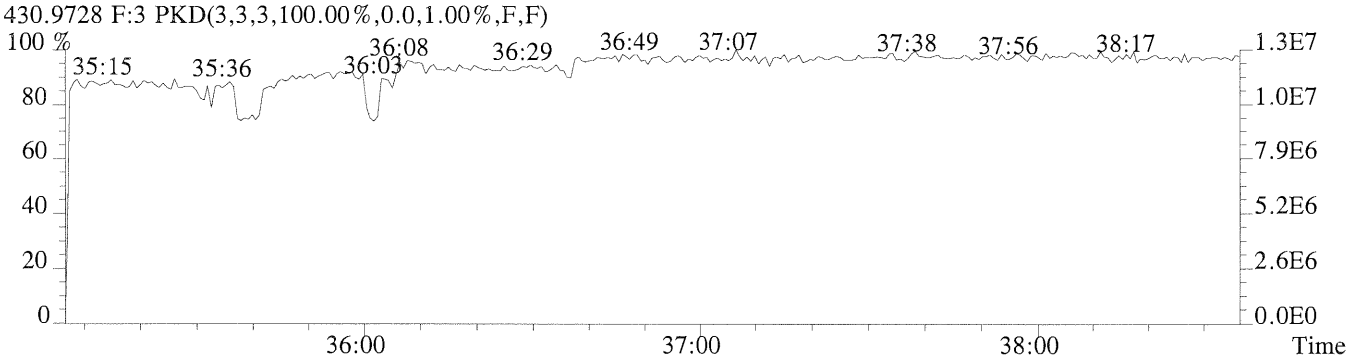
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,220.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,288.0,0.40%,F,F)

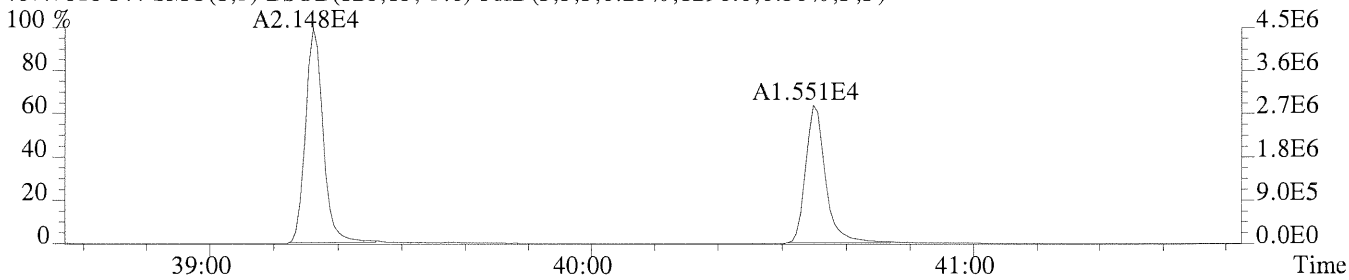


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

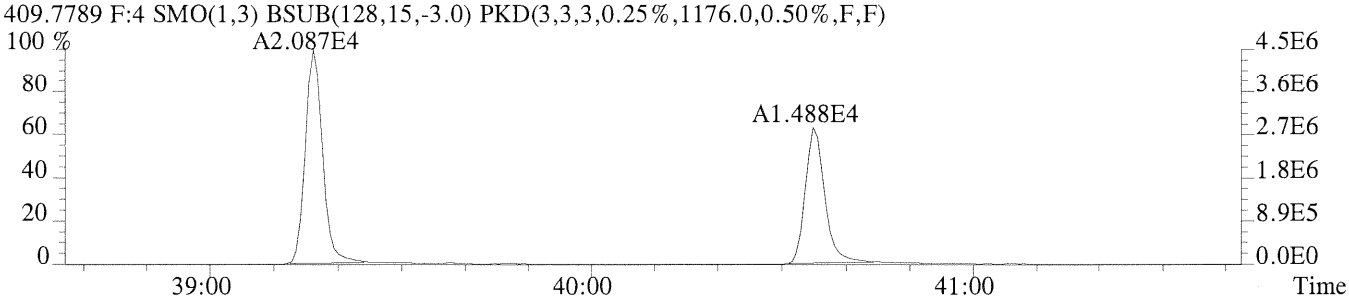


File:P200031 #1-281 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

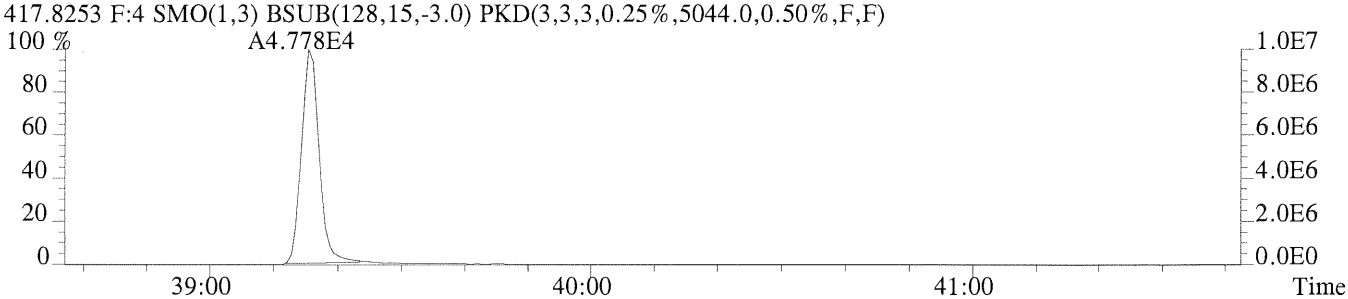
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1296.0,0.50%,F,F)



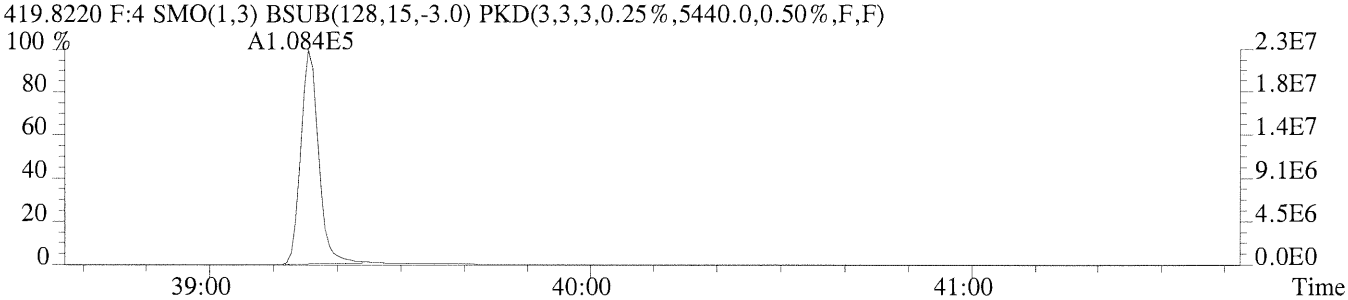
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1176.0,0.50%,F,F)



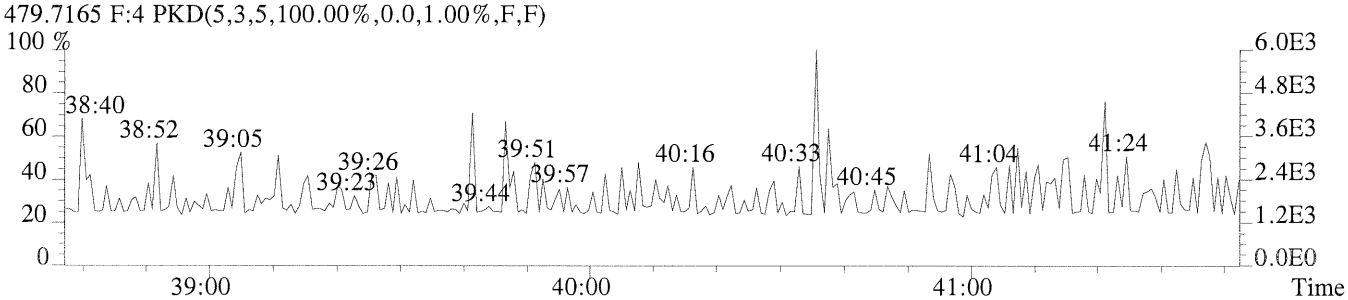
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5044.0,0.50%,F,F)



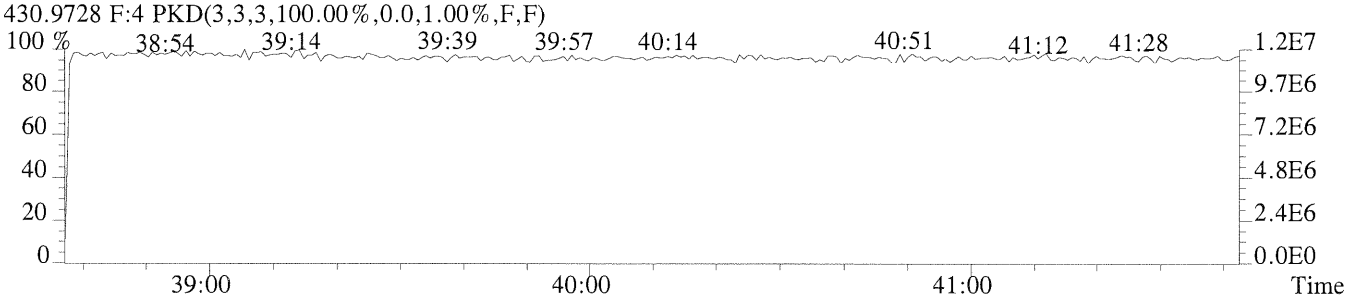
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5440.0,0.50%,F,F)



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

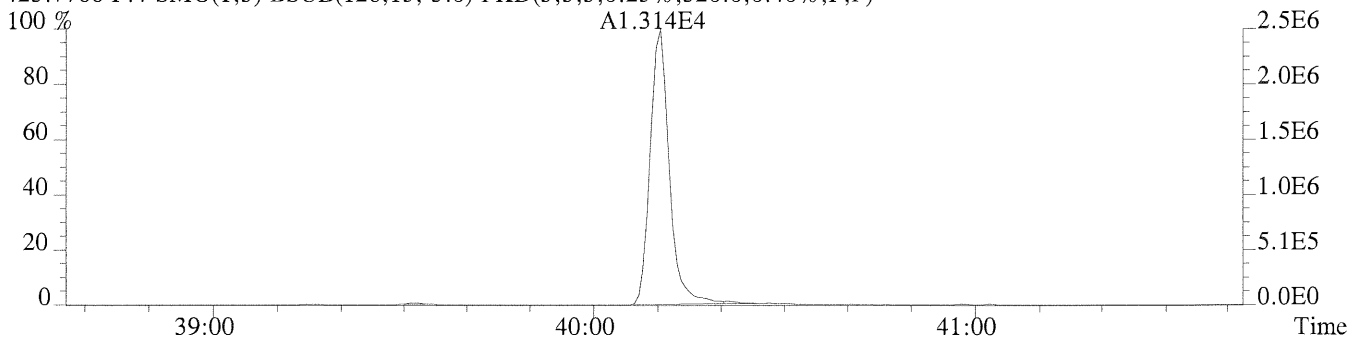


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

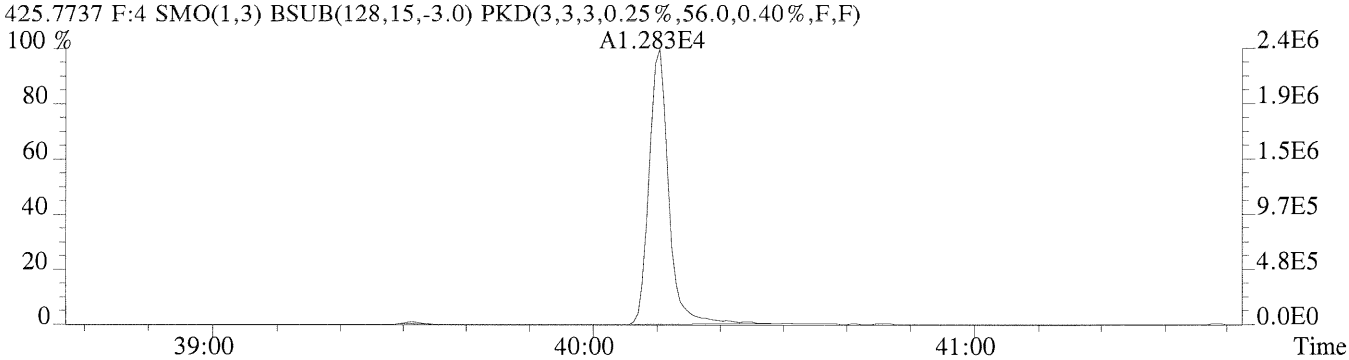


File:P200031 #1-281 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3

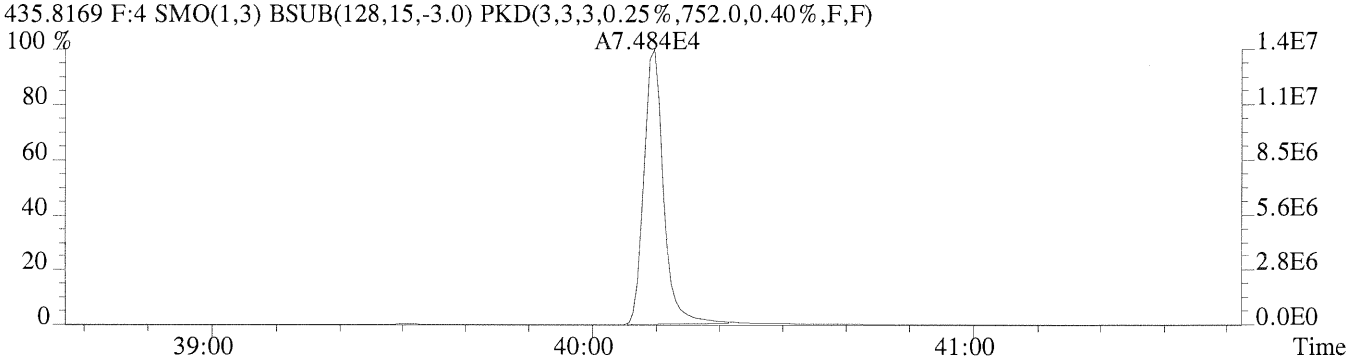
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,320.0,0.40%,F,F)



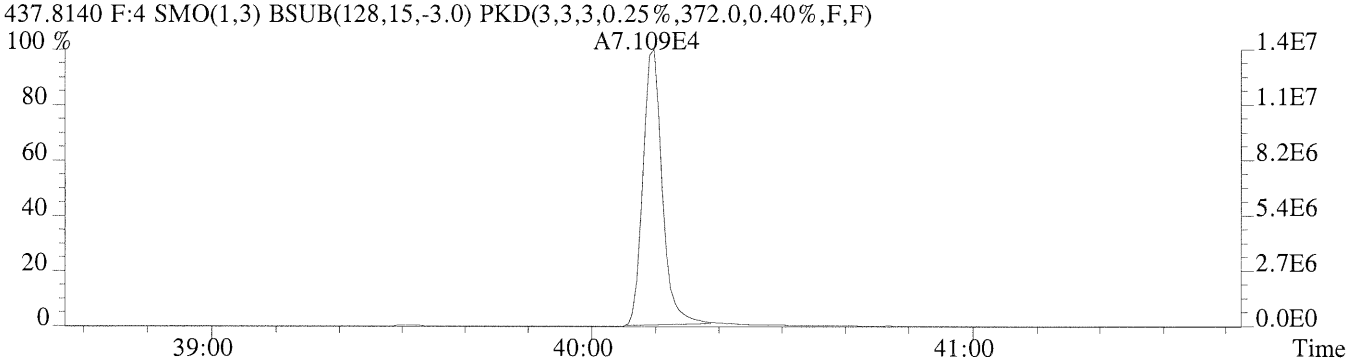
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,56.0,0.40%,F,F)



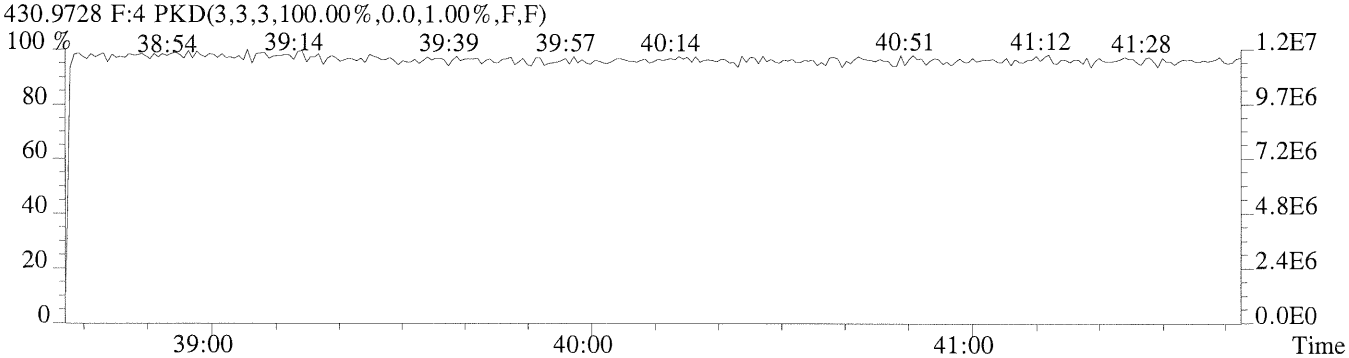
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,752.0,0.40%,F,F)



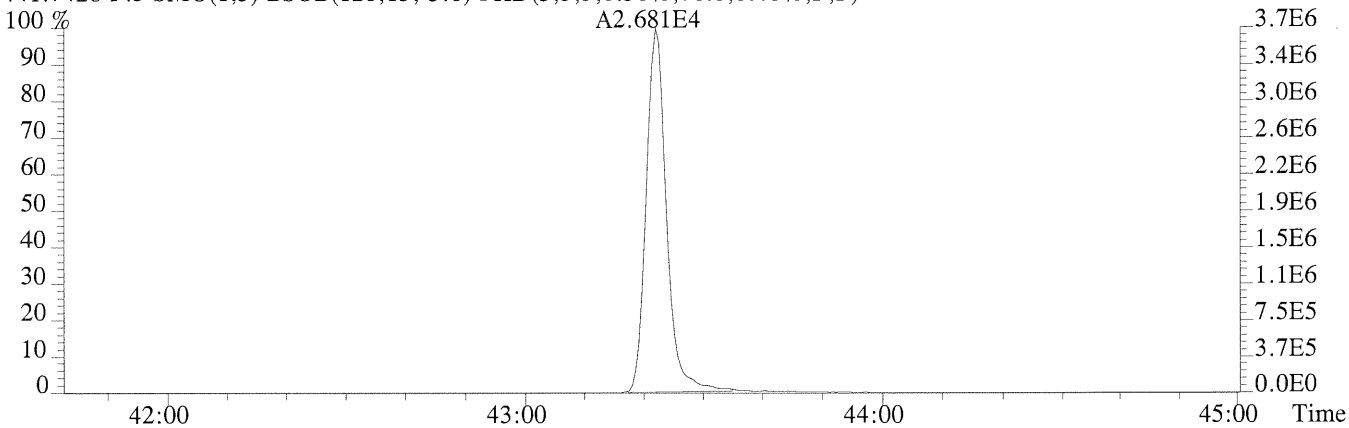
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,372.0,0.40%,F,F)



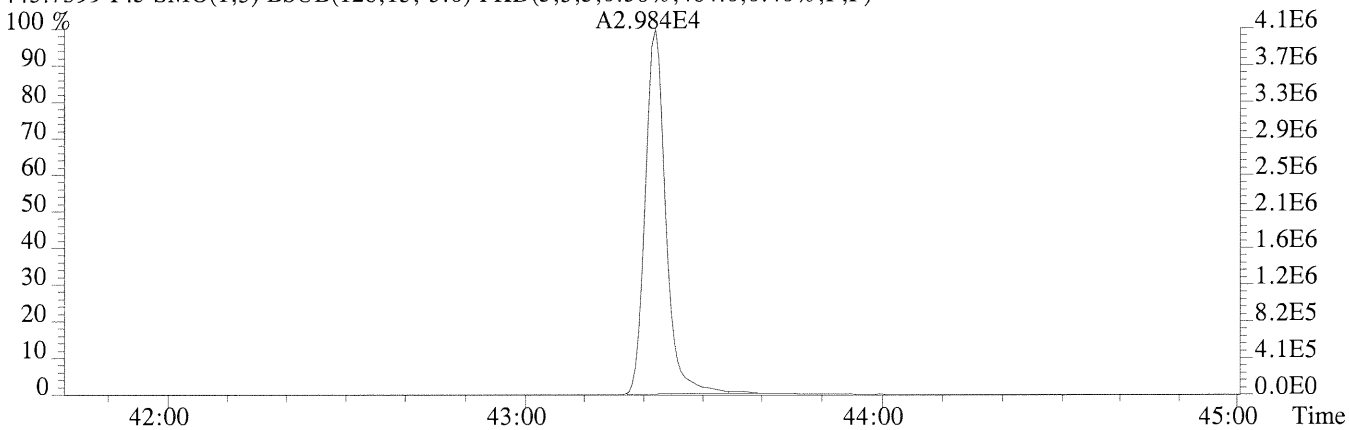
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



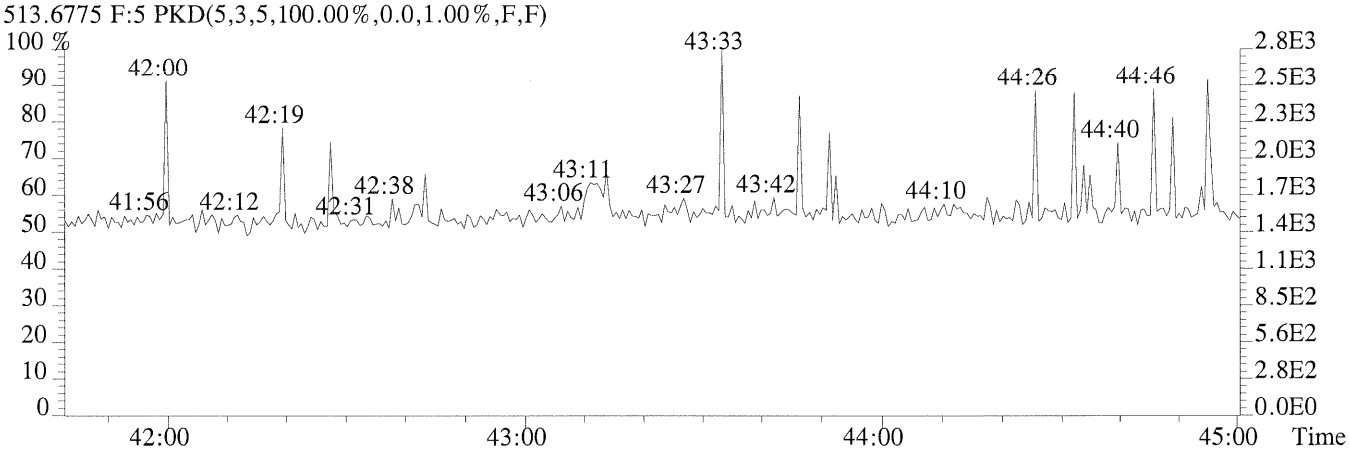
File:P200031 #1-364 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,76.0,0.40%,F,F)



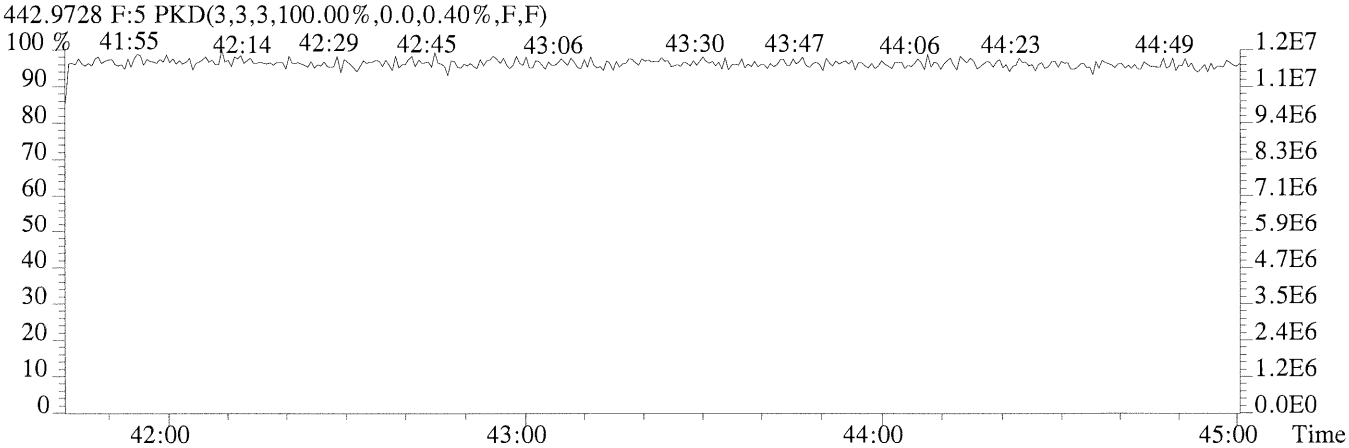
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,484.0,0.40%,F,F)



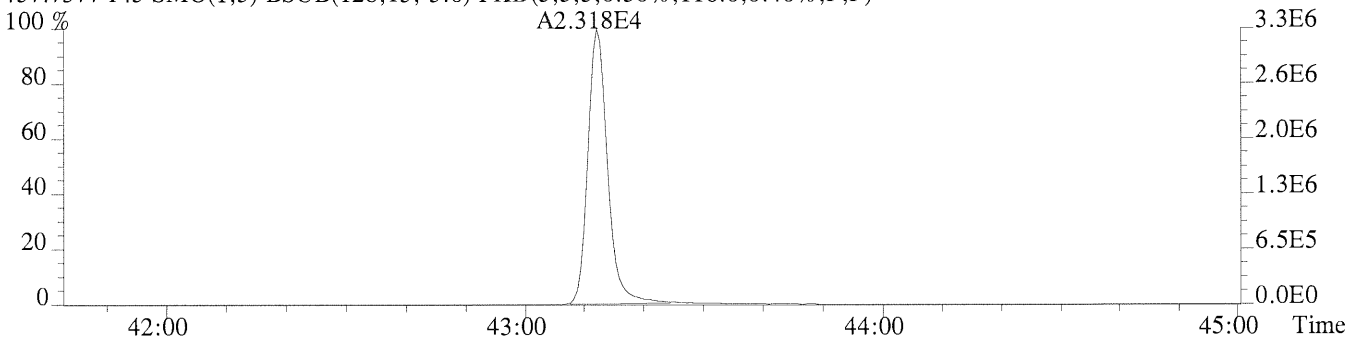
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



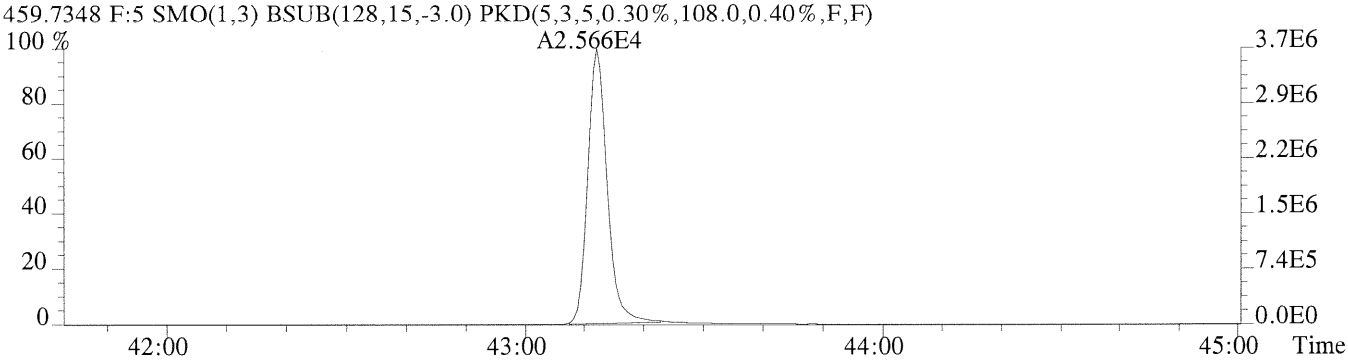
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



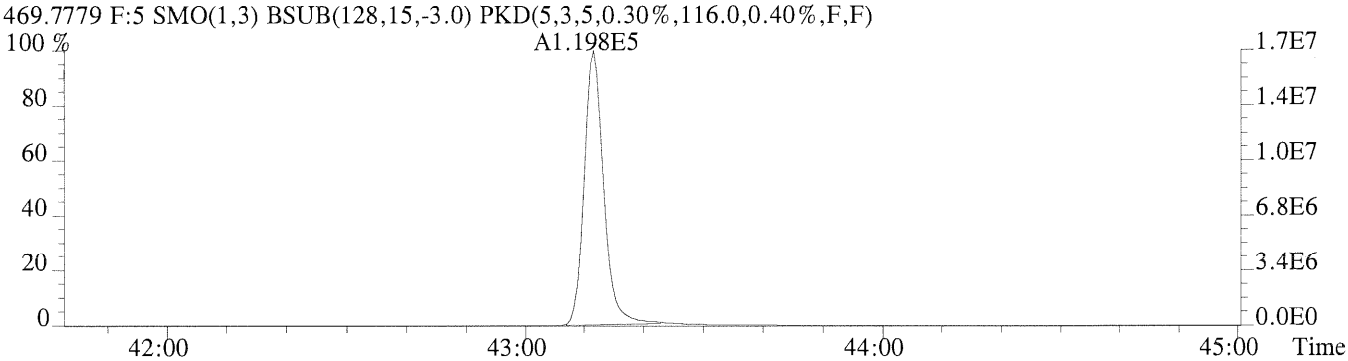
File:P200031 #1-364 Acq: 1-AUG-2008 15:21:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:CCAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



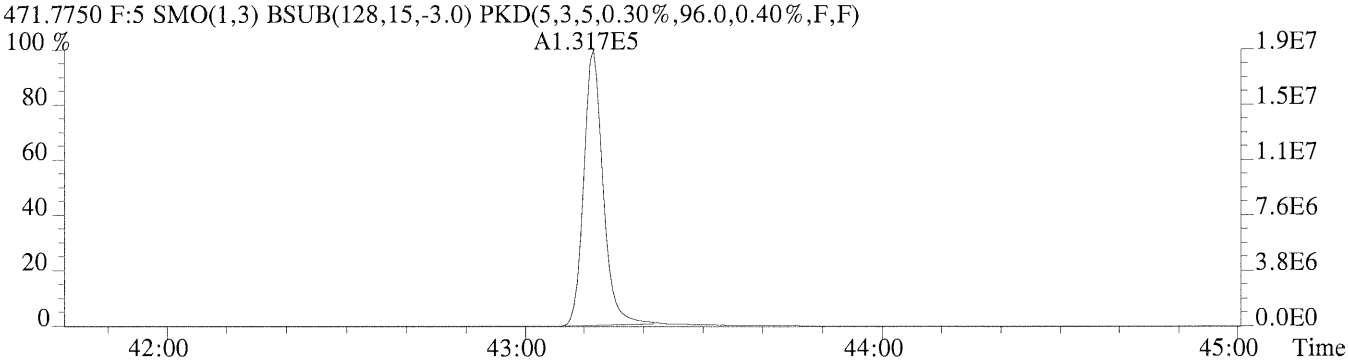
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,108.0,0.40%,F,F)



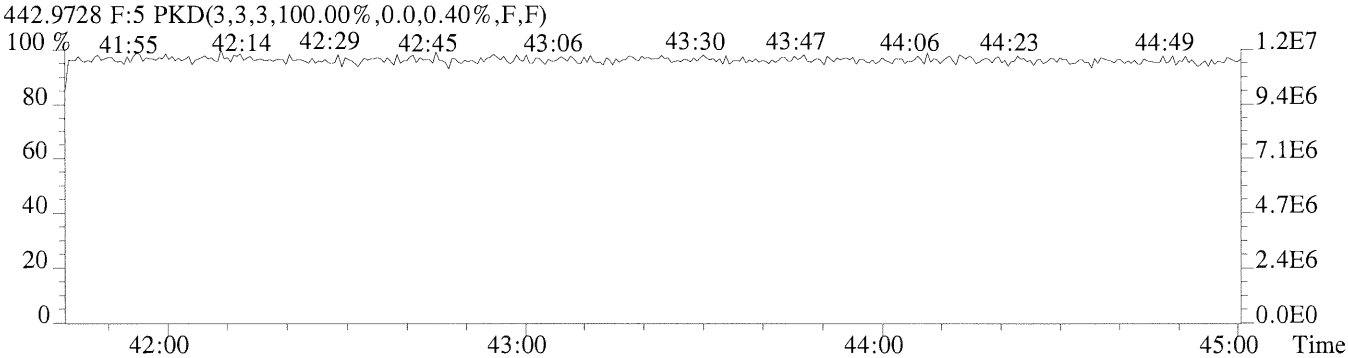
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,96.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC4

Run #4 Filename P200034 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 18:16:07
Processed: 7-AUG-08 06:33:20 Sample ID: ICAL HRCC4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	5.932e+04	7.728e+04	0.77	yes	no	0.83
2	Unk	1,2,3,7,8-PeCDF	32:59	1.729e+05	1.128e+05	1.53	yes	no	0.84
3	Unk	2,3,4,7,8-PeCDF	33:43	1.757e+05	1.151e+05	1.53	yes	no	0.85
4	Unk	1,2,3,4,7,8-HxCDF	36:33	1.390e+05	1.142e+05	1.22	yes	no	1.08
5	Unk	1,2,3,6,7,8-HxCDF	36:39	1.462e+05	1.195e+05	1.22	yes	no	1.13
6	Unk	2,3,4,6,7,8-HxCDF	37:07	1.307e+05	1.061e+05	1.23	yes	no	1.01
7	Unk	1,2,3,7,8,9-HxCDF	37:50	1.120e+05	9.166e+04	1.22	yes	no	0.86
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	1.116e+05	1.100e+05	1.01	yes	no	1.32
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	8.384e+04	8.213e+04	1.02	yes	no	0.97
10	Unk	OCDF	43:22	1.203e+05	1.349e+05	0.89	yes	no	1.11
11	Unk	2,3,7,8-TCDD	29:27	4.848e+04	6.286e+04	0.77	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:05	1.213e+05	7.866e+04	1.54	yes	no	0.87
13	Unk	1,2,3,4,7,8-HxCDD	37:14	9.237e+04	7.426e+04	1.24	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:19	1.060e+05	8.394e+04	1.26	yes	no	1.05
15	Unk	1,2,3,7,8,9-HxCDD	37:36	9.598e+04	7.644e+04	1.26	yes	no	0.97
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	7.010e+04	6.690e+04	1.05	yes	no	0.88
17	Unk	OCDD	43:12	1.008e+05	1.127e+05	0.89	yes	no	0.96
18	IS	13C-2,3,7,8-TCDF	28:35	7.137e+04	9.111e+04	0.78	yes	no	1.42
19	IS	13C-1,2,3,7,8-PeCDF	32:59	8.260e+04	5.267e+04	1.57	yes	no	1.26
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	8.010e+04	1.555e+05	0.52	yes	no	1.28
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:15	5.146e+04	1.168e+05	0.44	yes	no	0.90
22	IS	13C-2,3,7,8-TCDD	29:26	5.255e+04	6.845e+04	0.77	yes	no	1.05
23	IS	13C-1,2,3,7,8-PeCDD	34:04	5.545e+04	3.609e+04	1.54	yes	no	0.87
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	9.892e+04	7.918e+04	1.25	yes	no	1.00
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	7.892e+04	7.556e+04	1.04	yes	no	0.83
26	IS	13C-OCDD	43:11	1.058e+05	1.179e+05	0.90	yes	no	0.73
27	RS/RT	13C-1,2,3,4-TCDD	29:14	4.992e+04	6.366e+04	0.78	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	9.873e+04	7.842e+04	1.26	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	1.126e+05					0.98

Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC4

Run #4 Filename P200034 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 18:16:07

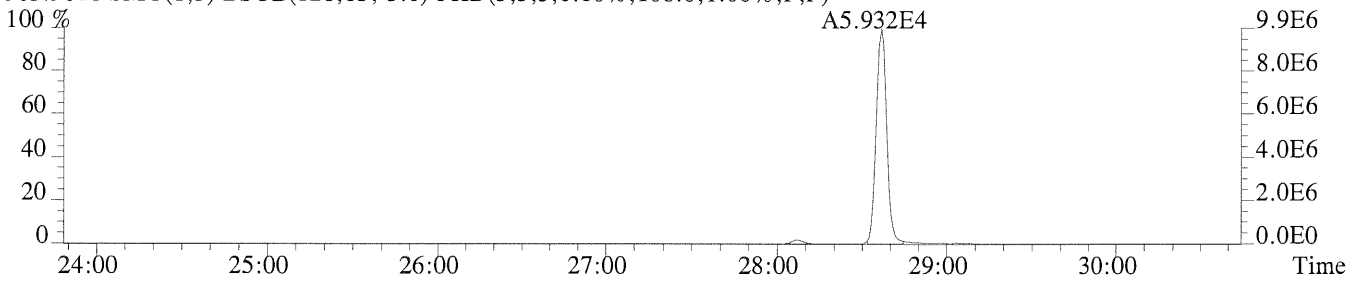
Processed: 7-AUG-08 06:33:20 LAB. ID: ICAL HRCC4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	9.93e+06	1.08e+02	9.2e+04	1.29e+07	1.44e+02	8.9e+04
2	1,2,3,7,8-PeCDF	3.32e+07	6.80e+01	4.9e+05	2.17e+07	7.12e+02	3.0e+04
3	2,3,4,7,8-PeCDF	3.51e+07	6.80e+01	5.2e+05	2.27e+07	7.12e+02	3.2e+04
4	1,2,3,4,7,8-HxCDF	3.04e+07	8.36e+02	3.6e+04	2.48e+07	7.36e+02	3.4e+04
5	1,2,3,6,7,8-HxCDF	2.90e+07	8.36e+02	3.5e+04	2.37e+07	7.36e+02	3.2e+04
6	2,3,4,6,7,8-HxCDF	2.68e+07	8.36e+02	3.2e+04	2.20e+07	7.36e+02	3.0e+04
7	1,2,3,7,8,9-HxCDF	2.28e+07	8.36e+02	2.7e+04	1.87e+07	7.36e+02	2.5e+04
8	1,2,3,4,6,7,8-HpCDF	2.34e+07	7.66e+03	3.1e+03	2.29e+07	6.00e+03	3.8e+03
9	1,2,3,4,7,8,9-HpCDF	1.56e+07	7.66e+03	2.0e+03	1.51e+07	6.00e+03	2.5e+03
10	OCDF	1.70e+07	4.72e+02	3.6e+04	1.93e+07	3.00e+02	6.4e+04
11	2,3,7,8-TCDD	8.43e+06	9.60e+01	8.8e+04	1.10e+07	1.48e+02	7.5e+04
12	1,2,3,7,8-PeCDD	2.44e+07	4.68e+02	5.2e+04	1.58e+07	1.56e+02	1.0e+05
13	1,2,3,4,7,8-HxCDD	2.13e+07	5.20e+02	4.1e+04	1.69e+07	1.60e+02	1.1e+05
14	1,2,3,6,7,8-HxCDD	2.19e+07	5.20e+02	4.2e+04	1.74e+07	1.60e+02	1.1e+05
15	1,2,3,7,8,9-HxCDD	2.07e+07	5.20e+02	4.0e+04	1.64e+07	1.60e+02	1.0e+05
16	1,2,3,4,6,7,8-HpCDD	1.37e+07	1.00e+03	1.4e+04	1.32e+07	8.56e+02	1.5e+04
17	OCDD	1.43e+07	1.24e+02	1.2e+05	1.62e+07	1.24e+02	1.3e+05
18	13C-2,3,7,8-TCDF	1.18e+07	1.01e+03	1.2e+04	1.51e+07	5.28e+02	2.9e+04
19	13C-1,2,3,7,8-PeCDF	1.58e+07	1.20e+02	1.3e+05	1.00e+07	1.32e+02	7.6e+04
20	13C-1,2,3,4,7,8-HxCDF	1.70e+07	1.44e+02	1.2e+05	3.28e+07	8.80e+02	3.7e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.08e+07	2.71e+03	4.0e+03	2.43e+07	8.02e+03	3.0e+03
22	13C-2,3,7,8-TCDD	9.29e+06	1.42e+03	6.5e+03	1.20e+07	5.92e+02	2.0e+04
23	13C-1,2,3,7,8-PeCDD	1.10e+07	1.60e+02	6.9e+04	7.00e+06	1.28e+02	5.5e+04
24	13C-1,2,3,6,7,8-HxCDD	2.15e+07	3.24e+02	6.6e+04	1.71e+07	5.48e+02	3.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.54e+07	1.51e+03	1.0e+04	1.47e+07	7.16e+02	2.1e+04
26	13C-OCDD	1.47e+07	1.96e+02	7.5e+04	1.68e+07	2.56e+02	6.6e+04
27	13C-1,2,3,4-TCDD	8.80e+06	1.42e+03	6.2e+03	1.11e+07	5.92e+02	1.9e+04
28	13C-1,2,3,7,8,9-HxCDD	2.11e+07	3.24e+02	6.5e+04	1.68e+07	5.48e+02	3.1e+04
29	37Cl-2,3,7,8-TCDD	1.97e+07	1.12e+02	1.8e+05			

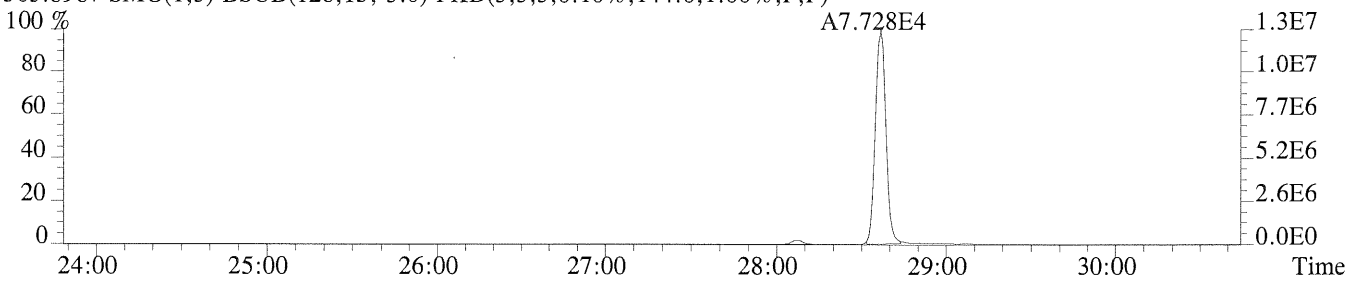
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200034 #1-578 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

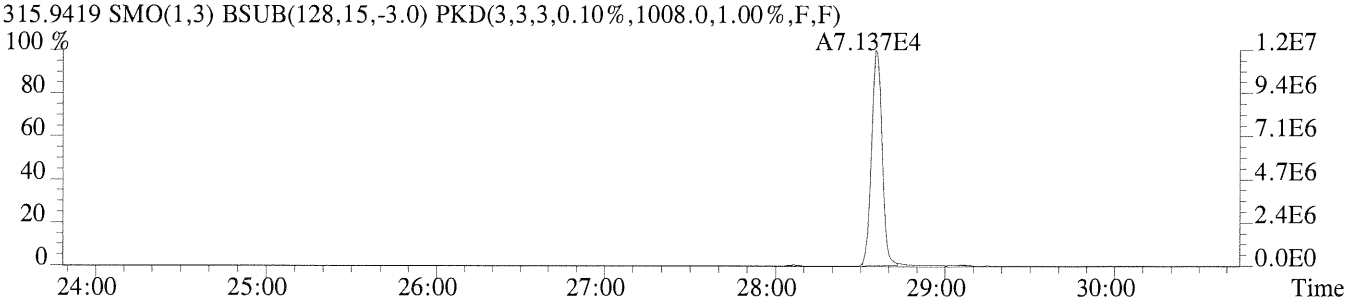
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,108.0,1.00%,F,F)



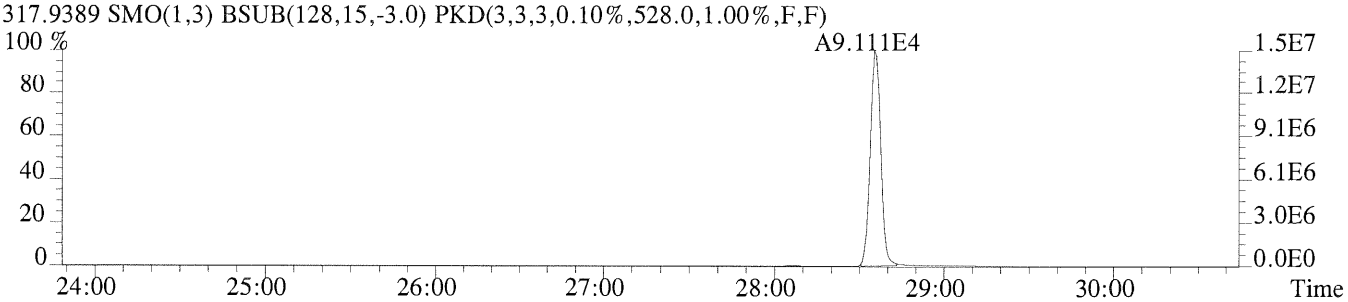
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,144.0,1.00%,F,F)



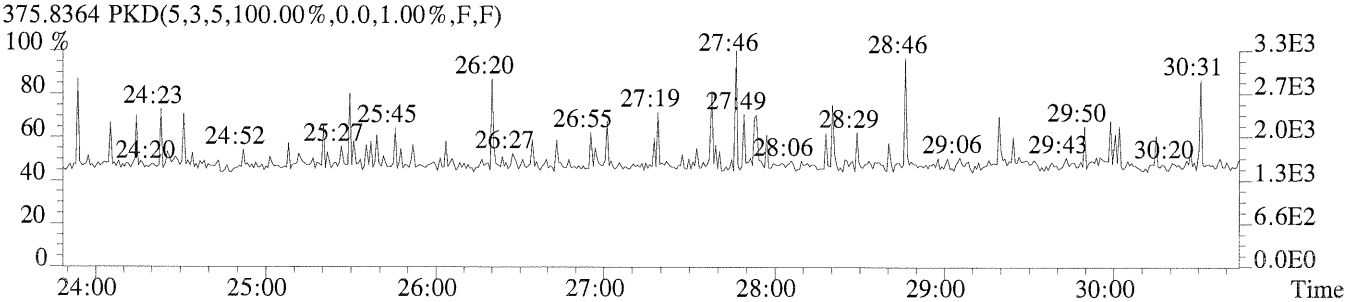
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1008.0,1.00%,F,F)



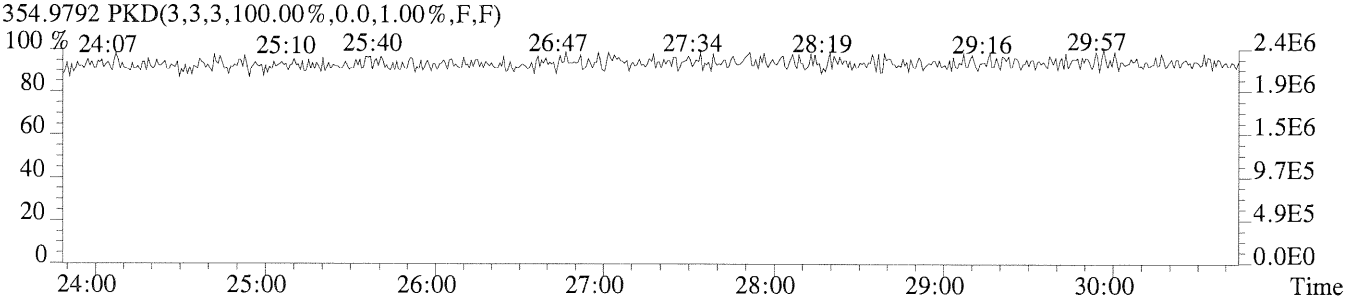
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,F)



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

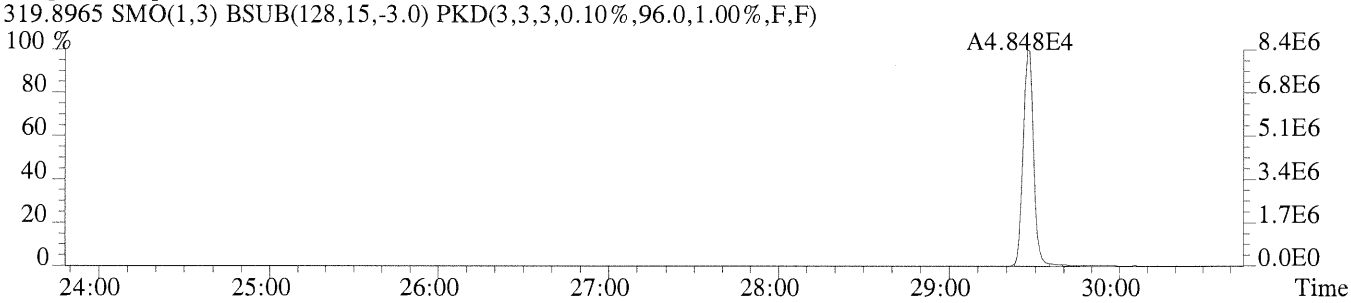


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

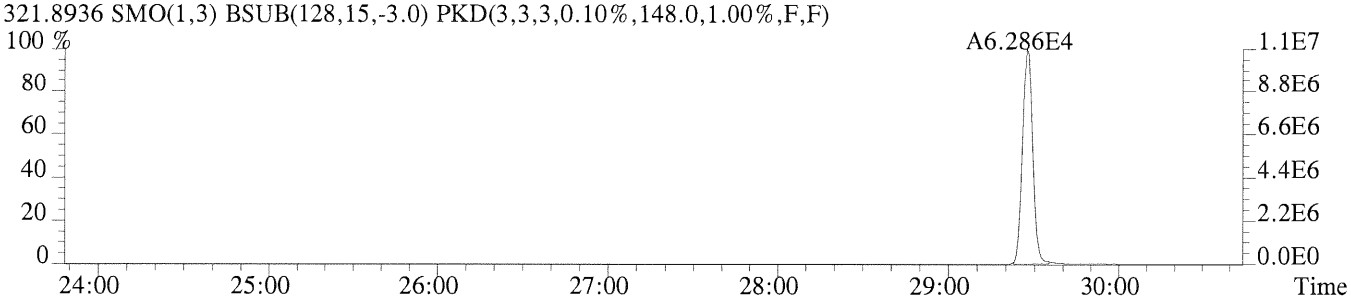


File:P200034 #1-578 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

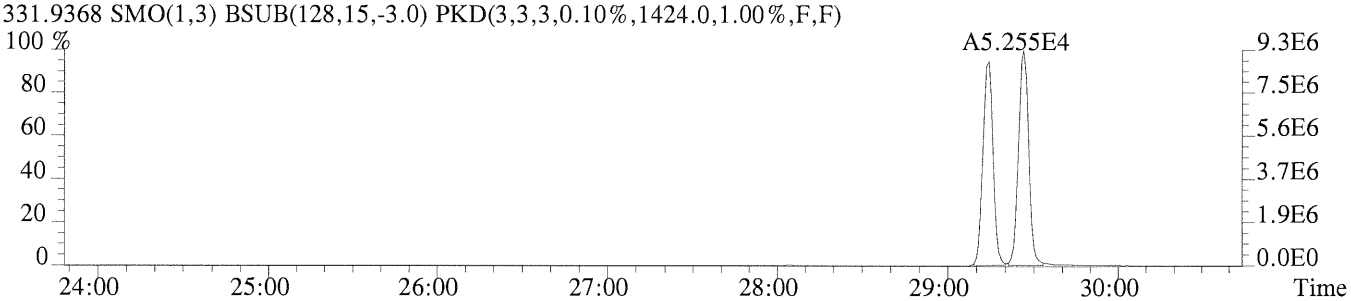
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,96.0,1.00%,F,F)



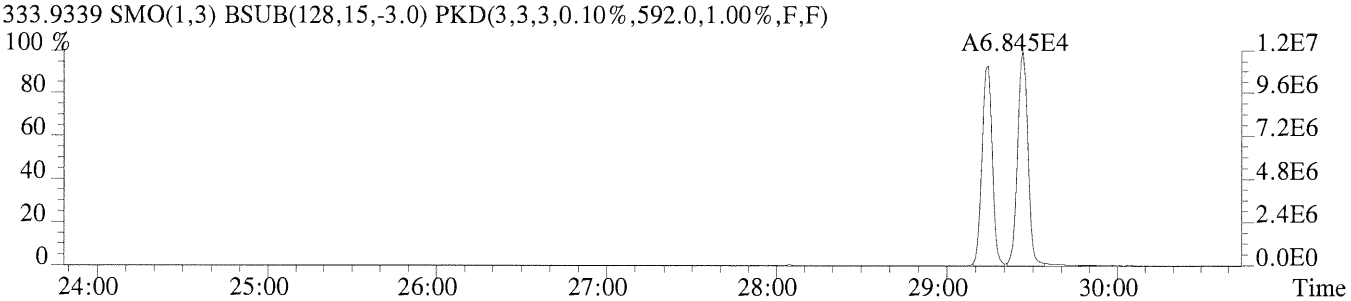
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,148.0,1.00%,F,F)



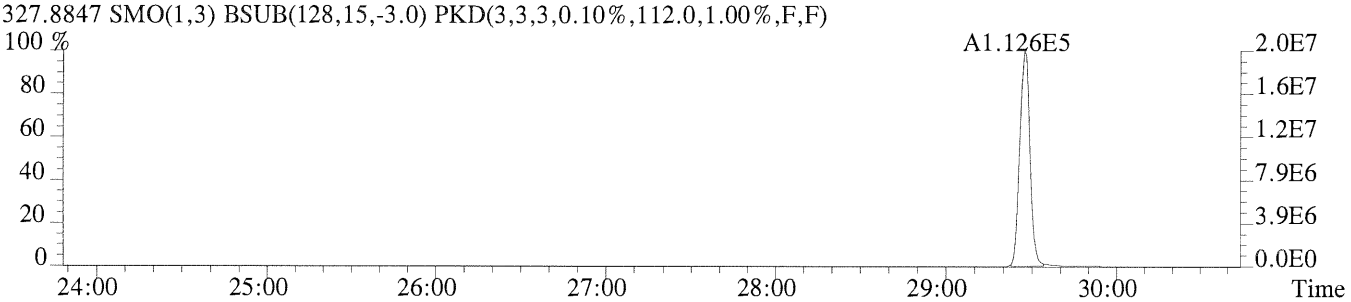
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1424.0,1.00%,F,F)



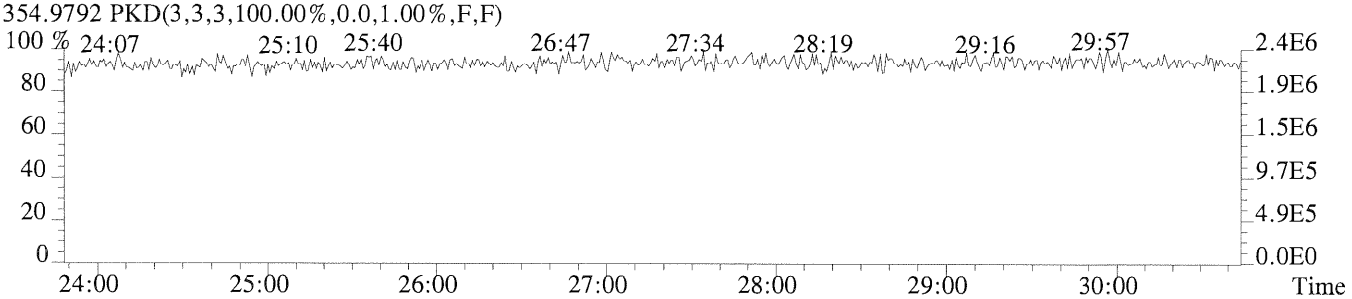
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,592.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,112.0,1.00%,F,F)

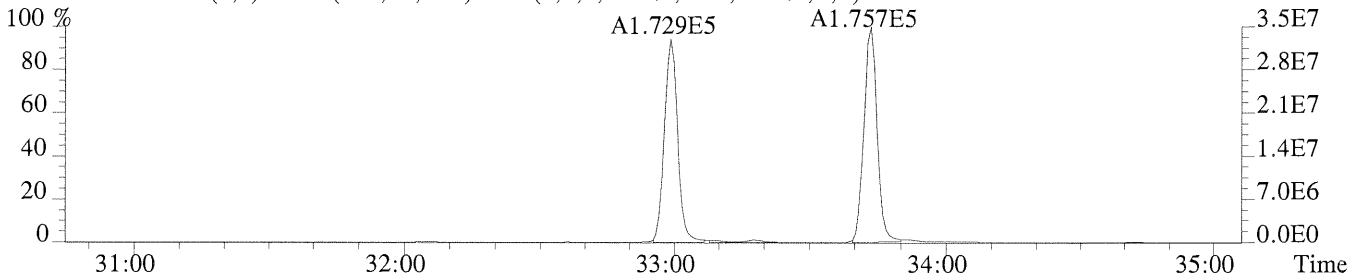


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

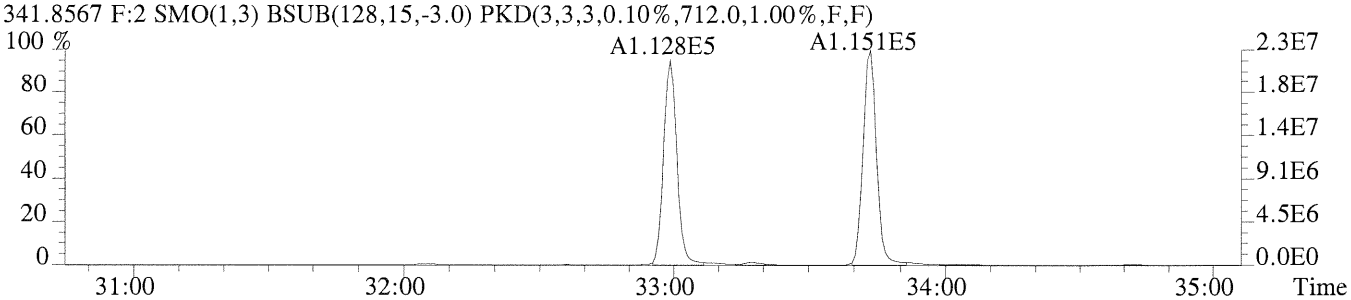


File:P200034 #1-396 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

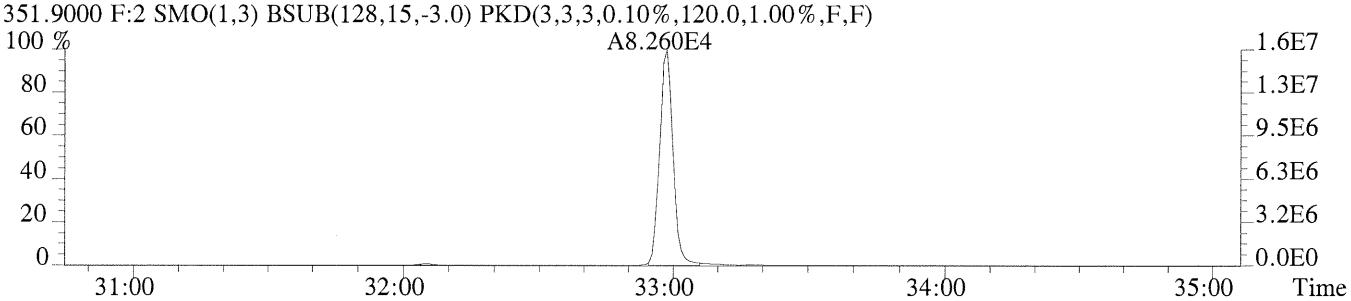
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,68.0,1.00%,F,F)



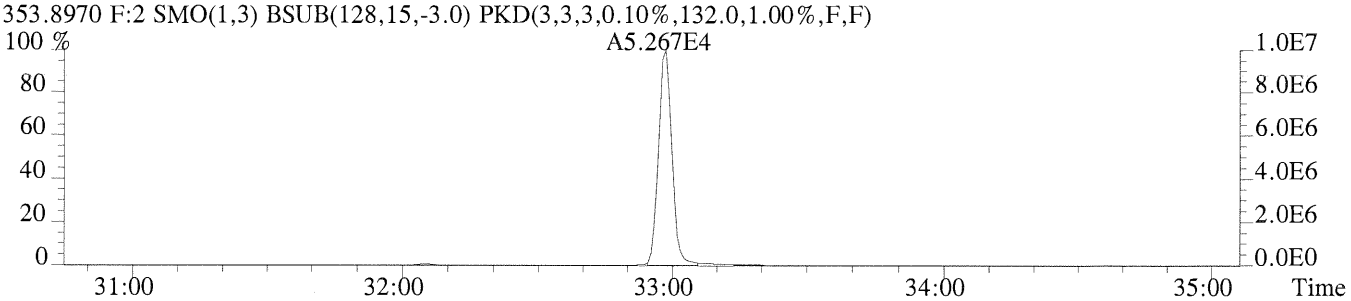
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,712.0,1.00%,F,F)



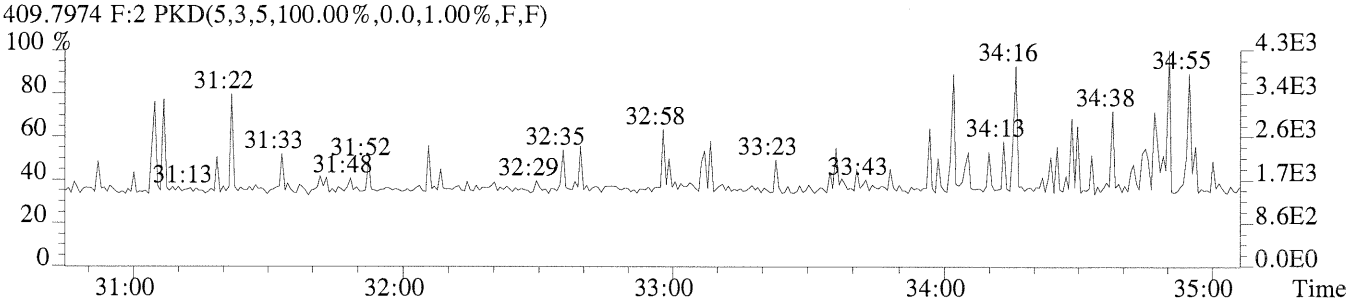
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,120.0,1.00%,F,F)



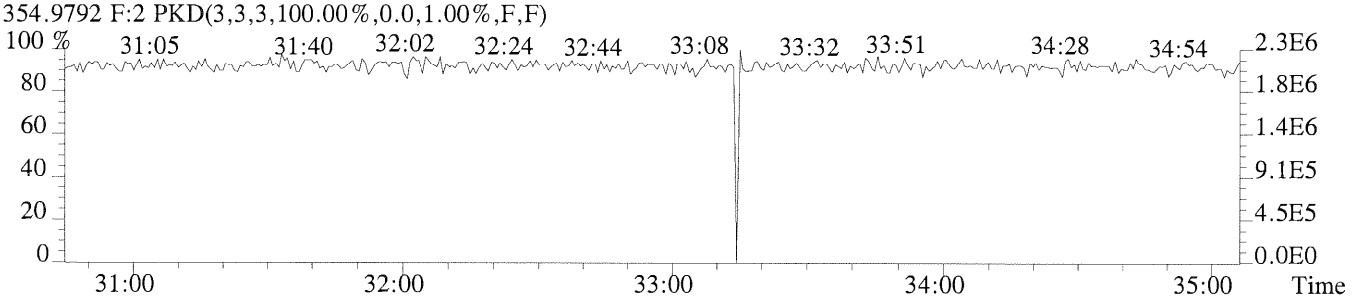
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,132.0,1.00%,F,F)



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

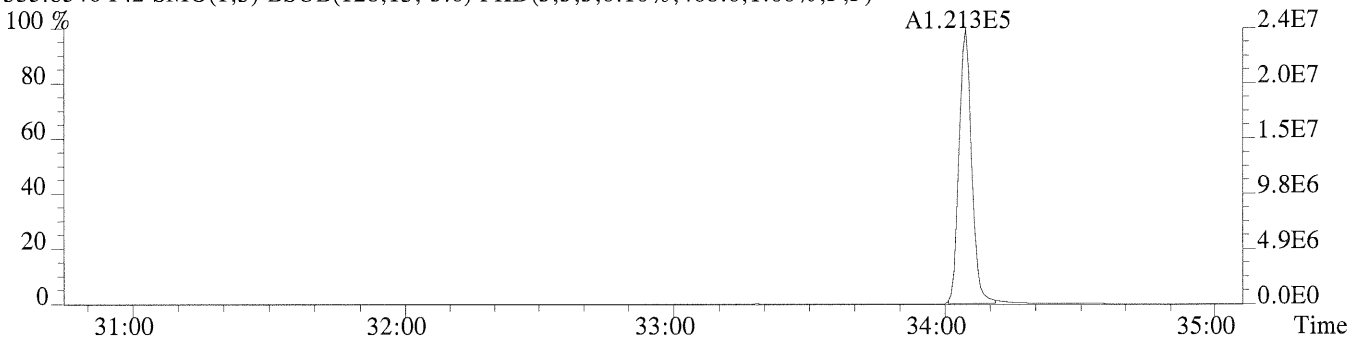


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

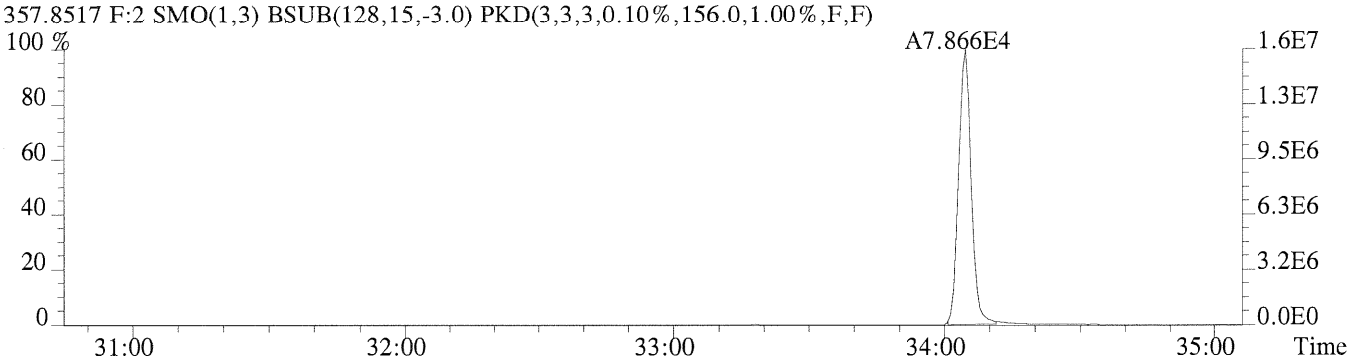


File:P200034 #1-396 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

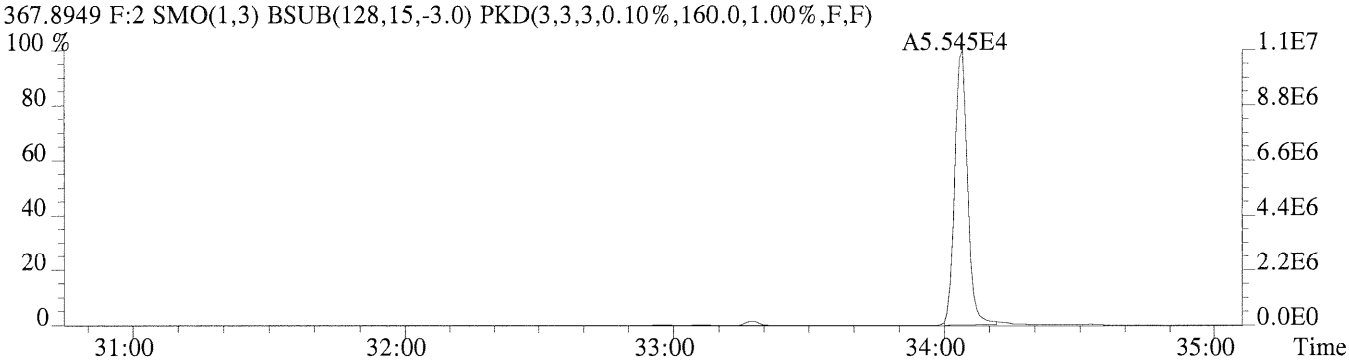
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,F)



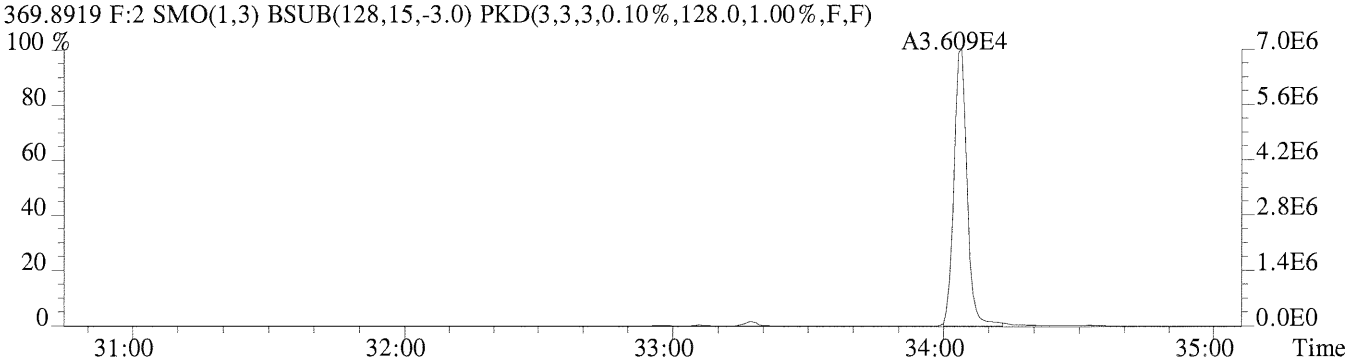
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,156.0,1.00%,F,F)



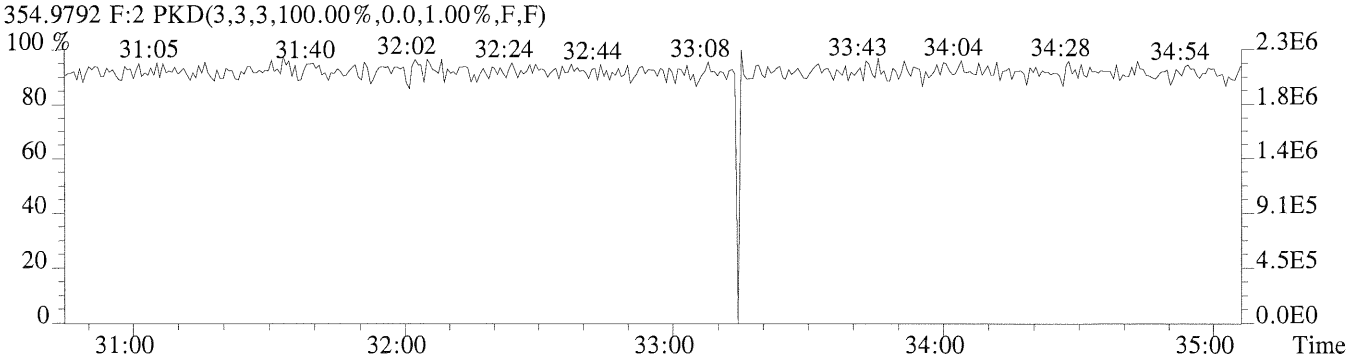
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,160.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)

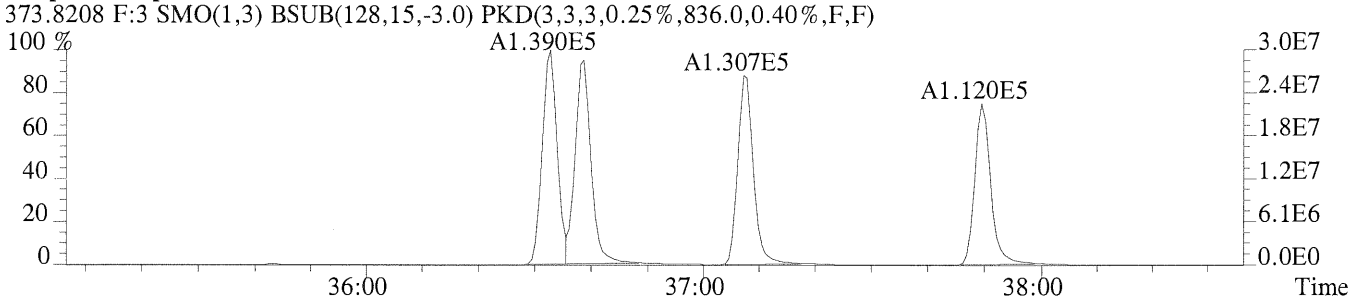


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

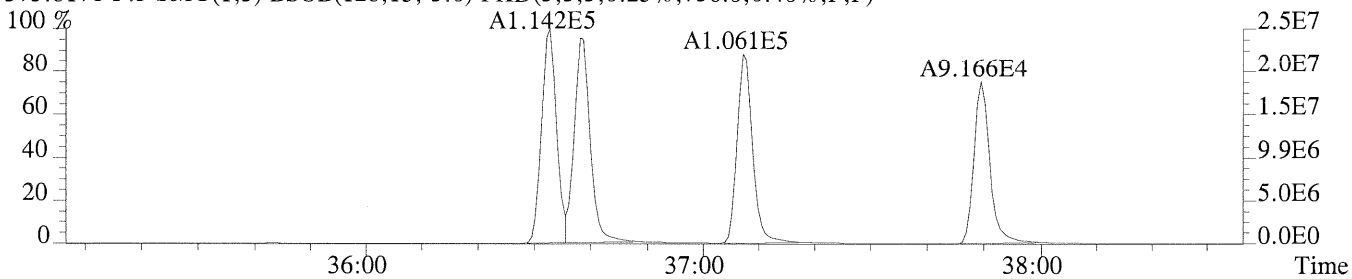


File:P200034 #1-318 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

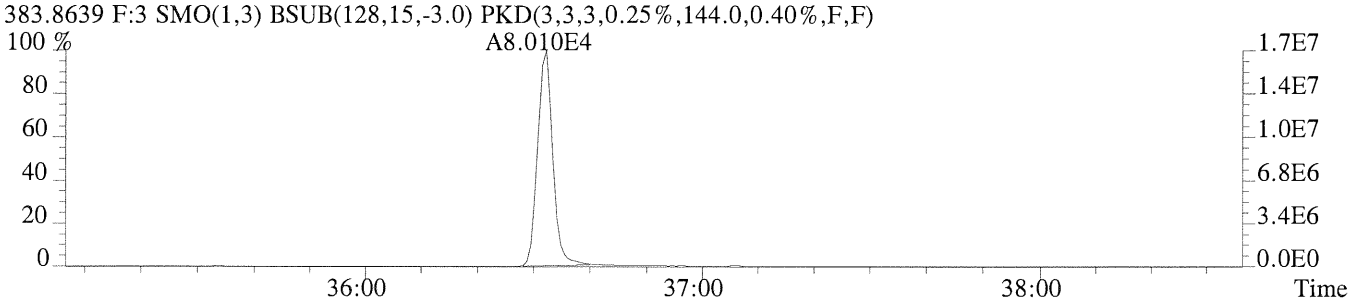
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,836.0,0.40%,F,F)



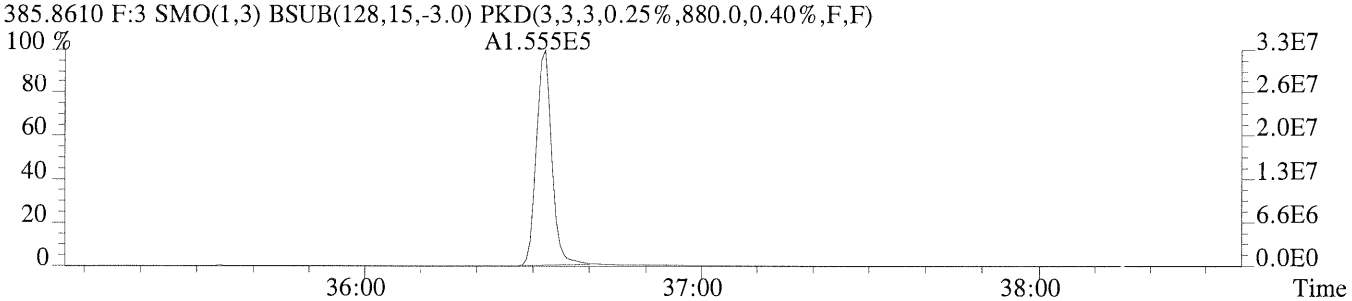
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,736.0,0.40%,F,F)



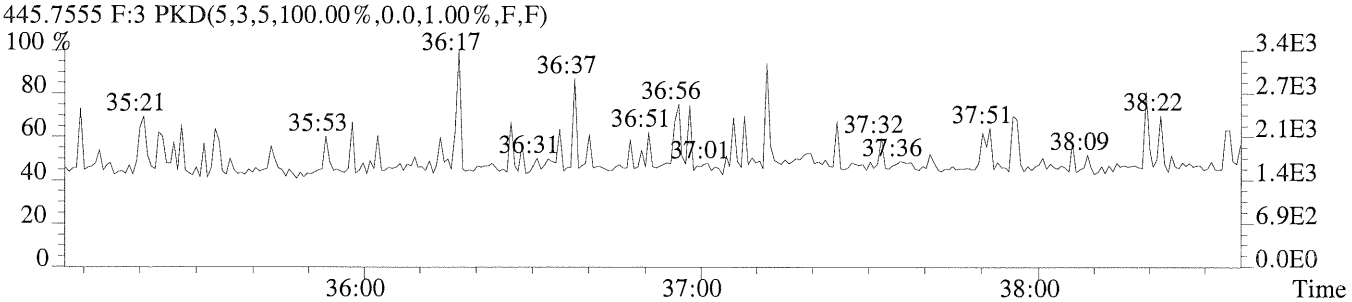
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,144.0,0.40%,F,F)



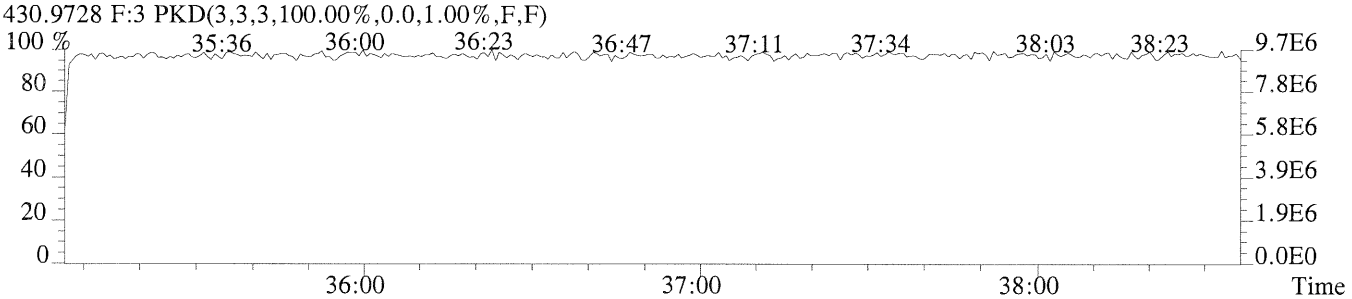
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,880.0,0.40%,F,F)



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

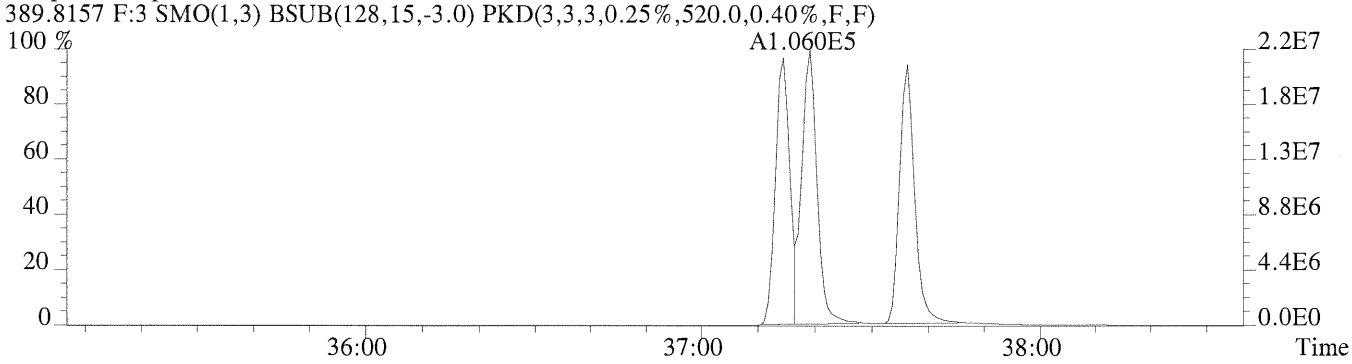


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

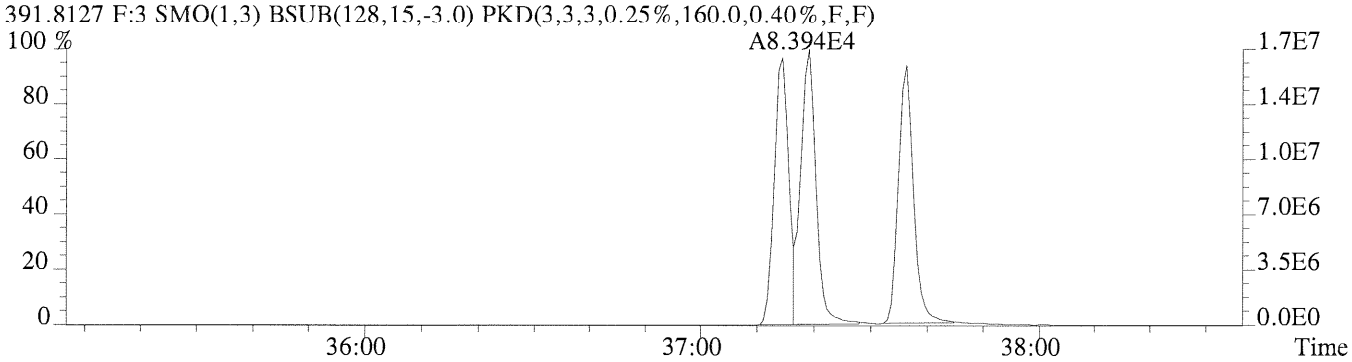


File:P200034 #1-318 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

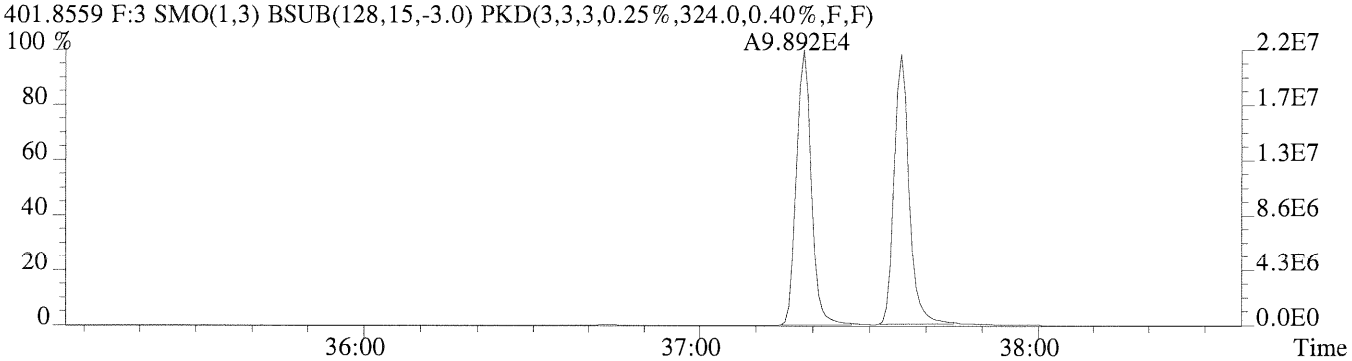
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,520.0,0.40%,F,F)



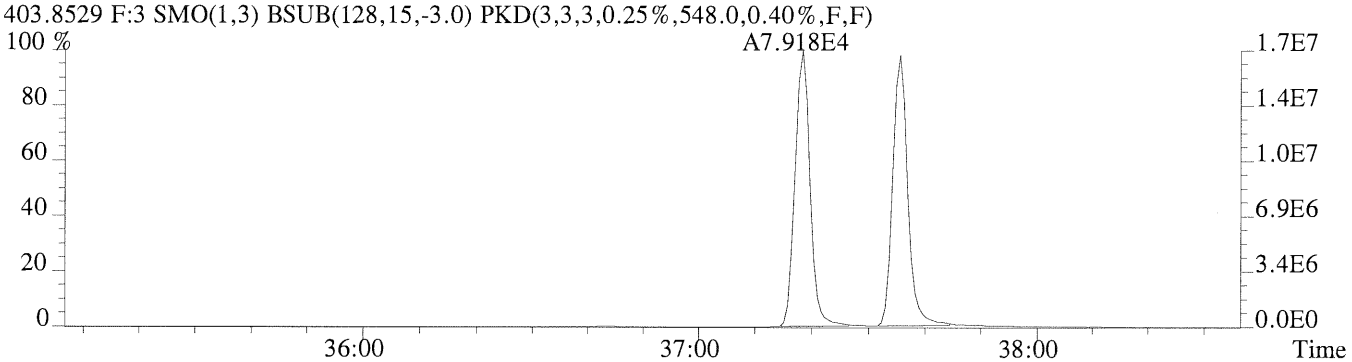
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,160.0,0.40%,F,F)



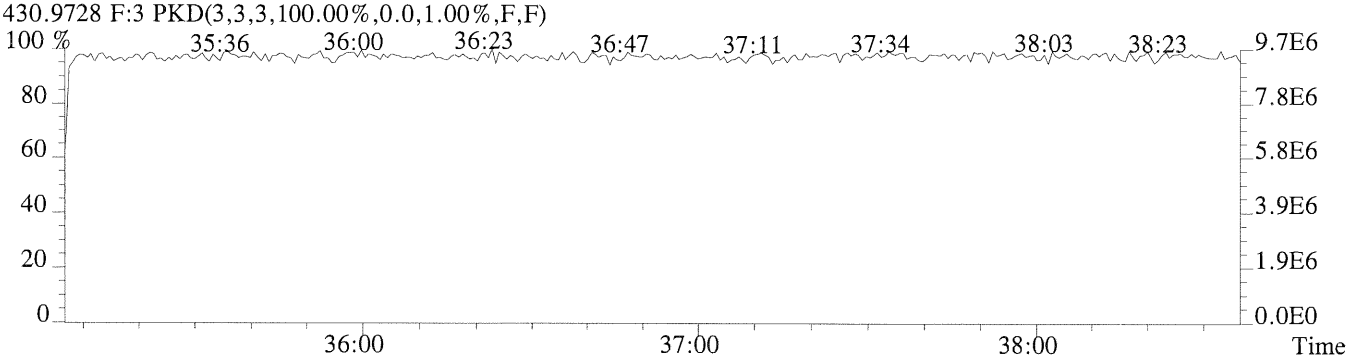
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,324.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,548.0,0.40%,F,F)

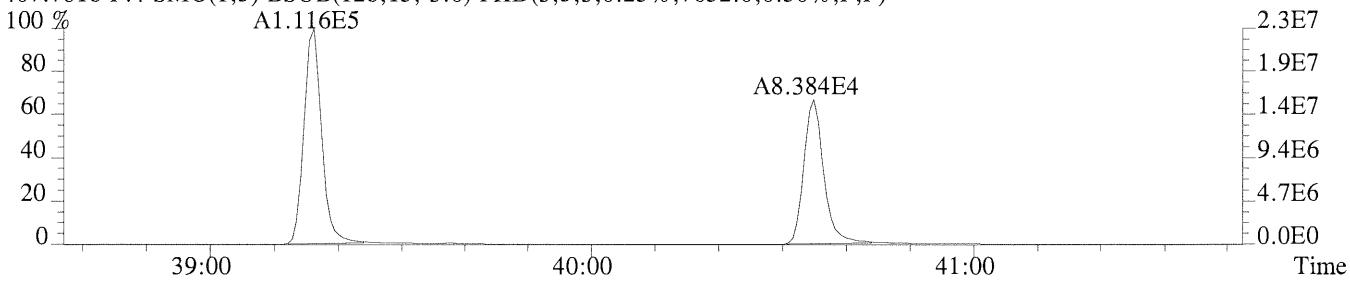


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

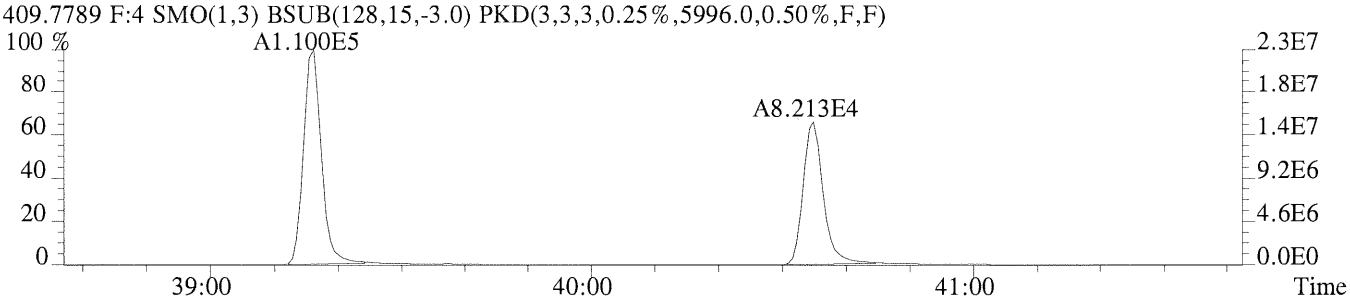


File:P200034 #1-281 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

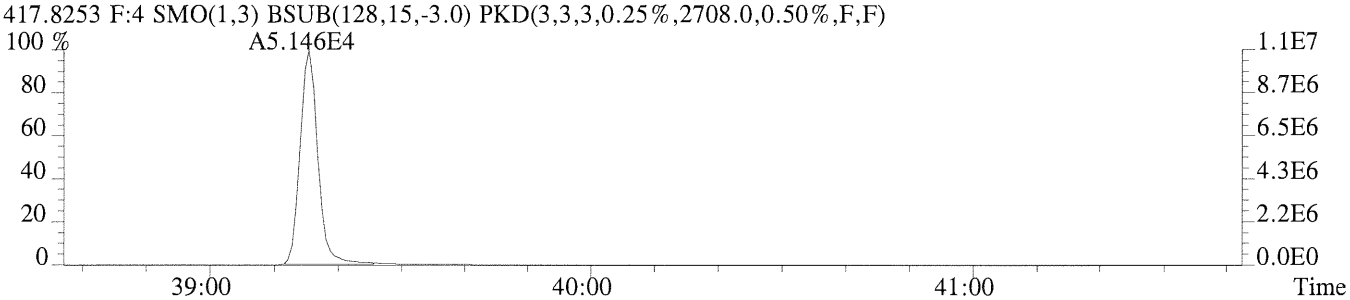
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,7652.0,0.50%,F,F)



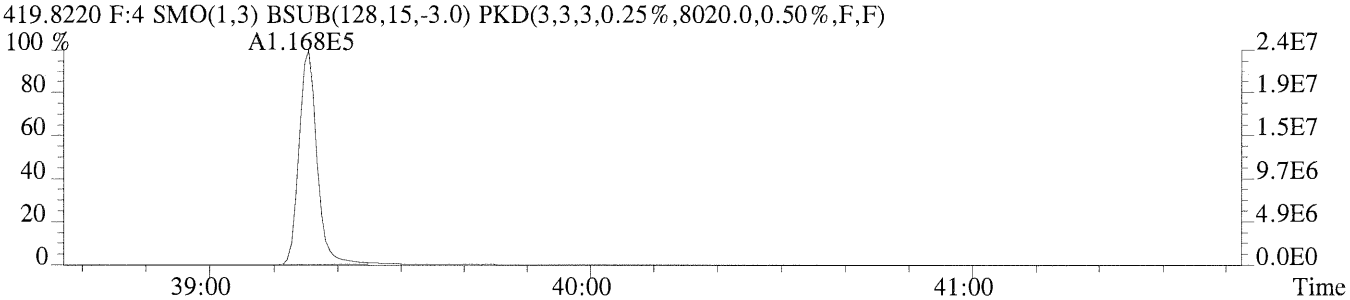
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5996.0,0.50%,F,F)



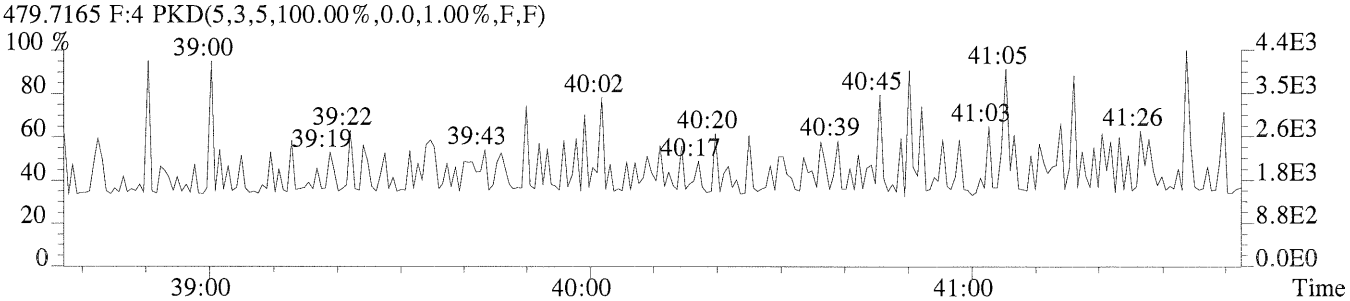
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2708.0,0.50%,F,F)



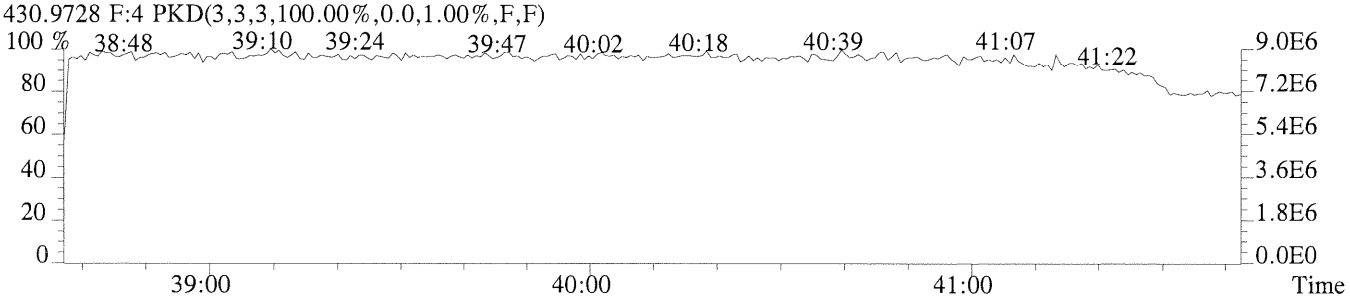
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,8020.0,0.50%,F,F)



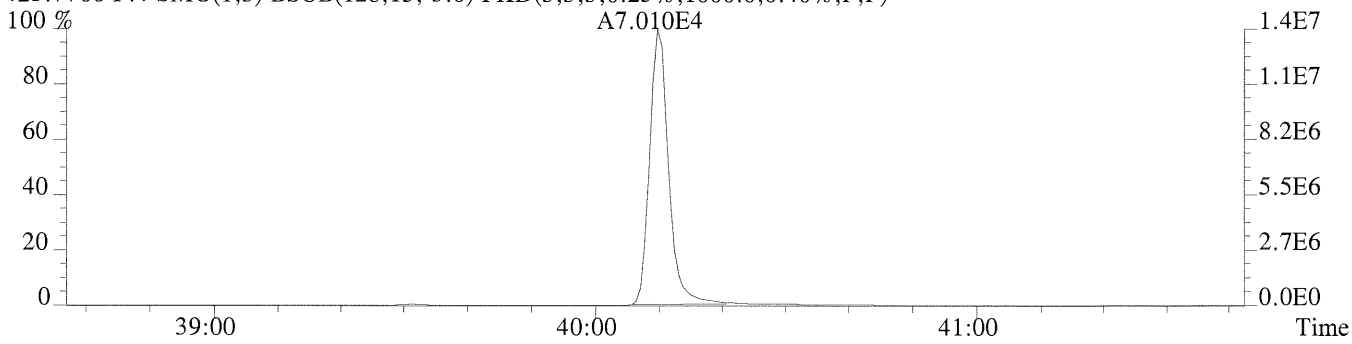
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



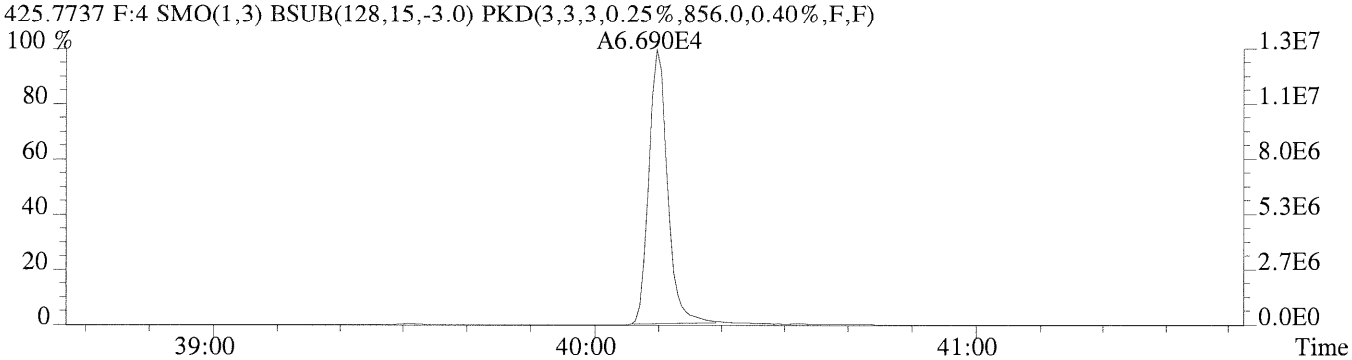
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



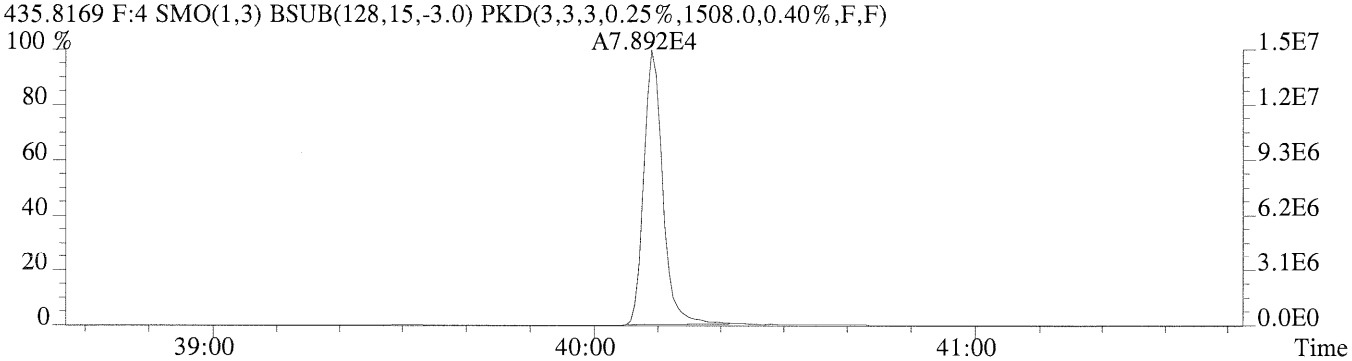
File:P200034 #1-281 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1000.0,0.40%,F,F)



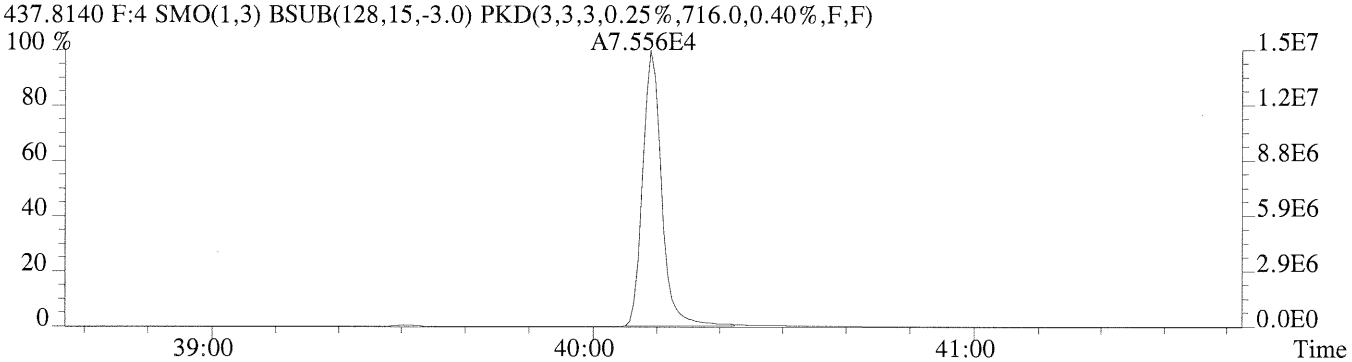
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,F)



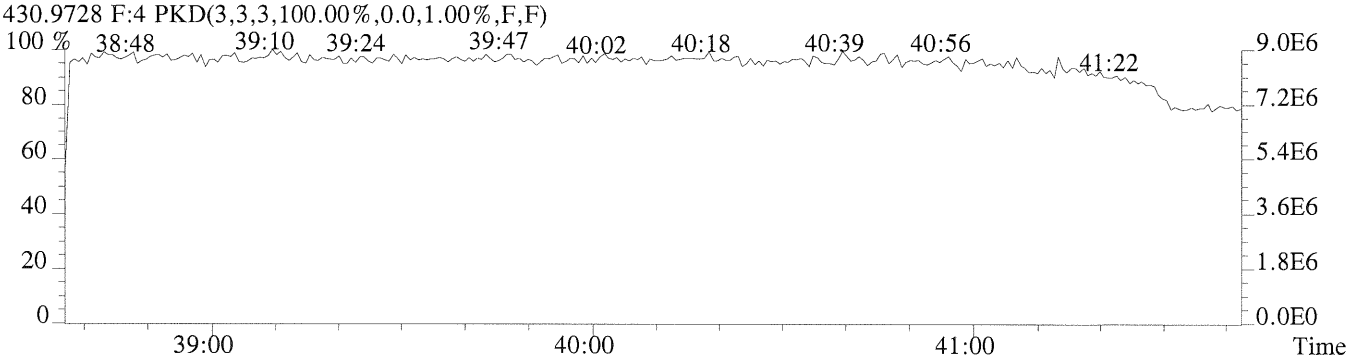
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1508.0,0.40%,F,F)



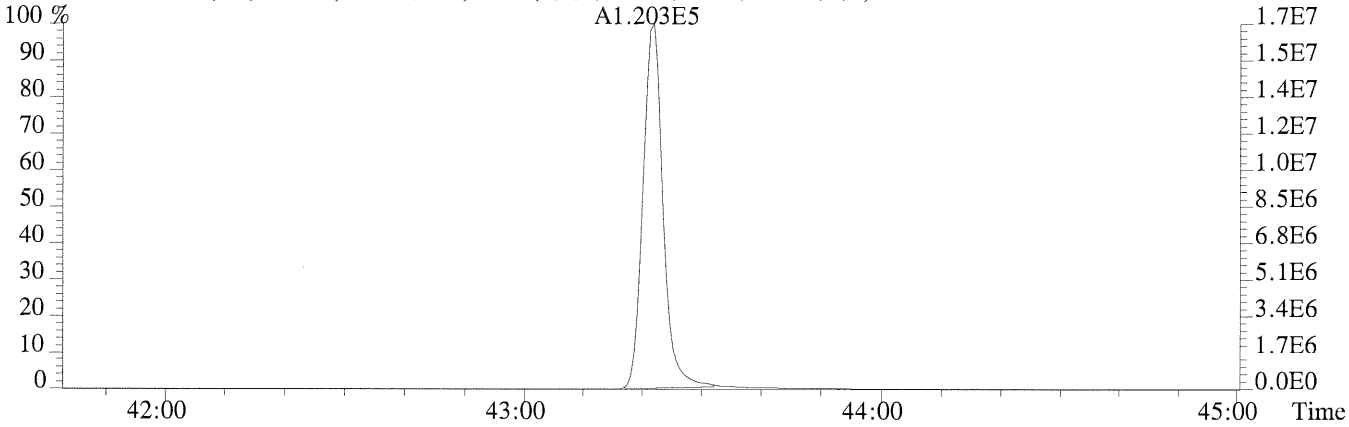
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,716.0,0.40%,F,F)



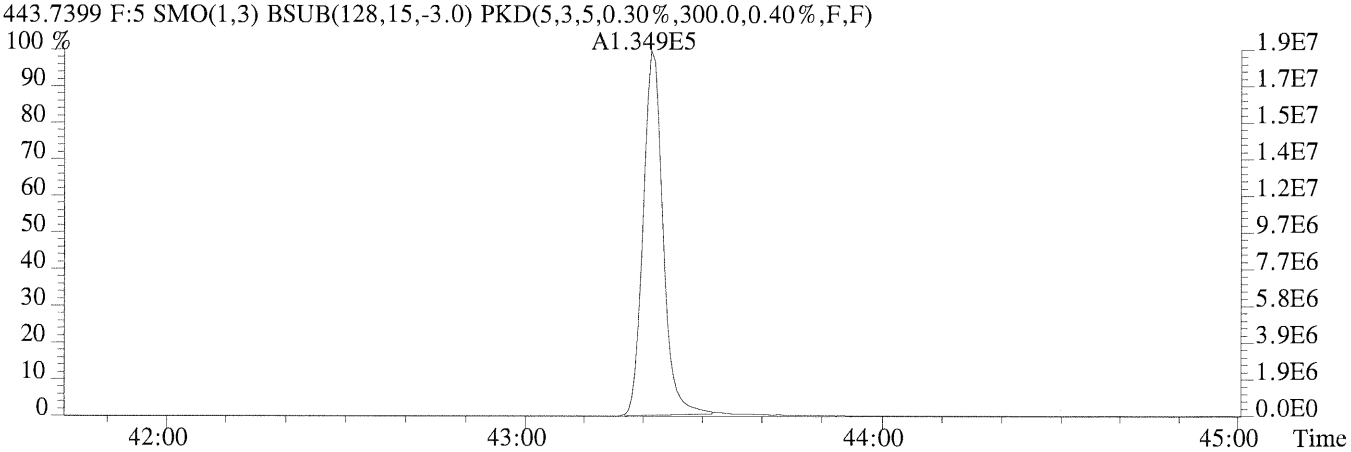
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



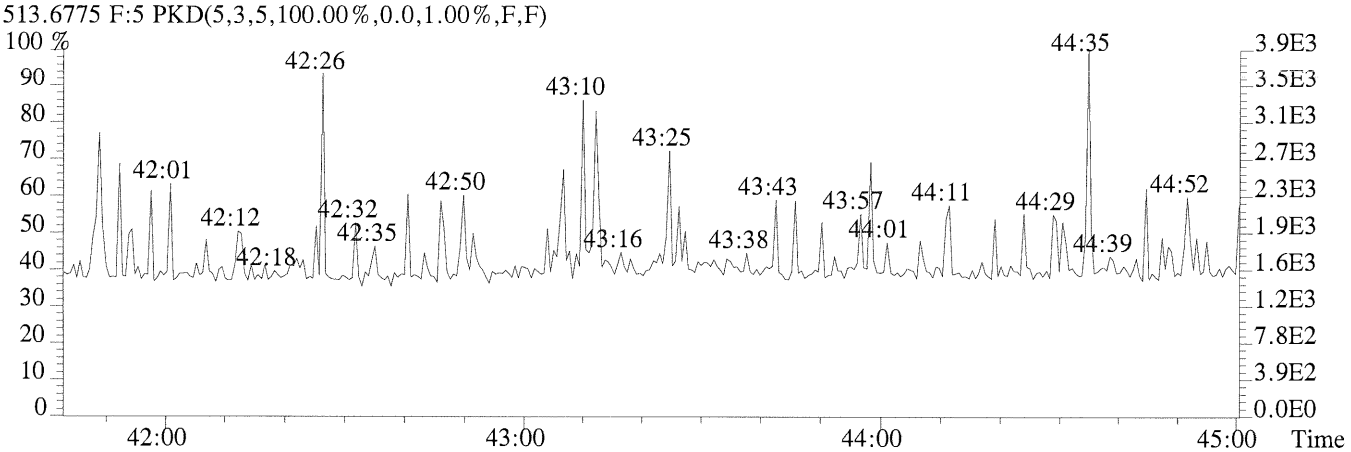
File:P200034 #1-364 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,472.0,0.40%,F,F)



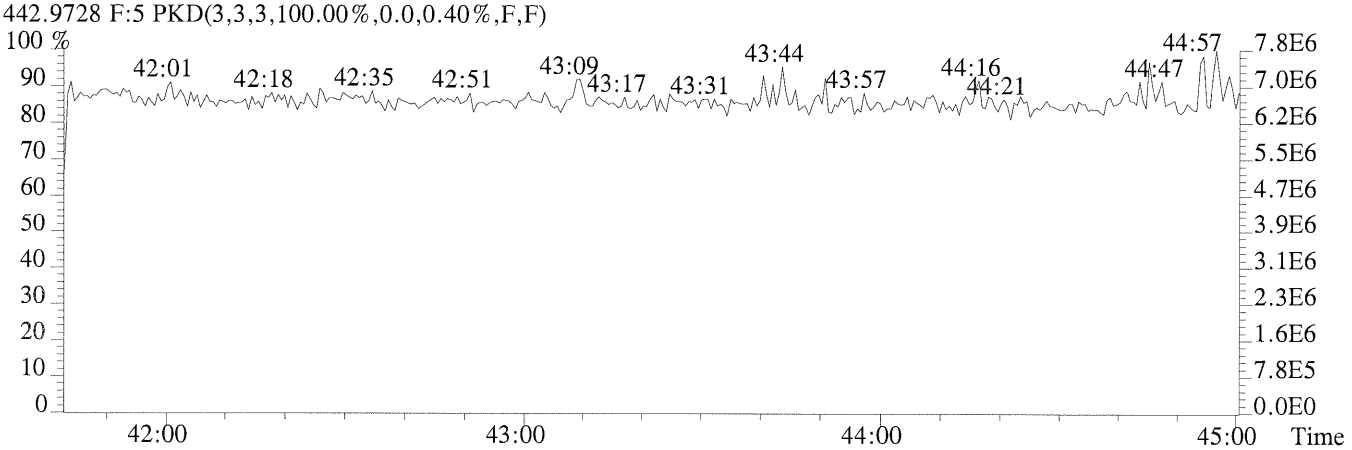
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,300.0,0.40%,F,F)



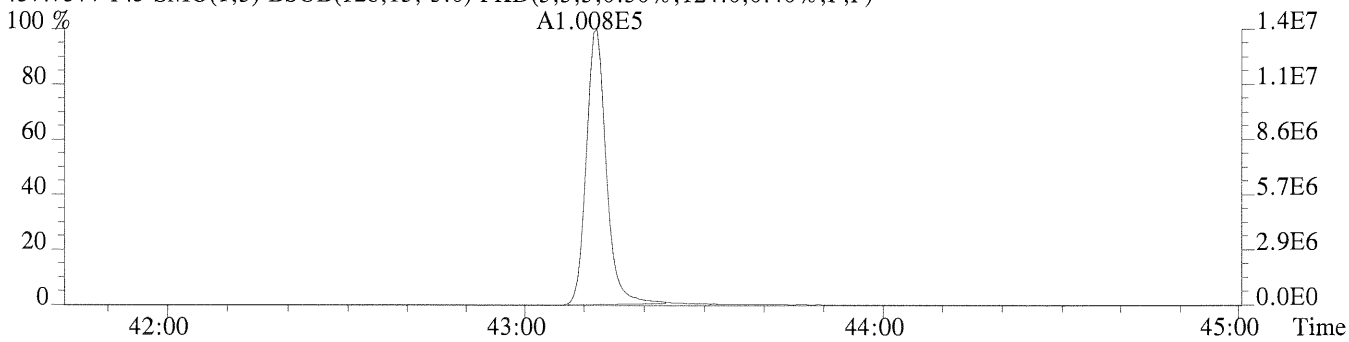
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



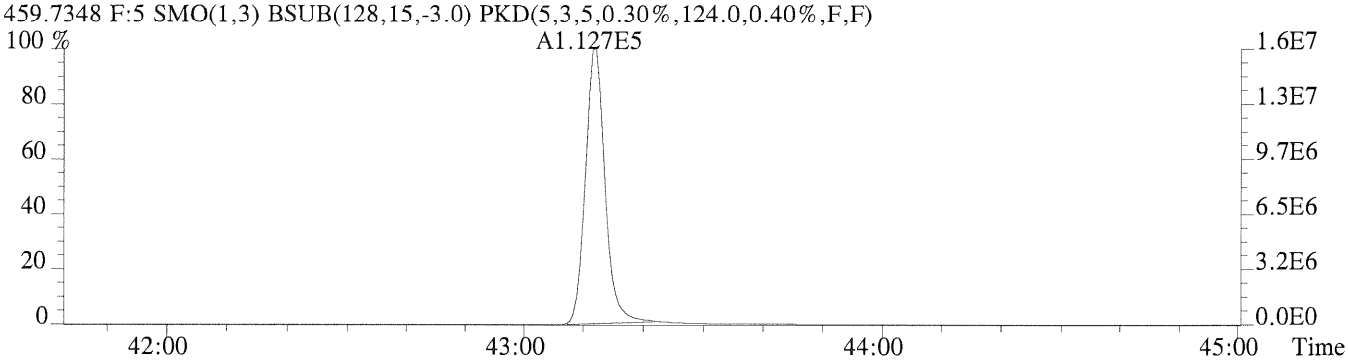
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



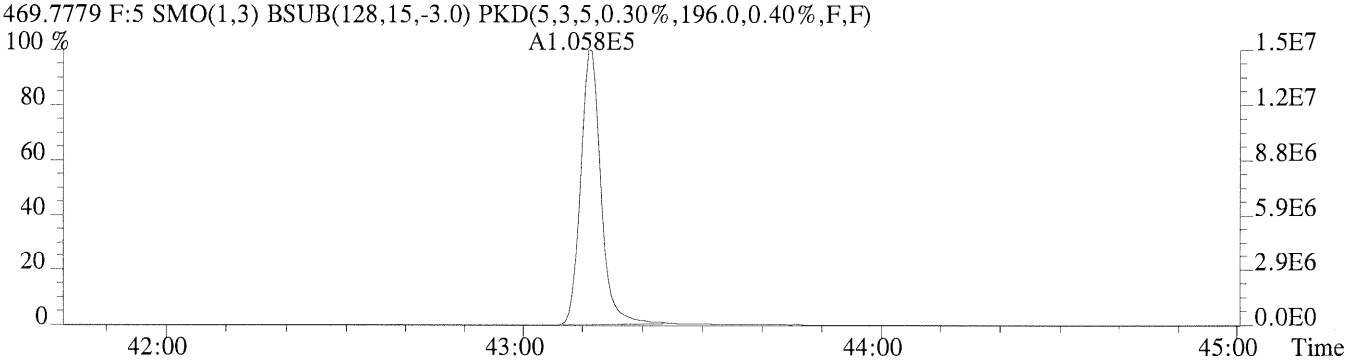
File:P200034 #1-364 Acq: 1-AUG-2008 18:16:07 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,124.0,0.40%,F,F)



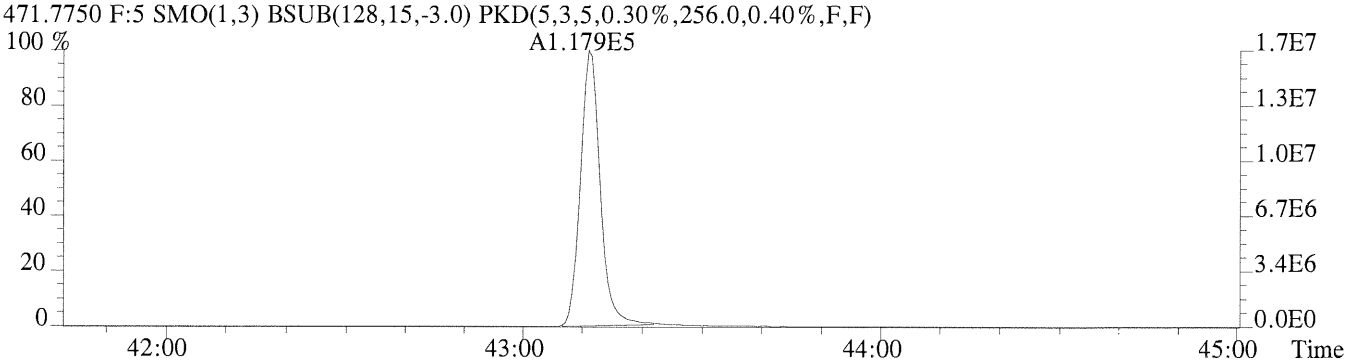
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,124.0,0.40%,F,F)



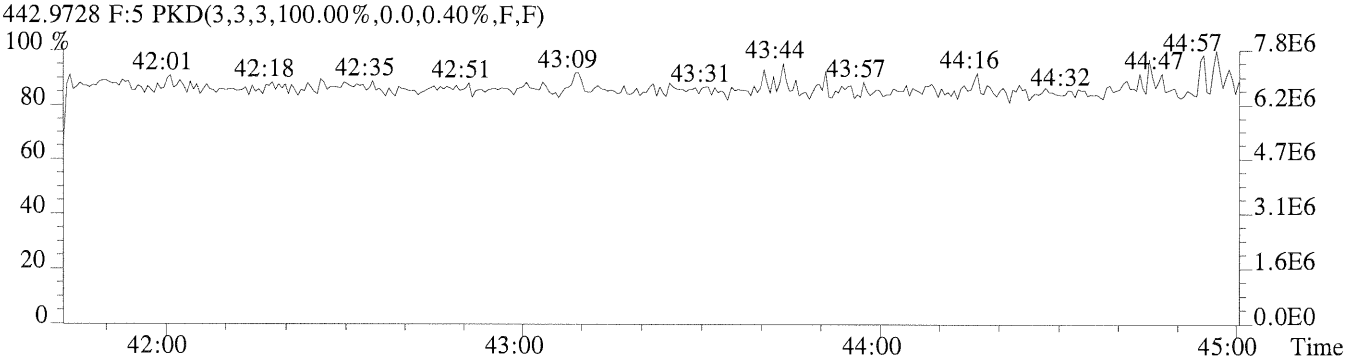
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,196.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,256.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename P200035 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 19:02:53
Processed: 7-AUG-08 06:33:20 Sample ID: ICAL HRCC5

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?	RRF
1	Unk	2,3,7,8-TCDF	28:37	2.767e+05	3.596e+05	0.77	yes	no	0.83
2	Unk	1,2,3,7,8-PeCDF	32:59	9.303e+05	6.026e+05	1.54	yes	no	0.84
3	Unk	2,3,4,7,8-PeCDF	33:43	9.497e+05	6.187e+05	1.53	yes	no	0.85
4	Unk	1,2,3,4,7,8-HxCDF	36:33	8.287e+05	6.786e+05	1.22	yes	no	1.01
5	Unk	1,2,3,6,7,8-HxCDF	36:39	8.534e+05	6.947e+05	1.23	yes	no	1.05
6	Unk	2,3,4,6,7,8-HxCDF	37:07	7.826e+05	6.386e+05	1.23	yes	no	0.94
7	Unk	1,2,3,7,8,9-HxCDF	37:50	6.739e+05	5.489e+05	1.23	yes	no	0.81
8	Unk	1,2,3,4,6,7,8-HpCDF	39:16	6.275e+05	6.156e+05	1.02	yes	no	1.32
9	Unk	1,2,3,4,7,8,9-HpCDF	40:35	4.716e+05	4.611e+05	1.02	yes	no	0.97
10	Unk	OCDF	43:22	9.250e+05	1.035e+06	0.89	yes	no	1.11
11	Unk	2,3,7,8-TCDD	29:27	2.395e+05	3.086e+05	0.78	yes	no	0.92
12	Unk	1,2,3,7,8-PeCDD	34:05	7.021e+05	4.516e+05	1.55	yes	no	0.87
13	Unk	1,2,3,4,7,8-HxCDD	37:14	5.938e+05	4.712e+05	1.26	yes	no	0.93
14	Unk	1,2,3,6,7,8-HxCDD	37:19	6.625e+05	5.266e+05	1.26	yes	no	1.05
15	Unk	1,2,3,7,8,9-HxCDD	37:36	6.124e+05	4.942e+05	1.24	yes	no	0.97
16	Unk	1,2,3,4,6,7,8-HpCDD	40:10	4.163e+05	4.015e+05	1.04	yes	no	0.88
17	Unk	OCDD	43:12	8.537e+05	9.637e+05	0.89	yes	no	0.96
18	IS	13C-2,3,7,8-TCDF	28:35	8.240e+04	1.051e+05	0.78	yes	no	1.42
19	IS	13C-1,2,3,7,8-PeCDF	32:58	1.099e+05	7.098e+04	1.55	yes	no	1.26
20	IS	13C-1,2,3,4,7,8-HxCDF	36:32	1.185e+05	2.264e+05	0.52	yes	no	1.28
21	IS	13C-1,2,3,4,6,7,8-HpCDF	39:16	7.242e+04	1.619e+05	0.45	yes	no	0.90
22	IS	13C-2,3,7,8-TCDD	29:26	6.476e+04	8.341e+04	0.78	yes	no	1.05
23	IS	13C-1,2,3,7,8-PeCDD	34:03	7.868e+04	5.017e+04	1.57	yes	no	0.87
24	IS	13C-1,2,3,6,7,8-HxCDD	37:18	1.542e+05	1.224e+05	1.26	yes	no	1.00
25	IS	13C-1,2,3,4,6,7,8-HpCDD	40:09	1.161e+05	1.115e+05	1.04	yes	no	0.83
26	IS	13C-OCDD	43:12	2.191e+05	2.456e+05	0.89	yes	no	0.73
27	RS/RT	13C-1,2,3,4-TCDD	29:14	5.999e+04	7.627e+04	0.79	yes	no	-
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	37:36	1.560e+05	1.253e+05	1.25	yes	no	-
29	C/Up	37Cl-2,3,7,8-TCDD	29:27	5.569e+05					0.98

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC5

Run #5 Filename P200035 #1 Samp: 1 Inj: 1 Acquired: 1-AUG-08 19:02:53

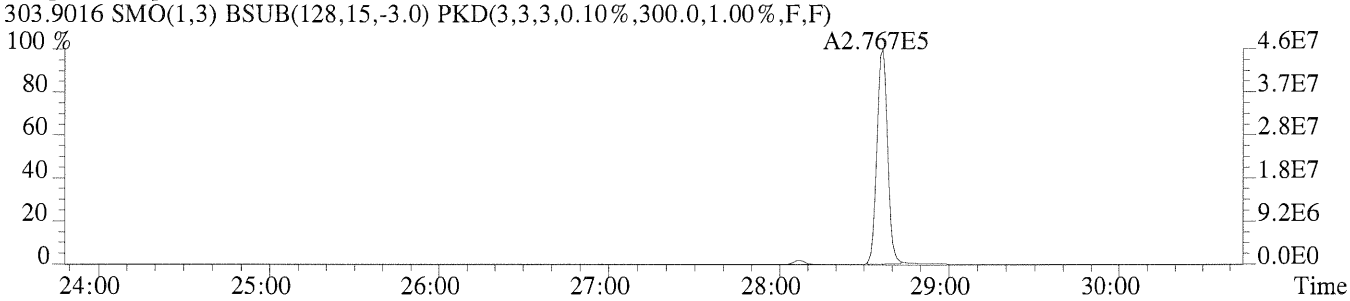
Processed: 7-AUG-08 06:33:20 LAB. ID: ICAL HRCC5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.60e+07	3.00e+02	1.5e+05	5.94e+07	4.96e+02	1.2e+05
2	1,2,3,7,8-PeCDF	1.81e+08	2.52e+02	7.2e+05	1.16e+08	7.64e+02	1.5e+05
3	2,3,4,7,8-PeCDF	1.88e+08	2.52e+02	7.5e+05	1.23e+08	7.64e+02	1.6e+05
4	1,2,3,4,7,8-HxCDF	1.85e+08	2.30e+03	8.0e+04	1.50e+08	1.08e+03	1.4e+05
5	1,2,3,6,7,8-HxCDF	1.78e+08	2.30e+03	7.7e+04	1.43e+08	1.08e+03	1.3e+05
6	2,3,4,6,7,8-HxCDF	1.65e+08	2.30e+03	7.2e+04	1.36e+08	1.08e+03	1.3e+05
7	1,2,3,7,8,9-HxCDF	1.44e+08	2.30e+03	6.2e+04	1.17e+08	1.08e+03	1.1e+05
8	1,2,3,4,6,7,8-HpCDF	1.37e+08	3.50e+04	3.9e+03	1.34e+08	1.74e+04	7.7e+03
9	1,2,3,4,7,8,9-HpCDF	9.43e+07	3.50e+04	2.7e+03	9.15e+07	1.74e+04	5.3e+03
10	OCDF	1.39e+08	1.36e+02	1.0e+06	1.54e+08	5.12e+02	3.0e+05
11	2,3,7,8-TCDD	4.32e+07	3.08e+02	1.4e+05	5.58e+07	2.36e+02	2.4e+05
12	1,2,3,7,8-PeCDD	1.40e+08	5.52e+02	2.5e+05	8.93e+07	1.88e+02	4.8e+05
13	1,2,3,4,7,8-HxCDD	1.39e+08	8.12e+02	1.7e+05	1.10e+08	5.16e+02	2.1e+05
14	1,2,3,6,7,8-HxCDD	1.41e+08	8.12e+02	1.7e+05	1.13e+08	5.16e+02	2.2e+05
15	1,2,3,7,8,9-HxCDD	1.33e+08	8.12e+02	1.6e+05	1.08e+08	5.16e+02	2.1e+05
16	1,2,3,4,6,7,8-HpCDD	8.73e+07	1.59e+03	5.5e+04	8.46e+07	1.03e+03	8.2e+04
17	OCDD	1.33e+08	1.36e+02	9.8e+05	1.49e+08	1.04e+02	1.4e+06
18	13C-2,3,7,8-TCDF	1.37e+07	9.56e+02	1.4e+04	1.76e+07	5.84e+02	3.0e+04
19	13C-1,2,3,7,8-PeCDF	2.12e+07	3.52e+02	6.0e+04	1.38e+07	4.60e+02	3.0e+04
20	13C-1,2,3,4,7,8-HxCDF	2.55e+07	4.96e+02	5.1e+04	4.84e+07	9.28e+02	5.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.57e+07	3.83e+03	4.1e+03	3.54e+07	5.94e+03	6.0e+03
22	13C-2,3,7,8-TCDD	1.13e+07	1.57e+03	7.2e+03	1.47e+07	7.80e+02	1.9e+04
23	13C-1,2,3,7,8-PeCDD	1.58e+07	3.56e+02	4.4e+04	1.02e+07	1.28e+02	7.9e+04
24	13C-1,2,3,6,7,8-HxCDD	3.45e+07	2.84e+02	1.2e+05	2.75e+07	8.88e+02	3.1e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.44e+07	1.56e+03	1.6e+04	2.34e+07	2.64e+02	8.9e+04
26	13C-OCDD	3.41e+07	1.16e+02	2.9e+05	3.78e+07	1.08e+02	3.5e+05
27	13C-1,2,3,4-TCDD	1.07e+07	1.57e+03	6.8e+03	1.36e+07	7.80e+02	1.7e+04
28	13C-1,2,3,7,8,9-HxCDD	3.39e+07	2.84e+02	1.2e+05	2.72e+07	8.88e+02	3.1e+04
29	37Cl-2,3,7,8-TCDD	1.01e+08	2.60e+02	3.9e+05			

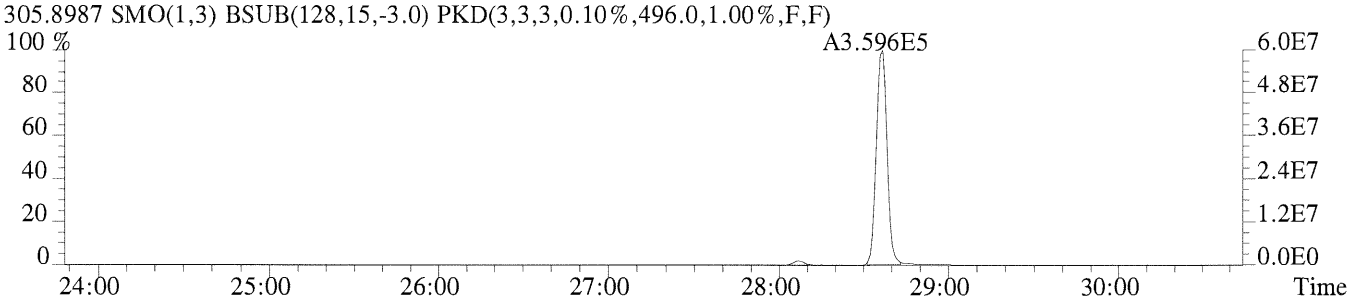
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:P200035 #1-578 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

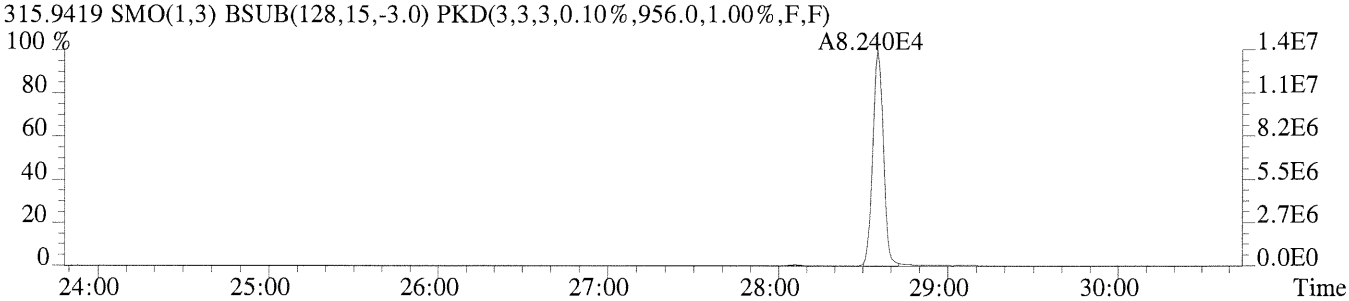
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,F)



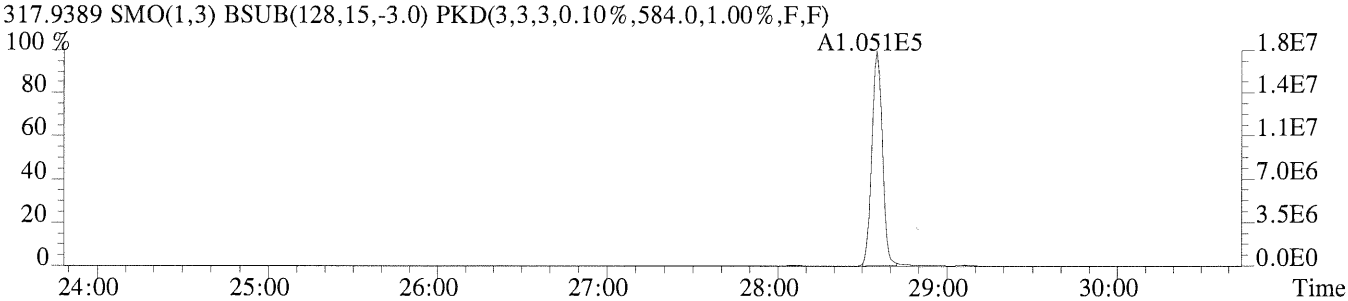
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,F)



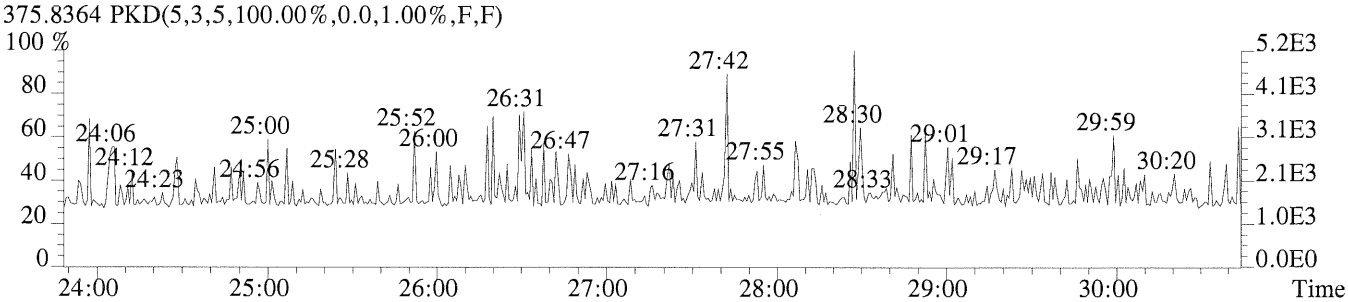
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,F)



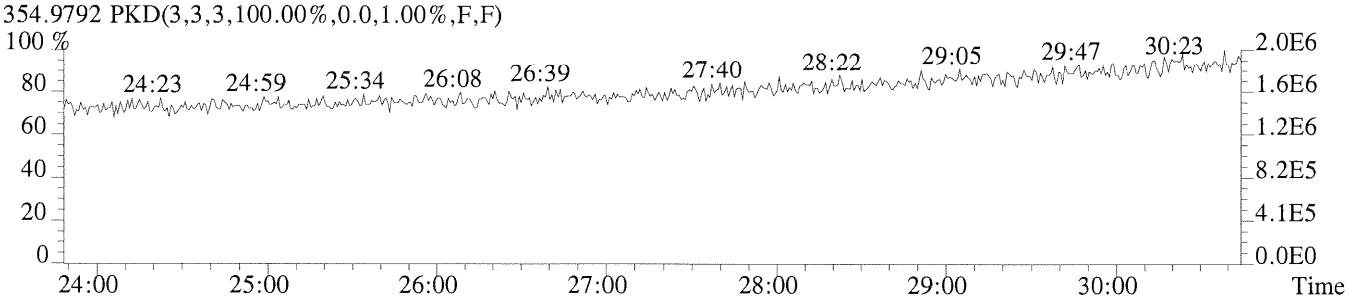
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,F)



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

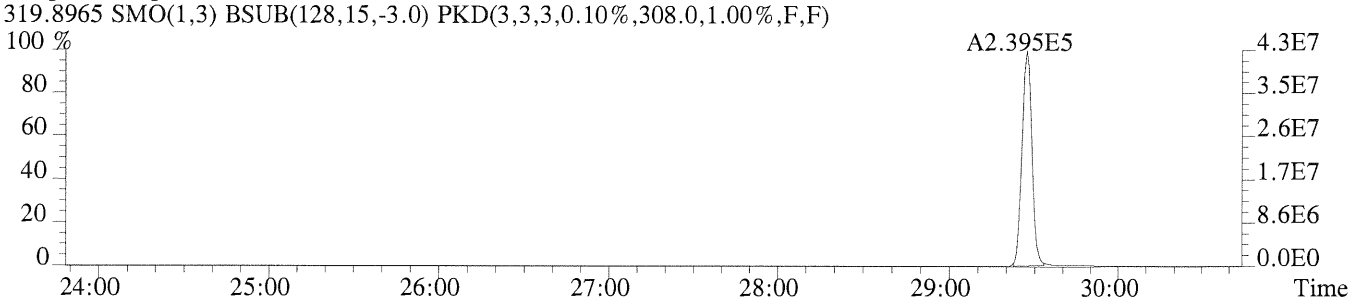


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

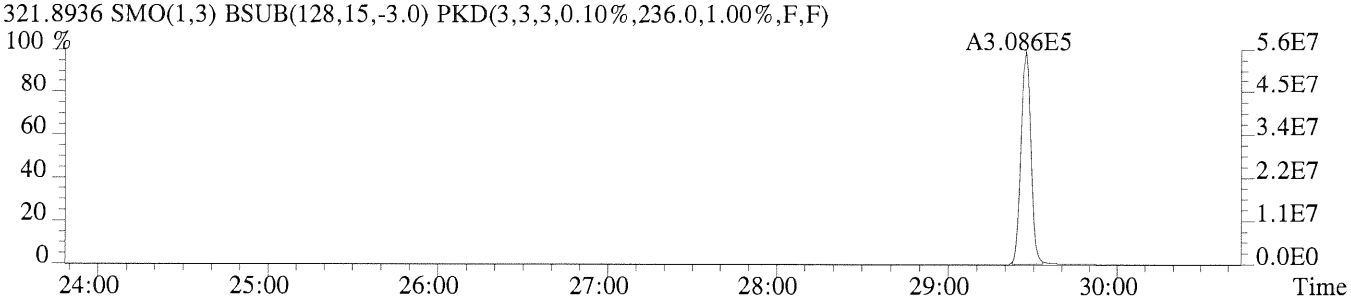


File:P200035 #1-578 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

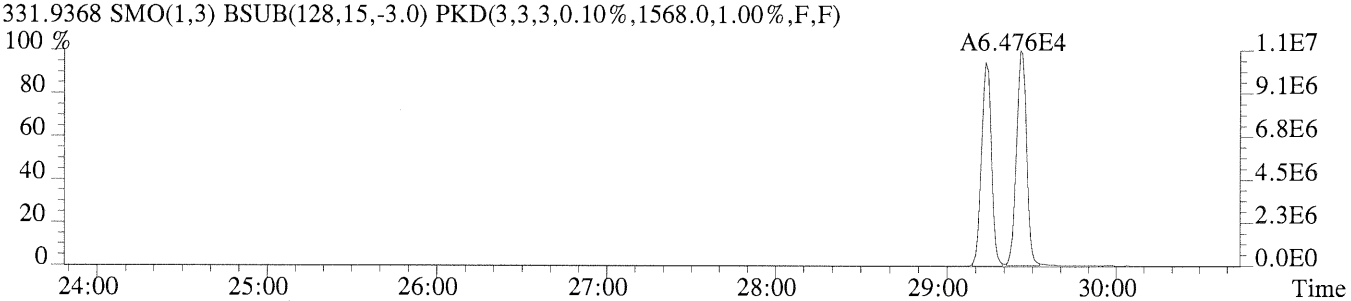
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,308.0,1.00%,F,F)



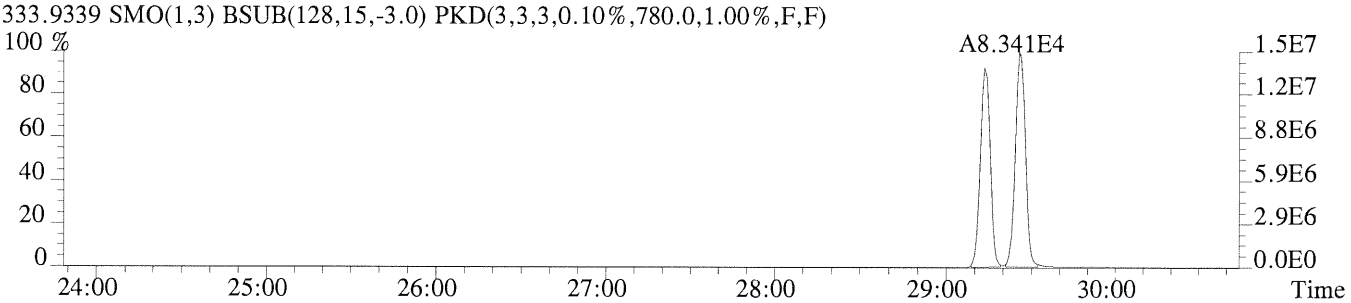
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,236.0,1.00%,F,F)



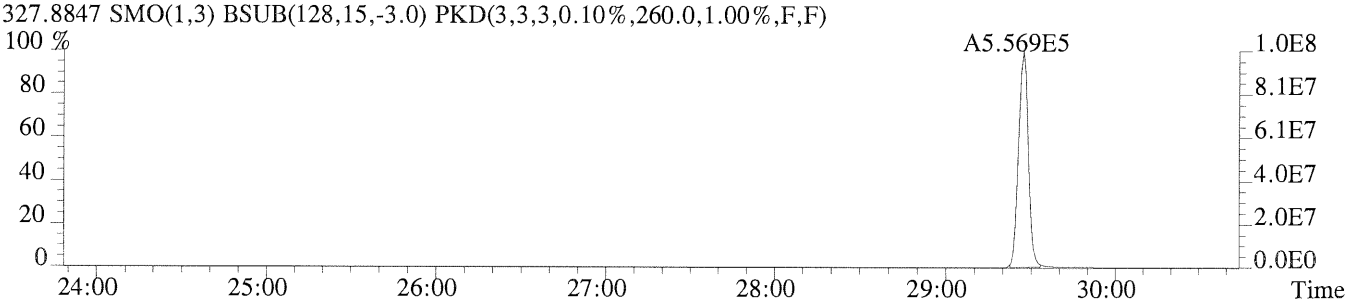
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1568.0,1.00%,F,F)



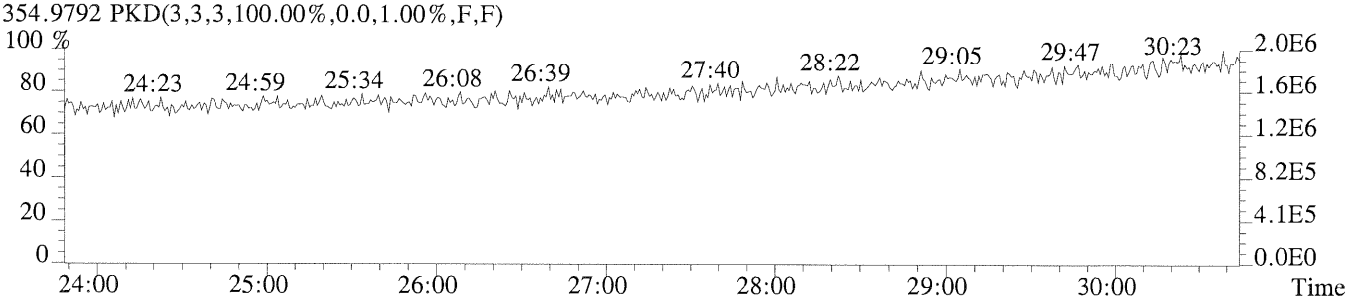
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,F)



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

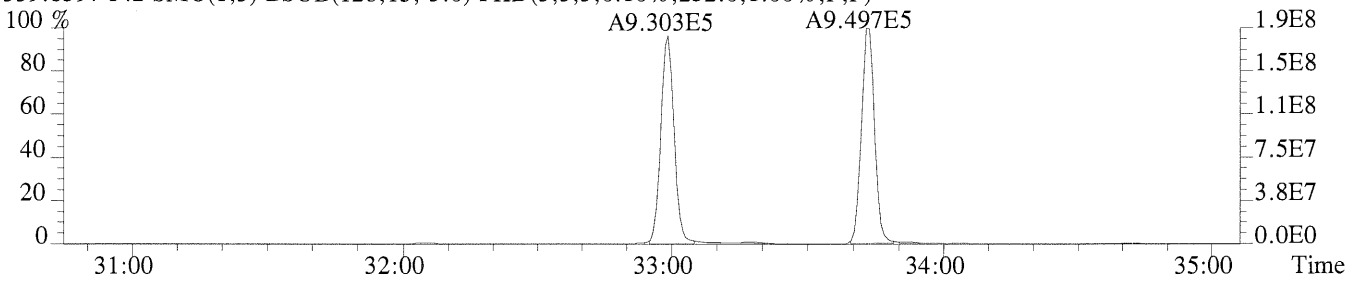


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

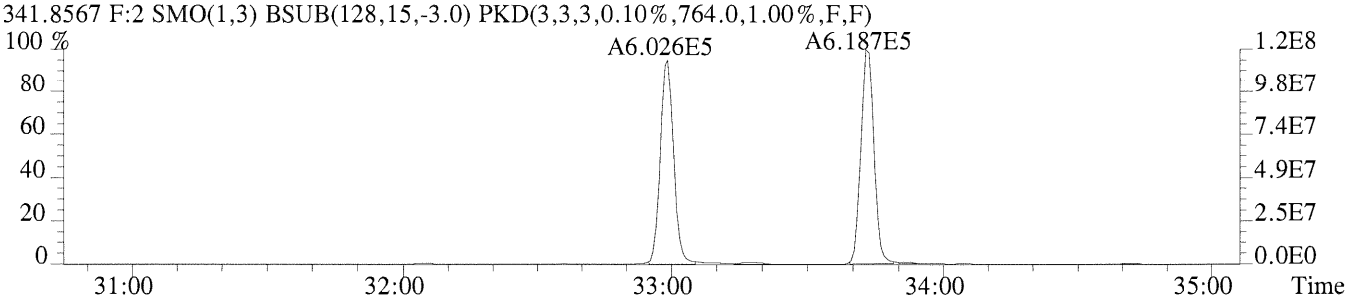


File:P200035 #1-396 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

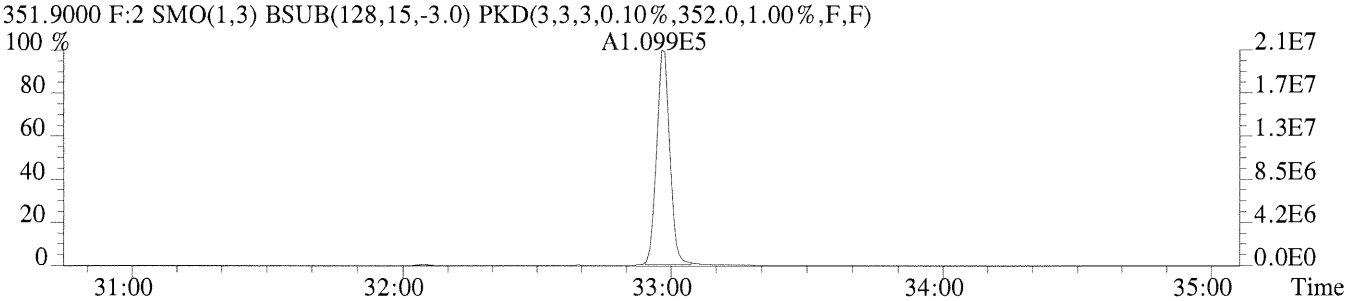
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,252.0,1.00%,F,F)



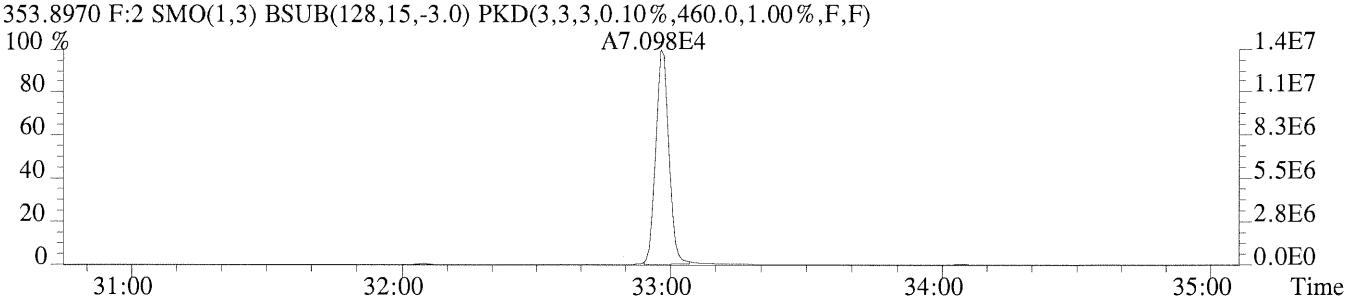
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,764.0,1.00%,F,F)



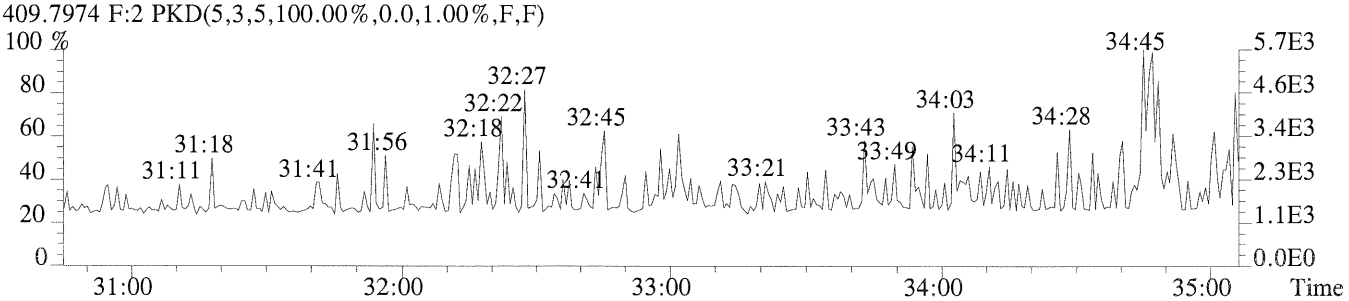
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,F)



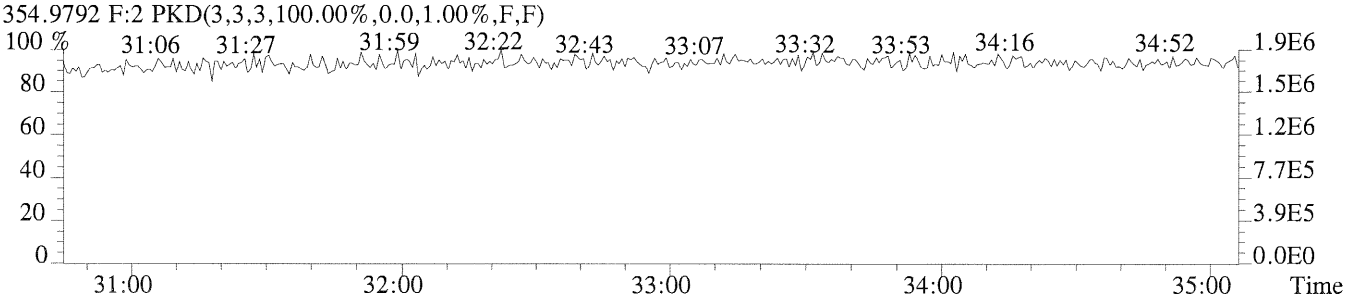
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,460.0,1.00%,F,F)



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

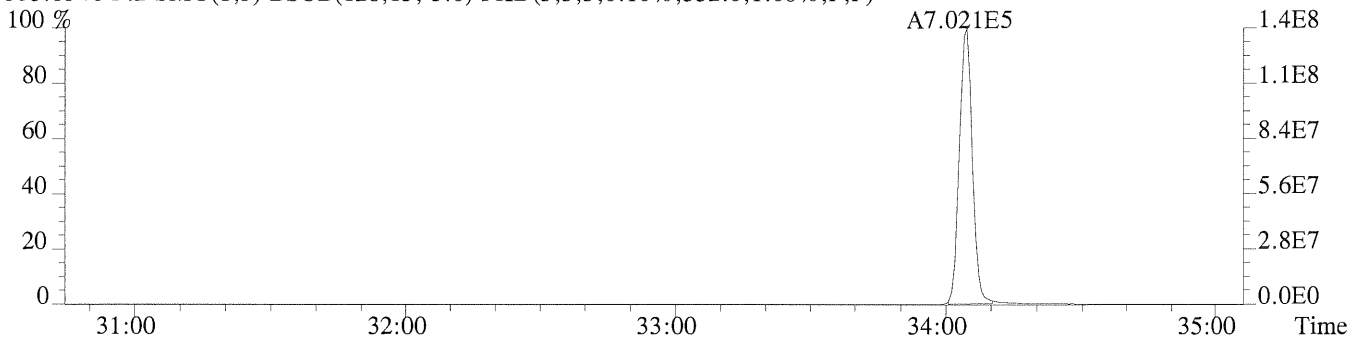


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

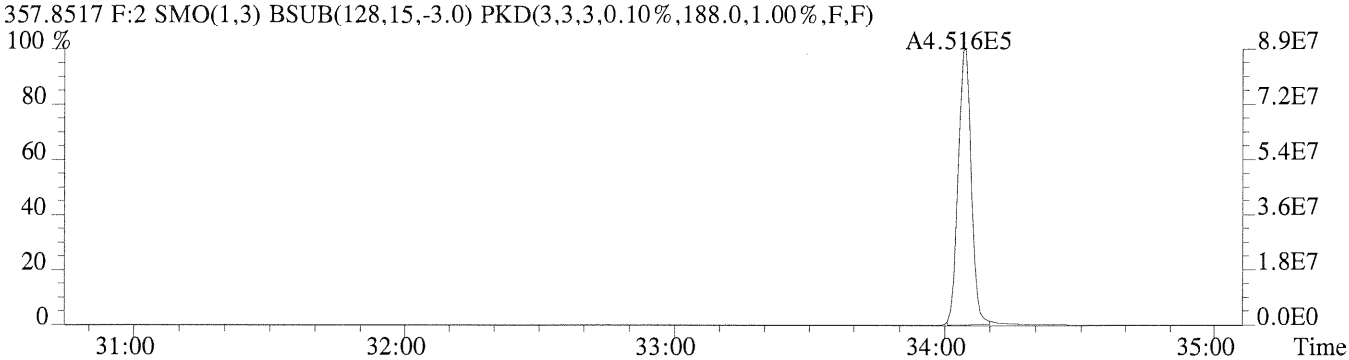


File:P200035 #1-396 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

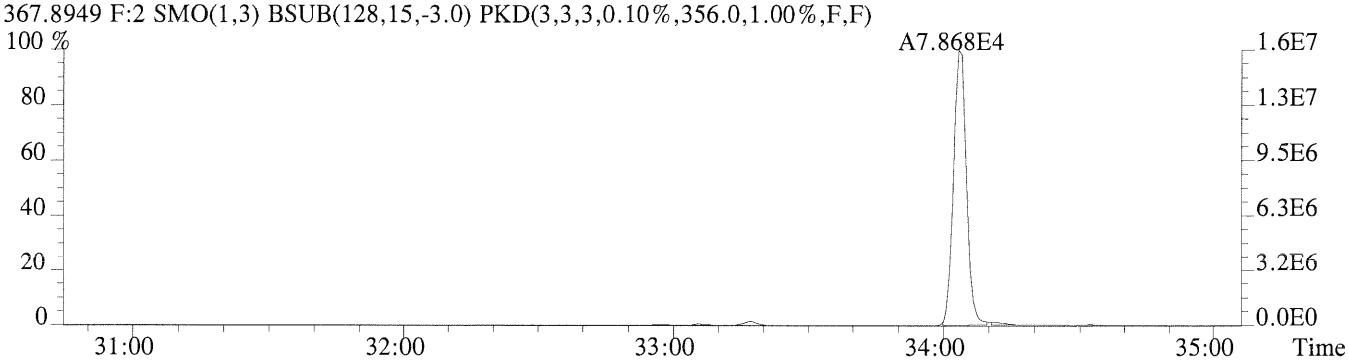
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,552.0,1.00%,F,F)



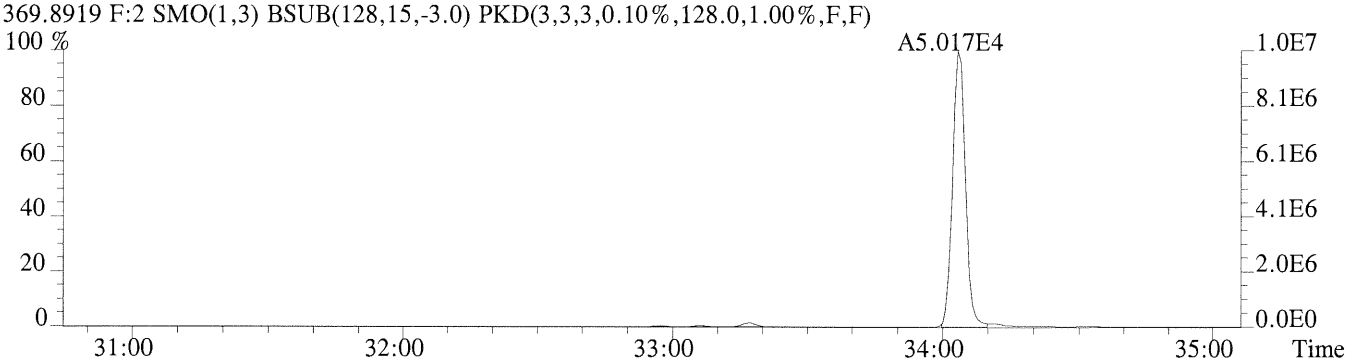
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,188.0,1.00%,F,F)



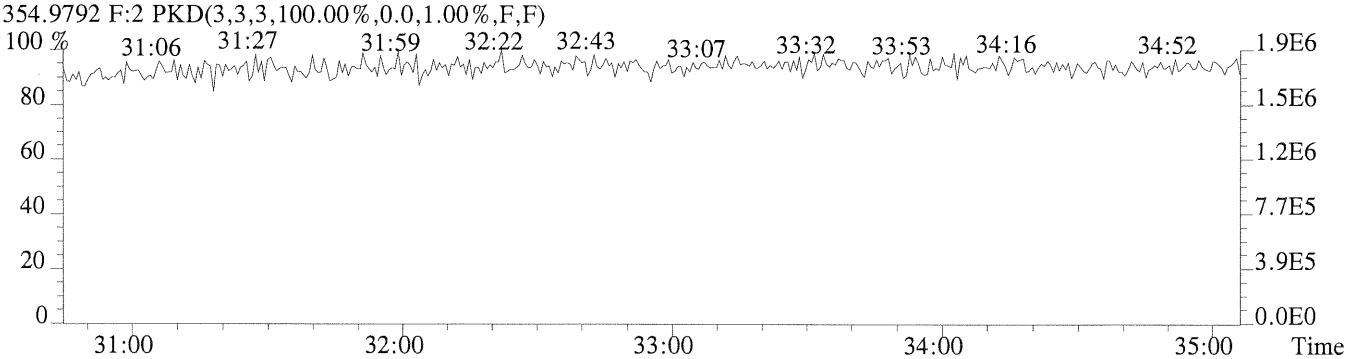
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,356.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,128.0,1.00%,F,F)

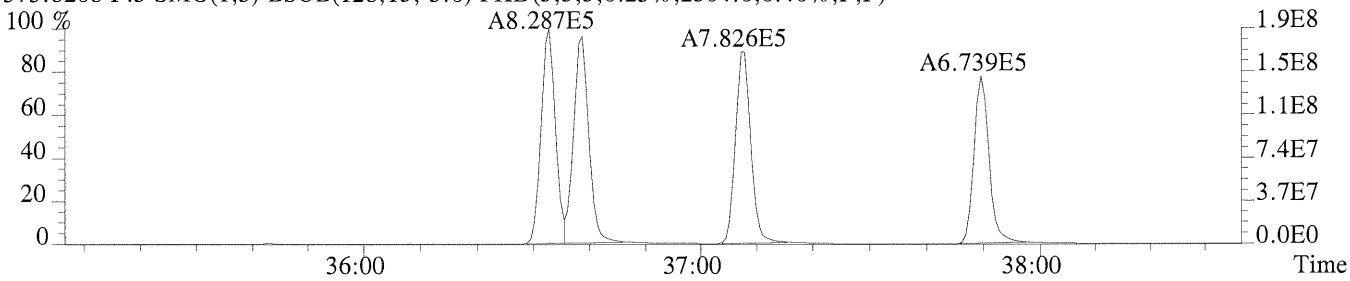


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

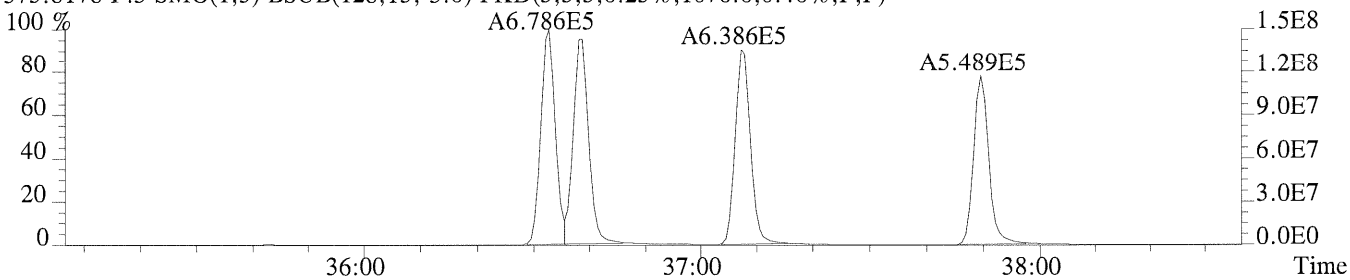


File:P200035 #1-318 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

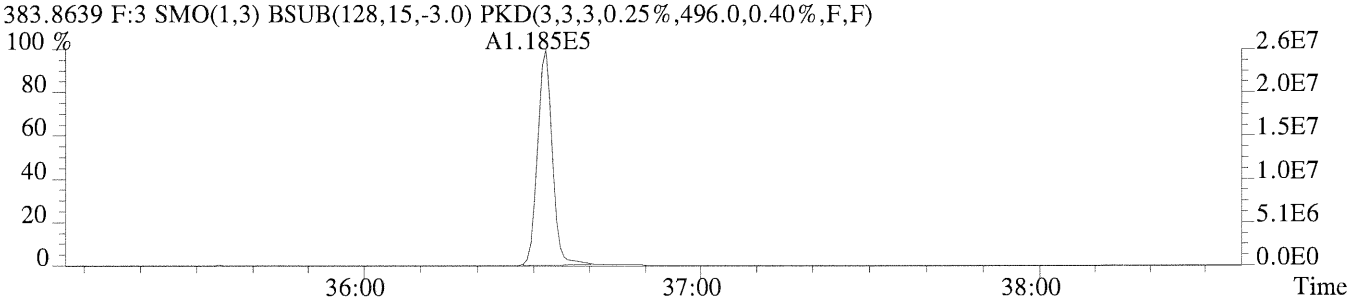
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2304.0,0.40%,F,F)



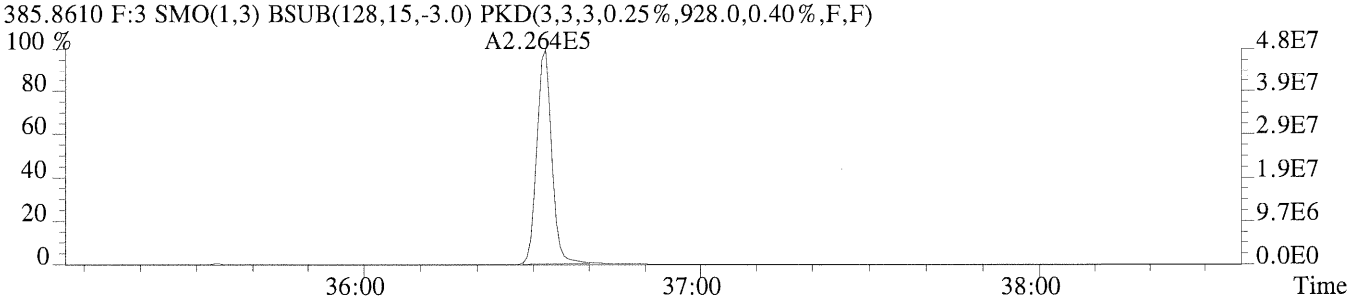
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1076.0,0.40%,F,F)



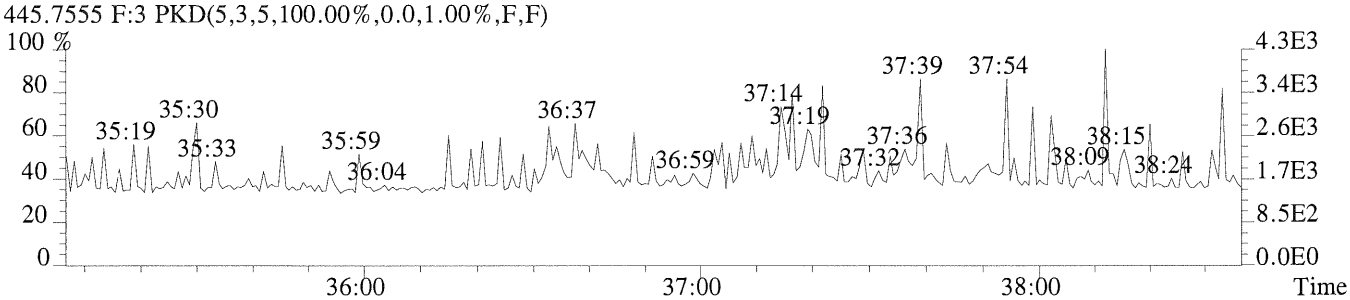
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,496.0,0.40%,F,F)



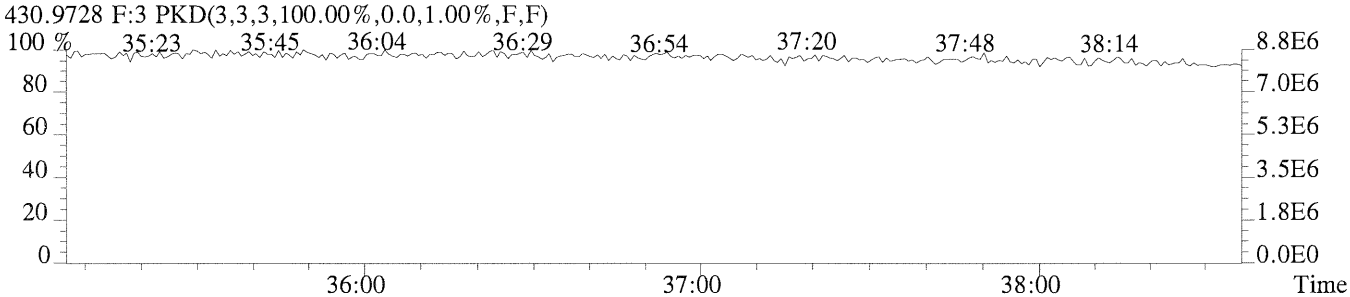
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,928.0,0.40%,F,F)



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

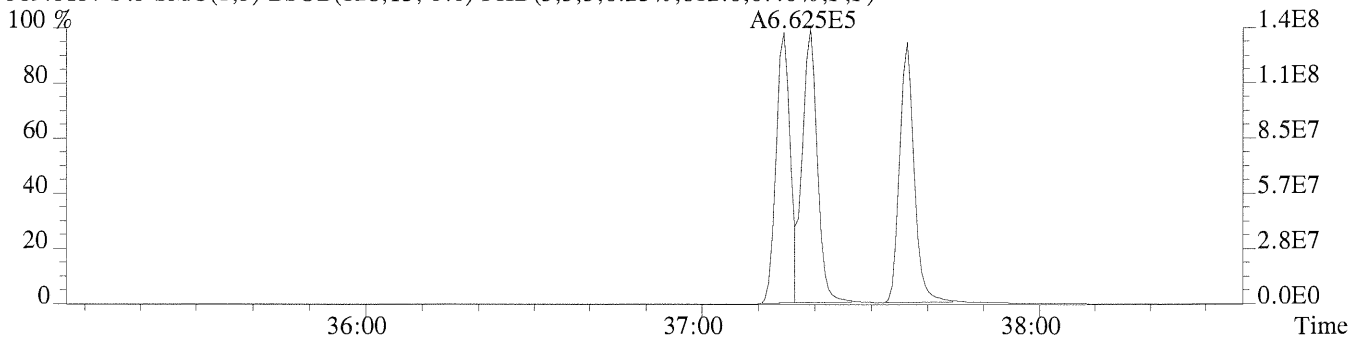


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

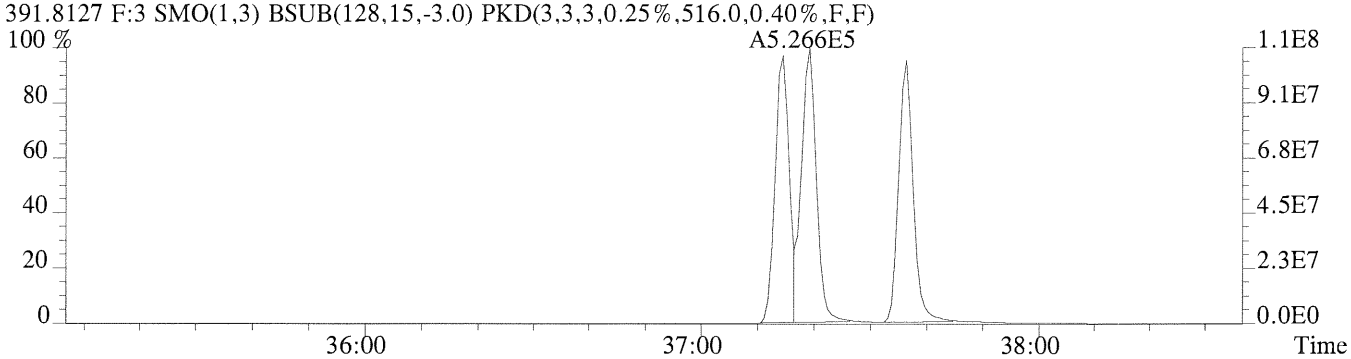


File:P200035 #1-318 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

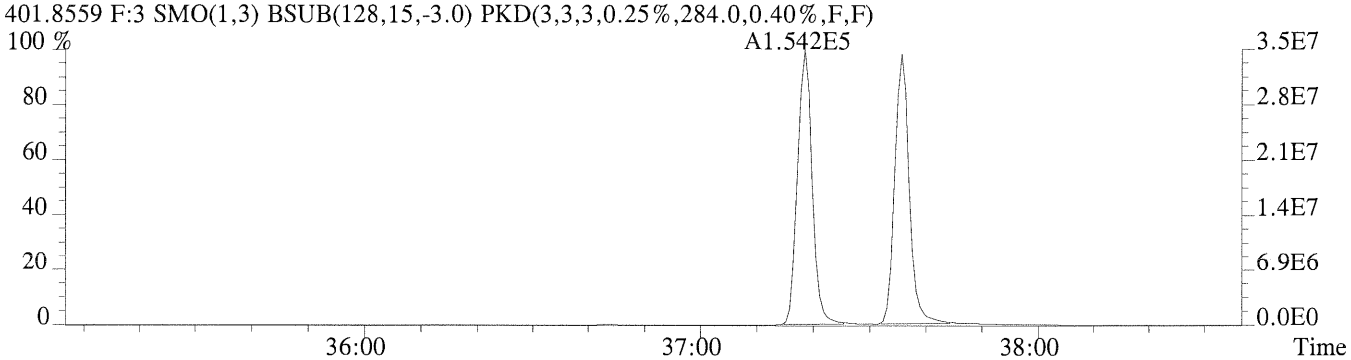
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,812.0,0.40%,F,F)



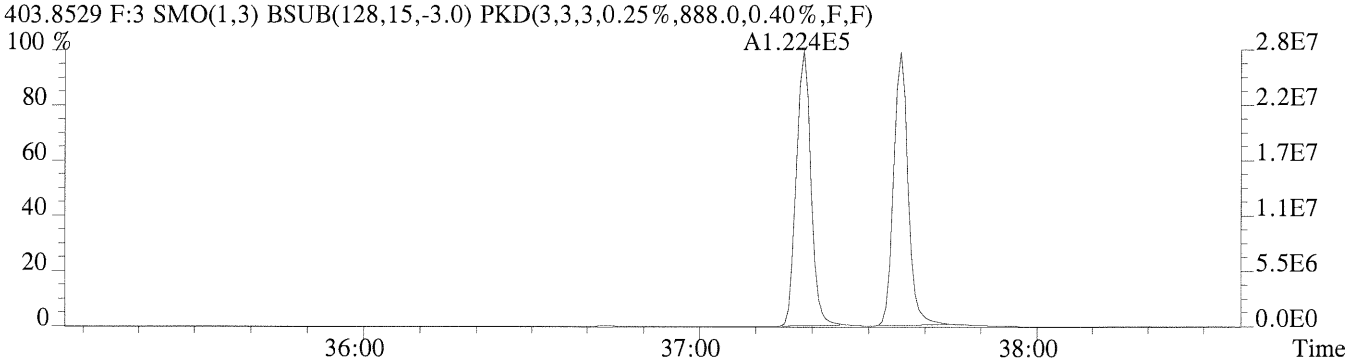
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,516.0,0.40%,F,F)



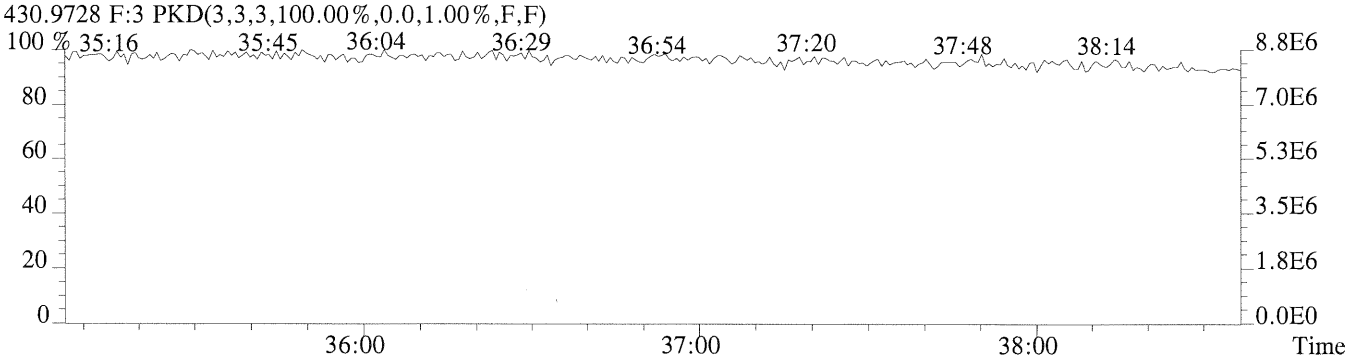
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,284.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,888.0,0.40%,F,F)

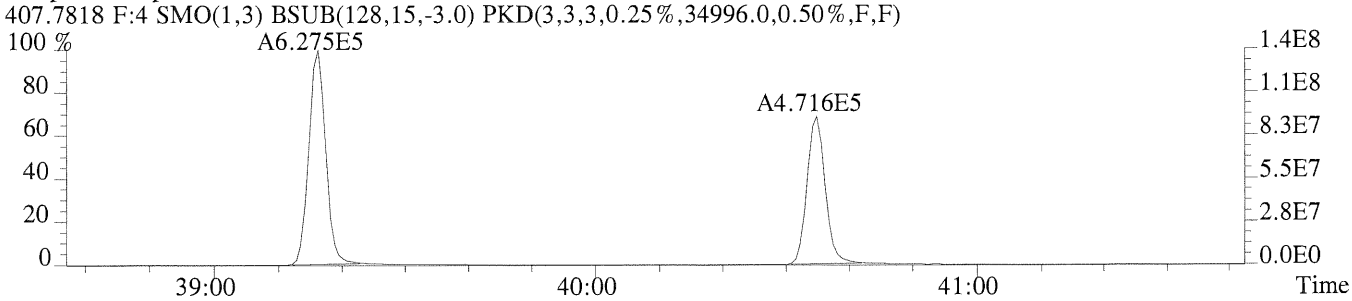


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

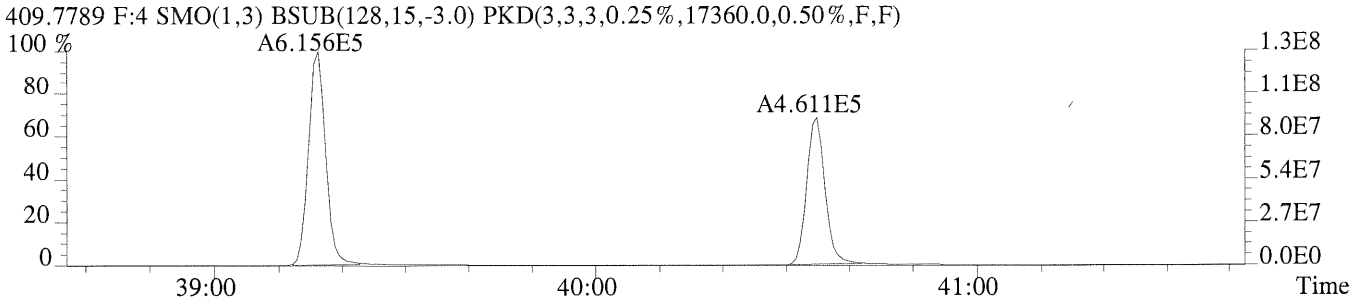


File:P200035 #1-281 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

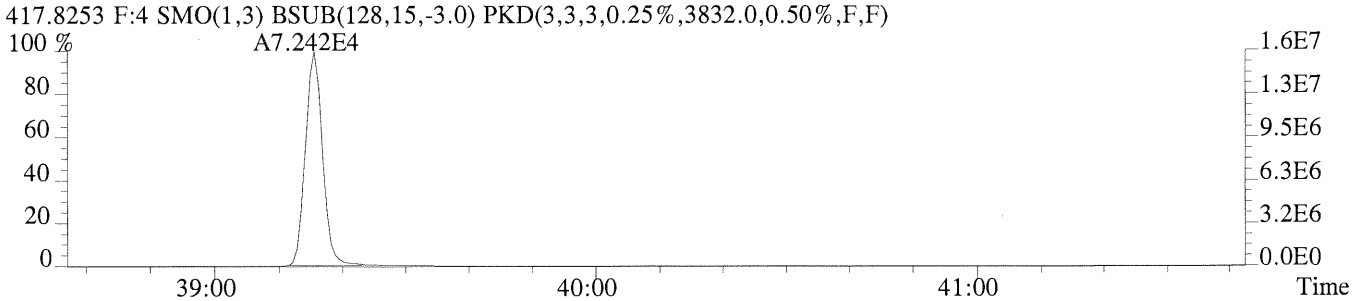
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,34996.0,0.50%,F,F)



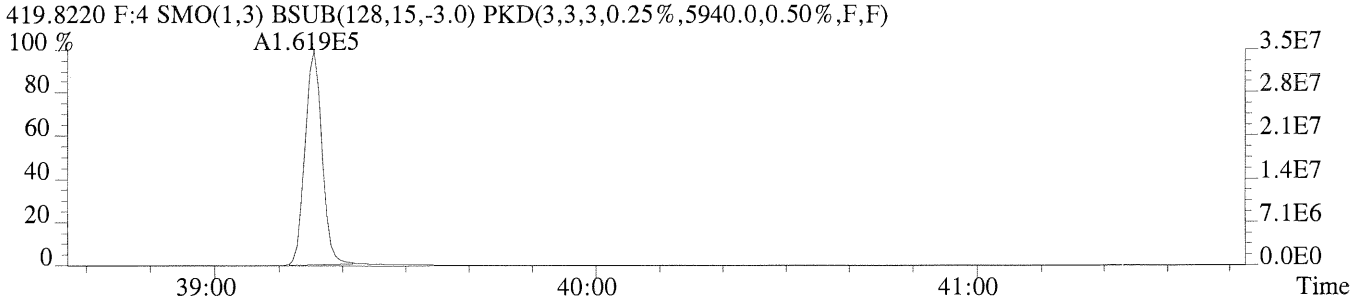
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,17360.0,0.50%,F,F)



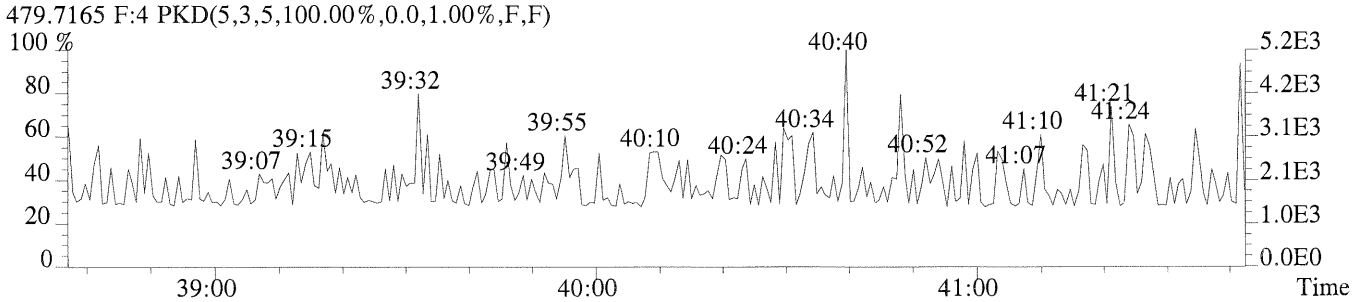
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3832.0,0.50%,F,F)



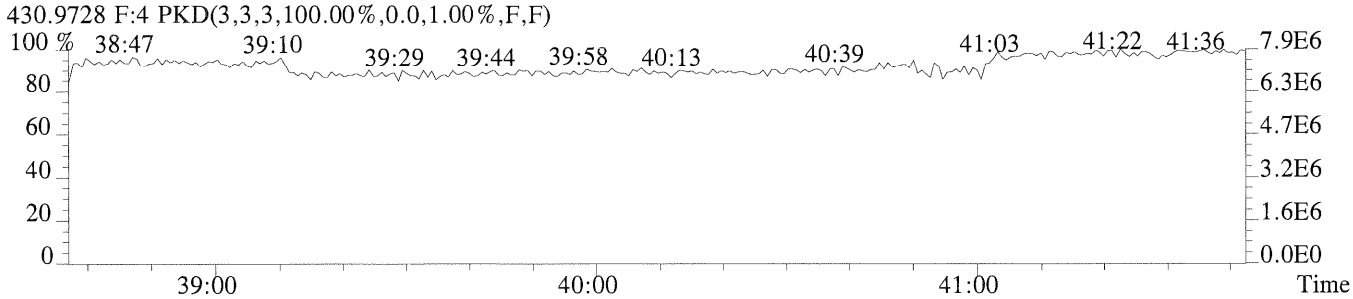
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5940.0,0.50%,F,F)



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

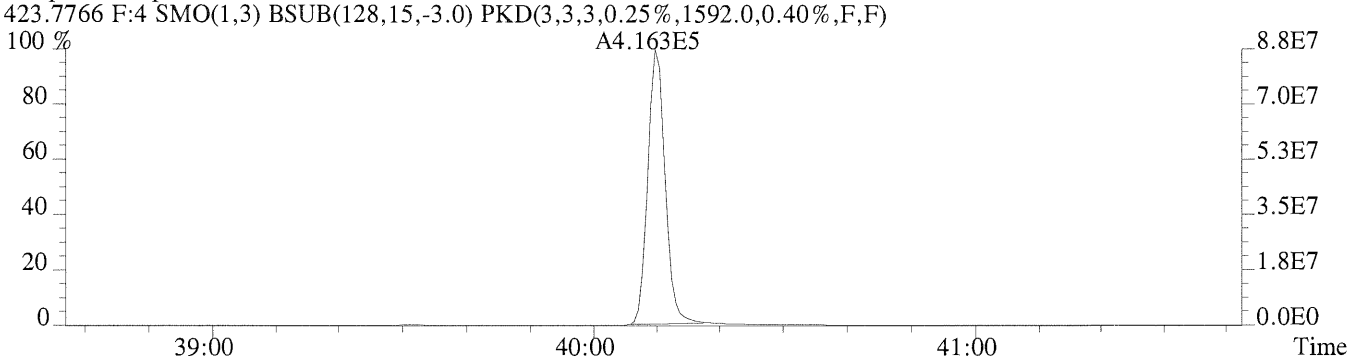


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

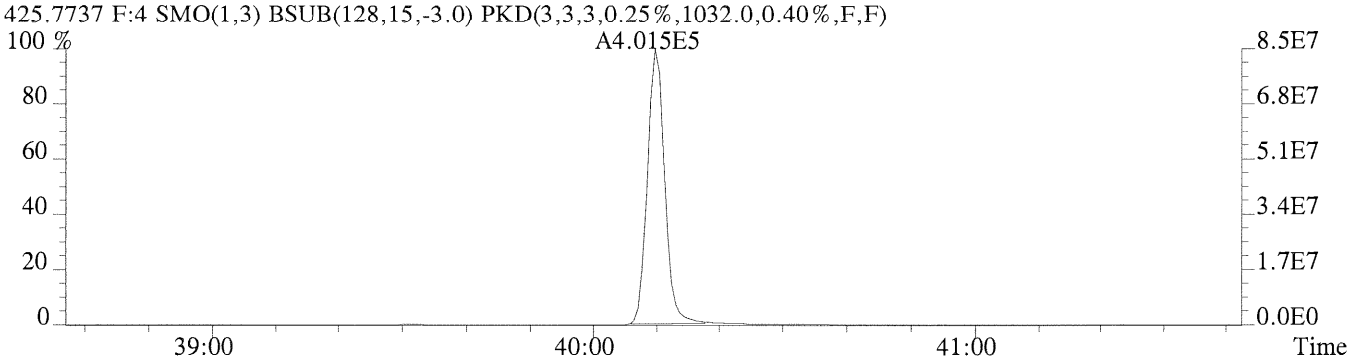


File:P200035 #1-281 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

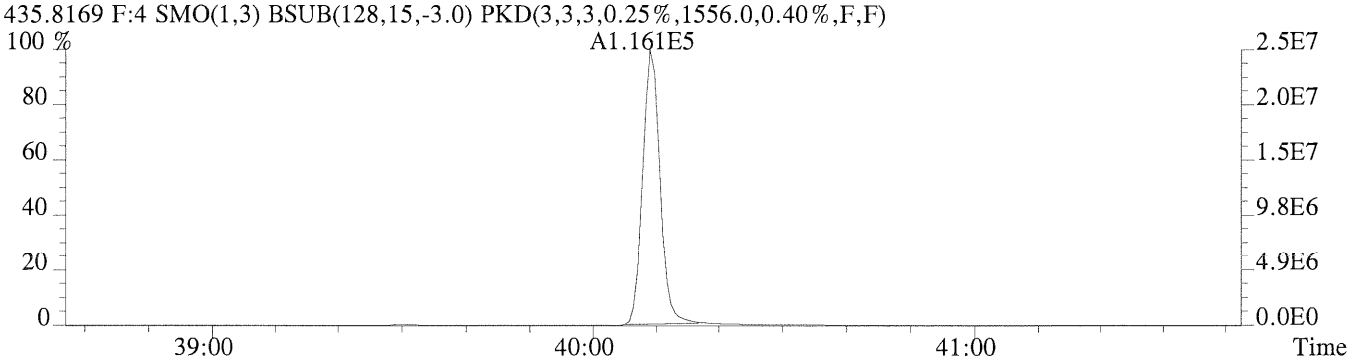
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1592.0,0.40%,F,F)



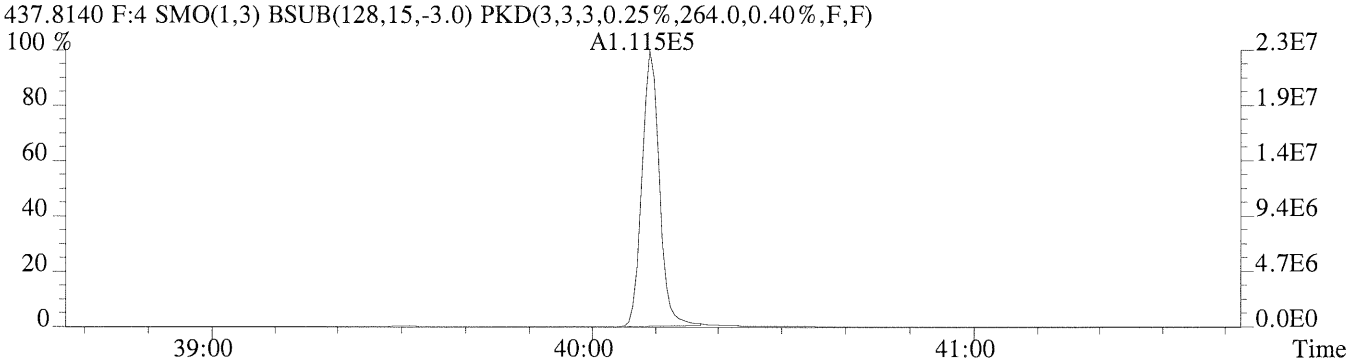
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,F)



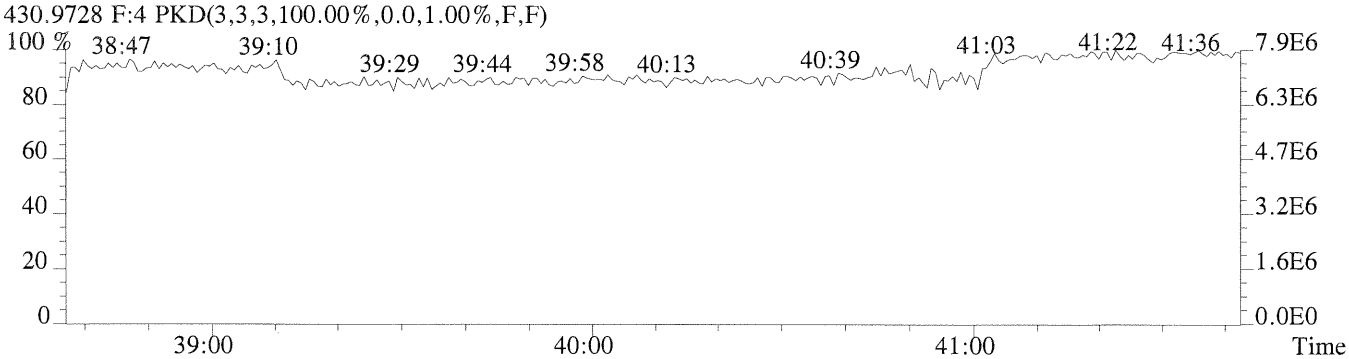
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1556.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,264.0,0.40%,F,F)

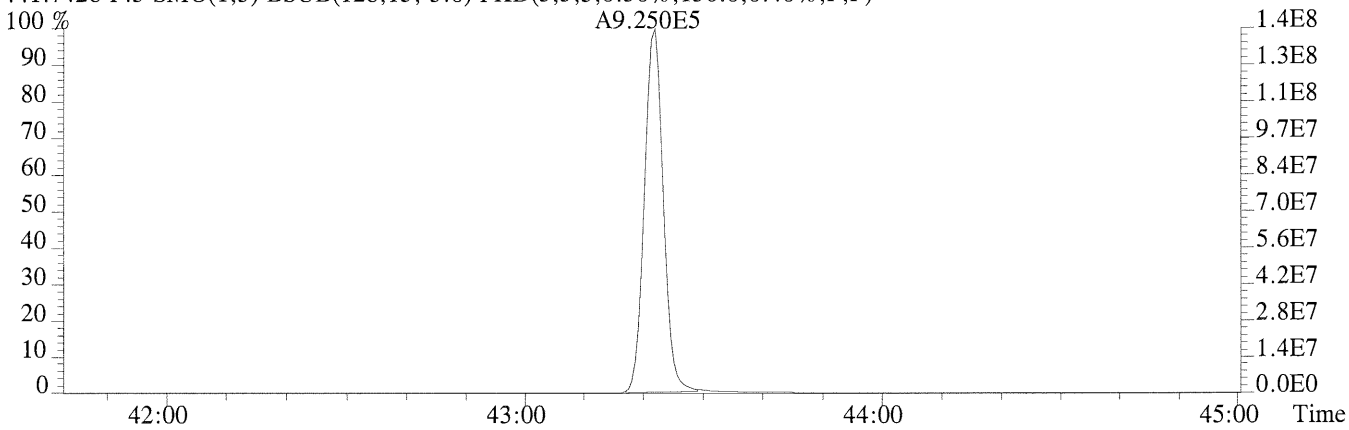


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

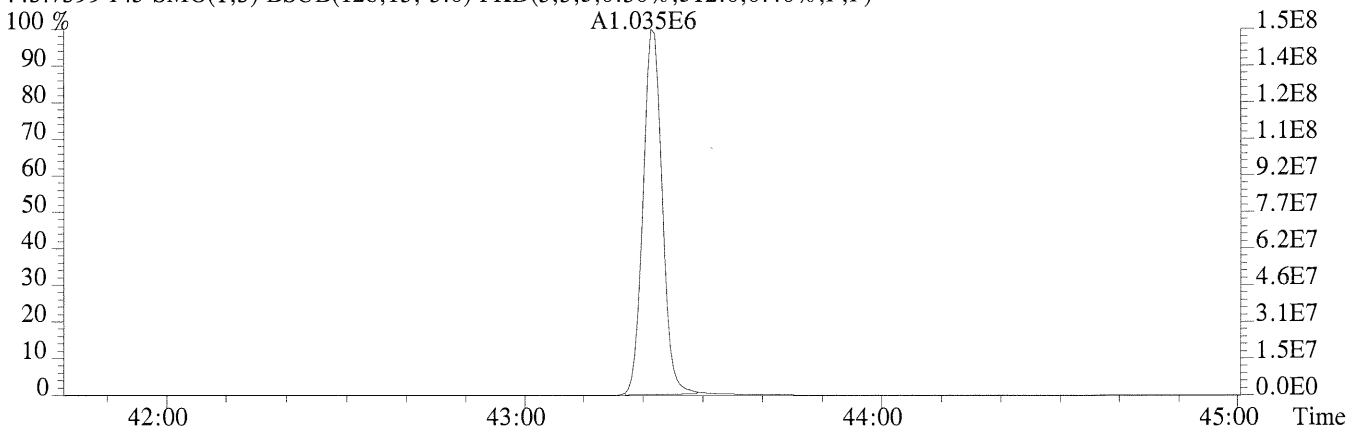


File:P200035 #1-364 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

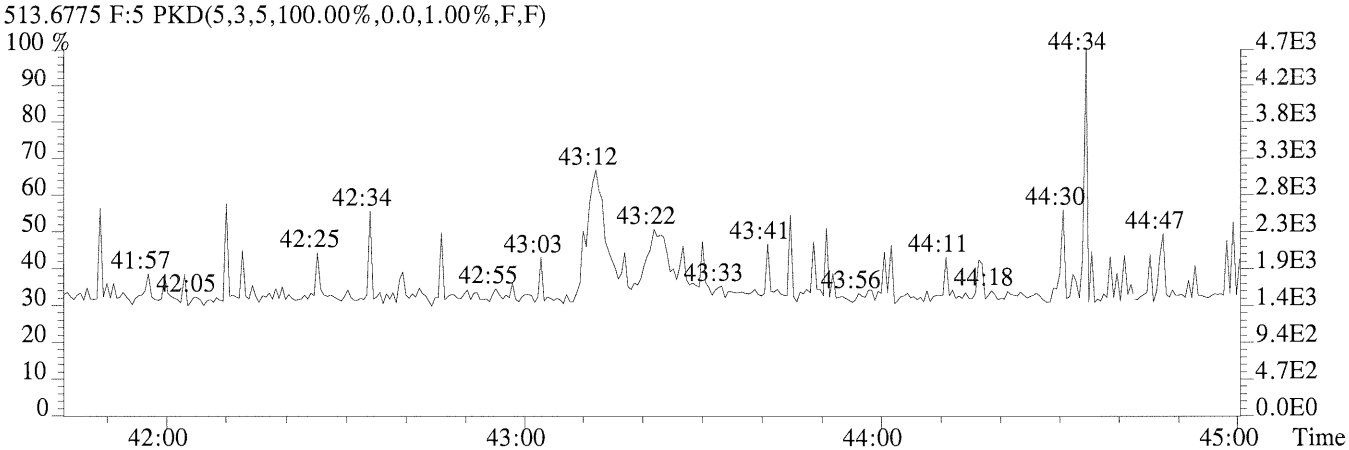
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136.0,0.40%,F,F)



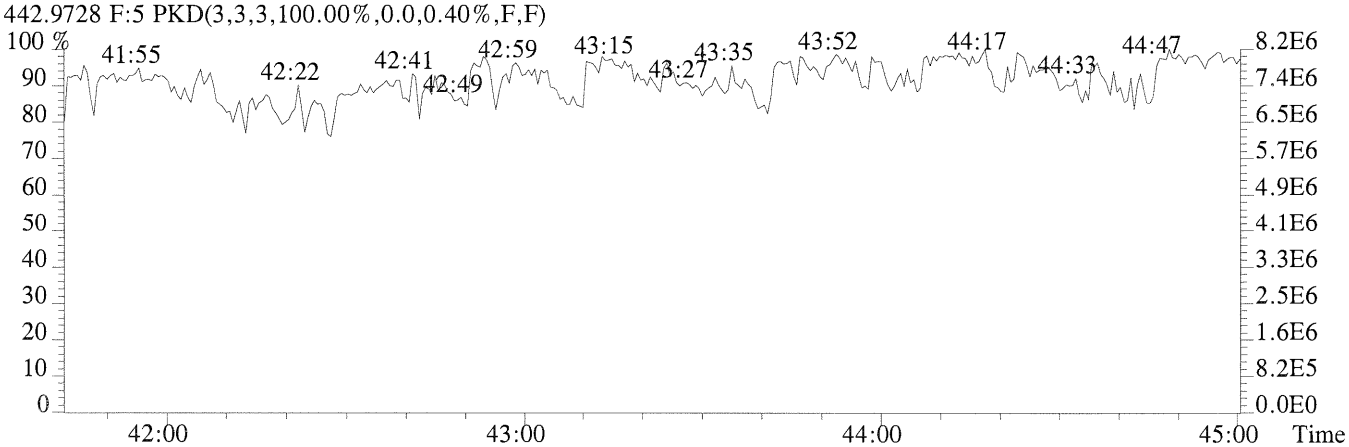
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,512.0,0.40%,F,F)



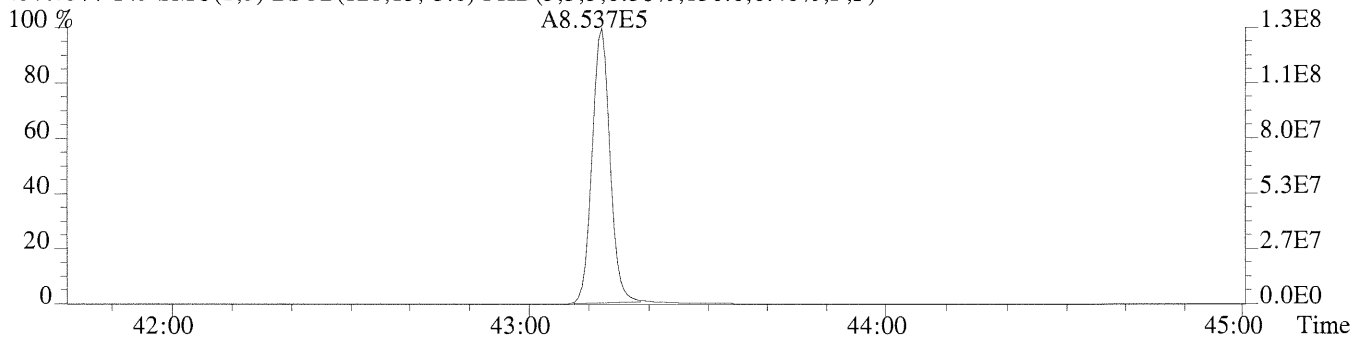
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



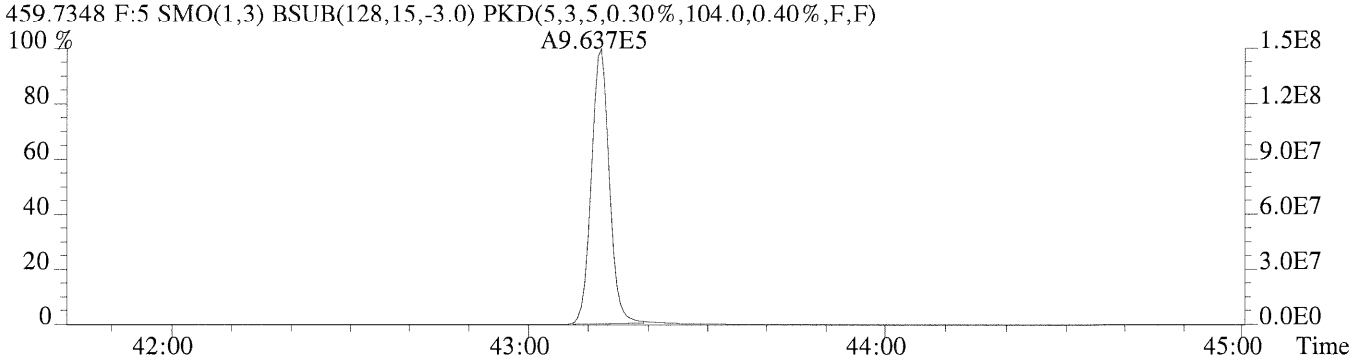
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



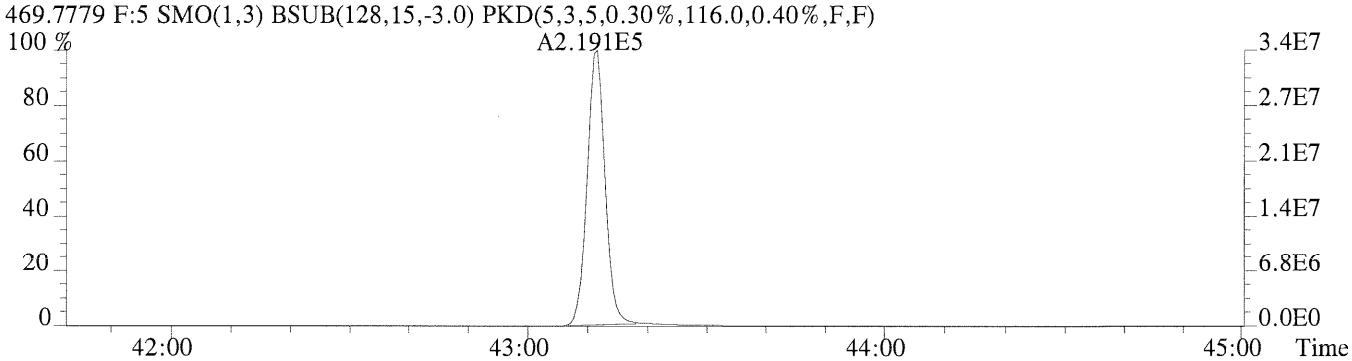
File:P200035 #1-364 Acq: 1-AUG-2008 19:02:53 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,136.0,0.40%,F,F)



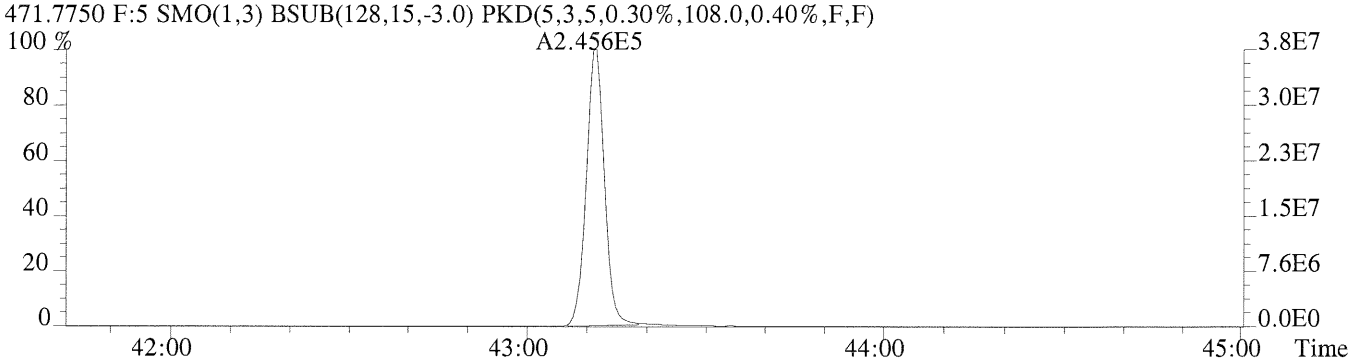
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,104.0,0.40%,F,F)



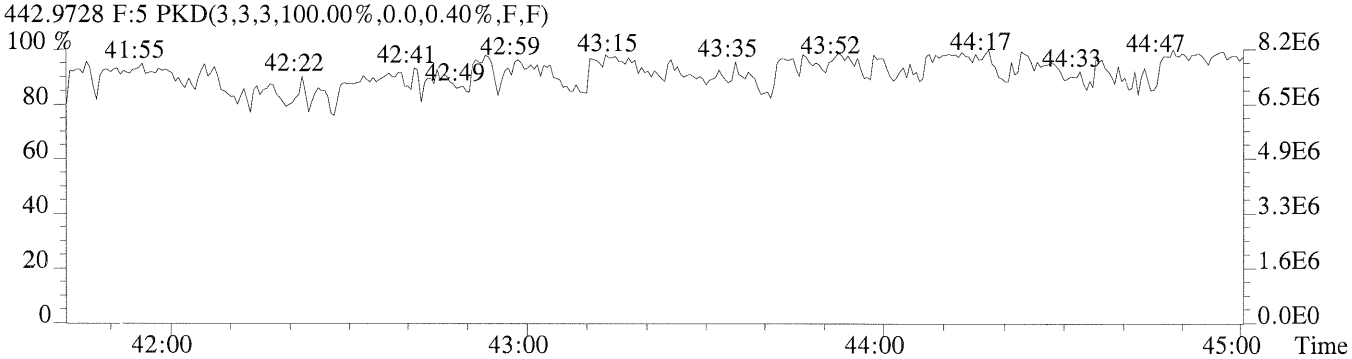
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,116.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,108.0,0.40%,F,F)



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



Initial Calibration QC Checklist

ICAL Name: CF012108290F

Date: 12/10/07

Method: 1613 / 8290 / Tetra / TCDD Only / TCDF Conf / 8280 / 613 / M23

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 it's closest eluters	✓	✓
No QC ion deflections affect column specific 2378 isomer or it's closest eluters	✓	✓

Initial Calibration	Analyst	Second Check
Percent RSD within method criteria	✓	✓
All relative abundance ratios meet method criteria	✓	✓
No QC ion deflections of greater than 20%	✓	✓
Mass spectrometer resolution greater than or equal to 10,000 and documented	✓	✓
2378-TCDD elutes at 25 minutes or later on the DB-5 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%	N/A	N/A.
All Manual Intergrations signed and dated and first and final copies of Ical summary included	✓	✓

Analyst: LD Second QC: [illegible]

icalqc.xls 02-23-00

CAS HOUSTON INC.

5DFC
PCDD/PCDF ANALYTICAL SEQUENCE SUMMARY

Name: Columbia Analytical Services, Houston Contract

Lab Code: TX01411 CASE No.: Client No: SDG No.:

GC Column: DB-5 ID: 0.25 (mm) Instrument ID: AutoSpec-Ultima

Init. Calib. Date: 12/10/07

Init. Calib.Times: 08:50

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
WINDOW DEFINE		U212886	10-DEC-07	08:50:39
ICAL HRCC1		U212889	10-DEC-07	12:19:27
ICAL HRCC2		U212888	10-DEC-07	11:32:50
ICAL HRCC3		U212887	10-DEC-07	09:58:49
ICAL HRCC4		U212890	10-DEC-07	13:15:19
ICAL HRCC5		U212891	10-DEC-07	14:02:46

HRGC/HRMS RUN LOG

CAS HOUSTON 10655 Richmond Avenue, Suite 130-A Houston, TX 77042

Columbia Analytical Services inc.
An Employee Owned Company

Acq Method: 8290CAS/1613 Result File: _____ Archive Tape: _____

GC Method: 8290CAS/1613 EDD File: _____ Instrument ID: AutoSpec 2

Date	Time	File	CAS ID	Client ID	Batch #	Analyst	Comments	RE
		U212876	K0701014-003			KC		
		U212877	" -004					
		U212878	" -005					
		U212879	~~" -006~~				K0711014-007	
		U212880	JB 12/11/07 ~~-007~~				" -008	
		U212881	~~-008~~				" -010	
		U212882	K0711014 -011					
		U212883	P0701107-006					
		U212884	" -012					
		U212885	CCAL 053	~~D4-90-2 JB 12/11/07~~			D8-92-4B	
12/10/07	08:50	U212886	WINDOW DEFINE	D4-90-2				
	09:58	U212887	ICAL HRCC3	D8-2-2A				
	11:32	U212888	" HRCC2	D5-49-4				
	12:19	U212889	" HRCC1	D5-49-5				
	13:15	U212890	" HRCC4	D5-49-2				
	14:02	U212891	" HRCC5	D5-49-1				

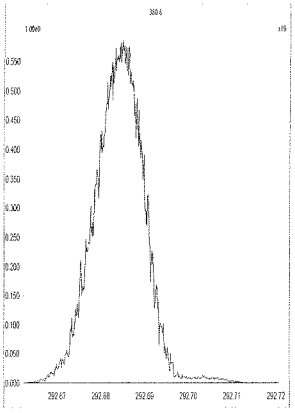
Reviewed by: _____

Experiment Calibration Report **MassLynx 4.1** Page 1 of 1

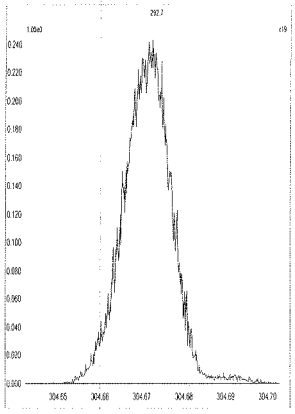
File: Experiment: 8290CAS.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, December 10, 2007 09:57:40 Central Standard Time

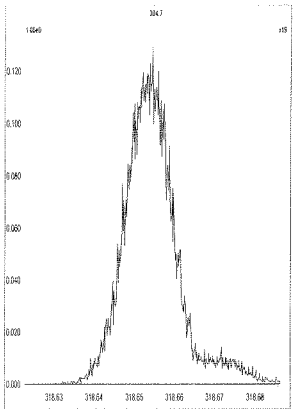
M 292.9824 R 11962



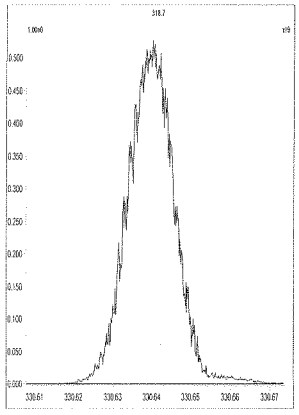
M 304.9824 R 11735



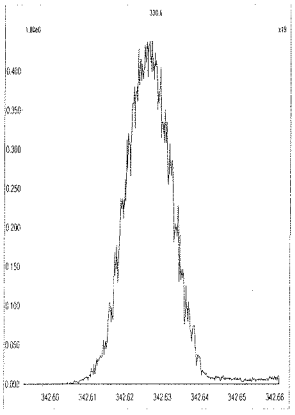
M 318.9792 R 9435



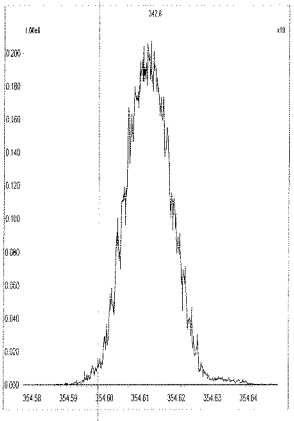
M 330.9792 R 12499



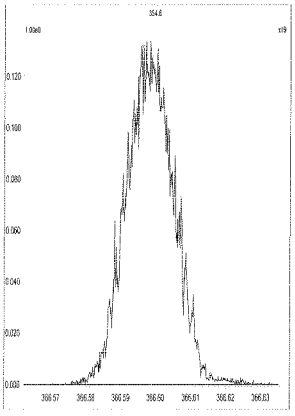
M 342.9792 R 12132



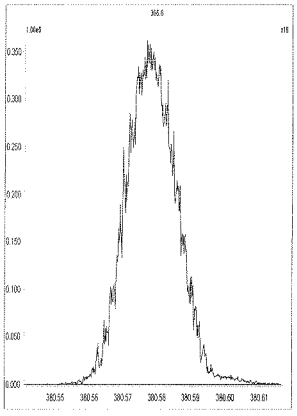
M 354.9792 R 12499



M 366.9792 R 12623



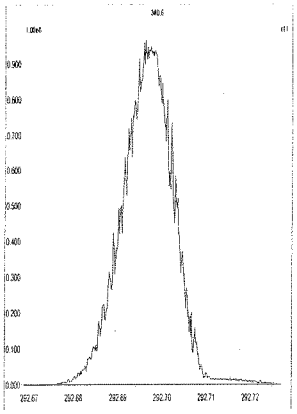
M 380.9760 R 11628



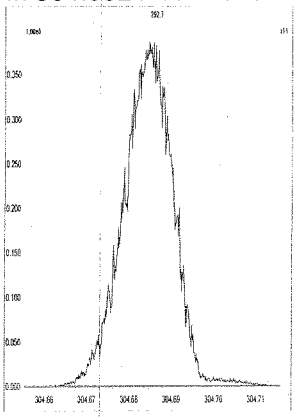
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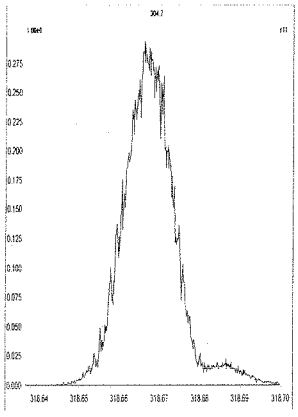
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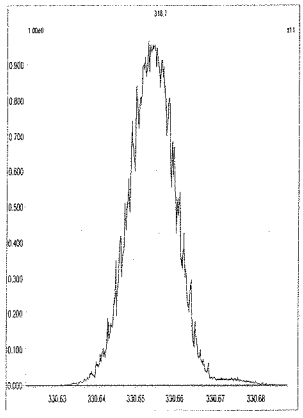
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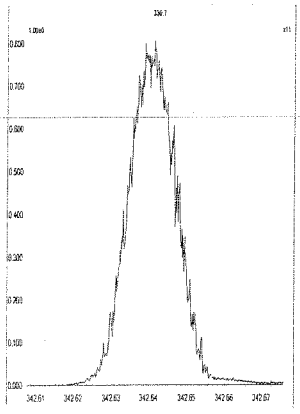
M 318.9792 R 11570



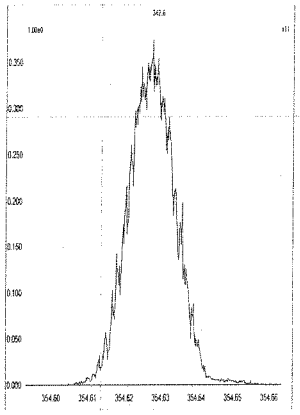
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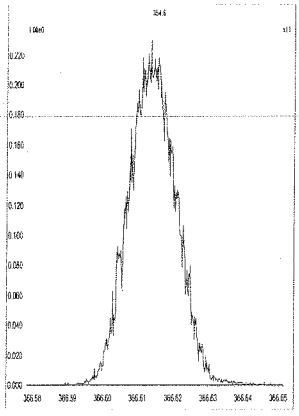
M 342.9792 R 12623



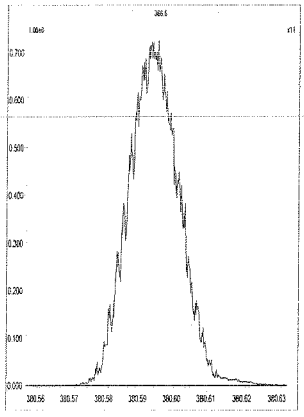
M 354.9792 R 12563



M 366.9792 R 12688



M 380.9760 R 11733



5DFA

WINDOW DEFINING MIX SUMMARY

CLIENT ID

WDM

Lab Name: COLUMBIA ANALYTICAL SERVICES

Lab Code: CAS Case No.: _____ SDG No.: _____

GC Column: DB-5 ID: 0.25 (mm) Lab File ID: U2127886

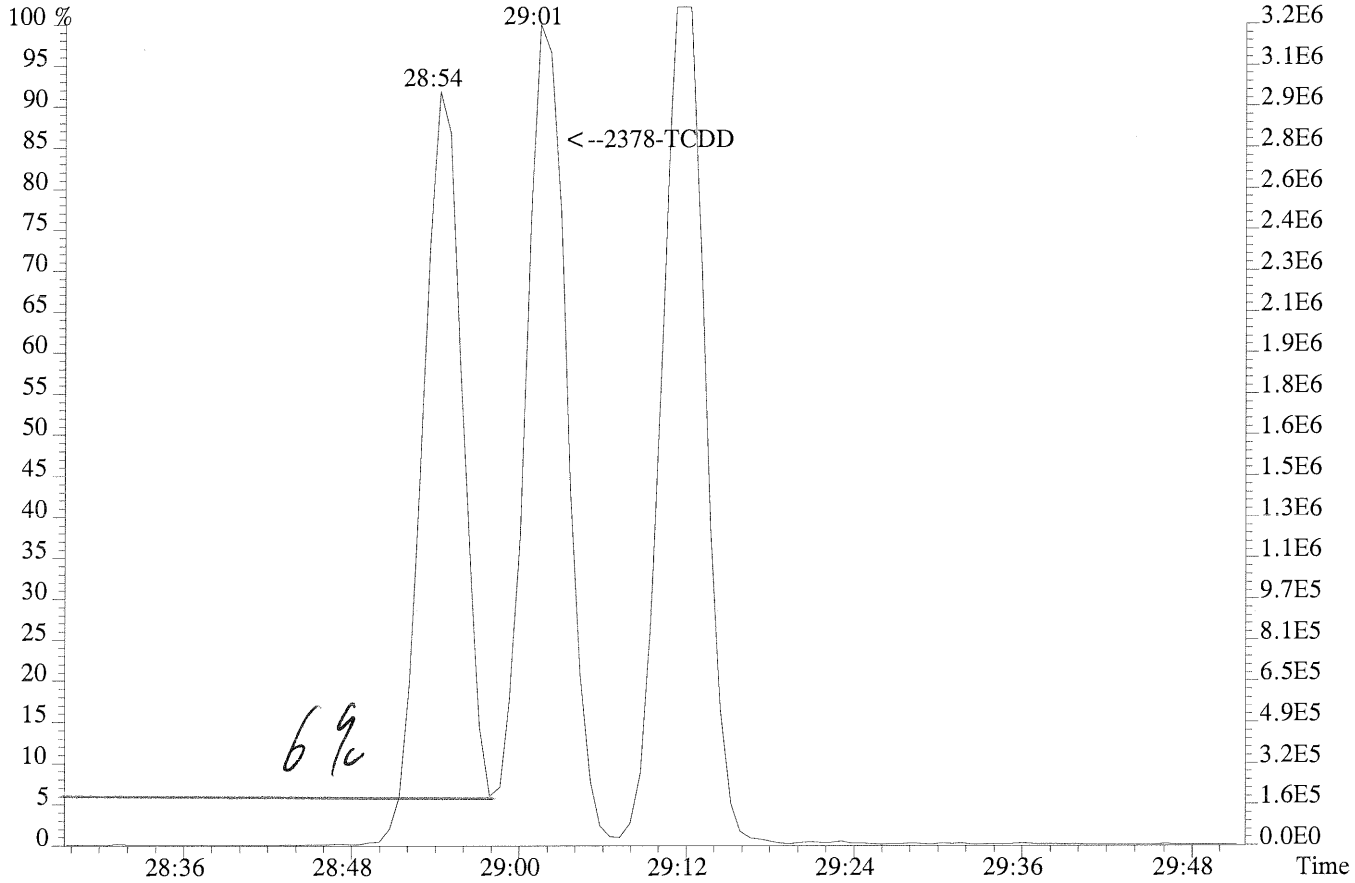
Date Analyzed: 12/10/07

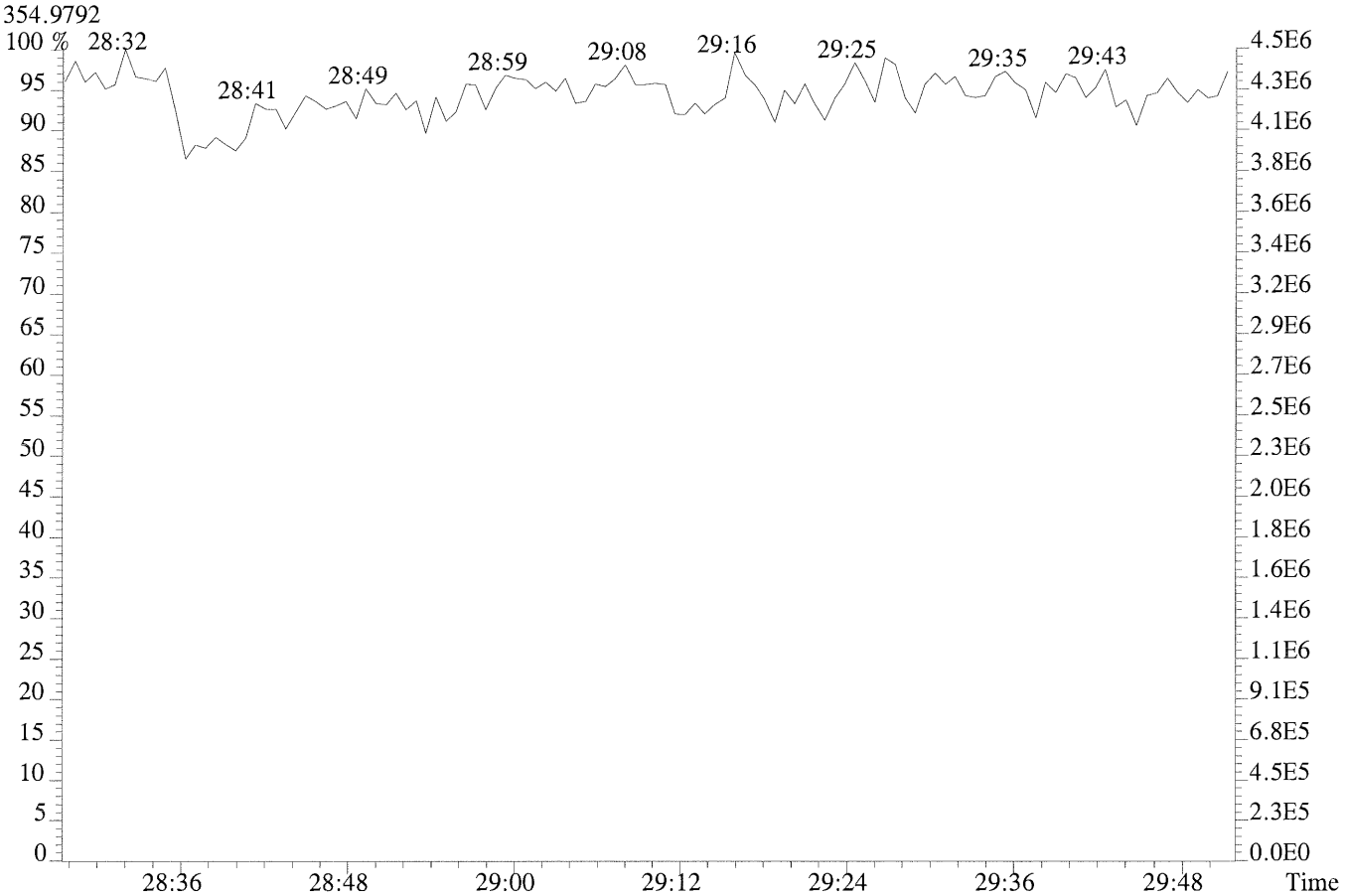
Time Analyzed: 08:50:39

CONGENER	RT FIRST ELUTING	RT LAST ELUTING
TCDF	24:44	30:05
TCDD	26:17	30:03
PeCDF	30:19	33:59
PeCDD	31:35	33:50
HxCDF	34:49	37:05
HxCDD	35:18	36:45
HpCDF	38:29	39:52
HpCDD	38:45	39:26

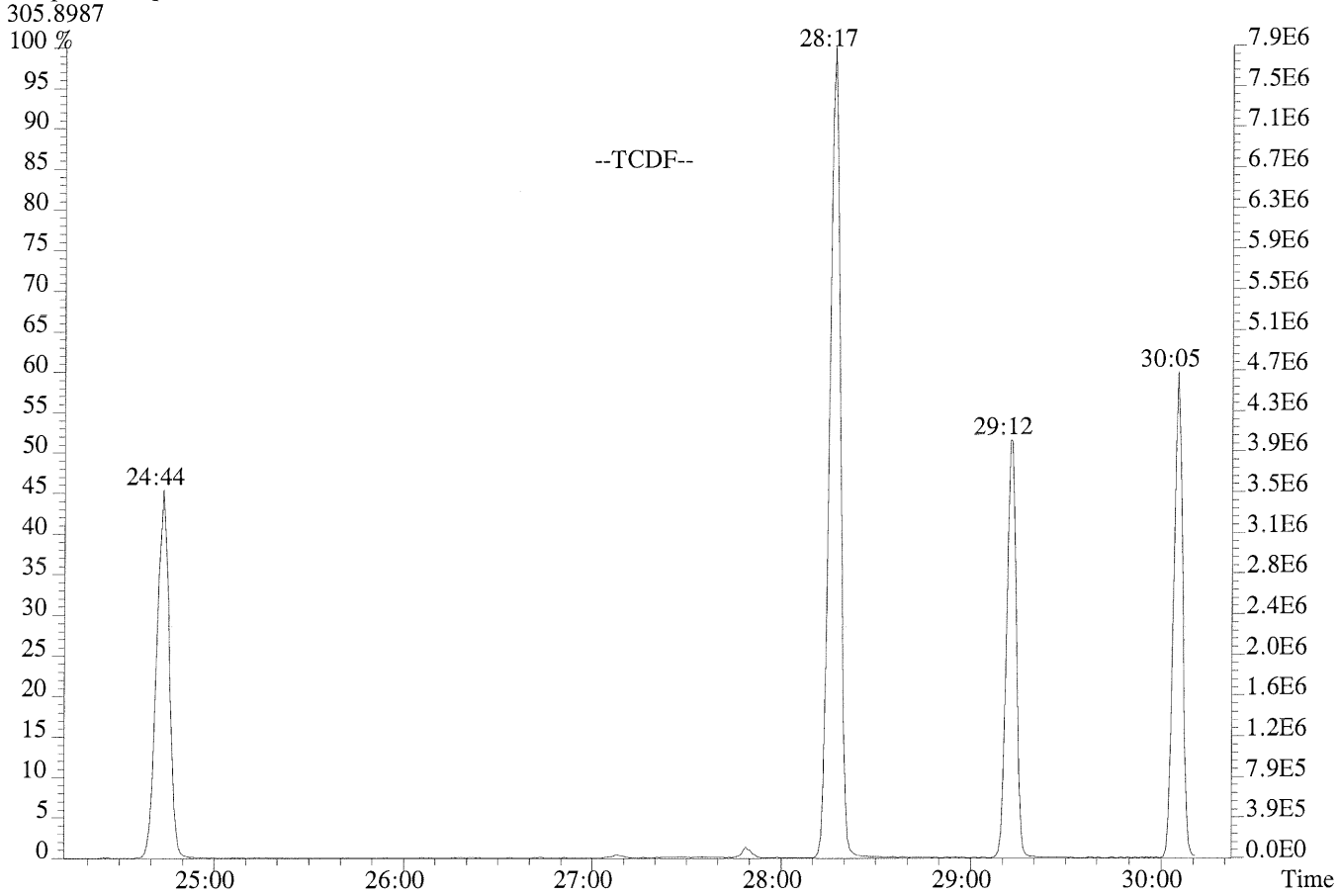
% Valley 2378-TCDD: 6%

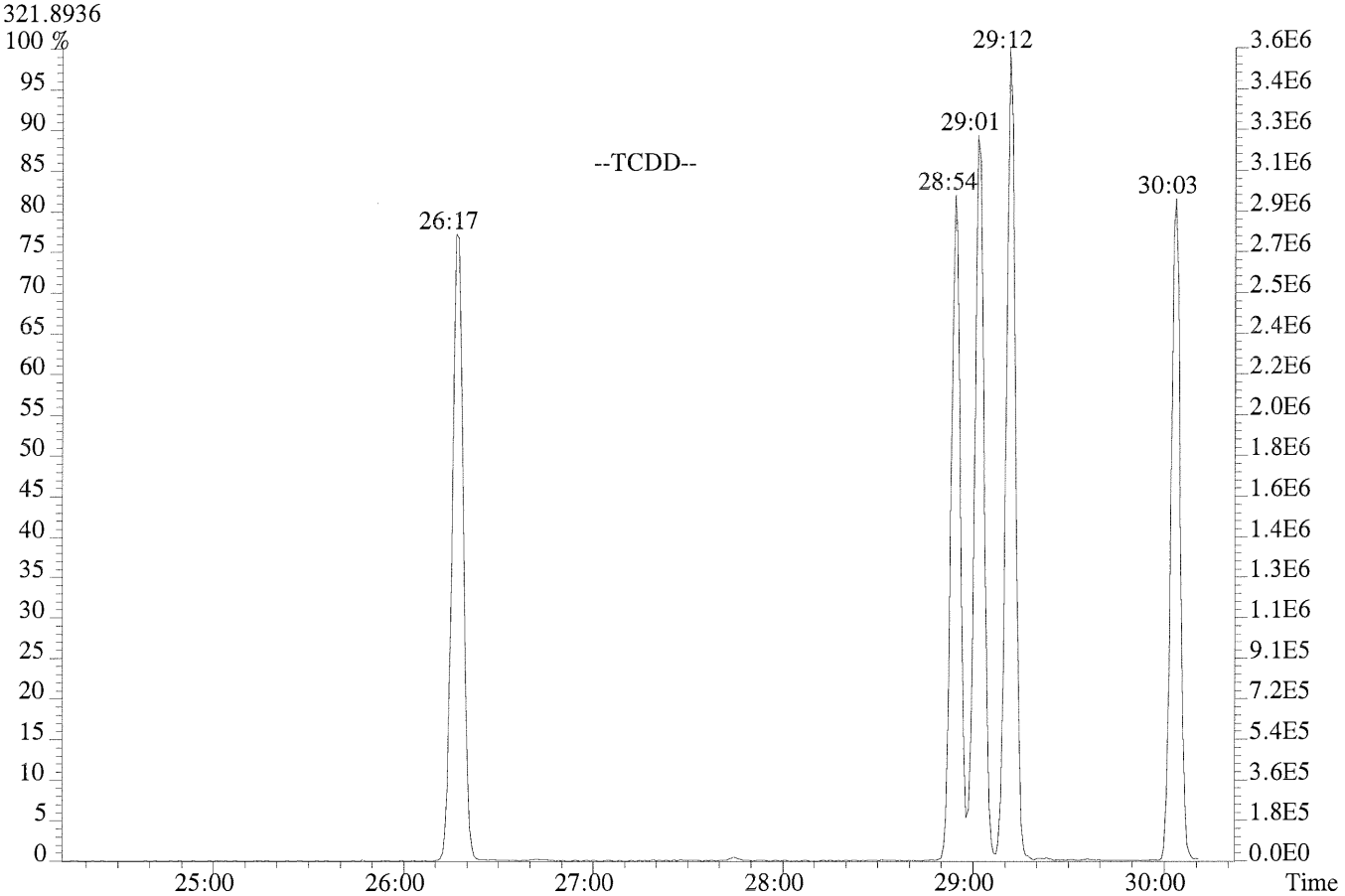
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Sample#1 Exp:WINDOW DEFINE



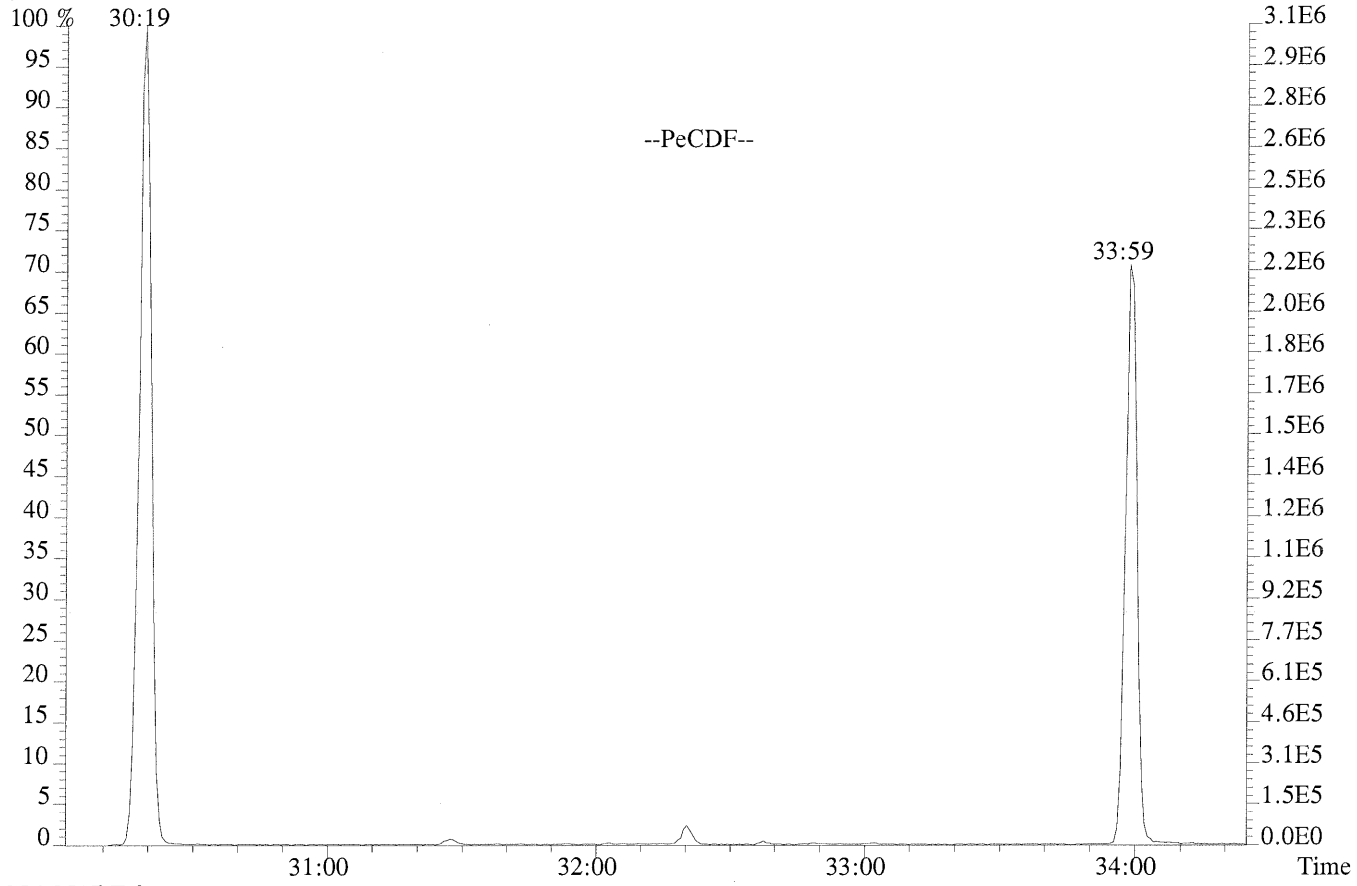


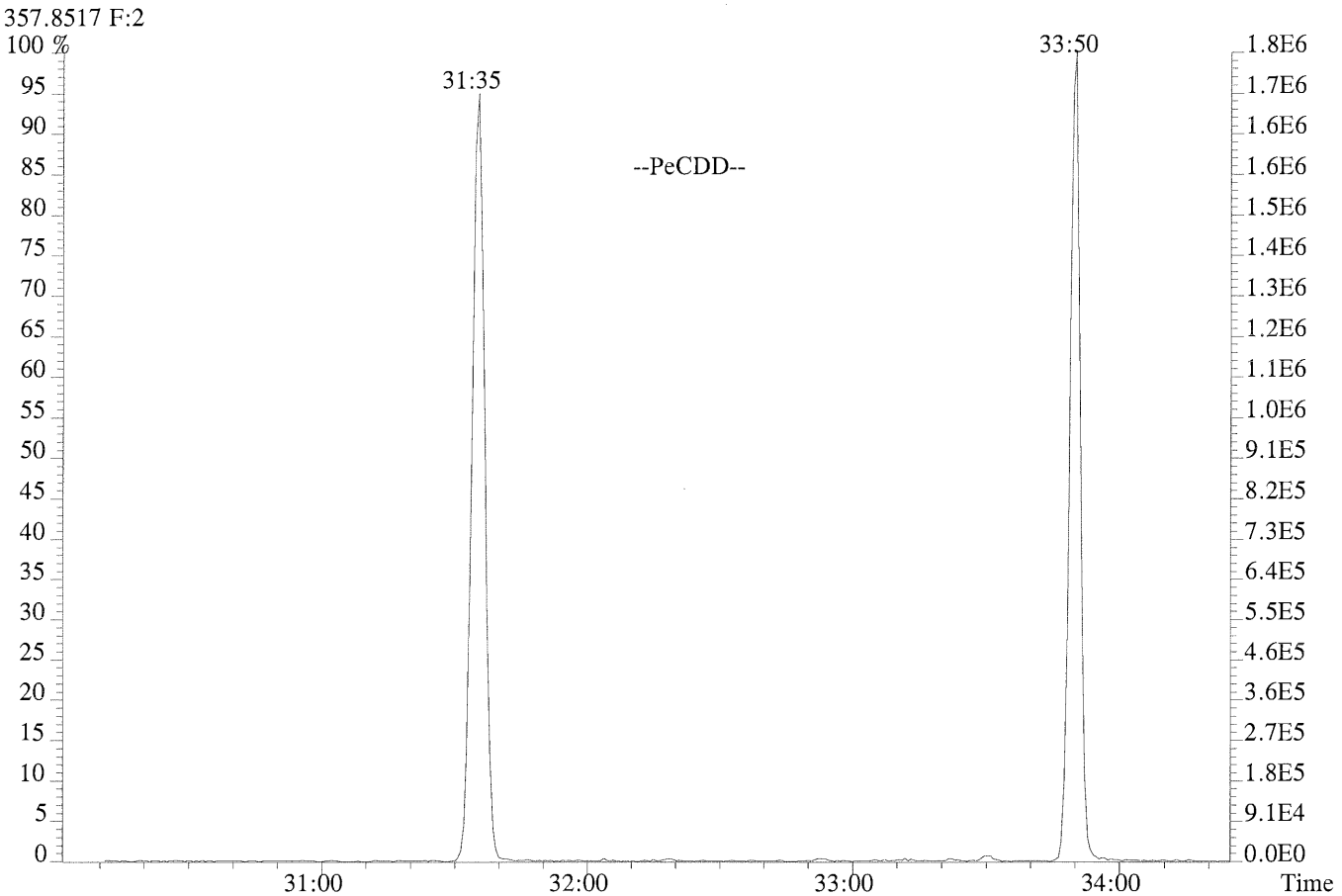
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Sample#1 Exp:WINDOW DEFINE



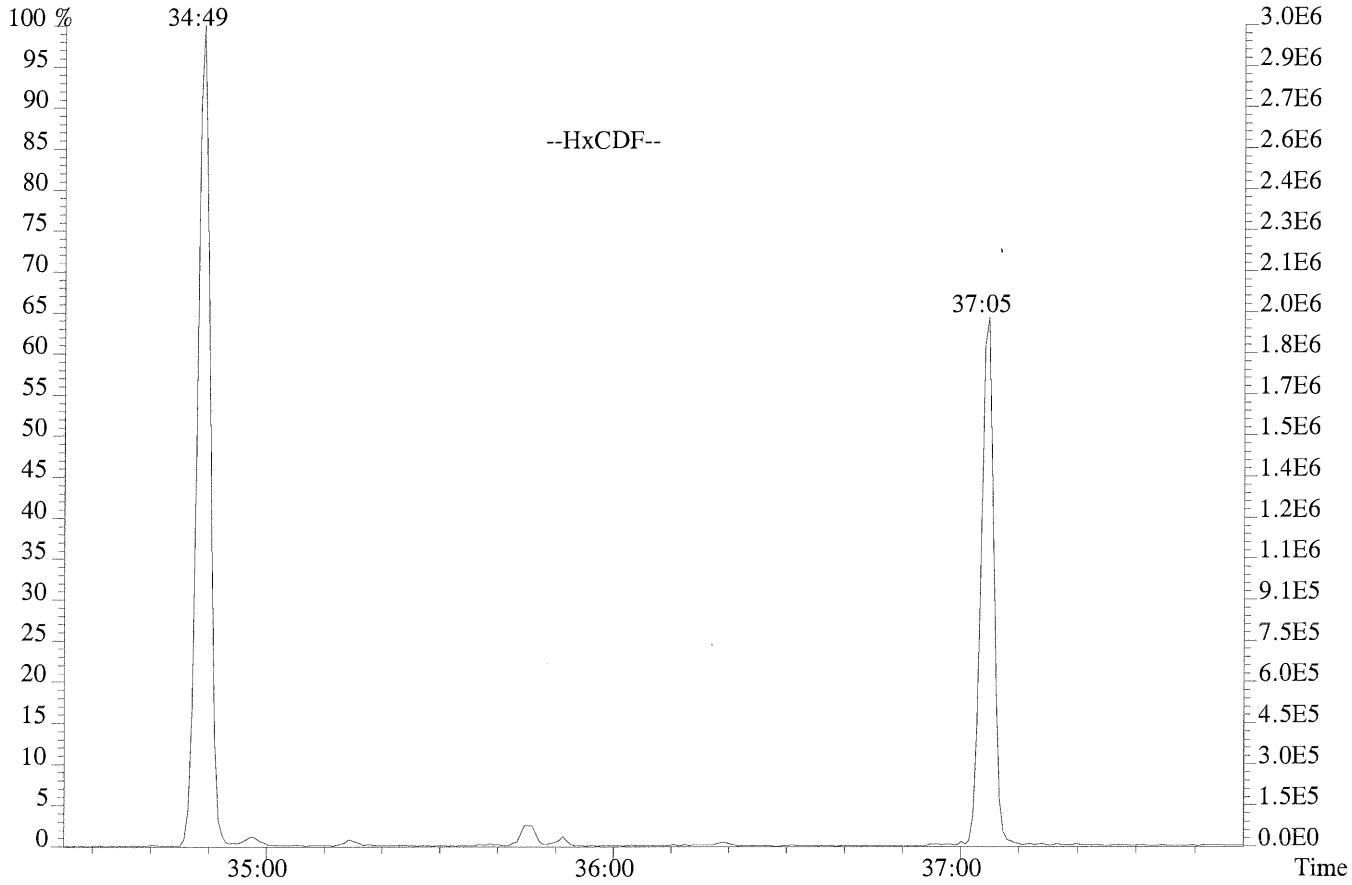


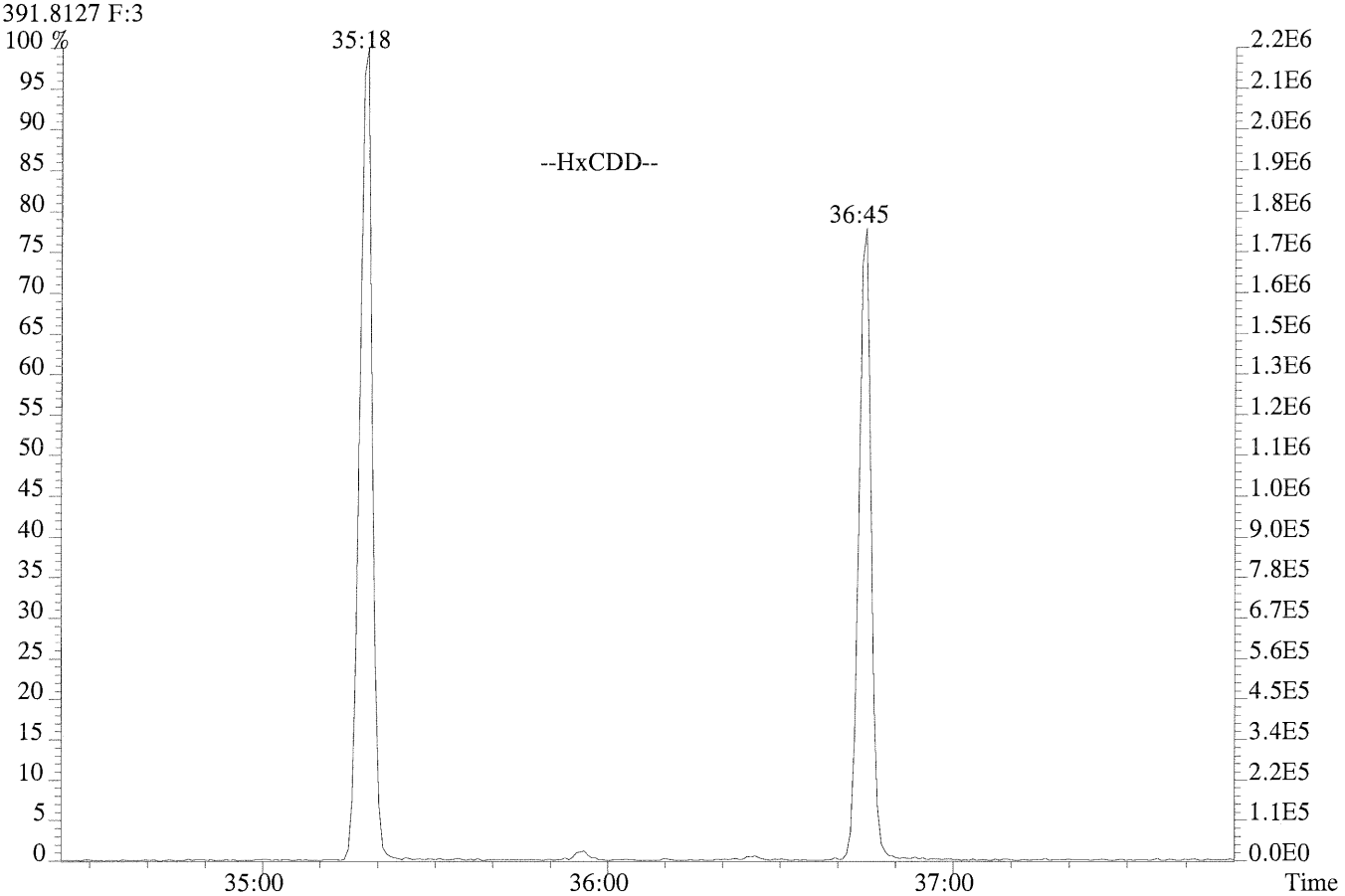
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Sample#1 Exp:WINDOW DEFINE



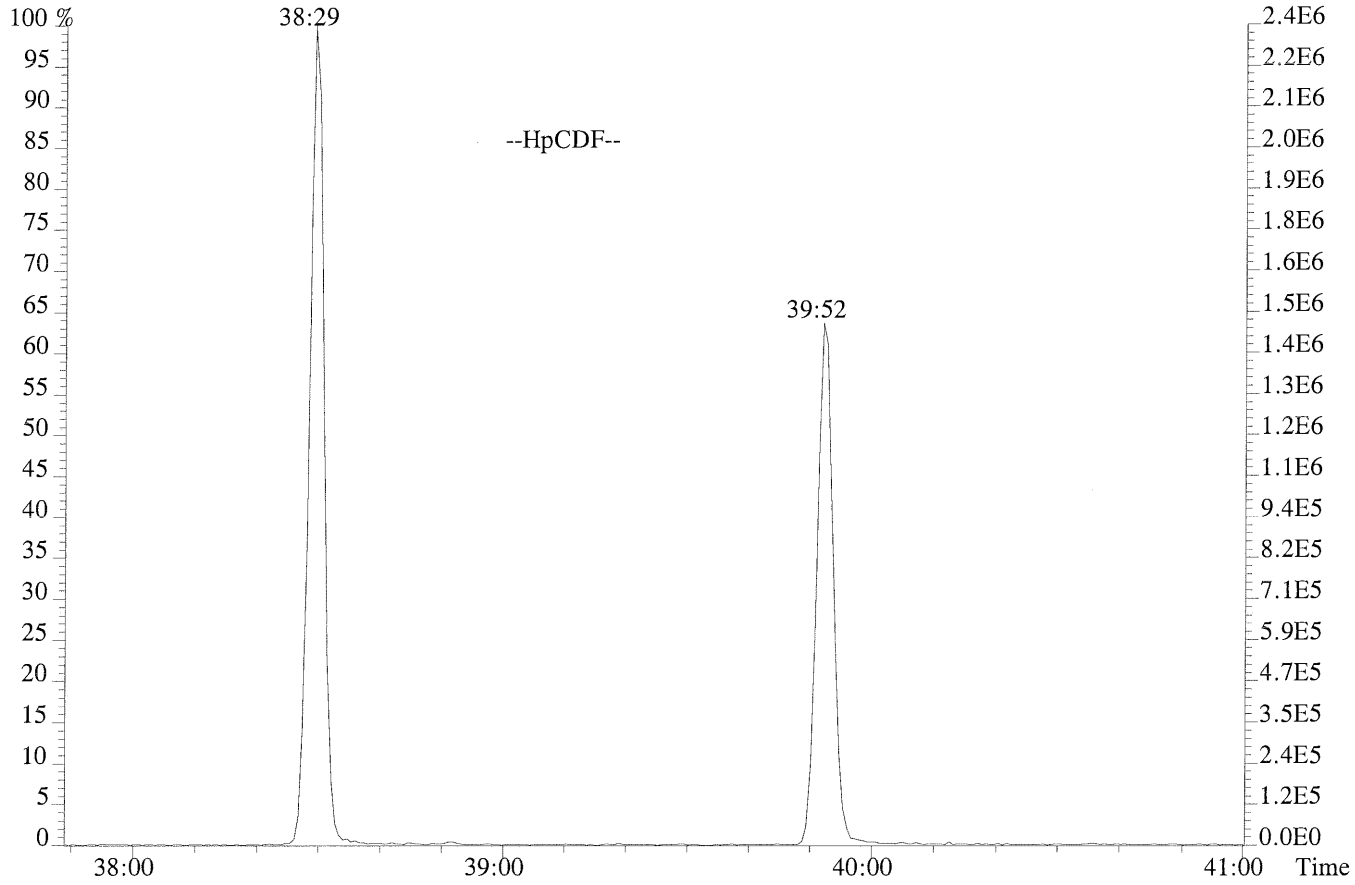


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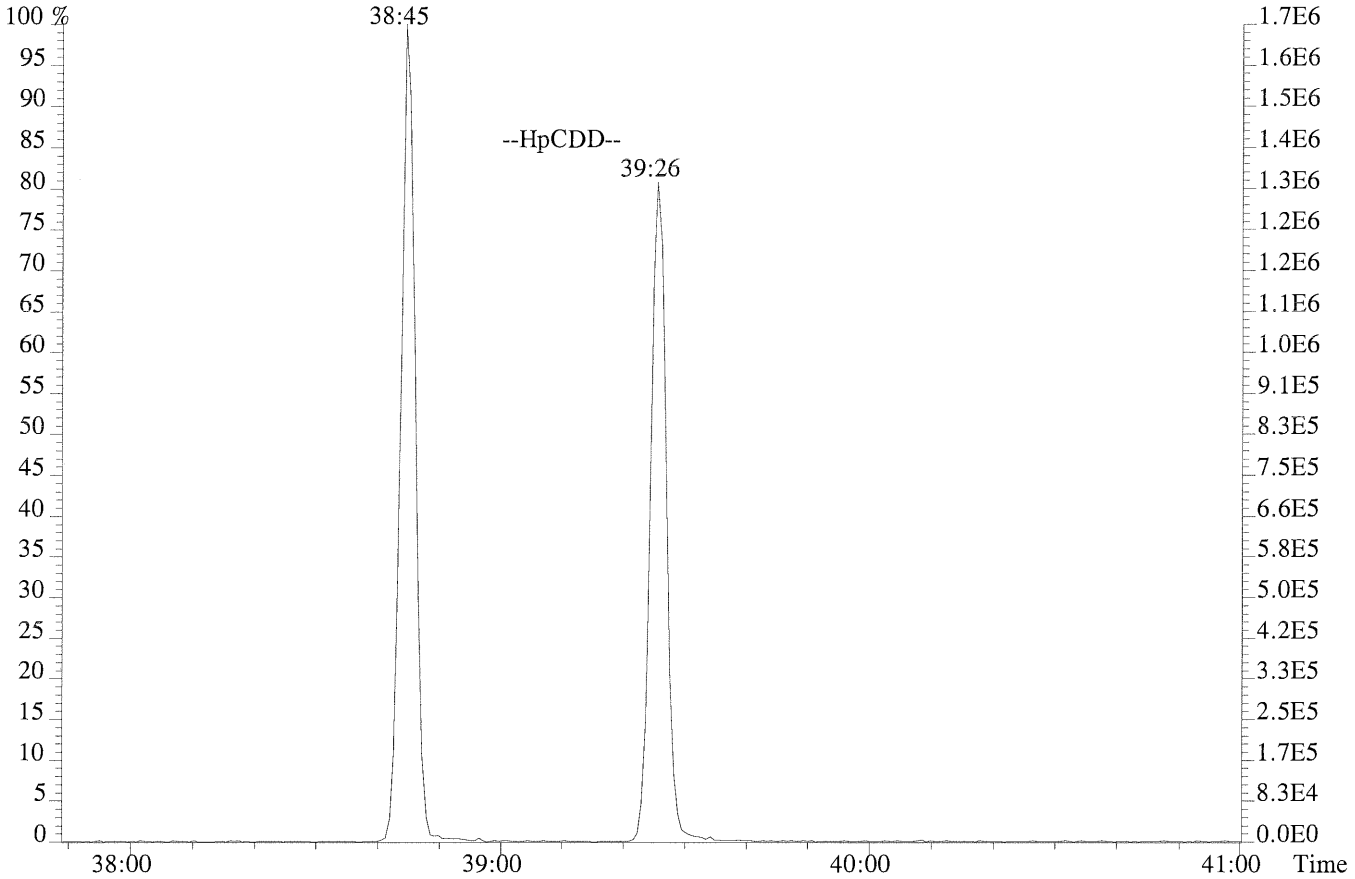




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Sample#1 Exp:WINDOW DEFINE
409.7789 F:4



425.7737 F:4



FORM 3A
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: U212889 HRCC4 Data Filename: U212890

HRCC2 Data Filename: U212888 HRCC5 Data Filename: U212891

HRCC3 Data Filename: U212887

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
NATIVE ANALYTES							
2,3,7,8-TCDD	0.88	0.88	0.96	0.95	0.95	0.93	4.20
1,2,3,7,8-PeCDD	0.89	0.90	0.88	0.91	0.91	0.90	1.60
1,2,3,4,7,8-HxCDD	0.99	1.02	0.97	1.07	1.08	1.03	4.72
1,2,3,6,7,8-HxCDD	1.05	1.02	1.00	1.09	1.04	1.04	3.23
1,2,3,7,8,9-HxCDD	1.01	1.03	0.96	1.08	1.05	1.03	4.73
1,2,3,4,6,7,8-HpCDD	0.90	0.93	0.92	0.93	0.94	0.92	1.62
OCDD	1.03	1.04	1.03	1.02	1.02	1.03	0.66
2,3,7,8-TCDF	0.89	0.88	0.93	0.93	0.92	0.91	2.67
1,2,3,7,8-PeCDF	0.87	0.89	0.93	0.90	0.91	0.90	2.38
2,3,4,7,8-PeCDF	0.88	0.90	0.91	0.93	0.95	0.91	2.95
1,2,3,4,7,8-HxCDF	1.13	1.16	1.18	1.15	1.15	1.15	1.74
1,2,3,6,7,8-HxCDF	1.05	1.10	1.13	1.12	1.12	1.11	2.73
1,2,3,7,8,9-HxCDF	0.85	0.87	0.91	0.95	0.90	0.89	4.39
2,3,4,6,7,8-HxCDF	0.99	1.01	1.07	1.08	1.08	1.05	4.08
1,2,3,4,6,7,8-HpCDF	1.37	1.38	1.42	1.43	1.39	1.40	1.81
1,2,3,4,7,8,9-HpCDF	1.01	1.06	1.08	1.13	1.05	1.07	4.36
OCDF	1.13	1.19	1.14	1.17	1.15	1.16	1.91

(1) The %RSD for the 17 unlabeled standard must not exceed +/- 20%, see Section 7.7.2.1, Method 8290.

8290F3A

FORM 3B
PCDD/PCDF INITIAL CALIBRATION RELATIVE RESPONSES

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: U212889 HCC4 Data Filename: U212890

HCC2 Data Filename: U212888 HCC5 Data Filename: U212891

HCC3 Data Filename: U212887

	RELATIVE RESPONSE (RR)					MEAN RR	Cv (RSD) (1)
	HRCC1	HRCC2	HRCC3	HRCC4	HRCC5		
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	1.00	1.01	1.02	1.05	1.04	1.02	2.18
13C-1,2,3,7,8-PeCDD	0.98	0.94	0.89	1.03	1.02	0.97	5.96
13C-1,2,3,6,7,8-HxCDD	1.00	1.02	1.00	0.95	0.97	0.99	2.74
13C-1,2,3,4,6,7,8-HpCDD	0.90	0.91	0.83	0.91	0.91	0.89	4.02
13C-OCDD	0.97	1.00	0.89	1.00	0.97	0.96	4.79
13C-2,3,7,8-TCDF	1.31	1.32	1.29	1.36	1.35	1.32	2.03
13C-1,2,3,7,8-PeCDF	1.39	1.35	1.23	1.46	1.44	1.37	6.61
13C-1,2,3,4,7,8-HxCDF	1.33	1.37	1.15	1.25	1.27	1.27	6.79
13C-1,2,3,4,6,7,8-HpCDF	0.94	0.93	0.83	0.91	0.95	0.91	5.24
CLEANUP STANDARD							
37Cl-2,3,7,8-TCDD	0.89	0.95	0.99	1.00	0.97	0.96	4.67

(1) The %RSD for the nine labeled reference compounds must not exceed +/- 30%, see Section 7.7.2.1, Method 8290.

8290F3B

FORM 3C
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HCC1 Data Filename: U212889 HCC4 Data Filename: U212890

HCC2 Data Filename: U212888 HCC5 Data Filename: U212891

HCC3 Data Filename: U212887

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
NATIVE ANALYTES							
2,3,7,8-TCDD	M/M+2	0.78	0.77	0.76	0.79	0.78	0.65-0.89
1,2,3,7,8-PeCDD	M+2/M+4	1.59	1.54	1.53	1.55	1.53	1.32-1.78
1,2,3,4,7,8-HxCDD	M+2/M+4	1.29	1.29	1.28	1.23	1.23	1.05-1.43
1,2,3,6,7,8-HxCDD	M+2/M+4	1.30	1.17	1.26	1.23	1.23	1.05-1.43
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.23	1.23	1.23	1.29	1.05-1.43
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	1.05	1.04	1.04	1.07	0.88-1.20
OCDD	M+2/M+4	0.89	0.89	0.89	0.88	0.89	0.76-1.02
2,3,7,8-TCDF	M/M+2	0.75	0.81	0.78	0.79	0.77	0.65-0.89
1,2,3,7,8-PeCDF	M+2/M+4	1.49	1.50	1.56	1.54	1.52	1.32-1.78
2,3,4,7,8-PeCDF	M+2/M+4	1.55	1.56	1.55	1.53	1.55	1.32-1.78
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.24	1.26	1.25	1.20	1.05-1.43
1,2,3,6,7,8-HxCDF	M+2/M+4	1.18	1.21	1.18	1.18	1.21	1.05-1.43
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.28	1.23	1.21	1.21	1.05-1.43
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.25	1.20	1.23	1.25	1.05-1.43
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.04	1.00	1.00	1.01	1.03	0.88-1.20
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.98	0.98	1.01	1.01	0.88-1.20
OCDF	M+2/M+4	0.91	0.89	0.89	0.91	0.90	0.76-1.02

(1) See Table 6, Method 8290, for m/z specifications.

(2) Ion Abundance Ratio Control Limits from Table 8, Method 8290.

8290F3C

FORM 3D
PCDD/PCDF INITIAL CALIBRATION ION ABUNDANCE RATIOS

Lab Name: Columbia Analytical Services Episode No.:

Contract No.: SDG No.:

Initial Calibration Date: 12/10/07

Instrument ID: AutoSpec-Ultima GC Column ID: DB-5

HRCC1 Data Filename: U212889 HRCC4 Data Filename: U212890

HRCC2 Data Filename: U212888 HRCC5 Data Filename: U212891

HRCC3 Data Filename: U212887

	M/Z'S FORMING RATIO	ION ABUNDANCE RATIO					QC LIMITS (2)
		HRCC1	HRCC2	HRCC3	HRCC4	HRCC5	
LABELED COMPOUNDS							
13C-2,3,7,8-TCDD	M/M+2	0.78	0.76	0.80	0.78	0.81	0.65-0.89
13C-1,2,3,7,8-PeCDD	M+2/M+4	1.57	1.53	1.56	1.56	1.56	1.32-1.78
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.26	1.26	1.26	1.24	1.05-1.43
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	1.04	1.05	1.05	1.05	0.88-1.20
13C-OCDD	M+2/M+4	0.91	0.89	0.91	0.90	0.92	0.76-1.02
13C-2,3,7,8-TCDF	M/M+2	0.80	0.78	0.78	0.79	0.81	0.65-0.89
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.56	1.56	1.56	1.56	1.32-1.78
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.52	0.52	0.52	0.52	0.43-0.59
13C-1,2,3,4,6,7,8-HpCDF	M/M+2	0.46	0.46	0.45	0.44	0.45	0.37-0.51

(1) See Table 6, Method 8290, for m/z specifications.Method 8290.

(2) Ion Abundance Ratio Control Limits from Table 8,

8290F3D

Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC1

Run #1 Filename U212889 Samp: 1 Inj: 1 Acquired: 10-DEC-07 12:19:27
Processed: 10-DEC-07 15:07:09 Sample ID: ICAL HRCC1

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	28:14	1.204e+03	1.601e+03	0.75	yes	no
2	Unk	1,2,3,7,8-PeCDF	32:19	4.337e+03	2.915e+03	1.49	yes	no
3	Unk	2,3,4,7,8-PeCDF	33:01	4.457e+03	2.881e+03	1.55	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:44	3.769e+03	3.042e+03	1.24	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:50	3.448e+03	2.932e+03	1.18	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	36:18	3.261e+03	2.714e+03	1.20	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:59	2.823e+03	2.308e+03	1.22	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	38:29	2.969e+03	2.858e+03	1.04	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	2.158e+03	2.138e+03	1.01	yes	no
10	Unk	OCDF	42:48	4.765e+03	5.231e+03	0.91	yes	no
11	Unk	2,3,7,8-TCDD	29:00	9.273e+02	1.188e+03	0.78	yes	no
12	Unk	1,2,3,7,8-PeCDD	33:21	3.193e+03	2.014e+03	1.59	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	36:24	2.547e+03	1.979e+03	1.29	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	36:29	2.709e+03	2.086e+03	1.30	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:46	2.544e+03	2.064e+03	1.23	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	1.854e+03	1.822e+03	1.02	yes	no
17	Unk	OCDD	42:37	4.283e+03	4.816e+03	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	28:13	6.999e+04	8.696e+04	0.80	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	32:18	1.017e+05	6.505e+04	1.56	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:43	1.037e+05	1.990e+05	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:27	6.687e+04	1.464e+05	0.46	yes	no
22	IS	13C-2,3,7,8-TCDD	28:59	5.259e+04	6.721e+04	0.78	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	33:20	7.159e+04	4.570e+04	1.57	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	36:28	1.276e+05	1.011e+05	1.26	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:24	1.040e+05	1.005e+05	1.04	yes	no
26	IS	13C-OCDD	42:36	2.103e+05	2.311e+05	0.91	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	28:48	5.316e+04	6.692e+04	0.79	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:45	1.267e+05	1.012e+05	1.25	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	29:00	2.134e+03				

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC1

Run #1 Filename U212889 #1 Samp: 1 Inj: 1 Acquired: 10-DEC-07 12:19:27

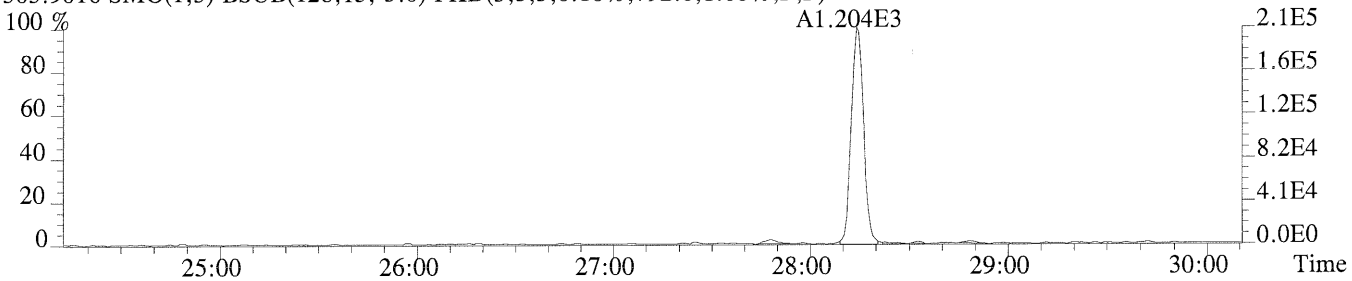
Processed: 10-DEC-07 15:07:09 LAB. ID: ICAL HRCC1

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.05e+05	7.92e+02	2.6e+02	2.86e+05	1.20e+03	2.4e+02
2	1,2,3,7,8-PeCDF	8.80e+05	5.28e+02	1.7e+03	5.86e+05	7.80e+02	7.5e+02
3	2,3,4,7,8-PeCDF	9.09e+05	5.28e+02	1.7e+03	5.86e+05	7.80e+02	7.5e+02
4	1,2,3,4,7,8-HxCDF	8.48e+05	8.32e+02	1.0e+03	6.94e+05	1.18e+03	5.9e+02
5	1,2,3,6,7,8-HxCDF	7.56e+05	8.32e+02	9.1e+02	6.62e+05	1.18e+03	5.6e+02
6	2,3,4,6,7,8-HxCDF	7.09e+05	8.32e+02	8.5e+02	5.94e+05	1.18e+03	5.0e+02
7	1,2,3,7,8,9-HxCDF	6.02e+05	8.32e+02	7.2e+02	4.94e+05	1.18e+03	4.2e+02
8	1,2,3,4,6,7,8-HpCDF	6.20e+05	1.70e+03	3.6e+02	6.07e+05	6.56e+02	9.3e+02
9	1,2,3,4,7,8,9-HpCDF	4.08e+05	1.70e+03	2.4e+02	4.06e+05	6.56e+02	6.2e+02
10	OCDF	6.73e+05	8.64e+02	7.8e+02	7.64e+05	1.61e+03	4.7e+02
11	2,3,7,8-TCDD	1.83e+05	8.48e+02	2.2e+02	2.25e+05	3.12e+02	7.2e+02
12	1,2,3,7,8-PeCDD	6.66e+05	7.44e+02	9.0e+02	4.20e+05	6.52e+02	6.4e+02
13	1,2,3,4,7,8-HxCDD	6.09e+05	1.64e+03	3.7e+02	4.77e+05	1.10e+03	4.3e+02
14	1,2,3,6,7,8-HxCDD	5.93e+05	1.64e+03	3.6e+02	4.58e+05	1.10e+03	4.2e+02
15	1,2,3,7,8,9-HxCDD	5.71e+05	1.64e+03	3.5e+02	4.64e+05	1.10e+03	4.2e+02
16	1,2,3,4,6,7,8-HpCDD	3.74e+05	1.03e+03	3.6e+02	3.78e+05	5.68e+02	6.7e+02
17	OCDD	6.18e+05	1.16e+03	5.3e+02	6.78e+05	1.87e+03	3.6e+02
18	13C-2,3,7,8-TCDF	1.25e+07	2.80e+03	4.5e+03	1.55e+07	1.34e+03	1.2e+04
19	13C-1,2,3,7,8-PeCDF	2.03e+07	3.28e+02	6.2e+04	1.30e+07	4.88e+02	2.7e+04
20	13C-1,2,3,4,7,8-HxCDF	2.28e+07	5.32e+02	4.3e+04	4.42e+07	1.45e+03	3.1e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.39e+07	1.86e+03	7.4e+03	3.04e+07	4.01e+03	7.6e+03
22	13C-2,3,7,8-TCDD	9.69e+06	3.24e+03	3.0e+03	1.26e+07	1.32e+03	9.5e+03
23	13C-1,2,3,7,8-PeCDD	1.44e+07	7.80e+02	1.8e+04	9.27e+06	4.92e+02	1.9e+04
24	13C-1,2,3,6,7,8-HxCDD	2.92e+07	1.09e+03	2.7e+04	2.30e+07	1.42e+03	1.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.12e+07	2.13e+03	1.0e+04	2.06e+07	9.32e+02	2.2e+04
26	13C-OCDD	3.04e+07	1.49e+03	2.0e+04	3.33e+07	1.40e+03	2.4e+04
27	13C-1,2,3,4-TCDD	9.95e+06	3.24e+03	3.1e+03	1.24e+07	1.32e+03	9.4e+03
28	13C-1,2,3,7,8,9-HxCDD	2.88e+07	1.09e+03	2.6e+04	2.31e+07	1.42e+03	1.6e+04
29	37Cl-2,3,7,8-TCDD	4.07e+05	6.28e+02	6.5e+02			

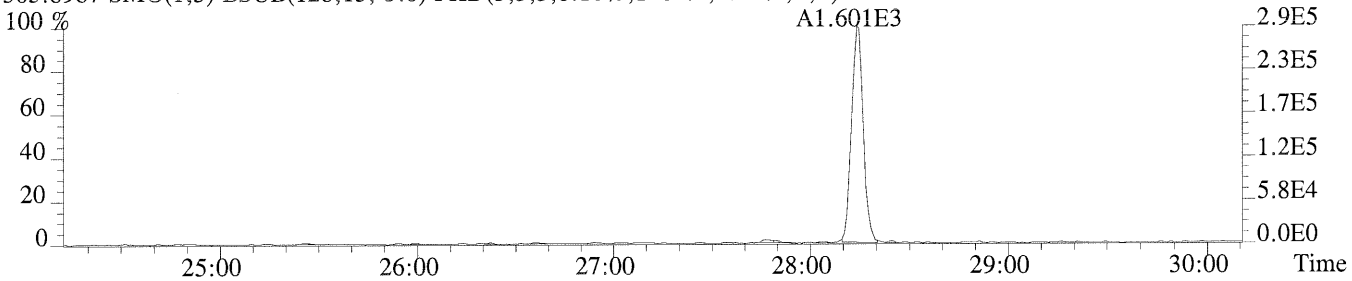
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U212889 #1-498 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

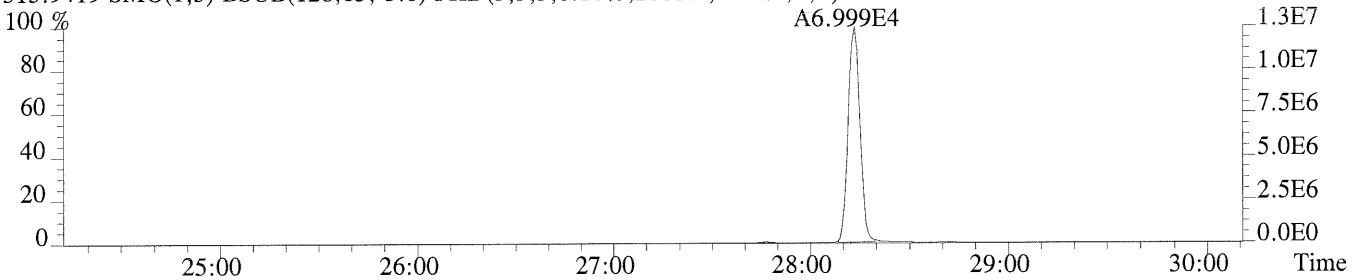
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,F)



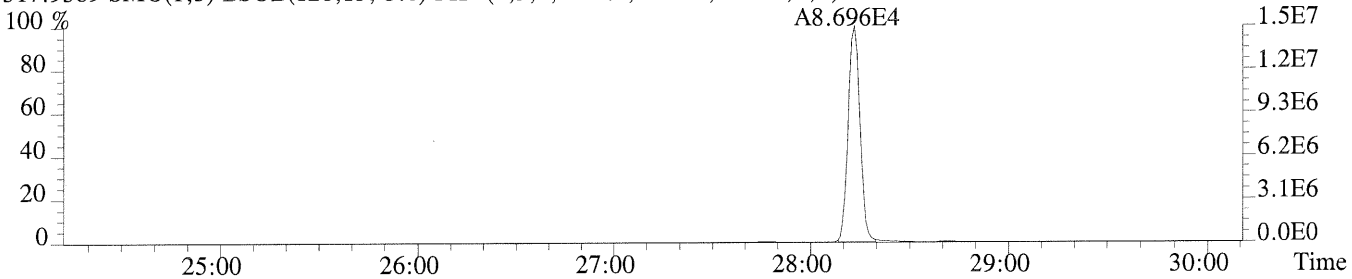
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1204.0,1.00%,F,F)



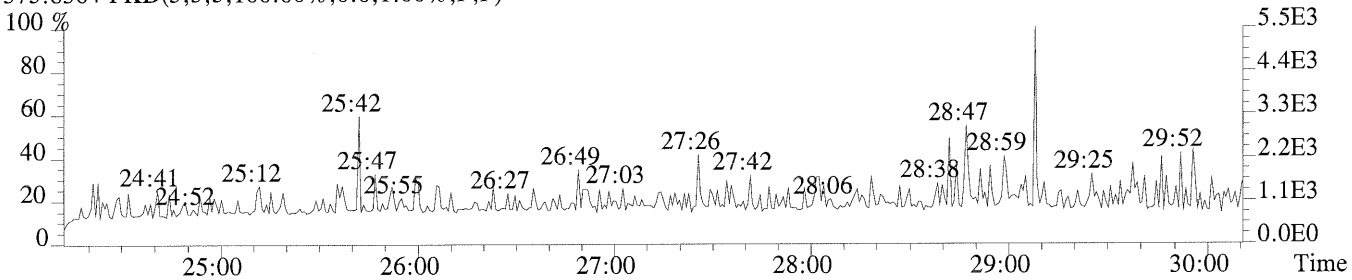
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2800.0,1.00%,F,F)



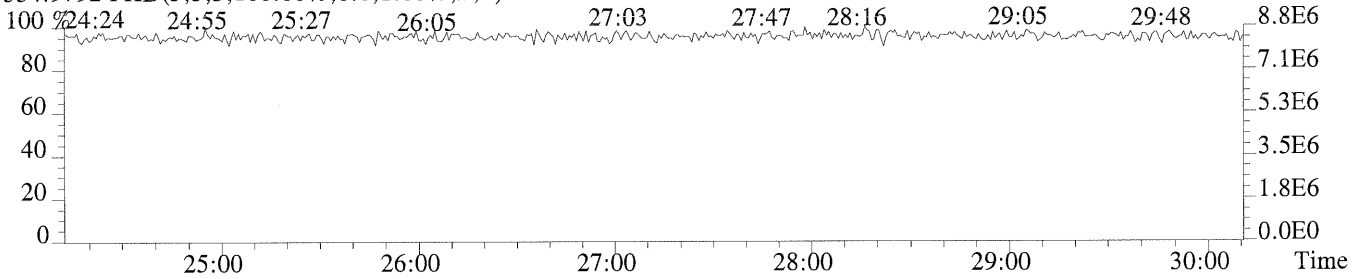
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1336.0,1.00%,F,F)



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

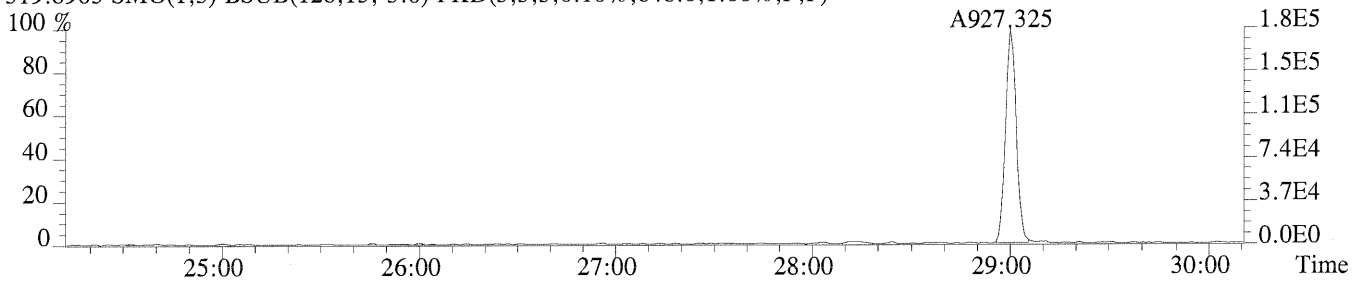


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

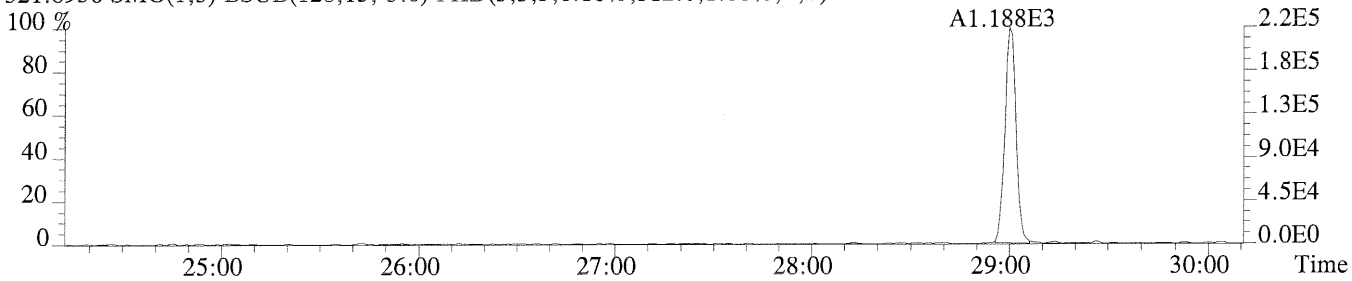


File:U212889 #1-498 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

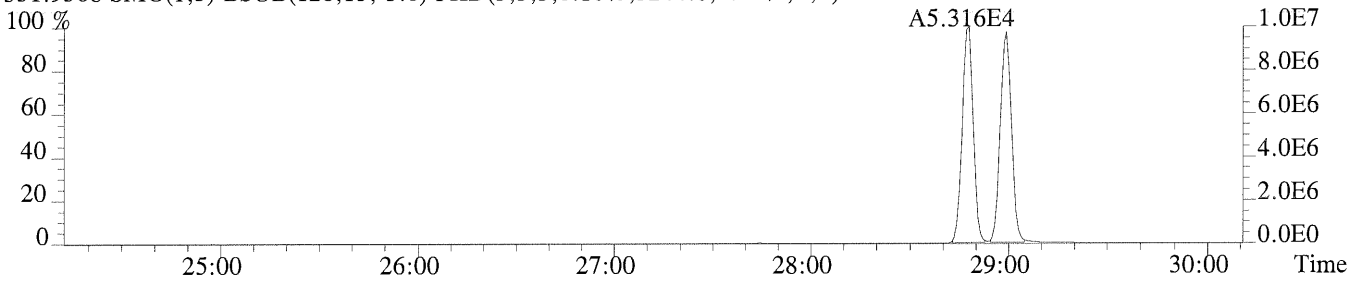
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,F)



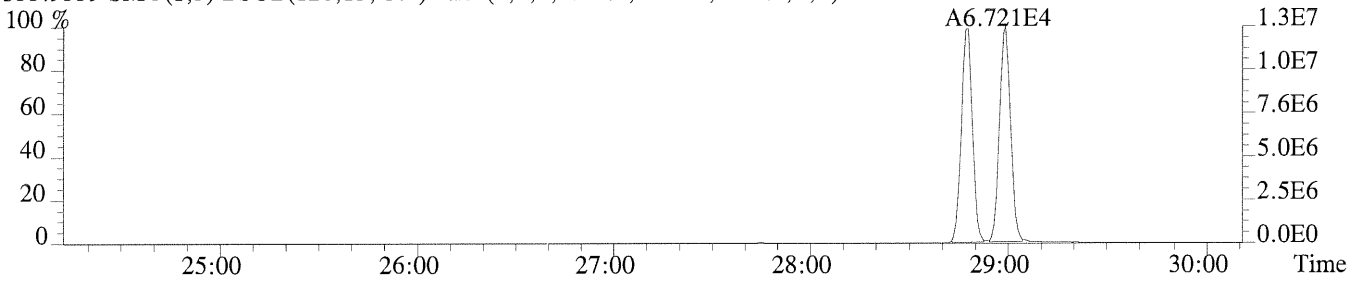
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,312.0,1.00%,F,F)



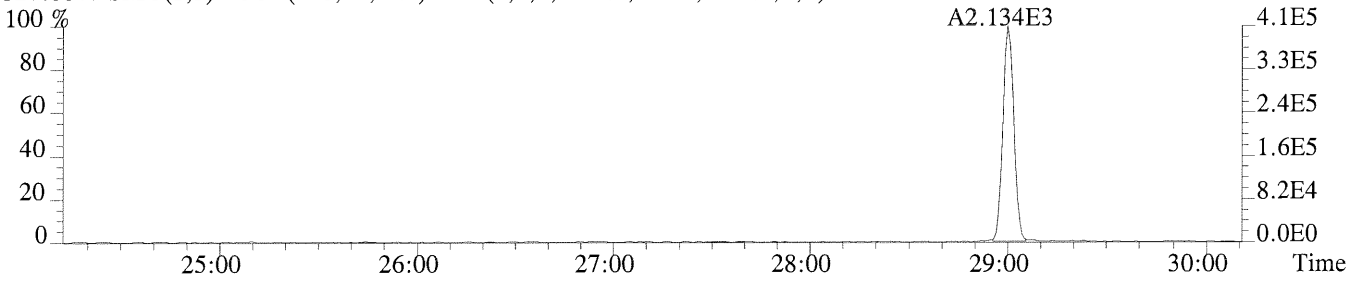
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3244.0,1.00%,F,F)



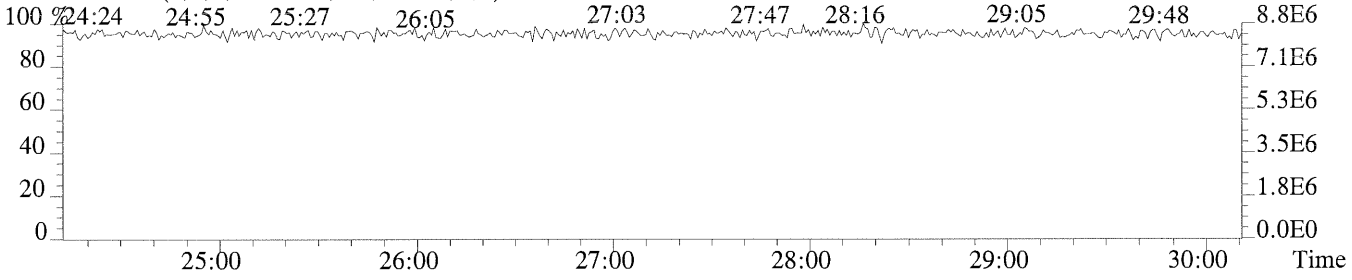
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1324.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,628.0,1.00%,F,F)

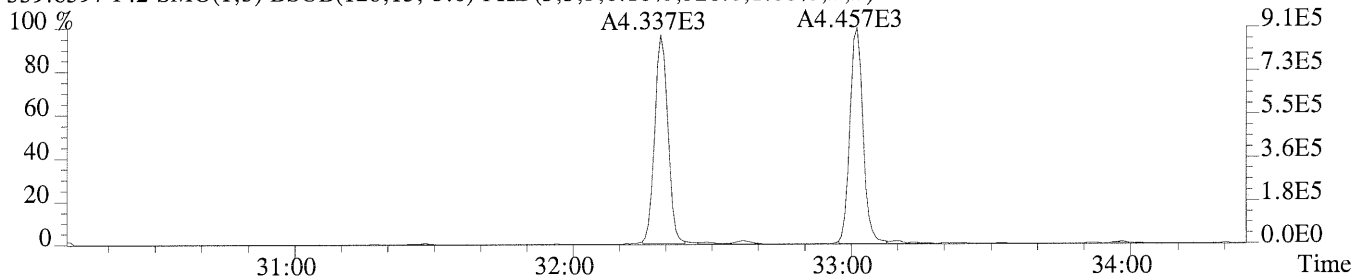


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

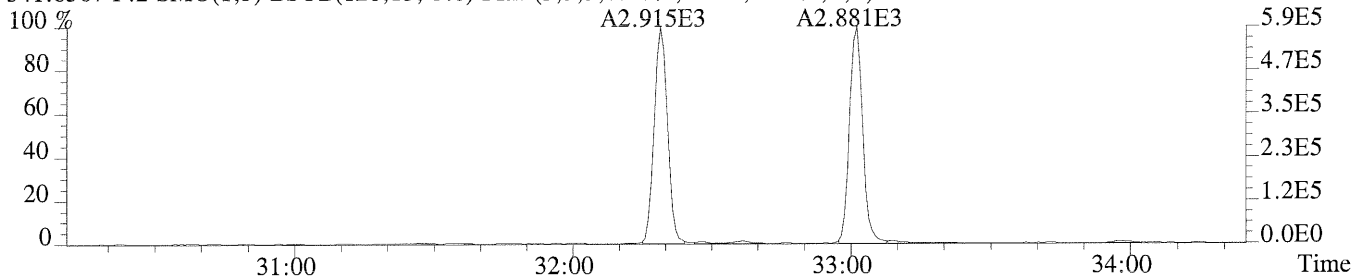


File:U212889 #1-384 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

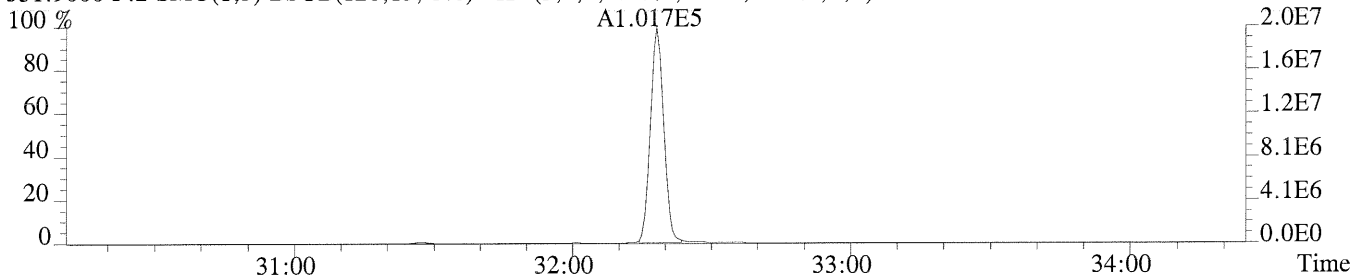
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,528.0,1.00%,F,F)



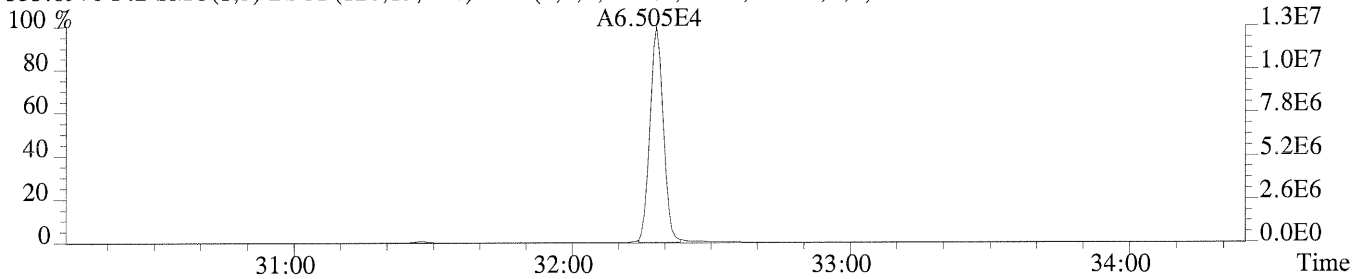
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,F)



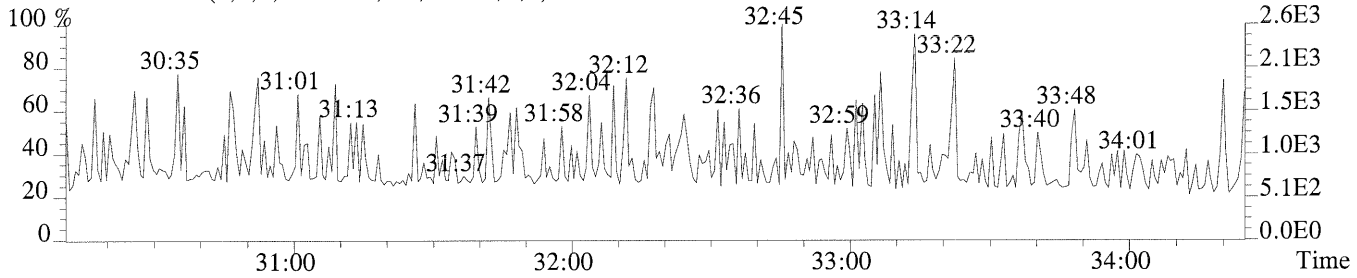
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,328.0,1.00%,F,F)



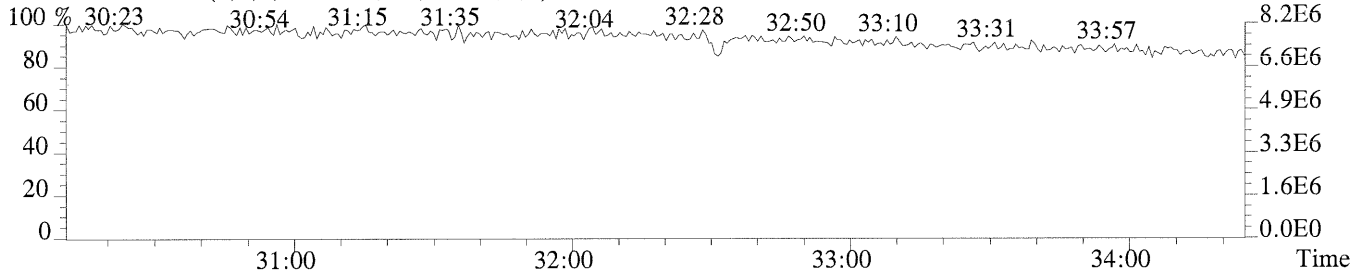
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,488.0,1.00%,F,F)



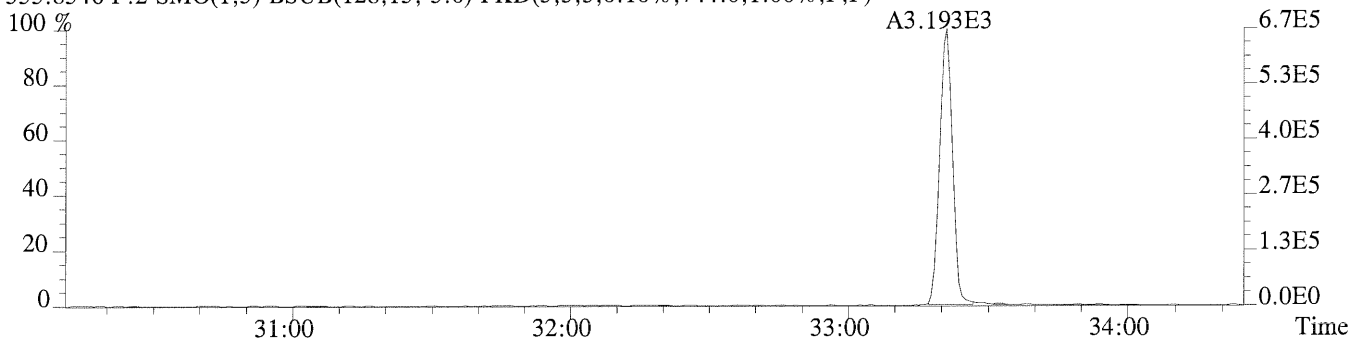
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



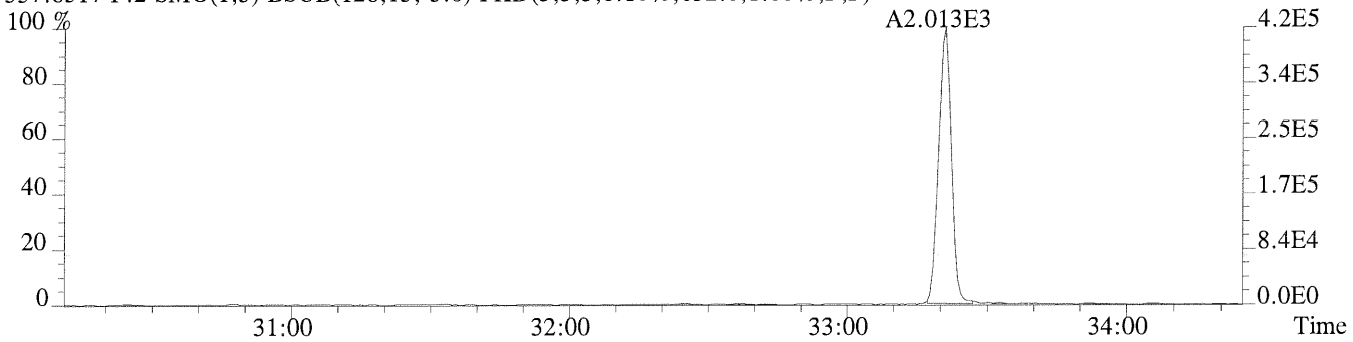
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



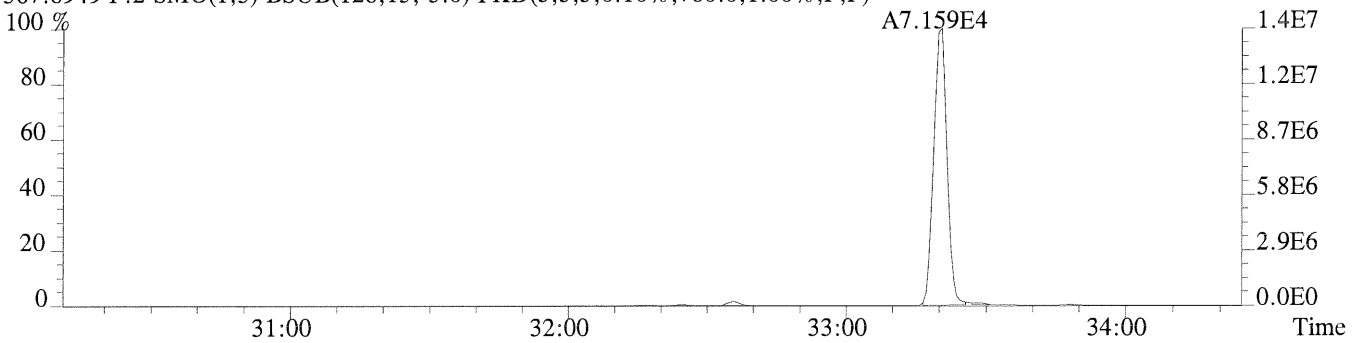
File:U212889 #1-384 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,744.0,1.00%,F,F)



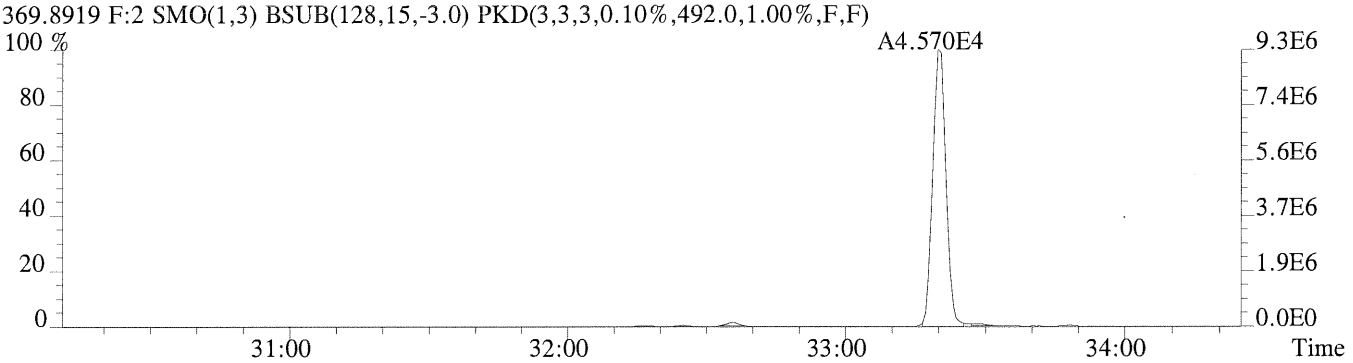
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,652.0,1.00%,F,F)



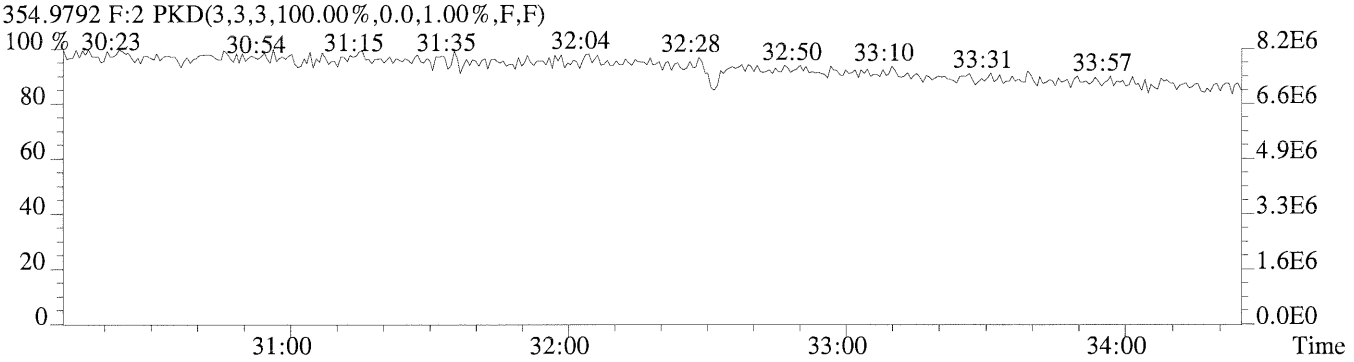
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,780.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,492.0,1.00%,F,F)

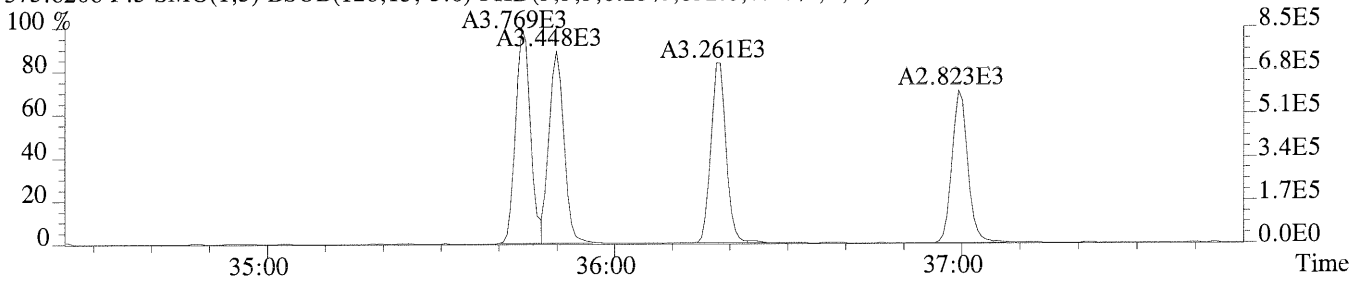


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

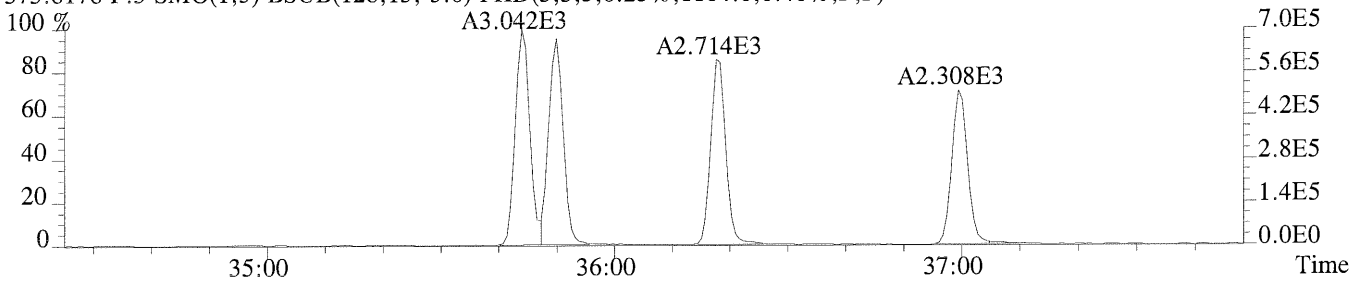


File:U212889 #1-308 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

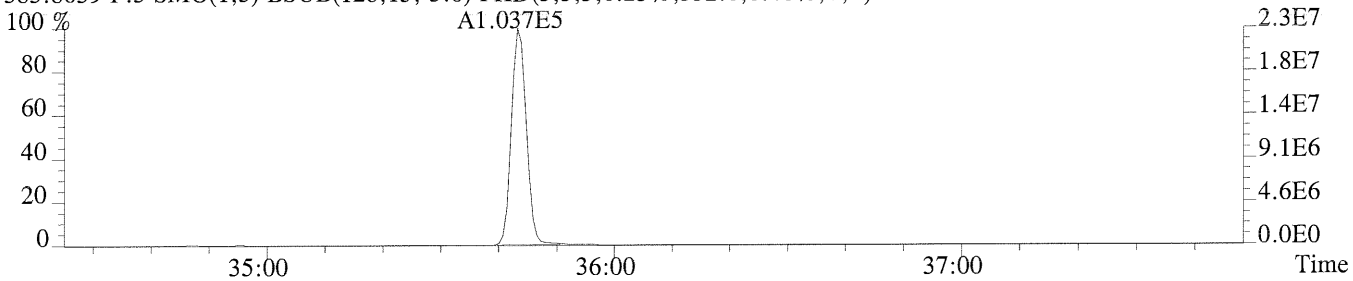
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,832.0,0.40%,F,F)



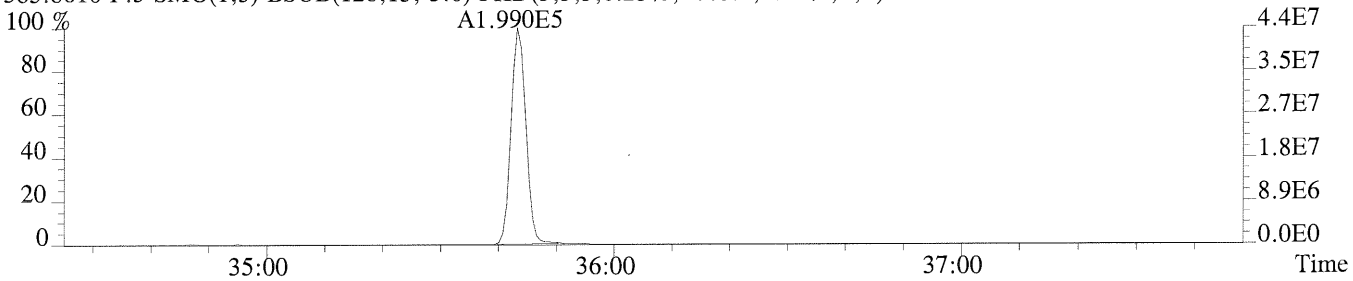
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1184.0,0.40%,F,F)



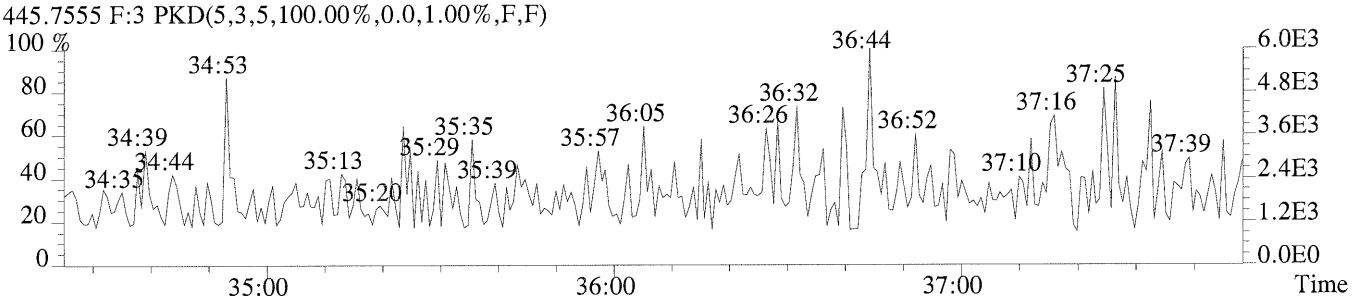
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,532.0,0.40%,F,F)



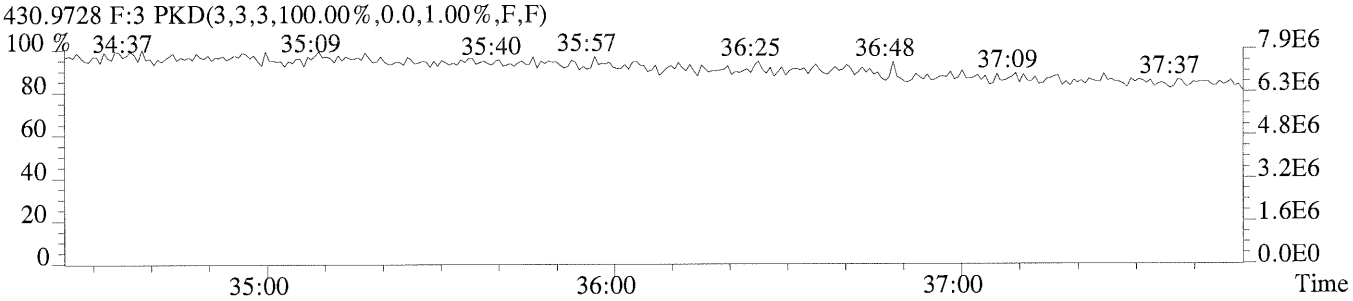
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1448.0,0.40%,F,F)



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

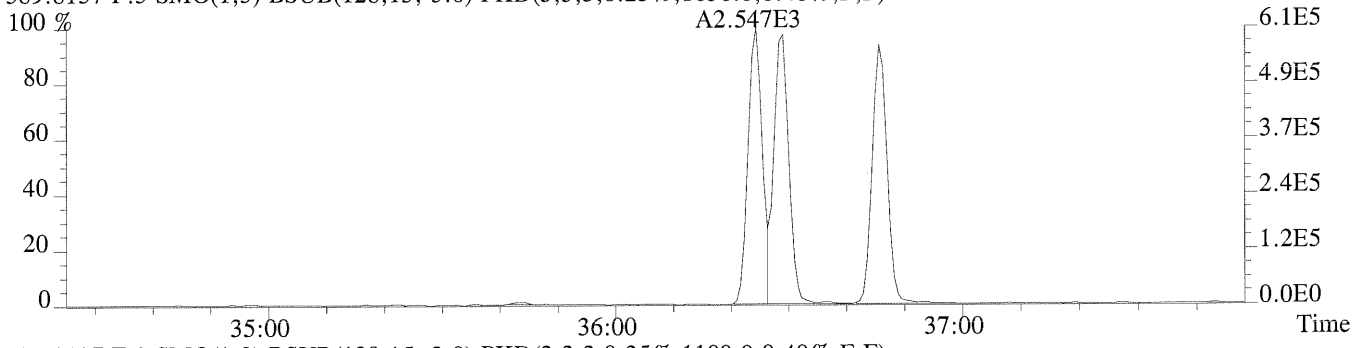


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

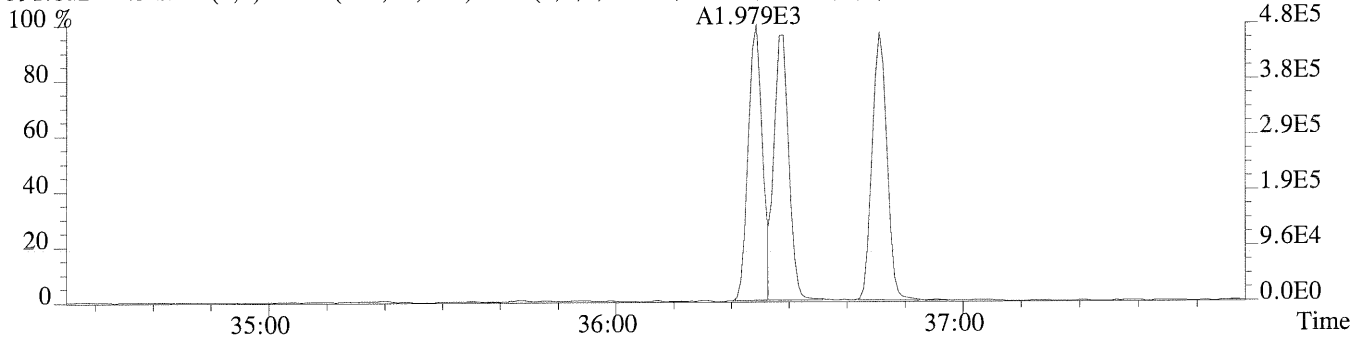


File:U212889 #1-308 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

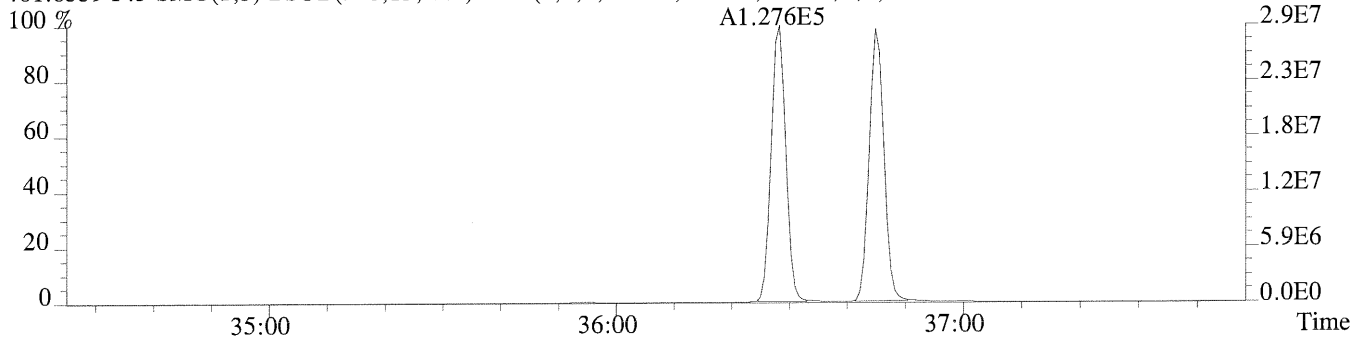
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1636.0,0.40%,F,F)



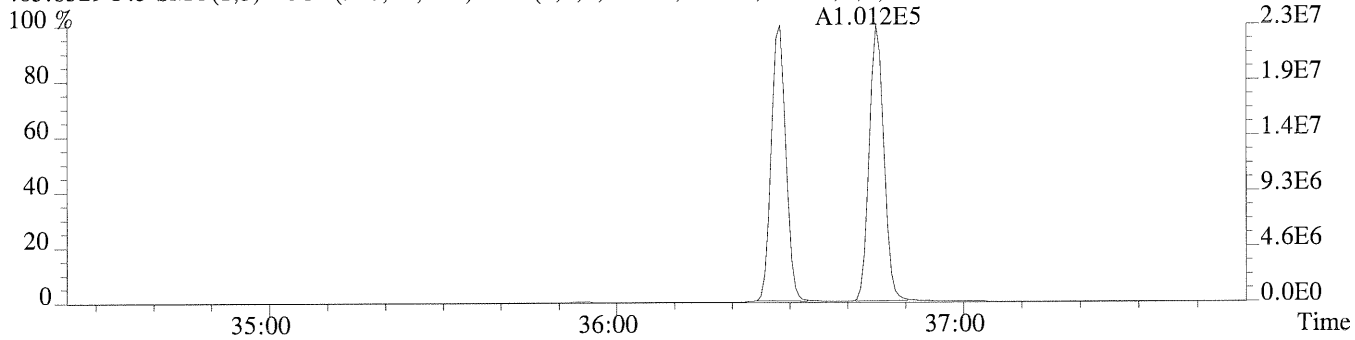
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1100.0,0.40%,F,F)



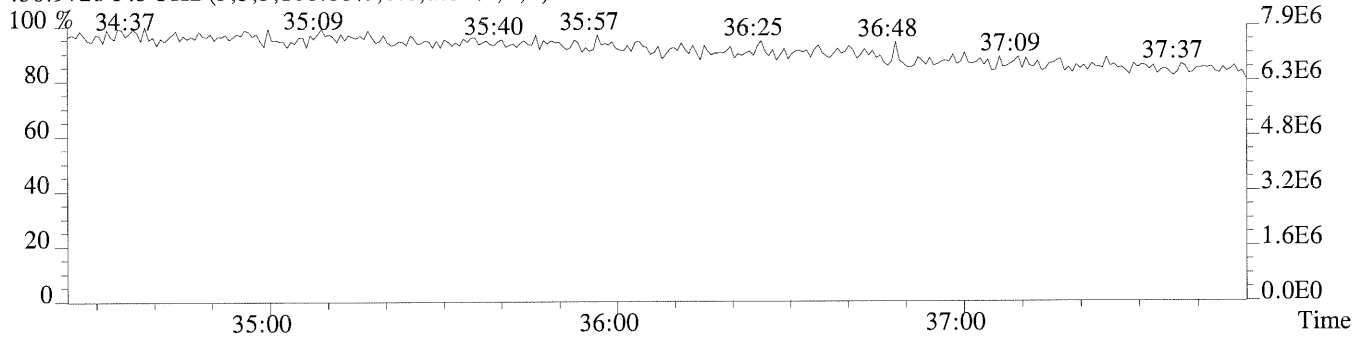
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1088.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,F)

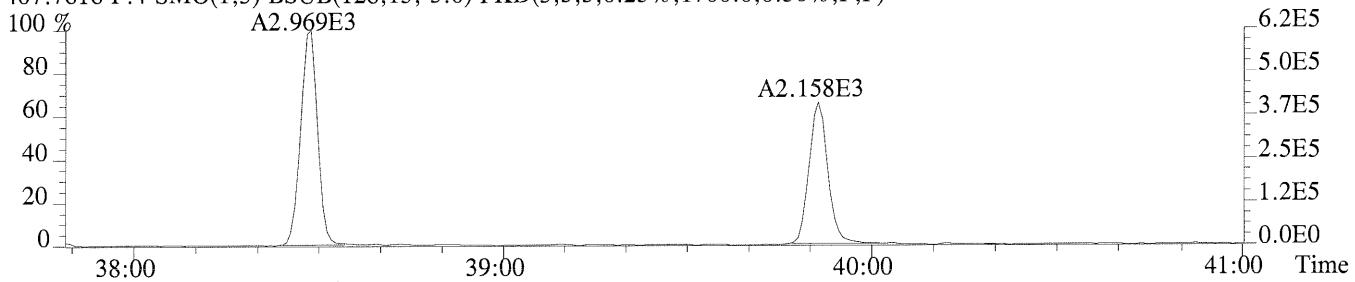


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

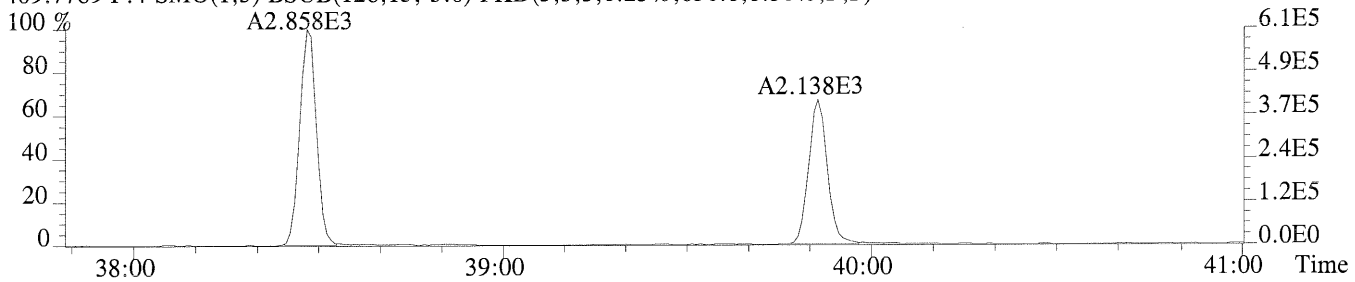


File:U212889 #1-290 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

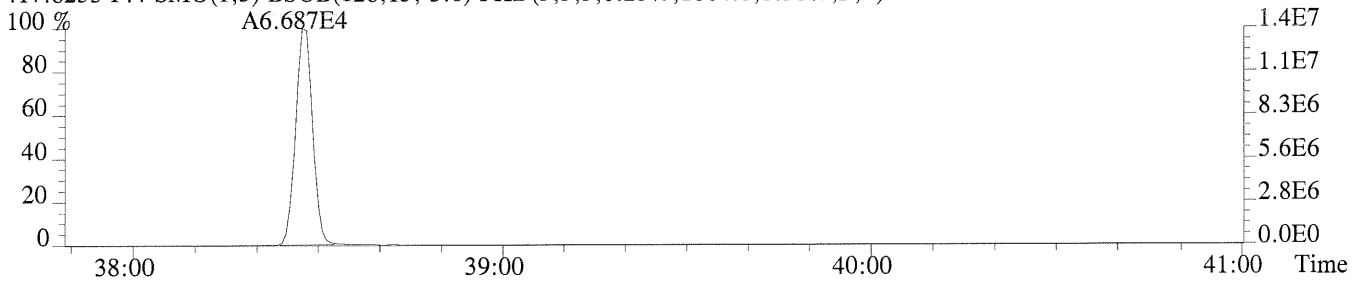
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1700.0,0.50%,F,F)



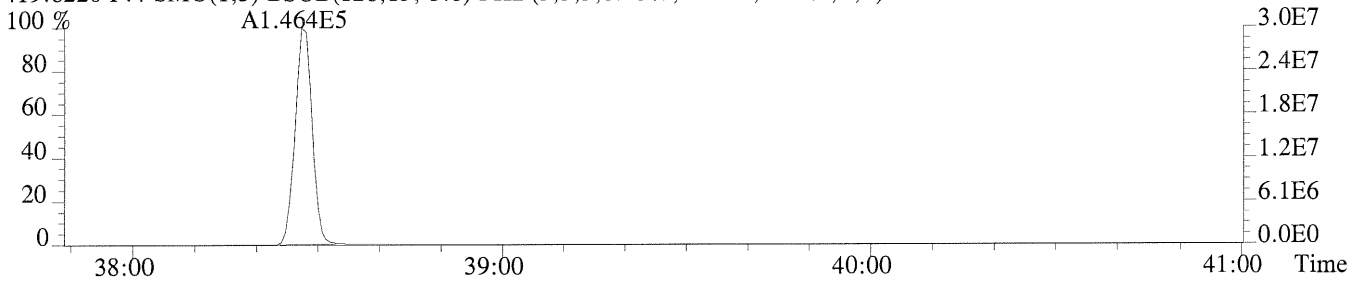
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.50%,F,F)



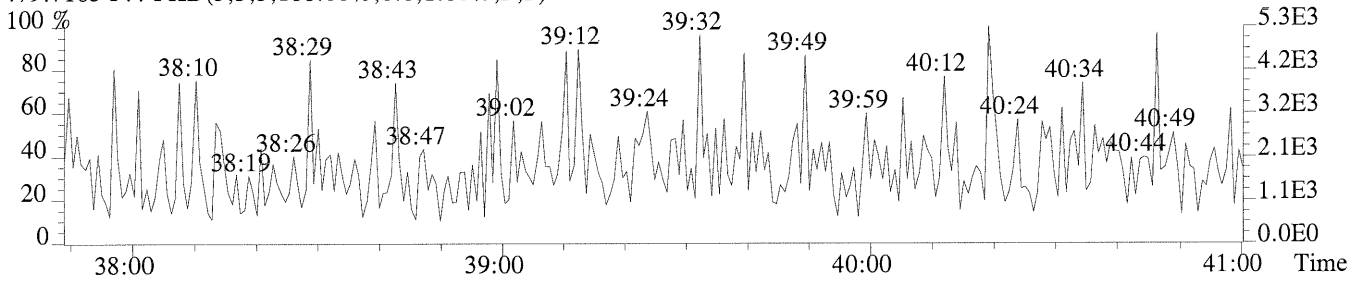
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1864.0,0.50%,F,F)



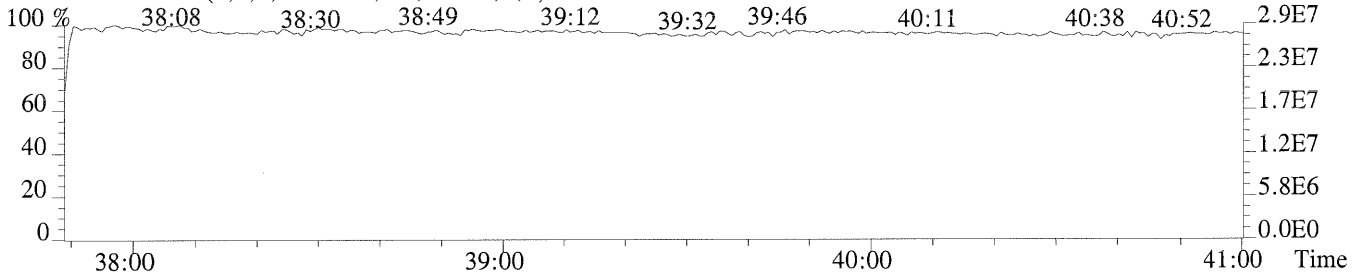
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4012.0,0.50%,F,F)



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

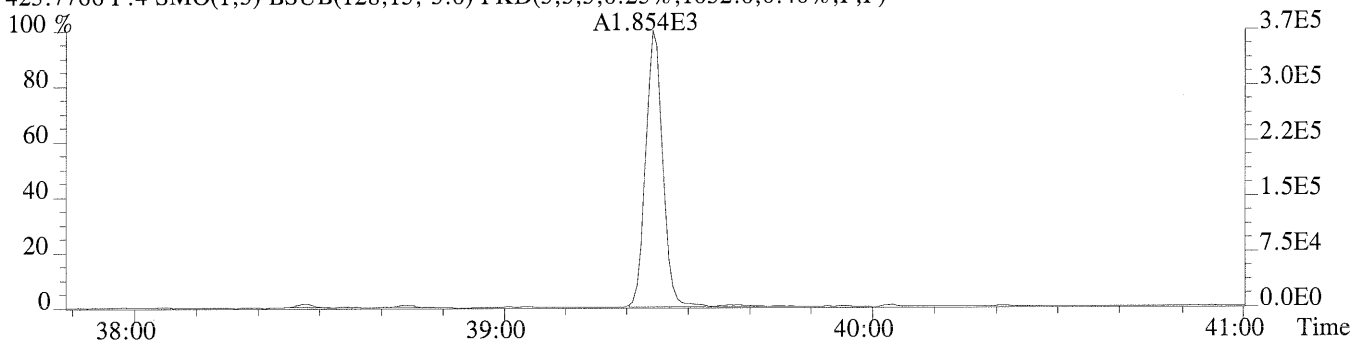


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

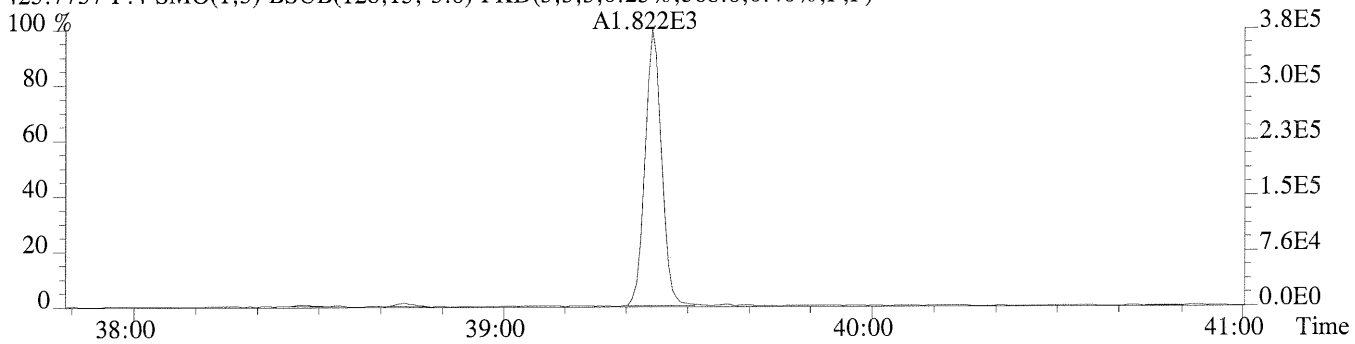


File:U212889 #1-290 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1

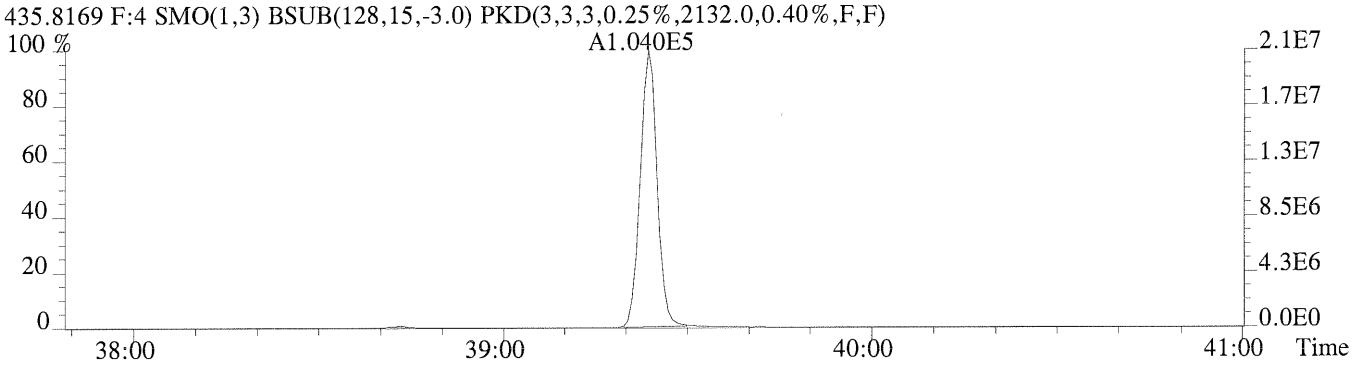
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1032.0,0.40%,F,F)



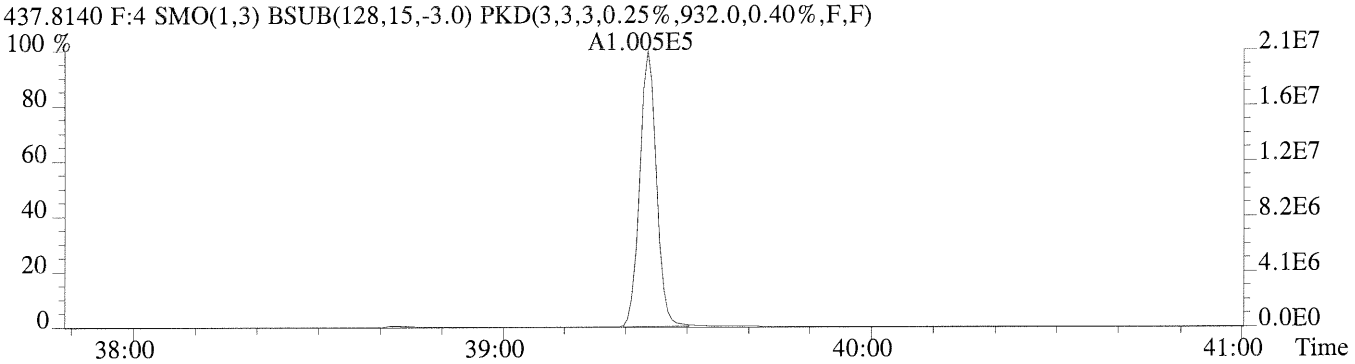
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,568.0,0.40%,F,F)



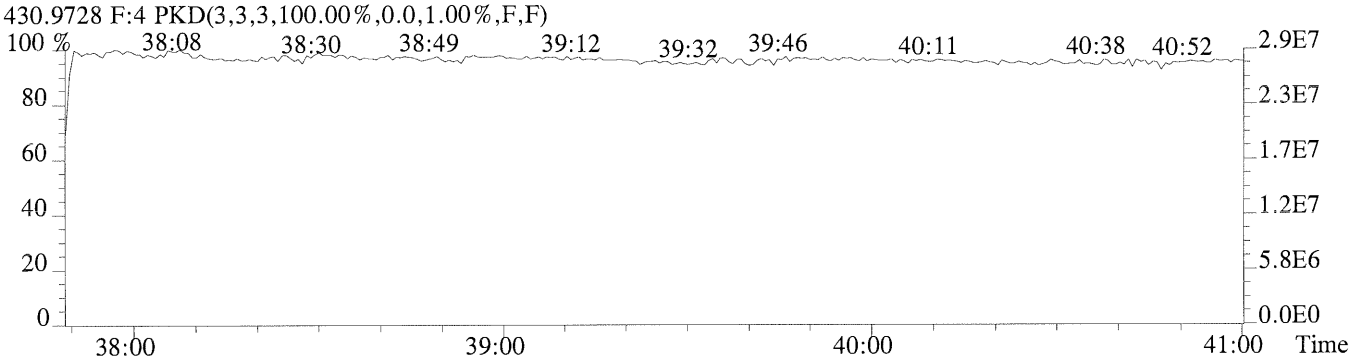
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2132.0,0.40%,F,F)



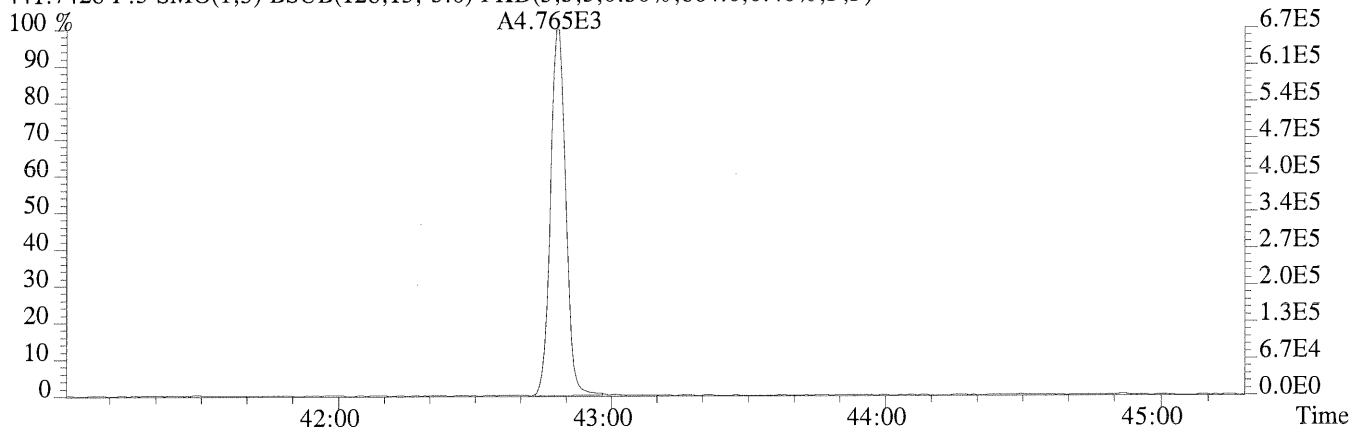
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,932.0,0.40%,F,F)



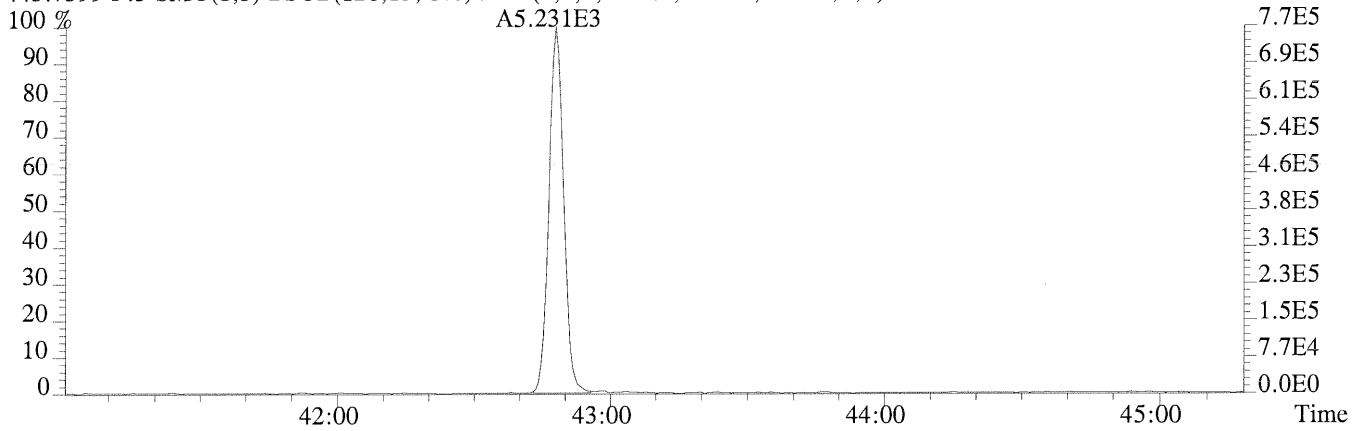
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



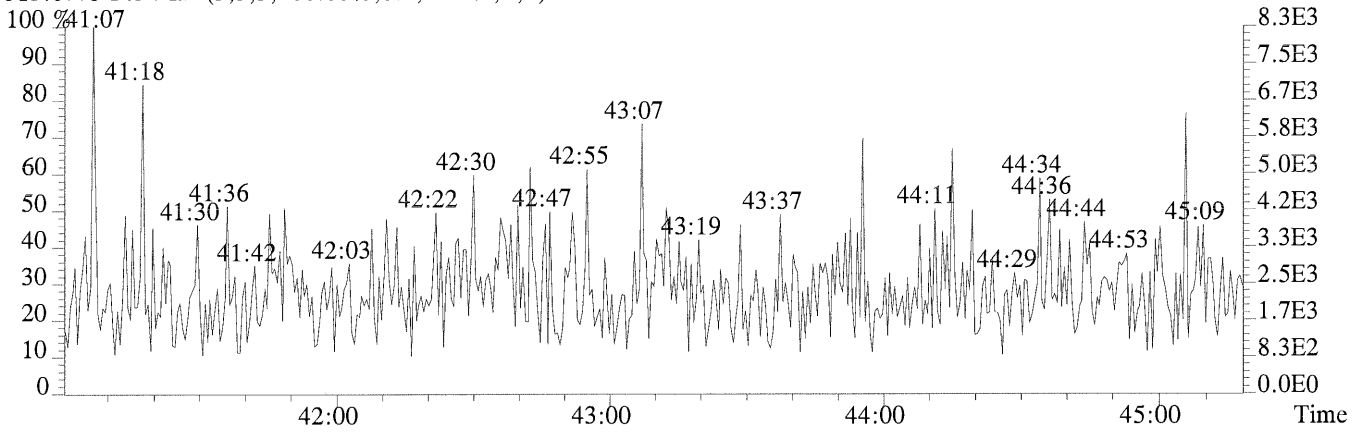
File:U212889 #1-474 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,864.0,0.40%,F,F)



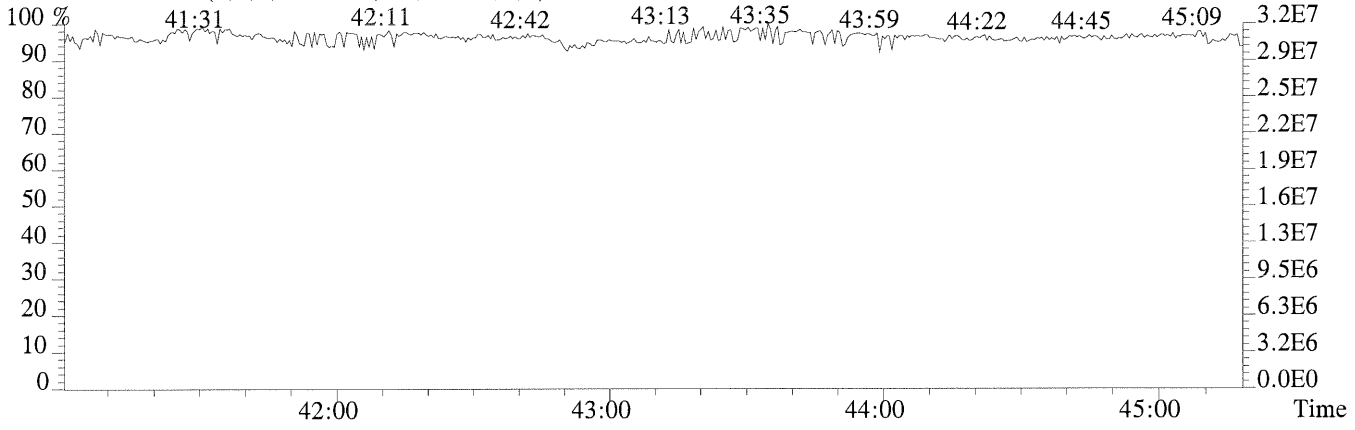
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1612.0,0.40%,F,F)



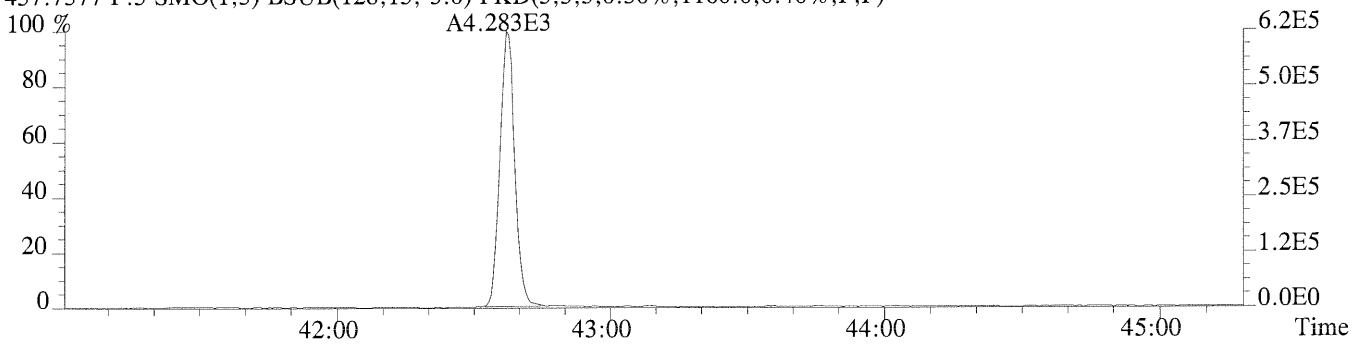
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



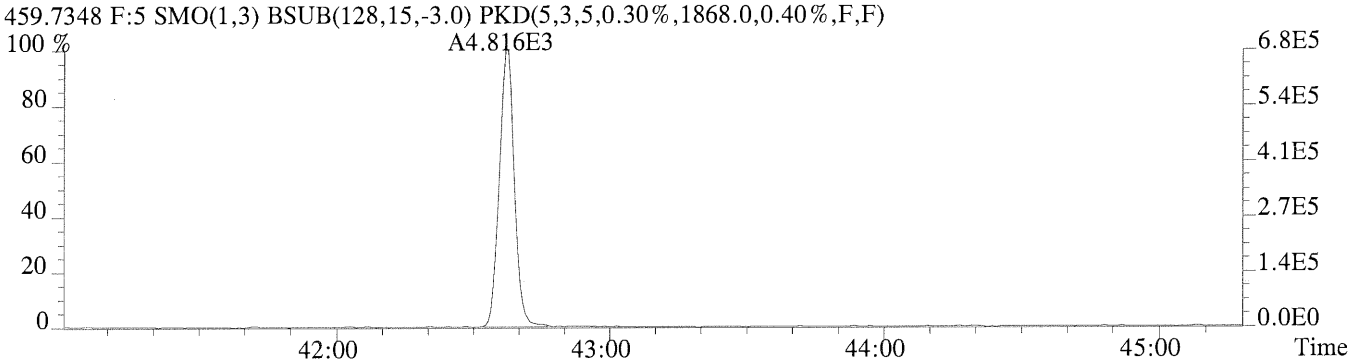
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



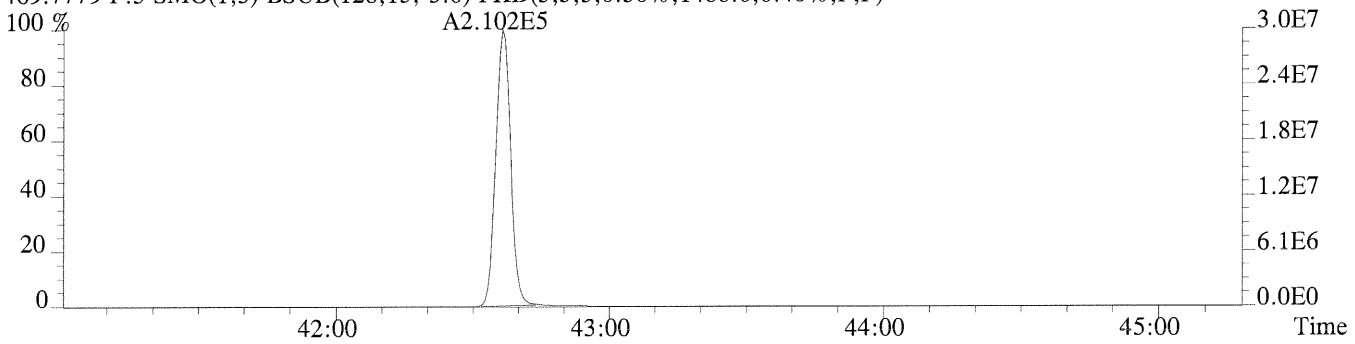
File:U212889 #1-474 Acq:10-DEC-2007 12:19:27 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC1
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1160.0,0.40%,F,F)



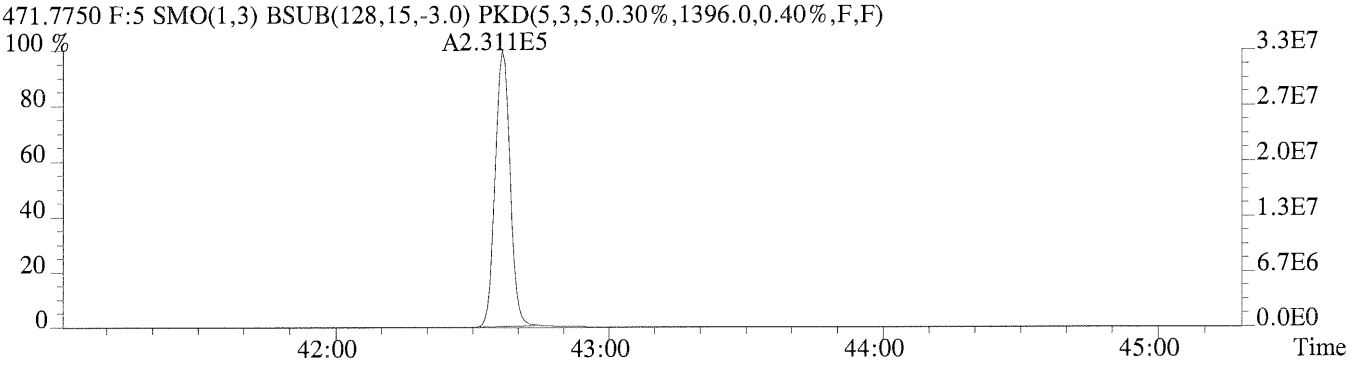
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1868.0,0.40%,F,F)



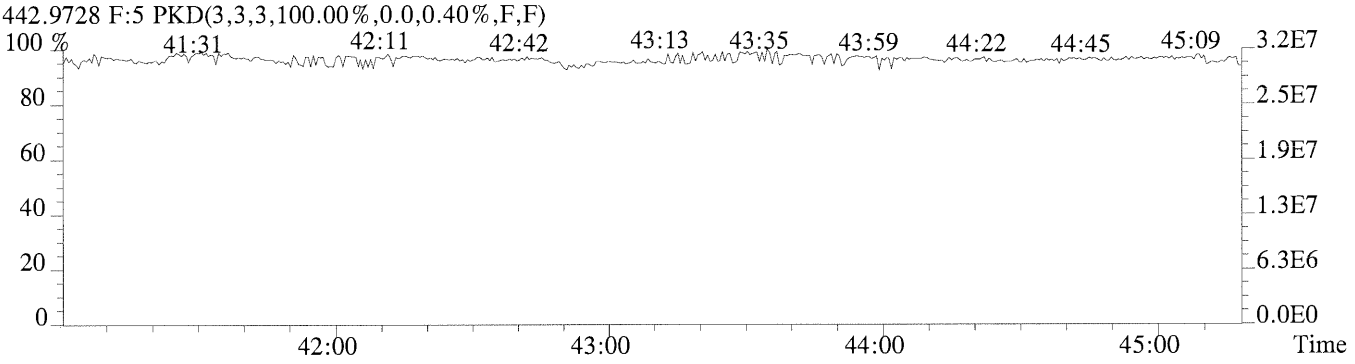
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1488.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1396.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC2

Run #2 Filename U212888 Samp: 1 Inj: 1 Acquired: 10-DEC-07 11:32:50
Processed: 10-DEC-07 15:07:10 Sample ID: ICAL HRCC2

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	28:15	3.124e+03	3.878e+03	0.81	yes	no
2	Unk	1,2,3,7,8-PeCDF	32:20	1.089e+04	7.257e+03	1.50	yes	no
3	Unk	2,3,4,7,8-PeCDF	33:01	1.120e+04	7.193e+03	1.56	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:45	8.827e+03	7.139e+03	1.24	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:50	8.341e+03	6.901e+03	1.21	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	36:18	7.757e+03	6.227e+03	1.25	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	37:00	6.745e+03	5.250e+03	1.28	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	38:29	6.406e+03	6.429e+03	1.00	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	4.872e+03	4.976e+03	0.98	yes	no
10	Unk	OCDF	42:48	1.117e+04	1.258e+04	0.89	yes	no
11	Unk	2,3,7,8-TCDD	29:01	2.349e+03	3.064e+03	0.77	yes	no
12	Unk	1,2,3,7,8-PeCDD	33:21	7.794e+03	5.058e+03	1.54	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	36:24	5.891e+03	4.553e+03	1.29	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	36:29	5.620e+03	4.818e+03	1.17	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:46	5.790e+03	4.691e+03	1.23	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	39:25	4.366e+03	4.162e+03	1.05	yes	no
17	Unk	OCDD	42:38	9.766e+03	1.101e+04	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	28:14	7.007e+04	8.996e+04	0.78	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	32:18	9.982e+04	6.408e+04	1.56	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:44	9.448e+04	1.816e+05	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:28	5.861e+04	1.274e+05	0.46	yes	no
22	IS	13C-2,3,7,8-TCDD	28:59	5.305e+04	6.943e+04	0.76	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	33:20	6.894e+04	4.496e+04	1.53	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	36:28	1.137e+05	9.034e+04	1.26	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:24	9.373e+04	8.980e+04	1.04	yes	no
26	IS	13C-OCDD	42:37	1.884e+05	2.122e+05	0.89	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	28:48	5.354e+04	6.773e+04	0.79	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:46	1.119e+05	8.898e+04	1.26	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	29:01	5.732e+03				

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Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC2

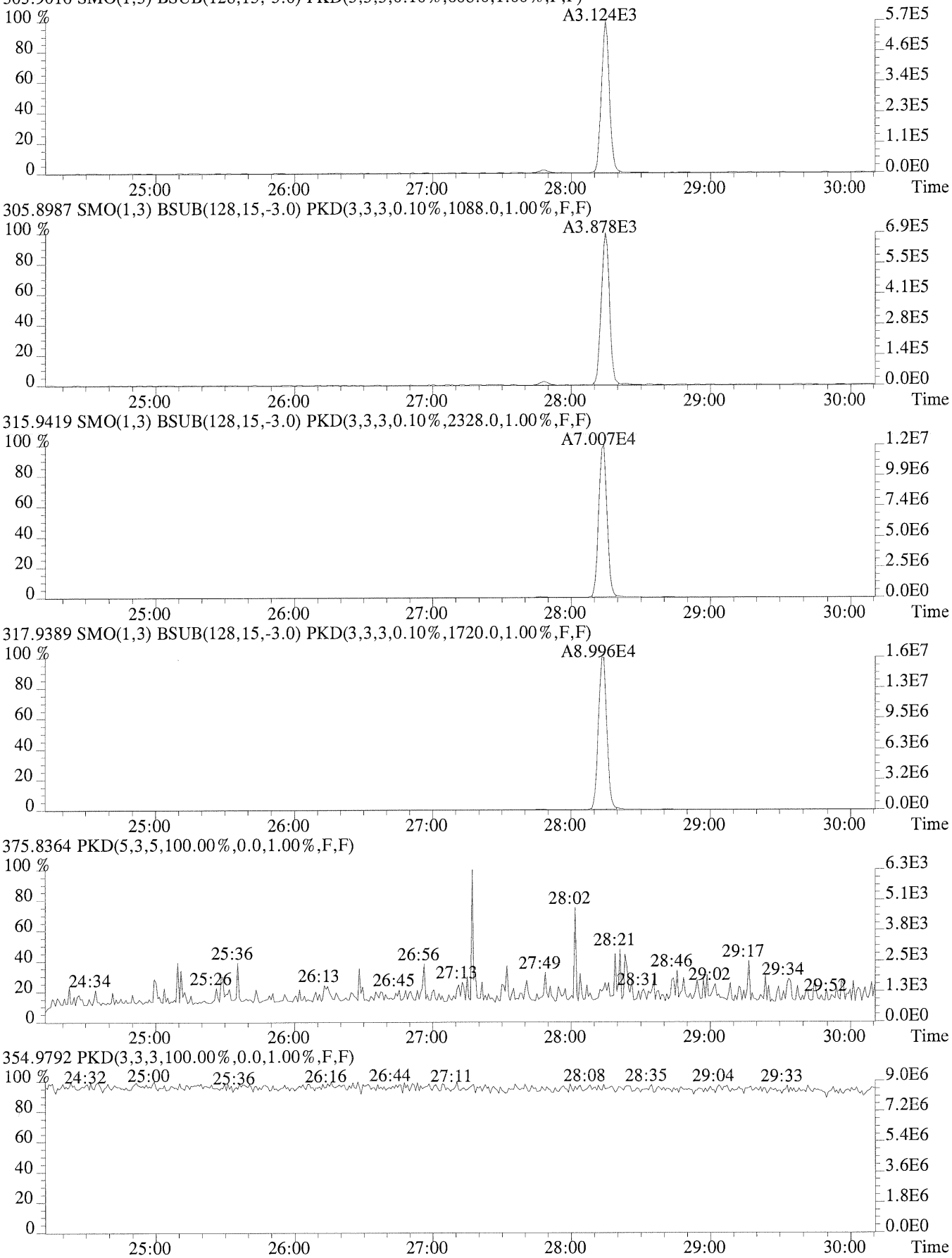
Run #2 Filename U212888 #1 Samp: 1 Inj: 1 Acquired: 10-DEC-07 11:32:50

Processed: 10-DEC-07 15:07:10 LAB. ID: ICAL HRCC2

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	5.74e+05	6.08e+02	9.4e+02	6.87e+05	1.09e+03	6.3e+02
2	1,2,3,7,8-PeCDF	2.19e+06	6.36e+02	3.5e+03	1.46e+06	1.04e+03	1.4e+03
3	2,3,4,7,8-PeCDF	2.35e+06	6.36e+02	3.7e+03	1.51e+06	1.04e+03	1.5e+03
4	1,2,3,4,7,8-HxCDF	1.95e+06	9.00e+02	2.2e+03	1.58e+06	1.40e+03	1.1e+03
5	1,2,3,6,7,8-HxCDF	1.85e+06	9.00e+02	2.1e+03	1.53e+06	1.40e+03	1.1e+03
6	2,3,4,6,7,8-HxCDF	1.80e+06	9.00e+02	2.0e+03	1.42e+06	1.40e+03	1.0e+03
7	1,2,3,7,8,9-HxCDF	1.42e+06	9.00e+02	1.6e+03	1.11e+06	1.40e+03	7.9e+02
8	1,2,3,4,6,7,8-HpCDF	1.38e+06	2.30e+03	6.0e+02	1.39e+06	1.01e+03	1.4e+03
9	1,2,3,4,7,8,9-HpCDF	9.39e+05	2.30e+03	4.1e+02	9.60e+05	1.01e+03	9.5e+02
10	OCDF	1.60e+06	1.02e+03	1.6e+03	1.77e+06	1.90e+03	9.3e+02
11	2,3,7,8-TCDD	4.42e+05	7.52e+02	5.9e+02	5.88e+05	3.96e+02	1.5e+03
12	1,2,3,7,8-PeCDD	1.61e+06	1.28e+03	1.3e+03	1.05e+06	8.56e+02	1.2e+03
13	1,2,3,4,7,8-HxCDD	1.35e+06	1.23e+03	1.1e+03	1.12e+06	1.51e+03	7.4e+02
14	1,2,3,6,7,8-HxCDD	1.33e+06	1.23e+03	1.1e+03	1.09e+06	1.51e+03	7.2e+02
15	1,2,3,7,8,9-HxCDD	1.28e+06	1.23e+03	1.0e+03	1.04e+06	1.51e+03	6.9e+02
16	1,2,3,4,6,7,8-HpCDD	8.56e+05	7.20e+02	1.2e+03	8.29e+05	7.32e+02	1.1e+03
17	OCDD	1.41e+06	1.12e+03	1.3e+03	1.58e+06	2.13e+03	7.4e+02
18	13C-2,3,7,8-TCDF	1.24e+07	2.33e+03	5.3e+03	1.58e+07	1.72e+03	9.2e+03
19	13C-1,2,3,7,8-PeCDF	1.97e+07	1.22e+03	1.6e+04	1.27e+07	1.10e+03	1.2e+04
20	13C-1,2,3,4,7,8-HxCDF	2.06e+07	1.17e+03	1.8e+04	3.93e+07	1.22e+03	3.2e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.25e+07	2.03e+03	6.1e+03	2.71e+07	3.28e+03	8.2e+03
22	13C-2,3,7,8-TCDD	1.00e+07	3.44e+03	2.9e+03	1.31e+07	1.20e+03	1.1e+04
23	13C-1,2,3,7,8-PeCDD	1.44e+07	7.68e+02	1.9e+04	9.38e+06	8.48e+02	1.1e+04
24	13C-1,2,3,6,7,8-HxCDD	2.63e+07	1.78e+03	1.5e+04	2.10e+07	1.38e+03	1.5e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.88e+07	2.44e+03	7.7e+03	1.81e+07	9.44e+02	1.9e+04
26	13C-OCDD	2.68e+07	1.29e+03	2.1e+04	3.00e+07	1.54e+03	1.9e+04
27	13C-1,2,3,4-TCDD	1.01e+07	3.44e+03	2.9e+03	1.28e+07	1.20e+03	1.1e+04
28	13C-1,2,3,7,8,9-HxCDD	2.50e+07	1.78e+03	1.4e+04	1.97e+07	1.38e+03	1.4e+04
29	37Cl-2,3,7,8-TCDD	1.07e+06	9.08e+02	1.2e+03			

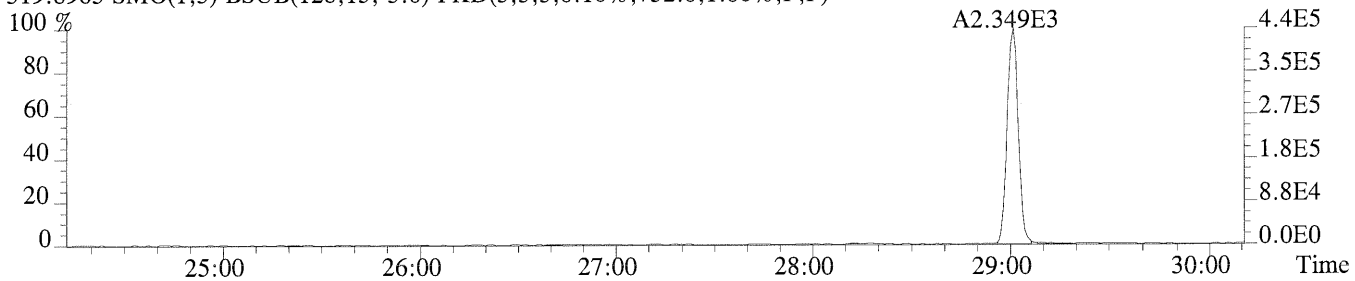
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U212888 #1-498 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

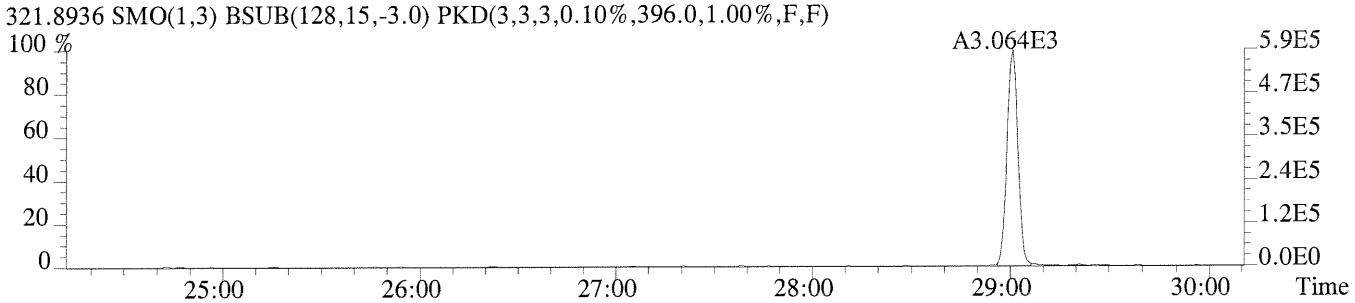


File:U212888 #1-498 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

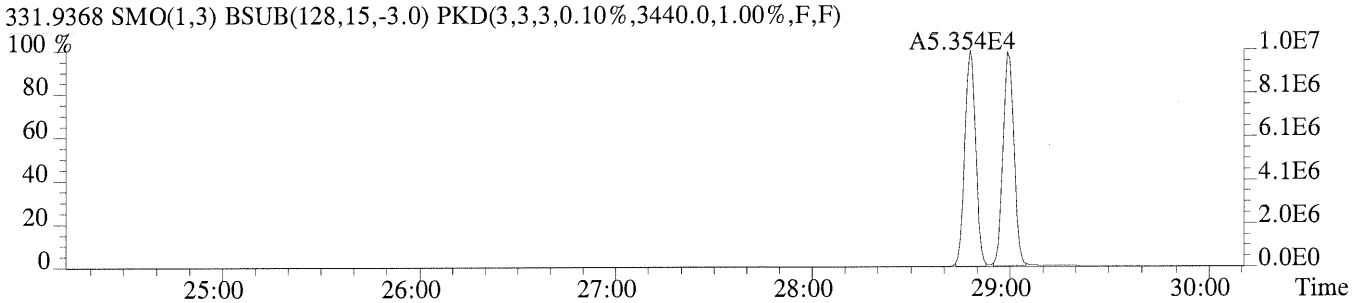
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,752.0,1.00%,F,F)



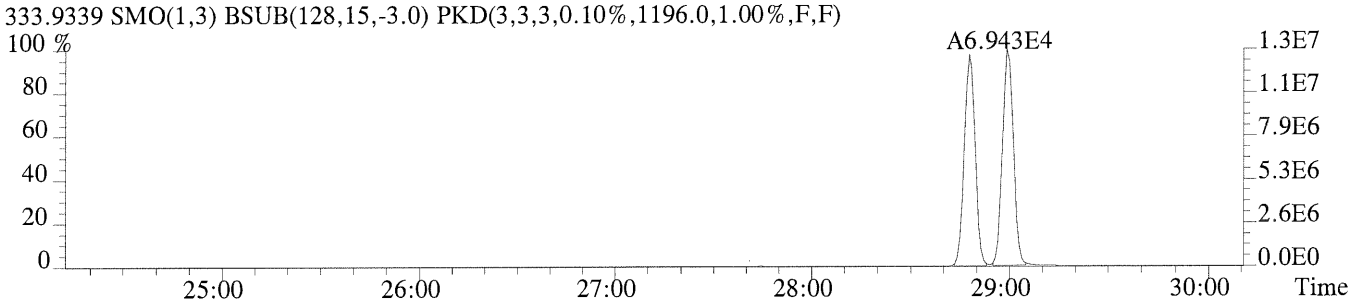
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,396.0,1.00%,F,F)



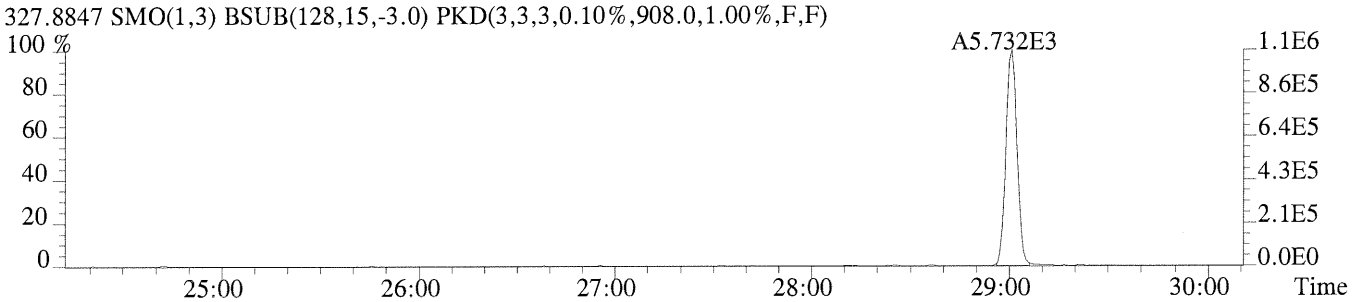
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3440.0,1.00%,F,F)



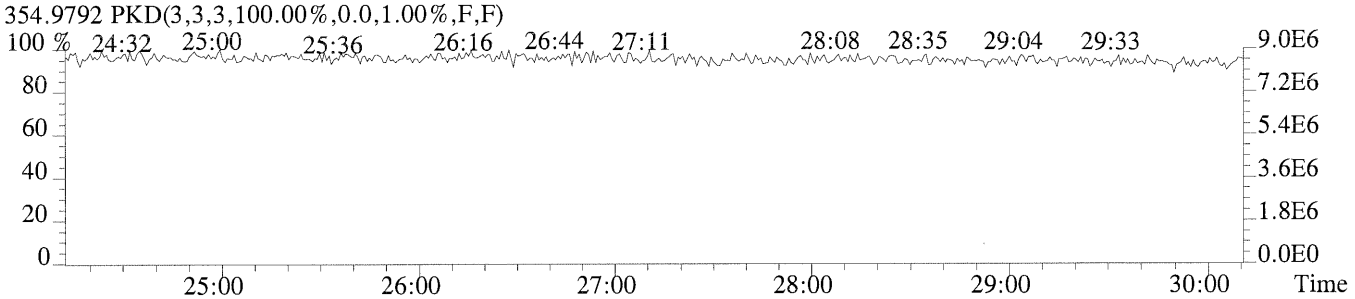
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1196.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,908.0,1.00%,F,F)

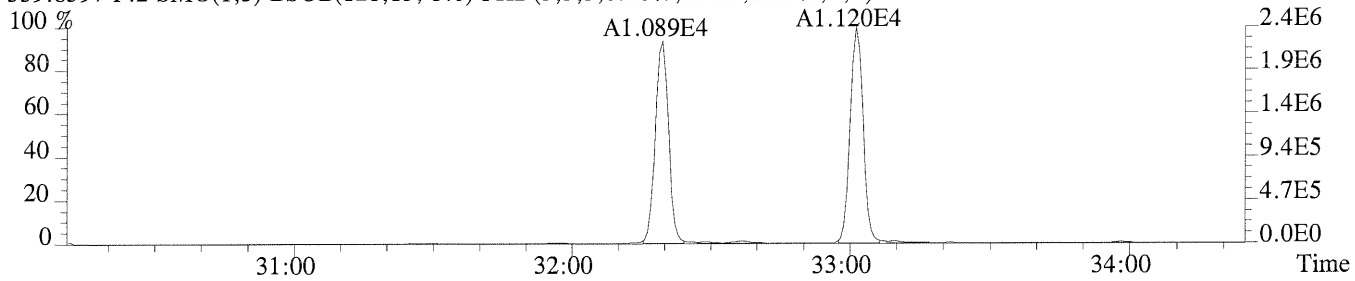


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

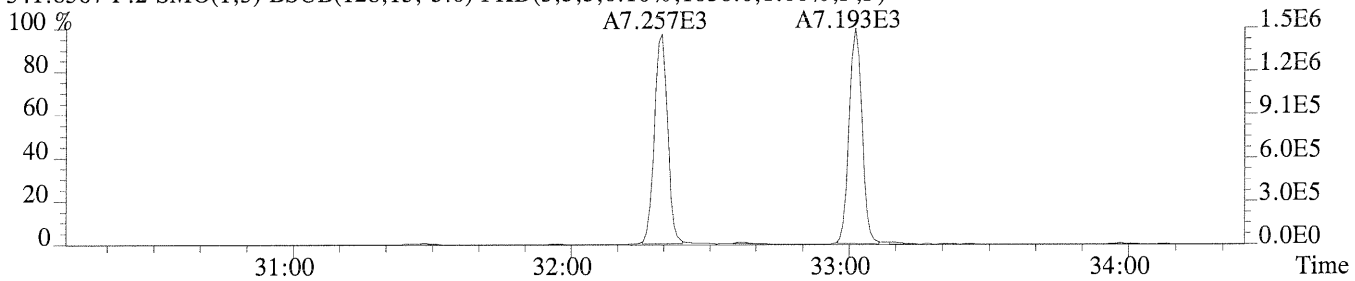


File:U212888 #1-384 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

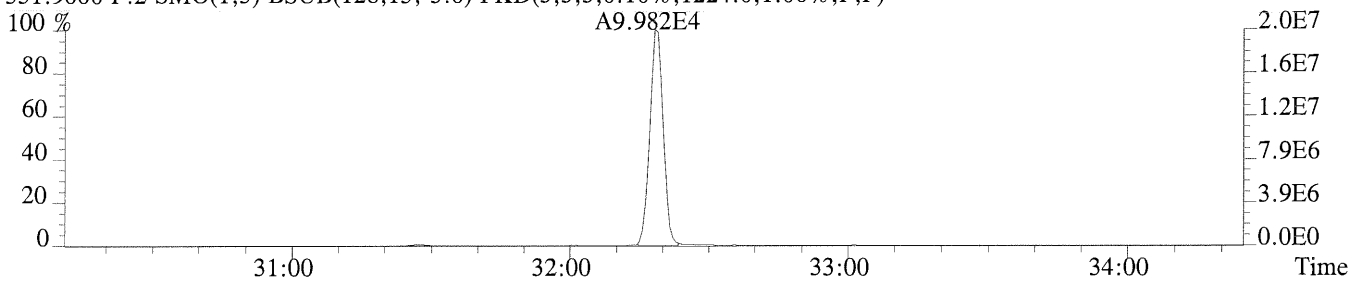
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,F)



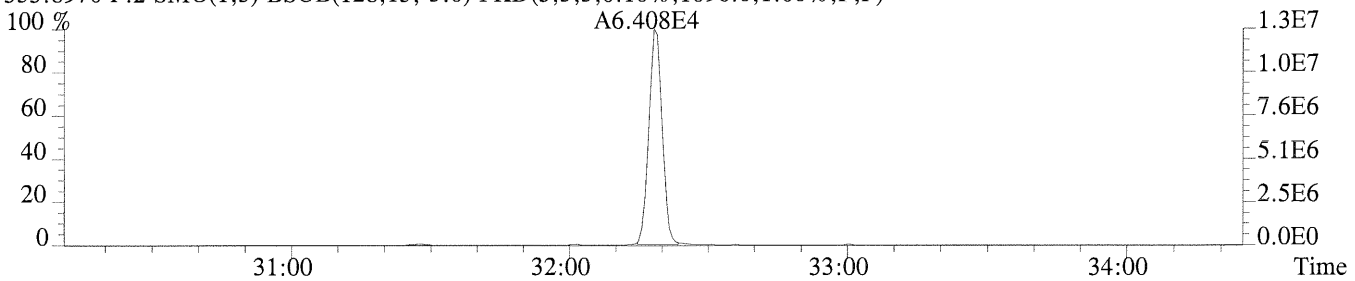
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1036.0,1.00%,F,F)



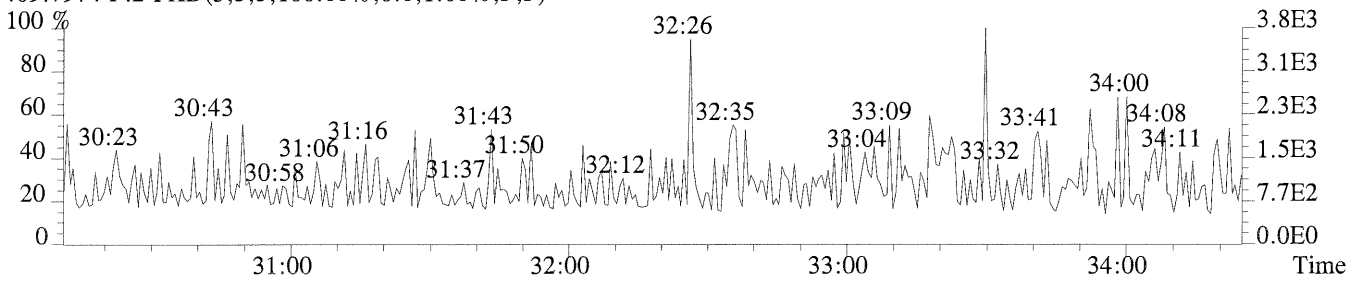
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1224.0,1.00%,F,F)



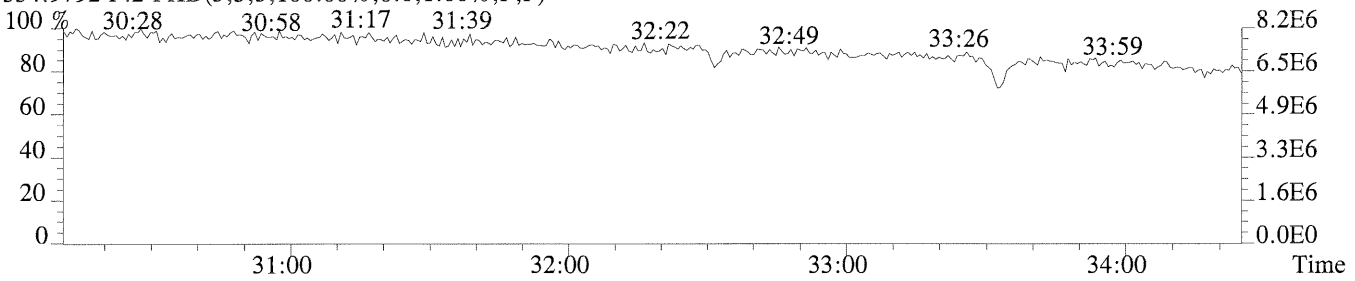
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1096.0,1.00%,F,F)



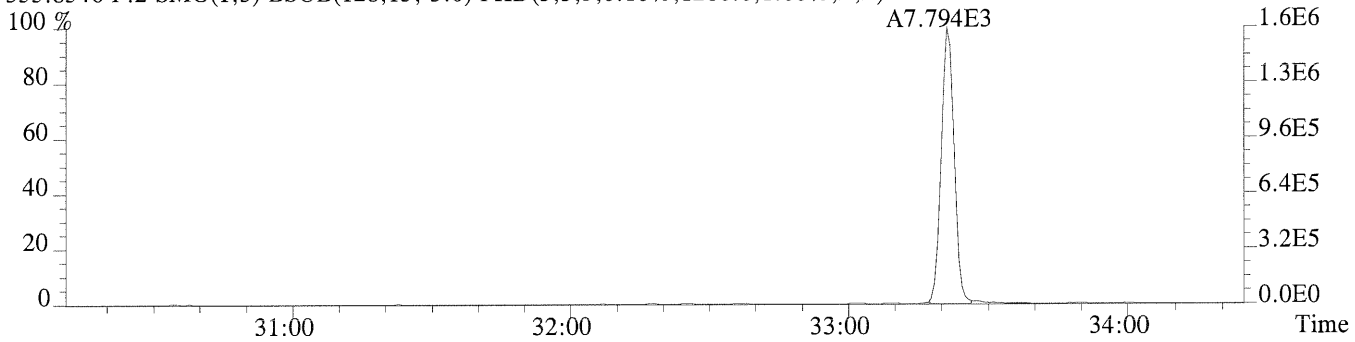
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



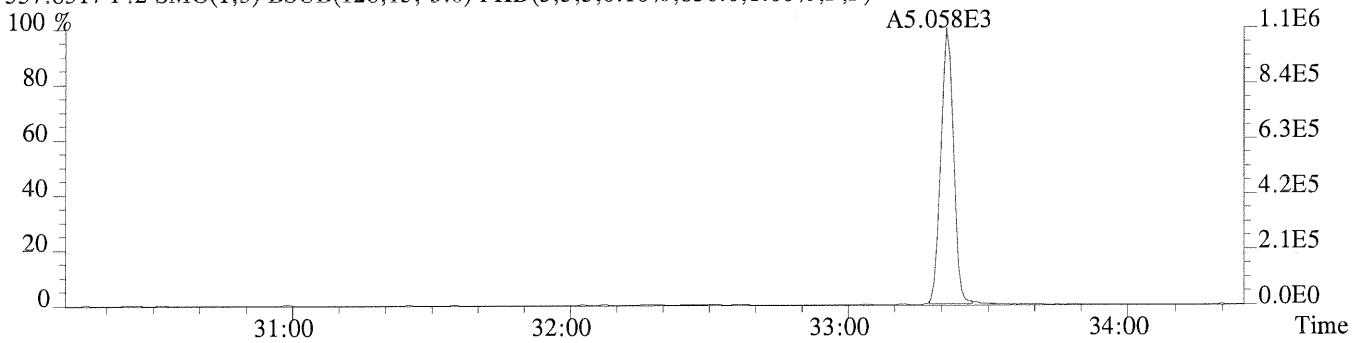
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



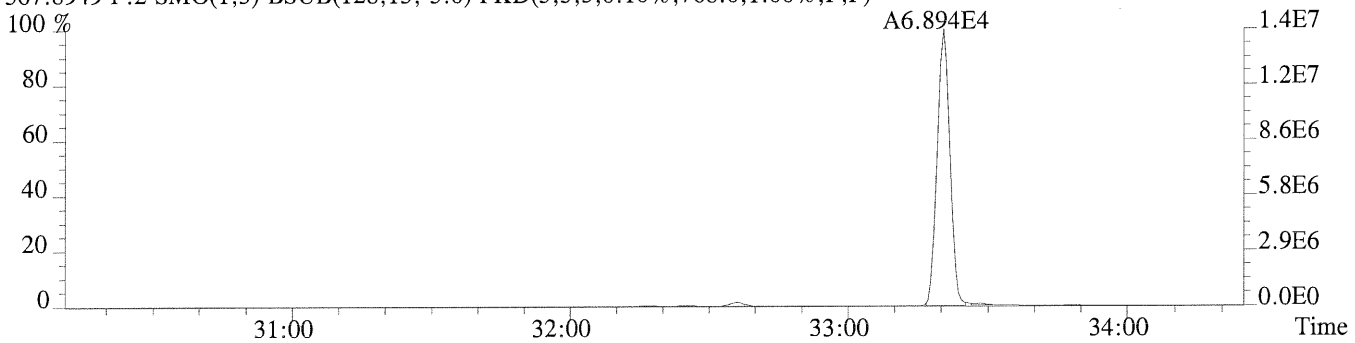
File:U212888 #1-384 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1280.0,1.00%,F,F)



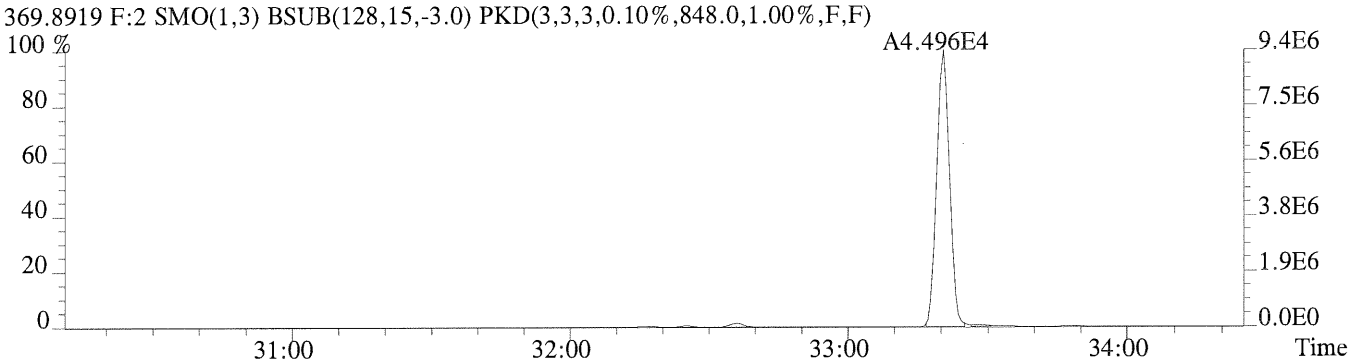
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,F)



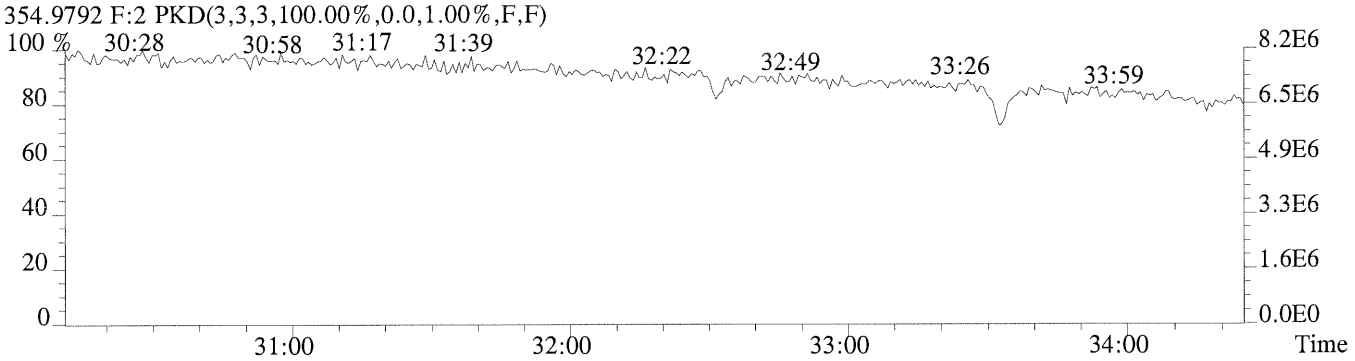
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,768.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,848.0,1.00%,F,F)

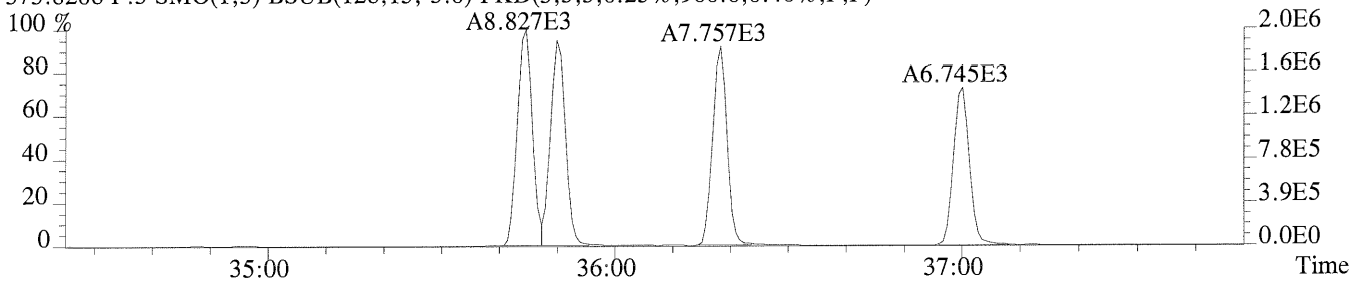


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

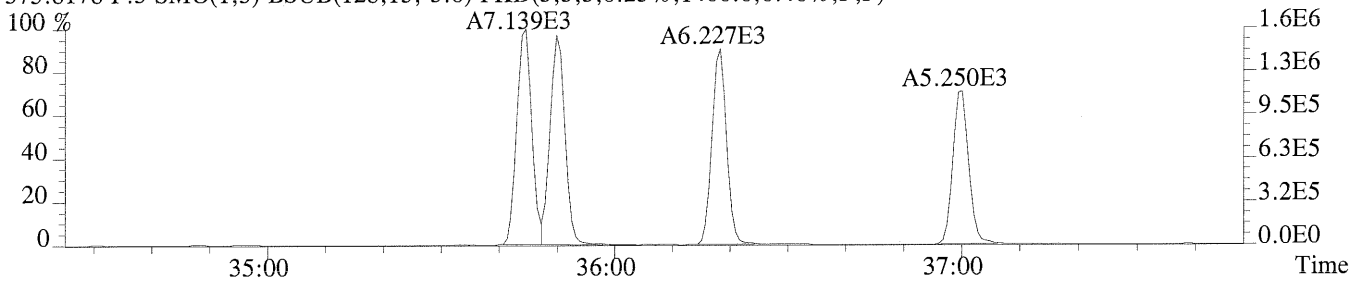


File:U212888 #1-308 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

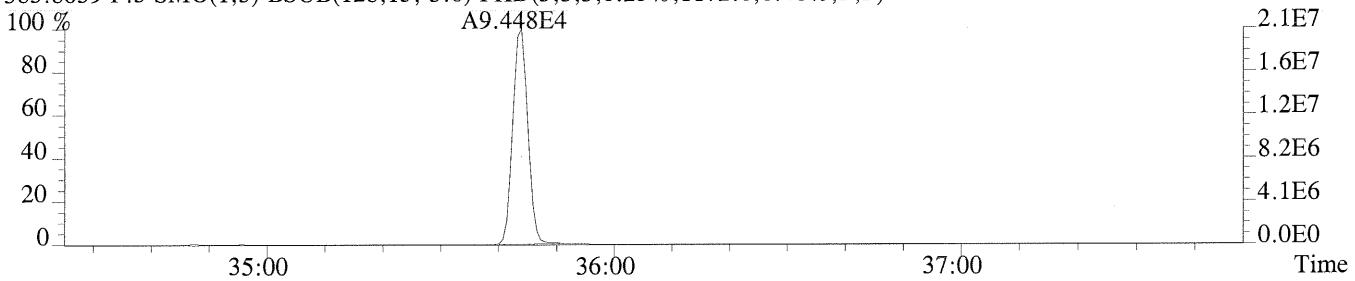
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,900.0,0.40%,F,F)



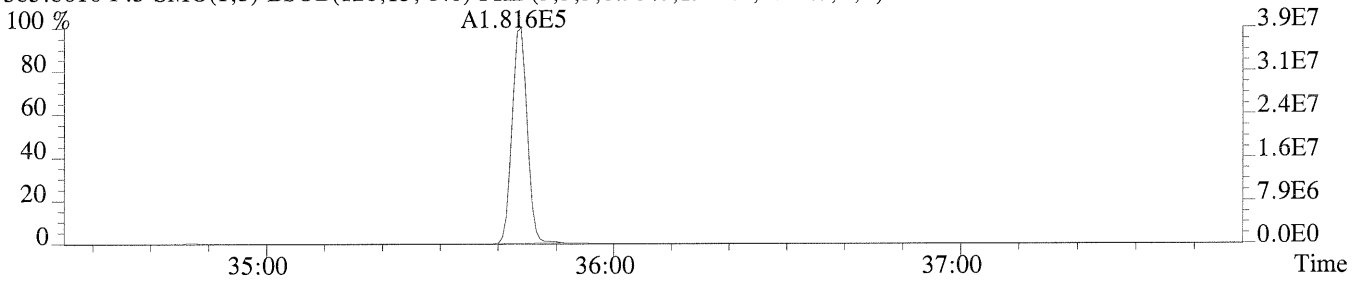
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1400.0,0.40%,F,F)



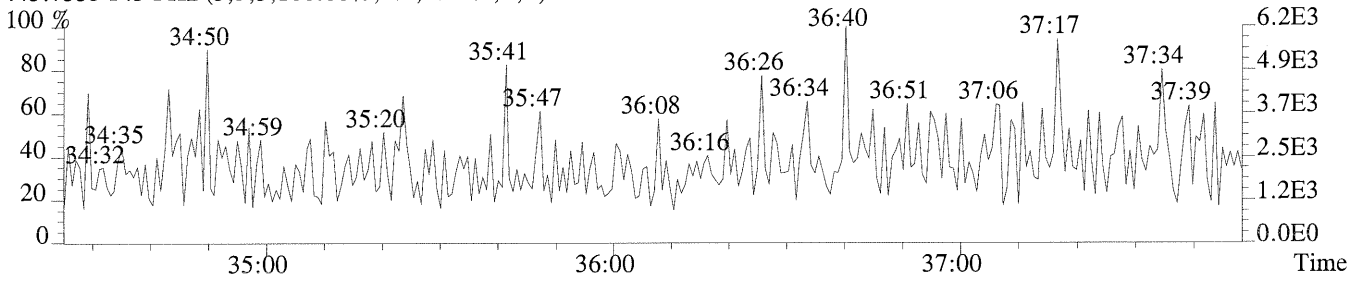
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1172.0,0.40%,F,F)



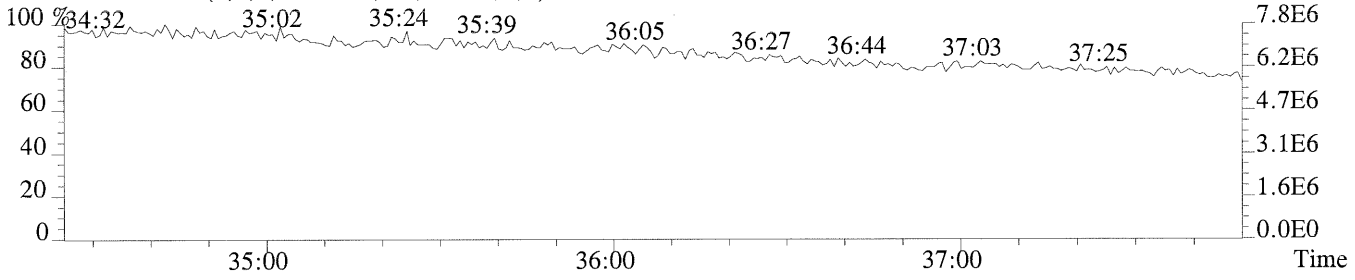
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1220.0,0.40%,F,F)



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

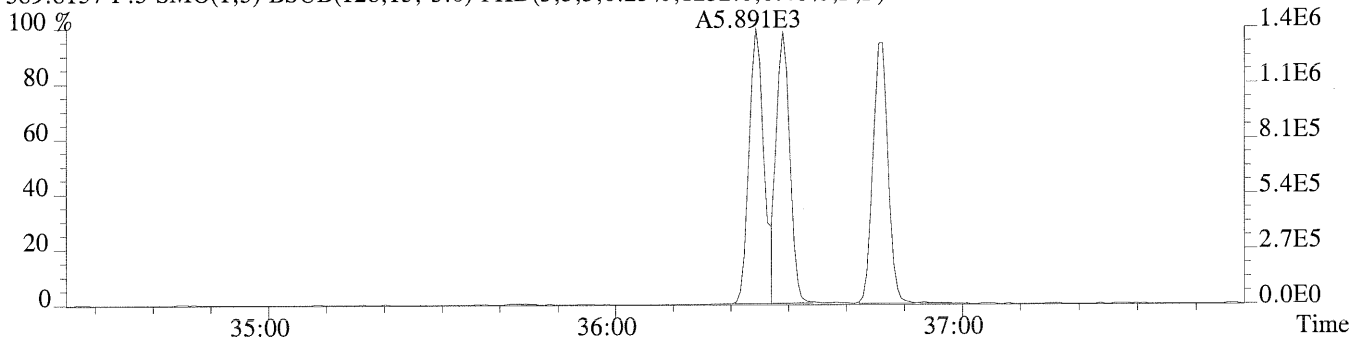


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

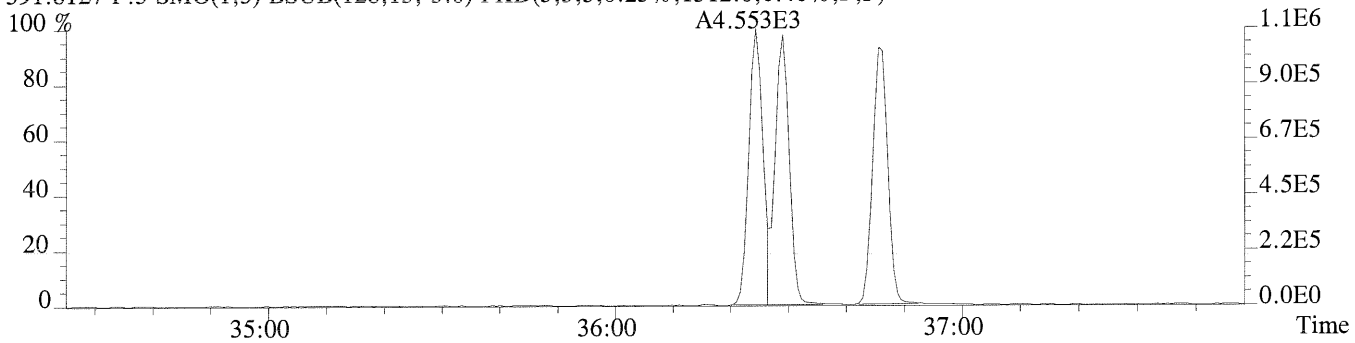


File:U212888 #1-308 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

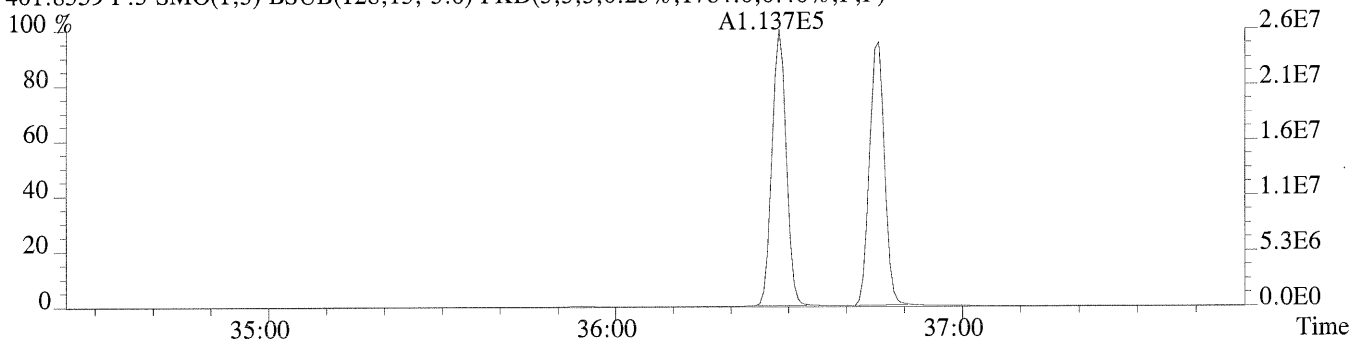
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1232.0,0.40%,F,F)



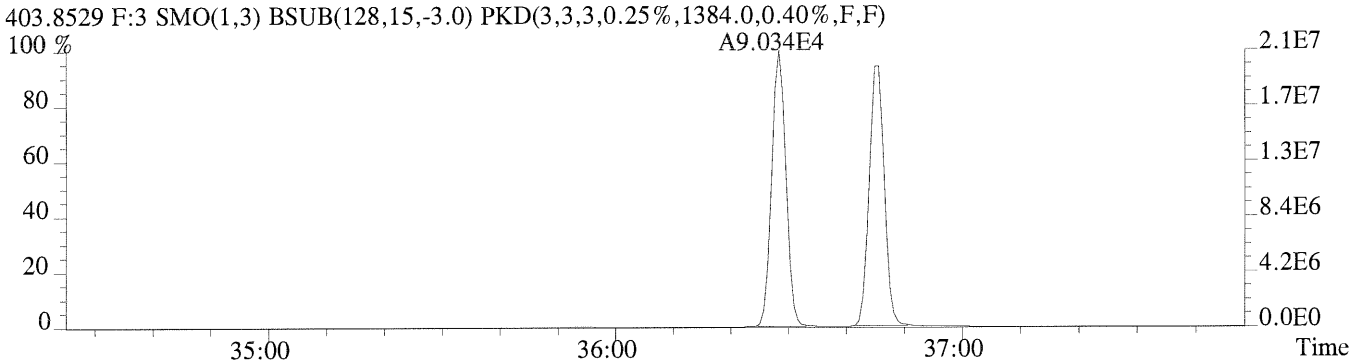
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1512.0,0.40%,F,F)



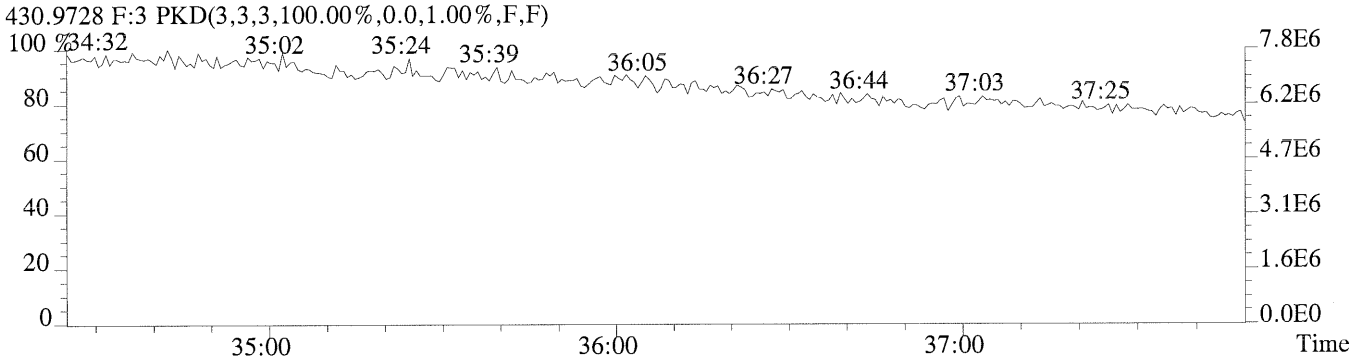
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1784.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1384.0,0.40%,F,F)

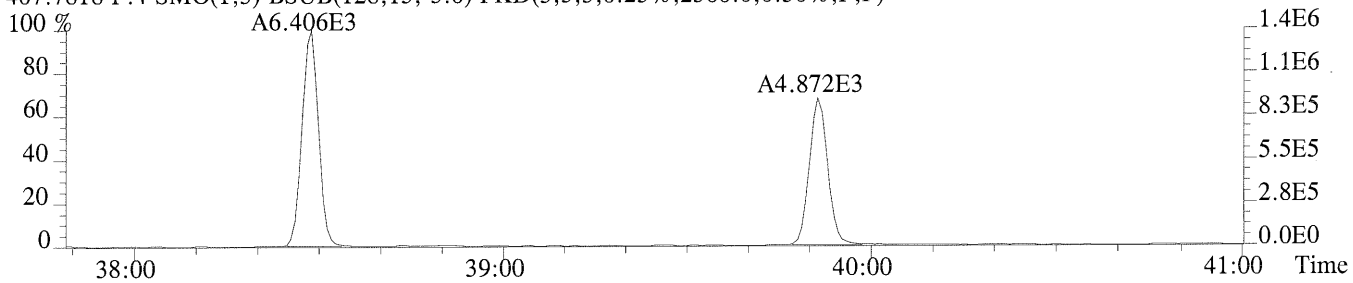


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

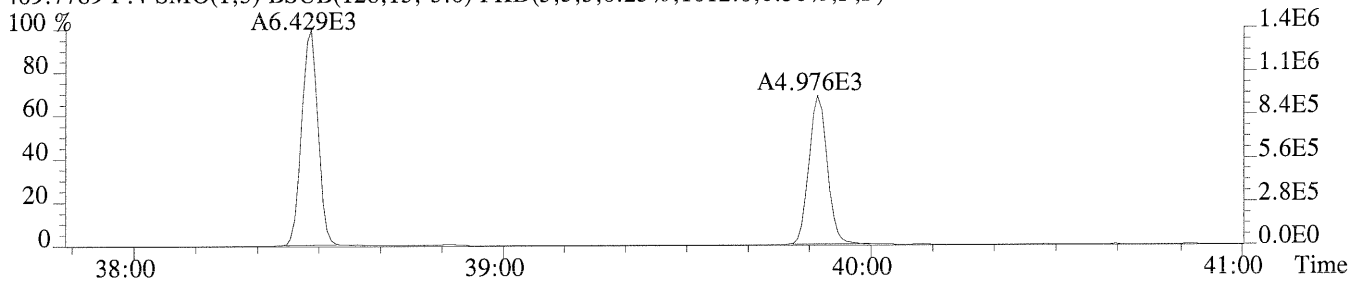


File:U212888 #1-290 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

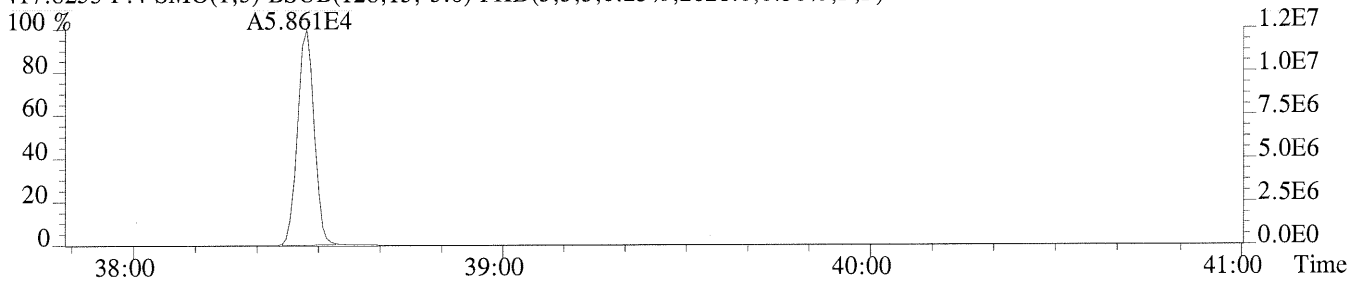
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2300.0,0.50%,F,F)



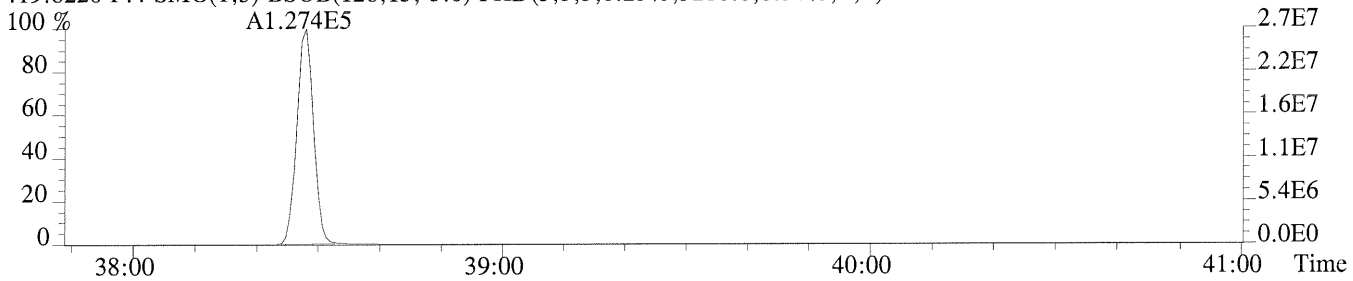
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1012.0,0.50%,F,F)



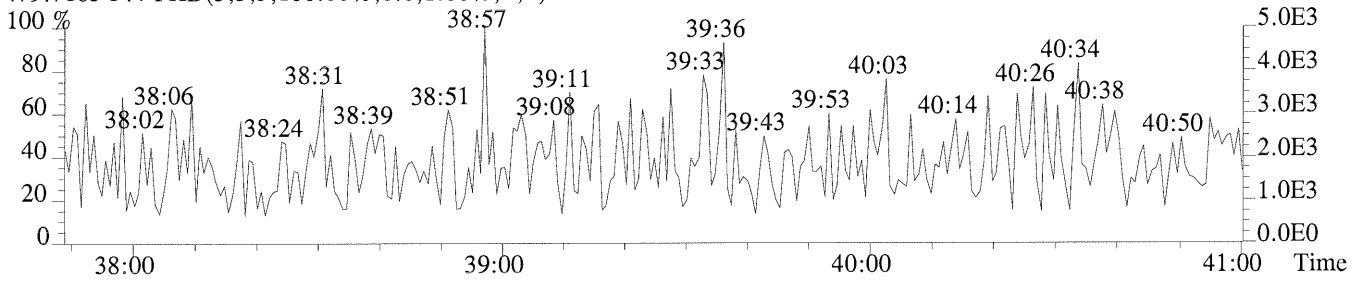
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2028.0,0.50%,F,F)



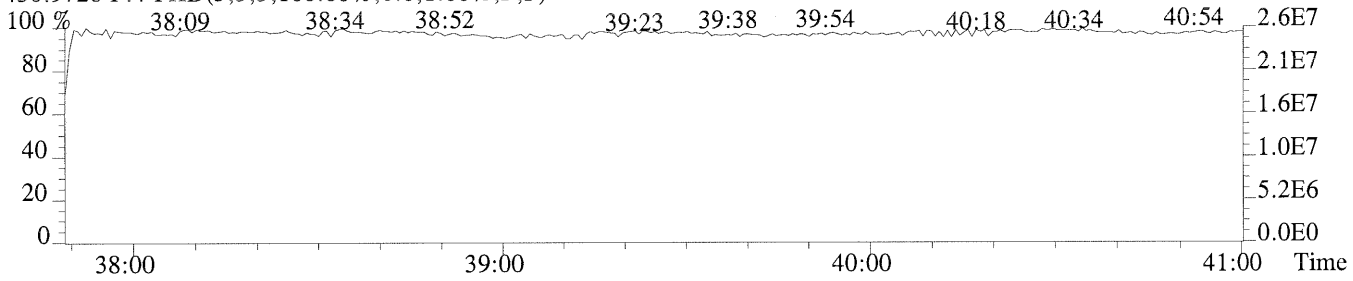
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3280.0,0.50%,F,F)



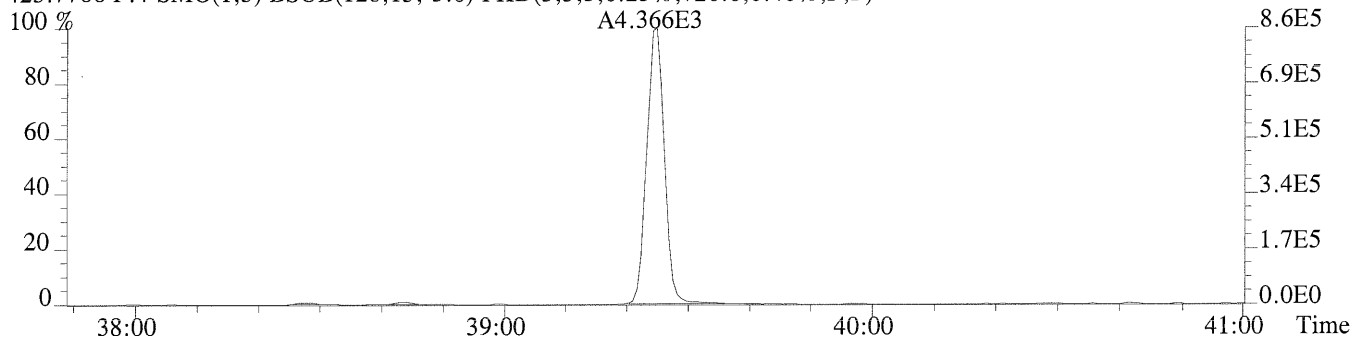
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



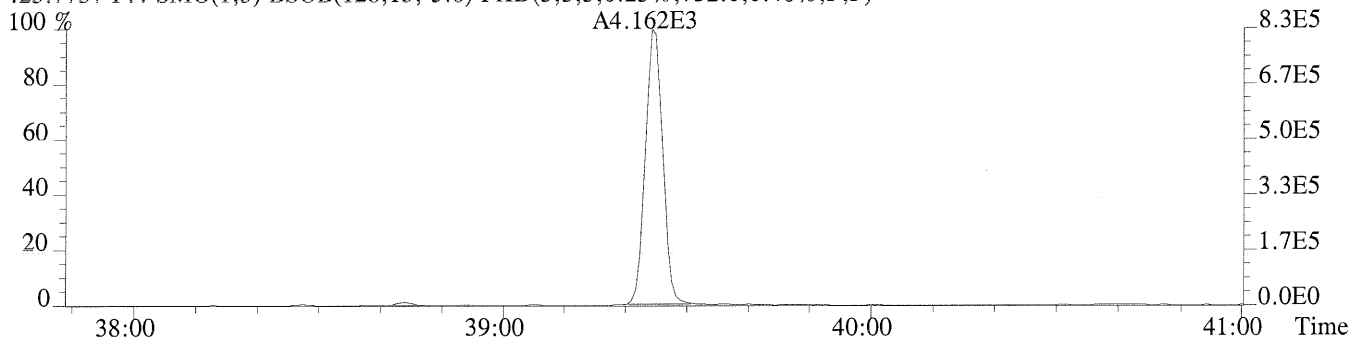
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



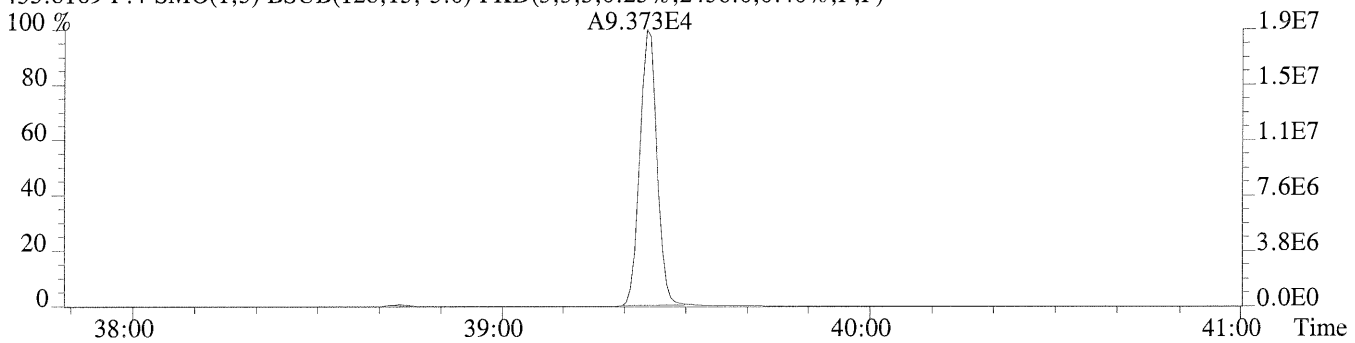
File:U212888 #1-290 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,720.0,0.40%,F,F)



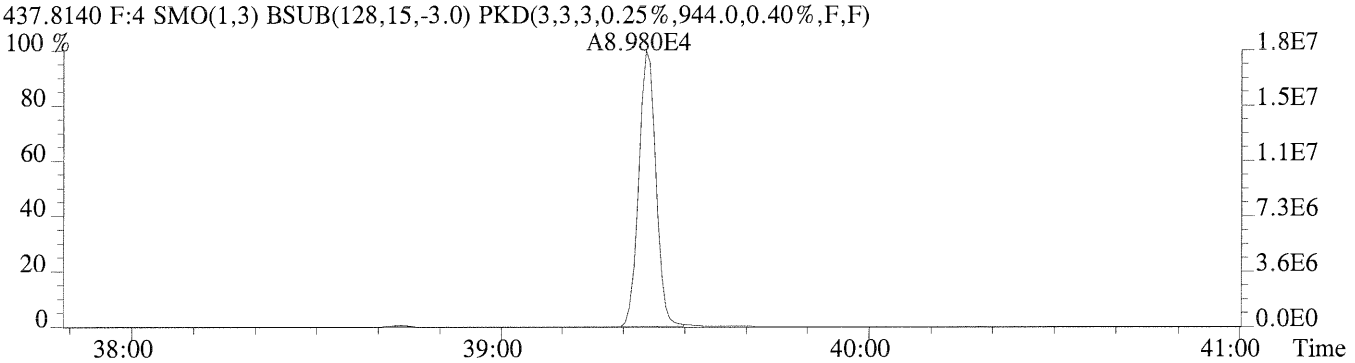
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,732.0,0.40%,F,F)



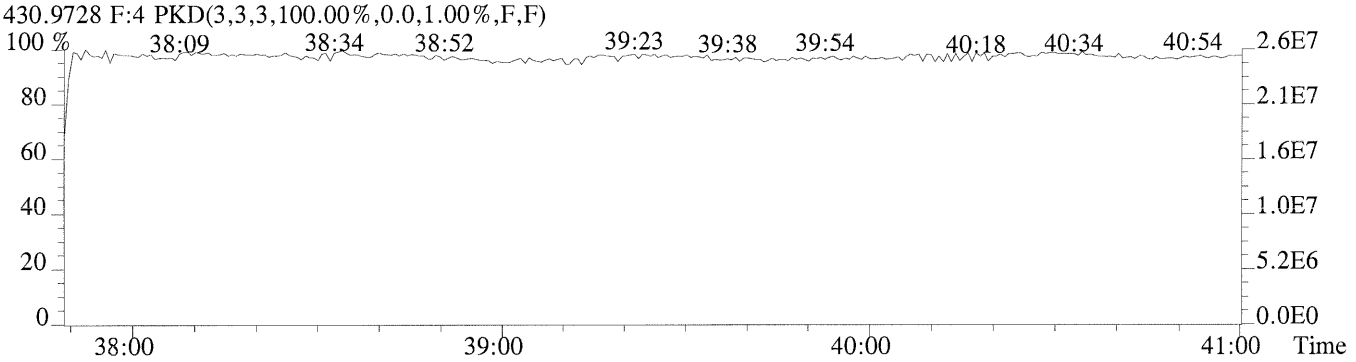
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2436.0,0.40%,F,F)



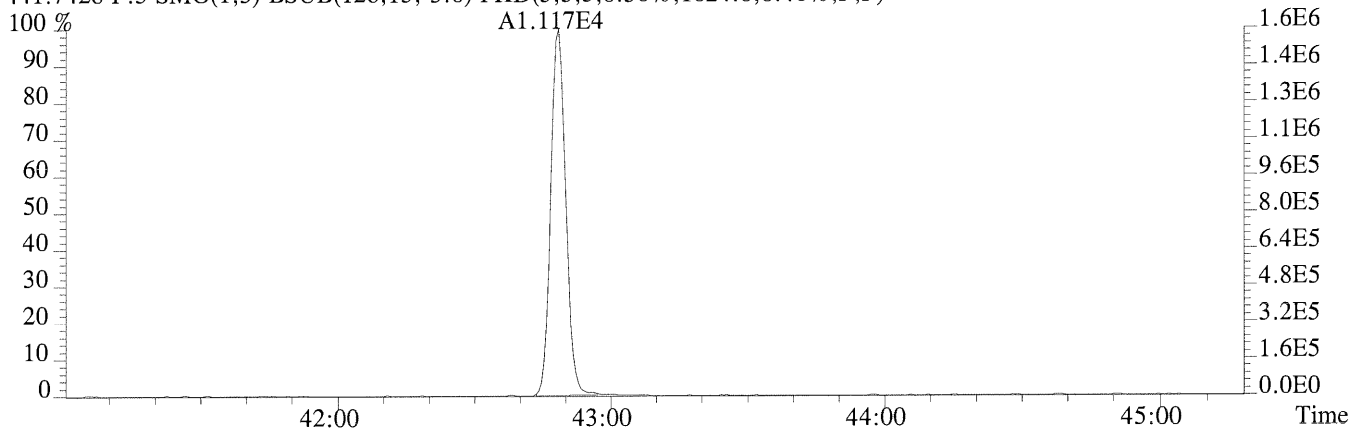
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,944.0,0.40%,F,F)



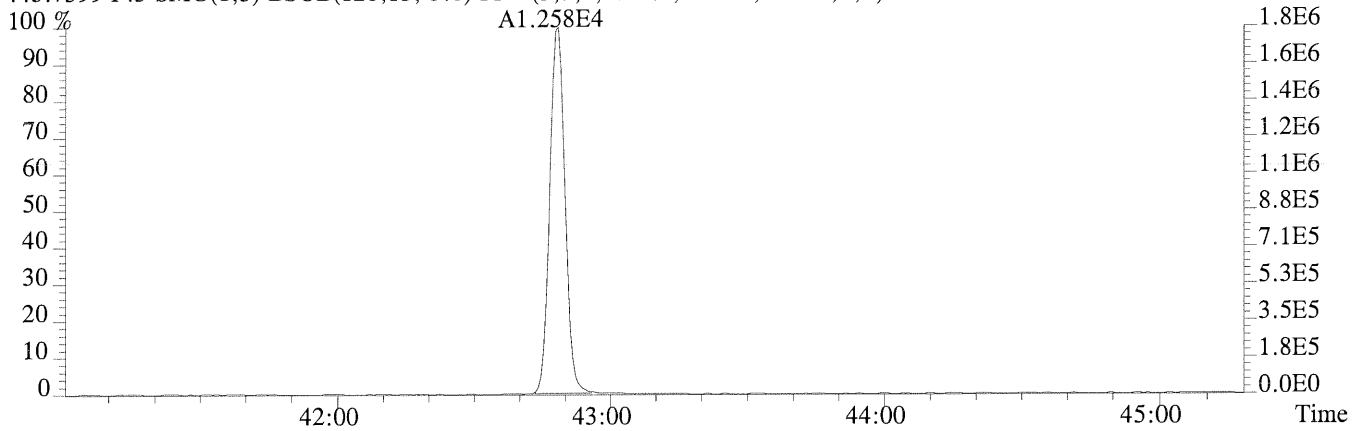
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



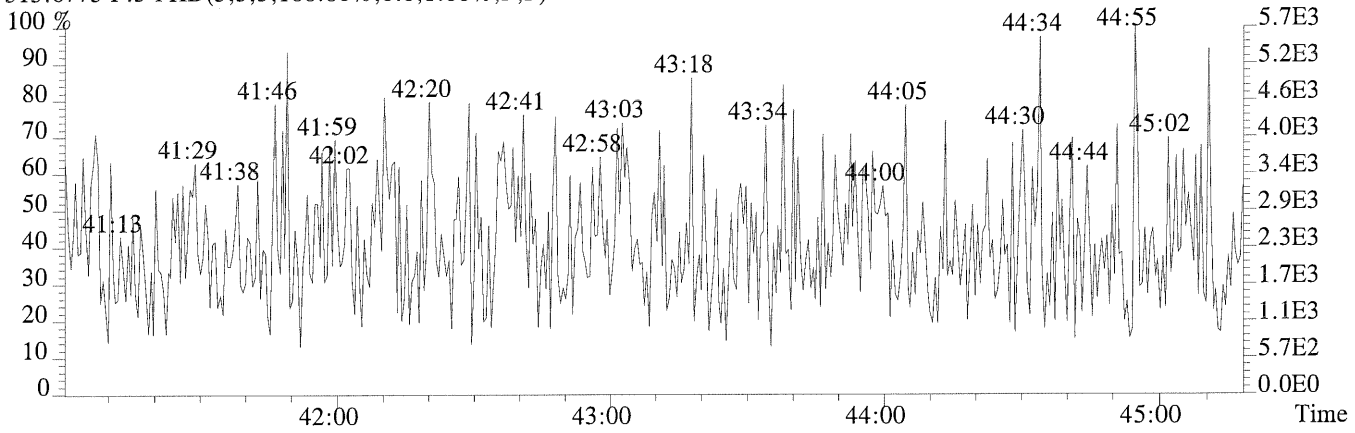
File:U212888 #1-474 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1024.0,0.40%,F,F)



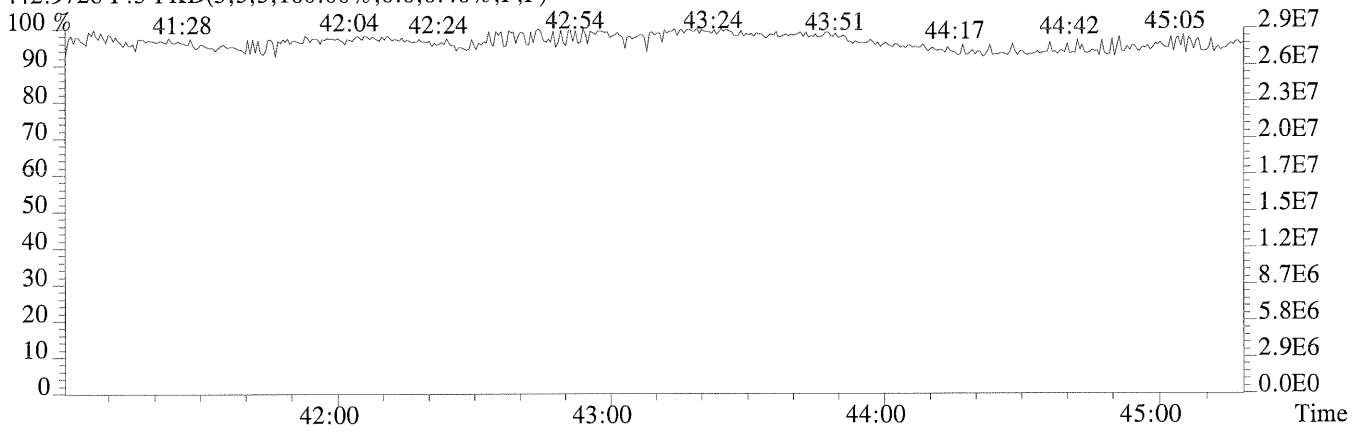
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1896.0,0.40%,F,F)



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

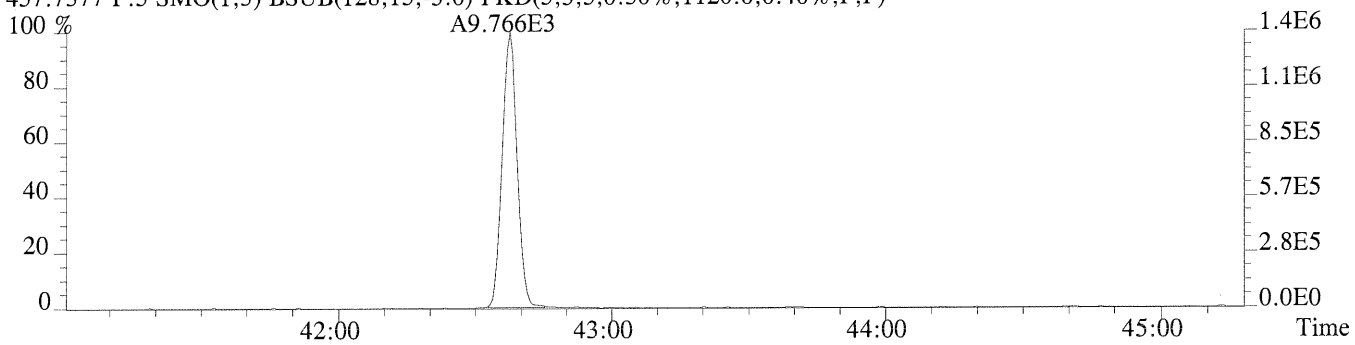


442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)

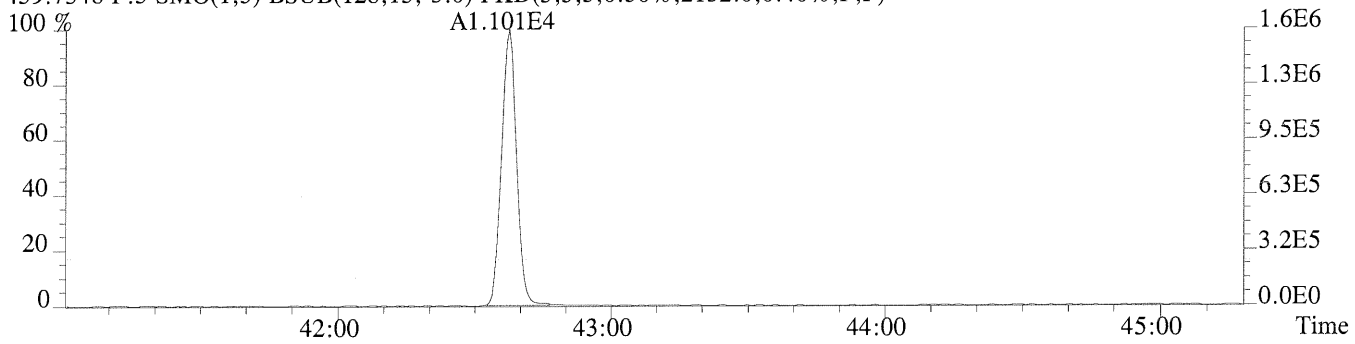


File:U212888 #1-474 Acq:10-DEC-2007 11:32:50 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC2

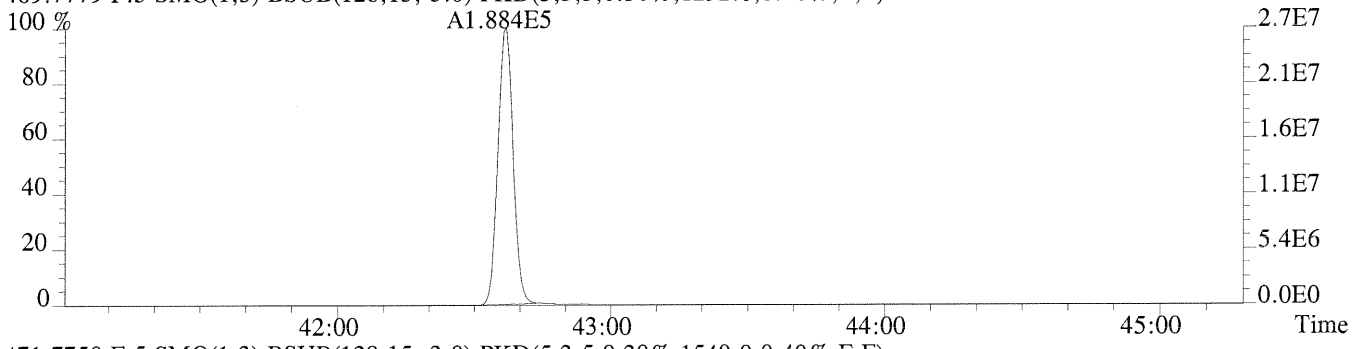
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1120.0,0.40%,F,F)



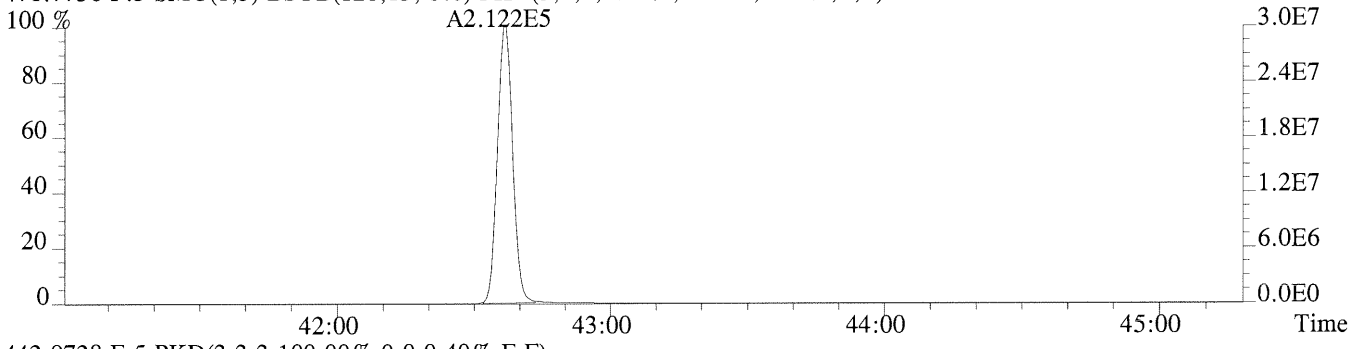
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,2132.0,0.40%,F,F)



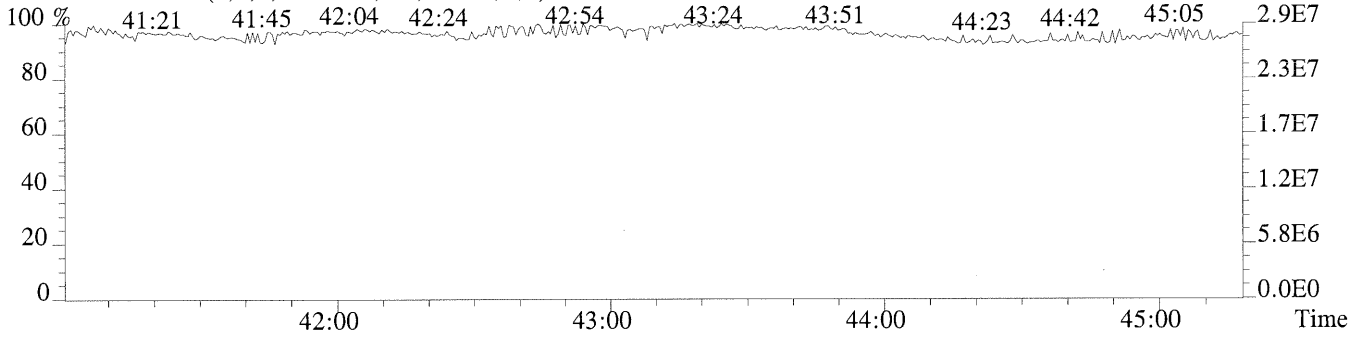
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1292.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1540.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC3

Run #3 Filename U212887 Samp: 1 Inj: 1 Acquired: 10-DEC-07 09:58:49
Processed: 10-DEC-07 15:07:11 Sample ID: ICAL HRCC3

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	28:15	1.274e+04	1.626e+04	0.78	yes	no
2	Unk	1,2,3,7,8-PeCDF	32:19	4.168e+04	2.664e+04	1.56	yes	no
3	Unk	2,3,4,7,8-PeCDF	33:01	4.085e+04	2.644e+04	1.55	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:44	3.014e+04	2.401e+04	1.26	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:50	2.801e+04	2.368e+04	1.18	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	36:18	2.665e+04	2.222e+04	1.20	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:59	2.287e+04	1.866e+04	1.23	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	38:28	2.354e+04	2.342e+04	1.00	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	1.768e+04	1.809e+04	0.98	yes	no
10	Unk	OCDF	42:48	3.805e+04	4.293e+04	0.89	yes	no
11	Unk	2,3,7,8-TCDD	29:01	1.020e+04	1.335e+04	0.76	yes	no
12	Unk	1,2,3,7,8-PeCDD	33:21	2.845e+04	1.857e+04	1.53	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	36:24	2.184e+04	1.703e+04	1.28	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	36:28	2.221e+04	1.756e+04	1.26	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:46	2.105e+04	1.709e+04	1.23	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	1.549e+04	1.495e+04	1.04	yes	no
17	Unk	OCDD	42:38	3.437e+04	3.856e+04	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	28:13	6.820e+04	8.718e+04	0.78	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	32:18	8.979e+04	5.771e+04	1.56	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:43	7.814e+04	1.510e+05	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:27	5.164e+04	1.140e+05	0.45	yes	no
22	IS	13C-2,3,7,8-TCDD	28:59	5.465e+04	6.822e+04	0.80	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	33:20	6.519e+04	4.179e+04	1.56	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	36:28	1.113e+05	8.825e+04	1.26	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:24	8.498e+04	8.076e+04	1.05	yes	no
26	IS	13C-OCDD	42:36	1.691e+05	1.856e+05	0.91	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	28:48	5.370e+04	6.653e+04	0.81	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:45	1.111e+05	8.897e+04	1.25	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	29:01	2.389e+04				

Columbia Analytical Services, Inc.
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Office(713)266-1599. Fax(713)266-0130

Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC3

Run #3 Filename U212887 #1 Samp: 1 Inj: 1 Acquired: 10-DEC-07 09:58:49

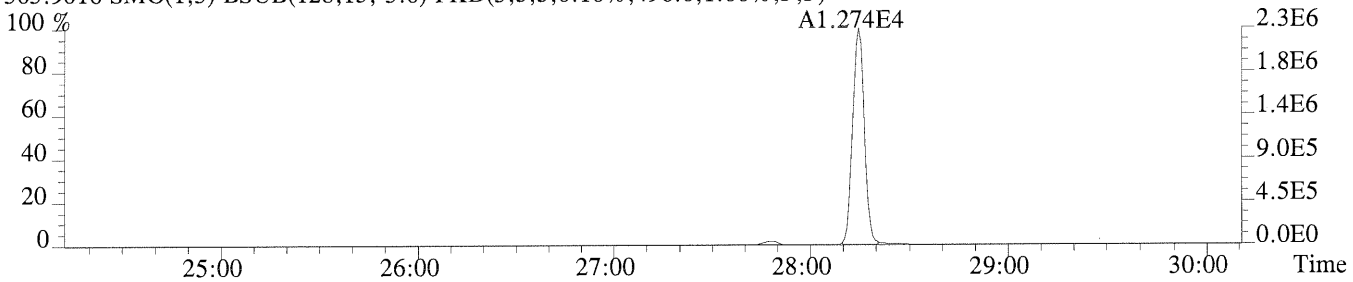
Processed: 10-DEC-07 15:07:11 LAB. ID: ICAL HRCC3

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	2.25e+06	4.96e+02	4.5e+03	2.93e+06	6.80e+02	4.3e+03
2	1,2,3,7,8-PeCDF	8.30e+06	5.12e+02	1.6e+04	5.36e+06	1.02e+03	5.3e+03
3	2,3,4,7,8-PeCDF	8.37e+06	5.12e+02	1.6e+04	5.43e+06	1.02e+03	5.3e+03
4	1,2,3,4,7,8-HxCDF	6.77e+06	1.04e+03	6.5e+03	5.60e+06	1.23e+03	4.6e+03
5	1,2,3,6,7,8-HxCDF	6.28e+06	1.04e+03	6.0e+03	5.15e+06	1.23e+03	4.2e+03
6	2,3,4,6,7,8-HxCDF	6.12e+06	1.04e+03	5.9e+03	5.10e+06	1.23e+03	4.2e+03
7	1,2,3,7,8,9-HxCDF	5.01e+06	1.04e+03	4.8e+03	4.09e+06	1.23e+03	3.3e+03
8	1,2,3,4,6,7,8-HpCDF	5.08e+06	4.17e+03	1.2e+03	5.06e+06	1.32e+03	3.8e+03
9	1,2,3,4,7,8,9-HpCDF	3.43e+06	4.17e+03	8.2e+02	3.48e+06	1.32e+03	2.6e+03
10	OCDF	5.40e+06	9.76e+02	5.5e+03	6.17e+06	1.21e+03	5.1e+03
11	2,3,7,8-TCDD	1.92e+06	3.52e+02	5.5e+03	2.48e+06	2.84e+02	8.7e+03
12	1,2,3,7,8-PeCDD	6.09e+06	7.60e+02	8.0e+03	3.97e+06	5.84e+02	6.8e+03
13	1,2,3,4,7,8-HxCDD	5.09e+06	1.36e+03	3.8e+03	3.90e+06	1.68e+03	2.3e+03
14	1,2,3,6,7,8-HxCDD	4.92e+06	1.36e+03	3.6e+03	3.97e+06	1.68e+03	2.4e+03
15	1,2,3,7,8,9-HxCDD	4.84e+06	1.36e+03	3.6e+03	3.95e+06	1.68e+03	2.4e+03
16	1,2,3,4,6,7,8-HpCDD	3.12e+06	7.08e+02	4.4e+03	3.02e+06	6.56e+02	4.6e+03
17	OCDD	4.91e+06	1.32e+03	3.7e+03	5.53e+06	1.56e+03	3.5e+03
18	13C-2,3,7,8-TCDF	1.21e+07	2.20e+03	5.5e+03	1.55e+07	8.56e+02	1.8e+04
19	13C-1,2,3,7,8-PeCDF	1.83e+07	4.36e+02	4.2e+04	1.18e+07	5.16e+02	2.3e+04
20	13C-1,2,3,4,7,8-HxCDF	1.73e+07	1.00e+03	1.7e+04	3.38e+07	1.04e+03	3.3e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.08e+07	1.91e+03	5.7e+03	2.41e+07	3.52e+03	6.8e+03
22	13C-2,3,7,8-TCDD	1.02e+07	2.22e+03	4.6e+03	1.28e+07	1.30e+03	9.8e+03
23	13C-1,2,3,7,8-PeCDD	1.37e+07	4.68e+02	2.9e+04	8.77e+06	5.00e+02	1.8e+04
24	13C-1,2,3,6,7,8-HxCDD	2.51e+07	1.11e+03	2.3e+04	1.97e+07	1.64e+03	1.2e+04
25	13C-1,2,3,4,6,7,8-HpCDD	1.73e+07	2.68e+03	6.5e+03	1.65e+07	1.24e+03	1.3e+04
26	13C-OCDD	2.43e+07	1.17e+03	2.1e+04	2.67e+07	1.52e+03	1.8e+04
27	13C-1,2,3,4-TCDD	1.03e+07	2.22e+03	4.6e+03	1.26e+07	1.30e+03	9.7e+03
28	13C-1,2,3,7,8,9-HxCDD	2.54e+07	1.11e+03	2.3e+04	2.02e+07	1.64e+03	1.2e+04
29	37Cl-2,3,7,8-TCDD	4.45e+06	3.32e+02	1.3e+04			

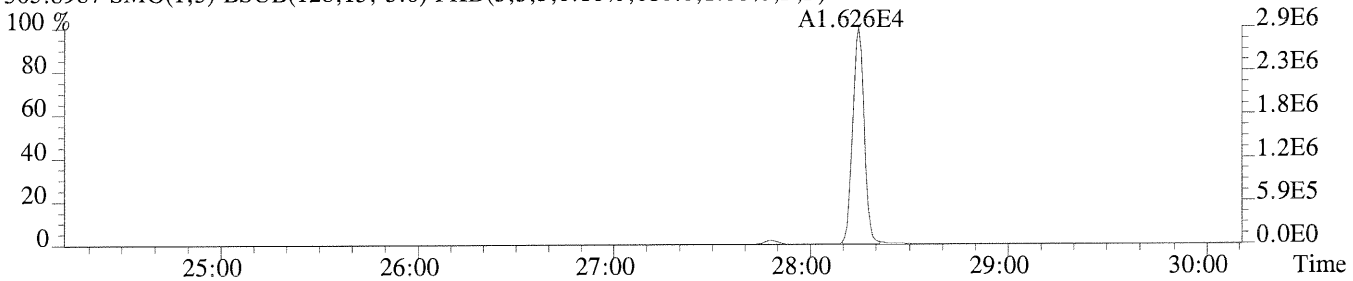
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U212887 #1-498 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

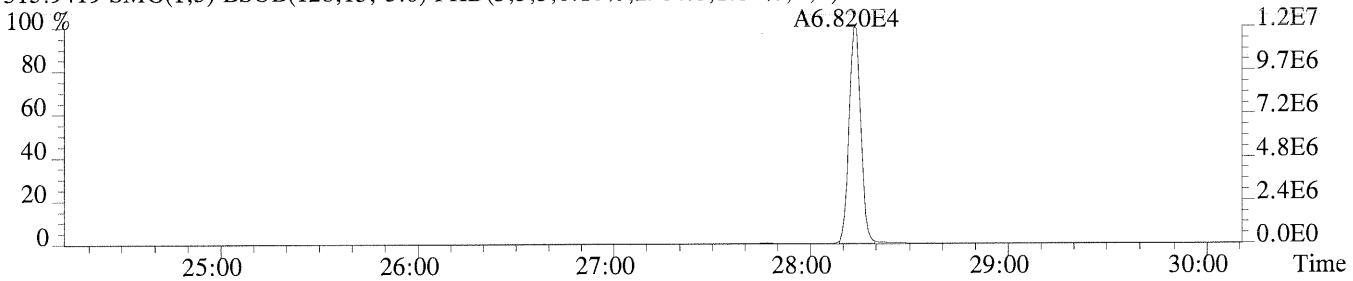
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,496.0,1.00%,F,F)



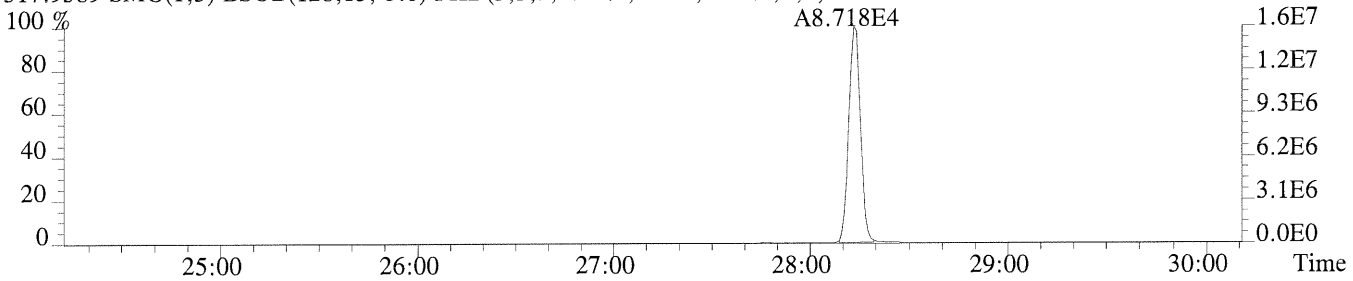
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,680.0,1.00%,F,F)



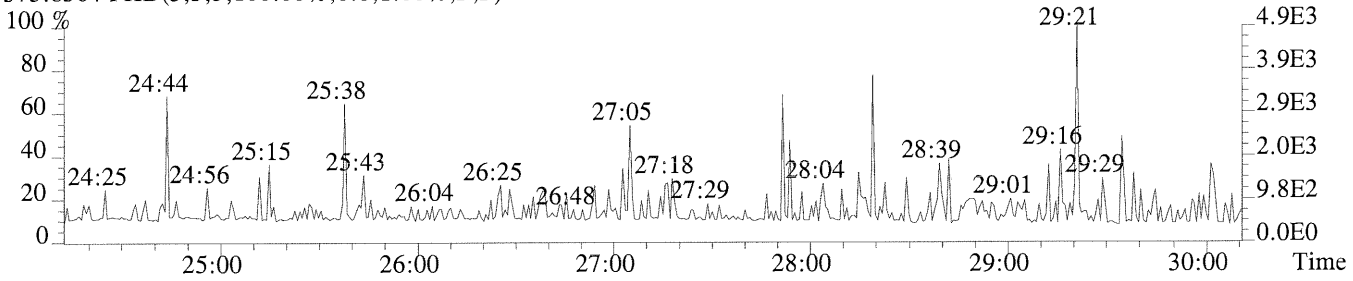
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2204.0,1.00%,F,F)



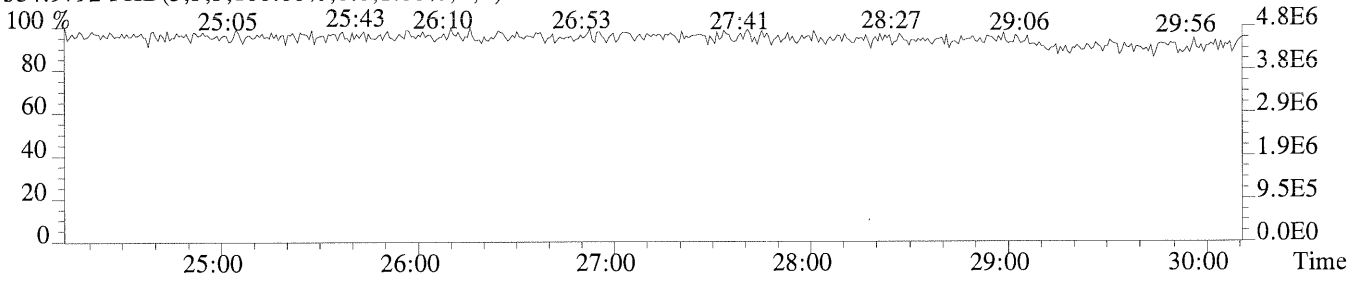
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,856.0,1.00%,F,F)



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

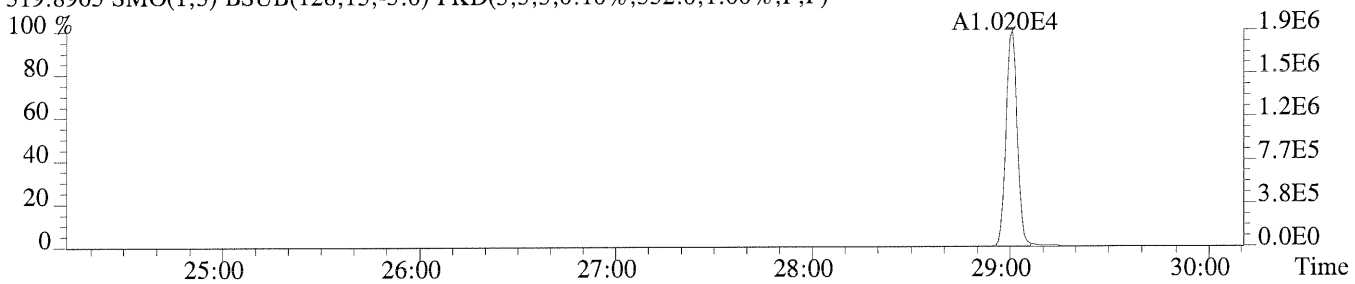


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

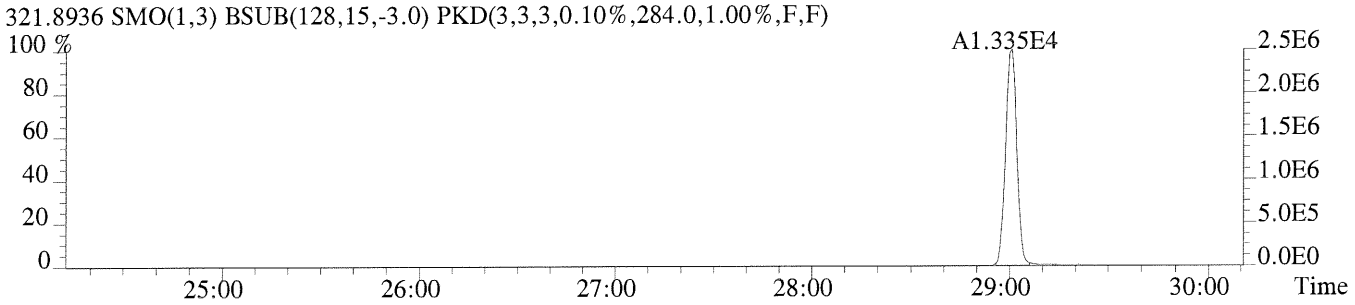


File:U212887 #1-498 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

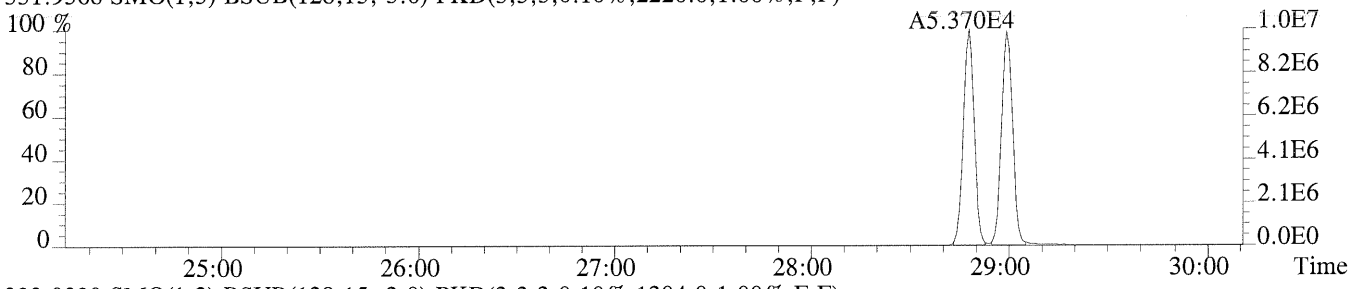
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,352.0,1.00%,F,F)



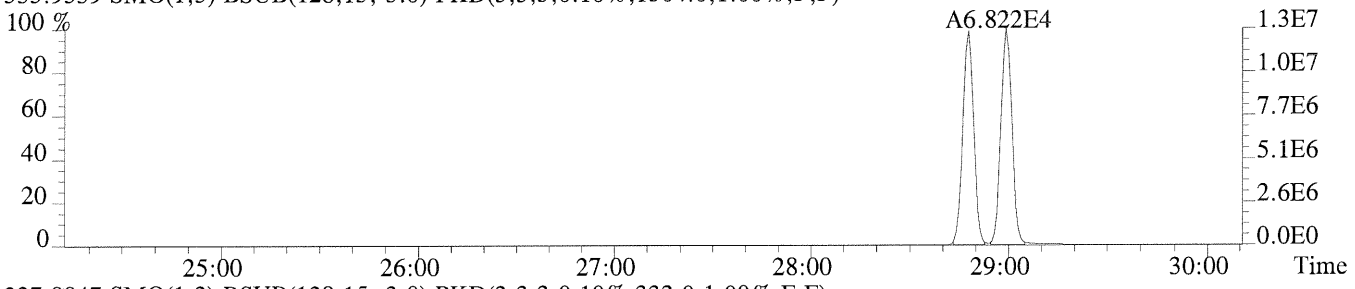
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,284.0,1.00%,F,F)



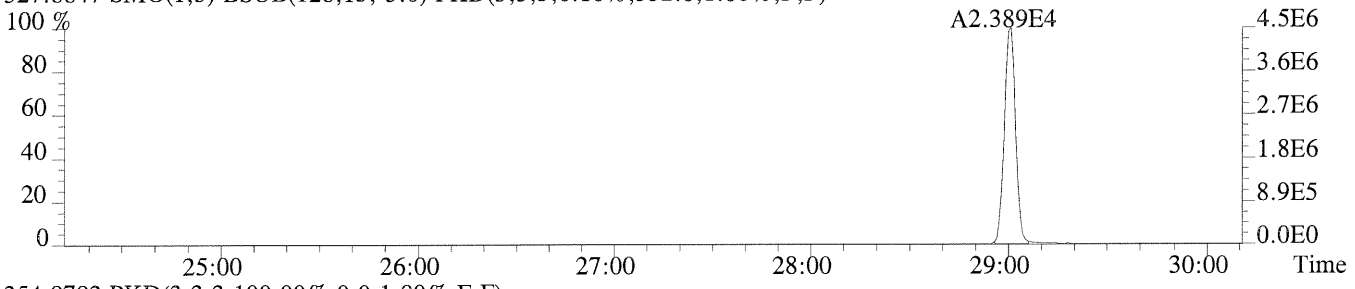
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2220.0,1.00%,F,F)



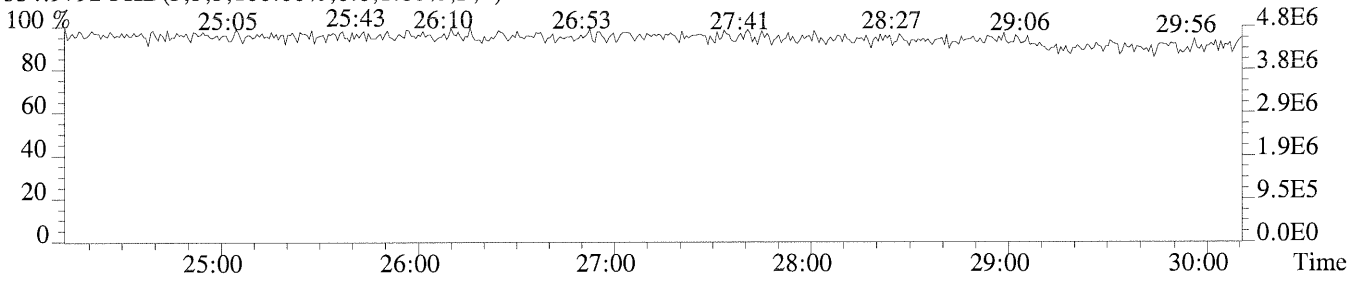
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1304.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,332.0,1.00%,F,F)

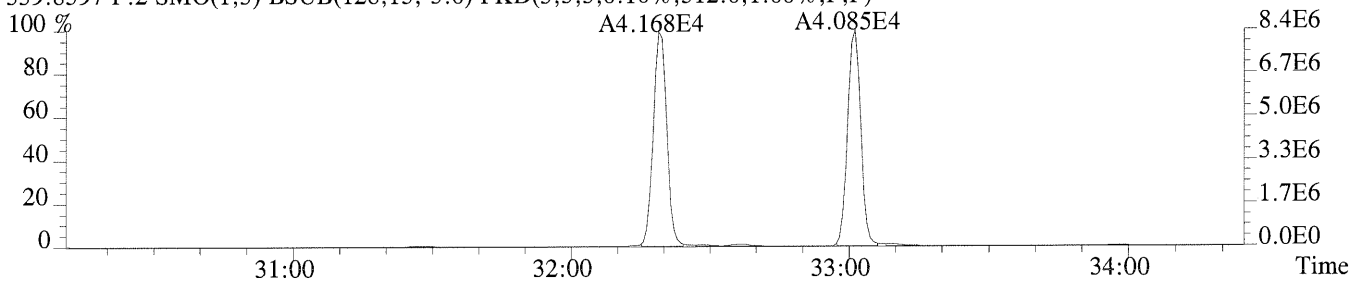


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

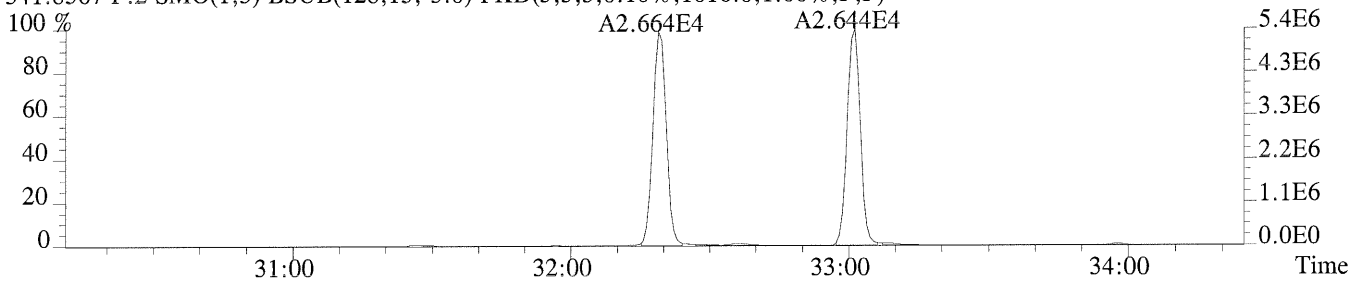


File:U212887 #1-384 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

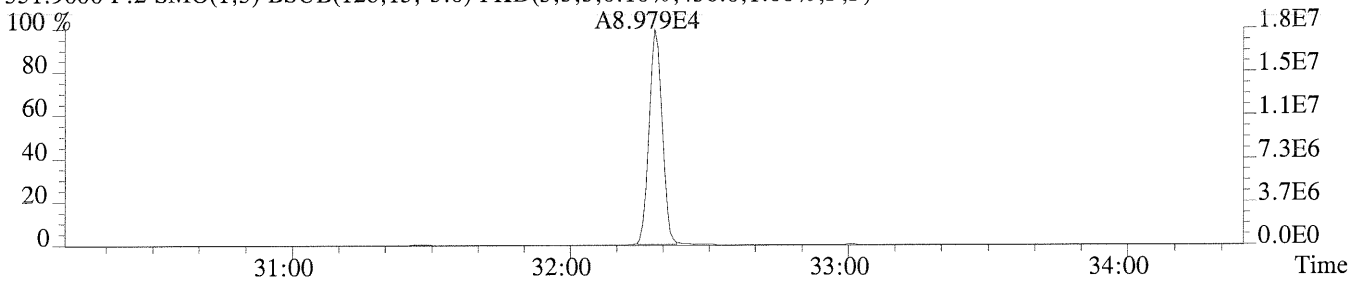
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,512.0,1.00%,F,F)



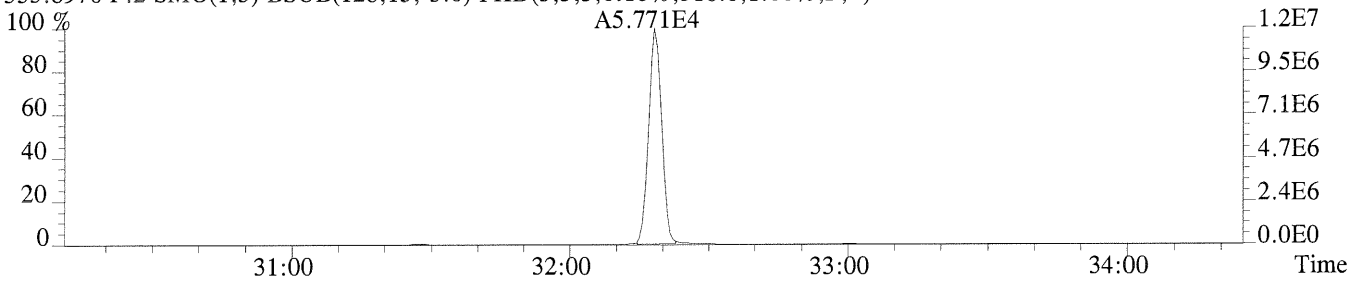
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1016.0,1.00%,F,F)



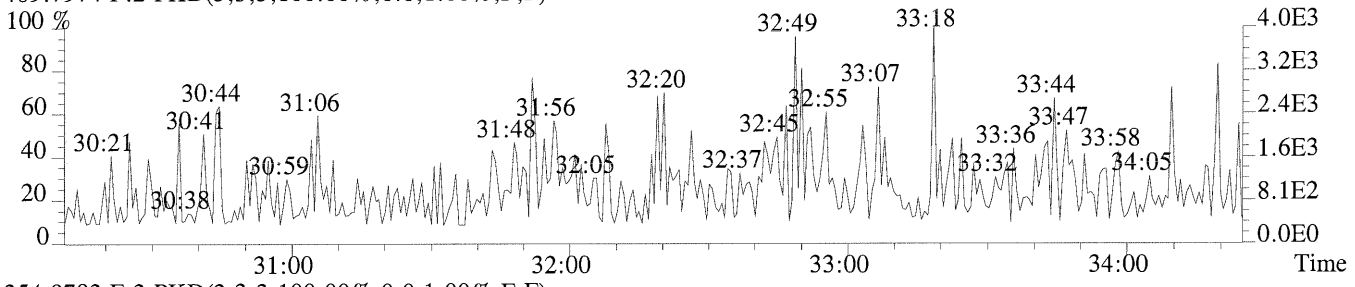
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,436.0,1.00%,F,F)



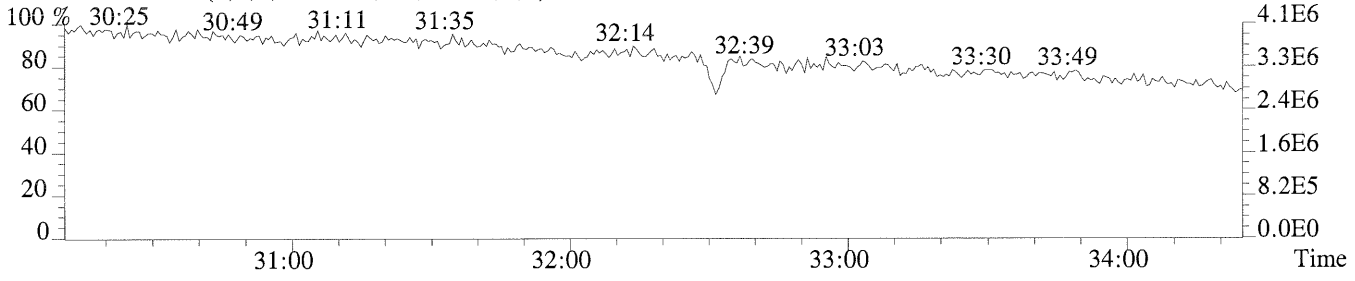
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,516.0,1.00%,F,F)



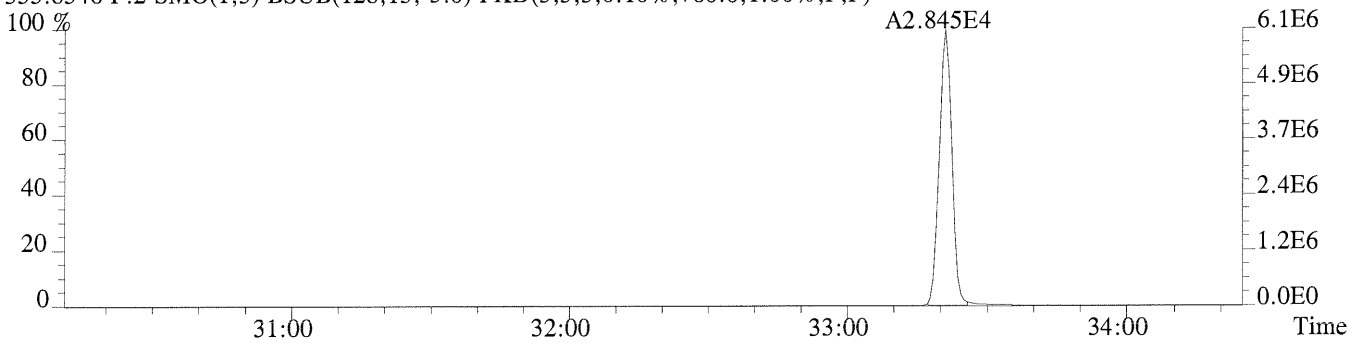
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



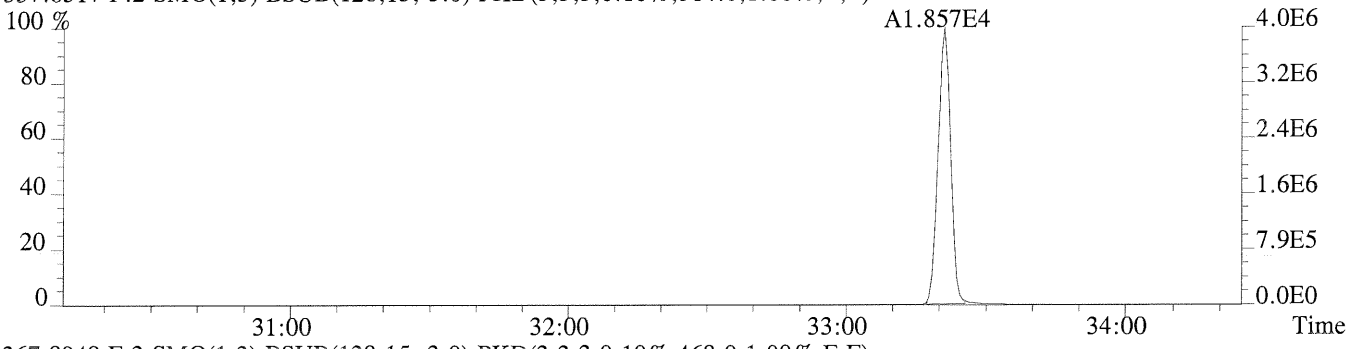
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



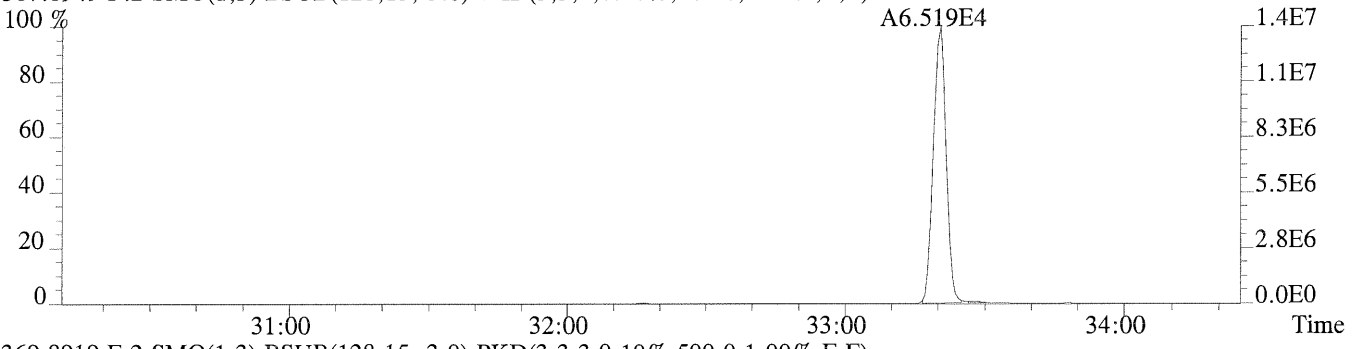
File:U212887 #1-384 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,760.0,1.00%,F,F)



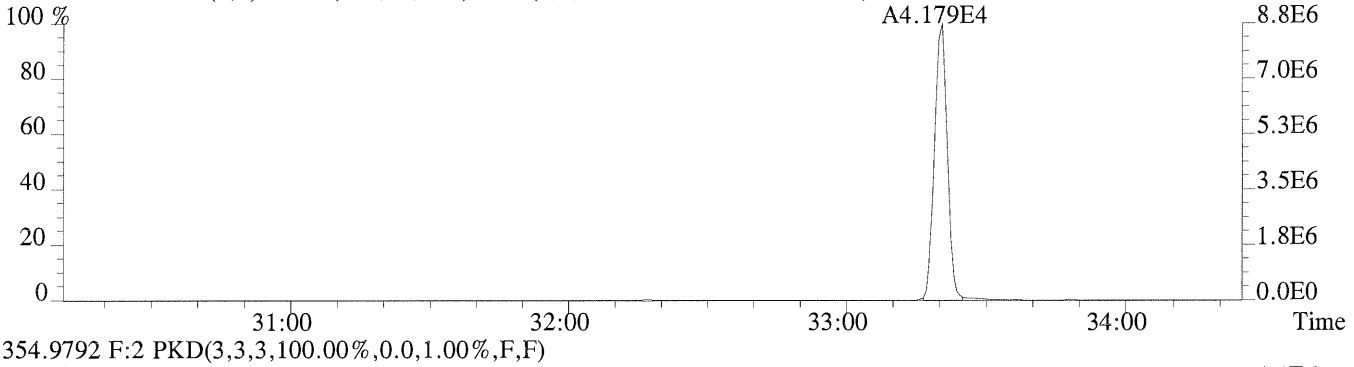
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,584.0,1.00%,F,F)



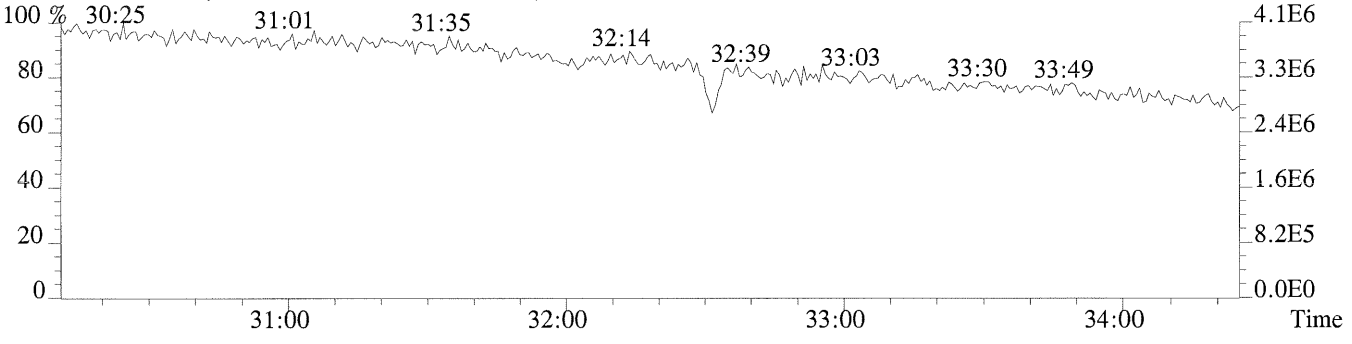
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,500.0,1.00%,F,F)

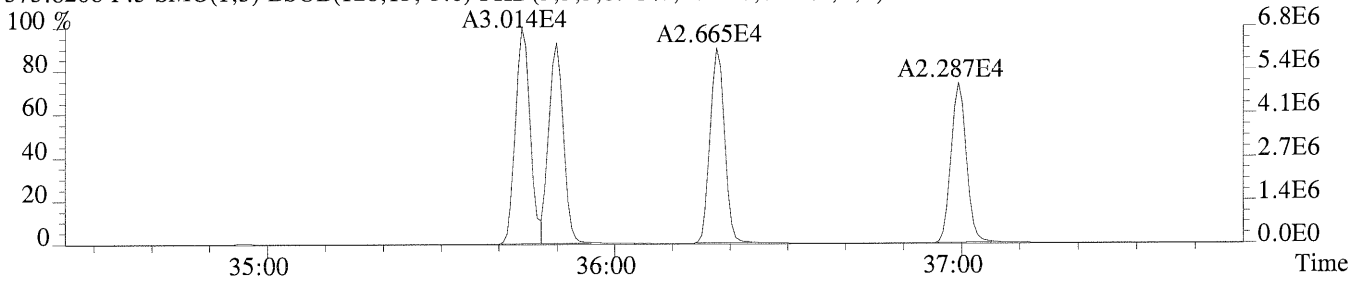


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

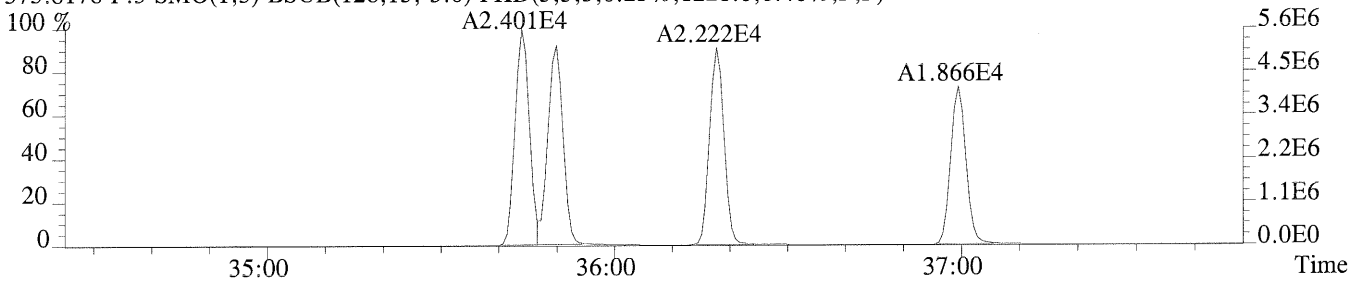


File:U212887 #1-308 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

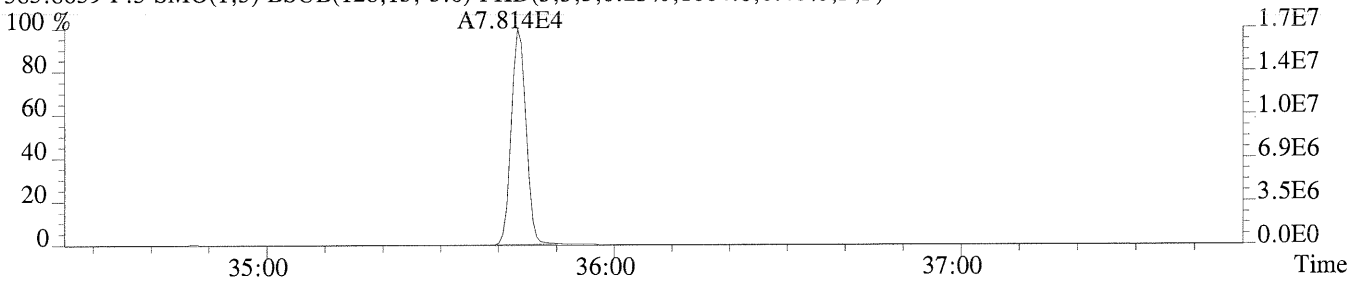
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1044.0,0.40%,F,F)



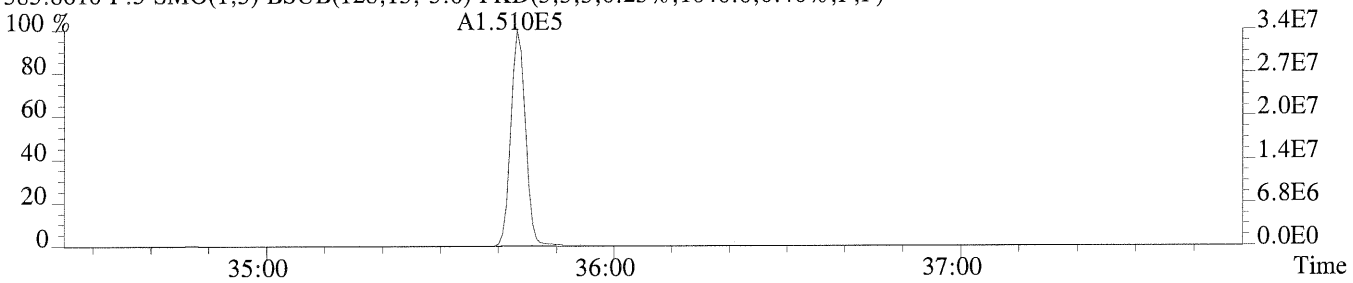
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1228.0,0.40%,F,F)



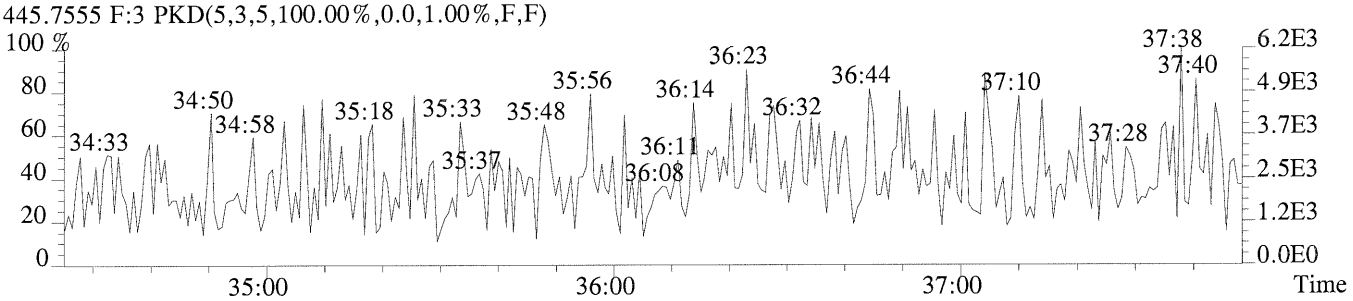
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1004.0,0.40%,F,F)



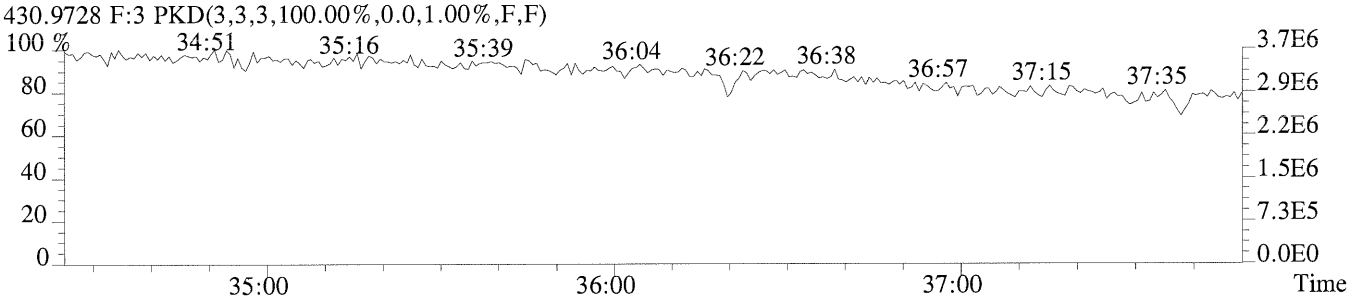
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1040.0,0.40%,F,F)



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

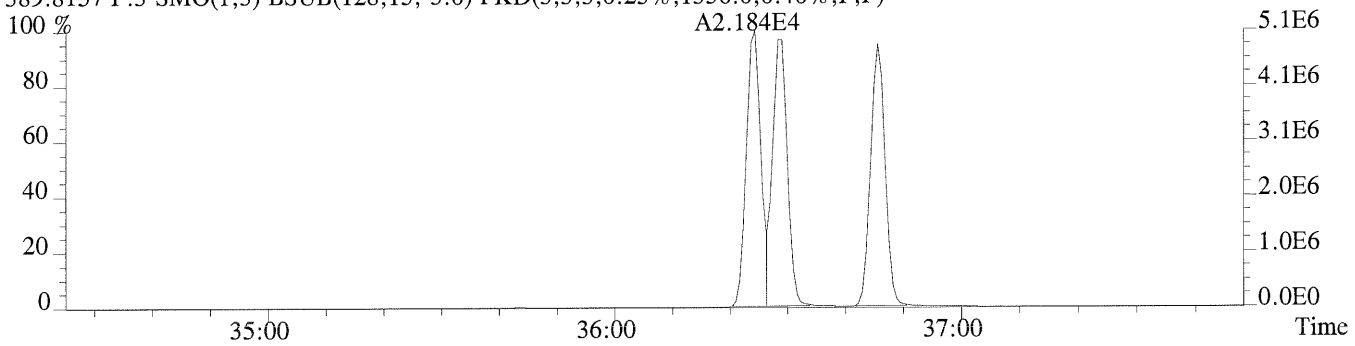


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

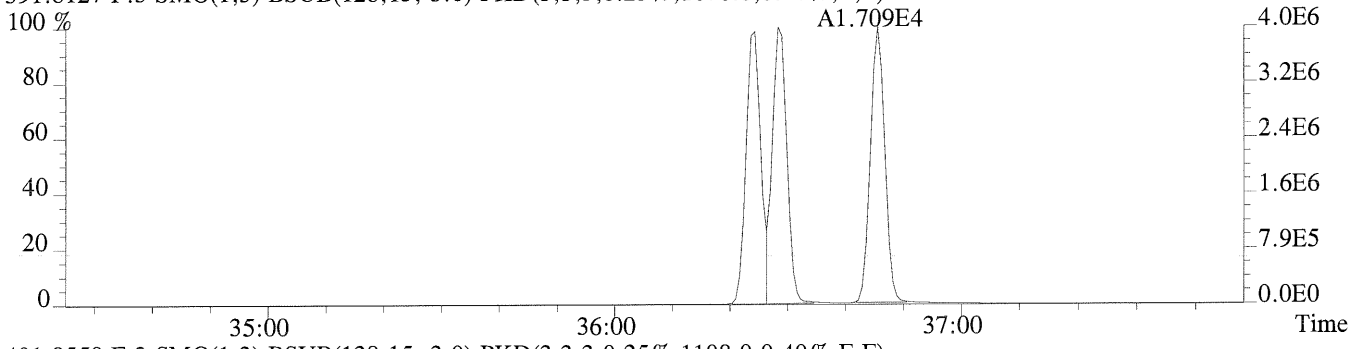


File:U212887 #1-308 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

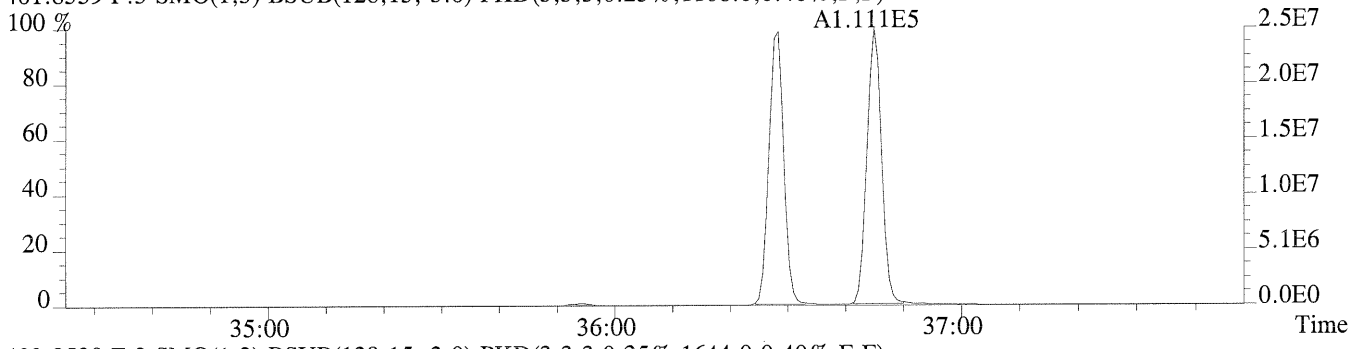
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1356.0,0.40%,F,F)



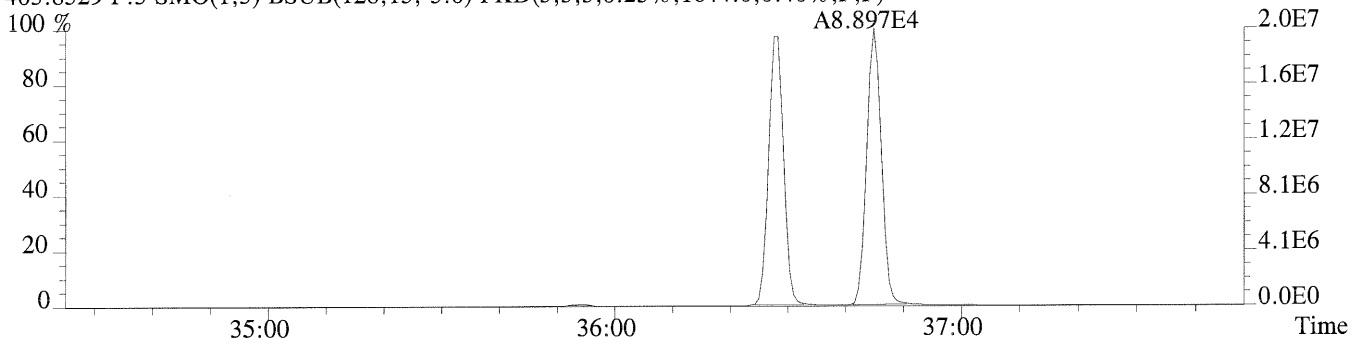
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1676.0,0.40%,F,F)



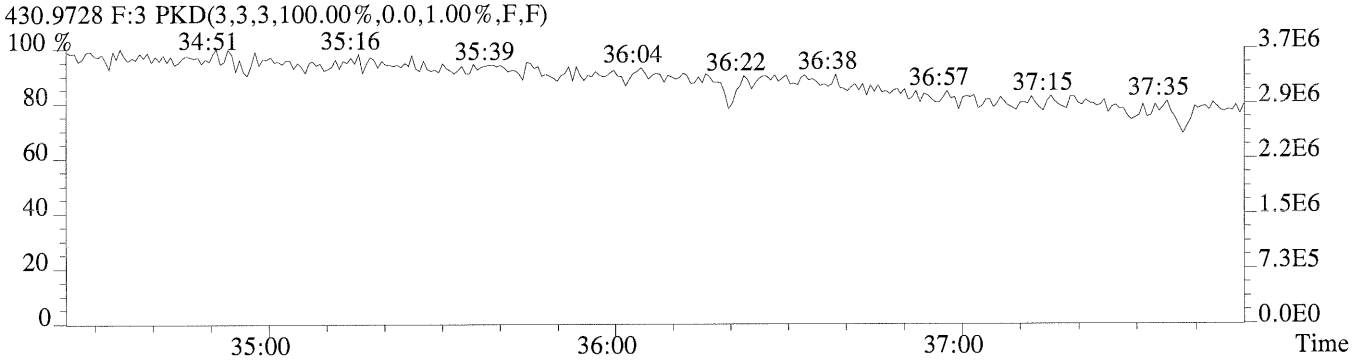
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1108.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1644.0,0.40%,F,F)

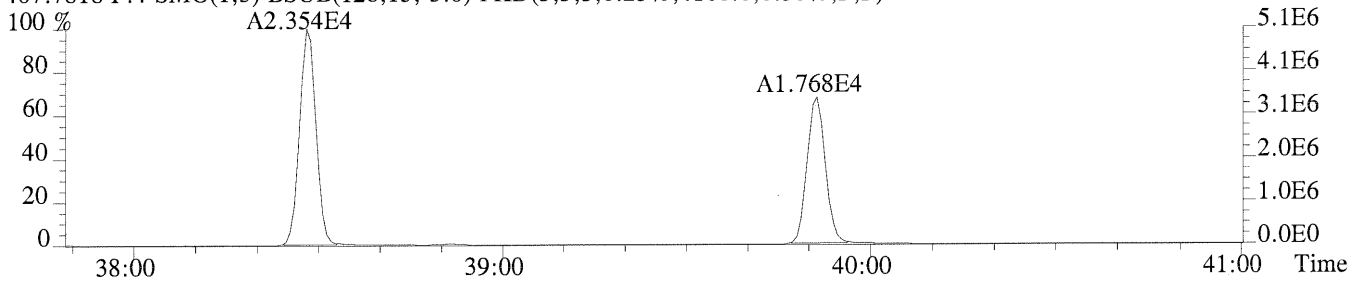


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

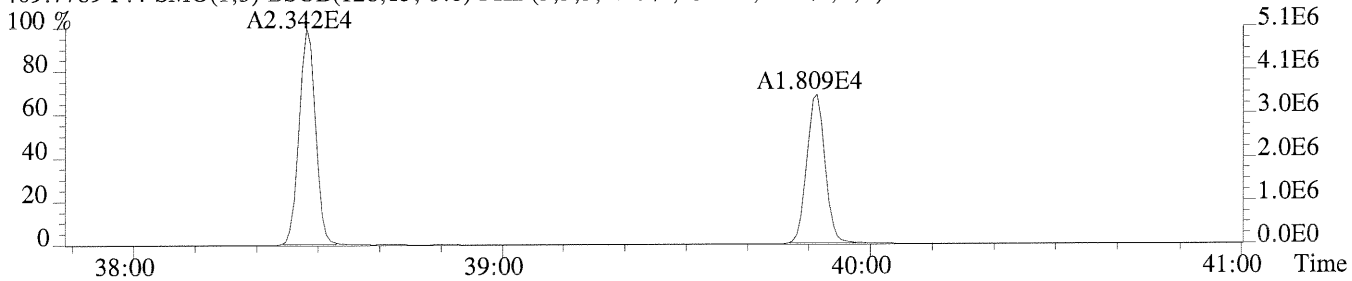


File:U212887 #1-290 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

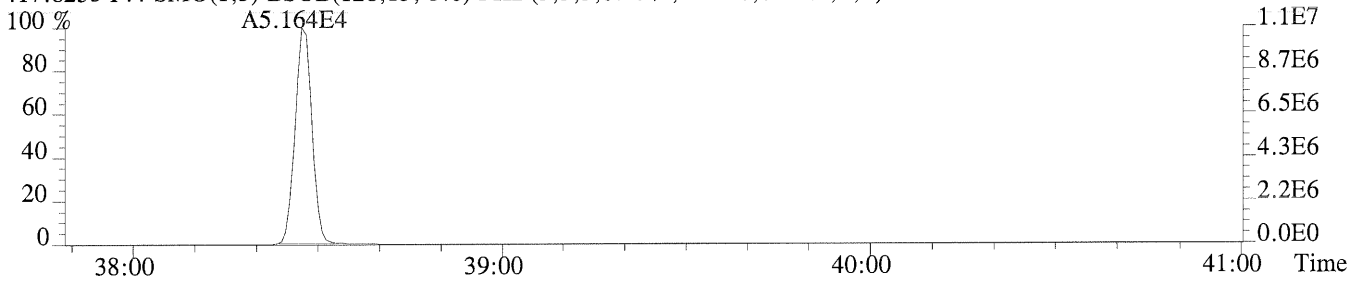
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,4168.0,0.50%,F,F)



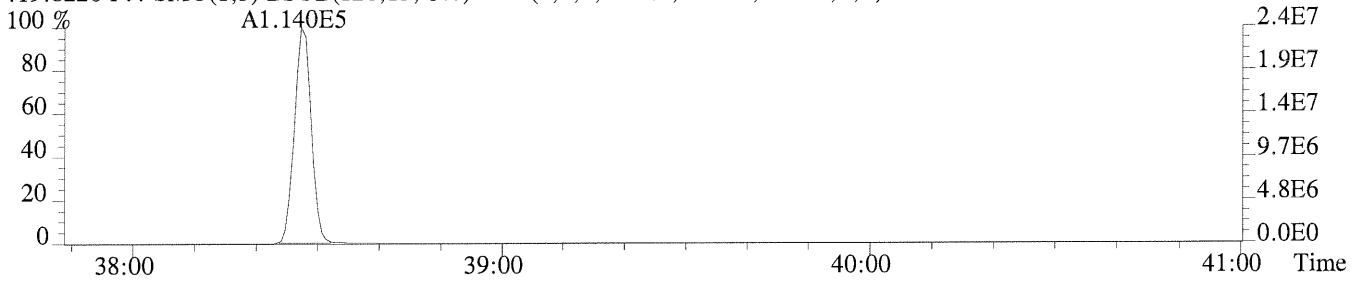
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1324.0,0.50%,F,F)



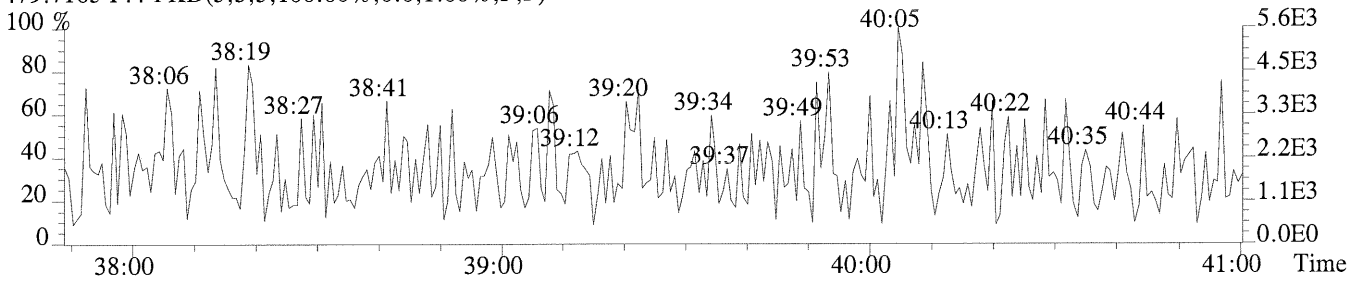
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1908.0,0.50%,F,F)



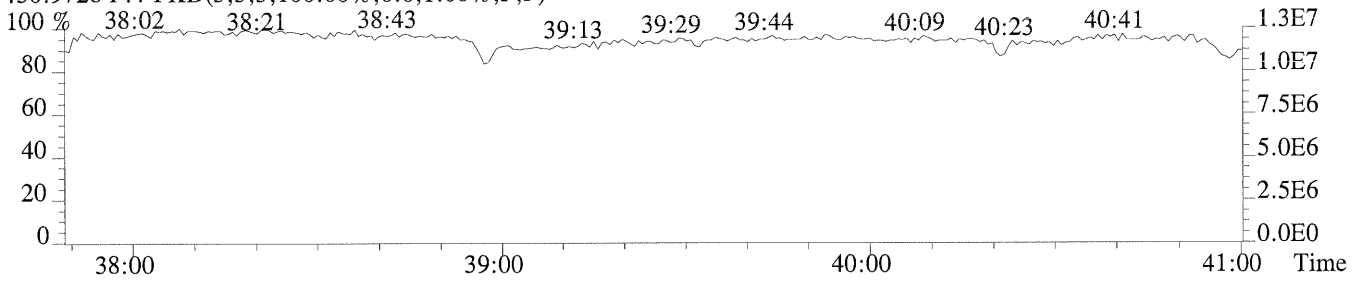
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3524.0,0.50%,F,F)



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

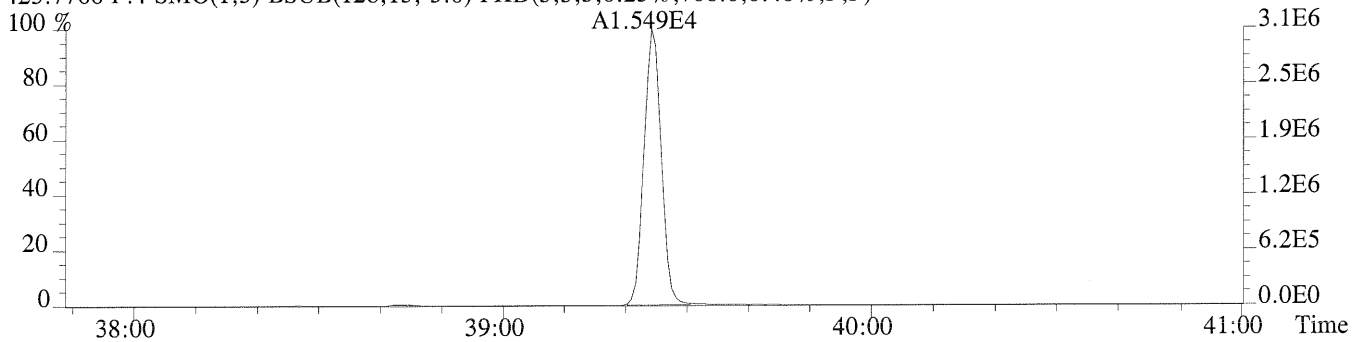


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

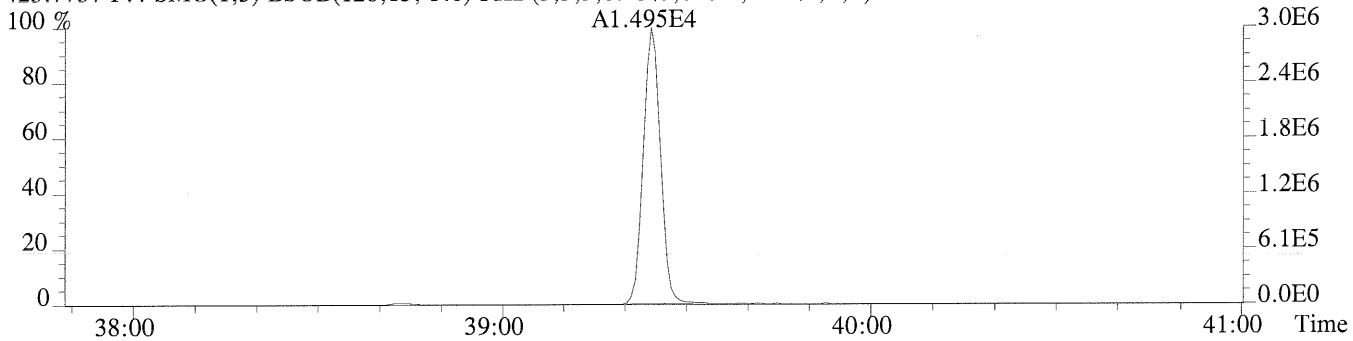


File:U212887 #1-290 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3

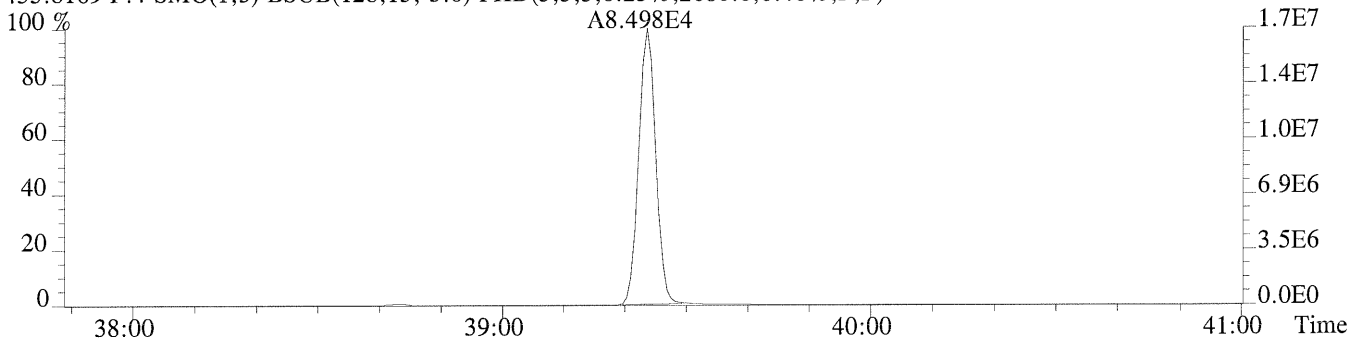
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,708.0,0.40%,F,F)



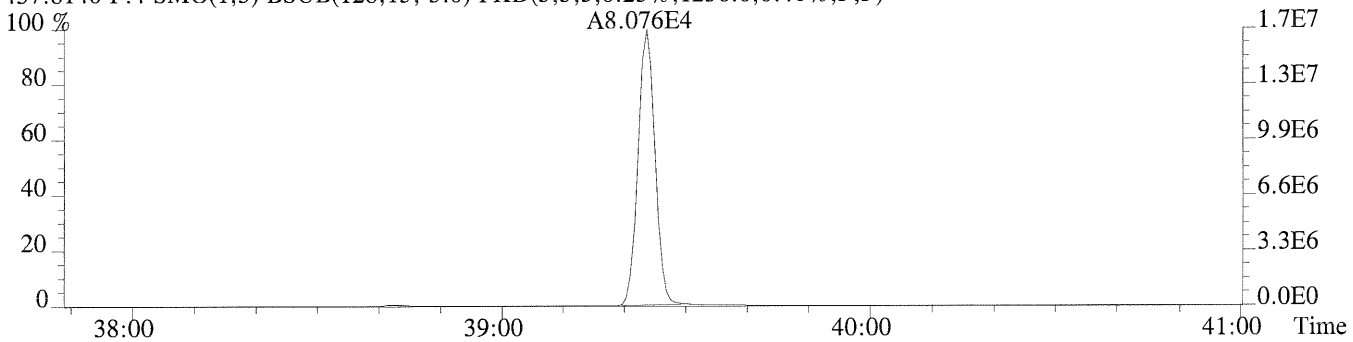
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,656.0,0.40%,F,F)



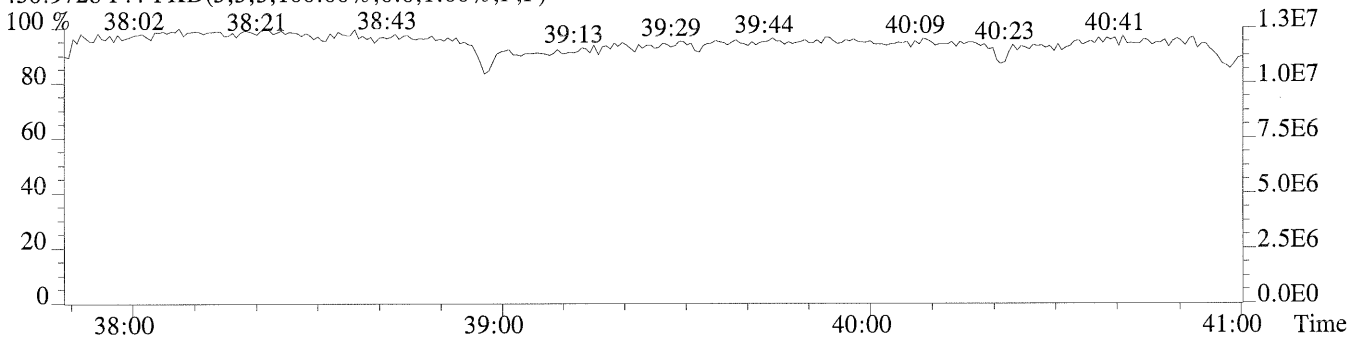
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2680.0,0.40%,F,F)



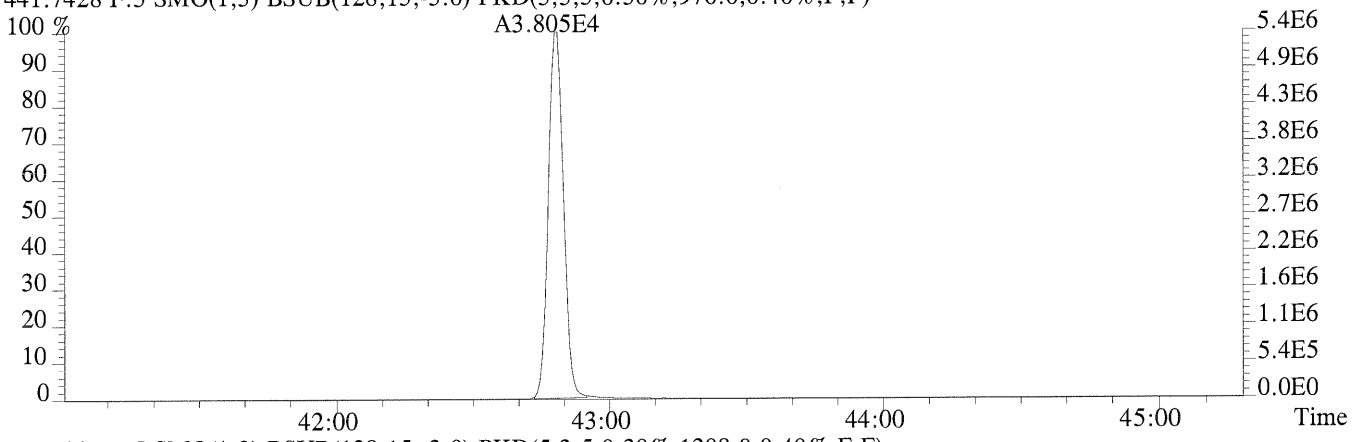
437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1236.0,0.40%,F,F)



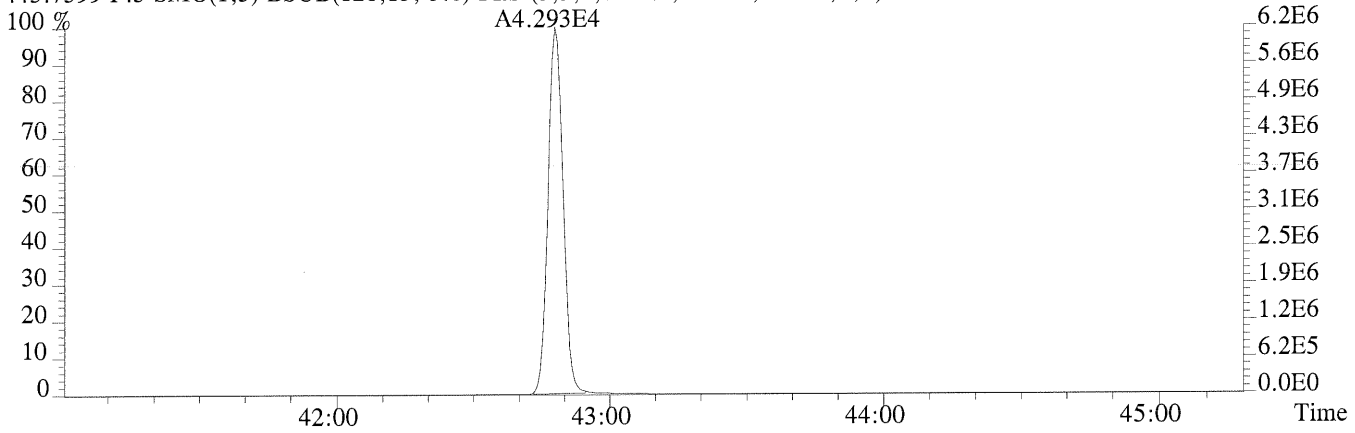
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



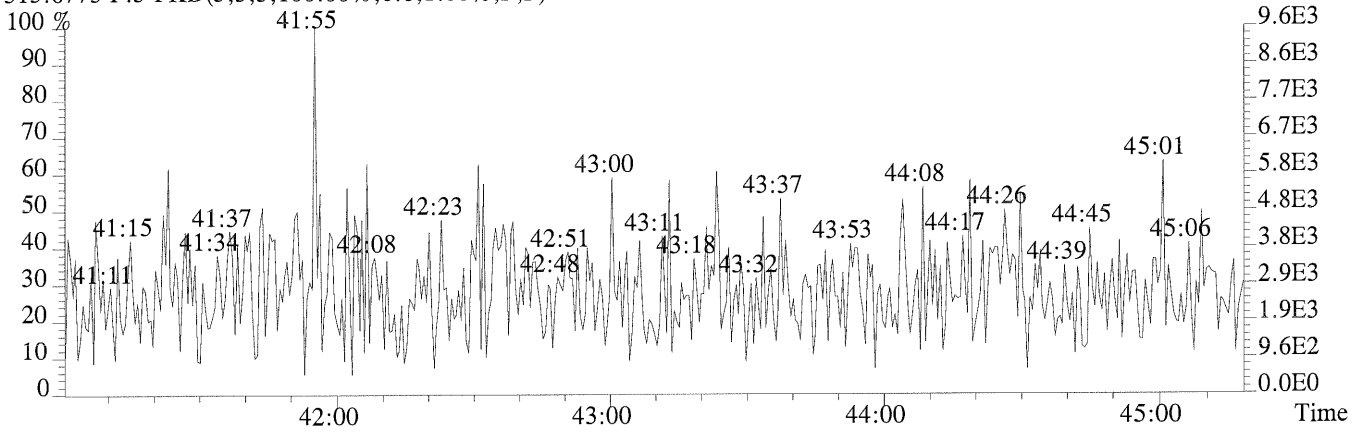
File:U212887 #1-474 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,976.0,0.40%,F,F)



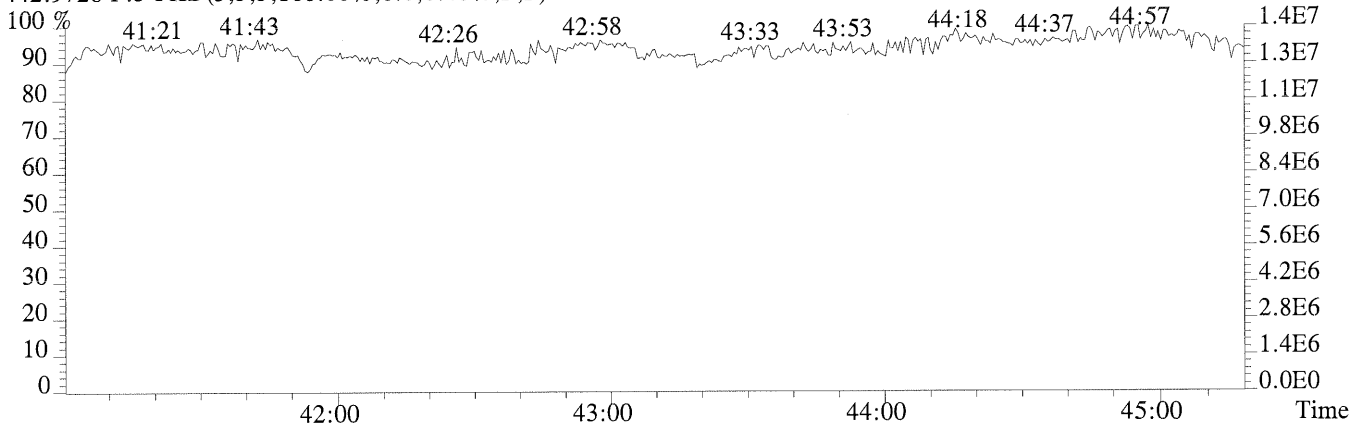
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1208.0,0.40%,F,F)



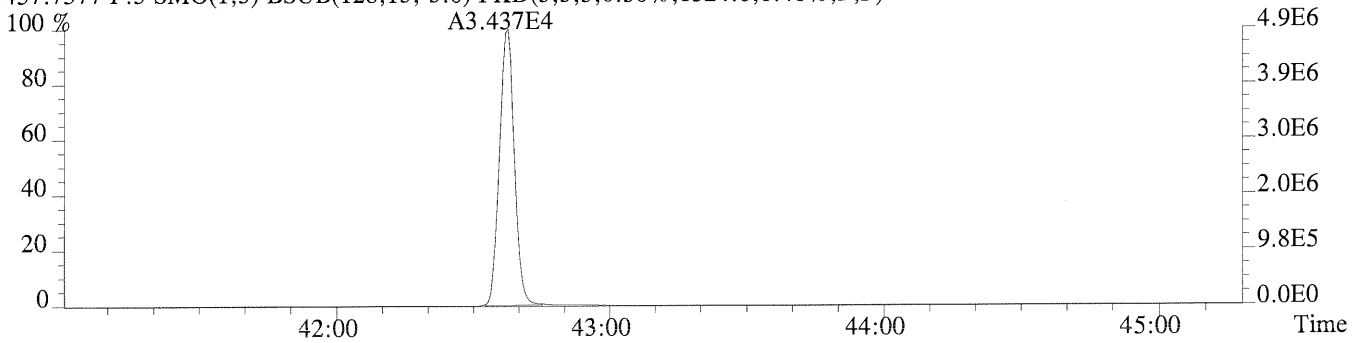
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



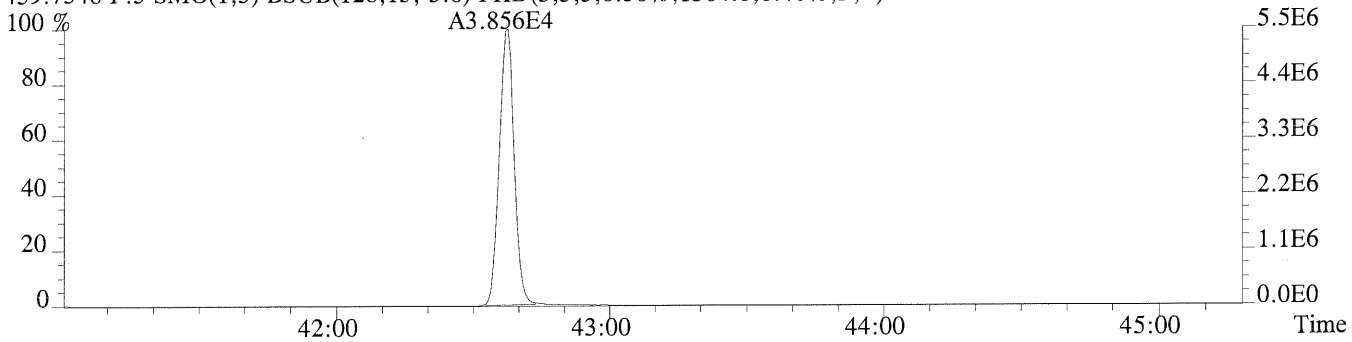
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



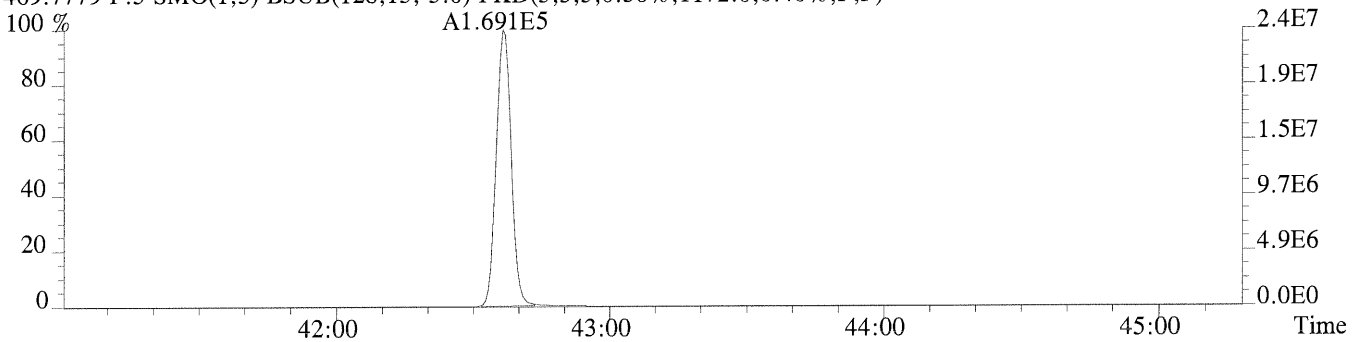
File:U212887 #1-474 Acq:10-DEC-2007 09:58:49 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC3
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1324.0,0.40%,F,F)



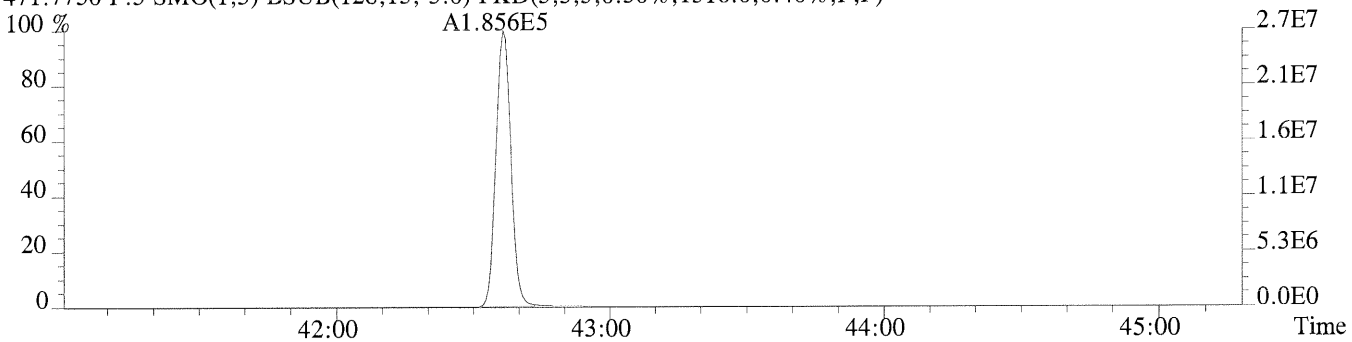
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1564.0,0.40%,F,F)



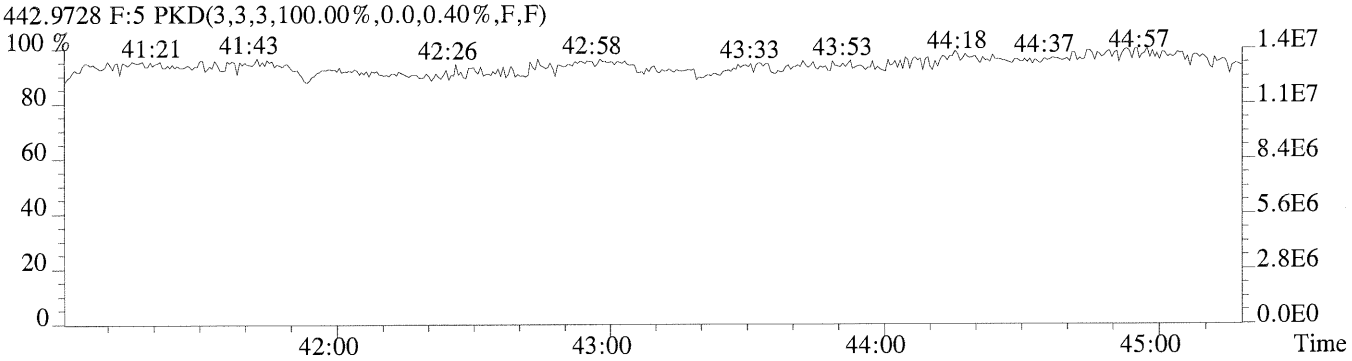
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1172.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1516.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC4

Run #4 Filename U212890 Samp: 1 Inj: 1 Acquired: 10-DEC-07 13:15:19
Processed: 10-DEC-07 15:07:33 Sample ID: ICAL HRCC4

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	28:14	6.583e+04	8.365e+04	0.79	yes	no
2	Unk	1,2,3,7,8-PeCDF	32:19	2.356e+05	1.528e+05	1.54	yes	no
3	Unk	2,3,4,7,8-PeCDF	33:01	2.431e+05	1.586e+05	1.53	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:44	2.065e+05	1.655e+05	1.25	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:50	1.958e+05	1.654e+05	1.18	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	36:18	1.913e+05	1.560e+05	1.23	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:59	1.681e+05	1.388e+05	1.21	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	38:28	1.669e+05	1.659e+05	1.01	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	1.333e+05	1.315e+05	1.01	yes	no
10	Unk	OCDF	42:48	2.889e+05	3.166e+05	0.91	yes	no
11	Unk	2,3,7,8-TCDD	29:00	5.276e+04	6.636e+04	0.79	yes	no
12	Unk	1,2,3,7,8-PeCDD	33:21	1.704e+05	1.099e+05	1.55	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	36:24	1.443e+05	1.175e+05	1.23	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	36:29	1.464e+05	1.191e+05	1.23	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:46	1.458e+05	1.188e+05	1.23	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	1.109e+05	1.066e+05	1.04	yes	no
17	Unk	OCDD	42:37	2.470e+05	2.801e+05	0.88	yes	no
18	IS	13C-2,3,7,8-TCDF	28:13	7.107e+04	9.023e+04	0.79	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	32:18	1.055e+05	6.744e+04	1.56	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:43	1.109e+05	2.120e+05	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:27	7.169e+04	1.617e+05	0.44	yes	no
22	IS	13C-2,3,7,8-TCDD	28:59	5.462e+04	7.035e+04	0.78	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	33:20	7.466e+04	4.800e+04	1.56	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	36:28	1.363e+05	1.078e+05	1.26	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:24	1.200e+05	1.142e+05	1.05	yes	no
26	IS	13C-OCDD	42:36	2.446e+05	2.712e+05	0.90	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	28:47	5.189e+04	6.693e+04	0.78	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:45	1.436e+05	1.140e+05	1.26	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	29:00	1.185e+05				

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC4

Run #4 Filename U212890 #1 Samp: 1 Inj: 1 Acquired: 10-DEC-07 13:15:19

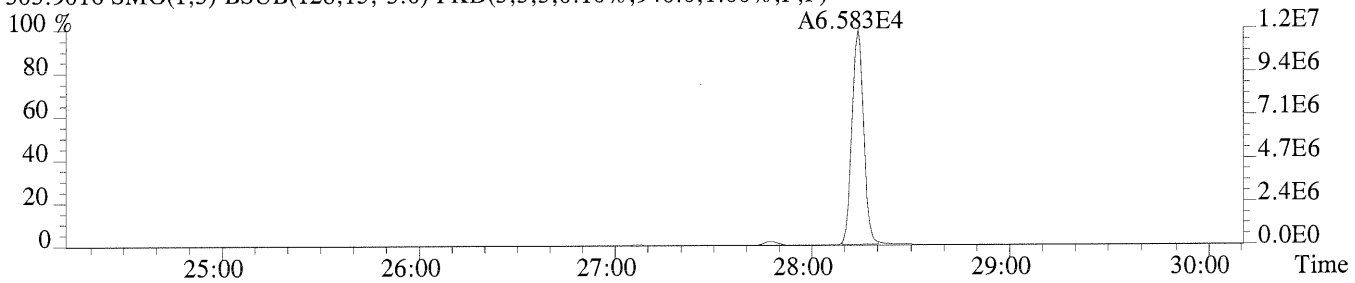
Processed: 10-DEC-07 15:07:33 LAB. ID: ICAL HRCC4

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	1.17e+07	9.40e+02	1.2e+04	1.49e+07	9.56e+02	1.6e+04
2	1,2,3,7,8-PeCDF	4.73e+07	3.44e+02	1.4e+05	3.04e+07	1.12e+03	2.7e+04
3	2,3,4,7,8-PeCDF	4.95e+07	3.44e+02	1.4e+05	3.25e+07	1.12e+03	2.9e+04
4	1,2,3,4,7,8-HxCDF	4.53e+07	7.56e+02	6.0e+04	3.74e+07	6.80e+02	5.5e+04
5	1,2,3,6,7,8-HxCDF	4.40e+07	7.56e+02	5.8e+04	3.59e+07	6.80e+02	5.3e+04
6	2,3,4,6,7,8-HxCDF	4.36e+07	7.56e+02	5.8e+04	3.60e+07	6.80e+02	5.3e+04
7	1,2,3,7,8,9-HxCDF	3.67e+07	7.56e+02	4.9e+04	3.04e+07	6.80e+02	4.5e+04
8	1,2,3,4,6,7,8-HpCDF	3.54e+07	3.69e+03	9.6e+03	3.54e+07	3.50e+03	1.0e+04
9	1,2,3,4,7,8,9-HpCDF	2.56e+07	3.69e+03	6.9e+03	2.53e+07	3.50e+03	7.2e+03
10	OCDF	3.96e+07	8.16e+02	4.9e+04	4.41e+07	9.24e+02	4.8e+04
11	2,3,7,8-TCDD	1.01e+07	8.08e+02	1.3e+04	1.28e+07	3.00e+02	4.3e+04
12	1,2,3,7,8-PeCDD	3.47e+07	8.44e+02	4.1e+04	2.22e+07	7.92e+02	2.8e+04
13	1,2,3,4,7,8-HxCDD	3.35e+07	6.88e+02	4.9e+04	2.69e+07	9.04e+02	3.0e+04
14	1,2,3,6,7,8-HxCDD	3.24e+07	6.88e+02	4.7e+04	2.62e+07	9.04e+02	2.9e+04
15	1,2,3,7,8,9-HxCDD	3.34e+07	6.88e+02	4.9e+04	2.73e+07	9.04e+02	3.0e+04
16	1,2,3,4,6,7,8-HpCDD	2.28e+07	9.96e+02	2.3e+04	2.20e+07	8.64e+02	2.5e+04
17	OCDD	3.55e+07	1.17e+03	3.0e+04	4.04e+07	1.40e+03	2.9e+04
18	13C-2,3,7,8-TCDF	1.24e+07	3.08e+03	4.0e+03	1.59e+07	1.54e+03	1.0e+04
19	13C-1,2,3,7,8-PeCDF	2.15e+07	4.52e+02	4.7e+04	1.37e+07	8.64e+02	1.6e+04
20	13C-1,2,3,4,7,8-HxCDF	2.44e+07	5.88e+02	4.1e+04	4.68e+07	4.68e+02	1.0e+05
21	13C-1,2,3,4,6,7,8-HpCDF	1.51e+07	2.98e+03	5.0e+03	3.44e+07	5.43e+03	6.3e+03
22	13C-2,3,7,8-TCDD	1.00e+07	3.38e+03	3.0e+03	1.29e+07	1.36e+03	9.5e+03
23	13C-1,2,3,7,8-PeCDD	1.55e+07	7.68e+02	2.0e+04	1.01e+07	4.68e+02	2.1e+04
24	13C-1,2,3,6,7,8-HxCDD	3.08e+07	1.69e+03	1.8e+04	2.43e+07	1.43e+03	1.7e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.49e+07	1.25e+03	2.0e+04	2.38e+07	5.28e+02	4.5e+04
26	13C-OCDD	3.57e+07	1.04e+03	3.4e+04	3.94e+07	1.21e+03	3.3e+04
27	13C-1,2,3,4-TCDD	9.45e+06	3.38e+03	2.8e+03	1.23e+07	1.36e+03	9.1e+03
28	13C-1,2,3,7,8,9-HxCDD	3.26e+07	1.69e+03	1.9e+04	2.60e+07	1.43e+03	1.8e+04
29	37Cl-2,3,7,8-TCDD	2.26e+07	5.76e+02	3.9e+04			

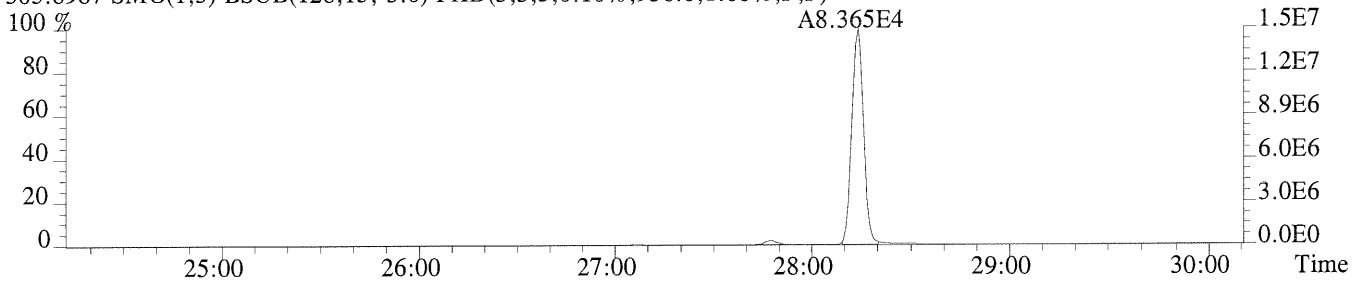
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U212890 #1-498 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

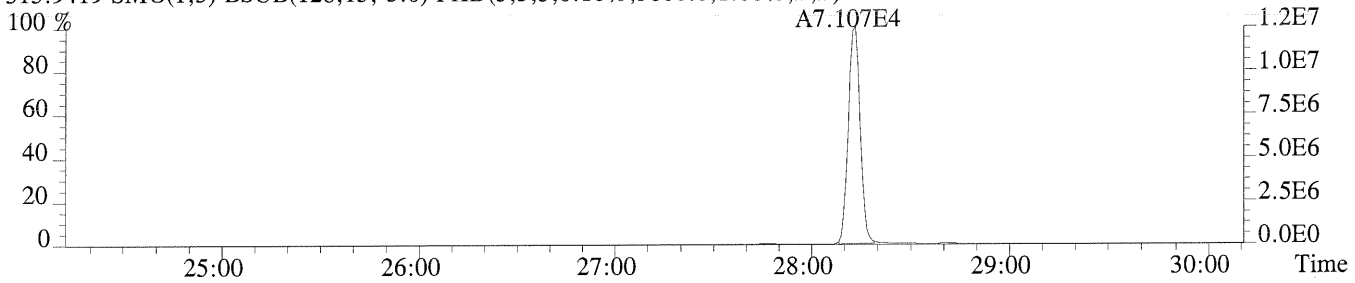
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,940.0,1.00%,F,F)



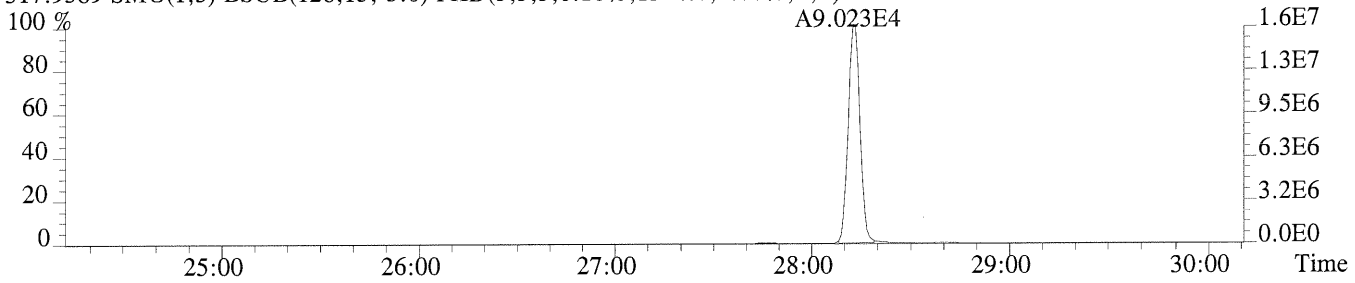
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,956.0,1.00%,F,F)



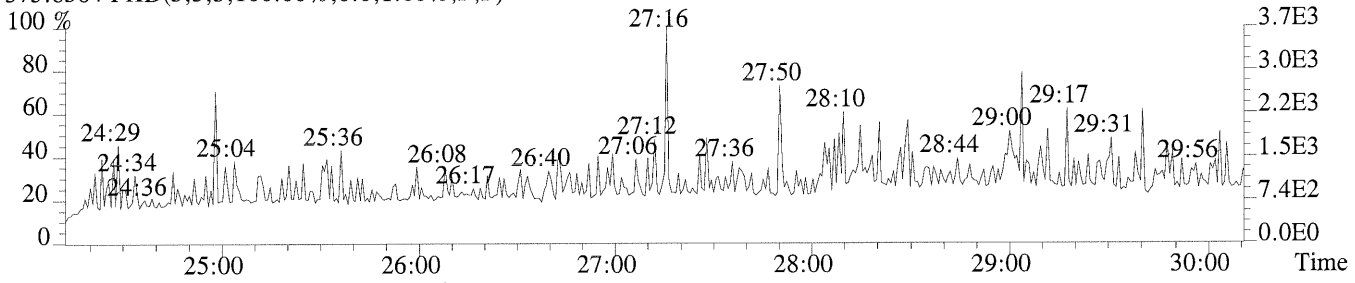
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3080.0,1.00%,F,F)



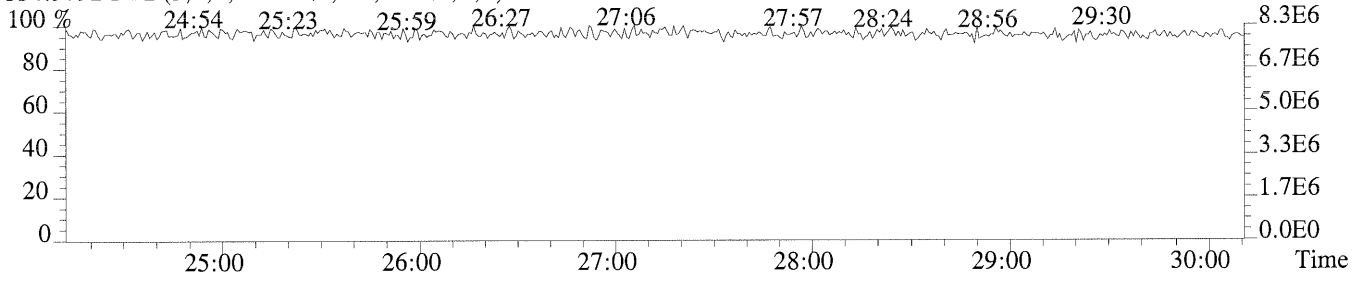
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1544.0,1.00%,F,F)



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

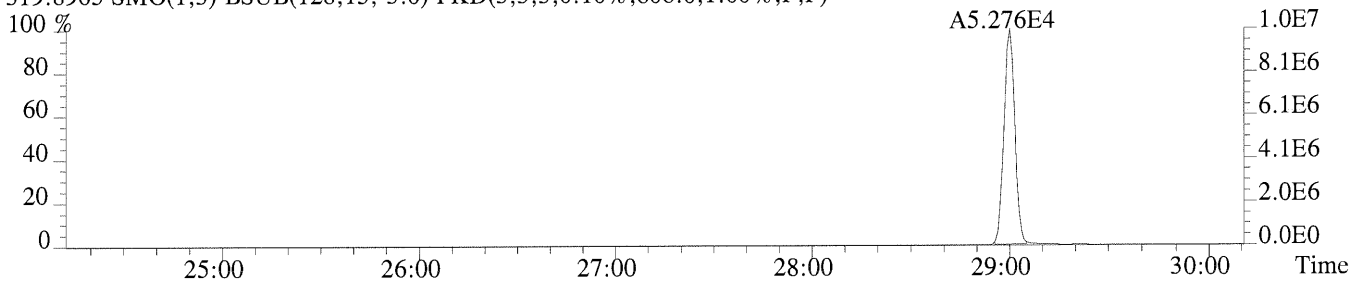


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

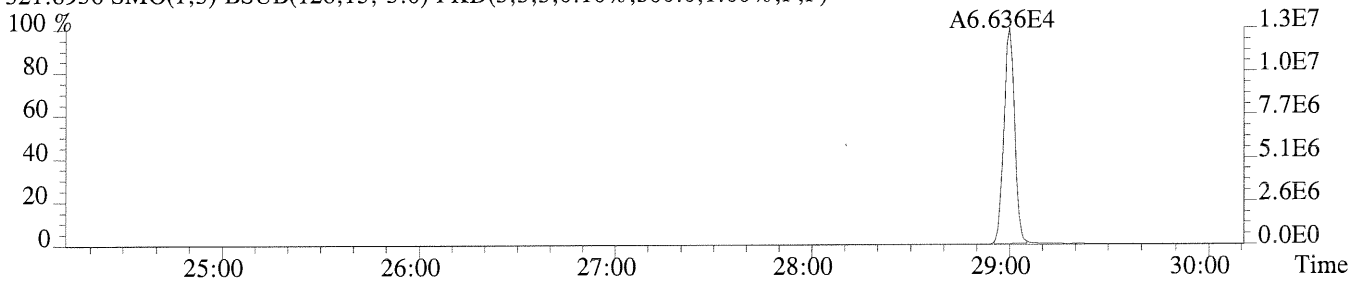


File:U212890 #1-498 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

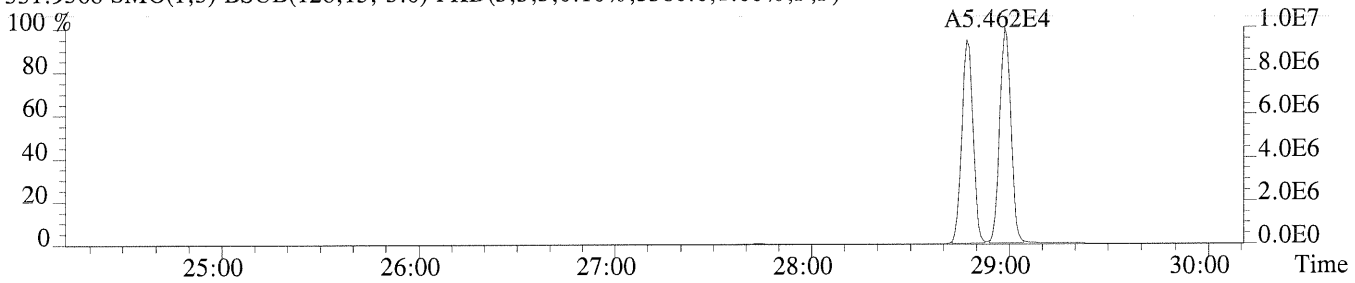
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,808.0,1.00%,F,F)



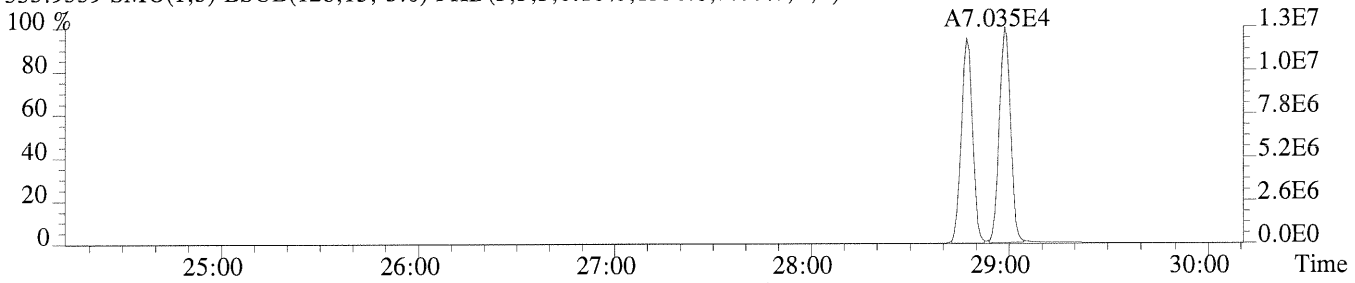
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,300.0,1.00%,F,F)



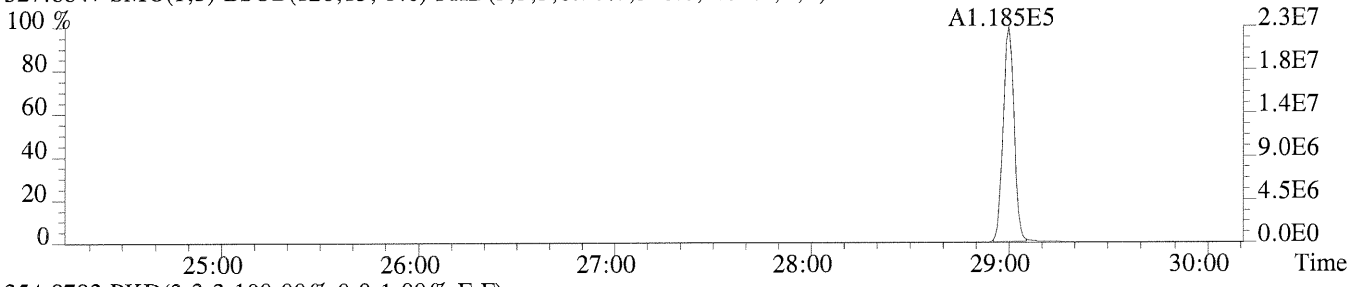
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,3380.0,1.00%,F,F)



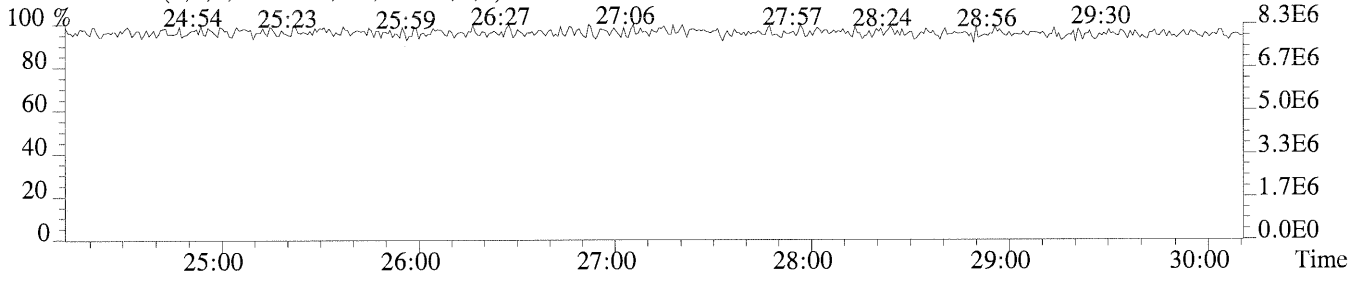
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1356.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,576.0,1.00%,F,F)

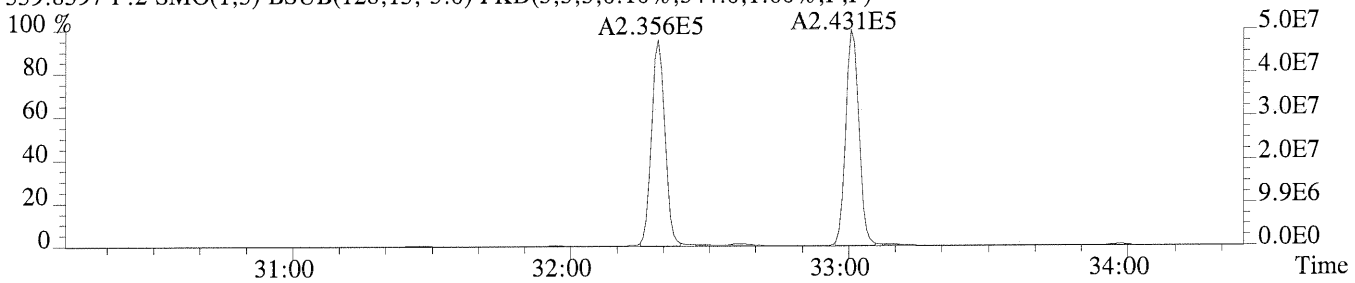


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

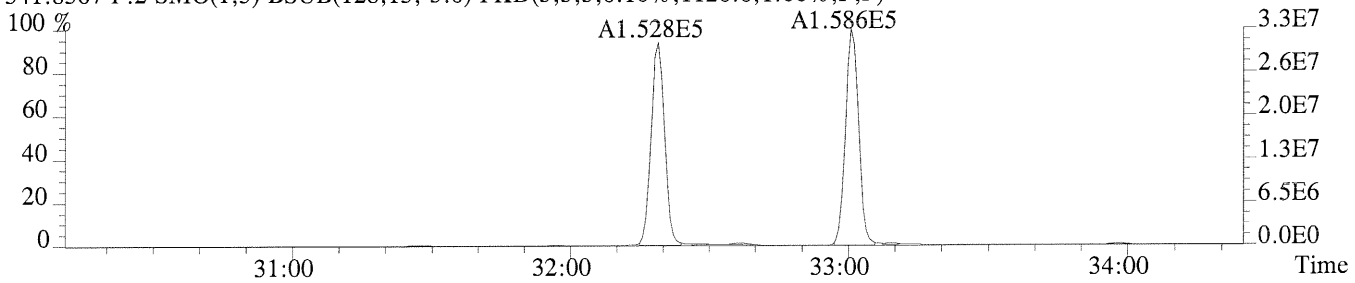


File:U212890 #1-384 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

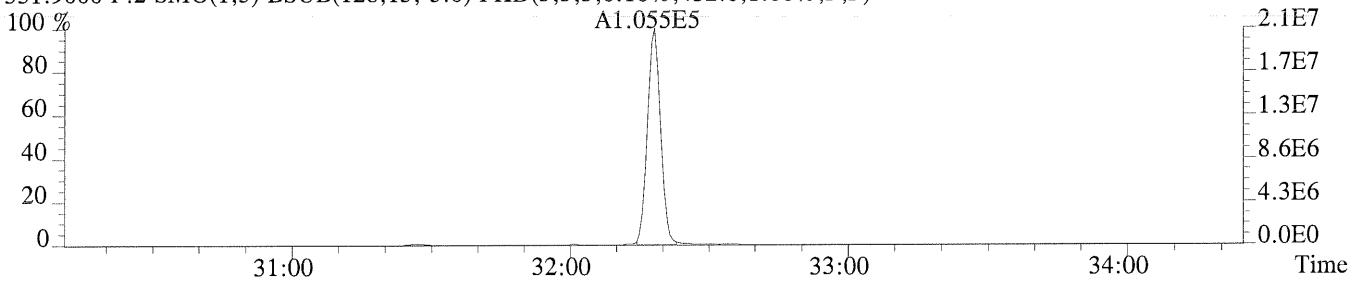
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,344.0,1.00%,F,F)



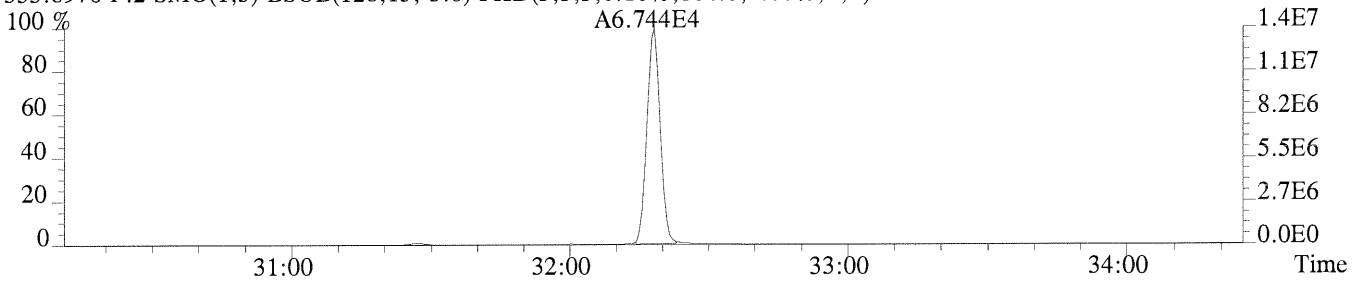
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1120.0,1.00%,F,F)



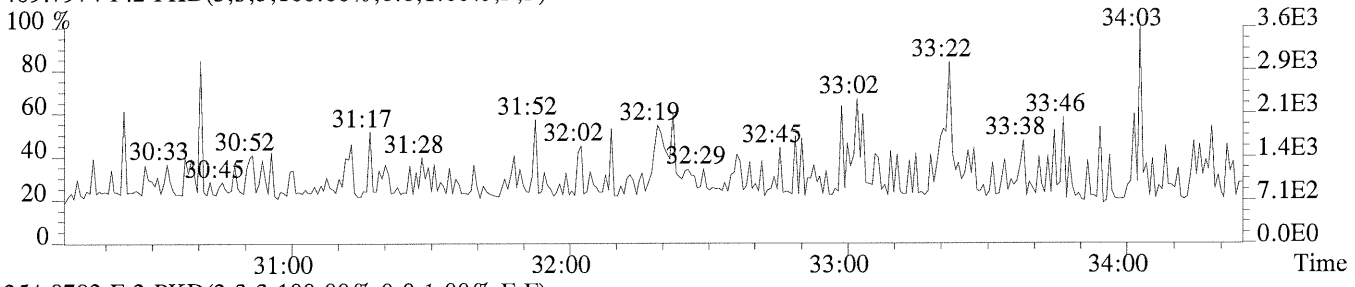
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,452.0,1.00%,F,F)



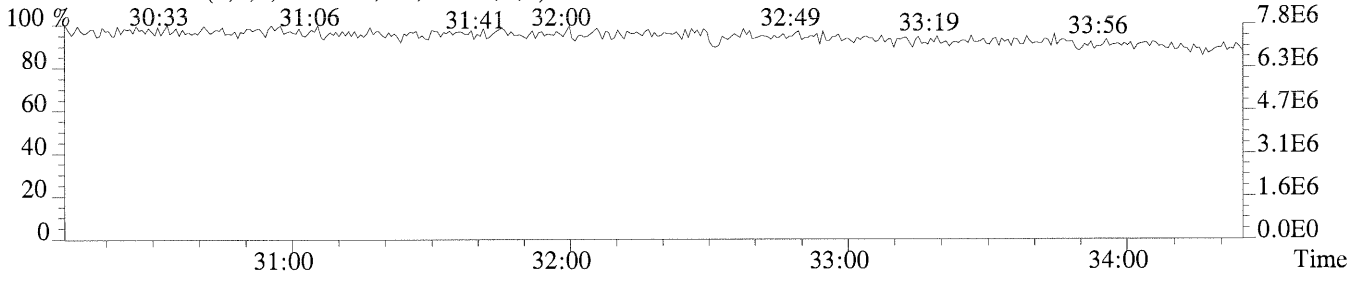
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,864.0,1.00%,F,F)



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

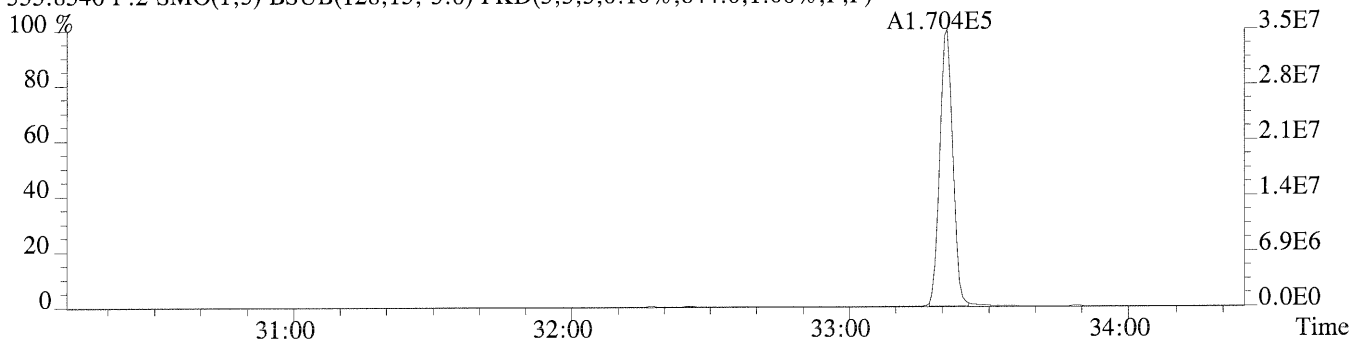


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

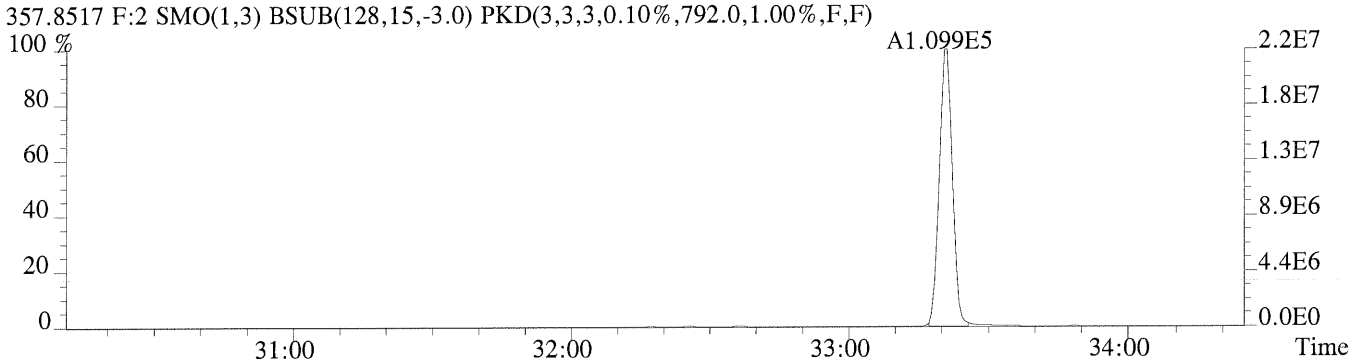


File:U212890 #1-384 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

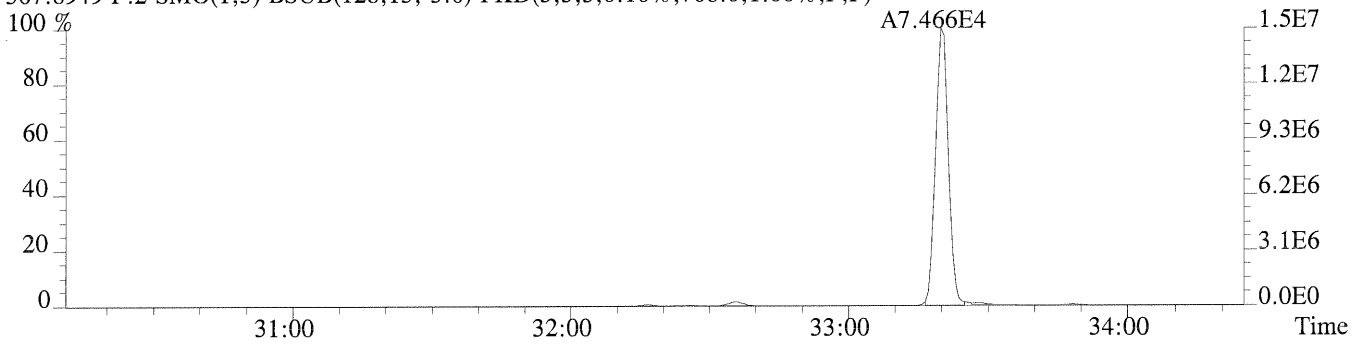
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,F)



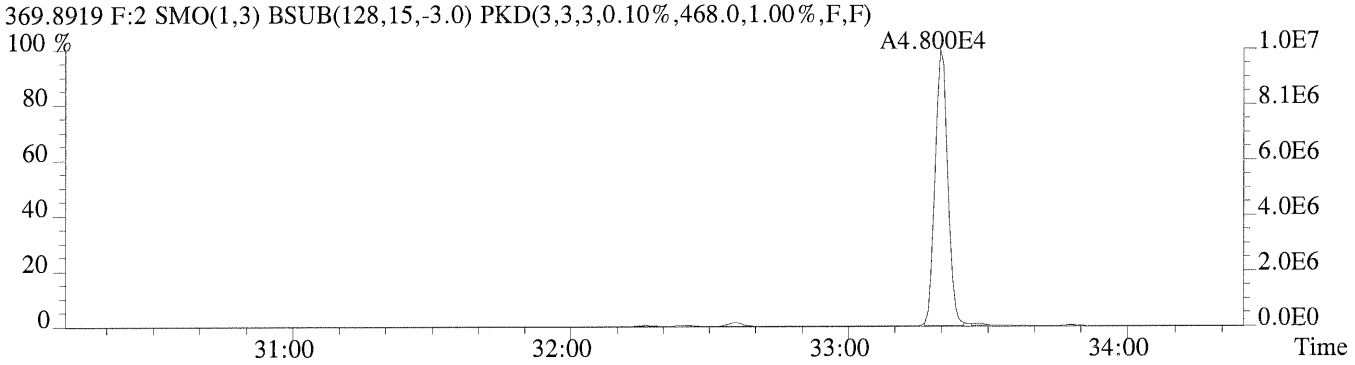
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,792.0,1.00%,F,F)



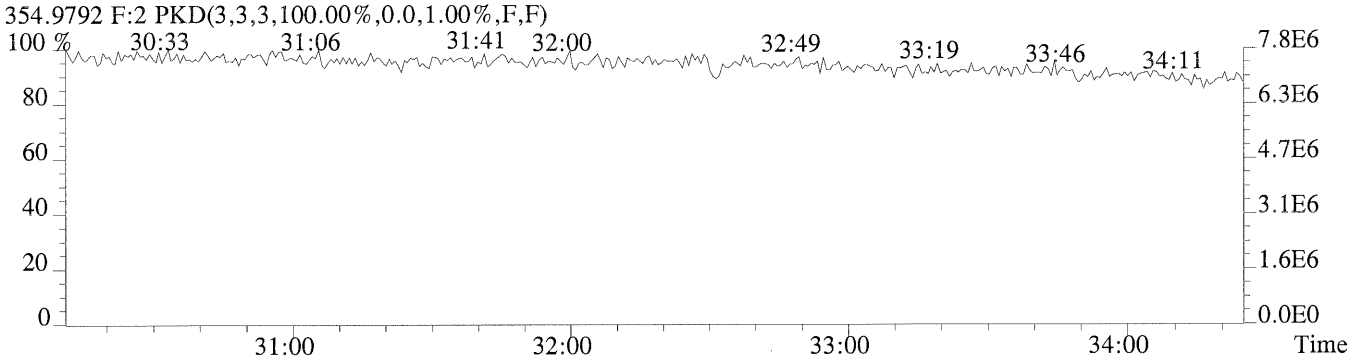
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,768.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,468.0,1.00%,F,F)

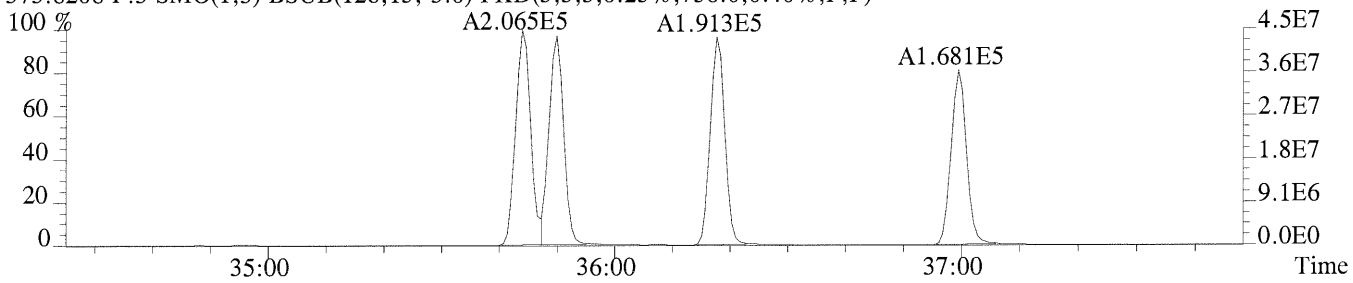


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

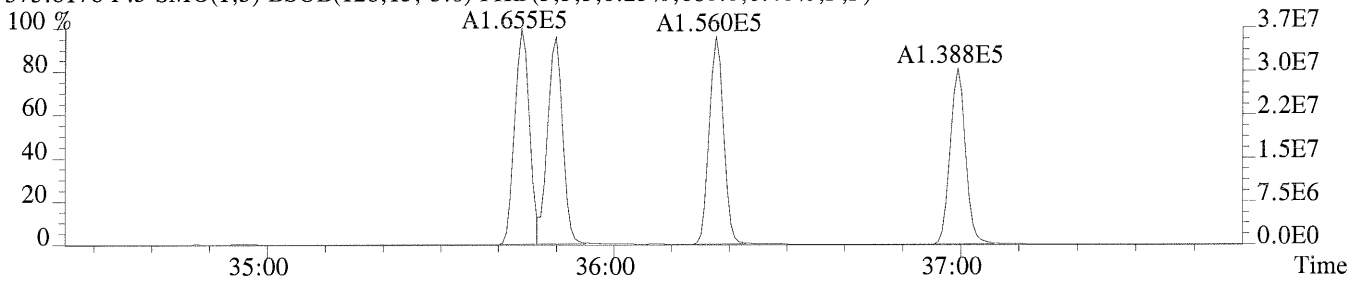


File:U212890 #1-308 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

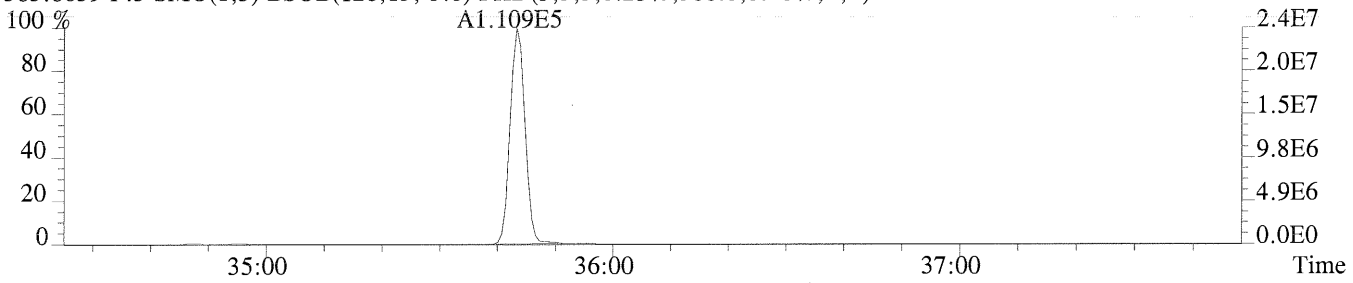
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,756.0,0.40%,F,F)



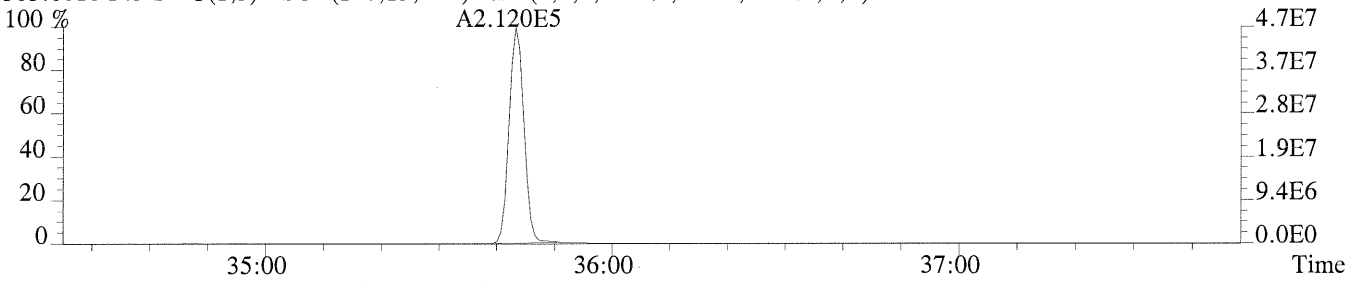
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,680.0,0.40%,F,F)



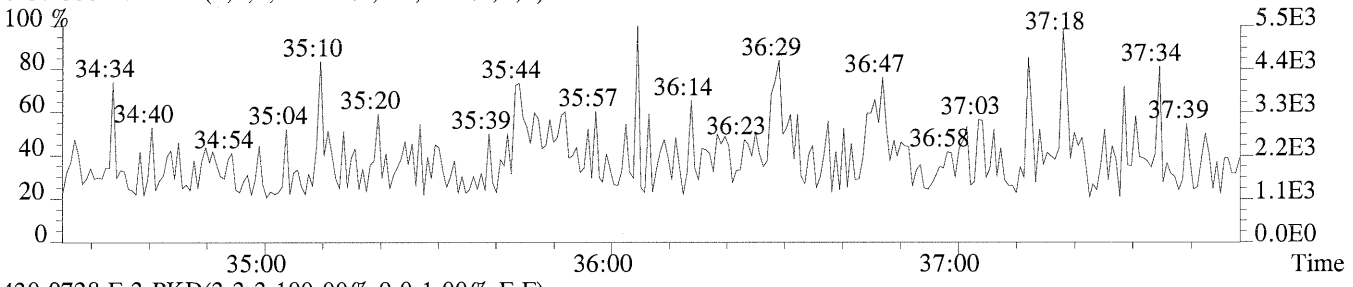
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,588.0,0.40%,F,F)



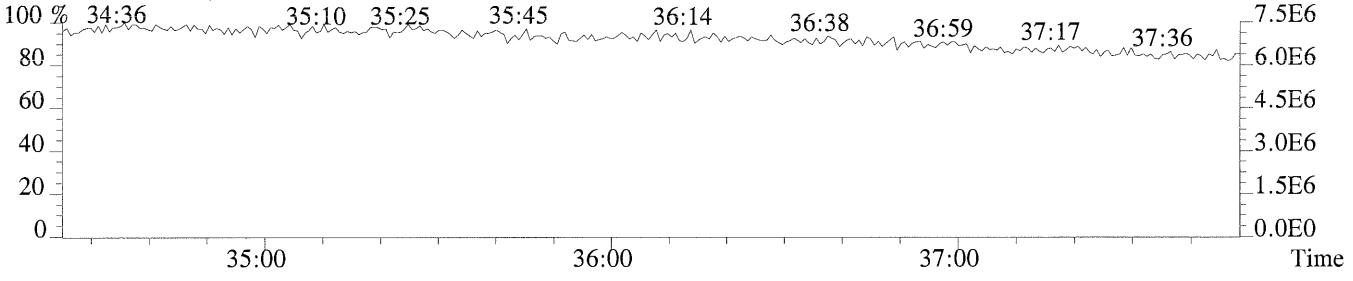
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,468.0,0.40%,F,F)



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

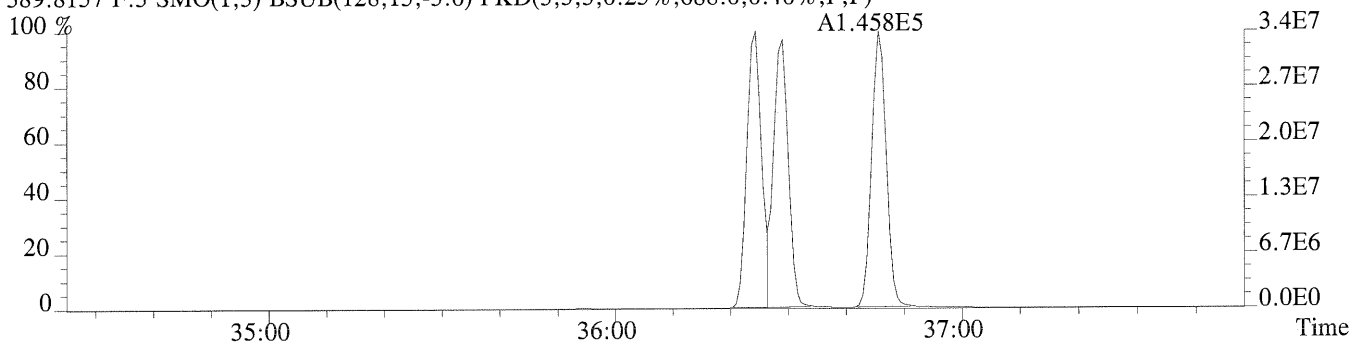


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

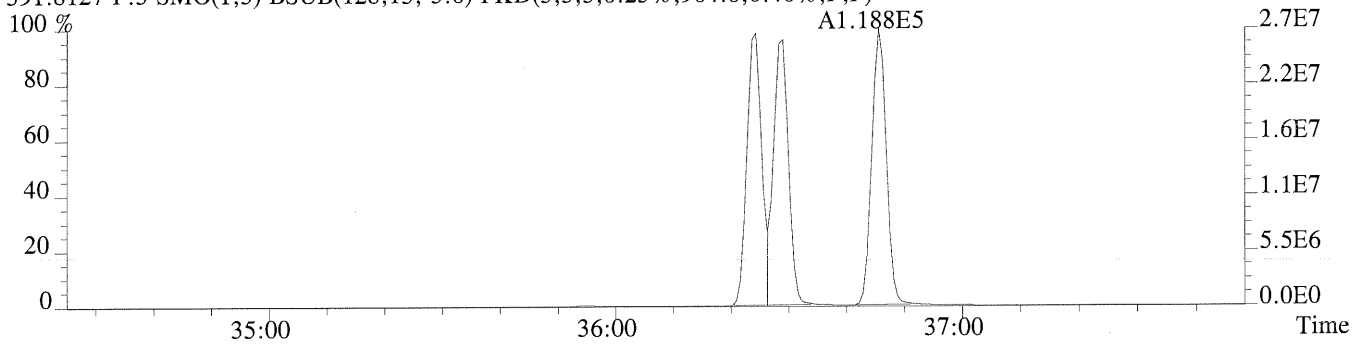


File:U212890 #1-308 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

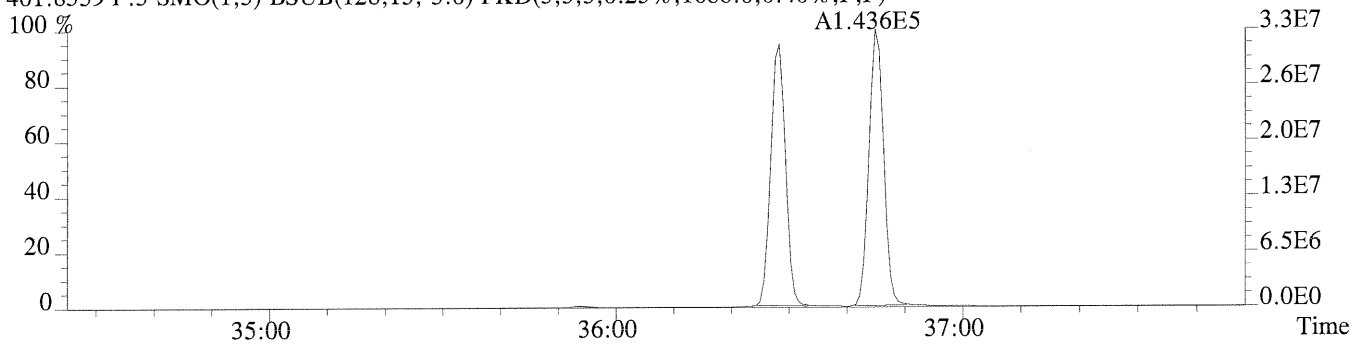
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,688.0,0.40%,F,F)



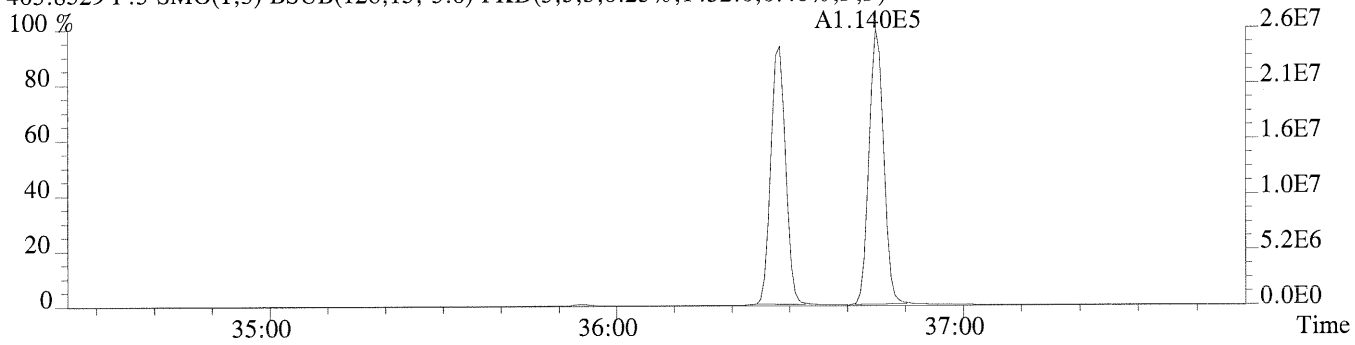
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,904.0,0.40%,F,F)



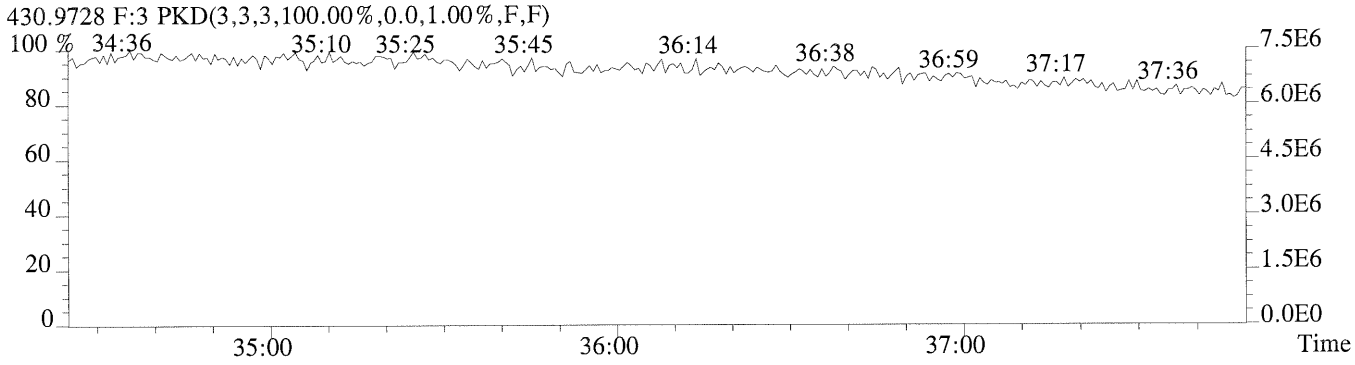
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1688.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1432.0,0.40%,F,F)

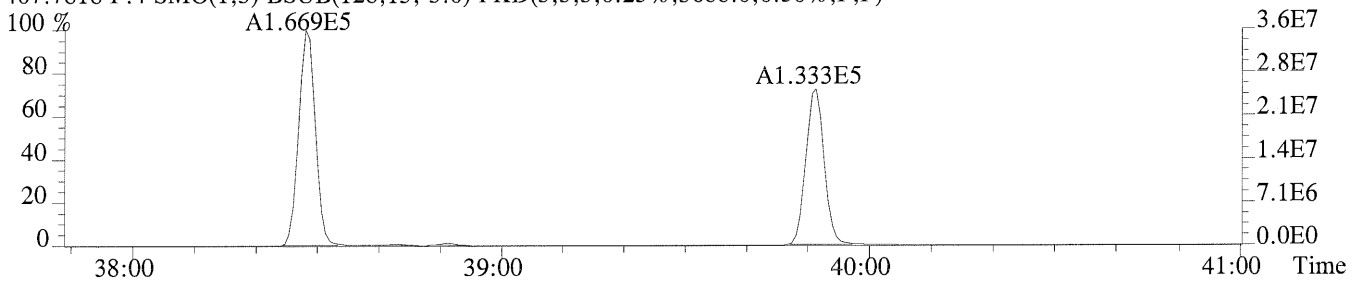


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

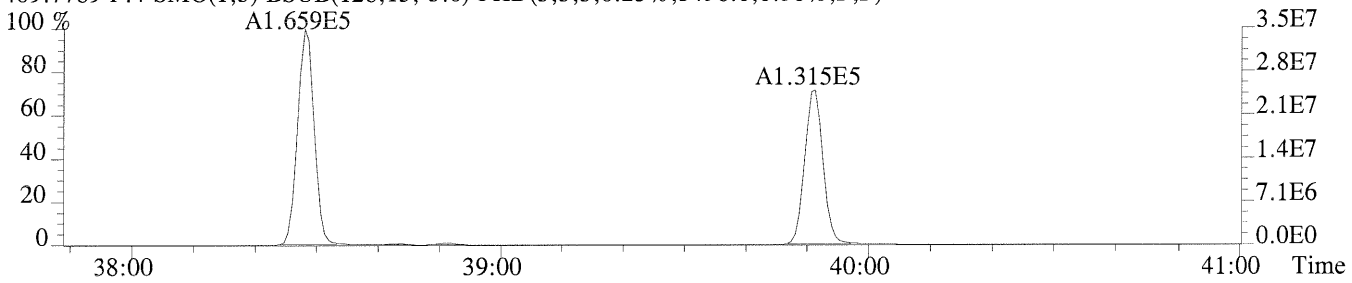


File:U212890 #1-290 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

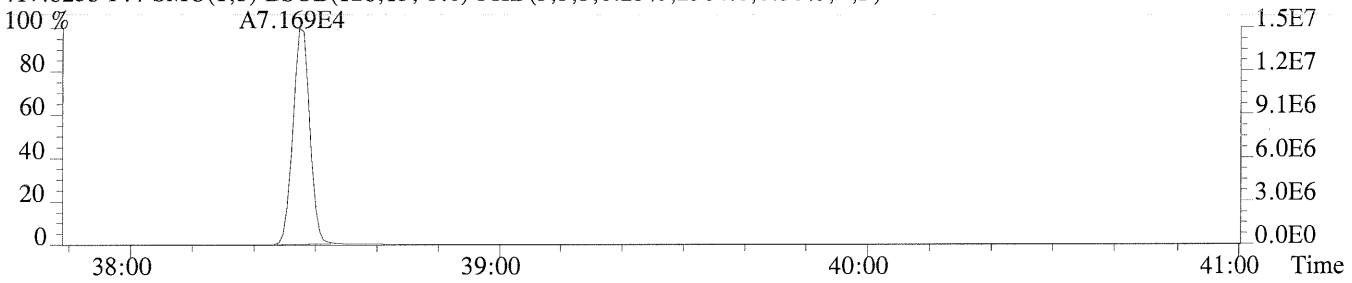
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3688.0,0.50%,F,F)



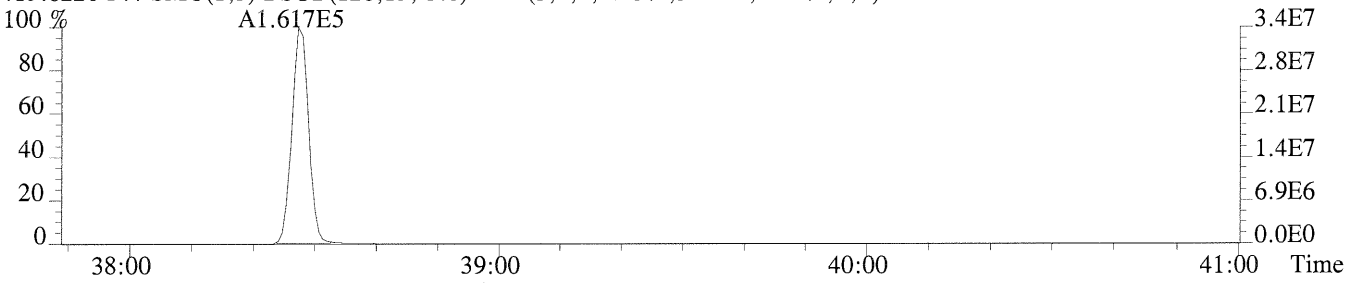
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,3496.0,0.50%,F,F)



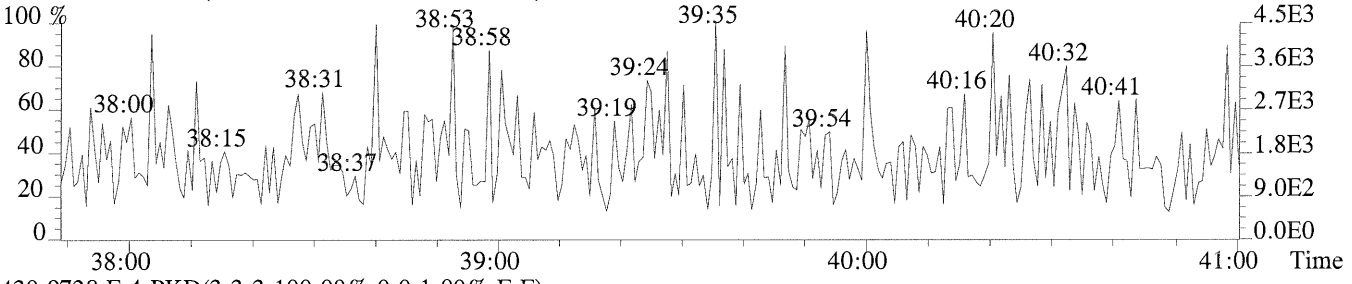
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2984.0,0.50%,F,F)



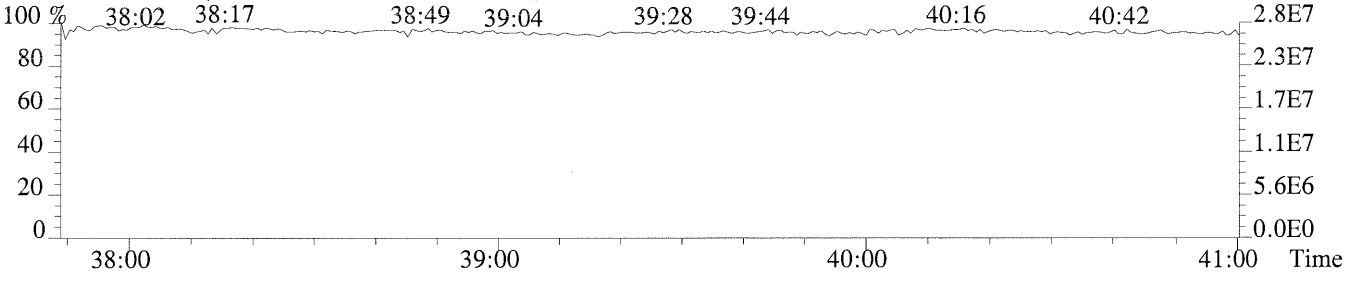
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,5432.0,0.50%,F,F)



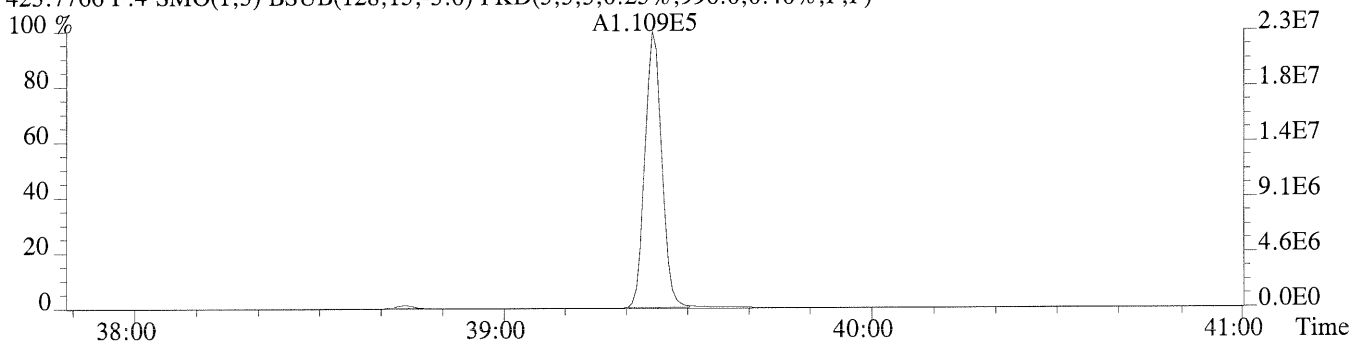
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



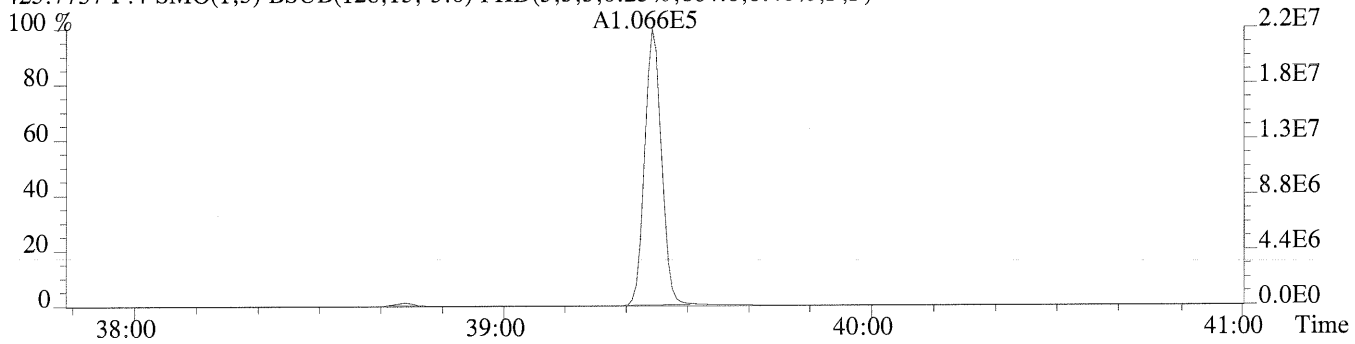
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



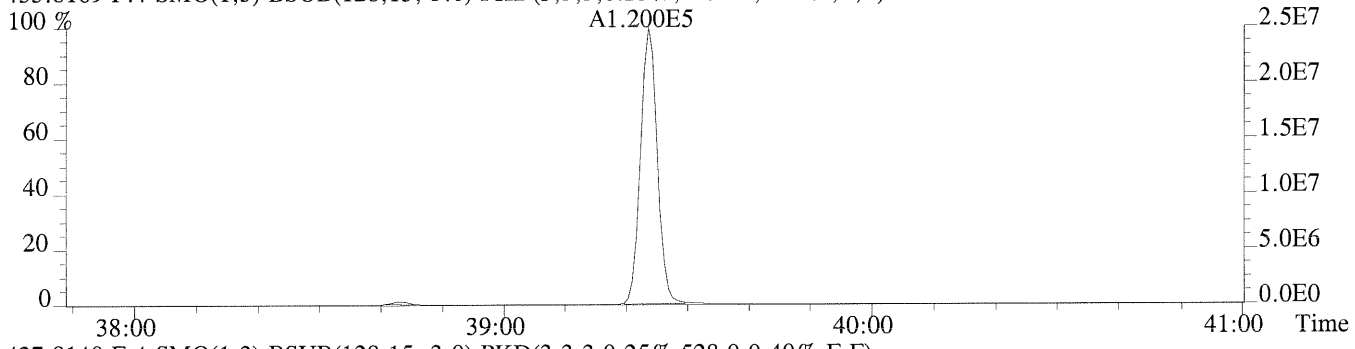
File:U212890 #1-290 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,996.0,0.40%,F,F)



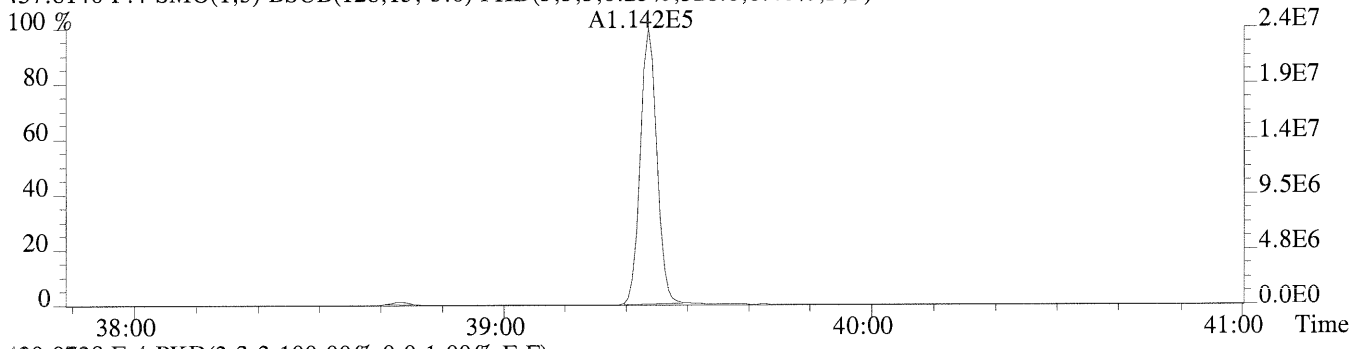
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,864.0,0.40%,F,F)



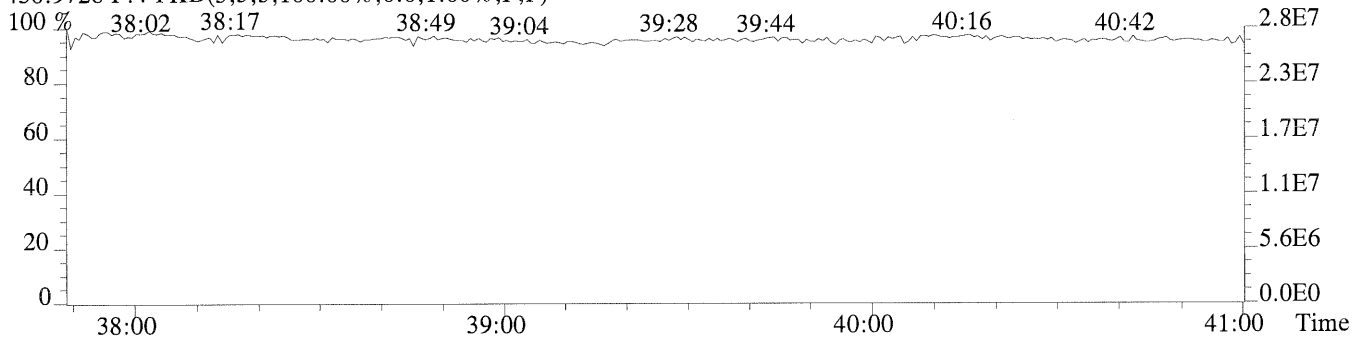
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1252.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,528.0,0.40%,F,F)

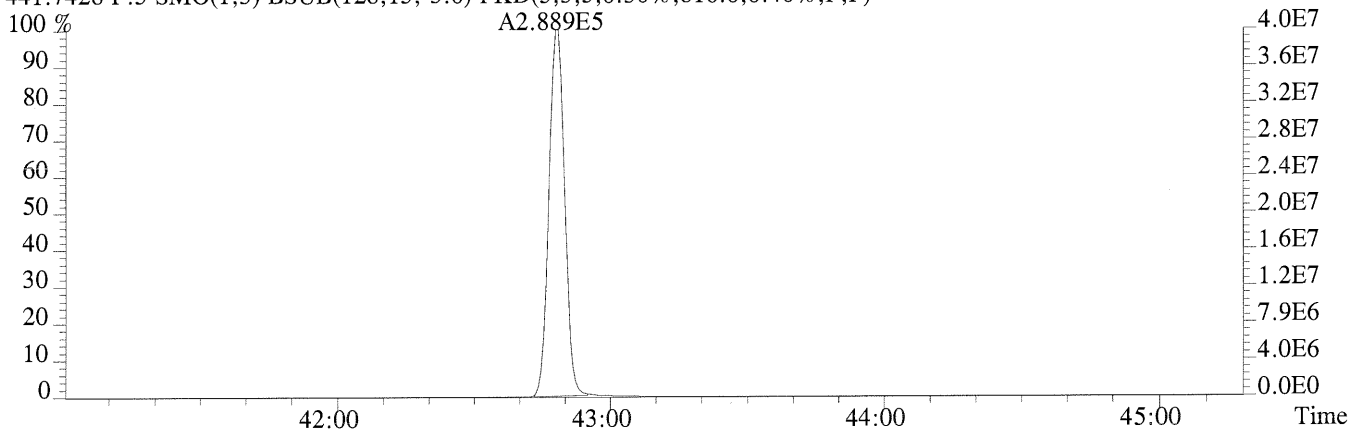


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

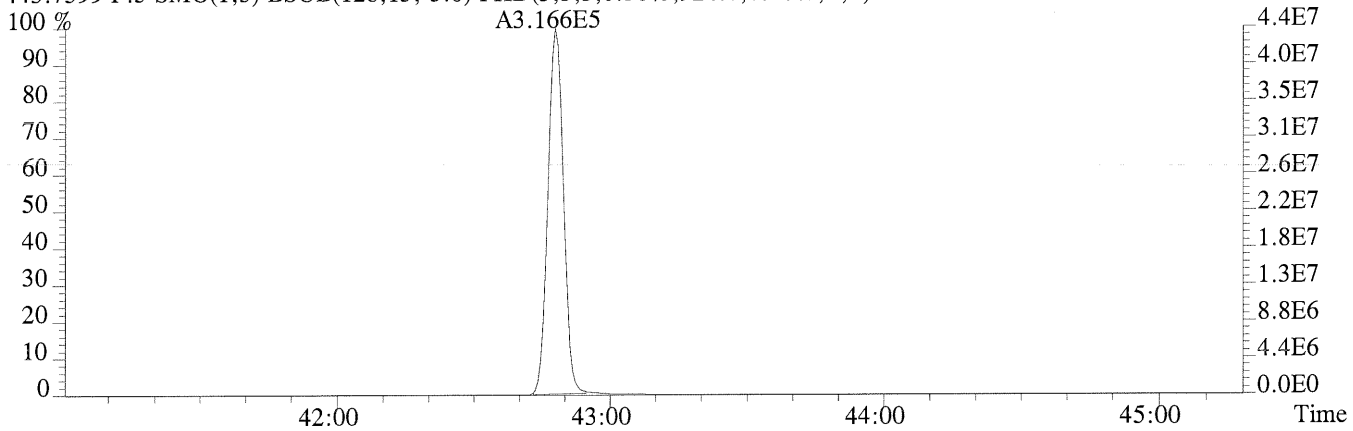


File:U212890 #1-474 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4

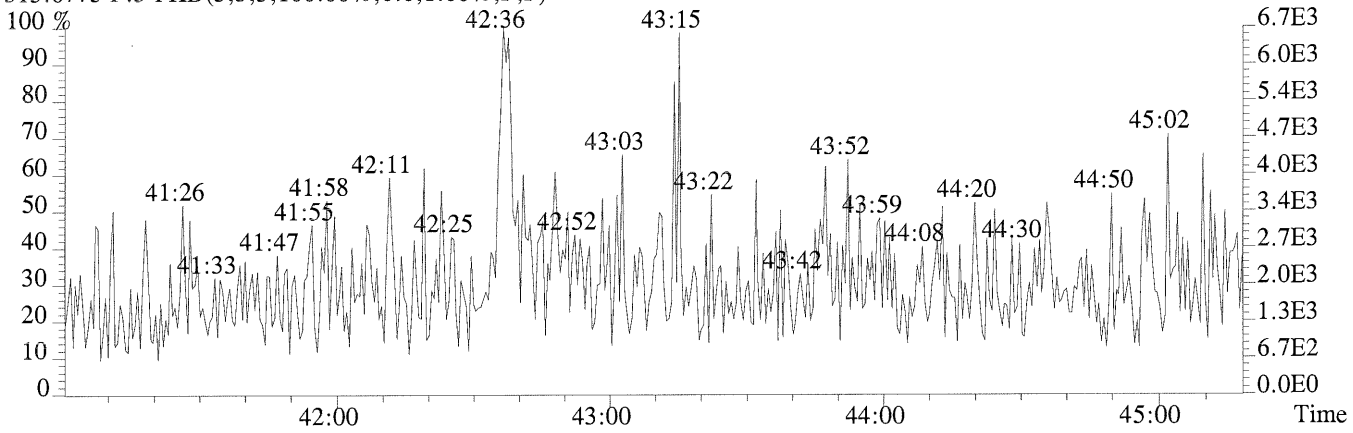
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,816.0,0.40%,F,F)



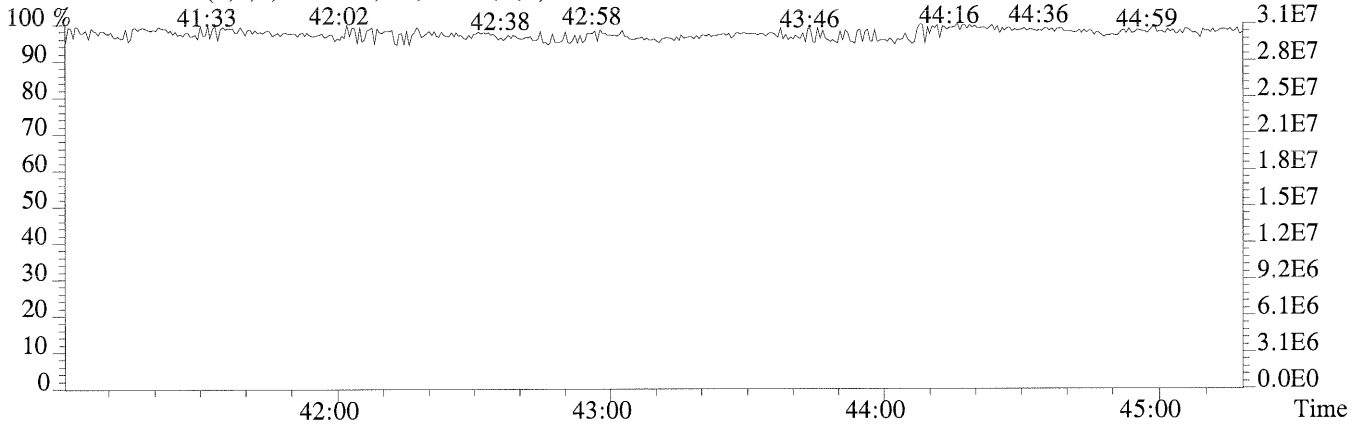
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,924.0,0.40%,F,F)



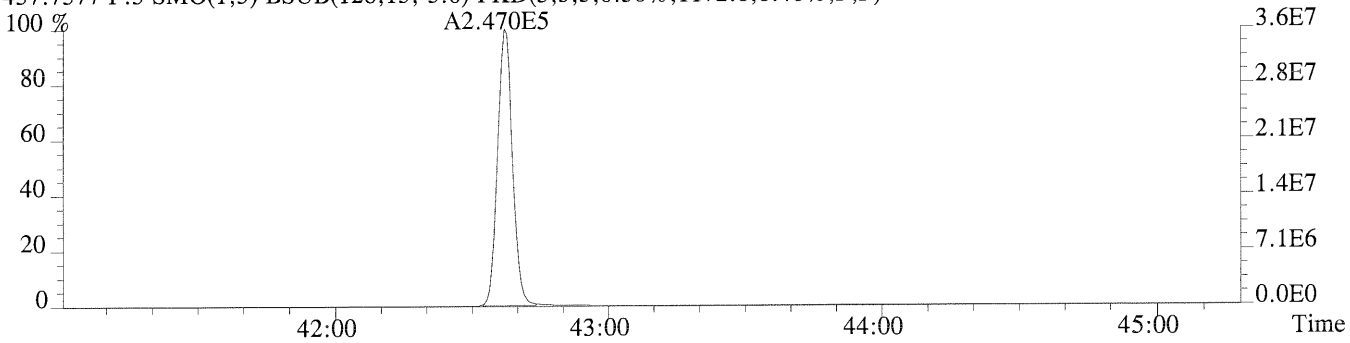
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



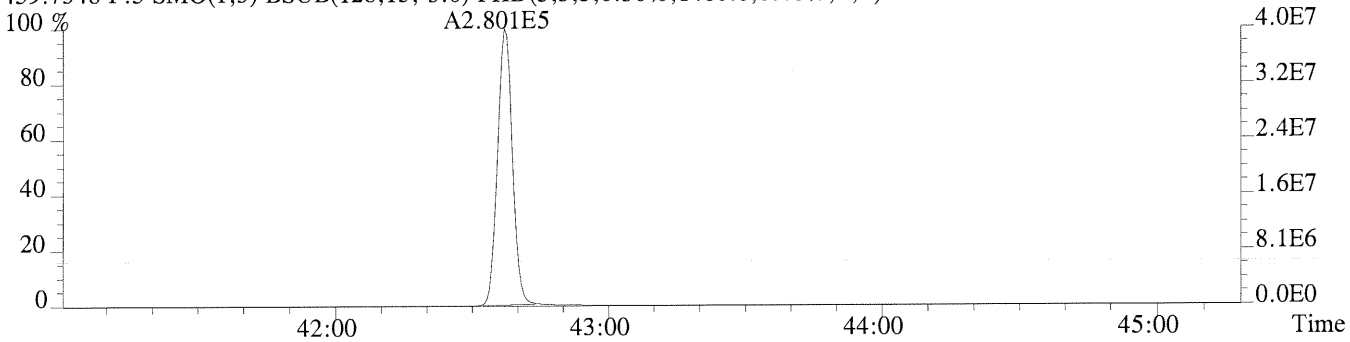
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



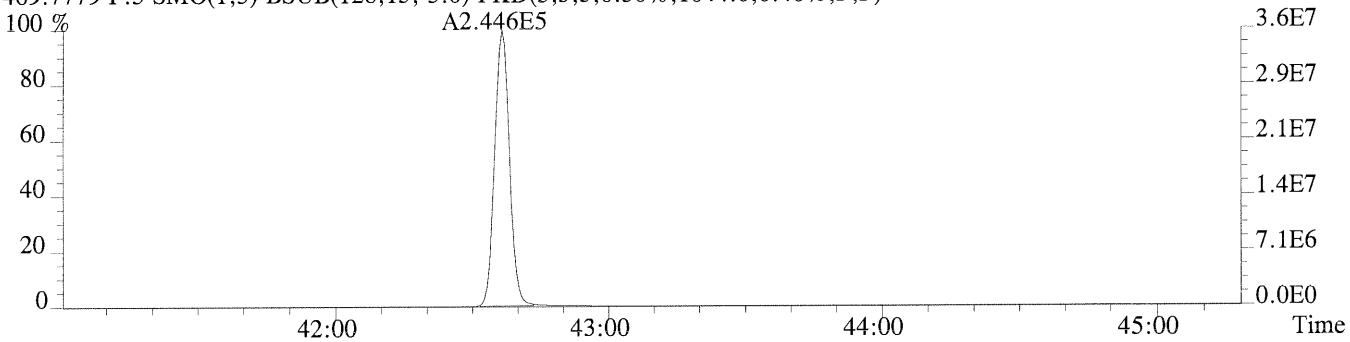
File:U212890 #1-474 Acq:10-DEC-2007 13:15:19 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC4
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1172.0,0.40%,F,F)



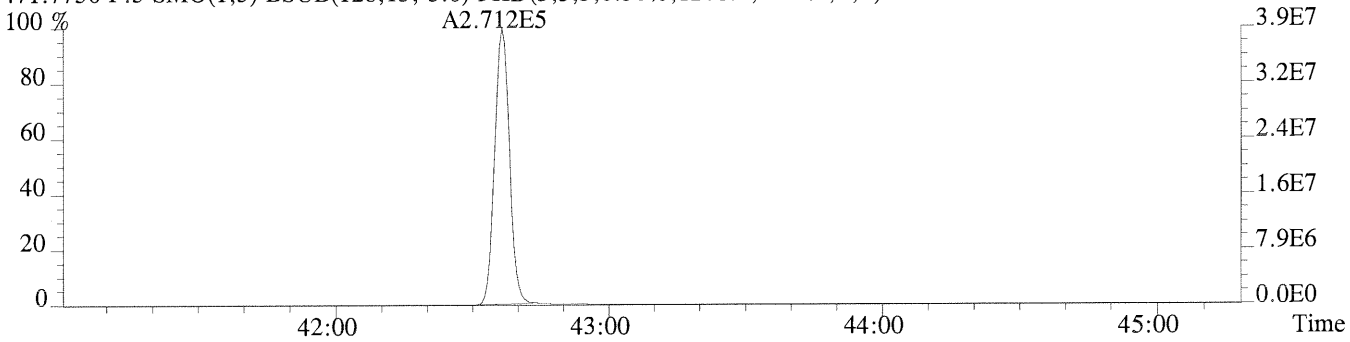
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1400.0,0.40%,F,F)



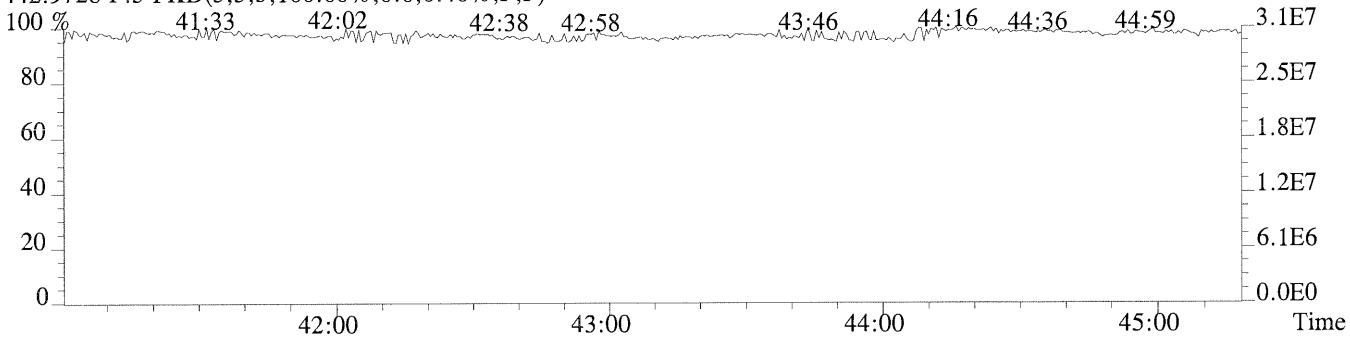
469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1044.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1208.0,0.40%,F,F)



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



Columbia Analytical Services, Inc.
Sample Response Summary

CLIENT ID.
ICAL HRCC5

Run #5 Filename U212891 Samp: 1 Inj: 1 Acquired: 10-DEC-07 14:02:46
Processed: 10-DEC-07 15:07:35 Sample ID:

	Typ	Name	RT-1	Resp 1	Resp 2	Ratio	Meet	Mod?
1	Unk	2,3,7,8-TCDF	28:14	2.498e+05	3.260e+05	0.77	yes	no
2	Unk	1,2,3,7,8-PeCDF	32:19	9.172e+05	6.026e+05	1.52	yes	no
3	Unk	2,3,4,7,8-PeCDF	33:01	9.671e+05	6.232e+05	1.55	yes	no
4	Unk	1,2,3,4,7,8-HxCDF	35:44	8.081e+05	6.724e+05	1.20	yes	no
5	Unk	1,2,3,6,7,8-HxCDF	35:50	7.894e+05	6.542e+05	1.21	yes	no
6	Unk	2,3,4,6,7,8-HxCDF	36:18	7.738e+05	6.191e+05	1.25	yes	no
7	Unk	1,2,3,7,8,9-HxCDF	36:59	6.329e+05	5.238e+05	1.21	yes	no
8	Unk	1,2,3,4,6,7,8-HpCDF	38:28	6.766e+05	6.543e+05	1.03	yes	no
9	Unk	1,2,3,4,7,8,9-HpCDF	39:51	5.052e+05	5.015e+05	1.01	yes	no
10	Unk	OCDF	42:48	1.071e+06	1.193e+06	0.90	yes	no
11	Unk	2,3,7,8-TCDD	29:00	2.021e+05	2.601e+05	0.78	yes	no
12	Unk	1,2,3,7,8-PeCDD	33:20	6.495e+05	4.239e+05	1.53	yes	no
13	Unk	1,2,3,4,7,8-HxCDD	36:24	5.877e+05	4.777e+05	1.23	yes	no
14	Unk	1,2,3,6,7,8-HxCDD	36:28	5.622e+05	4.564e+05	1.23	yes	no
15	Unk	1,2,3,7,8,9-HxCDD	36:46	5.832e+05	4.528e+05	1.29	yes	no
16	Unk	1,2,3,4,6,7,8-HpCDD	39:24	4.466e+05	4.157e+05	1.07	yes	no
17	Unk	OCDD	42:37	9.420e+05	1.059e+06	0.89	yes	no
18	IS	13C-2,3,7,8-TCDF	28:13	7.020e+04	8.665e+04	0.81	yes	no
19	IS	13C-1,2,3,7,8-PeCDF	32:18	1.020e+05	6.548e+04	1.56	yes	no
20	IS	13C-1,2,3,4,7,8-HxCDF	35:43	1.101e+05	2.111e+05	0.52	yes	no
21	IS	13C-1,2,3,4,6,7,8-HpCDF	38:27	7.435e+04	1.653e+05	0.45	yes	no
22	IS	13C-2,3,7,8-TCDD	28:59	5.436e+04	6.714e+04	0.81	yes	no
23	IS	13C-1,2,3,7,8-PeCDD	33:20	7.216e+04	4.624e+04	1.56	yes	no
24	IS	13C-1,2,3,6,7,8-HxCDD	36:28	1.360e+05	1.099e+05	1.24	yes	no
25	IS	13C-1,2,3,4,6,7,8-HpCDD	39:24	1.177e+05	1.121e+05	1.05	yes	no
26	IS	13C-OCDD	42:36	2.344e+05	2.556e+05	0.92	yes	no
27	RS/RT	13C-1,2,3,4-TCDD	28:47	5.236e+04	6.422e+04	0.82	yes	no
28	RS/RT	13C-1,2,3,7,8,9-HxCDD	36:45	1.402e+05	1.125e+05	1.25	yes	no
29	C/Up	37Cl-2,3,7,8-TCDD	29:00	4.543e+05				

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Columbia Analytical Services,Inc. CLIENT ID.
Signal/Noise Height Ratio Summary ICAL HRCC5

Run #5 Filename U212891 #1 Samp: 1 Inj: 1 Acquired: 10-DEC-07 14:02:46

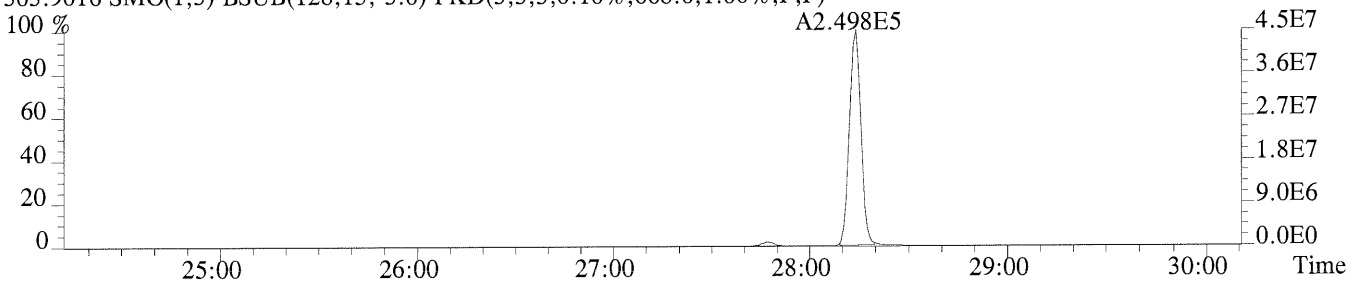
Processed: 10-DEC-07 15:07:35 LAB. ID: ICAL HRCC5

	Name	Signal 1	Noise 1	S/N Rat.1	Signal 2	Noise 2	S/N Rat.2
1	2,3,7,8-TCDF	4.50e+07	6.68e+02	6.7e+04	5.85e+07	1.14e+03	5.2e+04
2	1,2,3,7,8-PeCDF	1.85e+08	5.72e+02	3.2e+05	1.20e+08	8.84e+02	1.4e+05
3	2,3,4,7,8-PeCDF	2.04e+08	5.72e+02	3.6e+05	1.31e+08	8.84e+02	1.5e+05
4	1,2,3,4,7,8-HxCDF	1.83e+08	1.42e+03	1.3e+05	1.51e+08	2.34e+03	6.5e+04
5	1,2,3,6,7,8-HxCDF	1.70e+08	1.42e+03	1.2e+05	1.42e+08	2.34e+03	6.1e+04
6	2,3,4,6,7,8-HxCDF	1.76e+08	1.42e+03	1.2e+05	1.39e+08	2.34e+03	5.9e+04
7	1,2,3,7,8,9-HxCDF	1.39e+08	1.42e+03	9.8e+04	1.13e+08	2.34e+03	4.9e+04
8	1,2,3,4,6,7,8-HpCDF	1.45e+08	1.02e+04	1.4e+04	1.40e+08	1.42e+04	9.8e+03
9	1,2,3,4,7,8,9-HpCDF	9.84e+07	1.02e+04	9.6e+03	9.92e+07	1.42e+04	7.0e+03
10	OCDF	1.54e+08	8.00e+02	1.9e+05	1.71e+08	1.24e+03	1.4e+05
11	2,3,7,8-TCDD	3.86e+07	6.36e+02	6.1e+04	4.95e+07	6.56e+02	7.5e+04
12	1,2,3,7,8-PeCDD	1.36e+08	1.40e+03	9.7e+04	8.91e+07	5.48e+02	1.6e+05
13	1,2,3,4,7,8-HxCDD	1.34e+08	8.44e+02	1.6e+05	1.09e+08	9.36e+02	1.2e+05
14	1,2,3,6,7,8-HxCDD	1.29e+08	8.44e+02	1.5e+05	1.06e+08	9.36e+02	1.1e+05
15	1,2,3,7,8,9-HxCDD	1.34e+08	8.44e+02	1.6e+05	1.04e+08	9.36e+02	1.1e+05
16	1,2,3,4,6,7,8-HpCDD	9.17e+07	9.36e+02	9.8e+04	8.51e+07	1.02e+03	8.3e+04
17	OCDD	1.37e+08	1.03e+03	1.3e+05	1.54e+08	1.24e+03	1.2e+05
18	13C-2,3,7,8-TCDF	1.25e+07	2.65e+03	4.7e+03	1.55e+07	1.18e+03	1.3e+04
19	13C-1,2,3,7,8-PeCDF	2.03e+07	4.32e+02	4.7e+04	1.32e+07	6.32e+02	2.1e+04
20	13C-1,2,3,4,7,8-HxCDF	2.44e+07	7.80e+02	3.1e+04	4.67e+07	8.56e+02	5.5e+04
21	13C-1,2,3,4,6,7,8-HpCDF	1.60e+07	2.05e+03	7.8e+03	3.54e+07	2.79e+03	1.3e+04
22	13C-2,3,7,8-TCDD	1.05e+07	2.79e+03	3.8e+03	1.30e+07	1.36e+03	9.6e+03
23	13C-1,2,3,7,8-PeCDD	1.53e+07	6.44e+02	2.4e+04	9.87e+06	5.96e+02	1.7e+04
24	13C-1,2,3,6,7,8-HxCDD	3.09e+07	1.05e+03	2.9e+04	2.51e+07	9.60e+02	2.6e+04
25	13C-1,2,3,4,6,7,8-HpCDD	2.39e+07	1.29e+03	1.8e+04	2.25e+07	9.24e+02	2.4e+04
26	13C-OCDD	3.37e+07	7.76e+02	4.3e+04	3.65e+07	1.44e+03	2.5e+04
27	13C-1,2,3,4-TCDD	9.89e+06	2.79e+03	3.5e+03	1.21e+07	1.36e+03	8.9e+03
28	13C-1,2,3,7,8,9-HxCDD	3.21e+07	1.05e+03	3.1e+04	2.58e+07	9.60e+02	2.7e+04
29	37Cl-2,3,7,8-TCDD	8.61e+07	8.44e+02	1.0e+05			

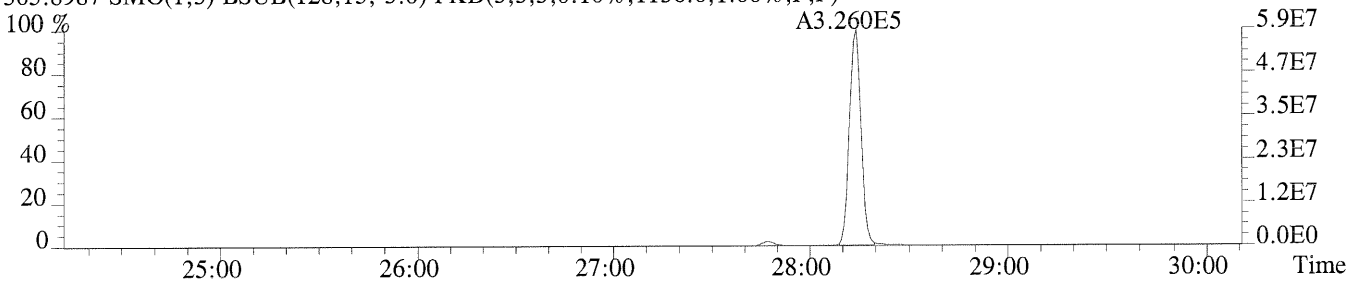
Columbia Analytical Services, Inc.
19408 Park Row, Suite 320
Houston, TX 77084
Office:(713)266-1599. Fax:(713)266-0130

File:U212891 #1-498 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

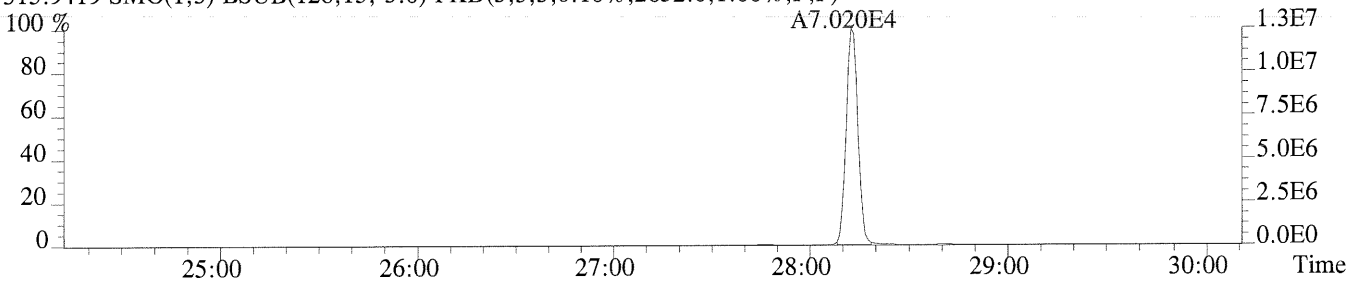
303.9016 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,668.0,1.00%,F,F)



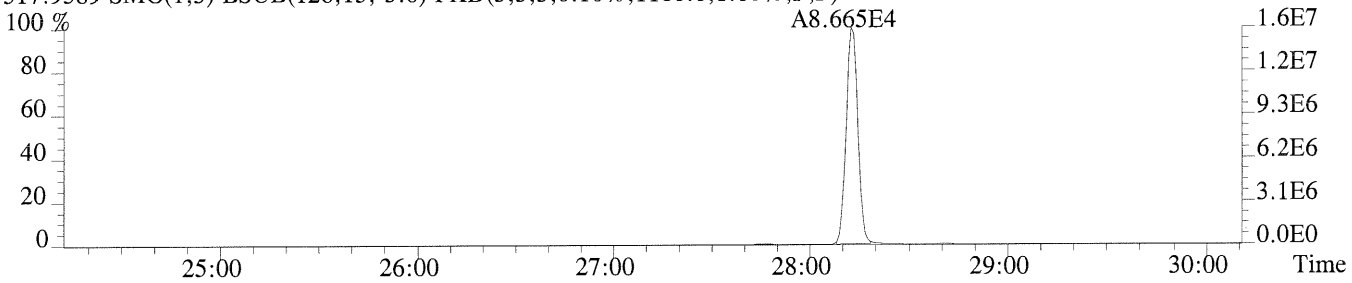
305.8987 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1136.0,1.00%,F,F)



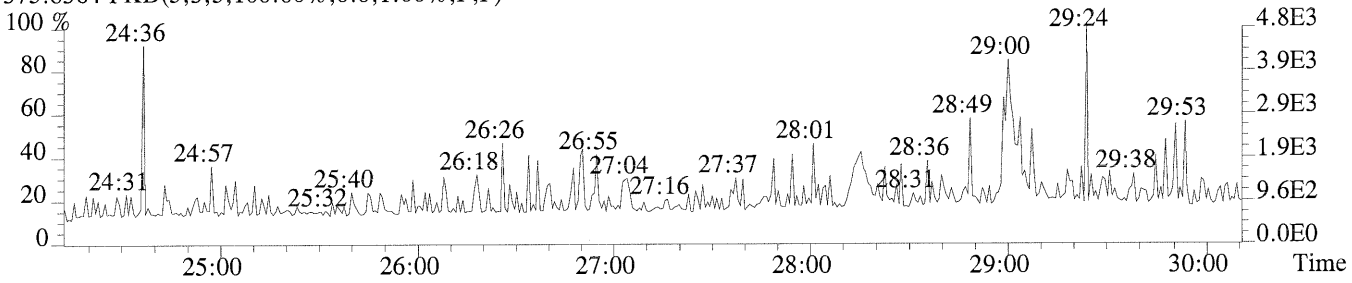
315.9419 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2652.0,1.00%,F,F)



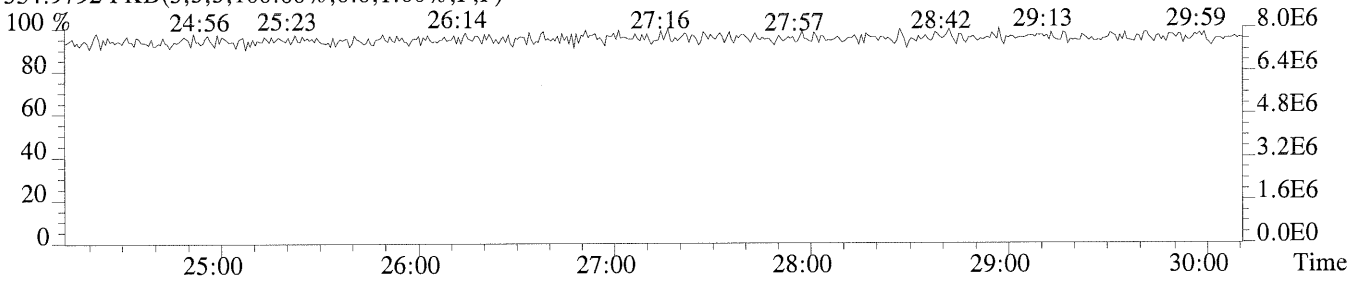
317.9389 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1180.0,1.00%,F,F)



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

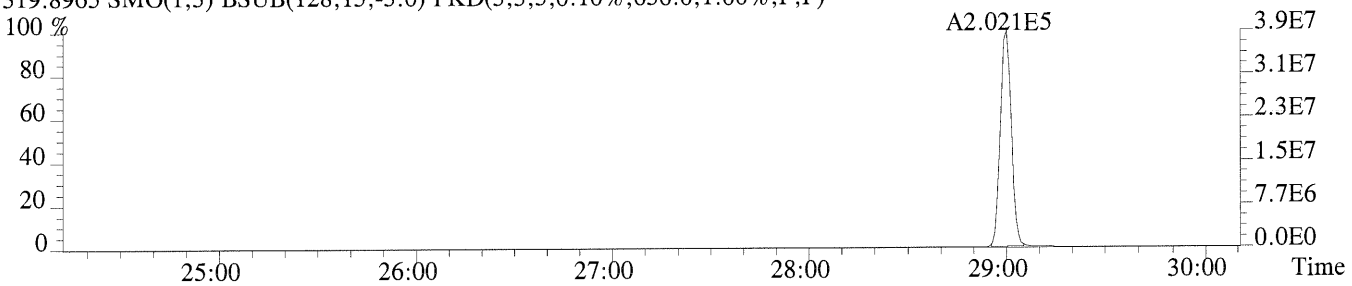


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

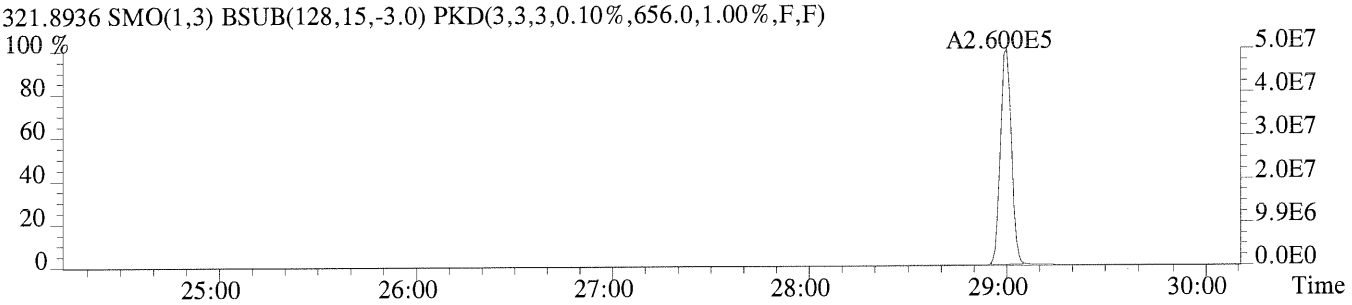


File:U212891 #1-498 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

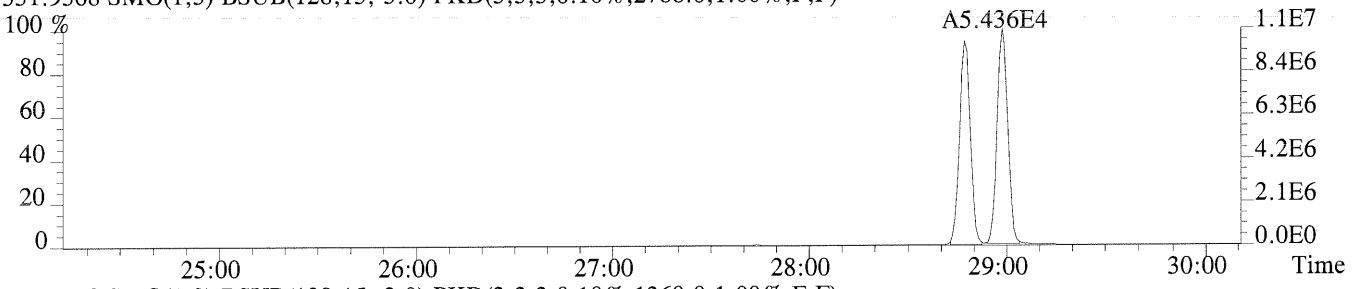
319.8965 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,636.0,1.00%,F,F)



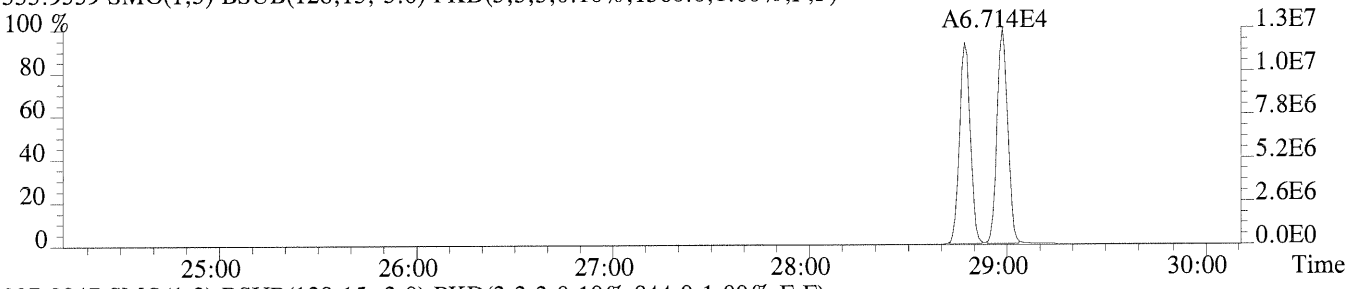
321.8936 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,656.0,1.00%,F,F)



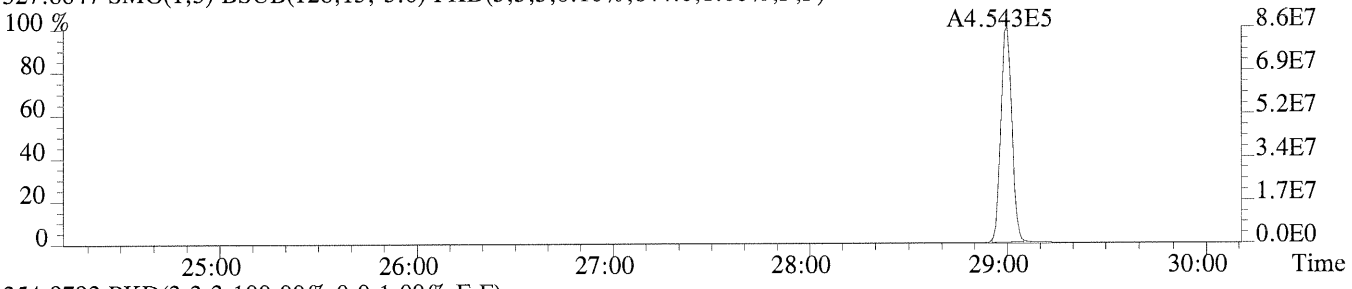
331.9368 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,2788.0,1.00%,F,F)



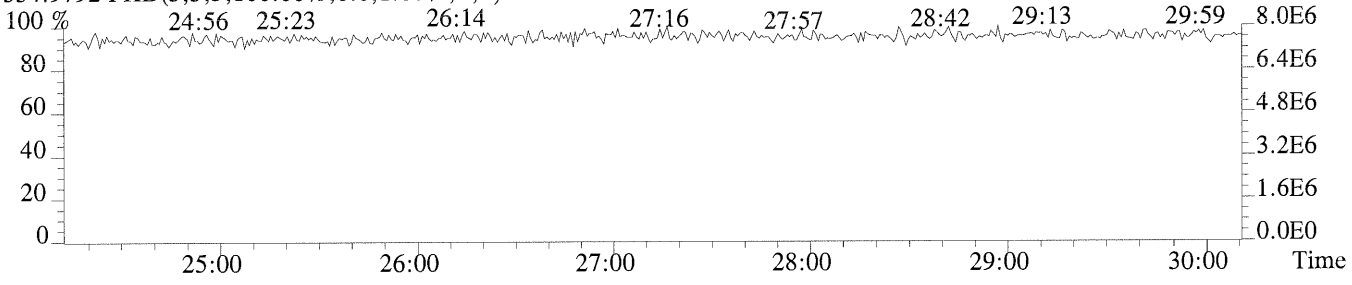
333.9339 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1360.0,1.00%,F,F)



327.8847 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,844.0,1.00%,F,F)

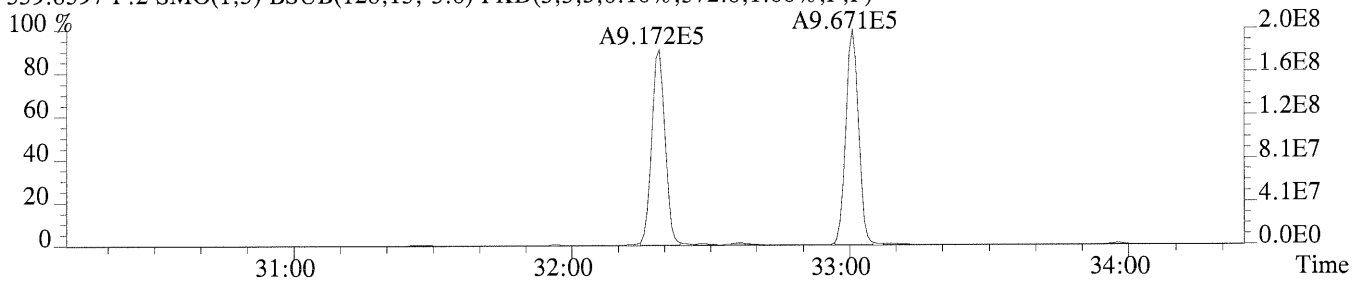


354.9792 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

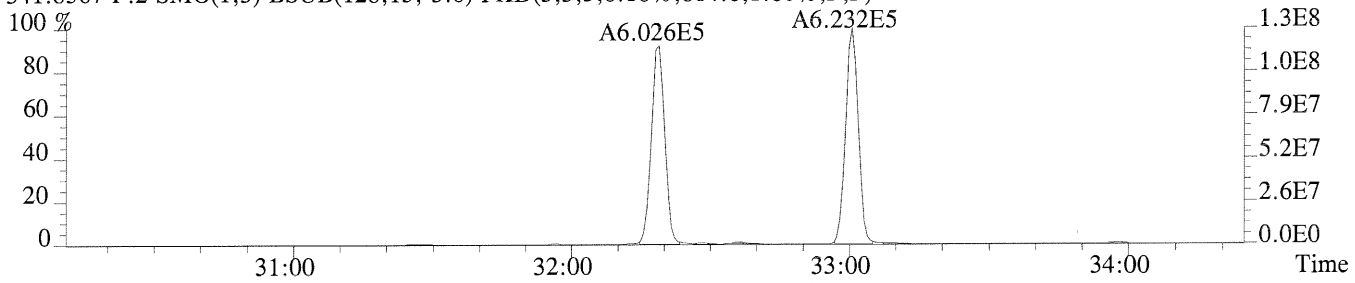


File:U212891 #1-384 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

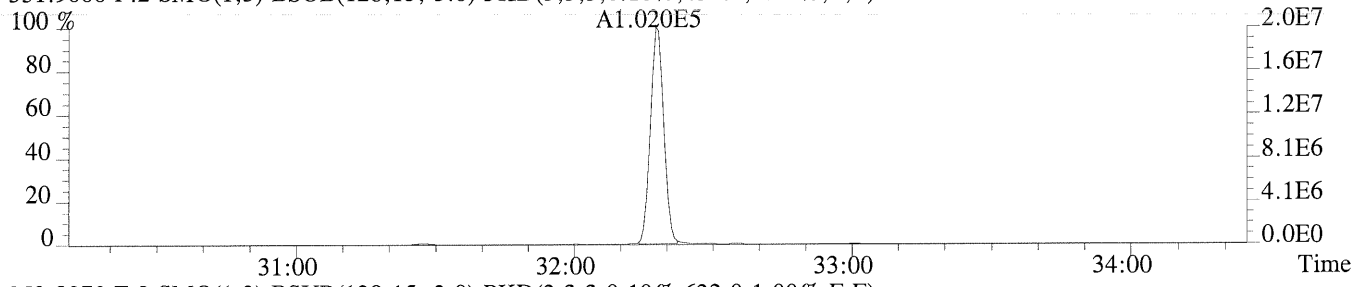
339.8597 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,572.0,1.00%,F,F)



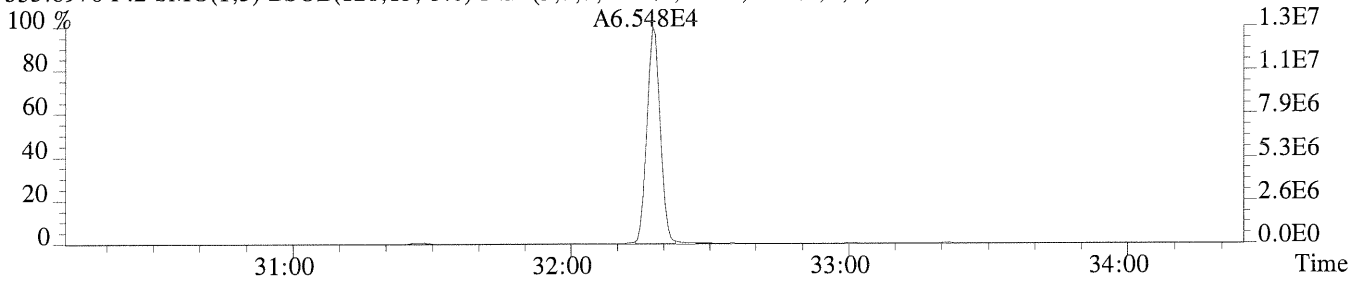
341.8567 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,884.0,1.00%,F,F)



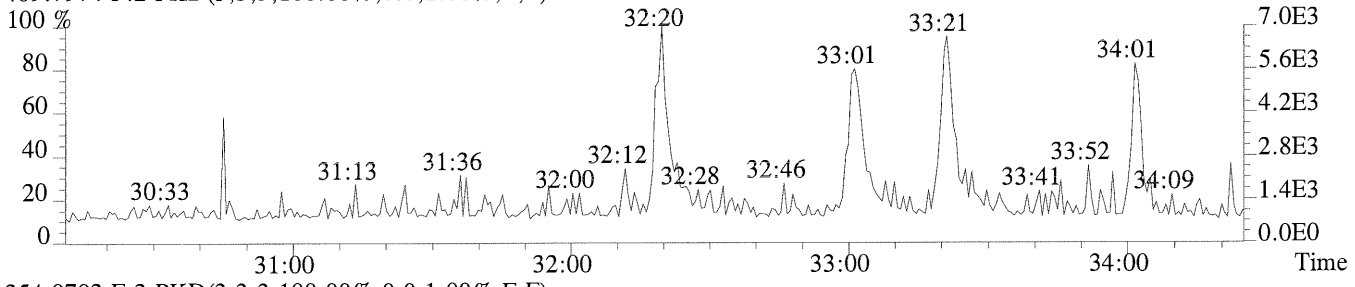
351.9000 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,432.0,1.00%,F,F)



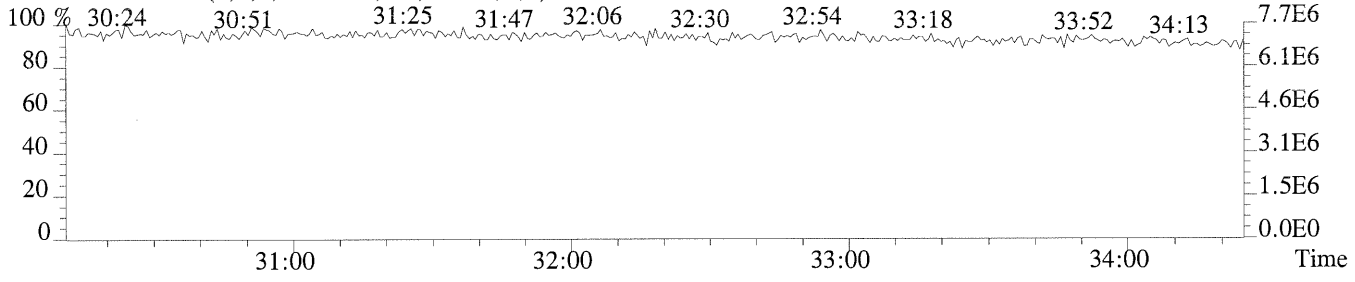
353.8970 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,632.0,1.00%,F,F)



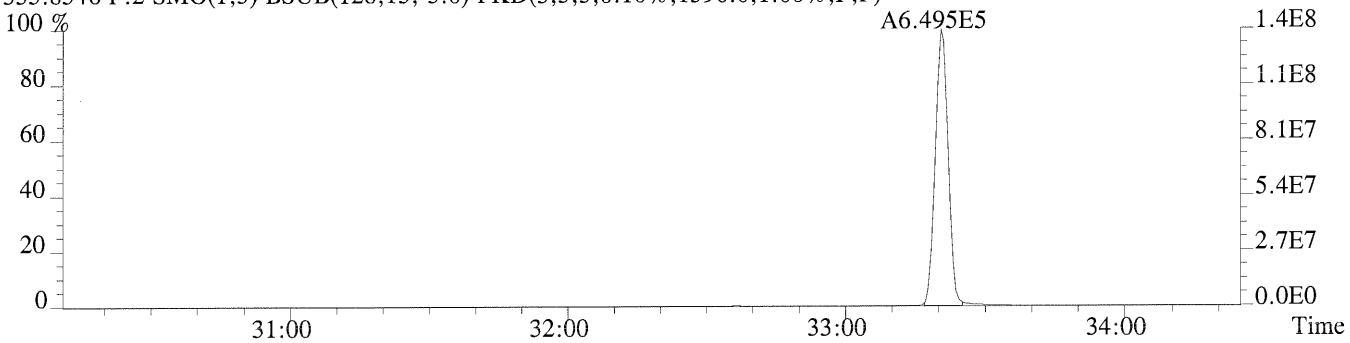
409.7974 F:2 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



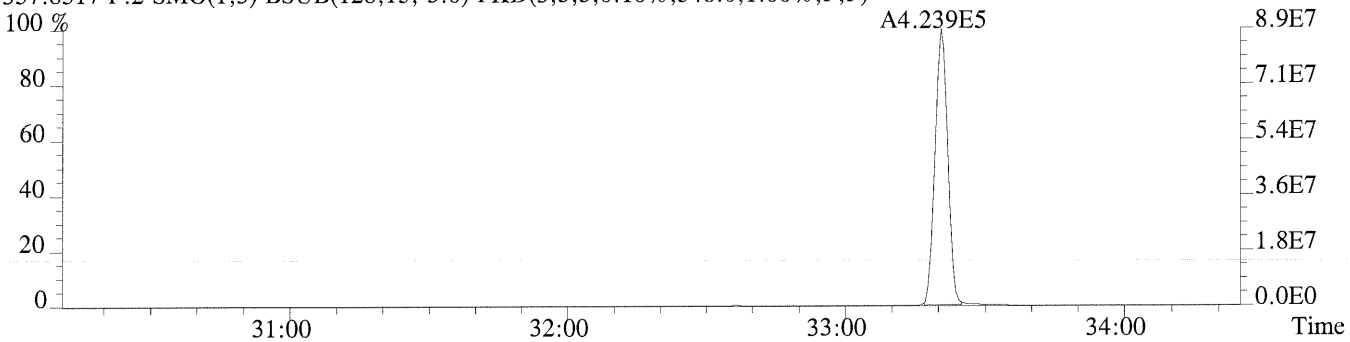
354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



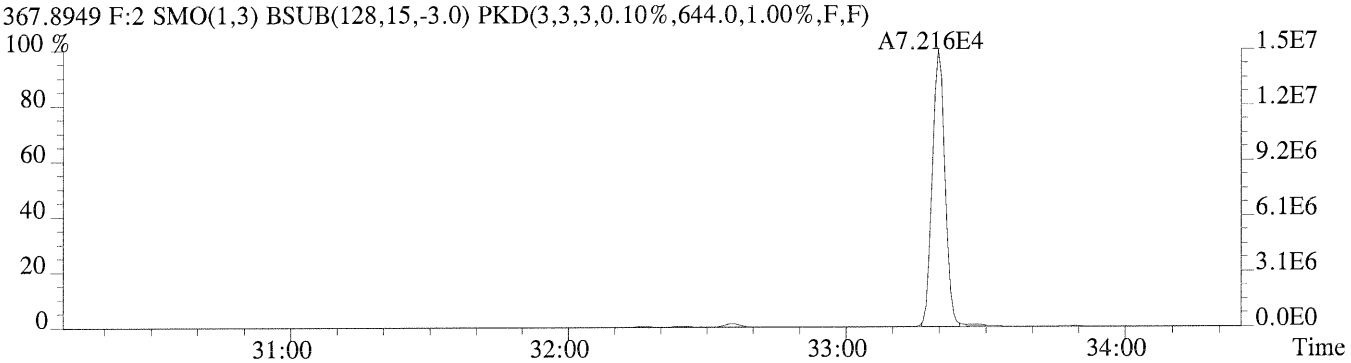
File:U212891 #1-384 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
355.8546 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,1396.0,1.00%,F,F)



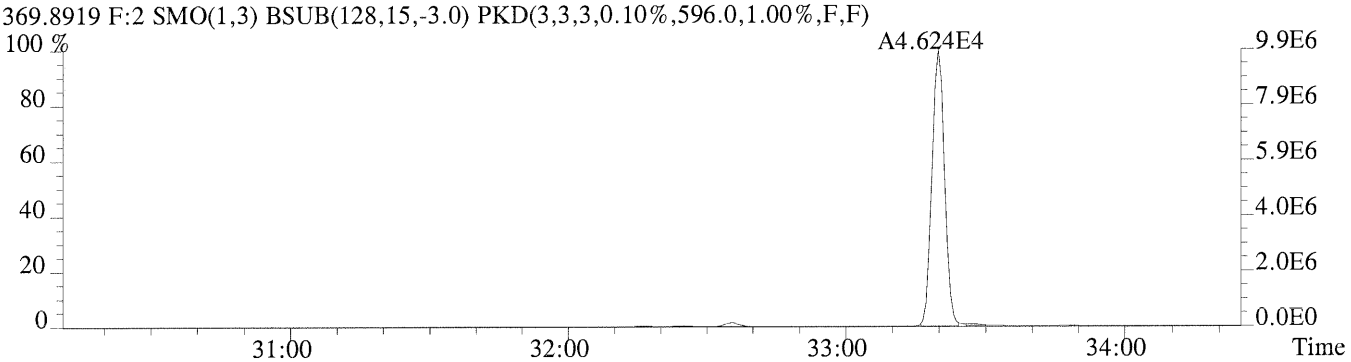
357.8517 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,548.0,1.00%,F,F)



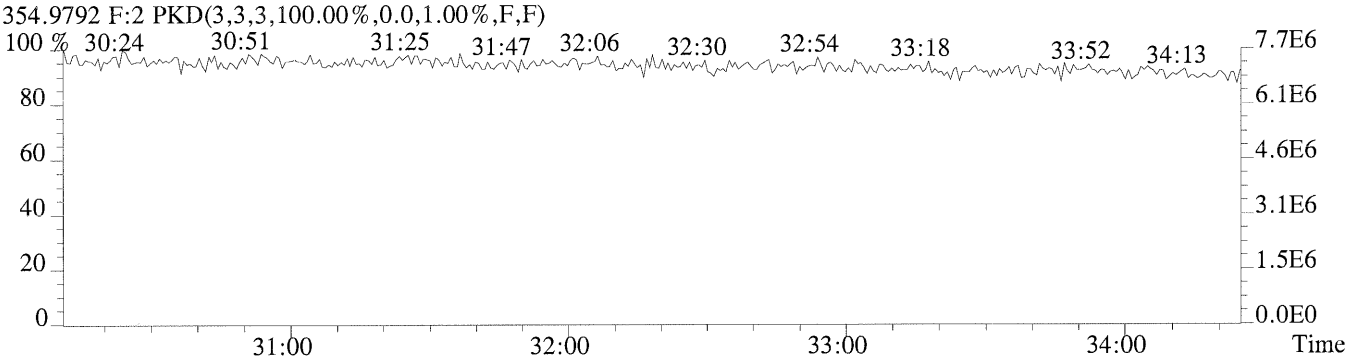
367.8949 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,644.0,1.00%,F,F)



369.8919 F:2 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.10%,596.0,1.00%,F,F)

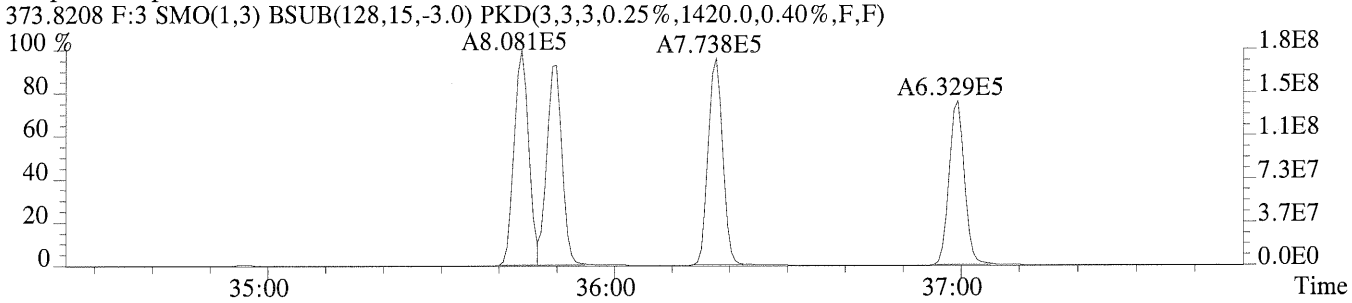


354.9792 F:2 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

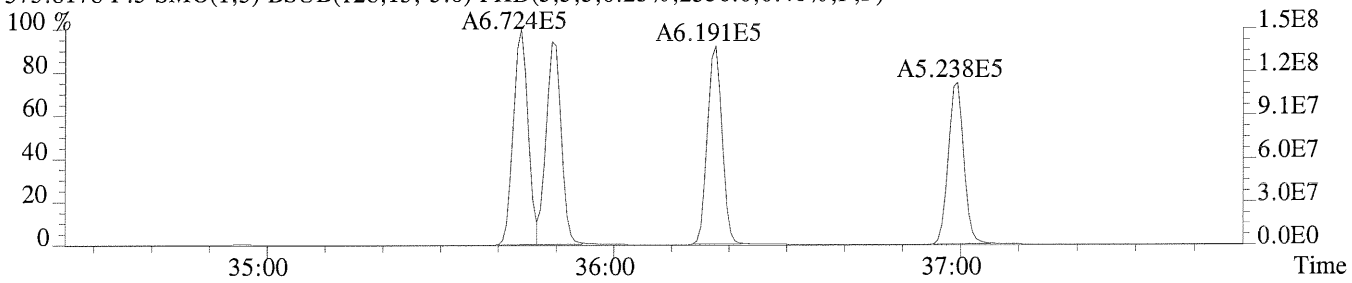


File:U212891 #1-308 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

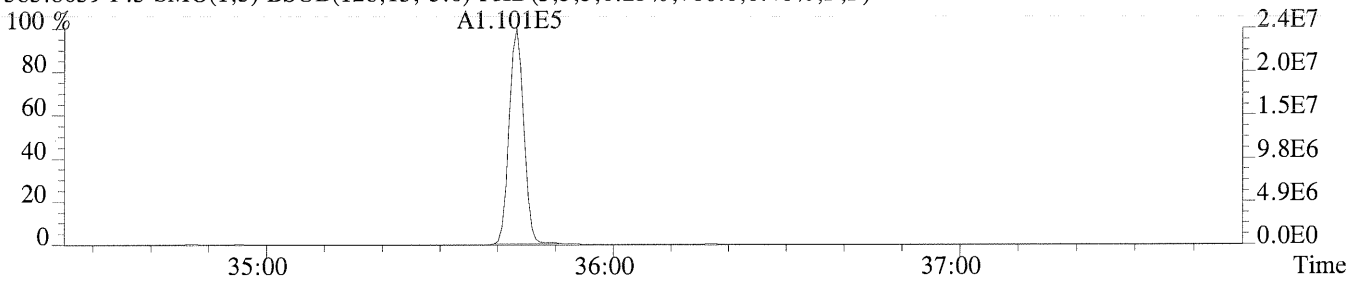
373.8208 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1420.0,0.40%,F,F)



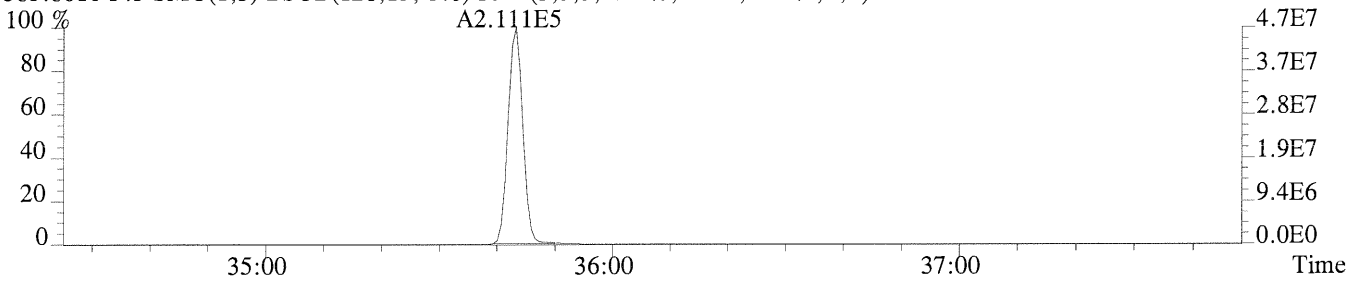
375.8178 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2336.0,0.40%,F,F)



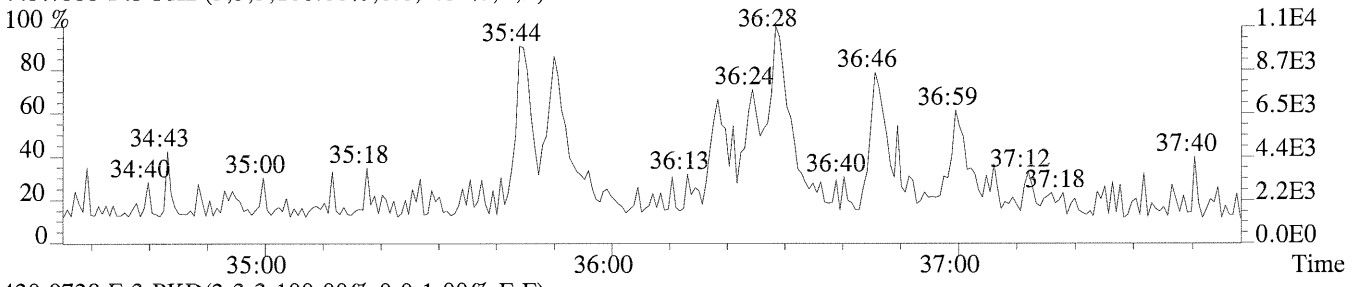
383.8639 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,780.0,0.40%,F,F)



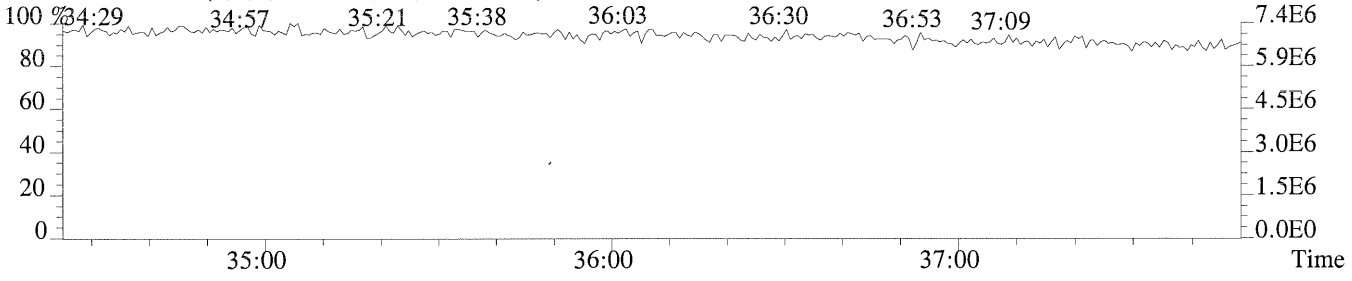
385.8610 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,856.0,0.40%,F,F)



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

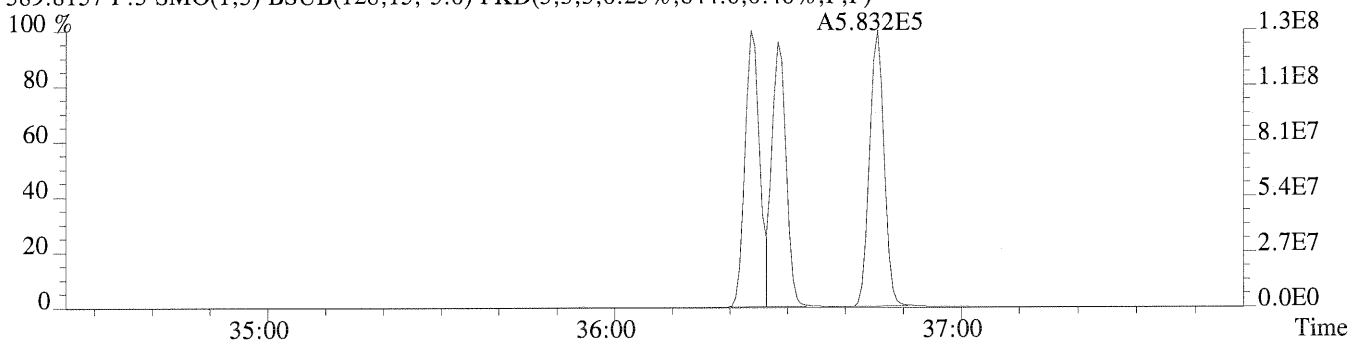


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

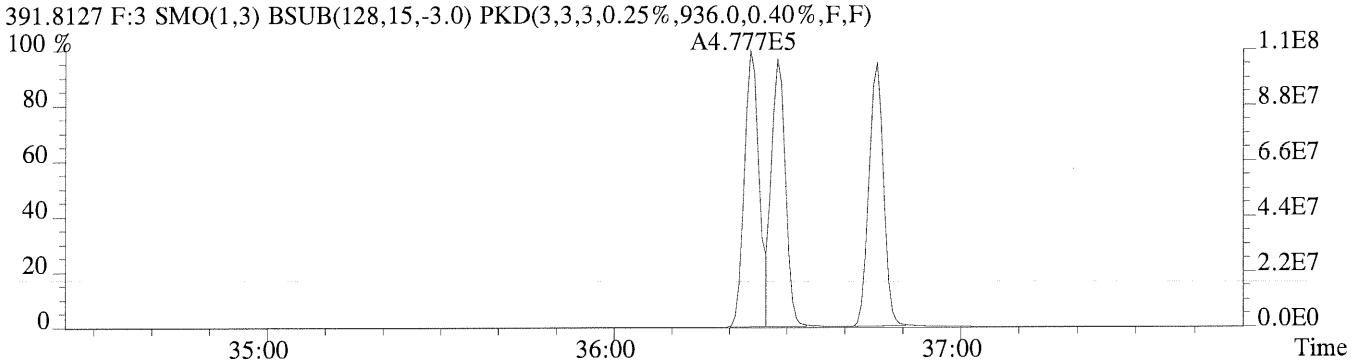


File:U212891 #1-308 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

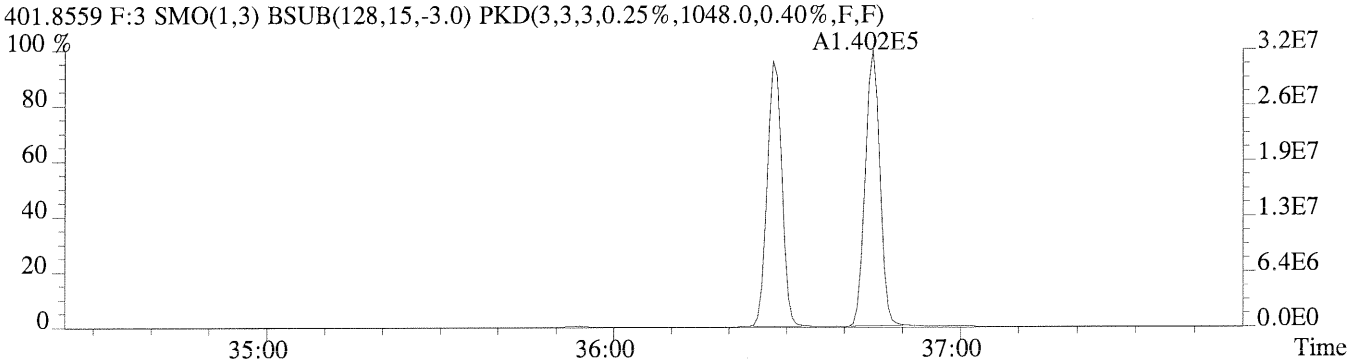
389.8157 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,844.0,0.40%,F,F)



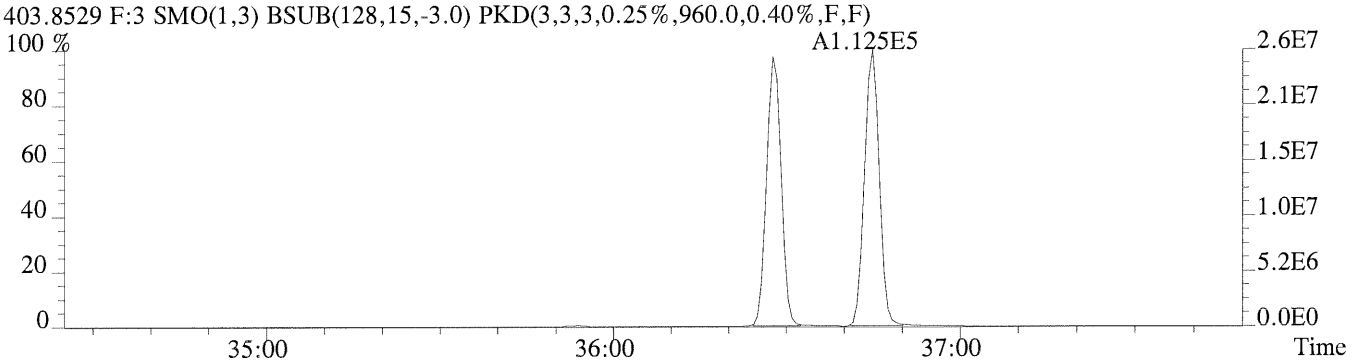
391.8127 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,F)



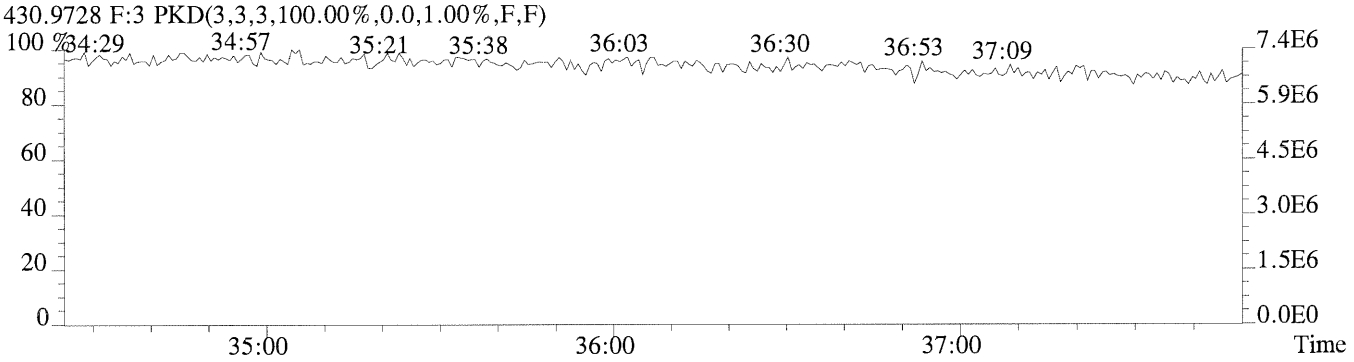
401.8559 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1048.0,0.40%,F,F)



403.8529 F:3 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,960.0,0.40%,F,F)

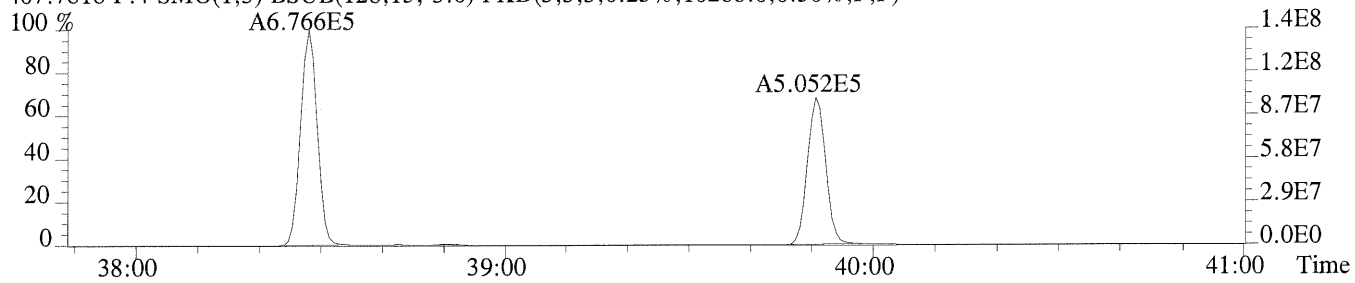


430.9728 F:3 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

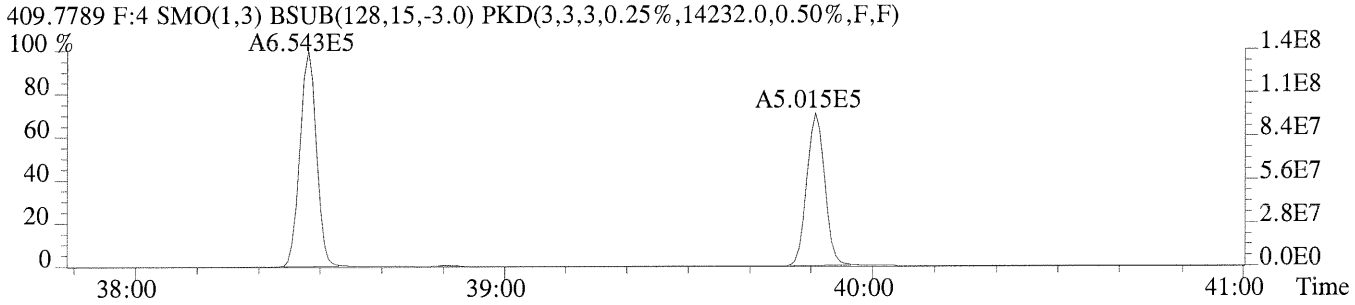


File:U212891 #1-290 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

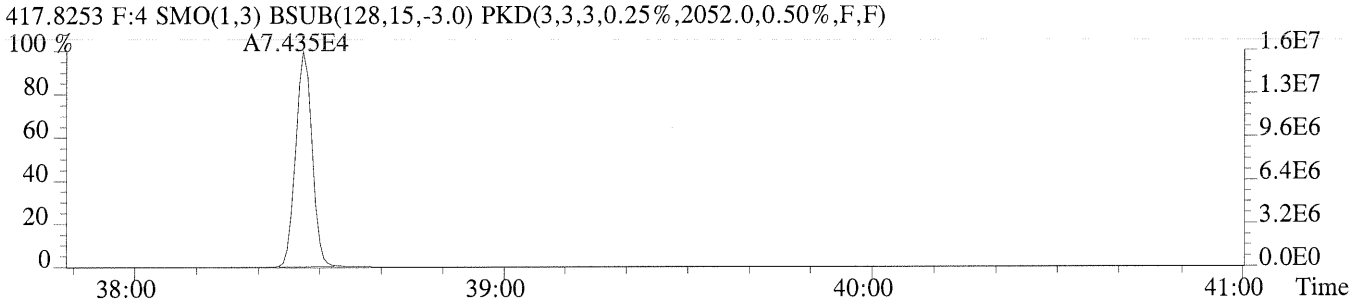
407.7818 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,10288.0,0.50%,F,F)



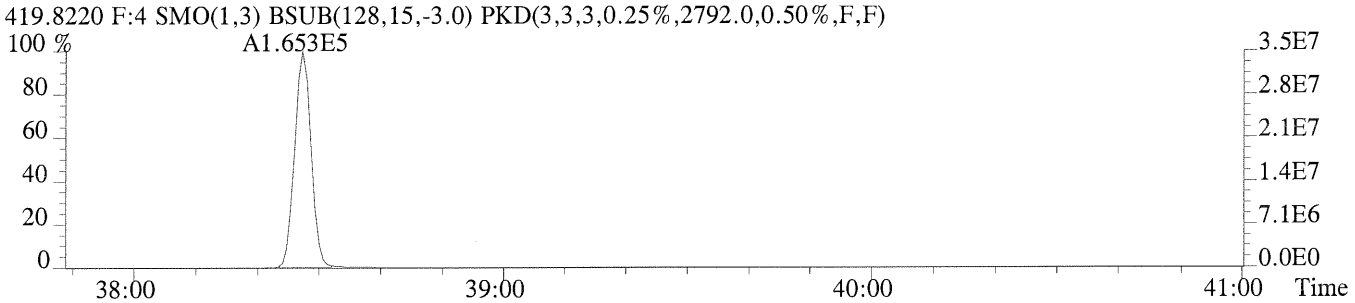
409.7789 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,14232.0,0.50%,F,F)



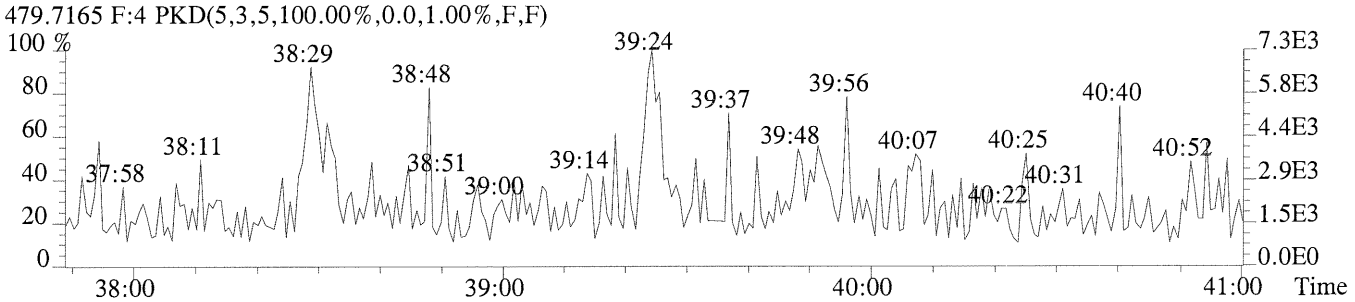
417.8253 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2052.0,0.50%,F,F)



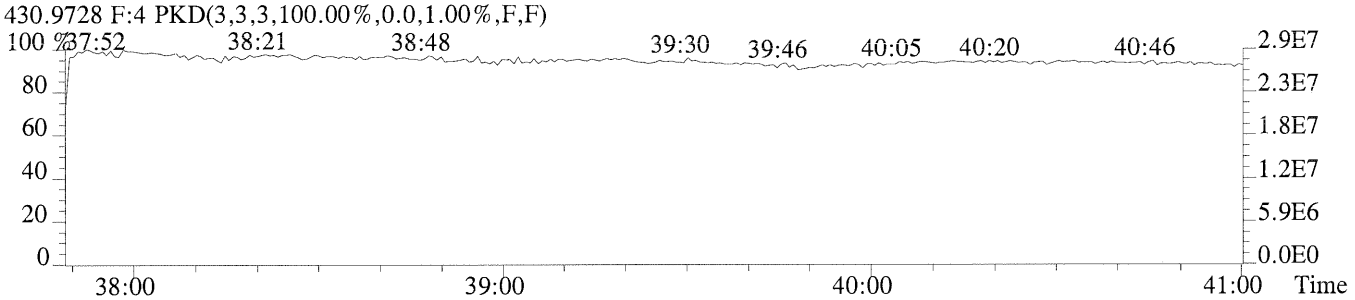
419.8220 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,2792.0,0.50%,F,F)



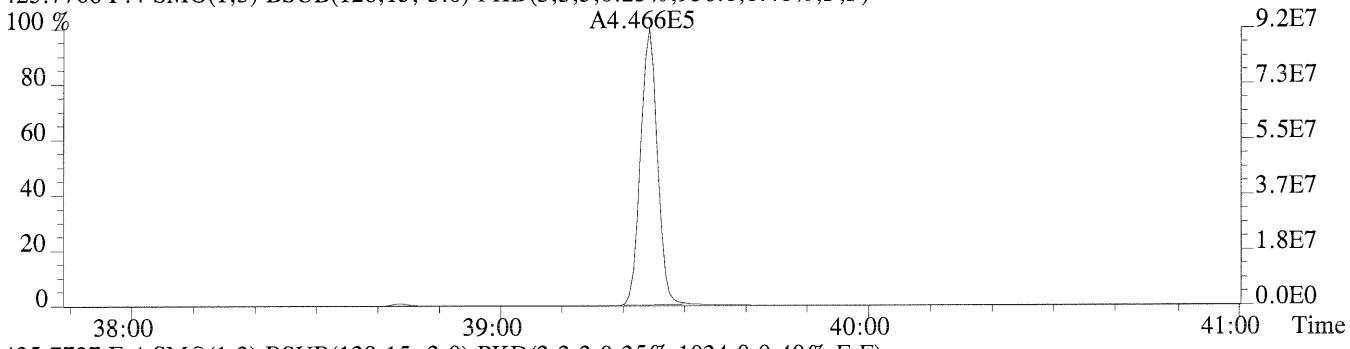
479.7165 F:4 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



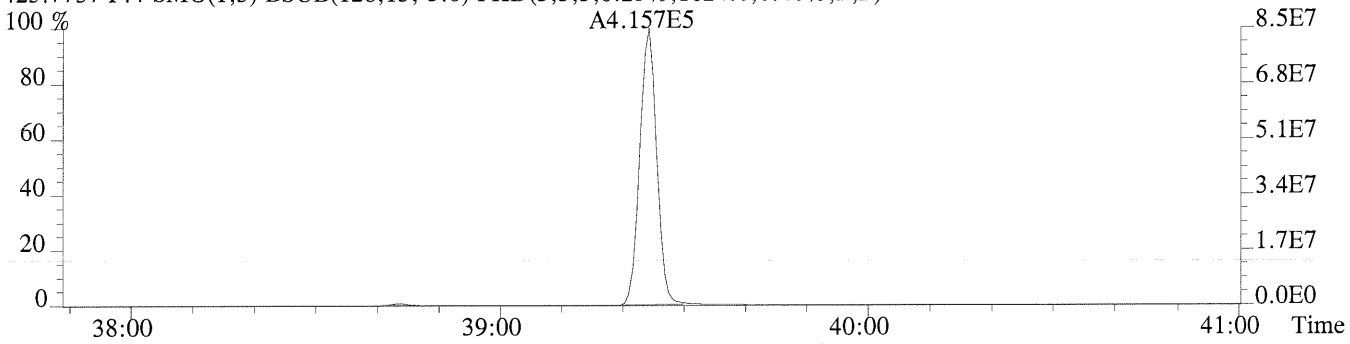
430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)



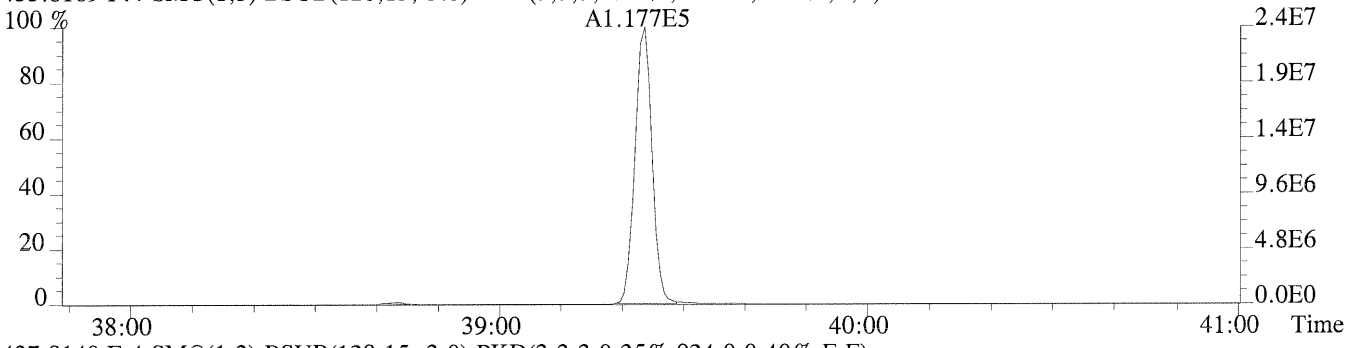
File:U212891 #1-290 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
423.7766 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,936.0,0.40%,F,F)



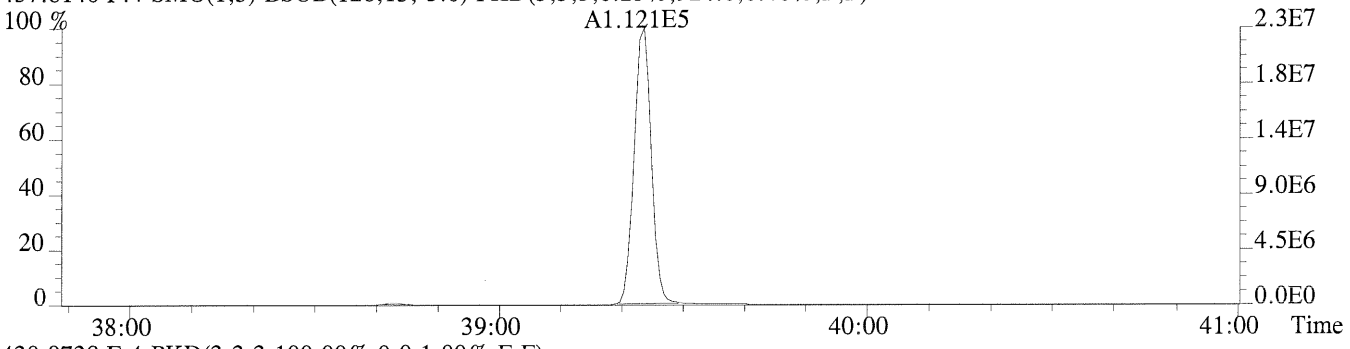
425.7737 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1024.0,0.40%,F,F)



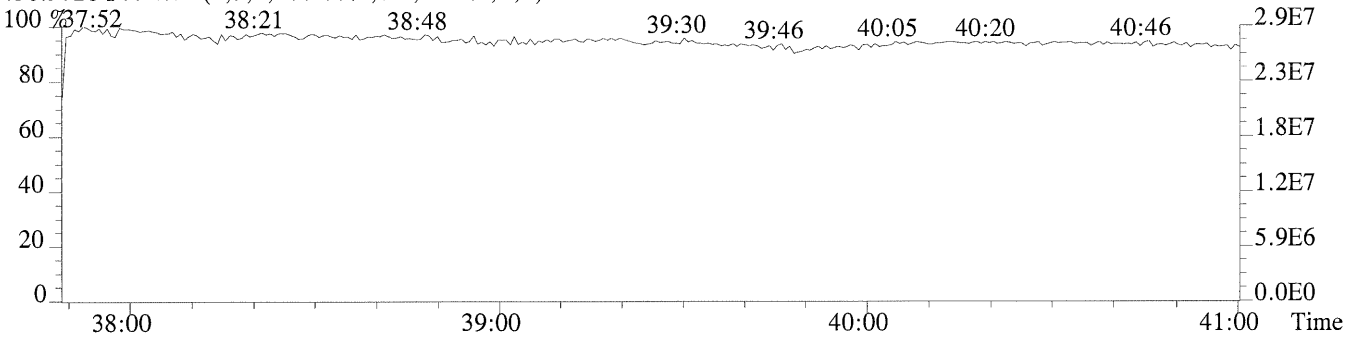
435.8169 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,1292.0,0.40%,F,F)



437.8140 F:4 SMO(1,3) BSUB(128,15,-3.0) PKD(3,3,3,0.25%,924.0,0.40%,F,F)

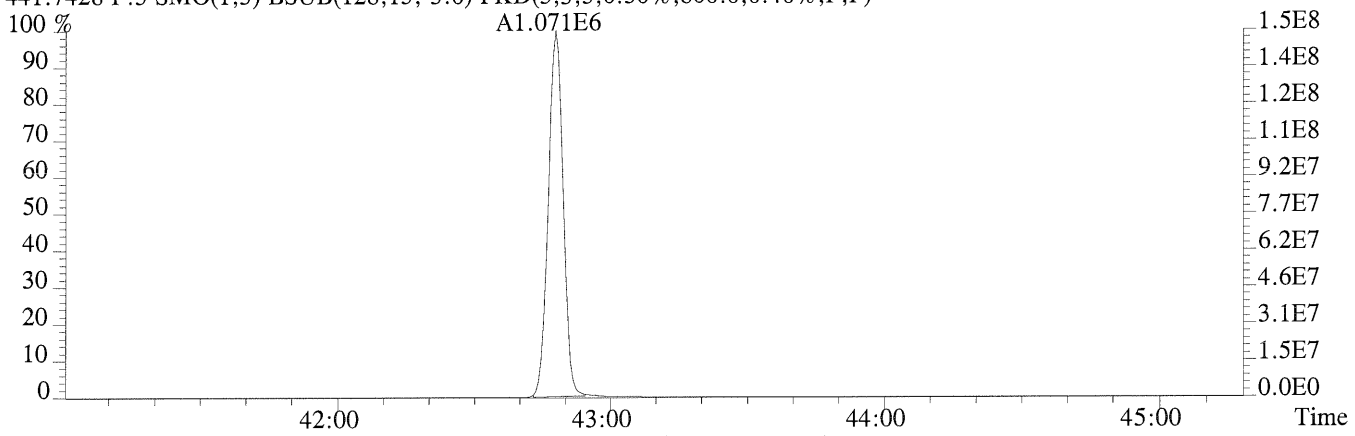


430.9728 F:4 PKD(3,3,3,100.00%,0.0,1.00%,F,F)

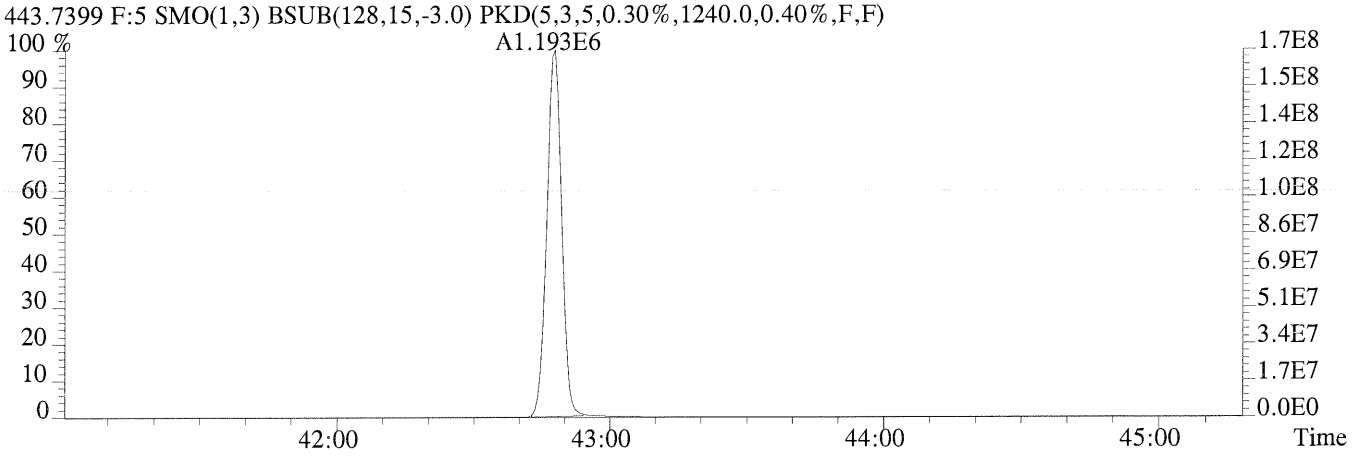


File:U212891 #1-474 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5

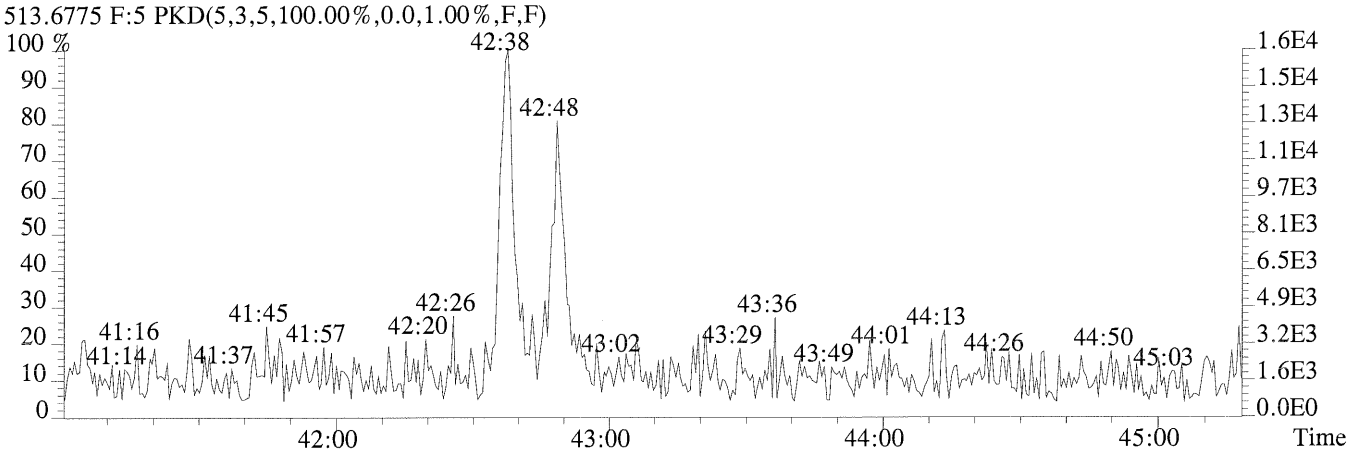
441.7428 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,800.0,0.40%,F,F)



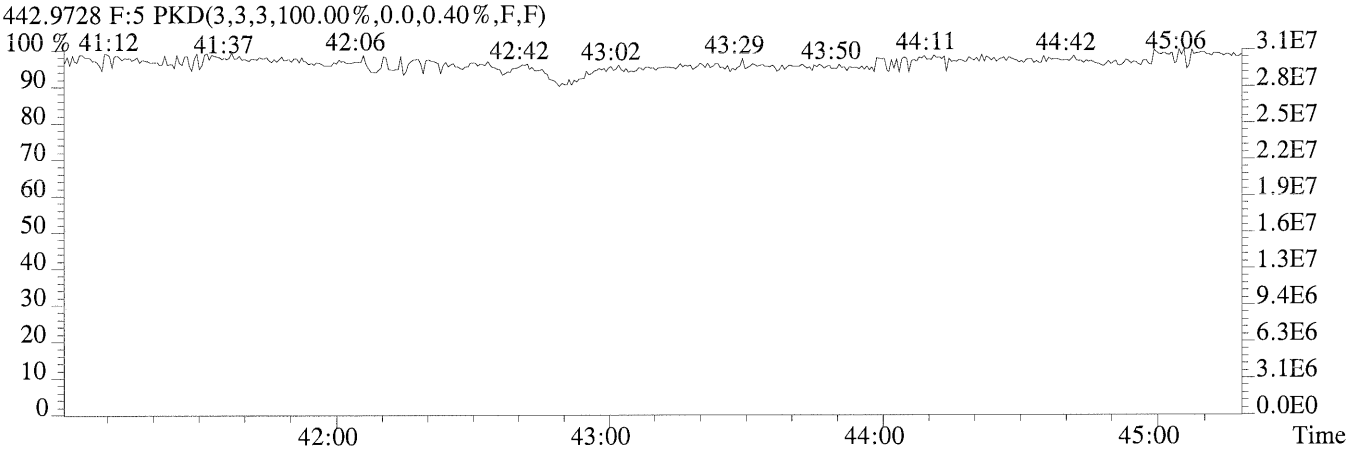
443.7399 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1240.0,0.40%,F,F)



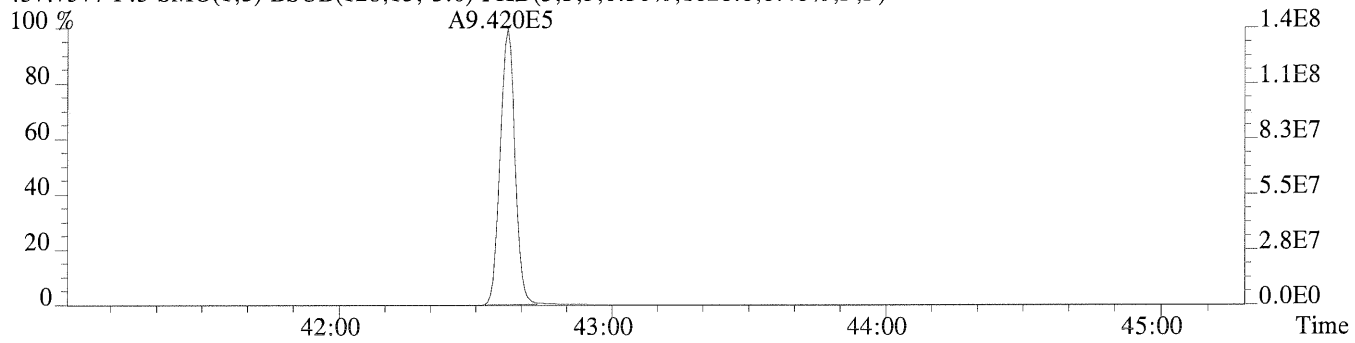
513.6775 F:5 PKD(5,3,5,100.00%,0.0,1.00%,F,F)



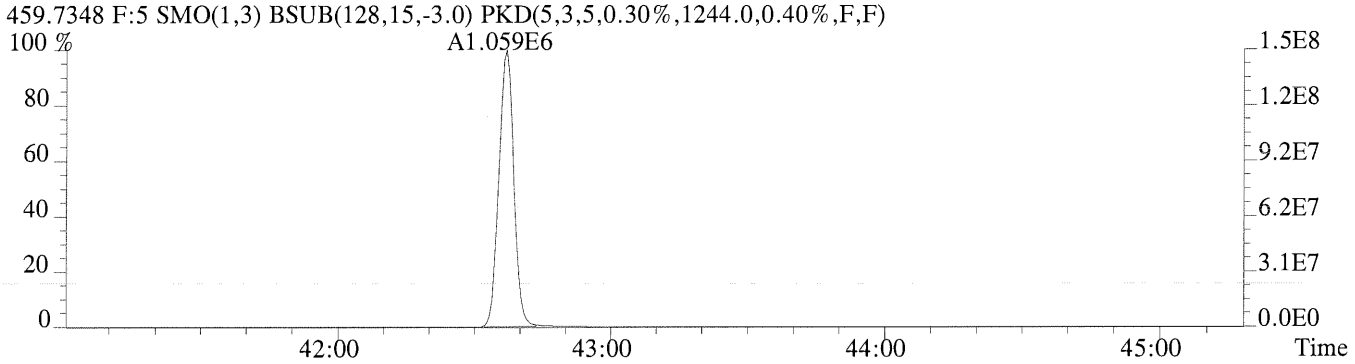
442.9728 F:5 PKD(3,3,3,100.00%,0.0,0.40%,F,F)



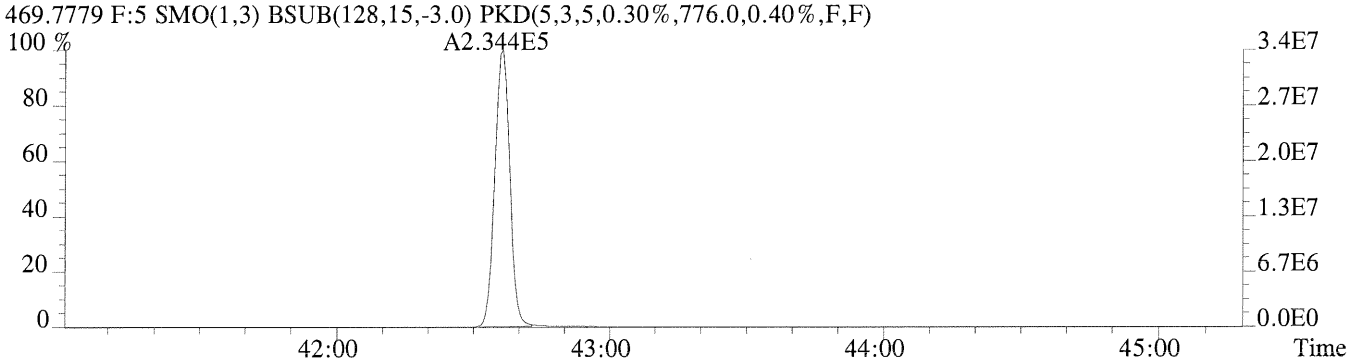
File:U212891 #1-474 Acq:10-DEC-2007 14:02:46 Probe EI+ Magnet SIR VG BioTech Mass spect£
Sample#1 Exp:ICAL HRCC5
457.7377 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1028.0,0.40%,F,F)



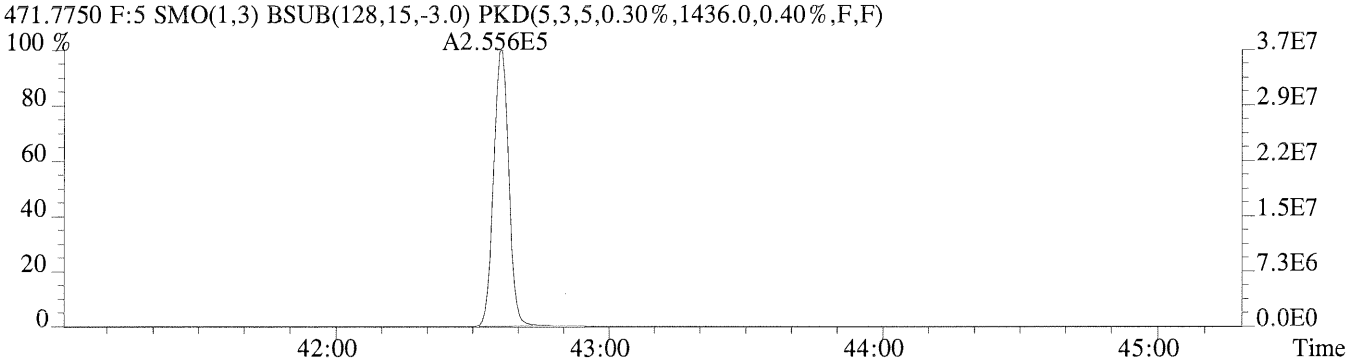
459.7348 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1244.0,0.40%,F,F)



469.7779 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,776.0,0.40%,F,F)



471.7750 F:5 SMO(1,3) BSUB(128,15,-3.0) PKD(5,3,5,0.30%,1436.0,0.40%,F,F)



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

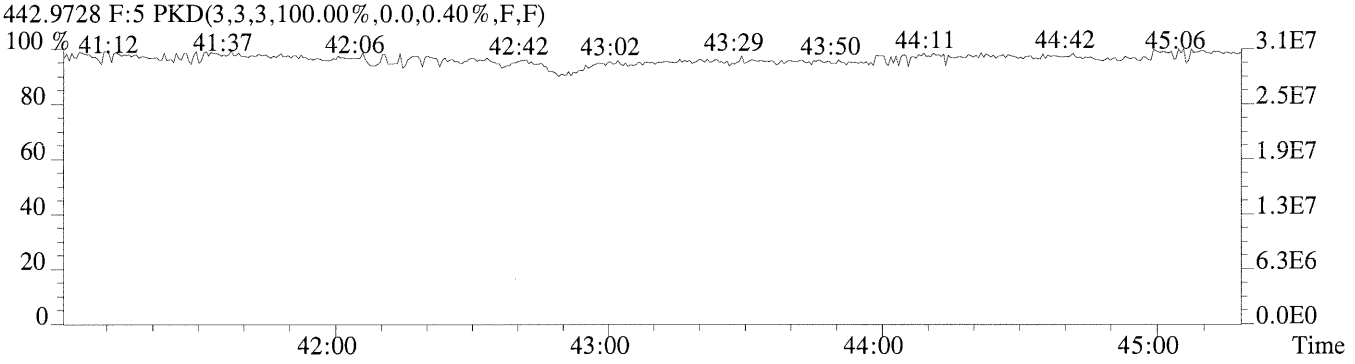


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PROJECT: **LMC BEAUMONT SITE 1**

SDG: **08G195**

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WET	METHOD 314.0	8000 – 8028
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax:(310) 618-0818

Date: 08-19-2008
EMAX Batch No.: 08G195

Attn: Michael Wilson

Tetra Tech, Inc.
348 W Hospitality Lane, Ste 100
San Bernardino CA 92408

Subject: Laboratory Report
Project: LMC Beaumont Site 1

Enclosed is the Laboratory report for samples received on 07/18/08.
The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
H-EB7182008	G195-01	07/18/08	WATER	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
				PCDDS AND PCDFS
H-T11-0.5	G195-02	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T11-2.5	G195-03	07/18/08	SOIL	HOLD
H-T11-5.0	G195-04	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T11-10.0	G195-05	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS

Sample ID	Control #	Col Date	Matrix	Analysis
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T11-10.0DUP	G195-06	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T5-0.5	G195-07	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T5-0.5DUP	G195-08	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T5-2.5	G195-09	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T5-3.0	G195-10	07/18/08	SOIL	PCDDS AND PCDFS
H-T5-3.0DUP	G195-11	07/18/08	SOIL	PCDDS AND PCDFS
H-T5-6.0	G195-12	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)
H-T5-10.0	G195-13	07/18/08	SOIL	HOLD
H-T5-12.0	G195-14	07/18/08	SOIL	PERCHLORATE BY IC
				SEMIVOLATILE ORGANICS BY GCMS
				METALS CAM
				MERCURY
				POLYCHLORINATED BIPHENYLS (PCBS)

Note: PCDDS AND PCDFS was subcontracted to Columbia Analytical Services, Inc and will be submitted at a later date.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

for

Caspar J. Pang
Acting Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meet all NELAC requirements unless noted in the Case Narrative.

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TT.0618

08G195

CHAIN OF CUSTODY RECORD

TETRA TECH, INC.
348 W. Hospitality Lane, Suite 100
San Bernardino, California 92408
Telephone: (909) 381-1674
FAX: (909) 889-1391

SHIP TO: Emax Labs

DATE 7/18/08 PAGE 1 OF 2

CLIENT: Lockheed Martin Corp.
PROJECT NAME: Beaumont Site 1 Sanitary Landfill
PROJECT MANAGER: Bill Muir
TC #: 20305-01
SAMPLERS (Signatures): Christie Espinoza

LINE ITEM	SAMPLE NO.	DATE	TIME	Hardness (314.1)	SVOCs (8270)	PCBs (8082)	Title 22 Metals (6010 7000)	VOCs (8260 8260B)	FILTERED/UNFILTERED	MATRIX TYPE	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE	OBSERVATIONS/COMMENTS
~~1~~	~~H-TB718200~~		~~815~~					X		W	G	~~3~~		
1	H-EB718200		820							W	P	2		
1	H-EB718200		820							W	G	3		
2	H-T11-0.5		843	X	X	X	X			S	G	1		
3	H-T11-2.5		855	X	X	X	X			S	G	1		hold
4	H-T11-5.0		905	X	X	X	X			S	G	1		
5	H-T11-10.0		932	X	X	X	X			S	G	1		
6	H-T11-10.0dup		935	X	X	X	X			S	G	1		
7	H-T5-0.5		1025	X	X	X	X			S	G	1		
8	H-T5-0.5dup		1027	X	X	X	X			S	G	1		

TURN-AROUND TIME: STANDARD

FILTERING: ☐ FILTERED ☐ UNFILTERED

MATRIX TYPE: S - Soil; M - Sediment; W - Water

CONTAINER TYPE: G - Glass Bottle/Jar; SS - Stainless Steel Sleeve; SB - Brass Sleeve; P - Plastic Bottle/Jar

PRESERVATIVES: (Water Only) HCL; NaOH; NR (None required); H_2SO_4

RELINQUISHED BY: Christie Espinoza	SIGNATURE: Christie Espinoza	TETRA TECH, INC.	DATE 7/18/08	TIME 16:30	TOTAL NUMBER OF CONTAINERS ON THIS CHAIN OF CUSTODY: 12
RECEIVED BY: ALFRED BALICOR	SIGNATURE	COMPANY EMAX LABS	DATE 7/18/08	TIME 16:30	METHOD OF SHIPMENT/SHIPMENT NO.
RELINQUISHED BY: ALFRED BALICOR	SIGNATURE	COMPANY EMAX LABS	DATE 7/18/08	TIME 19:40	Special Shipping/Handling/Storage Requirements: T = 2.9°C
RECEIVED BY: INDRA PATEL	SIGNATURE	COMPANY EMAX	DATE 7/18/08	TIME 1940	

2002

X:\GIS\ATT-MISC\COCR.CDR

DISTRIBUTION: White and Pink = Tetra Tech, Inc. Canary = Laboratory

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08 G 195

CHAIN OF CUSTODY RECORD

TETRA TECH, INC.
348 W. Hospitality Lane, Suite 100
San Bernardino, California 92408
Telephone: (909) 381-1674
FAX: (909) 889-1391

SHIP TO: Emax Labs

DATE 7/18/08 PAGE 2 OF 2

CLIENT: Lockheed Martin Corp.
PROJECT NAME: Beaumont Site 1 Sanitary Landfill
PROJECT MANAGER: Bill Muir
TC #: 20305-01
SAMPLERS (Signatures): Christ Espino

LINE ITEM	SAMPLE NO.	DATE	TIME	Pesticides (8141)	SVOCs (8270)	PCBs (8082	Title 22 Metals (6010/7000)	VOCs (8260)	Dioxins Furans (8290)	FILTERED/UNFILTERED	MATRIX TYPE	CONTAINER TYPE	NUMBER OF CONTAINERS	PRESERVATIVE	OBSERVATIONS/COMMENTS
9	1. ~~H-T5-2.5~~	7/18/08	1034	X	X	X	X				S	G	1		H-T5-2.5
10	2. H-T5-3.0		1050						X		S	G	2		
11	3. H-T5-3.0dup		1052						X		S	G	2		
12	4. H-T5-6.0		1102	X	X	X	X				S	G	1		
13	5. H-T5-10.0		1120	X	X	X	X				S	G	1		Hold
14	6. H-T5-12.0		1134	X	X	X	X				S	G	1		
	7.														
	8.														
	9.														
	10.														

TURN-AROUND TIME: STANDARD

FILTERING: ☐ FILTERED ☐ UNFILTERED

MATRIX TYPE: S - Soil; M - Sediment; W - Water

CONTAINER TYPE: G - Glass Bottle/Jar; SS - Stainless Steel Sleeve; SB - Brass Sleeve; P - Plastic Bottle/Jar

PRESERVATIVES: (Water Only) HCL; NaOH; NR (None required); H_2SO_4

RELINQUISHED BY: Christie Espinoza	SIGNATURE: Christie Espinoza	TETRA TECH, INC.	DATE: 7/18/08	TIME: 16:30	TOTAL NUMBER OF CONTAINERS ON THIS CHAIN OF CUSTODY: 8
RECEIVED BY: ALFRED CHILCOTT	SIGNATURE	COMPANY: EMAX LABS	DATE: 7/18/08	TIME: 16:30	METHOD OF SHIPMENT/SHIPMENT NO.
RELINQUISHED BY: ALFRED CHILCOTT	SIGNATURE	COMPANY: EMAX LABS.	DATE: 7/18/08	TIME: 19:40	Special Shipping/Handling/Storage Requirements: T = 2.9°C
RECEIVED BY: INDRA PATEL	SIGNATURE	COMPANY: EMAX	DATE: 7/18/08	TIME: 1940	

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X:\GIS\ATT-MISC\COCR.CDR

DISTRIBUTION: White and Pink = Tetra Tech, Inc. Canary = Laboratory

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	
☑ EMAX Courier	SEE COC	ECN 08 G 195
☐ Client Delivery		Recepient I PATEL
☐ Third Party		Date 7/18/08
		Time 1940

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☐ Preservative (if any)	☑ TAT

Safety Issues

☑ None ☐ High concentrations expected ☐ Superfund Site samples ☐ Rad screening required

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☐ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ Plastic Bag
Temperatures	☑ Cooler 1 2.9 °C	☐ Cooler 2 ____ °C	☐ Cooler 3 ____ °C	☐ Cooler 4 ____ °C	☐ Cooler 5 ____ °C
	☐ Cooler 6 ____ °C	☐ Cooler 7 ____ °C	☐ Cooler 8 ____ °C	☐ Cooler 9 ____ °C	☐ Cooler 10 ____ °C

Comments: ☐ **PM was informed on non-compliant coolers imediately.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code
-01	001 - 005	H-EB7182008	Recd (5) Containers	R6
			w/THIS ID for Inorganics	
			metals, 8270, 8082	
			A1, A2	
01-08, 10-14		7-18-08	D1 (DATE)	R5
-01 TO 14	001 - 020		A2	R2
10 & 11			Recd (2) JARS for	R7
			Dioxins & Other	
			Analysis not Marked	
			on COC)	

REVIEWS

Sample Labeling _____ Date 7-18-08

SRF _____ Date 7/18/08

PM _____ Date 7/18/08

LEGEND:

Code	Description- Sample Management
A1	Analysis is not indicated in COC
A2	Analysis is not indicated in label
A3	Analysis is inconsistent in COC vis-à-vis label
B1	Sample ID is not indicated in COC
B2	Sample ID is not indicated in label
B3	Sample ID is inconsistent in COC vis-à-vis label
C1	Wrong container
C2	Broken container
C3	Leaking container
D1	Date and/or time is not indicated in COC
D2	Date and/or time is not indicated in label
D3	Date and/or time is inconsistent in COC vis-à-vis label

Code	Description-Sample Management
E1	Preservative needed; sample has no preservative
E2	Preservative not needed but sample is preserved
F1	Not enough quantity of samples
F2	Bubble is> 6mm
G1	Temperature is out of range (4 +_ 2°C)
G2	Out of Holding Time
G3	>20 % solid particle
H1	_____
H2	_____

Code	Description-Project Management
R1	Hold sample(s); wait for further instructions
R2	Proceed as indicated in COC
R3	Refer to attached instruction
R4	Cancel the analysis
R5	Follow date on label
R6	Analyse 314, metals, 8270, 8082,

R7. Send 1 jar to the sub-l for 8290.

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REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.