

Data Path : Z:\HPCHEM1\BNA F\DATA\BF120215\
 Data File : BF083449.D
 Acq On : 3 Dec 2015 7:55
 Operator : UM/IZ
 Sample : G4582-04 2X
 Misc :
 ALS Vial : 36 Sample Multiplier: 1

Instrument :
 BNA_F
 ClientSampleId :
 SB-P3WC-03(0-8)

Manual Integrations
 APPROVED

Mmdadoda
 12/3/2015 7:10:09 PM

Quant Time: Dec 03 10:36:56 2015
 Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF113015.M
 Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
 QLast Update : Tue Dec 01 01:17:16 2015
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.53	152	140984	20.00	ng	-0.01
21) Naphthalene-d8	7.82	136	564009	20.00	ng	-0.01
38) Acenaphthene-d10	9.57	164	271238	20.00	ng	-0.01
63) Phenanthrene-d10	11.12	188	420265	20.00	ng	-0.01
75) Chrysene-d12	14.74	240	312437	20.00	ng	-0.02
86) Perylene-d12	16.81	264	299902	20.00	ng	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	5.12	112	526798	56.07	ng	-0.01
7) Phenol-d6	6.20	99	733872	57.07	ng	-0.02
23) Nitrobenzene-d5	7.10	82	440067	34.30	ng	-0.02
41) 2,4,6-Tribromophenol	10.36	330	121636	44.67	ng	-0.02
44) 2-Fluorobiphenyl	8.91	172	736758	38.71	ng	-0.01
78) Terphenyl-d14	13.20	244	482184	36.81	ng	-0.02
Target Compounds						Qvalue
31) Naphthalene	7.85	128	500553	16.36	ng	98
37) 2-Methylnaphthalene	8.54	142	91966	4.50	ng	97
48) Acenaphthylene	9.44	152	83939	2.90	ng	99
49) Dimethylphthalate	9.31	163	148755	6.75	ng	98
51) Acenaphthene	9.61	154	314807	18.51	ng	98
54) Dibenzofuran	9.78	168	141676	5.69	ng	93
57) Fluorene	10.12	166	211191	10.73	ng	99
70) Phenanthrene	11.15	178	2556492	102.79	ng	96
71) Anthracene	11.20	178	686483	27.42	ng	97
72) Carbazole	11.39	167	342018	15.20	ng	100
74) Fluoranthene	12.66	202	3091097	119.90	ng	100
77) Pylene	12.97	202	2863505	131.23	ng	# 92
80) Benzo(a)anthracene	14.73	228	1475897	77.10	ng	97
82) Chrysene	14.79	228	1353219	73.17	ng	97
85) Indeno(1,2,3-cd)pyrene	18.19	276	636948	47.29	ng	94
87) Benzo(b)fluoranthene	16.31	252	1578846m	82.05	ng	
88) Benzo(k)fluoranthene	16.32	252	638237m	35.12	ng	
89) Benzo(a)pyrene	16.74	252	1112254	67.29	ng	# 95
90) Dibenzo(a,h)anthracene	18.20	278	202408	14.05	ng	96
91) Benzo(a,h,i)perylene	18.57	276	598137	42.32	ng	98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

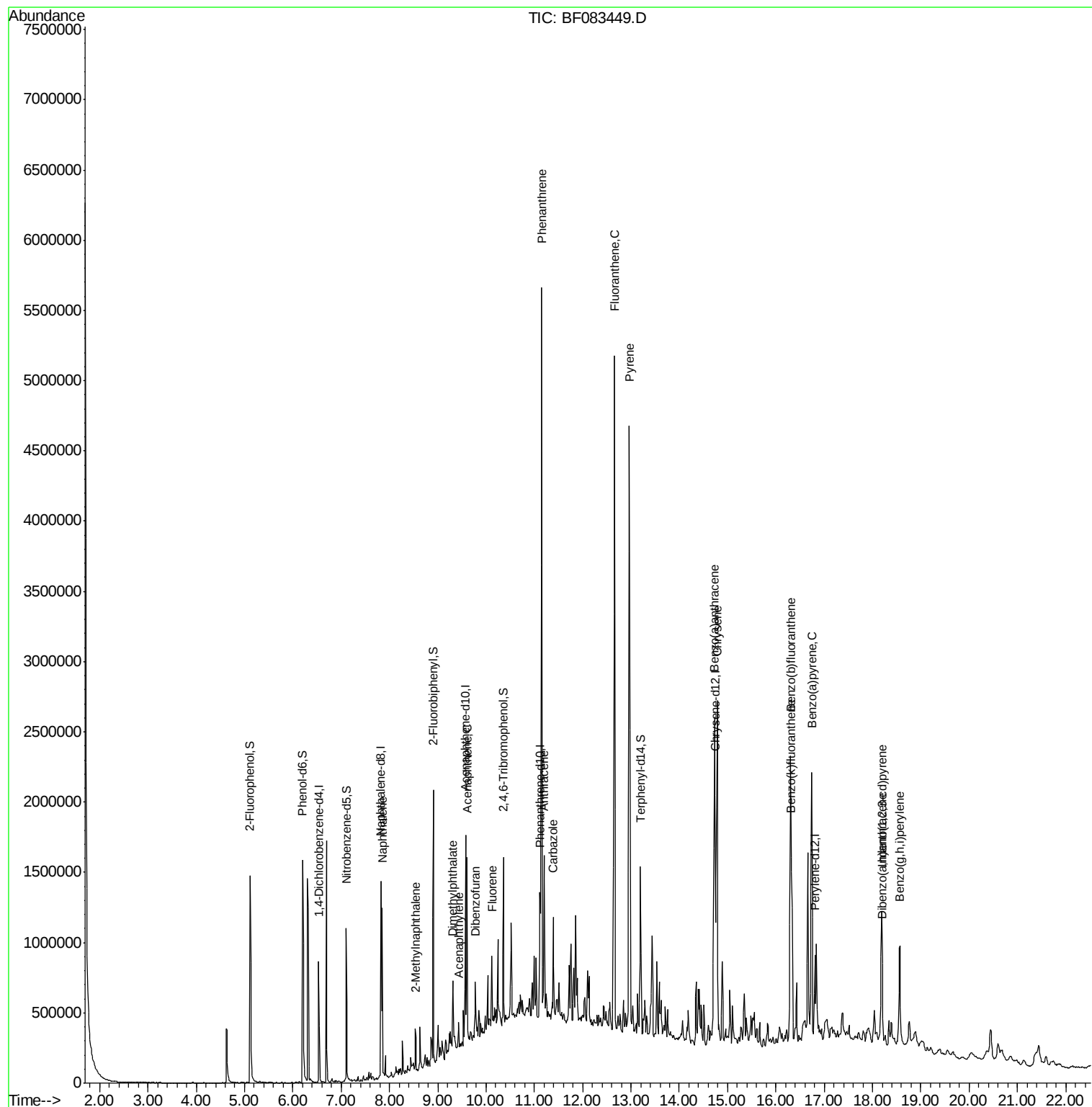
Data Path : Z:\HPCHEM1\BNA F\DATA\BF120215\
Data File : BF083449.D
Acq On : 3 Dec 2015 7:55
Operator : UM/IZ
Sample : G4582-04 2X
Misc :
ALS Vial : 36 Sample Multiplier: 1

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM

Quant Time: Dec 03 10:36:56 2015
Quant Method : Z:\HPCHEM1\BNA F\METHODS\8270-BF113015.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION
QLast Update : Tue Dec 01 01:17:16 2015
Response via : Initial Calibration





#1

1,4-Dichlorobenzene-d4

Concen: 20.00 ng

RT: 6.53 min Scan# 424

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

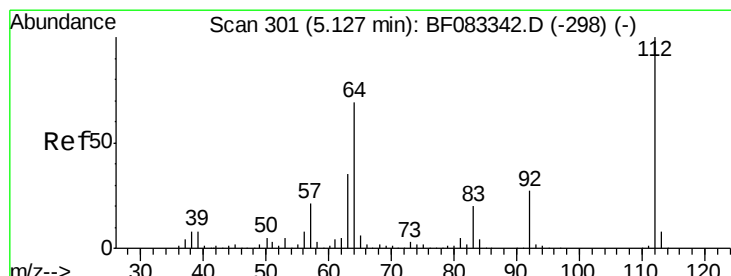
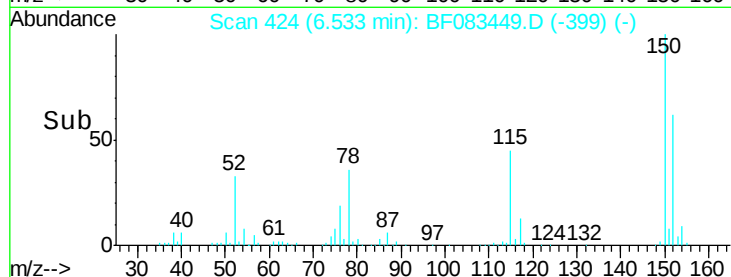
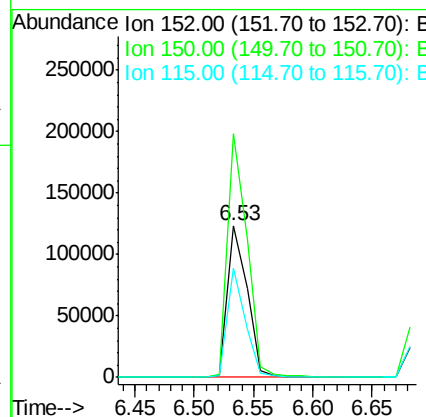
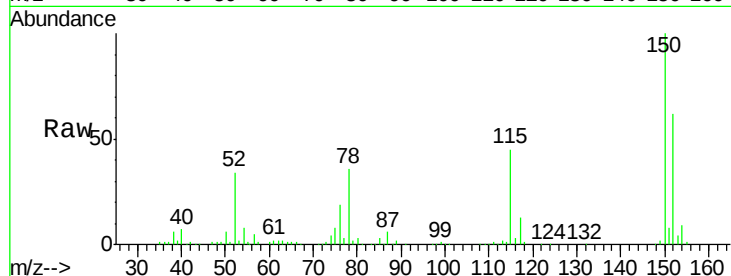
ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:	152	Resp:	140984
Ion Ratio	Lower	Upper	
152	100		
150	160.8	129.8	194.8
115	71.9	59.2	88.8

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#5

2-Fluorophenol

Concen: 56.07 ng

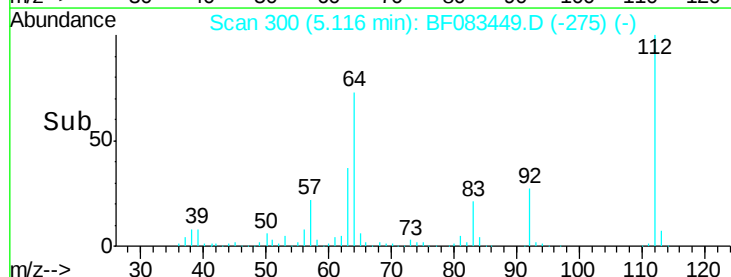
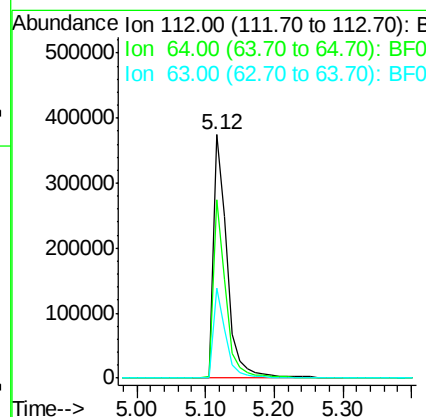
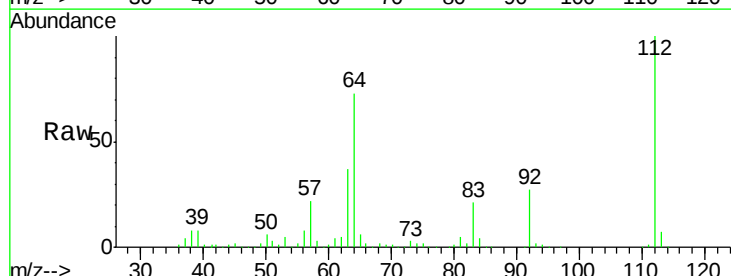
RT: 5.12 min Scan# 300

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	112	Resp:	526798
Ion Ratio	Lower	Upper	
112	100		
64	73.4	55.6	83.4
63	36.8	28.2	42.2





#7

Phenol-d6

Concen: 57.07 ng

RT: 6.20 min Scan# 395

Delta R.T. -0.02 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion: 99 Resp: 733872

Ion Ratio Lower Upper

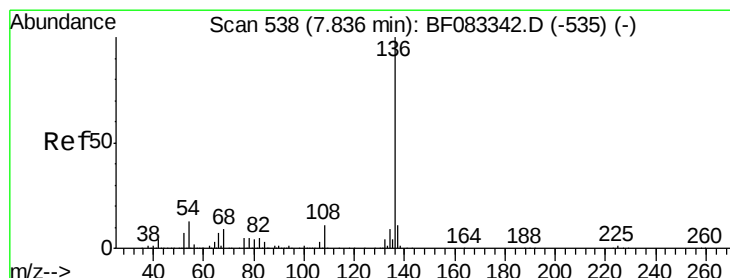
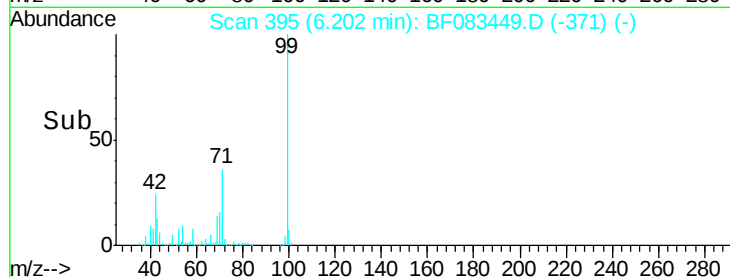
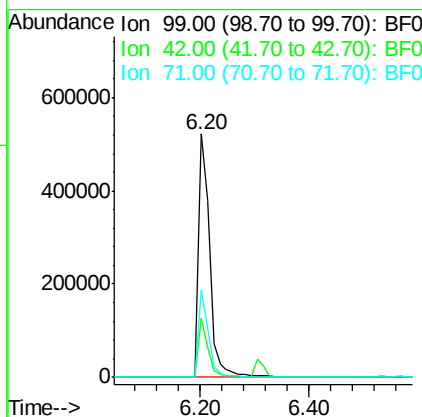
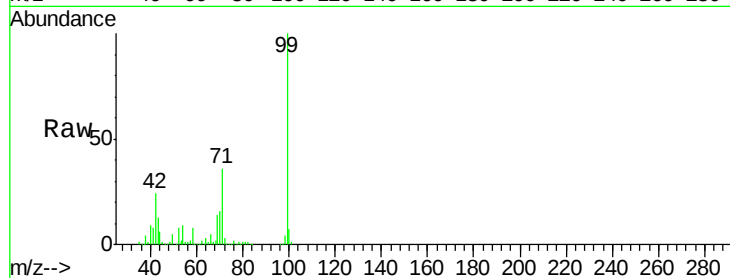
99 100

42 24.3 14.9 22.3#

71 35.7 24.7 37.1

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#21

Naphthalene-d8

Concen: 20.00 ng

RT: 7.82 min Scan# 537

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion: 136 Resp: 564009

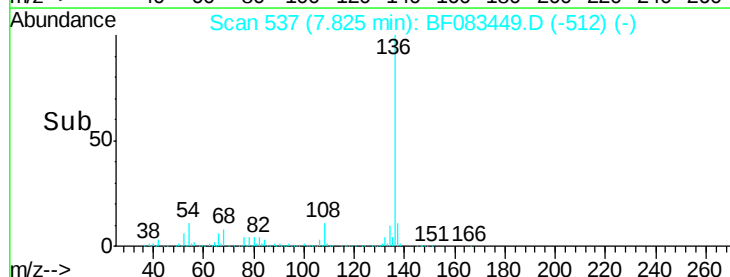
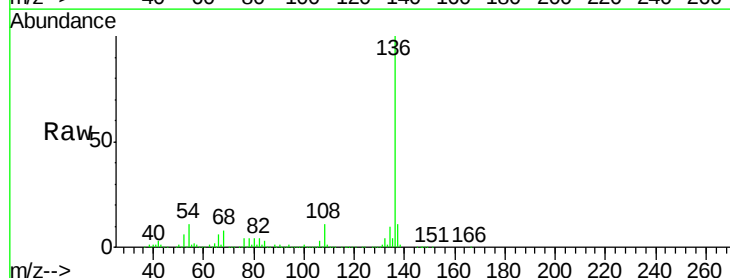
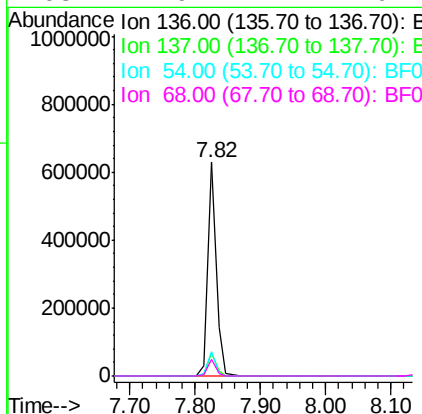
Ion Ratio Lower Upper

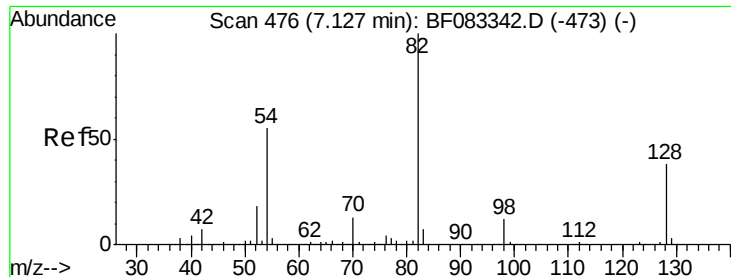
136 100

137 11.0 9.0 13.4

54 11.4 10.1 15.1

68 7.9 7.1 10.7





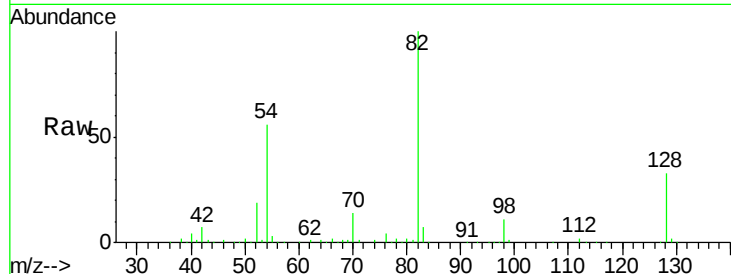
#23
Nitrobenzene-d5
Concen: 34.30 ng
RT: 7.10 min Scan# 474
Delta R.T. -0.02 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Tot Ion	Ratio	Lower	Upper
82	100		
128	33.3	30.6	46.0
54	56.0	43.8	65.6

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM

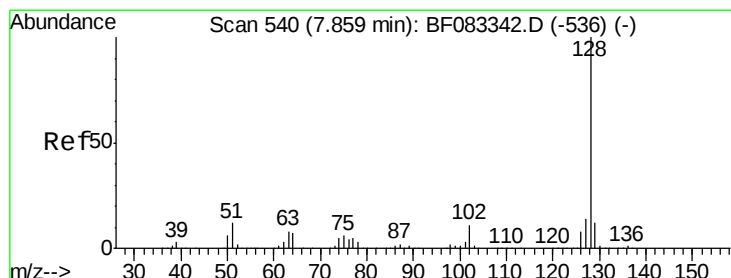
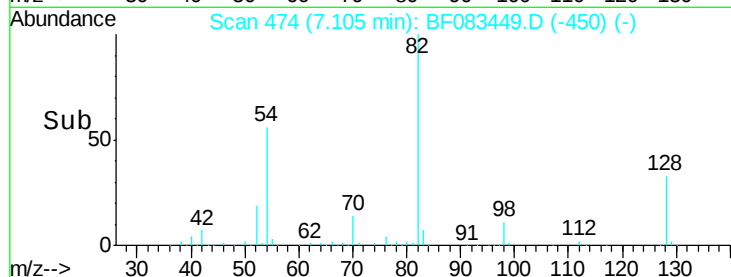
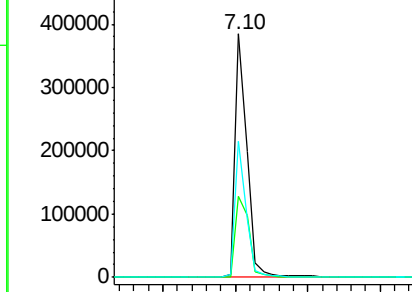


Abundance

Ion 82.00 (81.70 to 82.70): BF0

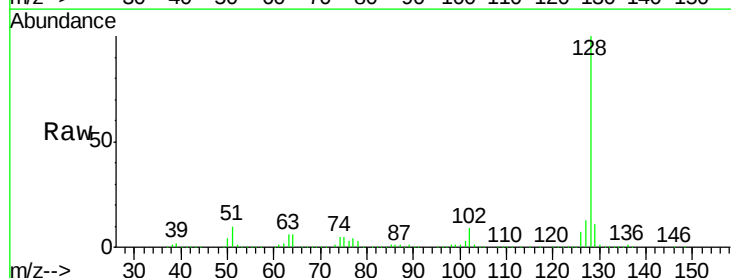
Ion 128.00 (127.70 to 128.70): E

Ion 54.00 (53.70 to 54.70): BF0



#31
Naphthalene
Concen: 16.36 ng
RT: 7.85 min Scan# 539
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Lower	Upper
128	100		
129	11.3	9.7	14.5
127	12.8	11.0	16.4

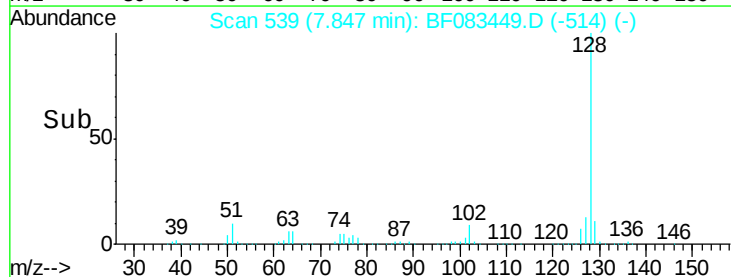
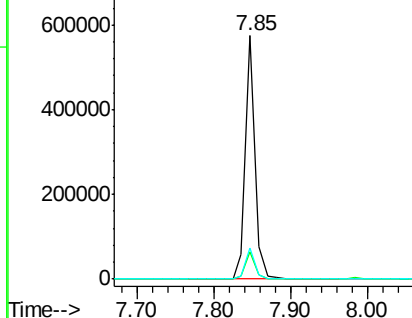


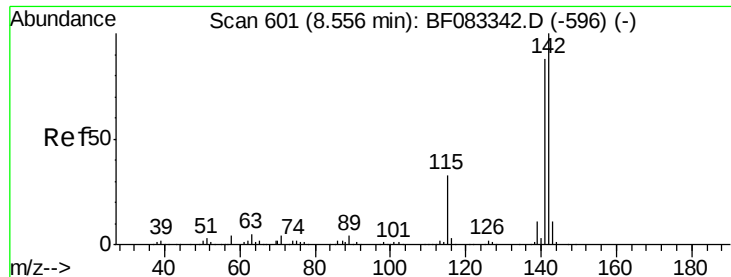
Abundance

Ion 128.00 (127.70 to 128.70): E

Ion 129.00 (128.70 to 129.70): E

Ion 127.00 (126.70 to 127.70): E





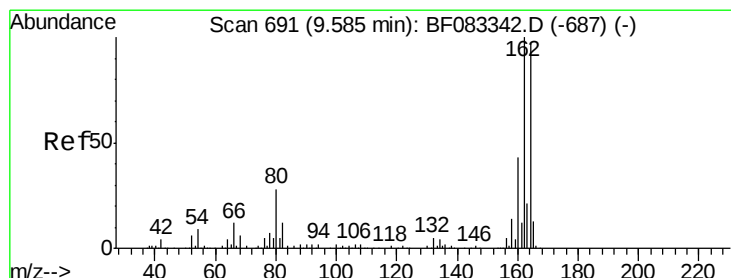
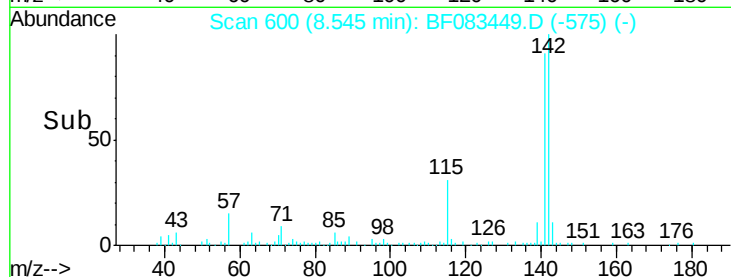
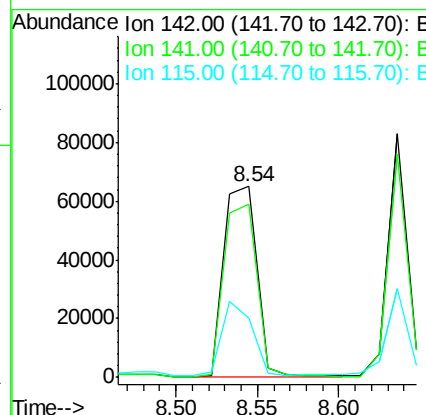
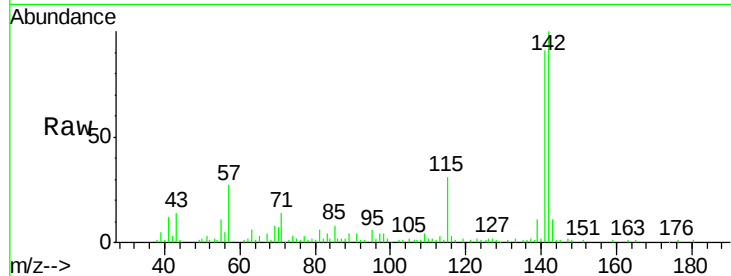
#37
2-Methylnaphthalene
Concen: 4.50 ng
RT: 8.54 min Scan# 600
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Tot Ion	Ratio	Lower	Upper
142	100		
141	90.9	70.6	105.8
115	30.9	26.2	39.2

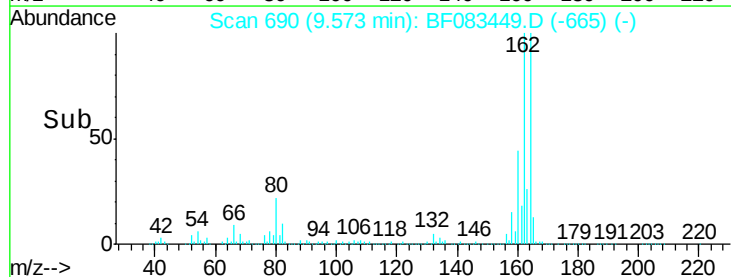
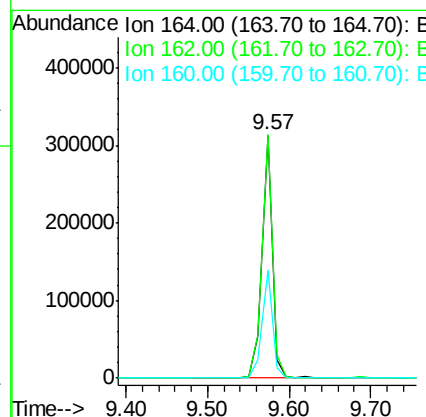
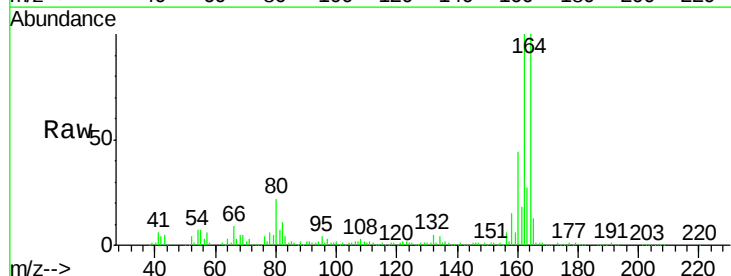
Manual Integrations
APPROVED

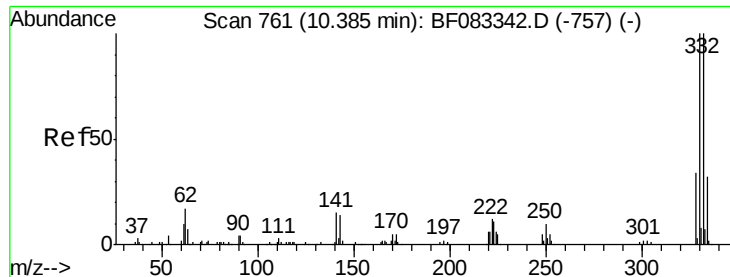
Mmdadoda
12/3/2015 7:10:09 PM



#38
Acenaphthene-d10
Concen: 20.00 ng
RT: 9.57 min Scan# 690
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Lower	Upper
164	100		
162	100.3	82.6	123.8
160	44.2	35.3	52.9





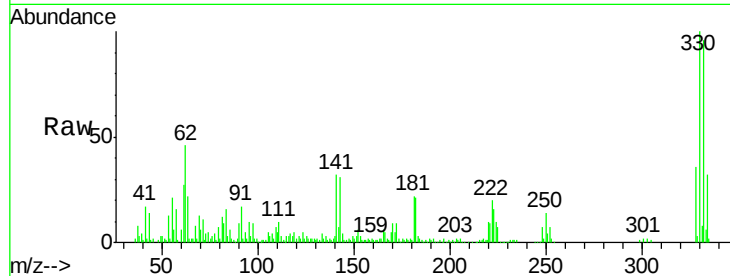
#41
 2,4,6-Tribromophenol
 Concen: 44.67 ng
 RT: 10.36 min Scan# 759
 Delta R.T. -0.02 min
 Lab File: BF083449.D
 Acq: 3 Dec 2015 7:55

Instrument :
 BNA_F
 ClientSampleId :
 SB-P3WC-03(0-8)

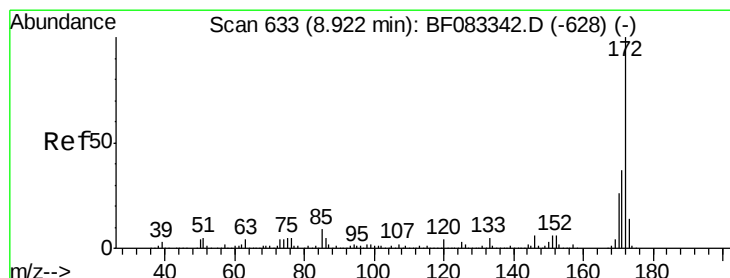
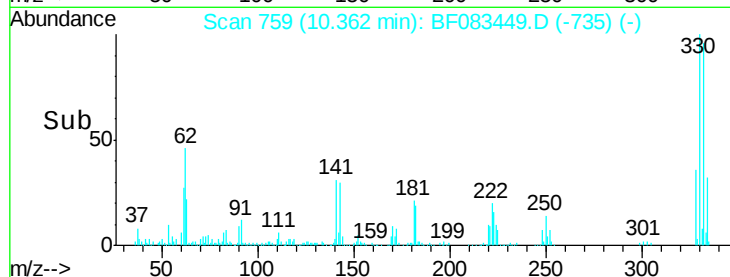
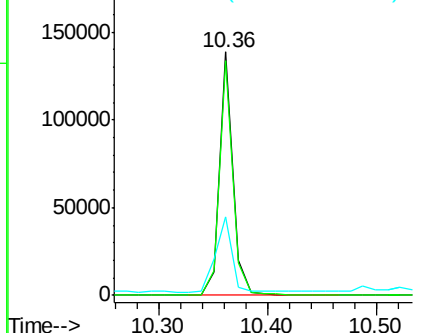
Tot Ion	Ratio	Resp	Lower	Upper
330	100			
332	96.2	77.8	116.6	
141	38.9	29.4	44.0	

Manual Integrations
 APPROVED

Mmdadoda
 12/3/2015 7:10:09 PM



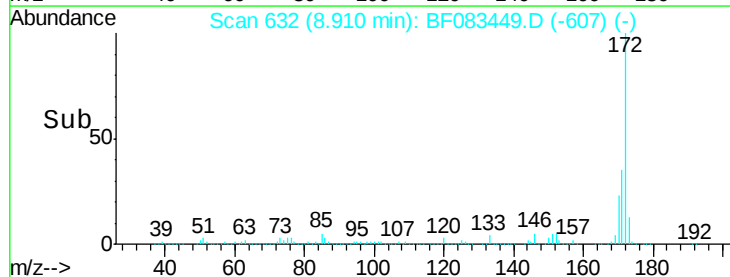
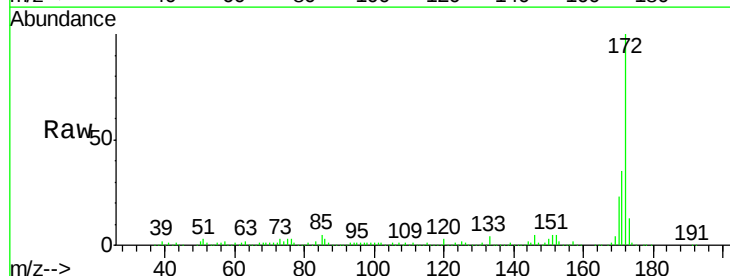
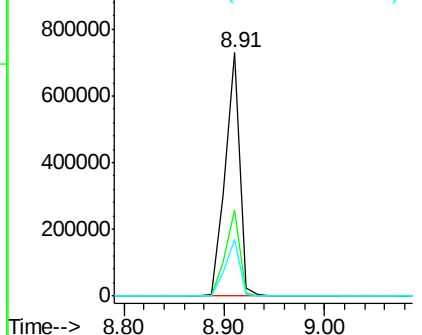
Abundance Ion 329.80 (329.50 to 330.50): E
 Ion 331.80 (331.50 to 332.50): E
 Ion 141.00 (140.70 to 141.70): E

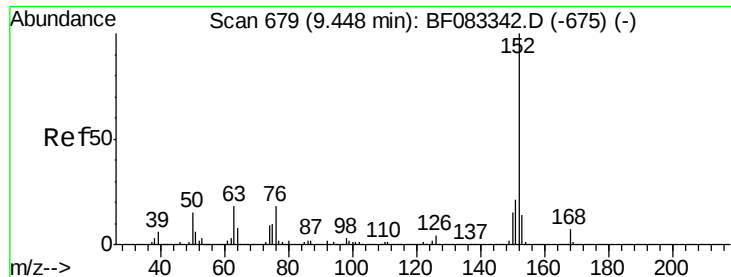


#44
 2-Fluorobiphenyl
 Concen: 38.71 ng
 RT: 8.91 min Scan# 632
 Delta R.T. -0.01 min
 Lab File: BF083449.D
 Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Resp	Lower	Upper
172	100			
171	35.1	29.4	44.0	
170	23.2	20.4	30.6	

Abundance Ion 172.00 (171.70 to 172.70): E
 Ion 171.00 (170.70 to 171.70): E
 Ion 170.00 (169.70 to 170.70): E





#48

Acenaphthylene

Concen: 2.90 ng

RT: 9.44 min Scan# 678

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

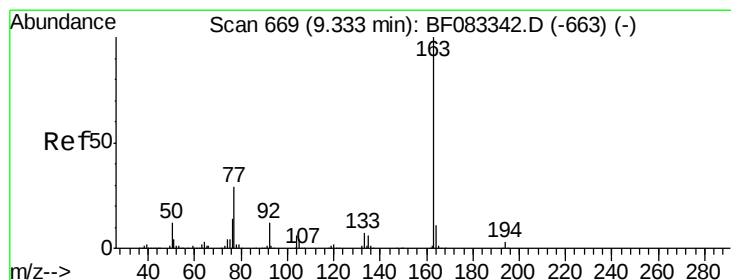
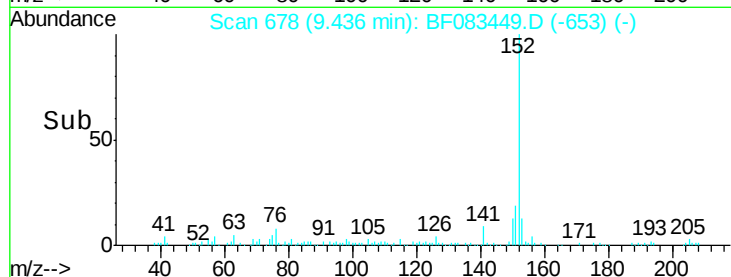
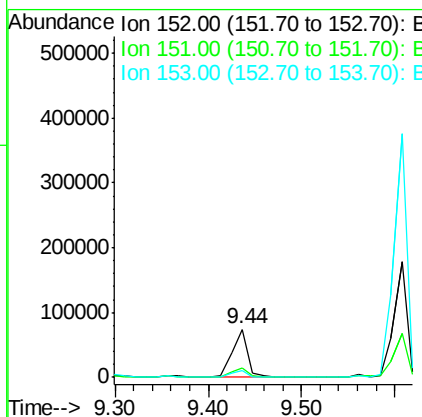
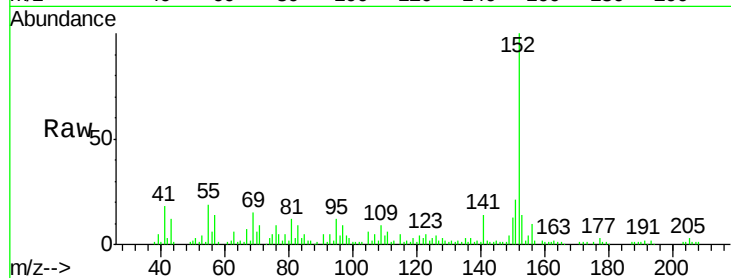
ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:	152	Resp:	83939
Ion Ratio	Lower	Upper	
152	100		
151	20.6	16.7	25.1
153	14.2	11.2	16.8

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#49

Dimethylphthalate

Concen: 6.75 ng

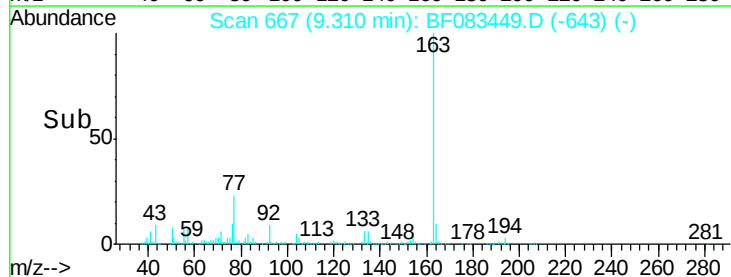
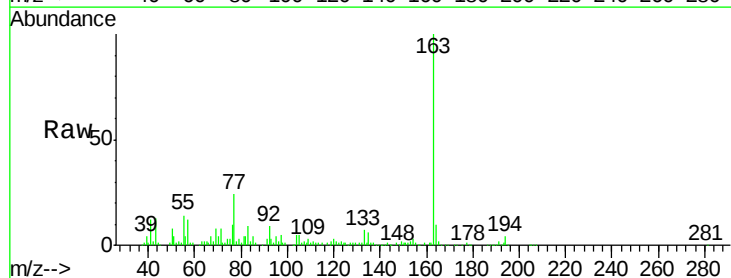
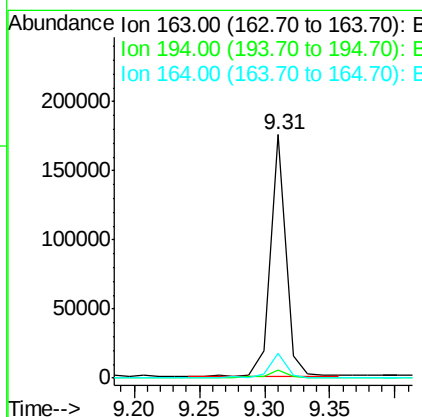
RT: 9.31 min Scan# 667

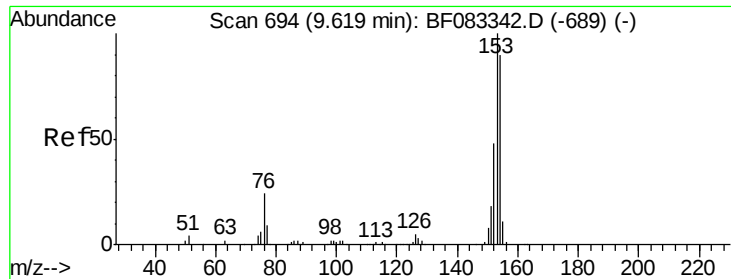
Delta R.T. -0.02 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	163	Resp:	148755
Ion Ratio	Lower	Upper	
163	100		
194	3.5	2.7	4.1
164	10.0	8.8	13.2





#51

Acenaphthene

Concen: 18.51 ng

RT: 9.61 min Scan# 693

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

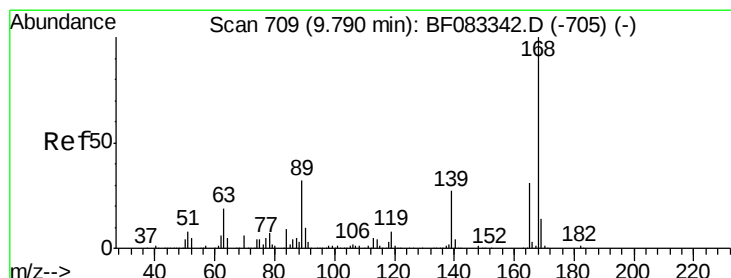
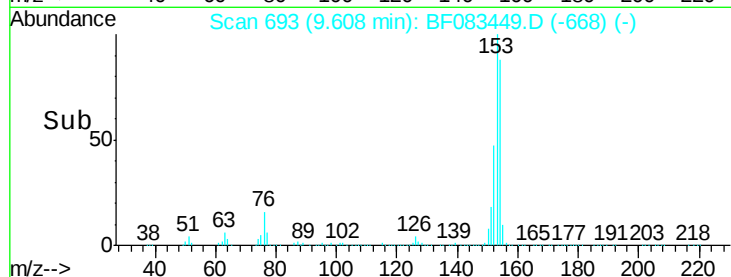
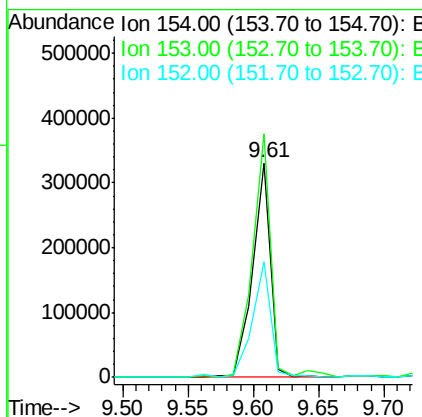
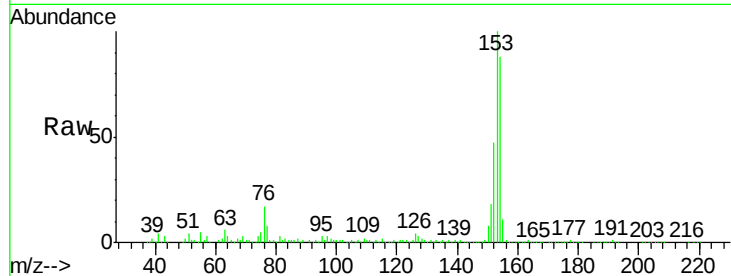
ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:	154	Resp:	314807
Ion Ratio	Lower	Upper	
154	100		
153	113.5	89.3	133.9
152	53.9	42.5	63.7

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#54

Dibenzofuran

Concen: 5.69 ng

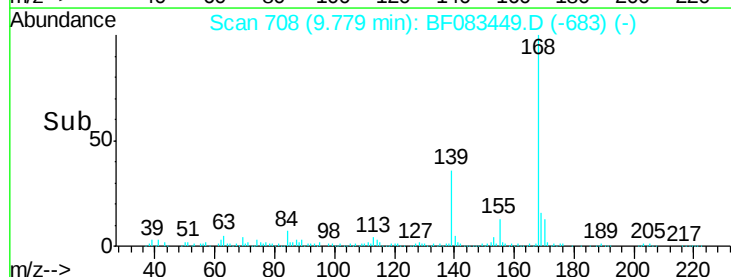
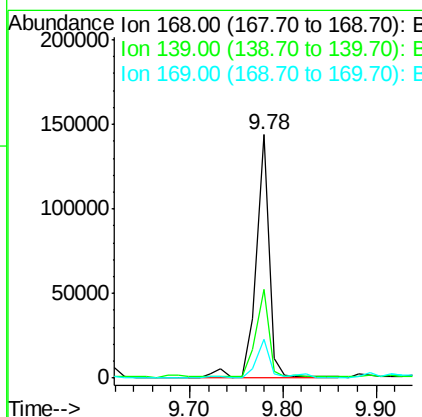
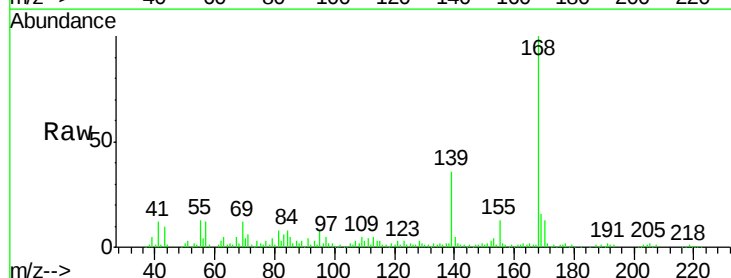
RT: 9.78 min Scan# 708

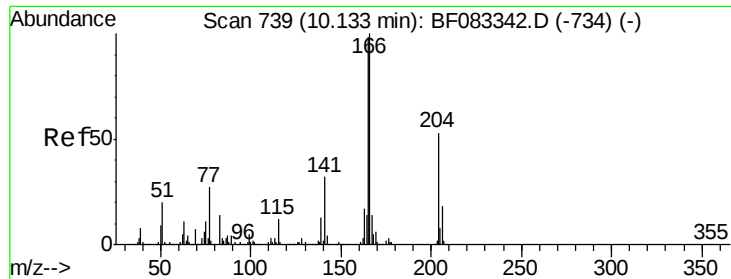
Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	168	Resp:	141676
Ion Ratio	Lower	Upper	
168	100		
139	36.3	32.7	49.1
169	15.7	11.1	16.7





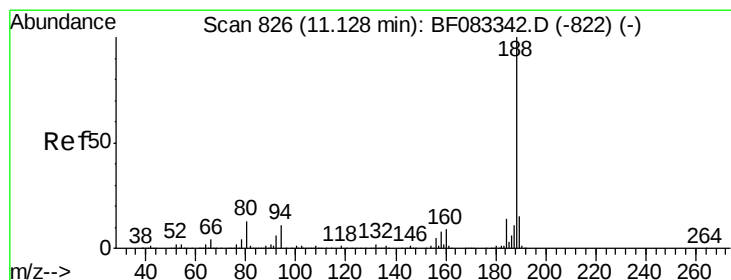
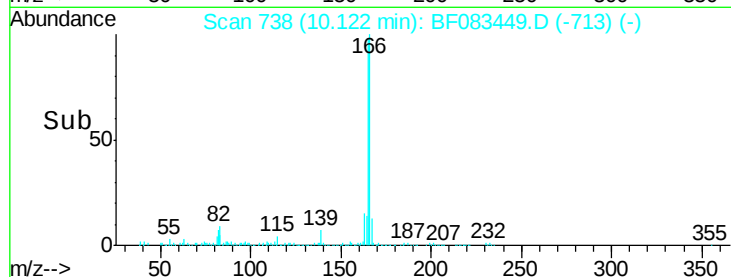
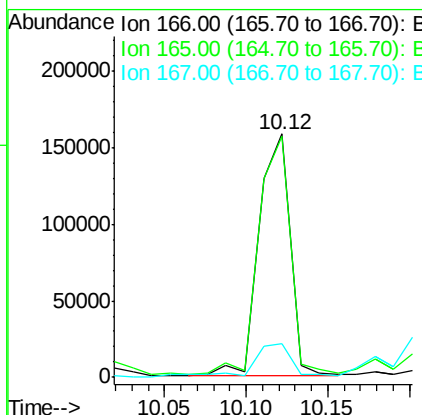
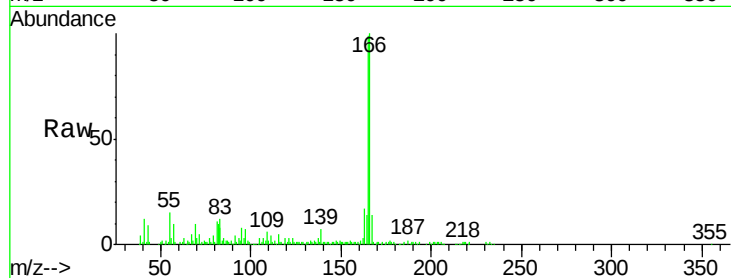
#57
Fluorene
Concen: 10.73 ng
RT: 10.12 min Scan# 738
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Tot Ion	Ratio	Resp	Lower	Upper
166	100	211191		
165	99.0	78.3	117.5	
167	13.9	11.1	16.7	

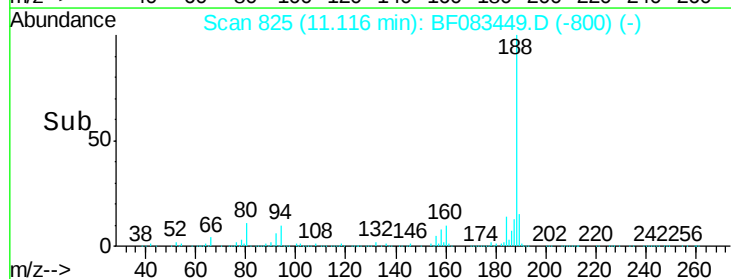
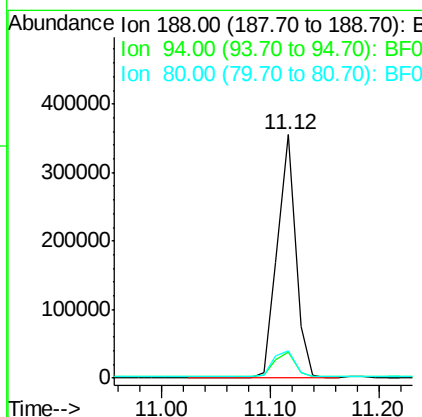
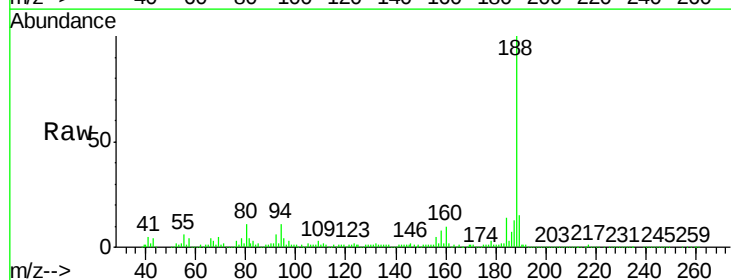
Manual Integrations
APPROVED

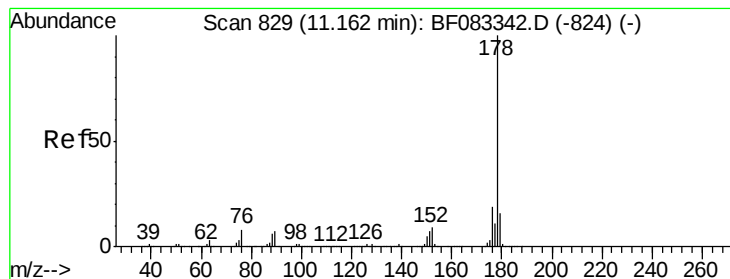
Mmdadoda
12/3/2015 7:10:09 PM



#63
Phenanthrene-d10
Concen: 20.00 ng
RT: 11.12 min Scan# 825
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Resp	Lower	Upper
188	100	420265		
94	10.6	8.7	13.1	
80	11.3	10.3	15.5	





#70

Phenanthrene

Concen: 102.79 ng

RT: 11.15 min Scan# 828

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:178 Resp: 2556492

Ion Ratio Lower Upper

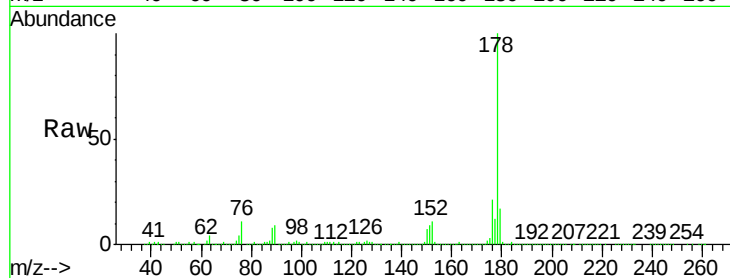
178 100

176 21.2 15.3 22.9

179 16.8 12.4 18.6

Manual Integrations
APPROVED

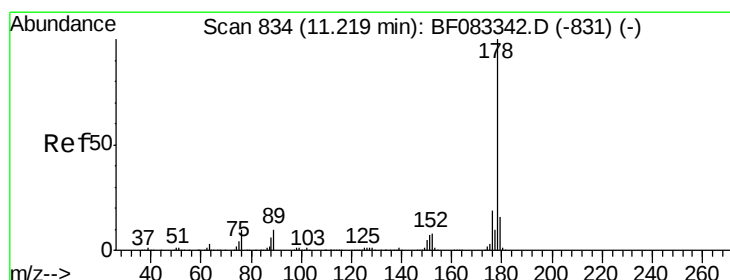
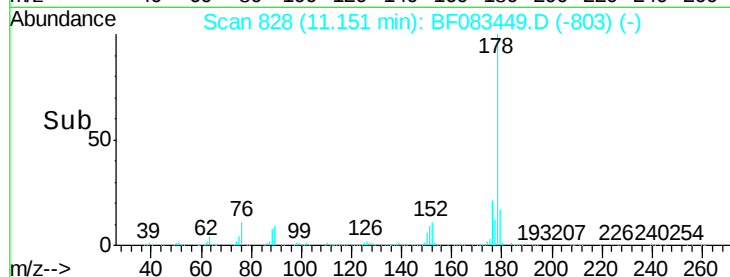
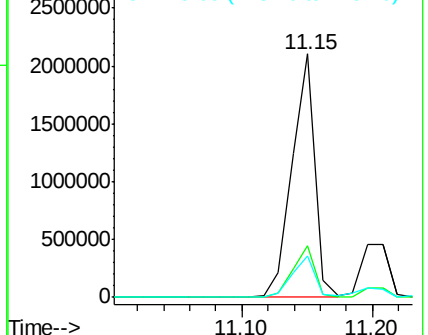
Mmdadoda
12/3/2015 7:10:09 PM



Abundance Ion 178.00 (177.70 to 178.70): E

Ion 176.00 (175.70 to 176.70): E

Ion 179.00 (178.70 to 179.70): E



#71

Anthracene

Concen: 27.42 ng

RT: 11.20 min Scan# 832

Delta R.T. -0.02 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:178 Resp: 686483

Ion Ratio Lower Upper

178 100

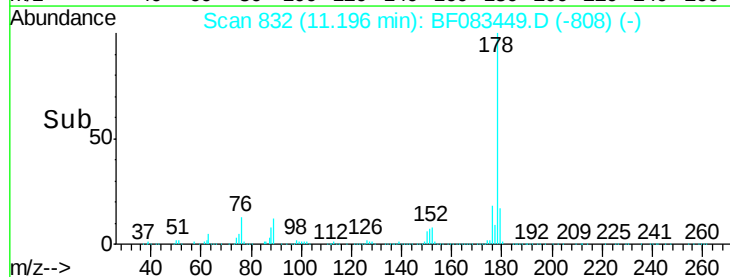
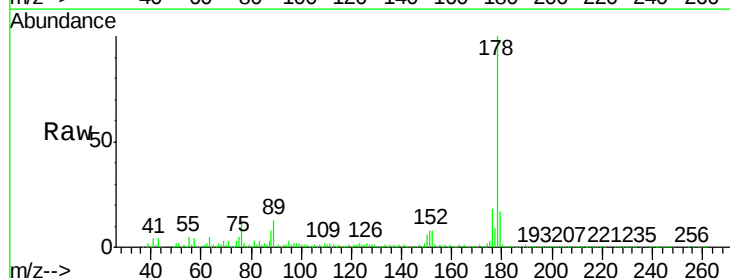
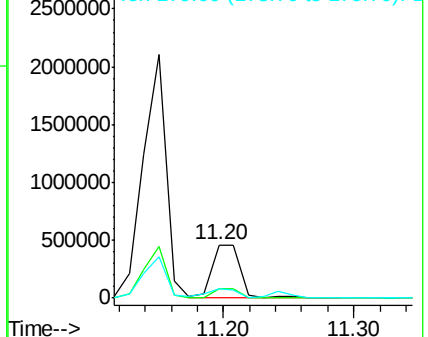
176 18.1 15.6 23.4

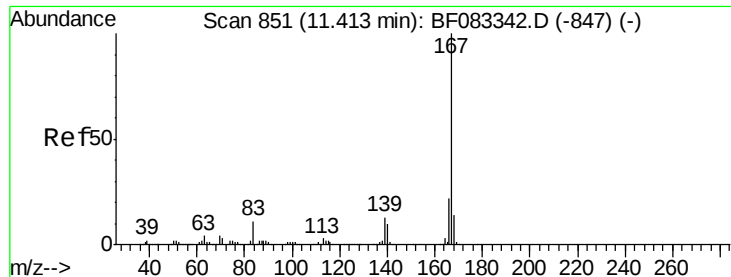
179 17.5 12.8 19.2

Abundance Ion 178.00 (177.70 to 178.70): E

Ion 176.00 (175.70 to 176.70): E

Ion 179.00 (178.70 to 179.70): E





#72

Carbazole

Concen: 15.20 ng

RT: 11.39 min Scan# 849

Delta R.T. -0.02 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

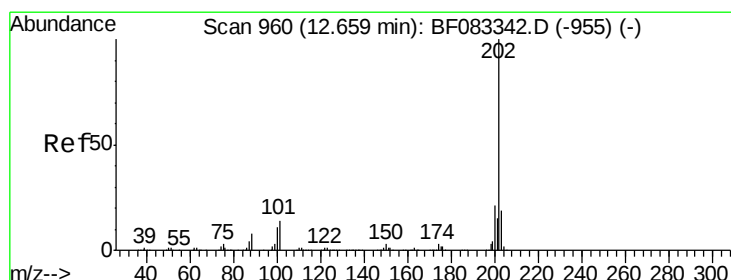
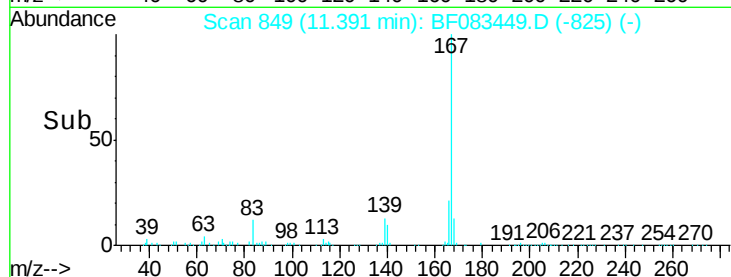
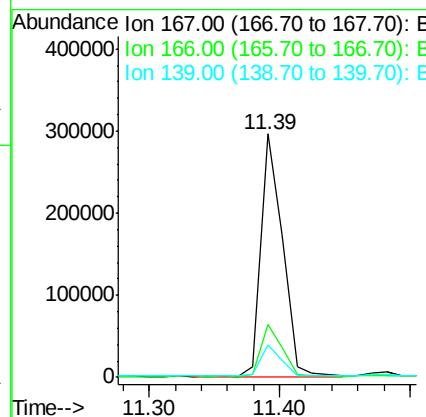
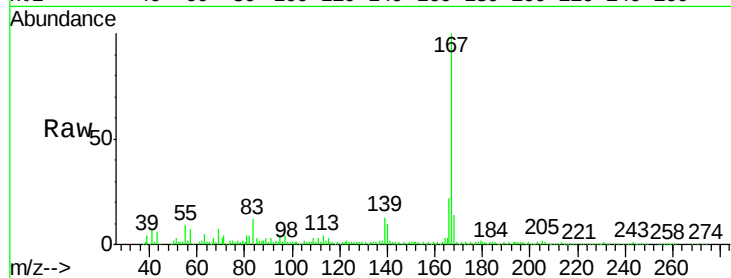
ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:	167	Resp:	342018
Ion Ratio	Lower	Upper	
167	100		
166	21.6	17.4	26.0
139	13.2	10.5	15.7

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#74

Fluoranthene

Concen: 119.90 ng

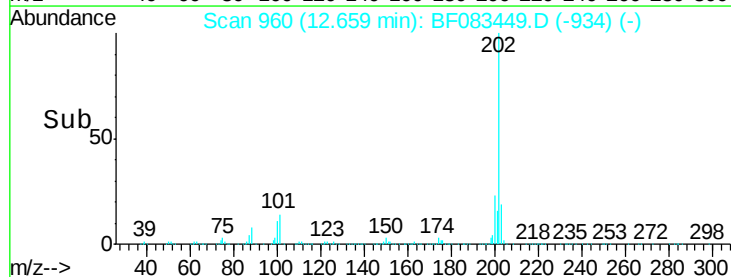
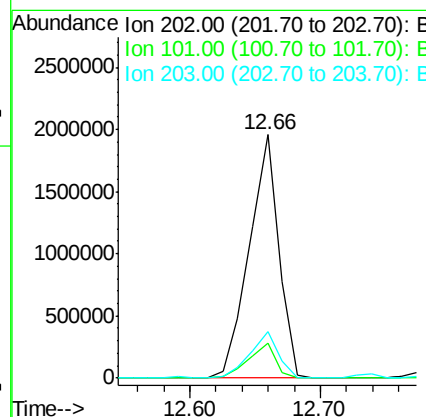
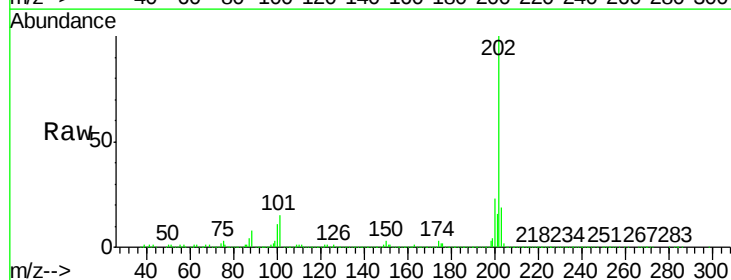
RT: 12.66 min Scan# 960

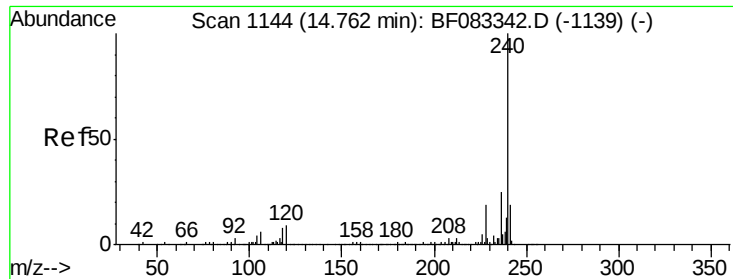
Delta R.T. 0.00 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	202	Resp:	3091097
Ion Ratio	Lower	Upper	
202	100		
101	14.5	0.0	34.5
203	19.0	0.0	38.7





#75

Chrysene-d12

Concen: 20.00 ng

RT: 14.74 min Scan# 1142

Delta R.T. -0.02 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

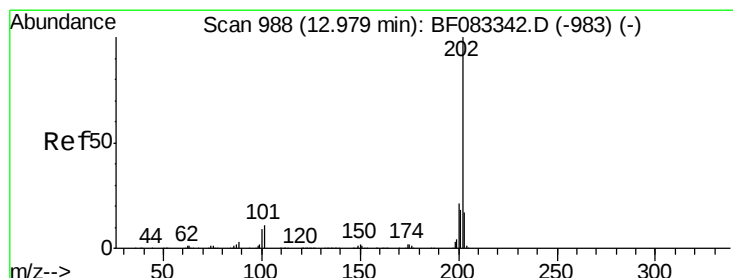
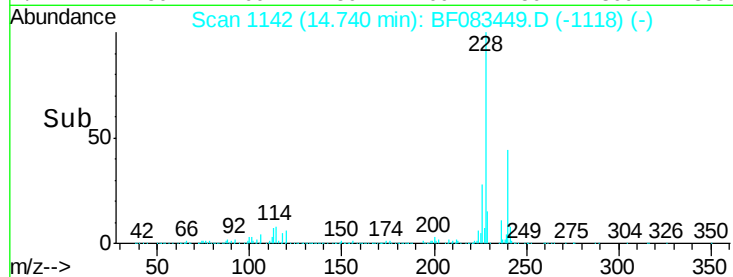
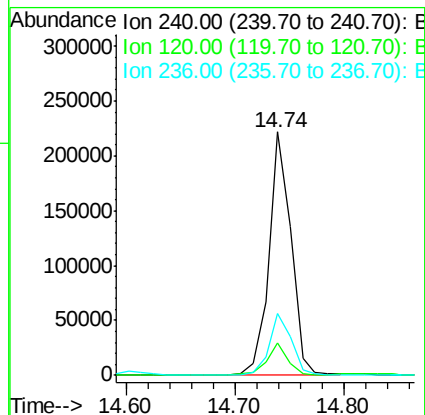
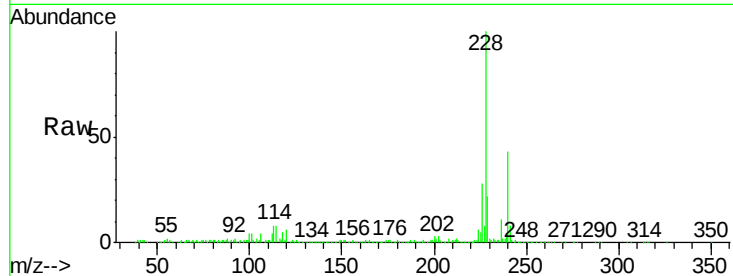
ClientSampleId :

SB-P3WC-03(0-8)

Tot Ion:	240	Resp:	312437
Ion Ratio	Lower	Upper	
240	100		
120	13.5	6.9	10.3#
236	25.7	19.8	29.6

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#77

Pyrene

Concen: 131.23 ng

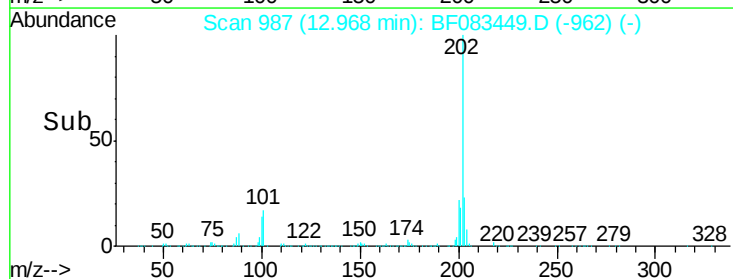
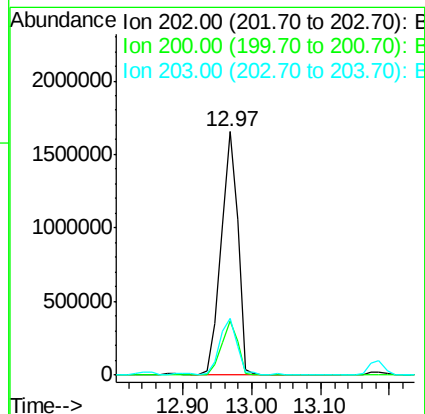
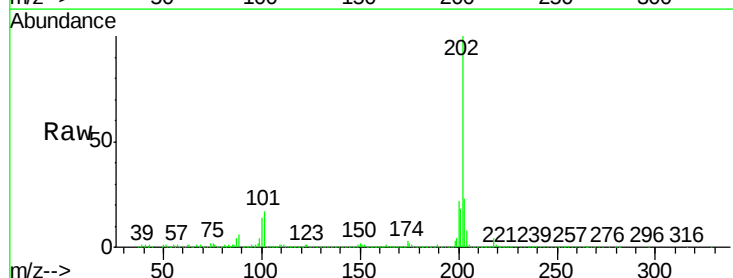
RT: 12.97 min Scan# 987

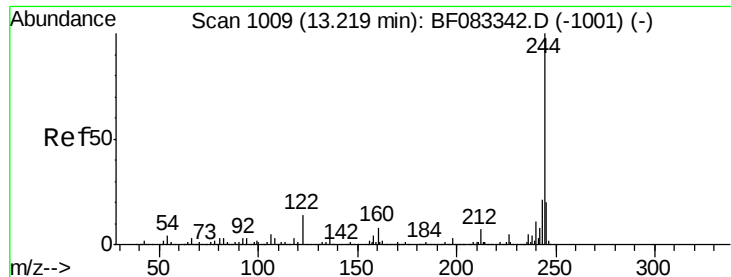
Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	202	Resp:	2863505
Ion Ratio	Lower	Upper	
202	100		
200	22.4	16.9	25.3
203	23.3	13.9	20.9#





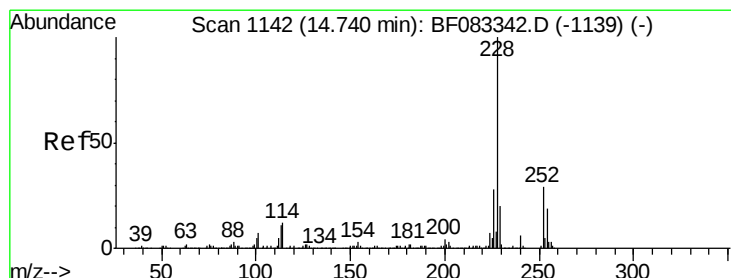
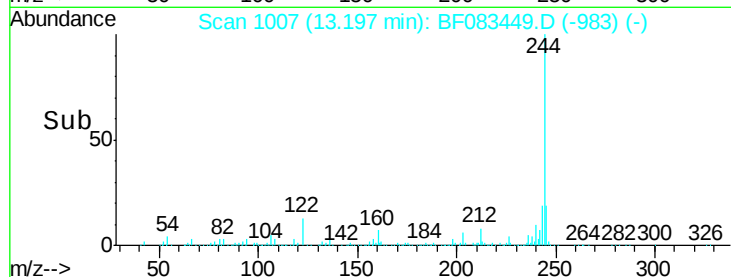
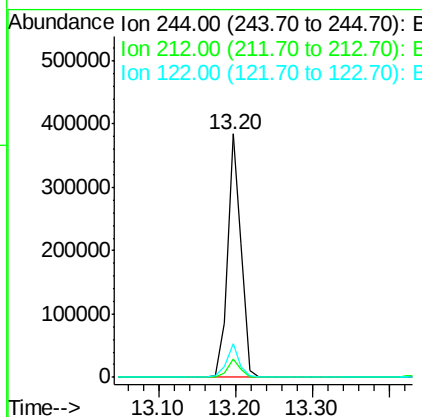
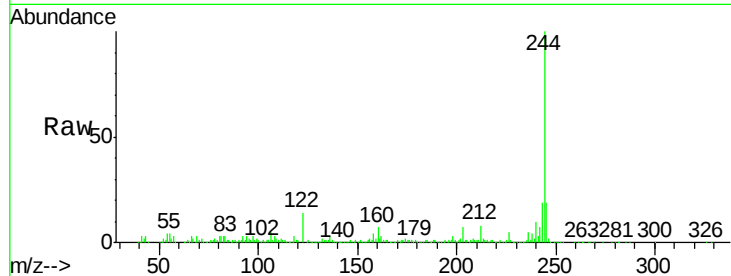
#78
 Terphenyl-d14
 Concen: 36.81 ng
 RT: 13.20 min Scan# 1007
 Delta R.T. -0.02 min
 Lab File: BF083449.D
 Acq: 3 Dec 2015 7:55

Instrument :
 BNA_F
 ClientSampleId :
 SB-P3WC-03(0-8)

Tot Ion	Ratio	Lower	Upper
244	100		
212	7.6	5.8	8.8
122	13.6	11.0	16.4

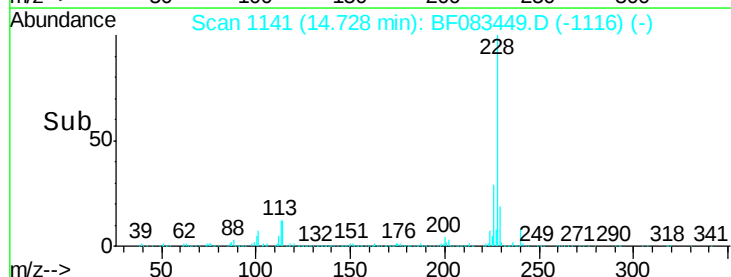
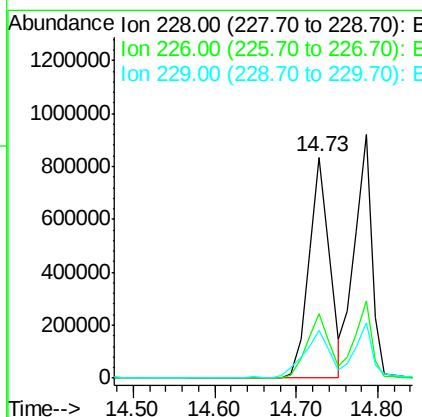
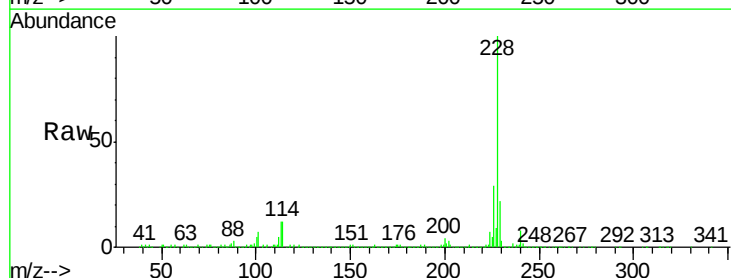
Manual Integrations
 APPROVED

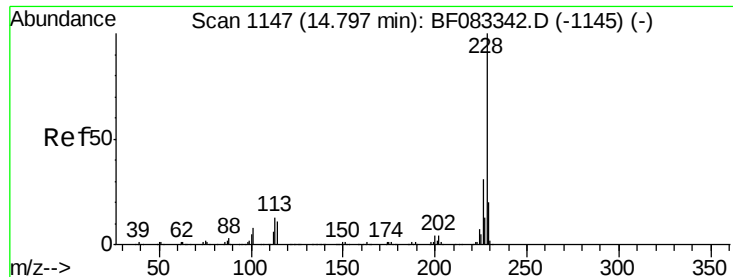
Mmdadoda
 12/3/2015 7:10:09 PM



#80
 Benzo(a)anthracene
 Concen: 77.10 ng
 RT: 14.73 min Scan# 1141
 Delta R.T. -0.01 min
 Lab File: BF083449.D
 Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Lower	Upper
228	100		
226	29.5	22.2	33.4
229	21.6	16.1	24.1





#82

Chrysene

Concen: 73.17 ng

RT: 14.79 min Scan# 1146

Delta R.T. -0.01 min

Lab File: BF083449.D

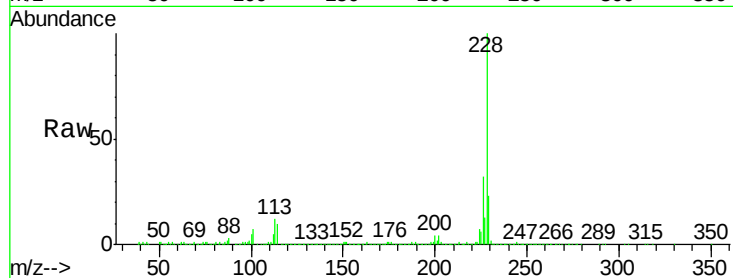
Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

ClientSampleId :

SB-P3WC-03(0-8)



Tot Ion:228 Resp: 1353219

Ion Ratio Lower Upper

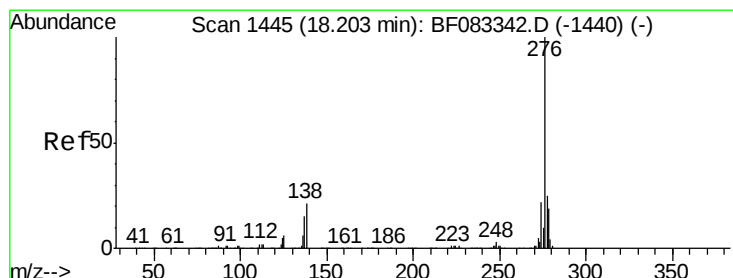
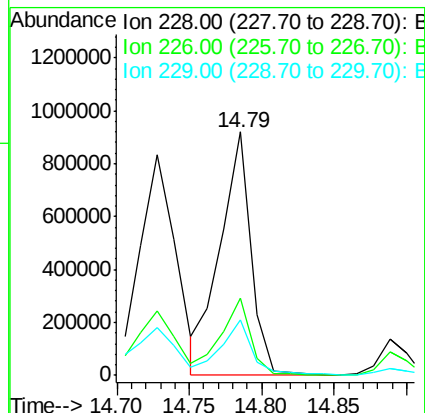
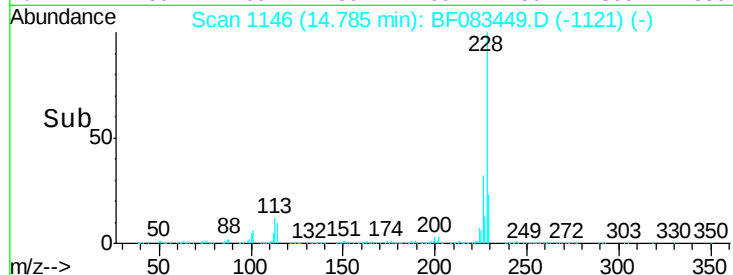
228 100

226 31.7 24.6 37.0

229 22.9 16.2 24.2

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



#85

Indeno(1,2,3-cd)pyrene

Concen: 47.29 ng

RT: 18.19 min Scan# 1444

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

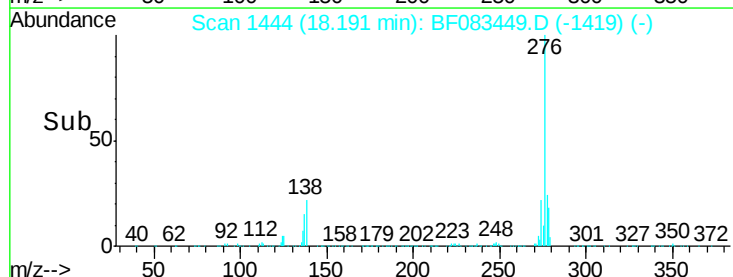
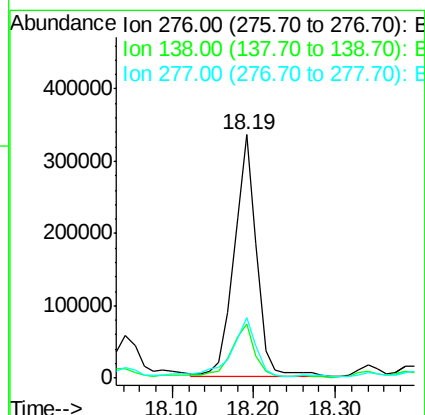
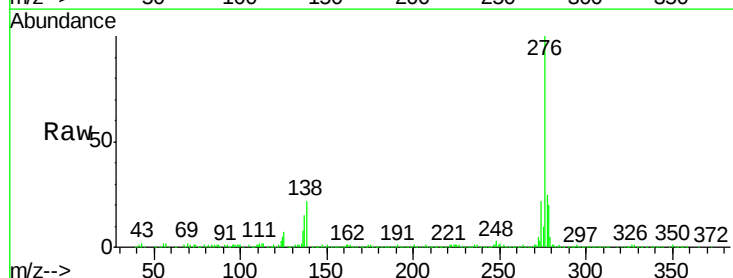
Tgt Ion:276 Resp: 636948

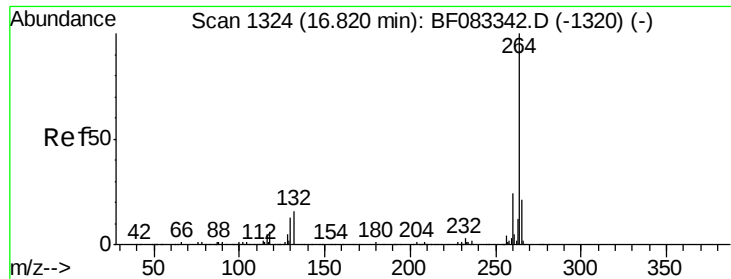
Ion Ratio Lower Upper

276 100

138 22.3 21.2 31.8

277 26.6 20.0 30.0





#86

Pervlene-d12

Concen: 20.00 ng

RT: 16.81 min Scan# 1323

Delta R.T. -0.01 min

Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Instrument :

BNA_F

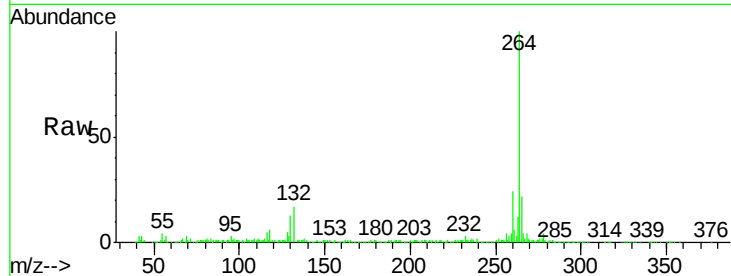
ClientSampleId :

SB-P3WC-03(0-8)

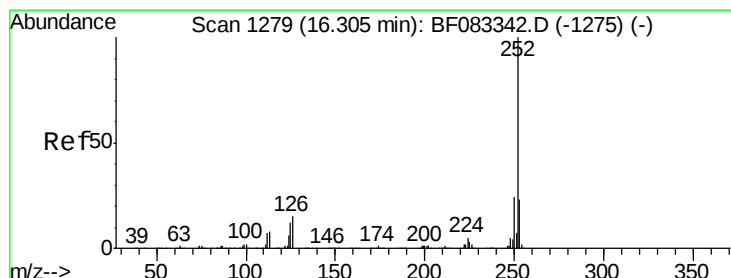
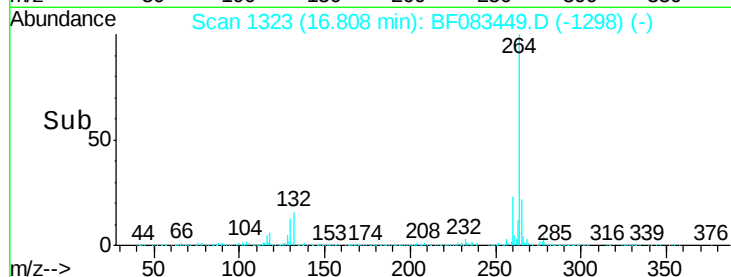
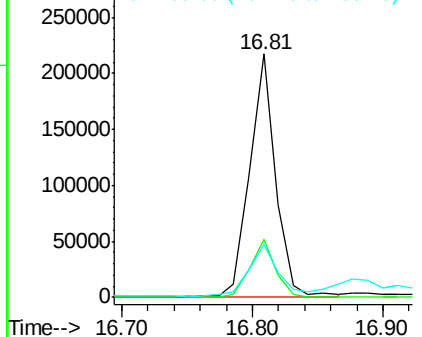
Tot Ion:	264	Resp:	299902
Ion Ratio	Lower	Upper	
264	100		
260	23.6	19.0	28.4
265	22.0	16.8	25.2

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM



Abundance Ion 264.00 (263.70 to 264.70): E
Ion 260.00 (259.70 to 260.70): E
Ion 265.00 (264.70 to 265.70): E



#87

Benzo(b)fluoranthene

Concen: 82.05 ng m

RT: 16.31 min Scan# 1279

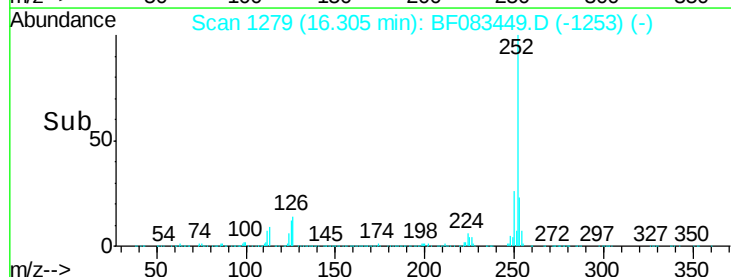
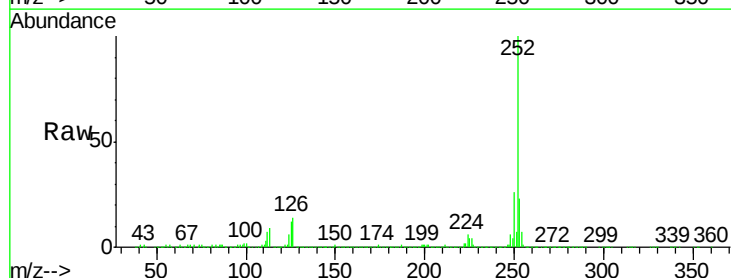
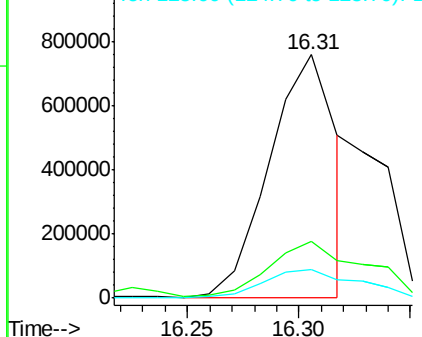
Delta R.T. 0.00 min

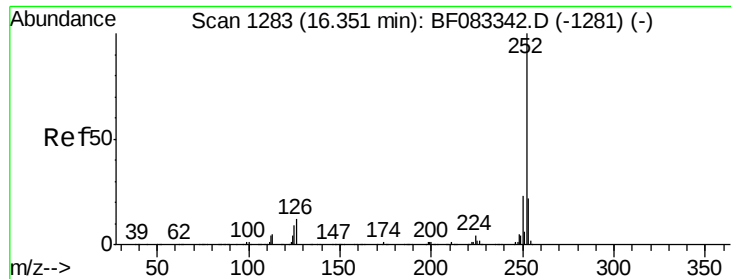
Lab File: BF083449.D

Acq: 3 Dec 2015 7:55

Tgt Ion:	252	Resp:	1578846
Ion Ratio	Lower	Upper	
252	100		
253	23.3	18.4	27.6
125	12.0	9.6	14.4

Abundance Ion 252.00 (251.70 to 252.70): E
Ion 253.00 (252.70 to 253.70): E
Ion 125.00 (124.70 to 125.70): E





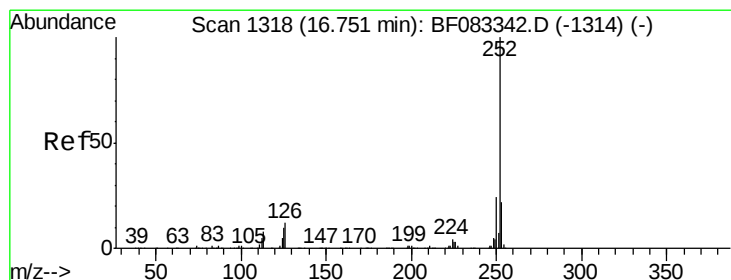
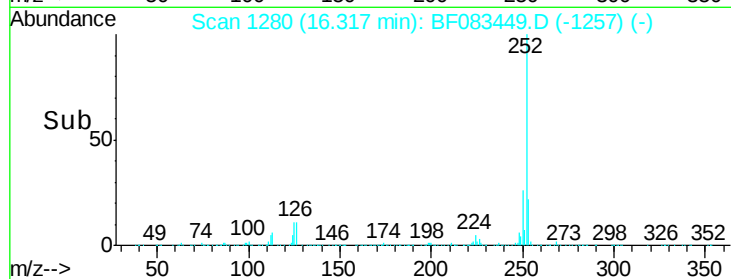
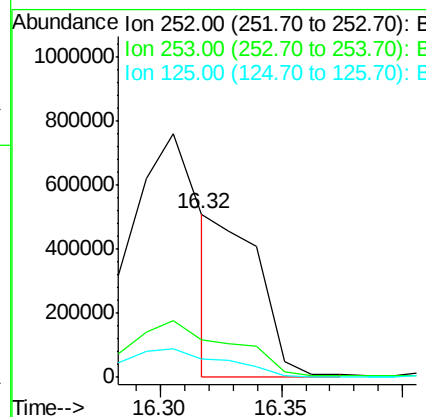
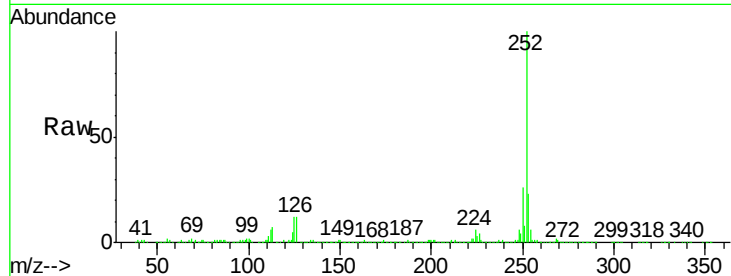
#88
Benzo(k)fluoranthene
Concen: 35.12 ng m
RT: 16.32 min Scan# 1280
Delta R.T. -0.03 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Tot Ion	Ratio	Lower	Upper
252	100		
253	23.0	17.4	26.0
125	11.6	7.5	11.3

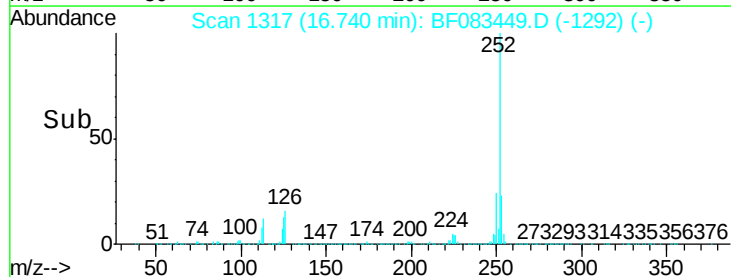
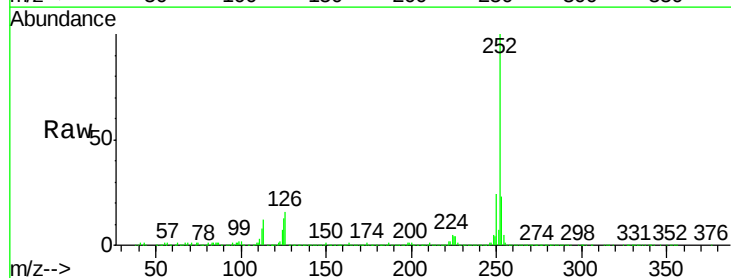
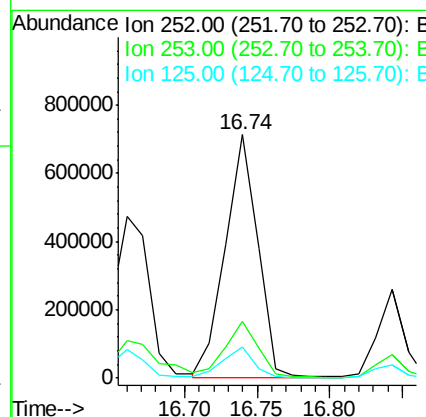
Manual Integrations
APPROVED

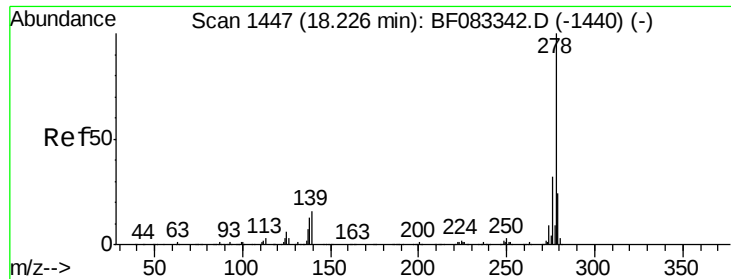
Mmdadoda
12/3/2015 7:10:09 PM



#89
Benzo(a)pyrene
Concen: 67.29 ng
RT: 16.74 min Scan# 1317
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Lower	Upper
252	100		
253	23.3	17.5	26.3
125	12.8	7.8	11.8





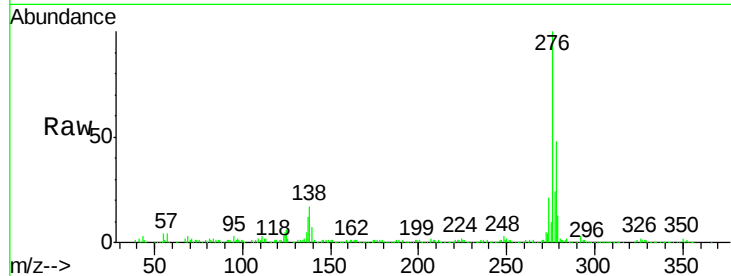
#90
Dibenzo(a,h)anthracene
Concen: 14.05 ng
RT: 18.20 min Scan# 1445
Delta R.T. -0.02 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Instrument :
BNA_F
ClientSampleId :
SB-P3WC-03(0-8)

Tot Ion	Ratio	Lower	Upper
278	100		
139	14.1	13.1	19.7
279	25.8	19.2	28.8

Manual Integrations
APPROVED

Mmdadoda
12/3/2015 7:10:09 PM

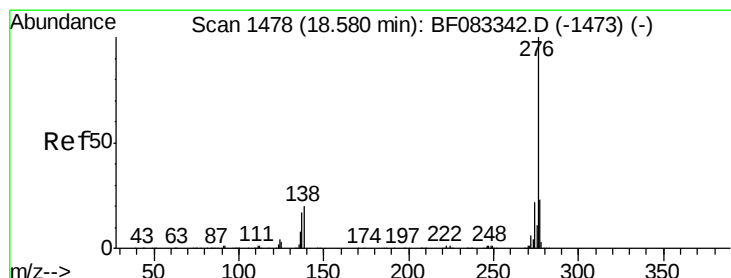
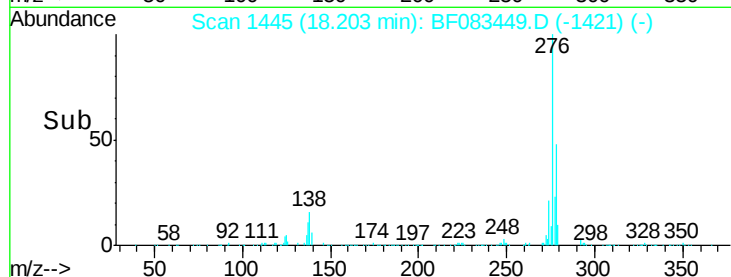
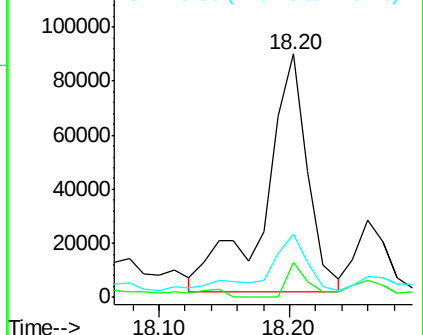


Abundance

Ion 278.00 (277.70 to 278.70): E

Ion 139.00 (138.70 to 139.70): E

Ion 279.00 (278.70 to 279.70): E



#91
Benzo(g,h,i)perylene
Concen: 42.32 ng
RT: 18.57 min Scan# 1477
Delta R.T. -0.01 min
Lab File: BF083449.D
Acq: 3 Dec 2015 7:55

Tgt Ion	Ratio	Lower	Upper
276	100		
277	25.1	18.6	28.0
138	20.3	16.1	24.1

Abundance

Ion 276.00 (275.70 to 276.70): E

Ion 277.00 (276.70 to 277.70): E

Ion 138.00 (137.70 to 138.70): E

