

Data Path : Z:\HPCHEM1\BNA\_E\DATA\BE103114\  
 Data File : BE088449.D  
 Acq On : 1 Nov 2014 6:59  
 Operator : TP/JJ  
 Sample : F4379-02  
 Misc :  
 ALS Vial : 27 Sample Multiplier: 1

Instrument :  
 BNA\_E  
 ClientSampleId :

Quant Time: Nov 02 04:15:45 2014  
 Quant Method : Z:\HPCHEM1\BNA\_E\METHODS\SIM-PAH-BE103114.M  
 Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION  
 QLast Update : Sat Nov 01 00:42:07 2014  
 Response via : Initial Calibration

| Internal Standards        | R.T.  | QIon | Response | Conc | Units | Dev(Min) |
|---------------------------|-------|------|----------|------|-------|----------|
| 1) 1,4-Dichlorobenzene-d4 | 7.09  | 152  | 40420    | 5.00 | ng    | 0.00     |
| 3) Naphthalene-d8         | 8.65  | 136  | 136343   | 5.00 | ng    | 0.00     |
| 7) Acenaphthene-d10       | 10.80 | 164  | 54014    | 5.00 | ng    | 0.01     |
| 12) Phenanthrene-d10      | 12.92 | 188  | 92891    | 5.00 | ng    | 0.02     |
| 16) Chrysene-d12          | 18.34 | 240  | 54729    | 5.00 | ng    | 0.03     |
| 22) Perylene-d12          | 21.40 | 264  | 53004    | 5.00 | ng    | 0.03     |

|                             |       |     |        |       |    |      |
|-----------------------------|-------|-----|--------|-------|----|------|
| System Monitoring Compounds |       |     |        |       |    |      |
| 4) Nitrobenzene-d5          | 7.79  | 82  | 525367 | 52.54 | ng | 0.02 |
| 8) 2-Fluorobiphenyl         | 10.00 | 172 | 581153 | 38.17 | ng | 0.01 |
| 18) Terphenyl-d14           | 16.11 | 244 | 365547 | 36.36 | ng | 0.03 |

|                            |       |     |        |       |    |        |
|----------------------------|-------|-----|--------|-------|----|--------|
| Target Compounds           |       |     |        |       |    | Qvalue |
| 2) 1,4-Dioxane             | 2.43  | 88  | 256    | 0.05  | ng | # 76   |
| 5) Naphthalene             | 8.68  | 128 | 11918  | 0.42  | ng | 98     |
| 6) 2-Methylnaphthalene     | 9.53  | 142 | 2944   | 0.17  | ng | 95     |
| 9) Acenaphthylene          | 10.63 | 152 | 18583  | 0.21  | ng | 96     |
| 10) Acenaphthene           | 10.84 | 154 | 6266   | 0.48  | ng | 95     |
| 11) Fluorene               | 11.49 | 166 | 8074   | 0.59  | ng | 98     |
| 13) Phenanthrene           | 12.95 | 178 | 635279 | 7.53  | ng | 99     |
| 14) Anthracene             | 12.95 | 178 | 635279 | 9.32  | ng | 100    |
| 15) Fluoranthene           | 15.20 | 202 | 155178 | 11.33 | ng | 99     |
| 17) Pyrene                 | 15.20 | 202 | 154443 | 8.65  | ng | 100    |
| 19) Benzo(a)anthracene     | 18.31 | 228 | 255697 | 4.96  | ng | 98     |
| 20) Chrysene               | 18.39 | 228 | 253280 | 5.01  | ng | 97     |
| 21) Indeno(1,2,3-cd)pyrene | 23.58 | 276 | 141845 | 3.01  | ng | # 85   |
| 23) Benzo(b)fluoranthene   | 20.64 | 252 | 74517  | 6.41  | ng | 97     |
| 24) Benzo(k)fluoranthene   | 20.69 | 252 | 28198  | 2.20  | ng | 97     |
| 25) Benzo(a)pyrene         | 21.28 | 252 | 51686  | 4.63  | ng | 99     |
| 26) Dibenzo(a,h)anthracene | 23.66 | 278 | 9316   | 0.90  | ng | 90     |
| 27) Benzo(g,h,i)perylene   | 24.22 | 276 | 138812 | 2.92  | ng | 99     |

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

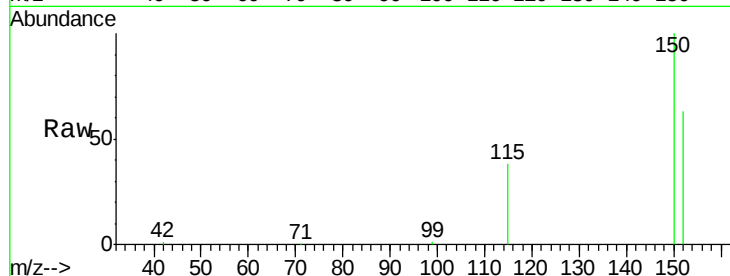




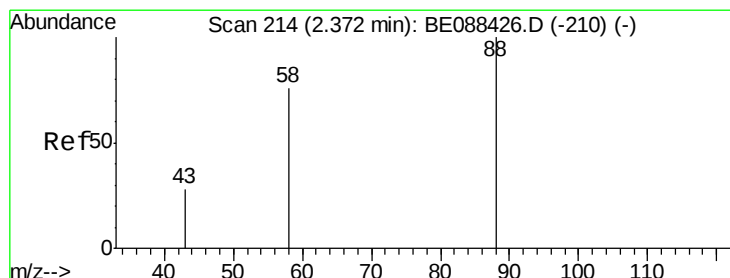
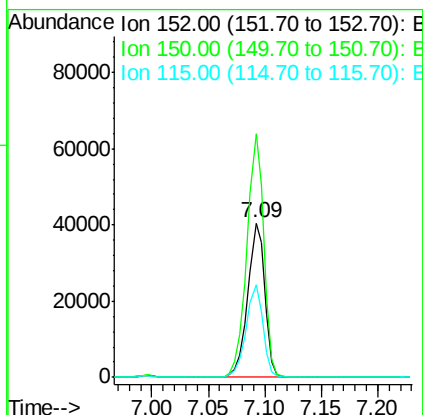
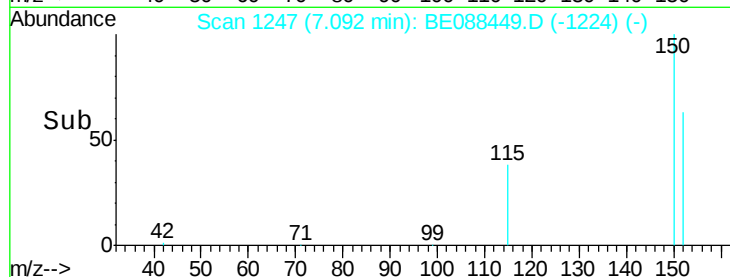
#1  
 1,4-Dichlorobenzene-d4  
 Concen: 5.00 ng  
 RT: 7.09 min Scan# 1247  
 Delta R.T. 0.00 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

Instrument :  
 BNA\_E  
 ClientSampleId :

Tgt Ion: 152 Resp: 40420  
 Ion Ratio Lower Upper  
 152 100  
 150 157.7 121.8 182.8  
 115 59.7 43.9 65.9

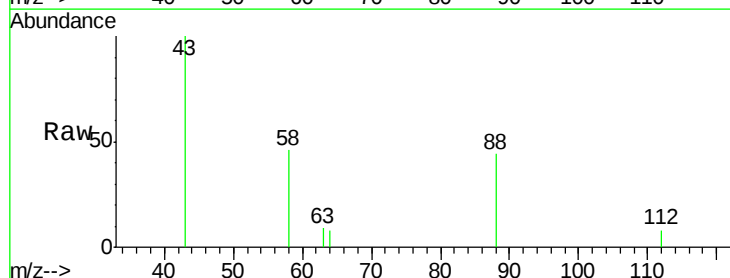


Abundance Ion 152.00 (151.70 to 152.70): E  
 Ion 150.00 (149.70 to 150.70): E  
 Ion 115.00 (114.70 to 115.70): E

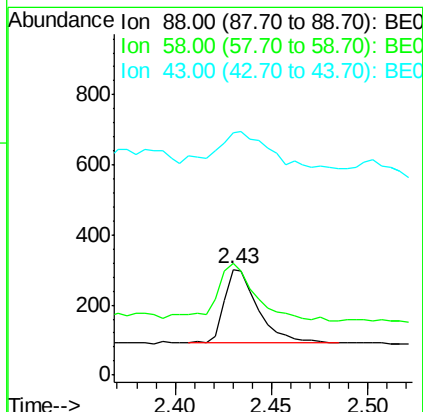
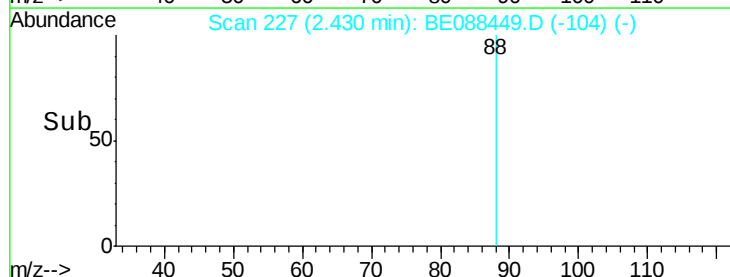


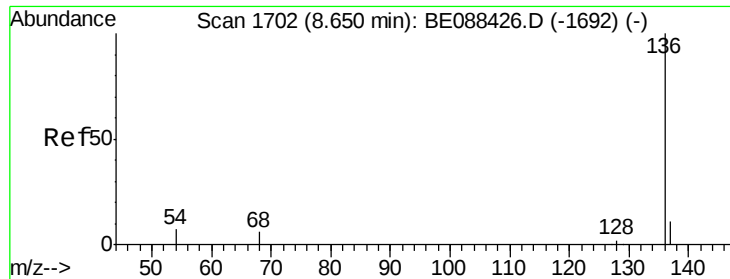
#2  
 1,4-Dioxane  
 Concen: 0.05 ng  
 RT: 2.43 min Scan# 227  
 Delta R.T. 0.06 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

Tgt Ion: 88 Resp: 256  
 Ion Ratio Lower Upper  
 88 100  
 58 85.2 59.1 88.7  
 43 0.0 21.9 32.9#



Abundance Ion 88.00 (87.70 to 88.70): BE0  
 Ion 58.00 (57.70 to 58.70): BE0  
 Ion 43.00 (42.70 to 43.70): BE0

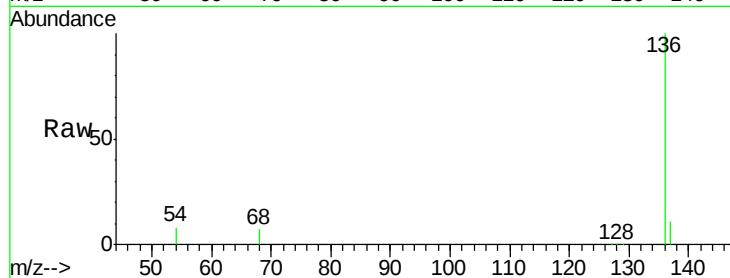




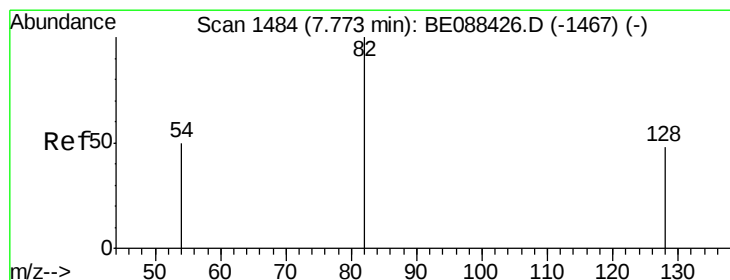
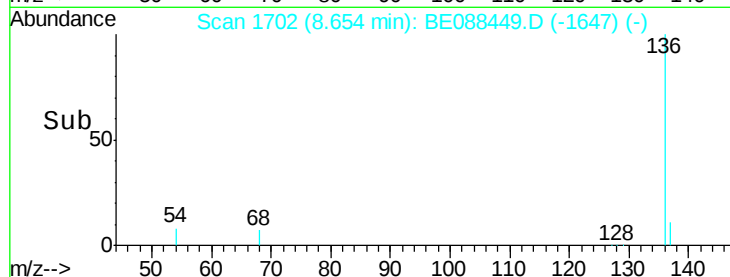
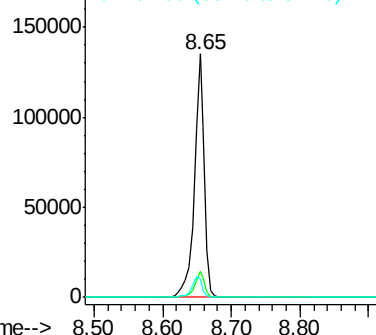
#3  
Naphthalene-d8  
Concen: 5.00 ng  
RT: 8.65 min Scan# 1702  
Delta R.T. 0.00 min  
Lab File: BE088449.D  
Acq: 1 Nov 2014 6:59

Instrument :  
BNA\_E  
ClientSampleId :

Tgt Ion: 136 Resp: 136343  
Ion Ratio Lower Upper  
136 100  
137 10.8 8.8 13.2  
54 7.7 5.3 7.9

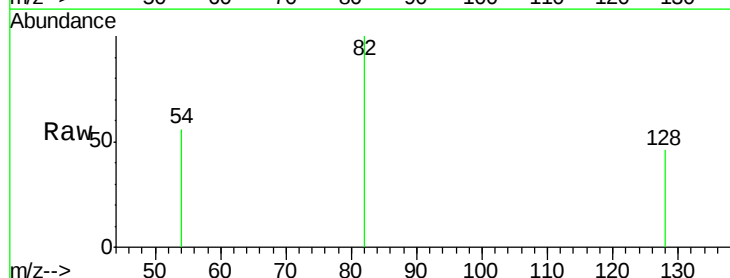


Abundance Ion 136.00 (135.70 to 136.70): E  
Ion 137.00 (136.70 to 137.70): E  
Ion 54.00 (53.70 to 54.70): BE0

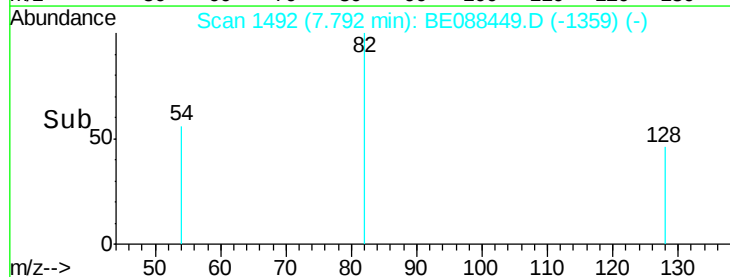
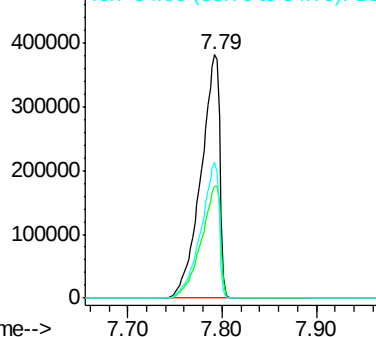


#4  
Nitrobenzene-d5  
Concen: 52.54 ng  
RT: 7.79 min Scan# 1492  
Delta R.T. 0.02 min  
Lab File: BE088449.D  
Acq: 1 Nov 2014 6:59

Tgt Ion: 82 Resp: 525367  
Ion Ratio Lower Upper  
82 100  
128 45.7 38.4 57.6  
54 56.0 40.2 60.2



Abundance Ion 82.00 (81.70 to 82.70): BE0  
Ion 128.00 (127.70 to 128.70): E  
Ion 54.00 (53.70 to 54.70): BE0





#5

Naphthalene

Concen: 0.42 ng

RT: 8.68 min Scan# 1707

Delta R.T. 0.01 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

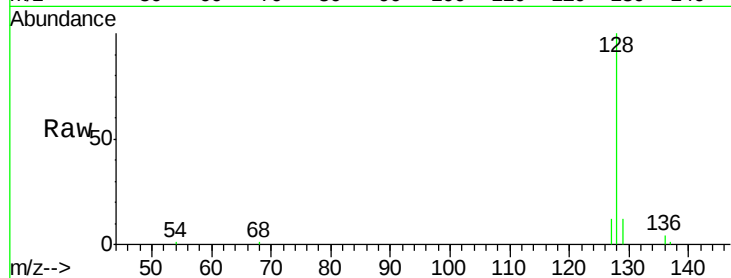
Tgt Ion:128 Resp: 11918

Ion Ratio Lower Upper

128 100

129 11.8 8.6 12.8

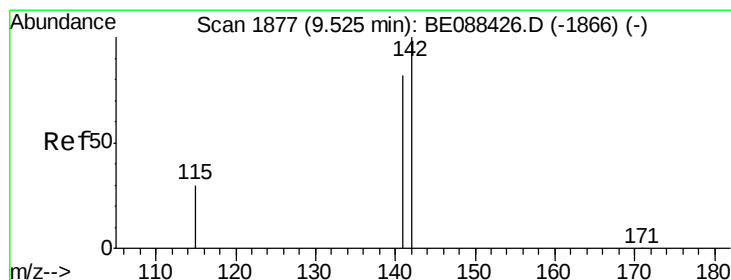
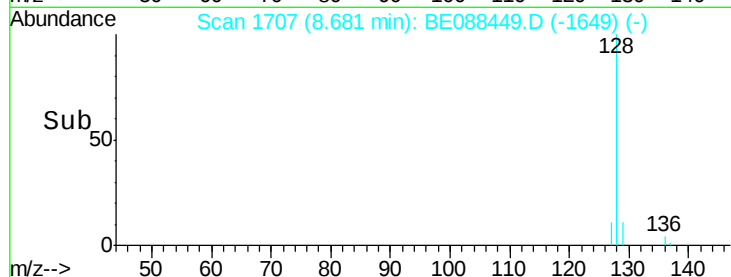
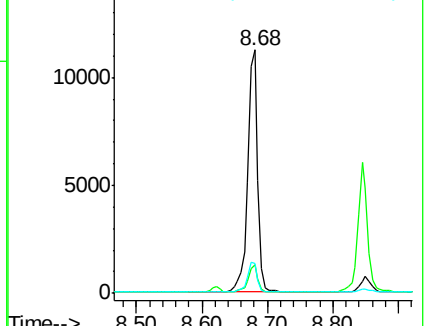
127 12.1 10.1 15.1



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



#6

2-Methylnaphthalene

Concen: 0.17 ng

RT: 9.53 min Scan# 1878

Delta R.T. 0.01 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

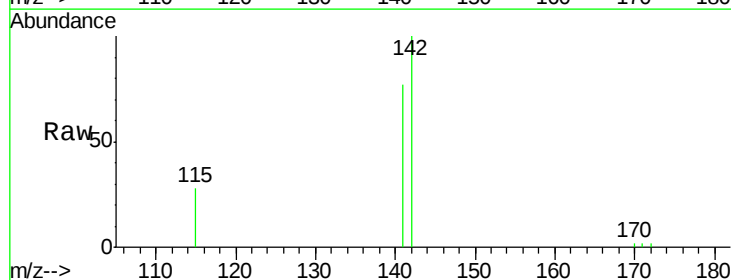
Tgt Ion:142 Resp: 2944

Ion Ratio Lower Upper

142 100

141 77.5 65.8 98.8

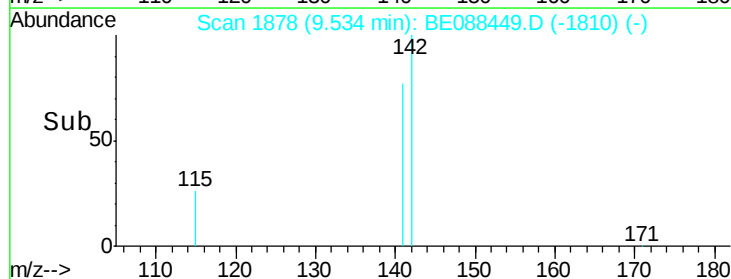
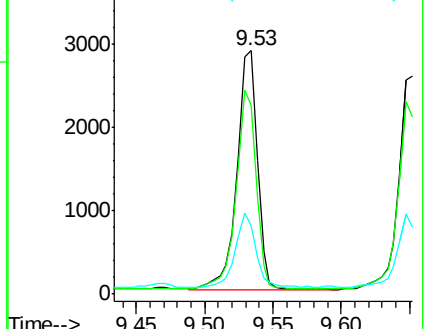
115 28.2 24.2 36.4



Abundance Ion 142.00 (141.70 to 142.70): E

Ion 141.00 (140.70 to 141.70): E

Ion 115.00 (114.70 to 115.70): E





#7

Acenaphthene-d10

Concen: 5.00 ng

RT: 10.80 min Scan# 2109

Delta R.T. 0.01 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

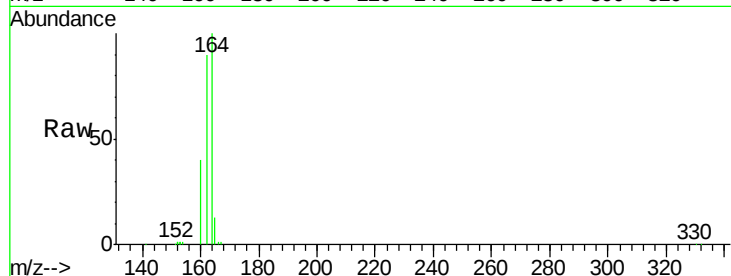
Tgt Ion:164 Resp: 54014

Ion Ratio Lower Upper

164 100

162 89.6 77.0 115.4

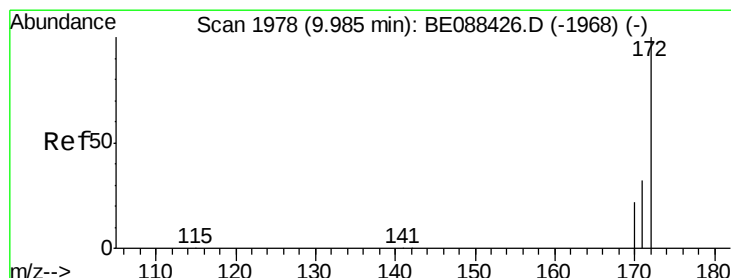
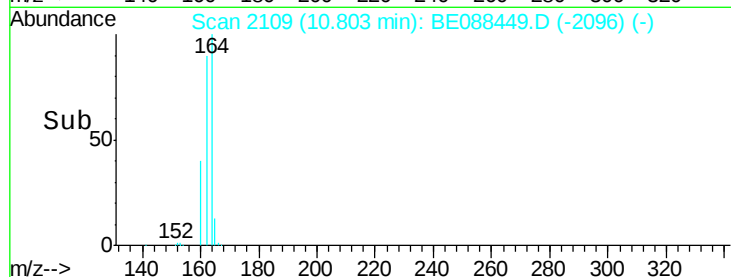
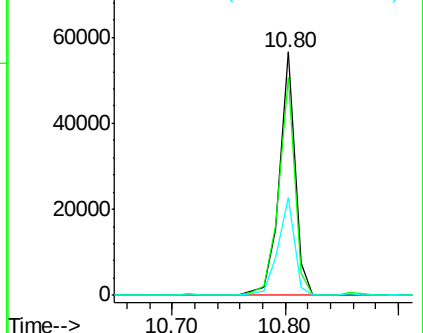
160 40.2 36.8 55.2



Abundance Ion 164.00 (163.70 to 164.70): E

Ion 162.00 (161.70 to 162.70): E

Ion 160.00 (159.70 to 160.70): E



#8

2-Fluorobiphenyl

Concen: 38.17 ng

RT: 10.00 min Scan# 1980

Delta R.T. 0.01 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

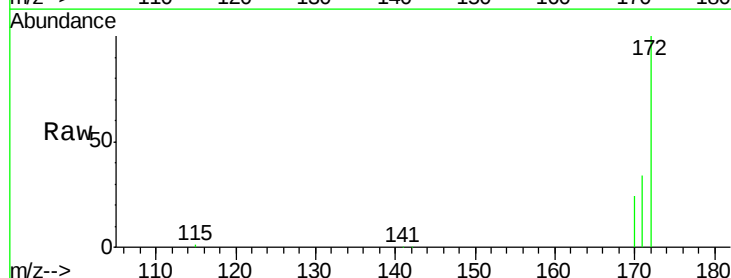
Tgt Ion:172 Resp: 581153

Ion Ratio Lower Upper

172 100

171 33.9 26.0 39.0

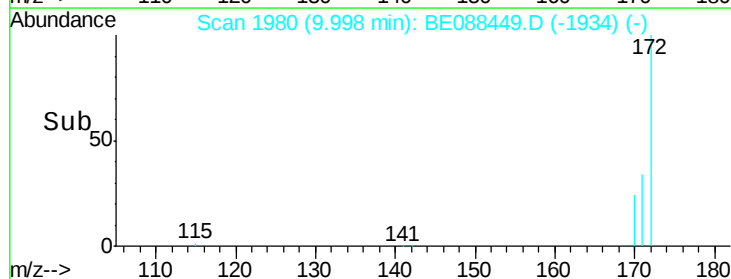
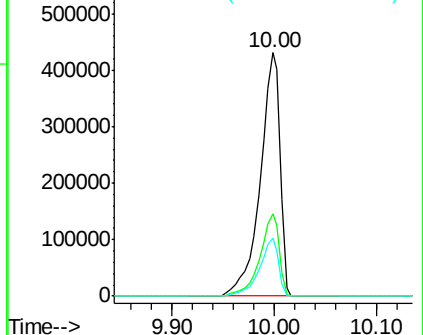
170 23.7 17.6 26.4

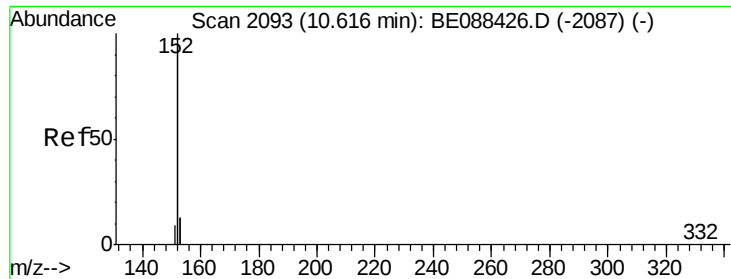


Abundance Ion 172.00 (171.70 to 172.70): E

Ion 171.00 (170.70 to 171.70): E

Ion 170.00 (169.70 to 170.70): E





#9

Acenaphthylene

Concen: 0.21 ng

RT: 10.63 min Scan# 2093

Delta R.T. 0.01 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

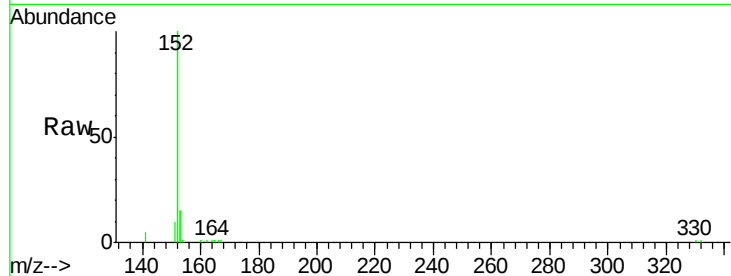
Tgt Ion:152 Resp: 18583

Ion Ratio Lower Upper

152 100

151 4.5 4.4 6.6

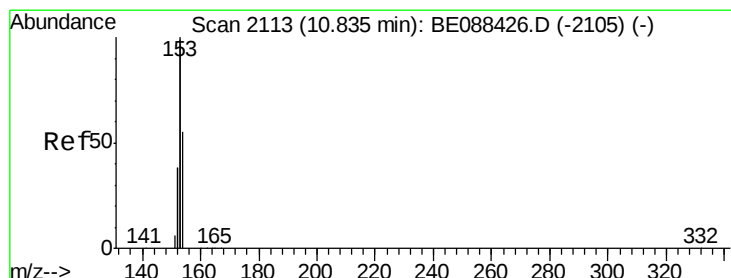
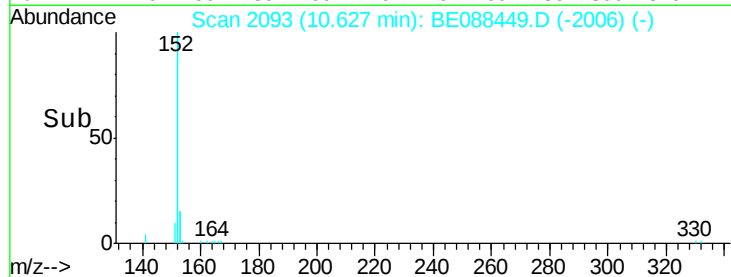
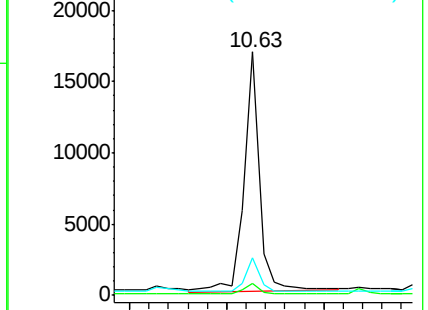
153 15.0 10.5 15.7



Abundance Ion 152.00 (151.70 to 152.70): E

Ion 151.00 (150.70 to 151.70): E

Ion 153.00 (152.70 to 153.70): E



#10

Acenaphthene

Concen: 0.48 ng

RT: 10.84 min Scan# 2112

Delta R.T. 0.00 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

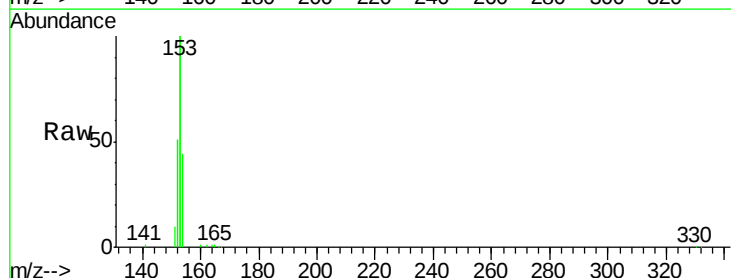
Tgt Ion:154 Resp: 6266

Ion Ratio Lower Upper

154 100

153 409.4 324.3 486.5

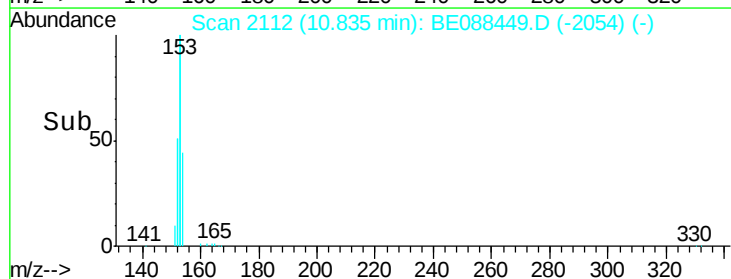
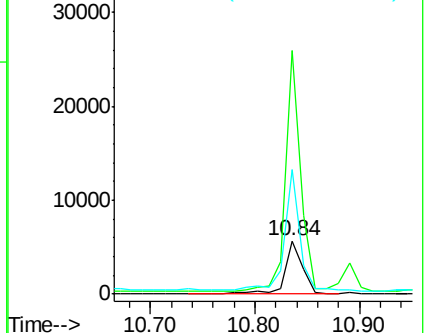
152 210.0 154.9 232.3

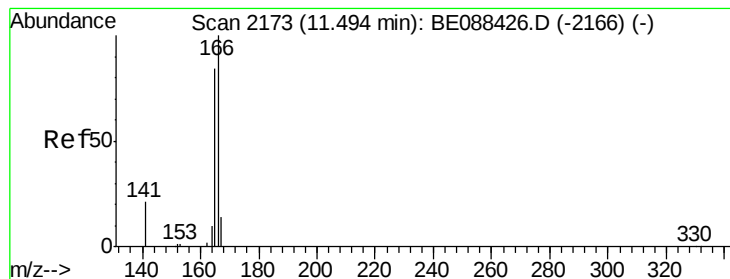


Abundance Ion 154.00 (153.70 to 154.70): E

Ion 153.00 (152.70 to 153.70): E

Ion 152.00 (151.70 to 152.70): E





#11

Fluorene

Concen: 0.59 ng

RT: 11.49 min Scan# 2172

Delta R.T. 0.00 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

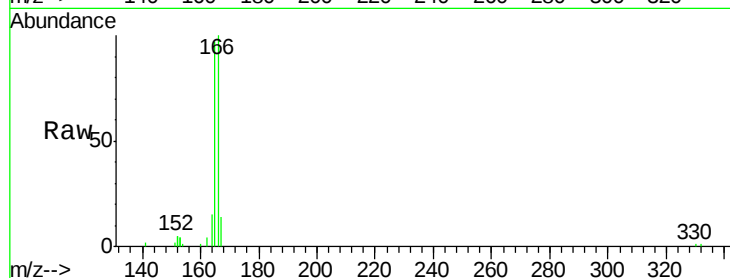
Tgt Ion:166 Resp: 8074

Ion Ratio Lower Upper

166 100

165 90.5 71.3 106.9

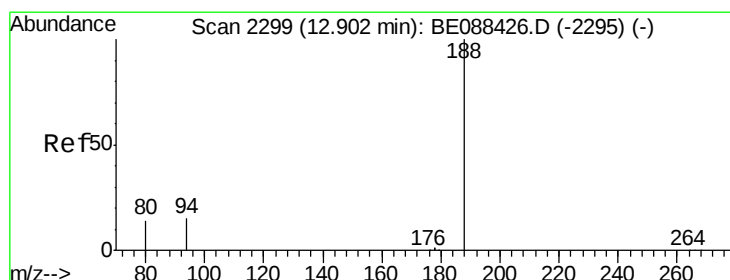
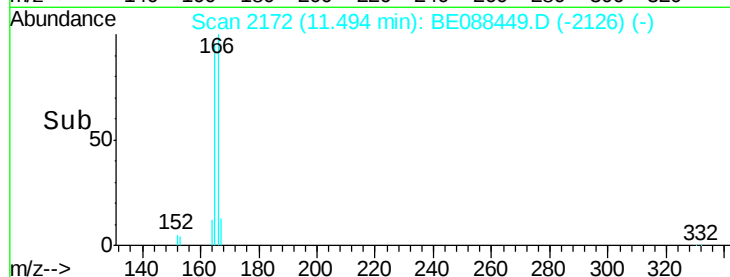
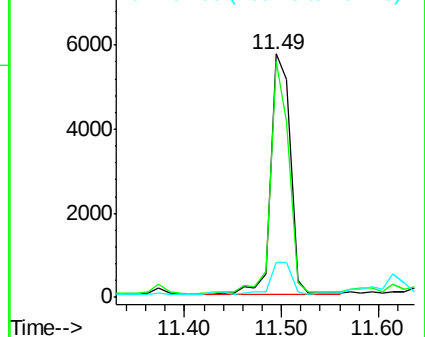
167 14.8 10.7 16.1



Abundance Ion 166.00 (165.70 to 166.70): E

Ion 165.00 (164.70 to 165.70): E

Ion 167.00 (166.70 to 167.70): E



#12

Phenanthrene-d10

Concen: 5.00 ng

RT: 12.92 min Scan# 2300

Delta R.T. 0.02 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

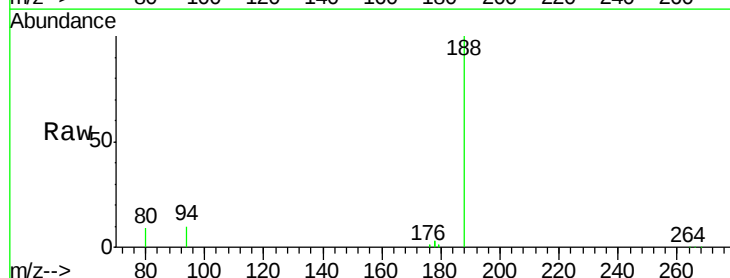
Tgt Ion:188 Resp: 92891

Ion Ratio Lower Upper

188 100

94 10.0 11.8 17.8#

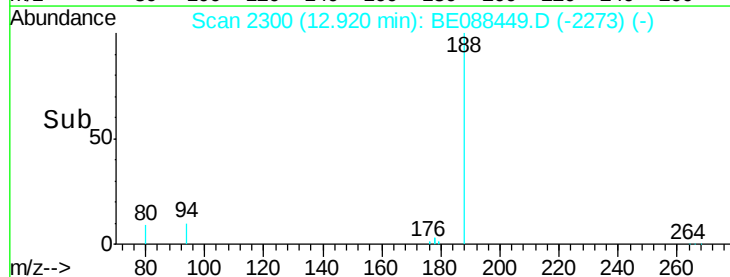
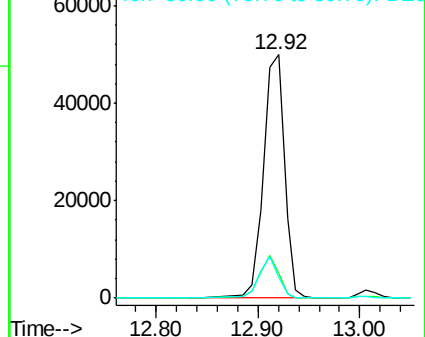
80 8.7 10.9 16.3#

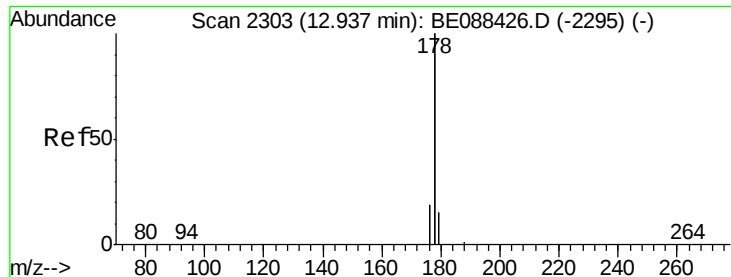


Abundance Ion 188.00 (187.70 to 188.70): E

Ion 94.00 (93.70 to 94.70): BE0

Ion 80.00 (79.70 to 80.70): BE0





#13

Phenanthrene

Concen: 7.53 ng

RT: 12.95 min Scan# 2304

Delta R.T. 0.02 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

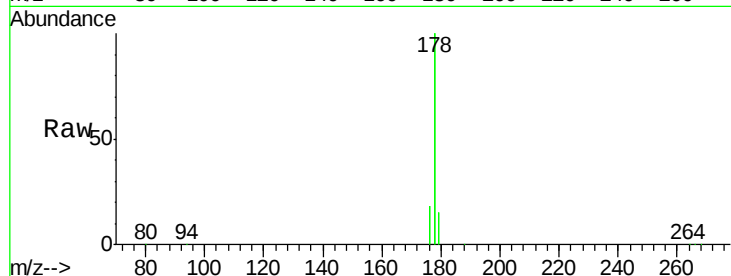
Tgt Ion:178 Resp: 635279

Ion Ratio Lower Upper

178 100

176 18.8 15.4 23.2

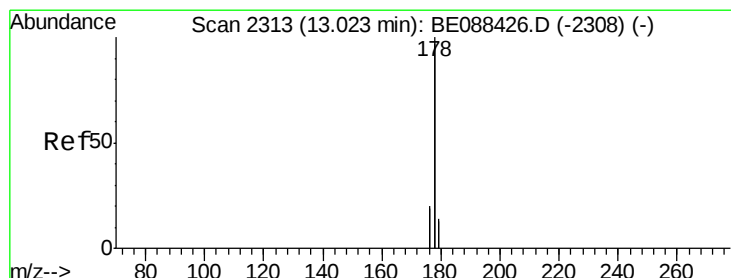
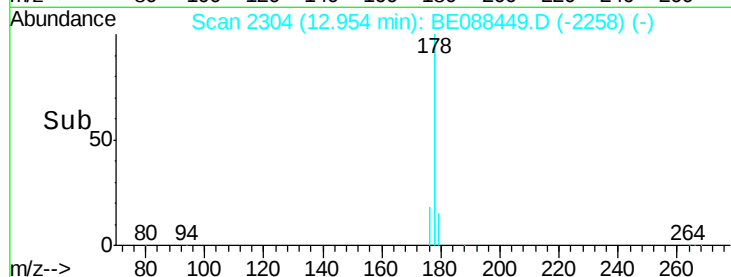
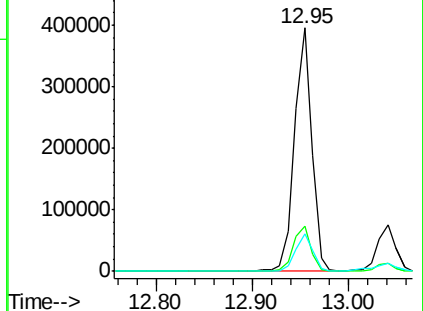
179 15.7 12.8 19.2



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



#14

Anthracene

Concen: 9.32 ng

RT: 12.95 min Scan# 2304

Delta R.T. -0.07 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

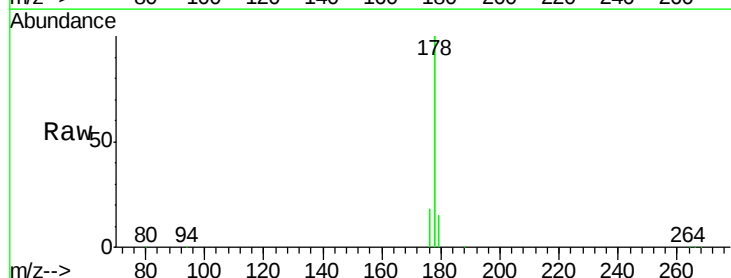
Tgt Ion:178 Resp: 635279

Ion Ratio Lower Upper

178 100

176 18.8 15.0 22.4

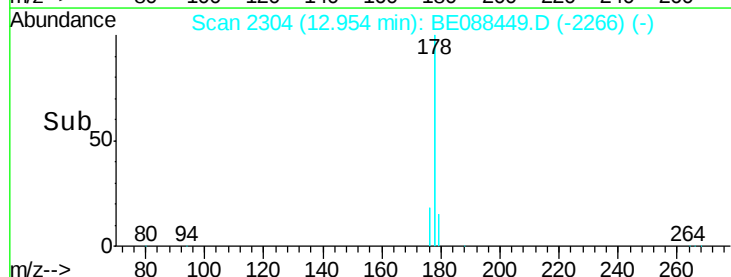
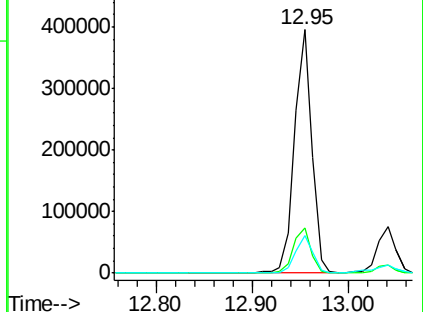
179 15.7 12.5 18.7

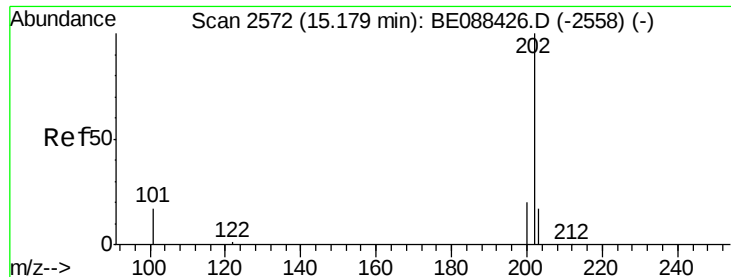


Abundance Ion 178.00 (177.70 to 178.70): E

Ion 176.00 (175.70 to 176.70): E

Ion 179.00 (178.70 to 179.70): E

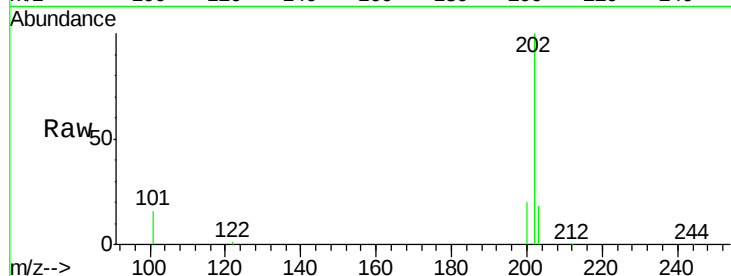




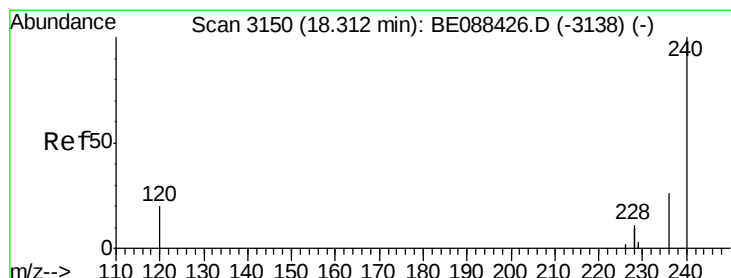
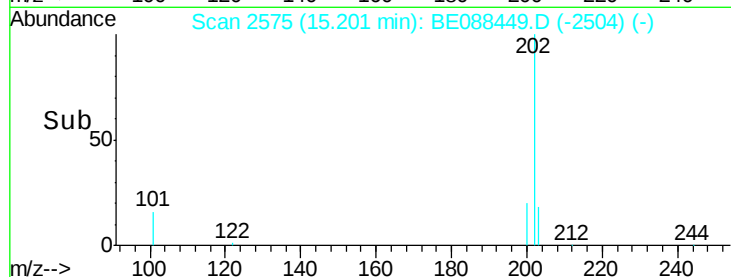
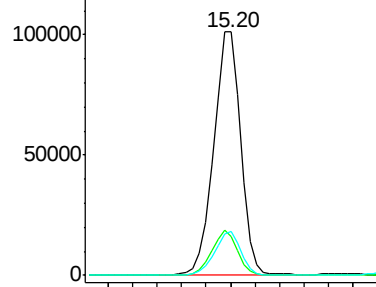
#15  
 Fluoranthene  
 Concen: 11.33 ng  
 RT: 15.20 min Scan# 2575  
 Delta R.T. 0.02 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

Instrument :  
 BNA\_E  
 ClientSampleId :

Tgt Ion: 202 Resp: 155178  
 Ion Ratio Lower Upper  
 202 100  
 101 17.5 14.3 21.5  
 203 17.3 13.6 20.4

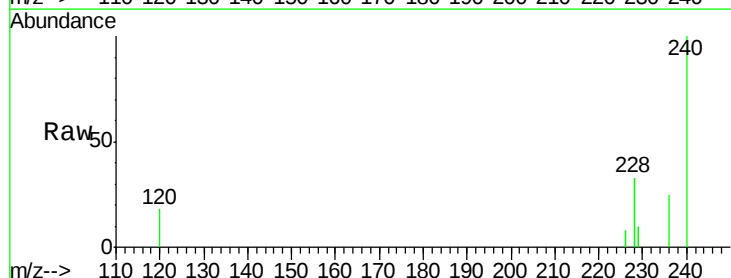


Abundance Ion 202.00 (201.70 to 202.70): E  
 Ion 101.00 (100.70 to 101.70): E  
 Ion 203.00 (202.70 to 203.70): E

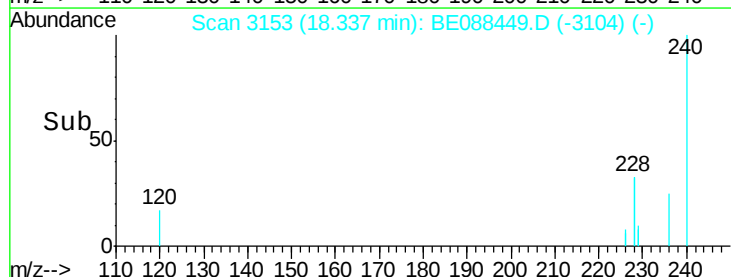
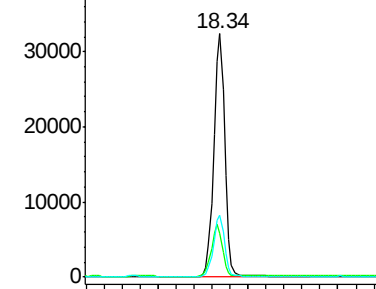


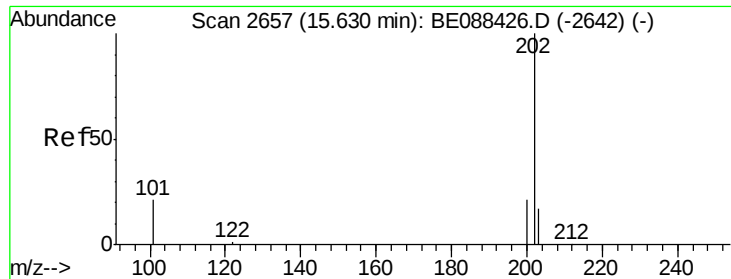
#16  
 Chrysene-d12  
 Concen: 5.00 ng  
 RT: 18.34 min Scan# 3153  
 Delta R.T. 0.03 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

Tgt Ion: 240 Resp: 54729  
 Ion Ratio Lower Upper  
 240 100  
 120 17.9 16.4 24.6  
 236 25.4 20.5 30.7



Abundance Ion 240.00 (239.70 to 240.70): E  
 Ion 120.00 (119.70 to 120.70): E  
 Ion 236.00 (235.70 to 236.70): E

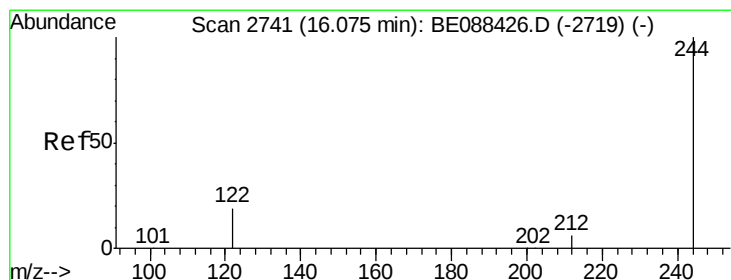
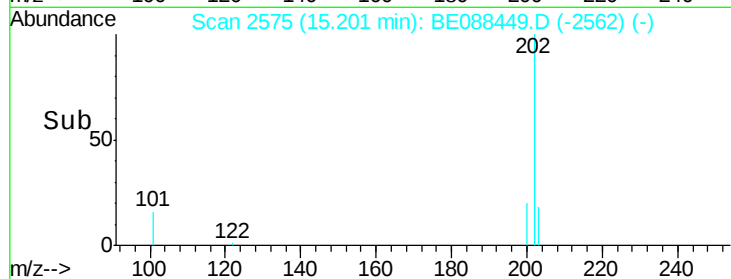
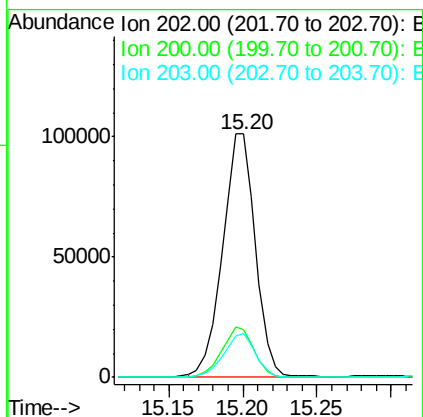
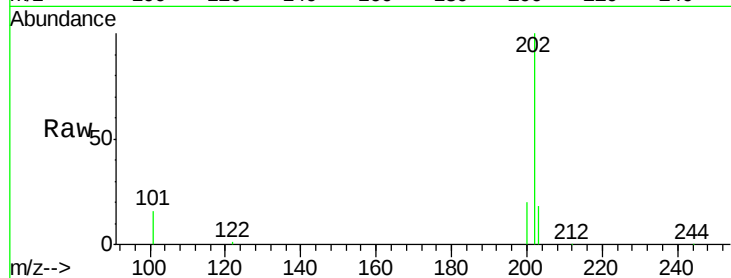




#17  
 Pyrene  
 Concen: 8.65 ng  
 RT: 15.20 min Scan# 2575  
 Delta R.T. -0.43 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

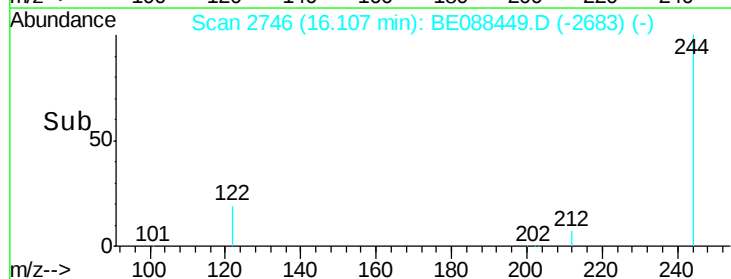
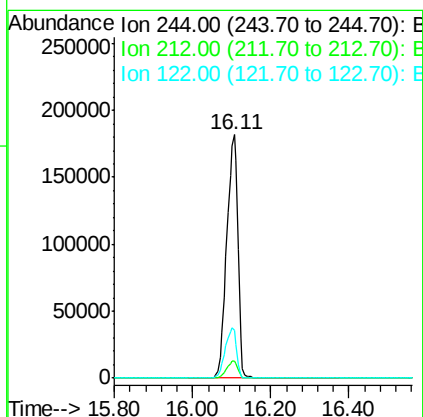
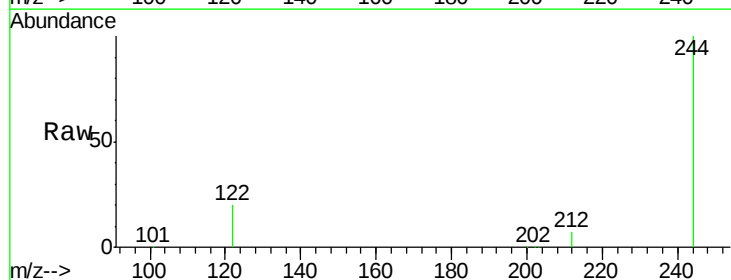
Instrument :  
 BNA\_E  
 ClientSampleId :

Tgt Ion: 202 Resp: 154443  
 Ion Ratio Lower Upper  
 202 100  
 200 20.0 16.1 24.1  
 203 17.3 13.8 20.8



#18  
 Terphenyl-d14  
 Concen: 36.36 ng  
 RT: 16.11 min Scan# 2746  
 Delta R.T. 0.03 min  
 Lab File: BE088449.D  
 Acq: 1 Nov 2014 6:59

Tgt Ion: 244 Resp: 365547  
 Ion Ratio Lower Upper  
 244 100  
 212 7.1 5.5 8.3  
 122 19.6 15.6 23.4





#19

Benzo(a)anthracene

Concen: 4.96 ng

RT: 18.31 min Scan# 3149

Delta R.T. 0.02 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

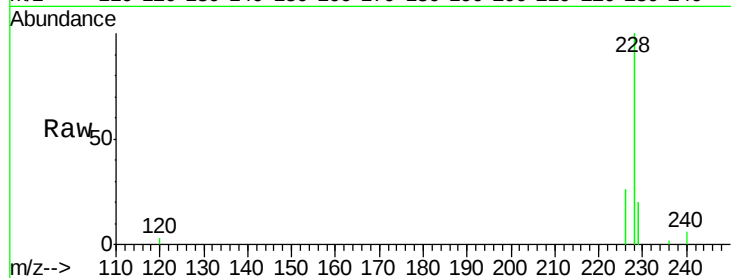
Tgt Ion:228 Resp: 255697

Ion Ratio Lower Upper

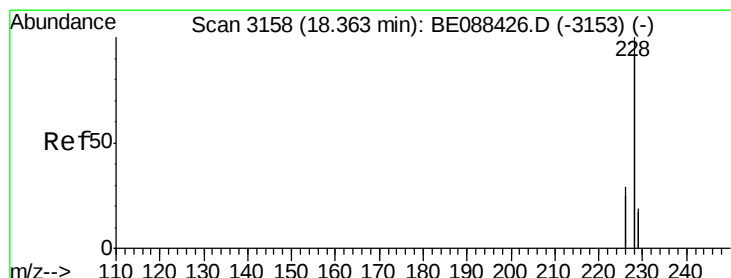
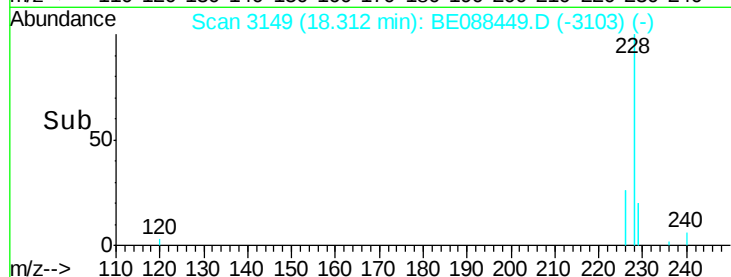
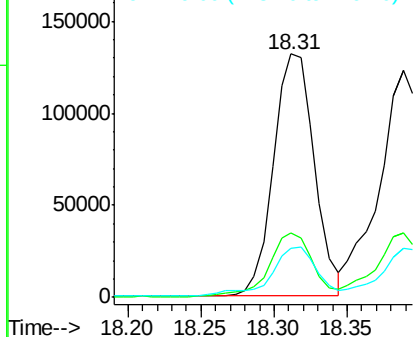
228 100

226 26.4 19.8 29.6

229 20.3 16.0 24.0



Abundance Ion 228.00 (227.70 to 228.70): E  
Ion 226.00 (225.70 to 226.70): E  
Ion 229.00 (228.70 to 229.70): E



#20

Chrysene

Concen: 5.01 ng

RT: 18.39 min Scan# 3161

Delta R.T. 0.03 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

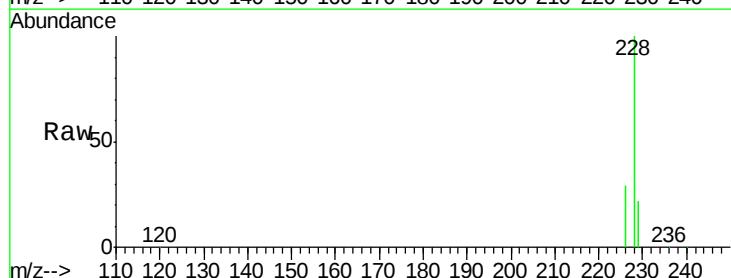
Tgt Ion:228 Resp: 253280

Ion Ratio Lower Upper

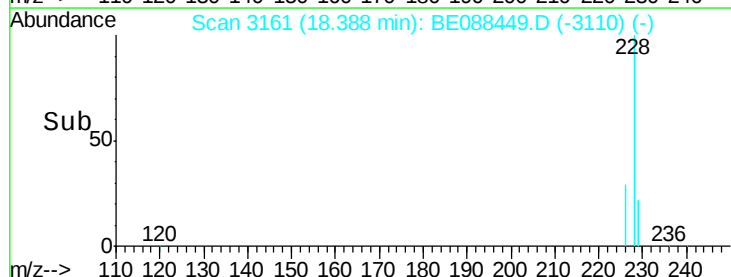
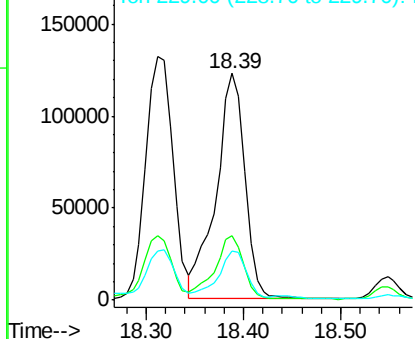
228 100

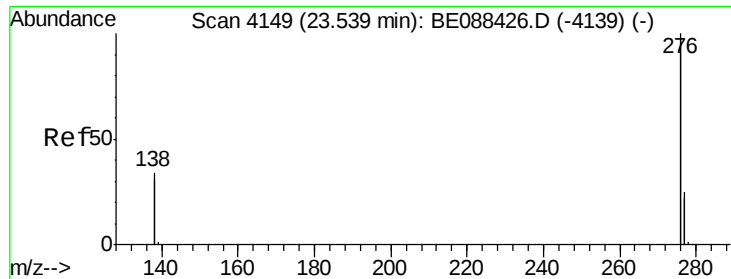
226 28.6 23.6 35.4

229 21.8 15.4 23.2



Abundance Ion 228.00 (227.70 to 228.70): E  
Ion 226.00 (225.70 to 226.70): E  
Ion 229.00 (228.70 to 229.70): E





#21

Indeno(1,2,3-cd)pyrene

Concen: 3.01 ng

RT: 23.58 min Scan# 4155

Delta R.T. 0.05 min

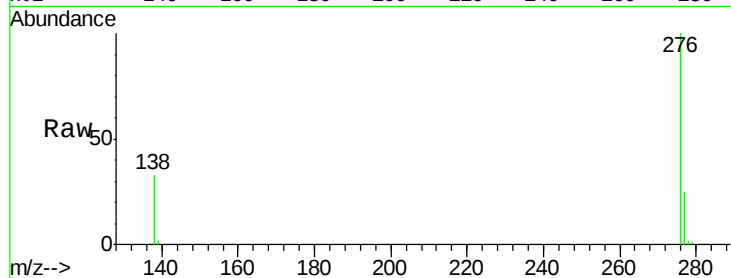
Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :



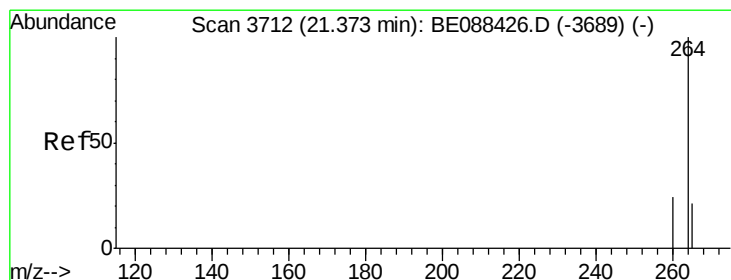
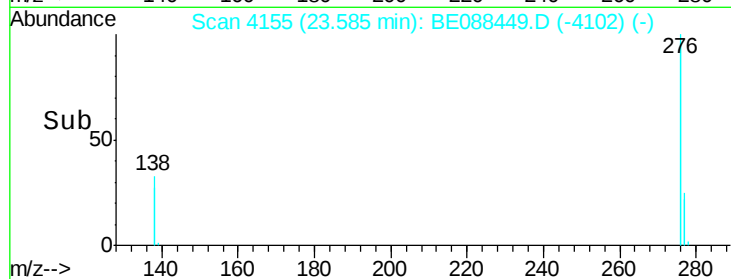
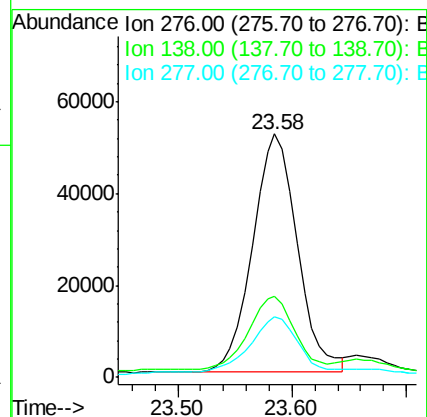
Tgt Ion: 276 Resp: 141845

Ion Ratio Lower Upper

276 100

138 34.0 20.2 30.2#

277 24.1 14.8 22.2#



#22

Perylene-d12

Concen: 5.00 ng

RT: 21.40 min Scan# 3717

Delta R.T. 0.03 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

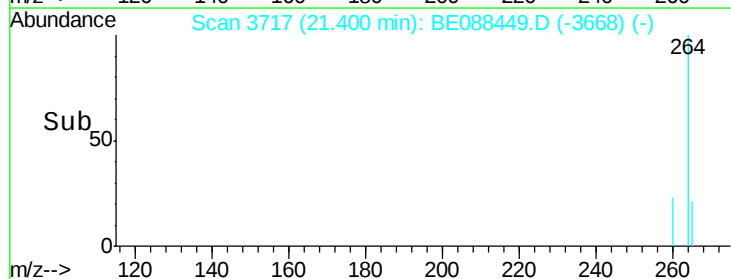
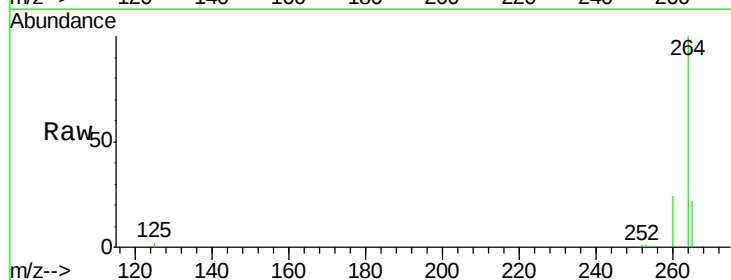
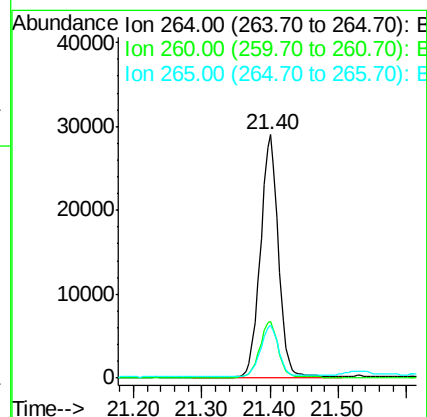
Tgt Ion: 264 Resp: 53004

Ion Ratio Lower Upper

264 100

260 23.5 18.9 28.3

265 21.8 17.2 25.8





#23

Benzo(b)fluoranthene

Concen: 6.41 ng

RT: 20.64 min Scan# 3551

Delta R.T. 0.03 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :

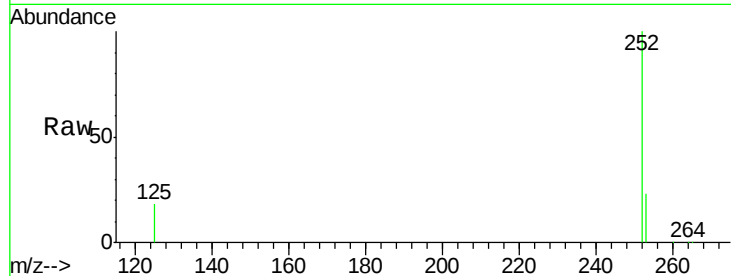
Tgt Ion: 252 Resp: 74517

Ion Ratio Lower Upper

252 100

253 22.6 17.8 26.8

125 17.6 12.3 18.5

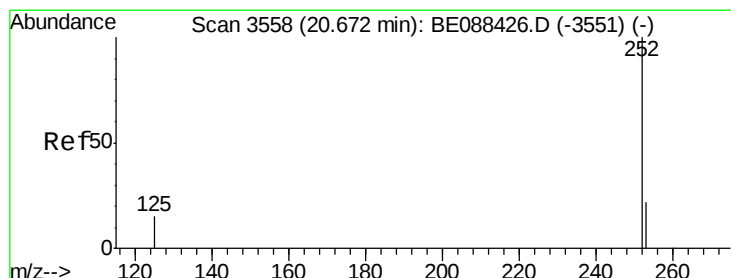
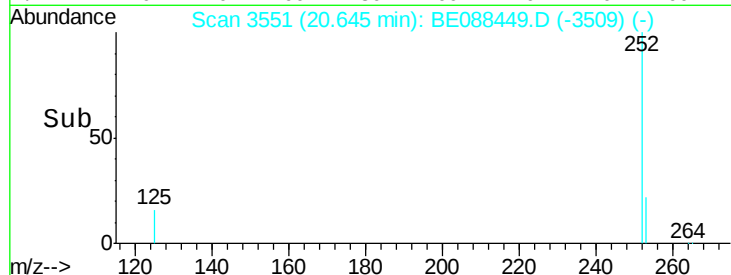
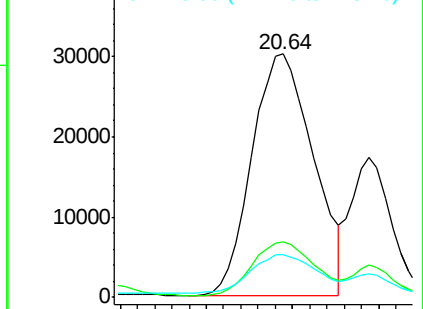


Abundance

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



#24

Benzo(k)fluoranthene

Concen: 2.20 ng

RT: 20.69 min Scan# 3562

Delta R.T. 0.02 min

Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

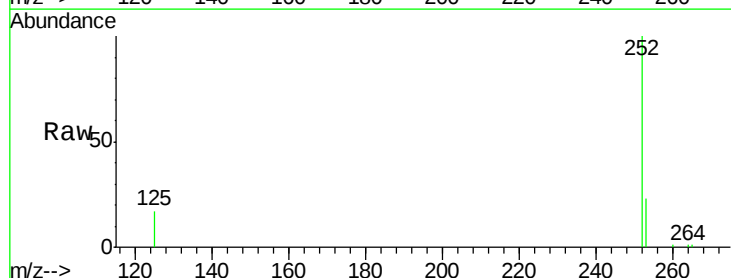
Tgt Ion: 252 Resp: 28198

Ion Ratio Lower Upper

252 100

253 22.9 17.8 26.8

125 17.1 12.2 18.4

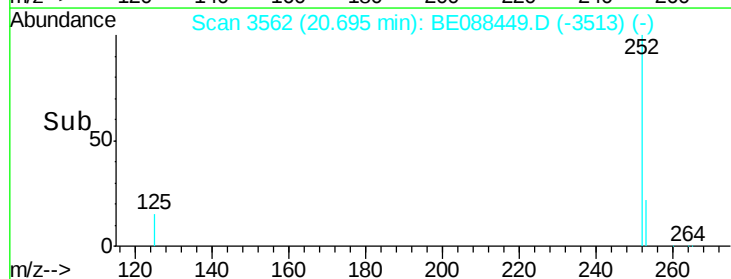
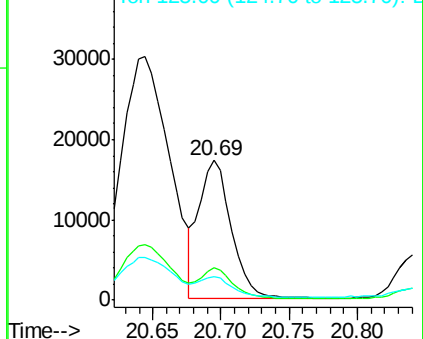


Abundance

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

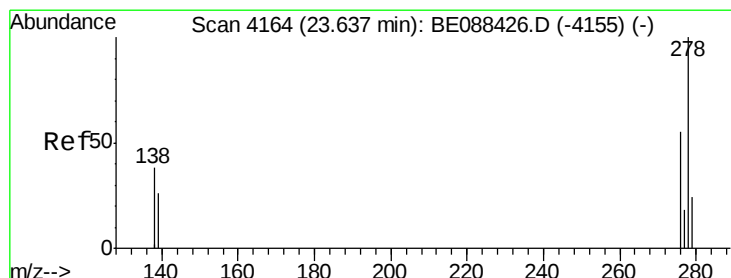
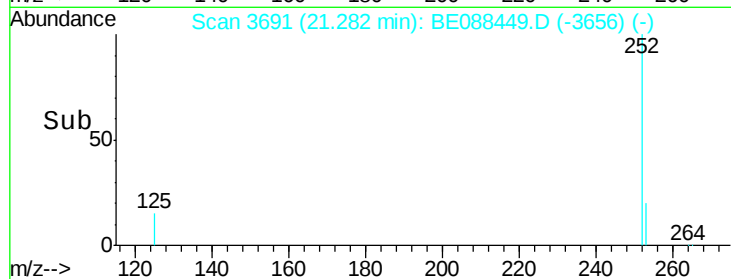
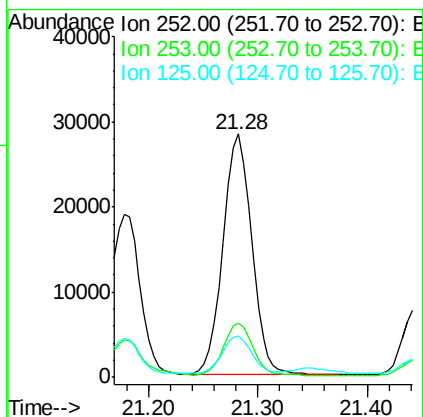
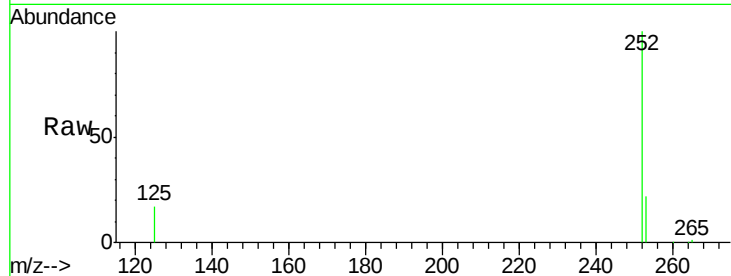




#25  
Benzo(a)pyrene  
Concen: 4.63 ng  
RT: 21.28 min Scan# 3691  
Delta R.T. 0.03 min  
Lab File: BE088449.D  
Acq: 1 Nov 2014 6:59

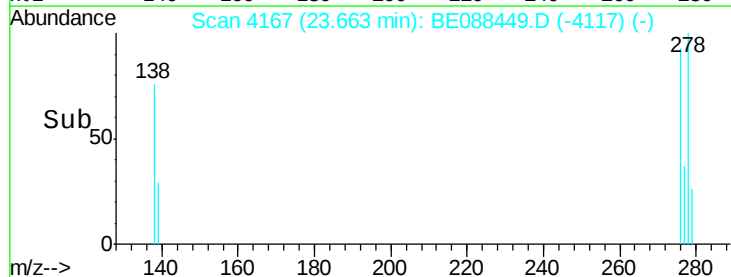
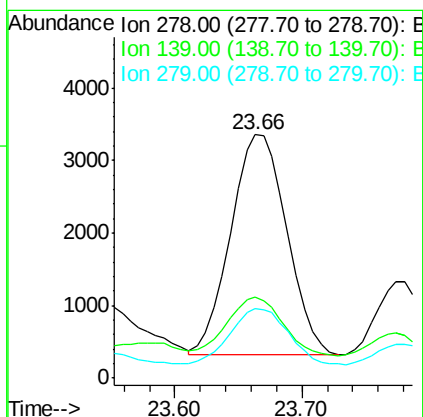
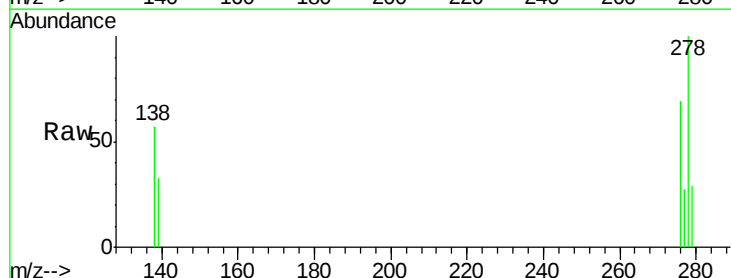
Instrument :  
BNA\_E  
ClientSampleId :

Tgt Ion: 252 Resp: 51686  
Ion Ratio Lower Upper  
252 100  
253 22.2 18.2 27.4  
125 17.2 13.7 20.5



#26  
Dibenzo(a,h)anthracene  
Concen: 0.90 ng  
RT: 23.66 min Scan# 4167  
Delta R.T. 0.03 min  
Lab File: BE088449.D  
Acq: 1 Nov 2014 6:59

Tgt Ion: 278 Resp: 9316  
Ion Ratio Lower Upper  
278 100  
139 33.1 22.1 33.1  
279 28.8 19.7 29.5





#27

Benzo(g,h,i)perylene

Concen: 2.92 ng

RT: 24.22 min Scan# 4252

Delta R.T. 0.05 min

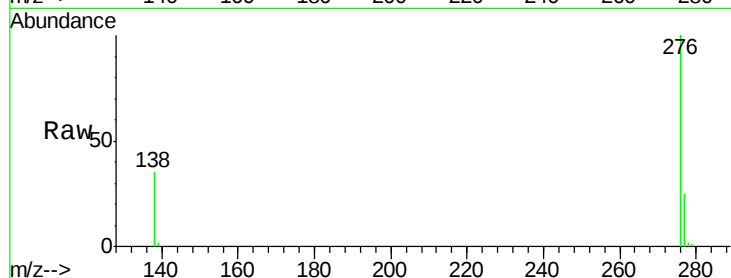
Lab File: BE088449.D

Acq: 1 Nov 2014 6:59

Instrument :

BNA\_E

ClientSampleId :



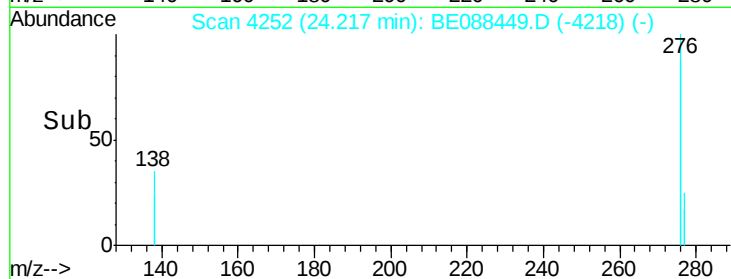
Tgt Ion: 276 Resp: 138812

Ion Ratio Lower Upper

276 100

277 24.6 19.8 29.6

138 35.3 29.3 43.9



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

