

Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM062616\  
 Data File : BM006052.D  
 Acq On : 26 Jun 2016 22:47  
 Operator : UM/SJ  
 Sample : H3670-16MSD  
 Misc :  
 ALS Vial : 20 Sample Multiplier: 1

Instrument :  
 BNA\_M  
 ClientSampleId :  
 D9Y98MSD

Quant Time: Jun 27 05:18:39 2016  
 Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM062516.M  
 Quant Title : SVOA CALIBRATION  
 QLast Update : Mon Jun 27 05:15:31 2016  
 Response via : Initial Calibration

| Internal Standards        | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|-------|------|----------|-------|-------|----------|
| 1) 1,4-Dichlorobenzene-d4 | 7.66  | 152  | 307182   | 20.00 | ng/ul | 0.00     |
| 7) Naphthalene-d8         | 10.44 | 136  | 1470975  | 20.00 | ng/ul | 0.00     |
| 15) Acenaphthene-d10      | 14.31 | 164  | 864957   | 20.00 | ng/ul | 0.00     |
| 23) Phenanthrene-d10      | 17.06 | 188  | 1943836  | 20.00 | ng/ul | 0.00     |
| 29) Chrysene-d12          | 21.25 | 240  | 1767444  | 20.00 | ng/ul | 0.00     |
| 34) Perylene-d12          | 23.47 | 264  | 1506553  | 20.00 | ng/ul | 0.00     |

## System Monitoring Compounds

|                                |       |     |         |       |       |      |
|--------------------------------|-------|-----|---------|-------|-------|------|
| 2) 1,4-Dioxane-d8              | 3.17  | 96  | 11842   | 1.72  | ng/uL | 0.00 |
| 3) Phenol-d5                   | 6.83  | 99  | 599782  | 18.56 | ng/ul | 0.00 |
| 4) Bis-(2-Chloroethyl)ether-d  | 7.00  | 67  | 374166  | 20.81 | ng/ul | 0.00 |
| 5) 2-Chlorophenol-d4           | 7.19  | 132 | 461614  | 20.51 | ng/ul | 0.00 |
| 6) 4-Methylphenol-d8           | 8.36  | 113 | 411941  | 15.10 | ng/ul | 0.00 |
| 8) Nitrobenzene-d5             | 8.81  | 128 | 249059  | 22.24 | ng/ul | 0.00 |
| 9) 2-Nitrophenol-d4            | 9.53  | 143 | 275764  | 22.13 | ng/ul | 0.00 |
| 10) 2,4-Dichlorophenol-d3      | 10.06 | 165 | 504659  | 21.11 | ng/ul | 0.00 |
| 12) 4-Chloroaniline-d4         | 10.58 | 131 | 310184  | 11.96 | ng/ul | 0.00 |
| 16) Dimethylphthalate-d6       | 13.72 | 166 | 1566228 | 21.15 | ng/ul | 0.00 |
| 17) Acenaphthylene-d8          | 14.00 | 160 | 2005880 | 23.36 | ng/ul | 0.00 |
| 20) 4-Nitrophenol-d4           | 14.52 | 143 | 222044  | 14.06 | ng/ul | 0.01 |
| 21) Fluorene-d10               | 15.30 | 176 | 1386976 | 21.94 | ng/ul | 0.00 |
| 24) 4,6-Dinitro-2-methylphenol | 15.43 | 200 | 176823  | 16.39 | ng/ul | 0.00 |
| 26) Anthracene-d10             | 17.16 | 188 | 2110183 | 23.63 | ng/ul | 0.00 |
| 30) Pyrene-d10                 | 19.46 | 212 | 2257507 | 29.16 | ng/ul | 0.01 |
| 37) Benzo(a)pyrene-d12         | 23.33 | 264 | 1629651 | 23.96 | ng/ul | 0.01 |

## Target Compounds

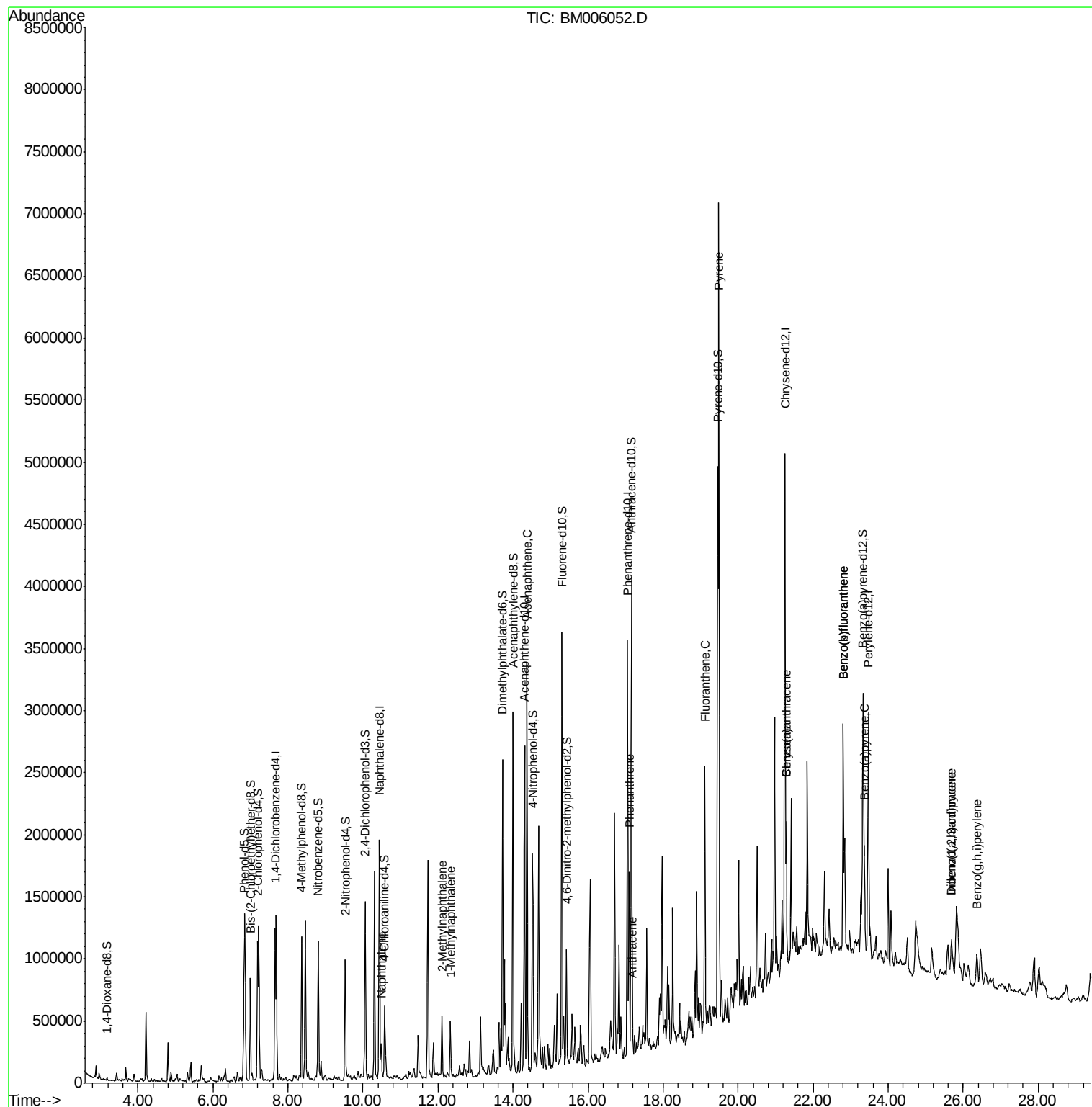
|                            |       |     |         |       |        | Qvalue |
|----------------------------|-------|-----|---------|-------|--------|--------|
| 11) Naphthalene            | 10.49 | 128 | 211333  | 2.88  | ng/ul  | 99     |
| 13) 2-Methylnaphthalene    | 12.11 | 142 | 238460  | 4.03  | ng/ul  | 99     |
| 14) 1-Methylnaphthalene    | 12.33 | 142 | 205042  | 3.62  | ng/ul  | 96     |
| 19) Acenaphthene           | 14.37 | 153 | 1351659 | 23.50 | ng/ul  | 99     |
| 25) Phenanthrene           | 17.10 | 178 | 880106  | 8.42  | ng/ul  | 100    |
| 27) Anthracene             | 17.19 | 178 | 143590  | 1.33  | ng/ul  | 97     |
| 28) Fluoranthene           | 19.12 | 202 | 1230848 | 9.19  | ng/ul  | 98     |
| 31) Pyrene                 | 19.49 | 202 | 3650040 | 36.07 | ng/ul  | 98     |
| 32) Benzo(a)anthracene     | 21.29 | 228 | 687255  | 6.55  | ng/ul  | 93     |
| 33) Chrysene               | 21.29 | 228 | 687255  | 7.17  | ng/ul# | 96     |
| 35) Benzo(b)fluoranthene   | 22.81 | 252 | 831640  | 9.50  | ng/ul# | 94     |
| 36) Benzo(k)fluoranthene   | 22.81 | 252 | 831640  | 10.21 | ng/ul# | 94     |
| 38) Benzo(a)pyrene         | 23.37 | 252 | 483555  | 5.76  | ng/ul  | 96     |
| 39) Indeno(1,2,3-cd)pyrene | 25.69 | 276 | 340845  | 3.41  | ng/ul  | 97     |
| 40) Dibenzo(a,h)anthracene | 25.69 | 278 | 96175   | 1.16  | ng/ul# | 82     |
| 41) Benzo(g,h,i)perylene   | 26.36 | 276 | 324319  | 3.75  | ng/ul  | 96     |

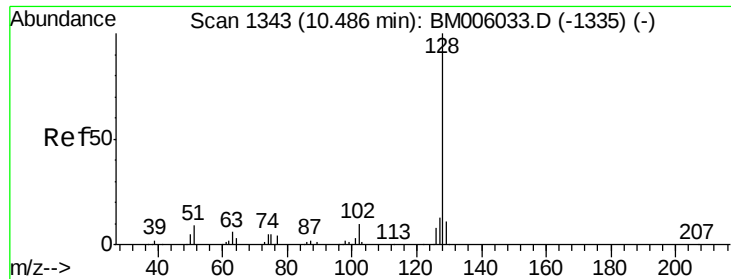
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM062616\  
Data File : BM006052.D  
Acq On : 26 Jun 2016 22:47  
Operator : UM/SJ  
Sample : H3670-16MSD  
Misc :  
ALS Vial : 20 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
D9Y98MSD

Quant Time: Jun 27 05:18:39 2016  
Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM02.2-EPA-BM062516.M  
Quant Title : SVOA CALIBRATION  
QLast Update : Mon Jun 27 05:15:31 2016  
Response via : Initial Calibration

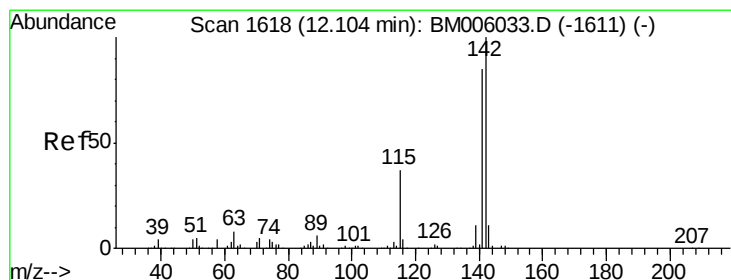
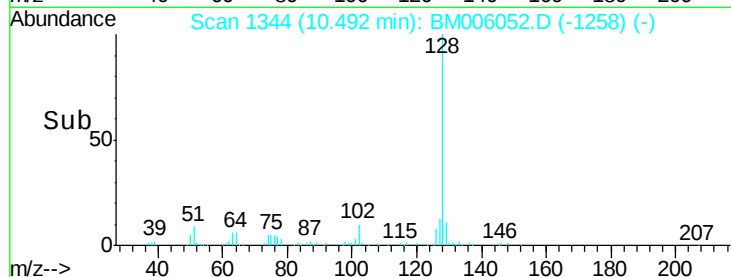
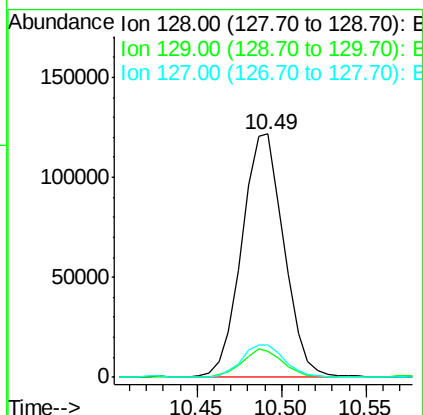
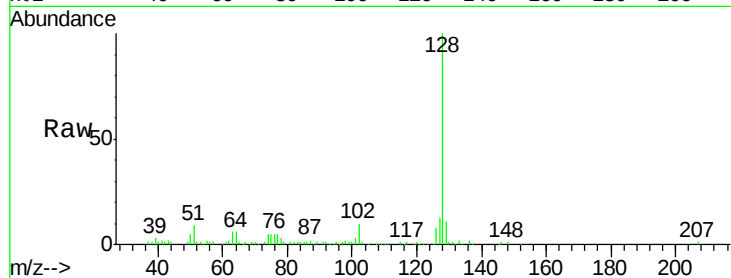




#11  
Naphthalene  
Concen: 2.88 ng/ul  
RT: 10.49 min Scan# 1344  
Delta R.T. 0.01 min  
Lab File: BM006052.D  
Acq: 26 Jun 2016 22:47

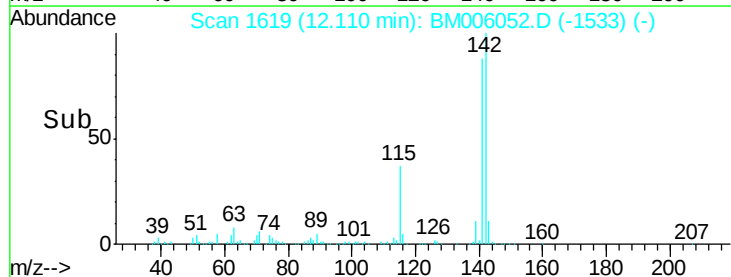
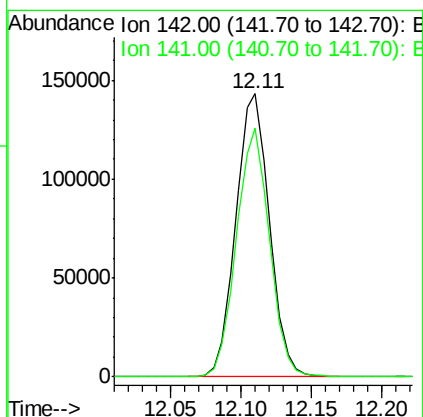
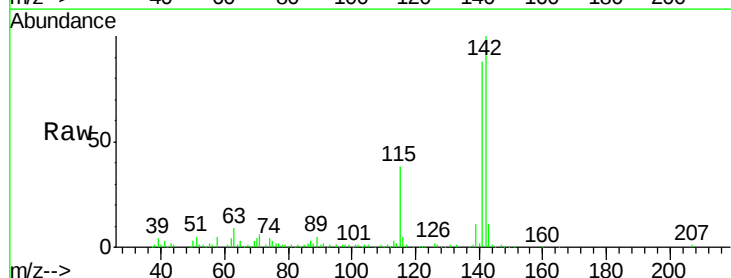
Instrument :  
BNA\_M  
ClientSampleId :  
D9Y98MSD

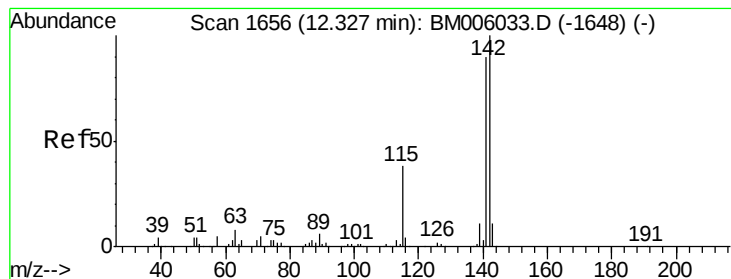
Tgt Ion:128 Resp: 211333  
Ion Ratio Lower Upper  
128 100  
129 10.9 8.6 13.0  
127 13.5 10.2 15.4



#13  
2-Methylnaphthalene  
Concen: 4.03 ng/ul  
RT: 12.11 min Scan# 1619  
Delta R.T. 0.01 min  
Lab File: BM006052.D  
Acq: 26 Jun 2016 22:47

Tgt Ion:142 Resp: 238460  
Ion Ratio Lower Upper  
142 100  
141 87.7 69.4 104.2





#14

1-Methylnaphthalene

Concen: 3.62 ng/ul

RT: 12.33 min Scan# 1656

Delta R.T. -0.00 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

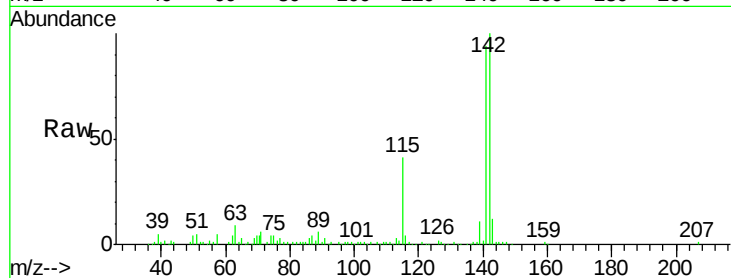
Tgt Ion:142 Resp: 205042

Ion Ratio Lower Upper

142 100

141 93.9 72.3 108.5

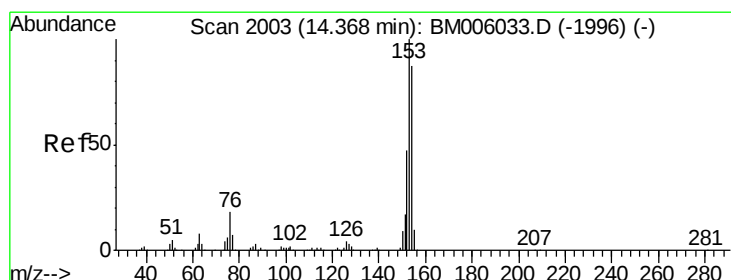
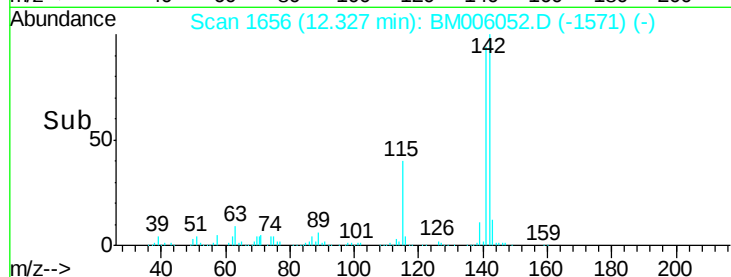
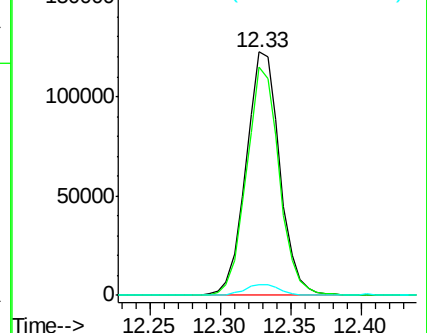
116 4.2 3.4 5.0



Abundance Ion 142.00 (141.70 to 142.70): E

Ion 141.00 (140.70 to 141.70): E

Ion 116.00 (115.70 to 116.70): E



#19

Acenaphthene

Concen: 23.50 ng/ul

RT: 14.37 min Scan# 2004

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

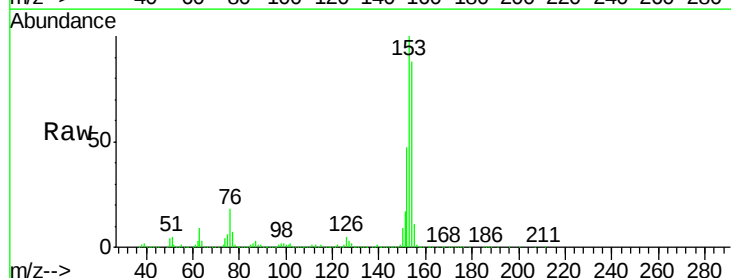
Tgt Ion:153 Resp: 1351659

Ion Ratio Lower Upper

153 100

152 47.1 38.6 57.8

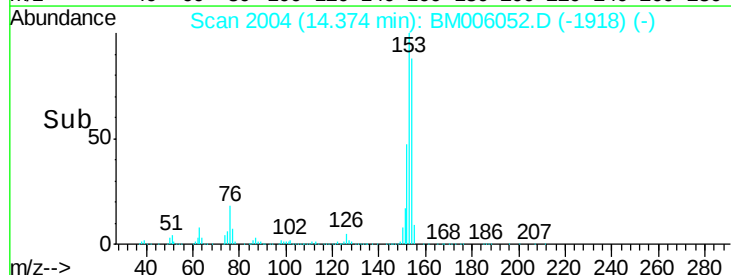
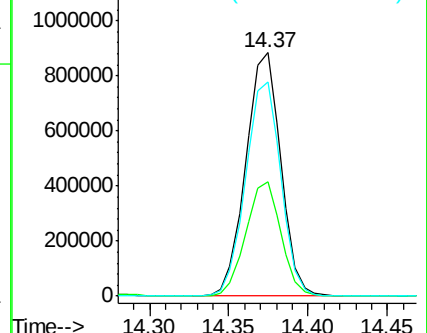
154 87.9 70.7 106.1

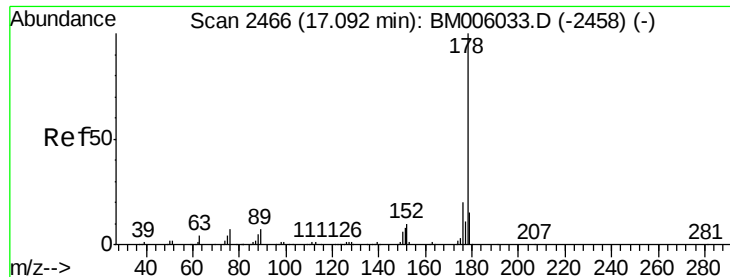


Abundance Ion 153.00 (152.70 to 153.70): E

Ion 152.00 (151.70 to 152.70): E

Ion 154.00 (153.70 to 154.70): E





#25

Phenanthrene

Concen: 8.42 ng/ul

RT: 17.10 min Scan# 2467

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

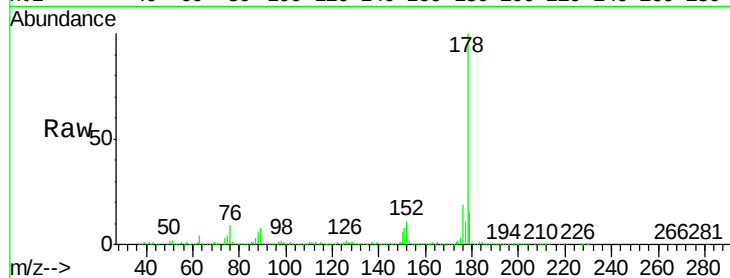
Tgt Ion:178 Resp: 880106

Ion Ratio Lower Upper

178 100

179 15.1 12.1 18.1

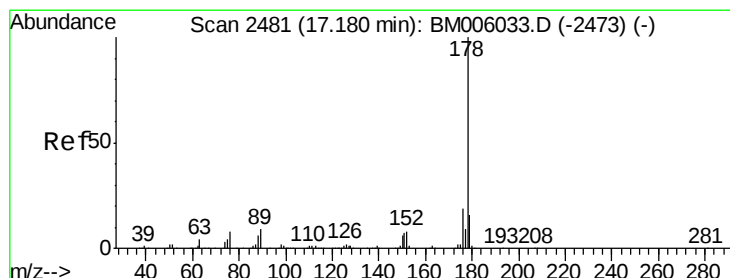
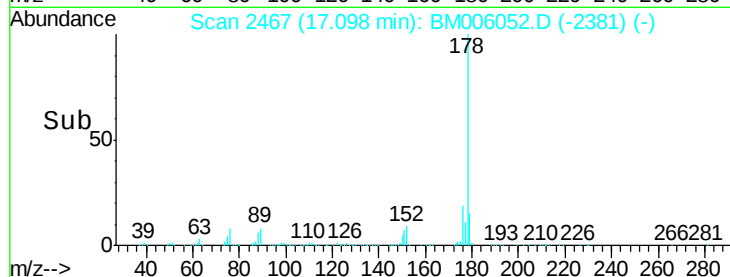
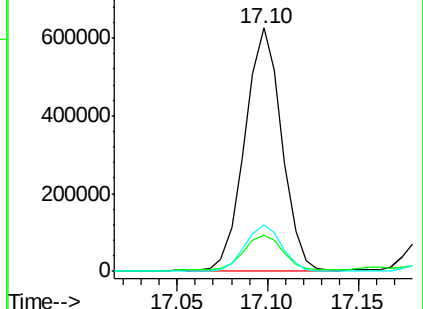
176 19.2 15.4 23.0



Abundance Ion 178.00 (177.70 to 178.70): E

Ion 179.00 (178.70 to 179.70): E

Ion 176.00 (175.70 to 176.70): E



#27

Anthracene

Concen: 1.33 ng/ul

RT: 17.19 min Scan# 2482

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

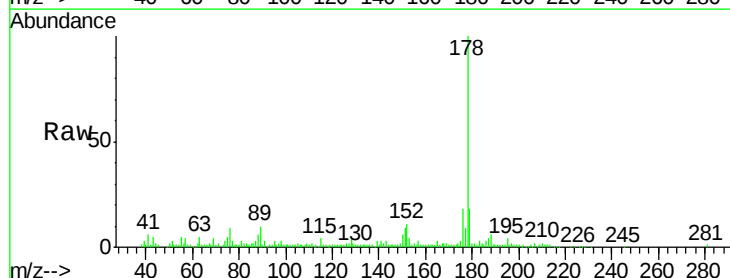
Tgt Ion:178 Resp: 143590

Ion Ratio Lower Upper

178 100

179 17.9 12.2 18.4

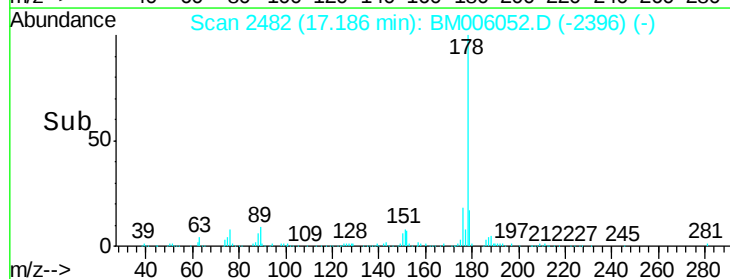
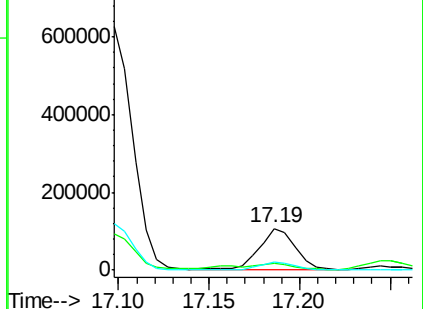
176 18.4 14.9 22.3

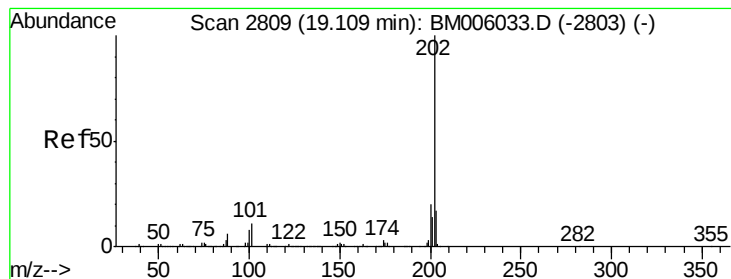


Abundance Ion 178.00 (177.70 to 178.70): E

Ion 179.00 (178.70 to 179.70): E

Ion 176.00 (175.70 to 176.70): E





#28

Fluoranthene

Concen: 9.19 ng/ul

RT: 19.12 min Scan# 2810

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

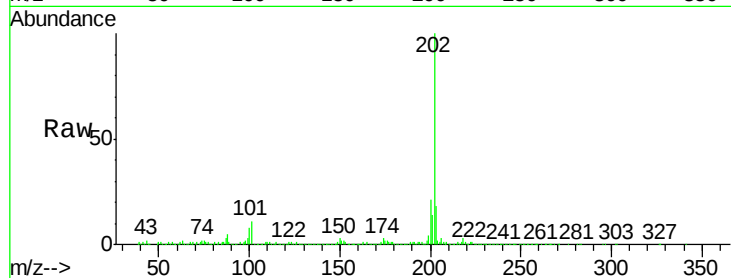
Tgt Ion:202 Resp: 1230848

Ion Ratio Lower Upper

202 100

101 11.2 8.2 12.4

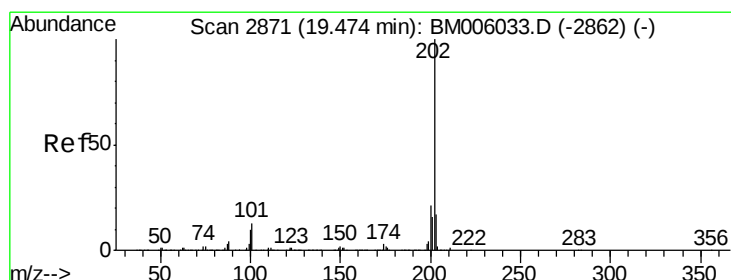
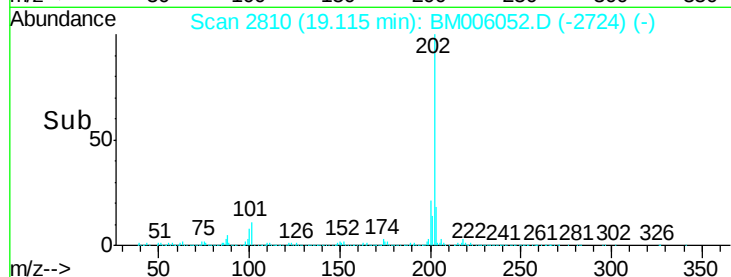
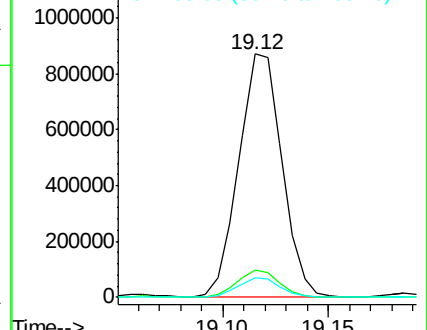
100 8.0 6.3 9.5



Abundance Ion 202.00 (201.70 to 202.70): E

Ion 101.00 (100.70 to 101.70): E

Ion 100.00 (99.70 to 100.70): B



#31

Pyrene

Concen: 36.07 ng/ul

RT: 19.49 min Scan# 2873

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

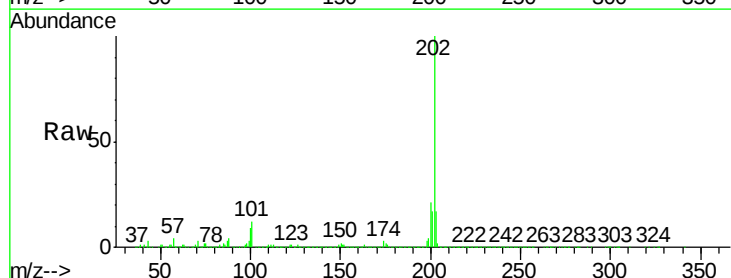
Tgt Ion:202 Resp: 3650040

Ion Ratio Lower Upper

202 100

101 11.8 9.8 14.6

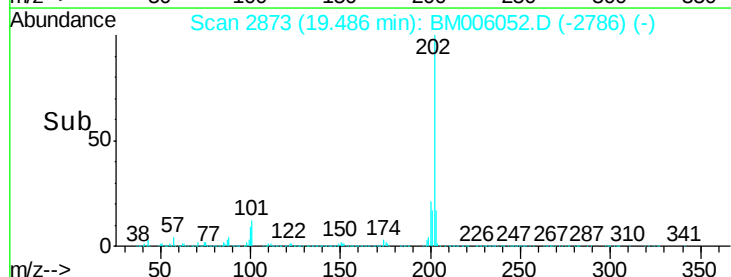
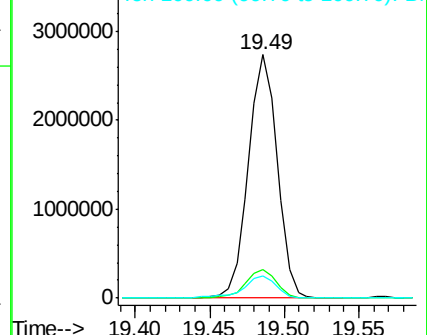
100 9.1 8.2 12.2

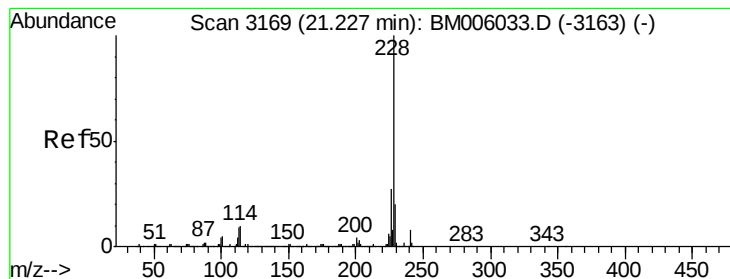


Abundance Ion 202.00 (201.70 to 202.70): E

Ion 101.00 (100.70 to 101.70): E

Ion 100.00 (99.70 to 100.70): B





#32

Benzo(a)anthracene

Concen: 6.55 ng/ul

RT: 21.29 min Scan# 3179

Delta R.T. 0.06 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

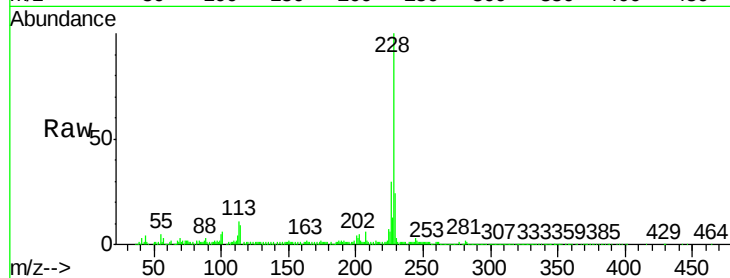
Tgt Ion:228 Resp: 687255

Ion Ratio Lower Upper

228 100

229 23.6 15.8 23.6

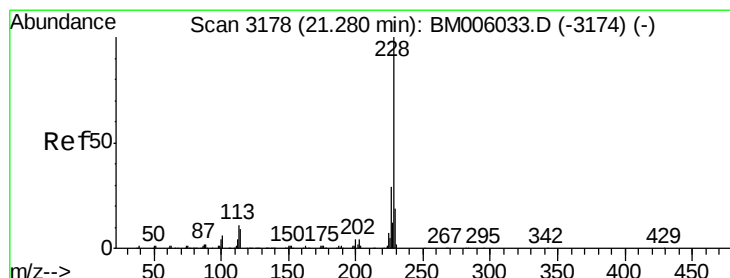
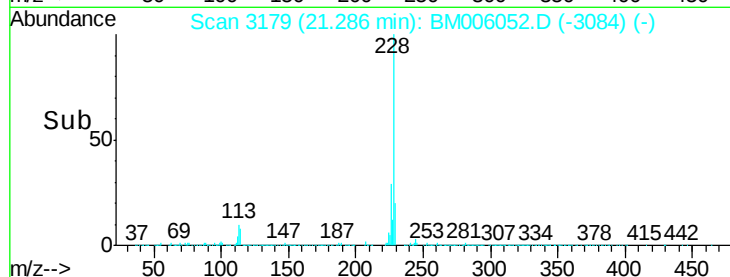
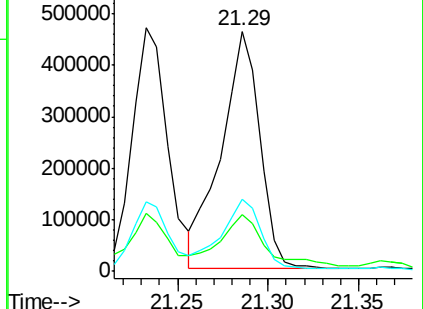
226 30.1 21.5 32.3



Abundance Ion 228.00 (227.70 to 228.70): E

Ion 229.00 (228.70 to 229.70): E

Ion 226.00 (225.70 to 226.70): E



#33

Chrysene

Concen: 7.17 ng/ul

RT: 21.29 min Scan# 3179

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

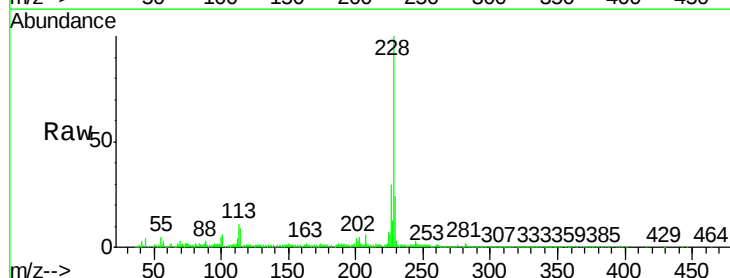
Tgt Ion:228 Resp: 687255

Ion Ratio Lower Upper

228 100

226 30.1 24.3 36.5

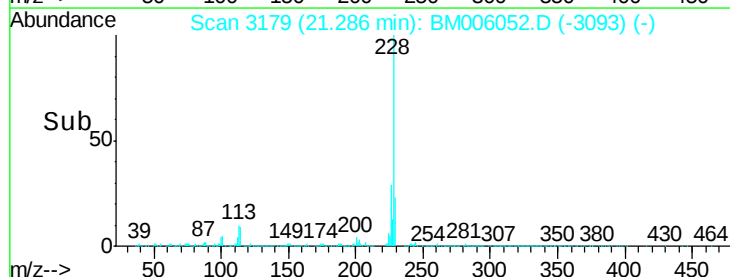
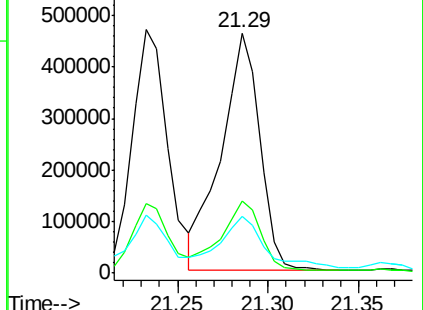
229 23.6 15.4 23.2#

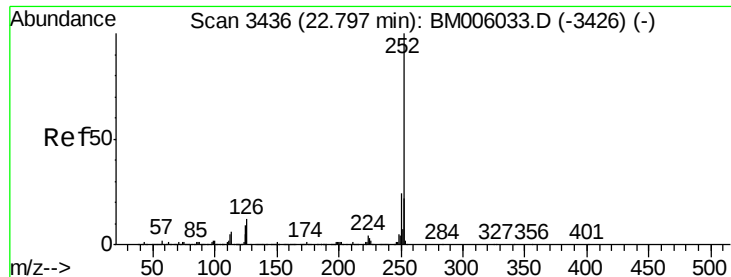


Abundance Ion 228.00 (227.70 to 228.70): E

Ion 226.00 (225.70 to 226.70): E

Ion 229.00 (228.70 to 229.70): E





#35

Benzo(b)fluoranthene

Concen: 9.50 ng/ul

RT: 22.81 min Scan# 3438

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

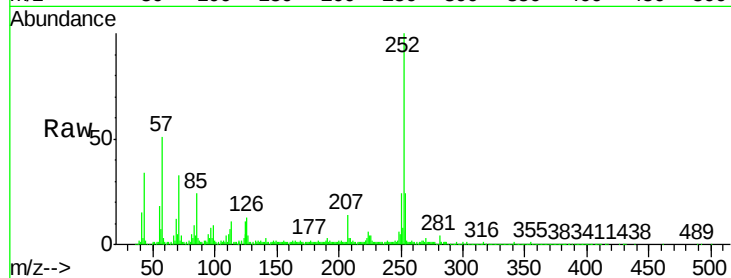
Tgt Ion:252 Resp: 831640

Ion Ratio Lower Upper

252 100

253 24.3 17.2 25.8

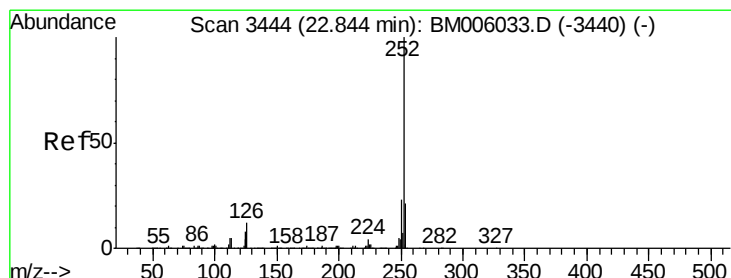
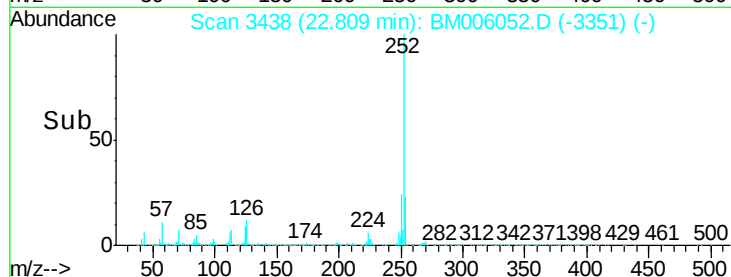
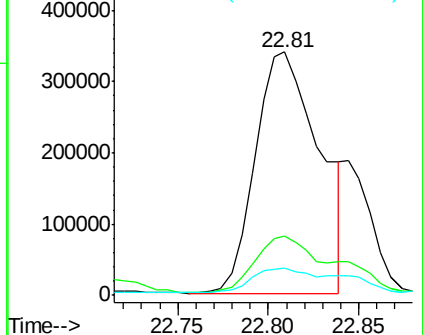
125 11.0 6.8 10.2#



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



#36

Benzo(k)fluoranthene

Concen: 10.21 ng/ul

RT: 22.81 min Scan# 3438

Delta R.T. -0.04 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

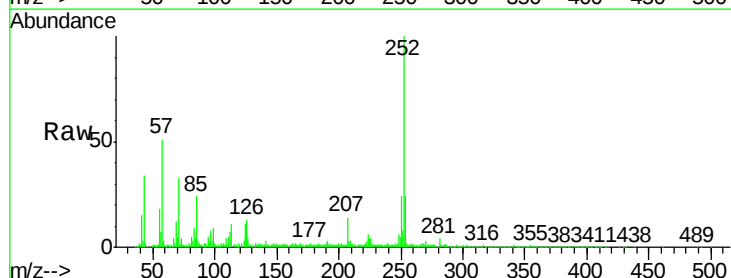
Tgt Ion:252 Resp: 831640

Ion Ratio Lower Upper

252 100

253 24.3 17.3 25.9

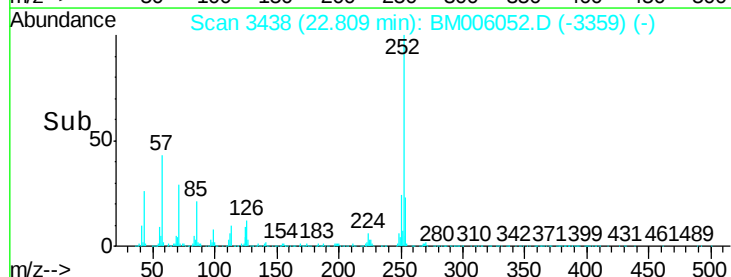
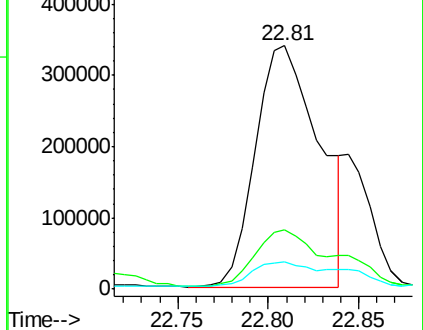
125 11.0 7.0 10.4#

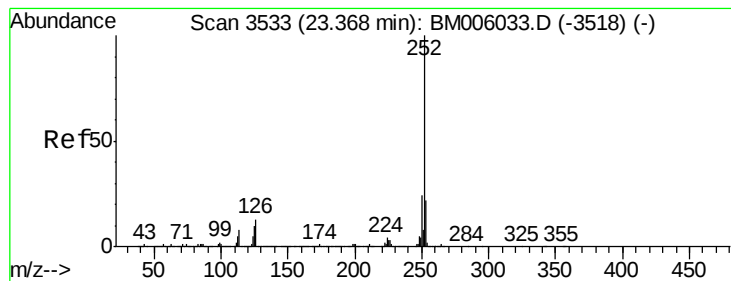


Abundance Ion 252.00 (251.70 to 252.70): E

Ion 253.00 (252.70 to 253.70): E

Ion 125.00 (124.70 to 125.70): E





#38

Benzo(a)pyrene

Concen: 5.76 ng/ul

RT: 23.37 min Scan# 3534

Delta R.T. 0.01 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

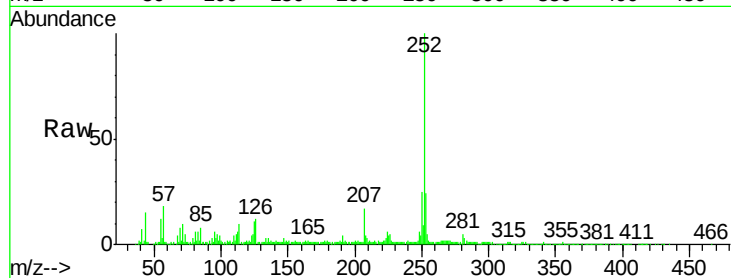
Tgt Ion:252 Resp: 483555

Ion Ratio Lower Upper

252 100

253 24.2 17.6 26.4

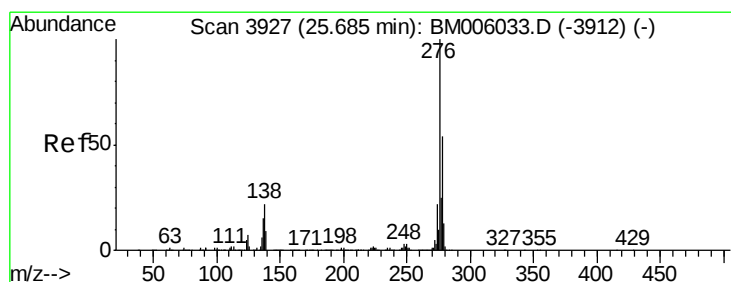
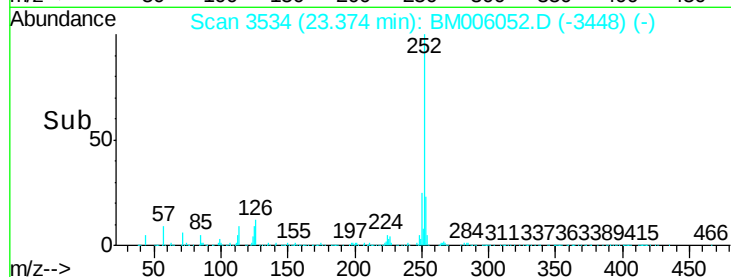
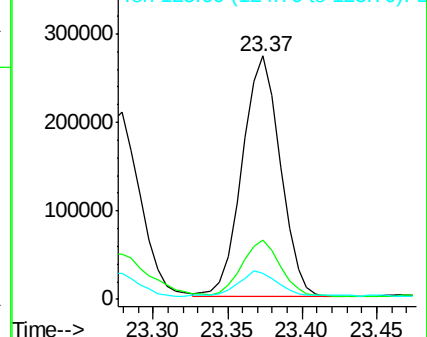
125 10.9 7.8 11.6



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



#39

Indeno(1,2,3-cd)pyrene

Concen: 3.41 ng/ul

RT: 25.69 min Scan# 3927

Delta R.T. -0.00 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

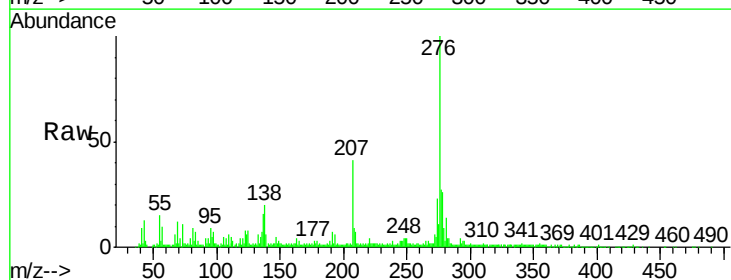
Tgt Ion:276 Resp: 340845

Ion Ratio Lower Upper

276 100

138 19.9 16.6 25.0

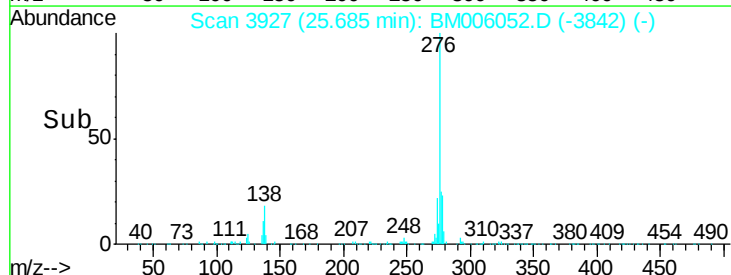
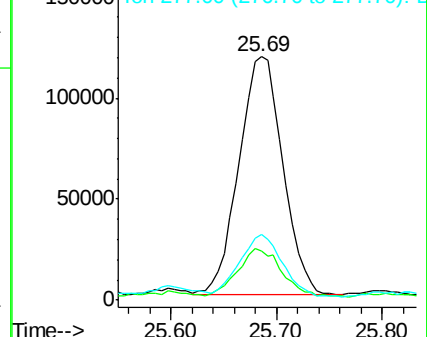
277 26.8 19.6 29.4

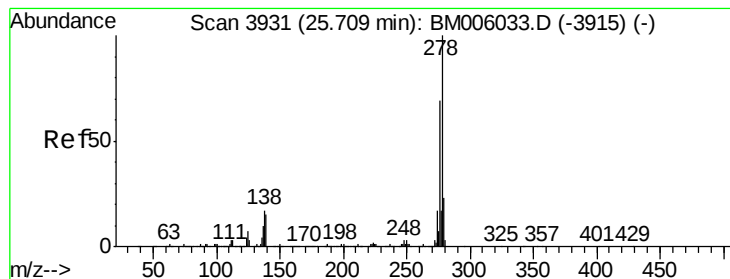


Abundance Ion 276.00 (275.70 to 276.70): E

Ion 138.00 (137.70 to 138.70): E

Ion 277.00 (276.70 to 277.70): E





#40

Dibenzo(a,h)anthracene

Concen: 1.16 ng/ul

RT: 25.69 min Scan# 3928

Delta R.T. -0.02 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

Instrument :

BNA\_M

ClientSampleId :

D9Y98MSD

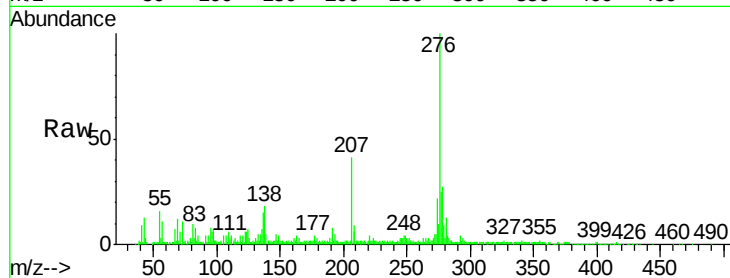
Tgt Ion:278 Resp: 96175

Ion Ratio Lower Upper

278 100

139 19.6 11.4 17.2#

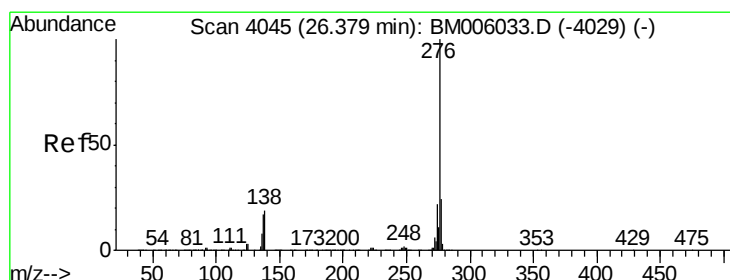
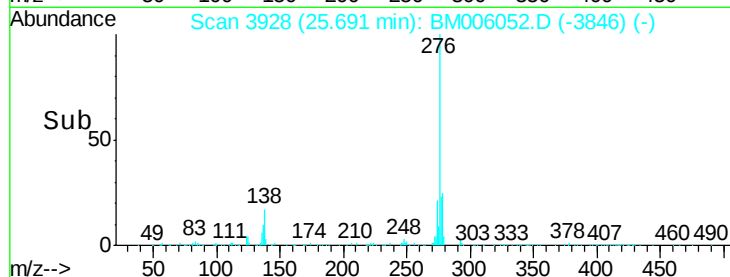
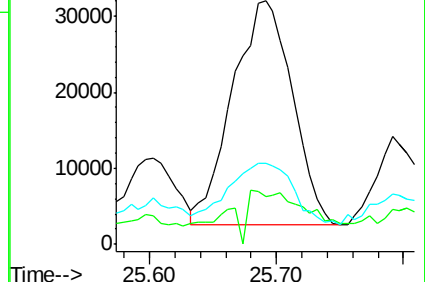
279 33.5 18.8 28.2#



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



#41

Benzo(g,h,i)perylene

Concen: 3.75 ng/ul

RT: 26.36 min Scan# 4042

Delta R.T. -0.02 min

Lab File: BM006052.D

Acq: 26 Jun 2016 22:47

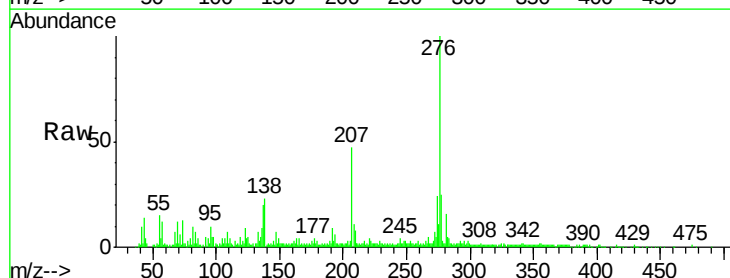
Tgt Ion:276 Resp: 324319

Ion Ratio Lower Upper

276 100

138 22.5 15.9 23.9

277 25.3 19.2 28.8



Abundance Ion 276.00 (275.70 to 276.70): E

Ion 138.00 (137.70 to 138.70): E

Ion 277.00 (276.70 to 277.70): E

