

Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM121417\  
 Data File : BM013427.D  
 Acq On : 15 Dec 2017 06:36  
 Operator : SJ/JU  
 Sample : I6778-14 30X  
 Misc :  
 ALS Vial : 25 Sample Multiplier: 1

Instrument :  
 BNA\_M  
 ClientSampleId :  
 F9A79

Manual Integrations  
 APPROVED

Sohil  
 12/15/2017 6:49:12 PM

Quant Time: Dec 15 11:03:25 2017  
 Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM113017.M  
 Quant Title : SVOA CALIBRATION  
 QLast Update : Fri Dec 15 04:56:09 2017  
 Response via : Initial Calibration

| Internal Standards        | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|-------|------|----------|-------|-------|----------|
| 1) 1,4-Dichlorobenzene-d4 | 7.67  | 152  | 230786   | 20.00 | ng/ul | 0.00     |
| 18) Naphthalene-d8        | 10.47 | 136  | 993646   | 20.00 | ng/ul | 0.02     |
| 35) Acenaphthene-d10      | 14.32 | 164  | 623372   | 20.00 | ng/ul | 0.00     |
| 61) Phenanthrene-d10      | 17.09 | 188  | 1247029  | 20.00 | ng/ul | 0.01     |
| 75) Chrysene-d12          | 21.27 | 240  | 1180064  | 20.00 | ng/ul | 0.01     |
| 83) Perylene-d12          | 23.49 | 264  | 923896   | 20.00 | ng/ul | 0.00     |

## System Monitoring Compounds

|                                |       |     |        |      |       |      |
|--------------------------------|-------|-----|--------|------|-------|------|
| 3) 1,4-Dioxane-d8              | 3.22  | 96  | 199    | 0.04 | ng/uL | 0.00 |
| 5) Phenol-d5                   | 6.86  | 99  | 13384  | 0.67 | ng/ul | 0.00 |
| 7) Bis-(2-Chloroethyl)ether-d  | 7.03  | 67  | 10938  | 0.96 | ng/ul | 0.00 |
| 9) 2-Chlorophenol-d4           | 7.21  | 132 | 13977  | 0.90 | ng/ul | 0.00 |
| 13) 4-Methylphenol-d8          | 8.39  | 113 | 14220  | 0.83 | ng/ul | 0.00 |
| 19) Nitrobenzene-d5            | 8.85  | 128 | 16446  | 2.09 | ng/ul | 0.01 |
| 22) 2-Nitrophenol-d4           | 9.55  | 143 | 7230   | 0.86 | ng/ul | 0.00 |
| 26) 2,4-Dichlorophenol-d3      | 10.09 | 165 | 13774  | 0.79 | ng/ul | 0.01 |
| 29) 4-Chloroaniline-d4         | 10.61 | 131 | 34888  | 2.18 | ng/ul | 0.01 |
| 43) Dimethylphthalate-d6       | 13.74 | 166 | 64308  | 1.16 | ng/ul | 0.00 |
| 46) Acenaphthylene-d8          | 14.02 | 160 | 53583  | 0.78 | ng/ul | 0.00 |
| 51) 4-Nitrophenol-d4           | 14.53 | 143 | 9356   | 0.97 | ng/ul | 0.00 |
| 57) Fluorene-d10               | 15.33 | 176 | 60507  | 1.27 | ng/ul | 0.01 |
| 62) 4,6-Dinitro-2-methylphenol | 15.46 | 200 | 344    | 0.04 | ng/ul | 0.01 |
| 70) Anthracene-d10             | 17.20 | 188 | 61105  | 0.98 | ng/ul | 0.04 |
| 76) Pyrene-d10                 | 19.49 | 212 | 72122m | 1.23 | ng/ul | 0.02 |
| 87) Benzo(a)pyrene-d12         | 23.35 | 264 | 48227  | 1.02 | ng/ul | 0.00 |

## Target Compounds

|                            |       |     |           |         | Qvalue |    |
|----------------------------|-------|-----|-----------|---------|--------|----|
| 28) Naphthalene            | 10.52 | 128 | 41141019m | 804.762 | ng/ul  |    |
| 34) 2-Methylnaphthalene    | 12.14 | 142 | 19943403m | 518.959 | ng/ul  |    |
| 40) 1,1'-Biphenyl          | 13.16 | 154 | 6264010   | 118.898 | ng/ul  | 99 |
| 47) Acenaphthylene         | 14.05 | 152 | 2510055   | 39.623  | ng/ul# | 94 |
| 49) Acenaphthene           | 14.40 | 153 | 19822326m | 459.340 | ng/ul  |    |
| 53) Dibenzofuran           | 14.73 | 168 | 18950530m | 297.464 | ng/ul  |    |
| 58) Fluorene               | 15.39 | 166 | 21584679m | 409.555 | ng/ul  |    |
| 68) Pentachlorophenol      | 16.76 | 266 | 36913     | 3.948   | ng/ul  | 95 |
| 69) Phenanthrene           | 17.12 | 178 | 40002667m | 564.642 | ng/ul  |    |
| 71) Anthracene             | 17.23 | 178 | 13794629  | 190.490 | ng/ul# | 90 |
| 72) Carbazole              | 17.49 | 167 | 7469841   | 119.924 | ng/ul  | 99 |
| 74) Fluoranthene           | 19.14 | 202 | 28621447m | 329.664 | ng/ul  |    |
| 77) Pyrene                 | 19.51 | 202 | 24531305m | 342.175 | ng/ul  |    |
| 80) Benzo(a)anthracene     | 21.26 | 228 | 10651154  | 142.258 | ng/ul  | 96 |
| 82) Chrysene               | 21.32 | 228 | 8288444   | 119.323 | ng/ul  | 97 |
| 85) Benzo(b)fluoranthene   | 22.83 | 252 | 5495704   | 88.240  | ng/ul# | 98 |
| 86) Benzo(k)fluoranthene   | 22.87 | 252 | 1914169m  | 32.659  | ng/ul  |    |
| 88) Benzo(a)pyrene         | 23.40 | 252 | 3616706   | 64.645  | ng/ul# | 98 |
| 89) Indeno(1,2,3-cd)pyrene | 25.72 | 276 | 1554554   | 28.004  | ng/ul# | 97 |
| 90) Dibenzo(a,h)anthracene | 25.72 | 278 | 443197    | 9.376   | ng/ul# | 87 |
| 91) Benzo(g,h,i)perylene   | 26.40 | 276 | 1284983   | 29.346  | ng/ul# | 95 |

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Sample : I6778-14 30X  
Misc :  
ALS Vial : 25 Sample Multiplier: 1

Instrument :  
BNA\_M  
ClientSampleId :  
F9A79

Manual Integrations  
APPROVED

Sohil  
12/15/2017 6:49:12 PM

Quant Time: Dec 15 11:03:25 2017  
Quant Method : Z:\HPCHEM1\BNA\_M\METHODS\SOM-EPA-BM113017.M  
Quant Title : SVOA CALIBRATION  
QLast Update : Fri Dec 15 04:56:09 2017  
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|--------------------|------|------|----------|------|-------|----------|
|--------------------|------|------|----------|------|-------|----------|

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

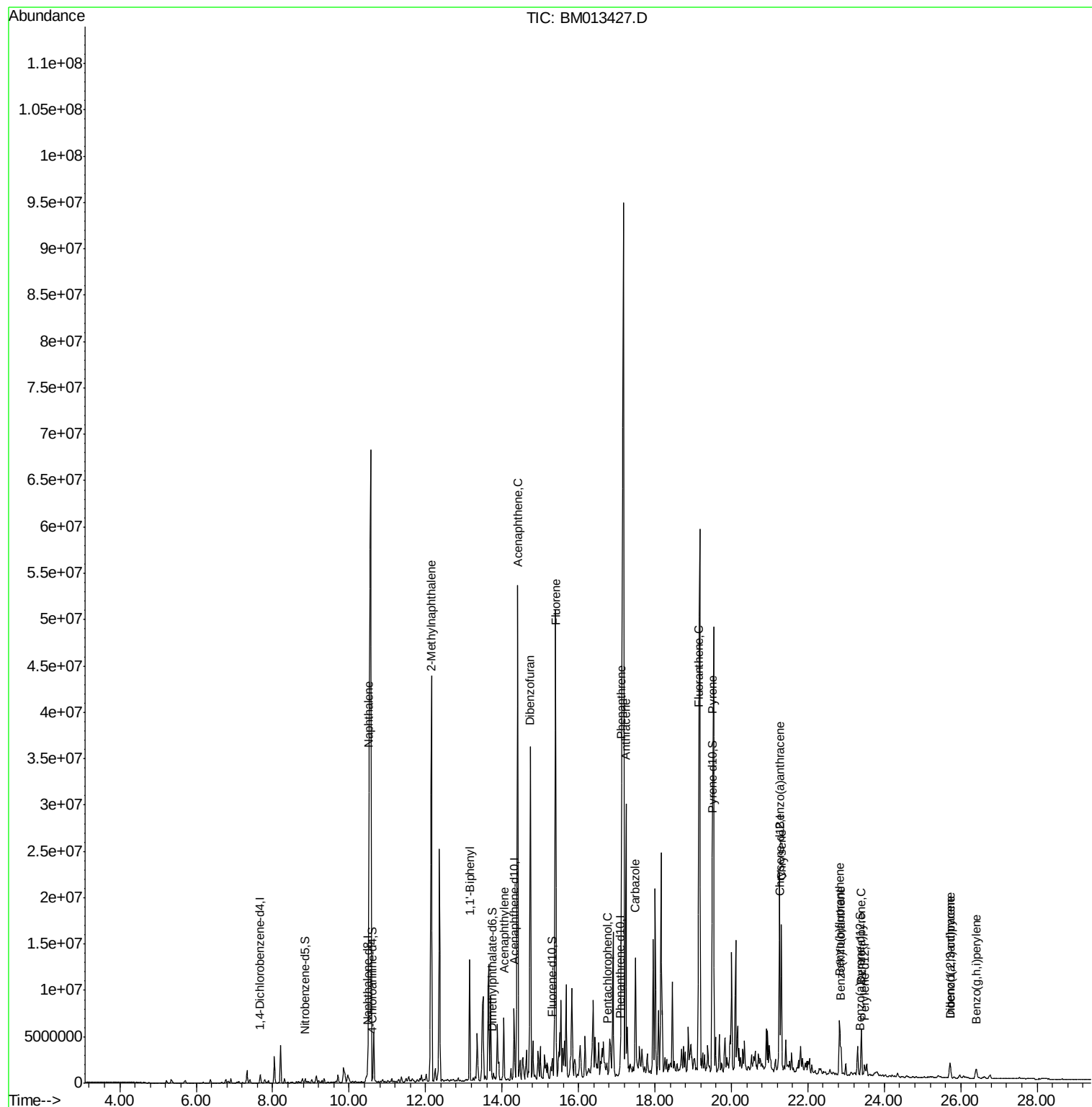
Data Path : Z:\HPCHEM1\BNA\_M\DATA\BM121417\  
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ALS Vial : 25 Sample Multiplier: 1

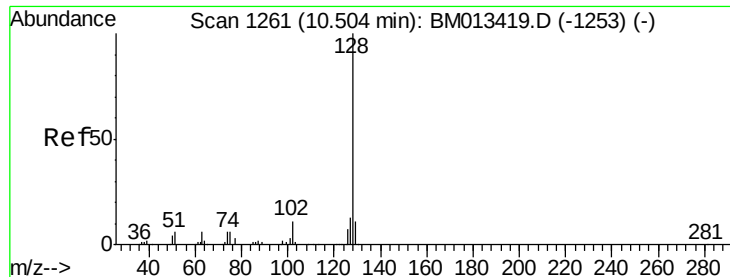
Instrument :  
BNA\_M  
ClientSampleId :  
F9A79

Manual Integrations  
APPROVED

Sohil  
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Quant Time: Dec 15 11:03:25 2017  
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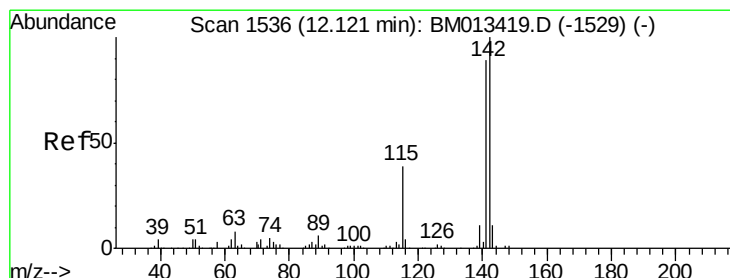
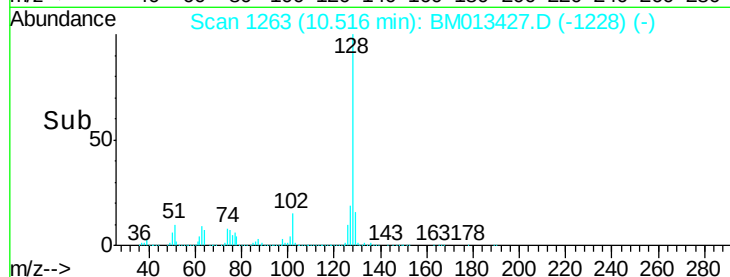
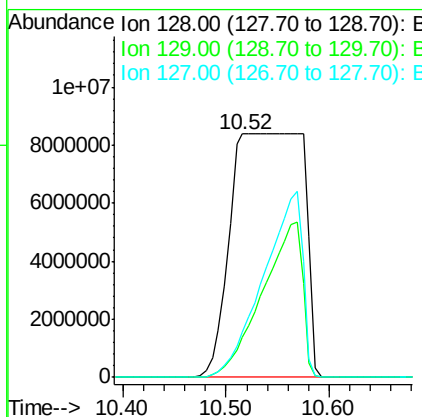
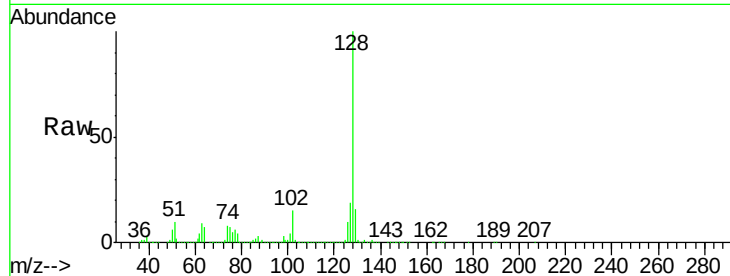
#28  
Naphthalene  
Concen: 804.762 ng/ul m  
RT: 10.52 min Scan# 1263  
Delta R.T. 0.01 min  
Lab File: BM013427.D  
Acq: 15 Dec 2017 06:36

Instrument :  
BNA\_M  
ClientSampleId :  
F9A79

Tgt Ion:128 Resp:41141019  
Ion Ratio Lower Upper  
128 100  
129 16.2 8.8 13.2#  
127 18.5 10.6 16.0#

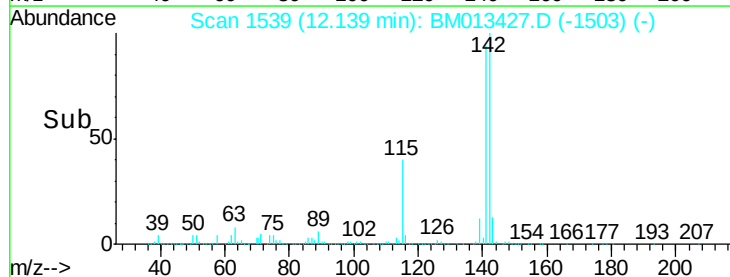
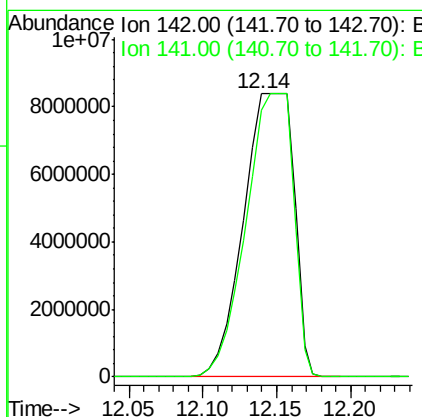
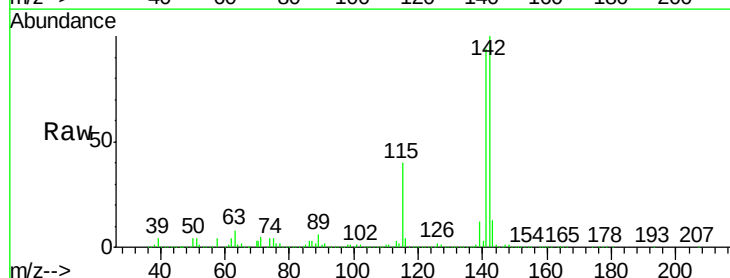
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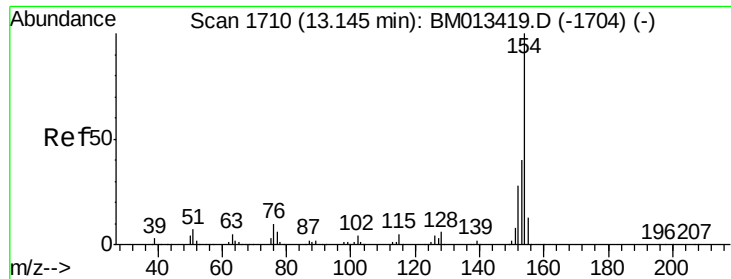
Sohil  
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#34  
2-Methylnaphthalene  
Concen: 518.959 ng/ul m  
RT: 12.14 min Scan# 1539  
Delta R.T. 0.01 min  
Lab File: BM013427.D  
Acq: 15 Dec 2017 06:36

Tgt Ion:142 Resp:19943403  
Ion Ratio Lower Upper  
142 100  
141 94.2 74.1 111.1





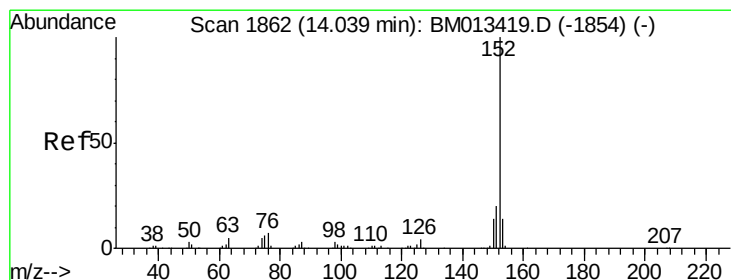
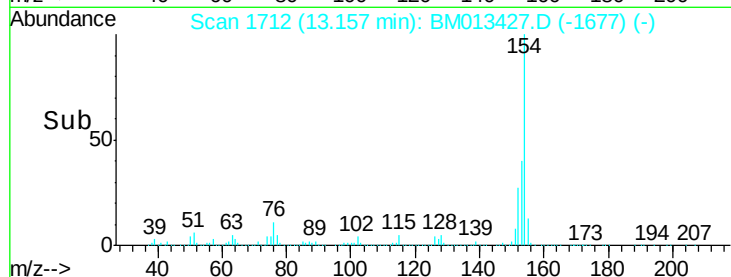
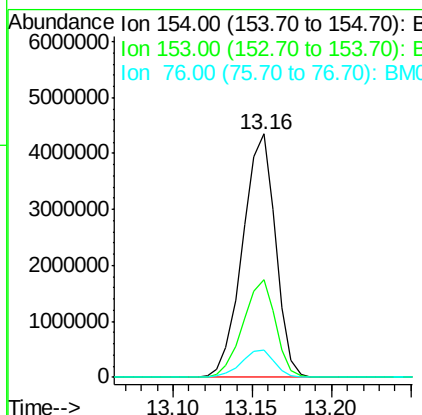
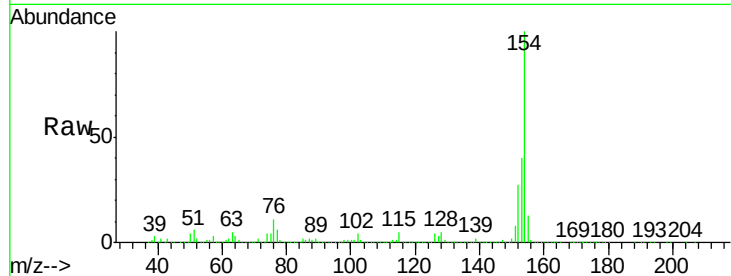
#40  
1,1'-Biphenyl  
Concen: 118.898 ng/ul  
RT: 13.16 min Scan# 1712  
Delta R.T. 0.01 min  
Lab File: BM013427.D  
Acq: 15 Dec 2017 06:36

Instrument :  
BNA\_M  
ClientSampleId :  
F9A79

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 154     | 100   |       |       |
| 153     | 40.3  | 32.6  | 48.8  |
| 76      | 11.3  | 8.5   | 12.7  |

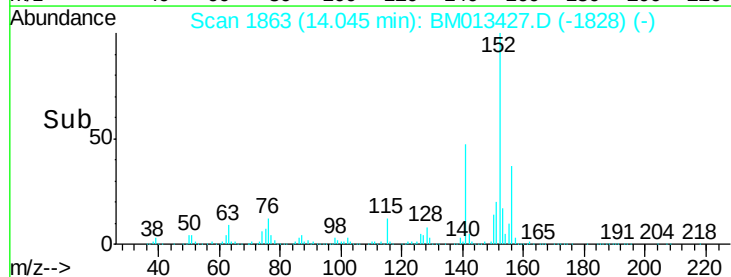
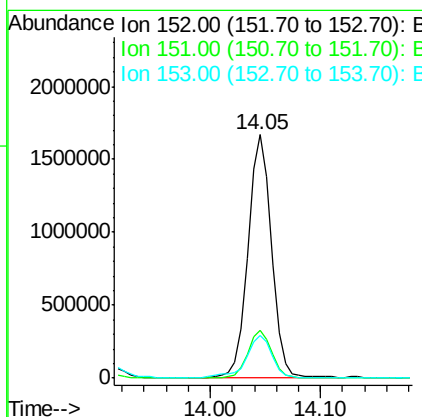
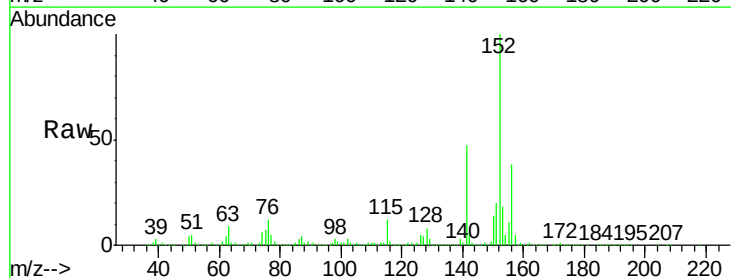
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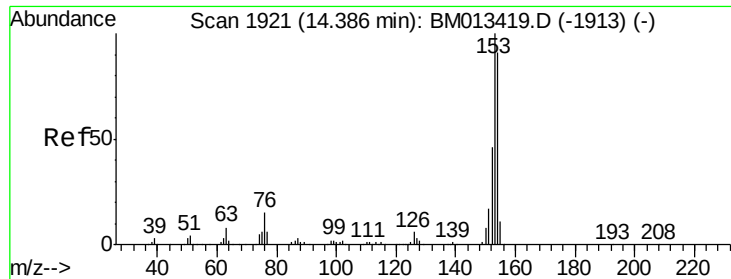
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#47  
Acenaphthylene  
Concen: 39.623 ng/ul  
RT: 14.05 min Scan# 1863  
Delta R.T. 0.01 min  
Lab File: BM013427.D  
Acq: 15 Dec 2017 06:36

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 152     | 100   |       |       |
| 151     | 19.7  | 16.3  | 24.5  |
| 153     | 17.5  | 10.2  | 15.4  |





#49

Acenaphthene

Concen: 459.340 ng/ul m

RT: 14.40 min Scan# 1924

Delta R.T. 0.02 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Instrument :

BNA\_M

ClientSampleId :

F9A79

Tgt Ion:153 Resp:19822326

Ion Ratio Lower Upper

153 100

152 60.1 37.6 56.4#

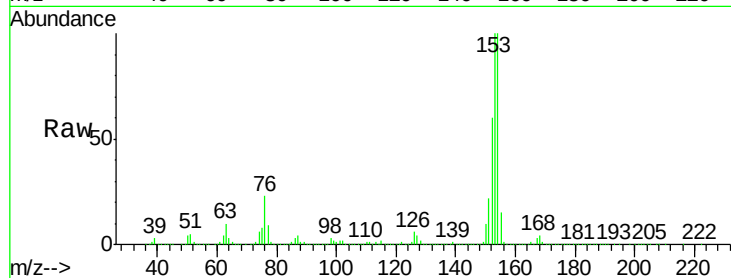
154 100.0 70.4 105.6

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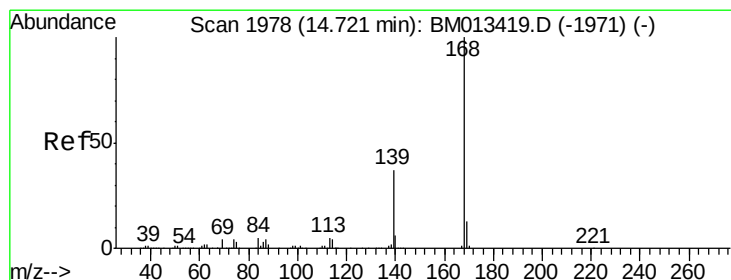
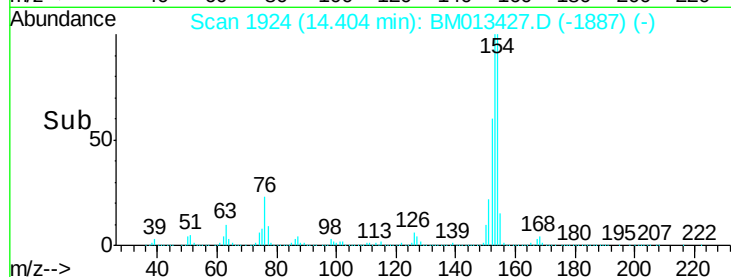
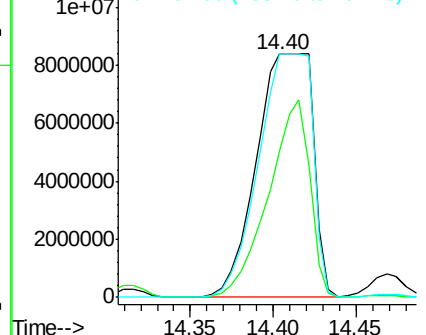
12/15/2017 6:49:12 PM



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



#53

Dibenzofuran

Concen: 297.464 ng/ul m

RT: 14.73 min Scan# 1980

Delta R.T. 0.01 min

Lab File: BM013427.D

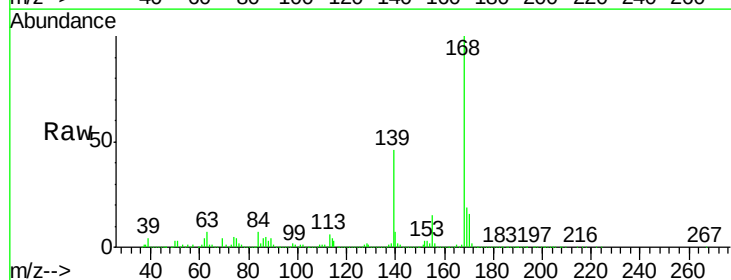
Acq: 15 Dec 2017 06:36

Tgt Ion:168 Resp:18950530

Ion Ratio Lower Upper

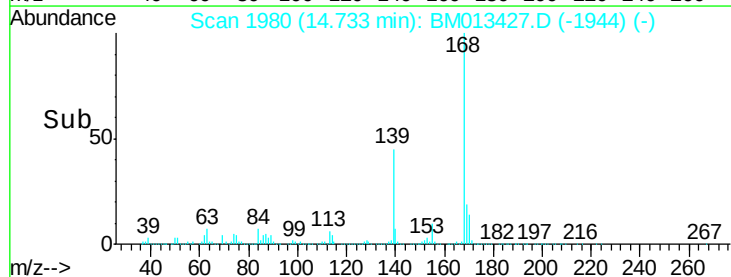
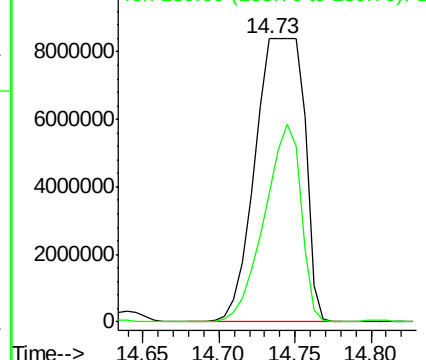
168 100

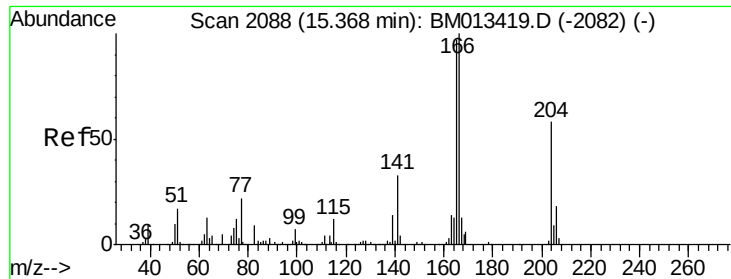
139 45.5 30.8 46.2



Abundance Ion 168.00 (167.70 to 168.70): E

Ion 139.00 (138.70 to 139.70): E





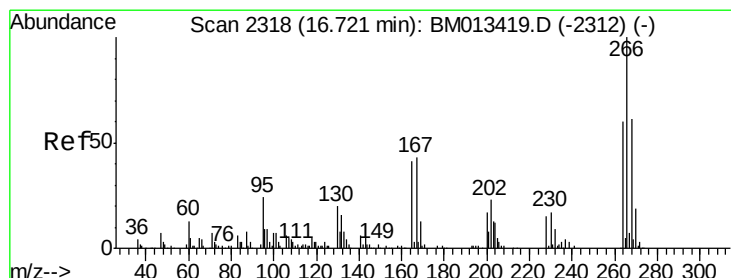
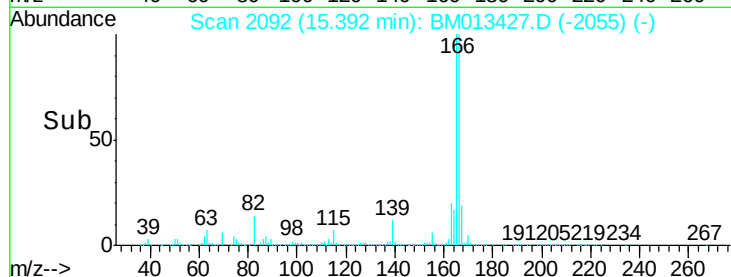
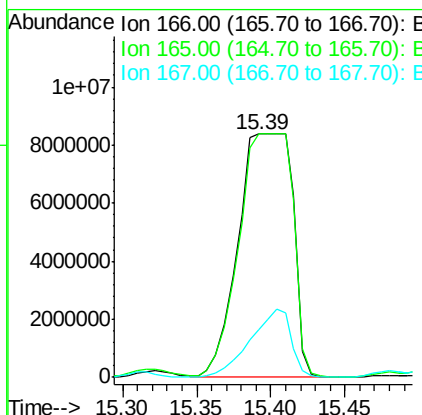
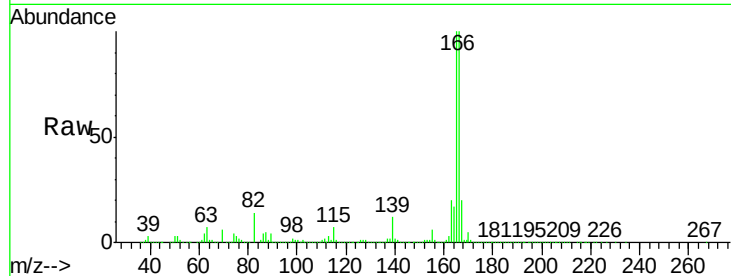
#58  
 Fluorene  
 Concen: 409.555 ng/ul m  
 RT: 15.39 min Scan# 2092  
 Delta R.T. 0.02 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Instrument :  
 BNA\_M  
 ClientSampleId :  
 F9A79

Tgt Ion:166 Resp:21584679  
 Ion Ratio Lower Upper  
 166 100  
 165 100.0 77.9 116.9  
 167 19.9 10.6 16.0#

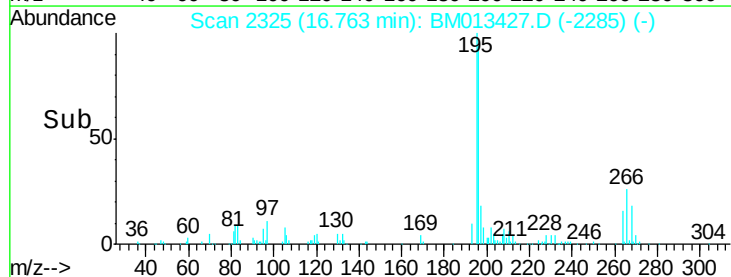
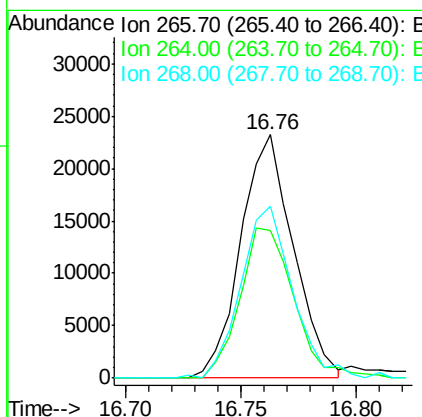
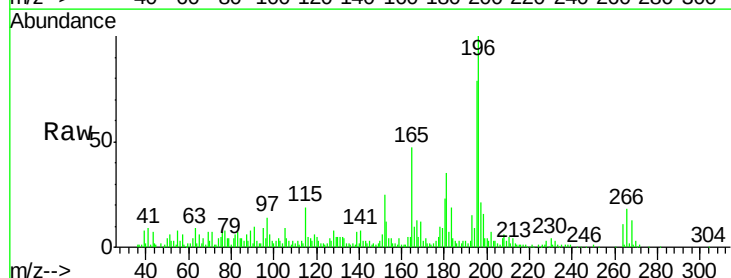
Manual Integrations  
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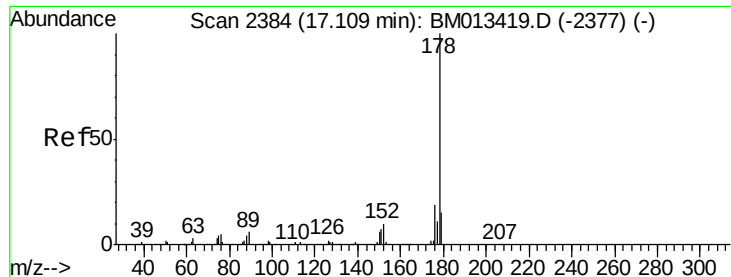
Sohil  
 12/15/2017 6:49:12 PM



#68  
 Pentachlorophenol  
 Concen: 3.948 ng/ul  
 RT: 16.76 min Scan# 2325  
 Delta R.T. 0.04 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Tgt Ion:266 Resp: 36913  
 Ion Ratio Lower Upper  
 266 100  
 264 65.2 49.3 73.9  
 268 70.4 52.6 78.8





#69

Phenanthrene

Concen: 564.642 ng/ul m

RT: 17.12 min Scan# 2386

Delta R.T. 0.01 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Instrument :

BNA\_M

ClientSampled :

F9A79

Tgt Ion:178 Resp:40002667

Ion Ratio Lower Upper

178 100

179 18.7 12.6 19.0

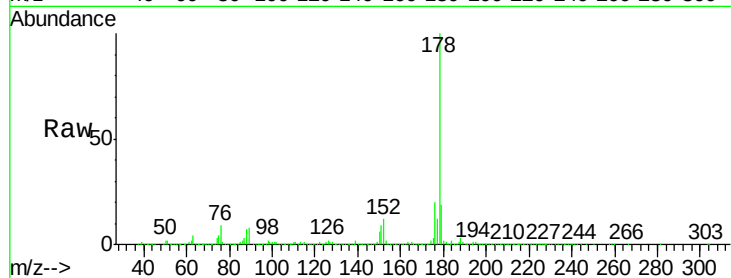
176 20.2 14.9 22.3

Manual Integrations

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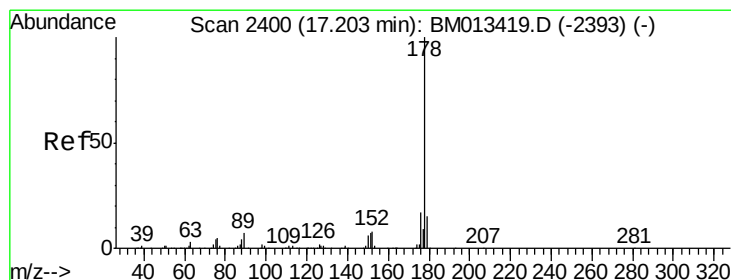
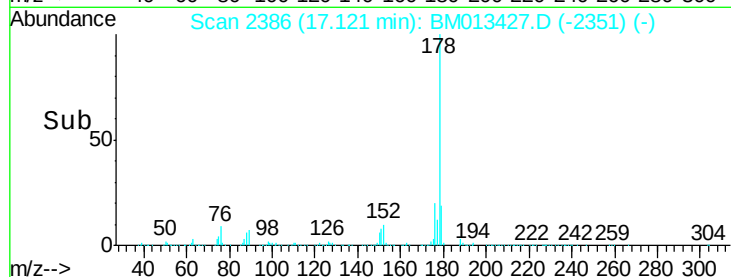
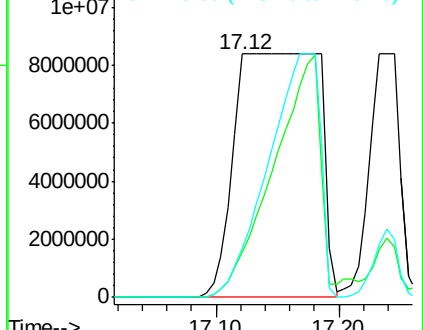
12/15/2017 6:49:12 PM



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



#71

Anthracene

Concen: 190.490 ng/ul

RT: 17.23 min Scan# 2405

Delta R.T. 0.03 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Tgt Ion:178 Resp:13794629

Ion Ratio Lower Upper

178 100

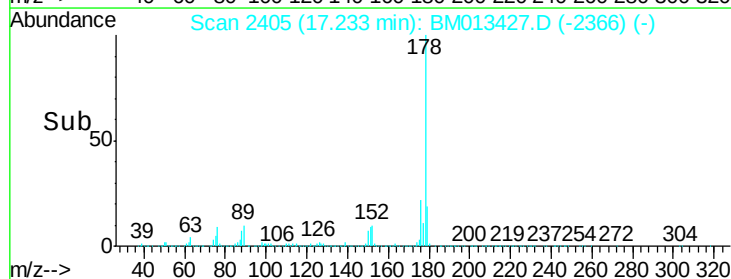
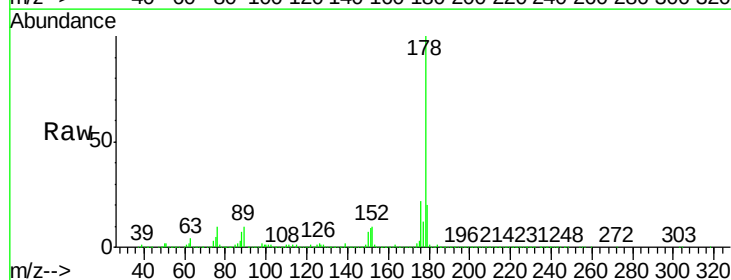
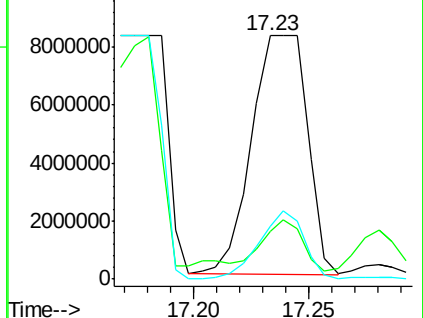
179 19.5 11.7 17.5#

176 21.8 14.6 21.8

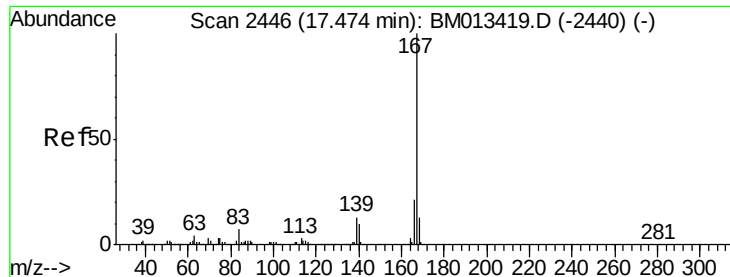
Abundance Ion 178.00 (177.70 to 178.70): E

Ion 179.00 (178.70 to 179.70): E

Ion 176.00 (175.70 to 176.70): E







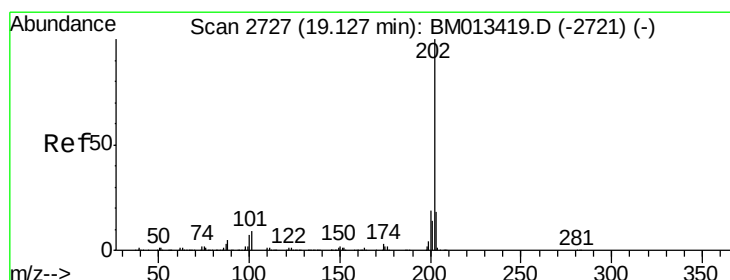
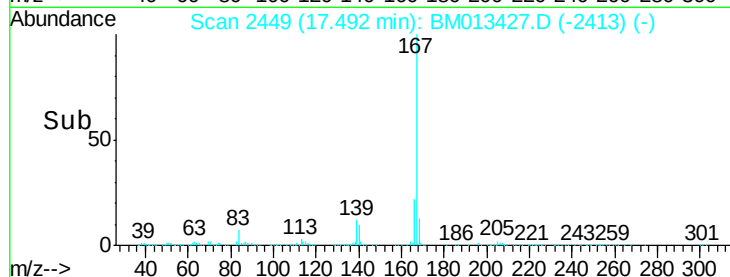
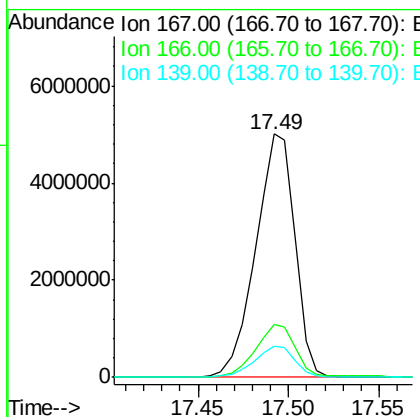
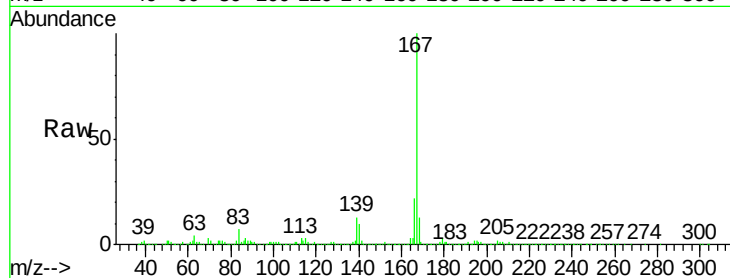
#72  
 Carbazole  
 Concen: 119.924 ng/ul  
 RT: 17.49 min Scan# 2449  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Instrument :  
 BNA\_M  
 ClientSampleId :  
 F9A79

Tgt Ion:167 Resp: 7469841  
 Ion Ratio Lower Upper  
 167 100  
 166 21.8 17.1 25.7  
 139 12.9 10.0 15.0

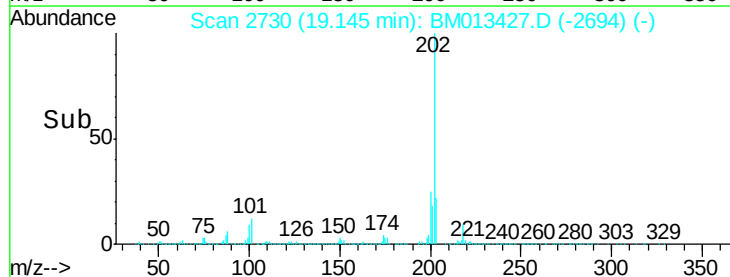
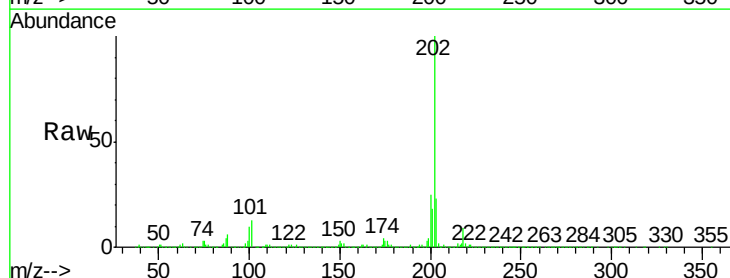
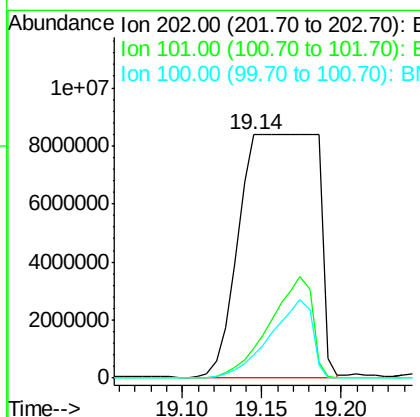
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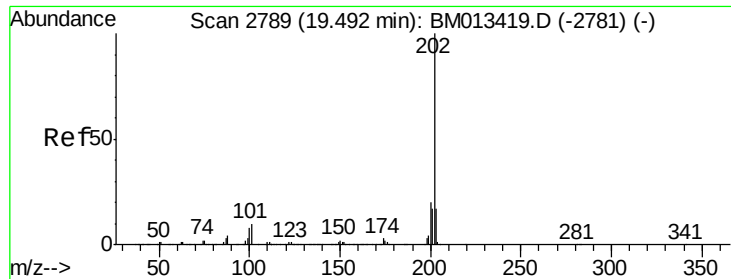
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#74  
 Fluoranthene  
 Concen: 329.664 ng/ul m  
 RT: 19.14 min Scan# 2730  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Tgt Ion:202 Resp:28621447  
 Ion Ratio Lower Upper  
 202 100  
 101 12.5 4.6 7.0#  
 100 9.6 3.4 5.2#





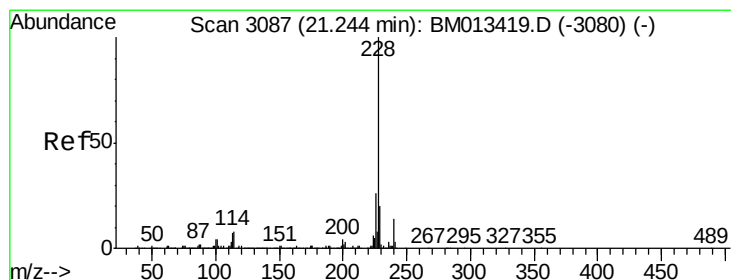
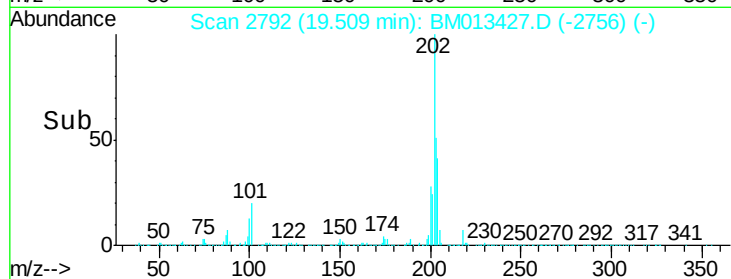
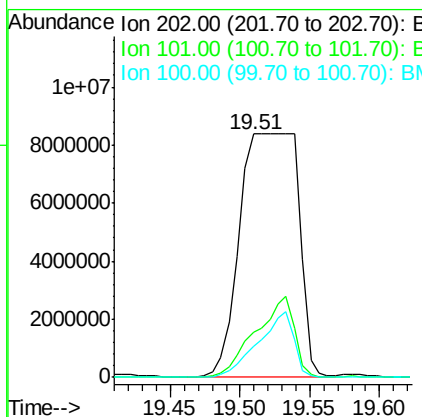
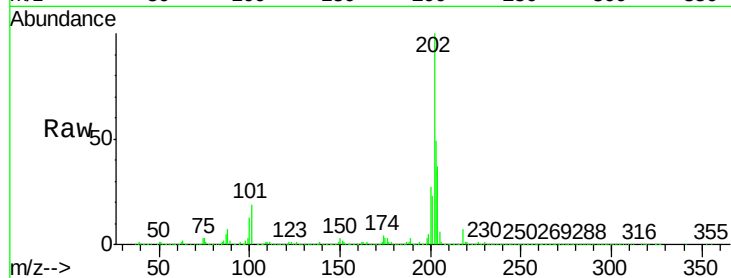
#77  
 Pyrene  
 Concen: 342.175 ng/ul m  
 RT: 19.51 min Scan# 2792  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Instrument :  
 BNA\_M  
 ClientSampleId :  
 F9A79

Tgt Ion:202 Resp:24531305  
 Ion Ratio Lower Upper  
 202 100  
 101 18.7 5.1 7.7#  
 100 12.6 4.9 7.3#

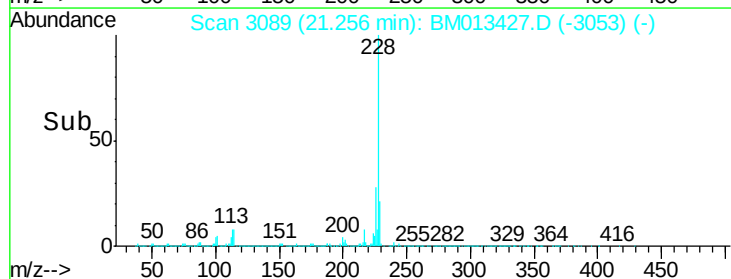
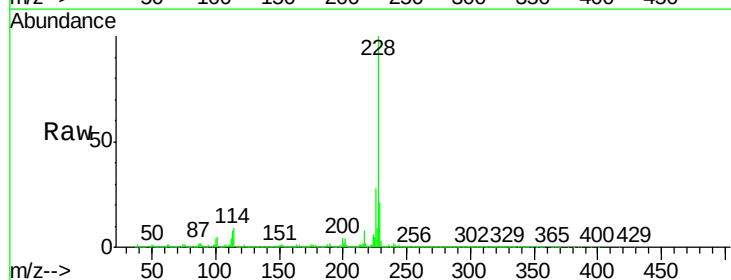
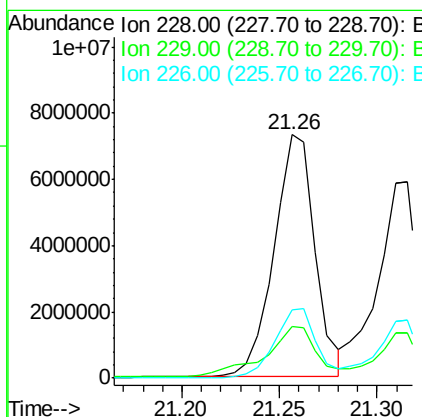
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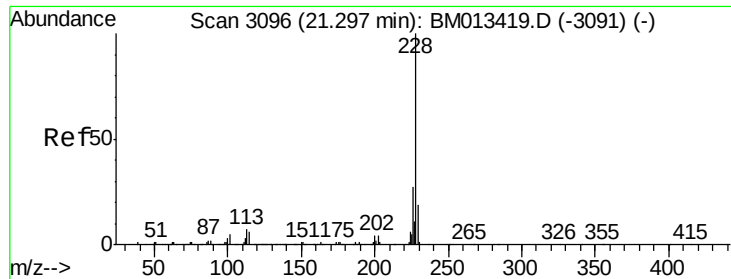
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#80  
 Benzo(a)anthracene  
 Concen: 142.258 ng/ul  
 RT: 21.26 min Scan# 3089  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Tgt Ion:228 Resp:10651154  
 Ion Ratio Lower Upper  
 228 100  
 229 21.3 15.4 23.0  
 226 28.1 21.4 32.0





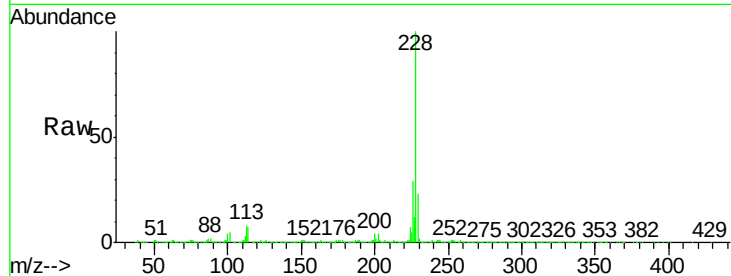
#82  
**Chrysene**  
 Concen: 119.323 ng/ul  
 RT: 21.32 min Scan# 3099  
 Delta R.T. 0.02 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Instrument :  
 BNA\_M  
 ClientSampled :  
 F9A79

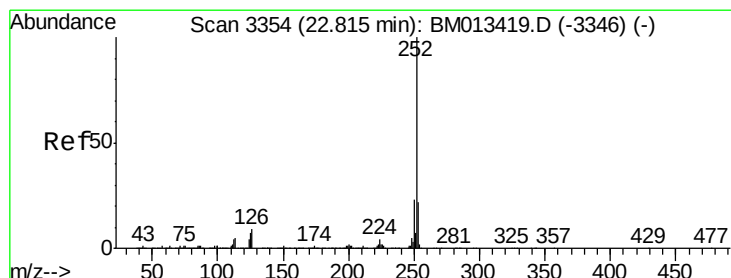
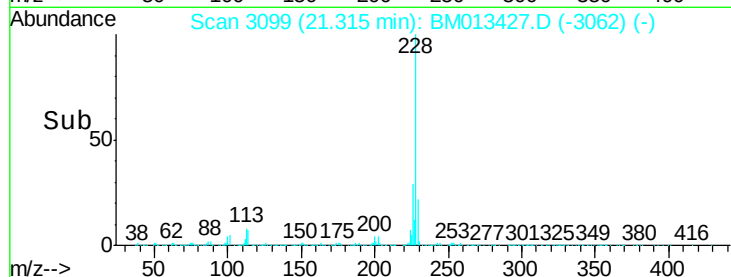
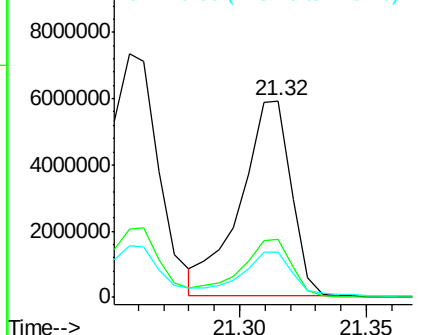
| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 228     | 100   |       |       |
| 226     | 29.4  | 23.4  | 35.2  |
| 229     | 22.7  | 15.5  | 23.3  |

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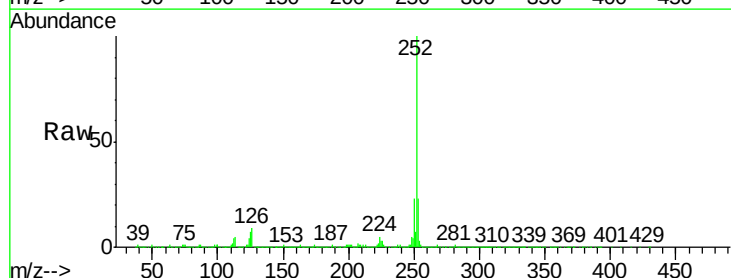


Abundance Ion 228.00 (227.70 to 228.70): E  
 1e+07 Ion 226.00 (225.70 to 226.70): E  
 Ion 229.00 (228.70 to 229.70): E

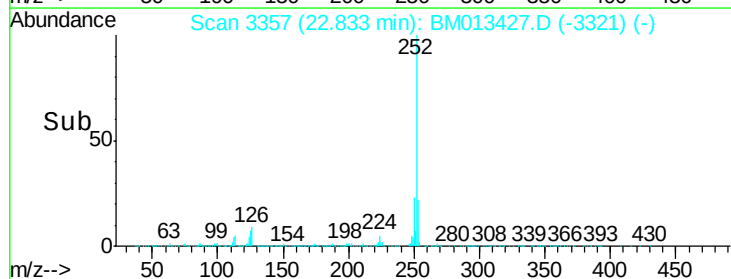
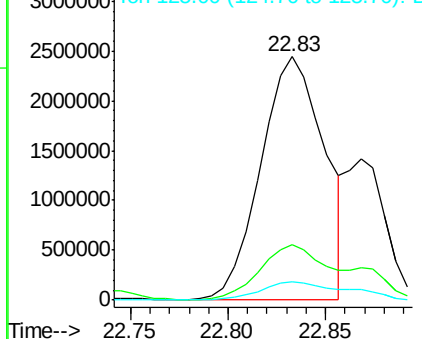


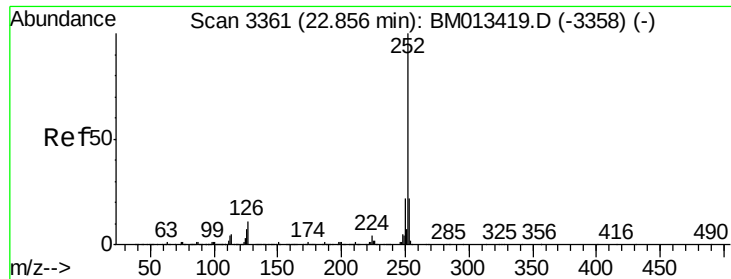
#85  
**Benzo(b)fluoranthene**  
 Concen: 88.240 ng/ul  
 RT: 22.83 min Scan# 3357  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 252     | 100   |       |       |
| 253     | 22.7  | 17.9  | 26.9  |
| 125     | 7.4   | 3.6   | 5.4#  |



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





#86

Benzo(k)fluoranthene

Concen: 32.659 ng/ul m

RT: 22.87 min Scan# 3363

Delta R.T. 0.01 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Instrument :

BNA\_M

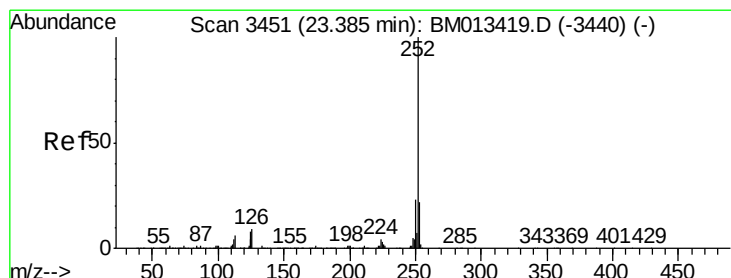
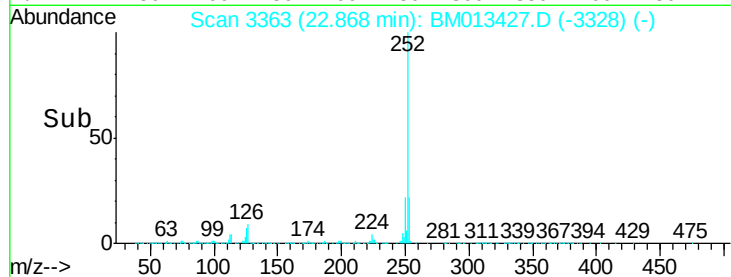
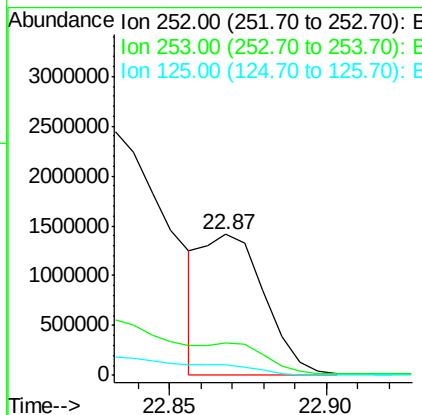
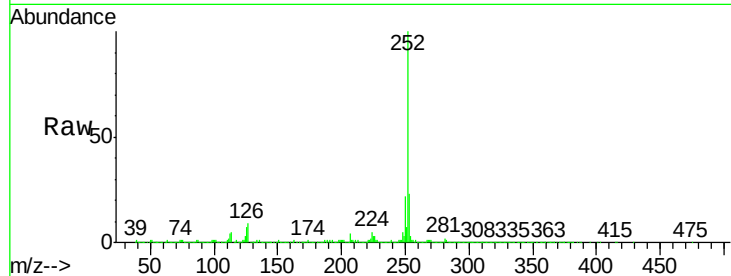
ClientSampleId :

F9A79

Tgt Ion:252 Resp: 1914169  
 Ion Ratio Lower Upper  
 252 100  
 253 23.1 17.1 25.7  
 125 7.1 3.4 5.2#

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#88

Benzo(a)pyrene

Concen: 64.645 ng/ul

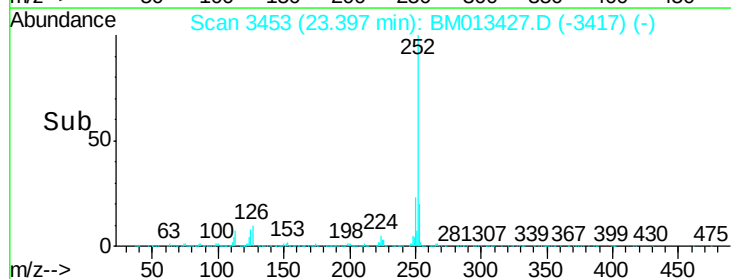
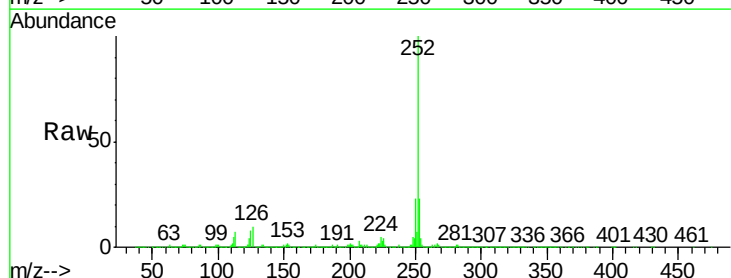
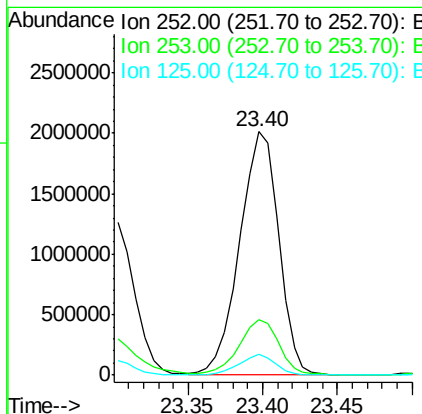
RT: 23.40 min Scan# 3453

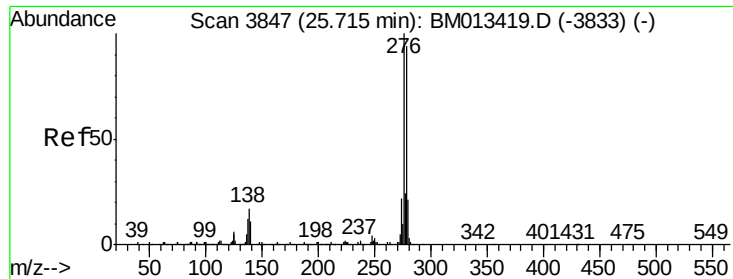
Delta R.T. 0.01 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Tgt Ion:252 Resp: 3616706  
 Ion Ratio Lower Upper  
 252 100  
 253 22.7 18.2 27.2  
 125 8.3 4.0 6.0#





#89

Indeno(1,2,3-cd)pyrene

Concen: 28.004 ng/ul

RT: 25.72 min Scan# 3848

Delta R.T. 0.01 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

Instrument :

BNA\_M

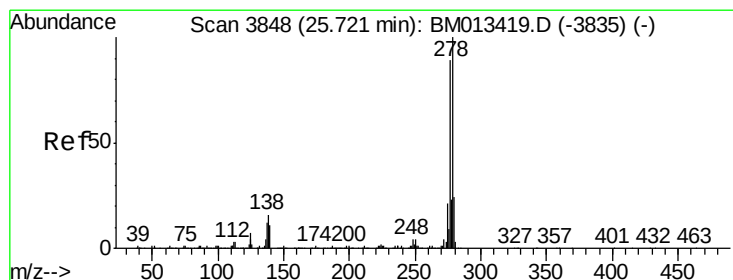
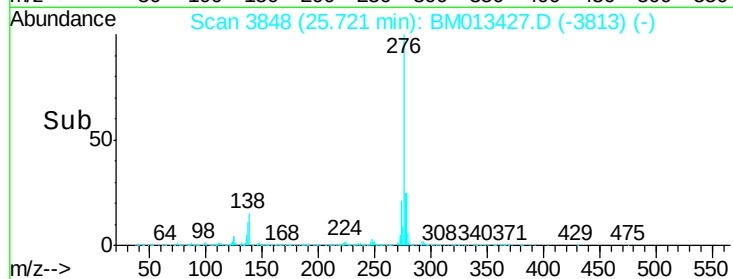
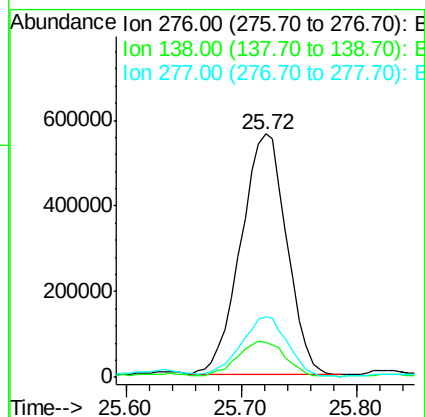
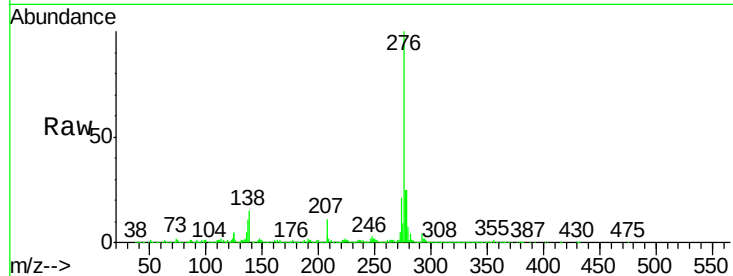
ClientSampleId :

F9A79

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 276     | 100   |       |       |
| 138     | 14.5  | 9.3   | 13.9# |
| 277     | 24.8  | 19.9  | 29.9  |

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#90

Dibenzo(a,h)anthracene

Concen: 9.376 ng/ul

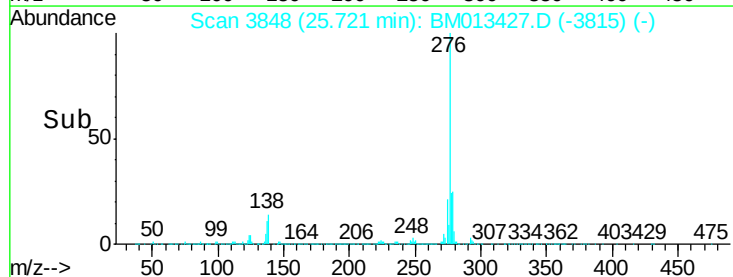
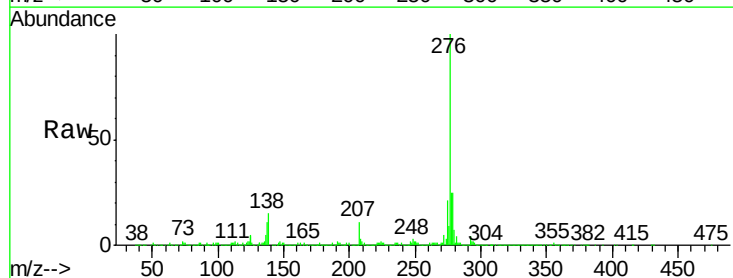
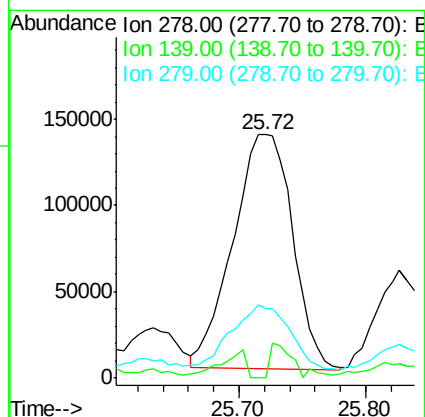
RT: 25.72 min Scan# 3848

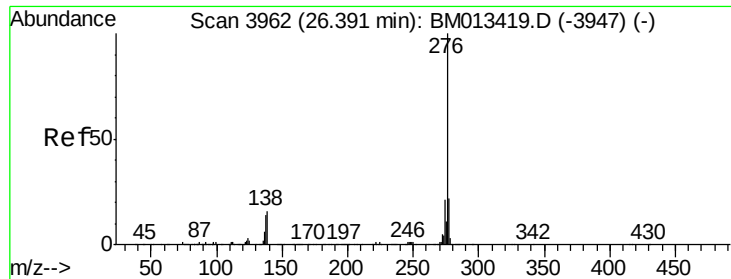
Delta R.T. -0.01 min

Lab File: BM013427.D

Acq: 15 Dec 2017 06:36

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 278     | 100   |       |       |
| 139     | 0.0   | 5.8   | 8.8#  |
| 279     | 28.4  | 18.6  | 27.8# |





#91  
 Benzo(g,h,i)perylene  
 Concen: 29.346 ng/ul  
 RT: 26.40 min Scan# 3964  
 Delta R.T. 0.01 min  
 Lab File: BM013427.D  
 Acq: 15 Dec 2017 06:36

Instrument :  
 BNA\_M  
 ClientSampleId :  
 F9A79

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 276     | 100   |       |       |
| 138     | 16.1  | 8.5   | 12.7# |
| 277     | 23.4  | 18.6  | 28.0  |

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