

Data Path : Z:\HPCHEM1\BNA G\DATA\BG122215\  
 Data File : BG020457.D  
 Acq On : 24 Dec 2015 00:04  
 Operator : UM/SJ  
 Sample : G4767-15MEDL 25X  
 Misc :  
 ALS Vial : 47 Sample Multiplier: 1

Instrument :  
 BNA\_G  
 ClientSampleId :  
 D9N37MEDL

Manual Integrations  
 APPROVED

Sohil  
 12/24/2015 5:31:40 PM

Quant Time: Dec 24 05:54:09 2015  
 Quant Method : Z:\HPCHEM1\BNA G\METHODS\SOM02.2-EPA-BG121415.M  
 Quant Title : SVOA CALIBRATION  
 QLast Update : Thu Dec 24 02:43:25 2015  
 Response via : Initial Calibration

| Internal Standards        | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|---------------------------|-------|------|----------|-------|-------|----------|
| 1) 1,4-Dichlorobenzene-d4 | 8.08  | 152  | 16008    | 20.00 | ng/ul | 0.00     |
| 18) Naphthalene-d8        | 10.90 | 136  | 64949    | 20.00 | ng/ul | 0.00     |
| 36) Acenaphthene-d10      | 14.72 | 164  | 48476    | 20.00 | ng/ul | 0.00     |
| 62) Phenanthrene-d10      | 17.46 | 188  | 128822   | 20.00 | ng/ul | 0.00     |
| 78) Chrysene-d12          | 21.73 | 240  | 164938   | 20.00 | ng/ul | 0.00     |
| 86) Perylene-d12          | 25.01 | 264  | 150418   | 20.00 | ng/ul | 0.00     |

## System Monitoring Compounds

|                                |       |     |       |      |       |      |
|--------------------------------|-------|-----|-------|------|-------|------|
| 3) 1,4-Dioxane-d8              | 0.00  | 96  | 0     | 0.00 | ng/uL |      |
| 5) Phenol-d5                   | 7.25  | 99  | 464   | 0.33 | ng/ul | 0.00 |
| 7) Bis-(2-Chloroethyl)ether-d  | 7.42  | 67  | 448m  | 0.53 | ng/ul | 0.02 |
| 9) 2-Chlorophenol-d4           | 7.61  | 132 | 530   | 0.52 | ng/ul | 0.00 |
| 13) 4-Methylphenol-d8          | 8.80  | 113 | 318   | 0.26 | ng/ul | 0.01 |
| 19) Nitrobenzene-d5            | 0.00  | 128 | 0     | 0.00 | ng/ul |      |
| 22) 2-Nitrophenol-d4           | 9.98  | 143 | 142   | 0.25 | ng/ul | 0.00 |
| 26) 2,4-Dichlorophenol-d3      | 10.53 | 165 | 386   | 0.34 | ng/ul | 0.01 |
| 29) 4-Chloroaniline-d4         | 11.05 | 131 | 726m  | 0.57 | ng/ul | 0.01 |
| 44) Dimethylphthalate-d6       | 14.12 | 166 | 3254  | 0.83 | ng/ul | 0.00 |
| 47) Acenaphthylene-d8          | 14.41 | 160 | 3650  | 0.80 | ng/ul | 0.00 |
| 52) 4-Nitrophenol-d4           | 0.00  | 143 | 0     | 0.00 | ng/ul |      |
| 58) Fluorene-d10               | 15.70 | 176 | 3148  | 0.89 | ng/ul | 0.00 |
| 63) 4,6-Dinitro-2-methylphenol | 0.00  | 200 | 0     | 0.00 | ng/ul |      |
| 71) Anthracene-d10             | 17.56 | 188 | 5483m | 0.92 | ng/ul | 0.00 |
| 79) Pyrene-d10                 | 19.84 | 212 | 5849  | 0.76 | ng/ul | 0.00 |
| 90) Benzo(a)pyrene-d12         | 24.78 | 264 | 5965  | 0.80 | ng/ul | 0.00 |

## Target Compounds

|                          |       |     |        |       |        | Ovalue |
|--------------------------|-------|-----|--------|-------|--------|--------|
| 28) Naphthalene          | 10.95 | 128 | 97301  | 28.69 | ng/ul  | 100    |
| 34) 2-Methylnaphthalene  | 12.55 | 142 | 28890  | 11.15 | ng/ul  | 98     |
| 41) 1,1'-Biphenyl        | 13.55 | 154 | 12306  | 3.36  | ng/ul  | 93     |
| 48) Acenaphthylene       | 14.44 | 152 | 5029   | 1.04  | ng/ul# | 93     |
| 50) Acenaphthene         | 14.78 | 153 | 58074  | 17.81 | ng/ul  | 100    |
| 54) Dibenzofuran         | 15.11 | 168 | 59793  | 12.33 | ng/ul  | 100    |
| 59) Fluorene             | 15.76 | 166 | 56739  | 14.57 | ng/ul  | 94     |
| 70) Phenanthrene         | 17.51 | 178 | 297268 | 42.19 | ng/ul  | 98     |
| 72) Anthracene           | 17.59 | 178 | 19533  | 2.73  | ng/ul  | 96     |
| 75) Carbazole            | 17.87 | 167 | 11503m | 1.92  | ng/ul  |        |
| 77) Fluoranthene         | 19.51 | 202 | 182969 | 22.22 | ng/ul  | 97     |
| 80) Pyrene               | 19.87 | 202 | 121333 | 12.15 | ng/ul  | 97     |
| 83) Benzo(a)anthracene   | 21.71 | 228 | 28499  | 2.96  | ng/ul  | 95     |
| 85) Chrysene             | 21.78 | 228 | 23549  | 2.60  | ng/ul  | 94     |
| 88) Benzo(b)fluoranthene | 23.96 | 252 | 12782m | 1.41  | ng/ul  |        |

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

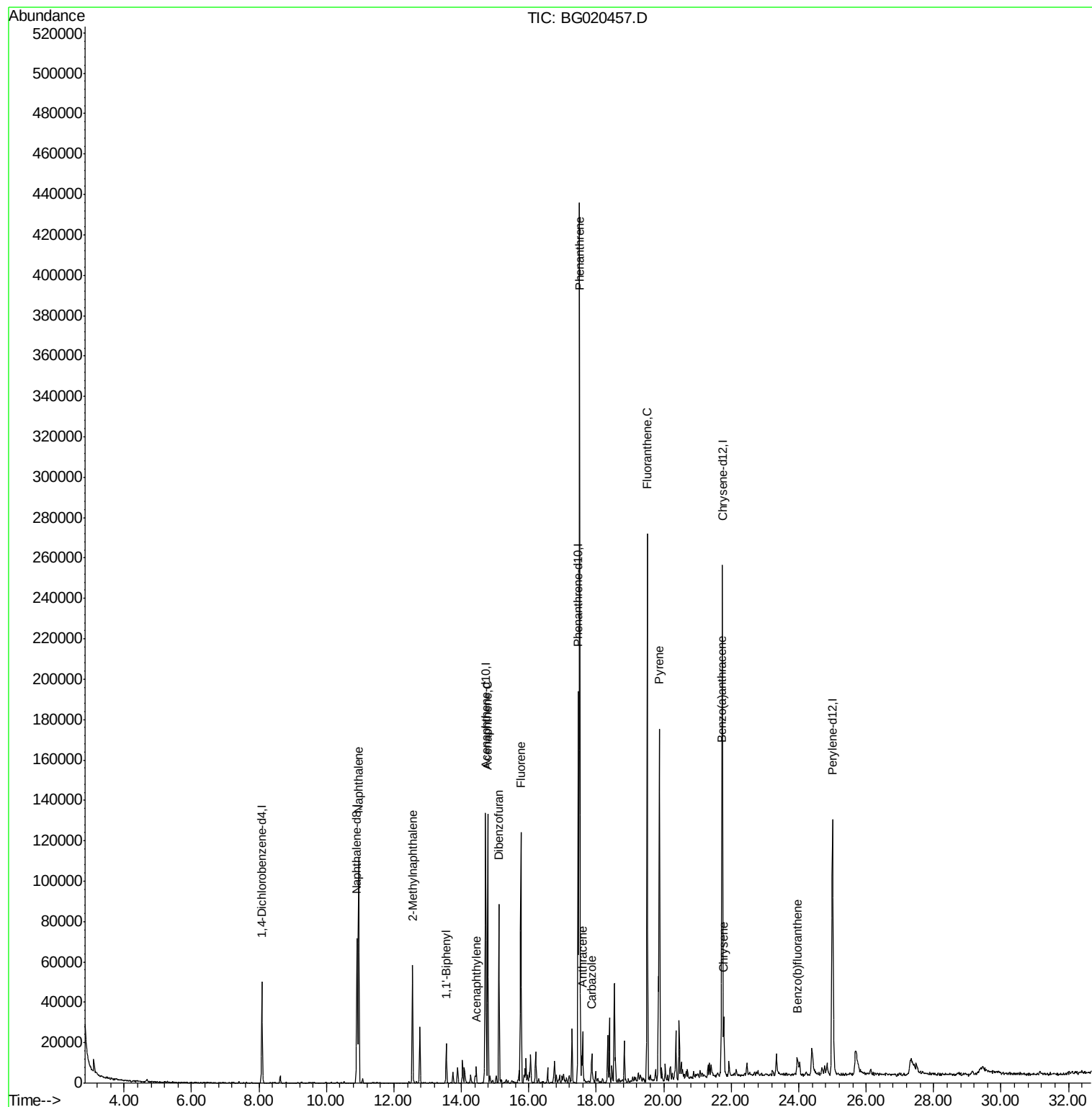
Data Path : Z:\HPCHEM1\BNA G\DATA\BG122215\  
Data File : BG020457.D  
Acq On : 24 Dec 2015 00:04  
Operator : UM/SJ  
Sample : G4767-15MEDL 25X  
Misc :  
ALS Vial : 47 Sample Multiplier: 1

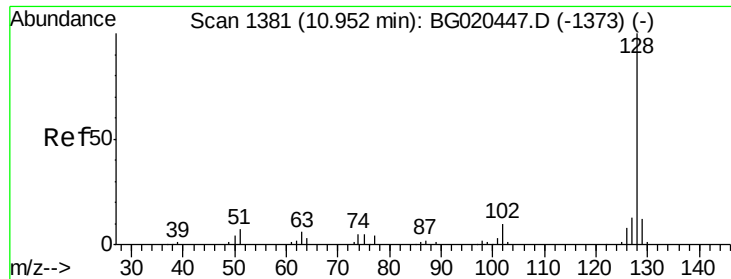
Instrument :  
BNA\_G  
ClientSampleId :  
D9N37MEDL

Manual Integrations  
APPROVED

Sohil  
12/24/2015 5:31:40 PM

Quant Time: Dec 24 05:54:09 2015  
Quant Method : Z:\HPCHEM1\BNA G\METHODS\SOM02.2-EPA-BG121415.M  
Quant Title : SVOA CALIBRATION  
QLast Update : Thu Dec 24 02:43:25 2015  
Response via : Initial Calibration





#28

Naphthalene

Concen: 28.69 ng/ul

RT: 10.95 min Scan# 1381

Delta R.T. -0.00 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

Instrument :

BNA\_G

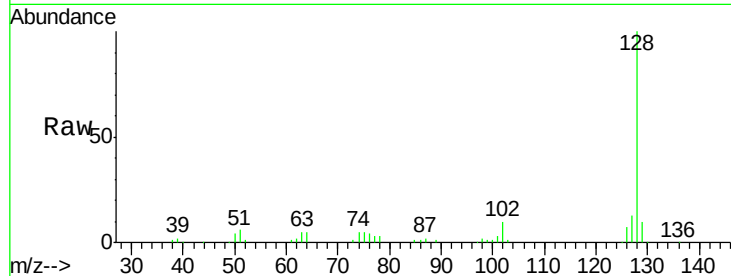
ClientSampleId :

D9N37MEDL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 128     | 100   |       |       |
| 129     | 10.4  | 8.6   | 12.8  |
| 127     | 12.6  | 10.1  | 15.1  |

Manual Integrations  
APPROVED

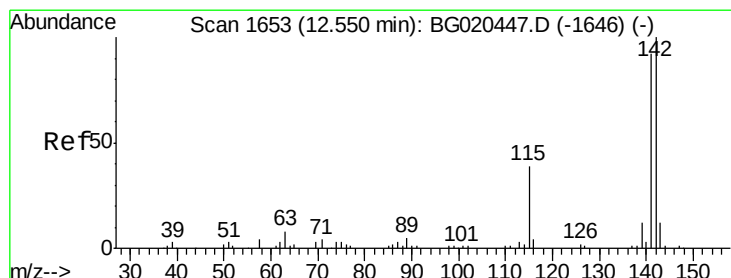
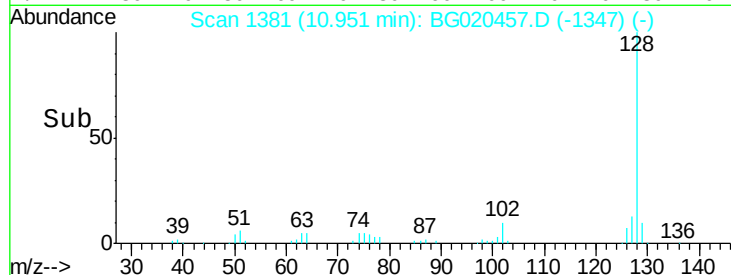
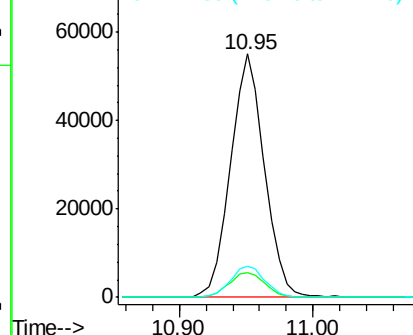
Sohil  
12/24/2015 5:31:40 PM



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



#34

2-Methylnaphthalene

Concen: 11.15 ng/ul

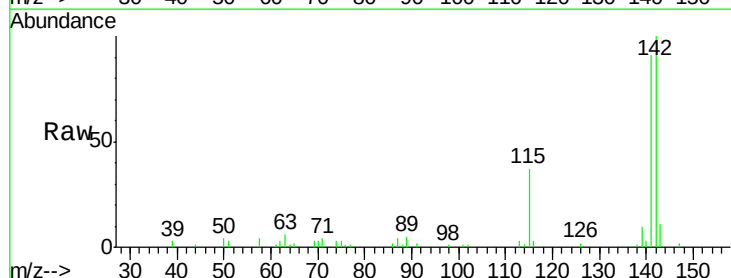
RT: 12.55 min Scan# 1653

Delta R.T. -0.00 min

Lab File: BG020457.D

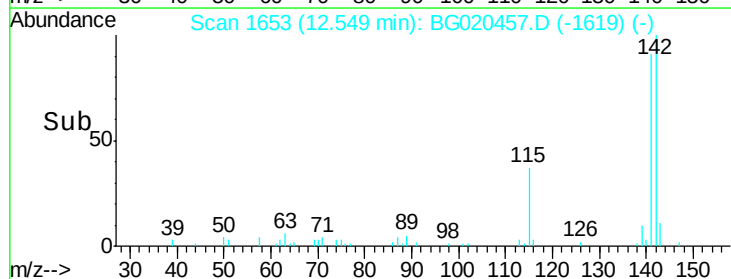
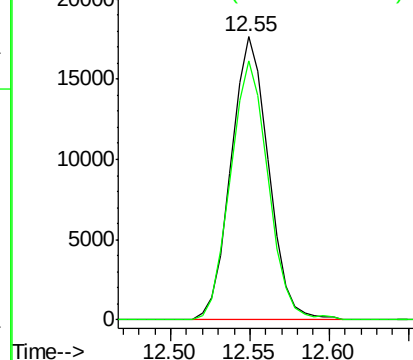
Acq: 24 Dec 2015 00:04

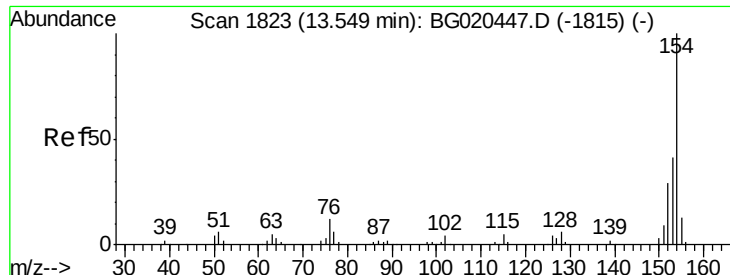
| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 142     | 100   |       |       |
| 141     | 91.4  | 74.9  | 112.3 |



Abundance Ion 142.00 (141.70 to 142.70): E

Ion 141.00 (140.70 to 141.70): E





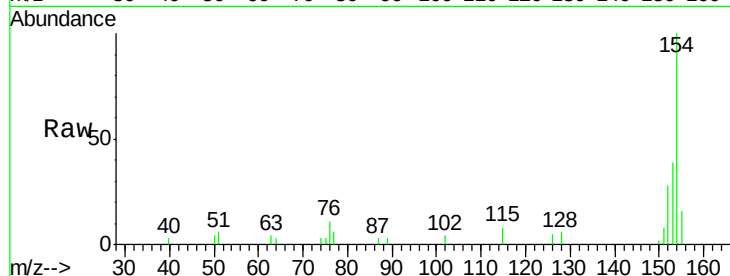
#41  
 1,1'-Biphenyl  
 Concen: 3.36 ng/ul  
 RT: 13.55 min Scan# 1823  
 Delta R.T. -0.00 min  
 Lab File: BG020457.D  
 Acq: 24 Dec 2015 00:04

Instrument :  
 BNA\_G  
 ClientSampleId :  
 D9N37MEDL

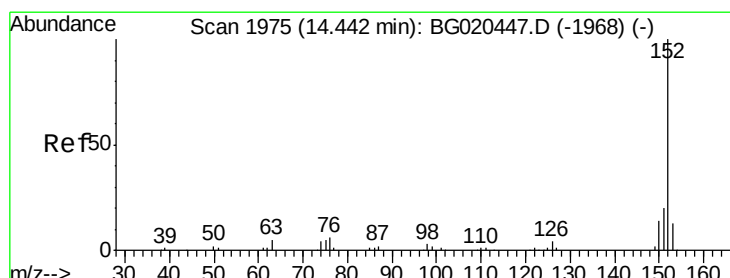
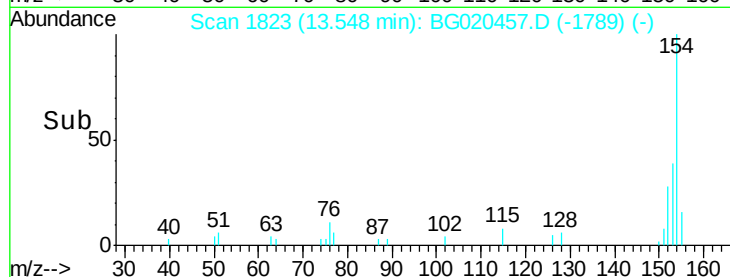
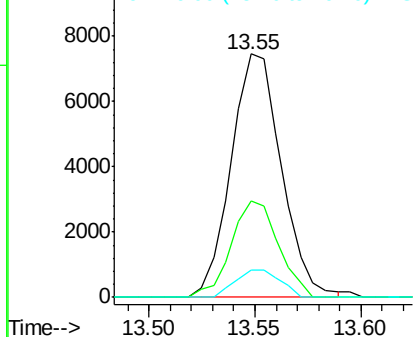
|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 154   | Resp: | 12306 |
| Ion Ratio | Lower | Upper |       |
| 154       | 100   |       |       |
| 153       | 39.4  | 35.5  | 53.3  |
| 76        | 11.4  | 10.4  | 15.6  |

Manual Integrations  
 APPROVED

Sohil  
 12/24/2015 5:31:40 PM

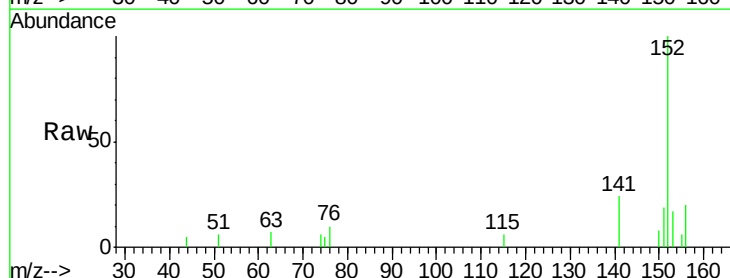


Abundance Ion 154.00 (153.70 to 154.70): E  
 Ion 153.00 (152.70 to 153.70): E  
 Ion 76.00 (75.70 to 76.70): B

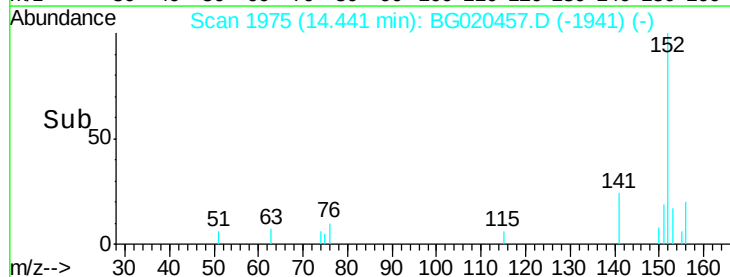
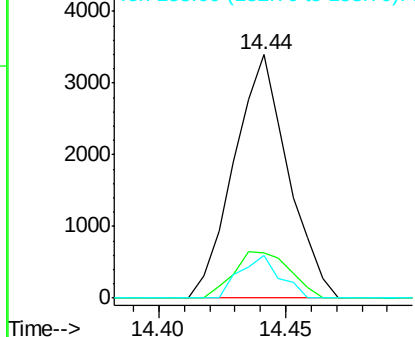


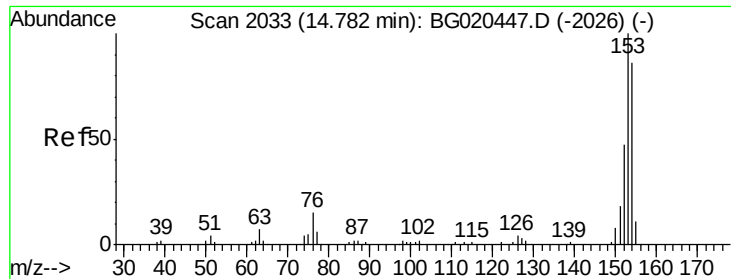
#48  
 Acenaphthylene  
 Concen: 1.04 ng/ul  
 RT: 14.44 min Scan# 1975  
 Delta R.T. -0.00 min  
 Lab File: BG020457.D  
 Acq: 24 Dec 2015 00:04

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 152   | Resp: | 5029  |
| Ion Ratio | Lower | Upper |       |
| 152       | 100   |       |       |
| 151       | 18.5  | 16.4  | 24.6  |
| 153       | 17.5  | 10.4  | 15.6# |



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





#50

Acenaphthene

Concen: 17.81 ng/ul

RT: 14.78 min Scan# 2033

Delta R.T. -0.00 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

Instrument :

BNA\_G

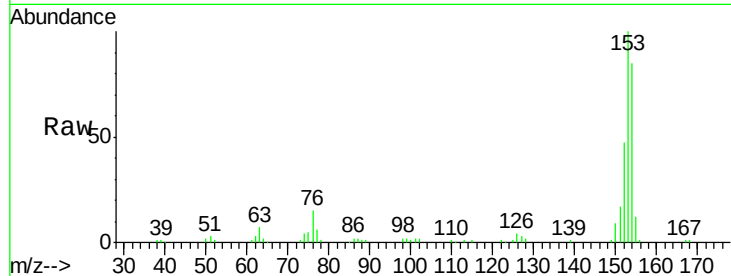
ClientSampleId :

D9N37MEDL

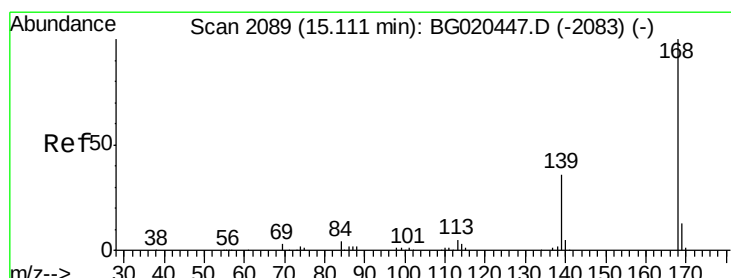
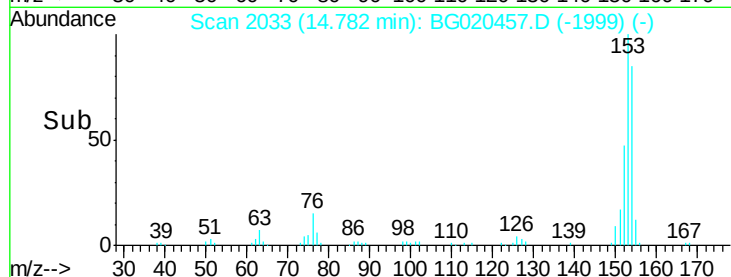
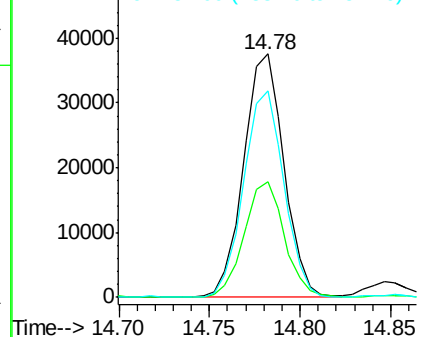
|             |       |            |
|-------------|-------|------------|
| Tot Ion:153 | Resp: | 58074      |
| Ion Ratio   | Lower | Upper      |
| 153         | 100   |            |
| 152         | 47.4  | 37.6 56.4  |
| 154         | 84.7  | 67.9 101.9 |

Manual Integrations  
APPROVED

Sohil  
12/24/2015 5:31:40 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



#54

Dibenzofuran

Concen: 12.33 ng/ul

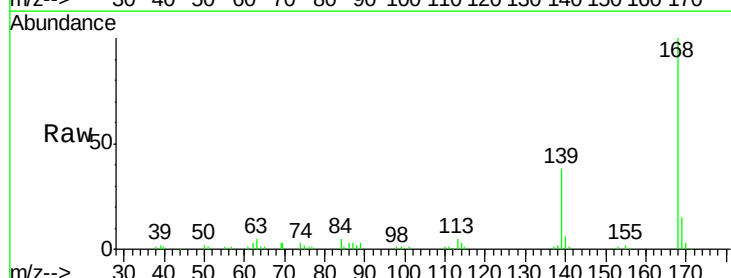
RT: 15.11 min Scan# 2089

Delta R.T. -0.00 min

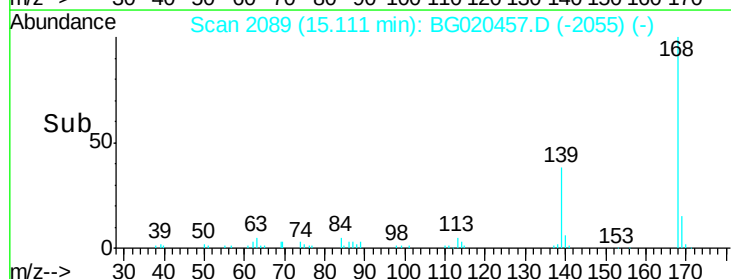
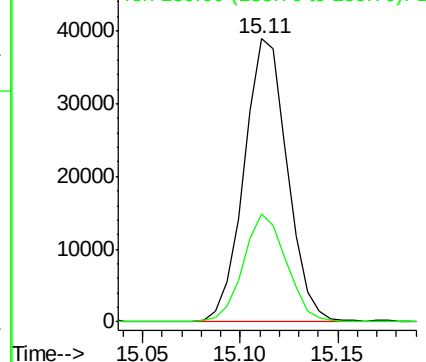
Lab File: BG020457.D

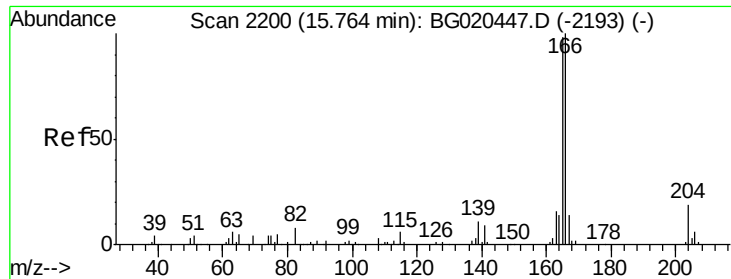
Acq: 24 Dec 2015 00:04

|             |       |           |
|-------------|-------|-----------|
| Tgt Ion:168 | Resp: | 59793     |
| Ion Ratio   | Lower | Upper     |
| 168         | 100   |           |
| 139         | 38.0  | 30.5 45.7 |



Abundance Ion 168.00 (167.70 to 168.70): E  
Ion 139.00 (138.70 to 139.70): E





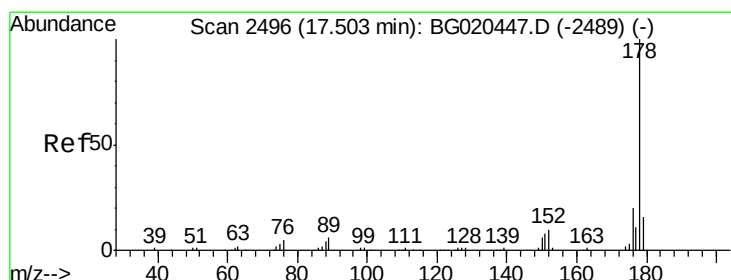
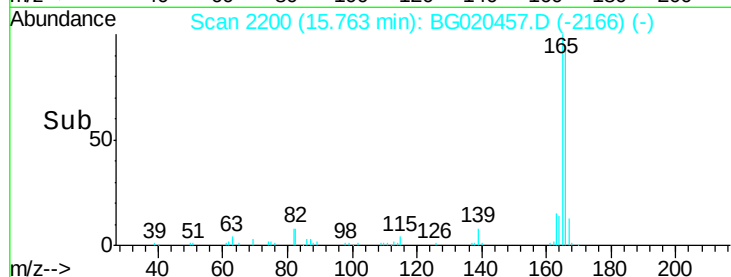
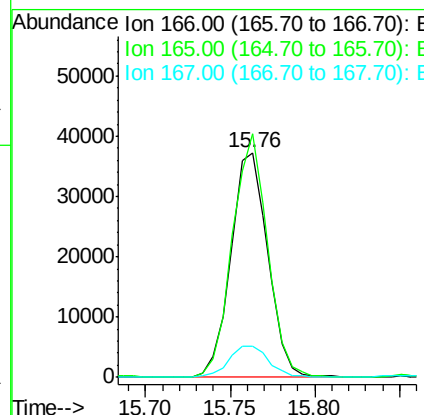
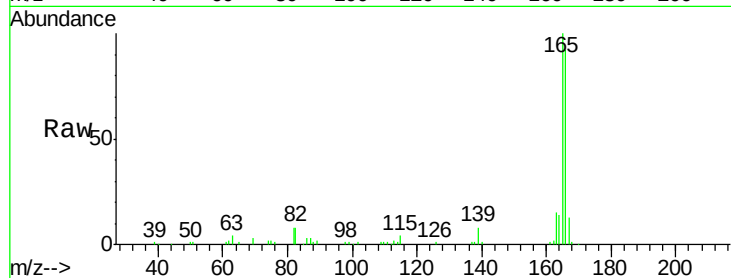
#59  
 Fluorene  
 Concen: 14.57 ng/ul  
 RT: 15.76 min Scan# 2200  
 Delta R.T. -0.00 min  
 Lab File: BG020457.D  
 Acq: 24 Dec 2015 00:04

Instrument :  
 BNA\_G  
 ClientSampleId :  
 D9N37MEDL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 166     | 100   |       |       |
| 165     | 108.3 | 81.4  | 122.0 |
| 167     | 14.1  | 11.2  | 16.8  |

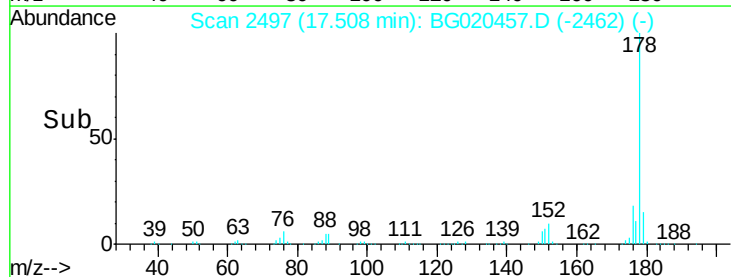
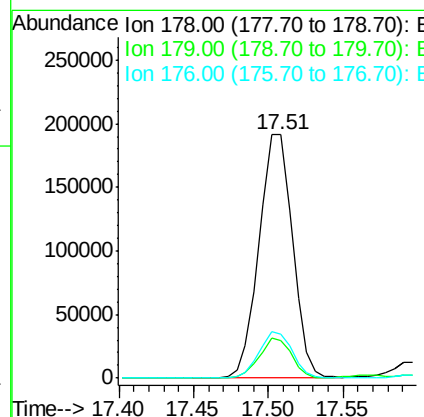
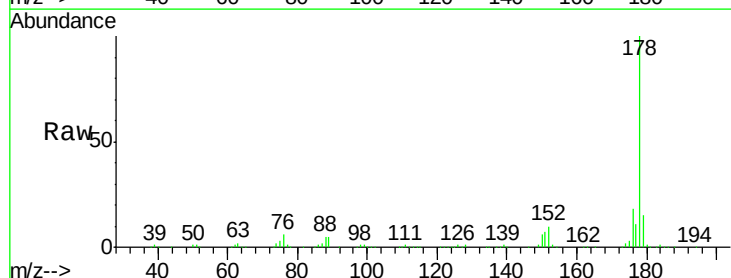
Manual Integrations  
 APPROVED

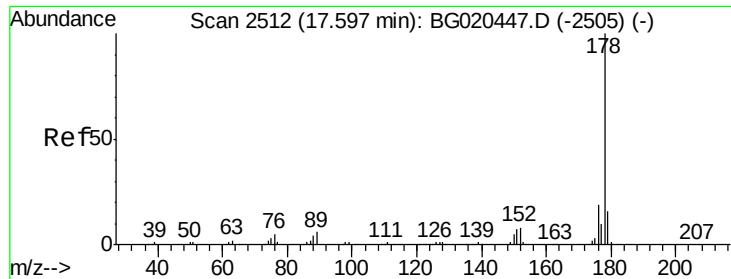
Sohil  
 12/24/2015 5:31:40 PM



#70  
 Phenanthrene  
 Concen: 42.19 ng/ul  
 RT: 17.51 min Scan# 2497  
 Delta R.T. 0.01 min  
 Lab File: BG020457.D  
 Acq: 24 Dec 2015 00:04

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 178     | 100   |       |       |
| 179     | 15.5  | 12.9  | 19.3  |
| 176     | 18.3  | 15.3  | 22.9  |





#72

Anthracene

Concen: 2.73 ng/ul

RT: 17.59 min Scan# 2511

Delta R.T. -0.01 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

Instrument :

BNA\_G

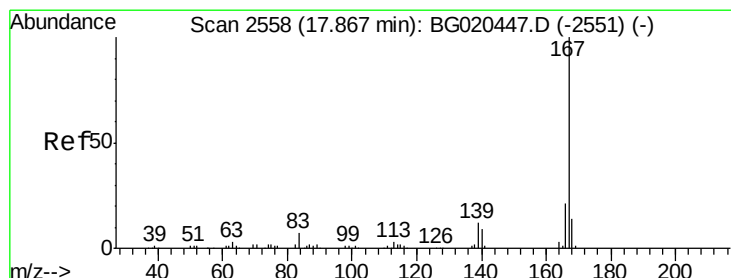
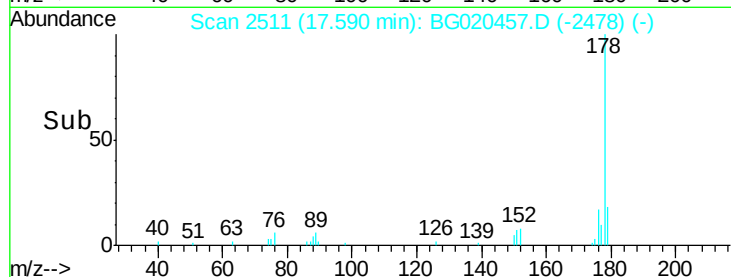
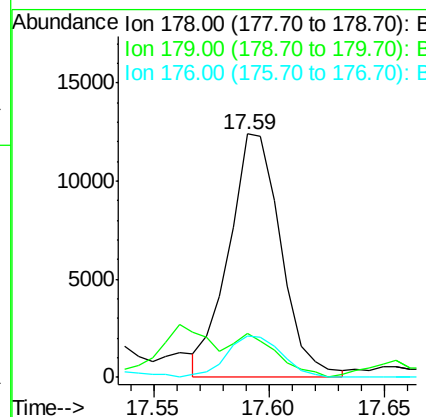
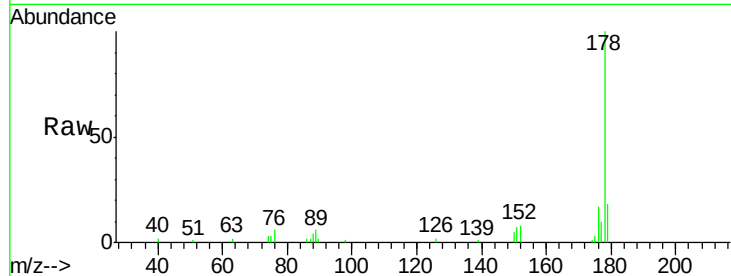
ClientSampleId :

D9N37MEDL

|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 178   | Resp: | 19533 |
| Ion Ratio | Lower | Upper |       |
| 178       | 100   |       |       |
| 179       | 17.8  | 12.3  | 18.5  |
| 176       | 17.2  | 14.3  | 21.5  |

Manual Integrations  
APPROVED

Sohil  
12/24/2015 5:31:40 PM



#75

Carbazole

Concen: 1.92 ng/ul m

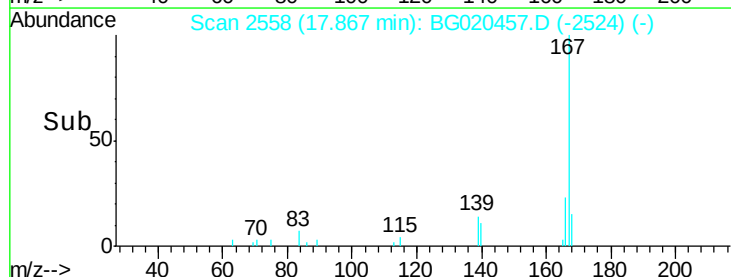
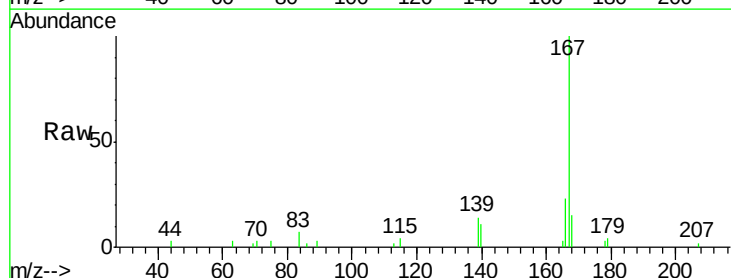
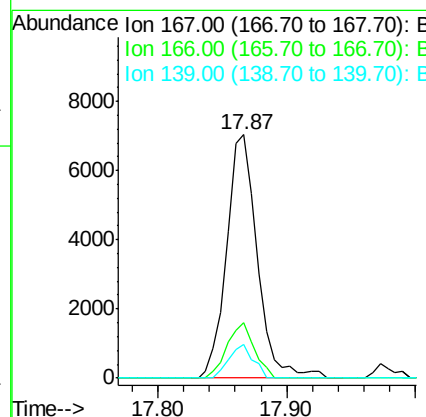
RT: 17.87 min Scan# 2558

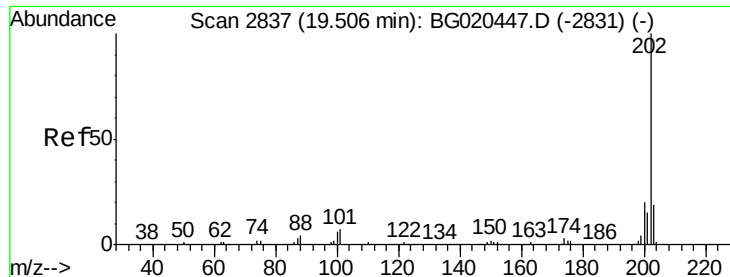
Delta R.T. -0.00 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 167   | Resp: | 11503 |
| Ion Ratio | Lower | Upper |       |
| 167       | 100   |       |       |
| 166       | 23.0  | 17.0  | 25.6  |
| 139       | 14.0  | 10.1  | 15.1  |





#77

Fluoranthene

Concen: 22.22 ng/ul

RT: 19.51 min Scan# 2838

Delta R.T. 0.01 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

Instrument :

BNA\_G

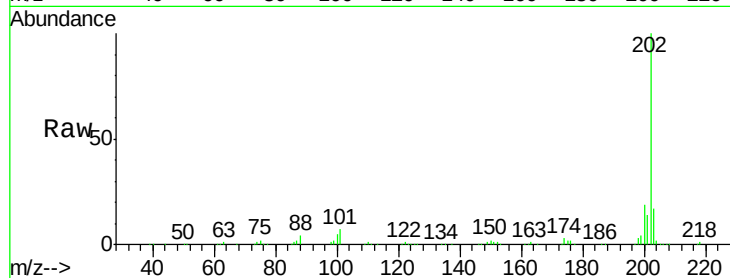
ClientSampleId :

D9N37MEDL

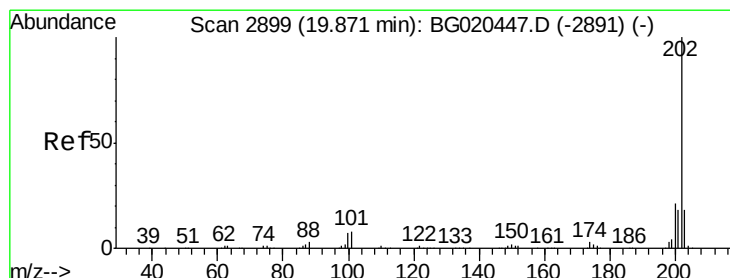
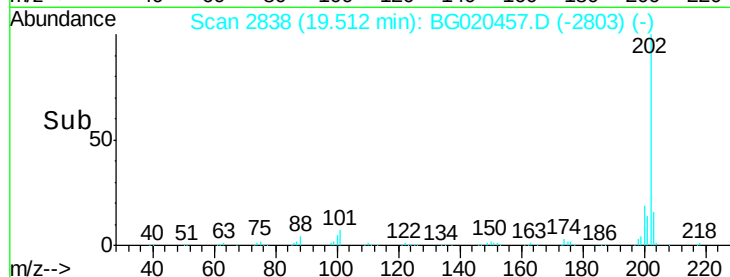
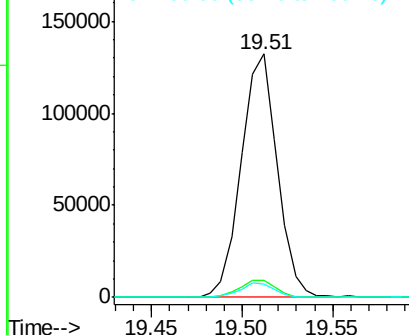
|           |       |       |        |
|-----------|-------|-------|--------|
| Tot Ion:  | 202   | Resp: | 182969 |
| Ion Ratio | Lower | Upper |        |
| 202       | 100   |       |        |
| 101       | 6.9   | 6.2   | 9.4    |
| 100       | 5.2   | 5.1   | 7.7    |

Manual Integrations  
APPROVED

Sohil  
12/24/2015 5:31:40 PM



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



#80

Pyrene

Concen: 12.15 ng/ul

RT: 19.87 min Scan# 2899

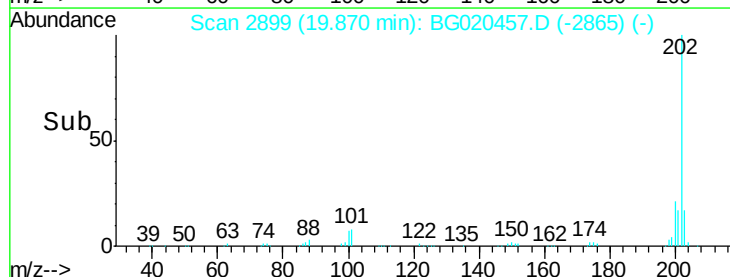
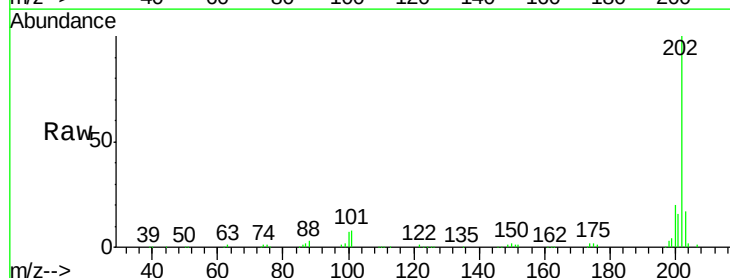
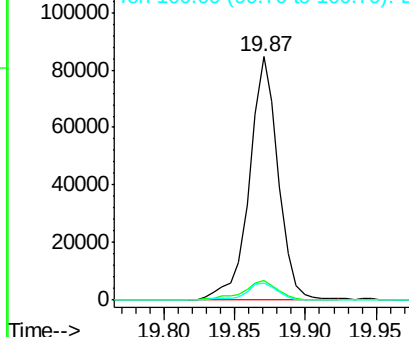
Delta R.T. -0.00 min

Lab File: BG020457.D

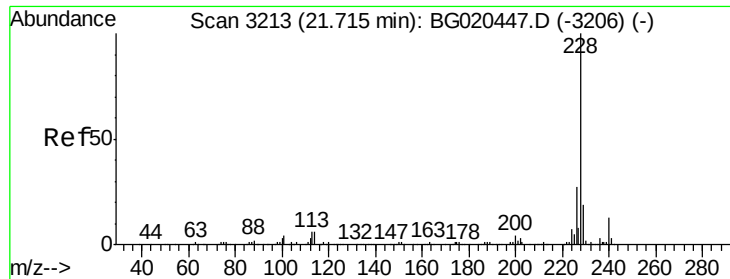
Acq: 24 Dec 2015 00:04

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 202   | Resp: | 121333 |
| Ion Ratio | Lower | Upper |        |
| 202       | 100   |       |        |
| 101       | 8.1   | 7.0   | 10.4   |
| 100       | 6.8   | 6.4   | 9.6    |

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







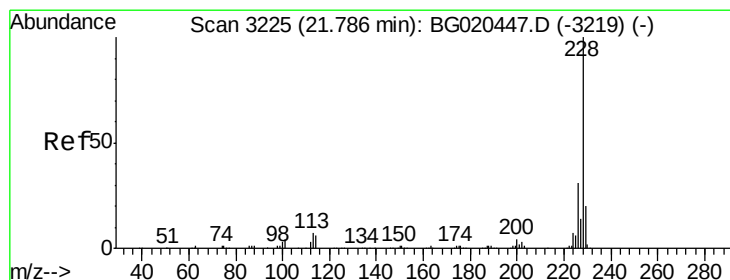
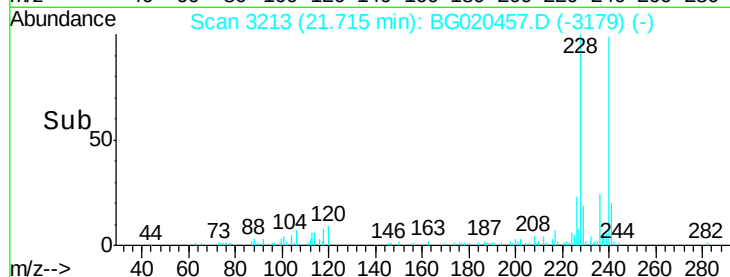
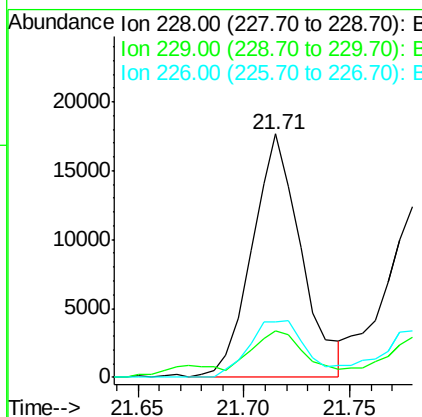
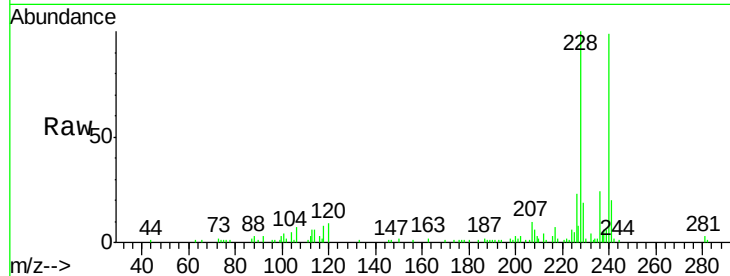
#83  
Benzo(a)anthracene  
Concen: 2.96 ng/ul  
RT: 21.71 min Scan# 3213  
Delta R.T. -0.00 min  
Lab File: BG020457.D  
Acq: 24 Dec 2015 00:04

Instrument :  
BNA\_G  
ClientSampleId :  
D9N37MEDL

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 228     | 100   |       |       |
| 229     | 19.0  | 15.8  | 23.8  |
| 226     | 23.0  | 21.8  | 32.6  |

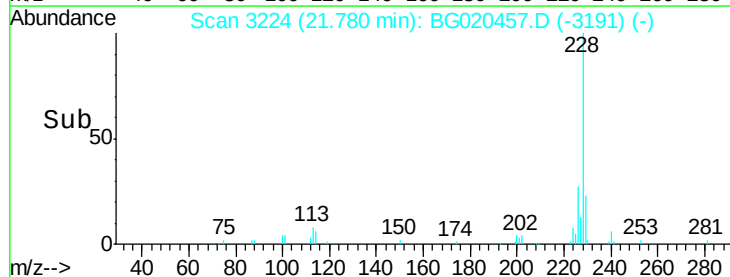
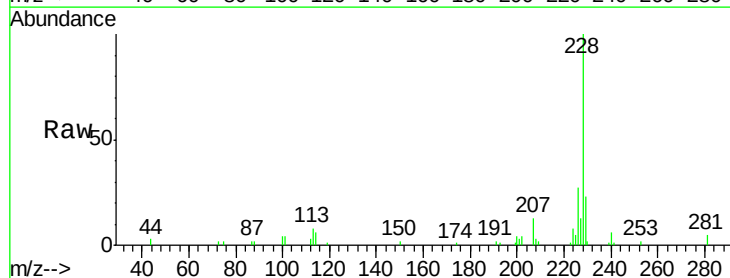
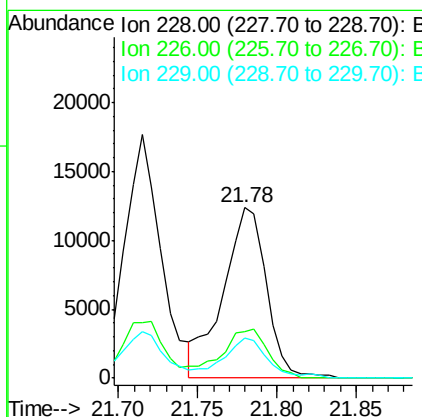
Manual Integrations  
APPROVED

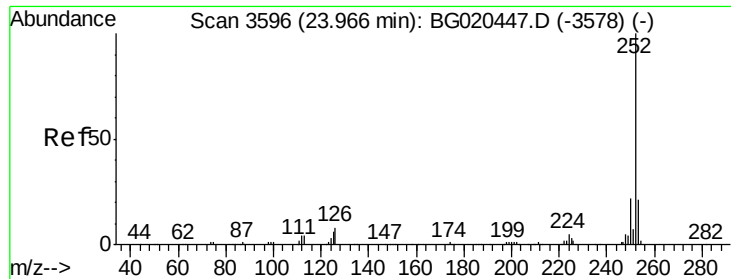
Sohil  
12/24/2015 5:31:40 PM



#85  
Chrysene  
Concen: 2.60 ng/ul  
RT: 21.78 min Scan# 3224  
Delta R.T. -0.01 min  
Lab File: BG020457.D  
Acq: 24 Dec 2015 00:04

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 228     | 100   |       |       |
| 226     | 27.1  | 23.9  | 35.9  |
| 229     | 23.2  | 15.6  | 23.4  |





#88

Benzo(b)fluoranthene

Concen: 1.41 ng/ul m

RT: 23.96 min Scan# 3595

Delta R.T. -0.01 min

Lab File: BG020457.D

Acq: 24 Dec 2015 00:04

Instrument :

BNA\_G

ClientSampleId :

D9N37MEDL

|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 252   | Resp: | 12782 |
| Ion Ratio | Lower | Upper |       |
| 252       | 100   |       |       |
| 253       | 22.3  | 16.7  | 25.1  |
| 125       | 6.1   | 6.2   | 9.2#  |

Manual Integrations  
APPROVED

Sohil  
12/24/2015 5:31:40 PM

