

Data Path : Z:\HPCHEM1\BNA\_E\DATA\BE103114\  
 Data File : BE088459.D  
 Acq On : 1 Nov 2014 19:49  
 Operator : TP/JJ  
 Sample : F4368-09MS  
 Misc :  
 ALS Vial : 34 Sample Multiplier: 1

Instrument :  
 BNA\_E  
 ClientSampleId :  
 YS19-SB40-1014MS

Manual Integrations  
 APPROVED

mohammad  
 11/4/2014 9:07:37 AM

Quant Time: Nov 02 04:52:45 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   | 7.08  | 152  | 29199    | 5.00 | ng    | 0.00     |
| 3) Naphthalene-d8           | 8.65  | 136  | 113181   | 5.00 | ng    | 0.00     |
| 7) Acenaphthene-d10         | 10.79 | 164  | 52551    | 5.00 | ng    | 0.00     |
| 12) Phenanthrene-d10        | 12.90 | 188  | 107436   | 5.00 | ng    | 0.00     |
| 16) Chrysene-d12            | 18.33 | 240  | 60921    | 5.00 | ng    | 0.02     |
| 22) Perylene-d12            | 21.40 | 264  | 59216    | 5.00 | ng    | 0.02     |
| System Monitoring Compounds |       |      |          |      |       |          |
| 4) Nitrobenzene-d5          | 7.77  | 82   | 50010    | 6.03 | ng    | 0.00     |
| 8) 2-Fluorobiphenyl         | 9.98  | 172  | 83184    | 5.62 | ng    | 0.00     |
| 18) Terphenyl-d14           | 16.07 | 244  | 62756    | 5.61 | ng    | 0.00     |
| Target Compounds            |       |      |          |      |       | Qvalue   |
| 2) 1,4-Dioxane              | 2.30  | 88   | 23886    | 6.25 | ng    | 99       |
| 5) Naphthalene              | 8.67  | 128  | 142250   | 6.07 | ng    | 100      |
| 6) 2-Methylnaphthalene      | 9.52  | 142  | 91715    | 6.32 | ng    | 99       |
| 9) Acenaphthylene           | 10.62 | 152  | 530533   | 6.23 | ng    | 99       |
| 10) Acenaphthene            | 10.83 | 154  | 76219    | 6.04 | ng    | 100      |
| 11) Fluorene                | 11.49 | 166  | 83818    | 6.26 | ng    | 99       |
| 13) Phenanthrene            | 12.95 | 178  | 634701   | 6.50 | ng    | 99       |
| 14) Anthracene              | 13.03 | 178  | 530425   | 6.73 | ng    | 99       |
| 15) Fluoranthene            | 15.18 | 202  | 141035   | 8.90 | ng    | 99       |
| 17) Pyrene                  | 15.64 | 202  | 151374   | 7.62 | ng    | 99       |
| 19) Benzo(a)anthracene      | 18.31 | 228  | 468906   | 8.18 | ng    | 99       |
| 20) Chrysene                | 18.38 | 228  | 435838   | 7.74 | ng    | 99       |
| 21) Indeno(1,2,3-cd)pyrene  | 23.59 | 276  | 479635m  | 9.14 | ng    |          |
| 23) Benzo(b)fluoranthene    | 20.64 | 252  | 125743   | 9.68 | ng    | 99       |
| 24) Benzo(k)fluoranthene    | 20.69 | 252  | 100933   | 7.06 | ng    | 99       |
| 25) Benzo(a)pyrene          | 21.28 | 252  | 107272   | 8.60 | ng    | 99       |
| 26) Dibenzo(a,h)anthracene  | 23.68 | 278  | 82739    | 7.15 | ng    | 99       |
| 27) Benzo(g,h,i)perylene    | 24.23 | 276  | 425317   | 8.01 | ng    | 97       |

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

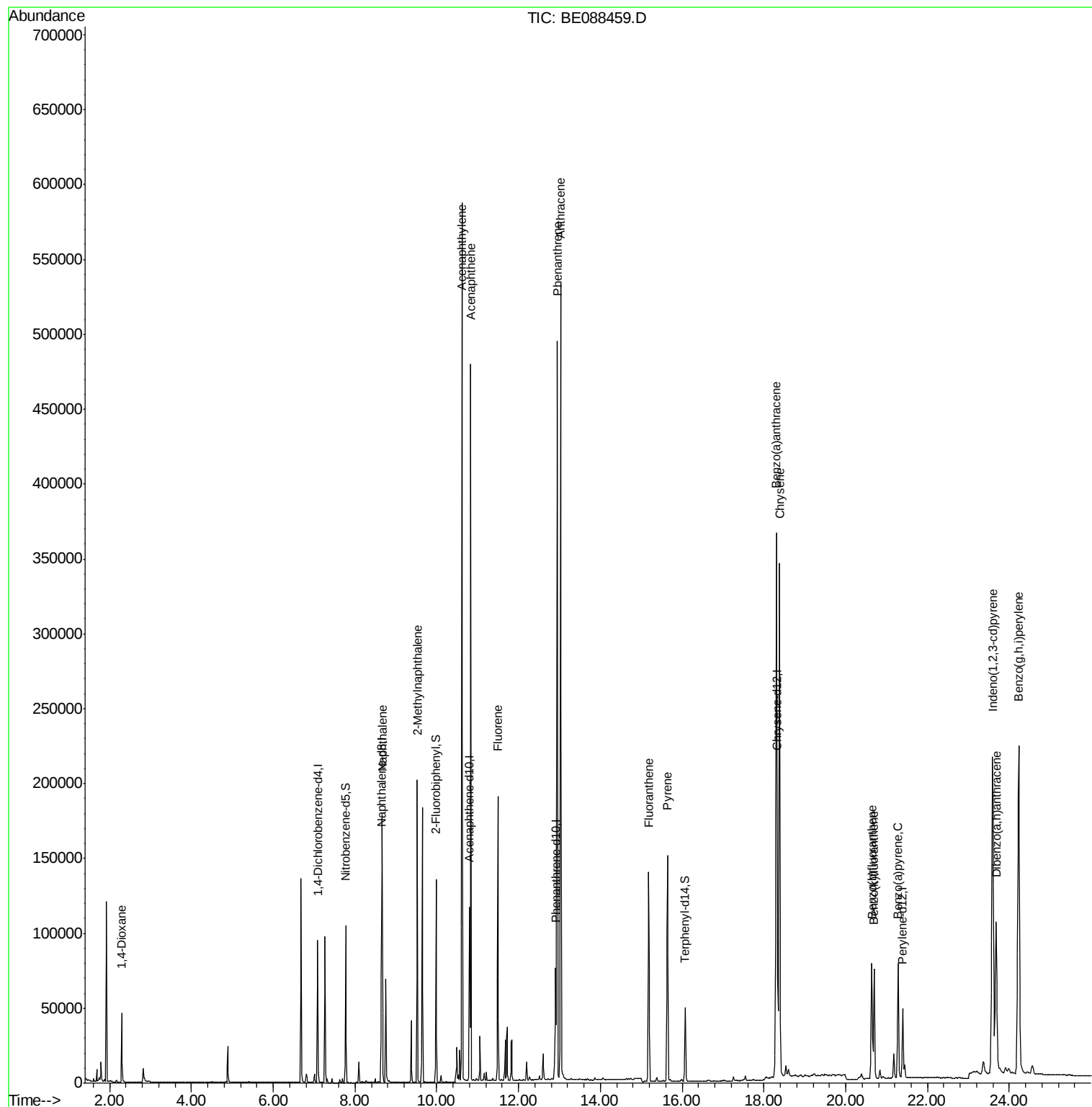
Data Path : Z:\HPCHEM1\BNA\_E\DATA\BE103114\  
Data File : BE088459.D  
Acq On : 1 Nov 2014 19:49  
Operator : TP/JJ  
Sample : F4368-09MS  
Misc :  
ALS Vial : 34 Sample Multiplier: 1

Instrument :  
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ClientSampleId :  
YS19-SB40-1014MS

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Quant Time: Nov 02 04:52:45 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





#1

1,4-Dichlorobenzene-d4

Concen: 5.00 ng

RT: 7.08 min Scan# 1245

Delta R.T. -0.00 min

Lab File: BE088459.D

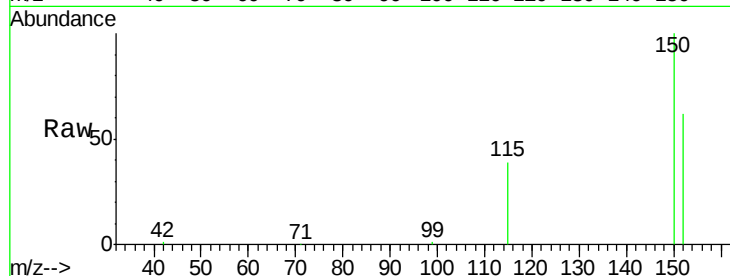
Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

ClientSampleId :

YS19-SB40-1014MS



Tgt Ion:152 Resp: 29199

Ion Ratio Lower Upper

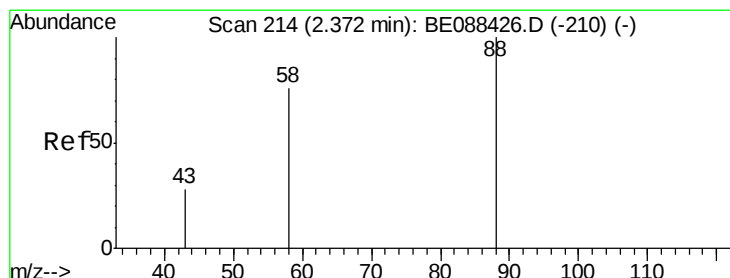
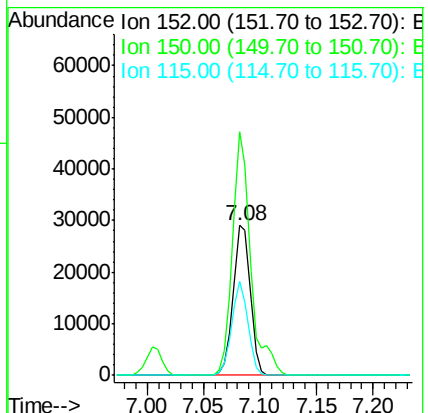
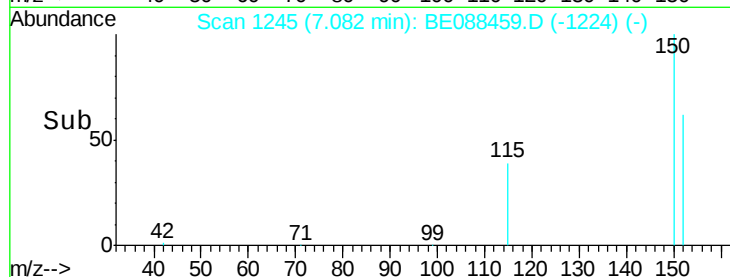
152 100

150 162.5 121.8 182.8

115 62.8 43.9 65.9

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#2

1,4-Dioxane

Concen: 6.25 ng

RT: 2.30 min Scan# 198

Delta R.T. -0.07 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

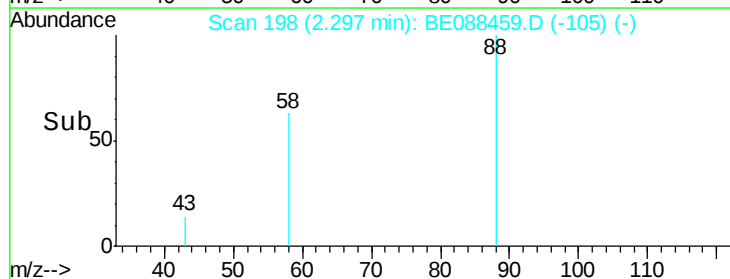
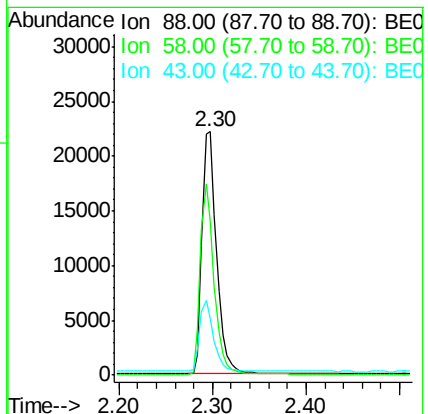
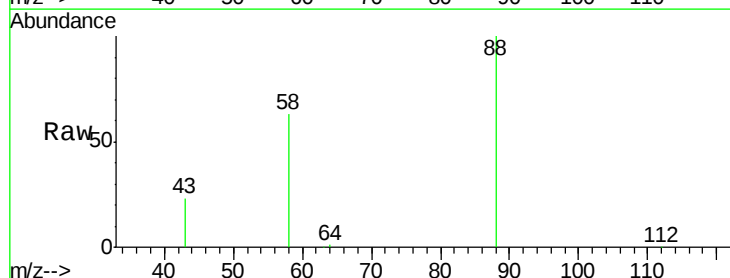
Tgt Ion: 88 Resp: 23886

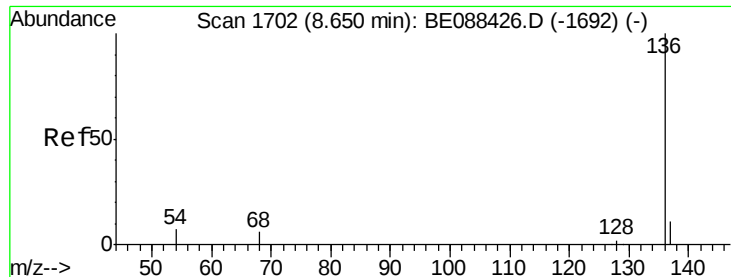
Ion Ratio Lower Upper

88 100

58 74.5 59.1 88.7

43 27.9 21.9 32.9





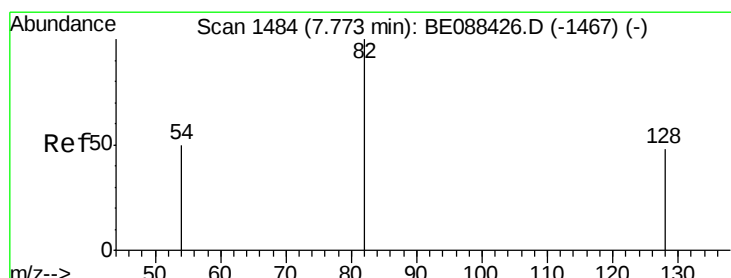
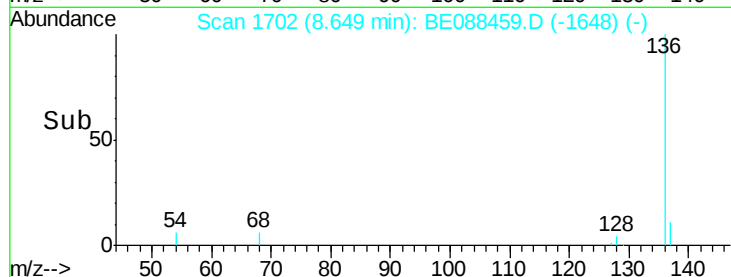
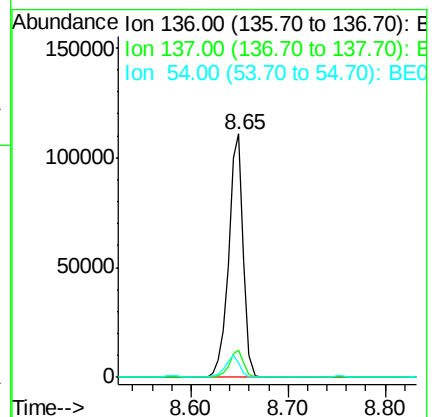
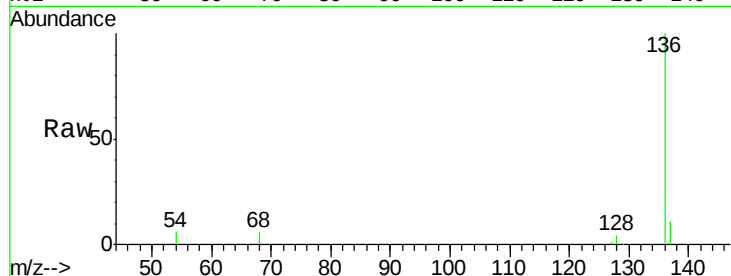
#3  
Naphthalene-d8  
Concen: 5.00 ng  
RT: 8.65 min Scan# 1702  
Delta R.T. -0.00 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

Instrument :  
BNA\_E  
ClientSampleId :  
YS19-SB40-1014MS

| Tgt Ion | Ratio | Resp   | Lower | Upper |
|---------|-------|--------|-------|-------|
| 136     | 100   | 113181 |       |       |
| 137     | 11.2  | 8.8    | 13.2  |       |
| 54      | 5.7   | 5.3    | 7.9   |       |

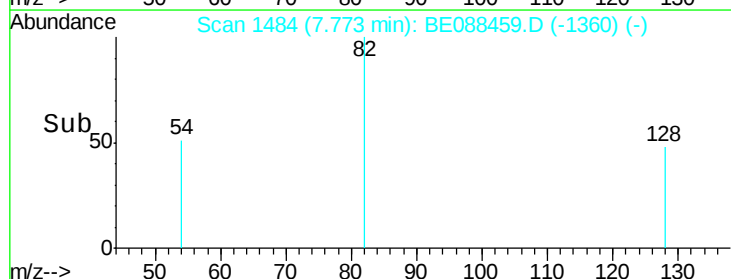
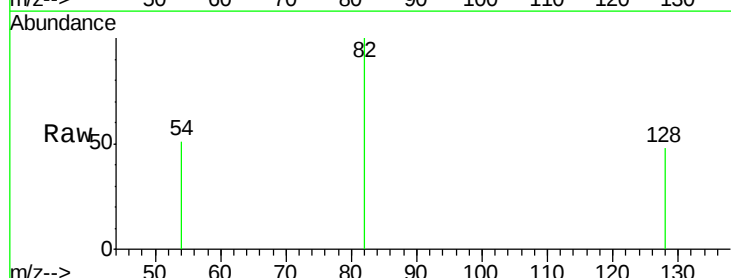
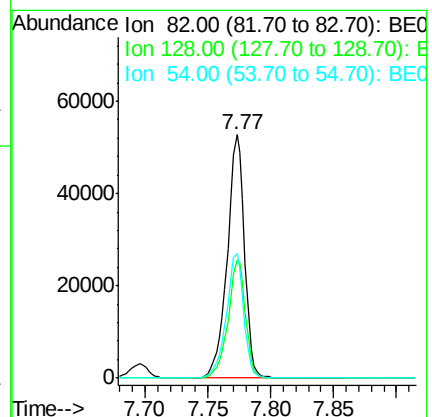
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#4  
Nitrobenzene-d5  
Concen: 6.03 ng  
RT: 7.77 min Scan# 1484  
Delta R.T. 0.00 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Resp  | Lower | Upper |
|---------|-------|-------|-------|-------|
| 82      | 100   | 50010 |       |       |
| 128     | 48.4  | 38.4  | 57.6  |       |
| 54      | 51.2  | 40.2  | 60.2  |       |





#5

Naphthalene

Concen: 6.07 ng

RT: 8.67 min Scan# 1706

Delta R.T. -0.00 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

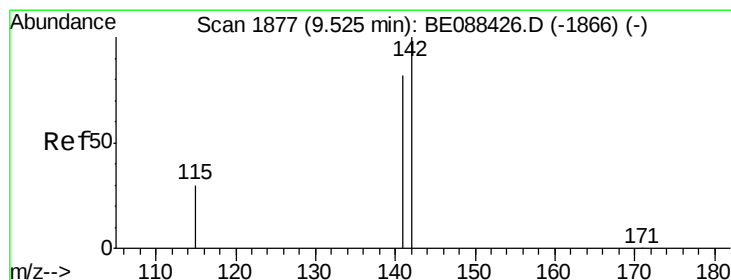
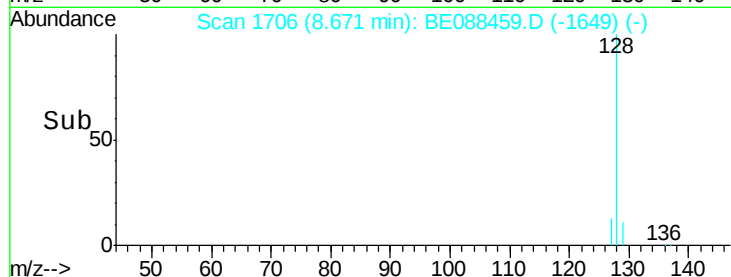
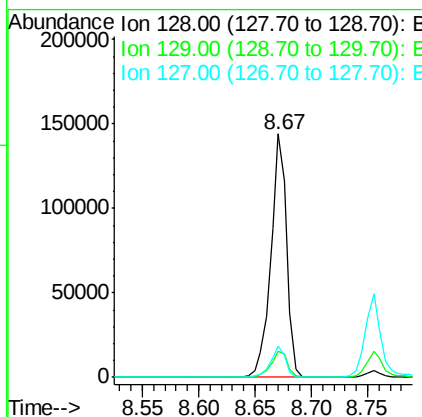
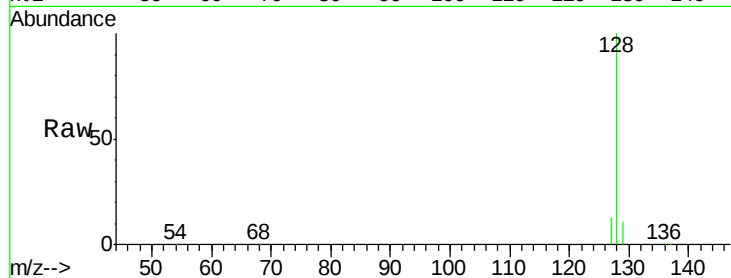
ClientSampleId :

YS19-SB40-1014MS

|           |      |       |        |
|-----------|------|-------|--------|
| Tgt Ion:  | 128  | Resp: | 142250 |
| Ion Ratio |      | Lower | Upper  |
| 128       | 100  |       |        |
| 129       | 10.9 | 8.6   | 12.8   |
| 127       | 12.6 | 10.1  | 15.1   |

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#6

2-Methylnaphthalene

Concen: 6.32 ng

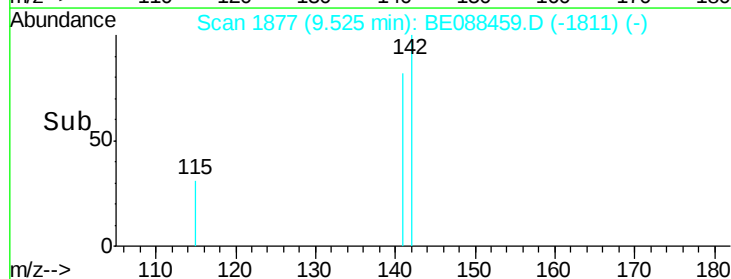
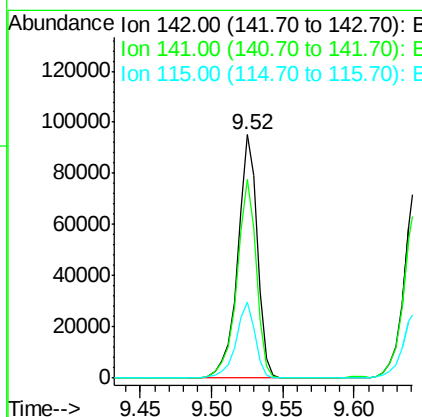
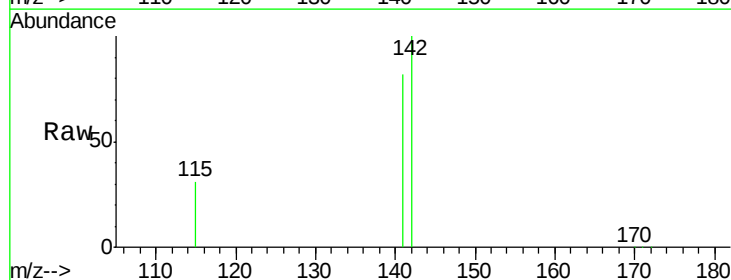
RT: 9.52 min Scan# 1877

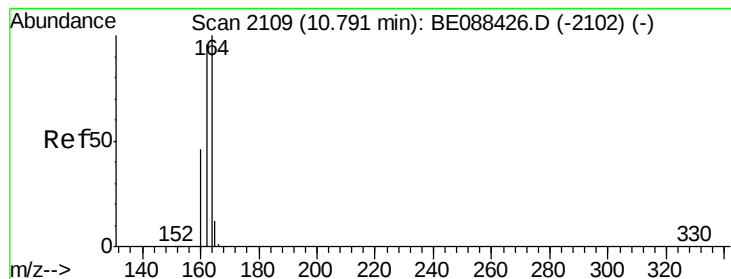
Delta R.T. -0.00 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

|           |      |       |       |
|-----------|------|-------|-------|
| Tgt Ion:  | 142  | Resp: | 91715 |
| Ion Ratio |      | Lower | Upper |
| 142       | 100  |       |       |
| 141       | 81.6 | 65.8  | 98.8  |
| 115       | 31.0 | 24.2  | 36.4  |





#7

Acenaphthene-d10

Concen: 5.00 ng

RT: 10.79 min Scan# 2109

Delta R.T. -0.00 min

Lab File: BE088459.D

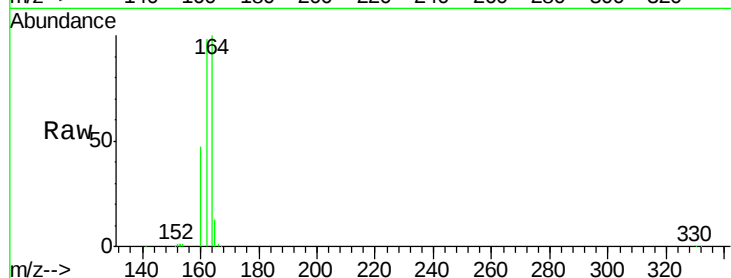
Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

ClientSampleId :

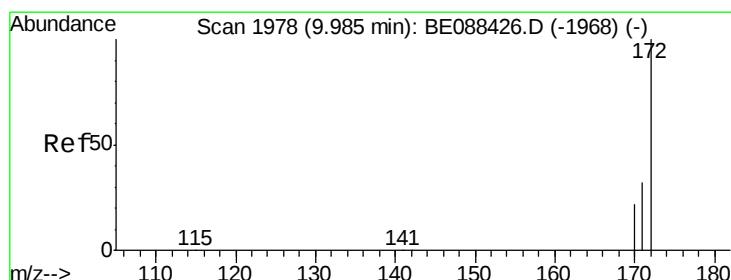
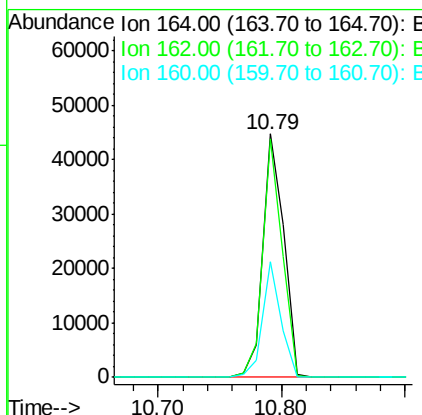
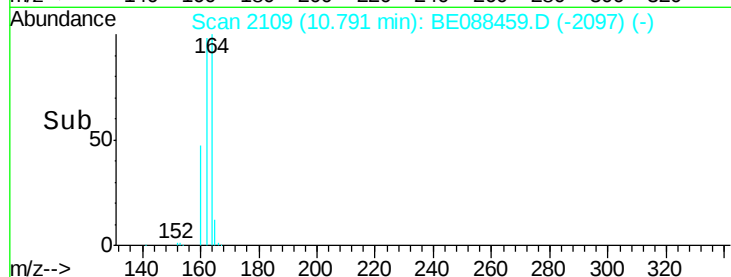
YS19-SB40-1014MS



|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 164   | Resp: | 52551 |
| Ion Ratio | Lower | Upper |       |
| 164       | 100   |       |       |
| 162       | 98.1  | 77.0  | 115.4 |
| 160       | 47.4  | 36.8  | 55.2  |

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#8

2-Fluorobiphenyl

Concen: 5.62 ng

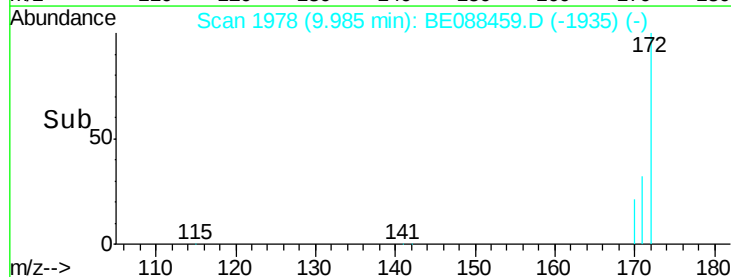
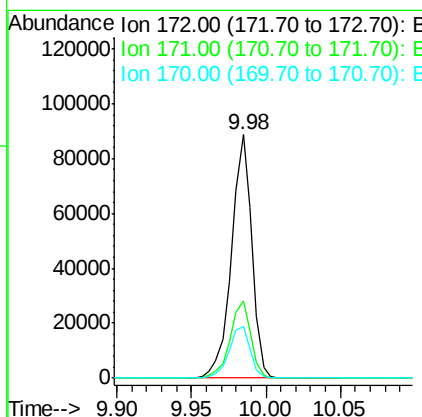
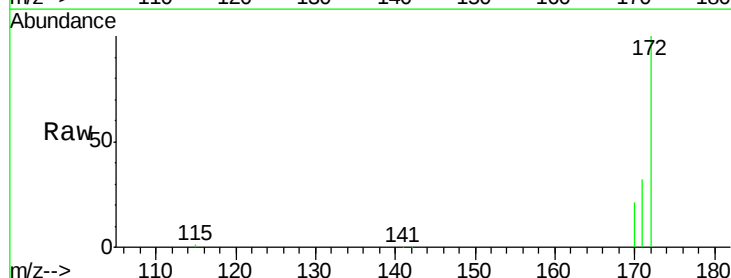
RT: 9.98 min Scan# 1978

Delta R.T. 0.00 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

|           |       |       |       |
|-----------|-------|-------|-------|
| Tgt Ion:  | 172   | Resp: | 83184 |
| Ion Ratio | Lower | Upper |       |
| 172       | 100   |       |       |
| 171       | 31.7  | 26.0  | 39.0  |
| 170       | 21.1  | 17.6  | 26.4  |





#9

Acenaphthylene

Concen: 6.23 ng

RT: 10.62 min Scan# 2093

Delta R.T. -0.00 min

Lab File: BE088459.D

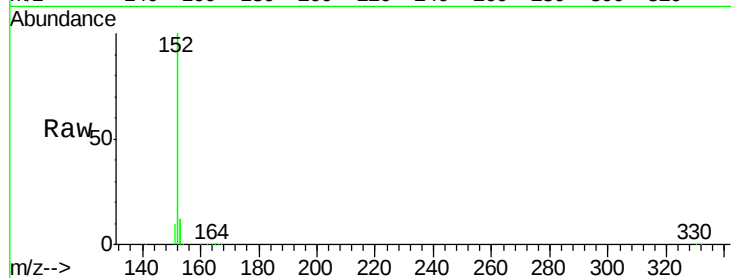
Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

ClientSampleId :

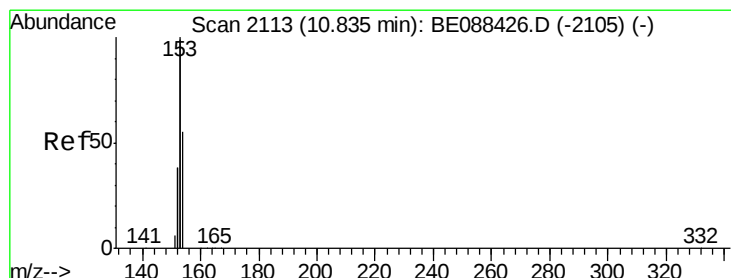
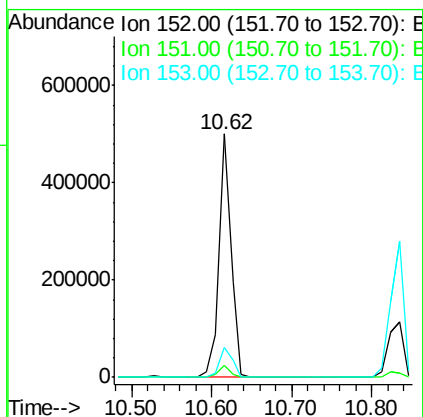
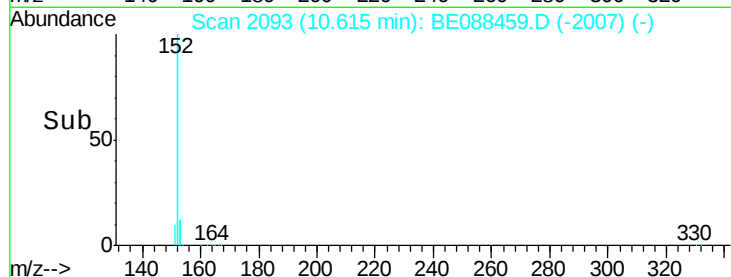
YS19-SB40-1014MS



| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 152     | 100   |       |       |
| 151     | 4.6   | 4.4   | 6.6   |
| 153     | 13.1  | 10.5  | 15.7  |

Manual Integrations  
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#10

Acenaphthene

Concen: 6.04 ng

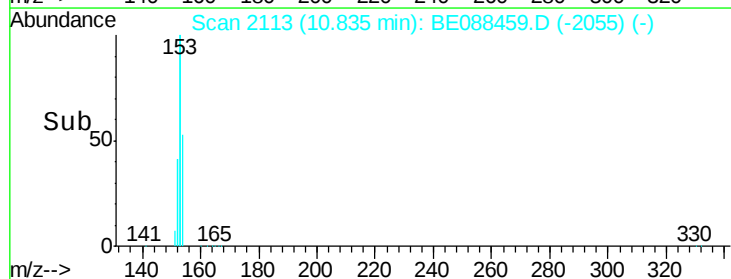
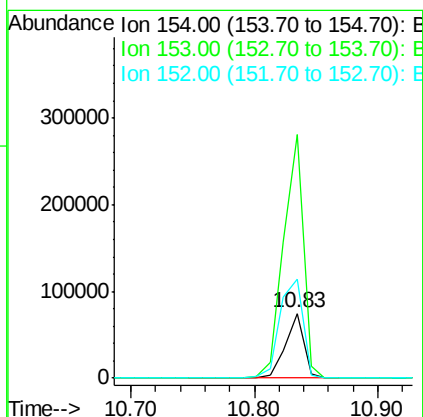
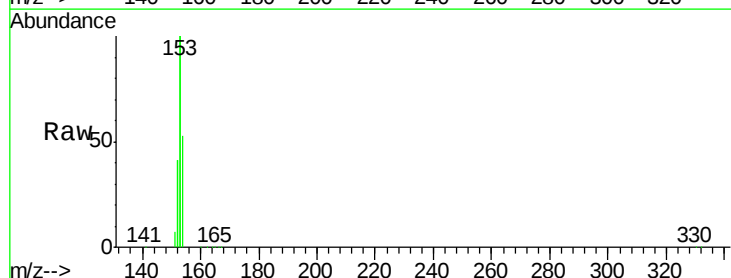
RT: 10.83 min Scan# 2113

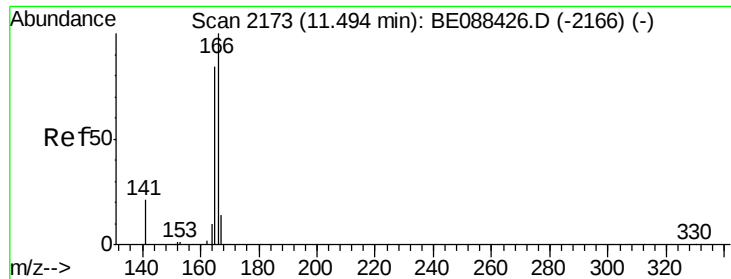
Delta R.T. -0.00 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 154     | 100   |       |       |
| 153     | 406.8 | 324.3 | 486.5 |
| 152     | 193.5 | 154.9 | 232.3 |





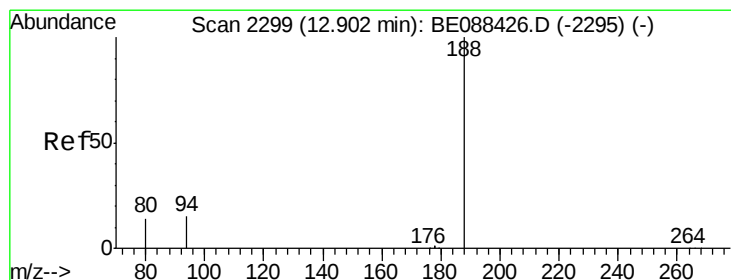
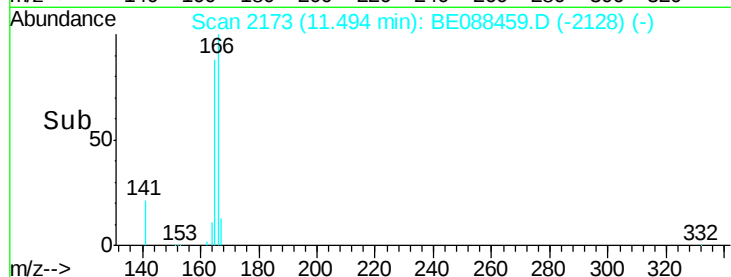
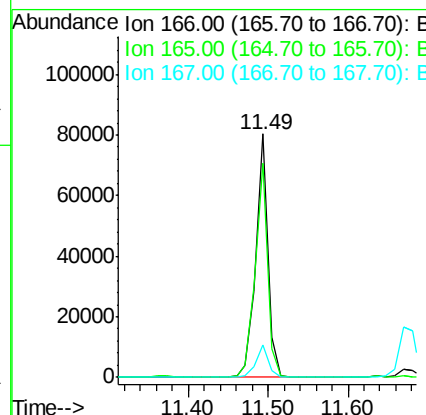
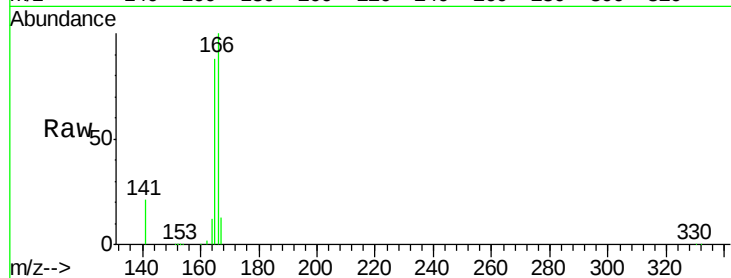
#11  
**Fluorene**  
 Concen: 6.26 ng  
 RT: 11.49 min Scan# 2173  
 Delta R.T. -0.00 min  
 Lab File: BE088459.D  
 Acq: 1 Nov 2014 19:49

Instrument :  
 BNA\_E  
 ClientSampleId :  
 YS19-SB40-1014MS

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 166     | 100   |       |       |
| 165     | 90.2  | 71.3  | 106.9 |
| 167     | 13.4  | 10.7  | 16.1  |

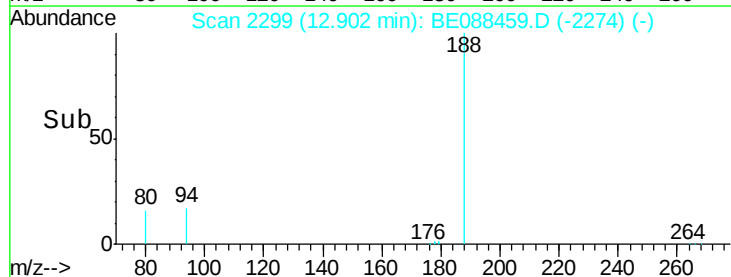
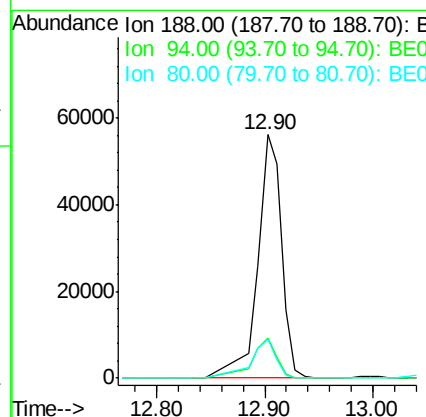
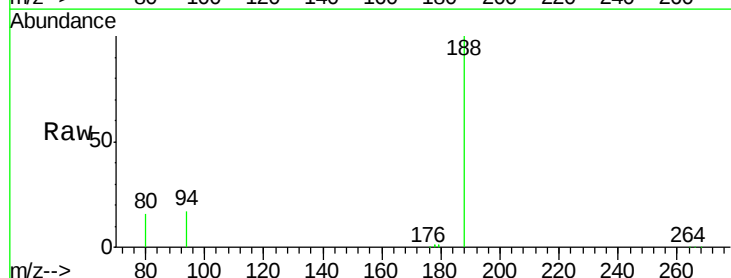
Manual Integrations  
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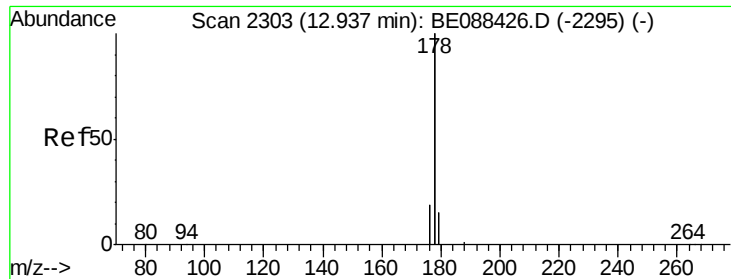
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#12  
**Phenanthrene-d10**  
 Concen: 5.00 ng  
 RT: 12.90 min Scan# 2299  
 Delta R.T. 0.00 min  
 Lab File: BE088459.D  
 Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 188     | 100   |       |       |
| 94      | 16.6  | 11.8  | 17.8  |
| 80      | 15.7  | 10.9  | 16.3  |





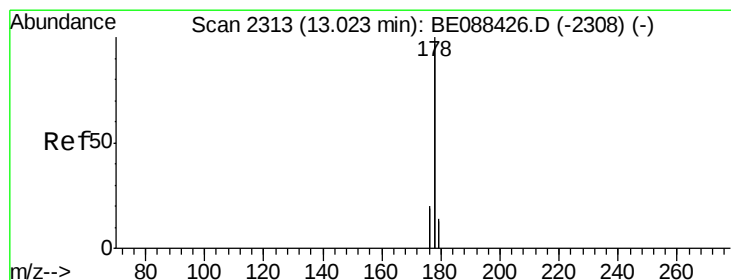
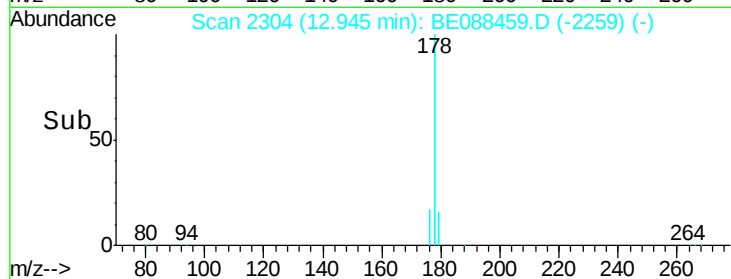
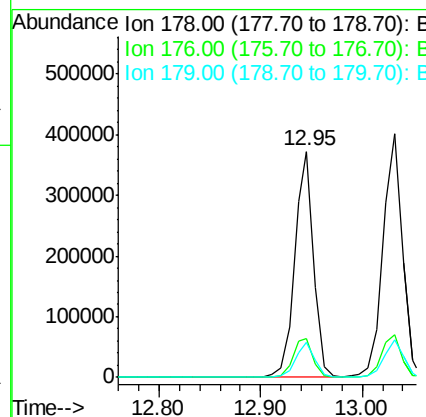
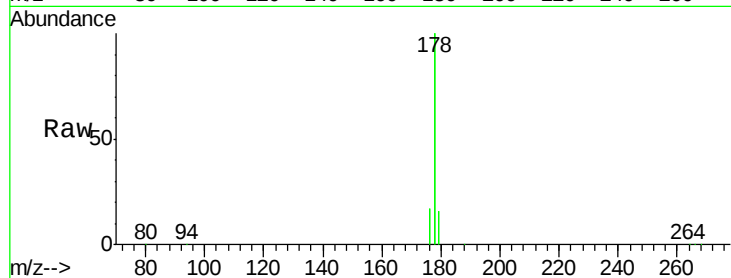
#13  
Phenanthrene  
Concen: 6.50 ng  
RT: 12.95 min Scan# 2304  
Delta R.T. 0.01 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

Instrument :  
BNA\_E  
ClientSampleId :  
YS19-SB40-1014MS

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 178     | 100   |       |       |
| 176     | 18.9  | 15.4  | 23.2  |
| 179     | 15.8  | 12.8  | 19.2  |

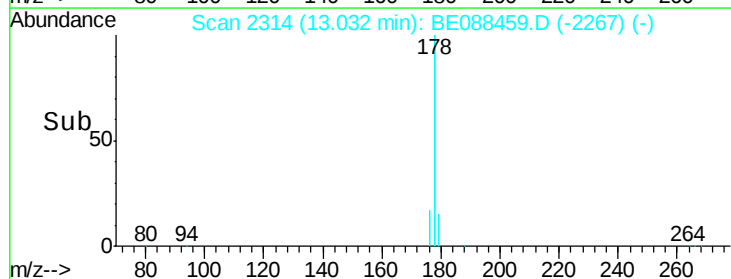
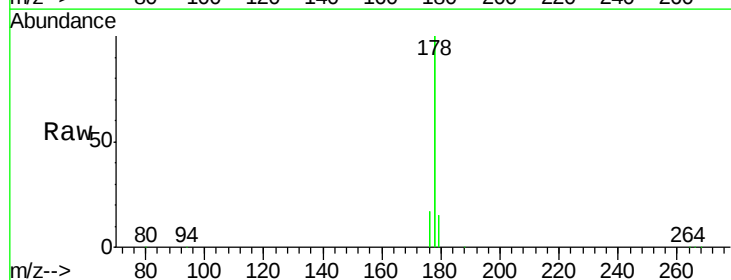
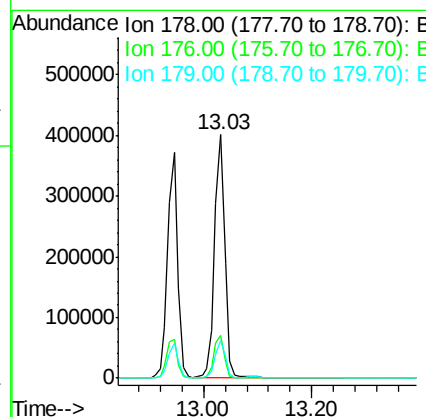
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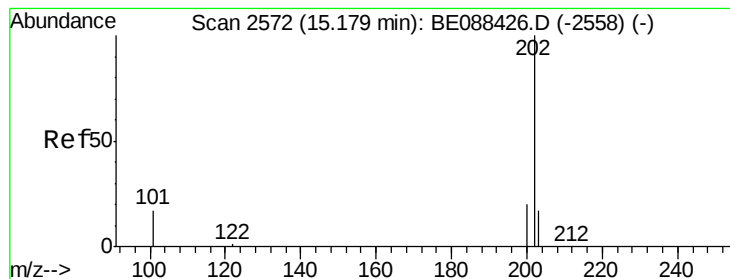
mohammad  
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#14  
Anthracene  
Concen: 6.73 ng  
RT: 13.03 min Scan# 2314  
Delta R.T. 0.01 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 178     | 100   |       |       |
| 176     | 17.9  | 15.0  | 22.4  |
| 179     | 15.3  | 12.5  | 18.7  |





#15

Fluoranthene

Concen: 8.90 ng

RT: 15.18 min Scan# 2573

Delta R.T. 0.00 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

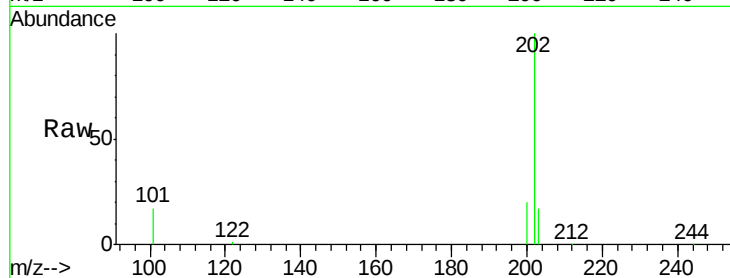
ClientSampleId :

YS19-SB40-1014MS

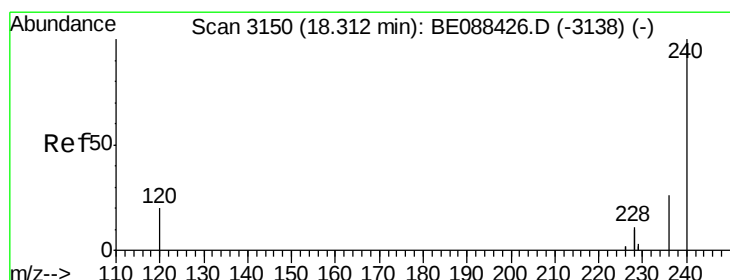
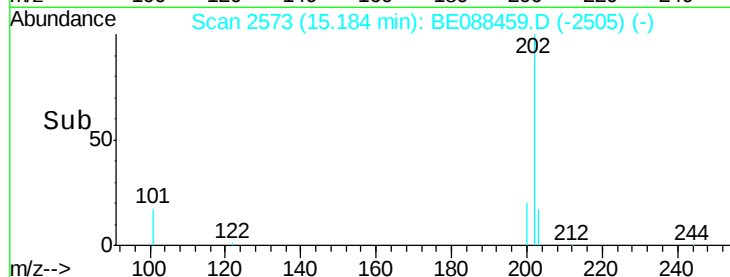
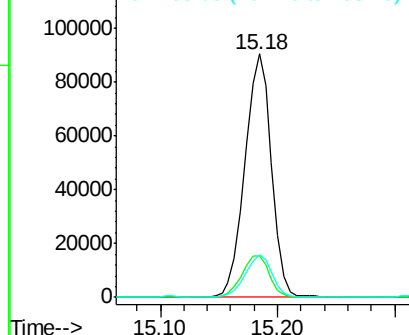
| Tgt | Ion  | Ratio | Resp   | Lower | Upper |
|-----|------|-------|--------|-------|-------|
| 202 | 100  |       | 141035 |       |       |
| 101 | 17.4 | 14.3  | 21.5   |       |       |
| 203 | 17.2 | 13.6  | 20.4   |       |       |

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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

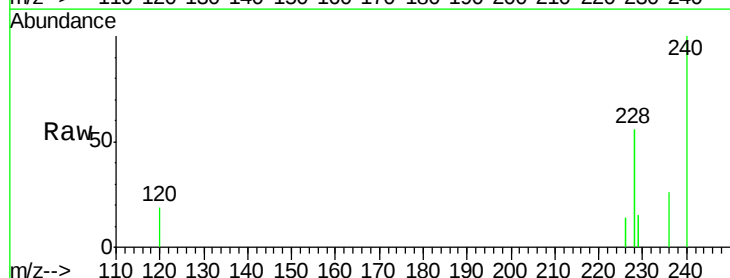
RT: 18.33 min Scan# 3152

Delta R.T. 0.02 min

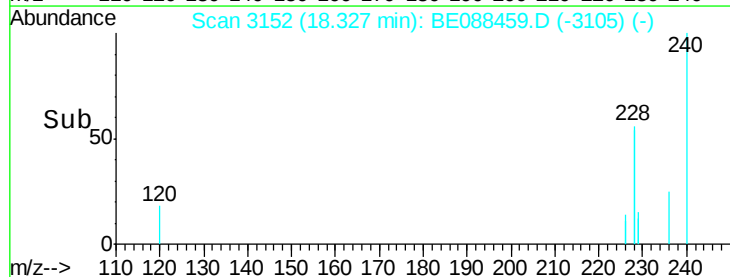
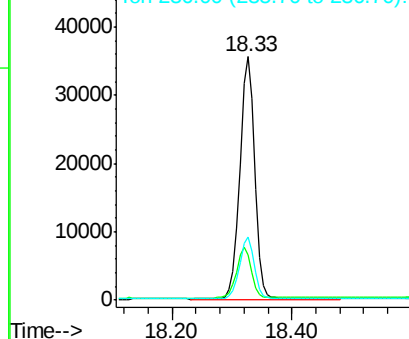
Lab File: BE088459.D

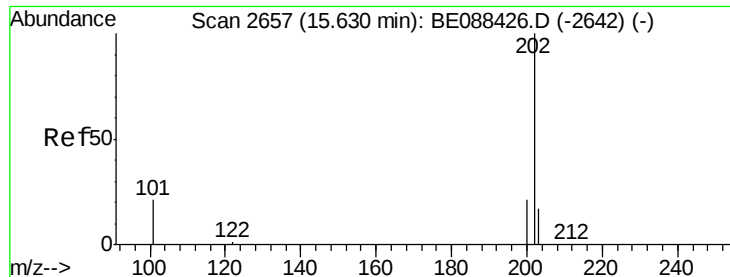
Acq: 1 Nov 2014 19:49

| Tgt | Ion  | Ratio | Resp  | Lower | Upper |
|-----|------|-------|-------|-------|-------|
| 240 | 100  |       | 60921 |       |       |
| 120 | 18.5 | 16.4  | 24.6  |       |       |
| 236 | 25.8 | 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





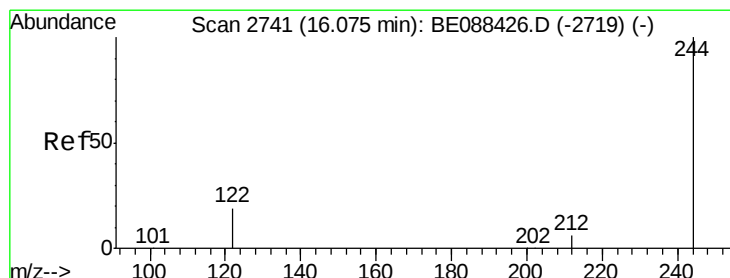
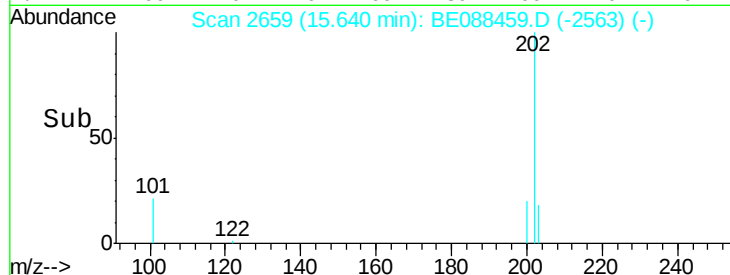
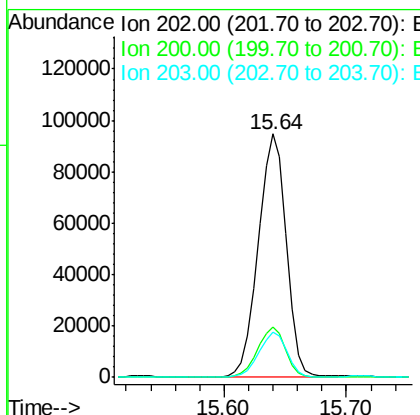
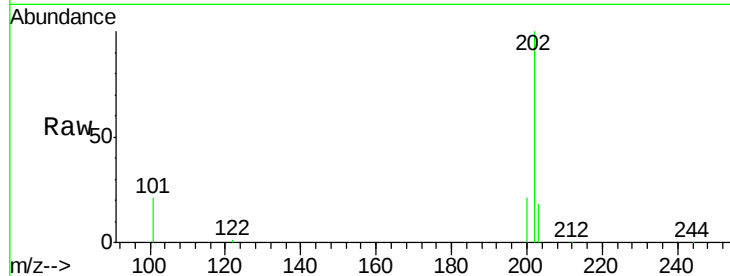
#17  
 Pyrene  
 Concen: 7.62 ng  
 RT: 15.64 min Scan# 2659  
 Delta R.T. 0.01 min  
 Lab File: BE088459.D  
 Acq: 1 Nov 2014 19:49

Instrument :  
 BNA\_E  
 ClientSampleId :  
 YS19-SB40-1014MS

| Tgt Ion | Ratio | Resp Lower | Resp Upper |
|---------|-------|------------|------------|
| 202     | 100   |            |            |
| 200     | 20.3  | 16.1       | 24.1       |
| 203     | 18.1  | 13.8       | 20.8       |

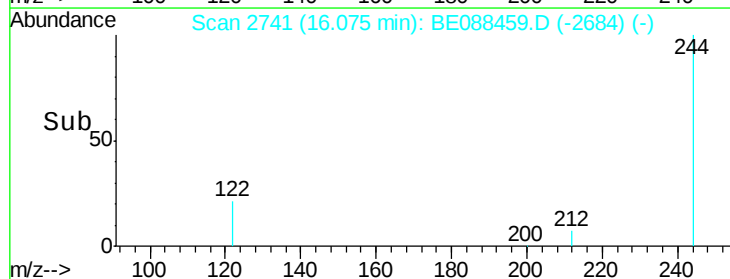
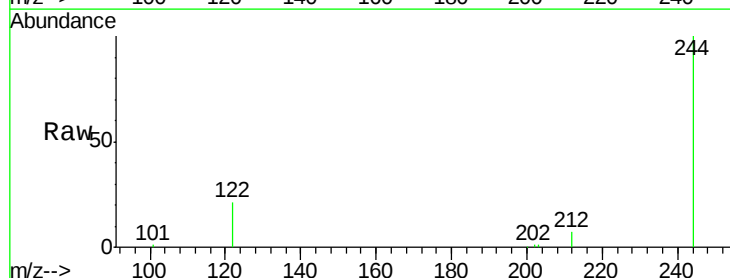
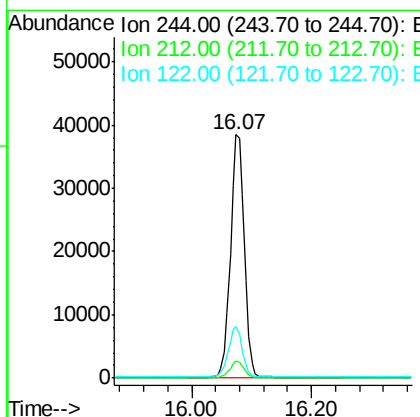
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#18  
 Terphenyl-d14  
 Concen: 5.61 ng  
 RT: 16.07 min Scan# 2741  
 Delta R.T. -0.00 min  
 Lab File: BE088459.D  
 Acq: 1 Nov 2014 19:49

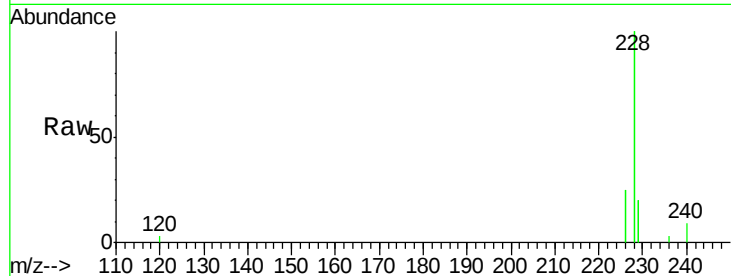
| Tgt Ion | Ratio | Resp Lower | Resp Upper |
|---------|-------|------------|------------|
| 244     | 100   |            |            |
| 212     | 7.0   | 5.5        | 8.3        |
| 122     | 21.3  | 15.6       | 23.4       |





#19  
Benzo(a)anthracene  
Concen: 8.18 ng  
RT: 18.31 min Scan# 3149  
Delta R.T. 0.02 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

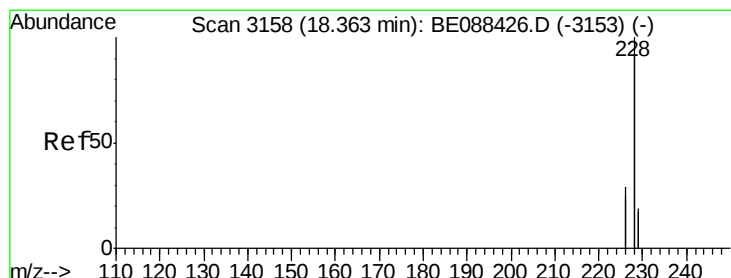
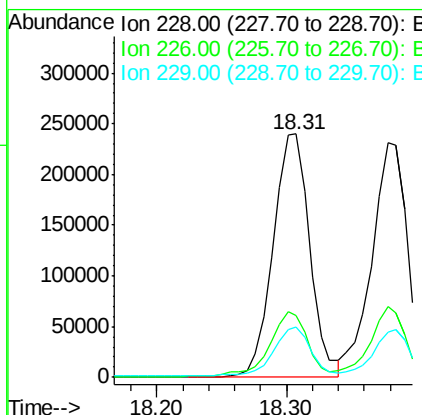
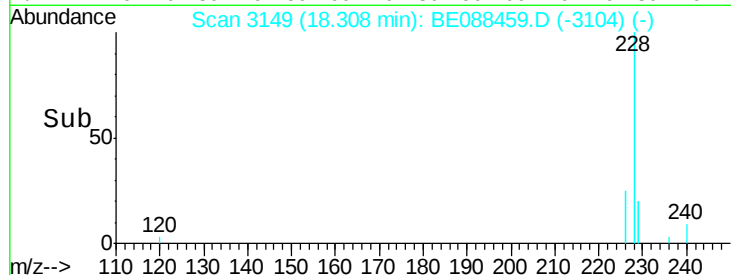
Instrument :  
BNA\_E  
ClientSampleId :  
YS19-SB40-1014MS



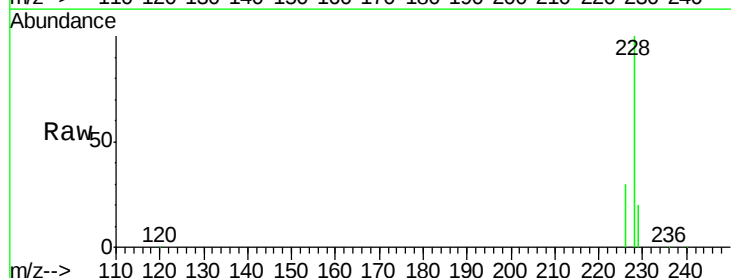
| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 228     | 100   |       |       |
| 226     | 25.2  | 19.8  | 29.6  |
| 229     | 20.5  | 16.0  | 24.0  |

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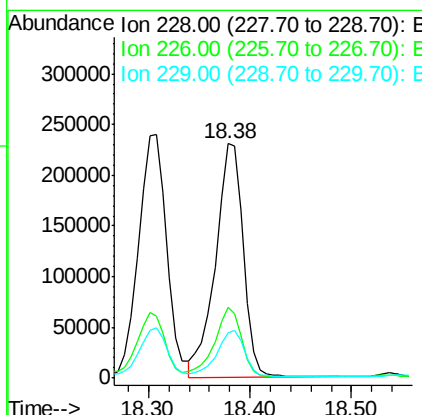
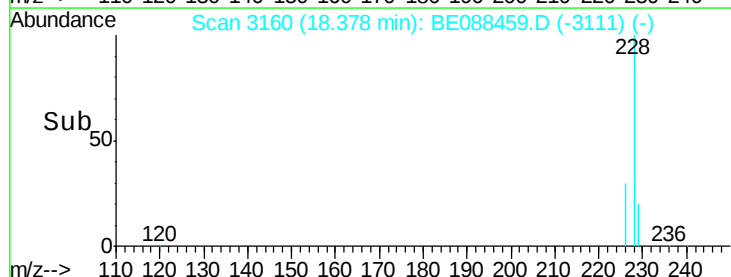
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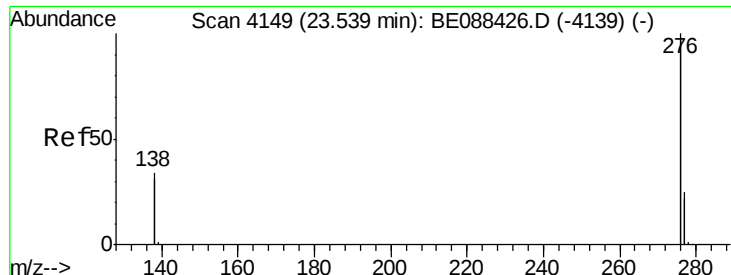


#20  
Chrysene  
Concen: 7.74 ng  
RT: 18.38 min Scan# 3160  
Delta R.T. 0.02 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49



| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 228     | 100   |       |       |
| 226     | 30.3  | 23.6  | 35.4  |
| 229     | 19.5  | 15.4  | 23.2  |





#21

Indeno(1,2,3-cd)pyrene

Concen: 9.14 ng m

RT: 23.59 min Scan# 4157

Delta R.T. 0.05 min

Lab File: BE088459.D

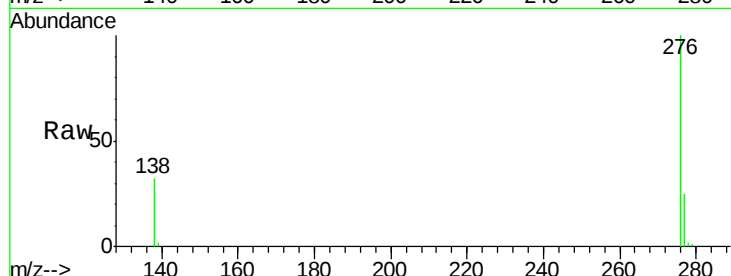
Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

ClientSampleId :

YS19-SB40-1014MS



Tgt Ion: 276 Resp: 479635

Ion Ratio Lower Upper

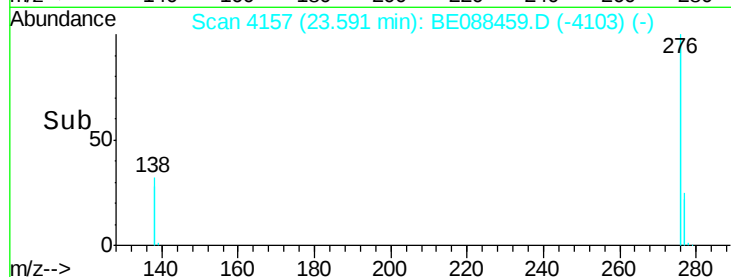
276 100

138 25.3 20.2 30.2

277 19.8 14.8 22.2

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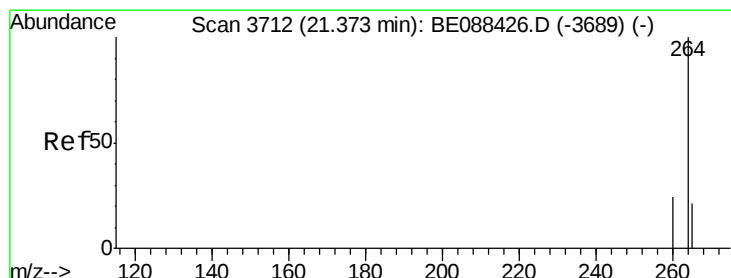
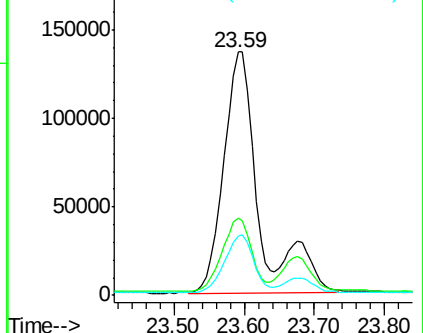
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Abundance Ion 276.00 (275.70 to 276.70): E

Ion 138.00 (137.70 to 138.70): E

Ion 277.00 (276.70 to 277.70): E



#22

Perylene-d12

Concen: 5.00 ng

RT: 21.40 min Scan# 3717

Delta R.T. 0.02 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

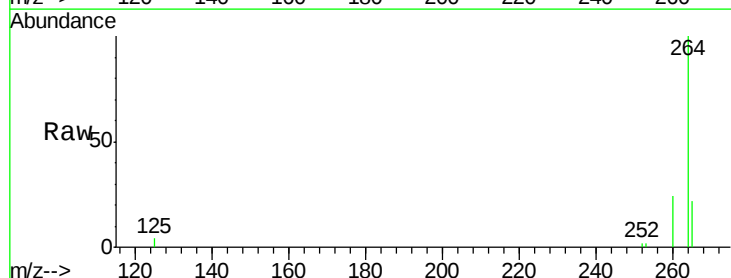
Tgt Ion: 264 Resp: 59216

Ion Ratio Lower Upper

264 100

260 24.1 18.9 28.3

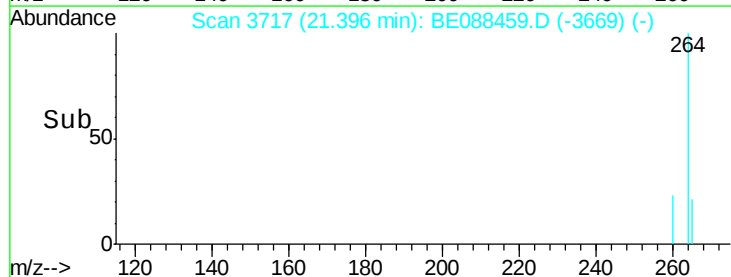
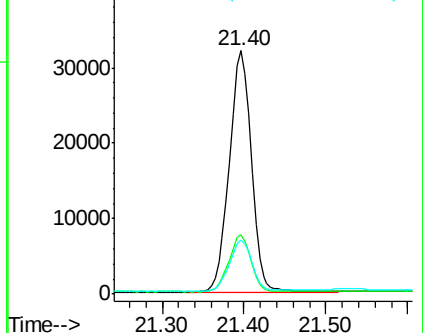
265 22.4 17.2 25.8



Abundance Ion 264.00 (263.70 to 264.70): E

Ion 260.00 (259.70 to 260.70): E

Ion 265.00 (264.70 to 265.70): E





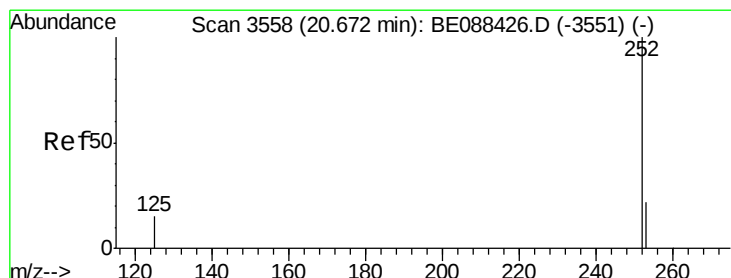
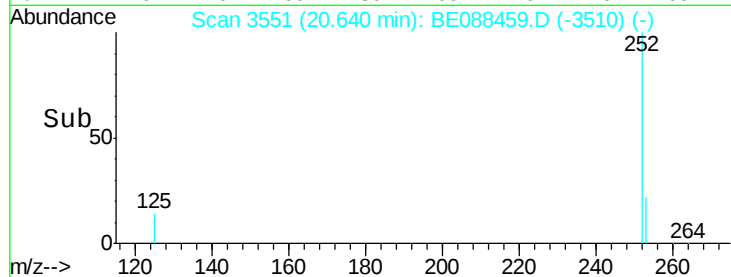
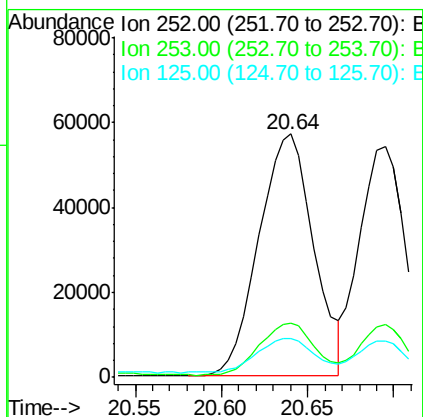
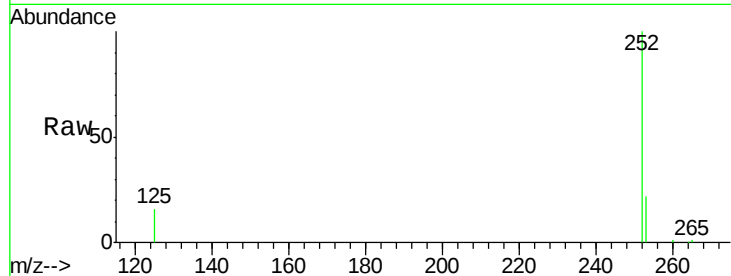
#23  
Benzo(b)fluoranthene  
Concen: 9.68 ng  
RT: 20.64 min Scan# 3551  
Delta R.T. 0.03 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

Instrument :  
BNA\_E  
ClientSampleId :  
YS19-SB40-1014MS

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 252     | 100   |       |       |
| 253     | 22.4  | 17.8  | 26.8  |
| 125     | 15.9  | 12.3  | 18.5  |

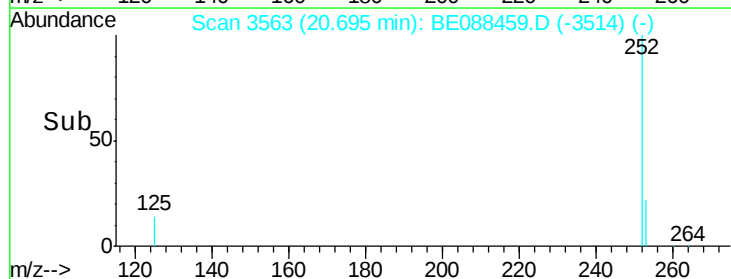
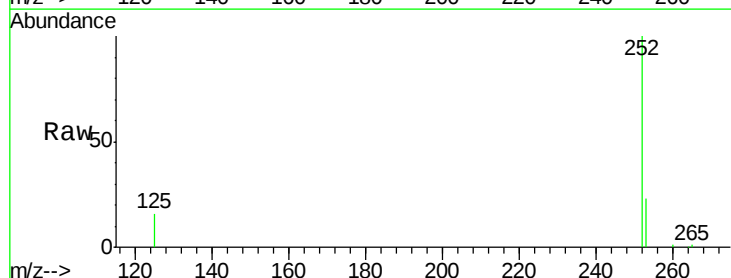
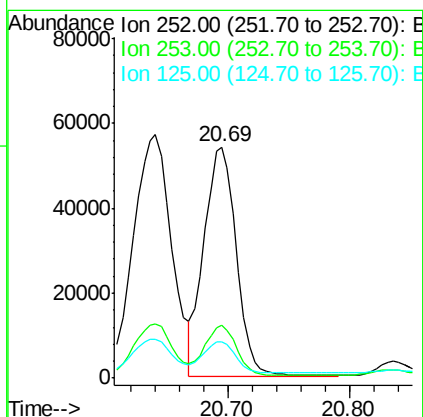
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#24  
Benzo(k)fluoranthene  
Concen: 7.06 ng  
RT: 20.69 min Scan# 3563  
Delta R.T. 0.02 min  
Lab File: BE088459.D  
Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 252     | 100   |       |       |
| 253     | 22.6  | 17.8  | 26.8  |
| 125     | 15.8  | 12.2  | 18.4  |





#25

Benzo(a)pyrene

Concen: 8.60 ng

RT: 21.28 min Scan# 3692

Delta R.T. 0.03 min

Lab File: BE088459.D

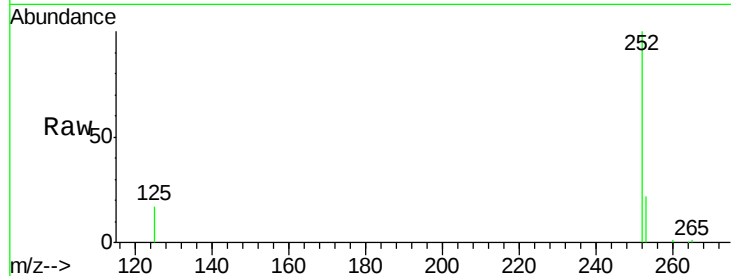
Acq: 1 Nov 2014 19:49

Instrument :

BNA\_E

ClientSampleId :

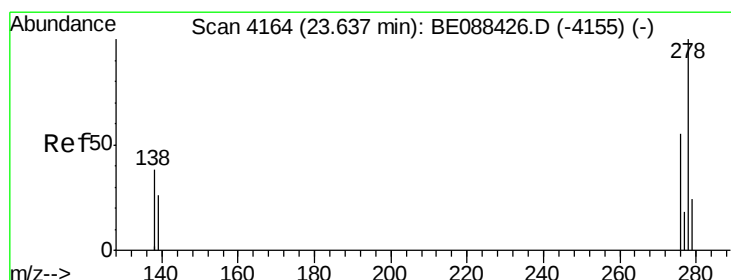
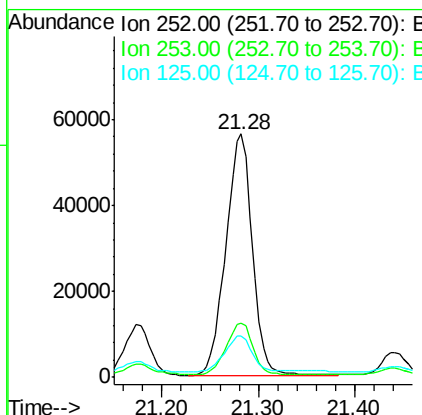
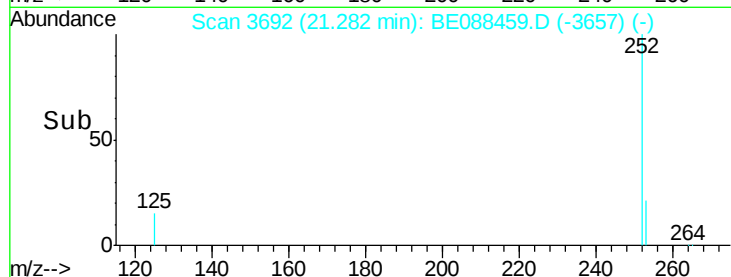
YS19-SB40-1014MS



| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 252     | 100   |       |       |
| 253     | 22.4  | 18.2  | 27.4  |
| 125     | 17.0  | 13.7  | 20.5  |

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#26

Dibenzo(a,h)anthracene

Concen: 7.15 ng

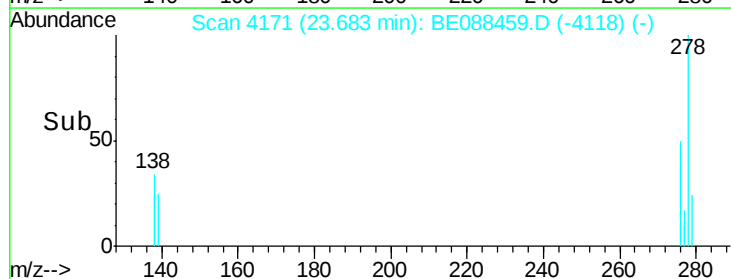
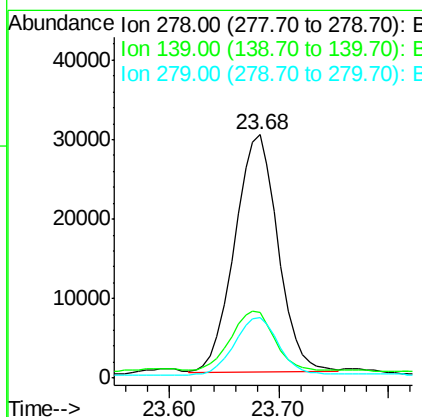
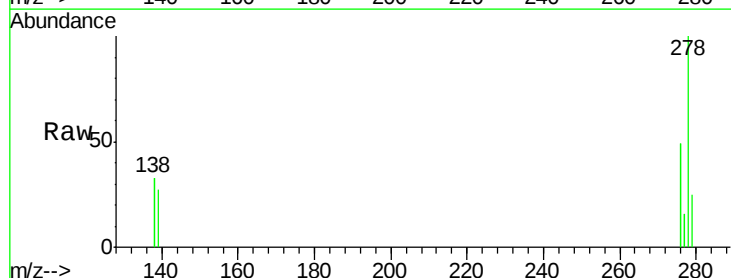
RT: 23.68 min Scan# 4171

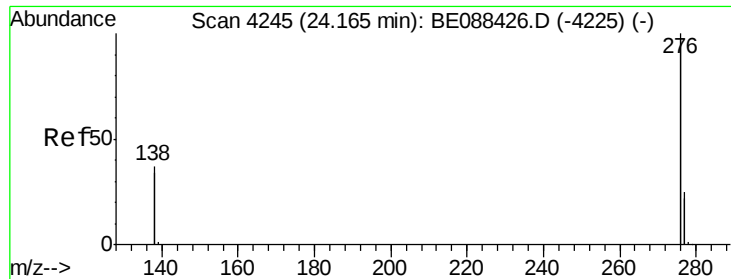
Delta R.T. 0.05 min

Lab File: BE088459.D

Acq: 1 Nov 2014 19:49

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 278     | 100   |       |       |
| 139     | 27.1  | 22.1  | 33.1  |
| 279     | 24.8  | 19.7  | 29.5  |





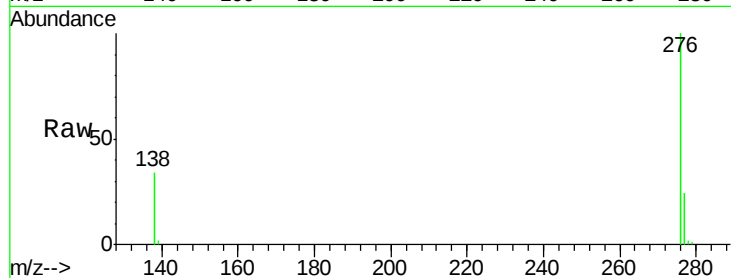
#27  
 Benzo(g,h,i)perylene  
 Concen: 8.01 ng  
 RT: 24.23 min Scan# 4255  
 Delta R.T. 0.07 min  
 Lab File: BE088459.D  
 Acq: 1 Nov 2014 19:49

Instrument :  
 BNA\_E  
 ClientSampleId :  
 YS19-SB40-1014MS

| Tgt | Ion  | Ratio | Resp   | Lower | Upper |
|-----|------|-------|--------|-------|-------|
| 276 | 100  |       | 425317 |       |       |
| 277 | 24.2 | 19.8  | 29.6   |       |       |
| 138 | 34.0 | 29.3  | 43.9   |       |       |

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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

