LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

| peak # | R.T. min | first scan | max scan | last scan | PK TY | peak height | corr. area | corr. % max. | % of total |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.358 | 13 | 15 | 17 | rVB | 162435 | 158587 | 3.76% | 0.392% |
| 2 | 2.261 | 91 | 94 | 97 | rVV | 1203469 | 1429412 | 33.92% | 3.534% |
| 3 | 2.353 | 99 | 102 | 125 | rVB | 370829 | 795026 | 18.87% | 1.965% |
| 4 | 5.999 | 419 | 421 | 424 | rBV | 277546 | 289515 | 6.87% | 0.716% |
| 5 | 6.982 | 505 | 507 | 510 | rBV | 238476 | 304735 | 7.23% | 0.753% |
| 6 | 7.153 | 520 | 522 | 525 | rBV | 312164 | 319906 | 7.59% | 0.791% |
| 7 | 7.393 | 541 | 543 | 545 | rVB | 406288 | 319071 | 7.57% | 0.789% |
| 8 | 7.553 | 555 | 557 | 559 | rBV | 339067 | 269515 | 6.40% | 0.666% |
| 9 | 7.942 | 589 | 591 | 594 | rBV | 149434 | 159770 | 3.79% | 0.395% |
| 10 | 8.685 | 654 | 656 | 657 | rBV | 604709 | 486370 | 11.54% | 1.202% |
| 11 | 9.759 | 748 | 750 | 752 | rVB | 539518 | 412799 | 9.80% | 1.020% |
| 12 | 10.456 | 809 | 811 | 813 | rBV | 630041 | 565742 | 13.43% | 1.399% |
| 13 | 10.491 | 813 | 814 | 816 | rVB | 405888 | 296144 | 7.03% | 0.732% |
| 14 | 10.662 | 827 | 829 | 831 | rBV | 316282 | 270127 | 6.41% | 0.668% |
| 15 | 11.005 | 857 | 859 | 862 | rVB | 216125 | 277539 | 6.59% | 0.686% |
| 16 | 11.245 | 878 | 880 | 883 | rBV2 | 249917 | 320362 | 7.60% | 0.792% |
| 17 | 11.759 | 923 | 925 | 927 | rVB | 171000 | 162659 | 3.86% | 0.402% |
| 18 | 11.862 | 932 | 934 | 941 | rVB | 246484 | 209140 | 4.96% | 0.517% |
| 19 | 11.999 | 941 | 946 | 947 | rBV2 | 3116339 | 4214048 | 100.00% | 10.417% |
| 20 | 12.045 | 947 | 950 | 952 | rVB | 971300 | 786167 | 18.66% | 1.943% |
| 21 | 12.194 | 961 | 963 | 965 | rBV | 328747 | 316443 | 7.51% | 0.782% |
| 22 | 12.491 | 986 | 989 | 990 | rBV | 266074 | 369503 | 8.77% | 0.913% |
| 23 | 12.514 | 990 | 991 | 993 | rVB | 488329 | 436690 | 10.36% | 1.080% |
| 24 | 12.571 | 993 | 996 | 997 | rBV | 152848 | 195801 | 4.65% | 0.484% |
| 25 | 12.605 | 997 | 999 | 1003 | rBV2 | 380598 | 751006 | 17.82% | 1.856% |
| 26 | 12.799 | 1014 | 1016 | 1020 | rBV2 | 239586 | 440207 | 10.45% | 1.088% |
| 27 | 13.074 | 1037 | 1040 | 1042 | rBV | 171489 | 229405 | 5.44% | 0.567% |
| 28 | 13.119 | 1042 | 1044 | 1047 | rVB3 | 96730 | 179165 | 4.25% | 0.443% |
| 29 | 13.165 | 1047 | 1048 | 1051 | rVB2 | 132295 | 177910 | 4.22% | 0.440% |
| 30 | 13.257 | 1054 | 1056 | 1059 | rBV | 2677919 | 3637111 | 86.31% | 8.991% |
| 31 | 13.428 | 1069 | 1071 | 1075 | rVB | 144270 | 197638 | 4.69% | 0.489% |
| 32 | 13.520 | 1075 | 1079 | 1082 | rBV | 3097617 | 3744405 | 88.86% | 9.256% |
| 33 | 13.565 | 1082 | 1083 | 1086 | rVB2 | 163387 | 176875 | 4.20% | 0.437% |
| 34 | 13.657 | 1088 | 1091 | 1093 | rBV2 | 511112 | 657857 | 15.61% | 1.626% |

LSC Area Percent Report

Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Integration Parameters: rteint.p
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 3 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 35 | 13.760 | 1097 | 1100 | 1104 | rBV3 | 168637 | 412307 | 9.78% | 1.019% |
| 36 | 13.885 | 1107 | 1111 | 1113 | rVB | 316062 | 457975 | 10.87% | 1.132% |
| 37 | 13.965 | 1115 | 1118 | 1119 | rBV | 155185 | 156773 | 3.72% | 0.388% |
| 38 | 14.011 | 1119 | 1122 | 1124 | rBV2 | 227474 | 314655 | 7.47% | 0.778% |
| 39 | 14.160 | 1133 | 1135 | 1137 | rBV | 132772 | 154914 | 3.68% | 0.383% |
| 40 | 14.251 | 1140 | 1143 | 1148 | rVB4 | 61744 | 138574 | 3.29% | 0.343% |
| 41 | 14.354 | 1148 | 1152 | 1154 | rBV5 | 54850 | 165732 | 3.93% | 0.410% |
| 42 | 14.491 | 1159 | 1164 | 1167 | rBV | 205222 | 310505 | 7.37% | 0.768% |
| 43 | 14.628 | 1173 | 1176 | 1178 | rBV2 | 170252 | 315362 | 7.48% | 0.780% |
| 44 | 14.662 | 1178 | 1179 | 1181 | rVV | 211734 | 266530 | 6.32% | 0.659% |
| 45 | 14.697 | 1181 | 1182 | 1184 | rVV2 | 207620 | 325993 | 7.74% | 0.806% |
| 46 | 14.743 | 1184 | 1186 | 1190 | rVB2 | 236248 | 342437 | 8.13% | 0.847% |
| 47 | 14.937 | 1200 | 1203 | 1205 | rBV2 | 1625420 | 2511144 | 59.59% | 6.208% |
| 48 | 14.983 | 1205 | 1207 | 1212 | rVB | 1239935 | 1494590 | 35.47% | 3.695% |
| 49 | 15.085 | 1214 | 1216 | 1219 | rVB | 165065 | 170435 | 4.04% | 0.421% |
| 50 | 15.223 | 1226 | 1228 | 1231 | rBV2 | 143219 | 207913 | 4.93% | 0.514% |
| 51 | 15.451 | 1245 | 1248 | 1250 | rBV | 187168 | 255269 | 6.06% | 0.631% |
| 52 | 15.497 | 1250 | 1252 | 1254 | rVB | 108669 | 131847 | 3.13% | 0.326% |
| 53 | 15.577 | 1254 | 1259 | 1261 | rBV3 | 73676 | 171019 | 4.06% | 0.423% |
| 54 | 15.714 | 1267 | 1271 | 1275 | rVB4 | 66183 | 142859 | 3.39% | 0.353% |
| 55 | 16.103 | 1300 | 1305 | 1310 | rBV4 | 57035 | 189779 | 4.50% | 0.469% |
| 56 | 16.308 | 1320 | 1323 | 1330 | rBV | 923785 | 2377915 | 56.43% | 5.878% |
| 57 | 16.446 | 1333 | 1335 | 1338 | rVB | 183451 | 226880 | 5.38% | 0.561% |
| 58 | 16.583 | 1343 | 1347 | 1350 | rBV3 | 52675 | 188284 | 4.47% | 0.465% |
| 59 | 16.697 | 1354 | 1357 | 1361 | rVV | 491393 | 878096 | 20.84% | 2.171% |
| 60 | 16.777 | 1361 | 1364 | 1368 | rVV | 729514 | 1202341 | 28.53% | 2.972% |
| 61 | 16.857 | 1368 | 1371 | 1373 | rVV | 460993 | 766144 | 18.18% | 1.894% |
| 62 | 16.903 | 1373 | 1375 | 1380 | rVB | 244989 | 411581 | 9.77% | 1.017% |
| 63 | 18.560 | 1513 | 1520 | 1524 | rBV3 | 59848 | 256970 | 6.10% | 0.635% |
| 64 | 18.766 | 1534 | 1538 | 1545 | rVB2 | 311698 | 812951 | 19.29% | 2.010% |
| 65 | 19.006 | 1555 | 1559 | 1563 | rBV | 58515 | 139365 | 3.31% | 0.345% |
| 66 | 19.349 | 1584 | 1589 | 1601 | rVB | 268086 | 761887 | 18.08% | 1.883% |
| 67 | 19.646 | 1612 | 1615 | 1626 | rVB | 62542 | 237217 | 5.63% | 0.586% |

Sum of corrected areas: 40452893

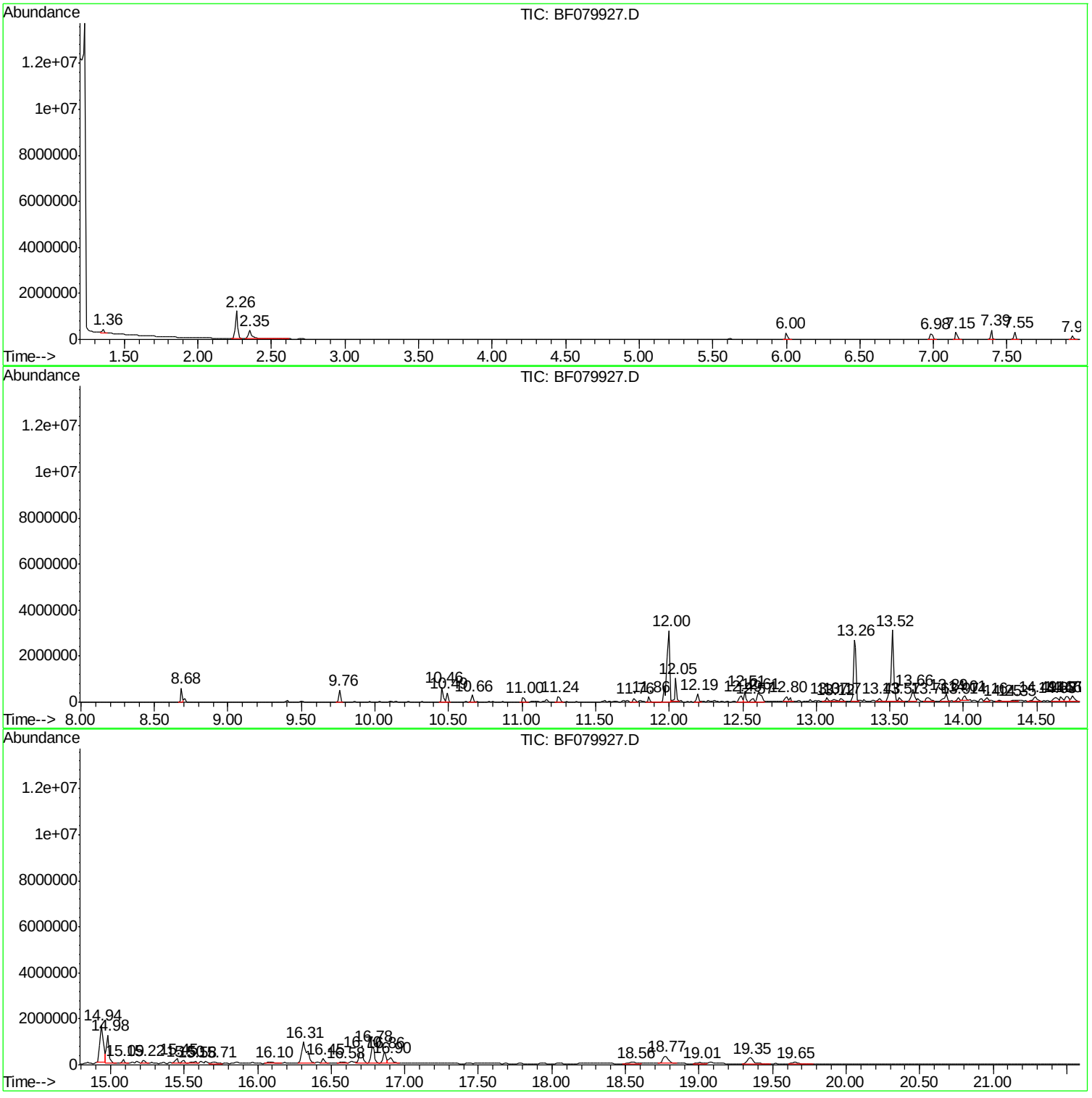
LSC Report - Integrated Chromatogram

Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :**
BNA_F
**ClientSampleId :**
FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

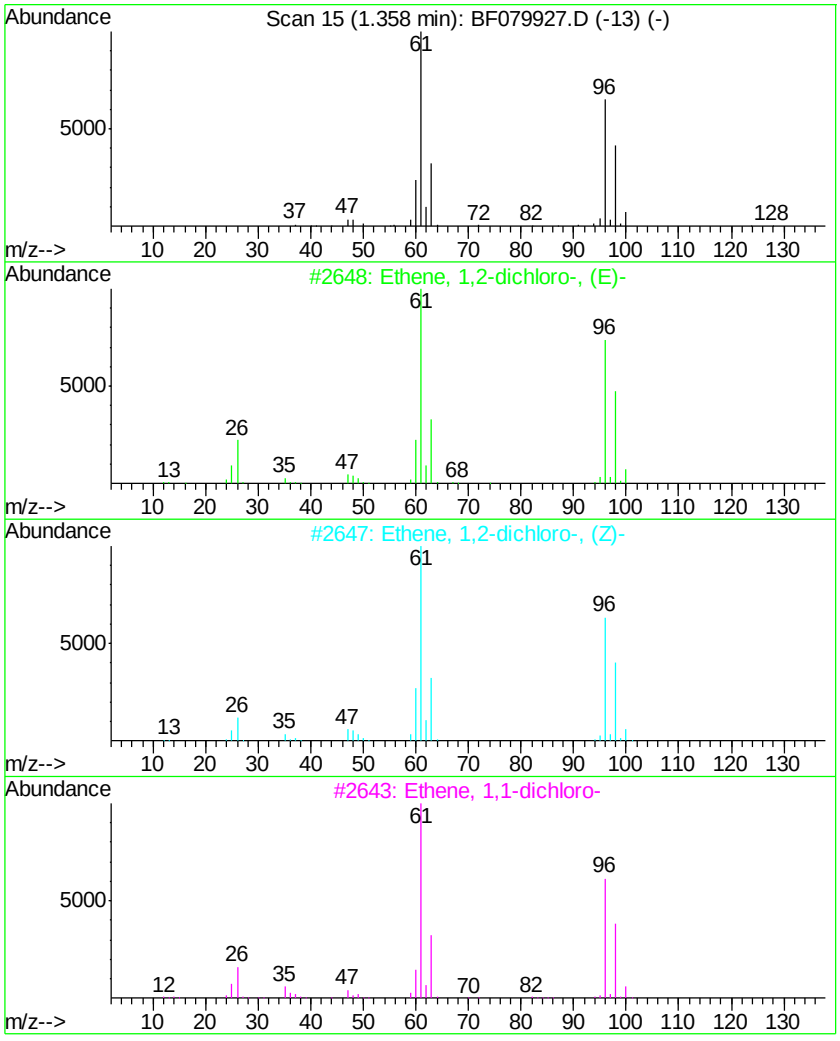
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

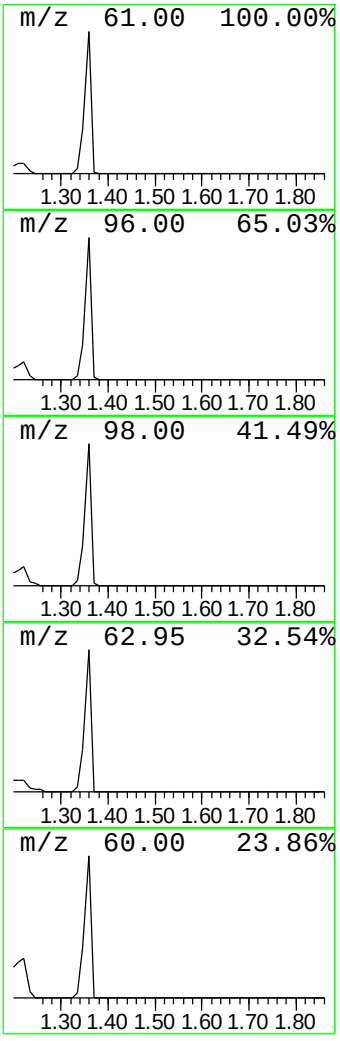
**********

Peak Number 1 Ethene, 1,2-dichloro-, (E)- Concentration Rank 6

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 1.36 | 9.94 ng | 158587 | 1,4-Dichlorobenzene-d4 | 7.39 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Ethene, 1,2-dichloro-, (E)- | 96 | C2H2Cl2 | 000156-60-5 | 95 |
| 2 | Ethene, 1,2-dichloro-, (Z)- | 96 | C2H2Cl2 | 000156-59-2 | 94 |
| 3 | Ethene, 1,1-dichloro- | 96 | C2H2Cl2 | 000075-35-4 | 91 |
| 4 | 1,2-Dichloroethylene | 96 | C2H2Cl2 | 000540-59-0 | 91 |
| 5 | Chloromethylmethyl sulfide | 96 | C2H5ClS | 002373-51-5 | 47 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

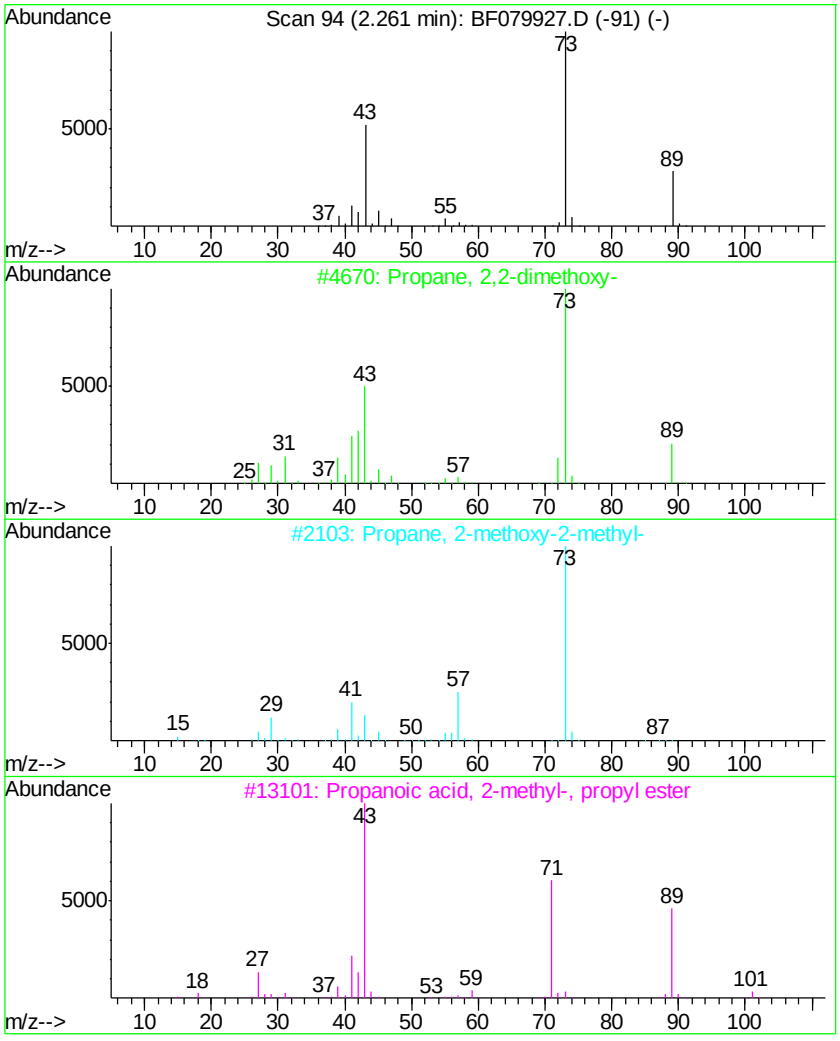
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

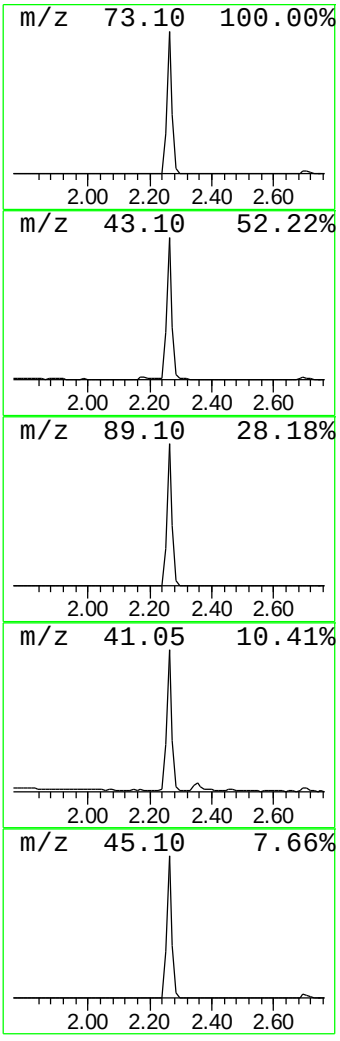
**********

Peak Number 2 Propane, 2,2-dimethoxy- Concentration Rank 1

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 2.26 | 89.60 ng | 1429410 | 1,4-Dichlorobenzene-d4 | 7.39 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Propane, 2,2-dimethoxy- | 104 | C5H12O2 | 000077-76-9 | 72 |
| 2 | Propane, 2-methoxy-2-methyl- | 88 | C5H12O | 001634-04-4 | 9 |
| 3 | Propanoic acid, 2-methyl-, propy... | 130 | C7H14O2 | 000644-49-5 | 9 |
| 4 | 2-Hydroxy-2-methylbutyric acid | 118 | C5H10O3 | 003739-30-8 | 9 |
| 5 | Acetamide, N-methyl- | 73 | C3H7NO | 000079-16-3 | 7 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

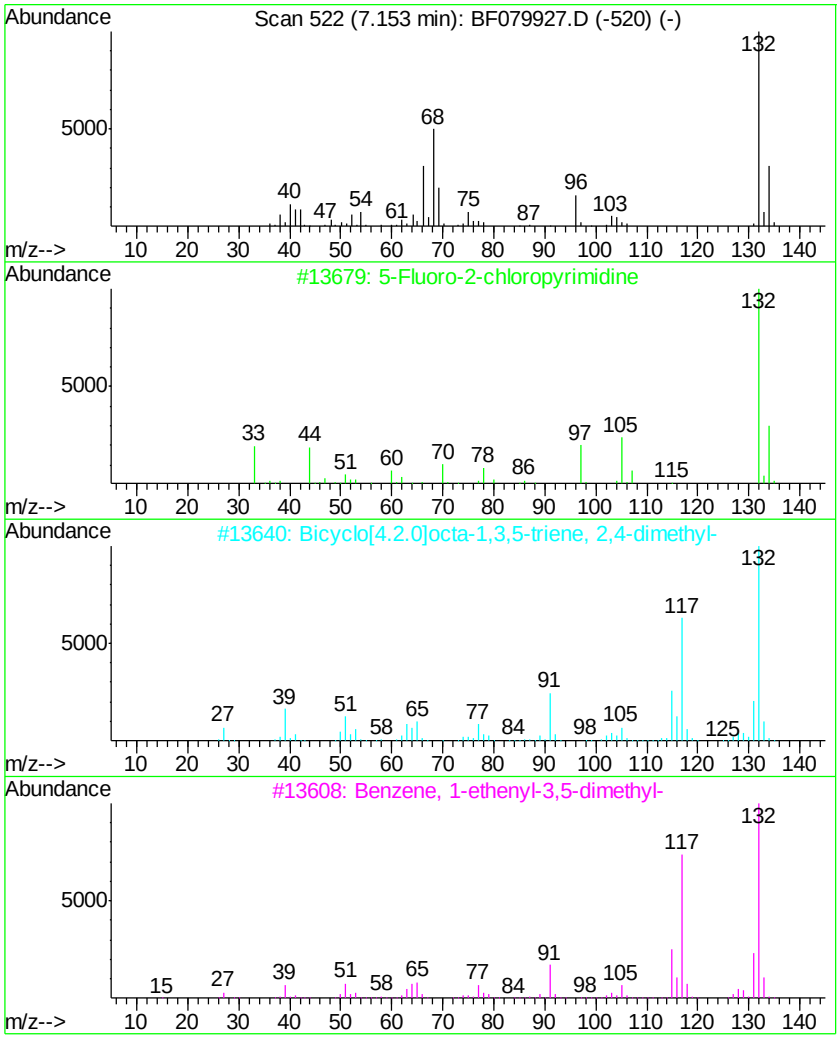
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

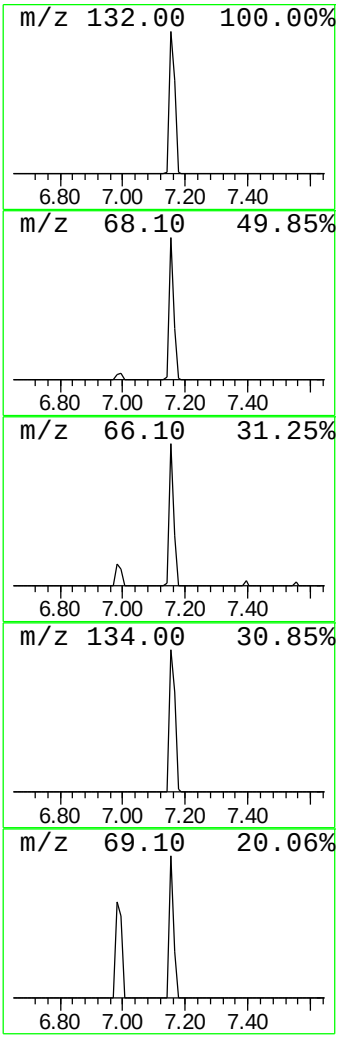
**********

Peak Number 4 unknown7.15 Concentration Rank 4

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 7.15 | 20.05 ng | 319906 | 1,4-Dichlorobenzene-d4 | 7.39 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 5-Fluoro-2-chloropyrimidine | 132 | C4H2ClFN2 | 062802-42-0 | 12 |
| 2 | Bicyclo[4.2.0]octa-1,3,5-triene,... | 132 | C10H12 | 028749-81-7 | 9 |
| 3 | Benzene, 1-ethenyl-3,5-dimethyl- | 132 | C10H12 | 005379-20-4 | 9 |
| 4 | Xenon | 132 | Xe | 007440-63-3 | 9 |
| 5 | (E)-3-Chloro-2-methyl-2-pentenal | 132 | C6H9ClO | 031357-76-3 | 9 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

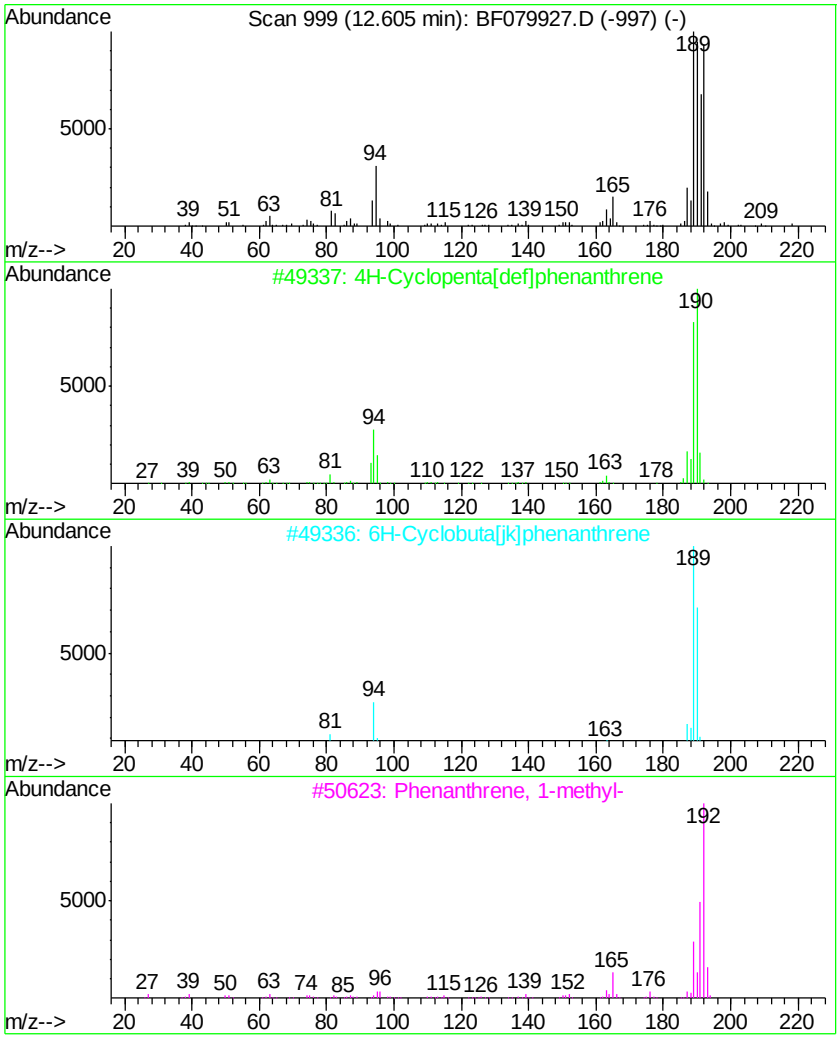
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

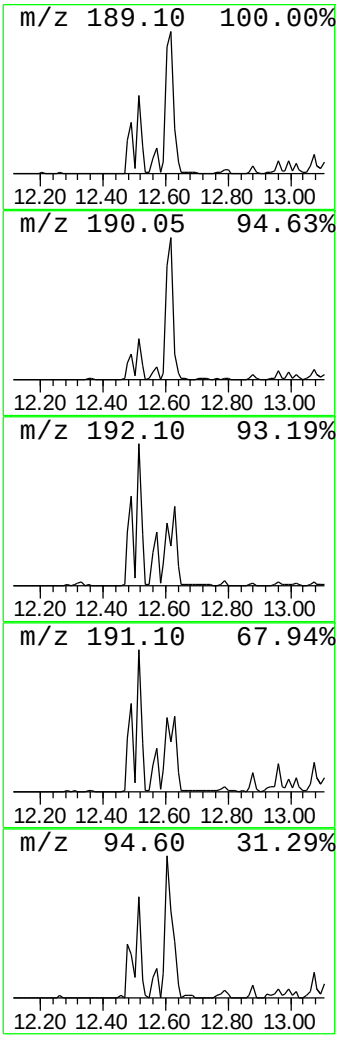
**********

Peak Number 6 4H-Cyclopenta[def]phenanthrene Concentration Rank 14

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 12.61 | 3.56 ng | 751006 | Phenanthrene-d10 | 11.97 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 4H-Cyclopenta[def]phenanthrene | 190 | C15H10 | 000203-64-5 | 60 |
| 2 | 6H-Cyclobuta[jk]phenanthrene | 190 | C15H10 | 083469-43-6 | 49 |
| 3 | Phenanthrene, 1-methyl- | 192 | C15H12 | 000832-69-9 | 42 |
| 4 | Phenanthrene, 2-methyl- | 192 | C15H12 | 002531-84-2 | 42 |
| 5 | Phenanthrene, 4-methyl- | 192 | C15H12 | 000832-64-4 | 42 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

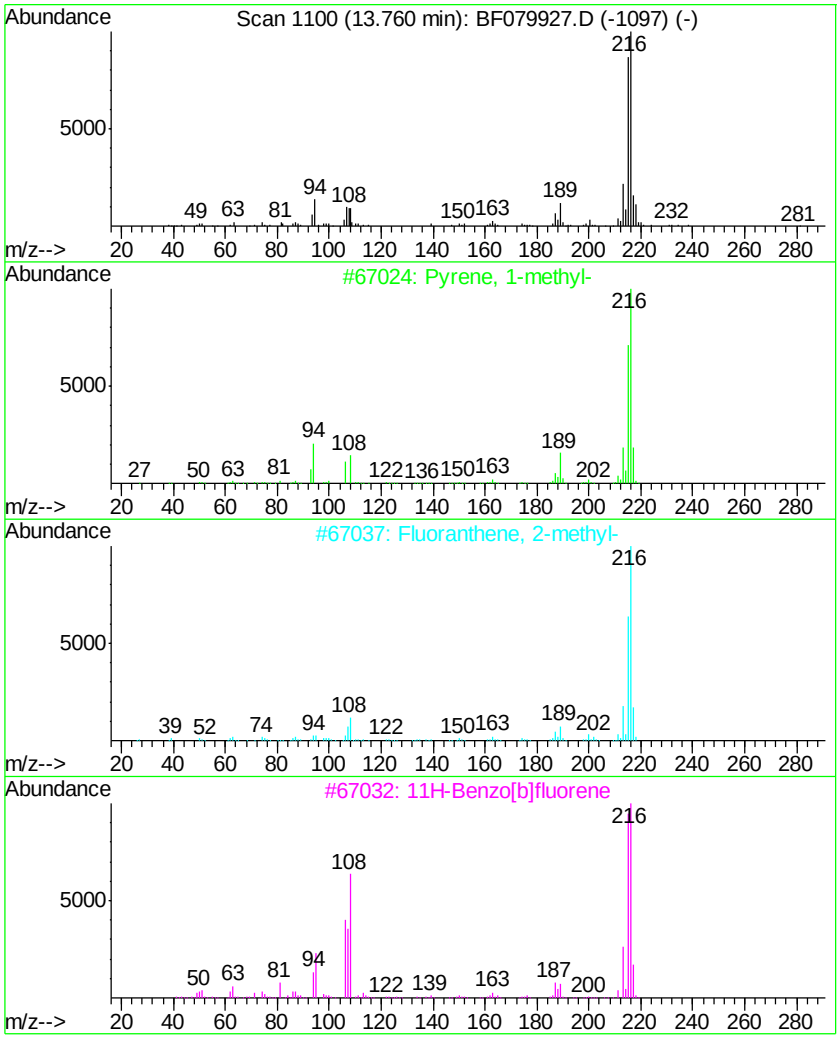
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

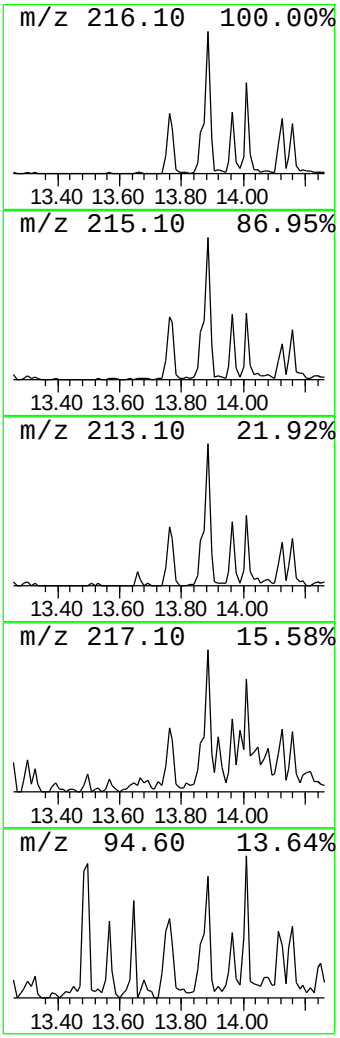
**********

Peak Number 7 Pyrene, 1-methyl- Concentration Rank 15

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.76 | 3.28 ng | 412307 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 97 |
| 2 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 93 |
| 3 | 11H-Benzo[b]fluorene | 216 | C17H12 | 000243-17-4 | 87 |
| 4 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 87 |
| 5 | 7H-Benzo[c]fluorene | 216 | C17H12 | 000205-12-9 | 68 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

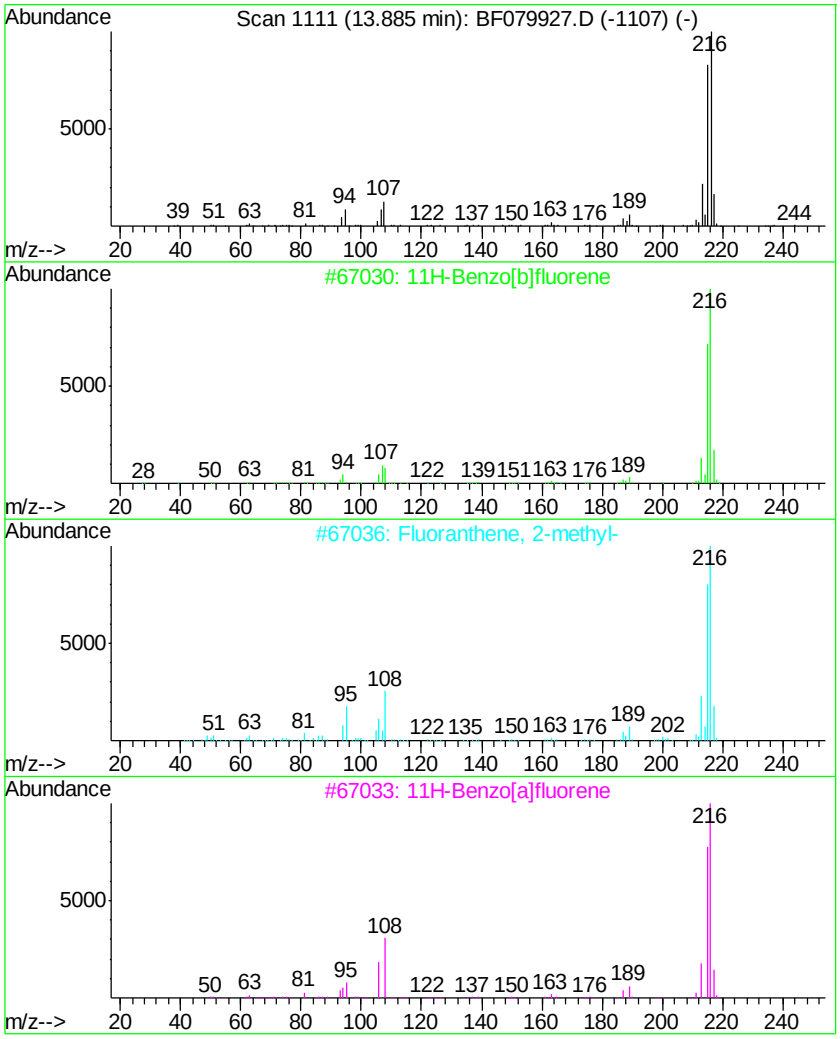
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

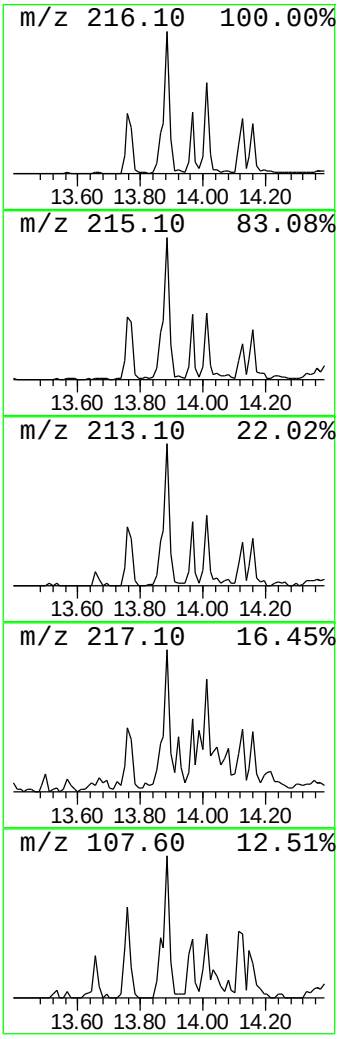
**********

Peak Number 8 11H-Benzo[b]fluorene Concentration Rank 12

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 13.89 | 3.65 ng | 457975 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 11H-Benzo[b]fluorene | 216 | C17H12 | 000243-17-4 | 96 |
| 2 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 95 |
| 3 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 93 |
| 4 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 93 |
| 5 | 7H-Benzo[c]fluorene | 216 | C17H12 | 000205-12-9 | 87 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

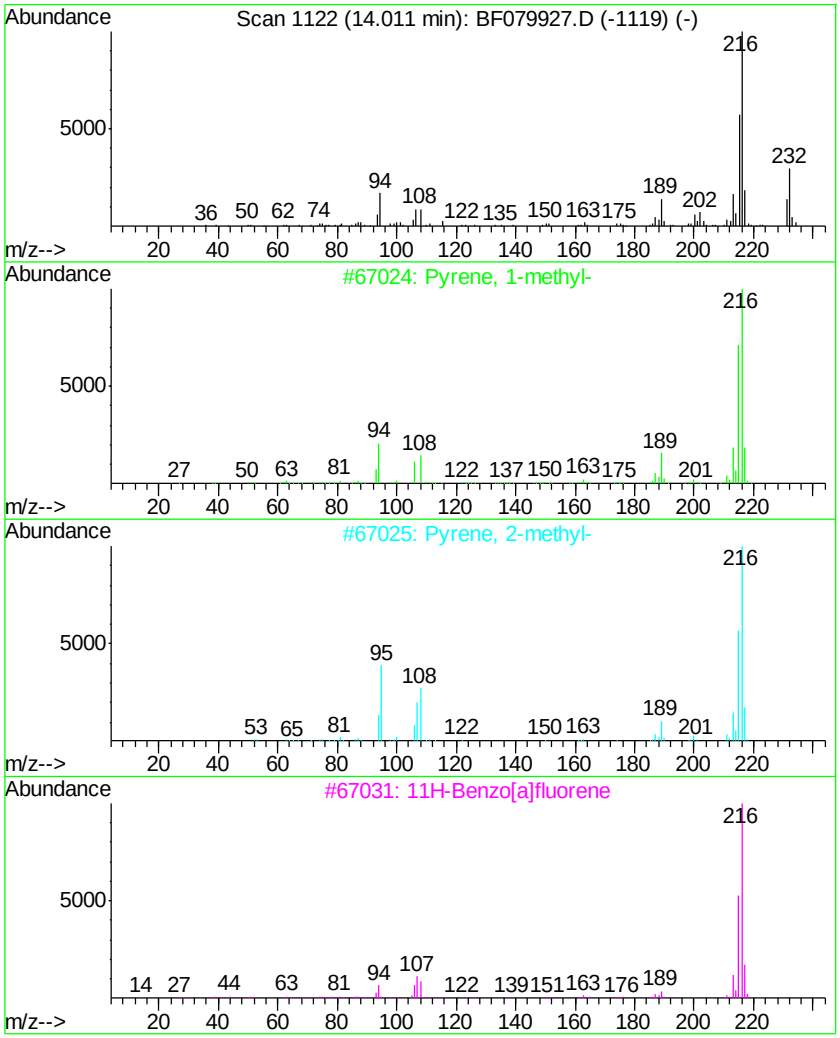
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

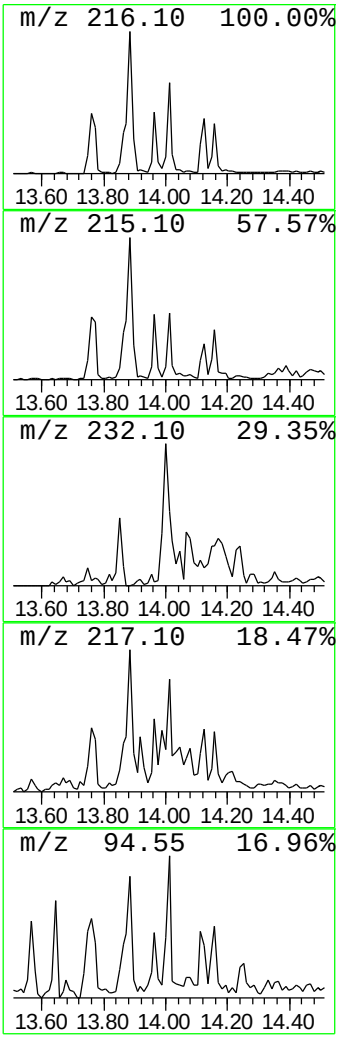
**********

Peak Number 9 Pyrene, 2-methyl- Concentration Rank 19

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.01 | 2.51 ng | 314655 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Pyrene, 1-methyl- | 216 | C17H12 | 002381-21-7 | 96 |
| 2 | Pyrene, 2-methyl- | 216 | C17H12 | 003442-78-2 | 90 |
| 3 | 11H-Benzo[a]fluorene | 216 | C17H12 | 000238-84-6 | 76 |
| 4 | Fluoranthene, 2-methyl- | 216 | C17H12 | 033543-31-6 | 70 |
| 5 | Pyrene, 4-methyl- | 216 | C17H12 | 003353-12-6 | 64 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

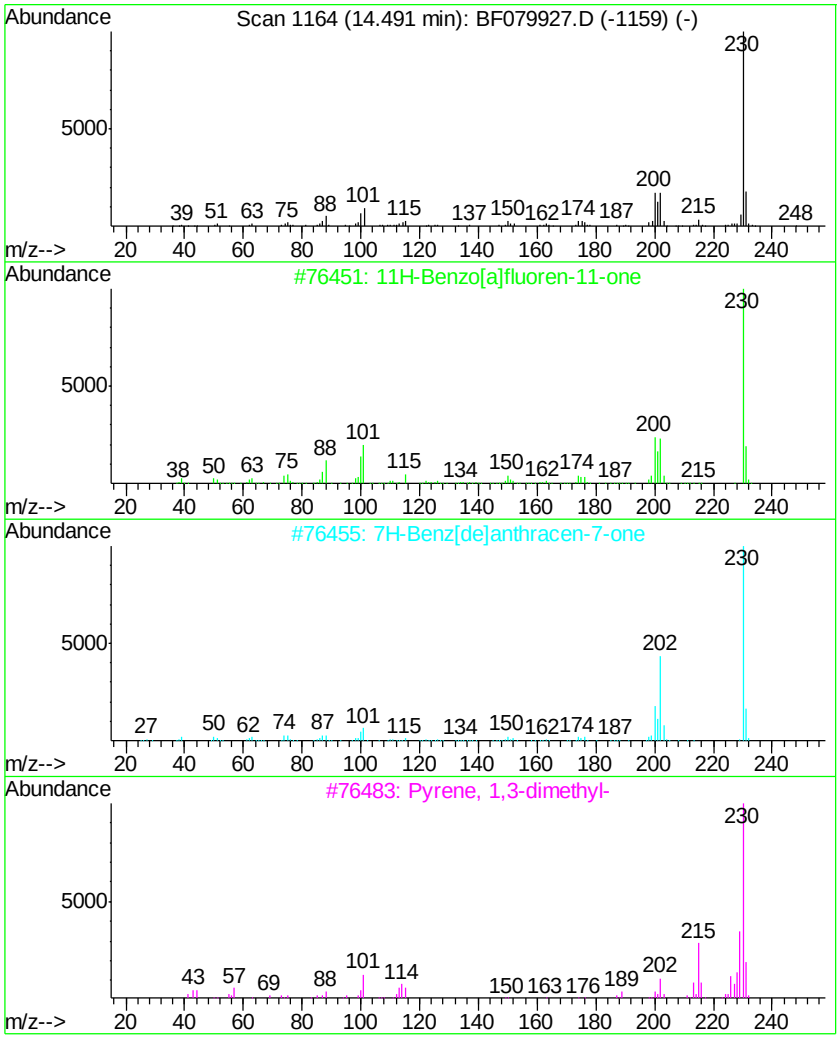
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

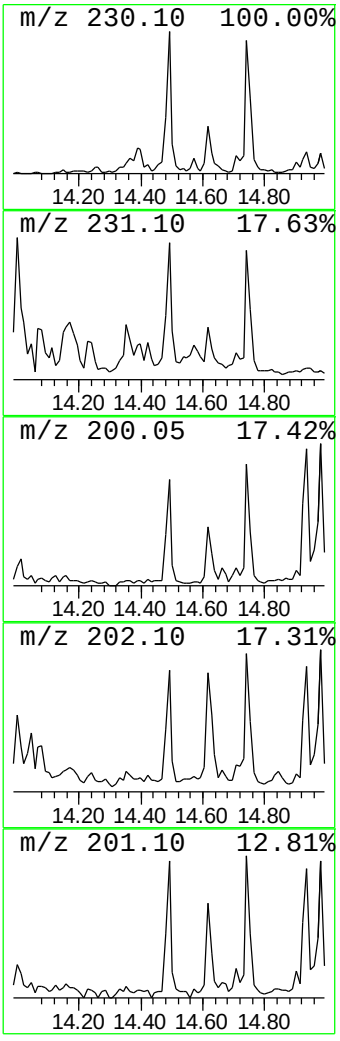
**********

Peak Number 10 11H-Benzo[a]fluoren-11-one Concentration Rank 20

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.49 | 2.47 ng | 310505 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 11H-Benzo[a]fluoren-11-one | 230 | C17H10O | 000479-79-8 | 97 |
| 2 | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 91 |
| 3 | Pyrene, 1,3-dimethyl- | 230 | C18H14 | 064401-21-4 | 72 |
| 4 | (E)-.alpha.,.alpha.'-Dicyanostil... | 230 | C16H10N2 | 002450-55-7 | 72 |
| 5 | o-Terphenyl | 230 | C18H14 | 000084-15-1 | 64 |



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Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

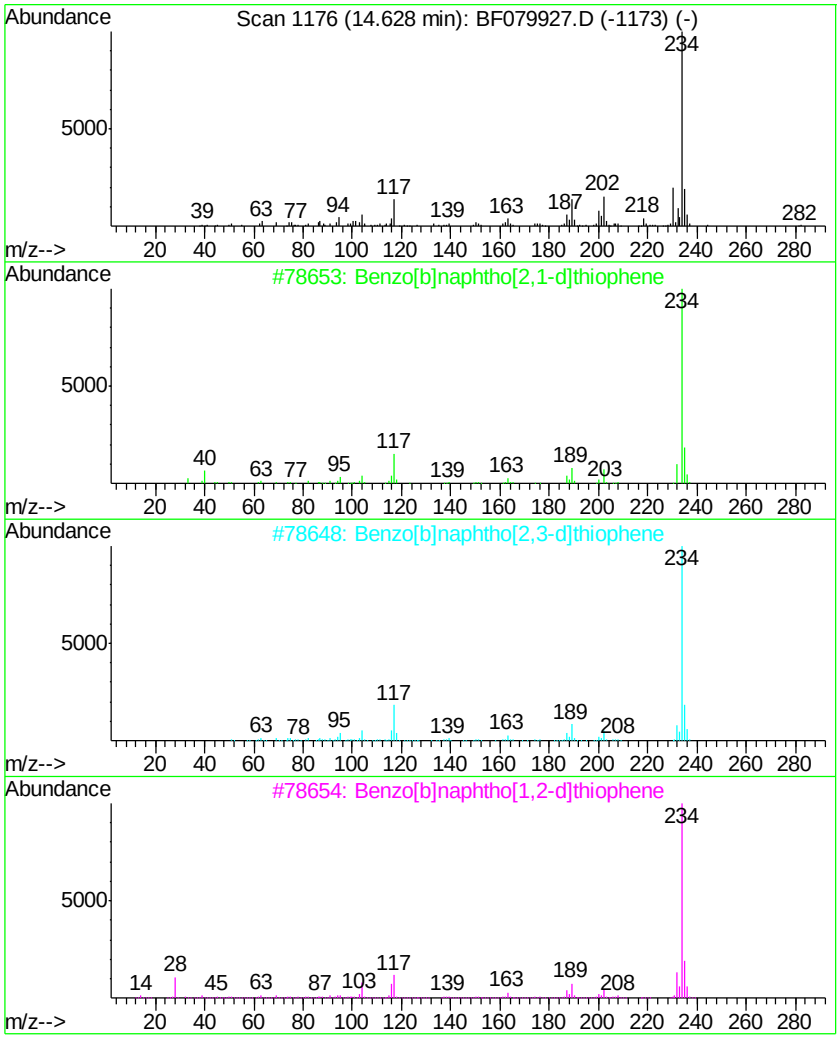
TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

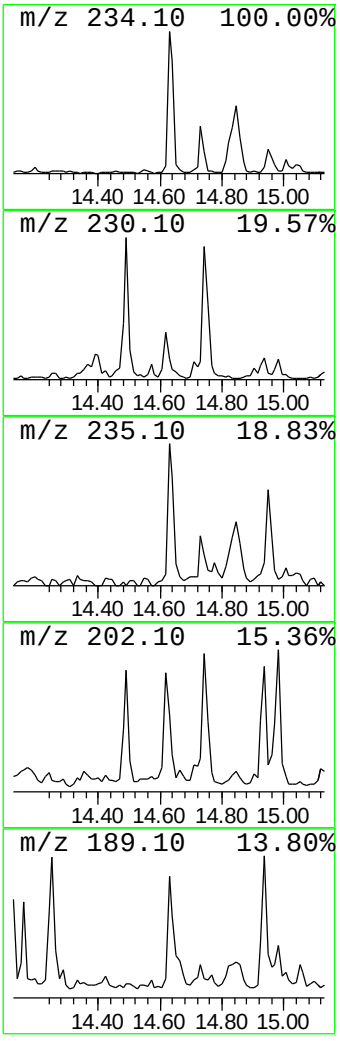
**********

Peak Number 11 Benzo[b]naphtho[2,1-d]thiop... Concentration Rank 18

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.63 | 2.51 ng | 315362 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[b]naphtho[2,1-d]thiophene | 234 | C16H10S | 000239-35-0 | 93 |
| 2 | Benzo[b]naphtho[2,3-d]thiophene | 234 | C16H10S | 000243-46-9 | 91 |
| 3 | Benzo[b]naphtho[1,2-d]thiophene | 234 | C16H10S | 000205-43-6 | 68 |
| 4 | Phenanthrene, 3,4,5,6-tetramethyl- | 234 | C18H18 | 007343-06-8 | 53 |
| 5 | Quinoxalino[2,3-b]quinoxaline, 5... | 234 | C14H10N4 | 000531-46-4 | 52 |



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Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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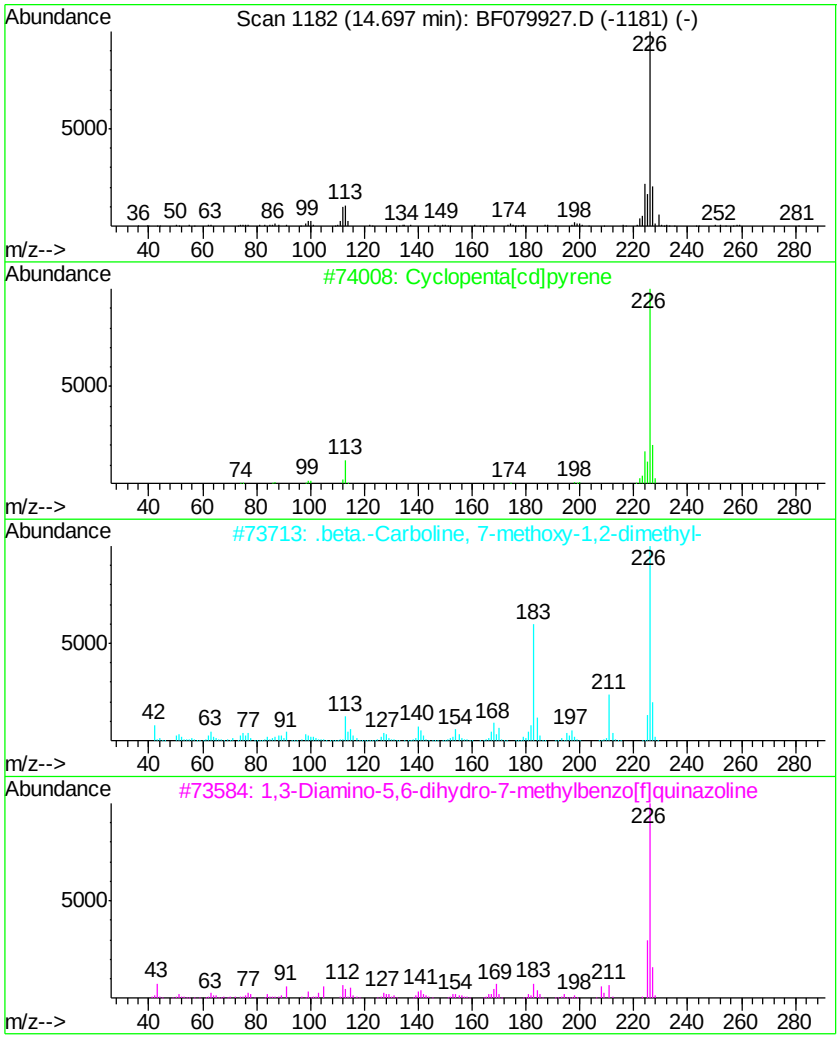
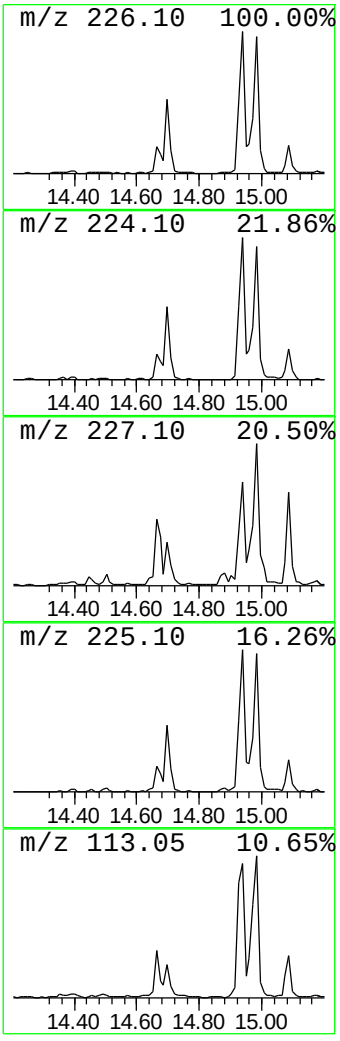
Peak Number 12 Cyclopenta[cd]pyrene Concentration Rank 17

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.70 | 2.60 ng | 325993 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Cyclopenta[cd]pyrene | 226 | C18H10 | 027208-37-3 | 81 |
| 2 | .beta.-Carboline, 7-methoxy-1,2-... | 226 | C14H14N2O | 006519-18-2 | 53 |
| 3 | 1,3-Diamino-5,6-dihydro-7-methyl... | 226 | C13H14N4 | 037436-37-6 | 42 |
| 4 | 9H-Thioxanthen-9-one, 2-methyl- | 226 | C14H10OS | 015774-82-0 | 36 |
| 5 | 6-Methyl-4-phenyl-3-cyanopyridin... | 226 | C13H10N2S | 078564-23-5 | 33 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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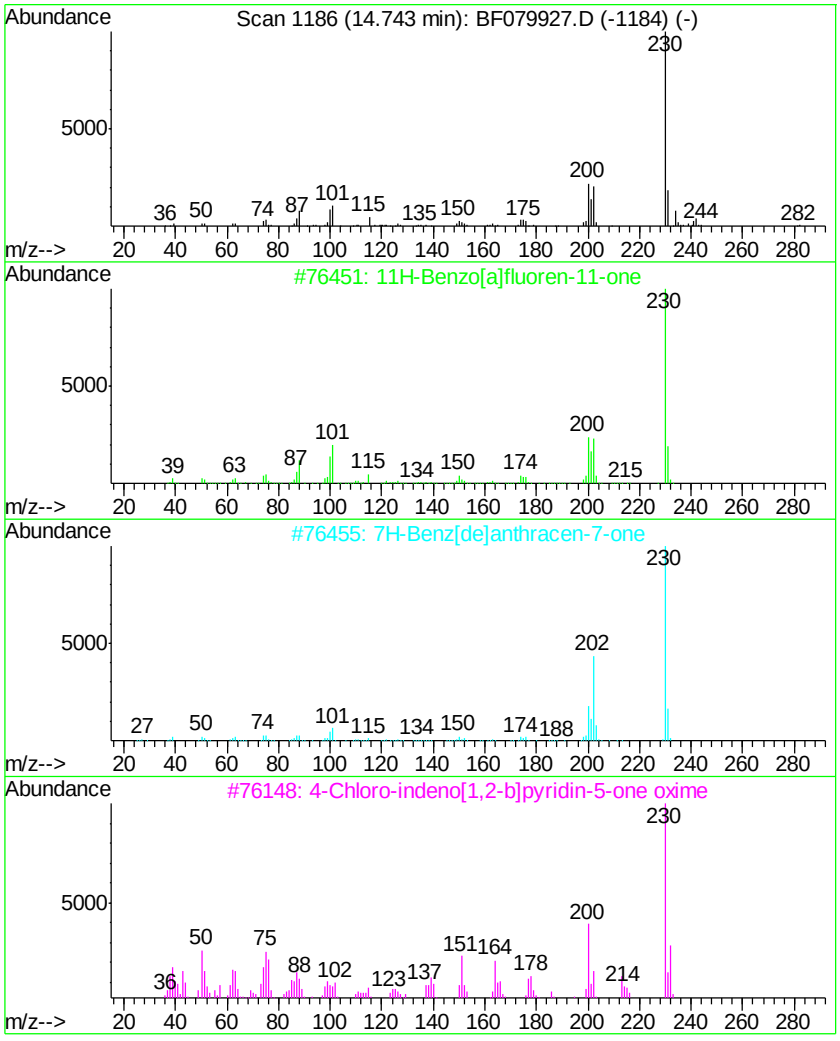
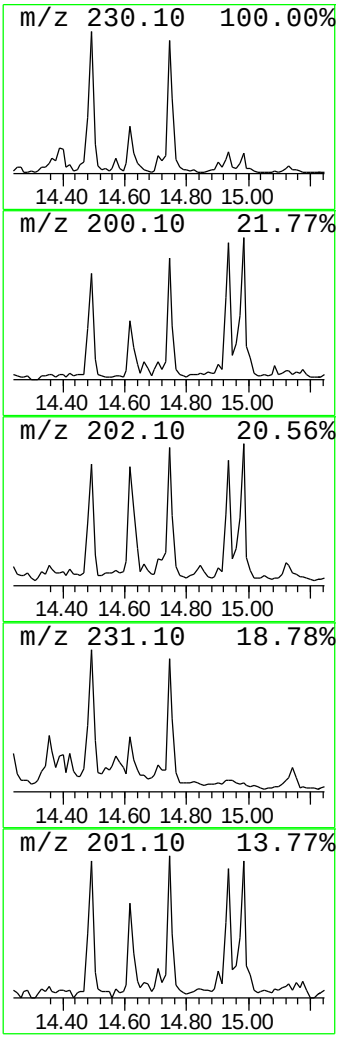
Peak Number 13 7H-Benz[de]anthracen-7-one Concentration Rank 16

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 14.74 | 2.73 ng | 342437 | Chrysene-d12 | 14.95 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | 11H-Benzo[a]fluoren-11-one | 230 | C17H10O | 000479-79-8 | 91 |
| 2 | 7H-Benz[de]anthracen-7-one | 230 | C17H10O | 000082-05-3 | 90 |
| 3 | 4-Chloro-indeno[1,2-b]pyridin-5-... | 230 | C12H7ClN2O | 1000294-18-6 | 58 |
| 4 | (E)-.alpha.,.alpha.'-Dicyanostil... | 230 | C16H10N2 | 002450-55-7 | 50 |
| 5 | Pyrene, 1,3-dimethyl- | 230 | C18H14 | 064401-21-4 | 47 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
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Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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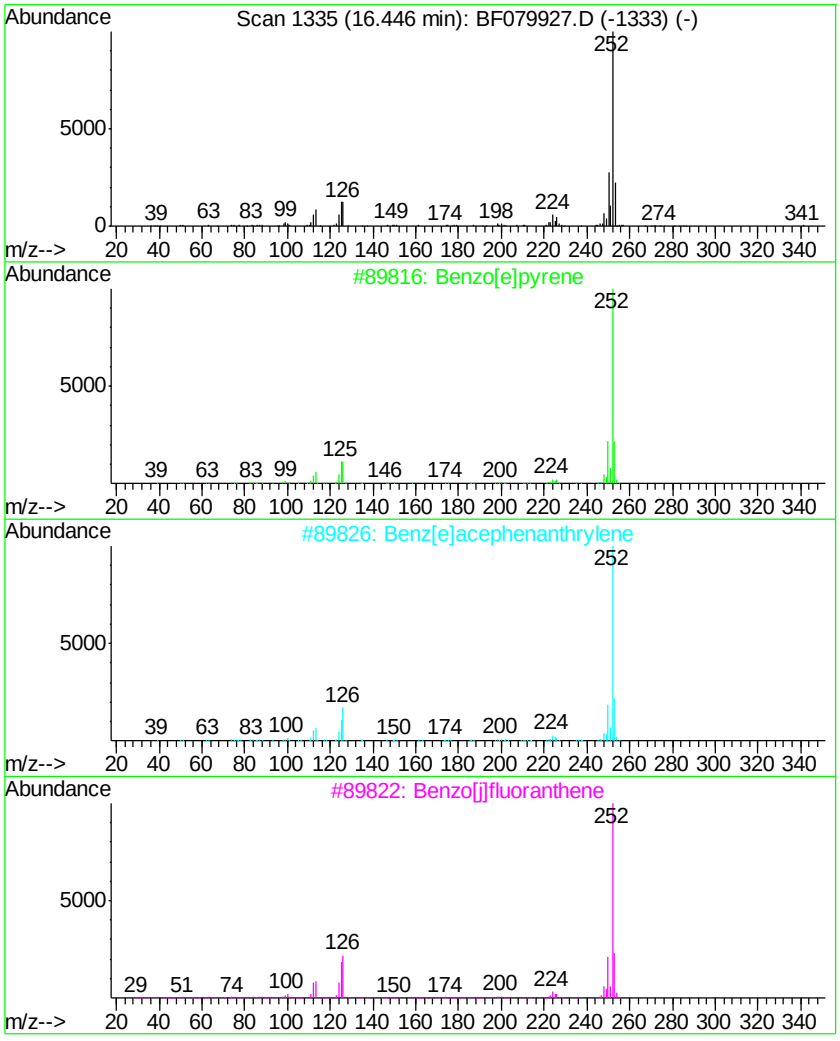
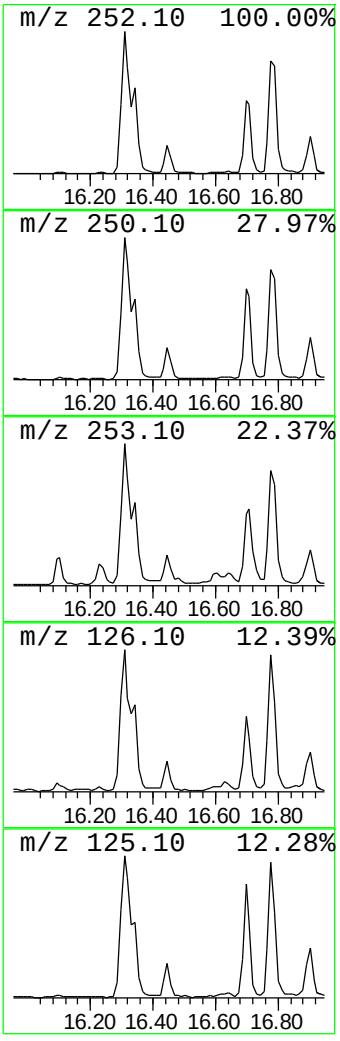
Peak Number 15 Benzo[e]pyrene Concentration Rank 9

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.45 | 5.92 ng | 226880 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[e]pyrene | 252 | C20H12 | 000192-97-2 | 93 |
| 2 | Benz[e]acephenanthrylene | 252 | C20H12 | 000205-99-2 | 93 |
| 3 | Benzo[j]fluoranthene | 252 | C20H12 | 000205-82-3 | 90 |
| 4 | Perylene | 252 | C20H12 | 000198-55-0 | 90 |
| 5 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 90 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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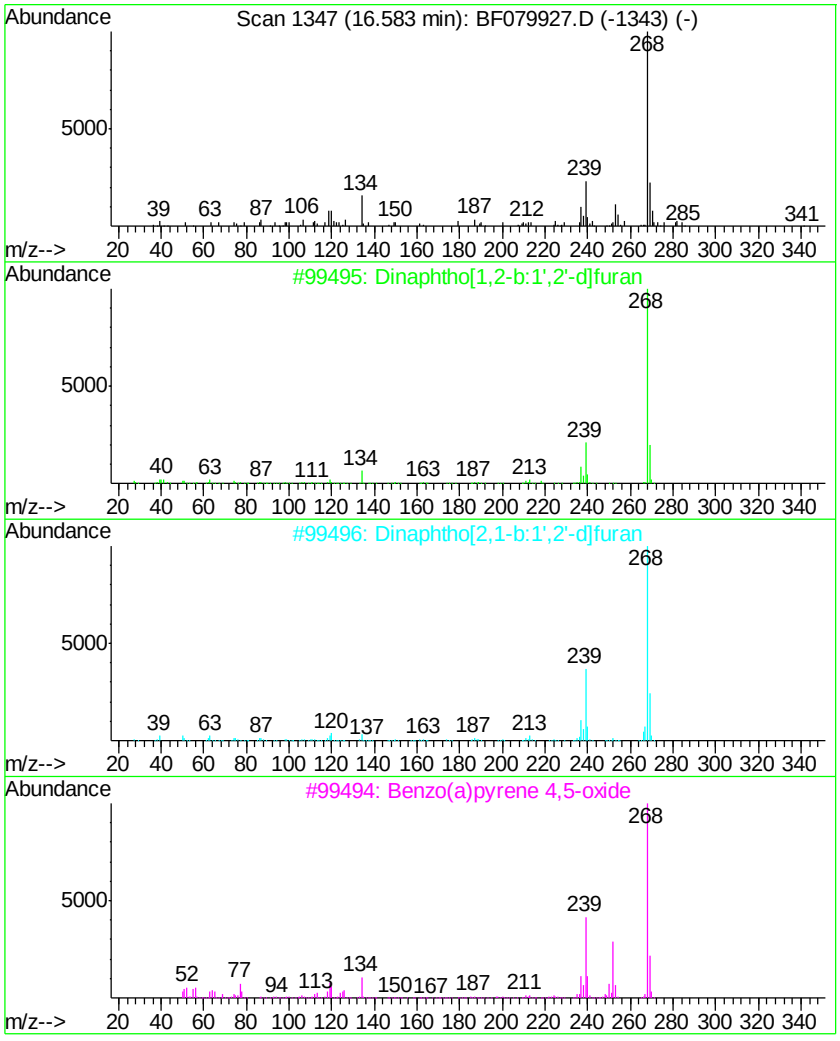
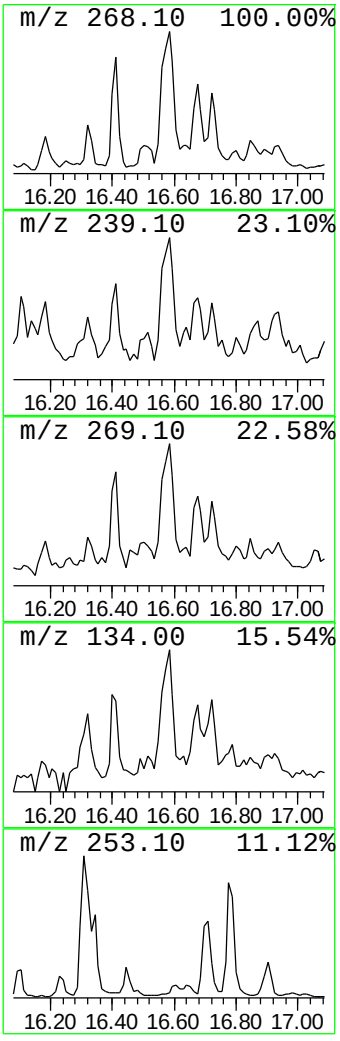
Peak Number 16 Dinaphtho[1,2-b:1',2'-d]furan Concentration Rank 11

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.58 | 4.92 ng | 188284 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Dinaphtho[1,2-b:1',2'-d]furan | 268 | C20H12O | 000207-93-2 | 87 |
| 2 | Dinaphtho[2,1-b:1',2'-d]furan | 268 | C20H12O | 000194-63-8 | 83 |
| 3 | Benzo(a)pyrene 4,5-oxide | 268 | C20H12O | 037574-47-3 | 64 |
| 4 | 9,10-Anthracenedione, 1,5-dimeth... | 268 | C16H12O4 | 006448-90-4 | 59 |
| 5 | 9,10-Anthracenedione, 1,4,5,8-te... | 268 | C14H12N4O2 | 002475-45-8 | 59 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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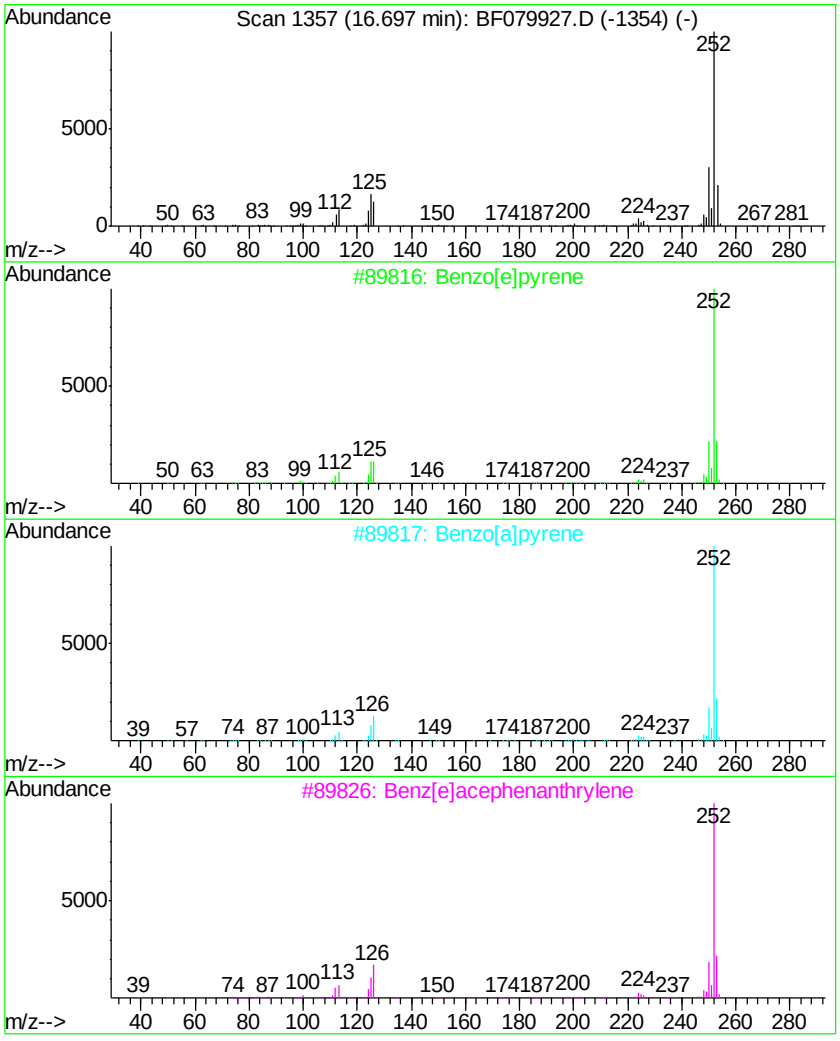
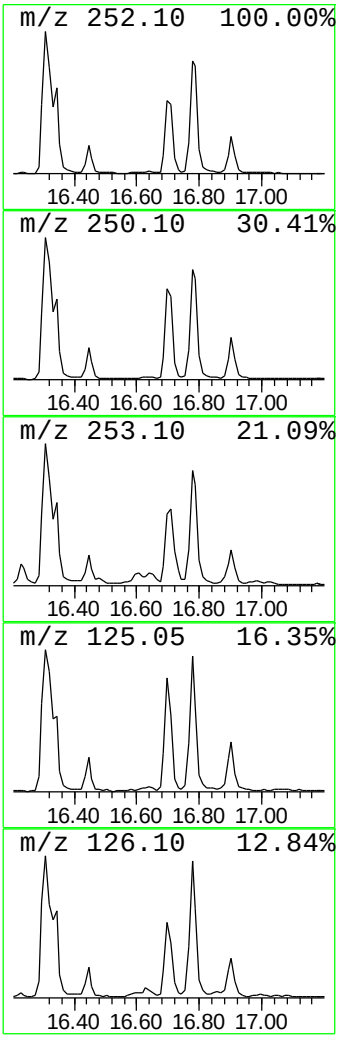
Peak Number 17 Perylene Concentration Rank 3

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 16.70 | 22.92 ng | 878096 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Benzo[e]pyrene | 252 | C20H12 | 000192-97-2 | 96 |
| 2 | Benzo[a]pyrene | 252 | C20H12 | 000050-32-8 | 93 |
| 3 | Benz[e]acephenanthrylene | 252 | C20H12 | 000205-99-2 | 93 |
| 4 | Benzo[k]fluoranthene | 252 | C20H12 | 000207-08-9 | 93 |
| 5 | Perylene | 252 | C20H12 | 000198-55-0 | 89 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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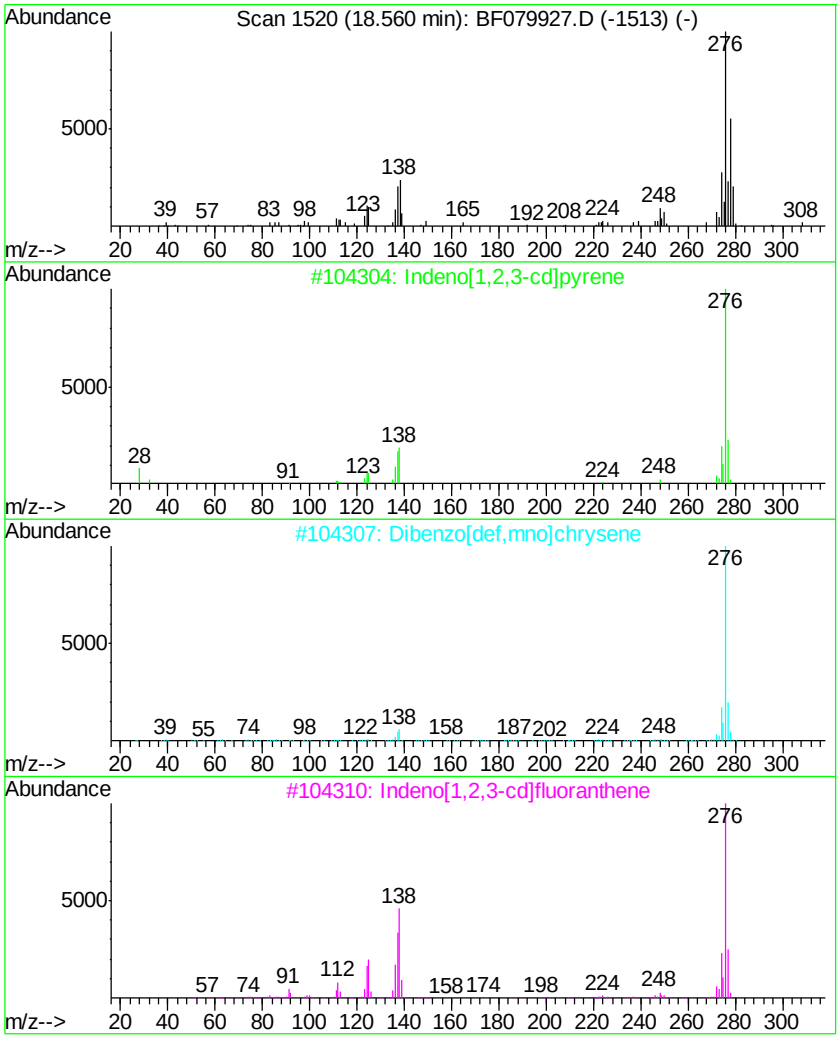
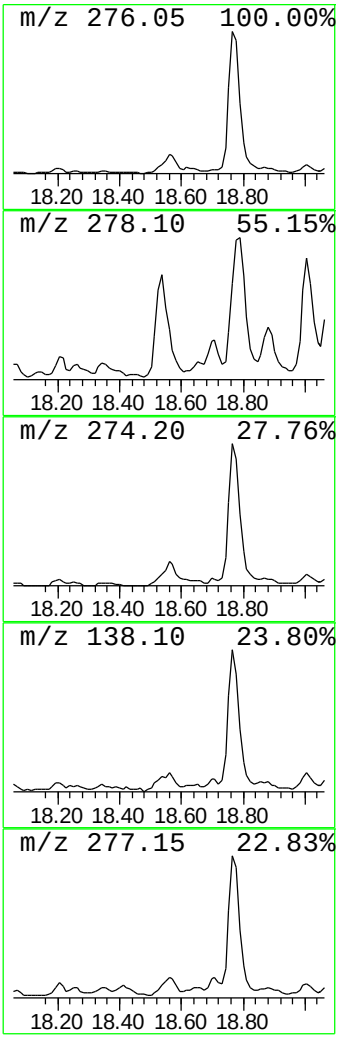
Peak Number 18 Dibenzo[def,mno]chrysene Concentration Rank 7

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 18.56 | 6.71 ng | 256970 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Indeno[1,2,3-cd]pyrene | 276 | C22H12 | 000193-39-5 | 93 |
| 2 | Dibenzo[def,mno]chrysene | 276 | C22H12 | 000191-26-4 | 91 |
| 3 | Indeno[1,2,3-cd]fluoranthene | 276 | C22H12 | 000193-43-1 | 83 |
| 4 | Benzo[ghi]perylene | 276 | C22H12 | 000191-24-2 | 64 |
| 5 | Phenol, 2-(4-chlorophenyliminome... | 276 | C13H9ClN2O3 | 1000262-90-3 | 47 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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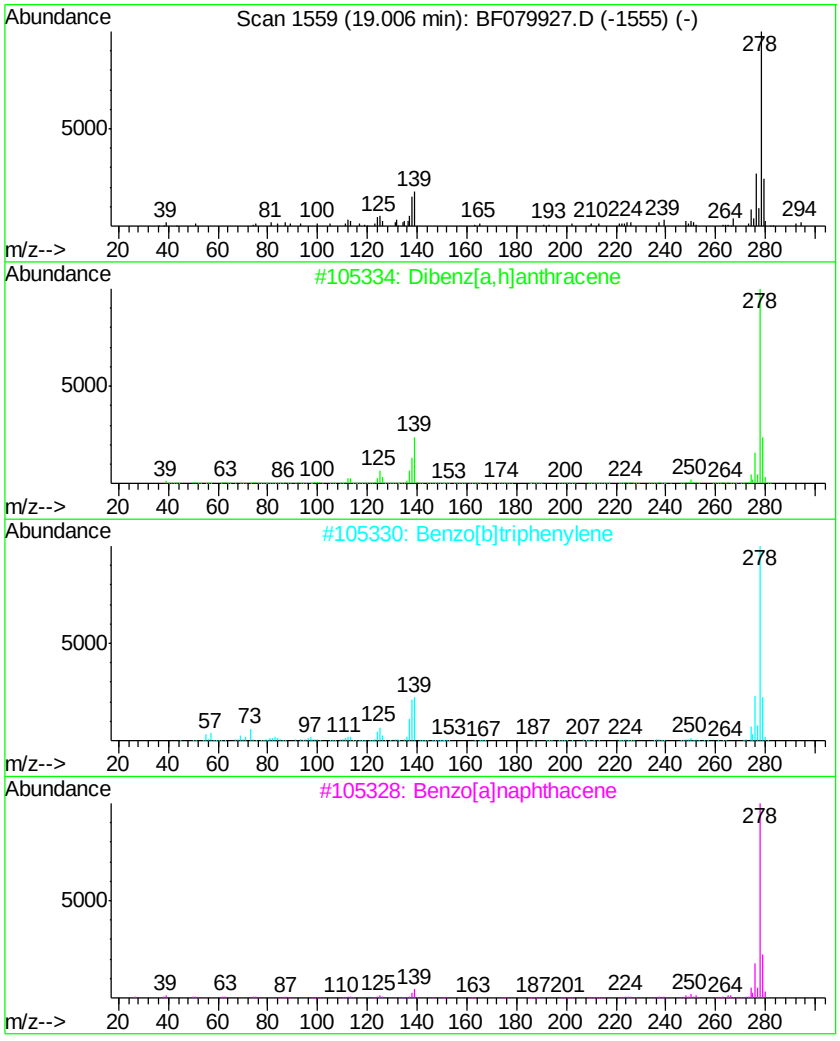
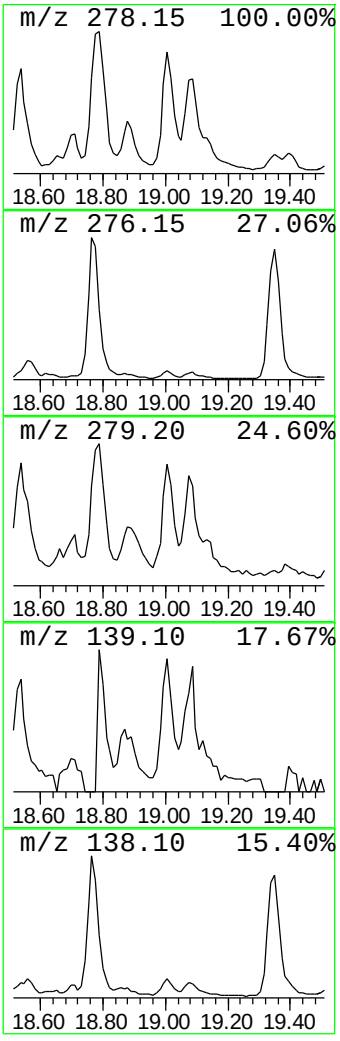
Peak Number 19 Benzo[b]triphenylene Concentration Rank 13

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.01 | 3.64 ng | 139365 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Dibenz[a,h]anthracene | 278 | C22H14 | 000053-70-3 | 94 |
| 2 | Benzo[b]triphenylene | 278 | C22H14 | 000215-58-7 | 93 |
| 3 | Benzo[a]naphthacene | 278 | C22H14 | 000226-88-0 | 91 |
| 4 | 1,2:7,8-Dibenzophenanthrene | 278 | C22H14 | 000213-46-7 | 90 |
| 5 | Naphtho[1,2-a]anthracene | 278 | C22H14 | 000195-06-2 | 90 |



Data Path : Z:\HPCHEM1\BNA F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

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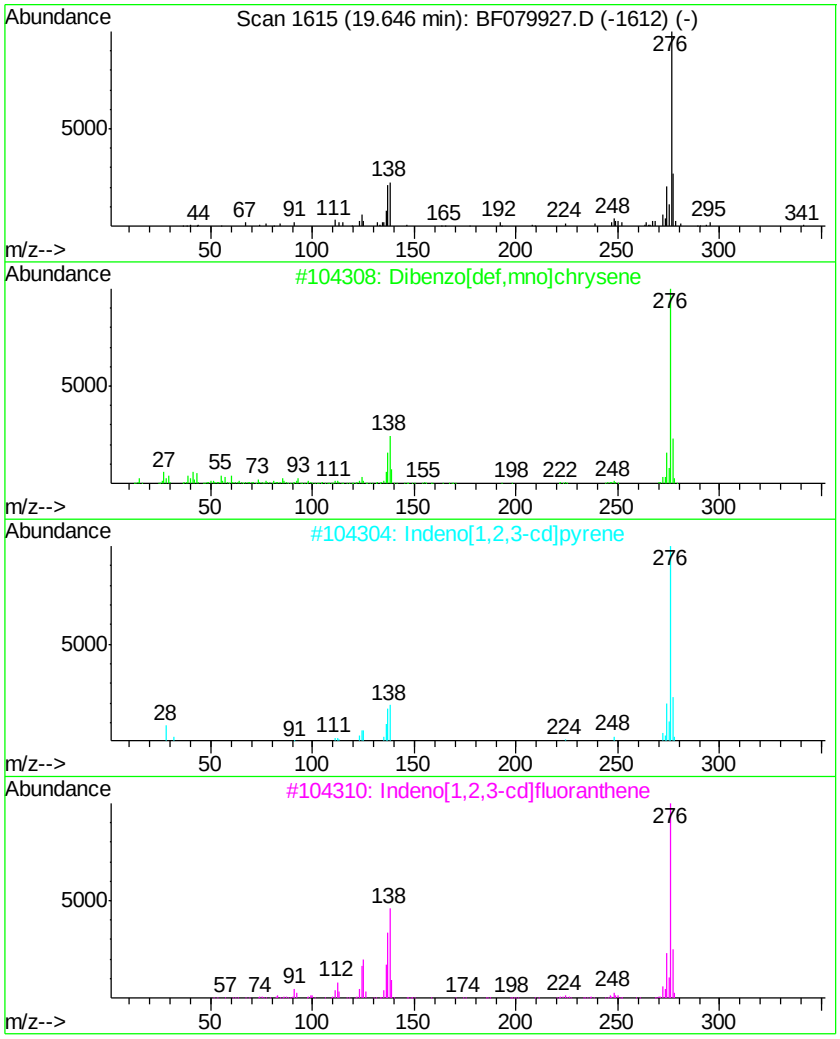
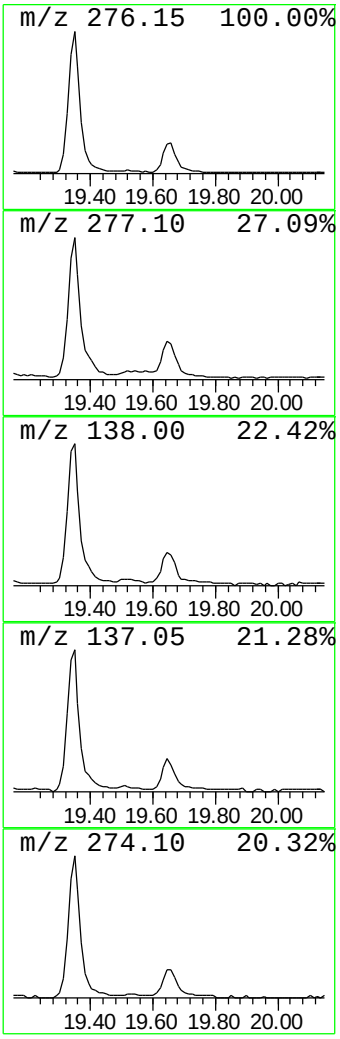
Peak Number 20 Indeno[1,2,3-cd]fluoranthene Concentration Rank 8

| R.T. | EstConc | Area | Relative to ISTD | R.T. |
|---|---|---|---|---|
| 19.65 | 6.19 ng | 237217 | Perylene-d12 | 16.87 |

| Hit# of 5 | Tentative ID | MW | MolForm | CAS# | Qual |
|---|---|---|---|---|---|
| 1 | Dibenzo[def,mno]chrysene | 276 | C22H12 | 000191-26-4 | 94 |
| 2 | Indeno[1,2,3-cd]pyrene | 276 | C22H12 | 000193-39-5 | 93 |
| 3 | Indeno[1,2,3-cd]fluoranthene | 276 | C22H12 | 000193-43-1 | 91 |
| 4 | Benzo[ghi]perylene | 276 | C22H12 | 000191-24-2 | 91 |
| 5 | Phenol, 2-(4-chlorophenyliminome... | 276 | C13H9ClN2O3 | 1000262-90-3 | 53 |



Tentatively Identified Compound (LSC) summary

Data Path : Z:\HPCHEM1\BNA_F\DATA\BF061115\
Data File : BF079927.D
Acq On : 12 Jun 2015 8:13
Operator : TP/IZ
Sample : G2449-04 5X
Misc :
ALS Vial : 38 Sample Multiplier: 1

**Instrument :** BNA_F
**ClientSampleId :** FM3

Quant Method : Z:\HPCHEM1\BNA_F\METHODS\8270-BF061115.M
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST02.L
TIC Integration Parameters: LSCINT.P

| | | | | | Internal Standard | | | |
|---|---|---|---|---|---|---|---|---|
| TIC Top Hit name | RT | EstConc | Units | Response | # | RT | Resp | Conc |
| Ethene, 1,2-dichl... | 1.36 | 9.9 | ng | 158587 | 1 | 7.39 | 319071 | 20.0 |
| Propane, 2,2-dime... | 2.26 | 89.6 | ng | 1429410 | 1 | 7.39 | 319071 | 20.0 |
| unknown7.15 | 7.15 | 20.1 | ng | 319906 | 1 | 7.39 | 319071 | 20.0 |
| 4H-Cyclopenta[def... | 12.61 | 3.6 | ng | 751006 | 4 | 11.97 | 4214050 | 20.0 |
| Pyrene, 1-methyl- | 13.76 | 3.3 | ng | 412307 | 5 | 14.95 | 2511140 | 20.0 |
| 11H-Benzo[b]fluorene | 13.89 | 3.6 | ng | 457975 | 5 | 14.95 | 2511140 | 20.0 |
| Pyrene, 2-methyl- | 14.01 | 2.5 | ng | 314655 | 5 | 14.95 | 2511140 | 20.0 |
| 11H-Benzo[a]fluor... | 14.49 | 2.5 | ng | 310505 | 5 | 14.95 | 2511140 | 20.0 |
| Benzo[b]naphtho[2... | 14.63 | 2.5 | ng | 315362 | 5 | 14.95 | 2511140 | 20.0 |
| Cyclopenta[cd]pyrene | 14.70 | 2.6 | ng | 325993 | 5 | 14.95 | 2511140 | 20.0 |
| 7H-Benz[de]anthra... | 14.74 | 2.7 | ng | 342437 | 5 | 14.95 | 2511140 | 20.0 |
| Benzo[e]pyrene | 16.45 | 5.9 | ng | 226880 | 6 | 16.87 | 766144 | 20.0 |
| Dinaphtho[1,2-b:1... | 16.58 | 4.9 | ng | 188284 | 6 | 16.87 | 766144 | 20.0 |
| Perylene | 16.70 | 22.9 | ng | 878096 | 6 | 16.87 | 766144 | 20.0 |
| Dibenzo[def,mno]c... | 18.56 | 6.7 | ng | 256970 | 6 | 16.87 | 766144 | 20.0 |
| Benzo[b]triphenylene | 19.01 | 3.6 | ng | 139365 | 6 | 16.87 | 766144 | 20.0 |
| Indeno[1,2,3-cd]f... | 19.65 | 6.2 | ng | 237217 | 6 | 16.87 | 766144 | 20.0 |