

Method Path : Z:\svoasrv\HPCHEM1\BNA\_F\Methods\  
 Method File : 8270-BF012524.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION  
 Last Update : Thu Jan 25 23:14:32 2024  
 Response Via : Initial Calibration

## Calibration Files

2.5 =BF137140.D 5 =BF137141.D 10 =BF137142.D 20 =BF137143.D 40 =BF137144.D 50 =BF137145.D 60 =BF137146.D 80 =BF137147.D

|       | Compound              | 2.5            | 5     | 10    | 20    | 40    | 50    | 60    | 80    | Avg   | %RSD  |
|-------|-----------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1) I  | 1,4-Dichlorobenzen... | -----ISTD----- |       |       |       |       |       |       |       |       |       |
| 2)    | 1,4-Dioxane           | 0.634          | 0.684 | 0.688 | 0.656 | 0.645 | 0.649 | 0.610 | 0.652 |       | 4.22  |
| 3)    | Pyridine              | 1.411          | 1.642 | 1.672 | 1.605 | 1.590 | 1.596 | 1.505 | 1.574 |       | 5.64  |
| 4)    | n-Nitrosodimet...     | 0.838          | 0.933 | 0.973 | 0.951 | 0.932 | 0.924 | 0.870 | 0.917 |       | 5.14  |
| 5) S  | 2-Fluorophenol        | 1.294          | 1.417 | 1.468 | 1.356 | 1.337 | 1.329 | 1.248 | 1.350 |       | 5.45  |
| 6)    | Aniline               | 2.010          | 2.233 | 2.290 | 2.186 | 2.130 | 2.125 | 2.015 | 2.141 |       | 4.90  |
| 7) S  | Phenol-d6             | 1.733          | 1.845 | 1.921 | 1.808 | 1.747 | 1.734 | 1.637 | 1.775 |       | 5.18  |
| 8)    | 2-Chlorophenol        | 1.303          | 1.403 | 1.481 | 1.413 | 1.394 | 1.387 | 1.318 | 1.386 |       | 4.34  |
| 9)    | Benzaldehyde          | 0.993          | 1.071 | 1.113 | 0.984 | 0.915 | 0.806 | 0.636 | 0.931 |       | 17.67 |
| 10) C | Phenol                | 1.999          | 2.153 | 2.160 | 2.057 | 2.012 | 1.973 | 1.839 | 2.028 |       | 5.46  |
| 11)   | bis(2-Chloroet...     | 1.443          | 1.545 | 1.582 | 1.492 | 1.464 | 1.466 | 1.356 | 1.478 |       | 4.94  |
| 12)   | 1,3-Dichlorobe...     | 1.558          | 1.687 | 1.698 | 1.598 | 1.549 | 1.541 | 1.449 | 1.583 |       | 5.53  |
| 13) C | 1,4-Dichlorobe...     | 1.599          | 1.699 | 1.720 | 1.621 | 1.553 | 1.558 | 1.456 | 1.601 |       | 5.65  |
| 14)   | 1,2-Dichlorobe...     | 1.495          | 1.599 | 1.610 | 1.545 | 1.480 | 1.483 | 1.380 | 1.513 |       | 5.26  |
| 15)   | Benzyl Alcohol        | 1.254          | 1.439 | 1.547 | 1.500 | 1.461 | 1.478 | 1.395 | 1.439 |       | 6.56  |
| 16)   | 2,2'-oxybis(1-...     | 2.634          | 2.873 | 2.845 | 2.661 | 2.526 | 2.468 | 2.253 | 2.608 |       | 8.32  |
| 17)   | 2-Methylphenol        | 1.129          | 1.240 | 1.265 | 1.206 | 1.177 | 1.175 | 1.120 | 1.187 |       | 4.52  |
| 18)   | Hexachloroethane      | 0.483          | 0.536 | 0.573 | 0.560 | 0.556 | 0.554 | 0.521 | 0.540 |       | 5.66  |
| 19) P | n-Nitroso-di-n...     | 1.212          | 1.178 | 1.248 | 1.267 | 1.219 | 1.192 | 1.173 | 1.118 | 1.201 | 3.89  |
| 20)   | 3+4-Methylphenols     | 1.438          | 1.608 | 1.642 | 1.541 | 1.444 | 1.465 | 1.365 | 1.501 |       | 6.67  |
| 21) I | Naphthalene-d8        | -----ISTD----- |       |       |       |       |       |       |       |       |       |
| 22)   | Acetophenone          | 0.589          | 0.603 | 0.613 | 0.570 | 0.551 | 0.538 | 0.516 | 0.569 |       | 6.25  |
| 23) S | Nitrobenzene-d5       | 0.342          | 0.392 | 0.449 | 0.461 | 0.450 | 0.455 | 0.437 | 0.427 |       | 10.22 |
| 24)   | Nitrobenzene          | 0.356          | 0.404 | 0.459 | 0.459 | 0.448 | 0.452 | 0.424 | 0.429 |       | 8.85  |
| 25)   | Isophorone            | 0.840          | 0.876 | 0.890 | 0.851 | 0.828 | 0.822 | 0.791 | 0.842 |       | 3.99  |
| 26) C | 2-Nitrophenol         | 0.067          | 0.094 | 0.120 | 0.139 | 0.146 | 0.152 | 0.154 | 0.125 |       | 26.65 |
| 27)   | 2,4-Dimethylph...     | 0.246          | 0.268 | 0.270 | 0.256 | 0.251 | 0.251 | 0.242 | 0.255 |       | 4.13  |
| 28)   | bis(2-Chloroet...     | 0.476          | 0.482 | 0.506 | 0.480 | 0.468 | 0.467 | 0.444 | 0.475 |       | 3.94  |
| 29) C | 2,4-Dichloroph...     | 0.289          | 0.308 | 0.328 | 0.316 | 0.306 | 0.306 | 0.290 | 0.306 |       | 4.55  |
| 30)   | 1,2,4-Trichlor...     | 0.355          | 0.378 | 0.391 | 0.367 | 0.354 | 0.351 | 0.328 | 0.361 |       | 5.74  |
| 31)   | Naphthalene           | 1.095          | 1.150 | 1.150 | 1.086 | 1.052 | 1.049 | 0.978 | 1.080 |       | 5.62  |
| 32)   | Benzoic acid          |                | 0.089 | 0.123 | 0.144 | 0.160 | 0.177 | 0.186 | 0.147 |       | 24.57 |
| 33)   | 4-Chloroaniline       | 0.396          | 0.423 | 0.438 | 0.414 | 0.407 | 0.400 | 0.376 | 0.408 |       | 4.88  |
| 34) C | Hexachlorobuta...     | 0.238          | 0.254 | 0.256 | 0.240 | 0.236 | 0.230 | 0.216 | 0.239 |       | 5.82  |
| 35)   | Caprolactam           | 0.083          | 0.090 | 0.096 | 0.094 | 0.095 | 0.094 | 0.095 | 0.092 |       | 5.21  |
| 36) C | 4-Chloro-3-met...     | 0.328          | 0.349 | 0.372 | 0.363 | 0.348 | 0.347 | 0.333 | 0.349 |       | 4.41  |
| 37)   | 2-Methylnaphth...     | 0.741          | 0.770 | 0.768 | 0.734 | 0.713 | 0.705 | 0.660 | 0.727 |       | 5.32  |
| 38)   | 1-Methylnaphth...     | 0.689          | 0.705 | 0.724 | 0.685 | 0.659 | 0.658 | 0.611 | 0.676 |       | 5.50  |

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|       |                    |                |       |       |       |       |       |       |       |        |  |
|-------|--------------------|----------------|-------|-------|-------|-------|-------|-------|-------|--------|--|
| 39) I | Acenaphthene-d10   | -----ISTD----- |       |       |       |       |       |       |       |        |  |
| 40)   | 1,2,4,5-Tetrac...  | 0.702          | 0.718 | 0.722 | 0.686 | 0.671 | 0.649 | 0.611 | 0.680 | 5.88   |  |
| 41) P | Hexachlorocycl...  | 0.185          | 0.219 | 0.275 | 0.305 | 0.313 | 0.321 | 0.315 | 0.276 | 19.41  |  |
| 42) S | 2,4,6-Tribromo...  | 0.179          | 0.200 | 0.217 | 0.223 | 0.223 | 0.218 | 0.214 | 0.210 | 7.51   |  |
| 43) C | 2,4,6-Trichlor...  | 0.357          | 0.397 | 0.416 | 0.416 | 0.408 | 0.412 | 0.393 | 0.400 | 5.23   |  |
| 44)   | 2,4,5-Trichlor...  | 0.390          | 0.424 | 0.445 | 0.444 | 0.441 | 0.436 | 0.424 | 0.429 | 4.48   |  |
| 45) S | 2-Fluorobiphenyl   | 1.510          | 1.576 | 1.570 | 1.437 | 1.372 | 1.339 | 1.252 | 1.437 | 8.55   |  |
| 46)   | 1,1'-Biphenyl      | 1.597          | 1.715 | 1.699 | 1.608 | 1.557 | 1.539 | 1.447 | 1.594 | 5.84   |  |
| 47)   | 2-Chloronaphth...  | 1.188          | 1.228 | 1.249 | 1.190 | 1.155 | 1.129 | 1.078 | 1.174 | 5.00   |  |
| 48)   | 2-Nitroaniline     | 0.175          | 0.234 | 0.323 | 0.380 | 0.396 | 0.402 | 0.408 | 0.331 | 27.94  |  |
| 49)   | Acenaphthylene     | 1.901          | 1.969 | 2.025 | 1.903 | 1.859 | 1.821 | 1.728 | 1.886 | 5.15   |  |
| 50)   | Dimethylphthalate  | 1.331          | 1.386 | 1.407 | 1.378 | 1.354 | 1.338 | 1.288 | 1.354 | 2.95   |  |
| 51)   | 2,6-Dinitrotol...  | 0.132          | 0.192 | 0.245 | 0.267 | 0.275 | 0.283 | 0.275 | 0.239 | 23.56  |  |
| 52) C | Acenaphthene       | 1.169          | 1.194 | 1.236 | 1.171 | 1.156 | 1.144 | 1.102 | 1.168 | 3.59   |  |
| 53)   | 3-Nitroaniline     | 0.156          | 0.204 | 0.254 | 0.270 | 0.282 | 0.282 | 0.284 | 0.247 | 19.81  |  |
| 54) P | 2,4-Dinitrophenol  |                | 0.041 | 0.061 | 0.085 | 0.097 | 0.111 | 0.122 | 0.086 | 35.45  |  |
| 55)   | Dibenzofuran       | 1.785          | 1.875 | 1.891 | 1.784 | 1.720 | 1.692 | 1.582 | 1.761 | 6.11   |  |
| 56) P | 4-Nitrophenol      | 0.130          | 0.163 | 0.198 | 0.212 | 0.222 | 0.227 | 0.225 | 0.197 | 18.74  |  |
| 57)   | 2,4-Dinitrotol...  | 0.151          | 0.202 | 0.279 | 0.328 | 0.348 | 0.362 | 0.357 | 0.290 | 28.76  |  |
| 58)   | Fluorene           | 1.420          | 1.475 | 1.463 | 1.350 | 1.292 | 1.257 | 1.193 | 1.350 | 8.00   |  |
| 59)   | 2,3,4,6-Tetrac...  | 0.324          | 0.358 | 0.395 | 0.400 | 0.391 | 0.379 | 0.373 | 0.374 | 7.02   |  |
| 60)   | Diethylphthalate   | 1.260          | 1.366 | 1.404 | 1.372 | 1.321 | 1.311 | 1.264 | 1.328 | 4.14   |  |
| 61)   | 4-Chlorophenyl...  | 0.702          | 0.732 | 0.737 | 0.682 | 0.643 | 0.628 | 0.585 | 0.673 | 8.38   |  |
| 62)   | 4-Nitroaniline     | 0.159          | 0.212 | 0.253 | 0.272 | 0.277 | 0.277 | 0.277 | 0.247 | 18.41  |  |
| 63)   | Azobenzene         | 1.567          | 1.635 | 1.642 | 1.557 | 1.506 | 1.487 | 1.434 | 1.547 | 4.96   |  |
| 64) I | Phenanthrene-d10   | -----ISTD----- |       |       |       |       |       |       |       |        |  |
| 65)   | 4,6-Dinitro-2-...  |                | 0.038 | 0.055 | 0.070 | 0.076 | 0.086 | 0.087 | 0.069 | 27.90  |  |
| 66) c | n-Nitrosodiphe...  | 0.605          | 0.639 | 0.658 | 0.633 | 0.601 | 0.607 | 0.548 | 0.613 | 5.77   |  |
| 67)   | 4-Bromophenyl-...  | 0.228          | 0.244 | 0.242 | 0.235 | 0.227 | 0.230 | 0.208 | 0.230 | 5.08   |  |
| 68)   | Hexachlorobenzene  | 0.237          | 0.250 | 0.262 | 0.247 | 0.238 | 0.243 | 0.220 | 0.242 | 5.35   |  |
| 69)   | Atrazine           | 0.169          | 0.192 | 0.214 | 0.206 | 0.204 | 0.205 | 0.192 | 0.198 | 7.51   |  |
| 70) C | Pentachlorophenol  | 0.102          | 0.119 | 0.144 | 0.150 | 0.151 | 0.155 | 0.146 | 0.138 | 14.42  |  |
| 71)   | Phenanthrene       | 1.113          | 1.134 | 1.127 | 1.066 | 1.018 | 1.018 | 0.931 | 1.058 | 6.99   |  |
| 72)   | Anthracene         | 1.092          | 1.144 | 1.161 | 1.091 | 1.059 | 1.043 | 0.957 | 1.078 | 6.31   |  |
| 73)   | Carbazole          | 0.931          | 0.977 | 0.985 | 0.936 | 0.899 | 0.886 | 0.830 | 0.921 | 5.87   |  |
| 74)   | Di-n-butylphth...  | 0.789          | 0.926 | 1.042 | 1.017 | 1.011 | 1.017 | 0.946 | 0.964 | 9.10   |  |
| 75) C | Fluoranthene       | 1.124          | 1.165 | 1.201 | 1.108 | 1.061 | 1.045 | 0.984 | 1.098 | 6.77   |  |
| 76) I | Chrysene-d12       | -----ISTD----- |       |       |       |       |       |       |       |        |  |
| 77)   | Benzidine          |                | 0.246 | 0.368 | 0.447 | 0.441 | 0.429 | 0.396 | 0.388 | 19.55  |  |
| 78)   | Pyrene             | 1.622          | 1.769 | 1.817 | 1.886 | 1.828 | 1.897 | 1.806 | 1.804 | 5.09   |  |
| 79) S | Terphenyl-d14      | 1.315          | 1.413 | 1.429 | 1.435 | 1.385 | 1.442 | 1.371 | 1.399 | 3.23   |  |
| 80)   | Butylbenzylphth... | 0.112          | 0.166 | 0.251 | 0.335 | 0.373 | 0.417 | 0.463 | 0.302 | 43.25  |  |
| 81)   | Benzo(a)anthra...  | 1.376          | 1.468 | 1.534 | 1.500 | 1.462 | 1.487 | 1.415 | 1.463 | 3.62   |  |
| 82)   | 3,3'-Dichlorob...  | 0.237          | 0.306 | 0.392 | 0.408 | 0.400 | 0.405 | 0.385 | 0.362 | 18.09  |  |
| 83)   | Chrysene           | 1.334          | 1.421 | 1.437 | 1.408 | 1.368 | 1.397 | 1.342 | 1.387 | 2.85   |  |
| 84)   | Bis(2-ethylhex...  | 0.219          | 0.309 | 0.431 | 0.535 | 0.587 | 0.642 | 0.668 | 0.484 | 35.33  |  |
| 85) c | Di-n-octyl pht...  |                | 0.411 | 0.618 | 0.825 | 0.900 | 0.994 | 1.044 | 0.799 | 30.29# |  |

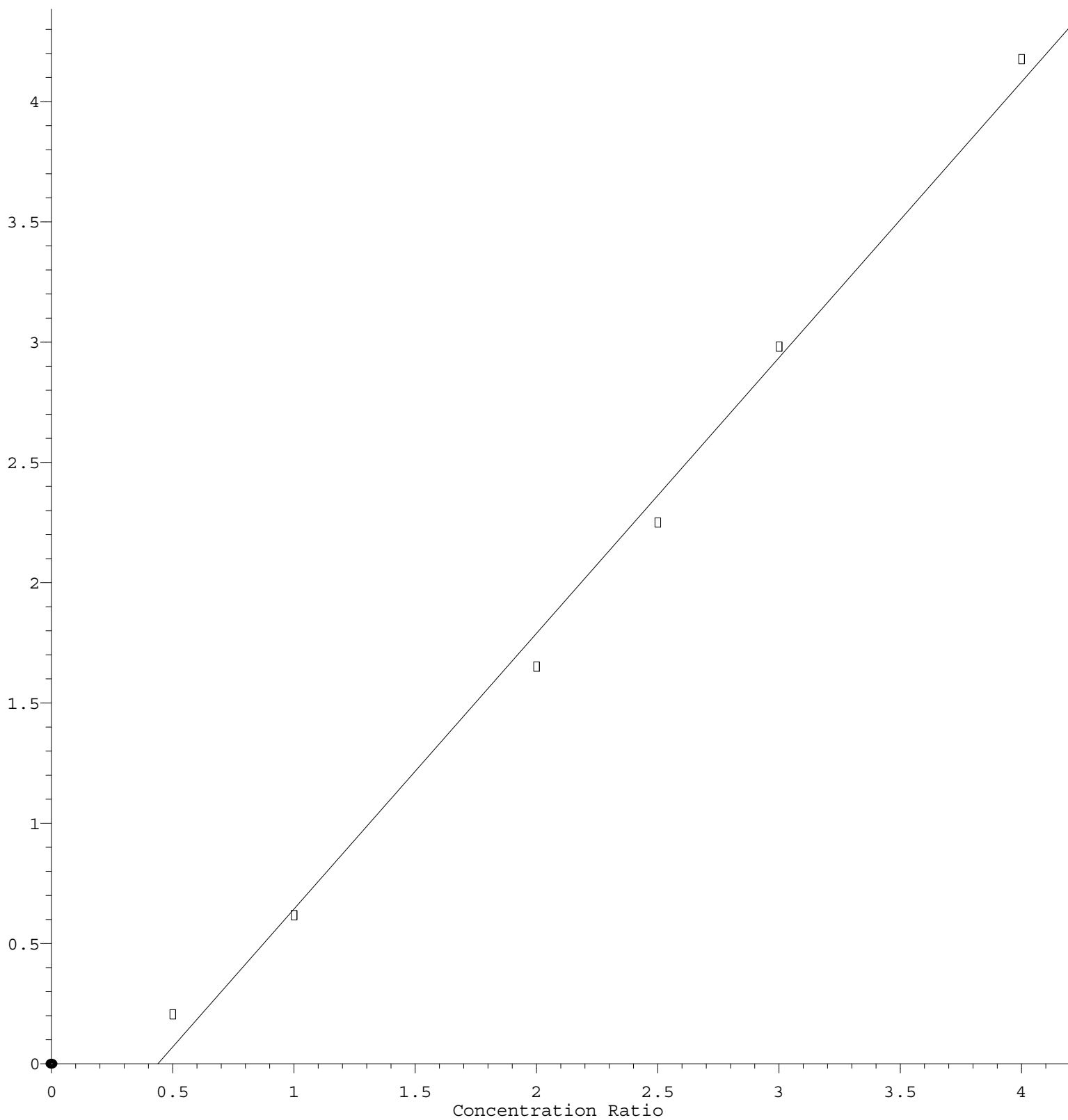
Method Path : Z:\svoasrv\HPCHEM1\BNA\_F\Methods\  
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|       |                   |                |       |       |       |       |       |       |       |       |  |
|-------|-------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| 86) I | Perylene-d12      | -----ISTD----- |       |       |       |       |       |       |       |       |  |
| 87)   | Indeno(1,2,3-c... | 1.065          | 1.221 | 1.356 | 1.468 | 1.426 | 1.477 | 1.385 | 1.343 | 11.15 |  |
| 88)   | Benzo(b)fluora... | 1.286          | 1.388 | 1.395 | 1.339 | 1.298 | 1.263 | 1.217 | 1.312 | 4.98  |  |
| 89)   | Benzo(k)fluora... | 1.282          | 1.333 | 1.437 | 1.270 | 1.266 | 1.263 | 1.124 | 1.282 | 7.28  |  |
| 90) C | Benzo(a)pyrene    | 1.070          | 1.183 | 1.249 | 1.195 | 1.166 | 1.160 | 1.091 | 1.159 | 5.29  |  |
| 91)   | Dibenzo(a,h)an... | 0.841          | 0.991 | 1.105 | 1.184 | 1.149 | 1.190 | 1.115 | 1.082 | 11.60 |  |
| 92)   | Benzo(g,h,i)pe... | 0.815          | 0.922 | 1.048 | 1.142 | 1.118 | 1.165 | 1.086 | 1.042 | 12.32 |  |

-----  
(#) = Out of Range

## Di-n-octyl phthalate

Response Ratio



$$\text{Response} = 1.146 \times 10^0 \times \text{Amt} - 5.035 \times 10^{-1}$$

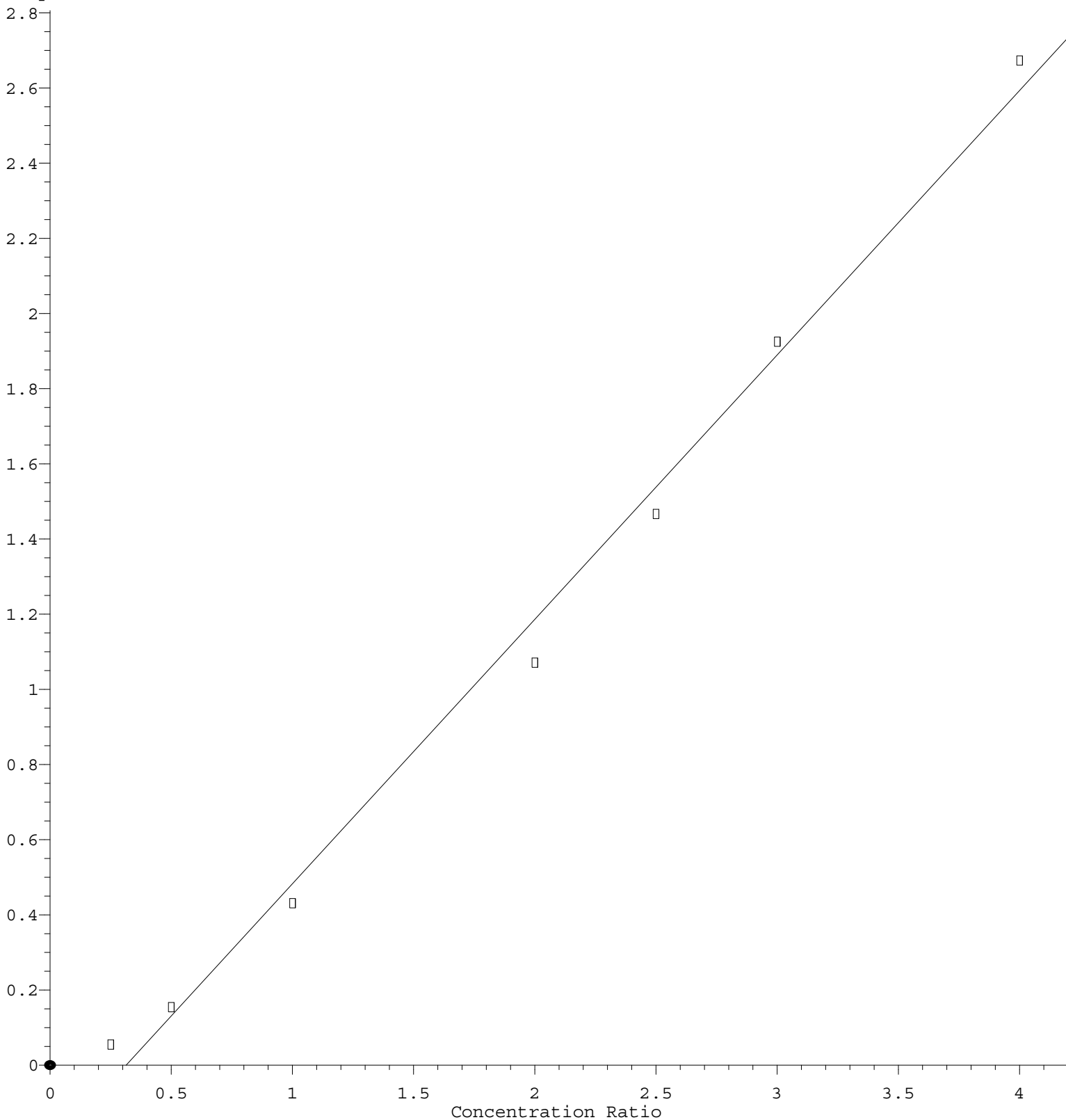
Coef of Det ( $r^2$ ) = 0.994387 Curve Fit: Linear

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# Bis(2-ethylhexyl)phthalate

Response Ratio



$$\text{Response} = 7.036\text{e-}001 * \text{Amt} - 2.211\text{e-}001$$

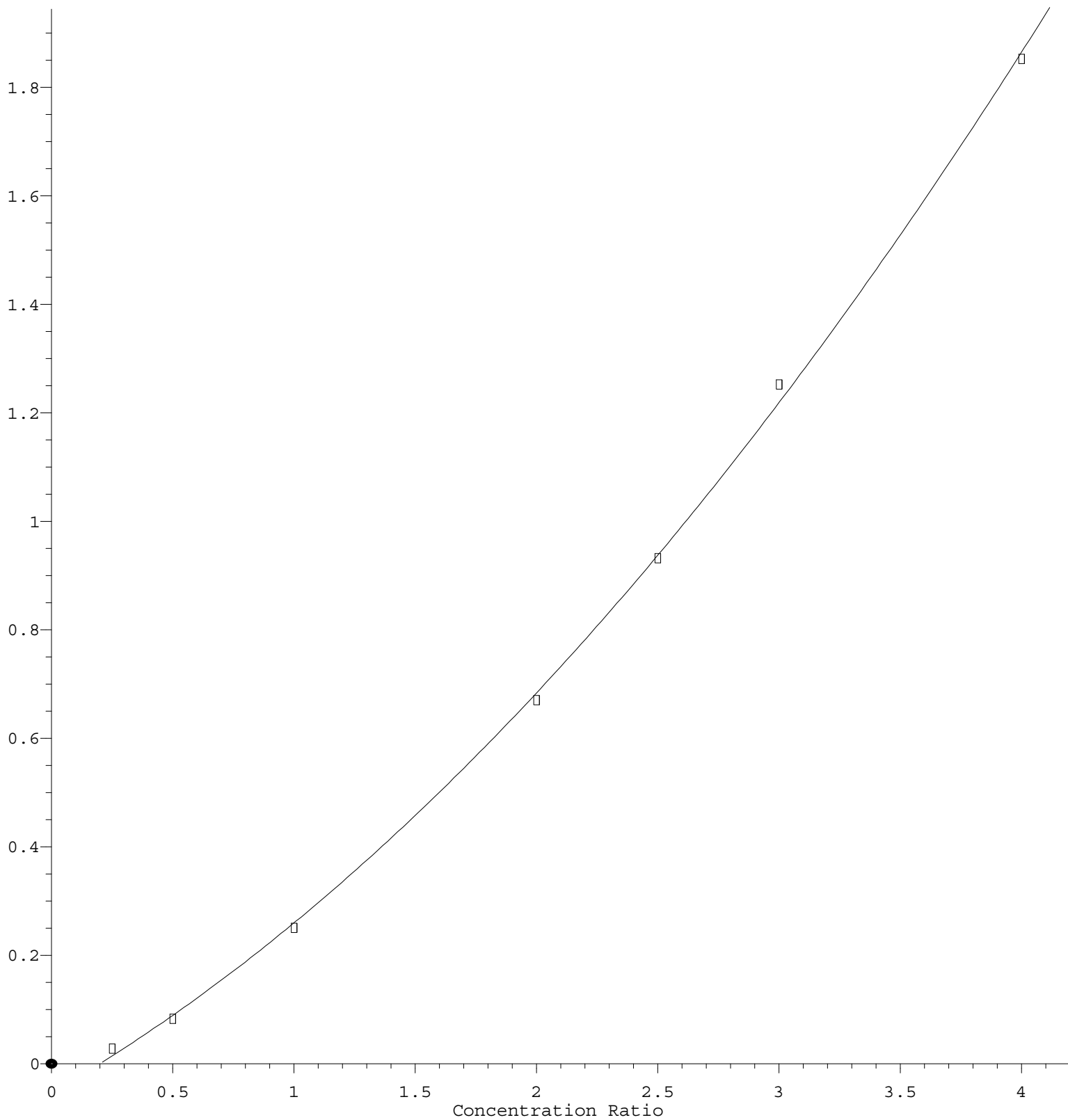
Coef of Det ( $r^2$ ) = 0.993154 Curve Fit: Linear

Method Name: Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M

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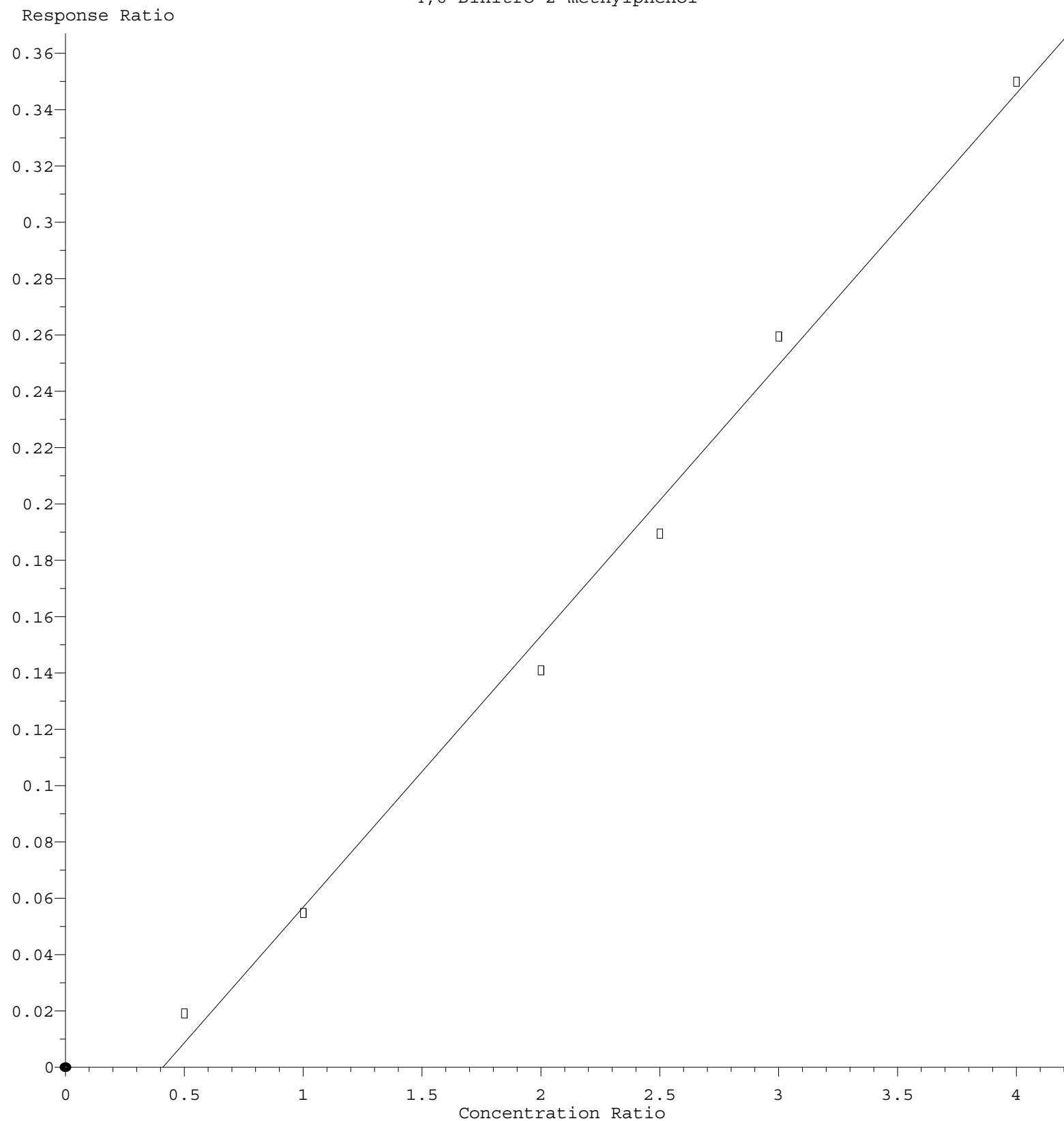
## Butylbenzylphthalate

Response Ratio



$R = 5.548e-002 A^2 + 2.576e-001 A - 5.348e-002$   
Coef of Det ( $r^2$ ) = 0.999341    Curve Fit: Quadratic  
Method Name:    Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M  
Calibration Table Last Updated: Thu Jan 25 23:14:32 2024

## 4,6-Dinitro-2-methylphenol



$$\text{Response} = 9.619\text{e-}002 * \text{Amt} - 3.948\text{e-}002$$

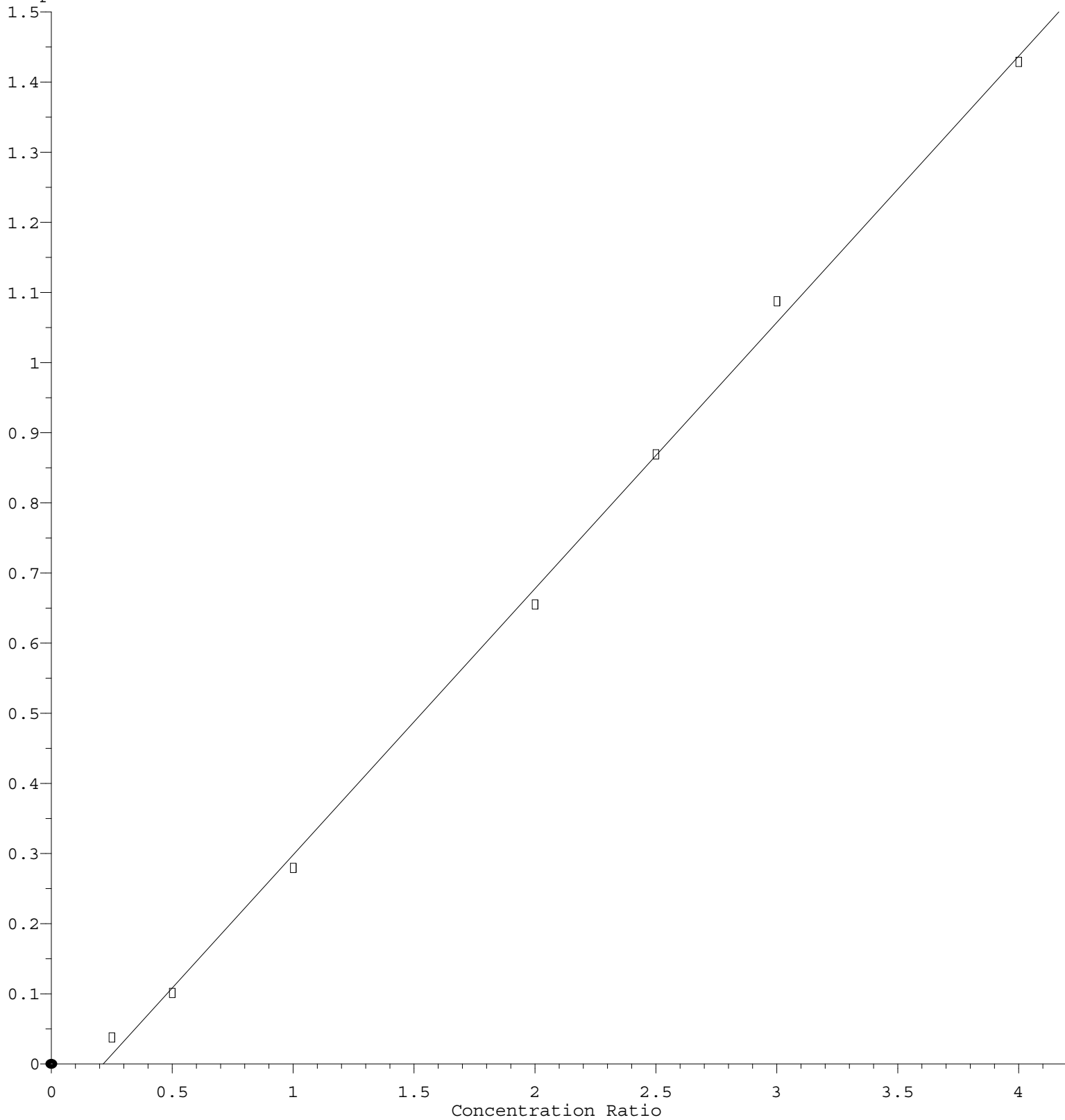
Coef of Det ( $r^2$ ) = 0.993310 Curve Fit: Linear

Method Name: Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M

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## 2,4-Dinitrotoluene

Response Ratio



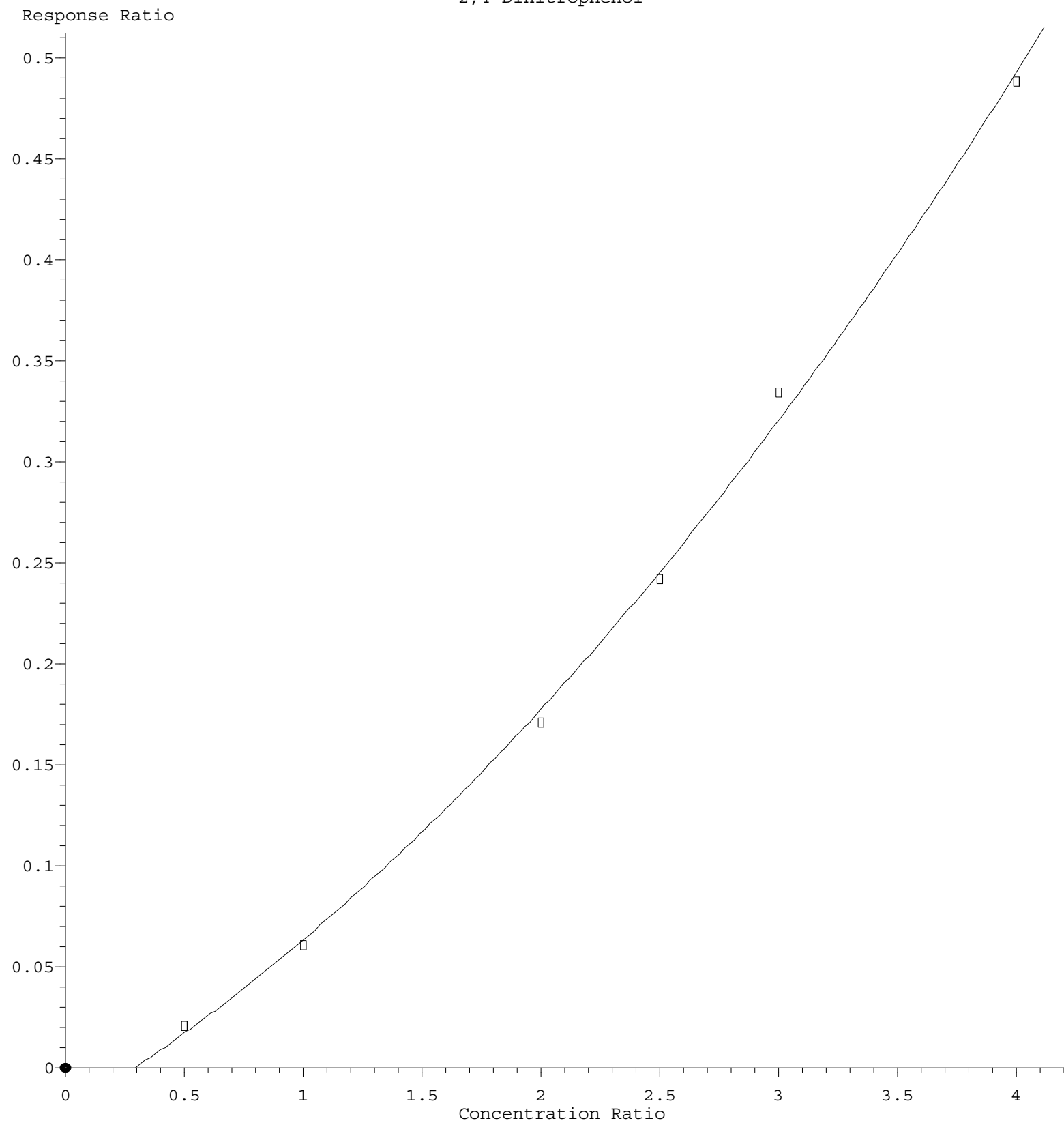
$$\text{Response} = 3.797\text{e-}001 * \text{Amt} - 8.178\text{e-}002$$

Coef of Det ( $r^2$ ) = 0.998504 Curve Fit: Linear

Method Name: Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M

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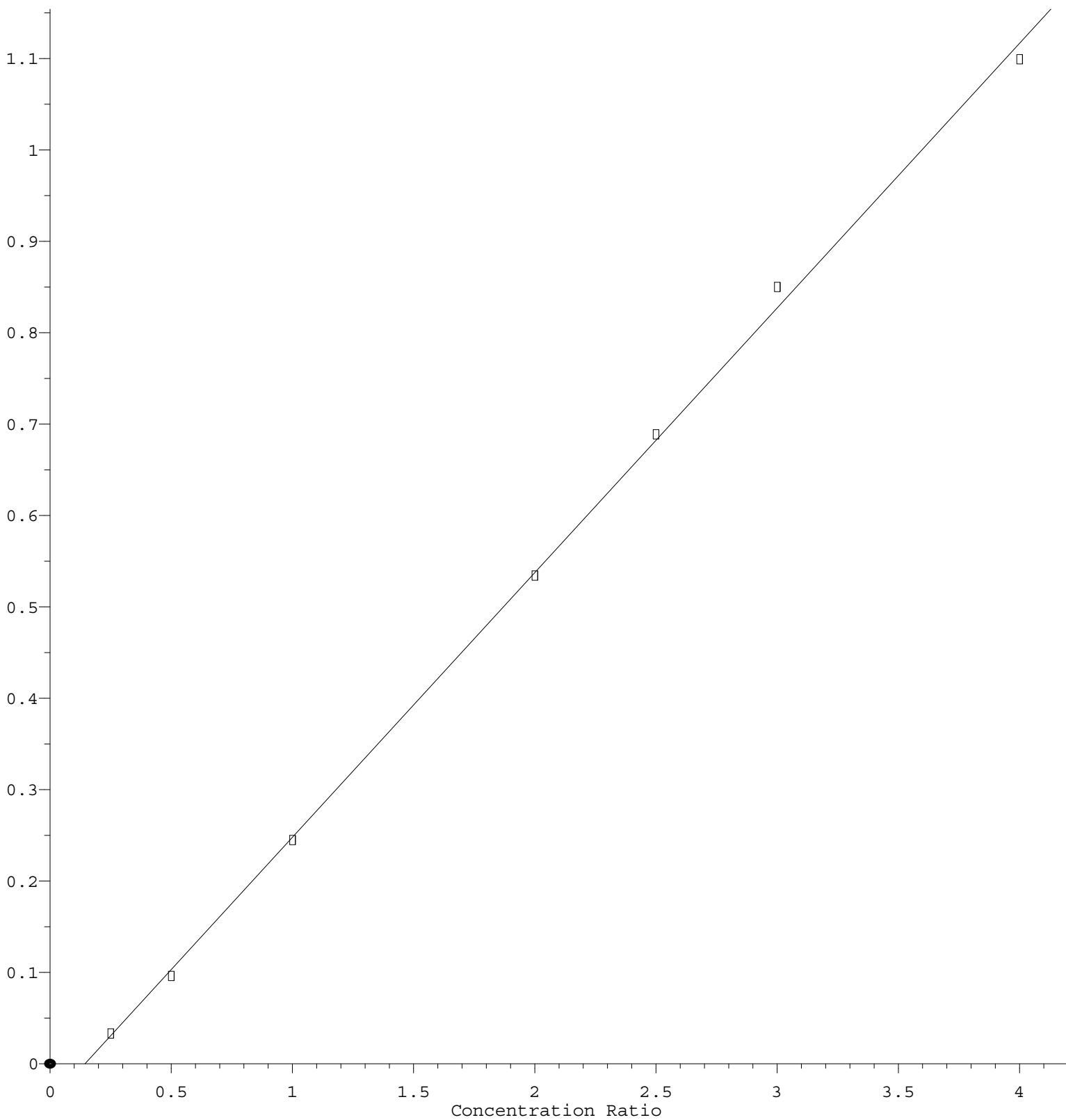
# 2,4-Dinitrophenol



$R = 1.450e-002 A^2 + 7.064e-002 A - 2.179e-002$   
 Coef of Det ( $r^2$ ) = 0.998150    Curve Fit: Quadratic  
 Method Name:    Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M  
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# 2,6-Dinitrotoluene

Response Ratio



$$\text{Response} = 2.897\text{e-}001 * \text{Amt} - 4.170\text{e-}002$$

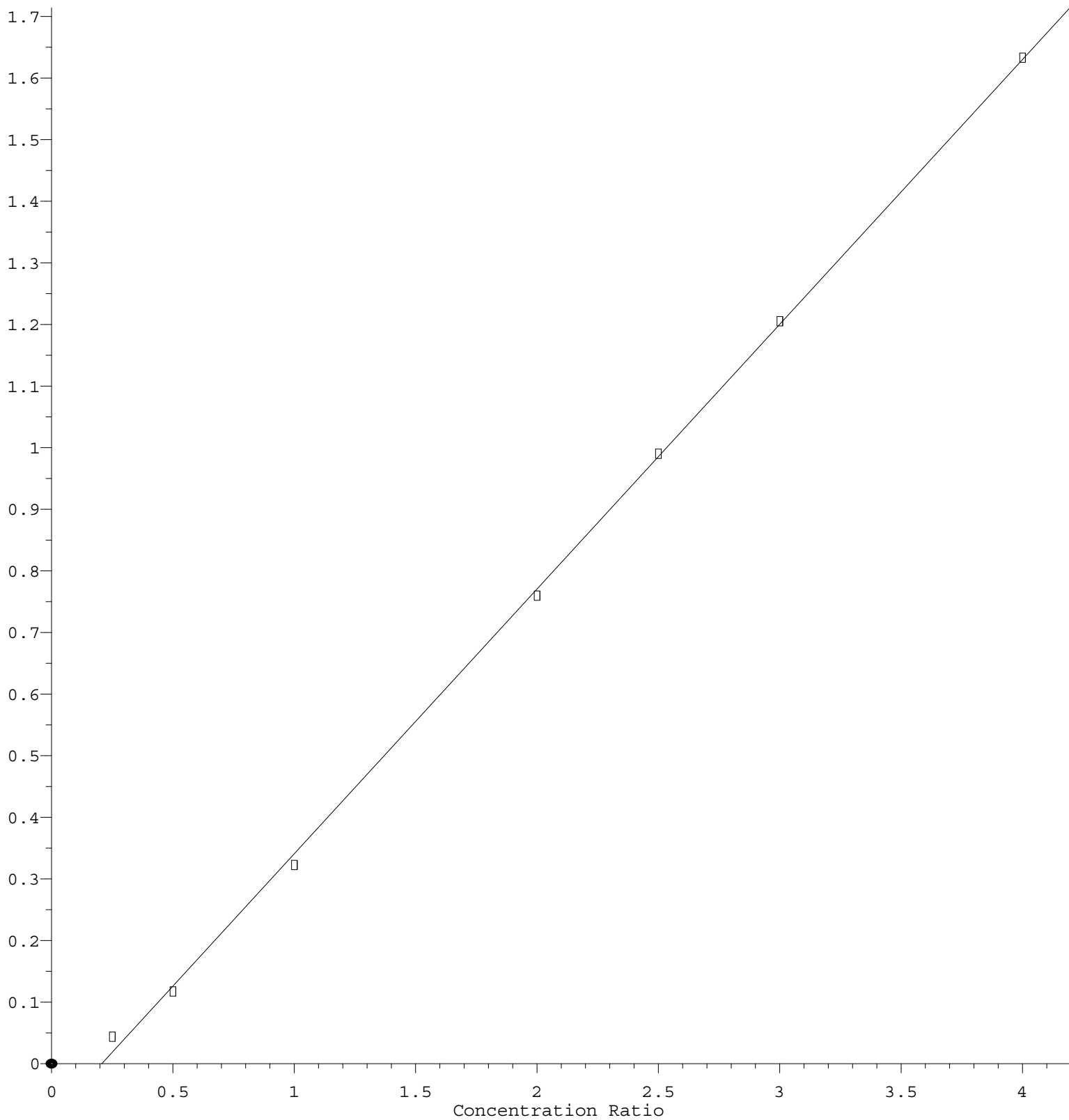
Coef of Det ( $r^2$ ) = 0.999017 Curve Fit: Linear

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## 2-Nitroaniline

Response Ratio



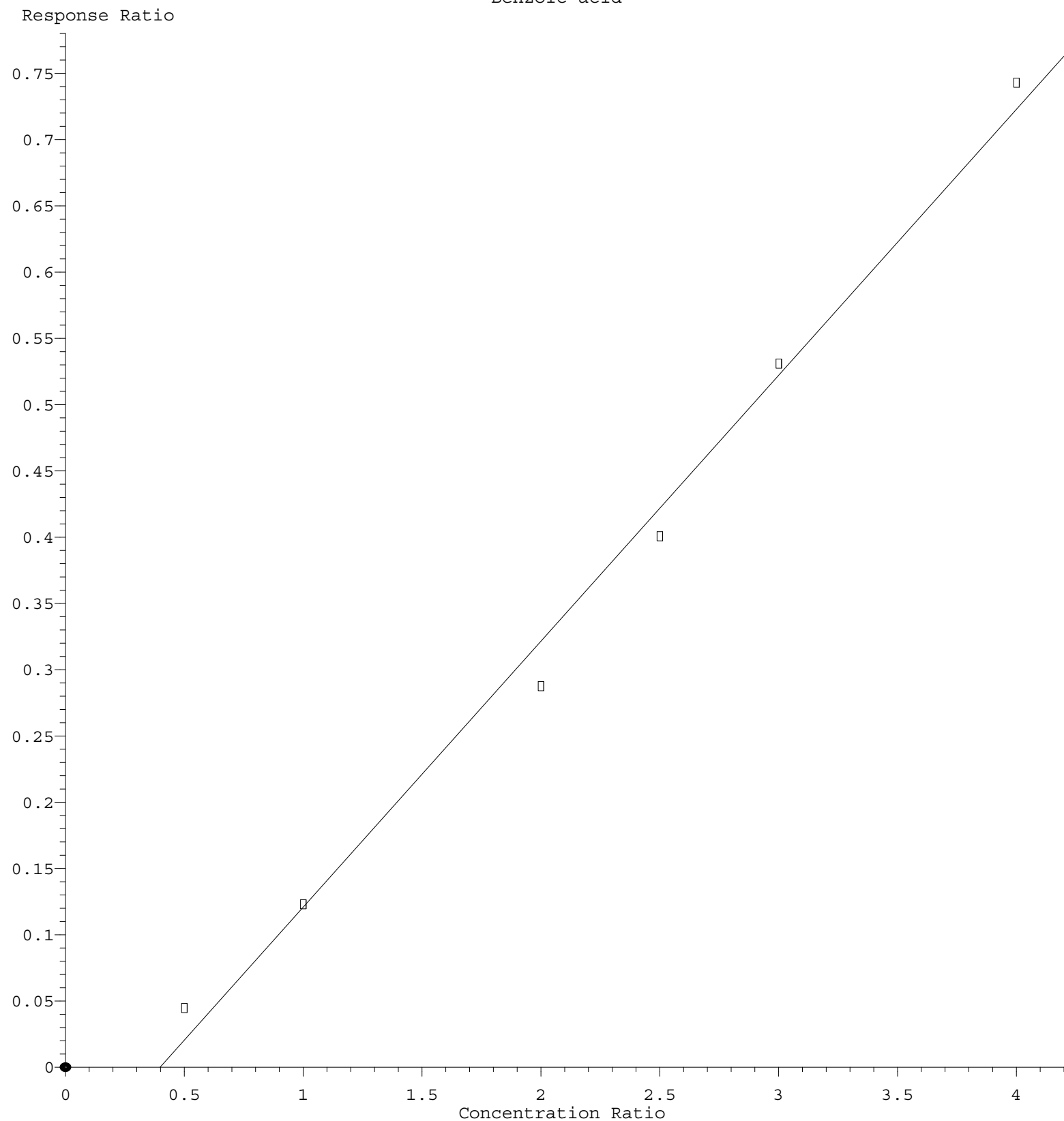
$$\text{Response} = 4.298\text{e-}001 * \text{Amt} - 8.901\text{e-}002$$

Coef of Det ( $r^2$ ) = 0.999427 Curve Fit: Linear

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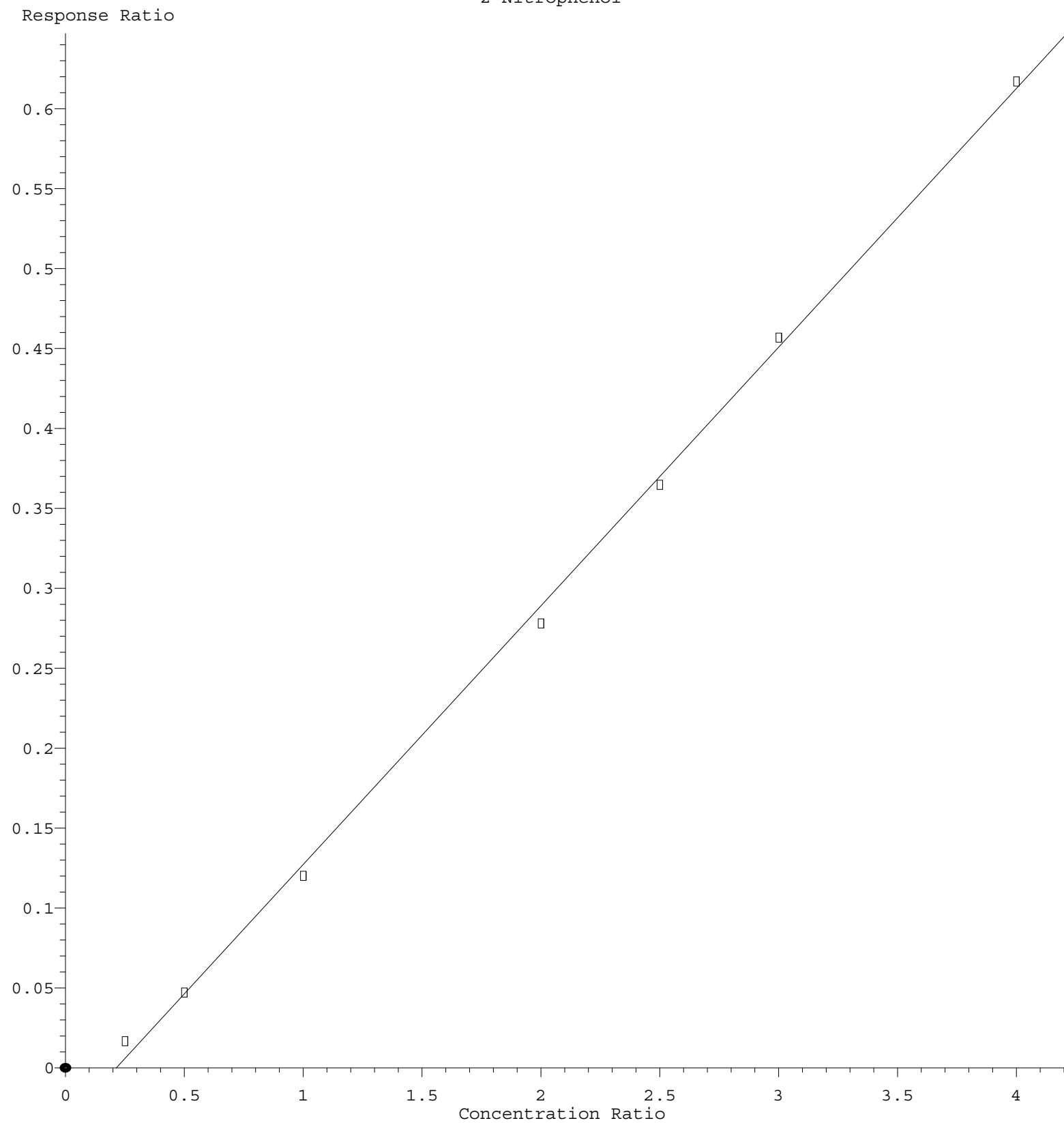
Calibration Table Last Updated: Thu Jan 25 23:14:32 2024

# Benzoic acid



$\text{Response} = 2.007\text{e-}001 * \text{Amt} - 7.980\text{e-}002$   
 Coef of Det ( $r^2$ ) = 0.992106    Curve Fit: Linear  
 Method Name: Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M  
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# 2-Nitrophenol



Response =  $1.617 \times 10^{-1} \times \text{Amt} - 3.463 \times 10^{-2}$   
 Coef of Det ( $r^2$ ) = 0.998767    Curve Fit: Linear  
 Method Name: Z:\svoasrv\HPCHEM1\BNA F\Methods\8270-BF012524.M  
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