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|--|--|-------------------------------------|
| | Experiment title: Heavy-atom derivatives sf DG741 | Experiment number: MX-342 |
| Beamline: ID29 | Date of experiment: from: 17-2-05 to: 18-2-05 | Date of report: 12-04-05 |
| Shifts: 3 | Local contact(s): | <i>Received at ESRF:</i> |
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Report:

The experiment is aimed at solving the structure of DG741, a protein of the external surface of N. meningitidis. The protein has only one Met, so heavy-atom derivatives were serched. 4 of them were measured. The first one is HMPS.

N 1/d^2 Dmin(A) Rmrg Rfull Rcum Ranom Nanom Av_I SIGMA I/sigma sd Mn(I)/sd Nmeas Nref Ncent
 FRCBIAS Nbias

| | | | | | | | | | | | | | | | | | |
|----|--------|------|-------|-------|-------|-------|------|-------|-------|------|------|------|-------|------|-----|--------|------|
| 1 | 0.0160 | 7.91 | 0.049 | 0.000 | 0.049 | 0.039 | 238 | 2858. | 291.6 | 9.8 | 179. | 33.8 | 2072 | 351 | 112 | 0.002 | 631 |
| 2 | 0.0320 | 5.59 | 0.053 | 0.000 | 0.051 | 0.030 | 490 | 1691. | 141.5 | 11.9 | 126. | 30.5 | 4083 | 600 | 112 | -0.001 | 1286 |
| 3 | 0.0480 | 4.56 | 0.046 | 0.000 | 0.049 | 0.021 | 643 | 2781. | 210.2 | 13.2 | 217. | 29.2 | 5276 | 754 | 112 | -0.009 | 1653 |
| 4 | 0.0640 | 3.95 | 0.051 | 0.000 | 0.049 | 0.021 | 780 | 3117. | 248.8 | 12.5 | 252. | 28.5 | 6306 | 887 | 113 | -0.008 | 1978 |
| 5 | 0.0800 | 3.54 | 0.064 | 0.000 | 0.053 | 0.026 | 888 | 2377. | 221.4 | 10.7 | 217. | 24.7 | 7109 | 996 | 113 | 0.013 | 2248 |
| 6 | 0.0960 | 3.23 | 0.086 | 0.000 | 0.059 | 0.035 | 981 | 1696. | 203.9 | 8.3 | 198. | 20.1 | 7838 | 1082 | 111 | 0.012 | 2585 |
| 7 | 0.1120 | 2.99 | 0.117 | 0.000 | 0.066 | 0.048 | 1088 | 1155. | 187.7 | 6.1 | 195. | 14.5 | 8651 | 1189 | 109 | -0.011 | 2971 |
| 8 | 0.1280 | 2.80 | 0.171 | 0.000 | 0.073 | 0.067 | 1155 | 747. | 175.7 | 4.3 | 188. | 10.5 | 9174 | 1257 | 108 | -0.017 | 3086 |
| 9 | 0.1440 | 2.64 | 0.245 | 0.000 | 0.082 | 0.098 | 1246 | 538. | 181.6 | 3.0 | 192. | 7.7 | 9806 | 1342 | 110 | -0.042 | 3209 |
| 10 | 0.1600 | 2.50 | 0.335 | 0.000 | 0.093 | 0.118 | 1314 | 410. | 186.5 | 2.2 | 205. | 5.8 | 10354 | 1406 | 103 | -0.060 | 3479 |

Overall: 0.093 0.000 0.093 0.039 8823 1467. 200.0 7.3 200. 17.5 70669 9864 1103 -0.006 23126
 Rmrg Rfull Rcum Ranom Nanom Av_I SIGMA I/sigma sd Mn(I)/sd Nmeas Nref Ncent FRCBIAS
 Nbias

| | N 1/resol^2 Dmin | Nmeas | Nref | Ncent | %poss | C%poss | Mplct | AnoCmpl | AnoFrc | AnoMlt | Rmeas | Rmeas0 | (Rsym) | PCV | PCV0 | \$\$ |
|----|------------------|-------|-------|-------|-------|--------|-------|---------|--------|--------|-------|--------|--------|-------|-------|-------|
| 1 | 0.016 | 7.91 | 2087 | 358 | 117 | 99.2 | 99.2 | 5.8 | 99.0 | 99.0 | 3.6 | 0.059 | 0.067 | 0.049 | 0.071 | 0.089 |
| 2 | 0.032 | 5.59 | 4104 | 609 | 118 | 99.2 | 99.2 | 6.7 | 99.8 | 99.8 | 3.7 | 0.062 | 0.066 | 0.053 | 0.071 | 0.078 |
| 3 | 0.048 | 4.56 | 5295 | 766 | 121 | 99.4 | 99.3 | 6.9 | 99.5 | 99.5 | 3.8 | 0.054 | 0.054 | 0.046 | 0.061 | 0.066 |
| 4 | 0.064 | 3.95 | 6326 | 897 | 117 | 99.2 | 99.3 | 7.1 | 99.7 | 99.9 | 3.7 | 0.059 | 0.059 | 0.051 | 0.068 | 0.072 |
| 5 | 0.080 | 3.54 | 7136 | 1007 | 118 | 99.0 | 99.2 | 7.1 | 99.4 | 99.7 | 3.7 | 0.074 | 0.074 | 0.064 | 0.086 | 0.091 |
| 6 | 0.096 | 3.23 | 7873 | 1099 | 117 | 99.2 | 99.2 | 7.2 | 99.5 | 99.6 | 3.8 | 0.100 | 0.099 | 0.086 | 0.116 | 0.122 |
| 7 | 0.112 | 2.99 | 8692 | 1209 | 118 | 98.9 | 99.1 | 7.2 | 99.1 | 99.6 | 3.8 | 0.136 | 0.136 | 0.117 | 0.161 | 0.171 |
| 8 | 0.128 | 2.80 | 9203 | 1272 | 114 | 98.6 | 99.0 | 7.2 | 98.8 | 99.4 | 3.8 | 0.199 | 0.197 | 0.171 | 0.239 | 0.248 |
| 9 | 0.144 | 2.64 | 9859 | 1369 | 120 | 99.3 | 99.1 | 7.2 | 99.3 | 99.8 | 3.8 | 0.285 | 0.283 | 0.245 | 0.351 | 0.365 |
| 10 | 0.160 | 2.50 | 10394 | 1424 | 108 | 98.2 | 99.0 | 7.3 | 98.6 | 99.7 | 3.8 | 0.389 | 0.382 | 0.335 | 0.481 | 0.493 |

| | Overall | 70969 | 10010 | 1168 | 99.0 | 99.0 | 7.1 | 99.2 | 99.6 | 3.8 | 0.108 | 0.108 | 0.093 | 0.127 | 0.132 | (Rsym) |
|----|---------|-------|-------|-------|--------|-------|---------|--------|--------|-------|--------|-------|-------|-------|-------|--------|
| | Nmeas | Nref | Ncent | %poss | C%poss | Mplct | AnoCmpl | AnoFrc | AnoMlt | Rmeas | Rmeas0 | PCV | PCV0 | \$\$ | | |
| 1 | 0.016 | 7.91 | 2087 | 358 | 117 | 99.2 | 99.2 | 5.8 | 99.0 | 99.0 | 3.6 | 0.059 | 0.067 | 0.049 | 0.071 | 0.089 |
| 2 | 0.032 | 5.59 | 4104 | 609 | 118 | 99.2 | 99.2 | 6.7 | 99.8 | 99.8 | 3.7 | 0.062 | 0.066 | 0.053 | 0.071 | 0.078 |
| 3 | 0.048 | 4.56 | 5295 | 766 | 121 | 99.4 | 99.3 | 6.9 | 99.5 | 99.5 | 3.8 | 0.054 | 0.054 | 0.046 | 0.061 | 0.066 |
| 4 | 0.064 | 3.95 | 6326 | 897 | 117 | 99.2 | 99.3 | 7.1 | 99.7 | 99.9 | 3.7 | 0.059 | 0.059 | 0.051 | 0.068 | 0.072 |
| 5 | 0.080 | 3.54 | 7136 | 1007 | 118 | 99.0 | 99.2 | 7.1 | 99.4 | 99.7 | 3.7 | 0.074 | 0.074 | 0.064 | 0.086 | 0.091 |
| 6 | 0.096 | 3.23 | 7873 | 1099 | 117 | 99.2 | 99.2 | 7.2 | 99.5 | 99.6 | 3.8 | 0.100 | 0.099 | 0.086 | 0.116 | 0.122 |
| 7 | 0.112 | 2.99 | 8692 | 1209 | 118 | 98.9 | 99.1 | 7.2 | 99.1 | 99.6 | 3.8 | 0.136 | 0.136 | 0.117 | 0.161 | 0.171 |
| 8 | 0.128 | 2.80 | 9203 | 1272 | 114 | 98.6 | 99.0 | 7.2 | 98.8 | 99.4 | 3.8 | 0.199 | 0.197 | 0.171 | 0.239 | 0.248 |
| 9 | 0.144 | 2.64 | 9859 | 1369 | 120 | 99.3 | 99.1 | 7.2 | 99.3 | 99.8 | 3.8 | 0.285 | 0.283 | 0.245 | 0.351 | 0.365 |
| 10 | 0.160 | 2.50 | 10394 | 1424 | 108 | 98.2 | 99.0 | 7.3 | 98.6 | 99.7 | 3.8 | 0.389 | 0.382 | 0.335 | 0.481 | 0.493 |

A second heavy-atom derivative was Gd.

| N | 1/d^2 | Dmin(A) | Rmrg | Rfull | Rcum | Ranom | Nanom | Av_I | SIGMA I/sigma | sd | Mn(I)/sd | Nmeas | Nref | Ncent | FRCBIAS | Nbias | |
|----|--------|---------|-------|-------|-------|-------|-------|-------|---------------|------|----------|-------|-------|-------|---------|--------|-------|
| 1 | 0.0160 | 7.91 | 0.054 | 0.054 | 0.054 | 0.027 | 243 | 2394. | 245.3 | 9.8 | 188. | 35.6 | 3141 | 362 | 117 | -0.059 | 1806 |
| 2 | 0.0320 | 5.59 | 0.063 | 0.064 | 0.059 | 0.030 | 500 | 1397. | 135.4 | 10.3 | 116. | 33.7 | 6297 | 624 | 124 | -0.015 | 3772 |
| 3 | 0.0480 | 4.56 | 0.058 | 0.052 | 0.059 | 0.021 | 659 | 2565. | 240.3 | 10.7 | 221. | 34.8 | 8144 | 783 | 124 | -0.013 | 5074 |
| 4 | 0.0640 | 3.95 | 0.063 | 0.056 | 0.060 | 0.021 | 787 | 2897. | 278.6 | 10.4 | 277. | 31.9 | 9636 | 907 | 120 | -0.002 | 5928 |
| 5 | 0.0800 | 3.54 | 0.078 | 0.057 | 0.065 | 0.024 | 913 | 2311. | 269.8 | 8.6 | 260. | 26.3 | 11050 | 1029 | 119 | -0.007 | 6867 |
| 6 | 0.0960 | 3.23 | 0.100 | 0.070 | 0.072 | 0.031 | 996 | 1661. | 234.3 | 7.1 | 236. | 20.8 | 12101 | 1120 | 124 | -0.018 | 7359 |
| 7 | 0.1120 | 2.99 | 0.129 | 0.097 | 0.078 | 0.040 | 1105 | 1143. | 200.7 | 5.7 | 214. | 16.1 | 13266 | 1223 | 119 | -0.015 | 8253 |
| 8 | 0.1280 | 2.80 | 0.182 | 0.129 | 0.086 | 0.057 | 1197 | 736. | 178.7 | 4.1 | 193. | 12.0 | 14315 | 1311 | 115 | -0.015 | 8727 |
| 9 | 0.1440 | 2.64 | 0.252 | 0.180 | 0.096 | 0.081 | 1269 | 535. | 181.3 | 3.0 | 192. | 9.2 | 15186 | 1389 | 122 | -0.056 | 9545 |
| 10 | 0.1600 | 2.50 | 0.331 | 0.231 | 0.106 | 0.105 | 1344 | 418. | 185.8 | 2.3 | 202. | 7.2 | 15957 | 1456 | 114 | -0.061 | 10008 |

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| Overall: | 0.106 | 0.083 | 0.106 | 0.035 | 9013 | 1386. | 214.8 | 6.5 | 213. | 19.5 | 109093 | 10204 | 1198 | -0.018 | 67339 | FRCBIAS |
|----------|-------|-------|-------|-------|------|---------------|-------|----------|-------|------|--------|-------|------|--------|-------|---------|
| Rmrg | Rfull | Rcum | Ranom | Nanom | Av_I | SIGMA I/sigma | sd | Mn(I)/sd | Nmeas | Nref | Ncent | | | | | Nbias |

| N | 1/resol^2 | Dmin | Nmeas | Nref | Ncent | %poss | C%poss | Mplct | AnoCmpl | AnoFrc | AnoMlt | Rmeas | Rmeas0 | (Rsym) | PCV | PCV0 | \$\$ |
|----|-----------|------|-------|------|-------|-------|--------|-------|---------|--------|--------|-------|--------|--------|-------|-------|------|
| 1 | 0.016 | 7.91 | 3148 | 363 | 117 | 99.2 | 99.2 | 8.7 | 99.0 | 99.0 | 5.1 | 0.060 | 0.063 | 0.054 | 0.075 | 0.085 | |
| 2 | 0.032 | 5.59 | 6300 | 627 | 127 | 99.9 | 99.6 | 10.0 | 100.0 | 100.0 | 5.5 | 0.069 | 0.072 | 0.063 | 0.082 | 0.088 | |
| 3 | 0.048 | 4.56 | 8149 | 788 | 129 | 99.9 | 99.8 | 10.3 | 100.0 | 100.0 | 5.5 | 0.064 | 0.064 | 0.058 | 0.077 | 0.080 | |
| 4 | 0.064 | 3.95 | 9643 | 913 | 126 | 99.9 | 99.8 | 10.6 | 100.0 | 100.0 | 5.5 | 0.069 | 0.069 | 0.063 | 0.083 | 0.086 | |
| 5 | 0.080 | 3.54 | 11061 | 1037 | 124 | 99.8 | 99.8 | 10.7 | 100.0 | 100.0 | 5.5 | 0.086 | 0.085 | 0.078 | 0.105 | 0.108 | |
| 6 | 0.096 | 3.23 | 12108 | 1126 | 128 | 99.8 | 99.8 | 10.8 | 99.8 | 99.8 | 5.5 | 0.110 | 0.108 | 0.100 | 0.134 | 0.137 | |
| 7 | 0.112 | 2.99 | 13275 | 1228 | 122 | 99.9 | 99.8 | 10.8 | 99.9 | 99.9 | 5.5 | 0.142 | 0.141 | 0.129 | 0.174 | 0.180 | |
| 8 | 0.128 | 2.80 | 14331 | 1323 | 122 | 99.7 | 99.8 | 10.8 | 99.6 | 99.6 | 5.5 | 0.200 | 0.199 | 0.182 | 0.249 | 0.257 | |
| 9 | 0.144 | 2.64 | 15195 | 1395 | 124 | 99.5 | 99.8 | 10.9 | 99.7 | 99.8 | 5.4 | 0.278 | 0.276 | 0.252 | 0.354 | 0.361 | |
| 10 | 0.160 | 2.50 | 15978 | 1469 | 121 | 99.7 | 99.7 | 10.9 | 99.6 | 99.6 | 5.4 | 0.365 | 0.362 | 0.331 | 0.464 | 0.478 | |

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| Overall | 109188 | 10269 | 1240 | 99.7 | 99.7 | 10.6 | 99.8 | 99.8 | 5.5 | 0.117 | 0.116 | 0.106 | 0.143 | 0.146 | PCV |
|---------|--------|-------|-------|--------|-------|---------|--------|--------|-------|--------|--------|-------|-------|-------|------|
| Nmeas | Nref | Ncent | %poss | C%poss | Mplct | AnoCmpl | AnoFrc | AnoMlt | Rmeas | Rmeas0 | (Rsym) | | | | PCV0 |

Analysis of data is inj progress.