| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| 1 | H | K | ABS | 911.78259332 | | BB | **0.014** | | | | | | |
| 2 | He | K | ABS | 504.27587508 | | BB | **0.025** | | | | | | |
| 3 | Li | K | ABS | 226.45698630 | | BB | **0.055** | | | | | | |
| 4 | Be | K | ABS | 111.69837838 | | BB | **0.111** | 218.7101 | | | | | |
| 5 | B | K | ABS | 65.94957447 | | BB | **0.188** | 129.1320 | 188.4274 | | | | |
| 5 | B | KA1 | | 67.00000000 | 100 | | **0.185** | 131.1888 | 191.4286 | | | | |
| 5 | B | KA2 | | 67.00000000 | 50 | | **0.185** | 131.1888 | 191.4286 | | | | |
| 5 | B | KA1,2 | | 67.74919891 | 150 | C | **0.183** | 132.6558 | 193.5691 | | | | |
| 6 | C | K | ABS | 43.68752643 | | BB | **0.284** | 85.5420 | 124.8215 | 197.9690 | | | |
| 6 | C | KA1 | | 44.00000000 | 100 | | **0.282** | 86.1538 | 125.7143 | 199.3850 | | | |
| 6 | C | KA2 | | 44.00000000 | 50 | | **0.282** | 86.1538 | 125.7143 | 199.3850 | | | |
| 6 | C | KA1,2 | | 44.75849915 | 150 | C | **0.277** | 87.6390 | 127.8814 | 202.8221 | | | |
| 7 | N | K | ABS | 30.87280876 | | BB | **0.402** | 60.4503 | 88.2080 | 139.8994 | | | |
| 7 | N | KA1 | | 31.60371100 | 100 | | **0.392** | 61.8814 | 90.2963 | 143.2115 | | | |
| 7 | N | KA2 | | 31.60371100 | 50 | | **0.392** | 61.8814 | 90.2963 | 143.2115 | | | |
| 7 | N | KA1,2 | | 31.62779999 | 150 | C | **0.392** | 61.9286 | 90.3651 | 143.3207 | | | |
| 8 | O | K | ABS | 23.30548872 | | BB | **0.532** | | 66.5871 | 105.6083 | 253.3500 | | |
| 8 | O | KA1,2 | | 23.61540031 | 150 | C | **0.525** | | 67.4726 | 107.0127 | 256.7190 | | |
| 8 | O | KA1 | | 23.70779300 | 100 | | **0.523** | | 67.7366 | 107.4313 | 257.7234 | | |
| 8 | O | KA2 | | 23.70779300 | 50 | | **0.523** | | 67.7366 | 107.4313 | 257.7234 | | |
| 8 | O | LI | ABS | 523.14430380 | | BB | **0.024** | | | | | | |
| 9 | F | K | ABS | 18.08946601 | | BB | **0.685** | | | 81.9720 | 196.6475 | | |
| 9 | F | KA1 | | 18.30690500 | 100 | | **0.677** | | | 82.9573 | 199.0113 | | |
| 9 | F | KA2 | | 18.30690500 | 50 | | **0.677** | | | 82.9573 | 199.0113 | | |
| 9 | F | KA1,2 | | 18.31329918 | 150 | C | **0.677** | | | 82.9863 | 199.0808 | | |
| 9 | F | LI | ABS | 399.95225806 | | BB | **0.031** | | | | | | |
| 10 | Ne | K | ABS | 14.30213404 | | BB | **0.867** | | | 64.8098 | 155.4761 | | |
| 10 | Ne | KB1 | | 14.46000000 | 1 | | **0.857** | | | 65.5252 | 157.1922 | | |
| 10 | Ne | SKA | | 14.50000000 | 0.01 | C | **0.855** | | | 65.7064 | 157.6271 | | |
| 10 | Ne | KA1 | | 14.61500000 | 100 | | **0.848** | | | 66.2275 | 158.8772 | | |

This file contains both E/λ data for elements, and calculated L-values for common crystals on JEOL EPMAs. Tabulated values contain data for n=1,2,3, for L-values between 65 and 260 mm (actual working range might be less depending on spectrometer/crystal configuration

$$E(KeV) = \frac{12.396}{\lambda(\text{Å})}$$

$$\text{L-value} = n\lambda \frac{2R}{2d}$$

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | Ne | KA2 | | 14.61500000 | 50 | | **0.848** | | | 66.2275 | 158.8772 | | |
| 10 | Ne | KA1,2 | | 14.62040043 | 150 | C | **0.848** | | | 66.2520 | 158.9359 | | |
| 10 | Ne | LI | ABS | 275.52266667 | | BB | **0.045** | | | | | | |
| 10 | Ne | LII | ABS | 677.51475410 | | BB | **0.018** | | | | | | |
| 10 | Ne | LIII | ABS | 677.51475410 | | BB | **0.018** | | | | | | |
| 11 | Na | SKB^7 | | 11.16000000 | 1 | | **1.111** | | | | 121.3185 | | |
| 11 | Na | SKB^4 | | 11.31100000 | 1 | | **1.096** | | | | 122.9600 | | |
| 11 | Na | SKB^3 | | 11.39800000 | 1 | | **1.088** | | | | 123.9057 | | |
| 11 | Na | SKB^6 | | 11.48900000 | 1 | | **1.079** | | | | 124.8950 | | |
| 11 | Na | SKA14 | | 11.51700000 | 1 | | **1.076** | | | | 125.1994 | | |
| 11 | Na | SKA13 | | 11.54500000 | 1 | | **1.074** | | | | 125.5037 | | |
| 11 | Na | SKBX | | 11.55400000 | 1 | | **1.073** | | | | 125.6016 | | |
| 11 | Na | K | ABS | 11.56470479 | | BB | **1.072** | | | | 125.7180 | | |
| 11 | Na | SKA10 | | 11.59800000 | 1 | | **1.069** | | | | 126.0799 | | |
| 11 | Na | KB1 | | 11.61742000 | 1 | | **1.067** | | | | 126.2910 | | |
| 11 | Na | SKA11 | | 11.62500000 | 1 | | **1.066** | | | | 126.3734 | | |
| 11 | Na | SKA9 | | 11.64600000 | 1 | | **1.064** | | | | 126.6017 | | |
| 11 | Na | SKA6 | | 11.68600000 | 1 | | **1.061** | | | | 127.0365 | | |
| 11 | Na | SKA7 | | 11.70200000 | 1 | | **1.059** | | | | 127.2105 | | |
| 11 | Na | SKA5 | | 11.71700000 | 1 | | **1.058** | | | | 127.3735 | | |
| 11 | Na | SKA8 | | 11.73600000 | 1 | | **1.056** | | | | 127.5801 | | |
| 11 | Na | SKA4 | | 11.78600000 | 12 | | **1.052** | | | | 128.1236 | | |
| 11 | Na | SKA3 | | 11.80500000 | 12 | | **1.050** | | | | 128.3302 | | |
| 11 | Na | SKA' | | 11.83700000 | 3 | | **1.047** | | | | 128.6780 | | |
| 11 | Na | KA1 | | 11.90900800 | 100 | | **1.041** | | | | 129.4608 | | |
| 11 | Na | KA2 | | 11.90900800 | 50 | | **1.041** | | | | 129.4608 | | |
| 11 | Na | KA1,2 | | 11.90979958 | 150 | C | **1.041** | | | | 129.4694 | | |
| 11 | Na | LI | ABS | 195.86919431 | | BB | **0.063** | | | | | | |
| 11 | Na | LII | ABS | 398.66623794 | | BB | **0.031** | | | | | | |
| 11 | Na | LIII | ABS | 398.66623794 | | BB | **0.031** | | | | | | |
| 12 | Mg | SKB^7 | | 9.20455570 | 1 | | **1.347** | | | | 100.0612 | | |
| 12 | Mg | SKB^4 | | 9.32379610 | 1 | | **1.330** | | | | 101.3574 | | |
| 12 | Mg | SKB^4 | | 9.34584050 | 1 | | **1.326** | | | | 101.5971 | | |
| 12 | Mg | SKB^3 | | 9.36688300 | 1 | | **1.323** | | | | 101.8258 | | |
| 12 | Mg | SKB | | 9.38500023 | 0.01 | C | **1.321** | | | | 102.0228 | | |
| 12 | Mg | SKB^3 | | 9.39193350 | 1 | | **1.320** | | | | 102.0981 | | |
| 12 | Mg | SLB^6 | | 9.45506070 | 1 | | **1.311** | | | | 102.7844 | | |
| 12 | Mg | SKB^5 | | 9.49213550 | 1 | | **1.306** | | | | 103.1874 | | |
| 12 | Mg | K | ABS | 9.50078161 | | BB | **1.305** | | | | 103.2814 | | |
| 12 | Mg | SKBX | | 9.51718600 | 1 | | **1.302** | | | | 103.4597 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Mg | KBX | | 9.52300000 | 1 | | **1.302** | | | | 103.5229 | | |
| 12 | Mg | KB1 | | 9.56980000 | 1 | | **1.295** | | | | 104.0317 | | |
| 12 | Mg | SKA14 | | 9.60536370 | 1 | | **1.291** | | | | 104.4183 | | |
| 12 | Mg | SKA13 | | 9.62239810 | 1 | | **1.288** | | | | 104.6035 | | |
| 12 | Mg | SKA10 | | 9.65947280 | 1 | | **1.283** | | | | 105.0065 | | |
| 12 | Mg | SKB' | | 9.66648690 | 1 | | **1.282** | | | | 105.0827 | | |
| 12 | Mg | SKBN | | 9.67249910 | 1 | | **1.282** | | | | 105.1481 | | |
| 12 | Mg | SKA11 | | 9.67750920 | 1 | | **1.281** | | | | 105.2026 | | |
| 12 | Mg | SKA9 | | 9.69754960 | 1 | | **1.278** | | | | 105.4204 | | |
| 12 | Mg | SKA6 | | 9.72761020 | 1 | | **1.274** | | | | 105.7472 | | |
| 12 | Mg | SKA7 | | 9.74264050 | 1 | | **1.272** | | | | 105.9106 | | |
| 12 | Mg | SKA5 | | 9.75366270 | 1 | | **1.271** | | | | 106.0304 | | |
| 12 | Mg | SKA8 | | 9.76869300 | 1 | | **1.269** | | | | 106.1938 | | |
| 12 | Mg | SKA4 | | 9.80777180 | 8 | | **1.264** | | | | 106.6186 | | |
| 12 | Mg | SKA3 | | 9.82380410 | 8 | | **1.262** | | | | 106.7929 | | |
| 12 | Mg | SKA | | 9.82400036 | 0.01 | C | **1.262** | | | | 106.7950 | | |
| 12 | Mg | SKA' | | 9.84785260 | 3 | | **1.259** | | | | 107.0543 | | |
| 12 | Mg | KA1 | | 9.88893540 | 100 | | **1.254** | | | | 107.5009 | | |
| 12 | Mg | KA2 | | 9.88893540 | 50 | | **1.254** | | | | 107.5009 | | |
| 12 | Mg | KA1,2 | | 9.89470005 | 150 | C | **1.253** | | | | 107.5636 | | |
| 12 | Mg | LI | ABS | 138.68590604 | | BB | **0.089** | | | | | | |
| 12 | Mg | LII | ABS | 241.21634241 | | BB | **0.051** | | | | | | |
| 12 | Mg | LIII | ABS | 241.21634241 | | BB | **0.051** | | | | | | |
| 13 | Al | SKB^10 | | 7.57527120 | 1 | | **1.636** | | | | 82.3495 | 242.6305 | |
| 13 | Al | SKB^9 | | 7.63539240 | 1 | | **1.623** | | | | 83.0031 | 244.5562 | |
| 13 | Al | SKB^8 | | 7.67346920 | 1 | | **1.615** | | | | 83.4170 | 245.7757 | |
| 13 | Al | SKB^7 | | 7.71555400 | 1 | | **1.607** | | | | 83.8745 | 247.1237 | |
| 13 | Al | SKB^4 | | 7.80172770 | 1 | | **1.589** | | | | 84.8113 | 249.8838 | |
| 13 | Al | SKB^4 | | 7.81776000 | 1 | | **1.586** | | | | 84.9855 | 250.3973 | |
| 13 | Al | SKB^3 | | 7.83279030 | 1 | | **1.583** | | | | 85.1489 | 250.8787 | |
| 13 | Al | SKB^3 | | 7.84882270 | 1 | | **1.579** | | | | 85.3232 | 251.3922 | |
| 13 | Al | SKB^6 | | 7.90593780 | 1 | | **1.568** | | | | 85.9441 | 253.2215 | |
| 13 | Al | SKB^5 | | 7.92798220 | 1 | | **1.564** | | | | 86.1838 | 253.9276 | |
| 13 | Al | K | ABS | 7.94980764 | | BB | **1.559** | | | | 86.4210 | 254.6266 | |
| 13 | Al | SKBX | | 7.95603880 | 1 | | **1.558** | | | | 86.4888 | 254.8262 | |
| 13 | Al | KBX | | 7.95900000 | 1 | | **1.557** | | | | 86.5209 | 254.9211 | |
| 13 | Al | KB1 | | 7.98330021 | 1.32 | C | **1.553** | | | | 86.7851 | 255.6994 | |
| 13 | Al | KB3 | | 7.98330021 | 0.66 | C | **1.553** | | | | 86.7851 | 255.6994 | |
| 13 | Al | SKBN | | 7.99110950 | 1 | | **1.551** | | | | 86.8700 | 255.9495 | |
| 13 | Al | SKB' | | 8.06626100 | 1 | | **1.537** | | | | 87.6870 | 258.3566 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | Al | SKA14 | | 8.10233370 | 1 | | **1.530** | | | | 88.0791 | 259.5119 | |
| 13 | Al | SKA13 | | 8.12638220 | 1 | | **1.525** | | | | 88.3405 | | |
| 13 | Al | SKA10 | | 8.15443880 | 1 | | **1.520** | | | | 88.6455 | | |
| 13 | Al | SKA11 | | 8.17047110 | 1 | | **1.517** | | | | 88.8198 | | |
| 13 | Al | SKA6 | | 8.20754580 | 1 | | **1.510** | | | | 89.2228 | | |
| 13 | Al | SKA7 | | 8.21756600 | 1 | | **1.508** | | | | 89.3318 | | |
| 13 | Al | SKA5 | | 8.22858820 | 1 | | **1.506** | | | | 89.4516 | | |
| 13 | Al | SKA8 | | 8.24562260 | 1 | | **1.503** | | | | 89.6368 | | |
| 13 | Al | SKA4 | | 8.27067310 | 6 | | **1.499** | | | | 89.9091 | | |
| 13 | Al | SKA | | 8.27700043 | 0.01 | C | **1.498** | | | | 89.9779 | | |
| 13 | Al | SKA3 | | 8.28670540 | 6 | | **1.496** | | | | 90.0834 | | |
| 13 | Al | SKA' | | 8.30474180 | 2 | | **1.493** | | | | 90.2794 | | |
| 13 | Al | KA1 | | 8.33820920 | 100 | | **1.487** | | | | 90.6433 | | |
| 13 | Al | KA2 | | 8.34061410 | 50 | | **1.486** | | | | 90.6694 | | |
| 13 | Al | KA1,2 | | 8.34329987 | 150 | C | **1.486** | | | | 90.6986 | | |
| 13 | Al | LI | ABS | 105.34001699 | | BB | **0.118** | 206.2602 | | | | | |
| 13 | Al | LII | ABS | 169.61039672 | | BB | **0.073** | | | | | | |
| 13 | Al | LIII | ABS | 169.61039672 | | BB | **0.073** | | | | | | |
| 14 | Si | K | ABS | 6.74235684 | | BB | **1.839** | | | | 73.2950 | 215.9529 | |
| 14 | Si | SKBX | | 6.75261280 | 1 | | **1.836** | | | | 73.4065 | 216.2814 | |
| 14 | Si | KBX | | 6.75800000 | 2 | | **1.834** | | | | 73.4651 | 216.4539 | |
| 14 | Si | KB1 | | 6.77860022 | 2.78 | C | **1.829** | | | | 73.6890 | 217.1137 | |
| 14 | Si | KB3 | | 6.77860022 | 1.39 | C | **1.829** | | | | 73.6890 | 217.1137 | |
| 14 | Si | SKB' | | 6.81574000 | 1 | | **1.819** | | | | 74.0928 | 218.3033 | |
| 14 | Si | SKB4 | | 6.83778450 | 1 | | **1.813** | | | | 74.3324 | 219.0093 | |
| 14 | Si | SKA6 | | 7.01995170 | 1 | | **1.766** | | | | 76.3127 | 224.8440 | |
| 14 | Si | SKA7 | | 7.02536260 | 1 | | **1.764** | | | | 76.3715 | 225.0173 | |
| 14 | Si | SKA5 | | 7.02957110 | 1 | | **1.763** | | | | 76.4173 | 225.1521 | |
| 14 | Si | SKA4 | | 7.06654560 | 5 | | **1.754** | | | | 76.8192 | 226.3364 | |
| 14 | Si | SKA4' | | 7.06824910 | 1 | | **1.754** | | | | 76.8377 | 226.3910 | |
| 14 | Si | SKA3' | | 7.07305880 | 1 | | **1.753** | | | | 76.8900 | 226.5450 | |
| 14 | Si | SKA3 | | 7.07676630 | 5 | | **1.752** | | | | 76.9303 | 226.6638 | |
| 14 | Si | SKA | | 7.08139992 | 0.01 | C | **1.751** | | | | 76.9807 | 226.8122 | |
| 14 | Si | SKA' | | 7.09430160 | 1 | | **1.747** | | | | 77.1210 | 227.2254 | |
| 14 | Si | SKA" | | 7.10011330 | 1 | | **1.746** | | | | 77.1841 | 227.4115 | |
| 14 | Si | KA1 | | 7.12540007 | 100 | C | **1.740** | | | | 77.4590 | 228.2215 | |
| 14 | Si | KA1,2 | | 7.12669992 | 150.33 | C | **1.739** | | | | 77.4732 | 228.2631 | |
| 14 | Si | KA2 | | 7.12939978 | 50.33 | C | **1.739** | | | | 77.5025 | 228.3496 | |
| 14 | Si | LI | ABS | 83.37942165 | | BB | **0.149** | 163.2604 | 238.2269 | 377.8320 | 906.4036 | | |
| 14 | Si | LII | ABS | 124.98508065 | | BB | **0.099** | 244.7260 | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | Si | LIII | ABS | 124.98508065 | | BB | **0.099** | 244.7260 | | | | | |
| 15 | P | SKB"' | | 5.69047160 | 1 | | **2.178** | | | | 61.8602 | 182.2617 | |
| 15 | P | SKB" | | 5.71151400 | 1 | | **2.170** | | | | 62.0889 | 182.9357 | |
| 15 | P | K | ABS | 5.77884875 | | BB | **2.145** | | | | 62.8209 | 185.0924 | |
| 15 | P | SKBX | | 5.79127480 | 1 | | **2.140** | | | | 62.9560 | 185.4904 | |
| 15 | P | SKB1X | | 5.79989220 | 1 | | **2.137** | | | | 63.0496 | 185.7664 | |
| 15 | P | KB1 | | 5.80439997 | 4.45 | C | **2.136** | | | | 63.0987 | 185.9108 | |
| 15 | P | KB3 | | 5.80439997 | 2.25 | C | **2.136** | | | | 63.0987 | 185.9108 | |
| 15 | P | SKB' | | 5.83766830 | 1 | | **2.123** | | | | 63.4603 | 186.9763 | |
| 15 | P | SKB4 | | 5.85580490 | 1 | | **2.117** | | | | 63.6575 | 187.5572 | |
| 15 | P | SKA6 | | 6.06322300 | 1 | | **2.044** | | | | 65.9123 | 194.2007 | |
| 15 | P | SKA5 | | 6.07524730 | 1 | | **2.040** | | | | 66.0430 | 194.5858 | |
| 15 | P | SKA4 | | 6.10881490 | 3 | | **2.029** | | | | 66.4079 | 195.6610 | |
| 15 | P | SKA3' | | 6.11282300 | 1 | | **2.028** | | | | 66.4515 | 195.7893 | |
| 15 | P | SKA3 | | 6.11663070 | 3 | | **2.027** | | | | 66.4929 | 195.9113 | |
| 15 | P | SKA' | | 6.13095960 | 1 | | **2.022** | | | | 66.6486 | 196.3702 | |
| 15 | P | SKA" | | 6.13937650 | 1 | | **2.019** | | | | 66.7401 | 196.6398 | |
| 15 | P | KA1 | | 6.15899992 | 100 | C | **2.013** | | | | 66.9534 | 197.2684 | |
| 15 | P | KA1,2 | | 6.15999985 | 150.72 | C | **2.012** | | | | 66.9643 | 197.3004 | |
| 15 | P | KA2 | | 6.16209984 | 50.72 | C | **2.012** | | | | 66.9871 | 197.3676 | |
| 15 | P | LI | ABS | 65.49667195 | | BB | **0.189** | 128.2452 | 187.1333 | 296.7967 | 712.0033 | | |
| 15 | P | LII | ABS | 93.78608169 | | BB | **0.132** | 183.6371 | | | | | |
| 15 | P | LIII | ABS | 93.78608169 | | BB | **0.132** | 183.6371 | | | | | |
| 16 | S | SKB^4 | | 4.94717310 | 1 | | **2.506** | | | | | 158.4544 | |
| 16 | S | SKB"' | | 4.96100100 | 1 | | **2.499** | | | | | 158.8973 | |
| 16 | S | K | ABS | 5.01558252 | | BB | **2.471** | | | | | 160.6455 | |
| 16 | S | SKBX | | 5.02332670 | 1 | | **2.468** | | | | | 160.8936 | |
| 16 | S | KB1 | | 5.03170013 | 6.18 | C | **2.464** | | | | | 161.1618 | |
| 16 | S | KB3 | | 5.03170013 | 3.11 | C | **2.464** | | | | | 161.1618 | |
| 16 | S | SKB1X | | 5.05298650 | 1 | | **2.453** | | | | | 161.8435 | |
| 16 | S | SKA6 | | 5.29667770 | 1 | | **2.340** | | | | | 169.6488 | |
| 16 | S | SKA5 | | 5.30769990 | 1 | | **2.335** | | | | | 170.0018 | |
| 16 | S | SKA4 | | 5.33415330 | 3 | | **2.324** | | | | | 170.8491 | |
| 16 | S | SKA3' | | 5.33886280 | 1 | | **2.322** | | | | | 171.0000 | |
| 16 | S | SKA3 | | 5.34076660 | 3 | | **2.321** | | | | | 171.0609 | |
| 16 | S | SKA3" | | 5.34387290 | 1 | | **2.320** | | | | | 171.1604 | |
| 16 | S | SKA' | | 5.35329190 | 1 | | **2.316** | | | | | 171.4621 | |
| 16 | S | SKA" | | 5.37022600 | 1 | | **2.308** | | | | | 172.0045 | |
| 16 | S | KA1 | | 5.37410021 | 100 | C | **2.307** | | | | | 172.1286 | |
| 16 | S | KA1,2 | | 5.37489986 | 150.53 | C | **2.306** | | | | | 172.1542 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ E (KeV) | 143 LDEB | 98 LDE2 | 61.79 LDE1 | 25.757 TAP | 8.742 PETH/J | 4.0267 LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | S | KA2 | | 5.37650013 | 50.53 | C | **2.306** | | | | | 172.2054 | |
| 16 | S | LI | ABS | 54.09476440 | | BB | **0.229** | 105.9198 | 154.5565 | 245.1292 | 588.0551 | | |
| 16 | S | LII | ABS | 75.23373786 | | BB | **0.165** | 147.3108 | 214.9535 | 340.9200 | 817.8533 | | |
| 16 | S | LI | | 83.40000000 | 95 | W,F | **0.149** | 163.3007 | 238.2857 | 377.9252 | 906.6273 | | |
| 16 | S | Ln | | 83.40000000 | 50 | | **0.149** | 163.3007 | 238.2857 | 377.9252 | 906.6273 | | |
| 17 | Cl | SKB^4 | | 4.32812520 | 1 | | **2.864** | | | | | 138.6268 | |
| 17 | Cl | SKB^4 | | 4.33333570 | 1 | | **2.861** | | | | | 138.7936 | |
| 17 | Cl | SKB''' | | 4.34065040 | 1 | | **2.856** | | | | | 139.0279 | |
| 17 | Cl | SKB''' | | 4.34576070 | 1 | | **2.852** | | | | | 139.1916 | |
| 17 | Cl | K | ABS | 4.39289966 | | BB | **2.822** | | | | | 140.7014 | |
| 17 | Cl | SKB'' | | 4.39415830 | 1 | | **2.821** | | | | | 140.7417 | |
| 17 | Cl | SKBX | | 4.39946900 | 1 | | **2.818** | | | | | 140.9118 | |
| 17 | Cl | SKB^5 | | 4.39966940 | 1 | | **2.817** | | | | | 140.9183 | |
| 17 | Cl | SKB1X | | 4.40217450 | 1 | | **2.816** | | | | | 140.9985 | |
| 17 | Cl | KB1 | | 4.40430021 | 8.06 | C | **2.815** | | | | | 141.0666 | |
| 17 | Cl | KB3 | | 4.40430021 | 4.09 | C | **2.815** | | | | | 141.0666 | |
| 17 | Cl | SKB' | | 4.41500030 | 1 | | **2.808** | | | | | 141.4093 | |
| 17 | Cl | SKBN | | 4.44656400 | 1 | | **2.788** | | | | | 142.4203 | |
| 17 | Cl | SKA7 | | 4.67041520 | 1 | | **2.654** | | | | | 149.5901 | |
| 17 | Cl | SKA4 | | 4.69566610 | 3 | | **2.640** | | | | | 150.3988 | |
| 17 | Cl | SKA3' | | 4.70127740 | 1 | | **2.637** | | | | | 150.5785 | |
| 17 | Cl | SKA3 | | 4.71099700 | 3 | | **2.631** | | | | | 150.8899 | |
| 17 | Cl | SKA' | | 4.71169840 | 1 | | **2.631** | | | | | 150.9123 | |
| 17 | Cl | SKA'' | | 4.72432390 | 1 | | **2.624** | | | | | 151.3167 | |
| 17 | Cl | KA1 | | 4.72849989 | 100 | C | **2.622** | | | | | 151.4505 | |
| 17 | Cl | KA1,2 | | 4.72970009 | 150.54 | C | **2.621** | | | | | 151.4889 | |
| 17 | Cl | KA2 | | 4.73210001 | 50.54 | C | **2.620** | | | | | 151.5658 | |
| 17 | Cl | LI | ABS | 45.88645448 | | BB | **0.270** | 89.8476 | 131.1042 | 207.9334 | 498.8239 | | |
| 17 | Cl | LII | ABS | 61.50059524 | | BB | **0.202** | 120.4207 | 175.7160 | 278.6886 | 668.5626 | | |
| 17 | Cl | LIII | ABS | 61.99260000 | | BB | **0.200** | 121.3841 | 177.1217 | 280.9181 | 673.9111 | | |
| 17 | Cl | Ln | | 67.25000000 | 50 | | **0.184** | 131.6783 | 192.1429 | 304.7419 | 731.0634 | | |
| 17 | Cl | LI | | 67.84000000 | 95 | W,F | **0.183** | 132.8336 | 193.8286 | 307.4154 | 737.4772 | | |
| 18 | Ar | K | ABS | 3.87102938 | | BB | **3.202** | | | | | 123.9863 | |
| 18 | Ar | SKB^5 | | 3.88202590 | 1 | | **3.193** | | | | | 124.3385 | |
| 18 | Ar | KB1 | | 3.88660002 | 10.17 | C | **3.189** | | | | | 124.4850 | |
| 18 | Ar | KB3 | | 3.88660002 | 5.17 | C | **3.189** | | | | | 124.4850 | |
| 18 | Ar | KA1 | | 4.19280005 | 100 | C | **2.956** | | | | | 134.2924 | |
| 18 | Ar | KA1,2 | | 4.19369984 | 150.42 | C | **2.956** | | | | | 134.3212 | |
| 18 | Ar | KA2 | | 4.19560003 | 50.42 | C | **2.955** | | | | | 134.3821 | |
| 18 | Ar | LI | ABS | 38.74537500 | | BB | **0.320** | 75.8651 | 110.7011 | 175.5738 | 421.1944 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | Ar | LII | ABS | 50.13554387 | | BB | **0.247** | 98.1675 | 143.2444 | 227.1881 | 545.0150 | | |
| 18 | Ar | LIII | ABS | 50.56492659 | | BB | **0.245** | 99.0082 | 144.4712 | 229.1338 | 549.6828 | | |
| 18 | Ar | LI | | 56.21332200 | 95 | W,F | **0.221** | 110.0680 | 160.6095 | 254.7294 | 611.0855 | | |
| 18 | Ar | Ln | | 56.81453400 | 50 | | **0.218** | 111.2452 | 162.3272 | 257.4538 | 617.6212 | | |
| 18 | Ar | MI | ABS | 490.06007905 | | BB | **0.025** | | | | | | |
| 19 | K | SKB^4 | | 3.40396210 | 1 | | **3.642** | | | | | 109.0265 | 236.6974 |
| 19 | K | SKB | | 3.41120005 | 0.01 | C | **3.634** | | | | | 109.2583 | 237.2007 |
| 19 | K | SKB''' | | 3.41157750 | 1 | | **3.634** | | | | | 109.2704 | 237.2269 |
| 19 | K | K | ABS | 3.43696845 | | BB | **3.607** | | | | | 110.0836 | 238.9925 |
| 19 | K | SKB'' | | 3.44113710 | 1 | | **3.602** | | | | | 110.2172 | 239.2824 |
| 19 | K | KB5 | | 3.44130000 | 0.01 | | **3.602** | | | | | 110.2224 | 239.2937 |
| 19 | K | SKB^5 | | 3.44915320 | 1 | | **3.594** | | | | | 110.4739 | 239.8398 |
| 19 | K | KB1 | | 3.45449996 | 11.61 | C | **3.588** | | | | | 110.6452 | 240.2116 |
| 19 | K | KB3 | | 3.45449996 | 5.8 | C | **3.588** | | | | | 110.6452 | 240.2116 |
| 19 | K | SKBN | | 3.49574720 | 1 | | **3.546** | | | | | 111.9663 | 243.0797 |
| 19 | K | SKA4 | | 3.71649220 | 1 | | **3.335** | | | | | 119.0366 | 258.4294 |
| 19 | K | SKA | | 3.71749997 | 0.01 | C | **3.334** | | | | | 119.0689 | 258.4995 |
| 19 | K | SKA3' | | 3.71799520 | 1 | | **3.334** | | | | | 119.0847 | 258.5339 |
| 19 | K | SKA3 | | 3.72060050 | 1 | | **3.332** | | | | | 119.1682 | 258.7151 |
| 19 | K | SKA3'' | | 3.72370670 | 1 | | **3.329** | | | | | 119.2677 | 258.9311 |
| 19 | K | SKA' | | 3.72811560 | 1 | | **3.325** | | | | | 119.4089 | 259.2377 |
| 19 | K | SKA'' | | 3.73843640 | 1 | | **3.316** | | | | | 119.7394 | 259.9553 |
| 19 | K | KA1 | | 3.74230003 | 100 | C | **3.312** | | | | | 119.8632 | |
| 19 | K | KA1,2 | | 3.74340010 | 150.58 | C | **3.311** | | | | | 119.8984 | |
| 19 | K | KA2 | | 3.74569988 | 50.58 | C | **3.309** | | | | | 119.9721 | |
| 19 | K | LI | ABS | 32.87859984 | | BB | **0.377** | 64.3777 | 93.9389 | 148.9886 | 357.4177 | | |
| 19 | K | LII | ABS | 41.84448194 | | BB | **0.296** | 81.9333 | 119.5557 | 189.6173 | 454.8843 | | |
| 19 | K | LIII | ABS | 42.22929155 | | BB | **0.294** | 82.6867 | 120.6551 | 191.3611 | 459.0675 | | |
| 19 | K | Ln | | 47.32540500 | 50 | | **0.262** | 92.6651 | 135.2154 | 214.4540 | 514.4665 | | |
| 19 | K | LI | | 47.83643500 | 95 | W,F | **0.259** | 93.6657 | 136.6755 | 216.7697 | 520.0218 | | |
| 19 | K | MI | ABS | 365.73805310 | | BB | **0.034** | | | | | | |
| 20 | Ca | SKB^4 | | 3.04754360 | 1 | | **4.068** | | | | | 97.6106 | 211.9135 |
| 20 | Ca | SKB''' | | 3.05375620 | 1 | | **4.059** | | | | | 97.8096 | 212.3455 |
| 20 | Ca | SKB | | 3.05399990 | 0.01 | C | **4.059** | | | | | 97.8174 | 212.3625 |
| 20 | Ca | K | ABS | 3.07038459 | | BB | **4.037** | | | | | 98.3422 | 213.5018 |
| 20 | Ca | KB5 | | 3.07419740 | 0.01 | | **4.032** | | | | | 98.4643 | 213.7669 |
| 20 | Ca | SKB'' | | 3.08201310 | 1 | | **4.022** | | | | | 98.7147 | 214.3104 |
| 20 | Ca | SKB^5 | | 3.08642200 | 1 | | **4.016** | | | | | 98.8559 | 214.6170 |
| 20 | Ca | KB1 | | 3.09030008 | 12.62 | C | **4.011** | | | | | 98.9801 | 214.8866 |
| 20 | Ca | KB3 | | 3.09030008 | 6.31 | C | **4.011** | | | | | 98.9801 | 214.8866 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | Ca | SKB' | | 3.10115170 | 1 | | **3.997** | | | | | 99.3277 | 215.6412 |
| 20 | Ca | SKBN | | 3.13241470 | 1 | | **3.957** | | | | | 100.3290 | 217.8151 |
| 20 | Ca | SKA4 | | 3.33682680 | 1 | | **3.715** | | | | | 106.8762 | 232.0291 |
| 20 | Ca | SKA3' | | 3.33772860 | 1 | | **3.714** | | | | | 106.9051 | 232.0918 |
| 20 | Ca | SKA | | 3.33899999 | 0.01 | C | **3.712** | | | | | 106.9458 | 232.1802 |
| 20 | Ca | SKA3 | | 3.34013350 | 1 | | **3.711** | | | | | 106.9821 | 232.2590 |
| 20 | Ca | SKA3'' | | 3.34303930 | 1 | | **3.708** | | | | | 107.0752 | 232.4611 |
| 20 | Ca | SKA' | | 3.34684700 | 1 | | **3.704** | | | | | 107.1971 | 232.7258 |
| 20 | Ca | SKA'' | | 3.35586520 | 1 | | **3.694** | | | | | 107.4860 | 233.3529 |
| 20 | Ca | KA1 | | 3.35899997 | 100 | C | **3.690** | | | | | 107.5864 | 233.5709 |
| 20 | Ca | KA1,2 | | 3.36019993 | 150.59 | C | **3.689** | | | | | 107.6248 | 233.6544 |
| 20 | Ca | KA2 | | 3.36269999 | 50.59 | C | **3.686** | | | | | 107.7049 | 233.8282 |
| 20 | Ca | LI | ABS | 28.32005482 | | BB | **0.438** | | 80.9144 | 128.3317 | 307.8625 | | |
| 20 | Ca | LII | ABS | 35.42434286 | | BB | **0.350** | 69.3623 | 101.2124 | 160.5246 | 385.0921 | | |
| 20 | Ca | LIII | ABS | 35.79249423 | | BB | **0.346** | 70.0832 | 102.2643 | 162.1929 | 389.0942 | | |
| 20 | Ca | LB1 | | 36.02261900 | 50 | | **0.344** | 70.5338 | 102.9218 | 163.2357 | 391.5958 | | |
| 20 | Ca | LA1 | | 36.39336600 | 100 | | **0.341** | 71.2597 | 103.9810 | 164.9157 | 395.6261 | | |
| 20 | Ca | LA2 | | 36.39336600 | 10 | | **0.341** | 71.2597 | 103.9810 | 164.9157 | 395.6261 | | |
| 20 | Ca | Ln | | 40.54172900 | 50 | | **0.306** | 79.3824 | 115.8335 | 183.7139 | 440.7223 | | |
| 20 | Ca | LI | | 41.04273900 | 95 | W,F | **0.302** | 80.3634 | 117.2650 | 185.9843 | 446.1687 | | |
| 20 | Ca | MI | ABS | 283.71899314 | | BB | **0.044** | | | | | | |
| 20 | Ca | MII | ABS | 488.13070866 | | BB | **0.025** | | | | | | |
| 21 | Sc | SKB^4 | | 2.74363100 | 1 | | **4.518** | | | | | 87.8765 | 190.7807 |
| 21 | Sc | SKB | | 2.74399996 | 0.01 | C | **4.517** | | | | | 87.8884 | 190.8064 |
| 21 | Sc | SKB''' | | 2.74894170 | 1 | | **4.509** | | | | | 88.0466 | 191.1500 |
| 21 | Sc | K | ABS | 2.75964209 | | BB | **4.492** | | | | | 88.3894 | 191.8941 |
| 21 | Sc | KB5 | | 2.76370001 | 0.01 | C | **4.485** | | | | | 88.5193 | 192.1762 |
| 21 | Sc | SKB'' | | 2.77148710 | 1 | | **4.473** | | | | | 88.7687 | 192.7177 |
| 21 | Sc | KB1 | | 2.77979994 | 12.84 | C | **4.459** | | | | | 89.0350 | 193.2957 |
| 21 | Sc | KB3 | | 2.77979994 | 6.42 | C | **4.459** | | | | | 89.0350 | 193.2957 |
| 21 | Sc | SKB' | | 2.78882210 | 1 | | **4.445** | | | | | 89.3240 | 193.9231 |
| 21 | Sc | SKBN | | 2.81888270 | 1 | | **4.397** | | | | | 90.2868 | 196.0134 |
| 21 | Sc | SKA4 | | 3.01237270 | 1 | | **4.115** | | | | | 96.4841 | 209.4679 |
| 21 | Sc | SKA3' | | 3.01267330 | 1 | | **4.115** | | | | | 96.4938 | 209.4888 |
| 21 | Sc | SKA | | 3.01399994 | 0.01 | C | **4.113** | | | | | 96.5363 | 209.5810 |
| 21 | Sc | SKA3 | | 3.01517840 | 1 | | **4.111** | | | | | 96.5740 | 209.6630 |
| 21 | Sc | SKA3'' | | 3.01768340 | 1 | | **4.108** | | | | | 96.6542 | 209.8372 |
| 21 | Sc | SKA' | | 3.02099010 | 1 | | **4.103** | | | | | 96.7601 | 210.0671 |
| 21 | Sc | SKA'' | | 3.02890610 | 1 | | **4.093** | | | | | 97.0137 | 210.6176 |
| 21 | Sc | KA1 | | 3.03130007 | 100 | C | **4.089** | | | | | 97.0904 | 210.7840 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | Sc | KA1,2 | | 3.03250003 | 150.53 | C | **4.088** | | | | | 97.1288 | 210.8675 |
| 21 | Sc | KA2 | | 3.03500009 | 50.53 | C | **4.084** | | | | | 97.2089 | 211.0413 |
| 21 | Sc | LI | ABS | 24.77721823 | | BB | **0.500** | | 70.7921 | 112.2774 | 269.3490 | | |
| 21 | Sc | LB3 | | 27.07010078 | 24.12 | C | **0.458** | | 77.3431 | 122.6676 | 294.2745 | | |
| 21 | Sc | LB4 | | 27.07010078 | 12.61 | C | **0.458** | | 77.3431 | 122.6676 | 294.2745 | | |
| 21 | Sc | LB9 | | 27.07010078 | 0.01 | C | **0.458** | | 77.3431 | 122.6676 | 294.2745 | | |
| 21 | Sc | LII | ABS | 30.48566511 | | BB | **0.407** | | 87.1019 | 138.1451 | 331.4045 | | |
| 21 | Sc | LIII | ABS | 30.82675286 | | BB | **0.402** | 60.3601 | 88.0764 | 139.6907 | 335.1124 | | |
| 21 | Sc | LB1 | | 30.99530029 | 56.77 | C | **0.400** | 60.6901 | 88.5580 | 140.4545 | 336.9447 | | |
| 21 | Sc | LB6 | | 30.99530029 | 0.91 | C | **0.400** | 60.6901 | 88.5580 | 140.4545 | 336.9447 | | |
| 21 | Sc | LG5 | | 30.99530029 | 4.57 | C | **0.400** | 60.6901 | 88.5580 | 140.4545 | 336.9447 | | |
| 21 | Sc | LA1 | | 31.38759995 | 100 | C | **0.395** | 61.4582 | 89.6789 | 142.2322 | 341.2093 | | |
| 21 | Sc | LA2 | | 31.38759995 | 11.4 | C | **0.395** | 61.4582 | 89.6789 | 142.2322 | 341.2093 | | |
| 21 | Sc | LB17 | | 32.71269989 | 0.04 | C | **0.379** | 64.0528 | 93.4649 | 148.2369 | 355.6142 | | |
| 21 | Sc | Ln | | 35.12210083 | 45.29 | C | **0.353** | 68.7705 | 100.3489 | 159.1550 | 381.8064 | | |
| 21 | Sc | LI | | 35.62670135 | 92.82 | C | **0.348** | 69.7586 | 101.7906 | 161.4416 | 387.2919 | | |
| 21 | Sc | MI | ABS | 230.45576208 | | BB | **0.054** | | | | | | |
| 21 | Sc | MII | ABS | 383.85510836 | | BB | **0.032** | | | | | | |
| 21 | Sc | MIII | ABS | 383.85510836 | | BB | **0.032** | | | | | | |
| 22 | Ti | SKB | | 2.48790002 | 0.01 | C | **4.983** | | | | | 79.6857 | 172.9982 |
| 22 | Ti | SKB‴ | | 2.48861690 | 1 | | **4.981** | | | | | 79.7086 | 173.0481 |
| 22 | Ti | K | ABS | 2.49648035 | | BB | **4.965** | | | | | 79.9605 | 173.5949 |
| 22 | Ti | KB5 | | 2.49909997 | 0.01 | C | **4.960** | | | | | 80.0444 | 173.7770 |
| 22 | Ti | SKB" | | 2.50635260 | 1 | | **4.946** | | | | | 80.2767 | 174.2814 |
| 22 | Ti | KB1 | | 2.51430011 | 12.99 | C | **4.930** | | | | | 80.5312 | 174.8340 |
| 22 | Ti | KB3 | | 2.51430011 | 6.58 | C | **4.930** | | | | | 80.5312 | 174.8340 |
| 22 | Ti | SKB' | | 2.52238490 | 1 | | **4.914** | | | | | 80.7902 | 175.3962 |
| 22 | Ti | SKBN | | 2.55104270 | 1 | | **4.859** | | | | | 81.7081 | 177.3889 |
| 22 | Ti | SKA4 | | 2.73040430 | 1 | | **4.540** | | | | | 87.4529 | 189.8610 |
| 22 | Ti | SKA3 | | 2.73240830 | 1 | | **4.537** | | | | | 87.5171 | 190.0003 |
| 22 | Ti | SKA | | 2.73490000 | 0.01 | C | **4.533** | | | | | 87.5969 | 190.1736 |
| 22 | Ti | SKA3" | | 2.73671700 | 1 | | **4.530** | | | | | 87.6551 | 190.2999 |
| 22 | Ti | SKA' | | 2.73992350 | 1 | | **4.524** | | | | | 87.7578 | 190.5229 |
| 22 | Ti | SKA" | | 2.74643660 | 1 | | **4.513** | | | | | 87.9664 | 190.9758 |
| 22 | Ti | KA1 | | 2.74900007 | 100 | C | **4.509** | | | | | 88.0485 | 191.1541 |
| 22 | Ti | KA1,2 | | 2.75020003 | 150.68 | C | **4.507** | | | | | 88.0869 | 191.2375 |
| 22 | Ti | KA2 | | 2.75270009 | 50.68 | C | **4.503** | | | | | 88.1670 | 191.4113 |
| 22 | Ti | LI | ABS | 21.99489090 | | BB | **0.564** | | 62.8425 | 99.6694 | 239.1027 | | |
| 22 | Ti | LB3 | | 23.88839912 | 11.96 | C | **0.519** | | 68.2526 | 108.2497 | 259.6868 | | |
| 22 | Ti | LB4 | | 23.88839912 | 6.27 | C | **0.519** | | 68.2526 | 108.2497 | 259.6868 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Ti | LB9 | | 23.88839912 | 0.01 | C | **0.519** | | 68.2526 | 108.2497 | 259.6868 | | |
| 22 | Ti | LII | ABS | 26.86569881 | | BB | **0.461** | | 76.7591 | 121.7413 | 292.0525 | | |
| 22 | Ti | LB1 | | 27.07010078 | 56.7 | C | **0.458** | | 77.3431 | 122.6676 | 294.2745 | | |
| 22 | Ti | LG5 | | 27.07010078 | 2 | C | **0.458** | | 77.3431 | 122.6676 | 294.2745 | | |
| 22 | Ti | LIII | ABS | 27.21958288 | | BB | **0.455** | | 77.7702 | 123.3449 | 295.8995 | | |
| 22 | Ti | LB6 | | 27.36890030 | 0.4 | C | **0.453** | | 78.1969 | 124.0216 | 297.5227 | | |
| 22 | Ti | LA1 | | 27.42939949 | 100 | C | **0.452** | | 78.3697 | 124.2957 | 298.1804 | | |
| 22 | Ti | LA2 | | 27.42939949 | 11.37 | C | **0.452** | | 78.3697 | 124.2957 | 298.1804 | | |
| 22 | Ti | LB17 | | 28.76589966 | 0.02 | C | **0.431** | | 82.1883 | 130.3520 | 312.7092 | | |
| 22 | Ti | Ln | | 30.91799927 | 20.2 | C | **0.401** | 60.5387 | 88.3371 | 140.1042 | 336.1044 | | |
| 22 | Ti | LI | | 31.38759995 | 41.18 | C | **0.395** | 61.4582 | 89.6789 | 142.2322 | 341.2093 | | |
| 22 | Ti | MI | ABS | 205.61393035 | | BB | **0.060** | | | | | | |
| 22 | Ti | MII | ABS | 358.33872832 | | BB | **0.035** | | | | | | |
| 22 | Ti | MIII | ABS | 358.33872832 | | BB | **0.035** | | | | | | |
| 23 | V | SKB''' | | 2.26226060 | 1 | | **5.479** | | | | | 72.4586 | 157.3082 |
| 23 | V | K | ABS | 2.26867212 | | BB | **5.464** | | | | | 72.6639 | 157.7540 |
| 23 | V | KB5 | | 2.26990008 | 0.01 | C | **5.461** | | | | | 72.7033 | 157.8394 |
| 23 | V | SKB'' | | 2.27689000 | 1 | | **5.444** | | | | | 72.9272 | 158.3255 |
| 23 | V | KB1 | | 2.28489995 | 13.24 | C | **5.425** | | | | | 73.1837 | 158.8825 |
| 23 | V | KB3 | | 2.28489995 | 6.69 | C | **5.425** | | | | | 73.1837 | 158.8825 |
| 23 | V | SKB' | | 2.29041730 | 1 | | **5.412** | | | | | 73.3604 | 159.2661 |
| 23 | V | SKBN | | 2.31987670 | 1 | | **5.343** | | | | | 74.3040 | 161.3146 |
| 23 | V | SKA4 | | 2.48941850 | 1 | | **4.979** | | | | | 79.7343 | 173.1038 |
| 23 | V | SKA3 | | 2.49112190 | 1 | | **4.976** | | | | | 79.7889 | 173.2223 |
| 23 | V | SKA3'' | | 2.49272520 | 1 | | **4.973** | | | | | 79.8402 | 173.3338 |
| 23 | V | SKA' | | 2.49583140 | 1 | | **4.967** | | | | | 79.9397 | 173.5498 |
| 23 | V | SKA'' | | 2.50154290 | 1 | | **4.955** | | | | | 80.1226 | 173.9469 |
| 23 | V | KA1 | | 2.50419998 | 100 | C | **4.950** | | | | | 80.2077 | 174.1317 |
| 23 | V | KA1,2 | | 2.50539994 | 150.99 | C | **4.948** | | | | | 80.2462 | 174.2151 |
| 23 | V | KA2 | | 2.50769997 | 50.99 | C | **4.943** | | | | | 80.3198 | 174.3750 |
| 23 | V | LI | ABS | 19.73658071 | | BB | **0.628** | | | 89.4359 | 214.5530 | | |
| 23 | V | LB3 | | 21.19330025 | 7.56 | C | **0.585** | | 60.5523 | 96.0370 | 230.3888 | | |
| 23 | V | LB4 | | 21.19330025 | 3.98 | C | **0.585** | | 60.5523 | 96.0370 | 230.3888 | | |
| 23 | V | LB9 | | 21.19330025 | 0.01 | C | **0.585** | | 60.5523 | 96.0370 | 230.3888 | | |
| 23 | V | LII | ABS | 23.82040346 | | BB | **0.520** | | 68.0583 | 107.9416 | 258.9476 | | |
| 23 | V | LB1 | | 23.88839912 | 56.84 | C | **0.519** | | 68.2526 | 108.2497 | 259.6868 | | |
| 23 | V | LG5 | | 23.88839912 | 1.19 | C | **0.519** | | 68.2526 | 108.2497 | 259.6868 | | |
| 23 | V | LIII | ABS | 24.17336713 | | BB | **0.513** | | 69.0668 | 109.5411 | 262.7846 | | |
| 23 | V | LB6 | | 24.21500015 | 0.24 | C | **0.512** | | 69.1857 | 109.7297 | 263.2372 | | |
| 23 | V | LA1 | | 24.26239967 | 100 | C | **0.511** | | 69.3211 | 109.9445 | 263.7525 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23 | V | LA2 | | 24.26239967 | 11.41 | C | **0.511** | | 69.3211 | 109.9445 | 263.7525 | | |
| 23 | V | LB17 | | 25.45809937 | 0.01 | C | **0.487** | | 72.7374 | 115.3628 | 276.7507 | | |
| 23 | V | Ln | | 27.36890030 | 12.37 | C | **0.453** | | 78.1969 | 124.0216 | 297.5227 | | |
| 23 | V | LI | | 27.79840088 | 25 | C | **0.446** | | 79.4240 | 125.9678 | 302.1917 | | |
| 23 | V | MI | ABS | 186.44390977 | | BB | **0.066** | | | | | | |
| 23 | V | MII | ABS | 328.00317460 | | BB | **0.038** | | | | | | |
| 23 | V | MIII | ABS | 328.00317460 | | BB | **0.038** | | | | | | |
| 24 | Cr | SKB''' | | 2.06556400 | 1 | | **6.001** | | | | | 66.1585 | 143.6307 |
| 24 | Cr | K | ABS | 2.07014626 | | BB | **5.988** | | | | | 66.3053 | 143.9494 |
| 24 | Cr | KB5 | | 2.07119989 | 0.01 | C | **5.985** | | | | | 66.3390 | 144.0226 |
| 24 | Cr | SKB'' | | 2.07768850 | 1 | | **5.966** | | | | | 66.5469 | 144.4738 |
| 24 | Cr | KB1 | | 2.08509994 | 12.91 | C | **5.945** | | | | | 66.7843 | 144.9892 |
| 24 | Cr | KB3 | | 2.08509994 | 6.51 | C | **5.945** | | | | | 66.7843 | 144.9892 |
| 24 | Cr | SKB' | | 2.09001330 | 1 | | **5.931** | | | | | 66.9416 | 145.3308 |
| 24 | Cr | SKBN | | 2.11776930 | 1 | | **5.853** | | | | | 67.8306 | 147.2609 |
| 24 | Cr | SKA4 | | 2.27749130 | 1 | | **5.443** | | | | | 72.9464 | 158.3673 |
| 24 | Cr | SKA3 | | 2.27899430 | 1 | | **5.439** | | | | | 72.9946 | 158.4718 |
| 24 | Cr | SKA3'' | | 2.28019670 | 1 | | **5.436** | | | | | 73.0331 | 158.5554 |
| 24 | Cr | SKA' | | 2.28230100 | 1 | | **5.431** | | | | | 73.1005 | 158.7017 |
| 24 | Cr | KA1 | | 2.28999996 | 100 | C | **5.413** | | | | | 73.3471 | 159.2371 |
| 24 | Cr | KA1,2 | | 2.29130006 | 150.93 | C | **5.410** | | | | | 73.3887 | 159.3275 |
| 24 | Cr | KA2 | | 2.29380012 | 50.93 | C | **5.404** | | | | | 73.4688 | 159.5013 |
| 24 | Cr | LI | ABS | 17.84987043 | | BB | **0.694** | | | 80.8863 | 194.0429 | | |
| 24 | Cr | LB3 | | 18.95730019 | 6.04 | C | **0.654** | | | 85.9046 | 206.0816 | | |
| 24 | Cr | LB4 | | 18.95730019 | 3.2 | C | **0.654** | | | 85.9046 | 206.0816 | | |
| 24 | Cr | LB9 | | 18.95730019 | 0.01 | C | **0.654** | | | 85.9046 | 206.0816 | | |
| 24 | Cr | LII | ABS | 21.24125407 | | BB | **0.584** | | 60.6893 | 96.2543 | 230.9101 | | |
| 24 | Cr | LB1 | | 21.26600075 | 57.27 | C | **0.583** | | 60.7600 | 96.3664 | 231.1791 | | |
| 24 | Cr | LG5 | | 21.26600075 | 0.74 | C | **0.583** | | 60.7600 | 96.3664 | 231.1791 | | |
| 24 | Cr | LIII | ABS | 21.58140992 | | BB | **0.574** | | 61.6612 | 97.7957 | 234.6079 | | |
| 24 | Cr | LA1 | | 21.63719940 | 100 | C | **0.573** | | 61.8206 | 98.0485 | 235.2143 | | |
| 24 | Cr | LA2 | | 21.63719940 | 11.44 | C | **0.573** | | 61.8206 | 98.0485 | 235.2143 | | |
| 24 | Cr | LB6 | | 21.63719940 | 0.56 | C | **0.573** | | 61.8206 | 98.0485 | 235.2143 | | |
| 24 | Cr | LB17 | | 22.66559982 | 0.01 | C | **0.547** | | 64.7589 | 102.7087 | 246.3939 | | |
| 24 | Cr | Ln | | 24.30999947 | 7.8 | C | **0.510** | | 69.4571 | 110.1602 | 264.2699 | | |
| 24 | Cr | LI | | 24.79619980 | 15.88 | C | **0.500** | | 70.8463 | 112.3634 | 269.5553 | | |
| 24 | Cr | MI | ABS | 167.32145749 | | BB | **0.074** | | | | | | |
| 24 | Cr | MII | ABS | 291.72988235 | | BB | **0.042** | | | | | | |
| 24 | Cr | MIII | ABS | 291.72988235 | | BB | **0.042** | | | | | | |
| 25 | Mn | SKB''' | | 1.89502020 | 1 | | **6.541** | | | | | 60.6961 | 131.7718 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | Mn | K | ABS | 1.89608809 | | BB | **6.538** | | | | | 60.7303 | 131.8461 |
| 25 | Mn | KB5 | | 1.89750004 | 0.01 | C | **6.533** | | | | | 60.7756 | 131.9443 |
| 25 | Mn | KB1 | | 1.91059995 | 13.4 | C | **6.488** | | | | | 61.1951 | 132.8552 |
| 25 | Mn | KB3 | | 1.91059995 | 6.8 | C | **6.488** | | | | | 61.1951 | 132.8552 |
| 25 | Mn | SKB' | | 1.91395840 | 1 | | **6.477** | | | | | 61.3027 | 133.0887 |
| 25 | Mn | SKA4 | | 2.09111550 | 1 | | **5.928** | | | | | 66.9769 | 145.4075 |
| 25 | Mn | SKA3 | | 2.09251840 | 1 | | **5.924** | | | | | 67.0219 | 145.5050 |
| 25 | Mn | SKA3'' | | 2.09352040 | 1 | | **5.921** | | | | | 67.0540 | 145.5747 |
| 25 | Mn | SKA' | | 2.09512360 | 1 | | **5.917** | | | | | 67.1053 | 145.6862 |
| 25 | Mn | KA1 | | 2.10209990 | 100 | C | **5.897** | | | | | 67.3288 | 146.1713 |
| 25 | Mn | KA1,2 | | 2.10339999 | 150.97 | C | **5.893** | | | | | 67.3704 | 146.2617 |
| 25 | Mn | KA2 | | 2.10599995 | 50.97 | C | **5.886** | | | | | 67.4537 | 146.4425 |
| 25 | Mn | LI | ABS | 16.12291287 | | BB | **0.769** | | | 73.0606 | 175.2695 | | |
| 25 | Mn | LB3 | | 17.19569969 | 5.17 | C | **0.721** | | | 77.9219 | 186.9315 | | |
| 25 | Mn | LB4 | | 17.19569969 | 2.75 | C | **0.721** | | | 77.9219 | 186.9315 | | |
| 25 | Mn | LB9 | | 17.19569969 | 0.01 | C | **0.721** | | | 77.9219 | 186.9315 | | |
| 25 | Mn | LII | ABS | 19.03365060 | | BB | **0.651** | | | 86.2506 | 206.9116 | | |
| 25 | Mn | LB1 | | 19.10339928 | 56.49 | C | **0.649** | | | 86.5666 | 207.6698 | | |
| 25 | Mn | LG5 | | 19.10339928 | 0.58 | C | **0.649** | | | 86.5666 | 207.6698 | | |
| 25 | Mn | LIII | ABS | 19.36361081 | | BB | **0.640** | | | 87.7458 | 210.4985 | | |
| 25 | Mn | LB6 | | 19.37199974 | 1.19 | C | **0.640** | | | 87.7838 | 210.5897 | | |
| 25 | Mn | LA1 | | 19.46330070 | 100 | C | **0.637** | | | 88.1975 | 211.5823 | | |
| 25 | Mn | LA2 | | 19.46330070 | 11.38 | C | **0.637** | | | 88.1975 | 211.5823 | | |
| 25 | Mn | LB17 | | 20.32480049 | 0.01 | C | **0.610** | | | 92.1014 | 220.9475 | | |
| 25 | Mn | Ln | | 21.86610031 | 6.43 | C | **0.567** | | 62.4746 | 99.0857 | 237.7027 | | |
| 25 | Mn | LI | | 22.29870033 | 13.25 | C | **0.556** | | 63.7106 | 101.0461 | 242.4054 | | |
| 25 | Mn | MI | ABS | 147.77735399 | | BB | **0.084** | | | | | | |
| 25 | Mn | MII | ABS | 255.11358025 | | BB | **0.049** | | | | | | |
| 25 | Mn | MIII | ABS | 255.11358025 | | BB | **0.049** | | | | | | |
| 26 | Fe | SKB''' | | 1.74211200 | 1 | | **7.116** | | | | | | 121.1392 |
| 26 | Fe | K | ABS | 1.74332396 | | BB | **7.111** | | | | | | 121.2235 |
| 26 | Fe | KB5 | | 1.74450004 | 0.01 | C | **7.106** | | | | | | 121.3053 |
| 26 | Fe | SKB'' | | 1.74852490 | 1 | | **7.089** | | | | | | 121.5852 |
| 26 | Fe | KB1 | | 1.75689995 | 13.48 | C | **7.056** | | | | | | 122.1675 |
| 26 | Fe | KB3 | | 1.75689995 | 6.84 | C | **7.056** | | | | | | 122.1675 |
| 26 | Fe | SKB' | | 1.75954710 | 1 | | **7.045** | | | | | | 122.3516 |
| 26 | Fe | SKBN | | 1.78329500 | 1 | | **6.951** | | | | | | 124.0029 |
| 26 | Fe | SKA3' | | 1.92608280 | 1 | | **6.436** | | | | | 61.6911 | 133.9318 |
| 26 | Fe | SKA4 | | 1.92668410 | 1 | | **6.434** | | | | | 61.7103 | 133.9736 |
| 26 | Fe | SKA3 | | 1.92778630 | 1 | | **6.430** | | | | | 61.7456 | 134.0503 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | Fe | SKA3" | | 1.92878830 | 1 | | **6.427** | | | | | 61.7777 | 134.1199 |
| 26 | Fe | SKA' | | 1.92989050 | 1 | | **6.423** | | | | | 61.8130 | 134.1966 |
| 26 | Fe | KA1 | | 1.93630004 | 100 | C | **6.402** | | | | | 62.0183 | 134.6423 |
| 26 | Fe | KA1,2 | | 1.93760002 | 151.23 | C | **6.398** | | | | | 62.0599 | 134.7327 |
| 26 | Fe | KA2 | | 1.94019997 | 51.23 | C | **6.389** | | | | | 62.1432 | 134.9135 |
| 26 | Fe | LI | ABS | 14.65372887 | | BB | **0.846** | | | 66.4030 | 159.2982 | | |
| 26 | Fe | LB3 | | 15.65419960 | 4.79 | C | **0.792** | | | 70.9367 | 170.1742 | | |
| 26 | Fe | LB4 | | 15.65419960 | 2.57 | C | **0.792** | | | 70.9367 | 170.1742 | | |
| 26 | Fe | LB9 | | 15.65419960 | 0.01 | C | **0.792** | | | 70.9367 | 170.1742 | | |
| 26 | Fe | SLB1" | | 17.07700000 | 1 | | **0.726** | | | 77.3840 | 185.6412 | | |
| 26 | Fe | SLB1' | | 17.12900000 | 1 | | **0.724** | | | 77.6197 | 186.2065 | | |
| 26 | Fe | LII | ABS | 17.19389821 | | BB | **0.721** | | | 77.9138 | 186.9120 | | |
| 26 | Fe | LB1 | | 17.26749992 | 56.51 | C | **0.718** | | | 78.2473 | 187.7121 | | |
| 26 | Fe | LG5 | | 17.26749992 | 0.45 | C | **0.718** | | | 78.2473 | 187.7121 | | |
| 26 | Fe | SLA4 | | 17.39100000 | 1 | | **0.713** | | | 78.8069 | 189.0546 | | |
| 26 | Fe | SLA3 | | 17.44500000 | 1 | | **0.711** | | | 79.0516 | 189.6417 | | |
| 26 | Fe | LIII | ABS | 17.50956080 | | BB | **0.708** | | | 79.3442 | 190.3435 | | |
| 26 | Fe | LB6 | | 17.51140022 | 0.91 | C | **0.708** | | | 79.3525 | 190.3635 | | |
| 26 | Fe | LA1 | | 17.58600044 | 100 | C | **0.705** | | | 79.6906 | 191.1744 | | |
| 26 | Fe | LA2 | | 17.58600044 | 11.44 | C | **0.705** | | | 79.6906 | 191.1744 | | |
| 26 | Fe | LB17 | | 18.34040070 | 0.01 | C | **0.676** | | | 83.1091 | 199.3754 | | |
| 26 | Fe | Ln | | 19.74220085 | 5.11 | C | **0.628** | | | 89.4613 | 214.6141 | | |
| 26 | Fe | LI | | 20.15950012 | 10.53 | C | **0.615** | | | 91.3523 | 219.1505 | | |
| 26 | Fe | MI | ABS | 133.46092573 | | BB | **0.093** | | | | | | |
| 26 | Fe | MII | ABS | 229.60222222 | | BB | **0.054** | | | | | | |
| 26 | Fe | MIII | ABS | 229.60222222 | | BB | **0.054** | | | | | | |
| 27 | Co | SKB"' | | 1.60703970 | 1 | | **7.714** | | | | | | 111.7469 |
| 27 | Co | K | ABS | 1.60833841 | | BB | **7.707** | | | | | | 111.8372 |
| 27 | Co | KB5 | | 1.60909998 | 0.01 | C | **7.704** | | | | | | 111.8901 |
| 27 | Co | SKB" | | 1.61365300 | 1 | | **7.682** | | | | | | 112.2067 |
| 27 | Co | KB1 | | 1.62109995 | 13.54 | C | **7.647** | | | | | | 112.7246 |
| 27 | Co | KB3 | | 1.62109995 | 6.88 | C | **7.647** | | | | | | 112.7246 |
| 27 | Co | SKB' | | 1.62297180 | 1 | | **7.638** | | | | | | 112.8547 |
| 27 | Co | SKBN | | 1.64501620 | 1 | | **7.535** | | | | | | 114.3876 |
| 27 | Co | SKA3' | | 1.77998830 | 1 | | **6.964** | | | | | | 123.7730 |
| 27 | Co | SKA4 | | 1.78058950 | 1 | | **6.962** | | | | | | 123.8148 |
| 27 | Co | SKA3 | | 1.78169180 | 1 | | **6.957** | | | | | | 123.8915 |
| 27 | Co | SKA3" | | 1.78259360 | 1 | | **6.954** | | | | | | 123.9542 |
| 27 | Co | SKA' | | 1.78369580 | 1 | | **6.950** | | | | | | 124.0308 |
| 27 | Co | KA1 | | 1.78929996 | 100 | C | **6.928** | | | | | | 124.4205 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 27 | Co | KA1,2 | | 1.79059994 | 151.04 | C | **6.923** | | | | | | 124.5109 |
| 27 | Co | KA2 | | 1.79320002 | 51.04 | C | **6.913** | | | | | | 124.6917 |
| 27 | Co | LI | ABS | 13.39511668 | | BB | **0.925** | | | 60.6997 | 145.6161 | | |
| 27 | Co | LB3 | | 14.31649971 | 4.66 | C | **0.866** | | | 64.8749 | 155.6323 | | |
| 27 | Co | LB4 | | 14.31649971 | 2.51 | C | **0.866** | | | 64.8749 | 155.6323 | | |
| 27 | Co | LB9 | | 14.31649971 | 0.01 | C | **0.866** | | | 64.8749 | 155.6323 | | |
| 27 | Co | SLB1" | | 15.48800000 | 1 | | **0.800** | | | 70.1835 | 168.3674 | | |
| 27 | Co | SLB1' | | 15.55300000 | 1 | | **0.797** | | | 70.4781 | 169.0740 | | |
| 27 | Co | LII | ABS | 15.62313508 | | BB | **0.793** | | | 70.7959 | 169.8365 | | |
| 27 | Co | LB1 | | 15.67399979 | 56.68 | C | **0.791** | | | 71.0264 | 170.3894 | | |
| 27 | Co | LG5 | | 15.67399979 | 0.35 | C | **0.791** | | | 71.0264 | 170.3894 | | |
| 27 | Co | SLA5 | | 15.73100000 | 1 | | **0.788** | | | 71.2847 | 171.0090 | | |
| 27 | Co | SLA4 | | 15.76800000 | 1 | | **0.786** | | | 71.4523 | 171.4113 | | |
| 27 | Co | SLA3 | | 15.84500000 | 1 | | **0.782** | | | 71.8013 | 172.2483 | | |
| 27 | Co | LIII | ABS | 15.92412022 | | BB | **0.778** | | | 72.1598 | 173.1084 | | |
| 27 | Co | LB6 | | 15.93589973 | 0.73 | C | **0.778** | | | 72.2132 | 173.2365 | | |
| 27 | Co | LA1 | | 15.97690010 | 100 | C | **0.776** | | | 72.3990 | 173.6822 | | |
| 27 | Co | LA2 | | 15.97690010 | 11.46 | C | **0.776** | | | 72.3990 | 173.6822 | | |
| 27 | Co | LB17 | | 16.61940002 | 0.01 | C | **0.746** | | | 75.3104 | 180.6667 | | |
| 27 | Co | Ln | | 17.86470032 | 4.26 | C | **0.694** | | | 80.9535 | 194.2041 | | |
| 27 | Co | LI | | 18.28630066 | 8.84 | C | **0.678** | | | 82.8640 | 198.7873 | | |
| 27 | Co | MI | ABS | 123.12333664 | | BB | **0.101** | 241.0807 | | | | | |
| 27 | Co | MII | ABS | 208.37848739 | | BB | **0.059** | | | | | | |
| 27 | Co | MIII | ABS | 208.37848739 | | BB | **0.059** | | | | | | |
| 28 | Ni | SKBN"' | | 1.48008370 | 1 | | **8.375** | | | | | | 102.9189 |
| 28 | Ni | SKBN" | | 1.48178720 | 1 | | **8.366** | | | | | | 103.0373 |
| 28 | Ni | SKBN' | | 1.48379120 | 1 | | **8.354** | | | | | | 103.1767 |
| 28 | Ni | SKB"' | | 1.48589550 | 1 | | **8.342** | | | | | | 103.3230 |
| 28 | Ni | SKB"' | | 1.48699770 | 1 | | **8.336** | | | | | | 103.3996 |
| 28 | Ni | K | ABS | 1.48791763 | | BB | **8.331** | | | | | | 103.4636 |
| 28 | Ni | KB2 | | 1.48860090 | 0.1 | | **8.327** | | | | | | 103.5111 |
| 28 | Ni | KB5 | | 1.48889995 | 0.01 | C | **8.326** | | | | | | 103.5319 |
| 28 | Ni | SKB" | | 1.49401180 | 1 | | **8.297** | | | | | | 103.8874 |
| 28 | Ni | SKB7 | | 1.49882150 | 1 | | **8.270** | | | | | | 104.2218 |
| 28 | Ni | KB1 | | 1.50039995 | 13.58 | C | **8.262** | | | | | | 104.3316 |
| 28 | Ni | KB3 | | 1.50039995 | 6.92 | C | **8.262** | | | | | | 104.3316 |
| 28 | Ni | SKB' | | 1.50212820 | 1 | | **8.252** | | | | | | 104.4518 |
| 28 | Ni | SKB' | | 1.50393180 | 1 | | **8.242** | | | | | | 104.5772 |
| 28 | Ni | SKBN | | 1.52226880 | 1 | | **8.143** | | | | | | 105.8523 |
| 28 | Ni | SKA^7 | | 1.63840290 | 1 | | **7.566** | | | | | | 113.9277 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 28 | Ni | SKA^6 | | 1.64140900 | 1 | | **7.552** | | | | | | 114.1368 |
| 28 | Ni | SKA^5 | | 1.64501620 | 1 | | **7.535** | | | | | | 114.3876 |
| 28 | Ni | SKA^4 | | 1.64651930 | 1 | | **7.529** | | | | | | 114.4921 |
| 28 | Ni | SKA"' | | 1.64782190 | 1 | | **7.523** | | | | | | 114.5827 |
| 28 | Ni | SKA3' | | 1.64972570 | 1 | | **7.514** | | | | | | 114.7151 |
| 28 | Ni | SKA4 | | 1.65032690 | 1 | | **7.511** | | | | | | 114.7569 |
| 28 | Ni | SKA3 | | 1.65132900 | 1 | | **7.507** | | | | | | 114.8266 |
| 28 | Ni | SKA3" | | 1.65213060 | 1 | | **7.503** | | | | | | 114.8823 |
| 28 | Ni | SKA' | | 1.65283200 | 1 | | **7.500** | | | | | | 114.9311 |
| 28 | Ni | SKA" | | 1.65483600 | 1 | | **7.491** | | | | | | 115.0704 |
| 28 | Ni | KA1 | | 1.65820003 | 100 | C | **7.476** | | | | | | 115.3043 |
| 28 | Ni | KA1,2 | | 1.65939999 | 151.18 | C | **7.470** | | | | | | 115.3878 |
| 28 | Ni | KA2 | | 1.66190004 | 51.18 | C | **7.459** | | | | | | 115.5616 |
| 28 | Ni | LI | ABS | 12.29889892 | | BB | **1.008** | | | | 133.6993 | | |
| 28 | Ni | LB9 | | 13.11970043 | 0.01 | C | **0.945** | | | | 142.6220 | | |
| 28 | Ni | LB3 | | 13.17549992 | 4.4 | C | **0.941** | | | | 143.2286 | | |
| 28 | Ni | LB4 | | 13.17549992 | 2.37 | C | **0.941** | | | | 143.2286 | | |
| 28 | Ni | SLB1" | | 14.14100000 | 1 | | **0.877** | | | 64.0796 | 153.7244 | | |
| 28 | Ni | SLB1' | | 14.18600000 | 1 | | **0.874** | | | 64.2835 | 154.2136 | | |
| 28 | Ni | LII | ABS | 14.22011699 | | BB | **0.872** | | | 64.4381 | 154.5845 | | |
| 28 | Ni | LG5 | | 14.25070000 | 0.26 | C | **0.870** | | | 64.5767 | 154.9170 | | |
| 28 | Ni | LB1 | | 14.26710033 | 51.86 | C | **0.869** | | | 64.6510 | 155.0952 | | |
| 28 | Ni | SLA5 | | 14.38400000 | 1 | | **0.862** | | | 65.1808 | 156.3660 | | |
| 28 | Ni | SLA4 | | 14.43300000 | 1 | | **0.859** | | | 65.4028 | 156.8987 | | |
| 28 | Ni | SLA3 | | 14.48900000 | 1 | | **0.856** | | | 65.6566 | 157.5075 | | |
| 28 | Ni | LIII | ABS | 14.50628291 | | BB | **0.855** | | | 65.7349 | 157.6954 | | |
| 28 | Ni | LB6 | | 14.51770020 | 0.59 | C | **0.854** | | | 65.7866 | 157.8195 | | |
| 28 | Ni | LA1 | | 14.56890011 | 100 | C | **0.851** | | | 66.0186 | 158.3761 | | |
| 28 | Ni | LA2 | | 14.56890011 | 11.45 | C | **0.851** | | | 66.0186 | 158.3761 | | |
| 28 | Ni | LB17 | | 15.11960030 | 0.01 | C | **0.820** | | | 68.5141 | 164.3626 | | |
| 28 | Ni | Ln | | 16.27050018 | 3.3 | C | **0.762** | | | 73.7294 | 176.8739 | | |
| 28 | Ni | LI | | 16.68650055 | 7.53 | C | **0.743** | | | 75.6145 | 181.3961 | | |
| 28 | Ni | MI | ABS | 110.89910555 | | BB | **0.112** | 217.1451 | | | | | |
| 28 | Ni | MII | ABS | 182.06343612 | | BB | **0.068** | | | | | | |
| 28 | Ni | MIII | ABS | 182.06343612 | | BB | **0.068** | | | | | | |
| 29 | Cu | SKBN^4 | | 1.36865910 | 1 | | **9.057** | | | | | | 95.1709 |
| 29 | Cu | SKBN"' | | 1.37156500 | 1 | | **9.038** | | | | | | 95.3729 |
| 29 | Cu | SKBN" | | 1.37557310 | 1 | | **9.012** | | | | | | 95.6516 |
| 29 | Cu | SKBN' | | 1.37697590 | 1 | | **9.002** | | | | | | 95.7492 |
| 29 | Cu | SKB"' | | 1.37887970 | 1 | | **8.990** | | | | | | 95.8816 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | Cu | SKB''' | | 1.37968130 | 1 | | **8.985** | | | | | | 95.9373 |
| 29 | Cu | K | ABS | 1.38085066 | | BB | **8.977** | | | | | | 96.0186 |
| 29 | Cu | KB2 | | 1.38098400 | 0.1 | | **8.976** | | | | | | 96.0279 |
| 29 | Cu | KB5 | | 1.38119996 | 0.02 | C | **8.975** | | | | | | 96.0429 |
| 29 | Cu | SKB6 | | 1.38298800 | 1 | | **8.963** | | | | | | 96.1672 |
| 29 | Cu | SKB'' | | 1.38499200 | 1 | | **8.950** | | | | | | 96.3066 |
| 29 | Cu | SKB7 | | 1.38729670 | 1 | | **8.935** | | | | | | 96.4669 |
| 29 | Cu | SKB10 | | 1.39130480 | 1 | | **8.910** | | | | | | 96.7456 |
| 29 | Cu | KB1 | | 1.39240003 | 13.41 | C | **8.903** | | | | | | 96.8217 |
| 29 | Cu | KB3 | | 1.39240003 | 6.84 | C | **8.903** | | | | | | 96.8217 |
| 29 | Cu | SKB' | | 1.39350920 | 1 | | **8.896** | | | | | | 96.8988 |
| 29 | Cu | SKB | | 1.39841910 | 1 | | **8.864** | | | | | | 97.2403 |
| 29 | Cu | SKB1^4 | | 1.40242720 | 1 | | **8.839** | | | | | | 97.5190 |
| 29 | Cu | SKBN | | 1.40773790 | 1 | | **8.806** | | | | | | 97.8882 |
| 29 | Cu | SKBN | | 1.40853950 | 1 | | **8.801** | | | | | | 97.9440 |
| 29 | Cu | SKA^4 | | 1.52216860 | 1 | | **8.144** | | | | | | 105.8453 |
| 29 | Cu | SKA''' | | 1.52798030 | 1 | | **8.113** | | | | | | 106.2494 |
| 29 | Cu | SKA4 | | 1.53299040 | 1 | | **8.086** | | | | | | 106.5978 |
| 29 | Cu | SKA3' | | 1.53389220 | 1 | | **8.081** | | | | | | 106.6605 |
| 29 | Cu | SKA3 | | 1.53469380 | 1 | | **8.077** | | | | | | 106.7162 |
| 29 | Cu | SKA' | | 1.53609670 | 1 | | **8.070** | | | | | | 106.8138 |
| 29 | Cu | SKA'' | | 1.53820090 | 1 | | **8.059** | | | | | | 106.9601 |
| 29 | Cu | KA1 | | 1.54089999 | 100 | C | **8.045** | | | | | | 107.1478 |
| 29 | Cu | KA1,2 | | 1.54219997 | 151.4 | C | **8.038** | | | | | | 107.2382 |
| 29 | Cu | KA2 | | 1.54470003 | 51.4 | C | **8.025** | | | | | | 107.4120 |
| 29 | Cu | LI | ABS | 11.31148618 | | BB | **1.096** | | | | 122.9653 | | |
| 29 | Cu | LB9 | | 11.94419956 | 0.02 | C | **1.038** | | | | 129.8434 | | |
| 29 | Cu | LB3 | | 12.11940002 | 4.21 | C | **1.023** | | | | 131.7480 | | |
| 29 | Cu | LB4 | | 12.11940002 | 2.29 | C | **1.023** | | | | 131.7480 | | |
| 29 | Cu | SLB1''' | | 12.91100000 | 1 | | **0.960** | | | | 140.3533 | | |
| 29 | Cu | SLB1'' | | 12.95700000 | 1 | | **0.957** | | | | 140.8534 | | |
| 29 | Cu | SLB1' | | 12.98900000 | 1 | | **0.954** | | | | 141.2012 | | |
| 29 | Cu | LG5 | | 13.00959969 | 0.21 | C | **0.953** | | | | 141.4252 | | |
| 29 | Cu | LII | ABS | 13.03735016 | | BB | **0.951** | | | | 141.7268 | | |
| 29 | Cu | LB1 | | 13.05060005 | 51.28 | C | **0.950** | | | | 141.8709 | | |
| 29 | Cu | SLA4 | | 13.17600000 | 1 | | **0.941** | | | | 143.2341 | | |
| 29 | Cu | SLA3'' | | 13.23300000 | 1 | | **0.937** | | | | 143.8537 | | |
| 29 | Cu | SLA3''' | | 13.26100000 | 1 | | **0.935** | | | 60.0919 | 144.1581 | | |
| 29 | Cu | SLA3' | | 13.27700000 | 1 | | **0.934** | | | 60.1644 | 144.3320 | | |
| 29 | Cu | LIII | ABS | 13.31599184 | | BB | **0.931** | | | 60.3411 | 144.7559 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | Cu | LB6 | | 13.31700039 | 0.58 | C | **0.931** | | | 60.3457 | 144.7669 | | |
| 29 | Cu | LA1 | | 13.33129978 | 100 | C | **0.930** | | | 60.4105 | 144.9223 | | |
| 29 | Cu | LA2 | | 13.33129978 | 11.47 | C | **0.930** | | | 60.4105 | 144.9223 | | |
| 29 | Cu | SLA^5 | | 13.37900000 | 1 | | **0.927** | | | 60.6266 | 145.4409 | | |
| 29 | Cu | SLA^6 | | 13.39700000 | 1 | | **0.925** | | | 60.7082 | 145.6365 | | |
| 29 | Cu | LB17 | | 13.83720016 | 0.01 | C | **0.896** | | | 62.7030 | 150.4219 | | |
| 29 | Cu | Ln | | 14.90159988 | 2.75 | C | **0.832** | | | 67.5263 | 161.9928 | | |
| 29 | Cu | LI | | 15.28740025 | 6.38 | C | **0.811** | | | 69.2745 | 166.1867 | | |
| 29 | Cu | MI | ABS | 103.49348915 | | BB | **0.120** | 202.6446 | | | | | |
| 29 | Cu | MII | ABS | 168.45815217 | | BB | **0.074** | | | | | | |
| 29 | Cu | MIII | ABS | 168.45815217 | | BB | **0.074** | | | | | | |
| 30 | Zn | SKB3' | | 1.28158360 | 1 | | **9.672** | | | | | | 89.1160 |
| 30 | Zn | K | ABS | 1.28367672 | | BB | **9.657** | | | | | | 89.2615 |
| 30 | Zn | KB2 | | 1.28368780 | 0.1 | | **9.657** | | | | | | 89.2623 |
| 30 | Zn | KB5 | | 1.28499997 | 0.02 | C | **9.647** | | | | | | 89.3536 |
| 30 | Zn | SKB" | | 1.28719490 | 1 | | **9.630** | | | | | | 89.5062 |
| 30 | Zn | SKB10 | | 1.29460980 | 1 | | **9.575** | | | | | | 90.0218 |
| 30 | Zn | KB1 | | 1.29550004 | 13.71 | C | **9.569** | | | | | | 90.0837 |
| 30 | Zn | KB3 | | 1.29550004 | 7.01 | C | **9.569** | | | | | | 90.0837 |
| 30 | Zn | SKB' | | 1.29641350 | 1 | | **9.562** | | | | | | 90.1472 |
| 30 | Zn | SKBN | | 1.31134360 | 1 | | **9.453** | | | | | | 91.1854 |
| 30 | Zn | SKA4 | | 1.42847970 | 1 | | **8.678** | | | | | | 99.3305 |
| 30 | Zn | SKA3 | | 1.42998270 | 1 | | **8.669** | | | | | | 99.4351 |
| 30 | Zn | SKA' | | 1.43058400 | 1 | | **8.665** | | | | | | 99.4769 |
| 30 | Zn | KA1 | | 1.43550003 | 100 | C | **8.635** | | | | | | 99.8187 |
| 30 | Zn | KA1,2 | | 1.43680000 | 151.43 | C | **8.628** | | | | | | 99.9091 |
| 30 | Zn | KA2 | | 1.43929994 | 51.43 | C | **8.613** | | | | | | 100.0829 |
| 30 | Zn | LI | ABS | 10.38750000 | | BB | **1.193** | | | | 112.9208 | | |
| 30 | Zn | LB9 | | 10.92350006 | 0.02 | C | **1.135** | | | | 118.7475 | | |
| 30 | Zn | LB3 | | 11.19970036 | 4.32 | C | **1.107** | | | | 121.7501 | | |
| 30 | Zn | LB4 | | 11.19970036 | 2.36 | C | **1.107** | | | | 121.7501 | | |
| 30 | Zn | LII | ABS | 11.88964327 | | BB | **1.043** | | | | 129.2503 | | |
| 30 | Zn | SLB1" | | 11.90200000 | 1 | | **1.042** | | | | 129.3846 | | |
| 30 | Zn | LG5 | | 11.93270016 | 0.18 | C | **1.039** | | | | 129.7184 | | |
| 30 | Zn | SLB1' | | 11.93500000 | 1 | | **1.039** | | | | 129.7434 | | |
| 30 | Zn | LB1 | | 11.99040031 | 51.4 | C | **1.034** | | | | 130.3456 | | |
| 30 | Zn | SLA"" | | 12.11000000 | 1 | | **1.024** | | | | 131.6458 | | |
| 30 | Zn | SLA4"' | | 12.15300000 | 1 | | **1.020** | | | | 132.1132 | | |
| 30 | Zn | LB6 | | 12.15499973 | 0.56 | C | **1.020** | | | | 132.1350 | | |
| 30 | Zn | LIII | ABS | 12.15898794 | | BB | **1.019** | | | | 132.1783 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Zn | SLA3" | | 12.17800000 | 1 | | **1.018** | | | | 132.3850 | | |
| 30 | Zn | SLA3' | | 12.19600000 | 1 | | **1.016** | | | | 132.5807 | | |
| 30 | Zn | LA1 | | 12.25109959 | 100 | C | **1.012** | | | | 133.1796 | | |
| 30 | Zn | LA2 | | 12.25109959 | 11.44 | C | **1.012** | | | | 133.1796 | | |
| 30 | Zn | LB17 | | 12.68999958 | 0.01 | C | **0.977** | | | | 137.9508 | | |
| 30 | Zn | Ln | | 13.68439960 | 2.51 | C | **0.906** | | | 62.0106 | 148.7608 | | |
| 30 | Zn | Ll | | 14.02499962 | 5.86 | C | **0.884** | | | 63.5540 | 152.4634 | | |
| 30 | Zn | MI | ABS | 91.23267108 | | BB | **0.136** | 178.6374 | | | | | |
| 30 | Zn | MII | ABS | 143.16997691 | | BB | **0.087** | | | | | | |
| 30 | Zn | MIII | ABS | 143.16997691 | | BB | **0.087** | | | | | | |
| 31 | Ga | SKB"' | | 1.19140180 | 1 | | **10.405** | | | | | | 82.8451 |
| 31 | Ga | SKB"' | | 1.19320540 | 1 | | **10.389** | | | | | | 82.9705 |
| 31 | Ga | SKB"' | | 1.19460820 | 1 | | **10.377** | | | | | | 83.0681 |
| 31 | Ga | K | ABS | 1.19594872 | | BB | **10.365** | | | | | | 83.1613 |
| 31 | Ga | KB2 | | 1.19620001 | 0.16 | C | **10.363** | | | | | | 83.1788 |
| 31 | Ga | KB5 | | 1.19830000 | 0.02 | C | **10.345** | | | | | | 83.3248 |
| 31 | Ga | SKB9 | | 1.19901710 | 1 | | **10.338** | | | | | | 83.3747 |
| 31 | Ga | SKB7 | | 1.20302520 | 1 | | **10.304** | | | | | | 83.6534 |
| 31 | Ga | SKB10 | | 1.20703330 | 1 | | **10.270** | | | | | | 83.9321 |
| 31 | Ga | KB1 | | 1.20799994 | 14.06 | C | **10.262** | | | | | | 83.9993 |
| 31 | Ga | KB3 | | 1.20850003 | 7.17 | C | **10.257** | | | | | | 84.0341 |
| 31 | Ga | SKB' | | 1.20853630 | 1 | | **10.257** | | | | | | 84.0366 |
| 31 | Ga | SKB2' | | 1.21044020 | 1 | | **10.241** | | | | | | 84.1690 |
| 31 | Ga | SKBN | | 1.22376700 | 1 | | **10.129** | | | | | | 85.0957 |
| 31 | Ga | SKA4 | | 1.33378880 | 1 | | **9.294** | | | | | | 92.7461 |
| 31 | Ga | SKA3' | | 1.33459040 | 1 | | **9.288** | | | | | | 92.8019 |
| 31 | Ga | SKA3 | | 1.33529190 | 1 | | **9.283** | | | | | | 92.8507 |
| 31 | Ga | SKA' | | 1.33609350 | 1 | | **9.278** | | | | | | 92.9064 |
| 31 | Ga | SKA1' | | 1.33729590 | 1 | | **9.269** | | | | | | 92.9900 |
| 31 | Ga | SKA2' | | 1.33839810 | 1 | | **9.262** | | | | | | 93.0666 |
| 31 | Ga | KA1 | | 1.34029996 | 100 | C | **9.249** | | | | | | 93.1989 |
| 31 | Ga | KA1,2 | | 1.34159994 | 151.34 | C | **9.240** | | | | | | 93.2893 |
| 31 | Ga | KA2 | | 1.34430003 | 51.34 | C | **9.221** | | | | | | 93.4770 |
| 31 | Ga | LI | ABS | 9.55422671 | | BB | **1.297** | | | | 103.8624 | | |
| 31 | Ga | LG2 | | 9.69359970 | 0.02 | C | **1.279** | | | | 105.3775 | | |
| 31 | Ga | LG3 | | 9.69359970 | 0.04 | C | **1.279** | | | | 105.3775 | | |
| 31 | Ga | LB9 | | 10.03079987 | 0.02 | C | **1.236** | | | | 109.0431 | | |
| 31 | Ga | LB3 | | 10.35770035 | 4.61 | C | **1.197** | | | | 112.5968 | | |
| 31 | Ga | LB4 | | 10.35770035 | 2.52 | C | **1.197** | | | | 112.5968 | | |
| 31 | Ga | LII | ABS | 10.85399632 | | BB | **1.142** | | | | 117.9920 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | Ga | L2-N3 | | 10.94270039 | 0.01 | C | **1.133** | | | | 118.9562 | | |
| 31 | Ga | SLB1" | | 10.96000000 | 1 | | **1.131** | | | | 119.1443 | | |
| 31 | Ga | LG5 | | 10.97179985 | 0.22 | C | **1.130** | | | | 119.2726 | | |
| 31 | Ga | SLB1' | | 10.99000000 | 1 | | **1.128** | | | | 119.4704 | | |
| 31 | Ga | LB1 | | 11.02050018 | 55.68 | C | **1.125** | | | | 119.8020 | | |
| 31 | Ga | LIII | ABS | 11.11576116 | | BB | **1.115** | | | | 120.8376 | | |
| 31 | Ga | LB6 | | 11.11940002 | 0.53 | C | **1.115** | | | | 120.8771 | | |
| 31 | Ga | SLA4 | | 11.19000000 | 1 | | **1.108** | | | | 121.6446 | | |
| 31 | Ga | SLA3" | | 11.22000000 | 1 | | **1.105** | | | | 121.9707 | | |
| 31 | Ga | SLA3' | | 11.24000000 | 1 | | **1.103** | | | | 122.1881 | | |
| 31 | Ga | LA1 | | 11.29150009 | 100 | C | **1.098** | | | | 122.7480 | | |
| 31 | Ga | LA2 | | 11.29150009 | 11.42 | C | **1.098** | | | | 122.7480 | | |
| 31 | Ga | LB17 | | 11.65240002 | 0.01 | C | **1.064** | | | | 126.6713 | | |
| 31 | Ga | Ln | | 12.59969997 | 2.51 | C | **0.984** | | | | 136.9692 | | |
| 31 | Ga | LI | | 12.95520020 | 5.44 | C | **0.957** | | | | 140.8338 | | |
| 31 | Ga | MI | ABS | 78.42201139 | | BB | **0.158** | 153.5536 | 224.0629 | 355.3676 | 852.5125 | | |
| 31 | Ga | MII | ABS | 116.09101124 | | BB | **0.107** | 227.3111 | | | | | |
| 31 | Ga | MIII | ABS | 120.49096210 | | BB | **0.103** | 235.9264 | | | | | |
| 32 | Ge | SKB"' | | 1.11424620 | 1 | | **11.125** | | | | | | 77.4801 |
| 32 | Ge | SKB"' | | 1.11534850 | 1 | | **11.114** | | | | | | 77.5567 |
| 32 | Ge | K | ABS | 1.11667192 | | BB | **11.101** | | | | | | 77.6487 |
| 32 | Ge | KB2 | | 1.11699998 | 0.47 | C | **11.098** | | | | | | 77.6715 |
| 32 | Ge | SKB8 | | 1.11825430 | 1 | | **11.085** | | | | | | 77.7588 |
| 32 | Ge | KB5 | | 1.11969995 | 0.02 | C | **11.071** | | | | | | 77.8593 |
| 32 | Ge | SKB9 | | 1.12045880 | 1 | | **11.063** | | | | | | 77.9121 |
| 32 | Ge | SKB" | | 1.12306400 | 1 | | **11.038** | | | | | | 78.0932 |
| 32 | Ge | SKB7 | | 1.12456700 | 1 | | **11.023** | | | | | | 78.1977 |
| 32 | Ge | SKB10 | | 1.12807410 | 1 | | **10.989** | | | | | | 78.4416 |
| 32 | Ge | KB1 | | 1.12919998 | 14.36 | C | **10.978** | | | | | | 78.5199 |
| 32 | Ge | KB3 | | 1.12960005 | 7.33 | C | **10.974** | | | | | | 78.5477 |
| 32 | Ge | SKB2' | | 1.13138080 | 1 | | **10.957** | | | | | | 78.6715 |
| 32 | Ge | SKBN | | 1.13599010 | 1 | | **10.912** | | | | | | 78.9920 |
| 32 | Ge | SKA4 | | 1.24811610 | 1 | | **9.932** | | | | | | 86.7888 |
| 32 | Ge | SKA3 | | 1.24971930 | 1 | | **9.919** | | | | | | 86.9003 |
| 32 | Ge | SKA' | | 1.25022040 | 1 | | **9.915** | | | | | | 86.9351 |
| 32 | Ge | SKA1' | | 1.25142280 | 1 | | **9.906** | | | | | | 87.0187 |
| 32 | Ge | SKA2' | | 1.25252500 | 1 | | **9.897** | | | | | | 87.0954 |
| 32 | Ge | KA1 | | 1.25419998 | 100 | C | **9.884** | | | | | | 87.2119 |
| 32 | Ge | KA1,2 | | 1.25549996 | 151.5 | C | **9.873** | | | | | | 87.3023 |
| 32 | Ge | KA2 | | 1.25820005 | 51.5 | C | **9.852** | | | | | | 87.4900 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 32 | Ge | LI | ABS | 8.76654175 | | BB | **1.414** | | | | 95.2996 | | |
| 32 | Ge | LG2 | | 8.88749981 | 0.06 | C | **1.395** | | | | 96.6145 | | |
| 32 | Ge | LG3 | | 8.88749981 | 0.11 | C | **1.395** | | | | 96.6145 | | |
| 32 | Ge | LB9 | | 9.24540043 | 0.02 | C | **1.341** | | | | 100.5052 | | |
| 32 | Ge | LB3 | | 9.58119965 | 4.43 | C | **1.294** | | | | 104.1556 | | |
| 32 | Ge | LB4 | | 9.64080048 | 2.44 | C | **1.286** | | | | 104.8035 | | |
| 32 | Ge | LII | ABS | 9.93630389 | | BB | **1.248** | | | | 108.0159 | | |
| 32 | Ge | L2-N3 | | 10.10439968 | 0.01 | C | **1.227** | | | | 109.8432 | | |
| 32 | Ge | SLB1" | | 10.10500000 | 1 | | **1.227** | | | | 109.8497 | | |
| 32 | Ge | LG5 | | 10.12919998 | 0.2 | C | **1.224** | | | | 110.1128 | | |
| 32 | Ge | SLB1' | | 10.13200000 | 1 | | **1.223** | | | | 110.1433 | | |
| 32 | Ge | LB1 | | 10.17910004 | 47.28 | C | **1.218** | | | | 110.6553 | | |
| 32 | Ge | LIII | ABS | 10.19028520 | | BB | **1.216** | | | | 110.7769 | | |
| 32 | Ge | LB6 | | 10.21259975 | 0.5 | C | **1.214** | | | | 111.0194 | | |
| 32 | Ge | SLA4 | | 10.34400000 | 1 | | **1.198** | | | | 112.4479 | | |
| 32 | Ge | SLA3"' | | 10.37000000 | 1 | | **1.195** | | | | 112.7305 | | |
| 32 | Ge | SLA3' | | 10.38500000 | 1 | | **1.194** | | | | 112.8936 | | |
| 32 | Ge | LA1 | | 10.43610001 | 100 | C | **1.188** | | | | 113.4491 | | |
| 32 | Ge | LA2 | | 10.43610001 | 11.33 | C | **1.188** | | | | 113.4491 | | |
| 32 | Ge | LB17 | | 10.74359989 | 0.01 | C | **1.154** | | | | 116.7919 | | |
| 32 | Ge | Ln | | 11.60869980 | 2 | C | **1.068** | | | | 126.1962 | | |
| 32 | Ge | LI | | 11.96730042 | 5.11 | C | **1.036** | | | | 130.0945 | | |
| 32 | Ge | MI | ABS | 68.88066667 | | BB | **0.180** | 134.8712 | 196.8019 | 312.1312 | 748.7901 | | |
| 32 | Ge | MII | ABS | 96.93917123 | | BB | **0.128** | 189.8110 | | | | | |
| 32 | Ge | MIII | ABS | 102.63675497 | | BB | **0.121** | 200.9671 | | | | | |
| 33 | As | SKB" | | 1.04210080 | 1 | | **11.895** | | | | | | 72.4634 |
| 33 | As | SKB3' | | 1.04380420 | 1 | | **11.876** | | | | | | 72.5818 |
| 33 | As | K | ABS | 1.04481617 | | BB | **11.864** | | | | | | 72.6522 |
| 33 | As | KB2 | | 1.04519999 | 0.82 | C | **11.860** | | | | | | 72.6789 |
| 33 | As | SKB8 | | 1.04711090 | 1 | | **11.838** | | | | | | 72.8117 |
| 33 | As | KB5 | | 1.04900002 | 0.03 | C | **11.817** | | | | | | 72.9431 |
| 33 | As | SKB6 | | 1.05011700 | 1 | | **11.804** | | | | | | 73.0208 |
| 33 | As | SKB7 | | 1.05412500 | 1 | | **11.760** | | | | | | 73.2995 |
| 33 | As | KB1 | | 1.05750000 | 14.59 | C | **11.722** | | | | | | 73.5342 |
| 33 | As | KB3 | | 1.05799997 | 7.5 | C | **11.716** | | | | | | 73.5689 |
| 33 | As | SKBN | | 1.06113920 | 1 | | **11.682** | | | | | | 73.7872 |
| 33 | As | SKA4 | | 1.17055980 | 1 | | **10.590** | | | | | | 81.3959 |
| 33 | As | SKA3' | | 1.17146160 | 1 | | **10.582** | | | | | | 81.4586 |
| 33 | As | SKA3 | | 1.17206280 | 1 | | **10.576** | | | | | | 81.5004 |
| 33 | As | KA1 | | 1.17610002 | 100 | C | **10.540** | | | | | | 81.7811 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | As | KA1,2 | | 1.17739999 | 151.53 | C | **10.528** | | | | | | 81.8715 |
| 33 | As | KA2 | | 1.18009996 | 51.53 | C | **10.504** | | | | | | 82.0593 |
| 33 | As | LI | ABS | 8.12218801 | | BB | **1.526** | | | | 88.2949 | | |
| 33 | As | LG2 | | 8.17819977 | 0.1 | C | **1.516** | | | | 88.9038 | | |
| 33 | As | LG3 | | 8.17819977 | 0.2 | C | **1.516** | | | | 88.9038 | | |
| 33 | As | LB9 | | 8.54450035 | 0.03 | C | **1.451** | | | | 92.8858 | | |
| 33 | As | LB3 | | 8.93239975 | 4.77 | C | **1.388** | | | | 97.1026 | | |
| 33 | As | LB4 | | 8.93239975 | 2.6 | C | **1.388** | | | | 97.1026 | | |
| 33 | As | LII | ABS | 9.12595319 | | BB | **1.358** | | | | 99.2067 | | |
| 33 | As | L2-N3 | | 9.25230026 | 0.01 | C | **1.340** | | | | 100.5802 | | |
| 33 | As | LG5 | | 9.27999973 | 0.21 | C | **1.336** | | | | 100.8813 | | |
| 33 | As | SLB1" | | 9.36588090 | 1 | | **1.324** | | | | 101.8149 | | |
| 33 | As | LIII | ABS | 9.37081097 | | BB | **1.323** | | | | 101.8685 | | |
| 33 | As | SLB1' | | 9.39193350 | 1 | | **1.320** | | | | 102.0981 | | |
| 33 | As | LB1 | | 9.41390038 | 47.96 | C | **1.317** | | | | 102.3369 | | |
| 33 | As | LB6 | | 9.41390038 | 0.53 | C | **1.317** | | | | 102.3369 | | |
| 33 | As | SLA4 | | 9.60135560 | 1 | | **1.291** | | | | 104.3747 | | |
| 33 | As | SLA3 | | 9.63642630 | 1 | | **1.286** | | | | 104.7560 | | |
| 33 | As | LA1 | | 9.67090034 | 100 | C | **1.282** | | | | 105.1307 | | |
| 33 | As | LA2 | | 9.67090034 | 11.41 | C | **1.282** | | | | 105.1307 | | |
| 33 | As | LB17 | | 9.92640018 | 0.01 | C | **1.249** | | | | 107.9082 | | |
| 33 | As | Ln | | 10.73429966 | 1.93 | C | **1.155** | | | | 116.6908 | | |
| 33 | As | LI | | 11.06970024 | 4.93 | C | **1.120** | | | | 120.3368 | | |
| 33 | As | MI | ABS | 60.92638821 | | BB | **0.203** | 119.2964 | 174.0754 | 276.0866 | 662.3205 | | |
| 33 | As | MII | ABS | 84.68934426 | | BB | **0.146** | 165.8253 | 241.9696 | 383.7679 | 920.6436 | | |
| 33 | As | MIII | ABS | 88.24569395 | | BB | **0.140** | 172.7888 | 252.1306 | 399.8834 | 959.3040 | | |
| 33 | As | MIV | ABS | 300.93495146 | | BB | **0.041** | | | | | | |
| 33 | As | MV | ABS | 300.93495146 | | BB | **0.041** | | | | | | |
| 34 | Se | SKB" | | 0.97696950 | 1 | | **12.688** | | | | | | 67.9344 |
| 34 | Se | SKB"' | | 0.97857273 | 1 | | **12.667** | | | | | | 68.0459 |
| 34 | Se | K | ABS | 0.97951619 | | BB | **12.655** | | | | | | 68.1115 |
| 34 | Se | KB2 | | 0.98009998 | 1.24 | C | **12.648** | | | | | | 68.1521 |
| 34 | Se | KB5 | | 0.98439997 | 0.03 | C | **12.592** | | | | | | 68.4511 |
| 34 | Se | SKB6 | | 0.98538647 | 1 | | **12.580** | | | | | | 68.5197 |
| 34 | Se | SKB7 | | 0.98889354 | 1 | | **12.535** | | | | | | 68.7636 |
| 34 | Se | KB1 | | 0.99229997 | 15.05 | C | **12.492** | | | | | | 69.0004 |
| 34 | Se | KB3 | | 0.99290001 | 7.69 | C | **12.485** | | | | | | 69.0421 |
| 34 | Se | SKBN | | 0.99580748 | 1 | | **12.448** | | | | | | 69.2443 |
| 34 | Se | SKA4 | | 1.10001760 | 1 | | **11.269** | | | | | | 76.4907 |
| 34 | Se | SKA3' | | 1.10071900 | 1 | | **11.262** | | | | | | 76.5394 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | Se | SKA3 | | 1.10111980 | 1 | | **11.258** | | | | | | 76.5673 |
| 34 | Se | KA1 | | 1.10500002 | 100 | C | **11.218** | | | | | | 76.8371 |
| 34 | Se | KA1,2 | | 1.10640001 | 151.6 | C | **11.204** | | | | | | 76.9345 |
| 34 | Se | KA2 | | 1.10909998 | 51.6 | C | **11.177** | | | | | | 77.1222 |
| 34 | Se | LI | ABS | 7.49653546 | | BB | **1.654** | | | | 81.4936 | 240.1087 | |
| 34 | Se | LG2 | | 7.55060005 | 0.15 | C | **1.642** | | | | 82.0813 | 241.8403 | |
| 34 | Se | LG3 | | 7.55060005 | 0.29 | C | **1.642** | | | | 82.0813 | 241.8403 | |
| 34 | Se | LB9 | | 7.92210007 | 0.03 | C | **1.565** | | | | 86.1198 | 253.7392 | |
| 34 | Se | LB3 | | 8.32089996 | 4.7 | C | **1.490** | | | | 90.4551 | | |
| 34 | Se | LB4 | | 8.32089996 | 2.48 | C | **1.490** | | | | 90.4551 | | |
| 34 | Se | LII | ABS | 8.39894323 | | BB | **1.476** | | | | 91.3035 | | |
| 34 | Se | L2-N3 | | 8.50349998 | 0.01 | C | **1.458** | | | | 92.4401 | | |
| 34 | Se | LG5 | | 8.53279972 | 0.22 | C | **1.453** | | | | 92.7586 | | |
| 34 | Se | LIII | ABS | 8.63526954 | | BB | **1.436** | | | | 93.8726 | | |
| 34 | Se | SLB1" | | 8.68951740 | 1 | | **1.427** | | | | 94.4623 | | |
| 34 | Se | LB6 | | 8.70650005 | 0.55 | C | **1.424** | | | | 94.6469 | | |
| 34 | Se | SLB1' | | 8.71657200 | 1 | | **1.422** | | | | 94.7564 | | |
| 34 | Se | LB1 | | 8.73719978 | 48.56 | C | **1.419** | | | | 94.9806 | | |
| 34 | Se | SLA4 | | 8.92198610 | 1 | | **1.389** | | | | 96.9894 | | |
| 34 | Se | SLA3 | | 8.95805880 | 1 | | **1.384** | | | | 97.3815 | | |
| 34 | Se | LA1 | | 8.99069977 | 100 | C | **1.379** | | | | 97.7364 | | |
| 34 | Se | LA2 | | 8.99069977 | 11.42 | C | **1.379** | | | | 97.7364 | | |
| 34 | Se | LB17 | | 9.20419979 | 0.01 | C | **1.347** | | | | 100.0573 | | |
| 34 | Se | Ln | | 9.96630001 | 1.87 | C | **1.244** | | | | 108.3420 | | |
| 34 | Se | LI | | 10.29740047 | 4.76 | C | **1.204** | | | | 111.9413 | | |
| 34 | Se | MI | ABS | 53.55732181 | | BB | **0.231** | 104.8675 | 153.0209 | 242.6938 | 582.2126 | | |
| 34 | Se | MII | ABS | 73.71296076 | | BB | **0.168** | 144.3331 | 210.6085 | 334.0286 | 801.3212 | | |
| 34 | Se | MIII | ABS | 76.58134651 | | BB | **0.162** | 149.9495 | 218.8038 | 347.0267 | 832.5029 | | |
| 34 | Se | MIV | ABS | 218.66878307 | | BB | **0.057** | | | | | | |
| 34 | Se | MV | ABS | 218.66878307 | | BB | **0.057** | | | | | | |
| 35 | Br | SKB" | | 0.91764992 | 1 | | **13.508** | | | | | | 63.8096 |
| 35 | Br | SKB"' | | 0.91935335 | 1 | | **13.483** | | | | | | 63.9280 |
| 35 | Br | K | ABS | 0.92020158 | | BB | **13.471** | | | | | | 63.9870 |
| 35 | Br | KB2 | | 0.92060000 | 1.74 | C | **13.465** | | | | | | 64.0147 |
| 35 | Br | SKB8 | | 0.92286042 | 1 | | **13.432** | | | | | | 64.1719 |
| 35 | Br | KB5 | | 0.92510003 | 0.04 | C | **13.400** | | | | | | 64.3276 |
| 35 | Br | SKB6 | | 0.92686850 | 1 | | **13.374** | | | | | | 64.4506 |
| 35 | Br | SKB7 | | 0.92967416 | 1 | | **13.334** | | | | | | 64.6457 |
| 35 | Br | KB1 | | 0.93300003 | 15.29 | C | **13.286** | | | | | | 64.8769 |
| 35 | Br | KB3 | | 0.93349999 | 7.84 | C | **13.279** | | | | | | 64.9117 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 35 | Br | SKBN | | 0.93668830 | 1 | | **13.234** | | | | | | 65.1334 |
| 35 | Br | SKA4 | | 1.03528710 | 1 | | **11.973** | | | | | | 71.9896 |
| 35 | Br | SKA3 | | 1.03638930 | 1 | | **11.961** | | | | | | 72.0662 |
| 35 | Br | KA1 | | 1.03989995 | 100 | C | **11.920** | | | | | | 72.3103 |
| 35 | Br | KA1,2 | | 1.04130006 | 151.82 | C | **11.904** | | | | | | 72.4077 |
| 35 | Br | KA2 | | 1.04400003 | 51.82 | C | **11.874** | | | | | | 72.5954 |
| 35 | Br | LI | ABS | 6.95764310 | | BB | **1.782** | | | | 75.6354 | 222.8483 | |
| 35 | Br | LG2 | | 6.99270010 | 0.21 | C | **1.773** | | | | 76.0165 | 223.9712 | |
| 35 | Br | LG3 | | 6.99270010 | 0.39 | C | **1.773** | | | | 76.0165 | 223.9712 | |
| 35 | Br | LB9 | | 7.36670017 | 0.03 | C | **1.683** | | | | 80.0822 | 235.9501 | |
| 35 | Br | LB3 | | 7.76819992 | 4.63 | C | **1.596** | | | | 84.4468 | 248.8099 | |
| 35 | Br | LB4 | | 7.76819992 | 2.5 | C | **1.596** | | | | 84.4468 | 248.8099 | |
| 35 | Br | LII | ABS | 7.76849624 | | BB | **1.596** | | | | 84.4500 | 248.8194 | |
| 35 | Br | L2-N3 | | 7.84189987 | 0.01 | C | **1.581** | | | | 85.2480 | 251.1704 | |
| 35 | Br | LG5 | | 7.87179995 | 0.22 | C | **1.575** | | | | 85.5730 | 252.1281 | |
| 35 | Br | LIII | ABS | 7.99956126 | | BB | **1.550** | | | | 86.9619 | 256.2202 | |
| 35 | Br | LB6 | | 8.07689953 | 0.56 | C | **1.535** | | | | 87.8026 | 258.6973 | |
| 35 | Br | SLB1" | | 8.08229330 | 1 | | **1.534** | | | | 87.8612 | 258.8701 | |
| 35 | Br | SLB1' | | 8.10333570 | 1 | | **1.530** | | | | 88.0900 | 259.5440 | |
| 35 | Br | LB1 | | 8.12460041 | 48.97 | C | **1.526** | | | | 88.3212 | | |
| 35 | Br | SLA4 | | 8.31476200 | 1 | | **1.491** | | | | 90.3884 | | |
| 35 | Br | SLA3 | | 8.34382050 | 1 | | **1.486** | | | | 90.7043 | | |
| 35 | Br | LA1 | | 8.37709999 | 100 | C | **1.480** | | | | 91.0660 | | |
| 35 | Br | LA2 | | 8.37709999 | 11.4 | C | **1.480** | | | | 91.0660 | | |
| 35 | Br | LB17 | | 8.55630016 | 0.01 | C | **1.449** | | | | 93.0141 | | |
| 35 | Br | Ln | | 9.25920010 | 1.82 | C | **1.339** | | | | 100.6552 | | |
| 35 | Br | LI | | 9.58860016 | 4.62 | C | **1.293** | | | | 104.2361 | | |
| 35 | Br | MI | ABS | 48.33730994 | | BB | **0.256** | 94.6465 | 138.1066 | 219.0394 | 525.4667 | | |
| 35 | Br | MII | ABS | 65.49667195 | | BB | **0.189** | 128.2452 | 187.1333 | 296.7967 | 712.0033 | | |
| 35 | Br | MIII | ABS | 68.31140496 | | BB | **0.181** | 133.7566 | 195.1754 | 309.5516 | 742.6018 | | |
| 35 | Br | M2-N1 | | 76.90000153 | 0.01 | C | **0.161** | 150.5734 | 219.7143 | 348.4706 | 835.9669 | | |
| 35 | Br | M3-N1 | | 79.80000305 | 0.01 | C | **0.155** | 156.2518 | 228.0000 | 361.6119 | 867.4924 | | |
| 35 | Br | MIV | ABS | 176.86904422 | | BB | **0.070** | | | | | | |
| 35 | Br | MV | ABS | 179.68869565 | | BB | **0.069** | | | | | | |
| 35 | Br | NI | ABS | 454.15824176 | | BB | **0.027** | | | | | | |
| 36 | Kr | KB4 | | 0.86524427 | 0.001 | | **14.327** | | | | | | 60.1655 |
| 36 | Kr | K | ABS | 0.86547998 | | BB | **14.323** | | | | | | 60.1819 |
| 36 | Kr | KB2 | | 0.86629999 | 2.29 | C | **14.309** | | | | | | 60.2389 |
| 36 | Kr | KB5 | | 0.87099999 | 0.05 | C | **14.232** | | | | | | 60.5657 |
| 36 | Kr | SKBN | | 0.87446285 | 1 | | **14.176** | | | | | | 60.8065 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | Kr | KB1 | | 0.87870002 | 15.38 | C | **14.107** | | | | | | 61.1012 |
| 36 | Kr | KB3 | | 0.87919998 | 7.85 | C | **14.099** | | | | | | 61.1359 |
| 36 | Kr | SKBN | | 0.88318043 | 1 | | **14.036** | | | | | | 61.4127 |
| 36 | Kr | SKA | | 0.97947455 | 1 | | **12.656** | | | | | | 68.1086 |
| 36 | Kr | KA1 | | 0.98019999 | 100 | C | **12.646** | | | | | | 68.1590 |
| 36 | Kr | KA1,2 | | 0.98159999 | 151.82 | C | **12.628** | | | | | | 68.2564 |
| 36 | Kr | KA2 | | 0.98430002 | 51.82 | C | **12.594** | | | | | | 68.4441 |
| 36 | Kr | LI | ABS | 6.45420094 | | BB | **1.921** | | | | 70.1625 | 206.7234 | |
| 36 | Kr | LG2 | | 6.49459982 | 0.27 | C | **1.909** | | | | 70.6017 | 208.0174 | |
| 36 | Kr | LG3 | | 6.49459982 | 0.5 | C | **1.909** | | | | 70.6017 | 208.0174 | |
| 36 | Kr | LB9 | | 6.86880016 | 0.04 | C | **1.805** | | | | 74.6696 | 220.0028 | |
| 36 | Kr | LII | ABS | 7.17839277 | | BB | **1.727** | | | | 78.0351 | 229.9188 | |
| 36 | Kr | L2-N3 | | 7.25040007 | 0.01 | C | **1.710** | | | | 78.8179 | 232.2251 | |
| 36 | Kr | LB3 | | 7.26739979 | 4.65 | C | **1.706** | | | | 79.0027 | 232.7696 | |
| 36 | Kr | LG5 | | 7.28020000 | 0.23 | C | **1.703** | | | | 79.1418 | 233.1796 | |
| 36 | Kr | LB4 | | 7.30590010 | 2.49 | C | **1.697** | | | | 79.4212 | 234.0027 | |
| 36 | Kr | LIII | ABS | 7.40254344 | | BB | **1.675** | | | | 80.4718 | 237.0982 | |
| 36 | Kr | LB6 | | 7.50950003 | 0.58 | C | **1.651** | | | | 81.6345 | 240.5239 | |
| 36 | Kr | LB1 | | 7.57830000 | 48.79 | C | **1.636** | | | | 82.3824 | 242.7275 | |
| 36 | Kr | LA1 | | 7.81720018 | 100 | C | **1.586** | | | | 84.9795 | 250.3793 | |
| 36 | Kr | LA2 | | 7.81720018 | 11.4 | C | **1.586** | | | | 84.9795 | 250.3793 | |
| 36 | Kr | LB17 | | 7.97819996 | 0.01 | C | **1.554** | | | | 86.7297 | 255.5360 | |
| 36 | Kr | Ln | | 8.62180042 | 1.75 | C | **1.438** | | | | 93.7261 | | |
| 36 | Kr | LI | | 8.95170021 | 4.51 | C | **1.385** | | | | 97.3124 | | |
| 36 | Kr | MII | ABS | 55.67364167 | | BB | **0.223** | 109.0113 | 159.0675 | 252.2839 | 605.2188 | | |
| 36 | Kr | MIII | ABS | 57.99120674 | | BB | **0.214** | 113.5492 | 165.6892 | 262.7859 | 630.4126 | | |
| 36 | Kr | MIV | ABS | 139.46591676 | | BB | **0.089** | | | | | | |
| 36 | Kr | MV | ABS | 139.46591676 | | BB | **0.089** | | | | | | |
| 36 | Kr | NI | ABS | 516.60500000 | | BB | **0.024** | | | | | | |
| 37 | Rb | SKB" | | 0.81343984 | 1 | | **15.239** | | | | | | |
| 37 | Rb | KB4 | | 0.81524347 | 0.001 | | **15.205** | | | | | | |
| 37 | Rb | K | ABS | 0.81570820 | | BB | **15.197** | | | | | | |
| 37 | Rb | KB2 | | 0.81644590 | 5 | | **15.183** | | | | | | |
| 37 | Rb | SKB8 | | 0.81925155 | 1 | | **15.131** | | | | | | |
| 37 | Rb | KB5 | | 0.82185680 | 0.05 | | **15.083** | | | | | | |
| 37 | Rb | SKB6 | | 0.82325963 | 1 | | **15.057** | | | | | | |
| 37 | Rb | SKB7 | | 0.82586488 | 1 | | **15.010** | | | | | | |
| 37 | Rb | KB1 | | 0.82880002 | 15.58 | C | **14.957** | | | | | | |
| 37 | Rb | KB3 | | 0.82940000 | 7.99 | C | **14.946** | | | | | | |
| 37 | Rb | SKBN | | 0.83117559 | 1 | | **14.914** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 37 | Rb | SKA4 | | 0.92175820 | 1 | | **13.448** | | | | | | 64.0952 |
| 37 | Rb | SKA3' | | 0.92266002 | 1 | | **13.435** | | | | | | 64.1579 |
| 37 | Rb | KA1 | | 0.92570001 | 100 | C | **13.391** | | | | | | 64.3693 |
| 37 | Rb | KA1,2 | | 0.92710000 | 151.89 | C | **13.371** | | | | | | 64.4667 |
| 37 | Rb | KA2 | | 0.92989999 | 51.89 | C | **13.330** | | | | | | 64.6614 |
| 37 | Rb | LI | ABS | 6.00383517 | | BB | **2.065** | | | | 65.2667 | 192.2985 | |
| 37 | Rb | LG2 | | 6.04790020 | 0.32 | C | **2.050** | | | | 65.7457 | 193.7099 | |
| 37 | Rb | LG3 | | 6.04790020 | 0.58 | C | **2.050** | | | | 65.7457 | 193.7099 | |
| 37 | Rb | LB9 | | 6.41720009 | 0.04 | C | **1.932** | | | | 69.7603 | 205.5383 | |
| 37 | Rb | LII | ABS | 6.65192339 | | BB | **1.864** | | | | 72.3119 | 213.0563 | |
| 37 | Rb | LG8 | | 6.66559982 | 0.01 | C | **1.860** | | | | 72.4606 | 213.4944 | |
| 37 | Rb | L2-N3 | | 6.72709990 | 0.01 | C | **1.843** | | | | 73.1292 | 215.4642 | |
| 37 | Rb | LG5 | | 6.75649977 | 0.24 | C | **1.835** | | | | 73.4488 | 216.4058 | |
| 37 | Rb | LB3 | | 6.78980017 | 4.71 | C | **1.826** | | | | 73.8108 | 217.4724 | |
| 37 | Rb | LB4 | | 6.82340002 | 2.57 | C | **1.817** | | | | 74.1760 | 218.5486 | |
| 37 | Rb | LB7 | | 6.86880016 | 0.02 | C | **1.805** | | | | 74.6696 | 220.0028 | |
| 37 | Rb | LIII | ABS | 6.87127023 | | BB | **1.804** | | | | 74.6964 | 220.0819 | |
| 37 | Rb | LB6 | | 6.98479986 | 0.61 | C | **1.775** | | | | 75.9306 | 223.7181 | |
| 37 | Rb | LB1 | | 7.07649994 | 48.87 | C | **1.752** | | | | 76.9274 | 226.6552 | |
| 37 | Rb | SLA7 | | 7.25602760 | 1 | | **1.708** | | | | 78.8791 | 232.4054 | |
| 37 | Rb | SLA6 | | 7.26664900 | 1 | | **1.706** | | | | 78.9945 | 232.7456 | |
| 37 | Rb | SLA5 | | 7.27767130 | 1 | | **1.703** | | | | 79.1143 | 233.0986 | |
| 37 | Rb | SLA4 | | 7.28879370 | 1 | | **1.701** | | | | 79.2352 | 233.4548 | |
| 37 | Rb | SLA3 | | 7.29550720 | 1 | | **1.699** | | | | 79.3082 | 233.6699 | |
| 37 | Rb | LA1 | | 7.31879997 | 100 | C | **1.694** | | | | 79.5614 | 234.4159 | |
| 37 | Rb | LA2 | | 7.32749987 | 11.34 | C | **1.692** | | | | 79.6560 | 234.6946 | |
| 37 | Rb | LB17 | | 7.45079994 | 0.01 | C | **1.664** | | | | 80.9964 | 238.6438 | |
| 37 | Rb | Ln | | 8.04030037 | 1.71 | C | **1.542** | | | | 87.4047 | 257.5251 | |
| 37 | Rb | LI | | 8.36579990 | 4.41 | C | **1.482** | | | | 90.9432 | | |
| 37 | Rb | MI | ABS | 38.49276622 | | BB | **0.322** | 75.3705 | 109.9793 | 174.4291 | 418.4484 | | |
| 37 | Rb | MII | ABS | 50.11527890 | | BB | **0.247** | 98.1278 | 143.1865 | 227.0963 | 544.7947 | | |
| 37 | Rb | MIII | ABS | 51.98540881 | | BB | **0.238** | 101.7896 | 148.5297 | 235.5707 | 565.1246 | | |
| 37 | Rb | M2-N1 | | 57.00000000 | 0.01 | C | **0.217** | 111.6084 | 162.8571 | 258.2942 | 619.6374 | | |
| 37 | Rb | M3-N1 | | 59.50000000 | 0.01 | C | **0.208** | 116.5035 | 170.0000 | 269.6229 | 646.8145 | | |
| 37 | Rb | M2-M4 | | 91.50000000 | 0.01 | C | **0.135** | 179.1608 | | | | | |
| 37 | Rb | M3-M4 | | 96.71000000 | 1 | | **0.128** | 189.3622 | | | | | |
| 37 | Rb | MIV | ABS | 110.89910555 | | BB | **0.112** | 217.1451 | | | | | |
| 37 | Rb | MV | ABS | 112.40725295 | | BB | **0.110** | 220.0981 | | | | | |
| 37 | Rb | NI | ABS | 423.15767918 | | BB | **0.029** | | | | | | |
| 38 | Sr | SKB" | | 0.76814853 | 1 | | **16.138** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | Sr | KB4 | | 0.76985197 | 0.001 | | **16.102** | | | | | | |
| 38 | Sr | SKB''' | | 0.76985197 | 1 | | **16.102** | | | | | | |
| 38 | Sr | K | ABS | 0.76987445 | | BB | **16.101** | | | | | | |
| 38 | Sr | KB2 | | 0.77075378 | 5 | | **16.083** | | | | | | |
| 38 | Sr | SKB8 | | 0.77355944 | 1 | | **16.025** | | | | | | |
| 38 | Sr | KB5 | | 0.77636510 | 0.05 | | **15.967** | | | | | | |
| 38 | Sr | SKB6 | | 0.77776792 | 1 | | **15.938** | | | | | | |
| 38 | Sr | SKB7 | | 0.78037318 | 1 | | **15.885** | | | | | | |
| 38 | Sr | KB1 | | 0.78287823 | 15 | | **15.834** | | | | | | |
| 38 | Sr | KB3 | | 0.78337924 | 15 | | **15.824** | | | | | | |
| 38 | Sr | SKBN | | 0.78788833 | 1 | | **15.733** | | | | | | |
| 38 | Sr | SKA4 | | 0.87145679 | 1 | | **14.224** | | | | | | 60.5975 |
| 38 | Sr | SKA3 | | 0.87265922 | 1 | | **14.205** | | | | | | 60.6811 |
| 38 | Sr | KA1 | | 0.87540001 | 100 | C | **14.160** | | | | | | 60.8717 |
| 38 | Sr | KA1,2 | | 0.87680000 | 152.09 | C | **14.138** | | | | | | 60.9690 |
| 38 | Sr | KA2 | | 0.87959999 | 52.09 | C | **14.093** | | | | | | 61.1637 |
| 38 | Sr | LI | ABS | 5.59424266 | | BB | **2.216** | | | | 60.8141 | 179.1796 | |
| 38 | Sr | LG2 | | 5.64580011 | 0.36 | C | **2.196** | | | | 61.3745 | 180.8309 | |
| 38 | Sr | LG3 | | 5.64580011 | 0.65 | C | **2.196** | | | | 61.3745 | 180.8309 | |
| 38 | Sr | LB9 | | 6.00680017 | 0.04 | C | **2.064** | | | | 65.2989 | 192.3935 | |
| 38 | Sr | LII | ABS | 6.17825394 | | BB | **2.006** | | | | 67.1628 | 197.8850 | |
| 38 | Sr | LG8 | | 6.19290018 | 0.03 | C | **2.002** | | | | 67.3220 | 198.3542 | |
| 38 | Sr | L2-N3 | | 6.26170015 | 0.01 | C | **1.980** | | | | 68.0699 | 200.5578 | |
| 38 | Sr | LG5 | | 6.29670000 | 0.25 | C | **1.969** | | | | 68.4504 | 201.6788 | |
| 38 | Sr | LB3 | | 6.36780024 | 4.7 | C | **1.947** | | | | 69.2233 | 203.9561 | |
| 38 | Sr | LIII | ABS | 6.39230769 | | BB | **1.939** | | | | 69.4897 | 204.7410 | |
| 38 | Sr | LB7 | | 6.39410019 | 0.08 | C | **1.939** | | | | 69.5092 | 204.7985 | |
| 38 | Sr | LB4 | | 6.40399981 | 2.63 | C | **1.936** | | | | 69.6168 | 205.1155 | |
| 38 | Sr | LB6 | | 6.52190018 | 0.64 | C | **1.901** | | | | 70.8985 | 208.8918 | |
| 38 | Sr | SLB1'' | | 6.58747990 | 1 | | **1.882** | | | | 71.6114 | 210.9923 | |
| 38 | Sr | SLB1' | | 6.60431380 | 1 | | **1.877** | | | | 71.7944 | 211.5314 | |
| 38 | Sr | LB1 | | 6.62650013 | 47.47 | C | **1.871** | | | | 72.0356 | 212.2421 | |
| 38 | Sr | SLA7 | | 6.80682210 | 1 | | **1.821** | | | | 73.9958 | 218.0176 | |
| 38 | Sr | SLA6 | | 6.81443740 | 1 | | **1.819** | | | | 74.0786 | 218.2616 | |
| 38 | Sr | SLA5 | | 6.82806490 | 1 | | **1.815** | | | | 74.2267 | 218.6980 | |
| 38 | Sr | SLA4 | | 6.83517920 | 1 | | **1.814** | | | | 74.3041 | 218.9259 | |
| 38 | Sr | SLA3 | | 6.84109110 | 1 | | **1.812** | | | | 74.3683 | 219.1152 | |
| 38 | Sr | LA1 | | 6.86499977 | 100 | C | **1.806** | | | | 74.6283 | 219.8810 | |
| 38 | Sr | LA2 | | 6.87260008 | 11.34 | C | **1.804** | | | | 74.7109 | 220.1245 | |
| 38 | Sr | LB17 | | 6.98089981 | 0.01 | C | **1.776** | | | | 75.8882 | 223.5932 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | Sr | Ln | | 7.51859999 | 1.67 | C | **1.649** | | | | 81.7334 | 240.8154 | |
| 38 | Sr | LI | | 7.83699989 | 4.31 | C | **1.582** | | | | 85.1947 | 251.0135 | |
| 38 | Sr | MI | ABS | 34.68117483 | | BB | **0.357** | 67.9072 | 99.0891 | 157.1570 | 377.0132 | | |
| 38 | Sr | MII | ABS | 44.31208006 | | BB | **0.280** | 86.7649 | 126.6059 | 200.7992 | 481.7091 | | |
| 38 | Sr | MIII | ABS | 46.07402453 | | BB | **0.269** | 90.2149 | 131.6401 | 208.7834 | 500.8629 | | |
| 38 | Sr | M2-N1 | | 51.29999924 | 0.01 | C | **0.242** | 100.4476 | 146.5714 | 232.4648 | 557.6736 | | |
| 38 | Sr | M3-N1 | | 53.59999847 | 0.01 | C | **0.231** | 104.9510 | 153.1429 | 242.8872 | 582.6765 | | |
| 38 | Sr | M2-M4 | | 85.69999695 | 0.01 | C | **0.145** | 167.8042 | 244.8571 | 388.3476 | 931.6302 | | |
| 38 | Sr | M3-M4 | | 91.40000153 | 0.01 | C | **0.136** | 178.9650 | | | | | |
| 38 | Sr | MIV | ABS | 91.84088889 | | BB | **0.135** | 179.8283 | | | | | |
| 38 | Sr | MV | ABS | 93.15191585 | | BB | **0.133** | 182.3954 | | | | | |
| 38 | Sr | NI | ABS | 328.87320955 | | BB | **0.038** | | | | | | |
| 39 | Y | SKB"' | | 0.72175501 | 1 | | **17.175** | | | | | | |
| 39 | Y | SKB" | | 0.72606369 | 1 | | **17.073** | | | | | | |
| 39 | Y | KB4 | | 0.72766692 | 0.001 | | **17.035** | | | | | | |
| 39 | Y | K | ABS | 0.72768100 | | BB | **17.035** | | | | | | |
| 39 | Y | KB2 | | 0.72876915 | 5 | | **17.010** | | | | | | |
| 39 | Y | SKB8 | | 0.73147460 | 1 | | **16.947** | | | | | | |
| 39 | Y | KB5 | | 0.73448066 | 0.05 | | **16.877** | | | | | | |
| 39 | Y | SKB6 | | 0.73608389 | 1 | | **16.840** | | | | | | |
| 39 | Y | SKB7 | | 0.73858894 | 1 | | **16.783** | | | | | | |
| 39 | Y | KB1 | | 0.74069318 | 15 | | **16.736** | | | | | | |
| 39 | Y | KB3 | | 0.74119419 | 15 | | **16.724** | | | | | | |
| 39 | Y | SKBN | | 0.74500187 | 1 | | **16.639** | | | | | | |
| 39 | Y | SKA4 | | 0.82536387 | 1 | | **15.019** | | | | | | |
| 39 | Y | SKA3' | | 0.82616549 | 1 | | **15.004** | | | | | | |
| 39 | Y | KA1 | | 0.82900000 | 100 | C | **14.953** | | | | | | |
| 39 | Y | KA1,2 | | 0.83039999 | 152.31 | C | **14.928** | | | | | | |
| 39 | Y | KA2 | | 0.83319998 | 52.31 | C | **14.878** | | | | | | |
| 39 | Y | LI | ABS | 5.22593045 | | BB | **2.372** | | | | | 167.3828 | |
| 39 | Y | LG2 | | 5.28480005 | 0.42 | C | **2.346** | | | | | 169.2684 | |
| 39 | Y | LG3 | | 5.28480005 | 0.75 | C | **2.346** | | | | | 169.2684 | |
| 39 | Y | LB9 | | 5.63810015 | 0.05 | C | **2.199** | | | | 61.2908 | 180.5843 | |
| 39 | Y | LII | ABS | 5.75203897 | | BB | **2.155** | | | | 62.5294 | 184.2337 | |
| 39 | Y | LG1 | | 5.78270006 | 0.33 | C | **2.144** | | | | 62.8628 | 185.2157 | |
| 39 | Y | LG8 | | 5.78270006 | 0.03 | C | **2.144** | | | | 62.8628 | 185.2157 | |
| 39 | Y | L2-N3 | | 5.83720016 | 0.01 | C | **2.124** | | | | 63.4552 | 186.9613 | |
| 39 | Y | LG5 | | 5.87589979 | 0.25 | C | **2.110** | | | | 63.8759 | 188.2009 | |
| 39 | Y | LIII | ABS | 5.96082692 | | BB | **2.080** | | | | 64.7991 | 190.9210 | |
| 39 | Y | LB7 | | 5.96640015 | 0.09 | C | **2.078** | | | | 64.8597 | 191.0995 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 39 | Y | LB2 | | 5.97499990 | 0.74 | C | **2.075** | | | | 64.9532 | 191.3750 | |
| 39 | Y | LB3 | | 5.98360014 | 5.06 | C | **2.072** | | | | 65.0467 | 191.6504 | |
| 39 | Y | LB4 | | 6.01849985 | 2.86 | C | **2.060** | | | | 65.4261 | 192.7682 | |
| 39 | Y | LG11 | | 6.02860022 | 0.01 | C | **2.056** | | | | 65.5359 | 193.0917 | |
| 39 | Y | LB6 | | 6.09539986 | 0.66 | C | **2.034** | | | | 66.2621 | 195.2313 | |
| 39 | Y | LB1 | | 6.21460009 | 48.91 | C | **1.995** | | | | 67.5579 | 199.0492 | |
| 39 | Y | SLA7 | | 6.39930050 | 1 | | **1.937** | | | | 69.5657 | 204.9650 | |
| 39 | Y | SLA6 | | 6.40711630 | 1 | | **1.935** | | | | 69.6507 | 205.2153 | |
| 39 | Y | SLA5 | | 6.41833890 | 1 | | **1.931** | | | | 69.7727 | 205.5748 | |
| 39 | Y | SLA4 | | 6.42374980 | 1 | | **1.930** | | | | 69.8315 | 205.7481 | |
| 39 | Y | SLA3 | | 6.42916070 | 1 | | **1.928** | | | | 69.8903 | 205.9214 | |
| 39 | Y | LA1 | | 6.45060015 | 100 | C | **1.922** | | | | 70.1234 | 206.6081 | |
| 39 | Y | LA2 | | 6.45730019 | 11.38 | C | **1.920** | | | | 70.1962 | 206.8227 | |
| 39 | Y | LB17 | | 6.54939985 | 0.01 | C | **1.893** | | | | 71.1974 | 209.7726 | |
| 39 | Y | Ln | | 7.04040003 | 1.62 | C | **1.761** | | | | 76.5350 | 225.4990 | |
| 39 | Y | Ll | | 7.35790014 | 4.28 | C | **1.685** | | | | 79.9865 | 235.6683 | |
| 39 | Y | MI | ABS | 31.50030488 | | BB | **0.394** | 61.6789 | 90.0009 | 142.7429 | 342.4345 | | |
| 39 | Y | MII | ABS | 39.68796415 | | BB | **0.312** | 77.7107 | 113.3942 | 179.8451 | 431.4412 | | |
| 39 | Y | MIII | ABS | 41.28711289 | | BB | **0.300** | 80.8419 | 117.9632 | 187.0916 | 448.8252 | | |
| 39 | Y | M2-N1 | | 46.47999954 | 0.01 | C | **0.267** | 91.0098 | 132.8000 | 210.6231 | 505.2762 | | |
| 39 | Y | M3-N1 | | 48.50000000 | 0.01 | C | **0.256** | 94.9650 | 138.5714 | 219.7767 | 527.2353 | | |
| 39 | Y | MIV | ABS | 77.68496241 | | BB | **0.160** | 152.1104 | 221.9570 | 352.0277 | 844.5001 | | |
| 39 | Y | MV | ABS | 78.77077510 | | BB | **0.157** | 154.2365 | 225.0594 | 356.9480 | 856.3038 | | |
| 39 | Y | M2-M4 | | 81.50000000 | 0.01 | C | **0.152** | 159.5804 | 232.8571 | 369.3154 | 885.9727 | | |
| 39 | Y | M3-M4 | | 86.50000000 | 0.01 | C | **0.143** | 169.3706 | 247.1429 | 391.9728 | 940.3269 | | |
| 39 | Y | MZ1,2 | | 93.40000153 | 0.01 | C | **0.133** | 182.8811 | | | | | |
| 39 | Y | MZ1 | | 93.60000000 | 1 | | **0.132** | 183.2727 | | | | | |
| 39 | Y | MZ2 | | 93.60000000 | 1 | | **0.132** | 183.2727 | | | | | |
| 39 | Y | NI | ABS | 272.49494505 | | BB | **0.045** | | | | | | |
| 39 | Y | NII | ABS | 484.31718750 | | BB | **0.026** | | | | | | |
| 40 | Zr | SKB" | | 0.68698491 | 1 | | **18.044** | | | | | | |
| 40 | Zr | K | ABS | 0.68889852 | | BB | **17.994** | | | | | | |
| 40 | Zr | KB4 | | 0.68898895 | 0.001 | | **17.992** | | | | | | |
| 40 | Zr | KB2 | | 0.68989077 | 5 | | **17.968** | | | | | | |
| 40 | Zr | SKB8 | | 0.69239582 | 1 | | **17.903** | | | | | | |
| 40 | Zr | KB5 | | 0.69590289 | 0.05 | | **17.813** | | | | | | |
| 40 | Zr | SKB6 | | 0.69720552 | 1 | | **17.780** | | | | | | |
| 40 | Zr | SKB7 | | 0.69920956 | 1 | | **17.729** | | | | | | |
| 40 | Zr | KB1 | | 0.70171461 | 15 | | **17.665** | | | | | | |
| 40 | Zr | KB3 | | 0.70221562 | 15 | | **17.653** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Zr | SKBN | | 0.70662450 | 1 | | **17.543** | | | | | | |
| 40 | Zr | SKA3' | | 0.78317883 | 1 | | **15.828** | | | | | | |
| 40 | Zr | KA1 | | 0.78588429 | 100 | | **15.773** | | | | | | |
| 40 | Zr | KA2 | | 0.79009277 | 50 | | **15.689** | | | | | | |
| 40 | Zr | LI | ABS | 4.89750356 | | BB | **2.531** | | | | | 156.8635 | |
| 40 | Zr | SLG2' | | 4.90588990 | 1 | | **2.527** | | | | | 157.1321 | |
| 40 | Zr | LG2 | | 4.95529985 | 0.46 | C | **2.502** | | | | | 158.7147 | |
| 40 | Zr | LG3 | | 4.95529985 | 0.82 | C | **2.502** | | | | | 158.7147 | |
| 40 | Zr | LB9 | | 5.30149984 | 0.06 | C | **2.338** | | | | | 169.8032 | |
| 40 | Zr | LII | ABS | 5.37500325 | | BB | **2.306** | | | | | 172.1575 | |
| 40 | Zr | LG1 | | 5.38579988 | 0.75 | C | **2.302** | | | | | 172.5033 | |
| 40 | Zr | LG8 | | 5.38579988 | 0.03 | C | **2.302** | | | | | 172.5033 | |
| 40 | Zr | L2-N3 | | 5.45690012 | 0.01 | C | **2.272** | | | | | 174.7806 | |
| 40 | Zr | LG5 | | 5.49809980 | 0.25 | C | **2.255** | | | | | 176.1002 | |
| 40 | Zr | SLB2^2 | | 5.51591970 | 1 | | **2.247** | | | | | 176.6710 | |
| 40 | Zr | SLB2^B | | 5.52533870 | 1 | | **2.243** | | | | 60.0650 | 176.9726 | |
| 40 | Zr | SLB2^1 | | 5.53135080 | 1 | | **2.241** | | | | 60.1304 | 177.1652 | |
| 40 | Zr | LG11 | | 5.57429981 | 0.01 | C | **2.224** | | | | 60.5973 | 178.5408 | |
| 40 | Zr | LIII | ABS | 5.57913873 | | BB | **2.222** | | | | 60.6499 | 178.6958 | |
| 40 | Zr | LB7 | | 5.57969999 | 0.09 | C | **2.222** | | | | 60.6560 | 178.7138 | |
| 40 | Zr | LB2 | | 5.58720016 | 1.77 | C | **2.219** | | | | 60.7375 | 178.9540 | |
| 40 | Zr | LB3 | | 5.63290024 | 5.22 | C | **2.201** | | | | 61.2343 | 180.4178 | |
| 40 | Zr | LB4 | | 5.66900015 | 2.99 | C | **2.187** | | | | 61.6267 | 181.5740 | |
| 40 | Zr | LB6 | | 5.71080017 | 0.68 | C | **2.171** | | | | 62.0811 | 182.9128 | |
| 40 | Zr | SLB1" | | 5.80580410 | 1 | | **2.135** | | | | 63.1139 | 185.9557 | |
| 40 | Zr | SLB1' | | 5.81973220 | 1 | | **2.130** | | | | 63.2653 | 186.4019 | |
| 40 | Zr | LB1 | | 5.83720016 | 47.39 | C | **2.124** | | | | 63.4552 | 186.9613 | |
| 40 | Zr | SLA7 | | 6.02053700 | 1 | | **2.059** | | | | 65.4482 | 192.8335 | |
| 40 | Zr | SLA6 | | 6.02805210 | 1 | | **2.056** | | | | 65.5299 | 193.0742 | |
| 40 | Zr | SLA5 | | 6.03867350 | 1 | | **2.053** | | | | 65.6454 | 193.4144 | |
| 40 | Zr | SLA4 | | 6.04468570 | 1 | | **2.051** | | | | 65.7108 | 193.6070 | |
| 40 | Zr | SLA3 | | 6.05069780 | 1 | | **2.049** | | | | 65.7761 | 193.7995 | |
| 40 | Zr | LA1 | | 6.07159996 | 100 | C | **2.042** | | | | 66.0033 | 194.4690 | |
| 40 | Zr | LA2 | | 6.07749987 | 11.34 | C | **2.040** | | | | 66.0675 | 194.6580 | |
| 40 | Zr | LB17 | | 6.15600014 | 0.01 | C | **2.014** | | | | 66.9208 | 197.1723 | |
| 40 | Zr | Ln | | 6.60879993 | 1.53 | C | **1.876** | | | | 71.8431 | 211.6751 | |
| 40 | Zr | LI | | 6.91860008 | 4.21 | C | **1.792** | | | | 75.2109 | 221.5978 | |
| 40 | Zr | MI | ABS | 28.81366488 | | BB | **0.430** | | 82.3248 | 130.5685 | 313.2285 | | |
| 40 | Zr | MII | ABS | 36.02126671 | | BB | **0.344** | 70.5312 | 102.9179 | 163.2296 | 391.5811 | | |
| 40 | Zr | MIII | ABS | 37.51443268 | | BB | **0.330** | 73.4548 | 107.1841 | 169.9958 | 407.8131 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | Zr | MIV | ABS | 67.97434211 | | BB | **0.182** | 133.0966 | 194.2124 | 308.0242 | 738.9376 | | |
| 40 | Zr | MV | ABS | 68.88066667 | | BB | **0.180** | 134.8712 | 196.8019 | 312.1312 | 748.7901 | | |
| 40 | Zr | M4-O2 | | 70.00000000 | 0.01 | C | **0.177** | 137.0629 | 200.0000 | 317.2034 | 760.9582 | | |
| 40 | Zr | M2-M4 | | 76.69999695 | 0.01 | C | **0.162** | 150.1818 | 219.1428 | 347.5643 | 833.7927 | | |
| 40 | Zr | M3-M5 | | 80.90000153 | 0.01 | C | **0.153** | 158.4056 | 231.1429 | 366.5965 | 879.4503 | | |
| 40 | Zr | MZ1 | | 81.71000000 | 1 | | **0.152** | 159.9916 | 233.4571 | 370.2670 | 888.2556 | | |
| 40 | Zr | MZ2 | | 81.71000000 | 1 | | **0.152** | 159.9916 | 233.4571 | 370.2670 | 888.2556 | | |
| 40 | Zr | MZ1,2 | | 82.09999847 | 0.01 | C | **0.151** | 160.7552 | 234.5714 | 372.0343 | 892.4952 | | |
| 40 | Zr | NI | ABS | 241.68654971 | | BB | **0.051** | | | | | | |
| 40 | Zr | NII | ABS | 432.00418118 | | BB | **0.029** | | | | | | |
| 40 | Zr | NIII | ABS | 432.00418118 | | BB | **0.029** | | | | | | |
| 41 | Nb | SKB" | | 0.65101239 | 1 | | **19.041** | | | | | | |
| 41 | Nb | K | ABS | 0.65304863 | | BB | **18.982** | | | | | | |
| 41 | Nb | KB4 | | 0.65311664 | 0.001 | | **18.980** | | | | | | |
| 41 | Nb | KB2 | | 0.65411866 | 5 | | **18.951** | | | | | | |
| 41 | Nb | SKB8 | | 0.65682411 | 1 | | **18.873** | | | | | | |
| 41 | Nb | KB5 | | 0.66003057 | 0.05 | | **18.781** | | | | | | |
| 41 | Nb | SKB6 | | 0.66193441 | 1 | | **18.727** | | | | | | |
| 41 | Nb | SKB7 | | 0.66423906 | 1 | | **18.662** | | | | | | |
| 41 | Nb | KB1 | | 0.66574209 | 15 | | **18.620** | | | | | | |
| 41 | Nb | KB3 | | 0.66634330 | 15 | | **18.603** | | | | | | |
| 41 | Nb | SKBN | | 0.67055178 | 1 | | **18.486** | | | | | | |
| 41 | Nb | SKB4 | | 0.74319823 | 1 | | **16.679** | | | | | | |
| 41 | Nb | KA1 | | 0.74610409 | 100 | | **16.614** | | | | | | |
| 41 | Nb | KA2 | | 0.75041278 | 50 | | **16.519** | | | | | | |
| 41 | Nb | LI | ABS | 4.59595952 | | BB | **2.697** | | | | | 147.2053 | |
| 41 | Nb | SLG2' | | 4.60728800 | 1 | | **2.691** | | | | | 147.5681 | |
| 41 | Nb | LG2 | | 4.65570021 | 0.59 | C | **2.663** | | | | | 149.1187 | |
| 41 | Nb | LG3 | | 4.65570021 | 1.03 | C | **2.663** | | | | | 149.1187 | |
| 41 | Nb | SLG1' | | 4.97803540 | 1 | | **2.490** | | | | | 159.4429 | |
| 41 | Nb | LB9 | | 4.99399996 | 0.07 | C | **2.482** | | | | | 159.9542 | |
| 41 | Nb | LII | ABS | 5.03043778 | | BB | **2.464** | | | | | 161.1213 | |
| 41 | Nb | LG1 | | 5.03779984 | 1.22 | C | **2.461** | | | | | 161.3571 | |
| 41 | Nb | LG8 | | 5.04190016 | 0.01 | C | **2.459** | | | | | 161.4885 | |
| 41 | Nb | L2-N3 | | 5.11259985 | 0.01 | C | **2.425** | | | | | 163.7529 | |
| 41 | Nb | LG5 | | 5.15299988 | 0.22 | C | **2.406** | | | | | 165.0469 | |
| 41 | Nb | LG11 | | 5.16979980 | 0.01 | C | **2.398** | | | | | 165.5850 | |
| 41 | Nb | SLB2^1 | | 5.17142520 | 1 | | **2.397** | | | | | 165.6370 | |
| 41 | Nb | LIII | ABS | 5.23033959 | | BB | **2.370** | | | | | 167.5240 | |
| 41 | Nb | LB7 | | 5.23129988 | 0.04 | C | **2.370** | | | | | 167.5548 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 41 | Nb | LB2 | | 5.23789978 | 3.3 | C | **2.367** | | | | | 167.7662 | |
| 41 | Nb | LB3 | | 5.31199980 | 6.43 | C | **2.334** | | | | | 170.1395 | |
| 41 | Nb | LB4 | | 5.34630013 | 3.73 | C | **2.319** | | | | | 171.2382 | |
| 41 | Nb | LB6 | | 5.36250019 | 0.69 | C | **2.312** | | | | | 171.7570 | |
| 41 | Nb | SLB1" | | 5.46251200 | 1 | | **2.269** | | | | | 174.9603 | |
| 41 | Nb | SLB1' | | 5.47674070 | 1 | | **2.263** | | | | | 175.4161 | |
| 41 | Nb | LB1 | | 5.49319983 | 40.65 | C | **2.257** | | | | | 175.9433 | |
| 41 | Nb | SLA8 | | 5.67243520 | 1 | | **2.185** | | | | 61.6641 | 181.6840 | |
| 41 | Nb | SLA7 | | 5.67844730 | 1 | | **2.183** | | | | 61.7294 | 181.8766 | |
| 41 | Nb | SLA6 | | 5.68355760 | 1 | | **2.181** | | | | 61.7850 | 182.0403 | |
| 41 | Nb | SLA5 | | 5.69608290 | 1 | | **2.176** | | | | 61.9212 | 182.4415 | |
| 41 | Nb | SLA4 | | 5.70109300 | 1 | | **2.174** | | | | 61.9756 | 182.6019 | |
| 41 | Nb | SLA3 | | 5.70690470 | 1 | | **2.172** | | | | 62.0388 | 182.7881 | |
| 41 | Nb | LA1 | | 5.72399998 | 100 | C | **2.166** | | | | 62.2246 | 183.3356 | |
| 41 | Nb | LA2 | | 5.73190022 | 11.36 | C | **2.163** | | | | 62.3105 | 183.5887 | |
| 41 | Nb | LB17 | | 5.78539991 | 0.01 | C | **2.143** | | | | 62.8921 | 185.3022 | |
| 41 | Nb | Ln | | 6.21150017 | 1.29 | C | **1.996** | | | | 67.5242 | 198.9499 | |
| 41 | Nb | Ll | | 6.51849985 | 4.17 | C | **1.902** | | | | 70.8615 | 208.7829 | |
| 41 | Nb | MI | ABS | 26.46994022 | | BB | **0.468** | | 75.6284 | 119.9479 | 287.7503 | | |
| 41 | Nb | MII | ABS | 32.76564482 | | BB | **0.378** | 64.1565 | 93.6161 | 148.4768 | 356.1898 | | |
| 41 | Nb | M2-N4 | | 33.09999847 | 0.5 | C | **0.375** | 64.8112 | 94.5714 | 149.9919 | 359.8245 | | |
| 41 | Nb | MIII | ABS | 34.15570248 | | BB | **0.363** | 66.8783 | 97.5877 | 154.7758 | 371.3009 | | |
| 41 | Nb | MG | | 34.90000153 | 1 | C | **0.355** | 68.3357 | 99.7143 | 158.1486 | 379.3920 | | |
| 41 | Nb | M2-N1 | | 38.40000153 | 0.01 | C | **0.323** | 75.1888 | 109.7143 | 174.0087 | 417.4399 | | |
| 41 | Nb | M3-N1 | | 40.70000076 | 0.1 | C | **0.305** | 79.6923 | 116.2857 | 184.4311 | 442.4428 | | |
| 41 | Nb | MIV | ABS | 59.78071360 | | BB | **0.207** | 117.0531 | 170.8020 | 270.8950 | 649.8660 | | |
| 41 | Nb | MV | ABS | 60.59882698 | | BB | **0.205** | 118.6550 | 173.1395 | 274.6022 | 658.7596 | | |
| 41 | Nb | M4-O2 | | 61.90000153 | 0.1 | C | **0.200** | 121.2028 | 176.8571 | 280.4985 | 672.9045 | | |
| 41 | Nb | M2-M4 | | 72.09999847 | 0.01 | C | **0.172** | 141.1748 | 206.0000 | 326.7195 | 783.7869 | | |
| 41 | Nb | MZ1 | | 72.13000000 | 1 | | **0.172** | 141.2336 | 206.0857 | 326.8555 | 784.1131 | | |
| 41 | Nb | MZ2 | | 72.13000000 | 1 | | **0.172** | 141.2336 | 206.0857 | 326.8555 | 784.1131 | | |
| 41 | Nb | MZ1,2 | | 72.19000244 | 0.01 | C | **0.172** | 141.3511 | 206.2571 | 327.1274 | 784.7653 | | |
| 41 | Nb | M3-M4 | | 78.21000000 | 1 | | **0.158** | 153.1385 | 223.4571 | 354.4069 | 850.2077 | | |
| 41 | Nb | M3-M5 | | 78.40000153 | 0.01 | C | **0.158** | 153.5105 | 224.0000 | 355.2678 | 852.2732 | | |
| 41 | Nb | NI | ABS | 213.39965577 | | BB | **0.058** | | | | | | |
| 41 | Nb | NII | ABS | 365.73805310 | | BB | **0.034** | | | | | | |
| 41 | Nb | NIII | ABS | 365.73805310 | | BB | **0.034** | | | | | | |
| 42 | Mo | K | ABS | 0.61994150 | | BB | **19.995** | | | | | | |
| 42 | Mo | KB4 | | 0.61994977 | 0.001 | | **19.995** | | | | | | |
| 42 | Mo | KB2 | | 0.62095179 | 5 | | **19.963** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | Mo | SKB8 | | 0.62345684 | 1 | | **19.883** | | | | | | |
| 42 | Mo | SKB9 | | 0.62556109 | 1 | | **19.816** | | | | | | |
| 42 | Mo | KB5 | | 0.62686371 | 0.05 | | **19.775** | | | | | | |
| 42 | Mo | SKB6 | | 0.62896795 | 1 | | **19.708** | | | | | | |
| 42 | Mo | SKB7 | | 0.63027058 | 1 | | **19.668** | | | | | | |
| 42 | Mo | SKB10 | | 0.63177361 | 1 | | **19.621** | | | | | | |
| 42 | Mo | KB1 | | 0.63227462 | 15 | | **19.605** | | | | | | |
| 42 | Mo | KB3 | | 0.63277563 | 15 | | **19.590** | | | | | | |
| 42 | Mo | SKBN | | 0.63688391 | 1 | | **19.464** | | | | | | |
| 42 | Mo | SKB10 | | 0.65191421 | 1 | | **19.015** | | | | | | |
| 42 | Mo | SKA4 | | 0.70692511 | 1 | | **17.535** | | | | | | |
| 42 | Mo | KA1 | | 0.70922976 | 100 | | **17.478** | | | | | | |
| 42 | Mo | KA2 | | 0.71353844 | 50 | | **17.373** | | | | | | |
| 42 | Mo | LI | ABS | 4.32682603 | | BB | **2.865** | | | | | 138.5851 | |
| 42 | Mo | SLG2' | | 4.33273450 | 1 | | **2.861** | | | | | 138.7744 | |
| 42 | Mo | LG2 | | 4.38100004 | 0.6 | C | **2.829** | | | | | 140.3203 | |
| 42 | Mo | LG3 | | 4.38100004 | 1.05 | C | **2.829** | | | | | 140.3203 | |
| 42 | Mo | SLG1' | | 4.67241930 | 1 | | **2.653** | | | | | 149.6542 | |
| 42 | Mo | LB9 | | 4.71269989 | 0.08 | C | **2.630** | | | | | 150.9444 | |
| 42 | Mo | LII | ABS | 4.72306579 | | BB | **2.625** | | | | | 151.2764 | |
| 42 | Mo | LG1 | | 4.72669983 | 1.67 | C | **2.623** | | | | | 151.3928 | |
| 42 | Mo | LG8 | | 4.72669983 | 0.01 | C | **2.623** | | | | | 151.3928 | |
| 42 | Mo | L2-N3 | | 4.79990005 | 0.01 | C | **2.583** | | | | | 153.7374 | |
| 42 | Mo | LG11 | | 4.80709982 | 0.01 | C | **2.579** | | | | | 153.9680 | |
| 42 | Mo | LG5 | | 4.83729982 | 0.22 | C | **2.563** | | | | | 154.9352 | |
| 42 | Mo | SLB2^C | | 4.85278290 | 1 | | **2.554** | | | | | 155.4312 | |
| 42 | Mo | SLB2^2 | | 4.86059860 | 1 | | **2.550** | | | | | 155.6815 | |
| 42 | Mo | SLB2^B | | 4.86590930 | 1 | | **2.548** | | | | | 155.8516 | |
| 42 | Mo | SLB2^1 | | 4.87472710 | 1 | | **2.543** | | | | | 156.1340 | |
| 42 | Mo | LIII | ABS | 4.91965717 | | BB | **2.520** | | | | | 157.5731 | |
| 42 | Mo | LB7 | | 4.92180014 | 0.04 | C | **2.519** | | | | | 157.6417 | |
| 42 | Mo | LB2 | | 4.92379999 | 4.51 | C | **2.518** | | | | | 157.7058 | |
| 42 | Mo | LB3 | | 5.01340008 | 6.3 | C | **2.473** | | | | | 160.5756 | |
| 42 | Mo | LB4 | | 5.05009985 | 3.67 | C | **2.455** | | | | | 161.7511 | |
| 42 | Mo | LB6 | | 5.05009985 | 0.71 | C | **2.455** | | | | | 161.7511 | |
| 42 | Mo | SLB1^4 | | 5.13555290 | 1 | | **2.414** | | | | | 164.4881 | |
| 42 | Mo | SLB1''' | | 5.14286770 | 1 | | **2.410** | | | | | 164.7224 | |
| 42 | Mo | SLB1'' | | 5.15028260 | 1 | | **2.407** | | | | | 164.9599 | |
| 42 | Mo | SLB1' | | 5.16391010 | 1 | | **2.401** | | | | | 165.3963 | |
| 42 | Mo | LB1 | | 5.17880011 | 40.92 | C | **2.394** | | | | | 165.8733 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | Mo | SLA10 | | 5.33475450 | 1 | | **2.324** | | | | | 170.8684 | |
| 42 | Mo | SLA9 | | 5.34737990 | 1 | | **2.318** | | | | | 171.2727 | |
| 42 | Mo | SLA8 | | 5.35439410 | 1 | | **2.315** | | | | | 171.4974 | |
| 42 | Mo | SLA7 | | 5.37373310 | 1 | | **2.307** | | | | | 172.1168 | |
| 42 | Mo | SLA6 | | 5.38194960 | 1 | | **2.303** | | | | | 172.3800 | |
| 42 | Mo | SLA5 | | 5.38565710 | 1 | | **2.302** | | | | | 172.4987 | |
| 42 | Mo | SLA4 | | 5.39086760 | 1 | | **2.299** | | | | | 172.6656 | |
| 42 | Mo | SLA3 | | 5.39417430 | 1 | | **2.298** | | | | | 172.7715 | |
| 42 | Mo | SLA2' | | 5.39968540 | 1 | | **2.296** | | | | | 172.9481 | |
| 42 | Mo | LA1 | | 5.40689993 | 100 | C | **2.293** | | | | | 173.1791 | |
| 42 | Mo | LA2 | | 5.41639996 | 11.33 | C | **2.289** | | | | | 173.4834 | |
| 42 | Mo | LB17 | | 5.44729996 | 0.01 | C | **2.276** | | | | | 174.4731 | |
| 42 | Mo | Ln | | 5.84819984 | 1.28 | C | **2.120** | | | | 63.5748 | 187.3137 | |
| 42 | Mo | Ll | | 6.15290022 | 4.15 | C | **2.015** | | | | 66.8871 | 197.0730 | |
| 42 | Mo | MI | ABS | 24.57098692 | | BB | **0.504** | | 70.2028 | 111.3429 | 267.1071 | | |
| 42 | Mo | MII | ABS | 30.26243593 | | BB | **0.410** | | 86.4641 | 137.1336 | 328.9778 | | |
| 42 | Mo | MIII | ABS | 31.60469029 | | BB | **0.392** | 61.8833 | 90.2991 | 143.2159 | 343.5693 | | |
| 42 | Mo | M2-N1 | | 35.29999924 | 0.01 | C | **0.351** | 69.1189 | 100.8571 | 159.9612 | 383.7403 | | |
| 42 | Mo | M3-N1 | | 37.50000000 | 1 | C | **0.331** | 73.4266 | 107.1429 | 169.9304 | 407.6562 | | |
| 42 | Mo | MIV | ABS | 53.83638732 | | BB | **0.230** | 105.4139 | 153.8182 | 243.9584 | 585.2463 | | |
| 42 | Mo | MV | ABS | 54.61903084 | | BB | **0.227** | 106.9464 | 156.0544 | 247.5049 | 593.7543 | | |
| 42 | Mo | M4-O2 | | 54.79999924 | 0.5 | C | **0.226** | 107.3007 | 156.5714 | 248.3250 | 595.7215 | | |
| 42 | Mo | MZ1 | | 64.35000000 | 1 | | **0.193** | 126.0000 | 183.8571 | 291.6006 | 699.5380 | | |
| 42 | Mo | MZ2 | | 64.35000000 | 1 | | **0.193** | 126.0000 | 183.8571 | 291.6006 | 699.5380 | | |
| 42 | Mo | MZ1,2 | | 64.37999725 | 0.01 | C | **0.193** | 126.0587 | 183.9428 | 291.7365 | 699.8641 | | |
| 42 | Mo | M2-M4 | | 68.90000153 | 0.01 | C | **0.180** | 134.9091 | 196.8571 | 312.2188 | 749.0003 | | |
| 42 | Mo | M3-M4 | | 74.70000000 | 1 | | **0.166** | 146.2657 | 213.4286 | 338.5014 | 812.0511 | | |
| 42 | Mo | M3-M5 | | 74.90000153 | 0.1 | C | **0.166** | 146.6573 | 214.0000 | 339.4077 | 814.2253 | | |
| 42 | Mo | NI | ABS | 200.62330097 | | BB | **0.062** | | | | | | |
| 42 | Mo | NII | ABS | 356.27931034 | | BB | **0.035** | | | | | | |
| 42 | Mo | NIII | ABS | 356.27931034 | | BB | **0.035** | | | | | | |
| 43 | Tc | K | ABS | 0.58917126 | | BB | **21.040** | | | | | | |
| 43 | Tc | KB2 | | 0.59020000 | 5 | | **21.003** | | | | | | |
| 43 | Tc | KB4 | | 0.59020000 | 0.001 | | **21.003** | | | | | | |
| 43 | Tc | KB1 | | 0.60130000 | 15 | | **20.615** | | | | | | |
| 43 | Tc | KB3 | | 0.60190000 | 15 | | **20.595** | | | | | | |
| 43 | Tc | KA1 | | 0.67500000 | 100 | | **18.364** | | | | | | |
| 43 | Tc | KA2 | | 0.67930000 | 50 | | **18.248** | | | | | | |
| 43 | Tc | LI | ABS | 4.07510929 | | BB | **3.042** | | | | | 130.5228 | |
| 43 | Tc | LG2 | | 4.12989998 | 0.63 | C | **3.002** | | | | | 132.2777 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 43 | Tc | LG3 | | 4.12989998 | 1.11 | C | **3.002** | | | | | 132.2777 | |
| 43 | Tc | LII | ABS | 4.43882286 | | BB | **2.793** | | | | | 142.1723 | |
| 43 | Tc | LG1 | | 4.44379997 | 2.18 | C | **2.790** | | | | | 142.3317 | |
| 43 | Tc | LG8 | | 4.44540024 | 0.01 | C | **2.789** | | | | | 142.3830 | |
| 43 | Tc | LB9 | | 4.45529985 | 0.08 | C | **2.782** | | | | | 142.7001 | |
| 43 | Tc | LG11 | | 4.48210001 | 0.01 | C | **2.766** | | | | | 143.5585 | |
| 43 | Tc | L2-N3 | | 4.51170015 | 0.01 | C | **2.748** | | | | | 144.5065 | |
| 43 | Tc | LG5 | | 4.55140018 | 0.23 | C | **2.724** | | | | | 145.7781 | |
| 43 | Tc | LIII | ABS | 4.63167096 | | BB | **2.676** | | | | | 148.3491 | |
| 43 | Tc | LB7 | | 4.63310003 | 0.04 | C | **2.676** | | | | | 148.3949 | |
| 43 | Tc | LB2 | | 4.63649988 | 5.84 | C | **2.674** | | | | | 148.5038 | |
| 43 | Tc | LB3 | | 4.74109983 | 6.44 | C | **2.615** | | | | | 151.8540 | |
| 43 | Tc | LB6 | | 4.75750017 | 0.73 | C | **2.606** | | | | | 152.3793 | |
| 43 | Tc | LB4 | | 4.77589989 | 3.76 | C | **2.596** | | | | | 152.9687 | |
| 43 | Tc | LB1 | | 4.88880014 | 41.19 | C | **2.536** | | | | | 156.5848 | |
| 43 | Tc | LA1 | | 5.11469984 | 100 | C | **2.424** | | | | | 163.8202 | |
| 43 | Tc | LA2 | | 5.12529993 | 11.35 | C | **2.419** | | | | | 164.1597 | |
| 43 | Tc | LB17 | | 5.13590002 | 0.01 | C | **2.414** | | | | | 164.4992 | |
| 43 | Tc | Ln | | 5.51270008 | 1.27 | C | **2.249** | | | | | 176.5678 | |
| 43 | Tc | LI | | 5.81799984 | 4.12 | C | **2.131** | | | | 63.2465 | 186.3464 | |
| 43 | Tc | MII | ABS | 27.86810519 | | BB | **0.445** | | 79.6232 | 126.2837 | 302.9495 | | |
| 43 | Tc | MIII | ABS | 29.17298824 | | BB | **0.425** | | 83.3514 | 132.1967 | 317.1346 | | |
| 43 | Tc | MIV | ABS | 48.35616225 | | BB | **0.256** | 94.6834 | 138.1605 | 219.1249 | 525.6717 | | |
| 43 | Tc | MV | ABS | 49.02538553 | | BB | **0.253** | 95.9938 | 140.0725 | 222.1574 | 532.9467 | | |
| 43 | Tc | NII | ABS | 318.72802057 | | BB | **0.039** | | | | | | |
| 43 | Tc | NIII | ABS | 318.72802057 | | BB | **0.039** | | | | | | |
| 44 | Ru | SKB" | | 0.55892676 | 1 | | **22.178** | | | | | | |
| 44 | Ru | K | ABS | 0.56058271 | | BB | **22.113** | | | | | | |
| 44 | Ru | KB4 | | 0.56083059 | 0.001 | | **22.103** | | | | | | |
| 44 | Ru | KB2 | | 0.56163221 | 5 | | **22.071** | | | | | | |
| 44 | Ru | SKB8 | | 0.56393686 | 1 | | **21.981** | | | | | | |
| 44 | Ru | KB5 | | 0.56784473 | 0.05 | | **21.830** | | | | | | |
| 44 | Ru | SKB6 | | 0.56914736 | 1 | | **21.780** | | | | | | |
| 44 | Ru | SKB7 | | 0.57065039 | 1 | | **21.723** | | | | | | |
| 44 | Ru | KB1 | | 0.57245403 | 15 | | **21.654** | | | | | | |
| 44 | Ru | KB3 | | 0.57305524 | 15 | | **21.631** | | | | | | |
| 44 | Ru | SKBN | | 0.57566049 | 1 | | **21.534** | | | | | | |
| 44 | Ru | KA1 | | 0.64299623 | 100 | | **19.278** | | | | | | |
| 44 | Ru | KA2 | | 0.64740512 | 50 | | **19.147** | | | | | | |
| 44 | Ru | LI | ABS | 3.84569479 | | BB | **3.223** | | | | | 123.1749 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | Ru | LG2 | | 3.89879990 | 0.67 | C | **3.179** | | | | | 124.8758 | |
| 44 | Ru | LG3 | | 3.89879990 | 1.15 | C | **3.179** | | | | | 124.8758 | |
| 44 | Ru | SLG1' | | 4.13633860 | 1 | | **2.997** | | | | | 132.4840 | |
| 44 | Ru | LII | ABS | 4.17894772 | | BB | **2.966** | | | | | 133.8487 | |
| 44 | Ru | LG1 | | 4.18289995 | 2.72 | C | **2.963** | | | | | 133.9753 | |
| 44 | Ru | LG8 | | 4.18709993 | 0.01 | C | **2.961** | | | | | 134.1098 | |
| 44 | Ru | LG11 | | 4.18830013 | 0.01 | C | **2.960** | | | | | 134.1483 | |
| 44 | Ru | LB9 | | 4.21789980 | 0.09 | C | **2.939** | | | | | 135.0963 | |
| 44 | Ru | L2-N3 | | 4.24739981 | 0.01 | C | **2.918** | | | | | 136.0412 | |
| 44 | Ru | LG5 | | 4.28849983 | 0.23 | C | **2.891** | | | | | 137.3576 | |
| 44 | Ru | SLB2^C | | 4.31299470 | 1 | | **2.874** | | | | | 138.1421 | |
| 44 | Ru | SLB2^2 | | 4.32010900 | 1 | | **2.869** | | | | | 138.3700 | |
| 44 | Ru | SLB2^B | | 4.32682260 | 1 | | **2.865** | | | | | 138.5850 | |
| 44 | Ru | SLB2^1 | | 4.33463830 | 1 | | **2.860** | | | | | 138.8354 | |
| 44 | Ru | SLB2^A | | 4.36469890 | 1 | | **2.840** | | | | | 139.7982 | |
| 44 | Ru | LIII | ABS | 4.36890659 | | BB | **2.837** | | | | | 139.9329 | |
| 44 | Ru | LB7 | | 4.37169981 | 0.04 | C | **2.836** | | | | | 140.0224 | |
| 44 | Ru | LB2 | | 4.37319994 | 7.26 | C | **2.835** | | | | | 140.0705 | |
| 44 | Ru | LB3 | | 4.48719978 | 6.54 | C | **2.763** | | | | | 143.7218 | |
| 44 | Ru | LB6 | | 4.48719978 | 0.75 | C | **2.763** | | | | | 143.7218 | |
| 44 | Ru | LB4 | | 4.52320004 | 3.85 | C | **2.741** | | | | | 144.8749 | |
| 44 | Ru | SLB1^4 | | 4.58143580 | 1 | | **2.706** | | | | | 146.7401 | |
| 44 | Ru | SLB1''' | | 4.59085480 | 1 | | **2.700** | | | | | 147.0418 | |
| 44 | Ru | SLB1'' | | 4.59776880 | 1 | | **2.696** | | | | | 147.2632 | |
| 44 | Ru | SLB1' | | 4.60969280 | 1 | | **2.689** | | | | | 147.6452 | |
| 44 | Ru | LB1 | | 4.62099981 | 41.3 | C | **2.683** | | | | | 148.0073 | |
| 44 | Ru | SLA8 | | 4.79837320 | 1 | | **2.583** | | | | | 153.6885 | |
| 44 | Ru | SLA7 | | 4.80759180 | 1 | | **2.578** | | | | | 153.9837 | |
| 44 | Ru | SLA6 | | 4.81440550 | 1 | | **2.575** | | | | | 154.2020 | |
| 44 | Ru | SLA5 | | 4.82302290 | 1 | | **2.570** | | | | | 154.4780 | |
| 44 | Ru | SLA4 | | 4.82753200 | 1 | | **2.568** | | | | | 154.6224 | |
| 44 | Ru | SLA3 | | 4.83254210 | 1 | | **2.565** | | | | | 154.7829 | |
| 44 | Ru | SLA2' | | 4.83695090 | 1 | | **2.563** | | | | | 154.9241 | |
| 44 | Ru | LA1 | | 4.84679985 | 100 | C | **2.558** | | | | | 155.2395 | |
| 44 | Ru | LB17 | | 4.85249996 | 0.01 | C | **2.555** | | | | | 155.4221 | |
| 44 | Ru | LA2 | | 4.85440016 | 11.34 | C | **2.554** | | | | | 155.4830 | |
| 44 | Ru | Ln | | 5.20489979 | 1.26 | C | **2.382** | | | | | 166.7092 | |
| 44 | Ru | LI | | 5.50540018 | 4.11 | C | **2.252** | | | | | 176.3340 | |
| 44 | Ru | MI | ABS | 21.19405128 | | BB | **0.585** | | 60.5544 | 96.0404 | 230.3970 | | |
| 44 | Ru | M2-N4 | | 25.50000000 | 0.01 | C | **0.486** | | 72.8571 | 115.5527 | 277.2062 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 44 | Ru | MII | ABS | 25.68044739 | | BB | **0.483** | | 73.3727 | 116.3704 | 279.1678 | | |
| 44 | Ru | MG | | 26.89999962 | 1 | C | **0.461** | | 76.8571 | 121.8967 | 292.4254 | | |
| 44 | Ru | MIII | ABS | 26.91819366 | | BB | **0.461** | | 76.9091 | 121.9792 | 292.6231 | | |
| 44 | Ru | M2-N1 | | 32.29999924 | 0.01 | C | **0.384** | 63.2448 | 92.2857 | 146.3667 | 351.1278 | | |
| 44 | Ru | MIV | ABS | 43.71833568 | | BB | **0.284** | 85.6023 | 124.9095 | 198.1087 | 475.2546 | | |
| 44 | Ru | MV | ABS | 44.37551897 | | BB | **0.279** | 86.8891 | 126.7872 | 201.0867 | 482.3988 | | |
| 44 | Ru | M4-O2 | | 44.79999924 | 0.01 | C | **0.277** | 87.7203 | 128.0000 | 203.0102 | 487.0132 | | |
| 44 | Ru | MZ1 | | 52.32000000 | 1 | | **0.237** | 102.4448 | 149.4857 | 237.0869 | 568.7619 | | |
| 44 | Ru | MZ2 | | 52.32000000 | 1 | | **0.237** | 102.4448 | 149.4857 | 237.0869 | 568.7619 | | |
| 44 | Ru | MZ1,2 | | 52.34000015 | 0.01 | C | **0.237** | 102.4839 | 149.5429 | 237.1775 | 568.9793 | | |
| 44 | Ru | M2-M4 | | 62.20000076 | 0.01 | C | **0.199** | 121.7902 | 177.7143 | 281.8579 | 676.1657 | | |
| 44 | Ru | M3-M5 | | 68.30000305 | 0.01 | C | **0.181** | 133.7343 | 195.1429 | 309.4999 | 742.4778 | | |
| 44 | Ru | M3-M4 | | 68.34000000 | 1 | | **0.181** | 133.8126 | 195.2571 | 309.6812 | 742.9126 | | |
| 44 | Ru | NI | ABS | 165.53431242 | | BB | **0.075** | | | | | | |
| 44 | Ru | NII | ABS | 287.66867749 | | BB | **0.043** | | | | | | |
| 44 | Ru | NIII | ABS | 287.66867749 | | BB | **0.043** | | | | | | |
| 45 | Rh | K | ABS | 0.53396096 | | BB | **23.215** | | | | | | |
| 45 | Rh | KB4 | | 0.53397646 | 0.001 | | **23.215** | | | | | | |
| 45 | Rh | KB2 | | 0.53507868 | 5 | | **23.167** | | | | | | |
| 45 | Rh | SKB8 | | 0.53738333 | 1 | | **23.067** | | | | | | |
| 45 | Rh | SKB9 | | 0.53988838 | 1 | | **22.960** | | | | | | |
| 45 | Rh | KB5 | | 0.54099060 | 0.05 | | **22.914** | | | | | | |
| 45 | Rh | SKB6 | | 0.54239343 | 1 | | **22.854** | | | | | | |
| 45 | Rh | SKB7 | | 0.54389646 | 1 | | **22.791** | | | | | | |
| 45 | Rh | KB1 | | 0.54559989 | 15 | | **22.720** | | | | | | |
| 45 | Rh | KB3 | | 0.54620110 | 15 | | **22.695** | | | | | | |
| 45 | Rh | SKBN | | 0.54930736 | 1 | | **22.567** | | | | | | |
| 45 | Rh | SKA4 | | 0.61083139 | 1 | | **20.294** | | | | | | |
| 45 | Rh | KA1 | | 0.61323624 | 100 | | **20.214** | | | | | | |
| 45 | Rh | KA2 | | 0.61764513 | 50 | | **20.070** | | | | | | |
| 45 | Rh | LI | ABS | 3.63390486 | | BB | **3.411** | | | | | 116.3914 | 252.6867 |
| 45 | Rh | SLG2' | | 3.65436690 | 1 | | **3.392** | | | | | 117.0468 | 254.1095 |
| 45 | Rh | LG2 | | 3.68659997 | 0.7 | C | **3.362** | | | | | 118.0792 | 256.3509 |
| 45 | Rh | LG3 | | 3.68659997 | 1.21 | C | **3.362** | | | | | 118.0792 | 256.3509 |
| 45 | Rh | SLG1' | | 3.90186590 | 1 | | **3.177** | | | | | 124.9740 | |
| 45 | Rh | LG11 | | 3.92249990 | 0.01 | C | **3.160** | | | | | 125.6349 | |
| 45 | Rh | LII | ABS | 3.94091733 | | BB | **3.145** | | | | | 126.2248 | |
| 45 | Rh | LG1 | | 3.94470000 | 3.28 | C | **3.142** | | | | | 126.3459 | |
| 45 | Rh | LG8 | | 3.95099998 | 0.01 | C | **3.137** | | | | | 126.5477 | |
| 45 | Rh | LB9 | | 3.99810004 | 0.1 | C | **3.100** | | | | | 128.0563 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | Rh | L2-N3 | | 4.00579977 | 0.01 | C | **3.095** | | | | | 128.3029 | |
| 45 | Rh | LG5 | | 4.04640007 | 0.24 | C | **3.063** | | | | | 129.6033 | |
| 45 | Rh | SLB2^C | | 4.07611720 | 1 | | **3.041** | | | | | 130.5551 | |
| 45 | Rh | SLB2^2 | | 4.08383270 | 1 | | **3.035** | | | | | 130.8022 | |
| 45 | Rh | SLB2^B | | 4.09064640 | 1 | | **3.030** | | | | | 131.0205 | |
| 45 | Rh | SLB2^1 | | 4.09625780 | 1 | | **3.026** | | | | | 131.2002 | |
| 45 | Rh | SLB2^A | | 4.12481530 | 1 | | **3.005** | | | | | 132.1149 | |
| 45 | Rh | LIII | ABS | 4.12761169 | | BB | **3.003** | | | | | 132.2044 | |
| 45 | Rh | LB7 | | 4.12989998 | 0.04 | C | **3.002** | | | | | 132.2777 | |
| 45 | Rh | LB2 | | 4.13129997 | 8.54 | C | **3.001** | | | | | 132.3226 | |
| 45 | Rh | LB6 | | 4.24300003 | 0.76 | C | **2.922** | | | | | 135.9003 | |
| 45 | Rh | LB3 | | 4.25320005 | 6.67 | C | **2.915** | | | | | 136.2270 | |
| 45 | Rh | LB4 | | 4.28999996 | 3.95 | C | **2.890** | | | | | 137.4056 | |
| 45 | Rh | SLB1^4 | | 4.33614130 | 1 | | **2.859** | | | | | 138.8835 | |
| 45 | Rh | SLB1''' | | 4.34425770 | 1 | | **2.853** | | | | | 139.1435 | |
| 45 | Rh | SLB1'' | | 4.35187310 | 1 | | **2.848** | | | | | 139.3874 | |
| 45 | Rh | SLB1' | | 4.36179310 | 1 | | **2.842** | | | | | 139.7051 | |
| 45 | Rh | LB1 | | 4.37480021 | 41.83 | C | **2.834** | | | | | 140.1217 | |
| 45 | Rh | SLA9 | | 4.55257770 | 1 | | **2.723** | | | | | 145.8158 | |
| 45 | Rh | SLA8 | | 4.55668600 | 1 | | **2.720** | | | | | 145.9474 | |
| 45 | Rh | SLA7 | | 4.56129520 | 1 | | **2.718** | | | | | 146.0950 | |
| 45 | Rh | SLA6 | | 4.56830940 | 1 | | **2.713** | | | | | 146.3197 | |
| 45 | Rh | SLA5 | | 4.57582450 | 1 | | **2.709** | | | | | 146.5604 | |
| 45 | Rh | SLA4 | | 4.58033360 | 1 | | **2.706** | | | | | 146.7048 | |
| 45 | Rh | SLA3 | | 4.58464230 | 1 | | **2.704** | | | | | 146.8428 | |
| 45 | Rh | SLA2' | | 4.58865040 | 1 | | **2.701** | | | | | 146.9712 | |
| 45 | Rh | LB17 | | 4.59019995 | 0.01 | C | **2.701** | | | | | 147.0208 | |
| 45 | Rh | LA1 | | 4.59870005 | 100 | C | **2.696** | | | | | 147.2931 | |
| 45 | Rh | LA2 | | 4.60550022 | 11.34 | C | **2.692** | | | | | 147.5109 | |
| 45 | Rh | Ln | | 4.92180014 | 1.26 | C | **2.519** | | | | | 157.6417 | |
| 45 | Rh | LI | | 5.21810007 | 4.11 | C | **2.376** | | | | | 167.1320 | |
| 45 | Rh | MI | ABS | 19.77120077 | | BB | **0.627** | | | 89.5928 | 214.9294 | | |
| 45 | Rh | MII | ABS | 23.79754319 | | BB | **0.521** | | 67.9930 | 107.8380 | 258.6991 | | |
| 45 | Rh | MIII | ABS | 24.98694075 | | BB | **0.496** | | 71.3913 | 113.2278 | 271.6288 | | |
| 45 | Rh | MG | | 25.01000023 | 1 | C | **0.496** | | 71.4571 | 113.3323 | 271.8795 | | |
| 45 | Rh | M2-N1 | | 28.10000038 | 0.01 | C | **0.441** | | 80.2857 | 127.3345 | 305.4704 | | |
| 45 | Rh | M3-N1 | | 29.79999924 | 0.1 | C | **0.416** | | 85.1429 | 135.0380 | 323.9508 | | |
| 45 | Rh | MIV | ABS | 39.77709336 | | BB | **0.312** | 77.8852 | 113.6488 | 180.2490 | 432.4101 | | |
| 45 | Rh | MV | ABS | 40.38605863 | | BB | **0.307** | 79.0776 | 115.3887 | 183.0085 | 439.0300 | | |
| 45 | Rh | M4-O2 | | 40.90000153 | 0.1 | C | **0.303** | 80.0839 | 116.8571 | 185.3374 | 444.6170 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | Rh | MZ1 | | 47.59000000 | 1 | | **0.260** | 93.1832 | 135.9714 | 215.6530 | 517.3429 | | |
| 45 | Rh | MZ2 | | 47.59000000 | 1 | | **0.260** | 93.1832 | 135.9714 | 215.6530 | 517.3429 | | |
| 45 | Rh | MZ1,2 | | 47.66999817 | 0.01 | C | **0.260** | 93.3399 | 136.2000 | 216.0155 | 518.2125 | | |
| 45 | Rh | M2-M4 | | 59.29999924 | 0.01 | C | **0.209** | 116.1119 | 169.4286 | 268.7166 | 644.6403 | | |
| 45 | Rh | M3-M5 | | 65.50000000 | 0.01 | C | **0.189** | 128.2517 | 187.1429 | 296.8118 | 712.0394 | | |
| 45 | Rh | NI | ABS | 153.06814815 | | BB | **0.081** | | | | | | |
| 45 | Rh | NII | ABS | 258.84175365 | | BB | **0.048** | | | | | | |
| 45 | Rh | NIII | ABS | 258.84175365 | | BB | **0.048** | | | | | | |
| 46 | Pd | K | ABS | 0.50917319 | | BB | **24.345** | | | | | | |
| 46 | Pd | KB4 | | 0.50930000 | 0.001 | | **24.339** | | | | | | |
| 46 | Pd | KB2 | | 0.51022858 | 5 | | **24.295** | | | | | | |
| 46 | Pd | KB5 | | 0.51664151 | 0.05 | | **23.993** | | | | | | |
| 46 | Pd | SKB7 | | 0.51884596 | 1 | | **23.891** | | | | | | |
| 46 | Pd | KB1 | | 0.52054939 | 15 | | **23.813** | | | | | | |
| 46 | Pd | KB3 | | 0.52115060 | 15 | | **23.786** | | | | | | |
| 46 | Pd | SKA4 | | 0.58327584 | 1 | | **21.252** | | | | | | |
| 46 | Pd | SKA3' | | 0.58367665 | 1 | | **21.238** | | | | | | |
| 46 | Pd | KA1 | | 0.58538008 | 100 | | **21.176** | | | | | | |
| 46 | Pd | KA2 | | 0.58978897 | 50 | | **21.018** | | | | | | |
| 46 | Pd | LI | ABS | 3.43992453 | | BB | **3.604** | | | | | 110.1783 | 239.1981 |
| 46 | Pd | LG2 | | 3.48950005 | 0.74 | C | **3.552** | | | | | 111.7662 | 242.6453 |
| 46 | Pd | LG3 | | 3.48950005 | 1.25 | C | **3.552** | | | | | 111.7662 | 242.6453 |
| 46 | Pd | LG11 | | 3.68210006 | 0.01 | C | **3.367** | | | | | 117.9350 | 256.0380 |
| 46 | Pd | SLG1' | | 3.68542960 | 1 | | **3.364** | | | | | 118.0417 | 256.2695 |
| 46 | Pd | LII | ABS | 3.72294388 | | BB | **3.330** | | | | | 119.2432 | 258.8781 |
| 46 | Pd | LG1 | | 3.72539997 | 4.07 | C | **3.327** | | | | | 119.3219 | 259.0488 |
| 46 | Pd | LG8 | | 3.73440003 | 0.01 | C | **3.319** | | | | | 119.6102 | 259.6747 |
| 46 | Pd | L2-N3 | | 3.78220010 | 0.01 | C | **3.277** | | | | | 121.1412 | |
| 46 | Pd | LB9 | | 3.79539990 | 0.1 | C | **3.266** | | | | | 121.5639 | |
| 46 | Pd | LB10 | | 3.79865780 | 0.001 | | **3.263** | | | | | 121.6683 | |
| 46 | Pd | LG5 | | 3.82299995 | 0.24 | C | **3.242** | | | | | 122.4480 | |
| 46 | Pd | SLB2^C | | 3.85797740 | 1 | | **3.213** | | | | | 123.5683 | |
| 46 | Pd | SLB2^2 | | 3.86559280 | 1 | | **3.207** | | | | | 123.8122 | |
| 46 | Pd | SLB2^B | | 3.87100370 | 1 | | **3.202** | | | | | 123.9855 | |
| 46 | Pd | SLB2^1 | | 3.87681540 | 1 | | **3.197** | | | | | 124.1716 | |
| 46 | Pd | SLB2^A | | 3.90316850 | 1 | | **3.176** | | | | | 125.0157 | |
| 46 | Pd | LIII | ABS | 3.90713768 | | BB | **3.173** | | | | | 125.1428 | |
| 46 | Pd | LB7 | | 3.90860009 | 0.04 | C | **3.171** | | | | | 125.1897 | |
| 46 | Pd | LB2 | | 3.90980005 | 10.35 | C | **3.170** | | | | | 125.2281 | |
| 46 | Pd | LB6 | | 4.01620007 | 0.77 | C | **3.086** | | | | | 128.6360 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | Pd | LB3 | | 4.03579998 | 6.82 | C | **3.072** | | | | | 129.2638 | |
| 46 | Pd | LB4 | | 4.07159996 | 4.07 | C | **3.045** | | | | | 130.4104 | |
| 46 | Pd | SLB1^4 | | 4.11128810 | 1 | | **3.015** | | | | | 131.6816 | |
| 46 | Pd | SLB1''' | | 4.11780120 | 1 | | **3.010** | | | | | 131.8902 | |
| 46 | Pd | SLB1'' | | 4.12521610 | 1 | | **3.005** | | | | | 132.1277 | |
| 46 | Pd | SLB1' | | 4.13513610 | 1 | | **2.998** | | | | | 132.4454 | |
| 46 | Pd | LB1 | | 4.14650011 | 42.97 | C | **2.990** | | | | | 132.8094 | |
| 46 | Pd | SLA9 | | 4.32171230 | 1 | | **2.868** | | | | | 138.4214 | |
| 46 | Pd | SLA8 | | 4.32852600 | 1 | | **2.864** | | | | | 138.6396 | |
| 46 | Pd | SLA7 | | 4.33273450 | 1 | | **2.861** | | | | | 138.7744 | |
| 46 | Pd | SLA6 | | 4.34014940 | 1 | | **2.856** | | | | | 139.0119 | |
| 46 | Pd | SLA5 | | 4.34365650 | 1 | | **2.854** | | | | | 139.1242 | |
| 46 | Pd | SLA5 | | 4.34686300 | 1 | | **2.852** | | | | | 139.2269 | |
| 46 | Pd | LB17 | | 4.35020018 | 0.01 | C | **2.850** | | | | | 139.3338 | |
| 46 | Pd | SLA4 | | 4.35147230 | 1 | | **2.849** | | | | | 139.3745 | |
| 46 | Pd | SLA3 | | 4.35578090 | 1 | | **2.846** | | | | | 139.5125 | |
| 46 | Pd | SLA2' | | 4.35848640 | 1 | | **2.844** | | | | | 139.5992 | |
| 46 | Pd | LA1 | | 4.36859989 | 100 | C | **2.838** | | | | | 139.9231 | |
| 46 | Pd | LA2 | | 4.37629986 | 11.34 | C | **2.833** | | | | | 140.1698 | |
| 46 | Pd | Ln | | 4.66090012 | 1.29 | C | **2.660** | | | | | 149.2853 | |
| 46 | Pd | Ll | | 4.95330000 | 4.12 | C | **2.503** | | | | | 158.6507 | |
| 46 | Pd | MI | ABS | 18.50801612 | | BB | **0.670** | | | 83.8687 | 201.1975 | | |
| 46 | Pd | M1-N2 | | 20.10000038 | 1 | C | **0.617** | | | 91.0827 | 218.5037 | | |
| 46 | Pd | M2-N4 | | 22.10000038 | 0.5 | C | **0.561** | | 63.1429 | 100.1457 | 240.2454 | | |
| 46 | Pd | MII | ABS | 22.17585405 | | BB | **0.559** | | 63.3596 | 100.4894 | 241.0700 | | |
| 46 | Pd | MG | | 23.29999924 | 1 | C | **0.532** | | 66.5714 | 105.5834 | 253.2904 | | |
| 46 | Pd | MIII | ABS | 23.32741298 | | BB | **0.531** | | 66.6498 | 105.7076 | 253.5884 | | |
| 46 | Pd | M2-N1 | | 26.20000076 | 0.01 | C | **0.473** | | 74.8571 | 118.7247 | 284.8158 | | |
| 46 | Pd | M3-N1 | | 27.89999962 | 0.1 | C | **0.444** | | 79.7143 | 126.4282 | 303.2962 | | |
| 46 | Pd | MIV | ABS | 36.46623529 | | BB | **0.340** | 71.4024 | 104.1892 | 165.2459 | 396.4183 | | |
| 46 | Pd | MV | ABS | 37.04368091 | | BB | **0.335** | 72.5331 | 105.8391 | 167.8626 | 402.6956 | | |
| 46 | Pd | M4-O2 | | 37.40000153 | 0.1 | C | **0.331** | 73.2308 | 106.8571 | 169.4773 | 406.5691 | | |
| 46 | Pd | MZ1 | | 43.36000000 | 1 | | **0.286** | 84.9007 | 123.8857 | 196.4849 | 471.3592 | | |
| 46 | Pd | MZ2 | | 43.36000000 | 1 | | **0.286** | 84.9007 | 123.8857 | 196.4849 | 471.3592 | | |
| 46 | Pd | MZ1,2 | | 43.59999847 | 0.01 | C | **0.284** | 85.3706 | 124.5714 | 197.5724 | 473.9682 | | |
| 46 | Pd | M2-M4 | | 56.50000000 | 0.01 | C | **0.219** | 110.6294 | 161.4286 | 256.0285 | 614.2020 | | |
| 46 | Pd | M3-M5 | | 62.90000153 | 0.01 | C | **0.197** | 123.1608 | 179.7143 | 285.0299 | 683.7753 | | |
| 46 | Pd | NI | ABS | 143.50138889 | | BB | **0.086** | | | | | | |
| 46 | Pd | NII | ABS | 242.63248532 | | BB | **0.051** | | | | | | |
| 46 | Pd | NIII | ABS | 242.63248532 | | BB | **0.051** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | Ag | K | ABS | 0.48594967 | | BB | **25.509** | | | | | | |
| 47 | Ag | KB4 | | 0.48597970 | 0.001 | | **25.507** | | | | | | |
| 47 | Ag | KB2 | | 0.48698172 | 5 | | **25.455** | | | | | | |
| 47 | Ag | SKB8 | | 0.49018818 | 1 | | **25.288** | | | | | | |
| 47 | Ag | SKB9 | | 0.49199182 | 1 | | **25.196** | | | | | | |
| 47 | Ag | KB5 | | 0.49299384 | 0.05 | | **25.144** | | | | | | |
| 47 | Ag | SKB6 | | 0.49419626 | 1 | | **25.083** | | | | | | |
| 47 | Ag | SKB7 | | 0.49539869 | 1 | | **25.022** | | | | | | |
| 47 | Ag | KB1 | | 0.49700192 | 15 | | **24.942** | | | | | | |
| 47 | Ag | KB3 | | 0.49760313 | 15 | | **24.911** | | | | | | |
| 47 | Ag | SKBN | | 0.50070939 | 1 | | **24.757** | | | | | | |
| 47 | Ag | KA1 | | 0.55932756 | 100 | | **22.162** | | | | | | |
| 47 | Ag | KA2 | | 0.56373645 | 50 | | **21.989** | | | | | | |
| 47 | Ag | LI | ABS | 3.25779600 | | BB | **3.805** | | | | | 104.3449 | 226.5336 |
| 47 | Ag | SLG2' | | 3.27660540 | 1 | | **3.783** | | | | | 104.9473 | 227.8415 |
| 47 | Ag | LG3 | | 3.30699992 | 1.4 | C | **3.748** | | | | | 105.9208 | 229.9550 |
| 47 | Ag | LG2 | | 3.31229997 | 0.82 | C | **3.742** | | | | | 106.0906 | 230.3236 |
| 47 | Ag | LG11 | | 3.46239996 | 0.01 | C | **3.580** | | | | | 110.8982 | 240.7609 |
| 47 | Ag | SLG1' | | 3.48702960 | 1 | | **3.555** | | | | | 111.6871 | 242.4736 |
| 47 | Ag | LII | ABS | 3.51860828 | | BB | **3.523** | | | | | 112.6985 | 244.6694 |
| 47 | Ag | LG1 | | 3.52320004 | 4.67 | C | **3.518** | | | | | 112.8456 | 244.9887 |
| 47 | Ag | LG8 | | 3.52719998 | 0.01 | C | **3.514** | | | | | 112.9737 | 245.2668 |
| 47 | Ag | L2-N3 | | 3.57710004 | 0.01 | C | **3.465** | | | | | 114.5720 | 248.7367 |
| 47 | Ag | LB9 | | 3.60809994 | 0.12 | C | **3.436** | | | | | 115.5649 | 250.8923 |
| 47 | Ag | LB10 | | 3.61148050 | 0.001 | | **3.432** | | | | | 115.6731 | 251.1274 |
| 47 | Ag | LG5 | | 3.61669993 | 0.25 | C | **3.427** | | | | | 115.8403 | 251.4903 |
| 47 | Ag | SLB2^C | | 3.65386590 | 1 | | **3.393** | | | | | 117.0307 | 254.0747 |
| 47 | Ag | SLB2^2 | | 3.66128090 | 1 | | **3.386** | | | | | 117.2682 | 254.5903 |
| 47 | Ag | SLB2^B | | 3.66609060 | 1 | | **3.381** | | | | | 117.4223 | 254.9247 |
| 47 | Ag | SLB2^1 | | 3.67110070 | 1 | | **3.377** | | | | | 117.5827 | 255.2731 |
| 47 | Ag | SLB2^A | | 3.69675240 | 1 | | **3.353** | | | | | 118.4043 | 257.0568 |
| 47 | Ag | LIII | ABS | 3.69983587 | | BB | **3.350** | | | | | 118.5031 | 257.2712 |
| 47 | Ag | LB7 | | 3.70090008 | 0.03 | C | **3.349** | | | | | 118.5372 | 257.3452 |
| 47 | Ag | LB2 | | 3.70420003 | 11.65 | C | **3.346** | | | | | 118.6429 | 257.5747 |
| 47 | Ag | LB6 | | 3.80890012 | 0.79 | C | **3.254** | | | | | 121.9963 | |
| 47 | Ag | SLM | | 3.81268610 | 1 | | **3.251** | | | | | 122.1176 | |
| 47 | Ag | LB3 | | 3.83369994 | 7.37 | C | **3.233** | | | | | 122.7907 | |
| 47 | Ag | LB4 | | 3.87080002 | 4.44 | C | **3.202** | | | | | 123.9790 | |
| 47 | Ag | SLB1^4 | | 3.90086390 | 1 | | **3.178** | | | | | 124.9419 | |
| 47 | Ag | SLB1'" | | 3.90737700 | 1 | | **3.172** | | | | | 125.1505 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 47 | Ag | SLB1" | | 3.91539320 | 1 | | **3.166** | | | | | 125.4072 | |
| 47 | Ag | SLB1' | | 3.92340930 | 1 | | **3.159** | | | | | 125.6640 | |
| 47 | Ag | LB1 | | 3.93589997 | 43.97 | C | **3.149** | | | | | 126.0641 | |
| 47 | Ag | SLM | | 4.02411230 | 1 | | **3.080** | | | | | 128.8894 | |
| 47 | Ag | SLL | | 4.03814060 | 1 | | **3.070** | | | | | 129.3388 | |
| 47 | Ag | SLA8 | | 4.11609780 | 1 | | **3.012** | | | | | 131.8357 | |
| 47 | Ag | SLA7 | | 4.12060680 | 1 | | **3.008** | | | | | 131.9801 | |
| 47 | Ag | LB17 | | 4.12720013 | 0.01 | C | **3.003** | | | | | 132.1913 | |
| 47 | Ag | SLA6 | | 4.12792160 | 1 | | **3.003** | | | | | 132.2144 | |
| 47 | Ag | SLA5 | | 4.13192970 | 1 | | **3.000** | | | | | 132.3427 | |
| 47 | Ag | SLA5 | | 4.13483550 | 1 | | **2.998** | | | | | 132.4358 | |
| 47 | Ag | SLA4 | | 4.13934460 | 1 | | **2.995** | | | | | 132.5802 | |
| 47 | Ag | SLA3 | | 4.14305210 | 1 | | **2.992** | | | | | 132.6990 | |
| 47 | Ag | SLA2' | | 4.14495590 | 1 | | **2.991** | | | | | 132.7600 | |
| 47 | Ag | LA1 | | 4.15490007 | 100 | C | **2.983** | | | | | 133.0785 | |
| 47 | Ag | LA2 | | 4.16319990 | 11.28 | C | **2.978** | | | | | 133.3443 | |
| 47 | Ag | Ln | | 4.41839981 | 1.31 | C | **2.806** | | | | | 141.5182 | |
| 47 | Ag | Ll | | 4.70870018 | 4.13 | C | **2.633** | | | | | 150.8163 | |
| 47 | Ag | MI | ABS | 17.28016725 | | BB | **0.717** | | | 78.3047 | 187.8498 | | |
| 47 | Ag | M1-N2 | | 18.79999924 | 1 | C | **0.659** | | | 85.1918 | 204.3716 | | |
| 47 | Ag | MII | ABS | 20.58187251 | | BB | **0.602** | | | 93.2663 | 223.7421 | | |
| 47 | Ag | M2-N4 | | 20.65999985 | 0.5 | C | **0.600** | | | 93.6203 | 224.5914 | | |
| 47 | Ag | MIII | ABS | 21.69849492 | | BB | **0.571** | | 61.9957 | 98.3262 | 235.8807 | | |
| 47 | Ag | MG | | 21.81999969 | 1 | C | **0.568** | | 62.3429 | 98.8768 | 237.2015 | | |
| 47 | Ag | M5-N1 | | 24.39999962 | 0.01 | C | **0.508** | | 69.7143 | 110.5681 | 265.2483 | | |
| 47 | Ag | M3-N1 | | 26.00000000 | 0.1 | C | **0.477** | | 74.2857 | 117.8184 | 282.6416 | | |
| 47 | Ag | MIV | ABS | 33.25783262 | | BB | **0.373** | 65.1202 | 95.0224 | 150.7071 | 361.5403 | | |
| 47 | Ag | M4-O2 | | 33.50000000 | 0.01 | C | **0.370** | 65.5944 | 95.7143 | 151.8045 | 364.1728 | | |
| 47 | Ag | MV | ABS | 33.81107172 | | BB | **0.367** | 66.2035 | 96.6031 | 153.2141 | 367.5545 | | |
| 47 | Ag | MZ1,2 | | 39.77000046 | 0.01 | C | **0.312** | 77.8713 | 113.6286 | 180.2169 | 432.3330 | | |
| 47 | Ag | MZ1 | | 39.79000000 | 1 | | **0.312** | 77.9105 | 113.6857 | 180.3075 | 432.5504 | | |
| 47 | Ag | MZ2 | | 39.79000000 | 1 | | **0.312** | 77.9105 | 113.6857 | 180.3075 | 432.5504 | | |
| 47 | Ag | M2-M4 | | 54.00000000 | 0.01 | C | **0.230** | 105.7343 | 154.2857 | 244.6998 | 587.0249 | | |
| 47 | Ag | M3-M5 | | 60.50000000 | 0.01 | C | **0.205** | 118.4615 | 172.8571 | 274.1544 | 657.6853 | | |
| 47 | Ag | NI | ABS | 130.23655462 | | BB | **0.095** | 255.0086 | | | | | |
| 47 | Ag | NII | ABS | 198.05942492 | | BB | **0.063** | | | | | | |
| 47 | Ag | NIII | ABS | 221.79821109 | | BB | **0.056** | | | | | | |
| 48 | Cd | K | ABS | 0.46416934 | | BB | **26.706** | | | | | | |
| 48 | Cd | KB2 | | 0.46533809 | 5 | | **26.639** | | | | | | |
| 48 | Cd | KB1 | | 0.47505768 | 15 | | **26.094** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | Cd | KB3 | | 0.47565889 | 15 | | **26.061** | | | | | | |
| 48 | Cd | KA1 | | 0.53497848 | 100 | | **23.171** | | | | | | |
| 48 | Cd | KA2 | | 0.53938737 | 50 | | **22.982** | | | | | | |
| 48 | Cd | LI | ABS | 3.08574415 | | BB | **4.017** | | | | | 98.8342 | 214.5698 |
| 48 | Cd | LG2 | | 3.13800001 | 0.89 | C | **3.950** | | | | | 100.5079 | 218.2035 |
| 48 | Cd | LG3 | | 3.13800001 | 1.51 | C | **3.950** | | | | | 100.5079 | 218.2035 |
| 48 | Cd | LG11 | | 3.26200008 | 0.01 | C | **3.800** | | | | | 104.4795 | 226.8259 |
| 48 | Cd | SLG1' | | 3.30265790 | 1 | | **3.753** | | | | | 105.7818 | 229.6531 |
| 48 | Cd | LII | ABS | 3.32667561 | | BB | **3.726** | | | | | 106.5510 | 231.3232 |
| 48 | Cd | LG1 | | 3.33640003 | 5.2 | C | **3.715** | | | | | 106.8625 | 231.9994 |
| 48 | Cd | LG8 | | 3.33640003 | 0.03 | C | **3.715** | | | | | 106.8625 | 231.9994 |
| 48 | Cd | L2-N3 | | 3.38750005 | 0.01 | C | **3.659** | | | | | 108.4992 | 235.5527 |
| 48 | Cd | LG5 | | 3.42580009 | 0.26 | C | **3.618** | | | | | 109.7259 | 238.2159 |
| 48 | Cd | LB9 | | 3.43319988 | 0.13 | C | **3.611** | | | | | 109.9629 | 238.7305 |
| 48 | Cd | LB10 | | 3.43652780 | 0.001 | | **3.607** | | | | | 110.0695 | 238.9619 |
| 48 | Cd | SLB2^C | | 3.46919360 | 1 | | **3.573** | | | | | 111.1158 | 241.2333 |
| 48 | Cd | SLB2^2 | | 3.47520580 | 1 | | **3.567** | | | | | 111.3084 | 241.6514 |
| 48 | Cd | SLB2^B | | 3.47961470 | 1 | | **3.562** | | | | | 111.4496 | 241.9580 |
| 48 | Cd | SLB2^1 | | 3.48432410 | 1 | | **3.558** | | | | | 111.6004 | 242.2854 |
| 48 | Cd | LIII | ABS | 3.50488198 | | BB | **3.537** | | | | | 112.2589 | 243.7149 |
| 48 | Cd | LB7 | | 3.50629997 | 0.08 | C | **3.535** | | | | | 112.3043 | 243.8135 |
| 48 | Cd | SLB2^A | | 3.50807200 | 1 | | **3.534** | | | | | 112.3610 | 243.9368 |
| 48 | Cd | LB2 | | 3.51419997 | 12.88 | C | **3.527** | | | | | 112.5573 | 244.3629 |
| 48 | Cd | LB6 | | 3.61570001 | 0.81 | C | **3.428** | | | | | 115.8083 | 251.4208 |
| 48 | Cd | LB3 | | 3.64540005 | 7.72 | C | **3.400** | | | | | 116.7596 | 253.4860 |
| 48 | Cd | LB4 | | 3.68219995 | 4.69 | C | **3.366** | | | | | 117.9382 | 256.0449 |
| 48 | Cd | SLB1^4 | | 3.70386670 | 1 | | **3.347** | | | | | 118.6322 | 257.5515 |
| 48 | Cd | SLB1''' | | 3.71138190 | 1 | | **3.340** | | | | | 118.8729 | 258.0741 |
| 48 | Cd | SLB1'' | | 3.71999930 | 1 | | **3.332** | | | | | 119.1489 | 258.6733 |
| 48 | Cd | SLB1' | | 3.72791520 | 1 | | **3.325** | | | | | 119.4025 | 259.2237 |
| 48 | Cd | LB1 | | 3.73889995 | 44.63 | C | **3.315** | | | | | 119.7543 | 259.9876 |
| 48 | Cd | SLA9 | | 3.91789820 | 1 | | **3.164** | | | | | 125.4875 | |
| 48 | Cd | LB17 | | 3.92219996 | 0.01 | C | **3.160** | | | | | 125.6253 | |
| 48 | Cd | SLA8 | | 3.92240730 | 1 | | **3.160** | | | | | 125.6319 | |
| 48 | Cd | SLA7 | | 3.92571400 | 1 | | **3.158** | | | | | 125.7378 | |
| 48 | Cd | SLA6 | | 3.93082430 | 1 | | **3.154** | | | | | 125.9015 | |
| 48 | Cd | SLA5 | | 3.93443150 | 1 | | **3.151** | | | | | 126.0170 | |
| 48 | Cd | SLA5 | | 3.93753780 | 1 | | **3.148** | | | | | 126.1165 | |
| 48 | Cd | SLA4 | | 3.94174630 | 1 | | **3.145** | | | | | 126.2513 | |
| 48 | Cd | SLA3 | | 3.94515310 | 1 | | **3.142** | | | | | 126.3604 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | Cd | SLA2' | | 3.94765820 | 1 | | **3.140** | | | | | 126.4407 | |
| 48 | Cd | LA1 | | 3.95729995 | 100 | C | **3.132** | | | | | 126.7495 | |
| 48 | Cd | LA2 | | 3.96609998 | 11.39 | C | **3.125** | | | | | 127.0313 | |
| 48 | Cd | Ln | | 4.19420004 | 1.32 | C | **2.956** | | | | | 134.3372 | |
| 48 | Cd | LI | | 4.48070002 | 4.17 | C | **2.767** | | | | | 143.5136 | |
| 48 | Cd | MI | ABS | 16.09779278 | | BB | **0.770** | | | 72.9468 | 174.9964 | | |
| 48 | Cd | MII | ABS | 19.05412633 | | BB | **0.651** | | | 86.3433 | 207.1342 | | |
| 48 | Cd | M2-N4 | | 19.39999962 | 0.5 | C | **0.639** | | | 87.9107 | 210.8941 | | |
| 48 | Cd | MIII | ABS | 20.11114355 | | BB | **0.616** | | | 91.1332 | 218.6248 | | |
| 48 | Cd | MG | | 20.46999931 | 1 | C | **0.606** | | | 92.7593 | 222.5259 | | |
| 48 | Cd | M2-N1 | | 22.89999962 | 0.01 | C | **0.541** | | 65.4286 | 103.7708 | 248.9420 | | |
| 48 | Cd | M3-N1 | | 24.50000000 | 0.1 | C | **0.506** | | 70.0000 | 111.0212 | 266.3354 | | |
| 48 | Cd | MIV | ABS | 30.20345920 | | BB | **0.410** | | 86.2956 | 136.8663 | 328.3367 | | |
| 48 | Cd | M4-O2 | | 30.39999962 | 0.1 | C | **0.408** | | 86.8571 | 137.7569 | 330.4733 | | |
| 48 | Cd | MV | ABS | 30.71221204 | | BB | **0.404** | 60.1358 | 87.7492 | 139.1717 | 333.8673 | | |
| 48 | Cd | M5-O3 | | 30.79999924 | 0.01 | C | **0.402** | 60.3077 | 88.0000 | 139.5695 | 334.8216 | | |
| 48 | Cd | MZ1 | | 36.66000000 | 1 | | **0.338** | 71.7818 | 104.7429 | 166.1240 | 398.5247 | | |
| 48 | Cd | MZ2 | | 36.66000000 | 1 | | **0.338** | 71.7818 | 104.7429 | 166.1240 | 398.5247 | | |
| 48 | Cd | MZ1,2 | | 36.79999924 | 0.01 | C | **0.337** | 72.0559 | 105.1429 | 166.7584 | 400.0466 | | |
| 48 | Cd | M2-M4 | | 52.00000000 | 0.01 | C | **0.238** | 101.8182 | 148.5714 | 235.6368 | 565.2832 | | |
| 48 | Cd | M3-M5 | | 58.70000076 | 0.01 | C | **0.211** | 114.9371 | 167.7143 | 265.9977 | 638.1178 | | |
| 48 | Cd | NI | ABS | 115.22788104 | | BB | **0.108** | 225.6210 | | | | | |
| 48 | Cd | NII | ABS | 185.32914798 | | BB | **0.067** | | | | | | |
| 48 | Cd | NIII | ABS | 185.32914798 | | BB | **0.067** | | | | | | |
| 49 | In | K | ABS | 0.44375678 | | BB | **27.934** | | | | | | |
| 49 | In | KB4 | | 0.44389486 | 0.001 | | **27.926** | | | | | | |
| 49 | In | KB2 | | 0.44499708 | 5 | | **27.856** | | | | | | |
| 49 | In | KB5 | | 0.45080880 | 0.05 | | **27.497** | | | | | | |
| 49 | In | KB1 | | 0.45451627 | 15 | | **27.273** | | | | | | |
| 49 | In | KB3 | | 0.45511748 | 15 | | **27.237** | | | | | | |
| 49 | In | KA1 | | 0.51213242 | 100 | | **24.205** | | | | | | |
| 49 | In | KA2 | | 0.51654131 | 50 | | **23.998** | | | | | | |
| 49 | In | LI | ABS | 2.92590442 | | BB | **4.237** | | | | | 93.7146 | 203.4552 |
| 49 | In | LG4 | | 2.92680001 | 0.03 | C | **4.235** | | | | | 93.7433 | 203.5175 |
| 49 | In | LG2 | | 2.98029995 | 1.05 | C | **4.159** | | | | | 95.4569 | 207.2377 |
| 49 | In | LG3 | | 2.98029995 | 1.77 | C | **4.159** | | | | | 95.4569 | 207.2377 |
| 49 | In | LG11 | | 3.07859993 | 0.02 | C | **4.027** | | | | | 98.6054 | 214.0731 |
| 49 | In | SLG1' | | 3.13131250 | 1 | | **3.959** | | | | | 100.2937 | 217.7385 |
| 49 | In | LII | ABS | 3.14843068 | | BB | **3.937** | | | | | 100.8420 | 218.9288 |
| 49 | In | LG8 | | 3.16120005 | 0.03 | C | **3.921** | | | | | 101.2510 | 219.8167 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | In | LG1 | | 3.16280007 | 5.67 | C | **3.919** | | | | | 101.3022 | 219.9280 |
| 49 | In | L2-N3 | | 3.21110010 | 0.01 | C | **3.860** | | | | | 102.8492 | 223.2866 |
| 49 | In | LG5 | | 3.24979997 | 0.27 | C | **3.814** | | | | | 104.0888 | 225.9776 |
| 49 | In | LB9 | | 3.27060008 | 0.16 | C | **3.790** | | | | | 104.7550 | 227.4240 |
| 49 | In | LB10 | | 3.27400010 | 0.001 | | **3.786** | | | | | 104.8639 | 227.6604 |
| 49 | In | SLB2^C | | 3.29714680 | 1 | | **3.760** | | | | | 105.6053 | 229.2699 |
| 49 | In | SLB2^2 | | 3.30265790 | 1 | | **3.753** | | | | | 105.7818 | 229.6531 |
| 49 | In | SLB2^B | | 3.30636540 | 1 | | **3.749** | | | | | 105.9005 | 229.9109 |
| 49 | In | SLB2^1 | | 3.31077430 | 1 | | **3.744** | | | | | 106.0417 | 230.2175 |
| 49 | In | LIII | ABS | 3.32391089 | | BB | **3.729** | | | | | 106.4625 | 231.1310 |
| 49 | In | LB7 | | 3.32480001 | 0.1 | C | **3.728** | | | | | 106.4910 | 231.1928 |
| 49 | In | SLB2^A | | 3.33241790 | 1 | | **3.720** | | | | | 106.7350 | 231.7225 |
| 49 | In | LB2 | | 3.33909988 | 13.71 | C | **3.712** | | | | | 106.9490 | 232.1871 |
| 49 | In | LB6 | | 3.43630004 | 0.82 | C | **3.607** | | | | | 110.0622 | 238.9460 |
| 49 | In | LB3 | | 3.47090006 | 8.78 | C | **3.571** | | | | | 111.1704 | 241.3520 |
| 49 | In | LB4 | | 3.50720000 | 5.35 | C | **3.534** | | | | | 112.3331 | 243.8761 |
| 49 | In | SLB1''' | | 3.53061750 | 1 | | **3.511** | | | | | 113.0832 | 245.5045 |
| 49 | In | SLB1'' | | 3.53873380 | 1 | | **3.503** | | | | | 113.3431 | 246.0689 |
| 49 | In | SLB1' | | 3.54664980 | 1 | | **3.495** | | | | | 113.5967 | 246.6193 |
| 49 | In | LB1 | | 3.55550003 | 45.2 | C | **3.486** | | | | | 113.8801 | 247.2347 |
| 49 | In | SLA9 | | 3.72811560 | 1 | | **3.325** | | | | | 119.4089 | 259.2377 |
| 49 | In | LB17 | | 3.73099995 | 0.02 | C | **3.322** | | | | | 119.5013 | 259.4382 |
| 49 | In | SLA8 | | 3.73262470 | 1 | | **3.321** | | | | | 119.5533 | 259.5512 |
| 49 | In | SLA7 | | 3.73963880 | 1 | | **3.315** | | | | | 119.7780 | |
| 49 | In | SLA6 | | 3.74695360 | 1 | | **3.308** | | | | | 120.0122 | |
| 49 | In | SLA5 | | 3.75146270 | 1 | | **3.304** | | | | | 120.1567 | |
| 49 | In | SLA5 | | 3.75216410 | 1 | | **3.304** | | | | | 120.1791 | |
| 49 | In | SLA4 | | 3.75817620 | 1 | | **3.298** | | | | | 120.3717 | |
| 49 | In | SLA3 | | 3.76128250 | 1 | | **3.296** | | | | | 120.4712 | |
| 49 | In | LA1 | | 3.77300000 | 100 | C | **3.285** | | | | | 120.8465 | |
| 49 | In | LA2 | | 3.78110003 | 11.32 | C | **3.278** | | | | | 121.1059 | |
| 49 | In | Ln | | 3.98399997 | 1.32 | C | **3.111** | | | | | 127.6047 | |
| 49 | In | Ll | | 4.26929998 | 4.15 | C | **2.904** | | | | | 136.7426 | |
| 49 | In | MI | ABS | 15.01758721 | | BB | **0.825** | | | 68.0519 | 163.2537 | | |
| 49 | In | MII | ABS | 17.65667901 | | BB | **0.702** | | | 80.0108 | 191.9428 | | |
| 49 | In | MIII | ABS | 18.66403733 | | BB | **0.664** | | | 84.5757 | 202.8936 | | |
| 49 | In | MIV | ABS | 27.50337178 | | BB | **0.451** | | 78.5811 | 124.6309 | 298.9845 | | |
| 49 | In | MV | ABS | 27.98131347 | | BB | **0.443** | | 79.9466 | 126.7967 | 304.1801 | | |
| 49 | In | NI | ABS | 101.71058244 | | BB | **0.122** | 199.1536 | | | | | |
| 49 | In | NII | ABS | 160.18759690 | | BB | **0.077** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | In | NIII | ABS | 160.18759690 | | BB | **0.077** | | | | | | |
| 49 | In | NIV | ABS | 765.34074074 | | BB | **0.016** | | | | | | |
| 50 | Sn | K | ABS | 0.42460540 | | BB | **29.194** | | | | | | |
| 50 | Sn | KB4 | | 0.42495668 | 0.001 | | **29.170** | | | | | | |
| 50 | Sn | KB2 | | 0.42585850 | 5 | | **29.108** | | | | | | |
| 50 | Sn | KB5 | | 0.43177042 | 0.05 | | **28.710** | | | | | | |
| 50 | Sn | KB1 | | 0.43517729 | 15 | | **28.485** | | | | | | |
| 50 | Sn | KB3 | | 0.43587870 | 15 | | **28.439** | | | | | | |
| 50 | Sn | KA1 | | 0.49058899 | 100 | | **25.268** | | | | | | |
| 50 | Sn | KA2 | | 0.49499788 | 50 | | **25.043** | | | | | | |
| 50 | Sn | LI | ABS | 2.77701077 | | BB | **4.464** | | | | | 88.9457 | 193.1018 |
| 50 | Sn | LG4 | | 2.77800012 | 0.16 | C | **4.462** | | | | | 88.9774 | 193.1706 |
| 50 | Sn | LG2 | | 2.83319998 | 1.93 | C | **4.375** | | | | | 90.7454 | 197.0090 |
| 50 | Sn | LG3 | | 2.83319998 | 3.21 | C | **4.375** | | | | | 90.7454 | 197.0090 |
| 50 | Sn | LG11 | | 2.90980005 | 0.03 | C | **4.260** | | | | | 93.1988 | 202.3354 |
| 50 | Sn | SLG1' | | 2.97449640 | 1 | | **4.167** | | | | | 95.2710 | 206.8341 |
| 50 | Sn | LII | ABS | 2.98321022 | | BB | **4.155** | | | | | 95.5501 | 207.4401 |
| 50 | Sn | LG8 | | 2.99830008 | 0.04 | C | **4.134** | | | | | 96.0334 | 208.4893 |
| 50 | Sn | LG1 | | 3.00200009 | 7.25 | C | **4.129** | | | | | 96.1519 | 208.7466 |
| 50 | Sn | L2-N3 | | 3.04769993 | 0.01 | C | **4.067** | | | | | 97.6156 | 211.9244 |
| 50 | Sn | LG5 | | 3.08559990 | 0.32 | C | **4.017** | | | | | 98.8296 | 214.5598 |
| 50 | Sn | LB9 | | 3.11840010 | 0.29 | C | **3.975** | | | | | 99.8801 | 216.8406 |
| 50 | Sn | LB10 | | 3.12169310 | 0.001 | | **3.971** | | | | | 99.9856 | 217.0696 |
| 50 | Sn | SLB2^C | | 3.13622240 | 1 | | **3.953** | | | | | 100.4510 | 218.0799 |
| 50 | Sn | SLB2^2 | | 3.14093190 | 1 | | **3.947** | | | | | 100.6018 | 218.4074 |
| 50 | Sn | SLB2^B | | 3.14524060 | 1 | | **3.941** | | | | | 100.7398 | 218.7070 |
| 50 | Sn | SLB2^1 | | 3.14864740 | 1 | | **3.937** | | | | | 100.8489 | 218.9439 |
| 50 | Sn | LIII | ABS | 3.15580330 | | BB | **3.928** | | | | | 101.0781 | 219.4415 |
| 50 | Sn | LB7 | | 3.15709996 | 0.11 | C | **3.926** | | | | | 101.1197 | 219.5316 |
| 50 | Sn | SLB2^A | | 3.16858760 | 1 | | **3.912** | | | | | 101.4876 | 220.3304 |
| 50 | Sn | LB2 | | 3.17569995 | 14.69 | C | **3.903** | | | | | 101.7154 | 220.8250 |
| 50 | Sn | LB6 | | 3.26950002 | 0.84 | C | **3.791** | | | | | 104.7197 | 227.3475 |
| 50 | Sn | LB3 | | 3.30620003 | 15.47 | C | **3.749** | | | | | 105.8952 | 229.8994 |
| 50 | Sn | LB4 | | 3.34360003 | 9.48 | C | **3.707** | | | | | 107.0931 | 232.5001 |
| 50 | Sn | SLB1''' | | 3.35937230 | 1 | | **3.690** | | | | | 107.5983 | 233.5968 |
| 50 | Sn | SLB1'' | | 3.36829020 | 1 | | **3.680** | | | | | 107.8839 | 234.2169 |
| 50 | Sn | SLB1' | | 3.37650680 | 1 | | **3.671** | | | | | 108.1471 | 234.7883 |
| 50 | Sn | LB1 | | 3.38560009 | 54.32 | C | **3.661** | | | | | 108.4383 | 235.4206 |
| 50 | Sn | LB17 | | 3.55349994 | 0.02 | C | **3.488** | | | | | 113.8161 | 247.0956 |
| 50 | Sn | SLA8 | | 3.56488660 | 1 | | **3.477** | | | | | 114.1808 | 247.8874 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 50 | Sn | SLA7 | | 3.56899480 | 1 | | **3.473** | | | | | 114.3123 | 248.1731 |
| 50 | Sn | SLA6 | | 3.57340370 | 1 | | **3.469** | | | | | 114.4536 | 248.4797 |
| 50 | Sn | SLA5 | | 3.57851400 | 1 | | **3.464** | | | | | 114.6172 | 248.8350 |
| 50 | Sn | SLA5 | | 3.58302310 | 1 | | **3.460** | | | | | 114.7617 | 249.1486 |
| 50 | Sn | SLA4 | | 3.58693100 | 1 | | **3.456** | | | | | 114.8868 | 249.4203 |
| 50 | Sn | SLA3 | | 3.59174070 | 1 | | **3.451** | | | | | 115.0409 | 249.7547 |
| 50 | Sn | LA1 | | 3.60100007 | 100 | C | **3.442** | | | | | 115.3375 | 250.3986 |
| 50 | Sn | LA2 | | 3.60929990 | 11.34 | C | **3.434** | | | | | 115.6033 | 250.9757 |
| 50 | Sn | Ln | | 3.78920007 | 1.58 | C | **3.271** | | | | | 121.3654 | |
| 50 | Sn | Ll | | 4.07299995 | 4.16 | C | **3.043** | | | | | 130.4553 | |
| 50 | Sn | MI | ABS | 14.02864902 | | BB | **0.884** | | | 63.5705 | 152.5031 | | |
| 50 | Sn | MII | ABS | 16.39148599 | | BB | **0.756** | | | 74.2777 | 178.1891 | | |
| 50 | Sn | M2-N4 | | 16.93000031 | 0.5 | C | **0.732** | | | 76.7179 | 184.0432 | | |
| 50 | Sn | MIII | ABS | 17.35515118 | | BB | **0.714** | | | 78.6445 | 188.6649 | | |
| 50 | Sn | MG | | 17.94000053 | 1 | C | **0.691** | | | 81.2947 | 195.0227 | | |
| 50 | Sn | M2-N1 | | 20.00000000 | 0.01 | C | **0.620** | | | 90.6296 | 217.4166 | | |
| 50 | Sn | M3-N1 | | 21.50000000 | 0.1 | C | **0.577** | | 61.4286 | 97.4268 | 233.7229 | | |
| 50 | Sn | MIV | ABS | 25.13383337 | | BB | **0.493** | | 71.8110 | 113.8934 | 273.2257 | | |
| 50 | Sn | M4-O2 | | 25.29999924 | 0.1 | C | **0.490** | | 72.2857 | 114.6464 | 275.0320 | | |
| 50 | Sn | MV | ABS | 25.57450495 | | BB | **0.485** | | 73.0700 | 115.8903 | 278.0161 | | |
| 50 | Sn | M5-O3 | | 25.70000076 | 0.01 | C | **0.482** | | 73.4286 | 116.4590 | 279.3804 | | |
| 50 | Sn | MZ1 | | 31.17000000 | 1 | | **0.398** | 61.0322 | 89.0571 | 141.2462 | 338.8438 | | |
| 50 | Sn | MZ2 | | 31.17000000 | 1 | | **0.398** | 61.0322 | 89.0571 | 141.2462 | 338.8438 | | |
| 50 | Sn | MZ1,2 | | 31.23999977 | 0.01 | C | **0.397** | 61.1692 | 89.2571 | 141.5634 | 339.6048 | | |
| 50 | Sn | M2-M4 | | 47.29999924 | 0.01 | C | **0.262** | 92.6154 | 135.1429 | 214.3389 | 514.1903 | | |
| 50 | Sn | M3-M5 | | 54.20000076 | 0.01 | C | **0.229** | 106.1259 | 154.8571 | 245.6061 | 589.1991 | | |
| 50 | Sn | NI | ABS | 90.83164835 | | BB | **0.136** | 177.8522 | 259.5190 | 411.6016 | 987.4155 | | |
| 50 | Sn | NII | ABS | 139.93814898 | | BB | **0.089** | | | | | | |
| 50 | Sn | NIII | ABS | 139.93814898 | | BB | **0.089** | | | | | | |
| 50 | Sn | NIV | ABS | 518.76652720 | | BB | **0.024** | | | | | | |
| 51 | Sb | K | ABS | 0.40662617 | | BB | **30.485** | | | | | | |
| 51 | Sb | KB4 | | 0.40702052 | 0.001 | | **30.455** | | | | | | |
| 51 | Sb | KB2 | | 0.40792234 | 5 | | **30.388** | | | | | | |
| 51 | Sb | KB5 | | 0.41373406 | 0.05 | | **29.961** | | | | | | |
| 51 | Sb | SKB7 | | 0.41553769 | 1 | | **29.831** | | | | | | |
| 51 | Sb | KB1 | | 0.41704072 | 15 | | **29.724** | | | | | | |
| 51 | Sb | KB3 | | 0.41774214 | 15 | | **29.674** | | | | | | |
| 51 | Sb | KA1 | | 0.47034819 | 100 | | **26.355** | | | | | | |
| 51 | Sb | KA2 | | 0.47475708 | 50 | | **26.110** | | | | | | |
| 51 | Sb | LI | ABS | 2.63893749 | | BB | **4.697** | | | | | 84.5233 | 183.5008 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | Sb | LG4 | | 2.64010000 | 0.27 | C | **4.695** | | | | | 84.5605 | 183.5816 |
| 51 | Sb | LG2 | | 2.69580007 | 1.94 | C | **4.598** | | | | | 86.3445 | 187.4547 |
| 51 | Sb | LG3 | | 2.69580007 | 3.21 | C | **4.598** | | | | | 86.3445 | 187.4547 |
| 51 | Sb | LG11 | | 2.75500011 | 0.03 | C | **4.499** | | | | | 88.2407 | 191.5713 |
| 51 | Sb | LII | ABS | 2.83045384 | | BB | **4.380** | | | | | 90.6574 | 196.8180 |
| 51 | Sb | LG8 | | 2.84030008 | 0.04 | C | **4.364** | | | | | 90.9728 | 197.5027 |
| 51 | Sb | SLG1' | | 2.84573680 | 1 | | **4.356** | | | | | 91.1469 | 197.8807 |
| 51 | Sb | LG1 | | 2.85209990 | 7.58 | C | **4.346** | | | | | 91.3507 | 198.3232 |
| 51 | Sb | L2-N3 | | 2.89610004 | 0.01 | C | **4.280** | | | | | 92.7600 | 201.3828 |
| 51 | Sb | LG5 | | 2.93239999 | 0.32 | C | **4.227** | | | | | 93.9227 | 203.9069 |
| 51 | Sb | LB9 | | 2.97569990 | 0.3 | C | **4.166** | | | | | 95.3095 | 206.9178 |
| 51 | Sb | LB10 | | 2.97900550 | 0.001 | | **4.161** | | | | | 95.4154 | 207.1477 |
| 51 | Sb | SLB2^2 | | 2.99143050 | 1 | | **4.144** | | | | | 95.8134 | 208.0117 |
| 51 | Sb | SLB2^1 | | 2.99894570 | 1 | | **4.133** | | | | | 96.0541 | 208.5342 |
| 51 | Sb | LIII | ABS | 3.00046464 | | BB | **4.131** | | | | | 96.1027 | 208.6399 |
| 51 | Sb | LB7 | | 3.00559998 | 0.12 | C | **4.124** | | | | | 96.2672 | 208.9969 |
| 51 | Sb | SLB2^A | | 3.01698200 | 1 | | **4.109** | | | | | 96.6318 | 209.7884 |
| 51 | Sb | LB2 | | 3.02390003 | 15.56 | C | **4.099** | | | | | 96.8534 | 210.2695 |
| 51 | Sb | LB6 | | 3.11590004 | 0.87 | C | **3.978** | | | | | 99.8000 | 216.6668 |
| 51 | Sb | LB3 | | 3.15310001 | 15.1 | C | **3.931** | | | | | 100.9915 | 219.2535 |
| 51 | Sb | LB4 | | 3.19050002 | 9.32 | C | **3.885** | | | | | 102.1894 | 221.8541 |
| 51 | Sb | LB1 | | 3.22620010 | 53.45 | C | **3.842** | | | | | 103.3329 | 224.3366 |
| 51 | Sb | LB17 | | 3.38190007 | 0.02 | C | **3.665** | | | | | 108.3198 | 235.1633 |
| 51 | Sb | SLA9 | | 3.39404210 | 1 | | **3.652** | | | | | 108.7087 | 236.0076 |
| 51 | Sb | SLA9 | | 3.40015450 | 1 | | **3.646** | | | | | 108.9045 | 236.4326 |
| 51 | Sb | SLA8 | | 3.40426270 | 1 | | **3.641** | | | | | 109.0361 | 236.7183 |
| 51 | Sb | SLA7 | | 3.40907240 | 1 | | **3.636** | | | | | 109.1901 | 237.0527 |
| 51 | Sb | SLA6 | | 3.41608660 | 1 | | **3.629** | | | | | 109.4148 | 237.5405 |
| 51 | Sb | SLA5 | | 3.41999450 | 1 | | **3.625** | | | | | 109.5400 | 237.8122 |
| 51 | Sb | SLA3 | | 3.42069590 | 1 | | **3.624** | | | | | 109.5624 | 237.8610 |
| 51 | Sb | SLA5 | | 3.42310070 | 1 | | **3.621** | | | | | 109.6395 | 238.0282 |
| 51 | Sb | SLA4 | | 3.42650760 | 1 | | **3.618** | | | | | 109.7486 | 238.2651 |
| 51 | Sb | LA1 | | 3.44009995 | 100 | C | **3.603** | | | | | 110.1839 | 239.2103 |
| 51 | Sb | LA2 | | 3.44869995 | 11.35 | C | **3.594** | | | | | 110.4594 | 239.8083 |
| 51 | Sb | Ln | | 3.60829997 | 1.55 | C | **3.435** | | | | | 115.5713 | 250.9062 |
| 51 | Sb | LI | | 3.88899994 | 4.19 | C | **3.187** | | | | | 124.5619 | |
| 51 | Sb | MI | ABS | 13.13820070 | | BB | **0.944** | | | | 142.8232 | | |
| 51 | Sb | MII | ABS | 15.27099396 | | BB | **0.812** | | | 69.2002 | 166.0084 | | |
| 51 | Sb | M2-N4 | | 15.97999954 | 0.5 | C | **0.776** | | | 72.4130 | 173.7159 | | |
| 51 | Sb | MIII | ABS | 16.19451411 | | BB | **0.765** | | | 73.3851 | 176.0478 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 51 | Sb | MG | | 16.92000008 | 1 | C | **0.733** | | | 76.6726 | 183.9345 | | |
| 51 | Sb | M2-N1 | | 18.79999924 | 0.01 | C | **0.659** | | | 85.1918 | 204.3716 | | |
| 51 | Sb | M3-N1 | | 20.20000076 | 0.1 | C | **0.614** | | | 91.5359 | 219.5908 | | |
| 51 | Sb | MIV | ABS | 23.09279195 | | BB | **0.537** | | 65.9794 | 104.6445 | 251.0378 | | |
| 51 | Sb | MV | ABS | 23.50430332 | | BB | **0.527** | | 67.1552 | 106.5092 | 255.5113 | | |
| 51 | Sb | MZ1,2 | | 28.87999916 | 0.01 | C | **0.429** | | 82.5143 | 130.8691 | 313.9496 | | |
| 51 | Sb | MZ1 | | 28.91000000 | 1 | | **0.429** | | 82.6000 | 131.0050 | 314.2757 | | |
| 51 | Sb | MZ2 | | 28.91000000 | 1 | | **0.429** | | 82.6000 | 131.0050 | 314.2757 | | |
| 51 | Sb | M2-M4 | | 45.20000076 | 0.01 | C | **0.274** | 88.5035 | 129.1429 | 204.8228 | 491.3616 | | |
| 51 | Sb | M3-M5 | | 52.20000076 | 0.01 | C | **0.237** | 102.2098 | 149.1429 | 236.5431 | 567.4574 | | |
| 51 | Sb | NI | ABS | 81.56921053 | | BB | **0.152** | 159.7159 | 233.0549 | 369.6290 | 886.7251 | | |
| 51 | Sb | NII | ABS | 126.00121951 | | BB | **0.098** | 246.7157 | | | | | |
| 51 | Sb | NIII | ABS | 126.00121951 | | BB | **0.098** | 246.7157 | | | | | |
| 51 | Sb | NIV | ABS | 394.85732484 | | BB | **0.031** | | | | | | |
| 52 | Te | Kd1 | | 0.38968558 | 0.01 | | **31.810** | | | | | | |
| 52 | Te | Kd2 | | 0.38968558 | 0.01 | | **31.810** | | | | | | |
| 52 | Te | K | ABS | 0.38972144 | | BB | **31.807** | | | | | | |
| 52 | Te | KB2 | | 0.39108841 | 5 | | **31.696** | | | | | | |
| 52 | Te | KB1 | | 0.40000638 | 15 | | **30.990** | | | | | | |
| 52 | Te | KB3 | | 0.40060760 | 15 | | **30.943** | | | | | | |
| 52 | Te | KA1 | | 0.45130981 | 100 | | **27.467** | | | | | | |
| 52 | Te | KA2 | | 0.45571870 | 50 | | **27.201** | | | | | | |
| 52 | Te | LI | ABS | 2.51022838 | | BB | **4.938** | | | | | 80.4008 | 174.5509 |
| 52 | Te | LG4 | | 2.51180005 | 0.39 | C | **4.935** | | | | | 80.4512 | 174.6601 |
| 52 | Te | LG2 | | 2.56800008 | 1.93 | C | **4.827** | | | | | 82.2512 | 178.5681 |
| 52 | Te | LG3 | | 2.56800008 | 3.17 | C | **4.827** | | | | | 82.2512 | 178.5681 |
| 52 | Te | LG11 | | 2.61220002 | 0.03 | C | **4.745** | | | | | 83.6669 | 181.6415 |
| 52 | Te | LII | ABS | 2.68831743 | | BB | **4.611** | | | | | 86.1049 | 186.9344 |
| 52 | Te | LG8 | | 2.69470000 | 0.05 | C | **4.600** | | | | | 86.3093 | 187.3783 |
| 52 | Te | LG1 | | 2.71289992 | 7.97 | C | **4.569** | | | | | 86.8922 | 188.6438 |
| 52 | Te | L2-N3 | | 2.75449991 | 0.01 | C | **4.500** | | | | | 88.2247 | 191.5365 |
| 52 | Te | LG5 | | 2.79049993 | 0.33 | C | **4.442** | | | | | 89.3777 | 194.0398 |
| 52 | Te | LB9 | | 2.84229994 | 0.31 | C | **4.361** | | | | | 91.0368 | 197.6417 |
| 52 | Te | LB10 | | 2.84673880 | 0.001 | | **4.354** | | | | | 91.1790 | 197.9504 |
| 52 | Te | SLB2^2 | | 2.85094730 | 1 | | **4.348** | | | | | 91.3138 | 198.2430 |
| 52 | Te | LIII | ABS | 2.85588059 | | BB | **4.341** | | | | | 91.4718 | 198.5861 |
| 52 | Te | SLB2^1 | | 2.85846250 | 1 | | **4.337** | | | | | 91.5545 | 198.7656 |
| 52 | Te | LB7 | | 2.86400008 | 0.13 | C | **4.328** | | | | | 91.7319 | 199.1507 |
| 52 | Te | SLB2^A | | 2.87669920 | 1 | | **4.309** | | | | | 92.1386 | 200.0337 |
| 52 | Te | LB2 | | 2.88260007 | 16.27 | C | **4.300** | | | | | 92.3276 | 200.4440 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 52 | Te | LB6 | | 2.97099996 | 0.89 | C | **4.172** | | | | | 95.1590 | 206.5910 |
| 52 | Te | LB3 | | 3.00920010 | 14.58 | C | **4.119** | | | | | 96.3825 | 209.2473 |
| 52 | Te | LB4 | | 3.04699993 | 9.06 | C | **4.068** | | | | | 97.5932 | 211.8757 |
| 52 | Te | LB1 | | 3.07719994 | 53.98 | C | **4.028** | | | | | 98.5605 | 213.9757 |
| 52 | Te | LB17 | | 3.22199988 | 0.02 | C | **3.847** | | | | | 103.1983 | 224.0445 |
| 52 | Te | SLA9 | | 3.24123410 | 1 | | **3.824** | | | | | 103.8144 | 225.3820 |
| 52 | Te | SLA9 | | 3.24925030 | 1 | | **3.815** | | | | | 104.0712 | 225.9394 |
| 52 | Te | SLA8 | | 3.25516220 | 1 | | **3.808** | | | | | 104.2605 | 226.3505 |
| 52 | Te | SLA7 | | 3.25917030 | 1 | | **3.803** | | | | | 104.3889 | 226.6292 |
| 52 | Te | SLA6 | | 3.26728660 | 1 | | **3.794** | | | | | 104.6489 | 227.1935 |
| 52 | Te | SLA5 | | 3.27430080 | 1 | | **3.786** | | | | | 104.8735 | 227.6813 |
| 52 | Te | SLA4 | | 3.27750720 | 1 | | **3.782** | | | | | 104.9762 | 227.9042 |
| 52 | Te | LA1 | | 3.28950000 | 100 | C | **3.768** | | | | | 105.3603 | 228.7382 |
| 52 | Te | LA2 | | 3.29909992 | 11.28 | C | **3.757** | | | | | 105.6678 | 229.4057 |
| 52 | Te | Ln | | 3.43910003 | 1.54 | C | **3.604** | | | | | 110.1519 | 239.1407 |
| 52 | Te | Ll | | 3.71760011 | 4.19 | C | **3.334** | | | | | 119.0721 | 258.5065 |
| 52 | Te | MI | ABS | 12.32457256 | | BB | **1.006** | | | | 133.9783 | | |
| 52 | Te | MII | ABS | 14.25608831 | | BB | **0.870** | | | 64.6011 | 154.9755 | | |
| 52 | Te | MIII | ABS | 15.14415537 | | BB | **0.819** | | | 68.6254 | 164.6296 | | |
| 52 | Te | MG | | 15.93000031 | 1 | C | **0.778** | | | 72.1864 | 173.1723 | | |
| 52 | Te | M2-N1 | | 17.60000038 | 0.01 | C | **0.704** | | | 79.7540 | 191.3266 | | |
| 52 | Te | M3-N1 | | 19.10000038 | 0.1 | C | **0.649** | | | 86.5512 | 207.6329 | | |
| 52 | Te | MIV | ABS | 21.28501288 | | BB | **0.582** | | 60.8143 | 96.4526 | 231.3858 | | |
| 52 | Te | M4-O2 | | 21.34000015 | 0.1 | C | **0.581** | | 60.9714 | 96.7017 | 231.9835 | | |
| 52 | Te | MV | ABS | 21.67194546 | | BB | **0.572** | | 61.9198 | 98.2059 | 235.5921 | | |
| 52 | Te | M5-O3 | | 21.78000069 | 0.01 | C | **0.569** | | 62.2286 | 98.6956 | 236.7667 | | |
| 52 | Te | MZ1 | | 26.70000000 | 1 | | **0.464** | | 76.2857 | 120.9905 | 290.2512 | | |
| 52 | Te | MZ2 | | 26.70000000 | 1 | | **0.464** | | 76.2857 | 120.9905 | 290.2512 | | |
| 52 | Te | MZ1,2 | | 26.71999931 | 0.01 | C | **0.464** | | 76.3429 | 121.0811 | 290.4686 | | |
| 52 | Te | M3-M5 | | 50.29999924 | 0.01 | C | **0.246** | 98.4895 | 143.7143 | 227.9333 | 546.8028 | | |
| 52 | Te | NI | ABS | 73.66916221 | | BB | **0.168** | 144.2473 | 210.4833 | 333.8302 | 800.8450 | | |
| 52 | Te | NII | ABS | 112.50925590 | | BB | **0.110** | 220.2978 | | | | | |
| 52 | Te | NIII | ABS | 112.50925590 | | BB | **0.110** | 220.2978 | | | | | |
| 52 | Te | NIV | ABS | 311.52060302 | | BB | **0.040** | | | | | | |
| 53 | I | K | ABS | 0.37379392 | | BB | **33.163** | | | | | | |
| 53 | I | KB2 | | 0.37545689 | 5 | | **33.016** | | | | | | |
| 53 | I | KB1 | | 0.38387386 | 15 | | **32.292** | | | | | | |
| 53 | I | KB3 | | 0.38457528 | 15 | | **32.233** | | | | | | |
| 53 | I | KA1 | | 0.43327345 | 100 | | **28.610** | | | | | | |
| 53 | I | KA2 | | 0.43778254 | 50 | | **28.315** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | I | LI | ABS | 2.38979973 | | BB | **5.187** | | | | | 76.5436 | 166.1768 |
| 53 | I | LG4 | | 2.39159989 | 0.54 | C | **5.183** | | | | | 76.6012 | 166.3019 |
| 53 | I | LG2 | | 2.44779992 | 2 | C | **5.064** | | | | | 78.4013 | 170.2098 |
| 53 | I | LG3 | | 2.44779992 | 3.27 | C | **5.064** | | | | | 78.4013 | 170.2098 |
| 53 | I | LG11 | | 2.48000002 | 0.04 | C | **4.998** | | | | | 79.4326 | 172.4489 |
| 53 | I | LII | ABS | 2.55528946 | | BB | **4.851** | | | | | 81.8441 | 177.6842 |
| 53 | I | LG8 | | 2.55949998 | 0.05 | C | **4.843** | | | | | 81.9790 | 177.9770 |
| 53 | I | LG1 | | 2.58290005 | 8.38 | C | **4.799** | | | | | 82.7284 | 179.6041 |
| 53 | I | L2-N3 | | 2.62229991 | 0.01 | C | **4.727** | | | | | 83.9904 | 182.3438 |
| 53 | I | LG5 | | 2.65770006 | 0.34 | C | **4.664** | | | | | 85.1242 | 184.8054 |
| 53 | I | LB9 | | 2.71700001 | 0.32 | C | **4.562** | | | | | 87.0236 | 188.9289 |
| 53 | I | LIII | ABS | 2.72070396 | | BB | **4.556** | | | | | 87.1422 | 189.1865 |
| 53 | I | LB10 | | 2.72088510 | 0.001 | | **4.556** | | | | | 87.1480 | 189.1991 |
| 53 | I | SLB2^2 | | 2.72399140 | 1 | | **4.551** | | | | | 87.2475 | 189.4151 |
| 53 | I | LB7 | | 2.72909999 | 0.14 | C | **4.542** | | | | | 87.4111 | 189.7703 |
| 53 | I | SLB2^A | | 2.74593560 | 1 | | **4.514** | | | | | 87.9504 | 190.9410 |
| 53 | I | LB2 | | 2.75090003 | 17.06 | C | **4.506** | | | | | 88.1094 | 191.2862 |
| 53 | I | LB6 | | 2.83710003 | 0.91 | C | **4.369** | | | | | 90.8703 | 197.2802 |
| 53 | I | LB3 | | 2.87459993 | 14.64 | C | **4.312** | | | | | 92.0714 | 199.8877 |
| 53 | I | LB4 | | 2.91240001 | 9.19 | C | **4.256** | | | | | 93.2821 | 202.5162 |
| 53 | I | LB1 | | 2.93790007 | 53.86 | C | **4.219** | | | | | 94.0988 | 204.2894 |
| 53 | I | LB17 | | 3.07259989 | 0.02 | C | **4.034** | | | | | 98.4132 | 213.6558 |
| 53 | I | SLA9 | | 3.10556060 | 1 | | **3.992** | | | | | 99.4689 | 215.9478 |
| 53 | I | SLA8 | | 3.11507980 | 1 | | **3.979** | | | | | 99.7738 | 216.6097 |
| 53 | I | SLA7 | | 3.12289550 | 1 | | **3.969** | | | | | 100.0241 | 217.1532 |
| 53 | I | SLA6 | | 3.12980950 | 1 | | **3.961** | | | | | 100.2456 | 217.6340 |
| 53 | I | SLA5 | | 3.13532060 | 1 | | **3.954** | | | | | 100.4221 | 218.0172 |
| 53 | I | SLA4 | | 3.13872740 | 1 | | **3.949** | | | | | 100.5312 | 218.2541 |
| 53 | I | SLA3 | | 3.14433880 | 1 | | **3.942** | | | | | 100.7109 | 218.6443 |
| 53 | I | LA1 | | 3.14910007 | 100 | C | **3.936** | | | | | 100.8634 | 218.9753 |
| 53 | I | LA2 | | 3.15879989 | 11.33 | C | **3.924** | | | | | 101.1741 | 219.6498 |
| 53 | I | Ln | | 3.27990007 | 1.54 | C | **3.779** | | | | | 105.0529 | 228.0706 |
| 53 | I | LI | | 3.55859995 | 4.23 | C | **3.483** | | | | | 113.9794 | 247.4503 |
| 53 | I | MI | ABS | 11.56470479 | | BB | **1.072** | | | | 125.7180 | | |
| 53 | I | MII | ABS | 13.32457818 | | BB | **0.930** | | | 60.3800 | 144.8492 | | |
| 53 | I | MIII | ABS | 14.17621770 | | BB | **0.874** | | | 64.2392 | 154.1073 | | |
| 53 | I | MIV | ABS | 19.63966419 | | BB | **0.631** | | | 88.9967 | 213.4995 | | |
| 53 | I | MV | ABS | 20.01698418 | | BB | **0.619** | | | 90.7065 | 217.6013 | | |
| 53 | I | NI | ABS | 66.51566524 | | BB | **0.186** | 130.2405 | 190.0448 | 301.4142 | 723.0806 | | |
| 53 | I | NII | ABS | 101.04743276 | | BB | **0.123** | 197.8551 | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 53 | I | NIII | ABS | 101.04743276 | | BB | **0.123** | 197.8551 | | | | | |
| 53 | I | NIV | ABS | 249.97016129 | | BB | **0.050** | | | | | | |
| 54 | Xe | K | ABS | 0.35873894 | | BB | **34.554** | | | | | | |
| 54 | Xe | KB2 | | 0.35992558 | 5 | | **34.440** | | | | | | |
| 54 | Xe | KB1 | | 0.36844275 | 15 | | **33.644** | | | | | | |
| 54 | Xe | KB3 | | 0.36940000 | 15 | | **33.557** | | | | | | |
| 54 | Xe | KA1 | | 0.41593850 | 100 | | **29.802** | | | | | | |
| 54 | Xe | KA2 | | 0.42044759 | 50 | | **29.483** | | | | | | |
| 54 | Xe | LI | ABS | 2.27378961 | | BB | **5.452** | | | | | 72.8279 | 158.1099 |
| 54 | Xe | LG4 | | 2.27950001 | 0.69 | C | **5.438** | | | | | 73.0108 | 158.5070 |
| 54 | Xe | LG3 | | 2.33710003 | 3.23 | C | **5.304** | | | | | 74.8556 | 162.5122 |
| 54 | Xe | LG2 | | 2.33929992 | 1.98 | C | **5.299** | | | | | 74.9261 | 162.6652 |
| 54 | Xe | LG11 | | 2.35770011 | 0.04 | C | **5.258** | | | | | 75.5154 | 163.9447 |
| 54 | Xe | LII | ABS | 2.42931991 | | BB | **5.103** | | | | | 77.8094 | 168.9248 |
| 54 | Xe | LG8 | | 2.43479991 | 0.05 | C | **5.091** | | | | | 77.9849 | 169.3059 |
| 54 | Xe | LG1 | | 2.46190000 | 8.56 | C | **5.035** | | | | | 78.8529 | 171.1903 |
| 54 | Xe | L2-N3 | | 2.49959993 | 0.01 | C | **4.959** | | | | | 80.0604 | 173.8118 |
| 54 | Xe | LG5 | | 2.53379989 | 0.33 | C | **4.892** | | | | | 81.1558 | 176.1899 |
| 54 | Xe | LIII | ABS | 2.59263937 | | BB | **4.781** | | | | | 83.0404 | 180.2814 |
| 54 | Xe | LB9 | | 2.59929991 | 0.33 | C | **4.769** | | | | | 83.2537 | 180.7445 |
| 54 | Xe | LB7 | | 2.60299993 | 0.15 | C | **4.762** | | | | | 83.3722 | 181.0018 |
| 54 | Xe | LB2 | | 2.62779999 | 17.7 | C | **4.717** | | | | | 84.1666 | 182.7263 |
| 54 | Xe | LB6 | | 2.71169996 | 0.93 | C | **4.571** | | | | | 86.8538 | 188.5604 |
| 54 | Xe | LB3 | | 2.74780011 | 14.12 | C | **4.511** | | | | | 88.0101 | 191.0706 |
| 54 | Xe | LB4 | | 2.78609991 | 8.93 | C | **4.449** | | | | | 89.2368 | 193.7338 |
| 54 | Xe | LB1 | | 2.80690002 | 52.81 | C | **4.416** | | | | | 89.9030 | 195.1802 |
| 54 | Xe | LB17 | | 2.93379998 | 0.02 | C | **4.225** | | | | | 93.9675 | 204.0043 |
| 54 | Xe | LA1 | | 3.01729989 | 100 | C | **4.108** | | | | | 96.6420 | 209.8105 |
| 54 | Xe | LA2 | | 3.02690005 | 11.31 | C | **4.095** | | | | | 96.9494 | 210.4781 |
| 54 | Xe | Ln | | 3.13240004 | 1.5 | C | **3.957** | | | | | 100.3285 | 217.8141 |
| 54 | Xe | LI | | 3.40890002 | 4.24 | C | **3.636** | | | | | 109.1846 | 237.0408 |
| 54 | Xe | MII | ABS | 12.41093093 | | BB | **0.999** | | | | 134.9171 | | |
| 54 | Xe | MIII | ABS | 13.23214514 | | BB | **0.937** | | | | 143.8444 | | |
| 54 | Xe | MV | ABS | 18.44194556 | | BB | **0.672** | | | 83.5693 | 200.4793 | | |
| 54 | Xe | NII | ABS | 84.51615542 | | BB | **0.147** | 165.4862 | 241.4747 | 382.9831 | 918.7609 | | |
| 54 | Xe | NIII | ABS | 84.51615542 | | BB | **0.147** | 165.4862 | 241.4747 | 382.9831 | 918.7609 | | |
| 55 | Cs | K | ABS | 0.34455072 | | BB | **35.977** | | | | | | |
| 55 | Cs | KB2 | | 0.34609771 | 5 | | **35.816** | | | | | | |
| 55 | Cs | KB1 | | 0.35431427 | 15 | | **34.986** | | | | | | |
| 55 | Cs | KB3 | | 0.35501569 | 15 | | **34.917** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | Cs | KA1 | | 0.40030699 | 100 | | **30.966** | | | | | | |
| 55 | Cs | KA2 | | 0.40481608 | 50 | | **30.621** | | | | | | |
| 55 | Cs | LI | ABS | 2.16973558 | | BB | **5.713** | | | | | 69.4951 | 150.8744 |
| 55 | Cs | SLG | | 2.16977410 | 1 | | **5.713** | | | | | 69.4963 | 150.8771 |
| 55 | Cs | LG4 | | 2.17429996 | 0.76 | C | **5.701** | | | | | 69.6413 | 151.1918 |
| 55 | Cs | LG3 | | 2.23309994 | 3.25 | C | **5.551** | | | | | 71.5246 | 155.2805 |
| 55 | Cs | LG2 | | 2.23749995 | 2.01 | C | **5.540** | | | | | 71.6655 | 155.5865 |
| 55 | Cs | SLG10 | | 2.24141850 | 1 | | **5.530** | | | | | 71.7910 | 155.8589 |
| 55 | Cs | LG11 | | 2.24359989 | 0.04 | C | **5.525** | | | | | 71.8609 | 156.0106 |
| 55 | Cs | SLG | | 2.24552680 | 1 | | **5.520** | | | | | 71.9226 | 156.1446 |
| 55 | Cs | LII | ABS | 2.31341568 | | BB | **5.358** | | | | | 74.0970 | 160.8653 |
| 55 | Cs | LG8 | | 2.31830001 | 0.06 | C | **5.347** | | | | | 74.2535 | 161.2050 |
| 55 | Cs | SLG | | 2.32468640 | 1 | | **5.332** | | | | | 74.4580 | 161.6490 |
| 55 | Cs | SLG | | 2.33350420 | 1 | | **5.312** | | | | | 74.7405 | 162.2622 |
| 55 | Cs | SLG | | 2.34633000 | 1 | | **5.283** | | | | | 75.1513 | 163.1540 |
| 55 | Cs | LG1 | | 2.34859991 | 9.02 | C | **5.278** | | | | | 75.2240 | 163.3119 |
| 55 | Cs | L2-N3 | | 2.38429999 | 0.01 | C | **5.199** | | | | | 76.3674 | 165.7943 |
| 55 | Cs | LG5 | | 2.41770005 | 0.34 | C | **5.127** | | | | | 77.4372 | 168.1168 |
| 55 | Cs | LIII | ABS | 2.47381632 | | BB | **5.011** | | | | | 79.2346 | 172.0189 |
| 55 | Cs | LB7 | | 2.48510003 | 0.16 | C | **4.988** | | | | | 79.5960 | 172.8035 |
| 55 | Cs | SLB2^2 | | 2.48801570 | 1 | | **4.982** | | | | | 79.6894 | 173.0063 |
| 55 | Cs | LB9 | | 2.48839998 | 0.34 | C | **4.982** | | | | | 79.7017 | 173.0330 |
| 55 | Cs | LB10 | | 2.49162290 | 0.001 | | **4.975** | | | | | 79.8049 | 173.2571 |
| 55 | Cs | SLB2^B | | 2.50765530 | 1 | | **4.943** | | | | | 80.3184 | 174.3719 |
| 55 | Cs | LB2 | | 2.51230001 | 19.59 | C | **4.934** | | | | | 80.4672 | 174.6949 |
| 55 | Cs | LB6 | | 2.59369993 | 0.95 | C | **4.779** | | | | | 83.0744 | 180.3551 |
| 55 | Cs | LB3 | | 2.62890005 | 13.99 | C | **4.715** | | | | | 84.2018 | 182.8028 |
| 55 | Cs | LB4 | | 2.66680002 | 8.87 | C | **4.648** | | | | | 85.4157 | 185.4382 |
| 55 | Cs | LB1 | | 2.68420005 | 53.73 | C | **4.618** | | | | | 85.9730 | 186.6481 |
| 55 | Cs | LB17 | | 2.80439997 | 0.02 | C | **4.420** | | | | | 89.8229 | 195.0063 |
| 55 | Cs | SLM | | 2.86898370 | 1 | | **4.321** | | | | | 91.8915 | 199.4972 |
| 55 | Cs | SLM | | 2.87629840 | 1 | | **4.310** | | | | | 92.1258 | 200.0058 |
| 55 | Cs | SLL | | 2.88491580 | 1 | | **4.297** | | | | | 92.4018 | 200.6051 |
| 55 | Cs | SLA3 | | 2.88792180 | 1 | | **4.292** | | | | | 92.4981 | 200.8141 |
| 55 | Cs | LA1 | | 2.89269996 | 100 | C | **4.285** | | | | | 92.6511 | 201.1463 |
| 55 | Cs | LA2 | | 2.90219998 | 11.34 | C | **4.271** | | | | | 92.9554 | 201.8069 |
| 55 | Cs | Ln | | 2.99399996 | 1.52 | C | **4.140** | | | | | 95.8957 | 208.1903 |
| 55 | Cs | LI | | 3.26780009 | 4.27 | C | **3.793** | | | | | 104.6653 | 227.2293 |
| 55 | Cs | MI | ABS | 10.18693616 | | BB | **1.217** | | | | 110.7405 | | |
| 55 | Cs | MII | ABS | 11.64180282 | | BB | **1.065** | | | | 126.5561 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | Cs | MIII | ABS | 12.42834804 | | BB | **0.997** | | | | 135.1065 | | |
| 55 | Cs | MIV | ABS | 16.76608519 | | BB | **0.739** | | | 75.9751 | 182.2613 | | |
| 55 | Cs | MV | ABS | 17.08962095 | | BB | **0.725** | | | 77.4412 | 185.7784 | | |
| 55 | Cs | NI | ABS | 53.71975737 | | BB | **0.231** | 105.1855 | 153.4850 | 243.4299 | 583.9784 | | |
| 55 | Cs | NII | ABS | 71.95890888 | | BB | **0.172** | 140.8986 | 205.5969 | 326.0802 | 782.2532 | | |
| 55 | Cs | NIII | ABS | 76.72351485 | | BB | **0.162** | 150.2279 | 219.2100 | 347.6709 | 834.0484 | | |
| 55 | Cs | NIV | ABS | 157.34162437 | | BB | **0.079** | | | | | | |
| 56 | Ba | K | ABS | 0.33115174 | | BB | **37.433** | | | | | | |
| 56 | Ba | Kd1 | | 0.33126781 | 0.01 | | **37.420** | | | | | | |
| 56 | Ba | Kd2 | | 0.33126781 | 0.01 | | **37.420** | | | | | | |
| 56 | Ba | KB2 | | 0.33277084 | 5 | | **37.251** | | | | | | |
| 56 | Ba | KB5 | | 0.33808155 | 0.05 | | **36.666** | | | | | | |
| 56 | Ba | KB1 | | 0.34078700 | 15 | | **36.375** | | | | | | |
| 56 | Ba | KB3 | | 0.34148842 | 15 | | **36.300** | | | | | | |
| 56 | Ba | KA1 | | 0.38507629 | 100 | | **32.191** | | | | | | |
| 56 | Ba | KA2 | | 0.38968558 | 50 | | **31.810** | | | | | | |
| 56 | Ba | LI | ABS | 2.07028453 | | BB | **5.988** | | | | | 66.3097 | 143.9590 |
| 56 | Ba | LG4 | | 2.07599998 | 0.81 | C | **5.971** | | | | | 66.4928 | 144.3564 |
| 56 | Ba | SLG | | 2.11766910 | 1 | | **5.854** | | | | | 67.8274 | 147.2539 |
| 56 | Ba | LG3 | | 2.13470006 | 3.31 | C | **5.807** | | | | | 68.3729 | 148.4382 |
| 56 | Ba | LG11 | | 2.13879991 | 0.05 | C | **5.796** | | | | | 68.5042 | 148.7233 |
| 56 | Ba | LG2 | | 2.13910007 | 2.04 | C | **5.795** | | | | | 68.5138 | 148.7441 |
| 56 | Ba | SLG10 | | 2.14452320 | 1 | | **5.780** | | | | | 68.6875 | 149.1212 |
| 56 | Ba | LII | ABS | 2.20473007 | | BB | **5.622** | | | | | 70.6159 | 153.3078 |
| 56 | Ba | LG8 | | 2.21359992 | 0.06 | C | **5.600** | | | | | 70.9000 | 153.9245 |
| 56 | Ba | SLG | | 2.21616760 | 1 | | **5.593** | | | | | 70.9823 | 154.1031 |
| 56 | Ba | SLG | | 2.23861290 | 1 | | **5.537** | | | | | 71.7012 | 155.6638 |
| 56 | Ba | SLG1' | | 2.23991550 | 1 | | **5.534** | | | | | 71.7429 | 155.7544 |
| 56 | Ba | LG1 | | 2.24200010 | 9.36 | C | **5.529** | | | | | 71.8097 | 155.8994 |
| 56 | Ba | L2-N3 | | 2.27609992 | 0.01 | C | **5.446** | | | | | 72.9019 | 158.2705 |
| 56 | Ba | LG5 | | 2.30879998 | 0.35 | C | **5.369** | | | | | 73.9492 | 160.5444 |
| 56 | Ba | LIII | ABS | 2.36297313 | | BB | **5.246** | | | | | 75.6843 | 164.3113 |
| 56 | Ba | LB9 | | 2.38089991 | 0.35 | C | **5.206** | | | | | 76.2585 | 165.5579 |
| 56 | Ba | LB7 | | 2.38100004 | 0.18 | C | **5.206** | | | | | 76.2617 | 165.5649 |
| 56 | Ba | LB10 | | 2.38651100 | 0.001 | | **5.194** | | | | | 76.4382 | 165.9481 |
| 56 | Ba | SLB2^A | | 2.40063950 | 1 | | **5.164** | | | | | 76.8908 | 166.9305 |
| 56 | Ba | SLB2^B | | 2.40344520 | 1 | | **5.158** | | | | | 76.9806 | 167.1256 |
| 56 | Ba | LB2 | | 2.40459991 | 19.05 | C | **5.155** | | | | | 77.0176 | 167.2059 |
| 56 | Ba | LB6 | | 2.48309994 | 0.97 | C | **4.992** | | | | | 79.5319 | 172.6645 |
| 56 | Ba | LB3 | | 2.51690006 | 13.78 | C | **4.925** | | | | | 80.6145 | 175.0148 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | Ba | LB4 | | 2.55579996 | 8.86 | C | **4.850** | | | | | 81.8604 | 177.7197 |
| 56 | Ba | LB1 | | 2.56850004 | 53.81 | C | **4.826** | | | | | 82.2672 | 178.6028 |
| 56 | Ba | LB17 | | 2.68300009 | 0.02 | C | **4.620** | | | | | 85.9346 | 186.5647 |
| 56 | Ba | SLA9 | | 2.72529400 | 1 | | **4.549** | | | | | 87.2892 | 189.5056 |
| 56 | Ba | SLA9 | | 2.73381120 | 1 | | **4.534** | | | | | 87.5620 | 190.0979 |
| 56 | Ba | SLA8 | | 2.74182730 | 1 | | **4.521** | | | | | 87.8188 | 190.6553 |
| 56 | Ba | SLA7 | | 2.74874130 | 1 | | **4.510** | | | | | 88.0402 | 191.1361 |
| 56 | Ba | SLA6 | | 2.76066530 | 1 | | **4.490** | | | | | 88.4221 | 191.9652 |
| 56 | Ba | SLA5 | | 2.76357120 | 1 | | **4.486** | | | | | 88.5152 | 192.1673 |
| 56 | Ba | SLL | | 2.77238890 | 1 | | **4.471** | | | | | 88.7976 | 192.7804 |
| 56 | Ba | SLA3 | | 2.77309040 | 1 | | **4.470** | | | | | 88.8201 | 192.8292 |
| 56 | Ba | LA1 | | 2.77670002 | 100 | C | **4.464** | | | | | 88.9357 | 193.0802 |
| 56 | Ba | LA2 | | 2.78609991 | 11.35 | C | **4.449** | | | | | 89.2368 | 193.7338 |
| 56 | Ba | Ln | | 2.86330009 | 1.51 | C | **4.329** | | | | | 91.7095 | 199.1020 |
| 56 | Ba | Ll | | 3.13639998 | 4.3 | C | **3.952** | | | | | 100.4566 | 218.0922 |
| 56 | Ba | MI | ABS | 9.59043936 | | BB | **1.293** | | | | 104.2560 | | |
| 56 | Ba | MII | ABS | 10.90746899 | | BB | **1.136** | | | | 118.5733 | | |
| 56 | Ba | MIII | ABS | 11.67249106 | | BB | **1.062** | | | | 126.8897 | | |
| 56 | Ba | MG | | 12.75000000 | 1 | C | **0.972** | | | | 138.6031 | | |
| 56 | Ba | MIV | ABS | 15.57407361 | | BB | **0.796** | | | 70.5736 | 169.3031 | | |
| 56 | Ba | M4-O3 | | 15.72000027 | 0.1 | C | **0.789** | | | 71.2348 | 170.8895 | | |
| 56 | Ba | MV | ABS | 15.88128603 | | BB | **0.781** | | | 71.9657 | 172.6428 | | |
| 56 | Ba | M4-O2 | | 15.90999985 | 0.1 | C | **0.779** | | | 72.0958 | 172.9549 | | |
| 56 | Ba | M5-O3 | | 16.20000076 | 0.01 | C | **0.765** | | | 73.4099 | 176.1075 | | |
| 56 | Ba | MZ1,2 | | 20.63999939 | 0.01 | C | **0.601** | | | 93.5297 | 224.3739 | | |
| 56 | Ba | MZ1 | | 20.69000000 | 1 | | **0.599** | | | 93.7563 | 224.9175 | | |
| 56 | Ba | NI | ABS | 49.00600791 | | BB | **0.253** | 95.9558 | 140.0172 | 222.0696 | 532.7360 | | |
| 56 | Ba | NII | ABS | 64.64296142 | | BB | **0.192** | 126.5736 | 184.6942 | 292.9281 | 702.7227 | | |
| 56 | Ba | NIII | ABS | 68.99565943 | | BB | **0.180** | 135.0964 | 197.1305 | 312.6523 | 750.0402 | | |
| 56 | Ba | NIV | ABS | 134.03805405 | | BB | **0.092** | | | | | | |
| 57 | La | K | ABS | 0.31852659 | | BB | **38.917** | | | | | | |
| 57 | La | Kd1 | | 0.31864236 | 0.01 | | **38.903** | | | | | | |
| 57 | La | Kd2 | | 0.31864236 | 0.01 | | **38.903** | | | | | | |
| 57 | La | KB4 | | 0.31924357 | 0.001 | | **38.829** | | | | | | |
| 57 | La | KB2 | | 0.32014539 | 5 | | **38.720** | | | | | | |
| 57 | La | KB5 | | 0.32555630 | 0.05 | | **38.076** | | | | | | |
| 57 | La | KB1 | | 0.32796115 | 15 | | **37.797** | | | | | | |
| 57 | La | KB3 | | 0.32866256 | 15 | | **37.716** | | | | | | |
| 57 | La | KA1 | | 0.37074740 | 100 | | **33.435** | | | | | | |
| 57 | La | KA2 | | 0.37525649 | 50 | | **33.033** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | La | LI | ABS | 1.97860300 | | BB | **6.265** | | | | | 63.3732 | 137.5838 |
| 57 | La | LG4 | | 1.98339999 | 0.87 | C | **6.250** | | | | | 63.5269 | 137.9174 |
| 57 | La | LG11 | | 2.04049993 | 0.05 | C | **6.075** | | | | | 65.3558 | 141.8879 |
| 57 | La | LG3 | | 2.04150009 | 3.29 | C | **6.072** | | | | | 65.3878 | 141.9574 |
| 57 | La | LG2 | | 2.04620004 | 2.06 | C | **6.058** | | | | | 65.5383 | 142.2843 |
| 57 | La | SLG10 | | 2.05223720 | 1 | | **6.040** | | | | | 65.7317 | 142.7041 |
| 57 | La | LII | ABS | 2.10479747 | | BB | **5.889** | | | | | 67.4152 | 146.3589 |
| 57 | La | LG6 | | 2.11389995 | 0.09 | C | **5.864** | | | | | 67.7067 | 146.9918 |
| 57 | La | LG8 | | 2.11570001 | 0.07 | C | **5.859** | | | | | 67.7644 | 147.1170 |
| 57 | La | LG1 | | 2.14199996 | 9.57 | C | **5.787** | | | | | 68.6067 | 148.9458 |
| 57 | La | L2-N3 | | 2.17470002 | 0.01 | C | **5.700** | | | | | 69.6541 | 151.2196 |
| 57 | La | LG5 | | 2.20609999 | 0.35 | C | **5.619** | | | | | 70.6598 | 153.4030 |
| 57 | La | LIII | ABS | 2.26138946 | | BB | **5.482** | | | | | 72.4307 | 157.2476 |
| 57 | La | LB5 | | 2.26780009 | 0.18 | C | **5.466** | | | | | 72.6360 | 157.6934 |
| 57 | La | LB7 | | 2.27530003 | 0.19 | C | **5.448** | | | | | 72.8762 | 158.2149 |
| 57 | La | LB9 | | 2.28559995 | 0.36 | C | **5.424** | | | | | 73.2061 | 158.9311 |
| 57 | La | LB10 | | 2.28961570 | 0.001 | | **5.414** | | | | | 73.3348 | 159.2104 |
| 57 | La | LB2 | | 2.30320001 | 19.58 | C | **5.382** | | | | | 73.7698 | 160.1550 |
| 57 | La | LB6 | | 2.37919998 | 1 | C | **5.210** | | | | | 76.2041 | 165.4397 |
| 57 | La | LB3 | | 2.41070008 | 13.41 | C | **5.142** | | | | | 77.2130 | 167.6301 |
| 57 | La | LB4 | | 2.44970012 | 8.72 | C | **5.060** | | | | | 78.4621 | 170.3420 |
| 57 | La | LB1 | | 2.45950007 | 53.29 | C | **5.040** | | | | | 78.7760 | 171.0234 |
| 57 | La | LB17 | | 2.56960011 | 0.03 | C | **4.824** | | | | | 82.3025 | 178.6793 |
| 57 | La | LA1 | | 2.66630006 | 100 | C | **4.649** | | | | | 85.3997 | 185.4034 |
| 57 | La | LA2 | | 2.67600012 | 11.31 | C | **4.632** | | | | | 85.7104 | 186.0779 |
| 57 | La | Ln | | 2.74049997 | 1.5 | C | **4.523** | | | | | 87.7763 | 190.5630 |
| 57 | La | LI | | 3.00629997 | 4.32 | C | **4.123** | | | | | 96.2896 | 209.0456 |
| 57 | La | MI | ABS | 9.10785279 | | BB | **1.361** | | | | 99.0099 | | |
| 57 | La | MII | ABS | 10.29435404 | | BB | **1.204** | | | | 111.9082 | | |
| 57 | La | MIII | ABS | 11.03660317 | | BB | **1.123** | | | | 119.9771 | | |
| 57 | La | MG | | 12.07999992 | 1 | C | **1.026** | | | | 131.3196 | | |
| 57 | La | MB | | 14.51000023 | 45 | C | **0.854** | | | 65.7517 | 157.7358 | | |
| 57 | La | MIV | ABS | 14.61228049 | | BB | **0.848** | | | 66.2152 | 158.8476 | | |
| 57 | La | MA1 | | 14.88000000 | 100 | | **0.833** | | | 67.4284 | 161.7580 | | |
| 57 | La | MA2 | | 14.88000000 | 100 | | **0.833** | | | 67.4284 | 161.7580 | | |
| 57 | La | MA1,2 | | 14.88000011 | 200 | C | **0.833** | | | 67.4284 | 161.7580 | | |
| 57 | La | MV | ABS | 14.90744259 | | BB | **0.832** | | | 67.5527 | 162.0563 | | |
| 57 | La | MZ1 | | 19.43000000 | 1 | | **0.638** | | | 88.0466 | 211.2203 | | |
| 57 | La | MZ1,2 | | 19.44000053 | 0.01 | C | **0.638** | | | 88.0919 | 211.3290 | | |
| 57 | La | NI | ABS | 45.85251479 | | BB | **0.270** | 89.7811 | 131.0072 | 207.7796 | 498.4549 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 57 | La | NII | ABS | 60.24548105 | | BB | **0.206** | 117.9632 | 172.1299 | 273.0010 | 654.9185 | | |
| 57 | La | NIII | ABS | 64.77805643 | | BB | **0.191** | 126.8382 | 185.0802 | 293.5403 | 704.1913 | | |
| 57 | La | NIV | ABS | 125.36420627 | | BB | **0.099** | 245.4684 | | | | | |
| 57 | La | NV | ABS | 125.36420627 | | BB | **0.099** | 245.4684 | | | | | |
| 58 | Ce | K | ABS | 0.30656776 | | BB | **40.435** | | | | | | |
| 58 | Ce | Kd1 | | 0.30661812 | 0.01 | | **40.428** | | | | | | |
| 58 | Ce | Kd2 | | 0.30661812 | 0.01 | | **40.428** | | | | | | |
| 58 | Ce | KB4 | | 0.30731953 | 0.001 | | **40.336** | | | | | | |
| 58 | Ce | KB2 | | 0.30822135 | 5 | | **40.218** | | | | | | |
| 58 | Ce | KB5 | | 0.31343186 | 0.05 | | **39.549** | | | | | | |
| 58 | Ce | KB1 | | 0.31583670 | 15 | | **39.248** | | | | | | |
| 58 | Ce | KB3 | | 0.31653812 | 15 | | **39.161** | | | | | | |
| 58 | Ce | KA1 | | 0.35711993 | 100 | | **34.711** | | | | | | |
| 58 | Ce | KA2 | | 0.36162902 | 50 | | **34.278** | | | | | | |
| 58 | Ce | LI | ABS | 1.89325067 | | BB | **6.547** | | | | | 60.6395 | 131.6488 |
| 58 | Ce | LG4 | | 1.89950001 | 0.8 | C | **6.526** | | | | | 60.8396 | 132.0833 |
| 58 | Ce | LG11 | | 1.94869995 | 0.05 | C | **6.361** | | | | | 62.4155 | 135.5045 |
| 58 | Ce | LG3 | | 1.95550001 | 3.24 | C | **6.339** | | | | | 62.6333 | 135.9774 |
| 58 | Ce | LG2 | | 1.96050000 | 2.03 | C | **6.323** | | | | | 62.7934 | 136.3250 |
| 58 | Ce | SLG10 | | 1.96736610 | 1 | | **6.301** | | | | | 63.0133 | 136.8025 |
| 58 | Ce | LII | ABS | 2.01137536 | | BB | **6.163** | | | | | 64.4229 | 139.8627 |
| 58 | Ce | LG6 | | 2.01889992 | 0.09 | C | **6.140** | | | | | 64.6639 | 140.3859 |
| 58 | Ce | Lv | | 2.01889992 | 0.01 | C | **6.140** | | | | | 64.6639 | 140.3859 |
| 58 | Ce | LG8 | | 2.02419996 | 0.06 | C | **6.124** | | | | | 64.8337 | 140.7545 |
| 58 | Ce | SLG1' | | 2.03309860 | 1 | | **6.097** | | | | | 65.1187 | 141.3732 |
| 58 | Ce | LG1 | | 2.04889989 | 9.55 | C | **6.050** | | | | | 65.6248 | 142.4720 |
| 58 | Ce | SLG9 | | 2.05524320 | 1 | | **6.031** | | | | | 65.8280 | 142.9131 |
| 58 | Ce | L2-N3 | | 2.08019996 | 0.01 | C | **5.959** | | | | | 66.6273 | 144.6485 |
| 58 | Ce | LG5 | | 2.11069989 | 0.35 | C | **5.873** | | | | | 67.6042 | 146.7693 |
| 58 | Ce | LIII | ABS | 2.16628577 | | BB | **5.722** | | | | | 69.3846 | 150.6345 |
| 58 | Ce | Lu | | 2.17020011 | 0.01 | C | **5.712** | | | | | 69.5100 | 150.9067 |
| 58 | Ce | LB5 | | 2.17319989 | 0.17 | C | **5.704** | | | | | 69.6060 | 151.1153 |
| 58 | Ce | LB7 | | 2.18079996 | 0.18 | C | **5.684** | | | | | 69.8495 | 151.6438 |
| 58 | Ce | LB9 | | 2.19190001 | 0.37 | C | **5.655** | | | | | 70.2050 | 152.4156 |
| 58 | Ce | LB10 | | 2.19512520 | 0.001 | | **5.647** | | | | | 70.3083 | 152.6399 |
| 58 | Ce | SLB2^A | | 2.20454420 | 1 | | **5.623** | | | | | 70.6100 | 153.2949 |
| 58 | Ce | LB2 | | 2.20919991 | 19.4 | C | **5.611** | | | | | 70.7591 | 153.6186 |
| 58 | Ce | SLB14 | | 2.21656840 | 1 | | **5.592** | | | | | 70.9951 | 154.1310 |
| 58 | Ce | LB6 | | 2.28200006 | 1 | C | **5.432** | | | | | 73.0908 | 158.6808 |
| 58 | Ce | LB3 | | 2.31139994 | 13.25 | C | **5.363** | | | | | 74.0325 | 160.7252 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | Ce | LB4 | | 2.34990001 | 8.7 | C | **5.275** | | | | | 75.2656 | 163.4023 |
| 58 | Ce | LB1 | | 2.35660005 | 53.75 | C | **5.260** | | | | | 75.4802 | 163.8682 |
| 58 | Ce | LB17 | | 2.46289992 | 0.03 | C | **5.033** | | | | | 78.8849 | 171.2598 |
| 58 | Ce | LA1 | | 2.56209993 | 100 | C | **4.838** | | | | | 82.0622 | 178.1578 |
| 58 | Ce | LA2 | | 2.57119989 | 11.35 | C | **4.821** | | | | | 82.3537 | 178.7906 |
| 58 | Ce | Ln | | 2.62059999 | 1.5 | C | **4.730** | | | | | 83.9359 | 182.2256 |
| 58 | Ce | LI | | 2.89199996 | 4.36 | C | **4.286** | | | | | 92.6287 | 201.0977 |
| 58 | Ce | MI | ABS | 8.64249268 | | BB | **1.434** | | | | 93.9511 | | |
| 58 | Ce | MII | ABS | 9.74113765 | | BB | **1.273** | | | | 105.8943 | | |
| 58 | Ce | MIII | ABS | 10.45935549 | | BB | **1.185** | | | | 113.7019 | | |
| 58 | Ce | MG | | 11.52999973 | 1 | C | **1.075** | | | | 125.3407 | | |
| 58 | Ce | MB | | 13.75000000 | 45 | C | **0.902** | | | 62.3078 | 149.4739 | | |
| 58 | Ce | MIV | ABS | 13.75626318 | | BB | **0.901** | | | 62.3362 | 149.5420 | | |
| 58 | Ce | MV | ABS | 14.03659006 | | BB | **0.883** | | | 63.6065 | 152.5894 | | |
| 58 | Ce | MA1,2 | | 14.03999996 | 200 | C | **0.883** | | | 63.6219 | 152.6265 | | |
| 58 | Ce | MA1 | | 14.05834100 | 100 | | **0.882** | | | 63.7051 | 152.8259 | | |
| 58 | Ce | MA2 | | 14.05834100 | 100 | | **0.882** | | | 63.7051 | 152.8259 | | |
| 58 | Ce | M5-O2 | | 14.39000034 | 0.01 | C | **0.861** | | | 65.2080 | 156.4313 | | |
| 58 | Ce | MZ1,2 | | 18.35000038 | 0.01 | C | **0.676** | | | 83.1526 | 199.4798 | | |
| 58 | Ce | MZ1 | | 18.38000000 | 1 | | **0.674** | | | 83.2886 | 199.8059 | | |
| 58 | Ce | NI | ABS | 42.81256906 | | BB | **0.290** | 83.8288 | 122.3216 | 194.0042 | 465.4082 | | |
| 58 | Ce | NII | ABS | 55.52404837 | | BB | **0.223** | 108.7184 | 158.6401 | 251.6060 | 603.5926 | | |
| 58 | Ce | NIII | ABS | 59.83841699 | | BB | **0.207** | 117.1661 | 170.9669 | 271.1564 | 650.4933 | | |
| 58 | Ce | NIV | ABS | 112.71381818 | | BB | **0.110** | 220.6984 | | | | | |
| 58 | Ce | NV | ABS | 112.71381818 | | BB | **0.110** | 220.6984 | | | | | |
| 59 | Pr | K | ABS | 0.29526894 | | BB | **41.982** | | | | | | |
| 59 | Pr | KB2 | | 0.29689853 | 5 | | **41.752** | | | | | | |
| 59 | Pr | KB1 | | 0.30421327 | 15 | | **40.748** | | | | | | |
| 59 | Pr | KB3 | | 0.30491469 | 15 | | **40.654** | | | | | | |
| 59 | Pr | KA1 | | 0.34409367 | 100 | | **36.025** | | | | | | |
| 59 | Pr | KA2 | | 0.34870296 | 50 | | **35.549** | | | | | | |
| 59 | Pr | LI | ABS | 1.81402821 | | BB | **6.833** | | | | | | 126.1400 |
| 59 | Pr | LG4 | | 1.81949997 | 0.79 | C | **6.813** | | | | | | 126.5205 |
| 59 | Pr | LG11 | | 1.86329997 | 0.05 | C | **6.653** | | | | | | 129.5661 |
| 59 | Pr | LG3 | | 1.87419999 | 3.21 | C | **6.614** | | | | | 60.0293 | 130.3241 |
| 59 | Pr | LG2 | | 1.87940001 | 2.04 | C | **6.596** | | | | | 60.1958 | 130.6857 |
| 59 | Pr | SLG10 | | 1.88489980 | 1 | | **6.576** | | | | | 60.3720 | 131.0681 |
| 59 | Pr | LII | ABS | 1.92511645 | | BB | **6.439** | | | | | 61.6601 | 133.8646 |
| 59 | Pr | LG6 | | 1.93060005 | 0.08 | C | **6.421** | | | | | 61.8357 | 134.2459 |
| 59 | Pr | Lv | | 1.93060005 | 0.01 | C | **6.421** | | | | | 61.8357 | 134.2459 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59 | Pr | LG8 | | 1.93659997 | 0.06 | C | **6.401** | | | | | 62.0279 | 134.6631 |
| 59 | Pr | SLG1' | | 1.94612320 | 1 | | **6.370** | | | | | 62.3329 | 135.3253 |
| 59 | Pr | LG1 | | 1.96140003 | 9.61 | C | **6.320** | | | | | 62.8222 | 136.3876 |
| 59 | Pr | SLG9 | | 1.96616360 | 1 | | **6.305** | | | | | 62.9748 | 136.7189 |
| 59 | Pr | L2-N3 | | 1.99129999 | 0.01 | C | **6.225** | | | | | 63.7799 | 138.4667 |
| 59 | Pr | LG5 | | 2.02090001 | 0.35 | C | **6.134** | | | | | 64.7280 | 140.5250 |
| 59 | Pr | LIII | ABS | 2.07878879 | | BB | **5.963** | | | | | 66.5821 | 144.5503 |
| 59 | Pr | Lu | | 2.08229995 | 0.01 | C | **5.953** | | | | | 66.6946 | 144.7945 |
| 59 | Pr | LB5 | | 2.08410001 | 0.17 | C | **5.948** | | | | | 66.7522 | 144.9197 |
| 59 | Pr | LB7 | | 2.09220004 | 0.18 | C | **5.925** | | | | | 67.0117 | 145.4829 |
| 59 | Pr | LB9 | | 2.10339999 | 0.38 | C | **5.893** | | | | | 67.3704 | 146.2617 |
| 59 | Pr | LB10 | | 2.10674710 | 0.001 | | **5.884** | | | | | 67.4776 | 146.4944 |
| 59 | Pr | LB2 | | 2.11969995 | 19.52 | C | **5.848** | | | | | 67.8925 | 147.3951 |
| 59 | Pr | SLB14 | | 2.12628640 | 1 | | **5.830** | | | | | 68.1034 | 147.8531 |
| 59 | Pr | LB6 | | 2.19090009 | 1.02 | C | **5.658** | | | | | 70.1730 | 152.3461 |
| 59 | Pr | LB3 | | 2.21749997 | 13.09 | C | **5.590** | | | | | 71.0249 | 154.1957 |
| 59 | Pr | LB4 | | 2.25539994 | 8.64 | C | **5.496** | | | | | 72.2388 | 156.8311 |
| 59 | Pr | LB1 | | 2.25909996 | 53.59 | C | **5.487** | | | | | 72.3574 | 157.0884 |
| 59 | Pr | LB17 | | 2.36290002 | 0.03 | C | **5.246** | | | | | 75.6820 | 164.3063 |
| 59 | Pr | LA1 | | 2.46339989 | 100 | C | **5.032** | | | | | 78.9009 | 171.2946 |
| 59 | Pr | LA2 | | 2.47320008 | 11.34 | C | **5.012** | | | | | 79.2148 | 171.9761 |
| 59 | Pr | Ln | | 2.51230001 | 1.49 | C | **4.934** | | | | | 80.4672 | 174.6949 |
| 59 | Pr | LI | | 2.78480005 | 4.4 | C | **4.451** | | | | | 89.1952 | 193.6434 |
| 59 | Pr | MI | ABS | 8.20550629 | | BB | **1.511** | | | | 89.2007 | | |
| 59 | Pr | MII | ABS | 9.27061463 | | BB | **1.337** | | | | 100.7793 | | |
| 59 | Pr | MIII | ABS | 9.98109805 | | BB | **1.242** | | | | 108.5028 | | |
| 59 | Pr | MG | | 10.99800014 | 1 | C | **1.127** | | | | 119.5574 | | |
| 59 | Pr | MIV | ABS | 13.03597939 | | BB | **0.951** | | | | 141.7119 | | |
| 59 | Pr | MB | | 13.06000042 | 45 | C | **0.949** | | | | 141.9731 | | |
| 59 | Pr | MV | ABS | 13.31742213 | | BB | **0.931** | | | 60.3476 | 144.7714 | | |
| 59 | Pr | MA1 | | 13.34300000 | 100 | | **0.929** | | | 60.4635 | 145.0495 | | |
| 59 | Pr | MA2 | | 13.34300000 | 100 | | **0.929** | | | 60.4635 | 145.0495 | | |
| 59 | Pr | MA1,2 | | 13.34300041 | 200 | C | **0.929** | | | 60.4635 | 145.0495 | | |
| 59 | Pr | MZ1,2 | | 17.37999916 | 0.01 | C | **0.713** | | | 78.7571 | 188.9350 | | |
| 59 | Pr | NI | ABS | 40.71763547 | | BB | **0.304** | 79.7268 | 116.3361 | 184.5111 | 442.6345 | | |
| 59 | Pr | NII | ABS | 50.95980271 | | BB | **0.243** | 99.7814 | 145.5994 | 230.9232 | 553.9754 | | |
| 59 | Pr | NIII | ABS | 56.97849265 | | BB | **0.218** | 111.5663 | 162.7957 | 258.1968 | 619.4036 | | |
| 59 | Pr | NIV | ABS | 109.52756184 | | BB | **0.113** | 214.4596 | | | | | |
| 59 | Pr | NV | ABS | 109.52756184 | | BB | **0.113** | 214.4596 | | | | | |
| 60 | Nd | K | ABS | 0.28457271 | | BB | **43.560** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | Nd | KB2 | | 0.28627711 | 5 | | **43.301** | | | | | | |
| 60 | Nd | KB1 | | 0.29329125 | 15 | | **42.265** | | | | | | |
| 60 | Nd | KB3 | | 0.29399267 | 15 | | **42.164** | | | | | | |
| 60 | Nd | KA1 | | 0.33186902 | 100 | | **37.352** | | | | | | |
| 60 | Nd | KA2 | | 0.35651872 | 50 | | **34.770** | | | | | | |
| 60 | Nd | LI | ABS | 1.73989896 | | BB | **7.125** | | | | | | 120.9853 |
| 60 | Nd | LG4 | | 1.74469995 | 0.78 | C | **7.105** | | | | | | 121.3192 |
| 60 | Nd | LG11 | | 1.78330004 | 0.05 | C | **6.951** | | | | | | 124.0033 |
| 60 | Nd | LG3 | | 1.79680002 | 3.18 | C | **6.899** | | | | | | 124.9420 |
| 60 | Nd | LG2 | | 1.80149996 | 2.04 | C | **6.881** | | | | | | 125.2688 |
| 60 | Nd | SLG10 | | 1.80584040 | 1 | | **6.864** | | | | | | 125.5706 |
| 60 | Nd | LII | ABS | 1.84460611 | | BB | **6.720** | | | | | | 128.2663 |
| 60 | Nd | LG6 | | 1.84770000 | 0.08 | C | **6.709** | | | | | | 128.4814 |
| 60 | Nd | Lv | | 1.84800005 | 0.01 | C | **6.708** | | | | | | 128.5023 |
| 60 | Nd | LG8 | | 1.85539997 | 0.06 | C | **6.681** | | | | | | 129.0168 |
| 60 | Nd | SLG1' | | 1.86275520 | 1 | | **6.655** | | | | | | 129.5283 |
| 60 | Nd | LG1 | | 1.87820005 | 9.64 | C | **6.600** | | | | | 60.1574 | 130.6022 |
| 60 | Nd | SLG9 | | 1.89421860 | 1 | | **6.544** | | | | | 60.6705 | 131.7161 |
| 60 | Nd | L2-N3 | | 1.90680003 | 0.01 | C | **6.501** | | | | | 61.0734 | 132.5910 |
| 60 | Nd | LG5 | | 1.93570006 | 0.35 | C | **6.404** | | | | | 61.9991 | 134.6005 |
| 60 | Nd | LIII | ABS | 1.99721645 | | BB | **6.207** | | | | | 63.9694 | 138.8781 |
| 60 | Nd | Lu | | 1.99940002 | 0.01 | C | **6.200** | | | | | 64.0394 | 139.0300 |
| 60 | Nd | LB5 | | 2.00029993 | 0.16 | C | **6.197** | | | | | 64.0682 | 139.0926 |
| 60 | Nd | LB7 | | 2.00939989 | 0.18 | C | **6.169** | | | | | 64.3596 | 139.7253 |
| 60 | Nd | LB9 | | 2.01979995 | 0.39 | C | **6.137** | | | | | 64.6927 | 140.4485 |
| 60 | Nd | LB10 | | 2.02317860 | 0.001 | | **6.127** | | | | | 64.8010 | 140.6834 |
| 60 | Nd | SLB2^A | | 2.03249740 | 1 | | **6.099** | | | | | 65.0994 | 141.3314 |
| 60 | Nd | LB2 | | 2.03649998 | 19.57 | C | **6.087** | | | | | 65.2276 | 141.6098 |
| 60 | Nd | SLB14 | | 2.04291840 | 1 | | **6.068** | | | | | 65.4332 | 142.0561 |
| 60 | Nd | LB6 | | 2.10419989 | 1.03 | C | **5.891** | | | | | 67.3960 | 146.3173 |
| 60 | Nd | LB3 | | 2.12730002 | 12.87 | C | **5.827** | | | | | 68.1359 | 147.9236 |
| 60 | Nd | SLB1' | | 2.15915270 | 1 | | **5.741** | | | | | 69.1561 | 150.1385 |
| 60 | Nd | LB1 | | 2.16709995 | 53.34 | C | **5.720** | | | | | 69.4107 | 150.6911 |
| 60 | Nd | LB4 | | 2.16709995 | 8.58 | C | **5.720** | | | | | 69.4107 | 150.6911 |
| 60 | Nd | LB17 | | 2.26859999 | 0.03 | C | **5.464** | | | | | 72.6616 | 157.7490 |
| 60 | Nd | LA1 | | 2.37100005 | 100 | C | **5.228** | | | | | 75.9414 | 164.8695 |
| 60 | Nd | LA2 | | 2.38100004 | 11.32 | C | **5.206** | | | | | 76.2617 | 165.5649 |
| 60 | Nd | Ln | | 2.40969992 | 1.47 | C | **5.144** | | | | | 77.1810 | 167.5605 |
| 60 | Nd | LI | | 2.67659998 | 4.43 | C | **4.631** | | | | | 85.7296 | 186.1196 |
| 60 | Nd | MI | ABS | 7.87057703 | | BB | **1.575** | | | | 85.5597 | 252.0889 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60 | Nd | MII | ABS | 8.83840890 | | BB | **1.403** | | | | 96.0809 | | |
| 60 | Nd | MIII | ABS | 9.55643595 | | BB | **1.297** | | | | 103.8864 | | |
| 60 | Nd | MG | | 10.50500011 | 1 | C | **1.180** | | | | 114.1981 | | |
| 60 | Nd | MIV | ABS | 12.39975998 | | BB | **1.000** | | | | 134.7957 | | |
| 60 | Nd | MB | | 12.43999958 | 55 | C | **0.996** | | | | 135.2331 | | |
| 60 | Nd | MA1 | | 12.67555300 | 100 | | **0.978** | | | | 137.7938 | | |
| 60 | Nd | MA2 | | 12.67555300 | 100 | | **0.978** | | | | 137.7938 | | |
| 60 | Nd | MA1,2 | | 12.68000031 | 200 | C | **0.978** | | | | 137.8421 | | |
| 60 | Nd | MV | ABS | 12.68131329 | | BB | **0.978** | | | | 137.8564 | | |
| 60 | Nd | MZ1,2 | | 16.45999908 | 0.01 | C | **0.753** | | | 74.5881 | 178.9339 | | |
| 60 | Nd | NI | ABS | 39.33540609 | | BB | **0.315** | 77.0204 | 112.3869 | 178.2475 | 427.6086 | | |
| 60 | Nd | NIII | ABS | 55.20267142 | | BB | **0.225** | 108.0891 | 157.7219 | 250.1497 | 600.0989 | | |
| 60 | Nd | NIV | ABS | 105.51931915 | | BB | **0.117** | 206.6113 | | | | | |
| 60 | Nd | NV | ABS | 105.51931915 | | BB | **0.117** | 206.6113 | | | | | |
| 61 | Pm | K | ABS | 0.27440067 | | BB | **45.175** | | | | | | |
| 61 | Pm | KB2 | | 0.27600000 | 5 | | **44.913** | | | | | | |
| 61 | Pm | KB1 | | 0.28290000 | 15 | | **43.818** | | | | | | |
| 61 | Pm | KB3 | | 0.28360000 | 15 | | **43.709** | | | | | | |
| 61 | Pm | KA1 | | 0.32074660 | 100 | | **38.647** | | | | | | |
| 61 | Pm | KA2 | | 0.32485488 | 50 | | **38.159** | | | | | | |
| 61 | Pm | LI | ABS | 1.66918241 | | BB | **7.426** | | | | | | 116.0680 |
| 61 | Pm | LG4 | | 1.67429996 | 0.77 | C | **7.404** | | | | | | 116.4239 |
| 61 | Pm | LG11 | | 1.70829999 | 0.06 | C | **7.256** | | | | | | 118.7881 |
| 61 | Pm | LG3 | | 1.72459996 | 3.11 | C | **7.188** | | | | | | 119.9215 |
| 61 | Pm | LG2 | | 1.72920001 | 2.01 | C | **7.169** | | | | | | 120.2414 |
| 61 | Pm | LII | ABS | 1.76798426 | | BB | **7.011** | | | | | | 122.9383 |
| 61 | Pm | LG6 | | 1.76989996 | 0.08 | C | **7.004** | | | | | | 123.0715 |
| 61 | Pm | Lv | | 1.77040005 | 0.01 | C | **7.002** | | | | | | 123.1063 |
| 61 | Pm | LG8 | | 1.77880001 | 0.06 | C | **6.969** | | | | | | 123.6904 |
| 61 | Pm | LG1 | | 1.79920006 | 9.8 | C | **6.890** | | | | | | 125.1089 |
| 61 | Pm | L2-N3 | | 1.82669997 | 0.01 | C | **6.786** | | | | | | 127.0211 |
| 61 | Pm | LG5 | | 1.85520005 | 0.35 | C | **6.682** | | | | | | 129.0029 |
| 61 | Pm | LIII | ABS | 1.91948354 | | BB | **6.458** | | | | | 61.4797 | 133.4729 |
| 61 | Pm | Lu | | 1.92130005 | 0.01 | C | **6.452** | | | | | 61.5379 | 133.5992 |
| 61 | Pm | LB5 | | 1.92159998 | 0.16 | C | **6.451** | | | | | 61.5475 | 133.6201 |
| 61 | Pm | LB7 | | 1.93089998 | 0.18 | C | **6.420** | | | | | 61.8453 | 134.2668 |
| 61 | Pm | LB9 | | 1.94040000 | 0.4 | C | **6.388** | | | | | 62.1496 | 134.9274 |
| 61 | Pm | LB2 | | 1.95620000 | 19.6 | C | **6.337** | | | | | 62.6557 | 136.0260 |
| 61 | Pm | LB6 | | 2.02320004 | 1.04 | C | **6.127** | | | | | 64.8016 | 140.6849 |
| 61 | Pm | LB3 | | 2.04250002 | 12.47 | C | **6.069** | | | | | 65.4198 | 142.0270 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | Pm | LB1 | | 2.08019996 | 53.85 | C | **5.959** | | | | | 66.6273 | 144.6485 |
| 61 | Pm | LB4 | | 2.08200002 | 7.8 | C | **5.954** | | | | | 66.6850 | 144.7736 |
| 61 | Pm | LB17 | | 2.17549992 | 0.03 | C | **5.698** | | | | | 69.6797 | 151.2752 |
| 61 | Pm | LA1 | | 2.28239989 | 100 | C | **5.431** | | | | | 73.1036 | 158.7086 |
| 61 | Pm | LA2 | | 2.29299998 | 11.33 | C | **5.406** | | | | | 73.4431 | 159.4457 |
| 61 | Pm | Ln | | 2.31139994 | 1.48 | C | **5.363** | | | | | 74.0325 | 160.7252 |
| 61 | Pm | Ll | | 2.57699990 | 4.48 | C | **4.810** | | | | | 82.5395 | 179.1939 |
| 61 | Pm | MII | ABS | 8.42634226 | | BB | **1.471** | | | | 91.6013 | | |
| 61 | Pm | MIII | ABS | 9.13738669 | | BB | **1.357** | | | | 99.3310 | | |
| 61 | Pm | MIV | ABS | 11.79126961 | | BB | **1.051** | | | | 128.1809 | | |
| 61 | Pm | MV | ABS | 12.07373649 | | BB | **1.027** | | | | 131.2516 | | |
| 61 | Pm | NII | ABS | 51.23355372 | | BB | **0.242** | 100.3174 | 146.3816 | 232.1637 | 556.9513 | | |
| 61 | Pm | NIII | ABS | 51.23355372 | | BB | **0.242** | 100.3174 | 146.3816 | 232.1637 | 556.9513 | | |
| 61 | Pm | NIV | ABS | 102.97774086 | | BB | **0.120** | 201.6347 | | | | | |
| 61 | Pm | NV | ABS | 102.97774086 | | BB | **0.120** | 201.6347 | | | | | |
| 62 | Sm | K | ABS | 0.26473218 | | BB | **46.825** | | | | | | |
| 62 | Sm | Kd1 | | 0.26490000 | 0.01 | | **46.795** | | | | | | |
| 62 | Sm | Kd2 | | 0.26490000 | 0.01 | | **46.795** | | | | | | |
| 62 | Sm | KB2 | | 0.26633692 | 5 | | **46.543** | | | | | | |
| 62 | Sm | KB5 | | 0.27110000 | 0.05 | | **45.725** | | | | | | |
| 62 | Sm | KB1 | | 0.27305045 | 15 | | **45.398** | | | | | | |
| 62 | Sm | KB3 | | 0.27375186 | 15 | | **45.282** | | | | | | |
| 62 | Sm | KA1 | | 0.30892277 | 100 | | **40.127** | | | | | | |
| 62 | Sm | KA2 | | 0.31363226 | 50 | | **39.524** | | | | | | |
| 62 | Sm | Ll | ABS | 1.60253852 | | BB | **7.735** | | | | | | 111.4339 |
| 62 | Sm | LG4 | | 1.60759997 | 0.79 | C | **7.711** | | | | | | 111.7858 |
| 62 | Sm | LG11 | | 1.63779998 | 0.06 | C | **7.569** | | | | | | 113.8858 |
| 62 | Sm | LG3 | | 1.65639997 | 3.18 | C | **7.484** | | | | | | 115.1792 |
| 62 | Sm | LG2 | | 1.66079998 | 2.08 | C | **7.464** | | | | | | 115.4851 |
| 62 | Sm | SLG10 | | 1.66265180 | 1 | | **7.456** | | | | | | 115.6139 |
| 62 | Sm | LII | ABS | 1.69568642 | | BB | **7.310** | | | | | | 117.9110 |
| 62 | Sm | LG6 | | 1.69700003 | 0.08 | C | **7.305** | | | | | | 118.0023 |
| 62 | Sm | Lv | | 1.69770002 | 0.01 | C | **7.302** | | | | | | 118.0510 |
| 62 | Sm | LG8 | | 1.70659995 | 0.06 | C | **7.264** | | | | | | 118.6699 |
| 62 | Sm | SLG1' | | 1.71475680 | 1 | | **7.229** | | | | | | 119.2371 |
| 62 | Sm | LG1 | | 1.72749996 | 9.94 | C | **7.176** | | | | | | 120.1232 |
| 62 | Sm | SLG9 | | 1.73199160 | 1 | | **7.157** | | | | | | 120.4355 |
| 62 | Sm | L2-N3 | | 1.75390005 | 0.01 | C | **7.068** | | | | | | 121.9589 |
| 62 | Sm | LG5 | | 1.77950001 | 0.36 | C | **6.966** | | | | | | 123.7390 |
| 62 | Sm | LIII | ABS | 1.84606176 | | BB | **6.715** | | | | | | 128.3675 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62 | Sm | LB5 | | 1.84739995 | 0.15 | C | **6.710** | | | | | | 128.4605 |
| 62 | Sm | Lu | | 1.84770000 | 0.01 | C | **6.709** | | | | | | 128.4814 |
| 62 | Sm | LB7 | | 1.85660005 | 0.18 | C | **6.677** | | | | | | 129.1003 |
| 62 | Sm | LB9 | | 1.86520004 | 0.43 | C | **6.646** | | | | | | 129.6983 |
| 62 | Sm | LB10 | | 1.86946870 | 0.001 | | **6.631** | | | | | | 129.9951 |
| 62 | Sm | LB2 | | 1.88250005 | 19.77 | C | **6.585** | | | | | 60.2951 | 130.9012 |
| 62 | Sm | SLB14 | | 1.88980970 | 1 | | **6.559** | | | | | 60.5293 | 131.4095 |
| 62 | Sm | LB6 | | 1.94659996 | 1.06 | C | **6.368** | | | | | 62.3482 | 135.3585 |
| 62 | Sm | LB3 | | 1.96270001 | 12.67 | C | **6.316** | | | | | 62.8639 | 136.4780 |
| 62 | Sm | SLB1' | | 1.99161500 | 1 | | **6.224** | | | | | 63.7900 | 138.4886 |
| 62 | Sm | LB1 | | 1.99839997 | 54.39 | C | **6.203** | | | | | 64.0073 | 138.9604 |
| 62 | Sm | LB4 | | 2.00130010 | 8.69 | C | **6.194** | | | | | 64.1002 | 139.1621 |
| 62 | Sm | LB17 | | 2.08759999 | 0.03 | C | **5.938** | | | | | 66.8643 | 145.1630 |
| 62 | Sm | SLA^X | | 2.19342180 | 1 | | **5.651** | | | | | 70.2537 | 152.5214 |
| 62 | Sm | LA1 | | 2.20020008 | 100 | C | **5.634** | | | | | 70.4708 | 152.9928 |
| 62 | Sm | SLA3^Z | | 2.20213940 | 1 | | **5.629** | | | | | 70.5329 | 153.1276 |
| 62 | Sm | LA2 | | 2.21120000 | 11.33 | C | **5.606** | | | | | 70.8232 | 153.7577 |
| 62 | Sm | Ln | | 2.21869993 | 1.49 | C | **5.587** | | | | | 71.0634 | 154.2792 |
| 62 | Sm | Ll | | 2.48259997 | 4.52 | C | **4.993** | | | | | 79.5159 | 172.6297 |
| 62 | Sm | MI | ABS | 7.19672626 | | BB | **1.722** | | | | 78.2344 | 230.5060 | |
| 62 | Sm | MII | ABS | 8.04732914 | | BB | **1.540** | | | | 87.4812 | 257.7502 | |
| 62 | Sm | MIII | ABS | 8.73258205 | | BB | **1.420** | | | | 94.9304 | | |
| 62 | Sm | MG | | 9.60000038 | 1 | C | **1.291** | | | | 104.3600 | | |
| 62 | Sm | MIV | ABS | 11.21023508 | | BB | **1.106** | | | | 121.8646 | | |
| 62 | Sm | MB | | 11.27000046 | 45 | C | **1.100** | | | | 122.5143 | | |
| 62 | Sm | MA1 | | 11.42904000 | 100 | | **1.085** | | | | 124.2432 | | |
| 62 | Sm | MA2 | | 11.42904000 | 100 | | **1.085** | | | | 124.2432 | | |
| 62 | Sm | MA1,2 | | 11.47000027 | 200 | C | **1.081** | | | | 124.6884 | | |
| 62 | Sm | MV | ABS | 11.47798556 | | BB | **1.080** | | | | 124.7752 | | |
| 62 | Sm | MZ1,2 | | 14.90999985 | 0.01 | C | **0.831** | | | 67.5643 | 162.0841 | | |
| 62 | Sm | NI | ABS | 35.86496963 | | BB | **0.346** | 70.2251 | 102.4713 | 162.5213 | 389.8820 | | |
| 62 | Sm | NII | ABS | 46.68117470 | | BB | **0.266** | 91.4037 | 133.3748 | 211.5347 | 507.4632 | | |
| 62 | Sm | NIII | ABS | 50.11527890 | | BB | **0.247** | 98.1278 | 143.1865 | 227.0963 | 544.7947 | | |
| 62 | Sm | NIV | ABS | 96.11255814 | | BB | **0.129** | 188.1924 | | | | | |
| 62 | Sm | NV | ABS | 96.11255814 | | BB | **0.129** | 188.1924 | | | | | |
| 63 | Eu | K | ABS | 0.25553948 | | BB | **48.509** | | | | | | |
| 63 | Eu | Kd1 | | 0.25560000 | 0.01 | | **48.498** | | | | | | |
| 63 | Eu | Kd2 | | 0.25560000 | 0.01 | | **48.498** | | | | | | |
| 63 | Eu | KB2 | | 0.25691793 | 5 | | **48.249** | | | | | | |
| 63 | Eu | KB1 | | 0.26363146 | 15 | | **47.020** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | Eu | KB3 | | 0.26443308 | 15 | | **46.878** | | | | | | |
| 63 | Eu | KA1 | | 0.29850176 | 100 | | **41.527** | | | | | | |
| 63 | Eu | KA2 | | 0.30321125 | 50 | | **40.882** | | | | | | |
| 63 | Eu | LI | ABS | 1.53980626 | | BB | **8.050** | | | | | | 107.0717 |
| 63 | Eu | LG4 | | 1.54419994 | 0.79 | C | **8.027** | | | | | | 107.3773 |
| 63 | Eu | LG11 | | 1.57179999 | 0.06 | C | **7.886** | | | | | | 109.2964 |
| 63 | Eu | LG3 | | 1.59050000 | 3.18 | C | **7.794** | | | | | | 110.5968 |
| 63 | Eu | LG2 | | 1.59650004 | 2.1 | C | **7.764** | | | | | | 111.0140 |
| 63 | Eu | LII | ABS | 1.62772184 | | BB | **7.616** | | | | | | 113.1850 |
| 63 | Eu | LG6 | | 1.62849998 | 0.08 | C | **7.612** | | | | | | 113.2391 |
| 63 | Eu | Lv | | 1.62940001 | 0.01 | C | **7.608** | | | | | | 113.3017 |
| 63 | Eu | LG8 | | 1.63479996 | 0.06 | C | **7.583** | | | | | | 113.6772 |
| 63 | Eu | SLG1' | | 1.64732090 | 1 | | **7.525** | | | | | | 114.5479 |
| 63 | Eu | LG1 | | 1.65769994 | 10.08 | C | **7.478** | | | | | | 115.2696 |
| 63 | Eu | SLG9 | | 1.66265180 | 1 | | **7.456** | | | | | | 115.6139 |
| 63 | Eu | L2-N3 | | 1.68289995 | 0.01 | C | **7.366** | | | | | | 117.0219 |
| 63 | Eu | LG5 | | 1.70889997 | 0.36 | C | **7.254** | | | | | | 118.8298 |
| 63 | Eu | LIII | ABS | 1.77708151 | | BB | **6.975** | | | | | | 123.5709 |
| 63 | Eu | LB5 | | 1.77750003 | 0.15 | C | **6.974** | | | | | | 123.6000 |
| 63 | Eu | Lu | | 1.77830005 | 0.01 | C | **6.971** | | | | | | 123.6556 |
| 63 | Eu | LB7 | | 1.78540003 | 0.18 | C | **6.943** | | | | | | 124.1493 |
| 63 | Eu | LB9 | | 1.79489994 | 0.44 | C | **6.906** | | | | | | 124.8099 |
| 63 | Eu | LB10 | | 1.79962790 | 0.001 | | **6.888** | | | | | | 125.1387 |
| 63 | Eu | LB2 | | 1.81210005 | 19.85 | C | **6.841** | | | | | | 126.0059 |
| 63 | Eu | LB15 | | 1.81225340 | 0.001 | | **6.840** | | | | | | 126.0166 |
| 63 | Eu | SLB14 | | 1.81756410 | 1 | | **6.820** | | | | | | 126.3859 |
| 63 | Eu | LB6 | | 1.87399995 | 1.07 | C | **6.615** | | | | | 60.0229 | 130.3102 |
| 63 | Eu | LB3 | | 1.88709998 | 12.65 | C | **6.569** | | | | | 60.4425 | 131.2211 |
| 63 | Eu | SLB1' | | 1.91305660 | 1 | | **6.480** | | | | | 61.2738 | 133.0260 |
| 63 | Eu | LB1 | | 1.92069995 | 54.88 | C | **6.454** | | | | | 61.5186 | 133.5575 |
| 63 | Eu | LB4 | | 1.92579997 | 8.74 | C | **6.437** | | | | | 61.6820 | 133.9121 |
| 63 | Eu | LB17 | | 2.00489998 | 0.03 | C | **6.183** | | | | | 64.2155 | 139.4124 |
| 63 | Eu | LA1 | | 2.12109995 | 100 | C | **5.844** | | | | | 67.9373 | 147.4925 |
| 63 | Eu | LA2 | | 2.13170004 | 11.35 | C | **5.815** | | | | | 68.2768 | 148.2296 |
| 63 | Eu | Ln | | 2.13170004 | 1.5 | C | **5.815** | | | | | 68.2768 | 148.2296 |
| 63 | Eu | LI | | 2.39529991 | 4.56 | C | **5.175** | | | | | 76.7197 | 166.5592 |
| 63 | Eu | MI | ABS | 6.88806667 | | BB | **1.800** | | | | 74.8790 | 220.6198 | |
| 63 | Eu | MII | ABS | 7.68233472 | | BB | **1.614** | | | | 83.5134 | 246.0597 | |
| 63 | Eu | MIII | ABS | 8.37398352 | | BB | **1.480** | | | | 91.0322 | | |
| 63 | Eu | MG | | 9.21100044 | 1 | C | **1.346** | | | | 100.1312 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | Eu | MIV | ABS | 10.68285370 | | BB | **1.160** | | | | 116.1315 | | |
| 63 | Eu | MB | | 10.75000000 | 45 | C | **1.153** | | | | 116.8614 | | |
| 63 | Eu | MA1 | | 10.95408300 | 100 | | **1.132** | | | | 119.0800 | | |
| 63 | Eu | MA2 | | 10.95408300 | 100 | | **1.132** | | | | 119.0800 | | |
| 63 | Eu | MA1,2 | | 10.96000004 | 200 | C | **1.131** | | | | 119.1443 | | |
| 63 | Eu | MV | ABS | 10.96340967 | | BB | **1.131** | | | | 119.1814 | | |
| 63 | Eu | MZ1 | | 14.21966600 | 1 | | **0.872** | | | 64.4361 | 154.5796 | | |
| 63 | Eu | MZ1,2 | | 14.22000027 | 0.01 | C | **0.872** | | | 64.4376 | 154.5832 | | |
| 63 | Eu | NI | ABS | 34.42121044 | | BB | **0.360** | 67.3982 | 98.3463 | 155.9789 | 374.1872 | | |
| 63 | Eu | NII | ABS | 43.67213808 | | BB | **0.284** | 85.5119 | 124.7775 | 197.8993 | 474.7524 | | |
| 63 | Eu | NIII | ABS | 48.31847233 | | BB | **0.257** | 94.6096 | 138.0528 | 218.9541 | 525.2620 | | |
| 63 | Eu | NIV | ABS | 93.08198198 | | BB | **0.133** | 182.2584 | | | | | |
| 63 | Eu | NV | ABS | 93.08198198 | | BB | **0.133** | 182.2584 | | | | | |
| 64 | Gd | K | ABS | 0.24679025 | | BB | **50.229** | | | | | | |
| 64 | Gd | Kd1 | | 0.24690000 | 0.01 | | **50.207** | | | | | | |
| 64 | Gd | Kd2 | | 0.24690000 | 0.01 | | **50.207** | | | | | | |
| 64 | Gd | KB2 | | 0.24810015 | 5 | | **49.964** | | | | | | |
| 64 | Gd | KB5 | | 0.25280000 | 0.05 | | **49.035** | | | | | | |
| 64 | Gd | KB1 | | 0.25441288 | 15 | | **48.724** | | | | | | |
| 64 | Gd | KB3 | | 0.25521449 | 15 | | **48.571** | | | | | | |
| 64 | Gd | KA1 | | 0.28838136 | 100 | | **42.985** | | | | | | |
| 64 | Gd | KA2 | | 0.29319105 | 50 | | **42.280** | | | | | | |
| 64 | Gd | LI | ABS | 1.48031425 | | BB | **8.374** | | | | | | 102.9349 |
| 64 | Gd | LG4 | | 1.48409998 | 0.85 | C | **8.353** | | | | | | 103.1982 |
| 64 | Gd | LG11 | | 1.50950003 | 0.06 | C | **8.212** | | | | | | 104.9644 |
| 64 | Gd | LG3 | | 1.52989995 | 3.2 | C | **8.102** | | | | | | 106.3829 |
| 64 | Gd | LG2 | | 1.53330004 | 2.13 | C | **8.085** | | | | | | 106.6193 |
| 64 | Gd | LII | ABS | 1.56343644 | | BB | **7.929** | | | | | | 108.7149 |
| 64 | Gd | LG6 | | 1.56459999 | 0.07 | C | **7.923** | | | | | | 108.7958 |
| 64 | Gd | Lv | | 1.56519997 | 0.01 | C | **7.920** | | | | | | 108.8375 |
| 64 | Gd | LG8 | | 1.57099998 | 0.06 | C | **7.891** | | | | | | 109.2408 |
| 64 | Gd | LG1 | | 1.59280002 | 10.26 | C | **7.783** | | | | | | 110.7567 |
| 64 | Gd | SLG9 | | 1.59782110 | 1 | | **7.758** | | | | | | 111.1058 |
| 64 | Gd | L2-N3 | | 1.61710000 | 0.01 | C | **7.666** | | | | | | 112.4464 |
| 64 | Gd | LG5 | | 1.64150000 | 0.37 | C | **7.552** | | | | | | 114.1431 |
| 64 | Gd | LIII | ABS | 1.71184072 | | BB | **7.241** | | | | | | 119.0343 |
| 64 | Gd | Lu | | 1.71270001 | 0.01 | C | **7.238** | | | | | | 119.0940 |
| 64 | Gd | LB5 | | 1.71340001 | 0.14 | C | **7.235** | | | | | | 119.1427 |
| 64 | Gd | LB7 | | 1.72049999 | 0.19 | C | **7.205** | | | | | | 119.6364 |
| 64 | Gd | LB9 | | 1.72730005 | 0.46 | C | **7.177** | | | | | | 120.1093 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 64 | Gd | LB10 | | 1.73159080 | 0.001 | | **7.159** | | | | | | 120.4076 |
| 64 | Gd | LB2 | | 1.74570000 | 20.14 | C | **7.101** | | | | | | 121.3887 |
| 64 | Gd | LB15 | | 1.74662110 | 0.001 | | **7.097** | | | | | | 121.4528 |
| 64 | Gd | SLB14 | | 1.75223240 | 1 | | **7.074** | | | | | | 121.8430 |
| 64 | Gd | LB6 | | 1.80569994 | 1.09 | C | **6.865** | | | | | | 125.5609 |
| 64 | Gd | LB3 | | 1.81519997 | 12.55 | C | **6.829** | | | | | | 126.2215 |
| 64 | Gd | SLB1' | | 1.83920770 | 1 | | **6.740** | | | | | | 127.8909 |
| 64 | Gd | LB1 | | 1.84720004 | 55.16 | C | **6.711** | | | | | | 128.4466 |
| 64 | Gd | LB4 | | 1.85430002 | 8.79 | C | **6.685** | | | | | | 128.9403 |
| 64 | Gd | LB17 | | 1.92700005 | 0.03 | C | **6.433** | | | | | 61.7204 | 133.9956 |
| 64 | Gd | SLA^X | | 2.03981210 | 1 | | **6.077** | | | | | 65.3337 | 141.8401 |
| 64 | Gd | LA1 | | 2.04719996 | 100 | C | **6.055** | | | | | 65.5703 | 142.3538 |
| 64 | Gd | Ln | | 2.04959989 | 1.49 | C | **6.048** | | | | | 65.6472 | 142.5207 |
| 64 | Gd | LA2 | | 2.05809999 | 11.34 | C | **6.023** | | | | | 65.9195 | 143.1117 |
| 64 | Gd | Ll | | 2.31259990 | 4.63 | C | **5.360** | | | | | 74.0709 | 160.8086 |
| 64 | Gd | MI | ABS | 6.59215228 | | BB | **1.880** | | | | 71.6622 | 211.1419 | |
| 64 | Gd | MII | ABS | 7.34378961 | | BB | **1.688** | | | | 79.8331 | 235.2163 | |
| 64 | Gd | MIII | ABS | 8.03012953 | | BB | **1.544** | | | | 87.2942 | 257.1993 | |
| 64 | Gd | MG | | 8.84399986 | 1 | C | **1.402** | | | | 96.1416 | | |
| 64 | Gd | MIV | ABS | 10.18609924 | | BB | **1.217** | | | | 110.7314 | | |
| 64 | Gd | SMB2 | | 10.19250000 | 1 | | **1.216** | | | | 110.8009 | | |
| 64 | Gd | MB | | 10.25399971 | 45 | C | **1.209** | | | | 111.4695 | | |
| 64 | Gd | MA1 | | 10.41499600 | 100 | | **1.190** | | | | 113.2197 | | |
| 64 | Gd | MA2 | | 10.41499600 | 100 | | **1.190** | | | | 113.2197 | | |
| 64 | Gd | MA1,2 | | 10.46000004 | 200 | C | **1.185** | | | | 113.7089 | | |
| 64 | Gd | MV | ABS | 10.46112049 | | BB | **1.185** | | | | 113.7211 | | |
| 64 | Gd | MZ1 | | 13.56835300 | 1 | | **0.914** | | | 61.4847 | 147.4993 | | |
| 64 | Gd | MZ1,2 | | 13.56999969 | 0.01 | C | **0.913** | | | 61.4921 | 147.5172 | | |
| 64 | Gd | NI | ABS | 32.99233635 | | BB | **0.376** | 64.6004 | 94.2638 | 149.5040 | 358.6541 | | |
| 64 | Gd | NII | ABS | 42.97580589 | | BB | **0.288** | 84.1484 | 122.7880 | 194.7439 | 467.1827 | | |
| 64 | Gd | NIII | ABS | 45.76788483 | | BB | **0.271** | 89.6154 | 130.7654 | 207.3961 | 497.5350 | | |
| 64 | Gd | NIV | ABS | 88.24569395 | | BB | **0.140** | 172.7888 | 252.1306 | 399.8834 | 959.3040 | | |
| 64 | Gd | NV | ABS | 88.24569395 | | BB | **0.140** | 172.7888 | 252.1306 | 399.8834 | 959.3040 | | |
| 65 | Tb | K | ABS | 0.23845280 | | BB | **51.985** | | | | | | |
| 65 | Tb | Kd1 | | 0.23860000 | 0.01 | | **51.953** | | | | | | |
| 65 | Tb | Kd2 | | 0.23860000 | 0.01 | | **51.953** | | | | | | |
| 65 | Tb | KB2 | | 0.23958298 | 5 | | **51.740** | | | | | | |
| 65 | Tb | KB1 | | 0.24599591 | 15 | | **50.391** | | | | | | |
| 65 | Tb | KB3 | | 0.24679753 | 15 | | **50.227** | | | | | | |
| 65 | Tb | KA1 | | 0.27876196 | 100 | | **44.468** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | Tb | KA2 | | 0.28347146 | 50 | | **43.729** | | | | | | |
| 65 | Tb | LI | ABS | 1.42380799 | | BB | **8.706** | | | | | | 99.0057 |
| 65 | Tb | LG4 | | 1.42789996 | 0.78 | C | **8.681** | | | | | | 99.2902 |
| 65 | Tb | LG11 | | 1.45099998 | 0.07 | C | **8.543** | | | | | | 100.8965 |
| 65 | Tb | LG3 | | 1.47210002 | 3.15 | C | **8.421** | | | | | | 102.3637 |
| 65 | Tb | LG2 | | 1.47669995 | 2.12 | C | **8.394** | | | | | | 102.6836 |
| 65 | Tb | LII | ABS | 1.50255950 | | BB | **8.250** | | | | | | 104.4817 |
| 65 | Tb | LG6 | | 1.50370002 | 0.07 | C | **8.244** | | | | | | 104.5611 |
| 65 | Tb | Lv | | 1.50460005 | 0.01 | C | **8.239** | | | | | | 104.6236 |
| 65 | Tb | LG8 | | 1.50989997 | 0.06 | C | **8.210** | | | | | | 104.9922 |
| 65 | Tb | LG1 | | 1.53059995 | 10.21 | C | **8.099** | | | | | | 106.4316 |
| 65 | Tb | SLG9 | | 1.53449340 | 1 | | **8.078** | | | | | | 106.7023 |
| 65 | Tb | L2-N3 | | 1.55400002 | 0.01 | C | **7.977** | | | | | | 108.0587 |
| 65 | Tb | LG5 | | 1.57900000 | 0.36 | C | **7.851** | | | | | | 109.7971 |
| 65 | Tb | LIII | ABS | 1.65005590 | | BB | **7.512** | | | | | | 114.7380 |
| 65 | Tb | Lu | | 1.65069997 | 0.02 | C | **7.510** | | | | | | 114.7828 |
| 65 | Tb | LB5 | | 1.65129995 | 0.13 | C | **7.507** | | | | | | 114.8245 |
| 65 | Tb | LB7 | | 1.65880001 | 0.18 | C | **7.473** | | | | | | 115.3461 |
| 65 | Tb | LB9 | | 1.66340005 | 0.48 | C | **7.452** | | | | | | 115.6659 |
| 65 | Tb | LB10 | | 1.66736130 | 0.001 | | **7.435** | | | | | | 115.9414 |
| 65 | Tb | LB2 | | 1.68340003 | 19.93 | C | **7.364** | | | | | | 117.0566 |
| 65 | Tb | SLB14 | | 1.68850390 | 1 | | **7.341** | | | | | | 117.4116 |
| 65 | Tb | LB6 | | 1.74249995 | 1.1 | C | **7.114** | | | | | | 121.1662 |
| 65 | Tb | LB3 | | 1.74740005 | 12.4 | C | **7.094** | | | | | | 121.5069 |
| 65 | Tb | SLB1' | | 1.76906630 | 1 | | **7.007** | | | | | | 123.0135 |
| 65 | Tb | LB1 | | 1.77699995 | 55.13 | C | **6.976** | | | | | | 123.5652 |
| 65 | Tb | LB4 | | 1.78670001 | 8.74 | C | **6.938** | | | | | | 124.2397 |
| 65 | Tb | LB17 | | 1.85380006 | 0.04 | C | **6.687** | | | | | | 128.9056 |
| 65 | Tb | Ln | | 1.97329998 | 1.48 | C | **6.282** | | | | | 63.2034 | 137.2151 |
| 65 | Tb | LA1 | | 1.97669995 | 100 | C | **6.271** | | | | | 63.3123 | 137.4515 |
| 65 | Tb | LA2 | | 1.98780000 | 11.34 | C | **6.236** | | | | | 63.6678 | 138.2234 |
| 65 | Tb | LI | | 2.23550010 | 4.65 | C | **5.545** | | | | | 71.6015 | 155.4474 |
| 65 | Tb | MI | ABS | 6.30166201 | | BB | **1.967** | | | | 68.5043 | 201.8377 | |
| 65 | Tb | MII | ABS | 7.01392770 | | BB | **1.767** | | | | 76.2472 | 224.6511 | |
| 65 | Tb | MIII | ABS | 7.69473096 | | BB | **1.611** | | | | 83.6481 | 246.4567 | |
| 65 | Tb | MG | | 8.48600006 | 1 | C | **1.461** | | | | 92.2499 | | |
| 65 | Tb | MIV | ABS | 9.72432941 | | BB | **1.275** | | | | 105.7115 | | |
| 65 | Tb | SMB2 | | 9.74765060 | 1 | | **1.272** | | | | 105.9651 | | |
| 65 | Tb | MB | | 9.79199982 | 45 | C | **1.266** | | | | 106.4472 | | |
| 65 | Tb | MA1 | | 9.93703230 | 100 | | **1.247** | | | | 108.0238 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 65 | Tb | MA2 | | 9.93703230 | 100 | | **1.247** | | | | 108.0238 | | |
| 65 | Tb | MV | ABS | 9.98913954 | | BB | **1.241** | | | | 108.5903 | | |
| 65 | Tb | MA1,2 | | 10.00000000 | 200 | C | **1.240** | | | | 108.7083 | | |
| 65 | Tb | MZ1 | | 12.97515700 | 1 | | **0.955** | | | | 141.0507 | | |
| 65 | Tb | MZ1,2 | | 12.97999954 | 0.01 | C | **0.955** | | | | 141.1034 | | |
| 65 | Tb | NI | ABS | 31.15988942 | | BB | **0.398** | 61.0124 | 89.0283 | 141.2003 | 338.7339 | | |
| 65 | Tb | NII | ABS | 39.96943907 | | BB | **0.310** | 78.2618 | 114.1984 | 181.1206 | 434.5010 | | |
| 65 | Tb | NIII | ABS | 43.50357895 | | BB | **0.285** | 85.1818 | 124.2959 | 197.1355 | 472.9201 | | |
| 65 | Tb | NIV | ABS | 84.34367347 | | BB | **0.147** | 165.1485 | 240.9819 | 382.2015 | 916.8858 | | |
| 65 | Tb | NV | ABS | 84.34367347 | | BB | **0.147** | 165.1485 | 240.9819 | 382.2015 | 916.8858 | | |
| 65 | Tb | OI | ABS | 317.91076923 | | BB | **0.039** | | | | | | |
| 66 | Dy | K | ABS | 0.23050503 | | BB | **53.778** | | | | | | |
| 66 | Dy | Kd1 | | 0.23060000 | 0.01 | | **53.755** | | | | | | |
| 66 | Dy | Kd2 | | 0.23060000 | 0.01 | | **53.755** | | | | | | |
| 66 | Dy | KB2 | | 0.23176723 | 5 | | **53.485** | | | | | | |
| 66 | Dy | KB5 | | 0.23620000 | 0.05 | | **52.481** | | | | | | |
| 66 | Dy | KB1 | | 0.23757894 | 15 | | **52.176** | | | | | | |
| 66 | Dy | KB3 | | 0.23838056 | 15 | | **52.001** | | | | | | |
| 66 | Dy | KA1 | | 0.26954338 | 100 | | **45.989** | | | | | | |
| 66 | Dy | KA2 | | 0.27435308 | 50 | | **45.183** | | | | | | |
| 66 | Dy | LI | ABS | 1.37063831 | | BB | **9.044** | | | | | | 95.3085 |
| 66 | Dy | LG4 | | 1.37479997 | 0.79 | C | **9.017** | | | | | | 95.5979 |
| 66 | Dy | LG11 | | 1.39579999 | 0.07 | C | **8.881** | | | | | | 97.0581 |
| 66 | Dy | LG3 | | 1.41659999 | 3.19 | C | **8.751** | | | | | | 98.5045 |
| 66 | Dy | LG2 | | 1.42289996 | 2.17 | C | **8.712** | | | | | | 98.9426 |
| 66 | Dy | LII | ABS | 1.44494791 | | BB | **8.579** | | | | | | 100.4757 |
| 66 | Dy | LG6 | | 1.44599998 | 0.07 | C | **8.573** | | | | | | 100.5488 |
| 66 | Dy | Lv | | 1.44749999 | 0.01 | C | **8.564** | | | | | | 100.6531 |
| 66 | Dy | LG8 | | 1.45280004 | 0.06 | C | **8.532** | | | | | | 101.0217 |
| 66 | Dy | LG1 | | 1.47300005 | 10.37 | C | **8.415** | | | | | | 102.4263 |
| 66 | Dy | L2-N3 | | 1.49539995 | 0.01 | C | **8.289** | | | | | | 103.9839 |
| 66 | Dy | LG5 | | 1.51839995 | 0.37 | C | **8.164** | | | | | | 105.5832 |
| 66 | Dy | LB5 | | 1.58870006 | 0.13 | C | **7.803** | | | | | | 110.4716 |
| 66 | Dy | LIII | ABS | 1.59157392 | | BB | **7.789** | | | | | | 110.6714 |
| 66 | Dy | Lu | | 1.59239995 | 0.02 | C | **7.784** | | | | | | 110.7289 |
| 66 | Dy | LB9 | | 1.60309994 | 0.5 | C | **7.733** | | | | | | 111.4729 |
| 66 | Dy | LB7 | | 1.60469997 | 0.18 | C | **7.725** | | | | | | 111.5842 |
| 66 | Dy | LB10 | | 1.60734030 | 0.001 | | **7.712** | | | | | | 111.7678 |
| 66 | Dy | LB2 | | 1.62409997 | 20 | C | **7.633** | | | | | | 112.9332 |
| 66 | Dy | SLB14 | | 1.62838270 | 1 | | **7.612** | | | | | | 113.2310 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 66 | Dy | LB3 | | 1.68250000 | 12.53 | C | **7.368** | | | | | | 116.9941 |
| 66 | Dy | LB6 | | 1.68250000 | 1.11 | C | **7.368** | | | | | | 116.9941 |
| 66 | Dy | SLB1' | | 1.70263240 | 1 | | **7.280** | | | | | | 118.3940 |
| 66 | Dy | LB1 | | 1.71099997 | 55.5 | C | **7.245** | | | | | | 118.9758 |
| 66 | Dy | LB4 | | 1.72119999 | 8.91 | C | **7.202** | | | | | | 119.6851 |
| 66 | Dy | LB17 | | 1.78439999 | 0.04 | C | **6.947** | | | | | | 124.0798 |
| 66 | Dy | Ln | | 1.89779997 | 1.49 | C | **6.532** | | | | | 60.7852 | 131.9651 |
| 66 | Dy | SLA^X | | 1.90193420 | 1 | | **6.518** | | | | | 60.9176 | 132.2526 |
| 66 | Dy | SLA' | | 1.90494020 | 1 | | **6.507** | | | | | 61.0139 | 132.4616 |
| 66 | Dy | LA1 | | 1.90919995 | 100 | C | **6.493** | | | | | 61.1503 | 132.7578 |
| 66 | Dy | SLA3^Z | | 1.91105250 | 1 | | **6.486** | | | | | 61.2096 | 132.8867 |
| 66 | Dy | SLAO | | 1.91616280 | 1 | | **6.469** | | | | | 61.3733 | 133.2420 |
| 66 | Dy | LA2 | | 1.92009997 | 11.34 | C | **6.456** | | | | | 61.4994 | 133.5158 |
| 66 | Dy | LI | | 2.15919995 | 4.73 | C | **5.741** | | | | | 69.1576 | 150.1418 |
| 66 | Dy | MI | ABS | 6.05751417 | | BB | **2.046** | | | | 65.8502 | 194.0178 | |
| 66 | Dy | MII | ABS | 6.73174069 | | BB | **1.841** | | | | 73.1796 | 215.6128 | |
| 66 | Dy | MIII | ABS | 7.39945094 | | BB | **1.675** | | | | 80.4382 | 236.9991 | |
| 66 | Dy | MG | | 8.14400005 | 1 | C | **1.522** | | | | 88.5321 | | |
| 66 | Dy | MIV | ABS | 9.30470544 | | BB | **1.332** | | | | 101.1499 | | |
| 66 | Dy | SMB2 | | 9.32890640 | 1 | | **1.329** | | | | 101.4130 | | |
| 66 | Dy | M4-N4 | | 9.34183250 | 1 | | **1.327** | | | | 101.5535 | | |
| 66 | Dy | MB | | 9.35700035 | 45 | C | **1.325** | | | | 101.7184 | | |
| 66 | Dy | MA1 | | 9.54323850 | 100 | | **1.299** | | | | 103.7429 | | |
| 66 | Dy | MA2 | | 9.54323850 | 100 | | **1.299** | | | | 103.7429 | | |
| 66 | Dy | MV | ABS | 9.57488609 | | BB | **1.295** | | | | 104.0870 | | |
| 66 | Dy | MA1,2 | | 9.59000015 | 200 | C | **1.293** | | | | 104.2513 | | |
| 66 | Dy | MZ1 | | 12.42605000 | 1 | | **0.998** | | | | 135.0815 | | |
| 66 | Dy | MZ1,2 | | 12.43000031 | 0.01 | C | **0.997** | | | | 135.1244 | | |
| 66 | Dy | NI | ABS | 29.78265674 | | BB | **0.416** | | 85.0933 | 134.9594 | 323.7622 | | |
| 66 | Dy | NII | ABS | 37.36745027 | | BB | **0.332** | 73.1670 | 106.7641 | 169.3298 | 406.2152 | | |
| 66 | Dy | NIII | ABS | 42.33021509 | | BB | **0.293** | 82.8843 | 120.9435 | 191.8184 | 460.1646 | | |
| 66 | Dy | NIV | ABS | 80.40544747 | | BB | **0.154** | 157.4372 | 229.7298 | 364.3555 | 874.0740 | | |
| 66 | Dy | NV | ABS | 80.40544747 | | BB | **0.154** | 157.4372 | 229.7298 | 364.3555 | 874.0740 | | |
| 66 | Dy | OI | ABS | 197.11478537 | | BB | **0.063** | | | | | | |
| 67 | Ho | K | ABS | 0.22292400 | | BB | **55.606** | | | | | | |
| 67 | Ho | Kd1 | | 0.22300000 | 0.01 | | **55.587** | | | | | | |
| 67 | Ho | Kd2 | | 0.22300000 | 0.01 | | **55.587** | | | | | | |
| 67 | Ho | KB2 | | 0.22430000 | 5 | | **55.265** | | | | | | |
| 67 | Ho | KB5 | | 0.22860000 | 0.05 | | **54.226** | | | | | | |
| 67 | Ho | KB1 | | 0.23010000 | 15 | | **53.872** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | Ho | KB3 | | 0.23080000 | 15 | | **53.709** | | | | | | |
| 67 | Ho | KA1 | | 0.26082581 | 100 | | **47.526** | | | | | | |
| 67 | Ho | KA2 | | 0.26553530 | 50 | | **46.683** | | | | | | |
| 67 | Ho | LI | ABS | 1.31980584 | | BB | **9.392** | | | | | | 91.7738 |
| 67 | Ho | L1-O4 | | 1.32080000 | 0.01 | | **9.385** | | | | | | 91.8429 |
| 67 | Ho | LG4 | | 1.32270002 | 0.8 | C | **9.372** | | | | | | 91.9751 |
| 67 | Ho | LG11 | | 1.34879994 | 0.07 | C | **9.190** | | | | | | 93.7899 |
| 67 | Ho | LG3 | | 1.36450005 | 3.21 | C | **9.085** | | | | | | 94.8817 |
| 67 | Ho | LG2 | | 1.37010002 | 2.21 | C | **9.048** | | | | | | 95.2711 |
| 67 | Ho | LII | ABS | 1.39031151 | | BB | **8.916** | | | | | | 96.6765 |
| 67 | Ho | LG6 | | 1.39260006 | 0.07 | C | **8.901** | | | | | | 96.8356 |
| 67 | Ho | Lv | | 1.39349997 | 0.01 | C | **8.896** | | | | | | 96.8982 |
| 67 | Ho | LG8 | | 1.39849997 | 0.06 | C | **8.864** | | | | | | 97.2459 |
| 67 | Ho | LG1 | | 1.41760004 | 10.56 | C | **8.744** | | | | | | 98.5740 |
| 67 | Ho | SLG9 | | 1.41886030 | 1 | | **8.737** | | | | | | 98.6617 |
| 67 | Ho | L2-N3 | | 1.43309999 | 0.01 | C | **8.650** | | | | | | 99.6518 |
| 67 | Ho | LG5 | | 1.46200001 | 0.37 | C | **8.479** | | | | | | 101.6614 |
| 67 | Ho | LIII | ABS | 1.53616236 | | BB | **8.069** | | | | | | 106.8184 |
| 67 | Ho | Lu | | 1.53709996 | 0.03 | C | **8.065** | | | | | | 106.8835 |
| 67 | Ho | LB5 | | 1.53799999 | 0.12 | C | **8.060** | | | | | | 106.9461 |
| 67 | Ho | LB9 | | 1.54429996 | 0.53 | C | **8.027** | | | | | | 107.3842 |
| 67 | Ho | LB7 | | 1.54820001 | 0.18 | C | **8.007** | | | | | | 107.6554 |
| 67 | Ho | LB10 | | 1.54852170 | 0.001 | | **8.005** | | | | | | 107.6778 |
| 67 | Ho | LB2 | | 1.56739998 | 19.95 | C | **7.909** | | | | | | 108.9905 |
| 67 | Ho | SLB14 | | 1.57016530 | 1 | | **7.895** | | | | | | 109.1828 |
| 67 | Ho | LB3 | | 1.62070000 | 12.55 | C | **7.649** | | | | | | 112.6967 |
| 67 | Ho | LB6 | | 1.62409997 | 1.13 | C | **7.633** | | | | | | 112.9332 |
| 67 | Ho | SLB1' | | 1.63880370 | 1 | | **7.564** | | | | | | 113.9556 |
| 67 | Ho | LB1 | | 1.64779997 | 56.32 | C | **7.523** | | | | | | 114.5812 |
| 67 | Ho | LB4 | | 1.65970004 | 9.04 | C | **7.469** | | | | | | 115.4087 |
| 67 | Ho | LB17 | | 1.71910000 | 0.04 | C | **7.211** | | | | | | 119.5391 |
| 67 | Ho | Ln | | 1.82669997 | 1.51 | C | **6.786** | | | | | | 127.0211 |
| 67 | Ho | LA1 | | 1.84519994 | 100 | C | **6.718** | | | | | | 128.3075 |
| 67 | Ho | LA2 | | 1.85630000 | 11.34 | C | **6.678** | | | | | | 129.0794 |
| 67 | Ho | LI | | 2.08649993 | 4.76 | C | **5.941** | | | | | 66.8291 | 145.0865 |
| 67 | Ho | MI | ABS | 5.82555091 | | BB | **2.128** | | | | 63.3286 | 186.5882 | |
| 67 | Ho | MII | ABS | 6.44815893 | | BB | **1.922** | | | | 70.0968 | 206.5299 | |
| 67 | Ho | MIII | ABS | 7.12067540 | | BB | **1.741** | | | | 77.4077 | 228.0701 | |
| 67 | Ho | MG | | 7.86499977 | 1 | C | **1.576** | | | | 85.4991 | 251.9103 | |
| 67 | Ho | MIV | ABS | 8.91018326 | | BB | **1.391** | | | | 96.8611 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 67 | Ho | SMB2 | | 8.93701640 | 1 | | **1.387** | | | | 97.1528 | | |
| 67 | Ho | M4-N4 | | 8.96106490 | 1 | | **1.383** | | | | 97.4142 | | |
| 67 | Ho | MB | | 8.96500015 | 45 | C | **1.383** | | | | 97.4570 | | |
| 67 | Ho | SMA | | 9.13241030 | 1 | | **1.357** | | | | 99.2769 | | |
| 67 | Ho | MA1 | | 9.16146890 | 100 | | **1.353** | | | | 99.5928 | | |
| 67 | Ho | MA2 | | 9.16146890 | 100 | | **1.353** | | | | 99.5928 | | |
| 67 | Ho | MV | ABS | 9.17457452 | | BB | **1.351** | | | | 99.7353 | | |
| 67 | Ho | MA1,2 | | 9.19999981 | 200 | C | **1.347** | | | | 100.0116 | | |
| 67 | Ho | MZ1,2 | | 11.85999966 | 0.01 | C | **1.045** | | | | 128.9281 | | |
| 67 | Ho | MZ1 | | 11.86291500 | 1 | | **1.045** | | | | 128.9597 | | |
| 67 | Ho | NI | ABS | 28.45655267 | | BB | **0.436** | | 81.3044 | 128.9502 | 309.3464 | | |
| 67 | Ho | NII | ABS | 36.09467249 | | BB | **0.343** | 70.6749 | 103.1276 | 163.5622 | 392.3791 | | |
| 67 | Ho | NIII | ABS | 40.43874755 | | BB | **0.307** | 79.1808 | 115.5393 | 183.2473 | 439.6028 | | |
| 67 | Ho | NIV | ABS | 77.00944099 | | BB | **0.161** | 150.7877 | 220.0270 | 348.9666 | 837.1566 | | |
| 67 | Ho | NV | ABS | 77.00944099 | | BB | **0.161** | 150.7877 | 220.0270 | 348.9666 | 837.1566 | | |
| 67 | Ho | OI | ABS | 242.15859375 | | BB | **0.051** | | | | | | |
| 67 | Ho | OIII | ABS | 610.76453202 | | BB | **0.020** | | | | | | |
| 68 | Er | K | ABS | 0.21568082 | | BB | **57.474** | | | | | | |
| 68 | Er | Kd1 | | 0.21580000 | 0.01 | | **57.442** | | | | | | |
| 68 | Er | Kd2 | | 0.21580000 | 0.01 | | **57.442** | | | | | | |
| 68 | Er | KB2 | | 0.21713773 | 5 | | **57.088** | | | | | | |
| 68 | Er | KB5 | | 0.22120000 | 0.05 | | **56.040** | | | | | | |
| 68 | Er | KB1 | | 0.22264884 | 15 | | **55.675** | | | | | | |
| 68 | Er | KB3 | | 0.22345046 | 15 | | **55.475** | | | | | | |
| 68 | Er | KA1 | | 0.25250904 | 100 | | **49.091** | | | | | | |
| 68 | Er | KA2 | | 0.25711833 | 50 | | **48.211** | | | | | | |
| 68 | Er | LI | ABS | 1.27147355 | | BB | **9.749** | | | | | | 88.4130 |
| 68 | Er | LG4 | | 1.27540004 | 0.81 | C | **9.719** | | | | | | 88.6860 |
| 68 | Er | LG11 | | 1.29439998 | 0.08 | C | **9.577** | | | | | | 90.0072 |
| 68 | Er | LG3 | | 1.31490004 | 3.24 | C | **9.427** | | | | | | 91.4327 |
| 68 | Er | LG2 | | 1.32120001 | 2.25 | C | **9.382** | | | | | | 91.8708 |
| 68 | Er | LII | ABS | 1.33831158 | | BB | **9.262** | | | | | | 93.0606 |
| 68 | Er | LG6 | | 1.33990002 | 0.06 | C | **9.251** | | | | | | 93.1711 |
| 68 | Er | Lv | | 1.34249997 | 0.01 | C | **9.234** | | | | | | 93.3519 |
| 68 | Er | LG8 | | 1.34599996 | 0.06 | C | **9.210** | | | | | | 93.5952 |
| 68 | Er | LG1 | | 1.36440003 | 10.61 | C | **9.085** | | | | | | 94.8747 |
| 68 | Er | SLG9 | | 1.36555290 | 1 | | **9.078** | | | | | | 94.9549 |
| 68 | Er | L2-N3 | | 1.38510001 | 0.01 | C | **8.950** | | | | | | 96.3141 |
| 68 | Er | LG5 | | 1.40699995 | 0.38 | C | **8.810** | | | | | | 97.8369 |
| 68 | Er | LIII | ABS | 1.48344919 | | BB | **8.356** | | | | | | 103.1529 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | Er | Lu | | 1.48459995 | 0.03 | C | **8.350** | | | | | | 103.2329 |
| 68 | Er | LB5 | | 1.48500001 | 0.12 | C | **8.347** | | | | | | 103.2607 |
| 68 | Er | LB9 | | 1.48909998 | 0.55 | C | **8.324** | | | | | | 103.5458 |
| 68 | Er | LB7 | | 1.49430001 | 0.18 | C | **8.296** | | | | | | 103.9074 |
| 68 | Er | LB10 | | 1.49441260 | 0.001 | | **8.295** | | | | | | 103.9152 |
| 68 | Er | SLB2^1 | | 1.50443280 | 1 | | **8.240** | | | | | | 104.6120 |
| 68 | Er | LB2 | | 1.51419997 | 20.05 | C | **8.187** | | | | | | 105.2912 |
| 68 | Er | SLB14 | | 1.51505420 | 1 | | **8.182** | | | | | | 105.3506 |
| 68 | Er | LB3 | | 1.56190002 | 12.58 | C | **7.936** | | | | | | 108.6080 |
| 68 | Er | LB6 | | 1.56780005 | 1.14 | C | **7.907** | | | | | | 109.0183 |
| 68 | Er | SLB1' | | 1.57878270 | 1 | | **7.852** | | | | | | 109.7820 |
| 68 | Er | LB1 | | 1.58770001 | 56.58 | C | **7.808** | | | | | | 110.4021 |
| 68 | Er | LB4 | | 1.60099995 | 9.22 | C | **7.743** | | | | | | 111.3269 |
| 68 | Er | LB17 | | 1.65709996 | 0.04 | C | **7.481** | | | | | | 115.2279 |
| 68 | Er | Ln | | 1.75689995 | 1.53 | C | **7.056** | | | | | | 122.1675 |
| 68 | Er | SLA^X | | 1.77798430 | 1 | | **6.972** | | | | | | 123.6336 |
| 68 | Er | SLA' | | 1.78048930 | 1 | | **6.962** | | | | | | 123.8078 |
| 68 | Er | LA1 | | 1.78470004 | 100 | C | **6.946** | | | | | | 124.1006 |
| 68 | Er | LA2 | | 1.79579997 | 11.34 | C | **6.903** | | | | | | 124.8725 |
| 68 | Er | Ll | | 2.01530004 | 4.82 | C | **6.151** | | | | | 64.5486 | 140.1356 |
| 68 | Er | MI | ABS | 5.61908906 | | BB | **2.206** | | | | 61.0842 | 179.9754 | |
| 68 | Er | MII | ABS | 6.18133413 | | BB | **2.005** | | | | 67.1962 | 197.9837 | |
| 68 | Er | MIII | ABS | 6.84320565 | | BB | **1.811** | | | | 74.3913 | 219.1830 | |
| 68 | Er | MG | | 7.54600000 | 1 | C | **1.643** | | | | 82.0313 | 241.6930 | |
| 68 | Er | M3-N4 | | 7.59999990 | 0.1 | C | **1.631** | | | | 82.6183 | 243.4226 | |
| 68 | Er | MIV | ABS | 8.53128741 | | BB | **1.453** | | | | 92.7422 | | |
| 68 | Er | SMB2 | | 8.56566780 | 1 | | **1.447** | | | | 93.1159 | | |
| 68 | Er | M4-N4 | | 8.59031750 | 1 | | **1.443** | | | | 93.3839 | | |
| 68 | Er | MB | | 8.59200001 | 45 | C | **1.443** | | | | 93.4022 | | |
| 68 | Er | SMA | | 8.76867700 | 1 | | **1.414** | | | | 95.3228 | | |
| 68 | Er | MV | ABS | 8.79764422 | | BB | **1.409** | | | | 95.6377 | | |
| 68 | Er | MA1 | | 8.80074170 | 100 | | **1.409** | | | | 95.6714 | | |
| 68 | Er | MA2 | | 8.80074170 | 100 | | **1.409** | | | | 95.6714 | | |
| 68 | Er | MA1,2 | | 8.81999969 | 200 | C | **1.405** | | | | 95.8807 | | |
| 68 | Er | MZ1,2 | | 11.36999989 | 0.01 | C | **1.090** | | | | 123.6013 | | |
| 68 | Er | MZ1 | | 11.37092300 | 1 | | **1.090** | | | | 123.6114 | | |
| 68 | Er | NI | ABS | 27.60748163 | | BB | **0.449** | | 78.8785 | 125.1027 | 300.1163 | | |
| 68 | Er | NII | ABS | 33.85723648 | | BB | **0.366** | 66.2939 | 96.7350 | 153.4233 | 368.0563 | | |
| 68 | Er | NIII | ABS | 38.74537500 | | BB | **0.320** | 75.8651 | 110.7011 | 175.5738 | 421.1944 | | |
| 68 | Er | NIV | ABS | 70.16706282 | | BB | **0.177** | 137.3901 | 200.4773 | 317.9605 | 762.7743 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 68 | Er | N4-N6 | | 72.70000000 | 1 | | **0.171** | 142.3497 | 207.7143 | 329.4384 | 790.3094 | | |
| 68 | Er | NV | ABS | 73.97684964 | | BB | **0.168** | 144.8498 | 211.3624 | 335.2244 | 804.1898 | | |
| 68 | Er | N5-N6 | | 76.30000000 | 1 | | **0.162** | 149.3986 | 218.0000 | 345.7517 | 829.4444 | | |
| 68 | Er | OI | ABS | 207.33311037 | | BB | **0.060** | | | | | | |
| 68 | Er | OIII | ABS | 421.71836735 | | BB | **0.029** | | | | | | |
| 69 | Tm | K | ABS | 0.20876584 | | BB | **59.378** | | | | | | |
| 69 | Tm | Kd1 | | 0.20890000 | 0.01 | | **59.339** | | | | | | |
| 69 | Tm | Kd2 | | 0.20890000 | 0.01 | | **59.339** | | | | | | |
| 69 | Tm | KB2 | | 0.21010000 | 5 | | **59.000** | | | | | | |
| 69 | Tm | KB5 | | 0.21400000 | 0.05 | | **57.925** | | | | | | |
| 69 | Tm | KB1 | | 0.21533410 | 15 | | **57.566** | | | | | | |
| 69 | Tm | KB3 | | 0.21603551 | 15 | | **57.379** | | | | | | |
| 69 | Tm | KA1 | | 0.24439268 | 100 | | **50.722** | | | | | | |
| 69 | Tm | KA2 | | 0.24910217 | 50 | | **49.763** | | | | | | |
| 69 | Tm | LI | ABS | 1.22567099 | | BB | **10.114** | | | | | | 85.2281 |
| 69 | Tm | L1-O4 | | 1.22630000 | 0.01 | | **10.108** | | | | | | 85.2718 |
| 69 | Tm | LG4 | | 1.22959995 | 0.81 | C | **10.081** | | | | | | 85.5013 |
| 69 | Tm | LG11 | | 1.24779999 | 0.08 | C | **9.934** | | | | | | 86.7668 |
| 69 | Tm | LG3 | | 1.26800001 | 3.29 | C | **9.776** | | | | | | 88.1715 |
| 69 | Tm | LG2 | | 1.27450001 | 2.31 | C | **9.726** | | | | | | 88.6234 |
| 69 | Tm | LII | ABS | 1.28924290 | | BB | **9.615** | | | | | | 89.6486 |
| 69 | Tm | LG6 | | 1.29069996 | 0.06 | C | **9.604** | | | | | | 89.7499 |
| 69 | Tm | Lv | | 1.29310000 | 0.02 | C | **9.586** | | | | | | 89.9168 |
| 69 | Tm | LG8 | | 1.29649997 | 0.06 | C | **9.561** | | | | | | 90.1532 |
| 69 | Tm | LG1 | | 1.31560004 | 10.77 | C | **9.422** | | | | | | 91.4814 |
| 69 | Tm | L2-N3 | | 1.33570004 | 0.01 | C | **9.281** | | | | | | 92.8790 |
| 69 | Tm | LG5 | | 1.35599995 | 0.38 | C | **9.142** | | | | | | 94.2906 |
| 69 | Tm | LIII | ABS | 1.43368640 | | BB | **8.646** | | | | | | 99.6926 |
| 69 | Tm | Lu | | 1.43480003 | 0.03 | C | **8.640** | | | | | | 99.7700 |
| 69 | Tm | LB5 | | 1.43509996 | 0.11 | C | **8.638** | | | | | | 99.7909 |
| 69 | Tm | LB9 | | 1.43680000 | 0.58 | C | **8.628** | | | | | | 99.9091 |
| 69 | Tm | LB10 | | 1.44100500 | 0.001 | | **8.602** | | | | | | 100.2015 |
| 69 | Tm | LB7 | | 1.44350004 | 0.18 | C | **8.587** | | | | | | 100.3750 |
| 69 | Tm | LB2 | | 1.46430004 | 20.06 | C | **8.465** | | | | | | 101.8213 |
| 69 | Tm | LB3 | | 1.50660002 | 12.73 | C | **8.228** | | | | | | 104.7627 |
| 69 | Tm | LB6 | | 1.51639998 | 1.16 | C | **8.175** | | | | | | 105.4442 |
| 69 | Tm | LB1 | | 1.53059995 | 57.29 | C | **8.099** | | | | | | 106.4316 |
| 69 | Tm | LB4 | | 1.54509997 | 9.45 | C | **8.023** | | | | | | 107.4398 |
| 69 | Tm | LB17 | | 1.59850001 | 0.04 | C | **7.755** | | | | | | 111.1531 |
| 69 | Tm | Ln | | 1.69649994 | 1.56 | C | **7.307** | | | | | | 117.9676 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 69 | Tm | LA1 | | 1.72700000 | 100 | C | **7.178** | | | | | | 120.0884 |
| 69 | Tm | LA2 | | 1.73839998 | 11.35 | C | **7.131** | | | | | | 120.8811 |
| 69 | Tm | LI | | 1.95519996 | 4.89 | C | **6.340** | | | | | 62.6237 | 135.9565 |
| 69 | Tm | MI | ABS | 5.37477024 | | BB | **2.306** | | | | | 172.1500 | |
| 69 | Tm | MII | ABS | 5.93287396 | | BB | **2.089** | | | | 64.4953 | 190.0257 | |
| 69 | Tm | MIII | ABS | 6.57920934 | | BB | **1.884** | | | | 71.5215 | 210.7274 | |
| 69 | Tm | MIV | ABS | 8.18600291 | | BB | **1.514** | | | | 88.9887 | | |
| 69 | Tm | SMB2 | | 8.21957010 | 1 | | **1.508** | | | | 89.3536 | | |
| 69 | Tm | MB | | 8.24899960 | 45 | C | **1.503** | | | | 89.6735 | | |
| 69 | Tm | SMA | | 8.43400230 | 1 | | **1.470** | | | | 91.6846 | | |
| 69 | Tm | MV | ABS | 8.44758466 | | BB | **1.467** | | | | 91.8323 | | |
| 69 | Tm | MA1 | | 8.46005490 | 100 | | **1.465** | | | | 91.9678 | | |
| 69 | Tm | MA2 | | 8.46005490 | 100 | | **1.465** | | | | 91.9678 | | |
| 69 | Tm | MA1,2 | | 8.47999954 | 200 | C | **1.462** | | | | 92.1846 | | |
| 69 | Tm | NI | ABS | 26.28475726 | | BB | **0.472** | | 75.0993 | 119.1088 | 285.7372 | | |
| 69 | Tm | NII | ABS | 32.12884167 | | BB | **0.386** | 62.9096 | 91.7967 | 145.5911 | 349.2672 | | |
| 69 | Tm | NIII | ABS | 36.83458111 | | BB | **0.337** | 72.1237 | 105.2417 | 166.9151 | 400.4225 | | |
| 69 | Tm | NIV | ABS | 69.03407572 | | BB | **0.180** | 135.1716 | 197.2402 | 312.8264 | 750.4578 | | |
| 69 | Tm | NV | ABS | 69.03407572 | | BB | **0.180** | 135.1716 | 197.2402 | 312.8264 | 750.4578 | | |
| 69 | Tm | OI | ABS | 233.05488722 | | BB | **0.053** | | | | | | |
| 69 | Tm | OIII | ABS | 383.85510836 | | BB | **0.032** | | | | | | |
| 70 | Yb | K | ABS | 0.20215319 | | BB | **61.320** | | | | | | |
| 70 | Yb | Kd1 | | 0.20230000 | 0.01 | | **61.275** | | | | | | |
| 70 | Yb | Kd2 | | 0.20230000 | 0.01 | | **61.275** | | | | | | |
| 70 | Yb | KB2 | | 0.20361046 | 5 | | **60.881** | | | | | | |
| 70 | Yb | KB5 | | 0.20740000 | 0.05 | | **59.769** | | | | | | |
| 70 | Yb | KB1 | | 0.20872077 | 15 | | **59.390** | | | | | | |
| 70 | Yb | KB3 | | 0.20962258 | 15 | | **59.135** | | | | | | |
| 70 | Yb | KA1 | | 0.23677733 | 100 | | **52.353** | | | | | | |
| 70 | Yb | KA2 | | 0.24148682 | 50 | | **51.332** | | | | | | |
| 70 | Yb | LI | ABS | 1.18234284 | | BB | **10.484** | | | | | | 82.2152 |
| 70 | Yb | L1-O4 | | 1.18258400 | 0.01 | | **10.482** | | | | | | 82.2320 |
| 70 | Yb | LG4 | | 1.18550003 | 0.82 | C | **10.456** | | | | | | 82.4348 |
| 70 | Yb | L1-O1 | | 1.18849590 | 0.01 | | **10.430** | | | | | | 82.6431 |
| 70 | Yb | LG11 | | 1.20369995 | 0.08 | C | **10.298** | | | | | | 83.7003 |
| 70 | Yb | LG3 | | 1.22259998 | 3.31 | C | **10.139** | | | | | | 85.0145 |
| 70 | Yb | LG2 | | 1.22899997 | 2.35 | C | **10.086** | | | | | | 85.4596 |
| 70 | Yb | LII | ABS | 1.24256078 | | BB | **9.976** | | | | | | 86.4025 |
| 70 | Yb | LG6 | | 1.24290001 | 0.06 | C | **9.973** | | | | | | 86.4261 |
| 70 | Yb | L2-O2 | | 1.24521030 | 0.01 | | **9.955** | | | | | | 86.5868 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70 | Yb | Lv | | 1.24619997 | 0.02 | C | **9.947** | | | | | | 86.6556 |
| 70 | Yb | LG8 | | 1.24940002 | 0.06 | C | **9.922** | | | | | | 86.8781 |
| 70 | Yb | LG1 | | 1.26800001 | 10.91 | C | **9.776** | | | | | | 88.1715 |
| 70 | Yb | SLG9 | | 1.26835690 | 1 | | **9.773** | | | | | | 88.1963 |
| 70 | Yb | L2-N3 | | 1.28729999 | 0.01 | C | **9.629** | | | | | | 89.5135 |
| 70 | Yb | LG5 | | 1.30659997 | 0.38 | C | **9.487** | | | | | | 90.8555 |
| 70 | Yb | LIII | ABS | 1.38630082 | | BB | **8.942** | | | | | | 96.3976 |
| 70 | Yb | LB5 | | 1.38709998 | 0.11 | C | **8.937** | | | | | | 96.4532 |
| 70 | Yb | LB9 | | 1.38709998 | 0.61 | C | **8.937** | | | | | | 96.4532 |
| 70 | Yb | Lu | | 1.38740003 | 0.04 | C | **8.935** | | | | | | 96.4740 |
| 70 | Yb | L3-O2 | | 1.38970150 | 0.01 | | **8.920** | | | | | | 96.6341 |
| 70 | Yb | LB10 | | 1.39140500 | 0.001 | | **8.909** | | | | | | 96.7525 |
| 70 | Yb | LB7 | | 1.39510000 | 0.19 | C | **8.885** | | | | | | 97.0095 |
| 70 | Yb | SLB2^1 | | 1.40873990 | 1 | | **8.799** | | | | | | 97.9579 |
| 70 | Yb | LB2 | | 1.41579998 | 20.17 | C | **8.755** | | | | | | 98.4489 |
| 70 | Yb | SLB14 | | 1.41595450 | 1 | | **8.755** | | | | | | 98.4596 |
| 70 | Yb | SLB14 | | 1.41665590 | 1 | | **8.750** | | | | | | 98.5084 |
| 70 | Yb | SLB14 | | 1.41665590 | 1 | | **8.750** | | | | | | 98.5084 |
| 70 | Yb | LB3 | | 1.45260000 | 12.79 | C | **8.534** | | | | | | 101.0078 |
| 70 | Yb | LB6 | | 1.46640003 | 1.17 | C | **8.453** | | | | | | 101.9674 |
| 70 | Yb | LB1 | | 1.47599995 | 57.78 | C | **8.398** | | | | | | 102.6349 |
| 70 | Yb | LB4 | | 1.49160004 | 9.59 | C | **8.311** | | | | | | 103.7197 |
| 70 | Yb | LB17 | | 1.54279995 | 0.04 | C | **8.035** | | | | | | 107.2799 |
| 70 | Yb | L2-M2 | | 1.58840001 | 0.01 | C | **7.804** | | | | | | 110.4507 |
| 70 | Yb | Ln | | 1.63580000 | 1.57 | C | **7.578** | | | | | | 113.7467 |
| 70 | Yb | SLA^X | | 1.66535720 | 1 | | **7.443** | | | | | | 115.8020 |
| 70 | Yb | SLA' | | 1.66866390 | 1 | | **7.429** | | | | | | 116.0320 |
| 70 | Yb | LA1 | | 1.67229998 | 100 | C | **7.413** | | | | | | 116.2848 |
| 70 | Yb | LA2 | | 1.68320000 | 11.34 | C | **7.365** | | | | | | 117.0427 |
| 70 | Yb | Lt | | 1.83079070 | 0.01 | | **6.771** | | | | | | 127.3056 |
| 70 | Yb | LI | | 1.89460003 | 4.94 | C | **6.543** | | | | | 60.6827 | 131.7426 |
| 70 | Yb | MI | ABS | 5.17014303 | | BB | **2.398** | | | | | 165.5960 | |
| 70 | Yb | MII | ABS | 5.70571560 | | BB | **2.173** | | | | 62.0259 | 182.7500 | |
| 70 | Yb | MIII | ABS | 6.35886758 | | BB | **1.949** | | | | 69.1262 | 203.6700 | |
| 70 | Yb | MG | | 7.02400017 | 1 | C | **1.765** | | | | 76.3567 | 224.9737 | |
| 70 | Yb | MIV | ABS | 7.86558396 | | BB | **1.576** | | | | 85.5054 | 251.9290 | |
| 70 | Yb | SMB3 | | 7.88088730 | 1 | | **1.573** | | | | 85.6718 | 252.4192 | |
| 70 | Yb | SMB2 | | 7.88730020 | 1 | | **1.572** | | | | 85.7415 | 252.6246 | |
| 70 | Yb | MB | | 7.90899992 | 45 | C | **1.567** | | | | 85.9774 | 253.3196 | |
| 70 | Yb | SMA^4 | | 8.10804520 | 1 | | **1.529** | | | | 88.1412 | 259.6949 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 70 | Yb | MV | ABS | 8.11527687 | | BB | **1.527** | | | | 88.2198 | 259.9265 | |
| 70 | Yb | SMA2 | | 8.12738420 | 1 | | **1.525** | | | | 88.3514 | | |
| 70 | Yb | MA1 | | 8.13840640 | 100 | | **1.523** | | | | 88.4712 | | |
| 70 | Yb | MA1,2 | | 8.14900017 | 200 | C | **1.521** | | | | 88.5864 | | |
| 70 | Yb | MA2 | | 8.15443880 | 100 | | **1.520** | | | | 88.6455 | | |
| 70 | Yb | M3-N1 | | 8.47000027 | 0.5 | C | **1.464** | | | | 92.0759 | | |
| 70 | Yb | MZ1 | | 10.47912500 | 1 | | **1.183** | | | | 113.9168 | | |
| 70 | Yb | MZ1,2 | | 10.47999954 | 0.01 | C | **1.183** | | | | 113.9263 | | |
| 70 | Yb | MZ2 | | 10.48313300 | 1 | | **1.182** | | | | 113.9604 | | |
| 70 | Yb | NI | ABS | 25.44852217 | | BB | **0.487** | | 72.7101 | 115.3194 | 276.6466 | | |
| 70 | Yb | NII | ABS | 31.25414671 | | BB | **0.397** | 61.1969 | 89.2976 | 141.6275 | 339.7586 | | |
| 70 | Yb | NIII | ABS | 36.09467249 | | BB | **0.343** | 70.6749 | 103.1276 | 163.5622 | 392.3791 | | |
| 70 | Yb | NIV | ABS | 62.58717819 | | BB | **0.198** | 122.5483 | 178.8205 | 283.6124 | 680.3747 | | |
| 70 | Yb | N4-N6 | | 65.10000000 | 1 | | **0.190** | 127.4685 | 186.0000 | 294.9992 | 707.6911 | | |
| 70 | Yb | NV | ABS | 67.05527312 | | BB | **0.185** | 131.2970 | 191.5865 | 303.8595 | 728.9466 | | |
| 70 | Yb | N5-N6 | | 69.30000000 | 1 | | **0.179** | 135.6923 | 198.0000 | 314.0314 | 753.3486 | | |
| 70 | Yb | OI | ABS | 229.17781885 | | BB | **0.054** | | | | | | |
| 70 | Yb | OIII | ABS | 529.85128205 | | BB | **0.023** | | | | | | |
| 71 | Lu | K | ABS | 0.19582650 | | BB | **63.301** | | | | | | |
| 71 | Lu | Kd1 | | 0.19590000 | 0.01 | | **63.277** | | | | | | |
| 71 | Lu | Kd2 | | 0.19590000 | 0.01 | | **63.277** | | | | | | |
| 71 | Lu | KB2 | | 0.19689693 | 5 | | **62.957** | | | | | | |
| 71 | Lu | KB5 | | 0.20080000 | 0.05 | | **61.733** | | | | | | |
| 71 | Lu | KB1 | | 0.20210743 | 15 | | **61.334** | | | | | | |
| 71 | Lu | KB3 | | 0.20290905 | 15 | | **61.091** | | | | | | |
| 71 | Lu | KA1 | | 0.22926218 | 100 | | **54.069** | | | | | | |
| 71 | Lu | KA2 | | 0.23407187 | 50 | | **52.958** | | | | | | |
| 71 | Lu | LI | ABS | 1.14057624 | | BB | **10.868** | | | | | | 79.3109 |
| 71 | Lu | LG4 | | 1.14370000 | 0.86 | C | **10.839** | | | | | | 79.5281 |
| 71 | Lu | LG11 | | 1.16180003 | 0.09 | C | **10.670** | | | | | | 80.7868 |
| 71 | Lu | L1-N4 | | 1.16224300 | 0.01 | | **10.666** | | | | | | 80.8176 |
| 71 | Lu | LG3 | | 1.17980003 | 3.42 | C | **10.507** | | | | | | 82.0384 |
| 71 | Lu | LG2 | | 1.18550003 | 2.46 | C | **10.456** | | | | | | 82.4348 |
| 71 | Lu | LII | ABS | 1.19808670 | | BB | **10.346** | | | | | | 83.3100 |
| 71 | Lu | LG6 | | 1.19889998 | 0.05 | C | **10.339** | | | | | | 83.3665 |
| 71 | Lu | L2-O2 | | 1.20132180 | 0.01 | | **10.319** | | | | | | 83.5349 |
| 71 | Lu | Lv | | 1.20179999 | 0.02 | C | **10.315** | | | | | | 83.5682 |
| 71 | Lu | LG8 | | 1.20490003 | 0.06 | C | **10.288** | | | | | | 83.7837 |
| 71 | Lu | SLG1' | | 1.21434800 | 1 | | **10.208** | | | | | | 84.4407 |
| 71 | Lu | LG1 | | 1.22249997 | 11.21 | C | **10.140** | | | | | | 85.0076 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | Lu | L2-N3 | | 1.24109995 | 0.01 | C | **9.988** | | | | | | 86.3009 |
| 71 | Lu | LG5 | | 1.25979996 | 0.39 | C | **9.840** | | | | | | 87.6013 |
| 71 | Lu | LB9 | | 1.33889997 | 0.66 | C | **9.258** | | | | | | 93.1015 |
| 71 | Lu | LIII | ABS | 1.34123603 | | BB | **9.242** | | | | | | 93.2640 |
| 71 | Lu | LB5 | | 1.34210002 | 0.1 | C | **9.236** | | | | | | 93.3241 |
| 71 | Lu | Lu | | 1.34239995 | 0.04 | C | **9.234** | | | | | | 93.3449 |
| 71 | Lu | LB10 | | 1.34300740 | 0.001 | | **9.230** | | | | | | 93.3872 |
| 71 | Lu | L3-O2 | | 1.34511160 | 0.01 | | **9.216** | | | | | | 93.5335 |
| 71 | Lu | LB7 | | 1.34969997 | 0.19 | C | **9.184** | | | | | | 93.8525 |
| 71 | Lu | SLB2^1 | | 1.35954070 | 1 | | **9.118** | | | | | | 94.5368 |
| 71 | Lu | LB2 | | 1.37049997 | 20.36 | C | **9.045** | | | | | | 95.2989 |
| 71 | Lu | LB15 | | 1.37146480 | 0.001 | | **9.039** | | | | | | 95.3660 |
| 71 | Lu | LB3 | | 1.40170002 | 13.1 | C | **8.844** | | | | | | 97.4684 |
| 71 | Lu | LB6 | | 1.41919994 | 1.2 | C | **8.734** | | | | | | 98.6853 |
| 71 | Lu | LB1 | | 1.42379999 | 58.72 | C | **8.706** | | | | | | 99.0051 |
| 71 | Lu | LB4 | | 1.44079995 | 9.96 | C | **8.604** | | | | | | 100.1872 |
| 71 | Lu | LB17 | | 1.48839998 | 0.05 | C | **8.328** | | | | | | 103.4972 |
| 71 | Lu | L2-M2 | | 1.53330004 | 0.01 | C | **8.085** | | | | | | 106.6193 |
| 71 | Lu | Ln | | 1.57819998 | 1.6 | C | **7.855** | | | | | | 109.7415 |
| 71 | Lu | SLA^X | | 1.61295160 | 1 | | **7.685** | | | | | | 112.1580 |
| 71 | Lu | SLA' | | 1.61625830 | 1 | | **7.670** | | | | | | 112.3879 |
| 71 | Lu | LA1 | | 1.61979997 | 100 | C | **7.653** | | | | | | 112.6342 |
| 71 | Lu | LA2 | | 1.63049996 | 11.35 | C | **7.603** | | | | | | 113.3782 |
| 71 | Lu | Lt | | 1.77588000 | 0.01 | | **6.980** | | | | | | 123.4873 |
| 71 | Lu | Ll | | 1.83620000 | 5.01 | C | **6.751** | | | | | | 127.6817 |
| 71 | Lu | MI | ABS | 4.97692678 | | BB | **2.491** | | | | | 159.4074 | |
| 71 | Lu | MII | ABS | 5.47758781 | | BB | **2.263** | | | | | 175.4432 | |
| 71 | Lu | MIII | ABS | 6.12696185 | | BB | **2.023** | | | | 66.6052 | 196.2422 | |
| 71 | Lu | MG | | 6.76800013 | 1 | C | **1.832** | | | | 73.5738 | 216.7742 | |
| 71 | Lu | MIV | ABS | 7.56284006 | | BB | **1.639** | | | | 82.2144 | 242.2324 | |
| 71 | Lu | SMB2 | | 7.58499080 | 1 | | **1.634** | | | | 82.4552 | 242.9418 | |
| 71 | Lu | MB | | 7.60099983 | 45 | C | **1.631** | | | | 82.6292 | 243.4546 | |
| 71 | Lu | MV | ABS | 7.80517469 | | BB | **1.588** | | | | 84.8487 | 249.9942 | |
| 71 | Lu | SMA^4 | | 7.80944330 | 1 | | **1.587** | | | | 84.8951 | 250.1309 | |
| 71 | Lu | SMA^2 | | 7.81866190 | 1 | | **1.585** | | | | 84.9954 | 250.4261 | |
| 71 | Lu | SMA^1 | | 7.82938350 | 1 | | **1.583** | | | | 85.1119 | 250.7695 | |
| 71 | Lu | MA1 | | 7.83980450 | 100 | | **1.581** | | | | 85.2252 | 251.1033 | |
| 71 | Lu | MA2 | | 7.83980450 | 100 | | **1.581** | | | | 85.2252 | 251.1033 | |
| 71 | Lu | MA1,2 | | 7.84000015 | 200 | C | **1.581** | | | | 85.2273 | 251.1096 | |
| 71 | Lu | MZ1 | | 10.06729500 | 1 | | **1.231** | | | | 109.4399 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | Lu | NI | ABS | 24.49332280 | | BB | **0.506** | | 69.9809 | 110.9909 | 266.2628 | | |
| 71 | Lu | NII | ABS | 30.23291880 | | BB | **0.410** | | 86.3798 | 136.9998 | 328.6570 | | |
| 71 | Lu | NIII | ABS | 34.50743112 | | BB | **0.359** | 67.5670 | 98.5927 | 156.3697 | 375.1245 | | |
| 71 | Lu | NIV | ABS | 60.53964844 | | BB | **0.205** | 118.5392 | 172.9704 | 274.3341 | 658.1163 | | |
| 71 | Lu | N4-N6 | | 63.00000000 | 1 | | **0.197** | 123.3566 | 180.0000 | 285.4831 | 684.8624 | | |
| 71 | Lu | NV | ABS | 63.58215385 | | BB | **0.195** | 124.4965 | 181.6633 | 288.1211 | 691.1909 | | |
| 71 | Lu | N5-N6 | | 65.70000000 | 1 | | **0.189** | 128.6434 | 187.7143 | 297.7181 | 714.2136 | | |
| 71 | Lu | OI | ABS | 218.28380282 | | BB | **0.057** | | | | | | |
| 71 | Lu | OIII | ABS | 442.80428571 | | BB | **0.028** | | | | | | |
| 72 | Hf | K | ABS | 0.18972254 | | BB | **65.338** | | | | | | |
| 72 | Hf | KB2 | | 0.19078461 | 5 | | **64.974** | | | | | | |
| 72 | Hf | KB1 | | 0.19559430 | 15 | | **63.376** | | | | | | |
| 72 | Hf | KB3 | | 0.19619552 | 15 | | **63.182** | | | | | | |
| 72 | Hf | KA1 | | 0.22214783 | 100 | | **55.801** | | | | | | |
| 72 | Hf | KA2 | | 0.22695753 | 50 | | **54.618** | | | | | | |
| 72 | Hf | LI | ABS | 1.10006654 | | BB | **11.268** | | | | | | 76.4941 |
| 72 | Hf | L1-O4 | | 1.10081920 | 0.01 | | **11.261** | | | | | | 76.5464 |
| 72 | Hf | LG4 | | 1.10350001 | 0.89 | C | **11.233** | | | | | | 76.7328 |
| 72 | Hf | LG4' | | 1.10372500 | 0.01 | | **11.231** | | | | | | 76.7485 |
| 72 | Hf | L1-O1 | | 1.10663090 | 0.01 | | **11.202** | | | | | | 76.9505 |
| 72 | Hf | LG11 | | 1.12210000 | 0.09 | C | **11.047** | | | | | | 78.0262 |
| 72 | Hf | L1-N4 | | 1.12246280 | 0.01 | | **11.044** | | | | | | 78.0514 |
| 72 | Hf | L1-N1 | | 1.12667130 | 0.01 | | **11.002** | | | | | | 78.3440 |
| 72 | Hf | SLG2' | | 1.13188180 | 1 | | **10.952** | | | | | | 78.7064 |
| 72 | Hf | LG3 | | 1.13859999 | 3.47 | C | **10.887** | | | | | | 79.1735 |
| 72 | Hf | LG2 | | 1.14460003 | 2.52 | C | **10.830** | | | | | | 79.5907 |
| 72 | Hf | LII | ABS | 1.15448908 | | BB | **10.737** | | | | | | 80.2784 |
| 72 | Hf | LG6 | | 1.15540004 | 0.14 | C | **10.729** | | | | | | 80.3417 |
| 72 | Hf | L2-O3 | | 1.15763370 | 0.01 | | **10.708** | | | | | | 80.4970 |
| 72 | Hf | LG8' | | 1.15833510 | 0.001 | | **10.702** | | | | | | 80.5458 |
| 72 | Hf | Lv | | 1.15849996 | 0.02 | C | **10.700** | | | | | | 80.5573 |
| 72 | Hf | L2-O2 | | 1.15863570 | 0.01 | | **10.699** | | | | | | 80.5667 |
| 72 | Hf | LG8 | | 1.16149998 | 0.06 | C | **10.672** | | | | | | 80.7659 |
| 72 | Hf | SLG1' | | 1.17286440 | 1 | | **10.569** | | | | | | 81.5561 |
| 72 | Hf | L2-N5 | | 1.17777430 | 0.01 | | **10.525** | | | | | | 81.8975 |
| 72 | Hf | LG1 | | 1.17920005 | 11.21 | C | **10.512** | | | | | | 81.9967 |
| 72 | Hf | L2-N3 | | 1.19719994 | 0.01 | C | **10.354** | | | | | | 83.2483 |
| 72 | Hf | LG5 | | 1.21560001 | 0.39 | C | **10.197** | | | | | | 84.5278 |
| 72 | Hf | LB9 | | 1.29340005 | 0.69 | C | **9.584** | | | | | | 89.9377 |
| 72 | Hf | LIII | ABS | 1.29682136 | | BB | **9.559** | | | | | | 90.1756 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | Hf | LB5 | | 1.29779994 | 0.25 | C | **9.552** | | | | | | 90.2436 |
| 72 | Hf | LB10 | | 1.29811690 | 0.001 | | **9.549** | | | | | | 90.2657 |
| 72 | Hf | LB7' | | 1.29901870 | 0.01 | | **9.543** | | | | | | 90.3284 |
| 72 | Hf | Lu | | 1.29929996 | 0.05 | C | **9.541** | | | | | | 90.3479 |
| 72 | Hf | L3-O3 | | 1.30082240 | 0.01 | | **9.529** | | | | | | 90.4538 |
| 72 | Hf | L3-O2 | | 1.30192460 | 0.01 | | **9.521** | | | | | | 90.5304 |
| 72 | Hf | LB7 | | 1.30589998 | 0.2 | C | **9.492** | | | | | | 90.8069 |
| 72 | Hf | SLB2^2 | | 1.31695490 | 1 | | **9.413** | | | | | | 91.5756 |
| 72 | Hf | SLB2^1 | | 1.31945990 | 1 | | **9.395** | | | | | | 91.7498 |
| 72 | Hf | LB2 | | 1.32669997 | 20.48 | C | **9.343** | | | | | | 92.2532 |
| 72 | Hf | LB15 | | 1.32777670 | 0.001 | | **9.336** | | | | | | 92.3281 |
| 72 | Hf | L3-N3 | | 1.35042240 | 0.01 | | **9.179** | | | | | | 93.9028 |
| 72 | Hf | LB3 | | 1.35319996 | 13.16 | C | **9.161** | | | | | | 94.0959 |
| 72 | Hf | L3-N2 | | 1.35873910 | 0.01 | | **9.123** | | | | | | 94.4811 |
| 72 | Hf | LB1 | | 1.37440002 | 57.79 | C | **9.019** | | | | | | 95.5701 |
| 72 | Hf | LB6 | | 1.37440002 | 1.22 | C | **9.019** | | | | | | 95.5701 |
| 72 | Hf | LB4 | | 1.39240003 | 10.19 | C | **8.903** | | | | | | 96.8217 |
| 72 | Hf | L1-M1 | | 1.43030000 | 0.01 | C | **8.667** | | | | | | 99.4571 |
| 72 | Hf | LB17 | | 1.43659997 | 0.05 | C | **8.629** | | | | | | 99.8952 |
| 72 | Hf | L2-M2 | | 1.48060000 | 0.01 | C | **8.372** | | | | | | 102.9548 |
| 72 | Hf | Ln | | 1.52349997 | 1.58 | C | **8.137** | | | | | | 105.9379 |
| 72 | Hf | SLA^X | | 1.56325140 | 1 | | **7.930** | | | | | | 108.7020 |
| 72 | Hf | SLA' | | 1.56615730 | 1 | | **7.915** | | | | | | 108.9041 |
| 72 | Hf | LA1 | | 1.56980002 | 100 | C | **7.897** | | | | | | 109.1574 |
| 72 | Hf | LA2 | | 1.58080006 | 11.35 | C | **7.842** | | | | | | 109.9223 |
| 72 | Hf | Ls | | 1.66335320 | 0.01 | | **7.452** | | | | | | 115.6627 |
| 72 | Hf | Lt | | 1.69439995 | 0.1 | C | **7.316** | | | | | | 117.8215 |
| 72 | Hf | Ll | | 1.78180003 | 5.09 | C | **6.957** | | | | | | 123.8990 |
| 72 | Hf | MI | ABS | 4.76701142 | | BB | **2.600** | | | | | 152.6840 | |
| 72 | Hf | MII | ABS | 5.24161664 | | BB | **2.365** | | | | | 167.8852 | |
| 72 | Hf | MIII | ABS | 5.88276713 | | BB | **2.107** | | | | 63.9506 | 188.4208 | |
| 72 | Hf | MG | | 6.54400015 | 1 | C | **1.894** | | | | 71.1387 | 209.5996 | |
| 72 | Hf | MIV | ABS | 7.22356094 | | BB | **1.716** | | | | 78.5261 | 231.3655 | |
| 72 | Hf | SMB3 | | 7.27155890 | 1 | | **1.705** | | | | 79.0479 | 232.9028 | |
| 72 | Hf | SMB2 | | 7.28578760 | 1 | | **1.701** | | | | 79.2026 | 233.3586 | |
| 72 | Hf | SMB1 | | 7.29751130 | 1 | | **1.699** | | | | 79.3300 | 233.7341 | |
| 72 | Hf | MB | | 7.30299997 | 45 | C | **1.697** | | | | 79.3897 | 233.9099 | |
| 72 | Hf | MV | ABS | 7.46134681 | | BB | **1.661** | | | | 81.1110 | 238.9816 | |
| 72 | Hf | SMA^4 | | 7.50482920 | 1 | | **1.652** | | | | 81.5837 | 240.3743 | |
| 72 | Hf | SMA^2 | | 7.51865710 | 1 | | **1.649** | | | | 81.7341 | 240.8172 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 72 | Hf | SMA^1 | | 7.52797590 | 1 | | **1.647** | | | | 81.8354 | 241.1157 | |
| 72 | Hf | MA1,2 | | 7.53900003 | 200 | C | **1.644** | | | | 81.9552 | 241.4688 | |
| 72 | Hf | MA1 | | 7.53919850 | 100 | | **1.644** | | | | 81.9574 | 241.4751 | |
| 72 | Hf | MA2 | | 7.54601220 | 100 | | **1.643** | | | | 82.0314 | 241.6934 | |
| 72 | Hf | M3-N1 | | 7.88700008 | 0.5 | C | **1.572** | | | | 85.7382 | 252.6150 | |
| 72 | Hf | MZ1 | | 9.68599987 | 0.01 | C | **1.280** | | | | 105.2949 | | |
| 72 | Hf | MZ2 | | 9.68599987 | 0.01 | C | **1.280** | | | | 105.2949 | | |
| 72 | Hf | NI | ABS | 23.04129344 | | BB | **0.538** | | 65.8323 | 104.4111 | 250.4780 | | |
| 72 | Hf | NII | ABS | 28.37189931 | | BB | **0.437** | | 81.0626 | 128.5666 | 308.4261 | | |
| 72 | Hf | NIII | ABS | 32.59337539 | | BB | **0.380** | 63.8192 | 93.1239 | 147.6962 | 354.3171 | | |
| 72 | Hf | NIV | ABS | 55.40000000 | | BB | **0.224** | 108.4755 | 158.2857 | 251.0439 | 602.2441 | | |
| 72 | Hf | NV | ABS | 58.01834347 | | BB | **0.214** | 113.6024 | 165.7667 | 262.9088 | 630.7076 | | |
| 72 | Hf | OI | ABS | 191.04036980 | | BB | **0.065** | | | | | | |
| 72 | Hf | OII | ABS | 325.42047244 | | BB | **0.038** | | | | | | |
| 72 | Hf | OIII | ABS | 405.18039216 | | BB | **0.031** | | | | | | |
| 73 | Ta | K | ABS | 0.18390955 | | BB | **67.403** | | | | | | |
| 73 | Ta | KB4 | | 0.18447188 | 0.001 | | **67.197** | | | | | | |
| 73 | Ta | KB2 | | 0.18507309 | 5 | | **66.979** | | | | | | |
| 73 | Ta | KB5 | | 0.18878057 | 0.05 | | **65.664** | | | | | | |
| 73 | Ta | KB1 | | 0.19008319 | 15 | | **65.214** | | | | | | |
| 73 | Ta | KB3 | | 0.19088481 | 15 | | **64.940** | | | | | | |
| 73 | Ta | KA1 | | 0.21543430 | 100 | | **57.540** | | | | | | |
| 73 | Ta | KA2 | | 0.22024400 | 50 | | **56.283** | | | | | | |
| 73 | Ta | LI | ABS | 1.06138082 | | BB | **11.679** | | | | | | 73.8040 |
| 73 | Ta | L1-O4 | | 1.06184060 | 0.01 | | **11.674** | | | | | | 73.8360 |
| 73 | Ta | L1-N6 | | 1.06354400 | 0.01 | | **11.655** | | | | | | 73.9544 |
| 73 | Ta | LG4 | | 1.06519997 | 0.92 | C | **11.637** | | | | | | 74.0696 |
| 73 | Ta | LG4' | | 1.06534770 | 0.01 | | **11.636** | | | | | | 74.0799 |
| 73 | Ta | L1-O1 | | 1.06765230 | 0.01 | | **11.611** | | | | | | 74.2401 |
| 73 | Ta | LG11 | | 1.08319998 | 0.1 | C | **11.444** | | | | | | 75.3212 |
| 73 | Ta | L1-N4 | | 1.08378480 | 0.01 | | **11.438** | | | | | | 75.3619 |
| 73 | Ta | SLG2'' | | 1.09360460 | 1 | | **11.335** | | | | | | 76.0447 |
| 73 | Ta | LG3 | | 1.09949994 | 3.54 | C | **11.274** | | | | | | 76.4547 |
| 73 | Ta | SLG2' | | 1.10252260 | 1 | | **11.243** | | | | | | 76.6648 |
| 73 | Ta | LG2 | | 1.10549998 | 2.61 | C | **11.213** | | | | | | 76.8719 |
| 73 | Ta | LII | ABS | 1.11336285 | | BB | **11.134** | | | | | | 77.4186 |
| 73 | Ta | LG6 | | 1.11399996 | 0.25 | C | **11.127** | | | | | | 77.4629 |
| 73 | Ta | L1-N1 | | 1.11514810 | 0.01 | | **11.116** | | | | | | 77.5428 |
| 73 | Ta | LG8' | | 1.11574930 | 0.001 | | **11.110** | | | | | | 77.5846 |
| 73 | Ta | Lv | | 1.11590004 | 0.02 | C | **11.109** | | | | | | 77.5951 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | Ta | L2-O3 | | 1.11685150 | 0.01 | | **11.099** | | | | | | 77.6612 |
| 73 | Ta | L2-O2 | | 1.11785350 | 0.01 | | **11.089** | | | | | | 77.7309 |
| 73 | Ta | LG8 | | 1.12070000 | 0.06 | C | **11.061** | | | | | | 77.9288 |
| 73 | Ta | SLG1' | | 1.13168140 | 1 | | **10.954** | | | | | | 78.6924 |
| 73 | Ta | L2-N5 | | 1.13679170 | 0.01 | | **10.904** | | | | | | 79.0478 |
| 73 | Ta | LG1 | | 1.13820004 | 11.34 | C | **10.891** | | | | | | 79.1457 |
| 73 | Ta | L2-N3 | | 1.15550005 | 0.01 | C | **10.728** | | | | | | 80.3487 |
| 73 | Ta | L2-N2 | | 1.16000000 | 0.01 | | **10.686** | | | | | | 80.6616 |
| 73 | Ta | LG5 | | 1.17309999 | 0.39 | C | **10.567** | | | | | | 81.5725 |
| 73 | Ta | LB9 | | 1.24960005 | 0.73 | C | **9.920** | | | | | | 86.8920 |
| 73 | Ta | LB10 | | 1.25372740 | 0.001 | | **9.887** | | | | | | 87.1790 |
| 73 | Ta | LIII | ABS | 1.25477123 | | BB | **9.879** | | | | | | 87.2516 |
| 73 | Ta | LB5 | | 1.25580001 | 0.45 | C | **9.871** | | | | | | 87.3231 |
| 73 | Ta | Lu | | 1.25810003 | 0.06 | C | **9.853** | | | | | | 87.4831 |
| 73 | Ta | L3-O3 | | 1.25923850 | 0.01 | | **9.844** | | | | | | 87.5622 |
| 73 | Ta | L3-O2 | | 1.26024060 | 0.01 | | **9.836** | | | | | | 87.6319 |
| 73 | Ta | LB7 | | 1.26409996 | 0.21 | C | **9.806** | | | | | | 87.9003 |
| 73 | Ta | SLB2^3 | | 1.26996010 | 1 | | **9.761** | | | | | | 88.3078 |
| 73 | Ta | SLB2^2 | | 1.27597230 | 1 | | **9.715** | | | | | | 88.7258 |
| 73 | Ta | SLB2^1 | | 1.27797630 | 1 | | **9.700** | | | | | | 88.8652 |
| 73 | Ta | LB2 | | 1.28489995 | 20.76 | C | **9.647** | | | | | | 89.3466 |
| 73 | Ta | LB15 | | 1.28609270 | 0.001 | | **9.638** | | | | | | 89.4295 |
| 73 | Ta | LB3 | | 1.30700004 | 13.33 | C | **9.484** | | | | | | 90.8834 |
| 73 | Ta | L3-N3 | | 1.30853790 | 0.01 | | **9.473** | | | | | | 90.9903 |
| 73 | Ta | L3-N2 | | 1.31665430 | 0.01 | | **9.415** | | | | | | 91.5547 |
| 73 | Ta | L2-M5 | | 1.31900001 | 0.01 | C | **9.398** | | | | | | 91.7178 |
| 73 | Ta | LB1 | | 1.32710004 | 57.81 | C | **9.341** | | | | | | 92.2810 |
| 73 | Ta | LB6 | | 1.33109999 | 1.23 | C | **9.313** | | | | | | 92.5592 |
| 73 | Ta | LB4 | | 1.34599996 | 10.45 | C | **9.210** | | | | | | 93.5952 |
| 73 | Ta | LB17 | | 1.38670003 | 0.05 | C | **8.939** | | | | | | 96.4254 |
| 73 | Ta | L2-M2 | | 1.43050003 | 0.01 | C | **8.666** | | | | | | 99.4710 |
| 73 | Ta | Ln | | 1.47119999 | 1.58 | C | **8.426** | | | | | | 102.3011 |
| 73 | Ta | SLA^X | | 1.51585590 | 1 | | **8.178** | | | | | | 105.4063 |
| 73 | Ta | SLAA | | 1.51775970 | 1 | | **8.167** | | | | | | 105.5387 |
| 73 | Ta | SLA' | | 1.51906230 | 1 | | **8.160** | | | | | | 105.6293 |
| 73 | Ta | SLA^Y | | 1.52056540 | 1 | | **8.152** | | | | | | 105.7338 |
| 73 | Ta | LA1 | | 1.52219999 | 100 | C | **8.143** | | | | | | 105.8475 |
| 73 | Ta | SLAS | | 1.52517460 | 1 | | **8.128** | | | | | | 106.0543 |
| 73 | Ta | LA2 | | 1.53330004 | 11.36 | C | **8.085** | | | | | | 106.6193 |
| 73 | Ta | Ls | | 1.61255080 | 0.01 | | **7.687** | | | | | | 112.1301 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | Ta | Lt | | 1.64380002 | 0.1 | C | **7.541** | | | | | | 114.3030 |
| 73 | Ta | Ll | | 1.72870004 | 5.15 | C | **7.171** | | | | | | 120.2066 |
| 73 | Ta | MI | ABS | 4.57847858 | | BB | **2.707** | | | | | 146.6454 | |
| 73 | Ta | MII | ABS | 5.02228703 | | BB | **2.468** | | | | | 160.8603 | |
| 73 | Ta | M1-N3 | | 5.40000010 | 0.5 | C | **2.296** | | | | | 172.9581 | |
| 73 | Ta | M2-N4 | | 5.57000017 | 0.2 | C | **2.225** | | | | 60.5505 | 178.4031 | |
| 73 | Ta | MIII | ABS | 5.65110301 | | BB | **2.194** | | | | 61.4322 | 181.0008 | |
| 73 | Ta | M3-O4 | | 5.67000008 | 0.01 | C | **2.186** | | | | 61.6376 | 181.6060 | |
| 73 | Ta | M3-O5 | | 5.67143320 | 1 | | **2.186** | | | | 61.6532 | 181.6519 | |
| 73 | Ta | M3-O1 | | 5.82999992 | 0.01 | C | **2.126** | | | | 63.3769 | 186.7307 | |
| 73 | Ta | MG | | 6.31199980 | 1 | C | **1.964** | | | | 68.6167 | 202.1688 | |
| 73 | Ta | M3-N4 | | 6.35300016 | 0.01 | C | **1.951** | | | | 69.0624 | 203.4820 | |
| 73 | Ta | MIV | ABS | 6.91418693 | | BB | **1.793** | | | | 75.1630 | 221.4565 | |
| 73 | Ta | SMB3 | | 6.98989110 | 1 | | **1.773** | | | | 75.9859 | 223.8812 | |
| 73 | Ta | SMB2 | | 6.99890930 | 1 | | **1.771** | | | | 76.0840 | 224.1701 | |
| 73 | Ta | SMB1 | | 7.01373920 | 1 | | **1.767** | | | | 76.2452 | 224.6450 | |
| 73 | Ta | MB | | 7.02299976 | 45 | C | **1.765** | | | | 76.3458 | 224.9417 | |
| 73 | Ta | M4-O2 | | 7.09000015 | 0.01 | C | **1.748** | | | | 77.0742 | 227.0876 | |
| 73 | Ta | MV | ABS | 7.14570918 | | BB | **1.735** | | | | 77.6798 | 228.8719 | |
| 73 | Ta | SMA^4 | | 7.21434360 | 1 | | **1.718** | | | | 78.4259 | 231.0703 | |
| 73 | Ta | SMA^2 | | 7.22937390 | 1 | | **1.715** | | | | 78.5893 | 231.5517 | |
| 73 | Ta | SMA^1 | | 7.23939410 | 1 | | **1.712** | | | | 78.6982 | 231.8726 | |
| 73 | Ta | MA1 | | 7.25161870 | 100 | | **1.709** | | | | 78.8311 | 232.2642 | |
| 73 | Ta | MA1,2 | | 7.25199986 | 200 | C | **1.709** | | | | 78.8353 | 232.2764 | |
| 73 | Ta | MA2 | | 7.25863290 | 100 | | **1.708** | | | | 78.9074 | 232.4888 | |
| 73 | Ta | M4-O3 | | 7.29470560 | 1 | | **1.699** | | | | 79.2995 | 233.6442 | |
| 73 | Ta | M5-O3 | | 7.30000019 | 0.01 | C | **1.698** | | | | 79.3571 | 233.8138 | |
| 73 | Ta | M3-N1 | | 7.61199999 | 0.5 | C | **1.628** | | | | 82.7488 | 243.8069 | |
| 73 | Ta | M4-N3 | | 8.89999962 | 0.01 | C | **1.393** | | | | 96.7504 | | |
| 73 | Ta | MZ1 | | 9.31599998 | 0.1 | C | **1.331** | | | | 101.2727 | | |
| 73 | Ta | MZ2 | | 9.32999992 | 0.01 | C | **1.329** | | | | 101.4249 | | |
| 73 | Ta | NI | ABS | 21.92488064 | | BB | **0.565** | | 62.6425 | 99.3521 | 238.3417 | | |
| 73 | Ta | NII | ABS | 26.67495697 | | BB | **0.465** | | 76.2142 | 120.8770 | 289.9790 | | |
| 73 | Ta | NIII | ABS | 30.65147095 | | BB | **0.404** | 60.0169 | 87.5756 | 138.8965 | 333.2070 | | |
| 73 | Ta | NIV | ABS | 51.38217986 | | BB | **0.241** | 100.6085 | 146.8062 | 232.8372 | 558.5670 | | |
| 73 | Ta | NV | ABS | 54.07117314 | | BB | **0.229** | 105.8736 | 154.4891 | 245.0223 | 587.7986 | | |
| 73 | Ta | N4-N6 | | 58.20000000 | 1 | | **0.213** | 113.9580 | 166.2857 | 263.7320 | 632.6824 | | |
| 73 | Ta | N5-N6 | | 61.10000000 | 1 | | **0.203** | 119.6364 | 174.5714 | 276.8733 | 664.2078 | | |
| 73 | Ta | OI | ABS | 174.38143460 | | BB | **0.071** | | | | | | |
| 73 | Ta | OII | ABS | 276.13630290 | | BB | **0.045** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 73 | Ta | OIII | ABS | 340.61868132 | | BB | **0.036** | | | | | | |
| 73 | Ta | NVI | ABS | 495.94080000 | | BB | **0.025** | | | | | | |
| 73 | Ta | NVII | ABS | 495.94080000 | | BB | **0.025** | | | | | | |
| 74 | W | K | ABS | 0.17833182 | | BB | **69.511** | | | | | | |
| 74 | W | KB4 | | 0.17896077 | 0.001 | | **69.267** | | | | | | |
| 74 | W | KB2 | | 0.17946178 | 5 | | **69.073** | | | | | | |
| 74 | W | KB5 | | 0.18316926 | 0.05 | | **67.675** | | | | | | |
| 74 | W | KB1 | | 0.18437168 | 15 | | **67.234** | | | | | | |
| 74 | W | KB3 | | 0.18517330 | 15 | | **66.943** | | | | | | |
| 74 | W | KA1 | | 0.20902137 | 100 | | **59.305** | | | | | | |
| 74 | W | KA2 | | 0.21383107 | 50 | | **57.971** | | | | | | |
| 74 | W | KL1 | | 0.21590000 | 0.01 | | **57.415** | | | | | | |
| 74 | W | LI | ABS | 1.02468801 | | BB | **12.097** | | | | | | 71.2525 |
| 74 | W | L1-O4 | | 1.02506650 | 0.01 | | **12.093** | | | | | | 71.2789 |
| 74 | W | LG4 | | 1.02830005 | 0.98 | C | **12.055** | | | | | | 71.5037 |
| 74 | W | LG4' | | 1.02867370 | 0.01 | | **12.050** | | | | | | 71.5297 |
| 74 | W | L1-O1 | | 1.03170000 | 0.01 | | **12.015** | | | | | | 71.7401 |
| 74 | W | LG11 | | 1.04639995 | 0.11 | C | **11.846** | | | | | | 72.7623 |
| 74 | W | L1-N4 | | 1.04650970 | 0.01 | | **11.845** | | | | | | 72.7699 |
| 74 | W | LG3 | | 1.06219995 | 3.62 | C | **11.670** | | | | | | 73.8610 |
| 74 | W | SLG2' | | 1.06564830 | 1 | | **11.632** | | | | | | 74.1008 |
| 74 | W | LG2 | | 1.06819999 | 2.7 | C | **11.605** | | | | | | 74.2782 |
| 74 | W | LII | ABS | 1.07402287 | | BB | **11.542** | | | | | | 74.6831 |
| 74 | W | LG6 | | 1.07459998 | 0.37 | C | **11.535** | | | | | | 74.7232 |
| 74 | W | Lv | | 1.07729995 | 0.02 | C | **11.507** | | | | | | 74.9110 |
| 74 | W | L2-O3 | | 1.07887490 | 0.01 | | **11.490** | | | | | | 75.0205 |
| 74 | W | LG8 | | 1.08130002 | 0.06 | C | **11.464** | | | | | | 75.1891 |
| 74 | W | LG1 | | 1.09870005 | 11.39 | C | **11.282** | | | | | | 76.3990 |
| 74 | W | L2-N3 | | 1.11510003 | 0.01 | C | **11.116** | | | | | | 77.5394 |
| 74 | W | L2-N2 | | 1.12180000 | 0.01 | | **11.050** | | | | | | 78.0053 |
| 74 | W | LG5 | | 1.13259995 | 0.39 | C | **10.945** | | | | | | 78.7563 |
| 74 | W | LB9 | | 1.20790005 | 0.77 | C | **10.262** | | | | | | 83.9924 |
| 74 | W | LB10 | | 1.21224380 | 0.001 | | **10.226** | | | | | | 84.2944 |
| 74 | W | LIII | ABS | 1.21473136 | | BB | **10.205** | | | | | | 84.4674 |
| 74 | W | LB5 | | 1.21560001 | 0.66 | C | **10.197** | | | | | | 84.5278 |
| 74 | W | LB7' | | 1.21875690 | 0.01 | | **10.171** | | | | | | 84.7473 |
| 74 | W | Lu | | 1.21879995 | 0.06 | C | **10.171** | | | | | | 84.7503 |
| 74 | W | L3-O2 | | 1.22106160 | 0.01 | | **10.152** | | | | | | 84.9076 |
| 74 | W | LB7 | | 1.22430003 | 0.22 | C | **10.125** | | | | | | 85.1327 |
| 74 | W | SLB2^4 | | 1.22597150 | 1 | | **10.111** | | | | | | 85.2490 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 74 | W | SLB2^3 | | 1.23048060 | 1 | | **10.074** | | | | | | 85.5625 |
| 74 | W | SLB2^2 | | 1.23569110 | 1 | | **10.032** | | | | | | 85.9248 |
| 74 | W | SLB2^1 | | 1.23869710 | 1 | | **10.007** | | | | | | 86.1339 |
| 74 | W | LB2 | | 1.24500000 | 20.97 | C | **9.957** | | | | | | 86.5721 |
| 74 | W | LB15 | | 1.24631250 | 0.001 | | **9.946** | | | | | | 86.6634 |
| 74 | W | LB3 | | 1.26289999 | 13.51 | C | **9.816** | | | | | | 87.8168 |
| 74 | W | L3-N3 | | 1.26715450 | 0.01 | | **9.783** | | | | | | 88.1127 |
| 74 | W | L2-M5 | | 1.27276580 | 0.01 | | **9.739** | | | | | | 88.5028 |
| 74 | W | L3-N2 | | 1.27647330 | 0.01 | | **9.711** | | | | | | 88.7607 |
| 74 | W | LB1 | | 1.28199995 | 57.74 | C | **9.669** | | | | | | 89.1450 |
| 74 | W | LB6 | | 1.29009998 | 1.26 | C | **9.609** | | | | | | 89.7082 |
| 74 | W | LB4 | | 1.30180001 | 10.75 | C | **9.522** | | | | | | 90.5218 |
| 74 | W | L1-M1 | | 1.33650005 | 0.01 | C | **9.275** | | | | | | 92.9347 |
| 74 | W | LB17 | | 1.33889997 | 0.05 | C | **9.258** | | | | | | 93.1015 |
| 74 | W | Ln | | 1.42130005 | 1.57 | C | **8.722** | | | | | | 98.8313 |
| 74 | W | SLA^X | | 1.47016370 | 1 | | **8.432** | | | | | | 102.2291 |
| 74 | W | SLAA | | 1.47166680 | 1 | | **8.423** | | | | | | 102.3336 |
| 74 | W | SLA' | | 1.47357060 | 1 | | **8.412** | | | | | | 102.4660 |
| 74 | W | LA1 | | 1.47669995 | 100 | C | **8.394** | | | | | | 102.6836 |
| 74 | W | SLAS | | 1.48078520 | 1 | | **8.371** | | | | | | 102.9677 |
| 74 | W | LA2 | | 1.48769999 | 11.37 | C | **8.332** | | | | | | 103.4485 |
| 74 | W | Ls | | 1.56415320 | 0.01 | | **7.925** | | | | | | 108.7647 |
| 74 | W | Lt | | 1.59549999 | 0.1 | C | **7.769** | | | | | | 110.9444 |
| 74 | W | Ll | | 1.67859995 | 5.22 | C | **7.385** | | | | | | 116.7229 |
| 74 | W | MI | ABS | 4.39726202 | | BB | **2.819** | | | | | 140.8412 | |
| 74 | W | M1-O2 | | 4.44000006 | 0.01 | C | **2.792** | | | | | 142.2100 | |
| 74 | W | MII | ABS | 4.81514622 | | BB | **2.574** | | | | | 154.2257 | |
| 74 | W | M1-N3 | | 5.17199993 | 0.5 | C | **2.397** | | | | | 165.6555 | |
| 74 | W | M2-N4 | | 5.35699987 | 0.1 | C | **2.314** | | | | | 171.5809 | |
| 74 | W | MIII | ABS | 5.43556335 | | BB | **2.281** | | | | | 174.0972 | |
| 74 | W | M3-O5 | | 5.44898480 | 1 | | **2.275** | | | | | 174.5271 | |
| 74 | W | M3-O1 | | 5.62799978 | 0.01 | C | **2.203** | | | | 61.1810 | 180.2608 | |
| 74 | W | MG | | 6.09200001 | 1 | C | **2.035** | | | | 66.2251 | 195.1224 | |
| 74 | W | M3-N4 | | 6.13399982 | 0.1 | C | **2.021** | | | | 66.6817 | 196.4676 | |
| 74 | W | M2-N1 | | 6.28000021 | 0.01 | C | **1.974** | | | | 68.2688 | 201.1439 | |
| 74 | W | MIV | ABS | 6.62455653 | | BB | **1.871** | | | | 72.0144 | 212.1798 | |
| 74 | W | SMB3 | | 6.72074850 | 1 | | **1.844** | | | | 73.0601 | 215.2608 | |
| 74 | W | SMB2 | | 6.73237200 | 1 | | **1.841** | | | | 73.1865 | 215.6331 | |
| 74 | W | SMB1 | | 6.74800350 | 1 | | **1.837** | | | | 73.3564 | 216.1337 | |
| 74 | W | MB | | 6.75699997 | 45 | C | **1.835** | | | | 73.4542 | 216.4219 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 74 | W | M4-O2 | | 6.80600023 | 0.01 | C | **1.821** | | | | 73.9869 | 217.9913 | |
| 74 | W | MV | ABS | 6.85304002 | | BB | **1.809** | | | | 74.4982 | 219.4980 | |
| 74 | W | SMA^4 | | 6.94700470 | 1 | | **1.784** | | | | 75.5197 | 222.5076 | |
| 74 | W | SMA^2 | | 6.96093270 | 1 | | **1.781** | | | | 75.6711 | 222.9537 | |
| 74 | W | SMA^1 | | 6.97025150 | 1 | | **1.778** | | | | 75.7724 | 223.2522 | |
| 74 | W | MA1 | | 6.98299980 | 100 | C | **1.775** | | | | 75.9110 | 223.6605 | |
| 74 | W | MA2 | | 6.99200010 | 100 | C | **1.773** | | | | 76.0089 | 223.9488 | |
| 74 | W | M5-O3 | | 7.00500011 | 0.01 | C | **1.770** | | | | 76.1502 | 224.3651 | |
| 74 | W | M3-N1 | | 7.36000013 | 0.5 | C | **1.684** | | | | 80.0093 | 235.7355 | |
| 74 | W | M4-N3 | | 8.57299995 | 0.01 | C | **1.446** | | | | 93.1956 | | |
| 74 | W | MZ1 | | 8.96199989 | 0.01 | C | **1.383** | | | | 97.4244 | | |
| 74 | W | MZ2 | | 8.99300003 | 0.01 | C | **1.378** | | | | 97.7614 | | |
| 74 | W | NI | ABS | 20.83784874 | | BB | **0.595** | | | 94.4262 | 226.5247 | | |
| 74 | W | NII | ABS | 25.22074858 | | BB | **0.492** | | 72.0593 | 114.2873 | 274.1705 | | |
| 74 | W | NIII | ABS | 29.15241006 | | BB | **0.425** | | 83.2926 | 132.1035 | 316.9109 | | |
| 74 | W | NIV | ABS | 47.90772798 | | BB | **0.259** | 93.8053 | 136.8792 | 217.0928 | 520.7968 | | |
| 74 | W | NV | ABS | 50.52371638 | | BB | **0.245** | 98.9276 | 144.3535 | 228.9471 | 549.2348 | | |
| 74 | W | N2-N4 | | 54.00000000 | 1 | | **0.230** | 105.7343 | 154.2857 | 244.6998 | 587.0249 | | |
| 74 | W | N4-N6 | | 55.80000000 | 1 | | **0.222** | 109.2587 | 159.4286 | 252.8564 | 606.5924 | | |
| 74 | W | N5-N7 | | 58.40000000 | 1 | | **0.212** | 114.3497 | 166.8571 | 264.6383 | 634.8565 | | |
| 74 | W | N5-N6 | | 59.50000000 | 1 | | **0.208** | 116.5035 | 170.0000 | 269.6229 | 646.8145 | | |
| 74 | W | OI | ABS | 160.81089494 | | BB | **0.077** | | | | | | |
| 74 | W | OII | ABS | 264.92564103 | | BB | **0.047** | | | | | | |
| 74 | W | NVI | ABS | 339.68547945 | | BB | **0.036** | | | | | | |
| 74 | W | OIII | ABS | 348.27303371 | | BB | **0.036** | | | | | | |
| 74 | W | NVII | ABS | 369.00357143 | | BB | **0.034** | | | | | | |
| 75 | Re | K | ABS | 0.17297911 | | BB | **71.662** | | | | | | |
| 75 | Re | KB4 | | 0.17360000 | 0.001 | | **71.406** | | | | | | |
| 75 | Re | KB2 | | 0.17415108 | 5 | | **71.180** | | | | | | |
| 75 | Re | KB5 | | 0.17770000 | 0.05 | | **69.758** | | | | | | |
| 75 | Re | KB1 | | 0.17886057 | 15 | | **69.305** | | | | | | |
| 75 | Re | KB3 | | 0.17966219 | 15 | | **68.996** | | | | | | |
| 75 | Re | KA1 | | 0.20280885 | 100 | | **61.122** | | | | | | |
| 75 | Re | KA2 | | 0.20761854 | 50 | | **59.706** | | | | | | |
| 75 | Re | LI | ABS | 0.98976746 | | BB | **12.524** | | | | | | 68.8243 |
| 75 | Re | L1-O4 | | 0.98989556 | 0.01 | | **12.523** | | | | | | 68.8332 |
| 75 | Re | LG4 | | 0.99299997 | 0.93 | C | **12.483** | | | | | | 69.0491 |
| 75 | Re | LG4' | | 0.99330243 | 0.01 | | **12.480** | | | | | | 69.0701 |
| 75 | Re | L1-O1 | | 0.99640869 | 0.01 | | **12.441** | | | | | | 69.2861 |
| 75 | Re | LG11 | | 1.01139998 | 0.1 | C | **12.256** | | | | | | 70.3286 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | Re | L1-N4 | | 1.01183980 | 0.01 | | **12.251** | | | | | | 70.3591 |
| 75 | Re | SLG2'' | | 1.02155940 | 1 | | **12.134** | | | | | | 71.0350 |
| 75 | Re | LG3 | | 1.02629995 | 3.31 | C | **12.078** | | | | | | 71.3646 |
| 75 | Re | SLB2' | | 1.02967580 | 1 | | **12.039** | | | | | | 71.5994 |
| 75 | Re | LG2 | | 1.03250003 | 2.5 | C | **12.006** | | | | | | 71.7958 |
| 75 | Re | LII | ABS | 1.03677825 | | BB | **11.956** | | | | | | 72.0933 |
| 75 | Re | LG6 | | 1.03719997 | 0.48 | C | **11.951** | | | | | | 72.1226 |
| 75 | Re | L2-O3 | | 1.03959580 | 0.01 | | **11.924** | | | | | | 72.2892 |
| 75 | Re | Lv | | 1.04050004 | 0.02 | C | **11.914** | | | | | | 72.3521 |
| 75 | Re | L1-N1 | | 1.04190040 | 0.01 | | **11.897** | | | | | | 72.4494 |
| 75 | Re | LG8 | | 1.04410005 | 0.06 | C | **11.872** | | | | | | 72.6024 |
| 75 | Re | SLG1' | | 1.05552790 | 1 | | **11.744** | | | | | | 73.3970 |
| 75 | Re | LG1 | | 1.06120002 | 11.08 | C | **11.681** | | | | | | 73.7914 |
| 75 | Re | L2-N3 | | 1.07690001 | 0.01 | C | **11.511** | | | | | | 74.8832 |
| 75 | Re | L2-N2 | | 1.08390000 | 0.01 | | **11.436** | | | | | | 75.3699 |
| 75 | Re | LG5 | | 1.09410000 | 0.38 | C | **11.330** | | | | | | 76.0792 |
| 75 | Re | SLB2^7 | | 1.16084020 | 1 | | **10.678** | | | | | | 80.7200 |
| 75 | Re | SLB2^5 | | 1.16655170 | 1 | | **10.626** | | | | | | 81.1172 |
| 75 | Re | LB9 | | 1.16799998 | 0.73 | C | **10.613** | | | | | | 81.2179 |
| 75 | Re | LB10 | | 1.17206280 | 0.001 | | **10.576** | | | | | | 81.5004 |
| 75 | Re | LIII | ABS | 1.17685495 | | BB | **10.533** | | | | | | 81.8336 |
| 75 | Re | LB5 | | 1.17739999 | 0.9 | C | **10.528** | | | | | | 81.8715 |
| 75 | Re | Lu | | 1.18169999 | 0.06 | C | **10.490** | | | | | | 82.1705 |
| 75 | RF | LB7 | | 1.18630004 | 0.23 | C | **10.449** | | | | | | 82.4904 |
| 75 | Re | SLB2^4 | | 1.18859610 | 1 | | **10.429** | | | | | | 82.6500 |
| 75 | Re | SLB2^3 | | 1.19330560 | 1 | | **10.388** | | | | | | 82.9775 |
| 75 | Re | SLB2^2 | | 1.19791490 | 1 | | **10.348** | | | | | | 83.2980 |
| 75 | Re | SLB2^1 | | 1.20062040 | 1 | | **10.325** | | | | | | 83.4862 |
| 75 | Re | LB2 | | 1.20690000 | 21.22 | C | **10.271** | | | | | | 83.9228 |
| 75 | Re | LB15 | | 1.20813550 | 0.001 | | **10.260** | | | | | | 84.0087 |
| 75 | Re | LB3 | | 1.22049999 | 12.22 | C | **10.156** | | | | | | 84.8685 |
| 75 | Re | L3-N3 | | 1.22827610 | 0.01 | | **10.092** | | | | | | 85.4092 |
| 75 | Re | L2-M5 | | 1.23048060 | 0.01 | | **10.074** | | | | | | 85.5625 |
| 75 | Re | LB1 | | 1.23880005 | 55.1 | C | **10.006** | | | | | | 86.1410 |
| 75 | Re | LB6 | | 1.25119996 | 1.29 | C | **9.907** | | | | | | 87.0033 |
| 75 | Re | LB4 | | 1.25929999 | 9.87 | C | **9.844** | | | | | | 87.5665 |
| 75 | Re | LB17 | | 1.29289997 | 0.05 | C | **9.588** | | | | | | 89.9029 |
| 75 | Re | L2-M2 | | 1.33659995 | 0.01 | C | **9.274** | | | | | | 92.9416 |
| 75 | Re | Ln | | 1.37360001 | 1.51 | C | **9.024** | | | | | | 95.5144 |
| 75 | Re | SLA^X | | 1.42697670 | 1 | | **8.687** | | | | | | 99.2260 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 75 | Re | SLA^IX | | 1.42968210 | 1 | | **8.670** | | | | | | 99.4142 |
| 75 | Re | SLA' | | 1.43028330 | 1 | | **8.667** | | | | | | 99.4560 |
| 75 | Re | LA1 | | 1.43309999 | 100 | C | **8.650** | | | | | | 99.6518 |
| 75 | Re | SLAS | | 1.43799890 | 1 | | **8.620** | | | | | | 99.9925 |
| 75 | Re | LA2 | | 1.44420004 | 11.32 | C | **8.583** | | | | | | 100.4237 |
| 75 | Re | Ls | | 1.51780000 | 0.01 | | **8.167** | | | | | | 105.5415 |
| 75 | Re | Lt | | 1.54949999 | 0.11 | C | **8.000** | | | | | | 107.7458 |
| 75 | Re | Ll | | 1.63090003 | 5.3 | C | **7.601** | | | | | | 113.4060 |
| 75 | Re | MI | ABS | 4.22912303 | | BB | **2.931** | | | | | 135.4558 | |
| 75 | Re | MII | ABS | 4.62355310 | | BB | **2.681** | | | | | 148.0891 | |
| 75 | Re | MIII | ABS | 5.23740971 | | BB | **2.367** | | | | | 167.7505 | |
| 75 | Re | MG | | 5.88500023 | 1 | C | **2.106** | | | | 63.9748 | 188.4923 | |
| 75 | Re | M3-N4 | | 5.93100023 | 0.01 | C | **2.090** | | | | 64.4749 | 189.9657 | |
| 75 | Re | MIV | ABS | 6.36180409 | | BB | **1.949** | | | | 69.1581 | 203.7640 | |
| 75 | Re | MB | | 6.50400019 | 45 | C | **1.906** | | | | 70.7039 | 208.3185 | |
| 75 | Re | MV | ABS | 6.58480004 | | BB | **1.883** | | | | 71.5822 | 210.9064 | |
| 75 | Re | MA1 | | 6.72856430 | 100 | | **1.842** | | | | 73.1451 | 215.5111 | |
| 75 | Re | MA2 | | 6.72856430 | 100 | | **1.842** | | | | 73.1451 | 215.5111 | |
| 75 | Re | MA1,2 | | 6.72900009 | 200 | C | **1.842** | | | | 73.1498 | 215.5251 | |
| 75 | Re | M4-N3 | | 8.23900032 | 0.01 | C | **1.505** | | | | 89.5648 | | |
| 75 | Re | MZ1 | | 8.62899971 | 0.01 | C | **1.437** | | | | 93.8044 | | |
| 75 | Re | MZ2 | | 8.66399956 | 0.01 | C | **1.431** | | | | 94.1849 | | |
| 75 | Re | NI | ABS | 19.83763200 | | BB | **0.625** | | | 89.8938 | 215.6515 | | |
| 75 | Re | NII | ABS | 23.93998841 | | BB | **0.518** | | 68.4000 | 108.4835 | 260.2476 | | |
| 75 | Re | NIII | ABS | 27.89945995 | | BB | **0.444** | | 79.7127 | 126.4258 | 303.2903 | | |
| 75 | Re | NIV | ABS | 45.29967117 | | BB | **0.274** | 88.6987 | 129.4276 | 205.2744 | 492.4451 | | |
| 75 | Re | NV | ABS | 47.64996157 | | BB | **0.260** | 93.3006 | 136.1427 | 215.9247 | 517.9947 | | |
| 75 | Re | OI | ABS | 149.74057971 | | BB | **0.083** | | | | | | |
| 75 | Re | OII | ABS | 271.89736842 | | BB | **0.046** | | | | | | |
| 75 | Re | NVI | ABS | 305.38226601 | | BB | **0.041** | | | | | | |
| 75 | Re | NVII | ABS | 305.38226601 | | BB | **0.041** | | | | | | |
| 75 | Re | OIII | ABS | 358.33872832 | | BB | **0.035** | | | | | | |
| 76 | Os | K | ABS | 0.16784061 | | BB | **73.856** | | | | | | |
| 76 | Os | KB4 | | 0.16840000 | 0.001 | | **73.610** | | | | | | |
| 76 | Os | KB2 | | 0.16904077 | 5 | | **73.331** | | | | | | |
| 76 | Os | KB5 | | 0.17250000 | 0.05 | | **71.861** | | | | | | |
| 76 | Os | KB1 | | 0.17365007 | 15 | | **71.385** | | | | | | |
| 76 | Os | KB3 | | 0.17445168 | 15 | | **71.057** | | | | | | |
| 76 | Os | KA1 | | 0.19679673 | 100 | | **62.989** | | | | | | |
| 76 | Os | KA2 | | 0.20160642 | 50 | | **61.486** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 | Os | L1-O4 | | 0.95602728 | 0.01 | | **12.966** | | | | | | 66.4782 |
| 76 | Os | LI | ABS | 0.95608575 | | BB | **12.965** | | | | | | 66.4822 |
| 76 | Os | LG4 | | 0.95999998 | 0.81 | C | **12.913** | | | | | | 66.7544 |
| 76 | Os | LG4' | | 0.96023577 | 0.01 | | **12.909** | | | | | | 66.7708 |
| 76 | Os | L1-O1 | | 0.96320000 | 0.01 | | **12.870** | | | | | | 66.9769 |
| 76 | Os | LG11 | | 0.97700000 | 0.09 | C | **12.688** | | | | | | 67.9365 |
| 76 | Os | L1-N4 | | 0.97716990 | 0.01 | | **12.686** | | | | | | 67.9483 |
| 76 | Os | SLG2'' | | 0.98749071 | 1 | | **12.553** | | | | | | 68.6660 |
| 76 | Os | LG3 | | 0.99199998 | 2.8 | C | **12.496** | | | | | | 68.9796 |
| 76 | Os | SLG2' | | 0.99480546 | 1 | | **12.461** | | | | | | 69.1746 |
| 76 | Os | LG2 | | 0.99820000 | 2.14 | C | **12.418** | | | | | | 69.4107 |
| 76 | Os | LII | ABS | 1.00109164 | | BB | **12.382** | | | | | | 69.6118 |
| 76 | Os | LG6 | | 1.00119996 | 0.62 | C | **12.381** | | | | | | 69.6193 |
| 76 | Os | L2-O3 | | 1.00462530 | 0.01 | | **12.339** | | | | | | 69.8575 |
| 76 | Os | Lv | | 1.00520003 | 0.03 | C | **12.332** | | | | | | 69.8974 |
| 76 | Os | LG8 | | 1.00810003 | 0.07 | C | **12.296** | | | | | | 70.0991 |
| 76 | Os | SLG1' | | 1.01965560 | 1 | | **12.157** | | | | | | 70.9026 |
| 76 | Os | LG1 | | 1.02520001 | 10.96 | C | **12.091** | | | | | | 71.2882 |
| 76 | Os | L2-N3 | | 1.04050004 | 0.01 | C | **11.914** | | | | | | 72.3521 |
| 76 | Os | LG5 | | 1.05710006 | 0.37 | C | **11.726** | | | | | | 73.5063 |
| 76 | Os | LB9 | | 1.12940001 | 0.64 | C | **10.976** | | | | | | 78.5338 |
| 76 | Os | SLB5^2 | | 1.13108020 | 1 | | **10.959** | | | | | | 78.6506 |
| 76 | Os | LB10 | | 1.13348500 | 0.001 | | **10.936** | | | | | | 78.8178 |
| 76 | Os | LIII | ABS | 1.14052378 | | BB | **10.869** | | | | | | 79.3073 |
| 76 | Os | LB5 | | 1.14069998 | 1.18 | C | **10.867** | | | | | | 79.3195 |
| 76 | Os | Lu | | 1.14549994 | 0.07 | C | **10.821** | | | | | | 79.6533 |
| 76 | Os | LB7 | | 1.14960003 | 0.24 | C | **10.783** | | | | | | 79.9384 |
| 76 | Os | SLB2^2 | | 1.16144140 | 1 | | **10.673** | | | | | | 80.7618 |
| 76 | Os | SLB2^1 | | 1.16364580 | 1 | | **10.653** | | | | | | 80.9151 |
| 76 | Os | LB2 | | 1.17019999 | 21.46 | C | **10.593** | | | | | | 81.3708 |
| 76 | Os | LB15 | | 1.17156180 | 0.001 | | **10.581** | | | | | | 81.4655 |
| 76 | Os | LB3 | | 1.17980003 | 10.24 | C | **10.507** | | | | | | 82.0384 |
| 76 | Os | L2-M5 | | 1.18980000 | 0.01 | | **10.419** | | | | | | 82.7338 |
| 76 | Os | LB1 | | 1.19739997 | 54.01 | C | **10.352** | | | | | | 83.2622 |
| 76 | Os | L3-N2 | | 1.20090000 | 0.01 | | **10.322** | | | | | | 83.5056 |
| 76 | Os | LB6 | | 1.21370006 | 1.31 | C | **10.213** | | | | | | 84.3957 |
| 76 | Os | LB4 | | 1.21860003 | 8.37 | C | **10.172** | | | | | | 84.7364 |
| 76 | Os | LB17 | | 1.24820006 | 0.05 | C | **9.931** | | | | | | 86.7946 |
| 76 | Os | L2-M2 | | 1.29340005 | 0.01 | C | **9.584** | | | | | | 89.9377 |
| 76 | Os | Ln | | 1.32809997 | 1.48 | C | **9.334** | | | | | | 92.3506 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 76 | Os | SLA^X | | 1.38589390 | 1 | | **8.944** | | | | | | 96.3693 |
| 76 | Os | LA1 | | 1.39150000 | 100 | C | **8.908** | | | | | | 96.7591 |
| 76 | Os | LA2 | | 1.40250003 | 11.37 | C | **8.839** | | | | | | 97.5240 |
| 76 | Os | Ls | | 1.47350000 | 0.01 | | **8.413** | | | | | | 102.4611 |
| 76 | Os | Lt | | 1.50520003 | 0.11 | C | **8.235** | | | | | | 104.6654 |
| 76 | Os | Ll | | 1.58519995 | 5.39 | C | **7.820** | | | | | | 110.2282 |
| 76 | Os | MI | ABS | 4.06708873 | | BB | **3.048** | | | | | 130.2659 | |
| 76 | Os | MII | ABS | 4.44041258 | | BB | **2.792** | | | | | 142.2232 | |
| 76 | Os | M1-N3 | | 4.78999996 | 0.5 | C | **2.588** | | | | | 153.4203 | |
| 76 | Os | M2-N4 | | 4.95499992 | 0.2 | C | **2.502** | | | | | 158.7051 | |
| 76 | Os | MIII | ABS | 5.04579196 | | BB | **2.457** | | | | | 161.6131 | |
| 76 | Os | MG | | 5.68200016 | 1 | C | **2.182** | | | | 61.7681 | 181.9904 | |
| 76 | Os | M3-N4 | | 5.72399998 | 0.1 | C | **2.166** | | | | 62.2246 | 183.3356 | |
| 76 | Os | M2-N1 | | 5.80999994 | 0.01 | C | **2.134** | | | | 63.1595 | 186.0901 | |
| 76 | Os | MIV | ABS | 6.10523931 | | BB | **2.030** | | | | 66.3690 | 195.5464 | |
| 76 | Os | SMB2 | | 6.24559070 | 1 | | **1.985** | | | | 67.8948 | 200.0418 | |
| 76 | Os | MB | | 6.26700020 | 45 | C | **1.978** | | | | 68.1275 | 200.7275 | |
| 76 | Os | MV | ABS | 6.32545278 | | BB | **1.960** | | | | 68.7629 | 202.5997 | |
| 76 | Os | SMA^4 | | 6.45300880 | 1 | | **1.921** | | | | 70.1496 | 206.6853 | |
| 76 | Os | SMA^2 | | 6.47204720 | 1 | | **1.915** | | | | 70.3565 | 207.2950 | |
| 76 | Os | MA1,2 | | 6.48999977 | 200 | C | **1.910** | | | | 70.5517 | 207.8700 | |
| 76 | Os | MA1 | | 6.49008350 | 100 | | **1.910** | | | | 70.5526 | 207.8727 | |
| 76 | Os | MA2 | | 6.49008350 | 100 | | **1.910** | | | | 70.5526 | 207.8727 | |
| 76 | Os | M3-N1 | | 6.88999987 | 0.5 | C | **1.799** | | | | 74.9000 | 220.6818 | |
| 76 | Os | MZ1 | | 8.31000042 | 0.01 | C | **1.492** | | | | 90.3366 | | |
| 76 | Os | MZ2 | | 8.35900021 | 0.01 | C | **1.483** | | | | 90.8693 | | |
| 76 | Os | NI | ABS | 18.94928932 | | BB | **0.654** | | | 85.8683 | 205.9945 | | |
| 76 | Os | NII | ABS | 22.68713632 | | BB | **0.546** | | 64.8204 | 102.8062 | 246.6280 | | |
| 76 | Os | NIII | ABS | 26.48124733 | | BB | **0.468** | | 75.6607 | 119.9992 | 287.8732 | | |
| 76 | Os | NIV | ABS | 42.84215619 | | BB | **0.289** | 83.8867 | 122.4062 | 194.1383 | 465.7298 | | |
| 76 | Os | NV | ABS | 45.44912023 | | BB | **0.273** | 88.9913 | 129.8546 | 205.9517 | 494.0697 | | |
| 76 | Os | N4-N6 | | 51.90000000 | 1 | | **0.239** | 101.6224 | 148.2857 | 235.1837 | 564.1961 | | |
| 76 | Os | N5-N6 | | 54.70000000 | 1 | | **0.227** | 107.1049 | 156.2857 | 247.8718 | 594.6345 | | |
| 76 | Os | OI | ABS | 148.13046595 | | BB | **0.084** | | | | | | |
| 76 | Os | OII | ABS | 213.76758621 | | BB | **0.058** | | | | | | |
| 76 | Os | NVI | ABS | 267.78660907 | | BB | **0.046** | | | | | | |
| 76 | Os | NVII | ABS | 267.78660907 | | BB | **0.046** | | | | | | |
| 76 | Os | OIII | ABS | 273.09515419 | | BB | **0.045** | | | | | | |
| 77 | Ir | K | ABS | 0.16290050 | | BB | **76.096** | | | | | | |
| 77 | Ir | KB4 | | 0.16352966 | 0.001 | | **75.803** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | Ir | KB2 | | 0.16403067 | 5 | | **75.571** | | | | | | |
| 77 | Ir | KB5 | | 0.16743754 | 0.05 | | **74.034** | | | | | | |
| 77 | Ir | KB1 | | 0.16853976 | 15 | | **73.549** | | | | | | |
| 77 | Ir | KB3 | | 0.16934138 | 15 | | **73.201** | | | | | | |
| 77 | Ir | KA1 | | 0.19098501 | 100 | | **64.906** | | | | | | |
| 77 | Ir | KA2 | | 0.19589491 | 50 | | **63.279** | | | | | | |
| 77 | Ir | LI | ABS | 0.92398703 | | BB | **13.416** | | | | | | 64.2502 |
| 77 | Ir | L1-O4 | | 0.92426325 | 0.01 | | **13.412** | | | | | | 64.2694 |
| 77 | Ir | LG4 | | 0.92799997 | 0.71 | C | **13.358** | | | | | | 64.5293 |
| 77 | Ir | LG4' | | 0.92827133 | 0.01 | | **13.354** | | | | | | 64.5481 |
| 77 | Ir | L1-O1 | | 0.93418325 | 0.01 | | **13.269** | | | | | | 64.9592 |
| 77 | IR | LG11 | | 0.94529998 | 0.08 | C | **13.113** | | | | | | 65.7322 |
| 77 | Ir | L1-N4 | | 0.94580668 | 0.01 | | **13.106** | | | | | | 65.7675 |
| 77 | Ir | LG3 | | 0.95950001 | 2.4 | C | **12.919** | | | | | | 66.7196 |
| 77 | Ir | SLG2' | | 0.96223981 | 1 | | **12.882** | | | | | | 66.9102 |
| 77 | Ir | LG2 | | 0.96560001 | 1.87 | C | **12.838** | | | | | | 67.1438 |
| 77 | Ir | LII | ABS | 0.96681405 | | BB | **12.821** | | | | | | 67.2282 |
| 77 | Ir | LG6 | | 0.96719998 | 0.86 | C | **12.816** | | | | | | 67.2551 |
| 77 | Ir | L2-O3 | | 0.96985516 | 0.01 | | **12.781** | | | | | | 67.4397 |
| 77 | Ir | Lv | | 0.97180003 | 0.03 | C | **12.756** | | | | | | 67.5749 |
| 77 | Ir | LG8 | | 0.97420001 | 0.06 | C | **12.724** | | | | | | 67.7418 |
| 77 | Ir | L1-N1 | | 0.97686930 | 0.01 | | **12.690** | | | | | | 67.9274 |
| 77 | Ir | SLG1' | | 0.98578728 | 1 | | **12.575** | | | | | | 68.5476 |
| 77 | Ir | LG1 | | 0.99110001 | 10.68 | C | **12.507** | | | | | | 68.9170 |
| 77 | Ir | L2-N3 | | 1.00559998 | 0.01 | C | **12.327** | | | | | | 69.9252 |
| 77 | Ir | LG5 | | 1.02190006 | 0.36 | C | **12.130** | | | | | | 71.0587 |
| 77 | Ir | LB9 | | 1.09280002 | 0.57 | C | **11.343** | | | | | | 75.9888 |
| 77 | Ir | SLB2^7 | | 1.09370480 | 1 | | **11.334** | | | | | | 76.0517 |
| 77 | Ir | LB10 | | 1.09701150 | 0.001 | | **11.300** | | | | | | 76.2816 |
| 77 | Ir | SLB5^1 | | 1.09901550 | 1 | | **11.279** | | | | | | 76.4210 |
| 77 | Ir | LIII | ABS | 1.10551038 | | BB | **11.213** | | | | | | 76.8726 |
| 77 | Ir | LB5 | | 1.10609996 | 1.65 | C | **11.207** | | | | | | 76.9136 |
| 77 | Ir | L3-O2 | | 1.10953670 | 0.01 | | **11.172** | | | | | | 77.1526 |
| 77 | Ir | LB7' | | 1.11154080 | 0.01 | | **11.152** | | | | | | 77.2919 |
| 77 | Ir | Lu | | 1.11160004 | 0.07 | C | **11.151** | | | | | | 77.2961 |
| 77 | Ir | LB7 | | 1.11500001 | 0.25 | C | **11.117** | | | | | | 77.5325 |
| 77 | Ir | SLB2^3 | | 1.12306400 | 1 | | **11.038** | | | | | | 78.0932 |
| 77 | Ir | SLB2^2 | | 1.12767330 | 1 | | **10.993** | | | | | | 78.4137 |
| 77 | Ir | SLB2^1 | | 1.12977760 | 1 | | **10.972** | | | | | | 78.5600 |
| 77 | Ir | LB2 | | 1.13559997 | 21.6 | C | **10.916** | | | | | | 78.9649 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | Ir | LB15 | | 1.13709230 | 0.001 | | **10.901** | | | | | | 79.0687 |
| 77 | Ir | LB3 | | 1.14100003 | 8.74 | C | **10.864** | | | | | | 79.3404 |
| 77 | Ir | L2-M5 | | 1.14871570 | 0.01 | | **10.791** | | | | | | 79.8769 |
| 77 | Ir | L3-N3 | | 1.15593030 | 0.01 | | **10.724** | | | | | | 80.3786 |
| 77 | Ir | LB1 | | 1.15810001 | 52.1 | C | **10.704** | | | | | | 80.5295 |
| 77 | Ir | L3-N2 | | 1.16514890 | 0.01 | | **10.639** | | | | | | 81.0196 |
| 77 | Ir | LB6 | | 1.17820001 | 1.33 | C | **10.521** | | | | | | 81.9271 |
| 77 | Ir | LB4 | | 1.17980003 | 7.27 | C | **10.507** | | | | | | 82.0384 |
| 77 | Ir | LB17 | | 1.20710003 | 0.05 | C | **10.269** | | | | | | 83.9367 |
| 77 | Ir | Ln | | 1.28489995 | 1.43 | C | **9.647** | | | | | | 89.3466 |
| 77 | Ir | SLA^X | | 1.34591330 | 1 | | **9.210** | | | | | | 93.5892 |
| 77 | Ir | LA1 | | 1.35140002 | 100 | C | **9.173** | | | | | | 93.9707 |
| 77 | Ir | LA2 | | 1.36269999 | 11.28 | C | **9.097** | | | | | | 94.7565 |
| 77 | Ir | Ls | | 1.43238760 | 0.01 | | **8.654** | | | | | | 99.6023 |
| 77 | Ir | Lt | | 1.46350002 | 0.11 | C | **8.470** | | | | | | 101.7657 |
| 77 | Ir | Ll | | 1.54209995 | 5.43 | C | **8.038** | | | | | | 107.2312 |
| 77 | Ir | MI | ABS | 3.90664524 | | BB | **3.173** | | | | | 125.1270 | |
| 77 | Ir | MII | ABS | 4.26256403 | | BB | **2.908** | | | | | 136.5269 | |
| 77 | Ir | M1-N3 | | 4.63100004 | 0.5 | C | **2.677** | | | | | 148.3276 | |
| 77 | Ir | M2-N4 | | 4.78000021 | 0.2 | C | **2.593** | | | | | 153.1000 | |
| 77 | Ir | MIII | ABS | 4.86083036 | | BB | **2.550** | | | | | 155.6889 | |
| 77 | Ir | M3-O4 | | 4.86899996 | 0.5 | C | **2.546** | | | | | 155.9506 | |
| 77 | Ir | MG | | 5.50000000 | 1 | C | **2.254** | | | | | 176.1611 | |
| 77 | Ir | M3-N4 | | 5.53999996 | 0.1 | C | **2.238** | | | | 60.2244 | 177.4422 | |
| 77 | Ir | MIV | ABS | 5.85913709 | | BB | **2.116** | | | | 63.6937 | 187.6640 | |
| 77 | Ir | SMB3 | | 6.00350260 | 1 | | **2.065** | | | | 65.2631 | 192.2879 | |
| 77 | Ir | SMB2 | | 6.01853290 | 1 | | **2.060** | | | | 65.4265 | 192.7693 | |
| 77 | Ir | SMB1 | | 6.03005620 | 1 | | **2.056** | | | | 65.5517 | 193.1384 | |
| 77 | Ir | MB | | 6.03800011 | 45 | C | **2.053** | | | | 65.6381 | 193.3928 | |
| 77 | Ir | MV | ABS | 6.07651441 | | BB | **2.040** | | | | 66.0568 | 194.6264 | |
| 77 | Ir | SMA^4 | | 6.22785490 | 1 | | **1.990** | | | | 67.7020 | 199.4737 | |
| 77 | Ir | SMA^2 | | 6.24178300 | 1 | | **1.986** | | | | 67.8534 | 199.9198 | |
| 77 | Ir | SMA^1 | | 6.24899750 | 1 | | **1.984** | | | | 67.9318 | 200.1509 | |
| 77 | Ir | MA1 | | 6.26200008 | 100 | C | **1.980** | | | | 68.0731 | 200.5674 | |
| 77 | Ir | MA2 | | 6.27500010 | 100 | C | **1.975** | | | | 68.2145 | 200.9838 | |
| 77 | Ir | M3-N1 | | 6.66900015 | 0.5 | C | **1.859** | | | | 72.4976 | 213.6033 | |
| 77 | Ir | M4-N3 | | 7.64499998 | 0.01 | C | **1.621** | | | | 83.1075 | 244.8639 | |
| 77 | Ir | MZ1 | | 8.02099991 | 0.01 | C | **1.545** | | | | 87.1949 | 256.9069 | |
| 77 | Ir | MZ2 | | 8.06499958 | 0.01 | C | **1.537** | | | | 87.6732 | 258.3162 | |
| 77 | Ir | NI | ABS | 17.96626576 | | BB | **0.690** | | | 81.4137 | 195.3082 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 77 | Ir | NII | ABS | 21.48417952 | | BB | **0.577** | | 61.3834 | 97.3551 | 233.5509 | | |
| 77 | Ir | NIII | ABS | 25.08298604 | | BB | **0.494** | | 71.6657 | 113.6630 | 272.6729 | | |
| 77 | Ir | NIV | ABS | 39.81541426 | | BB | **0.311** | 77.9603 | 113.7583 | 180.4227 | 432.8266 | | |
| 77 | Ir | NV | ABS | 42.04313327 | | BB | **0.295** | 82.3222 | 120.1232 | 190.5175 | 457.0438 | | |
| 77 | Ir | N4-N6 | | 50.20000000 | 1 | | **0.247** | 98.2937 | 143.4286 | 227.4802 | 545.7157 | | |
| 77 | Ir | N5-N6 | | 52.80000000 | 1 | | **0.235** | 103.3846 | 150.8571 | 239.2620 | 573.9799 | | |
| 77 | Ir | OI | ABS | 130.23655462 | | BB | **0.095** | 255.0086 | | | | | |
| 77 | Ir | NVI | ABS | 195.56025237 | | BB | **0.063** | | | | | | |
| 77 | Ir | OII | ABS | 196.80190476 | | BB | **0.063** | | | | | | |
| 77 | Ir | NVII | ABS | 204.93421488 | | BB | **0.060** | | | | | | |
| 77 | Ir | OIII | ABS | 245.51524752 | | BB | **0.050** | | | | | | |
| 78 | Pt | Kd1 | | 0.15811876 | 0.01 | | **78.397** | | | | | | |
| 78 | Pt | Kd2 | | 0.15811876 | 0.01 | | **78.397** | | | | | | |
| 78 | Pt | K | ABS | 0.15815488 | | BB | **78.379** | | | | | | |
| 78 | Pt | KB4 | | 0.15882017 | 0.001 | | **78.051** | | | | | | |
| 78 | Pt | KB2 | | 0.15932118 | 5 | | **77.805** | | | | | | |
| 78 | Pt | KB5 | | 0.16262785 | 0.05 | | **76.223** | | | | | | |
| 78 | Pt | KB1 | | 0.16362987 | 15 | | **75.756** | | | | | | |
| 78 | Pt | KB3 | | 0.16453168 | 15 | | **75.341** | | | | | | |
| 78 | Pt | KA1 | | 0.18547390 | 100 | | **66.834** | | | | | | |
| 78 | Pt | KA2 | | 0.19038380 | 50 | | **65.111** | | | | | | |
| 78 | Pt | LI | ABS | 0.89327157 | | BB | **13.877** | | | | | | 62.1144 |
| 78 | Pt | L1-O5 | | 0.89340103 | 0.01 | | **13.875** | | | | | | 62.1234 |
| 78 | Pt | L1-O4 | | 0.89430285 | 0.01 | | **13.861** | | | | | | 62.1861 |
| 78 | Pt | LG4 | | 0.89709997 | 0.67 | C | **13.818** | | | | | | 62.3806 |
| 78 | Pt | LG4' | | 0.89750931 | 0.01 | | **13.812** | | | | | | 62.4091 |
| 78 | Pt | L1-O1 | | 0.89911255 | 0.01 | | **13.787** | | | | | | 62.5206 |
| 78 | Pt | LG11 | | 0.91469997 | 0.08 | C | **13.552** | | | | | | 63.6044 |
| 78 | Pt | SLG2'' | | 0.92476426 | 1 | | **13.404** | | | | | | 64.3043 |
| 78 | Pt | LG3 | | 0.92809999 | 2.18 | C | **13.356** | | | | | | 64.5362 |
| 78 | Pt | SLG2' | | 0.93097678 | 1 | | **13.315** | | | | | | 64.7363 |
| 78 | Pt | SLG2 | | 0.93348183 | 1 | | **13.279** | | | | | | 64.9105 |
| 78 | Pt | LII | ABS | 0.93414403 | | BB | **13.270** | | | | | | 64.9565 |
| 78 | Pt | LG2 | | 0.93440002 | 1.71 | C | **13.266** | | | | | | 64.9743 |
| 78 | Pt | LG6 | | 0.93440002 | 0.95 | C | **13.266** | | | | | | 64.9743 |
| 78 | Pt | Lv | | 0.93949997 | 0.03 | C | **13.194** | | | | | | 65.3289 |
| 78 | Pt | LG8 | | 0.94119739 | 0.07 | W,F | **13.170** | | | | | | 65.4470 |
| 78 | Pt | LB8 | | 0.94120002 | 0.07 | C | **13.170** | | | | | | 65.4471 |
| 78 | Pt | L1-N1 | | 0.94560627 | 0.01 | | **13.109** | | | | | | 65.7535 |
| 78 | Pt | SLG1' | | 0.95312142 | 1 | | **13.006** | | | | | | 66.2761 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | Pt | LG1 | | 0.95810002 | 10.56 | C | **12.938** | | | | | | 66.6223 |
| 78 | Pt | L2-N3 | | 0.97229999 | 0.01 | C | **12.749** | | | | | | 67.6097 |
| 78 | Pt | L2-N2 | | 0.98248061 | 0.01 | | **12.617** | | | | | | 68.3176 |
| 78 | Pt | SLG5 | | 0.98578728 | 1 | | **12.575** | | | | | | 68.5476 |
| 78 | Pt | LG5 | | 0.98790002 | 0.35 | C | **12.548** | | | | | | 68.6945 |
| 78 | Pt | LB9 | | 1.05760002 | 0.53 | C | **11.721** | | | | | | 73.5411 |
| 78 | Pt | SLB2^7 | | 1.05913510 | 1 | | **11.704** | | | | | | 73.6479 |
| 78 | Pt | LB10 | | 1.06184060 | 0.001 | | **11.674** | | | | | | 73.8360 |
| 78 | Pt | SLB2^6 | | 1.06414520 | 1 | | **11.649** | | | | | | 73.9962 |
| 78 | Pt | SLB2^6 | | 1.06614930 | 1 | | **11.627** | | | | | | 74.1356 |
| 78 | Pt | SLB2^5 | | 1.06785270 | 1 | | **11.608** | | | | | | 74.2540 |
| 78 | Pt | SLB5^3 | | 1.06835370 | 1 | | **11.603** | | | | | | 74.2889 |
| 78 | Pt | SLB5^2 | | 1.06995700 | 1 | | **11.586** | | | | | | 74.4004 |
| 78 | Pt | SLB5^1 | | 1.07105920 | 1 | | **11.574** | | | | | | 74.4770 |
| 78 | Pt | LIII | ABS | 1.07219316 | | BB | **11.561** | | | | | | 74.5559 |
| 78 | Pt | LB5 | | 1.07260001 | 1.87 | C | **11.557** | | | | | | 74.5842 |
| 78 | Pt | L3-O2 | | 1.07606930 | 0.01 | | **11.520** | | | | | | 74.8254 |
| 78 | Pt | LB7' | | 1.07887490 | 0.01 | | **11.490** | | | | | | 75.0205 |
| 78 | Pt | Lu | | 1.07910001 | 0.08 | C | **11.487** | | | | | | 75.0361 |
| 78 | Pt | LB7 | | 1.08190000 | 0.26 | C | **11.458** | | | | | | 75.2308 |
| 78 | Pt | SLB2^4 | | 1.08799330 | 1 | | **11.393** | | | | | | 75.6545 |
| 78 | Pt | SLB2^3 | | 1.08999740 | 1 | | **11.373** | | | | | | 75.7939 |
| 78 | Pt | SLB2^2 | | 1.09510770 | 1 | | **11.319** | | | | | | 76.1492 |
| 78 | Pt | SLB2^1 | | 1.09661070 | 1 | | **11.304** | | | | | | 76.2538 |
| 78 | Pt | LB2 | | 1.10230005 | 21.83 | C | **11.246** | | | | | | 76.6494 |
| 78 | Pt | LB3 | | 1.10370004 | 7.83 | C | **11.231** | | | | | | 76.7467 |
| 78 | Pt | LB1 | | 1.12010002 | 51.1 | C | **11.067** | | | | | | 77.8871 |
| 78 | Pt | L3-N3 | | 1.12236260 | 0.01 | | **11.045** | | | | | | 78.0444 |
| 78 | Pt | L3-N2 | | 1.13138080 | 0.01 | | **10.957** | | | | | | 78.6715 |
| 78 | Pt | LB4 | | 1.14250004 | 6.62 | C | **10.850** | | | | | | 79.4447 |
| 78 | Pt | LB6 | | 1.14370000 | 1.36 | C | **10.839** | | | | | | 79.5281 |
| 78 | Pt | LB17 | | 1.16690004 | 0.05 | C | **10.623** | | | | | | 81.1414 |
| 78 | Pt | L1-M1 | | 1.17737350 | 0.01 | | **10.529** | | | | | | 81.8697 |
| 78 | Pt | Ln | | 1.24319994 | 1.4 | C | **9.971** | | | | | | 86.4470 |
| 78 | Pt | SLAA | | 1.30543170 | 1 | | **9.496** | | | | | | 90.7743 |
| 78 | Pt | SLA^X | | 1.30783650 | 1 | | **9.478** | | | | | | 90.9415 |
| 78 | Pt | SLA' | | 1.31054200 | 1 | | **9.459** | | | | | | 91.1296 |
| 78 | Pt | SLA^Y | | 1.31134360 | 1 | | **9.453** | | | | | | 91.1854 |
| 78 | Pt | LA1 | | 1.31320000 | 100 | C | **9.440** | | | | | | 91.3145 |
| 78 | Pt | SLA2^Z | | 1.31374840 | 1 | | **9.436** | | | | | | 91.3526 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | Pt | SLA3^Z | | 1.31475040 | 1 | | **9.428** | | | | | | 91.4223 |
| 78 | Pt | SLAS | | 1.31996090 | 1 | | **9.391** | | | | | | 91.7846 |
| 78 | Pt | LA2 | | 1.32459998 | 11.39 | C | **9.358** | | | | | | 92.1072 |
| 78 | Pt | Lt | | 1.42240000 | 0.12 | C | **8.715** | | | | | | 98.9078 |
| 78 | Pt | Ll | | 1.49969995 | 5.54 | C | **8.266** | | | | | | 104.2829 |
| 78 | Pt | MI | ABS | 3.76168689 | | BB | **3.295** | | | | | 120.4841 | |
| 78 | Pt | MII | ABS | 4.09665290 | | BB | **3.026** | | | | | 131.2129 | |
| 78 | Pt | M1-N3 | | 4.46000004 | 1 | C | **2.779** | | | | | 142.8506 | |
| 78 | Pt | M2-N4 | | 4.60099983 | 0.5 | C | **2.694** | | | | | 147.3667 | |
| 78 | Pt | MIII | ABS | 4.68682241 | | BB | **2.645** | | | | | 150.1156 | |
| 78 | Pt | M3-O5 | | 4.69145760 | 1 | | **2.642** | | | | | 150.2640 | |
| 78 | Pt | M3-O4 | | 4.69399977 | 0.5 | C | **2.641** | | | | | 150.3455 | |
| 78 | Pt | M3-O1 | | 4.87599993 | 0.01 | C | **2.542** | | | | | 156.1748 | |
| 78 | Pt | MG | | 5.31899977 | 3 | C | **2.331** | | | | | 170.3638 | |
| 78 | Pt | M3-N4 | | 5.35699987 | 1 | C | **2.314** | | | | | 171.5809 | |
| 78 | Pt | MIV | ABS | 5.63082792 | | BB | **2.201** | | | | 61.2118 | 180.3514 | |
| 78 | Pt | SMB3 | | 5.79698630 | 1 | | **2.138** | | | | 63.0181 | 185.6733 | |
| 78 | Pt | SMB2 | | 5.80680610 | 1 | | **2.135** | | | | 63.1248 | 185.9878 | |
| 78 | Pt | SMB1 | | 5.81873010 | 1 | | **2.130** | | | | 63.2544 | 186.3698 | |
| 78 | Pt | MB | | 5.82800007 | 45 | C | **2.127** | | | | 63.3552 | 186.6667 | |
| 78 | Pt | MV | ABS | 5.84394796 | | BB | **2.121** | | | | 63.5286 | 187.1775 | |
| 78 | Pt | M5-O3 | | 5.98699999 | 0.01 | C | **2.070** | | | | 65.0837 | 191.7593 | |
| 78 | Pt | SMA^4 | | 6.00710990 | 1 | | **2.064** | | | | 65.3023 | 192.4034 | |
| 78 | Pt | SMA^2 | | 6.02344280 | 1 | | **2.058** | | | | 65.4798 | 192.9266 | |
| 78 | Pt | SMA^1 | | 6.03576770 | 1 | | **2.054** | | | | 65.6138 | 193.3213 | |
| 78 | Pt | MA1 | | 6.04699993 | 100 | C | **2.050** | | | | 65.7359 | 193.6811 | |
| 78 | Pt | MA2 | | 6.05800009 | 100 | C | **2.046** | | | | 65.8555 | 194.0334 | |
| 78 | Pt | M3-N1 | | 6.45499992 | 1 | C | **1.920** | | | | 70.1712 | 206.7490 | |
| 78 | Pt | M4-N3 | | 7.37099981 | 0.01 | C | **1.682** | | | | 80.1289 | 236.0878 | |
| 78 | Pt | MZ1 | | 7.73799992 | 2 | C | **1.602** | | | | 84.1185 | 247.8426 | |
| 78 | Pt | MZ2 | | 7.78999996 | 1 | C | **1.591** | | | | 84.6838 | 249.5081 | |
| 78 | Pt | NI | ABS | 17.17246537 | | BB | **0.722** | | | 77.8166 | 186.6790 | | |
| 78 | Pt | NII | ABS | 20.35213395 | | BB | **0.609** | | | 92.2252 | 221.2446 | | |
| 78 | Pt | NIII | ABS | 23.88924855 | | BB | **0.519** | | 68.2550 | 108.2536 | 259.6960 | | |
| 78 | Pt | NIV | ABS | 37.48041112 | | BB | **0.331** | 73.3882 | 107.0869 | 169.8416 | 407.4432 | | |
| 78 | Pt | NV | ABS | 39.57395468 | | BB | **0.313** | 77.4875 | 113.0684 | 179.3285 | 430.2018 | | |
| 78 | Pt | N4-N6 | | 48.10000000 | 1 | | **0.258** | 94.1818 | 137.4286 | 217.9641 | 522.8870 | | |
| 78 | Pt | N5-N6 | | 50.90000000 | 1 | | **0.244** | 99.6643 | 145.4286 | 230.6522 | 553.3253 | | |
| 78 | Pt | OI | ABS | 121.91268437 | | BB | **0.102** | 238.7102 | | | | | |
| 78 | Pt | NVI | ABS | 166.87106326 | | BB | **0.074** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 78 | Pt | NVII | ABS | 174.38143460 | | BB | **0.071** | | | | | | |
| 78 | Pt | OII | ABS | 189.87013783 | | BB | **0.065** | | | | | | |
| 78 | Pt | OIII | ABS | 239.81663443 | | BB | **0.052** | | | | | | |
| 79 | Au | K | ABS | 0.15358978 | | BB | **80.708** | | | | | | |
| 79 | Au | KB4 | | 0.15421088 | 0.001 | | **80.383** | | | | | | |
| 79 | Au | KB2 | | 0.15471189 | 5 | | **80.123** | | | | | | |
| 79 | Au | KB5 | | 0.15791835 | 0.05 | | **78.496** | | | | | | |
| 79 | Au | KB1 | | 0.15902057 | 15 | | **77.952** | | | | | | |
| 79 | Au | KB3 | | 0.15982219 | 15 | | **77.561** | | | | | | |
| 79 | Au | KA1 | | 0.18016320 | 100 | | **68.804** | | | | | | |
| 79 | Au | KA2 | | 0.18507309 | 50 | | **66.979** | | | | | | |
| 79 | Au | KL1 | | 0.18670000 | 0.01 | | **66.395** | | | | | | |
| 79 | Au | L1-O5 | | 0.86344063 | 0.01 | | **14.357** | | | | | | 60.0401 |
| 79 | Au | LI | ABS | 0.86383981 | | BB | **14.350** | | | | | | 60.0678 |
| 79 | Au | L1-O4 | | 0.86404185 | 0.01 | | **14.347** | | | | | | 60.0819 |
| 79 | Au | LG4 | | 0.86769998 | 0.62 | C | **14.286** | | | | | | 60.3363 |
| 79 | Au | LG4' | | 0.86815013 | 0.01 | | **14.279** | | | | | | 60.3676 |
| 79 | Au | L1-O1 | | 0.87070000 | 0.01 | | **14.237** | | | | | | 60.5449 |
| 79 | Au | LG11 | | 0.88499999 | 0.07 | C | **14.007** | | | | | | 61.5392 |
| 79 | Au | L1-N4 | | 0.88568548 | 0.01 | | **13.996** | | | | | | 61.5869 |
| 79 | Au | SLG2'' | | 0.89480386 | 1 | | **13.853** | | | | | | 62.2209 |
| 79 | Au | LG3 | | 0.89800000 | 1.94 | C | **13.804** | | | | | | 62.4432 |
| 79 | Au | SLG2' | | 0.90141719 | 1 | | **13.752** | | | | | | 62.6808 |
| 79 | Au | LII | ABS | 0.90278732 | | BB | **13.731** | | | | | | 62.7761 |
| 79 | Au | LG6 | | 0.90310001 | 1.09 | C | **13.726** | | | | | | 62.7978 |
| 79 | Au | LG2 | | 0.90450001 | 1.54 | C | **13.705** | | | | | | 62.8952 |
| 79 | Au | L2-O3 | | 0.90632709 | 0.01 | | **13.677** | | | | | | 63.0222 |
| 79 | Au | L2-O2 | | 0.90742931 | 0.01 | | **13.661** | | | | | | 63.0989 |
| 79 | Au | Lv | | 0.90859997 | 0.03 | C | **13.643** | | | | | | 63.1803 |
| 79 | Au | LG8 | | 0.91000003 | 0.07 | C | **13.622** | | | | | | 63.2776 |
| 79 | Au | L1-N1 | | 0.91304062 | 0.01 | | **13.577** | | | | | | 63.4891 |
| 79 | Au | SLG1' | | 0.92205880 | 1 | | **13.444** | | | | | | 64.1161 |
| 79 | Au | LG1 | | 0.92670000 | 10.51 | C | **13.376** | | | | | | 64.4389 |
| 79 | Au | L2-N3 | | 0.94040000 | 0.01 | C | **13.182** | | | | | | 65.3915 |
| 79 | Au | LG5 | | 0.95580000 | 0.35 | C | **12.969** | | | | | | 66.4624 |
| 79 | Au | LB9 | | 1.02370000 | 0.49 | C | **12.109** | | | | | | 71.1838 |
| 79 | Au | LB10 | | 1.02787210 | 0.001 | | **12.060** | | | | | | 71.4740 |
| 79 | Au | SLB2^7 | | 1.03198040 | 1 | | **12.012** | | | | | | 71.7596 |
| 79 | Au | SLB5^1 | | 1.03408460 | 1 | | **11.987** | | | | | | 71.9059 |
| 79 | Au | SLB2^5 | | 1.03749150 | 1 | | **11.948** | | | | | | 72.1429 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | Au | L3-P1 | | 1.03879410 | 0.01 | | **11.933** | | | | | | 72.2334 |
| 79 | Au | LIII | ABS | 1.04025775 | | BB | **11.916** | | | | | | 72.3352 |
| 79 | Au | LB5 | | 1.04059994 | 2.19 | C | **11.912** | | | | | | 72.3590 |
| 79 | Au | L3-O2 | | 1.04490650 | 0.01 | | **11.863** | | | | | | 72.6585 |
| 79 | Au | Lu | | 1.04770005 | 0.09 | C | **11.832** | | | | | | 72.8527 |
| 79 | Au | LB7 | | 1.04990005 | 0.27 | C | **11.807** | | | | | | 73.0057 |
| 79 | Au | SLB2^4 | | 1.05482650 | 1 | | **11.752** | | | | | | 73.3483 |
| 79 | Au | SLB2^3 | | 1.05873430 | 1 | | **11.708** | | | | | | 73.6200 |
| 79 | Au | SLB2^2 | | 1.06344380 | 1 | | **11.656** | | | | | | 73.9475 |
| 79 | Au | SLB2^1 | | 1.06504710 | 1 | | **11.639** | | | | | | 74.0590 |
| 79 | Au | LB3 | | 1.06809998 | 6.9 | C | **11.606** | | | | | | 74.2712 |
| 79 | Au | LB2 | | 1.07050002 | 21.95 | C | **11.580** | | | | | | 74.4381 |
| 79 | Au | LB15 | | 1.07186080 | 0.001 | | **11.565** | | | | | | 74.5327 |
| 79 | Au | L2-M5 | | 1.07576870 | 0.01 | | **11.523** | | | | | | 74.8045 |
| 79 | Au | LB1 | | 1.08369994 | 50.19 | C | **11.439** | | | | | | 75.3560 |
| 79 | Au | L3-N3 | | 1.09029800 | 0.01 | | **11.369** | | | | | | 75.8148 |
| 79 | Au | L3-N2 | | 1.09961670 | 0.01 | | **11.273** | | | | | | 76.4628 |
| 79 | Au | LB4 | | 1.10669994 | 5.94 | C | **11.201** | | | | | | 76.9553 |
| 79 | Au | LB6 | | 1.11109996 | 1.39 | C | **11.157** | | | | | | 77.2613 |
| 79 | Au | LB17 | | 1.12810004 | 0.05 | C | **10.988** | | | | | | 78.4434 |
| 79 | Au | L1-M1 | | 1.13528870 | 0.01 | | **10.919** | | | | | | 78.9433 |
| 79 | Au | L2-M2 | | 1.17080000 | 0.01 | | **10.588** | | | | | | 81.4126 |
| 79 | Au | Ln | | 1.20290005 | 1.38 | C | **10.305** | | | | | | 83.6447 |
| 79 | Au | SLAA | | 1.26835690 | 1 | | **9.773** | | | | | | 88.1963 |
| 79 | Au | SLA^X | | 1.27126280 | 1 | | **9.751** | | | | | | 88.3983 |
| 79 | Au | SLA^IX | | 1.27296620 | 1 | | **9.738** | | | | | | 88.5168 |
| 79 | Au | SLA' | | 1.27406840 | 1 | | **9.729** | | | | | | 88.5934 |
| 79 | Au | SLA^Y | | 1.27476980 | 1 | | **9.724** | | | | | | 88.6422 |
| 79 | Au | LA1 | | 1.27660000 | 100 | C | **9.710** | | | | | | 88.7695 |
| 79 | Au | SLA2^Z | | 1.27717470 | 1 | | **9.706** | | | | | | 88.8094 |
| 79 | Au | SLA3^Z | | 1.27807650 | 1 | | **9.699** | | | | | | 88.8721 |
| 79 | Au | SLAS | | 1.28338720 | 1 | | **9.659** | | | | | | 89.2414 |
| 79 | Au | LA2 | | 1.28799999 | 11.39 | C | **9.624** | | | | | | 89.5622 |
| 79 | Au | Ls | | 1.35132420 | 0.01 | | **9.173** | | | | | | 93.9655 |
| 79 | Au | Lt | | 1.38360000 | 0.12 | C | **8.959** | | | | | | 96.2098 |
| 79 | Au | Ll | | 1.45980000 | 5.62 | C | **8.492** | | | | | | 101.5084 |
| 79 | Au | MI | ABS | 3.62011154 | | BB | **3.424** | | | | | 115.9496 | 251.7275 |
| 79 | Au | MII | ABS | 3.93878900 | | BB | **3.147** | | | | | 126.1566 | |
| 79 | Au | M1-N3 | | 4.30000019 | 1 | C | **2.883** | | | | | 137.7259 | |
| 79 | Au | M2-N4 | | 4.43200016 | 0.5 | C | **2.797** | | | | | 141.9538 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 79 | Au | MIII | ABS | 4.52005833 | | BB | **2.742** | | | | | 144.7742 | |
| 79 | Au | M3-O4 | | 4.52199984 | 0.5 | C | **2.741** | | | | | 144.8364 | |
| 79 | Au | M3-O5 | | 4.52311830 | 1 | | **2.741** | | | | | 144.8722 | |
| 79 | Au | M3-O1 | | 4.70300007 | 0.1 | C | **2.636** | | | | | 150.6337 | |
| 79 | Au | MG | | 5.14499998 | 3 | C | **2.409** | | | | | 164.7907 | |
| 79 | Au | M3-N4 | | 5.18599987 | 1 | C | **2.390** | | | | | 166.1039 | |
| 79 | Au | MIV | ABS | 5.41160141 | | BB | **2.291** | | | | | 173.3297 | |
| 79 | Au | SMB3 | | 5.59197300 | 1 | | **2.217** | | | | 60.7894 | 179.1069 | |
| 79 | Au | SMB2 | | 5.60419770 | 1 | | **2.212** | | | | 60.9223 | 179.4984 | |
| 79 | Au | SMB1 | | 5.61431810 | 1 | | **2.208** | | | | 61.0323 | 179.8226 | |
| 79 | Au | MV | ABS | 5.62112708 | | BB | **2.205** | | | | 61.1063 | 180.0407 | |
| 79 | Au | MB | | 5.62400007 | 50 | C | **2.204** | | | | 61.1376 | 180.1327 | |
| 79 | Au | M5-O3 | | 5.76700020 | 0.01 | C | **2.149** | | | | 62.6921 | 184.7129 | |
| 79 | Au | SMA^4 | | 5.80390020 | 1 | | **2.136** | | | | 63.0932 | 185.8948 | |
| 79 | Au | SMA^3 | | 5.81311880 | 1 | | **2.132** | | | | 63.1934 | 186.1900 | |
| 79 | Au | SMA^2 | | 5.81722710 | 1 | | **2.131** | | | | 63.2381 | 186.3216 | |
| 79 | Au | SMA^1 | | 5.82814910 | 1 | | **2.127** | | | | 63.3568 | 186.6714 | |
| 79 | Au | MA1 | | 5.84000015 | 100 | C | **2.123** | | | | 63.4857 | 187.0510 | |
| 79 | Au | MA2 | | 5.85400009 | 100 | C | **2.118** | | | | 63.6378 | 187.4994 | |
| 79 | Au | M3-N1 | | 6.25899982 | 1 | C | **1.981** | | | | 68.0405 | 200.4713 | |
| 79 | Au | M4-N3 | | 7.10099983 | 0.01 | C | **1.746** | | | | 77.1938 | 227.4399 | |
| 79 | Au | MZ1 | | 7.46600008 | 2 | C | **1.660** | | | | 81.1616 | 239.1306 | |
| 79 | Au | MZ2 | | 7.52299976 | 1 | C | **1.648** | | | | 81.7813 | 240.9563 | |
| 79 | Au | NI | ABS | 16.33964154 | | BB | **0.759** | | | 74.0427 | 177.6255 | | |
| 79 | Au | NII | ABS | 19.26133292 | | BB | **0.644** | | | 87.2823 | 209.3867 | | |
| 79 | Au | NIII | ABS | 22.73289329 | | BB | **0.545** | | 64.9511 | 103.0136 | 247.1254 | | |
| 79 | Au | NIV | ABS | 35.22306818 | | BB | **0.352** | 68.9682 | 100.6373 | 159.6125 | 382.9040 | | |
| 79 | Au | NV | ABS | 37.13243486 | | BB | **0.334** | 72.7069 | 106.0927 | 168.2648 | 403.6604 | | |
| 79 | Au | N4-N6 | | 46.80000000 | 1 | | **0.265** | 91.6364 | 133.7143 | 212.0732 | 508.7549 | | |
| 79 | Au | N5-N6 | | 49.40000000 | 1 | | **0.251** | 96.7273 | 141.1429 | 223.8550 | 537.0191 | | |
| 79 | Au | OI | ABS | 115.01410019 | | BB | **0.108** | 225.2024 | | | | | |
| 79 | Au | NVI | ABS | 143.50138889 | | BB | **0.086** | | | | | | |
| 79 | Au | NVII | ABS | 149.74057971 | | BB | **0.083** | | | | | | |
| 79 | Au | OII | ABS | 172.92217573 | | BB | **0.072** | | | | | | |
| 79 | Au | OIII | ABS | 230.88491620 | | BB | **0.054** | | | | | | |
| 80 | Hg | K | ABS | 0.14919587 | | BB | **83.085** | | | | | | |
| 80 | Hg | KB4 | | 0.14980000 | 0.001 | | **82.750** | | | | | | |
| 80 | Hg | KB2 | | 0.15030000 | 5 | | **82.475** | | | | | | |
| 80 | Hg | KB5 | | 0.15350000 | 0.05 | | **80.756** | | | | | | |
| 80 | Hg | KB1 | | 0.15450000 | 15 | | **80.233** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | Hg | KB3 | | 0.15490000 | 15 | | **80.026** | | | | | | |
| 80 | Hg | KA1 | | 0.17510000 | 100 | | **70.794** | | | | | | |
| 80 | Hg | KA2 | | 0.18000000 | 50 | | **68.867** | | | | | | |
| 80 | Hg | LI | ABS | 0.83551920 | | BB | **14.836** | | | | | | |
| 80 | Hg | LG4 | | 0.83960003 | 0.61 | C | **14.764** | | | | | | |
| 80 | Hg | LG4' | | 0.84009357 | 0.01 | | **14.755** | | | | | | |
| 80 | Hg | LG11 | | 0.85689998 | 0.07 | C | **14.466** | | | | | | |
| 80 | Hg | SLG2'' | | 0.86744871 | 1 | | **14.290** | | | | | | 60.3188 |
| 80 | Hg | LG3 | | 0.86930001 | 1.84 | C | **14.260** | | | | | | 60.4475 |
| 80 | Hg | SLG2' | | 0.87215821 | 1 | | **14.213** | | | | | | 60.6463 |
| 80 | Hg | LII | ABS | 0.87260059 | | BB | **14.206** | | | | | | 60.6770 |
| 80 | Hg | LG6 | | 0.87339997 | 1.19 | C | **14.193** | | | | | | 60.7326 |
| 80 | Hg | LG2 | | 0.87559998 | 1.47 | C | **14.157** | | | | | | 60.8856 |
| 80 | Hg | L2-O3 | | 0.87576548 | 0.01 | | **14.154** | | | | | | 60.8971 |
| 80 | Hg | L2-O2 | | 0.87837073 | 0.01 | | **14.112** | | | | | | 61.0783 |
| 80 | Hg | Lv | | 0.87900001 | 0.03 | C | **14.102** | | | | | | 61.1220 |
| 80 | Hg | LG8 | | 0.88010001 | 0.07 | C | **14.085** | | | | | | 61.1985 |
| 80 | Hg | SLG1' | | 0.89219861 | 1 | | **13.894** | | | | | | 62.0398 |
| 80 | Hg | LG1 | | 0.89660001 | 10.4 | C | **13.826** | | | | | | 62.3458 |
| 80 | Hg | L2-N3 | | 0.90910000 | 0.01 | C | **13.635** | | | | | | 63.2150 |
| 80 | Hg | LG5 | | 0.92470002 | 0.35 | C | **13.405** | | | | | | 64.2998 |
| 80 | Hg | LB9 | | 0.99089998 | 0.48 | C | **12.510** | | | | | | 68.9031 |
| 80 | Hg | LB10 | | 0.99560707 | 0.001 | | **12.451** | | | | | | 69.2304 |
| 80 | Hg | LIII | ABS | 1.00933091 | | BB | **12.281** | | | | | | 70.1847 |
| 80 | Hg | LB5 | | 1.00999999 | 2.43 | C | **12.273** | | | | | | 70.2312 |
| 80 | Hg | L3-O3 | | 1.01394400 | 0.01 | | **12.226** | | | | | | 70.5055 |
| 80 | Hg | L3-O2 | | 1.01554730 | 0.01 | | **12.206** | | | | | | 70.6169 |
| 80 | Hg | Lu | | 1.01769996 | 0.09 | C | **12.180** | | | | | | 70.7666 |
| 80 | Hg | LB7 | | 1.01960003 | 0.28 | C | **12.158** | | | | | | 70.8988 |
| 80 | Hg | LB3 | | 1.03380001 | 6.47 | C | **11.991** | | | | | | 71.8862 |
| 80 | Hg | LB2 | | 1.04009998 | 22.21 | C | **11.918** | | | | | | 72.3242 |
| 80 | Hg | LB15 | | 1.04149960 | 0.001 | | **11.902** | | | | | | 72.4216 |
| 80 | Hg | LB1 | | 1.04879999 | 49.38 | C | **11.819** | | | | | | 72.9292 |
| 80 | Hg | L3-N3 | | 1.05853390 | 0.01 | | **11.711** | | | | | | 73.6061 |
| 80 | Hg | LB4 | | 1.07239997 | 5.66 | C | **11.559** | | | | | | 74.5702 |
| 80 | Hg | LB6 | | 1.08000004 | 1.41 | C | **11.478** | | | | | | 75.0987 |
| 80 | Hg | LB17 | | 1.09179997 | 0.05 | C | **11.354** | | | | | | 75.9192 |
| 80 | Hg | Ln | | 1.16429996 | 1.36 | C | **10.647** | | | | | | 80.9606 |
| 80 | Hg | SLAA | | 1.23288540 | 1 | | **10.054** | | | | | | 85.7297 |
| 80 | Hg | SLA^X | | 1.23609190 | 1 | | **10.028** | | | | | | 85.9527 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80 | Hg | SLA^IX | | 1.23789550 | 1 | | **10.014** | | | | | | 86.0781 |
| 80 | Hg | SLA^Y | | 1.23939850 | 1 | | **10.002** | | | | | | 86.1826 |
| 80 | Hg | LA1 | | 1.24140000 | 100 | C | **9.986** | | | | | | 86.3218 |
| 80 | Hg | SLA1^Z | | 1.24170320 | 1 | | **9.983** | | | | | | 86.3429 |
| 80 | Hg | SLA3^Z | | 1.24290560 | 1 | | **9.973** | | | | | | 86.4265 |
| 80 | Hg | SLAS | | 1.24811610 | 1 | | **9.932** | | | | | | 86.7888 |
| 80 | Hg | LA2 | | 1.25279999 | 11.4 | C | **9.895** | | | | | | 87.1145 |
| 80 | Hg | SLAO | | 1.26354720 | 1 | | **9.810** | | | | | | 87.8618 |
| 80 | Hg | Lt | | 1.34630001 | 0.12 | C | **9.207** | | | | | | 93.6161 |
| 80 | Hg | Ll | | 1.42180002 | 5.71 | C | **8.719** | | | | | | 98.8661 |
| 80 | Hg | MI | ABS | 3.48116577 | | BB | **3.561** | | | | | 111.4992 | 242.0658 |
| 80 | Hg | MII | ABS | 3.78176605 | | BB | **3.278** | | | | | 121.1273 | |
| 80 | Hg | MIII | ABS | 4.35478908 | | BB | **2.847** | | | | | 139.4808 | |
| 80 | Hg | MG | | 4.98400021 | 3 | C | **2.487** | | | | | 159.6340 | |
| 80 | Hg | MIV | ABS | 5.19875886 | | BB | **2.384** | | | | | 166.5125 | |
| 80 | Hg | MV | ABS | 5.40264064 | | BB | **2.294** | | | | | 173.0427 | |
| 80 | Hg | MB | | 5.43179989 | 50 | C | **2.282** | | | | | 173.9767 | |
| 80 | Hg | MA1 | | 5.64760017 | 100 | C | **2.195** | | | | 61.3941 | 180.8886 | |
| 80 | Hg | MA2 | | 5.66642310 | 100 | | **2.188** | | | | 61.5987 | 181.4915 | |
| 80 | Hg | M3-N1 | | 6.09000015 | 1 | C | **2.035** | | | | 66.2034 | 195.0583 | |
| 80 | Hg | NI | ABS | 15.49234037 | | BB | **0.800** | | | 70.2032 | 168.4146 | | |
| 80 | Hg | NII | ABS | 18.31661988 | | BB | **0.677** | | | 83.0014 | 199.1169 | | |
| 80 | Hg | NIII | ABS | 21.71369527 | | BB | **0.571** | | 62.0391 | 98.3951 | 236.0459 | | |
| 80 | Hg | NIV | ABS | 32.77430611 | | BB | **0.378** | 64.1735 | 93.6409 | 148.5160 | 356.2840 | | |
| 80 | Hg | NV | ABS | 34.45947749 | | BB | **0.360** | 67.4731 | 98.4556 | 156.1523 | 374.6032 | | |
| 80 | Hg | N4-N6 | | 45.20000000 | 1 | | **0.274** | 88.5035 | 129.1429 | 204.8228 | 491.3616 | | |
| 80 | Hg | N5-N6 | | 47.90000000 | 1 | | **0.259** | 93.7902 | 136.8571 | 217.0578 | 520.7128 | | |
| 80 | Hg | OI | ABS | 103.06334165 | | BB | **0.120** | 201.8023 | | | | | |
| 80 | Hg | NVI | ABS | 121.31624266 | | BB | **0.102** | 237.5423 | | | | | |
| 80 | Hg | NVII | ABS | 125.87329949 | | BB | **0.098** | 246.4652 | | | | | |
| 80 | Hg | OII | ABS | 154.01888199 | | BB | **0.080** | | | | | | |
| 80 | Hg | OIII | ABS | 215.25208333 | | BB | **0.058** | | | | | | |
| 81 | Tl | K | ABS | 0.14496039 | | BB | **85.513** | | | | | | |
| 81 | Tl | KB4 | | 0.14550000 | 0.001 | | **85.196** | | | | | | |
| 81 | Tl | KB2 | | 0.14600000 | 5 | | **84.904** | | | | | | |
| 81 | Tl | KB5 | | 0.14920000 | 0.05 | | **83.083** | | | | | | |
| 81 | Tl | KB1 | | 0.15010260 | 15 | | **82.584** | | | | | | |
| 81 | Tl | KB3 | | 0.15100441 | 15 | | **82.090** | | | | | | |
| 81 | Tl | KA1 | | 0.17014300 | 100 | | **72.856** | | | | | | |
| 81 | Tl | KA2 | | 0.17505289 | 50 | | **70.813** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | Tl | LI | ABS | 0.80789486 | | BB | **15.344** | | | | | | |
| 81 | Tl | L1-O4 | | 0.80863014 | 0.01 | | **15.330** | | | | | | |
| 81 | Tl | LG4 | | 0.81183660 | 0.6 | | **15.269** | | | | | | |
| 81 | Tl | LG4' | | 0.81303903 | 0.01 | | **15.247** | | | | | | |
| 81 | Tl | L1-O1 | | 0.81584468 | 0.01 | | **15.194** | | | | | | |
| 81 | Tl | LG11 | | 0.82940000 | 0.07 | C | **14.946** | | | | | | |
| 81 | Tl | L1-N4 | | 0.82997317 | 0.01 | | **14.935** | | | | | | |
| 81 | Tl | LG3 | | 0.84149998 | 1.75 | C | **14.731** | | | | | | |
| 81 | Tl | LII | ABS | 0.84355724 | | BB | **14.695** | | | | | | |
| 81 | Tl | LG6 | | 0.84429997 | 1.29 | C | **14.682** | | | | | | |
| 81 | Tl | LG2 | | 0.84780002 | 1.42 | C | **14.621** | | | | | | |
| 81 | Tl | L2-O2 | | 0.84901155 | 0.01 | | **14.601** | | | | | | |
| 81 | Tl | Lv | | 0.85060000 | 0.03 | C | **14.573** | | | | | | |
| 81 | Tl | LG8 | | 0.85149997 | 0.07 | C | **14.558** | | | | | | |
| 81 | Tl | L1-N1 | | 0.85492346 | 0.01 | | **14.500** | | | | | | |
| 81 | Tl | SLG1' | | 0.86303983 | 1 | | **14.363** | | | | | | |
| 81 | Tl | LG1 | | 0.86769998 | 10.38 | C | **14.286** | | | | | | 60.3363 |
| 81 | Tl | L2-N3 | | 0.88010001 | 0.01 | C | **14.085** | | | | | | 61.1985 |
| 81 | Tl | LG5 | | 0.89520001 | 0.34 | C | **13.847** | | | | | | 62.2485 |
| 81 | Tl | LB9 | | 0.95980000 | 0.47 | C | **12.915** | | | | | | 66.7405 |
| 81 | Tl | LB10 | | 0.96394324 | 0.001 | | **12.860** | | | | | | 67.0286 |
| 81 | Tl | SLB5^2 | | 0.97316182 | 1 | | **12.738** | | | | | | 67.6696 |
| 81 | Tl | SLB5^1 | | 0.97446445 | 1 | | **12.721** | | | | | | 67.7602 |
| 81 | Tl | L3-P1 | | 0.97927415 | 0.01 | | **12.658** | | | | | | 68.0947 |
| 81 | Tl | LIII | ABS | 0.97953940 | | BB | **12.655** | | | | | | 68.1131 |
| 81 | Tl | LB5 | | 0.98079997 | 2.68 | C | **12.639** | | | | | | 68.2008 |
| 81 | Tl | L3-O3 | | 0.98538647 | 0.01 | | **12.580** | | | | | | 68.5197 |
| 81 | Tl | L3-O2 | | 0.98739051 | 0.01 | | **12.554** | | | | | | 68.6590 |
| 81 | Tl | Lu | | 0.98900002 | 0.1 | C | **12.534** | | | | | | 68.7710 |
| 81 | Tl | LB7 | | 0.99030000 | 0.29 | C | **12.517** | | | | | | 68.8614 |
| 81 | Tl | SLB2^4 | | 0.99580748 | 1 | | **12.448** | | | | | | 69.2443 |
| 81 | Tl | LB3 | | 1.00080001 | 6.07 | C | **12.386** | | | | | | 69.5915 |
| 81 | Tl | SLB2^2 | | 1.00402400 | 1 | | **12.346** | | | | | | 69.8157 |
| 81 | Tl | SLB2^1 | | 1.00552710 | 1 | | **12.328** | | | | | | 69.9202 |
| 81 | Tl | L2-M5 | | 1.00723050 | 0.01 | | **12.307** | | | | | | 70.0386 |
| 81 | Tl | LB2 | | 1.01059997 | 22.29 | C | **12.266** | | | | | | 70.2729 |
| 81 | Tl | LB15 | | 1.01204020 | 0.001 | | **12.249** | | | | | | 70.3731 |
| 81 | Tl | LB1 | | 1.01530004 | 48.89 | C | **12.209** | | | | | | 70.5997 |
| 81 | Tl | L3-N3 | | 1.02867370 | 0.01 | | **12.050** | | | | | | 71.5297 |
| 81 | Tl | LB4 | | 1.03929996 | 5.42 | C | **11.927** | | | | | | 72.2686 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | Tl | LB6 | | 1.04980004 | 1.43 | C | **11.808** | | | | | | 72.9987 |
| 81 | Tl | LB17 | | 1.05620003 | 0.05 | C | **11.736** | | | | | | 73.4438 |
| 81 | Tl | L2-M2 | | 1.09971700 | 0.01 | | **11.272** | | | | | | 76.4698 |
| 81 | Tl | Ln | | 1.12790000 | 1.34 | C | **10.990** | | | | | | 78.4295 |
| 81 | Tl | SLAA | | 1.19921750 | 1 | | **10.337** | | | | | | 83.3886 |
| 81 | Tl | SLA^X | | 1.20242400 | 1 | | **10.309** | | | | | | 83.6116 |
| 81 | Tl | SLA^IX | | 1.20412740 | 1 | | **10.295** | | | | | | 83.7300 |
| 81 | Tl | SLA' | | 1.20522970 | 1 | | **10.285** | | | | | | 83.8067 |
| 81 | Tl | LA1 | | 1.20869994 | 100 | C | **10.256** | | | | | | 84.0480 |
| 81 | Tl | SLAS | | 1.21464860 | 1 | | **10.205** | | | | | | 84.4616 |
| 81 | Tl | LA2 | | 1.21899998 | 11.38 | C | **10.169** | | | | | | 84.7642 |
| 81 | Tl | Ls | | 1.27807650 | 0.01 | | **9.699** | | | | | | 88.8721 |
| 81 | Tl | Lt | | 1.31089997 | 0.13 | C | **9.456** | | | | | | 91.1545 |
| 81 | Tl | Ll | | 1.38499999 | 5.78 | C | **8.950** | | | | | | 96.3071 |
| 81 | Tl | MI | ABS | 3.34724225 | | BB | **3.703** | | | | | 107.2098 | 232.7533 |
| 81 | Tl | MII | ABS | 3.62986211 | | BB | **3.415** | | | | | 116.2619 | 252.4055 |
| 81 | Tl | M1-N3 | | 4.01300001 | 1 | C | **3.089** | | | | | 128.5335 | |
| 81 | Tl | M2-N4 | | 4.11600018 | 1 | C | **3.012** | | | | | 131.8325 | |
| 81 | Tl | MIII | ABS | 4.19350605 | | BB | **2.956** | | | | | 134.3150 | |
| 81 | Tl | M3-O4 | | 4.21600008 | 0.5 | C | **2.940** | | | | | 135.0355 | |
| 81 | Tl | SMG' | | 4.80969600 | 1 | | **2.577** | | | | | 154.0511 | |
| 81 | Tl | MG | | 4.82299995 | 3 | C | **2.570** | | | | | 154.4772 | |
| 81 | Tl | M3-N4 | | 4.86499977 | 1 | C | **2.548** | | | | | 155.8225 | |
| 81 | Tl | MIV | ABS | 4.98914329 | | BB | **2.485** | | | | | 159.7987 | |
| 81 | Tl | MV | ABS | 5.18918512 | | BB | **2.389** | | | | | 166.2059 | |
| 81 | Tl | M4-O2 | | 5.19600010 | 0.1 | C | **2.386** | | | | | 166.4242 | |
| 81 | Tl | SMB3 | | 5.22042400 | 1 | | **2.375** | | | | | 167.2064 | |
| 81 | Tl | SMB2 | | 5.23024380 | 1 | | **2.370** | | | | | 167.5210 | |
| 81 | Tl | SMB1 | | 5.23996340 | 1 | | **2.366** | | | | | 167.8323 | |
| 81 | Tl | MB | | 5.24900007 | 55 | C | **2.362** | | | | | 168.1217 | |
| 81 | Tl | SMA^4 | | 5.41922480 | 1 | | **2.287** | | | | | 173.5739 | |
| 81 | Tl | SMA^3 | | 5.42834310 | 1 | | **2.284** | | | | | 173.8659 | |
| 81 | Tl | SMA^2 | | 5.43465590 | 1 | | **2.281** | | | | | 174.0681 | |
| 81 | Tl | SMA^1 | | 5.44287240 | 1 | | **2.277** | | | | | 174.3313 | |
| 81 | Tl | MA1 | | 5.46000004 | 100 | C | **2.270** | | | | | 174.8799 | |
| 81 | Tl | MA2 | | 5.47200012 | 100 | C | **2.265** | | | | | 175.2642 | |
| 81 | Tl | M3-N1 | | 5.88399982 | 1 | C | **2.107** | | | | 63.9640 | 188.4603 | |
| 81 | Tl | MZ1 | | 6.97399998 | 2 | C | **1.777** | | | | 75.8132 | 223.3722 | |
| 81 | Tl | MZ2 | | 7.03200006 | 1 | C | **1.763** | | | | 76.4437 | 225.2299 | |
| 81 | Tl | NI | ABS | 14.66412774 | | BB | **0.845** | | | 66.4502 | 159.4113 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 81 | Tl | NII | ABS | 17.18913074 | | BB | **0.721** | | | 77.8922 | 186.8601 | | |
| 81 | Tl | NIII | ABS | 20.35881773 | | BB | **0.609** | | | 92.2555 | 221.3173 | | |
| 81 | Tl | NIV | ABS | 30.49316281 | | BB | **0.407** | | 87.1233 | 138.1791 | 331.4860 | | |
| 81 | Tl | NV | ABS | 32.10388400 | | BB | **0.386** | 62.8608 | 91.7254 | 145.4780 | 348.9959 | | |
| 81 | Tl | N5-N6 | | 46.50000000 | 1 | | **0.267** | 91.0490 | 132.8571 | 210.7137 | 505.4937 | | |
| 81 | Tl | OI | ABS | 90.96493030 | | BB | **0.136** | 178.1132 | 259.8998 | 412.2055 | 988.8644 | | |
| 81 | Tl | NVI | ABS | 100.96514658 | | BB | **0.123** | 197.6940 | | | | | |
| 81 | Tl | NVII | ABS | 104.62886076 | | BB | **0.118** | 204.8677 | | | | | |
| 81 | Tl | OII | ABS | 124.48313253 | | BB | **0.100** | 243.7432 | | | | | |
| 81 | Tl | OIII | ABS | 164.43660477 | | BB | **0.075** | | | | | | |
| 82 | Pb | K | ABS | 0.14088507 | | BB | **87.987** | | | | | | |
| 82 | Pb | KB4 | | 0.14158543 | 0.001 | | **87.551** | | | | | | |
| 82 | Pb | KB2 | | 0.14198623 | 5 | | **87.304** | | | | | | |
| 82 | Pb | KB5 | | 0.14499229 | 0.05 | | **85.494** | | | | | | |
| 82 | Pb | KB1 | | 0.14599431 | 15 | | **84.907** | | | | | | |
| 82 | Pb | KB3 | | 0.14679593 | 15 | | **84.444** | | | | | | |
| 82 | Pb | KA1 | | 0.16533330 | 100 | | **74.976** | | | | | | |
| 82 | Pb | KA2 | | 0.17024320 | 50 | | **72.813** | | | | | | |
| 82 | Pb | LI | ABS | 0.78170836 | | BB | **15.858** | | | | | | |
| 82 | Pb | L1-O4 | | 0.78257762 | 0.01 | | **15.840** | | | | | | |
| 82 | Pb | LG4 | | 0.78588429 | 0.6 | | **15.773** | | | | | | |
| 82 | Pb | LG4' | | 0.78708671 | 0.01 | | **15.749** | | | | | | |
| 82 | Pb | L1-N6 | | 0.78838934 | 0.01 | | **15.723** | | | | | | |
| 82 | Pb | L1-O1 | | 0.78969196 | 0.01 | | **15.697** | | | | | | |
| 82 | Pb | LG11 | | 0.80231741 | 0.07 | | **15.450** | | | | | | |
| 82 | Pb | L1-N4 | | 0.80362004 | 0.01 | | **15.425** | | | | | | |
| 82 | Pb | SLG2'' | | 0.81354004 | 1 | | **15.237** | | | | | | |
| 82 | Pb | LG3 | | 0.81484266 | 1.7 | | **15.213** | | | | | | |
| 82 | Pb | LII | ABS | 0.81569211 | | BB | **15.197** | | | | | | |
| 82 | Pb | L2-P1 | | 0.81584468 | 0.01 | | **15.194** | | | | | | |
| 82 | Pb | LG6 | | 0.81684670 | 1.3 | | **15.175** | | | | | | |
| 82 | Pb | SLG2' | | 0.81915135 | 1 | | **15.133** | | | | | | |
| 82 | Pb | L2-O3 | | 0.82005317 | 0.01 | | **15.116** | | | | | | |
| 82 | Pb | LG2 | | 0.82125559 | 1.4 | | **15.094** | | | | | | |
| 82 | Pb | LG8 | | 0.82366044 | 0.07 | | **15.050** | | | | | | |
| 82 | Pb | L1-N1 | | 0.82857034 | 0.01 | | **14.961** | | | | | | |
| 82 | Pb | SLG1' | | 0.83548428 | 1 | | **14.837** | | | | | | |
| 82 | Pb | L2-N5 | | 0.83820000 | 0.01 | | **14.789** | | | | | | |
| 82 | Pb | LG1 | | 0.83990002 | 10.32 | C | **14.759** | | | | | | |
| 82 | Pb | L2-N3 | | 0.85200000 | 0.01 | C | **14.549** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | Pb | L2-N2 | | 0.86043457 | 0.01 | | **14.407** | | | | | | |
| 82 | Pb | LG5 | | 0.86669999 | 0.34 | C | **14.303** | | | | | | 60.2667 |
| 82 | Pb | LB9 | | 0.92979997 | 0.49 | C | **13.332** | | | | | | 64.6544 |
| 82 | Pb | LB10 | | 0.93388264 | 0.001 | | **13.274** | | | | | | 64.9383 |
| 82 | Pb | SLB5^2 | | 0.94530567 | 1 | | **13.113** | | | | | | 65.7326 |
| 82 | Pb | SLB5^1 | | 0.94680870 | 1 | | **13.092** | | | | | | 65.8371 |
| 82 | Pb | SLB2^7 | | 0.94831173 | 1 | | **13.072** | | | | | | 65.9417 |
| 82 | Pb | SLB2^6 | | 0.95021557 | 1 | | **13.045** | | | | | | 66.0740 |
| 82 | Pb | LIII | ABS | 0.95115687 | | BB | **13.033** | | | | | | 66.1395 |
| 82 | Pb | L3-P1 | | 0.95121759 | 0.01 | | **13.032** | | | | | | 66.1437 |
| 82 | Pb | LB5 | | 0.95270002 | 2.92 | C | **13.011** | | | | | | 66.2468 |
| 82 | Pb | L3-O3 | | 0.95780000 | 0.01 | | **12.942** | | | | | | 66.6014 |
| 82 | Pb | L3-O2 | | 0.95853233 | 0.01 | | **12.932** | | | | | | 66.6524 |
| 82 | Pb | Lu | | 0.96149999 | 0.11 | C | **12.892** | | | | | | 66.8587 |
| 82 | Pb | LB7 | | 0.96210003 | 0.31 | C | **12.884** | | | | | | 66.9004 |
| 82 | Pb | LB3 | | 0.96929997 | 6.05 | C | **12.789** | | | | | | 67.4011 |
| 82 | Pb | SLB2^3 | | 0.97115778 | 1 | | **12.764** | | | | | | 67.5303 |
| 82 | Pb | L2-M5 | | 0.97476506 | 0.01 | | **12.717** | | | | | | 67.7811 |
| 82 | Pb | SLB2^2 | | 0.97616788 | 1 | | **12.699** | | | | | | 67.8787 |
| 82 | Pb | SLB2^1 | | 0.97757071 | 1 | | **12.680** | | | | | | 67.9762 |
| 82 | Pb | LB2 | | 0.98250002 | 22.44 | C | **12.617** | | | | | | 68.3190 |
| 82 | Pb | LB1 | | 0.98299998 | 47.95 | C | **12.610** | | | | | | 68.3537 |
| 82 | Pb | LB15 | | 0.98388344 | 0.001 | | **12.599** | | | | | | 68.4152 |
| 82 | Pb | L3-N3 | | 1.00151900 | 0.01 | | **12.377** | | | | | | 69.6415 |
| 82 | Pb | LB4 | | 1.00759995 | 5.5 | C | **12.303** | | | | | | 70.0643 |
| 82 | Pb | L3-N2 | | 1.01043700 | 0.01 | | **12.268** | | | | | | 70.2616 |
| 82 | Pb | LB6 | | 1.02119994 | 1.46 | C | **12.139** | | | | | | 71.0100 |
| 82 | Pb | LB17 | | 1.02190006 | 0.05 | C | **12.130** | | | | | | 71.0587 |
| 82 | Pb | L1-M1 | | 1.03230000 | 0.01 | | **12.008** | | | | | | 71.7819 |
| 82 | Pb | L2-M2 | | 1.06440000 | 0.01 | | **11.646** | | | | | | 74.0140 |
| 82 | Pb | Ln | | 1.09259999 | 1.32 | C | **11.345** | | | | | | 75.9749 |
| 82 | Pb | SLAA | | 1.16715290 | 1 | | **10.621** | | | | | | 81.1590 |
| 82 | Pb | SLAA | | 1.16795450 | 1 | | **10.613** | | | | | | 81.2147 |
| 82 | Pb | SLAA | | 1.16945750 | 1 | | **10.600** | | | | | | 81.3192 |
| 82 | Pb | SLA | | 1.17076020 | 1 | | **10.588** | | | | | | 81.4098 |
| 82 | Pb | SLA^IX | | 1.17156180 | 1 | | **10.581** | | | | | | 81.4655 |
| 82 | Pb | SLA^Y | | 1.17306480 | 1 | | **10.567** | | | | | | 81.5701 |
| 82 | Pb | LA1 | | 1.17519999 | 100 | C | **10.548** | | | | | | 81.7185 |
| 82 | Pb | SLA1^Z | | 1.17577030 | 1 | | **10.543** | | | | | | 81.7582 |
| 82 | Pb | SLAS | | 1.18238360 | 1 | | **10.484** | | | | | | 82.2180 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | Pb | LA2 | | 1.18659997 | 11.31 | C | **10.447** | | | | | | 82.5112 |
| 82 | Pb | Ls | | 1.24380740 | 0.01 | | **9.966** | | | | | | 86.4892 |
| 82 | Pb | Lt | | 1.27680004 | 0.13 | C | **9.709** | | | | | | 88.7834 |
| 82 | Pb | Ll | | 1.35010004 | 5.86 | C | **9.182** | | | | | | 93.8804 |
| 82 | Pb | MI | ABS | 3.21980939 | | BB | **3.850** | | | | | 103.1282 | 223.8922 |
| 82 | Pb | MII | ABS | 3.48841371 | | BB | **3.553** | | | | | 111.7314 | 242.5698 |
| 82 | Pb | M1-N3 | | 3.87199998 | 0.1 | C | **3.201** | | | | | 124.0174 | |
| 82 | Pb | M2-N4 | | 3.96799994 | 5 | C | **3.124** | | | | | 127.0922 | |
| 82 | Pb | MIII | ABS | 4.04334725 | | BB | **3.066** | | | | | 129.5055 | |
| 82 | Pb | M3-O4 | | 4.06899977 | 1 | C | **3.046** | | | | | 130.3271 | |
| 82 | Pb | M3-O5 | | 4.07120730 | 1 | | **3.045** | | | | | 130.3979 | |
| 82 | Pb | M3-O1 | | 4.24399996 | 0.5 | C | **2.921** | | | | | 135.9323 | |
| 82 | Pb | M2-N1 | | 4.65500021 | 0.01 | C | **2.663** | | | | | 149.0963 | |
| 82 | Pb | SMG' | | 4.65939300 | 1 | | **2.660** | | | | | 149.2370 | |
| 82 | Pb | MG | | 4.67399979 | 5 | C | **2.652** | | | | | 149.7049 | |
| 82 | Pb | M3-N4 | | 4.71500015 | 5 | C | **2.629** | | | | | 151.0181 | |
| 82 | Pb | MIV | ABS | 4.79521968 | | BB | **2.585** | | | | | 153.5875 | |
| 82 | Pb | MV | ABS | 4.99135266 | | BB | **2.483** | | | | | 159.8695 | |
| 82 | Pb | M4-O2 | | 5.00400019 | 1 | C | **2.477** | | | | | 160.2745 | |
| 82 | Pb | SMB3 | | 5.04627290 | 1 | | **2.456** | | | | | 161.6285 | |
| 82 | Pb | SMB2 | | 5.05569190 | 1 | | **2.452** | | | | | 161.9302 | |
| 82 | Pb | SMB1 | | 5.06661390 | 1 | | **2.447** | | | | | 162.2800 | |
| 82 | Pb | MB | | 5.07600021 | 60 | C | **2.442** | | | | | 162.5807 | |
| 82 | Pb | M5-O3 | | 5.16800022 | 0.01 | C | **2.399** | | | | | 165.5273 | |
| 82 | Pb | SMA^4 | | 5.25058480 | 1 | | **2.361** | | | | | 168.1725 | |
| 82 | Pb | SMA^3 | | 5.25920220 | 1 | | **2.357** | | | | | 168.4485 | |
| 82 | Pb | SMA^2 | | 5.26431250 | 1 | | **2.355** | | | | | 168.6122 | |
| 82 | Pb | SMA^1 | | 5.27323050 | 1 | | **2.351** | | | | | 168.8978 | |
| 82 | Pb | MA1 | | 5.28599977 | 100 | C | **2.345** | | | | | 169.3068 | |
| 82 | Pb | MA2 | | 5.29899979 | 100 | C | **2.339** | | | | | 169.7232 | |
| 82 | Pb | M3-N1 | | 5.70400000 | 1 | C | **2.173** | | | | 62.0072 | 182.6950 | |
| 82 | Pb | M4-N3 | | 6.38399982 | 0.01 | C | **1.942** | | | | 69.3994 | 204.4749 | |
| 82 | Pb | MZ1 | | 6.73999977 | 1 | C | **1.839** | | | | 73.2694 | 215.8774 | |
| 82 | Pb | MZ2 | | 6.80200005 | 0.1 | C | **1.822** | | | | 73.9434 | 217.8632 | |
| 82 | Pb | NI | ABS | 13.87479857 | | BB | **0.893** | | | 62.8733 | 150.8306 | | |
| 82 | Pb | NII | ABS | 16.23055374 | | BB | **0.764** | | | 73.5484 | 176.4396 | | |
| 82 | Pb | NIII | ABS | 19.23742436 | | BB | **0.644** | | | 87.1740 | 209.1268 | | |
| 82 | Pb | NIV | ABS | 28.48924632 | | BB | **0.435** | | 81.3978 | 129.0984 | 309.7018 | | |
| 82 | Pb | NV | ABS | 30.02790022 | | BB | **0.413** | | 85.7940 | 136.0708 | 326.4282 | | |
| 82 | Pb | N4-N6 | | 42.30000000 | 1 | | **0.293** | 82.8252 | 120.8571 | 191.6815 | 459.8362 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 82 | Pb | N5-N6 | | 45.00000000 | 1 | | **0.275** | 88.1119 | 128.5714 | 203.9165 | 489.1874 | | |
| 82 | Pb | OI | ABS | 84.17189409 | | BB | **0.147** | 164.8121 | 240.4911 | 381.4231 | 915.0185 | | |
| 82 | Pb | NVI | ABS | 86.76361092 | | BB | **0.143** | 169.8868 | 247.8960 | 393.1674 | 943.1926 | | |
| 82 | Pb | NVII | ABS | 89.77929037 | | BB | **0.138** | 175.7916 | 256.5123 | 406.8328 | 975.9755 | | |
| 82 | Pb | OII | ABS | 118.30648855 | | BB | **0.105** | 231.6491 | | | | | |
| 82 | Pb | OIII | ABS | 144.16883721 | | BB | **0.086** | | | | | | |
| 82 | Pb | OV | ABS | 645.75625000 | | BB | **0.019** | | | | | | |
| 83 | Bi | K | ABS | 0.13696102 | | BB | **90.508** | | | | | | |
| 83 | Bi | KB4 | | 0.13760000 | 0.001 | | **90.087** | | | | | | |
| 83 | Bi | KB2 | | 0.13807836 | 5 | | **89.775** | | | | | | |
| 83 | Bi | KB5 | | 0.14110000 | 0.05 | | **87.853** | | | | | | |
| 83 | Bi | KB1 | | 0.14198623 | 15 | | **87.304** | | | | | | |
| 83 | Bi | KB3 | | 0.14278785 | 15 | | **86.814** | | | | | | |
| 83 | Bi | KA1 | | 0.16082421 | 100 | | **77.078** | | | | | | |
| 83 | Bi | KA2 | | 0.16573411 | 50 | | **74.795** | | | | | | |
| 83 | Bi | LI | ABS | 0.75658398 | | BB | **16.384** | | | | | | |
| 83 | Bi | LG13 | | 0.75692591 | 0.001 | | **16.377** | | | | | | |
| 83 | Bi | L1-O4 | | 0.75792793 | 0.01 | | **16.355** | | | | | | |
| 83 | Bi | LG4 | | 0.76093399 | 0.6 | | **16.291** | | | | | | |
| 83 | Bi | LG4' | | 0.76193601 | 0.01 | | **16.269** | | | | | | |
| 83 | Bi | L1-N6 | | 0.76404025 | 0.01 | | **16.224** | | | | | | |
| 83 | Bi | L1-O1 | | 0.76604429 | 0.01 | | **16.182** | | | | | | |
| 83 | Bi | LG11 | | 0.77726691 | 0.07 | | **15.948** | | | | | | |
| 83 | Bi | L1-N4 | | 0.77856954 | 0.01 | | **15.922** | | | | | | |
| 83 | Bi | LII | ABS | 0.78915671 | | BB | **15.708** | | | | | | |
| 83 | Bi | LG3 | | 0.78929115 | 1.7 | | **15.705** | | | | | | |
| 83 | Bi | LG6 | | 0.79049358 | 1.3 | | **15.681** | | | | | | |
| 83 | Bi | SLG2' | | 0.79209681 | 1 | | **15.650** | | | | | | |
| 83 | Bi | L2-O3 | | 0.79380024 | 0.01 | | **15.616** | | | | | | |
| 83 | Bi | LG2 | | 0.79560388 | 1.4 | | **15.581** | | | | | | |
| 83 | Bi | LG8 | | 0.79720711 | 0.07 | | **15.549** | | | | | | |
| 83 | Bi | L1-N1 | | 0.80221721 | 0.01 | | **15.452** | | | | | | |
| 83 | Bi | SLG1' | | 0.80903095 | 1 | | **15.322** | | | | | | |
| 83 | Bi | LG1 | | 0.81313923 | 10 | | **15.245** | | | | | | |
| 83 | Bi | L2-N3 | | 0.82496307 | 0.01 | | **15.026** | | | | | | |
| 83 | Bi | L2-N2 | | 0.83440000 | 0.01 | | **14.856** | | | | | | |
| 83 | Bi | LG5 | | 0.83939999 | 0.35 | C | **14.768** | | | | | | |
| 83 | Bi | LB9 | | 0.90090001 | 0.52 | C | **13.760** | | | | | | 62.6448 |
| 83 | Bi | LB10 | | 0.90492426 | 0.001 | | **13.698** | | | | | | 62.9247 |
| 83 | Bi | SLB5^2 | | 0.91855173 | 1 | | **13.495** | | | | | | 63.8723 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | Bi | SLB5^1 | | 0.91985436 | 1 | | **13.476** | | | | | | 63.9629 |
| 83 | Bi | SLB2^7 | | 0.92165800 | 1 | | **13.450** | | | | | | 64.0883 |
| 83 | Bi | LIII | ABS | 0.92398015 | | BB | **13.416** | | | | | | 64.2497 |
| 83 | Bi | L3-P2 | | 0.92416305 | 0.01 | | **13.413** | | | | | | 64.2625 |
| 83 | Bi | LB5 | | 0.92570001 | 3.17 | C | **13.391** | | | | | | 64.3693 |
| 83 | Bi | SLB2^5 | | 0.92857193 | 1 | | **13.350** | | | | | | 64.5690 |
| 83 | Bi | L3-O3 | | 0.93047577 | 0.01 | | **13.322** | | | | | | 64.7014 |
| 83 | Bi | L3-O2 | | 0.93187860 | 0.01 | | **13.302** | | | | | | 64.7990 |
| 83 | Bi | LB7 | | 0.93519998 | 0.32 | C | **13.255** | | | | | | 65.0299 |
| 83 | Bi | Lu | | 0.93519998 | 0.11 | C | **13.255** | | | | | | 65.0299 |
| 83 | Bi | LB3 | | 0.93870002 | 6.07 | C | **13.205** | | | | | | 65.2733 |
| 83 | Bi | SLB2^4 | | 0.94229961 | 1 | | **13.155** | | | | | | 65.5236 |
| 83 | Bi | L2-M5 | | 0.94410324 | 0.01 | | **13.130** | | | | | | 65.6490 |
| 83 | Bi | SLB2^3 | | 0.94600708 | 1 | | **13.103** | | | | | | 65.7814 |
| 83 | Bi | SLB2^2 | | 0.94941395 | 1 | | **13.056** | | | | | | 66.0183 |
| 83 | Bi | LB1 | | 0.95191900 | 50 | | **13.022** | | | | | | 66.1925 |
| 83 | Bi | LB2 | | 0.95550001 | 22.78 | C | **12.973** | | | | | | 66.4415 |
| 83 | Bi | LB15 | | 0.95702930 | 0.001 | | **12.953** | | | | | | 66.5478 |
| 83 | Bi | L3-N3 | | 0.97326203 | 0.01 | | **12.737** | | | | | | 67.6766 |
| 83 | Bi | LB4 | | 0.97710001 | 5.64 | C | **12.687** | | | | | | 67.9435 |
| 83 | Bi | L3-N2 | | 0.98278122 | 0.01 | | **12.613** | | | | | | 68.3385 |
| 83 | Bi | LB17 | | 0.98930001 | 0.05 | C | **12.530** | | | | | | 68.7918 |
| 83 | Bi | LB6 | | 0.99349999 | 1.5 | C | **12.477** | | | | | | 69.0839 |
| 83 | Bi | L1-M1 | | 1.00050000 | 0.01 | | **12.390** | | | | | | 69.5706 |
| 83 | Bi | L2-M2 | | 1.03460000 | 0.01 | | **11.981** | | | | | | 71.9418 |
| 83 | Bi | Ln | | 1.05879998 | 1.34 | C | **11.708** | | | | | | 73.6246 |
| 83 | Bi | SLAA | | 1.13528870 | 1 | | **10.919** | | | | | | 78.9433 |
| 83 | Bi | SLA^X | | 1.13909630 | 1 | | **10.882** | | | | | | 79.2080 |
| 83 | Bi | SLA^IX | | 1.14049920 | 1 | | **10.869** | | | | | | 79.3056 |
| 83 | Bi | SLA' | | 1.14180180 | 1 | | **10.857** | | | | | | 79.3962 |
| 83 | Bi | LA1 | | 1.14409995 | 100 | C | **10.835** | | | | | | 79.5560 |
| 83 | Bi | SLA1^Z | | 1.14450720 | 1 | | **10.831** | | | | | | 79.5843 |
| 83 | Bi | SLAS | | 1.15152140 | 1 | | **10.765** | | | | | | 80.0720 |
| 83 | Bi | LA2 | | 1.15559995 | 11.44 | C | **10.727** | | | | | | 80.3556 |
| 83 | Bi | Ls | | 1.21064060 | 0.01 | | **10.239** | | | | | | 84.1829 |
| 83 | Bi | Lt | | 1.24370003 | 0.13 | C | **9.967** | | | | | | 86.4817 |
| 83 | Bi | Ll | | 1.31630003 | 6 | C | **9.417** | | | | | | 91.5300 |
| 83 | Bi | NV | ABS | 2.81784545 | | BB | **4.399** | | | | | 90.2536 | 195.9413 |
| 83 | Bi | MI | ABS | 3.10032757 | | BB | **3.998** | | | | | 99.3013 | 215.5839 |
| 83 | Bi | MII | ABS | 3.35430566 | | BB | **3.696** | | | | | 107.4360 | 233.2445 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | Bi | M1-N3 | | 3.74000001 | 0.1 | C | **3.314** | | | | | 119.7895 | |
| 83 | Bi | M2-N4 | | 3.83400011 | 5 | C | **3.233** | | | | | 122.8003 | |
| 83 | Bi | M1-N2 | | 3.89199996 | 1 | C | **3.185** | | | | | 124.6580 | |
| 83 | Bi | MIII | ABS | 3.90271019 | | BB | **3.176** | | | | | 125.0010 | |
| 83 | Bi | M3-O4 | | 3.93199992 | 1 | C | **3.153** | | | | | 125.9391 | |
| 83 | Bi | M3-O5 | | 3.93393050 | 1 | | **3.151** | | | | | 126.0010 | |
| 83 | Bi | M3-O1 | | 4.10500002 | 0.5 | C | **3.020** | | | | | 131.4802 | |
| 83 | Bi | SMG' | | 4.51510210 | 1 | | **2.745** | | | | | 144.6155 | |
| 83 | Bi | MG | | 4.53200006 | 5 | C | **2.735** | | | | | 145.1567 | |
| 83 | Bi | M3-N4 | | 4.57100010 | 5 | C | **2.712** | | | | | 146.4059 | |
| 83 | Bi | M4-P2 | | 4.59000015 | 0.01 | C | **2.701** | | | | | 147.0144 | |
| 83 | Bi | MIV | ABS | 4.61323114 | | BB | **2.687** | | | | | 147.7585 | |
| 83 | Bi | MV | ABS | 4.80637308 | | BB | **2.579** | | | | | 153.9447 | |
| 83 | Bi | M4-O2 | | 4.82299995 | 1 | C | **2.570** | | | | | 154.4772 | |
| 83 | Bi | SMB3 | | 4.87853480 | 1 | | **2.541** | | | | | 156.2560 | |
| 83 | Bi | SMB2 | | 4.88935660 | 1 | | **2.535** | | | | | 156.6026 | |
| 83 | Bi | SMB1 | | 4.89997800 | 1 | | **2.530** | | | | | 156.9428 | |
| 83 | Bi | MB | | 4.90899992 | 60 | C | **2.525** | | | | | 157.2318 | |
| 83 | Bi | SMA^4 | | 5.08264620 | 1 | | **2.439** | | | | | 162.7935 | |
| 83 | Bi | SMA^3 | | 5.09236580 | 1 | | **2.434** | | | | | 163.1048 | |
| 83 | Bi | SMA^2 | | 5.09807740 | 1 | | **2.432** | | | | | 163.2878 | |
| 83 | Bi | SMA^1 | | 5.10639410 | 1 | | **2.428** | | | | | 163.5541 | |
| 83 | Bi | MA1 | | 5.11800003 | 100 | C | **2.422** | | | | | 163.9259 | |
| 83 | Bi | MA2 | | 5.13000011 | 100 | C | **2.416** | | | | | 164.3102 | |
| 83 | Bi | M3-N1 | | 5.53700018 | 1 | C | **2.239** | | | | 60.1918 | 177.3462 | |
| 83 | Bi | M4-N3 | | 6.16200018 | 0.01 | C | **2.012** | | | | 66.9861 | 197.3645 | |
| 83 | Bi | MZ1 | | 6.52099991 | 1 | C | **1.901** | | | | 70.8887 | 208.8630 | |
| 83 | Bi | MZ2 | | 6.58500004 | 0.1 | C | **1.882** | | | | 71.5844 | 210.9128 | |
| 83 | Bi | NI | ABS | 13.21522064 | | BB | **0.938** | | | | 143.6604 | | |
| 83 | Bi | NG1 | | 13.36000000 | 1 | | **0.928** | | | 60.5405 | 145.2343 | | |
| 83 | Bi | NG3 | | 13.36000000 | 1 | | **0.928** | | | 60.5405 | 145.2343 | | |
| 83 | Bi | NII | ABS | 15.39615050 | | BB | **0.805** | | | 69.7673 | 167.3690 | | |
| 83 | Bi | NIII | ABS | 18.26266019 | | BB | **0.679** | | | 82.7568 | 198.5303 | | |
| 83 | Bi | NIV | ABS | 26.74400345 | | BB | **0.464** | | 76.4114 | 121.1899 | 290.7295 | | |
| 83 | Bi | NVI | ABS | 76.58134651 | | BB | **0.162** | 149.9495 | 218.8038 | 347.0267 | 832.5029 | | |
| 83 | Bi | OI | ABS | 77.83126177 | | BB | **0.159** | 152.3969 | 222.3750 | 352.6906 | 846.0905 | | |
| 83 | Bi | NVII | ABS | 78.77077510 | | BB | **0.157** | 154.2365 | 225.0594 | 356.9480 | 856.3038 | | |
| 83 | Bi | N6-O4 | | 91.60000000 | 1 | | **0.135** | 179.3566 | | | | | |
| 83 | Bi | N7-O5 | | 93.16000000 | 1 | | **0.133** | 182.4112 | | | | | |
| 83 | Bi | OII | ABS | 106.15171233 | | BB | **0.117** | 207.8495 | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 83 | Bi | OIII | ABS | 133.60474138 | | BB | **0.093** | | | | | | |
| 83 | Bi | OIV | ABS | 467.86867925 | | BB | **0.026** | | | | | | |
| 83 | Bi | OV | ABS | 508.13606557 | | BB | **0.024** | | | | | | |
| 84 | Po | K | ABS | 0.13316707 | | BB | **93.086** | | | | | | |
| 84 | Po | KB2 | | 0.13430000 | 5 | | **92.301** | | | | | | |
| 84 | Po | KB1 | | 0.13810000 | 15 | | **89.761** | | | | | | |
| 84 | Po | KB3 | | 0.13890000 | 15 | | **89.244** | | | | | | |
| 84 | Po | KA1 | | 0.15640000 | 100 | | **79.258** | | | | | | |
| 84 | Po | KA2 | | 0.16130000 | 50 | | **76.851** | | | | | | |
| 84 | Po | LI | ABS | 0.73193816 | | BB | **16.936** | | | | | | |
| 84 | Po | LII | ABS | 0.76325357 | | BB | **16.241** | | | | | | |
| 84 | Po | LG3 | | 0.76444106 | 3 | | **16.216** | | | | | | |
| 84 | Po | LG6 | | 0.76444106 | 1.3 | | **16.216** | | | | | | |
| 84 | Po | LG2 | | 0.77145520 | 1.4 | | **16.068** | | | | | | |
| 84 | Po | LG1 | | 0.78748752 | 10 | | **15.741** | | | | | | |
| 84 | Po | LB9 | | 0.87250000 | 0.54 | C | **14.207** | | | | | | 60.6700 |
| 84 | Po | LIII | ABS | 0.89754593 | | BB | **13.811** | | | | | | 62.4116 |
| 84 | Po | LB5 | | 0.89980000 | 3.38 | C | **13.776** | | | | | | 62.5684 |
| 84 | Po | LB3 | | 0.90859997 | 6.03 | C | **13.643** | | | | | | 63.1803 |
| 84 | Po | LB7 | | 0.90950000 | 0.33 | C | **13.629** | | | | | | 63.2429 |
| 84 | Po | Lu | | 0.91000003 | 0.12 | C | **13.622** | | | | | | 63.2776 |
| 84 | Po | LB1 | | 0.92210001 | 48.17 | C | **13.443** | | | | | | 64.1190 |
| 84 | Po | SLB2^2 | | 0.92426325 | 1 | | **13.412** | | | | | | 64.2694 |
| 84 | Po | LB2 | | 0.92970002 | 22.89 | C | **13.333** | | | | | | 64.6475 |
| 84 | Po | LB15 | | 0.93117719 | 0.001 | | **13.312** | | | | | | 64.7502 |
| 84 | Po | LB4 | | 0.94760001 | 5.71 | C | **13.081** | | | | | | 65.8922 |
| 84 | Po | LB17 | | 0.95740002 | 0.05 | C | **12.948** | | | | | | 66.5736 |
| 84 | Po | LB6 | | 0.96740001 | 1.53 | C | **12.814** | | | | | | 67.2690 |
| 84 | Po | Ln | | 1.02569997 | 1.33 | C | **12.085** | | | | | | 71.3229 |
| 84 | Po | LA1 | | 1.11399996 | 100 | C | **11.127** | | | | | | 77.4629 |
| 84 | Po | LA2 | | 1.12570000 | 11.36 | C | **11.012** | | | | | | 78.2765 |
| 84 | Po | Ls | | 1.21249998 | 0.13 | C | **10.224** | | | | | | 84.3122 |
| 84 | Po | LI | | 1.28320003 | 6.07 | C | **9.660** | | | | | | 89.2284 |
| 84 | Po | MI | ABS | 2.98802718 | | BB | **4.149** | | | | | 95.7044 | 207.7750 |
| 84 | Po | MII | ABS | 3.21696894 | | BB | **3.853** | | | | | 103.0372 | 223.6947 |
| 84 | Po | MIII | ABS | 3.75496532 | | BB | **3.301** | | | | | 120.2689 | |
| 84 | Po | MIV | ABS | 4.43120801 | | BB | **2.797** | | | | | 141.9284 | |
| 84 | Po | MV | ABS | 4.62114051 | | BB | **2.682** | | | | | 148.0118 | |
| 84 | Po | NI | ABS | 12.45706822 | | BB | **0.995** | | | | 135.4187 | | |
| 84 | Po | NII | ABS | 14.56935370 | | BB | **0.851** | | | 66.0207 | 158.3810 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 84 | Po | NIII | ABS | 17.58655319 | | BB | **0.705** | | | 79.6931 | 191.1805 | | |
| 84 | Po | NIV | ABS | 24.78712515 | | BB | **0.500** | | 70.8204 | 112.3223 | 269.4567 | | |
| 84 | Po | NV | ABS | 26.19036755 | | BB | **0.473** | | 74.8296 | 118.6811 | 284.7111 | | |
| 84 | Po | OIV | ABS | 394.85732484 | | BB | **0.031** | | | | | | |
| 84 | Po | OV | ABS | 394.85732484 | | BB | **0.031** | | | | | | |
| 85 | At | K | ABS | 0.12951565 | | BB | **95.710** | | | | | | |
| 85 | At | KB2 | | 0.13060000 | 5 | | **94.916** | | | | | | |
| 85 | At | KB1 | | 0.13430000 | 15 | | **92.301** | | | | | | |
| 85 | At | KB3 | | 0.13520000 | 15 | | **91.686** | | | | | | |
| 85 | At | KA1 | | 0.15210000 | 100 | | **81.499** | | | | | | |
| 85 | At | KA2 | | 0.15700000 | 50 | | **78.955** | | | | | | |
| 85 | At | LI | ABS | 0.70877037 | | BB | **17.489** | | | | | | |
| 85 | At | LII | ABS | 0.73867987 | | BB | **16.781** | | | | | | |
| 85 | At | LG1 | | 0.76290000 | 10 | | **16.249** | | | | | | |
| 85 | At | LB9 | | 0.84549999 | 0.56 | C | **14.661** | | | | | | |
| 85 | At | LIII | ABS | 0.87230591 | | BB | **14.211** | | | | | | 60.6565 |
| 85 | At | LB5 | | 0.87500000 | 3.59 | C | **14.167** | | | | | | 60.8439 |
| 85 | At | LB3 | | 0.88150001 | 6 | C | **14.062** | | | | | | 61.2959 |
| 85 | At | LB7 | | 0.88480002 | 0.35 | C | **14.010** | | | | | | 61.5253 |
| 85 | At | Lu | | 0.88580000 | 0.13 | C | **13.994** | | | | | | 61.5949 |
| 85 | At | LB1 | | 0.89359999 | 47.56 | C | **13.872** | | | | | | 62.1372 |
| 85 | At | LB2 | | 0.90490001 | 23.05 | C | **13.699** | | | | | | 62.9230 |
| 85 | At | LB4 | | 0.91909999 | 5.81 | C | **13.487** | | | | | | 63.9104 |
| 85 | At | LB17 | | 0.92699999 | 0.05 | C | **13.372** | | | | | | 64.4597 |
| 85 | At | LB6 | | 0.94190001 | 1.55 | C | **13.161** | | | | | | 65.4958 |
| 85 | At | Ln | | 0.99409997 | 1.32 | C | **12.470** | | | | | | 69.1256 |
| 85 | At | LA1 | | 1.08519995 | 100 | C | **11.423** | | | | | | 75.4603 |
| 85 | At | LA2 | | 1.09689999 | 11.41 | C | **11.301** | | | | | | 76.2739 |
| 85 | At | Ls | | 1.18229997 | 0.14 | C | **10.485** | | | | | | 82.2122 |
| 85 | At | LI | | 1.25399995 | 6.18 | C | **9.885** | | | | | | 87.1980 |
| 85 | At | MI | ABS | 2.87202224 | | BB | **4.316** | | | | | 91.9888 | 199.7085 |
| 85 | At | MII | ABS | 3.09344311 | | BB | **4.007** | | | | | 99.0808 | 215.1052 |
| 85 | At | MIII | ABS | 3.61894921 | | BB | **3.425** | | | | | 115.9124 | 251.6467 |
| 85 | At | MIV | ABS | 4.26256403 | | BB | **2.908** | | | | | 136.5269 | |
| 85 | At | MV | ABS | 4.44917645 | | BB | **2.786** | | | | | 142.5039 | |
| 85 | At | NI | ABS | 11.89877159 | | BB | **1.042** | | | | 129.3495 | | |
| 85 | At | NII | ABS | 13.99381490 | | BB | **0.886** | | | 63.4127 | 152.1244 | | |
| 85 | At | NIII | ABS | 16.75475676 | | BB | **0.740** | | | 75.9238 | 182.1381 | | |
| 85 | At | NIV | ABS | 23.25303826 | | BB | **0.533** | | 66.4373 | 105.3706 | 252.7799 | | |
| 86 | Rn | K | ABS | 0.12599610 | | BB | **98.384** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 86 | Rn | KB2 | | 0.12710000 | 5 | | **97.530** | | | | | | |
| 86 | Rn | KB1 | | 0.13070000 | 15 | | **94.843** | | | | | | |
| 86 | Rn | KB3 | | 0.13160000 | 15 | | **94.195** | | | | | | |
| 86 | Rn | KA1 | | 0.14800000 | 100 | | **83.757** | | | | | | |
| 86 | Rn | KA2 | | 0.15290000 | 50 | | **81.073** | | | | | | |
| 86 | Rn | LI | ABS | 0.68693667 | | BB | **18.045** | | | | | | |
| 86 | Rn | LII | ABS | 0.71514382 | | BB | **17.334** | | | | | | |
| 86 | Rn | LG1 | | 0.73930000 | 10 | | **16.767** | | | | | | |
| 86 | Rn | LIII | ABS | 0.84808679 | | BB | **14.616** | | | | | | |
| 86 | Rn | LB5 | | 0.85119998 | 3,80 | C | **14.563** | | | | | | |
| 86 | Rn | LB3 | | 0.85450000 | 6.07 | C | **14.507** | | | | | | |
| 86 | Rn | LB7 | | 0.86100000 | 0.36 | C | **14.397** | | | | | | |
| 86 | Rn | Lu | | 0.86260003 | 0.14 | C | **14.371** | | | | | | |
| 86 | Rn | LB1 | | 0.86619997 | 48.08 | C | **14.311** | | | | | | 60.2319 |
| 86 | Rn | LB2 | | 0.88110000 | 23.25 | C | **14.069** | | | | | | 61.2680 |
| 86 | Rn | LB4 | | 0.89190000 | 6 | C | **13.898** | | | | | | 62.0190 |
| 86 | Rn | LB17 | | 0.89800000 | 0.05 | C | **13.804** | | | | | | 62.4432 |
| 86 | Rn | LB6 | | 0.91740000 | 1.59 | C | **13.512** | | | | | | 63.7922 |
| 86 | Rn | Ln | | 0.96390003 | 1.34 | C | **12.860** | | | | | | 67.0256 |
| 86 | Rn | LA1 | | 1.05739999 | 100 | C | **11.723** | | | | | | 73.5272 |
| 86 | Rn | LA2 | | 1.06920004 | 11.39 | C | **11.594** | | | | | | 74.3477 |
| 86 | Rn | Ls | | 1.15320003 | 0.14 | C | **10.749** | | | | | | 80.1887 |
| 86 | Rn | LI | | 1.22329998 | 6.25 | C | **10.133** | | | | | | 85.0632 |
| 86 | Rn | MI | ABS | 2.76629183 | | BB | **4.481** | | | | | 88.6023 | 192.3564 |
| 86 | Rn | MII | ABS | 2.98113008 | | BB | **4.158** | | | | | 95.4835 | 207.2954 |
| 86 | Rn | MIII | ABS | 3.50438666 | | BB | **3.537** | | | | | 112.2430 | 243.6805 |
| 86 | Rn | MIV | ABS | 4.10343207 | | BB | **3.021** | | | | | 131.4300 | |
| 86 | Rn | MV | ABS | 4.28658553 | | BB | **2.892** | | | | | 137.2963 | |
| 86 | Rn | NI | ABS | 11.30220602 | | BB | **1.097** | | | | 122.8644 | | |
| 86 | Rn | NII | ABS | 13.34609257 | | BB | **0.929** | | | 60.4775 | 145.0831 | | |
| 86 | Rn | NIII | ABS | 16.14390625 | | BB | **0.768** | | | 73.1557 | 175.4977 | | |
| 86 | Rn | NIV | ABS | 21.88231557 | | BB | **0.566** | | 62.5209 | 99.1592 | 237.8790 | | |
| 87 | Fr | K | ABS | 0.12259134 | | BB | **101.116** | | | | | | |
| 87 | Fr | KB2 | | 0.12370000 | 5 | | **100.210** | | | | | | |
| 87 | Fr | KB1 | | 0.12720000 | 15 | | **97.453** | | | | | | |
| 87 | Fr | KB3 | | 0.12810000 | 15 | | **96.768** | | | | | | |
| 87 | Fr | KA1 | | 0.14400000 | 100 | | **86.083** | | | | | | |
| 87 | Fr | KA2 | | 0.14900000 | 50 | | **83.195** | | | | | | |
| 87 | Fr | LI | ABS | 0.66519234 | | BB | **18.635** | | | | | | |
| 87 | Fr | LII | ABS | 0.69240332 | | BB | **17.903** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 87 | Fr | LG1 | | 0.71644430 | 10 | | **17.302** | | | | | | |
| 87 | Fr | LIII | ABS | 0.82485231 | | BB | **15.028** | | | | | | |
| 87 | Fr | LB3 | | 0.82800001 | 5.97 | C | **14.971** | | | | | | |
| 87 | Fr | LB5 | | 0.82840002 | 3.98 | C | **14.964** | | | | | | |
| 87 | Fr | LB7 | | 0.83829999 | 0.37 | C | **14.787** | | | | | | |
| 87 | Fr | LB1 | | 0.83950001 | 47.91 | C | **14.766** | | | | | | |
| 87 | Fr | Lu | | 0.84030002 | 0.14 | C | **14.752** | | | | | | |
| 87 | Fr | LB2 | | 0.85829997 | 23.37 | C | **14.443** | | | | | | |
| 87 | Fr | LB4 | | 0.86580002 | 6.03 | C | **14.317** | | | | | | 60.2041 |
| 87 | Fr | LB17 | | 0.87029999 | 0.06 | C | **14.243** | | | | | | 60.5170 |
| 87 | Fr | LB6 | | 0.89380002 | 1.61 | C | **13.869** | | | | | | 62.1511 |
| 87 | Fr | Ln | | 0.93510002 | 1.34 | C | **13.256** | | | | | | 65.0230 |
| 87 | Fr | LA1 | | 1.03069997 | 100 | C | **12.027** | | | | | | 71.6706 |
| 87 | Fr | LA2 | | 1.04250002 | 11.37 | C | **11.891** | | | | | | 72.4911 |
| 87 | Fr | Ls | | 1.12520003 | 0.14 | C | **11.017** | | | | | | 78.2417 |
| 87 | Fr | Ll | | 1.19490004 | 6.34 | C | **10.374** | | | | | | 83.0884 |
| 87 | Fr | MI | ABS | 2.66520206 | | BB | **4.651** | | | | | 85.3645 | 185.3271 |
| 87 | Fr | MII | ABS | 2.86538479 | | BB | **4.326** | | | | | 91.7762 | 199.2470 |
| 87 | Fr | MIII | ABS | 3.38479934 | | BB | **3.662** | | | | | 108.4127 | 235.3649 |
| 87 | Fr | MIV | ABS | 3.95335757 | | BB | **3.136** | | | | | 126.6232 | |
| 87 | Fr | MV | ABS | 4.13297777 | | BB | **2.999** | | | | | 132.3763 | |
| 87 | Fr | NI | ABS | 10.75326973 | | BB | **1.153** | | | | 116.8970 | | |
| 87 | Fr | NII | ABS | 12.65155102 | | BB | **0.980** | | | | 137.5329 | | |
| 87 | Fr | NIII | ABS | 15.30681481 | | BB | **0.810** | | | 69.3625 | 166.3978 | | |
| 87 | Fr | NIV | ABS | 20.55116857 | | BB | **0.603** | | | 93.1272 | 223.4083 | | |
| 87 | Fr | NV | ABS | 21.48790295 | | BB | **0.577** | | 61.3940 | 97.3720 | 233.5914 | | |
| 88 | Ra | K | ABS | 0.11930613 | | BB | **103.901** | | | | | | |
| 88 | Ra | KB2 | | 0.12040000 | 5 | | **102.957** | | | | | | |
| 88 | Ra | KB1 | | 0.12380000 | 15 | | **100.129** | | | | | | |
| 88 | Ra | KB3 | | 0.12470000 | 15 | | **99.407** | | | | | | |
| 88 | Ra | KA1 | | 0.14010000 | 100 | | **88.480** | | | | | | |
| 88 | Ra | KA2 | | 0.14510000 | 50 | | **85.431** | | | | | | |
| 88 | Ra | LI | ABS | 0.64452427 | | BB | **19.233** | | | | | | |
| 88 | Ra | LG13 | | 0.64510048 | 0.001 | | **19.216** | | | | | | |
| 88 | Ra | L1-O4 | | 0.64680391 | 0.01 | | **19.165** | | | | | | |
| 88 | Ra | LG4 | | 0.64960957 | 0.6 | | **19.082** | | | | | | |
| 88 | Ra | LG4' | | 0.65131300 | 0.01 | | **19.032** | | | | | | |
| 88 | Ra | LG11 | | 0.66534128 | 0.07 | | **18.631** | | | | | | |
| 88 | Ra | L1-N4 | | 0.66654370 | 0.01 | | **18.597** | | | | | | |
| 88 | Ra | LII | ABS | 0.67075951 | | BB | **18.481** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | Ra | L2-P2 | | 0.67135340 | 0.01 | | **18.464** | | | | | | |
| 88 | Ra | L2-P1 | | 0.67235542 | 0.01 | | **18.437** | | | | | | |
| 88 | Ra | LG6 | | 0.67325724 | 1.3 | | **18.412** | | | | | | |
| 88 | Ra | LG3 | | 0.67536148 | 1.7 | | **18.355** | | | | | | |
| 88 | Ra | L2-O3 | | 0.67636350 | 0.01 | | **18.327** | | | | | | |
| 88 | Ra | L2-O2 | | 0.67796673 | 0.01 | | **18.284** | | | | | | |
| 88 | Ra | LG8 | | 0.68007097 | 0.07 | | **18.228** | | | | | | |
| 88 | Ra | LG2 | | 0.68197481 | 1.4 | | **18.177** | | | | | | |
| 88 | Ra | L1-N1 | | 0.68738572 | 0.01 | | **18.034** | | | | | | |
| 88 | Ra | L2-N5 | | 0.69319744 | 0.01 | | **17.882** | | | | | | |
| 88 | Ra | LG1 | | 0.69460026 | 10 | | **17.846** | | | | | | |
| 88 | Ra | L2-N3 | | 0.70421966 | 0.01 | | **17.602** | | | | | | |
| 88 | Ra | LG5 | | 0.71764672 | 0.35 | | **17.273** | | | | | | |
| 88 | Ra | LB9 | | 0.76854934 | 0.57 | | **16.129** | | | | | | |
| 88 | Ra | LB10 | | 0.77536308 | 0.001 | | **15.987** | | | | | | |
| 88 | Ra | SLB5^2 | | 0.80041358 | 1 | | **15.487** | | | | | | |
| 88 | Ra | SLB5^1 | | 0.80121519 | 1 | | **15.471** | | | | | | |
| 88 | Ra | LB3 | | 0.80271822 | 6 | | **15.443** | | | | | | |
| 88 | Ra | LIII | ABS | 0.80278418 | | BB | **15.441** | | | | | | |
| 88 | Ra | L3-P2 | | 0.80372024 | 0.01 | | **15.423** | | | | | | |
| 88 | Ra | L3-P1 | | 0.80492267 | 0.01 | | **15.400** | | | | | | |
| 88 | Ra | LB5 | | 0.80622529 | 4 | | **15.375** | | | | | | |
| 88 | Ra | LB1 | | 0.81374044 | 50 | | **15.233** | | | | | | |
| 88 | Ra | LB7 | | 0.81614529 | 0.38 | | **15.188** | | | | | | |
| 88 | Ra | Lu | | 0.81860000 | 0.01 | | **15.143** | | | | | | |
| 88 | Ra | SLB2^4 | | 0.82446206 | 1 | | **15.035** | | | | | | |
| 88 | Ra | SLB2^3 | | 0.82646610 | 1 | | **14.999** | | | | | | |
| 88 | Ra | SLB2^2 | | 0.83037397 | 1 | | **14.928** | | | | | | |
| 88 | Ra | SLB2^1 | | 0.83167660 | 1 | | **14.905** | | | | | | |
| 88 | Ra | LB2 | | 0.83569998 | 23.58 | C | **14.833** | | | | | | |
| 88 | Ra | LB15 | | 0.83718771 | 0.001 | | **14.807** | | | | | | |
| 88 | Ra | LB4 | | 0.84079999 | 6.21 | C | **14.743** | | | | | | |
| 88 | Ra | LB17 | | 0.84390002 | 0.06 | C | **14.689** | | | | | | |
| 88 | Ra | L3-N3 | | 0.85111579 | 0.01 | | **14.564** | | | | | | |
| 88 | Ra | L3-N2 | | 0.86173720 | 0.01 | | **14.385** | | | | | | |
| 88 | Ra | LB6 | | 0.87099999 | 1.64 | C | **14.232** | | | | | | 60.5657 |
| 88 | Ra | Ln | | 0.90759999 | 1.33 | C | **13.658** | | | | | | 63.1107 |
| 88 | Ra | SLAA | | 0.99690970 | 1 | | **12.434** | | | | | | 69.3210 |
| 88 | Ra | SLA^IX | | 1.00131860 | 1 | | **12.380** | | | | | | 69.6275 |
| 88 | Ra | SLA' | | 1.00302200 | 1 | | **12.359** | | | | | | 69.7460 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 88 | Ra | LA1 | | 1.00489998 | 100 | C | **12.336** | | | | | | 69.8766 |
| 88 | Ra | SLAS | | 1.01254120 | 1 | | **12.242** | | | | | | 70.4079 |
| 88 | Ra | LA2 | | 1.01670003 | 11.35 | C | **12.192** | | | | | | 70.6971 |
| 88 | Ra | Ls | | 1.09819996 | 0.15 | C | **11.288** | | | | | | 76.3643 |
| 88 | Ra | Lt | | 1.13238280 | 0.01 | | **10.947** | | | | | | 78.7412 |
| 88 | Ra | Ll | | 1.16740000 | 6.43 | C | **10.618** | | | | | | 81.1761 |
| 88 | Ra | MI | ABS | 2.57124015 | | BB | **4.821** | | | | | 82.3550 | 178.7934 |
| 88 | Ra | MII | ABS | 2.76167056 | | BB | **4.489** | | | | | 88.4543 | 192.0351 |
| 88 | Ra | MIII | ABS | 3.26982436 | | BB | **3.791** | | | | | 104.7301 | 227.3700 |
| 88 | Ra | MIV | ABS | 3.81680827 | | BB | **3.248** | | | | | 122.2496 | |
| 88 | Ra | MV | ABS | 3.99321073 | | BB | **3.104** | | | | | 127.8997 | |
| 88 | Ra | NI | ABS | 10.26027805 | | BB | **1.208** | | | | 111.5378 | | |
| 88 | Ra | NII | ABS | 11.72326021 | | BB | **1.057** | | | | 127.4416 | | |
| 88 | Ra | NIII | ABS | 14.10365146 | | BB | **0.879** | | | 63.9104 | 153.3184 | | |
| 88 | Ra | NIV | ABS | 19.49759396 | | BB | **0.636** | | | 88.3529 | 211.9551 | | |
| 88 | Ra | NV | ABS | 20.57162768 | | BB | **0.603** | | | 93.2199 | 223.6307 | | |
| 88 | Ra | NVI | ABS | 41.48049515 | | BB | **0.299** | 81.2205 | 118.5157 | 187.9679 | 450.9275 | | |
| 88 | Ra | NVII | ABS | 41.48049515 | | BB | **0.299** | 81.2205 | 118.5157 | 187.9679 | 450.9275 | | |
| 88 | Ra | OI | ABS | 48.73632075 | | BB | **0.254** | 95.4278 | 139.2466 | 220.8475 | 529.8043 | | |
| 88 | Ra | OII | ABS | 61.86886228 | | BB | **0.200** | 121.1418 | 176.7682 | 280.3574 | 672.5660 | | |
| 88 | Ra | OIII | ABS | 81.14214660 | | BB | **0.153** | 158.8797 | 231.8347 | 367.6938 | 882.0826 | | |
| 88 | Ra | OIV | ABS | 184.50178571 | | BB | **0.067** | | | | | | |
| 88 | Ra | OV | ABS | 184.50178571 | | BB | **0.067** | | | | | | |
| 88 | Ra | PI | ABS | 285.02344828 | | BB | **0.043** | | | | | | |
| 89 | Ac | K | ABS | 0.11613962 | | BB | **106.734** | | | | | | |
| 89 | Ac | KB2 | | 0.11720000 | 5 | | **105.768** | | | | | | |
| 89 | Ac | KB1 | | 0.12060000 | 15 | | **102.786** | | | | | | |
| 89 | Ac | KB3 | | 0.12140000 | 15 | | **102.109** | | | | | | |
| 89 | Ac | KA1 | | 0.13640000 | 100 | | **90.880** | | | | | | |
| 89 | Ac | KA2 | | 0.14140000 | 50 | | **87.666** | | | | | | |
| 89 | Ac | LI | ABS | 0.62492540 | | BB | **19.836** | | | | | | |
| 89 | Ac | LII | ABS | 0.64970864 | | BB | **19.079** | | | | | | |
| 89 | Ac | LG1 | | 0.67060000 | 10 | | **18.485** | | | | | | |
| 89 | Ac | LB3 | | 0.77820000 | 6 | | **15.929** | | | | | | |
| 89 | Ac | LIII | ABS | 0.78120597 | | BB | **15.868** | | | | | | |
| 89 | Ac | LB1 | | 0.78900000 | 50 | | **15.711** | | | | | | |
| 89 | Ac | LB2 | | 0.81400000 | 23.6 | | **15.229** | | | | | | |
| 89 | Ac | LB6 | | 0.84909999 | 1.68 | C | **14.599** | | | | | | |
| 89 | Ac | Ln | | 0.88050002 | 1.33 | C | **14.078** | | | | | | 61.2263 |
| 89 | Ac | LA1 | | 0.98009998 | 100 | C | **12.648** | | | | | | 68.1521 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 89 | Ac | LA2 | | 0.99190003 | 11.38 | C | **12.497** | | | | | | 68.9726 |
| 89 | Ac | Ls | | 1.07219994 | 0.15 | C | **11.561** | | | | | | 74.5563 |
| 89 | Ac | Ll | | 1.14090002 | 6.55 | C | **10.865** | | | | | | 79.3335 |
| 89 | Ac | MI | ABS | 2.47871251 | | BB | **5.001** | | | | | 79.3914 | 172.3594 |
| 89 | Ac | MII | ABS | 2.66291237 | | BB | **4.655** | | | | | 85.2912 | 185.1679 |
| 89 | Ac | MIII | ABS | 3.17178818 | | BB | **3.908** | | | | | 101.5901 | 220.5530 |
| 89 | Ac | MIV | ABS | 3.67886772 | | BB | **3.370** | | | | | 117.8315 | 255.8132 |
| 89 | Ac | MV | ABS | 3.85166822 | | BB | **3.218** | | | | | 123.3662 | |
| 89 | Ac | NI | ABS | 9.77030733 | | BB | **1.269** | | | | 106.2114 | | |
| 89 | Ac | NII | ABS | 11.48011111 | | BB | **1.080** | | | | 124.7984 | | |
| 89 | Ac | NIII | ABS | 13.93092135 | | BB | **0.890** | | | 63.1277 | 151.4407 | | |
| 89 | Ac | NIV | ABS | 18.37089939 | | BB | **0.675** | | | 83.2473 | 199.7069 | | |
| 90 | Th | K | ABS | 0.11307267 | | BB | **109.629** | | | | | | |
| 90 | Th | Kd1 | | 0.11322826 | 0.01 | | **109.478** | | | | | | |
| 90 | Th | Kd2 | | 0.11322826 | 0.01 | | **109.478** | | | | | | |
| 90 | Th | KB4 | | 0.11370000 | 0.001 | | **109.024** | | | | | | |
| 90 | Th | KB2 | | 0.11413008 | 5 | | **108.613** | | | | | | |
| 90 | Th | KB5 | | 0.11663513 | 0.05 | | **106.280** | | | | | | |
| 90 | Th | KB1 | | 0.11743674 | 15 | | **105.555** | | | | | | |
| 90 | Th | KB3 | | 0.11823836 | 15 | | **104.839** | | | | | | |
| 90 | Th | KA1 | | 0.13276765 | 100 | | **93.366** | | | | | | |
| 90 | Th | KA2 | | 0.13777775 | 50 | | **89.971** | | | | | | |
| 90 | Th | LI | ABS | 0.60563010 | | BB | **20.468** | | | | | | |
| 90 | Th | LG13 | | 0.60702372 | 0.001 | | **20.421** | | | | | | |
| 90 | Th | L1-O4 | | 0.60822614 | 0.01 | | **20.381** | | | | | | |
| 90 | Th | LG4 | | 0.61103180 | 0.6 | | **20.287** | | | | | | |
| 90 | Th | LG4' | | 0.61253483 | 0.01 | | **20.237** | | | | | | |
| 90 | Th | L1-O1 | | 0.61453887 | 0.01 | | **20.171** | | | | | | |
| 90 | Th | L1-N6 | | 0.61594169 | 0.01 | | **20.125** | | | | | | |
| 90 | Th | LG11 | | 0.62646290 | 0.07 | | **19.787** | | | | | | |
| 90 | Th | L1-N4 | | 0.62756513 | 0.01 | | **19.753** | | | | | | |
| 90 | Th | LII | ABS | 0.62958382 | | BB | **19.689** | | | | | | |
| 90 | Th | L2-P4 | | 0.62996997 | 0.01 | | **19.677** | | | | | | |
| 90 | Th | L2-P2 | | 0.63117240 | 0.01 | | **19.640** | | | | | | |
| 90 | Th | LG6 | | 0.63257523 | 1.3 | | **19.596** | | | | | | |
| 90 | Th | LG3 | | 0.63558129 | 1.7 | | **19.503** | | | | | | |
| 90 | Th | L2-O2 | | 0.63688391 | 0.01 | | **19.464** | | | | | | |
| 90 | Th | LG8 | | 0.63908836 | 0.07 | | **19.396** | | | | | | |
| 90 | Th | Lv | | 0.64060000 | 0.01 | | **19.351** | | | | | | |
| 90 | Th | LG2 | | 0.64219462 | 1.4 | | **19.303** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | Th | L1-N1 | | 0.64760553 | 0.01 | | **19.141** | | | | | | |
| 90 | Th | L2-N5 | | 0.65201441 | 0.01 | | **19.012** | | | | | | |
| 90 | Th | LG1 | | 0.65311664 | 10 | | **18.980** | | | | | | |
| 90 | Th | L2-N3 | | 0.66193441 | 0.01 | | **18.727** | | | | | | |
| 90 | Th | LG5 | | 0.67496067 | 0.35 | | **18.366** | | | | | | |
| 90 | Th | LB9 | | 0.72365884 | 0.57 | | **17.130** | | | | | | |
| 90 | Th | LB10 | | 0.73027218 | 0.001 | | **16.974** | | | | | | |
| 90 | Th | LB3 | | 0.75482167 | 6 | | **16.422** | | | | | | |
| 90 | Th | L2-M5 | | 0.75782773 | 0.01 | | **16.357** | | | | | | |
| 90 | Th | LIII | ABS | 0.76063140 | | BB | **16.297** | | | | | | |
| 90 | Th | L3-P4 | | 0.76083379 | 0.01 | | **16.293** | | | | | | |
| 90 | Th | L3-P2 | | 0.76263742 | 0.01 | | **16.254** | | | | | | |
| 90 | Th | L3-P1 | | 0.76333884 | 0.01 | | **16.239** | | | | | | |
| 90 | Th | LB5 | | 0.76474166 | 4 | | **16.209** | | | | | | |
| 90 | Th | LB1 | | 0.76514247 | 50 | | **16.201** | | | | | | |
| 90 | Th | SLB2^7 | | 0.76774772 | 1 | | **16.146** | | | | | | |
| 90 | Th | L3-O3 | | 0.76895015 | 0.01 | | **16.121** | | | | | | |
| 90 | Th | SLB2^6 | | 0.76995217 | 1 | | **16.100** | | | | | | |
| 90 | Th | L3-O2 | | 0.77125479 | 0.01 | | **16.073** | | | | | | |
| 90 | Th | SLB2^5 | | 0.77255742 | 1 | | **16.045** | | | | | | |
| 90 | Th | LB7 | | 0.77436106 | 0.38 | | **16.008** | | | | | | |
| 90 | Th | Lu | | 0.77660000 | 0.01 | | **15.962** | | | | | | |
| 90 | Th | SLB2^4 | | 0.77876994 | 1 | | **15.917** | | | | | | |
| 90 | Th | SLB2^4 | | 0.78057358 | 1 | | **15.881** | | | | | | |
| 90 | Th | SLB2^4 | | 0.78217681 | 1 | | **15.848** | | | | | | |
| 90 | Th | SLB2^4 | | 0.78337924 | 1 | | **15.824** | | | | | | |
| 90 | Th | SLB2^3 | | 0.78438126 | 1 | | **15.804** | | | | | | |
| 90 | Th | SLB2^3 | | 0.78588429 | 1 | | **15.773** | | | | | | |
| 90 | Th | SLB2^C | | 0.78698651 | 1 | | **15.751** | | | | | | |
| 90 | Th | SLB2^2 | | 0.78909075 | 1 | | **15.709** | | | | | | |
| 90 | Th | SLB2^1 | | 0.79009277 | 1 | | **15.689** | | | | | | |
| 90 | Th | LB17 | | 0.79259782 | 0.06 | | **15.640** | | | | | | |
| 90 | Th | LB4 | | 0.79259782 | 5 | | **15.640** | | | | | | |
| 90 | Th | LB2 | | 0.79349964 | 23.6 | | **15.622** | | | | | | |
| 90 | Th | LB15 | | 0.79540348 | 0.001 | | **15.585** | | | | | | |
| 90 | Th | L3-N3 | | 0.80822933 | 0.01 | | **15.337** | | | | | | |
| 90 | Th | L3-N2 | | 0.81885074 | 0.01 | | **15.138** | | | | | | |
| 90 | Th | LB6 | | 0.82800001 | 1.72 | C | **14.971** | | | | | | |
| 90 | Th | L2-M2 | | 0.83388104 | 0.01 | | **14.865** | | | | | | |
| 90 | Th | Ln | | 0.85460001 | 1.34 | C | **14.505** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | Th | SLAA | | 0.94650809 | 1 | | **13.097** | | | | | | 65.8162 |
| 90 | Th | SLA^X | | 0.95191900 | 1 | | **13.022** | | | | | | 66.1925 |
| 90 | Th | SLA^IX | | 0.95272062 | 1 | | **13.011** | | | | | | 66.2482 |
| 90 | Th | SLA' | | 0.95422365 | 1 | | **12.991** | | | | | | 66.3528 |
| 90 | Th | LA1 | | 0.95609999 | 100 | C | **12.965** | | | | | | 66.4832 |
| 90 | Th | SLA1^Z | | 0.95702930 | 1 | | **12.953** | | | | | | 66.5478 |
| 90 | Th | SLAS | | 0.96424385 | 1 | | **12.856** | | | | | | 67.0495 |
| 90 | Th | LA2 | | 0.96810001 | 11.41 | C | **12.804** | | | | | | 67.3177 |
| 90 | Th | Ls | | 1.04700005 | 0.16 | C | **11.840** | | | | | | 72.8040 |
| 90 | Th | Lt | | 1.07997720 | 0.01 | | **11.478** | | | | | | 75.0971 |
| 90 | Th | Ll | | 1.11520004 | 6.71 | C | **11.115** | | | | | | 77.5464 |
| 90 | Th | MI | ABS | 2.39247438 | | BB | **5.181** | | | | | 76.6292 | 166.3627 |
| 90 | Th | M1-O3 | | 2.44199991 | 0.01 | C | **5.076** | | | | | 78.2155 | 169.8065 |
| 90 | Th | MII | ABS | 2.56676880 | | BB | **4.829** | | | | | 82.2118 | 178.4824 |
| 90 | Th | M2-O4 | | 2.61800003 | 1 | C | **4.735** | | | | | 83.8527 | 182.0449 |
| 90 | Th | M1-N3 | | 2.93400002 | 0.1 | C | **4.225** | | | | | 93.9739 | 204.0182 |
| 90 | Th | M2-N4 | | 3.01099992 | 5 | C | **4.117** | | | | | 96.4402 | 209.3724 |
| 90 | Th | MIII | ABS | 3.06431378 | | BB | **4.045** | | | | | 98.1478 | 213.0797 |
| 90 | Th | M3-O5 | | 3.13031050 | 1 | | **3.960** | | | | | 100.2616 | 217.6688 |
| 90 | Th | M3-O4 | | 3.13100004 | 1 | C | **3.959** | | | | | 100.2837 | 217.7167 |
| 90 | Th | M1-N2 | | 3.13331650 | 1 | | **3.956** | | | | | 100.3579 | 217.8778 |
| 90 | Th | M3-O1 | | 3.28299999 | 0.5 | C | **3.776** | | | | | 105.1521 | 228.2862 |
| 90 | Th | M2-N1 | | 3.53699994 | 0.01 | C | **3.505** | | | | | 113.2876 | 245.9483 |
| 90 | Th | MIV | ABS | 3.55177037 | | BB | **3.490** | | | | | 113.7607 | 246.9754 |
| 90 | Th | SMG' | | 3.66839520 | 1 | | **3.379** | | | | | 117.4961 | 255.0850 |
| 90 | Th | MG | | 3.67899990 | 5 | C | **3.369** | | | | | 117.8357 | 255.8224 |
| 90 | Th | M3-N4 | | 3.71799994 | 5 | C | **3.334** | | | | | 119.0849 | 258.5343 |
| 90 | Th | MV | ABS | 3.72104442 | | BB | **3.331** | | | | | 119.1824 | 258.7460 |
| 90 | Th | M5-P3 | | 3.75999999 | 0.01 | C | **3.297** | | | | | 120.4301 | |
| 90 | Th | M4-O2 | | 3.80800009 | 1 | C | **3.255** | | | | | 121.9675 | |
| 90 | Th | SMB3 | | 3.91789820 | 1 | | **3.164** | | | | | 125.4875 | |
| 90 | Th | SMB2 | | 3.92511270 | 1 | | **3.158** | | | | | 125.7185 | |
| 90 | Th | SMB1 | | 3.93332930 | 1 | | **3.152** | | | | | 125.9817 | |
| 90 | Th | MB | | 3.94099998 | 60 | C | **3.145** | | | | | 126.2274 | |
| 90 | Th | SMA^4 | | 4.09725980 | 1 | | **3.025** | | | | | 131.2323 | |
| 90 | Th | SMA^2 | | 4.11970500 | 1 | | **3.009** | | | | | 131.9512 | |
| 90 | Th | SMA^1 | | 4.12812200 | 1 | | **3.003** | | | | | 132.2208 | |
| 90 | Th | MA1 | | 4.13810015 | 100 | C | **2.996** | | | | | 132.5404 | |
| 90 | Th | MA2 | | 4.15100002 | 100 | C | **2.986** | | | | | 132.9536 | |
| 90 | Th | M3-N1 | | 4.56799984 | 1 | C | **2.714** | | | | | 146.3098 | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90 | Th | M4-N3 | | 4.91099977 | 0.01 | C | **2.524** | | | | | 157.2958 | |
| 90 | Th | MZ1 | | 5.24499989 | 1 | C | **2.363** | | | | | 167.9936 | |
| 90 | Th | MZ2 | | 5.34000015 | 0.1 | C | **2.321** | | | | | 171.0364 | |
| 90 | Th | NI | ABS | 9.32570139 | | BB | **1.329** | | | | 101.3781 | | |
| 90 | Th | NG3 | | 9.39894760 | 1 | | **1.319** | | | | 102.1744 | | |
| 90 | Th | NG1 | | 9.44203450 | 1 | | **1.313** | | | | 102.6428 | | |
| 90 | Th | NII | ABS | 10.61517123 | | BB | **1.168** | | | | 115.3957 | | |
| 90 | Th | N2-P1 | | 11.07000000 | 1 | | **1.120** | | | | 120.3401 | | |
| 90 | Th | N2-O4 | | 11.56000000 | 1 | | **1.072** | | | | 125.6668 | | |
| 90 | Th | NIII | ABS | 12.81765740 | | BB | **0.967** | | | | 139.3386 | | |
| 90 | Th | N3-O5 | | 13.80000000 | 1 | | **0.898** | | | 62.5344 | 150.0175 | | |
| 90 | Th | NIV | ABS | 17.36244223 | | BB | **0.714** | | | 78.6775 | 188.7442 | | |
| 90 | Th | NV | ABS | 18.33015967 | | BB | **0.676** | | | 83.0627 | 199.2641 | | |
| 90 | Th | N4-N6 | | 33.57000000 | 1 | | **0.369** | 65.7315 | 95.9143 | 152.1217 | 364.9338 | | |
| 90 | Th | NVI | ABS | 36.00034843 | | BB | **0.344** | 70.4902 | 102.8581 | 163.1348 | 391.3537 | | |
| 90 | Th | N5-N6 | | 36.32000000 | 1 | | **0.341** | 71.1161 | 103.7714 | 164.5833 | 394.8286 | | |
| 90 | Th | NVII | ABS | 36.98842482 | | BB | **0.335** | 72.4249 | 105.6812 | 167.6122 | 402.0949 | | |
| 90 | Th | OI | ABS | 42.72405238 | | BB | **0.290** | 83.6555 | 122.0687 | 193.6031 | 464.4460 | | |
| 90 | Th | N6-O5 | | 48.20000000 | 1 | | **0.257** | 94.3776 | 137.7143 | 218.4172 | 523.9741 | | |
| 90 | Th | N6-O4 | | 50.00000000 | 0.01 | C | **0.248** | 97.9021 | 142.8571 | 226.5739 | 543.5416 | | |
| 90 | Th | N7-O5 | | 50.00000000 | 1 | | **0.248** | 97.9021 | 142.8571 | 226.5739 | 543.5416 | | |
| 90 | Th | OII | ABS | 54.04760244 | | BB | **0.229** | 105.8275 | 154.4217 | 244.9155 | 587.5424 | | |
| 90 | Th | O2-P1 | | 64.50000000 | 1 | | **0.192** | 126.2937 | 184.2857 | 292.2803 | 701.1686 | | |
| 90 | Th | OIII | ABS | 68.19867987 | | BB | **0.182** | 133.5359 | 194.8534 | 309.0408 | 741.3763 | | |
| 90 | Th | O3-P4 | | 68.20000000 | 1 | | **0.182** | 133.5385 | 194.8571 | 309.0468 | 741.3907 | | |
| 90 | Th | O3-P1 | | 68.30000000 | 1 | | **0.181** | 133.7343 | 195.1429 | 309.4999 | 742.4778 | | |
| 90 | Th | OIV | ABS | 131.47953340 | | BB | **0.094** | 257.4424 | | | | | |
| 90 | Th | OV | ABS | 141.05255973 | | BB | **0.088** | | | | | | |
| 90 | Th | PI | ABS | 208.37848739 | | BB | **0.059** | | | | | | |
| 90 | Th | PII | ABS | 253.03102041 | | BB | **0.049** | | | | | | |
| 90 | Th | PIII | ABS | 288.33767442 | | BB | **0.043** | | | | | | |
| 91 | Pa | K | ABS | 0.11010982 | | BB | **112.579** | | | | | | |
| 91 | Pa | KB2 | | 0.11120000 | 5 | | **111.475** | | | | | | |
| 91 | Pa | KB1 | | 0.11430000 | 15 | | **108.451** | | | | | | |
| 91 | Pa | KB3 | | 0.11520000 | 15 | | **107.604** | | | | | | |
| 91 | Pa | KA1 | | 0.12930000 | 100 | | **95.870** | | | | | | |
| 91 | Pa | KA2 | | 0.13430000 | 50 | | **92.301** | | | | | | |
| 91 | Pa | LI | ABS | 0.58747951 | | BB | **21.100** | | | | | | |
| 91 | Pa | LG4 | | 0.59369685 | 0.6 | | **20.879** | | | | | | |
| 91 | Pa | LII | ABS | 0.61035262 | | BB | **20.310** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91 | Pa | LG6 | | 0.61323624 | 1.3 | | **20.214** | | | | | | |
| 91 | Pa | LG3 | | 0.61684351 | 1.7 | | **20.096** | | | | | | |
| 91 | Pa | LG2 | | 0.62385765 | 1.4 | | **19.870** | | | | | | |
| 91 | Pa | LG1 | | 0.63377765 | 10 | | **19.559** | | | | | | |
| 91 | Pa | LG5 | | 0.65492027 | 0.35 | | **18.927** | | | | | | |
| 91 | Pa | LB9 | | 0.70171461 | 0.57 | | **17.665** | | | | | | |
| 91 | Pa | LB10 | | 0.70872875 | 0.001 | | **17.490** | | | | | | |
| 91 | Pa | LB3 | | 0.73217601 | 6 | | **16.930** | | | | | | |
| 91 | Pa | LIII | ABS | 0.74095774 | | BB | **16.730** | | | | | | |
| 91 | Pa | LB1 | | 0.74219621 | 50 | | **16.702** | | | | | | |
| 91 | Pa | LB5 | | 0.74520227 | 4 | | **16.634** | | | | | | |
| 91 | Pa | LB7 | | 0.75452106 | 0.38 | | **16.429** | | | | | | |
| 91 | Pa | LB4 | | 0.76985197 | 4 | | **16.102** | | | | | | |
| 91 | Pa | LB2 | | 0.77365964 | 23.6 | | **16.023** | | | | | | |
| 91 | Pa | LB6 | | 0.80782852 | 1.75 | | **15.345** | | | | | | |
| 91 | Pa | Ln | | 0.82959998 | 1.26 | C | **14.942** | | | | | | |
| 91 | Pa | LA1 | | 0.93300003 | 100 | C | **13.286** | | | | | | 64.8769 |
| 91 | Pa | LA2 | | 0.94499999 | 11.43 | C | **13.117** | | | | | | 65.7114 |
| 91 | Pa | Ls | | 1.02300000 | 0.16 | C | **12.117** | | | | | | 71.1352 |
| 91 | Pa | Ll | | 1.09099996 | 6.82 | C | **11.362** | | | | | | 75.8636 |
| 91 | Pa | MI | ABS | 2.31018279 | | BB | **5.366** | | | | | 73.9935 | 160.6405 |
| 91 | Pa | MII | ABS | 2.47925773 | | BB | **5.000** | | | | | 79.4088 | 172.3973 |
| 91 | Pa | M2-O4 | | 2.52699995 | 0.01 | C | **4.905** | | | | | 80.9380 | 175.7171 |
| 91 | Pa | M2-N4 | | 2.91000009 | 5 | C | **4.260** | | | | | 93.2052 | 202.3493 |
| 91 | Pa | MIII | ABS | 2.97055920 | | BB | **4.173** | | | | | 95.1449 | 206.5604 |
| 91 | Pa | M3-O4 | | 3.03800011 | 1 | C | **4.080** | | | | | 97.3050 | 211.2499 |
| 91 | Pa | M3-O1 | | 3.24499989 | 0.5 | C | **3.820** | | | | | 103.9350 | 225.6438 |
| 91 | Pa | MIV | ABS | 3.43335179 | | BB | **3.610** | | | | | 109.9678 | 238.7410 |
| 91 | Pa | M2-N1 | | 3.44099998 | 0.01 | C | **3.602** | | | | | 110.2128 | 239.2729 |
| 91 | Pa | MG | | 3.57699990 | 5 | C | **3.465** | | | | | 114.5687 | 248.7297 |
| 91 | Pa | MV | ABS | 3.60233599 | | BB | **3.441** | | | | | 115.3802 | 250.4915 |
| 91 | Pa | M3-N4 | | 3.61400008 | 5 | C | **3.430** | | | | | 115.7538 | 251.3026 |
| 91 | Pa | M4-O2 | | 3.69099998 | 1 | C | **3.358** | | | | | 118.2201 | 256.6568 |
| 91 | Pa | MB | | 3.82699990 | 60 | C | **3.239** | | | | | 122.5761 | |
| 91 | Pa | MA1 | | 4.02199984 | 100 | C | **3.082** | | | | | 128.8218 | |
| 91 | Pa | MA2 | | 4.03499985 | 100 | C | **3.072** | | | | | 129.2382 | |
| 91 | Pa | M3-N1 | | 4.44999981 | 1 | C | **2.786** | | | | | 142.5303 | |
| 91 | Pa | MZ1 | | 5.09200001 | 1 | C | **2.434** | | | | | 163.0931 | |
| 91 | Pa | MZ2 | | 5.19299984 | 0.1 | C | **2.387** | | | | | 166.3281 | |
| 91 | Pa | NI | ABS | 8.93844712 | | BB | **1.387** | | | | 97.1684 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 91 | Pa | NII | ABS | 10.12702769 | | BB | **1.224** | | | | 110.0892 | | |
| 91 | Pa | NIII | ABS | 12.31600278 | | BB | **1.006** | | | | 133.8852 | | |
| 91 | Pa | NIV | ABS | 16.67812752 | | BB | **0.743** | | | 75.5766 | 181.3051 | | |
| 91 | Pa | NV | ABS | 17.50708839 | | BB | **0.708** | | | 79.3330 | 190.3166 | | |
| 91 | Pa | NVI | ABS | 33.40118534 | | BB | **0.371** | 65.4009 | 95.4320 | 151.3567 | 363.0986 | | |
| 91 | Pa | NVII | ABS | 34.48823366 | | BB | **0.359** | 67.5294 | 98.5378 | 156.2827 | 374.9158 | | |
| 91 | Pa | OI | ABS | 40.04689922 | | BB | **0.310** | 78.4135 | 114.4197 | 181.4716 | 435.3431 | | |
| 91 | Pa | OII | ABS | 55.62368775 | | BB | **0.223** | 108.9135 | 158.9248 | 252.0575 | 604.6757 | | |
| 91 | Pa | OIII | ABS | 55.62368775 | | BB | **0.223** | 108.9135 | 158.9248 | 252.0575 | 604.6757 | | |
| 91 | Pa | OIV | ABS | 131.75897981 | | BB | **0.094** | 257.9896 | | | | | |
| 91 | Pa | OV | ABS | 131.75897981 | | BB | **0.094** | 257.9896 | | | | | |
| 92 | U | K | ABS | 0.10724797 | | BB | **115.583** | | | | | | |
| 92 | U | Kd1 | | 0.10740000 | 0.01 | | **115.419** | | | | | | |
| 92 | U | Kd2 | | 0.10740000 | 0.01 | | **115.419** | | | | | | |
| 92 | U | KB4 | | 0.10780000 | 0.001 | | **114.991** | | | | | | |
| 92 | U | KB2 | | 0.10830000 | 5 | | **114.460** | | | | | | |
| 92 | U | KB5 | | 0.11070000 | 0.05 | | **111.978** | | | | | | |
| 92 | U | KB1 | | 0.11142462 | 15 | | **111.250** | | | | | | |
| 92 | U | KB3 | | 0.11232644 | 15 | | **110.357** | | | | | | |
| 92 | U | KA1 | | 0.12595391 | 100 | | **98.417** | | | | | | |
| 92 | U | KA2 | | 0.13096401 | 50 | | **94.652** | | | | | | |
| 92 | U | LI | ABS | 0.56985302 | | BB | **21.753** | | | | | | |
| 92 | U | LG13 | | 0.57055019 | 0.001 | | **21.726** | | | | | | |
| 92 | U | L1-O4 | | 0.57245403 | 0.01 | | **21.654** | | | | | | |
| 92 | U | LG4 | | 0.57505928 | 0.6 | | **21.556** | | | | | | |
| 92 | U | LG4' | | 0.57656231 | 0.01 | | **21.500** | | | | | | |
| 92 | U | LG11 | | 0.58978897 | 0.07 | | **21.018** | | | | | | |
| 92 | U | L1-N4 | | 0.59099140 | 0.01 | | **20.975** | | | | | | |
| 92 | U | LII | ABS | 0.59188260 | | BB | **20.943** | | | | | | |
| 92 | U | L2-P4 | | 0.59199342 | 0.01 | | **20.939** | | | | | | |
| 92 | U | L2-P2 | | 0.59309564 | 0.01 | | **20.901** | | | | | | |
| 92 | U | LG6 | | 0.59479907 | 1.3 | | **20.841** | | | | | | |
| 92 | U | L2-O3 | | 0.59720392 | 0.01 | | **20.757** | | | | | | |
| 92 | U | LG3 | | 0.59850655 | 1.7 | | **20.712** | | | | | | |
| 92 | U | LG8 | | 0.60121200 | 0.07 | | **20.618** | | | | | | |
| 92 | U | Lv | | 0.60311584 | 0.01 | | **20.553** | | | | | | |
| 92 | U | LG2 | | 0.60522008 | 1.4 | | **20.482** | | | | | | |
| 92 | U | LG1 | | 0.61473927 | 10 | | **20.165** | | | | | | |
| 92 | U | L2-N3 | | 0.62275543 | 0.01 | | **19.905** | | | | | | |
| 92 | U | LG5 | | 0.63548108 | 0.35 | | **19.506** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | U | LB9 | | 0.68097279 | 0.57 | | **18.203** | | | | | | |
| 92 | U | LB10 | | 0.68758612 | 0.001 | | **18.028** | | | | | | |
| 92 | U | LB3 | | 0.71023178 | 6 | | **17.453** | | | | | | |
| 92 | U | LB1 | | 0.71995137 | 50 | | **17.218** | | | | | | |
| 92 | U | LIII | ABS | 0.72225931 | | BB | **17.163** | | | | | | |
| 92 | U | L3-P4 | | 0.72235622 | 0.01 | | **17.161** | | | | | | |
| 92 | U | L3-P2 | | 0.72426006 | 0.01 | | **17.115** | | | | | | |
| 92 | U | L3-P1 | | 0.72516187 | 0.01 | | **17.094** | | | | | | |
| 92 | U | LB5 | | 0.72626410 | 4 | | **17.068** | | | | | | |
| 92 | U | L3-O3 | | 0.73087339 | 0.01 | | **16.961** | | | | | | |
| 92 | U | L3-O2 | | 0.73317803 | 0.01 | | **16.907** | | | | | | |
| 92 | U | LB7 | | 0.73608389 | 0.38 | | **16.840** | | | | | | |
| 92 | U | Lu | | 0.73860000 | 0.01 | | **16.783** | | | | | | |
| 92 | U | LB17 | | 0.74500187 | 0.06 | | **16.639** | | | | | | |
| 92 | U | LB4 | | 0.74790773 | 4 | | **16.574** | | | | | | |
| 92 | U | SLB2^2 | | 0.75041278 | 1 | | **16.519** | | | | | | |
| 92 | U | SLB2^1 | | 0.75141480 | 1 | | **16.497** | | | | | | |
| 92 | U | LB2 | | 0.75462126 | 23.6 | | **16.427** | | | | | | |
| 92 | U | LB15 | | 0.75662530 | 0.001 | | **16.383** | | | | | | |
| 92 | U | L3-N3 | | 0.76895015 | 0.01 | | **16.121** | | | | | | |
| 92 | U | L3-N2 | | 0.78007257 | 0.01 | | **15.891** | | | | | | |
| 92 | U | LB6 | | 0.78838934 | 1.75 | | **15.723** | | | | | | |
| 92 | U | Ln | | 0.80522327 | 1.2 | | **15.394** | | | | | | |
| 92 | U | SLAA | | 0.90131699 | 1 | | **13.753** | | | | | | 62.6738 |
| 92 | U | SLA^X | | 0.90652749 | 1 | | **13.674** | | | | | | 63.0362 |
| 92 | U | SLA^IX | | 0.90742931 | 1 | | **13.661** | | | | | | 63.0989 |
| 92 | U | SLA' | | 0.90883214 | 1 | | **13.639** | | | | | | 63.1964 |
| 92 | U | LA1 | | 0.91079998 | 100 | C | **13.610** | | | | | | 63.3332 |
| 92 | U | SLA1^Z | | 0.91163780 | 1 | | **13.598** | | | | | | 63.3915 |
| 92 | U | LA2 | | 0.92269999 | 11.4 | C | **13.434** | | | | | | 64.1607 |
| 92 | U | Ls | | 0.99970001 | 0.16 | C | **12.400** | | | | | | 69.5150 |
| 92 | U | Lt | | 1.03458570 | 0.01 | | **11.982** | | | | | | 71.9408 |
| 92 | U | Ll | | 1.06729996 | 6.9 | C | **11.614** | | | | | | 74.2156 |
| 92 | U | MI | ABS | 2.23477289 | | BB | **5.547** | | | | | 71.5782 | 155.3968 |
| 92 | U | M1-P3 | | 2.25300002 | 0.01 | C | **5.502** | | | | | 72.1620 | 156.6643 |
| 92 | U | M1-O3 | | 2.30399990 | 0.01 | C | **5.380** | | | | | 73.7955 | 160.2106 |
| 92 | U | MII | ABS | 2.39252055 | | BB | **5.181** | | | | | 76.6307 | 166.3659 |
| 92 | U | M2-O4 | | 2.44300008 | 0.01 | C | **5.074** | | | | | 78.2475 | 169.8761 |
| 92 | U | M1-N3 | | 2.75300002 | 0.1 | C | **4.503** | | | | | 88.1766 | 191.4322 |
| 92 | U | M2-N4 | | 2.81699991 | 5 | C | **4.400** | | | | | 90.2265 | 195.8825 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | U | MIII | ABS | 2.88109867 | | BB | **4.303** | | | | | 92.2795 | 200.3396 |
| 92 | U | M1-N2 | | 2.92000008 | 1 | C | **4.245** | | | | | 93.5255 | 203.0447 |
| 92 | U | M3-O5 | | 2.94694080 | 1 | | **4.206** | | | | | 94.3884 | 204.9180 |
| 92 | U | M3-O4 | | 2.94799995 | 1 | C | **4.205** | | | | | 94.4223 | 204.9917 |
| 92 | U | M3-O1 | | 3.11500001 | 0.5 | C | **3.979** | | | | | 99.7712 | 216.6042 |
| 92 | U | MIV | ABS | 3.32614014 | | BB | **3.727** | | | | | 106.5339 | 231.2860 |
| 92 | U | M2-N1 | | 3.32900000 | 0.01 | C | **3.724** | | | | | 106.6255 | 231.4848 |
| 92 | U | SMG' | | 3.46999530 | 1 | | **3.572** | | | | | 111.1415 | 241.2891 |
| 92 | U | MG | | 3.47900009 | 5 | C | **3.563** | | | | | 111.4299 | 241.9152 |
| 92 | U | MV | ABS | 3.49086916 | | BB | **3.551** | | | | | 111.8100 | 242.7405 |
| 92 | U | M3-N4 | | 3.52099991 | 5 | C | **3.521** | | | | | 112.7751 | 244.8357 |
| 92 | U | M4-O2 | | 3.57599998 | 1 | C | **3.466** | | | | | 114.5367 | 248.6602 |
| 92 | U | SMB3 | | 3.69053990 | 1 | | **3.359** | | | | | 118.2054 | 256.6248 |
| 92 | U | SMB2 | | 3.70076050 | 1 | | **3.350** | | | | | 118.5327 | 257.3355 |
| 92 | U | SMB1 | | 3.70857620 | 1 | | **3.343** | | | | | 118.7830 | 257.8790 |
| 92 | U | MB | | 3.71600008 | 60 | C | **3.336** | | | | | 119.0208 | 258.3952 |
| 92 | U | SMA^4 | | 3.87681540 | 1 | | **3.197** | | | | | 124.1716 | |
| 92 | U | SMA^2 | | 3.89214630 | 1 | | **3.185** | | | | | 124.6627 | |
| 92 | U | SMA^1 | | 3.89986180 | 1 | | **3.179** | | | | | 124.9098 | |
| 92 | U | MA1 | | 3.91000009 | 100 | C | **3.170** | | | | | 125.2345 | |
| 92 | U | MA2 | | 3.92400002 | 100 | C | **3.159** | | | | | 125.6829 | |
| 92 | U | M3-N1 | | 4.32999992 | 1 | C | **2.863** | | | | | 138.6868 | |
| 92 | U | M4-N3 | | 4.62500000 | 0.01 | C | **2.680** | | | | | 148.1354 | |
| 92 | U | MZ1 | | 4.94600010 | 1 | C | **2.506** | | | | | 158.4168 | |
| 92 | U | MZ2 | | 5.05000019 | 0.1 | C | **2.455** | | | | | 161.7479 | |
| 92 | U | N1-P4 | | 8.59632960 | 1 | | **1.442** | | | | 93.4492 | | |
| 92 | U | NI | ABS | 8.60530261 | | BB | **1.441** | | | | 93.5468 | | |
| 92 | U | NG3 | | 8.76166290 | 1 | | **1.415** | | | | 95.2466 | | |
| 92 | U | NG1 | | 8.80775580 | 1 | | **1.407** | | | | 95.7476 | | |
| 92 | U | NII | ABS | 9.74266855 | | BB | **1.272** | | | | 105.9109 | | |
| 92 | U | N1-O3 | | 10.09000000 | 1 | | **1.229** | | | | 109.6867 | | |
| 92 | U | N2-P1 | | 10.40000000 | 1 | | **1.192** | | | | 113.0566 | | |
| 92 | U | NIII | ABS | 11.86574792 | | BB | **1.045** | | | | 128.9905 | | |
| 92 | U | N3-O5 | | 12.90000000 | 1 | | **0.961** | | | | 140.2337 | | |
| 92 | U | NIV | ABS | 15.88739108 | | BB | **0.780** | | | 71.9934 | 172.7091 | | |
| 92 | U | NV | ABS | 16.80699471 | | BB | **0.738** | | | 76.1605 | 182.7060 | | |
| 92 | U | NVI | ABS | 31.68545873 | | BB | **0.391** | 62.0415 | 90.5299 | 143.5819 | 344.4473 | | |
| 92 | U | N4-N6 | | 31.80000000 | 1 | | **0.390** | 62.2657 | 90.8571 | 144.1010 | 345.6924 | | |
| 92 | U | NVII | ABS | 32.55059071 | | BB | **0.381** | 63.7354 | 93.0017 | 147.5023 | 353.8520 | | |
| 92 | U | N5-N6 | | 34.80000000 | 1 | | **0.356** | 68.1399 | 99.4286 | 157.6954 | 378.3049 | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92 | U | OI | ABS | 38.30250232 | | BB | **0.324** | 74.9979 | 109.4357 | 173.5669 | 416.3800 | | |
| 92 | U | N6-O5 | | 42.10000000 | 1 | | **0.294** | 82.4336 | 120.2857 | 190.7752 | 457.6620 | | |
| 92 | U | N6-O4 | | 43.40000153 | 0.01 | C | **0.286** | 84.9790 | 124.0000 | 196.6661 | 471.7941 | | |
| 92 | U | OII | ABS | 47.81534902 | | BB | **0.259** | 93.6245 | 136.6153 | 216.6742 | 519.7926 | | |
| 92 | U | OIII | ABS | 63.54956433 | | BB | **0.195** | 124.4327 | 181.5702 | 287.9734 | 690.8366 | | |
| 92 | U | OIV | ABS | 118.08114286 | | BB | **0.105** | 231.2078 | | | | | |
| 92 | U | OV | ABS | 128.74890966 | | BB | **0.096** | 252.0958 | | | | | |
| 92 | U | PI | ABS | 175.36803395 | | BB | **0.071** | | | | | | |
| 92 | U | PII | ABS | 293.10921986 | | BB | **0.042** | | | | | | |
| 92 | U | PIII | ABS | 383.85510836 | | BB | **0.032** | | | | | | |
| 93 | Np | K | ABS | 0.10447193 | | BB | **118.654** | | | | | | |
| 93 | Np | KB2 | | 0.10500000 | 15 | | **118.057** | | | | | | |
| 93 | Np | KB1 | | 0.10900000 | 15 | | **113.725** | | | | | | |
| 93 | Np | KA1 | | 0.12300000 | 100 | | **100.780** | | | | | | |
| 93 | Np | KA2 | | 0.12800000 | 50 | | **96.844** | | | | | | |
| 93 | Np | LI | ABS | 0.55284392 | | BB | **22.422** | | | | | | |
| 93 | Np | LG4 | | 0.55850000 | 0.6 | | **22.195** | | | | | | |
| 93 | Np | LII | ABS | 0.57399227 | | BB | **21.596** | | | | | | |
| 93 | Np | LG6 | | 0.57700000 | 1.3 | | **21.484** | | | | | | |
| 93 | Np | LG3 | | 0.58100000 | 1.7 | | **21.336** | | | | | | |
| 93 | Np | LG2 | | 0.58730000 | 1.4 | | **21.107** | | | | | | |
| 93 | Np | LG1 | | 0.59720392 | 10 | | **20.757** | | | | | | |
| 93 | Np | LG5 | | 0.61600000 | 0.35 | | **20.123** | | | | | | |
| 93 | Np | LB3 | | 0.68920000 | 6 | | **17.986** | | | | | | |
| 93 | Np | LB1 | | 0.69790693 | 50 | | **17.762** | | | | | | |
| 93 | Np | LIII | ABS | 0.70406133 | | BB | **17.606** | | | | | | |
| 93 | Np | LB5 | | 0.70810000 | 4 | | **17.506** | | | | | | |
| 93 | Np | LB4 | | 0.72670000 | 4 | | **17.058** | | | | | | |
| 93 | Np | LB2 | | 0.73568308 | 23.6 | | **16.850** | | | | | | |
| 93 | Np | LB6 | | 0.76900000 | 1.75 | | **16.120** | | | | | | |
| 93 | Np | Ln | | 0.78090000 | 1.2 | | **15.874** | | | | | | |
| 93 | Np | LA1 | | 0.88929999 | 100 | C | **13.939** | | | | | | 61.8382 |
| 93 | Np | LA2 | | 0.90120000 | 11.37 | C | **13.755** | | | | | | 62.6657 |
| 93 | Np | Ls | | 0.97729999 | 0.17 | C | **12.684** | | | | | | 67.9574 |
| 93 | Np | LI | | 1.04299998 | 7 | C | **11.885** | | | | | | 72.5259 |
| 93 | Np | MI | ABS | 2.16636148 | | BB | **5.722** | | | | | 69.3870 | 150.6398 |
| 93 | Np | MII | ABS | 2.31048414 | | BB | **5.365** | | | | | 74.0032 | 160.6615 |
| 93 | Np | M2-N4 | | 2.72900009 | 5 | C | **4.542** | | | | | 87.4079 | 189.7633 |
| 93 | Np | MIII | ABS | 2.79579678 | | BB | **4.434** | | | | | 89.5474 | 194.4081 |
| 93 | Np | M3-O4 | | 2.86100006 | 1 | C | **4.333** | | | | | 91.6358 | 198.9421 |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 93 | Np | MIV | ABS | 3.22014388 | | BB | **3.850** | | | | | 103.1389 | 223.9154 |
| 93 | Np | MV | ABS | 3.38221398 | | BB | **3.665** | | | | | 108.3299 | 235.1851 |
| 93 | Np | MG | | 3.38499999 | 5 | C | **3.662** | | | | | 108.4191 | 235.3788 |
| 93 | Np | MB | | 3.61199999 | 50 | C | **3.432** | | | | | 115.6898 | 251.1635 |
| 93 | Np | MA1,2 | | 3.81100011 | 200 | C | **3.253** | | | | | 122.0636 | |
| 93 | Np | M3-N1 | | 4.22499990 | 1 | C | **2.934** | | | | | 135.3237 | |
| 93 | Np | MZ1 | | 4.80800009 | 1 | C | **2.578** | | | | | 153.9968 | |
| 93 | Np | NI | ABS | 8.26182448 | | BB | **1.500** | | | | 89.8129 | | |
| 93 | Np | NII | ABS | 9.33834451 | | BB | **1.327** | | | | 101.5156 | | |
| 93 | Np | NIII | ABS | 11.40828119 | | BB | **1.087** | | | | 124.0175 | | |
| 93 | Np | NIV | ABS | 15.19612698 | | BB | **0.816** | | | 68.8609 | 165.1945 | | |
| 93 | Np | NV | ABS | 16.09570297 | | BB | **0.770** | | | 72.9373 | 174.9737 | | |
| 93 | Np | NVI | ABS | 29.87595181 | | BB | **0.415** | | 85.3599 | 135.3822 | 324.7764 | | |
| 93 | Np | NVII | ABS | 30.65905045 | | BB | **0.404** | 60.0317 | 87.5973 | 138.9308 | 333.2894 | | |
| 93 | Np | OII | ABS | 43.74918843 | | BB | **0.283** | 85.6627 | 124.9977 | 198.2485 | 475.5900 | | |
| 93 | Np | OIII | ABS | 60.15778748 | | BB | **0.206** | 117.7915 | 171.8794 | 272.6037 | 653.9652 | | |
| 93 | Np | OIV | ABS | 113.43568161 | | BB | **0.109** | 222.1118 | | | | | |
| 93 | Np | OV | ABS | 122.39407700 | | BB | **0.101** | 239.6527 | | | | | |
| 94 | Pu | K | ABS | 0.10177905 | | BB | **121.793** | | | | | | |
| 94 | Pu | KB2 | | 0.10300000 | 15 | | **120.350** | | | | | | |
| 94 | Pu | KB1 | | 0.10600000 | 15 | | **116.943** | | | | | | |
| 94 | Pu | KA1 | | 0.12000000 | 100 | | **103.300** | | | | | | |
| 94 | Pu | KA2 | | 0.12500000 | 50 | | **99.168** | | | | | | |
| 94 | Pu | LI | ABS | 0.53679753 | | BB | **23.093** | | | | | | |
| 94 | Pu | LG4 | | 0.54160000 | 0.6 | | **22.888** | | | | | | |
| 94 | Pu | LG4' | | 0.54320000 | 0.01 | | **22.820** | | | | | | |
| 94 | Pu | LII | ABS | 0.55683143 | | BB | **22.262** | | | | | | |
| 94 | Pu | LG6 | | 0.55970000 | 1.3 | | **22.148** | | | | | | |
| 94 | Pu | LG3 | | 0.56400000 | 1.7 | | **21.979** | | | | | | |
| 94 | Pu | LG8 | | 0.56580000 | 0.07 | | **21.909** | | | | | | |
| 94 | Pu | LG2 | | 0.57070000 | 1.4 | | **21.721** | | | | | | |
| 94 | Pu | LG1 | | 0.57916756 | 10 | | **21.403** | | | | | | |
| 94 | Pu | LG5 | | 0.59880000 | 0.35 | | **20.701** | | | | | | |
| 94 | Pu | LB3 | | 0.66934936 | 6 | | **18.519** | | | | | | |
| 94 | Pu | LB1 | | 0.67836754 | 50 | | **18.273** | | | | | | |
| 94 | Pu | LIII | ABS | 0.68663994 | | BB | **18.053** | | | | | | |
| 94 | Pu | LB5 | | 0.69139380 | 4 | | **17.929** | | | | | | |
| 94 | Pu | LB7 | | 0.70030000 | 0.38 | | **17.701** | | | | | | |
| 94 | Pu | LB4 | | 0.70742612 | 4 | | **17.523** | | | | | | |
| 94 | Pu | LB2 | | 0.71945036 | 23.6 | | **17.230** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 94 | Pu | LB15 | | 0.72050000 | 0.001 | | **17.205** | | | | | | |
| 94 | Pu | LB6 | | 0.75150000 | 1.75 | | **16.495** | | | | | | |
| 94 | Pu | Ln | | 0.75910000 | 1.2 | | **16.330** | | | | | | |
| 94 | Pu | LA1 | | 0.86849999 | 100 | C | **14.273** | | | | | | 60.3919 |
| 94 | Pu | LA2 | | 0.88040000 | 11.39 | C | **14.080** | | | | | | 61.2194 |
| 94 | Pu | Ls | | 0.95560002 | 0.17 | C | **12.972** | | | | | | 66.4485 |
| 94 | Pu | Ll | | 1.02279997 | 7.14 | C | **12.120** | | | | | | 71.1213 |
| 94 | Pu | MI | ABS | 2.08979083 | | BB | **5.932** | | | | | 66.9345 | 145.3154 |
| 94 | Pu | MII | ABS | 2.23751534 | | BB | **5.540** | | | | | 71.6660 | 155.5875 |
| 94 | Pu | M2-N4 | | 2.64400005 | 5 | C | **4.688** | | | | | 84.6854 | 183.8528 |
| 94 | Pu | MIII | ABS | 2.72100250 | | BB | **4.556** | | | | | 87.1518 | 189.2072 |
| 94 | Pu | M3-O4 | | 2.77800012 | 1 | C | **4.462** | | | | | 88.9774 | 193.1706 |
| 94 | Pu | MIV | ABS | 3.12100891 | | BB | **3.972** | | | | | 99.9637 | 217.0220 |
| 94 | Pu | MV | ABS | 3.28168127 | | BB | **3.777** | | | | | 105.1099 | 228.1945 |
| 94 | Pu | MG | | 3.29299998 | 5 | C | **3.764** | | | | | 105.4724 | 228.9815 |
| 94 | Pu | MB | | 3.51099992 | 50 | C | **3.531** | | | | | 112.4548 | 244.1404 |
| 94 | Pu | MA1,2 | | 3.70700002 | 200 | C | **3.344** | | | | | 118.7326 | 257.7694 |
| 94 | Pu | M3-N1 | | 4.11999989 | 1 | C | **3.009** | | | | | 131.9606 | |
| 94 | Pu | MZ1 | | 4.67600012 | 1 | C | **2.651** | | | | | 149.7689 | |
| 94 | Pu | NI | ABS | 7.95490825 | | BB | **1.558** | | | | 86.4765 | 254.7900 | |
| 94 | Pu | NII | ABS | 9.03616354 | | BB | **1.372** | | | | 98.2306 | | |
| 94 | Pu | NIII | ABS | 11.12174381 | | BB | **1.115** | | | | 120.9026 | | |
| 94 | Pu | NIV | ABS | 14.60539522 | | BB | **0.849** | | | 66.1840 | 158.7728 | | |
| 94 | Pu | NV | ABS | 15.47107562 | | BB | **0.801** | | | 70.1068 | 168.1835 | | |
| 94 | Pu | NVI | ABS | 27.81184388 | | BB | **0.446** | | 79.4624 | 126.0287 | 302.3379 | | |
| 94 | Pu | NVII | ABS | 28.67372803 | | BB | **0.432** | | 81.9249 | 129.9344 | 311.7073 | | |
| 94 | Pu | OI | ABS | 35.23307758 | | BB | **0.352** | 68.9878 | 100.6659 | 159.6579 | 383.0128 | | |
| 94 | Pu | N6-O4 | | 38.50000000 | 0.01 | C | **0.322** | 75.3846 | 110.0000 | 174.4619 | 418.5270 | | |
| 94 | Pu | OII | ABS | 45.23356439 | | BB | **0.274** | 88.5692 | 129.2388 | 204.9749 | 491.7264 | | |
| 94 | Pu | OIII | ABS | 60.04125908 | | BB | **0.206** | 117.5633 | 171.5465 | 272.0756 | 652.6984 | | |
| 94 | Pu | OIV | ABS | 106.88379310 | | BB | **0.116** | 209.2830 | | | | | |
| 94 | Pu | OV | ABS | 117.63301708 | | BB | **0.105** | 230.3304 | | | | | |
| 95 | Am | K | ABS | 0.09916674 | | BB | **125.002** | | | | | | |
| 95 | Am | KB2 | | 0.10000000 | 15 | | **123.960** | | | | | | |
| 95 | Am | KB1 | | 0.10300000 | 15 | | **120.350** | | | | | | |
| 95 | Am | KA1 | | 0.11700000 | 100 | | **105.949** | | | | | | |
| 95 | Am | KA2 | | 0.12200000 | 50 | | **101.607** | | | | | | |
| 95 | Am | LI | ABS | 0.52154007 | | BB | **23.768** | | | | | | |
| 95 | Am | LII | ABS | 0.54038180 | | BB | **22.939** | | | | | | |
| 95 | Am | LG6 | | 0.54310000 | 1.3 | | **22.825** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95 | Am | LG2 | | 0.55440000 | 1.4 | | **22.359** | | | | | | |
| 95 | Am | LG1 | | 0.56213322 | 10 | | **22.052** | | | | | | |
| 95 | Am | LB3 | | 0.64890000 | 6 | | **19.103** | | | | | | |
| 95 | Am | LB1 | | 0.65832714 | 50 | | **18.830** | | | | | | |
| 95 | Am | LIII | ABS | 0.67004177 | | BB | **18.500** | | | | | | |
| 95 | Am | LB5 | | 0.67380000 | 4 | | **18.397** | | | | | | |
| 95 | Am | LB4 | | 0.68640000 | 4 | | **18.059** | | | | | | |
| 95 | Am | LB2 | | 0.70141400 | 23.6 | | **17.673** | | | | | | |
| 95 | Am | LB15 | | 0.70340000 | 0.001 | | **17.623** | | | | | | |
| 95 | Am | LB6 | | 0.73420000 | 1.75 | | **16.884** | | | | | | |
| 95 | Am | LA1 | | 0.84829998 | 100 | C | **14.613** | | | | | | |
| 95 | Am | LA2 | | 0.86040002 | 11.39 | C | **14.407** | | | | | | |
| 95 | Am | Ls | | 0.93470001 | 0.18 | C | **13.262** | | | | | | 64.9952 |
| 95 | Am | LI | | 1.00139999 | 7.27 | C | **12.379** | | | | | | 69.6332 |
| 95 | Am | MI | ABS | 2.02573646 | | BB | **6.119** | | | | | 64.8829 | 140.8613 |
| 95 | Am | MII | ABS | 2.17129347 | | BB | **5.709** | | | | | 69.5450 | 150.9827 |
| 95 | Am | MIII | ABS | 2.65663595 | | BB | **4.666** | | | | | 85.0901 | 184.7314 |
| 95 | Am | MIV | ABS | 3.02986731 | | BB | **4.091** | | | | | 97.0445 | 210.6844 |
| 95 | Am | MV | ABS | 3.18982222 | | BB | **3.886** | | | | | 102.1677 | 221.8070 |
| 95 | Am | MB | | 3.41400003 | 50 | C | **3.631** | | | | | 109.3480 | 237.3954 |
| 95 | Am | MA1,2 | | 3.60899997 | 200 | C | **3.435** | | | | | 115.5937 | 250.9549 |
| 95 | Am | NI | ABS | 7.66713252 | | BB | **1.617** | | | | 83.3481 | 245.5728 | |
| 95 | Am | NII | ABS | 8.78206545 | | BB | **1.412** | | | | 95.4684 | | |
| 95 | Am | NIII | ABS | 10.91707317 | | BB | **1.135** | | | | 118.6777 | | |
| 95 | Am | NIV | ABS | 14.11007170 | | BB | **0.879** | | | 63.9395 | 153.3882 | | |
| 95 | Am | NV | ABS | 14.98129531 | | BB | **0.827** | | | 67.8874 | 162.8591 | | |
| 95 | Am | OIV | ABS | 107.06839378 | | BB | **0.116** | 209.6444 | | | | | |
| 95 | Am | OV | ABS | 120.02439497 | | BB | **0.103** | 235.0128 | | | | | |
| 96 | Cm | K | ABS | 0.09669724 | | BB | **128.194** | | | | | | |
| 96 | Cm | KB2 | | 0.09800000 | 15 | | **126.490** | | | | | | |
| 96 | Cm | KB1 | | 0.10100000 | 15 | | **122.733** | | | | | | |
| 96 | Cm | KA1 | | 0.11400000 | 100 | | **108.737** | | | | | | |
| 96 | Cm | KA2 | | 0.11900000 | 50 | | **104.168** | | | | | | |
| 96 | Cm | LI | ABS | 0.50688962 | | BB | **24.455** | | | | | | |
| 96 | Cm | LII | ABS | 0.52140628 | | BB | **23.774** | | | | | | |
| 96 | Cm | LG1 | | 0.54600000 | 10 | | **22.703** | | | | | | |
| 96 | Cm | LB1 | | 0.63900000 | 50 | | **19.399** | | | | | | |
| 96 | Cm | LIII | ABS | 0.65496672 | | BB | **18.926** | | | | | | |
| 96 | Cm | LB2 | | 0.68500000 | 23.6 | | **18.096** | | | | | | |
| 96 | Cm | LA1 | | 0.82910001 | 100 | C | **14.951** | | | | | | |

| AN | EL | LINE | | WAVELENGTH | INTENSITY | | d-spacingÅ<br>E (KeV) | 143<br>LDEB | 98<br>LDE2 | 61.79<br>LDE1 | 25.757<br>TAP | 8.742<br>PETH/J | 4.0267<br>LiFJ/H |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96 | Cm | LA2 | | 0.84109998 | 11.4 | C | **14.738** | | | | | | |
| 96 | Cm | Ls | | 0.91420001 | 0.18 | C | **13.559** | | | | | | 63.5697 |
| 96 | Cm | Ll | | 0.98070002 | 7.39 | C | **12.640** | | | | | | 68.1938 |
| 96 | Cm | MI | ABS | 1.97177481 | | BB | **6.287** | | | | | 63.1545 | 137.1090 |
| 96 | Cm | MII | ABS | 2.10322646 | | BB | **5.894** | | | | | 67.3648 | 146.2496 |
| 96 | Cm | MIII | ABS | 2.58464040 | | BB | **4.796** | | | | | 82.7842 | 179.7252 |
| 96 | Cm | MIV | ABS | 2.93317246 | | BB | **4.226** | | | | | 93.9474 | 203.9606 |
| 96 | Cm | MV | ABS | 3.12226643 | | BB | **3.970** | | | | | 100.0040 | 217.1094 |
| 96 | Cm | NI | ABS | 7.54626902 | | BB | **1.643** | | | | 82.0342 | 241.7016 | |
| 96 | Cm | NII | ABS | 8.61008333 | | BB | **1.440** | | | | 93.5988 | | |
| 96 | Cm | NIII | ABS | 10.74395147 | | BB | **1.154** | | | | 116.7957 | | |
| 97 | Bk | KB2 | | 0.09500000 | 15 | | **130.484** | | | | | | |
| 97 | Bk | KB1 | | 0.09800000 | 15 | | **126.490** | | | | | | |
| 97 | Bk | KA1 | | 0.11100000 | 100 | | **111.676** | | | | | | |
| 97 | Bk | KA2 | | 0.11600000 | 50 | | **106.862** | | | | | | |
| 97 | Bk | LG1 | | 0.53000000 | 10 | | **23.389** | | | | | | |
| 97 | Bk | LB1 | | 0.62100000 | 50 | | **19.961** | | | | | | |
| 97 | Bk | LB2 | | 0.66900000 | 23.6 | | **18.529** | | | | | | |
| 97 | Bk | LA1 | | 0.81000000 | 100 | | **15.304** | | | | | | |
| 97 | Bk | LA2 | | 0.82200000 | 10 | | **15.080** | | | | | | |
| 97 | Bk | Ls | | 0.89459997 | 0.18 | C | **13.856** | | | | | | 62.2068 |
| 97 | Bk | Ll | | 0.96060002 | 7.51 | C | **12.904** | | | | | | 66.7961 |
| 98 | Cf | KB2 | | 0.09300000 | 15 | | **133.290** | | | | | | |
| 98 | Cf | KB1 | | 0.09700000 | 15 | | **127.794** | | | | | | |
| 98 | Cf | KA1 | | 0.10800000 | 100 | | **114.778** | | | | | | |
| 98 | Cf | KA2 | | 0.11300000 | 50 | | **109.699** | | | | | | |
| 98 | Cf | LG1 | | 0.51500000 | 10 | | **24.070** | | | | | | |
| 98 | Cf | LB1 | | 0.60300000 | 50 | | **20.557** | | | | | | |
| 98 | Cf | LB2 | | 0.65300000 | 23.6 | | **18.983** | | | | | | |
| 98 | Cf | LA1 | | 0.79200000 | 100 | | **15.652** | | | | | | |
| 98 | Cf | LA2 | | 0.80400000 | 10 | | **15.418** | | | | | | |
| 98 | Cf | Ls | | 0.87550002 | 0.19 | C | **14.159** | | | | | | 60.8786 |
| 98 | Cf | Ll | | 0.94110000 | 7.65 | C | **13.172** | | | | | | 65.4402 |
| 99 | Es | Ls | | 0.85699999 | 0.19 | C | **14.464** | | | | | | |
| 99 | Es | Ll | | 0.92220002 | 7.78 | C | **13.442** | | | | | | 64.1260 |