| Apr 13, 1 | 10 14:27 | line list SPEX version 2.0 Page | e 1/77 |
|---|-------------------------------------|--|-------------|
| Nr ion | Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8 | 8.8 9.0 |
| 1658 Fe IX 1723 Fe X 1657 Fe IX 50 C III 756 Si III | A8B CL10B A5B BE15 MG11 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | |
| 706 Al II 709 Al III 1656 Fe IX 748 Si II 533 Mg VI | MG4 NA12 A6A AL15 N19 | 6.665 1860.300 4.51 3.25 6.94 4.69 3.49 3.49 5.19 6.68 | |
| 705 Al II 30 C I 116 N III 1655 Fe IX 136 N IV | MG10 C12 B14 A5A BE14B | 7.029 1764.000 4.52 2.02 5.84 3.53 2.28 2.25 3.93 5.41 | - - - |
| 704 Al II 205 O III 29 C I 20 He II 1722 Fe X | MG9 C18 C5 H6 CL10A | 7.421 1670.800 4.48 0.59 2.98 1.44 0.68 0.95 2.81 4.38 | |
| 1721 Fe X 28 C I 67 C IV 66 C IV 747 Si II | CL14 C8 LI12 LI12 AL9 | 7.734 1603.200 5.99 3.29 5.64 3.89 3.29 4.38 | |
| 135 N IV 27 C I 1792 Fe XI 1720 Fe X 26 C I | BE15 C10 S13A CL9B C11 | 8.343 1486.000 5.16 -0.82 1.10-0.41-0.79 0.70 2.49 | |
| 841 Si VIII 965 S IV 773 Si IV 217 O IV 772 Si IV | N19 AL16 NA12 B14 NA12 | 8.607 1440.500 5.89 1.17 3.00 1.34 1.39 2.86 | |
| 241 O V 746 Si II 1866 Fe XII 36 C II 25 C I | BE14B AL10 P17B B12 C7 | 9.041 1371.300 5.40 -0.46 3.00 0.51-0.46 0.75 2.31 3.46 | |
| 96 N I 95 N I 179 O I 755 Si III 24 C I | N12 N11 O4 MG10 C4 | 9.396 1319.500 4.25 | |
| 745 Si II 23 C I 960 S II 49 C III 154 N V | AL4 C3 P6 BE14C LI12 | 9.814 1263.300 4.45 | |
| 1865 Fe XII 473 Mg II 153 N V 1789 Fe XI 240 O V | P17A NA6 LI12 S13B BE15 | 9.982 1242.000 6.11 2.19 4.88 2.55 2.40 4.45 9.999 1240.000 4.25 4.98 6.81 5.09 5.37 6.00 6.46 6.59 6.82 7.93 | |

| Apr 13, 10 14:27 | line list SPEX version 2.0 Page 2/77 |
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| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 |
| 1925 Fe XIII SI15 5 H I H1 754 Si III MG8 753 Si III MG9 94 N I N3 | 10.193 1216.400 6.19 4.26 5.31 4.26 5.61 7.82 |
| 974 S V MG11 961 S III SI11 1058 S X N19 744 Si II AL1 22 C I C9 | 10.344 1198.600 5.19 0.27 2.96 0.97 0.27 1.61 3.13 |
| 48 C III BE14A 93 N I N9 332 Ne V C18 92 N I N6 959 S II P5 | 10.546 1175.700 4.94 -0.34 1.05-0.07-0.26 1.31 2.95 |
| 771 Si IV NA11 752 Si III MG7 107 N II C8 964 S IV AL15 770 Si IV NA9 | 11.007 1126.400 4.85 0.88 2.12 0.95 1.30 1.99 2.54 3.60 |
| 263 O VI LI12 35 C II B11 262 O VI LI12 1718 Fe X CL9A 472 Mg II NA2 | 11.949 1037.600 5.47 -0.49 2.05-0.29-0.08 0.74 1.31 1.62 2.23 3.44 |
| 4 H I H2 1210 Ar XII N19 1163 Ar VI AL16 351 Ne VI B14 751 Si III MG4 | 12.087 1025.700 4.23 -0.29 1.57-0.26 0.01 0.45 0.84 1.22 1.57 1.88 2.18 2.46 2.73 2.99 3.23 3.42 3.53 3.56 3.53 3.47 3.41 3.35 3.30 3.26 3.23 3.20 3.19 3.18 12.141 1021.200 6.30 2.39 4.70 2.61 2.58 4.33 |
| 743 Si II AL12 115 N III B12 47 C III BE13 3 H I H3 570 Mg VIII C18 | 12.502 991.740 4.47 2.02 5.77 3.48 2.16 2.06 2.36 4.05 |
| 134 N IV BE14C 2 H I H4 21 C I C6 1 H I H5 993 S VI NA12A | 12.979 955.300 5.20 1.07 3.99 1.85 1.07 2.29 3.90 |
| 133 N IV BE14A 106 N II C7 34 C II B10 377 Ne VII BE15 1407 Ca XIV N19 | 13.431 923.100 5.19 0.22 2.80 0.88 0.22 1.53 3.19 |
| 1165 Ar VII MG11 33 C II B9 973 S V MG10 204 O III C8 187 O II N6 | 14.235 871.000 5.51 1.33 3.92 1.75 1.75 3.43 4.91 |
| 769 Si IV NA8 216 O IV B12 972 S V MG9 397 Ne VIII LI12 239 O V BE14C | 15.174 817.100 4.86 2.55 4.02 2.66 2.89 3.50 4.00 5.03 |

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| Nr ion Trans | sit. E(eV) L | ambda(A) Tmax | -Qmax 4.0 | 4.2 | 4.4 4 | 1.6 4. | .8 5.0 | 5.2 | 5.4 | 5.6 5 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 396 Ne VIII LI12 132 N IV BE13 114 N III B11 238 O V BE14 862 Si IX C18 | 3 16.204 16.228 4A 16.305 16.404 | 770.400 5.79 765.140 5.18 764.010 5.00 760.400 5.40 755.800 6.02 | -0.72 - 0.170.55 - 1.01 - | - - - | - - 1 - - | - 1. 1.55 0. | .57-0.17 .56 0.17 - 2.85 | 7-0.71 7 0.62 5 0.39- | 0.67 2 2.76 -0.55 0 | 2.39 - 0.67 - 2 | - 2.25 2.10 | - 3.41 1.02 | - - - 1.70 | - - 4.13 | - - - | - - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - | - - - | - - - | - - - - | - - - - |
| 601 Mg IX BE14 768 Si IV NA5 105 N II C13 288 Ne I NE7 186 O II N14 | 16.848 17.255 | 751.600 5.98 749.900 4.90 746.980 4.77 735.890 4.40 718.540 4.83 | 2.14 - 0.89 - | 3.74 | 2.14 2 2.94 1 | 2.64 2. L.52 0. | .76 3.46 .91 1.18 | 4.88 3 2.17 | 3.81 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - |
| 992 S VI NA11 569 Mg VIII B14 600 Mg IX BE15 1171 Ar VIII NA12 203 O III C7 | 17.627 | 710.620 5.28 708.900 5.91 705.880 5.98 704.870 5.56 703.360 5.04 | -0.88 - | _ | - 1 | L.84-0. | .22-0.86 | -0.61 | 0.42 | - | - | - | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - |
| 708 Al III NA6 453 Na IX LI12 46 C III BE9 32 C II B6 113 N III B10 | 17.956 18.041 18.081 | 695.900 4.62 694.260 5.92 690.500 4.97 687.250 4.76 685.710 5.01 | 0.97 - -0.34 - | 4.39 | - 3 2.30 1 - 1 | 1.20 1. 1.18 0. | .78 1.21 .00 1.50 .09-0.34 | 3.62 | 2.19 | - | - | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ _ _ | - | _ | - | _ _ _ | - - - - |
| 452 Na IX LI12 750 Si III MG2 104 N II C5 971 S V MG7 963 S IV AL4 | 18.464 18.742 18.746 | 681.720 5.92 672.900 4.82 671.480 4.77 661.520 5.21 661.400 5.09 | 1.91 - 1.10 - 0.20 - | - - - | 3.46 2 - - 3 | 2.34 1. - 4. 3.01 1. | .91 2.20 .69 2.16 .19 0.30 | 3.27 5 1.11 0.38 | 2.23 3 | 3.60 4 | - 1.87 | - | _ _ _ | - - - | - | - | _ _ _ | - - - | _ _ _ | _ _ _ | - | - - - | - | - - - | - | - - - - | - - - - |
| 1262 Ca IV CL8 1267 Ca V S8 103 N II C12 185 O II N18 1164 Ar VII MG10 | 19.163 | 660.500 5.24 647.000 5.40 644.990 4.83 644.150 4.86 637.300 5.52 | 3.34 - | | - 2 45 1 | 27 N | - 5.36 80 1 05 | 3.85 | 3.34 . | 3.84 5 | - 76 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | _ | - - - - | - - - - |
| 1277 Ca VI P6 102 N II C12 1288 Ca VII SI11 3790 Fe XX N19 237 O V BE13 | 19.520 1 19.534 19.683 3 19.688 | 637.100 5.56 635.180 4.87 634.720 5.67 629.900 6.95 629.730 5.39 | 1.81 - 1.87 - 2.25 - -1.42 - | - - - | 4.01 2 - - - | 2.52 1. | .85 1.98 - – - – - 1.74 | 2.96 - - 1-0.57- | 5.57 3.26 - -1.42-0 | 1.97 2 - 0.14 1 | - 2.50 - L.48 | 5.44 - - | - - - | - - - | - 4.69 | - 2.74 - | - 2.31 - | - 3.52 - | - 5.43 - | - - - | - - - - |
| 679 Mg X LI12 1075 S XI C18 909 Si XI BE14 678 Mg X LI12 215 O IV B11 | 2 20.332 20.347 | 625.280 6.04 616.800 6.24 609.800 6.20 609.800 6.04 609.350 5.26 | 0.67 - -0.78 - | - | _ | - 2 | .21 0.08 | - 3-0.73- | -0.49 | 1.60 | - | 0.74 | 1.07 | 1.66 | 2.02 | 2.47 | 3.36 | 4.50 | _ | _ | _ | _ | _ | _ | _ | _ | - - - - |
| 202 O III C15 1299 Ca VIII AL15 14 He I HE4 908 Si XI BE15 101 N II C10 | 5 20.935 21.218 5 21.270 | 599.600 5.06 592.220 5.74 584.350 4.51 582.900 6.19 582.150 4.86 | 1.17 - 1.00 - 0.57 - | 3.84 | - 1.44 1 | 1.11 1 | .36 1.96 | 2.86 | 4.20 1 3.63 4 | 1.76 1 4.33 4 | L.44 1.97 | 3.69 - 1.83 | - 0.57 | - 1.56 | - 2.71 | - 3.57 | - 4 44 | _ | - - - | _ | _ | _ | _ | - - - | _ | - - - - | - - - - |
| 100 N II C11 45 C III BE8 331 Ne V C8 731 Al XI LI12 749 Si III MG1 | 21.589 21.712 2 21.809 | 574.650 4.87 574.300 4.98 571.040 5.47 568.500 6.16 566.600 4.82 | 1.36 - -0.01 - 2.12 - | - - - | - 3 - - | 3.96 2. | .93 2.07 .04 1.37 - 3.90 | 2.64 | 4.11 5 0.07 0 | 5.27 0.19 1 | - L.71 - | - 3.11 | - - 2.17 | _ | - 3.20 | _ | - - 4.20 | _ | _ | - - - - |
| 1338 Ca X NA12 376 Ne VII BE14 350 Ne VI B12 707 Al III NA2 214 O IV B10 | 4A 22.077 22.086 22.124 | 565.000 5.81 561.600 5.72 561.380 5.63 560.400 4.64 554.370 5.27 | 0.41 - -0.14 - 5.34 - | - - - | - - 7.51 5 | - - 5.40 5 | .63 6.05 | 3.45 6.37 | 3.35 (0.80-0 7.12 8 | 0.92 (0.12 (8.40 | 0.64 0.67 - | 2.13 | 3.39 | 4.23 | - - - | - - - - |

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| Nr ion | Transit. | E(eV) La | mbda(A |) Tma | ıx -Q | max | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | | | | | | | | | | | 8.6 | 8.8 | 9.0 |
| 962 S IV 730 Al XI 316 Ne IV 184 O II 13 He I | AL9 LI12 N6 N3 HE3 | 22.416 22.543 22.841 22.986 23.087 | 549.9 542.8 539.4 537.0 | 90 6. 20 5. 00 4. 30 4. | 16 27 - 86 52 | 1.81 0.48 0.34 2.00 | - - - | - - - 5.13 | - 2.78 2.52 | - - 1.15 2.06 | 3.00 0.38 2.23 | - 0 0.56 3 0.54 3 2.77 | - 5-0.41 1 1.42 7 3.63 | - -0.27 2.96 4.39 | - 0.76 - 5.06 | - 2.96 - 5.69 | 2.80 - - - | 1.86 - - - | 2.43 - - - | 2.89 - - - | 3.24 - - - | 3.89 - - - | 4.92 - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - |
| 99 N II 44 C III 98 N II 201 O III 1170 Ar VIII | C4 BE7 C3 C16 NA11 | 23.232 23.296 23.407 23.580 23.656 | 532.2 | 00 4. 80 4 | 97 88 | 1.00 | _ | _ | 4 42 | 3.25 | 2 21 | 2 30 | 3 2.38 | 3.91 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - | - - - - |
| 12 He I 934 Si XII 183 O II 767 Si IV 11 He I | HE2 LI12 N12 NA4 HE1 | 23.742 23.793 23.929 24.033 24.046 | 521.1 518.1 515.9 515.6 | 00 6. 30 4. 00 4. 20 4. | 26 89 89 53 | 1.12 1.93 3.96 2.73 | - - - | - - - 6.02 | 5.07 - 3.30 | 3.03 5.96 2.77 | 2.02 4.18 2.90 | 2 2.05 3 4.15 3 3.42 | - 5 2.88 5 4.60 2 4.26 | - 4.43 4.99 5.00 | - 5.96 5.67 | - 7.53 6.29 | 3.70 - - - | 1.25 - - - | 1.40 - - - | 1.92 - - - | 2.28 - - - | 2.75 - - - | 3.59 - - - | 4.66 - - - | - - - | - - - | - - - | - - - | - - - | _ | _ | - - - - |
| 182 O II 10 He I 200 O III 199 O III 198 O III | N11 HE1 C6c C6b C6a | 24.049 24.211 24.398 24.422 24.436 | 508.1 507.6 507.3 | 80 5. 80 5. 90 5. | 07 - 07 - 07 | 0.33 0.12 0.37 | - | _ _ _ | - | 2.94 3.15 3.64 | 0.56 0.77 1.26 | 5-0.27 7-0.06 5 0.43 | 7-0.15 5 0.06 3 0.55 | 0.80 1.01 1.50 | 3.47 3.67 4.17 | - - - | - | - | - - - | - - - | - - - | - - | - | - | - - - | - | - | - | - | - - - | _ | - - - - |
| 1318 Ca IX 1924 Fe XIII 933 Si XII 440 Na VI 444 Na VII | MG10 SI14B LI12 C8 B12 | 24.469 24.508 24.827 25.159 25.293 | 492.8 | 00 5. 00 5. | 78 | 1.60 | _ | _ | _ | _ | _ | _ | 5.23 | 4.69 | 2.33 | 1.68 | 3.13 | 5.25 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - |
| 303 Ne III 181 O II 1968 Fe XIV 1923 Fe XIII 330 Ne V | 06 N9 AL17B SI14A C7c | 25.329 25.549 25.571 25.655 25.670 | 483.2 482.9 | 70 6. 90 5. | 19 48 | 3.33 | - | - - | _ | _ | _ | _ | - 1.39 | - 0.25 | 0.35 | - 1.86 | 4.43 | 3.33 | 4.64 | 6.82 | - | _ | _ _ | _ | _ | _ | _ | _ | _ | _ | - - | - - - - |
| 2005 Fe XV 329 Ne V 328 Ne V 97 N II 315 Ne IV | MG13 C7b C7a C9 N14 | 25.752 25.757 25.761 26.129 26.389 | 481.3 481.2 | 60 5. 80 5. | 48 48 | 0.39 | _ | _ | - - 1 E0 | - - 2 07 | - | - | 1.62 | 0.47 | 0.58 0.75 | 2.09 | - | _ | - | - | - | - | _ | _ | - | _ | - | _ | - | - | - - - - | - - - - |
| 1967 Fe XIV 1317 Ca IX 375 Ne VII 991 S VI 293 Ne II | AL17D MG9 BE13 NA9 F4 | 26.527 26.593 26.651 26.721 26.878 | 465.2 | 20 5. | 72 | 0.49 | _ | _ | _ | _ | _ | _ | _ | 2.33 | -0.01- | -0.24 | 1.29 | 2.57 | 3.43 | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - | - - - - | - - - - | - - - - |
| 434 Na V 43 C III 766 Si IV 112 N III 1966 Fe XIV | N6 BE6 NA6 B9 AL16 | 26.891 26.978 27.077 27.424 27.715 | 459.5 | 70 4. | 98 | 1.21 | - | - | - | 3.75 | 1.87 | 1.22 | 2 2.50 | 3.98 | 5.15 | - 7 12 | - | - | - | - | - | - | - | - | - | - | - | - | _ | - | - - - - | - - - - |
| 292 Ne II 1137 S XIV 1965 Fe XIV 599 Mg IX 598 Mg IX | F3 LI12 AL17A BE14A BE14C | 27.799 27.813 27.908 27.926 28.236 | 445.7 444.2 443.9 | 70 6. 60 6. 80 5. | 44 26 98 | 1.55 3.02 0.97 | - - - | - - - - | 5.00 - - - - | 2.69 - - - - | 1.78 - - - - | 3 1.80 - - - - | 2.57 - - - - | 4.05 - - - - | - - - - | - 2.16 | - 5.27 0.98 | 3.74 3.14 2.14 | - 1.59 3.64 3.36 3.71 | 1.85 5.16 4.21 | 6.77 | | - 3.16 - - - | - 4.01 - - | 5.01 - - - | - - - - |
| 970 S V 568 Mg VIII 197 O III 549 Mg VII 349 Ne VI | MG4 B12b C14 C8c B11 | 28.249 28.389 28.503 28.507 28.514 | 436.7 434.9 434.9 | 30 5. 80 5. 20 5. | 91 10 80 | 0.81 0.90 0.85 | _ _ _ | - - - - | - - - - | - - - - | - 2.13 - - | - 3 1.03 - | - 3 0.99 - | 3.40 - 1.85 4.01 1.61 | 3.09 4.47 1.58 | 1.12 - 0.85 | 1.07 - 1.69 | 3.07 - 4.36 | - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |

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| Nr ion | Transit. | E(eV) La | ımbda (A |) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 548 Mg VII 567 Mg VIII 1337 Ca X 180 O II 1964 Fe XIV | C8b B12a NA11 N1 AL17C | 28.745 28.802 28.833 28.841 28.864 | 430.47 | 70 5.9 | 1 0.8 | 1 - | _ | _ | _ | _ | - | _ | _ | 3.09 | 2 58 | 1.07 | 3.07 | - 5 40 | _ | _ | _ | _ | _ | _ | _ | _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 547 Mg VII 302 Ne III 314 Ne IV 65 C IV 1136 S XIV | C8a O10 N18 LI7 LI12 | 28.892 28.979 29.407 29.553 29.689 | 427.84 421.61 419.53 | 40 5.1 10 5.3 30 5.0 | 0 2.5 0 0.5 7 1.3 | 6 - 0 - 1 - | - - - | - | - - - | 3.80 | 2.69 1.88 1.50 | 2.68 0.65 1.59 | 3.54 0.63 2.20 | 5.16 1.55 2.70 | 3.70 3.70 2.96 | - 3.39 | - 4.45 | - - - 1 29 | - - - 1 55 | - - - 1 99 | - - - 2 35 | - - - 2 86 | - - - 3 70 | - - - 1 4 71 | - | - - - | - - - | - | - | - - - - | - - - - |
| 2004 Fe XV 439 Na VI 327 Ne V 448 Na VIII 429 Na IV | MG11 C7 C15 BE13 O6 | 29.715 29.766 29.790 30.156 30.211 | 417.24 416.53 416.20 411.1! 410.4 | 40 6.3 30 5.6 00 5.4 50 5.8 | 2 2.1 5 1.5 9 -0.1 6 1.3 6 1.5 | 8 - 6 - 4 - 8 - 2 - | - - - - | - - - - | - - - - | - - - - | - - - - 2.58 | - 5.24 1.21 - 1.57 | - 2.58 -0.03 - 1.77 | - 1.60 0.02 3.42 2.82 | - 0 1.90 2 1.48 2 1.51 2 4.64 | 5.90 4.06 - 2.06 | 2.69 - - 3.50 | 2.35 - - 4.56 | 3.21 - - 5.36 | 4.31 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 532 Mg VI 348 Ne VI 433 Na V 531 Mg VI 1316 Ca IX | N6b B10 N14 N6a MG8 | 30.741 30.870 30.940 30.944 31.097 | 403.32 401.63 400.72 400.68 398.70 | 20 5.6 30 5.6 20 5.4 80 5.6 00 5.7 | 4 0.2 4 -0.2 8 2.7 4 0.2 7 1.9 | 1 - 8 - 1 - 1 - 0 - | - - - - | - - - - | - - - - | - - - - | - - - - | 4.11 3.48 3.89 4.12 | 1.20 3 0.73 2.78 2 1.21 | 0.24 -0.25 2.91 0.24 3.40 | 0.54 0.51 4.03 0.55 1.95 | 2.16 2.76 - 2.16 3.35 | - - - 4.82 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 196 O III 990 S VI 131 N IV 42 C III 719 Al VIII | C13 NA8 BE9 BE5 C8 | 31.774 32.013 32.103 32.140 | 390.20 387.30 386.20 | 00 5.2 00 5.2 00 4.9 | 9 3.0 2 1.5 8 1.2 2 1.6 | 1 - 5 - 9 - 2 - | - - - | - | - 3.80 | 5.36 1.95 | 6.20 2.68 1.30 | 3.37 1.56 2.56 | 3.24 2.58 3.99 | 3.70 4.08 5.10 | 4.25 5.24 7 1.89 | 5.79 - - 1.74 | - - - 3 49 | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - | - - - | - - - | - | | - - - - | - - - - |
| 64 C IV 1864 Fe XII 443 Na VII 301 Ne III 427 Na III | LI6 P15B B11 O9 F4 | 32.278 32.386 32.604 32.687 32.731 | 379.31 378.80 | 10 5.1 00 5.0 | 0 1.5 7 2.3 | 0 – | - | - | _ | 2.74 3.69 | 1.64 2.38 | 1.63 2.53 | 3.57 | 4.10 5.27 |) – 7 – | _ | _ | - | - | - | _ | - | _ | _ | _ | _ | - | - | - - - - | - - - - | - - - - |
| 425 Na II 1863 Fe XII 1315 Ca IX 111 N III 195 O III | NE8 P15D MG7 B6 C5 | 32.940 32.967 32.974 33.119 33.140 | 376.08 376.00 374.38 374.12 | 80 6.1 00 5.7 60 5.0 20 5.1 | 3 4.1 7 2.4 8 1.0 0 0.9 | 7 – 2 – 7 – 2 – | - - - | - - - | - 3.86 4.90 | - 2.06 2.13 | - 1.16 1.04 | - - 1.27 | - ' 3.17 ! 1.89 | 3.89 - 4.51 | 7.13 2.46 - - | 4.62 3.88 - - | 4.31 5.36 - - | 6.21 - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - |
| 424 Na II 1425 Ca XV 1610 Fe VIII 1788 Fe XI 1922 Fe XIII | NE7 BE15 K14B S12B SI11E | 33.323 33.403 33.471 33.586 33.680 | 369.15 | 50 6.0 20 6.2 | 0 3.5 | 2 - | _ | _ | _ | _ | _ | _ | _ | _ | 3.38 | 4.68 | 3.52 | 4.58 | 6.86 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - | - - - - |
| 597 Mg IX 546 Mg VII 1609 Fe VIII 326 Ne V 1717 Fe X | BE13 C7b K14A C16 CL18B | 33.685 33.721 33.888 33.914 33.918 | 368.07 367.68 365.87 365.59 | 70 5.9 80 5.8 70 5.7 90 5.5 40 5.9 | 8 0.2 0 0.5 0 2.7 0 0.6 8 1.9 | 3 - 5 - 8 - 3 - 5 - | - - - - | - - - - | - - - - | - - - - | - - - - | - 6.72 2.05 | - 3.76 3.88 0.76 | - 1.30 2.86 0.77 4.20 | 1.38 0.55 2.85 2.22 2.52 | 0.25 1.38 3.49 - | 1.45 4.05 5.54 - 3.06 | 2.69 - - - - | 3.55 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 907 Si XI 545 Mg VII 1862 Fe XII 1962 Fe XIV 438 Na VI | BE14A C7a P16C AL18B C15 | 33.929 33.947 34.018 34.085 34.321 | 365.23 364.47 363.75 | 30 5.8 70 6.1 50 6.2 | 0 0.8 4 1.2 5 1.8 | 5 – 0 – 0 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - | - 4.06 - - 2.56 | 1.60 | 0.85 4.33 | 1.68 1.72 4.17 | 4.34 1.31 1.95 | - 3.10 2.37 | - - 3.83 | - - 5.40 | - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1961 Fe XIV 2058 Fe XVI 432 Na V 1921 Fe XIII 1920 Fe XIII | AL18A NA12B N18 SI11B SI11C | 34.361 34.364 34.407 34.456 34.475 | 360.80 360.35 359.84 | 00 6.4 50 5.4 40 6.2 | 1 1.1 9 1.9 0 1.4 | 2 – 8 – 8 – | - - - - | - - - - | - - - - | - - - - | - - - - | - 3.29 | - 2.09 - - | 2.15 - | 3.22 - | - 5.98 2.68 | 2.34 | 1.12 - 2.68 | 1.36 - 4.73 | 1.96 | 3.53 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |

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| Apr 13, 10 14:2 | | | Page | e 6/77 |
|--|---|------------------|----------|--------------|
| Nr ion Transit | . E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 |) 8.2 | 8.4 8.6 | 8.8 9.0 |
| 313 Ne IV N15 1960 Fe XIV AL18C 1786 Fe XI S11C 906 Si XI BE14C 325 Ne V C6 | 34.563 358.720 5.31 0.88 - - - - 2.32 1.04 0.99 1.90 4.03 - | - - - - | | |
| 1959 Fe XIV AL15C 1785 Fe XI S11B 879 Si X B12 1784 Fe XI S9C 715 Al VII N6 | 34.764 356.640 6.26 2.42 - | - - - | | |
| 1958 Fe XIV AL15B 516 Mg V 06 442 Na VII B10 1783 Fe XI S12A 1861 Fe XII P16B | 35.040 353.840 6.25 2.41 4.59 2.52 3.07 4.65 6.33 35.114 353.090 5.46 0.21 1.50 0.27 0.48 1.64 3.90 | - - - | | |
| 861 Si IX C8c 530 Mg VI N14 1781 Fe XI S10 1918 Fe XIII SI11A 878 Si X B14 | 35.434 349.900 6.03 1.00 2.19 1.02 1.63 4.00 35.510 349.150 5.65 0.65 1.74 0.69 0.95 2.53 35.521 349.050 6.06 3.58 5.21 3.68 4.08 6.51 35.609 348.180 6.20 0.87 2.07 0.87 2.07 4.12 35.687 347.420 6.13 0.86 3.69 1.27 1.02 2.77 4.50 | - - - - | | |
| 1860 Fe XII P16A 1715 Fe X CL18A 194 O III C12 860 Si IX C8b 859 Si IX C8a | 35.746 346.850 6.13 1.63 4.75 2.14 1.73 3.53 35.862 345.720 5.98 1.59 35.905 345.310 5.13 0.48 2.02 0.70 0.53 1.30 3.86 35.931 345.060 6.03 1.30 2.50 1.32 1.93 4.30 36.258 341.950 6.03 1.01 2.20 1.02 1.63 4.00 | - - - | | |
| 1779 Fe XI S11A 566 Mg VIII B11b 1859 Fe XII P15A 2057 Fe XVI NA12A 565 Mg VIII B11a | 36.347 341.110 6.06 1.87 3.54 1.98 2.34 4.74 36.573 339.010 5.91 1.16 3.48 1.48 1.41 3.39 36.653 338.260 6.13 2.59 5.64 3.08 2.71 4.55 36.965 335.410 6.41 0.70 1.92 0.70 0.94 1.54 3.11 36.985 335.230 5.91 1.16 3.49 1.49 1.41 3.40 | - - - | | |
| 1858 Fe XII P15C 5103 Ni XV SI11 130 N IV BE8 1956 Fe XIV AL15A 725 Al X BE13 | 37.004 335.060 6.13 3.09 - | - - - - | | |
| 291 Ne II F5 1287 Ca VII SI3 989 S VI NA5 193 O III C10 2001 Fe XV MG12A | 37.424 331.300 4.97 2.68 - - 4.31 2.95 2.70 3.29 4.66 - | _ | | |
| 718 Al VIII C7 290 Ne II F2 2000 Fe XV MG14 1857 Fe XII P14F 5062 Ni XIII S8 | 37.949 326.710 5.92 1.52 - | - - - - | | |
| 129 N IV BE7 1917 Fe XIII SI12D 501 Mg IV F4 192 O III C11 1916 Fe XIII SI12F | 38.433 322.600 5.21 1.41 5.15 2.51 1.42 2.45 3.96 5.13 38.568 321.470 6.20 1.61 2.82 1.61 2.80 4.85 38.625 320.990 5.30 0.70 2.21 0.84 0.86 1.97 3.81 38.627 320.980 5.13 0.55 2.08 0.77 0.60 1.38 3.94 | - - - - | | |
| 544 Mg VII C15 1856 Fe XII P13B 1915 Fe XIII S113 437 Na VI C16 1855 Fe XII P14E | 38.865 319.020 5.81 0.26 - - - - - - 3.60 1.06 0.26 1.06 3.70 - | - - - - | | |

| Apr 13, 10 | 0 14:27 | | | | | | | | | 111 | ie i | 151 | 3F | | vei | 210 | <u> </u> | U | | | | | | | | | | | Pag | je // | 11 |
|--|-------------------------------------|--|--|---|--|---------------------------------|------------------|------------------|-------------------|--------------------------|--------------------------|--------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------|-----------------------------|--------------------------|------------------|------------------|------------------|------------------|---------------------|---------------------|------------------|------------------|--------------------------|--------------------------|
| Nr ion | Transit. | E(eV) La | mbda(A |) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 5080 Ni XIV 564 Mg VIII 529 Mg VI 563 Mg VIII 1914 Fe XIII | P6 B10b N18 B10a SI12A | 39.170 39.357 39.405 39.518 39.553 | 315.02 314.64 313.74 313.46 | 20 5.92 10 5.66 10 5.92 50 6.19 | 0.39 0.71 0.69 3.73 | 9 – L – 9 – 3 – | - - - | - - - | - - - | _ _ _ | - - - | - - - | - 1.87 - - | 2.73 0.76 3.03 | 0.71 0.98 1.02 | 0.63 2.54 0.93 4.84 | 2.61 - 2.91 3.73 | - - - 5.02 | - - - 7.19 | - - - | _ _ _ | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - | - - - - | - - - - |
| 300 Ne III 436 Na VI 1999 Fe XV 1854 Fe XII 1853 Fe XII | O4 C6 MG12B P14B P13A | 39.574 39.591 39.669 39.676 39.680 | 313.30 313.10 312.59 312.49 312.40 | 00 5.12 50 5.66 50 6.32 90 6.13 | 2.25 5 1.58 2 2.42 3 3.32 3 3.76 | 5 - 3 - 2 - 2 - | - - - - | - - - - | - - - - | 3.70 - - - - | 2.45 - - - - | 2.32 5.49 - - | 3.08 2.70 - - | 4.60 1.64 - - | - 1.89 - 6.34 6.80 | - 4.01 6.30 3.78 4.24 | - 2.97 3.47 3.89 | - 2.56 5.39 5.78 | - 3.39 - | - 4.46 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 63 C IV 515 Mg V 1913 Fe XIII 1912 Fe XIII 5048 Ni XII | LI5 010 SI12C SI12E CL8 | 39.684 39.699 39.718 39.796 39.995 | 312.4 312.3 312.1 311.5 310.0 | 30 5.08 10 5.48 50 6.20 50 6.19 00 6.24 | 3 1.42 3 2.79 1.29 3.97 4 2.83 | 2 - 9 - 9 - 7 - 8 - | - - - - | - - - - | - - - - | 4.05 - - - - | 1.63 - - - - | 1.67 4.28 - - | 2.23 2.89 - - | 2.67 3.01 - - | 2.88 4.12 - 6.75 | 3.23 6.35 2.49 5.09 4.12 | 4.20 - 1.29 3.97 2.88 | 5.41 - 2.48 5.27 3.90 | - 4.52 7.44 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 714 Al VII 712 Al VI 1778 Fe XI 431 Na V 191 O III | N14 O6 S9B N15 C4 | 40.021 40.036 40.185 40.269 40.555 | 309.80 309.60 308.53 307.89 305.73 | 00 5.78 30 5.62 30 6.06 90 5.49 20 5.14 | 1.79 1.28 2.37 2.20 4.0.24 | 9 – 3 – 7 – 0 – 1 – | - - - - | - - - - | - - - - | - - - - 1.80 | - - - 0.47 | - 4.60 - 3.54 0.29 | 4.88 2.15 - 2.31 1.02 | 2.41 1.29 - 2.35 3.54 | 1.80 1.79 4.03 3.41 | 2.54 3.34 2.48 6.16 | 4.94 - 2.86 - | - 5.28 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1998 Fe XV 19 He II 190 O III 721 Al IX 1911 Fe XIII | MG10A H1 C3 B11 SI12B* | 40.651 40.814 40.830 40.839 40.871 | 303.78 303.69 303.59 | 30 4.91 50 5.14 90 6.03 | -0.90 4 0.83 3 2.01 |) – B – L – | - | - | 1.25- | -0.55- 2.42 - | -0.78 1.07 - | -0.28 0.86 - | 0.15 1.58 - | 0.53 4.08 - | 0.85 - 3.27 | 1.14 - 2.03 6.22 | 1.41 - 2.98 4 28 | 1.66 - 4.96 4.95 | 3.56 1.91 - - 6.65 | 2.15 | 2.37 | 2.55 | 2.65 | 2.67 | 2.64 | 2.57 - - - | 2.51 - - - | 2.45 | 2.40 | - 2.36 - - - | 2.32 - - - - |
| 1910 Fe XIII 905 Si XI 423 Na II 422 Na II 858 Si IX | SI12B BE13 NE5 NE4 C7bb | 40.872 40.876 41.136 41.307 41.860 | 303.33 303.33 301.40 300.11 296.19 | 50 6.20 20 6.20 00 4.96 50 4.96 90 6.03 | 1.44 0.41 5.2.86 3.26 0.83 | 1 - 1 - 5 - 5 - 8 - | - - - - | - - - - | - 4.89 5.31 | - 3.19 3.60 | - 2.88 3.29 | - 3.63 4.03 | - 5.21 5.61 | - - - - | - - - 2.03 | 2.64 1.73 - 0.85 | 1.44 0.41 - - 1.45 | 2.62 1.35 - - 3.82 | 4.67 2.46 - - | - 3.27 - - - | - 4.10 - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1162 Ar VI 856 Si IX 1997 Fe XV 5192 Ni XVIII 1074 S XI | AL9 C7aa MG10B NA12 C8 | 42.255 42.340 42.408 42.465 42.520 | 292.83 292.30 291.97 291.59 | 30 6.03 50 6.32 70 6.45 90 6.24 | 0.83 2 3.03 5 1.89 4 1.46 | 3 – 3 – 9 – 5 – | - - - - | - - - - | - - - | - - - | - - - - | - - - - | - - - | - - - | 2.03 - - - | 0.85 6.91 - 2.80 | 1.45 3.59 - 1.51 | 3.82 3.18 2.03 2.16 | - 4.00 2.19 4.47 | - 5.07 3.06 - | - 4.85 - | - - - - | - - - | - - - | - - - - | - - - | - - - - | - - - - | - - - | - - - | - - - - |
| 1852 Fe XII 1955 Fe XIV 1073 S XI 62 C IV 1954 Fe XIV | P14D AL19 C7A LI3 AL1F | 42.605 42.643 42.647 42.871 42.877 | 291.03 290.73 290.73 289.20 289.10 | 10 6.13 50 6.26 20 6.24 00 5.10 50 6.26 | 2.33 1.73 1.90 1.91 1.54 | 3 - 3 - 0 - L - | - - - - | - - - - | - - - - | - - 4.98 | - - 2.22 | - - 2.05 | - - 2.49 | - - - 2.86 | 5.35 - - 3.04 | 2.80 4.11 3.23 3.40 3.84 | 2.47 1.87 1.94 4.41 1.67 | 4.38 2.29 2.60 5.66 2.12 | - 3.74 4.91 - 3.60 | - 5.30 - - 5.17 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1909 Fe XIII 1092 S XII 1851 Fe XII 1072 S XI 717 Al VIII | SI10C B14 P14C C8 C15 | 42.966 42.983 43.166 43.377 43.432 | 288.5° 288.4! 287.2° 285.8° | 70 6.20 50 6.32 80 6.13 80 6.24 | 2.61 2.1.50 3.21 4.2.51 | L – D – L – L – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - 3.68 | - 6.23 - 1.73 | 3.84 4.36 3.67 3.85 | 2.61 1.91 3.35 2.55 | 3.78 1.75 5.26 3.21 | 5.81 3.45 - 5.51 | - 4.93 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1996 Fe XV 1850 Fe XII 823 Si VII 543 Mg VII 542 Mg VII | MG9 P14A O6D C6D C6C | 43.634 43.712 44.528 44.535 44.760 | 284.19 283.64 278.44 278.40 | 50 6.32 40 6.13 40 5.77 00 5.81 | 2 0.11 3 2.99 7 1.33 6 0.91 | L – B – L – | - - - - | - - - - | - - - - | | - - - - | - - - - | - 3.87 4.24 4.37 | - 1.87 1.71 1.83 | - 6.00 1.35 0.91 1.04 | 3.94 3.45 2.19 1.71 1.84 | 0.66 3.13 4.22 4.36 4.49 | 0.25 5.05 - - | 1.05 - - - - | 2.09 | 4.01 - - - - | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | - - - - | - - - - |
| 822 Si VII 514 Mg V 1777 Fe XI 805 Si VI 821 Si VII | 06E 06 S9A 06B* 06C | 44.784 44.828 44.865 44.976 44.976 | 276.89 276.58 276.39 275.60 275.60 | 50 5.77 30 5.48 50 6.06 70 5.74 | 1.61 3 0.59 3 3.89 4 4.24 | | - | - | - - - - | - | - | - | 4.15 0.69 - 6.35 4.21 | 2.14 0.82 - 4.59 2.21 | 1.62 1.93 5.55 4.30 1.68 | 2.46 4.15 3.99 5.38 2.52 | 4.50 - 4.38 7.65 4.56 | - 6.80 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |

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|--|--|------------------|-----------------------|-------------------|-----------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8 | | .2 8.4 | 4 8.6 | 8.8 9.0 |
| 820 Si VII 06A 1952 Fe XIV AL1E 819 Si VII 06B 877 Si X B11 4263 Fe XXI C8B | 45.027 275.350 5.77 0.61 3.15 1.15 0.62 1.46 3.50 45.216 274.200 6.27 1.06 3.47 1.22 1.61 3.03 4.57 45.476 272.640 5.77 1.34 3.89 1.88 1.36 2.19 4.23 45.583 271.990 6.13 0.88 3.79 1.32 1.03 2.74 4.43 45.832 270.520 7.01 3.84 7.78 4.94 3.84 4.53 6.01 7.48 - | | - - - | - - - | |
| 1951 Fe XIV AL1D 84 C V HE9 2056 Fe XVI NA11C 1950 Fe XIV AL1C 1056 S X N6A | 45.833 270.510 6.26 0.98 3.29 1.12 1.57 3.04 4.61 46.400 267.210 5.95 3.37 6.79 4.79 3.63 3.40 4.03 4.96 5.81 6.56 7.22 46.785 265.010 6.41 2.90 416 2.90 3.12 3.73 5.30 46.826 264.780 6.26 0.95 3.31 1.10 1.52 2.97 4.53 46.921 264.240 6.13 1.11 3.73 1.44 1.19 2.61 | | - - - - - | - - - | |
| 4832 Fe XXIII BE13B 2055 Fe XVI NA11A 1907 Fe XIII SI9C 876 Si X B10B 1055 S X N6B | 47.007 263.760 7.15 2.45 - | 5.45 | | - - - - | |
| 875 Si X B10A 1949 Fe XIV AL1B 1712 Fe X CL17 1054 S X N6C 1115 S XIII BE13A | 47.991 258.350 6.13 1.32 - | | | - - - - | |
| 1849 Fe XII SI9E 1905 Fe XIII SI10B 1711 Fe X CL16 18 He II H2 4925 Fe XXIV LI12B | 48.344 256.460 6.13 3.33 6.46 3.84 3.44 5.27 48.352 256.420 6.20 1.61 48.360 256.380 5.98 2.45 46.9 3.00 2.46 3.61 48.371 256.320 4.94 0.26 2.89 0.75 0.32 0.69 1.05 1.38 1.68 1.95 2.19 2.43 2.64 2.85 3.04 3.20 3.32 3.40 3.43 3.48.604 255.090 7.24 1.75 | - - 3.42 3 | .39 3.1 | - - 36 3.33 | |
| 4576 Fe XXII B13B 1948 Fe XIV AL1A 988 S VI NA4 1903 Fe XIII SI1B 2054 Fe XVI NA11B | 48.973 253.170 7.07 3.74 5.59 3.86 4.08 5.20 6.38 7.63 49.163 252.190 6.26 1.55 3.90 1.69 2.12 3.57 5.13 49.200 252.000 5.30 3.92 7.36 4.34 4.09 4.47 4.97 6.48 49.209 251.950 6.20 0.76 1.98 0.76 1.93 3.97 49.385 251.060 6.41 2.10 3.36 2.11 2.33 2.93 4.51 | | | | |
| 5155 Ni XVII MG9 802 Si VI F4B 987 S VI NA6 83 C V HE8 236 O V BE9 | 49.757 249.180 6.41 1.64 - | _ | | _ | |
| 152 N V LI6B 151 N V LI6A 126 N IV BE5 4575 Fe XXII B13A 1902 Fe XIII SI1A | 50.053 247.710 5.31 1.51 - - - 4.92 1.95 1.67 2.20 2.63 2.84 3.26 4.31 -< | | | - - - - | |
| 801 Si VI F4A 1651 Fe IX A11 59 C IV LI2 1995 Fe XV MG8 17 He II H3 | 50.400 | _ : | | - | |
| 5332 Ni XXIII C8B 1901 Fe XIII SI9B 4260 Fe XXI C8A 1650 Fe IX A10 1900 Fe XIII SIIC | 51.085 242.700 7.03 5.07 6.41 5.10 5.80 7.42 8.90 - 51.119 242.540 6.19 3.30 4.44 3.30 4.57 6.71 51.218 242.070 7.01 3.78 7.72 4.88 3.79 4.48 5.96 7.42 - 51.289 241.740 5.82 1.19 3.12 1.57 1.19 1.56 3.39 51.507 240.710 6.20 1.43 2.65 1.43 2.60 4.64 | | | - - - - | |
| 1710 Fe X CL13B 1947 Fe XIV AL22 5125 Ni XVI AL1E 1946 Fe XIV AL21 1709 Fe X CL13D | 51.608 240.240 5.99 2.67 5.02 3.27 2.67 3.75 51.626 240.160 6.26 1.56 3.97 1.71 2.12 3.57 5.13 51.762 239.530 6.38 2.31 4.52 2.33 4.07 6.14 51.826 239.230 6.26 1.65 4.06 1.80 2.21 3.65 5.21 51.941 238.700 5.99 2.44 4.80 3.05 2.45 3.52 | | | - - - - | |

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|---|---|--|----------------------------------|--|------------------------------------|-------------|------------------|------------------|------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|------------------------|-------------------|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Nr ion | Transit. | E(eV) La | umbda(A |) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 212 O IV 1899 Fe XIII 211 O IV 5124 Ni XVI 1847 Fe XII | B6C SI9D B6A AL1D P12G | 51.969 52.003 52.015 52.123 52.233 | 238.4 | 20 6.20 | 2.18 | _ | - | _ | _ | _ | - 2 32 | _ 0 92 | - 0 77 | - 2 60 | - | 3.39 | 2.18 | 3.39 | 5.47 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - - - - | - - - - |
| 16 He II 1898 Fe XIII 5191 Ni XVIII 1994 Fe XV 1708 Fe X | H4 SI9A NA11C MG7E CL15 | 52.241 52.268 52.456 52.820 52.904 | 237.23 236.30 234.7 | 10 6.19 50 6.49 | 3.34 5 3.01 2 3.15 | _ | - - - | - | - - - | - | - - - | _ _ _ | - - - | - - - | - - - | 4.48 | 3.34 | 4.61 3.16 3.32 | 6.75 3.32 4.23 | - 4.20 5.38 | 6.02 | - - - | _ | - - - | _ _ | - - - | - - | - - | - - | _ | _ |
| 15 He II 5354 Ni XXIV 5374 Ni XXV 487 Mg III 5395 Ni XXVI | H5 B13B BE13B NE8 LI12B | 52.906 52.917 52.939 52.939 52.939 | 234.3 234.2 234.2 | 00 7.08 00 7.19 | 3 5.01 5 3.73 5 0.93 | - | - - - | - | - | - - 2.64 | - 1.27 | - - 0.96 | - - 1.75 | - - 3.49 | - - | - - - | - - - | - - - | - - - | 7.33 7.52 | 5.21 | 5.34 | 6.53 4.35 | 7.71 5.00 | 8.82 5.64 | - 6.34 | 7.12 | - - - | - | - - - | - - - |
| 1993 Fe XV 1846 Fe XII 5190 Ni XVIII 1707 Fe X 1897 Fe XIII | MG7A P12F NA11A CL13A SI10A | 53.015 53.028 53.032 53.066 53.159 | 233.8 233.7 233.6 233.2 | 10 6.14 90 6.45 40 5.99 30 6.20 | 3.61 5 2.27 9 2.20 0 2.42 | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - 4.55 | 6.79 - 2.80 | 4.14 - 2.20 3.65 | 3.72 - 3.28 2.42 | 5.54 2.42 - 3.59 | - 2.58 - 5.62 | 3.46 - - | - 5.28 - - | - - - | - - - | _ | _ | _ | _ | _ | _ | _ | - - - - |
| 5123 Ni XVI 486 Mg III 1845 Fe XII 1647 Fe IX 1276 Ca VI | AL1C NE7 P12C A9 P2C | 53.329 53.511 53.722 53.787 53.790 | 231.7 230.7 230.5 230.4 | 00 5.19 90 6.14 10 5.83 90 5.59 | 1.28 1.76 1.17 2.77 | - - - | - - - | - - - | - - - | 3.01 - - - | 1.63 - - - | 1.30 - - 5.37 | 2.09 - 3.11 3.37 | 3.83 - 1.56 2.78 | - 4.95 1.18 3.86 | - 2.29 1.55 - | 1.87 3.38 | - 3.69 - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1266 Ca V 1706 Fe X 1705 Fe X 1275 Ca VI 1038 S IX | P2B* CL13C CL12A P2B O6D | 53.790 53.885 53.908 53.969 54.175 | 229.9 229.7 228.8 | 90 5.98 30 5.59 50 6.00 | 3 2.91 9 2.65 0 1.71 | - - - | - - - | - - - | - - - | - | - - - | - 5.24 - | - 3.25 - | 5.20 2.66 5.64 | 3.49 3.75 2.67 | 2.92 - 1.71 | 4.03 - 2.38 | - - 4.47 | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 5352 Ni XXIV 1274 Ca VI 299 Ne III 1896 Fe XIII 986 S VI | B13A P2A O1,2 SI4C NA3 | 54.189 54.230 54.298 54.336 54.427 | 228.6 228.3 228.1 | 30 5.59 40 5.1 30 6.20 | 9 2.41 7 1.99 9 3.30 | _ _ _ | - - - | - - - | _ _ _ | 4.06 | 2.39 | 5.00 2.00 | 3.01 2.59 | 2.41 4.01 | 3.50 | - - 4.46 | - - 3.30 | - - 4.56 | - - 6.68 | - | | - | - | _ _ _ | _ _ _ | _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1992 Fe XV 1090 S XII 1844 Fe XII 82 C V 1991 Fe XV | MG7D B11 P12B HE7 MG7B | 54.451 54.503 54.520 54.530 54.569 | 227 4 | 20 6 20 | 1 1 27 | | | | | | | | | | | 4 20 | 1 01 | 1 61 | 2 27 | 1 71 | | | | | | | | | | - - - - | - - - - |
| 852 Si IX 1704 Fe X 1945 Fe XIV 1703 Fe X 1944 Fe XIV | C6D CL12C AL25 CL12B AL23B | 54.617 54.783 54.851 54.856 54.987 | 226.3 | 20 5.98 | 2.16 | - | - | - | - | - | - | - | - | 4.50 | 2.75 | 2.16 | 3.26 | | - | - | - | - | - | - | - | - | - | - | - | - - - - | - - - - |
| 1702 Fe X 851 Si IX 1037 S IX 1990 Fe XV 1776 Fe XI | CL11 C6C O6A MG7C S5J | 55.065 55.096 55.160 55.167 55.254 | 225.0 224.7 224.7 | 30 6.04 70 6.00 40 6.32 | 1.08 0.99 2.96 | - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - | 2.33 1.95 | 1.11 0.99 6.72 | 1.69 1.66 3.47 | 4.05 3.75 | - - 4.04 | - - 5.19 | _ | - - - - |
| 1943 Fe XIV 1605 Fe VIII 1942 Fe XIV 5122 Ni XVI 57 C IV | AL23A K13B AL27 AL1B LI1 | 55.263 55.382 55.544 55.576 55.650 | 223.8° 223.2° 223.0° | 70 5.73 20 6.27 90 6.38 | 3 3.35 7 1.32 3 2.26 | - - - | - - - - | - - - - | - - - - | - - - - 6.24 | - - - - 3.37 | - - - - 3.11 | _ | 3.50 - - | 3.38 - - | 3.97 3.76 - | 5.97 1.48 4.46 | - 1.86 2.27 | - 3.29 4.01 | 4.84 6.08 | _ | - - - - |

5098 Ni XV 1895 Fe XIII 55.894 221.820 6.20 3.61 -- 4.86 3.61 4.79 6.81 - -ST2B 1089 S XII B10B 55.993 221.430 6.32 2.08 -- - 5.00 2.51 2.31 3.97 5.41 -56.035 221.260 6.00 1.72 - - - - - 5.66 2.69 1.72 2.39 4.48 - -1036 S IX 06B 1941 Fe XIV 56.070 221.120 6.27 1.42 -- - - - - - - - 3.87 1.58 1.96 3.39 4.94 - - - - -5189 Ni XVIII NA11B 1701 Fe X 1940 Fe XIV AT.4C 1843 Fe XII D12E 1939 Fe XIV 1640 Fe IX A8A 1938 Fe XIV AL20 1842 Fe XII D9C 5121 Ni XVI 56.772 218.390 6.38 2.83 - - - - - - - - - 5.04 2.85 4.59 6.66 - - - - -AT₁1A

 56.823
 218.190
 6.32
 1.80
 1088 S XII 1937 Fe XTV AT.24 1894 Fe XIII SI3G 818 Si VII OSE 1841 Fe XTT P12D 5329 Ni XXIII C8A - 6.35 5.04 5.74 7.36 8.84 -57.083 217.200 7.03 5.01 -1639 Fe TX Δ7 1298 Ca VIII AL8 1893 Fe XTTT ST3H 57.358 216.160 5.81 2.86 - - - - - 4.80 3.24 2.86 3.24 5.08 - - - - - -1638 Fe IX 5151 NH YVIT MCS 57.429 215.890 6.41 2.16 -- - 5.38 2.17 3.15 4.65 -1892 Fe XIII ST4B 1840 Fe XII P12A 1936 Fe XIV AT.4B 1839 Fe XII
 59.064
 209.920
 6.20
 0.84
 -< 1890 Fe XTTT ST4E 1285 Ca VII SI7C 1889 Fe XTTT SI4A 59.246 209.270 5.31 1.87 - - - - 5.28 2.31 2.03 2.56 2.97 3.15 3.53 4.51 5.68 - - - - - -150 N V LI5 59.283 209.140 6.14 2.05 - - - - - - - 5.24 2.58 2.16 3.97 - - - - - - -1838 Fe XII

 59.411
 208.690
 6.56
 2.89
 1424 Ca XV 1888 Fe XIII ST6 312 No TV N3 1837 Fe XII 5150 Ni XVII MG7A 59.766 207.450 5.99 2.35 - - - - - 4.74 2.97 2.36 3.42 -- - - - - - 7.09 4.16 4.41 4.97 6.44 -59.896 207.000 5.83 4.12 -1336 Ca X NA10 1775 Fe XI S4G 1836 Fe XII P9E 1284 Ca VII

line list SPEX version 2.0

Transit. E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

4.96 3.78 3.66 4.25 6.25 - - -

Apr 13, 10 14:27

55 799 222 200 5 73 3 63 -

1604 Fe VIII K13A

Nr ion

1887 Fe XIII

1774 Fe XI

1886 Fe XIII

1884 Fe XIII 1835 Fe XII

1023 S VIII

1883 Fe XIII 1834 Fe XII

1283 Ca VII

1885 Fe XIII SI3C

STRE

SST

SI2A

SI7A

P9B

F4B SI4F Printed by Jelle de Plaa

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60.497 204.940 6.20 1.69 - - - - - - - - 2.94 1.69 2.85 4.88 - - - - -

| Apr 13, 1 | 0 14:27 | | | | | | | | | 1111 | еп | 5ι δ | 3 PE | | ver | 210 | 11 Z | .U | | | | | | | | | | P | age | 11/ | // |
|--|-------------------------------------|--|---|--|---------------------------------------|------------------|------------------|------------------|------------------|------------------|--------------------------|--------------------------|--------------------------|-----------------------------|--------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|--------------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|------------------|------------------|------------------|
| Nr ion | Transit. | E(eV) La | mbda(A) | Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 1882 Fe XIII 1773 Fe XI 1772 Fe XI 1698 Fe X 1771 Fe XI | SI4D S4D S4F CL7C S4E | 61.365 61.458 61.508 61.511 61.543 | 202.040 201.740 201.570 201.570 201.460 | 0 6.20 0 6.07 0 6.07 0 5.99 0 6.06 | -0.09 1.16 1.87 2.73 2.16 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - 5.19 | - 2.91 3.65 3.38 3.88 | 1.16 1.28 2.00 2.73 2.28 | -0.09 1.61 2.30 3.77 2.63 | 1.07 4.00 4.65 6.71 5.04 | 3.10 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | |
| 1423 Ca XV 1881 Fe XIII 1832 Fe XII 5149 Ni XVII 1831 Fe XII | C6A SI3D P8B MG7D P7 | 61.592 61.647 61.647 61.828 61.882 | 201.300 201.120 201.120 200.530 200.360 | 0 6.56 0 6.20 0 6.14 0 6.41 0 6.37 | 2.12 1.24 3.18 3.14 10.97 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - 6.41 - | - 2.49 3.72 - | 5.63 1.24 3.29 6.34 | 2.73 2.40 5.10 3.15 | 2.17 4.42 - 4.14 | 3.68 - - 5.64 | 5.68 - - - - | - - - - | - - - - | - - - - | - - - - |
| 1880 Fe XIII 5148 Ni XVII 1830 Fe XII 1022 S VIII 1770 Fe XI | SI3B MG7B P8A F4A S5F | 61.986 62.032 62.435 62.441 62.445 | 200.020 199.870 198.580 198.560 | 0 6.20 0 6.41 0 6.14 0 5.87 0 6.07 | 3.81 2.61 3.65 1.17 1.51 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - 5.03 | - - 2.58 | - 6.87 1.28 3.26 | 4.97 - 4.19 1.47 1.63 | 3.81 5.81 3.76 2.97 1.97 | 5.05 2.62 5.57 - 4.35 | 7.10 3.61 - - | - 5.11 - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1879 Fe XIII 5147 Ni XVII 124 N IV 1828 Fe XII 1878 Fe XIII | SI3A MG7C BE2 P10A SI5B | 62.798 62.812 62.863 63.051 63.088 | 197.430 197.390 197.230 196.640 196.520 | 0 6.20 0 6.41 0 5.23 0 6.14 0 6.20 | 2.12 2.61 2.85 3.06 2.95 | - - - - | - - - - | - - - - | - - - - | - - - - | - 4.31 - | - 2.89 - - | - 3.69 - | - 5.02 - | - 6.05 6.27 | 3.37 - 6.72 3.59 4.13 | 2.12 5.81 - 3.16 2.95 | 3.28 2.62 - 4.98 4.18 | 5.31 3.61 - - 6.26 | 5.11 - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1600 Fe VIII 5096 Ni XV 1696 Fe X 5115 Ni XVI 1827 Fe XII | K8A SI2 CL7B AL4C P10C | 63.266 63.413 63.455 63.484 63.520 | 195.970 195.520 195.390 195.300 | 0 5.64 0 6.36 0 5.99 0 6.39 0 6.68 | 2.21 4.57 1.64 2.39 14.87 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | 5.38 - - - - | 2.98 - - - - | 2.23 - 4.08 - - | 2.37 - 2.28 - - | 3.08 - 1.64 - | 5.14 5.90 2.68 4.60 | - 4.72 5.62 2.41 | - 7.29 - 4.14 | - - - 6.20 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | |
| 1826 Fe XII 1599 Fe VIII 1229 Ar XIV 1203 Ar XI 5114 Ni XVI | P11D K8C B11 O6D AL4A | 63.543 63.692 63.781 63.880 63.893 | 195.120 194.660 194.390 194.090 | 0 6.14 0 5.65 0 6.48 0 6.20 0 6.39 | 0.02 1.97 2.09 2.41 3.51 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - 5.19 - - - | - 2.76 - - - | - 1.99 - - - | 3.25 2.12 - 6.28 | 0.57 2.83 - 3.39 | 0.12 4.89 4.42 2.41 5.73 | 1.90 - 2.31 3.15 3.53 | - 2.54 5.46 5.26 | - 4.16 - 7.32 | - - 5.52 - - | - - - - | - - - - | - - - - | - - - - |
| 1598 Fe VIII 1404 Ca XIV 1695 Fe X 1825 Fe XII 235 O V | K8B N6A CL7A P11C BE6B | 63.920 63.951 64.003 64.072 64.274 | 193.870 193.710 193.510 192.900 | 0 6.47 0 5.98 0 6.14 0 5.42 | 2.05 2.68 0.23 1.02 | - - - | _ _ _ | - - - | - - - | - - - | - - - | - - 2.42 | - - - 1.04 | - 5.04 - 1.99 | - 3.28 3.47 3.41 | - 2.69 0.78 4.47 | 3.87 3.80 0.32 | 2.15 - 2.10 - | 2.42 | 4.55 - - - | - - - | - - - | - - - | - - - | _ _ _ _ | - - - | - - - | - - - | - - - | - - - | - - - - |
| 1461 Ca XVII 1767 Fe XI 234 O V 1766 Fe XI 1824 Fe XII | BE13A S5B BE6C S4C P11A | 64.288 64.301 64.307 64.360 64.443 | 192.860 192.820 192.800 192.640 192.390 | 0 6.68 0 6.07 0 5.42 0 6.07 0 6.14 | 1.99 1.09 1.20 1.78 0.65 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - 2.60 - | - 1.22 - | - 2.16 - | - 2.88 3.58 3.53 3.90 | - 1.22 4.64 1.91 1.21 | - 1.53 - 2.24 0.74 | 4.69 3.88 - 4.62 2.51 | 2.21 - - - - | 2.31 | 3.23 - - - - | 4.01 - - - - | 4.75 - - - - | 5.66 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1764 Fe XI 4924 Fe XXIV 985 S VI 1989 Fe XV 1228 Ar XIV | S4B LI12A NA2 MG15 B10B | 64.568 64.569 64.575 64.774 64.788 | 192.020 192.020 192.000 191.410 191.370 | 0 6.07 0 7.24 0 5.31 0 6.32 0 6.48 | 1.43 1.44 3.67 3.38 2.79 | - - - - | - - - - | - - - - | - - - - | - - - - | - 7.38 - - | - 4.17 - | - 3.78 - - | - 4.05 - | 3.18 - 4.44 - | 1.55 - 5.85 7.28 | 1.89 - - 3.94 5.12 | 4.27 - 3.52 3.01 | - - 4.34 3.25 | - - 5.42 4.86 | - 2.46 - - 6.23 | - 1.46 - - - | - 1.56 - - - | - 1.86 - - - | - 2.28 - - - | - 2.91 - - - | - 3.78 - - - | - 4.80 - - - | - - - - | - - - - | - - - - |
| 1068 S XI 1823 Fe XII 1202 Ar XI 1822 Fe XII 1821 Fe XII | C6D P3D O6E P5B P9D | 64.825 64.898 64.927 65.098 65.234 | 191.260 191.040 190.960 190.460 | 0 6.25 0 6.14 0 6.20 0 6.14 0 6.14 | 1.39 2.45 2.69 3.70 1.01 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - 5.69 6.57 6.93 4.20 | 2.76 3.00 3.66 4.24 1.54 | 1.43 2.56 2.69 3.80 1.12 | 2.08 4.36 3.43 5.60 2.93 | 4.37 - 5.74 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1694 Fe X 149 N V 1762 Fe XI 1761 Fe XI 1201 Ar XI | CL6B LI4 S5H S5E O6C | 65.240 65.255 65.275 65.346 65.403 | 190.040 190.000 189.940 189.740 | 0 5.99 0 5.31 0 6.03 0 6.07 0 6.20 | 1.53 2.88 2.00 1.36 2.75 | - - - - | - - - - | - - - - | - - - - | - - - - | - 6.49 - - - | 3.38 - - - | 3.01 - - - | 4.06 3.51 4.79 - | 2.21 3.91 2.92 3.11 6.63 | 1.53 4.12 2.02 1.48 3.73 | 2.54 4.55 2.63 1.82 2.75 | 5.45 5.61 5.13 4.21 3.49 | - 6.85 - - 5.80 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - |

485 Ma III 65.764 188.530 5.20 2.54 - - - 4.92 3.13 2.54 3.13 4.72 - - - -1819 Fe XII 1758 Fe XT 1818 Fe XII 1227 Ar XIV R10A 1597 Fe VIII K7C 484 Ma III NE4 1817 Fe XII P6A 1816 Fe XII PAR 1066 S XI 1403 Ca XIV N6B 1596 Fe VIII K7B 483 Mg III NE 5 148 N V T.T3 1815 Fe XII 66.708 185.860 6.14 2.62 -- 5.82 3.16 2.73 4.55 -1877 Fe XTTT ST5A 5113 Ni XVI AL4B 1595 Fe VIII K7A 66.964 185.150 6.36 2.47 - - - - - - - - 3.88 2.60 5.03 - - - - -5092 Ni XV 171 N V/T HE9 66.986 185.090 6.14 3.80 -- 6.73 4.98 4.00 3.85 4.50 5.39 6.20 6.92 7.55 -1755 Fe XI S7B 1754 Fe XI S5C 1690 Fe X CL6A 1313 Ca IX 1753 Fe XT 1312 Ca IX MG5 1295 Ca VIII AL9 261 O VI LI7A 260 O VI 1402 Ca XIV NAC 1422 Ca XV C7C 482 Ma III NE2 1689 Fe X 1752 Fe XI 1421 Ca XV 68.157 181.910 6.56 3.91 -- - - - - - - - 7.43 4.53 3.96 5.47 7.47 - - - -677 Mg X 68.202 181.790 6.10 3.48 - - - - - - 6.79 3.73 3.59 3.88 4.06 4.40 5.23 6.32 7.39 - - -LI9 1751 Fe XI S6E 91 C VI 499 Mg IV 1750 Fe XI 68.651 180.600 6.07 2.50 - - - - - - 4.29 2.63 2.93 5.29 - - -1749 Fe XI S6A 1687 Fe X CL5D 1270 Ca VI P1 1748 Fe XI

line list SPEX version 2.0

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 2.89 1.56 2.20 4.50 _ _ _

65.555 189.130 6.07 1.29 - - - - - - 3.03 1.41 1.75 4.13 - - - - 65.594 189.020 6.07 3.94 - - - - - - - - 5.68 4.06 4.40 6.80 - - -

Transit. E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

- - 8.34 6.69 7.73 9.81 -

- 5.57 2.67 1.69 2.43 4.74 -

P3C

S6B CL5A

5091 Ni XV

1747 Fe XI

1685 Fe X 1420 Ca XV

1814 Fe XII

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S5G

06A

C6C

65.406 189.560 6.22 6.67 -

65.663 188.820 6.20 1.69 -

65.711 188.680 6.25 1.52 -

69.161 179.270 6.36 3.63 -

1820 Fe XII

1760 Fe XT 1759 Fe XI

1200 Ar XI

1067 S XI

- - - - - - - - 5.04 3.76 6.20 -

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| Apr 13, 10 14:27 | line list SPEX version 2.0 Page 13/77 |
|---|--|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 |
| 5090 Ni XV SI4 1746 Fe XI S7A 311 Ne IV N1E1 5089 Ni XV SI3D 1684 Fe X CL5B | 70.166 176.700 6.36 1.75 3.16 1.87 4.31 |
| 1683 Fe X CL4C 1682 Fe X CL4A 170 N VI HE8 259 O VI LI6C 258 O VI LI6B | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 257 O VI LI6A 5088 Ni XV SI3A 310 Ne IV N1 228 O V BE5A 5087 Ni XV SI5 | 71.694 172.930 5.51 0.93 4.54 1.39 1.08 1.57 1.93 2.11 2.66 3.83 |
| 1419 Ca XV C7A 480 Mg III NE1A,B 5071 Ni XIV P4A 1630 Fe IX A4 1190 Ar X F4B | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 1681 Fe X CL4B 676 Mg X LI8 5070 Ni XIV P4B 1593 Fe VIII K6B 1439 Ca XVI B11 | 72.685 170.580 5.99 2.50 5.05 3.19 2.50 3.51 6.41 |
| 5069 Ni XIV P4C 1592 Fe VIII K6A 1386 Ca XIII 06D 1591 Fe VIII K5A 1590 Fe VIII K6C | 73.494 168.700 6.33 2.03 5.95 2.80 2.36 5.46 |
| 1589 Fe VIII K5C 1588 Fe VIII K5D 1587 Fe VIII K5B 1438 Ca XVI B10B 1335 Ca X NA9 | 73.799 168.000 5.65 1.45 4.84 2.29 1.47 1.60 2.35 4.48 |
| 1189 Ar X F4A 5394 Ni XXVI LI12A 1216 Ar XIII C6D 1437 Ca XVI B10A 5068 Ni XIV P3A | 74.911 165.510 6.08 1.92 5.78 3.37 2.06 2.18 3.70 |
| 5057 Ni XIII S7A 1385 Ca XIII 06E 1384 Ca XIII 06C 145 N V LI2 1310 Ca IX MG4 | 75.533 164.150 6.29 1.67 4.16 1.99 2.29 |
| 1383 Ca XIII 06A 1215 Ar XIII C6C 169 N VI HE7 5046 Ni XII CL6A 479 Mg III NE3A,B | 76.653 161.750 6.37 2.02 5.21 2.69 2.04 3.06 5.76 |
| 5056 Ni XIII S6A 5022 Ni X K7B 1214 Ar XIII C6B 5021 Ni X K7A 5055 Ni XIII S6C | 77.505 159.970 6.30 2.45 4.95 2.77 3.07 |

Apr 13 10 14:27 | Printed by Jelle de Plaa | Page 14/77 |

| Apr 13, 1 | 0 14:27 | | | | | | | | | | | III | ie i | IST | 5 P | | (V | er: | SIO | <u>n 2</u> | .0 | | | | | | | | | | - 1 | age | : 14/ | <u>//</u> |
|------------------------------|-------------------------------|---|------------|--------------|------|-------|----------|------|-----|-----|-----|-----|------|-----------|------------|------|-------|-----------|------|------------|-------------|-----------|-----------|------|-------|----------------|---------------|--------|------|------|-------------|--------|--------|-----------|
| Nr ion | Transit. | E(eV) La | ambda | a(A) | Tmax | -Qmax | x 4 | .0 4 | . 2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5. | 6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 309 Ne IV | N7 | 78.655 | 157 | .630 | 5.38 | 3 1.4 | 42 | | _ | _ | _ | _ | 3.96 | 1.96 | 5 1.4 | 2 2. | 01 | 3.93 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1382 Ca XIII 4574 Fe XXII | 06B B12B | 78.655 79.132 79.518 79.990 80.418 | 156 | .680 | 6.37 | 2.0 | 59 | - | - | - | - | - | - | - | - | - | - | - | 5.90 | 3.37 | 2.71 | 3.73 | 6.44 | 2 26 | - | - 0 4 4 | - 0 E 4 | - | _ | - | - | - | - | - |
| 1281 Ca VII | SI8 | 79.310 | 155 | 5.000 | 5.70 | 2.2 | 25 | _ : | _ | _ | _ | _ | _ | _ | 4.2 | 4 2. | 49 | 2.73 | 5.46 | _ | _ | _ | - | - | - | - | - | - | , – | _ | _ | _ | _ | _ |
| 5043 Ni XII | CL5A | 80.418 | 154 | 1.180 | 6.25 | 1.6 | 59 | | - | - | - | - | - | - | - | - | - | - | 3.05 | 1.75 | 2.73 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1334 Ca X | NA8 | 81.354 81.487 82.598 83.546 83.773 | 152 | 2.400 | 5.82 | 3.3 | 17 | | - | - | - | - | - | - | - | 6. | 04 | 3.19 | 3.53 | 4.17 | 5.72 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5042 Ni XII 256 O VI | CL4A LI5A | 81.487 | 152 | 1.150 | 6.25 | 1.4 | 45 78 | _ : | _ | _ | _ | _ | _ | - 4 36 | - 5 1 2 | -3 N | 93 | - 1 44 | 2.81 | 1.51 | 2.49 | - 3 58 | - 4 77 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5031 Ni XI | A4 | 83.546 | 148 | 3.400 | 6.17 | 1.1 | 10 | | _ | _ | - | _ | - | - | - | - | - | 3.20 | 1.58 | 1.11 | 2.75 | - | - | _ | _ | _ | _ | - | - | - | - | - | - | - |
| 143 N V | LI1 | 83.773 | 148 | 3.000 | 5.33 | 3.3 | 31 | | - | - | - | - | - | 3.93 | 3 3.3 | 7 3. | 72 | 4.03 | 4.18 | 4.57 | 5.57 | 6.75 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1368 Ca XII | F4B | 84.186 84.369 85.125 85.515 85.915 | 147 | 2.270 | 6.26 | 2. | 37 | | - | - | - | - | - | - | _ | _ | | 5.83 | 3.52 | 2.43 | 2.76 | 4.48 | - | - | - | - | - | - | - | - | - | - | - | - |
| 498 Mg IV 4258 Fe XXI | F2F C7F | 84.369 85.125 | 146 145 | .950 .650 | 7.02 | 3.5 | 95 21 | _ : | _ | _ | _ | _ | 4.73 | 2.50 |) 1.9 | 6 2. | .69 · | 4.27 | _ | _ | _ | _ | 4.36 | 3.22 | - 3.8 | - 7 5.3 | - 1 6.7 | 5 - | _ | _ | _ | _ | _ | _ |
| 5019 Ni X | K5A | 85.515 | 144 | .990 | 6.06 | 2. | 14 | | - | - | - | - | - | - | - | 4. | 77 | 2.88 | 2.18 | 2.41 | 4.62 | - | - | - | - | - | - | _ | - | - | - | - | - | - |
| 1415 Ca XV | C6D | 85.915 | 144 | 1.310 | 6.56 | 2.4 | 47 | - | - | - | - | - | - | - | - | _ | • | - | - | 6.03 | 3.10 | 2.52 | 4.02 | 6.02 | 2 – | _ | _ | - | - | - | - | - | - | - |
| 5018 Ni X 1293 Ca VIII | K5B AL12A | 85.974 86.059 86.521 86.572 86.872 | 144 | .210 | 6.06 | 2. | 40 | | - | - | - | - | - | - | _ | 5. | 03 | 3.14 | 2.43 | 2.67 | 4.88 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 324 Ne V | | 86.521 | 143 | 3.300 | 5.75 | 0.0 | 70 56 | _ : | _ | _ | _ | _ | _ | 2.92 | 2 1.0 | 5 0. | 69 | 1.88 | 4.48 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1292 Ca VIII | | 86.572 | 143 | .220 | 5.75 | 2. | 72 | - | - | - | - | - | - | - | 6.4 | 7 3. | 55 | 2.91 | 4.94 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 323 Ne V | C3 | 86.872 | 142 | 2.720 | 5.56 |) 1.4 | 46 | | _ | - | _ | _ | _ | 3.72 | 2 1.8 | 5 I. | 48 | 2.68 | 5.27 | - | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 4257 Fe XXI 1367 Ca XII | C7D | 87.215 87.908 88.214 88.449 90.229 | 142 | 2.160 | 7.02 | 2. | 26 | - | - | - | - | - | - | - | - | - | - | _ | - | - 15 | - 47 | - | 3.41 | 2.27 | 2.9 | 2 4.3 | 6 5.7 | 9 – | - | - | - | - | - | - |
| 1367 Ca XII 1414 Ca XV | F4A C6C | 87.908 | 141 | 040 | 6.56 | 2. | 73 | _ : | _ | _ | _ | _ | _ | _ | _ | _ | - | - | 3.23 | 6.28 | 3.36 | 2.77 | 4.27 | 6.27 | , – | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 497 Mg IV | F2D | 88.449 | 140 | .180 | 5.38 | 2. | 34 | - | - | - | - | - | 5.24 | 2.94 | 1 2.3 | 5 3. | 05 | 4.61 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 513 Mg V | 05A | 90.229 | 137 | .410 | 5.53 | 3 2 | 34 | | _ | - | _ | _ | _ | 4.5 | 3 2.6 | 4 2. | 41 | 3.27 | 5.32 | - | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | - | _ | _ | _ |
| 1413 Ca XV 5351 Ni XXIV | C6B | 90.302 | 137 | 1.300 | 6.56 | 3. | 18 | - | - | - | - | - | - | - | - | - | - | - | - | 6.74 | 3.81 | 3.23 | 4.73 | 6.72 | . – | 7 5 7 | - | 1 7 70 | - | - | - | - | - | - |
| 4573 Fe XXII | | 91.098 | 135 | 5.780 | 7.08 | 1.3 | 28 | _ : | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | 3.25 | 1.43 | 1.5 | 5 2.5 | 7 3.6 | 3 4.73 | , – | _ | _ | _ | _ | _ |
| 280 O VII 226 O V | HE9 BE2 | 90.302 91.098 91.313 91.319 91.486 | 135 | .770 | 6.29 | 2.8 | 31 | | - | - | - | - | - | - | _ | _ | - ! | 5.10 | 3.66 | 2.90 | 2.94 | 3.71 | 4.61 | 5.39 | 6.0 | 6 6.6 | 3 – | - | - | - | - | - | - | - |
| | | 91.480 | 133 | .520 | 5.44 | t 1. | 99 | | _ | _ | _ | _ | _ | 3.74 | ± 2.0 | 4 2. | . / 0 | 4.01 | 4.95 | 5.5/ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 4829 Fe XXIII 3785 Fe XX | BE13A N6A | 93.326 | 132 | 2.850 | 7.15 | 1.0 | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - 2 01 | 4.04 | 1.49 | 1.0 | 5 1.6 | 1 2.2 | 9 3.05 | 4.01 | L – | - | - | - | - |
| 178 N VII | H6 | 93.520 | 132 | 2.500 | 6.34 | 3. | 35 | _ : | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 5.10 | 3.58 | 3.38 | 3.63 | 3.92 | 4.19 | 4.4 | 4 4.6 | 0 – 7 4.8: | 9 5.10 | 5.30 | 5.47 | - / 5.62 | 2 5.71 | . 5.76 | 5.7 |
| 254 O VI 253 O VI | LI4A | 93.326 93.326 93.573 93.706 93.772 | 132 | 2.310 | 5.51 | 1.8 | 88 | - | - | - | - | - | - | 5.67 | 7 2.3 | 8 2. | 00 | 2.45 | 2.80 | 2.98 | 3.53 | 4.71 | - | - | - | - | - | - | - | - | - | - | - | - |
| | LI4B | 93.772 | 132 | | 5.51 | . 4 | 10 | | _ | _ | _ | _ | _ | 5.90 | 2.0 | 0 2. | .30 | 2.75 | 3.09 | 3.2/ | 3.02 | 5.00 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 322 Ne V 1586 Fe VIII | C1 | 93.899 | 132 | 2.040 | 5.57 | 1. | 77 | - | - | - | - | - | - | 4.15 | 2.2 | 1 1. | 79 | 2.95 | 5.53 | 7 | _ | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1585 FE VIII | K4A | 94.401 | 131 | 240 | 5.69 | 1.4 | 19 19 | _ : | _ | _ | _ | _ | _ | 5.30 | 2.5 | 2 1. | 55 | 1.57 | 2.23 | 4.27 | · _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1584 Fe VIII 495 Mg IV | C1 K4C K4A K4B F5 | 94.687 | 130 | .940 | 5.68 | 1.0 | 52 | | - | - | - | - | 4 00 | 5.37 | 7 2.6 | 3 1. | 68 | 1.71 | 2.38 | 4.42 | ! – | - | - | - | - | - | - | - | - | - | - | - | - | - |
| _ | | 93.372 | 130 | | 3.33 | , 1. | 19 | | | _ | _ | _ | 4.03 | 2.40 |) 1./ | 9 4. | 45 | 3.90 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1308 Ca IX 252 O VI | MG2 LI3 | 95.372 95.496 95.741 96.112 96.313 | 130 | 0.000 | 5.78 | 3.4 | 41 | - : | _ | _ | - | _ | - | - 5 21 | –) 1 Q | 5. | 10 | 3.44 | 4.69 | 6.08 | 2 97 | 4 02 | - 5 27 | _ | _ | _ | _ | _ | _ | - | - | _ | _ | _ |
| 1381 Ca XIII | 06F | 95.741 | 129 | .500 | 6.37 | 3. | 31 | _ : | _ | _ | _ | _ | _ | - | - | | - | _ | 6.56 | 4.01 | 3.33 | 4.34 | 7.04 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 932 Si XII 4255 Fe XXI | LI9 | 96.112 | 129 | .000 | 6.31 | 3. | 34 | - | - | - | - | - | - | - | - | - | - | - | 6.72 | 3.66 | 3.41 | 3.68 | 3.89 | 4.26 | 5.0 | 5 6.0 | 8 7.0 | 8 – | - | - | - | - | - | - |
| | C6A | 90.313 | 128 | . /30 | 7.02 | : 1. | 10 | | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | 2.33 | 1.19 | 1.0 | 4 3.2 | 0 4./. | 1 - | _ | _ | _ | _ | _ | _ |
| 279 O VII 374 Ne VII | HE8 BE9 | 96.486 97.118 100.120 100.550 101.030 | 128 | 3.500 | 6.31 | 2.0 | 54 | | - | - | - | - | _ | _ | - 5 0 | 7 2 | 11 | 5.16 | 3.62 | 2.77 | 2.75 | 3.49 | 4.34 | 5.08 | 5.6 | 9 6.2 | 0 – | _ | _ | _ | _ | _ | _ | _ |
| 4254 Fe XXI | C7C | 100.120 | 123 | .830 | 7.02 | 2. | 73 | _ : | _ | _ | _ | _ | _ | _ | - | | - | | | J.95 - | | _ | 3.89 | 2.74 | 3.3 | 9 4.8 | 3 6.2 | 6 – | _ | _ | _ | _ | _ | _ |
| 1333 Ca X 346 Ne VI | NA7 B6C | 100.550 | 123 | 3.300 | 5.83 | 3.2 | 24 | | - | - | - | - | - | - | _ 2 1 | 6. | 16 | 3.27 | 3.58 | 4.21 | 5.74 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | 101.030 | 122 | /20 | 5.0/ | 1.: | 2 | | _ | - | _ | _ | _ | _ | 3.1 | о т. | .00 | ∠.∪8 | 4.10 | - | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 345 Ne VI | B6A LI8 | 101.220 | 122 | .490 | 5.67 | 1. | 53 | | - | - | - | - | - | - | 3.1 | 7 1. | 66 | 2.08 | 4.10 | - | - | - | 4 22 | 4 50 | _ | - | - | _ | - | - | - | - | - | - |
| 931 Si XII 3782 Fe XX | N6B | 101.630 | 122 | 830 | 6.95 | 1.4 | 5⊥ 40 | _ : | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 0.97 | 3.92 | . 3.69 - | 3.98 | 1.93 | 1.45 | 2.6 | 0 0.3 1 4.4 | o 7.34 8 – | 4 - | _ | _ | _ | _ | _ | _ |
| 512 Mg V | 01E | 101.220 101.630 101.770 101.920 102.290 | 121 | .640 | 5.54 | 1.9 | 92 | - | - | - | - | - | - | 4.30 | 2.2 | 8 1. | 97 | 2.78 | 4.80 | - | - | - | - 1 - | - | - | - | - | _ | - | - | - | - | - | - |
| 4253 Fe XXI | C7E | 102.290 | ⊥21 | 210 | 7.02 | 3.0 | J2 | | - | - | - | - | - | - | _ | - | - | - | - | - | - | - | 4.17 | 3.03 | 3.6 | 8 5.1 | 2 6.5 | 5 - | - | - | - | - | - | - |

| Apr 13, 1 | 0 14:27 | line list SPEX version 2.0 | | 7 111100 | Page 1 | |
|--|-------------------------------------|---|---|----------|-----------|--------------|
| Nr ion | Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 | 7.0 7.2 7.4 7.6 7.8 | 8.0 8.2 | 8.4 8.6 8 | .8 9.0 |
| 278 O VII 3121 Fe XIX 493 Mg IV 1583 Fe VIII 319 Ne V | HE7 O6D F1B K12B C9 | 103.040 120.330 6.31 2.37 5.11 3.43 2.52 2.46 3.22 4.16 103.320 120.000 6.89 2.05 5.55 3.37 2.19 103.320 120.000 5.40 2.36 5.69 3.12 2.36 2.95 4.45 103.860 119.380 5.70 2.47 6.44 3.60 2.56 2.54 3.17 5.21 104.180 119.010 5.58 1.62 4.18 2.12 1.63 2.75 5.29 | | | : | |
| 788 Si V 1582 Fe VIII 4252 Fe XXI 3779 Fe XX 5350 Ni XXIV | NE8 K12A C7B1 N6C B12A | 104.220 118.960 5.42 1.13 - - - - 3.73 1.93 1.13 1.45 2.53 4.59 - - - - 104.270 118.910 5.71 2.50 - - - - - - 3.68 2.60 2.55 3.18 5.21 - - 104.460 118.690 7.02 4.45 - - - - - - - - - - - 5.60 104.490 118.660 6.95 1.67 - | 4.46 5.11 6.55 7.97 - 1.72 2.88 4.75 2.89 2.92 4.01 5.06 6.03 | | · | |
| 1332 Ca X 5372 Ni XXV 787 Si V 5301 Ni XXII 4251 Fe XXI | NA5 BE13A NE7 N6A C7B | 104.890 118.200 5.83 3.76 6.77 3.80 4.05 4.64 6.15 105.120 117.950 7.15 2.29 | | | | |
| 1581 Fe VIII 4571 Fe XXII 1580 Fe VIII 373 Ne VII 4570 Fe XXII | K11B B11 K11A BE8 B10B | 105.790 117.200 5.71 2.08 3.27 2.18 2.13 2.75 4.78 105.820 117.170 7.08 1.28 3.26 106.010 116.960 5.71 1.93 3.07 2.03 1.99 2.62 4.65 106.250 116.690 5.74 1.16 4.98 1.94 1.29 2.56 3.68 4.46 106.620 116.290 7.08 2.65 4.62 | 1.44 1.56 2.57 3.63 4.73 | | | |
| 249 O VI 372 Ne VII 4569 Fe XXII 511 Mg V 3777 Fe XX | LI2 BE7 B10A O1C,2A N6F | 107.040 115.830 5.52 1.43 5.40 1.98 1.52 1.92 2.23 2.38 2.89 4.02 5.23 107.330 115.520 5.74 1.47 5.31 2.26 1.60 2.86 3.99 4.76 108.370 114.410 7.08 2.03 4.00 108.470 114.300 5.55 1.36 3.85 1.76 1.40 2.18 4.18 109.390 113.340 6.95 4.54 7.09 5.08 | 2.18 2.30 3.31 4.37 5.46 | | | |
| 4247 Fe XXI 1579 Fe VIII 1578 Fe VIII 1577 Fe VIII 5326 Ni XXIII | C7G K10 K9B K9A C6A | 109.430 113.300 7.02 4.45 5.60 109.790 112.930 5.72 2.39 3.62 2.51 2.44 3.05 5.07 110.220 112.490 5.72 2.22 3.46 2.34 2.26 2.87 4.89 110.240 112.470 5.71 2.26 3.45 2.37 2.32 2.94 4.96 110.840 111.860 7.03 2.42 3.56 1.99 1.91 3.25 3.81 | 4.45 5.10 6.54 7.97 - 2.45 3.12 4.70 6.15 - | | | |
| 526 Mg VI 3118 Fe XIX 525 Mg VI 1331 Ca X 5325 Ni XXIII | N3B 06C N3A NA6 C7C | 110.970 111.720 5.71 1.79 - | 2.54 4.19 | | | |
| 508 Mg V 3775 Fe XX 1304 Ca IX 3116 Fe XIX 5281 Ni XXI | 01A N6D MG1 06E 06D | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2.84 4.00 5.87 | | | |
| 3115 Fe XIX 4246 Fe XXI 1576 Fe VIII 1575 Fe VIII 1574 Fe VIII | 06A C7A K3B K3C K3A | 114.410 108.370 6.89 1.46 - | 1.72 3.37 | | | |
| 5348 Ni XXIV 371 Ne VII 370 Ne VII 5298 Ni XXII 1628 Fe IX | B10B BE6B BE6C N6B A3 | 115.230 107.600 7.09 4.05 - - - - - - - - - - 6.51 116.750 106.190 5.74 1.89 - - - - - - 5.66 2.66 2.02 3.30 4.42 5.17 - - 116.870 106.090 5.74 1.89 - - - - - 5.66 2.66 2.03 3.30 4.42 5.17 - - 116.920 106.040 6.96 2.65 - | 2.68 3.93 5.98 - | | | |
| 248 O VI 2501 Fe XVIII 507 Mg V 1627 Fe IX 395 Ne VIII | 07H A2 | 118.290 104.810 5.53 2.24 - - - - - 2.85 2.30 2.64 2.91 3.05 3.56 4.69 5.89 119.290 103.940 6.80 1.90 - <t< td=""><td>2.58 4.69</td><td></td><td></td><td> </td></t<> | 2.58 4.69 | | | |

| Apr 13, 10 | 0 14:27 | | | | | | | | | | lir | ne li | st : | SPE | ΞX | ver | sio | n 2 | .0 | | | | | | | | | | F | age | 16/ | 77 |
|------------------------------|-------------|---|---|------------------|---------------|------|-----|-----|-----|-----|-----|-----------|-----------|------------|------|--------|-----------|-----------|-----------|------|-----------|-----------|-----------|-----------|------|------|------|------|------|------|------|------|
| Nr ion | Transit. | E(eV) Lat | mbda (1 | \ Tmax | r _∩m | 2.2 | 4 0 | 1 2 | 1 1 | 1 6 | Λ Ω | 5.0 | F 2 | 5 <i>1</i> | 5.6 | 5 Q | 6.0 | 6.2 | 6 1 | 6 6 | 6 9 | 7 0 | 7 2 | 7 / | 7.6 | 7 0 | ο 0 | Q 2 | Ω / | 9 6 | 0 0 | a n |
| NI IOII | II alisit. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 394 Ne VIII | | 120.480 120.720 121.000 121.280 121.290 | 102.9 | 10 5.8 | 32 1 | .92 | - | - | - | - | - | - | - | - | 3.85 | 1.93 | 2.27 | 2.71 | 2.96 | 3.39 | 4.35 | 5.53 | - | - | _ | - | - | - | - | - | - | - |
| 5297 Ni XXII 287 O VIII | N6C H6 | 120.720 | 102.7 | 00 6.9 70 6.9 | 9 / 2 50 2 | 2.40 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.35 | 3.67 | 2.51 | 2.46 | 2.72 | 3.00 | 3.26 | 3.50 | 3.73 | 3.95 | 4.15 | 4.34 | 4.51 | 4.63 | 4.71 | 4.73 |
| 4568 Fe XXII | B10D | 121.280 | 102.2 | 30 7.0 | 8 3 | .82 | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | 5.81 | 3.98 | 4.09 | 5.10 | 6.16 | 7.25 | - | - | - | - | - | - |
| 4244 Fe XXI | C6D | 121.290 | 102.2 | 20 7.0 |)2 1 | .88 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.04 | 1.89 | 2.53 | 3.97 | 5.40 | - | - | - | - | - | - | - |
| 5323 Ni XXIII | | 121.420 | 102.1 | 10 7.0 | 3 3 | 3.23 | _ | - | _ | - | - | - | - | - | - | - | - | - | - | - | 4.62 | 3.26 | 3.92 | 5.49 | 6.94 | - | - | - | - | - | - | - |
| 5347 Ni XXIV 3114 Fe XIX | B11 06B | 121.420 | 102.1 | 10 7.0 |)9 2 | 2.56 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.02 | 2.81 | 2.84 | 3.93 | 4.98 | 5.95 | - | - | - | - | - | - |
| 4567 Fe XXII | B10C | 123.040 | 101.5 | 70 7.0 | 08 2 | 2.85 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | - | 4.84 | 3.01 | 3.13 | 4.13 | 5.19 | 6.29 | _ | _ | _ | _ | _ | _ |
| 1330 Ca X | NA4 | 121.420 121.420 122.090 123.040 123.120 | 100.7 | 00 5.8 | 33 4 | .83 | - | - | - | - | - | - | - | - | 7.87 | 4.88 | 5.12 | 5.70 | 7.22 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5278 Ni XXI | 06C | 123.700 | 100.2 | 30 6.8 | 38 3 | 3.38 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.90 | 3.52 | 3.65 | 5.44 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5346 Ni XXIV | B10A | 124.170 | 99.8 | 50 7.0 | 9 3 | 3.30 | - | - | - | - | - | - | - | | | | | - | - | - | 5.76 | 3.56 | 3.58 | 4.67 | 5.72 | 6.68 | - | - | - | - | - | - |
| 799 Si VI 1680 Fe X | F3C CL3C | 124.660 125.710 | 99.4 | 60 5.6 | 58 1 | . 85 | _ | _ | _ | _ | _ | _ | _ | 2.97 | 1.94 | 2.09 | 3.43 | - 1 76 | 7 19 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1571 Fe VIII | | 125.810 | 98.5 | 49 5.5 | 73 3 | 3.73 | _ | _ | _ | _ | _ | _ | _ | 5.06 | 3.87 | 3.77 | 4.38 | 6.40 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1570 Fe VIII | K2C | 125.810 | 100.2 99.8 99.4 98.6 98.5 98.5 98.3 98.2 98.2 | 10 E ' | 72 7 | 12 | | | | | | | | 1 75 | 2 56 | 2 16 | 4 07 | 6 00 | | | | | | | | | | | | | | |
| 506 Mg V | 07E,F | 125.810 | 98.5 | 40 5.5 00 5.5 | 57 2 | 2.46 | _ | _ | _ | _ | _ | _ | 5.24 | 2.95 | 2.47 | 3.40 | 5.13 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1569 Fe VIII | K2A | 126.040 | 98.3 | 71 5.7 | 72 2 | 2.56 | - | - | - | - | - | - | - | 3.85 | 2.68 | 2.60 | 3.21 | 5.24 | - | - | - | - | - | - | - | - | _ | - | - | - | - | - |
| 393 Ne VIII 785 Si V | | 126.180 126.240 | 98.2 98.2 | 60 5.8 10 5 4 | 32 1 46 2 | .35 | _ | _ | _ | _ | _ | - 6 09 | - 3 86 | - 2 77 | 3.35 | 1.36 | 1.66 | 2.06 | 2.29 | 2.70 | 3.63 | 4.79 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | 50.2 | 10 5. | 10 2 | | | | | | | 0.05 | 3.00 | 2.,, | 2.07 | 3.00 | 3.71 | | | | | | | | | | | | | | | |
| 340 Ne VI 392 Ne VIII | B2 | 126.260 126.370 | 98.2 98.1 97.8 97.8 | 00 5.6 | 58 2 | 2.06 | - | - | - | - | - | - | - | 3.92 | 2.24 | 2.55 | 4.52 | - 25 | _ | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4242 Fe XXI | C6C | 126.670 | 97.8 | 80 7.0 |)2 2 | 2.25 | _ | _ | _ | _ | _ | _ | _ | _ | - | - | - | _ | - | - | 3.40 | 2.26 | 2.90 | 4.34 | 5.77 | _ | _ | _ | _ | _ | _ | _ |
| 1679 Fe X | CL3B | 126.720 | 97.8 | 38 6.0 | 00 2 | .86 | - | - | - | - | - | - | - | - | 5.65 | 3.62 | 2.86 | 3.86 | 6.80 | - | - | - | - | - | - | _ | - | - | - | - | - | - |
| 1678 Fe X | CL2D | 127.040 | 97.5 | 91 6.0 |)2 3 | 3.14 | - | - | - | - | - | - | - | - | 6.31 | 4.13 | 3.15 | 3.92 | 6.63 | - | - | - | - | - | - | - | - | - | - | _ | - | - |
| 365 Ne VII | BE5A | 127.160 | 97.5 | 02 5.7 | 75 1 | .29 | - | - | - | - | - | - | - | 5.19 | 2.11 | 1.40 | 2.60 | 3.66 | 4.36 | 5.04 | - | - | - | - | - | - | - | - | - | - | - | - |
| 524 Mg VI 5320 Ni XXIII | N1E1 | 127.450 127.560 | 97.2 | 78 5.1 00 7 (| 72 1 13 3 | 83 | _ | _ | _ | _ | _ | _ | _ | 3.68 | 2.05 | 1.95 | 3.31 | _ | _ | _ | - 5 15 | - 3 79 | - 4 45 | - 6 03 | 7 48 | _ | _ | _ | _ | _ | _ | _ |
| 784 Si V | NE4 | 127.630 | 97.1 | 43 5.4 | 17 1 | .99 | _ | - | _ | - | - | 5.42 | 3.16 | 2.05 | 2.14 | 3.06 | 5.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1677 Fe X | CL3A | 127.660 | 97.5 97.2 97.2 97.1 97.1 | 22 6.0 | 01 2 | 2.58 | - | - | - | - | - | - | - | - | 5.45 | 3.43 | 2.58 | 3.42 | 6.17 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1676 Fe X | CL2F | 128.100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ |
| 783 Si V | NE5 | 128.570 | 96.4 | 37 5.4 | 17 1 | .61 | - | - | - | - | - | 5.06 | 2.79 | 1.67 | 1.76 | 2.67 | 4.61 | - | | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1675 Fe X 5277 Ni XXI | CL2C O6A | 128.990 129.350 | 95.8 | 22 6.0 50 6.8 | 38 2 | 2.57 | _ | _ | _ | _ | _ | _ | _ | _ | 4.98 | - | 2.00 | 2.80 | 5.52 | 4.09 | 2.70 | 2.83 | 4.63 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 523 Mg VI | N1 | 129.850 | 96.7 96.4 96.1 95.8 95.4 | 83 5. | 73 1 | .14 | - | - | - | - | - | - | - | 3.09 | 1.40 | 1.23 | 2.52 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1674 Fe X | CL2B | 130.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ |
| 1673 Fe X | CL2E | 130.050 | 95.3 | 38 6.0 | 2 2 | .88 | - | - | - | - | - | - | - | - | 5.81 | 3.76 | 2.89 | 3.70 | 6.42 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1135 S XIV 5263 Ni XX | LI9 F4B | 130.510 131.210 | 95.0 | 00 6.4 | 19 3 | 1.60 | - | - | - | - | - | - | - | - | - | - | - | 6.41 | 3.76 | 3.69 | 3.92 | 4.14 | 4.57 | 5.36 | 6.33 | 7.27 | - | - | - | - | - | - |
| 1672 Fe X | CL2A | 131.210 | 95.3 95.3 95.0 94.4 94.0 | 90 6. 12 6.(| 02 2 | 2.12 | _ | _ | _ | _ | _ | _ | _ | _ | 5.09 | 3.02 | 2.13 | 2.94 | 5.67 | - | - | - | 0.18 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 0400 | -43 | 120 010 | 00.0 | 00 6 6 | | 4.0 | | | | | | | | | | | | | 2 04 | 1 01 | 1 46 | 0 15 | 1 00 | | | | | | | | | |
| 2499 Fe XVIII 3771 Fe XX | F4A N6E | 132.010 132.210 | 93.9 | 23 6.8 80 6.9 | 30 I | 46 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 3.04 | 5.19 | 3.17 | 2.15 | 3.83 | 5.70 | _ | _ | _ | _ | _ | _ | _ | _ |
| 1568 Fe VIII | K1B | 132.420 | 93.6 | 30 5. | 73 4 | .02 | - | - | - | - | - | - | - | 5.42 | 4.18 | 4.05 | 4.64 | 6.65 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1567 Fe VIII 1566 Fe VIII | | 132.440 132.650 | 93.9 93.7 93.6 93.6 93.4 | 16 5.5 69 5 5 | /3 2 73 3 | 2.71 | _ | _ | _ | _ | _ | _ | _ | 4.11 | 2.87 | 2.74 | 3.33 | 5.35 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | JJ.4 | · · · · | , , , 2 | | | | - | - | - | - | - | 4.40 | 4.23 | 2.00 | J. 70 | 5.50 | • | | • | | - | - | - | - | | • | - | • | • | • |
| 5345 Ni XXIV 1329 Ca X | B10C NA3 | 132.890 133.170 | 93.3 93.1 91.8 91.8 91.5 | 00 7.0 | 9 3 | .96 | _ | _ | - | - | - | - | _ | - | - | - 2 00 | - / 12 | - 1 71 | - 6 22 | _ | 6.43 | 4.21 | 4.23 | 5.31 | 6.36 | 7.32 | - | _ | - | - | - | - |
| 5318 Ni XXIII | | 133.170 | 91.8 | ου σ.δ 30 7.0 |)3 3 | 3.12 | _ | _ | _ | _ | _ | _ | _ | _ | - | - 3.05 | - 1.13 | | - | _ | 4.52 | 3.15 | 3.81 | 5.38 | 6.83 | _ | _ | _ | _ | _ | _ | _ |
| 5017 Ni X | K4A | 135.050 | 91.8 | 08 6.0 | 08 3 | 3.11 | - | - | - | - | - | - | - | | 6.19 | 4.07 | 3.19 | 3.31 | 5.43 | - | - | - 1 | - | - | - | - | - | - | - | - | - | - |
| 364 Ne VII | BE4B | 135.410 | 91.5 | 64 5. | /5 1 | .89 | - | - | - | - | - | - | - | 5.79 | 2.70 | 2.01 | 3.26 | 4.37 | 5.14 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4241 Fe XXI | C6B | 135.830 | 91.2 91.2 91.0 91.0 90.5 | 80 7.0 |)2 2 | 2.64 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.80 | 2.65 | 3.29 | 4.73 | 6.16 | - | - | - | - | - | - | - |
| 1935 Fe XIV 3112 Fe XIX | AL6B O6F | 135.840 136.220 | 91.2 | 73 6.2 | 27 2 | 2.72 | _ | _ | - | - | - | - | - | - | - | _ | 5.37 | 2.92 | 3.21 | 4.57 | 6.07 | 2 99 | _ 4 | - | - | - | - | - | - | - | - | - |
| 1934 Fe XIV | AL6A | 136.220 | 91.0 | 09 6.2 | 27 2 | 2.66 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.33 | 2.86 | 3.12 | 4.44 | 5.89 | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 782 Si V | NE2 | 137.000 | 90.5 | 00 5.4 | 19 3 | 3.72 | - | - | - | - | - | 7.42 | 5.01 | 3.80 | 3.83 | 4.70 | 6.60 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

| Apr 13, 10 | 0 14:27 | 7 Iine list SPEX version 2.0 | Page 17/77 |
|--|-----------------------------------|--|------------|
| Nr ion | | . E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.0 | |
| 1745 Fe XI 1744 Fe XI 1134 S XIV 1743 Fe XI 363 Ne VII | S3D S3C LI8 S2G BE3B | 137.230 90.345 6.08 2.79 - | |
| 1742 Fe XI 1741 Fe XI 5276 Ni XXI 1740 Fe XI 362 Ne VII | S3A S3B O6B S2E BE3A | 139.020 89.185 6.08 1.95 | |
| 391 Ne VIII 1739 Fe XI 1738 Fe XI 5317 Ni XXIII 1737 Fe XI | LI5A S2D S2C C6C S2B | 140.680 88.130 5.75 1.21 2.06 1.32 2.53 3.62 4.37 5.12 | |
| 1736 Fe XI 1735 Fe XI 781 Si V 1328 Ca X 780 Si V | S2A S2F NE1B NA2 NE1A | 142.890 86.772 6.08 1.82 3.89 2.01 2.16 4.41 | |
| 1813 Fe XII 1812 Fe XII 360 Ne VII 541 Mg VII 1811 Fe XII | P3F P3D BE4A C4 P3C | 145.560 83.175 5.51 2.79 - | |
| 540 Mg VII 1621 Fe IX 5261 Ni XX 798 Si VI 520 Mg VI | C3 A1B F4A F2F N7 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | |
| 1810 Fe XII 1809 Fe XII 1620 Fe IX 1808 Fe XII 414 Ne IX | P4E P4B A1A P3E HE9 | 149.670 82.837 6.15 3.14 -< | |
| 1807 Fe XII 5316 Ni XXIII 1806 Fe XII 817 Si VII 1805 Fe XII | P3B C6B P3A O5A P4D | 151.180 82.010 6.54 3.48 5.91 4.46 3.67 3.51 4.04 4.84 5.58 6.22 6.77 7.25 151.310 81.943 6.15 2.22 5.82 2.89 2.29 4.00 151.380 81.900 7.03 3.86 5.26 3.89 4.55 6.13 7.58 151.850 81.651 6.15 3.75 7.34 4.41 3.82 5.52 151.900 81.620 5.83 2.28 6.08 3.32 2.29 2.80 4.61 | |
| 1804 Fe XII 796 Si VI 1803 Fe XII 1802 Fe XII 1801 Fe XII | P2C F2D P4C P4B P2B | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | |
| 777 Si V 1800 Fe XII 539 Mg VII 1668 Fe X 5030 Ni XI | P2A C1 CL1F | 155.980 79.488 6.15 2.05 5.68 2.74 2.10 3.75 | |
| 413 Ne IX 1667 Fe X 1666 Fe X 594 Mg IX 5029 Ni XI | | 158.220 78.360 6.56 3.31 - | |

| Apr 13, 1 | 0 14:27 | | | | | | | | | III | ie i | IST | SPI | EX | ver | SIC | n Z | 2.0 | | | | | | | | | | | F | Page | 18/ | 77 |
|-----------------------------|----------------|--------------------|--|--------------|--------------|-----|-----|-----|-----|-----|------|-----|-----------|----------------|------------------|------|----------------|----------------|----------------|-------------|-------------|------|------|------|------|-----|-----|-----|-----|------|-----|-----|
| Nr ion | Transit. | E(eV) Lan | mbda(A) T | max - | Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6. | 8 7 | .0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 1665 Fe X | CL1B | 161.180 | 76.923 | 6.02 | 2.53 | - | - | - | _ | - | - | _ | - | 5.92 | 2 3.57 | 2.5 | 5 3.3 | 2 6.0 | 6 – | - | | - | _ | _ | - | - | _ | - | - | - | _ | - |
| 2053 Fe XVI 2052 Fe XVI | NA10B NA10A | 161.450 162.070 | 76.796 | 6.48 | 3.15 | - | - | - | - | - | - | _ | - | - | - | - | 4.7 | 3 3.2 | 1 3.2 | 2 3. | 64 5 | .06 | - | - | - | - | - | - | - | - | - | - |
| 2052 FE XVI 2051 FE XVI | NA10A NA10C | 162.430 | 76.332 | 6.48 | 3.89 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.4 | 5 3.9 | o 2.9 4 3.9 | 5 4. | 37 5 | . 79 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1933 Fe XIV | AL8B | 162.810 | 76.923 76.796 76.502 76.330 76.152 | 6.27 | 2.36 | - | - | - | - | - | - | - | - | - | - | 5.00 | 0 2.5 | 5 2.8 | 5 4.2 | 1 5. | 69 | - | - | - | - | - | - | - | - | - | - | - |
| 1876 Fe XIII | SI7C | 162.890 | 76.117 76.022 76.006 75.892 75.765 | 6.22 | 2.17 | - | - | - | _ | - | _ | _ | - | - | _ | 3.68 | 8 2.1 | 9 3.1 | 7 5.0 | 8 - | | _ | - | - | - | _ | - | - | - | - | _ | - |
| 1932 Fe XIV | AL8A | 163.090 | 76.022 | 6.27 | 1.92 | - | - | - | - | - | - | - | - | - | - | 4.5 | 6 2.1 | 1 2.4 | 1 3.7 | 9 5. | 29 | - | - | - | - | - | - | - | - | - | - | - |
| 1664 Fe X 1875 Fe XIII | CL1A SI7B | 163.120 163.370 | 75.006 75.892 | 6.02 | 2.18 | _ | _ | _ | _ | _ | _ | _ | _ | 5.40 | J 3.16 | 3 5 | 9 2.9 9 9 0 | 95./ 430 | 4 – 349 | 4 - | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 359 Ne VII | BE2 | 163.640 | 75.765 | 5.75 | 2.41 | - | - | - | - | - | - | - | - | 3.35 | 5 2.49 | 3.59 | 9 4.5 | 8 5.2 | 4 5.9 | 0 - | | - | - | - | - | - | - | - | - | - | - | - |
| 1663 Fe X | CL1C | 163.820 | 75.685 75.034 75.000 74.854 74.843 | 6.02 | 2.03 | _ | _ | _ | _ | _ | _ | _ | _ | 5.25 | 5 3.00 | 2.03 | 3 2.8 | 4 5.5 | 9 – | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 561 Mg VIII | B6C | 165.240 | 75.034 | 5.94 | 1.29 | - | - | - | - | - | - | - | - | 4.45 | 5 1.87 | 1.42 | 2 3.1 | 5 4.8 | 3 - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 5041 Ni XII 560 Mg VIII | CL3A B6A | 165.310 165.630 | 75.000 | 6.26 | 3.16 1.20 | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 1 90 | 4.78 | 8 3.2 | / 4.0 ε / Ω | 9 – | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1874 Fe XIII | SI7A | 165.660 | 74.843 | 6.22 | 1.84 | - | - | - | - | - | - | - | - | - | - | 3.3 | 4 1.8 | 5 2.8 | 4 4.7 | '5 - | | - | - | - | - | - | - | - | - | - | - | - |
| 388 Ne VIII | LI4 | 166.200 | 74.600 | 5.83 | 2.36 | _ | _ | _ | _ | _ | _ | _ | _ | 4.46 | 5 2.38 | 2.6 | 3 3.0 | 1 3.2 | 2 3.6 | 3 4. | 57 5 | . 74 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 412 Ne IX | HE7 | 166.350 | 74.530 | 6.56 | 3.09 | - | - | - | - | - | - | - | - | - | - | 5.9 | 1 4.2 | 8 3.3 | 5 3.1 | 1 3. | 61 4 | .44 | 5.27 | 6.03 | 6.72 | - | - | - | - | - | - | - |
| 1873 Fe XIII | SI7D | 166.810 | 74.327 | 6.22 | 2.22 | - | - | - | - | - | - | - | - | - | _ | 3.7 | 3 2.2 | 4 3.2 | 3 5.1 | .4 - | | - | - | - | - | - | - | - | - | - | - | - |
| 1615 Fe IX 386 Ne VIII | A0B LI3 | 168.420 168.550 | 74.600 74.530 74.327 73.618 73.560 | 5.84 | 2.04 | _ | _ | _ | _ | _ | _ | _ | - | 4.20 | 2.93 | 2.2 | 7 2.6 | 0 2.7 | 9 3.1 | 7 4. | 09 5 | .23 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1988 Fe XV | MG5 | 168.750 | 73.560 73.471 73.200 72.850 72.700 72.663 72.635 72.311 72.310 72.166 72.030 | 6.34 | 2 39 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 3.0 | 9 2 4 | 7 3 1 | 4 4 | 12 6 | 0.01 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1731 Fe XI | S1B | 169.380 | 73.200 | 6.09 | 1.86 | - | _ | - | _ | - | _ | - | _ | - | 4.07 | 2.09 | 9 2.1 | 7 4.3 | 8 - | - | -2 (| - | _ | - | _ | _ | - | - | - | - | _ | - |
| 1614 Fe IX | A0A | 170.190 | 72.850 | 5.91 | 2.56 | - | - | - | - | - | - | - | 5.86 | 3.60 | 2.71 | 2.69 | 9 4.2 | 0 - | _ | - | | - | - | - | - | - | - | - | - | - | - | - |
| 5040 Ni XII 1009 S VII | CL2A NE8 | 170.540 170.630 | 72.700 | 6.26 5.76 | 2.84 | _ | _ | _ | _ | _ | _ | _ | 2 52 | - 0 1 43 | - 2 1 10 | 4.4 | 5 2.9 3 4 n | 43.7 | 7 – | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | 170.030 | 72.005 | | 1.07 | | | | | | | | 2.52 | | | | | | _ | | | | | | | | | | | | | |
| 1730 Fe XI 593 Mg IX | S1A BE8 | 170.690 171.460 | 72.635 72.311 | 6.09 | 1.61 | _ | _ | _ | _ | _ | _ | _ | _ | _ | 3.77 | 1.83 | 3 1.9 6 2 4 | 3 4.1 | 5 – 743 | 5 5 | 14 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1729 Fe XI | S1D | 171.460 | 72.311 | 6.08 | 2.10 | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.25 | 2.3 | 1 2.4 | 5 4.7 | 2 - | - | 11 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1728 Fe XI | S1C | 171.800 | 72.166 | 6.08 | 1.68 | - | - | - | - | - | - | - | - | - | 3.83 | 1.88 | 8 2.0 | 2 4.2 | 9 - | _ | | - | - | - | - | - | - | - | - | - | - | - |
| 592 Mg IX | BE7 | 172.130 | 72.030 | 6.00 | 1.44 | - | - | - | _ | - | - | _ | - | - | 3.01 | 1.4 | 4 2.3 | 5 3.4 | 5 4.2 | 12 5. | 02 | - | - | - | - | _ | _ | _ | - | - | _ | - |
| 1008 S VII | NE7 | 172.140 | 72.027 | 5.76 | 1.40 | - | - | - | - | - | - | - | 2.86 | 1.75 | 5 1.42 | 2.3 | 5 4.4 | 0 – | - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 1931 Fe XIV 1987 Fe XV | AL9B MG6A | 175.580 176.980 | 70.613 | 6.28 | 2.62 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.3 | 1 2.8 | 3 3.0 | 6 4.3 | 6 5. | 78 | - 00 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 816 Si VII | 01,2 | 177.070 | 70.034 | 5.84 | 1.18 | _ | _ | _ | _ | _ | _ | _ | _ | 2.33 | 3 1.20 | 1.64 | 4 3.4 | 0 2.3 | 4 3.0 | ے کا ۔ - | <i>99</i> 5 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1799 Fe XII | P1E | 177.100 | 72.030 72.027 70.613 70.054 70.020 70.010 | 6.16 | 1.78 | - | - | - | - | - | - | - | - | - | 5.61 | 2.5 | 3 1.8 | 2 3.4 | 2 - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 5054 Ni XIII | S3A | 177.120 | 70.000 | 6.30 | 3.46 | - | - | - | - | - | - | - | - | - | - | 6.20 | 6 3.8 | 7 4.0 | 1 - | - | | _ | _ | - | - | - | - | _ | - | - | - | - |
| 794 Si VI | F1B | 177.120 | 70.000 | 5.71 | 1.98 | - | - | - | - | - | - | - | 3.58 | 2.19 | 9 2.11 | 3.3 | 1 5.6 | 5 - | - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 1986 Fe XV 1985 Fe XV | MG6B MG6C | 177.150 177.260 | 69.987 | 6.34 | 2.26 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 2.9 | 5 2.3 | 4 3.0 4 3 0 | 12 3. | 00 5 | .89 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 835 Si VIII | | 177.270 | 70.000 70.000 69.987 69.945 69.939 | 5.96 | 2.16 | - | - | - | - | - | - | - | - | 5.13 | 3 2.68 | 2.20 | 0 3.3 | 0 6.0 | 6 - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 834 Si VIII | N3B | 177.560 | 69.825 69.685 69.660 69.658 69.600 | 5.96 | 1.86 | _ | _ | _ | _ | _ | _ | _ | _ | 4.83 | 3 2.38 | 1.90 | 0 3.0 | 0 5.7 | 6 – | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1930 Fe XIV | AL9A | 177.920 | 69.685 | 6.27 | 2.81 | - | - | - | _ | - | - | - | - | - | _ | 5.39 | 9 3.0 | 1 3.2 | 8 4.6 | 0 6. | 03 | - | - | - | - | - | - | - | - | - | - | - |
| 1984 Fe XV | MG16 | 177.980 | 69.660 | 6.34 | 1.36 | - | - | - | - | - | - | - | - | _ | - | - | 2.0 | 4 1.4 | 5 2.1 | 5 3. | 14 5 | .04 | - | - | - | - | - | - | - | - | - | - |
| 833 Si VIII 1798 Fe XII | N3A P1C | 177.990 178.140 | 69.600 | 6.16 | 2.05 | _ | _ | _ | _ | _ | _ | _ | _ | 4.54 | 5.89 | 2.8 | 1 2.0 | 93.6 | 9 – | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 702 04 111 | | 170 170 | 69.200 68.144 67.780 67.350 67.233 | r 71 | 1 61 | | | | | | | | 2 00 | 1 00 | . 1 77 | | | | | | | | | | | | | | | | | |
| 793 Si VI 536 Mg VII | F5 C9 | 179.170 181.940 | 69.200 68.144 | 5.71 5.87 | 1.61 | _ | _ | _ | _ | _ | _ | _ | 3.22 - | : ⊥.82 3.45 | 4 1.73 5 2 03 | 2.92 | ∠ 5.2 1 4 7 | o – 8 – | _ | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1797 Fe XII | P1B | 182.920 | 67.780 | 6.16 | 2.34 | _ | - | _ | - | - | - | _ | - | - | 6.18 | 3.10 | 0 2.3 | 3.9 | 8 – | - | | _ | - | - | - | _ | - | - | - | - | - | - |
| 385 Ne VIII | | 184.090 | 67.350 | 5.84 | 1.84 | - | - | - | - | - | - | - | - | 4.03 | 3 1.87 | 2.0 | 7 2.4 | 2 2.6 | 1 2.9 | 9 3. | 89 5 | .01 | - | - | - | - | - | - | - | - | - | - |
| 591 Mg IX | BE6B | 184.410 | 01.233 | 0.00 | 1.9/ | - | - | - | _ | _ | - | _ | _ | - | 3.5 | 1.9 | , 2.9 | 4.0 | U 4.7 | 0 5. | 33 | _ | - | _ | _ | _ | _ | - | - | _ | _ | - |
| 590 Mg IX | BE6C | 184.690 | 67.132 67.000 66.326 66.297 66.238 | 6.00 | 1.98 | - | - | - | - | - | - | - | - | - | 3.52 | 1.98 | 8 2.9 | 2 4.0 | 0 4.7 | 6 5. | 53 | - | - | - | - | - | - | - | - | - | - | - |
| 5053 Ni XIII 2050 Fe XVI | S2 NA9 | 185.050 186.930 | 66.326 | 6.46 | ∠.68 1.72 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.50 | ບ 3.0 3.2 | 9 3.2 3 1 7 | ∠ – 5 1 8 | - 13 2 | 35 3 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1726 Fe XI | P1D | 187.010 | 66.297 | 6.10 | 2.03 | - | - | - | - | - | - | - | - | - | 4.34 | 2.29 | 9 2.3 | 0 4.4 | 3 - | - | | - | - | - | - | - | - | - | - | - | - | - |
| 1983 Fe XV | MG4C | 187.180 | 66.238 | 6.33 | 3.29 | - | - | - | - | - | - | - | - | - | - | - | 3.9 | 1 3.4 | 1 4.2 | 1 5. | 29 7 | .27 | - | - | - | - | - | - | - | - | - | - |

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| Apr 13, 1 | 0 14:27 | | | | | | | | lir | ie i | ıst | SP | EX | vei | Sic | on | 2.0 |) | | | | | | | | | | F | Page | 19/ | 77 |
|-------------------------------|---------------|--------------------|--|---------|------------|-----|-----|-----|-----|------|-----|------|--------|-------|----------------|----------------|----------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|--------|-------------|---------|--------|------|------|------|
| Nr ion | Transit. | E(eV) Lan | mbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 0 6. | . 2 6 | 5.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 1796 Fe XII | P1F | 187.720 | 66.047 6.1 | 5 2.70 |) – | - | - | - | - | - | - | - | - | 6.4 | 3 3.4 | 41 2. | .76 4 | 1.43 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1795 Fe XII 675 Mg X | P1A LI7A | 188.130 | 66.047 6.1 65.905 6.1 65.840 6.0 65.672 6.0 65.612 6.3 | 7 1.92 | 2 - | _ | _ | _ | _ | _ | _ | _ | _ | 4.9 | 4 2.9 0 2.0 | 90 2. 08 2. | .27 3 .12 2 | 2.53 | 2.80 | 3.19 | 4.07 | 5.20 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 674 Mg X | LI7B | 188.790 | 65.672 6.0 | 7 2.22 | 2 - | - | - | - | - | - | - | - | - | 5.2 | 0 2.3 | 38 2. | .42 2 | 2.83 | 3.09 | 3.48 | 4.36 | 5.49 | - | - | - | - | - | - | - | - | - |
| 1982 Fe XV | MG4B | 188.970 | 65.612 6.3 | 3 3.53 | 3 – | - | - | - | - | - | - | - | - | - | - | 4. | .14 3 | 3.65 | 4.45 | 5.53 | 7.50 | - | - | - | - | - | - | - | - | - | - |
| 1981 Fe XV | MG4A | 189.670 | 65.370 6.3 65.200 6.3 64.220 6.0 63.960 6.3 63.719 6.4 | 3 4.01 | L – | - | - | - | - | - | - | - | - | - | - | 4 . | .62 4 | 1.13 | 4.93 | 6.01 | 7.98 | - | - | - | - | _ | _ | - | - | - | - |
| 421 Ne X 1661 Fe X | H6 CL0B | 190.160 193.060 | 65.200 6.7 | 2 3.09 |) –) – | _ | _ | _ | _ | _ | _ | _ | 6.4 | 1 4.0 | 4 3.0 | 01.3. | - 4 .79 6 | 5.53 | 3.40 | 3.10 | 3.28 | 3.54 | 3.80 | 4.04 | 4.26 | , 4.48 | 4.6 | 8 4.87 | 5.03 | 5.15 | 5.2. |
| 1980 Fe XV | MG17 | 193.850 | 63.960 6.3 | 4 2.92 | 2 - | - | - | - | - | - | - | - | - | - | - | 3. | .62 2 | 2.99 | 3.67 | 4.65 | 6.54 | - | - | - | - | - | - | - | - | - | - |
| 2049 Fe XVI | NA8A | 194.580 | 63.719 6.4 | 5 1.70 |) – | - | - | - | - | - | _ | _ | - | - | _ | 3. | .15 1 | 1.72 | 1.83 | 2.37 | 3.91 | - | - | - | - | - | - | - | - | - | - |
| 5026 Ni XI | A1B | 195.370 | 63.461 6.2 63.314 6.0 63.304 5.9 63.294 6.0 63.153 6.0 | 0 2.90 |) – | - | - | - | - | - | - | - | - | 5.5 | 2 3.5 | 59 2. | .90 4 | 1.39 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 673 Mg X 1021 S VIII | LI6C F3C | 195.820 195.860 | 63.314 6.0 | 2.60 |) – | _ | _ | _ | _ | _ | _ | _ | 4.4 | 4 2.5 | 0 2.8 3 2.3 | 30 2. 32 3. | .73 3 .54 6 | 5.04 | 3.26 | 3.63 | 4.48 | 5.56 | 6.55 | ' - - | _ | _ | _ | _ | _ | _ | _ |
| 672 Mg X | LI6B | 195.890 | 63.294 6.0 | 8 1.64 | 1 - | - | - | - | - | - | - | - | - | 4.7 | 1 1.8 | 83 1. | .81 2 | 2.18 | 2.42 | 2.79 | 3.64 | 4.75 | - | - | - | - | - | - | - | - | - |
| 671 Mg X | LI6A | 196.320 | 63.153 6.0 | 8 1.94 | 1 - | - | - | - | - | - | - | - | - | 5.0 | 1 2.1 | 13 2. | .10 2 | 2.47 | 2.70 | 3.07 | 3.92 | 5.03 | - | - | - | - | - | - | - | - | - |
| 2048 Fe XVI | NA8B | 197.180 | 62.879 6.4 62.800 6.0 62.755 6.0 62.730 6.2 62.699 6.2 | 5 2.01 | _ | - | - | - | - | - | - | - | - | - | _ | 3. | .46 2 | 2.03 | 2.14 | 2.68 | 4.22 | - | - | - | - | - | - | - | - | - | - |
| 1660 Fe X 584 Mg IX | CLOA BE5A | 197.430 197.570 | 62.800 6.0 62.755 6.0 | 0 1 46 | 5 - | _ | _ | _ | _ | _ | _ | _ | 6.50 | 0 4.1 | 2 3.0 7 1 4 | 083. 462 | .84 6 34 3 | 3.58 | 4 06 | 4.79 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5025 Ni XI | A1A | 197.650 | 62.730 6.2 | 0 2.61 | Ĺ – | - | - | - | - | - | - | - | - | 5.2 | 3 3.3 | 30 2 | .61 4 | 1.10 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1871 Fe XIII | SI8B | 197.750 | 62.699 6.2 | 2 1.21 | _ | - | - | - | - | - | - | - | - | - | 2.7 | 77 1. | . 22 2 | 2.18 | 4.07 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1870 Fe XIII | SI8A | 198.840 | 62.354 6.2 62.100 6.3 62.000 6.3 61.912 5.9 61.841 6.0 | 2 1.17 | 7 – | - | - | - | - | - | - | - | - | - | 2.6 | 69 1. | .18 2 | 2.16 | 4.06 | - | - | - | - | - | - | - | - | - | - | - | - |
| 1869 Fe XIII 5067 Ni XIV | SI8C P2A | 199.650 199.970 | 62.100 6.2 | 4 2.83 | S – | _ | _ | _ | _ | _ | _ | _ | _ | _ | 3.0 | J2 I. 3. | .47 2 .74 3 | 3.43 | 6.06 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 832 Si VIII | N1E1 | 200.260 | 61.912 5.9 | 6 1.87 | 7 – | - | - | - | - | - | - | - | 4.88 | 8 2.3 | 9 1.9 | 91 3. | .04 5 | .85 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 850 Si IX | C5 | 200.490 | 61.841 6.0 | 7 1.29 | 9 – | _ | _ | - | _ | _ | _ | _ | _ | 3.0 | 5 I.4 | 41 I. | .70 3 | 3.86 | _ | _ | _ | _ | _ | _ | - | _ | - | - | - | - | _ |
| 1020 S VIII 1005 S VII | F3A NE6 | 201.270 201.440 | 61.600 5.9 61.550 5.7 61.050 5.9 60.900 6.3 60.810 5.8 | 3 2.24 | 1 - | - | - | - | - | - | - | 4 20 | 4.5 | 1 2.5 | 8 2.3 | 35 3. | .56 6 | 5.06 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 830 Si VIII | | 201.440 | 61.050 5.9 | 6 1.06 | 5 - | _ | _ | _ | _ | _ | _ | - | 4.19 | 9 1.6 | 2 3.2 3 1.0 | 09 2. | .10 .15 4 | 1.88 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5112 Ni XVI 384 Ne VIII | AL8 | 203.590 203.890 | 60.900 6.3 | 9 3.82 | _ | - | - | - | - | - | - | - | - | | 1 2 | б. | .17 3 | 3.83 | 5.48 | 7.50 | - | - | - | - | - | - | - | - | - | - | - |
| 304 Ne VIII | ПТТ | | 60.807 5.7 | 5 2.70 | , – | _ | _ | _ | _ | _ | _ | _ | 5.00 | 0 2.0 | 1 2.3 | 95 5. | . 20 3 | 0.42 | 3.79 | 4.00 | 3.60 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1004 S VII 810 Si VII | NE4 07 | 203.900 203.920 | 60.807 5.7 | 9 1.69 | 9 – | - | - | - | - | - | - | 3.58 | 3 2.22 | 2 1.7 | 0 2.4 | 47 4. | . 42 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 1003 S VII | NE5 | 204.560 | 60.610 5.7 | 9 1.30 |) – | _ | _ | _ | _ | _ | _ | 3.20 | 1.83 | 3 1.3 | 0 2.0 | 08 4. | .02 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5037 Ni XII 5085 Ni XV | CL1B SI7A | 204.590 205.920 | 60.807 5.8 60.800 5.8 60.610 5.3 60.600 6.2 60.210 6.3 | 6 3.24 | 1 - | - | - | - | - | - | - | - | - | - | 4.9 | 91 3. | .36 4 | 1.15 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | | | 00.210 0.3 | 1 3.32 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4. | .09 3 | 0.42 | 3.72 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5188 Ni XVIII 1929 Fe XIV | NA10 AL12A | 206.740 208.100 | 59.970 6.4 59.579 6.3 | 7 3.25 | 5 – 7 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 5 1 | 13 2 | - 3 | 3.46 | 3.43 | 4.15 | 5.84 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1979 Fe XV | MG3 | 208.710 | 59.404 6.3 | 4 1.82 | 2 – | - | _ | - | _ | - | _ | - | _ | _ | - | 2. | .52 1 | 1.90 | 2.59 | 3.58 | 5.48 | _ | _ | _ | _ | - | - | - | - | _ | _ |
| 554 Mg VIII 1928 Fe XIV | B2 AL12B | 209.790 210.270 | 59.970 6.4 59.579 6.2 59.404 6.3 59.100 5.9 58.963 6.2 | 5 1.90 |) – | _ | _ | _ | _ | _ | _ | _ | 5.34 | 4 2.5 | 8 2.0 | 01 3. so 2 | .68 5 | 3.31 | - 3 78 | - 5 20 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | 58.110 6.0 57.920 6.0 57.880 6.0 57.579 6.4 57.000 6.3 | ., 2.00 | , | | | | | | | | | | 1.0 | JU 2. | . 20 2 | , | 3.70 | 3.20 | | | | | | | | | | | |
| 583 Mg IX 670 Mg X | BE3B LI5B | 213.360 214.060 | 58.110 6.0 | 0 2.07 | 7 – | _ | _ | _ | _ | _ | _ | _ | _ | 3.6 | 6 2.0 | 07 2. 29 2 | 99 4 | 1.06 | 4.83 | 5.62 | _ 4 ∩7 | - 5 13 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 669 Mg X | LI5A | 214.210 | 57.880 6.0 | 7 1.82 | 2 – | _ | _ | _ | _ | _ | _ | _ | _ | 4.8 | 4 1.9 | 99 2. | .00 2 | 2.39 | 2.62 | 2.97 | 3.79 | 4.85 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5145 Ni XVII 1515 Ca XVIII | MG5 | 215.330 217.520 | 57.579 6.4 | 1 3.10 |) – | - | - | - | - | - | - | - | - | - | - | 6. | .45 3 | 3.12 | 4.01 | 5.45 | - 4 47 | - 4 60 | - E 01 | _ E E0 | - 6 20 | - 0 7 2/ | 1 0 0 | - | - | - | - |
| | | 217.520 | 37.000 6.7 | 9 4.33 | · – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | | _ | 3.27 | 4.33 | 4.4/ | 4.03 | 5.01 | . 3.36 | 0.33 | , ,.25 | ± 0.0 | 3 - | _ | _ | _ |
| 1978 Fe XV 5051 Ni XIII | MG2A S1 | 220.610 221.400 | 56.200 6.3 56.000 6.3 55.793 6.3 55.635 6.3 55.356 6.0 | 4 1.81 | L – | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 6 3 | 2. 27 3 | .51 1 81 3 | L.89 | 2.58 | 3.56 | 5.47 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1977 Fe XV | MG2B | 222.220 | 55.793 6.3 | 4 1.95 | 5 – | - | - | - | - | - | - | - | - | - | - | 2. | .64 2 | 2.03 | 2.72 | 3.70 | 5.60 | - | - | - | - | - | - | - | - | - | - |
| 1976 Fe XV 849 Si IX | MG2C C4 | 222.850 223.980 | 55.635 6.3 | 4 2.19 |) –) – | _ | _ | _ | _ | - | _ | _ | _ | 2 8 | - 3 1 1 | 2. 13.1 | .89 2 | 2.27 | 2.96 | 3.94 | 5.85 | _ | _ | _ | - | _ | _ | _ | _ | _ | _ |
| | | | 55.550 0.0 | 5 1.00 | , | | | | | | | | | 2.0 | J 1.1 | .J I. | | | | | | | | | | | | | | | |
| 848 Si IX 5144 Ni XVII | C3 MG6 | 224.320 224.410 | 55.272 6.0 | 8 1.79 | 9 – 5 – | _ | _ | _ | _ | - | _ | _ | _ | 3.6 | 2 1.9 | 92 2. | .18 4 | 1.31 | - 4 24 | - 5 67 | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | _ |
| 580 Mg IX | BE3A | 225.180 | 55.060 6.0 | 0 1.78 | 3 - | _ | _ | _ | _ | _ | _ | _ | _ | 3.4 | 3 1.7 | 78 2. | .66 3 | 3.70 | 4.46 | 5.24 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 1514 Ca XVIII | LI8 HE9 | 225.430 | 55.272 6.0 55.250 6.4 55.060 6.0 55.000 6.7 | 9 4.57 | 7 – | - | - | - | - | - | - | - | - | - | - | - | - 07 / | - 1 5 6 | 5.49 | 4.57 | 4.74 | 4.98 | 5.31 | 5.87 | 6.66 | 5 7.49 | 8.2 | 7 – | _ | - | - |
| 696 Mg XI | | 225.430 | 55.000 6.7 | 0 3.00 | , – | _ | - | _ | _ | - | - | _ | - | - | _ | 5. | .0/4 | 1.50 | 3.85 | 3.08 | 4.12 | 4.87 | 5.57 | O.17 | 0.08 |) /.Id |) / . 5 | S - | - | _ | _ |

| Apr 13, 10 14:27 | line list SPEX version 2.0 | | Page | 20/77 |
|---|--|-----------------------------|--------------------|-------------------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 | 8.2 | 8.4 8.6 | 8.8 9.0 |
| 1002 S VII NE2 2047 Fe XVI NA7C 2046 Fe XVI NA7A 1035 S IX 05A 2045 Fe XVI NA7B | 226.250 | - - - - | | |
| 1018 S VIII F2F 5065 Ni XIV P1 695 Mg XI HE8 1975 Fe XV MG1 1017 S VIII F2D | 229.100 54.118 5.93 1.98 4.41 2.37 2.07 3.23 5.70 233.930 53.000 6.34 3.06 3.99 3.32 6.26 233.930 53.000 6.78 3.50 5.89 4.52 3.75 3.50 3.88 4.55 5.19 5.73 6.20 6.62 234.330 52.911 6.34 1.34 2.05 1.41 2.05 2.98 4.82 234.580 52.854 5.93 1.84 4.30 2.24 1.93 3.08 5.54 | - - 51 7.00 - - | 7.36 - | |
| 847 Si IX C1 5187 Ni XVIII NA9A 5186 Ni XVIII NA9B 902 Si XI BE9 5141 Ni XVII MG4 | 234.650 | - - - - | | |
| 999 S VII NE1B 826 Si VIII N7 998 S VII NE1A 5185 Ni XVIII NA8A 694 Mg XI HE7 | 237.990 | - - - - 24 - | | |
| 873 Si X B6C 2044 Fe XVI NA6B 872 Si X B6A 2043 Fe XVI NA6A 5184 Ni XVIII NA8B | 244.590 | - - - - | | |
| 5084 Ni XV SI8 997 S VII NE3A,B 901 Si XI BE8 1179 Ar IX NE8 2042 Fe XVI NA5+ | 247.180 | - - - - | | |
| 1178 Ar IX NE7 579 Mg IX BE2 665 Mg X LI4A 578 Mg IX LI4* 1050 S X N3B | 254.430 | - - - - | | |
| 664 Mg X LI4B 5108 Ni XVI AL12A 1049 S X N3A 1032 S IX 01,2 663 Mg X LI3 | 259.440 | - - - - | | |
| 5107 Ni XVI AL12B 2041 Fe XVI NA5 900 Si XI BE6B 899 Si XI BE6C 1015 S VIII F1B | 262.770 | - - - - | | |
| 930 Si XII LI7A 929 Si XII LI7B 703 Mg XII H6 5138 Ni XVII MG2 1014 S VIII F5 | 271.420 | - - 10 4.61 - - | 4.81 5.00 | 5.15 5.27 |
| 31 C II B S 5183 Ni XVIII NA7A 844 Si IX C9 928 Si XII LI6C 927 Si XII LI6B | 277.370 | - - - - | | |

| Apr 13, 1 | 0 14:27 | | | | | | | | lin | e li | st : | SPE | EX ' | ver | sio | n 2 | .0 | | | | | | | | | | F | age | 21/ | 77_ |
|---|---------------------------------------|---|--|----------------------------------|------------------------------|------------------|------------------|------------------|-------------|-------------|-------------|-------------------|----------------------|----------------------|--------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|------------------------------|------------------------------|-------------------|---------------------|--------------------------|--------------------------|---------------------|---------------------|---------------------|---------------------|--------------------------|------------------|
| Nr ion | Transit. | E(eV) Lam | mbda(A) Tma: | x -Qma: | x 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 662 Mg X 926 Si XII 1188 Ar X 5182 Ni XVIII | LI2 LI6A F3C NA7B | 281.460 281.650 282.300 282.980 | 44.050 6.0 44.020 6.0 43.920 6.0 43.814 6.0 | 30 1. 13 2. 46 3. | 90 – 82 – 02 – | - | - | - | _ | _ | _ | _ | _ | 5.05 | 5.09 | 2.17 | 2.01 4.18 | 2.33 | 2.57 | 2.97 | 3.78 | 4.81 | E Ω1 | _ | _ | _ | - - - | - - - | - - - | - - - |
| 893 Si XI 1048 S X 1187 Ar X 5135 Ni XVII | BE5A N1E1 F3A MG1 | 283.460 288.320 288.740 289.410 | 43.740 6.3 43.002 6.3 42.940 6.3 42.840 6.4 | 17 2. 13 2. 42 3. | 14 - 84 - 20 - | - - - | - - - | _ | - | - - - | - - - | - - - | _ | 5.65 5.10 | 2.78 | 2.16 | 3.35 | 6.11 | - | _ | - | _ | _ | _ | _ | - - - | - - - | - - - | - - - | - - - |
| 1047 S X 39 C III 2040 Fe XVI | N1 BE S2 NA4A | 291.520 291.660 293.110 | 42.530 6.3 42.510 5.3 | 18 1. 86 6. | 32 - 34 - | _ | - | _ | - | - | - 8.37 | 7.23 | - 6.69 | 4.94 6.38 | 2.01 6.51 | 1.33 | 2.45 8.75 | 5.13 | - | | - | - | - | | _ | _ | - | | | _ |
| 1175 Ar IX 2039 Fe XVI 38 C III 37 C III | NE4 NA4B BE S4 BE S3 | 295.060 295.830 298.400 298.400 | 42.020 6.4 41.910 6.4 41.550 5.5 41.550 5.5 | 00 2. 47 2. 92 6. | 18 – 94 – 42 – | - | - | _ | _ | - - | - | - - 8 35 | 3.97 | 2.68 | 2.18 | 2.88 4.54 7.29 | 4.83 2.99 | 3.03 | 3.52 | - 5.03 | _ | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - |
| 56 C IV 1174 Ar IX 80 C V 5181 Ni XVIII 661 Mg X | LI S2 NE5 HE6 NA6 LI1 | 298.400 298.900 298.970 300.930 302.400 | 41.550 5.4 41.480 6.4 41.470 5.4 41.200 6.4 | 00 1. 97 1. 47 2. | 80 – 31 – 63 – | - - - | - - - | - - - | - | - - - | - - - | 5.05 - 5.09 | 3.80 3.61 2.94 | 3.19 2.31 1.66 | 3.37 1.80 1.31 | 4.32 2.50 1.85 | 5.51 4.44 2.70 2.83 | 6.67 - 3.48 2.81 | 4.18 3.54 | 4.79 5.23 | _ | - - - | - | _ | _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 925 Si XII 924 Si XII 79 C V 55 C IV 54 C IV | LI5B LI5A HE5 LI S3 LI S4 | 302.760 303.070 304.410 307.500 307.880 | 40.951 6 40.910 6 40.730 5 40.320 5 40.270 5 | 29 1. 97 2. 89 3. | 75 – 37 – 14 – | - - - - | _ | _ | _ | _ | _ | - 6 09 | - - 3 95 | - - 2 69 | 5.19 4.89 | 2.30 | 2.16 1.87 | 2.50 2.22 4.59 | 2.74 | 3.12 2.84 5.91 | 3.89 | 4.89 | 5.84 | _ | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 78 C V 2038 Fe XVI 2037 Fe XVI 951 Si XIII 2036 Fe XVI | HE4 NA3C NA3A HE9 NA3B | 307.880 308.720 308.780 309.960 311.310 | 40.270 5.9 40.161 6.4 40.153 6.4 40.000 6.9 39.827 6.4 | 49 3. 49 2. 94 3. | 63 – 67 – 56 – | - | - | - - - - | _ | _ | _ | - | _ | - | - | 5.26 | 3.69 2.73 5.31 | 3.70 2.73 4 22 | 4.16 3.19 | 5.62 4.66 | - - 4 01 | - - 4 69 | - 5 33 | - - 5 89 | - - 6 37 | - 6 80 | - - 7 10 | - - 7 55 | - - - - | - - - - |
| 1029 S IX 867 Si X 1065 S XI 1064 S XI 1199 Ar XI | 07 B2 C4 C3 05A | 314.200 314.680 315.480 315.960 321.040 | 39.460 6.1 39.400 6.3 39.300 6.3 39.240 6.3 38.620 6.3 | 16 1. 28 1. 28 2. 24 3. | 87 – 37 – 16 – 26 – | - - - | - - - | _ | - | _ _ _ | - - - | - - - | - - - | 5.86 - - - | 2.68 3.27 4.06 4.70 | 1.92 1.51 2.30 3.29 | 3.32 1.86 2.65 3.73 | 4.82 3.95 4.74 5.83 | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - - | - - - - | - - - - |
| 1185 Ar X 950 Si XIII 1063 S XI 1112 S XIII 1184 Ar X | F2F HE8 C1 BE9 F2D | 324.310 326.270 328.170 329.750 331.240 | 38.230 6.3 38.000 6.3 37.780 6.3 37.600 6.3 37.430 6.3 | 14 2. | 33 - | _ | _ | _ | _ | _ | _ | _ | _ | 4.73 | 2.96 - 4.33 - 2.75 | 2.64 - 2.55 3.43 2.42 | 3.85 5.37 2.89 2.00 3.62 | 6.52 4.22 4.97 2.82 6.29 | 3.59 - 3.66 | 3.41 - 4.28 | 3.75 - 5.01 | - 4.35 - - | - 4.92 - - - | - 5.43 - - - | - 5.87 - - | - 6.27 - - | - 6.64 - - | - 6.99 - - | - 7.30 - - - | - - - - |
| 890 Si XI 5180 Ni XVIII 1043 S X 2035 Fe XVI 1086 S XII | BE3B NA5 N7 NA2 B6C | 332.040 334.820 336.000 337.230 339.100 | 37.340 6.3 37.030 6.3 36.900 6.3 36.766 6.3 36.563 6.3 | 47 3. 19 1. 47 2. | 40 – 58 – 71 – | _ | - | _ | _ | _ | _ | _ | _ | - 5 27 | 2 24 | 1 50 | 3.60 | 3.60 | 4.37 | 6.12 | _ | _ | _ | _ | _ | _ | - - - - | - - - - | - - - - | - - - - |
| 1085 S XII 949 Si XIII 1111 S XIII 1110 S XIII 1353 Ca XI | B6A HE7 BE8 BE7 NE8 | 340.630 344.400 347.640 348.130 348.510 | 35.614 6.3 | 96 3. 39 1. 39 1. | 27 – 78 – 78 – | - | - - - | | - | - - - | _ _ _ | - - - | _ _ _ | - - - | 5.16 - - - | 2.21 - 3.23 3.23 | 1.71 5.34 1.78 1.78 | 3.15 4.11 2.58 2.58 | 4.44 3.44 3.42 3.42 | 5.37 3.28 4.04 4.04 | - 3.69 4.77 | 4.41 - - | - | | | - 6.92 - - | - - - - | - - - - | - - - - | - - - - |
| 889 Si XI 1352 Ca XI 77 C V 1206 Ar XII | BE3A NE7 HE3 N3 | 350.140 352.110 354.540 357.610 | 35.410 6.3 35.212 6.3 34.970 6.3 34.670 6.3 | 22 2. 14 2. 00 2. 35 2. | 22 - 18 - 18 - 53 - | - - - - | - - - - | - - - - | - - - | - - - | - - - | - - - - | - 4.12 | - 3.45 2.65 | 4.06 2.40 2.18 5.72 | 2.24 2.23 2.62 3.03 | 2.88 3.20 3.39 2.58 | 3.80 5.40 4.11 4.03 | 4.51 - 4.75 | 5.28 - 5.34 | - - 5.88 | - - - - | - - - - | - - - - | - - - | - - - - | - - - | - - - - | - - - - | - - - - |
| 1197 Ar XI | 01,2 | 360.630 | 34.380 6.3 | 25 2. | 07 – | - | - | - | - | - | - | - | | | 3.59 | 2.12 | 2.52 | 4.59 | - | - | - | - | - | - | - | - | - | - | - | - |

| Apr 13, 10 1 | 4:27 | | | | li | ne li | st SP | EX v | ersio | n 2. | 0 | | | | | • | | - | Page | | |
|--|---|---|------------|--------------|--------------|------------------|---------------|---------------------------------|--|--------------------------------------|---|---|---|--------------------------------------|--------------------------------------|---------------------------|-----------------------|----------------------------|--------------------------|--------------------------|--------------------------|
| Nr ion Tra | ansit. E(eV) |) Lambda(A) Tmax - | Qmax 4.0 4 | .2 4.4 | 4.6 4.8 | 3 5.0 | 5.2 5.4 | 5.6 5 | .8 6.0 | 6.2 | | | | | | | | 8.4 | 8.6 | 8.8 | 9.0 |
| 76 C V HE | .B 367.4 | 740 33.900 6.05 350 33.843 6.39 820 33.800 6.47 470 33.740 6.13 | 3.32 | | | - - - | | 7.28 4 - - - 3 | .44 3.36 .34 1.71 | 3.61 3.75 - 1.52 | 2.33 3.13 4.32 5.01 2.33 3.14 4.72 4.73 1.83 2.15 | 5.63 6. 3.96 4. 5.51 7. 2.42 2. | 22 6.77 57 5.27 26 - 66 2.88 | 7.30 6.28 - 3.09 | - - - 3.28 | 3.47 3. | 64 3.7 | - - - - 9 3.90 | - - - - 3.97 | - - - - 4.00 | - - - - 4.00 |
| | S S4 367.5 S S3 367.5 A 367.5 S2 369.9 S2 370.8 | 530 33.734 6.07 530 33.734 6.07 530 33.734 6.13 940 33.515 6.23 880 33.430 6.00 | 3.12 | | | - - - - | | - 4 - 4 - 3 - 4.72 3 | .56 3.21 .59 3.33 .05 1.41 - 4.29 .18 2.67 | 3.31 3.48 1.23 2.41 3.08 | 3.91 4.53 4.11 4.75 1.55 1.88 2.97 3.82 3.83 4.54 | 5.11 5. 5.35 5. 2.18 2. 4.45 5. 5.17 5. | 67 6.20 92 6.46 43 2.67 15 6.21 75 6.30 | 6.72 6.98 2.89 - | 3.10 | 3.30 3. | 48 3.6 | - - 3 3.74 - - | - - 3.78 - - | - - 3.78 - - | - 3.75 - - |
| | 370.9 371.3 | 930 33.425 6.47 320 33.390 7.22 120 33.318 6.30 780 33.259 6.47 280 33.215 6.30 | 2.20 | | | - - - - | | - · · | - 5.90 - 6.21 | 4.76 - 2.92 5.07 3.23 | 2.30 2.36 - 7.02 2.74 3.06 2.60 2.66 3.04 3.35 | 2.69 2.4.84 3.3.31 3.2.98 3.59 3. | 98 3.46 65 3.29 71 4.53 27 3.75 99 4.80 | 4.30 3.39 5.58 4.58 5.85 | 5.30 3.61 6.60 5.57 6.86 | 3.84 4. | 07 4.2 | - 8 4.49 - - - | - 4.69 - - - | - 4.86 - - - | 5.01 |
| 918 Si XII LI 72 C V HE 1131 S XIV LI 1130 S XIV LI 1365 Ca XII F3 | 378.0 380.8 382.3 | 000 32.800 6.01 860 32.554 6.47 310 32.430 6.48 080 32.281 6.30 | 3.03 | | | - - - | | 5.13 3 | .55 3.03 - 4.79 | 3.43 4.57 4.88 3.22 | 4.17 4.87 2.04 2.05 2.34 2.34 3.21 4.69 | 5.50 6. 2.34 2. 2.62 2. | 08 6.63 60 3.05 87 3.32 | 3.86 4.12 | - 4.84 5.09 | 5.79 - 5.02 - | - - - - | - - - | - - - | - - - | - - - - |
| 1103 S XIII BE 5178 Ni XVIII NA 4923 Fe XXIV LI 1364 Ca XII F3. 1205 Ar XII N1 | 389.8 391.6 | 040 32.200 6.47 890 31.800 7.30 610 31.660 6.30 110 31.380 6.35 | 3.34 | | | - - - | | - · | - 4.82 - 5.23 | - 3.24 2.49 | 3.54 3.54 3.22 4.70 2.01 3.43 | 4.32 6 | 06 - 49 3.29 | 3.25 - - | 3.46 | 3.81 4. | 39 5.1 - | 8 6.10 - - | 7.08 | - - - | - - - - |
| 1349 Ca XI NE 917 Si XII LI 1348 Ca XI NE 4922 Fe XXIV LI 108 N III B | | 760 31.015 6.31 670 30.867 6.17 550 30.800 7.29 380 30.660 5.55 | 2.30 | | | - - - | - 8.9 | - 3 - 3 8.80 9 | .84 2.63 .01 9.27 | 2.32 | 3.18 5.30 | - 4 - 4 | 72 3.53 | 3.52 | 3.74 | - 4.10 4. | 67 5.4 | 5 6.38 - | 7.38 | - - - | - - - - |
| 1347 Ca XI NE 1129 S XIV LI 119 N IV BE 1154 S XV HE 5177 Ni XVIII NA | 55A 407.5 S S2 410.8 S9 413.2 | 530 30.423 6.47 820 30.180 6.04 280 30.000 7.10 050 29.800 6.48 | 1.92 | | | - - - - | | - 3 - 2 2 6.99 6 | .48 2.26 .57 6.33 | 1.94 4.47 6.54 - | 2.80 4.91 1.97 2.01 7.54 8.82 7.01 5.11 3.80 3.73 | 2.31 2. 4.27 3. 4.42 6. | 57 3.00 - 88 3.90 | - 3.78 - 4.33 | 4.72 ! - 4.95 ! | 5.62 - 5.54 6. | 05 6.4 | - - - 9 6.90 | - - - 7.27 | - - - 7.61 | - - - - |
| 118 N IV BE | | 290 29.570 6.10 290 29.570 6.04 860 29.530 6.16 | 6.38 - | | | _ | - 9.6° | 7 7.94 7 | .03 6.47 | 6.49 | 7.36 8.56 | 6.85 - | · - | - | - | | _ | _ | _ | - - - - | - - - - |
| | 5A 428.4 5 S3 430.0 5 S4 430.6 | 420 28.940 6.41 050 28.830 6.08 650 28.790 6.09 | 3.67 | | | - - - - | | - 5.56 4 5.84 4 5.11 3 | .13 3.42 .24 3.43 .16 2.01 | - 4.48 3.50 3.45 1.70 | 7.04 5.11 3.46 4.22 4.37 5.49 4.28 5.36 2.22 2.99 | 4.22 3.6.74 - 6.53 - 6.39 - 3.70 4. | 76 3.70 - - - 34 4.92 | 4.04 - - - 5.47 | 4.58 ! - - - - | 5.10 5. | 57 5.9 - - - | 8 6.37 - - - - | 6.73 - - - - | 7.06 - - - - | 7.34 |
| 916 Si XII LI 1362 Ca XII F2 88 C VI H2 1361 Ca XII F2 1079 S XII B2 | RF 435.3 2 435.4 2D 443.2 | 28.500 6.32 370 28.478 6.31 490 28.470 6.15 230 27.973 6.31 | 2.76 | | | | | - | - 6.21 - 4.58 .14 2.33 - 4.32 | 3.10 2.94 2.04 2.67 | | 3.29 3. - 2.87 3. | 65 4.43 | 5.43 | 6.40 | | _ | - | - | _ | - |
| 1226 Ar XIV B6 1225 Ar XIV B6 1152 S XV HE 5393 Ni XXVI LI 1241 Ar XV BE | 5A 451.3 27 452.5 29 454.1 | 340 27.470 6.50 | 2.16 | | | _ _ _ _ | | - ; - ; - ; | | 4.99 - - | 2.50 2.48 2.51 2.48 7.08 5.07 3.24 2.41 | 3.91 5 4.12 3 - 5 | 15 - 63 3.60 84 4.36 | - 4.05 4.32 | - 4.74 4.52 | 4.81 5. | 22 5.7 | 6 6.38 | 7.01 | 7.61 | |

| Apr 13, 10 14:27 | li | ine list SPEX version 2.0 | Page 23/77 |
|--|--|---|------------------------------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4. | 8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8 | 3.2 8.4 8.6 8.8 9.0 |
| 87 C VI H3 1344 Ca XI NE3A,B 5392 Ni XXVI LI8 1343 Ca XI NE2 1394 Ca XIV N3 | 459.370 26.990 6.16 2.65 - - - - - 459.880 26.960 6.19 2.68 - - - - - 466.110 26.600 7.30 4.58 - - - - - 467.870 26.500 6.18 4.04 - - - - - 469.640 26.400 6.50 2.77 - - - - - | 4.88 3.00 2.66 2.88 3.16 3.42 3.66 3.88 4.09 4.29 4.48 4.66 4 4.52 3.14 2.69 3.43 5.46 | |
| 1101 S XIII BE3 86 C VI H4 1378 Ca XIII 01,2 85 C VI H5 1359 Ca XII F1B | 469.640 26.400 6.17 3.04 | 4.37 2.86 3.61 4.40 5.00 5.70 6.71 5.32 3.41 3.05 3.26 3.52 3.77 4.01 4.23 4.43 4.63 4.82 4.99 5 3.41 2.35 3.09 5.59 | 5.14 5.26 5.34 5.38 5.39 |
| 1240 Ar XV BE6B 1239 Ar XV BE6C 1250 Ar XVI LI7A 1161 S XVI H6 1341 Ca XI NE1A,B | 480.370 25.810 6.55 2.96 | 3.81 2.99 3.82 4.59 5.25 6.05 3.85 3.03 3.86 4.62 5.28 6.07 3.85 3.03 3.86 4.62 5.28 6.07 4.47 2.76 2.95 3.26 3.58 4.13 4.96 5.91 6.60 4.82 3.86 3.59 3.70 3.90 4.12 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10 | |
| 1249 Ar XVI LI7B 1248 Ar XVI LI6B 163 N VI HE S2 164 N VI HE3 1247 Ar XVI LI6A | 496.160 24.989 6.64 2.75 - - - - - 497.930 24.900 6.23 3.62 - - - - - 497.930 24.900 6.18 2.58 - - - - 499.130 24.840 6.64 2.92 - - - - | 4.74 2.95 3.07 3.32 3.60 4.10 4.90 5.79 6.63 | |
| 177 N VII H1B 162 N VI HE S4 161 N VI HE S3 176 N VII H1A 1234 Ar XV BE5A | 500.240 24.785 6.32 1.97 | 3.51 2.14 2.02 2.31 2.61 2.87 3.10 3.31 3.51 3.71 3.89 4 7.31 4.52 3.44 3.60 4.19 4.79 5.36 5.90 6.43 6.95 7.25 4.58 3.57 3.78 4.39 5.01 5.60 6.15 6.68 7.20 3.22 1.85 1.74 2.04 2.35 2.63 2.87 3.10 3.32 3.52 3.72 3 | |
| 1125 S XIV LI4 1124 S XIV LI3 1393 Ca XIV N1 160 N VI HE2 1246 Ar XVI LI5 | 512.330 | 4.60 2.44 2.40 4.32 | |
| 159 N VI HE1 1098 S XIII BE2 1123 S XIV LI2 206 O IV B S 1412 Ca XV C4 | 536.730 23.100 6.40 2.67 | 5.19 3.84 3.42 3.86 4.58 5.26 5.87 6.44 6.97 4.29 2.67 3.33 4.04 4.55 5.18 6.11 5.16 2.51 2.46 2.71 2.95 3.38 4.16 5.11 6.02 8.31 7.02 7.11 7.41 7.74 8.55 | |
| 220 O V BE S2 1458 Ca XVII BE9 276 O VII HE6 275 O VII HE5 218 O V BE S3 | 561 010 22 100 6 32 0 86 | 8.40 6.06 5.37 5.06 4.90 5.31 6.47 7.80 | |
| 247 O VI LI S2 219 O V BE S4 246 O VI LI S3 1435 Ca XVI B6C 245 O VI LI S4 | 569.340 21.777 6.21 2.25 | 5.10 3.48 2.60 2.25 2.60 3.63 4.75 5.78 | |
| 274 O VII HE4 1434 Ca XVI B6A 1457 Ca XVII BE8 1122 S XIV LI1 175 N VII H2 | 573.950 21.602 6.33 0.71 | 3.46 1.83 0.90 0.77 1.41 2.20 2.90 3.53 4.11 4.64 4.22 2.46 3.10 4.44 5.55 | |
| 1376 Ca XIII 07 1456 Ca XVII BE6B 1455 Ca XVII BE6C 1513 Ca XVIII LI7 1357 Ca XII F5 | 596.080 20.800 6.42 3.01 | 4.18 3.02 3.69 6.15 | |

| Apr 13, 10 14:27 | line list SPEX version 2.0 | Page 24/77 |
|--|---|---------------------------------------|
| | | |
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 | 8.4 8.6 8.8 9.0 |
| 174 N VII H3 1512 Ca XVIII LI6B 1511 Ca XVIII LI6A 1451 Ca XVII BE5A 173 N VII H4 | 626.180 | 3 |
| 1391 Ca XIV N7 273 O VII HE S2 172 N VII H5 286 O VIII H1B 285 O VIII H1A | 645.750 | |
| 271 O VII HE S3 272 O VII HE S4 4921 Fe XXIV LI08029 4920 Fe XXIV LI07028 4919 Fe XXIV LI06023 | 653.680 18.967 6.41 2.45 5.29 3.16 2.45 2.78 3.38 3.98 4.55 5.09 5.62 6.13 653.680 18.967 6.42 2.30 5.31 3.08 2.30 2.59 3.17 3.75 4.31 4.85 5.37 5.88 653.890 18.961 7.27 4.52 5.69 4.56 4.58 4.81 5.17 5.74 6.55 655.270 18.921 7.27 4.66 5.83 4.71 4.73 4.96 5.32 5.89 6.70 657.290 18.863 7.27 4.83 6.00 4.88 4.90 5.13 5.48 6.06 6.87 | |
| 1510 Ca XVIII LI5 4918 Fe XXIV LI06027 4917 Fe XXIV LI05023 4916 Fe XXIV LI05026 270 O VII HE3 | 653.550 18.971 6.48 0.77 4.42 1.90 0.84 0.86 1.15 1.44 1.70 1.94 2.16 2.37 2.57 2.76 653.680 18.967 6.41 2.45 5.29 3.16 2.45 2.78 3.38 3.98 4.55 5.09 5.62 6.13 653.680 18.967 6.42 2.30 5.31 3.08 2.30 2.59 3.17 3.75 4.31 4.85 5.37 5.88 653.890 18.961 7.27 4.52 5.69 4.56 4.58 4.81 5.17 5.74 6.55 655.270 18.921 7.27 4.66 5.83 4.71 4.73 4.96 5.32 5.89 6.70 657.290 18.863 7.27 4.83 6.00 4.88 4.90 5.13 5.48 6.06 6.87 660.300 18.777 7.27 4.76 5.93 4.81 4.83 5.06 5.41 5.99 6.80 661.990 18.729 7.27 5.16 | 9 |
| 2497 Fe XVIII F03011 1539 Ca XIX HE9 2496 Fe XVIII F03013 2495 Fe XVIII F03016 4915 Fe XXIV LI04024 | 666.400 18.605 6.84 3.97 6.46 4.80 4.00 4.45 6.39 670.190 18.500 7.36 4.59 6.03 5.11 4.70 4.60 4.82 5.27 5.78 6.25 670.220 18.499 6.84 4.55 7.05 5.39 4.58 5.03 6.97 677.180 18.309 6.84 4.98 7.48 5.82 5.01 5.45 7.39 677.180 18.309 7.28 5.03 6.20 5.07 5.09 5.32 5.68 6.25 7.06 | |
| 2494 Fe XVIII F03018 2493 Fe XVIII F03019 4914 Fe XXIV LI04025 2492 Fe XVIII F03020 2491 Fe XVIII F03022 | 677.580 18.298 6.84 4.09 6.59 4.93 4.12 4.56 6.50 677.690 18.295 6.84 4.29 6.79 5.13 4.32 4.77 6.70 677.770 18.293 7.28 4.77 5.94 4.81 4.83 5.06 5.42 5.99 6.80 6.79.590 18.244 6.84 3.92 6.43 4.77 3.96 4.40 6.34 682.020 18.179 6.85 3.68 6.20 4.53 3.72 4.16 6.10 | 7.78 |
| 2490 Fe XVIII F03024 1538 Ca XIX HE8 3111 Fe XIX 009018 2489 Fe XVIII F03027 3110 Fe XIX 009022 | 684.730 | 6 6.16 6.54 6.89 7.22 |
| 269 O VII HE2 3109 Fe XIX 009023 3108 Fe XIX 009024 2488 Fe XVIII F03029 2487 Fe XVIII F03030 | 697.720 17.770 6.34 2.05 5.14 3.34 2.29 2.10 2.69 3.45 4.13 4.74 5.30 5.82 699.920 17.714 6.92 4.22 6.08 4.51 4.38 5.85 7.99 700.950 17.688 6.92 4.82 6.68 5.11 4.98 6.44 8.59 703.420 17.626 6.85 1.92 4.45 2.77 1.95 2.39 4.33 703.820 17.616 6.85 3.75 6.29 4.60 3.78 4.22 6.15 | |
| 3107 Fe XIX 009027 3106 Fe XIX 009028 2486 Fe XVIII F03036 268 O VII HE1 3105 Fe XIX 009031 | 706.830 | |
| 2485 Fe XVIII F03038 3104 Fe XIX 008017 3103 Fe XIX 009037 3102 Fe XIX 009038 2181 Fe XVII NE01002 | 714.900 17.343 6.85 4.47 7.03 5.33 4.51 4.94 6.88 721.720 17.179 6.92 4.97 6.82 5.26 5.13 6.60 8.74 724.500 17.113 6.92 5.06 6.93 5.35 5.21 6.67 8.81 724.800 17.106 6.92 4.68 6.55 4.98 4.83 6.30 8.44 725.050 17.100 6.73 0.87 3.86 1.56 0.99 0.91 1.81 3.98 | |
| 2180 Fe XVII NE01003 3101 Fe XIX 007017 3100 Fe XIX 007018 3099 Fe XIX 009039 1537 Ca XIX HE7 | 726.970 17.055 6.73 0.79 3.76 1.46 0.90 0.83 1.74 3.91 | 0 6.79 7.23 7.62 7.97 |

E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 3098 Fe XIX 007022 734 030 16.891 6.92 4.24 6.09 4.53 4.39 5.86 8.01 -3097 Fe XIX 009047 16.889 6.92 3.98 5.86 4.28 4.13 5.60 7.74 734 110 006017 16.875 6.92 3.97 3096 Fe XIX 734 720 5.81 4.25 4.12 5.59 7.74 3095 Fe XIX 006018 735.290 16.862 6.92 5.10 6.95 5.39 5.25 6.72 8.87 3094 Fe XIX 007023 736.690 16.830 6.92 4.29 6.15 4.58 4.45 5.91 8.06 3093 Fe XIX 009051 737.690 16.807 6.92 5.10 6.98 5.39 5.25 6.71 8.85 3091 Fe XIX 006019 16.806 6.92 3.47 5.32 3.76 3.63 5.10 7.24 16.806 6.92 4.30 3092 Fe XIX 007024 737.740 6.16 4.59 4.46 5.93 8.07 3090 Fe XIX 16.790 6.92 4.31 6.18 4.60 4.45 5.92 8.06 009054 738.440 16.780 6.73 0.87 -3.85 1.54 0.98 0.92 1.83 4.03 -2179 Fe XVII NE01005 738.880 3089 Fe XIX 006022 16.717 6.92 4.16 6.01 4.45 4.31 5.78 7.93 3088 Fe XIX 741.980 16.710 6.92 4.31 6.19 4.60 4.46 5.92 8.06 009055 3769 Fe XX N13021 743.220 16.682 6.98 4.76 7.95 5.53 4.77 5.74 7.47 3087 Fe XIX 007027 743.620 16.673 6.92 4.25 6.11 4.54 4.40 5.87 8.01 16.657 6.92 3.79 5.65 4.08 3.94 5.41 7.56 3086 Fe XIX 006023 744.340 3085 Fe XIX 007029 748.790 16.558 6.92 4.44 -6.30 4.73 4.59 6.06 8.20 -3084 Fe XIX 007031 750 740 16.515 6.92 5.05 6.91 5.34 5.20 6.67 8.81 3083 Fe XIX 006027 751.240 16.504 6.92 3.87 5.72 4.16 4.02 5.49 7.63 3082 Fe XIX 008036 753.520 16.454 6.92 4.66 6.53 4.95 4.81 6.27 8.42 3081 Fe XTX 16.441 6.92 5.05 006028 754 120 6.91 5.34 5.20 6.67 8.81 3080 Fe XIX 009066 754.440 16.434 6.92 5.00 -6.88 5.29 5.14 6.60 8.74 -3768 Fe XX N13026 754 620 16 430 6 98 4 47 7.66 5.24 4.47 5.45 7.18 3079 Fe XIX 008038 756.230 16.395 6.92 4.35 6.22 4.65 4.50 5.97 8.11 3078 Fe XIX 007035 16.393 6.92 3.52 756.320 5.39 3.81 3.67 5.14 7.28 3077 Fe XIX 006029 756.420 16.391 6.92 3.44 5.30 3.73 3.59 5.06 7.20 3076 Fe XIX 006030 756.920 16.380 6.92 3.59 5.45 3.88 3.74 5.21 7.35 -3767 Fe XX N13028 757.340 16.371 6.98 5.05 8.25 5.82 5.06 6.03 7.76 3075 Fe XIX 006031 758.360 16.349 6.92 4.00 5.87 4.29 4.15 5.62 7.76 3074 Fe XIX 006032 758.730 16.341 6.92 3.14 - 5.00 3.43 3.29 4.76 6.90 2178 Fe XVII NE01007 758.780 16.340 6.71 2.59 5.53 3.22 2.67 2.67 3.72 6.16 - -3073 Fe XIX 007036 758.920 16.337 6.92 4.52 6.39 4.81 4.67 6.14 8.28 3072 Fe XIX 008040 759.890 16.316 6.92 4.85 6.72 5.14 5.00 6.46 8.60 16.310 6.85 2.69 5.29 3.57 2.73 3.15 5.07 -2484 Fe XVIII F03062 760.170 1429 Ca XVI 760.640 16.300 6.64 3.04 4.97 3.10 3.69 4.99 6.08 2483 Fe XVIII F02005 761.200 16.288 6.84 3.52 5.98 4.34 3.55 4.00 5.95 3070 Fe XIX 006033 761.390 16.284 6.92 4.01 -5.88 4.30 4.16 5.63 7.77 -16.282 6.92 2.48 4.35 2.77 2.63 4.09 6.24 3071 Fe XIX 007037 761.480 3069 Fe XIX 007038 761.570 16.280 6.92 4.90 6.77 5.20 5.05 6.52 8.66 3766 Fe XX N11021 761.760 16.276 6.98 4.03 - - 7.22 4.80 4.04 5.01 6.74 -2177 Fe XVII NE01010 763.450 16.240 6.71 2.76 5.70 3.39 2.84 2.83 3.89 6.32 -

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2482 Fe XVIII F03063

2481 Fe XVIII F03064

2480 Fe XVIII F02006

BE3

007041

008048

N12026

006036

N13034

008051

006038

F02007

006037

N12029

N13036

1449 Ca XVII

3068 Fe XIX

3067 Fe XIX

3066 Fe XIX

3764 Fe XX

3064 Fe XIX

3063 Fe XIX

3065 Fe XIX

3763 Fe XX

3762 Fe XX

2479 Fe XVIII

3765 Fe XX

764.110

765.330

765.380

765.760

766.330

766.570

766.990

767.180

767.280

769.090

769.230

769.510

769.800

770.140

770.380

16.226 6.85

16.174 6.92

16.118 6.92

16.106 6.92

16.099 6.98

16.200 6.69 3.58

16.199 6.92 3.77

16.191 6.92 4.58

16.165 6.85 2.11

16.161 6.84 3.95

16.159 6.98 4.64

16.112 6.84 3.22

16.094 6.98 4.66

16.121 6.92 4.38 -

16.179 6.98 4.63 -

4.46

3.68

1.96

4.06

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7.08 5.35 4.51 4.92 6.85

6.42 4.78 3.99 4.44 6.38

5.70 4.05 3.26 3.71 5.65

6.72 3.90 3.79 4.57 5.26 5.95 6.82

- 5.64 4.06 3.92 5.38 7.52 - -

6.45 4.87 4.73 6.19 8.33 -

7.83 5.41 4.64 5.61 7.34 -

5.55 3.97 3.83 5.29 7.43 -

4.73 3.00 2.15 2.57 4.50 - -

7.85 5.42 4.65 5.62 7.35

6.25 4.67 4.52 5.99 8.13

6.84 5.27 5.12 6.59 8.73

3.82 2.25 2.10 3.57 5.71

7.26 4.83 4.07 5.04 6.77

7.87 5.44 4.67 5.63 7.36

| Apr 13, 10 14:27 | line | list SPEX version 2.0 | Page 26/77 |
|---|---|--|------------------------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 | 0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8 | .0 8.2 8.4 8.6 8.8 9.0 |
| 3062 Fe XIX 007047 2478 Fe XVIII F01004 3061 Fe XIX 007048 3761 Fe XX N12030 2477 Fe XVIII F03065 | 770.900 | 4.87 3.29 3.14 4.61 6.75 3.66 2.13 1.40 1.88 3.83 6.09 4.51 4.36 5.82 7.96 7.91 5.48 4.71 5.69 7.42 7.22 5.49 4.64 5.06 6.98 | |
| 3060 Fe XIX 006039 3059 Fe XIX 006040 3058 Fe XIX 006041 3760 Fe XX N11026 2174 Fe XVII NE01014 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6.08 4.50 4.36 5.83 7.97 6.16 4.58 4.43 5.90 8.04 6.05 4.48 4.33 5.80 7.94 6.05 4.48 4.33 5.80 7.94 7.69 5.27 4.50 5.47 7.20 5.59 3.27 2.71 2.70 3.75 6.19 | |
| 2476 Fe XVIII F02008 284 O VIII H2 2475 Fe XVIII F01005 3759 Fe XX N11028 3758 Fe XX N12033 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 5.22 3.57 2.77 3.22 5.17 5.49 2.82 1.66 1.60 1.86 2.13 2.39 2.63 2.85 3.06 3 3.98 2.51 1.82 2.32 4.29 8.25 5.82 5.06 6.03 7.76 8.26 5.83 5.06 6.03 7.76 | |
| 3057 Fe XIX 007055 3056 Fe XIX 006048 3055 Fe XIX 006049 3757 Fe XX N12034 2474 Fe XVIII F01006 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6.76 5.17 5.02 6.49 8.62 6.69 5.11 4.96 6.43 8.57 5.50 3.91 3.77 5.23 7.37 6.48 4.05 3.28 4.25 5.98 4.66 3.19 2.49 2.99 4.96 | |
| 3756 Fe XX N09021 2473 Fe XVIII F02010 3054 Fe XIX 006051 3755 Fe XX N12036 3053 Fe XIX 006054 | 780.660 15.882 6.98 4.17 - | 7.36 4.94 4.18 5.15 6.88 4.92 3.27 2.47 2.92 4.86 6.49 4.91 4.76 6.22 8.36 6.49 4.91 4.76 6.22 8.36 6.40 4.82 4.67 6.14 8.28 | |
| 2472 Fe XVIII F01007 3754 Fe XX N09022 3052 Fe XIX 006055 2471 Fe XVIII F01008 2470 Fe XVIII F02011 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4.21 2.74 2.04 2.54 4.51 | |
| 3753 Fe XX N11036 3752 Fe XX N12038 3751 Fe XX N10026 3750 Fe XX N13049 3749 Fe XX N10027 | 788.850 15.717 6.98 4.11 | 7.32 4.89 4.12 5.08 6.81 8.13 5.70 4.92 5.89 7.62 7.56 5.13 4.36 5.34 7.07 7.23 4.79 4.01 4.98 6.70 8.02 5.59 4.82 5.80 7.53 | |
| 3748 Fe XX N09026 2468 Fe XVIII F02015 3747 Fe XX N13054 2467 Fe XVIII F01010 3746 Fe XX N09027 | 792.080 15.653 6.98 5.05 -< | 8.25 5.82 5.05 6.03 7.76 6.76 5.10 4.29 4.74 6.68 7.61 5.17 4.39 5.35 7.08 6.34 4.86 4.16 4.66 6.63 7.67 5.24 4.48 5.45 7.18 | |
| 2469 Fe XVIII F01009 3745 Fe XX N12043 3744 Fe XX N09028 1546 Ca XX H6 3743 Fe XX N10030 | 793.350 | 4.00 2.53 1.83 2.33 4.30 | |
| 3742 Fe XX N09029 3741 Fe XX N10031 3740 Fe XX N13057 3739 Fe XX N09030 3738 Fe XX N11041 | 795.890 | 7.97 5.55 4.78 5.75 7.48 6.38 3.95 3.18 4.15 5.88 6.38 3.95 3.18 4.15 5.88 7.71 5.28 4.51 5.48 7.21 - 7.71 5.28 7.21 5.21 5.21 5.21 5.21 5.21 5.21 5.21 5 | |
| 2465 Fe XVIII F02018 3051 Fe XIX 004011 3737 Fe XX N10033 1448 Ca XVII BE2 2466 Fe XVIII F02017 | 799.280 | 6.77 5.10 4.30 4.74 6.68 6.87 5.31 5.18 6.65 8.80 6.87 5.31 5.18 6.65 8.80 7.43 5.00 4.23 5.20 6.93 6.55 3.67 3.49 4.20 4.82 5.44 6.26 7.26 5.80 4.14 3.33 3.77 5.71 | |

E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2464 Fe XVIII F03077 15.498 6.85 2.80 800 000 5.46 3.70 2.84 3.25 5.17 -3050 Fe XIX 007075 15.497 6.92 3.84 - 5.73 4.14 3.98 5.44 7.58 005014 800.570 15.487 6.92 4.85 -6.74 5.15 5.00 6.45 8.59 3049 Fe XIX 2462 Fe XVIII F01011 800.670 15.485 6.84 3.76 -5.95 4.48 3.78 4.27 6.24 -2463 Fe XVIII F03078 800.670 15.485 6.85 4.45 -7.11 5.35 4.49 4.90 6.82 -2461 Fe XVIII F01012 801.140 15.476 6.84 3.64 5.83 4.36 3.66 4.15 6.12 -2460 Fe XVIII F02020 801.290 15.473 6.85 4.69 -7.20 5.54 4.73 5.17 7.11 - - -15.465 6.98 4.99 8.21 5.77 4.99 5.96 7.69 -3736 Fe XX N11044 801 710 3048 Fe XIX 15.465 6.92 3.49 5.38 3.79 3.63 5.09 7.23 -006069 801.710 15.459 6.98 4.07 -- - 7.29 4.85 4.08 5.04 6.77 -3735 Fe XX N12049 802.020 2166 Fe XVII NE01017 15.456 6.73 2.02 - 5.06 2.70 2.13 2.08 2.99 5.14 -3734 Fe XX N10034 802.750 15.445 6.98 4.04 - - 7.25 4.82 4.05 5.01 6.74 -2459 Fe XVIII F02021 803.270 15.435 6.85 4.37 6.89 5.22 4.41 4.85 6.79 -3733 Fe XX N10035 803.370 15.433 6.98 4.00 - 7.21 4.78 4.01 4.97 6.70 15.427 6.85 4.63 -- 7.14 5.47 4.67 5.11 7.04 - -2458 Fe XVIII F02022 803.680 3047 Fe XIX 007079 804 200 15.417 6.92 4.54 -- 6.44 4.84 4.68 6.14 8.28 -3046 Fe XIX 009110 804 470 15.412 6.92 3.22 - 5.14 3.53 3.37 4.82 6.95 2457 Fe XVIII F01013 804.520 15.411 6.84 3.81 -6.02 4.54 3.84 4.33 6.30 -15.407 6.98 3.52 -3731 Fe XX N09034 804 730 - 6.73 4.30 3.53 4.49 6.22 804 730 15.407 6.98 4.63 -- 7.85 5.41 4.63 5.60 7.32 -3732 Fe XX N12054 805.300 - 5.98 4.51 3.80 4.30 6.26 -2456 Fe XVIII F01014 15.396 6.84 3.78 -3730 Fe XX N09035 805.350 15 395 6 98 4 45 - 7.66 5.23 4.46 5.43 7.16 2455 Fe XVIII F01015 805.460 15.393 6.84 2.78 4.98 3.51 2.80 3.30 5.26 -004012 15.379 6.92 4.62 - 6.47 4.91 4.77 6.24 8.39 3045 Fe XIX 806.190 2454 Fe XVIII F02024 806.450 15.374 6.85 3.82 -6.34 4.66 3.86 4.30 6.23 - -3044 Fe XIX 007082 806.980 15.364 6.92 2.67 -- 4.57 2.97 2.82 4.28 6.41 -3729 Fe XX N08021 807.240 15.359 6.98 3.61 6.80 4.38 3.61 4.59 6.32 -3043 Fe XIX 006075 807.290 15.358 6.92 2.81 4.71 3.11 2.96 4.42 6.55 3042 Fe XIX 008088 807.980 15.345 6.92 5.04 -- - 6.94 5.34 5.19 6.64 8.78 - - - - - - - - 7.39 4.95 4.17 5.14 6.86 - - -3728 Fe XX N12057 808.560 15.334 6.98 4.17 3727 Fe XX N11049 808 820 15.329 6.98 4.58 - 7.80 5.36 4.59 5.55 7.28 3041 Fe XIX 003011 809.930 15.308 6.91 3.45 5.28 3.74 3.61 5.09 7.24 N07021 15.306 6.98 4.00 7.20 4.78 4.01 4.98 6.72 3726 Fe XX 810.040 5.88 4.20 3.39 3.83 5.77 - -2453 Fe XVIII F02025 810.880 15.290 6.85 3.36 2452 Fe XVIII F01016 811.420 15.280 6.84 4.15 -6.35 4.87 4.17 4.66 6.63 2451 Fe XVIII F01017 811.470 15.279 6.84 3.75 -5.95 4.47 3.77 4.26 6.23 - -15.277 6.98 4.19 -- 7.41 4.97 4.19 5.16 6.88 3725 Fe XX N11054 811.570 2450 Fe XVIII F01018 811.840 15.272 6.84 3.60 -5.80 4.32 3.62 4.11 6.08 - -3724 Fe XX N10037 812.000 15.269 6.98 4.76 -- - 7.98 5.54 4.77 5.74 7.46 -2160 Fe XVII NE01023 812 210 15.265 6.74 1.12 -- 4.20 1.85 1.26 1.16 2.04 4.22 -3722 Fe XX N08022 812.640 15.257 6.98 3.86 7.06 4.64 3.87 4.84 6.57 N10038 15.257 6.98 4.45 3723 Fe XX 812.640 7.66 5.23 4.46 5.42 7.15 -- 5.41 3.98 4.43 5.73 7.05 4240 Fe XXI C15025 813.060 15.249 7.04 3.94 15.244 6.92 4.94 -- 6.85 5.25 5.09 6.54 8.68 - -3040 Fe XIX 007088 813.330 2449 Fe XVIII F01020 813.870 15.234 6.84 3.23 -5.44 3.96 3.26 3.75 5.71 -3721 Fe XX N09037 813.970 15.232 6.98 4.74 7.95 5.52 4.75 5.71 7.44 -3720 Fe XX N10040 814.350 15.225 6.98 4.13 7.35 4.92 4.14 5.11 6.84 -3719 Fe XX N09038 814.670 15.219 6.98 4.28 - 7.50 5.07 4.29 5.26 6.99 - - 4.01 2.41 2.25 3.71 5.85 - -15.210 6.92 2.11 -3039 Fe XIX 006082 815 150 3038 Fe XIX 005021 815.310 15.207 6.92 4.79 -- - 6.69 5.09 4.94 6.39 8.53 -

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3718 Fe XX

3717 Fe XX

3716 Fe XX

2448 Fe XVIII F02027

2447 Fe XVIII F01021

N11057

N10041

N07022

815 420

815.420

815.420

815.470

815.850

15.205 6.98 4.60

15.205 6.98 4.74

15.205 6.85 4.53

15.204 6.98 3.59

15.197 6.84 3.46

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7.83 5.39 4.61 5.57 7.29

- 7.96 5.52 4.75 5.72 7.44 - 7.06 5.38 4.57 5.01 6.94 - -

- 6.79 4.36 3.60 4.57 6.30

5.67 4.19 3.49 3.98 5.94

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|--|---|---|--|----------------------|----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------|--------------------------------------|------------------------------|------------------------------|--------------------------|----------------------------------|-------------------|---------------------------|----------------------------|---------------------|---------------------|------------------|---------------------|-----------------------|
| Nr ion | Transit. | E(eV) Lar | mbda(A) Tm | max - | Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 3037 Fe XIX 3036 Fe XIX 2446 Fe XVIII 283 O VIII 3715 Fe XX | 007091 003012 F02028 H3 N09041 | 815.850 816.650 816.920 817.030 817.410 | 15.197 6 15.182 6 15.177 6 15.175 6 15.168 6 | 5.92 5.85 5.51 | 3.04 4.01 2.16 | _ _ _ | - - - - | - 3.51 | - 6.55 2.29 | 4.92 4.88 4.86 2.20 7.15 | 3.32 4.05 2.43 | 3.20 4.49 2.68 | 4.6 6.4 3 2.9 | 7 6.8 2 - 3 3.1 | 2 - .5 3.3 | - - - 7 3.5 | - - - 7 3.76 | - - - 3.94 | - - - 4.10 | - - 4.23 | - - - 4.31 | - - - 1 4.35 |
| 3713 Fe XX 2445 Fe XVIII 3035 Fe XIX 3707 Fe XX 3714 Fe XX | N10043 F01023 O02012 N06022 N07025 | 817.890 818.320 818.320 818.590 818.590 | 15.159 6 15.151 6 15.151 6 15.146 6 15.146 6 | 5.84 5.91 5.98 | 4.42 3.12 2.90 | _ _ _ | - - - - | _ | _ | _ | _ | _ | - - - - | _ | _ | _ | _ | - 6.63 - - - | 5.15 | 4.45 3.40 3.67 | 4.94 3.27 2.91 | 4.7 4.7 | 0 - 5 6.9 8 5.6 | 0 - 1 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3034 Fe XIX 2444 Fe XVIII 3033 Fe XIX 3032 Fe XIX 3712 Fe XX | 004013 F01024 004014 009114 N09043 | 818.970 819.030 819.240 819.410 819.890 | 15.139 6 15.138 6 15.134 6 15.131 6 15.122 6 | 5.84 5.92 5.92 | 3.99 3.91 3.81 | _ _ _ | - - - - | - - - - | - - - - | _ | _ | _ | - - - - | _ | _ | _ | _ | 6.20 - - | 5.38 4.72 5.76 5.74 7.94 | 4.01 4.20 4.12 | 4.51 4.06 3.96 | 6.4 5.5 5.4 | 7 - 3 7.6 0 7.5 | 7 – 3 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3031 Fe XIX 3711 Fe XX 3030 Fe XIX 3710 Fe XX 3709 Fe XX | 001011 N09044 006088 N08028 N07026 | 820.330 820.650 820.980 821.360 821.410 | 15.114 6 15.108 6 15.102 6 15.095 6 15.094 6 | 5.98 5.92 5.98 | 4.70 4.62 4.39 | _ _ _ | - - - - | - - - - | - - - - | - - - | - - - | - - - | - - - - | - - - | - - - | - - - | - - - | - - - | 6.52 7.59 7.89 | 5.49 4.92 5.16 5.46 | 4.71 4.77 4.39 4.69 | 5.6 6.2 5.3 5.6 | 8 7.4 2 8.3 6 7.0 6 7.4 | 0 – 6 – 9 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3029 Fe XIX 4239 Fe XXI 3708 Fe XX 3028 Fe XIX 2442 Fe XVIII | 009117 C15028 N07027 004015 F01025 | 822.070 822.180 822.560 823.380 823.430 | 15.082 6 15.080 7 15.073 6 15.058 6 15.057 6 | 7.04 5.98 5.92 | 4.37 3.22 3.19 | _ _ _ | - - - - | _ | _ | _ | _ | _ | 6.69 - 6.42 5.04 5.33 | 5.84 3.99 3.48 | 4.42 3.23 3.34 | 4.8 4.2 4.8 | 6 6.1 0 5.9 1 6.9 | 6 7.4 | 8 – – – – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 2441 Fe XVIII 2440 Fe XVIII 3027 Fe XIX 3706 Fe XX 3026 Fe XIX | F03081 F02029 O09119 N08030 O09120 | 823.490 823.600 823.650 823.870 823.870 | 15.056 6 15.054 6 15.053 6 15.049 6 | 5.85 5.92 5.98 | 3.74 4.24 4.60 | _ | - - - - | _ | _ | _ | _ | _ | - - - - | _ | _ | _ | _ | - | 5.57 4.59 6.17 7.81 6.08 | 4.55 5.38 | 4.38 | 5.8 | 3 7.9 8 7.3 | 1 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3705 Fe XX 2439 Fe XVIII 3025 Fe XIX 3704 Fe XX 3703 Fe XX | N07028 F03082 O05026 N07029 N10049 | 824.140 824.640 824.690 825.240 825.740 | 15.044 6 15.035 6 15.034 6 15.024 6 15.015 6 | 5.85 5.92 5.98 | 3.99 3.99 3.87 | - - - | _ | _ | _ | _ | _ | _ | - - - - | _ | _ | _ | _ | 6.68 | 6.90 4.91 5.90 7.07 6.74 | 4.04 4.30 4.64 | 4.44 4.14 3.87 | 6.3 5.5 4.8 | 5 – 9 7.7 4 6.5 | 3 – 7 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 2153 Fe XVII 3024 Fe XIX 2438 Fe XVIII 3699 Fe XX 3701 Fe XX | NE01027 004016 F01026 N06026 N08033 | 825.790 825.900 826.120 826.450 826.450 | 15.014 6 15.012 6 15.008 6 15.002 6 | 5.92 5.84 5.98 | 2.78 3.02 | - | - - - - | - - - - | - - - - | _ | _ | _ | - - - - | _ | _ | _ | _ | - | 0.72 4.64 3.75 6.01 5.94 | 3.07 3.04 3.58 | 2.94 3.53 2.81 | 4.4 5.4 3.7 | 0 6.5 9 - 8 5.5 | 1 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 1506 Ca XVIII 3702 Fe XX 3022 Fe XIX 3023 Fe XIX 3700 Fe XX | LI4 N07030 008099 001012 N10054 | 826.560 826.670 827.550 827.670 828.490 | 15.000 6 14.998 6 14.982 6 14.980 6 14.965 6 | 5.98 5.92 5.91 | 3.95 4.74 2.33 | - | - - - - | - - - - | - - - - | - - - - | _ | _ | - - - - | _ | _ | _ | _ | _ | 4.26 7.16 6.66 4.01 8.00 | 4.73 5.05 2.58 | 3.96 4.88 2.51 | 4.9 6.3 4.0 | 3 6.6 4 8.4 1 6.1 | 6 – 7 – 8 – | 9 5.7 - - - - | 3 6.61 - - - - | | - - - - | - - - - | - - - - | - - - - |
| 3021 Fe XIX 2436 Fe XVIII 4238 Fe XXI 3697 Fe XX 3020 Fe XIX | O03013 F01028 C14025 N07033 O03014 | 829.440 829.490 829.550 830.160 830.380 | 14.948 6 14.947 6 14.946 7 14.935 6 14.931 6 | 5.84 7.04 5.98 | 3.93 4.30 2.51 | - - - - | | 4.67 - 5.72 | 3.96 5.77 3.29 | 4.45 4.34 2.52 | 6.4 4.7 3.4 | 1 - | 9 7.4 2 - | - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3698 Fe XX 3696 Fe XX 2435 Fe XVIII 3019 Fe XIX 2434 Fe XVIII | 002014 | 830.660 831.270 831.270 831.380 831.830 | 14.926 6 14.915 6 14.915 6 14.913 6 14.905 6 | 5.98 5.85 5.92 | 3.44 2.87 3.78 | - - - - | - | 6.99 6.65 3.73 5.62 4.26 | 4.22 2.91 4.07 | 3.45 3.34 3.94 | 4.4 5.2 5.4 | 8 - 1 7.5 | 5 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |

line list SPEX version 2.0 Apr 13, 10 14:27 Page 29/77 E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2433 Fe XVIII F02034 832 000 14.902 6.85 3.22 -5.77 4.08 3.26 3.69 5.63 -3695 Fe XX N10057 14.896 6.98 3.64 - 6.87 4.43 3.65 4.61 6.34 -3018 Fe XIX 007099 832.950 14.885 6.92 4.96 6.87 5.26 5.10 6.55 8.69 3694 Fe XX N06029 833.340 14.878 6.98 3.11 -6.32 3.89 3.12 4.09 5.82 -3017 Fe XIX 007100 833.400 14.877 6.92 3.42 -5.33 3.72 3.56 5.01 7.15 2432 Fe XVIII F02036 833.560 14.874 6.85 4.33 - 6.88 5.19 4.37 4.80 6.73 -4237 Fe XXI C13025 833.790 14.870 7.04 4.00 -- - 5.47 4.05 4.50 5.80 7.12 -14.866 6.92 3.61 -5.47 3.90 3.76 5.23 7.37 - -3016 Fe XIX 004021 834.010 3693 Fe XX 14.864 6.98 3.11 -6.32 3.89 3.12 4.09 5.82 N07034 834.120 14.853 6.98 4.53 -- - 7.74 5.30 4.53 5.50 7.23 - -3692 Fe XX N07035 834.740 3691 Fe XX N06030 14.852 6.98 2.95 - 6.16 3.73 2.96 3.93 5.66 6.53 4.75 3.87 4.27 6.18 -2431 Fe XVIII F03093 835.470 14.840 6.85 3.83 3015 Fe XIX 009144 835.810 14.834 6.92 4.64 - 6.58 4.96 4.78 6.23 8.36 2430 Fe XVIII F01029 836.150 14.828 6.84 4.37 6.59 5.10 4.39 4.88 6.84 - -14.827 6.98 3.21 -- 6.42 3.99 3.22 4.19 5.92 3690 Fe XX N06031 836.210 3014 Fe XIX 003016 836.430 14.823 6.92 3.64 -- - 5.49 3.93 3.79 5.26 7.41 - - - - - -282 O VIII Н4 836.770 14.817 6.52 2.54 3.93 2.68 2.58 2.80 3.04 3.28 3.50 3.71 3.91 4.10 4.27 4.43 4.56 4.65 4.70 4236 Fe XXI C14027 837.000 14.813 7.04 4.01 5.49 4.06 4.51 5.80 7.13 - - -14.800 6.79 3.22 -4.16 3.23 3.37 3.59 3.91 4.48 5.29 6.14 6.93 -1505 Ca XVIII LI3 837 730 3689 Fe XX 837.790 14.799 6.98 2.37 -5.58 3.15 2.38 3.35 5.08 - - - -N06033 2429 Fe XVIII F03097 838.010 14.795 6.85 3.71 -6.42 4.64 3.76 4.16 6.07 -3013 Fe XTX 003018 839 770 14 764 6 92 4 38 - 6.23 4.67 4.53 6.00 8.15 2428 Fe XVIII F02040 839.890 14.762 6.85 3.18 5.74 4.04 3.22 3.65 5.58 -2427 Fe XVIII F03098 14.762 6.85 2.76 -5.47 3.69 2.81 3.21 5.12 -839.890 3012 Fe XIX 001013 840.570 14.750 6.91 2.44 - 4.13 2.69 2.62 4.12 6.28 -4235 Fe XXI C13026 840.740 14.747 7.04 4.16 -5.63 4.21 4.65 5.95 7.27 -3011 Fe XIX 006100 841.030 14.742 6.92 3.84 5.76 4.15 3.99 5.44 7.57 - -4234 Fe XXI C13027 841.200 14.739 7.04 4.54 - 6.01 4.58 5.03 6.33 7.65 3010 Fe XIX 007110 841.260 14.738 6.92 4.43 6.35 4.74 4.57 6.03 8.16 - -3009 Fe XIX - - - 5.57 3.99 3.85 5.31 7.45 -004025 841.310 14.737 6.92 3.70 -3008 Fe XIX 002018 6.45 4.89 4.75 6.22 8.37 841 370 14.736 6.92 4.60 2425 Fe XVIII F02042 841.660 14.731 6.85 3.82 6.38 4.68 3.86 4.29 6.22 -14.724 6.85 2.86 5.57 3.79 2.91 3.31 5.22 2424 Fe XVIII F03100 842.060 14.722 6.85 3.71 -6.27 4.57 3.75 4.18 6.11 - -2423 Fe XVIII F02043 842.170 7.05 4.62 3.85 4.81 6.54 - -3688 Fe XX N06034 842.170 14.722 6.98 3.84

6.83 5.26 5.13 6.60 8.74 -

6.40 4.79 4.63 6.08 8.21 -

- 6.68 4.25 3.48 4.44 6.17 - -

6.05 4.48 4.35 5.82 7.96 -

7.78 5.34 4.57 5.53 7.26 -

- 4.88 3.46 3.90 5.20 6.52 -

5.28 3.79 3.08 3.56 5.52 - -

5.95 4.38 4.23 5.70 7.84

7.80 5.35 4.56 5.52 7.24

5.57 3.87 3.04 3.47 5.40 - -

- 5.91 4.34 4.21 5.68 7.82 -

3.74 2.30 2.23 3.73 5.89

6.15 4.57 4.43 5.89 8.03

6.32 4.76 4.62 6.09 8.23

5.33 3.76 3.63 5.10 7.24

7.54 5.11 4.33 5.30 7.03

- 8.14 5.68 4.88 5.84 7.56

- 6.50 5.01 4.29 4.78 6.74 - -

6.44 4.95 4.23 4.72 6.68 - -

- 7.29 4.86 4.08 5.05 6.78

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3006 Fe XIX

3687 Fe XX

4233 Fe XXI

3005 Fe XIX

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3004 Fe XIX

3685 Fe XX

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3683 Fe XX

3003 Fe XIX

3002 Fe XIX

3001 Fe XIX

3000 Fe XIX

2999 Fe XIX

3682 Fe XX

2421 Fe XVIII

2422 Fe XVIII F01031

2420 Fe XVIII F02046

2418 Fe XVIII F01034

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14.721 6.92 4.98 -

14.712 6.84 3.05 -

14.711 6.98 3.47 -

14.710 7.04 3.41 -

14.701 6.84 4.21 -

14.699 6.92 4.19 -

14.691 6.98 4.56 -

14.688 6.85 3.01 -

14.680 6.84 4.27 -

14.720 6.92 4.48

14.702 6.92 4.08

14.701 6.98 4.08

14.689 6.98 4.55

14.686 6.98 4.88

14.681 6.92 4.06

14.670 6.91 2.05

14.669 6.92 4.28

14.653 6.92 4.47

14.653 6.92 3.47

14.642 6.98 4.33

line list SPEX version 2.0 Apr 13, 10 14:27 Page 30/77 E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2998 Fe XIX 001016 - - 5.60 4.16 4.08 5.59 7.75 -14.636 6.91 3.91 -2416 Fe XVIII F02048 14.624 6.85 2.96 -- 5.53 3.83 3.00 3.43 5.36 - -2997 Fe XIX 848.800 14.607 6.92 3.59 -003023 - 5.45 3.88 3.74 5.21 7.36 2996 Fe XIX 006110 848.860 14.606 6.92 4.22 -6.14 4.53 4.36 5.81 7.95 -4232 Fe XXI C15039 848.860 14.606 7.04 3.34 -- 4.82 3.39 3.83 5.12 6.44 -849.210 14.600 6.52 2.86 - 4.27 3.01 2.89 3.11 3.35 3.58 3.79 4.00 4.19 4.38 4.55 4.71 4.84 4.93 4.98 - - - - - - - - - 6.03 4.24 3.36 3.75 5.66 - - - -2414 Fe XVIII F03102 849.270 14.599 6.85 3.31 -2415 Fe XVIII F01039 14.588 6.84 2.51 -849 910 4.74 3.25 2.53 3.02 4.98 -14.588 6.91 4.17 2995 Fe XIX 001017 849.910 14.579 6.92 4.63 -2994 Fe XIX 004029 850.430 2993 Fe XIX 002023 14.579 6.92 3.56 - 5.42 3.85 3.71 5.18 7.33 -- - 5.35 3.90 3.83 5.33 7.50 - - - - - - - 6.69 4.26 3.48 4.45 6.18 - - -2992 Fe XIX 14.579 6.91 3.66 -001018 850.430 - - - 6.69 4.26 3.48 4.45 6.18 -- - - - 5.54 3.97 3.83 5.30 7.45 -3681 Fe XX N06037 851.420 14.562 6.98 3.47 2991 Fe XIX 003025 851.830 14.555 6.92 3.68 14.555 6.84 2.17 -- - - 4.41 2.91 2.20 2.69 4.64 - -2411 Fe XVIII F01040 851.830 3680 Fe XX N06038 852.070 14.551 6.98 4.67 -- 7.88 5.45 4.67 5.64 7.37 - -2990 Fe XIX 004031 852 360 14 546 6 92 4 60 - 6.47 4.89 4.75 6.21 8.35 -2410 Fe XVIII F01041 852.710 14.540 6.84 1.85 -4.09 2.59 1.88 2.36 4.32 - -- 5.62 4.03 3.89 5.35 7.49 - - - -14.540 6.92 3.74 -2989 Fe XTX 004032 852 710 - 5.44 3.99 3.92 5.42 7.58 - - -2988 Fe XTX 852.950 14.536 6.91 3.74 -001019 3679 Fe XX N14209 14.529 6.99 4.77 -853 360 - 8.09 5.59 4.77 5.71 7.42 -294 Ne TTT O S 853 890 14 520 5 73 11 50 - - 5.77 4.35 4.80 6.09 7.42 -4231 Fe XXI C12025 854.120 14.516 7.04 4.30 - 8.16 5.75 4.99 5.97 7.70 - - - -14.514 6.98 4.98 3678 Fe XX N04016 854.240 2408 Fe XVIII F01042 854.240 14.514 6.84 3.42 -- 5.66 4.16 3.45 3.93 5.89 - -3676 Fe XX N05017 854.300 14.513 6.98 4.75 -- 7.93 5.52 4.76 5.73 7.47 -3677 Fe XX N08049 854.300 14.513 6.98 3.11 6.34 3.90 3.12 4.08 5.81 - -- - - 6.22 4.79 5.23 6.53 7.85 -4230 Fe XXI C13032 854.360 14.512 7.04 4.74 854.770 14.505 6.84 2.71 -- - - - - - - - - 4.95 3.45 2.74 3.22 5.18 - - -2407 Fe XVIII F01043

2398 Fe XVIII F01048 860 400 14.410 6.84 3.42 5.66 4.16 3.44 3.93 5.89 -2975 Fe XIX 14.408 6.91 3.68 - 5.37 3.93 3.85 5.35 7.52 -001024 3670 Fe XX N07054 860.580 14.407 6.98 2.49 5.72 3.28 2.50 3.46 5.19 2974 Fe XIX 007120 860.640 14.406 6.92 4.60 -6.53 4.91 4.74 6.19 8.32 3669 Fe XX N08057 860.880 14.402 6.98 4.09 7.32 4.88 4.10 5.06 6.79 2973 Fe XIX 003029 860.940 14.401 6.92 4.38 6.24 4.67 4.53 5.99 8.14 - -304 Ne IV 861.000 14.400 5.76 8.61 14.399 7.04 4.26 -5.73 4.31 4.75 6.05 7.37 -4225 Fe XXI C12026 861 060 14.393 6.92 4.01 -5.87 4.30 4.16 5.62 7.77 - -2972 Fe XIX 003030 861.420 - 4.75 3.33 3.77 5.07 6.39 -14.391 7.04 3.28 -4224 Fe XXI C12027 861.540 2396 Fe XVIII F01049 14.378 6.84 1.69 3.93 2.43 1.71 2.20 4.15 -2971 Fe XIX 862.560 14.374 6.92 4.28 6.14 4.57 4.43 5.89 8.04 -002029 2970 Fe XIX 001025 862.560 14.374 6.91 4.29 5.98 4.54 4.46 5.96 8.12 3668 Fe XX N11100 862.740 14.371 6.98 4.21 7.47 5.01 4.22 5.17 6.89 14.369 6.92 4.63 6.49 4.92 4.78 6.25 8.39 2969 Fe XIX 003031 862.860 2967 Fe XIX 004037 862.920 14.368 6.92 4.70 -6.58 5.00 4.85 6.31 8.45 -2968 Fe XIX 007124 862 920 14 368 6 92 4 36 6.30 4.67 4.50 5.95 8.08 3667 Fe XX N09083 862.980 14.367 6.98 3.24 6.49 4.03 3.25 4.20 5.93 7.73 5.28 4.49 5.45 7.17 - -3666 Fe XX N10084 863.220 14.363 6.98 4.48 -4223 Fe XXT 14.360 7.04 4.64 -- 6.12 4.69 5.14 6.43 7.75 -C11026 863 400 2394 Fe XVIII F02057 - 4.90 3.19 2.35 2.78 4.71 -863.400 14.360 6.85 2.31 -3665 Fe XX N07057 863.700 14 355 6 98 3 90 - 7.13 4.68 3.90 4.87 6.59 -4222 Fe XXI C11027 863.880 14.352 7.04 3.39 - 4.86 3.43 3.88 5.18 6.50 14.349 6.98 4.24 7.42 5.01 4.24 5.22 6.95 - -3664 Fe XX N05020 864.060 2393 Fe XVIII F02058 864.240 14.346 6.85 2.51 -5.10 3.39 2.55 2.98 4.90 - -3663 Fe XX N06049 865.210 14.330 6.98 2.55 -5.77 3.33 2.55 3.52 5.25 -4221 Fe XXI C11028 865.510 14.325 7.04 4.41 5.89 4.46 4.91 6.20 7.52 -2966 Fe XIX 008139 865.750 14.321 6.92 4.77 6.71 5.08 4.91 6.35 8.48 - -14.320 6.92 3.83 2965 Fe XIX 003033 865.810 5.70 4.13 3.98 5.45 7.59 -2964 Fe XIX 006116 865.990 14.317 6.92 4.32 -- - - - 6.25 4.63 4.46 5.91 8.04 - - -N04018 3662 Fe XX 866 360 14.311 6.98 3.82 7.01 4.59 3.83 4.81 6.54 -2963 Fe XIX 009172 866.420 14.310 6.92 4.72 6.68 5.04 4.86 6.30 8.42 14.310 6.92 4.11 -6.00 4.41 4.26 5.72 7.86 2962 Fe XTX 004039 866.420 4.95 3.33 3.16 4.61 6.74 -2961 Fe XIX 006117 866.480 14.309 6.92 3.02 -6.69 5.05 4.87 6.31 8.43 - -2960 Fe XIX 009174 866.600 14.307 6.92 4.73 -2959 Fe XIX 007129 866.660 14.306 6.92 4.98 -6.92 5.30 5.12 6.57 8.70 -14.296 6.92 3.98 5.87 4.28 4.13 5.59 7.73 -2958 Fe XIX 004044 867.270 2957 Fe XIX 006120 14.280 6.92 4.46 6.39 4.77 4.60 6.05 8.18 868 240 2956 Fe XIX 007133 868.720 14.272 6.92 4.37 -6.30 4.68 4.51 5.95 8.08 - -3660 Fe XX N12116 868 910 14.269 6.98 3.52 -- 6.79 4.32 3.52 4.48 6.20 - -2955 Fe XIX 005061 868.970 14.268 6.92 3.82 5.75 4.13 3.96 5.41 7.54

line list SPEX version 2.0

E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

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- - 5.48 4.04 4.49 5.78 7.10

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6.79 4.35 3.57 4.53 6.26

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14.268 6.98 3.61 -

14.260 5.80 7.31 -

14.267 6.84 2.33

14.262 6.91 3.94

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14.260 6.84 1.95

14.258 7.04 4.00

14.225 6.91 4.85

14.222 6.98 3.57

14.219 6.98 3.78

14.219 6.92 4.93

14.218 6.98 3.85

14.233 6.92 4.47 -

870.740 14.239 6.92 4.17 -

Nr ion

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2954 Fe XIX

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3658 Fe XX

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2950 Fe XIX

2391 Fe XVIII

2392 Fe XVIII

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9.20 7.31 7.98 8.92

line list SPEX version 2.0 Apr 13, 10 14:27 Page 32/77 E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2949 Fe XIX 001030 14.216 6.91 3.16 -- 4.86 3.41 3.34 4.84 6.99 3.79 2.28 1.56 2.05 4.00 -2387 Fe XVIII F01055 872.390 14.212 6.84 1.54 872.580 14.209 6.92 4.23 2948 Fe XIX 007144 - 6.17 4.54 4.37 5.81 7.94 2386 Fe XVIII F01056 872.880 14.204 6.84 1.26 -3.51 2.00 1.28 1.77 3.72 -2947 Fe XIX 004049 872.880 14.204 6.92 4.78 - 6.67 5.08 4.93 6.39 8.52 4219 Fe XXI C12030 873.010 14.202 7.04 3.76 - 5.23 3.80 4.25 5.54 6.86 -3655 Fe XX N12120 873.190 14.199 6.98 4.15 -- - 7.42 4.95 4.15 5.10 6.82 - -F03105 14.198 6.85 3.62 -6.37 4.56 3.67 4.06 5.96 - -2385 Fe XVIII 873.250 14.196 6.92 4.04 -- 5.93 4.34 4.19 5.65 7.78 2946 Fe XIX 004050 873.370 14.196 6.92 4.45 -- 6.32 4.74 4.60 6.06 8.21 -2945 Fe XIX 003037 873.370 2944 Fe XIX 14.186 6.92 3.47 - 5.41 3.78 3.61 5.05 7.18 4218 Fe XXI 874.240 14.182 7.04 4.74 - 6.22 4.79 5.23 6.53 7.85 C12031 2943 Fe XIX 006129 874.300 14.181 6.92 3.80 - 5.73 4.11 3.94 5.38 7.51 -2384 Fe XVIII F03106 874.360 14.180 6.85 3.78 - 6.53 4.72 3.83 4.22 6.12 -14.178 6.92 4.35 -2942 Fe XIX 008150 874.480 - 6.29 4.66 4.48 5.93 8.06 2941 Fe XIX 007147 874.480 14.178 6.92 3.19 -- 5.13 3.50 3.32 4.77 6.90 - -4217 Fe XXI C12032 874 670 14.175 7.04 4.32 - 5.79 4.36 4.81 6.10 7.42 -4216 Fe XXI C07025 874.730 14.174 7.04 3.51 -4.98 3.56 4.01 5.31 6.63 -14.172 6.92 3.21 -5.16 3.53 3.35 4.80 6.93 - -2940 Fe XIX 007148 874.850 2939 Fe XTX 874.920 14.171 6.92 4.64 -6.58 4.95 4.78 6.23 8.36 -005067 4215 Fe XXI 875.220 C10029 14.166 7.04 4.84 -- - 6.31 4.88 5.33 6.62 7.94 -2383 Fe XVIII F03108 875 470 14 162 6 85 3 33 6.08 4.27 3.38 3.77 5.67 - - -3654 Fe XX N11116 875.720 14.158 6.98 3.49 - 6.76 4.29 3.49 4.44 6.16 14.158 6.92 3.23 -5.16 3.54 3.36 4.81 6.94 -2938 Fe XIX 006131 875.720 2382 Fe XVIII F01057 875.970 14.154 6.84 2.69 4.94 3.43 2.71 3.19 5.15 - - -4214 Fe XXI C13042 876.090 14.152 7.04 4.36 -5.84 4.40 4.84 6.14 7.46 -2937 Fe XIX 006133 876.400 14.147 6.92 3.60 5.53 3.91 3.73 5.18 7.31 - -2936 Fe XIX 004052 876.520 14.145 6.92 4.71 6.60 5.01 4.86 6.32 8.45 2935 Fe XIX 001033 876.520 14.145 6.91 4.19 5.89 4.44 4.36 5.86 8.02 - - -4213 Fe XXI C11031 876.590 14.144 7.04 4.48 - - 5.96 4.52 4.97 6.26 7.59 -

7.79 5.37 4.60 5.58 7.31

5.78 4.19 4.03 5.49 7.63

6.85 5.27 5.13 6.59 8.73 - -

6.91 4.50 3.74 4.71 6.45 - -

4.64 3.19 3.11 4.61 6.77 - -

6.16 4.54 4.36 5.81 7.94 - -

- 6.13 4.70 5.14 6.44 7.76

- 6.17 3.76 3.00 3.97 5.70 - -

6.06 4.34 3.50 3.92 5.84 - - -

7.13 4.71 3.95 4.92 6.65 -

6.73 5.10 4.93 6.37 8.50 -

- 6.35 4.92 5.37 6.66 7.98 -

- 4.47 3.04 3.49 4.78 6.10 -

6.50 4.81 4.59 6.01 8.12 - - -

5.81 4.23 4.09 5.55 7.69

5.54 3.96 3.82 5.28 7.42

5.71 4.13 3.99 5.45 7.59

6.47 4.84 4.67 6.12 8.25

6.56 4.98 4.84 6.30 8.44

5.29 3.78 3.06 3.54 5.50 -

- 6.55 4.96 4.81 6.27 8.41

N05023

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F01058

004054

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N02017

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N03019

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C10031

N05024

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C09027

007149

002041

F02061

3653 Fe XX

2934 Fe XIX

2933 Fe XIX

2932 Fe XIX

3652 Fe XX

4212 Fe XXI

2931 Fe XIX

2930 Fe XIX

2929 Fe XIX

2928 Fe XTX

2927 Fe XIX

4211 Fe XXI

3650 Fe XX

2926 Fe XIX

2925 Fe XIX

4210 Fe XXI

2924 Fe XIX

2923 Fe XIX

2379 Fe XVIII

3651 Fe XX

2380 Fe XVIII

876.770

876.770

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876.900

877.020

877.020

877.140

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878.640

878.640

878.950

879.130

14.141 6.98 4.60

14.141 6.92 3.89

14.141 6.84 3.04

14.140 6.92 4.66

14.139 6.92 4.98 -

14.137 6.98 3.73 -

14.137 7.04 4.65 -

14.135 6.91 2.94 -

14.128 6.92 4.22 -

14.128 6.98 2.99 -

14.124 6.85 3.45 -

14.123 7.04 4.88 -

14.125 6.92 3.67

14.124 6.92 3.84

14.115 6.92 4.53

14.111 6.92 4.46

14.111 7.04 2.99

14.106 6.92 4.79

14.103 6.92 4.69

3.94

3.94

14.125 6.92

14.120 6.98

E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2920 Fe XIX 007150 14.091 6.92 4.65 6.60 4.97 4.79 6.23 8.36 -2919 Fe XIX 005074 14.085 6.92 3.86 5.80 4.18 4.00 5.45 7.58 14.084 6.98 4.47 7.71 5.26 4.47 5.43 7.16 3648 Fe XX N08076 880.320 3647 Fe XX N08077 880.570 14.080 6.98 4.94 -8.19 5.74 4.95 5.91 7.63 -5231 Ni XIX 880.820 14.076 6.64 1.90 -2.66 1.91 2.18 3.55 -NE8B 3646 Fe XX N02018 881.070 14.072 6.98 3.25 6.43 4.01 3.25 4.23 5.96 -2918 Fe XIX 006145 14.071 6.92 2.75 -4.69 3.07 2.89 4.34 6.46 -14.063 7.04 3.05 4.52 3.10 3.54 4.84 6.16 4209 Fe XXI C08026 881.630 14.062 6.92 4.60 -6.57 4.92 4.73 6.17 8.29 - -2917 Fe XIX 009185 881.700 14.062 6.98 3.37 -3644 Fe XX 6.55 4.14 3.37 4.35 6.08 -N03020 881.700 3645 Fe XX N09100 14.062 6.98 4.75 8.01 5.54 4.75 5.71 7.43 -4208 Fe XXI C07026 881.700 14.062 7.04 4.28 - 5.75 4.33 4.77 6.07 7.39 2916 Fe XIX 006147 882.140 14.055 6.92 3.27 5.21 3.59 3.41 4.86 6.98 -4207 Fe XXI C08027 882.140 14.055 7.04 3.67 - 5.14 3.72 4.16 5.46 6.78 14.054 7.04 4.27 5.74 4.32 4.76 6.06 7.38 -4206 Fe XXI C07027 882.200 2915 Fe XIX 006148 882.510 14.049 6.92 2.87 -- 4.81 3.19 3.01 4.46 6.58 -2914 Fe XIX 009186 882.580 14.048 6.92 4.86 6.83 5.18 5.00 6.43 8.56 5230 Ni XIX NE8A 882.760 14.045 6.64 1.82 2.61 1.84 2.08 3.39 - -14.039 6.98 3.72 -3643 Fe XX N07076 883.140 6.96 4.51 3.73 4.68 6.41 14.039 6.92 3.17 -5.12 3.49 3.31 4.75 6.88 2913 Fe XIX 007154 883.140 4205 Fe XXI C16116 883 330 14.036 7.05 4.50 -6.00 4.55 4.98 6.26 7.57 -6.48 4.90 4.75 6.21 8.35 -2912 Fe XTX 003049 883 390 14 035 6 92 4 60 3642 Fe XX N07078 883.390 14.035 6.98 4.98 8.22 5.77 4.98 5.94 7.67 001037 14.024 6.91 4.62 6.33 4.87 4.80 6.29 8.45 -2910 Fe XIX 884.090 2911 Fe XIX 003050 884.460 14.018 6.92 2.80 4.68 3.10 2.95 4.42 6.56 -2909 Fe XIX 004056 884.970 14.010 6.92 4.77 -6.67 5.08 4.92 6.38 8.51 -3641 Fe XX N10108 885.220 14.006 6.98 5.00 8.26 5.80 5.00 5.96 7.68 1504 Ca XVIII LI2 885.600 14.000 6.79 3.10 4.02 3.11 3.28 3.51 3.84 4.41 5.20 6.03 6.81 4204 Fe XXI C07028 886.040 13.993 7.04 2.07 -- 3.54 2.11 2.56 3.86 5.18 - - -3640 Fe XX N01016 886.490 13.986 6.97 2.71 -5.68 3.41 2.73 3.74 5.49 - -2907 Fe XIX 004057 13.985 6.92 3.75 886.550 5.65 4.05 3.90 5.35 7.49 3.29 2906 Fe XIX 006149 886.610 13.984 6.92 5.23 3.60 3.43 4.87 7.00 13.982 6.98 4.05 7.24 4.82 4.06 5.03 6.77 3639 Fe XX N02020 886.740 13.977 6.92 3.17 2905 Fe XIX 003052 887.060 5.05 3.47 3.32 4.78 6.92 2904 Fe XIX 004059 887.250 13.974 6.92 3.20 5.10 3.50 3.35 4.80 6.94 -

5.15 3.55 3.40 4.85 6.99 -

6.62 5.16 5.09 6.58 8.74 -

4.74 3.23 2.50 2.98 4.94 - -

8.12 5.70 4.93 5.91 7.64

6.62 4.99 4.81 6.25 8.38

8.12 5.66 4.87 5.83 7.55

4.73 3.28 3.20 4.70 6.86

4.27 2.82 2.74 4.24 6.40

- 7.76 5.28 4.48 5.43 7.15 -

7.63 5.17 4.39 5.35 7.07

7.83 5.38 4.59 5.55 7.27 -

5.17 3.74 4.19 5.48 6.80 -5.43 4.00 4.45 5.74 7.06 -

5.15 3.72 4.16 5.45 6.77

- - - - 5.54 4.11 4.56 5.85 7.18

6.21 5.30 5.03 4.91 5.17 6.10 7.33 8.56 - - -

- - 8.17 5.74 4.98 5.95 7.68 -

4.40 2.95 2.87 4.37 6.53 -

- 5.04 3.41 3.24 4.68 6.81

- 4.71 3.13 2.98 4.44 6.58

line list SPEX version 2.0

Apr 13, 10 14:27

2903 Fe XIX

2902 Fe XIX

2901 Fe XIX

2897 Fe XIX

3638 Fe XX

3637 Fe XX

2896 Fe XIX

2900 Fe XIX

2898 Fe XIX

2899 Fe XIX

4203 Fe XXI

354 Ne VII

3636 Fe XX

3635 Fe XX

3634 Fe XX

3633 Fe XX

4202 Fe XXI

4200 Fe XXI

4201 Fe XXI

2376 Fe XVIII

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001043

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C09030

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N12145

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N06078

C09032

C08029

C11039

BE S2

887.630

887.630

888.330

888.390

888.650

889.030

889.410

889.540

889.730

889 730

889.730

890.120

890.690

890.760

890.880

891.200

891.520

891.780

892.230

892.230

13.968 6.92 3.25 -

13.956 6.92 3.10 -

13.952 6.92 2.83 -

13.935 6.91 3.03 -

13.935 6.91 2.70 -

13.917 6.98 4.48 -

4.93

13.968 6.91 4.91

13.957 6.84 2.48

13.940 6.92 4.67

13.938 6.98 4.87

13.935 6.91 2.57

13.929 7.04 4.07

13.920 6.40 4.91 -13.919 6.98 4.97 -

13.907 6.98 4.59

13.903 7.04 3.70

13.896 7.04 3.96

13.896 7.04 3.67

13.912 6.98

13.946 6.98

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| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax 4. | 0 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7. | . 2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
|--------------|----------|-----------|--|----------|-------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|-----|-------|-------|------|------|-----|-----|-----|-----|-----|-----|-----|
| 4199 Fe XXI | C07029 | 892.230 | 13.896 7.04 | 4.38 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.86 | 4.4 | 3 4. | . 88 | 6.17 | 7.49 | _ | _ | _ | _ | _ | _ | _ |
| 3632 Fe XX | N05032 | 892.230 | 13.896 7.04 13.896 6.98 | 4.73 - | - | - | - | - | - | _ | - | - | _ | - | _ | - | 7.94 | 5.51 | 4.7 | 4 5. | .71 | 7.44 | - | - | - | - | _ | - | - | _ |
| 2129 Fe XVII | NE01031 | 892.490 | 13.892 6.72 | 2.45 - | - | - | - | - | - | - | - | - | - | - | 5.59 | 3.18 | 2.57 | 2.52 | 3.5 | 4 5. | .96 | - | - | _ | - | - | - | - | - | - |
| 2895 Fe XIX | 004065 | 892.490 | 13.892 6.92 | | | - | - | - | - | - | - | - | - | - | - | | 5.83 | | | | | | | - | - | - | - | - | - | - |
| 2894 Fe XIX | 005086 | 892.620 | 13.890 6.92 | 4.37 - | - | - | - | _ | - | - | - | - | - | _ | - | - | 6.32 | 4.69 | 4.5 | 1 5. | .95 | 8.08 | - | - | - | - | - | _ | - | - |
| 3631 Fe XX | N10116 | 892.680 | 13.889 6.98 | 3.55 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.82 | 4.35 | 3.5 | 5 4. | .51 | 6.22 | _ | _ | _ | _ | _ | _ | _ | _ |
| 2893 Fe XIX | 004067 | 893.580 | 13.875 6.92 | | | - | - | - | _ | _ | - | - | _ | - | - | _ | 4.99 | 3.39 | 3.2 | 3 4. | . 69 | 6.83 | - | _ | _ | - | - | - | - | - |
| 4198 Fe XXI | C08030 | 893.640 | 13.874 7.04 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.14 | 4.7 | 1 5. | .15 | 6.45 | 7.77 | _ | - | - | - | - | - | - |
| 3630 Fe XX | N02021 | 894.100 | 13.867 6.98 | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | - | - | - | - | - | - | - |
| 3629 Fe XX | N03023 | 894.480 | 13.861 6.98 | 3.92 - | - | - | - | - | - | - | - | - | - | - | - | | 7.11 | | | | | | | - | - | - | - | - | - | - |
| 3628 Fe XX | N06082 | 894.550 | 13.860 6.98 13.860 6.98 13.860 6.97 13.856 6.92 | 4.29 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.53 | 5.08 | 4.2 | 9 5. | . 25 | 6.97 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3627 Fe XX | N04029 | 894.550 | 13.860 6.98 | 4.94 - | - | - | - | - | - | - | - | - | - | - | - | - | 8.14 | 5.71 | 4.9 | 4 5. | .91 | 7.64 | - | - | - | - | - | - | - | - |
| 3626 Fe XX | N01017 | 894.550 | 13.860 6.97 | 2.61 - | - | - | - | - | - | - | - | - | - | - | - | - | 5.58 | 3.31 | 2.6 | 2 3. | .64 | 5.39 | - | - | - | - | - | - | - | - |
| 2890 Fe XIX | 010285 | 894.810 | 13.856 6.92 | 4.68 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.72 | 5.02 | 4.8 | 0 6. | . 22 | 8.33 | - | - | - | - | - | - | - | - |
| 2889 Fe XIX | 009195 | 894.870 | 13.855 6.92 | 4.16 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.14 | 7.72 | 4.3 | .0 5. | . / 3 | 7.05 | _ | _ | _ | _ | _ | _ | _ | - |
| 4197 Fe XXI | C08031 | 894.870 | 13.855 7.04 | 4.73 - | _ | - | - | - | - | - | - | - | - | _ | - | - | - | 6.20 | 4.7 | 7 5. | . 22 | 6.51 | 7.83 | - | - | - | - | - | - | _ |
| 4196 Fe XXI | C08032 | 895.320 | 13.848 7.04 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.11 | 4 6 | 7 5 | 12 | 6 41 | 7.73 | - | - | - | - | - | - | - |
| 2888 Fe XIX | 009196 | 895.390 | 13.847 6.92 | | | - | - | - | - | - | - | - | - | - | - | - | 5.78 | 4.13 | 3.9 | 4 5. | . 37 | 7.49 | - | - | - | - | - | - | - | - |
| 2887 Fe XIX | 003056 | 895.450 | 13.846 6.92 | | | - | - | - | - | - | - | - | - | - | _ | - | | 3.58 | | | | | | - | - | - | - | - | - | - |
| 3625 Fe XX | N05034 | 895.450 | 13.846 6.98 | 4.85 - | - | - | - | - | - | - | - | - | - | - | - | - | 8.06 | 5.63 | 4.8 | 6 5. | .83 | 7.56 | - | - | - | - | - | - | - | - |
| 2886 Fe XIX | 004068 | 895.520 | 13.845 6.92 | 3.18 - | _ | - | - | - | - | - | _ | _ | _ | _ | - | - | 5.08 | 3.48 | 3.3 | 2 4. | .78 | 6.91 | - | - | - | - | _ | _ | _ | - |
| 2891 Fe XIX | 001050 | 895.710 | 13.842 6.91 | | | - | - | - | - | - | - | - | - | - | - | - | 4.24 | 2.79 | 2.7 | 1 4. | . 21 | 6.36 | - | - | - | - | - | - | - | - |
| 2885 Fe XIX | 010289 | 895.710 | 13.842 6.92 | | | - | - | - | - | - | - | - | - | - | - | - | 5.82 | 4.12 | 3.9 | 0 5. | . 31 | 7.42 | - | - | - | - | - | - | - | - |
| 3624 Fe XX | N03024 | 895.780 | 13.841 6.98 | | | - | - | - | - | - | - | - | _ | - | - | - | | 5.74 | | | | | | - | - | - | - | - | - | - |
| 2884 Fe XIX | 004072 | 896.230 | 13.834 6.92 | 3.97 - | - | - | - | - | - | - | - | - | - | - | - | - | 5.87 | 4.27 | 4.1 | 1 5. | .57 | 7.70 | - | - | - | - | - | - | - | - |
| 3623 Fe XX | N03025 | 896.620 | 13.828 6.98 | 4.18 - | - | _ | _ | _ | - | - | _ | - | _ | _ | _ | - | 7.38 | 4.96 | 4.1 | 9 5. | .16 | 6.89 | _ | - | - | - | - | - | - | _ |
| 2128 Fe XVII | NE01033 | 896.750 | 13.826 6.76 | | - | _ | - | - | - | - | - | - | - | - | 4.93 | 2.52 | 1.86 | 1.68 | 2.5 | 0 4. | .66 | - | - | - | - | - | - | - | - | - |
| 3622 Fe XX | N12158 | 896.810 | 13.825 6.99 | | | - | - | - | - | - | - | - | - | - | - | | | | | | | | | - | - | - | - | - | - | - |
| 2883 Fe XIX | 010292 | 896.940 | 13.823 6.92 | | | _ | - | - | - | - | - | - | - | - | - | - | | 5.05 | | | | | | - | - | - | - | - | - | - |
| 3621 Fe XX | N11143 | 897.070 | 13.821 6.98 | 4.96 - | _ | - | - | _ | - | - | _ | - | _ | - | _ | - | 8.24 | 5.76 | 4.9 | 6 5. | .91 | 7.62 | _ | - | _ | - | - | - | - | - |
| 2882 Fe XIX | 003058 | 897.200 | 13.819 6.92 | | _ | - | - | _ | - | - | _ | - | - | - | _ | - | 5.93 | 4.34 | 4.1 | 9 5. | .66 | 7.79 | - | - | _ | - | - | - | - | _ |
| 2881 Fe XIX | 004073 | 897.460 | 13.815 6.92 | | | - | - | - | - | - | - | - | - | - | - | - | 4.70 | 3.10 | 2.9 | 4 4. | .40 | 6.53 | - | - | - | - | - | - | - | - |
| 3620 Fe XX | N11145 | 897.720 | 13.811 6.98 | | | - | - | - | - | - | - | - | - | - | - | | 7.83 | 5.35 | 4.5 | 5 5. | . 49 | 7.21 | - | - | - | - | - | - | - | - |
| 2880 Fe XIX | 001052 | 897.720 | 13.811 6.91 | | | - | - | - | - | - | - | - | _ | - | _ | - | | 4.14 | | | | | | - | - | - | - | - | - | - |
| 2879 Fe XIX | 008172 | 897.850 | 13.809 6.92 | 4.22 - | | - | - | | | | | | | | | | | 4.54 | | | | | | - | _ | - | - | - | - | - |
| 2877 Fe XIX | 003061 | 898.110 | 13.805 6.92 | | | - | - | - | - | - | _ | _ | _ | _ | - | - | 6.65 | 5.06 | 4.9 | 1 6. | .37 | 8.51 | - | - | - | - | _ | _ | _ | _ |
| 3619 Fe XX | N10122 | 898.310 | 13.802 6.98 | | - | - | - | - | - | - | - | - | - | - | - | - | 8.19 | 5.72 | 4.9 | 2 5. | . 87 | 7.59 | - | - | - | - | - | - | - | - |
| 2878 Fe XIX | 001053 | 898.570 | 13.798 6.91 | | _ | - | - | - | - | - | - | - | - | - | - | - | 3.50 | 2.05 | 1.9 | 73. | .46 | 5.62 | - | - | - | - | - | - | - | - |
| 4195 Fe XXI | C11042 | 898.760 | 13.795 7.04 | | | - | - | - | - | - | - | - | _ | - | _ | - | - | 4.42 | 2.9 | 8 3. | .43 | 4.72 | 6.04 | - | - | - | - | - | - | - |
| 2876 Fe XIX | 004074 | 898.960 | 13.792 6.92 | . ∠.59 - | _ | - | - | - | - | - | _ | - | - | - | - | - | 4.49 | ∠.89 | 2.7 | 54. | .19 | 0.32 | - | - | - | - | - | - | - | - |
| 3618 Fe XX | N08088 | 898.960 | 13.792 6.98 | 3.76 - | _ | - | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.02 | 4.56 | 3.7 | 7 4. | .72 | 6.45 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3617 Fe XX | N02023 | 899.480 | 13.784 6.98 | | | - | - | _ | _ | _ | _ | - | _ | _ | _ | | | | | | | | - | | - | | | _ | _ | _ |
| 3616 Fe XX | N08090 | 899.610 | 13.782 6.98 | 4.71 - | - | - | - | - | - | - | - | - | - | _ | _ | - | | 5.50 | | | | | | | - | - | - | _ | - | - |
| 4194 Fe XXI | C09033 | 899.610 | 13.782 7.04 | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | 7.33 | | - | - | - | - | - | - |
| 2875 Fe XIX | 002061 | 899.740 | 13.780 6.92 | 2.84 - | - | - | - | - | - | - | - | - | - | - | - | - | 4.72 | 3.13 | 2.9 | 8 4. | . 44 | 6.58 | - | - | - | - | - | - | - | - |
| 5229 Ni XIX | NE7 | 899.940 | 13.777 6.65 | 1.87 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 2.67 | 1.89 | 2.12 | 3.4 | 3 - | - | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 3614 Fe XX | N04032 | 900.260 | 13.772 6.98 | 4.73 - | - | _ | - | - | - | - | - | - | - | - | - | - | 7.94 | 5.51 | 4.7 | 4 5. | .71 | 7.44 | - | - | - | - | - | - | - | - |
| 2873 Fe XIX | 008179 | 900.390 | 13.770 6.92 | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | - | - | - | - | - | - | - |
| 3613 Fe XX | N06083 | 900.460 | 13.769 6.98 | | | - | - | - | - | - | - | - | - | - | - | | | 5.33 | | | | | | - | - | - | - | - | - | - |
| 3612 Fe XX | N02024 | 900.790 | 13.764 6.98 | 4.54 - | | - | - | - | - | - | - | - | - | - | - | | 7.74 | 5.31 | 4.5 | 5 5. | .52 | 7.25 | - | - | - | - | - | - | - | - |
| 2872 Fe XIX | 007166 | 901.640 | 13.751 6.92 | 4.05 - | _ | - - - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.01 | 4.37 | 4.1 | 9 5. | .63 | 7.75 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3611 Fe XX | N02025 | 901.640 | 13.751 6.98 | 4.20 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.40 | 4.97 | 4.2 | 1 5. | .18 | 6.91 | - | - | - | - | - | - | - | - |
| 3610 Fe XX | N07089 | 902.360 | 13.740 6.98 | | - | - | - | - | - | - | - | - | - | - | - | | 6.97 | 4.51 | 3.7 | 2 4. | . 67 | 6.39 | - | - | - | - | - | - | - | - |
| 2870 Fe XIX | 007168 | 902.360 | 13.740 6.92 | | - | - | - | - | - | - | - | - | - | - | - | - | 6.02 | 4.38 | 4.2 | 0 5. | .64 | 7.76 | | - | - | - | - | - | - | - |
| 4193 Fe XXI | C15082 | 902.430 | 13.739 7.05 | 4.26 - | - | - | - | - | - | - | _ | - | - | - | - | - | - | 5.76 | 4.3 | 1 4. | .74 | 6.03 | 7.34 | - | - | - | - | - | - | - |

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E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 3609 Fe XX N07090 902 430 13.739 6.98 3.95 7.21 4.75 3.96 4.91 6.63 -2869 Fe XIX 003065 902.490 13.738 6.92 2.34 4.23 2.64 2.49 3.95 6.09 2871 Fe XIX 004076 902.490 13.738 6.92 2.27 4.18 2.58 2.42 3.87 6.01 3615 Fe XX N01019 902.950 13.731 6.97 2.28 5.26 2.99 2.30 3.31 5.06 -2868 Fe XIX 004077 903.020 13.730 6.92 3.74 5.65 4.05 3.89 5.34 7.48 4566 Fe XXII B10017 903.080 13.729 7.10 4.23 6.60 4.48 4.41 5.27 6.23 7.24 -2867 Fe XIX 007172 13.727 6.92 4.63 6.59 4.95 4.77 6.21 8.33 - - -13.725 7.04 4.77 4192 Fe XXI C11045 903.350 6.26 4.82 5.26 6.55 7.87 5.79 4.15 3.97 5.40 7.53 - - 7.61 5.18 4.41 5.38 7.11 - -13.725 6.92 3.83 2866 Fe XIX 007174 903.350 13.724 6.98 4.40 -3608 Fe XX N04034 903.410 2865 Fe XIX 004078 13.718 6.92 3.23 5.14 3.54 3.38 4.83 6.97 -2864 Fe XIX 904.070 13.714 6.92 3.78 5.67 4.08 3.93 5.39 7.53 -003067 3607 Fe XX N04035 904.070 13.714 6.98 4.83 8.04 5.61 4.83 5.80 7.53 3606 Fe XX N03029 904.200 13.712 6.98 4.07 7.27 4.84 4.08 5.05 6.78 13.711 6.99 4.98 8.34 5.81 4.98 5.91 7.61 -3605 Fe XX N15249 904.270 4191 Fe XXI C15083 904.330 13.710 7.05 4.80 -6.30 4.85 5.28 6.57 7.88 -2863 Fe XIX 007175 904 400 13 709 6 92 3 40 5.36 3.72 3.54 4.97 7.10 3604 Fe XX N07094 904.400 13.709 6.98 4.74 8.00 5.54 4.75 5.70 7.43 - 6.22 4.78 5.22 6.51 7.83 -4190 Fe XXI C10045 904.660 13.705 7.04 4.73 -13.705 6.92 4.59 6.55 4.91 4.73 6.17 8.29 - -2862 Fe XTX 006163 904.660 4189 Fe XXI C05022 904.800 13.703 7.04 4.48 - - - 5.94 4.52 4.97 6.27 7.60 -410 Ne TX 904 990 13 700 6 59 1 61 4.53 2.90 1.93 1.61 1.98 2.66 3.33 3.92 4.46 4.96 5.42 -HE6 4565 Fe XXII B12029 904.990 13.700 7.10 4.62 - 7.00 4.87 4.79 5.65 6.60 7.61 - -13.698 6.92 4.01 -5.96 4.33 4.15 5.59 7.71 - - -2861 Fe XIX 005092 905 130 2860 Fe XIX 007177 905.190 13.697 6.92 4.97 6.93 5.29 5.11 6.55 8.67 -3603 Fe XX N05038 905.320 13.695 6.98 4.95 -8.17 5.73 4.96 5.92 7.65 -3602 Fe XX N02026 905.460 13.693 6.98 4.07 7.27 4.84 4.07 5.04 6.77 - -4564 Fe XXII B09017 905.520 13.692 7.10 3.12 - 5.49 3.38 3.30 4.16 5.12 6.13 -3601 Fe XX N03030 905.660 13.690 6.98 4.60 7.81 5.38 4.61 5.58 7.31 - - -2858 Fe XIX 002067 13.689 6.92 3.15 - 5.04 3.45 3.30 4.76 6.90 -2859 Fe XIX 009199 905.720 13.689 6.92 4.57 6.55 4.89 4.70 6.13 8.26 2857 Fe XIX 004080 905.850 13.687 6.92 3.09 5.00 3.40 3.24 4.69 6.82 7.65 5.21 4.44 5.40 7.13 - -13.683 6.98 4.43 3600 Fe XX N05039 906.120 - 7.14 5.02 4.93 5.79 6.74 7.75 -4563 Fe XXII B13032 906.320 13.680 7.10 4.76 7.73 5.31 4.54 5.51 7.24 - -3599 Fe XX N02027 906.580 13.676 6.98 4.53 2855 Fe XIX 001056 906.850 13.672 6.91 2.69 -4.40 2.94 2.86 4.36 6.51 -13.672 6.92 3.82 5.71 4.12 3.97 5.43 7.57 2856 Fe XIX 003070 906.850 4188 Fe XXI C17150 906.980 13.670 7.05 4.82 - 6.34 4.87 5.29 6.57 7.89 2853 Fe XIX 003072 906.980 13.670 6.92 2.86 4.75 3.16 3.01 4.47 6.61 - -2854 Fe XIX 003071 906 980 13.670 6.92 2.67 -4.56 2.97 2.82 4.28 6.42 -3598 Fe XX N03031 907.110 13.668 6.98 3.86 7.06 4.63 3.86 4.83 6.56 13.667 7.10 3.47 4562 Fe XXII B10018 907.180 - 5.84 3.73 3.65 4.51 5.47 6.48 2852 Fe XIX 009200 907.510 13.662 6.92 4.30 6.28 4.62 4.43 5.86 7.98 - -13.656 7.04 4.15 -- 5.64 4.20 4.64 5.93 7.25 -4187 Fe XXI C12052 907.910 2850 Fe XIX 13.656 6.92 3.67 -5.56 3.97 3.82 5.28 7.41 -003073 907.910 2849 Fe XIX 004081 908.040 13.654 6.92 3.60 5.51 3.91 3.74 5.20 7.33 -3597 Fe XX N02028 908.180 13.652 6.98 4.85 8.05 5.62 4.85 5.82 7.55 - -2851 Fe XIX 001057 908.310 13.650 6.91 2.18 3.89 2.43 2.35 3.84 6.00 13.649 6.92 3.72 - 5.61 4.02 3.87 5.33 7.46 2848 Fe XIX 002072 908.380 2846 Fe XIX 007181 908.710 13.644 6.92 4.78 -6.75 5.10 4.92 6.36 8.48 -

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N13189

001061

001059

003074

N06088

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909.840

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13.627 6.98 4.20

3.65

3596 Fe XX

2845 Fe XIX

2847 Fe XIX

2844 Fe XIX

3595 Fe XX

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8.10 5.60 4.79 5.74 7.45

4.85 3.39 3.31 4.80 6.96

4.52 3.06 2.98 4.47 6.63

5.54 3.95 3.80 5.26 7.39

7.46 5.00 4.21 5.16 6.88

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line list SPEX version 2.0 Apr 13, 10 14:27 Page 36/77 E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2843 Fe XIX 006168 910 040 13.624 6.92 4.18 6.14 4.50 4.31 5.75 7.88 -4186 Fe XXI C11052 13.621 7.04 4.48 - 5.96 4.52 4.96 6.25 7.57 13.620 6.92 3.93 5.89 4.25 4.06 5.50 7.63 -2842 Fe XIX 006170 910 310 4185 Fe XXI C07039 910.510 13.617 7.04 2.72 -- 4.20 2.77 3.21 4.50 5.82 -3594 Fe XX N06090 910.510 13.617 6.98 3.56 6.81 4.35 3.56 4.52 6.24 -3593 Fe XX N12179 910.640 13.615 6.99 5.00 8.30 5.81 5.00 5.95 7.66 -3592 Fe XX N06091 13.615 6.98 3.20 6.45 3.99 3.20 4.16 5.88 -910 710 13.614 6.98 4.34 3591 Fe XX N02030 7.55 5.12 4.35 5.32 7.05

2841 Fe XIX 13.614 6.92 4.19 6.10 4.49 4.33 5.78 7.92 004085 910.710 13.612 6.98 3.09 -6.34 3.88 3.09 4.05 5.77 -3590 Fe XX N06092 910.850 2840 Fe XIX 006172 13.612 6.92 3.83 5.79 4.15 3.96 5.40 7.53 -2839 Fe XIX 004086 911.250 13.606 6.92 4.88 6.79 5.18 5.02 6.47 8.61 -3589 Fe XX N01021 911.650 13.600 6.98 3.72 6.70 4.42 3.73 4.74 6.49 4184 Fe XXI C14075 911.780 13.598 7.05 4.67 - 6.17 4.72 5.16 6.45 7.76 5.90 4.25 4.07 5.51 7.63 - -2837 Fe XIX 006177 912.860 13.582 6.92 3.93 3588 Fe XX N03034 913.060 13.579 6.98 4.30 -7.51 5.08 4.31 5.28 7.01 -913.060 2836 Fe XIX 006178 13 579 6 92 3.75 5.72 4.07 3.89 5.33 7.45 3587 Fe XX N09137 913.130 13.578 6.98 4.77 8.05 5.57 4.77 5.72 7.44 -6.66 5.02 4.84 6.28 8.40 -2835 Fe XIX 006179 913.390 13.574 6.92 4.70 13.574 6.92 4.03 5.94 4.33 4.17 5.62 7.76 2834 Fe XTX 004087 913.390 2833 Fe XIX 003077 13.572 6.92 3.87 -913.530 5.76 4.17 4.01 5.47 7.61 -

4.26 2.80 2.72 4.21 6.37

7.82 5.39 4.62 5.59 7.31

6.19 3.73 2.93 3.89 5.60

5.30 3.84 3.75 5.25 7.40

7.61 5.17 4.40 5.37 7.09 -

3583 Fe XX N08110 914.540 13.557 6.98 2.93 -6.19 3.73 2.93 3.89 5.60 -3582 Fe XX N10145 914.680 13.555 6.98 4.68 7.97 5.49 4.69 5.64 7.35 -2363 Fe XVIII F02071 914.680 13.555 6.85 4.16 6.82 5.07 4.21 4.62 6.54 - -- - 4.61 3.15 3.07 4.56 6.71 - - -2831 Fe XIX 001067 914.740 13.554 6.91 2.89 4.95 3.34 2.41 2.14 2.55 3.26 3.94 4.55 5.11 5.62 6.11 -409 No TX 914.810 13.553 6.58 2.13 383 Ne VIII LI S2 914.950 13.551 6.46 2.66 5.91 4.02 3.11 2.69 2.81 3.57 4.58 5.55 13.551 6.46 5.03 7.34 5.95 5.37 5.06 5.20 6.05 7.24 8.43 352 Ne VII BE S3 914.950 353 Ne VII 13.551 6.48 5.02 7.79 6.18 5.47 5.07 5.16 5.97 7.14 8.32 -BE S4 914.950 3581 Fe XX N05045 915.080 13.549 6.98 3.34 - - - 6.57 4.13 3.35 4.32 6.04 7.67 5.14 4.31 5.24 6.94 -3580 Fe XX N14248 915.150 13.548 6.99 4.31 4183 Fe XXI C18161 915.690 13.540 7.05 4.62 -6.14 4.67 5.09 6.37 7.68

13.535 6.98 3.99 7.22 4.78 4.00 4.96 6.69 - -3579 Fe XX N05047 916.030 3578 Fe XX N03036 916.160 13.533 6.98 4.83 8.04 5.61 4.84 5.80 7.53 -2830 Fe XIX 004089 916.300 13.531 6.92 3.26 5.17 3.56 3.40 4.85 6.98 - -4182 Fe XXI C07042 916 370 13.530 7.04 1.95 -- 3.43 1.99 2.44 3.73 5.05 -2829 Fe XIX 006181 916.370 13.530 6.92 4.64 6.60 4.96 4.77 6.21 8.33 2828 Fe XTX 003080 916.370 13.530 6.92 2.90 4.80 3.20 3.04 4.50 6.64 2361 Fe XVIII F02072 916.370 13.530 6.85 3.84 6.50 4.74 3.89 4.30 6.21 -7.86 5.42 4.65 5.61 7.34 -3577 Fe XX N05048 916.370 13.530 6.98 4.64 13.528 6.92 3.70 -2827 Fe XIX 004090 916.500 5.61 4.00 3.84 5.29 7.42 -

3576 Fe XX N13195 916.640 13.526 6.99 4.72 8.04 5.54 4.73 5.67 7.38 3575 Fe XX N07108 916.640 13.526 6.98 2.57 5.83 3.37 2.57 3.52 5.24 -3574 Fe XX N07109 916.840 13.523 6.98 2.81 6.07 3.61 2.81 3.76 5.48 13.521 6.91 1.35 -- 3.07 1.61 1.52 3.02 5.17 -2826 Fe XIX 001068 916 980 3573 Fe XX N01022 917.040 13.520 6.98 3.67 -6.65 4.37 3.68 4.69 6.44 -2825 Fe XIX 006182 917.040 13.520 6.92 3.46 5.43 3.78 3.60 5.04 7.16 2359 Fe XVIII F01066 917.180 13.518 6.84 4.32 6.60 5.08 4.34 4.82 6.77 - -3572 Fe XX N07110 917.310 13.516 6.98 3.62 6.88 4.42 3.62 4.57 6.29 3571 Fe XX N14249 917.450 13.514 6.99 4.07 7.44 4.91 4.07 5.00 6.70

001072

917.450

2822 Fe XIX

2832 Fe XTX

3586 Fe XX

3585 Fe XX

3584 Fe XX

001065

N03035

N08109

N04039

913 660

913.730

914.000

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13.570 6.91 2.55

13.565 6.98 2.93

13.563 6.98 4.39

13.514 6.91 3.58

4.61

13.569 6.98

Apr 13, 10 14:27 Page 37/77 E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 2823 Fe XIX 001071 13.507 6.91 1.68 3.40 1.94 1.85 3.35 5.50 3570 Fe XX N14250 13.507 6.99 4.23 7.60 5.07 4.23 5.16 6.86 -4181 Fe XXI 917.930 13.507 7.05 4.20 C16150 - 5.71 4.25 4.67 5.95 7.26 3569 Fe XX N05049 918.400 13.500 6.98 5.03 -8.26 5.82 5.04 6.00 7.73 -2821 Fe XIX 003081 918.540 13.498 6.92 4.94 6.84 5.24 5.08 6.54 8.68 2356 Fe XVIII F02073 918.610 13.497 6.85 4.30 - 6.96 5.21 4.35 4.75 6.67 -2820 Fe XIX 001073 918.670 13.496 6.91 3.23 - 4.95 3.49 3.40 4.90 7.05 -13.488 6.98 4.47 7.45 5.17 4.48 5.49 7.24 -3568 Fe XX N01025 919 220 13.486 6.98 4.08 7.31 4.87 4.09 5.05 6.78 3567 Fe XX N05050 919.360 13.486 6.85 3.48 -2354 Fe XVIII F02075 6.14 4.38 3.52 3.93 5.85 - -919.360 2818 Fe XIX 13.486 6.92 4.11 6.08 4.43 4.25 5.68 7.81 -003084 919.420 13.485 6.92 4.43 6.33 4.74 4.58 6.04 8.17 -2817 Fe XIX 4180 Fe XXI C06026 919.700 13.481 7.04 3.98 - 5.46 4.03 4.48 5.77 7.09 7.47 5.72 4.86 5.26 7.18 - -2353 Fe XVIII F02076 919.900 13.478 6.85 4.81 13.478 7.04 3.81 -- - 5.27 3.85 4.31 5.61 6.93 -4179 Fe XXI C04022 919.900 3566 Fe XX N05052 919.970 13.477 6.98 3.78 -- 7.01 4.57 3.79 4.75 6.48 - -4178 Fe XXI C06027 920.240 13.473 7.04 4.46 - 5.93 4.50 4.95 6.24 7.57 5260 Ni XX E3E 920.450 13.470 6.81 2.78 5.61 3.48 2.78 3.40 5.56 - -- - 5.50 4.06 4.51 5.80 7.12 -4175 Fe XXI C08045 920.520 13.469 7.04 4.02 13.469 6.99 4.36 - 7.65 5.17 4.36 5.31 7.03 - -3565 Fe XX N10158 920.520 920.650 4561 Fe XXII B08017 13.467 7.10 4.23 -6.59 4.48 4.40 5.27 6.22 7.24 -4177 Fe XXT C15107 920 650 13 467 7 05 3 86 5.37 3.91 4.34 5.63 6.94 -2816 Fe XIX 002081 920.790 13.465 6.92 2.26 4.15 2.56 2.40 3.86 5.99 001074 13.465 6.91 1.93 2815 Fe XTX 920 790 - 3.65 2.19 2.10 3.59 5.75 382 Ne VIII LI S3 920.860 13.464 6.49 2.63 4.47 3.28 2.69 2.74 3.47 4.49 5.48 6.40 -2814 Fe XIX 003085 921.200 13.459 6.92 3.30 -5.20 3.60 3.44 4.90 7.03 -3564 Fe XX N08116 921.200 13.459 6.98 3.08 6.36 3.89 3.09 4.04 5.76 4176 Fe XXI C05024 921.270 13.458 7.04 4.40 - 5.87 4.44 4.89 6.19 7.51 -3563 Fe XX N14254 921.400 13.456 6.99 4.14 - 7.51 4.98 4.14 5.07 6.77 - -2351 Fe XVIII F01067 921.610 13.453 6.84 2.80 - - 5.09 3.56 2.83 3.30 5.25 - -003086 2813 Fe XIX 921.750 13.451 6.92 3.13 5.03 3.43 3.27 4.73 6.86 -4174 Fe XXI C13080 921.820 13.450 7.05 4.50 - 6.00 4.55 4.99 6.27 7.59 4.72 3.38 2.71 2.70 3.40 4.39 5.37 6.28 - -381 Ne VIII T.T S4 921.820 13.450 6.50 2.61 4.45 2.77 1.77 1.44 1.81 2.49 3.15 3.75 4.31 4.82 5.30 408 Ne IX HE4 921.950 13.448 6.59 1.44 2812 Fe XIX 008193 922.090 13.446 6.92 4.26 6.23 4.58 4.39 5.83 7.95 - - -3562 Fe XX N09158 922.500 13.440 6.99 3.67 -6.96 4.48 3.68 4.63 6.34 -

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3.98 2.52 2.44 3.93 6.09

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6.83 5.21 5.05 6.50 8.63 -

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- 4.31 2.86 3.29 4.58 5.90 -

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- 6.95 4.82 4.74 5.60 6.55 7.56

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5.29 3.85 4.29 5.58 6.90

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3561 Fe XX

4173 Fe XXI

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2809 Fe XIX

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007188

N03039

N07116

N04047

N01027

B11030

N05056

N12193

004093

N03040

N14257

N06108

C13083

C09052

923.050

923.050

923.120

923 390

923.670

923.670

923.810

924.010

924.010

924.150

924.220

924.360

924.500

924 700

924.700

924.700

924.700

924.700

924.430

| See Park | Apr 13, 1 | 0 14:27 | | | | | | | | lin | e li | st | SPE | EX | ver | sio | n 2 | .0 | | | | | | | | | | | F | Page | : 38/ | 77 |
|---|--------------------------|----------|-----------|--------------|--------|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|------|------|------------|----------------|---------------|--------------|-----------|------|------|-----|-----|-----|------|-------|-----|
| Sed Pr William (1987) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Nr ion | Transit. | E(eV) Lam | nbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7. | 2 7 | . 4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 184 P. A. WILLIAM STATE OF THE COLUMN AND ADDRESS AND | 3548 Fe XX | N06111 | 924.770 | 13.407 6.98 | 3 2.22 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.49 | 3.0 | 2 2.2 | 3 3. | 18 4 | .90 | _ | _ | _ | _ | _ | _ | _ | _ |
| 389 PEXIL 901009 2944.90 13.405 0.94 4.07 13.405 0.95 1.07 | | | | 13.406 6.85 | 5 4.36 | - | - | - | - | - | - | - | - | - | - | - | - | 7.03 | 5.27 | 4.4 | 1 4.8 | 2 6. | 73 | - | | | - | - | - | - | - | - |
| 959 Pe XX Noting 924,910 13,405,098 3.67 6.54 4.47 3.68 4.63 6.35 6.59 4.47 3.68 4.63 6.35 6.57 4.47 3.48 4.63 6.35 6.57 4.47 3.48 4.63 6.35 | | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | | _ | _ | _ | _ | _ |
| 805 FEXIX OUTUPE 124-389 13.46 6.91 4.45 | 3549 Fe XX | | | | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | - | - | - | - | - | - |
| SS PE EXIT BISOCA 925.00 11.396 7.30 4.83 7.23 5.09 5.00 5.05 5.05 6.07.01 7.23 5.09 5.00 5.05 5.05 6.07.01 | 3550 Fe XX | | | | | | _ | _ | - | - | - | _ | _ | _ | - | - | - | _ | | | | | | | | | - | - | - | - | - | _ |
| SS PE EXIT BISOCA 925.00 11.396 7.30 4.83 7.23 5.09 5.00 5.05 5.05 6.07.01 7.23 5.09 5.00 5.05 5.05 6.07.01 | 2805 Fe XIX | | | | | | - | - | - | - | - | - | - | - | - | - | - | - | 6.17 | 4.7 | 1 4.6 | 2 6. | 11 8 | .27 | - | | - | - | - | - | - | - |
| ### Fex X N95589 292-740 13,396 6,98 4.65 | 4558 Fe XXII | | | 13.395 7.10 | 2 3.41 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.2 | 3 5.0 | 19 5. | 00 5 | . 85 | 6.80 | 7.81 | _ | _ | _ | _ | _ | _ |
| 948 Fe XXI N10165 926.60 13.30 6.99 4.63 7.30 5.45 4.64 5.50 7.30 | 3547 Fe XX | | | 13.393 6.98 | 3 4.63 | - | - | - | - | - | - | - | | | | | | | 7.86 | 5.4 | 2 4.6 | 4 5. | 60 7 | .33 | - | - | - | - | - | - | - | - |
| 948 Fe XXI N10165 926.60 13.30 6.99 4.63 7.30 5.45 4.64 5.50 7.30 | 3546 Fe XX | | | | | _ | _ | - | - | - | - | _ | _ | - | _ | - | _ | _ | 6.52 | 4.0 | 8 3.3 | 0 4. | 26 5 | .98 | - | _ | _ | - | - | - | _ | _ |
| 948 Fe XXI N10165 926.60 13.30 6.99 4.63 7.30 5.45 4.64 5.50 7.30 | 2345 Fe XVIII | | | | | - | - | - | - | - | - | - | - | - | - | - | - | 7.64 | 5.80 | 4.8 | 8 5.2 | 26 7. | 15 | - 71 | - | - | - | - | - | - | - | - |
| 948 Fe XXI N10165 926.60 13.30 6.99 4.63 7.30 5.45 4.64 5.50 7.30 | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.67 | 5.0 | 2 4.8 | 3 6. | 27 8 | . 39 | _ | _ | _ | _ | _ | _ | _ | _ |
| 144 FE XX NUTIT POLOTO 926.780 13.376 6.84 2.55 4.84 3.11 2.57 3.05 5.00 | 3545 Fe XX | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.83 | 4.3 | 9 3.6 | 1 4. | 58 6 | .31 | - | - | - | - | - | - | - | - |
| 789 FE XIX OLIDAD 927.950 13.374 6.93 3.54 5.25 3.79 3.71 5.20 7.35 | 3544 Fe XX | | | | | - | - | - | - | - | - | - | _ | - | _ | - | - | - | 7.93 | 5.4 | 5 4.6 | 4 5. | 59 7 | .30 | - | - | - | - | - | - | _ | - |
| 789 FE XIX OLIDAD 927.950 13.374 6.93 3.54 5.25 3.79 3.71 5.20 7.35 | 2346 Fe XVIII | | | | | - | - | - | - | - | - | - | - | - | - | - | - | 4.84 | 3.31 | 2.5 | 7 3.0 | 5 5. | 00 | - | - | - | - | - | - | - | - | - |
| 789 FE XIX OLIDAD 927.950 13.374 6.93 3.54 5.25 3.79 3.71 5.20 7.35 | | | | 13.376 6.98 | 3 . 79 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.79 | 4.5 5.1 | / 3 4 4 ° | 9 4. | 76 6 39 8 | .48 | _ | _ | _ | _ | _ | _ | _ | _ |
| 557 PE XXII B11031 927.300 13.372 7.10 4.82 7.21 5.08 4.99 5.85 6.80 7.82 7.30 4.81 4.00 4.94 6.65 | 2800 Fe XIX | | | 13.375 6.92 | 2 4.05 | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.96 | 4.3 | 6 4.2 | 0 5. | 65 7 | .79 | - | - | - | - | - | - | - | - |
| 343 PR XVIII FOLO71 927.260 13.371 6.94 3.80 6.09 4.56 3.82 4.30 6.24 5.42 PR XX NU1189 927.260 13.371 6.99 3.90 | 2799 Fe XIX | | | | | | - | - | - | - | - | - | _ | - | _ | - | - | - | | | | | | | | | | | | | | - |
| 542 PR XX N11189 927.330 13.370 6.98 3.99 | 4557 Fe XXII | | | | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | - | - | - | - | - |
| 541 FE XX N04650 927,330 13,370 6,98 3,70 | | | | 13.3/1 6.84 | 3.80 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.09 | 7 30 | 3.8 4.8 | 2 4.3 1 4 (| 0 6. | 24 · 94 6 | - 65 | _ | _ | _ | _ | _ | _ | _ | _ |
| 979 FR XIX | 3541 Fe XX | | | 13.370 6.98 | 3.70 | - | - | - | - | - | - | - | - | - | - | | | | 6.92 | 4.4 | 8 3.7 | 1 4. | 67 6 | .40 | - | - | - | - | - | - | - | - |
| 170 PC XXI C12065 927.470 13.368 7.05 4.47 | 2798 Fe XIX | | | | | | - | - | - | - | - | - | _ | - | _ | - | - | | | | | | | | | - | - | - | - | - | _ | - |
| 342 FE XVIII F02080 927,960 13.361 6.85 3.68 6.35 4.59 3.73 4.14 6.05 5.08 5.05 5.47 35.68 7.39 | 2797 Fe XIX | | | | | | - | - | - | - | - | - | - | - | | | | | | | | | | | | | - | - | - | - | - | - |
| 540 Fe XX N10167 927.900 13.361 6.99 4.73 | | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | | | | | 4.59 | 3.7 | / 4.5 3 4.1 | 4 6. | 96 6 05 | . 25 - | 7.56 | _ | _ | _ | _ | _ | _ | _ |
| 341 Fe XVIII F01072 928.230 13.357 6.84 2.79 | 3540 Fe XX | | | | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | - | - | - | - | - | - | - |
| 538 Fe XX N10168 928.300 13.356 6.99 4.10 7.40 4.91 4.11 5.05 6.77 5.57 Fe XX N09165 928.650 13.351 6.99 4.22 7.52 5.03 4.22 5.17 6.89 5.56 Fe XX N02039 928.790 13.349 6.98 2.91 | 3539 Fe XX | | 928.100 | 13.359 6.99 | 9 4.53 | - | - | - | - | _ | - | _ | _ | - | _ | - | - | - | 7.84 | 5.3 | 5 4.5 | 4 5. | 48 7 | .19 | - | _ | - | _ | - | - | - | _ |
| 536 Fe XX N02039 928.790 13.349 6.98 2.91 6.12 3.69 2.91 3.88 5.61 | 2341 Fe XVIII | | | | | | - | - | - | - | - | - | - | - | - | - | - | 5.08 | 3.55 | 2.8 | 1 3.2 | 28 5. | 23 | - | - | - | - | - | - | - | - | - |
| 536 Fe XX N02039 928.790 13.349 6.98 2.91 6.12 3.69 2.91 3.88 5.61 | | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.40 | 4.9 | 1 4.1 3 4 3 | 1 5. | 05 6 17 6 | .77 | _ | _ | _ | _ | _ | _ | _ | _ |
| 534 Fe XX N12197 929.420 13.340 6.99 4.83 8.15 5.65 4.84 5.78 7.49 | 3536 Fe XX | | | | | | - | - | - | - | - | - | - | - | - | - | - | - | 6.12 | 3.6 | 9 2.9 | 1 3. | 88 5 | .61 | - | - | - | - | - | - | - | - |
| 534 Fe XX N12197 929.420 13.340 6.99 4.83 8.15 5.65 4.84 5.78 7.49 | 4169 Fe XXI | C13086 | 928.790 | 13.349 7.0! | 5 4.38 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.8 | 8 4.4 | 2 4. | 86 6 | .14 | 7.46 | _ | _ | _ | _ | _ | _ | _ |
| 534 Fe XX N12197 929.420 13.340 6.99 4.83 8.15 5.65 4.84 5.78 7.49 | 3535 Fe XX | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.23 | 5.7 | 5 4.9 | 4 5. | 89 7 | .60 | - | - | - | - | - | - | - | - |
| 534 Fe XX N12197 929.420 13.340 6.99 4.83 8.15 5.65 4.84 5.78 7.49 | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.64 | 4.1 | 84.J | .0 5. 11 5 | 59 7 34 7 | 47 | _ | _ | _ | _ | _ | _ | _ | _ |
| 168 Fe XXI | 3534 Fe XX | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.15 | 5.6 | 5 4.8 | 4 5. | 78 7 | .49 | - | - | - | - | - | - | - | - |
| 168 Fe XXI | 3533 Fe XX | N10171 | 929.630 | 13.337 6.99 | 9 4.78 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.08 | 5.5 | 9 4.7 | 8 5. | 73 7 | .44 | _ | _ | _ | _ | _ | _ | _ | _ |
| 168 Fe XXI | 3532 Fe XX | | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.92 | 3.6 | 4 2.9 | 5 3. | 96 5 | .71 | - | - | - | - | - | - | - | - |
| 793 Fe XIX | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.00 | 5.4 | 9 4.6 | 8 5. | 62 7 35 6 | .33 | 7 96 | _ | _ | _ | _ | _ | _ | _ |
| 339 Fe XVIII F01073 930.600 13.323 6.84 2.98 5.28 3.75 3.01 3.48 5.43 792 Fe XIX 006189 930.950 13.318 6.92 3.01 4.98 3.33 3.14 4.58 6.70 5.28 Fe XX N09169 931.090 13.316 6.99 4.55 | 2793 Fe XIX | | | | | | - | _ | _ | _ | - | _ | | | | | | | 6.33 | 4.7 | 1 4.5 | 4 5. | 99 8 | .12 | - | - | - | _ | _ | _ | - | _ |
| 339 Fe XVIII F01073 930.600 13.323 6.84 2.98 5.28 3.75 3.01 3.48 5.43 792 Fe XIX 006189 930.950 13.318 6.92 3.01 4.98 3.33 3.14 4.58 6.70 5.28 Fe XX N09169 931.090 13.316 6.99 4.55 | 3530 Fe XX | N09168 | 930.320 | 13.327 6.99 | 9 4.29 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.59 | 5.1 | 0 4.2 | 9 5. | 24 6 | .95 | _ | _ | _ | _ | _ | _ | _ | _ |
| 529 Fe XX N09169 931.090 13.316 6.99 4.55 7.85 5.36 4.55 5.50 7.22 528 Fe XX N11193 931.230 13.314 6.99 3.82 7.13 4.64 3.83 4.77 6.48 | 2339 Fe XVIII | F01073 | 930.600 | 13.323 6.84 | 1 2.98 | - | - | - | - | - | - | - | _ | - | - | - | - | 5.28 | 3.75 | 3.0 | 1 3.4 | 8 5. | 43 | - | - | - | - | - | - | - | - | - |
| 528 Fe XX N11193 931.230 13.314 6.99 3.82 7.13 4.64 3.83 4.77 6.48 | | | | | | | | | | | | | | | | | _ | _ | | | | | | | | _ | _ | _ | _ | _ | _ | _ |
| 527 Fe XX N12199 931.580 13.309 6.99 4.03 7.35 4.85 4.03 4.98 6.69 526 Fe XX N05062 931.650 13.308 6.98 4.18 7.41 4.97 4.18 5.15 6.87 | 3529 Fe XX 3528 Fe XX | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | | | | | | | _ | _ | _ | _ | _ | _ | - | _ |
| 527 Fe XX N12199 931.580 13.309 6.99 4.03 7.35 4.85 4.03 4.98 6.69 526 Fe XX N05062 931.650 13.308 6.98 4.18 7.41 4.97 4.18 5.15 6.87 | 2338 Fe XVIII | F01074 | 931.370 | 13.312 6.8 | 4 2.68 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.98 | 3.45 | 2.7 | 1 3.1 | .8 5. | 13 | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 259 Ni XX F3E 931.650 13.308 6.81 2.36 5.20 3.07 2.37 2.98 5.13 | 3527 Fe XX | N12199 | 931.580 | 13.309 6.99 | 9 4.03 | - | - | - | - | - | - | - | - | - | - | | - | - | 7.35 | 4.8 | 5 4.0 | 3 4. | 98 6 | .69 | - | - | - | - | - | - | - | - |
| | 3526 Fe XX | | | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | .87 | _ | _ | _ | _ | _ | _ | _ | _ |
| | 3525 Fe XX | N02042 | 931.650 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6.05 | | | | | .54 | _ | _ | _ | _ | _ | _ | _ | _ |

| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax 4. | 0 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
|-----------------------------|------------------|--------------------|---|------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|----------------|--------------|------------------|----------------|--------------|----------------|-------------|--------|-----|-----|-----|-----|-----|
| 2791 Fe XIX | 001085 | 931.860 | 13.305 6.91 | 4.00 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.72 | 2 4.2 | 26 4.1 | 7 5.6 | 7 7.8 | 2 – | _ | _ | _ | _ | _ | _ | _ |
| 2336 Fe XVIII | | 931.930 | 13.305 6.91 13.304 6.84 13.304 6.98 13.302 6.98 13.301 6.98 | 3.48 - | - | - | - | - | - | - | - | - | - | - | - | 5.78 | 4.25 | 3.5 | 3.9 | 8 5.9 | 3 – | - | - | - | - | - | - | - | - |
| 3524 Fe XX | N05063 | 931.930 | 13.304 6.98 | 4.65 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.88 | 3 5.4 | 4 4.6 | 6 5.6 | 2 7.3 | 4 – | - | - | - | - | - | - | - |
| 3523 Fe XX 3522 Fe XX | N06116 N05064 | 932.070 | 13.302 6.98 | 3.13 - 4.28 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 51 | 5.5 | 73 3.1 16 4 2 | 3 4.0 8 5 2 | 9 5.8 | J – 7 – | _ | _ | _ | _ | _ | _ | _ |
| JJZZ FC XX | 1103004 | JJZ.140 | 13.301 0.70 | 4.20 | | | | | | | | | | | | | 7.51 | | 70 4.2 | 0 3.2 | 4 0.5 | , | | | | | | | |
| 2790 Fe XIX | 007196 | 932.210 | 13.300 6.92 | 4.59 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.57 | 7 4.9 | 2 4.7 | 3 6.1 | 6 8.2 | 3 – | - | - | - | - | - | - | - |
| 2335 Fe XVIII | F01076 N03045 | 932.420 932.700 | 13.297 6.84 | 4.75 - | - | - | - | - | - | - | - | - | - | - | - | 7.04 | 5.51 | L 4.7 | 77 5.2 | 5 7.1 | 9 - | _ | - | - | - | - | - | - | - |
| 3521 Fe XX 2789 Fe XIX | 006190 | 932.700 | 13.293 6.98 | 3.17 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.56 | 5 3 0 | 90 3.1 91 3 7 | 2 5 1 | 5 7 2 | 7 – | _ | _ | _ | _ | _ | _ | _ |
| 3520 Fe XX | N03046 | 932.910 | 13.300 6.92 13.297 6.84 13.293 6.98 13.291 6.92 13.290 6.98 | 2.81 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.04 | 3.6 | 0 2.8 | 2 3.7 | 9 5.5 | 1 - | - | - | - | - | - | - | - |
| 3519 Fe XX | N12200 | 933.050 | 13.288 6.99 13.288 6.98 13.285 7.04 13.281 7.05 13.278 6.98 | 1 27 _ | _ | _ | _ | _ | | | _ | | | | _ | _ | 7 69 | 2 5 1 | Ω / 2 | 7 5 2 | 170 | 2 _ | _ | | | | _ | | _ |
| 3519 Fe XX | N05065 | 933.050 | 13.288 6.98 | 4.85 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.09 | 5.6 | 54 4.8 | 6 5.8 | 2 7.5 | 4 – | _ | _ | _ | _ | _ | _ | _ |
| 4167 Fe XXI | C04023 | 933.260 | 13.285 7.04 | 4.56 - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.0 | 3 4.6 | 0 5.0 | 5 6.3 | 5 7.6 | 7 – | - | - | - | - | - | - |
| 4166 Fe XXI | C12073 | 933.550 | 13.281 7.05 | 4.93 - | - | - | - | - | - | - | - | - | - | - | - | - | _ | 6.4 | 13 4.9 | 8 5.4 | 2 6.7 | 8.02 | 2 – | - | - | - | - | - | - |
| 3517 Fe XX | N04058 | 933.760 | 13.278 6.98 | 4.62 - | - | _ | _ | - | - | - | - | - | - | _ | - | _ | 7.85 | 5.4 | 10 4.6 | 2 5.5 | 8 7.3 | 1 - | _ | - | - | - | - | - | - |
| 3514 Fe XX | N03048 | 934.040 | 13.274 6.98 13.272 6.86 13.265 6.91 13.265 6.98 13.265 6.99 | 3.99 - | - | - | - | - | - | - | - | - | - | - | - | | 7.22 | 4.7 | 8 4.0 | 0 4.9 | 7 6.6 | 9 – | - | - | - | - | - | - | - |
| 2334 Fe XVIII | | 934.180 | 13.272 6.86 | 4.77 - | - | - | - | - | - | - | - | - | - | - | - | 7.59 | 5.74 | 4.8 | 32 5.2 | 0 7.0 | 9 - | _ | - | - | - | - | - | - | - |
| 2788 Fe XIX 3515 Fe XX | 001087 N04059 | 934.670 | 13.265 6.91 | 2.71 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 95 | 3 4.5 | 77 2.8 50 2 7 | 8 4.3 2 3 6 | 8 5 4 | 3 – 1 – | _ | _ | _ | _ | _ | _ | _ |
| 3516 Fe XX | N09175 | 934.670 | 13.265 6.99 | 4.70 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.99 | 5.5 | 1 4.7 | 0 5.6 | 5 7.3 | 5 - | - | - | - | - | - | - | - |
| 4165 Fe XXI | C03022 | 03/1 990 | 13.262 7.04 13.262 6.98 13.259 6.92 13.259 6.92 13.258 6.99 | 2 70 _ | _ | | | _ | _ | | _ | | | | _ | | _ | 1 1 | 7 2 7 | F 2 2 | 0 4 5 | n Ε Ω, | o _ | | | | _ | | _ |
| 3513 Fe XX | N04060 | 934.880 | 13.262 6.98 | 2.70 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.11 | 1.1 1.3.6 | 6 2.8 | 8 3.8 | 4 5.5 | 7 – | _ | _ | _ | _ | _ | _ | _ |
| 2787 Fe XIX | 006193 | 935.090 | 13.259 6.92 | 4.42 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.40 | 4.7 | 4 4.5 | 6 5.9 | 9 8.1 | 1 - | - | - | - | - | - | - | - |
| 2786 Fe XIX | 003094 | 935.090 | 13.259 6.92 | 4.57 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.48 | 3 4.8 | 38 4.7 | 2 6.1 | 7 8.3 | 0 - | - | - | - | - | - | - | - |
| 3512 Fe XX | N11195 | 935.170 | 13.258 6.99 | 3.76 - | - | _ | _ | - | - | - | - | - | - | _ | - | _ | 7.07 | / 4.5 | 8 3.7 | 6 4.7 | 0 6.4 | 2 – | _ | - | - | - | - | - | - |
| 3511 Fe XX | N08132 | 935.870 | 13.248 6.98 | 4.49 - | - | _ | _ | - | - | _ | - | - | - | - | - | - | 7.78 | 3 5.3 | 30 4.5 | 0 5.4 | 5 7.1 | 7 – | _ | - | - | _ | - | - | - |
| 3510 Fe XX | N11197 | 936.220 | 13.243 6.99 | 3.66 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.97 | 7 4.4 | 18 3.6 | 6 4.6 | 0 6.3 | 2 – | - | . – | - | - | - | - | - |
| 4556 Fe XXII 4164 Fe XXI | B06017 C04024 | 936.220 936.370 | 13.243 7.10 | 2.34 - 3.87 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 3 | 10 2.5 84 3 9 | 9 2.5 | 7 5 6 | 5 4. 3. | 3 5.35 | - - | _ | _ | _ | _ | _ |
| 2785 Fe XIX | 004104 | 936.580 | 13.248 6.98 13.243 6.99 13.243 7.10 13.241 7.04 13.238 6.92 | 4.71 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.64 | 1 5.0 | 2 4.8 | 5 6.3 | 0 8.4 | 3 – | _ | - | - | - | - | - | - |
| 2784 Fe XIX | 004105 | 936.930 | 13.233 6.92 13.232 7.10 13.232 6.98 13.223 6.98 13.223 6.98 | 1 16 - | _ | _ | _ | _ | | | _ | | | | _ | _ | 6 20 | 1 7 | 77 1 6 | 0 6 0 | E Q 1 | ۵ _ | _ | | | | _ | | _ |
| 4555 Fe XXII | B07018 | 937.000 | 13.232 7.10 | 2.85 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 5.2 | 21 3.1 | 0 3.0 | 2 3.8 | 9 4.84 | 4 5.86 | 5 – | _ | _ | _ | _ | _ |
| 3509 Fe XX | N03050 | 937.000 | 13.232 6.98 | 4.32 - | - | _ | - | - | - | - | - | - | - | - | - | - | 7.54 | 1 5.1 | 0 4.3 | 2 5.2 | 9 7.0 | 1 - | - | - | - | - | - | - | - |
| 3507 Fe XX | N03051 | 937.640 | 13.223 6.98 | 3.23 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.46 | 4.0 | 2 3.2 | 4 4.2 | 0 5.9 | 3 – | - | - | - | - | - | - | - |
| 3508 Fe XX | N03052 | 937.640 | 13.223 6.98 | 3.11 - | - | _ | _ | - | - | - | - | - | - | _ | - | _ | 6.34 | 1 3.5 | 90 3.I | 2 4.0 | 8 5.8 | 1 - | _ | - | - | - | - | - | - |
| 2783 Fe XIX | 004106 | 937.640 | 13.223 6.92 13.221 6.98 13.217 7.10 13.212 6.99 13.208 6.98 | 4.51 - | - | _ | _ | - | - | _ | - | - | - | - | - | - | 6.44 | 4.8 | 32 4.6 | 5 6.1 | 0 8.2 | 3 – | _ | - | - | _ | - | - | - |
| 3506 Fe XX | N02045 | 937.780 | 13.221 6.98 | 3.27 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.49 | 4.0 | 06 3.2 | 8 4.2 | 4 5.9 | 7 - | | _ | - | - | - | - | - |
| 4554 Fe XXII 3505 Fe XX | B10023 N11199 | 938.070 | 13.217 7.10 | 4.53 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.89 | 0.5 | 11 4.7 10 3.5 | 8 4.7 8 4 5 | 2 6 2 | 0.5. 3 – | L /.53 | - - | _ | _ | _ | _ | _ |
| 3504 Fe XX | N07132 | 938.710 | 13.208 6.98 | 4.34 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.63 | 5.1 | 5 4.3 | 5 5.3 | 0 7.0 | 1 - | - | - | - | - | - | - | - |
| 3503 Fe XX | N02047 | 020 700 | 13.207 6.98 13.206 7.05 13.203 6.99 13.202 6.98 13.198 6.92 | 3 00 | | | | | | | | | | | | | 7 17 | 2 / / | (a > 0 | 1 / 0 | 766 | 1 | | | | | | | |
| 4163 Fe XX | C13101 | 938.850 | 13.206 7.05 | 3.90 - 4.84 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | / . 1 <i>3</i> | 6.7 | 99 3.9 84 4.8 | ⊥ 4.8 9 5.3 | 2 6.6 |) 7.91 | 2 – | _ | _ | _ | _ | _ | _ |
| 3502 Fe XX | N12205 | 939.060 | 13.203 6.99 | 4.86 - | - | - | - | - | - | - | - | - | - | - | - | - | 8.18 | 3 5.6 | 8 4.8 | 7 5.8 | 1 7.5 | 2 - | - | - | - | - | - | - | - |
| 3501 Fe XX | N02048 | 939.130 | 13.202 6.98 | 3.36 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.58 | 3 4.1 | 5 3.3 | 7 4.3 | 3 6.0 | 5 - | - | - | - | - | - | - | - |
| 2782 Fe XIX | 007198 | 939.420 | 13.198 6.92 | 3.99 - | - | - | - | - | - | - | - | - | - | - | - | - | 5.97 | 4.3 | s2 4.1 | ∠ 5.5 | ο 7.6 | 5 - | - | - | - | - | - | - | _ |
| 3500 Fe XX | N04062 | 939.630 | 13.195 6.98 | 3.23 - | - | - | - | - | - | - | - | - | - | - | - | - | 6.47 | 7 4.0 | 2 3.2 | 4 4.2 | 0 5.9 | 3 – | - | - | - | - | - | - | - |
| 3499 Fe XX | N07135 | 939.700 | 13.194 6.98 | 4.20 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.49 | 5.0 | 1 4.2 | 1 5.1 | 6 6.8 | 3 - | - 7 11 | - | - | - | - | - | - |
| 4553 Fe XXII 3498 Fe XX | B06018 N04064 | 939.770 940.130 | 13.193 /.10 | 4.10 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 69 | 0.4 3 4 3 | to 4.3 | 5 4.2 6 4 4 | 2 6 1 | ± 0.09 | , /.⊤⊺ - | | _ | _ | _ | _ | _ |
| 3497 Fe XX | N09185 | 940.200 | 13.195 6.98 13.194 6.98 13.193 7.10 13.188 6.98 13.187 6.99 | 4.15 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.45 | 5 4.9 | 6 4.1 | 5 5.1 | 0 6.8 | 1 - | - | - | - | - | - | - | - |
| 4162 Fe XXI | C02021 | 940.490 | 13.183 7.04 13.182 6.84 13.182 7.10 13.178 6.99 13.178 6.98 | 2 20 | | | | | | | | | | | | | | Λ (|) E 2 4 | 2 2 0 | 0 F 1 | 3 6 F | 1 | | | | | | _ |
| 2332 Fe XXI | | 940.490 | 13.182 6 84 | 3.39 - 4.00 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.30 | 4.77 | 4.6 7.4.0 |)3 4.5 | ა პ.8 0 6.4 | ສ ວ.⊥ 5 − | 0.5. - | _ | _ | _ | _ | _ | _ | _ |
| 4552 Fe XXII | B09023 | 940.560 | 13.182 7.10 | 3.80 - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.1 | 7 4.0 | 5 3.9 | 7 4.8 | 3 5.78 | 3 6.80 |) – | - | - | - | - | - |
| 3496 Fe XX | N10186 | 940.840 | 13.178 6.99 | 3.42 - | - | _ | _ | - | - | - | - | - | - | - | - | - | 6.72 | 4.2 | 23 3.4 | 2 4.3 | 6 6.0 | 3 - | - | - | - | - | - | - | - |
| 3495 Fe XX | N05070 | 940.840 | 13.178 6.98 | 4.60 - | - | - | - | - | - | - | - | - | - | - | - | - | 7.84 | 1 5.3 | 39 4.6 | υ 5.5 | 6 7.2 | 9 – | - | - | - | - | - | - | - |

| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax ' | 1.0 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7. | 5 7. | 8 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
|------------------------------|------------------|--------------------|---|---------|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-------------|------|------|----------------|--------------|-------|------------|------------------|-----|-----|-----|-----|-----|
| 4161 Fe XXI | C06034 | 941.560 | 13.168 7.04 | 3.15 | | - | - | - | - | - | - | - | - | - | - | - | - | | | 3.6 | | | | | - | - | - | - | - |
| 4160 Fe XXI 4159 Fe XXI | C02022 C12079 | 941.630 941.700 | 13.167 7.04 13.166 7.05 | | | - | _ | - | - | - | - | - | - | - | - | - | - | | | 3.70 7 5.01 | | | | | _ | - | - | - | - |
| 3494 Fe XX | N08141 | 941.700 | 13.163 6.98 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 90 | 5.41 | | | | | | | _ | _ | _ | _ | _ |
| 3494 FE XX | N03056 | 942.130 | 13.160 6.98 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | 3.17 | | | | | | | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2116 Fe XVII 5258 Ni XX | NE01037 F3D | 942.130 | 13.160 6.73 | 2.49 | | - | - | - | - | - | - | - | - | - | 5.70 | 3.25 | 2.61 | 2.55 | 3.56 | 5 5.9' | 7 – | - | - | - | - | - | - | - | - |
| 4158 Fe XXI | C12080 | 942.130 942.130 | 13.100 0.81 | . 2.00 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5./2 | 3.50 | 5 69 | 4 21 | 2 1 6 | 4 – 6 5 (| 5 7 | 27 – | | _ | _ | _ | _ | _ |
| 3492 Fe XX | N02050 | 942.130 | 13.160 7.03 | 2 82 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.05 | 3.61 | 2 83 | 3 7 7 | 9 5 6 | , | | _ | _ | _ | _ | _ | _ |
| 3491 Fe XX | N12208 | 942.340 | 13.160 6.73 13.160 6.81 13.160 7.05 13.160 6.98 13.157 6.99 | 3.71 | | - | - | - | - | - | - | - | - | - | - | - | 7.03 | 4.53 | 3.71 | 4.6 | 5 6.3 | 6 - | - | - | - | - | - | - | - |
| 3490 Fe XX | N07137 | 942.490 | 12 155 6 00 | 1 01 | | | | | | | | | | | | | 0 00 | F 60 | 4 0- | F 7 | - 7 | 10 | | | | | | | |
| 3490 Fe XX | N07137 N08143 | 942.560 | 13.155 6.98 13.154 6.98 13.153 7.05 13.151 6.99 | 3 97 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 26 | 4 78 | 3 98 | 2 4 9 | 3 6 6 | 66 – | _ | _ | _ | _ | _ | _ | _ |
| 4157 Fe XXI | C13110 | 942.630 | 13 153 7 05 | 4 21 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 5 71 | 4 26 | 4 6 | 9 5 | 8 7 | 29 – | _ | _ | _ | _ | _ | _ |
| 3487 Fe XX | N10187 | 942.770 | 13.151 6.99 | 4.77 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.08 | 5.58 | 4.7 | 7 5.7 | 2 7.4 | 3 - | _ | - | _ | _ | _ | _ | _ |
| 3486 Fe XX | N08145 | 943.200 | 13.145 6.98 | 4.88 | | - | - | - | - | - | - | - | - | - | - | - | 8.17 | 5.69 | 4.88 | 5.8 | 3 7.5 | 55 – | - | - | - | - | - | - | - |
| 3488 Fe XX | N02052 | 943.280 | 13.144 6.98 | 2 38 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 61 | 3 17 | 2 30 | 3 2 31 | 5 5 (| ۱۵ _ | _ | _ | _ | _ | _ | _ | _ |
| 3485 Fe XX | N03058 | 943.420 | 13.144 6.98 13.142 6.98 13.139 6.98 13.134 7.05 13.127 7.05 | 2.91 | | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | 6.14 | 3.70 | 2.92 | 3.8 | 8 5.6 | 51 - | _ | _ | _ | _ | _ | _ | _ |
| 3484 Fe XX | N05073 | 943.640 | 13.139 6.98 | 4.49 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.73 | 5.28 | 4.49 | 5.4 | 5 7.1 | .8 – | _ | - | _ | _ | _ | _ | - |
| 4156 Fe XXI | C11079 | 943.990 | 13.134 7.05 | 4.60 | | - | - | - | - | - | - | - | - | - | - | - | - | 6.10 | 4.65 | 5.09 | 9 6.3 | 88 7. | 59 – | _ | _ | - | - | - | - |
| 4155 Fe XXI | C11080 | 944.500 | | | | | | | | | | | | | | | | | | | | | | - | | | | | - |
| 2781 Fe XIX | 003098 | 944.640 | 13.125 6.92 13.123 6.99 13.121 6.86 13.115 6.98 13.115 7.05 | 3.75 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.67 | 4.06 | 3.90 | 5.3 | 5 7.4 | 18 – | _ | - | _ | _ | _ | _ | _ |
| 3483 Fe XX | N09187 | 944.790 | 13.123 6.99 | 4.92 | | - | - | - | - | - | - | - | - | - | - | - | 8.23 | 5.73 | 4.92 | 2 5.8 | 7 7.5 | 8 - | - | - | - | - | - | - | - |
| 2331 Fe XVIII | | 944.930 | 13.121 6.86 | 3.50 | | - | - | - | - | - | - | - | - | - | - | 6.34 | 4.49 | 3.56 | 3.93 | 3 5.83 | 2 – | - | - | - | - | - | - | - | - |
| 3482 Fe XX | N07143 | 945.360 | 13.115 6.98 | 4.35 | | - | - | - | - | - | - | - | - | - | - | - | 7.64 | 5.16 | 4.36 | 5.3 | 1 7.0 |)2 – | _ | - | - | - | - | - | - |
| 4154 Fe XXI | C12083 | 945.360 | 13.115 7.05 | 2.97 | | - | _ | _ | - | _ | - | - | - | - | _ | - | - | 4.47 | 3.02 | 3.4 | 5 4. | 4 6. |)5 – | _ | _ | _ | - | _ | - |
| 2780 Fe XIX | 001093 | 945.720 | 13.110 6.91 13.109 6.91 13.109 7.05 13.109 6.86 13.101 6.98 | 3.19 | | - | - | - | - | - | - | - | - | - | - | - | 4.92 | 3.45 | 3.36 | 4.8 | 5 7.0 | 1 - | - | - | - | - | - | - | - |
| 2779 Fe XIX | 001094 | 945.790 | 13.109 6.91 | 3.30 | | - | - | - | - | - | - | - | - | - | - | - | 5.03 | 3.56 | 3.4 | 4.9 | 5 7.1 | .2 - | - | - | - | - | - | - | - |
| 4153 Fe XXI 2328 Fe XVIII | C11082 | 945.790 945.790 | 13.109 7.05 | 3.79 | | _ | - | - | - | _ | - | - | - | - | _ | 7 42 | - - | 5.29 | 3.84 | 4.2 | / 5.5 | 6 6. | 37 – | _ | _ | _ | - | - | - |
| 3481 Fe XX | N01039 | 946.370 | 13.109 6.86 | 3 2.77 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 5.76 | 3.48 | 2.78 | 3 3.7 | 9 5.5 | i4 – | _ | _ | _ | _ | _ | _ | _ |
| 0770 - 777 | 002101 | 0.46 270 | 13.101 6.92 13.100 6.98 13.100 6.86 13.096 6.92 13.095 6.98 | 1 00 | | | | | | | | | | | | | <i>c</i> 00 | F 00 | F 1 | | | , 1 | | | | | | | |
| 2778 Fe XIX 3480 Fe XX | 003101 N03061 | 946.370 946.440 | 13.101 6.92 | 4.98 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.90 | 2 22 | 2.13 | 0.5 | 8 8 1 5 5 | 72 - | _ | _ | _ | _ | _ | _ | _ |
| 2327 Fe XVIII | | 946.440 | 13.100 0.90 | 4 13 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.98 | 5 12 | 4 19 | 4 56 | 5 6 4 | 5 - | _ | _ | _ | _ | _ | _ | _ | _ |
| 2776 Fe XIX | 003103 | 946.730 | 13.096 6.92 | 4.98 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6.90 | 5.29 | 5.13 | 6.5 | 8.7 | 1 - | _ | - | _ | _ | _ | _ | _ |
| 3479 Fe XX | N07147 | 946.810 | 13.095 6.98 | 3.42 | | - | - | - | - | - | - | - | - | - | - | - | 6.71 | 4.23 | 3.43 | 4.3 | 8 6.0 | 9 – | - | - | - | - | - | - | - |
| 3478 Fe XX | N05079 | 946.950 | 13 093 6 98 | 3 87 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 11 | 4 66 | 3 8" | 7 4 Q | 3 6 1 | · 6 – | _ | _ | _ | _ | _ | _ | _ |
| 3477 Fe XX | N02056 | 947.020 | 13.092 6.98 13.092 6.81 13.091 6.92 | 4.31 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.53 | 5.09 | 4.31 | 5.2 | 8 7.0 | 0 – | _ | - | _ | _ | _ | _ | _ |
| 5257 Ni XX | F3C | 947.020 | 13.092 6.81 | 2.86 | | - | - | - | - | - | - | - | - | - | - | 5.71 | 3.57 | 2.87 | 3.47 | 7 5.6 | 3 – | - | - | _ | - | - | - | - | - |
| 2775 Fe XIX | 003104 | 947.100 | 13.091 6.92 | 4.69 | | - | - | - | - | - | - | - | - | - | - | - | 6.61 | 5.00 | 4.84 | 6.2 | 9 8.4 | 12 - | - | - | - | - | - | - | - |
| 3476 Fe XX | N07148 | 947.100 | 13.091 6.98 | 4.63 | | | | | | | | | | | | | | | | | | | | - | | | | | - |
| 3475 Fe XX | N05080 | 947.310 | 13.088 6.98 | 3.61 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6.85 | 4.40 | 3.62 | 2 4.5 | 7 6.3 | 30 – | _ | _ | _ | _ | - | _ | _ |
| 3474 Fe XX | N05081 | 947.460 | 13.086 6.98 | | | - | - | - | - | - | - | - | - | - | - | - | 6.76 | 4.31 | 3.53 | 3 4.4 | 8 6.2 | 21 - | - | - - - - | _ | - | - | - | - |
| 4152 Fe XXI | C11083 | 947.670 | 13.083 7.05 | | | - | - | - | - | - | - | - | - | - | - | - | | 4.37 | 2.92 | 3.3 | 5 4.6 | 4 5. | 95 - | - | _ | - | - | - | - |
| 3473 Fe XX | N13219 | 947.750 | 13.082 6.99 | | | - | - | - | - | - | - | - | - | - | - | - | 7.70 | 5.19 | 4.3 | 5.30 | 7.0 |)1 _ | - | _ | - | - | - | - | - |
| 4151 Fe XXI | C06038 | 947.750 | 13.082 7.04 | | | | | | | | | | | | | | | | | | | | ۷9 – | _ | _ | _ | - | _ | - |
| 3472 Fe XX | N06135 | 947.820 | 13.081 6.98 | 4.31 | | - | - | - | - | - | - | - | - | - | - | - | 7.59 | 5.11 | 4.31 | 5.2 | 6.9 | 8 – | - | - | - | - | - | - | - |
| 2774 Fe XIX | 002101 | 948.040 | 13.078 6.92 | 4.60 | | - | - | - | - | - | - | - | - | - | - | - | 6.51 | 4.90 | 4.74 | 6.1 | 9 8.3 | 3 - | - | - | - | - | - | - | - |
| 4149 Fe XXI 4150 Fe XXI | C07065 C08065 | 948.110 948.110 | 13.077 7.05 | 4.52 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.UI | 4.5 | 2 1 0 | 7 6 2 | 19 7. | 20 2T – | _ | _ | _ | _ | _ | _ |
| 3471 Fe XXI | N04069 | 948.110 | 13.081 6.98 13.078 6.92 13.077 7.05 13.077 7.05 13.077 6.98 | 4.49 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.47 | 5.02 | 4.24 | , 4.9 15.20 | 0.2 | 2 - | - 00 | | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3470 Fe XX | N08155 | 948.180 | 13.076 6.99 | | | - | _ | - | - | - | - | - | - | - | - | - | 7.60 | 5.12 | 4.31 | 5.20 | 5 6.9 | 8 – | - | - | _ | - | - | - | - |
| 2773 Fe XIX 2772 Fe XIX | 003106 002104 | 948.180 948.760 | 13.076 6.92 13.068 6.92 | | | - | - | _ | _ | _ | _ | _ | | _ | _ | _ | ~ == | 1 02 | 1 7 | 7 6 7 | າ ດ : |) C | | - - | - | - | _ | _ | _ |
| 4148 Fe XXI | C12086 | 949.130 | 13.063 7.05 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 75 | 4 20 | 1 4 7 | 361 | 11 7 | 33 – | _ | _ | _ | _ | _ | _ |
| 3469 Fe XX | N06136 | 949.130 | 13.063 6.98 | | | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | 7.21 | 4.74 | 3.94 | 4.8 | 8 6.6 | 0 - | - | _ | _ | _ | _ | _ | _ |
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|---|--|---|---|--------------------------------------|---|----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| 3466 Fe XX | N03063 | 949.560 | 13.057 6.98 13.056 6.98 13.053 6.98 | 3.13 | | | _ | _ | _ | - | _ | - | _ | - | - | - | 6.36 | 3.92 | 3.13 | 4.1 | 0 5. | 82 | - | - | - | - | _ | _ | _ | - |
| 3465 Fe XX | N02060 | 949.630 | 13.056 6.98 | 4.74 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 7.97 | 5.52 | 4.74 | 5.7 | 17. | 43 | _ | _ | _ | _ | _ | - | _ | _ |
| 3468 Fe XX | N01042 | 949.850 | 12 052 6 00 | 2 07 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 06 | 2 79 | 2 06 | 3 0 | ο 1 | ΩΛ | _ | _ | _ | _ | _ | _ | _ | _ |
| 3400 FE AA | NOTOTZ | 949.030 | 13.033 0.96 | 2.07 | | | | | | | | | | | | | 5.00 | 2.70 | 2.00 | , ,,,, | <i>y</i> 4. | 01 | | | | | | | | _ |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3464 Fe XX | N09193 | 950.140 | 13.049 6.99 | 4.57 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.88 | 5.39 | 4.58 | 5.5 | 2 7. | 23 | _ | _ | - | _ | _ | _ | - | _ |
| 4551 Fe XXII | B12057 | 950.290 | 12 047 7 10 | 4 40 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 90 | 1 66 | 1 5 | 7 5 | 12 6 | 27 | 7 20 | _ | _ | _ | _ | _ | _ |
| | | | 13.04/ /.10 | 1.10 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.00 | 1.00 | , 1.5 | , ,, | - | . 3 / | 7.30 | | _ | _ | _ | | _ |
| 4146 Fe XXI | C01022 | 950.510 | 13.044 7.04 | 2.85 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | - | 4.20 | 2.88 | 3.3 | 8 4. | /T 6 | .05 | - | - | _ | _ | _ | - | - |
| 3462 Fe XX | N06137 | 950.580 | 13.043 6.98 | 4.75 | | | _ | _ | _ | - | _ | - | _ | - | - | - | 8.04 | 5.56 | 4.75 | 5.7 | 0 7. | 42 | _ | - | _ | - | _ | _ | - | - |
| 4550 Fe XXII | B13061 | 950.650 | 13.049 6.99 13.047 7.10 13.044 7.04 13.043 6.98 13.042 7.10 | 4 36 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 76 | 4 63 | 4 5 | 3 5 | 39 6 | 33 | 7 34 | _ | _ | _ | _ | _ | _ |
| 1330 16 11111 | DISCOI | 250.050 | 15.012 7.10 | 1.50 | | | | | | | | | | | | | | 0.70 | 1.00 | , 1.5 | J J. | J) 0 | . 55 | , | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3461 Fe XX | N03065 | 950.730 | 13.041 6.98 | 4.41 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 7.64 | 5.20 | 4.42 | 5.3 | 8 7. | Τ0 | - | _ | - | _ | _ | _ | - | _ |
| 2770 Fe XIX | 003107 | 950.800 | 13.040 6.92 | 4.00 | | | _ | _ | _ | - | _ | _ | _ | - | _ | _ | 5.92 | 4.31 | 4.14 | 5.5 | 97. | 73 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3460 Fe XX | N04071 | 950.870 | 13 039 6 98 | 4 27 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 51 | 5 06 | 4 28 | 5 2 | 4 6 | 96 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | 950.870 | 13.035 0.50 | 2.27 | | | | | | | | | | | | | 7.31 | 2.00 | 2.20 | | | 24 | | | | | | | | |
| 2769 Fe XIX | 001096 | 950.870 | 13.039 6.91 | 3.53 | | | _ | _ | - | - | - | - | - | - | - | _ | 5.26 | 3.79 | 3./(|) 5.I | 9 /. | 34 | _ | - | - | - | - | - | _ | _ |
| 3459 Fe XX | N07155 | 951.020 | 13.041 6.98 13.040 6.92 13.039 6.98 13.039 6.91 13.037 6.99 | 4.33 | | | _ | _ | _ | - | _ | - | _ | - | - | - | 7.62 | 5.14 | 4.33 | 5.2 | 87. | 00 | - | - | - | - | _ | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3458 Fe XX | N06139 | 951.020 | 12 027 6 00 | 1 22 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 62 | E 1/ | 1 2/ | 5 2 | Ω 7 | 0.0 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | 951.020 | 13.037 0.96 | 4.33 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.02 | J.17 | 7.37 | | 0 /. | 00 | | _ | | _ | _ | _ | | _ |
| 4145 Fe XXI | C11086 | 951.460 | 13.031 7.05 | 3.44 | | | _ | _ | _ | - | _ | - | _ | - | - | - | - | 4.94 | 3.49 | 3.9 | 25. | 21 6 | .52 | - | - | - | _ | _ | _ | - |
| 5256 Ni XX | F3B | 951.530 | 13.030 6.81 | 3.68 | | | _ | _ | - | _ | _ | - | _ | _ | - | 6.53 | 4.39 | 3.68 | 4.29 | 6.4 | 4 – | | _ | - | - | - | _ | - | - | - |
| 4549 Fe XXII | B14068 | 951.680 | 13 028 7 11 | 4 48 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 89 | 4 75 | 4 6 | 5 5 | 50 6 | 45 | 7.46 | _ | _ | _ | _ | _ | _ |
| 2324 Fe XVIII | | 951.750 | 13.037 6.98 13.031 7.05 13.030 6.81 13.028 7.11 13.027 6.85 | 2.40 | | _ | _ | | | | | | | | | 6 20 | 1 61 | 2 74 | 1 1 1 | | J J. | 50 0 | . 43 | , . 10 | | | | | | |
| 2324 Fe XVIII | F02087 | 951.750 | 13.02/ 6.85 | 3.69 | | | _ | _ | - | _ | - | - | - | - | - | 6.39 | 4.61 | 3./4 | 4.14 | 6.0 | 5 - | | _ | - | - | - | - | - | _ | _ |
| 1 | | | 13.020 6.91 13.017 6.98 13.014 7.05 13.013 7.05 13.011 6.98 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2768 Fe XIX | 001097 | 952.260 | 13.020 6.91 | 2.47 | | | _ | _ | - | _ | _ | - | _ | _ | - | - | 4.20 | 2.73 | 2.64 | 4.1 | 3 6. | 28 | _ | - | - | - | _ | - | - | - |
| 3457 Fe XX | N04075 | 952.480 | 13 017 6 98 | 4 84 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8 08 | 5 63 | 4 84 | . 5 A | 0 7 | 52 | _ | _ | _ | _ | _ | _ | _ | _ |
| 4144 Fe XXI | C18195 | 952.700 | 12 014 7 05 | 4 11 | | _ | _ | | | | | | | | | | 5.00 | 5.03 | 4 15 | | 0 . | 06 7 | 17 | | | | | | | |
| | | 952.700 | 13.014 /.05 | 4.11 | | | _ | _ | _ | _ | _ | - | _ | _ | - | - | - | 5.65 | 4.1/ | 4.5 | 8 5. | 86 / | . 1 / | - | _ | - | _ | _ | _ | _ |
| 4143 Fe XXI | C09074 | 952.770 | 13.013 7.05 | 4.63 | | | _ | _ | _ | - | _ | - | _ | - | - | - | - | 6.13 | 4.68 | 3 5.1 | 26. | 40 7 | .72 | - | - | - | _ | - | - | - |
| 3455 Fe XX | N03066 | 952.920 | 13 011 6 98 | 2.72 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 95 | 3.51 | 2.72 | 3 6 | 8 5 | 41 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | 13.011 6.92 13.011 7.05 13.008 7.05 13.008 7.05 13.006 6.92 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2767 Fe XIX | 003108 | 952.920 | 12 011 6 02 | 4 00 | | | | | | | | | | | | | 6 72 | E 11 | 4 05 | | 0 | E 2 | | | | | | | | |
| | | 952.920 | 13.011 6.92 | 4.80 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0./2 | 2.11 | 4.95 | 0.4 | 0 8. | 53 | | _ | _ | _ | _ | _ | _ | _ |
| 4142 Fe XXI | C17195 | 952.920 | 13.011 7.05 | 3.86 | | | _ | _ | - | - | _ | - | _ | - | - | - | - | 5.40 | 3.92 | 4.3 | 3 5. | 61 6 | .92 | - | - | - | _ | - | - | - |
| 4141 Fe XXI | C08072 | 953.140 | 13.008 7.05 | 4.29 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 5.79 | 4.34 | 4.7 | 86. | 07 7 | .38 | _ | _ | _ | _ | _ | _ | _ |
| 4140 Fe XXI | C07072 | 953.140 | 13 000 7 05 | 3 33 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 1 02 | 2 20 | 2 0 | 2 5 | 11 6 | 12 | _ | _ | _ | _ | _ | _ | _ |
| | | 953.140 | 13.006 7.03 | 3.33 | | | | | | | | | | | | | | 4.03 | 3.30 | 5.0 | 2 3. | TT 0 | . 72 | | | | | | | _ |
| 2766 Fe XIX | 003109 | 953.280 | 13.006 6.92 | 4.10 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.02 | 4.41 | 4.24 | 5.6 | 9 7. | 82 | _ | _ | - | - | _ | _ | _ | - |
| | | | 13.004 6.98 13.001 6.92 12.998 6.99 12.995 6.99 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3454 Fe XX | N06143 | 953.430 | 13.004 6.98 | 4.72 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 8.00 | 5.52 | 4.72 | 5.6 | 77. | 39 | _ | _ | _ | _ | _ | _ | _ | _ |
| 2765 Fe XIX | 003111 | 953.650 | 13 001 6 92 | 3 60 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 52 | 2 01 | 2 7/ | 5 1 | 0 7 | 3.2 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | 13.001 0.92 | 3.00 | | | | | | | | | | | | | 5.52 | 3.91 | 3.75 | | <i>)</i> /. | 22 | | | | | | | | _ |
| 3453 Fe XX | N09194 | 953.870 | 12.998 6.99 | 3.27 | | | _ | _ | _ | _ | _ | - | - | - | - | - | 6.58 | 4.09 | 3.27 | 4.2 | 2 5. | 93 | _ | - | - | - | _ | - | - | - |
| 3449 Fe XX | N12217 | 954.090 | 12.995 6.99 | 4.23 | | | _ | _ | _ | - | _ | - | _ | - | - | - | 7.56 | 5.05 | 4.23 | 5.1 | 76. | 88 | _ | - | _ | - | _ | _ | - | - |
| 3448 Fe XX | N02063 | 954.090 | 12.995 6.99 12.995 6.98 | 2 62 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 85 | 3 40 | 2 62 | 3 5 | 8 5 | 31 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3440 FC XX | 1402003 | 224.020 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3452 Fe XX | N09195 | 954.090 | 12.995 6.99 12.995 6.99 12.994 7.05 | 3.86 | | | _ | - | - | - | - | - | - | - | - | - | 7.17 | 4.68 | 3.86 | 4.8 | ⊥ 6. | 52 | - | - | - | - | - | - | - | - |
| 3456 Fe XX | N10196 | 954.090 | 12.995 6.99 | 2.70 | | | _ | - | - | - | _ | - | - | - | - | - | 6.01 | 3.52 | 2.70 | 3.6 | 5 5. | 36 | _ | - | - | - | - | - | - | - |
| 4138 Fe XXI | C07073 | 954.170 | 12 994 7 05 | 4 35 | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | 5 8/ | 4 20 | 4 Ω | 3 6 | 12 7 | 43 | _ | _ | _ | _ | _ | _ | _ |
| | | | 10 004 7 05 | 2.33 | - | _ | | _ | _ | _ | _ | - | _ | - | - | | | 4 07 | 2.00 | 1 2 0 | <i>-</i> - | 1 / | . 43 | | | | _ | - | | |
| 4139 Fe XXI | C08073 | 954.170 | 12.994 7.05 12.994 7.05 12.993 7.04 | 3.4/ | | | _ | - | _ | _ | _ | - | _ | _ | _ | - | - | 4.97 | 3.52 | 3.9 | 0 5. | ∠5 b | .50 | - | - | _ | _ | _ | - | _ |
| 4137 Fe XXI | C06041 | 954.240 | 12.993 7.04 | 4.37 | | | - | - | - | - | - | - | - | - | - | - | - | 5.85 | 4.42 | 4.8 | 66. | 15 7 | .47 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3450 Fe XX | N03067 | 954.310 | 12.992 6.98 12.992 6.99 | 3 94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 17 | 4 72 | 3 94 | 1 4 9 | 0 6 | 63 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3450 Fe XX | | | 10 000 6 00 | J. J. | - | _ | | _ | _ | _ | _ | - | _ | - | - | | 0 00 | I. / Z | 4 77 | | 0 7 | 41 | | | | | _ | - | | |
| | N07161 | 954.310 | 12.992 6.99 | 4.74 | | | - | - | - | - | - | - | - | - | - | - | 8.03 | 5.55 | 4.75 | 5.6 | 9 7. | 41 | _ | - | - | - | - | - | - | - |
| | | | | | | | _ | _ | _ | - | _ | _ | _ | - | - | - | - | 6.03 | 4.55 | 4.9 | 66. | 24 7 | .55 | - | - | - | _ | _ | _ | - |
| 4136 Fe XXI | C19205 | 954.530 | 12.989 7.05 | 4.50 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4136 Fe XXI | C19205 | | 12.989 7.05 | 4.50 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.98 | 4.52 | 4.9 | 56 | 23 7 | .54 | _ | _ | _ | _ | _ | _ | _ |
| 4136 Fe XXI 4135 Fe XXI | C19205 C15144 | 954.610 | 12.989 7.05 12.988 7.05 | 4.50 | | | - | - | - | - | - | - | _ | _ | _ | - | _ | 5.98 | 4.52 | 4.9 | 5 6. 1 3 | 23 7 | .54 | - 5 44 | _ | - | - | - | _ | - |
| 4136 Fe XXI | C19205 | | 12.992 6.99 12.989 7.05 12.988 7.05 12.986 7.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII | C19205 C15144 B08023 | 954.610 954.750 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX | C19205 C15144 B08023 N02064 | 954.610 954.750 954.830 | 10 005 6 00 | 4 00 | | | | | | | | | | | | | 0 04 | F F0 | 4 01 | | | F 0 | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII | C19205 C15144 B08023 | 954.610 954.750 | 10 005 6 00 | 4 00 | | | | | | | | | | | | | 0 04 | F F0 | 4 01 | | | F 0 | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX | C19205 C15144 B08023 N02064 N06147 | 954.610 954.750 954.830 954.900 | 10 005 6 00 | 4 00 | | | | | | | | | | | | | 0 04 | F F0 | 4 01 | | | F 0 | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX | C19205 C15144 B08023 N02064 N06147 O02109 | 954.610 954.750 954.830 954.900 954.970 | 10 005 6 00 | 4 00 | | | | | | | | | | | | | 0 04 | F F0 | 4 01 | | | F 0 | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX | C19205 C15144 B08023 N02064 N06147 O02109 N01045 | 954.610 954.750 954.830 954.900 954.970 954.970 | 10 005 6 00 | 4 00 | | | | | | | | | | | | | 0 04 | F F0 | 4 01 | | | F 0 | | | | | | | | |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX | C19205 C15144 B08023 N02064 N06147 O02109 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX | C19205 C15144 B08023 N02064 N06147 O02109 N01045 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX 3445 Fe XX | C19205 C15144 B08023 N02064 N06147 O02109 N01045 N04079 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX 3445 Fe XX | C19205 C15144 B08023 N02064 N06147 O02109 N01045 N04079 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX 3445 Fe XX 4134 Fe XXI 4133 Fe XXI | C19205 C15144 B08023 N02064 N06147 O02109 N01045 N04079 C02023 C10089 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX 3445 Fe XX | C19205 C15144 B08023 N02064 N06147 O02109 N01045 N04079 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 12.985 6.98 12.984 6.98 12.983 6.92 12.983 6.98 12.983 6.98 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4136 Fe XXI 4135 Fe XXI 4548 Fe XXII 3447 Fe XX 3446 Fe XX 2764 Fe XIX 3442 Fe XX 3445 Fe XX 4134 Fe XXI 4133 Fe XXI | C19205 C15144 B08023 N02064 N06147 O02109 N01045 N04079 C02023 C10089 | 954.610 954.750 954.830 954.900 954.970 954.970 954.970 | 10 005 6 00 | 4.80 4.39 4.94 2.56 4.79 | | | - - - - | 8.04 7.67 6.87 5.55 8.04 | 5.59 5.19 5.25 3.26 5.58 | 4.81 4.39 5.09 2.57 4.80 | 5.7° 5.3° 6.5° 3.5° 5.7° | 7 7. 4 7. 4 8. 7 5. 6 7. | 50 05 67 32 48 | - - - - | - - - - | _ _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - |

line list SPEX version 2.0

E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

- - 5.48 4.05 4.50 5.80 7.12 -- 7.42 4.98 4.20 5.16 6.88 - -

- - - 7.82 5.37 4.58 5.54 7.26 -

Tuesday April 13, 2010

N04080

3443 Fe XX

Apr 13, 10 14:27

Transit.

C03023

N03062

949.200 13.062 7.04 4.01 -

949.270 13.061 6.98 4.19 -

955.340 12.978 6.98 4.57 -

Nr ion

4147 Fe XXI

3467 Fe XX

lin.dat

Printed by Jelle de Plaa

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| Nr ion | Transit. | E(eV) Lat | mbda(A) Tmax | ĸ −Qmax | 4.0 4 | 1.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 2 7. | 4 7 | .6 | 7.8 | 3.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9. |
|---------------------------|------------------|--------------------|--|--------------------|-------|-----|-----|------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|--------|----------------|---------------------------|----------------|--------------|-----------|------|-----|-----|-----|-----|-----|----|
| 2761 Fe XIX | 003112 | 955.640 | 12.974 6.9 | 92 4.11 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.03 | 4.4 | 2 4.2 | 25 5. | 70 7. | 83 - | _ | _ | _ | _ | _ | _ | _ | _ |
| 2322 Fe XVIII | | 955.640 | 12.974 6.8 | | - | - | - | - | _ | _ | _ | _ | _ | _ | _ | _ | 6 81 | 5 03 | 4 1 | 5 4 5 | 55 6 4 | 46 – | | _ | _ | - | - | - | - | - | - |
| 132 Fe XXI | C15147 | 955.860 | 12.971 7.0 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6.0 | 7 4.6 | 50 5.0 | 03 6. | 31 7 | .62 | - | - | - | - | - | - | - |
| 441 Fe XX | N02065 | 956.080 | 12.968 6.9 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.42 | 3.9 | 7 3.1 | L9 4. | 15 5. | 88 - | - | - | - | - | - | - | - | - |
| 131 Fe XXI | C08074 | 956.300 | 12.965 7.0 | 05 3.95 | | | | | | | | | | | | | | | | | | | | | | - | - | - | - | - | - |
| 440 Fe XX | N06149 | 956.300 | 12.965 6.9 | 98 3.16 | - | _ | - | - | - | - | - | - | - | - | - | - | - | 6.45 | 3.9 | 7 3.1 | L6 4. | 11 5. | 83 - | - | - | - | - | - | - | - | - |
| 439 Fe XX | N01047 | 956.300 | 12.965 6.9 | 98 3.32 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.32 | 4.0 | 3 3.3 | 34 4.3 | 34 6. | 09 - | - | - | - | - | - | - | - | - |
| 438 Fe XX | N01048 | 956.300 | 12.965 6.9 | 98 1.95 | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.95 | 2.6 | 6 1.9 | 97 2.9 | 97 4. | 72 . | - | | - | - | - | - | - | - |
| 547 Fe XXII 437 Fe XX | B14072 N10200 | 956.670 956.820 | 12.965 6.9 12.965 6.9 12.965 6.9 12.960 7.1 12.958 6.9 | 11 4.38 99 3.65 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.97 | 6.7 | 9 4.6 7 3.6 | 55 4.! 55 4.! | 55 5. 59 6. | 406 31 . | .35 | 7.35 | _ | _ | _ | _ | _ | _ |
| | | | | | | | | _ | | | | | | | | | | | | | | | | | | | | | | | |
| 436 Fe XX 321 Fe XVIII | N05085 | 956.890 956.960 | 12.957 6.9 | 98 4.33 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 45 | 7.58 | 5.1 | 2 4.3 | 3 5 | ∠9 7. 10 | OT . | | _ | _ | _ | _ | _ | _ | - |
| 758 Fe XVIII | 001101 | 956.960 | 12 954 6 0 | 3./5 31 3 43 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.45 | 5 16 | 3./ | 9 4.J | 19 0 50 5 1 | 10 - 18 7 | 24 | _ | _ | _ | _ | _ | _ | _ | |
| 757 Fe XIX | 002112 | 957.260 | 12 952 6 | 92 3 46 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 38 | 3.7 | 73.6 | 50 5.0 | 05 7. | 18 · | _ | _ | _ | _ | _ | _ | _ | |
| 756 Fe XIX | 001104 | 957.330 | 12.957 6.8 12.956 6.8 12.954 6.9 12.952 6.9 | 2.88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.61 | 3.1 | 4 3.0 | 4 4. | 53 6. | 69 - | _ | - | - | - | - | - | - | - |
| 435 Fe XX | N09199 | 957.330 | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | - |
| l30 Fe XXI | C09076 | 957.410 | 12.951 6.9 12.950 7.0 12.949 6.9 12.947 6.9 12.947 7.0 | 05 4.90 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.3 | 9 4.9 | 94 5. | 38 6. | 67 7 | .98 | - | - | _ | - | - | - | |
| 434 Fe XX | N06150 | 957.480 | 12.949 6.9 | 98 4.30 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.59 | 5.1 | 0 4.3 | 30 5.2 | 25 6. | 96 - | - | - | - | - | - | - | - | |
| 433 Fe XX | N08169 | 957.630 | 12.947 6.9 | 99 4.91 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.21 | 5.7 | 2 4.9 | 92 5.8 | 86 7. | 58 - | - | - | - | - | - | - | - | |
| 129 Fe XXI | C15149 | 957.630 | 12.947 7.0 | 05 3.92 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.4 | 3 3.9 | 97 4.3 | 39 5. | 68 6 | .99 | - | - | - | - | - | - | |
| 128 Fe XXI | C11096 | 957.780 | 12.945 7.0 | 05 4.42 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.9 | 2 4.4 | 17 4.9 | 90 6. | 19 7 | .50 | _ | _ | _ | _ | _ | _ | |
| 132 Fe XX | N03069 | 957.780 | 12.945 6.9 | | - | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | - | _ | 7.51 | 5.0 | 6 4.2 | 27 5.2 | 23 6. | 96 . | - | - | - | _ | _ | _ | _ | |
| 431 Fe XX | N07165 | 958.000 | 12.942 6.9 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.87 | 5.3 | 8 4.5 | 58 5. | 52 7. | 24 - | - | - | - | - | - | - | - | |
| 130 Fe XX | N03070 | 958.520 | 12.935 6.9 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.91 | 4.4 | 6 3.6 | 58 4.6 | 64 6. | 36 - | - | - | - | - | - | - | - | |
| 317 Fe XVIII | F02094 | 958.670 | 12.933 6.8 | 35 4.51 | | | | - - - - | | | | | | | | | | | | | | | | | | | | | | | |
| 429 Fe XX | N06153 | 958.670 | 12.933 6.9 | 99 4.13 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.42 | 4.9 | 4 4.1 | L3 5.0 | 08 6. | 79 - | | - | - | - | - | - | - | |
| 127 Fe XXI | C09079 | 958.740 | 12.932 7.0 12.931 6.9 | 05 4.65 | - | - | - | - | - | - | - | _ | - | - | - | - | - | - | 6.1 | 4 4.6 | 59 5. | 13 6. | 42 7 | .73 | - | - | - | - | - | - | |
| 428 Fe XX 755 Fe XIX | N09200 001105 | 958.810 958.810 | 12.931 6.9 | 3.69 | - | - | - | - | - | - | - | _ | - | - | _ | - | - | 7.01 | 4.5 | 1 3.6 | 9 4.6 | 03 6. | 34 · | _ | - | - | - | - | - | - | |
| 315 Fe XVIII | | 958.810 | 12.931 6.9 12.931 6.9 12.930 6.8 | 91 2.02 85 4 87 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 58 | 4.34 | 1 4 9 | 2 5 3 | 70 4 | 27 b. 23 - | 42 . | | _ | _ | _ | _ | _ | _ | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 Fe XXI | C11097 | 958.890 | 12.930 7.0 | 05 4.76 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.2 | 7 4.8 | 31 5.2 | 24 6. | 53 7 | .84 | - | - | - | - | - | - | |
| 125 Fe XXI | C12101 | 959.180 | 12.926 7.0 | 05 4.76 | - | - | - | - | - | - | - | _ | - | - | - | - | - | - | 6.2 | 7 4.8 | 31 5.2 | 24 6. | 53 7 | .84 | - | - | - | - | - | - | |
| 255 Ni XX 754 Fe XIX | F3A | 959.330 959.330 | 12.924 6.8 | 31 2.67 | - | - | - | - | - | - | - | _ | - | - | _ | - | 5.53 | 3.38 | 2.6 | 8 3.2 | 28 5.4 | 44 - | 47 | _ | - | - | - | - | - | - | |
| 427 Fe XX | 001106 N01050 | 959.560 | 12.930 7.0 12.926 7.0 12.924 6.8 12.924 6.9 | 91 2.07 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 42 |) 4.9. | 2 2 . 0 | 11 1 1 | 3∠ 0. 11 6 | 41 · | | _ | _ | _ | _ | _ | _ | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 424 Fe XX | N10203 | 960.300 | 12.911 6.9 | 99 4.37 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.69 | 5.1 | 9 4.3 | 37 5. | 31 7. | 02 - | - | - | - | - | - | - | - | |
| 425 Fe XX | N11215 | 960.300 | 12.911 6.9 12.907 6.9 | 99 4.97 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.30 | 5.7 | 9 4.9 | 97 5.9 | 91 7. | 62 . | - | - | - | - | - | - | - | |
| 423 Fe XX | N07170 | 960.600 | 12.907 6.9 | 99 4.55 | - | - | - | - | - | - | - | _ | - | - | - | - | - | 7.85 | 5.3 | 6 4.5 | 06 5. | 50 7. | 22 - | - 21 | - | - | - | - | - | - | |
| 124 Fe XXI 126 Fe XX | C19214 N01052 | 960.750 960.820 | 12.907 6.9 12.905 7.0 12.904 6.9 | 98 2.03 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.03 | 2.7 | 0 4.2 4 2.0 | 22 4.0 04 3.0 | 03 5. 05 4. | 90 / 80 · | . ZI - | _ | _ | _ | _ | _ | _ | |
| 400 Es VV | NTO 0 1 7 6 | 060 000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 422 Fe XX 421 Fe XX | N08176 N08177 | 960.890 961.040 | 12.903 6.9 12.901 6.9 | 99 4.37 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.67 | 2.1 | o 4.3 |) | o⊿ /. 72 6 | ∪3 · 43 · | _ | _ | _ | _ | _ | _ | _ | |
| 421 FE XX 420 FE XX | N03073 | 961.040 | 12.898 6.9 | 98 4 94 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8 19 | 5.7 | 3 4 9 | , , 95 5 9 | , 2 0. 91 7 | 42 . | _ | _ | _ | _ | _ | _ | _ | |
| 751 Fe XIX | 001107 | 961.490 | 12.895 6.9 | | | | | | | | | | | | | | | 6 10 | 1 0 | 2 / (| 016 | 22 0 | 10 | | _ | _ | _ | _ | _ | _ | |
| 418 Fe XX | N06160 | 961.860 | 12.890 6.9 | 99 4.37 | _ | - | - | _ | - | - | - | - | - | - | - | - | - | 7.67 | 5.1 | 8 4.3 | 38 5.3 | 33 7. | 04 - | _ | - | - | - | - | - | - | |
| 19 Fe XX | N03074 | 962.010 | 12.888 6.9 12.884 7.0 | 98 3.29 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.54 | 4.0 | 8 3.3 | 30 4.3 | 26 5. | 98 - | _ | _ | _ | _ | _ | _ | _ | |
| L23 Fe XXI | C07079 | 962.310 | 12.884 7.0 | 05 4.83 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.3 | 3 4.8 | 38 5.3 | 31 6. | 60 7 | .91 | - | - | - | - | - | - | |
| 122 Fe XXI | C09083 | 962.460 | 12.882 7.0 | 05 3.50 | | | | | | | | | | | | | | | E 0 | 0 3.5 | 55 3.9 | 98 5. | 27 6 | .59 | - | - | - | - | - | _ | |
| 121 Fe XXI | C08080 | 962.760 | 12.878 7.0 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.9 | 3 4.4 | 18 4.9 | 92 6. | 20 7 | .52 | - | - | - | - | - | - | |
| 120 Fe XXI | C07080 | 962.760 | 12.878 7.0 | 05 4.92 | | | | | | | | | | | | | | | 6.4 | 1 4.9 | 96 5.4 | 40 6. | 69 8 | .00 | - | - | - | - | - | - | |
| 750 Fe XIX | 004121 | 962.760 | 12.878 6.9 | 92 4.75 | - | - | - | - | - | - | _ | - | - | _ | - | - | - | 6.70 | 5.0 | 7 4.8 | 39 6.3 | 33 8. | 46 | _ | - | - | - | - | - | _ | |
| 117 Fe XX | N08178 | 962.760 | 12.878 6.9 12.877 6.9 | 99 3.96 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.26 | 4.7 | 7 3.9 | 96 4.9 | 90 6. | 62 - | - | - | - | - | - | - | - | |
| 116 Fe XX | N02069 | 962.830 | 12.877 6.9 | 98 3.63 | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | - | - | - | - | - | |
| 119 Fe XXI | C12110 | 962.980 | 12.875 7.0 | | | | | - | | | | | | | | - | - | | | | 9 3. | | | | | | - | | | _ | |
| 118 Fe XXI | C05040 | 963.060 | 12.874 7.0 | J4 3.44 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.9 | 43.4 | ±8 3-9 | 935. | 12 6 | . 54 | _ | _ | _ | _ | _ | _ | - |

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4.92 3.48 3.93 5.22 6.54

E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 3415 Fe XX N07175 963 360 12.870 6.99 4.26 7.56 5.07 4.26 5.21 6.92 -2749 Fe XTX 004123 12.869 6.92 3.92 5.87 4.24 4.06 5.50 7.63 -N02070 12.868 6.98 3.67 6.91 4.46 3.68 4.64 6.36 3414 Fe XX 963 510 3413 Fe XX N07176 963.730 12.865 6.99 4.40 -7.70 5.21 4.40 5.35 7.06 -4117 Fe XXI C16194 963.880 12.863 7.05 4.89 - 6.42 4.94 5.36 6.64 7.94 -4116 Fe XXI C12111 963.880 12.863 7.05 4.65 -- - 6.15 4.70 5.13 6.41 7.73 -2313 Fe XVIII F01086 963.960 12.862 6.84 4.35 -6.67 5.12 4.38 4.84 6.79 - - -12.860 7.05 3.05 - - 4.55 3.10 3.53 4.82 6.14 -4115 Fe XXI C07082 964.110 6.10 4.62 4.53 6.02 8.17 - -2748 Fe XIX 12.857 6.91 4.37 001111 964.330 12.857 6.84 4.11 -- 6.42 4.88 4.14 4.60 6.55 - -2311 Fe XVIII F01087 964.330 4114 Fe XXI 12.854 7.05 4.56 6.07 4.61 5.04 6.33 7.64 -2746 Fe XIX 964.630 12.853 6.92 4.88 6.87 5.20 5.01 6.44 8.55 - -005153 2745 Fe XIX 004125 964.630 12.853 6.92 3.99 5.94 4.31 4.13 5.57 7.70 7.79 5.34 4.55 5.51 7.24 -3411 Fe XX N03080 965.010 12.848 6.98 4.55 12.847 6.98 1.51 -- 4.51 2.22 1.52 2.53 4.27 -3412 Fe XX N01056 965.080 4113 Fe XXI C11110 965.310 12.844 7.05 3.19 -- 4.70 3.24 3.67 4.96 6.27 -3410 Fe XX N07178 965.530 12 841 6 99 4 09 7.39 4.91 4.10 5.04 6.76 -3409 Fe XX N02071 965.530 12.841 6.98 4.25 7.49 5.04 4.26 5.22 6.94 -- 5.58 4.09 4.51 5.78 7.09 -4112 Fe XXI C17205 965.610 12.840 7.05 4.04 3408 Fe XX 965.760 12.838 6.99 3.91 -7.21 4.72 3.91 4.85 6.57 - -N07179 2310 Fe XVIII F01088 - 5.77 4.22 3.48 3.94 5.89 - -965 760 12.838 6.84 3.45 -12 837 7 05 4 82 4111 Fe XXT C10109 965 840 - 6.33 4.87 5.30 6.59 7.90 3406 Fe XX N10208 966.140 12.833 6.99 4.50 7.83 5.32 4.51 5.45 7.16 - -12.832 7.05 4.80 4108 Fe XXI C09086 - 6.30 4.85 5.28 6.57 7.88 -966.210 3405 Fe XX N01059 966.210 12.832 6.98 2.62 -5.62 3.33 2.63 3.64 5.38 - -3403 Fe XX N02072 966.290 12.831 6.98 4.42 -7.66 5.21 4.42 5.38 7.11 -3404 Fe XX N04086 966.290 12.831 6.98 4.67 7.92 5.46 4.67 5.63 7.35 -3402 Fe XX N02073 966.360 12.830 6.98 3.18 6.42 3.97 3.19 4.15 5.87 3407 Fe XX N01058 966.590 12.827 6.98 1.44 -- 4.44 2.15 1.45 2.46 4.20 4107 Fe XXI - - - - - 5.88 4.41 4.84 6.12 7.43 - - - -C14140 966.890 12.823 7.05 4.36 -N07181 3401 Fe XX 966.890 12.823 6.99 4.45 7.75 5.26 4.45 5.40 7.11 2309 Fe XVIII F01090 967.190 12.819 6.84 3.03 5.35 3.80 3.05 3.52 5.46 - -12.817 7.05 2.16 4109 Fe XXT C07083 967 340 - - 3.66 2.21 2.64 3.93 5.24 12.817 6.99 4.59 7.89 5.40 4.59 5.54 7.25 - -3399 Fe XX N07183 967.340 4110 Fe XXI C08083 967.340 12.817 7.05 2.95 -- 4.45 3.00 3.43 4.72 6.03 -4106 Fe XXI C14141 967.340 12.817 7.05 4.52 -- 6.04 4.57 5.00 6.28 7.60 -967.640 12.813 6.92 3.59 5.54 3.91 3.73 5.17 7.30 - -2741 Fe XIX 004128 3400 Fe XX N01060 967.640 12.813 6.98 1.82 -- 4.82 2.53 1.83 2.84 4.58 - -3398 Fe XX N09207 967.640 12.813 6.99 4.52 -- 7.85 5.34 4.53 5.47 7.18 - -3397 Fe XX N09208 968 100 12.807 6.99 4.93 -- 8.26 5.76 4.94 5.88 7.59 - -5222 Ni XIX 968.250 12.805 6.67 2.93 3.84 2.97 3.12 4.36 -12.800 6.79 3.71 -1503 Ca XVIII LI1 968 630 - 4.67 3.72 3.86 4.08 4.40 4.96 5.74 6.56 7.33 6.89 5.25 5.08 6.52 8.65 - - - - - - - 8.19 5.73 4.94 5.89 7.61 - - - - -2740 Fe XIX 004130 968.850 12.797 6.92 4.94 12.795 6.98 4.93 -3396 Fe XX N05095 969.010

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- 5.98 3.87 3.79 4.65 5.61 6.62 -

7.41 4.96 4.17 5.13 6.86 - - -

6.43 4.97 5.40 6.69 8.01 -

4.71 3.28 3.72 5.02 6.34

6.04 4.38 4.18 5.61 7.72 -

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- 4.54 3.09 3.52 4.81 6.12 -

- 4.47 3.02 3.45 4.74 6.05 - 7.41 4.96 4.17 5.13 6.86 - -

6.23 4.60 4.42 5.86 7.99

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12.795 7.10 3.61 -

12.794 6.99 3.81 -

12.788 6.84 3.71 -

12.786 6.98 4.17 -

12.785 7.05 3.04 -

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| Nr ion | Transit. | E(eV) La | mbda(A) Tm | nax - | Omax | 4 0 | 4.2 | 4 4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 |) 7 | 2 ' | 7 4 | 7.6 | 7.8 | 8.0 | 8.2 | 8 4 | 8.6 | 8.8 | 9 0 |
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| 4101 Fe XXI 2307 Fe XVIII | C14144 | 971.050 971.210 | 12.768 7 12.766 6 | . 05 | 4.01 2.67 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | 5 00 | 4.45 | | | | | | | s – – | _ | _ | _ | _ | _ | _ |
| 2737 Fe XVIII | 004134 | 971.360 | 12.764 6 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | - | | | | | | | | _ | _ | _ | _ | _ | _ | _ |
| 2306 Fe XVIII | | 971.360 | 12.764 6 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.82 | 4.27 | | | | | | | _ | _ | _ | _ | _ | _ | _ |
| 2305 Fe XVIII | F01096 | 971.430 | 12.763 6 | .84 | 3.98 | - | - | - | - | - | - | - | - | - | - | - | - | 6.31 | 4.76 | 4.01 | 4.4 | 18 6. | 42 | - | - | - | - | - | - | - | - | - |
| 4545 Fe XXII | в06023 | 971.430 | 12.763 7 | 1 1 0 | 1 06 | _ | _ | _ | _ | _ | _ | _ | _ | _ | | _ | _ | _ | _ | 1 2/ | 2 2 | 22 2 | 14 | 3 00 | 2 0 5 | . 1 06 | : _ | _ | | _ | | _ |
| 4544 Fe XXII | B04017 | 971.430 | 12.763 7 12.757 7 12.757 7 12.757 7 12.757 6 | 1 10 | 3 91 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 28 | 4 1 | 6 4 | 09 | 4 95 | 5 91 | 6.92 | _ | _ | _ | _ | _ | _ |
| 4099 Fe XXI | C14145 | 971.890 | 12.757 7 | .05 | 4.13 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | 5.65 | 4.1 | 8 4. | 61 ! | 5.89 | 7.20 |) – | | _ | _ | _ | _ | _ |
| 4100 Fe XXI | C17214 | 971.890 | 12.757 7 | .05 | 4.29 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.83 | 4.3 | 35 4. | 76 | 6.04 | 7.34 | <u> </u> | - | - | - | - | - | - |
| 3392 Fe XX | N01062 | 971.890 | 12.757 6 | .98 | 4.67 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.67 | 5.38 | 4.6 | 58 5. | 68 ' | 7.43 | - | - | - | - | - | - | - | - |
| 2735 Fe XIX | 004135 | 971.970 | 12.756 6 | . 92 | 3.66 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.61 | 3.98 | 3.8 | 30 5. | 24 ' | 7.36 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3391 Fe XX | N01063 | | 12.753 6 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 6.54 | 4.25 | 3.5 | 55 4. | 55 | 6.30 | - | | | _ | | _ | _ | _ |
| 4098 Fe XXI | C14147 | | 12.751 7 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.23 | 4.7 | 76 5. | 19 | 6.47 | 7.78 | 3 – | - | - | - | - | - | - |
| 4097 Fe XXI | C15157 | | 12.749 7 | | | _ | - | - | - | - | - | - | _ | - | - | - | - | - | - | 5.90 | 4.4 | 13 4. | 86 (| 6.13 | 7.45 | 5 – | - | _ | _ | - | - | - |
| 2733 Fe XIX | 004138 | 972.650 | 12.747 6 | .92 | 4.90 | - | - | - | _ | _ | _ | _ | _ | _ | _ | - | _ | - | 6.86 | 5.22 | 5.0 | 14 6. | 48 | 8.61 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3390 Fe XX | N08189 | 972.810 | 12.745 6 | .99 | 4.70 | - | _ | - | _ | - | _ | _ | - | _ | - | _ | _ | _ | 8.01 | 5.52 | 4.7 | 71 5. | 65 ' | 7.36 | - | _ | _ | _ | - | _ | - | _ |
| 4826 Fe XXIII | | 973.040 | 12.742 7 | | | | | | | | | | - | | | | | | - | | | | | | | | | 7.99 | | - | - | - |
| 2732 Fe XIX | 003121 | 973.190 | 12.740 6 | .92 | 4.38 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.31 | 4.69 | 4.5 | 52 5. | 96 | 8.09 | - | | | _ | | - | - | - |
| 2731 Fe XIX 3389 Fe XX | 004140 N01065 | 973.340 973.340 | 12.738 6 12.738 6 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 46 | 5 17 | 4.0 |)/ 5. 17 5 | 52 48 ' | 7.64 7.22 | _ | _ | | | _ | _ | _ | _ |
| JJOJ PC AA | NOTOOS | 273.340 | 12.750 0 | | 1.10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4543 Fe XXII | B12068 | 973.570 | 12.735 7 | .11 | 3.86 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.27 | 4.1 | 3 4. | 03 4 | 4.88 | 5.83 | 6.84 | - | - | _ | - | - | - |
| 2729 Fe XIX | 004142 | 973.650 | 12.734 6 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.96 | 4.32 | 4.1 | 4 5. | 59 ' | 7.71 | - | | - | - - - | - | - | - | - |
| 4096 Fe XXI 4095 Fe XXI | C08092 C18220 | 973.880 974.180 | 12.731 7 12.727 7 | | 3.88 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.38 | 3.5 | 134. | 36 : | 5.64 6 20 | 7 69 |) –) – | _ | _ | _ | _ | _ | _ |
| 4542 Fe XXII | B10041 | 974.410 | 12.724 7 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.01 | 4.8 | 37 4. | 78 | 5.64 | 6.59 | 7.60 | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4541 Fe XXII | B13072 | 974.570 | 12.722 7 | .11 | 3.99 | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | 6.40 | 4.2 | 26 4. | 16 ! | 5.01 | 5.96 | 6.97 | _ | - | _ | - | - | - |
| 3388 Fe XX 3387 Fe XX | N06180 N10212 | 974.720 974.870 | 12.720 6 12.718 6 | .99 | 4.54 | - | _ | - | - | _ | - | _ | - | _ | _ | _ | - | - | 7.85 | 5.36 | 4.5 |) 5 5. | 27 | 7.21 | - | _ | - | - | _ | - | _ | _ |
| 4094 Fe XXI | C04036 | 975.260 | 12.713 7 | 1.04 | 3.87 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 5.35 | 3.9 | 92 4. | 36 | 5.65 | 6.97 | , – | _ | _ | _ | _ | _ | _ |
| 4540 Fe XXII | B11062 | | 12.710 7 | .11 | 4.57 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.98 | 4.8 | 34 4. | 74 | 5.60 | 6.54 | 7.55 | - | - | - | - | - | - |
| 4000 | G0.400F | 0.55 | 10 505 5 | | 2 56 | | | | | | | | _ | | | | | | | - 0 | | - 1 4 | 0.5 | 4 | | | | | | | | |
| 4093 Fe XXI 4092 Fe XXI | C04037 C16205 | 975.870 976.560 | 12.705 7 12.696 7 | .04 | 3.56 4.60 | | | | | | | | | | | | | | | 5.04 | 3.6 |)⊥ 4. 74 5 | 15 | 5.34 6 12 | 7 7/ |) – | _ | _ | _ | _ | _ | _ |
| 4090 Fe XXI | C09102 | 976.560 | 12.696 7 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.59 | 4.1 | 4 4. | 57 ! | 5.85 | 7.17 | 7 – | _ | _ | _ | - | _ | _ |
| 4091 Fe XXI | C13147 | 976.560 | 12.696 7 | .05 | 4.28 | - | - | _ | - | - | _ | - | - | - | - | - | - | - | - | 5.79 | 4.3 | 33 4. | 75 | 6.04 | 7.35 | · – | | - | | | | - |
| 4825 Fe XXIII | BE09015 | 976.950 | 12.691 7 | .18 | 3.63 | - | - | - | - | - | - | _ | - | - | - | - | - | - | - | 7.19 | 4.3 | 30 3. | 64 | 4.04 | 4.61 | 5.29 | 6.19 | 7.33 | - | - | - | - |
| 3386 Fe XX | N09213 | 977.180 | 12 688 6 | . aa | 4 92 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8 25 | 5 74 | 4 0 | 12 5 | 86 ' | 7 57 | _ | _ | _ | _ | _ | _ | _ | _ |
| 4824 Fe XXIII | | 977.410 | 12.685 7 | 1.18 | 3.97 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 7.53 | 4.6 | 54 3. | 98 4 | 4.38 | 4.95 | 5.63 | 6.53 | 7.67 | _ | _ | _ | _ |
| 4539 Fe XXII | B10045 | 977.560 | 12.683 7 | .10 | 3.43 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.82 | 3.6 | 59 3. | 60 4 | 4.46 | 5.41 | 6.42 | . – | - | - | - | - | - |
| 4538 Fe XXII | B10046 | 977.640 | 12.688 6 12.685 7 12.683 7 12.682 7 | .10 | 3.71 | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | 6.10 | 3.9 | 7 3. | 88 | 4.74 | 5.69 | 6.70 | _ | - | - | - | - | - |
| 2107 Fe XVII | NE01039 | 977.640 | 12.682 6 | .73 | 2.87 | - | - | - | - | - | - | _ | - | - | - | _ | 6.13 | 3.65 | 3.00 | 2.92 | 3.5 | 13 6. | 34 | - | - | - | - | _ | - | - | - | - |
| 4089 Fe XXI | C04040 | 978.180 | 12.675 7 | .04 | 4.18 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.66 | 4.2 | 23 4. | 67 ! | 5.96 | 7.28 | 3 – | _ | _ | _ | _ | _ | _ |
| 4088 Fe XXI | C13149 | 978.410 | 12.672 7 | .05 | 2.65 | - | _ | - | _ | - | - | - | - | - | - | _ | - | - | - | 4.16 | 2.7 | 70 3. | 12 4 | 4.41 | 5.72 | 2 – | - | - | - | - | - | - |
| 4537 Fe XXII | B12072 | 978.640 | 12.669 7 | .11 | 4.49 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.90 | | | | | | 7.47 | | - | - | - | - | - |
| 4536 Fe XXII 2728 Fe XIX | B07027 003130 | 978.720 | 12.675 7 12.672 7 12.669 7 12.668 7 12.660 6 | . 10 | 4.22 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6 22 | 6.60 | 4.4 | 18 4. | 39 ! | 5.25 Ω 11 | 6.20 | 7.22 | - | _ | _ | _ | _ | _ |
| Z/ZO PE ALA | 003130 | 2/2.34U | 12.000 6 | | 4.39 | | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ |
| 4535 Fe XXII | B11063 | 979.490 | 12.658 7 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.39 | 4.2 | 24 4. | 15 ! | 5.00 | 5.95 | 6.96 | - | - | - | - | - | - |
| 3385 Fe XX | N07193 | 979.490 | 12.658 6 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.26 | 5.77 | 4.9 | 96 5. | 90 ' | 7.61 | - | - | - | - | - | - | - | - |
| 2727 Fe XIX | 005162 | 979.880 | 12.653 6 | | | | | | | | | | _ | | | | | | | 5.07 | 4.8 | 376. | 30 | 8.41 | - | - | - | _ | - | - | - | - |
| 5221 Ni XIX 4534 Fe XXII | NE4 B09045 | 979.960 980.040 | 12.652 6 12.651 7 | 1 10 | ∠.3∠ 3 21 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 3.∠4 – | ∠.36 - | ∠.51 5 60 | . 3.7 | 14 - 17 3 | 38 4 | 4 24 | 5 19 | - 9 6 20 | _ | _ | _ | _ | _ | _ |
| 1001 IC AAII | 202043 | 200.040 | 12.001 / | 0 | J. ZI | | | | | | | | | | | | | | | 5.00 | | ., J. | 55 . | | J. ± 3 | . 0.20 | | | | | | |
| 4087 Fe XXI | C09110 | 980.040 | 12.651 7 | | | | - | - | - | - | - | - | - | - | - | - | | | - | 4.98 | 3.5 | 52 3. | 96 ! | 5.24 | 6.55 | 5 – | - | - | - | - | - | - |
| 4533 Fe XXII | B10047 | 980.110 | 12.650 7 | .10 | 3.46 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.85 | 3.7 | 72 3. | 63 | 4.49 | 5.44 | 6.45 | - | - | - | - | - | - |
| 3384 Fe XX 4086 Fe XXI | N08195 C12120 | 980.660 980.810 | 12.643 6 12.641 7 | 1.99 | 3.43 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | b.74 | 4.25 5 02 | 3.4 | to 4. 87 4 | 3/ 1 | 6.09 6 NP | 7 30 | | _ | - - - | _ | _ | _ | _ |
| 4085 Fe XXI | C09111 | 980.970 | 12.639 7 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.03 | 4.5 | 7 5. | 00 | 6.29 | 7.60 |) – | _ | _ | _ | _ | _ | _ |
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E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 Nr ion Transit. 3383 Fe XX N08197 12.629 6.99 3.45 6.76 4.26 3.45 4.39 6.10 - -4532 Fe XXII B10049 981.980 12.626 7.10 3.44 5.83 3.70 3.61 4.47 5.41 6.43 982.360 12.621 7.05 4.78 4084 Fe XXI C07107 6.28 4.83 5.26 6.54 7.86 -4531 Fe XXII B09047 982.600 12.618 7.10 3.83 -6.22 4.09 4.00 4.86 5.80 6.82 -4083 Fe XXI C16214 982.830 12.615 7.05 4.21 -5.75 4.27 4.68 5.95 7.26 -4081 Fe XXI 983.140 12.611 7.05 3.29 4.78 3.34 3.78 5.07 6.38 -4082 Fe XXI C11120 12.611 7.05 3.96 -- - 5.47 4.01 4.43 5.72 7.03 - -12.610 6.99 2.87 3382 Fe XX N07194 983.220 6.18 3.68 2.87 3.81 5.52 -12.607 6.99 3.51 -3381 Fe XX N07195 983.460 6.82 4.32 3.51 4.45 6.16 - 4.76 3.30 3.73 5.02 6.33 - - -12.605 7.05 3.25 -4078 Fe XXI C07110 983.610 4079 Fe XXI C08110 12.605 7.05 4.57 6.08 4.62 5.05 6.34 7.65 -6.27 4.80 5.22 6.50 7.81 -4080 Fe XXI 12.605 7.05 4.75 C15170 983.610 4077 Fe XXI C05056 983.850 12.602 7.05 3.11 -4.60 3.16 3.60 4.89 6.20 2726 Fe XIX 003140 983.850 12.602 6.92 4.83 6.77 5.14 4.97 6.41 8.54 - -12.601 6.91 4.45 6.19 4.71 4.62 6.10 8.25 -2724 Fe XIX 001121 983.920 3379 Fe XX N08199 984.000 12.600 6.99 4.42 -7.74 5.24 4.42 5.36 7.08 -3378 Fe XX N01073 984 000 12 600 6 98 2 27 5.28 2.98 2.28 3.28 5.03 3380 Fe XX N01072 984.000 12.600 6.98 2.38 5.39 3.09 2.39 3.39 5.14 7.61 5.11 4.30 5.24 6.95 - - -3377 Fe XX N07197 984.550 12.593 6.99 4.29 4076 Fe XXI 12.593 7.05 4.50 -- 6.01 4.55 4.98 6.27 7.58 -C08111 984.550 2722 Fe XIX 001123 6.23 4.76 4.66 6.15 8.30 - -984.630 12.592 6.91 4.50 -4075 Fe XXT C11124 985 170 12 585 7 05 4 65 - 6.16 4.70 5.13 6.41 7.72 2720 Fe XIX 002140 985.490 12.581 6.92 4.46 6.40 4.78 4.60 6.05 8.18 12.580 6.98 2.71 -5.71 3.42 2.72 3.72 5.47 - - -3376 Fe XX N01075 985.570 4074 Fe XXI C15171 985.640 12.579 7.05 4.43 -- 5.95 4.48 4.90 6.18 7.49 -2719 Fe XIX 005171 985.800 12.577 6.92 4.24 -6.24 4.57 4.37 5.79 7.91 - -4069 Fe XXI C05058 985.800 12.577 7.05 3.20 - 4.69 3.25 3.68 4.97 6.29 2718 Fe XIX 001125 985.880 12.576 6.91 4.38 6.12 4.64 4.54 6.03 8.18 -6.50 4.86 4.68 6.12 8.24 - -2717 Fe XIX 004155 986.510 12.568 6.92 4.54 -- - - - 4.38 2.95 3.40 4.69 6.01 -4073 Fe XXI C03035 986.590 12.567 7.04 2.90 4072 Fe XXI C12134 986.590 12.567 7.05 4.64 6.15 4.69 5.12 6.40 7.71 4071 Fe XXI C04044 986.590 12.567 7.04 4.18 5.66 4.22 4.67 5.96 7.28 3375 Fe XX 12.565 6.99 4.58 7.90 5.40 4.58 5.53 7.24 - -N07199 986 740 3374 Fe XX N03096 986.900 12.563 6.98 4.62 -7.88 5.41 4.62 5.58 7.30 - 5.95 4.49 4.92 6.20 7.51 - -4070 Fe XXI C12137 987.450 12.556 7.05 4.44 2716 Fe XIX 001126 987.920 12.550 6.91 3.47 -5.21 3.73 3.63 5.12 7.27 -5275 Ni XXI 12.550 6.91 3.47 5.36 3.71 3.64 5.28 - -04 987.920 3373 Fe XX N05119 988.550 12.542 6.98 4.94 -8.22 5.75 4.95 5.90 7.62 6.13 4.66 4.56 6.04 8.19 - -

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| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 | 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 | 8.2 8.4 8.6 8.8 9.0 |
| 4527 Fe XXII B10054 3369 Fe XX N03101 3368 Fe XX N06195 3367 Fe XX N02095 4063 Fe XXI C04047 | 991.320 12.507 7.10 3.64 991.480 12.505 6.98 4.77 991.560 12.504 6.99 4.80 991.720 12.502 6.98 4.47 991.790 12.501 7.04 4.59 | 6.03 3.90 3.80 4.66 5.61 6.62 8.03 5.57 4.77 5.73 7.45 8.11 5.61 4.80 5.74 7.45 8.11 5.61 4.80 5.74 7.45 6.08 4.64 5.08 6.37 7.69 | |
| 4060 Fe XXI C03037 4062 Fe XXI C03036 4064 Fe XXI C06072 4059 Fe XXI C12141 3366 Fe XX N02096 | 991.790 12.501 7.04 3.48 - | 4.97 3.53 3.97 5.27 6.59 3.98 2.55 2.99 4.29 5.61 5.23 3.79 4.22 5.51 6.83 6.31 4.85 5.27 6.56 7.87 8.07 5.60 4.81 5.77 7.49 | |
| 3365 Fe XX N06196 2711 Fe XIX 004158 4058 Fe XXI C05060 4056 Fe XXI C02035 4057 Fe XXI C06073 | 992.030 12.498 6.99 2.95 - | 6.27 3.77 2.96 3.90 5.61 6.92 5.28 5.09 6.53 8.65 | |
| 2710 Fe XIX 004159 3364 Fe XX N03103 2709 Fe XIX 001135 4055 Fe XXI C13157 3363 Fe XX N03104 | 992.350 12.494 6.92 3.56 - | 5.52 3.88 3.69 5.13 7.26 7.46 4.99 4.20 5.15 6.87 | |
| 2297 Fe XVIII F02103 2708 Fe XIX 006209 4054 Fe XXI C04051 2707 Fe XIX 004160 2706 Fe XIX 003153 | 993.540 12.479 6.85 4.89 - | 7.64 5.83 4.94 5.33 7.23 6.63 4.95 4.75 6.17 8.29 5.39 3.95 4.39 5.68 7.00 6.13 4.49 4.30 5.74 7.87 6.42 4.79 4.61 6.05 8.18 | |
| 3362 Fe XX N02098 4822 Fe XXIII BE08015 4526 Fe XXII B04019 4053 Fe XXI C03040 3361 Fe XX N02099 | 993.780 12.476 6.98 4.36 - | 7.62 5.16 4.37 5.32 7.04 7.88 5.00 4.33 4.74 5.31 5.99 6.88 5.60 3.48 3.40 4.26 5.21 6.23 4.72 3.28 3.72 5.01 6.33 7.68 5.22 4.42 5.38 7.10 | 8.02 |
| 4052 Fe XXI C13158 4525 Fe XXII B14104 4051 Fe XXI C11141 4821 Fe XXIII BE08016 4050 Fe XXI C06074 | 994.100 12.472 7.05 4.51 - | 6.04 4.57 4.99 6.27 7.58 6.73 4.57 4.46 5.31 6.26 7.26 6.31 4.85 5.27 6.56 7.87 6.80 3.92 3.25 3.66 4.22 4.90 5.80 4.40 2.95 3.39 4.68 5.99 | 6.94 |
| 4049 Fe XXI C14166 2704 Fe XIX 001140 3360 Fe XX N05127 4048 Fe XXI C14167 2705 Fe XIX 001138 | 994.500 12.467 7.05 4.90 - - - - - 994.500 12.467 6.91 4.27 - - - - 994.580 12.466 6.98 4.42 - - - - 994.740 12.464 7.05 4.40 - - - - 995.060 12.460 6.91 2.89 - - - - | 6.43 4.96 5.38 6.66 7.97 6.02 4.54 4.44 5.92 8.07 | |
| 4524 Fe XXII B08045 4523 Fe XXII B08046 4522 Fe XXII B15111 4047 Fe XXI C12144 4521 Fe XXII B10055 | 995.140 12.459 7.10 4.83 - | 7.22 5.09 5.00 5.86 6.81 7.82 5.65 3.52 3.43 4.29 5.24 6.25 6.69 4.53 4.42 5.27 6.22 7.22 5.30 3.83 4.26 5.54 6.85 5.97 3.83 3.74 4.60 5.55 6.56 - | |
| 4820 Fe XXIII BE07014 4819 Fe XXIII BE07013 4046 Fe XXI C12145 4520 Fe XXII B12085 4519 Fe XXII B14107 | 996.100 12.447 7.18 4.84 - - - - - 996.100 12.447 7.18 3.50 - - - - - 996.420 12.443 7.05 3.78 - - - - 996.420 12.443 7.11 4.21 - - - - 996.500 12.442 7.11 4.61 - - - - | 8.40 5.51 4.85 5.25 5.82 6.50 7.39 7.06 4.17 3.51 3.91 4.48 5.16 6.06 5.30 3.83 4.26 5.54 6.85 6.63 4.48 4.38 5.23 6.17 7.18 - 7.04 4.88 4.78 5.62 6.57 7.57 - | 8.54 7.20 |
| 3359 Fe XX N04119 3358 Fe XX N03112 3357 Fe XX N02102 3356 Fe XX N05130 2703 Fe XIX 003155 | 996.580 12.441 6.98 4.44 - - - - 996.660 12.440 6.98 4.65 - - - - 996.900 12.437 6.98 4.55 - - - - 996.980 12.436 6.98 4.44 - - - 996.980 12.436 6.92 4.19 - - - | 7.71 5.24 4.44 5.40 7.11 7.92 5.45 4.66 5.61 7.33 7.82 5.35 4.56 5.51 7.23 7.82 5.35 4.56 5.51 7.23 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.39 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.49 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 7.11 7.72 5.24 4.44 5.40 | |

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|--------------------------------|------------------|----------------------|--|---------|------------|------------------|-----|-----|-----|------|-----|-------------|-----|-----|-----|-----|-------|-----------|------|------------|----------------|--------------|---------|-----------|------|----------|------|-----|------|-------|-----|
| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmaz | c -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 2 7 | . 4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2294 Fe XVIII | | 997.060 | 12.435 6.8 | | | | | | | | | _ | | | | | | | | | | | | _ | _ | _ | _ | _ | _ | _ | _ |
| 3355 Fe XX | N06202 | 997.220 | 12.433 6.9 | | | - | - | - | - | - | - | - | - | - | - | - | - | 7.94 | | | | | | | | - | - | - | - | - | - |
| 4045 Fe XXI | C02037 | 997.460 | 12.430 7.0 | | | - | - | - | - | - | - | - | - | - | - | - | - 7.4 | - | | | | | | | | - | - | - | - | - | - |
| 5220 Ni XIX 4518 Fe XXII | NE5 B08047 | 997.460 997.780 | 12.430 6.6 12.426 7.1 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 2.74 | 1.86 | 5 23 | 3.2 | 9 7 C | nn 3 | - 86 | _ 4 81 | 5 82 | , _ | _ | _ | _ | _ | _ |
| 4510 PC AAII | D00047 | 227.700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4517 Fe XXII | B04022 | 997.860 | 12.425 7.1 | 10 4.15 | 5 – | - | - | - | - | - | _ | - | - | - | - | - | - | - | 6.53 | 4.4 | 1 4.3 | 33 5 | .19 | 6.14 | 7.15 | , – | - | - | - | - | - |
| 4044 Fe XXI | C04053 | 997.860 | 12.425 7.0 12.425 7.0 12.424 7.0 12.421 6.9 12.420 7.0 | 3.6 | 7 – | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.16 | 3.7 | 2 4.1 | 16 5 | .45 | 6.77 | - | - | - | - | - | - | - |
| 4043 Fe XXI 3354 Fe XX | C11144 N02103 | 997.940 998.180 | 12.424 7.0 | 05 4.13 | 3 – | - | - | - | - | - | _ | - | - | - | - | - | - | 7 71 | 5.64 | 4.1 | 8 4.6 | 61 5 41 7 | .89 | 7.20 | - | - | - | - | - | - | - |
| 4516 Fe XXII | B09055 | 998.260 | 12.421 0.3 | 0 4.4: | 3 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - ' - ' 1 | 5.43 | 3.5 | 4 3 4 | 41 / 45 4 | 31 | 5.25 | 6 26 | . – | _ | _ | _ | _ | _ |
| 1010 10 111111 | 207033 | 330.200 | | 3.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4042 Fe XXI | C04054 | 998.260 | 12.420 7.0 | | 9 – | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.68 | 4.2 | 4 4.6 | 68 5 | .97 | 7.29 | - | - | - | - | - | - | - |
| 4041 Fe XXI | C12149 | 998.660 | 12.415 7.0 | | 9 – | - - - | - | - | - | - | - | - | - | - | - | - | - | - | 4.91 | | | | | | | - | - | - | - | - | - |
| 4040 Fe XXI 4039 Fe XXI | C04055 C04056 | 998.830 998.990 | 12.413 7.0 12.411 7.0 | | L – I – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.00 | 3.5 | 6 4.(| 00 5 20 6 | . 29 | 7 90 | _ | _ | _ | _ | _ | _ | _ |
| 4515 Fe XXII | B07038 | 999.150 | 12.409 7.1 | | 2 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.71 | 4.5 | 8 4 4 | 49 5 | 35 | 6.30 | 7.31 | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4038 Fe XXI | C11147 | 999.230 | 12.408 7.0 | 5 4.83 | 3 – | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.34 | 4.8 | 8 5.3 | 30 6 | .59 | 7.90 | _ | - | - | - | - | - | - |
| 4514 Fe XXII | B06035 | 999.390 | 12.406 7.1 | 10 3.56 | 5 - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.95 | 3.8 | 2 3.7 | 73 4 | .59 | 5.54 | 6.55 | - | - | - | - | - | - |
| 3353 Fe XX 3352 Fe XX | N02105 N03113 | 999.470 999.710 | 12.405 6.9 | 98 4.34 | ± – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.61 | 5.14 | 4.3 | 5 5.3 | 30 7 17 7 | 10 | _ | _ | _ | _ | _ | _ | _ | _ |
| 2702 Fe XIX | 002156 | 999.790 | 12.408 7.0 12.406 7.1 12.405 6.9 12.402 6.9 12.401 6.9 | 92 4.36 | 5 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.30 | 4.67 | 4.4 | 9 5.9 | 948 | .06 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2701 Fe XIX | 003157 | 999.870 | 12.400 6.9 | | L – | - | - | - | - | - | _ | - | - | - | - | - | - | 6.36 | 4.73 | 4.5 | 5 5.9 | 99 8 | .12 | - | - | - | - | - | - | - | - |
| 4037 Fe XXI | C02040 | 999.950 | 12.399 7.0 | | 3 - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.46 | 2.0 | 3 2.4 | 47 3 | .76 | 5.08 | - | - | - | - | - | - | - |
| 4036 Fe XXI 3351 Fe XX | C09125 N02106 | 999.950 1000.100 | 12.399 7.0 12.397 6.9 | | o – 2 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 6 99 | 6.17 | 4.7 | 1 5.1 | 14 6 50 6 | .42 | 7.73 | _ | _ | _ | _ | _ | _ | _ |
| 4035 Fe XXI | C06078 | 1000.100 | 12.396 7.0 | | 2 – | - - - - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 6.11 | 4.6 | 6 5 1 | 10 6 | 39 | 7.70 | _ | _ | _ | _ | _ | _ | _ |
| 1000 10 11111 | 000070 | 1000.200 | 12.550 / | | - | | | | | | | | | | | | | | 0.11 | | | | | , , , , | | | | | | | |
| 4034 Fe XXI | C06079 | 1000.400 | 12.394 7.0 |)5 3.20 |) – | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.70 | 3.2 | 5 3.6 | 69 4 | .97 | 6.29 | - | - | - | - | - | - | - |
| 3350 Fe XX | | 1000.400 | 12.394 6.9 | 98 4.71 | L – | - | - | - | - | - | - | - | - | - | - | - | - | 8.00 | 5.52 | 4.7 | 2 5.6 | 67 7 | .38 | - | - | - | - | _ | - | - | - |
| 4818 Fe XXIII 4817 Fe XXIII | | 1000.400 | 12.394 7.0 12.394 6.9 12.393 7.1 12.392 7.1 | L8 3.38 | 3 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.94 | 4.0 | 5 3.3 5 3 4 | 39 3 42 2 | . 79 | 4.36 | 5.04 | 5.94 | 7.08 | | _ | _ | _ |
| 4033 Fe XXI | | 1000.500 | 12.392 7.0 |)5 4.91 | L – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.43 | 4.9 | 6 5.3 | 39 6 | .67 | 7.98 | - | - | - | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BE10025 | | 12.392 7.1 | | 1 - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.33 | 4.4 | 2 3.7 | 75 4 | .15 | 4.71 | 5.39 | 6.28 | 7.42 | ! - | - | - | - |
| 4513 Fe XXII 3349 Fe XX | | 1000.600 | 12.391 7.3 12.390 6.9 | | | - | - | - | - | - | - | _ | - | - | - | - | - | | 6.26 | 4.1 | 5 4.0 | 06 4 | .93 | 5.88 | 6.89 | - | - | - | _ | - | - |
| 4032 Fe XXI | C11149 | 1000.700 | 12.386 7.0 | | | _ | _ | _ | _ | _ | | | | | | | | | | | | | | | | | | | _ | | _ |
| 4512 Fe XXII | | 1001.100 | 12.385 7.3 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 7.85 | | _ | _ | _ | _ | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4511 Fe XXII | | 1001.200 | 12.384 7.3 | 11 4.84 | 1 – | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.26 | 5.1 | 1 5.0 | 00 5 | .85 | 6.80 | 7.80 | _ | - | - | - | - | - |
| 4031 Fe XXI 4030 Fe XXI | | 1001.200 | 12.383 7.0 12.381 7.0 | | | _ | _ | - | _ | _ | _ | - | - | - | - | _ | - | - | 4.95 | 3.5 | 0 3.5 | 94 5 40 E | .22 | 7.01 | - | _ | _ | - | - | - | - |
| 4029 Fe XXI | | 1001.400 | 12.381 7.0 | | | _ | _ | _ | _ | _ | _ | - - - | _ | _ | _ | _ | _ | _ | 4.76 | 3.3 | 0 3.7 | 73 5 | .01 | 6.32 | _ | _ | _ | _ | _ | _ | _ |
| 4510 Fe XXII | | 1001.900 | 12.375 7.1 | | | _ | - | - | _ | - | _ | - | - | - | - | _ | - | - | 6.80 | 4.6 | 7 4.5 | 58 5 | . 44 | 6.39 | 7.40 | | | | - | | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4028 Fe XXI | C08122 | 1002.300 | 12.370 7.0 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.04 | 4.5 | 8 5.0 | 00 6 | . 29 | 7.60 | 7 40 | –) – | - | - | - | - | - |
| 4509 Fe XXII 3348 Fe XX | B09058 N04127 | 1002.500 1002.500 | 12.367 7.1 12.367 6.9 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 7 51 | 5 N2 | 4.7 | / 4.6 3 5 1 | 08 5 18 6 | 90 | 0.48 | 7.49 | | _ | _ | _ | _ | _ |
| 2700 Fe XIX | | 1002.500 | 12.367 6.9 | | | - - - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.81 | 4.17 | 3.9 | 9 5.4 | 43 7 | .56 | _ | _ | _ | _ | _ | _ | _ | _ |
| 4027 Fe XXI | | 1002.500 | 12.368 7.0 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.91 | 4.4 | 7 4.9 | 91 6 | .20 | 7.52 | - | - | - | - | - | - | - |
| 4500 | | | | | _ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4508 Fe XXII 3347 Fe XX | | 1002.600 1002.600 | 12.366 7.1 12.366 6.9 | | / – | - - - - | - | - | - | - | - | - | - | - | - | - | - | - | 5.70 | 3.5 | 4 3.4 | 43 4 | . 28 | 5.22 | 6.23 | - | - | - | - | - | - |
| 4026 Fe XXI | | 1002.600 | 12.366 7.0 | |) – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.9/ | 6 41 | 3.7 4 a | 0 4.0 5 5 3 | 00 0 38 6 | .31 | 7 98 | _ | _ | _ | _ | _ | _ | _ |
| 4507 Fe XXII | | 1002.000 | 12.361 7.1 | |) – | _ | _ | _ | - | - | _ | _ | - | - | - | - | _ | _ | 6.69 | 4.5 | 6 4.4 | 47 5 | .33 | 6.28 | 7.29 | _ | - | _ | _ | _ | _ |
| 3346 Fe XX | | 1003.200 | 12.359 6.9 | | 3 – | - | - | - | - | - | - | - | - | - | - | - | - | 7.31 | 4.84 | 4.0 | 4 4.9 | 99 6 | .71 | - | - | - | - | - | - | - | - |
| 1005 | a00101 | 1000 100 | 10 2== = | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4025 Fe XXI 3345 Fe XX | C08124 N04128 | 1003.400 | 12.356 7.0 | | 3 – | _ | - | - | _ | - | - | - | - | - | - | - | - | 7 17 | 6.05 | | | | | | | - | _ | - | - | - | - |
| 4024 Fe XXI | C06083 | 1003.600 | 12.354 6.9 12.349 7.0 | | - 1 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | / . 1 / | 5 04 | 3 5 | 941 | n 2 5 | 31 | 6 63 | _ | _ | _ | _ | _ | _ | _ |
| 4506 Fe XXII | | 1004.000 | 12.346 7.1 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.15 | 4.0 | 2 3.9 | 93 4 | .79 | 5.74 | 6.75 | , – | _ | _ | - | _ | _ |
| | BE06014 | | 12.344 7.1 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.24 | 5.3 | 5 4.6 | 69 5 | .09 | 5.66 | 6.34 | 7.24 | 8.38 | 3 – | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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|-------------------------------|------------------|----------------------|---|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------|------|-----------|--------------|--------------|------|-----------------|--------------------|----------|-----------|-----------|---------|--------|-----|------|-----|-----|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nr ion | Transit. | E(eV) Lat | mbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7. | . 0 | 7.2 | 7. | 4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 3344 Fe XX | N04129 | 1004.400 | 12.344 6.98 | 3.89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.17 | 4.6 | 93. | 89 | 4.84 | 4 6. | 56 | - | - | - | - | - | - | - | _ |
| 4505 Fe XXII 4023 Fe XXI | B03022 C09137 | 1004.500 | 12.343 7.10 | 3.55 | - | - | _ | - | - | - | - | - | - | _ | - | - | _ | - | 5.9 | 2 3. | . 80 | 3.72 | 24. | 58 | 5.54 | 6.55 | - | - | - | - | - | - |
| 3343 Fe XXI | N02113 | 1004.600 | 12.342 7.05 | 4.67 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 30 | 6.1 4.0 | 94. | 12 | 5.13 | 5 6. 7 6 | 79 | /./4 | _ | _ | _ | _ | _ | _ | _ |
| 2699 Fe XIX | 004173 | 1004.000 | 12.344 6.98 12.343 7.10 12.342 7.05 12.339 6.98 12.338 6.92 | 4.38 | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.35 | 4.7 | 0 4. | 52 | 5.9 | , o. 5 8. | 08 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4022 Fe XXI 4504 Fe XXII | C09138 | 1005.100 | 12.335 7.05 12.332 7.10 12.330 6.98 12.329 6.73 | 4.85 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.3 | 74. | .90 | 5.33 | 3 6. | 61 | 7.93 | - 15 | _ | - | - | - | - | - |
| 3342 Fe XX | NO4131 | 1005.400 | 12.332 7.10 | 3.00 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 00 | 5.∠ 1 4 5 | 13. 23 | 72 | 3.20 4 6' | 0 4. 7 6 | 30 | 5.13 | 0.15 | _ | _ | _ | _ | _ | _ |
| 2105 Fe XVII | NE01052 | 1005.600 | 12.329 6.73 | 3.42 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.73 | 4.23 | 3.56 | 3.4 | 7 4. | 48 | 6.88 | , J. B – | | _ | _ | _ | _ | _ | - | _ | _ |
| 3340 Fe XX | N03118 | 1006.000 | 12.324 6.98 | 4.46 | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 1.13 | 5 5.2 | 64. | 46 | 5.4. | L /. | 13 | - | _ | _ | _ | _ | - | _ | - |
| 3341 Fe XX | MOE140 | 1006.000 | 10 204 6 00 | 1 1 02 | | | | | | | | | | | | | | 0 01 | F 7 | 1 1 | 0.2 | F 00 | 0 7 | 60 | | | | | | | | |
| 2293 Fe XVIII | | 1006.000 | 12.324 6.96 | 4.93 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.76 | 5 20 | . 5.7 | 54. | 90 | 6 84 | 5 /. 4 – | . 00 | _ | _ | _ | _ | _ | _ | _ | _ |
| 5274 Ni XXI | 05 | 1006.400 | 12.320 6.91 | 2.98 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 4.88 | 3.2 | 2 3. | 15 | 4.79 | 9 – | | _ | _ | _ | _ | _ | - | _ | _ |
| 5252 Ni XX | F2L | 1006.400 | 12.320 6.82 | 3.47 | - | - | - | - | - | - | - | - | - | - | - | - | 6.36 | 4.19 | 3.4 | 84. | 07 | 6.22 | 2 – | | - | - | - | - | - | - | - | - |
| 2698 Fe XIX | 004176 | 1006.700 | | 4.55 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.52 | 2 4.8 | 74. | 68 | 6.12 | 28. | 24 | - | - | - | - | - | - | - | - |
| 4503 Fe XXII | B04023 | 1006.900 | 12.314 7.10 12.313 7.10 12.312 7.04 | 3.67 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.0 | 5 3 | 92 | 3 84 | 4 4 | 70 | 5 65 | 6 67 | _ | _ | _ | _ | _ | _ |
| 4502 Fe XXII | | 1006.900 | 12.313 7.10 | 4.11 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.5 | 0 4. | 37 | 4.28 | B 5. | 14 | 6.09 | 7.10 | - | _ | _ | - | _ | _ |
| 4021 Fe XXI | | 1007.000 | 12.312 7.04 | 3.13 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.6 | 1 3. | 17 | 3.62 | 24. | 91 | 6.23 | - | - | - | - | - | - | - |
| 4018 Fe XXI | | 1007.100 | 12.312 7.04 12.311 7.04 12.311 7.04 | 3.99 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.4 | 7 4. | 04 | 4.48 | 8 5. | 77 | 7.09 | - | - | - | - | - | - | - |
| 4019 Fe XXI | | | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ | _ | _ | _ | - |
| 4017 Fe XXI | C04060 | 1007.300 | 12.308 7.05 12.306 7.10 12.304 6.98 | 4.88 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.3 | 8 4. | 93 | 5.3 | 7 6. | 66 | 7.98 | _ | _ | _ | _ | _ | _ | _ |
| 4501 Fe XXII | B07046 | 1007.500 | 12.306 7.10 | 3.81 | - | - | - | - | - | - | - | - | - | - | - | - | - | | 6.2 | 0 4. | 07 | 3.98 | 8 4. | 83 | 5.78 | 6.79 | _ | - | - | - | - | - |
| 3339 Fe XX | N02115 | 1007.700 | 12.304 6.98 12.304 6.91 | 4.11 | - | - | _ | - | - | - | - | - | - | _ | - | - | _ | 7.38 | 4.9 | 14. | .12 | 5.0 | 76. | 79 | - | - | - | - | - | _ | - | - |
| 2697 Fe XIX 4016 Fe XXI | 001155 C06086 | 1007.700 | 12.304 6.91 | 3 91 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.01 | . 4.5 5.4 | 34. 13 | 96 | 2.9. | 1 0. 9 5 | 68 | 7 00 | _ | _ | _ | _ | _ | _ | _ |
| loro ic ami | 200000 | 1007.000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3338 Fe XX | N02117 | 1008.200 | 12.297 6.98 | 3.88 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.16 | 4.6 | 93. | 89 | 4.84 | 4 6. | 56 | | | - | - | - | - | - | - |
| 4500 Fe XXII 4814 Fe XXIII | | 1008.200 | 12.297 7.10 | 4.38 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.7 | 74. | 64 | 4.5 | 5 5. | 41 | 6.36 | 7.37 | ' – | | _ | - | - | - |
| 4015 Fe XXIII | | 1008.300 | 12.296 7.16 | 3 65 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 1 | 35. 33 | 69 | 4.00 | 35. | 43 | 5.05 | 0.53 | - 1.42 | . 8.5/ | _ | _ | _ | _ |
| 4014 Fe XXI | | 1008.700 | 12.297 6.98 12.297 7.10 12.296 7.18 12.296 7.04 12.292 7.05 | 4.64 | - | - | - | - | - | - | _ | - | - | _ | - | - | - | - | 6.1 | 4 4. | 69 | 5.12 | 2 6. | 41 | 7.72 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2696 Fe XIX 4013 Fe XXI | | 1009.100 1009.200 | 12.287 6.92 | 1 1 1 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.31 | 4.6 | 74. | 15 | 5.9. | 38. | 06 | - 1 21 | - | - | - | - | - | - | - |
| 4813 Fe XXIII | | | 12.286 7.18 | 4.96 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.5 | 15. | 63 | 4.9 | 75. | 37 | 5.95 | 6.63 | 7.52 | 8.66 | 5 - | _ | _ | _ |
| 4012 Fe XXI | | 1009.200 | 12.285 7.05 | 4.37 | - | - | _ | - | _ | - | _ | - | - | _ | - | - | _ | _ | 5.8 | 9 4. | 43 | 4.8 | 5 6. | 13 | 7.44 | - | _ | - | _ | - | - | - |
| 3336 Fe XX | N01095 | 1009.200 | 12.285 6.98 | 4.81 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.82 | 2 5.5 | 24. | 82 | 5.82 | 2 7. | 56 | - | - | - | - | - | - | - | - |
| 3335 Fe XX | N03124 | 1009.600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | _ |
| 2291 Fe XVIII | F01107 | 1009.600 | 12.280 6.84 | 4.65 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.00 | 5.44 | 4.6 | a a. 8 5. | .14 | 7.08 | э /. В - | . 01 | _ | _ | _ | _ | _ | _ | _ | _ |
| 4011 Fe XXI | C03051 | 1009.600 | 12.281 7.04 | 3.16 | - | - | _ | - | _ | - | _ | - | - | _ | - | - | _ | _ | 4.6 | 4 3. | 20 | 3.64 | 4 4. | 94 | 6.25 | - | _ | - | - | - | - | - |
| 4010 Fe XXI | C08139 | 1009.900 | 12.281 6.98 12.280 6.84 12.281 7.04 12.277 7.05 12.276 7.10 | 4.91 | - | - | - | - | - | - | - | - | - | _ | - | - | - | - | 6.4 | 2 4. | 96 | 5.38 | 8 6. | 67 | 7.98 | | - | - | - | - | - | - |
| 4499 Fe XXII | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - |
| 4498 Fe XXII | B06045 | 1010.100 | 12.274 7.10 12.273 7.10 12.272 7.05 12.272 7.11 12.269 6.91 | 3.27 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.6 | 6 3. | 53 | 3.4 | 4 4. | 29 | 5.24 | 6.25 | - | _ | _ | _ | _ | _ |
| 4497 Fe XXII | в06046 | 1010.200 | 12.273 7.10 | 3.57 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.9 | 6 3. | 83 | 3.74 | $4 \ \dot{4}$. | 59 | 5.54 | 6.55 | - | - | - | - | - | - |
| 4009 Fe XXI | C06090 | 1010.300 | 12.272 7.05 | 4.20 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.7 | 0 4. | . 25 | 4.68 | 8 5. | 97 | 7.28 | | - | - | - | - | - | - |
| 4496 Fe XXII 2694 Fe XIX | B12097 | 1010.300 | 12.272 7.11 | . 4.45 3 82 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 5 57 | 6.8 74 n | /4. | 90 | 4.6 | 1 5. 7 7 | 46 62 | о.40 - | 7.41 | _ | _ | _ | _ | _ | _ |
| 7074 LC VIV | | | 12.209 0.91 | | | | | | - | - | _ | _ | _ | _ | - | - | - | 5.51 | · · | , ,, | | J. T | , ,. | J 2 | | - | _ | _ | _ | _ | - | |
| 2102 Fe XVII | | 1011.000 | 12.264 6.73 | 1.46 | - | - | - | - | - | - | - | - | - | - | - | 4.77 | 2.27 | 1.60 | 1.5 | 1 2. | 51 | 4.92 | 2 – | _ | - | - | - | - | - | - | - | - |
| 3334 Fe XX | | 1011.300 | 12.260 6.98 | 4.89 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.16 | 5.6 | 94. | 89 | 5.85 | 5 7. | 56 | _ | - 1- | _ | - | - | - | - | - |
| 4495 Fe XXII 3333 Fe XX | | 1011.800 1012.000 | 12.254 7.10 | 3.19 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | е 8 01 | 5.5 | გ კ. ვ ⊿ | 73 | 3.35 | 54. | 3 a | 5.16 | 6.17 - | _ | _ | _ | _ | _ | _ |
| 3333 Fe XX 3332 Fe XX | | 1012.000 | 12.264 6.73 12.260 6.98 12.254 7.10 12.251 6.99 12.250 6.98 | 4.76 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.04 | 5.5 | 74. | 77 | 5.72 | , ,. 2 7. | 44 | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4008 Fe XXI | | 1012.600 | 12.244 7.05 12.243 7.10 12.240 7.04 12.240 6.98 | 4.59 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.1 | 1 4. | 64 | 5.0 | 7 6. | 35 | 7.66 | | - | - | - | - | - | - |
| 4494 Fe XXII 4006 Fe XXI | | 1012.700 1012.900 | 12.243 7.10 | 2.77 | _ | _ | _ | _ | - | - | _ | _ | _ | _ | _ | _ | - | _ | 5.1 | о 3. 3 1 | .U3 | 4.93 | 3 3. 3 6 | /タ 1つ | 4.74 | 5.75 | _ | _ | _ | _ | - | _ |
| 3331 Fe XX | | 1012.900 | 12.240 7.04 | 4.76 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.03 | 5.5 | 64 | 76 | 5.7 | 27. | 43 | - | _ | _ | _ | _ | _ | _ | _ |
| 4007 Fe XXI | | 1012.900 | 12.241 7.04 | 3.59 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.0 | 7 3. | 63 | 4.0 | 7 5. | 36 | 6.68 | - | - | - | - | - | - | - |

| Api 13, i | 0 17.21 | | | | | | | | | <u> </u> | 13t · | <u> </u> | | V C I | 310 | <u> </u> | | | | | | | | | | | | age | 49/ | ' ' |
|---|--|--|--|---|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|------------------------------|--|---|---|--|--|---------------------------------------|-------------------------------|------------------------------|------------------------------|--------------------------------|-----------------------------|------------------------|------------------------|
| Nr ion | Transit. | E(eV) La | mbda(A) Tmax | c -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 4005 Fe XXI 4493 Fe XXII 4004 Fe XXI 4492 Fe XXII 2693 Fe XIX | C11154 B08055 | 1013.000 1013.200 1013.400 1013.400 1013.400 | 12.239 7.0 12.237 7.1 12.234 7.0 12.234 7.1 12.235 6.9 | 05 4.52 L0 3.04 92 4.70 | | - - - | - | - - - | - - - | - - - | _ _ _ | - | - - - | - - - | _ _ _ | - - - | _ _ _ | - - 6.68 | 6.0 5.4 5.0 | 4 4.5 3 3.3 2 4.8 | 7 5.00 3.20 3 6.27 | 6.28 4.06 8.39 | 7.59 5.01 - | 6.02 | - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 2692 Fe XIX 4003 Fe XXI 4490 Fe XXII 3329 Fe XX 3330 Fe XX | N03129 | 1013.600 1013.800 1013.900 1014.100 1014.100 | 12.232 6.9 12.230 7.0 12.228 7.1 12.226 6.9 12.226 6.9 | 1 3.04 14 4.27 .0 2.37 98 4.80 98 4.85 | - - - - | - - - - | 4.79 - - 8.08 8.14 | 3.3 5.7 4.7 5.6 5.6 | 1 3.2 6 4.3 6 2.6 1 4.8 6 4.8 | 1 4.69 1 4.75 3 2.53 1 5.76 5 5.81 | 6.83 6.04 3.39 7.48 | 3 - 4 7.36 9 4.34 3 - 2 - | - 5.35 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4002 Fe XXI 4491 Fe XXII 3328 Fe XX 4001 Fe XXI 3327 Fe XX | B14117 N02124 C03055 N03130 | 1014.200 1014.300 1014.600 1014.700 1014.700 | 12.225 7.0 12.224 7.1 12.220 6.9 12.219 7.0 | 04 4.18 11 4.33 98 4.92 04 4.68 | - - - | - - - - | - - - | - - - - | - 8.19 - 7.70 | 5.6 6.7 5.7 6.1 | 6 4.2 6 4.6 2 4.9 7 4.7 | 2 4.66 0 4.49 2 5.87 3 5.17 | 5.95 5.33 7.59 6.46 | 7.27 6.28 7.78 | 7.28 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 2691 Fe XIX 2690 Fe XIX 4000 Fe XXI 3999 Fe XXI 3326 Fe XX | 003169 001160 C03056 C02050 N03131 | 1014.700 1014.900 1014.900 1014.900 1015.200 | 12.219 6.9 12.216 6.9 12.216 7.0 12.216 7.0 12.213 6.9 | 12 4.65 11 4.11 15 4.64 14 3.63 18 4.66 | - - - - | - - - - | 6.61 5.86 - - 7.94 | 4.9 6.1 5.1 5.4 | 7 4.7 8 4.2 3 4.6 2 3.6 7 4.6 | 9 6.23 3 5.76 9 5.13 3 4.12 7 5.62 | 8 8.35 5 7.90 8 6.42 2 5.41 2 7.34 | 6 – 2 7.73 6.73 | - - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4489 Fe XXII 3998 Fe XXI 4488 Fe XXII 3997 Fe XXI 3996 Fe XXI | C02051 B13109 C11157 | 1015.300 1015.300 1015.800 1015.900 1016.300 | 12.213 6.9 12.212 7.1 12.211 7.0 12.206 7.1 12.204 7.0 12.200 7.0 | .1 4.22)4 4.69 .1 4.80)5 4.31)5 4.23 | - - - - | - - - - | - - - - | 6.6 6.1 7.2 5.8 5.7 | 3 4.4 8 4.7 3 5.0 4 4.3 5 4.2 | 3 4.38 4 5.18 7 4.96 7 4.79 3 4.71 | 5.23 6.47 5.81 6.07 5.99 | 6.18 7.79 6.75 7.38 | 7.18 7.76 7.76 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 407 Ne IX 3995 Fe XXI 3325 Fe XX 4812 Fe XXIII 3994 Fe XXI | N05162 BE05012 | 1016.300 1016.300 1016.700 1016.800 1017.000 | 12.200 6.6 12.200 7.0 12.195 6.9 12.193 7.1 12.191 7.0 | 56 2.99 05 2.77 99 3.85 18 1.77 | - | - - - | - - - | - - - - | - - - | - - - | - - - | - - - | - - - - | - - - | - - - | 5.94 - - - | 3.88 | 3.03 - 7.14 - | 3.1 4.2 4.6 5.3 4.9 | 8 3.7 9 2.8 6 3.8 3 2.4 9 3 5 | 5 4.36 2 3.25 5 4.80 4 1.78 | 4.94 4.53 6.52 3.2.19 | 5.49 5.84 2.76 3.6.54 | 6.03 - - 5 3.44 | 6.54 - - 4.33 | 1 – – – 3 5.47 | - - - 7 - - | - - - | - - - - | - - - |
| 4487 Fe XXII 3324 Fe XX 3323 Fe XX 3322 Fe XX 5251 Ni XX | N02127 N01106 | 1017.300 1017.300 1017.700 1017.800 1017.900 | 12.187 7.1 12.188 6.9 12.183 6.9 12.181 6.9 12.180 6.8 | .0 4.52 98 4.66 98 4.69 99 4.43 32 3.33 | - - - - | - - - - 6.22 | - 7.94 7.71 7.73 2.4.05 | 6.8 5.4 5.4 5.4 5.2 3.3 | 9 4.7 7 4.6 1 4.7 4 4.4 3 3.9 | 3 4.70 7 5.62 0 5.70 4 5.38 2 6.07 | 5.56 7.33 7.45 7.10 | 6.52 6 - 6 - 7 - | 7.53 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4486 Fe XXII 3321 Fe XX 3993 Fe XXI 3320 Fe XX 4485 Fe XXII | N02128 C04070 N02129 | 1018.300 1018.300 1018.400 1019.200 1019.200 | 12.176 7.1 12.176 6.9 12.174 7.0 12.165 6.9 12.165 7.1 | 1 4.60 18 4.21 05 4.24 98 4.71 10 4.31 | - - - - | - - - - | 7.49 - 7.99 | 7.0 5.0 5.7 5.5 6.7 | 2 4.8 2 4.2 3 4.2 2 4.7 1 4.5 | 7 4.77 2 5.17 3 4.72 2 5.67 7 4.48 | 5.62 6.88 6.01 7.38 5.34 | 6.56 7.33 7.33 6.29 | 7.57 - 3 - - 7.30 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3991 Fe XXI 3992 Fe XXI 3990 Fe XXI 3989 Fe XXI 5250 Ni XX | C03058 | 1019.400 1019.400 1019.400 1019.500 1019.600 | 12.163 7.0 12.163 7.0 12.163 7.0 12.161 7.0 12.160 6.8 | 05 4.65 05 4.88 05 3.81 04 3.64 32 3.33 | - - - - | - - - - 6.22 | - - - 2 4.05 | 6.1 6.3 5.3 5.1 5.1 | 7 4.7 9 4.9 0 3.8 3 3.6 3 3.9 | 5.12 3 5.35 5 4.30 9 4.13 3 6.07 | 6.41 6.63 5.59 5.42 | 7.72 7.95 6.91 6.74 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3319 Fe XX 3988 Fe XXI 3318 Fe XX 4484 Fe XXII 4483 Fe XXII | C02054 N04154 B13111 | 1019.700 1019.900 1020.000 1020.400 1021.100 | 12.159 6.9 12.156 7.0 12.155 6.9 12.150 7.1 | 99 4.33 05 3.83 99 4.10 11 4.31 | - - - | - - - | 7.62 - 7.39 - | 5.1 5.3 4.9 6.7 | 4 4.3 2 3.8 1 4.1 4 4.5 | 3 5.28 3 4.32 3 5.05 3 4.47 | 7.00 5.61 6.77 | 6.93 6.26 | - - - 7.27 | - - - | - - - - | - - - | - - - | - - - | - - - |
| 420 Ne X 419 Ne X 406 Ne IX 405 Ne IX 3317 Fe XX | H1B H1A HE S4 HE S3 N01113 | 1021.500 1022.000 1022.000 1022.000 1022.300 | 12.142 7.1 12.137 6.7 12.132 6.7 12.132 6.6 12.132 6.6 12.128 6.9 | 7 1.77 6 1.49 8 2.76 8 2.90 8 4.50 | - - - - | - 6.23 6.20 | 3.35 3.05 3.88 3.94 | 2.03 5 1.75 8 2.85 4 2.97 7.52 | 3 1.7 5 1.5 5 2.8 7 3.0 2 5.2 | 8 1.9 0 1.7 8 3.3 4 3.5 2 4.5 | 3 2.23 1 1.98 3 3.94 5 4.14 1 5.51 | 3 2.47 3 2.23 4 4.49 4 4.70 7.25 | 2.69 3 2.47 3 5.03 5 5.24 | 2.89 2.69 5.55 5.77 | 3.09 2.90 6.06 6.28 | 3.28 3.10 6.56 6.78 | 3 3.45 3 3.29 5 - 8 - | 3.61 3.45 - - - | 3.73 3.57 - - | 3.81 3.63 - - |

| Apr 13, 10 | 14:27 | | | | | | | | | lin | e li | st | SPE | EX | ver | sio | n 2 | .0 | | | | | | | | | | F | Page | 50/ | 77 |
|---|---|--|--|----------------------|----------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------|--------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|-----------------------|---|----------------------------|----------------------------|-------------------------|------------------|------------------|------------------|
| Nr ion T | ransit. | E(eV) Lar | mbda(A) I | max - | Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2101 Fe XVII 5249 Ni XX 3316 Fe XX | NE01071 F2I N01114 | 1022.600 1022.600 1023.000 1023.200 1023.200 | 12.125 12.124 12.120 12.117 12.117 | 6.73 6.82 6.98 | 1.39 2.81 | | - - - - | - 4.72 - - - | | 1.53 3.54 7.83 | 1.44 2.81 5.53 | 2.44 3.41 4.82 | 4.84 5.56 5.82 | - 5 - 2 7.5 | _ | 0 6.17 - - - 2 - | 7 7.0' - - - - | 7 8.21 - - - - | L – – – – | - - - - | - - - - | - - - - |
| 4482 Fe XXII 4481 Fe XXII 4480 Fe XXII | B11092 | 1023.600 1023.600 1023.900 1024.200 1024.200 | 12.113 12.112 12.109 12.105 12.106 | 7.11 7.10 7.11 | 3.85 2.74 4.60 | - | - - - - | - - - - | - - - | 5.14 7.02 | 4.12 3.00 4.87 | 4.02 2.91 4.76 | 4.8 3.7 5.6 | 7 5.8 7 4.7 | - 2 6.83 1 5.72 6 7.56 6 - | 2 – | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3985 Fe XXI 3313 Fe XX 3984 Fe XXI | B12110 C03061 N04163 C02058 N01115 | 1024.300 1024.300 1024.700 1025.200 1025.300 | 12.104 12.104 12.099 12.094 12.093 | 7.05 6.99 7.05 | 4.80 4.27 4.55 | - - - - | - - - - | 7.56 - | 6.29 5.08 | 4.85 4.27 4.59 | 5.29 5.22 5.03 | 6.5 6.9 6.3 | 7 7.8 4 - 2 7.6 | - | 7 – – – – – | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3983 Fe XXI 4477 Fe XXII 3311 Fe XX | B10071 C02059 B07055 N01117 B09069 | 1025.300 1025.400 1025.600 1025.900 1026.100 | 12.093 12.091 12.089 12.086 12.083 | 7.05 7.10 6.98 | 3.70 3.89 4.66 | - | - - - - | - - - - | - - 7.68 | 5.19 6.29 5.38 | 3.75 4.15 4.67 | 4.19 4.06 5.67 | 5.4 4.9 7.4 | 8 6.8 1 5.8 1 - | 7 5.97 0 - 6 6.87 - 0 6.30 | 7 – – | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3982 Fe XXI 2287 Fe XVIII 3310 Fe XX | C05094 F03202 N07227 | 1026.100 1026.300 1026.400 1026.400 1026.700 | 12.083 12.081 12.079 12.080 12.076 | 7.05 6.86 6.99 | 4.85 3.32 4.82 | - - - - | - - 6.27 - | - 4.35 8.17 | 6.35 3.39 5.65 | 4.90 3.73 4.83 | 5.33 5.61 5.76 | 6.6 - 7.4 | 2 7.9 | _ | 4 6.13 - - - - | 7.27 - - - - | 7 – – – – – | - - - - | - - - - | - - - - |
| 5248 Ni XX 4474 Fe XXII 4809 Fe XXIII | | 1027.800 1028.100 1028.100 1028.300 1028.300 | 12.063 12.060 12.060 12.057 12.057 | 6.82 7.11 7.18 | 3.43 3.63 3.22 | - - - - | - 6.33 - - - | 4.16 - - | 3.43 6.04 6.80 | 4.03 3.89 3.90 | 6.17 3.80 3.23 | 7 - 0 4.6 3 3.6 | - 5 5.5 3 4.1 | 3 7.64 - 9 6.60 9 4.87 6 7.17 | - 0 - 7 5.70 | - - - 5 6.90 | - - - - - | - - - - | - - - - | - - - - |
| 4472 Fe XXII 4471 Fe XXII 3980 Fe XXI | | 1028.300 1028.400 1028.700 1028.800 1029.000 | 12.057 12.056 12.053 12.051 12.049 | 7.10 7.10 7.04 | 4.38 4.56 4.17 | - - - - | - - - - | _ | 6.78 6.95 5.53 | 4.64 4.82 4.20 | 4.54 4.73 4.70 | 5.4 5.5 6.0 | 0 6.3 | | | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3307 Fe XX 3306 Fe XX 3978 Fe XXI | N03151 N06221 N03152 C01056 N06223 | 1029.200 1029.300 1029.400 1029.500 1029.800 | 12.047 12.046 12.044 12.043 12.040 | 6.99 6.99 7.04 | 4.82 3.96 4.57 | - - - - | - - - - | | 5.65 4.77 | 4.82 3.97 4.61 | 5.76 4.92 5.11 | 7.4 6.6 6.4 | 7 - 3 - 3 7.7 | - - - 6 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4470 Fe XXII 4808 Fe XXIII 4469 Fe XXII | B10075 | 1029.800 1029.900 1030.000 1030.200 1030.500 | 12.040 12.038 12.037 12.035 12.031 | 7.10 7.18 7.11 | 4.74 3.92 4.27 | - - - - | 5.76 - - - - | - | 7.13 7.49 6.68 | 5.00 4.60 4.53 | 4.91 3.93 4.44 | 5.7 3 4.3 4 5.2 | 3 4.8 9 6.2 | - 2 7.74 9 5.55 3 7.24 7 6.78 | 7 6.4' 4 - | - 7 7.61 - - | - - 1 - - | - - - - | - - - - | - - - - |
| 3977 Fe XXI 4466 Fe XXII 3303 Fe XX | B05038 C03067 B01018 N03159 BE07022 | 1031.100 1031.300 1031.900 1032.300 1032.300 | 12.024 12.022 12.015 12.011 12.011 | 7.05 7.10 6.99 | 4.38 4.39 4.24 | - - - - | - - - - | - - 7.54 | 5.88 6.61 5.05 | 4.43 4.61 4.25 | 4.87 4.59 5.20 | 6.1 5.4 6.9 | 6 7.4 9 6.4 1 - | 2 6.63 7 - 6 7.49 - 5 5.63 | - 9 - - | - - - - 2 7.66 | - - - - 5 - | - - - - | - - - - | - - - - |
| 2286 Fe XVIII 3975 Fe XXI 3302 Fe XX | N07229 | 1032.600 1032.700 1032.800 1032.900 1033.800 | 12.007 12.006 12.005 12.003 11.993 | 6.86 7.05 6.99 | 3.87 4.22 4.79 | - - - - | - 6.82 - - - | 8.14 | 3.94 5.71 5.62 | 4.28 4.27 4.80 | 6.15 4.70 5.73 | 5 - 5.9 7.4 | - 9 7.3 | - | 9 – – – – – | - - - - | - - - - | - - - - | - - - - | - - - - |

| Apr 13, 1 | 0 14:27 | | | | | | | | lin | e li | ist | SPI | EX | ver | sio | n 2 | .0 | | | | | | | | | | | | Page | <u> 51/</u> | 77 |
|------------------------------|---------------|----------------------|---|------------------|-----|-----|-----|-----|-----|------|-----|-------------|-----|-----|-----|-----|------|--------|------------|----------------|--------------|-----------|--------------|------|--------------|--------------|---------|------------------------|------------------|-------------|-----|
| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 0 7 | . 2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 3300 Fe XX | N06226 | 1034.200 | 11.989 6.99 | 0 1 16 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.51 | 1 0 | ο 1 - | 17 5 | 1.0 | 6 Q1 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3972 Fe XXI | | 1034.200 | 11.988 7.05 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | 7.6 | 1 - | _ | _ | _ | _ | _ | _ |
| 3971 Fe XXI | | 1034.300 | 11.987 7.05 | | | - | - | - | - | - | - | - | - | - | - | _ | - | | | | | | | 6.2 | | - | - | - | - | - | - |
| 3299 Fe XX 3298 Fe XX | | 1034.400 1034.400 | 11.986 6.99 11.986 6.99 | | | _ | _ | - | _ | _ | - | _ | _ | - | _ | _ | _ | 7.14 | | | | | | | - | _ | _ | _ | _ | _ | _ |
| 3297 Fe XX | N02154 | 1034.800 | 11.982 6.99 | 9 4.40 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.69 | 5.2 | 1 4.4 | 41 5 | .36 | 7.07 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3296 Fe XX | | 1034.800 | 11.981 6.98 11.980 7.05 11.979 7.11 | 8 4.53 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.56 | 5.2 | 5 4. | 54 5 | .54 | 7.28 | - | _ | - | - | - | - | - | - |
| 3970 Fe XXI 4464 Fe XXII | | 1034.900 1035.000 | 11.980 7.0 | 5 4.28 1 4.66 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.7 | 8 4 9 4 (| 33 4 33 4 | .76 | 6.05 | 7.3 | / – 276 | 2 - | _ | _ | _ | _ | _ |
| 4463 Fe XXII | | 1035.000 | 11.979 7.10 | 0 2.96 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.3 | 5 3.2 | 22 3 | .13 | 3.98 | 4.9 | 3 5.9 | 4 – | - | - | - | - | - |
| 5246 Ni XX | F2F | 1035.400 | 11.974 6.82 | | _ | - | _ | _ | _ | - | - | - | - | - | - | - | 5.64 | 3.46 | 2.7 | 4 3. | 33 5 | .48 | - | _ | - | _ | _ | _ | - - - - | _ | - |
| 3973 Fe XXI 3295 Fe XX | | 1035.400 1035.400 | 11.974 7.04 11.974 6.99 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 04 | 3.5 | 6 2.3 | 23 2 | .73 | 4.05 | 5.38 | 3 – | - | - | - | - | - | - |
| 4462 Fe XXII | | 1035.400 | 11.974 0.99 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 0.04 | 5.7 | 8 3.0 | 55 3 | .57 | 4.42 | 5.3 | 7 6.3 | 9 – | _ | _ | _ | _ | _ |
| 3294 Fe XX | | 1035.900 | 11.969 6.98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | - |
| 4806 Fe XXIII | | 1036.100 | 11.966 7.18 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.8 | 6 4.9 | 95 4 | . 28 | 4.67 | 5.2 | 4 5.9 | 2 6.8 | 1 7.9 | 95 – | - | - | - |
| 3293 Fe XX 4460 Fe XXII | | 1036.200 1036.200 | 11.965 6.99 11.965 7.10 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | _ | 7.78 | 6.2 | 9 4.4 | 48 5 าว ว | .42 | 7.14 4 70 | 5 74 | - 167 | - 5 - | _ | _ | - - - - | _ | _ |
| 4461 Fe XXII | | 1036.200 | 11.965 7.11 | 1 4.27 | _ | _ | - | _ | - | - | - | _ | - | - | _ | - | _ | _ | 6.7 | 0 4. | 54 4 | .43 | 5.28 | 6.2 | 2 7.2 | 2 - | - | _ | _ | _ | _ |
| 2681 Fe XIX | 006263 | 1036.500 | 11.962 6.92 | 2 4.79 | | | | | | | | | | | | | | | | | | | | | - | - | - | - | - | - | - |
| 3292 Fe XX | | 1036.700 1036.800 | 11.959 6.98 11.958 6.99 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.60 | 5.3 | 0 4. | 59 5 | . 59 | 7.33 | - | - | - | - | - | - | - | - |
| 3291 Fe XX 3969 Fe XXI | | 1036.800 | 11.958 6.95 | | | | | | | | | | | | | | | 8.00 | 6.3 | 1 4.8 | 375 | . 30 | 6.59 | 7.9 | 1 – | _ | _ | _ | _ | _ | _ |
| 3968 Fe XXI | C02067 | 1037.100 | 11.955 7.05 | 5 4.82 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.3 | 1 4.8 | 375 | .30 | 6.59 | 7.93 | 1 – | - | _ | _ | - | - | - |
| 3290 Fe XX | N02159 | 1037.300 | 11.953 6.99 | 9 3.80 | - | - | - | - | - | - | - | - | - | - | - | - | - | | 4.6 | 1 3.8 | 81 4 | .75 | 6.47 | _ | - | - | - | - | - | - | - |
| 3289 Fe XX | | 1037.800 | 11.947 6.98 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.46 | 5.1 | 5 4.4 | 45 5 | . 44 | 7.18 | - | _ | - | - | - | - | - | - |
| 3967 Fe XXI 4458 Fe XXII | | 1037.900 1038.100 | 11.946 7.04 11.943 7.10 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.1 5.4 | 8 2.8 0 3 ° | 35 3 27 3 | 18 | 4.67 | 6.00 |) – 9 6.0 | 0 – | _ | _ | _ | _ | _ |
| 3287 Fe XX | N05192 | 1038.600 | 11.938 6.99 | 9 4.81 | - | _ | - | _ | - | - | - | - - - | - | - | - | - | _ | 8.12 | 5.6 | 3 4.8 | 32 5 | .76 | 7.47 | _ | _ | - | _ | _ | - | _ | - |
| 4459 Fe XXII | B02020 | 1038.900 | 11.934 7.10 | 0 2.20 | | - | - | - | | | | | | | | | | | | | | | | | 9 5.2 | | | - | - | - | - |
| 2678 Fe XIX | 007281 | 1039.300 | 11.930 6.92 | | - | - | - | _ | - | - | - | - | - | - | - | - | - | 6.95 | 5.2 | 5 5.0 | 03 6 | .45 | 8.55 | - | - | - | - | _ | - | - | - |
| 3286 Fe XX 4805 Fe XXIII | | 1039.400 1039.400 | 11.928 6.99 11.928 7.18 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.77 | 5.2 | 9 4.4 | 48 5 | .43 | 7.14 | | | - 1 6 1 | 2 7 1 | - | - | - | - |
| 4457 Fe XXII | | 1039.400 | 11.927 7.10 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.7 | 9 2.0 | 57 2 | .59 | 3.45 | 4.4 | 5 5.4 | 4 0.4 2 - | 3 / · : | - | - - - | _ | _ |
| 4456 Fe XXII | | 1039.800 | 11.924 7.11 | | - | - | - | - | _ | - | - | - | - | - | - | _ | - | - | 7.2 | 1 5.0 | J4 4 | .93 | 5.77 | 6.7. | 1 7.7 | 2 – | _ | _ | - | - | - |
| 3966 Fe XXI | | 1040.100 | 11.920 7.05 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.3 | 4 3.8 | 39 4 | .33 | 5.62 | 6.9 | 4 – | - | - | - 56 - - 12 - | - | - | - |
| 4804 Fe XXIII 3285 Fe XX | | 1040.400 1040.600 | 11.917 7.18 11.915 6.99 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - 20 | 6.4 | 9 3.! | 58 2 | .90 | 3.29 | 3.8 | 5 4.5 | 3 5.4 | 2 6.5 | 56 – | - | - | - |
| 4803 Fe XXIII | | 1040.600 | 11.915 7.18 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 7.3 | 1 4.4 | 91 3 41 3 | .74 | 4.14 | 4.7 | 1 5.3 | - 9 6.2 | 8 7.4 | 12 - | _ | _ | _ |
| 3965 Fe XXI | | 1040.700 | 11.914 7.05 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.5 | 9 4. | 13 4 | .56 | 5.84 | 7.1 | 5 – | - | - | - | - | - | - |
| 3284 Fe XX | | 1040.900 | 11.911 6.98 | | - | - | - | - | - | - | - | - - - | - | - | - | - | - | 7.88 | 5.5 | 7 4.8 | 36 5 | .86 | 7.60 | _ | - | - | - | - | - | - | - |
| 426 Na III 4455 Fe XXII | F S B08069 | 1041.000 1041.300 | 11.910 5.82 11.907 7.11 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 5 8 | 4 3 ' | 70 3 | - . 60 | 4.45 | 5 4 |) 6 4 | 1 - | _ | _ | _ | _ | _ |
| 3964 Fe XXI | C04094 | 1041.400 | 11.906 7.05 | 5 3.61 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.1 | 1 3.6 | 56 4 | .09 | 5.37 | 6.69 | 9 – | _ | _ | - | - | - | - |
| 4454 Fe XXII | в08070 | 1041.400 | 11.906 7.11 | 1 4.65 | | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 6.62 | 2 7.6 | 3 – | - | - | - | - | - |
| 2285 Fe XVIII | | 1042.100 | 11.898 6.85 | | - | - | - | - | - | - | - | _ | - | - | - | - | 7.36 | 5.52 | 4.6 | 0 4.9 | 98 6 | . 87 | _ | | - | - | - | - | - | - | - |
| 4453 Fe XXII 3963 Fe XXI | | 1042.200 1042.400 | 11.896 7.10 11.894 7.05 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5./ | 0 3.6 | 94 5 | .37 | 6.65 | 7 9' | , 0.3 7 – | 0 - | _ | _ | _ | _ | _ |
| 4802 Fe XXIII | BE09033 | 1042.900 | 11.888 7.18 | 8 4.75 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.3 | 4 5.4 | 43 4 | .76 | 5.15 | 5.72 | 2 6.3 | 9 7.2 | 8 8.4 | 12 – | - | - | - |
| 4452 Fe XXII | B04041 | 1043.200 | 11.885 7.10 | 0 2.66 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.0 | 5 2.9 | 92 2 | .83 | 3.69 | 4.6 | 4 5.6 | 5 – | - | - | - | - | - |
| 3962 Fe XXI | | 1043.800 | 11.878 7.09 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.0 | 2 3. | 56 3 | .99 | 5.27 | 6.59 | 9 – | - | - | - | - | - | - |
| 4451 Fe XXII 4450 Fe XXII | | 1043.800 1044.400 | 11.878 7.10 11.871 7.10 | | | - | _ | _ | _ | - | - | _ | _ | - | - | - | _ | _ | 6.3 | 0 4. | 164 | .07 | 4.93 | 5.88 | 6.8 | 9 – 6 | - | - | - | - | - |
| 3961 Fe XXII | | 1044.400 | 11.871 7.10 | | | _ | _ | _ | _ | _ | _ | - - - | _ | _ | _ | _ | _ | _ | 6.3 | 6 4.9 | 90 5 | .33 | 6.62 | 7.9 | 3 - | - - | _ | _ | _ | _ | _ |
| 4449 Fe XXII | | 1044.900 | 11.866 7.10 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.2 | 1 5.0 | 08 4 | .98 | 5.84 | 6.79 | 7.8 | 0 – | - | - | - | - | - |

| Apr 13, 10 | 14:27 | | | | | | | lin | ne li | st | SPE | EΧν | ver | sio | n 2 | .0 | | | | | | | | | | • | Page | | 77 |
|---|---|--|--|-----------------------------|------------------|----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|----------------------|----------------------|----------------------|-------------------------|-------------------------|---|--------------------------|----------------------------|-------------------------|------------------|------------------|------------------|
| Nr ion | Transit. | E(eV) La | mbda(A) Tmax | -Qmax | 4.0 4 | .2 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2284 Fe XVIII 5245 Ni XX 4801 Fe XXIII 4800 Fe XXIII 4448 Fe XXII | F2E BE05017 BE08025 | 1045.000 1045.000 1045.100 1045.200 1045.400 | 11.864 6.8 11.864 6.8 11.863 7.1 11.862 7.1 11.860 7.1 | 2 2.56 3 4.91 3 4.60 | - | | - - - - | - | - | 5.48 | - | 2.57 8.47 8.18 | 3.16 5.58 5.28 | 5.3 4.9 4.6 | 1 - 2 5.3 1 5.0 | 1 5.5 | - 9 6.56 7 6.25 8 7.09 | 5 7.1 | | | - - - - | - - - - | - - - - |
| 4799 Fe XXIII 4447 Fe XXII 3283 Fe XX 4798 Fe XXIII 4797 Fe XXIII | B08074 N03182 BE05018 | | 11.858 7.1 11.856 7.1 11.855 6.9 11.856 7.1 11.855 7.1 | 1 4.37 9 4.47 3 4.97 | - | | - - - - | - - - - | _ | _ | - - - - | _ | _ | _ | _ | _ | 7.78 - | 6.78 5.29 8.53 | 4.63 4.48 5.64 | 4.5 5.4 4.9 | 3 5.3 2 7.1 7 5.3 | 9 6.3 4 – 7 5.9 | 3 7.34 | 4 – – 2 7.52 | - - 2 8.60 | - - 5 - | - - - - | - - - - | - - - - |
| 4446 Fe XXII 3960 Fe XXI 4445 Fe XXII 428 Na IV 4444 Fe XXII | B04046 C04103 B05050 O S B05051 | 1046.500 1046.600 1047.200 1048.000 1048.400 | 11.848 7.1 11.846 7.0 11.840 7.1 11.830 5.8 11.826 7.1 | 5 4.20 0 4.03 5 11.93 | - | | - - - - | | 5.70 6.43 - | 4.25 4.29 | 4.6 | 8 5.9 0 5.0 - | 6 7.2 6 6.0 - | 6 7.07 8 - 1 7.02 - 8 6.10 | - 2 - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 5244 Ni XX 4443 Fe XXII 3959 Fe XXI 3958 Fe XXI 4442 Fe XXII | F2D B04047 C01070 C04108 B05052 | 1048.500 1048.900 1049.000 1049.100 1049.100 | 11.825 6.8 11.820 7.1 11.819 7.0 11.818 7.0 11.818 7.1 | 3.53 4 3.90 5 3.97 | | | - - - - | - - - - | - | - | - - - - | - | - | _ | _ | - | - | 5.92 5.26 5.48 | 3.79 | 3.70 4.43 | 0 4.5 3 5.7 | 5 7.0 | 5 _ | _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4441 Fe XXII 2676 Fe XIX 4440 Fe XXII 3281 Fe XX 4439 Fe XXII | B10089 001192 B04049 N02182 B03042 | 1049.500 1049.500 1050.700 1050.900 1051.100 | 11.814 7.1 11.814 6.9 11.800 7.1 11.798 6.9 11.796 7.1 | 1 4.13 2.51 9 4.92 | - - - | | _ | - - - - | _ | _ | _ | _ | _ | _ | _ | _ | 5.89 - 8.22 | 4.40 4.90 5.73 | 4.29 2.77 4.92 | 5.7° 2.68 5.80 | 7 7.9 8 3.5 6 7.5 | 1 – 4 4.4 8 – | _ | -) - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4796 Fe XXIII 4438 Fe XXII 5243 Ni XX 3280 Fe XX 2281 Fe XVIII | B03043 F2C N01152 | 1051.400 1051.500 1051.600 1051.900 1052.000 | 11.792 7.1 11.791 7.1 11.790 6.8 11.787 6.9 11.786 6.8 | 3.49 2 3.39 3 3.22 | - | | - - - - | - | | 5.88 3.40 3.95 | 3.75 3.99 3.23 | 3.60 6.13 4.23 | 6 4.5 3 - 3 5.9 | 2 5.4 | 1 6.19 7 6.48 - - | | 8 8.2: - - - - | 2 – – – – – | - - - - | - - - - | - - - - |
| 4437 Fe XXII 3279 Fe XX 4434 Fe XXII 4433 Fe XXII 4795 Fe XXIII | B07066 N01154 B03045 B10090 BE08029 | 1052.000 1052.300 1052.900 1053.000 1053.000 | 11.786 7.1 11.782 6.9 11.775 7.1 11.774 7.1 | 3.94 3.72 1 4.55 | - | | - - - - | | - - - | 6.97 - - | 4.67 6.11 6.97 | 3.95 3.98 4.82 | 4.95 3.85 4.75 | 5 6.6 9 4.7 2 5.5 | 9 – 5 5.7 7 6.5 | 1 6.41 - 0 6.71 1 7.52 3 5.61 | - L - 2 - | - - - -) 7.6 | - - - - 4 - | - - - - | - - - - | - - - - |
| 4432 Fe XXII 4431 Fe XXII 4436 Fe XXII 4435 Fe XXII 5242 Ni XX | B05054 B03046 B07067 B01020 F2B | 1053.100 1053.100 1053.400 1053.400 1053.400 | 11.773 7.1 11.773 7.1 11.770 7.1 11.770 7.1 11.770 6.8 | 3.79 1 4.25 1.38 | - | | - - - - | - - - - | | | - - - - | _ | _ | _ | _ | | - - | 6.18 6.66 | 4.05 4.51 | 3.90 4.41 | 6 4.8 1 5.2 | 2 5.7 7 6.2 | 7 6.88 7 6.78 1 7.22 5 4.47 | 3 – 2 – | - - - - | - - - - | - - - - | - - - - | - - - - |
| | BE09039 N01159 | 1053.400 1053.700 1054.100 1054.300 1054.600 | 11.770 6.8 11.767 6.8 11.762 7.1 11.760 6.9 11.756 6.8 | 4 4.35 3 4.95 3 2.74 | - - - - | | - - - - | _ | 5.16 | 4.39 8.54 3.47 | 4.84 5.63 2.75 | 6.7° 4.9° 3.7 | 7 - 6 5.3 5 5.4 | | - 1 6.59 - - | - - 7.48 - - | - 3 8.63 - - | - - 2 - - - | - - - - | - - - - | - - - - |
| 4430 Fe XXII 4429 Fe XXII 3956 Fe XXI 4428 Fe XXII 4427 Fe XXII | B06067 B02025 C05126 B07071 B04051 | 1055.000 1055.000 1055.100 1055.100 1055.400 | 11.752 7.1 11.752 7.1 11.751 7.0 11.751 7.1 11.748 7.1 | 3.85 5 4.15 1 4.42 | - - - - | | - - - - | - | 6.23 5.67 6.83 | 4.10 4.20 4.68 | 4.0 4.6 4.5 | 2 4.8 3 5.9 8 5.4 | 8 5.8 1 7.2 3 6.3 | 2 6.13 3 6.84 3 - 8 7.39 9 6.70 | 1 – – 9 – | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4426 Fe XXII 3955 Fe XXI 4793 Fe XXIII 4425 Fe XXII 4424 Fe XXII | BE05020 B04052 | 1056.100 | 11.746 7.1 11.744 7.0 11.741 7.1 11.740 7.1 11.739 7.1 | 3.74 3 1.51 0 4.28 | - | | - - - - | | 5.25 5.08 6.67 | 3.79 2.18 4.54 | 4.2 1.5 4.4 | 2 5.5 2 1.9 5 5.3 | 1 6.8 2 2.4 0 6.2 | 8 6.09 2 - 8 3.16 5 7.26 5 6.76 | - 5 4.0! 5 - | - 5 5.19 - - | - - - - - | - - - - | - - - - | - - - - |

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|---|---|------------------------------|--------------|----------|
| Nr ion Transit. E(eV) | Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8 | 0 8.2 | 8.4 8.6 | 8.8 9.0 |
| 2278 Fe XVIII F03226 1056.20 3277 Fe XX N03192 1056.30 3954 Fe XXI C03093 1056.70 3953 Fe XXI C08175 1056.80 3276 Fe XX N01163 1057.00 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 3275 Fe XX N01162 1057.00 430 Na V N S 1057.00 4792 Fe XXIII BE03011 1057.20 3952 Fe XXI C03094 1057.30 2277 Fe XVIII F03227 1057.50 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | - – - – 67 6.75 - – | | |
| 4423 Fe XXII B06071 1057.80 4791 Fe XXIII BE08032 1058.30 2276 Fe XVIII F02132 1058.40 4422 Fe XXII B02026 1058.50 3951 Fe XXI C05135 1058.80 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 3950 Fe XXI C04116 1058.90 2275 Fe XVIII F02133 1059.00 4790 Fe XXIII BE07029 1059.20 3949 Fe XXI C07177 1059.40 4788 Fe XXIII BE06025 1059.70 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 4789 Fe XXIII BE09041 1059.70 4787 Fe XXIII BE08033 1059.90 4421 Fe XXII B04054 1060.10 2274 Fe XVIII F02136 1060.70 4786 Fe XXIII BE02011 1061.10 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 34 8.48 | | |
| 2273 Fe XVIII F03240 1061.20 2272 Fe XVIII F02137 1062.00 2271 Fe XVIII F03242 1062.20 2270 Fe XVIII F03243 1062.80 3948 Fe XXI C02094 1063.10 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 4420 Fe XXII B02028 1063.10 2269 Fe XVIII F01121 1064.20 4419 Fe XXII B02029 1064.30 4418 Fe XXII B04055 1064.60 4417 Fe XXII B02030 1064.70 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 3947 Fe XXI | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 4783 Fe XXIII BE09045 1067.40 4416 Fe XXII B02031 1067.60 2268 Fe XVIII F03247 1068.10 4782 Fe XXIII BE09046 1068.30 4781 Fe XXIII BE07036 1068.50 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 68 7.81 | | |
| 2267 Fe XVIII F02159 1069.10 3946 Fe XXI C02105 1069.10 3945 Fe XXI C07190 1069.20 2266 Fe XVIII F03252 1069.40 4415 Fe XXII B01025 1069.70 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | |
| 4414 Fe XXII B02032 1069.80 2265 Fe XVIII F02162 1070.10 2264 Fe XVIII F02161 1070.10 5207 Ni XIX NE3B 1070.50 3943 Fe XXI C05148 1070.60 | 0 11.586 6.86 4.84 7.68 5.82 4.89 5.26 7.15 0 11.586 6.86 3.82 6.67 4.80 3.88 4.24 6.13 0 11.582 6.69 3.18 4.26 3.26 3.32 4.49 7.10 | | | |

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|---|--|----------------------|---------|--------------|
| Nr ion Transit. E(eV) La | ambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8 | .0 8.2 | 8.4 8.6 | 8.8 9.0 |
| 3942 Fe XXI C02108 1070.800 4413 Fe XXII B03055 1071.200 3941 Fe XXI C03114 1071.700 3940 Fe XXI C01094 1071.900 2263 Fe XVIII F02165 1072.200 | 11.579 7.05 | | | |
| 4412 Fe XXII B01026 1073.100 404 Ne IX HE3 1073.800 3938 Fe XXI C02113 1073.800 2262 Fe XVIII F01136 1073.800 4780 Fe XXIII BE08040 1074.200 | 11.554 7.10 3.05 5.28 3.27 3.25 4.14 5.11 6.14 - 11.546 6.59 2.27 5.26 3.61 2.61 2.27 2.63 3.30 3.95 4.55 5.09 5.59 6 11.546 7.05 4.34 5.85 4.39 4.82 6.11 7.42 11.546 6.84 3.11 5.51 3.91 3.14 3.59 5.52 11.542 7.18 4.05 7.64 4.73 4.05 4.45 5.01 5.69 6 | | | |
| 3937 Fe XXI C03115 1074.200 4411 Fe XXII B02034 1074.900 3936 Fe XXI C06162 1075.200 2261 Fe XVIII F01137 1075.300 2260 Fe XVIII F01138 1075.700 | 11.542 7.05 | | | |
| 5206 Ni XIX NE3A 1076.100 4779 Fe XXIII BE08041 1076.600 4778 Fe XXIII BE08042 1076.700 4777 Fe XXIII BE06036 1076.800 4776 Fe XXIII BE07039 1077.200 | 11.522 6.69 2.70 3.74 2.78 2.83 3.98 6.56 11.516 7.18 4.45 8.04 5.13 4.45 4.84 5.41 6.08 6 11.515 7.18 4.76 8.36 5.45 4.77 5.16 5.73 6.40 7 11.514 7.18 3.41 7.00 4.10 3.42 3.82 4.38 5.06 5 11.510 7.18 4.28 7.87 4.96 4.28 4.68 5.24 5.92 6 | .29 8.43 .95 7.09 | | |
| 4410 Fe XXII B02037 1077.300 4409 Fe XXII B02036 1077.300 3935 Fe XXI C02114 1077.500 4775 Fe XXIII BE05023 1077.600 3933 Fe XXI C06166 1077.700 | 11.509 7.10 3.17 5.56 3.43 3.34 4.20 5.15 6.16 11.509 7.10 4.08 6.47 4.34 4.25 5.11 6.06 7.07 11.507 7.05 3.96 5.47 4.01 4.44 5.73 7.04 - 11.506 7.18 4.54 8.12 5.22 4.55 4.95 5.51 6.19 7.11.504 7.05 4.56 6.08 4.61 5.03 6.31 7.62 | .08 8.22 | | |
| 441 Na VII BS 1078.100 4408 Fe XXII B01028 1079.500 3931 Fe XXI C01108 1079.600 3930 Fe XXI C04142 1079.800 3929 Fe XXI C02115 1080.000 | 11.500 6.01 7.60 9.07 7.60 7.86 8.27 8.74 9.66 11.485 7.10 2.54 4.76 2.76 2.74 3.63 4.60 5.62 11.484 7.04 4.47 5.84 4.50 5.00 6.32 7.65 - 11.482 7.05 4.86 6.37 4.91 5.33 6.62 7.93 - 11.480 7.05 3.72 5.23 3.77 4.20 5.49 6.80 | | | |
| 2259 Fe XVIII F01155 1080.600 3928 Fe XXI C02116 1080.600 2258 Fe XVIII F02176 1080.800 2257 Fe XVIII F01157 1080.800 4407 Fe XXII B01029 1081.700 | 11.474 6.84 3.77 6.18 4.58 3.80 4.25 6.18 11.474 7.05 3.36 4.87 3.41 3.84 5.13 6.44 11.471 6.86 3.67 6.53 4.66 3.73 4.09 5.98 11.471 6.84 3.59 6.00 4.40 3.62 4.07 6.00 11.462 7.10 2.36 4.58 2.58 2.55 3.45 4.42 5.44 | | | |
| 2255 Fe XVIII F01159 1081.700 4774 Fe XXIII BE04017 1081.800 2256 Fe XVIII F02178 1081.900 4406 Fe XXII B01031 1082.300 4773 Fe XXIII BE04018 1082.400 | 11.462 6.84 4.43 6.83 5.24 4.46 4.91 6.84 11.461 7.18 4.30 7.88 4.98 4.31 4.69 5.24 5.90 6 11.460 6.86 3.12 5.98 4.11 3.18 3.54 5.43 11.456 7.10 3.58 5.80 3.80 3.77 4.67 5.64 6.66 11.455 7.18 3.23 6.79 3.90 3.24 3.64 4.21 4.89 5 | | | |
| 2254 Fe XVIII F01161 1082.600 4772 Fe XXIII BE07042 1082.800 2252 Fe XVIII F01163 1083.100 4405 Fe XXII B02039 1083.200 4771 Fe XXIII BE07043 1083.200 | 11.452 6.84 3.24 5.65 4.05 3.27 3.72 5.65 11.450 7.18 4.45 8.05 5.14 4.46 4.85 5.42 6.09 6 11.447 6.84 3.97 6.38 4.78 4.00 4.45 6.38 11.446 7.10 4.75 7.14 5.01 4.92 5.78 6.73 7.74 11.446 7.18 4.85 8.45 5.54 4.86 5.25 5.82 6.49 7 | | | |
| 2251 Fe XVIII F02182 1083.400 4769 Fe XXIII BE39184 1083.500 2253 Fe XVIII F02181 1083.600 4768 Fe XXIII BE08045 1084.300 2087 Fe XVII NE01077 1084.300 | | .04 8.15 | | |
| 4913 Fe XXIV LI03004 1084.400 2249 Fe XVIII F01165 1084.800 2250 Fe XVIII F01164 1085.600 4767 Fe XXIII BE05026 1085.700 4766 Fe XXIII BE05027 1085.900 | 11.429 6.84 4.07 6.48 4.88 4.10 4.55 6.48 · · · · · · · · · · · · · · · · | .33 8.47 | | |

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|---|---|------------|----------|----------|---------------------|---|---------------------------------------|---------|---------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 | .2 4.4 4.6 | 4.8 5.0 | 5.2 5.4 | 5.6 5.8 6.0 | 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 | 8.0 8.2 8 | 3.4 8.6 | 8.8 9.0 |
| 4770 Fe XXIII BE04019 3925 Fe XXI C01114 4403 Fe XXII B02044 4404 Fe XXII B01032 3924 Fe XXI C03130 | 1086.300 11.413 7.18 2.49 - 1086.300 11.413 7.04 4.29 - 1086.900 11.407 7.10 3.15 - 1087.600 11.400 7.10 2.13 - 1088.200 11.394 7.05 4.75 - | | | | | 6.05 3.16 2.50 2.90 3.46 4.14 5.66 4.32 4.82 6.14 7.47 - 5.55 3.41 3.32 4.18 5.13 6.14 4.36 2.35 2.33 3.23 4.20 5.22 6.27 4.80 5.23 6.51 7.83 - | | | |
| 4765 Fe XXIII BE25172 3923 Fe XXI C01116 | 1088.600 11.389 7.20 4.53 - 1089.500 11.380 7.04 3.05 - 1089.600 11.379 7.10 3.43 - | | | = = | | 5.93 4.21 3.97 5.38 7.49 5.39 4.53 4.80 5.29 5.92 4.42 3.08 3.58 4.90 6.23 5.66 3.65 3.63 4.53 5.49 6.51 4.71 3.84 4.11 4.59 5.21 | 6.78 7.89 | | |
| 4762 Fe XXIII BE07046 447 Na VIII BE S2 | 1091.900 11.355 7.10 3.57 - | | | | - 9.29 6.83 | 7.86 4.92 4.20 4.54 5.02 5.61 8.31 5.39 4.71 5.11 5.67 6.34 6.35 6.19 6.22 6.78 7.89 9.13 5.80 3.79 3.77 4.66 5.63 6.65 5.60 4.73 5.01 5.50 6.13 | | | |
| | 1094.200 11.331 6.93 4.38 - | | | | | 6.09 4.63 5.05 6.34 7.65 - 6.70 3.81 3.13 3.52 4.07 4.72 6.35 4.89 5.31 6.59 7.90 - 6.29 3.39 2.71 3.10 3.64 4.29 - 6.46 4.74 4.50 5.91 8.01 - | 5.57 6.66 5.14 6.21 | | |
| 3270 Fe XX N10289 2248 Fe XVIII F01177 2247 Fe XVIII F01176 2245 Fe XVIII F01180 2246 Fe XVIII F01178 | 1004 700 11 226 6 94 2 49 _ | | | | | - 5.06 3.46 2.68 3.12 5.05 4.71 3.11 2.33 2.77 4.70 4.82 3.22 2.44 2.88 4.81 | | | |
| 2244 Fe XVIII F01181 2243 Fe XVIII F01182 5273 Ni XXI 01,2 2668 Fe XIX 006344 2078 Fe XVII NE01085 | 1095.600 11.317 6.84 3.47 - 1095.900 11.313 6.84 3.97 - 1096.100 11.311 6.91 2.27 - 1096.100 11.311 6.93 3.18 - 1096.800 11.304 6.74 3.54 - | | | | | - 5.89 4.29 3.50 3.95 5.87 | | | |
| 4758 Fe XXIII BE02017 4757 Fe XXIII BE05030 2242 Fe XVIII F03263 4756 Fe XXIII BE24174 2241 Fe XVIII F03264 | 1097.900 11.293 6.86 4.20 - 1098.100 11.291 7.20 4.60 - | | | | | 6.54 3.64 2.97 3.35 3.90 4.56 8.10 5.20 4.52 4.92 5.48 6.16 - 7.23 5.26 4.27 4.60 6.46 5.46 4.60 4.88 5.37 5.99 - 7.37 5.41 4.41 4.74 6.60 | 7.05 8.19 | | |
| | 1098.700 11.285 6.74 4.08 - | | | | | - - - 6.97 4.00 3.21 3.45 3.86 4.37 - 7.41 5.45 4.45 4.78 6.64 - - - - 7.53 4.96 4.24 4.13 5.11 7.50 - - - - - - - 4.68 3.82 4.10 4.59 5.21 - - - 7.06 4.91 4.81 5.66 6.61 7.62 | | | |
| | 1099.100 11.281 7.11 4.63 - 1099.200 11.279 6.98 4.46 - 1099.200 11.280 7.22 4.52 - 1099.600 11.275 7.18 4.37 - 1099.900 11.272 6.93 4.00 - | | | | | 7.06 4.90 4.79 5.64 6.59 7.59 - 7.50 5.18 4.47 5.46 7.19 5.46 4.52 4.75 5.21 5.82 7.97 5.05 4.37 4.77 5.33 6.00 - 6.09 4.36 4.12 5.52 7.63 | 6.66 7.77 | | |
| 4912 Fe XXIV LI02004 4750 Fe XXIII BE05035 4751 Fe XXIII BE94272 | 1099.900 11.272 6.86 3.99 - 1100.300 11.268 7.29 2.47 - 1100.600 11.265 7.18 4.46 - 1100.600 11.265 7.22 4.73 - 1101.100 11.260 7.11 4.63 - | | | | | - 6.88 4.99 4.05 4.41 6.30 | 3.63 4.42 5 6.99 8.13 6.87 7.98 | | |
| 4748 Fe XXIII BE90272 4747 Fe XXIII BE93276 | 1101.500 11.256 7.10 3.72 - 1101.600 11.255 7.22 4.64 - | | | | | 5.27 4.40 4.67 5.16 5.78 5.95 3.94 3.91 4.81 5.78 6.80 5.57 4.64 4.87 5.33 5.94 4.94 4.01 4.24 4.70 5.31 - 6.08 4.36 4.12 5.53 7.63 | 6.78 7.89 | | |

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|---|---|---|-----------------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 | 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 | 8.4 8.6 8.8 9.0 |
| 4746 Fe XXIII BE89273 4745 Fe XXIII BE72225 4744 Fe XXIII BE03020 | 1102.000 11.251 6.74 1.73 1102.000 11.251 7.22 4.94 1102.100 11.250 7.22 4.86 1102.300 11.248 7.19 3.64 1102.800 11.243 7.22 4.72 | 5.18 2.60 1.89 1.77 2.76 5.15 | 1 1 |
| 4396 Fe XXII B03074 4742 Fe XXIII BE6C 4395 Fe XXII B05084 4394 Fe XXII B04078 4393 Fe XXII B03075 | 1103.600 11.235 7.11 4.57 - - - - 1104.000 11.230 7.20 3.21 - - - - 1104.200 11.228 7.11 4.45 - - - - 1105.200 11.218 7.11 4.63 - - - - 1105.600 11.214 7.11 3.99 - - - - | 6.98 4.83 4.73 5.58 6.53 7.54 6.97 4.00 3.21 3.45 3.86 4.37 5.09 6.00 6.87 4.72 4.62 5.47 6.41 7.42 7.04 4.89 4.79 5.64 6.59 7.60 6.40 4.25 4.15 5.01 5.95 6.96 | 7.13 |
| 2664 Fe XIX 003213 5239 Ni XX F1B 2663 Fe XIX 009428 2662 Fe XIX 002213 4741 Fe XXIII BE22172 | 1105.900 11.211 6.92 4.57 | 6.59 4.91 4.70 6.12 8.24 | |
| 460 Na X HE6 4740 Fe XXIII BE05037 3268 Fe XX N08277 | 1107.800 11.192 7.30 2.78 | 4.05 2.85 2.82 3.02 3.35 3.89 4.69 5.16 3.92 3.25 3.23 3.77 4.44 5.05 5.60 6.11 6.57 7.00 7.33 4.43 3.75 4.14 4.71 5.38 6.27 7.41 8.13 5.57 4.72 5.64 7.34 3.10 1.90 1.88 2.09 2.43 2.98 3.79 | 0 1 |
| 3917 Fe XXI C03150 4392 Fe XXII B02057 4391 Fe XXII B02059 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 5.26 4.40 4.67 5.16 5.79 6.64 7.70 6.02 4.56 4.98 6.26 7.57 6.01 3.87 3.77 4.63 5.58 6.59 6.19 4.05 3.95 4.81 5.76 6.77 5.50 4.64 4.91 5.40 6.03 6.88 8.00 | |
| 2661 Fe XIX 004222 4390 Fe XXII B05089 4735 Fe XXIII BE22174 | 1111.000 11.160 7.22 4.78 1111.300 11.157 6.92 4.84 1111.300 11.157 7.11 4.81 1111.500 11.155 7.21 4.22 1111.500 11.155 7.22 4.66 | 5.72 4.79 5.02 5.48 6.08 6.93 8.01 6.88 5.18 4.96 6.38 8.49 7.22 5.07 4.97 5.82 6.76 7.77 5.08 4.22 4.49 4.98 5.61 6.46 7.58 5.60 4.67 4.90 5.36 5.96 6.81 7.93 | |
| 2238 Fe XVIII F01195 2660 Fe XIX 009432 | 1111.700 11.153 7.21 4.68 - - - - - 1112.300 11.147 6.84 3.49 - - - - 1112.700 11.143 6.93 4.89 - - - - 1113.000 11.140 7.21 4.43 - - - - 1113.000 11.140 7.10 3.73 - - - - | 5.55 4.68 4.94 5.43 6.05 6.90 8.03 5.92 4.31 3.52 3.96 5.89 | |
| 2074 Fe XVII NE01118 4388 Fe XXII B02061 2659 Fe XIX 001210 2658 Fe XIX 007371 3916 Fe XXI C02150 | 1114.000 11.130 6.74 1.85 1114.100 11.129 7.10 3.47 1114.400 11.126 6.91 4.79 1114.900 11.121 6.93 4.49 1115.200 11.118 7.05 4.68 | 5.32 2.73 2.01 1.89 2.87 5.26 | |
| 2657 Fe XIX 007372 2656 Fe XIX 007374 4731 Fe XXIII BE71269 | 1115.500 11.115 7.22 4.14 1115.700 11.113 6.93 4.24 1116.300 11.107 6.93 4.22 1116.500 11.105 7.22 4.30 1116.500 11.105 7.21 4.93 | 5.08 4.14 4.37 4.83 5.44 6.28 7.39 6.34 4.60 4.36 5.76 7.86 | 5 |
| 2655 Fe XIX 001213 2654 Fe XIX 004228 4729 Fe XXIII BE75272 4728 Fe XXIII BE69268 4726 Fe XXIII BE05044 | 1116.900 | 5.72 4.21 4.09 5.56 7.70 | 1 |
| 4727 Fe XXIII BE69270 451 Na IX LI S2 445 Na VIII BE S3 446 Na VIII BE S4 459 Na X HE5 | 1117.900 11.091 7.21 4.31 1118.000 11.090 6.57 4.07 1118.000 11.090 6.56 6.31 1118.000 11.090 6.58 6.31 1118.600 11.084 6.69 3.66 | 5.24 4.31 4.55 5.01 5.62 6.47 7.58 6.16 4.88 4.25 4.07 4.46 5.36 6.36 7.28 | 8 |

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|---|------------------------------|--|---|----------------------|----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------------|--------------------------------|--------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|--|-----------------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|------------------|------------------|
| Nr ion | Transit. | E(eV) Lat | mbda(A) Tmax | -Qmax 4 | .0 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2235 Fe XVIII 2653 Fe XIX 4387 Fe XXII 2652 Fe XIX 2651 Fe XIX | O05272 B02063 O07385 | 1118.700 1119.000 1120.000 1120.200 1120.500 | 11.083 6.84 11.080 6.93 11.070 7.11 11.068 6.93 11.065 6.93 | 4.56 4.54 4.48 | | - - - - | - - - - | _ | 5.07 6.65 - 6.58 6.26 | 4.92 6.94 4.84 | 4.68 4.80 4.60 | 6.08 4.73 6.00 | 8 8.1 1 5.5 0 8.1 | 0 – | - - 1 7.52 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 2650 Fe XIX 2649 Fe XIX 2072 Fe XVII 2648 Fe XIX 2647 Fe XIX | NE01129 006372 | 1120.900 1121.700 1122.900 1123.400 1123.500 | 11.061 6.93 11.053 6.92 11.041 6.74 11.037 6.93 11.036 6.93 | 4.68 3.44 4.16 | | - - - - | _ | - - - - | _ | _ | _ | _ | _ | _ | - 6.93 | - 4.33 | 6.70 3.61 | 5.01 3.48 4.52 | 4.80 4.46 4.28 | 6.25 6.85 5.66 | 2 8.3 5 - 8 7.7 | 3 – – 8 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4909 Fe XXIV 2646 Fe XIX 2645 Fe XIX 2644 Fe XIX 4386 Fe XXII | 007396 006374 004243 | 1123.700 1123.700 1124.000 1124.000 1124.300 | 11.034 7.29 11.034 6.93 11.031 6.93 11.031 6.93 11.028 7.10 | 4.41 3.63 4.38 | | - - - - | _ | _ | - | _ | - | _ | - | - | _ | - | 6.51 5.73 | 4.77 3.99 | 4.52 3.75 4.50 | 5.9 | 2 8.0 5 7.2 | 2 – | = | _ | 4.00 - - - - | 4.92 - - - - | 5.92 - - - - | - - - - | - - - - |
| 2071 Fe XVII 4725 Fe XXIII 450 Na IX 4724 Fe XXIII 449 Na IX | BE01014 LI S3 | 1125.400 | 11.025 6.74 11.020 7.18 11.017 6.60 11.015 7.18 11.003 6.62 | 2.00 4.05 4.29 | | - - - - | - 6.81 - 7.16 | 6.07 - 5.19 - 5.37 | 3.47 - 4.35 - 4.42 | 2.74 - 4.05 - 4.06 | 2.62 5.56 4.40 7.87 4.36 | 3.60 2.67 5.30 4.97 5.23 | 5.99 2.00 6.33 4.30 6.23 | 9 - 0 2.4 1 7.2 0 4.7 2 7.1 | - 0 2.97 6 - 0 5.26 6 8.03 | - 7 3.65 - 5 5.94 8 - | 4.53 - 6.83 | - 5.66 - 7.97 | - - - - | - - - - | - - - - | - - - - |
| 458 Na X 2643 Fe XIX 403 Ne IX 2642 Fe XIX 2641 Fe XIX | HE2 007403 | 1126.900 1127.100 1127.100 1127.500 1128.200 | 11.002 6.71 11.000 6.93 11.000 6.60 10.996 6.93 10.990 6.93 | 3.98 2.74 3.98 | | - - - - | - 5.91 - - | 5.03 - 4.17 - | 3.75 - 3.11 - - | 3.06 6.08 2.74 6.08 6.55 | 4.34 3.08 4.34 | 4.09 3.73 4.09 | 5.49 4.38 5.49 | 9 7.5 8 4.9 9 7.5 | 8 5.45 9 - 6 5.50 9 - 7 - | 5 5.98 - 0 5.99 - - | 6.47 6.46 - | 6.92 - - - - | - - - - | - - - - | - - - - | - - - - |
| 2640 Fe XIX 2639 Fe XIX 4385 Fe XXII 4723 Fe XXIII 2638 Fe XIX | 006390 B01061 BE01015 | 1128.600 1128.600 1128.700 1129.100 1129.500 | 10.986 6.93 10.986 6.93 10.985 7.10 10.981 7.18 10.977 6.93 | 4.00 3.87 1.81 | | - - - - | - - - - | - | _ | _ | - - - - | _ | _ | _ | _ | _ | 6.09 - - | 4.36 6.11 5.37 | 4.11 4.09 2.48 | 5.5 4.0 1.8 | 1 7.6 7 4.9 1 2.2 | 1 - | 3.46 | 4.35 | - - - 5.48 | - - - - | - - - - | - - - - | - - - - |
| 4722 Fe XXIII 4721 Fe XXIII 2637 Fe XIX 2636 Fe XIX 2635 Fe XIX | BE75305 006397 006398 | 1129.600 1131.700 1132.200 1132.300 1132.500 | 10.976 7.18 10.956 7.22 10.951 6.93 10.950 6.93 10.948 6.91 | 4.55 4.60 4.58 | | - - - - | _ | _ | _ | _ | _ | _ | - - - | _ | _ _ _ | _ _ _ | - 6 70 | - 4.96 4.94 | 5.50 4.71 4.69 | 4.50 6.1 6.0 | 6 4.7 1 8.2 9 8.1 | 9 5.24 1 – 9 – | 5 6.23 1 5.85 - - - | 7.12 6.69 - - | 8.26 7.80 - - - | - - - - | - - - - | - - - - | - - - - |
| 4384 Fe XXII 2634 Fe XIX 2632 Fe XIX 2631 Fe XIX 4720 Fe XXIII | 006400 | 1132.900 1132.900 1133.300 1133.400 1133.700 | 10.944 7.11 10.944 6.93 10.940 6.93 10.939 6.93 10.936 7.18 | 4.88 4.75 4.49 | | - - - - | - - - - | _ | 6.93 6.88 6.59 | 5.22 5.12 4.85 | 5.00 4.86 4.60 | 6.43 6.23 6.00 | 1 8.5 5 8.3 0 8.1 | 5 – | - - - | - - - | - - - | - - - - | - - - - | - - - - | - - - - |
| 4719 Fe XXIII 3267 Fe XX 2633 Fe XIX 2630 Fe XIX 4383 Fe XXII | N06289 003240 003242 | 1133.900 1134.000 1134.000 1134.100 1134.700 | 10.934 7.18 10.933 6.99 10.933 6.92 10.932 6.92 10.927 7.10 | 4.44 3.14 3.67 | | - - - - | _ | - - - - | _ | _ | _ | _ | _ | _ | _ | _ | 7.85 5.18 5.71 | 5.29 3.48 4.02 | 4.44 3.27 3.80 | 5.3 4.6 5.2 | 5 7.0 9 6.8 2 7.3 | | - - - | - - - | 8.38 - - - - | | - - - - | - - - - | - - - - |
| 4718 Fe XXIII 5238 Ni XX 3266 Fe XX 2629 Fe XIX 2628 Fe XIX | F1A N03246 O02242 | 1134.800 1135.400 1135.500 1135.800 1135.900 | 10.926 7.18 10.920 6.82 10.919 6.99 10.916 6.92 10.915 6.93 | 3.10 4.90 3.28 | | - - - - | - - - - | | - 3.86 8.27 5.32 6.38 | 3.11 5.74 3.62 | 3.68 4.91 3.41 | 5.8 5.8 4.8 | 2 - 4 7.5 3 6.9 | 4 – 4 – | 7 5.44 - - - - | 6.34 - - - - | 7.47 - - - | - - - - | - - - - | - - - - | - - - - |
| | BE04034 BE04035 O04270 | 1137.300 | 10.909 7.18 10.904 7.18 10.902 7.18 10.902 6.93 10.902 6.91 | 4.45 4.04 4.74 | | - - - - | - - - - | - - - - | | 8.04 7.63 5.09 | 5.13 4.72 4.86 | 4.4 4.0 6.2 | 6 4.8 5 4.4 8 8.3 | | 6.09 | 6.98 | 8.12 | - | - - - - | - - - - | - - - - |

| Apr 13, 1 | 0 14:27 | | | | | | | lin | e li | st | SPE | ΞX | ver | sio | n 2. | .0 | | | | | | | | | | | F | Page | 58/ | 77 |
|------------------------------|------------------|----------------------|---|---------|--------|-----|------------------|-----|------|-----|-----|-----|-----|------|------|------|--------------|------|-----|----------------|-------|---------------|------|----------|------|-----------|-----|------|-----|-----|
| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax 4 | .0 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 1 7. | 6 7 | . 8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2625 Fe XIX | 004272 | 1137.700 | 10.898 6.93 | 4.26 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.32 | 4.61 | 4.3 | 8 5.7 | 9 7.9 | 0 – | | - | _ | _ | _ | _ | _ | _ |
| 2624 Fe XIX 4714 Fe XXIII | | 1137.800 1137.900 | 10.897 6.93 10.896 7.18 | | | _ | - | _ | _ | _ | - | - | _ | - | _ | _ | 5.96 | | | | | | | | | - 7.84 | _ | - | _ | _ |
| 4382 Fe XXII | | 1137.900 | 10.895 7.11 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | - | | _ | _ | _ |
| 2623 Fe XIX | 004276 | 1138.100 | 10.894 6.93 | 3.90 | | - | - | - | - | - | - | - | - | - | - | - | 5.96 | 4.25 | 4.0 | 2 5.4 | 3 7.5 | i4 – | | - | - | - | - | - | - | - |
| 2622 Fe XIX | | 1138.600 | 10.889 6.91 10.885 7.05 10.878 6.93 10.875 7.21 10.872 6.93 | 4.42 | | - | - | - | - | - | - | - | - | - | - | - | 6.21 | 4.69 | 4.5 | 7 6.0 | 4 8.1 | .8 – | | - | - | - | - | - | - | - |
| 3912 Fe XXI 2621 Fe XIX | | 1139.000 1139.800 | 10.885 7.05 | 4.70 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - 6 22 | 6.28 | 4.7 | 5 5.1 9 5 7 | 6 6.4 | l2 7. ≀1 – | 72 | - | _ | _ | _ | _ | _ | _ |
| 4713 Fe XXIII | BE15172 | 1140.100 | 10.875 7.21 | 4.38 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.2 | 4 4.3 | 8 4.6 | 5 5. | 14 5 | .76 | 6.62 | 7.73 | - | - | - | - |
| 2620 Fe XIX | 004280 | 1140.400 | 10.872 6.93 | 4.48 | | | | | | | | | | | | | | | | | | | | - | - | - | - | - | - | - |
| 2619 Fe XIX | 001235 | 1140.700 | 10.869 6.91 | | | - | - - - | - | - | - | - | - | - | - | - | - | 6.49 | 4.98 | 4.8 | 6.3 | 2 8.4 | 16 - | | - | - | - | - | - | - | - |
| 2617 Fe XIX 2618 Fe XIX | | 1140.700 1140.700 | 10.869 6.91 10.869 6.91 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.96 6.20 | 4.44 | 4.3 | 2 5.7 6 6 0 | 3 8 1 | 6 – 6 – | | _ | _ | _ | _ | _ | _ | _ |
| 2616 Fe XIX | 009499 | 1141.000 | 10.866 6.93 | 4.62 | | - | - | - | - | - | - | - | - | - | - | - | 6.75 | 4.99 | 4.7 | 3 6.1 | 2 8.2 | 21 - | | - | - | - | - | - | - | - |
| 2615 Fe XIX | 009500 | 1141.400 | 10.862 6.93 | 4.28 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.41 | 4.00 | 4.3 | 9 5.1 | 0 /.0 | · – | | - | - | - | - | - | - | - |
| 2614 Fe XIX | | 1143.100 | 10.846 6.93 | | | - | - - - - | - | - | - | - | - | - | - | - | - | 6.69 | 4.98 | 4.7 | 6.1 | 7 8.2 | 27 – | 21 5 | - | - | - | - | | - | - |
| 4712 Fe XXIII 2612 Fe XIX | | 1144.000 1144.100 | 10.838 7.21 10.837 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.28 | 4.56 | 5.4 | 4 5.7 | 5 7.8 | 32 5. 36 - | 31 5 | .93 - | - | 7.90 | _ | _ | _ | _ |
| 2611 Fe XIX | 003268 | 1144.200 | 10.836 6.92 | 4.86 | | - | - | - | - | - | - | - | - | - | - | - | 6.91 | 5.21 | 4.9 | 9 6.4 | 0 8.5 | 1 - | | - | - | - | - | - | - | - |
| 2610 Fe XIX | 001242 | 1144.800 | 10.830 6.91 | 4.42 | | - | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 6.22 | 4.70 | 4.5 | 8 6.0 | 4 8 | .8 – | | - | - | - | _ | _ | _ | _ |
| 2613 Fe XIX | | 1145.100 | 10.827 6.91 | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | - | | | - | - |
| 4711 Fe XXIII 2609 Fe XIX | | 1145.100 | 10.827 7.18 10.827 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | - | | _ | _ | _ |
| 4710 Fe XXIII | | | 10.826 7.18 | 4.65 | | - | - | - | - | - | - | - | - | - | | | - | 8.24 | 5.3 | 3 4.6 | 6 5.0 |)5 5. | 61 6 | . 29 | 7.18 | 8.32 | - | - | - | - |
| 2607 Fe XIX | 004297 | 1145.700 | 10.822 6.93 | 3.70 | | - | _ | _ | _ | _ | _ | - | _ | _ | | - | | | | | | | | - | - | - | _ | _ | - | _ |
| 2608 Fe XIX 2606 Fe XIX | 001243 004301 | 1146.300 1146.400 | 10.816 6.91 10.815 6.93 | | | - | _ | - | - | - | - | - | - | - | - | - | 3.89 | 2.37 | 2.2 | 5 3.7 | 1 5.8 | 35 - | | - | - | - | - | _ | - | - |
| 2605 Fe XIX | | 1146.500 | 10.814 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.24 | 4.49 | 4.2 | 4 5.6 | 4 7.7 | 74 – | | _ | _ | _ | _ | _ | _ | _ |
| 4381 Fe XXII 2604 Fe XIX | | 1147.500 1147.700 | 10.805 7.10 10.803 6.92 | | | - | - | - | - | - | - | - | - | - | - | - | - 5.72 | 6.39 | 4.3 | 8 4.3 | 5 5.2 | 24 6. | 21 7 | . 23 | - | - | - | - | - | - |
| 2004 FE AIA | 003270 | 1147.700 | 10.803 0.92 | 3.00 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | _ | _ | _ | _ | _ |
| 2603 Fe XIX | 003275 N1 | 1148.400 | 10.796 6.92 | | | - | - - - | - | - | - | - | - | - | - | - | - | 6.94 | 5.24 | 5.0 | 2 6.4 | 3 8.5 | 4 - | | - | - | - | - | - | - | - |
| 5291 Ni XXII 2602 Fe XIX | | 1149.000 1149.100 | 10.791 6.99 10.790 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.70 | 4.20 | 3.9 | 5 5.3 | 5 7.4 | 4 – | | - | _ | _ | _ | _ | _ | _ |
| 4709 Fe XXIII | | 1149.200 | 10.789 7.20 | | | - | - | - | - | - | - | - | - | - | - | - | - | - 15 | 5.3 | 9 4.5 | 2 4.8 | 30 5. | 29 5 | .91 | 6.77 | 7.89 | - | - | - | - |
| 2601 Fe XIX | | 1149.800 | 10.783 6.92 | 3.81 | | | - | | | | | | | | | | | | | | | | | | | | | _ | _ | _ |
| 2600 Fe XIX 2599 Fe XIX | 003279 007434 | 1150.200 1150.500 | 10.779 6.92 10.777 6.93 | | | - | - - - | - | - | - | - | - | - | - | - | - | 5.26 | 3.56 | 3.3 | 4 4.7 | 6 6.8 | 86 - | | - | - | - | - | - | - | - |
| 2598 Fe XIX | | 1150.700 | 10.777 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.66 | 4.91 | 4.6 | 6.0 | 6 8.1 | .5 – | | _ | _ | _ | _ | _ | _ | _ |
| 2597 Fe XIX 402 Ne IX | O03280 HE1 | 1151.000 1151.200 | 10.772 6.93 10.770 6.60 | | | - | _ | - | - | - | - | - | - | - | | - 10 | 5.72 | 4.02 | 3.8 | 5.2 | 1 7.3 | 32 - | 00 6 | - | - 70 | - | - | - | - | - |
| | | | 10.770 0.00 | 3.00 | | _ | _ | _ | _ | _ | _ | _ | _ | 0.33 | 4.55 | 3.40 | 3.00 | 3.42 | 4.0 | / 4./ | 1 3.2 | ., 5. | 02 0 | . 34 | 0.70 | _ | _ | _ | _ | _ |
| 2596 Fe XIX 2595 Fe XIX | | 1151.300 1152.200 | 10.769 6.93 | 4.30 | | - | _ | _ | _ | - | - | - | - | - | - | - | 6.41 | 4.66 | 4.4 | 1 5.8 | 0 7.9 | 0 - | | - | _ | _ | - | - | - | - |
| 4708 Fe XXIII | BE11170 | 1152.400 | 10.761 6.93 10.759 7.20 10.757 6.92 | 4.31 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 5.1 | 8 4.3 | 1 4.5 | 9 5. | 08 5 | .70 | 6.56 | 7.67 | - | | _ | _ |
| 2594 Fe XIX 4380 Fe XXII | | 1152.600 1152.600 | 10.757 6.92 10.757 7.10 | 3.96 | | - | - | - | - | - | - | - | - | - | - | - | 6.00 | | | | | | | | | - | | - | - | - |
| | | | | | | _ | _ | - | _ | _ | _ | - | _ | - | _ | _ | | | | | | | | . 50 | - | - | _ | _ | - | _ |
| 3265 Fe XX 2593 Fe XIX | | 1153.000 1153.000 | 10.753 6.99 10.753 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.13 6.76 | | | | | | | - | _ | _ | _ | _ | _ | _ |
| 2592 Fe XIX | 004320 | 1153.100 | 10.752 6.93 | 3.76 | | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | 5.83 | 4.11 | 3.8 | 8 5.2 | 9 7.4 | - 0 | | - | _ | _ | _ | - | - | _ |
| 2591 Fe XIX 2590 Fe XIX | | 1154.000 1154.400 | 10.744 6.93 10.740 6.93 | | | - | _ | _ | _ | - | - | - | - | - | - | _ | 6.36 | 4.66 | 4.4 | 4 5.8 | 5 7.9 | 96 – | | - | _ | _ | - | - | - | - |
| | | | | 3.03 | | _ | _ | - | _ | _ | _ | - | _ | _ | _ | _ | 5.94 | | | | | | | - | - | _ | _ | _ | _ | _ |
| 2589 Fe XIX 2588 Fe XIX | 004322 003289 | 1154.500 1154.500 | 10.739 6.93 10.739 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.78 | | | | | | | - | _ | _ | _ | _ | _ | _ |
| 4707 Fe XXIII | | 1154.500 | 10.739 6.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | - | 5.5 | 5 4.6 | 9 4.9 | 7 5. | 45 6 | .08 | 6.94 | 8.05 | - | _ | _ | _ |
| 2587 Fe XIX | | 1155.700 | 10.728 6.93 | | | - | - | - | - | - | - | - | - | - | _ | - | 6.04 | 4.34 | 4.1 | 2 5.5 | 3 7.6 | 54 – | | - | - | - | - | - | - | - |
| 2586 Fe XIX | 003297 | 1156.200 | 10.723 6.93 | 4.65 | | - | - | - | - | - | - | - | - | - | - | - | 6.70 | 5.00 | 4.7 | 5 b.l | 9 8.3 | s U - | | - | - | - | - | - | - | - |

| Apr 13, 10 14:27 | | line list SPEX version 2.0 | Page 59/77 |
|--|---|---|---------------------------|
| Nr ion Transit. | F(eV) Lambda(A) Tmay =0may 4 0 4 2 4 4 4 6 | 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 | 84 86 88 90 |
| | · · · · · · · · · · · · · · · · · · · | | |
| 2585 Fe XIX 006430 4706 Fe XXIII BE59241 2584 Fe XIX 001270 2583 Fe XIX 006437 3264 Fe XX N08357 | 1156.700 10.719 6.93 4.02 - - - - 1157.600 10.710 7.22 4.70 - - - - 1158.400 10.703 6.91 3.32 - - - - 1158.500 10.702 6.93 4.71 - - - 1158.700 10.700 6.99 3.57 - - - | 6.14 4.39 4.14 5.53 7.63 5.64 4.71 4.94 5.40 6.01 6.85 7.96 5.62 3.60 3.48 4.94 7.08 6.82 5.07 4.82 6.22 8.31 7.01 4.43 3.57 4.48 6.17 | 5 |
| 2582 Fe XIX 001273 2581 Fe XIX 001272 2580 Fe XIX 001276 4705 Fe XXIII BE15184 2579 Fe XIX 001279 | 1158.900 10.698 6.91 4.10 - - - - 1158.900 10.698 6.91 3.83 - - - - 1160.500 10.684 6.91 2.57 - - - - 1160.700 10.682 7.21 4.87 - - - - 1161.000 10.679 6.91 3.74 - - - - | 5.90 4.38 4.26 5.72 7.86 | |
| | 1161.300 10.676 7.18 4.11 | 5.78 4.85 5.08 5.54 6.15 6.99 8.10 7.68 4.79 4.12 4.51 5.08 5.76 6.65 7.79 5.70 4.77 5.00 5.46 6.07 6.91 8.02 6.24 4.52 4.29 5.70 7.80 6.73 4.15 3.29 4.20 5.89 | 9 – – – – |
| 2577 Fe XIX 001280 2576 Fe XIX 004332 2575 Fe XIX 004333 4908 Fe XXIV LI01005 2573 Fe XIX 001286 | 1161.700 10.673 6.91 4.26 - - - - - 1161.900 10.671 6.93 3.87 - - - - 1162.200 10.668 6.93 4.22 - - - - 1162.800 10.663 7.27 2.13 - - - - 1163.000 10.661 6.91 2.32 - - - - | 6.06 4.54 4.41 5.88 8.01 | |
| 2574 Fe XIX 003319 4700 Fe XXIII BE60268 2572 Fe XIX 003322 2570 Fe XIX 001289 2571 Fe XIX 001288 | 1163.500 10.656 6.93 4.10 - - - - 1164.400 10.648 7.22 4.86 - - - - 1165.000 10.642 6.93 4.12 - - - - 1165.300 10.640 6.92 3.79 - - - - 1165.300 10.640 6.92 2.31 - - - - | 6.15 4.45 4.22 5.63 7.74 | |
| 2569 Fe XIX 001292 2215 Fe XVIII F02212 3262 Fe XX N01254 4907 Fe XXIV LI01006 2568 Fe XIX 002322 | | 4.49 2.97 2.84 4.31 6.44 | |
| 2566 Fe XIX 001301 2213 Fe XVIII F02215 4698 Fe XXIII BE60283 3261 Fe XX N09390 3260 Fe XX N06357 | | 6.04 4.52 4.39 5.86 7.99 | <u> </u> |
| 2565 Fe XIX 007484 5315 Ni XXIII C4E 2564 Fe XIX 003329 2563 Fe XIX 003330 2212 Fe XVIII F01206 | 1170.000 10.597 6.93 4.80 - | 6.93 5.17 4.91 6.30 8.40 | |
| 2211 Fe XVIII F01209 2562 Fe XIX 003333 2210 Fe XVIII F01210 2209 Fe XVIII F02221 2561 Fe XIX 001320 | 1173.600 10.564 6.85 3.37 | 5.86 4.22 3.42 3.85 5.77 | |
| 4999 Fe XXV HE9 2560 Fe XIX 007489 2207 Fe XVIII F01211 2559 Fe XIX 007497 2558 Fe XIX 007498 | 1175.200 10.550 7.70 3.41 | 6.74 4.38 3.67 3.43 3.43 3.63 3.98 6.33 4.57 4.31 5.70 7.79 6.24 4.60 3.80 4.23 6.15 6.40 4.63 4.37 5.77 7.86 6.75 4.98 4.72 6.11 8.21 | 8 4.39 4.78 5.15 5.49 |
| 5314 Ni XXIII C4D 2206 Fe XVIII F01212 2205 Fe XVIII F01213 4697 Fe XXIII BE01025 2204 Fe XVIII F01214 | 1180.400 | 5.33 3.78 4.30 5.76 7.11 6.32 4.68 3.88 4.31 6.22 | 3 |

| Apr 13, 1 | 0 17.27 | | | | | | | | •••• | <u> </u> | - | <u> </u> | | • | <u> </u> | | | | | | | | | | | | | | uge | , 00/ | • • |
|--|--|--|---|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------------------|--------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------------------|------------------------------|----------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Nr ion | Transit. | E(eV) Lar | mbda(A) Tmax | -Qmax | 4.0 4 | 1.2 | 4.4 | 4.6 4 | . 8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6. | 8 7 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 5313 Ni XXIII 3259 Fe XX 2557 Fe XIX 3909 Fe XXI 2556 Fe XIX | | 1180.800 1181.000 1181.600 1182.000 1182.300 | 10.500 7.05 10.498 6.99 10.493 6.92 10.489 7.05 10.487 6.93 | 2.91 4.53 4.57 4.62 3.95 | - - - - | - - - - | - - - - | - | - - - - | - 8.02 6.38 - 6.08 | 4.1 2.5.3 4.1 6.1 | 52 2 42 4 85 4 19 4 32 4 | 2.98 1.53 1.72 1.68 1.06 | 3.49 5.43 6.18 5.07 5.45 | 4.95 7.11 8.32 6.33 7.55 | 6.30 - - 7.63 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3258 Fe XX 3908 Fe XXI 3257 Fe XX 2555 Fe XIX 2554 Fe XIX | C11242 N02271 O01331 | 1182.400 1182.500 1182.600 1182.700 1182.800 | 10.486 6.99 10.485 7.05 10.484 6.99 10.483 6.92 10.482 6.93 | 4.76 3.97 4.65 2.3.90 4.33 | - - - - | 8.26 - 8.05 5.71 6.47 | 5 5. 5. 5 5. 1 4. | 65 4 54 4 50 4 18 4 70 4 | 1.76 1.03 1.65 1.05 | 5.66 4.42 5.58 5.51 5.84 | 7.34 5.68 7.27 7.65 7.93 | - 6.98 - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3256 Fe XX 3255 Fe XX 5312 Ni XXIII 3254 Fe XX 3253 Fe XX | N08375 C4C N07373 N07374 | 1183.400 1183.500 1185.300 1186.100 | 10.477 6.99 10.476 6.99 10.460 7.05 10.453 6.99 | 3.68 3.68 4.71 3.31 | - - - - | - - - - | - | - - - - | | - | - - - - | 7.14 7.14 - 6.77 | 1 4. 1 4. 6. 7 4. | 55 3 55 3 32 4 18 3 | 3.68 3.68 4.78 3.31 | 4.58 4.58 5.29 4.21 4.47 | 6.27 6.27 6.75 5.90 | - 8.10 - | - - - - | - | - - - - | - - - | - - - - | - - - - | - - - - |
| 3252 Fe XX 3251 Fe XX 3250 Fe XX 3249 Fe XX 3248 Fe XX | N03272 N07375 N10415 N11483 N14609 | 1186.200 1186.300 1186.600 1187.900 1188.400 | 10.452 6.99 10.451 6.99 10.449 6.99 10.437 6.99 10.433 6.99 | 4.79 4.38 4.67 4.58 4.76 | - - - - | 8.19 7.84 8.15 8.08 8.33 | 5.1 5.5 5.1 5.5 5.1 5.5 | 64 4 25 4 55 4 47 4 67 4 | 1.79 1.38 1.67 1.59 | 5.71 5.29 5.57 5.48 5.64 | 7.41 6.97 7.26 7.17 7.32 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3247 Fe XX 5203 Ni XIX 3246 Fe XX 3245 Fe XX 5311 Ni XXIII | NE2 N04285 N03278 | 1188.700 1190.200 1191.500 1191.800 1192.200 | 10.430 6.99 10.417 6.68 10.406 6.99 10.403 6.99 10.400 7.05 | 4.76 3.85 4.26 4.51 5.2.26 | - - - - | - 4.85 - - - | 8.33 3.91 7.67 7.91 | 3 5. 1 4. 7 5. 1 5. 3. | 67 4 02 5 11 4 36 4 87 2 | 1.76 5.23 1.26 1.51 2.33 | 5.64 - 5.17 5.43 2.84 | 7.32 - 6.87 7.13 4.30 | - - - - 5.65 | - - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3244 Fe XX 3243 Fe XX 3241 Fe XX 3242 Fe XX 3240 Fe XX | N02274 N03279 N05300 | 1192.300 1192.300 1193.100 1193.100 1193.900 | 10.399 6.99 10.399 6.99 10.392 6.99 10.392 6.99 10.385 6.99 | 4.07 4.54 4.41 4.37 4.37 | - - - - | 7.49 7.94 7.82 7.79 7.86 | 4.1 1 5.2 2 5.2 9 5.2 5 5.2 | 93 4 39 4 27 4 23 4 26 4 | 1.08 1.54 1.42 1.37 1.38 | 4.99 5.46 5.34 5.29 5.28 | 6.69 7.16 7.03 6.98 6.96 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3238 Fe XX 3239 Fe XX 3237 Fe XX 3236 Fe XX 4998 Fe XXV | N06374 N06376 | 1194.200 1194.200 1194.500 1194.800 1196.800 | 10.382 6.99 10.382 6.99 10.380 6.99 10.377 6.99 10.360 7.82 | 3.56 4.49 2.94 4.55 3.17 | - - - - | 7.02 7.95 6.40 7.98 | 2 4 5 5 3 5 | 44 3 37 4 82 2 41 4 | 3.56 4.50 2.94 4.56 5.70 | 4.47 5.40 3.85 5.47 4.34 | 6.16 7.09 5.54 7.17 3.59 | - - - - 3.28 | - - - - 3.17 | - - - - 7 3.2 | - - - - 5 3.53 | - - - - 3.87 | - - - - 4.23 | - - - - 3 4.59 | - - - - 9 4.93 |
| 4379 Fe XXII 3235 Fe XX 5369 Ni XXV 3234 Fe XX 3233 Fe XX | N05305 BE9 N01271 | 1198.400 1199.000 1199.100 1200.100 1200.200 | 10.346 7.10 10.341 6.99 10.340 7.16 10.331 6.98 10.330 6.99 | 4.41 4.51 5.2.93 4.16 4.00 | - - - - | 7.93 - 7.25 7.42 | 6. 3 5. 6. 5 4. | 66 4 37 4 92 3 90 4 86 4 | 1.63 1.51 3.67 1.17 | 4.60 5.42 2.96 5.15 4.92 | 5.49 7.12 3.50 6.87 6.61 | 6.45 - 4.15 - | 7.47 - 4.80 - | 7 – - 0 5.5: - - | - 2 6.33 - - | - - - - | - - - - | - - - - | - - - - |
| 3232 Fe XX 3231 Fe XX 3229 Fe XX 3230 Fe XX 3228 Fe XX | N04299 N05315 N05316 | 1200.500 1200.600 1201.300 1201.300 1202.600 | 10.328 6.99 10.327 6.99 10.321 6.99 10.321 6.99 10.310 6.99 | 4.48 4.42 4.57 4.55 3.63 | - - - | - - - - | - - - - | - | - - - - | 7.90 7.84 7.99 7.98 7.05 | 5. 1 5. 9 5. 3 5. 5 4. | 34 4 28 4 43 4 41 4 49 3 | 1.48 1.42 1.57 1.55 3.63 | 5.40 5.34 5.48 5.47 4.55 | 7.09 7.03 7.18 7.16 6.24 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 5202 Ni XIX 2201 Fe XVIII 2200 Fe XVIII 3227 Fe XX 2199 Fe XVIII | F02258 N10483 | 1203.000 1203.100 1204.500 1204.800 1205.000 | 10.306 6.68 10.305 6.86 10.293 6.86 10.291 6.99 10.289 6.86 | 3.99 4.47 4.81 4.30 4.55 | - - - - | 4.99 7.49 7.83 - 7.57 | 4.05 5.53 5.87 7.80 5.61 | 3 4.1 7 4.1 0 5.1 1 4.1 | 16 5 54 4 88 5 19 4 62 4 | 5.36 4.87 5.21 4.30 4.95 | - 6.74 7.08 5.20 6.82 | - - - 6.88 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3226 Fe XX 3225 Fe XX 3223 Fe XX 3224 Fe XX 3221 Fe XX | N12538 N02286 N12539 | 1206.100 1206.200 1207.600 1207.600 1207.800 | 10.280 6.99 10.279 6.99 10.267 6.99 10.267 6.99 10.265 6.99 | 3.93 4.43 3.11 4.16 4.87 | - - - - | 7.34 7.94 6.52 7.67 8.29 | 1 4.1 1 5.1 2 3.1 7 5.1 9 5.1 | 78 3 32 4 96 3 05 4 73 4 | 3.93 4.43 3.11 4.16 4.87 | 4.85 5.32 4.03 5.05 5.79 | 6.55 7.00 5.72 6.73 7.48 | - - - - | - - - | - - - - | - - - - | - - - | - - - | - - - | - - - - |

3220 Fe XX N04313 1208.400 10.260 6.99 3.44 6.87 4.30 3.44 4.36 6.05 -N01272 1208.800 10.257 6.98 4.03 7.13 4.78 4.04 5.02 6.75 3219 Fe XX 3218 Fe XX N04316 1209.400 10.252 6.99 3.90 -7.33 4.76 3.90 4.81 6.51 -3217 Fe XX N03297 1210.000 10.247 6.99 4.34 -7.76 5.19 4.34 5.26 6.95 3216 Fe XX 1210.200 10.245 6.99 3.90 7.32 4.75 3.90 4.82 6.51 - -- 7.32 4.76 3.90 4.82 6.51 - - - - - -3214 Fe XX N03300 1210.800 10.240 6.99 3.90 -1210.800 10.240 6.78 2.23 3.93 2.54 2.24 2.42 2.67 2.92 3.16 3.38 3.59 3.79 3.97 4.14 4.26 4.33 418 Ne X H2 N08410 1210.800 10.240 6.99 4.66 3215 Fe XX 10.236 6.99 4.49 -3213 Fe XX N10499 1211.300 10.234 6.99 4.87 8.38 5.76 4.87 5.76 7.44 -1211.600 3211 Fe XX N12546 10.233 6.99 4.56 8.07 5.45 4.56 5.45 7.13 -3210 Fe XX N11537 1211.700 10.232 6.99 4.43 7.95 5.33 4.43 5.33 7.01 3209 Fe XX N03302 1212.400 10.226 6.99 4.49 7.91 5.35 4.49 5.41 7.10 10.221 6.99 4.49 8.01 5.39 4.49 5.39 7.07 -3208 Fe XX N11538 1213.000 3207 Fe XX N01278 1214.500 10.209 6.98 3.78 -6.88 4.53 3.79 4.77 6.49 -3206 Fe XX N02297 1214 900 10.205 6.99 4.50 7.92 5.35 4.50 5.41 7.11 5201 Ni XIX NE1B 1215.500 10.200 6.69 2.77 3.84 2.85 2.91 4.07 6.68 -7.75 5.19 4.33 5.25 6.94 -10.198 6.99 4.33 -3205 Fe XX N02300 1215.800 3204 Fe XX 10.191 6.99 3.33 -6.75 4.18 3.33 4.24 5.94 -N03305 1216.600 1217.000 2198 Fe XVIII F01257 6.40 4.75 3.93 4.35 6.27 -10.188 6.85 3.89 -3203 Fe XX N03306 1217 200 10 186 6 99 3 57 6.99 4.42 3.57 4.48 6.18 3202 Fe XX N05343 1217.300 10.185 6.99 4.31 7.75 5.18 4.32 5.23 6.92 1217.300 10.185 6.99 4.17 7.61 5.04 4.18 5.09 6.78 3201 Fe XX N05341 3200 Fe XX N02301 1217.300 10.185 6.99 3.52 -6.94 4.37 3.52 4.43 6.13 -3199 Fe XX N05344 1217.600 10.183 6.99 3.98 -7.42 4.85 3.99 4.90 6.59 -3198 Fe XX N02302 1217.600 10.183 6.99 3.05 6.48 3.91 3.06 3.97 5.67 7.03 5.37 4.56 4.98 6.89 - - - - -2197 Fe XVIII F01259 1217.700 10.182 6.85 4.52 - - 6.58 4.21 3.46 3.19 3.20 3.47 3.96 4.49 4.96 5.35 5.70 4997 Fe XXV HE7 1217.900 10.180 7.70 3.16 7.59 5.02 4.17 5.08 6.77 - - - - - -3197 Fe XX 1219.000 10.171 6.99 4.16 3196 Fe XX N03317 1219.200 10.169 6.99 3.44 6.87 4.30 3.45 4.36 6.05 -2550 Fe XIX 001347 1220.300 10.160 6.92 4.60 6.42 4.88 4.75 6.21 8.34 - - -BE01046 1220.400 10.159 7.18 4.29 - 7.89 4.98 4.30 4.69 5.25 5.93 6.82 7.96 4696 Fe XXIII 10.159 6.99 4.85 -3195 Fe XX N07423 1220.400 8.33 5.73 4.85 5.75 7.43 - - -2549 Fe XIX 001348 1220.600 10.158 6.92 4.54 -6.37 4.83 4.69 6.15 8.28 3194 Fe XX N02305 1221.600 10.149 6.99 3.56 -6.99 4.42 3.57 4.48 6.17 - -10.147 7.05 4.42 - 6.02 4.49 4.87 6.13 7.42 3906 Fe XXI C13296 1221.900 2548 Fe XIX 003361 1222.400 10.143 6.93 4.83 -6.92 5.19 4.95 6.35 8.45 - -2547 Fe XIX 001351 1222.500 10.142 6.92 3.16 -4.98 3.44 3.31 4.76 6.89 - -3905 Fe XXI C11276 1223 100 10.137 7.05 3.79 -- 5.38 3.86 4.24 5.50 6.80 -1223.100 2546 Fe XIX 003362 10.137 6.93 4.51 6.61 4.87 4.63 6.03 8.13 10.132 6.98 3.61 -6.71 4.35 3.62 4.59 6.32 -3193 Fe XX N01285 1223.700 2544 Fe XIX 001353 1223.900 10.130 6.92 3.60 5.43 3.89 3.75 5.21 7.34 -10.129 6.99 3.88 -7.31 4.74 3.89 4.80 6.49 - - -3192 Fe XX N02315 1224.100 10.120 7.09 3.07 -5343 Ni XXIV 1225 100 5.54 3.31 3.39 4.57 5.75 6.86 -

line list SPEX version 2.0

Transit. E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

7.26 4.69 3.83 4.75 6.44 -

6.07 3.68 3.57 4.54 5.50 6.39 7.28 -

- - - 5.69 3.33 2.60 3.57 5.30 - - - -

6.09 4.35 4.11 5.51 7.61 -

5.78 4.24 4.10 5.56 7.69 - - -

6.25 4.82 4.44 4.81 5.40 5.99 6.55 7.09 7.61 8.12

5.81 4.27 4.13 5.59 7.72 - - -

7.32 4.70 3.81 4.70 6.39

7.50 4.82 4.04 3.89 4.85 7.22 - -

- 6.59 3.91 3.13 2.98 3.94 6.31 - -

- - 5.17 3.63 3.49 4.95 7.08 -

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N04309

10.265 6.99 3.83

Nr ion 3222 Fe XX

5342 Ni XXIV

2061 Fe XVII

2060 Fe XVII

2542 Fe XIX

2541 Fe XIX

3190 Fe XX

2540 Fe XIX

457 Na X 2539 Fe XIX

3191 Fe XX

вбв

002369

N10536

001355

001356

HE S2

1225.100

1226.400

1228.500

1228.700

1228.800

1229.800

N01286 1225.100

NE01143 1225.300

001354 1225.400

NE01145 1226.100

10.120 7.10 3.36

10.120 6.98 2.59

10.119 6.75 3.86 -10.118 6.92 3.34 -

10.110 6.93 3.99

10.092 6.99 3.81

10.091 6.92 3.95

10.090 6.78 4.43

10.082 6.92 3.98

10.112 6.75 2.94 -

Printed by Jelle de Plaa

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| Apr 13, 1 | 10 14:27 | | | | | | | | III | 1 e 1 | IST | 5 P | | ver | SIO | n z | | | | | | | | | | | | F | 'age | 62/ | // |
|----------------------------|------------------|----------------------|---|---------|-----|-----|-----|-----|-----|--------------|-----|------------------|-----|-----|-----|-----|------|------|-------|------------|---------------|------|---------------|------|------|------|------|------|------|------|------|
| Nr ion | Transit. | E(eV) La | mbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7. | 2 7 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 2538 Fe XIX | 001357 | 1230.000 | 10.080 6.92 | 2 3.84 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.67 | 4.1 | 3 3.9 | 9 5. | 45 | 7.58 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3189 Fe XX | | 1230.400 | 10.077 6.99 | | | - | - | - | - | - | - | - | - | - | - | - | - | 7.92 | 5.30 | 0 4.4 | 1 5. | 30 6 | 5.98 | - | - | - | - | - | - | - | - |
| 3188 Fe XX | | 1231.300 | 10.069 6.99 10.059 6.98 | | | - | - | - | _ | - | - | _ | - | - | - | _ | - | | | | | | | | - | - | - | - | - | - | - |
| 3187 Fe XX 3186 Fe XX | | 1232.600 1232.700 | | 3 3.10 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.20 | 4 9 | 5 3.1 | .1 4. 15 4 | 96 6 | 5.81 5.65 | _ | _ | _ | _ | _ | _ | _ | _ |
| JIOU IC MM | 1103330 | 1232.700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3185 Fe XX | N03337 | 1232.700 | 10.058 6.99 | 9 4.87 | - | - | - | - | - | - | _ | - | - | - | - | - | - | 8.30 | 5.73 | 3 4.8 | 37 5. | 78 | 7.47 | - | - | - | - | - | - | - | - |
| 3184 Fe XX | | 1232.800 | 10.057 6.98 | 3.96 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.07 | 4.7 | 1 3.9 | 7 4. | 95 6 | 5.67 | - | - | - | - | - | - | - | - |
| 3183 Fe XX 3182 Fe XX | | 1233.200 1233.200 | 10.054 6.99 | 4.89 | - | - | - | - | _ | - | - | - | - | - | - | _ | - | 8.38 | 5.7 | 7 4.8 | 19 5. | 16 6 | 7.47 | - | - | - | - | - | - | - | - |
| 3181 Fe XX | | 1233.200 | 10.058 6.99 10.057 6.98 10.054 6.99 10.054 6.99 | 9 4.25 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.18 | 5.5 | 5 4 6 | 6 5 | 55 7 | 7.23 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3101 10 222 | 1100000 | 1233.300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3180 Fe XX | | 1233.300 | 10.053 6.98 10.052 6.99 10.043 7.09 | 3 2.39 | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.49 | 3.14 | 4 2.4 | 0 3. | 38 5 | 5.10 | - | - | - | - | - | - | - | - |
| 3179 Fe XX | | 1233.400 | 10.052 6.99 | 9 4.60 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.10 | 5.49 | 9 4.6 | 0 5. | 50 | 7.18 | | - | - | - | - | - | - | - |
| 3904 Fe XXI | | 1234.500 | 10.043 7.05 | 5 4.20 | - | - | - | - | - | - | - | - | - | - | - | - | _ | c 02 | 4 4 6 | 0 2 5 | 1 1 1 | 70 / | - 11 | | | | | - | - | - | - |
| 3178 Fe XX 3177 Fe XX | | 1234.800 1235.100 | | 3./3 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.83 | 5 / | 83. 14 | 4 4. | 12 5 | 0.44 7 1 N | _ | _ | _ | _ | - | _ | _ | _ |
| 31// FE AA | NUO400 | 1233.100 | 10.036 0.93 | 9 4.32 | | | | | | | | | | | | | | | | | | | | | | | | | _ | _ | _ |
| 3176 Fe XX | N01302 | 1235.100 | 10.038 6.98 | 3.75 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | 6.85 | 4.50 | 0 3.7 | 6 4. | 74 6 | 5.46 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3175 Fe XX | N08489 | 1235.400 | 10.036 6.99 10.029 6.99 10.029 6.89 | 9 4.68 | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | | | |
| 3174 Fe XX | | 1236.300 | 10.029 6.99 | 9 4.20 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.69 | 5.08 | 8 4.2 | 20 5. | 10 6 | 5.78 | - | - | - | - | - | - | _ | - |
| 463 Na XI | H1B | 1236.300 | 10.029 6.89 | 3.31 | - | - | - | - | - | - | - | _ | - | - | - | - | 6.13 | | | | | | | | | | | | | 5.14 | |
| 456 Na X | HE S4 | 1236.900 | 10.024 6.80 | J 4.23 | | | | | | | | | | | | | | 4./5 | 4.2. | 3 4.5 | 02 5. | 04 5 | 5.60 | 6.14 | 0.00 | 7.18 | 7.68 | 8.1/ | _ | - | - |
| 455 Na X | HE S3 | 1236.900 | 10.024 6.80 10.023 6.89 10.020 6.93 10.017 6.99 10.017 6.99 | 4.36 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.42 | 4.83 | 4.36 | 6 4.6 | 7 5. | 22 5 | 5.78 | 6.33 | 6.86 | 7.38 | 7.88 | ; – | _ | _ | _ |
| 462 Na XI | H1A | 1237.000 | 10.023 6.89 | 3.04 | - | - | - | - | _ | _ | _ | - | _ | - | - | _ | 5.83 | 3.89 | 3.09 | 9 3.1 | 0 3. | 34 3 | 3.59 | 3.83 | 4.06 | 4.27 | 4.48 | 4.67 | 4.84 | 4.98 | 5.06 |
| 2532 Fe XIX | | 1237.400 | 10.020 6.93 | 3 4.68 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.80 | 5.04 | 4 4.7 | 96. | 18 8 | 8.28 | - | - | - | - | - | - | - | - |
| 3173 Fe XX | | 1237.700 | 10.017 6.99 | 9 4.30 | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.73 | 5.10 | 6 4.3 | 50 5. | 21 6 | 5.90 | - | - | - | - | - | - | - | - |
| 3172 Fe XX | N02337 | 1237.700 | 10.017 6.99 | 9 4.34 | - | - | - | - | - | - | - | - | - | - | - | _ | - | 7.77 | 5.20 | 0 4.3 | 14 5. | 25 6 | 5.94 | - | - | - | - | - | - | - | - |
| 2531 Fe XIX | 005452 | 1238.900 | 10.008 6.93 | 3 4 80 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.97 | 5.18 | 8 4 9 | 1 6 | 29 8 | 8.37 | _ | _ | _ | _ | _ | _ | _ | _ |
| 2530 Fe XIX | | 1239.100 | 10.006 6.93 | 3 4.50 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | 6.63 | 4.8 | 7 4.6 | 2 6. | 01 8 | B.11 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3903 Fe XXI | C11290 | 1239.800 | 10.000 7.05 | 5 4.82 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.42 | 2 4.8 | 9 5. | 27 6 | 5.53 | 7.82 | - | - | - | - | - | - | - |
| 3169 Fe XX | | 1240.100 | 9.998 6.99 9.997 6.98 | 9 4.60 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.04 | 5.4 | 7 4.6 | 1 5. | 52 | 7.21 | - | - | - | - | - | - | - | - |
| 3171 Fe XX | N01305 | 1240.200 | 9.997 6.98 | 3 2.44 | - | - | - | - | - | - | _ | - | _ | - | - | - | - | 5.54 | 3.19 | 9 2.4 | 5 3. | 42 5 | 5.15 | - | - | - | - | - | - | - | - |
| 3168 Fe XX | N01309 | 1240.200 | 9.997 6.98 | 3 2 47 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | 5 57 | 3 2 | 2 2 4 | 18 3 | 45 5 | 5 18 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3170 Fe XX | | 1240.200 | 9.997 6.98 | 3 2.22 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.32 | 2.9 | 7 2.2 | 3 3. | 20 4 | 4.93 | _ | - | _ | _ | _ | _ | _ | _ |
| 3167 Fe XX | N01313 | 1240.700 | 9.993 6.98 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 7.02 | 4 6' | 7 3 9 | 3 4 | 90 6 | 5 63 | _ | _ | _ | _ | _ | _ | _ | - |
| 2525 Fe XIX | 004425 | 1241.200 | 9.989 6.93 | | | - | - | - | - | - | - | - | - | - | - | - | - | 6.76 | 5.0 | 1 4.7 | 75 6. | 15 8 | 8.24 | - | - | - | - | - | - | - | - |
| 3902 Fe XXI | C07276 | 1241.300 | 9.988 7.05 | 5 2.79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.38 | 8 2.8 | 35 3. | 24 4 | 4.49 | 5.79 | - | - | - | - | - | - | - |
| 3901 Fe XXI | C12296 | 1242.200 | 0 001 7 01 | - 161 | | | | | | | | | | | | | | | 6 2 | 2 1 5 | , | 00 4 | c 21 | 7 62 | | | | | | | |
| 5200 Ni XIX | NE1A | 1242.200 | 9 973 6 69 | 9 2 91 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4 01 | 3.00 | 3 0 | 5 4 2 | 1 6 | 81 | - | - | _ | _ | _ | _ | _ | _ | _ |
| 5341 Ni XXIV | B6A | 1243.200 | 9.973 7.10 | 2.61 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.3 | 3 2.9 | 4 2. | 83 3 | 3.80 | 4.76 | 5.64 | 6.54 | - | _ | _ | _ | _ |
| 3900 Fe XXI | | 1244.600 | 9.962 7.05 | 3.64 | - | - | - | - | _ | - | - | - | - | - | - | _ | - | - | 5.23 | 3 3.7 | 0 4. | 08 5 | 5.34 | 6.63 | - | - | - | - | - | - | - |
| 4378 Fe XXII | B09127 | 1248.800 | 9.981 7.05 9.973 6.69 9.973 7.10 9.962 7.05 9.928 7.11 | 1 4.17 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.6 | 7 4.4 | 6 4. | 32 5 | 5.15 | 6.08 | 7.08 | - | - | - | - | - | - |
| 2000 E. VVI | 010467 | 1249.300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3899 Fe XXI 3898 Fe XXI | C18467 C17467 | 1249.300 | 9.924 7.05 9.922 7.05 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6 0 | 0 4 4 | 4 4 | 80 6 | 5.39 5.05 | 7.67 | _ | _ | _ | _ | _ | _ | _ |
| 4377 Fe XXII | | 1250.600 | 9.914 7.11 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.04 | 4 4.8 | 3 4. | 70 5 | 5.53 | 6.46 | 7.45 | _ | _ | _ | _ | _ | _ |
| 5368 Ni XXV | BE6 | 1252.900 | 9.896 7.16 | 5 2.64 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.6 | 1 3.3 | 8 2. | 67 | 3.21 | 3.85 | 4.47 | 5.15 | 5.93 | . – | - | - | - |
| 3897 Fe XXI | C04238 | 1254.500 | 9.883 7.05 | 5 4.71 | - | - | - | - | - | - | - | - - - - | - | - | - | - | - | - | 6.28 | 8 4.7 | 7 5. | 16 6 | 5.42 | 7.72 | - | - | - | - | - | - | - |
| 100 M~ TT7 | E C | 1254 000 | 0 000 5 01 | 2 11 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 488 Mg IV 3896 Fe XXI | F S C13358 | 1254.900 1255.300 | 9.880 5.93 9.877 7.05 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5 24 | د ع د – | 2 4 | 20 F | - 5 45 | 6 74 | _ | _ | _ | _ | _ | _ | _ |
| 3895 Fe XXI | | 1256.000 | 9.871 7.05 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.16 | 6 4.6 | 2 5 | 00 6 | 6.25 | 7.55 | _ | _ | _ | _ | _ | _ | _ |
| 3894 Fe XXI | | 1256.600 | 9.867 7.05 | | _ | _ | _ | - | - | _ | - | _ _ _ _ | _ | _ | _ | _ | _ | _ | 5.90 | 0 4.3 | 5 4. | 72 5 | 5.97 | 7.26 | _ | _ | _ | _ | _ | _ | _ |
| 3166 Fe XX | N08535 | 1256.900 | 9.864 6.99 | | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.65 | | | | | | - | | - | - | - | - | - | - |
| 21.65 | ****** | 1055 000 | 0.060.5.0 | | | | | | | | | | | | | | | п.с. | | | | 4.5 | | | | | | | | | |
| 3165 Fe XX 3164 Fe XX | | 1257.200 1257.200 | 9.862 6.99 9.862 6.99 | | | - | - | - | - | - | - | - | _ | - | - | _ | _ | | 5.4 | | | | | | - | _ | - | - | - | - | - |
| 3164 Fe XX 3163 Fe XX | | 1257.200 | 9.862 6.99 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7 72 | 5 10 | 0 1 1 | 1 5 | 10 6 | 5 7 9 | _ | _ | _ | _ | _ | _ | _ | _ |
| 3893 Fe XXI | | 1258.100 | 9.855 7.05 | | | _ | _ | _ | _ | _ | _ | - - - | _ | _ | _ | _ | _ | | 6.12 | 2 4.5 | 9 4. | 97 6 | 5.23 | 7.52 | _ | _ | _ | _ | _ | _ | _ |
| 3892 Fe XXI | | 1259.200 | 9.846 7.05 | | | - | - | - | - | - | - | - | _ | - | - | _ | - | - | 5.88 | 8 4.3 | 5 4. | 73 5 | 5.99 | 7.28 | - | - | - | - | - | - | - |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

502 Mg V 1263.900 9.810 5.96 9.79 4376 Fe XXII B08127 1264.000 9.809 7.11 4.18 - 6.67 4.46 4.33 5.16 6.09 7.09 -9.805 7.05 3.34 -4.92 3.40 3.79 5.05 6.35 -3891 Fe XXI C05248 1264.500 3890 Fe XXI 9.805 7.05 2.63 4.23 2.69 3.08 4.33 5.63 -C07296 1264.500 9.796 7.11 4.52 -- 7.02 4.81 4.68 5.51 6.44 7.44 -4375 Fe XXII 1265.700 B08128 3160 Fe XX 1267.700 9.780 6.99 4.58 8.09 5.47 4.58 5.47 7.15 -9.778 6.99 3.96 3159 Fe XX N06536 1268.000 7.47 4.85 3.96 4.85 6.53 -3889 Fe XXI C08311 1269.700 9.765 7.05 4.69 - 6.29 4.76 5.14 6.39 7.69 3158 Fe XX N01359 1270.200 9.761 6.98 4.26 7.38 5.02 4.27 5.24 6.96 -9.759 7.05 3.99 3888 Fe XXI C03238 1270.500 - 5.57 4.05 4.45 5.71 7.01 -3887 Fe XXI C15428 1271.400 9.752 7.05 4.66 -6.28 4.73 5.10 6.35 7.64 -3886 Fe XXT C14409 1272 000 9.747 7.05 4.55 6.16 4.61 4.99 6.24 7.53 2520 Fe XIX 003477 1274.100 9.731 6.93 4.76 6.89 5.13 4.87 6.27 8.36 9.29 7.60 8.76 517 Mg VI N S 1274.200 9.730 6.00 7.60 _ _ _ _ _ _ 3885 Fe XXT 1274.500 9 728 7 05 4 24 5 82 4 30 4 70 5 96 7 26 - -C04245 1274.800 3156 Fe XX 9.726 6.98 3.02 -NO1363 6.14 3.78 3.03 4.00 5.72 -9 726 6 98 2 85 3157 Fe XX N01364 1274 800 5.97 3.61 2.86 3.83 5.55 3155 Fe XX N01365 1275.000 9.724 6.98 3.31 6.43 4.07 3.32 4.29 6.01 C13407 1275.400 9.721 7.05 4.69 6.30 4.75 5.13 6.38 7.67 -3884 Fe XXT 3883 Fe XXI C06275 1275.700 9.719 7.05 4.16 5.75 4.23 4.61 5.87 7.17 -3882 Fe XXI C02237 1275.800 9.718 7.05 4.47 -6.05 4.53 4.93 6.19 7.49 -3881 Fe XXI C02238 1276.200 9.715 7.05 4.58 6.15 4.64 5.04 6.30 7.60 -3880 Fe XXI C04246 1276.600 9.712 7.05 4.47 6.04 4.53 4.92 6.18 7.48 -- 5.63 4.11 4.51 5.77 7.07 - - -3879 Fe XXI C04247 1276.700 9.711 7.05 4.05 -417 Ne X 1276.900 9.710 6.79 2.83 4.61 3.17 2.83 2.99 3.22 3.46 3.68 3.89 4.10 4.29 4.47 4.63 4.75 4.84 3878 Fe XXI C13410 1277.300 9.707 7.05 3.45 5.06 3.51 3.89 5.14 6.43 -1277.400 9.706 7.05 4.60 6.18 4.66 5.05 6.31 7.61 -3877 Fe XXI C04248 1278.800 3876 Fe XXT 9.695 7.05 3.42 5.01 3.49 3.88 5.13 6.43 -C05266 5.98 4.43 4.29 5.74 7.86 - - - -2516 Fe XIX 001473 1283.500 9.660 6.92 4.14 - 4.22 2.87 2.93 3.21 3.57 4.03 4.63 5.29 5.96 6.59 5391 Ni XXVI 1284.800 9.650 7.26 2.83 2515 Fe XIX 001476 1284.800 9.650 6.92 4.37 -6.22 4.66 4.52 5.97 8.09 -9.649 6.92 3.80 5.65 4.09 3.95 5.40 7.52 -2514 Fe XIX 001478 1284.900 3875 Fe XXI C01238 1285.100 9.648 7.04 4.13 - - - - 5.53 4.17 4.65 5.95 7.28 534 Mg VII C S 1286.100 9.640 6.04 6.54 9.15 6.60 7.11 8.11 9.02 - - - - - -5006 Fe XXVI 1287.500 9.630 8.15 3.21 -- - 5.76 4.46 3.66 3.28 3.21 3.31 3.47 3.66 3.84 3874 Fe XXI C03245 1290.400 9.608 7.05 3.75 5.33 3.81 4.20 5.46 6.76 9.602 7.05 4.60 6.18 4.66 5.05 6.31 7.61 3873 Fe XXI C04262 1291.200 3872 Fe XXI C13428 1292.000 9.596 7.05 4.49 6.11 4.56 4.93 6.18 7.47 3153 Fe XX N03409 1292.400 9.593 6.99 4.86 8.34 5.74 4.86 5.76 7.44 - -3871 Fe XXI 9.593 7.05 4.17 -5.75 4.23 4.62 5.88 7.18 -C03246 1292.400 3152 Fe XX N02399 1292.600 9.592 6.99 4.27 7.74 5.15 4.27 5.17 6.86 - -3870 Fe XXI C03247 1293.300 9.587 7.05 3.21 -- - 4.79 3.27 3.66 4.92 6.22 -3151 Fe XX N02401 1293.300 9.587 6.99 4.84 8.31 5.72 4.84 5.74 7.43 - - -9.587 7.05 3.81 -- - 5.39 3.87 4.26 5.52 6.82 -3869 Fe XXI C03248 1293.300 3868 Fe XXI C04265 1293.700 9.584 7.05 4.25 - - - 5.83 4.31 4.70 5.96 7.25

line list SPEX version 2.0

Transit. E(eV) Lambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0

7.72 5.10 4.21 5.10 6.78 -

7.35 4.73 3.84 4.73 6.41 -

6.50 4.74 4.47 5.86 7.96 -

6.74 4.98 4.71 6.10 8.20

6.84 5.07 4.81 6.20 8.29

7.87 5.88 5.07 4.72 4.84 5.55 6.56 7.55 8.50

8.14 6.15 5.34 4.99 5.11 5.81 6.83 7.82 8.77

- - - 6.13 4.58 4.95 6.20 7.49

- - - 6.35 4.83 5.22 6.48 7.77 -

5.56 4.02 4.41 5.66 6.96

*2T.T 0

C04266

*2LI p

C12408

C06290

1293.700

1293.900

1294.300

1296.100

1296.100

9.584 6.66 4.70

9.582 7.05 4.77

9.579 6.66 4.97

9.566 7.05 4.51

9.566 7.05 3.96

660 Mg X

3867 Fe XXI

3866 Fe XXI

3865 Fe XXI

659 Mg X

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N07534

004473

004476

004478

1259.700

1262.300

1263.600

1263.700

1259.700

9.842 6.99 4.21 -

9.812 6.93 4.70 -

9.811 6.93 4.36 -

9.842 6.99 3.84

9.822 6.93 4.60

Nr ion 3162 Fe XX

3161 Fe XX

2524 Fe XIX 2523 Fe XIX

2522 Fe XIX

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| Apr 13, 1 | 0 14:27 | | | | | | | | lin | e li | ist | SPE | ΞΧ | ver | sio | n 2 | .0 | | | | | | | | | | • | | 64/ | 77 |
|--|---|--|---|-------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|--------------------------|--------------------------|-----------------------------------|--------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|----------------------|-----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Nr ion | Transit. | E(eV) Lam | nbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 3864 Fe XXI 3863 Fe XXI 3862 Fe XXI 3861 Fe XXI 3860 Fe XXI | C07358 C02245 C12409 C06292 C12410 | 1296.200 1296.200 1296.500 1297.300 1297.600 | 9.565 7.0 9.565 7.0 9.563 7.0 9.557 7.0 9.555 7.0 | 5 4.5 5 4.1 5 3.4 | 8 – 9 – 9 – | - - - - | - - - - | - - - - | - - - - | | 6.16 5.80 5.09 | 4.12 4.64 4.26 3.55 4.55 | 5.03 4.63 3.94 | 6.29 5.88 5.19 | 7.59 7.17 6.49 | _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3858 Fe XXI 3859 Fe XXI 3857 Fe XXI 550 Mg VIII 3856 Fe XXI | C11408 C02246 C02248 B S C11410 | 1298.400 1298.500 1299.400 1299.600 1299.900 | 9.549 7.0 9.548 7.0 9.542 7.0 9.540 6.1 9.538 7.0 | 5 3.0 5 2.8 2 5.9 | 6 – 2 – 5 – | - - - - | - - - 9.91 | - - - 6.31 | - - 6.03 | - - - 6.42 | - 6.84 | 4.64 4.40 7.49 | 4.32 3.12 2.88 8.68 4.73 | 3.51 3.27 - | 4.77 4.53 | 6.07 5.83 | _ _ _ | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3855 Fe XXI 3854 Fe XXI 3853 Fe XXI 4374 Fe XXII 4373 Fe XXII | C05283 C06304 C06307 B08135 B10156 | 1302.900 1303.200 1303.500 1304.700 1305.800 | 9.516 7.0 9.514 7.0 9.512 7.0 9.503 7.1 9.495 7.1 | 5 4.2 5 4.7 1 3.3 | 8 – 5 – | - - - - | - - - - | - - - - | - - - - | - | 5.83 6.37 5.86 | 3.64 | 4.68 5.22 3.50 | 5.94 6.48 4.33 | 7.23 7.77 5.25 | | - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3851 Fe XXI 3850 Fe XXI 3852 Fe XXI 416 Ne X 3849 Fe XXI | C03263 C03262 C03261 H4 C01248 | 1307.200 1307.200 1307.600 1307.700 1308.400 | 9.485 7.0 9.485 7.0 9.482 7.0 9.481 6.8 9.476 7.0 | 5 4.3 5 3.9 0 3.2 | | - - - - | - - - - | - - - - | - - 5.03 | - - - 3.56 | 5.96 | 4.86 4.44 4.01 3.35 1.86 | 4.83 | 6.08 | 7.38 | - | - - 4.43 | - - 4.62 | - - 4.80 | - - - 4.96 | - - - 5.08 | - - - 5.17 |
| 3848 Fe XXI 3846 Fe XXI 3847 Fe XXI 4695 Fe XXIII 4372 Fe XXII | C02260 C02263 C02264 BE10052 B06133 | 1311.300 1313.000 1313.000 1313.100 1313.500 | 9.455 7.0 9.443 7.0 9.443 7.0 9.442 7.1 9.439 7.1 | 5 4.4 5 4.6 9 4.2 | 3 - 8 - 1 - | - - - - | - - - - | - - - - | - - - - | | 6.01 6.26 7.93 | | 4.88 5.13 4.21 | 6.14 6.39 4.57 | 7.44 7.68 5.12 | - - 5.78 | - 6.66 | - - - 7.79 | _ | _ | - | - - - - |
| 3844 Fe XXI 3845 Fe XXI 3843 Fe XXI 658 Mg X 657 Mg X | | 1316.700 1316.700 1317.200 1319.000 1319.100 | 9.416 7.0 9.416 7.0 9.413 7.0 9.400 6.7 9.399 6.7 | 5 4.8 5 4.3 7 4.4 | 0 - 1 - 3 - | - - - - | - - - | - - - | - - - | - - - | - - - | - - - - | - - - | - - - | - 8.27 8.11 | - 6.19 6.03 | - 5.25 5.09 | - 4.64 4.48 | 6.42 5.92 4.44 4.28 | | 5.25 4.75 5.74 5.58 | 6.49 6.00 6.61 6.45 | 7.78 7.29 - | - - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3149 Fe XX 5390 Ni XXVI 4371 Fe XXII 5237 Ni XX 573 Mg IX | N04525 LI6 B06135 F5 BE S2 | 1319.400 1320.200 1320.200 1320.200 1320.200 | 9.397 6.9 9.391 7.2 9.391 7.1 9.391 6.8 9.391 6.5 | 8 2.7 1 2.9 2 2.5 | 1 - | - - - - | - - - - 6.06 | - - - - 4.94 | - - 5.60 4.70 | 8.18 - - 3.31 4.63 | 5.56 - 5.47 2.52 4.89 | 4.67 4.24 3.25 3.07 5.75 | 5.57 2.80 3.10 5.18 6.96 | 7.25 2.79 3.93 - 8.17 | 3.01 4.86 - | - 3.32 5.86 - - | - 3.74 - - - | - 4.30 - - - | - 4.92 - - - | - 5.56 - - - | - 6.16 - - - | - 6.71 - - - |
| 4370 Fe XXII 4369 Fe XXII 4368 Fe XXII 5365 Ni XXV 415 Ne X | B14246 B14247 B08153 BE5 H5 | 1320.800 1321.800 1322.500 1323.200 1324.500 | 9.387 7.1 9.380 7.1 9.375 7.1 9.370 7.1 9.361 6.8 | 1 4.1 1 3.1 6 2.7 | 5 – 1 – 6 – | | | | | | | - - - - | | | | | | _ | 6.70 5.62 | 4.46 | 4.29 | 5.11 | 6.03 | 1 1 5 | - - 5 10 | - - 5.85 4.91 | - - 6.65 5.08 | - - - - 5.23 | - - - - 5.36 | - - - - 5.45 |
| 655 Mg X 656 Mg X 4367 Fe XXII 654 Mg X 692 Mg XI | *2LI l *2LI j B06144 *2LI k HE6 | 1330.200 1330.300 1330.600 1330.600 1331.000 | 9.321 6.6 9.320 6.6 9.318 7.1 9.318 6.6 9.315 6.8 | 6 3.1 1 4.5 6 3.3 | 2 - | - - - - | 6.39 - 6.59 | 4.34 - 4.54 | 4.86 3.50 - 3.70 3.14 | 3.14 | 3.25 7.07 3.45 | 3.96 4.85 4.15 | 4.97 4.71 5.17 | 5.97 5.53 6.17 | 6.89 6.46 7.09 | 7.46 | - | - - - - 5.37 | - - - - 5.77 | - - - - | - - - - | - - - - |
| 653 Mg X 4366 Fe XXII 652 Mg X 4365 Fe XXII 3842 Fe XXI | B07147 *3LI B14 | 3 1331.000 1331.900 1332.000 1332.000 1332.000 | 9.315 6.3 9.309 7.3 9.308 6.3 9.308 7.3 9.308 7.0 | 1 4.3 0 5.0 1 4.2 | 3 - 1 - 8 - | - - - - | - - - - | - | 5.32 - 5.60 - | - | 6.85 5.09 6.80 | 4.63 5.73 | 4.48 6.70 4.43 | 5.30 7.68 5.25 | 6.23 8.58 6.18 | 7.23 - 7.18 | _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3148 Fe XX 4364 Fe XXII 4363 Fe XXII 5198 Ni XIX 651 Mg X | N02523 B10186 B07148 NE3A1 *2LI a | 1332.300 1332.600 1332.700 1333.500 1333.600 | 9.306 6.9 9.304 7.1 9.303 7.1 9.298 6.6 9.297 6.6 | 1 4.1 1 4.4 8 3.2 | 8 – 5 – 9 – | - - - - | - - - - 7.52 | - - - - 5.48 | - - 4.34 4.63 | - - 3.35 | 6.71 6.97 3.46 | 4.74 4.69 | 4.33 4.60 - | 5.15 5.42 - | 6.07 6.35 | - 7.07 7.35 - - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |

| Apr 13, 1 | 0 14:27 | | | | | | | | lir | ne li | ist | SPE | EX | ver | sio | n 2 | .0 | | | | | | | | | | - | Page | | |
|---|--------------------------------|--|---|-------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-----------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|--------------------------------------|--|---|---|---------------------------------------|----------------------------|----------------------------|------------------|------------------|------------------|------------------|
| Nr ion | Transit. | E(eV) Lan | mbda(A) Tmaz | c -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 3841 Fe XXI 650 Mg X 649 Mg X 648 Mg X 4362 Fe XXII | *2LI r *2LI q | 1333.900 1334.300 1334.300 1334.600 1334.700 | 9.295 7.0 9.292 6.0 9.292 6.0 9.290 6.0 9.289 7.0 | 56 5.0' 59 3.68 | 7 – 8 – 6 – | - - - - | 7.04 6.86 | 4.98 | 4.13 | 5.10 3.73 3.52 | 5.20 3.77 3.53 | 5.91 4.39 4.12 | 6.9 5.3 5.0 | 2 7.9 2 6.2 3 5.9 | 4 7.5 4 7.3 | 4 – 5 – | - - - - 5 - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 4361 Fe XXII 3840 Fe XXI 3839 Fe XXI 4360 Fe XXII 3838 Fe XXI | C02280 C03284 B06153 | 1335.000 1335.600 1336.200 1337.500 1337.800 | 9.287 7.2 9.283 7.0 9.279 7.0 9.270 7.2 9.268 7.0 | 05 4.10 05 4.71 1 3.62 | 0 – 1 – 2 – | - - - - | - - - - | - - - - | - - - - | 5.69 6.30 6.14 | 4.16 4.77 3.91 | 4.5 5.1 3.7 | 5 5.8 6 6.4 7 4.5 | 0 7.1 1 7.7 | 1 - 2 6.51 | _ | - - - - | - - - - | - - - - | - - - - | - - - - |
| 647 Mg X 4359 Fe XXII 571 Mg IX 572 Mg IX 646 Mg X | B06156 BE S3 BE S4 | 1339.200 1340.100 1341.100 1341.100 1341.800 | 9.258 6.3 9.252 7.3 9.245 6.6 9.245 6.6 | 1 2.83 55 4.83 57 4.83 | 3 – 1 – 3 – | - - - - | - 7.13 7.57 | 7.13 - 5.58 5.82 6.94 | 5.91 - 5.07 5.18 5.84 | 5.30 - 4.82 4.86 5.31 | 5.25 5.35 4.97 4.95 5.31 | 5.86 3.12 5.76 5.71 5.95 | 6.8 2.9 6.9 6.8 6.9 | 2 7.7 8 3.8 2 8.1 6 8.0 3 7.9 | 8 8.6 0 4.7 1 - 3 - 0 8.8 | 7 - 3 5.72 - - 0 - | - 2 - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 644 Mg X 645 Mg X 3837 Fe XXI 643 Mg X 642 Mg X | *3LI B17 C02284 *3LI B23 | 1342.100 1342.100 1342.100 1342.300 1342.400 | 9.238 6.' 9.238 6.' 9.238 7.0 9.237 6.' 9.236 6.' | 70 4.66 05 4.27 70 5.02 | 6 – 7 – 2 – | - - - - | - | - | - | - | _ | - - - - | - | - | - | 6.99 | 5.27 - 5.62 5.89 | 5.09 5.36 | 4.74 5.87 5.09 5.36 | 5.38 4.34 5.73 6.00 | 6.3 4.7 6.7 6.9 | 5 7.3 2 5.9 1 7.6 7 7.9 | 3 8.2 8 7.2 8 8.5 | 3 – 7 – 8 – | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 5197 Ni XIX 641 Mg X 640 Mg X 639 Mg X 638 Mg X | *3LI B11 *2LI t | 1342.400 1342.500 1342.500 1342.700 1342.700 | 9.236 6.' 9.235 6.' 9.235 6.' 9.234 6.6 | 70 5.13 70 5.18 57 4.23 | 1 – 8 – 2 – | - - - - | - - - - | - - - - | _ | - | _ | - - - - | - | - | - | 6.82 | 5.71 | 5.19 | 5.19 | 5.83 | 6.8 | 7.7 | - 7 8.6 4 8.7 5 7.9 2 7.8 | 8 - 4 - 8 - 5 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 637 Mg X 691 Mg XI 636 Mg X 635 Mg X 634 Mg X | HE5 *4LI C12 *4LI C4 | 1343.000 1343.000 1343.400 1344.100 1344.300 | 9.232 6.3 9.232 6.3 9.229 6.3 9.224 6.3 9.223 6.3 | 30 2.36 72 5.07 72 5.24 | 6 – 7 – 4 – | - - - - | | | | | | | | | - - - - | 5.03 7.02 7.19 7.18 | 3.53 5.79 5.96 5.95 | 5.18 5.35 5.34 | 2.36 5.13 5.30 5.30 | 2.68 5.74 5.91 5.90 | 3 3 . 3 4 6 . 6 5 6 . 8 6 . 8 | 3 3.9 9 7.6 6 7.8 6 7.8 | 7 4.5 5 8.5 2 8.7 2 8.7 | 6 5.09 5 - 1 - 1 - | - 9 5.58 - - - | - 3 6.05 - - - | - - - - | - - - - | - - - - | - - - - |
| 3836 Fe XXI 633 Mg X 3835 Fe XXI 632 Mg X 4358 Fe XXII | *3LI B4 C02288 *2LI m | 1344.400 1344.900 1345.300 1345.500 1345.500 | 9.222 7.0 9.219 6.7 9.216 7.0 9.215 6.0 9.215 7.2 | 70 4.39 05 4.69 57 3.93 | 9 – 9 – 3 – | - - - - | - - 7.24 | - 6.10 - 5.18 | - 4.99 - 4.33 | - 4.46 - 3.95 | 5.41 4.46 6.28 4.05 7.23 | 4.03 5.10 4.75 4.75 5.00 | 4.5 6.0 5.1 5.7 4.8 | 1 5.8 8 7.0 3 6.3 6 6.7 5 5.6 | 1 7.1 5 7.9 9 7.6 5 7.6 7 6.6 | 3 - 5 - 8 - 9 - 0 7.60 | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 629 Mg X 631 Mg X 630 Mg X 4357 Fe XXII 4356 Fe XXII | *3LI B3 *3LI B7 B05134 | 1345.500 1345.500 1345.600 1346.500 1347.400 | 9.215 6.0 9.215 6.0 9.214 6.0 9.208 7.0 9.202 7.0 | 70 4.19 70 5.01 1 4.29 | 9 – 1 – 9 – | | - - - | - - - | - - - | - - - | - - - | - - - - | - - - | - - - | - - - | 5.90 6.72 - - | 4.74 4.80 5.61 - | 4.36 4.27 5.08 - | 4.46 4.27 5.08 6.80 6.28 | 5.16 4.91 5.72 4.58 4.07 | 6.1 5.8 6.6 8 4.4 7 3.9 | 7 7.1 8 6.8 9 7.6 4 5.2 4 4.7 | 6 8.1 5 7.7 7 8.5 6 6.1 7 5.7 | 0 - 6 - 7 - 9 7.19 0 6.70 | - - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3834 Fe XXI 3833 Fe XXI 3832 Fe XXI 626 Mg X 628 Mg X | C03306 C03308 *3LI B10 | 1347.500 1347.700 1347.900 1348.100 1348.100 | 9.201 7.0 9.200 7.0 9.198 7.0 9.197 6.0 | 05 3.73 05 3.62 70 3.46 | 3 – 2 – 6 – | - - - - | _ | _ | _ | _ | _ | - - - - | _ | _ | _ | _ | - - 4.07 3.88 | - - 3.54 3.35 | 5.33 | 3.80 | 4.1 | 8 5.4 | 4 7.3 3 6.7 2 6.6 2 7.0 3 6.8 | 3 - | - - - - | - - - - | - - - - | - - - - | - - - - | - - - - |
| 3831 Fe XXI 3144 Fe XX 3145 Fe XX 627 Mg X 4694 Fe XXIII | N01517 N01519 *3LI B8 | 1348.500 1348.700 1348.700 1349.000 1349.100 | 9.194 7.0 9.193 6.9 9.193 6.9 9.191 6.7 | 98 3.73 98 4.07 70 3.94 | 3 – 7 – 4 – | - - - - | _ | _ | 6.88 7.22 4.02 | 4.49 4.83 4.02 | 3.73 4.08 4.66 | 4.7 5.0 5.6 | 0 6.4 4 6.7 3 6.6 | 1 - 5 - 0 7.5 | _ | - - - | - - - | - - - | - - - - | - - - - | - - - - |
| 624 Mg X 625 Mg X 4355 Fe XXII 3143 Fe XX 4354 Fe XXII | *3LI B2 B04133 N01523 | 1349.100 1349.600 1349.700 1349.900 1350.100 | 9.190 6.7 9.187 6.7 9.186 7.3 9.185 6.9 9.183 7.3 | 70 4.01 1 3.79 98 3.3 | 1 – 9 – 7 – | - - - - | | | 6.52 | 4.09 6.29 4.13 | 4.73 4.08 3.37 | 3 5.7 3 3.9 4.3 | 0 6.6 4 4.7 4 6.0 | 7 7.5 6 5.6 5 - | | - | - - - - | - - - - | - - - - | - - - - | - - - - |

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| Apr 13, 1 | 0 14:27 | | | | | | | | | III | ie i | IST | 5 PI | ΕX | ver | SIO | n 2 | .U | | | | | | | | | | | F | 'age | 66/ | 77_ |
|-------------------------------|-----------------|----------------------|---|---------------|--------------|-----|-----|-----|-----|-----|------|-----|-------------|-----|-----|-----|----------------------|-----------|--------------|--------------|------|------------|----------------|--------------|------------|-----------|-----------|-----------|------|------|-------------|------|
| Nr ion | Transit. | E(eV) La | mbda(A) Tn | nax -(| Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7. | 4 7 | . 6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 622 Mg X | | 1350.600 | 9.180 6 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.89 | 5.65 | 5.04 | 4.99 | 5.60 | 6.5 | 5 7. | 51 8 | .40 | _ | _ | _ | _ | _ | _ | _ |
| 617 Mg X 623 Mg X | | 1350.600 1350.600 | 9.180 6 9.180 6 | | | | _ | _ | - | _ | _ | _ | - | _ | _ | _ | 5.09 | 3.98 | 3.45 | 3.45 | 4.09 | 5.0 | 6 6. | 03 6 | .93 | _ | _ | _ | - | _ | - | - |
| 621 Mg X | | 1350.700 | 9.179 6 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.09 5.54 5.73 | 4.50 | 3.88 | 3.83 | 4.44 | 5.2 | 96. | 35 7 | . 24 | _ | _ | _ | _ | _ | _ | _ |
| 620 Mg X | *4LI C10 | 1350.700 | 9.179 6 | | | | - | - | - | - | - | - | - | - | - | - | 6.99 | 5.76 | 5.14 | 5.09 | 5.70 | 6.6 | 5 7. | 61 8 | .50 | - | - | - | - | - | - | - |
| 3830 Fe XXI | | 1350.900 | 9.178 7 | 7.04 | 4.42 | _ | - | - | - | - | - | - | - | - | _ | _ | - | _ | - | 5.83 | 4.46 | 5 4.9 | 3 6. | 23 7 | .55 | - | _ | _ | - | - | - | - |
| 4353 Fe XXII 618 Mg X | B10196 | 1351.200 1351.200 | 9.176 7 9.176 6 9.176 6 | 7.11 | 3.73 | _ | _ | _ | - | _ | _ | _ | - | _ | _ | _ | - 6 62 | - 5 20 | - 1 76 | 6.27 | 4.03 | 3.8 | 8 4. | 70 5 | .62 | 6.62 | _ | _ | - | _ | - | - |
| 619 Mg X | | 1351.200 | 9.176 6 | 5.72 | 4.82 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.78 | 5.54 | 4.93 | 4.88 | 5.49 | 6.4 | 4 7. | 40 8 | . 29 | _ | _ | _ | _ | _ | _ | _ |
| 615 Mg X | *3LI B19 | 1351.500 | 9.174 6 | 5.70 | 4.46 | - | - | - | - | - | - | - | - | - | - | - | 6.18 | 5.07 | 4.53 | 4.53 | 5.17 | 7 6.1 | 4 7. | 11 8 | .02 | - | - | - | - | - | - | - |
| 616 Mg X | | 1351.500 | 9.174 6 | 5.70 | 3.55 | - | - | - | - | - | - | - | - | - | - | - | | 4.16 | 3.63 | 3.63 | 4.27 | 7 5.2 | 4 6. | 21 7 | .11 | - | - | - | - | - | - | - |
| 614 Mg X 3141 Fe XX | | 1351.600 1351.600 | 9.173 6 9.173 6 9.172 6 | 5.72 | 3.65 4.60 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | 3.76 7.75 | | | | | | .12 | _ | _ | _ | _ | _ | _ | _ |
| 613 Mg X | *4LI C16 | 1351.800 | 9.172 6 | 5.72 | 3.84 | - | - | - | - | - | - | _ | - | - | - | _ | 5.80 | 4.56 | 3.95 | 3.89 | 4.50 | 5.4 | 5 6. | 41 7 | .30 | - | - | - | - | - | - | - |
| 612 Mg X | *4LI C15 | 1351.800 | 9.172 6 | 5.72 | 4.67 | - | - | - | - | - | - | - | - | - | - | - | 6.62 | 5.39 | 4.77 | 4.72 | 5.33 | 6.2 | 8 7. | 24 8 | .13 | - | - | - | - | - | - | - |
| 611 Mg X | | 1351.900 | 9.171 6 | | | | - | - | - | - | - | - | _ | - | - | | 6.91 | 5.67 | 5.06 | 5.01 | 5.61 | 6.5 | 7 7. | 52 8 | .42 | - | - | - | - | - | - | - |
| 610 Mg X 690 Mg XI | *4LI C5 HE4 | 1351.900 1352.100 | 9.171 6 | 5.72 | 4.57 1.66 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.53 4.55 | 5.29 | 4.68 2.04 | 4.63 | 5.23 | 6.1 125 | 87. 73 | 14 8 | .04 79 | - 4 33 | - 4 83 | - 5 29 | _ | _ | _ | _ |
| 609 Mg X | *3LI B5 | 1352.400 | 9.171 6 9.170 6 9.168 6 9.167 6 | 5.70 | 4.18 | - | - | - | - | - | - | - | - | - | - | - | 5.90 | 4.79 | 4.26 | 4.26 | 4.89 | 5.8 | 7 6. | 84 7 | .74 | - | - | - | - | - | - | - |
| 608 Mg X | *4LI C18 | 1352.500 | 9.167 6 | 5.72 | 4.84 | - | - | - | - | - | - | - | - | - | - | - | 6.80 | | 4.95 | | | | | | | | | - | - | - | - | - |
| 607 Mg X | | 1352.500 | 9.167 6 9.167 6 9.166 6 9.166 7 9.163 7 | 5.72 | 4.73 | - | - | - | - | - | - | - | - | - | - | - | 6.69 | 5.45 | 4.84 | 4.79 | 5.39 | 6.3 | 4 7. | 30 8 | .19 | - | - | - | - | - | - | - |
| 606 Mg X 605 Mg X | | 1352.500 1352.700 | 9.167 6 | 5.70 | 4.58 5.39 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.36 | 6.12 | 4.65 5.50 | 4.65 5.45 | 6.06 | 6.2 7.0 | 6 7.1 1 7.1 | 23 8 97 8 | .13 .86 | _ | _ | _ | _ | _ | _ | _ |
| 4352 Fe XXII | B10198 | 1352.700 | 9.166 7 | 7.11 | 4.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.68 | 4.44 | 4.2 | 9 5. | 11 6 | .03 | | | - | - | - | - | - |
| 4351 Fe XXII | В09193 | 1353.100 | 9.163 7 | 7.11 | 4.25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.78 | 4.54 | 1 4.3 | 9 5. | 21 6 | .13 | 7.13 | - | - | - | - | - | - |
| 4350 Fe XXII | | 1355.200 | 9.149 7 | 7.11 | 4.25 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.79 | 4.55 | 4.4 | 0 5. | 22 6 | .14 | 7.13 | - | - | - | - | - | - |
| 4349 Fe XXII 4348 Fe XXII | | 1355.900 1356.400 | 9.144 7 | 7.11 | 4.03 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.92 | 4.71 | 4.1 | 7 5. | 39 6 | .93 .32 | 7.32 | _ | _ | _ | _ | _ | _ |
| 3829 Fe XXI | | 1357.100 | 9.149 7 9.144 7 9.141 7 9.136 7 9.135 7 | 7.05 | 4.27 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.88 | 4.34 | 4.7 | 1 5. | 96 7 | . 25 | - 16 | - | - | - | - | - | - |
| 4347 Fe XXII | B12271 | 1357.200 | 9.135 / | .11 | 4.29 | | | | | | | | | | | | | | | | | | | | .16 | 7.16 | _ | _ | _ | - | _ | _ |
| 5196 Ni XIX | NE1A1 C05387 | 1358.000 1359.300 | 9.130 6 | | | - | - | - | - | - | - | - | - | - | - | - | _ | 4.36 | 3.28 | 3.29 | 4.43 | 7.0 | 3 - | | - | - | - | - | - | - | - | - |
| 3828 Fe XXI 4346 Fe XXII | | 1360.100 | 9.121 7 9.116 7 | | | - | - | _ | - | - | _ | _ | - | _ | _ | - | _ | - | _ | 6.84 | 4.12 | 4.4 | 9 5. 8 5. | 31 6 | .03 | 7.23 | _ | _ | _ | _ | _ | _ |
| 4345 Fe XXII | | 1361.900 | 9.104 7 | 7.10 | 3.96 | - | - | - | - | - | - | - | - | - | - | - | - | | - | | 4.19 | | | | | | | - | - | - | - | - |
| 4344 Fe XXII | B05147 | 1364.000 | 9.090 7 | / . 11 | 3.96 | _ | _ | - | - | _ | _ | _ | _ | _ | _ | _ | | - | - | | 4.26 | | | | | | | - | _ | _ | _ | _ |
| 4343 Fe XXII 4342 Fe XXII | | 1364.600 1365.200 | 9.086 7 9.082 7 | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.06 | 3.84 | 3.6 | 9 4. | 51 5 | .44 | 6.44 | - | - | - | - | _ | - |
| 5389 Ni XXVI | LI5 | 1365.200 | 9.082 7 | | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 4.21 | 2.8 | 0 2. | 81 3 | .03 | 3.32 | 3.72 | 4.24 | 4.84 | 5.44 | - ! 6.02 | 6.56 |
| 4341 Fe XXII | | 1366.400 | 9.074 7 | | | - | - | - | - | - | - | - | - | - | - | - | _ | - | - | 5.46 | 3.25 | 3.1 | 1 3. | 94 4 | .87 | 5.87 | - | - | - | - | - | - |
| 4340 Fe XXII | В02130 | 1366.500 | 9.073 7 | , . 11 | 2.98 | | _ | _ | _ | _ | _ | | | | | | | | | | 3.27 | | | | | | | _ | _ | _ | _ | _ |
| 4339 Fe XXII | | 1366.700 | 9.072 7 | | | _ | - | - | - | - | - | - | - | - | - | - | - - - | - | - | 6.73 | 4.51 | 4.3 | 6 5. | 18 6 | .11 | 7.11 | - | _ | - | - | - | - |
| 4338 Fe XXII 4336 Fe XXII | | 1367.700 1368.200 | 9.065 7 9.062 7 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.01 | 4.91 | | | | | | | _ | | | _ | _ |
| 4337 Fe XXII | B08193 | 1368.200 | 9.062 7 | 7.11 | 4.26 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.79 | 4.56 | 5 4.4 | 0 5. | 22 6 | .15 | 7.14 | - | - | - | - | - | - |
| 4335 Fe XXII | В04147 | 1370.900 | 9.044 7 | | | | | | | | | | | | | | | | | | 3.9] | 3.7 | / 4. | 59 5 | .52 | 0.5I | - | - | - | - | - | - |
| 4334 Fe XXII 3826 Fe XXI | | 1371.800 1372.600 | 9.038 7 9.033 7 9.028 7 | 7.11 | 4.40 | _ | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.92 | 4.69 | | | | | 7.29 | _ | - | - | - | - | - |
| 4333 Fe XXII | B03144 | 1373.300 | 9.028 7 | 7.11 | 4.00 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.51 | 4.29 | 4.1 | 5 4. | 97 5 | .90 | 6.90 | - | _ | _ | _ | _ | _ |
| 3825 Fe XXI | | 1374.100 1374.700 | 9.023 7 | 7.05 | 4.46 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.07 | 4.52 | 2 4.9 | 0 6. | 15 7 | . 44 | - | - | - | - | - | - | - |
| 4332 Fe XXII | | | | | | | | | | | | | | | | | | | | | 3.83 | | | | | | | _ | - | _ | _ | _ |
| 5407 Ni XXVII 4331 Fe XXII | | 1377.600 1378.500 | 9.000 7 8.994 7 | | | _ | _ | - | - | - | - | - | - | - | - | - | _ | - | - | - 6 21 | | | | | | | | | | 5.64 | 6.00 | |
| 4331 Fe XXII 4330 Fe XXII | | 1378.500 | 8.994 7 | | | - | - | _ | _ | _ | - | - | - | _ | _ | _ | - | - | - | 6.52 | 4.30 | 4.1 | 5 4. | 98 5 | . 91 | 6.90 | _ | _ | _ | _ | _ | _ |
| 4327 Fe XXII | B07195 | 1380.500 | 8.981 7 | 7.11 | 4.09 | - | - | - | - | - | - | - | - | - | _ | _ | _ | _ | - | 6.63 | 4.39 | 4.2 | 4 5. | 06 5 | .98 | 6.98 | - | - | - | - | - | - |
| 4329 Fe XXII | в03153 | 1381.400 | 8.975 7 | / . <u>_</u> | 4.40 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.91 | 4.69 | 4.5 | 4 5. | 37 6 | . 29 | 7.29 | - | - | - | _ | - | - |

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| Apr 13, 10 14:27 | | line list SPEX version 2.0 | Page 67/77 |
|---|---|---|-------------------------------|
| Nr ion Transit. | E(eV) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 | 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 | |
| 4328 Fe XXII B01129 5271 Ni XXI 07 4326 Fe XXII B06194 4325 Fe XXII B06193 4693 Fe XXIII BE10098 | 1381.400 8.975 7.10 2.11 1381.400 8.975 6.92 2.90 1383.100 8.964 7.11 3.74 1383.100 8.964 7.11 4.61 1387.600 8.935 7.19 3.58 | | |
| 4692 Fe XXIII BE05048 3823 Fe XXI C02374 3822 Fe XXI C02381 3821 Fe XXI C02387 4691 Fe XXIII BE09076 | 1393.900 8.895 7.05 4.27 1395.400 8.885 7.05 4.77 1396.200 8.880 7.05 4.10 | 6.38 3.39 2.67 3.03 3.57 4.23 5.88 4.34 4.71 5.96 7.25 - 6.38 4.84 5.21 6.46 7.76 - 5.71 4.17 4.54 5.79 7.08 - 8.16 5.15 4.42 4.77 5.31 5.97 | |
| 4690 Fe XXIII BE08062 5195 Ni XIX NE1B2 3820 Fe XXI C01374 4324 Fe XXII B02138 4323 Fe XXII B09266 | 1401 400 8 847 6 71 3 21 | | |
| 3819 Fe XXI C01387 4322 Fe XXII B02139 4321 Fe XXII B02140 4689 Fe XXIII BE05056 4688 Fe XXIII BE08069 | 1405.100 8.824 7.04 3.74 - - - - - 1405.600 8.821 7.11 4.50 - - - - - 1405.700 8.820 7.11 4.33 - - - - 1406.500 8.815 7.19 2.33 - - - - 1412.800 8.776 7.19 4.03 - - - - | 5.16 3.78 4.25 5.55 6.86 7.01 4.79 4.65 5.47 6.40 7.40 6.84 4.62 4.48 5.30 6.23 7.23 6.05 3.06 2.33 2.69 3.24 3.90 7.77 4.77 4.03 4.39 4.92 5.58 | 4.78 5.91 |
| 4687 Fe XXIII BE09096 4319 Fe XXII B01137 | 1413.900 8.769 7.10 3.67 -< | 5.40 3.35 3.30 4.17 5.13 6.14 | |
| 4686 Fe XXIII BE07068 4317 Fe XXII B02165 4685 Fe XXIII BE07070 4315 Fe XXII B01139 4316 Fe XXII B08266 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 8.36 5.36 4.62 4.97 5.51 6.17 6.75 4.70 4.64 5.52 6.47 7.48 6.87 4.62 4.45 5.27 6.19 7.18 | |
| 4684 Fe XXIII BE07072 4314 Fe XXII B02166 5194 Ni XIX NE1A2 4313 Fe XXII B01142 4312 Fe XXII B01143 | 1420.400 8.729 7.19 4.81 - - - - - 1420.500 8.728 7.11 4.36 - - - - - 1421.000 8.725 6.71 3.63 - - - - 1421.500 8.722 7.10 2.93 - - - - 1422.800 8.714 7.10 2.71 - - - - | 8.56 5.55 4.82 5.17 5.71 6.37 6.88 4.66 4.51 5.33 6.26 7.26 4.86 3.75 3.74 4.87 7.46 5.22 3.17 3.12 3.99 4.95 5.96 5.00 2.95 2.90 3.77 4.72 5.74 | |
| 4683 Fe XXIII BE04047 4682 Fe XXIII BE08084 4681 Fe XXIII BE06070 4680 Fe XXIII BE07083 4679 Fe XXIII BE03047 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7.47 4.48 3.73 4.08 4.59 5.22 8.07 5.06 4.32 4.67 5.21 5.87 7.60 4.59 3.86 4.21 4.75 5.41 8.57 5.56 4.82 5.17 5.71 6.37 7.71 4.71 3.97 4.31 4.83 5.45 | 6.75 7.88 6.29 7.42 7.24 8.37 |
| 4678 Fe XXIII BE03048 4677 Fe XXIII BE04054 4676 Fe XXIII BE04055 4675 Fe XXIII BE02047 4674 Fe XXIII BE06098 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 8.21 5.20 4.43 4.75 5.23 5.82 7.39 4.34 3.54 3.81 4.26 4.81 6.74 3.73 2.98 3.32 3.82 4.44 8.09 5.05 4.26 4.54 4.99 5.55 8.36 5.35 4.61 4.97 5.50 6.16 | 5.56 6.54 5.25 6.29 6.31 7.28 |
| 4673 Fe XXIII BE45270 4672 Fe XXIII BE03053 4671 Fe XXIII BE03054 4311 Fe XXII B02188 4310 Fe XXII B02189 | 1449.900 8.551 7.19 3.69 | 5.74 4.80 5.03 5.49 6.10 7.43 4.43 3.69 4.03 4.56 5.19 6.98 3.98 3.24 3.58 4.10 4.74 6.76 4.53 4.38 5.20 6.12 7.12 6.80 4.57 4.42 5.24 6.16 7.16 | 6.03 7.10 |
| 4669 Fe XXIII BE02053 4308 Fe XXII B02191 | 1453.000 8.533 7.11 4.43 | 8.39 5.40 4.67 5.03 5.57 6.23 6.96 4.73 4.58 5.40 6.32 7.31 7.29 4.29 3.55 3.89 4.42 5.05 6.48 4.25 4.10 4.92 5.84 6.84 7.07 4.83 4.68 5.50 6.42 7.42 | |

| Apr 13, 10 14:27 | | line list SPEX version 2.0 | Page 68/77 |
|---|--|--|------------------------------|
| Nr ion Transit. E(eV) La | ambda(A) Tmax -Omax 4.0 4.2 4.4 4.6 | . 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8. | 2 8.4 8.6 8.8 9.0 |
| | | | |
| 5285 Ni XXII N7 1458.600 5405 Ni XXVII HE7 1458.600 4668 Fe XXIII BE25211 1459.200 4306 Fe XXII B08304 1463.500 689 Mg XI HE S2 1463.800 | 8.500 6.99 2.49 8.500 7.79 4.42 8.497 7.21 4.23 8.472 7.11 3.89 8.470 6.89 3.07 | 6.07 3.32 2.49 3.55 5.45 5.81 4.90 4.53 4.42 4.54 4 5.15 4.23 4.47 4.93 5.54 6.38 7 6.45 4.19 4.02 4.83 5.75 6.74 5.96 4.04 3.16 3.18 3.68 4.26 4.83 5.37 5.90 6. | 49 |
| 4667 Fe XXIII BE24210 1464.300 4666 Fe XXIII BE05081 1465.000 4665 Fe XXIII BE31244 1465.700 461 Na XI H2 1467.300 4305 Fe XXII B01191 1468.300 | 8.467 7.21 4.17 - - - - 8.463 7.19 4.57 - - - - 8.459 7.22 4.64 - - - - 8.450 6.90 3.77 - - - - 8.444 7.10 4.24 - - - - | 5.10 4.18 4.41 4.88 5.48 6.33 7 8.32 5.32 4.58 4.93 5.47 6.13 7.00 8 5.58 4.64 4.88 5.33 5.94 6.79 7 6.71 4.70 3.84 3.81 4.03 4.28 4.52 4.74 4.96 5 6.54 4.48 4.42 5.29 6.25 7.26 | 13 89 |
| 4664 Fe XXIII BE05085 1468.500 4304 Fe XXII B01192 1469.400 702 Mg XII H1B 1471.800 4663 Fe XXIII BE32268 1472.100 687 Mg XI HE S3 1472.500 | 8.443 7.19 4.51 8.438 7.10 4.20 8.424 7.01 2.03 8.422 7.22 4.47 8.420 6.91 3.02 | 8.27 5.26 4.52 4.87 5.41 6.07 6.94 8 6.50 4.44 4.38 5.26 6.21 7.22 3.74 2.40 2.03 2.16 2.39 2.62 2.83 3.03 3 5.41 4.47 4.70 5.16 5.77 6.61 7 6.24 4.14 3.14 3.10 3.55 4.10 4.65 5.18 5.70 6. | 22 3.41 3.58 3.73 3.84 72 |
| 688 Mg XI HE S4 1472.500 701 Mg XII H1A 1472.700 4303 Fe XXII B08321 1475.100 4662 Fe XXIII BE22209 1476.900 4302 Fe XXII B06304 1478.300 | 8.420 6.91 2.90 - - - - 8.419 7.00 1.76 - - - 8.405 7.11 3.60 - - - 8.395 7.22 4.46 - - - 8.387 7.11 3.51 - - - | 6.29 4.10 3.05 2.97 3.40 3.93 4.47 5.00 5.52 6 3.45 2.12 1.76 1.90 2.14 2.38 2.61 2.83 3 6.18 3.91 3.74 4.55 5.47 6.45 5.39 4.46 4.70 5.16 5.77 6.61 7 6.08 3.82 3.65 4.46 5.38 6.37 | 04 3.24 3.42 3.57 3.68 |
| 4661 Fe XXIII BE10104 1479.300 4903 Fe XXIV LI03009 1480.200 4301 Fe XXII B06310 1482.700 4300 Fe XXII B07319 1483.600 4299 Fe XXII B06321 1487.300 | 8.381 7.19 4.28 - <td< td=""><td> 8.07 5.04 4.28 4.62 5.16 5.81 6.69 7 4.28 3.02 2.96 3.14 3.47 4.02 4 6.91 4.65 4.48 5.29 6.21 7.19 7.23 4.97 4.80 5.61 6.52 7.51 6.82 4.56 4.39 5.19 6.11 7.10</td><td></td></td<> | 8.07 5.04 4.28 4.62 5.16 5.81 6.69 7 4.28 3.02 2.96 3.14 3.47 4.02 4 6.91 4.65 4.48 5.29 6.21 7.19 7.23 4.97 4.80 5.61 6.52 7.51 6.82 4.56 4.39 5.19 6.11 7.10 | |
| 4298 Fe XXII B06322 1487.700 710 Al V F S 1488.400 4902 Fe XXIV LI03012 1490.200 4901 Fe XXIV LI03013 1490.700 4660 Fe XXIII BE01050 1490.700 | 8.334 7.11 3.41 8.330 6.03 11.46 8.320 7.32 3.51 8.317 7.32 2.55 8.317 7.19 3.00 | 5.98 3.72 3.55 4.35 5.27 6.26 | 35 5.23 6.18 |
| 4659 Fe XXIII BE01052 1493.100 4658 Fe XXIII BE03065 1495.600 4657 Fe XXIII BE03066 1495.900 4900 Fe XXIV LI02009 1496.500 4656 Fe XXIII BE04079 1498.500 | 8.304 7.19 2.34 8.290 7.19 4.51 8.288 7.19 4.69 8.285 7.31 3.23 8.274 7.19 4.55 | 6.06 3.07 2.34 2.70 3.24 3.89 4.77 5 8.26 5.25 4.52 4.87 5.41 6.07 6.95 8 8.43 5.43 4.69 5.05 5.59 6.25 7.13 8 4.58 3.32 3.26 3.45 3.78 4.32 5 8.30 5.29 4.56 4.91 5.45 6.11 6.98 8. | 08 26 09 6.00 6.99 |
| 4655 Fe XXIII BE04078 1498.500 711 Al VI O S 1499.200 4654 Fe XXIII BE02064 1499.400 4297 Fe XXII B10382 1501.600 4296 Fe XXII B10384 1502.500 | 8.274 7.19 4.35 8.270 6.07 10.33 8.269 7.19 4.66 8.257 7.11 4.18 8.252 7.11 4.63 | 8.10 5.09 4.36 4.71 5.25 5.91 6.78 7 8.41 5.40 4.66 5.02 5.56 6.22 7.10 8 6.77 4.50 4.32 5.12 6.03 7.02 7.22 4.94 4.77 5.57 6.48 7.47 | |
| 4899 Fe XXIV LI02012 1506.100 4295 Fe XXII B02260 1507.600 4294 Fe XXII B04301 1509.600 4653 Fe XXIII BE09116 1511.100 713 Al VII N S 1512.000 | 8.232 7.32 2.80 8.224 7.11 4.55 8.213 7.11 4.31 8.205 7.19 4.74 8.200 6.10 8.19 | 4.17 2.89 2.82 3.00 3.32 3.85 4. 7.11 4.86 4.69 5.51 6.43 7.42 6.88 4.62 4.45 5.26 6.18 7.17 8.54 5.50 4.74 5.08 5.61 6.27 7.14 8. | |
| 4293 Fe XXII B04304 1514.600 4292 Fe XXII B05317 1515.000 4291 Fe XXII B05319 1515.700 4290 Fe XXII B02271 1517.900 4289 Fe XXII B02272 1517.900 | 8.186 7.11 4.51 8.184 7.11 4.27 8.180 7.11 3.96 8.168 7.11 3.45 8.168 7.11 3.41 | 7.08 4.82 4.65 5.46 6.38 7.37 6.84 4.58 4.41 5.22 6.13 7.12 6.53 4.27 4.10 4.91 5.82 6.81 6.51 3.76 3.59 4.41 5.33 6.32 6.51 3.76 3.55 4.37 5.29 6.28 6.51 3.72 3.55 4.37 5.29 6.28 | |
| 4288 Fe XXII B04307 1518.300 4287 Fe XXII B04310 1518.900 5269 Ni XXI 08 1519.400 4286 Fe XXII B04317 1522.000 4285 Fe XXII B04322 1523.900 | 8.166 7.11 4.63 8.163 7.11 3.82 8.160 6.92 3.45 8.146 7.11 4.53 8.136 7.11 4.02 | 7.20 4.94 4.76 5.57 6.49 7.48 6.39 4.13 3.96 4.77 5.68 6.67 5.52 3.74 3.59 5.18 | |

| Api 13, 1 | 0 14.27 | | | | | | | | •••• | <u> </u> | 31 | <u> </u> | | V CI | 310 | 11 4 | .0 | | | | | | | | | | | aye | 5 09/ | ' ' |
|--|----------------------------|--|--|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|--------------------------------|--------------------------------|--------------------------------|--|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|---------------------------|----------------------|------------------|
| Nr ion | Transit. | E(eV) Lam | ıbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 4 | 1.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 4284 Fe XXII 716 Al VIII 4283 Fe XXII 4282 Fe XXII 4652 Fe XXIII | C S B03318 B03320 | 1525.000 1529.200 1529.500 | 8.131 7.13 8.130 6.14 8.108 7.13 8.106 7.13 8.102 7.23 | L 4.24 L 4.42 | - | - - - | - - - | _ _ _ | | - - - | - | - | - - - | - - - | - - - | - - - | - - - | - - - | 6.83 6.99 | 1 4.54 9 4.72 5.43 | 4.37 4.55 4.50 | 5.18 5.36 4.73 | 6.10 6.28 5.19 | 7.09 7.27 5.80 | - ' - ! 6.65 | - - 7.75 | - | - | - - - | |
| 4281 Fe XXII 4280 Fe XXII 4279 Fe XXII 720 Al IX 4651 Fe XXIII | B01271 B06380 B S | 1531.200 1532.400 1534.100 1540.200 1548.400 | 8.097 7.13 8.091 7.10 8.082 7.13 8.050 6.23 8.007 7.19 | 2.59 1 4.31 2 6.64 9 4.17 | - - - | - - - | - - - | - - - - | _ _ _ _ | - - - | - - - | - - - | - - - | - - - | - 8.40 | - 6.65 | - - 6.90 | - - 7.32 | 4.93 6.90 7.83 | L 2.83 0 4.63 2 8.74 0 4.94 | 2.77 4.45 - 4.17 | 3.64 5.25 - 4.51 | 4.59 6.16 - 5.03 | 5.60 7.15 - 5.68 | - - - 6.56 | - - - 7.68 | - - - | - | - - - | - - - |
| 4898 Fe XXIV 4897 Fe XXIV 724 Al X 4278 Fe XXII 4648 Fe XXIII | LI01011 BE S2 B02306 | 1559.200 | 7.996 7.26 7.986 7.26 7.960 6.66 7.952 7.12 7.934 7.19 | 3 2.73 3 2.46 5 5.46 4.47 9 3.11 | - - - - | - 8.72 - - | - 6.02 - - | - - 5.57 - - | - - 5.46 - - | - 5 5.5! 7.04 6.90 | 3.95 3.68 5.6.11 4.78 3.86 | 2.79 2.51 7.18 4.60 3.11 | 2.78 2.51 8.38 5.41 3.45 | 3.00 2.73 - 6.33 3.98 | 3.35 3.07 - 7.32 4.64 | 3.90 3.63 - - 5.51 | 4.66 4.39 - - 6.64 | 5.57 5.29 - - | 6.55 6.27 - - | - - - - | - - - - |
| 4647 Fe XXIII 4277 Fe XXII 4276 Fe XXII 4275 Fe XXII 4274 Fe XXII | B01303 B01305 B01306 | 1569.000 1569.800 1571.000 1573.600 1574.800 | 7.902 7.1 7.898 7.1 7.892 7.1 7.879 7.1 7.873 7.1 | 2.85 4.06 3.84 3.78 3.34 | - - - - | - - - - | - - - - | - - - - | 6.6! 6.3! 6.1' 6.15 | 3.61 3.4.30 7.4.09 1.4.03 7.3.59 | 2.86 4.23 4.02 3.96 3.52 | 3.20 5.10 4.89 4.83 4.39 | 3.73 6.05 5.84 5.77 5.33 | 4.38 7.05 6.84 6.78 6.34 | 5.26 - - - - | 6.39 - - - - | - - - - | - - - - | - - - - | - - - - |
| 739 Al XII 4273 Fe XXII 686 Mg XI 723 Al X 722 Al X | HE3 BE S4 | 1574.900 1575.200 1579.300 1586.900 | 7.872 6.99 7.871 7.10 7.851 6.89 7.813 6.79 7.813 6.79 | 3.18 2.46 5.71 3.5.67 | | _ _ _ | - | - - - - | - - - | - - - | - - - | _ _ _ | _ _ _ _ | _ _ _ _ | - - - | - 5.18 7.14 6.82 | 3.70 6.22 6.05 | - 2.81 5.82 5.74 | 5.5 2.40 5.72 5.70 | 1 3.43 5 2.75 2 6.17 0 6.19 | 3.36 3.38 7.16 7.20 | 4.23 4.02 8.31 8.37 | 5.17 4.59 9.44 9.51 | 6.18 5.12 - | 5.60 - - | 6.04 - - | - 6.45 - - | - - - | - - - | - - - |
| 729 Al XI 738 Al XII 4646 Fe XXIII 4645 Fe XXIII 728 Al XI | BE04099 | | 7.813 6.7 7.807 6.8 7.794 7.1 7.772 7.1 7.762 6.7 | 7 3.62 9 3.39 9 4.24 9 4.41 9 3.67 | - - - - | 5.51 7.02 - - 6.14 | 4.32 5.09 - - 4.64 | 3.77 4.01 - - 3.91 | 3.62 3.46 8.06 8.20 3.6 | 2 3.98 5 3.48 5 5.01 0 5.16 7 4.00 | 4.81 3.99 4.24 4.41 4.82 | 5.75 4.63 4.58 4.75 5.78 | 6.65 5.23 5.10 5.28 6.70 | - 5.78 5.76 5.94 7.55 | - 6.28 6.63 6.81 | - 6.74 7.76 7.94 | 7.18 - - - | - - - - | - - - - | - - - - |
| 737 Al XII 727 Al XI 4644 Fe XXIII 4643 Fe XXIII 4642 Fe XXIII | BE04106 BE04107 | 1603.300 | 7.757 6.9 7.752 6.8 7.737 7.1 7.733 7.2 7.718 7.1 | 2.70 3.70 4.14 3.37 4.63 | - - - - | 6.58 6.48 - - - | 4.58 4.83 - - - | 3.43 4.00 - - | 3 2.83 3.70 7.97 7.22 8.43 | L 2.76 3.98 7 4.92 2 4.16 3 5.39 | 3.24 4.79 4.14 3.37 4.63 | 3.87 5.73 4.45 3.68 4.98 | 4.46 6.63 4.95 4.16 5.51 | 5.01 7.48 5.56 4.76 6.16 | 5.52 6.37 5.55 7.04 | 5.99 - 7.40 6.57 8.17 | 6.43 - - - - | - - - - | - - - - | - - - - |
| 4272 Fe XXII 4271 Fe XXII 5284 Ni XXII 4641 Fe XXIII 4640 Fe XXIII | B02377 N8 BE03105 | | 7.714 7.1 7.710 7.1 7.700 6.9 7.682 7.1 7.681 7.2 | 4.46 9 5.00 9 4.07 | - - - | - - - | - - - | - 8.64 - - | 7.0! 5.86 7.91 7.4 | 5 4.78 5 5.00 L 4.86 1 4.38 | 4.60 6.05 4.07 3.59 | 5.40 7.93 4.39 3.89 | 6.32 - 4.88 4.36 | 7.30 - 5.48 4.95 | - - 6.28 5.74 | - 7.31 6.74 | - - - | | - - - - | - - - |
| 4639 Fe XXIII 5337 Ni XXIV 5338 Ni XXIV 5336 Ni XXIV 4638 Fe XXIII | B2B B2C B2A | 1622.800 1622.800 1639.800 | 7.664 7.1 7.640 7.1 7.640 7.0 7.561 7.1 7.478 7.2 | 4.13 9 3.77 L 3.40 0 3.55 | - - - - | - - - - | - - - - | - - - - | 7.76 6.95 6.37 6.22 | 5 4.70 5 4.48 7 4.04 2 3.75 5 4.36 | 3.92 4.32 4.04 3.60 3.55 | 4.23 5.27 5.17 4.54 3.82 | 4.72 6.22 6.30 5.49 4.27 | 5.32 7.10 7.37 6.37 4.82 | 6.12 8.00 7.27 5.58 | 7.14 - - - 6.56 | - - - - | - - - - | - - - - | - - - - |
| 685 Mg XI 4637 Fe XXIII 4896 Fe XXIV 4895 Fe XXIV 4894 Fe XXIV | LI03016 LI03019 | 1659.100 1659.100 1663.300 1666.900 1667.100 | 7.473 6.83 7.473 7.13 7.454 7.33 7.438 7.33 7.437 7.33 | 2.75 L 3.45 1 3.84 2.97 | - - - - | 5.80 - - - - | 4.25 - - - - | 3.31 - - - - | 2.93 6.59 - - - | 3 3.19 5 3.51 4.83 5.30 4.40 | 3.81 2.75 3.54 3.96 3.08 | 4.44 3.09 3.48 3.85 2.99 | 5.01 3.62 3.66 3.99 3.15 | 5.52 4.26 4.00 4.28 3.45 | 6.00 5.12 4.57 4.77 3.96 | 6.44 6.23 5.36 5.46 4.68 | 6.85 - 6.34 6.28 5.53 | - 7.42 7.18 6.46 | - - 2 - 3 - | - - - - |
| 4893 Fe XXIV 4892 Fe XXIV 684 Mg XI 5363 Ni XXV 736 Al XII | LI02019 HE1 BE3 | 1678.400 1682.700 1696.000 1696.100 1719.600 | 7.387 7.33 7.368 7.34 7.310 6.83 7.310 7.11 7.210 6.99 | 7 3.58 | - - - - | - | - | - | - | 5.14 4.57 3.53 4.37 4.05 | 3.60 | 4.10 | 4.70 | 5.31 | . 5.98 | 6.74 | 7.56 | _ | _ | _ |

| Apr 13, 10 14:27 | line list SPEX version 2.0 | Page 70/77 |
|--|--|---|
| | | |
| Nr ion Transit. E(eV) | T) Lambda(A) Tmax -Qmax 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 | 2 7.4 7.6 7.8 8.0 8.2 8.4 8.6 8.8 9.0 |
| 742 Al XIII H1B 1727.80 734 Al XII HE S3 1729.00 735 Al XII HE S4 1729.00 741 Al XIII H1A 1729.20 4891 Fe XXIV LI01017 1729.40 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 11 3.30 3.52 3.73 3.94 4.13 4.32 4.50 4.65 4.78 29 4.80 5.34 5.88 6.40 6.91 7.41 7.89 16 4.65 5.19 5.72 6.24 6.75 7.25 7.73 85 3.05 3.28 3.51 3.73 3.94 4.14 4.33 4.50 4.62 19 3.16 3.36 3.69 4.22 4.95 5.82 6.75 |
| 4890 Fe XXIV LI01018 1730.40 774 Si V NE S 1741.40 5385 Ni XXVI LI4 1743.80 791 Si VI F S 1743.80 700 Mg XII H2 1745.00 | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 91 2.88 3.08 3.40 3.93 4.67 5.53 6.46 |
| 5361 Ni XXV BE2 1751.20 5384 Ni XXVI LI3 1753.70 808 Si VII O S 1756.20 4889 Fe XXIV LI03023 1759.90 4887 Fe XXIV LI03026 1762.90 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 27 3.69 4.22 4.76 5.39 6.12 6.91 |
| 4888 Fe XXIV LI03027 1762.90 824 Si VIII N S 1768.70 4886 Fe XXIV LI02023 1775.80 4885 Fe XXIV LI02026 1778.80 842 Si IX C S 1783.90 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 54 3.46 3.64 3.98 4.54 5.34 6.31 7.39 |
| 863 Si X B S 1802.10 5383 Ni XXVI LI2 1820.60 882 Si XI BE S2 1820.60 4884 Fe XXIV LI01024 1826.30 4883 Fe XXIV LI01025 1827.10 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19 3.16 3.36 3.65 4.05 4.59 5.20 5.81 6.39 6.94 |
| 947 Si XIII HE6 1839.40 699 Mg XII H3 1839.50 880 Si XI BE S3 1849.40 915 Si XII LI S2 1849.40 881 Si XI BE S4 1849.40 | 500 6.740 7.03 3.06 4.93 3.50 3.07 3.1 400 6.704 6.80 4.42 6.43 4.97 4.56 4.42 4.66 5.4 400 6.704 6.86 2.43 5.42 3.48 2.75 2.45 2.56 3.1 | 17 4.07 4.97 5.81 |
| 946 Si XIII HE5 1853.70 914 Si XII LI S3 1861.30 913 Si XII LI S4 1863.90 945 Si XIII HE4 1864.90 733 Al XII HE3 1867.50 | 300 6.661 6.88 2.53 6.24 3.94 2.99 2.57 2.63 3.2 900 6.652 6.90 2.57 4.18 3.12 2.63 2.64 3.2 900 6.648 7.01 1.59 4.11 2.72 1.91 1.60 1.8 | |
| 698 Mg XII H4 1884.30 697 Mg XII H5 1907.40 944 Si XIII HE S2 1995.90 957 Si XIV H1B 2003.90 956 Si XIV H1A 2005.90 | 400 6.500 7.04 3.75 5.68 4.21 3.76 3.8 900 6.212 7.08 2.90 5.35 3.71 2.97 3.0 900 6.187 7.22 1.99 5.67 3.51 2.34 2.0 | 53 3.74 3.96 4.17 4.37 4.57 4.75 4.93 5.08 5.20 84 4.04 4.25 4.46 4.66 4.85 5.04 5.21 5.36 5.48 01 3.46 4.01 4.56 5.10 5.62 6.13 6.62 00 2.09 2.29 2.51 2.71 2.91 3.10 3.28 3.44 3.58 73 1.84 2.05 2.28 2.50 2.71 2.91 3.11 3.28 3.42 |
| 943 Si XIII HE S4 2006.20 942 Si XIII HE S3 2006.20 5382 Ni XXVI LI1 2025.90 740 Al XIII H2 2049.30 941 Si XIII HE3 2181.70 | 200 6.180 7.10 2.91 5.64 3.84 3.01 2.9 900 6.120 7.31 3.69 5.29 3.7 300 6.050 7.12 3.52 6.24 4.44 3.62 3.5 | 88 3.28 3.80 4.32 4.84 5.36 5.86 6.35 6.80 - 98 3.40 3.93 4.46 4.99 5.50 6.01 6.50 - 78 3.72 3.91 4.18 4.57 5.09 5.69 6.29 6.86 7.40 55 3.74 3.97 4.20 4.42 4.63 4.83 5.02 5.18 5.31 64 3.21 3.80 4.35 4.84 5.30 5.73 6.12 - |
| 940 Si XIII HE2 2296.00 994 S VII NE S 2313.10 1012 S VIII F S 2313.10 975 S VI NA S 2313.10 1027 S IX O S 2330.50 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 08 3.64 4.22 4.76 5.25 5.70 6.13 6.52 |
| 939 Si XIII HE1 2345.70 1042 S X N S 2348.20 1059 S XI C S 2366.10 955 Si XIV H2 2375.20 1076 S XII B S 2384.30 | 200 | |

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|-------------------------------|----------------|----------------------|--|--|-----|-----|-----|-----|-----|------|-----|-------------|-----|-----|-----|-----|--------------|-----------|-----------|------|--------------|----------------|------------------|--------------|------|------|------|----------|--------------|------|
| Nr ion | Transit. | E(eV) Lam | ıbda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 1095 S XIII | BE S2 | 2407.500 | 5.150 6.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1150 S XV 1094 S XIII | HE6 BE S4 | 2426.300 2440.200 | 5.110 7.1 5.081 6.9 | | | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | | 5.58 | |
| 1121 S XIV | LI S2 | 2440.200 | 5.081 7.0 | 1 2.60 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.84 | 3.36 | 2.79 | 2.60 | 2.79 | 3.42 | 2 4.27 | 5.12 | 5.92 | - | - | - | - | _ |
| 1093 S XIII | BE S3 | 2440.200 | 5.081 6.9 | 2 4.48 | - | - | - | - | - | - | - | - | - | - | - | - | 5.86 | 4.81 | 4.52 | 4.50 | 4.86 | 5 5.69 | 6.77 | 7.87 | - | - | - | - | - | - |
| 1149 S XV | HE5 | 2447.000 | 5.067 7.1 | 6 2.49 | - | - | - | - | - | - | - | - | _ | - | - | - | - | | | | | | | | | | | | 6.17 | _ |
| 1120 S XIV 1119 S XIV | LI S3 LI S4 | 2455.100 2459.000 | 5.050 7.0 5.042 7.0 5.039 7.1 | 4 2.78 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.60 | | | | | | | | | | | _ | | _ |
| 1148 S XV | HE4 | 2460.500 | 5.039 7.1 | 8 1.86 | - | - | - | - | - | - | - | - | - | - | - | - | - | 3.88 | 2.73 | 2.07 | 1.86 | 5 2.14 | 1 2.67 | 3.23 | 3.75 | 4.24 | 4.69 | 5.11 | 5.49 | |
| 954 Si XIV | Н3 | 2504.700 | 4.950 7.2 | 4 3.00 | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.85 | 4.63 | 3.40 | 3.01 | L 3.08 | 3 3.28 | 3.50 | 3.71 | 3.91 | 4.11 | 4.29 | 4.46 | 4.60 |
| 953 Si XIV | Н4 | 2567.000 | 4.830 7.2 | 4 3.37 | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | | 4.79 | |
| 1147 S XV 952 Si XIV | HE S2 H5 | 2591.500 2599.300 | 4.784 7.2 4.770 7.2 | 6 3.13 5 3.68 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | | | 6.79 | |
| 1160 S XVI | H1B | 2619.600 | 4.733 7.4 | 1 2.30 | - | - | - | - | - | - | - | - | - | - | - | - | - | | 5.31 | 3.52 | 2.5 | 7 2.30 | 2.39 | 2.58 | 2.78 | 2.98 | 3.17 | 3.35 | 3.53 | 3.68 |
| 1146 S XV | HE S4 | 2621.200 | 4.730 7.2 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | | 3.86 | 3.20 | 3.23 | 3 3.63 | 4.13 | 4.64 | 5.16 | 5.66 | 6.16 | 6.64 | 7.07 |
| 1145 S XV | HE S3 | 2621.200 | 4.730 7.2 4.729 7.4 | 8 3.21 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.32 | | | | | | | | | | 6.76 | |
| 1159 S XVI 1144 S XV | H1A HE3 | 2621.800 2876.700 | 4.729 7.4 | 7 2.65 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.35 | 4.35 | 3.37 | 2.81 | 2.2 | 2.04 5 2.95 | 1 2.15 5 3.48 | 2.35 4.03 | 4.54 | 5.01 | 5.45 | 3.18 | 3.36 6.22 | 6.53 |
| 1182 Ar X | F S | 2973.200 | 4.310 7.1 4.170 6.4 | 4 8.64 | - | - | - | - | - | - | - | - | - | - | - | - | 8.69 | 9.54 | - | | | | | | | | | - | | - |
| 1195 Ar XI | 0 S | 2987.600 | 4.150 6.4 | | | | | | | | | | | | | | | 8.65 | | - | _ | _ | - | _ | - | _ | _ | - | - | - |
| 1204 Ar XII | N S | 3009.300 | 4.120 6.5 | 3 6.52 | - | - | - | - | - | - | - | - | - | - | - | - | 7.16 | 6.72 | 8.10 | 9.51 | | - | - | _ | - | - | - | - | - | - |
| 1143 S XV 1211 Ar XIII | HE2 C S | 3024.000 3031.400 | 4.120 6.5 4.100 7.1 4.090 6.5 4.060 6.6 | 7 5.83 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.01 | 5.86 | 6.68 | 7.64 | 8.63 8.63 |) 3.38 3 - | 3.90 | 4.45 - | 4.95 | 5.41 | 5.84 | - 6.25 | 6.61 | 6.92 |
| 1220 Ar XIV | B S | 3053.800 | 4.060 6.6 | 4 5.41 | - | - | - | - | - | - | - | - | - | - | - | - | 7.41 | 5.44 | 5.64 | 6.11 | 6.69 | 7.56 | 8.72 | - | - | - | - | - | - | - |
| 1232 Ar XV | BE S2 | 3076.500 | 4.030 6.9 | | | | | | | | | | | | | | | 4.90 | 4.48 | 4.4 | 4.6 | / 5.21 | L 6.13 | 7.23 | 8.30 | _ | _ | - | - | - |
| 1142 S XV 1258 Ar XVII | HE1 HE6 | 3091.900 3107.400 | 4.010 7.1 | 8 3.44 | - | - | - | - | - | - | - | - | - | - | - | - | 7.43 | | | | | | | | | | | | 6.92 5.71 | |
| 1158 S XVI | HE6 | 3107.400 | 3.990 7.3 3.990 7.4 | 3 2.82 1 2.73 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | | | 4.05 | |
| 1230 Ar XV | BE S3 | 3113.600 3113.600 | 3.982 7.0 | 3 4.91 | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | - | - | - |
| 1245 Ar XVI | LI S2 | 3113.600 | 3.982 7.1 | 5 3.11 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 4.04 | 3.55 | 3.13 | , 3.1. | 4 3.41 | 4.00 | 4.8/ | 5.67 | 0.42 | _ | _ | _ | _ |
| 1231 Ar XV 1257 Ar XVII | BE S4 HE5 | 3113.600 3123.000 | 3.982 7.0 3.970 7.3 | 7 5.01 | - | - | - | - | - | - | - | - | - | - | - | - | _ | | | | | | | | | | | | - 6.17 | |
| 1244 Ar XVI | LI S3 | 3134.100 | 3.956 7.1 | 7 3.37 | - | - | _ | - | _ | - | _ | - | _ | - | _ | _ | _ | | | | | | | | | | | | | |
| 1243 Ar XVI | LI S4 HE4 | 3138.000 | 3.951 7.1 | | | - | - | - | - | - | - | - | - | - | - | - | _ | 5.65 | 4.24 | 3.64 | 3.45 | 3.69 | 4.33 | 5.14 | 5.96 | 6.74 | - | - 10 | - - - | - |
| 1256 Ar XVII | HE4 | 3138.800 | 3.950 7.3 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | | | | 5.59 | |
| 1157 S XVI 1255 Ar XVII | H3 HE S2 | 3280.000 3306.200 | 3.780 7.4 3.750 7.4 3.737 7.5 3.731 7.5 | 2 3.30 | _ | - | _ | _ | - | _ | _ | - | _ | _ | _ | _ | - | - | 6.42 | 4.59 | 3.59 | 3.30 | 3.38 | 3.57 | 3.77 | 3.98 | 4.17 | 4.36 | 4.54 | 4.70 |
| 1261 Ar XVIII | | 3317.700 | 3.737 7.5 | 9 2.91 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | 5.25 | 3.8 | 1 3.08 | 3.07 | 3.01 | 3.18 | 3.37 | 3.56 | 3.75 | 3.92 | 4.09 |
| 1260 Ar XVIII 1254 Ar XVII | | 3323.100 3323.100 | 3.731 7.5 3.731 7.4 | 8 2.65 | _ | - | _ | _ | - | _ | _ | - | _ | _ | _ | _ | - | - | - 7 47 | 4.96 | 3.53 | 3 2.81 | L 2.65 | 2.76 | 2.95 | 3.16 | 3.36 | 3.56 | 3.76 6.83 | 3.93 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1253 Ar XVII 1156 S XVI | HE S3 H4 | 3323.100 3350.900 | 3.731 7.4 | 3 3.84 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | | 6.93 | |
| 1155 S XVI | Н5 | 3396.800 | 3.700 7.4 3.650 7.4 | 4 3.97 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | 5.15 | |
| 1289 Ca VIII 1319 Ca X | AL S NA S | 3701.000 3701.000 | 3.350 6.1 3.350 6.4 | 5 23.76 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1252 Ar XVII 1300 Ca IX | HE3 MG S | 3701.000 3701.000 | 3.350 7.3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.92 | 4.46 | 3.71 | . 3.3 | L 3.27 | 7 3.60 | 4.10 | 4.61 | 5.08 | 5.52 | 5.93 | 6.31 | 6.65 |
| 1356 Ca XII | F S | 3712.100 | 3.350 7.3 3.350 6.2 3.340 6.5 | 7 8.25 | - | - | - | - | - | - | - | - | - | - | - | - | 9.15 | 8.28 | 9.89 | - | - | - | - | - | - | - | - | - | - | - |
| 1339 Ca XI 1374 Ca XIII | NE S O S | 3712.100 3734.500 | 3.340 6.5 3.320 6.6 | 4 14.59 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | - | - 7.97 | - | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1390 Ca XIV 1408 Ca XV | NS CS | 3757.100 3780.000 | 3.300 6.6 3.280 6.7 3.272 7.2 3.268 7.2 | 6 6.41 0 5.78 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.94 9.43 | 6.54 | 6.98 | 8.39 | 9.75 | o – 18.88 | - 3 - | _ | _ | _ | _ | _ | _ | _ |
| 1502 Ca XVIII | *2LI 0 | 3789.400 | 3.272 7.2 | 5 5.23 | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.50 | 6.14 | 5.47 | 7 5.24 | 1 5.32 | 2 5.74 | 6.45 | 7.25 | 8.03 | 8.76 | · – | - | - |
| 1501 Ca XVIII 1426 Ca XVI | *2LI p B S | 3794.400 3814.900 | 3.268 7.2 3.250 6.8 | 5 5.38 0 5.29 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | |) – – | _ | _ |
| | | | 3.230 0.0 | - 3.23 | | | | | | | | | | | | | | ٠ | ٠ | J.J. | | | , , | 0.75 | | | | | | |

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|--|--|--|--------------------------------------|------------------|------------------|------------------|------------------|----------|----------|------------------|------------------|------------------|------------------------------|------------------------------|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------|---------------------------|------------------------|------------------------------|----------------------|
| Nr ion Tran 1443 Ca XVII BE 1500 Ca XVIII *2L 1499 Ca XVIII *2L 1498 Ca XVIII *2L 1535 Ca XIX HE6 | S2 3838.50 I v 3839.40 I u 3840.80 I e 3842.70 | 3.229 7.35 3.228 7.34 3.227 7.24 | 4.40 - 4.79 - 5.49 - 5.23 - | .4 4.6 | 4.8 | 5.0 | - - - | .4 5. | | - - - | - - - | - - - | 6.22 8.44 9.09 8.52 | 4.59 6.04 6.70 6.14 | 7.0 4.40 5.27 5.93 5.46 4.09 | 4.48 4.88 5.57 5.24 | 4.81 4.80 5.50 5.33 | 5.47 5.09 5.80 5.77 | 6.41 5.70 6.41 6.49 | 7.50 6.41 7.13 7.31 | - 7.11 7.83 8.11 | - 7.77 8.50 8.87 | - 8.39 9.11 - | - - - - | - - - |
| 1497 Ca XVIII *3L 1496 Ca XVIII *2L 1495 Ca XVIII *3L 1494 Ca XVIII *2L 1493 Ca XVIII *2L | I j 3860.30 I e2 3860.50 I k 3864.60 | 3.212 7.24 3.212 7.29 3.208 7.24 | 3.71 - 5.60 - 3.85 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - | 7.01 9.51 7.15 | 4.63 6.84 4.76 | 5.78 3.94 5.97 4.08 4.70 | 3.72 5.64 3.85 | 3.80 5.65 3.94 | 4.24 6.05 4.38 | 4.97 6.74 5.10 | 5.78 7.54 5.92 | 6.58 8.33 6.72 | 7.34 9.08 7.48 | - | - - - - | - - - - |
| 1492 Ca XVIII *2L 1441 Ca XVII BE 1442 Ca XVII BE 1491 Ca XVIII *2L 1490 Ca XVIII *3L | S3 3870.90 S4 3870.90 J q 3871.70 | 3.203 7.12 3.203 7.16 3.202 7.35 | 4.93 - 5.05 - 4.11 - | | - - - - | - - - - | - - - - | | | - | - - - - | - - - | 7.29 7.69 7.79 | 5.36 5.62 5.38 | 4.67 4.98 5.14 4.59 5.92 | 4.95 5.05 4.20 | 5.21 5.27 4.12 | 5.82 5.87 4.41 | 6.75 6.77 5.01 | 7.77 7.79 5.72 | 8.77 8.78 6.42 | - - 7.08 | - - 7.70 | _ | - - - - |
| 1489 Ca XVIII *3L 1488 Ca XVIII *3L 1487 Ca XVIII *5L 1534 Ca XIX HE5 1486 Ca XVIII *3L | II d17 3879.80 In=5- 3881.20 V 3881.20 | 3.196 7.29 3.194 7.31 3.194 7.43 | 5.41 - 4.32 - 3.49 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | 9.34 - - | 6.66 5.74 5.58 | 5.87 5.78 4.78 4.36 5.31 | 5.44 4.38 3.73 | 5.46 4.36 3.49 | 5.85 4.73 3.63 | 6.54 5.41 4.07 | 7.34 6.19 4.60 | 8.13 6.98 5.10 | 8.88 7.73 5.57 | - - 6.00 | | |
| 1485 Ca XVIII *3L 1484 Ca XVIII *2L 1483 Ca XVIII *2L 1533 Ca XIX HE5 1482 Ca XVIII *2L | JI t 3883.70 JI s 3884.80 J x 3885.40 | 3.192 7.26 3.191 7.25 3.191 7.43 | 4.43 - 4.77 - 3.55 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | | 7.77 8.09 - | 5.38 5.71 5.65 | 5.55 4.68 5.01 4.43 4.96 | 4.44 4.78 3.80 | 4.51 4.86 3.56 | 4.92 5.29 3.70 | 5.62 6.00 4.13 | 6.41 6.80 4.66 | 7.18 7.59 5.17 | 7.91 8.33 5.63 | - - 6.06 | - - - 6.46 | - - - 6.83 |
| 1481 Ca XVIII *3L 1480 Ca XVIII *3L 1479 Ca XVIII *3L 1478 Ca XVIII *3L 1477 Ca XVIII *3L | JI d13 3894.80 JI d7 3896.20 JI d14 3896.30 | 3.183 7.29 3.182 7.29 3.182 7.29 | 4.14 - 4.35 - 4.79 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - | 8.08 8.29 8.73 | 5.40 5.61 6.05 | 5.55 4.52 4.73 5.17 5.47 | 4.18 4.39 4.82 | 4.19 4.40 4.84 | 4.58 4.79 5.23 | 5.27 5.48 5.92 | 6.07 6.28 6.72 | 6.86 7.07 7.51 | 7.61 7.82 8.26 | - - - | - - - - | - - - - |
| 1476 Ca XVIII *3L 1475 Ca XVIII *4L 1474 Ca XVIII *4L 1473 Ca XVIII *3L 1472 Ca XVIII *4L | JI 3898.80 JI 3899.10 JI h15 3899.20 | 3.180 7.31 3.180 7.31 3.180 7.29 | 4.75 - 4.75 - 4.40 - | | - - - - | - - - - | - - - - | | | - - - - | _ | - - - - | - - 8.35 | 6.18 6.18 5.66 | 5.45 5.21 5.21 4.78 5.20 | 4.81 4.81 4.44 | 4.78 4.78 4.45 | 5.15 5.15 4.84 | 5.83 5.83 5.54 | 6.62 6.62 6.33 | 7.40 7.40 7.12 | 8.15 8.15 7.87 | - | - - - - | - - - - |
| 1471 Ca XVIII *3L 1470 Ca XVIII *4L 1469 Ca XVIII *4L 1468 Ca XVIII *4L 1467 Ca XVIII *3L | JI 3900.60 JI 3900.70 JI 3900.80 | 3.179 7.31 3.178 7.31 3.178 7.31 | 5.32 - 5.62 - 5.10 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | - - - | 6.76 7.06 6.53 | 5.51 5.78 6.09 5.56 5.07 | 5.38 5.68 5.16 | 5.36 5.66 5.13 | 5.73 6.03 5.50 | 6.41 6.71 6.18 | 7.19 7.49 6.97 | 7.98 8.28 7.75 | 8.72 9.02 8.50 | - - - | - - - - | - - - - |
| 1259 Ar XVIII H2 | | 3.178 7.29 3.177 7.47 3.150 7.58 | 5.15 - 2.63 - 3.33 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | 9.10 | 6.41 5.02 | 4.47 5.53 3.72 5.64 6.38 | 5.19 3.00 4.22 | 5.20 2.66 3.50 | 5.59 2.71 3.33 | 6.28 3.07 3.45 | 7.08 3.54 3.64 | 7.87 4.01 3.84 | 8.62 4.44 4.05 | - 4.85 4.25 | 5.23 4.44 | 4.62 |
| 1529 Ca XIX *2H 1528 Ca XIX *2H 1527 Ca XIX *2H | IE A 4071.60 IE R 4073.10 IE B 4075.90 IE Q 4078.00 IE K 4081.90 | 3.044 7.55 3.042 7.55 3.040 7.55 | 5.27 - 5.19 - 5.09 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | - - - - | - - - | 7.07 7.53 7.44 7.35 7.40 | 6.14 6.05 5.96 | 5.43 5.34 5.25 | 5.28 5.20 5.11 | 5.56 5.47 5.38 | 6.01 5.93 5.83 | 6.51 6.43 6.34 | 7.02 6.94 6.85 | 7.53 7.45 7.35 | 8.02 7.94 7.85 | 8.50 8.42 8.32 |
| 1545 Ca XX H1B 1523 Ca XIX HE 1524 Ca XIX HE | S4 4105.40 Lall 4107.50 | 3.023 7.75 3.020 7.57 3.020 7.58 | 3.09 - 4.07 - 4.03 - | | - - - - | - - - - | - - - - | | | - - - - | - - - - | - - - - | - - - - | - - - | 6.83 6.67 6.58 6.66 6.38 | 4.81 5.06 5.08 | 3.70 4.27 4.25 | 3.18 4.08 4.03 | 3.10 4.32 4.26 | 3.21 4.75 4.68 | 3.38 5.24 5.17 | 3.56 5.74 5.66 | 3.74 6.24 6.16 | 3.92 6.74 6.66 3.75 | 4.09 7.21 7.13 |

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nr ion | Transit. | E(eV) Lamb | bda(A) Tma | c -Qmax | 4.0 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1522 Ca XIX 1521 Ca XIX 1543 Ca XX 1519 Ca XIX 1542 Ca XX | HE3 HE2 H2 HE1 H3 | 4592.000 4768.600 4881.300 4959.400 5166.000 | 2.700 7. 2.600 7. 2.540 7. 2.500 7. 2.400 7. | 16 3.8 74 3.5 17 4.1 76 4.0 | 3 - 2 - 8 - 8 - | - - - | - - - | - - - | - - - | - - - | - - - | - | - - - | - - - | - - - | - - - | - - - | - - - | 5.76 - 6.20 | 4.70 6.99 5.10 7.68 | 3 3.67 3 4.12 3 5.20 3 4.50 3 5.84 | 7 3.41 2 3.85 0 4.10 0 4.21 4 4.70 | 3.50 3.92 3.60 4.26 4.17 | 3.87 4.28 3.53 4.62 4.08 | 4.34 4.75 3.66 5.08 4.19 | 4.82 5.22 3.84 5.55 4.37 | 5.27 5.66 4.04 5.98 4.56 | 5.68 6.08 4.24 6.40 4.75 | 6.08 6.47 4.43 6.78 4.93 | 6.43 6.82 4.62 7.14 5.11 |
| 1541 Ca XX 1540 Ca XX 1724 Fe XI 1659 Fe X 1793 Fe XII | H4 H5 S S CL S P S | 5390.600 5535.000 6390.900 6390.900 6390.900 | 2.300 7. 2.240 7. 1.940 6. 1.940 6. | 77 4.4 77 4.7 48 20.0 41 22.2 57 17.7 | 4 – 5 – 7 – 9 – 3 – | - - - - | 8.14 8.53 - - | L 6.61 - - - | L 5.43 - - - | 4.86 - - - | 4.75 - - - | 4.85 - - - | 5.01 - - - | 5.19 - - - | 5.37 - - - | 5.54 - - - | 5 5.43 5.71 - - - |
| 2185 Fe XVIII 1969 Fe XV 2059 Fe XVII 2006 Fe XVI 1867 Fe XIII | MG S NE S NA S | 6423.100 6424.100 6424.100 6424.100 6424.100 | 1.930 7. 1.930 6. 1.930 6. 1.930 6. 1.930 6. | 00 5.9 90 11.3 97 8.0 93 9.5 59 15.3 | 8 – 9 – 8 – 7 – 4 – | - - - - | 7.10 - 8.89 - - | 5.98 - 8.13 9.69 | 3 6.93 - L 9.46 - - | 8 8.88 - 5 - - - | - - - - |
| 1926 Fe XIV 2184 Fe XVIII 2509 Fe XIX 2508 Fe XIX 2506 Fe XIX | *20 ** | 6424.100 6436.100 6454.200 6467.600 6471.000 | 1.930 6. 1.926 7. 1.921 7. 1.917 7. 1.916 7. | 33 13.0 00 5.7 05 6.1 05 5.6 | 9 - 0 - 3 - 0 - 1 - | - - - - | - 6.82 7.93 7.40 8.15 | - 5.70 6.20 5.60 6.38 | - 0 6.65 0 6.65 5 6.13 8 6.85 | - 5 8.58 3 8.22 3 7.64 5 8.38 | - 9.99 - - | - - - - |
| 2507 Fe XIX 3138 Fe XX 3137 Fe XX 3136 Fe XX 3135 Fe XX | *2N *2N | 6471.000 6476.400 6481.100 6484.500 6491.300 | 1.916 7. 1.914 7. 1.913 7. 1.912 7. 1.910 7. | 09 6.0 09 5.7 | 3 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.64 8.31 | 5.76 5.80 6.27 5.96 | 5 5.75 5 5.80 7 6.29 5 5.96 | 8 8.12 6 6.88 6 6.93 7 7.48 7 7.10 | 8.30 8.36 9.61 8.60 | - - - | - - - | - - - | - - - | - - - | - - - | - - - - |
| 3134 Fe XX 3133 Fe XX 3132 Fe XX 3131 Fe XX 3130 Fe XX | *2N *2N *2N | 6496.100 6498.500 6498.800 6499.100 6503.600 | 1.909 7. 1.908 7. 1.908 7. 1.908 7. 1.906 7. | 09 5.7 LO 5.0 | 2 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.32 7.67 | 5.96 | 5 5.96 3 5.32 | 5 7.10 2 6.43 | 8.60 7.77 | _ | _ | _ | _ | _ | _ | _ |
| 3129 Fe XX 3128 Fe XX 3127 Fe XX 3126 Fe XX 3125 Fe XX | *2N ** *2N ** *2N ** | 6504.600 6504.900 6507.300 6508.400 6510.400 | 1.906 7. 1.906 7. 1.905 7. 1.905 7. 1.904 7. | 10 4.9 09 6.0 10 5.4 09 6.0 10 5.3 | 1 - 8 - 5 - 9 - 6 - | - - - - | 7.52 8.70 8.05 8.72 7.96 | 6.32 5.70 6.33 5.61 | 2 6.34 0 5.69 3 6.35 L 5.60 | 6.25 4 7.54 9 6.81 5 7.55 0 6.72 | 8.20 - 8.09 | - - - | - - - | - - - | - - - | - - - | - - - | - - - - |
| 3124 Fe XX 3804 Fe XXI 3803 Fe XXI 3802 Fe XXI 4882 Fe XXIV | *2C *2C | 6514.200 6518.300 6526.500 6530.000 6533.100 | 1.903 7. 1.902 7. 1.900 7. 1.899 7. 1.898 7. | L5 5.0 L5 4.8 L5 4.9 57 3.8 | 3 - 0 - 8 - 3 - | - - - | 8.58 8.38 8.53 | 5.60 5.38 5.59 6.68 | 5.08 3 4.85 5 5.03 3 4.52 | 7 7.11 3 5.79 5 5.54 3 5.73 2 3.93 | 6.76 6.48 6.70 3.83 | 7.93 7.60 7.86 3.99 | - - 4.45 | - - - 5.16 | - - - 6.05 | - - - 7.05 | - - - - | - - - - |
| 3801 Fe XXI 3800 Fe XXI 3799 Fe XXI 3798 Fe XXI 3797 Fe XXI | *2C 12** *2C *2C | 6533.400 6534.100 6535.800 6538.900 6541.000 | 1.898 7. 1.898 7. 1.897 7. 1.896 7. 1.895 7. | L5 4.1 | 8 – | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.77 | 4.76 | 5 4.22 | 2 4.90 | 5.83 | 6.93 | - | - | - | - | - | - |
| 3796 Fe XXI 3795 Fe XXI 3794 Fe XXI 3793 Fe XXI 4881 Fe XXIV | *2C *2C 10 *2C ** | 6542.700 6544.100 6544.800 6548.600 6548.900 | 1.895 7. 1.895 7. 1.894 7. 1.893 7. 1.893 7. | 58 3.8 | 3 - | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | 5.62 5.12 5.54 6.69 | 2 5.09 L 4.58 4 5.02 9 4.52 | 3 5.94 9 5.78 3 5.27 2 5.72 2 3.94 | 6.73 6.22 6.68 3.83 | 7.88 7.35 7.84 3.99 | - - - 4.45 | - - - 5.16 | - - - 6.05 | - - - 7.05 | - - - | - - - |
| 3792 Fe XXI 4270 Fe XXII 3791 Fe XXI 4632 Fe XXIII 4269 Fe XXII | *2BE | 6550.000 6552.000 6553.100 6565.600 | 1.893 7. 1.892 7. 1.892 7. 1.888 7. 1.888 7. | 15 5.2 22 4.7 15 5.2 34 4.4 22 4.4 | 8 - 3 - 1 - 8 - 3 - | - - - - | 8.84 - 8.78 - - | 5.84 5.78 5.78 6.22 5.51 | 1 5.33 9 4.74 3 5.25 2 4.65 L 4.44 | 3 6.05 4 5.01 7 5.98 5 4.50 4 4.69 | 7.03 5.60 6.95 4.74 5.26 | 8.26 6.40 8.16 5.22 6.03 | 7.51 - 5.99 7.08 | - - 7.07 | - - 8.28 | - - - - | - - - - | - - - - |

| | | | | | | | | | | | | | | | | | | | | | | | | | | _Pr | inte | d by | Jell | e de | e Pla |
|--------------------------------|------------------|----------------------|------------------------|-------|-------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-------|------|------|------|---------------|-------|----------------|-------|-------|-------|
| Apr 13, 1 | 0 14:27 | | | | | | | | lir | ne l | ist | SP | EX | ver | sio | n 2 | .0 | | | | | | | | | | | | Page | e 74 | ./77 |
| Nr ion | Transit. | E(eV) La | ambda(A) Tmax | -Qmax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 1 7 | .6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 4268 Fe XXII | | 6573.200 | 1.886 7.2 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | 6.3 | | 4 - | _ | _ | _ |
| 4267 Fe XXII | | 6581.600 | 1.884 7.2 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | 1 6.2 | | - | - | - | - |
| 4266 Fe XXII | *2B | 6582.000 | 1.884 7.2 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | L 6.7 | | - | - | - | - |
| 4265 Fe XXII 4264 Fe XXII | *2B *2B 6 | 6584.000 6593.500 | 1.883 7.2 1.880 7.2 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | 6.83 7 7.0 | | _ | _ | _ | _ |
| 4631 Fe XXIII | *2BE | 6595.600 | 1.880 7.3 | 6 4.2 | 17 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.06 | 4.4 | 5 4.2 | 28 4 | .49 | 4.94 | £ 5.6 | 3 6.7 | 2 7.9 | 4 – | _ | _ |
| 4630 Fe XXIII | *2BE 5 | 6599.500 | 1.879 7.3 | 6 3.9 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.76 | 4.1 | 5 3.9 | 7 4 | .18 | 4.63 | 3 5.3 | 7 6.3 | 9 7.6 | 0 - | - | - |
| 4629 Fe XXIII | | 6601.600 | 1.878 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 3 8.4 | | - | - |
| 4628 Fe XXIII | | 6603.700 | 1.878 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 0 8.3 | | - | - |
| 4627 Fe XXIII | *2BES1g4 | 6607.600 | 1.876 7.3 | 6 3.4 | 0 – | _ | _ | _ | - | _ | _ | - | _ | _ | _ | _ | - | _ | _ | 5.23 | 3.6 | 1 3.4 | ŧ1 3 | .61 | 4.05 | 4.7 | 3 5.8 | 0 7.0 | 0 – | _ | - |
| 4626 Fe XXIII | | 6608.600 | 1.876 7.3 | | 7 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 9 8.1 | | - | - |
| 4880 Fe XXIV | *2LI v | 6609.700 | 1.876 7.6 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 8 7.2 | 2 - | - |
| 4625 Fe XXIII | | 6611.400 | 1.875 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 0 7.9 | | - | - |
| 4624 Fe XXIII | | 6611.800 | 1.875 7.4 1.875 7.4 | | | _ | - | _ | - | - | - | - | _ | _ | _ | - | - | - | _ | | | | | | | | | 0 8.6 | | - | _ |
| 4623 Fe XXIII | *3BE | 6613.200 | 1.8/5 /.4 | 2 4.9 | 8 - | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.13 | 5.3 | 1 4.5 | 18 5 | .10 | 5.49 | 6.1 | 9 /.1 | 7 8.3 | / – | _ | _ |
| 4879 Fe XXIV | *2LI u | 6613.200 | 1.875 7.6 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6 6.6 | 9 – | - |
| 4622 Fe XXIII | | 6613.600 | 1.875 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 1 8.5 | | - | - |
| 4621 Fe XXIII 4620 Fe XXIII | | 6615.000 | 1.874 7.3 | | | - | - | - | - | - | _ | _ | _ | - | - | - | - | - | - | | | | | | | | | 0 7.2 | | - | - |
| 4619 Fe XXIII | | 6615.700 6616.700 | 1.874 7.3 1.874 7.3 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 3 7.5 8 7.8 | | _ | _ |
| | | 6615 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | ^ | |
| 4878 Fe XXIV 4618 Fe XXIII | *2LI e : *3BE | 6617.100 6617.400 | 1.874 7.5 1.874 7.4 | | | _ | - | _ | - | - | - | - | _ | _ | _ | - | - | - | _ | | | | | | | | | 5 5.5 5 8.5 | 2 6.5 | 0 – | _ |
| 4617 Fe XXIII | | 6619.900 | 1.873 7.3 | | | _ | | | | _ | _ | | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 3 6.3 4 7.5 | | _ | _ |
| 4616 Fe XXIII | | 6622.000 | 1.872 7.3 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 0 8.7 | | _ | _ |
| 4615 Fe XXIII | | 6623.100 | 1.872 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 5 8.2 | | - | - |
| 4614 Fe XXIII | *2BE | 6625.200 | 1.871 7.3 | 4 4.5 | 9 – | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.33 | 4.7 | 5 4.6 | 50 4 | .85 | 5.34 | 4 6.1 | 2 7.2 | 3 8.4 | 4 - | _ | _ |
| 4613 Fe XXIII | *2BEbet1 | 6626.600 | 1.871 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.12 | 3.4 | 5 3.2 | 23 3 | .39 | 3.80 | 4.5 | 5.5 | 1 6.7 | 5 – | - | - |
| 4612 Fe XXIII | | 6627.000 | 1.871 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 5 8.5 | | - | - |
| 4611 Fe XXIII | | 6629.100 | 1.870 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 9 8.3 | | - | - |
| 4610 Fe XXIII | *3BE | 6629.500 | 1.870 7.4 | 2 5.1 | . 6 — | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.31 | 5.4 | 9 5 | .6 5 | . 27 | 5.66 | 6.3 | 0 /.3 | 5 8.5 | 5 - | _ | _ |
| 4609 Fe XXIII | | 6632.300 | 1.869 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 3 8.4 | | - | - |
| 4877 Fe XXIV | *3LI e1 | 6632.700 | 1.869 7.6 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.50 | | | | | | | | | 5 7.3 | | - |
| 4995 Fe XXV | HE6 z | 6634.100 | 1.869 7.8 | | | - | - | - | - | - | _ | _ | _ | - | - | - | - | - | - | | | | | | | | | | | 1 3.6 | 3.99 |
| 4608 Fe XXIII 4876 Fe XXIV | *2BE *2LI 1 | 6635.500 6636.600 | 1.868 7.3 1.868 7.5 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 2 7.7 2 5.9 | 0 6.8 | 8 - | _ |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | - | |
| 4607 Fe XXIII | | 6637.300 | 1.868 7.3 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 9 8.7 | | - | - |
| 4606 Fe XXIII 4875 Fe XXIV | | 6638.300 6638.300 | 1.868 7.4 1.868 7.6 | | | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 6 8.6 | 8 7.4 | - | _ |
| 4605 Fe XXIII | | 6639.800 | 1.867 7.3 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 9 8.0 | | | _ |
| 4604 Fe XXIII | | 6640.500 | 1.867 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 6 8.4 | | - | - |
| 4874 Fe XXIV | *2LI j | 6642.300 | 1.867 7.5 | 6 2.5 | 0 - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 5.35 | 3.1 | 8 2.6 | 50 2 | .50 | 2.68 | 3 3.1 | 4 3.8 | 5 4.7 | 2 5.6 | 9 – | _ |
| 4603 Fe XXIII | | 6644.000 | 1.866 7.4 | | | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | - | _ | - | _ | | | | | | | | | 5 8.5 | | _ | _ |
| 4602 Fe XXIII | *3BE | 6645.800 | 1.866 7.4 | 2 5.2 | 1 - | - | - | _ | - | - | - | - | - | - | - | - | - | - | _ | 7.37 | 5.5 | 4 5.2 | 21 5 | .32 | 5.71 | L 6.4 | 1 7.4 | 0 8.6 | 0 - | - | - |
| 4601 Fe XXIII | | 6647.200 | 1.865 7.4 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 5 8.5 | | - | - |
| 4600 Fe XXIII | *3BE | 6647.900 | 1.865 7.4 | 2 5.2 | 1 - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.37 | 5.5 | 4 5.2 | 21 5 | .32 | 5.71 | . 6.4 | 17.4 | 0 8.6 | 0 – | - | - |

4599 Fe XXIII *3BE

4597 Fe XXIII *3BE

4596 Fe XXIII *3BE

4595 Fe XXIII *3BE

4594 Fe XXIII *3BE

4871 Fe XXIV

4870 Fe XXIV

4598 Fe XXIII *3BE (3) 6649.700

4873 Fe XXIV *2LI r 6650.400

4872 Fe XXIV *2LI k 6652.200

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1.865 7.42 4.34

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1.864 7.63 2.90

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1.864 7.56 2.66

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1.864 7.61 4.11 -

6.50 4.67 4.34 4.46 4.85 5.54 6.53 7.73 -

7.43 5.60 5.27 5.38 5.77 6.47 7.46 8.65 -

7.23 5.40 5.07 5.19 5.58 6.27 7.26 8.46 -

6.65 4.82 4.49 4.60 4.99 5.69 6.68 7.88 -

7.37 5.54 5.21 5.32 5.71 6.41 7.40 8.60 -

6.84 5.01 4.68 4.80 5.19 5.88 6.87 8.07 -

5.94 3.73 3.09 2.91 3.00 3.40 4.09 4.97 5.99 -

5.52 3.34 2.76 2.67 2.85 3.30 4.01 4.88 5.86 -

8.18 5.70 4.93 4.72 4.82 5.23 5.91 6.76 7.73 -

7.36 4.98 4.28 4.11 4.23 4.66 5.35 6.20 7.17 -

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| Apr 13, 10 14:27 | line list SPEX version 2.0 | Page 75/77 |

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|--|------------------------------------|--|---|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------------------------------------|--------------------------------------|--|--|--|--|--|--|------------------------------|------------------------|-----------------------------|
| Nr ion | Transit. | E(eV) Lan | nbda(A) Tmax | -Omax | 4.0 4 | 1.2 4 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 4593 Fe XXIII 4592 Fe XXIII 4869 Fe XXIV 4591 Fe XXIII 4868 Fe XXIV | *3BE BE S4 *2LI a *3BE | 6654.700 6655.100 6655.400 6657.900 | 1.863 7.4 1.863 7.4 1.863 7.5 1.862 7.4 1.862 7.6 | 2 4.43 5 3.62 5 3.12 4.86 | - - - - | | | - - - - | | | | | | | | | | | | | | | | | | | | | | - - - - |
| 4867 Fe XXIV 4866 Fe XXIV 4590 Fe XXIII 4865 Fe XXIV 4589 Fe XXIII | *2LI q *3LI d17 *3BE *4LI | 6659.700 6660.100 6660.400 6661.200 6661.500 | 1.862 7.6 1.862 7.6 1.862 7.4 1.861 7.6 1.861 7.4 | 5 2.59 1 4.58 2 4.72 3 4.19 | - - - - | - - - | - - - | - - - | - - - | 5.77 7.84 6.88 7.66 7.50 | 3.52 5.46 5.05 5.18 | 2 2.83 5 4.76 5 4.72 8 4.41 | 3 2.6 5 4.5 2 4.8 1 4.2 | 0 2.60 9 4.71 3 5.21 0 4.30 | 5 3.0 1 5.1 2 5.9 0 4.7 | 4 3.71 4 5.82 2 6.91 1 5.39 | 4.60 2 6.68 1 8.10 9 6.24 | 5.64 7.65 - | i – i – – | - - - - |
| 4588 Fe XXIII 4587 Fe XXIII 4586 Fe XXIII 4585 Fe XXIII 4864 Fe XXIV | *3BE (2) *3BE *3BE | 6661.900 6662.200 6662.200 6663.300 6663.700 | 1.861 7.4 1.861 7.4 1.861 7.4 1.861 7.4 1.861 7.6 | 2 4.75 2 5.07 2 4.94 | | - - - - | 6.93 6.91 7.23 7.10 7.78 | 5.10 5.08 5.41 5.27 5.30 | 4.77 3 4.76 5.08 7 4.94 0 4.54 | 7 4.85 5 4.85 3 5.15 4 5.05 4 4.35 | 9 5.2° 7 5.2° 9 5.5° 5 5.4° 2 4.4° | 7 5.9° 5 5.9° 3 6.2° 4 6.1° 2 4.8° | 7 6.96 5 6.94 7 7.26 4 7.13 3 5.51 | 8.16 8.14 8.46 8.32 1.6.36 | - - - - 7.33 | - - - - - | - - - - |
| 4584 Fe XXIII 4994 Fe XXV 4583 Fe XXIII 4863 Fe XXIV 4862 Fe XXIV | HE5 y *3BE *5LIn=5- | | 1.861 7.4 1.860 7.8 1.860 7.4 1.860 7.6 1.860 7.6 | 2 5.16 2 2.15 2 5.02 3 3.26 4.53 | - - - - | 7.32 - 7.18 6.72 7.79 | 5.49 3.77 5.35 4.24 5.41 | 5.16 2.75 5.02 3.48 4.70 | 5 5.2° 5 2.3° 2 5.1° 3 3.2° 0 4.5° | 7 5.60 0 2.11 3 5.52 6 3.30 3 4.61 | 6 6.3 5 2.2 2 6.2 5 3.7 5 5.0 | 7.35 9 2.66 2 7.21 7 4.45 8 5.75 | 8.54 5 3.14 1 8.40 5 5.30 7 6.62 | 3.64 3.64 6.26 7.59 | - 4.11 - ; - | - 4.52 - - - |
| 4861 Fe XXIV 4582 Fe XXIII 4860 Fe XXIV 4581 Fe XXIII 4580 Fe XXIII | *3BE *3LI a4 *3BE | 6666.200 6668.000 6668.300 6668.300 | 1.860 7.6 1.859 7.4 1.859 7.6 1.859 7.4 1.859 7.4 | 3 5.27 1 3.61 3 5.00 | _ _ _ | _ | _ | - - - - | _ | _ | _ | _ | _ | _ | - - - | _ _ _ | - - - | - - - | - - - | 7.43 6.87 | 5.60 4.49 5.33 | 5.27 3.79 5.00 | 7 5.3 9 3.6 9 5.1 | 8 5.7 1 3.7 1 5.5 | 7 6.4° 4 4.1° 0 6.2° | 7 7.46 5 4.85 0 7.19 | 8.65 5.71 8.38 | 6.68 6.68 | - 3 – - | - - - - |
| 4579 Fe XXIII 4578 Fe XXIII 4859 Fe XXIV 4858 Fe XXIV 4857 Fe XXIV | *3BE *3LI d9 *2LI t | 6669.400 6669.400 6669.400 6674.800 6675.900 | 1.859 7.4 1.859 7.4 1.859 7.6 1.857 7.6 1.857 7.5 | 3 5.34 1 4.53 2.98 | - - - | 7.50 7.79 5.92 6.36 | 5.67 5.41 3.73 4.18 | 5.34 4.70 3.12 3.60 | 4 5.4 0 4.5 2 2.9 0 3.5 | 5 5.86 3 4.69 8 3.13 1 3.69 | 4 6.5 5 5.0 1 3.5 9 4.1 | 4 7.52 8 5.75 3 4.23 5 4.86 | 8.72 7 6.62 8 5.11 5 5.74 | 7.59 6.11 6.72 | - 9 - - 2 - | - - - - |
| 4856 Fe XXIV 4855 Fe XXIV 4993 Fe XXV 4854 Fe XXIV 4853 Fe XXIV | *2LI s HE5 x *3LI d13 | 6676.900 6677.700 6679.800 6689.200 6692.100 | 1.857 7.6 1.857 7.5 1.856 7.8 1.854 7.6 1.853 7.6 | 7 3.89 0 2.29 1 3.13 | - - - - | 7.35 6.77 - 6.39 6.53 | 4.97 4.58 3.91 4.01 4.15 | 4.26 3 4.00 2.90 3.30 5 3.44 | 5 4.09 0 3.99 0 2.49 0 3.11 4 3.2 | 9 4.23 0 4.03 4 2.23 3 3.23 7 3.33 | 1 4.6 3 4.5 9 2.4 5 3.6 9 3.8 | 4 5.33 4 5.26 3 2.80 8 4.37 2 4.50 | 3 6.18 5 6.15 0 3.28 7 5.22 0 5.36 | 7.15 7.14 3.78 6.19 | - 4.24 | - - 4.66 - - |
| 4852 Fe XXIV 4851 Fe XXIV 4850 Fe XXIV 4849 Fe XXIV 4848 Fe XXIV | *3LI a1 *3LI h7 | 6692.800 6693.200 6693.500 6693.900 6695.300 | 1.852 7.6 1.852 7.6 1.852 7.6 1.852 7.6 1.852 7.6 | 1 4.53 1 4.48 1 3.94 | - - - | | - - - - | _ | - | - - - - | - - - - | - - - - | - - - | - - - | - - - | - - - | - - - - | - - - | - - - | 6.85 7.80 7.75 | 4.46 5.41 5.36 4.82 | 3.76 4.71 4.65 4.65 | 3.5 1 4.5 5 4.4 2 3.9 | 8 3.73 3 4.69 8 4.69 4 4.0 | 1 4.1 5 5.0 0 5.0 7 4.4 | 3 4.82 8 5.73 3 5.71 9 5.18 | 2 5.67 7 6.62 L 6.57 3 6.03 | 6.64 7.59 7.54 7.00 | | - - - - |
| 4846 Fe XXIV 4847 Fe XXIV 4845 Fe XXIV 4844 Fe XXIV 4843 Fe XXIV | | 6695.300 6695.300 6696.100 6696.400 6697.100 | 1.852 7.6 1.852 7.6 1.852 7.6 1.852 7.6 1.851 7.6 | 1 4.59 3 4.17 3 3.75 | - - - | - - - | - - - | - | - - - | _ _ _ | - - - | - - - | - - - | 7.86 7.65 7.22 7.14 | 5.47 5.16 4.74 4.66 | 4.76 4.39 4.39 3.97 3.88 | 4.59 4.11 7 3.71 3 3.6 | 9 4.73 8 4.23 5 3.85 7 3.7 | 1 5.1 3 4.6 5 4.2 7 4.1 | 9 4.57 4 5.82 9 5.36 6 4.94 8 4.85 | 2 6.68 5 6.21 1 5.79 5 5.70 | 7.65 7.18 6.75 6.67 | 5 – 3 – 5 – | - - - - |
| 4842 Fe XXIV 4839 Fe XXIV 4841 Fe XXIV 4840 Fe XXIV 4992 Fe XXV | *4LI *3LI h16 | 6697.900 6698.200 6698.200 6698.200 6698.600 | 1.851 7.6 1.851 7.6 1.851 7.6 1.851 7.6 1.851 7.8 | 1 3.95 3 4.15 1 3.80 4 1.43 | | | | - - - - | | | | | | | | | | | | | | | | | | | | | | |
| 4838 Fe XXIV 4837 Fe XXIV 4836 Fe XXIV 4991 Fe XXV 4990 Fe XXV | *4LI *3LI h17 *2HE O | 6698.600 6699.000 6699.700 6846.600 6879.600 | 1.851 7.6 1.851 7.6 1.851 7.6 1.811 7.9 1.802 7.9 | 3 2.94 3 4.32 1 3.73 2 4.34 2 4.50 | - - - - | 6.42 7.80 7.00 | 3.93 5.31 4.62 7.64 7.81 | 3 3.16 4.54 2 3.91 4 5.82 5.98 | 5 2.94 4 4.33 1 3.73 2 4.8 3 5.0 | 4 3.04 2 4.4 3 3.86 7 4.4 3 4.5 | 4 3.4 3 4.8 5 4.2 1 4.3 7 4.5 | 5 4.13 3 5.51 8 4.95 6 4.62 2 4.78 | 3 4.98 1 6.36 7 5.82 2 5.03 3 5.19 | 5.94 7.32 6.79 5.50 | - - 5.98 6.14 | - - - 6.47 6.63 |

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| Apr 13, | 10 14:27 | line list SPEX version 2. | | | | | | | | | | | | | | .0 | | | | | | | | | | | F | age | 76/ | 77 | |
|-----------------------------|-------------------|---------------------------|--------------------------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------|------------|---------|-------|------|-------|---------|---------|--------------|------|
| Nr ion | Transit. | E(eV) Lam | mbda(A) Tmax | -Omax | 4.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | . 7 | . 6 7 | . 8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| | | | | | | | | | | | | | | | | | | | | , | | | | | | | | | | | |
| 4989 Fe XXV 4988 Fe XXV | *2HE G *2HE S | 6900.300 6914.900 | 1.797 7.93 1.793 7.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 5.77 | |
| 4987 Fe XXV | | 6918.400 | 1.792 7.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 5.26 | |
| 4986 Fe XXV | | 6919.500 | 1.792 7.93 | 3 4.26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 5.90 | |
| 4985 Fe XXV | *2HE J | 6919.900 | 1.792 7.93 | 3 3.18 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.5 | 0 4.6 | 6 3 | .71 3 | . 25 | 3.20 | 3.45 | 3.86 | 4.33 | 4.82 | 5.30 |
| 4984 Fe XXV | *3HE | 6926.100 | 1.790 7.94 | | | - | - | - | - | - | _ | _ | _ | - | - | - | - | - | - | - | 8.3 | 8 6.4 | 2 5 | .38 4 | .87 | 4.79 | 5.02 | 5.42 | 2 5.88 | 6.36 | 6.84 |
| 4983 Fe XXV | *3HE | 6933.100 | 1.788 7.94 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | - | | | | | | | | | | 6.80 | |
| 4982 Fe XXV 4981 Fe XXV | | 6933.500 6933.900 | 1.788 7.93 1.788 7.93 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 5.50 | |
| 4980 Fe XXV | *3HE | 6935.400 | 1.788 7.94 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.36 | |
| 4979 Fe XXV | *3HE | 6937.000 | 1.787 7.94 | 4 5 21 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 2 2 | 2 6 8 | 6 5 | 82 5 | . 31 | 5 23 | 5 46 | 5 8 8 | 5 6 30 | 6.80 | 7 28 |
| 4978 Fe XXV | | 6938.100 | 1.787 7.93 | 3 3.71 | _ | - | _ | - | _ | - | _ | - | - | - | - | - | - | - | - | - | | | | | | | | | | 5 5.35 | |
| 4977 Fe XXV | | 6941.600 | 1.786 7.93 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | - | | | | | | | | | | 5.13 | |
| 4976 Fe XXV 4975 Fe XXV | *3HE *3HE | 6942.000 6943.200 | 1.786 7.94 1.786 7.94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.50 | |
| 49/3 FE AAV | SHE | 0943.200 | 1.700 7.9 | 1 1.02 | _ | _ | | _ | _ | _ | | | _ | _ | _ | _ | _ | _ | _ | | 0.1 | 3 0.9 | :0 5 | . 72 7 | . " | 4.03 | 3.00 | , ,,,,, | , 3.92 | 0.40 | 0.00 |
| 4974 Fe XXV | *4HE | 6943.600 | 1.786 7.99 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.70 | |
| 4973 Fe XXV 4972 Fe XXV | *3HE *3HE | 6945.100 6946.300 | 1.785 7.94 1.785 7.94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.04 | |
| 4971 Fe XXV | *3HE | 6947.800 | 1.785 7.94 | 4 4.44 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.02 | |
| 4970 Fe XXV | *4HE | 6949.000 | 1.784 7.95 | 5 5.37 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9.1 | 3 7.1 | .0 6 | .02 5 | .48 | 5.38 | 5.61 | 5.99 | 6.45 | 6.93 | 7.41 |
| 4969 Fe XXV | *3HE | 6949.800 | 1.784 7.94 | 4 4.45 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.0 | 7 6.1 | .0 5 | .06 4 | .55 | 4.47 | 4.70 | 5.10 | 5.56 | 6.04 | 6.52 |
| 4968 Fe XXV | * 4HE | 6951.000 | 1.784 7.95 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.80 | |
| 4967 Fe XXV 5005 Fe XXVI | *4HE H1B T.al2 | 6951.300 6951.700 | 1.784 7.95 1.783 8.18 | | | _ | | _ | | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 2.27 | |
| 4966 Fe XXV | | 6951.700 | 1.783 7.99 | | | - | _ | - | _ | - | _ | - | - | - | - | - | - | - | - | - | | | | | | | | | | 5.44 | |
| 4965 Fe XXV | * 4HE | 6953.300 | 1.783 7.99 | 5 5 07 | _ | _ | _ | _ | _ | | _ | _ | _ | | _ | _ | _ | _ | | _ | ΩΩ | 2 6 9 | 0 5 | 72 5 | . 1 Ω | 5 OS | E 30 | 1 5 60 |) 6 1 5 | 6.63 | 7 11 |
| 4964 Fe XXV | *3HE | 6954.100 | 1.783 7.94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.70 | |
| 4963 Fe XXV | *4HE | 6955.200 | 1.783 7.99 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | - | | | | | | | | | | 6.40 | |
| 4962 Fe XXV 4961 Fe XXV | *2HE M *3HE | 6955.200 6956.000 | 1.783 7.93 1.782 7.94 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.09 | |
| 4901 PE AAV | SHE | 0930.000 | 1.702 7.9 | 1 1.09 | _ | _ | | _ | _ | _ | | | _ | _ | _ | _ | _ | _ | _ | | /./ | 1 3.7 | | . / 0 4 | .19 | 7.11 | 1.51 | T. / 7 | : 3.19 | 3.07 | 0.10 |
| 4960 Fe XXV | *4HE | 6956.400 | 1.782 7.95 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.70 | |
| 4959 Fe XXV 4958 Fe XXV | *4HE *3HE | 6958.000 6959.500 | 1.782 7.95 1.781 7.94 | | | _ | | _ | | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.23 | |
| 4957 Fe XXV | *3HE | 6960.300 | 1.781 7.94 | 4 4.74 | _ | _ | - | _ | _ | - | - | _ | _ | - | _ | _ | - | _ | - | - | | | | | | | | | | 6.32 | |
| 4956 Fe XXV | *3HE | 6961.900 | 1.781 7.9 | 4 4.45 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.0 | 7 6.1 | 1 5 | .06 4 | .55 | 4.47 | 4.70 | 5.10 | 5.56 | 6.04 | 6.52 |
| 4955 Fe XXV | *3HE | 6963.100 | 1.781 7.94 | 4 5.21 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | 8.8 | 3 6.8 | 7 5 | .82 5 | .31 | 5.23 | 5.46 | 5.86 | 6.32 | 6.80 | 7.28 |
| 4954 Fe XXV | *3HE | 6963.800 | 1.780 7.94 | 4 4.91 | _ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.49 | |
| 4953 Fe XXV 4952 Fe XXV | *3HE *3HE | 6966.600 6968.100 | 1.780 7.94 1.779 7.94 | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.92 | |
| 4951 Fe XXV | *3HE | 6968.500 | 1.779 7.94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.80 | |
| 40E0 E0 VVV | * 21112 | 6060 200 | 1 770 7 0 | 4 4 00 | | | | | | | | | | | | | | | | | 7 6 | 2 E 6 | <i>c</i> 1 | 61 / | 1.0 | 4 00 | 1 2 5 | . 1 61 | : E 10 | 5.58 | 6 07 |
| 4950 Fe XXV 4949 Fe XXV | *3HE *2HE V | 6969.300 6970.500 | 1.779 7.94 1.779 7.93 | 3 4.97 | - | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.61 | |
| 4948 Fe XXV | *4HE | 6970.900 | 1.779 7.99 | 5 4.81 | _ | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.5 | 7 6.5 | 4 5 | .46 4 | .92 | 4.82 | 5.04 | 5.43 | 3 5.88 | 6.36 | 6.84 |
| 4947 Fe XXV 4946 Fe XXV | * 4HE * 4HE | 6971.700 6972.100 | 1.778 7.95 1.778 7.95 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.12 5.77 | |
| TOTO PE AAV | 444 | | 1.770 7.95 | J 4.44 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 7.9 | υ ၁. 9 | · 5 4 | .00 4 | . 33 | 4.23 | 4.45 | 4.04 | : 5.∠9 | 5.// | 0.25 |
| 4945 Fe XXV | *4HE | 6972.500 | 1.778 7.95 | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.02 | |
| 4944 Fe XXV 4943 Fe XXV | | 6972.800 6973.200 | 1.778 7.94 1.778 7.95 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 5.81 4.91 | |
| 5004 Fe XXVI | H1A Lal1 | 6973.200 | 1.778 8.1 | 7 1.66 | _ | - | - | - | _ | - | - | - | - | - | - | - | - | - | - | - | - | 4.3 | 2 2 | .95 2 | .13 | 1.74 | 1.66 | 1.75 | 5 1.90 | 2.08 | 2.27 |
| 4942 Fe XXV | *4HE | 6974.000 | 1.778 7.99 | 5 4.40 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.1 | 7 6.1 | .3 5 | .05 4 | .51 | 4.41 | 4.63 | 5.02 | 5.48 | 5.96 | 6.44 |
| 4941 Fe XXV | *4HE | 6974.400 | 1.778 7.99 | 5 5.00 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 8.7 | 7 6.7 | 4 5 | .65 5 | .12 | 5.01 | 5.24 | 5.63 | 3 6.08 | 6.56 | 7.04 |
| 4940 Fe XXV | *4HE | 6975.600 | 1.777 7.99 | 5 4.53 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8.2 | 9 6.2 | 6 5 | .18 4 | .64 | 4.54 | 4.76 | 5.15 | 5 5.60 | 6.08 | 6.56 |
| 4939 Fe XXV 4938 Fe XXV | * 4HE * 4HE | 6976.000 6976.400 | 1.777 7.95 1.777 7.95 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.70 | |
| 4937 Fe XXV | *3HE | 6976.800 | 1.777 7.94 | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 6.36 | |
| | 1.40.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0/77 |

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|-------------------------------|--------------|----------------------|----------------------|-------|-------|-----|-----|-----|-----|-----|-----|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-------------|------|-------|------|------|------|------------|------|------|--------|--------|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nr ion | Transit. | E(eV) Lan | mbda(A) Tma | ax -Q | max 4 | 1.0 | 4.2 | 4.4 | 4.6 | 4.8 | 5.0 | 5.2 | 5.4 | 5.6 | 5.8 | 6.0 | 6.2 | 6.4 | 6.6 | 6.8 | 7.0 | 7.2 | 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 9.0 |
| 4936 Fe XXV | *3HE | 6977.600 | 1.777 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.36 |
| 4935 Fe XXV | *3HE | 6978.000 | 1.777 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.98 |
| 4934 Fe XXV | * 3HE | 6979.100 | 1.776 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 6.93 |
| 4933 Fe XXV 5035 Ni XII | *3HE | 6979.500 7468.900 | 1.776 7. 1.660 6. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | _ | 8.13 | 6.17 | 5.13 | 4.61 | 4.53 | 4.76 | 5.16 | 5.62 | 6.10 | 6.58 |
| 2032 NI XII | CL S | 7468.900 | 1.000 6. | .55 2 | 1.25 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 5023 Ni XI | A S | 7468.900 | 1.660 6. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5049 Ni XIII | SS | 7468.900 | 1.660 6. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5081 Ni XV 5104 Ni XVI | SI S AL S | 7468.900 7468.900 | 1.660 6. 1.660 6. | | 7.20 | _ | - | - | - | _ | - | - | - | _ | - | - | - | - | _ | - | - | - | _ | _ | - | - | - | - | _ | - | - |
| 5063 Ni XIV | PS | 7468.900 | 1.660 6. | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ |
| 3003 NI XIV | F 5 | 7400.900 | 1.000 0. | .05 1 | 0.09 | | | | | | | | | | | | | | | | | | | | | | | | | | _ |
| 5267 Ni XXI | 0 S | 7514.200 | 1.650 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9.03 | 6.99 | | | - | - | - | - | - | - | - | - |
| 5157 Ni XVIII 5234 Ni XX | NA S F S | 7514.200 7514.200 | 1.650 6. 1.650 7. | | | _ | - | - | _ | _ | _ | _ | - | - | - | - | _ | - | - | 0 22 | - 3 6.98 | 7 02 | - 0.0 | _ | - | - | - | - | - | - | - |
| 5193 Ni XIX | r S NE S | 7514.200 | 1.650 7. | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.33 | 0.98 | 7.92 | 9.98 | _ | _ | _ | _ | _ | _ | _ | _ |
| 5127 Ni XVII | MG S | 7514.200 | 1.650 6. | | | _ | _ | _ | - | - | _ | - | _ | - | - | _ | - | - | _ | _ | _ | - | - | - | - | - | - | - | _ | _ | _ |
| 5204 NI WWTTT | G G | 7546 200 | 1 (42 7 | 1.0 | F 00 | | | | | | | | | | | | | | | | F 00 | F 12 | F 00 | c co | 7 60 | 0 70 | | | | | |
| 5304 Ni XXIII 5283 Ni XXII | N S | 7546.200 7546.200 | 1.643 7. 1.643 7. | | 5.09 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | Ω Ω1 | 5.88 | | | | | 8.72 | _ | _ | _ | _ | _ |
| 5333 Ni XXIV | B S | 7592.400 | 1.633 7. | | | _ | _ | _ | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 0.01 | | | | | | 6.66 | 7 56 | _ | _ | _ | _ |
| 5357 Ni XXV | BE S2 | 7639.200 | 1.623 7. | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | 7 12 | 2 7.88 | |
| 5356 Ni XXV | BE S3 | 7681.800 | 1.614 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 7.85 | | - |
| 5381 Ni XXVI | LI S2 | 7686.600 | 1.613 7. | 68 | 3 14 | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | 6.87 | 4 16 | 3.40 | 3.16 | 3.18 | 3.41 | 3.85 | 4 40 | 5.00 |) 5 58 | 3 6.13 |
| 5355 Ni XXV | BE S4 | 7686.600 | 1.613 7. | | | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 8.72 | |
| 5404 Ni XXVII | HE6 | 7731.600 | 1.604 7. | .97 | 3.07 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.45 | 4.16 | 3.50 | 3.16 | 3.08 | 3.20 | 3.47 | 3.79 | 4.12 | 2 4.45 |
| 5380 Ni XXVI | LI S3 | 7734.500 | 1.603 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 7.06 |
| 5379 Ni XXVI | LI S4 | 7744.200 | 1.601 7. | .72 | 3.86 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.21 | 4.24 | 3.90 | 3.88 | 4.11 | 4.57 | 5.16 | 5.81 | . 6.46 | 7.10 |
| 5403 Ni XXVII | | 7778.700 | 1.594 7. | | 3.04 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | _ | _ | _ | _ | _ | _ | | | | | | | | | | 4.61 |
| 5402 Ni XXVII | HE4 | 7805.100 | 1.589 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 3 4.19 |
| 4932 Fe XXV | HE3 | 7897.100 | 1.570 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | | 4.75 |
| 5401 Ni XXVII | | 7999.000 | 1.550 8. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 5.82 |
| 5400 Ni XXVII | HE S3 | 8056.200 | 1.539 8. | .04 | 4.43 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.63 | 5.36 | 4.69 | 4.43 | 4.51 | 4.81 | 5.22 | 5.68 | 3 6.15 |
| 5399 Ni XXVII | | 8061.400 | 1.538 8. | | 1.10 | _ | _ | _ | _ | _ | _ | _ | - | _ | _ | - | - | - | - | _ | - | - | | | | | | | | | 3 6.10 |
| 5412 Ni XXVII | | 8072.900 | 1.536 8. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 3.55 |
| 5411 Ni XXVII | | 8101.400 | 1.530 8. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 3.37 |
| 4931 Fe XXV | HE2 | 8210.900 | 1.510 7. | | 2.61 | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.44 | 4.00 | | | | | | | | | 5.08 |
| 5003 Fe XXVI | Н2 | 8210.900 | 1.510 8. | .16 | 2.34 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4.88 | 3.59 | 2.79 | 2.41 | 2.34 | 2.43 | 2.59 | 2.77 | 7 2.95 |
| 4929 Fe XXV | HE1 | 8492.100 | 1.460 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.86 | 4.39 | | | | | | | | | 1 5.35 |
| 5002 Fe XXVI | Н3 | 8670.200 | 1.430 8. | | 00 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 3.46 |
| 5001 Fe XXVI | н4 | 8856.000 | 1.400 8. | | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 2 3.79 |
| 5000 Fe XXVI | H5 | 8919.699 | 1.390 8. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 6.24 | 4.89 | 4.04 | 3.63 | 3.53 | 3.60 | 3.74 | : 3.90 | 4.07 |
| 5398 Ni XXVII | HE3 | 9184.000 | 1.350 7. | .94 | 3.39 | _ | - | - | _ | _ | _ | _ | - | _ | _ | _ | - | - | _ | _ | - | 5.04 | 4.11 | 3.67 | 3.44 | 3.40 | 3.56 | 3.85 | 4.20 | 4.56 | 5 4.92 |
| 5409 Ni XXVII | | 9583.000 | 1.294 8. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | 4.03 |
| 5397 Ni XXVII | | 9663.600 | 1.283 7. | | | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | | | | | | | | | | 5 5.32 |
| 5396 Ni XXVII | | 9887.101 | 1.254 7. | | 4.14 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5.89 | | | | | | | | | 7 5.63 |
| 5408 Ni XXVII | I H3 | 10105.000 | 1.227 8. | .28 | 4.26 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 7.85 | 6.14 | 5.08 | 4.50 | 4.27 | 4.28 | 4.41 | 4.60 | 4.81 |