A list of spectral lines in Procyon (in the order of atomic number)

| | | | | | | | | EW(mA) | | | | | K88 | | | E65 | | | E65 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | WL | EP | log gf | ref | log gf | ref | KS82 | Wght | | S85 | | KS86 | ref | rem | TL78 | ref | RemTL | LS80 | ref | W48 | ref |
| Atom | No | WL (A) | EP(eV) | log gf | ref | log gf | ref | A87 | | ref | EW | rem | EW | | | LL87 | | | TW95 | | E65 | |
| H I | 1.00 | 3697.15 | 10.15 | | | | | | | | | | | | | | | | | | 1890 | |
| H I | 1.00 | 3703.86 | 10.15 | | | | | | | | | | | | | | | | | | 2250 | |
| H I | 1.00 | 3711.97 | 10.15 | | | | | | | | | | | | | | | | | | 2720 | |
| H I | 1.00 | 3721.94 | 10.15 | | | | | | | | | | | | | | | | | | 3700 | |
| H I | 1.00 | 3734.37 | 10.15 | | | | | | | | | | | | | | | | | | 4200 | |
| H I | 1.00 | 3750.15 | 10.15 | | | | | | | | | | | | | | | | | | 4000 | |
| H I | 1.00 | 3770.63 | 10.15 | | | | | | | | | | | | | | | | | | 4300 | |
| H I | 1.00 | 3797.90 | 10.15 | | | | | | | | | | | | | | | | | | 5100 | |
| H I | 1.00 | 3835.39 | 10.15 | | | | | | | | | | | | | | | | | | 7300 | |
| H I | 1.00 | 3889.05 | 10.15 | | | | | | | | | | | | | | | | | | 5500 | |
| H I | 1.00 | 4101.75 | | | | | | | | | | | | | | | | | | | 6480 | |
| H I | 1.00 | 4340.48 | | | | | | | | | | | | | | | | | | | 6390 | |
| H I | 1.00 | 4861.34 | | | | | | | | | | | | | | | | | | | 6310 | |
| H I | 1.00 | 6562.82 | | | | | | | | | | | | | | | | | | | 6050 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| C I | 6.00 | 4228.33 | 7.68 | | | | | | | | 28.5 | | | | | | | | | | | |
| C I | 6.00 | 4770.03 | 7.48 | | | | | 19.8 | | A87 | 32 | | | | | | | | | | 21 | |
| C I | 6.00 | 4775.91 | 7.49 | | | | | 22.2 | | A87 | 35 | | 31 | K88 | | | | | 50.2 | E65 | 20 | |
| C I | 6.00 | 4932.00 | 7.65 | | | | | | | | | | | | | | | | 72.8 | E65 | | |
| C I | 6.00 | 5052.17 | 7.68 | | | | | 61.2 | | A87 | 82 | | 79 | K88 | | | | | 78.5 | E65 | | |
| C I | 6.00 | 5380.34 | 7.68 | | | | | 45.4 | | A87 | 61.5 | | 55 | K88 | | | | | 52.6 | E65 | | |
| C I | 6.00 | 6587.62 | 8.53 | | | | | 42 | | A87 | 40.5 | | 42 | K88 | | 52 | TL78 | | | | | |
| C I | 6.00 | 6655.51 | 8.54 | | | | | | | | | | | | | 14 | TL78 | | | | | |
| C I | 6.00 | 6671.80 | 8.85 | | | | | 8 | | A87 | | | | | | | | | | | | |
| C I | 6.00 | 7087.83 | 8.65 | | | | | 11.2 | | A87 | | | | | | 22 | TL78 | | | | | |
| C I | 6.00 | 7111.48 | 8.64 | | | | | 30.8 | | A87 | 40.5 | | | | | 31 | TL78 | | 33.4 | TW95 | | |
| C I | 6.00 | 7113.18 | 8.64 | | | | | 48 | | A87 | 59.5 | | | | | 47 | TL78 | | 51.3 | TW95 | | |
| C I | 6.00 | 7115.18 | 8.64 | | | | | 48.5 | | A87 | 61.5 | : | | | | 47 | TL78 | | 53.7 | TW95 | | |
| C I | 6.00 | 7116.99 | 8.64 | | | | | 41.2 | | A87 | 55.5 | | | | | 49 | TL78 | | 48.3 | TW95 | | |
| C I | 6.00 | 7119.67 | 8.64 | | | | | | | | | | | | | 32 | TL78 | | 31.2 | TW95 | | |
| C I | 6.00 | 7483.44 | 8.77 | | | | | 16 | | A87 | | | | | | 17 | TL78 | | | | | |
| C I | 6.00 | 8335.13 | 7.68 | | | | | 203 | | KWS5 | | | | | | | | | | | | |
| C I | 6.00 | 8727.13 | 1.26 | | | | | | | | | | | | | 9 | TL78 | | | | | |
| C I | 6.00 | 9111.80 | 7.49 | | | | | 270 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| N I | 7.00 | 7442.28 | 10.33 | | | | | 12 | | A87 | 16 | | 13 | K88 | | 12 | TL78 | | | | | |
| N I | 7.00 | 7468.29 | 10.33 | | | | | 18 | | A87 | 24.5 | | 22 | K88 | | 15 | TL78 | | | | | |
| N I | 7.00 | 8216.35 | 10.34 | | | | | 31 | | KWS5 | | | | | | 26 | TL78 | | | | | |
| N I | 7.00 | 8683.40 | 10.33 | | | | | | | | | | | | | 28 | TL78 | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N I | 7.00 | 8703.25 | 10.33 | | | | | | | | | | | | | 17 | TL78 | | | | | |
| N I | 7.00 | 8728.83 | 10.34 | | | | | | | | | | | | | 19 | TL78 | | | | | |
| N I | 7.00 | 9392.79 | 10.69 | | | | | | | | | | | | | 38 | TL78 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| O I | 8.00 | 5577.30 | 1.97 | | | | | 3.2 | | A87 | | | | | | | | [] | | | | |
| O I | 8.00 | 6156.80 | 10.74 | | | | | 15 | | A87 | 15.5 | | 14 | K88 | | | | | | | | |
| O I | 8.00 | 6158.17 | 10.74 | | | | | | | | 21 | | 20 | K88 | | 24 | TL78 | | | | | |
| O I | 8.00 | 6300.31 | 0.00 | | | | | 3.5 | | A87 | 4.5 | [] | 3.7 | NE92 | | 4.2 | TL78 | | | | | |
| O I | 8.00 | 7771.94 | 9.15 | | | | | 174 | | KWS5 | | | | | | | | | | | | |
| O I | 8.00 | 7774.17 | 9.15 | | | | | 155 | | KWS5 | | | | | | | | | | | | |
| O I | 8.00 | 7775.39 | 9.15 | | | | | 124 | | KWS5 | | | | | | | | | | | | |
| O I | 8.00 | 7773.00 | 9.15 | | | | | 433 | | FGVF | | MULT | | | | | | | | | | |
| O I | 8.00 | 9260.85 | 10.74 | | | | | | | | | | | | | 44 | TL78 | triplt | | | | |
| O I | 8.00 | 9262.67 | 10.74 | | | | | | | | | | | | | 67 | TL78 | triplt | | | | |
| O I | 8.00 | 9265.94 | 10.74 | | | | | | | | | | | | | 82 | TL78 | triplt | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Na I | 11.00 | 3302.34 | 0.00 | | | | | | | | | | | | | | | | 202.7 | E65 | | |
| Na I | 11.00 | 3302.94 | 0.00 | | | | | | | | | | | | | | | | 142.3 | E65 | | |
| Na I | 11.00 | 4668.57 | 2.10 | | | | | 34 | | KS82 | 38.5 | | | | | 50.5 | E65 | | 22 | LS80 | 18 | |
| Na I | 11.00 | 5682.65 | 2.10 | | | | | 86 | * | KS82 | 93 | | | | | | | | | | 101 | |
| Na I | 11.00 | 5688.22 | 2.10 | | | | | 111 | * | KS82 | 124 | | | | | | | | 129.5 | E65 | 144 | |
| Na I | 11.00 | 5889.97 | 0.00 | | | | | 399 | | KS82 | 407.5 | | | | | 397 | LL87 | | 400.1 | E65 | 450 | |
| Na I | 11.00 | 5895.92 | 0.00 | | | | | 315 | | KS82 | 338.5 | | | | | 338 | LL87 | | 329.2 | E65 | 370 | |
| Na I | 11.00 | 6154.20 | 2.10 | | | | | 22 | | KS82 | 24 | | | | | | | | 38.3 | E65 | 38 | |
| Na I | 11.00 | 6160.80 | 2.10 | | | | | 35 | * | KS82 | 38.5 | | | | | 59 | LL87 | | 51.9 | E65 | 50 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Mg I | 12.00 | 3829.36 | 2.70 | | | | | | | | | | | | | | | | | | 450 | |
| Mg I | 12.00 | 3832.30 | 2.70 | | | | | | | | | | | | | | | | | | 420 | |
| Mg I | 12.00 | 3838.29 | 2.70 | | | | | | | | | | | | | | | | | | 570 | |
| Mg I | 12.00 | 3986.75 | 4.33 | | | | | | | | | | | | | | | | | | 193 | |
| Mg I | 12.00 | 4167.27 | | | | | | | | | | | | | | 221 | LL87 | | 217 | LS80 | 215 | |
| Mg I | 12.00 | 4571.08 | 0.00 | | | | | | | | 66.5 | hf? | | | | | | | | | 54 | |
| Mg I | 12.00 | 4703.00 | 4.33 | | | | | 216 | | KS82 | | | WL? | | | | | | 201.4 | E65 | 236 | |
| Mg I | 12.00 | 4703.98 | 4.34 | | | | | | | | 221.5 | hf? | WL? | | | | | | | | | |
| Mg I | 12.00 | 4730.04 | 4.34 | | | | | 47 | | KS82 | 49.5 | | | | | | | | 52.1 | E65 | 28 | |
| Mg I | 12.00 | 5172.70 | 2.70 | | | | | 456 | | KS82 | 490 | | | | | | | | | | 485 | |
| Mg I | 12.00 | 5183.62 | 2.70 | | | | | 606 | | KS82 | 606.5 | | | | | | | | | | 675 | |
| Mg I | 12.00 | 5528.40 | 4.33 | | | | | 201 | | KS82 | 307 | hf? | | | | | | | 200.2 | E65 | 202 | |
| Mg I | 12.00 | 5711.08 | 4.34 | | | | | 90 | | KS82 | 88 | hf? | | | | 96 | LL87 | | 78.5 | E65 | 69 | |
| Mg I | 12.00 | 6318.71 | 5.11 | | | | | 27 | | KS82 | 29 | | | | | | | | | | | |
| Mg I | 12.00 | 6965.41 | 5.75 | | | | | | | | 15 | | | | | | | | | | | |
| Mg I | 12.00 | 7387.70 | 5.75 | | | | | 51 | ** | KS82 | 50.5 | | | | | | | | | | | |
| Mg I | 12.00 | 8213.03 | 5.75 | | | | | 100 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Mg II | 12.01 | 4481.23 | 8.86 | | | | | | | | 262.5 | bl | | | | 310.6 | E65 | | 232 | LS80 | 240 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Al I | 13.00 | 3082.16 | 0.00 | | | | | | | | | | | | | | | | 183.8 | E65 | | |
| Al I | 13.00 | 3944.00 | 0.00 | | | | | 270 | ** | KS82 | | | | | | 282 | LL87 | | 174 | LS80 | 261.5 | E65 |
| Al I | 13.00 | 3944.01 | 0.00 | | | | | | | | | | | | | | | | | | 255 | |
| Al I | 13.00 | 3961.52 | 0.01 | | | | | | | | | | | | | | | | | | 225 | |
| Al I | 13.00 | 3961.53 | 0.01 | | | | | | | | | | | | | | | | 190 | LS80 | 203.4 | E65 |
| Al I | 13.00 | 6696.03 | 3.14 | | | | | 17 | | KS82 | 19.5 | | 21 | KWS5 | | | | | | | 28 | |
| Al I | 13.00 | 6698.70 | 3.14 | | | | | | | | 11 | | 12 | KWS5 | | | | | | | 14 | |
| Al I | 13.00 | 7835.39 | 4.02 | | | | | | | | | | 26 | KWS5 | | | | | | | | |
| Al I | 13.00 | 7836.15 | 4.02 | | | | | | | | | | 38 | KWS5 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Si I | 14.00 | 3905.53 | 1.90 | | | | | | | | | | | | | 295.1 | E65 | | 234 | LS80 | | |
| Si I | 14.00 | 3905.53 | 1.90 | | | | | | | | | | | | | | | | | | 310 | |
| Si I | 14.00 | 5125.02 | 5.61 | | | | | | | | 29 | | | | | | | | | | | |
| Si I | 14.00 | 5621.61 | 5.08 | | | | | | | | 6 | | | | | | | | | | | |
| Si I | 14.00 | 5645.62 | 4.93 | | | | | 28 | ** | KS82 | 28 | | | | | | | | 40.3 | E65 | 16 | |
| Si I | 14.00 | 5665.56 | 4.92 | | | | | 26 | | KS82 | 29 | | | | | | | | | | 26 | |
| Si I | 14.00 | 5666.68 | 5.62 | | | | | | | | 21 | | | | | | | | | | | |
| Si I | 14.00 | 5684.49 | 4.95 | | | | | 51 | * | KS82 | 51.5 | | | | | | | | | | | |
| Si I | 14.00 | 5690.43 | 4.93 | | | | | 38 | * | KS82 | 41.5 | | | | | | | | 43 | E65 | 35 | |
| Si I | 14.00 | 5701.11 | 4.93 | | | | | 30 | * | KS82 | 29 | | | | | | | | | | | |
| Si I | 14.00 | 5708.41 | 4.95 | | | | | | | | 71.5 | | | | | | | | 65.9 | E65 | 58 | |
| Si I | 14.00 | 5772.15 | 5.08 | | | | | 41 | | KS82 | 43.5 | | | | | | | | | | 64 | |
| Si I | 14.00 | 5793.08 | 4.93 | | | | | | | | 44.5 | | | | | | | | | | 54 | |
| Si I | 14.00 | 5797.87 | 4.95 | | | | | | | | 34.5 | | | | | | | | | | | |
| Si I | 14.00 | 5948.55 | 5.08 | | | | | | | | 80 | | | | | | | | | | 115 | |
| Si I | 14.00 | 6131.85 | | | | | | | | | | | | | | 54 | LL87 | | | | | |
| Si I | 14.00 | 6142.49 | 5.62 | | | | | 31 | * | KS82 | 32 | | | | | | | | | | | |
| Si I | 14.00 | 6145.02 | 5.62 | | | | | 31 | | KS82 | 33.5 | | | | | | | | | | | |
| Si I | 14.00 | 6155.13 | | | | | | | | | | | | | | 106 | LL87 | | | | | |
| Si I | 14.00 | 6237.32 | 5.61 | | | | | 48 | * | KS82 | 54.5 | | | | | 91 | LL87 | | | | | |
| Si I | 14.00 | 6243.81 | 5.61 | | | | | | | | 42.5 | | | | | | | | | | | |
| Si I | 14.00 | 6244.47 | 5.62 | | | | | 38 | * | KS82 | 41.5 | | | | | | | | | | | |
| Si I | 14.00 | 6414.97 | 5.87 | | | | | | | | 40.5 | | | | | | | | | | | |
| Si I | 14.00 | 6527.20 | 5.87 | | | | | | | | 39.5 | | | | | | | | | | | |
| Si I | 14.00 | 6555.46 | 5.98 | | | | | | | | 34.5 | | | | | | | | | | | |
| Si I | 14.00 | 6721.84 | 5.86 | | | | | | | | 39.5 | | | | | | | | | | | |
| Si I | 14.00 | 7003.57 | 5.96 | | | | | 55 | * | KS82 | 58.5 | | | | | | | | | | | |
| Si I | 14.00 | 7034.90 | 5.87 | | | | | | | | 71.5 | | | | | | | | | | | |
| Si I | 14.00 | 8215.15 | 6.26 | | | | | 27 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Si II | 14.01 | 3853.66 | 6.83 | | | | | | | | | | | | | | | | | | 104 | |
| Si II | 14.01 | 3856.02 | 6.83 | | | | | | | | | | | | | | | | | | 192 | |
| Si II | 14.01 | 3862.59 | 6.83 | | | | | | | | | | | | | | | | | | 120 | |
| Si II | 14.01 | 4130.88 | | | | | | | | | | | | | | 88 | LL87 | | 54 | LS80 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Si II | 14.01 | 6347.10 | 8.12 | | | | | 112 | | KS82 | 121 | | | | | 118.1 | E65 | | 107 | LS80 | 131 | |
| Si II | 14.01 | 6371.36 | 8.12 | | | | | 83 | | KS82 | 87 | | | | | 86.5 | E65 | | 108 | LS80 | 89 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| P I | 15.00 | 9750.75 | 6.95 | | | | | 9 | | KWS5 | | | | | | | | | | | | |
| P I | 15.00 | 9796.91 | 6.99 | | | | | 23 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| S I | 16.00 | 4694.12 | 6.52 | | | | | 20 | ** | KS82 | 22 | | | | | 33 | LL87 | | | | | |
| S I | 16.00 | 4695.45 | 6.52 | | | | | 14 | * | KS82 | 13 | | | | | 35 | LL87 | | | | | |
| S I | 16.00 | 6046.02 | 7.83 | | | | | 28 | ** | KS82 | 28 | | | | | | | | 44.7 | E65 | | |
| S I | 16.00 | 6052.68 | 7.84 | | | | | 24 | | KS82 | 27 | | | | | | | | 39.4 | E65 | | |
| S I | 16.00 | 6743.58 | 7.86 | | | | | 25 | ** | KS82 | 27 | | | | | | | | | | | |
| S I | 16.00 | 6757.16 | 7.87 | | | | | 44 | ** | KS82 | 49.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| K I | 19.00 | 7698.96 | 0.00 | | | | | 138 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ca I | 20.00 | 4094.93 | 2.51 | | | | | | | | | | | | | | | | 76.2 | E65 | 39 | |
| Ca I | 20.00 | 4108.55 | 2.70 | | | | | | | | | | | | | | | | 54.5 | E65 | 30 | |
| Ca I | 20.00 | 4226.73 | 0.00 | | | | | | | | | | | | | 374.2 | E65 | | 282 | LS80 | 505 | |
| Ca I | 20.00 | 4283.00 | 1.88 | | | | | 127 | | KS82 | | | | | | | | | | | 137 | |
| Ca I | 20.00 | 4425.40 | 1.88 | | | | | 115 | | KS82 | | | | | | 150 | LL87 | | 134 | LS80 | 135 | |
| Ca I | 20.00 | 4434.96 | | | | | | | | | | | | | | 198 | LL87 | | | | | |
| Ca I | 20.00 | 4435.70 | 1.88 | | | | | 117 | | KS82 | | | | | | | | | 126.8 | E65 | 100 | |
| Ca I | 20.00 | 4455.89 | | | | | | | | | | | | | | 166 | LL87 | | 153 | LS80 | | |
| Ca I | 20.00 | 4512.27 | 2.52 | | | | | | | | 11 | | | | | | | | | | | |
| Ca I | 20.00 | 4526.93 | 2.71 | | | | | 65 | | KS82 | 71.5 | | | | | | | | 90 | LS80 | | |
| Ca I | 20.00 | 4578.56 | 2.52 | | | | | | | | 68.5 | | | | | 49 | LL87 | | | | 61 | |
| Ca I | 20.00 | 4585.88 | | | | | | | | | | | | | | | | | | | 95 | |
| Ca I | 20.00 | 4685.30 | 2.93 | | | | | 40 | | KS82 | | | | | | | | | | | 33 | |
| Ca I | 20.00 | 5260.40 | | | | | | | | | | | | | | | | | | | 21 | |
| Ca I | 20.00 | 5261.71 | 2.52 | | | | | | | | 91 | | | | | | | | | | | |
| Ca I | 20.00 | 5349.47 | 2.71 | | | | | | | | 93 | | | | | | | | | | | |
| Ca I | 20.00 | 5513.00 | 2.93 | | | | | 68 | | KS82 | | | | | | | | | | | 54 | |
| Ca I | 20.00 | 5582.00 | 2.52 | | | | | 84 | | KS82 | | | | | | | | | | | 80 | |
| Ca I | 20.00 | 5588.76 | 2.53 | | | | | 141 | | KS82 | 142.5 | | | | | | | | | | 123 | |
| Ca I | 20.00 | 5590.13 | 2.52 | | | | | 79 | | KS82 | 86 | | | | | | | | | | 56 | |
| Ca I | 20.00 | 5594.47 | 2.52 | | | | | | | | 128.5 | | | | | | | | | | 146 | |
| Ca I | 20.00 | 5601.28 | 2.51 | | | | | | | | | | | | | | | | 102.4 | E65 | 89 | |
| Ca I | 20.00 | 5857.46 | 2.93 | | | | | | | | 124 | | | | | | | | | | | |
| Ca I | 20.00 | 5867.57 | | | | | | | | | | | | | | | | | | | 25 | |
| Ca I | 20.00 | 6102.70 | 1.88 | | | | | 107 | | KS82 | | | | | | | | | | | | |
| Ca I | 20.00 | 6122.20 | 1.89 | | | | | 150 | | KS82 | | | | | | 192 | LL87 | | | | 179 | |
| Ca I | 20.00 | 6161.30 | 2.52 | | | | | 40 | | KS82 | 41.5 | | | | | | | | | | | |
| Ca I | 20.00 | 6162.20 | 1.90 | | | | | 168 | | KS82 | | | | | | | | | | | 139 | |
| Ca I | 20.00 | 6166.44 | 2.52 | | | | | 46 | | KS82 | 47.5 | | | | | 49 | LL87 | | | | 41 | |
| Ca I | 20.00 | 6169.04 | 2.52 | | | | | 69 | | KS82 | 73.5 | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ca I | 20.00 | 6169.56 | 2.52 | | | | | | | | 95 | | | | | | | | | | | |
| Ca I | 20.00 | 6361.94 | 4.45 | | | | | | | | 99 | | | | | | | | | | | |
| Ca I | 20.00 | 6439.08 | 2.52 | | | | | 146 | | KS82 | 152.5 | | | | | 165 | LL87 | | | | 191 | |
| Ca I | 20.00 | 6449.82 | 2.51 | | | | | 88 | | KS82 | 89 | | | | | | | | | | | |
| Ca I | 20.00 | 6455.61 | 2.52 | | | | | 30 | * | KS82 | 34.5 | | | | | | | | | | | |
| Ca I | 20.00 | 6471.67 | 2.52 | | | | | | | | 77.5 | | | | | | | | | | 102 | |
| Ca I | 20.00 | 6493.79 | 2.52 | | | | | 114 | | KS82 | 121 | | | | | 176 | LL87 | | | | 158 | |
| Ca I | 20.00 | 6499.65 | 2.52 | | | | | 72 | | KS82 | 77.5 | | | | | | | | | | 94 | |
| Ca I | 20.00 | 6572.78 | 0.00 | | | | | | | | | | | | | | | | 27.7 | E65 | | |
| Ca I | 20.00 | 6717.69 | 2.71 | | | | | | | | 99 | | | | | | | | | | 102 | |
| Ca I | 20.00 | 7148.15 | 2.71 | | | | | | | | 145.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ca II | 20.01 | 3179.33 | 3.14 | | | | | | | | | | | | | | | | 506.8 | E65 | | |
| Ca II | 20.01 | 3181.28 | 3.14 | | | | | | | | | | | | | | | | 307.8 | E65 | | |
| Ca II | 20.01 | 3933.66 | | | | | | | | | | | | | | | | | 6388 | LS80 | | |
| Ca II | 20.01 | 3933.66 | 0.00 | | | | | | | | | | | | | | | | | | 10500 | |
| Ca II | 20.01 | 5001.47 | 7.50 | | | | | 33 | * | KS82 | 35.5 | | | | | | | | | | | |
| Ca II | 20.01 | 5021.15 | 7.51 | | | | | 8 | ** | KS82 | 10 | | | | | | | | | | | |
| Ca II | 20.01 | 5339.20 | 8.44 | | | | | 20 | ** | KS82 | | | | | | | | | | | | |
| Ca II | 20.01 | 7323.89 | 0.00 | | | | | | | | 10 | [] | | | | | | | | | | |
| Ca II | 20.01 | 8498.02 | | | | | | | | | | | | | | 634 | LL87 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Sc I | 21.00 | 4023.70 | 0.02 | | | | | 19 | * | KS82 | 21.5 | hf? | | | | | | | | | | |
| Sc I | 21.00 | 5671.84 | | | | | | | | | | | | | | | | | | | 10 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Sc II | 21.01 | 4246.84 | 0.31 | | | | | | | | 189 | hf? | | | | 194 | LL87 | | 187.7 | E65 | 215 | |
| Sc II | 21.01 | 4294.77 | 0.61 | | | | | 82 | ** | KS82 | | | | | | 74 | LL87 | | | | | |
| Sc II | 21.01 | 4314.09 | | | | | | | | | | | | | | | | | | | 196 | |
| Sc II | 21.01 | 4325.00 | | | | | | | | | | | | | | | | | | | 167 | |
| Sc II | 21.01 | 4354.62 | | | | | | | | | | | | | | | | | | | 37 | |
| Sc II | 21.01 | 4374.46 | | | | | | | | | | | | | | 161 | LL87 | | | | | |
| Sc II | 21.01 | 4400.39 | | | | | | | | | | | | | | 157 | LL87 | | | | 111 | |
| Sc II | 21.01 | 4415.57 | | | | | | | | | | | | | | | | | | | 99 | |
| Sc II | 21.01 | 4420.67 | 0.62 | | | | | 18 | | KS82 | 21.5 | hf? | | | | | | | | | 12 | |
| Sc II | 21.01 | 4431.36 | 0.61 | | | | | 37 | | KS82 | 35.5 | hf? | | | | | | | | | 18 | |
| Sc II | 21.01 | 4670.40 | 1.36 | | | | | 83 | ** | KS82 | 88 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 5031.03 | | | | | | | | | | | | | | | | | | | 94 | |
| Sc II | 21.01 | 5239.80 | 1.45 | | | | | 69 | | KS82 | 71.5 | hf? | | | | | | | 82.5 | E65 | 72 | |
| Sc II | 21.01 | 5318.40 | 1.36 | | | | | 17 | | KS82 | 20.5 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 5526.82 | 1.77 | | | | | | | | 110 | hf? | | | | | | | | | 86 | |
| Sc II | 21.01 | 5552.20 | 1.45 | | | | | 8 | ** | KS82 | | | | | | | | | | | | |
| Sc II | 21.01 | 5641.00 | 1.50 | | | | | 53 | * | KS82 | 56 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 5657.90 | 1.51 | | | | | | | | 97 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 5667.15 | 1.50 | | | | | 41 | | KS82 | 42.5 | hf? | | | | | | | | | 42 | |
| Sc II | 21.01 | 5669.03 | 1.50 | | | | | 53 | | KS82 | 59.5 | hf? | | | | | | | 55.7 | E65 | 54 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sc II | 21.01 | 6245.60 | 1.51 | | | | | 42 | | KS82 | 45.5 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 6300.70 | 1.51 | | | | | 8 | ** | KS82 | 6 | hf? | | | | | | | | | | |
| Sc II | 21.01 | 6320.80 | 1.50 | | | | | 10 | ** | KS82 | 12 | hf? | | | | | | | | | 37 | |
| Sc II | 21.01 | 6604.60 | 1.36 | | | | | 43 | | KS82 | 41.5 | hf? | | | | | | | 43.4 | E65 | 60 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ti I | 22.00 | 3717.39 | 0.00 | | | | | | | | | | | | | | | | | | 27 | |
| Ti I | 22.00 | 3741.06 | 0.02 | | | | | | | | | | | | | | | | | | 83 | |
| Ti I | 22.00 | 3752.86 | 0.05 | | | | | | | | | | | | | | | | | | 105 | |
| Ti I | 22.00 | 3904.79 | 0.90 | | | | | | | | | | | | | | | | 113.5 | E65 | | |
| Ti I | 22.00 | 3998.64 | 0.05 | | | | | | | | | | | | | | | | | | 112 | |
| Ti I | 22.00 | 4060.27 | 1.05 | | | | | | | | | | | | | | | | | | 7 | |
| Ti I | 22.00 | 4287.41 | 0.83 | | | | | | | | | | | | | | | | | | 19 | |
| Ti I | 22.00 | 4326.36 | 0.82 | | | | | | | | | | | | | | | | | | 4 | |
| Ti I | 22.00 | 4449.15 | 1.88 | | | | | | | | | | | | | | | | | | 23 | |
| Ti I | 22.00 | 4450.90 | 1.87 | | | | | | | | | | | | | | | | | | 14 | |
| Ti I | 22.00 | 4453.71 | 1.87 | | | | | | | | | | | | | | | | | | 17 | |
| Ti I | 22.00 | 4465.82 | 1.73 | | | | | | | | | | | | | | | | | | 16 | |
| Ti I | 22.00 | 4512.75 | 0.83 | | | | | 35 | | KS82 | | | | | | | | | | | 19 | |
| Ti I | 22.00 | 4518.03 | 0.83 | | | | | | | | 43.5 | | | | | | | | | | 30 | |
| Ti I | 22.00 | 4533.25 | 0.85 | | | | | | | | 89 | | | | | | | | | | 65 | |
| Ti I | 22.00 | 4534.79 | 0.84 | | | | | | | | 76.5 | | | | | | | | 115 | LS80 | 52 | |
| Ti I | 22.00 | 4535.58 | 0.82 | | | | | | | | | | | | | | | | | | 68 | |
| Ti I | 22.00 | 4548.76 | 0.82 | | | | | 41 | | KS82 | | | | | | | | | 47 | LS80 | 27 | |
| Ti I | 22.00 | 4555.49 | 0.85 | | | | | | | | | | | | | | | | | | 22 | |
| Ti I | 22.00 | 4617.28 | 1.74 | | | | | 36 | * | KS82 | | | | | | | | | | | 14 | |
| Ti I | 22.00 | 4623.10 | 1.73 | | | | | | | | | | | | | | | | | | 15 | |
| Ti I | 22.00 | 4639.95 | 1.73 | | | | | | | | | | | | | | | | | | 9 | |
| Ti I | 22.00 | 4645.20 | 1.73 | | | | | | | | | | | | | | | | | | 9 | |
| Ti I | 22.00 | 4650.02 | 1.73 | | | | | | | | | | | | | | | | | | 8 | |
| Ti I | 22.00 | 4656.06 | 1.74 | | | | | | | | | | | | | | | | | | 8 | |
| Ti I | 22.00 | 4656.47 | 0.00 | | | | | | | | | | | | | | | | | | 32 | |
| Ti I | 22.00 | 4675.11 | 1.06 | | | | | | | | | | | | | | | | | | 4 | |
| Ti I | 22.00 | 4693.68 | 0.02 | | | | | | | | | | | | | | | | | | 12 | |
| Ti I | 22.00 | 4715.30 | 0.05 | | | | | | | | | | | | | | | | | | | |
| Ti I | 22.00 | 4742.80 | 2.23 | | | | | 11 | ** | KS82 | | | | | | | | | | | 10 | |
| Ti I | 22.00 | 4758.12 | 2.25 | | | | | 21 | | KS82 | 22 | | | | | | | | | | 14 | |
| Ti I | 22.00 | 4759.28 | 2.25 | | | | | 22 | | KS82 | 24 | | | | | | | | | | 23 | |
| Ti I | 22.00 | 4820.41 | 1.50 | | | | | 15 | | KS82 | 17 | | | | | | | | | | 16 | |
| Ti I | 22.00 | 4827.62 | 2.30 | | | | | | | | | | | | | | | | | | 15 | |
| Ti I | 22.00 | 4840.90 | 0.90 | | | | | 34 | | KS82 | | | | | | | | | | | 19 | |
| Ti I | 22.00 | 4868.27 | 2.23 | | | | | | | | | | | | | | | | | | 13 | |
| Ti I | 22.00 | 4870.14 | 2.24 | | | | | | | | | | | | | | | | | | 15 | |
| Ti I | 22.00 | 4885.09 | 1.88 | | | | | | | | | | | | | | | | | | 30 | |
| Ti I | 22.00 | 4913.62 | 1.87 | | | | | 21 | | KS82 | 23 | | | | | | | | | | 23 | |
| Ti I | 22.00 | 4928.30 | 2.15 | | | | | 10 | | KS82 | | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ti I | 22.00 | 4973.06 | 1.99 | | | | | | | | | | | | | | | | | | 69 | |
| Ti I | 22.00 | 4981.74 | 0.85 | | | | | 89 | | KS82 | 94 | | | | | | | | | | 103 | |
| Ti I | 22.00 | 4995.50 | 0.83 | | | | | 79 | | KS82 | | | | | | | | | | | | |
| Ti I | 22.00 | 5000.99 | 1.99 | | | | | | | | | | | | | | | | | | 12 | |
| Ti I | 22.00 | 5016.17 | 0.85 | | | | | 29 | | KS82 | 29 | | | | | | | | | | 18 | |
| Ti I | 22.00 | 5022.88 | 0.83 | | | | | 38 | | KS82 | | | | | | | | | | | 23 | |
| Ti I | 22.00 | 5024.85 | 0.08 | | | | | 33 | | KS82 | 35.5 | | | | | | | | | | 28 | |
| Ti I | 22.00 | 5025.57 | 2.03 | | | | | | | | | | | | | | | | | | 10 | |
| Ti I | 22.00 | 5036.50 | 1.44 | | | | | 41 | ** | KS82 | | | | | | | | | | | | |
| Ti I | 22.00 | 5038.40 | 1.43 | | | | | 34 | ** | KS82 | | | | | | | | | | | | |
| Ti I | 22.00 | 5039.97 | 0.02 | | | | | 38 | ** | KS82 | | | | | | | | | | | 29 | |
| Ti I | 22.00 | 5052.88 | 2.17 | | | | | | | | | | | | | | | | | | 8 | |
| Ti I | 22.00 | 5064.70 | 0.05 | | | | | 50 | | KS82 | | | | | | | | | | | 39 | |
| Ti I | 22.00 | 5071.49 | 1.46 | | | | | | | | 15 | | | | | | | | | | 5 | |
| Ti I | 22.00 | 5087.10 | 1.43 | | | | | 13 | ** | KS82 | | | | | | | | | | | | |
| Ti I | 22.00 | 5113.45 | 1.44 | | | | | | | | 5 | | | | | | | | | | 9 | |
| Ti I | 22.00 | 5120.43 | 2.57 | | | | | | | | | | | | | | | | | | 21 | |
| Ti I | 22.00 | 5145.47 | 1.46 | | | | | | | | 10 | | | | | | | | | | | |
| Ti I | 22.00 | 5147.48 | 0.00 | | | | | | | | | | | | | | | | | | 6 | |
| Ti I | 22.00 | 5173.74 | 0.00 | | | | | | | | | | | | | | | | 61.9 | E65 | 48 | |
| Ti I | 22.00 | 5193.00 | 0.02 | | | | | 48 | | KS82 | | | | | | | | | | | | |
| Ti I | 22.00 | 5194.06 | 2.10 | | | | | | | | 6 | | | | | | | | | | | |
| Ti I | 22.00 | 5210.39 | 0.05 | | | | | 54 | | KS82 | | | | | | | | | 60.9 | E65 | 46 | |
| Ti I | 22.00 | 5219.71 | 0.02 | | | | | | | | 5 | | | | | | | | | | 7 | |
| Ti I | 22.00 | 5295.78 | 1.07 | | | | | | | | 5 | | | | | | | | | | | |
| Ti I | 22.00 | 5426.26 | 0.02 | | | | | | | | | | | | | | | | | | 4 | |
| Ti I | 22.00 | 5453.65 | 1.44 | | | | | | | | 2 | | | | | | | | | | | |
| Ti I | 22.00 | 5490.16 | 1.45 | | | | | | | | | | | | | | | | | | 25 | |
| Ti I | 22.00 | 5503.91 | 2.57 | | | | | | | | | | | | | | | | | | 9 | |
| Ti I | 22.00 | 5644.15 | 2.56 | | | | | | | | | | | | | | | | | | 8 | |
| Ti I | 22.00 | 5648.58 | 2.49 | | | | | | | | 3 | | | | | | | | | | | |
| Ti I | 22.00 | 5675.44 | 2.30 | | | | | | | | | | | | | | | | | | 42 | |
| Ti I | 22.00 | 5702.66 | 2.29 | | | | | | | | 3 | | | | | | | | | | | |
| Ti I | 22.00 | 5766.34 | 3.28 | | | | | | | | | | | | | | | | | | 10 | |
| Ti I | 22.00 | 5774.04 | 3.29 | | | | | | | | | | | | | | | | | | 14 | |
| Ti I | 22.00 | 5866.46 | 1.07 | | | | | 17 | | KS82 | 16 | | | | | | | | | | 33 | |
| Ti I | 22.00 | 5965.84 | 1.87 | | | | | | | | | | | | | | | | | | 28 | |
| Ti I | 22.00 | 5978.55 | 1.87 | | | | | | | | 10 | | | | | | | | | | 19 | |
| Ti I | 22.00 | 6091.18 | 2.27 | | | | | | | | 5 | | | | | | | | | | 9 | |
| Ti I | 22.00 | 6098.66 | 3.06 | | | | | | | | 1.5 | | | | | | | | | | | |
| Ti I | 22.00 | 6126.22 | 1.07 | | | | | | | | 7 | | | | | | | | | | 21 | |
| Ti I | 22.00 | 6258.11 | 1.44 | | | | | 18 | | KS82 | 21 | | | | | | | | 25 | E65 | 14 | |
| Ti I | 22.00 | 6258.71 | 1.45 | | | | | | | | | | | | | | | | 35.1 | E65 | 32 | |
| Ti I | 22.00 | 6261.11 | 1.43 | | | | | 17 | | KS82 | 19 | | | | | | | | 19.4 | E65 | 14 | |
| Ti I | 22.00 | 6312.25 | 1.45 | | | | | | | | | | | | | | | | | | 8 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ti I | 22.00 | 6554.25 | 1.44 | | | | | | | | | | | | | | | | | | 9 | |
| Ti I | 22.00 | 6556.09 | 1.45 | | | | | | | | | | | | | | | | | | 31 | |
| Ti I | 22.00 | 6599.13 | 0.90 | | | | | | | | | | | | | | | | | | 9 | |
| Ti I | 22.00 | 6743.14 | 0.90 | | | | | | | | | | | | | | | | | | 11 | |
| Ti I | 22.00 | 7251.72 | 1.43 | | | | | | | | 12.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ti II | 22.01 | 3723.63 | 1.56 | | | | | | | | | | | | | | | | | | 45 | |
| Ti II | 22.01 | 3724.11 | 1.57 | | | | | | | | | | | | | | | | | | 54 | |
| Ti II | 22.01 | 3741.63 | 1.57 | | | | | | | | | | | | | | | | | | 240 | |
| Ti II | 22.01 | 3759.29 | 0.60 | | | | | | | | | | | | | | | | | | 410 | |
| Ti II | 22.01 | 3761.32 | 0.57 | | | | | | | | | | | | | | | | | | 300 | |
| Ti II | 22.01 | 3761.87 | 2.58 | | | | | | | | | | | | | | | | | | 129 | |
| Ti II | 22.01 | 3776.06 | 1.57 | | | | | | | | | | | | | | | | | | 108 | |
| Ti II | 22.01 | 4028.35 | 1.89 | | | | | | | | 111 | | | | | | | | | | 131 | |
| Ti II | 22.01 | 4300.05 | | | | | | | | | | | | | | | | | 212 | LS80 | | |
| Ti II | 22.01 | 4301.93 | 1.16 | | | | | | | | | | | | | | | | | | 129 | |
| Ti II | 22.01 | 4312.86 | 1.18 | | | | | | | | | | | | | | | | 181.7 | E65 | 183 | |
| Ti II | 22.01 | 4316.80 | 2.04 | | | | | | | | | | | | | | | | | | 56 | |
| Ti II | 22.01 | 4330.71 | 1.18 | | | | | | | | | | | | | | | | 93.8 | E65 | | |
| Ti II | 22.01 | 4386.86 | 2.59 | | | | | | | | | | | | | | | | | | 64 | |
| Ti II | 22.01 | 4394.06 | 1.22 | | | | | | | | | | | | | 137 | LL87 | | | | 112 | |
| Ti II | 22.01 | 4395.04 | 1.08 | | | | | | | | | | | | | | | | | | 235 | |
| Ti II | 22.01 | 4395.84 | 1.24 | | | | | 88 | * | KS82 | 91 | | | | | | | | 92.7 | E65 | 67 | |
| Ti II | 22.01 | 4399.77 | 1.23 | | | | | | | | | | | | | | | | 141 | LS80 | 143 | |
| Ti II | 22.01 | 4409.53 | 1.23 | | | | | 47 | | KS82 | | | | | | | | | | | 42 | |
| Ti II | 22.01 | 4411.92 | 1.22 | | | | | | | | | | | | | 82 | LL87 | | | | 37 | |
| Ti II | 22.01 | 4417.72 | 1.16 | | | | | | | | 142.5 | | | | | 139 | LL87 | | | | 129 | |
| Ti II | 22.01 | 4418.34 | 1.24 | | | | | | | | 96 | | | | | | | | | | 86 | |
| Ti II | 22.01 | 4421.95 | 2.05 | | | | | | | | | | | | | | | | 84.4 | E65 | 61 | |
| Ti II | 22.01 | 4443.81 | 1.08 | | | | | | | | 175 | | | | | | | | | | 173 | |
| Ti II | 22.01 | 4444.56 | 1.12 | | | | | | | | 79 | | | | | | | | | | 73 | |
| Ti II | 22.01 | 4468.48 | 1.13 | | | | | | | | | | | | | 192 | LL87 | | | | 186 | |
| Ti II | 22.01 | 4470.90 | 1.16 | | | | | 83 | | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 4488.32 | | | | | | | | | | | | | | | | | 103 | LS80 | | |
| Ti II | 22.01 | 4493.50 | 1.08 | | | | | 46 | | KS82 | | | | | | | | | | | 24 | |
| Ti II | 22.01 | 4501.26 | 1.11 | | | | | | | | | | | | | 185 | LL87 | | | | 199 | |
| Ti II | 22.01 | 4506.70 | 1.13 | | | | | 20 | | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 4529.49 | 1.57 | | | | | | | | | | | | | | | | | | 132 | |
| Ti II | 22.01 | 4544.02 | 1.24 | | | | | 48 | | KS82 | 50.5 | | | | | | | | 63.9 | E65 | | |
| Ti II | 22.01 | 4545.14 | 1.13 | | | | | | | | | | | | | | | | 88.1 | E65 | | |
| Ti II | 22.01 | 4563.76 | 1.22 | | | | | | | | | | | | | 238 | LL87 | | | | 190 | |
| Ti II | 22.01 | 4568.33 | 1.22 | | | | | | | | 31 | | | | | | | | | | 16 | |
| Ti II | 22.01 | 4571.95 | 1.57 | | | | | | | | | | | | | 231 | LL87 | | | | 205 | |
| Ti II | 22.01 | 4583.40 | 1.16 | | | | | 39 | | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 4589.95 | 1.24 | | | | | | | | 116 | | | | | | | | | | 105 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ti II | 22.01 | 4609.30 | 1.18 | | | | | 15 | | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 4636.33 | 1.16 | | | | | | | | | | | | | | | | | | 16 | |
| Ti II | 22.01 | 4708.70 | 1.24 | | | | | 61 | | KS82 | | | | | | | | | | | 52 | |
| Ti II | 22.01 | 4779.99 | 2.04 | | | | | | | | | | | | | | | | | | 68 | |
| Ti II | 22.01 | 4805.10 | 2.05 | | | | | | | | | | | | | | | | | | 124 | |
| Ti II | 22.01 | 4874.02 | 3.08 | | | | | | | | | | | | | | | | | | 41 | |
| Ti II | 22.01 | 4911.20 | 3.12 | | | | | 69 | | KS82 | | | | | | | | | | | 61 | |
| Ti II | 22.01 | 4981.40 | 1.57 | | | | | 10 | * | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 5005.17 | 1.57 | | | | | 30 | | KS82 | 30 | | | | | | | | | | | |
| Ti II | 22.01 | 5010.22 | 3.08 | | | | | | | | | | | | | | | | | | 26 | |
| Ti II | 22.01 | 5069.10 | 3.12 | | | | | 19 | * | KS82 | | | | | | | | | | | | |
| Ti II | 22.01 | 5154.08 | 1.56 | | | | | | | | | | | | | | | | | | 95 | |
| Ti II | 22.01 | 5185.91 | 1.89 | | | | | | | | | | | | | | | | | | 117 | |
| Ti II | 22.01 | 5211.54 | 2.59 | | | | | | | | 48.5 | | | | | | | | | | | |
| Ti II | 22.01 | 5336.79 | 1.58 | | | | | | | | 102 | | | | | | | | | | 95 | |
| Ti II | 22.01 | 5381.03 | 1.56 | | | | | | | | | | | | | | | | | | 71 | |
| Ti II | 22.01 | 5418.78 | 1.57 | | | | | 65 | | KS82 | 69.5 | | | | | | | | 64.2 | E65 | 61 | |
| Ti II | 22.01 | 6491.59 | 2.05 | | | | | | | | | | | | | | | | | | 74 | |
| Ti II | 22.01 | 6559.59 | 2.04 | | | | | | | | | | | | | | | | | | 45 | |
| Ti II | 22.01 | 6606.98 | 2.06 | | | | | 15 | ** | KS82 | 11.5 | | | | | | | | | | 29 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| V I | 23.00 | 3803.47 | 0.29 | | | | | | | | | | | | | | | | | | 14 | |
| V I | 23.00 | 3822.89 | 0.29 | | | | | | | | | | | | | | | | | | 41 | |
| V I | 23.00 | 3862.22 | 0.02 | | | | | | | | | | | | | | | | | | 2 | |
| V I | 23.00 | 3864.86 | 0.02 | | | | | | | | | | | | | | | | | | 36 | |
| V I | 23.00 | 4023.39 | | | | | | | | | | | | | | | | | 84 | LS80 | | |
| V I | 23.00 | 4099.79 | 0.27 | | | | | | | | | | | | | | | | | | 16 | |
| V I | 23.00 | 4111.78 | 0.30 | | | | | | | | | | | | | | | | 58.1 | E65 | | |
| V I | 23.00 | 4116.71 | 0.27 | | | | | | | | | | | | | | | | | | 5 | |
| V I | 23.00 | 4128.10 | 0.27 | | | | | | | | | | | | | | | | | | 83 | |
| V I | 23.00 | 4379.24 | 0.30 | | | | | 68 | | KS82 | 73.5 | hf? | | | | 76 | LL87 | | 66.9 | E65 | 43 | |
| V I | 23.00 | 4389.98 | 0.28 | | | | | 52 | ** | KS82 | | | | | | 76 | LL87 | | 55.8 | E65 | 20 | |
| V I | 23.00 | 4406.65 | 0.30 | | | | | | | | | | | | | 61 | LL87 | | 37.5 | E65 | 14 | |
| V I | 23.00 | 4408.20 | 0.28 | | | | | 31 | ** | KS82 | | | | | | | | | | | | |
| V I | 23.00 | 4452.01 | 1.87 | | | | | | | | 13.5 | hf? | | | | | | | | | 11 | |
| V I | 23.00 | 4577.18 | 0.00 | | | | | | | | 9.5 | hf? | | | | | | | | | | |
| V I | 23.00 | 5234.09 | 2.35 | | | | | | | | | | | | | | | | 12.9 | E65 | | |
| V I | 23.00 | 5703.60 | 1.05 | | | | | 9 | ** | KS82 | 8 | hf? | | | | | | | | | 16 | |
| V I | 23.00 | 5727.00 | 1.08 | | | | | 11 | | KS82 | 13.5 | hf? | | | | | | | | | | |
| V I | 23.00 | 5817.08 | 1.89 | | | | | 7 | ** | KS82 | 9.5 | hf? | | | | | | | | | | |
| V I | 23.00 | 6039.75 | 1.06 | | | | | | | | | | | | | | | | | | 9 | |
| V I | 23.00 | 6081.46 | 1.05 | | | | | | | | | | | | | | | | | | 14 | |
| V I | 23.00 | 6090.21 | 1.08 | | | | | 9 | | KS82 | 10.5 | hf? | | | | | | | | | 19 | |
| V I | 23.00 | 6111.67 | 1.04 | | | | | | | | | | | | | | | | | | 7 | |
| V I | 23.00 | 6150.16 | 0.30 | | | | | | | | | | | | | | | | | | 12 | |

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| V I | 23.00 | 6199.20 | 0.29 | | | | | | | | | | | | | | | | | | 13 | |
| V I | 23.00 | 6216.36 | 0.28 | | | | | 12 | | KS82 | 16.5 | hf? | | | | | | | | | 12 | |
| V I | 23.00 | 6243.12 | 0.30 | | | | | | | | | | | | | | | | | | 10 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| V II | 23.01 | 3700.34 | 2.50 | | | | | | | | | | | | | | | | | | 45 | |
| V II | 23.01 | 3732.76 | 1.56 | | | | | | | | | | | | | | | | | | 84 | |
| V II | 23.01 | 3916.42 | 1.42 | | | | | | | | | | | | | | | | 79.6 | E65 | | |
| V II | 23.01 | 3952.00 | 1.48 | | | | | 82 | ** | KS82 | | | | | | | | | | | | |
| V II | 23.01 | 4002.94 | 1.43 | | | | | 68 | | KS82 | 69 | hf? | | | | 52 | LL87 | | | | | |
| V II | 23.01 | 4002.94 | 1.42 | | | | | | | | | | | | | | | | | | 79 | |
| V II | 23.01 | 4005.71 | 1.82 | | | | | 107 | * | KS82 | | | | | | 129 | LL87 | | | | | |
| V II | 23.01 | 4008.20 | 1.79 | | | | | 22 | ** | KS82 | | | | | | | | | | | | |
| V II | 23.01 | 4023.38 | 1.80 | | | | | 85 | * | KS82 | 85 | hf? | | | | 84 | LL87 | | 92.1 | E65 | | |
| V II | 23.01 | 4036.77 | 1.48 | | | | | 39 | | KS82 | 41 | hf? | | | | 37 | LL87 | | 45.6 | E65 | | |
| V II | 23.01 | 4039.57 | 1.82 | | | | | 11 | | KS82 | 14.5 | hf? | | | | | | | | | | |
| V II | 23.01 | 4051.10 | 1.80 | | | | | 14 | ** | KS82 | | | | | | | | | | | | |
| V II | 23.01 | 4183.44 | 2.04 | | | | | | | | | | | | | | | | 69.7 | E65 | 48 | |
| V II | 23.01 | 4225.20 | 2.03 | | | | | 44 | ** | KS82 | | | | | | | | | | | | |
| V II | 23.01 | 4234.23 | 1.69 | | | | | 15 | | KS82 | | | | | | | | | | | 9 | |
| V II | 23.01 | 4564.60 | 2.27 | | | | | 33 | ** | KS82 | | | | | | | | | | | | |
| V II | 23.01 | 4947.58 | 3.74 | | | | | | | | | | | | | | | | 30.7 | E65 | | |
| V II | 23.01 | 5303.22 | 2.27 | | | | | 6 | ** | KS82 | 8.5 | hf? | | | | | | | | | | |
| V II | 23.01 | 5819.93 | 2.52 | | | | | 6 | ** | KS82 | 9 | hf? | | | | | | | | | | |
| V II | 23.01 | 5928.89 | 2.52 | | | | | 12 | | KS82 | 13 | hf? | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Cr I | 24.00 | 3857.63 | 2.70 | | | | | | | | | | | | | | | | | | 66 | |
| Cr I | 24.00 | 3963.69 | 2.53 | | | | | | | | | | | | | | | | | | 51 | |
| Cr I | 24.00 | 4039.10 | 3.85 | | | | | 23 | | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4126.52 | 2.53 | | | | | | | | | | | | | | | | | | 15 | |
| Cr I | 24.00 | 4127.28 | 2.53 | | | | | | | | | | | | | | | | | | 14 | |
| Cr I | 24.00 | 4153.07 | 2.53 | | | | | | | | | | | | | | | | | | 7 | |
| Cr I | 24.00 | 4254.35 | 0.00 | | | | | | | | | | | | | 193 | LL87 | | 162 | LS80 | 214 | |
| Cr I | 24.00 | 4274.80 | 0.00 | | | | | | | | | | 188.5 | E65 | | 208 | LL87 | | 172 | LS80 | 199 | |
| Cr I | 24.00 | 4289.73 | 0.00 | | | | | | | | | | | | | | | | | | 155 | |
| Cr I | 24.00 | 4293.60 | 2.91 | | | | | 7 | * | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4319.64 | 2.88 | | | | | | | | | | | | | | | | | | 6 | |
| Cr I | 24.00 | 4458.50 | 3.01 | | | | | 25 | * | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4475.31 | 2.89 | | | | | | | | 6 | | | | | | | | | | | |
| Cr I | 24.00 | 4492.31 | 3.36 | | | | | 11 | | KS82 | 14 | | | | | | | | | | 12 | |
| Cr I | 24.00 | 4511.90 | 3.09 | | | | | 20 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4540.70 | 3.10 | | | | | 41 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4541.07 | 2.53 | | | | | | | | | | | | | | | | | | 16 | |
| Cr I | 24.00 | 4545.96 | 0.94 | | | | | 61 | | KS82 | 63.5 | | | | | | | | 66.6 | E65 | 44 | |
| Cr I | 24.00 | 4575.11 | 3.37 | | | | | | | | 4 | | | | | | | | | | | |
| Cr I | 24.00 | 4616.13 | 0.98 | | | | | 67 | | KS82 | 71.5 | | | | | | | | | | 59 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cr I | 24.00 | 4626.18 | 0.97 | | | | | 60 | | KS82 | 63.5 | | | | | | | | | | 74 | |
| Cr I | 24.00 | 4646.15 | 1.03 | | | | | | | | | | | | | 110 | LL87 | | | | 97 | |
| Cr I | 24.00 | 4651.29 | 0.98 | | | | | 53 | | KS82 | 57.5 | | | | | | | | | | 56 | |
| Cr I | 24.00 | 4652.17 | 1.00 | | | | | | | | 79 | | | | | 96 | LL87 | | 88.1 | E65 | 79 | |
| Cr I | 24.00 | 4689.36 | 3.11 | | | | | | | | | | | | | | | | | | 14 | |
| Cr I | 24.00 | 4697.06 | 2.70 | | | | | | | | | | | | | | | | | | 10 | |
| Cr I | 24.00 | 4708.02 | 3.17 | | | | | 37 | | KS82 | 37.5 | | | | | | | | | | 19 | |
| Cr I | 24.00 | 4718.42 | 3.19 | | | | | 46 | | KS82 | 47.5 | | | | | | | | 52.2 | E65 | 31 | |
| Cr I | 24.00 | 4730.70 | 3.08 | | | | | 26 | | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4737.36 | 3.07 | | | | | 34 | | KS82 | 37.5 | | | | | | | | | | | |
| Cr I | 24.00 | 4789.40 | 2.54 | | | | | 39 | * | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 4801.03 | 3.11 | | | | | 31 | | KS82 | 36.5 | | | | | | | | | | | |
| Cr I | 24.00 | 4936.30 | 3.11 | | | | | 18 | * | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 5122.12 | 1.03 | | | | | | | | 2 | | | | | | | | | | | |
| Cr I | 24.00 | 5206.05 | 0.94 | | | | | | | | | | | | | | | | | | 221 | |
| Cr I | 24.00 | 5214.13 | 3.35 | | | | | 7 | * | KS82 | 9 | | | | | | | | | | | |
| Cr I | 24.00 | 5238.97 | 2.71 | | | | | | | | 6 | | | | | | | | | | | |
| Cr I | 24.00 | 5247.57 | 0.96 | | | | | 50 | | KS82 | 52.5 | | | | | | | | | | 35 | |
| Cr I | 24.00 | 5287.18 | 3.44 | | | | | | | | 4 | | | | | | | | | | | |
| Cr I | 24.00 | 5296.70 | 0.98 | | | | | | | | 65.5 | | | | | | | | | | 47 | |
| Cr I | 24.00 | 5297.36 | 2.89 | | | | | | | | | | | | | | | | 79.2 | E65 | 39 | |
| Cr I | 24.00 | 5300.75 | 0.98 | | | | | 28 | | KS82 | | | | | | | | | | | 24 | |
| Cr I | 24.00 | 5304.19 | 3.46 | | | | | | | | 7.5 | | | | | | | | | | 8 | |
| Cr I | 24.00 | 5312.86 | 3.43 | | | | | | | | | | | | | | | | | | 13 | |
| Cr I | 24.00 | 5329.15 | 2.91 | | | | | | | | 50.5 | | | | | | | | | | | |
| Cr I | 24.00 | 5340.45 | 3.44 | | | | | 6 | ** | KS82 | 8 | | | | | | | | | | | |
| Cr I | 24.00 | 5348.33 | 1.00 | | | | | 70 | * | KS82 | 77.5 | | | | | | | | | | 71 | |
| Cr I | 24.00 | 5409.80 | 1.03 | | | | | | | | | | | | | | | | | | 100 | |
| Cr I | 24.00 | 5409.80 | 1.03 | | | | | | | | 112 | | | | | | | | | | | |
| Cr I | 24.00 | 5628.65 | 3.42 | | | | | | | | 5 | | | | | | | | | | | |
| Cr I | 24.00 | 5712.78 | 3.00 | | | | | | | | | | | | | | | | | | 9 | |
| Cr I | 24.00 | 5783.07 | 3.32 | | | | | | | | 16 | | | | | | | | | | | |
| Cr I | 24.00 | 5783.87 | 3.31 | | | | | 20 | | KS82 | 22 | | | | | | | | | | | |
| Cr I | 24.00 | 5787.93 | 3.31 | | | | | 25 | | KS82 | 27 | | | | | 17 | LL87 | | | | | |
| Cr I | 24.00 | 6330.10 | 0.94 | | | | | | | | 9 | | | | | | | | | | | |
| Cr I | 24.00 | 6661.08 | 4.19 | | | | | | | | 7 | | | | | | | | | | 6 | |
| Cr I | 24.00 | 6882.50 | 3.42 | | | | | 14 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 6883.10 | 3.42 | | | | | 11 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 6925.30 | 3.43 | | | | | 20 | | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 6979.80 | 3.45 | | | | | 16 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 7355.90 | 2.88 | | | | | 30 | ** | KS82 | | | | | | | | | | | | |
| Cr I | 24.00 | 7400.19 | 2.89 | | | | | 46 | | KS82 | 52.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Cr II | 24.01 | 3715.19 | 3.09 | | | | | | | | | | | | | | | | | | 89 | |
| Cr II | 24.01 | 3755.13 | 3.09 | | | | | | | | | | | | | | | | | | 16 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cr II | 24.01 | 3756.55 | 4.91 | | | | | | | | | | | | | | | | | | 8 | |
| Cr II | 24.01 | 4145.77 | | | | | | | | | | | | | | | | | 45 | LS80 | | |
| Cr II | 24.01 | 4252.64 | | | | | | | | | | | | | | 73 | LL87 | | | | | |
| Cr II | 24.01 | 4261.94 | 3.85 | | | | | | | | | | | | | | | | | | 79 | |
| Cr II | 24.01 | 4284.21 | | | | | | | | | | | | | | 101 | LL87 | | | | | |
| Cr II | 24.01 | 4554.99 | 4.07 | | | | | 73 | | KS82 | | | | | | | | | | | 50 | |
| Cr II | 24.01 | 4558.65 | 4.07 | | | | | | | | 124 | | | | | | | | 134 | LS80 | 117 | |
| Cr II | 24.01 | 4572.87 | 3.09 | | | | | | | | | | | | | | | | | | 9 | |
| Cr II | 24.01 | 4588.20 | 4.07 | | | | | | | | 110 | | | | | 144 | LL87 | | | | 103 | |
| Cr II | 24.01 | 4592.06 | 4.07 | | | | | 70 | | KS82 | 76.5 | | | | | 103 | LL87 | | | | | |
| Cr II | 24.01 | 4616.63 | 4.07 | | | | | 65 | | KS82 | 69.5 | | | | | 72 | LL87 | | | | 52 | |
| Cr II | 24.01 | 4618.79 | | | | | | | | | | | | | | 126 | LL87 | | | | | |
| Cr II | 24.01 | 4634.08 | 4.07 | | | | | 81 | | KS82 | 88 | | | | | | | | | | 92 | |
| Cr II | 24.01 | 4812.35 | 3.86 | | | | | 44 | | KS82 | 48.5 | | | | | | | | | | 28 | |
| Cr II | 24.01 | 4848.25 | 3.86 | | | | | | | | 88 | | | | | | | | | | | |
| Cr II | 24.01 | 4884.60 | 3.84 | | | | | | | | | | | | | | | | | | 38 | |
| Cr II | 24.01 | 5210.85 | 3.76 | | | | | 16 | | KS82 | 17 | | | | | | | | | | | |
| Cr II | 24.01 | 5237.33 | 4.07 | | | | | | | | 86 | | | | | | | | 96.9 | E65 | 89 | |
| Cr II | 24.01 | 5246.78 | 3.71 | | | | | 28 | | KS82 | 29 | | | | | | | | | | | |
| Cr II | 24.01 | 5279.90 | 4.07 | | | | | 37 | ** | KS82 | | | | | | | | | | | | |
| Cr II | 24.01 | 5305.87 | 3.83 | | | | | 45 | | KS82 | 48.5 | | | | | | | | | | 44 | |
| Cr II | 24.01 | 5308.43 | 4.07 | | | | | 41 | | KS82 | 42.5 | | | | | | | | | | 37 | |
| Cr II | 24.01 | 5310.70 | 4.07 | | | | | 25 | | KS82 | 26.5 | | | | | | | | | | 17 | |
| Cr II | 24.01 | 5313.59 | 4.07 | | | | | 59 | | KS82 | 61.5 | | | | | | | | | | 42 | |
| Cr II | 24.01 | 5334.87 | 4.07 | | | | | | | | 56.5 | | | | | | | | 71.7 | E65 | 52 | |
| Cr II | 24.01 | 5346.10 | 3.83 | | | | | 19 | ** | KS82 | | | | | | | | | | | 46 | |
| Cr II | 24.01 | 5369.40 | 3.87 | | | | | 8 | ** | KS82 | | | | | | | | | | | | |
| Cr II | 24.01 | 5420.90 | 3.76 | | | | | 36 | ** | KS82 | | | | | | | | | | | | |
| Cr II | 24.01 | 5502.09 | 4.17 | | | | | 35 | | KS82 | 35.5 | | | | | | | | | | | |
| Cr II | 24.01 | 5508.63 | 4.15 | | | | | 28 | | KS82 | 29 | | | | | | | | | | 16 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Mn I | 25.00 | 4033.08 | 0.00 | | | | | | | | | | | | | | | | | | 215 | |
| Mn I | 25.00 | 4034.48 | 0.00 | | | | | | | | | | | | | 181 | LL87 | | | | 186 | |
| Mn I | 25.00 | 4055.54 | 2.14 | | | | | | | | 112.5 | hf? | | | | | | | | | 106 | |
| Mn I | 25.00 | 4059.39 | 3.06 | | | | | | | | | | | | | | | | | | 14 | |
| Mn I | 25.00 | 4061.74 | 3.06 | | | | | | | | | | | | | | | | | | 19 | |
| Mn I | 25.00 | 4070.30 | 2.19 | | | | | 41 | | KS82 | | | | | | | | | | | | |
| Mn I | 25.00 | 4082.94 | 2.17 | | | | | | | | | | | | | | | | 87.6 | E65 | | |
| Mn I | 25.00 | 4141.05 | 4.26 | | | | | 7 | * | KS82 | 9 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 4257.70 | 2.95 | | | | | 35 | | KS82 | | | | | | | | | | | | |
| Mn I | 25.00 | 4265.93 | 2.94 | | | | | 37 | | KS82 | | | | | | | | | | | 31 | |
| Mn I | 25.00 | 4436.36 | 2.91 | | | | | | | | | | | | | | | | | | 10 | |
| Mn I | 25.00 | 4453.00 | 2.94 | | | | | 27 | | KS82 | | | | | | | | | | | 17 | |
| Mn I | 25.00 | 4470.10 | 2.94 | | | | | 31 | | KS82 | | | | | | | | | 39 | LS80 | 14 | |
| Mn I | 25.00 | 4498.90 | 2.93 | | | | | | | | | | | | | | | | | | 21 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mn I | 25.00 | 4502.21 | 2.91 | | | | | 33 | | KS82 | | | 39.7 | E65 | | 42 | LL87 | | 40 | LS80 | 18 | |
| Mn I | 25.00 | 4626.53 | 4.71 | | | | | 12 | | KS82 | 13 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 4671.67 | | | | | | | | | | | | | | 18 | LL87 | | | | | |
| Mn I | 25.00 | 4709.72 | 2.89 | | | | | 38 | | KS82 | | | | | | | | | 45.5 | E65 | 24 | |
| Mn I | 25.00 | 4739.11 | 2.94 | | | | | 27 | | KS82 | | | | | | | | | 46.4 | E65 | 21 | |
| Mn I | 25.00 | 4754.04 | 2.27 | | | | | | | | | | | | | | | | 138 | LS80 | 112 | |
| Mn I | 25.00 | 4761.51 | 2.95 | | | | | 50 | | KS82 | | | | | | 71 | LL87 | | | | 44 | |
| Mn I | 25.00 | 4762.38 | 2.88 | | | | | | | | | | | | | | | | | | 126 | |
| Mn I | 25.00 | 4765.85 | 2.93 | | | | | 62 | | KS82 | | | | | | 100 | LL87 | | | | 43 | |
| Mn I | 25.00 | 4766.40 | 2.91 | | | | | 76 | | KS82 | | | | | | | | | | | 71 | |
| Mn I | 25.00 | 4783.42 | 2.30 | | | | | | | | 112 | hf? | | | | | | | | | 121 | |
| Mn I | 25.00 | 5377.62 | 3.84 | | | | | | | | 27.5 | hf? | | | | | | | 36.4 | E65 | 31 | |
| Mn I | 25.00 | 5399.49 | 3.84 | | | | | 17 | | KS82 | 19 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 5413.68 | 3.84 | | | | | 8 | | KS82 | 10 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 5420.34 | 2.14 | | | | | 26 | | KS82 | 30 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 5432.57 | 0.00 | | | | | 9 | * | KS82 | 11 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 5470.64 | 2.16 | | | | | | | | 18.5 | hf? | | | | | | | | | 11 | |
| Mn I | 25.00 | 5516.79 | 2.17 | | | | | | | | | | | | | | | | | | 16 | |
| Mn I | 25.00 | 5537.74 | 2.19 | | | | | | | | 9.5 | hf? | | | | | | | | | | |
| Mn I | 25.00 | 6013.51 | 3.06 | | | | | 42 | | KS82 | 44 | hf? | | | | 86 | LL87 | | 76.3 | E65 | 95 | |
| Mn I | 25.00 | 6016.64 | 3.07 | | | | | | | | 61.5 | hf? | | | | 74 | LL87 | | | | 80 | |
| Mn I | 25.00 | 6021.82 | 3.07 | | | | | | | | 63 | hf? | | | | 84 | LL87 | | | | 83 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Mn II | 25.01 | 3419.40 | 4.93 | | | | | 9 | ** | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Fe I | 26.00 | 3699.15 | 3.00 | | | | | | | | | | | | | | | | | | 63 | |
| Fe I | 26.00 | 3701.09 | 2.99 | | | | | | | | | | | | | | | | | | 138 | |
| Fe I | 26.00 | 3702.03 | 2.83 | | | | | | | | | | | | | | | | | | 82 | |
| Fe I | 26.00 | 3709.25 | 0.91 | | | | | | | | | | | | | | | | | | 250 | |
| Fe I | 26.00 | 3719.94 | 0.00 | | | | | | | | | | | | | | | | | | 360 | |
| Fe I | 26.00 | 3724.38 | 2.27 | | | | | | | | | | | | | | | | | | 144 | |
| Fe I | 26.00 | 3733.32 | 0.11 | | | | | | | | | | | | | | | | | | 197 | |
| Fe I | 26.00 | 3734.87 | 0.86 | | | | | | | | | | | | | | | | | | 300 | |
| Fe I | 26.00 | 3737.13 | 0.05 | | | | | | | | | | | | | | | | | | 410 | |
| Fe I | 26.00 | 3744.11 | 3.03 | | | | | | | | | | | | | | | | | | 126 | |
| Fe I | 26.00 | 3745.56 | 0.09 | | | | | | | | | | | | | | | | | | 290 | |
| Fe I | 26.00 | 3745.90 | 0.12 | | | | | | | | | | | | | | | | | | 310 | |
| Fe I | 26.00 | 3748.26 | 0.11 | | | | | | | | | | | | | | | | | | 290 | |
| Fe I | 26.00 | 3749.49 | 0.91 | | | | | | | | | | | | | | | | | | 255 | |
| Fe I | 26.00 | 3756.07 | 2.17 | | | | | | | | | | | | | | | | | | 69 | |
| Fe I | 26.00 | 3756.94 | 3.56 | | | | | | | | | | | | | | | | | | 115 | |
| Fe I | 26.00 | 3758.24 | 0.95 | | | | | | | | | | | | | | | | | | 390 | |
| Fe I | 26.00 | 3760.53 | 2.21 | | | | | | | | | | | | | | | | | | 120 | |
| Fe I | 26.00 | 3763.79 | 0.99 | | | | | | | | | | | | | | | | | | 340 | |
| Fe I | 26.00 | 3766.09 | 2.58 | | | | | | | | | | | | | | | | | | 45 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 3767.19 | 1.01 | | | | | | | | | | | | | | | | | | 260 | |
| Fe I | 26.00 | 3773.70 | 3.03 | | | | | | | | | | | | | | | | | | 60 | |
| Fe I | 26.00 | 3774.82 | 2.21 | | | | | | | | | | | | | | | | | | 121 | |
| Fe I | 26.00 | 3777.45 | 2.55 | | | | | | | | | | | | | | | | | | 92 | |
| Fe I | 26.00 | 3781.19 | 2.19 | | | | | | | | | | | | | | | | | | 78 | |
| Fe I | 26.00 | 3787.16 | 3.62 | | | | | | | | | | | | | | | | | | 89 | |
| Fe I | 26.00 | 3787.88 | 1.01 | | | | | | | | | | | | | | | | | | 210 | |
| Fe I | 26.00 | 3789.18 | 2.72 | | | | | | | | | | | | | | | | | | 108 | |
| Fe I | 26.00 | 3790.10 | 0.99 | | | | | | | | | | | | | | | | | | 188 | |
| Fe I | 26.00 | 3794.34 | 2.44 | | | | | | | | | | | | | | | | | | 98 | |
| Fe I | 26.00 | 3795.00 | 0.99 | | | | | | | | | | | | | | | | | | 215 | |
| Fe I | 26.00 | 3798.51 | 0.91 | | | | | | | | | | | | | | | | | | 141 | |
| Fe I | 26.00 | 3799.55 | 0.95 | | | | | | | | | | | | | | | | | | 225 | |
| Fe I | 26.00 | 3802.28 | 3.29 | | | | | | | | | | | | | | | | | | 62 | |
| Fe I | 26.00 | 3804.01 | 3.32 | | | | | | | | | | | | | | | | | | 80 | |
| Fe I | 26.00 | 3805.35 | 3.29 | | | | | | | | | | | | | | | | | | 134 | |
| Fe I | 26.00 | 3807.53 | 2.21 | | | | | | | | | | | | | | | | | | 135 | |
| Fe I | 26.00 | 3808.73 | 2.55 | | | | | | | | | | | | | | | | | | 106 | |
| Fe I | 26.00 | 3809.04 | 2.85 | | | | | | | | | | | | | | | | | | 46 | |
| Fe I | 26.00 | 3810.76 | 3.29 | | | | | | | | | | | | | | | | | | 114 | |
| Fe I | 26.00 | 3812.96 | 0.95 | | | | | | | | | | | | | | | | | | 235 | |
| Fe I | 26.00 | 3815.84 | 1.48 | 0.236 | BK94 | | | | | | | | | | | | | | | | 380 | |
| Fe I | 26.00 | 3820.43 | 0.86 | | | | | | | | | | | | | | | | | | 460 | |
| Fe I | 26.00 | 3821.18 | 3.25 | | | | | | | | | | | | | | | | | | 166 | |
| Fe I | 26.00 | 3824.44 | 0.00 | | | | | | | | | | | | | | | | | | 360 | |
| Fe I | 26.00 | 3825.88 | 0.91 | | | | | | | | | | | | | | | | | | 390 | |
| Fe I | 26.00 | 3827.83 | 1.55 | 0.090 | BK94 | | | | | | | | | | | | | | | | 340 | |
| Fe I | 26.00 | 3834.23 | 0.95 | -0.265 | BK94 | | | | | | | | | | | | | | | | 255 | |
| Fe I | 26.00 | 3840.44 | 0.99 | | | | | | | | | | | | | | | | | | 260 | |
| Fe I | 26.00 | 3841.05 | 1.60 | | | | | | | | | | | | | | | | | | 295 | |
| Fe I | 26.00 | 3849.97 | 1.01 | | | | | | | | | | | | | | | | | | 260 | |
| Fe I | 26.00 | 3850.82 | 0.99 | | | | | | | | | | | | | | | | | | 193 | |
| Fe I | 26.00 | 3852.57 | 2.17 | | | | | | | | | | | | | | | | | | 154 | |
| Fe I | 26.00 | 3856.37 | 0.05 | | | | | | | | | | | | | | | | | | 265 | |
| Fe I | 26.00 | 3859.21 | 2.39 | | | | | | | | | | | | | | | | | | 173 | |
| Fe I | 26.00 | 3859.91 | 0.00 | | | | | | | | | | | | | | | | | | 370 | |
| Fe I | 26.00 | 3863.75 | 2.68 | -1.400 | BK94 | | | | | | | | | | | | | | | | 165 | |
| Fe I | 26.00 | 3865.53 | 1.01 | | | | | | | | | | | | | | | | | | 240 | |
| Fe I | 26.00 | 3867.22 | 3.00 | | | | | | | | | | | | | | | | | | 128 | |
| Fe I | 26.00 | 3872.54 | 0.99 | -0.917 | BK94 | | | | | | | | | | | | | | | | 250 | |
| Fe I | 26.00 | 3878.02 | 0.95 | | | | | | | | | | | | | | | | | | 260 | |
| Fe I | 26.00 | 3887.05 | 0.91 | | | | | | | | | | | | | | | | | | 192 | |
| Fe I | 26.00 | 3895.66 | 0.11 | | | | | | | | | | | | | | | | | | 255 | |
| Fe I | 26.00 | 3897.45 | 2.94 | | | | | | | | | | | | | | | | | | 88 | |
| Fe I | 26.00 | 3899.71 | 0.09 | | | | | | | | | | | | | | | | | | 197 | |

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| Fe I | 26.00 | 3906.48 | 0.11 | | | | | | | | | | | | | | | | | | 230 | |
| Fe I | 26.00 | 3916.73 | 3.22 | -0.565 | BK94 | | | | | | | | | | | | | | | | 104 | |
| Fe I | 26.00 | 3917.19 | 0.99 | | | | | | | | | | | | | | | | | | 139 | |
| Fe I | 26.00 | 3920.26 | 0.12 | | | | | | | | | | | | | | | | | | 175 | |
| Fe I | 26.00 | 3922.91 | 0.05 | | | | | | | | | | | | | | | | | | 197 | |
| Fe I | 26.00 | 3927.92 | 0.11 | | | | | | | | | | | | | | | | | | 235 | |
| Fe I | 26.00 | 3930.30 | 0.09 | | | | | | | | | | | | | | | | | | 186 | |
| Fe I | 26.00 | 3947.00 | 3.20 | | | | | | | | | | | | | | | | | | 89 | |
| Fe I | 26.00 | 3949.95 | 2.17 | | | | | | | | | | | | | | | | | | 121 | |
| Fe I | 26.00 | 3951.16 | 3.26 | | | | | | | | | | | | | | | | | | 126 | |
| Fe I | 26.00 | 3955.96 | 3.06 | | | | | | | | | | | | | | | | | | 72 | |
| Fe I | 26.00 | 3960.28 | 3.62 | | | | | | | | | | | | | | | | | | 42 | |
| Fe I | 26.00 | 3964.52 | 2.83 | | | | | | | | | | | | | | | | | | 52 | |
| Fe I | 26.00 | 3977.74 | 2.19 | | | | | | | | | | | | | | | | | | 112 | |
| Fe I | 26.00 | 3980.65 | 2.41 | | | | | | | | | | | | | | | | | | 8 | |
| Fe I | 26.00 | 3986.18 | 3.20 | | | | | | | | | | | | | | | | | | 84 | |
| Fe I | 26.00 | 4001.67 | 2.17 | | | | | | | | | | | | | | | | | | 107 | |
| Fe I | 26.00 | 4005.25 | 1.55 | | | | | | | | | | | | | | | | | | 290 | |
| Fe I | 26.00 | 4007.28 | 2.75 | | | | | | | | | | | | | | | | | | 109 | |
| Fe I | 26.00 | 4044.62 | 2.82 | | | | | | | | | | | | | | | | | | 121 | |
| Fe I | 26.00 | 4045.83 | 1.48 | | | | | | | | | | | | | | | | | | 532 | |
| Fe I | 26.00 | 4049.34 | 2.58 | | | | | | | | | | | | | | | | | | 35 | |
| Fe I | 26.00 | 4062.45 | 2.83 | | | | | | | | | | | | | 120 | LL87 | | | | 112 | |
| Fe I | 26.00 | 4063.61 | 1.55 | | | | | | | | | | | | | | | | | | 362 | |
| Fe I | 26.00 | 4065.39 | 3.42 | | | | | | | | | | | | | | | | | | 43 | |
| Fe I | 26.00 | 4067.99 | 3.20 | | | | | | | | | | | | | | | | | | 132 | |
| Fe I | 26.00 | 4070.78 | 3.23 | | | | | | | | | | | | | | | | | | 105 | |
| Fe I | 26.00 | 4071.75 | 1.60 | | | | | | | | | | | | | | | | | | 315 | |
| Fe I | 26.00 | 4072.51 | 3.42 | -1.439 | BK94 | | | | | | | | | | | | | | | | 59 | |
| Fe I | 26.00 | 4079.85 | 2.85 | | | | | | | | | | | | | | | | | | 64 | |
| Fe I | 26.00 | 4082.12 | 3.40 | | | | | | | | | | | | | | | | | | 31 | |
| Fe I | 26.00 | 4084.50 | 3.32 | | | | | | | | | | | | | | | | | | 111 | |
| Fe I | 26.00 | 4085.32 | 3.23 | | | | | | | | | | | | | | | | | | 84 | |
| Fe I | 26.00 | 4087.10 | 3.32 | | | | | | | | | | | | | | | | | | 54 | |
| Fe I | 26.00 | 4091.56 | 2.82 | -2.068 | BK94 | | | | | | | | | | | | | | | | 16 | |
| Fe I | 26.00 | 4100.75 | 0.86 | | | | | | | | | | | | | | | | | | 62 | |
| Fe I | 26.00 | 4107.50 | 2.82 | | | | | | | | | | | | | | | | | | 131 | |
| Fe I | 26.00 | 4114.45 | 2.82 | | | | | | | | | | | | | | | | | | 80 | |
| Fe I | 26.00 | 4120.21 | | | | | | | | | | | | | | | | | 110 | LS80 | | |
| Fe I | 26.00 | 4126.86 | 2.83 | | | | | | | | | | | | | | | | | | 10 | |
| Fe I | 26.00 | 4132.07 | 1.60 | | | | | | | | | | | | | | | | | | 249 | |
| Fe I | 26.00 | 4132.91 | 2.83 | | | | | | | | | | | | | | | | | | 89 | |
| Fe I | 26.00 | 4133.86 | 3.35 | | | | | | | | | | | | | | | | | | 83 | |
| Fe I | 26.00 | 4136.53 | 3.35 | | | | | | | | | | | | | | | | | | 42 | |
| Fe I | 26.00 | 4139.94 | 0.99 | | | | | | | | | | | | | | | | | | 41 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 4141.87 | 3.01 | | | | | | | | | | | | | | | | | | 37 | |
| Fe I | 26.00 | 4143.88 | 1.55 | | | | | | | | | | | | | | | | | | 245 | |
| Fe I | 26.00 | 4147.68 | 1.48 | | | | | | | | | | | | | | | | | | 107 | |
| Fe I | 26.00 | 4154.51 | 2.82 | | | | | | | | | | | | | | | | | | 97 | |
| Fe I | 26.00 | 4156.81 | 2.82 | | | | | | | | | | | | | | | | | | 167 | |
| Fe I | 26.00 | 4157.79 | 3.40 | | | | | | | | | | | | | | | | | | 132 | |
| Fe I | 26.00 | 4174.92 | 0.91 | | | | | | | | | | | | | | | | | | 113 | |
| Fe I | 26.00 | 4175.65 | 2.83 | | | | | | | | | | | | | | | | | | 121 | |
| Fe I | 26.00 | 4182.39 | 3.00 | | | | | | | | | | | | | | | | | | 75 | |
| Fe I | 26.00 | 4187.04 | 2.44 | | | | | | | | | | | | | | | | 345 | LS80 | 174 | |
| Fe I | 26.00 | 4191.44 | 2.46 | | | | | | | | | | | | | | | | | | 168 | |
| Fe I | 26.00 | 4191.69 | 2.85 | | | | | | | | | | | | | | | | | | 68 | |
| Fe I | 26.00 | 4202.04 | 1.48 | | | | | | | | | | | | | | | | | | 245 | |
| Fe I | 26.00 | 4206.70 | 0.05 | | | | | | | | | | | | | | | | | | 76 | |
| Fe I | 26.00 | 4208.61 | 3.38 | | | | | | | | | | | | | | | | | | 71 | |
| Fe I | 26.00 | 4210.35 | | | | | | | | | | | | | | | | | 150 | LS80 | | |
| Fe I | 26.00 | 4216.19 | 0.00 | | | | | | | | | | | | | | | | | | 116 | |
| Fe I | 26.00 | 4222.22 | 2.44 | | | | | | | | | | | | | | | | | | 123 | |
| Fe I | 26.00 | 4227.44 | 3.32 | | | | | | | | | | | | | | | | | | 189 | |
| Fe I | 26.00 | 4233.61 | 2.47 | | | | | | | | | | | | | | | | | | 139 | |
| Fe I | 26.00 | 4235.95 | 2.42 | | | | | | | | | | | | | | | | | | 280 | |
| Fe I | 26.00 | 4241.12 | 2.82 | | | | | | | | | | | | | | | | | | 19 | |
| Fe I | 26.00 | 4247.43 | 3.35 | | | | | | | | | | | | | | | | | | 143 | |
| Fe I | 26.00 | 4250.13 | 2.46 | | | | | | | | | | | | | | | | | | 189 | |
| Fe I | 26.00 | 4250.80 | 1.55 | | | | | | | | | | | | | | | | | | 211 | |
| Fe I | 26.00 | 4260.49 | 2.39 | 0.141 | BK94 | | | | | | | | | | | | | | | | 278 | |
| Fe I | 26.00 | 4271.17 | 2.44 | | | | | | | | | | | | | | | | | | 205 | |
| Fe I | 26.00 | 4271.78 | 1.48 | | | | | | | | | | | | | | | | | | 316 | |
| Fe I | 26.00 | 4276.68 | 3.87 | | | | | | | | | | | | | | | | | | 27 | |
| Fe I | 26.00 | 4282.41 | 2.17 | | | | | | | | | | | | | | | | | | 151 | |
| Fe I | 26.00 | 4291.48 | 0.05 | | | | | | | | | | | | | | | | | | 49 | |
| Fe I | 26.00 | 4325.78 | 1.60 | | | | | | | | | | | | | | | | | | 319 | |
| Fe I | 26.00 | 4337.06 | 1.55 | | | | | | | | | | | | | | | | | | 117 | |
| Fe I | 26.00 | 4347.24 | 0.00 | | | | | | | | | | | | | | | | | | 6 | |
| Fe I | 26.00 | 4352.75 | 2.21 | | | | | | | | | | | | | | | | | | 128 | |
| Fe I | 26.00 | 4365.91 | 2.98 | | | | | | | | | | | | | | | | | | 16 | |
| Fe I | 26.00 | 4375.95 | 0.00 | | | | | | | | | | | | | | | | | | 128 | |
| Fe I | 26.00 | 4383.56 | 1.48 | | | | | | | | | | | | | | | | | | 385 | |
| Fe I | 26.00 | 4388.40 | | | | | | | | | | | | | | 109 | LL87 | | | | | |
| Fe I | 26.00 | 4389.26 | 0.05 | -4.583 | BGS95 | | | | | | | | | | | | | | | | 18 | |
| Fe I | 26.00 | 4404.76 | 1.55 | | | | | | | | | | | | | | | | | | 322 | |
| Fe I | 26.00 | 4415.13 | 1.60 | | | | | | | | | | | | | 251 | LL87 | | | | 207 | |
| Fe I | 26.00 | 4427.31 | 0.05 | | | | | | | | | | | | | | | | 142 | E65 | 140 | |
| Fe I | 26.00 | 4430.62 | 2.21 | | | | | | | | | | | | | | | | | | 85 | |
| Fe I | 26.00 | 4439.89 | 2.27 | | | | | | | | | | | | | | | | | | 18 | |

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| Fe I | 26.00 | 4442.34 | 2.19 | | | | | | | | | | | | | 145 | LL87 | | | | 120 | |
| Fe I | 26.00 | 4447.72 | 2.21 | | | | | | | | | | | | | 150 | LL87 | | 131 | E65 | 139 | |
| Fe I | 26.00 | 4485.67 | | | | | | | | | | | | | | 76 | LL87 | | | | | |
| Fe I | 26.00 | 4489.75 | 0.12 | | | | | | | | | | | | | | | | | | 55 | |
| Fe I | 26.00 | 4494.58 | 2.19 | | | | | | | | | | | | | | | | | | 115 | |
| Fe I | 26.00 | 4504.84 | 3.25 | | | | | | | | | | | | | | | | | | 21 | |
| Fe I | 26.00 | 4517.54 | 3.06 | | | | | | | | | | | | | | | | | | 37 | |
| Fe I | 26.00 | 4528.63 | 2.17 | | | | | | | | | | | | | | | | | | 191 | |
| Fe I | 26.00 | 4593.50 | 3.93 | -2.060 | | | | 12 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 4602.00 | 1.61 | -3.154 | | | | 44 | | KS82 | | | | | | 57 | LL87 | | | | 32 | |
| Fe I | 26.00 | 4602.94 | 1.48 | | | | | | | | | | | | | 135 | LL87 | | | | 103 | |
| Fe I | 26.00 | 4607.66 | 3.25 | | | | | | | | | | | | | | | | | | 49 | |
| Fe I | 26.00 | 4625.05 | 3.23 | | | | | | | | | | | | | | | | | | 86 | |
| Fe I | 26.00 | 4637.50 | 3.27 | | | | | | | | | | | | | 80 | LL87 | | | | 62 | |
| Fe I | 26.00 | 4647.45 | 2.94 | | | | | | | | | | | | | | | | | | 103 | |
| Fe I | 26.00 | 4661.98 | 2.98 | | | | | | | | | | | | | | | | | | 25 | |
| Fe I | 26.00 | 4678.83 | | | | | | | | | | | | | | 94 | LL87 | | | | | |
| Fe I | 26.00 | 4691.43 | 2.98 | | | | | | | | | | | | | | | | | | 84 | |
| Fe I | 26.00 | 4710.29 | 3.01 | | | | | | | | | | | | | | | | | | 58 | |
| Fe I | 26.00 | 4736.78 | 3.20 | | | | | | | | | | | | | | | | | | 124 | |
| Fe I | 26.00 | 4741.50 | 2.82 | -2.000 | | | | 50 | | KS82 | | | | | | | | | 83 | LS80 | | |
| Fe I | 26.00 | 4808.20 | 3.24 | -2.790 | | | | 13 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 4859.75 | 2.86 | | | | | | | | | | | | | | | | | | 109 | |
| Fe I | 26.00 | 4863.65 | 3.42 | | | | | | | | | | | | | | | | | | 20 | |
| Fe I | 26.00 | 4871.33 | 2.85 | | | | | | | | | | | | | | | | | | 170 | |
| Fe I | 26.00 | 4872.14 | 2.87 | | | | | | | | | | | | | | | | 165.7 | E65 | 134 | |
| Fe I | 26.00 | 4875.88 | 3.32 | | | | | | | | | | | | | | | | | | 42 | |
| Fe I | 26.00 | 4882.15 | 3.40 | | | | | | | | | | | | | | | | | | 42 | |
| Fe I | 26.00 | 4890.76 | 2.86 | | | | | | | | | | | | | | | | 187.4 | E65 | 151 | |
| Fe I | 26.00 | 4891.50 | 2.84 | | | | | | | | | | | | | | | | 194.8 | E65 | 174 | |
| Fe I | 26.00 | 4896.44 | 3.87 | | | | | | | | | | | | | | | | | | 15 | |
| Fe I | 26.00 | 4903.33 | 2.87 | | | | | | | | | | | | | | | | | | 105 | |
| Fe I | 26.00 | 4907.74 | 3.42 | | | | | | | | | | | | | | | | | | 25 | |
| Fe I | 26.00 | 4919.00 | 2.85 | | | | | | | | | | | | | | | | | | 172 | |
| Fe I | 26.00 | 4920.52 | 2.82 | | | | | | | | | | | | | | | | | | 246 | |
| Fe I | 26.00 | 4924.78 | 2.27 | -2.241 | BK94 | | | | | | | | | | | | | | | | 69 | |
| Fe I | 26.00 | 4938.82 | 2.86 | | | | | | | | | | | | | | | | | | 94 | |
| Fe I | 26.00 | 4939.70 | 0.86 | | | | | | | | | | | | | | | | | | 69 | |
| Fe I | 26.00 | 4946.40 | 3.35 | -1.170 | | | | 72 | | KS82 | | | | | | | | | | | 84 | |
| Fe I | 26.00 | 4950.10 | 3.40 | -1.670 | | | | 50 | | KS82 | | | | | | | | | | | 74 | |
| Fe I | 26.00 | 4962.60 | 4.16 | -1.290 | | | | 35 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 4966.10 | 3.32 | | | | | | | | | | | | | | | | | | 115 | |
| Fe I | 26.00 | 4973.11 | 3.94 | | | | | | | | | | | | | | | | | | 69 | |
| Fe I | 26.00 | 4994.14 | 0.91 | | | | | | | | | | | | | | | | | | 95 | |
| Fe I | 26.00 | 5001.87 | 3.87 | | | | | | | | | | | | | | | | | | 126 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 5002.80 | 3.38 | | | | | | | | | | | | | | | | | | 31 | |
| Fe I | 26.00 | 5014.95 | 3.93 | | | | | | | | | | | | | | | | | | 93 | |
| Fe I | 26.00 | 5016.48 | 4.26 | | | | | | | | 15 | | | | | | | | | | | |
| Fe I | 26.00 | 5022.24 | 3.97 | | | | | | | | | | | | | | | | | | 82 | |
| Fe I | 26.00 | 5031.92 | 4.37 | | | | | | | | 12 | | | | | | | | | | | |
| Fe I | 26.00 | 5044.22 | 2.84 | -2.059 | BK94 | | | | | | | | | | | | | | | | 24 | |
| Fe I | 26.00 | 5049.83 | 2.27 | -1.334 | BK94 | | | | | | 117 | | | | | | | | | | 141 | |
| Fe I | 26.00 | 5067.16 | 4.22 | | | | | | | | 58.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5074.75 | 4.22 | | | | | | | | 109 | | | | | | | | | | | |
| Fe I | 26.00 | 5083.34 | 0.95 | | | | | | | | 90 | | | | | | | | | | 82 | |
| Fe I | 26.00 | 5088.16 | 4.15 | | | | | | | | 22 | | | | | | | | | | | |
| Fe I | 26.00 | 5090.78 | 4.26 | | | | | | | | 77.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5109.66 | 4.30 | | | | | | | | 64.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5110.41 | 0.00 | | | | | | | | | | | | | | | | | | 119 | |
| Fe I | 26.00 | 5127.36 | 0.91 | | | | | | | | 77.5 | | | | | | | | | | 64 | |
| Fe I | 26.00 | 5141.75 | 2.41 | | | | | | | | | | | | | | | | | | 44 | |
| Fe I | 26.00 | 5145.10 | 2.19 | | | | | | | | | | | | | | | | | | 13 | |
| Fe I | 26.00 | 5150.85 | 0.99 | | | | | | | | | | | | | | | | | | 115 | |
| Fe I | 26.00 | 5151.92 | 1.01 | | | | | | | | | | | | | | | | | | 61 | |
| Fe I | 26.00 | 5159.07 | 4.28 | | | | | | | | 54.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5164.55 | 4.43 | | | | | | | | 25 | | | | | | | | | | | |
| Fe I | 26.00 | 5166.29 | 0.00 | | | | | | | | | | | | | | | | | | 61 | |
| Fe I | 26.00 | 5171.61 | 1.48 | | | | | | | | | | | | | | | | | | 151 | |
| Fe I | 26.00 | 5178.80 | 4.39 | | | | | | | | 15 | | | | | | | | | | | |
| Fe I | 26.00 | 5180.07 | 4.47 | | | | | | | | 32.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5191.46 | 3.03 | | | | | | | | | | | | | | | | 166.6 | E65 | 151 | |
| Fe I | 26.00 | 5192.35 | 2.99 | | | | | | | | | | | | | | | | 175.1 | E65 | 154 | |
| Fe I | 26.00 | 5198.71 | 2.21 | | | | | | | | 79 | | | | | | | | | | 66 | |
| Fe I | 26.00 | 5215.19 | 3.25 | -0.871 | BK94 | | | | | | | | | | | | | | | | 119 | |
| Fe I | 26.00 | 5216.29 | 1.60 | | | | | | | | | | | | | | | | | | 145 | |
| Fe I | 26.00 | 5217.40 | 3.20 | -1.070 | | | | 88 | | KS82 | | | | | | | | | | | 103 | |
| Fe I | 26.00 | 5225.53 | 0.11 | | | | | | | | 32.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5229.86 | 3.27 | | | | | | | | | | | | | | | | | | 125 | |
| Fe I | 26.00 | 5232.95 | 2.93 | -0.096 | BK94 | | | | | | 175 | | | | | | | | | | 240 | |
| Fe I | 26.00 | 5236.21 | 4.19 | | | | | | | | 21 | | | | | | | | | | | |
| Fe I | 26.00 | 5242.50 | 3.62 | -0.840 | | | | 75 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 5243.80 | 4.24 | -1.150 | | | | 43 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 5250.21 | 0.12 | -4.938 | BGS95 | | | | | | 28 | | | | | | | | | | | |
| Fe I | 26.00 | 5250.66 | 2.19 | | | | | | | | | | | | | | | | | | 86 | |
| Fe I | 26.00 | 5253.47 | 3.27 | -1.573 | BK94 | | | | | | | | | | | | | | | | 68 | |
| Fe I | 26.00 | 5260.65 | 2.19 | | | | | | | | 89 | | | | | | | | | | | |
| Fe I | 26.00 | 5263.32 | 3.25 | | | | | | | | | | | | | | | | | | 101 | |
| Fe I | 26.00 | 5266.57 | 2.99 | | | | | | | | | | | | | | | | | | 171 | |
| Fe I | 26.00 | 5269.54 | 0.86 | | | | | | | | 201 | | | | | | | | | | 250 | |
| Fe I | 26.00 | 5281.80 | 3.03 | | | | | | | | | | | | | | | | | | 139 | |

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| Fe I | 26.00 | 5295.32 | 4.41 | | | | | | | | 17 | | | | | | | | | | | |
| Fe I | 26.00 | 5300.41 | 4.59 | | | | | | | | 5 | | | | | | | | | | | |
| Fe I | 26.00 | 5302.31 | 3.27 | | | | | | | | | | | | | | | | | | 137 | |
| Fe I | 26.00 | 5307.37 | 1.60 | | | | | | | | | | | | | | | | 96.5 | E65 | 86 | |
| Fe I | 26.00 | 5322.05 | 2.27 | | | | | | | | 33.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5324.19 | 3.20 | | | | | | | | | | | | | | | | | | 220 | |
| Fe I | 26.00 | 5332.91 | 1.55 | | | | | | | | | | | | | | | | | | 80 | |
| Fe I | 26.00 | 5339.18 | 3.23 | | | | | | | | | | | | | | | | | | 100 | |
| Fe I | 26.00 | 5339.94 | 3.25 | | | | | | | | | | | | | | | | | | 133 | |
| Fe I | 26.00 | 5365.40 | 3.56 | -1.440 | | | | 66 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 5367.48 | 4.41 | 0.445 | BK94 | | | | | | 125.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5371.50 | 0.95 | | | | | | | | | | | | | | | | | | 185 | |
| Fe I | 26.00 | 5373.71 | 4.47 | | | | | | | | 50.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5376.84 | 4.29 | | | | | | | | 6 | | | | | | | | | | | |
| Fe I | 26.00 | 5383.38 | 4.31 | | | | | | | | 145.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5386.34 | 4.15 | -1.770 | | | | 13 | | KS82 | 16 | | | | | | | | | | | |
| Fe I | 26.00 | 5397.13 | 0.91 | | | | | | | | 159.5 | | | | | | | | 148.2 | E65 | 169 | |
| Fe I | 26.00 | 5398.29 | 4.44 | | | | | | | | 66.5 | | | | | | | | | | 176 | |
| Fe I | 26.00 | 5405.78 | 0.99 | | | | | | | | 156.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5406.78 | 4.35 | -1.720 | | | | 18 | | KS82 | 17 | | | | | | | | | | | |
| Fe I | 26.00 | 5415.21 | 4.39 | | | | | | | | 140.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5417.04 | 4.40 | -1.680 | | | | 17 | | KS82 | 21 | | | | | | | | | | | |
| Fe I | 26.00 | 5429.70 | 0.95 | | | | | | | | | | | | | | | | 220 | E65 | 201 | |
| Fe I | 26.00 | 5434.53 | 1.01 | | | | | | | | 138.5 | | | | | | | | | | 144 | |
| Fe I | 26.00 | 5436.59 | 2.27 | | | | | | | | 18 | | | | | | | | | | | |
| Fe I | 26.00 | 5441.35 | 4.29 | -1.730 | | | | 14 | | KS82 | 16 | | | | | | | | | | | |
| Fe I | 26.00 | 5445.05 | 4.39 | | | | | | | | 107 | | | | | | | | | | 94 | |
| Fe I | 26.00 | 5446.93 | 0.99 | | | | | | | | | | | | | | | | | | 217 | |
| Fe I | 26.00 | 5461.56 | 4.44 | | | | | | | | 13 | | | | | | | | | | | |
| Fe I | 26.00 | 5464.30 | 4.12 | -1.720 | | | | 21 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 5491.85 | 4.19 | -2.188 | BK94 | | | | | | 4 | | | | | | | | | | | |
| Fe I | 26.00 | 5497.53 | 1.01 | | | | | | | | | | | | | | | | | | 137 | |
| Fe I | 26.00 | 5501.47 | 0.95 | -2.950 | | | | 96 | | KS82 | 101 | | | | | | | | | | | |
| Fe I | 26.00 | 5506.78 | 0.99 | | | | | | | | 109 | | | | | | | | | | 112 | |
| Fe I | 26.00 | 5522.45 | 4.21 | -1.550 | | | | 24 | | KS82 | 27 | | | | | | | | | | | |
| Fe I | 26.00 | 5543.90 | 4.20 | -1.140 | | | | 46 | | KS82 | | | | | | | | | | | 39 | |
| Fe I | 26.00 | 5554.90 | 4.53 | | | | | | | | | | | | | | | | 73.7 | E65 | 54 | |
| Fe I | 26.00 | 5560.22 | 4.43 | | | | | | | | 38.5 | | | | | | | | | | | |
| Fe I | 26.00 | 5562.72 | 4.42 | | | | | | | | | | | | | | | | | | 26 | |
| Fe I | 26.00 | 5565.71 | 4.59 | | | | | | | | | | | | | | | | 84.5 | E65 | 36 | |
| Fe I | 26.00 | 5567.40 | 2.60 | | | | | | | | | | | | | | | | | | 24 | |
| Fe I | 26.00 | 5569.63 | 3.40 | -0.486 | BK94 | | | | | | | | | | | | | | | | 113 | |
| Fe I | 26.00 | 5572.85 | 3.38 | | | | | | | | | | | | | | | | | | 158 | |
| Fe I | 26.00 | 5576.10 | 3.42 | -1.000 | | | | 92 | | KS82 | | | | | | | | | | | 104 | |
| Fe I | 26.00 | 5577.03 | 5.03 | | | | | | | | 6 | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 5586.77 | 3.35 | | | | | | | | | | | | | | | | | | | 164 | |
| Fe I | 26.00 | 5615.66 | 3.32 | | | | | | | | | | | | | | | | | | | 169 | |
| Fe I | 26.00 | 5618.64 | 4.21 | | | | | | | | 32.5 | | | | | | | | | | | 17 | |
| Fe I | 26.00 | 5619.61 | 4.37 | -1.700 | | | | 16 | | KS82 | 17 | | | | | | | | | | | | |
| Fe I | 26.00 | 5624.56 | 3.40 | | | | | | | | | | | | | | | | | | | 133 | |
| Fe I | 26.00 | 5633.95 | 4.99 | | | | | | | | 56.5 | | | | | | | | | | | | |
| Fe I | 26.00 | 5636.70 | 3.62 | -2.610 | | | | 8 | | KS82 | | | | | | | | | | | | | |
| Fe I | 26.00 | 5638.27 | 4.22 | | | | | | | | 63.5 | | | | | | | | | | | 33 | |
| Fe I | 26.00 | 5652.33 | 4.26 | | | | | | | | 14 | | | | | | | | | | | | |
| Fe I | 26.00 | 5653.90 | 4.37 | -1.640 | | | | 20 | | KS82 | | | | | | | | | | | | | |
| Fe I | 26.00 | 5655.50 | 4.24 | | | | | | | | | | | | | | | | | | | 62 | |
| Fe I | 26.00 | 5661.35 | 4.28 | -1.756 | BK94 | | | | | | 12 | | | | | | | | | | | | |
| Fe I | 26.00 | 5679.03 | 4.65 | -0.920 | | | | 42 | | KS82 | 45.5 | | | | | | | | 46.4 | E65 | | 35 | |
| Fe I | 26.00 | 5701.60 | 2.55 | -2.120 | BK94 | -2.216 | BGS95 | 64 | | KS82 | | | | | | | | | | | | 48 | |
| Fe I | 26.00 | 5717.84 | 4.27 | | | | | | | | | | | | | | | | | | | 50 | |
| Fe I | 26.00 | 5731.77 | 4.26 | | | | | | | | 42.5 | | | | | | | | | | | 52 | |
| Fe I | 26.00 | 5738.24 | 4.22 | | | | | | | | 10 | | | | | | | | | | | | |
| Fe I | 26.00 | 5752.04 | 4.53 | -1.267 | | | | 33 | | KS82 | 38.5 | | | | | 38 | LL87 | | | | | 55 | |
| Fe I | 26.00 | 5753.14 | 4.24 | | | | | | | | | | | | | | | | | | | 91 | |
| Fe I | 26.00 | 5759.55 | 4.28 | | | | | | | | | | | | | | | | | | | 19 | |
| Fe I | 26.00 | 5763.01 | 4.19 | | | | | | | | | | | | | | | | | | | 110 | |
| Fe I | 26.00 | 5775.09 | 4.20 | -1.203 | | | | 37 | | KS82 | 40.5 | | | | | | | | | | | 61 | |
| Fe I | 26.00 | 5778.47 | 2.58 | -3.430 | BK94 | | | | | | | | | | | | | | | | | 16 | |
| Fe I | 26.00 | 5784.67 | 3.38 | | | | | | | | | | | | | | | | | | | 25 | |
| Fe I | 26.00 | 5793.92 | 4.20 | -1.700 | | | | 19 | | KS82 | 21 | | | | | | | | | | | | |
| Fe I | 26.00 | 5806.73 | 4.61 | | | | | | | | 39.5 | | | | | | | | | | | 64 | |
| Fe I | 26.00 | 5809.20 | 3.88 | -1.840 | | | | 25 | | KS82 | | | | | | | | | | | | 66 | |
| Fe I | 26.00 | 5811.92 | 4.14 | | | | | | | | 7 | | | | | | | | | | | | |
| Fe I | 26.00 | 5814.82 | 4.26 | -1.970 | | | | 10 | | KS82 | 12 | | | | | | | | | | | | |
| Fe I | 26.00 | 5834.04 | 2.60 | | | | | | | | | | | | | | | | | | | 13 | |
| Fe I | 26.00 | 5856.10 | 4.29 | | | | | | | | 18 | | | | | | | | | | | | |
| Fe I | 26.00 | 5859.60 | 4.55 | | | | | | | | 62.5 | | | | | | | | | | | | |
| Fe I | 26.00 | 5862.37 | 4.53 | -0.058 | | | | 75 | | KS82 | 77.5 | | | | | 88 | LL87 | | | | | 102 | |
| Fe I | 26.00 | 5873.22 | 4.24 | | | | | | | | | | | | | | | | | | | 22 | |
| Fe I | 26.00 | 5905.68 | 4.63 | -0.730 | | | | 41 | | KS82 | 42.5 | | | | | | | | | | | | |
| Fe I | 26.00 | 5916.26 | 2.44 | | | | | | | | | | | | | | | | | | | 32 | |
| Fe I | 26.00 | 5930.20 | 4.63 | -0.230 | | | | 74 | | KS82 | | | | | | | | | | | | 98 | |
| Fe I | 26.00 | 5934.67 | 3.91 | | | | | | | | | | | | | | | | | | | 78 | |
| Fe I | 26.00 | 5956.70 | 0.86 | -4.605 | BGS95 | | | 19 | * | KS82 | | | | | | | | | | | | | |
| Fe I | 26.00 | 5976.79 | 3.93 | | | | | | | | | | | | | | | | | | | 46 | |
| Fe I | 26.00 | 5983.70 | 4.53 | -1.878 | | | | 54 | | KS82 | | | | | | | | | | | | | |
| Fe I | 26.00 | 5984.83 | 4.71 | | | | | | | | | | | | | | | | | | | 90 | |
| Fe I | 26.00 | 5987.07 | 4.77 | -0.556 | | | | 50 | | KS82 | 51.5 | | | | | | | | | | | 82 | |
| Fe I | 26.00 | 6003.00 | 3.86 | -1.120 | | | | 58 | | KS82 | | | | | | | | | | | | 108 | |
| Fe I | 26.00 | 6005.56 | 2.58 | | | | | | | | | | | | | | | | | | | 15 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 6008.00 | 4.63 | -0.966 | | | | 43 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6024.10 | 4.53 | -0.120 | | | | 94 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6027.06 | 4.06 | -1.210 | | | | 48 | | KS82 | 51.5 | | | | | | | | | | | |
| Fe I | 26.00 | 6056.01 | 4.71 | -0.460 | | | | 57 | | KS82 | 58.5 | | | | | | | | | | 86 | |
| Fe I | 26.00 | 6065.49 | 2.60 | -1.530 | | | | 99 | | KS82 | 103 | | | | | | | | | | 105 | |
| Fe I | 26.00 | 6078.50 | 4.77 | -0.424 | | | | 62 | | KS82 | | | | | | | | | | | 92 | |
| Fe I | 26.00 | 6079.00 | 4.63 | -1.120 | | | | 28 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6089.57 | 5.02 | | | | | | | | 18 | | | | | | | | | | | |
| Fe I | 26.00 | 6093.65 | 4.59 | -1.500 | | | | 15 | | KS82 | 15 | | | | | | | | | | | |
| Fe I | 26.00 | 6094.38 | 4.65 | | | | | | | | 8 | | | | | | | | | | | |
| Fe I | 26.00 | 6096.68 | 3.97 | | | | | | | | | | | | | | | | | | 37 | |
| Fe I | 26.00 | 6136.63 | 2.44 | | | | | | | | | | | | | | | | | | 132 | |
| Fe I | 26.00 | 6137.70 | 2.58 | -2.950 | BGS95 | | | | | | 119 | | | | | | | | | | 98 | |
| Fe I | 26.00 | 6151.62 | 2.17 | -3.265 | BK94 | -3.299 | BGS95 | | | | 21 | | | | | | | | | | 42 | |
| Fe I | 26.00 | 6159.38 | 4.61 | | | | | | | | 4 | | | | | | | | | | | |
| Fe I | 26.00 | 6165.36 | 4.14 | | | | | | | | 27 | | | | | 23 | TL78 | | | | | |
| Fe I | 26.00 | 6170.52 | 4.78 | | | | | | | | | | | | | | | | | | 58 | |
| Fe I | 26.00 | 6173.34 | 2.21 | -2.880 | BGS95 | | | | | | 42.5 | | | | | 36 | TL78 | | | | 46 | |
| Fe I | 26.00 | 6180.21 | 2.73 | -2.586 | BK94 | | | | | | | | | | | 27 | TL78 | | | | | |
| Fe I | 26.00 | 6188.00 | 3.94 | | | | | | | | | | | | | 26 | TL78 | | | | 40 | |
| Fe I | 26.00 | 6200.32 | 2.60 | -2.437 | BGS95 | | | | | | 43.5 | | | | | 43 | TL78 | | | | 54 | |
| Fe I | 26.00 | 6213.44 | 2.21 | -2.660 | | | | 57 | | KS82 | 59.5 | | | | | | | | | | 60 | |
| Fe I | 26.00 | 6219.29 | 2.19 | -2.422 | BK94 | -2.433 | BGS95 | 68 | | KS82 | 70.5 | | | | | | | | | | 73 | |
| Fe I | 26.00 | 6229.24 | 2.83 | | | | | | | | | | | | | | | | | | 23 | |
| Fe I | 26.00 | 6230.74 | 2.55 | | | | | | | | | | | | | | | | | | 106 | |
| Fe I | 26.00 | 6232.66 | 3.64 | -1.223 | BK94 | | | | | | | | | | | | | | | | 41 | |
| Fe I | 26.00 | 6246.30 | 3.59 | -0.733 | | | | 89 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6252.56 | 2.39 | -1.687 | | | | 98 | | KS82 | 101 | | | | | | | | | | 105 | |
| Fe I | 26.00 | 6254.25 | 2.27 | | | | | | | | | | | | | | | | | | 88 | |
| Fe I | 26.00 | 6265.14 | 2.17 | -2.550 | BGS95 | | | 62 | | KS82 | 63.5 | | | | | | | | | | 59 | |
| Fe I | 26.00 | 6270.20 | 2.85 | -2.464 | | | | 25 | * | KS82 | | | | | | | | | | | 43 | |
| Fe I | 26.00 | 6297.80 | 2.21 | -2.727 | BK94 | -2.740 | BGS95 | | | | 52.5 | | | | | | | | | | 58 | |
| Fe I | 26.00 | 6301.50 | 3.64 | -0.718 | | | | 91 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6311.51 | 2.82 | -3.141 | BK94 | | | | | | | | | | | | | | | | 14 | |
| Fe I | 26.00 | 6322.70 | 2.58 | -2.426 | BGS95 | | | 45 | | KS82 | | | | | | | | | | | 44 | |
| Fe I | 26.00 | 6335.34 | 2.19 | -2.230 | | | | 77 | | KS82 | 79 | | | | | | | | | | 71 | |
| Fe I | 26.00 | 6336.84 | 3.67 | -0.856 | BK94 | | | | | | | | | | | | | | | | 88 | |
| Fe I | 26.00 | 6344.16 | 2.42 | | | | | | | | | | | | | | | | | | 43 | |
| Fe I | 26.00 | 6355.04 | 2.83 | -2.350 | BK94 | | | | | | | | | | | | | | | | 61 | |
| Fe I | 26.00 | 6393.61 | 2.42 | | | | | | | | 109 | | | | | | | | | | | |
| Fe I | 26.00 | 6400.02 | 3.59 | | | | | | | | | | | | | | | | | | 147 | |
| Fe I | 26.00 | 6408.03 | 3.67 | | | | | | | | | | | | | | | | | | 87 | |
| Fe I | 26.00 | 6411.70 | 3.64 | -0.595 | | | | 96 | | KS82 | | | | | | | | | | | 169 | |
| Fe I | 26.00 | 6420.00 | 4.73 | -0.240 | | | | 71 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6421.36 | 2.27 | | | | | | | | 97 | | | | | | | | | | 144 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe I | 26.00 | 6430.85 | 2.17 | -2.006 | | | | 91 | | KS82 | 93 | | | | | | | | | | 104 | |
| Fe I | 26.00 | 6475.64 | 2.55 | | | | | | | | | | | | | | | | | | 45 | |
| Fe I | 26.00 | 6498.95 | 0.96 | -4.699 | BGS95 | | | 17 | * | KS82 | 18 | | | | | | | | | | | |
| Fe I | 26.00 | 6518.38 | 2.82 | -2.450 | BK94 | | | | | | | | | | | | | | | | 38 | |
| Fe I | 26.00 | 6546.26 | 2.75 | | | | | | | | | | | | | | | | | | 114 | |
| Fe I | 26.00 | 6575.05 | 2.58 | | | | | | | | | | | | | | | | | | 31 | |
| Fe I | 26.00 | 6592.93 | 2.72 | | | | | | | | | | | | | | | | | | 115 | |
| Fe I | 26.00 | 6593.88 | 2.42 | -2.422 | BGS95 | | | 61 | * | KS82 | | | | | | 54 | TL78 | | | | 44 | |
| Fe I | 26.00 | 6609.12 | 2.55 | -2.692 | BGS95 | | | | | | 35.5 | | | | | 30 | TL78 | | | | | |
| Fe I | 26.00 | 6639.73 | 4.59 | | | | | | | | | | | | | | | | | | 15 | |
| Fe I | 26.00 | 6646.98 | 2.60 | | | | | | | | | | | | | | | | | | 8 | |
| Fe I | 26.00 | 6678.01 | 2.68 | | | | | | | | | | | | | | | | | | 124 | |
| Fe I | 26.00 | 6703.57 | 2.75 | | | | | 15 | | KWS5 | 14 | | | | | | | | | | 18 | |
| Fe I | 26.00 | 6705.10 | 4.61 | | | | | 28 | | KWS5 | | | | | | | | | | | | |
| Fe I | 26.00 | 6713.05 | 4.59 | | | | | | | | | | | | | | | | | | 12 | |
| Fe I | 26.00 | 6733.16 | 4.62 | | | | | | | | | | | | | | | | | | 15 | |
| Fe I | 26.00 | 6750.15 | 2.41 | -2.621 | BGS95 | | | | | | 45.5 | | | | | | | | | | 33 | |
| Fe I | 26.00 | 6752.73 | 4.62 | -1.204 | BK94 | | | | | | | | | | | | | | | | 15 | |
| Fe I | 26.00 | 6820.40 | 4.62 | -1.320 | | | | 24 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6843.70 | 4.55 | -0.930 | | | | 41 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6855.20 | 4.54 | -0.485 | | | | 56 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 6945.21 | 2.41 | -2.435 | | -2.482 | BGS95 | 52 | | KS82 | 58.5 | | | | | | | | | | | |
| Fe I | 26.00 | 6999.90 | 4.10 | -1.560 | | | | 33 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 7130.93 | 4.20 | -0.790 | | | | 70 | | KS82 | 71.5 | | | | | | | | | | | |
| Fe I | 26.00 | 7219.70 | 4.06 | -1.690 | | | | 30 | | KS82 | | | | | | | | | | | | |
| Fe I | 26.00 | 7445.76 | 4.26 | | | | | | | | 102 | | | | | | | | | | | |
| Fe I | 26.00 | 7491.65 | 4.30 | | | | | | | | | | | | | 39 | TL78 | | | | | |
| Fe I | 26.00 | 7507.27 | 4.41 | | | | | | | | | | | | | 33 | TL78 | | | | | |
| Fe I | 26.00 | 7746.61 | 5.06 | | | | | | | | | | | | | 10 | TL78 | | | | | |
| Fe I | 26.00 | 7751.12 | 4.99 | | | | | | | | | | | | | 26 | TL78 | | | | | |
| Fe I | 26.00 | 7780.57 | 4.47 | | | | | | | | | | | | | 86 | TL78 | | | | | |
| Fe I | 26.00 | 7802.51 | 5.08 | | | | | | | | | | | | | 8 | TL78 | | | | | |
| Fe I | 26.00 | 7807.92 | 4.99 | | | | | | | | | | | | | 38 | TL78 | | | | | |
| Fe I | 26.00 | 7832.24 | 4.43 | | | | | 98 | | KWS5 | | | | | | | | | | | | |
| Fe I | 26.00 | 8207.75 | 4.44 | | | | | | | | | | | | | 34 | TL78 | | | | | |
| Fe I | 26.00 | 8220.44 | 4.32 | | | | | 124 | | KWS5 | | | | | | | | | | | | |
| Fe I | 26.00 | 8674.76 | 2.83 | | | | | | | | | | | | | 82 | TL78 | | | | | |
| Fe I | 26.00 | 8699.46 | 4.95 | | | | | | | | | | | | | 45 | TL78 | | | | | |
| Fe I | 26.00 | 9800.36 | 5.09 | | | | | 83 | | KWS5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Fe II | 26.01 | 3715.91 | 2.27 | | | | | | | | | | | | | | | | | | 104 | |
| Fe II | 26.01 | 4124.80 | 2.53 | -3.470 | | | | 49 | ** | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 4128.74 | 2.57 | | | | | | | | | | | | | | | | 87 | LS80 | 40 | |
| Fe II | 26.01 | 4178.86 | 2.57 | | | | | | | | | | | | | | | | | | 146 | |
| Fe II | 26.01 | 4233.17 | 2.57 | | | | | | | | | | | | | | | | | | 193 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe II | 26.01 | 4296.58 | 2.69 | | | | | | | | | | | | | | | | | | 108 | |
| Fe II | 26.01 | 4303.18 | 2.69 | | | | | | | | | | | | | | | | | | 117 | |
| Fe II | 26.01 | 4369.41 | 2.77 | | | | | | | | | | | | | | | | | | 47 | |
| Fe II | 26.01 | 4385.39 | 2.77 | | | | | | | | | | | | | | | | | | 106 | |
| Fe II | 26.01 | 4413.60 | | | | | | | | | | | | | | | | | 30 | LS80 | | |
| Fe II | 26.01 | 4416.81 | 2.77 | | | | | | | | | | | | | 137 | LL87 | | | | 112 | |
| Fe II | 26.01 | 4489.19 | 2.82 | | | | | | | | | | | | | | | | | | 89 | |
| Fe II | 26.01 | 4491.41 | 2.84 | | | | | | | | 112 | | | | | 127 | LL87 | | 110 | LS80 | 96 | |
| Fe II | 26.01 | 4508.29 | 2.84 | | | | | | | | | | | | | | | | | | 126 | |
| Fe II | 26.01 | 4515.35 | 2.83 | | | | | | | | | | | | | | | | | | 118 | |
| Fe II | 26.01 | 4520.23 | 2.80 | | | | | | | | | | | | | | | | | | 125 | |
| Fe II | 26.01 | 4522.64 | 2.83 | | | | | | | | | | | | | | | | | | 171 | |
| Fe II | 26.01 | 4541.52 | 2.84 | | | | | | | | | | | | | 109 | LL87 | | | | 76 | |
| Fe II | 26.01 | 4576.33 | 2.83 | | | | | | | | | | | | | 104 | LL87 | | 100 | LS80 | 93 | |
| Fe II | 26.01 | 4582.83 | 2.83 | -3.094 | | | | 85 | | KS82 | 88 | | | | | | | | | | 74 | |
| Fe II | 26.01 | 4583.84 | 2.80 | | | | | | | | | | | | | | | | | | 180 | |
| Fe II | 26.01 | 4620.50 | 2.82 | -3.079 | | | | 78 | | KS82 | | | | | | | | | 79.5 | E65 | 74 | |
| Fe II | 26.01 | 4657.00 | 2.88 | -3.552 | | | | 59 | ** | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 4666.76 | 2.82 | | | | | | | | | | | | | | | | | | 89 | |
| Fe II | 26.01 | 4670.20 | 2.57 | -3.904 | | | | 44 | ** | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 4923.93 | 2.88 | | | | | | | | 218 | | | | | | | | | | 278 | |
| Fe II | 26.01 | 4993.35 | 2.79 | -3.485 | | | | 56 | | KS82 | 55.5 | | | | | | | | | | | |
| Fe II | 26.01 | 5000.70 | 2.77 | -4.398 | | | | 15 | * | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 5018.45 | 2.88 | | | | | | | | | | | | | | | | | | 327 | |
| Fe II | 26.01 | 5100.70 | 2.79 | -4.135 | | | | 34 | ** | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 5132.70 | 2.79 | -3.901 | | | | 33 | * | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 5169.03 | 2.88 | | | | | | | | | | | | | | | | 346.5 | E65 | | |
| Fe II | 26.01 | 5197.58 | 3.22 | | | | | | | | 128.5 | | | | | | | | | | 161 | |
| Fe II | 26.01 | 5234.63 | 3.21 | | | | | | | | 136.5 | | | | | | | | | | 133 | |
| Fe II | 26.01 | 5264.80 | 3.22 | -2.808 | | | | 79 | | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 5276.00 | 3.19 | | | | | | | | | | | | | | | | | | 204 | |
| Fe II | 26.01 | 5325.56 | 3.21 | -3.222 | | | | 74 | | KS82 | 77.5 | | | | | | | | | | 62 | |
| Fe II | 26.01 | 5414.10 | 3.21 | -3.750 | | | | 49 | | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 5425.26 | 3.19 | -3.372 | | | | 67 | | KS82 | 67.5 | | | | | | | | | | 59 | |
| Fe II | 26.01 | 5525.14 | 3.25 | | | | | | | | 24 | | | | | | | | | | | |
| Fe II | 26.01 | 5534.85 | 3.23 | | | | | | | | 103 | | | | | | | | | | | |
| Fe II | 26.01 | 5991.38 | 3.14 | -3.557 | | | | 53 | | KS82 | 57.5 | | | | | 87 | LL87 | | | | | |
| Fe II | 26.01 | 6084.11 | 3.19 | -3.808 | | | | 37 | | KS82 | 38.5 | | | | | | | | | | | |
| Fe II | 26.01 | 6113.30 | 3.21 | -4.158 | | | | 21 | | KS82 | | | | | | 25 | TL78 | | | | | |
| Fe II | 26.01 | 6149.25 | 3.87 | -2.724 | | | | 67 | | KS82 | 66.5 | | | | | 60 | TL78 | | | | 55 | |
| Fe II | 26.01 | 6238.39 | 3.87 | | | | | | | | 74.5 | | | | | | | | | | 67 | |
| Fe II | 26.01 | 6239.96 | 3.87 | | | | | | | | | | | | | | | | | | 28 | |
| Fe II | 26.01 | 6247.57 | 3.88 | | | | | | | | | | | | | | | | | | 66 | |
| Fe II | 26.01 | 6369.50 | 2.88 | -4.253 | | | | 33 | | KS82 | | | | | | 65 | LL87 | | | | | |
| Fe II | 26.01 | 6407.31 | 3.87 | | | | | | | | | | | | | | | | | | 31 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Fe II | 26.01 | 6416.90 | 3.87 | -2.740 | | | | 62 | | KS82 | | | | | | | | | | | 59 | |
| Fe II | 26.01 | 6432.68 | 2.88 | -3.708 | | | | 66 | | KS82 | 67.5 | | | | | 76 | LL87 | | | | | |
| Fe II | 26.01 | 6446.40 | 6.20 | -2.073 | | | | 10 | | KS82 | | | | | | | | | | | | |
| Fe II | 26.01 | 6456.39 | 3.89 | | | | | | | | 104 | | | | | | | | 115.5 | E65 | 171 | |
| Fe II | 26.01 | 7449.34 | 3.89 | | | | | | | | | | | | | 33 | TL78 | | | | | |
| Fe II | 26.01 | 7479.70 | 3.89 | | | | | | | | | | | | | 13 | TL78 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Co I | 27.00 | 3564.95 | 0.58 | | | | | | | | | | | | | | | | 87.3 | E65 | | |
| Co I | 27.00 | 3652.54 | 0.17 | | | | | | | | | | | | | | | | 38.3 | E65 | | |
| Co I | 27.00 | 3755.45 | 2.07 | | | | | | | | | | | | | | | | | | 35 | |
| Co I | 27.00 | 3845.47 | 0.92 | | | | | | | | | | | | | | | | | | 169 | |
| Co I | 27.00 | 4020.90 | 0.43 | | | | | 36 | | KS82 | 36.5 | hf? | | | | | | | 41.3 | E65 | | |
| Co I | 27.00 | 4110.53 | 1.04 | | | | | | | | | | | | | | | | 55.7 | E65 | | |
| Co I | 27.00 | 4121.33 | 0.92 | | | | | | | | | | | | | | | | | | 120 | |
| Co I | 27.00 | 4693.19 | 3.22 | | | | | | | | | | | | | | | | 15 | E65 | | |
| Co I | 27.00 | 4749.70 | 3.05 | | | | | | | | 16.5 | hf? | | | | | | | | | | |
| Co I | 27.00 | 4792.84 | 3.24 | | | | | 13 | | KS82 | 14 | hf? | | | | | | | | | | |
| Co I | 27.00 | 4813.47 | 3.20 | | | | | 22 | | KS82 | 23.5 | hf? | | | | | | | | | 13 | |
| Co I | 27.00 | 4867.88 | 3.10 | | | | | | | | | | | | | | | | | | 16 | |
| Co I | 27.00 | 5212.69 | 3.51 | | | | | | | | 8 | hf? | | | | | | | | | | |
| Co I | 27.00 | 5342.72 | 4.00 | | | | | 16 | | KS82 | 18 | hf? | | | | | | | 26.2 | E65 | | |
| Co I | 27.00 | 5352.04 | 3.58 | | | | | 9 | * | KS82 | 12 | hf? | | | | | | | | | | |
| Co I | 27.00 | 5444.60 | 4.07 | | | | | | | | 8.5 | hf? | | | | | | | | | | |
| Co I | 27.00 | 5454.60 | 4.07 | | | | | | | | 7 | hf? | | | | | | | | | | |
| Co I | 27.00 | 5524.99 | 4.10 | | | | | | | | | | | | | | | | 28.6 | ?E65 | | |
| Co I | 27.00 | 5647.26 | 2.28 | | | | | | | | 5 | hf? | | | | | | | | | | |
| Co I | 27.00 | 6455.02 | 3.62 | | | | | | | | | | | | | | | | | | 14 | |
| Co I | 27.00 | 6632.48 | 2.27 | | | | | | | | | | | | | | | | | | 6 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Co II | 27.01 | 3501.70 | 2.24 | | | | | 93 | ** | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ni I | 28.00 | 3243.06 | 0.03 | | | | | | | | | | | | | | | | 105.4 | E65 | | |
| Ni I | 28.00 | 3320.26 | 0.16 | | | | | | | | | | | | | | | | 97.9 | E65 | | |
| Ni I | 28.00 | 3366.17 | 0.16 | | | | | | | | | | | | | | | | 86.9 | E65 | | |
| Ni I | 28.00 | 3670.43 | 0.16 | | | | | | | | | | | | | | | | 104.3 | E65 | | |
| Ni I | 28.00 | 3775.57 | 0.42 | | | | | | | | | | | | | | | | | | 129 | |
| Ni I | 28.00 | 3807.14 | 0.42 | | | | | | | | | | | | | | | | | | 159 | |
| Ni I | 28.00 | 3831.69 | 0.42 | | | | | | | | | | | | | | | | | | 166 | |
| Ni I | 28.00 | 3858.30 | 0.42 | | | | | | | | | | | | | | | | | | 205 | |
| Ni I | 28.00 | 3912.98 | 0.03 | | | | | | | | | | | | | | | | | | 27 | |
| Ni I | 28.00 | 4437.57 | 3.66 | | | | | | | | | | | | | | | | | | 15 | |
| Ni I | 28.00 | 4462.46 | 3.45 | | | | | | | | | | | | | | | | | | 34 | |
| Ni I | 28.00 | 4519.99 | 1.67 | | | | | | | | | | | | | | | | | | 17 | |
| Ni I | 28.00 | 4605.00 | 3.47 | | | | | | | | | | | | | | | | | | 57 | |
| Ni I | 28.00 | 4648.66 | 3.41 | | | | | | | | | | | | | | | | | | 99 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ni I | 28.00 | 4686.22 | 3.58 | | | | | | | | | | | | | | | | | | 45 | |
| Ni I | 28.00 | 4714.42 | 3.37 | | | | | | | | | | | | | | | | | | 139 | |
| Ni I | 28.00 | 4715.76 | 3.53 | | | | | | | | | | | | | 77 | LL87 | | | | 52 | |
| Ni I | 28.00 | 4732.47 | 4.10 | | | | | | | | 32.5 | | | | | | | | | | 13 | |
| Ni I | 28.00 | 4756.52 | 3.47 | | | | | | | | | | | | | | | | | | 20 | |
| Ni I | 28.00 | 4806.99 | 3.66 | | | | | 42 | | KS82 | 47.5 | | | | | | | | | | 30 | |
| Ni I | 28.00 | 4814.60 | 3.58 | | | | | | | | | | | | | | | | | | 10 | |
| Ni I | 28.00 | 4857.40 | 3.72 | | | | | | | | | | | | | | | | | | 35 | |
| Ni I | 28.00 | 4866.28 | 3.52 | | | | | | | | | | | | | | | | | | 48 | |
| Ni I | 28.00 | 4873.45 | 3.68 | | | | | | | | | | | | | | | | | | 39 | |
| Ni I | 28.00 | 4874.80 | 3.53 | | | | | | | | | | | | | | | | | | 11 | |
| Ni I | 28.00 | 4904.42 | 3.54 | | | | | | | | 75.5 | | | | | | | | | | | |
| Ni I | 28.00 | 4912.03 | 3.77 | | | | | | | | 29 | | | | | | | | | | | |
| Ni I | 28.00 | 4913.98 | 3.73 | | | | | 35 | | KS82 | 39.5 | | | | | | | | | | | |
| Ni I | 28.00 | 4930.80 | 3.85 | | | | | | | | 11 | | | | | | | | | | | |
| Ni I | 28.00 | 4935.83 | 3.92 | | | | | 41 | | KS82 | 44.5 | | | | | | | | | | 31 | |
| Ni I | 28.00 | 4953.21 | 3.72 | | | | | 30 | * | KS82 | 34.5 | | | | | | | | | | 34 | |
| Ni I | 28.00 | 4965.17 | | | | | | | | | | | | | | 71 | LL87 | | | | | |
| Ni I | 28.00 | 4998.23 | 3.59 | | | | | 32 | | KS82 | 36.5 | | | | | | | | 47.4 | E65 | 24 | |
| Ni I | 28.00 | 5000.35 | 3.62 | | | | | | | | | | | | | | | | | | 53 | |
| Ni I | 28.00 | 5010.94 | 3.62 | | | | | 27 | | KS82 | 29.5 | | | | | | | | 39.9 | E65 | 22 | |
| Ni I | 28.00 | 5017.59 | 3.52 | | | | | | | | | | | | | | | | | | 65 | |
| Ni I | 28.00 | 5035.37 | 3.62 | | | | | 90 | | KS82 | 96 | | | | | | | | | | | |
| Ni I | 28.00 | 5042.19 | 3.64 | | | | | 45 | | KS82 | 49 | | | | | | | | | | | |
| Ni I | 28.00 | 5048.07 | 3.82 | | | | | | | | | | | | | | | | | | 23 | |
| Ni I | 28.00 | 5081.12 | 3.85 | | | | | | | | 89 | | | | | | | | | | | |
| Ni I | 28.00 | 5082.35 | 3.64 | | | | | | | | | | | | | | | | 46.5 | E65 | 32 | |
| Ni I | 28.00 | 5084.11 | 3.66 | | | | | 78 | | KS82 | 83 | | | | | | | | | | 62 | |
| Ni I | 28.00 | 5088.54 | 3.85 | | | | | | | | 17 | | | | | | | | | | | |
| Ni I | 28.00 | 5094.42 | 3.82 | | | | | 16 | | KS82 | 18 | | | | | | | | | | | |
| Ni I | 28.00 | 5115.40 | 3.82 | | | | | 58 | | KS82 | 63.5 | | | | | | | | 72.4 | E65 | 52 | |
| Ni I | 28.00 | 5130.38 | 3.82 | | | | | | | | | | | | | | | | | | 11 | |
| Ni I | 28.00 | 5155.13 | 3.90 | | | | | | | | 33.5 | | | | | | | | | | | |
| Ni I | 28.00 | 5155.77 | 3.88 | | | | | | | | | | | | | | | | | | 52 | |
| Ni I | 28.00 | 5157.98 | 3.61 | | | | | | | | 7 | | | | | | | | | | | |
| Ni I | 28.00 | 5176.56 | 3.88 | | | | | | | | | | | | | | | | 42.4 | E65 | 50 | |
| Ni I | 28.00 | 5176.57 | 3.90 | | | | | | | | 42.5 | | | | | | | | | | | |
| Ni I | 28.00 | 5435.87 | 1.99 | | | | | 24 | | KS82 | 26 | | | | | | | | | | 22 | |
| Ni I | 28.00 | 5462.50 | 3.83 | | | | | 25 | | KS82 | 27 | | | | | | | | | | | |
| Ni I | 28.00 | 5578.73 | 1.68 | | | | | 23 | * | KS82 | 24.5 | | | | | | | | | | 15 | |
| Ni I | 28.00 | 5589.37 | 3.88 | | | | | 14 | | KS82 | 16.5 | | | | | | | | | | | |
| Ni I | 28.00 | 5593.75 | 3.88 | | | | | 23 | | KS82 | 27 | | | | | | | | | | | |
| Ni I | 28.00 | 5614.78 | 4.14 | | | | | | | | | | | | | | | | | | 22 | |
| Ni I | 28.00 | 5625.33 | 4.07 | | | | | 24 | | KS82 | 25 | | | | | | | | | | 22 | |
| Ni I | 28.00 | 5628.35 | 4.09 | | | | | | | | 9 | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ni I | 28.00 | 5641.89 | 4.09 | | | | | 14 | | KS82 | 16 | | | | | | | | | | | |
| Ni I | 28.00 | 5669.95 | 4.25 | | | | | | | | | | | | | | | | | | 17 | |
| Ni I | 28.00 | 5682.20 | 4.10 | | | | | 39 | | KS82 | | | | | | | | | | | | |
| Ni I | 28.00 | 5748.36 | 1.68 | | | | | | | | 8.5 | | | | | | | | | | | |
| Ni I | 28.00 | 5754.67 | 1.93 | | | | | | | | 45.5 | | | | | | | | | | | |
| Ni I | 28.00 | 5760.84 | 4.09 | | | | | 18 | | KS82 | 21 | | | | | | | | | | 39 | |
| Ni I | 28.00 | 5805.23 | 4.17 | | | | | 26 | | KS82 | 30 | | | | | | | | | | | |
| Ni I | 28.00 | 5892.89 | 1.98 | | | | | | | | | | | | | | | | | | 69 | |
| Ni I | 28.00 | 5996.75 | 4.22 | | | | | | | | | | | | | | | | | | 16 | |
| Ni I | 28.00 | 6086.29 | 4.25 | | | | | 24 | | KS82 | 27 | | | | | | | | | | 23 | |
| Ni I | 28.00 | 6108.13 | 1.68 | | | | | 30 | | KS82 | 32.5 | | | | | | | | | | | |
| Ni I | 28.00 | 6111.08 | 4.09 | | | | | 18 | | KS82 | 21 | | | | | | | | | | 24 | |
| Ni I | 28.00 | 6130.14 | 4.26 | | | | | 12 | | KS82 | 14 | | | | | | | | | | 13 | |
| Ni I | 28.00 | 6133.97 | 4.07 | | | | | | | | | | | | | | | | | | 10 | |
| Ni I | 28.00 | 6176.82 | 4.09 | | | | | | | | 49.5 | | | | | | | | | | 56 | |
| Ni I | 28.00 | 6186.73 | 4.09 | | | | | | | | | | | | | | | | | | 20 | |
| Ni I | 28.00 | 6191.19 | 1.68 | | | | | | | | 44.5 | | | | | | | | | | | |
| Ni I | 28.00 | 6204.61 | 4.09 | | | | | | | | 12 | | | | | | | | | | | |
| Ni I | 28.00 | 6223.99 | 4.10 | | | | | | | | 14 | | | | | | | | | | 11 | |
| Ni I | 28.00 | 6322.17 | 4.14 | | | | | | | | | | | | | | | | | | 9 | |
| Ni I | 28.00 | 6327.60 | 1.68 | | | | | 12 | | KS82 | 13 | | | | | | | | | | | |
| Ni I | 28.00 | 6360.83 | 4.15 | | | | | | | | | | | | | | | | | | 22 | |
| Ni I | 28.00 | 6366.50 | 4.15 | | | | | | | | | | | | | | | | | | 25 | |
| Ni I | 28.00 | 6378.26 | 4.14 | | | | | 15 | | KS82 | 18 | | | | | | | | | | | |
| Ni I | 28.00 | 6482.81 | 1.93 | | | | | 14 | * | KS82 | 13 | | | | | | | | | | | |
| Ni I | 28.00 | 6532.89 | 1.93 | | | | | | | | | | | | | | | | | | 24 | |
| Ni I | 28.00 | 6598.62 | 4.22 | | | | | | | | | | | | | | | | | | 16 | |
| Ni I | 28.00 | 6635.14 | 4.42 | | | | | | | | 18 | | | | | | | | | | 18 | |
| Ni I | 28.00 | 6643.64 | 1.68 | | | | | 59 | | KS82 | 64.5 | | | | | | | | | | | |
| Ni I | 28.00 | 6767.78 | 1.83 | | | | | 54 | | KS82 | 58.5 | | | | | | | | | | | |
| Ni I | 28.00 | 6772.32 | 3.66 | | | | | | | | 34.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ni II | 28.01 | 3769.46 | 3.09 | | | | | | | | | | | | | | | | | | 95 | |
| Ni II | 28.01 | 4362.10 | 4.01 | | | | | | | | | | | | | | | | | | 15 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Cu I | 29.00 | 3273.96 | 0.00 | | | | | | | | | | | | | | | | 130.2 | E65 | | |
| Cu I | 29.00 | 5105.50 | 1.38 | | | | | 50 | * | KS82 | 48.5 | hf? | | | | | | | 62 | E65 | 49 | |
| Cu I | 29.00 | 5218.07 | 3.80 | | | | | 36 | | KS82 | 38 | hf? | | | | | | | | | | |
| Cu I | 29.00 | 5218.20 | 3.80 | | | | | | | | | | | | | | | | 65.1 | ?e65 | | |
| Cu I | 29.00 | 5782.10 | 1.64 | | | | | 30 | | KS82 | 31.5 | hf? | | | | 38 | LL87 | | 37.4 | E65 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Cu II | 29.01 | 3788.70 | 0.10 | | | | | | | | | | | | | | | | | | 127 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Zn I | 30.00 | 4722.16 | 4.03 | | | | | 64 | | KS82 | 65.5 | | | | | 68 | LL87 | | 70.2 | E65 | 76 | |
| Zn I | 30.00 | 4810.54 | 4.08 | | | | | 67 | * | KS82 | 73.5 | | | | | | | | 99.2 | E65 | 71 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zn I | 30.00 | 6362.35 | 5.79 | | | | | 22 | * | KS82 | 23.5 | | | | | | | | | | 32 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Sr I | 38.00 | 4607.34 | 0.00 | | | | | 25 | * | KS82 | 27 | | | | | | | | | | 20 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Sr II | 38.01 | 4077.72 | 0.00 | | | | | 339 | ** | KS82 | 366 | | | | | 379.2 | E65 | | 219 | LS80 | 340 | |
| Sr II | 38.01 | 4161.80 | 2.94 | | | | | 53 | * | KS82 | 53.5 | | | | | | | | 67 | LS80 | | |
| Sr II | 38.01 | 4215.52 | 0.00 | | | | | | | | | | | | | 274.1 | E65 | | 215 | LS80 | 287 | |
| Sr II | 38.01 | 10327.31 | 1.84 | | | | | | | | 146.5 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Y II | 39.01 | 3710.30 | 0.18 | | | | | | | | | | | | | | | | | | 131 | |
| Y II | 39.01 | 3747.55 | 0.10 | | | | | | | | | | | | | | | | | | 54 | |
| Y II | 39.01 | 3774.33 | 0.13 | | | | | | | | | | | | | | | | 108.2 | E65 | | |
| Y II | 39.01 | 3774.33 | 0.13 | | | | | | | | | | | | | | | | | | 130 | |
| Y II | 39.01 | 3950.35 | 0.10 | | | | | | | | | | | | | | | | | | 94 | |
| Y II | 39.01 | 3950.36 | | | | | | | | | | | | | | 115 | LL87 | | | | | |
| Y II | 39.01 | 3982.59 | 0.13 | | | | | | | | | | | | | | | | 104.1 | E65 | | |
| Y II | 39.01 | 4398.02 | 0.13 | | | | | 61 | | KS82 | 64.5 | | | | | | | | | | | |
| Y II | 39.01 | 4883.69 | 1.08 | | | | | | | | 81.5 | | | | | | | | | | 114 | |
| Y II | 39.01 | 4900.12 | 1.03 | | | | | 76 | ** | KS82 | 82 | | | | | | | | | | | |
| Y II | 39.01 | 4982.14 | 1.03 | | | | | 15 | ** | KS82 | 16 | | | | | | | | | | | |
| Y II | 39.01 | 5087.43 | 1.08 | | | | | 68 | | KS82 | 71.5 | | | | | | | | 73.6 | E65 | 61 | |
| Y II | 39.01 | 5119.12 | 0.99 | | | | | 13 | * | KS82 | 12.5 | | | | | | | | | | | |
| Y II | 39.01 | 5123.22 | 0.99 | | | | | 34 | ** | KS82 | 35.5 | | | | | | | | | | | |
| Y II | 39.01 | 5200.42 | 0.99 | | | | | 49 | | KS82 | 52.5 | | | | | | | | 73.4 | E65 | 50 | |
| Y II | 39.01 | 5402.78 | 1.84 | | | | | 18 | | KS82 | 19 | | | | | | | | | | | |
| Y II | 39.01 | 5521.59 | 1.73 | | | | | | | | | | | | | | | | | | 9 | |
| Y II | 39.01 | 5544.62 | 1.73 | | | | | | | | | | | | | | | | | | 10 | |
| Y II | 39.01 | 5546.04 | 1.74 | | | | | | | | | | | | | | | | | | 8 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Zr II | 40.01 | 3430.50 | 0.47 | | | | | 64 | * | KS82 | | | | | | | | | | | | |
| Zr II | 40.01 | 3714.77 | 0.52 | | | | | | | | | | | | | | | | | | 35 | |
| Zr II | 40.01 | 3751.60 | 0.97 | | | | | | | | | | | | | | | | | | 56 | |
| Zr II | 40.01 | 4050.33 | 0.71 | | | | | 26 | | KS82 | 28 | | | | | | | | | | | |
| Zr II | 40.01 | 4150.97 | | | | | | | | | | | | | | 34 | LL87 | | | | | |
| Zr II | 40.01 | 4208.99 | 0.71 | | | | | 52 | ** | KS82 | 61 | | | | | | | | 55.7 | E65 | 44 | |
| Zr II | 40.01 | 4211.88 | 0.52 | | | | | | | | | | | | | | | | 52.4 | E65 | 33 | |
| Zr II | 40.01 | 4317.32 | 0.71 | | | | | | | | 20 | | | | | 20 | LL87 | | | | | |
| Zr II | 40.01 | 4379.77 | 1.53 | | | | | 34 | * | KS82 | 36.5 | | | | | 42 | LL87 | | | | | |
| Zr II | 40.01 | 4613.95 | 0.97 | | | | | | | | | | | | | | | | 21.1 | E65 | 9 | |
| Zr II | 40.01 | 5112.28 | 1.66 | | | | | 11 | * | KS82 | 12 | | | | | | | | 26.7 | E65 | 8 | |
| Zr II | 40.01 | 5311.78 | 1.75 | | | | | | | | | | | | | | | | 12.4 | ?e65 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Nb I | 41.00 | 4606.80 | 0.35 | | | | | < 1 | | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Nb II | 41.01 | 3163.40 | 0.37 | | | | | | | | | | | | | | | | 58.3 | E65 | | |

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| Ru I | 44.00 | 3436.70 | 0.15 | | | | | 2 | ** | KS82 | | | | | | | | | | | | |
| Ru I | 44.00 | 3498.90 | 0.00 | | | | | 5 | ** | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Pd I | 46.00 | 3404.60 | 0.81 | | | | | 6 | ** | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ba II | 56.01 | 4130.66 | 2.72 | | | | | 50 | ** | KS82 | 54.5 | | | | | | | | | | | |
| Ba II | 56.01 | 4554.03 | 0.00 | | | | | 182 | | KS82 | 188 | hf? | | | | 196 | LL87 | | 194 | E65 | 208 | |
| Ba II | 56.01 | 4934.09 | 0.00 | | | | | | | | | | | | | | | | 230.7 | E65 | 231 | |
| Ba II | 56.01 | 5853.69 | 0.60 | | | | | 79 | | KS82 | 83 | | | | | | | | 87.7 | E65 | 103 | |
| Ba II | 56.01 | 6141.70 | 0.70 | | | | | 144 | | KS82 | | | | | | 194 | LL87 | | | | 156 | |
| Ba II | 56.01 | 6496.91 | 0.60 | | | | | 137 | | KS82 | 142.5 | | | | | | | | | | 191 | |
| | | | | | | | | | | | | | | | | | | | | | | |
| La II | 57.01 | 3864.49 | 3.53 | | | | | | | | | | | | | | | | | | 28 | |
| La II | 57.01 | 3988.52 | 0.40 | | | | | | | | | | 45 | KS86 | hf | | | | 45.5 | E65 | | |
| La II | 57.01 | 3995.75 | 0.17 | | | | | > 37 | | KS82 | | | 36 | KS86 | hf | | | | | | | |
| La II | 57.01 | 4042.91 | 0.92 | | | | | 21 | | KS82 | | | 19 | KS86 | | | | | | | | |
| La II | 57.01 | 4086.72 | 0.00 | | | | | | | | | | 40 | KS86 | | 24 | LL87 | | 51.5 | E65 | | |
| La II | 57.01 | 4238.38 | | | | | | | | | | | | | | 51 | LL87 | | | | | |
| La II | 57.01 | 4322.51 | 0.17 | | | | | | | | | | 12 | KS86 | hf | 16 | LL87 | | | | 4 | |
| La II | 57.01 | 4333.74 | 0.17 | | | | | | | | | | 37 | KS86 | hf | | | | 39.3 | E65 | 24 | |
| La II | 57.01 | 4522.37 | 1.24 | | | | | | | | | | 9 | KS86 | | | | | | | | |
| La II | 57.01 | 4559.28 | 0.77 | | | | | | | | | | | | | | | | 10.7 | ?e65 | | |
| La II | 57.01 | 4662.51 | 0.00 | | | | | 7 | | KS82 | 8 | | 6 | KS86 | | | | | | | | |
| La II | 57.01 | 4748.74 | 0.93 | | | | | | | | 7 | | 5 | KS86 | | | | | | | | |
| La II | 57.01 | 4804.04 | 0.23 | | | | | | | | | | | | | | | | | | 5 | |
| La II | 57.01 | 5123.01 | 0.32 | | | | | 9 | ** | KS82 | 12 | | 8 | KS86 | | | | | | | | |
| La II | 57.01 | 5805.77 | 0.13 | | | | | | | | | | | | | | | | | | 22 | |
| La II | 57.01 | 5863.70 | 0.92 | | | | | | | | | | | | | | | | 9.7 | ?e65 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Ce II | 58.01 | 3781.62 | 0.53 | | | | | | | | | | | | | | | | 52 | E65 | | |
| Ce II | 58.01 | 3781.62 | | | | | | | | | | | | | | | | | | | 61 | |
| Ce II | 58.01 | 3803.10 | | | | | | | | | | | | | | | | | | | 21 | |
| Ce II | 58.01 | 3870.87 | | | | | | | | | | | | | | | | | | | 75 | |
| Ce II | 58.01 | 3909.31 | 0.44 | | | | | | | | | | | | | | | | | | 12 | |
| Ce II | 58.01 | 4042.59 | 0.50 | | | | | 9 | ** | KS82 | 9 | | 10 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4068.84 | 0.70 | | | | | | | | | | 4 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4073.48 | 0.47 | | | | | | | | | | 17 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4081.22 | 0.47 | | | | | | | | | | | | | | | | 47 | E65 | | |
| Ce II | 58.01 | 4083.23 | 0.69 | | | | | | | | | | 19 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4165.61 | | | | | | | | | | | | | | 64 | LL87 | | | | | |
| Ce II | 58.01 | 4364.66 | 0.49 | | | | | | | | | | 9 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4382.17 | 0.20 | | | | | 8 | ** | KS82 | 8 | | 10 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4399.20 | | | | | | | | | | | | | | 31 | LL87 | | | | | |
| Ce II | 58.01 | 4418.78 | | | | | | | | | | | | | | 47 | LL87 | | | | | |

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| Ce II | 58.01 | 4479.39 | 0.56 | | | | | 14 | ** | KS82 | 20 | | | | | | | | | | | |
| Ce II | 58.01 | 4486.91 | 0.30 | | | | | 10 | ** | KS82 | 15.5 | | 11 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4523.08 | 0.52 | | | | | 10 | ** | KS82 | 13.5 | | 12 | KS86 | | | | | | | | |
| Ce II | 58.01 | 4560.96 | 0.67 | | | | | | | | | | | | | | | | 27.9 | ?e65 | | |
| Ce II | 58.01 | 4562.37 | 0.00 | | | | | 18 | | KS82 | 19.5 | | 17 | KS86 | | | | | 23.8 | E65 | | |
| Ce II | 58.01 | 4628.16 | 0.04 | | | | | 14 | | KS82 | 16.5 | | 13 | KS86 | | | | | 18.8 | E65 | | |
| Ce II | 58.01 | 4684.61 | | | | | | | | | | | | | | 30 | LL87 | | | | | |
| Ce II | 58.01 | 4773.96 | 0.92 | | | | | 8 | | KS82 | 7 | | 8 | KS86 | | 38 | LL87 | | | | | |
| Ce II | 58.01 | 5187.45 | 1.20 | | | | | | | | | | 6 | KS86 | | | | | | | | |
| Ce II | 58.01 | 5274.20 | 0.56 | | | | | 8 | ** | KS82 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Pr II | 59.01 | 3994.83 | 0.05 | | | | | | | | | | 9 | KS86 | hf | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Nd II | 60.01 | 3784.25 | | | | | | | | | | | | | | | | | 10.9 | E65 | | |
| Nd II | 60.01 | 3822.47 | | | | | | | | | | | | | | | | | | | 46 | |
| Nd II | 60.01 | 3851.75 | 0.18 | | | | | | | | | | | | | | | | | | 23 | |
| Nd II | 60.01 | 3863.41 | 0.00 | | | | | | | | | | | | | | | | | | 37 | |
| Nd II | 60.01 | 3866.80 | | | | | | | | | | | | | | | | | | | 75 | |
| Nd II | 60.01 | 4021.34 | 0.32 | | | | | 8 | ** | KS82 | 8.5 | | 7 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4023.01 | 0.20 | | | | | 10 | ** | KS82 | 7 | | 11 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4059.96 | 0.20 | | | | | | | | | | 6 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4061.09 | | | | | | | | | | | | | | 33 | LL87 | | 55.7 | E65 | | |
| Nd II | 60.01 | 4069.28 | 0.06 | | | | | | | | | | 7 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4109.46 | 0.32 | | | | | | | | | | | | | | | | 39.4 | ?e65 | | |
| Nd II | 60.01 | 4303.58 | | | | | | | | | | | | | | 50 | LL87 | | | | | |
| Nd II | 60.01 | 4358.17 | | | | | | | | | | | | | | 13 | LL87 | | | | | |
| Nd II | 60.01 | 4446.40 | 0.20 | | | | | 6 | ** | KS82 | | | 7 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4462.99 | 0.56 | | | | | 10 | ** | KS82 | | | 11 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4797.16 | 0.56 | | | | | | | | | | | | | | | | 21 | ?e65 | | |
| Nd II | 60.01 | 4811.35 | 0.60 | | | | | 4 | ** | KS82 | 5 | | 5 | KS86 | | | | | | | | |
| Nd II | 60.01 | 4820.34 | 0.20 | | | | | | | | | | | | | | | | 23.4 | ?e65 | | |
| Nd II | 60.01 | 4959.13 | 0.06 | | | | | | | | | | | | | | | | 24.3 | E65 | | |
| Nd II | 60.01 | 5092.80 | 0.38 | | | | | 4 | ** | KS82 | 4.5 | | 5 | KS86 | | | | | | | | |
| Nd II | 60.01 | 5179.80 | 0.74 | | | | | 4 | ** | KS82 | | | 4 | KS86 | | | | | | | | |
| Nd II | 60.01 | 5293.17 | 0.81 | | | | | | | | | | 8 | KS86 | | | | | | | | |
| Nd II | 60.01 | 5319.82 | 0.55 | | | | | 7 | ** | KS82 | 8.5 | | 7 | KS86 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Sm II | 62.01 | 3780.76 | | | | | | | | | | | | | | | | | | | 84 | |
| Sm II | 62.01 | 4318.94 | 0.27 | | | | | | | | | | 7 | KS86 | | | | | | | | |
| Sm II | 62.01 | 4420.53 | 0.33 | | | | | | | | | | 4 | KS86 | | | | | | | | |
| Sm II | 62.01 | 4434.32 | | | | | | | | | | | | | | 29 | LL87 | | | | | |
| Sm II | 62.01 | 4467.34 | 0.65 | | | | | | | | | | 11 | KS86 | hf | 43 | LL87 | | | | | |
| Sm II | 62.01 | 4519.64 | 0.54 | | | | | 4 | ** | KS82 | 4.5 | | 4 | KS86 | hf | | | | | | | |
| Sm II | 62.01 | 4537.97 | 0.48 | | | | | 3 | ** | KS82 | 3.5 | | 4 | KS86 | | | | | | | | |
| Sm II | 62.01 | 4566.23 | 0.33 | | | | | 3 | ** | KS82 | 5.5 | | 5 | KS86 | hf | | | | | | | |

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| Sm II | 62.01 | 4577.69 | 0.24 | | | | | | | | | | 3 | KS86 | | | | | | | | |
| Sm II | 62.01 | 4615.69 | 0.19 | | | | | | | | | | | | | | | | 32.8 | ?e65 | | |
| Sm II | 62.01 | 4704.40 | 0.00 | | | | | | | | | | | | | | | | 14.3 | ?e65 | | |
| Sm II | 62.01 | 4719.86 | 0.04 | | | | | 3 | ** | KS82 | 5 | | 5 | KS86 | hf | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Eu I | 63.00 | 4627.22 | 0.00 | | | | | | | | | | | | | | | | 13.9 | ?e65 | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Eu II | 63.01 | 3724.94 | 0.00 | | | | | | | | | | 26 | KS86 | hf | | | | | | | |
| Eu II | 63.01 | 3724.94 | 0.00 | | | | | | | | | | | | | | | | | | 36 | |
| Eu II | 63.01 | 3819.67 | 0.00 | | | | | | | | | | | | | | | | | | 171 | |
| Eu II | 63.01 | 3907.10 | 0.20 | | | | | | | | | | 22 | KS86 | hf | | | | | | | |
| Eu II | 63.01 | 4129.70 | 0.00 | | | | | 38 | ** | KS82 | 45 | hf? | 48 | KS86 | hf | 59 | LL87 | | 58 | LS80 | 57.4 | E65 |
| Eu II | 63.01 | 4491.40 | | | | | | | | | | | | | | | | | 110 | LS80 | | |
| Eu II | 63.01 | 4576.33 | | | | | | | | | | | | | | | | | 100 | LS80 | | |
| Eu II | 63.01 | 6437.72 | 1.31 | | | | | < 8 | | KS82 | 10 | hf? | 8 | KS86 | hf | | | | | | | |
| Eu II | 63.01 | 6645.15 | 1.38 | | | | | | | | 9 | hf? | 6 | KS86 | hf | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Gd II | 64.01 | 3549.36 | 0.23 | | | | | | | | | | 15 | KS86 | | | | | | | | |
| Gd II | 64.01 | 3712.70 | 0.38 | | | | | | | | | | 10 | KS86 | | | | | | | | |
| Gd II | 64.01 | 3763.00 | 0.24 | | | | | | | | | | | | | | | | 59.8 | ?e65 | | |
| Gd II | 64.01 | 3763.00 | 0.24 | | | | | | | | | | | | | | | | | | 48 | |
| Gd II | 64.01 | 3768.39 | 0.08 | | | | | | | | | | | | | | | | 36.7 | ?e65 | | |
| Gd II | 64.01 | 3894.70 | 0.00 | | | | | | | | | | 8 | KS86 | | | | | | | | |
| Gd II | 64.01 | 3916.51 | 0.59 | | | | | | | | | | 8 | KS86 | | | | | | | | |
| Gd II | 64.01 | 4085.56 | 0.72 | | | | | | | | | | 8 | KS86 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Tb II | 65.01 | 3658.86 | 0.13 | | | | | | | | | | 3 | KS86 | hf | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| Dy II | 66.01 | 3407.79 | 0.00 | | | | | 37 | ** | KS82 | | | 23 | KS86 | | | | | | | | |
| Dy II | 66.01 | 3434.40 | 0.00 | | | | | 7 | ** | KS82 | | | | | | | | | | | | |
| Dy II | 66.01 | 3506.81 | 0.10 | | | | | 22 | ** | KS82 | | | 15 | KS86 | | | | | | | | |
| Dy II | 66.01 | 3550.20 | 0.59 | | | | | 24 | ** | KS82 | | | | | | | | | | | | |
| Dy II | 66.01 | 3563.20 | 0.10 | | | | | 9 | ** | KS82 | | | | | | | | | | | | |
| Dy II | 66.01 | 3672.31 | 0.58 | | | | | | | | | | 4 | KS86 | | | | | | | | |
| Dy II | 66.01 | 3694.81 | 0.10 | | | | | 18 | ** | KS82 | | | 15 | KS86 | | | | | | | | |
| Dy II | 66.01 | 4073.15 | 0.54 | | | | | 8 | ** | KS82 | | | 6 | KS86 | | | | | | | | |
| Dy II | 66.01 | 5192.87 | | | | | | | | | | | | | | | | | 46.7 | ?e65 | | |
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| Er II | 68.01 | 3385.08 | 0.05 | | | | | | | | | | 12 | KS86 | | | | | | | | |
| Er II | 68.01 | 3896.25 | 0.05 | | | | | | | | | | 17 | KS86 | | | | | | | | |
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| Tm II | 69.01 | 3462.20 | 0.00 | | | | | | | | | | 10 | KS86 | | | | | | | | |
| Tm II | 69.01 | 3700.26 | 0.02 | | | | | | | | | | 4 | KS86 | | | | | | | | |
| Tm II | 69.01 | 3701.36 | 0.00 | | | | | | | | | | 4 | KS86 | | | | | | | | |
| Tm II | 69.01 | 3795.76 | 0.02 | | | | | | | | | | 7 | KS86 | | | | | | | | |

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| Yb II | 70.01 | 3694.19 | 0.00 | | | | | | | | | | 72 | KS86 | | | | | | | | |
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| Lu II | 71.01 | 3397.07 | 1.45 | | | | | | | | | | 10 | KS86 | | | | | | | | |
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| Os I | 76.00 | 3528.60 | 0.00 | | | | | < 1 | | KS82 | | | | | | | | | | | | |
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| CH | 601.00 | 4223.09 | | | | | | | | | | | | | | 11.7 | TL78 | | | | | |
| CH | 601.00 | 4223.48 | | | | | | | | | | | | | | 22.3 | TL78 | dbl | | | | |
| CH | 601.00 | 4355.71 | | | | | | | | | | | | | | 6.9 | TL78 | | | | | |
| CH | 601.00 | 4356.38 | | | | | | | | | | | | | | 9.1 | TL78 | | | | | |
| CH | 601.00 | 4356.62 | | | | | | | | | | | | | | 8.7 | TL78 | | | | | |
| CH | 601.00 | 4360.30 | | | | | | | | | | | | | | 10.8 | TL78 | | | | | |
| CH | 601.00 | 4377.25 | | | | | | | | | | | | | | 20.4 | TL78 | trpl | | | | |
| CH | 601.00 | 4378.24 | | | | | | | | | | | | | | 18.8 | TL78 | dbl | | | | |
| CH | 601.00 | 4378.92 | | | | | | | | | | | | | | 9.4 | TL78 | | | | | |
| CH | 601.00 | 4380.08 | | | | | | | | | | | | | | 18 | TL78 | | | | | |
| CH | 601.00 | 4380.73 | | | | | | | | | | | | | | 30.9 | TL78 | 4lin | | | | |
| CH | 601.00 | 4386.10 | | | | | | | | | | | | | | 7 | TL78 | | | | | |
| CH | 601.00 | 4388.90 | | | | | | | | | | | | | | 10.5 | TL78 | | | | | |

| Rem |
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| 601 = CH |

| Ref | | K88 |
|---|---|---|
| KS82 | Kato and Sadakane | KS86 |
| S85 | Steffen (1985) = ref. No. 1375 | |
| KS86 | Kato and Sadakane (1986) | |
| K88 | Kato (1988) Thesis | |
| TL78 | Tomkin and Lambert (1978) | |
| A87 | Atlas (1987) | |
| LS80 | Leushin and Sokolov (1980) | |
| TW95 | Tomkin, Woolf, and Lambert (1995) No.1407 | |
| LL87 | Lane and Lester (1987) No.1281 | |
| E65 | Edmonds (1965) = No.1276 | |
| W48 | Wright(1948) Pub. Dominion Astropys. Obs. 8, 1 | |
| NE92 | Nissen and Edvardsson(1992) A&A 261, 255 = ref No. 803 | |
| KWS5 | Kato, Watanabe, and Sadakane (1995) PASP submit | |

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| FGVF | Faraggiana, Gerbaldi, van't Veer, and Floquet(1988) A&A 201, 259 = ref. No.1132 |

gf Ref:

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| BK94 | Bard and Kock (1994) A&A 282, 1014 = ref. No. 1038 |