Table 2. Effective collision strengths and A-values. In this table all data pertain to fine structure transitions; however, in cases where the fine structure collision strengths are not available the total LS multiplet value is listed under the FIRST fine structure transition within the multiplet, followed by blanks for the other transitions in the multiplet.

Ion	Transition	λ (Å)	$A(\mathrm{sec}^{-1})$	$\Upsilon(T \times 10^4\mathrm{K})$			
				$T = 0.5$	1.0	1.5	2.0
H I	$1s - 2s$	1215.67	$8.23 + 0$	$2.55 - 1$	$2.74 - 1$	$2.81 - 1$	$2.84 - 1$
	$1s - 2p$	1215.66	$6.265 + 8$	$4.16 - 1$	$4.72 - 1$	$5.28 - 1$	$5.85 - 1$
He I	$1^1S - 2^3S$	625.48	$1.13 - 4$	$6.50 - 2$	$6.87 - 2$	$6.81 - 2$	$6.72 - 2$
	$1^1S - 2^1S$	601.30	$5.13 + 1$	$3.11 - 2$	$3.61 - 2$	$3.84 - 2$	$4.01 - 2$
	$1^1S - 2^3P^o$	591.29	$1.76 + 2$	$1.60 - 2$	$2.27 - 2$	$2.71 - 2$	$3.07 - 2$
	$1^1S - 2^1P^o$	584.21	$1.80 + 9$	$9.92 - 3$	$1.54 - 2$	$1.98 - 2$	$2.40 - 2$
	$2^3S - 2^1S$	15553.7	$1.51 - 7$	$2.24 + 0$	$2.40 + 0$	$2.32 + 0$	$2.20 + 0$
	$2^3S - 2^3P^o$	10817.0	$1.02 + 7$	$1.50 + 1$	$2.69 + 1$	$3.74 + 1$	$4.66 + 1$
	$2^3S - 2^1P^o$	8854.5	$1.29 + 0$	$7.70 - 1$	$9.75 - 1$	$1.05 + 0$	$1.08 + 0$
	$2^1S - 2^3P^o$	35519.5	$2.70 - 2$	$1.50 + 0$	$1.70 + 0$	$1.74 + 0$	$1.72 + 0$
	$2^1S - 2^1P^o$	20557.7	$1.98 + 6$	$9.73 + 0$	$1.86 + 1$	$2.58 + 1$	$3.32 + 1$
	$2^3P^o - 2^1P^o$	48804.3	$--$	$1.45 + 0$	$2.07 + 0$	$2.40 + 0$	$2.60 + 0$
He II	$1s - 2s$	303.92	$5.66 + 2$	$1.60 - 1$	$1.59 - 1$	$1.57 - 1$	$1.56 - 1$
	$1s - 2p$	303.92	$1.0 + 10$	$3.40 - 1$	$3.53 - 1$	$3.63 - 1$	$3.73 - 1$
Li II	$1^1S - 2^3S$	210.11	$2.039 - 2$	$5.54 - 2$	$5.49 - 2$	$5.43 - 2$	$5.38 - 2$
	$1^1S - 2^1S$	$--$	$1.95 + 3$	$3.81 - 2$	$3.83 - 2$	$3.85 - 2$	$3.86 - 2$
	$1^1S - 2^3P^o$	202.55	$3.289 - 7$	$9.07 - 2$	$9.17 - 2$	$9.26 - 2$	$9.34 - 2$
	$1^1S - 2^1P^o$	199.30	$2.56 + 2$	$3.82 - 2$	$4.05 - 2$	$4.28 - 2$	$4.50 - 2$
C I	$^1D_2 - ^3P_0$	9811.03	$7.77 - 8$	$6.03 - 1$	$1.14 + 0$	$1.60 + 0$	$1.96 + 0$
	$^1D_2 - ^3P_1$	9824.12	$8.21 - 5$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1D_2 - ^3P_2$	9850.28	$2.44 - 4$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^3P_1$	4621.57	$2.71 - 3$	$1.49 - 1$	$2.52 - 1$	$3.20 - 1$	$3.65 - 1$
	$^1S_0 - ^3P_2$	4628.64	$2.00 - 5$				
	$^1S_0 - ^1D_2$	8727.18	$5.28 - 1$	$1.96 - 1$	$2.77 - 1$	$3.40 - 1$	$3.92 - 1$
	$^3P_1 - ^3P_0$	$6.094 + 6$	$7.95 - 8$	$2.43 - 1$	$3.71 - 1$	$--$	$--$
	$^3P_2 - ^3P_0$	2304147	$1.71 - 14$	$1.82 - 1$	$2.46 - 1$	$--$	$--$
	$^3P_2 - ^3P_1$	3704140	$2.65 - 7$	$7.14 - 1$	$1.02 + 0$	$--$	$--$
	$^5S^o_2 - ^3P_1$	2965.70	$6.94 + 0$	$4.75 - 1$	$6.71 - 1$	$8.22 - 1$	$9.50 - 1$
	$^5S^o_2 - ^3P_2$	2968.08	$1.56 + 1$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
C II	$^2P^o_{3/2} - ^2P^o_{1/2}$	$1.5774 + 5$	$2.29 - 6$	$1.89 + 0$	$2.15 + 0$	$2.26 + 0$	$2.28 + 0$
	$^4P_{1/2} - ^2P^o_{1/2}$	2325	$7.0 + 1$	$2.43 - 1$	$2.42 - 1$	$2.46 - 1$	$2.48 - 1$
	$^4P_{1/2} - ^2P^o_{3/2}$	2329	$6.3 + 1$	$1.74 - 1$	$1.77 - 1$	$1.82 - 1$	$1.84 - 1$
	$^4P_{3/2} - ^2P^o_{1/2}$	2324	$1.4 + 0$	$3.61 - 1$	$3.62 - 1$	$3.68 - 1$	$3.70 - 1$
	$^4P_{3/2} - ^2P^o_{3/2}$	2328	$9.4 + 0$	$4.72 - 1$	$4.77 - 1$	$4.88 - 1$	$4.93 - 1$
	$^4P_{3/2} - ^4P_{1/2}$	$4.55 + 6$	$2.39 - 7$	$6.60 - 1$	$8.24 - 1$	$9.64 - 1$	$1.06 + 0$
	$^4P_{5/2} - ^2P^o_{1/2}$	2323	$--$	$2.29 - 1$	$2.34 - 1$	$2.42 - 1$	$2.45 - 1$
	$^4P_{5/2} - ^2P^o_{3/2}$	2326	$5.1 + 1$	$1.02 + 0$	$1.02 + 0$	$1.04 + 0$	$1.05 + 0$
	$^4P_{5/2} - ^4P_{1/2}$	$1.99 + 6$	$3.49 - 14$	$7.30 - 1$	$8.53 - 1$	$9.32 - 1$	$9.71 - 1$
	$^4P_{5/2} - ^4P_{3/2}$	$3.53 + 6$	$3.67 - 7$	$1.65 + 0$	$1.98 + 0$	$2.23 + 0$	$2.39 + 0$
C III	$^3P^o_2 - ^1S_0$	1907	$5.19 - 3$	$1.12 + 0$	$1.01 + 0$	$9.90 - 1$	$9.96 - 1$
	$^3P^o_1 - ^1S_0$	1909	$1.21 + 2$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^3P^o_0 - ^1S_0$	1909.6	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1P^o_1 - ^1S_0$	977.02	$1.79 + 9$	$3.85 + 0$	$4.34 + 0$	$4.56 + 0$	$4.69 + 0$
	$^3P^o_1 - ^3P^o_0$	$4.22 + 6$	$3.00 - 7$	$8.48 - 1$	$9.11 - 1$	$9.75 - 1$	$1.03 + 0$
	$^3P^o_2 - ^3P^o_0$	$1.25 + 6$	$--$	$5.79 - 1$	$6.77 - 1$	$7.76 - 1$	$8.67 - 1$
	$^3P^o_2 - ^3P^o_1$	$1.774 + 6$	$2.10 - 6$	$2.36 + 0$	$2.66 + 0$	$2.97 + 0$	$3.23 + 0$
C IV	$^2P^o_{3/2} - ^2S_{1/2}$	1548.2	$2.65 + 8$	$--$	$8.88 + 0$	$--$	$8.95 + 0$
	$^2P^o_{1/2} - ^2S_{1/2}$	1550.8	$2.63 + 8$	$--$	$\Downarrow$	$--$	$\Downarrow$

Table 2. (continued)

Ion	Transition	λ (Å)	$A(\mathrm{sec}^{-1})$	$\Upsilon(T \times 10^4\mathrm{K})$			
				$T = 0.5$	1.0	1.5	2.0
N I	$^2D^o_{5/2} - ^4S^o_{3/2}$	5200.4	$6.13-6$	$1.55-1$	$2.90-1$	$--$	$4.76-1$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	5197.9	$2.28-5$	$1.03-1$	$1.94-1$	$--$	$3.18-1$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	3466.5	$6.60-3$	$5.97-2$	$1.13-1$	$--$	$1.89-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	3466.5	$2.72-3$	$2.98-2$	$5.67-2$	$--$	$9.47-2$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$1.148+7$	$1.24-8$	$1.28-1$	$2.69-1$	$--$	$4.65-1$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$2.59+8$	$5.17-13$	$3.29-2$	$7.10-2$	$--$	$1.53-1$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	10397.7	$5.59-2$	$1.62-1$	$2.66-1$	$--$	$4.38-1$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	10407.2	$2.52-2$	$8.56-2$	$1.47-1$	$--$	$2.52-1$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	1040.1	$3.14-2$	$6.26-2$	$1.09-1$	$--$	$1.90-1$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	10407.6	$4.80-2$	$6.01-2$	$9.70-2$	$--$	$1.57-1$
N II	$^1D_2 - ^3P_0$	6529.0	$5.35-7$	$2.57+0$	$2.64+0$	$2.70+0$	$2.73+0$
	$^1D_2 - ^3P_1$	6548.1	$1.01-3$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1D_2 - ^3P_2$	6583.4	$2.99-3$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^3P_1$	3062.9	$3.38-2$	$2.87-1$	$2.93-1$	$3.00-1$	$3.05-1$
	$^1S_0 - ^3P_2$	3071.4	$1.51-4$				
	$^1S_0 - ^1D_2$	5754.6	$1.12+0$	$9.59-1$	$8.34-1$	$7.61-1$	$7.34-1$
	$^3P_1 - ^3P_0$	$2.055+6$	$2.08-6$	$3.71-1$	$4.08-1$	$4.29-1$	$4.43-1$
	$^3P_2 - ^3P_0$	$7.65+5$	$1.16-12$	$2.43-1$	$2.72-1$	$3.01-1$	$3.16-1$
	$^3P_2 - ^3P_1$	$1.22+6$	$7.46-6$	$1.01+0$	$1.12+0$	$1.21+0$	$1.26+0$
	$^5S^o_2 - ^3P_1$	2144	$4.80+1$	$1.19+0$	$1.19+0$	$1.21+0$	$1.21+0$
	$^5S^o_2 - ^3P_2$	2140	$1.07+2$				
N III	$^2P^o_{3/2} - ^2P^o_{1/2}$	$5.73+5$	$4.77-5$	$1.32+0$	$1.45+0$	$1.55+0$	$1.64+0$
	$^4P_{1/2} - ^2P^o_{1/2}$	1748	$3.39+2$	$1.89-1$	$1.98-1$	$2.04-1$	$2.07-1$
	$^4P_{1/2} - ^2P^o_{3/2}$	1754	$3.64+2$	$1.35-1$	$1.51-1$	$1.62-1$	$1.68-1$
	$^4P_{3/2} - ^2P^o_{1/2}$	1747	$8.95+2$	$2.81-1$	$2.98-1$	$3.09-1$	$3.16-1$
	$^4P_{3/2} - ^2P^o_{3/2}$	1752	$5.90+1$	$3.67-1$	$3.99-1$	$4.23-1$	$4.35-1$
	$^4P_{3/2} - ^4P_{1/2}$	$1.68+6$	$--$	$1.01+0$	$1.10+0$	$1.14+0$	$1.16+0$
	$^4P_{5/2} - ^2P^o_{1/2}$	1744.4	$--$	$1.78-1$	$2.01-1$	$2.19-1$	$2.29-1$
	$^4P_{5/2} - ^2P^o_{3/2}$	1747	$3.08+2$	$7.93-1$	$8.44-1$	$8.80-1$	$8.98-1$
	$^4P_{5/2} - ^4P_{1/2}$	$7.10+5$	$--$	$6.12-1$	$6.67-1$	$6.95-1$	$7.11-1$
	$^4P_{5/2} - ^4P_{3/2}$	$1.23+6$	$--$	$1.88+0$	$2.04+0$	$2.12+0$	$2.16+0$
N IV	$^3P^o_2 - ^1S_0$	1483.3	$1.15-2$	$9.37-1$	$9.05-1$	$8.79-1$	$8.58-1$
	$^3P^o_1 - ^1S_0$	1486.4	$5.77+2$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^3P^o_0 - ^1S_0$	1487.9	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1P^o_1 - ^1S_0$	765.15	$2.40+9$	$3.84+0$	$3.53+0$	$3.41+0$	$3.36+0$
	$^3P^o_1 - ^3P^o_0$	$1.585+6$	$6.00-6$	$--$	$--$	$--$	$--$
	$^3P^o_2 - ^3P^o_0$	$4.83+5$	$--$	$--$	$--$	$--$	$--$
	$^3P^o_2 - ^3P^o_1$	$6.94+5$	$3.63-5$	$--$	$--$	$--$	$--$
N V	$^2P^o_{3/2} - ^2S_{1/2}$	1238.8	$3.41+8$	$6.61+0$	$6.65+0$	$6.69+0$	$6.72+0$
	$^2P^o_{1/2} - ^2S_{1/2}$	1242.8	$3.38+8$	$--$	$\Downarrow$	$--$	$\Downarrow$

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
O I	$^1D_2 - ^3P_0$	6393.5	$7.23-7$	$1.24-1$	$2.66-1$	$--$	$5.01-1$
	$^1D_2 - ^3P_1$	6363.8	$2.11-3$	⇓	⇓		⇓
	$^1D_2 - ^3P_2$	6300.3	$6.34-3$	⇓	⇓		⇓
	$^1S_0 - ^3P_1$	2972.3	$7.32-2$	$1.53-2$	$3.24-2$	$--$	$6.07-2$
	$^1S_0 - ^3P_2$	2959.2	$2.88-4$	⇓	⇓		⇓
	$^1S_0 - ^1D_2$	5577.3	$1.22+0$	$7.32-2$	$1.05-1$	$--$	$1.48-1$
	$^3P_0 - ^3P_1$	$1.46+6$	$1.74-5$	$1.12-2$	$2.65-2$	$--$	$6.93-2$
	$^3P_0 - ^3P_2$	$4.41+5$	$1.00-10$	$1.48-2$	$2.92-2$	$--$	$5.36-2$
	$^3P_1 - ^3P_2$	$6.32+5$	$8.92-5$	$4.74-2$	$9.87-2$	$--$	$2.07-1$
O II	$^2D^o_{5/2} - ^4S^o_{3/2}$	3728.8	$3.50-5$	$7.95-1$	$8.01-1$	$8.10-1$	$8.18-1$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	3726.0	$1.79-4$	$5.30-1$	$5.34-1$	$5.41-1$	$5.45-1$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	2470.3	$5.70-2$	$2.65-1$	$2.70-1$	$2.75-1$	$2.80-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	2470.2	$2.34-2$	$1.33-1$	$1.35-1$	$1.37-1$	$1.40-1$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$4.97+6$	$1.30-7$	$1.22+0$	$1.17+0$	$1.14+0$	$1.11+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$5.00+7$	$2.08-11$	$2.80-1$	$2.87-1$	$2.93-1$	$3.00-1$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	7319.9	$1.07-1$	$7.18-1$	$7.30-1$	$7.41-1$	$7.55-1$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	7330.7	$5.78-2$	$4.01-1$	$4.08-1$	$4.14-1$	$4.22-1$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	7321.8	$6.15-2$	$2.90-1$	$2.95-1$	$3.00-1$	$3.05-1$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	7329.6	$1.02-1$	$2.70-1$	$2.75-1$	$2.81-1$	$2.84-1$
O III	$^1D_2 - ^3P_0$	4932.6	$2.74-6$	$2.13+0$	$2.29+0$	$2.45+0$	$2.52+0$
	$^1D_2 - ^3P_1$	4958.9	$6.74-3$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	5006.7	$1.96-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	2321.0	$2.23-1$	$2.72-1$	$2.93-1$	$3.17-1$	$3.29-1$
	$^1S_0 - ^3P_2$	2332.1	$7.85-4$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	4363.2	$1.78+0$	$4.94-1$	$5.82-1$	$6.10-1$	$6.10-1$
	$^3P_1 - ^3P_0$	883562	$2.62-5$	$5.24-1$	$5.45-1$	$5.59-1$	$5.63-1$
	$^3P_2 - ^3P_0$	326611	$3.02-11$	$2.58-1$	$2.71-1$	$2.83-1$	$2.89-1$
	$^3P_2 - ^3P_1$	518145	$9.76-5$	$1.23+0$	$1.29+0$	$1.34+0$	$1.35+0$
	$^5S^o_2 - ^3P_1$	1660.8	$2.12+2$	$1.07+0$	$1.21+0$	$1.25+0$	$1.26+0$
	$^5S^o_2 - ^3P_2$	1666.1	$5.22+2$	⇓	⇓	⇓	⇓
O IV	$^2P^o_{3/2} - ^2P^o_{1/2}$	$2.587+5$	$5.18-4$	$2.02+0$	$2.40+0$	$2.53+0$	$2.57+0$
	$^4P_{1/2} - ^2P^o_{1/2}$	1426.46	$1.81+3$	$1.21-1$	$1.33-1$	$1.42-1$	$1.48-1$
	$^4P_{1/2} - ^2P^o_{3/2}$	1434.07	$1.77+3$	$8.67-2$	$1.02-1$	$1.15-1$	$1.24-1$
	$^4P_{3/2} - ^2P^o_{1/2}$	1423.84	$2.28+1$	$1.80-1$	$2.00-1$	$2.16-1$	$2.28-1$
	$^4P_{3/2} - ^2P^o_{3/2}$	1431.42	$3.28+2$	$2.36-1$	$2.68-1$	$2.98-1$	$3.18-1$
	$^4P_{3/2} - ^4P_{1/2}$	$1.68+6$	$--$	$1.04+0$	$1.09+0$	$1.13+0$	$1.16+0$
	$^4P_{5/2} - ^2P^o_{1/2}$	1420.19	$--$	$1.15-1$	$1.36-1$	$1.55-1$	$1.69-1$
	$^4P_{5/2} - ^2P^o_{3/2}$	1427.78	$1.04+3$	$5.08-1$	$5.67-1$	$6.15-1$	$6.48-1$
	$^4P_{5/2} - ^4P_{1/2}$	$3.26+5$	$--$	$7.14-1$	$6.88-1$	$7.06-1$	$7.36-1$
	$^4P_{5/2} - ^4P_{3/2}$	$5.62+5$	$1.02-4$	$2.04+0$	$2.05+0$	$2.12+0$	$2.20+0$
O V	$^3P^o_2 - ^1S_0$	1213.8	$2.16-2$	$7.33-1$	$7.21-1$	$6.74-1$	$6.39-1$
	$^3P^o_1 - ^1S_0$	1218.3	$2.25+3$	⇓	⇓	⇓	⇓
	$^3P^o_0 - ^1S_0$	1220.4	$--$	⇓	⇓	⇓	⇓
	$^1P^o_1 - ^1S_0$	629.7	$2.80+9$	$2.66+0$	$2.76+0$	$2.82+0$	$2.85+0$
	$^3P^o_1 - ^3P^o_0$	$7.35+5$	$5.81-5$	$7.26-1$	$8.39-1$	$8.65-1$	$8.66-1$
	$^3P^o_2 - ^3P^o_0$	$2.26+5$	$--$	$2.74-1$	$6.02-1$	$7.51-1$	$8.16-1$
	$^3P^o_2 - ^3P^o_1$	$3.26+5$	$3.55-4$	$3.19+0$	$2.86+0$	$2.80+0$	$2.77+0$
O VI	$^2P^o_{3/2} - ^2S_{1/2}$	1031.9	$4.15+8$	$4.98+0$	$5.00+0$	$5.03+0$	$5.05+0$
	$^2P^o_{1/2} - ^2S_{1/2}$	1037.6	$4.08+8$	⇓	⇓	⇓	⇓

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Ne II	$^2P^o_{1/2} - ^2P^o_{3/2}$	$1.28+5$	$8.55-3$	$2.96-1$	$3.03-1$	$3.10-1$	$3.17-1$
Ne III	$^1D_2 - ^3P_0$	4012.8	$8.51-6$	$1.63+0$	$1.65+0$	$1.65+0$	$1.64+0$
	$^1D_2 - ^3P_1$	3967.5	$5.42-2$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	3868.8	$1.71-1$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	1814.6	$2.00+0$	$1.51-1$	$1.69-1$	$1.75-1$	$1.79-1$
	$^1S_0 - ^3P_2$	1793.7	$3.94-3$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	3342.5	$2.71+0$	$2.00-1$	$2.26-1$	$2.43-1$	$2.60-1$
	$^3P_0 - ^3P_1$	$3.60+5$	$1.15-3$	$3.31-1$	$3.50-1$	$3.51-1$	$3.50-1$
	$^3P_0 - ^3P_2$	$1.07+5$	$2.18-8$	$3.00-1$	$3.07-1$	$3.03-1$	$2.98-1$
	$^3P_1 - ^3P_2$	$1.56+5$	$5.97-3$	$1.09+0$	$1.65+0$	$1.65+0$	$1.64+0$
Ne IV	$^2D^o_{5/2} - ^4S^o_{3/2}$	2420.9	$4.58-4$	$8.45-1$	$8.43-1$	$8.32-1$	$8.24-1$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	2418.2	$5.77-3$	$5.63-1$	$5.59-1$	$5.55-1$	$5.50-1$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	1601.5	$1.27+0$	$3.07-1$	$3.13-1$	$3.12-1$	$3.09-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	1601.7	$5.21-1$	$1.53-1$	$1.56-1$	$1.56-1$	$1.55-1$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$2.237+6$	$1.48-6$	$1.37+0$	$1.36+0$	$1.35+0$	$1.33+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$1.56+7$	$2.82-9$	$3.17-1$	$3.43-1$	$3.58-1$	$3.70-1$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	4714.3	$3.88-1$	$8.56-1$	$9.00-1$	$9.08-1$	$9.09-1$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	4724.2	$4.37-1$	$4.73-1$	$5.09-1$	$5.15-1$	$5.16-1$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	4717.0	$1.15-2$	$3.40-1$	$3.68-1$	$3.73-1$	$3.74-1$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	4725.6	$3.93-1$	$3.24-1$	$3.36-1$	$3.39-1$	$3.39-1$
Ne V	$^1D_2 - ^3P_0$	3301.3	$2.37-5$	$2.13+0$	$2.09+0$	$2.11+0$	$2.14+0$
	$^1D_2 - ^3P_1$	3345.8	$1.31-1$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	3425.9	$3.65-1$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	1574.8	$4.21+0$	$2.54-1$	$2.46-1$	$2.49-1$	$2.51-1$
	$^1S_0 - ^3P_2$	1592.3	$6.69-3$	⇓	⇓	*Downarrow*	⇓
	$^1S_0 - ^1D_2$	2972.8	$2.85+0$	$6.63-1$	$5.77-1$	$6.10-1$	$6.49-1$
	$^3P_1 - ^3P_0$	$2.428+5$	$1.28-3$	$1.68+0$	$1.41+0$	$1.19+0$	$1.10+0$
	$^3P_2 - ^3P_0$	90082	$5.08-9$	$2.44+0$	$1.81+0$	$1.42+0$	$1.26+0$
	$^3P_2 - ^3P_1$	$1.432+5$	$4.59-3$	$7.59+0$	$5.82+0$	$4.68+0$	$4.20+0$
	$^5S^o_2 - ^3P_1$	1137.0	$2.37+3$	$1.11+0$	$1.43+0$	$1.39+0$	$1.34+0$
	$^5S^o_2 - ^3P_2$	1146.1	$6.06+3$	⇓	⇓	⇓	⇓
Ne VI	$^2P^o_{3/2} - ^2P^o_{1/2}$	$7.642+4$	$2.02-2$	$3.22+0$	$2.72+0$	$2.37+0$	$2.15+0$
	$^4P_{1/2} - ^2P^o_{1/2}$	1003.6	$1.59+4$	$1.54-1$	$1.37-1$	$1.26-1$	$1.18-1$
	$^4P_{1/2} - ^2P^o_{3/2}$	1016.6	$1.43+4$	$1.85-1$	$1.53-1$	$1.36-1$	$1.27-1$
	$^4P_{3/2} - ^2P^o_{1/2}$	999.13	$3.20+2$	$2.69-1$	$2.32-1$	$2.10-1$	$1.96-1$
	$^4P_{3/2} - ^2P^o_{3/2}$	1012.0	$3.33+3$	$4.51-1$	$3.73-1$	$3.32-1$	$3.08-1$
	$^4P_{3/2} - ^4P_{1/2}$	$2.24+5$	−−	$5.34-1$	$5.73-1$	$5.95-1$	$6.22-1$
	$^4P_{5/2} - ^2P^o_{1/2}$	992.76	−−	$2.56-1$	$2.11-1$	$1.89-1$	$1.76-1$
	$^4P_{5/2} - ^2P^o_{3/2}$	1005.5	$1.14+4$	$7.88+0$	$6.75-1$	$6.09-1$	$5.68-1$
	$^4P_{5/2} - ^4P_{1/2}$	92166	−−	$4.12-1$	$4.23-1$	$4.36-2$	$4.56-1$
	$^4P_{5/2} - ^4P_{3/2}$	$1.56+5$	−−	$1.10+0$	$1.16+0$	$1.20+0$	$1.26+0$
Ne VII	$^3P^o_2 - ^1S_0$	887.22	$5.78-2$	$1.29-1$	$1.72-1$	$2.05-1$	$2.28-1$
	$^3P^o_1 - ^1S_0$	895.12	$1.98+4$	⇓	⇓	⇓	⇓
	$^3P^o_0 - ^1S_0$	898.76	−−	⇓	⇓	⇓	⇓
	$^1P^o_1 - ^1S_0$	465.22	$4.09+9$	$1.39+0$	$1.56+0$	$1.63+0$	$1.66+0$
	$^3P^o_1 - ^3P^o_0$	$2.20+5$	$1.99-3$	−−	−−	−−	−−
	$^3P^o_2 - ^3P^o_0$	69127.6	−−	−−	−−	−−	−−
	$^3P^o_2 - ^3P^o_1$	$1.01+5$	$1.25-2$	−−	−−	−−	−−

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Na III	$^2P^o_{1/2} - ^2P^o_{3/2}$	$7.319+4$	$4.59-2$		$3.00-1$		
Na IV	$^1D_2 - ^3P_0$	3417.2	$2.24-5$		$1.17+0$		
	$^1D_2 - ^3P_1$	3362.2	$1.86-1$		$\Downarrow$		
	$^1D_2 - ^3P_2$	3241.7	$6.10-1$		$\Downarrow$		
	$^1S_0 - ^3P_1$	1529.3	$7.10+0$		$1.63-1$		
	$^1S_0 - ^3P_2$	1503.8	$1.05-2$		$\Downarrow$		
	$^1S_0 - ^1D_2$	2803.7	$3.46+0$		$1.57-1$		
	$^3P_0 - ^3P_1$	$2.129+5$	$5.57-3$		$1.77-1$		
	$^3P_0 - ^3P_2$	62467.9	$1.67-7$		$1.11-1$		
	$^3P_1 - ^3P_2$	90391.4	$3.04-2$		$4.71-1$		
Na V	$^2D^o_{5/2} - ^4S^o_{3/2}$	2068.4	$1.39-3$		$5.51-1$		
	$^2D^o_{3/2} - ^4S^o_{3/2}$	2066.9	$2.70-2$		$3.68-1$		
	$^2P^o_{3/2} - ^4S^o_{3/2}$	1365.1	$4.23+0$		$2.39-1$		
	$^2P^o_{1/2} - ^4S^o_{3/2}$	1365.8	$1.76+0$		$1.20-1$		
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$2.78+6$	$1.56-6$		$6.96-1$		
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$2.70+6$	$3.66-7$		$4.38-1$		
	$^2P^o_{3/2} - ^2D^o_{5/2}$	4010.9	$9.07-1$		$5.02-1$		
	$^2P^o_{3/2} - ^2D^o_{3/2}$	4016.7	$1.28+0$		$2.79-1$		
	$^2P^o_{1/2} - ^2D^o_{5/2}$	4017.9	$1.35-1$		$2.01-1$		
	$^2P^o_{1/2} - ^2D^o_{3/2}$	4022.7	$9.75-1$		$1.90-1$		
Na VI	$^1D_2 - ^3P_0$	2816.1	$--$	$1.55+0$	$1.45+0$	$1.39+0$	$1.38+0$
	$^1D_2 - ^3P_1$	2872.7	$4.06-1$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1D_2 - ^3P_2$	2971.9	$1.27+0$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^3P_1$	1356.6	$1.69+1$	$1.73-1$	$1.72-1$	$1.72-1$	$1.73-1$
	$^1S_0 - ^3P_2$	1343.9	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^1D_2$	2568.9	$5.27+0$	$1.07-1$	$1.16-1$	$1.28-1$	$1.39-1$
	$^3P_1 - ^3P_0$	$1.43+5$	$6.14-3$	$7.24-1$	$7.70-1$	$7.73-1$	$7.58-1$
	$^3P_2 - ^3P_0$	$5.37+4$	$--$	$5.02-1$	$5.21-1$	$5.08-1$	$4.94-1$
	$^3P_2 - ^3P_1$	$8.61+4$	$2.11-2$	$2.03+0$	$2.13+0$	$2.10+0$	$2.05+0$
Mg II	$^2P^o_{3/2} - ^2S_{1/2}$	2795.5	$2.6+8$	$1.59+1$	$1.69+1$	$1.78+1$	$1.86+1$
	$^2P^o_{1/2} - ^2S_{1/2}$	2802.7	$2.6+8$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
Mg IV	$^2P^o_{1/2} - ^2P^o_{3/2}$	$4.487+4$	$1.99-1$	$3.44-1$	$3.46-1$	$3.49-1$	$3.51-1$
Mg V	$^1D_2 - ^3P_0$	2993.1	$5.20-5$	$1.31+0$	$1.33+0$	$1.32+0$	$1.30+0$
	$^1D_2 - ^3P_1$	2928.0	$5.41-1$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1D_2 - ^3P_2$	2782.7	$1.85+0$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^3P_1$	1324.4	$2.14+1$	$1.42-1$	$1.48-1$	$1.46-1$	$1.44-1$
	$^1S_0 - ^3P_2$	1293.9	$2.45-2$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^1D_2$	2417.5	$4.23+0$	$1.91-1$	$1.97-1$	$2.02-1$	$2.08-1$
	$^3P_0 - ^3P_1$	$1.354+5$	$2.17-2$	$2.48-1$	$3.00-1$	$3.18-1$	$3.18-1$
	$^3P_0 - ^3P_2$	39654.2	$1.01-6$	$2.31-1$	$2.92-1$	$3.04-1$	$2.99-1$
	$^3P_1 - ^3P_2$	$5.608+4$	$1.27-1$	$8.30-1$	$1.03+0$	$1.08+0$	$1.07+0$

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Mg VII	$^1D_2 - ^3P_0$	2441.4	$--$	$7.96-1$	$8.57-1$	$9.11-1$	$9.42-1$
	$^1D_2 - ^3P_1$	2509.2	$1.17+0$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1D_2 - ^3P_2$	2629.1	$3.36+0$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^3P_1$	1189.8	$4.58+1$	$2.08-1$	$1.85-1$	$1.75-1$	$1.73-1$
	$^1S_0 - ^3P_2$	1174.3	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1S_0 - ^1D_2$	2261.5	$6.16+0$	$5.25-1$	$4.46-1$	$3.90-1$	$3.82-1$
	$^3P_1 - ^3P_0$	$9.03+4$	$2.44-2$	$2.75-1$	$3.37-1$	$3.95-1$	$4.14-1$
	$^3P_2 - ^3P_0$	$3.42+4$	$--$	$1.90-1$	$3.01-1$	$3.88-1$	$4.09-1$
	$^3P_2 - ^3P_1$	$5.50+4$	$8.09-2$	$7.69+0$	$1.08+0$	$1.32+0$	$1.39+0$
Al II	$^3P^o_2 - ^1S_0$	2661.1	$--$	$3.062+0$	$3.564+0$	$3.612+0$	$3.54+0$
	$^3P^o_1 - ^1S_0$	2669.9	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^3P^o_0 - ^1S_0$	2674.3	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1P^o_1 - ^1S_0$	1670.8	$1.46+9$	$2.045+0$	$3.251+0$	$4.096+0$	$4.717+0$
	$^3P^o_1 - ^3P^o_0$	$1.6426+6$	$4.10-6$	$--$	$--$	$--$	$--$
	$^3P^o_2 - ^3P^o_0$	$5.4124+5$	$---$	$--$	$--$	$--$	$--$
	$^3P^o_2 - ^3P^o_1$	$8.072+5$	$2.45-5$	$--$	$--$	$--$	$--$
Si II	$^2P^o_{3/2} - ^2P^o_{1/2}$	$3.48+5$	$2.17-4$	$5.59+0$	$5.70+0$	$5.78+0$	$5.77+0$
	$^4P_{1/2} - ^2P^o_{1/2}$	2335	$4.55+3$	$5.50-1$	$5.16-1$	$4.88-1$	$4.67-1$
	$^4P_{1/2} - ^2P^o_{3/2}$	2350	$4.41+3$	$4.33-1$	$4.02-1$	$3.81-1$	$3.65-1$
	$^4P_{3/2} - ^2P^o_{1/2}$	2329	$1.32+1$	$8.32-1$	$7.80-1$	$7.37-1$	$7.06-1$
	$^4P_{3/2} - ^2P^o_{3/2}$	2344	$1.22+3$	$1.13+0$	$1.05+0$	$9.97-1$	$9.56-1$
	$^4P_{3/2} - ^4P_{1/2}$	$9.23+5$	$--$	$4.92+0$	$4.51+0$	$4.18+0$	$3.94+0$
	$^4P_{5/2} - ^2P^o_{1/2}$	2319.8	$--$	$5.71-1$	$5.34-1$	$5.08-1$	$4.88-1$
	$^4P_{5/2} - ^2P^o_{3/2}$	2335	$2.46+3$	$2.33+0$	$2.19+0$	$2.08+0$	$1.99+0$
	$^4P_{5/2} - ^4P_{1/2}$	$3.53+5$	$--$	$1.68+0$	$1.67+0$	$1.63+0$	$1.57+0$
	$^4P_{5/2} - ^4P_{3/2}$	$5.70+5$	$--$	$7.36+0$	$6.94+0$	$6.58+0$	$6.32+0$
Si III	$^3P^o_2 - ^1S_0$	1882.7	$1.20-2$	$6.96+0$	$5.46+0$	$4.82+0$	$4.41+0$
	$^3P^o_1 - ^1S_0$	1892.0	$1.67+4$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^3P^o_0 - ^1S_0$	1896.6	$--$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
	$^1P^o_1 - ^1S_0$	1206.5	$2.59+9$	$5.30+0$	$5.60+0$	$5.93+0$	$6.22+0$
	$^3P^o_1 - ^3P^o_0$	$7.78+5$	$3.86-5$	$1.78+0$	$1.81+0$	$1.83+0$	$1.83+0$
	$^3P^o_2 - ^3P^o_0$	$2.56+5$	$3.20-9$	$3.66+0$	$3.62+0$	$3.53+0$	$3.43+0$
	$^3P^o_2 - ^3P^o_1$	$3.82+5$	$2.42-4$	$1.04+1$	$1.04+1$	$1.02+1$	$1.00+1$
Si IV	$^2P^o_{3/2} - ^2S_{1/2}$	1393.8	$7.73+8$	$1.69+1$	$1.60+1$	$1.61+1$	$1.62+1$
	$^2P^o_{1/2} - ^2S_{1/2}$	1402.8	$7.58+8$	$\Downarrow$	$\Downarrow$	$\Downarrow$	$\Downarrow$
Si VI	$^2P^o_{1/2} - ^2P^o_{3/2}$	$1.964+4$	$2.38+0$		$2.42-1$		
S II	$^2D^o_{5/2} - ^4S^o_{3/2}$	6716.5	$2.60-4$	$4.90+0$	$4.66+0$	$4.44+0$	$4.26+0$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	6730.8	$8.82-4$	$3.27+0$	$3.11+0$	$2.97+0$	$2.84+0$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	4068.6	$2.25-1$	$1.67+0$	$2.07+0$	$1.98+0$	$2.07+0$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	4076.4	$9.06-2$	$8.31-1$	$8.97-1$	$9.87-1$	$1.03+0$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$3.145+6$	$3.35-7$	$7.90+0$	$7.46+0$	$7.11+0$	$8.65+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$2.14+6$	$1.03-6$	$2.02+0$	$2.54+0$	$2.13+0$	$2.22+0$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	10320.4	$1.79-1$	$5.93+0$	$4.77+0$	$4.75+0$	$4.68+0$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	10286.7	$1.33-1$	$3.41+0$	$2.74+0$	$2.74+0$	$2.71+0$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	10373.3	$7.79-2$	$2.47+0$	$1.99+0$	$1.99+0$	$1.97+0$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	10336.3	$1.63-1$	$2.20+0$	$1.76+0$	$1.76+0$	$1.73+0$

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
S III	$^1D_2 - ^3P_0$	8833.9	$5.82-6$	$9.07+0$	$8.39+0$	$8.29+0$	$8.20+0$
	$^1D_2 - ^3P_1$	9068.9	$2.21-2$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	9531.0	$5.76-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	3721.7	$7.96-1$	$1.16+0$	$1.19+0$	$1.21+0$	$1.24+0$
	$^1S_0 - ^3P_2$	3797.8	$1.05-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	6312.1	$2.22+0$	$1.42+0$	$1.88+0$	$2.02+0$	$2.08+0$
	$^3P_1 - ^3P_0$	$3.347+5$	$4.72-4$	$2.64+0$	$2.59+0$	$2.38+0$	$2.20+0$
	$^3P_2 - ^3P_0$	$1.20+5$	$4.61-8$	$1.11+0$	$1.15+0$	$1.15+0$	$1.14+0$
	$^3P_2 - ^3P_1$	187129	$2.07-3$	$5.79+0$	$5.81+0$	$5.56+0$	$5.32+0$
	$^5S^o_2 - ^3P_1$	1683.5	$6.22+3$	$--$	$3.8+0$	$3.7+0$	$3.6+0$
	$^5S^o_2 - ^3P_2$	1698.86	$1.70+4$	⇓	⇓	⇓	⇓
S IV	$^2P^o_{3/2} - ^2P^o_{1/2}$	$1.05+5$	$7.73-3$	$--$	$6.42+0$	$6.41+0$	$6.40+0$
	$^4P_{1/2} - ^2P^o_{1/2}$	1404.9	$5.50+4$	$--$	$5.50-1$	$4.80-1$	$4.60-1$
	$^4P_{1/2} - ^2P^o_{3/2}$	1423.9	$3.39+4$	$--$	$6.60-1$	$6.30-1$	$6.10-1$
	$^4P_{3/2} - ^2P^o_{1/2}$	1398.1	$1.40+2$	$--$	$8.70-1$	$8.30-1$	$8.00-1$
	$^4P_{3/2} - ^2P^o_{3/2}$	1017.0	$1.95+4$	$--$	$1.47+0$	$1.40+0$	$1.34+0$
	$^4P_{3/2} - ^4P_{1/2}$	$2.91+5$	$--$	$--$	$3.04+0$	$2.85+0$	$2.72+0$
	$^4P_{5/2} - ^2P^o_{1/2}$	1387.5	$--$	$--$	$9.5-1$	$9.1-1$	$8.8-1$
	$^4P_{5/2} - ^2P^o_{3/2}$	1406.1	$3.95+4$	$--$	$2.53+0$	$2.41+0$	$2.33+0$
	$^4P_{5/2} - ^4P_{1/2}$	$1.12+5$	$--$	$--$	$2.92+0$	$2.71+0$	$2.56+0$
	$^4P_{5/2} - ^4P_{3/2}$	$1.85+5$	$--$	$--$	$7.01+0$	$6.57+0$	$6.20+0$
S V	$^3P^o_2 - ^1S_0$	1188.3	$6.59-2$	$9.11-1$	$9.10-1$	$9.14-1$	$9.05-1$
	$^3P^o_1 - ^1S_0$	1199.1	$1.26+5$	⇓	⇓	⇓	⇓
	$^3P^o_0 - ^1S_0$	1204.5	$--$	⇓	⇓	⇓	
	$^1P^o_1 - ^1S_0$	786.48	$5.25+9$	$7.30+0$	$7.30+0$	$7.29+0$	$7.27+0$
	$^3P^o_1 - ^3P^o_0$	$2.71+5$	$9.16-4$		$2.72-1$		
	$^3P^o_2 - ^3P^o_0$	88401.7	$--$		$4.00-1$		
	$^3P^o_2 - ^3P^o_1$	$1.312+5$	$5.49-3$		$1.24+0$		
S VI	$^2P^o_{3/2} - ^2S_{1/2}$	933.38	$1.7+9$	$1.18+1$	$1.19+1$	$1.19+1$	$1.19+1$
	$^2P^o_{1/2} - ^2S_{1/2}$	944.52	$1.6+9$	⇓	⇓	⇓	⇓
	$^2P^o_{1/2} - ^2P^o_{3/2}$	$1.0846+5$	$7.75-3$	$5.85+0$	$6.67+0$	$7.10+0$	$7.27+0$
Cl II	$^1D_2 - ^3P_0$	9383.4	$9.82-6$		$3.86+0$		
	$^1D_2 - ^3P_1$	9123.6	$2.92-2$		⇓		
	$^1D_2 - ^3P_2$	8578.7	$1.04-1$		⇓		
	$^1S_0 - ^3P_1$	3677.9	$1.31+0$		$4.56-1$		
	$^1S_0 - ^3P_2$	3587.1	$1.97-2$		⇓		
	$^1S_0 - ^1D_2$	6161.8	$2.06+0$		$1.15+0$		
	$^3P_0 - ^3P_1$	$3.328+5$	$1.46-3$		$9.33-1$		
	$^3P_0 - ^3P_2$	$1.004+5$	$4.57-7$		$4.43-1$		
	$^3P_1 - ^3P_2$	$1.437+5$	$7.57-3$		$2.17+0$		

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Cl III	$^2D^o_{5/2} - ^4S^o_{3/2}$	5517.7	$7.04-4$	$1.94+0$	$2.05+0$	$2.04+0$	$2.04+0$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	5537.9	$4.83-3$	$1.29+0$	$1.36+0$	$1.36+0$	$1.35+0$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	3342.9	$7.54-1$	$7.69-1$	$8.37-1$	$8.88-1$	$9.20-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	3353.3	$3.05-1$	$3.85-1$	$4.18-1$	$4.44-1$	$4.61-1$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$1.516+6$	$3.22-6$	$4.45+0$	$4.52+0$	$4.51+0$	$4.48+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$1.081+6$	$7.65-6$	$1.73+0$	$1.76+0$	$1.81+0$	$1.86+0$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	8480.9	$3.16-1$	$3.75+0$	$4.20+0$	$4.33+0$	$4.32+0$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	8433.7	$3.23-1$	$2.01+0$	$2.19+0$	$2.34+0$	$2.25+0$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	8552.1	$1.00-1$	$1.44+0$	$1.56+0$	$1.60+0$	$1.60+0$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	8500.0	$3.03-1$	$1.45+0$	$1.65+0$	$1.71+0$	$1.72+0$
Cl IV	$^1D_2 - ^3P_0$	7263.4	$1.54-5$	$5.10+0$	$5.42+0$	$5.88+0$	$6.19+0$
	$^1D_2 - ^3P_1$	7529.9	$5.57-2$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	8045.6	$2.08-1$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	3118.6	$2.19+0$	$2.04+0$	$2.27+0$	$2.32+0$	$2.30+0$
	$^1S_0 - ^3P_2$	3204.5	$2.62-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	5323.3	$4.14+0$	$9.35-1$	$1.39+0$	$1.73+0$	$1.92+0$
	$^3P_1 - ^3P_0$	$2.035+5$	$2.13-3$		$4.75-1$		
	$^3P_2 - ^3P_0$	74521	$2.70-7$		$4.00-1$		
	$^3P_2 - ^3P_1$	$1.1741+5$	$8.32-3$		$1.50+0$		
Cl V	$^2P^o_{3/2} - ^2P^o_{1/2}$	67049	$2.98-2$		$1.05+0$		
Ar II	$^2P^o_{1/2} - ^2P^o_{3/2}$	69851.9	$5.27-2$		$6.35-1$		
Ar III	$^1D_2 - ^3P_0$	8038.7	$2.21-5$		$4.74+0$		
	$^1D_2 - ^3P_1$	7751.1	$8.23-2$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	7135.8	$3.14-1$	⇓	⇓	⇓	⇓
	$^1S_0 - ^3P_1$	3109.1	$3.91+0$		$6.80-1$		
	$^1S_0 - ^3P_2$	3006.1	$4.17-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	5191.8	$2.59+0$		$8.23-1$		
	$^3P_0 - ^3P_1$	$2.184+5$	$5.17-3$		$1.18+0$		
	$^3P_0 - ^3P_2$	63686.2	$2.37-6$		$5.31-1$		
	$^3P_1 - ^3P_2$	89910	$3.08-2$		$2.24+0$		
Ar IV	$^2D^o_{5/2} - ^4S^o_{3/2}$	4711.3	$1.77-3$	$2.56+0$	$6.13+0$	$1.64+0$	$1.46+1$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	4740.2	$2.23-2$	$1.71+0$	$1.30+0$	$1.14+0$	$9.70-1$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	2853.7	$2.11+0$	$3.01-1$	$2.93-1$	$3.06-1$	$3.25-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	2868.2	$8.62-1$	$1.49-1$	$1.46-1$	$1.53-1$	$1.63-1$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$7.741+5$	$2.30-5$	$6.35+0$	$6.13+0$	$6.03+0$	$5.93+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	564721	$4.94-5$	$2.24+0$	$2.33+0$	$2.53+0$	$2.72+0$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	7237.3	$5.98-1$	$4.29+0$	$4.44+0$	$4.40+0$	$4.34+0$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	7170.6	$7.89-1$	$2.45+0$	$2.47+0$	$2.44+0$	$2.39+0$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	7333.4	$1.19-1$	$1.78+0$	$1.79+0$	$1.76+0$	$1.72+0$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	7262.8	$6.03-1$	$1.61+0$	$1.69+0$	$1.68+0$	$1.66+0$

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Ar V	$^1D_2 - ^3P_0$	6135.2	$3.50-5$	$4.37+0$	$3.72+0$	$3.52+0$	$3.42+0$
	$^1D_2 - ^3P_1$	6435.1	$1.61-1$	⇓	⇓	⇓	⇓
	$^1D_2 - ^3P_2$	7005.7	$4.70-1$	$4.37+0$	$3.72+0$	$3.52+0$	$3.42+0$
	$^1S_0 - ^3P_1$	2691.0	$5.89+0$	$1.17+0$	$1.18+0$	$1.11+0$	$1.03+0$
	$^1S_0 - ^3P_2$	2686.8	$5.69-2$	⇓	⇓	⇓	⇓
	$^1S_0 - ^1D_2$	4625.5	$5.18+0$	$1.26+0$	$1.25+0$	$1.24+0$	$1.23+0$
	$^3P_1 - ^3P_0$	$1.307+5$	$8.03-3$		$2.57-1$		
	$^3P_2 - ^3P_0$	49280.5	$1.24-6$		$3.20-1$		
	$^3P_2 - ^3P_1$	79040	$2.72-2$		$1.04+0$		
Ar VI	$^2P^o_{3/2} - ^2P^o_{1/2}$	45275	$9.69-2$		$7.98-2$		
K III	$^2P^o_{1/2} - ^2P^o_{3/2}$	46153.2	$1.83-1$		$1.78+0$		
K IV	$^1D_2 - ^3P_0$	7110.9	$4.54-5$		$1.90+0$		
	$^1D_2 - ^3P_1$	6795.0	$1.98-1$		⇓		
	$^1D_2 - ^3P_2$	6101.8	$8.14-1$		⇓		
	$^1S_0 - ^3P_1$	2711.1	$1.00+1$		$2.92-1$		
	$^1S_0 - ^3P_2$	2594.3	$8.17-2$		⇓		
	$^1S_0 - ^1D_2$	4510.9	$3.18+0$		$7.98-1$		
	$^3P_0 - ^3P_1$	$1.539+5$	$1.48-2$		$4.21-1$		
	$^3P_0 - ^3P_2$	43081.2	$1.01-5$		$2.90-1$		
	$^3P_1 - ^3P_2$	59830.0	$1.04-1$		$1.16+0$		
K V	$^2D^o_{5/2} - ^4S^o_{3/2}$	4122.6	$4.59-3$	$9.25-1$	$8.51-1$	$8.24-1$	$8.18-1$
	$^2D^o_{3/2} - ^4S^o_{3/2}$	4163.3	$8.84-2$	$6.17-1$	$5.67-1$	$5.50-1$	$5.45-1$
	$^2P^o_{3/2} - ^4S^o_{3/2}$	2494.2	$5.19+0$	$1.49-1$	$3.68-1$	$4.94-1$	$5.47-1$
	$^2P^o_{1/2} - ^4S^o_{3/2}$	2514.5	$2.14+0$	$7.40-2$	$1.84-1$	$2.47-1$	$2.73-1$
	$^2D^o_{5/2} - ^2D^o_{3/2}$	$4.22+5$	$1.42-4$	$5.24+0$	$5.31+0$	$5.13+0$	$4.96+0$
	$^2P^o_{3/2} - ^2P^o_{1/2}$	$3.11+5$	$2.96-4$	$4.43-1$	$6.27-1$	$7.83-1$	$9.02-1$
	$^2P^o_{3/2} - ^2D^o_{5/2}$	6315.1	$1.21+0$	$2.56+0$	$3.07+0$	$3.31+0$	$3.40+0$
	$^2P^o_{3/2} - ^2D^o_{3/2}$	6221.9	$1.86+0$	$1.39+0$	$1.76+0$	$1.93+0$	$2.00+0$
	$^2P^o_{1/2} - ^2D^o_{5/2}$	6448.1	$1.41-1$	$9.92-1$	$1.28+0$	$1.41+0$	$1.46+0$
	$^2P^o_{1/2} - ^2D^o_{3/2}$	6349.2	$1.25+0$	$9.83-1$	$1.14+0$	$1.21+0$	$1.24+0$
Ca II	$^2P^o_{3/2} - ^2S_{1/2}$	3933.7	$1.47+8$	$1.56+1$	$1.75+1$	$1.92+1$	$2.08+1$
	$^2P^o_{1/2} - ^2S_{1/2}$	3968.5	$1.4+8$	⇓	⇓	⇓	⇓
Ca IV	$^2P^o_{1/2} - ^2P^o_{3/2}$	32061.9	$5.45-1$		$1.06+0$		
Ca V	$^1D_2 - ^3P_0$	6428.9	$8.42-5$		$9.04-1$		
	$^1D_2 - ^3P_1$	6086.4	$4.26-1$		⇓		
	$^1D_2 - ^3P_2$	5309.2	$1.90+0$		⇓		
	$^1S_0 - ^3P_1$	2412.9	$2.31+1$		$1.16-1$		
	$^1S_0 - ^3P_2$	2281.2	$1.45-1$		⇓		
	$^1S_0 - ^1D_2$	3997.9	$3.73+0$		$7.93-1$		
	$^3P_0 - ^3P_1$	$1.1482+5$	$3.54-2$		$2.02-1$		
	$^3P_0 - ^3P_2$	30528.8	$3.67-5$		$2.24-1$		
	$^3P_1 - ^3P_2$	41574.2	$3.10-1$		$7.60-1$		

Ion	Transition	λ(Å)	A(sec^{-1})	$\Upsilon(0.5)$	$\Upsilon(1.0)$	$\Upsilon(1.5)$	$\Upsilon(2.0)$
Fe II	$a^6D_{9/2} - a^6D_{7/2}$	$2.598+5$	$2.13-3$	$7.41-3$	$5.52+0$	$5.46+0$	$5.48+0$
	$a^6D_{9/2} - a^6D_{5/2}$	$1.479+5$		$6.14+0$	$1.49+0$	$1.55+0$	$1.64+0$
	$a^6D_{9/2} - a^6D_{3/2}$	$1.159+5$		$4.25-1$	$6.75-1$	$6.83-1$	$7.15-1$
	$a^6D_{9/2} - a^6D_{1/2}$	$1.023+5$		$1.63-1$	$2.84-1$	$2.84-1$	$2.95-1$
	$a^6D_{9/2} - a^4F_{9/2}$	$5.339+4$	$4.17-5$	$4.77-2$	$3.60+0$	$3.19+0$	$2.89+0$
	$a^6D_{9/2} - a^4D_{7/2}$	$1.257+4$	$4.83-3$	$3.10+0$	$1.10+1$	$9.65+0$	$8.77+0$
	$a^6D_{5/2} - a^4D_{5/2}$	$1.294+4$	$1.94-3$	$3.46+0$	$2.85+0$	$2.56+0$	$2.36+0$
	$a^6D_{3/2} - a^4D_{5/2}$	$1.328+4$	$1.21-3$	$7.11-1$	$6.26-1$	$6.05-1$	$5.87-1$
	$a^6D_{1/2} - a^4D_{1/2}$	$1.270+4$	$2.91-3$	$2.06+0$	$1.65+0$	$1.44+0$	$1.30+0$
	$a^4F_{9/2} - a^4D_{7/2}$	$1.644+4$	$4.65-3$	$2.28+0$	$2.11+0$	$2.14+0$	$2.18+0$
	$a^4F_{9/2} - a^4D_{5/2}$	$1.533+4$	$2.44-3$	$7.77-1$	$7.25-1$	$7.54-1$	$7.83-1$
	$a^4F_{9/2} - a^4P_{5/2}$	8617.0	$2.73-2$	$1.22+0$	$1.23+0$	$1.27+0$	$1.29+0$
	$a^4F_{7/2} - a^4P_{3/2}$	8892.0	$1.74-2$	$5.53+0$	$5.54-1$	$5.64-1$	$5.71+0$
	$a^4F_{9/2} - a^4H_{13/2}$	5157	$4.4-1$	$1.03+0$	$1.13+0$	$1.33+0$	$1.51+0$
	$a^4F_{9/2} - a^4G_{11/2}$	4244	$9.0-1$	$6.45-1$	$8.24-1$	$1.02+0$	$1.16+0$
	$a^4F_{7/2} - a^4H_{11/2}$	5262	$3.1-1$	$5.21-1$	$5.66-1$	$6.69-1$	$7.64-1$
	$a^4F_{7/2} - a^4G_{9/2}$	4277	$6.5-1$	$3.67-1$	$4.47-1$	$5.35-1$	$5.97-1$
	$a^4F_{5/2} - a^4H_{9/2}$	5334	$2.6-1$	$3.22-1$	$3.57-1$	$4.32-1$	$5.01-1$
	$a^4F_{9/2} - b^4F_{9/2}$	4815	$4.0-1$	$1.06+0$	$1.21+0$	$1.42+0$	$1.60+0$
Fe III	$^5D_4 - ^5D_3$	229146		$2.38+0$	$2.87+0$	$3.02+0$	$3.01+0$
	$^5D_4 - ^5D_2$	135513		$9.70-1$	$1.23+0$	$1.31+0$	$1.32+0$
	$^5D_4 - ^5D_1$	107294		$4.75-1$	$5.91-1$	$6.29-1$	$6.36-1$
	$^5D_4 - ^5D_0$	97436		$1.43-1$	$1.78-1$	$1.90-1$	$1.94-1$
	$^5D_3 - ^5D_2$	331636		$1.65+0$	$2.03+0$	$2.16+0$	$2.18+0$
	$^5D_3 - ^5D_1$	201769		$6.12-1$	$7.94-1$	$8.45-1$	$8.46-1$
	$^5D_3 - ^5D_0$	169516		$1.70-1$	$2.23-1$	$2.36-1$	$2.35-1$
	$^5D_2 - ^5D_1$	515254		$1.04+0$	$1.28+0$	$1.36+0$	$1.36+0$
	$^5D_2 - ^5D_0$	346768		$2.35-1$	$3.09-1$	$3.31-1$	$3.33-1$
	$^5D_1 - ^5D_0$	1060465		$4.00-1$	$4.85-1$	$5.15-1$	$5.20-1$
	$^3H_6 - ^3G_5$	22189.8		$2.80+0$	$2.72+0$	$2.67+0$	$2.60+0$
	$^3H_6 - ^3G_4$	20448.4		$1.18+0$	$1.20+0$	$1.19+0$	$1.16+0$
	$^3H_6 - ^3G_3$	19655.2		$2.77-1$	$2.90-1$	$2.97-1$	$2.96-1$
	$^3H_5 - ^3G_5$	23505.2		$1.26+0$	$1.28+0$	$1.26+0$	$1.23+0$
	$^3H_5 - ^3G_4$	21560.3		$1.60+0$	$1.69+0$	$1.70+0$	$1.66+0$
	$^3H_5 - ^3G_3$	20680.3		$1.07+0$	$1.12+0$	$1.12+0$	$1.10+0$
	$^3H_4 - ^3G_5$	24516.1		$3.43-1$	$3.75-1$	$3.88-1$	$3.88-1$
	$^3H_4 - ^3G_4$	22407.9		$1.18+0$	$1.23+0$	$1.23+0$	$1.21+0$
	$^3H_4 - ^3G_3$	21458.8		$1.80+0$	$1.94+0$	$1.96+0$	$1.92+0$