This article was processed by the author using Springer-Verlag LaTeX A&A style file *L-AA* version 3.

Table 9. Equivalent widths for FeI and FeI for standard stars

Element	λ	HD165 195	BD+30° 2611	HD20 4543	HD135 148
Fe I	4930.31	12.5:	61.5	20.1	25.0
	4939.69	128.0	167.0	122.0	183.0
	4973.10	24.6	93.6	45.1	56.0
	4994.13	132.0	178.0	125.0	183.0
	5060.07	76.9	138.0	59.0	128.0
	5079.23	93.3	140.0	97.0	125.0
	5083.34	134.0	179.0	122.0	190.0
	5090.78	18.6	73.0	36.6	45.0
	5123.72	135.0	200.0	128.0	192.0
	5127.36	127.0	167.0	112.0	180.0
	5137.38	33.5	93.0	54.5	72.0
	5151.91	134.0	165.0	111.0	169.0
	5171.59	156.0	206.0	149.0	199.0
	5194.94	141.0	184.0	133.0	186.0
	5198.71	86.3	140.0	93.0	125.0
	5216.28	134.0	181.0	124.0	177.0
	5225.52	118.0	171.0	91.0	170.0
	5242.49	37.3	96.0	51.0	68.0
	5243.78	5.6	51.0	13.3	79.0
	5247.05	105.0	172.0	85.0	163.0
	5250.21	108.0	160.0	87.0	157.0
	5253.47	24.8	86.0	35.6	58.0
	5307.36	87.1	141.0	83.0	126.0
	5373.71	8.1	44.0	10.6	18.0
	5379.59	8.1	59.0	17.3	34.0
	5398.26	10.4	55.0	22.0	30.6
	5410.89	43.2	100.0	67.0	82.0
	5473.89	14.2	72.0	30.0	43.0
	5506.78	158.0	206.0	146.0	201.0
	5543.93	6.6	49.0	15.2	31.4
	5560.19	4.0	33.0	10.1	8.0
	5635.83	2.3	25.2	...	5.6
	5641.45	3.2	53.0	16.0	25.1
	5652.33	...	14.8	...	2.7
	5701.55	51.4	113.0	58.0	95.0
	5753.10	11.7	64.5	26.0	40.0
	5916.25	24.0	...	34.0	65.0
	6027.06	7.8	59.0	21.7	31.0
	6065.49	97.5	152.0	99.8	142.0
	6082.73	11.8	64.0	18.5	31.0
	6136.62	122.1	170.0	118.0	164.0
	6137.00	43.0	112.0	47.0	84.0
	6137.70	109.1	167.0	116.0	150.0
	6151.62	21.9	87.0	26.4	54.0
	6157.73	9.5	62.0	22.0	33.0
	6173.33	41.5	...	45.0	87.0
	6252.56	110.5	164.0	106.0	152.0
	6265.14	75.0	130.0	73.0	124.0
	6322.69	42.4	111.0	46.0	85.0
	6344.15	28.9	98.0	34.0	64.0:
	6358.69	72.2	145.0	64.0	134.0
	6380.75	3.9	...	10.5	21.0
	6421.36	98.6	157.0	102.0	143.0
	6430.85	112.0	162.0	108.0	158.0
	6481.88	43.4	98.0	47.0	81.0

Table 5. Measured Abundances for M2

Element	A	Solar	M2_V11	sigma	n	M2_HII_89	sigma	n
C I	6	8.56	...	...	...	8.13	0.17	2
Na I	11	6.33	4.88	0.03	2	4.53	0.08	2
Mg I	12	7.58	6.32	0.52	3	6.49	0.13	4
Al I	13	6.47	5.77	0.39	2	4.84	0.25	2
Si I	14	7.55	6.28	0.11	9	6.10	0.03	12
Si II	14	7.55	...	...	...	4.43	...	1
Ca I	20	6.36	4.83	0.04	14	4.92	0.08	4
Sc I	21	3.10	...	...	...	1.60	0.07	1
Sc II	21	3.10	1.41	0.06	10	1.09	...	11
Ti I	22	4.99	3.64	0.05	11	3.31	0.10	4
Ti II	22	4.99	3.32	0.07	5	3.59	0.10	5
V I	23	4.00	3.34	...	1	2.11	0.03	3
Cr I	24	5.67	3.90	0.05	6	3.91	0.07	6
Cr II	24	5.67	3.64	0.05	5	4.19	0.09	5
Mn I	25	5.39	3.47	0.16	3	3.42	0.04	8
Fe I	26	7.51	5.75	0.04	33	5.97	0.03	25
Fe II	26	7.51	5.71	0.02	18	5.96	0.03	18
Co I	27	4.92	3.95	...	1	3.63	0.14	4
Ni I	28	6.25	4.65	0.07	11	4.55	0.06	10
Cu I	29	4.21	...	...	...	2.46	0.08	2
Zn I	30	4.60	3.21	0.16	2	3.04	...	1
Y II	39	2.24	0.39	0.09	7	0.40	0.06	9
Zr I	40	2.60	3.31	...	1	1.10	0.05	5
Zr II	40	2.60	0.15	...	1	1.16	0.06	2
Ru I	44	1.84	...	...	...	0.72	...	1
Ba II	56	2.13	0.82	0.20	3	0.68	0.02	3
La II	57	1.22	-1.32	...	1	-0.61	0.11	4
Ce II	58	1.55	-0.15	...	1	-0.53	0.14	5
Pr II	59	0.71	...	...	...	-0.75	0.17	2
Nd II	60	1.50	-0.30	0.11	3	-0.12	0.05	16
Sm II	62	1.00	-0.47	0.80	2	-0.43	0.31	4
Eu II	63	0.51	-0.92	0.48	2	-0.72	0.43	2
Dy II	66	1.10	...	...	...	...	...	...

Table 6. Measured Abundances for M13

Element	A	M13_SH11	sigma	n	M13_I_13	sigma	n	BD+11°2998	sigma	n
C I	6	...	...	...	...	...	...	7.40	0.07	4
Na I	11	5.48	0.15	3	4.65	0.00	2	5.16	0.06	4
Mg I	12	6.43	0.18	2	6.59	0.24	2	6.77	0.14	4
Al I	13	5.91	0.12	2	4.88	0.23	2	5.26	0.41	2
Si I	14	6.31	0.05	12	6.35	0.05	15	6.69	0.02	18
Si II	14	6.78	...	1	...	...	...	6.71	...	1
Ca I	20	5.23	0.04	12	5.12	0.03	7	5.38	0.01	15
Sc I	21	...	...	...	...	...	...	3.59	...	1
Sc II	21	1.98	0.06	10	1.85	0.05	9	1.94	0.02	11
Ti I	22	3.87	0.11	8	3.80	0.09	21	3.97	0.05	23
Ti II	22	3.84	0.03	6	3.70	0.16	5	3.96	0.06	8
V I	23	2.71	0.07	5	2.52	0.09	4	2.79	0.09	5
Cr I	24	4.28	0.11	9	4.28	0.10	8	4.32	0.07	12
Cr II	24	4.37	0.04	3	4.29	0.05	5	4.40	0.06	7
Mn I	25	3.58	0.21	8	3.64	0.06	8	3.80	0.02	9
Fe I	26	6.08	0.03	28	6.13	0.03	24	6.34	0.02	53
Fe II	26	6.20	0.05	18	6.15	0.04	20	6.35	0.04	20
Co I	27	3.72	0.10	6	3.69	0.12	5	3.92	0.05	6
Ni I	28	4.79	0.17	8	4.66	0.06	8	5.05	0.06	16
Cu I	29	2.49	0.21	2	2.56	0.10	2	2.87	0.26	2
Zn I	30	2.93	...	1	3.30	0.26	2	3.66	0.20	3
Y II	39	0.65	0.07	7	0.60	0.06	12	0.76	0.04	12
Zr I	40	1.64	0.06	6	1.50	0.09	7	2.87	0.12	2
Zr II	40	1.46	0.33	2	1.40	0.11	3	1.60	0.27	4
Ru I	44	0.55	0.03	2	0.50	0.47	2	...	...	...
Ba II	56	1.55	0.01	2	0.91	0.02	2	1.05	0.08	3
La II	57	-0.04	0.08	5	-0.24	0.06	5	-0.19	0.06	3
Ce II	58	0.05	0.19	5	0.10	0.12	6	-0.03	0.04	4
Pr II	59	-0.47	0.31	2	-0.59	0.24	2	...	...	...
Nd II	60	0.38	0.08	16	0.16	0.06	16	0.02	0.06	6
Sm II	62	0.10	0.21	6	-0.06	0.22	6	0.50	...	1
Eu II	63	-0.22	0.36	2	-0.39	0.32	2	-0.91	0.17	2
Dy II	66	0.25	...	1	0.16	...	1	...	...	...

Table 7. Measured Abundances for M56

Element	*A*	M56_V6	sigma	n	M56_I_60	sigma	*n*	M56_I_96	sigma	*n*
Na I	11	...	...	...	4.97	0.10	3	4.27	0.12	3
Mg I	12	4.65	0.08	2	6.14	0.29	2	5.89	0.29	3
Al I	13	...	...	...	5.44	0.22	2	...	...	...
Si I	14	5.48	...	1	6.03	0.05	8	6.01	0.06	10
Si II	14	...	...	...	...	...	...	...	...	...
Ca I	20	3.54	...	1	4.69	0.05	12	4.79	0.03	12
Sc I	21	...	...	...	...	...	...	...	...	...
Sc II	21	1.05	0.18	2	1.42	0.06	10	1.53	0.04	11
Ti I	22	3.05	0.06	10	3.35	0.05	14	3.52	0.04	11
Ti II	22	3.19	...	1	3.33	0.09	7	3.47	0.08	6
V I	23	...	...	...	2.05	0.07	5	2.31	0.04	5
Cr I	24	2.24	0.04	3	3.93	0.09	8	4.05	0.13	5
Cr II	24	...	...	...	4.13	0.24	3	3.83	0.13	2
Mn I	25	1.82	...	1	3.33	0.09	9	3.35	0.10	4
Fe I	26	4.13	0.06	14	5.71	0.03	27	5.86	0.03	29
Fe II	26	4.20	0.28	3	5.70	0.04	13	5.80	0.05	18
Co I	27	...	...	...	3.33	0.07	5	3.29	0.02	4
Ni I	28	2.82	0.10	3	4.26	0.07	14	4.54	0.08	12
Cu I	29	...	...	...	1.90	...	1	1.96	0.18	2
Zn I	30	...	...	...	2.31	...	1	2.94	0.26	2
Y II	39	0.33	0.14	3	0.44	0.10	7	0.14	0.04	6
Zr I	40	1.58	0.02	2	1.46	0.14	2	1.64	0.06	3
Zr II	40	...	...	...	1.54	0.06	2	1.55	...	1
Ba II	56	1.85	0.24	3	0.52	0.03	2	0.33	0.02	2
La II	57	-1.09	...	1	-0.30	0.06	5	-0.50	0.03	3
Ce II	58	...	...	...	-0.14	0.05	3	-0.12	0.20	4
Pr II	59	...	...	...	-0.54	...	1	-0.53	...	1
Nd II	60	-0.54	0.10	5	-0.10	0.05	11	-0.19	0.08	13
Sm II	62	...	...	...	-0.44	0.82	2	-0.21	0.28	2
Eu II	63	-0.88	0.36	2	-0.55	0.15	2	-0.86	0.47	2
Dy II	66	...	...	...	...	...	...	-0.48	...	1

Table 10. Equivalent widths for programme stars

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
C I	6	5052.15	-1.49	T94	12.5	...	...	...	...	...	...	...
		7111.48	-1.20	T94	4.0	...	3.9:	...	...	...	...	...
		7113.18	-0.87	T94	5.1	...	3.7:	...	...	...	...	...
		7116.99	-0.68	T94	1.3:	...	...	...	...	...	...	...
		7119.67	-0.95	T94	3.6	...	...	...	...	...	...	...
Na I	11	4668.60	-1.41	T89	8.1	...	...	...	...	...	11.0	...
		5682.63	-0.67	WSM	28.5	15.5	50.8	109.0	46.0	...	49.0	17.0
		5688.21	-0.37	WSM	53.2	25.2	59.9	148.0	66.0	...	91.0	18.0
		6160.75	-1.27	G+94	7.2	...	...	48.0	...	...	...	7.0
Mg I	12	4702.99	0.04	PC89	151.0	71.9	166.4	187.0	167.0	66.0	138.0	114.0
		5528.41	-0.48	PC89	157.3	82.8	200.1	221.0	182.0	48.0	147.0	153.0
		5711.09	-1.58	PC89	60.8	...	102.2	97.0	98.0	...	54.0	64.0
		6319.24	-2.30	T90	10.5	5.8	17.3	16.0	24.0	...	8.0	...
Al I	13	6696.03	-1.32	G+94	3.1	7.4	12.0	70.0	10.0:	...	22.0	...
		6698.67	-1.95	T90	4.7	10.3	9.2	41.0	7.0:	...	15.0	...
Si I	14	5684.48	-1.55	PC89	28.6	11.9	37.3	46.0	34.0	...	22.0	19.0
		5690.42	-1.76	PC89	20.9	8.1	23.1	24.0	23.0	...	13.0	18.0
		5701.10	-1.99	PC89	14.6	...	19.6	18.0	23.0	...	...	9.0
		5708.41	-1.47	G+94	45.6	22.2	...	91.0	63.0	...	38.0	36.0
		5772.15	-1.56	PC89	23.1	7.3	24.0	30.0	22.0	...	15.0	13.0
		5793.07	-1.88	PC89	20.6	15.2:	18.2	...	...	...	...	...
		5797.86	-1.86	PC89	16.0	13.4:	...	...	30.0:	...	...	...
		5948.54	-1.10	PC89	51.8	6.5	47.3	59.0	59.0	15.0	40.0	34.0
		6125.03	-1.50	PC89	10.1	...	...	20.0	21.0	...	...	...
		6142.48	-1.46	PC89	10.2	...	30.0	...	18.0	...	...	13.0
		6145.02	-1.34	PC89	10.8	...	6.3	15.0	8.0	...	...	6.0
		6243.82	-1.23	PC89	17.1	4.0	9.9	17.0	23.0	...	11.0	10.0
		6244.47	-1.25	PC89	13.6	6.1	10.0	15.0	15.0	...	6.0	5.0
		6414.98	-0.89	PC89	16.8	...	15.3	...	14.0	...	...	...
		6721.85	-1.26	G+94	16.8	...	8.5	13.0	14.0	...	...	...
		7003.57	-0.86	T90	19.1	...	...	...	...	...	...	...
		7005.90	-0.68	T90	31.2	...	13.5	...	...	...	...	...
		7034.91	-0.85	T90	28.1	...	...	13.0	22.0	...	15.0	...
Si II	14	6347.10	0.26	G+94	37.5	39.8	...	12.0	...	...	...	...
Ca I	20	5261.70	-0.58	PC89	56.0	24.9	100.2	107.0	104.0	...	55.0	78.0
		5349.46	-0.31	PC89	61.1	17.7	104.9	106.0	96.0	...	62.0	65.0
		5512.98	-0.45	PC89	42.7	18.7	80.7	...	...	...	30.0	38.0
		5581.96	-0.56	PC89	59.4	17.8	104.5	108.0	97.0:	...	62.0	68.0
		5588.75	0.36	PC89	112.5	80.6	147.7	188.0	143.0	...	111.0	115.0
		5590.11	-0.57	PC89	57.3	19.7	92.3	100.0	98.0	...	72.0	65.0
		5601.28	-0.52	PC89	61.4	21.7	99.8	122.0	105.0	...	58.0	68.0
		5857.45	0.24	PC89	85.6	40.4	136.8	161.0	138.0	16.5:	88.0	92.0
		6102.72	-0.76	PC89	94.8	...	...	...	...	...	...	...
		6122.22	-0.09	PC89	124.4	104.0	195.8	251.0	183.0	...	151.0	150.0
		6169.56	-0.48	PC89	64.4	...	...	...	...	...	...	...
		6449.81	-0.50	PC89	67.2	17.3	107.8	...	...	...	...	...
		6471.66	-0.69	PC89	57.0	23.0	111.7	119.0	111.0	...	...	72.7
		6493.78	-0.11	PC89	95.1	51.5	141.8	170.0	133.0	...	120.0	110.0
		6499.65	-0.82	PC89	42.4	12.5	97.7	104.0	99.0	...	68.0	56.0
		6572.78	-4.32	PC89	10.3	3.3	123.8	131.0	107.0	...	52.0	51.0
Sc I	21	6239.41	-2.18	C	6.7	...	9.9	...	...	...	...	...
Sc II	21	4670.41	-0.37	D	90.1	...	104.4	...	144.0:	59.3:	...	...
		5239.82	-0.77	D	57.5	57.7	95.2	117.0	95.0	54.6:	73.0	74.0
		5318.36	-2.04	E	10.6	4.8	23.3	23.0	21.0	...	...	18.0

Table 10. continued

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
Sc II	21	5526.82	0.13	D	94.2	126.7	100.3	135.0	98.0	...	80.0	93.0
		5640.99	-1.04	PC89	41.7	32.2	74.6	85.0	79.0	...	50.0	55.0
		5657.87	-0.50	D	76.5	83.6	95.5	121.0	103.0	...	83.0	99.0
		5658.35	-1.15	T89	44.5	53.0	...	...	...	...	60.0	64.0
		5667.15	-1.24	PC89	34.7	33.8	61.8	65.0	59.0	...	40.0	39.0
		5669.04	-1.12	PC89	38.3	34.7	85.0	93.0	72.0	...	48.0	50.0
		5684.19	-1.05	PC89	41.5	44.8	66.2	71.0	66.0	...	42.0	51.0
		6320.87	-1.77	PC89	8.2	...	18.1	27.0	26.0	...	8.0	12.0
		6604.60	-1.48	D-	35.4	13.0	57.0	78.0	70.0	...	47.0	48.9
Ti I	22	4675.11	-1.37	C+	6.3	...	44.6	87.0	73.0	...	...	...
		4759.28	0.514	C+	20.5	...	55.1	72.0	63.0	...	30.0	...
		4820.41	-0.44	C+	13.3	9.1	106.5	125.0	99.0	19.6	39.0	60.0
		4840.88	-0.51	C+	37.7	14.9	127.7	161.0	114.0	49.5	82.0	81.0
		4913.62	0.16	C+	18.3	10.9:	82.2	91.0	75.0	25.6	36.0	...
		4981.74	0.504	C+	106.3	59.1	194.8	...	183.0	...	128.0	142.0
		4999.51	0.25	C+	96.0	54.8	198.2	254.0	178.0	180.0	134.0	140.0
		5000.99	-0.03	C+	14.9	...	61.4	74.0	58.0	...	...	28.0
		5009.66	-2.26	C+	10.8	...	128.3	164.0	109.0	13.5	49.0	59.0
		5016.17	-0.57	C+	43.4	8.5	135.0	190.0	130.0	63.7	82.0	80.0
		5022.87	-0.43	C+	47.4	20.0	150.9	211.0	140.0	78.7	83.0	92.0
		5024.85	-0.60	C+	40.8	...	147.3	199.0	131.0	...	89.0	84.0
		5039.96	-1.13	C+	54.9	19.2	186.9	266.0	168.0	93.4	127.0	130.0
		5064.66	-0.99	C+	63.7	...	187.5	274.0	173.0	115.5	137.0	143.0
		5071.49	-1.06	C+	11.9	...	59.5	...	48.0	...	...	...
		5173.75	-1.12	C+	59.0	17.7	214.0	279.0	192.0	118.7	130.0	134.0
		5192.98	-1.01	C+	64.7	32.5	219.2	300.0	192.0	133.0	166.0	153.0
		5210.39	-0.88	C+	68.0	23.8	234.2	...	204.0	...	134.0	144.0
		5219.71	-2.29	C+	9.2	...	137.4	160.0	107.0	8.4	48.0	60.0
		5866.45	-0.84	C+	15.4	...	126.5	142.0	...	35.7	54.0	57.0
		5899.30	-1.15	C+	12.5	...	107.0	135.0	95.0	...	76.0	...
		6126.22	-1.43	C+	7.2	...	87.8	96.0	...	...	24.0	26.0
		6258.10	-0.36	C+	18.6	8.3	115.4	159.0	145.0	36.7	53.0	55.0
		6261.11	-0.48	C+	23.0	...	121.2	144.0	115.0	30.9	38.0	53.0
Ti II		4708.67	-2.21	D	81.9	80.2	93.1	111.0	91.0	...	88.0	92.0
		5005.17	-2.55	D	31.3	24.4	52.5	68.0	57.0	...	38.0	46.0
		5069.09	-1.39	D	15.4	...	18.9	...	9.0:	8.4:	...	...
		5154.08	-1.92	D-	93.4	107.6	110.8	138.0	120.0	...	75.0	96.0
		5185.91	-1.35	D	93.6	97.7	108.6	129.0	108.0	...	95.0	94.0
		5226.55	-1.30	D-	124.7	153.4	136.8	139.0	141.0	...	99.0	126.0
		5336.79	-1.70	D-	98.5	103.5	115.1	161.0	122.0	...	98.0	112.0
		5418.76	-2.47	GS88	70.5	58.0	89.2	...	94.0	...	73.0	71.0
		6606.98	-2.79	D	15.8	11.8	18.1	28.0	16.0	...	...	7.0
V I	23	4875.49	-0.81	B+	8.9	...	139.0	139.0	117.0	...	55.0	67.0
		5703.57	-0.21	B+	7.0	...	77.8	86.0	70.0	...	18.0	29.0
		5727.02	-0.01	B+	10.5	...	106.7	115.0	95.0	...	34.0	36.0
		6090.21	-0.06	B	5.5	...	90.1	90.0	68.0	...	30.0	28.0
		6119.52	-0.32	B+	8.4	8.1:	68.4	71.0	59.0	...	10.0	18.0
Cr I	24	4708.02	0.11	B	12.5	...	45.0	53.0	51.0	...	26.0	...
		4737.36	-0.10	B	9.7	...	40.6	44.0	47.0	...	...	...
		4789.34	-0.37	B	19.2	7.4:	100.5	86.0:	96.0	...	50.0	...
		4801.03	-0.13	B	11.8	...	40.9	51.0	39.0	...	22.0	...
		5247.57	-1.64	B	38.6	9.7	141.7	144.0	134.0	6.0	88.0	96.0
		5296.70	-1.40	B	45.1	10.7	154.7	189.0	140.0	...	100.0	109.0
		5300.75	-2.12	B	12.9	...	99.9	102.0	94.0	...	54.0	52.0
		5329.15	-0.06	B	16.1	...	66.4	64.0	64.0	...	29.0	29.0

Table 10. continued

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
Cr I	24	5345.81	-0.98	B	75.4	37.3	188.0	225.0	167.0	24.1	128.0	119.0
		5348.33	-1.29	B	48.4	17.3	148.0	189.0	141.0	15.3	109.0	105.0
		5409.80	-0.72	B	88.3	42.8	208.7	...	...	...	137.0	145.0
		5702.33	-0.67	B	6.6	...	26.0	32.0	24.0	...	9.0	10.0
		5787.93	-0.08	B	8.5	...	26.5	29.0	33.0	...	...	17.0
Cr II	24	4848.25	-1.14	D	56.5	58.3	31.2	61.0	44.0	...	28.0	32.0
		4884.60	-2.08	D	11.8	7.9	14.7	...	19.0	...	...	...
		5237.33	-1.16	D	42.5	36.8	38.7	47.0	37.0	...	...	33.0
		5308.43	-1.81	D	13.9	10.8	14.4	16.0	16.0	...	...	...
		5310.70	-2.28	D	12.8	...	...	...	...	...	9.0	...
		5502.09	-1.99	D	10.1	9.6	14.2	...	10.0	...	13.0	...
		5508.63	-2.11	D	10.5	6.3:	...	...	...	...	...	...
Mn I	25	4709.72	-0.34	B	14.0	...	50.6	80.0	69.0	...	51.0	...
		4739.11	-0.49	B	8.6	...	39.8	33.0	38.0	...	36.0	...
		4761.53	-0.14	B	15.9	...	51.0	46.0	54.0	...	22.0	...
		4765.86	-0.08	C	18.1	12.5	67.5	71.0	66.0	...	26.0	...
		4766.42	0.10	C	28.2	6.2	80.8	84.0	89.0	...	37.0	...
		4783.42	0.042	B	64.5	24.4	153.0	175.0	148.0	12.6	111.0	106.0
		6013.50	-0.25	C+	9.5	...	63.5	64.0	58.0	...	24.0	19.0
		6016.65	-0.24	T90	15.6	...	72.8	77.0	72.0	...	31.0	24.0
		6021.80	0.034	C+	18.9	...	84.5	84.0	79.0	...	39.0	42.0
Fe I	26	4930.31	-1.35	C	24.2	...	53.7	59.0	65.0	...	26.0	30.0
		4939.69	-3.34	B+	84.3	41.8	218.7	267.0	186.0	...	140.0	161.0
		4973.10	-0.95	C+	42.8	8.6	99.2	102.0	93.0	...	42.0	61.0
		4994.13	-3.08	B+	92.1	53.1	214.2	266.0	186.0	51.7	149.0	167.0
		5060.07	-5.46	B+	17.4	...	161.9	251.0	149.0	63.7	104.0	143.0
		5079.23	-2.07	B+	73.4	...	147.8	201.0	141.0	22.5	135.0	...
		5083.34	-2.96	B+	94.9	51.8	200.8	276.0	191.0	57.9	164.0	163.0
		5090.78	-0.40	C+	41.5	15.2	61.3	77.0	73.0	...	55.0	...
		5123.72	-3.07	B+	93.8	36.0	178.5	304.0	214.0	27.3	162.0	180.0
		5127.36	-3.31	B+	82.5	36.4	182.2	...	170.0	41.0	156.0	151.0
		5137.38	-0.40	C+	150.0	15.8	98.8	86.0	85.0	8.0	52.0	61.0
		5151.91	-3.32	B+	77.8	21.0	177.6	...	180.0	...	130.0	152.0
		5171.59	-1.79	B+	129.0	114.3	216.0	276.0	212.0	106.5	180.0	184.0
		5194.94	-2.09	B+	109.8	64.3	189.6	270.0	198.0	61.2	178.0	159.0
		5198.71	-2.14	B+	69.6	19.2	141.9	181.0	147.0	14.0	110.0	120.0
		5216.28	-2.15	B+	105.1	57.5	199.3	266.0	190.0	45.5	142.0	156.0
		5225.52	-4.79	B+	45.5	16.0	199.5	294.0	178.0	124.0	138.0	151.0
		5242.49	-0.84	C+	50.1	8.9	86.9	107.0	96.0	...	60.0	63.0
		5243.78	-1.15	C	16.3	...	54.7	46.0	46.0	...	21.0	19.0
		5247.05	-4.95	B+	40.0	11.6	204.6	299.0	186.0	96.1	133.0	150.0
		5250.21	-4.94	B+	35.3	7.3	190.9	256.0	170.0	89.6	134.0	141.0
		5253.47	-1.67	C	31.2	...	96.7	99.0	89.0	...	63.0	49.0
		5307.36	-2.99	B+	62.5	24.5	149.1	196.0	145.0	...	106.0	130.0
		5373.71	-0.86	C	18.5	5.4	41.9	39.0	47.0	7.8	20.0	...
		5379.59	-1.48	C	22.1	...	56.1	62.0	62.0	...	25.0	52.0
		5398.26	-0.67	C	30.8	6.3	51.1	55.0	54.0	...	24.0	35.0
		5410.89	0.28	C+	72.3	36.1	93.4	119.0	97.0	...	72.0	70.0
		5473.89	-0.76	C+	31.4	...	61.0	78.0	68.0	...	33.0	35.0
		5506.78	-2.80	B+	107.4	64.2	246.4	315.0	216.0	89.0	...	180.0
		5543.93	-1.14	C	17.9	...	43.8	47.0	47.0	...	21.0	24.0
		5560.19	-1.19	C	14.3	...	34.4	32.0	36.0	...	...	17.0
		5635.83	-1.89	C	8.3	...	22.9	16.0	19.0	...	...	...
		5641.45	-1.18	C	15.5	10.2	52.9	54.0	49.0	...	21.0	20.0
		5652.33	-1.95	C	...	2.0	13.5	15.0	17.0	...	...	6.0

Table 10. continued

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
		5701.55	-2.22	B+	46.3	...	125.9	147.0	121.0	...	77.0	82.0
		5753.10	-0.76	C+	32.5	...	71.7	61.0	65.0	...	36.0	32.0
		5916.25	-2.99	B+	21.5	...	97.4	...	...	...	43.0	49.0
		6027.06	-1.21	C	18.9	...	52.6	59.0	60.0	...	...	23.0
		6065.49	-1.53	B+	86.6	30.6	159.7	200.0	155.0	...	128.0	125.0
		6082.73	-3.57	B+	4.9	...	74.5	81.0	70.0	...	30.0	33.0
		6136.62	-1.40	B+	96.3	30.4	175.1	182.0	172.0	...	145.0	146.0
		6137.00	-2.95	B+	29.8	3.8:	129.0	173.0	111.0	...	74.0	82.0
		6137.70	-1.40	B+	92.7	34.0	182.8	217.0	173.0	17.8	139.0	142.0
		6151.62	-3.30	B+	13.2	...	93.6	113.0	95.0	...	60.0	54.0
		6157.73	-1.26	C	17.6	...	63.4	63.0	53.0	...	28.0	26.0
		6173.33	-2.88	B+	29.8	5.8	116.5	...	...	...	75.0	78.0
		6252.56	-1.69	B+	85.5	23.1	177.8	207.0	159.0	17.7	131.0	133.0
		6265.14	-2.55	B+	48.6	15.9	143.1	178.0	132.0	...	110.0	109.0
		6322.69	-2.43	B+	34.8	6.1	111.8	132.0	111.0	...	89.0	89.0
		6344.15	-2.92	B+	20.7	...	106.9	128.0	106.0	...	62.0	65.0
		6358.69	-4.47	B+	33.0	7.0	165.3	203.0	154.0	...	114.0	116.0
		6380.75	-1.40	C	18.8	...	37.0	...	...	...	9.0	14.0
		6421.36	-2.03	B+	80.5	22.2	169.4	212.0	163.0	19.0	133.0	132.0
		6430.85	-2.01	B+	85.6	27.9	187.8	224.0	175.0	37.0	148.0	144.0
		6481.88	-2.98	B+	34.1	...	106.9	137.0	108.0	...	67.0	77.5
		6494.98	-1.27	B+	109.4	47.6	210.6	255.0	193.0	...	159.0	162.7
		6609.12	-2.69	B+	23.3	...	100.5	115.0	96.0	...	58.0	63.3
		6858.16	-1.06	C	9.9	6.7:	27.1	27.0	26.0	...	...	21.1
		6945.21	-2.48	B+	50.0	...	137.9	211.0	150.0	...	...	124.7
Fe II	26	4666.75	-3.33	D	55.5	57.5	89.2	85.0:	46.0	...	...	...
		4993.36	-3.82	PC89	36.5	43.0	32.5	34.0	39.0	...	...	32.0
		5100.66	-4.37	D	40.1	13.7	12.3	12.0	17.0	...	...	...
		5132.67	-4.18	D	17.4	18.2	11.2	24.0:	19.0	...	...	13.0
		5197.58	-2.10	C	96.6	131.9	87.3	118.0	84.0	6.0:	76.0	83.0
		5234.63	-2.05	C	101.1	128.7	79.7	...	85.0	13.0	72.0	77.0
		5264.81	-3.19	D	46.8	48.3	32.0	60.0	38.0	...	30.0	42.0
		5284.11	-3.19	D	66.5	81.1	51.8	50.0	40.0	...	50.0	53.0
		5325.56	-3.32	PC89	45.4	49.4	36.0	40.0	40.0	...	24.0	25.0
		5414.09	-3.79	PC89	24.0	25.6	15.0	19.0	24.0	...	...	28.0
		5425.26	-3.36	PC89	35.3	36.6	40.9	31.0	33.0	...	26.0	26.0
		5534.86	-2.93	PC89	67.0	69.5	55.8	74.0	68.0	8.0	45.0	45.0
		5991.39	-3.74	D	31.5	19.0	21.3	23.0	21.0	...	11.0	16.0
		6084.10	-3.98	D	14.8	11.0	13.2	15.0	19.0	...	9.0	13.0
		6113.33	-4.31	D	8.7	...	...	...	14.0	...	...	9.0
		6149.23	-2.92	D	28.5	19.8	20.9	27.0	26.0	...	18.0	22.0
		6239.95	-3.68	D	10.3	5.5	21.1	...	...	...	...	...
		6247.55	-2.51	D	53.4	45.4	27.4	41.0	36.0	...	...	20.0
		6416.93	-2.85	D	33.5	27.3	25.4	28.0	24.0	...	14.0	16.0
		6432.67	-3.74	D	40.0	40.7	39.0	39.0	41.0	10.4:	27.0	27.0
		6456.38	-2.30	D	69.6	78.6	50.1	55.0	49.0	...	38.0	41.0
Co I	27	4749.66	-0.48	K90	5.8	...	57.3	55.0	59.0	...	22.0	...
		4792.86	-0.25	T89	8.1	...	36.0	30.0	28.0	...	14.0	11.0:
		4813.48	-0.11	T89	10.7	6.8	35.7	32.0	32.0	...	15.0	...
		5342.71	0.47	T89	7.9	...	25.4	21.0	23.0	...	...	7.0
		5483.36	-1.49	C	10.2	...	117.5	119.0	102.0	...	42.0	50.0
		7052.87	-1.62	C	12.2	...	93.4:	93.0:	81.0	...	35.0	28.2
Ni I	28	4904.42	-0.17	D-	48.0	11.3	79.8	95.0	77.0	...	39.0	43.0
		5003.75	-2.80	C+	6.0	...	65.3	75.0	...	...	25.0	33.0
		5035.37	0.29	D-	66.2	30.1	81.5	103.0	91.0	10.2	59.0	...
		5081.12	0.30	D-	56.8	21.6	84.1	97.0	83.0	...	48.0	67.0

Table 10. continued

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
Ni I	28	5084.11	0.03	D-	47.6	23.3	63.3	77.0	64.0	...	37.0	...
		5102.97	-2.62	C+	16.4	...	93.2	102.0	86.0	...	33.0	...
		5115.40	-0.11	D-	33.7	11.7	44.1	...	55.0	...	...	...
		5137.08	-1.99	C+	73.4	19.3	130.2	190.0	147.0	8.0	113.0	111.0
		5435.87	-2.59	D+	15.8	7.6	76.2	95.0	71.0	...	47.0	48.0
		5476.92	-0.89	C+	122.8	93.6	221.6	...	188.0	48.0	149.0	154.0
		5587.87	-2.14	C+	23.1	...	98.9	115.0	91.0	...	53.0	57.0
		5592.27	-2.57	C+	27.6	...	88.4	132.0	112.0	...	54.0	55.0
		5754.67	-2.33	C+	30.8	16.2	113.9	141.0	113.0	...	74.0	78.0
		5892.88	-2.35	C+	30.4	...	119.1	109.0:	114.0	...	...	103.0
		6767.78	-2.17	D	45.3	10.3	132.1	162.0	120.0	...	88.0	96.9
		7122.21	0.04	D-	57.4	27.7	105.0	132.0	103.0	...	73.0	74.7
Cu I	29	5105.55	-1.52	SC88	27.1	...	120.7	127.0	113.0	...	62.0	48.0
		5218.21	0.03	T89	11.6	...	17.7	12.0	17.0	...	...	6.0:
Zn I	30	4680.14	-1.13	T89	47.4	12.0	...	...	...	...	...	...
		4810.54	-0.17	SC88	64.1	37.1	50.4	56.0	57.0	13.1:	28.0	47.0:
		6362.35	0.27	G+94	9.4	...	...	...	14.0	...	...	9.0
Y I	39	6435.05	-0.82	B92	...	...	12.0:	9.0	6.0:	...	...	...
Y II	39	4823.31	-1.11	B92	...	...	...	35.0	43.0	...	...	...
		4883.69	0.07	H+82	75.9	107.4	107.8	134.0	97.0	...	95.0	76.0
		4900.12	-0.09	B92	79.0	...	...	...	105.0	...	...	...
		4982.14	-1.29	H+82	7.4:	...	32.9	...	16.0	...	...	11.0:
		5087.43	-0.17	H+82	54.4	57.6	72.2	102.0	68.0	87.7	71.0	54.0
		5119.12	-1.36	H+82	9.9	6.6	23.7	27.0	24.0	...	...	9.0
		5123.22	-0.83	H+82	32.0	17.0	57.1	46.0:	42.0	31.3:	32.0:	...
		5200.42	-0.57	H+82	38.1	38.8	70.5	98.0	69.0	48.5:	55.0	41.0
		5205.73	-0.34	H+82	49.9	...	69.8	119.0:	87.0	...	58.0	67.0
		5289.82	-1.85	H+82	2.1:	...	16.2	9.0	11.0	...	...	...
		5402.79	-0.62	T89	9.0	8.3	26.3	23.0	22.0	9.4:	17.0	...
		5473.39	-1.02	B92	2.7	...	...	18.0	14.0	...	...	...
		6795.43	-1.19	H+82	...	...	11.0	10.0	5.0	...	...	...
Zr I	40	4815.64	-0.69	B92	...	...	29.0	24.0	21.0	...	...	...
		4828.06	-1.25	K90	...	...	...	8.0	4.0	...	...	...
		5385.13	-1.33	K90	...	...	15.0	10.0	7.0	...	...	14.0
		6127.48	-1.40	K90	...	...	30.0	28.0	20.0	7.6	6.0	11.0
		6134.57	-1.88	K90	3.5:	...	27.0	33.0	13.0	4.5	6.0	5.0
		6140.46	-1.88	K90	...	...	...	...	9.0	...	...	...
		6143.18	-1.68	K90	2.7:	...	32.0	20.0	15.0	...	...	5.0:
Zr II	40	4772.31	-0.09	T89	3.8	...	19.0	22.0	19.0	...	26.0:	...
		5112.28	-0.75	T89	10.8	9.7	20.1	18.0:	21.0	...	18.0	20.0
		5350.09	-1.24	B92	...	...	...	19.0	13.0	...	...	...
		6114.80	-1.40	B92	2.3	...	...	6.0	8.0	...	...	...
		6489.65	0.25	T90	2.6:	...	...	...	...	...	...	...
Ru I	44	4869.15	-0.77	B92	...	...	...	6.0	2.0:	...	...	...
		5636.23	-1.06	B92	...	...	11.0	3.0:	7.0	...	...	...
Ba II	56	5853.69	-1.01	WM80	82.4	79.5	132.9	...	...	162.2	...	...
		6141.73	-0.08	WM80	143.0	194.5	185.9	286.0	182.0	370.0	162.0	150.0
		6496.91	-0.38	WM80	132.7	173.1	183.7	275.0	180.0	383.0	160.0	144.0
La II	57	4748.74	-0.60	T90	3.5	...	7.0	21.0	10.0	...	16.0	...
		5123.01	-0.82	T89	9.0	1.6:	40.3	62.0:	39.0	...	38.0:	26.0:
		5377.06	0.70	T89	...	...	...	6.0:	8.0:	...	6.0	...
		6320.43	-1.61	B92	...	...	32.0	29.0	24.0	3.0:	21.0	12.0
		6390.49	-1.49	T89	3.9:	...	26.5	39.0	22.0	...	10.0	8.5
Ce II	58	4773.96	0.21	T89	6.0	...	10.3	12.0:	15.0	...	21.0:	...
		5187.46	0.37	T89	...	7.4:	14.6	16.0	21.0	...	19.0	6.0

Table 10. continued

Element	A	λ	log gf	ref[a]	BD+11° 2998	M2 _V11	M2 _HII_89	M13 _SH11	M13 _I_13	M56 _V6	M56 _I_60	M56 _I_96
Ce II	58	5274.24	0.26	T89	6.0	...	22.3	30.0	29.0	...	17.0	29.0
		5330.56	-0.23	T89	3.2	...	7.3	25.0	18.0	...	...	9.0
		5393.38	-0.34	B92	...	...	...	...	19.0	...	...	...
		5472.30	-0.54	B92	...	...	6.0	12.0	7.0	...	...	6.0
		5512.06	0.20	T89	4.1:	...	...	...	...	...	...	...
Pr II	59	5219.03	-0.15	T89	...	...	13.3	9.0	8.0:	...	...	...
		5322.82	-0.54	T89	...	...	27.9	31.0	22.0	...	14.0	14.0
Nd II	60	4811.35	-0.91	T89	6.2	4.8	59.0	86.0	59.0	10.7:	45.0	...
		4959.15	-0.90	T89	12.1:	12.8	73.6	103.0	72.0	10.6:	53.0	55.0
		5089.83	-1.32	T89	...	...	26.8	31.0	28.0	...	15.0	...
		5092.80	-0.60	T89	7.5	3.3:	56.5	60.0	47.0	11.9	31.0	53.0
		5212.35	-0.87	B92	7.5	...	61.0	51.0	119.0	...	25.0	23.0
		5234.21	-0.59	T89	6.4	19.3	55.5	69.0	45.0	18.0	26.0	25.0
		5249.58	0.12	T89	13.6:	12.6	56.6	70.0	49.0	...	33.0	31.0
		5276.88	-0.44	B92	...	...	17.0	18.0	15.0	...	...	10.0
		5293.17	-0.09	T89	11.3:	11.4	55.1	86.0	58.0	16.6	27.0	26.0
		5311.48	-0.43	T89	8.5	...	21.4	27.0	24.0	...	...	3.0
		5319.82	-0.35	T89	12.6	7.0	62.1	95.0	53.0	...	32.0	33.0
		5371.93	0.28	T89	3.0	...	...	...	19.0	...	9.0	...
		5385.89	-0.82	B92	...	...	17.0	23.0	13.0	...	...	14.0
		5416.384	-0.93	B92	...	...	7.0	8.0	7.0	...	...	2.6:
		5431.54	-0.40	B92	...	3.0:	13.0:	12.0	6.0	...	...	3.0:
		5442.29	-0.61	T89	...	...	16.5	19.0	15.0	...	...	...
		5485.71	-0.12	B92	...	...	14.0	20.0	23.0	...	8.0	4.4
Sm II	62	4719.86	-0.36	D+92	...	4.4	40.2	53.0	34.0	...	18.0	...
		4777.85	-1.28	D+92	2.5:	...	13.8	46.0	21.0	...	...	...
		4815.82	-1.50	B92	...	9.0	48.0	68.0	44.0	...	32.0:	18.0
		4854.35	-1.87	B92	...	...	...	13.0	5.0	...	...	...
		4913.27	-1.15	B92	...	...	...	11.0	11.0	...	...	...
		4948.60	-0.84	D+92	...	...	15.9	19.0:	13.0:	...	...	9.0:
Eu II	63	6437.70	0.05	T90	2.1:	2.2	14.6	22.0:	17.0	6.0:	18.0	5.0
		6645.13	-0.25	T90	2.1:	8.4	33.7	40.0	28.0	12.5	16.0	16.3
Dy II	66	5169.71	-2.21	B92	...	...	...	11.0	9.0	...	...	...
		5324.71	-0.98	K90	...	...	...	...	...	...	...	3.5:

[a] B92 - Bessell (1992); B,B+,C,C+,D,D-,E - accuracy ratings from NIST (1996); D+92 - Davidson et al. (1992); G+94 - Giridhar et al. (1994); GS88 - Gratton & Sneden (1988); H+82 - Hannaford et al. (1982); K90 - Kurucz (1990); PC89 - Peterson & Carney (1989); SC88 - Sneden & Crocker (1988); T89 - Thévenin (1989); T90 - Thévenin (1990); T94 - Takeda (1994); WM80 - Wiese & Martin (1980); WSM - Wiese, Smith, & Miles (1969)