Appendix

Table 1. Elemental abundances

	CS Ori, P=3.88939				AE Tau 3.89645				V504 Mon (s) 3.907				AA Mon 3.93816			
Ion	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)
C I	−0.58	0.18	5	7.97	−0.48	0.08	5	8.07	−0.53	0.12	9	8.02	−0.49	0.13	6	8.06
N I	−0.12	0.10	8	7.85	0.07	0.08	6	8.04	0.14	0.05	7	8.11	0.35	0.06	5	8.32
O I	−0.61	–	1	8.26	−0.17	0.23	2	8.70	−0.35	–	1	8.52	−0.19	0.07	2	8.68
Na I	0.05	0.01	3	6.38	−0.10	0.01	2	6.23	−0.08	0.10	4	6.25	0.04	0.13	2	6.37
Mg I	−0.40	–	1	7.18	−0.36	0.18	2	7.22	−0.45	–	1	7.13	−0.22	0.12	2	7.36
Al I	−0.31	0.33	2	6.16	−0.30	0.11	6	6.17	−0.13	–	1	6.34	−0.14	–	1	6.33
Si I	−0.16	0.11	22	7.39	−0.18	0.10	23	7.37	−0.19	0.13	13	7.36	−0.15	0.18	6	7.40
Si II	−0.09	–	1	7.46	−0.19	–	1	7.36	0.10	–	1	7.65	0.06	–	1	7.61
S I	−0.32	0.16	5	6.89	−0.33	0.15	3	6.88	−0.23	0.22	4	6.98	−0.12	0.20	5	7.09
Ca I	−0.20	0.10	9	6.16	−0.25	0.08	9	6.11	−0.21	0.12	11	6.15	−0.26	0.15	8	6.10
Sc I	0.38	–	1	3.55	0.20	–	1	3.37	–	–	–	–	–	–	–	–
Sc II	−0.27	0.16	3	2.90	−0.15	0.17	4	3.02	−0.33	0.18	5	2.84	−0.21	0.15	6	2.96
Ti I	−0.20	0.05	4	4.82	−0.07	0.14	9	4.95	−0.22	0.07	3	4.80	−0.21	0.10	3	4.81
Ti II	−0.33	–	1	4.69	−0.02	–	1	5.00	−0.35	0.12	3	4.67	−0.25	0.05	3	4.77
V I	–	–	–	–	−0.16	0.20	5	3.84	−0.11	–	1	3.89	0.18	0.01	2	4.18
V II	–	–	–	–	−0.32	0.05	2	3.68	–	–	–	–	−0.29	–	1	3.71
Cr I	−0.03	–	1	5.64	−0.13	0.14	3	5.54	–	–	–	–	−0.23	–	1	5.44
Cr II	−0.31	0.13	3	5.36	−0.10	0.07	3	5.57	−0.30	0.12	9	5.37	−0.26	0.13	7	5.41
Mn I	−0.43	0.04	3	4.96	−0.41	0.10	5	4.98	−0.38	0.13	2	5.01	−0.29	0.05	2	5.10
Fe I	−0.26	0.11	80	7.24	−0.19	0.10	113	7.31	−0.31	0.10	57	7.19	−0.21	0.10	48	7.29
Fe II	−0.25	0.07	18	7.25	−0.17	0.09	22	7.33	−0.30	0.11	29	7.20	−0.22	0.09	21	7.28
Co I	–	–	–	–	−0.45	–	1	4.47	–	–	–	–	–	–	–	–
Ni I	−0.25	0.17	24	6.00	−0.22	0.07	26	6.03	−0.36	0.10	11	5.89	−0.30	0.11	8	5.95
Cu I	0.19	–	1	4.40	−0.14	–	1	4.07	0.20	–	1	4.41	0.29	–	1	4.50
Y II	−0.09	0.13	3	2.15	0.08	0.04	3	2.32	−0.17	0.11	4	2.07	0.07	0.10	5	2.31
Zr II	–	–	–	–	−0.18	–	1	2.41	−0.24	–	1	2.36	–	–	–	–
La II	0.21	–	1	1.43	0.32	–	1	1.54	–	–	–	–	–	–	–	–
Ce II	0.07	–	1	1.62	−0.27	0.19	2	1.28	−0.26	0.20	3	1.28	0.03	0.17	2	1.58
Pr II	–	–	–	–	–	–	–	–	−0.39	–	1	0.32	–	–	–	–
Nd II	−0.17	–	1	1.33	−0.08	0.15	3	1.42	−0.30	0.14	3	1.20	−0.11	0.06	3	1.39
Eu II	−0.03	–	1	0.48	0.11	0.01	2	0.62	−0.15	–	1	0.36	−0.32	–	1	0.19

	EK Mon 3.95794				V495 Mon 4.09658				V508 Mon 4.133608				VW Pup 4.28537			
Ion	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)
C I	−0.42	0.10	6	8.13	−0.77	0.08	3	7.78	−0.77	0.08	5	7.78	−0.48	0.14	4	8.07
N I	0.26	0.07	5	8.23	−0.12	–	1	7.85	0.07	0.08	6	8.04	−0.12	–	1	7.85
O I	−0.28	–	1	8.59	−0.09	0.04	2	8.78	−0.54	–	1	8.33	0.19	–	1	9.06
Na I	0.04	0.01	2	6.37	−0.00	0.06	3	6.33	−0.01	0.12	2	6.32	0.02	0.00	2	6.35
Mg I	−0.18	–	1	7.40	−0.28	–	1	7.30	−0.28	–	1	7.30	−0.31	–	1	7.27
Al I	−0.04	0.00	2	6.43	−0.25	0.23	4	6.22	−0.15	0.19	4	6.32	−0.21	0.02	2	6.26
Si I	−0.05	0.07	10	7.50	−0.18	0.07	14	7.37	−0.20	0.07	17	7.35	−0.17	0.07	10	7.38
Si I	–	–	–	–	–	–	–	–	−0.05	0.13	2	7.50	−0.12	0.19	2	7.43
S I	−0.15	0.03	3	7.06	−0.07	–	1	7.14	−0.19	0.29	4	7.02	−0.29	0.20	2	6.92
Ca I	−0.10	0.09	5	6.26	−0.29	0.16	6	6.07	−0.22	0.07	4	6.14	−0.23	0.06	5	6.13
Sc I	0.49	–	1	3.66	–	–	–	–	0.08	–	1	3.25	–	–	–	–
Sc II	−0.19	0.19	4	2.98	−0.34	0.11	5	2.83	−0.35	0.12	2	2.82	−0.19	0.12	3	2.98
Ti I	−0.20	–	1	4.82	−0.29	0.10	5	4.73	−0.10	0.12	7	4.92	−0.26	–	1	4.76
Ti II	−0.17	0.08	3	4.85	−0.30	0.11	2	4.72	−0.34	–	1	4.68	−0.31	–	1	4.71
V I	−0.07	–	1	3.93	−0.22	0.20	3	3.78	−0.20	0.13	7	3.80	−0.35	0.08	2	3.65
V II	−0.14	–	1	3.86	−0.47	–	1	3.53	−0.40	–	1	3.60	−0.28	0.09	2	3.72
Cr I	–	–	–	–	−0.21	–	1	5.46	−0.22	–	1	5.45	−0.04	0.29	2	5.63
Cr II	−0.15	0.07	7	5.52	−0.34	0.14	7	5.33	−0.22	0.08	5	5.45	−0.09	0.20	3	5.58
Mn I	−0.19	0.08	3	5.20	−0.39	0.10	6	5.00	−0.41	0.06	4	4.98	−0.37	0.08	4	5.02
Fe I	−0.09	0.09	71	7.41	−0.26	0.11	68	7.24	−0.25	0.07	94	7.25	−0.19	0.09	73	7.31
Fe II	−0.12	0.08	21	7.38	−0.28	0.12	21	7.22	−0.23	0.09	22	7.27	−0.20	0.08	12	7.30
Co I	−0.06	–	1	4.86	−0.25	0.07	3	4.67	−0.35	0.00	2	4.57	−0.26	0.06	4	4.66
Ni I	−0.20	0.09	18	6.05	−0.36	0.08	18	5.89	−0.35	0.07	22	5.90	−0.17	0.12	17	6.08
Cu I	−0.96	–	1	3.25	−0.31	0.04	2	3.90	−0.30	–	1	3.91	−0.64	0.39	2	3.57
Zn I	–	–	–	–	–	–	–	–	0.11	–	1	4.71	–	–	–	–
Y II	−0.07	0.08	6	2.17	−0.10	0.09	6	2.14	−0.17	0.09	4	2.07	−0.09	0.12	5	2.15
Zr II	0.05	–	1	2.65	−0.44	–	1	2.16	−0.16	–	1	2.44	–	–	–	–
La II	–	–	–	–	0.05	–	1	1.27	0.06	–	1	1.28	0.19	–	1	1.41
Ce II	−0.22	0.25	4	1.33	0.04	0.20	4	1.59	−0.17	0.13	2	1.38	0.08	0.19	5	1.63
Pr II	–	–	–	–	−0.20	–	1	0.51	−0.54	–	1	0.17	−0.38	–	1	0.33
Nd II	0.06	0.15	3	1.56	−0.14	0.11	9	1.36	−0.24	0.12	6	1.26	−0.06	0.24	6	1.44
Eu II	0.31	–	1	0.82	−0.17	0.00	2	0.34	−0.27	0.14	2	0.24	−0.08	–	1	0.43
Gd II	–	–	–	–	–	–	–	–	−0.14	–	1	0.98	–	–	–	–

N– is the number of the line used in analysis.

Table (continued)

	EE Mon 4.80896				XX Mon 5.45647				WW Pup 5.51672				TZ Mon 7.42818			
Ion	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)
Li I	–	–	–	–	–	–	–	–	–	–	–	–	−0.32:	–	1	0.84
C I	−0.48	0.13	5	8.07	−0.52	0.19	2	8.03	−0.64	0.16	5	7.91	−0.53	0.06	3	8.02
N I	0.14	0.05	2	8.11	0.15	0.09	2	8.12	−0.16	–	1	7.81	0.26	–	1	8.23
O I	–	–	–	–	0.06	0.04	3	8.93	–	–	–	–	0.28	0.08	4	9.15
Na I	−0.20	0.18	4	6.13	0.02	0.04	2	6.35	0.01	0.11	2	6.34	0.15	0.09	3	6.48
Mg I	−0.60	–	1	6.98	–	–	–	–	−0.33	–	1	7.25	−0.05	0.13	2	7.53
Al I	–	–	–	–	0.13	–	1	6.60	−0.12	0.05	2	6.35	0.05	0.12	5	6.52
Si I	−0.36	0.14	11	7.19	−0.18	0.05	7	7.37	−0.13	0.10	14	7.42	0.01	0.09	25	7.56
Si II	−0.23	–	1	7.32	–	–	–	–	−0.18	0.08	2	7.38	−0.11	–	1	7.44
S I	−0.56	0.37	3	6.65	−0.21	0.24	3	7.00	−0.20	0.23	4	7.01	0.20	0.16	4	7.41
Ca I	−0.50	0.15	12	5.86	−0.18	0.16	6	6.18	−0.22	0.07	4	6.14	0.06	0.15	9	6.42
Sc I	0.07	–	1	3.24	0.32	–	1	3.49	0.21	–	1	3.38	−0.23	0.13	4	2.94
Sc II	−0.50	0.21	6	2.67	−0.31	0.06	2	2.86	−0.48	0.09	3	2.69	−0.29	0.22	6	2.88
Ti I	−0.17	0.41	8	4.85	−0.22	0.10	5	4.80	−0.24	0.04	4	4.78	−0.08	0.11	28	4.94
Ti II	−0.45	0.20	4	4.57	−0.30	–	1	4.72	−0.30	–	1	4.72	−0.22	–	1	4.80
V I	–	–	–	–	−0.06	0.22	4	3.94	−0.19	0.15	4	3.81	−0.08	0.11	19	3.92
V II	−0.41	0.32	2	3.59	–	–	–	–	–	–	–	–	−0.12	–	1	3.88
Cr I	−0.02	0.64	6	5.65	−0.39	–	1	5.28	−0.14	0.01	2	5.53	−0.02	0.15	10	5.65
Cr II	−0.55	0.09	10	5.12	−0.08	0.21	5	5.59	−0.23	0.16	5	5.44	−0.18	0.17	2	5.49
Mn I	−0.66	0.19	2	4.73	−0.29	0.04	4	5.10	−0.31	0.08	2	5.08	0.41	0.07	6	5.80
Fe I	−0.51	0.15	77	6.99	−0.18	0.11	52	7.32	−0.17	0.11	56	7.33	−0.03	0.15	178	7.47
Fe II	−0.52	0.17	29	6.98	−0.17	0.10	15	7.33	−0.19	0.12	19	7.31	−0.04	0.18	22	7.46
Co I	–	–	–	–	−0.27	0.28	2	4.65	–	–	–	–	−0.16	0.06	12	4.76
Ni I	−0.58	0.15	13	5.67	−0.27	0.08	13	5.98	−0.21	0.09	20	6.04	−0.09	0.10	55	6.16
Cu I	–	–	–	–	−0.22	–	1	3.99	−0.34	0.10	2	3.87	0.17	–	1	4.38
Zn I	–	–	–	–	–	–	–	–	−0.01	–	1	4.59	0.26	–	1	4.86
Sr I	–	–	–	–	–	–	–	–	–	–	–	–	−0.10	–	1	2.80
Y I	–	–	–	–	–	–	–	–	0.44	–	1	2.68	−0.47	–	1	1.77
Y II	−0.40	0.20	4	1.84	−0.00	0.10	5	2.24	−0.02	0.09	6	2.22	−0.08	0.05	2	2.16
Zr II	–	–	–	–	−0.25	–	1	2.35	–	–	–	–	−0.22	–	1	2.38
Ru I	–	–	–	–	–	–	–	–	–	–	–	–	−0.50	–	1	1.34
Ba II	−0.51	–	1	1.62	–	–	–	–	–	–	–	–	0.50	–	1	2.63
La II	–	–	–	–	0.06	–	1	1.28	0.15	–	1	1.37	0.04	–	1	1.26
Ce II	−0.27	0.51	2	1.28	−0.05	0.25	4	1.50	−0.00	0.16	3	1.55	−0.26	0.24	3	1.29
Pr II	–	–	–	–	−0.10	0.06	2	0.61	−0.35	–	1	0.36	–	–	–	–
Nd II	−0.23	0.30	2	1.27	0.01	0.24	6	1.51	−0.04	0.18	8	1.46	−0.25	0.02	2	1.25
Eu II	–	–	–	–	0.04	–	1	0.55	−0.09	0.05	2	0.42	−0.01	–	1	0.50

	AC Mon 8.01425				TX Mon 8.70173				HW Pup 13.454				AD Pup 13.5940			
Ion	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)
Li I	–	–	–	–	–	–	–	–	–	–	–	–	0.18:	–	1	1.34
C I	−0.52	0.15	7	8.03	−0.41	0.07	10	8.14	−0.56	0.11	5	7.99	−0.77	0.00	2	7.78
N I	0.23	0.14	5	8.20	0.29	0.10	6	8.26	0.04	0.12	3	8.01	0.49	–	1	8.45
O I	−0.25	–	1	8.62	−0.16	0.31	2	8.71	−0.29	–	1	8.58	–	–	–	–
Na I	0.05	0.18	2	6.38	−0.08	0.10	3	6.25	−0.20	–	1	6.13	0.06	0.18	2	6.39
Mg I	–	–	–	–	−0.26	0.20	2	7.32	−0.52	–	1	7.06	–	–	–	–
Al I	−0.36	0.15	2	6.11	−0.07	0.21	4	6.40	−0.16	–	1	6.31	0.00	–	1	6.47
Si I	−0.08	0.12	10	7.47	−0.10	0.08	27	7.45	−0.20	0.08	11	7.35	−0.19	0.10	9	7.36
Si II	–	–	–	–	0.06	–	1	7.61	−0.07	–	1	7.49	−0.21	–	1	7.34
S I	−0.21	0.19	6	7.00	−0.17	0.25	4	7.04	−0.29	0.30	3	6.92	−0.13	0.23	2	7.08
Ca I	−0.13	0.15	7	6.23	−0.24	0.04	6	6.12	−0.27	0.15	6	6.09	−0.17	0.16	3	6.19
Sc I	–	–	–	–	–	–	–	–	–	–	–	–	−0.04	0.15	2	3.13
Sc II	−0.21	0.19	3	2.96	−0.16	0.13	3	3.01	−0.30	0.13	3	2.87	–	–	–	–
Ti I	−0.28	–	1	4.74	−0.16	0.06	3	4.86	−0.22	0.16	2	4.80	−0.20	0.19	5	4.82
Ti II	−0.15	0.09	2	4.87	−0.19	0.09	2	4.83	−0.30	–	1	4.72	−0.31	–	1	4.71
V I	−0.17	–	1	3.83	−0.28	0.12	2	3.72	−0.09	–	1	3.91	−0.32	0.16	6	3.68
V II	−0.29	–	1	3.71	−0.27	0.04	2	3.73	−0.45	0.16	2	3.55	−0.35	–	1	3.65
Cr I	−0.54	–	1	5.13	−0.17	0.06	5	5.50	−0.45	–	1	5.22	−0.54	–	1	5.13
Cr II	−0.20	0.07	7	5.47	−0.15	0.09	3	5.52	−0.27	0.14	7	5.40	−0.30	0.20	2	5.37
Mn I	−0.25	0.14	5	5.14	−0.25	0.06	7	5.14	−0.28	0.08	3	5.11	−0.33	0.21	3	5.06
Fe I	−0.22	0.07	57	7.28	−0.14	0.06	118	7.36	−0.30	0.10	53	7.20	−0.24	0.08	46	7.26
Fe II	−0.20	0.07	15	7.30	−0.14	0.07	23	7.36	−0.28	0.15	27	7.22	−0.21	0.09	6	7.29
Co I	–	–	–	–	−0.24	0.08	3	4.68	−0.18	–	1	4.74	−0.48	0.06	3	4.44
Ni I	−0.35	0.06	4	5.90	−0.20	0.07	30	6.05	−0.35	0.10	10	5.90	−0.37	0.07	23	5.88
Cu I	−0.80	–	1	3.41	−0.04	0.05	2	4.17	−0.32	0.14	2	3.89	−0.47	–	1	3.74
Zn I	–	–	–	–	0.15	–	1	4.75	–	–	–	–	–	–	–	–
Y II	−0.12	0.13	5	2.12	0.06	0.10	5	2.30	−0.13	0.07	6	2.11	−0.11	0.05	3	2.13
Zr II	–	–	–	–	−0.27	–	1	2.33	–	–	–	–	−0.20	–	1	2.40
La II	0.13	–	1	1.35	0.23	–	1	1.45	–	–	–	–	0.27	–	1	1.49
Ce II	−0.20	0.18	2	1.35	0.10	0.15	3	1.65	−0.13	0.24	5	1.42	−0.14	0.22	3	1.41
Pr II	–	–	–	–	−0.12	–	1	0.59	−0.28	0.07	3	0.43	−0.29	–	1	0.42
Nd II	−0.12	0.39	2	1.38	−0.10	0.13	5	1.40	−0.15	0.22	8	1.35	−0.12	0.22	6	1.38
Eu II	0.18	0.11	2	0.69	0.07	–	1	0.58	−0.11	0.12	2	0.40	−0.06	–	1	0.45
Gd II	–	–	–	–	−0.23	–	1	0.89	–	–	–	–	−0.03	–	1	1.09

N– is the number of the line used in analysis.

Table (continued)

	BN Pup 13.6731				SV Mon 15.23278				VZ Pup 23.1710			
Ion	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)	[M/H]	σ	N	(M/H)
C I	−0.45	0.08	2	8.10	−0.81	–	1	7.74	−0.83	0.18	5	7.72
N I	0.55	0.08	2	8.52	<0.22	–	1	<8.19	0.02	0.16	7	7.99
O I	−0.06	0.04	3	8.81	0.21	0.07	3	9.08	−0.10	–	1	8.77
Na I	0.09	0.02	2	6.42	0.10	–	1	6.43	0.00	0.08	2	6.33
Mg I	0.21	0.05	3	7.79	−0.48	–	1	7.10	−0.15	0.15	4	7.43
Al I	0.04	0.11	4	6.51	−0.04	0.12	6	6.43	−0.15	0.11	2	6.32
Si I	−0.01	0.11	21	7.54	−0.02	0.13	23	7.53	−0.11	0.09	13	7.44
Si II	0.08	–	1	7.63	0.05	–	1	7.60	0.20	–	1	7.75
S I	0.19	0.16	4	7.40	0.24	0.24	5	7.45	−0.22	0.21	3	6.99
Ca I	0.04	0.24	6	6.40	−0.13	0.07	2	6.23	−0.12	0.09	7	6.24
Sc I	0.05	–	1	3.22	−0.07	0.09	2	3.10	–	–	–	–
Sc II	−0.08	–	1	3.09	−0.07	–	1	3.10	−0.16	0.20	3	3.01
Ti I	−0.05	0.13	13	4.97	−0.11	0.17	17	4.91	−0.23	0.00	2	4.79
Ti II	−0.02	–	1	5.00	0.11	–	1	5.13	−0.33	–	1	4.69
V I	−0.12	0.10	11	3.88	−0.22	0.08	12	3.78	0.12	0.01	2	4.12
V II	−0.24	0.06	3	3.76	−0.09	0.12	3	3.91	−0.26	–	1	3.74
Cr I	0.07	0.26	4	5.74	−0.06	0.21	6	5.61	−0.45	–	1	5.22
Cr II	–	–	–	–	−0.02	–	1	5.65	−0.12	0.09	5	5.55
Mn I	−0.02	0.05	6	5.37	0.03	0.15	4	5.42	−0.28	0.04	5	5.11
Fe I	0.01	0.06	85	7.51	0.00	0.06	115	7.50	−0.16	0.09	58	7.34
Fe II	0.01	0.13	19	7.51	0.02	0.04	12	7.52	−0.15	0.08	15	7.35
Co I	−0.23	0.08	8	4.69	−0.24	0.11	8	4.68	–	–	–	–
Ni I	−0.03	0.09	33	6.22	−0.08	0.07	33	6.17	−0.28	0.08	10	5.97
Cu I	−0.24	–	1	3.97	−0.42	–	1	3.79	0.10	–	1	4.31
Y I	0.50	–	1	2.74	0.19	–	1	2.43	–	–	–	–
Y II	0.15	0.05	3	2.39	0.16	0.04	2	2.40	−0.06	0.06	4	2.18
Zr II	−0.17	–	1	2.43	0.00	–	1	2.60	–	–	–	–
La II	0.30	–	1	1.52	0.30	–	1	1.52	–	–	–	–
Ce II	−0.00	0.14	4	1.55	0.08	0.20	3	1.63	−0.11	0.28	3	1.44
Pr II	−0.15	0.02	2	0.56	–	–	–	–	−0.21	–	1	0.50
Nd II	0.03	0.18	8	1.53	0.16	0.25	3	1.66	0.02	0.22	4	1.52
Eu II	0.07	0.13	2	0.58	0.08	0.07	2	0.59	0.02	–	1	0.53
Gd II	–	–	–	–	0.12	–	1	1.24	0.32	–	1	1.44

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