Note: Sources of gf- values: BG Biemont et al. (1981); BK Biemont et al.(1982); DW Dworetsky (1980); GB Grevesse et al. (1981); HL Hannaford et al. (1982); KP Kurucz & Peytremann (1975); KX Kurucz & Bell (1995); L Lilly (1976); LA Lanz & Artru (1985); LD Lawler & Dakin (1989); MC Magazzu & Cowley (1986); MF Martin, Fuhr & Wiese (1988) for Sc through Mn; Fuhr, Martin and Wiese (1988) for Fe through Ni; WD Ward (1985); WF Wiese, Fuhr & Deters (1996); WM Wiese & Martin (1980); WS Wiese,Smith & Glenon (1966) and Wiese, Smith & Miles(1969).

Table 4: Abundances in HD 170973 and Alpha Scl

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
C II				log C/$N_{\rm T}$ -3.73±0.19			-3.40±0.21
2	6578.05	-0.30	WF	...	...	85	-3.43
	6582.88	-0.33	WF	...	...	74	-3.28
4	3918.98	-0.53	WF	23	-3.93	...	...
6	4267.16	+0.96	WF	57	-3.52	...	...
14	6783.91	+0.30	WF	...	...	13	-3.11
15	5662.46	+0.55	WF	...	...	5	-3.52
16	5145.16	+0.19	WF	...	...	11	-3.79
24	6098.51	+0.23	WF	...	...	4	-3.30
N II				log N/$N_{\rm T}$			-3.89±0.26
3	5666.63	-0.04	WF	...	...	7	-4.16
	5676.02	-0.37	WF	...	...	9	-3.70
	5679.56	+0.25	WF	...	...	17	-3.90
5	4630.53	+0.09	WF	...	...	25	-3.73
	4601.48	-0.43	WF	...	...	13	-3.85
	4607.15	-0.51	WF	...	...	10	-3.92
	4613.87	-0.66	WF	...	...	3	-4.49
	4643.09	-0.36	WF	...	...	11	-3.99
19	5005.15	+0.59	WF	...	...	16	-3.78
20	4788.14	-0.36	WF	...	...	8	-3.42
	4803.29	-0.11	WF	...	...	5	-3.89
O I				log O/$N_{\rm T}$			-3.57±0.32
1	7771.94	+0.37	WF	...	...	46	-4.19
	7774.17	+0.22	WF	...	...	84	-3.36
	7775.39	0.00	WF	...	...	62	-3.48
12	5329.11	-1.24	WF	...	...	4	-3.47
	5329.68	-1.02	WF	...	...	9	-3.34
Ne I				log Ne/$N_{\rm T}$			-3.76±0.28
1	6143.06	-0.35	WS	...	...	28	-3.64
	6217.28	-0.87	WS	...	...	8	-3.91
	6402.25	+0.27	WS	...	...	42	-3.86
3	6030.00	-0.99	WS	...	...	8	-3.79
	6074.34	-0.45	WS	...	...	16	-3.97
	6382.99	-0.29	WS	...	...	18	-4.06
	6506.53	-0.13	WS	...	...	38	-3.53
5	6266.50	-0.40	WS	...	...	18	-3.93
9	5343.28	-1.47	L	...	...	4	-3.11
Mg I				log Mg/$N_{\rm T}$ -4.90±0.11			
3	3829.36	-0.19	WS	19	-4.83	...	...
	3832.30	+0.27	WS	43	-4.82	...	...
	3838.29	+0.49	WS	42	-5.05	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Mg II				log Mg/$N_{\rm T}$ -4.52±0.24			-4.64±0.11
4	4481.23	+0.97	WM	185	-4.62	...	...
5	3848.24	-1.60	WM	36	-4.34	...	...
	3850.39	-1.88	WM	9	-4.82	...	...
9	4428.00	-1.20	WM	42	-4.11	13	-4.53
	4434.00	-0.90	WM	35	-4.54	21	-4.57
10	4390.58	-0.53	WS	46	-4.70	35	-4.62
	4384.64	-0.78	WM	...	...	17	-4.82
Al I				log Al/$N_{\rm T}$ -5.46±0.29			
1	3944.01	-0.64	WS	37	-5.17	...	...
	3961.52	-0.34	WS	23	-5.75	...	...
Si II				log Si/$N_{\rm T}$ -3.82±0.31			-4.07±0.27
1	3853.66	-1.44	LA	189	-3.21	...	...
	3856.02	-0.49	LA	223	-3.96	...	...
	3862.59	-0.74	LA	165	-4.12	...	...
2	6371.37	-0.13	LA	...	...	144	-3.70
3	4128.07	+0.38	LA	249	-3.84	...	...
	4130.89	+0.53	LA	258	-3.95	...	...
5	5041.02	+0.18	LA	...	...	91	-4.56
	5055.98	+0.44	LA	...	...	139	-3.79
7.15	4673.26	-0.60	KP	...	...	25	-4.11
7.33	5688.82	+0.08	LA	...	...	13	-4.48
7.34	6671.84	+0.52	LA	...	...	28	-4.11
7.34	6660.53	+0.24	LA	...	...	23	-4.00
8	5800.45	-0.17	LA	...	...	17	-3.93
	5806.73	-0.20	LA	...	...	16	-3.92
Si III				log Si/$N_{\rm T}$ -4.16±0.66			-4.09±0.11
2	4552.62	+0.29	WS	36	-3.32	42	-3.94
	4567.87	+0.07	WS	13	-4.22	29	-4.13
	4574.76	-0.41	WS	12	-4.92	...	...
47	5739.73	-0.16	WS	...	...	10	-4.20
P II				log P/$N_{\rm T}$			-6.17±0.12
5	6024.18	+0.14	WS	...	...	13	-6.15
	6034.04	-0.21	WS	...	...	8	-6.03
	6043.08	+0.42	WS	...	...	16	-6.32
S II				log S/$N_{\rm T}$ -4.19±0.53			-5.08±0.27
6	5428.66	-0.01	WS	...	...	20	-5.19
	5432.82	+0.31	WS	...	...	45	-4.68
	5453.83	+0.56	WS	...	...	38	-5.10
	5473.61	-0.12	WS	...	...	23	-4.94
	5509.72	-0.14	WS	...	...	12	-5.37
7	4925.34	-0.47	WS	...	...	22	-4.73
	5009.56	-0.09	WM	...	...	10	-5.60
9	4716.27	-0.32	WM	...	...	19	-5.03
	4815.55	+0.18	WM	...	...	20	-5.46

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
S II (continued)							
11	5606.15	+0.16	WS	...	...	20	-5.24
	5616.64	-0.81	WS	...	...	4	-5.29
14	5647.02	+0.11	WS	...	...	19	-5.11
	5819.25	-0.76	WS	...	...	6	-4.93
15	4885.65	-0.74	WS	...	...	8	-5.00
	4917.21	-0.40	WS	...	...	15	-4.96
	5014.04	+0.03	WS	...	...	16	-5.28
38	5345.72	+0.28	WS	...	...	34	-4.41
	5320.72	+0.46	WS	...	...	19	-5.17
39	5212.63	+0.24	WS	...	...	13	-5.22
40	4524.95	+0.08	WS	...	...	21	-4.87
44	4145.10	+0.44	WS	40	-3.94	...	...
	4153.10	+0.62	WS	26	-4.59	...	...
	4162.70	+0.78	WS	20	-5.00	...	...
	4142.29	+0.24	WM	36	-3.88	...	...
45	4028.75	0.00	WS	40	-3.54	...	...
49	4278.51	-0.11	WS	...	...	6	-5.09
Cl II				log Cl/$N_{\rm T}$			-5.39±0.35
1	4794.56	+0.46	WS	...	...	21	-5.69
	4810.07	+0.29	WS	...	...	20	-5.58
3	5217.94	+0.19	WS	...	...	12	-5.54
	5221.36	-0.03	WS	...	...	24	-4.73
16	5078.27	+0.32	WS	...	...	6	-5.47
	5099.30	-0.12	WS	...	...	8	-4.85
17	4896.78	+0.46	WS	...	...	6	-5.64
	4904.78	+0.31	WS	...	...	5	-5.58
28	5392.12	+0.43	WS	...	...	6	-5.45
Ca II				log Ca/$N_{\rm T}$	-4.91±0.00		
1	3933.66	+0.13	WM	482	-4.91		
Sc II				log Sc/$N_{\rm T}$	-8.07±0.16		-7.51±0.08
7	4246.83	+0.24	MF	49	-8.24	...	...
14	4374.46	-0.42	MF	21	-7.98	...	...
	4400.39	-0.53	MF	11	-8.26	6	-7.46
	4415.56	-0.68	NB	16	-7.93	3	-7.61
15	4320.73	-0.25	MF	...	...	11	-7.47
	4325.00	-0.44	KX	29	-7.95	...	...
Ti II				log Ti/$N_{\rm T}$	-5.11±0.28		-5.61±0.28
11	3987.61	-2.73	MF	44	-5.08	...	...
	4025.14	-1.98	MF	64	-5.37	...	...
12	3774.64	-2.73	MF	39	-5.18	...	...
	3813.39	-2.02	MF	57	-5.47	...	...
	3814.58	-1.72	MF	73	-5.32	...	...
	3836.08	-2.00	KX	55	-5.55	...	...
18	4469.12	-2.87	MF	54	-5.31	...	...
19	4395.03	-0.66	MF	127	-4.84	42	-5.87

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Ti II (continued)							
19	4443.80	-0.70	MF	137	-4.62	32	-6.08
	4450.49	-1.45	MF	78	-5.35	12	-5.94
20	4344.28	-2.09	MF	49	-5.41	...	...
	4287.89	-2.02	MF	56	-5.32	11	-5.94
21	4184.30	-1.86	KX	74	-5.01	...	...
30	4545.14	-2.78	KX	60	-5.40	...	...
31	4468.49	-0.60	MF	106	-5.40	37	-6.03
	4501.27	-0.75	MF	104	-5.32	32	-6.02
34	3900.56	-0.45	MF	137	-4.70	...	...
	3913.46	-0.53	MF	100	-5.45	...	...
	3932.01	-1.78	MF	68	-5.14	...	...
	3882.29	-1.71	MF	68	-5.22	...	...
39	4583.47	-2.72	MF	38	-4.99	...	...
40	4417.72	-1.43	MF	68	-5.59	24	-5.53
	4441.73	-2.41	MF	48	-5.07	4	-5.40
	4464.46	-2.08	MF	65	-5.03	12	-5.27
	4470.86	-2.28	MF	62	-4.90	...	...
41	4300.05	-0.77	MF	124	-4.83	41	-5.75
	4301.93	-1.16	MF	78	-5.59	19	-5.94
	4320.96	-1.87	MF	83	-4.75	...	...
	4330.71	-2.04	MF	57	-5.23	6	-5.63
	4307.86	-1.29	MF	...	...	27	-5.58
	4312.86	-1.16	MF	...	...	34	-6.00
	4290.22	-1.12	MF	...	...	31	-5.66
50	4563.76	-0.96	MF	110	-4.93	31	-5.80
51	4394.06	-1.59	MF	57	-5.67	11	-5.76
	4399.77	-1.27	MF	82	-5.34	18	-5.81
	4418.34	-2.40	MF	45	-5.06	6	-5.21
	4432.11	-2.10	MF	42	-5.48	...	...
	4407.68	-2.47	MF	62	-4.68	6	-5.18
60	4544.02	-2.40	MF	49	-5.04	...	...
	4580.45	-2.79	MF	40	-4.85	...	...
	4568.31	-2.65	MF	29	-5.22	...	...
61	4395.85	-2.17	MF	73	-4.68	...	...
	4411.92	-2.12	KX	53	-4.95	...	...
	4391.03	-2.75	MF	51	-4.64	...	...
	4398.27	-2.39	KX	50	-5.02	...	...
69	5336.78	-1.70	MF	...	...	9	-5.64
	5381.02	-2.08	MF	...	...	5	-5.55
70	5188.68	-1.21	MF	...	...	18	-5.73
	5226.53	-1.30	MF	...	...	16	-5.74
82	4529.46	-2.03	MF	66	-4.84	7	-5.41
	4571.97	-0.53	MF	133	-4.73	44	-5.76
87	4028.33	-1.00	MF	89	-4.96	...	...
92	4805.09	-1.10	MF	...	...	22	-5.53

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Ti II (continued)							
93	4421.95	-1.77	MF	51	-5.17	6	-5.51
	4374.81	-1.29	MF	64	-5.35	21	-5.36
94	4316.81	-1.42	MF	57	-5.38	10	-5.66
	4330.24	-1.51	MF	76	-4.92	5	-6.00
	4350.83	-1.40	MF	53	-5.49	...	...
103	5268.62	-1.62	MF	...	...	7	-5.40
104	4386.86	-1.26	MF	79	-4.70	27	-5.01
	4367.66	-1.27	MF	...	...	20	-5.19
105	4174.05	-1.25	MF	67	-4.97	...	...
106	4064.35	-1.71	KX	45	-5.13	...	...
113	5010.21	-1.34	KX	...	...	9	-5.31
	5072.28	-0.75	MF	...	...	13	-5.70
114	4874.01	-0.79	MF	...	...	8	-5.92
115	4411.08	-1.06	MF	67	-4.95	19	-5.22
	4488.32	-0.82	MF	65	-5.24	14	-5.63
	4456.65	-1.41	MF	...	...	10	-5.18
-	4158.26	-0.48	KX	47	-4.64	...	...
-	4188.99	-0.58	KX	49	-4.79	...	...
Cr II				log Cr/$N_{\rm T}$	-4.80±0.32		-5.58±0.22
18	4112.54	-3.02	KX	26	-4.93	...	...
	4172.59	-2.36	KX	39	-5.30	...	...
	4217.06	-2.81	KX	36	-4.92	...	...
	4113.21	-2.27	KX	41	-5.34	...	...
19	4051.97	-2.19	KX	52	-5.15	...	...
	4087.63	-3.22	MF	42	-4.36	...	...
	4054.08	-2.48	KX	67	-4.45	...	...
26	4086.14	-2.42	KX	35	-5.00	...	...
	4179.42	-1.77	KX	63	-4.92	...	...
	4207.35	-2.47	KX	34	-4.93	...	...
30	4812.34	-1.80	MF	...	...	8	-5.69
	4824.13	-1.22	MF	...	...	34	-5.40
	4836.23	-2.25	MF	...	...	6	-5.38
	4848.23	-1.14	MF	...	...	21	-5.85
	4876.41	-1.46	KX	...	...	23	-5.48
	4884.61	-2.08	MF	...	...	6	-5.56
31	4242.36	-1.33	KX	80	-4.87	...	...
	4252.62	-2.02	KX	73	-4.39	...	...
	4261.92	-1.51	KX	96	-4.24	...	...
	4269.28	-2.17	KX	56	-4.72	...	...
	4275.57	-1.71	KX	65	-4.92	14	-5.50
	4284.21	-1.86	KX	69	-4.65	12	-5.44
39	4565.74	-2.11	MF	74	-4.23	15	-5.01
43	5237.33	-1.16	MF	...	...	20	-5.78

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Cr II (continued)							
43	5274.96	-1.29	KX	...	...	18	-5.70
	5308.41	-1.85	KX	...	...	17	-5.19
	5313.56	-1.65	MF	...	...	12	-5.55
	5334.88	-1.56	KX	...	...	12	-5.66
44	4555.02	-1.38	MF	64	-5.22	16	-5.66
	4558.66	-0.66	MF	124	-4.42	41	-5.71
	4588.22	-0.59	MF	124	-4.46	36	-5.87
	4592.09	-1.22	MF	...	...	15	-5.86
	4616.64	-1.29	MF	...	...	22	-5.57
	4618.82	-1.11	MF	...	...	22	-5.75
	4634.07	-1.24	MF	...	...	29	-5.45
50	5478.36	-1.91	KX	...	...	13	-5.20
129	3911.32	-2.06	KX	48	-4.42	...	...
130	3866.52	-2.07	KX	31	-4.81	...	...
162	4145.77	-1.16	KX	63	-4.75	...	...
	4224.86	-1.73	KX	36	-4.87	...	...
163	4150.99	-1.34	KX	39	-5.18	...	...
165	4082.30	-1.23	KX	44	-5.17	...	...
	4098.40	-1.47	KX	52	-4.74	...	...
166	4017.96	-2.42	KX	28	-4.36	...	...
179	4362.93	-1.89	KX	38	-4.50	...	...
180	4222.00	-1.93	KX	34	-4.55	...	...
181	4127.06	-1.77	KX	40	-4.56	...	...
183	3979.51	-0.73	KX	52	-5.30	...	...
190	4901.66	-0.83	KX	...	...	6	-5.66
191	4465.77	-1.18	KX	39	-4.78	...	...
192	4268.96	-1.57	KX	32	-4.55	...	...
193	4070.90	-0.75	KX	43	-5.10	...	...
194	4003.33	-0.60	KX	41	-5.30	...	...
-	3778.67	-2.20	KX	34	-4.56	...	...
-	3801.19	-1.16	KX	43	-4.78	...	...
-	3810.72	-1.95	KX	49	-4.46	...	...
-	4306.92	-1.18	KX	33	-5.21	3	-5.88
-	4587.26	-1.55	KX	21	-4.86	...	...
Mn II				log Mn/$N_{\rm T}$	-5.08±0.26		-4.92±0.16
-	4206.35	-1.57	KX	30	-5.21	...	...
-	4251.78	-1.06	KX	39	-5.13	...	...
-	4259.20	-1.59	KX	41	-4.93	...	...
-	4282.49	-1.68	KX	...	...	10	-5.08
-	4292.25	-2.23	KX	25	-4.68	...	...
-	4326.63	-1.25	KX	33	-5.46	...	...
-	4738.29	-2.24	KX	...	...	7	-4.76

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Fe I				log Fe/$N_{\rm T}$ -3.17±0.28			
4	3824.44	-1.36	MF	57	-2.87	...	...
	3859.91	-0.71	MF	57	-3.53	...	...
	3899.71	-1.53	MF	24	-3.52	...	...
	3920.26	-1.75	MF	38	-2.95	...	...
	3922.91	-1.65	MF	49	-2.81	...	...
	3927.92	-1.59	MF	40	-3.07	...	...
20	3820.43	+0.12	MF	67	-3.57	...	...
	3825.88	-0.04	MF	70	-3.28	...	...
	3840.44	-0.51	MF	50	-3.42	...	...
	3849.97	-0.87	MF	33	-3.47	...	...
	3878.02	-0.91	MF	29	-3.55	...	...
21	3767.19	-0.39	MF	49	-3.53	...	...
41	4383.54	+0.20	MF	73	-3.27	...	...
	4404.75	-0.14	MF	70	-3.02	...	...
	4415.12	-0.62	MF	28	-3.59	...	...
42	4202.03	-0.71	MF	55	-2.88	...	...
	4250.79	-0.71	MF	48	-3.03	...	...
	4271.76	-0.16	MF	65	-3.13	...	...
	4325.76	-0.01	MF	64	-3.27	...	...
43	4005.25	-0.61	MF	27	-3.60	...	...
	4045.82	+0.28	MF	86	-2.81	...	...
	4063.59	+0.07	MF	55	-3.59	...	...
	4132.06	-0.65	MF	56	-2.83	...	...
	4143.87	-0.45	MF	47	-3.30	...	...
45	3815.84	+0.30	MF	70	-3.31	...	...
	3841.05	-0.05	MF	45	-3.67	...	...
	3902.95	-0.47	MF	38	-3.47	...	...
68	4528.62	-0.82	MF	35	-2.93	...	...
72	3977.74	-1.08	MF	17	-3.07	...	...
152	4260.47	-0.02	MF	56	-3.06	...	...
	4235.94	-0.34	MF	45	-3.02	...	...
	4210.35	-0.87	MF	31	-2.78	...	...
	4271.16	-0.35	MF	50	-2.88	...	...
	4191.44	-0.73	MF	37	-2.78	...	...
	4299.24	-0.52	MF	45	-2.94	...	...
	4250.12	-0.40	MF	40	-3.05	...	...
	4222.21	-0.97	MF	10	-3.36	...	...
278	3997.39	-0.39	MF	28	-3.19	...	...
	4021.87	-0.66	MF	30	-2.85	...	...
350	4466.55	-0.59	MF	34	-2.83	...	...
	4476.02	-0.73	KX	30	-2.78	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Fe I (continued)							
354	4156.80	-0.62	MF	16	-3.26	...	...
	4107.49	-0.73	MF	13	-3.25	...	...
357	4109.80	-0.91	MF	16	-2.96	...	...
	4134.68	-0.49	MF	23	-3.18	...	...
359	4062.45	-0.78	MF	17	-3.05	...	...
522	4199.10	+0.25	MF	26	-3.73	...	...
523	4143.42	-0.47	KX	32	-2.86	...	...
607	3806.70	+0.11	MF	28	-3.39	...	...
608	3821.18	+0.30	MF	41	-3.26	...	...
	3805.34	+0.37	MF	49	-3.10	...	...
661	3951.16	-0.38	MF	32	-2.81	...	...
Fe II				log Fe/N_T	-3.50±0.28		-4.00±0.26
3	3914.48	-4.05	MF	58	-3.40	...	...
	3938.29	-3.89	MF	69	-3.22	...	...
22	4124.79	-4.20	MF	37	-3.37	...	...
23	3779.58	-3.74	KX	46	-3.53	...	...
	3896.11	-3.98	KX	35	-3.52	...	...
25	4670.18	-4.10	MF	...	...	10	-3.73
26	4580.06	-3.73	KX	46	-3.64	8	-4.22
27	4128.74	-3.77	MF	41	-3.69	...	...
	4273.32	-3.34	MF	48	-3.98	19	-4.14
	4303.17	-2.49	MF	92	-3.56	39	-4.38
	4351.76	-2.10	MF	94	-3.92	47	-4.55
	4385.38	-2.57	MF	76	-3.89	34	-4.41
	4416.82	-2.60	MF	74	-3.92	45	-4.08
28	4122.64	-3.38	MF	62	-3.53	...	...
	4178.86	-2.48	MF	83	-3.81	...	...
	4296.56	-3.01	MF	74	-3.52	30	-4.09
	4369.40	-3.67	MF	55	-3.36	9	-4.12
29	3824.91	-3.41	MF	57	-3.58	...	...
	3872.77	-3.32	KX	53	-3.74	...	...
	3974.16	-3.51	MF	43	-3.82	...	...
	4002.08	-3.37	KX	41	-3.88	...	...
32	4314.29	-3.49	KX	44	-3.88	22	-3.86
	4413.60	-3.87	MF	37	-3.65	4	-4.40
	4384.32	-3.53	KX	...	...	15	-4.03
33	4332.88	-4.73	KX	14	-3.41	...	...
35	5120.35	-4.21	KX	...	...	5	-3.87
	5132.67	-4.18	MF	...	...	14	-3.38
36	4993.36	-3.65	MF	...	...	11	-4.01

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Fe II (continued)							
37	4515.34	-2.48	MF	93	-3.49	44	-4.19
	4520.22	-2.60	MF	69	-4.05	38	-4.24
	4555.89	-2.29	MF	83	-3.96	48	-4.29
	4472.93	-3.43	MF	48	-3.75	15	-4.07
	4489.18	-2.97	MF	...	...	22	-4.31
	4491.40	-2.70	MF	...	...	29	-4.36
	4582.84	-3.10	MF	56	-3.98	18	-4.29
	4629.34	-2.37	MF	...	...	50	-4.16
	4666.76	-3.33	MF	...	...	18	-4.05
38	4508.28	-2.21	MF	103	-3.55	44	-4.46
	4522.64	-3.10	MF	100	-3.81	51	-4.43
	4541.52	-3.05	MF	61	-3.81	33	-3.91
	4576.33	-3.04	MF	85	-3.17	25	-4.15
	4583.83	-2.02	MF	110	-3.64	67	-4.02
	4620.52	-3.28	MF	...	...	10	-4.45
40	6432.68	-3.71	KX	...	...	10	-3.98
41	5284.11	-3.19	MF	...	...	32	-3.80
42	4923.93	-1.56	KX	...	...	110	-3.53
	5018.44	-1.22	MF	...	...	100	-3.90
	5169.03	-0.87	MF	...	...	102	-4.21
43	4656.98	-3.63	MF	...	...	22	-3.63
	4731.45	-3.36	MF	...	...	21	-3.91
44	4663.71	-4.26	KX	...	...	12	-3.34
46	6084.11	-3.81	KX	...	...	8	-3.84
48	5264.81	-3.19	MF	...	...	33	-3.60
	5337.73	-3.89	KX	...	...	14	-3.49
	5414.07	-3.79	MF	...	...	9	-3.81
49	5197.58	-2.10	MF	...	...	52	-4.18
	5276.00	-1.94	MF	...	...	57	-4.21
	5325.55	-2.60	MF	...	...	24	-4.44
55	5534.85	-2.93	MF	...	...	31	-3.92
57	5657.94	-4.10	KX	...	...	6	-3.62
74	6149.26	-2.72	KX	...	...	20	-4.12
	6238.39	-2.63	KX	...	...	20	-4.22
	6416.92	-2.74	KX	...	...	22	-4.04
126	4032.95	-2.83	KX	59	-3.32	...	...
127	4024.55	-2.48	MF	72	-3.13	...	...
148	4180.98	-3.76	KX	71	-3.70	...	...
151	4031.44	-3.14	KX	45	-3.17	...	...
152	3863.41	-2.55	KX	53	-3.19	...	...
	3863.95	-2.52	KX	56	-3.44	...	...
153	3827.08	-2.64	MF	59	-3.23	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Fe II (continued)							
162	6199.18	-3.19	KX	...	...	6	-3.59
164	5747.88	-2.91	KX	...	...	8	-3.72
167	5160.84	-2.64	KX	...	...	16	-3.64
168	5019.46	-2.70	KX	...	...	7	-4.01
171	4474.19	-3.07	KX	38	-2.93	...	...
	4526.59	-3.38	KX	23	-3.07	...	...
172	4044.01	-2.36	KX	37	-3.67	...	...
	4041.64	-3.11	KX	27	-3.21	...	...
	4051.21	-3.11	KX	27	-3.35	...	...
173	3935.94	-1.86	MF	68	-3.36	...	...
	3906.04	-1.83	MF	70	-3.33	...	...
184	5278.94	-2.41	KX	...	...	11	-3.94
	5408.81	-2.39	KX	...	...	12	-3.89
185	5272.40	-2.03	MF	...	...	23	-3.85
186	4625.89	-2.20	KX	...	...	16	-3.94
	4635.32	-1.65	MF	...	...	31	-4.03
187	4446.24	-2.58	KX	46	-3.24	...	...
188	4111.88	-2.29	KX	40	-3.66	...	...
189	4061.78	-2.15	KX	44	-3.70	...	...
190	3938.97	-1.85	MF	55	-3.57	...	...
	3996.34	-2.91	KX	24	-3.30	...	...
191	3975.03	-2.02	KX	51	-3.53	...	...
199	6433.81	-2.47	KX	...	...	6	-4.04
	6446.41	-2.07	KX	...	...	11	-4.10
	6482.20	-2.27	KX	...	...	24	-3.43
200	6045.46	-2.42	KX	...	...	10	-3.82
205	5074.05	-1.97	KX	...	...	30	-3.36
210	6627.26	-1.61	KX	...	...	14	-3.95
212	3960.90	-1.41	KX	49	-3.54	...	...
213	4354.34	-1.74	KX	38	-3.69	13	-4.13
219	4598.49	-1.50	KX	51	-3.18	11	-4.04
220	4318.22	-1.93	KX	27	-3.28	6	-3.85
	4321.31	-1.83	KX	41	-3.08	...	...
222	4431.64	-1.93	KX	32	-3.34	4	-4.24
	4449.66	-1.60	KX	39	-3.34	...	...
	4286.28	-1.62	KX	54	-3.02	17	-3.74
	4357.58	-2.11	KX	44	-3.55	21	-3.78
	4451.55	-1.84	KX	44	-3.80	14	-4.29
224	5529.93	-1.88	KX	...	...	15	-3.95
-	3821.93	-3.83	KX	40	-3.74	...	...
	3844.79	-0.92	KX	40	-3.46	...	...
	3903.76	-1.51	KX	57	-3.15	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Fe II (continued)							
-	3922.04	-1.07	KX	52	-3.00	...	...
	3926.69	-2.31	KX	27	-3.11	...	...
	4051.21	-2.99	KX	23	-3.46	...	...
	4139.72	-3.72	KX	28	-3.11	...	...
	4147.27	-3.51	KX	30	-3.21	...	...
	4202.52	-2.33	KX	33	-3.27	...	...
	4357.58	-2.10	KX	44	-3.55	...	...
	4361.25	-2.08	KX	...	...	10	-4.17
	4402.88	-2.72	KX	...	...	9	-3.61
	4418.96	-1.84	KX	...	...	6	-3.96
	4455.27	-2.14	KX	...	...	11	-4.06
	4480.69	-2.39	KX	31	-3.54	...	...
	4499.69	-1.86	KX	...	...	10	-3.77
	4507.10	-1.92	KX	...	...	8	-3.85
	4579.53	-2.51	KX	...	...	10	-3.78
	4595.68	-4.26	KX	35	-3.23	...	...
	4596.02	-1.84	KX	44	-3.76	24	-3.91
	4820.83	-0.69	KX	...	...	7	-4.05
	4826.68	-0.44	KX	...	...	10	-4.12
	4883.29	-0.64	KX	...	...	14	-3.78
	4908.15	-0.30	KX	...	...	13	-4.10
	4913.29	+0.01	KX	...	...	21	-4.15
	4977.04	+0.04	KX	...	...	23	-4.08
	4977.92	-0.67	KX	...	...	5	-4.23
	4984.49	+0.01	KX	...	...	22	-4.09
	4990.51	+0.18	KX	...	...	23	-4.24
	4991.44	-0.57	KX	...	...	12	-3.91
	5001.96	+0.90	KX	...	...	54	-4.10
	5004.20	+0.50	KX	...	...	36	-4.21
	5006.84	-0.43	KX	...	...	23	-3.61
	5009.02	-0.42	KX	...	...	11	-4.06
	5020.02	-0.72	KX	...	...	12	-3.78
	5021.59	-0.30	KX	...	...	18	-3.95
	5026.81	-0.22	KX	...	...	26	-3.77
	5030.63	+0.40	KX	...	...	33	-4.19
	5033.96	-1.13	KX	...	...	4	-3.90
	5035.71	+0.61	KX	...	...	36	-4.30
	5036.72	-0.52	KX	...	...	8	-4.12
	5060.26	-0.52	KX	...	...	10	-3.97
	5061.72	+0.22	KX	...	...	31	-4.05
	5067.89	-0.20	KX	...	...	15	-4.12

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Fe II (continued)							
-	5070.90	+0.24	KX	...	...	29	-4.13
	5075.76	+0.28	KX	...	...	23	-4.28
	5076.60	-0.71	KX	...	...	8	-3.94
	5082.23	-0.10	KX	...	...	23	-3.92
	5089.21	-0.04	KX	...	...	26	-3.92
	5093.58	+0.11	KX	...	...	39	-3.68
	5094.91	-0.56	KX	...	...	7	-4.09
	5097.27	+0.31	KX	...	...	34	-4.02
	5106.11	-0.28	KX	...	...	15	-4.06
	5112.16	-0.84	KX	...	...	2	-4.47
	5113.00	-0.50	KX	...	...	16	-3.77
	5115.06	-0.45	KX	...	...	13	-3.91
	5117.03	-0.13	KX	...	...	13	-4.23
	5119.34	-0.56	KX	...	...	9	-4.01
	5143.88	+0.10	KX	...	...	17	-4.29
	5144.36	+0.28	KX	...	...	17	-4.47
	5145.77	-0.40	KX	...	...	28	-3.48
	5166.56	-0.03	KX	...	...	33	-3.68
	5186.87	-0.30	KX	...	...	9	-4.23
	5194.89	-0.15	KX	...	...	24	-3.81
	5199.12	+0.10	KX	...	...	29	-3.95
	5200.80	-0.37	KX	...	...	28	-3.49
	5203.64	-0.05	KX	...	...	35	-3.62
	5213.96	-0.22	KX	...	...	24	-3.73
	5215.35	-0.01	KX	...	...	23	-4.02
	5215.84	-0.23	KX	...	...	25	-3.74
	5216.85	+0.39	KX	...	...	33	-4.08
	5218.84	-0.21	KX	...	...	21	-3.89
	5222.36	-0.33	KX	...	...	7	-4.30
	5223.26	-0.41	KX	...	...	13	-3.97
	5227.48	+0.80	KX	...	...	76	-3.41
	5232.79	-0.06	KX	...	...	33	-3.66
	5237.95	+0.14	KX	...	...	19	-4.26
	5247.95	+0.63	MF	...	...	26	-4.48
	5251.23	+0.51	KX	...	...	34	-4.16
	5253.64	-0.09	KX	...	...	24	-3.88
	5257.12	+0.03	KX	...	...	24	-3.97
	5260.26	+1.07	KX	...	...	60	-4.05
	5262.32	-0.36	KX	...	...	5	-4.40
	5264.18	+0.36	KX	...	...	43	-3.76
	5291.67	+0.58	KX	...	...	38	-4.13

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Fe II (continued)							
-	5303.40	-1.61	KX	...	...	5	-4.14
	5306.18	+0.22	KX	...	...	19	-4.30
	5318.06	-0.14	KX	...	...	14	-4.14
	5339.58	+0.54	KX	...	...	33	-4.22
	5355.42	-0.41	KX	...	...	7	-4.23
	5358.88	-0.30	KX	...	...	10	-4.14
	5360.49	-0.60	KX	...	...	6	-4.10
	5366.21	-0.27	KX	...	...	15	-3.98
	5387.06	+0.52	KX	...	...	38	-4.03
	5395.86	+0.36	KX	...	...	34	-3.94
	5399.56	-0.85	KX	...	...	5	-3.98
	5402.91	-0.67	KX	...	...	4	-4.19
	5411.38	-0.44	KX	...	...	13	-3.84
	5414.85	-0.31	KX	...	...	16	-3.88
	5427.83	-1.66	KX	...	...	29	-3.71
	5429.99	+0.46	KX	...	...	38	-3.94
	5442.35	-0.30	KX	...	...	16	-3.88
	5444.39	-0.18	KX	...	...	24	-3.69
	5445.81	-0.11	KX	...	...	16	-4.06
	5450.10	-0.53	KX	...	...	8	-4.02
	5455.93	-0.52	KX	...	...	20	-3.55
	5457.73	-0.17	KX	...	...	16	-3.99
	5472.86	-0.64	KX	...	...	12	-3.73
	5475.83	-0.18	KX	...	...	28	-3.62
	5479.40	-0.42	KX	...	...	7	-4.22
	5482.31	+0.43	KX	...	...	28	-4.20
	5487.62	+0.36	KX	...	...	36	-3.89
	5488.78	-0.47	KX	...	...	8	-4.04
	5498.58	-0.39	KX	...	...	8	-4.11
	5501.02	-0.82	KX	...	...	6	-3.86
	5502.67	-0.14	KX	...	...	13	-4.14
	5503.21	-0.09	KX	...	...	35	-3.52
	5503.90	-0.64	KX	...	...	8	-3.89
	5506.20	+0.95	MF	...	...	44	-4.28
	5507.07	-0.32	KX	...	...	13	-3.97
	5529.05	-0.25	KX	...	...	13	-4.04
	5532.09	-0.33	KX	...	...	12	-3.99
	5544.20	-0.23	KX	...	...	12	-4.08
	5549.00	-0.23	KX	...	...	17	-3.91
	5567.84	-1.89	KX	...	...	13	-3.98
	5577.92	-0.14	KX	...	...	23	-3.78

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Fe II (continued)							
-	5581.63	-0.48	KX	...	...	9	-3.96
	5587.11	-2.19	KX	...	...	13	-3.71
	5645.39	+0.09	KX	...	...	26	-3.91
	5648.90	-0.24	KX	...	...	15	-3.94
	5651.58	-0.58	KX	...	...	10	-3.83
	5655.36	-0.72	KX	...	...	7	-3.83
	5668.64	-0.71	KX	...	...	2	-4.55
	5675.25	-0.50	KX	...	...	4	-4.40
	5690.99	-0.20	KX	...	...	16	-3.89
	5703.25	-0.72	KX	...	...	16	-3.40
	5726.56	-0.02	KX	...	...	14	-4.16
	5737.90	-0.54	KX	...	...	8	-3.89
	5746.58	-0.37	KX	...	...	9	-4.08
	5751.49	-0.80	KX	...	...	4	-4.05
	5776.76	-0.58	KX	...	...	5	-4.11
	5780.13	+0.32	KX	...	...	38	-3.75
	5783.63	+0.21	KX	...	...	26	-3.96
	5784.45	+0.06	KX	...	...	14	-4.20
	5811.63	-0.49	KX	...	...	7	-4.06
	5830.34	-0.27	KX	...	...	5	-4.40
	6049.44	-0.42	KX	...	...	5	-4.26
	6069.68	-0.37	KX	...	...	6	-4.22
	6071.43	-0.19	KX	...	...	7	-4.34
	6233.53	-2.94	KX	...	...	5	-3.90
	6248.90	-2.70	KX	...	...	4	-4.32
	6357.16	+0.17	KX	...	...	16	-4.12
	6362.47	-0.54	KX	...	...	5	-4.02
	6375.79	-0.08	KX	...	...	17	-3.82
	6383.72	-2.27	KX	...	...	6	-4.53
	6425.72	-0.54	KX	...	...	14	-4.42
	6479.61	+0.08	KX	...	...	8	-4.36
	6491.25	-2.79	KX	...	...	20	-3.29
	6491.67	-0.12	KX	...	...	11	-4.03
	6493.04	-2.58	KX	...	...	22	-3.48
	6548.38	+0.21	KX	...	...	12	-4.28
	6571.42	+0.07	KX	...	...	14	-4.03
	6586.70	-2.77	KX	...	...	8	-3.82
	6600.02	+0.30	KX	...	...	14	-4.28
	6621.98	+0.04	KX	...	...	15	-3.98
	6770.90	-0.18	KX	...	...	7	-4.06
	6815.17	-0.65	KX	...	...	8	-3.58
	6862.53	+0.69	KX	...	...	16	-4.49

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Fe III				log Fe/N_T -2.92±0.15			-3.80±0.36
4	4365.64	-3.40	KX	16	-3.02	...	...
	4371.34	-2.99	KX	...	...	10	-4.26
	4382.51	-3.02	KX	...	...	12	-4.12
	4419.60	-2.22	KX	49	-2.95	30	-4.22
	4431.02	-2.57	KX	34	-3.07	24	-4.05
113	5235.66	-0.11	KX	...	...	11	-3.24
	5243.31	+0.40	KX	...	...	13	-3.64
	5282.30	+0.11	KX	...	...	12	-3.38
114	5833.94	+0.62	KX	...	...	11	-3.66
117	6032.60	+0.50	KX	...	...	6	-3.73
118	4164.73	+0.92	KX	17	-2.90	...	...
	4139.35	+0.52	KX	15	-2.64	...	...
121	4296.85	+0.88	KX	...	...	9	-3.32
	4310.36	+1.16	KX	...	...	4	-4.12
Ni II				log Ni/N_T -5.73±0.39			
9	4244.78	-3.11	KX	8	-5.36	...	...
	4362.10	-2.72	KX	14	-5.47	...	...
10	4192.07	-3.05	KX	10	-5.31	...	...
11	3849.58	-1.88	KX	19	-6.12	...	...
	4067.03	-1.83	KX	14	-6.35	...	...
12	4015.47	-2.42	KX	14	-5.76	...	...
Sr II				log Sr/N_T -5.74±0.40			
1	4077.71	+0.15	WM	145	-5.72	...	...
	4215.52	-0.17	WM	107	-5.92	...	...
3	4161.80	-0.47	WM	73	-5.11	...	...
	4305.44	-0.11	WM	51	-6.21	...	...
Y II				log Y/N_T -7.48±0.35			
5	4309.62	-0.75	HL	32	-7.29	...	...
	4398.02	-1.00	HL	17	-7.51	...	...
6	3950.35	-0.49	HL	25	-7.74	...	...
	3982.59	-0.49	HL	19	-7.91	...	...
	3832.90	-0.34	HL	52	-6.93	...	...
Zr II				log Zr/N_T -6.98±0.43			
7	3842.995	-0.64	GB	19	-7.63	...	...
15	4211.88	-0.98	GB	42	-6.56	...	...
29	4090.510	-1.10	GB	25	-6.80	...	...
30	3991.14	-0.30	GB	55	-6.63	...	...
40	4454.794	-1.60	GB	18	-6.53	...	...
	4496.970	-0.81	GB	25	-7.16	...	...
41	4149.22	-0.03	GB	36	-7.55	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log $N/N_{\rm T}$	W$_\lambda$(mÅ)	log $N/N_{\rm T}$
Ce II				log Ce/$N_{\rm T}$ -6.26±0.45			
-	3808.113	-0.12	MC	26	-6.54	...	...
	3919.803	-0.10	MC	33	-6.10	...	...
	3942.15	-0.28	MC	49	-5.66	...	...
	3942.75	+0.43	MC	47	-6.29	...	...
	3980.890	-0.05	MC	32	-6.19	...	...
	3993.819	+0.35	MC	18	-7.00	...	...
	3999.237	+0.23	MC	41	-6.32	...	...
	4042.581	-0.08	MC	46	-5.67	...	...
	4080.438	-0.76	MC	27	-5.87	...	...
	4083.222	+0.11	MC	20	-6.80	...	...
	4133.80	+0.39	MC	40	-6.58	...	...
	4137.65	+0.03	MC	45	-6.07	...	...
	4151.97	-0.02	MC	31	-6.57	...	...
	4165.61	+0.10	MC	37	-6.40	...	...
	4186.59	+0.81	MC	49	-6.28	...	...
	4193.87	-0.47	MC	30	-5.96	...	...
	4202.96	-0.19	MC	53	-5.30	...	...
	4382.16	-0.02	MC	29	-6.40	...	...
	4407.27	-0.74	MC	20	-5.98	...	...
	4418.78	+0.18	MC	50	-5.64	...	...
	4523.08	-0.30	MC	22	-6.46	...	...
	4560.28	0.00	MC	14	-6.85	...	...
	4562.36	+0.08	MC	15	-7.12	...	...
Pr II				log Pr/$N_{\rm T}$ -6.04±0.24			
-	3994.79	+0.10	MC	43	-5.72	...	...
	4164.16	-0.01	MC	25	-6.28	...	...
	4222.98	+0.13	MC	36	-6.12	...	...
Nd II				log Nd/$N_{\rm T}$ -6.48±0.33			
-	3880.37	-0.34	MC	28	-5.94	...	...
	3912.22	+0.48	MC	23	-6.52	...	...
	4021.33	+0.23	WD	19	-6.78	...	...
	4061.08	+0.57	WD	25	-6.82	...	...
	4232.37	-0.30	WD	12	-6.70	...	...
	4358.16	-0.28	WD	27	-6.03	...	...
	4462.98	+0.07	WD	18	-6.58	...	...

Table 4: continued

				HD 170973		α Scl	
Mult.	λ(Å)	log gf	Ref.	W$_\lambda$(mÅ)	log N/N_T	W$_\lambda$(mÅ)	log N/N_T
Sm II				log Sm/N_T -6.40±0.19			
-	4155.21	-0.82	MC	20	-6.09	...	...
	4188.13	-0.58	MC	18	-6.41	...	...
	4262.67	-0.66	MC	24	-6.21	...	...
	4318.93	-0.61	MC	14	-6.69	...	...
	4329.02	-0.73	MC	21	-6.36	...	...
	4424.34	-0.26	MC	21	-6.68	...	...
	4467.34	-0.30	MC	27	-6.33	...	...
	4478.78	-0.70	MC	16	-6.33	...	...
	4519.63	-0.75	MC	12	-6.51	...	...
Eu II				log Eu/N_T -6.27±1.06			
-	3819.67	+0.49	BK	30	-8.05	...	...
	3907.10	+0.20	BK	76	-5.66	...	...
	4129.73	+0.20	BK	69	-6.05	...	...
	4205.05	+0.12	BK	96	-5.32	...	
Gd II				log Gd/N_T -6.69±0.48			
-	3852.46	-0.14	MC	31	-7.04	...	...
	3894.69	-0.65	MC	39	-6.19	...	...
	3902.40	-0.41	MC	39	-6.08	...	...
	3916.51	+0.10	MC	51	-6.00	...	...
	3994.16	-0.54	MC	30	-6.45	...	...
	4037.32	-0.09	MC	29	-6.87	...	...
	4049.86	+0.43	MC	20	-7.54	...	...
	4197.69	-0.04	MC	22	-6.87	...	...
	4253.37	-0.07	MC	13	-7.16	...	...
	4296.06	-0.76	MC	20	-6.67	...	...
Dy II				log Dy/N_T -6.41±0.36			
-	3868.45	-0.27	MC	33	-6.09	...	...
	3872.10	-0.09	MC	27	-7.02	...	...
	3944.68	+0.03	MC	52	-5.94	...	...
	3983.65	-0.25	MC	29	-6.51	...	...
	3996.69	-0.21	MC	27	-6.61	...	...
	4000.45	+0.01	MC	44	-6.29	...	...
Hg II				log Hg/N_T -4.39±0.00			
-	3983.96	-1.73	DW	87	-4.39	...	...