Breakthrough Listen
Observing Plan for 2016

1. Green Bank Radio Telescope: 5-year Contract – 1300 hours/year

World's Deepest SETI Surveys of Five Key Samples (Northern Hemisphere):

- ***All 43 stars within 5 parsecs***, at 1-15 GHz. First-ever complete SETI survey within 5 parsecs. Sensitive to "Earth-leakage" levels of radio transmission. (Targets: Appendix 1)
- ***1000 stars of all spectral-types*** (OBAFGKM). Within 50 parsecs. 1-15 GHz (Appendix 1).
- ***One Million Nearby Stars*.** In 2016, first 5,000 stars; 1 minute exposure (1-15 GHz)
- ***Centers of 100 nearby galaxies***: spirals, ellipticals, dwarfs, irregulars (1-15 GHz)
- ***Exotic Stars:*** 20 White Dwarfs, 20 Neutron stars, 20 black holes
- ***Times of observations of specific targets will be provided one month in advance*** (Example in Appendix 2)

2. Parkes Radio Telescope: Start Sept. 2016; 5-year Contract 1533 hours/year

World's Deepest SETI Surveys of Six Key Samples (Southern Hemisphere):

- ***All 43 stars (at south declinations) within 5 parsecs***, at 1-15 GHz. First-ever complete SETI survey within 5 parsecs. Sensitive to "Earth-leakage" levels of radio transmission.
- ***1000 stars (south) of all spectral-types (OBAFGKM)***. Within 50 parsecs. 1-15 GHz.
- ***One Million Nearby Stars (south).*** First 50,000 stars; 1 minute exposure (1-15 GHz)
- ***Galactic plane and Center (1-4 GHz)***
- ***Centers of 100 nearby galaxies (south declinations)***: spirals, ellipticals, dwarfs, irregulars (1-4 GHz)
- ***Exotica***: 20 White Dwarfs, 20 Neutron stars, 20 black holes
- ***Times of observations of specific targets will be provided one month in advance***

3. Automated Planet Finder: Optical Spectroscopic SETI (3 years)

During the next three years, Breakthrough Listen will use the "Automated Planet Finder" (APF) 36 nights per year with its "Levy Spectrometer" to take spectra spanning wavelengths 374 – 950 nm with a signal-to-noise ratio of at least 100:1 (1% noise per pixel). The goal is to detect narrow-band laser emission. The target list (see Appendix 1) contains 1000 stars of all spectral types, OBAFGKM and both main sequence stars and giants.

The targets will closely match those of the BL Green Bank radio search, with small adjustments due to the much smaller field of view (1x3 arcsec) of the APF. The targets are:

- ***All 43 stars within 5 parsecs*** accessible to the APF (north of declination -20 deg).
- ***1000 nearby stars of all spectral types***, OBAFGKM main sequence and giants

- ***100 nearest galaxies*** (centers, north of declination = -20deg).

Note: The APF cannot survey the Galactic plane due to its small field of view of 1x3 arcsec.

The spectra require roughly 1-hour exposures, implying a total amount of observing time of (43 + 1000 + 100) = 1143 hours. This total number of needed telescope hours is matched to the available APF time, namely 36 x 3 = 108 nights at roughly 10 hours per night (not including clouds and technical failures). Thus, it will take three years to obtain spectra with the Automated Planet Finder telescope of all targets. The search algorithm for laser lines is nearly finished, and its execution requires only a few hours for the entire set of 1143 spectra.

Appendix 1: Breakthrough Listen 2016 Observing Plan – Target List

1 Introduction

Here we detail observations of nearby stars, nearby galaxies and other targets conducted in the Breakthrough Listen Initiative from November 1, 2015 – April 1, 2016. Objects observed with both the Automated Planet Finder (APF) and Green Bank Telescope (GBT) (L and S band) are labeled in green. Objects observed with the GBT alone are labeled in red, and APF alone, blue.

2 Nearby Stars

This sample includes all stars within 5pc, and a sub-sample of stars between 5−50pc distant. Roughly half of the stars in the 5-parsec sample have a binary companion. The 5−50pc sub-sample of the target list includes nearby main sequence and giant stars at all declinations, north and south, suitable for the Green Bank, APF, and Parkes telescopes. The criteria for the selection of 5-50 pc target stars follow from the goal of searching nearby stars with a broad sampling of stellar types. The target stars were drawn from the Hipparcos Catalog (providing accurate distances and proper motions) and located within 50 parsecs (163 light years) and at any declination.

Name	RA	Dec	Vmag	Sp. Type	Dist. (pc)
HIP2	0:0:1.22	-19:29:55	9.27	K3V	45.6
HIP169	0:2:9.33	-68:16:54	9.24	M0V	15.8
HIP171	0:2:11.0	27:4:41	5.80	G3V	12.4
HIP194	0:2:29.6	8:29:6	5.70	F0V	37.6
HIP400	0:4:56.7	23:16:10	7.82	G9V	25.6
HIP428	0:5:12.2	45:47:9	9.95	M2	11.4
HIP436	0:5:17.3	-67:50:6	8.49	K5V	16.0
HIP443	0:5:20.1	-5:42:26	4.61	K1III	39.4
GJ1	0:5:31.9	-37:22:4	8.54	M1.5V	4.34
HIP518	0:6:16.3	58:26:12	5.98	G5V	20.2
HIP522	0:6:20.1	-49:4:31	5.70	G1IV...	25.6
HIP544	0:6:37.2	29:1:14	6.07	K0V	13.7
GJ1002	0:6:42.9	-7:32:51	13.7	M5.0V	4.69
HIP560	0:6:50.1	-23:6:27	6.19	F2IV	39.0
HIP677	0:8:23.4	29:5:22	2.07	B9p	29.7
HIP910	0:11:15.7	-15:28:9	4.89	F5V	18.8
HIP916	0:11:21.6	58:21:0	9.50	K7	28.0
HIP950	0:11:44.2	-35:7:57	5.24	F3/F5V	21.8
HIP974	0:12:4.36	27:5:54	8.73	K0	25.7
HIP1031	0:12:50.0	-57:54:44	7.22	K0V	20.3
HIP1086	0:13:30.6	41:2:4	5.71	F0IV	35.0
HIP1242	0:15:28.9	-16:8:11	11.4	M:	5.21
HIP1292	0:16:15.3	-79:51:5	6.59	G6V	17.6
HIP1349	0:16:54.4	-52:39:1	6.84	G2V	23.0
HIP1368	0:17:7.17	40:56:55	8.99	M0	14.9
HIP1444	0:17:59.3	-13:27:20	6.51	G2V	26.1
HIP1463	0:18:16.5	10:12:9	10.8	M0	16.2

HIP1473	0:18:19.5	36:47:6	4.51	A2V	43.2
GJ15A	0:18:27.1	44:1:29	8.08	M1.5V	3.57
GJ15B	0:18:29.7	44:1:44	11.0	M3.5V	3.57
HIP1499	0:18:42.3	-8:3:13	6.47	G0V	23.4
HIP1532	0:19:5.51	-9:57:58	9.90	K7V	20.7
HIP1599	0:20:8.54	-64:52:10	4.23	F9V	8.59
HIP1692	0:21:13.3	-8:16:52	9.19	K2	23.0
HIP1768	0:22:23.8	-27:2:3	8.30	K1V	22.4
HIP1803	0:22:52.2	-12:12:33	6.39	G3V	20.3
HIP1837	0:23:15.9	-33:10:1	8.74	K3/K4V	22.2
HIP1936	0:24:26.7	-27:1:35	7.92	K2V	18.0
HIP2072	0:26:12.3	-43:40:46	3.93	A7V	23.5
HIP2081	0:26:17.3	-42:18:27	2.40	K0III...	23.7
HIP2120	0:26:52.2	70:8:30	10.5	M0	16.2
HIP2422	0:30:56.6	77:1:9	6.18	K0IV	39.4
HIP2552	0:32:34.2	67:14:4	10.2	M2.5Ve	10.1
HIP2578	0:32:44.1	-63:1:54	5.07	A0V	46.4
HIP2711	0:34:28.2	-52:22:22	5.57	F3IV-V	25.6
HIP2762	0:35:15.3	-3:35:34	5.20	F8V...	21.0
HIP2852	0:36:6.77	-22:50:33	6.06	A5m...	49.7
HIP2941	0:37:22.3	-24:46:2	5.57	K1V+...	15.5
HIP3092	0:39:19.8	30:51:38	3.27	K3III...	31.0
HIP3093	0:39:21.2	21:14:55	5.88	K0V	11.1
HIP3170	0:40:27.5	-59:27:9	5.89	G1V	25.4
HIP3206	0:40:49.7	40:11:3	7.36	K2V	17.2
HIP3418	0:43:32.5	33:50:34	8.73	K8	20.7
HIP3419	0:43:35.6	-17:59:11	2.04	K0III	29.3
HIP3497	0:44:39.6	-65:39:10	6.55	G3V	21.8
HIP3505	0:44:44.3	-22:0:20	5.22	F0V	27.8
HIP3535	0:45:4.83	1:46:58	8.03	K2V	22.0
HIP3583	0:45:45.8	-47:33:5	5.80	G5IV	14.9
HIP3588	0:45:48.7	-41:54:34	7.89	K5V:comp:SB	16.0
HIP3765	0:48:23.7	5:16:31	5.74	K2V	7.46
HIP3821	0:49:8.46	57:48:45	3.46	G0V:SB	5.95
HIP3850	0:49:27.3	-23:12:43	7.15	G8/K0V	18.8
HIP3876	0:49:47.6	70:27:1	7.75	K0	21.5
HIP3909	0:50:7.34	-10:38:43	5.17	F7IV-V	15.4
HIP3979	0:51:11.1	-5:2:23	6.98	G0	22.0
HIP3998	0:51:21.8	18:44:16	9.22	K2	21.8
HIP4022	0:51:34.7	-22:54:40	8.95	K5V	15.1
HIP4148	0:53:1.90	-30:21:24	7.15	K2V	14.0
HIP4151	0:53:4.04	61:7:28	4.80	F8V	18.5
HIP4288	0:54:58.2	23:37:41	5.46	K1IV	38.9
HIP4436	0:56:45.4	38:29:58	3.86	A5V	41.7
HIP4454	0:57:6.54	69:2:32	9.12	K4V	24.1
HIP4473	0:57:22.1	-62:14:42	9.50	K7V	19.3
HIP4569	0:58:29.4	-27:51:30	11.7		13.1

HIP4845	1:2:21.1	-10:25:28	10.0	K7V	21.6
HIP4849	1:2:24.9	5:3:44	8.16	K2	21.4
HIP4856	1:2:38.1	71:40:41	9.98	M3.5e	8.14
HIP4872	1:2:40.5	62:20:43	9.56	K5V...	10.0
HIP4907	1:2:57.8	69:13:35	7.67	G5	25.8
HIP5027	1:4:24.1	-25:36:23	9.78	K4/K5V	25.6
HIP5110	1:5:29.9	15:23:21	8.66	K2V	26.5
HIP5247	1:7:11.9	63:56:33	9.00	K7V	15.0
HIP5286	1:7:37.9	22:57:10	8.41	K4V	20.7
HIP5310	1:7:57.2	20:44:19	5.56	A3V	49.4
HIP5346	1:8:21.9	5:38:56	5.51	F0III-IV	35.9
HIP5336	1:8:22.7	54:54:47	5.17	G5Vp	7.55
HIP5364	1:8:35.6	-10:10:58	3.46	K2III	36.0
HIP5369	1:8:40.2	17:14:24	10.5	K6	27.7
HIP5496	1:10:23.9	-67:26:32	9.80	K	8.13
HIP5521	1:10:41.6	42:55:51	7.66	K0	26.7
HIP5542	1:11:6.58	55:8:59	4.34	A7Vvar	42.1
GJ54.1	1:12:31.9	-16:59:45	12.1	M4.0V	3.71
HIP5663	1:12:46.2	-25:14:7	9.55	K4V	22.0
HIP5799	1:14:24.1	-7:55:17	5.14	F5V	24.3
HIP5842	1:15:2.22	-68:49:6	7.22	K2V	21.1
HIP5862	1:15:12.1	-45:31:51	4.97	F8V	15.0
HIP5896	1:15:47.3	-68:52:31	4.25	F6IV	20.4
HIP5938	1:16:24.3	-12:5:49	7.55	K0V	26.5
HIP5944	1:16:29.0	42:56:21	6.59	G0	23.6
HIP5957	1:16:39.8	25:19:51	10.1	K5	22.7
HIP6069	1:17:53.3	5:28:16	11.0	M2V:	15.3
HIP6290	1:20:40.1	57:19:47	10.3	K6V:	18.9
HIP6344	1:21:32.6	80:9:5	9.67	K8	24.1
HIP6351	1:21:36.3	-41:39:30	10.1	K5	16.8
HIP6379	1:21:58.9	76:42:36	7.17	K0	16.8
HIP6414	1:22:23.5	-33:12:55	10.3		26.9
HIP6537	1:24:1.31	-8:11:3	3.60	K0III	35.1
HIP6706	1:26:15.2	19:10:20	5.35	F2V:var	26.0
HIP6748	1:26:51.5	-13:3:23	5.51	F0V	36.2
HIP6813	1:27:39.9	45:24:22	4.83	F5IV	28.3
HIP6917	1:29:5.41	21:43:20	7.74	K2V	23.1
HIP7078	1:31:14.1	70:15:51	5.82	F6V	29.2
HIP7235	1:33:16.1	-24:10:43	6.97	K0V	19.5
HIP7339	1:34:32.1	68:56:55	6.52	G6V	20.9
HIP7387	1:35:15.5	-58:8:22	6.03	F2V	40.4
HIP7513	1:36:47.6	41:24:13	4.10	F8V	13.4
HIP7535	1:37:5.83	12:8:29	5.54	F0V	33.8
HIP7576	1:37:35.6	-6:45:39	7.66	G5	23.6
GJ65A	1:39:5.01	-17:56:52	12.6	M5.5V	2.67
HIP7734	1:39:36.3	45:52:36	6.60	G5IV	21.3
HIP7748	1:39:46.3	73:42:30	9.81		27.2

HIP7751	1:39:48.0	-56:11:46	5.76	K0V	8.14
HIP7918	1:41:48.2	42:36:45	4.96	G2V	12.6
HIP7981	1:42:29.4	20:15:55	5.24	K1V	7.46
HIP7978	1:42:29.6	-53:44:28	5.52	F8V	17.3
HIP8051	1:43:19.7	4:19:5	10.9	M2V:	11.2
HIP8070	1:43:39.7	63:49:14	8.42	K5V	13.4
GJ71	1:44:2.19	-15:56:1	3.49	G8.5V	3.65
HIP8209	1:45:38.9	-25:3:10	5.29	F2IV	27.4
HIP8275	1:46:38.7	12:24:41	8.91	K5	23.0
HIP8362	1:47:46.2	63:51:5	5.63	K0V	9.97
HIP8486	1:49:23.2	-10:42:14	6.72	G0	23.0
HIP8497	1:49:34.9	-10:41:12	4.66	F3III	23.6
HIP8543	1:50:7.83	29:27:51	8.06	K1V	26.7
HIP8768	1:52:50.1	-22:26:5	8.89	K5/M0V	11.0
HIP8867	1:54:5.99	66:10:32	8.47	G5	22.1
HIP8903	1:54:38.5	20:48:27	2.64	A5V...	18.2
HIP9007	1:55:58.6	-51:36:27	3.69	G5IV	17.4
HIP9044	1:56:33.4	-60:13:32	8.61	K5V	19.7
HIP9085	1:57:0.58	-51:45:54	6.10	F8V	26.3
HIP9094	1:57:9.20	-10:14:36	6.42	G5	33.9
HIP9153	1:57:55.6	23:35:45	4.79	F0V	40.8
HIP9236	1:58:46.7	-61:34:11	2.86	F0V	21.8
HIP9269	1:59:6.93	33:12:29	7.14	G5	24.5
GJ83.1	2:0:14.4	13:2:39	12.3	M4.0V	4.44
HIP9480	2:1:57.2	70:54:25	4.49	A3IV	35.8
HIP9487	2:2:2.85	2:45:49	3.82	A2	42.6
HIP9598	2:3:25.9	72:25:17	3.95	A2V	49.7
HIP9716	2:4:59.3	-15:40:41	7.79	K0V	25.5
HIP9724	2:5:6.31	-17:36:55	10.1	M3	9.43
HIP9727	2:5:8.09	77:16:52	5.27	F0Vn	33.5
HIP9829	2:6:30.2	24:20:0	6.89	G2V	23.1
HIP9884	2:7:10.6	23:27:42	2.01	K2III	20.2
HIP10138	2:10:29.4	-50:49:14	6.12	K0V	10.9
HIP10279	2:12:19.1	3:34:2	10.0	M3V:	10.3
HIP10306	2:12:48.2	21:12:39	5.23	F5V	30.1
HIP10337	2:13:12.5	-21:11:46	9.84	K7V	23.2
HIP10395	2:13:54.5	-32:2:37	10.3		12.3
HIP10416	2:14:13.5	-3:38:10	8.55	K2	22.8
HIP10542	2:15:46.0	-18:14:19	7.94	K3V	22.2
HIP10617	2:16:42.0	-30:59:14	12.0		14.2
HIP10644	2:17:4.71	34:13:23	4.84	G0V	10.8
HIP10670	2:17:18.9	33:50:49	4.03	A1Vnn	36.0
HIP10723	2:18:1.83	1:45:33	5.60	G0.5IV	24.9
HIP10798	2:18:58.2	-25:56:37	6.33	G8V	12.6
HIP10812	2:19:11.9	-36:46:32	11.5		13.9
HIP10925	2:20:43.2	-39:2:1	8.67	K3/K4V	25.4
HIP11000	2:21:44.7	-6:52:45	9.07	K0	26.7

HIP11001	2:21:44.7	-68:39:33	4.08	A3V	41.4
HIP11029	2:22:1.69	-10:46:40	5.43	F0V	29.8
HIP11048	2:22:14.9	47:52:48	9.40	M2	11.9
HIP11090	2:22:50.1	41:23:45	5.81	F0III-IV	47.2
HIP11452	2:27:45.9	4:25:59	8.69	K7V:	16.6
HIP11477	2:28:1.72	-33:48:39	5.13	A2/A3V	46.8
HIP11565	2:29:2.38	-19:58:41	8.78	K4V	18.9
HIP11569	2:29:3.87	67:24:9	4.46	A5p:Sr	43.4
HIP11759	2:31:42.3	-15:16:26	8.67	K2V	26.1
HIP11783	2:32:5.14	-15:14:43	4.74	F5V	25.8
HIP11852	2:32:59.4	-72:41:11	8.84	K4V	22.5
HIP11964	2:34:22.6	-43:47:51	8.89	K7V:comp:SB	11.5
HIP12097	2:35:53.5	20:13:9	10.6	M2	13.9
HIP12110	2:36:0.87	-23:31:16	8.34	K3V	21.2
HIP12114	2:36:6.83	6:53:35	5.79	K3V	7.20
HIP12158	2:36:42.1	-3:9:21	8.10	K0	24.3
HIP12225	2:37:24.5	-52:32:35	5.30	A6V	44.4
HIP12351	2:39:1.13	-58:11:13	9.48	M0Ve	16.5
HIP12390	2:39:34.0	-11:52:23	4.83	F5V	27.0
HIP12394	2:39:35.6	-68:16:0	4.12	B9III	47.0
HIP12413	2:39:48.1	-42:53:30	4.74	A2V	39.7
HIP12444	2:40:12.2	-9:27:11	5.79	F6V	21.5
HIP12447	2:40:15.7	6:6:42	6.26	F3V:	39.6
HIP12493	2:40:43.1	1:11:58	9.51	M0	22.3
HIP12530	2:41:14.2	-0:41:46	5.72	F7IV	21.6
HIP12653	2:42:34.0	-50:47:57	5.40	G3IV	17.2
HIP12706	2:43:17.8	3:14:6	3.47	A3V	25.1
HIP12709	2:43:21.4	19:25:45	8.23	K5	18.5
HIP12723	2:43:34.3	-46:27:25	9.04	K5V	27.4
HIP12777	2:44:12.5	49:13:40	4.10	F7V	11.2
HIP12781	2:44:16.5	25:31:18	10.5	M3.5Ve	7.55
HIP12828	2:44:56.8	10:6:50	4.27	F1III-IV	25.8
HIP12832	2:44:57.7	12:26:43	5.17	A7III-IV	38.2
HIP12843	2:45:6.55	-18:34:20	4.47	F5/F6V	13.9
HIP12929	2:46:17.5	11:46:27	8.59	K5	15.9
HIP12961	2:46:43.2	-23:5:9	10.2	M0	23.8
HIP13008	2:47:11.1	-22:29:9	6.47	F2V	38.1
HIP13081	2:48:9.45	27:4:5	7.56	K1V	22.3
HIP13218	2:50:9.52	-53:8:12	10.7	M	13.0
HIP13258	2:50:37.2	15:42:29	8.87	K5	22.4
HIP13375	2:52:8.41	34:23:5	9.60	K6:	14.2
HIP13389	2:52:24.5	-63:40:37	11.3	M	11.5
HIP13402	2:52:32.5	-12:46:13	6.05	K1V	10.3
SO0253	2:53:4.68	16:51:52	15.1	M6.5V	3.85
HIP13601	2:55:17.6	16:18:32	7.41	G5	26.1
HIP13642	2:55:39.3	26:52:20	7.52	K2	22.8
HIP13665	2:55:57.2	61:31:16	5.59	F4V	26.4

HIP13769	2:57:13.2	-24:58:30	7.84	K2V	25.7
HIP13772	2:57:14.7	-24:58:10	7.33	K1/K2V	22.4
HIP13782	2:57:23.8	-23:51:44	5.44	A5IV/V	48.6
HIP13834	2:58:5.49	20:40:6	5.80	F5IV	31.8
HIP13976	3:0:3.16	7:44:59	7.97	G5	23.4
HIP14146	3:2:23.3	-23:37:28	4.08	A4V	26.4
HIP14150	3:2:26.3	26:36:30	6.62	G8V	21.1
HIP14286	3:4:11.2	61:42:9	6.64	G4V	22.8
HIP14293	3:4:16.5	-7:36:2	5.26	A8V	43.0
HIP14445	3:6:27.1	1:57:39	9.07	M0V	14.7
HIP14576	3:8:10.1	40:57:20	2.09	B8V	28.4
HIP14587	3:8:22.8	-60:10:19	9.27	K5V	21.4
HIP14633	3:9:5.32	76:2:20	9.82	M0	21.3
HIP14632	3:9:6.09	49:36:46	4.05	G0V	10.5
HIP14668	3:9:30.0	44:51:24	3.79	K0III	34.4
HIP14669	3:9:30.1	45:43:51	10.1	M2	15.4
HIP14729	3:10:15.4	12:2:59	9.38	K5	27.0
HIP14862	3:11:56.3	74:23:35	4.85	A2Vnn	49.6
HIP14954	3:12:46.6	-1:11:47	5.07	F8V	22.3
HIP15095	3:14:44.8	-26:26:44	9.17	K5V	18.3
HIP15099	3:14:47.6	8:58:44	7.83	K0	22.2
HIP15131	3:15:6.18	-45:39:51	6.75	G3V	24.3
HIP15197	3:15:50.0	-8:49:10	4.80	A5m	36.7
HIP15201	3:15:58.2	-77:23:17	5.51	F4III	29.3
HIP15220	3:16:14.6	58:9:57	10.5	M2	13.4
HIP15330	3:17:49.2	-62:34:20	5.53	G2V	12.1
HIP15371	3:18:15.8	-62:30:12	5.24	G1V	12.0
HIP15411	3:18:41.2	-18:33:36	5.72	F3V	36.5
HIP15457	3:19:21.9	3:22:14	4.84	G5Vvar	9.15
HIP15510	3:20:0.07	-43:3:59	4.26	G8V	6.05
HIP15638	3:21:24.2	79:58:6	11.2	M2:	13.7
HIP15648	3:21:26.4	43:19:46	4.96	A3V	47.6
HIP15673	3:21:54.2	52:19:49	9.05	K5	22.7
HIP15771	3:23:16.2	-49:59:34	10.2	K0	19.9
HIP15774	3:23:17.5	-49:59:26	8.58	K3V	19.7
HIP15797	3:23:33.6	43:57:20	8.98	K2	25.5
HIP15799	3:23:35.3	-40:4:34	6.90	K0V	17.0
HIP15919	3:24:59.4	-5:22:1	7.86	K5V	15.1
HIP16069	3:27:0.07	-63:30:0	8.08	K5V	16.3
HIP16134	3:27:53.0	-19:48:11	8.39	K5V	12.6
HIP16245	3:29:23.5	-62:56:9	4.71	F5IV-V	21.4
HIP16499	3:32:26.1	46:3:23	5.30	F4IIIvar	36.4
GJ144	3:32:54.7	-9:27:29	3.73	K2.0V	3.21
HIP16536	3:32:55.3	-44:42:4	11.4		10.8
HIP16711	3:35:1.58	-48:25:3	8.57	K7V	13.3
GJ1061	3:36:0.79	-44:30:51	13.0	M5.0V	3.67
HIP16846	3:36:47.2	0:35:13	5.82	G5IV/V:+K1IV	28.9

HIP16852	3:36:52.1	0:23:58	4.29	F9V	13.7
HIP17027	3:39:1.10	-5:37:37	5.97	K1V	35.1
LP944-020	3:39:35.6	-35:25:36	18.6	M9.0V	4.96
HIP17147	3:40:22.7	-3:13:4	6.68	F9V	24.3
HIP17157	3:40:29.5	-47:55:28	9.59	K7	25.1
HIP17346	3:42:44.7	-24:28:4	9.20	K5V	25.9
HIP17378	3:43:14.8	-9:45:36	3.52	K0IV	9.04
HIP17395	3:43:33.8	-10:29:8	5.59	A5m	42.9
HIP17405	3:43:45.4	16:39:57	10.8	M1	16.2
HIP17414	3:43:52.7	16:40:14	9.99	M2	17.2
HIP17420	3:43:55.6	-19:6:36	7.10	K2V	14.0
HIP17439	3:44:9.45	-38:16:49	6.99	K1V	16.2
HIP17440	3:44:12.7	-64:48:23	3.84	K0IV:SB	30.5
HIP17496	3:44:51.4	11:55:14	9.13	K8V:	21.8
HIP17544	3:45:24.5	-27:51:42	8.21	K2V	21.7
HIP17609	3:46:20.6	26:12:52	9.61	K5	14.5
HIP17651	3:46:50.7	-23:15:7	4.22	F3/F5V	17.9
HIP17666	3:47:2.96	41:25:18	7.67	K1V	24.4
HIP17749	3:48:1.40	68:40:26	9.17	K0	17.3
HIP17797	3:48:35.9	-37:37:12	4.30	A+...	49.4
HIP17978	3:50:35.7	-42:33:45	8.61	K2V	26.7
HIP18267	3:54:28.2	16:36:55	6.81	G0	20.6
HIP18280	3:54:35.4	-6:49:25	9.02	M0V	15.4
HIP18324	3:55:4.80	61:9:56	7.84	K0V	21.2
HIP18413	3:56:10.9	59:38:33	6.53	G0	21.3
HIP18450	3:56:36.4	-41:20:35	8.85	K5V	17.6
HIP18512	3:57:28.5	-1:9:36	8.07	K4V	15.7
HIP18774	4:1:21.0	76:9:24	8.20	K4V	15.9
HIP18859	4:2:36.9	-0:16:12	5.38	F5V	19.2
HIP18907	4:3:9.38	5:59:21	3.91	A1V	39.6
HIP18975	4:3:56.7	8:11:50	5.45	F2V	35.9
HIP19076	4:5:20.4	22:0:29	5.90	G5V	16.7
HIP19165	4:6:34.9	-20:51:23	9.70	K7	23.5
HIP19205	4:7:0.34	29:0:4	5.21	F1V	27.5
HIP19233	4:7:21.9	-64:13:14	6.37	G3V	23.1
HIP19255	4:7:34.5	38:4:24	7.13	G5	20.5
HIP19333	4:8:35.5	-59:31:38	9.71	K4V	25.6
HIP19335	4:8:36.8	38:2:19	5.52	F7V	21.3
HIP19337	4:8:38.0	33:38:15	10.1	M1	13.6
HIP19422	4:9:35.2	69:32:24	7.70	G5	18.4
HIP19554	4:11:20.4	5:31:23	5.71	F4V	38.6
HIP19655	4:12:41.8	70:12:6	9.73	M0V:	25.8
HIP19719	4:13:33.1	7:42:57	5.29	F3V...	36.9
HIP19747	4:14:0.17	-42:17:42	3.85	K1III	35.9
HIP19832	4:15:9.63	-4:25:7	9.38	K5V	20.4
GJ166	4:15:13.8	-7:40:4	4.43	K0.5V	4.98
HIP19849	4:15:13.9	-7:40:4	4.43	K1V	5.04

GJ166BC	4:15:19.3	-7:40:11	9.52	M5V	4.98
HIP19855	4:15:25.6	6:11:56	6.94	G5IV	20.8
HIP19859	4:15:28.6	6:11:10	6.32	G0IV...	21.1
HIP19884	4:15:58.3	-53:18:28	7.64	K5V	13.0
HIP19893	4:16:1.75	-51:29:8	4.26	F4III	20.3
HIP19921	4:16:28.9	-59:18:10	4.44	K2IV	18.2
HIP19930	4:16:32.6	36:30:2	8.25	K2	25.5
HIP19990	4:17:15.6	20:34:41	4.93	A3m	28.6
HIP20219	4:19:57.8	14:2:6	5.58	F3V...	44.8
HIP20261	4:20:36.4	15:5:43	5.26	F0V	47.1
HIP20542	4:24:5.88	17:26:38	4.80	A7V	44.7
HIP20635	4:25:22.2	22:17:37	4.21	A7IV-V	47.0
HIP20641	4:25:25.1	22:11:59	5.27	A7V	44.1
HIP20648	4:25:29.5	17:55:39	4.30	A2IV	45.3
HIP20713	4:26:20.8	15:37:5	4.48	F0V...	47.9
HIP20842	4:28:0.89	21:37:10	5.72	Am	47.9
HIP20901	4:28:50.2	13:2:51	5.02	A7V	49.1
HIP20917	4:29:0.05	21:55:24	8.30	K7V	11.4
HIP21029	4:30:33.7	16:11:38	4.78	A6IV	44.3
HIP21036	4:30:37.4	13:43:27	5.40	F0V	45.7
HIP21039	4:30:39.0	15:41:30	5.47	Am	44.3
HIP21223	4:33:9.31	-36:56:45	8.74	K4V	25.0
HIP21248	4:33:30.4	-29:46:3	4.49	K0III	38.1
HIP21272	4:33:50.3	5:23:1	7.92	K0	26.7
HIP21273	4:33:51.0	14:50:39	4.65	A8V	46.7
HIP21284	4:34:1.30	-43:31:30	8.81	K5V	22.4
HIP21402	4:35:39.3	10:9:38	4.25	A5m	46.1
HIP21421	4:35:55.3	16:30:30	0.87	K5III	19.9
HIP21482	4:36:48.5	27:7:53	8.10	K2	17.8
HIP21547	4:37:36.1	-2:28:25	5.22	F0V	29.7
HIP21553	4:37:41.4	52:53:29	8.62	K8V	10.1
HIP21556	4:37:41.6	-11:2:23	10.3	M1	11.0
HIP21589	4:38:9.57	12:30:38	4.27	A6V	45.8
HIP21594	4:38:10.7	-14:18:17	3.86	K1III	33.5
HIP21673	4:39:9.25	15:47:58	5.08	A4m	46.5
HIP21683	4:39:16.5	15:55:4	4.67	A5Vn	48.7
HIP21770	4:40:33.5	-41:51:50	4.44	F2V	20.1
HIP21818	4:41:18.5	20:54:1	8.09	K3V	13.4
HIP21861	4:42:3.54	-37:8:36	5.04	F3V	27.6
HIP21932	4:42:56.5	18:57:11	9.95	M2	9.41
HIP21988	4:43:35.5	27:41:10	8.00	K5III	22.3
HIP22044	4:44:25.9	11:8:45	5.39	F0V	48.2
HIP22122	4:45:37.8	-50:4:32	7.58	K0V	20.4
HIP22263	4:47:36.4	-16:56:1	5.49	G3V	13.3
HIP22287	4:48:0.37	56:45:23	5.29	A3m	49.7
HIP22288	4:48:1.22	-10:56:2	9.53	K7V	26.1
HIP22361	4:48:50.5	75:56:26	5.96	A9IV	45.6

HIP22449	4:49:50.9	6:57:40	3.19	F6V	8.02
HIP22451	4:49:52.2	-35:6:29	7.49	K2V	17.9
HIP22498	4:50:25.6	63:19:55	9.99	K7	23.4
HIP22531	4:50:55.1	-53:27:40	5.58	F0IV...	37.0
HIP22627	4:52:5.88	6:28:30	11.9	M4	12.1
HIP22715	4:53:4.90	22:14:4	8.78	K5V	26.9
HIP22738	4:53:31.4	-55:51:35	10.7	M2Ve	11.1
HIP22762	4:53:50.4	-17:46:34	10.9	M3	12.3
HIP22787	4:54:4.37	-35:24:13	7.60	K0V	25.9
HIP22844	4:54:53.2	-58:32:50	6.11	F3V	30.8
HIP22845	4:54:53.7	10:9:0	4.64	A0V	36.9
HIP22907	4:55:42.1	-28:33:53	8.13	K3/K4V	17.9
HIP23147	4:58:50.7	49:50:55	9.80	M2	16.5
HIP23179	4:59:15.4	37:53:23	4.93	A1V	48.7
HIP23296	5:0:39.7	-2:3:57	6.31	A8IV	49.5
HIP23309	5:0:47.1	-57:15:24	10.0		26.2
HIP23311	5:0:49.5	-5:45:30	6.22	K3V	8.81
HIP23437	5:2:16.9	-56:4:38	7.02	G5V	22.2
HIP23452	5:2:28.2	-21:15:27	8.31	M0V	8.51
HIP23482	5:2:48.6	-49:9:4	5.37	F2V	26.1
HIP23497	5:3:5.82	21:35:23	4.62	A7V	49.9
HIP23512	5:3:19.8	-17:22:31	11.7	K:	9.27
HIP23516	5:3:22.1	-23:14:58	9.28	K5V	26.3
HIP23693	5:5:30.5	-57:28:19	4.71	F7V	11.6
HIP23708	5:5:47.3	-57:33:11	8.98	K7V	11.5
HIP23783	5:6:40.5	51:35:48	4.98	F0V	26.2
HIP23786	5:6:42.5	14:26:42	7.74	K0V	23.9
HIP23875	5:7:50.8	-5:5:12	2.78	A3IIIvar	27.2
HIP23932	5:8:35.6	-18:10:41	10.2	M5	9.31
HIP23941	5:8:43.7	-4:27:22	5.11	F2V	25.0
GJ191	5:11:50.4	-45:2:37	8.85	M2.0V	3.91
HIP24284	5:12:42.5	19:40:0	10.8	M5	12.7
HIP24332	5:13:17.2	37:20:12	6.48	F8	25.9
HIP24340	5:13:25.6	38:29:3	4.82	A4m	49.8
HIP24454	5:14:48.3	0:39:35	9.97	K2III	26.2
HIP24659	5:17:29.2	-34:53:48	4.81	K0/K1III/IV	33.7
HIP24783	5:18:47.0	-21:23:38	9.35	K4V	20.2
HIP24786	5:18:50.9	-18:7:47	5.96	G0V	24.9
HIP24813	5:19:9.19	40:5:45	4.69	G0V	12.6
HIP24819	5:19:13.4	-3:4:23	7.77	K3V	16.8
HIP24874	5:19:59.7	-15:50:19	8.72	K3V	24.3
HIP25110	5:22:33.0	79:13:54	5.08	F6V	20.9
HIP25119	5:22:37.5	2:36:9	7.76	K3V	19.9
HIP25220	5:23:38.6	17:19:26	7.93	K2	14.3
HIP25278	5:24:25.7	17:23:0	5.00	F8V:SB	14.6
HIP25283	5:24:30.2	-38:58:11	9.08	K2	17.7
HIP25421	5:26:15.0	-32:30:18	7.70	K2/K3V	17.9

HIP25486	5:27:4.77	-11:54:4	6.30	F7V:	26.8
HIP25544	5:27:39.0	-60:24:59	6.99	G5V	19.5
HIP25578	5:27:59.9	9:38:26	12.4	M5	8.69
HIP25623	5:28:25.7	-3:30:11	7.65	K5V	12.9
HIP25647	5:28:44.9	-65:26:52	6.88	K1III(p)	14.9
HIP25775	5:30:14.0	-42:41:52	9.72	M0V	19.3
HIP25878	5:31:28.2	-3:41:11	7.97	M1V	5.69
HIP25918	5:31:53.6	-76:20:22	5.18	K4III	30.8
HIP26335	5:36:30.9	11:19:39	8.78	K7	11.3
HIP26366	5:36:54.4	9:17:21	4.09	G8III-IV	35.5
HIP26369	5:36:55.0	-47:57:47	9.84		24.2
HIP26373	5:36:56.8	-47:57:52	7.95	K0V	23.8
HIP26394	5:37:11.8	-80:27:52	5.65	G3IV	18.2
HIP26501	5:38:9.19	-46:6:29	7.33	G5	25.2
HIP26505	5:38:10.9	51:26:46	7.74	K2V	20.5
HIP26563	5:38:53.0	-7:12:47	4.77	A4V	47.0
HIP26624	5:39:31.1	-3:33:52	5.99	A8Vs	41.3
HIP26779	5:41:20.3	53:28:43	6.21	K1V	12.2
HIP26801	5:41:30.7	53:29:15	9.78	M1	12.4
HIP26857	5:42:11.4	12:28:56	11.5	M5	5.78
HIP27072	5:44:27.4	-22:27:0	3.59	F7V	8.96
HIP27075	5:44:28.3	-20:7:35	6.34	F8/G0V	25.5
HIP27080	5:44:30.9	-70:8:17	8.09	K0V	25.5
HIP27100	5:44:46.3	-65:44:7	4.34	A7V	44.4
HIP27188	5:45:48.9	62:13:59	9.02	M0	13.6
HIP27207	5:46:2.53	37:16:56	7.34	K0V	20.5
HIP27288	5:46:57.3	-14:49:19	3.55	A2Vann	21.5
HIP27321	5:47:17.0	-51:3:58	3.85	A3V	19.2
HIP27323	5:47:18.2	-48:31:35	9.74	M0V	20.7
HIP27359	5:47:41.5	-36:19:44	10.7	M2	14.9
HIP27435	5:48:35.0	-4:5:44	5.97	G4V	15.5
HIP27628	5:50:57.6	-35:45:59	3.12	K1.5III	26.3
HIP27654	5:51:19.5	-20:52:55	3.76	G8III/IV	34.4
HIP27803	5:53:0.28	-5:59:46	9.70	M0V	20.1
HIP27887	5:54:4.12	-60:1:25	7.17	K3V	12.8
HIP27890	5:54:6.33	-63:5:13	4.65	K1III/IV	27.2
HIP27896	5:54:10.9	-50:21:36	6.53	K1V	34.8
HIP27913	5:54:22.7	20:16:32	4.39	G0V	8.66
HIP27918	5:54:28.6	2:8:21	8.84	K3V	26.6
HIP27922	5:54:30.2	-19:42:16	7.51	G6V	22.7
HIP27947	5:54:50.0	-52:38:3	5.29	F0Ve...	34.9
HIP28103	5:56:24.2	-14:10:1	3.71	F1V	15.0
HIP28267	5:58:21.6	-4:39:5	6.99	G0	23.2
HIP28368	5:59:37.7	58:35:30	10.2	M1	13.5
HIP28442	6:0:19.0	-31:1:27	7.85	K3/K4V	14.9
HIP28614	6:2:23.0	9:38:49	4.12	Am...	46.5
HIP28764	6:4:28.3	-45:2:7	6.35	G0IV-V	26.6

HIP28790	6:4:39.9	-45:4:40	5.93	F4V	27.0
HIP28954	6:6:40.3	15:32:29	6.76	K0	15.4
HIP29052	6:7:43.5	-25:44:44	11.8		11.4
HIP29067	6:7:55.1	67:58:34	9.75	K8	24.9
HIP29271	6:10:14.9	-74:45:14	5.08	G5V	10.1
HIP29277	6:10:20.2	82:6:2	10.4	M3	9.39
HIP29295	6:10:34.4	-21:52:4	8.15	M1/M2V	5.77
HIP29432	6:12:0.77	6:46:55	6.85	G4V	23.1
HIP29525	6:13:12.5	10:37:32	6.43	G8V	18.1
HIP29548	6:13:35.6	63:23:35	9.67	M0	24.7
HIP29568	6:13:45.2	-23:51:41	6.37	G5V	16.6
HIP29650	6:14:50.7	19:9:20	5.20	F6V	21.1
HIP29761	6:16:2.63	70:46:46	7.43	G5	25.7
HIP29800	6:16:26.7	12:16:22	5.04	F5IV-V	19.6
HIP29860	6:17:15.9	5:6:3	5.70	G0.5Vb	19.3
HIP30060	6:19:37.3	59:0:39	4.44	A2Vs	45.7
HIP30112	6:20:13.0	2:15:30	9.83	K7V	27.9
HIP30314	6:22:30.9	-60:13:6	6.53	G1V	23.4
HIP30419	6:23:46.0	4:35:34	4.39	A5IV	39.3
HIP30503	6:24:43.6	-28:46:50	6.37	G2V	22.0
HIP30630	6:26:10.1	18:45:22	6.78	K0	14.6
HIP30756	6:27:46.0	20:46:58	8.59	G0	18.0
GJ234	6:29:24.1	-2:48:59	11.1	M4.5V	4.09
HIP31167	6:32:23.1	-5:52:8	5.60	F0Vnn+...	43.2
HIP31592	6:36:41.1	-19:15:22	3.95	K1III+...	19.8
HIP31635	6:37:9.92	17:33:58	9.63	M1:	9.84
HIP31634	6:37:11.4	-50:2:17	9.61	K0	15.1
HIP31703	6:37:54.2	73:41:44	6.26	F2	35.5
HIP31711	6:38:0.24	-61:31:59	6.15	G1/G2V	21.6
HIP31878	6:39:49.9	-61:28:40	9.71	M1V	21.9
HIP32010	6:41:15.9	23:57:23	8.08	K2	17.5
HIP32322	6:44:51.9	-27:20:25	6.43	F7V	26.5
GJ244	6:45:8.29	-16:43:17	-1.4	A1V	2.63
HIP32366	6:45:22.6	-31:47:42	5.92	F7V	24.2
HIP32423	6:46:4.48	32:33:22	8.80	K3V	24.9
HIP32439	6:46:13.5	79:33:43	5.44	F8V	17.8
HIP32480	6:46:44.3	43:34:41	5.24	G0V	16.5
HIP32617	6:48:19.0	-1:19:8	5.75	F1V	40.0
HIP32765	6:49:54.6	-46:36:46	5.14	F5III	25.2
HIP32769	6:49:57.5	60:20:14	8.59	M0p	16.4
HIP32851	6:50:49.8	-0:32:30	5.78	F2V	29.8
HIP32919	6:51:31.9	47:21:53	8.95	K2	18.8
HIP32984	6:52:17.4	-5:10:25	6.58	K3V	8.70
HIP33142	6:54:5.31	60:52:2	11.0	M:	10.6
HIP33202	6:54:38.7	13:10:38	4.73	F0Vp	27.9
HIP33226	6:54:48.0	33:15:59	9.89	K:...	5.51
HIP33277	6:55:18.6	25:22:32	5.74	G0V	17.2

HIP33302	6:55:37.4	-20:8:10	4.66	F2IV/V	29.2
HIP33373	6:56:28.2	40:4:20	9.08	K5V	24.0
HIP33428	6:57:4.78	30:45:19	9.68	M0	18.6
HIP33478	6:57:33.7	-24:37:49	5.45	F3V	38.5
HIP33499	6:57:44.9	-44:17:28	10.8	M4+...	8.02
HIP33537	6:58:11.8	22:28:34	6.94	G5V	24.2
HIP33560	6:58:26.1	-12:59:32	9.14	K4V	22.3
HIP33690	6:59:59.2	-61:20:6	6.81	K0IV-V	18.4
HIP33817	7:1:13.9	-25:56:54	6.71	K1V	14.6
HIP33852	7:1:39.4	48:22:36	7.98	K3V	20.4
HIP33955	7:2:42.7	-6:48:2	8.38	K5V	18.7
HIP34017	7:3:30.6	29:20:0	5.93	G4V	19.0
HIP34052	7:3:50.1	-43:33:34	8.67	K5V...	16.9
HIP34065	7:3:57.1	-43:36:22	5.56	G3V...	16.2
HIP34069	7:3:58.7	-43:36:34	6.83	K0V	15.0
HIP34104	7:4:17.5	-10:30:44	10.9	M5	15.3
HIP34115	7:4:26.9	68:17:20	11.9	M5	15.2
HIP34341	7:7:9.31	3:26:46	9.84	M0V	26.7
HIP34361	7:7:23.1	-21:27:30	11.1	M2V:	17.2
HIP34414	7:8:4.04	29:49:59	8.32	G5	22.2
HIP34567	7:9:35.2	25:43:40	7.09	G8V	24.5
HIP34782	7:12:4.03	-30:49:16	6.10	A8III/IV	47.5
HIP34834	7:12:33.4	-46:45:31	4.49	F0IV	21.1
HIP34890	7:13:6.46	-63:20:32	9.08	K5V	19.9
HIP34950	7:13:52.6	25:0:39	8.40	K1V	25.1
HIP35136	7:15:50.1	47:14:20	5.54	G0V	16.8
HIP35191	7:16:19.7	27:8:29	10.8		12.3
HIP35296	7:17:29.5	-46:58:35	6.70	K2V	14.7
HIP35350	7:18:5.53	16:32:24	3.58	A3V...	28.9
HIP35550	7:20:7.35	21:58:56	3.50	F0IV...	18.0
HIP35643	7:21:17.4	45:13:41	5.74	A7s	34.4
HIP35821	7:23:14.7	46:5:10	10.5	M2	16.2
HIP35872	7:23:47.1	12:57:46	8.19	G5	25.0
HIP36046	7:25:43.4	27:47:51	3.78	G9III+...	38.6
HIP36121	7:26:26.6	-15:46:14	9.21	K4V	25.6
HIP36152	7:26:49.8	21:32:7	6.54	F6V	30.8
HIP36210	7:27:24.9	-51:24:9	6.72	G5IV-V	22.5
GJ273	7:27:25.1	5:12:33	9.85	M3.5V	3.75
HIP36349	7:28:51.2	-30:14:50	9.96	M1V:e...	15.5
HIP36357	7:29:1.97	31:59:40	7.73	K2V	17.5
HIP36366	7:29:6.91	31:47:7	4.16	F0V...	18.4
HIP36393	7:29:20.3	28:7:4	5.07	A4V	50.0
HIP36399	7:29:25.6	-7:33:2	5.86	F8V	27.8
HIP36439	7:29:56.1	49:40:19	5.35	F6V	19.9
HIP36515	7:30:42.3	-37:20:20	6.66	G3V	21.7
HIP36551	7:31:7.79	14:36:46	8.94	K5	21.2
HIP36627	7:31:56.9	36:13:43	11.8	M4	11.4

HIP36704	7:33:0.51	37:1:47	7.68	G5	19.6
HIP36817	7:34:18.5	-23:28:25	5.06	F6V	29.0
HIP36827	7:34:26.0	-6:53:48	8.16	K2V	24.8
HIP36850	7:34:35.5	31:53:15	1.58	A2Vm	15.8
HIP36915	7:35:21.6	54:50:59	11.3	M0	13.1
HIP36927	7:35:26.6	-52:26:28	8.78	K3IV-V	25.2
HIP36985	7:36:7.11	-3:6:42	9.87		14.3
HIP37217	7:38:41.4	-21:13:36	11.6	M2	10.8
GJ280	7:39:17.3	5:13:13	0.37	F5IV	3.50
HIP37288	7:39:22.8	2:10:57	9.66	M0	14.8
HIP37349	7:39:59.4	-3:35:55	7.18	K2V	14.1
HIP37494	7:41:45.0	49:13:19	9.73	K4	26.7
HIP37629	7:43:18.8	28:52:56	4.23	K1III:SB	37.4
HIP37766	7:44:39.8	3:33:1	11.1	M4.5Ve	5.93
HIP37826	7:45:18.1	28:1:33	1.16	K0IIIvar	10.3
HIP37853	7:45:34.7	-34:9:52	5.36	G0V	15.1
HIP38048	7:47:56.6	-12:11:32	5.48	F5+...	30.2
HIP38082	7:48:18.0	20:21:49	11.4	M2	14.1
HIP38117	7:48:39.3	53:38:46	8.86	K4V	26.2
HIP38228	7:49:55.0	27:21:47	6.90	G5IV	21.8
HIP38325	7:51:5.63	54:7:46	6.03	F6V	30.0
HIP38382	7:51:46.2	-13:53:58	5.16	G2V	16.6
HIP38423	7:52:15.4	-34:42:15	5.01	F3/F5V	18.0
HIP38594	7:54:10.5	-25:18:8	9.75	M	19.5
HIP38625	7:54:33.9	-1:24:45	7.43	G8V	19.2
HIP38657	7:54:54.1	19:14:3	7.76	K2	19.9
HIP38712	7:55:31.4	8:51:44	5.86	F2IV	38.1
HIP38784	7:56:14.2	80:15:57	6.55	G8V	17.0
HIP38908	7:57:48.0	-60:18:9	5.59	G2V...	16.1
HIP38910	7:57:48.6	-33:57:2	8.83	K5V	18.3
HIP38931	7:57:57.6	-0:48:51	8.05	K5V	17.4
HIP38939	7:58:4.80	-25:37:39	8.42	K3V	18.2
HIP38956	7:58:12.9	41:18:2	12.0	M4V	8.16
HIP39064	7:59:34.1	20:50:29	7.68	K0V	23.1
HIP39157	8:0:31.9	29:12:25	6.97	G8V	16.8
HIP39342	8:2:30.7	-66:1:17	7.18	K1V	17.2
HIP39494	8:4:22.9	43:57:41	9.83	M0	25.3
HIP39826	8:8:12.8	21:6:12	9.41	M:	17.1
HIP39896	8:8:56.3	32:49:7	9.90	M0.5V:e	20.7
HIP39903	8:9:0.32	-61:18:13	4.74	F5V	21.3
HIP40035	8:10:39.5	-13:47:56	5.53	F7V	22.4
HIP40118	8:11:38.0	32:27:15	6.78	G4V	21.7
HIP40239	8:13:8.28	-13:55:9	9.38	M0V	21.6
HIP40375	8:14:35.4	13:1:23	8.79	K5	18.3
HIP40438	8:15:25.2	-52:3:38	6.63	G1V	27.0
HIP40501	8:16:7.58	1:18:10	10.0		9.15
HIP40671	8:18:10.4	30:35:49	8.82	K4V	22.5

HIP40693	8:18:24.2	-12:38:11	5.95	K0V	12.5
HIP40702	8:18:32.0	-76:55:9	4.05	F5III	19.4
HIP40706	8:18:33.1	-36:39:31	4.44	A4m...	28.5
HIP40774	8:19:18.8	1:20:19	8.35	G5	23.3
HIP40843	8:20:3.83	27:12:57	5.13	F6V	18.1
HIP40875	8:20:26.1	57:44:36	5.89	F4V	31.6
HIP40910	8:20:55.2	14:4:12	9.75	M0	23.4
HIP41130	8:23:31.2	21:50:53	9.52	M0	27.0
HIP41211	8:24:34.7	-3:45:4	5.61	F3V	27.2
HIP41307	8:25:39.5	-3:54:23	3.91	A0V	38.3
HIP41312	8:25:44.1	-66:8:15	3.77	K2IIIvar	33.1
HIP41484	8:27:36.7	45:39:5	6.32	G5V	21.7
GJ1111	8:29:48.1	26:46:27	14.9	M6.0V	3.62
HIP41689	8:29:57.5	61:43:21	10.2	M0	19.1
HIP41926	8:32:50.1	-31:29:50	6.38	K0V	12.1
HIP42074	8:34:31.4	-0:43:33	7.32	G5	21.7
HIP42080	8:34:36.0	65:8:41	5.47	A2m	48.4
HIP42172	8:35:50.8	6:37:10	5.91	F8V	26.5
HIP42173	8:35:51.1	6:37:19	7.25	G5V	23.4
HIP42220	8:36:22.5	67:17:43	9.28	M2	13.8
HIP42333	8:37:49.9	-6:48:24	6.74	G0	23.6
HIP42418	8:39:0.14	6:57:14	7.90	K0	25.4
HIP42438	8:39:11.6	65:1:16	5.63	G1.5Vb	14.2
HIP42499	8:39:50.6	11:31:13	7.61	K1V	18.5
HIP42697	8:42:7.12	-42:55:47	8.11	K2V	22.3
HIP42748	8:42:44.7	9:33:14	9.62	M0	13.3
HIP42762	8:42:52.4	9:33:1	11.8	M5	15.4
HIP42806	8:43:17.0	21:28:5	4.66	A1IV	48.5
HIP42808	8:43:17.6	-38:52:51	6.58	K2V	11.1
HIP42913	8:44:42.2	-54:42:33	1.93	A1V	24.4
HIP42940	8:45:9.99	41:40:8	8.52	K3V	25.9
HIP43233	8:48:26.3	6:27:59	10.3	M0	25.8
HIP43534	8:52:0.58	66:7:54	9.26	K5	16.4
HIP43557	8:52:16.5	8:3:42	6.57	G0	24.1
HIP43587	8:52:35.2	28:19:47	5.96	G8V	12.5
HIP43667	8:53:47.0	35:13:15	9.27	M0V:	25.8
HIP43726	8:54:17.5	-5:26:3	6.01	G3V	17.0
HIP43790	8:55:7.67	1:32:30	9.99	M1	20.0
HIP43797	8:55:11.8	-54:57:58	5.70	F6V	24.1
HIP43852	8:55:55.6	36:11:46	7.69	G5	26.1
HIP43970	8:57:15.0	15:19:22	5.22	A5III	49.0
HIP44001	8:57:35.2	15:34:52	5.68	F0IV	49.2
HIP44072	8:58:38.9	20:32:45	9.22	M0	20.6
HIP44075	8:58:44.1	-16:7:54	5.80	F7/F8IV/V	21.3
HIP44127	8:59:11.7	48:2:27	3.12	A7IV	14.6
HIP44143	8:59:23.8	-59:4:56	5.17	F3V	26.1
HIP44248	9:0:37.6	41:46:54	3.96	F5V	16.4

HIP44295	9:1:17.3	15:15:51	8.67	M0V:p...	18.3
HIP44382	9:2:26.7	-66:23:47	4.00	Am	38.1
HIP44722	9:6:45.0	-8:48:21	9.50	M0	14.5
HIP44897	9:8:50.8	33:52:54	5.95	F9V	19.1
HIP44901	9:8:52.0	51:36:16	4.46	Am	29.3
HIP44899	9:8:52.4	-34:50:37	10.3	K7V	22.3
HIP44955	9:9:30.1	32:48:59	9.96	M2	21.1
HIP44984	9:9:46.3	11:33:50	6.48	F2p	37.6
HIP45038	9:10:23.5	67:8:1	4.80	F7IV-V	20.4
HIP45075	9:10:55.2	63:30:48	4.67	Am	37.3
HIP45170	9:12:16.9	14:59:49	6.49	G9V	20.4
HIP45343	9:14:20.0	52:41:2	7.64	M0V	6.18
HIP120005	9:14:21.9	52:41:0	7.70	K2	6.27
HIP45336	9:14:21.9	2:18:46	3.89	B9.5V	39.4
HIP45383	9:14:53.5	4:26:34	7.91	K0	18.4
HIP45493	9:16:11.4	54:1:19	4.80	A5V	36.2
HIP45617	9:17:53.5	28:33:29	7.20	K3V	17.5
HIP45637	9:18:8.70	-57:46:0	9.52	K7V	23.4
HIP45688	9:18:50.6	36:48:7	3.82	A1V	37.3
HIP45836	9:20:43.6	51:16:0	6.14	F3V	29.0
HIP45839	9:20:43.9	-5:45:16	9.10	K2	24.1
HIP45908	9:21:35.8	-60:16:52	9.49	M0V	10.4
HIP45963	9:22:25.4	40:11:58	7.69	K2V	24.2
HIP46199	9:25:10.4	46:5:53	9.09	K0	25.7
HIP46343	9:26:51.6	75:56:1	9.02	K2	20.0
HIP46417	9:27:56.2	80:34:41	9.27	K8	22.9
HIP46509	9:29:9.00	-2:46:8	4.59	F6V	17.0
HIP46549	9:29:34.5	-5:22:21	9.74	M0:	23.5
HIP46580	9:29:54.2	5:39:20	7.20	K3V	12.6
HIP46626	9:30:27.9	-32:6:7	8.31	K3/K4V	19.3
HIP46651	9:30:41.7	-40:27:59	3.60	F2IV	18.5
HIP46706	9:31:20.2	-13:29:18	10.0	M2	10.5
HIP46733	9:31:31.9	63:3:43	3.65	F0IV	23.1
HIP46769	9:31:56.0	36:19:4	10.1	M0	13.5
HIP46816	9:32:25.3	-11:11:4	7.82	K0	18.3
HIP46843	9:32:43.5	26:59:14	7.05	K0	17.7
HIP46853	9:32:49.8	51:40:29	3.17	F6IV	13.4
HIP47080	9:35:38.5	35:48:32	5.40	G8IV-V	11.1
HIP47103	9:36:1.79	-21:39:54	10.9	K	8.97
HIP47175	9:36:49.3	-49:21:17	4.34	A5V	32.9
HIP47201	9:37:11.1	22:41:36	9.43	M0V:	21.9
HIP47300	9:38:21.7	40:14:23	5.28	F0V	38.3
HIP47425	9:39:45.6	-41:3:57	10.7	M:	9.49
HIP47513	9:41:9.63	13:12:32	10.3	M2	11.3
HIP47592	9:42:13.9	-23:54:51	4.93	G0V	14.8
HIP47690	9:43:25.7	42:41:16	8.13	K5V	17.7
HIP47701	9:43:33.2	29:58:26	5.64	A2IV	48.8

HIP47741	9:43:54.9	26:58:6	12.0	M:	14.1
HIP47780	9:44:29.1	-45:46:44	10.2	M1:	9.81
HIP48331	9:51:7.72	-43:30:17	7.67	K5V	11.1
HIP48336	9:51:10.8	-12:20:10	10.0	M0	13.6
HIP48390	9:51:53.0	24:23:40	5.29	A5IV	40.1
HIP48411	9:52:10.9	3:13:18	8.86	K5	20.9
HIP48477	9:53:11.6	-3:41:31	10.5	M0	15.6
HIP48659	9:55:23.7	-27:15:43	12.0		11.4
HIP48714	9:56:7.96	62:47:9	8.99	M2	10.4
HIP48833	9:57:40.8	41:3:19	5.11	F6Vs	28.8
HIP48904	9:58:35.0	-46:25:38	11.2	M5	15.9
HIP48926	9:58:52.1	-35:53:27	5.23	A8IV	32.6
HIP49081	10:0:59.9	31:55:18	5.37	G1V	14.8
HIP49127	10:1:37.0	-15:25:28	8.65	K3V	26.1
HIP49197	10:2:27.9	44:34:41	9.09	K0	27.7
HIP49366	10:4:37.4	-11:43:47	8.15	K0	23.1
HIP49544	10:6:56.7	2:57:50	9.95	M0	22.3
HIP49593	10:7:25.8	35:14:40	4.49	A7V	27.9
HIP49669	10:8:22.0	11:58:2	1.36	B7V	23.7
HIP49699	10:8:43.0	34:14:31	7.56	K0	18.0
HIP49809	10:10:5.75	-12:48:59	5.30	F2/F3IV/V	27.3
HIP49841	10:10:35.0	-12:21:16	3.61	K0III	35.1
HIP49868	10:10:59.4	75:8:33	9.48	M0	21.2
GJ380	10:11:19.8	49:27:6	6.59	K7.0V	4.86
HIP49969	10:12:5.25	-2:41:14	10.6	M0	12.3
HIP49973	10:12:7.60	-18:37:4	9.93	K7V	17.0
HIP49986	10:12:17.5	-3:44:48	9.26	M3	7.81
HIP50070	10:13:22.7	-51:13:58	5.27	A7V	49.8
HIP50075	10:13:24.2	-33:1:53	6.38	G0V	22.7
HIP50125	10:13:57.5	52:30:12	9.53	K5	22.8
HIP50191	10:14:43.9	-42:7:18	3.85	A2V	31.5
HIP50341	10:16:45.4	-11:57:52	10.9	M0	13.7
HIP50372	10:17:5.54	42:54:51	3.45	A2IV	41.2
HIP50384	10:17:14.0	23:6:20	5.81	F8Vw	22.7
HIP50485	10:18:32.6	43:2:53	6.48	G5	35.6
HIP50505	10:18:52.0	44:2:49	6.66	G5	20.6
GJ388	10:19:35.8	19:52:9	9.29	M2.5V	4.88
HIP50564	10:19:43.9	19:28:11	4.78	F6IV	21.1
HIP50583	10:19:58.7	19:50:26	2.01	K0III	38.5
HIP50782	10:22:9.50	11:18:31	7.78	G5	26.8
HIP50888	10:23:29.0	-38:0:36	5.34	A8V	40.4
HIP50921	10:23:55.2	-29:38:42	6.92	G5V	22.0
HIP50944	10:24:15.2	-10:24:25	9.98	K4.5	27.2
HIP50954	10:24:23.6	-74:1:54	3.99	F2IV	16.2
HIP51007	10:25:10.0	-10:13:41	10.1	M0	12.4
HIP51138	10:26:46.8	-62:54:14	9.50	K5	27.0
HIP51248	10:28:4.01	48:46:51	6.42	G1V	23.5

HIP51254	10:28:10.4	6:44:11	8.53	K0	25.1
HIP51271	10:28:23.6	-51:42:19	8.90	K4V	24.2
HIP51317	10:28:54.9	0:50:15	9.65	M2	7.23
HIP51384	10:29:40.0	84:15:6	5.52	F0IV	40.7
HIP51459	10:30:37.2	55:58:49	4.82	F8V	12.8
HIP51468	10:30:46.0	59:44:59	8.74	K5	22.3
HIP51502	10:31:4.01	82:33:31	5.25	F2V	21.4
HIP51525	10:31:23.3	45:31:24	8.85	K7V	15.6
HIP51547	10:31:43.0	57:6:59	9.63	M0	17.4
HIP51658	10:33:13.6	40:25:32	4.72	A7IV	34.3
HIP51814	10:35:9.81	57:4:58	5.16	F1V	26.4
HIP51819	10:35:11.4	84:23:58	7.29	K0	21.0
HIP51933	10:36:32.6	-12:13:59	5.71	F7V	24.5
HIP51986	10:37:17.9	-48:13:32	3.84	A3m+...	26.5
HIP52190	10:39:44.6	-37:55:15	11.0		14.6
HIP52296	10:41:9.54	-36:53:46	9.97	M0V	16.3
HIP52316	10:41:24.0	-1:44:31	6.25	K1IV	34.3
HIP52341	10:41:51.7	-36:37:59	10.1	K7V	16.3
HIP52369	10:42:13.5	-13:47:18	6.79	G2/G3V	23.4
HIP52422	10:43:1.76	26:19:31	5.51	A4Vn	45.4
HIP52462	10:43:28.0	-29:3:52	7.72	K1V	21.5
HIP52469	10:43:32.4	46:12:12	5.18	F5III	35.6
HIP52470	10:43:33.2	48:12:53	8.02	G5	25.2
LHS288	10:44:20.4	-61:12:10	13.9	M5.5V	4.76
HIP52596	10:45:16.6	-30:48:30	11.2		13.8
HIP52600	10:45:21.4	38:30:44	9.16	M2	14.1
HIP52708	10:46:36.7	-24:35:9	9.37	K5V	20.1
HIP52727	10:46:46.2	-49:25:13	2.69	G5III:SB	35.4
DEN1048	10:48:13.0	-39:56:21	17.3	M8.5V	4.02
LHS292	10:48:13.2	-11:20:38	15.7	M6.5V	4.53
HIP53020	10:50:51.2	6:48:16	11.6	M4:	5.63
HIP53229	10:53:18.8	34:12:48	3.79	K0III-IV	29.9
HIP53252	10:53:29.6	-20:8:23	5.23	F6V	31.3
HIP53253	10:53:29.8	-58:51:10	3.78	K0III-IV...	29.6
GJ406	10:56:25.0	7:0:9	13.5	M5.5V	2.38
HIP53486	10:56:30.5	7:23:17	7.37	K0	17.5
HIP53580	10:57:36.1	69:35:48	10.2	M0	23.0
HIP53721	10:59:27.5	40:25:49	5.03	G0V	14.0
HIP53767	11:0:3.76	22:49:54	10.0	M3	6.62
HIP53824	11:0:44.7	6:6:4	4.98	A5III	46.2
HIP53910	11:1:50.6	56:22:57	2.34	A1V	24.3
HIP53954	11:2:19.7	20:10:48	4.42	A1m	37.9
HIP53985	11:2:38.5	21:58:0	9.57	K	11.6
GJ411	11:3:19.4	35:56:55	7.47	M2.0V	2.54
HIP54061	11:3:43.3	61:45:3	1.81	F7V:comp	37.9
HIP54155	11:4:41.2	-4:13:17	7.64	G5	24.6
HIP54182	11:5:0.65	7:20:8	4.62	F2III-IVvar	28.9

GJ412A	11:5:22.1	43:31:51	8.77	M1.0V	4.86
GJ412B	11:5:23.8	43:31:32	14.4	M5.5V	4.86
HIP54288	11:6:23.0	-35:44:54	9.62	K5	25.5
HIP54418	11:8:5.70	-28:16:5	9.32	K7V	26.8
HIP54426	11:8:13.7	38:25:36	8.35	K0	22.7
HIP54459	11:8:31.9	15:45:57	9.75	K0	25.9
HIP54532	11:9:30.4	-24:36:2	10.4	M:	10.6
HIP54646	11:11:5.90	30:26:42	8.31	K8V	11.9
HIP54651	11:11:9.67	-10:56:53	9.23	K5V	20.8
HIP54677	11:11:33.8	-14:59:38	9.06	K4V	22.7
HIP54704	11:12:1.50	-26:8:12	7.05	G8/K0V	21.6
HIP54745	11:12:32.0	35:48:48	6.41	G0V	21.7
HIP54746	11:12:32.8	-49:6:3	5.37	A2III	49.9
HIP54810	11:13:12.8	4:28:55	8.70	K5V	17.9
HIP54872	11:14:6.66	20:31:23	2.56	A4V	17.6
HIP54906	11:14:33.0	25:42:38	7.76	K1V	21.2
HIP54922	11:14:47.8	-23:6:23	9.02	K4V	22.6
HIP54952	11:15:10.3	73:28:32	7.68	K5	14.6
HIP54966	11:15:21.2	-18:8:53	9.97	K7V	20.6
HIP55052	11:16:6.41	-30:10:40	10.3		25.2
HIP55119	11:17:7.75	-27:48:49	9.78	M0V	17.5
HIP55210	11:18:22.8	-5:4:4	7.29	G8V	21.9
HIP55360	11:19:57.1	65:50:50	9.31	M1Vvar	9.09
HIP55454	11:21:26.8	-20:27:15	8.57	K4/K5V	13.1
HIP55691	11:24:39.1	-61:38:49	7.22	K7V+...	12.8
HIP55705	11:24:52.8	-17:41:2	4.06	A9V	25.7
HIP55718	11:24:59.6	40:0:12	10.2	M0	22.7
HIP55779	11:25:42.3	-63:58:21	5.18	F7V	27.4
HIP55846	11:26:44.5	3:0:50	6.49	K0IV	17.6
HIP55848	11:26:45.4	3:0:25	7.58	K2V	17.9
HIP56035	11:29:4.30	61:46:45	5.83	F5Vawvar	32.8
HIP56153	11:30:33.9	-57:8:1	8.34	K4V	22.2
HIP56157	11:30:41.4	-8:5:38	11.9		13.9
HIP56199	11:31:13.2	63:9:27	9.98	M0	23.3
HIP56238	11:31:42.7	22:40:2	10.3		16.1
HIP56242	11:31:44.5	14:21:49	6.27	G0V	23.0
HIP56244	11:31:45.5	-41:2:44	11.5	M	10.4
HIP56343	11:32:59.8	-31:51:28	3.54	G8III	39.6
HIP56445	11:34:21.7	3:3:34	5.76	F5V	26.5
HIP56452	11:34:28.6	-32:49:39	5.96	K0V	9.53
HIP56528	11:35:26.8	-32:32:37	9.81	M2V	9.03
HIP56630	11:36:41.4	39:11:19	10.0	M0	24.3
HIP56802	11:38:40.1	-13:12:4	5.48	F7V	26.9
HIP56809	11:38:44.0	45:6:30	6.29	G0V	23.2
HIP56829	11:38:59.5	42:19:50	8.22	K5V	19.7
HIP56998	11:41:1.49	-44:24:14	7.77	K5V	12.5
HIP56997	11:41:3.00	34:11:59	5.31	G8Vvar	9.54

HIP57274	11:44:40.9	30:57:27	8.97	K8	25.8
HIP57328	11:45:17.0	8:15:28	4.84	A4V	36.6
HIP57363	11:45:36.1	-66:43:42	3.63	A7III	39.3
HIP57443	11:46:28.9	-40:29:54	4.89	G3/G5V	9.23
HIP57493	11:47:3.60	50:58:16	9.51	M0V:p	24.6
HIP57494	11:47:3.61	-11:49:27	9.03	K2	24.6
HIP57507	11:47:15.4	-30:17:15	6.48	G5V	17.7
GJ447	11:47:45.0	0:47:56	11.1	M4.0V	3.35
HIP57632	11:49:3.02	14:34:17	2.14	A3Vvar	11.0
HIP57757	11:50:42.5	1:45:48	3.59	F8V	10.9
HIP57802	11:51:6.98	35:16:23	9.76	M1V	8.55
HIP57866	11:52:8.37	18:45:13	8.40	K2	25.3
HIP58001	11:53:50.0	53:41:41	2.41	A0V:SB	25.6
HIP58293	11:57:15.8	-26:8:26	8.93	K3/K4V	26.7
HIP58345	11:57:54.9	-27:42:35	6.99	K4V	10.1
HIP58374	11:58:11.4	-23:55:26	8.70	K3V	26.0
HIP58451	11:59:10.1	-20:21:20	7.92	K2V	20.8
HIP58576	12:0:44.6	-10:26:53	5.54	K0IV	12.9
HIP58684	12:2:6.28	43:2:45	5.22	A7m	33.9
HIP58803	12:3:40.0	-42:26:4	5.15	F6V	24.2
HIP59000	12:5:50.6	-18:52:36	9.99	K5V	22.5
HIP59072	12:6:52.9	-64:36:50	4.14	F2III	19.6
HIP59199	12:8:24.9	-24:43:44	4.02	F0IV/V	14.7
HIP59280	12:9:36.8	40:15:6	7.46	K0V	24.3
HIP59296	12:9:54.3	-46:12:31	8.46	K5V	20.1
HIP59378	12:10:56.8	41:3:31	10.6	M2V	21.2
HIP59406	12:11:11.5	-19:57:41	11.6		12.7
HIP59496	12:12:5.42	58:55:35	10.0	K5	28.3
HIP59504	12:12:11.9	77:36:58	5.14	A5m	33.6
HIP59514	12:12:21.2	54:29:10	9.71	M2	15.3
HIP59608	12:13:25.8	10:15:44	5.85	A2m	49.5
HIP59750	12:15:10.5	-10:19:0	6.11	F5V	22.5
HIP59774	12:15:25.7	57:1:57	3.32	A3Vvar	24.9
HIP59780	12:15:27.2	-31:5:39	9.74	K5V	20.1
HIP59816	12:15:57.9	5:38:23	9.45	K8	25.8
HIP60303	12:21:54.3	42:7:53	9.36	M0V	15.9
HIP60310	12:21:59.8	-41:3:34	8.54	K4V	24.1
HIP60559	12:24:53.7	-18:15:9	11.2	M4	8.88
HIP60759	12:27:13.8	27:1:24	8.24	K2V	27.5
HIP60866	12:28:31.7	-18:17:53	9.24	K4V	24.9
HIP60910	12:28:56.9	8:25:27	11.9	M:	13.5
HIP60965	12:29:51.6	-16:30:57	2.94	B9.5V	26.9
HIP60994	12:30:4.48	-13:23:36	6.37	G1/G2V	24.9
HIP61053	12:30:50.1	53:4:38	6.20	F9V	21.9
HIP61084	12:31:10.0	-57:6:51	1.59	M4III	26.9
HIP61094	12:31:15.1	8:48:29	9.74	M0:	13.4
HIP61099	12:31:18.2	20:13:1	7.91	K0	25.2

HIP61100	12:31:19.0	55:7:7	8.08	K2V	23.7
HIP61174	12:32:3.75	-16:11:46	4.30	F2V	18.2
HIP61212	12:32:35.8	-13:51:33	5.74	F3IV/V	36.9
GJ473AB	12:33:15.4	9:1:19	13.2	M5.0V	4.38
HIP61291	12:33:29.7	-68:45:25	7.13	K0V	16.1
HIP61317	12:33:43.5	41:21:31	4.24	G0V	8.37
HIP61329	12:33:59.1	-14:38:19	9.10	K3/K4V	25.5
HIP61451	12:35:33.2	-34:52:57	7.84	K4V	21.6
HIP61468	12:35:45.3	-41:1:18	5.12	A7III	34.5
HIP61481	12:35:51.4	51:13:17	8.52	K0	26.2
HIP61622	12:37:41.8	-48:32:28	3.85	A2V	40.3
HIP61621	12:37:42.3	-27:8:21	5.41	F0V	34.5
HIP61792	12:39:46.8	-77:50:30	9.05	K5V	26.8
HIP61874	12:40:45.1	-43:33:47	12.2	M4	7.66
HIP61901	12:41:6.61	15:22:30	7.91	K2	14.2
HIP61941	12:41:38.9	-1:26:56	2.74	F0V+...	11.8
HIP61946	12:41:44.7	55:43:28	8.27	K3V	23.2
HIP62145	12:44:13.8	51:45:30	7.01	K3V	15.0
HIP62207	12:44:58.9	39:16:46	5.95	G0V	17.3
HIP62229	12:45:14.0	-57:21:30	7.82	K3V	20.1
HIP62268	12:45:38.3	-60:58:53	4.69	K1III	38.2
HIP62471	12:48:9.62	-24:48:13	9.90	K0	18.7
HIP62472	12:48:10.3	-24:48:20	8.90	K4/K5V	19.8
HIP62505	12:48:32.3	-15:43:9	7.93	K2V	21.1
HIP62512	12:48:39.6	60:19:10	5.83	F5V	24.1
HIP62523	12:48:46.6	24:50:23	6.29	G7V	17.1
HIP62687	12:50:43.5	-0:46:11	8.49	M0.5V	10.7
HIP62956	12:54:1.95	55:57:35	1.76	A0p	24.8
HIP63076	12:55:28.5	65:26:18	5.23	A5n	28.8
HIP63121	12:56:0.17	38:18:55	5.61	F0V	25.0
HIP63257	12:57:43.5	-14:27:48	9.11	K4V	23.1
HIP63366	12:59:0.66	-9:49:59	7.54	K0V	21.0
HIP63406	12:59:32.4	41:59:15	8.60	G9V	24.1
HIP63467	13:0:16.1	-2:42:17	9.78	K7V	25.8
HIP63490	13:0:32.5	-33:30:20	6.01	F3V	40.0
HIP63503	13:0:43.9	56:21:58	4.93	F2V	24.9
HIP63510	13:0:45.9	12:22:32	9.76	M2	11.4
HIP63550	13:1:18.7	-63:11:48	10.9		16.8
HIP63608	13:2:10.2	10:57:33	2.85	G8IIIvar	31.3
HIP63613	13:2:17.1	-71:32:56	3.61	K2III	27.8
HIP63618	13:2:20.5	-26:47:16	8.35	K4V	17.5
HIP63742	13:3:49.4	-5:9:46	7.69	G5V	22.1
HIP63762	13:4:4.93	87:6:58	8.77	K0	24.3
HIP63833	13:4:56.1	-52:26:47	9.05	K8V	15.7
HIP63894	13:5:41.5	49:28:21	9.26	K0	21.8
HIP63942	13:6:15.3	20:43:46	9.44	M0	18.5
HIP64048	13:7:34.8	34:24:6	9.28	K3III	23.8

HIP64241	13:9:58.7	17:31:48	4.32	F5V	14.3
HIP64394	13:11:51.4	27:52:55	4.23	G0V	9.15
HIP64457	13:12:43.6	-2:15:53	7.56	K0	20.4
HIP64475	13:12:54.0	-30:42:39	8.03	K1IV/V	26.7
HIP64550	13:13:52.0	-45:11:10	6.93	G2V	24.4
HIP64577	13:14:10.7	-19:55:48	5.31	G8III/IV	38.6
HIP64583	13:14:14.6	-59:6:14	4.90	F7IV	18.0
HIP64690	13:15:20.9	-87:33:40	7.11	G5IV-V	24.6
HIP64725	13:15:59.1	-19:56:37	5.21	K1III	38.9
HIP64792	13:16:46.1	9:25:30	5.19	G0Vs	17.9
HIP64797	13:16:51.7	17:0:57	6.49	K2V	11.2
HIP64924	13:18:23.1	-18:18:57	4.74	G5V	8.52
HIP65011	13:19:34.1	35:6:24	9.48	M0	13.1
HIP65026	13:19:45.8	47:46:40	8.48	K0	10.3
HIP65109	13:20:35.3	-36:42:45	2.75	A2V	17.9
HIP65143	13:20:58.6	34:16:39	10.6	M0	16.0
HIP65327	13:23:23.5	57:54:22	9.69	M0V	25.1
HIP65343	13:23:32.2	29:14:18	8.88	K5	18.5
HIP65352	13:23:39.1	2:43:27	7.06	G5	16.0
HIP65355	13:23:40.8	2:43:34	7.35	G5	16.7
HIP65378	13:23:55.7	54:55:30	2.23	A2V	23.9
HIP65420	13:24:33.4	-5:9:50	5.76	F3V	30.0
HIP65477	13:25:13.7	54:59:16	3.99	A5V:SB	24.8
HIP65515	13:25:45.1	56:58:13	7.29	G9IV-V	21.8
HIP65520	13:25:48.3	-28:22:27	11.0	M	16.2
HIP65530	13:25:58.9	63:15:44	6.50	G6V	21.3
HIP65714	13:28:21.2	-2:21:44	11.2	M4+...	14.1
HIP65859	13:30:1.01	10:22:20	9.05	M1V	7.62
HIP66077	13:32:44.8	16:48:35	11.3	M4Ve	13.7
HIP66147	13:33:31.8	8:35:13	7.98	K0	18.4
HIP66193	13:34:2.91	33:13:47	9.19	K5IV	22.9
HIP66222	13:34:21.6	4:40:0	9.95	M0.5V:	20.5
HIP66249	13:34:41.2	-0:35:44	3.38	A3V	22.4
HIP66252	13:34:42.9	-8:20:32	9.24	K7V	19.7
HIP66459	13:37:29.1	35:43:3	9.06	M9	10.9
HIP66492	13:37:50.8	48:8:14	9.77	M0...	21.9
HIP66675	13:40:6.72	-4:11:2	9.61	M0V	14.5
HIP66704	13:40:23.0	50:31:10	6.31	F7.7V	25.2
HIP66765	13:41:4.44	-34:27:53	6.92	K1V	15.6
HIP66781	13:41:13.3	56:43:38	7.77	K0IV-V	23.7
HIP66840	13:41:55.5	-0:7:51	9.76	M0V	23.7
HIP66886	13:42:25.7	-1:41:13	9.24	K7V	24.2
HIP67090	13:45:5.58	17:46:38	9.79		13.0
HIP67105	13:45:14.6	8:50:8	8.47	K2	20.9
HIP67153	13:45:40.6	-33:2:39	4.23	F3V	19.2
HIP67155	13:45:45.7	14:53:6	8.46	M3V	5.43
HIP67164	13:45:50.3	-17:58:14	11.8	M:	11.3

HIP67275	13:47:15.2	17:27:25	4.50	F7V	15.5
HIP67301	13:47:32.2	49:18:47	1.85	B3V:SB	30.8
HIP67422	13:49:3.48	26:58:46	7.05	K2	13.6
HIP67487	13:49:42.7	-22:6:47	8.16	K4/K5V	14.1
HIP67601	13:51:5.48	-53:44:7	9.53	K3V	26.9
HIP67620	13:51:19.6	-24:23:29	6.43	G5V	19.9
HIP67691	13:52:0.70	49:57:1	8.82	K5	14.0
HIP67742	13:52:34.8	-50:55:19	7.37	K1V	16.4
HIP67808	13:53:27.3	12:56:23	9.78	M0	20.8
HIP67960	13:55:2.21	-29:5:27	9.53	K5/M0V	16.7
HIP67986	13:55:20.0	-76:16:15	8.33	K2V	26.6
HIP68030	13:55:49.6	14:3:23	6.16	F6V	24.2
HIP68184	13:57:31.9	61:29:37	6.49	K3V	10.1
HIP68337	13:59:19.2	22:52:11	9.05	K	23.8
HIP68469	14:1:2.30	-2:39:7	9.71	K5	10.1
HIP68634	14:2:56.8	14:58:31	7.12	G5	26.1
HIP68682	14:3:32.4	10:47:7	6.27	G8V	16.6
HIP68895	14:6:22.3	-26:40:58	3.25	K2III	31.0
HIP68933	14:6:40.2	-36:22:20	2.06	K0IIIb	18.6
HIP69357	14:11:45.8	-12:36:45	7.93	K1V	23.0
HIP69414	14:12:45.0	-3:19:17	7.05	G0	22.2
HIP69454	14:13:13.5	-56:44:28	10.2	M2V:	11.7
HIP69454	14:13:13.5	-56:44:28	10.2	M2V:	11.7
HIP69483	14:13:29.1	51:47:23	4.53	A8IV	47.5
HIP69526	14:13:56.5	30:13:4	8.03	K5	17.3
HIP69562	14:14:21.1	-15:21:24	10.3	K4V	26.4
HIP69673	14:15:38.4	19:10:24	-0.0	K2IIIp	11.2
HIP69671	14:15:38.8	-45:0:4	6.31	F9V	21.0
HIP69713	14:16:9.67	51:22:3	4.75	A9V	29.8
HIP69732	14:16:22.7	46:5:20	4.18	A0sh	29.7
HIP69824	14:17:24.4	45:26:39	10.1	M0	18.6
HIP69896	14:18:13.7	-81:0:29	4.89	A2m...	42.8
HIP69962	14:18:58.2	-6:36:19	9.10	K7V	21.5
HIP69965	14:19:0.47	-25:48:49	5.87	F7Vw	17.7
HIP69972	14:19:3.88	-59:22:57	6.66	K3V	11.8
HIP69989	14:19:16.3	13:0:15	5.41	F5IV	26.0
HIP70016	14:19:34.1	-5:9:6	7.58	K1V	20.7
HIP70035	14:19:51.1	-61:16:24	5.22	Am	48.3
HIP70218	14:21:56.4	29:37:41	8.56	K5V	14.4
HIP70319	14:23:15.5	1:14:21	6.25	G1V	17.5
HIP70400	14:24:11.2	5:49:12	5.10	A5V	46.3
HIP70475	14:24:56.5	8:53:17	12.2	M:	14.3
HIP70497	14:25:11.3	51:50:56	4.04	F7V	14.5
HIP70529	14:25:44.3	23:36:43	9.77	M1	16.7
HIP70536	14:25:47.5	23:36:55	9.98	M2	15.7
HIP70857	14:29:21.8	80:48:33	6.88	G5	19.5
HIP70865	14:29:28.5	15:32:18	10.6	M3	14.2

GJ551	14:29:34.2	-62:40:33	11.0	M5.0V	1.30
HIP70950	14:30:44.3	35:27:16	8.68	K3V	21.9
HIP70952	14:30:45.6	63:11:8	6.10	F4IV	31.7
HIP70956	14:30:46.3	-8:38:50	9.40	K7V	16.5
HIP71075	14:32:4.51	38:18:32	3.04	A7IIIvar	26.1
HIP71181	14:33:28.5	52:54:35	7.24	K3V	13.4
HIP71253	14:34:16.4	-12:31:0	11.3	M4	6.11
HIP71284	14:34:41.0	29:44:44	4.47	F3Vvar	15.4
HIP71311	14:34:56.8	33:44:52	9.54	K8	20.3
HIP71395	14:36:0.78	9:44:43	7.48	K0	16.5
GJ559B	14:39:27.2	-60:49:58	1.34	K0V	1.33
GJ559A	14:39:28.4	-60:49:54	0.01	G2.0V	1.33
HIP71743	14:40:30.9	-16:12:34	7.24	G6V	23.5
HIP71855	14:41:52.9	-75:8:22	6.73	G5V	20.3
HIP71908	14:42:29.9	-64:58:34	3.18	F1Vp	16.4
HIP71914	14:42:33.3	19:28:44	9.10	M0	22.4
HIP71957	14:43:3.73	-5:39:34	3.87	F2III	18.6
HIP72044	14:44:11.9	22:11:8	9.89	M0	26.3
HIP72146	14:45:23.9	13:50:43	7.87	K0	19.5
HIP72197	14:45:59.9	-25:26:37	5.15	F0V+G/K	30.4
HIP72220	14:46:14.7	1:53:34	3.73	A0V	39.4
HIP72237	14:46:23.1	16:29:33	9.23	K5V	17.5
HIP72312	14:47:15.7	2:42:10	7.76	G8V	19.6
HIP72493	14:49:23.4	-67:14:14	7.26	K0V	23.9
HIP72567	14:50:15.9	23:54:43	5.86	G2V	17.9
HIP72603	14:50:41.0	-15:59:50	5.15	F3V	23.6
HIP72607	14:50:42.2	74:9:19	2.07	K4IIIvar	38.7
HIP72622	14:50:52.5	-16:2:31	2.75	A3IV	23.6
HIP72659	14:51:23.5	19:6:0	4.54	G8V+K4V	6.69
HIP72688	14:51:39.3	-24:18:21	7.81	K3V	16.9
HIP72848	14:53:23.2	19:9:13	6.00	K2V	11.5
HIP72875	14:53:40.6	23:20:42	8.65	K3V	22.9
HIP72944	14:54:29.5	16:6:1	10.1	M2Ve	9.81
HIP72944	14:54:29.5	16:6:1	10.1	M2Ve	9.81
HIP73005	14:55:9.29	53:40:56	7.77	K1V	23.9
HIP73100	14:56:23.2	49:37:38	5.63	F7V	24.8
HIP73165	14:57:10.8	-4:20:49	4.47	F0V	27.9
HIP73184	14:57:29.1	-21:25:23	5.72	K4V	5.90
HIP73457	15:0:43.3	-11:8:14	9.49	K7V	19.5
HIP73470	15:0:55.9	45:25:40	9.15	M0	11.6
HIP73631	15:3:3.10	-46:17:37	9.87	K5V	24.8
HIP73633	15:3:6.27	-41:59:36	8.98	K3V	24.3
HIP73695	15:3:46.6	47:39:14	4.83	G2V+G2V	12.7
HIP73850	15:5:33.9	-30:33:1	6.48	F6V	31.8
HIP73996	15:7:18.2	24:52:6	4.93	F5V	19.7
HIP74190	15:9:34.9	3:10:8	11.4	M:	14.4
HIP74273	15:10:44.3	-61:25:20	6.29	G3IV	24.1

HIP74395	15:12:16.8	-52:5:58	3.41	G8III	35.6
HIP74537	15:13:49.5	-1:21:13	6.58	K0V	17.3
HIP74666	15:15:30.2	33:18:51	3.46	G8III	35.7
HIP74689	15:15:48.9	0:22:19	5.62	A4V	49.5
HIP74702	15:15:59.3	0:47:44	6.92	K0	15.5
HIP74824	15:17:30.6	-58:48:6	4.07	A3V	29.6
HIP74926	15:18:40.0	-18:37:41	10.3		26.2
HIP74981	15:19:20.9	29:12:28	10.2	K7	28.6
HIP74995	15:19:25.5	-7:43:21	10.5	M5	6.26
HIP75101	15:20:46.7	-2:24:50	6.34	K0V	36.9
HIP75181	15:21:45.5	-48:19:7	5.65	G2V	14.5
HIP75201	15:22:3.78	-4:46:39	9.46	K7V	18.8
HIP75253	15:22:36.6	-10:39:43	7.97	K2V	21.8
HIP75266	15:22:42.1	1:25:1	8.28	K3V	25.4
HIP75277	15:22:46.5	18:55:9	7.16	K0	20.1
HIP75312	15:23:12.4	30:17:13	4.99	G2V	18.6
HIP75458	15:24:55.7	58:57:58	3.29	K2III	31.3
HIP75542	15:25:57.5	-26:42:20	8.82	K3/K4V	24.4
HIP75718	15:28:9.69	-9:20:58	6.89	K2V	19.8
HIP75722	15:28:12.2	-9:21:34	7.57	K2V	20.8
HIP75761	15:28:38.1	1:50:30	5.15	A8IV	37.4
HIP75809	15:29:9.73	80:26:56	6.57	G8IV-V+...	22.0
HIP75829	15:29:22.1	80:27:2	7.30	G5	21.7
HIP76074	15:32:11.2	-41:16:48	9.31	M0	5.93
HIP76219	15:34:11.0	-10:3:56	4.61	K1IV	28.9
HIP76233	15:34:20.7	-5:41:42	6.52	F7V	25.1
HIP76267	15:34:41.4	26:42:51	2.22	A0V	22.9
HIP76315	15:35:20.4	60:5:10	8.39	K5	19.0
HIP76375	15:35:55.9	39:49:52	7.65	K3V	22.2
HIP76568	15:38:16.3	46:47:50	5.76	F2V	35.7
HIP76602	15:38:39.9	-8:47:41	6.56	F6IV-V	22.6
HIP76603	15:38:40.0	-8:47:29	6.45	F6V	24.8
HIP76779	15:40:34.7	-18:2:55	8.92	K5V	15.7
HIP76829	15:41:11.1	-44:39:44	4.64	F5IV-V	17.5
HIP76832	15:41:19.9	75:59:21	12.2	M4	13.0
HIP76952	15:42:44.4	26:17:45	3.81	A1Vs	44.4
HIP77052	15:44:1.77	2:30:52	5.86	G5V	14.6
HIP77060	15:44:4.36	-15:40:23	5.41	A6IV	45.0
HIP77070	15:44:16.2	6:25:32	2.63	K2III	22.4
HIP77233	15:46:11.3	15:25:17	3.65	A3V	46.9
HIP77257	15:46:26.3	7:21:10	4.42	G0Vvar	11.7
HIP77349	15:47:24.2	-10:53:53	11.2	K:...	15.5
HIP77358	15:47:28.5	-37:55:2	6.01	G6IV	15.2
HIP77408	15:48:9.27	1:34:15	7.44	G8V	21.3
HIP77409	15:48:10.3	74:24:45	9.24	K5	26.3
HIP77464	15:48:56.7	-3:49:6	5.53	A5IV	49.1
HIP77516	15:49:37.1	-3:25:49	3.54	A0V	47.7

HIP77574	15:50:16.3	-45:24:6	6.11	F0V	44.9
HIP77622	15:50:49.1	4:28:40	3.71	A2m	21.5
HIP77655	15:51:13.9	35:39:21	4.79	K0III-IV	31.1
HIP77660	15:51:15.4	-3:5:26	5.09	A3Vn	48.8
HIP77725	15:52:7.94	10:52:24	9.34	M2	22.5
HIP77760	15:52:41.1	42:27:15	4.60	F9V	15.8
HIP77801	15:53:11.9	13:11:38	6.07	G0IV	17.4
HIP77908	15:54:38.1	-26:0:13	9.20	K5V	25.3
HIP77952	15:55:8.11	-63:25:57	2.83	F2III	12.3
HIP78072	15:56:27.5	15:39:21	3.85	F6V	11.1
HIP78170	15:57:40.3	-42:37:30	8.06	K5V	14.6
HIP78180	15:57:47.1	54:45:0	4.96	F0IV	33.8
HIP78241	15:58:31.0	27:44:28	8.02	K0V	26.0
HIP78286	15:59:4.43	49:52:50	6.04	F0IV	49.0
HIP78353	15:59:53.6	-8:15:11	10.4	M0	13.9
HIP78459	16:1:2.41	33:18:0	5.39	G2V	17.4
HIP78662	16:3:31.8	-57:46:31	4.63	A7IV	42.9
HIP78709	16:4:3.13	25:15:28	7.10	G8V	21.4
HIP78734	16:4:22.8	-33:3:40	10.0		23.2
HIP78775	16:4:56.0	39:9:24	6.66	G8V	14.3
HIP78843	16:5:40.8	-20:27:5	7.39	K3/K4V	18.5
HIP78914	16:6:29.4	-45:10:22	4.73	Am	37.8
HIP78913	16:6:29.9	38:37:47	8.58	K3V	23.4
HIP79119	16:8:58.2	36:29:32	4.73	K0III-IV	34.6
HIP79137	16:9:11.4	6:22:31	5.93	K1+...	30.4
HIP79190	16:9:42.5	-56:26:37	7.11	K3V	14.3
HIP79248	16:10:24.5	43:48:58	6.61	K0V	18.1
HIP79492	16:13:18.6	13:31:30	6.68	G8V	24.3
HIP79537	16:13:46.8	-57:34:36	7.53	K0V	13.7
HIP79578	16:14:11.8	-31:39:53	6.55	G1V	21.8
HIP79607	16:14:40.5	33:51:29	5.23	F8V	21.6
HIP79672	16:15:37.5	-8:22:17	5.49	G1V	14.0
HIP79702	16:15:57.2	7:21:17	8.70	K4V	25.7
HIP79755	16:16:41.3	67:14:21	8.61	M0Vvar	10.6
HIP79762	16:16:43.9	67:15:23	10.6	M3	10.7
HIP79796	16:17:5.55	55:16:1	9.87	M1.5Ve	20.6
HIP79822	16:17:29.8	75:45:23	4.95	F5V	29.8
HIP79881	16:18:17.8	-28:36:52	4.80	A0V:	43.0
HIP79882	16:18:19.3	-4:41:32	3.23	G8III	32.9
HIP79958	16:19:15.8	-55:30:16	9.25	K5III	27.6
HIP80000	16:19:50.1	-50:9:20	4.01	G8III	39.0
HIP80008	16:19:54.9	39:42:30	5.48	F3IV-V	26.8
HIP80018	16:20:2.53	-37:31:28	10.5	M4	8.47
HIP80043	16:20:17.3	-48:13:45	8.91	K3V	25.7
HIP80093	16:20:52.7	40:57:42	8.99	M0	15.9
HIP80179	16:22:4.18	1:1:45	4.82	F0V	27.3
HIP80268	16:23:7.23	-24:42:46	10.2	M2	16.8

HIP80331	16:23:59.4	61:30:52	2.73	G8III	26.8
HIP80337	16:24:1.39	-39:11:34	5.37	G3/G5V	12.8
HIP80366	16:24:19.5	-13:38:33	8.40	K2V	21.5
HIP80459	16:25:25.4	54:18:12	10.1	M2	6.58
HIP80480	16:25:42.5	78:57:51	5.55	F0V	42.3
HIP80628	16:27:48.1	-8:22:18	4.62	A3m	37.4
HIP80644	16:27:56.6	7:18:15	8.83	K5	17.7
HIP80645	16:27:57.4	-64:3:28	5.28	F4IV	40.4
HIP80686	16:28:28.7	-70:5:2	4.90	F9V	12.1
HIP80725	16:28:52.2	18:24:56	6.98	K2V	19.5
GJ628	16:30:17.9	-12:40:3	10.1	M3.5V	4.26
HIP80925	16:31:29.4	-39:0:49	7.24	K0V	24.6
HIP81262	16:35:50.1	-53:45:29	8.78	K4V	22.3
HIP81300	16:36:21.9	-2:19:33	5.77	K2V	9.77
HIP81348	16:36:49.4	31:5:41	9.49	K5	25.6
HIP81375	16:37:8.52	0:15:16	7.09	K0	20.1
HIP81520	16:39:3.67	-58:15:34	7.01	G3V	21.6
HIP81657	16:40:50.6	-60:26:48	6.17	F2III-IV	30.7
HIP81813	16:42:37.7	68:6:14	7.56	K1V	24.3
HIP81833	16:42:53.8	38:55:18	3.48	G8III-IV	34.3
HIP81919	16:43:56.1	43:28:30	8.30	K5	27.3
HIP81935	16:44:14.9	-38:56:38	7.52	K2V	14.3
HIP82003	16:45:6.30	33:30:39	8.10	K7V	9.77
HIP82020	16:45:17.8	56:46:55	4.84	F2V	26.7
HIP82333	16:49:24.8	39:16:30	9.67	M0	22.6
HIP82389	16:50:5.23	18:54:0	8.85	K0	26.7
HIP82396	16:50:9.01	-34:17:39	2.29	K2IIIb	20.0
HIP82587	16:52:57.9	31:42:5	5.34	F0V	30.0
HIP82588	16:52:58.0	-0:1:58	6.65	G8V	16.9
HIP82817	16:55:27.8	-8:20:24	9.02	M3Ve	5.73
HIP82834	16:55:38.1	-32:4:8	9.58	K4/K5V	18.6
HIP82860	16:56:2.29	65:8:6	4.88	F6Vvar	15.0
HIP82926	16:56:48.6	-39:5:39	11.1	M3Ve+...	14.5
HIP83000	16:57:39.7	9:22:29	3.19	K2IIIvar	26.3
HIP83006	16:57:42.0	47:21:47	7.93	K0	17.5
HIP83020	16:57:52.9	47:22:4	7.76	K0	17.9
HIP83043	16:58:8.71	25:44:30	9.70	M2	10.3
HIP83101	16:58:54.4	-39:33:27	8.33	K3/K4V	19.1
HIP83207	17:0:17.3	30:55:35	3.92	A0V	49.9
HIP83363	17:2:16.2	-61:34:9	8.74	K3V	25.4
HIP83389	17:2:36.5	47:5:8	6.76	G8V	18.0
HIP83431	17:3:8.71	-53:14:15	5.27	F6V	26.3
HIP83451	17:3:17.9	59:35:11	8.61	K4V...	25.1
HIP83541	17:4:27.9	-28:35:1	6.59	K1V	18.0
HIP83591	17:5:2.41	-5:4:17	7.70	K5V	10.7
HIP83599	17:5:12.7	-5:5:57	10.0	M0V	11.1
HIP83601	17:5:16.8	0:42:3	6.00	F9V	20.3

HIP83608	17:5:19.9	54:28:13	4.91	F5	26.9
HIP83613	17:5:22.7	12:44:26	4.89	A4IV	44.0
HIP83762	17:7:6.95	21:33:13	11.6	M3	13.5
HIP83846	17:8:7.00	-41:43:31	8.30	K5V	22.5
HIP83945	17:9:32.0	43:40:48	11.7	M3	7.25
HIP83990	17:10:10.5	-60:43:34	7.38	K0V	13.6
HIP83988	17:10:10.6	54:29:38	8.85	K0	21.2
HIP83996	17:10:12.5	54:29:22	9.34	K8	20.8
HIP84012	17:10:22.7	-15:43:28	2.43	A2.5Va	25.7
HIP84051	17:10:58.7	-52:30:53	10.0		12.5
HIP84123	17:11:51.6	-1:51:11	11.4	G	10.8
HIP84183	17:12:32.6	62:52:28	5.54	F0IV	41.6
HIP84195	17:12:37.7	18:21:2	7.95	K0	20.5
HIP84223	17:12:53.6	42:19:48	10.0	M1V:	23.8
HIP84379	17:15:1.88	24:50:18	3.12	A3IVv:SB	24.0
HIP84405	17:15:20.4	-26:36:28	4.33	K2:III:	5.98
HIP84478	17:16:12.7	-26:33:4	6.33	K5V	5.96
HIP84521	17:16:40.6	8:3:29	11.4	M3.5	14.9
HIP84607	17:17:40.4	29:13:41	8.43	K2	24.0
HIP84616	17:17:50.4	52:26:46	7.93	K2	18.5
HIP84709	17:18:58.6	-34:59:24	5.91	K4V	6.97
HIP84720	17:19:5.43	-46:38:8	5.47	M0V	8.78
HIP84790	17:19:53.1	41:42:36	11.3	M4	12.3
HIP84862	17:20:39.7	32:27:47	5.38	G0V	14.3
HIP84893	17:21:0.67	-21:6:49	4.39	F2/F3V	17.3
HIP85042	17:22:51.3	-2:23:19	6.28	G5IV	19.4
HIP85157	17:24:6.53	22:57:36	5.70	F0IV	42.7
HIP85235	17:24:58.6	67:18:24	6.44	K0V	12.7
HIP85295	17:25:44.6	2:6:22	7.54	K7V	7.71
HIP85340	17:26:22.2	-24:10:33	4.16	A3IV:m	25.6
HIP85365	17:26:37.7	-5:5:12	4.53	F3V	30.0
GJ674	17:28:40.7	-46:53:57	9.37	M2.5V	4.54
HIP85561	17:29:6.22	-23:50:11	9.61	K5V	18.1
HIP85582	17:29:19.8	29:23:26	8.99	K2	23.5
HIP85647	17:30:10.7	-51:38:16	9.58	M0	16.1
HIP85653	17:30:16.7	47:24:9	7.22	G5	22.3
HIP85665	17:30:22.7	5:32:50	9.33	M1V...	9.98
HIP85699	17:30:48.7	86:58:5	5.78	A2m	47.8
HIP85810	17:32:0.68	34:16:17	6.52	G5V	23.6
HIP85819	17:32:10.8	55:11:4	4.89	Am...	30.3
HIP85829	17:32:16.2	55:10:23	4.86	Am	30.6
HIP85922	17:33:29.7	-5:44:42	5.61	A5V	48.4
HIP86032	17:34:56.1	12:33:32	2.08	A5III	14.3
HIP86036	17:35:0.22	61:52:20	5.23	G0V	14.0
HIP86057	17:35:13.7	-48:40:43	10.1	K5	9.77
HIP86087	17:35:35.0	61:40:45	9.98	M1	14.0
HIP86141	17:36:13.6	71:52:41	8.55	K5	19.0

GJ687	17:36:24.9	68:20:0	9.17	M3.0V	4.53
HIP86201	17:36:57.0	68:45:33	4.77	F5V	23.4
HIP86214	17:37:2.60	-44:19:24	10.9	M5	5.04
GJ682	17:37:2.64	-44:19:23	10.9	M4.0V	5.04
HIP86282	17:37:48.5	22:57:17	9.29	M0...	22.1
HIP86287	17:37:54.3	18:35:45	9.62	M1	8.12
HIP86305	17:38:5.42	-54:30:4	5.25	A7V	42.1
HIP86340	17:38:33.6	71:20:1	9.10	M0	23.9
HIP86400	17:39:16.7	3:33:17	6.53	K3V	10.7
HIP86456	17:39:55.6	65:0:7	8.39	K0	26.4
HIP86486	17:40:23.9	-49:24:58	4.76	F3IV	21.8
HIP86614	17:41:56.4	72:8:51	4.57	F5IV-V	22.0
HIP86620	17:41:58.2	72:9:20	5.81	G0V	22.3
HIP86623	17:41:58.6	15:57:10	5.54	F4Vw	35.5
HIP86722	17:43:15.5	21:36:23	7.51	K0V	23.5
HIP86736	17:43:25.6	-21:41:0	4.86	F6/F7V	17.5
HIP86742	17:43:28.3	4:34:4	2.76	K2III	25.1
HIP86776	17:43:55.9	43:22:33	10.4	M3	9.48
HIP86796	17:44:8.67	-51:50:5	5.12	G5V	15.2
HIP86990	17:46:32.0	-57:19:30	10.7	M5	5.81
HIP87108	17:47:53.5	2:42:25	3.75	A0V	29.0
HIP87261	17:49:51.5	-37:2:35	3.19	K0/K1III	38.8
HIP87558	17:53:14.0	6:6:6	5.77	F4IV-V	31.3
HIP87579	17:53:29.8	21:19:31	8.50	K0	24.8
HIP87585	17:53:31.9	56:52:22	3.73	K2III	34.1
HIP87768	17:55:44.8	18:30:0	9.22	K5	23.0
GJ699	17:57:47.6	4:44:21	9.57	M3.5V	1.83
HIP87938	17:57:50.9	46:35:28	11.7	M:	13.5
HIP88175	18:0:29.1	-3:41:25	4.62	F3V	23.1
HIP88348	18:2:31.3	26:18:37	7.01	K0V	21.9
HIP88574	18:5:8.19	-3:1:58	9.37	M2V	7.79
HIP88601	18:5:27.4	2:29:44	4.03	K0V:SB	5.08
GJ702A	18:5:27.4	2:29:44	4.21	K0.0V	5.10
GJ702B	18:5:27.4	2:29:44	6.01	K5V	5.10
HIP88622	18:5:37.4	4:39:20	6.80	G0V	24.3
HIP88635	18:5:48.4	-30:25:29	2.98	K0III	29.4
HIP88684	18:6:15.3	-4:45:4	5.74	K1IV	34.9
HIP88694	18:6:23.8	-36:1:11	5.94	G3V	17.3
HIP88726	18:6:49.9	-43:25:32	4.92	A5V	43.8
HIP88745	18:7:1.41	30:33:45	5.05	F7V	15.6
HIP88771	18:7:20.9	9:33:51	3.71	A4IVs	25.3
HIP88866	18:8:34.8	-63:40:10	4.33	Am	42.4
HIP88972	18:9:36.9	38:27:20	6.38	K2V	11.0
HIP89042	18:10:25.9	-62:0:4	5.47	G0V	17.7
HIP89087	18:10:56.2	49:58:12	10.0	K7	26.7
HIP89211	18:12:21.5	-43:26:48	8.38	K7V	12.9
HIP89348	18:13:54.7	64:23:50	4.99	F5V	23.4

HIP89474	18:15:32.3	45:12:31	6.30	G2V	22.6
HIP89560	18:16:31.0	45:33:33	10.3	M0	17.1
HIP89805	18:19:40.2	-63:53:16	6.17	F9V	22.9
HIP89825	18:19:50.8	-1:56:18	9.66	K7V	19.3
HIP89937	18:21:5.29	72:43:52	3.55	F7Vvar	8.05
HIP89962	18:21:18.0	-2:54:6	3.23	K0III-IV	18.9
HIP90035	18:22:17.3	1:42:25	10.1	K7V	26.8
HIP90139	18:23:42.1	21:46:7	3.85	K2III	39.3
HIP90376	18:26:28.9	79:25:29	9.24	K5	24.4
HIP90496	18:27:58.1	-25:25:21	2.82	K1IIIb	23.6
HIP90568	18:28:50.0	-49:4:17	4.10	G8/K0III	39.0
HIP90626	18:29:32.1	9:3:44	8.65	K2	26.8
HIP90656	18:29:52.5	-1:49:8	8.04	K3V	18.7
HIP90790	18:31:18.8	-18:54:34	6.81	K1V	13.2
HIP90945	18:33:4.85	-54:15:49	8.50	K4Vp...	18.8
HIP90959	18:33:17.5	22:18:43	8.90	K4V	23.4
HIP90979	18:33:28.5	-11:38:13	10.0	K7V	25.4
HIP91009	18:33:56.0	51:43:3	8.20	K7Vvar	16.4
HIP91128	18:35:19.0	45:44:44	9.84	M2	15.4
HIP91154	18:35:49.8	-61:13:43	9.34	K3V	21.5
HIP91217	18:36:27.8	9:7:18	5.38	F5III	38.8
HIP91237	18:36:39.0	6:40:16	5.43	F3V	31.7
HIP91262	18:36:56.6	38:47:5	0.03	A0Vvar	7.75
HIP91430	18:38:44.8	-14:29:35	11.2	M1V:	12.7
HIP91438	18:38:53.3	-21:3:9	5.85	G5V	12.9
HIP91605	18:40:54.9	31:31:45	8.54	K3V	23.8
HIP91608	18:40:57.2	-13:22:57	10.6	M	16.2
HIP91699	18:41:58.6	31:49:49	11.2	M4	11.3
GJ725	18:42:43.9	59:38:17	8.90	M3.0V	3.52
GJ725	18:42:44.0	59:38:5	9.69	M3.5V	3.52
HIP91919	18:44:20.3	39:40:13	4.67	F1V	49.7
HIP91926	18:44:22.7	39:36:46	4.59	A8Vn	49.1
HIP91971	18:44:46.4	37:36:18	4.34	Am	47.1
HIP91973	18:44:48.2	37:35:40	5.73	F0IVvar	46.0
SCR1845	18:45:11.5	-63:57:38	17.4	M8.5V	3.85
HIP92024	18:45:26.9	-64:52:18	4.78	A7V	29.2
HIP92043	18:45:39.7	20:32:41	4.19	F6V	19.0
HIP92161	18:47:1.36	18:10:55	4.34	A5III	28.4
HIP92200	18:47:27.1	-3:38:27	8.81	K5	14.1
HIP92270	18:48:16.4	23:30:53	6.19	F8V	28.6
HIP92283	18:48:29.3	10:44:36	7.97	K0	17.3
HIP92311	18:48:51.4	17:26:13	9.17	M0	17.0
GJ729	18:49:50.1	-23:50:13	10.4	M3.5V	2.96
HIP92451	18:50:26.8	-62:3:2	10.7	M3	16.6
HIP92549	18:51:34.8	52:58:34	5.51	G9IVa	26.0
HIP92573	18:51:50.9	16:34:52	10.1	M2	15.5
HIP92858	18:55:18.9	-37:29:59	7.98	K1V	23.9

HIP92871	18:55:27.5	8:24:7	10.1	M2Ve	11.5
HIP92919	18:55:53.3	23:33:19	8.16	K0V	21.4
HIP92946	18:56:13.2	4:12:13	4.62	A5V	40.4
HIP92951	18:56:14.6	4:12:8	4.98	A5Vn	43.7
HIP92984	18:56:37.1	4:15:53	6.71	G5	27.0
HIP93017	18:57:1.86	32:54:2	5.20	G0V	14.9
HIP93069	18:57:30.6	-55:59:37	8.86	M2V	12.6
HIP93101	18:57:59.9	5:54:9	9.22	M2V	11.1
HIP93174	18:58:43.1	-37:6:28	4.83	F3IV/V	29.9
HIP93185	18:58:51.0	30:10:53	6.80	G0	23.4
HIP93408	19:1:26.3	46:56:3	5.00	A7V	39.1
HIP93506	19:2:36.6	-29:52:48	2.60	A3IV	27.3
HIP93747	19:5:24.5	13:51:47	2.99	A0Vn	25.5
HIP93805	19:6:14.9	-4:52:58	3.43	B9Vn	38.3
HIP93843	19:6:37.8	28:37:44	5.53	F0III	40.8
HIP93858	19:6:52.2	-37:48:44	6.15	G8V	17.1
HIP93864	19:6:56.3	-27:40:17	3.32	K1/K2III	36.9
HIP93871	19:7:1.69	7:36:45	9.23	K5V	24.2
HIP93873	19:7:5.01	20:53:11	10.7	M2	8.62
HIP93899	19:7:12.6	20:52:31	10.7	M2	8.86
HIP93917	19:7:25.7	32:30:6	5.20	F0V	40.5
HIP94083	19:9:10.1	76:33:35	5.11	A9V	27.2
HIP94114	19:9:28.4	-37:54:17	4.11	A0/A1V	39.7
HIP94150	19:9:53.3	-68:25:28	5.31	G8/K0III/IV	36.8
HIP94225	19:10:52.1	-47:9:41	9.36	K7V	20.0
HIP94346	19:12:11.7	57:40:25	7.04	G8V	20.0
HIP94349	19:12:16.5	2:53:2	11.0	M4	10.1
HIP94376	19:12:33.5	67:39:42	3.07	G9III	30.7
HIP94645	19:15:33.3	-24:10:47	6.25	F8V	27.0
HIP94650	19:15:35.2	11:33:14	8.06	K0	25.3
HIP94739	19:16:43.2	-45:53:28	9.38	K9V...	15.7
HIP94779	19:17:6.27	53:22:8	3.80	K0III	37.7
HIP95149	19:21:29.8	-34:59:2	6.48	G1/G2V	20.8
HIP95261	19:22:51.2	-54:25:27	5.03	A0Vn	47.6
HIP95319	19:23:34.1	33:13:21	6.37	G8V	15.4
HIP95467	19:25:8.94	-66:28:3	8.40	K5V	26.1
HIP95501	19:25:30.1	3:6:54	3.36	F0IV	15.3
HIP95575	19:26:26.7	49:28:6	8.01	K3V	25.1
HIP95730	19:28:15.3	12:32:8	9.17	K2	27.5
HIP95853	19:29:42.3	51:43:49	3.76	A5Vn	37.5
HIP95995	19:31:6.92	58:35:3	6.60	K1V	16.7
HIP96085	19:32:6.95	-11:16:29	7.53	K2V	18.0
HIP96100	19:32:23.4	69:39:12	4.67	K0V	5.76
HIP96113	19:32:29.8	-35:27:3	8.69	K3/K4V	22.0
HIP96183	19:33:25.5	21:50:21	6.89	G5V	20.1
HIP96229	19:34:5.58	7:22:41	4.45	K3III	33.8
HIP96258	19:34:19.8	51:14:8	5.71	F7V	25.5

HIP96285	19:34:40.3	4:35:2	9.35	K5	14.4
HIP96395	19:35:55.6	56:58:58	6.73	G0	24.2
HIP96441	19:36:26.5	50:13:20	4.49	F4V	18.5
HIP96710	19:39:36.6	-26:45:11	10.4		22.3
HIP96895	19:41:48.7	50:31:27	5.99	G2V	21.6
HIP96901	19:41:51.7	50:31:0	6.25	G5V	21.4
HIP97051	19:43:25.5	10:5:23	10.0	M0	22.6
HIP97222	19:45:33.5	33:36:0	7.68	K3V	20.3
HIP97222	19:45:33.5	33:36:0	7.68	K3V	20.3
HIP97223	19:45:35.5	30:0:35	9.15	K5V	20.6
HIP97295	19:46:25.6	33:43:32	5.00	F5	20.8
HIP97534	19:49:25.3	-72:30:11	5.39	A4III	41.5
HIP97650	19:50:46.7	-10:45:48	5.38	F0V	26.4
HIP97649	19:50:47.5	8:52:12	0.76	A7IV-V	5.14
GJ768	19:50:47.5	8:52:12	0.77	A7IV	5.11
HIP97675	19:51:1.90	10:24:54	5.12	F8V	19.3
GJ1245AC	19:53:54.8	44:24:45	13.4	M5.5V	4.54
GJ1245B	19:53:55.8	44:24:46	14.0	M6V	4.54
HIP98036	19:55:18.8	6:24:16	3.71	G8IVvar	13.7
HIP98106	19:56:16.1	-72:21:56	8.40	K5V	23.3
HIP98130	19:56:37.5	-31:20:6	8.42	K3/K4V	19.1
HIP98192	19:57:13.5	29:49:30	7.91	K1V	25.4
HIP98204	19:57:19.5	-12:34:12	9.29	K4V	18.8
HIP98316	19:58:33.1	-54:56:14	8.54	K3V	22.7
HIP98416	19:59:47.0	-9:57:35	5.87	F8V	24.5
HIP98421	19:59:51.4	-34:41:53	5.30	A4/A5IV	48.0
HIP98470	20:0:20.4	-33:42:17	5.65	F7V	20.8
HIP98505	20:0:43.7	22:42:35	7.67	G5	19.2
HIP98677	20:2:33.9	15:35:22	7.15	G7V	19.3
HIP98698	20:2:46.9	3:19:36	7.46	K4V	13.1
HIP98767	20:3:38.2	29:53:40	5.73	G6IV+...	15.8
HIP98792	20:3:50.9	23:20:11	7.28	K1V	15.5
HIP98819	20:4:5.79	17:4:6	5.80	G1V	17.6
HIP98828	20:4:9.95	25:47:24	7.82	K3V	21.6
HIP98906	20:5:0.05	54:25:48	11.9	M3	15.8
HIP98921	20:5:10.1	38:28:44	6.18	G5IV	18.8
HIP98959	20:5:35.1	-67:19:25	6.07	G2V	17.7
HIP99031	20:6:21.4	35:58:13	5.38	K0IV	24.1
HIP99137	20:7:35.1	-55:0:57	6.26	F8V	23.2
HIP99150	20:7:45.3	-31:45:26	12.1	M	14.6
HIP99240	20:8:46.8	-66:11:13	3.55	G5IV-Vvar	6.10
HIP99316	20:9:34.3	16:48:23	7.56	K0...	24.3
HIP99385	20:10:19.0	-20:29:42	8.91	K4Vp	15.6
HIP99427	20:10:52.6	77:14:28	8.88	K5	16.7
HIP99452	20:11:5.61	16:11:23	7.34	K1V	20.4
HIP99461	20:11:12.5	-36:6:29	5.32	K2V	6.05
HIP99572	20:12:26.0	-12:37:6	5.84	F5V	28.0

HIP99655	20:13:23.9	56:34:5	4.28	A3IV-Vn	46.7
HIP99701	20:13:54.5	-45:9:53	7.97	M0V	6.20
HIP99711	20:13:59.7	-0:51:56	7.79	K0	19.8
HIP99742	20:14:16.6	15:11:52	4.94	A2V	47.0
HIP99764	20:14:28.1	-7:16:59	10.1	K7V	20.3
HIP99770	20:14:32.1	36:48:23	4.93	A2V	41.0
HIP99825	20:15:18.8	-27:2:1	5.73	K3V	8.82
HIP99880	20:15:52.6	42:58:43	9.98	M0	24.4
HIP100017	20:17:32.5	66:51:18	5.91	G3V	17.5
HIP100064	20:18:3.32	-12:32:41	3.58	G6/G8III	33.3
HIP100184	20:19:18.1	-47:34:51	6.13	F5V	29.4
HIP100223	20:19:36.3	-46:25:42	8.73	K5V	17.9
HIP100511	20:22:52.4	14:33:3	6.16	F8V	26.1
HIP100852	20:26:52.6	-37:24:12	6.24	K1IV	39.6
HIP100859	20:27:2.38	49:23:1	5.73	F0V:	37.6
HIP100923	20:27:41.4	-27:45:5	11.4	M3	15.4
HIP100925	20:27:44.2	-30:52:12	6.61	G6/G8V	19.4
HIP101027	20:28:51.5	-17:48:49	4.77	F3V	30.2
HIP101093	20:29:34.9	62:59:38	4.21	A7III	41.5
HIP101150	20:30:10.4	26:50:31	9.69	M2	23.1
HIP101180	20:30:33.1	65:27:2	10.5	M3	7.96
HIP101262	20:31:32.2	33:46:33	9.22	K5	26.1
HIP101382	20:32:51.4	41:54:1	7.08	G9V	22.2
HIP101612	20:35:35.0	-60:34:57	4.75	F1III	27.5
HIP101772	20:37:34.1	-47:17:28	3.11	K0III	31.0
HIP101955	20:39:38.6	4:58:20	7.88	K5V	18.5
HIP101997	20:40:12.3	-23:46:18	6.36	G8/K0V	14.6
HIP102040	20:40:45.2	19:56:12	6.43	G5V	20.9
HIP102101	20:41:28.3	57:25:50	10.2	M0	23.9
HIP102141	20:41:51.4	-32:26:12	10.2	Mpe	10.2
HIP102186	20:42:18.9	-52:42:14	8.83	K7V	12.1
HIP102226	20:42:49.2	20:50:34	8.26	K0	25.3
HIP102253	20:43:11.0	66:39:27	5.59	A8V	42.5
HIP102264	20:43:15.9	-29:25:29	6.95	G3/G5V	22.4
HIP102332	20:44:0.67	-21:21:24	9.84	K7V	26.1
HIP102333	20:44:2.60	-51:55:16	4.51	A6:var	24.1
HIP102409	20:45:9.88	-31:20:33	8.81	M1Ve	9.94
HIP102422	20:45:17.5	61:50:32	3.41	K0IV	14.3
HIP102485	20:46:5.67	-25:16:17	4.13	F5V	14.6
HIP102488	20:46:13.1	33:58:18	2.48	K0III	22.0
HIP102531	20:46:38.8	16:7:23	5.15	A2Ia+...	31.5
HIP102532	20:46:39.4	16:7:24	4.27	K1IV	31.1
HIP102766	20:49:16.0	32:17:0	8.25	K2	23.6
HIP102805	20:49:37.8	12:32:44	6.01	F5V	29.5
HIP102843	20:50:5.11	44:3:35	5.06	A4me...	42.2
HIP102851	20:50:10.5	29:23:1	8.32	K5V	20.6
HIP102870	20:50:33.5	52:54:5	9.69	K5	22.4

HIP103039	20:52:32.6	-16:58:28	11.4		5.48
HIP103096	20:53:19.7	62:9:3	8.55	M2V	7.04
HIP103256	20:55:7.46	13:10:42	8.82	K3V	22.7
HIP103388	20:56:46.5	-10:27:12	11.3	M4	14.7
HIP103389	20:56:47.4	-26:17:48	5.70	F7V	21.0
HIP103441	20:57:26.2	22:21:42	11.9	M3	13.6
HIP103458	20:57:39.3	-44:8:1	6.52	G0V	21.6
HIP103650	21:0:3.92	70:40:6	9.32	K2	25.7
HIP103673	21:0:21.3	-51:15:53	5.76	F5IV-V	28.5
HIP103768	21:1:39.4	-32:31:30	9.37	K5V	20.4
HIP103800	21:1:58.3	-6:19:14	11.2	M3	13.8
HIP103859	21:2:41.3	45:53:7	7.69	K2	19.3
HIP103910	21:3:13.2	-56:57:42	12.8	M4	14.1
HIP104019	21:4:24.2	-19:51:18	4.82	A5V	48.4
HIP104092	21:5:19.8	7:4:0	8.27	K5	14.8
HIP104139	21:5:56.9	-17:13:59	4.08	A1V	48.5
GJ820A	21:6:59.5	38:45:50	5.20	K5.0V	3.49
GJ820B	21:7:0.91	38:45:21	6.03	K7.0V	3.49
HIP104239	21:7:10.7	-13:55:23	7.12	K1V	17.6
HIP104383	21:8:45.3	-4:25:37	9.45	M1	26.3
HIP104436	21:9:22.7	-82:1:38	6.98	G3V	24.2
HIP104440	21:9:24.1	-73:10:27	5.67	G3IV	18.7
HIP104521	21:10:20.5	10:7:51	4.70	F0p	35.2
HIP104644	21:11:49.8	-43:37:0	11.9	M1:	14.3
HIP104887	21:14:47.7	38:2:49	3.74	F1IV	20.9
HIP105038	21:16:32.6	9:23:35	7.88	K2	16.1
GJ825	21:17:10.8	-38:52:21	6.67	K9.0V	3.94
HIP105152	21:18:3.47	0:9:38	8.15	K2	19.2
HIP105184	21:18:27.6	-43:20:4	6.75	G5V	23.7
HIP105199	21:18:35.1	62:35:8	2.45	A7IV-V	14.9
HIP105312	21:19:44.9	-26:21:16	6.56	G5V	18.7
HIP105319	21:19:52.1	-53:26:59	4.39	A5V	29.7
HIP105341	21:20:13.6	-19:51:19	9.09	K5V	16.3
HIP105406	21:21:1.39	40:20:38	6.39	F8V	26.5
HIP105668	21:24:11.5	-12:52:41	5.48	F0V	48.0
HIP105675	21:24:14.9	-58:41:32	8.68	K3V	25.3
HIP105712	21:24:41.0	-68:13:37	6.98	G5V	20.4
HIP105769	21:25:19.8	46:42:52	5.59	F0V	34.3
HIP105860	21:26:26.7	19:22:32	6.08	A8m	46.0
HIP105858	21:26:26.8	-65:21:45	4.21	F6V	9.21
HIP105905	21:26:59.7	-56:7:28	8.65	K3V	23.1
HIP105911	21:27:1.72	-44:48:27	7.49	K0V	23.5
HIP105932	21:27:16.8	-6:50:45	11.0	M0	16.2
HIP105932	21:27:16.8	-6:50:45	11.0	M0	16.2
HIP106106	21:29:37.9	17:38:41	10.3	M4	6.74
HIP106147	21:30:3.86	-12:30:40	9.11	K4/K5V	18.0
HIP106231	21:31:1.87	23:20:5	9.23	K8	25.0

HIP106400	21:33:1.91	62:0:11	9.34	K	23.1
GJ832	21:33:33.9	-49:0:45	8.66	M1.5V	4.94
HIP106481	21:33:58.8	45:35:29	3.98	G8III	38.1
HIP106559	21:34:51.0	-20:5:2	5.70	F5V	27.1
HIP106696	21:36:41.9	-50:50:46	7.14	K2V	14.7
HIP106811	21:38:0.94	27:43:24	9.83		13.1
HIP106897	21:39:1.32	20:15:55	5.77	F2V	39.1
HIP107022	21:40:29.2	-74:4:24	7.07	G8V	22.1
HIP107089	21:41:28.9	-77:23:28	3.73	K0III	21.1
HIP107143	21:42:10.5	-41:7:34	8.82	K5V	23.5
HIP107346	21:44:29.8	41:35:51	9.65	K0	20.2
HIP107350	21:44:31.5	14:46:17	5.96	G0V	18.3
HIP107522	21:46:35.9	-57:42:26	8.77	K7V	19.0
HIP107556	21:47:2.74	-16:7:42	2.85	A5mF2:(IV)	11.8
HIP107625	21:48:0.19	-40:15:27	8.62	K3V	23.7
HIP107649	21:48:16.0	-47:18:17	5.57	G2V	15.6
HIP107705	21:49:6.88	-72:6:13	9.53	M2Ve	16.1
HIP107711	21:49:13.2	-41:33:39	11.5	M6	13.4
HIP107772	21:49:59.4	-41:14:38	10.5	M0	22.4
HIP107788	21:50:8.79	17:17:8	5.34	F2III-IV	33.4
HIP107975	21:52:29.8	28:47:35	5.52	F6IVwvar	27.6
HIP108028	21:53:5.34	20:55:48	8.18	K0	23.9
HIP108036	21:53:18.1	-13:33:6	5.08	F3IV	27.6
HIP108092	21:53:59.5	41:46:38	10.3	M2	23.2
HIP108159	21:54:44.8	-46:59:39	11.9	M3	15.1
HIP108156	21:54:45.3	32:19:39	7.73	K0	20.3
HIP108162	21:54:52.3	-77:20:19	8.23	K3IV	26.3
HIP108162	21:54:52.3	-77:20:19	8.23	K3IV	26.3
HIP108506	21:58:54.9	-4:22:27	6.24	K2V	36.0
HIP108567	21:59:32.0	-60:56:0	9.53	K7	23.2
HIP108569	21:59:36.5	-59:45:12	9.74	M2	11.8
HIP108752	22:1:49.4	16:28:5	10.6	M2	16.4
HIP108782	22:2:9.78	1:23:56	9.17	M0	10.3
GJ845A	22:3:29.3	-56:47:50	4.68	K4.0V	3.62
HIP108917	22:3:47.9	64:37:42	4.26	Am	31.1
HIP109176	22:7:1.01	25:20:42	3.77	F5V	11.7
HIP109268	22:8:14.1	-46:57:41	1.73	B7IV	31.0
HIP109285	22:8:23.1	-32:59:18	4.50	A2V	39.9
HIP109378	22:9:29.9	-7:33:2	6.54	G0	21.2
HIP109388	22:9:41.5	-4:38:26	10.4	M3	8.77
HIP109422	22:10:9.31	-32:32:54	4.94	F6V	18.7
HIP109427	22:10:12.2	6:11:52	3.52	A2V	29.6
HIP109474	22:10:38.5	70:7:57	5.52	F2V	32.6
HIP109527	22:11:11.9	36:15:18	7.23	K0	22.4
HIP109555	22:11:30.4	18:25:37	10.2	M2	11.4
HIP109638	22:12:36.0	8:33:1	11.9	M3	13.8
HIP109822	22:14:38.2	-15:49:12	6.55	K0/K1V	38.1

HIP109821	22:14:39.4	-41:23:6	6.23	G5V	22.1
HIP109857	22:15:3.12	57:2:37	4.18	F0IV	25.7
HIP109926	22:15:54.5	54:40:23	7.50	K1V	21.4
HIP109980	22:16:32.8	68:20:23	9.23	K5	23.9
HIP110066	22:17:39.7	-48:39:3	8.40	K3V	25.3
HIP110078	22:17:50.4	-77:30:41	5.49	F3III	38.4
HIP110109	22:18:16.4	-53:37:47	5.36	G1V	13.6
HIP110341	22:20:55.8	8:11:12	6.18	F6V	31.7
HIP110395	22:21:39.5	-1:23:14	3.86	A0V	48.3
HIP110443	22:22:15.8	-54:33:34	8.98	K7V	13.3
HIP110506	22:23:8.34	-45:55:43	5.62	F3III-IV	40.6
HIP110526	22:23:29.4	32:27:30	10.7	M0...	16.0
HIP110640	22:24:45.3	22:33:3	8.83	M0	21.3
HIP110712	22:25:51.4	-75:0:56	6.12	G3IV	23.0
HIP110750	22:26:13.7	-19:11:18	9.25	K3/K4V	26.7
HIP110774	22:26:33.1	63:52:48	9.52	K7	25.0
HIP110778	22:26:34.5	-16:44:31	5.55	G3V	20.0
GJ860B	22:27:57.8	57:41:37	11.4	M4.0V	4.03
GJ860A	22:27:58.6	57:41:41	9.79	M3.0V	4.03
HIP110935	22:28:38.0	-67:29:21	5.56	A3V	43.5
HIP110951	22:28:46.1	18:55:52	10.7		22.5
HIP110996	22:29:15.5	-30:1:19	7.65	K4V	15.4
HIP111169	22:31:17.7	50:16:57	3.76	A1V	31.3
HIP111170	22:31:18.4	-6:33:20	6.15	F7V	25.5
HIP111188	22:31:30.4	-32:20:46	4.29	A1V	45.4
HIP111313	22:33:2.80	9:22:42	10.3	M0V:	12.8
HIP111449	22:34:41.8	-20:42:31	5.21	F7V	22.7
HIP111685	22:37:29.9	39:22:46	9.41	M2	18.8
HIP111766	22:38:31.8	-65:22:45	11.5		14.8
GJ866	22:38:36.0	-15:17:31	13.0	M5.0V	3.45
HIP111802	22:38:46.0	-20:37:17	9.06	M0Vpe	8.64
HIP111888	22:39:50.9	4:6:59	8.48	K2	22.6
HIP111960	22:40:43.8	-29:40:28	7.83	K4/K5V	13.5
HIP111978	22:40:55.5	-31:59:23	7.41	G8/K0V	26.7
HIP111983	22:40:58.8	-46:12:7	9.14	K5V	22.9
HIP112117	22:42:36.8	-47:12:44	5.99	G0	23.5
HIP112190	22:43:21.1	-6:24:7	8.11	K0	21.5
HIP112245	22:44:5.95	64:34:9	7.50	G8V	25.1
GJ873	22:46:48.6	44:19:54	10.2	M3.5V	5.04
HIP112496	22:47:13.8	18:23:5	9.02	G0	26.6
HIP112527	22:47:30.3	83:41:51	7.53	K2	19.9
HIP112623	22:48:33.4	-51:19:1	3.49	A3V	39.7
HIP112724	22:49:40.6	66:11:59	3.50	K0III	35.3
HIP112748	22:50:0.36	24:36:5	3.51	M2III	35.7
HIP112774	22:50:19.3	-7:5:22	9.86	K5	13.9
HIP112870	22:51:26.7	13:58:15	8.29	K0	21.0
HIP112909	22:51:54.2	31:45:14	11.6	M3.5Ve	14.2

HIP112915	22:52:0.36	57:42:57	8.01	K5III	24.2
HIP112918	22:52:2.67	23:24:45	9.79	K8	27.1
HIP112935	22:52:24.6	9:50:9	5.16	F7IV	26.8
GJ876	22:53:17.7	-14:15:59	10.1	M3.5V	4.66
HIP113283	22:56:24.4	-31:33:58	6.48	K4Vp	7.63
HIP113357	22:57:28.2	20:46:8	5.45	G5V	15.3
HIP113368	22:57:39.4	-29:37:22	1.17	A3V	7.68
HIP113409	22:58:6.30	-13:38:38	10.1	K2V:	27.0
HIP113421	22:58:15.5	-2:23:43	6.17	G8IV	19.7
HIP113576	23:0:15.0	-22:31:26	7.88	K5/M0V	8.14
HIP113638	23:0:52.6	-52:45:15	4.11	G8III	34.4
HIP113697	23:1:37.9	-44:59:18	8.93	K5V	25.7
HIP113718	23:1:51.9	-3:50:58	7.48	K4V	16.9
HIP113829	23:3:4.84	20:55:6	6.65	G5V	24.2
HIP113860	23:3:29.9	-34:44:56	5.12	A9V	28.5
HIP113944	23:4:31.0	66:45:50	9.86	M1V:	20.0
HIP113963	23:4:45.7	15:12:18	2.49	B9.5III	42.8
GJ887	23:6:0.89	-35:50:49	7.34	M1.0V	3.27
HIP114156	23:7:7.23	-23:9:38	9.62	K5V	21.1
HIP114189	23:7:28.8	21:8:2	5.97	A5V	39.9
HIP114233	23:8:7.49	3:19:48	10.9	M1V:	15.6
HIP114361	23:9:40.0	-67:44:1	8.29	K5V	15.0
HIP114379	23:9:57.5	47:57:30	7.91	K0Ve	25.2
HIP114411	23:10:16.5	-25:55:52	11.2		15.6
HIP114416	23:10:20.7	-68:50:14	8.70	K3V	20.8
HIP114430	23:10:26.9	43:32:35	5.91	F5IV	28.2
HIP114456	23:10:49.9	45:30:39	6.98	K0	23.4
HIP114570	23:12:33.1	49:24:23	4.53	F0V	24.4
HIP114622	23:13:21.0	57:10:10	5.57	K3Vvar	6.52
HIP114622	23:13:21.0	57:10:10	5.57	K3Vvar	6.52
HIP114886	23:16:18.5	30:40:14	8.07	K2V	24.1
HIP114924	23:16:42.4	53:12:44	5.58	F7V	20.2
HIP114948	23:16:58.0	-62:0:4	5.64	F7V	20.5
HIP114971	23:17:10.7	3:16:56	3.70	G7III	40.1
HIP114980	23:17:18.3	-66:56:22	9.02	K5V	27.1
HIP114986	23:17:21.7	-66:55:16	8.71	K5v...	27.2
HIP115123	23:19:5.19	-60:31:15	8.93	K7V	19.2
HIP115142	23:19:24.1	-5:7:28	5.56	F3IV	34.8
HIP115147	23:19:27.7	79:0:13	7.53	G9V	19.7
HIP115331	23:21:37.4	44:5:55	7.36	K1V	21.9
HIP115341	23:21:44.7	45:10:32	8.12	K2	20.9
HIP115445	23:23:5.38	-10:45:47	7.80	K2V	19.4
HIP115562	23:24:30.3	57:51:11	10.0	M2	13.1
HIP115738	23:26:56.0	1:15:18	4.95	A0p	49.7
HIP116003	23:30:13.7	-20:23:30	11.0	M2Ve	14.7
HIP116085	23:31:24.5	59:9:57	6.76	K2V	16.8
HIP116106	23:31:31.6	-4:5:17	6.50	F8V	26.2

HIP116215	23:32:49.7	-16:50:47	8.59	K5/M0V	13.9
HIP116384	23:35:0.64	1:36:19	9.59	M0	19.3
HIP116416	23:35:25.3	31:9:36	7.90	G5	23.4
HIP116491	23:36:18.0	-48:35:17	10.0	M0	23.7
HIP116495	23:36:23.1	2:6:9	5.68	F6Vbwvar	30.9
HIP116584	23:37:34.0	46:27:22	3.81	G8III-IV	25.8
HIP116613	23:37:59.0	46:11:57	6.58	G5	23.1
HIP116727	23:39:20.6	77:37:58	3.21	K1IV	13.7
HIP116745	23:39:37.8	-72:43:31	7.09	K3V	11.3
HIP116758	23:39:47.1	-14:13:20	4.97	A7IV	41.0
HIP116763	23:39:51.4	-32:44:41	7.18	K1V	18.6
HIP116771	23:39:57.4	5:37:27	4.13	F7V	13.7
HIP116819	23:40:38.1	-18:59:20	7.59	G5V	26.2
HIP116838	23:40:51.7	20:21:58	8.27	K2	25.3
GJ905	23:41:54.8	44:10:4	12.2	M5.5V	3.16
HIP116936	23:42:10.4	-2:34:40	10.3	M0	23.5
HIP116971	23:42:43.4	-14:32:42	4.49	B9V	47.2
HIP117197	23:45:49.9	36:15:18	9.89	M0	19.6
HIP117410	23:48:25.9	-12:59:14	9.59	K8	27.0
HIP117452	23:48:55.6	-28:7:50	4.59	A0V	43.9
HIP117463	23:49:1.22	3:10:52	8.38	G5	26.6
HIP117473	23:49:13.5	2:23:48	8.98	M2V	5.96
HIP117542	23:50:15.1	-29:24:5	7.88	K1V	25.2
HIP117559	23:50:28.1	30:21:11	9.35	M0	24.8
HIP117712	23:52:26.7	75:32:41	6.36	K3V	10.7
HIP117779	23:53:8.50	29:1:5	9.75		22.4
HIP117795	23:53:20.0	59:56:42	10.4	K8	27.3
HIP117815	23:53:39.7	-65:56:48	6.64	G0V	25.8
HIP117828	23:53:51.1	-75:38:3	9.99	M...	10.1
HIP117946	23:55:26.8	22:11:33	8.77	K0	25.4
HIP118008	23:56:10.9	-39:3:11	8.24	K3V	22.0
HIP118121	23:57:35.2	-64:17:54	5.00	A1V	48.7
HIP118162	23:58:6.74	50:26:55	6.72	G5	24.1
HIP118212	23:58:44.5	46:43:44	9.57	M0	17.3
HIP118261	23:59:13.4	-26:2:55	8.69	K3/K4V	24.4
HIP118278	23:59:29.0	-20:2:9	7.47	G8V	25.7
HIP118310	23:59:47.7	6:39:48	8.85	K5	25.3

3 Nearby Galaxies

Our target list of nearby galaxies (within 11 Mpc) is based on the NEARGALCAT (Karachentsev, Makarov, Kaisina, AJ, 2013) database and augmented against other sources to derive additional parameters necessary for observation (e.g. rotation angle). This list has been ordered by the logarithm of the indicative mass M_{26} within the Holmberg radius of the galaxy (units in Solar Masses).

3.1 Source Table

Name	RA	Dec	Dist	Type	Mass
NGC5128	13:25:28.90	-43:01:00.12	3.75	LENTICULAR GALAXY	11.7
NGC4594	12:39:59.11	-11:37:23.16	9.30	SPIRAL GALAXY	11.7
MESSIER031	0:42:44.50	41:16:09.12	0.77	SPIRAL GALAXY	11.5
MESSIER101	14:03:12.79	54:21:02.16	7.38	SPIRAL GALAXY	11.3
NGC6744	19:09:45.91	-63:51:28.08	8.30	SPIRAL GALAXY	11.3
NGC5055	13:15:49.30	42:01:45.12	8.99	SPIRAL GALAXY	11.3
NGC4258	12:18:57.50	47:18:14.04	7.83	SPIRAL GALAXY	11.3
NGC0891	2:22:32.81	42:20:48.12	9.77	SPIRAL GALAXY	11.3
NGC3521	11:05:48.60	0:02:08.88	10.70	SPIRAL GALAXY	11.3
NGC5236	13:37:00.10	-29:52:04.08	4.92	SPIRAL GALAXY	11.3
MESSIER081	9:55:33.50	69:04:00.12	3.63	SPIRAL GALAXY	11.2
NGC0253	0:47:34.30	-25:17:31.92	3.94	SPIRAL GALAXY	11.2
NGC2903	9:32:09.60	21:30:02.16	8.87	SPIRAL GALAXY	11.1
NGC3368	10:46:45.79	11:49:10.92	10.42	SPIRAL GALAXY	11.1
NGC3627	11:20:15.00	12:59:29.04	10.28	SPIRAL GALAXY	11.1
NGC2683	8:52:40.90	33:25:01.92	7.73	SPIRAL GALAXY	11.1
IC0342	3:46:48.89	68:05:44.88	3.28	SPIRAL GALAXY	11.1
NGC4945	13:05:26.09	-49:28:15.96	3.80	SPIRAL GALAXY	11.0
NGC1533	4:09:51.79	-56:07:05.88	19.40	SPIRAL GALAXY	10.9
HIZSS012	7:30:08.30	-22:01:00.84	7.20	SPIRAL GALAXY	10.9
NGC3351	10:43:57.70	11:42:12.96	10.05	SPIRAL GALAXY	10.8
NGC3184	10:18:16.99	41:25:27.84	11.12	SPIRAL GALAXY	10.8
NGC6946	20:34:51.10	60:09:15.12	5.89	SPIRAL GALAXY	10.8
NGC4517	12:32:45.50	0:06:54.00	9.70	SPIRAL GALAXY	10.8
UGCA127	6:20:55.70	-8:29:44.16	8.50	SPIRAL GALAXY	10.8
NGC3621	11:18:16.10	-32:48:42.12	6.70	SPIRAL GALAXY	10.7
NGC4736	12:50:53.50	41:07:09.84	4.66	SPIRAL GALAXY	10.7
NGC4826	12:56:44.21	21:41:04.92	4.37	SPIRAL GALAXY	10.7
NGC5195	13:29:58.70	47:16:05.16	7.66	SPIRAL GALAXY	10.7
NGC2403	7:36:51.41	65:35:57.84	3.18	SPIRAL GALAXY	10.7
NGC0925	2:27:16.01	33:34:41.16	9.29	SPIRAL GALAXY	10.6
NGC5194	13:29:52.70	47:14:03.84	8.40	SPIRAL GALAXY	10.6
NGC3344	10:43:30.19	24:55:24.96	6.85	SPIRAL GALAXY	10.6
NGC2835	9:17:52.90	-22:21:19.08	10.30	SPIRAL GALAXY	10.6
Maffei2	2:41:54.50	59:36:11.16	2.80	SPIRAL GALAXY	10.6
UGC7321	12:17:34.01	22:32:25.08	17.20	SPIRAL GALAXY	10.5
NGC3115	10:05:13.99	-7:43:06.96	9.68	LENTICULAR GALAXY	10.5
NGC4559	12:35:57.70	27:57:34.92	8.10	SPIRAL GALAXY	10.5
NGC3556	11:11:31.01	55:40:26.04	9.90	SPIRAL GALAXY	10.5
NGC7640	23:22:06.60	40:50:44.16	7.90	SPIRAL GALAXY	10.5
CIRCINUS	14:13:09.29	-65:20:21.12	4.20	SPIRAL GALAXY	10.5
NGC2787	9:19:18.60	69:12:11.88	7.48	SPIRAL GALAXY	10.5
NGC1637	4:41:28.20	-2:51:29.16	9.29	SPIRAL GALAXY	10.4
NGC4631	12:42:07.99	32:32:29.04	7.38	SPIRAL GALAXY	10.4
NGC0247	0:47:08.30	-20:45:36.00	3.65	SPIRAL GALAXY	10.4
NGC3593	11:14:35.90	12:49:06.96	10.80	SPIRAL GALAXY	10.4

NGC0045	0:14:03.89	-23:10:55.92	9.20	SPIRAL GALAXY	10.4
NGC1313	3:18:15.41	-66:29:51.00	4.07	SPIRAL GALAXY	10.4
NGC2541	8:14:40.10	49:03:42.12	12.40	SPIRAL GALAXY	10.4
NGC1744	4:59:58.20	-26:01:36.12	10.00	SPIRAL GALAXY	10.3
ESO273-014	14:58:30.29	-47:41:54.96	9.90	SPIRAL GALAXY	10.3
NGC0024	0:09:56.40	-24:57:47.88	9.90	SPIRAL GALAXY	10.3
NGC2283	6:45:52.70	-18:12:37.08	10.00	SPIRAL GALAXY	10.3
NGC3432	10:52:31.10	36:37:08.04	9.20	SPIRAL GALAXY	10.3
IC5201	22:20:57.41	-46:02:03.12	8.80	SPIRAL GALAXY	10.3
NGC7793	23:57:49.39	-32:35:24.00	3.91	SPIRAL GALAXY	10.2
MESSIER033	1:33:50.81	30:39:37.08	0.85	SPIRAL GALAXY	10.2
UGC03303	5:24:59.50	4:30:18.00	7.14	SPIRAL GALAXY	10.2
NGC7090	21:36:28.61	-54:33:25.92	6.70	SPIRAL GALAXY	10.2
IC5332	23:34:27.50	-36:06:06.12	7.80	SPIRAL GALAXY	10.2
NGC0672	1:47:53.21	27:26:00.96	7.20	SPIRAL GALAXY	10.2
NGC4236	12:16:43.30	69:27:56.16	4.45	SPIRAL GALAXY	10.2
DDO217	23:29:58.70	40:59:25.08	9.70	SPIRAL GALAXY	10.1
NGC7713	23:36:15.00	-37:56:20.04	7.80	SPIRAL GALAXY	10.1
UGC07774	12:36:22.51	40:00:19.08	22.60	SPIRAL GALAXY	10.1
NGC5102	13:21:57.79	-36:37:46.92	3.40	SPIRAL GALAXY	10.1
NGC0300	0:54:53.50	-37:40:57.00	2.15	SPIRAL GALAXY	10.1
UGC03475	6:30:28.80	39:30:14.04	20.00	SPIRAL GALAXY	10.1
NGC0055	0:15:08.50	-39:13:13.08	2.13	SPIRAL GALAXY	10.1
CGMW1-260	6:38:00.10	-15:01:22.08	10.80	SPIRAL GALAXY	10.1
NGC4244	12:17:29.90	37:48:27.00	4.49	SPIRAL GALAXY	10.1
UGC07699	12:32:48.00	37:37:18.12	14.50	SPIRAL GALAXY	10.0
NGC4395	12:25:49.80	33:32:45.96	4.61	SPIRAL GALAXY	10.0
NGC0628	1:36:41.30	15:47:12.12	7.31	SPIRAL GALAXY	10.0
NGC7462	23:02:47.21	-40:50:06.00	10.10	SPIRAL GALAXY	10.0
IC2233	8:13:58.90	45:44:31.92	12.20	SPIRAL GALAXY	10.0
NGC2552	8:19:20.50	50:00:34.92	12.40	SPIRAL GALAXY	10.0
NGC6503	17:49:27.60	70:08:40.92	5.27	SPIRAL GALAXY	10.0
NGC4597	12:40:12.91	-5:47:57.12	10.10	SPIRAL GALAXY	10.0
NGC4136	12:09:17.69	29:55:39.00	7.90	SPIRAL GALAXY	10.0
NGC3239	10:25:04.90	17:09:48.96	7.90	SPIRAL GALAXY	10.0
ESO300-014	3:09:37.80	-41:01:50.16	9.80	SPIRAL GALAXY	10
Dw1	2:56:56.11	58:54:42.12	2.80	SPIRAL GALAXY	9.9
NGC4656	12:43:57.60	32:10:13.08	5.40	SPIRAL GALAXY	9.9
ESO274-001	15:14:13.51	-46:48:45.00	3.09	SPIRAL GALAXY	9.9
IC3247	12:23:13.99	28:53:38.04	24.40	SPIRAL GALAXY	9.9
ESO270-017	13:34:47.30	-45:32:51.00	3.60	SPIRAL GALAXY	9.9
IC5052	20:52:06.19	-69:12:14.04	6.03	SPIRAL GALAXY	9.9
NGC2537	8:13:14.71	45:59:26.16	12.20	SPIRAL GALAXY	9.9
NGC4490	12:30:36.41	41:38:36.96	5.80	SPIRAL GALAXY	9.9
NGC2500	8:01:53.21	50:44:13.92	12.40	SPIRAL GALAXY	9.9
NGC5023	13:12:11.90	44:02:18.96	6.61	SPIRAL GALAXY	9.9
NGC5068	13:18:55.30	-21:02:21.12	5.45	SPIRAL GALAXY	9.9

NGC4242	12:17:30.19	45:37:09.84	7.90	SPIRAL GALAXY	9.8
NGC4144	12:09:59.30	46:27:25.92	7.24	SPIRAL GALAXY	9.8
UGC04704	8:59:00.29	39:12:36.00	15.20	SPIRAL GALAXY	9.8
MESSIER082	9:55:53.90	69:40:57.00	3.53	SPIRAL GALAXY	9.8
NGC5585	14:19:48.29	56:43:49.08	5.70	SPIRAL GALAXY	9.8
IC1727	1:47:30.10	27:19:51.96	7.20	SPIRAL GALAXY	9.7
NGC1291	3:17:18.60	-41:06:29.16	8.80	SPIRAL GALAXY	9.7
DDO097	11:48:57.19	23:50:16.08	13.74	IRREGULAR GALAXY	9.7
NGC4288	12:20:38.09	46:17:30.12	8.05	SPIRAL GALAXY	9.7
WHI B0619-07	6:22:13.80	-7:50:16.08	8.40	SPIRAL GALAXY	9.7
NGC4204	12:15:14.40	20:39:30.96	8.00	SPIRAL GALAXY	9.7
HIZSS008	7:25:22.01	-24:28:31.08	7.43	SPIRAL GALAXY	9.7
UGC04787	9:07:34.90	33:16:36.12	20.30	SPIRAL GALAXY	9.7
NGC2337	7:10:13.61	44:27:24.84	7.87	SPIRAL GALAXY	9.7
NGC3104	10:03:57.41	40:45:24.84	16.00	SPIRAL GALAXY	9.7
UGCA153	9:13:12.10	-19:24:30.96	21.90	SPIRAL GALAXY	9.7
DDO062	9:21:27.50	-22:30:02.16	18.60	SPIRAL GALAXY	9.6
DDO161	13:03:16.80	-17:25:23.16	7.30	SPIRAL GALAXY	9.6
NGC3489	11:00:18.60	13:54:03.96	12.08	SPIRAL GALAXY	9.6
ESO154-023	2:56:50.40	-54:34:23.16	5.55	SPIRAL GALAXY	9.6
NGC4605	12:40:00.29	61:36:29.16	5.47	SPIRAL GALAXY	9.6
NGC4618	12:41:32.81	41:09:02.88	7.90	SPIRAL GALAXY	9.6
NGC3299	10:36:23.81	12:42:27.00	10.40	SPIRAL GALAXY	9.6
Orion	5:45:01.99	5:04:05.88	6.46	SPIRAL GALAXY	9.6
UGC05923	10:49:07.61	6:55:01.92	22.30	SPIRAL GALAXY	9.6
NGC4080	12:04:51.79	26:59:33.00	15.00	SPIRAL GALAXY	9.6
IC2574	10:28:22.39	68:24:57.96	4.02	SPIRAL GALAXY	9.6
NGC3274	10:32:17.09	27:40:06.96	7.98	SPIRAL GALAXY	9.6
NGC3413	10:51:20.71	32:45:59.04	12.02	SPIRAL GALAXY	9.6
AGC200499	10:38:07.99	10:22:50.88	10.40	SPIRAL GALAXY	9.5
NGC4485	12:30:31.20	41:42:00.00	5.80	SPIRAL GALAXY	9.5
NGC0404	1:09:26.90	35:43:03.00	3.05	LENTICULAR GALAXY	9.5
ESO137-018	16:20:59.30	-60:29:15.00	6.40	SPIRAL GALAXY	9.5
NGC4534	12:34:05.50	35:31:05.88	9.80	SPIRAL GALAXY	9.5
DDO046	7:41:25.80	40:06:45.00	6.85	IRREGULAR GALAXY	9.5
ESO115-021	2:37:45.00	-61:20:27.96	4.99	SPIRAL GALAXY	9.5
UGC04932	9:19:34.10	51:06:33.12	20.60	SPIRAL GALAXY	9.5
UGC07271	12:15:33.41	43:26:03.12	18.60	SPIRAL GALAXY	9.5
NGC4449	12:28:11.21	44:05:39.84	4.21	SPIRAL GALAXY	9.5
NGC1560	4:32:49.90	71:52:51.96	3.45	SPIRAL GALAXY	9.5
NGC1156	2:59:42.41	25:14:15.00	7.80	SPIRAL GALAXY	9.5
KDG082	11:55:39.41	31:31:09.84	16.60	SPIRAL GALAXY	9.5
ESO495-021	8:36:15.19	-26:24:33.84	7.96	SPIRAL GALAXY	9.5
UGCA193	10:02:36.19	-6:00:42.84	9.70	SPIRAL GALAXY	9.5
UGCA105	5:14:15.10	62:34:50.88	3.15	SPIRAL GALAXY	9.5
NGC5204	13:29:36.41	58:25:04.08	4.66	SPIRAL GALAXY	9.4
IC4951	20:09:31.80	-61:51:02.16	9.80	SPIRAL GALAXY	9.4

Cepheus1	20:51:09.70	56:53:24.00	6.00	SPIRAL GALAXY	9.4
UGC07267	12:15:23.59	51:21:00.00	12.90	SPIRAL GALAXY	9.4
UGC12588	23:24:42.41	41:20:53.16	7.90	SPIRAL GALAXY	9.4
ESO558-011	7:06:56.81	-22:02:26.16	8.40	SPIRAL GALAXY	9.4
IC1959	3:33:11.81	-50:24:38.16	6.05	SPIRAL GALAXY	9.4
NGC6684	18:48:57.89	-65:10:23.88	8.70	SPIRAL GALAXY	9.4
UGC01281	1:49:32.30	32:35:33.00	4.94	SPIRAL GALAXY	9.4
HolmII	8:19:04.01	70:42:51.12	3.39	SPIRAL GALAXY	9.4
KKSG9	6:46:56.90	-17:56:29.04	10.00	SPIRAL GALAXY	9.4
ESO223-009	15:01:08.50	-48:17:33.00	6.49	IRREGULAR GALAXY	9.4
NGC2188	6:10:09.50	-34:06:21.96	7.40	SPIRAL GALAXY	9.4
NGC5229	13:34:02.90	47:54:55.08	8.00	SPIRAL GALAXY	9.4
DDO084	10:42:41.90	34:26:56.04	8.11	SPIRAL GALAXY	9.4
DDO047	7:41:55.01	16:48:02.16	8.05	SPIRAL GALAXY	9.4
LMC	5:23:34.61	-69:45:21.96	0.05	SPIRAL GALAXY	9.4
NGC4700	12:49:07.61	-11:24:41.04	7.30	SPIRAL GALAXY	9.4
IC3308	12:25:17.90	26:42:52.92	12.80	SPIRAL GALAXY	9.3
KUG 1157+315	12:00:16.20	31:13:30.00	23.20	SPIRAL GALAXY	9.3
NGC3109	10:03:07.20	-26:09:36.00	1.32	SPIRAL GALAXY	9.3
DDO019	2:25:00.19	36:02:16.08	9.30	IRREGULAR GALAXY	9.3
NGC3077	10:03:21.00	68:44:02.04	3.82	SPIRAL GALAXY	9.3
UGC07131	12:09:11.81	30:54:24.12	16.80	SPIRAL GALAXY	9.3
NGC3037	9:51:24.00	-27:00:39.96	8.10	SPIRAL GALAXY	9.3
UGC05047	9:28:49.61	51:33:38.16	19.68	SPIRAL GALAXY	9.3
NGC5398	14:01:22.20	-33:03:51.84	8.10	SPIRAL GALAXY	9.3
UGC07690	12:32:26.90	42:42:15.12	11.20	SPIRAL GALAXY	9.3
NGC4455	12:28:44.11	22:49:21.00	8.40	SPIRAL GALAXY	9.3
NGC4460	12:28:45.79	44:51:51.84	9.59	SPIRAL GALAXY	9.3
UGC12713	23:38:14.50	30:42:33.12	12.20	SPIRAL GALAXY	9.2
NGC2915	9:26:11.50	-76:37:35.04	3.78	SPIRAL GALAXY	9.2
ESO364-029	6:05:45.41	-33:04:54.12	7.59	SPIRAL GALAXY	9.2
SMC	0:52:37.99	-72:48:01.08	0.06	SPIRAL GALAXY	9.2
DDO083	10:36:43.30	31:32:48.12	10.90	IRREGULAR GALAXY	9.2
NGC1705	4:54:13.70	-53:21:41.04	5.11	SPIRAL GALAXY	9.2
NGC0855	2:14:03.70	27:52:37.92	9.73	SPIRAL GALAXY	9.2
NGC4861	12:59:01.99	34:51:37.08	7.30	SPIRAL GALAXY	9.2
NGC6822	19:44:57.70	-14:48:11.16	0.50	IRREGULAR GALAXY	9.2
NGC0784	2:01:16.80	28:50:36.96	4.97	SPIRAL GALAXY	9.2
ESO501-023	10:35:23.21	-24:45:15.12	7.00	SPIRAL GALAXY	9.2
NGC1569	4:30:49.10	64:50:53.16	3.06	SPIRAL GALAXY	9.2
IC2171	6:44:27.29	-17:55:57.00	9.90	SPIRAL GALAXY	9.2
IC3583	12:36:43.51	13:15:33.84	7.60	SPIRAL GALAXY	9.2
UGC06881	11:54:44.71	20:03:20.16	16.40	IRREGULAR GALAXY	9.1
NGC2976	9:47:15.60	67:54:48.96	3.56	SPIRAL GALAXY	9.1
DDO088	10:47:22.30	14:04:13.08	7.73	SPIRAL GALAXY	9.1
ESO238-005	22:22:30.10	-48:24:18.00	7.80	IRREGULAR GALAXY	9.1
FGC1497	12:47:00.60	32:39:05.04	23.40	SPIRAL GALAXY	9.1

NGC2366	7:28:54.60	69:12:19.08	3.19	IRREGULAR GALAXY	9.1
ESO245-005	1:45:03.60	-43:35:53.16	4.43	SPIRAL GALAXY	9.1
UGCA442	23:43:46.01	-31:57:33.12	4.27	SPIRAL GALAXY	9.1
UGC05672	10:28:20.90	22:34:17.04	11.40	SPIRAL GALAXY	9.1
NGC4214	12:15:38.90	36:19:39.00	2.94	SPIRAL GALAXY	9.1
ESO497-004	9:03:03.10	-23:48:29.88	19.00	SPIRAL GALAXY	9.1
NGC5474	14:05:02.09	53:39:47.16	7.20	SPIRAL GALAXY	9.1
DDO087	10:49:36.50	65:31:50.16	7.45	IRREGULAR GALAXY	9.1
UGC07990	12:50:27.19	28:21:10.08	20.40	SPIRAL GALAXY	9.1
DDO123	12:26:08.09	58:19:21.00	10.50	SPIRAL GALAXY	9.1
RKK1610	9:45:24.79	-48:08:29.04	14.90	IRREGULAR GALAXY	9.1
KKH58	10:07:22.70	38:58:10.92	18.40	SPIRAL GALAXY	9.1
HIPASS J0607-34	6:07:19.70	-34:12:15.84	7.40	SPIRAL GALAXY	9.0
DDO129	12:28:44.21	43:13:27.12	8.90	SPIRAL GALAXY	9.0
KKR59	21:03:24.19	57:17:13.92	5.89	SPIRAL GALAXY	9.0
HolmIV	13:54:45.10	53:54:16.92	7.21	SPIRAL GALAXY	9.0
NGC3738	11:35:48.60	54:31:22.08	4.90	SPIRAL GALAXY	9.0
NGC4765	12:53:14.40	4:27:47.16	9.70	SPIRAL GALAXY	9.0
UGC04998	9:25:12.10	68:22:59.16	8.24	SPIRAL GALAXY	9.0
DDO024	2:33:43.01	40:31:41.16	9.80	SPIRAL GALAXY	9.0
ESO348-009	23:49:23.40	-37:46:24.96	11.50	IRREGULAR GALAXY	9.0
NGC1311	3:20:07.39	-52:11:06.00	5.20	SPIRAL GALAXY	9.0
NGC0625	1:35:04.99	-41:26:11.04	3.89	SPIRAL GALAXY	9.0
ESO059-001	7:31:19.30	-68:11:09.96	4.57	SPIRAL GALAXY	9.0
IC4182	13:05:49.30	37:36:20.88	4.70	SPIRAL GALAXY	9.0
ESO324-024	13:27:37.39	-41:28:50.16	3.73	SPIRAL GALAXY	9.0
DDO025	2:33:18.19	33:29:27.96	9.30	SPIRAL GALAXY	8.9
NGC5253	13:39:55.80	-31:38:24.00	3.56	SPIRAL GALAXY	8.9
UGCA319	13:02:14.40	-17:14:15.00	7.30	IRREGULAR GALAXY	8.9
DDO056	9:09:46.61	-23:00:33.12	9.80	IRREGULAR GALAXY	8.9
DDO194	14:35:24.60	57:15:24.12	8.02	SPIRAL GALAXY	8.9
UGC02773	3:32:07.10	47:47:36.96	5.40	SPIRAL GALAXY	8.9
IC4710	18:28:37.99	-66:58:55.92	7.94	SPIRAL GALAXY	8.9
UGC01104	1:32:42.29	18:18:56.88	7.55	SPIRAL GALAXY	8.9
ESO495-008	8:21:00.70	-23:46:53.04	17.30	IRREGULAR GALAXY	8.9
DDO052	8:28:28.51	41:51:24.12	10.28	IRREGULAR GALAXY	8.9
ESO486-021	5:03:19.70	-25:25:23.16	10.00	SPIRAL GALAXY	8.9
NGC4707	12:48:22.90	51:09:52.92	5.80	IRREGULAR GALAXY	8.9
UGC06014	10:53:42.70	9:43:41.16	10.40	SPIRAL GALAXY	8.9
UGC11583	20:30:15.31	60:26:25.08	5.89	IRREGULAR GALAXY	8.9
IC0010	0:20:24.50	59:17:30.12	0.66	IRREGULAR GALAXY	8.9
CGCG 035-007	9:34:44.90	6:25:32.16	13.00	SPIRAL GALAXY	8.9
UGC7257	12:15:03.00	35:57:30.96	8.80	SPIRAL GALAXY	8.9
IC2787	11:23:19.10	13:37:46.92	10.30	SPIRAL GALAXY	8.9
NGC4248	12:17:49.90	47:24:33.12	7.40	SPIRAL GALAXY	8.9
IC5152	22:02:41.90	-51:17:43.08	1.97	SPIRAL GALAXY	8.9
NGC5237	13:37:38.90	-42:50:51.00	3.40	SPIRAL GALAXY	8.8

UGC05288	9:51:17.21	7:49:37.92	6.85	SPIRAL GALAXY	8.8
UGC04115	7:57:01.80	14:23:26.88	7.73	IRREGULAR GALAXY	8.8
d0226+3325	2:26:52.80	33:25:36.84	9.30	IRREGULAR GALAXY	8.8
IC0559	9:44:43.90	9:36:55.08	9.40	SPIRAL GALAXY	8.8
IC4870	19:37:37.61	-65:48:42.84	7.30	SPIRAL GALAXY	8.8
DDO064	9:50:22.39	31:29:15.00	7.11	IRREGULAR GALAXY	8.8
UGC03600	6:55:40.01	39:05:42.00	7.24	SPIRAL GALAXY	8.8
KK127	12:13:22.70	29:55:18.12	17.30	SPIRAL GALAXY	8.8
And IV	0:42:30.10	40:34:32.88	6.31	IRREGULAR GALAXY	8.8
ESO104-044	19:11:23.09	-64:13:09.12	8.30	IRREGULAR GALAXY	8.8
IC3591	12:37:03.00	6:55:36.12	9.80	SPIRAL GALAXY	8.8
DDO068	9:56:45.70	28:49:30.00	9.80	IRREGULAR GALAXY	8.8
KKH38	6:47:54.91	47:30:50.04	19.30	IRREGULAR GALAXY	8.8
KK252	20:31:32.59	60:48:47.88	5.89	IRREGULAR GALAXY	8.7
ESO269-058	13:10:32.90	-46:59:26.88	3.80	SPIRAL GALAXY	8.7
IC3718	12:44:46.01	12:21:05.04	6.80	SPIRAL GALAXY	8.7
NGC5477	14:05:33.10	54:27:38.88	7.70	SPIRAL GALAXY	8.7
ESO499-038	10:03:50.21	-26:36:46.08	15.30	IRREGULAR GALAXY	8.7
DDO153	12:53:57.50	-12:06:30.96	8.00	SPIRAL GALAXY	8.7
MCG-02-33-075	12:58:28.30	-10:34:36.84	8.70	SPIRAL GALAXY	8.7
UGC05427	10:04:40.99	29:21:59.04	7.11	SPIRAL GALAXY	8.7
UGC03476	6:30:29.21	33:18:06.84	7.01	IRREGULAR GALAXY	8.7
Dw2	2:54:08.50	59:00:19.08	3.00	IRREGULAR GALAXY	8.7
UGC02684	3:20:23.71	17:17:42.00	6.49	IRREGULAR GALAXY	8.7
ESO381-020	12:46:00.41	-33:50:17.16	5.45	IRREGULAR GALAXY	8.7
AM2220-460	22:23:43.01	-45:52:55.92	8.80	IRREGULAR GALAXY	8.7
NGC1800	5:06:25.70	-31:57:15.12	8.00	SPIRAL GALAXY	8.7
Cas1	2:06:07.90	69:00:36.00	3.30	IRREGULAR GALAXY	8.7
KISSB023	9:40:12.70	29:35:29.04	19.80	IRREGULAR GALAXY	8.7
DDO154	12:54:05.21	27:08:54.96	4.04	IRREGULAR GALAXY	8.7
UGCA298	12:46:55.39	26:33:51.12	11.00	SPIRAL GALAXY	8.7
UGC07950	12:46:56.40	51:36:47.16	8.90	SPIRAL GALAXY	8.6
UGC1561	2:04:04.99	24:12:28.08	7.20	SPIRAL GALAXY	8.6
IC3687	12:42:15.10	38:30:06.84	4.57	IRREGULAR GALAXY	8.6
NGC5408	14:03:21.50	-41:22:35.04	4.81	SPIRAL GALAXY	8.6
UGC00685	1:07:22.30	16:41:02.04	4.51	SPIRAL GALAXY	8.6
ESO347-017	23:26:56.09	-37:20:48.84	7.60	SPIRAL GALAXY	8.6
ESO483-013	4:12:41.11	-23:09:32.04	7.40	SPIRAL GALAXY	8.6
HIZSS021	7:46:16.49	-28:28:10.92	3.00	IRREGULAR GALAXY	8.6
UGC7719	12:34:00.60	39:01:09.84	9.20	SPIRAL GALAXY	8.6
DDO148	12:48:43.10	-5:15:14.04	9.00	SPIRAL GALAXY	8.6
NGC4625	12:41:52.70	41:16:26.04	7.90	SPIRAL GALAXY	8.6
DDO013	1:40:09.60	15:54:16.92	9.04	IRREGULAR GALAXY	8.6
NGC1592	4:29:40.80	-27:24:30.96	9.10	IRREGULAR GALAXY	8.6
IC4662	17:47:06.31	-64:38:25.08	2.44	SPIRAL GALAXY	8.6
UGC00064	0:07:43.99	40:52:32.16	9.60	IRREGULAR GALAXY	8.6
KKH11	2:24:34.99	56:00:42.12	3.00	IRREGULAR GALAXY	8.6

DDO131	12:31:58.61	29:42:34.92	8.10	IRREGULAR GALAXY	8.6
ESO215-009	10:57:30.19	-48:10:44.04	5.25	IRREGULAR GALAXY	8.6
UGC02172	2:42:10.80	43:21:19.08	9.30	IRREGULAR GALAXY	8.6
ESO174-001	13:47:57.70	-53:21:03.96	3.60	IRREGULAR GALAXY	8.6
UGC07512	12:25:41.30	2:09:32.04	10.60	IRREGULAR GALAXY	8.6
VCC1725	12:37:41.21	8:33:33.12	8.50	SPIRAL GALAXY	8.6
UGC03501	6:38:38.40	49:15:29.88	15.50	IRREGULAR GALAXY	8.6
DDO092	11:13:26.09	53:35:42.00	9.90	SPIRAL GALAXY	8.5
UGC05797	10:39:25.20	1:43:06.96	7.00	SPIRAL GALAXY	8.5
UGC08030	12:54:29.40	26:18:18.00	15.30	IRREGULAR GALAXY	8.5
HolmIX	9:57:32.40	69:02:35.16	3.61	IRREGULAR GALAXY	8.5
DDO168	13:14:28.61	45:55:09.84	4.33	IRREGULAR GALAXY	8.5
KDG192	12:43:45.00	53:57:32.04	7.45	IRREGULAR GALAXY	8.5
IC3077	12:15:56.30	14:25:59.16	9.10	SPIRAL GALAXY	8.5
IC2992	12:05:15.89	30:51:20.16	12.70	SPIRAL GALAXY	8.5
HIPASS J0905-36	9:06:00.00	-36:03:36.00	7.93	IRREGULAR GALAXY	8.5
ESO572-034	11:58:58.10	-19:01:48.00	8.50	SPIRAL GALAXY	8.5
LV J1235-1104	12:35:39.41	-11:04:01.92	10.00	IRREGULAR GALAXY	8.5
UGC05812	10:40:56.59	12:28:18.84	10.40	SPIRAL GALAXY	8.5
UGC09660	15:01:09.29	44:41:53.16	7.40	SPIRAL GALAXY	8.4
NGC4190	12:13:44.59	36:37:59.88	2.82	SPIRAL GALAXY	8.4
DDO190	14:24:43.51	44:31:32.88	2.74	SPIRAL GALAXY	8.4
UGCA092	4:32:00.29	63:36:50.04	3.01	IRREGULAR GALAXY	8.4
IC3341	12:26:23.40	27:44:44.16	14.00	SPIRAL GALAXY	8.4
ESO325-011	13:45:00.79	-41:51:32.04	3.40	IRREGULAR GALAXY	8.4
ESO444-084	13:37:20.21	-28:02:45.96	4.61	IRREGULAR GALAXY	8.4
MCG -03-34-002	13:07:56.59	-16:41:21.12	7.90	SPIRAL GALAXY	8.4
MCG -04-31-038	13:09:36.60	-27:08:26.16	7.80	IRREGULAR GALAXY	8.4
ESO473-024	0:31:22.51	-22:45:56.88	9.90	IRREGULAR GALAXY	8.4
NGC4068	12:04:02.40	52:35:18.96	4.31	SPIRAL GALAXY	8.4
SexA	10:11:00.79	-4:41:34.08	1.32	IRREGULAR GALAXY	8.4
DDO126	12:27:05.11	37:08:33.00	4.88	IRREGULAR GALAXY	8.4
DDO133	12:32:52.99	31:32:21.12	4.85	IRREGULAR GALAXY	8.4
DDO022	2:32:54.00	38:40:50.16	9.30	IRREGULAR GALAXY	8.4
FG202	7:05:17.11	-58:31:14.16	4.90	IRREGULAR GALAXY	8.4
DDO165	13:06:26.81	67:42:15.12	4.57	SPIRAL GALAXY	8.4
DDO143	12:44:25.10	34:23:11.04	9.10	IRREGULAR GALAXY	8.4
UGCA294	12:44:38.09	28:28:21.00	9.90	SPIRAL GALAXY	8.4
ESO496-010	8:49:06.00	-26:19:12.00	7.80	SPIRAL GALAXY	8.4
LeG03	10:35:48.79	8:28:46.92	10.40	SPIRAL GALAXY	8.4
KK49	5:41:41.50	6:40:54.12	5.15	SPIRAL GALAXY	8.4
DDO127	12:28:28.51	37:13:59.88	6.89	IRREGULAR GALAXY	8.3
HIPASS J0457-42	4:56:58.70	-42:48:14.04	7.20	IRREGULAR GALAXY	8.3
KK251	20:30:31.99	60:21:12.96	5.89	IRREGULAR GALAXY	8.3
ESO383-087	13:49:18.79	-36:03:41.04	3.45	SPIRAL GALAXY	8.3
NGC3741	11:36:06.41	45:17:07.08	3.03	SPIRAL GALAXY	8.3
ESO553-046	5:27:05.71	-20:40:41.16	5.07	SPIRAL GALAXY	8.3

UGC08061	12:56:43.39	11:55:51.96	6.49	IRREGULAR GALAXY	8.3
LV J0926+3343	9:26:09.41	33:43:04.08	19.70	SPIRAL GALAXY	8.3
KKSG17	10:01:38.40	-8:14:56.04	9.70	IRREGULAR GALAXY	8.3
UGC07320	12:17:28.51	44:48:41.04	9.20	IRREGULAR GALAXY	8.3
CGMW2-3473	8:25:12.89	-28:08:25.08	7.40	SPIRAL GALAXY	8.3
AGC749236	12:25:42.41	26:48:36.00	19.50	IRREGULAR GALAXY	8.3
LSBC D634-03	9:08:53.50	14:34:54.84	9.55	IRREGULAR GALAXY	8.3
UGC09992	15:41:47.81	67:15:15.12	7.30	IRREGULAR GALAXY	8.3
UGC05456	10:07:19.70	10:21:43.92	5.60	SPIRAL GALAXY	8.3
HIZSS014	7:36:22.61	-19:29:39.84	7.35	SPIRAL GALAXY	8.3
KKSG15	9:55:10.49	-6:16:12.00	9.70	IRREGULAR GALAXY	8.3
AGC191803	9:48:05.90	7:07:45.12	14.90	SPIRAL GALAXY	8.3
NGC4509	12:33:06.79	32:05:30.12	10.10	SPIRAL GALAXY	8.3
NGC0205	0:40:22.51	41:41:11.04	0.82	LENTICULAR GALAXY	8.2
UGC05209	9:45:04.20	32:14:17.88	6.56	IRREGULAR GALAXY	8.2
PGC170257	13:29:21.00	-21:10:45.12	6.50	SPIRAL GALAXY	8.2
ESO149-003	23:52:02.81	-52:34:39.00	5.90	IRREGULAR GALAXY	8.2
ESO318-013	10:47:41.90	-38:51:15.12	6.50	SPIRAL GALAXY	8.2
MCG -01-26-009	10:01:33.60	-6:31:30.00	9.70	IRREGULAR GALAXY	8.2
KDG155	12:33:07.99	0:31:59.16	8.11	IRREGULAR GALAXY	8.2
CGCG 014-054	12:31:03.79	1:40:32.88	9.60	SPIRAL GALAXY	8.2
NGC0059	0:15:25.10	-21:26:38.04	5.30	LENTICULAR GALAXY	8.2
AGC202248	10:34:56.09	11:29:31.92	10.40	IRREGULAR GALAXY	8.2
UGC07242	12:14:07.39	66:05:31.92	5.42	IRREGULAR GALAXY	8.2
UGC02716	3:24:07.20	17:45:15.12	6.40	SPIRAL GALAXY	8.2
WLM	0:01:58.10	-15:27:39.96	0.97	SPIRAL GALAXY	8.2
NGC5238	13:34:42.70	51:36:50.04	4.51	IRREGULAR GALAXY	8.2
UGC06145	11:05:34.99	-1:51:48.96	10.70	IRREGULAR GALAXY	8.2
DDO169	13:15:30.70	47:29:47.04	4.41	IRREGULAR GALAXY	8.2
KK149	12:28:52.30	42:10:40.08	8.90	IRREGULAR GALAXY	8.2
ESO409-015	0:05:31.80	-28:05:53.16	7.70	SPIRAL GALAXY	8.2
ESO199-007	2:58:04.10	-49:22:57.00	6.56	IRREGULAR GALAXY	8.1
UGC12894	0:00:22.51	39:29:44.16	8.47	IRREGULAR GALAXY	8.1
UGCA281	12:26:16.01	48:29:30.84	5.68	IRREGULAR GALAXY	8.1
ESO300-016	3:10:10.51	-40:00:11.16	8.80	IRREGULAR GALAXY	8.1
HIPASS J1441-62	14:41:42.70	-62:46:01.92	6.02	IRREGULAR GALAXY	8.1
NGC5264	13:41:37.01	-29:54:50.04	4.53	SPIRAL GALAXY	8.1
CamA	4:25:15.60	72:48:20.88	3.93	IRREGULAR GALAXY	8.1
ESO373-007	9:32:45.41	-33:14:44.16	8.30	IRREGULAR GALAXY	8.1
IC3023	12:10:01.70	14:22:00.84	7.70	IRREGULAR GALAXY	8.1
DDO120	12:21:15.00	45:48:41.04	7.06	SPIRAL GALAXY	8.1
UGC05423	10:05:30.60	70:21:51.84	8.71	IRREGULAR GALAXY	8.1
UGC07827	12:39:38.90	44:49:14.88	8.50	IRREGULAR GALAXY	8.1
AGC205268	10:42:52.39	13:44:27.96	10.40	SPIRAL GALAXY	8.1
UGC07639	12:29:52.99	47:31:48.00	7.14	SPIRAL GALAXY	8.1
KK246	20:03:57.41	-31:40:54.12	7.83	IRREGULAR GALAXY	8.1
LSBC D564-08	9:02:54.00	20:04:31.08	8.67	IRREGULAR GALAXY	8.1

NGC0185	0:38:58.01	48:20:09.96	0.61	LENTICULAR GALAXY	8.1
DDO182	13:42:32.59	39:39:29.88	8.90	IRREGULAR GALAXY	8.1
KKH12	2:27:27.00	57:29:16.08	3.00	IRREGULAR GALAXY	8.1
ESO490-017	6:37:56.59	-25:59:58.92	4.23	IRREGULAR GALAXY	8.0
UGC01056	1:28:47.21	16:41:17.16	7.30	SPIRAL GALAXY	8.0
IC3104	12:18:46.10	-79:43:33.96	2.27	SPIRAL GALAXY	8.0
ESO272-025	14:43:25.49	-44:42:19.08	5.88	IRREGULAR GALAXY	8.0
A0952+69	9:57:28.99	69:16:19.92	3.87	IRREGULAR GALAXY	8.0
ESO104-022	18:55:41.21	-64:48:38.88	6.70	IRREGULAR GALAXY	8.0
CGCG 066-109	11:04:26.50	11:45:18.00	10.40	IRREGULAR GALAXY	8.0
KK55	6:39:32.90	-40:43:13.08	7.65	IRREGULAR GALAXY	8.0
MB1	2:35:35.59	59:22:46.92	3.00	IRREGULAR GALAXY	8.0
UGC7678	12:32:00.41	39:49:54.84	6.90	SPIRAL GALAXY	8.0
ESO320-014	11:37:53.40	-39:13:14.16	6.08	IRREGULAR GALAXY	8.0
ESO121-020	6:15:54.50	-57:43:35.04	6.05	IRREGULAR GALAXY	8.0
SexB	10:00:00.10	5:19:55.92	1.36	IRREGULAR GALAXY	7.9
UGC03817	7:22:44.50	45:06:29.88	8.55	IRREGULAR GALAXY	7.9
KKSG38	12:53:31.61	-5:55:40.08	10.40	IRREGULAR GALAXY	7.9
KK167	12:51:44.40	26:06:38.16	9.20	IRREGULAR GALAXY	7.9
HIZSS003	7:00:29.30	-4:12:29.88	1.67	IRREGULAR GALAXY	7.9
HIPASS J1133-32	11:33:10.99	-32:57:42.84	6.70	IRREGULAR GALAXY	7.9
UGC03698	7:09:18.79	44:22:48.00	7.24	IRREGULAR GALAXY	7.9
HolmI	9:40:32.30	71:11:11.04	3.84	IRREGULAR GALAXY	7.9
A0554+07	5:57:36.70	7:29:30.84	5.50	IRREGULAR GALAXY	7.9
PGC051659	14:28:03.70	-46:18:06.12	3.58	IRREGULAR GALAXY	7.9
UGC02905	3:57:00.60	16:31:27.84	5.83	IRREGULAR GALAXY	7.9
LV J0939-2507	9:39:34.99	-25:07:35.04	6.15	IRREGULAR GALAXY	7.9
DDO043	7:28:17.21	40:46:13.08	5.73	IRREGULAR GALAXY	7.9
UGC7751	12:35:11.81	41:03:38.88	7.90	SPIRAL GALAXY	7.9
HIPASS J0801-21	8:01:25.39	-21:59:51.00	6.34	IRREGULAR GALAXY	7.9
UGC08508	13:30:44.40	54:54:36.00	2.69	IRREGULAR GALAXY	7.9
KK133	12:19:32.81	43:23:11.04	8.23	IRREGULAR GALAXY	7.9
KK94	10:46:57.31	12:59:53.88	10.40	IRREGULAR GALAXY	7.9
KK176	12:59:56.30	-19:24:47.16	6.90	IRREGULAR GALAXY	7.9
UGC03755	7:13:51.79	10:31:18.84	7.41	IRREGULAR GALAXY	7.9
IC1613	1:04:47.81	2:07:59.88	0.73	IRREGULAR GALAXY	7.8
KDG235	17:00:25.30	70:17:24.00	10.60	IRREGULAR GALAXY	7.8
FS04	10:42:00.29	12:20:06.00	10.40	SPIRAL GALAXY	7.8
HIPASS J1258-04	12:58:49.61	-4:53:18.96	6.50	IRREGULAR GALAXY	7.8
DDO226	0:43:03.79	-22:15:01.08	4.92	IRREGULAR GALAXY	7.8
AGC731448	10:23:45.00	27:06:38.88	13.50	SPIRAL GALAXY	7.8
NGC4163	12:12:08.90	36:10:09.84	2.94	SPIRAL GALAXY	7.8
MRK0036	11:04:58.51	29:08:21.84	8.02	SPIRAL GALAXY	7.8
DDO181	13:39:53.81	40:44:21.12	3.01	IRREGULAR GALAXY	7.8
AGC229053	12:18:15.50	25:34:05.88	17.90	IRREGULAR GALAXY	7.8
VCC0841	12:25:46.99	14:57:06.84	7.90	SPIRAL GALAXY	7.8
LeG17	10:46:41.50	12:19:35.04	10.40	LENTICULAR GALAXY	7.8

KDG010	1:43:41.40	15:41:22.92	7.87	IRREGULAR GALAXY	7.8
KDG105	12:21:43.01	37:59:13.92	7.60	IRREGULAR GALAXY	7.7
HIPASS J0916-23b	9:16:58.01	-23:16:46.92	10.30	IRREGULAR GALAXY	7.7
KKR55	20:45:20.81	60:24:39.96	5.89	IRREGULAR GALAXY	7.7
UGCA438	23:26:27.50	-32:23:26.16	2.18	IRREGULAR GALAXY	7.7
VCC1675	12:36:34.99	8:03:16.92	7.50	SPIRAL GALAXY	7.7
DDO053	8:34:06.50	66:10:45.12	3.56	IRREGULAR GALAXY	7.7
UGC05186	9:42:59.81	33:15:51.84	8.30	IRREGULAR GALAXY	7.7
AGC202256	11:14:45.00	12:38:51.00	11.00	IRREGULAR GALAXY	7.7
KKH87	14:15:09.41	57:05:15.00	7.20	IRREGULAR GALAXY	7.7
ESO379-024	12:04:56.71	-35:44:35.16	4.88	IRREGULAR GALAXY	7.7
ESO376-016	10:43:27.10	-37:02:33.00	7.10	IRREGULAR GALAXY	7.7
AGC198507	9:15:25.80	25:25:09.84	21.70	SPIRAL GALAXY	7.7
UGC00288	0:29:04.01	43:25:54.12	6.73	IRREGULAR GALAXY	7.7
LV J0737+4724	7:37:28.51	47:24:33.12	15.70	IRREGULAR GALAXY	7.7
UGC07584	12:28:02.90	22:35:21.84	9.20	SPIRAL GALAXY	7.6
LV J0954+3620	9:54:50.59	36:20:02.04	15.40	IRREGULAR GALAXY	7.6
UGC7427	12:21:55.01	35:03:05.04	9.70	IRREGULAR GALAXY	7.6
AGC205278	10:58:52.10	14:07:45.84	10.40	IRREGULAR GALAXY	7.6
ESO381-018	12:44:42.70	-35:58:00.12	5.32	IRREGULAR GALAXY	7.6
KK144	12:25:27.91	28:28:57.00	6.15	IRREGULAR GALAXY	7.6
DDO147	12:46:59.81	36:28:35.04	5.40	IRREGULAR GALAXY	7.6
KK65	7:42:31.20	16:33:39.96	8.02	IRREGULAR GALAXY	7.6
HIPASS J1337-39	13:37:25.10	-39:53:52.08	4.83	IRREGULAR GALAXY	7.6
UGC06456	11:28:00.60	78:59:29.04	4.35	IRREGULAR GALAXY	7.6
KKH5	1:07:32.50	51:26:25.08	4.27	IRREGULAR GALAXY	7.6
AM0106-382	1:08:22.01	-38:12:33.12	8.20	IRREGULAR GALAXY	7.6
DDO099	11:50:52.99	38:52:50.16	2.64	IRREGULAR GALAXY	7.6
KKSG30	12:37:35.90	-8:52:01.92	9.10	IRREGULAR GALAXY	7.6
HIPASS J1348-37	13:48:33.91	-37:58:03.00	5.75	IRREGULAR GALAXY	7.6
KUG 1218+387	12:20:54.89	38:25:49.08	8.03	SPIRAL GALAXY	7.5
UGC08638	13:39:19.39	24:46:32.88	4.27	IRREGULAR GALAXY	7.5
KK152	12:33:24.89	33:21:05.04	6.90	IRREGULAR GALAXY	7.5
ESO222-010	14:35:03.00	-49:25:18.12	5.80	IRREGULAR GALAXY	7.5
LV J0616-5745	6:16:09.19	-57:45:55.08	6.00	IRREGULAR GALAXY	7.5
HIPASS J1351-47	13:51:22.01	-47:00:00.00	5.73	IRREGULAR GALAXY	7.5
KK151	12:30:23.81	42:54:05.04	6.56	SPIRAL GALAXY	7.5
LeG18	10:46:53.30	12:44:39.84	10.40	IRREGULAR GALAXY	7.5
IC4247	13:26:44.40	-30:21:45.00	4.97	IRREGULAR GALAXY	7.5
KKSG19	10:24:28.30	-12:25:57.00	5.11	IRREGULAR GALAXY	7.4
KKSG29	12:37:14.11	-10:29:51.00	7.70	IRREGULAR GALAXY	7.4
AGC731457	10:31:55.80	28:01:32.88	9.20	IRREGULAR GALAXY	7.4
ESO565-003	9:23:09.89	-20:10:03.00	7.52	IRREGULAR GALAXY	7.4
KK182	13:05:02.90	-40:04:58.08	5.78	IRREGULAR GALAXY	7.4
LV J1952+1428	19:52:11.81	14:28:23.88	7.13	SPIRAL GALAXY	7.4
ESO349-031	0:08:13.30	-34:34:41.88	3.21	IRREGULAR GALAXY	7.4

MRK0475	14:39:05.40	36:48:21.96	9.20	SPIRAL GALAXY	7.4
IC3840	12:51:46.10	21:44:07.08	5.50	IRREGULAR GALAXY	7.3
AGC208397	10:38:58.10	3:52:27.12	26.20	IRREGULAR GALAXY	7.3
HIPASS J1131-31	11:31:35.21	-31:40:19.92	6.70	IRREGULAR GALAXY	7.3
UGCA365	13:36:30.79	-29:14:11.04	5.25	IRREGULAR GALAXY	7.3
KK13	1:42:16.80	26:22:04.08	7.20	IRREGULAR GALAXY	7.3
UGC08833	13:54:48.70	35:50:15.00	3.08	IRREGULAR GALAXY	7.3
UGC04483	8:37:03.00	69:46:31.08	3.21	IRREGULAR GALAXY	7.3
AGC122226	2:46:38.90	27:43:35.04	8.56	SPIRAL GALAXY	7.3
UGC07983	12:49:46.99	3:50:31.92	9.40	IRREGULAR GALAXY	7.3
KDG177	12:39:58.51	13:46:53.04	8.20	IRREGULAR GALAXY	7.3
VCC0114	12:14:35.21	5:40:37.92	8.20	IRREGULAR GALAXY	7.3
MAPS1249+44	12:49:31.01	44:21:33.12	7.84	SPIRAL GALAXY	7.3
DDO187	14:15:56.50	23:03:19.08	2.20	IRREGULAR GALAXY	7.3
KKH18	3:03:05.90	33:41:39.84	4.43	IRREGULAR GALAXY	7.3
UGC01171	1:39:41.59	15:54:11.16	7.38	IRREGULAR GALAXY	7.3
AGC749315	10:29:06.41	26:54:38.16	21.50	SPIRAL GALAXY	7.3
ESO443-009	12:54:53.59	-28:20:26.88	5.78	IRREGULAR GALAXY	7.2
LSBC D640-13	10:56:13.99	12:00:37.08	10.40	IRREGULAR GALAXY	7.2
ESO379-007	11:54:43.01	-33:33:29.16	5.22	IRREGULAR GALAXY	7.2
CGCG 095-078	10:58:02.21	19:30:19.08	7.37	SPIRAL GALAXY	7.2
AGC205165	10:37:04.80	15:20:15.00	10.40	SPIRAL GALAXY	7.2
VCC2037	12:46:15.29	10:12:11.88	7.40	IRREGULAR GALAXY	7.2
KDG002	0:49:21.10	-18:04:27.84	3.40	IRREGULAR GALAXY	7.2
DDO125	12:27:41.81	43:29:38.04	2.74	SPIRAL GALAXY	7.2
BTS142	12:33:07.39	38:06:57.96	10.00	IRREGULAR GALAXY	7.1
Halogas	2:27:19.99	33:57:29.88	9.30	IRREGULAR GALAXY	7.1
HIPASS J1247-77	12:47:32.59	-77:35:00.96	3.16	IRREGULAR GALAXY	7.1
DDO169NW	13:15:20.11	47:32:36.96	4.20	IRREGULAR GALAXY	7.1
DDO183	13:50:51.10	38:01:15.96	3.22	IRREGULAR GALAXY	7.1
GR8	12:58:40.39	14:13:03.00	2.13	IRREGULAR GALAXY	7.1
MAPS1236+33	12:36:49.39	33:36:47.88	11.70	IRREGULAR GALAXY	7.1
AGC198508	9:22:57.00	24:56:48.12	10.40	IRREGULAR GALAXY	7.0
KKH40	7:46:56.40	51:17:45.96	6.98	IRREGULAR GALAXY	7.0
VCC0565	12:22:38.50	6:00:51.84	9.60	IRREGULAR GALAXY	7.0
LV J2335-3713	23:35:04.10	-37:13:14.16	7.80	IRREGULAR GALAXY	7.0
KDG078	11:29:54.00	52:24:14.04	9.00	IRREGULAR GALAXY	6.9
KKH73	11:50:06.41	55:46:59.88	9.00	IRREGULAR GALAXY	6.9
LV J1030+0607	10:30:44.30	6:07:37.92	7.80	IRREGULAR GALAXY	6.9
Arp211	12:37:21.31	38:44:43.08	6.61	IRREGULAR GALAXY	6.9
UGC07596	12:28:33.91	8:38:22.92	4.60	IRREGULAR GALAXY	6.9
UGC07605	12:28:39.00	35:43:05.16	4.43	IRREGULAR GALAXY	6.9
LV J1241+3251	12:41:47.30	32:51:28.08	7.30	IRREGULAR GALAXY	6.9
KK14	1:44:42.70	27:17:16.08	7.20	IRREGULAR GALAXY	6.9
Sag dIr	19:29:58.99	-17:40:41.16	1.04	IRREGULAR GALAXY	6.9
KKH6	1:34:51.60	52:05:30.12	3.73	IRREGULAR GALAXY	6.9
UGCA292	12:38:40.01	32:46:00.12	3.61	IRREGULAR GALAXY	6.8

GR34	12:22:07.61	15:47:57.12	8.90	IRREGULAR GALAXY	6.8
KDG063	10:05:07.30	66:33:18.00	3.50	LENTICULAR GALAXY	6.7
KK141	12:22:52.70	33:49:42.96	7.78	IRREGULAR GALAXY	6.7
KDG052	8:23:55.99	71:01:45.84	3.55	IRREGULAR GALAXY	6.7
AGC732602	13:21:04.80	24:08:35.88	7.20	IRREGULAR GALAXY	6.7
VCC2033	12:46:04.51	8:28:35.04	9.80	SPIRAL GALAXY	6.7
KKH46	9:08:36.60	5:17:31.92	5.60	IRREGULAR GALAXY	6.7
ESO540-032	0:50:24.60	-19:54:24.84	3.42	IRREGULAR GALAXY	6.7
IC2684	11:17:01.01	13:05:58.92	10.30	IRREGULAR GALAXY	6.7
VCC0381	12:19:54.10	6:39:56.88	4.71	IRREGULAR GALAXY	6.6
KK69	8:52:50.71	33:47:52.08	7.70	IRREGULAR GALAXY	6.6
KKSG20	11:04:40.61	0:03:29.88	10.70	IRREGULAR GALAXY	6.6
UGC07636	12:30:01.01	7:55:45.84	5.20	IRREGULAR GALAXY	6.6
UGC06541	11:33:29.11	49:14:17.16	3.89	IRREGULAR GALAXY	6.6
MCG +09-20-131	12:15:46.70	52:23:15.00	4.59	IRREGULAR GALAXY	6.6
MB3	2:55:43.61	58:51:42.12	3.00	IRREGULAR GALAXY	6.5
BTS146	12:40:02.09	38:00:02.16	8.50	IRREGULAR GALAXY	6.5
VCC1713	12:37:29.11	4:45:05.04	7.20	SPIRAL GALAXY	6.5
AGC112521	1:41:07.90	27:19:26.04	6.52	IRREGULAR GALAXY	6.5
KDG056	9:30:12.91	19:59:30.12	8.90	IRREGULAR GALAXY	6.5
LSBC D565-06	9:19:29.40	21:36:11.88	9.08	IRREGULAR GALAXY	6.5
IC4316	13:40:18.10	-28:53:39.84	4.41	IRREGULAR GALAXY	6.4
AGC174605	7:50:21.70	7:47:39.84	6.00	IRREGULAR GALAXY	6.4
AGC208399	10:40:10.70	4:54:32.04	20.90	IRREGULAR GALAXY	6.4
BTS157	12:51:13.30	47:04:14.88	8.83	IRREGULAR GALAXY	6.4
LV J0300+2546	3:00:39.31	25:46:55.92	7.80	IRREGULAR GALAXY	6.4
KDG215	12:55:40.49	19:12:33.12	5.50	IRREGULAR GALAXY	6.4
AGC205156	10:30:52.90	12:26:48.12	10.43	SPIRAL GALAXY	6.4
VCC0169	12:15:56.21	9:38:57.12	9.40	IRREGULAR GALAXY	6.4
KKR56	20:48:24.10	58:37:05.88	5.89	IRREGULAR GALAXY	6.3
KDG104	12:21:27.91	15:01:27.84	9.40	IRREGULAR GALAXY	6.3
KDG073	10:52:57.10	69:32:44.88	3.70	IRREGULAR GALAXY	6.3
ESO384-016	13:57:01.61	-35:20:02.04	4.53	SPIRAL GALAXY	6.3
KKH80	12:28:05.40	22:17:26.88	7.43	IRREGULAR GALAXY	6.3
LeG06	10:39:55.70	13:54:28.08	10.40	IRREGULAR GALAXY	6.3
VCC1822	12:40:10.39	6:50:48.84	8.10	IRREGULAR GALAXY	6.2
HS117	10:21:25.20	71:06:57.96	3.96	IRREGULAR GALAXY	6.2
ESO269-037	13:03:33.60	-46:35:03.12	3.48	IRREGULAR GALAXY	6.2
AGC749241	12:40:01.70	26:19:18.84	9.20	IRREGULAR GALAXY	6.2
DDO006	0:49:49.30	-21:00:57.96	3.34	IRREGULAR GALAXY	6.2
LV J1243+4127	12:43:55.70	41:27:24.84	6.09	IRREGULAR GALAXY	6.2
AGC238890	13:32:30.29	25:07:24.96	6.80	SPIRAL GALAXY	6.2
IC2791	11:23:37.61	12:53:44.88	10.30	SPIRAL GALAXY	6.2
HIDEEP J1337-33	13:37:00.60	-33:21:47.16	4.37	IRREGULAR GALAXY	6.2
KK200	13:24:36.00	-30:58:19.92	4.63	IRREGULAR GALAXY	6.1
UGC05497	10:12:48.41	64:06:27.00	3.70	SPIRAL GALAXY	6.1

KK16	1:55:20.59	27:57:15.12	5.47	IRREGULAR GALAXY	6.1
ESO410-005	0:15:31.39	-32:10:48.00	1.92	IRREGULAR GALAXY	6.1
CamB	4:53:06.91	67:05:57.12	3.34	IRREGULAR GALAXY	6.1
KKH34	5:59:41.21	73:25:39.00	4.61	IRREGULAR GALAXY	6.1
UGC08215	13:08:03.60	46:49:41.16	4.55	IRREGULAR GALAXY	6.1
d1028+70	10:28:39.70	70:14:00.96	4.00	IRREGULAR GALAXY	6.1
LeoA	9:59:26.40	30:44:47.04	0.81	IRREGULAR GALAXY	6.1
LeG05	10:39:43.30	12:38:03.84	10.40	IRREGULAR GALAXY	6.1
ESO321-014	12:13:49.61	-38:13:53.04	3.18	IRREGULAR GALAXY	6.0
UGC04879	9:16:02.21	52:50:24.00	1.36	SPIRAL GALAXY	6.0
Antlia	10:04:04.01	-27:19:54.84	1.32	IRREGULAR GALAXY	6.0
LSBC D640-12	10:55:57.10	12:20:20.04	10.40	IRREGULAR GALAXY	6.0
KK27	3:21:03.00	-66:19:10.92	3.98	IRREGULAR GALAXY	6.0
Pegasus	23:28:34.10	14:44:48.12	0.76	IRREGULAR GALAXY	6.0
DDO167	13:13:22.80	46:19:10.92	4.19	IRREGULAR GALAXY	6.0
LeG21	10:47:00.79	12:57:34.92	10.40	IRREGULAR GALAXY	6.0
KK160	12:43:57.41	43:39:41.04	4.31	IRREGULAR GALAXY	6.0
KK17	2:00:09.91	28:49:57.00	4.90	IRREGULAR GALAXY	6.0
ESO294-010	0:26:33.29	-41:51:20.16	1.92	IRREGULAR GALAXY	5.9
d0958+66	9:58:48.50	66:50:58.92	4.04	SPIRAL GALAXY	5.9
KK230	14:07:10.70	35:03:37.08	2.14	IRREGULAR GALAXY	5.9
KK78	9:50:19.61	31:27:24.12	7.10	IRREGULAR GALAXY	5.9
LeG13	10:44:57.60	11:54:57.96	10.40	IRREGULAR GALAXY	5.9
ESO489-056	6:26:16.99	-26:15:56.16	4.99	IRREGULAR GALAXY	5.9
NGC2903-HI-1	9:30:39.89	21:43:24.96	8.90	IRREGULAR GALAXY	5.9
KK15	1:46:41.59	26:48:05.04	7.20	IRREGULAR GALAXY	5.9
KK195	13:21:08.21	-31:31:46.92	5.22	IRREGULAR GALAXY	5.9
UGC07298	12:16:28.61	52:13:37.92	4.21	IRREGULAR GALAXY	5.9
LV J0913+1937	9:13:39.00	19:37:08.04	4.43	IRREGULAR GALAXY	5.9
KKH98	23:45:34.01	38:43:04.08	2.45	IRREGULAR GALAXY	5.8
BK3N	9:53:48.50	68:58:09.12	4.02	IRREGULAR GALAXY	5.8
AGC174585	7:36:10.30	9:59:11.04	6.10	IRREGULAR GALAXY	5.8
KK109	11:47:11.21	43:40:18.84	4.51	IRREGULAR GALAXY	5.8
LV J1000+3032	10:00:36.50	30:32:09.96	7.10	IRREGULAR GALAXY	5.8
KKH86	13:54:33.60	4:14:35.16	2.59	IRREGULAR GALAXY	5.8
MAPS1231+42	12:31:09.00	42:05:39.12	5.80	IRREGULAR GALAXY	5.8
DDO210	20:46:51.79	-12:50:53.16	0.94	IRREGULAR GALAXY	5.7
AGC182595	8:51:12.10	27:52:48.00	6.10	SPIRAL GALAXY	5.7
AGC748778	0:06:34.39	15:30:38.88	5.40	IRREGULAR GALAXY	5.6
LGS 3	1:03:55.01	21:53:06.00	0.65	IRREGULAR GALAXY	5.6
LeoT	9:34:53.40	17:03:05.04	0.42	IRREGULAR GALAXY	5.4
LeoP	10:21:45.10	18:05:17.16	2.00	IRREGULAR GALAXY	5.4

Included here are three classes of diagnostic sources: man-made spacecraft (Voyager), bright narrow spectral line sources (astrophysical masers) and pulsars. Distant man-made spacecraft produce emission very similar to that being searched for in the Breakthrough Listen radio analysis, and thus are superb for end-end tests of the telescope, instrumentation and data analysis pipeline. Bright narrow spectral line sources have well characterized spectral profiles and line intensities and

allow us to test sensitivity, dynamic range and data interpretation. Pulsars produce very regular radio pulses which allow us to test a myriad of aspects of our system, notably data continuity. Also included here are various individual objects of interest, including KIC 8462852 (Boyajian et al) and the Galactic Center. This list will be augmented.

Name	**RA**	**Dec**	**Notes**
W3	02:27:04.10	+61:52:27.1	Molecular Cloud Maser
W49N	19:10:13.2	+09:06:12	HII Maser
W51	19:23:42.0	+14:30:33	Molecular Cloud Maser
W75N	20:38:35.9	+42:37:22	YSO Maser
KIC 8462852	20:06:15.457	+44:27:24.61	Tabby's Star
Sgr A∗	17:45:40.036	-29:00:28.17	Galactic Center
J2321+6024	23:21:55.2130	+60:24:30.710	Bright Pulsar
J2113+4644	21:13:24.3070	+46:44:08.700	Bright Pulsar
J2257+5909	22:57:57.7440	+59:09:14.830	Bright Pulsar
J2326+6113	23:26:58.6970	+61:13:36.468	Bright Pulsar
J1518+4904	15:18:16.7991	+49:04:34.251	Bright Pulsar
J1840+5640	18:40:44.6080	+56:40:55.470	Bright Pulsar
J1509+5531	15:09:25.6298	+55:31:32.394	Bright Pulsar
J1955+5059	19:55:18.7637	+50:59:55.292	Bright Pulsar
J2229+2643	22:29:50.8864	+26:43:57.785	Bright Pulsar
J2013+3845	20:13:10.5	+38:45:44.7	Bright Pulsar
J0613-0200	06:13:43.9751	-02:00:47.1712	Bright Pulsar
VOYAGER1	Var	Var	Man−made Spacecraft

Appendix 2: Green Bank Telescope Schedule April 10 - May 10

April 10, 2016

Stars are indicated in purple and galaxies indicated in blue.

Observing Project ID	**Date**	**Time**	**Duration (hrs)**	Targets
GBT16A-999 - 04	Sun, Apr 10	23:30 UTC	3:00	HIP36121 HIP37217 HIP38625 HIP38931 HIP40035 HIP40239
GBT16A-999 - 04	Tue, Apr 12	02:00 UTC	3:00	HIP49544 HIP49669 HIP49809 HIP49841 HIP49969 HIP49973
GBT16A-999 - 04	Wed, Apr 13	02:00 UTC	3:00	HIP49986 GJ388 HIP50564 HIP50583 HIP48390 HIP51317 Willman1
GBT16A-999 - 04	Wed, Apr 13	14:00 UTC	3:00	HIP109378 HIP109388 HIP109427 HIP109555 HIP109176 HIP109638 HIZSS003
GBT16A-999 - 04	Thu, Apr 14	05:00 UTC	3:00	HIP66675 HIP66840 HIP66886 HIP67090 HIP67105 HIP67164
GBT16A-999 - 04	Thu, Apr 14	17:00 UTC	3:00	HIP5799 GJ54.1 HIP5938 HIP5957 HIP6069 HIP5369

GBT16A-999 - 04	Fri, Apr 15	08:00 UTC	3:00	HIP78843 HIP80644 HIP80725 HIP78353 HIP77464 HIP77349
GBT16A-999 - 04	Fri, Apr 15	20:00 UTC	3:00	HIP19859 GJ166BC HIP19849 HIP19554 HIP20641 HIP20648 BootesII
GBT16A-999 - 04	Sat, Apr 16	08:00 UTC	3:00	HIP82389 HIP82588 HIP77233 HIP82817 HIP77060 HIP77052
GBT16A-999 - 04	Sat, Apr 16	20:00 UTC	3:00	HIP20842 HIP20917 HIP21482 HIP21556 HIP21594 HIP21988
GBT16A-999 - 04	Sun, Apr 17	11:00 UTC	3:00	HIP95501 HIP95730 HIP96085 HIP94650 HIP96285 HIP94349
GBT16A-999 - 04	Sun, Apr 17	23:00 UTC	3:00	HIP38594 HIP38939 HIP40693 HIP41211 HIP42333 HIP43726
GBT16A-999 - 04	Mon, Apr 18	10:45 UTC	3:00	HIP93899 HIP92984 HIP92951 HIP92946 HIP92919 HIP92871

GBT16A-999 - 04	Tue, Apr 19	13:45 UTC	3:00	HIP110341 HIP109822 HIP110395 HIP110640 HIP110750 HIP110778
GBT16A-999 - 04	Tue, Apr 19	22:45 UTC	3:00	HIP36817 HIP43790 HIP44075 HIP44722 HIP44984 HIP45336 UMa II
GBT16A-999 - 04	Thu, Apr 21	01:45 UTC	3:00	HIP52708 LHS292 HIP53252 GJ406 HIP53985 HIP47513
GBT16A-999 - 04	Thu, Apr 21	16:45 UTC	3:00	HIP6706 HIP6748 HIP6537 HIP6917 HIP6069 HIP5957
GBT16A-999 - 04	Fri, Apr 22	01:45 UTC	3:00	HIP54532 HIP54677 HIP54704 HIP54872 HIP54922 HIP55454
GBT16A-999 - 04	Fri, Apr 22	19:45 UTC	3:00	HIP21039 HIP21036 HIP21029 HIP20901 HIP20713 HIP21421
GBT16A-999 - 04	Sat, Apr 23	04:45 UTC	3:00	HIP67487 HIP67620 HIP68469 HIP68634 HIP68682 HIP69357

GBT16A-999 - 04	Sat, Apr 23	19:45 UTC	3:00	HIP21589 HIP21673 HIP21683 HIP21818 HIP21932 HIP22044
GBT16A-999 - 04	Sun, Apr 24	07:00 UTC	3:00	HIP76603 HIP76233 HIP76219 HIP75761 HIP75722 HIP75718
GBT16A-999 - 04	Tue, Apr 26	10:00 UTC	3:00	HIP93805 HIP92573 HIP92311 HIP92283 HIP92270 HIP92200
GBT16A-999 - 04	Tue, Apr 26	22:00 UTC	3:00	HIP34361 HIP33302 GJ244 HIP31167 HIP27803 HIP27435
GBT16A-999 - 04	Wed, Apr 27	22:00 UTC	3:00	HIP27207 HIP26335 HIP25278 HIP24284 HIP23786 HIP23497
GBT16A-999 - 04	Thu, Apr 28	13:00 UTC	3:00	HIP108782 HIP108752 HIP108506 HIP108036 HIP108028 HIP107975
GBT16A-999 - 04	Fri, Apr 29	01:00 UTC	3:00	HIP52422 HIP46816 HIP46706 HIP46549 HIP46509 HIP45839

GBT16A-999 - 04	Fri, Apr 29	16:00 UTC	3:00	GJ54.1 HIP5799 HIP5938 HIP5957 HIP5369 HIP5364
GBT16A-999 - 04	Sat, Apr 30	04:00 UTC	3:00	HIP68895 HIP69414 HIP69562 HIP69673
GBT16A-999 - 04	Sat, Apr 30	19:00 UTC	3:00	HIP18280 HIP18267 HIP22263 HIP22288 HIP17609 HIP17496
GBT16A-999 - 11	Sun, May 01	07:00 UTC	3:00	HIP83000 HIP83591 HIP83599 HIP83601 HIP83762 HIP84012
GBT16A-999 - 11	Mon, May 02	07:00 UTC	3:00	HIP84123 HIP84195 HIP84379 HIP84405 HIP84478 HIP84521
GBT16A-999 - 11	Tue, May 03	04:30 UTC	3:00	HIP70400 HIP70536 HIP70865 HIP70956 HIP71253 HIP71395
GBT16A-999 - 11	Tue, May 03	16:30 UTC	3:00	HIP9153 HIP9094 GJ83.1 HIP8903 HIP9716 HIP9724
GBT16A-999 - 11	Wed, May 04	07:30 UTC	3:00	HIP84893 HIP85042 HIP85157 HIP85295 HIP85340 HIP85365

GBT16A-999 - 11	Wed, May 04	19:30 UTC	3:00	HIP23512 HIP23452 HIP23311 HIP23932 HIP22845 HIP22762
GBT16A-999 - 11	Thu, May 05	07:30 UTC	3:00	HIP85561 HIP86032 HIP86282 HIP86287 HIP86400 HIP86623
GBT16A-999 - 11	Thu, May 05	19:30 UTC	3:00	HIP24454 HIP24783 HIP24786 HIP24819 HIP22715 HIP22627
GBT16A-999 - 11	Fri, May 06	10:30 UTC	3:00	HIP99316 HIP99385 HIP99452 HIP99572 HIP99711 HIP99742
GBT16A-999 - 11	Fri, May 06	22:30 UTC	3:00	HIP32617 HIP47103 HIP47592 HIP30419
GBT16A-999 - 11	Sat, May 07	13:30 UTC	3:00	HIP114971 HIP115142 HIP114233 HIP114189 HIP113963 HIP115445 HIP48659
GBT16A-999 - 11	Sun, May 08	13:30 UTC	3:00	HIP115738 HIP116003 HIP116106 HIP113829 HIP116215 HIP113718

GBT16A-999 - 11	Mon, May 09	01:30 UTC	3:00	HIP54906 HIP55846 HIP55848 HIP56157 HIP56238 HIP56242