
Supplementary information

**Chronologically dating the early assembly
of the Milky Way**

In the format provided by the
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Supplementary Table 1: Stellar parameters for the final sample of 95 targets. First column contains *Kepler*-ID, second one the selection group, and the following seven columns contain some observational constraints (mean value and 1σ uncertainty, when relevant): n , number of radial modes detected; $\nu_{\max}$ from light curve analysis; Large frequency separation from linear fitting of individual frequencies; T_{eff} , and chemical properties from APOGEE-DR14; and orbital eccentricity, respectively. The last nine columns have the best fit values of mass, radius and ages inferred by AIMS (X_{16} , X_{84}) and the values corresponding to the 16% and 84% of their posterior distributions (X_{16} , X_{84} respectively).

KIC	group	n	$\nu_{\max}$	$\Delta\nu_{\text{fit}}$	T_{eff}	[Fe/H]	[α /Fe]	ecc	Mass ($M_{\odot}$)		Radius ($R_{\odot}$)			Age (Gyr)	
									M_{16}	M_{84}	R_{16}	R_{BF}	R_{84}	τ_{16}	τ_{84}
2443903	C	6	66.21 ± 1.13	6.930	4787 ± 79	-0.57	0.30	0.256	0.88	0.89	6.69	6.72	6.80	11.37	12.78
2971380	A	6	77.37 ± 1.32	7.839	5086 ± 110	-0.85	0.17	0.887	0.85	0.89	6.10	6.19	6.24	9.66	10.52
3553435	C	6	41.73 ± 0.71	4.737	4691 ± 91	-0.63	0.30	0.293	0.88	0.91	8.49	8.60	8.68	10.58	11.78
3936507	C	6	33.02 ± 0.56	4.044	4693 ± 85	-0.50	0.17	0.165	0.91	0.94	9.70	9.80	9.88	9.97	10.64
4136835	C	7	77.99 ± 1.33	7.158	4956 ± 84	-0.63	0.29	0.178	1.42	1.46	7.81	7.87	7.93	2.03	2.21
4143467	A	6	48.81 ± 0.83	5.605	4975 ± 88	-1.55	0.34	0.997	0.84	0.85	7.59	7.63	7.67	9.75	10.29
4345370	C	5	32.48 ± 0.55	4.033	4791 ± 77	-1.04	0.21	0.370	0.89	0.91	9.58	9.67	9.85	7.58	9.15
4637699	C	6	54.79 ± 0.93	6.046	4979 ± 96	-1.10	0.26	0.422	0.86	0.87	7.26	7.30	7.35	9.68	10.48
4664515	C	6	186.77 ± 3.18	15.650	4868 ± 100	-0.69	0.27	0.590	0.83	0.86	3.87	3.92	3.98	11.41	13.31
4729920	C	7	153.75 ± 2.61	13.326	4893 ± 97	-0.67	0.22	0.507	0.95	0.96	4.50	4.51	4.54	8.26	8.86
4737942	C	5	24.38 ± 0.41	3.110	4584 ± 67	-0.59	0.24	0.378	0.97	0.99	11.68	11.75	12.02	6.90	8.78
4856592	C	7	202.93 ± 3.45	16.596	4952 ± 84	-0.64	0.12	0.414	0.88	0.91	3.81	3.84	3.89	9.43	10.67
5107950	C	6	43.99 ± 0.75	4.933	4716 ± 76	-0.58	0.24	0.091	0.94	0.96	8.54	8.59	8.66	8.97	9.85
5206349	B	7	104.71 ± 1.78	9.765	4915 ± 88	-0.64	0.11	0.153	0.99	1.00	5.57	5.60	5.65	6.73	7.36
5255835	C	7	77.15 ± 1.31	7.766	4840 ± 90	-0.62	0.32	0.267	0.87	0.90	6.19	6.27	6.34	10.79	12.16
5301647	C	7	137.05 ± 2.33	12.294	4881 ± 100	-0.70	0.22	0.311	0.85	0.89	4.57	4.64	4.67	10.56	11.42
5306751	C	7	89.72 ± 1.53	8.735	4838 ± 87	-0.52	0.21	0.164	0.93	0.94	5.87	5.90	5.94	9.92	10.77
5445379	C	7	33.11 ± 0.56	3.641	4754 ± 80	-0.65	0.28	0.488	1.43	1.46	12.15	12.26	12.43	1.92	2.20
5602690	C	5	31.01 ± 0.53	3.906	4615 ± 78	-0.58	0.23	0.257	0.88	0.91	9.88	9.96	10.15	9.84	12.11
5696539	C	6	64.37 ± 1.09	6.751	4811 ± 79	-0.57	0.25	0.434	0.85	0.86	6.73	6.76	6.99	10.25	14.60
5812955	C	6	69.34 ± 1.18	7.200	4803 ± 78	-0.59	0.21	0.449	1.03	1.04	6.94	6.97	7.01	6.48	6.94
5858947	C	7	168.66 ± 2.87	14.502	5002 ± 87	-0.83	0.26	0.749	0.87	0.89	4.13	4.16	4.20	9.97	11.03
5953450	A	7	140.37 ± 2.39	12.652	5054 ± 96	-0.67	0.04	0.996	0.90	0.94	4.58	4.64	4.68	8.25	8.97
6363813	C	6	40.85 ± 0.69	4.756	4748 ± 81	-0.66	0.29	0.273	0.89	0.91	8.64	8.71	8.78	10.28	11.23
6547007	C	6	37.45 ± 0.64	4.517	4728 ± 73	-0.70	0.20	0.275	0.80	0.80	8.57	8.60	8.95	11.09	16.63
6752140	C	7	60.03 ± 1.02	5.953	4764 ± 74	-0.53	0.31	0.214	1.18	1.20	8.19	8.23	8.29	4.29	4.65
6837256	C	7	35.36 ± 0.60	3.927	4731 ± 73	-0.57	0.24	0.279	1.22	1.24	10.83	10.89	11.00	3.55	3.97
6924105	C	7	103.47 ± 1.76	10.019	5123 ± 104	-1.29	0.39	0.364	0.87	0.88	5.27	5.29	5.33	9.25	9.93
7006903	C	7	44.75 ± 0.76	5.148	4719 ± 83	-0.63	0.25	0.282	0.90	0.92	8.27	8.33	8.44	9.39	10.93
7019157	C	5	27.47 ± 0.47	3.438	4820 ± 90	-1.23	0.36	0.141	1.03	1.10	11.22	11.50	11.63	4.11	4.55

KIC	group	n	$\nu_{\max}$	$\Delta\nu_{\text{fit}}$	T_{eff}	[Fe/H]	$[\alpha/\text{Fe}]$	ecc	Mass ($M_{\odot}$)			Radius ($R_{\odot}$)			Age (Gyr)		
									M_{16}	M_{BF}	M_{84}	R_{16}	R_{BF}	R_{84}	τ_{16}	τ_{BF}	τ_{84}
7255651	B	6	22.48 ± 0.38	3.004	4962 ± 98	-1.44	0.28	0.301	0.95	0.97	1.00	11.90	11.98	12.12	5.91	6.71	7.14
7257193	C	4	15.89 ± 0.27	2.322	4609 ± 73	-0.85	0.28	0.361	0.78	0.91	0.94	13.27	14.01	14.14	9.11	10.13	17.51
7257814	C	5	30.26 ± 0.51	3.741	4641 ± 75	-0.56	0.24	0.142	0.90	0.89	1.01	10.15	10.12	10.58	8.12	12.92	12.28
7265189	C	6	85.02 ± 1.45	8.449	4996 ± 87	-0.98	0.22	0.216	0.85	0.87	0.91	5.79	5.85	5.94	9.20	10.71	11.98
7335713	C	6	158.37 ± 2.69	13.732	4981 ± 98	-0.81	0.15	0.123	0.85	0.87	0.90	4.24	4.28	4.33	10.13	11.44	12.68
7510918	C	6	31.99 ± 0.54	4.011	4738 ± 84	-0.63	0.18	0.107	0.83	0.87	0.91	9.41	9.55	9.72	10.89	12.98	15.11
7594337	C	6	97.12 ± 1.65	9.233	4815 ± 77	-0.57	0.20	0.263	0.93	0.94	0.96	5.67	5.69	5.73	9.38	10.21	10.69
7596219	C	4	19.35 ± 0.33	2.699	4593 ± 74	-0.70	0.25	0.613	0.89	0.91	0.92	12.50	12.57	12.66	10.24	11.08	11.88
7799904	C	7	77.60 ± 1.32	7.820	4763 ± 74	-0.52	0.22	0.455	0.90	0.93	0.94	6.24	6.30	6.34	10.62	11.41	12.71
7908109	C	5	52.38 ± 0.89	5.802	4774 ± 82	-0.76	0.24	0.652	0.90	0.91	0.92	7.57	7.60	7.65	9.83	10.57	11.06
8099102	C	5	26.61 ± 0.45	3.390	4732 ± 76	-0.77	0.22	0.186	0.91	0.93	0.99	10.80	10.87	11.11	7.71	9.59	10.34
8210058	C	6	39.97 ± 0.68	4.762	4758 ± 86	-0.76	0.26	0.389	0.81	0.85	0.89	8.35	8.51	8.64	11.21	13.20	15.94
8417027	C	6	31.41 ± 0.53	3.880	4698 ± 85	-0.53	0.24	0.231	0.87	0.87	0.94	9.73	9.74	10.01	10.38	14.04	13.81
8544630	C	6	73.96 ± 1.26	7.495	4787 ± 89	-0.53	0.17	0.681	0.89	0.91	0.93	6.37	6.44	6.48	10.56	11.43	12.70
8557457	C	6	33.98 ± 0.58	4.094	4742 ± 79	-0.72	0.24	0.236	0.91	0.96	0.98	9.51	9.69	9.76	8.22	9.01	10.83
8683589	C	4	16.58 ± 0.28	2.328	4484 ± 63	-0.58	0.28	0.505	1.02	1.03	1.05	14.51	14.58	14.69	7.05	7.65	8.12
8869235	A	6	58.51 ± 0.99	6.318	5064 ± 116	-1.03	0.23	0.984	0.88	0.89	0.91	7.06	7.10	7.15	9.19	9.92	10.45
9072262	C	7	38.10 ± 0.65	4.470	4708 ± 72	-0.66	0.21	0.149	0.86	0.90	0.92	8.80	8.96	9.04	10.48	11.44	13.75
9084314	B	6	40.81 ± 0.69	4.673	4787 ± 82	-0.56	0.08	0.079	0.91	0.94	0.97	8.73	8.83	8.92	8.66	9.66	10.93
9206941	C	6	42.75 ± 0.73	4.908	4761 ± 79	-0.53	0.19	0.207	0.93	0.95	0.97	8.56	8.61	8.67	9.32	10.11	10.87
9292100	C	6	102.12 ± 1.74	9.565	4885 ± 97	-0.54	0.26	0.912	0.94	0.96	0.98	5.54	5.58	5.62	8.99	10.01	10.74
9339711	B	5	20.23 ± 0.34	2.815	4908 ± 84	-1.68	0.29	0.592	0.84	0.87	0.91	11.97	12.13	12.32	8.00	9.36	10.61
9544002	C	6	44.05 ± 0.75	4.942	4705 ± 79	-0.64	0.26	0.094	0.91	0.94	0.97	8.39	8.48	8.58	8.87	10.17	11.21
9637337	C	6	63.82 ± 1.08	6.804	4917 ± 83	-1.26	0.23	0.540	0.83	0.84	0.86	6.62	6.66	6.70	10.55	11.22	11.89
9696716	B	4	24.30 ± 0.41	3.294	4952 ± 94	-1.60	0.23	0.662	0.88	0.90	0.93	11.02	11.11	11.26	7.34	8.37	9.06
9773214	C	6	43.22 ± 0.73	4.947	4729 ± 73	-0.51	0.11	0.305	0.94	0.95	0.96	8.55	8.58	8.62	9.48	10.05	10.57
9777293	C	7	181.27 ± 3.08	15.038	4863 ± 79	-0.50	0.23	0.248	0.95	0.96	0.98	4.15	4.17	4.19	9.21	9.92	10.59
9777355	C	7	197.25 ± 3.35	15.992	4914 ± 81	-0.50	0.26	0.254	0.91	0.93	0.94	3.93	3.96	3.98	10.50	11.52	12.33
9908656	C	4	15.80 ± 0.27	2.371	4543 ± 68	-0.59	0.19	0.293	0.78	0.81	0.85	13.27	13.47	13.69	14.26	17.05	19.69
9968040	C	7	43.58 ± 0.74	5.002	4690 ± 71	-0.60	0.25	0.397	0.90	0.91	0.92	8.41	8.44	8.49	11.05	11.80	12.46
10001167	C	4	19.68 ± 0.33	2.734	4556 ± 66	-0.61	0.25	0.436	0.92	0.94	0.96	12.64	12.73	12.83	9.38	10.33	11.14
10001440	C	6	44.12 ± 0.75	5.106	4712 ± 79	-0.61	0.26	0.269	0.91	0.92	0.93	8.31	8.35	8.39	10.31	11.01	11.68
10083815	A	5	17.86 ± 0.30	2.559	4700 ± 78	-0.94	0.19	0.953	0.89	0.90	0.93	12.84	12.94	13.08	8.50	9.64	10.37
10196630	C	6	23.89 ± 0.41	3.174	4671 ± 71	-0.77	0.28	0.297	0.84	0.85	0.87	11.04	11.11	11.20	12.12	13.46	14.34
10200377	C	7	141.42 ± 2.40	12.464	4837 ± 78	-0.52	0.21	0.089	0.92	0.94	0.95	4.65	4.68	4.70	9.90	10.66	11.39
10318430	C	7	154.19 ± 2.62	13.000	4987 ± 86	-0.72	0.25	0.487	1.00	1.02	1.04	4.66	4.68	4.71	6.43	6.94	7.40
10318787	C	7	42.40 ± 0.72	5.097	5014 ± 105	-1.46	0.29	0.550	0.86	0.88	0.89	8.14	8.20	8.24	8.73	9.18	9.84

KIC	group	n	$\nu_{\max}$	$\Delta\nu_{\text{fit}}$	T_{eff}	[Fe/H]	$[\alpha/\text{Fe}]$	ecc	Mass ($M_{\odot}$)			Radius ($R_{\odot}$)			Age (Gyr)		
									M_{16}	M_{BF}	M_{84}	R_{16}	R_{BF}	R_{84}	τ_{16}	τ_{BF}	τ_{84}
10423340	C	6	226.86 ± 3.86	18.865	5010 ± 87	-0.87	0.22	0.350	0.82	0.85	0.87	3.41	3.45	3.48	11.34	12.38	13.83
10449862	C	6	78.18 ± 1.33	7.808	4816 ± 77	-0.61	0.26	0.963	0.92	0.93	0.95	6.28	6.31	6.35	9.81	10.66	11.39
10451228	C	6	42.90 ± 0.73	4.961	4768 ± 75	-0.65	0.24	0.182	0.92	0.93	0.94	8.46	8.50	8.54	9.67	10.31	10.94
10796857	C	7	88.02 ± 1.50	7.773	5072 ± 90	-0.71	0.26	0.827	1.48	1.51	1.54	7.48	7.53	7.59	1.71	1.86	1.98
10857579	C	5	31.41 ± 0.53	3.812	4659 ± 85	-0.66	0.21	0.592	0.95	1.00	1.02	10.15	10.33	10.39	7.32	7.82	9.57
11014721	C	7	56.03 ± 0.95	6.066	4782 ± 84	-0.57	0.12	0.333	0.92	0.93	0.95	7.39	7.42	7.48	9.39	10.38	10.91
11037292	C	5	16.90 ± 0.29	2.405	4485 ± 63	-0.62	0.27	0.617	0.93	0.95	0.96	13.67	13.78	13.87	9.44	10.16	11.07
11044668	C	7	50.05 ± 0.85	5.671	4815 ± 79	-0.86	0.27	0.378	0.83	0.84	0.87	7.54	7.58	7.65	11.71	12.99	13.75
11046830	C	7	56.69 ± 0.96	6.161	4745 ± 86	-0.78	0.19	0.441	0.91	0.93	0.96	7.38	7.42	7.51	8.26	9.38	10.02
11181828	B	7	33.44 ± 0.57	4.098	4790 ± 83	-0.92	0.21	0.247	0.93	0.97	1.00	9.69	9.84	9.95	6.69	7.60	8.81
11200680	C	6	38.86 ± 0.66	4.545	4763 ± 76	-0.72	0.30	0.275	0.92	0.94	0.96	8.97	9.04	9.10	8.96	9.75	10.62
11230715	C	7	185.18 ± 3.15	15.303	4958 ± 100	-0.56	0.24	0.475	0.90	0.93	0.97	4.01	4.06	4.12	9.15	10.76	12.22
11289675	C	5	26.00 ± 0.44	3.422	4676 ± 80	-0.68	0.26	0.045	0.90	0.91	0.94	10.81	10.84	10.97	9.46	11.02	11.09
11296084	C	4	16.59 ± 0.28	2.351	4465 ± 62	-0.55	0.23	0.059	0.92	0.95	0.97	13.94	14.11	14.23	9.39	10.39	11.67
11445495	C	5	204.83 ± 3.48	16.938	4973 ± 85	-0.81	0.29	0.665	0.82	0.84	0.91	3.66	3.70	3.79	10.31	13.42	14.79
11498043	C	6	32.87 ± 0.56	4.042	4740 ± 80	-0.79	0.29	0.027	0.82	0.85	0.91	9.22	9.32	9.56	10.48	13.37	15.07
11509608	C	5	33.40 ± 0.57	4.057	4733 ± 73	-0.78	0.27	0.501	0.89	0.93	0.95	9.61	9.74	9.83	8.82	9.74	11.19
11598459	C	7	124.02 ± 2.11	11.266	4884 ± 87	-0.58	0.31	0.534	0.85	0.87	0.90	4.83	4.86	4.92	12.25	14.19	15.21
11717920	C	6	22.41 ± 0.38	2.807	4670 ± 84	-0.62	0.22	0.311	1.29	1.31	1.35	13.94	14.04	14.18	2.82	3.17	3.29
11752358	C	6	64.59 ± 1.10	6.503	4946 ± 92	-0.74	0.17	0.138	1.02	1.04	1.06	7.32	7.37	7.42	5.73	6.19	6.64
11753104	C	6	33.40 ± 0.57	3.866	4727 ± 79	-0.60	0.26	0.281	1.11	1.14	1.18	10.66	10.77	10.90	4.57	5.22	5.81
11968543	C	6	116.35 ± 1.98	10.869	4976 ± 90	-0.95	0.24	0.536	0.87	0.88	0.90	4.99	5.01	5.05	9.81	10.56	11.14
12111110	A	6	29.48 ± 0.50	3.773	4890 ± 99	-1.10	0.13	0.990	0.88	0.87	1.07	10.13	10.09	10.84	4.95	10.09	9.73
12115227	C	6	97.33 ± 1.65	9.387	4827 ± 77	-0.62	0.26	0.311	0.92	0.94	0.96	5.60	5.64	5.68	9.28	10.22	11.03
12207740	B	6	38.67 ± 0.66	4.601	4996 ± 95	-1.22	0.32	0.251	0.88	0.92	0.94	8.77	8.91	8.99	7.78	8.56	10.00
12207840	C	5	77.12 ± 1.31	7.837	4802 ± 76	-0.53	0.19	0.264	0.92	0.94	0.96	6.31	6.36	6.39	9.70	10.34	11.32
12253381	A	5	21.87 ± 0.37	3.028	5002 ± 100	-1.71	0.07	0.963	0.87	0.89	0.92	11.61	11.70	11.84	7.55	8.51	9.20
12300740	C	6	31.70 ± 0.54	3.657	4778 ± 76	-0.64	0.19	0.309	1.28	1.30	1.34	11.69	11.75	11.86	2.87	3.16	3.34