AM-89-410

Thermally induced changes in kalsilite ($KAlSiO_4$)

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For deposit: Tables of powder-diffraction data

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Kalsilite X-ray refinements

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	comments	page	temperature	a	a sigma	b	b sigma	c	c sigma	v	v sigma
1	r.t. guinier,117482m(b)	33.000	21.00000	5.16171	0.00019			8.71832	0.00058	201.16000	0.01200
2	P8721,unannealed	35.000	21.00000	5.16152	0.00013			8.71754	0.00040	201.13140	0.00830
3	P8721,ion exchngd at 820 KCl,3	36.000	21.00000	5.16253	0.00015			8.71602	0.00053	201.17520	0.01250
4	neph.,#62105	32.000	21.00000	9.99629	0.00073			8.37852	0.00091	725.06300	0.08200
5	neph, ion exchngd at 950,KCl	42.000	21.00000	5.15798	0.00029			8.69397	0.00085	200.31210	0.01790
6	#564 m(m) unannealed	44.000	21.00000	5.15950	0.00010			8.71710	0.00040	200.96470	0.01200
7	#564m(m),pB20,cooling 850-750	b33	21.00000	5.15956	0.00068			8.70477	0.00148	200.68390	0.03400
8	#564m(m),pB20,cooling 850-750	b34	930.00000	27.38663	0.00823	5.27838	0.00154	8.66685	0.00216	1252.85400	0.46470
9	#564m(m),pB20,cooling 850-750	b35	893.00000	27.35525	0.00725	5.27317	0.00135	8.66876	0.00191	1250.46000	0.40930
10	#564m(m),pB20,cooling 850-750	b36	860.00000	27.33391	0.01216	5.26642	0.00227	8.65498	0.00541	1245.90000	0.83439
11	#564m(m),pB20,cooling 850-750	b37	825.00000	5.24690	0.00094			8.66686	0.00205	206.63240	0.04860
12	#564m(m),pB20,cooling 850-750	b38	790.00000	5.24229	0.00092			8.66810	0.00202	206.29840	0.04780
13	#564m(m),pB20,cooling 850-750	b39	756.00000	5.23869	0.00099			8.66747	0.00217	206.00060	0.05130
14	#564m(m),pB20,heating 790-850	b41	825.00000	5.24680	0.00046			8.66680	0.00101	206.62310	0.02410
15	#564m(m),pB20,heating 790-850	b42	860.00000	5.25414	0.00120			8.66414	0.00261	207.13790	0.06220
16	#564m(m),pB20,heating 790-850	b43	896.00000	27.36234	0.00750	5.26879	0.00142	8.66756	0.00191	1249.57300	0.19077
17	#564m(m),pB20,heating 790-850	b44	930.00000	27.37870	0.00696	5.27400	0.00133	8.66566	0.00177	1251.28000	0.39863
18	hydrothermal,pB26,50-840	b48	40.00000	5.16383	0.00125			8.70927	0.00279	201.12060	0.06250
19	hydrothermal,pB26,50-840	b49	154.00000	5.17392	0.00110			8.70340	0.00243	201.77110	0.05480
20	hydrothermal,pB26,50-840	b50	263.00000	5.18453	0.00146			8.69723	0.00317	202.45590	0.06840
21	hydrothermal,pB26,50-840	b51	373.00000	5.19601	0.00123			8.69319	0.00255	203.25940	0.05900
22	hydrothermal, pB26,50-840	b52	482.00000	5.20637	0.00116			8.68884	0.00251	203.96790	0.05760
23	hydrothermal,pB26,50-840	b53	588.00000	5.21839	0.00111			8.68294	0.00239	204.77200	0.05500
24	hydrothermal,pB26,50-840	b54	693.00000	5.23058	0.00113			8.67673	0.00240	205.58230	0.05570
25	hydrothermal,pB26,50-840	b55	797.00000	5.24514	0.00111			8.67083	0.00234	206.58780	0.05460
26	hydrothermal,pB26,50-840	b56	897.00000	27.38156	0.00974	5.27980	0.00181	8.66236	0.00207	1252.31000	0.56070
27	hydrothermal,pB26, 750-	b58	804.00000	5.24570	0.00020			8.66880	0.00060	206.58000	0.01000
28	hydrothermal,pB26, 750-	b59	825.00000	5.24830	0.00060			8.66750	0.00130	206.76000	0.03000
29	hydrothermal,pB26, 750-	b60	846.00000	5.25920	0.00110			8.66730	0.00230	207.61000	0.06000
30	hydrothermal,pB26, 750-	b61	866.00000	27.36767	0.00692	5.27246	0.00108	8.66471	0.00143	1250.27600	0.35479
31	hydrothermal,pB26, 750-	b62	886.00000	27.39006	0.00778	5.27504	0.00151	8.66173	0.00197	1251.47800	0.45682
32	hydrothermal,pB26, 750-	b63	905.00000	27.41818	0.00342	5.27885	0.00066	8.65864	0.00086	1253.22100	0.20081
33	hydrothermal,pB26, 750-	b64	21.00000	5.16080	0.00020			8.70590	0.00060	200.81000	0.01000
34	ion exchngd pure KBr,pB30, 50-8	b66	85.00000	5.16420	0.00050			8.71810	0.00200	201.36000	0.05000
35	ion exchngd pure KBr,pB30, 50-8	b67	195.00000	5.17380	0.00080			8.71470	0.00210	202.02000	0.05000
36	ion exchngd pure KBr,pB30, 50-8	b68	310.00000	5.18360	0.00090			8.70700	0.00200	202.61000	0.04000
37	ion exchngd pure KBr,pB30, 50-8	b69	405.00000	5.19230	0.00100			8.69760	0.00220	203.07000	0.05000
38	ion exchngd pure KBr,pB30, 50-8	b70	510.00000	5.20520	0.00060			8.69710	0.00130	204.07000	0.03000
39	ion exchngd pure KBr,pB30, 50-8	b71	615.00000	5.21580	0.00050			8.69230	0.00100	204.78000	0.02000
40	ion exchngd pure KBr,pB30, 50-8	b72	715.00000	5.22660	0.00050			8.68660	0.00100	205.50000	0.02000
41	ion exchngd pure KBr,pB30, 50-8	b73	810.00000	5.23910	0.00040			8.67970	0.00080	206.33000	0.02000
42	ion exchngd pure KBr,pB30, 50-8	b74	900.00000	5.25480	0.00040			8.67430	0.00090	207.43000	0.02000
43	ion exchngd pure KBr,pB30, 50-8	b75	21.00000	5.16050	0.00050			8.70850	0.00110	200.84000	0.02000
44	ion exchngd pure KBr, pB30, 800	b76	860.00000	5.24700	0.00040			8.67550	0.00090	206.84000	0.02000
45	ion exchngd pure KBr, pB30, 800	b77	878.00000	5.24910	0.00040			8.67460	0.00100	206.99000	0.02000
46	ion exchngd pure KBr, pB30, 800	b78	896.00000	5.25180	0.00050			8.67360	0.00110	207.18000	0.03000
47	ion exchngd pure KBr, pB30, 800	b79	914.00000	5.25510	0.00050			8.67600	0.00100	207.50000	0.03000
48	ion exchngd pure KBr, pB30, 800	b80	932.00000	27.36395	0.00724	5.26865	0.00187	8.67497	0.00170	1250.68100	0.43010
49	ion exchngd pure KBr, pB30, 800	b81	950.00000	27.37977	0.00477	5.27037	0.00203	8.67278	0.00106	1251.49500	0.40455
50	#564,pB102,750-930 hi-T	b108	820.00000	5.24640	0.00060			8.67780	0.00160	206.85100	0.03600
51	#564,pB102,750-930 hi-T	b109	850.00000	5.25050	0.00080			8.67720	0.00200	207.16100	0.00450
52	#564,pB102,750-930 hi-T	b110	880.00000	5.25520	0.00060			8.67310	0.00160	207.43300	0.03600
53	#564,pB102,750-930 hi-T	b111	910.00000	27.41727	0.00885	5.27376	0.00172	8.66950	0.00224	1253.54800	0.51967
54	#564,pB102,750-930 hi-T	b112	940.00000	27.42550	0.01103	5.28065	0.00208	8.66727	0.00411	1255.23300	0.70710
55	#564,pB102,750-930 hi-T	b113	970.00000	27.47328	0.00787	5.28563	0.00124	8.65509	0.00164	1256.83900	0.41918
56	#564,pB102,750-930 hi-T	b114	1000.00000	5.29290	0.00080			8.65520	0.00200	209.98700	0.04600
57	#564,pB102,750-930 hi-T	b115	21.00000	5.16240	0.00040			8.70690	0.00090	200.95500	0.02110

Kalsilite X-ray refinements

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	comments	page	temperature	a	a sigma	b	b sigma	c	c sigma	v	v sigma
58	#564,pB130,750-930 small T ste	b135	775.00000	5.23829	0.00039			8.67089	0.00098	206.05030	0.02250
59	#564,pB130,750-930 small T ste	b136	790.00000	5.24028	0.00032			8.66924	0.00076	206.16730	0.01770
60	#564,pB130,750-930 small T ste	b137	805.00000	5.24230	0.00042			8.66899	0.00100	206.32050	0.02340
61	#564,pB130,750-930 small T ste	b138	820.00000	5.24515	0.00036			8.66823	0.00084	206.52690	0.01960
62	#564,pB130,750-930 small T ste	b139	835.00000	5.24782	0.00031			8.66677	0.00073	206.70300	0.01720
63	#564,pB130,750-930 small T ste	b140	850.00000	5.25234	0.00092			8.66893	0.00150	207.11020	0.03630
64	#564,pB130,750-930 small T ste	b141	865.00000	27.38215	0.00705	5.24924	0.00168	8.66606	0.00178	1245.62000	0.47358
65	#564,pB130,750-930 small T ste	b142	880.00000	27.38804	0.00450	5.27259	0.00226	8.66494	0.00098	1251.26900	0.44780
66	#564,pB130,750-930 small T ste	b143	895.00000	27.38250	0.00512	5.27404	0.00116	8.66163	0.00126	1250.88300	0.32080
67	#564,pB130,750-930 small T ste	b144	910.00000	27.37733	0.00461	5.27690	0.00084	8.65906	0.00123	1250.95300	0.26863
68	#564,pB130,750-930 small T ste	b145	925.00000	27.42415	0.00599	5.27908	0.00090	8.65725	0.00120	1253.34900	0.29392
69	#564,pB130,750-930 small T ste	b146	940.00000	27.44521	0.00523	5.28021	0.00078	8.65557	0.00112	1254.33400	0.26637
70	#564,pB130,750-930 small T ste	b147	955.00000	27.44382	0.00841	5.28539	0.00128	8.65412	0.00171	1255.29200	0.42667
71	#564,pB130,750-930 small T ste	b148	21.00000	5.15947	0.00041			8.70001	0.00108	200.56720	0.02390
72	ks hydrothermal,pb168,750-915,	b169	750.00000	5.23975	0.00061			8.66651	0.00162	206.06130	0.03610
73	ks hydrothermal,pb168,750-915,	b170	765.00000	5.24342	0.00064			8.66579	0.00145	206.33220	0.03290
74	ks hydrothermal,pb168,750-915,	b171	780.00000	5.24535	0.00064			8.66540	0.00161	206.47580	0.03700
75	ks hydrothermal,pb168,750-915,	b172	795.00000	27.37387	0.01318	5.25367	0.00260	8.67027	0.00278	1246.85500	0.82172
76	ks hydrothermal,pb168,750-915,	b173	810.00000	27.40916	0.01601	5.27229	0.00300	8.67158	0.00351	1253.12300	0.99420
77	ks hydrothermal,pb168,750-915,	b174	825.00000	27.36581	0.00893	5.26883	0.00167	8.66048	0.00240	1248.71800	0.51813
78	ks hydrothermal,pb168,750-915,	b175	840.00000	27.40355	0.01246	5.27283	0.00189	8.65800	0.00249	1251.03200	0.62618
79	ks hydrothermal,pb168,750-915,	b176	855.00000	27.41693	0.01141	5.27612	0.00171	8.65494	0.00228	1251.98000	0.55947
80	ks hydrothermal,pb168,750-915,	b177	877.00000	27.43595	0.00779	5.27985	0.00117	8.65214	0.00156	1253.33100	0.38261
81	ks hydrothermal,pb168,750-915,	b178	900.00000	27.45914	0.01090	5.28275	0.00197	8.64952	0.00217	1254.74200	0.60269
82	ks hydrothermal,pb168,750-915,	b179	915.00000	27.46779	0.00676	5.28661	0.00106	8.64634	0.00141	1255.54700	0.35790

O1-KAlSiO4 X-ray refinements

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	page	temperature	a	a sigma	b	b sigma	c	c sigma	v	v sigma
1	87.000	21.000	9.05087	0.00101	15.65479	0.00475	8.54792	0.00133	1211.14940	0.35560
2	88.000	95.000	9.05690	0.00145	15.68560	0.00688	8.56041	0.00193	1216.11720	0.51620
3	89.000	167.000	9.06820	0.00220	15.68690	0.01036	8.57081	0.00291	1219.21430	0.77890
4	90.000	239.000	9.07407	0.00229	15.71751	0.01132	8.58459	0.00300	1224.34920	0.85580
5	91.000	311.000	9.08086	0.00425	15.72150	0.01807	8.59819	0.00508	1227.51760	1.39120
6	92.000	383.000	9.09559	0.00218	15.75062	0.00875	8.61403	0.00233	1234.05720	0.63020
7	93.000	455.000	9.10409	0.00198	15.77438	0.00799	8.63544	0.00211	1240.14720	0.57800
8	94.000	527.000	9.11502	0.00243	15.77348	0.00819	8.66483	0.00219	1245.79110	0.60160
9	95.000	599.000	9.12646	0.00327	15.79739	0.01103	8.72779	0.00299	1258.32160	0.81890
10	96.000	671.000	9.13705	0.00169	15.83369	0.00573	8.74106	0.00154	1264.59610	0.42720
11	97.000	742.000	9.14916	0.00269	15.85037	0.00915	8.74960	0.00246	1268.84670	0.68390
12	98.000	815.000	9.16222	0.00345	15.85962	0.01171	8.75830	0.00315	1272.66290	0.87730
13	99.000	887.000	9.17200	0.00296	15.88359	0.01002	8.76794	0.00270	1277.35140	0.75270
14	183.000	379.000	9.09633	0.00173	15.74417	0.00487	8.61705	0.00124	1234.08390	0.34760
15	184.000	410.000	9.09781	0.00291	15.75287	0.00818	8.62583	0.00209	1236.22420	0.58490
16	185.000	442.000	9.10457	0.00291	15.75881	0.00816	8.63588	0.00209	1239.05180	0.58430
17	186.000	473.000	9.11053	0.00168	15.76329	0.00470	8.64729	0.00120	1241.85430	0.33730
18	187.000	505.000	9.11215	0.00151	15.78013	0.00423	8.66035	0.00125	1245.27890	0.31440
19	188.000	536.000	9.11605	0.00175	15.78323	0.00488	8.68496	0.00145	1249.59810	0.36450
20	189.000	567.000	9.12085	0.00118	15.80438	0.00333	8.72432	0.00100	1257.60460	0.26310
21	191.000	599.000	9.12888	0.00172	15.81292	0.00485	8.73202	0.00145	1260.50470	0.38360
22	192.000	630.000	9.13363	0.00198	15.81640	0.00559	8.73708	0.00168	1262.16750	0.44280
23	193.000	661.000	9.13961	0.00229	15.82662	0.00639	8.74251	0.00191	1264.59740	0.48170
24	194.000	693.000	9.14304	0.00260	15.84134	0.00448	8.74587	0.00120	1266.73480	0.32500
25	195.000	21.000	9.05039	0.00221	15.66358	0.00624	8.54998	0.00182	1212.05870	0.47760
26	214.000	490.000	9.11234	0.00465	15.76517	0.01015	8.66170	0.00276	1244.31840	0.72020
27	215.000	506.000	9.11456	0.00634	15.76406	0.01367	8.67257	0.00373	1246.09550	0.96680
28	216.000	523.000	9.11780	0.00488	15.78056	0.01067	8.68692	0.00292	1249.90820	0.76020
29	217.000	539.000	9.11894	0.00457	15.78012	0.00986	8.72044	0.00272	1254.85240	0.70250
30	218.000	556.000	9.11991	0.00577	15.79686	0.01263	8.72646	0.00348	1257.18670	0.90520
31	219.000	572.000	9.12373	0.00489	15.79526	0.01056	8.72954	0.00291	1258.02860	0.75410
32	220.000	589.000	9.12746	0.00378	15.79822	0.00816	8.73216	0.00225	1259.15610	0.58320
33	221.000	605.000	9.12865	0.00497	15.80826	0.01073	8.73418	0.00296	1260.41290	0.76660
34	222.000	622.000	9.13512	0.00528	15.80373	0.01139	8.73775	0.00314	1261.46100	0.81480