

Table 13. Compressional behaviour of end-member garnets in the P range 0-300 Kbar. ΔU values (kJ/mole) arising from compressional work were obtained through gaussian integration of first order Birch EOS (BE1 in table 6) with bulk moduli of table 7.

P(kbar)	Pyrope		Almandine		Spessartine		Grossular		Uvarovite		Andradite	
	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$
0	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000
10	0.99441	0.317	0.99460	0.312	0.99446	0.329	0.99408	0.371	0.99428	0.374	0.99425	0.381
20	0.98908	1.226	0.98941	1.211	0.98919	1.268	0.98844	1.431	0.98886	1.438	0.98878	1.466
30	0.98389	2.693	0.98441	2.653	0.98408	2.775	0.98292	3.158	0.98361	3.144	0.98340	3.243
40	0.97883	4.697	0.97946	4.648	0.97908	4.840	0.97761	5.487	0.97849	5.473	0.97826	5.621
50	0.97391	7.203	0.97473	7.103	0.97427	7.397	0.97246	8.385	0.97355	8.360	0.97328	8.577
60	0.96915	10.173	0.97008	10.048	0.96955	10.454	0.96750	11.794	0.96875	11.785	0.96839	12.126
70	0.96450	13.590	0.96558	13.421	0.96492	14.004	0.96261	15.769	0.96409	15.712	0.96368	16.155
80	0.96000	17.413	0.96124	17.169	0.96048	17.936	0.95788	20.201	0.95952	20.153	0.95912	20.663
90	0.95565	21.598	0.95692	21.388	0.95615	22.277	0.95335	25.014	0.95508	25.053	0.95459	25.742
100	0.95134	26.221	0.95272	25.990	0.95194	26.996	0.94889	30.305	0.95079	30.339	0.95026	31.158
110	0.94718	31.166	0.94869	30.855	0.94779	32.126	0.94454	36.010	0.94660	36.032	0.94602	37.017
120	0.94310	36.466	0.94470	36.131	0.94375	37.607	0.94029	42.113	0.94252	42.122	0.94191	43.238
130	0.93904	42.203	0.94079	41.769	0.93974	43.511	0.93615	48.568	0.93849	48.638	0.93784	49.935
140	0.93516	48.131	0.93701	47.626	0.93592	49.598	0.93212	55.367	0.93459	55.459	0.93391	56.930
150	0.93136	54.360	0.93329	53.839	0.93215	56.045	0.92813	62.594	0.93074	62.702	0.93002	64.343
160	0.92762	60.912	0.92960	60.416	0.92844	62.813	0.92430	69.994	0.92701	70.190	0.92622	72.106
170	0.92400	67.672	0.92602	67.230	0.92482	69.862	0.92051	77.804	0.92335	78.015	0.92255	80.077
180	0.92037	74.866	0.92249	74.340	0.92128	77.168	0.91679	85.939	0.91974	86.207	0.91891	88.461
190	0.91688	82.157	0.91909	81.587	0.91783	84.708	0.91317	94.326	0.91620	94.717	0.91537	97.095
200	0.91344	89.763	0.91571	89.170	0.91436	92.696	0.90968	102.810	0.91275	103.459	0.91185	106.163
210	0.91007	97.581	0.91240	96.991	0.91104	100.736	0.90615	111.873	0.90935	112.511	0.90849	115.221
220	0.90673	105.704	0.90917	104.989	0.90775	109.085	0.90274	121.040	0.90605	121.727	0.90511	124.827
230	0.90349	113.966	0.90597	113.297	0.90454	117.612	0.89942	130.370	0.90281	131.191	0.90183	134.554
240	0.90029	122.470	0.90281	121.856	0.90133	126.516	0.89612	140.077	0.89962	140.949	0.89856	144.706
250	0.89712	131.287	0.89975	130.497	0.89821	135.567	0.89287	150.042	0.89643	151.110	0.89543	154.841
260	0.89404	140.190	0.89671	139.447	0.89516	144.764	0.88968	160.239	0.89336	161.291	0.89227	165.483
270	0.89099	149.363	0.89373	148.559	0.89215	154.215	0.88658	170.539	0.89034	171.724	0.88920	176.248
280	0.88801	158.655	0.89078	157.926	0.88920	163.826	0.88354	181.039	0.88728	182.687	0.88617	187.259
290	0.88506	168.208	0.88791	167.360	0.88625	173.764	0.88055	191.725	0.88438	193.481	0.88321	198.429
300	0.88215	177.957	0.88504	177.159	0.88341	183.684	0.87759	202.679	0.88149	204.591	0.88029	209.850

Table 13 (continued)

P(kbar)	Knoringite		Calderite		Skiagite		Khoarite		MnCrGarnet		FeCrGarnet	
	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$	$\frac{V}{V_0}$	$-\int_{V_0}^V PdV$
0	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000	1.00000	0.000
10	0.99470	0.313	0.99452	0.343	0.99471	0.321	0.99462	0.324	0.99461	0.334	0.99477	0.314
20	0.98964	1.209	0.98933	1.317	0.98960	1.252	0.98955	1.236	0.98954	1.270	0.98980	1.209
30	0.98469	2.666	0.98426	2.894	0.98461	2.768	0.98457	2.722	0.98450	2.814	0.98491	2.669
40	0.97990	4.638	0.97929	5.056	0.97975	4.838	0.97968	4.762	0.97968	4.882	0.98014	4.670
50	0.97527	7.084	0.97450	7.742	0.97509	7.391	0.97502	7.264	0.97497	7.479	0.97555	7.141
60	0.97071	10.031	0.96982	10.947	0.97053	10.435	0.97041	10.293	0.97040	10.563	0.97107	10.089
70	0.96627	13.418	0.96525	14.646	0.96606	13.965	0.96592	13.769	0.96590	14.146	0.96668	13.500
80	0.96196	17.217	0.96085	18.762	0.96174	17.908	0.96162	17.624	0.96159	18.103	0.96244	17.304
90	0.95778	21.390	0.95660	23.255	0.95751	22.268	0.95736	21.932	0.95732	22.549	0.95828	21.532
100	0.95368	25.963	0.95237	28.248	0.95336	27.057	0.95320	26.653	0.95322	27.321	0.95418	26.181
110	0.94964	30.938	0.94828	33.589	0.94933	32.200	0.94916	31.702	0.94918	32.505	0.95027	31.089
120	0.94577	36.173	0.94426	39.328	0.94540	37.686	0.94522	37.113	0.94525	38.039	0.94640	36.413
130	0.94190	41.849	0.94034	45.427	0.94151	43.594	0.94136	42.865	0.94138	43.958	0.94257	42.133
140	0.93820	47.716	0.93650	51.863	0.93779	49.688	0.93757	48.958	0.93765	50.127	0.93889	48.058
150	0.93454	53.935	0.93277	58.602	0.93411	56.168	0.93388	55.336	0.93391	56.765	0.93523	54.410
160	0.93095	60.469	0.92908	65.714	0.93047	63.004	0.93030	61.956	0.93034	63.532	0.93165	61.042
170	0.92741	67.322	0.92546	73.147	0.92694	70.089	0.92669	69.050	0.92676	70.759	0.92823	67.779
180	0.92395	74.442	0.92197	80.730	0.92342	77.558	0.92319	76.370	0.92328	78.234	0.92477	75.021
190	0.92058	81.758	0.91854	88.632	0.92005	85.133	0.91982	83.792	0.91991	85.859	0.92144	82.395
200	0.91726	89.383	0.91513	96.908	0.91673	92.996	0.91646	91.621	0.91655	93.890	0.91811	90.144
210	0.91402	97.188	0.91177	105.470	0.91343	101.207	0.91319	99.608	0.91327	102.137	0.91485	98.143
220	0.91076	105.418	0.90851	114.201	0.91019	109.678	0.90992	107.999	0.91003	110.696	0.91173	106.184
230	0.90764	113.685	0.90533	123.125	0.90705	118.267	0.90679	116.410	0.90690	119.319	0.90859	114.626
240	0.90455	122.230	0.90214	132.480	0.90391	127.218	0.90362	125.313	0.90380	128.281	0.90552	123.267
250	0.90151	130.998	0.89905	141.919	0.90088	136.266	0.90057	134.235	0.90071	137.569	0.90250	132.142
260	0.89853	139.938	0.89601	151.592	0.89786	145.625	0.89757	143.399	0.89769	147.031	0.89951	141.257
270	0.89554	149.256	0.89298	161.609	0.89489	155.205	0.89460	152.797	0.89476	156.589	0.89662	150.451
280	0.89263	158.686	0.89009	171.505	0.89198	164.957	0.89166	162.484	0.89189	166.289	0.89374	159.952
290	0.88977	168.307	0.88713	182.041	0.88908	175.023	0.88876	172.373	0.88898	176.488	0.89090	169.666
300	0.88701	177.908	0.88431	192.465	0.88629	185.028	0.88597	182.238	0.88615	186.760	0.88813	179.483