

Grunerite (020) 139 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 0 0]	(0 2 0)	(0 0 1)	9.197	5.224	1.76	90.0	78.1
[1 0 1]	(0 2 0)	(1 1 -1)	9.197	4.846	1.90	74.7	70.2
[1 0 0]	(0 2 0)	(0 -2 -1)	9.197	4.542	2.02	60.4	78.1
[1 0 -1]	(0 2 0)	(1 1 1)	9.197	4.102	2.24	77.1	52.0
[1 0 2]	(0 2 0)	(-2 0 1)	9.197	3.909	2.35	90.0	47.1
[1 0 1]	(0 2 0)	(1 3 -1)	9.197	3.886	2.37	50.7	70.2
[1 0 2]	(0 2 0)	(2 2 -1)	9.197	3.597	2.56	67.0	47.1
[1 0 -1]	(0 2 0)	(-1 -3 -1)	9.197	3.469	2.65	55.5	52.0
[1 0 0]	(0 2 0)	(0 4 -1)	9.197	3.452	2.66	41.4	78.1
[1 0 2]	(0 2 0)	(2 4 -1)	9.197	2.978	3.09	49.6	47.1
[1 0 1]	(0 2 0)	(-1 -5 1)	9.197	2.968	3.10	36.2	70.2
[1 0 -1]	(0 2 0)	(1 5 1)	9.197	2.769	3.32	41.2	52.0
[2 0 1]	(0 2 0)	(-1 1 2)	9.197	2.635	3.49	81.8	85.7
[1 0 0]	(0 2 0)	(0 -2 2)	9.197	2.513	3.66	74.1	78.1
[1 0 1]	(0 2 0)	(-2 0 2)	9.197	2.512	3.66	90.0	70.2
[2 0 1]	(0 2 0)	(1 3 -2)	9.197	2.442	3.77	66.5	85.7
[2 0 -1]	(0 2 0)	(-1 -1 -2)	9.197	2.372	3.88	82.6	63.6
[1 0 1]	(0 2 0)	(1 7 -1)	9.197	2.328	3.95	27.6	70.2
[1 0 -1]	(0 2 0)	(1 7 1)	9.197	2.229	4.13	32.0	52.0
[2 0 -1]	(0 2 0)	(-1 -3 -2)	9.197	2.228	4.13	68.7	63.6
[2 0 3]	(0 2 0)	(3 1 -2)	9.197	2.227	4.13	83.0	57.2
[1 0 1]	(0 2 0)	(-2 -4 2)	9.197	2.204	4.17	61.4	70.2
[2 0 1]	(0 2 0)	(1 5 -2)	9.197	2.157	4.26	54.1	85.7
[2 0 3]	(0 2 0)	(-3 -3 2)	9.197	2.107	4.37	69.9	57.2
[1 0 0]	(0 2 0)	(0 8 -1)	9.197	2.104	4.37	23.8	78.1
[1 0 -1]	(0 2 0)	(-2 0 -2)	9.197	2.104	4.37	90.0	52.0
[1 0 0]	(0 2 0)	(0 6 2)	9.197	1.988	4.63	49.6	78.1
[1 0 2]	(0 2 0)	(-2 -8 1)	9.197	1.982	4.64	30.5	47.1
[1 0 -1]	(0 2 0)	(2 4 2)	9.197	1.913	4.81	65.4	52.0
[1 0 2]	(0 2 0)	(-4 -2 2)	9.197	1.912	4.81	78.0	47.1
[1 0 1]	(0 2 0)	(1 9 -1)	9.197	1.893	4.86	22.1	70.2
[2 0 1]	(0 2 0)	(-1 -7 2)	9.197	1.870	4.92	44.6	85.7
[1 0 -1]	(0 2 0)	(1 9 1)	9.197	1.838	5.00	25.9	52.0
[3 0 1]	(0 2 0)	(-1 -1 3)	9.197	1.771	5.19	84.5	88.8
[2 0 -1]	(0 2 0)	(1 7 2)	9.197	1.769	5.20	47.7	63.6
[1 0 0]	(0 2 0)	(0 -2 -3)	9.197	1.711	5.37	79.3	78.1
[3 0 1]	(0 2 0)	(1 3 -3)	9.197	1.709	5.38	73.8	88.8
[2 0 3]	(0 2 0)	(-3 -7 2)	9.197	1.706	5.39	49.5	57.2
[1 0 1]	(0 2 0)	(2 8 -2)	9.197	1.696	5.42	42.5	70.2
[1 0 1]	(0 2 0)	(-3 -1 3)	9.197	1.668	5.51	84.8	70.2
[1 0 2]	(0 2 0)	(4 6 -2)	9.197	1.648	5.58	57.5	47.1
[3 0 -1]	(0 2 0)	(-1 -1 -3)	9.197	1.645	5.59	84.9	68.2
[3 0 2]	(0 2 0)	(2 4 -3)	9.197	1.639	5.61	69.1	80.4
[1 0 0]	(0 2 0)	(0 -4 -3)	9.197	1.629	5.65	69.3	78.1
[2 0 1]	(0 2 0)	(1 9 -2)	9.197	1.621	5.67	37.5	85.7
[3 0 1]	(0 2 0)	(1 5 -3)	9.197	1.602	5.74	64.2	88.8
[3 0 -1]	(0 2 0)	(-1 -3 -3)	9.197	1.595	5.77	74.9	68.2
[3 0 4]	(0 2 0)	(4 0 -3)	9.197	1.559	5.90	90.0	61.2

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[2 0 -1]	(0 2 0)	(1 -9 2)	9.197	1.554	5.92	40.5	63.6
[1 0 -1]	(0 2 0)	(-2 8 -2)	9.197	1.552	5.93	47.5	52.0
[3 0 4]	(0 2 0)	(4 2 -3)	9.197	1.537	5.98	80.4	61.2
[1 0 1]	(0 2 0)	(3 -5 -3)	9.197	1.524	6.03	65.5	70.2
[3 0 2]	(0 2 0)	(-2 6 3)	9.197	1.523	6.04	60.2	80.4
[3 0 -2]	(0 2 0)	(2 2 3)	9.197	1.511	6.09	80.5	59.4
[2 0 3]	(0 2 0)	(3 9 -2)	9.197	1.511	6.09	42.3	57.2
[3 0 -1]	(0 2 0)	(1 5 3)	9.197	1.507	6.10	65.8	68.2
[3 0 4]	(0 2 0)	(4 4 -3)	9.197	1.477	6.23	71.3	61.2
[3 0 1]	(0 2 0)	(-1 -7 3)	9.197	1.473	6.24	55.9	88.8
[3 0 -2]	(0 2 0)	(2 4 3)	9.197	1.454	6.33	71.6	59.4
[3 0 5]	(0 2 0)	(-5 -1 3)	9.197	1.426	6.45	85.6	53.5
[1 0 1]	(0 2 0)	(3 7 -3)	9.197	1.412	6.51	57.5	70.2
[3 0 -1]	(0 2 0)	(-1 -7 -3)	9.197	1.398	6.58	57.8	68.2
[1 0 -1]	(0 2 0)	(3 1 3)	9.197	1.398	6.58	85.6	52.0
[3 0 2]	(0 2 0)	(2 8 -3)	9.197	1.395	6.59	52.7	80.4
[3 0 5]	(0 2 0)	(-5 -3 3)	9.197	1.393	6.60	76.9	53.5
[3 0 4]	(0 2 0)	(4 6 -3)	9.197	1.390	6.62	63.0	61.2
[1 0 0]	(0 2 0)	(0 -8 -3)	9.197	1.388	6.62	52.9	78.1
[3 0 -2]	(0 2 0)	(2 6 3)	9.197	1.370	6.71	63.4	59.4
[3 0 1]	(0 2 0)	(1 9 -3)	9.197	1.342	6.85	49.0	88.8
[3 0 5]	(0 2 0)	(-5 -5 3)	9.197	1.333	6.90	68.8	53.5
[2 0 1]	(0 2 0)	(2 0 -4)	9.197	1.331	6.91	90.0	85.7
[4 0 1]	(0 2 0)	(1 -1 -4)	9.197	1.328	6.92	85.9	86.1
[1 0 -1]	(0 2 0)	(3 5 3)	9.197	1.310	7.02	69.1	52.0
[4 0 1]	(0 2 0)	(1 3 -4)	9.197	1.301	7.07	77.7	86.1
[4 0 3]	(0 2 0)	(-3 -1 4)	9.197	1.301	7.07	85.9	77.7
[1 0 0]	(0 2 0)	(0 2 4)	9.197	1.293	7.11	81.9	78.1
[3 0 4]	(0 2 0)	(-4 -8 3)	9.197	1.291	7.13	55.9	61.2
[1 0 2]	(0 2 0)	(6 2 -3)	9.197	1.290	7.13	81.9	47.1
[3 0 -1]	(0 2 0)	(-1 -9 -3)	9.197	1.285	7.16	51.1	68.2
[2 0 1]	(0 2 0)	(2 4 -4)	9.197	1.279	7.19	73.9	85.7
[3 0 -4]	(0 2 0)	(4 0 3)	9.197	1.277	7.20	90.0	45.8
[4 0 3]	(0 2 0)	(3 -3 -4)	9.197	1.276	7.21	78.0	77.7
[3 0 -2]	(0 2 0)	(-2 8 -3)	9.197	1.275	7.21	56.3	59.4
[3 0 -4]	(0 2 0)	(4 2 3)	9.197	1.264	7.27	82.1	45.8
[4 0 -1]	(0 2 0)	(1 -1 4)	9.197	1.256	7.32	86.1	70.5
[1 0 2]	(0 2 0)	(-6 4 3)	9.197	1.254	7.34	74.2	47.1
[4 0 1]	(0 2 0)	(1 5 -4)	9.197	1.252	7.34	70.1	86.1
[1 0 1]	(0 2 0)	(-4 -2 4)	9.197	1.244	7.39	82.2	70.2
[1 0 -1]	(0 2 0)	(3 7 3)	9.197	1.237	7.43	61.9	52.0
[4 0 -1]	(0 2 0)	(-1 -3 -4)	9.197	1.233	7.46	78.4	70.5
[3 0 -4]	(0 2 0)	(4 4 3)	9.197	1.230	7.48	74.5	45.8
[4 0 3]	(0 2 0)	(-3 -5 4)	9.197	1.229	7.48	70.5	77.7
[4 0 -1]	(0 2 0)	(1 -5 4)	9.197	1.191	7.72	71.1	70.5
[4 0 5]	(0 2 0)	(-5 1 4)	9.197	1.190	7.73	86.3	63.3
[4 0 1]	(0 2 0)	(1 7 -4)	9.197	1.188	7.74	63.1	86.1
[3 0 -4]	(0 2 0)	(-4 -6 -3)	9.197	1.179	7.80	67.4	45.8

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[3 0 5]	(0 2 0)	(5 9 -3)	9.197	1.172	7.85	55.0	53.5
[4 0 5]	(0 2 0)	(-5 -3 4)	9.197	1.171	7.86	79.0	63.3
[4 0 3]	(0 2 0)	(3 7 -4)	9.197	1.168	7.87	63.6	77.7
[1 0 1]	(0 2 0)	(-4 -6 4)	9.197	1.162	7.91	67.7	70.2
[2 0 -1]	(0 2 0)	(2 4 4)	9.197	1.157	7.95	75.4	63.6
[2 0 1]	(0 2 0)	(2 8 -4)	9.197	1.152	7.98	59.9	85.7
[4 0 5]	(0 2 0)	(-5 -5 4)	9.197	1.134	8.11	72.0	63.3
[1 0 2]	(0 2 0)	(6 8 -3)	9.197	1.134	8.11	60.5	47.1
[4 0 -3]	(0 2 0)	(-3 -1 -4)	9.197	1.123	8.19	86.5	57.4
[2 0 3]	(0 2 0)	(6 0 -4)	9.197	1.122	8.20	90.0	57.2
[3 0 -4]	(0 2 0)	(4 -8 3)	9.197	1.116	8.24	61.0	45.8
[4 0 1]	(0 2 0)	(-1 9 4)	9.197	1.116	8.24	56.9	86.1
[4 0 3]	(0 2 0)	(3 9 -4)	9.197	1.099	8.36	57.5	77.7
[2 0 3]	(0 2 0)	(-6 -4 4)	9.197	1.090	8.44	76.3	57.2
[4 0 5]	(0 2 0)	(5 7 -4)	9.197	1.086	8.47	65.6	63.3
[4 0 -3]	(0 2 0)	(3 5 4)	9.197	1.076	8.55	73.0	57.4
[4 0 -1]	(0 2 0)	(-1 -9 -4)	9.197	1.072	8.58	58.4	70.5
[5 0 2]	(0 2 0)	(2 0 -5)	9.197	1.068	8.61	90.0	89.0
[5 0 1]	(0 2 0)	(1 -1 -5)	9.197	1.061	8.67	86.7	84.5
[2 0 -1]	(0 2 0)	(-2 8 -4)	9.197	1.061	8.67	62.5	63.6
[5 0 2]	(0 2 0)	(2 2 -5)	9.197	1.060	8.67	83.4	89.0
[5 0 3]	(0 2 0)	(-3 -1 5)	9.197	1.057	8.70	86.7	82.5
[5 0 1]	(0 2 0)	(1 -3 -5)	9.197	1.047	8.78	80.2	84.5
[4 0 7]	(0 2 0)	(-7 1 4)	9.197	1.047	8.79	86.7	51.8
[1 0 -1]	(0 2 0)	(4 2 4)	9.197	1.045	8.80	83.5	52.0
[5 0 3]	(0 2 0)	(-3 -3 5)	9.197	1.043	8.82	80.2	82.5
[5 0 2]	(0 2 0)	(2 4 -5)	9.197	1.040	8.84	76.9	89.0
[1 0 0]	(0 2 0)	(0 -2 -5)	9.197	1.038	8.86	83.5	78.1
[5 0 4]	(0 2 0)	(4 0 -5)	9.197	1.037	8.87	90.0	76.2
[4 0 -3]	(0 2 0)	(3 -7 4)	9.197	1.034	8.89	66.8	57.4
[4 0 7]	(0 2 0)	(-7 3 4)	9.197	1.033	8.90	80.3	51.8
[5 0 4]	(0 2 0)	(4 2 -5)	9.197	1.030	8.93	83.6	76.2
[4 0 5]	(0 2 0)	(-5 -9 4)	9.197	1.030	8.93	59.7	63.3
[5 0 1]	(0 2 0)	(-1 -5 5)	9.197	1.021	9.01	73.9	84.5
[1 0 0]	(0 2 0)	(0 4 5)	9.197	1.019	9.03	77.2	78.1
[5 0 3]	(0 2 0)	(-3 -5 5)	9.197	1.017	9.04	73.9	82.5
[5 0 -1]	(0 2 0)	(1 1 5)	9.197	1.014	9.07	86.8	72.0
[5 0 4]	(0 2 0)	(-4 -4 5)	9.197	1.012	9.09	77.3	76.2
[4 0 7]	(0 2 0)	(7 5 -4)	9.197	1.008	9.12	74.1	51.8
[5 0 2]	(0 2 0)	(-2 -6 5)	9.197	1.008	9.12	70.8	89.0
[2 0 3]	(0 2 0)	(6 8 -4)	9.197	1.008	9.12	64.0	57.2
[1 0 1]	(0 2 0)	(5 1 -5)	9.197	1.003	9.17	86.9	70.2
[5 0 -1]	(0 2 0)	(-1 -3 -5)	9.197	1.002	9.18	80.6	72.0

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[1 -1 0]	(1 1 0)	(0 0 1)	8.341	5.224	1.60	79.4	84.5
[1 -1 2]	(1 1 0)	(-1 1 1)	8.341	4.846	1.72	80.1	67.1
[1 -1 0]	(1 1 0)	(1 1 -1)	8.341	4.846	1.72	65.8	84.5
[1 -1 -2]	(1 1 0)	(0 2 -1)	8.341	4.542	1.84	86.3	58.5
[1 -1 2]	(1 1 0)	(0 -2 -1)	8.341	4.542	1.84	67.4	67.1
[1 -1 -2]	(1 1 0)	(1 -1 1)	8.341	4.102	2.03	64.3	58.5
[1 -1 2]	(1 1 0)	(2 0 -1)	8.341	3.909	2.13	52.6	67.1
[1 -1 4]	(1 1 0)	(1 -3 -1)	8.341	3.886	2.15	86.9	46.8
[1 -1 -2]	(1 1 0)	(1 3 -1)	8.341	3.886	2.15	58.6	58.5
[1 -1 4]	(1 1 0)	(2 -2 -1)	8.341	3.597	2.32	67.6	46.8
[1 -1 2]	(1 1 0)	(1 3 1)	8.341	3.469	2.40	44.9	67.1
[1 -1 4]	(1 1 0)	(0 -4 -1)	8.341	3.452	2.42	62.5	46.8
[1 -1 -2]	(1 1 0)	(2 0 1)	8.341	3.176	2.63	44.2	58.5
[1 -1 -2]	(1 1 0)	(2 4 -1)	8.341	2.978	2.80	40.9	58.5
[1 -1 4]	(1 1 0)	(-3 1 1)	8.341	2.923	2.85	48.7	46.8
[1 -1 2]	(1 1 0)	(3 1 -1)	8.341	2.923	2.85	36.5	67.1
[1 -1 4]	(1 1 0)	(-1 -5 -1)	8.341	2.769	3.01	45.4	46.8
[1 -1 0]	(1 1 0)	(3 3 -1)	8.341	2.666	3.13	30.1	84.5
[1 -1 1]	(1 1 0)	(1 -1 -2)	8.341	2.635	3.17	90.0	80.7
[1 -1 0]	(1 1 0)	(-1 -1 2)	8.341	2.635	3.17	82.5	84.5
[1 -1 2]	(1 1 0)	(2 4 1)	8.341	2.613	3.19	32.1	67.1
[1 -1 -1]	(1 1 0)	(0 -2 2)	8.341	2.513	3.32	87.0	70.5
[1 -1 1]	(1 1 0)	(0 2 2)	8.341	2.513	3.32	72.5	80.7
[1 -1 1]	(1 1 0)	(-2 0 2)	8.341	2.512	3.32	72.4	80.7
[1 -1 -2]	(1 1 0)	(3 1 1)	8.341	2.442	3.42	32.5	58.5
[1 -1 2]	(1 1 0)	(1 -3 -2)	8.341	2.442	3.42	83.1	67.1
[1 -1 -1]	(1 1 0)	(1 3 -2)	8.341	2.442	3.42	76.0	70.5
[1 -1 4]	(1 1 0)	(-4 0 1)	8.341	2.321	3.59	36.6	46.8
[1 -1 -2]	(1 1 0)	(3 5 -1)	8.341	2.306	3.62	30.4	58.5
[1 -1 2]	(1 1 0)	(4 2 -1)	8.341	2.251	3.71	27.2	67.1
[1 -1 -2]	(1 1 0)	(-1 3 -2)	8.341	2.228	3.74	78.2	58.5
[1 -1 1]	(1 1 0)	(1 3 2)	8.341	2.228	3.74	57.7	80.7
[1 -1 2]	(1 1 0)	(-3 1 2)	8.341	2.227	3.75	64.9	67.1
[1 -1 1]	(1 1 0)	(3 1 -2)	8.341	2.227	3.75	57.7	80.7
[1 -1 4]	(1 1 0)	(-2 -6 -1)	8.341	2.206	3.78	34.5	46.8
[1 -1 3]	(1 1 0)	(2 -4 -2)	8.341	2.204	3.78	87.3	55.8
[1 -1 -1]	(1 1 0)	(-2 -4 2)	8.341	2.204	3.78	61.2	70.5
[1 -1 3]	(1 1 0)	(-1 5 2)	8.341	2.157	3.87	77.8	55.8
[1 -1 -2]	(1 1 0)	(-1 -5 2)	8.341	2.157	3.87	71.4	58.5
[1 -1 3]	(1 1 0)	(3 -3 -2)	8.341	2.107	3.96	72.7	55.8
[1 -1 0]	(1 1 0)	(3 3 -2)	8.341	2.107	3.96	52.4	84.5
[1 -1 -1]	(1 1 0)	(-2 0 -2)	8.341	2.104	3.96	56.7	70.5
[1 -1 0]	(1 1 0)	(4 4 -1)	8.341	2.072	4.03	22.9	84.5
[1 -1 2]	(1 1 0)	(-1 -5 -2)	8.341	2.005	4.16	54.6	67.1
[1 -1 -3]	(1 1 0)	(0 6 -2)	8.341	1.988	4.20	81.1	48.9
[1 -1 3]	(1 1 0)	(0 -6 -2)	8.341	1.988	4.20	64.3	55.8
[1 -1 4]	(1 1 0)	(3 -5 -2)	8.341	1.915	4.36	79.8	46.8
[1 -1 -1]	(1 1 0)	(3 5 -2)	8.341	1.915	4.36	49.6	70.5

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C
[1 -1 -3]	(1 1 0)	(-2 4 -2)	8.341	1.913	4.36	71.9	48.9
[1 -1 1]	(1 1 0)	(2 4 2)	8.341	1.913	4.36	46.6	80.7
[1 -1 3]	(1 1 0)	(-4 2 2)	8.341	1.912	4.36	60.0	55.8
[1 -1 1]	(1 1 0)	(4 2 -2)	8.341	1.912	4.36	46.5	80.7
[1 -1 4]	(1 1 0)	(-5 -1 1)	8.341	1.880	4.44	28.9	46.8
[1 -1 4]	(1 1 0)	(-1 7 2)	8.341	1.870	4.46	74.0	46.8
[1 -1 -3]	(1 1 0)	(-1 -7 2)	8.341	1.870	4.46	68.3	48.9
[1 -1 -2]	(1 1 0)	(4 6 -1)	8.341	1.851	4.51	24.0	58.5
[1 -1 -2]	(1 1 0)	(3 -1 2)	8.341	1.817	4.59	53.0	58.5
[1 -1 -1]	(1 1 0)	(-3 -1 -2)	8.341	1.817	4.59	46.2	70.5
[1 -1 2]	(1 1 0)	(5 3 -1)	8.341	1.806	4.62	21.5	67.1
[1 -1 4]	(1 1 0)	(-3 -7 -1)	8.341	1.797	4.64	27.5	46.8
[1 -1 0]	(1 1 0)	(1 1 -3)	8.341	1.771	4.71	88.5	84.5
[3 -3 2]	(1 1 0)	(1 -1 -3)	8.341	1.771	4.71	86.5	85.6
[1 -1 3]	(1 1 0)	(1 7 2)	8.341	1.769	4.72	53.3	55.8
[3 -3 2]	(1 1 0)	(-2 0 3)	8.341	1.755	4.75	81.4	85.6
[1 -1 -3]	(1 1 0)	(3 -3 2)	8.341	1.750	4.77	60.4	48.9
[1 -1 0]	(1 1 0)	(-3 -3 -2)	8.341	1.750	4.77	41.2	84.5
[1 -1 0]	(1 1 0)	(2 2 -3)	8.341	1.723	4.84	76.6	84.5
[3 -3 -2]	(1 1 0)	(0 2 -3)	8.341	1.711	4.88	84.5	75.0
[3 -3 2]	(1 1 0)	(0 2 3)	8.341	1.711	4.88	74.6	85.6
[3 -3 -2]	(1 1 0)	(-1 -3 3)	8.341	1.709	4.88	83.7	75.0
[3 -3 4]	(1 1 0)	(-1 3 3)	8.341	1.709	4.88	81.7	76.0
[1 -1 -2]	(1 1 0)	(3 7 -2)	8.341	1.706	4.89	48.6	58.5
[1 -1 -3]	(1 1 0)	(-2 -8 2)	8.341	1.696	4.92	57.4	48.9
[1 -1 3]	(1 1 0)	(5 -1 -2)	8.341	1.689	4.94	49.9	55.8
[1 -1 2]	(1 1 0)	(5 1 -2)	8.341	1.689	4.94	43.4	67.1
[1 -1 2]	(1 1 0)	(4 6 1)	8.341	1.668	5.00	19.8	67.1
[3 -3 4]	(1 1 0)	(-3 1 3)	8.341	1.668	5.00	75.0	76.0
[3 -3 2]	(1 1 0)	(3 1 -3)	8.341	1.668	5.00	70.0	85.6
[1 -1 -1]	(1 1 0)	(-4 -6 2)	8.341	1.648	5.06	40.9	70.5
[3 -3 -2]	(1 1 0)	(1 -1 3)	8.341	1.645	5.07	73.2	75.0
[1 -1 0]	(1 1 0)	(-1 -1 -3)	8.341	1.645	5.07	68.2	84.5
[1 -1 2]	(1 1 0)	(-2 4 3)	8.341	1.639	5.09	88.7	67.1
[3 -3 -2]	(1 1 0)	(-2 -4 3)	8.341	1.639	5.09	72.5	75.0
[1 -1 1]	(1 1 0)	(3 5 2)	8.341	1.636	5.10	38.4	80.7
[1 -1 4]	(1 1 0)	(-5 3 2)	8.341	1.635	5.10	57.1	46.8
[1 -1 1]	(1 1 0)	(5 3 -2)	8.341	1.635	5.10	38.3	80.7
[3 -3 -4]	(1 1 0)	(0 4 -3)	8.341	1.629	5.12	89.4	66.2
[3 -3 4]	(1 1 0)	(0 4 3)	8.341	1.629	5.12	70.6	76.0
[3 -3 -4]	(1 1 0)	(1 5 -3)	8.341	1.602	5.21	79.6	66.2
[1 -1 2]	(1 1 0)	(1 -5 -3)	8.341	1.602	5.21	77.7	67.1
[1 -1 -2]	(1 1 0)	(5 3 1)	8.341	1.600	5.21	20.6	58.5
[3 -3 -4]	(1 1 0)	(-1 3 -3)	8.341	1.595	5.23	78.3	66.2
[3 -3 2]	(1 1 0)	(1 3 3)	8.341	1.595	5.23	64.0	85.6
[1 -1 -1]	(1 1 0)	(-4 -2 -2)	8.341	1.565	5.33	38.4	70.5
[1 -1 4]	(1 1 0)	(6 2 -1)	8.341	1.564	5.33	23.7	46.8
[3 -3 4]	(1 1 0)	(-4 0 3)	8.341	1.559	5.35	64.6	76.0

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -1 4]	(1 1 0)	(1 9 2)	8.341	1.554	5.37	53.0	46.8
[1 -1 3]	(1 1 0)	(-2 -8 -2)	8.341	1.552	5.37	44.7	55.8
[1 -1 0]	(1 1 0)	(5 5 -2)	8.341	1.540	5.42	35.4	84.5
[1 -1 2]	(1 1 0)	(-4 2 3)	8.341	1.537	5.43	69.7	67.1
[3 -3 2]	(1 1 0)	(4 2 -3)	8.341	1.537	5.43	60.0	85.6
[1 -1 -2]	(1 1 0)	(-5 -7 1)	8.341	1.534	5.44	19.7	58.5
[3 -3 -2]	(1 1 0)	(2 0 3)	8.341	1.532	5.44	63.0	75.0
[3 -3 8]	(1 1 0)	(-3 5 3)	8.341	1.524	5.47	85.0	59.3
[3 -3 -2]	(1 1 0)	(3 5 -3)	8.341	1.524	5.47	62.4	75.0
[3 -3 8]	(1 1 0)	(2 -6 -3)	8.341	1.523	5.48	84.5	59.3
[3 -3 -4]	(1 1 0)	(2 6 -3)	8.341	1.523	5.48	69.2	66.2
[3 -3 -4]	(1 1 0)	(2 -2 3)	8.341	1.511	5.52	68.1	66.2
[1 -1 0]	(1 1 0)	(-2 -2 -3)	8.341	1.511	5.52	58.5	84.5
[1 -1 0]	(1 1 0)	(-5 -5 -1)	8.341	1.511	5.52	16.5	84.5
[1 -1 -3]	(1 1 0)	(3 9 -2)	8.341	1.511	5.52	48.7	48.9
[1 -1 -2]	(1 1 0)	(1 -5 3)	8.341	1.507	5.54	83.3	58.5
[3 -3 4]	(1 1 0)	(1 5 3)	8.341	1.507	5.54	60.8	76.0
[1 -1 4]	(1 1 0)	(-4 -8 -1)	8.341	1.504	5.55	22.7	46.8
[1 -1 2]	(1 1 0)	(6 4 -1)	8.341	1.500	5.56	17.8	67.1
[1 -1 2]	(1 1 0)	(-3 -7 -2)	8.341	1.500	5.56	37.6	67.1
[1 -1 3]	(1 1 0)	(-6 0 2)	8.341	1.480	5.64	42.1	55.8
[3 -3 8]	(1 1 0)	(4 -4 -3)	8.341	1.477	5.65	74.9	59.3
[1 -1 0]	(1 1 0)	(-4 -4 3)	8.341	1.477	5.65	56.5	84.5
[1 -1 -2]	(1 1 0)	(1 7 -3)	8.341	1.473	5.66	76.2	58.5
[3 -3 8]	(1 1 0)	(1 -7 -3)	8.341	1.473	5.66	74.4	59.3
[1 -1 -2]	(1 1 0)	(2 -4 3)	8.341	1.454	5.74	73.3	58.5
[3 -3 2]	(1 1 0)	(-2 -4 -3)	8.341	1.454	5.74	55.0	85.6
[1 -1 2]	(1 1 0)	(5 -1 -3)	8.341	1.426	5.85	60.4	67.1
[3 -3 4]	(1 1 0)	(-5 -1 3)	8.341	1.426	5.85	55.7	76.0
[1 -1 -1]	(1 1 0)	(5 7 -2)	8.341	1.425	5.85	34.5	70.5
[3 -3 10]	(1 1 0)	(3 -7 -3)	8.341	1.412	5.91	89.4	52.5
[3 -3 -4]	(1 1 0)	(-3 -7 3)	8.341	1.412	5.91	60.1	66.2
[1 -1 1]	(1 1 0)	(4 6 2)	8.341	1.410	5.92	32.4	80.7
[1 -1 1]	(1 1 0)	(6 4 -2)	8.341	1.409	5.92	32.3	80.7
[1 -1 2]	(1 1 0)	(-5 -7 -1)	8.341	1.402	5.95	16.6	67.1
[3 -3 -8]	(1 1 0)	(1 -7 3)	8.341	1.398	5.96	87.7	51.9
[1 -1 2]	(1 1 0)	(1 7 3)	8.341	1.398	5.96	58.5	67.1
[3 -3 -4]	(1 1 0)	(-3 1 -3)	8.341	1.398	5.96	59.2	66.2
[3 -3 -2]	(1 1 0)	(3 1 3)	8.341	1.398	5.96	54.4	75.0
[3 -3 10]	(1 1 0)	(2 -8 -3)	8.341	1.395	5.98	81.0	52.5
[1 -1 -2]	(1 1 0)	(2 8 -3)	8.341	1.395	5.98	66.8	58.5
[3 -3 8]	(1 1 0)	(-5 3 3)	8.341	1.393	5.99	65.6	59.3
[3 -3 2]	(1 1 0)	(5 3 -3)	8.341	1.393	5.99	51.7	85.6
[3 -3 10]	(1 1 0)	(-4 6 3)	8.341	1.390	6.00	79.8	52.5
[3 -3 -2]	(1 1 0)	(4 6 -3)	8.341	1.390	6.00	54.0	75.0
[3 -3 -8]	(1 1 0)	(0 -8 3)	8.341	1.388	6.01	82.7	51.9
[3 -3 8]	(1 1 0)	(0 8 3)	8.341	1.388	6.01	65.2	59.3
[1 -1 -3]	(1 1 0)	(-5 1 -2)	8.341	1.388	6.01	43.6	48.9

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[1 -1 -2]	(1 1 0)	(5 1 2)	8.341	1.388	6.01	37.6	58.5
[3 -3 -8]	(1 1 0)	(-2 6 -3)	8.341	1.370	6.09	78.3	51.9
[3 -3 4]	(1 1 0)	(2 6 3)	8.341	1.370	6.09	52.5	76.0
[1 -1 3]	(1 1 0)	(-3 -9 -2)	8.341	1.362	6.13	38.1	55.8
[1 -1 -1]	(1 1 0)	(5 3 2)	8.341	1.357	6.15	32.6	70.5
[1 -1 -2]	(1 1 0)	(-6 -4 -1)	8.341	1.354	6.16	17.3	58.5
[3 -3 -8]	(1 1 0)	(1 9 -3)	8.341	1.342	6.22	73.5	51.9
[3 -3 10]	(1 1 0)	(1 -9 -3)	8.341	1.342	6.22	71.8	52.5
[3 -3 10]	(1 1 0)	(5 -5 -3)	8.341	1.333	6.26	70.7	52.5
[1 -1 0]	(1 1 0)	(-5 -5 3)	8.341	1.333	6.26	48.8	84.5
[2 -2 1]	(1 1 0)	(2 0 -4)	8.341	1.331	6.27	86.2	88.1
[1 -1 0]	(1 1 0)	(1 1 -4)	8.341	1.328	6.28	88.4	84.5
[2 -2 1]	(1 1 0)	(-1 1 4)	8.341	1.328	6.28	84.7	88.1
[3 -3 -8]	(1 1 0)	(-3 5 -3)	8.341	1.310	6.36	69.4	51.9
[3 -3 2]	(1 1 0)	(3 5 3)	8.341	1.310	6.36	47.6	85.6
[1 -1 -2]	(1 1 0)	(-6 -8 1)	8.341	1.306	6.39	16.7	58.5
[1 -1 -2]	(1 1 0)	(5 9 -2)	8.341	1.305	6.39	35.0	58.5
[2 -2 -1]	(1 1 0)	(-1 -3 4)	8.341	1.301	6.41	87.9	77.3
[1 -1 1]	(1 1 0)	(-1 3 4)	8.341	1.301	6.41	81.1	80.7
[1 -1 1]	(1 1 0)	(-3 1 4)	8.341	1.301	6.41	81.0	80.7
[2 -2 1]	(1 1 0)	(3 1 -4)	8.341	1.301	6.41	77.2	88.1
[1 -1 4]	(1 1 0)	(-7 1 2)	8.341	1.301	6.41	42.0	46.8
[1 -1 3]	(1 1 0)	(7 1 -2)	8.341	1.301	6.41	36.1	55.8
[2 -2 -1]	(1 1 0)	(0 -2 4)	8.341	1.293	6.45	83.2	77.3
[2 -2 1]	(1 1 0)	(0 -2 -4)	8.341	1.293	6.45	75.8	88.1
[1 -1 4]	(1 1 0)	(4 -8 -3)	8.341	1.291	6.46	84.2	46.8
[3 -3 -4]	(1 1 0)	(4 8 -3)	8.341	1.291	6.46	52.4	66.2
[3 -3 8]	(1 1 0)	(-6 2 3)	8.341	1.290	6.47	57.5	59.3
[3 -3 4]	(1 1 0)	(6 2 -3)	8.341	1.290	6.47	48.3	76.0
[1 -1 4]	(1 1 0)	(-5 -9 -1)	8.341	1.287	6.48	19.3	46.8
[1 -1 0]	(1 1 0)	(-6 -6 -1)	8.341	1.286	6.49	14.0	84.5
[3 -3 -10]	(1 1 0)	(-1 9 -3)	8.341	1.285	6.49	88.4	46.2
[3 -3 8]	(1 1 0)	(-1 -9 -3)	8.341	1.285	6.49	57.1	59.3
[1 -1 2]	(1 1 0)	(7 5 -1)	8.341	1.279	6.52	15.1	67.1
[2 -2 3]	(1 1 0)	(2 -4 -4)	8.341	1.279	6.52	86.4	73.7
[2 -2 -1]	(1 1 0)	(2 4 -4)	8.341	1.279	6.52	79.1	77.3
[3 -3 -4]	(1 1 0)	(-4 0 -3)	8.341	1.277	6.53	51.6	66.2
[2 -2 3]	(1 1 0)	(3 -3 -4)	8.341	1.276	6.54	84.8	73.7
[1 -1 0]	(1 1 0)	(-3 -3 4)	8.341	1.276	6.54	73.8	84.5
[1 -1 2]	(1 1 0)	(7 3 -2)	8.341	1.276	6.54	31.2	67.1
[3 -3 -10]	(1 1 0)	(-2 8 -3)	8.341	1.275	6.54	82.8	46.2
[1 -1 2]	(1 1 0)	(2 8 3)	8.341	1.275	6.54	51.0	67.1
[1 -1 -2]	(1 1 0)	(-4 2 -3)	8.341	1.264	6.60	56.4	58.5
[3 -3 -2]	(1 1 0)	(4 2 3)	8.341	1.264	6.60	47.4	75.0
[1 -1 0]	(1 1 0)	(-1 -1 -4)	8.341	1.256	6.64	70.9	84.5
[3 -3 10]	(1 1 0)	(6 -4 -3)	8.341	1.254	6.65	62.6	52.5
[3 -3 2]	(1 1 0)	(-6 -4 3)	8.341	1.254	6.65	45.0	85.6
[1 -1 -1]	(1 1 0)	(1 5 -4)	8.341	1.252	6.66	84.4	70.5

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[2 -2 3]	(1 1 0)	(1 -5 -4)	8.341	1.252	6.66	77.8	73.7
[1 -1 -1]	(1 1 0)	(6 8 -2)	8.341	1.245	6.70	29.6	70.5
[2 -2 3]	(1 1 0)	(4 -2 -4)	8.341	1.244	6.70	76.3	73.7
[2 -2 1]	(1 1 0)	(-4 -2 4)	8.341	1.244	6.70	68.9	88.1
[3 -3 -10]	(1 1 0)	(3 -7 3)	8.341	1.237	6.74	74.3	46.2
[3 -3 4]	(1 1 0)	(-3 -7 -3)	8.341	1.237	6.74	45.8	76.0
[1 -1 -1]	(1 1 0)	(1 -3 4)	8.341	1.233	6.77	78.5	70.5
[2 -2 1]	(1 1 0)	(-1 -3 -4)	8.341	1.233	6.77	67.5	88.1
[1 -1 -3]	(1 1 0)	(6 0 2)	8.341	1.232	6.77	37.8	48.9
[3 -3 -8]	(1 1 0)	(-4 4 -3)	8.341	1.230	6.78	61.5	51.9
[1 -1 0]	(1 1 0)	(4 4 3)	8.341	1.230	6.78	44.0	84.5
[1 -1 1]	(1 1 0)	(-5 -7 -2)	8.341	1.230	6.78	27.8	80.7
[1 -1 2]	(1 1 0)	(3 -5 -4)	8.341	1.229	6.79	88.5	67.1
[2 -2 -1]	(1 1 0)	(-3 -5 4)	8.341	1.229	6.79	70.7	77.3
[1 -1 1]	(1 1 0)	(7 5 -2)	8.341	1.229	6.79	27.8	80.7
[2 -2 3]	(1 1 0)	(0 6 4)	8.341	1.202	6.94	69.7	73.7
[1 -1 1]	(1 1 0)	(-1 -5 -4)	8.341	1.191	7.01	64.7	80.7
[1 -1 -1]	(1 1 0)	(6 4 2)	8.341	1.190	7.01	28.2	70.5
[2 -2 3]	(1 1 0)	(-5 1 4)	8.341	1.190	7.01	68.3	73.7
[1 -1 1]	(1 1 0)	(5 1 -4)	8.341	1.190	7.01	64.6	80.7
[2 -2 -3]	(1 1 0)	(-1 -7 4)	8.341	1.188	7.02	81.3	64.2
[1 -1 2]	(1 1 0)	(-1 7 4)	8.341	1.188	7.02	75.0	67.1
[3 -3 8]	(1 1 0)	(-7 1 3)	8.341	1.183	7.05	50.6	59.3
[1 -1 2]	(1 1 0)	(7 1 -3)	8.341	1.183	7.05	46.2	67.1
[3 -3 -10]	(1 1 0)	(-4 6 -3)	8.341	1.179	7.08	66.5	46.2
[3 -3 2]	(1 1 0)	(4 6 3)	8.341	1.179	7.08	41.6	85.6
[3 -3 -4]	(1 1 0)	(5 9 -3)	8.341	1.172	7.12	46.0	66.2
[1 -1 -2]	(1 1 0)	(-7 -5 -1)	8.341	1.171	7.12	14.9	58.5
[1 -1 2]	(1 1 0)	(5 -3 -4)	8.341	1.171	7.13	72.2	67.1
[2 -2 1]	(1 1 0)	(-5 -3 4)	8.341	1.171	7.13	61.4	88.1
[2 -2 5]	(1 1 0)	(-3 7 4)	8.341	1.168	7.14	88.2	61.1
[1 -1 -1]	(1 1 0)	(3 7 -4)	8.341	1.168	7.14	68.2	70.5
[1 -1 0]	(1 1 0)	(-7 -7 2)	8.341	1.168	7.14	26.1	84.5
[3 -3 10]	(1 1 0)	(7 -3 -3)	8.341	1.163	7.17	55.5	52.5
[3 -3 4]	(1 1 0)	(-7 -3 3)	8.341	1.163	7.17	42.4	76.0
[2 -2 5]	(1 1 0)	(4 -6 -4)	8.341	1.162	7.18	83.8	61.1
[2 -2 -1]	(1 1 0)	(-4 -6 4)	8.341	1.162	7.18	63.2	77.3
[1 -1 -2]	(1 1 0)	(-5 1 -3)	8.341	1.159	7.20	49.8	58.5
[3 -3 -4]	(1 1 0)	(5 1 3)	8.341	1.159	7.20	45.4	66.2
[2 -2 -3]	(1 1 0)	(-2 4 -4)	8.341	1.157	7.21	74.4	64.2
[2 -2 1]	(1 1 0)	(2 4 4)	8.341	1.157	7.21	60.2	88.1
[1 -1 4]	(1 1 0)	(8 4 -1)	8.341	1.157	7.21	17.3	46.8
[2 -2 5]	(1 1 0)	(-2 8 4)	8.341	1.152	7.24	80.2	61.1
[2 -2 -3]	(1 1 0)	(-2 -8 4)	8.341	1.152	7.24	73.5	64.2
[1 -1 3]	(1 1 0)	(8 2 -2)	8.341	1.151	7.24	31.5	55.8
[1 -1 2]	(1 1 0)	(5 9 2)	8.341	1.150	7.25	27.9	67.1
[3 -3 -2]	(1 1 0)	(5 3 3)	8.341	1.141	7.31	41.6	75.0
[1 -1 -2]	(1 1 0)	(7 9 -1)	8.341	1.135	7.35	14.4	58.5

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[2 -2 5]	(1 1 0)	(-5 5 4)	8.341	1.134	7.35	76.1	61.1
[1 -1 0]	(1 1 0)	(5 5 -4)	8.341	1.134	7.35	58.6	84.5
[3 -3 -2]	(1 1 0)	(-6 -8 3)	8.341	1.134	7.36	41.3	75.0
[1 -1 4]	(1 1 0)	(7 -5 -3)	8.341	1.128	7.40	60.4	46.8
[3 -3 2]	(1 1 0)	(-7 -5 3)	8.341	1.128	7.40	39.5	85.6
[1 -1 2]	(1 1 0)	(8 4 -2)	8.341	1.125	7.41	27.2	67.1
[1 -1 -1]	(1 1 0)	(-3 1 -4)	8.341	1.123	7.43	63.2	70.5
[2 -2 -1]	(1 1 0)	(3 1 4)	8.341	1.123	7.43	59.6	77.3
[2 -2 3]	(1 1 0)	(6 0 -4)	8.341	1.122	7.44	61.1	73.7
[3 -3 4]	(1 1 0)	(4 8 3)	8.341	1.116	7.47	40.3	76.0
[1 -1 -2]	(1 1 0)	(1 9 -4)	8.341	1.116	7.48	78.6	58.5
[2 -2 5]	(1 1 0)	(1 -9 -4)	8.341	1.116	7.48	72.6	61.1
[1 -1 0]	(1 1 0)	(5 5 3)	8.341	1.107	7.53	38.7	84.5
[2 -2 -3]	(1 1 0)	(3 -3 4)	8.341	1.107	7.54	67.1	64.2
[1 -1 0]	(1 1 0)	(-3 -3 -4)	8.341	1.107	7.54	56.4	84.5
[1 -1 -3]	(1 1 0)	(7 1 2)	8.341	1.100	7.59	33.1	48.9
[1 -1 3]	(1 1 0)	(3 -9 -4)	8.341	1.099	7.59	85.2	55.8
[2 -2 -3]	(1 1 0)	(3 9 -4)	8.341	1.099	7.59	66.2	64.2
[1 -1 -1]	(1 1 0)	(-7 -9 2)	8.341	1.099	7.59	25.9	70.5
[2 -2 5]	(1 1 0)	(6 -4 -4)	8.341	1.090	7.66	68.8	61.1
[2 -2 1]	(1 1 0)	(6 4 -4)	8.341	1.090	7.66	54.8	88.1
[1 -1 1]	(1 1 0)	(6 8 2)	8.341	1.086	7.68	24.3	80.7
[1 -1 3]	(1 1 0)	(-5 7 4)	8.341	1.086	7.68	79.8	55.8
[2 -2 -1]	(1 1 0)	(5 7 -4)	8.341	1.086	7.68	56.5	77.3
[1 -1 1]	(1 1 0)	(8 6 -2)	8.341	1.085	7.68	24.3	80.7
[1 -1 -2]	(1 1 0)	(-7 -3 -2)	8.341	1.084	7.69	28.5	58.5
[1 -1 0]	(1 1 0)	(7 7 -3)	8.341	1.080	7.72	37.6	84.5
[3 -3 8]	(1 1 0)	(-8 0 3)	8.341	1.079	7.73	44.9	59.3
[1 -1 -2]	(1 1 0)	(3 -5 4)	8.341	1.076	7.75	71.0	58.5
[2 -2 1]	(1 1 0)	(-3 -5 -4)	8.341	1.076	7.75	53.8	88.1
[3 -3 10]	(1 1 0)	(8 -2 -3)	8.341	1.072	7.78	49.4	52.5
[1 -1 2]	(1 1 0)	(-8 -2 3)	8.341	1.072	7.78	40.8	67.1
[2 -2 -5]	(1 1 0)	(1 -9 4)	8.341	1.072	7.78	89.1	53.4
[1 -1 2]	(1 1 0)	(-1 -9 -4)	8.341	1.072	7.78	60.6	67.1
[5 -5 2]	(1 1 0)	(2 0 -5)	8.341	1.068	7.81	89.1	89.5
[3 -3 2]	(1 1 0)	(-5 -7 -3)	8.341	1.062	7.85	36.8	85.6
[1 -1 0]	(1 1 0)	(-1 -1 5)	8.341	1.061	7.86	86.6	84.5
[5 -5 2]	(1 1 0)	(1 -1 -5)	8.341	1.061	7.86	83.6	89.5
[2 -2 -5]	(1 1 0)	(2 -8 4)	8.341	1.061	7.86	81.8	53.4
[2 -2 3]	(1 1 0)	(2 8 4)	8.341	1.061	7.86	55.9	73.7
[5 -5 4]	(1 1 0)	(-2 2 5)	8.341	1.060	7.87	87.9	83.6
[1 -1 0]	(1 1 0)	(2 2 -5)	8.341	1.060	7.87	86.1	84.5
[5 -5 4]	(1 1 0)	(3 -1 -5)	8.341	1.057	7.89	84.8	83.6
[5 -5 2]	(1 1 0)	(-3 -1 5)	8.341	1.057	7.89	81.8	89.5
[1 -1 -1]	(1 1 0)	(7 5 2)	8.341	1.055	7.90	24.8	70.5
[3 -3 -4]	(1 1 0)	(-6 -2 -3)	8.341	1.052	7.93	40.2	66.2
[1 -1 4]	(1 1 0)	(8 -4 -3)	8.341	1.051	7.94	54.1	46.8
[3 -3 4]	(1 1 0)	(-8 -4 3)	8.341	1.051	7.94	37.5	76.0

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C
[5 -5 -2]	(1 1 0)	(-1 -3 5)	8.341	1.047	7.97	89.6	78.7
[5 -5 4]	(1 1 0)	(1 -3 -5)	8.341	1.047	7.97	80.7	83.6
[1 -1 2]	(1 1 0)	(7 -1 -4)	8.341	1.047	7.97	58.3	67.1
[2 -2 3]	(1 1 0)	(-7 -1 4)	8.341	1.047	7.97	54.8	73.7
[2 -2 -3]	(1 1 0)	(4 -2 4)	8.341	1.045	7.98	60.4	64.2
[2 -2 -1]	(1 1 0)	(-4 -2 -4)	8.341	1.045	7.98	53.4	77.3
[5 -5 6]	(1 1 0)	(3 -3 -5)	8.341	1.043	8.00	87.9	77.9
[1 -1 0]	(1 1 0)	(-3 -3 5)	8.341	1.043	8.00	78.9	84.5
[1 -1 4]	(1 1 0)	(9 1 -2)	8.341	1.041	8.01	32.4	46.8
[5 -5 6]	(1 1 0)	(2 -4 -5)	8.341	1.040	8.02	85.0	77.9
[5 -5 -2]	(1 1 0)	(2 4 -5)	8.341	1.040	8.02	83.2	78.7
[5 -5 -2]	(1 1 0)	(0 2 -5)	8.341	1.038	8.03	82.5	78.7
[5 -5 2]	(1 1 0)	(0 2 5)	8.341	1.038	8.03	76.5	89.5
[5 -5 4]	(1 1 0)	(-4 0 5)	8.341	1.037	8.04	77.7	83.6
[2 -2 -5]	(1 1 0)	(-3 7 -4)	8.341	1.034	8.07	74.8	53.4
[1 -1 1]	(1 1 0)	(3 7 4)	8.341	1.034	8.07	51.7	80.7
[2 -2 5]	(1 1 0)	(-7 3 4)	8.341	1.033	8.07	62.1	61.1
[1 -1 1]	(1 1 0)	(7 3 -4)	8.341	1.033	8.07	51.7	80.7
[3 -3 -10]	(1 1 0)	(-6 4 -3)	8.341	1.032	8.09	53.4	46.2
[3 -3 -2]	(1 1 0)	(6 4 3)	8.341	1.032	8.09	36.9	75.0
[1 -1 -2]	(1 1 0)	(-8 -6 -1)	8.341	1.031	8.09	13.1	58.5
[5 -5 6]	(1 1 0)	(4 -2 -5)	8.341	1.030	8.10	80.8	77.9
[5 -5 2]	(1 1 0)	(-4 -2 5)	8.341	1.030	8.10	74.8	89.5
[2 -2 7]	(1 1 0)	(5 -9 -4)	8.341	1.030	8.10	83.3	51.0
[1 -1 -1]	(1 1 0)	(-5 -9 4)	8.341	1.030	8.10	55.0	70.5
[1 -1 3]	(1 1 0)	(9 3 -2)	8.341	1.028	8.11	27.8	55.8
[3 -3 -2]	(1 1 0)	(-7 -9 3)	8.341	1.025	8.14	36.6	75.0
[5 -5 -4]	(1 1 0)	(1 5 -5)	8.341	1.021	8.17	87.5	73.2
[5 -5 6]	(1 1 0)	(1 -5 -5)	8.341	1.021	8.17	78.0	77.9
[1 -1 4]	(1 1 0)	(9 5 -1)	8.341	1.021	8.17	15.2	46.8
[5 -5 -4]	(1 1 0)	(0 4 -5)	8.341	1.019	8.19	85.5	73.2
[5 -5 4]	(1 1 0)	(0 4 5)	8.341	1.019	8.19	73.8	83.6
[3 -3 2]	(1 1 0)	(-8 -6 3)	8.341	1.018	8.19	35.0	85.6
[5 -5 8]	(1 1 0)	(-3 5 5)	8.341	1.017	8.20	89.2	72.3
[5 -5 -2]	(1 1 0)	(-3 -5 5)	8.341	1.017	8.20	76.3	78.7
[1 -1 0]	(1 1 0)	(7 7 2)	8.341	1.016	8.21	22.5	84.5
[5 -5 -2]	(1 1 0)	(-1 1 -5)	8.341	1.014	8.23	75.5	78.7
[1 -1 0]	(1 1 0)	(1 1 5)	8.341	1.014	8.23	72.6	84.5
[5 -5 8]	(1 1 0)	(-4 4 5)	8.341	1.012	8.25	83.8	72.3
[1 -1 0]	(1 1 0)	(4 4 -5)	8.341	1.012	8.25	72.1	84.5
[3 -3 4]	(1 1 0)	(5 9 3)	8.341	1.010	8.26	35.8	76.0
[1 -1 3]	(1 1 0)	(-7 5 4)	8.341	1.008	8.27	66.0	55.8
[2 -2 1]	(1 1 0)	(7 5 -4)	8.341	1.008	8.27	49.1	88.1
[5 -5 8]	(1 1 0)	(-2 6 5)	8.341	1.008	8.27	82.3	72.3
[5 -5 -4]	(1 1 0)	(-2 -6 5)	8.341	1.008	8.27	80.6	73.2
[2 -2 7]	(1 1 0)	(6 -8 -4)	8.341	1.008	8.27	76.4	51.0
[2 -2 -1]	(1 1 0)	(-6 -8 4)	8.341	1.008	8.27	50.7	77.3
[1 -1 2]	(1 1 0)	(9 5 -2)	8.341	1.003	8.31	24.1	67.1

Grunerite (110) 340 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[5 -5 6]	(1 1 0)	(-5 1 5)	8.341	1.003	8.31	73.9	77.9
[5 -5 4]	(1 1 0)	(5 1 -5)	8.341	1.003	8.31	71.0	83.6
[5 -5 -4]	(1 1 0)	(-1 3 -5)	8.341	1.002	8.33	78.6	73.2
[5 -5 2]	(1 1 0)	(1 3 5)	8.341	1.002	8.33	69.8	89.5

Grunerite (130) 292 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[3 -1 0]	(1 3 0)	(0 0 1)	5.129	5.224	0.98	83.5	80.0
[3 -1 4]	(1 3 0)	(1 -1 -1)	5.129	4.846	1.06	87.6	65.3
[3 -1 2]	(1 3 0)	(1 1 -1)	5.129	4.846	1.06	66.5	81.9
[3 -1 -2]	(1 3 0)	(0 2 -1)	5.129	4.542	1.13	71.6	63.7
[3 -1 2]	(1 3 0)	(0 -2 -1)	5.129	4.542	1.13	59.2	81.9
[3 -1 -4]	(1 3 0)	(1 -1 1)	5.129	4.102	1.25	81.8	50.9
[3 -1 -2]	(1 3 0)	(1 1 1)	5.129	4.102	1.25	59.0	63.7
[3 -1 6]	(1 3 0)	(1 -3 -1)	5.129	3.886	1.32	67.3	52.1
[3 -1 0]	(1 3 0)	(1 3 -1)	5.129	3.886	1.32	47.6	80.0
[3 -1 4]	(1 3 0)	(2 2 -1)	5.129	3.597	1.43	47.9	65.3
[3 -1 0]	(1 3 0)	(-1 -3 -1)	5.129	3.469	1.48	41.3	80.0
[3 -1 -4]	(1 3 0)	(0 4 -1)	5.129	3.452	1.49	56.4	50.9
[3 -1 4]	(1 3 0)	(0 -4 -1)	5.129	3.452	1.49	45.4	65.3
[3 -1 -4]	(1 3 0)	(2 2 1)	5.129	3.002	1.71	46.4	50.9
[3 -1 2]	(1 3 0)	(-2 -4 1)	5.129	2.978	1.72	34.3	81.9
[3 -1 -2]	(1 3 0)	(1 5 -1)	5.129	2.968	1.73	38.3	63.7
[3 -1 2]	(1 3 0)	(1 5 1)	5.129	2.769	1.85	31.6	81.9
[3 -1 6]	(1 3 0)	(-3 -3 1)	5.129	2.666	1.92	39.3	52.1
[3 -1 6]	(1 3 0)	(0 6 1)	5.129	2.644	1.94	38.9	52.1
[3 -1 2]	(1 3 0)	(1 -1 -2)	5.129	2.635	1.95	85.4	81.9
[3 -1 1]	(1 3 0)	(1 1 -2)	5.129	2.635	1.95	80.8	89.0
[3 -1 -2]	(1 3 0)	(2 4 1)	5.129	2.613	1.96	33.1	63.7
[3 -1 -1]	(1 3 0)	(0 2 -2)	5.129	2.513	2.04	83.1	71.5
[3 -1 1]	(1 3 0)	(0 -2 -2)	5.129	2.513	2.04	70.3	89.0
[3 -1 3]	(1 3 0)	(2 0 -2)	5.129	2.512	2.04	79.3	73.2
[3 -1 3]	(1 3 0)	(1 -3 -2)	5.129	2.442	2.10	72.8	73.2
[3 -1 0]	(1 3 0)	(1 3 -2)	5.129	2.442	2.10	68.3	80.0
[3 -1 -1]	(1 3 0)	(1 1 2)	5.129	2.372	2.16	69.6	71.5
[3 -1 -4]	(1 3 0)	(-1 -7 1)	5.129	2.328	2.20	34.2	50.9
[3 -1 4]	(1 3 0)	(3 5 -1)	5.129	2.306	2.22	28.4	65.3
[3 -1 4]	(1 3 0)	(-1 -7 -1)	5.129	2.229	2.30	27.4	65.3
[3 -1 -3]	(1 3 0)	(-1 3 -2)	5.129	2.228	2.30	85.6	56.8
[3 -1 0]	(1 3 0)	(-1 -3 -2)	5.129	2.228	2.30	57.9	80.0
[3 -1 5]	(1 3 0)	(3 -1 -2)	5.129	2.227	2.30	78.8	58.2
[3 -1 4]	(1 3 0)	(-3 -1 2)	5.129	2.227	2.30	66.7	65.3
[3 -1 0]	(1 3 0)	(-2 -6 -1)	5.129	2.206	2.33	24.8	80.0
[3 -1 5]	(1 3 0)	(-2 4 2)	5.129	2.204	2.33	76.2	58.2
[3 -1 1]	(1 3 0)	(-2 -4 2)	5.129	2.204	2.33	55.7	89.0
[3 -1 4]	(1 3 0)	(-1 5 2)	5.129	2.157	2.38	62.8	65.3
[3 -1 -1]	(1 3 0)	(-1 -5 2)	5.129	2.157	2.38	58.4	71.5
[3 -1 6]	(1 3 0)	(-3 3 2)	5.129	2.107	2.43	89.5	52.1
[3 -1 3]	(1 3 0)	(-3 -3 2)	5.129	2.107	2.43	55.5	73.2
[3 -1 -3]	(1 3 0)	(2 0 2)	5.129	2.104	2.44	70.3	56.8
[3 -1 1]	(1 3 0)	(-1 -5 -2)	5.129	2.005	2.56	48.7	89.0
[3 -1 -3]	(1 3 0)	(0 6 -2)	5.129	1.988	2.58	62.8	56.8
[3 -1 3]	(1 3 0)	(0 6 2)	5.129	1.988	2.58	51.1	73.2
[3 -1 -2]	(1 3 0)	(-2 -8 1)	5.129	1.982	2.59	24.5	63.7
[3 -1 2]	(1 3 0)	(3 7 -1)	5.129	1.965	2.61	21.8	81.9

Grunerite (130) 292 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	d (hk0)	d (hkl)	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[3 -1 2]	(1 3 0)	(-3 -5 2)	5.129	1.915	2.68	46.4	81.9
[3 -1 -5]	(1 3 0)	(-2 4 -2)	5.129	1.913	2.68	87.6	45.8
[3 -1 -1]	(1 3 0)	(-2 -4 -2)	5.129	1.913	2.68	49.1	71.5
[3 -1 7]	(1 3 0)	(4 -2 -2)	5.129	1.912	2.68	79.0	46.9
[3 -1 5]	(1 3 0)	(4 2 -2)	5.129	1.912	2.68	57.4	58.2
[3 -1 5]	(1 3 0)	(1 -7 -2)	5.129	1.870	2.74	55.5	58.2
[3 -1 -2]	(1 3 0)	(1 7 -2)	5.129	1.870	2.74	51.4	63.7
[3 -1 2]	(1 3 0)	(-2 -8 -1)	5.129	1.862	2.75	20.6	81.9
[3 -1 6]	(1 3 0)	(4 6 -1)	5.129	1.851	2.77	26.1	52.1
[3 -1 6]	(1 3 0)	(-1 -9 -1)	5.129	1.838	2.79	25.9	52.1
[3 -1 -5]	(1 3 0)	(3 -1 2)	5.129	1.817	2.82	71.6	45.8
[3 -1 -4]	(1 3 0)	(-3 -1 -2)	5.129	1.817	2.82	61.3	50.9
[3 -1 -2]	(1 3 0)	(3 7 1)	5.129	1.797	2.85	22.1	63.7
[9 -3 2]	(1 3 0)	(-1 -1 3)	5.129	1.771	2.90	86.0	86.0
[9 -3 4]	(1 3 0)	(-1 1 3)	5.129	1.771	2.90	84.7	87.9
[3 -1 -5]	(1 3 0)	(1 -7 2)	5.129	1.769	2.90	67.5	45.8
[3 -1 2]	(1 3 0)	(1 7 2)	5.129	1.769	2.90	42.0	81.9
[3 -1 2]	(1 3 0)	(-2 0 3)	5.129	1.755	2.92	84.7	81.9
[3 -1 -3]	(1 3 0)	(3 3 2)	5.129	1.750	2.93	51.5	56.8
[9 -3 -2]	(1 3 0)	(0 -2 3)	5.129	1.711	3.00	87.4	74.2
[9 -3 2]	(1 3 0)	(0 2 3)	5.129	1.711	3.00	74.5	86.0
[3 -1 0]	(1 3 0)	(-1 -3 3)	5.129	1.709	3.00	77.2	80.0
[3 -1 2]	(1 3 0)	(-1 3 3)	5.129	1.709	3.00	75.9	81.9
[3 -1 1]	(1 3 0)	(-3 -7 2)	5.129	1.706	3.01	39.7	89.0
[3 -1 7]	(1 3 0)	(-2 8 2)	5.129	1.696	3.02	60.5	46.9
[3 -1 -1]	(1 3 0)	(-2 -8 2)	5.129	1.696	3.02	42.1	71.5
[3 -1 7]	(1 3 0)	(5 1 -2)	5.129	1.689	3.04	60.1	46.9
[9 -3 10]	(1 3 0)	(3 -1 -3)	5.129	1.668	3.08	83.7	70.5
[9 -3 8]	(1 3 0)	(3 1 -3)	5.129	1.668	3.08	74.9	76.1
[3 -1 3]	(1 3 0)	(-4 -6 2)	5.129	1.648	3.11	40.1	73.2
[9 -3 -4]	(1 3 0)	(1 -1 3)	5.129	1.645	3.12	82.6	68.8
[9 -3 -2]	(1 3 0)	(-1 -1 -3)	5.129	1.645	3.12	73.9	74.2
[9 -3 10]	(1 3 0)	(-2 4 3)	5.129	1.639	3.13	77.7	70.5
[9 -3 2]	(1 3 0)	(-2 -4 3)	5.129	1.639	3.13	67.4	86.0
[3 -1 -2]	(1 3 0)	(3 5 2)	5.129	1.636	3.14	43.1	63.7
[3 -1 6]	(1 3 0)	(-5 -3 2)	5.129	1.635	3.14	50.9	52.1
[3 -1 4]	(1 3 0)	(4 8 -1)	5.129	1.633	3.14	19.7	65.3
[9 -3 -4]	(1 3 0)	(0 -4 3)	5.129	1.629	3.15	79.0	68.8
[9 -3 4]	(1 3 0)	(0 4 3)	5.129	1.629	3.15	66.3	87.9
[3 -1 6]	(1 3 0)	(1 -9 -2)	5.129	1.621	3.16	50.3	52.1
[3 -1 -3]	(1 3 0)	(1 9 -2)	5.129	1.621	3.16	46.5	56.8
[9 -3 -2]	(1 3 0)	(1 5 -3)	5.129	1.602	3.20	69.3	74.2
[9 -3 8]	(1 3 0)	(1 -5 -3)	5.129	1.602	3.20	68.0	76.1
[3 -1 -2]	(1 3 0)	(-1 3 -3)	5.129	1.595	3.22	88.8	63.7
[3 -1 0]	(1 3 0)	(-1 -3 -3)	5.129	1.595	3.22	65.5	80.0
[3 -1 0]	(1 3 0)	(-3 -9 -1)	5.129	1.573	3.26	17.4	80.0
[3 -1 -5]	(1 3 0)	(4 2 2)	5.129	1.565	3.28	54.8	45.8
[3 -1 4]	(1 3 0)	(-4 0 3)	5.129	1.559	3.29	74.7	65.3

Grunerite (130) 292 Zone Axes***a* 9.564Å *b* 18.393Å *c* 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$ C $^\circ$
[3 -1 3]	(1 3 0)	(1 9 2)	5.129	1.554	3.30	37.4	73.2
[3 -1 1]	(1 3 0)	(-2 -8 -2)	5.129	1.552	3.30	35.6	89.0
[3 -1 5]	(1 3 0)	(5 5 -2)	5.129	1.540	3.33	42.7	58.2
[9 -3 14]	(1 3 0)	(-4 2 3)	5.129	1.537	3.34	83.1	60.5
[9 -3 10]	(1 3 0)	(4 2 -3)	5.129	1.537	3.34	66.4	70.5
[3 -1 -2]	(1 3 0)	(-2 0 -3)	5.129	1.532	3.35	73.8	63.7
[9 -3 14]	(1 3 0)	(-3 5 3)	5.129	1.524	3.37	79.8	60.5
[9 -3 4]	(1 3 0)	(-3 -5 3)	5.129	1.524	3.37	59.0	87.9
[3 -1 4]	(1 3 0)	(-2 6 3)	5.129	1.523	3.37	70.4	65.3
[3 -1 0]	(1 3 0)	(-2 -6 3)	5.129	1.523	3.37	60.3	80.0
[9 -3 -8]	(1 3 0)	(2 -2 3)	5.129	1.511	3.39	82.1	59.0
[9 -3 -4]	(1 3 0)	(-2 -2 -3)	5.129	1.511	3.39	65.6	68.8
[3 -1 0]	(1 3 0)	(3 9 -2)	5.129	1.511	3.39	35.1	80.0
[9 -3 -8]	(1 3 0)	(1 -5 3)	5.129	1.507	3.40	81.0	59.0
[9 -3 2]	(1 3 0)	(1 5 3)	5.129	1.507	3.40	58.1	86.0
[3 -1 -4]	(1 3 0)	(-4 -8 -1)	5.129	1.504	3.41	21.3	50.9
[3 -1 -1]	(1 3 0)	(-3 -7 -2)	5.129	1.500	3.42	36.3	71.5
[9 -3 16]	(1 3 0)	(-4 4 3)	5.129	1.477	3.47	88.9	56.1
[9 -3 8]	(1 3 0)	(-4 -4 3)	5.129	1.477	3.47	58.8	76.1
[9 -3 -4]	(1 3 0)	(1 7 -3)	5.129	1.473	3.48	62.6	68.8
[9 -3 10]	(1 3 0)	(1 -7 -3)	5.129	1.473	3.48	61.4	70.5
[9 -3 -10]	(1 3 0)	(2 -4 3)	5.129	1.454	3.53	90.0	54.8
[9 -3 -2]	(1 3 0)	(-2 -4 -3)	5.129	1.454	3.53	58.1	74.2
[9 -3 16]	(1 3 0)	(5 -1 -3)	5.129	1.426	3.60	74.9	56.1
[9 -3 14]	(1 3 0)	(-5 -1 3)	5.129	1.426	3.60	67.1	60.5
[3 -1 4]	(1 3 0)	(5 7 -2)	5.129	1.425	3.60	36.0	65.3
[9 -3 16]	(1 3 0)	(3 -7 -3)	5.129	1.412	3.63	73.0	56.1
[9 -3 2]	(1 3 0)	(3 7 -3)	5.129	1.412	3.63	52.7	86.0
[3 -1 -3]	(1 3 0)	(4 6 2)	5.129	1.410	3.64	39.1	56.8
[3 -1 7]	(1 3 0)	(-6 -4 2)	5.129	1.409	3.64	46.3	46.9
[9 -3 -10]	(1 3 0)	(-1 7 -3)	5.129	1.398	3.67	74.2	54.8
[9 -3 4]	(1 3 0)	(1 7 3)	5.129	1.398	3.67	51.8	87.9
[9 -3 -10]	(1 3 0)	(-3 1 -3)	5.129	1.398	3.67	74.2	54.8
[9 -3 -8]	(1 3 0)	(3 1 3)	5.129	1.398	3.67	66.4	59.0
[9 -3 14]	(1 3 0)	(2 -8 -3)	5.129	1.395	3.68	64.2	60.5
[9 -3 -2]	(1 3 0)	(2 8 -3)	5.129	1.395	3.68	54.5	74.2
[3 -1 6]	(1 3 0)	(-5 3 3)	5.129	1.393	3.68	82.7	52.1
[3 -1 4]	(1 3 0)	(5 3 -3)	5.129	1.393	3.68	59.5	65.3
[3 -1 6]	(1 3 0)	(4 -6 -3)	5.129	1.390	3.69	81.7	52.1
[3 -1 2]	(1 3 0)	(4 6 -3)	5.129	1.390	3.69	52.1	81.9
[9 -3 -8]	(1 3 0)	(0 -8 3)	5.129	1.388	3.69	65.5	59.0
[9 -3 8]	(1 3 0)	(0 8 3)	5.129	1.388	3.69	53.5	76.1
[3 -1 6]	(1 3 0)	(-5 -9 1)	5.129	1.388	3.70	19.2	52.1
[3 -1 -4]	(1 3 0)	(-2 6 -3)	5.129	1.370	3.74	82.8	50.9
[3 -1 0]	(1 3 0)	(-2 -6 -3)	5.129	1.370	3.74	51.4	80.0
[3 -1 0]	(1 3 0)	(-3 -9 -2)	5.129	1.362	3.77	31.2	80.0
[3 -1 -2]	(1 3 0)	(1 9 -3)	5.129	1.342	3.82	57.3	63.7
[3 -1 4]	(1 3 0)	(1 -9 -3)	5.129	1.342	3.82	56.1	65.3

Grunerite (130) 292 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[9 -3 20]	(1 3 0)	(5 -5 -3)	5.129	1.333	3.85	90.0	48.5
[9 -3 10]	(1 3 0)	(-5 -5 3)	5.129	1.333	3.85	52.6	70.5
[6 -2 1]	(1 3 0)	(1 1 -4)	5.129	1.328	3.86	88.7	84.5
[3 -1 1]	(1 3 0)	(1 -1 -4)	5.129	1.328	3.86	84.4	89.0
[9 -3 -14]	(1 3 0)	(3 -5 3)	5.129	1.310	3.91	89.0	47.4
[9 -3 -4]	(1 3 0)	(-3 -5 -3)	5.129	1.310	3.91	52.2	68.8
[3 -1 3]	(1 3 0)	(5 9 -2)	5.129	1.305	3.93	30.7	73.2
[3 -1 0]	(1 3 0)	(-1 -3 4)	5.129	1.301	3.94	81.9	80.0
[6 -2 3]	(1 3 0)	(-1 3 4)	5.129	1.301	3.94	77.7	86.4
[6 -2 5]	(1 3 0)	(-3 1 4)	5.129	1.301	3.94	86.7	77.5
[3 -1 2]	(1 3 0)	(3 1 -4)	5.129	1.301	3.94	79.9	81.9
[6 -2 -1]	(1 3 0)	(0 -2 4)	5.129	1.293	3.97	89.7	75.7
[6 -2 1]	(1 3 0)	(0 2 4)	5.129	1.293	3.97	76.7	84.5
[9 -3 20]	(1 3 0)	(4 -8 -3)	5.129	1.291	3.97	75.5	48.5
[9 -3 4]	(1 3 0)	(4 8 -3)	5.129	1.291	3.97	46.5	87.9
[9 -3 20]	(1 3 0)	(-6 2 3)	5.129	1.290	3.98	75.4	48.5
[9 -3 16]	(1 3 0)	(6 2 -3)	5.129	1.290	3.98	60.9	56.1
[3 -1 -4]	(1 3 0)	(1 -9 3)	5.129	1.285	3.99	68.5	50.9
[3 -1 2]	(1 3 0)	(1 9 3)	5.129	1.285	3.99	46.8	81.9
[6 -2 5]	(1 3 0)	(2 -4 -4)	5.129	1.279	4.01	78.8	77.5
[6 -2 1]	(1 3 0)	(2 4 -4)	5.129	1.279	4.01	74.2	84.5
[3 -1 -4]	(1 3 0)	(-4 0 -3)	5.129	1.277	4.02	67.6	50.9
[3 -1 3]	(1 3 0)	(-3 3 4)	5.129	1.276	4.02	86.5	73.2
[6 -2 3]	(1 3 0)	(-3 -3 4)	5.129	1.276	4.02	73.3	86.4
[9 -3 -14]	(1 3 0)	(-2 8 -3)	5.129	1.275	4.02	76.6	47.4
[9 -3 2]	(1 3 0)	(2 8 3)	5.129	1.275	4.02	45.9	86.0
[9 -3 -14]	(1 3 0)	(-4 2 -3)	5.129	1.264	4.06	74.7	47.4
[9 -3 -10]	(1 3 0)	(4 2 3)	5.129	1.264	4.06	60.5	54.8
[6 -2 -1]	(1 3 0)	(-1 -1 -4)	5.129	1.256	4.08	76.2	75.7
[9 -3 22]	(1 3 0)	(6 -4 -3)	5.129	1.254	4.09	82.5	45.3
[9 -3 14]	(1 3 0)	(-6 -4 3)	5.129	1.254	4.09	54.0	60.5
[6 -2 -1]	(1 3 0)	(1 5 -4)	5.129	1.252	4.10	75.5	75.7
[3 -1 2]	(1 3 0)	(-1 5 4)	5.129	1.252	4.10	71.4	81.9
[3 -1 5]	(1 3 0)	(-6 -8 2)	5.129	1.245	4.12	33.3	58.2
[6 -2 7]	(1 3 0)	(4 -2 -4)	5.129	1.244	4.12	85.9	69.2
[6 -2 5]	(1 3 0)	(-4 -2 4)	5.129	1.244	4.12	72.7	77.5
[9 -3 -2]	(1 3 0)	(3 7 3)	5.129	1.237	4.14	46.3	74.2
[6 -2 -3]	(1 3 0)	(-1 3 -4)	5.129	1.233	4.16	89.4	67.5
[3 -1 0]	(1 3 0)	(1 3 4)	5.129	1.233	4.16	69.7	80.0
[9 -3 -8]	(1 3 0)	(-4 -4 -3)	5.129	1.230	4.17	53.7	59.0
[3 -1 -4]	(1 3 0)	(5 7 2)	5.129	1.230	4.17	36.4	50.9
[6 -2 7]	(1 3 0)	(3 -5 -4)	5.129	1.229	4.17	80.2	69.2
[3 -1 1]	(1 3 0)	(3 5 -4)	5.129	1.229	4.17	67.1	89.0
[3 -1 -2]	(1 3 0)	(1 -5 4)	5.129	1.191	4.31	84.4	63.7
[6 -2 1]	(1 3 0)	(1 5 4)	5.129	1.191	4.31	63.7	84.5
[3 -1 4]	(1 3 0)	(-5 1 4)	5.129	1.190	4.31	79.0	65.3
[6 -2 7]	(1 3 0)	(5 1 -4)	5.129	1.190	4.31	72.6	69.2
[3 -1 -1]	(1 3 0)	(-1 -7 4)	5.129	1.188	4.32	69.8	71.5

Grunerite (130) 292 Zone Axes***a* 9.564Å *b* 18.393Å *c* 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$ C $^\circ$
[6 -2 5]	(1 3 0)	(-1 7 4)	5.129	1.188	4.32	65.7	77.5
[9 -3 22]	(1 3 0)	(-7 1 3)	5.129	1.183	4.34	69.3	45.3
[9 -3 20]	(1 3 0)	(7 1 -3)	5.129	1.183	4.34	62.5	48.5
[3 -1 -2]	(1 3 0)	(-4 -6 -3)	5.129	1.179	4.35	47.6	63.7
[3 -1 2]	(1 3 0)	(5 9 -3)	5.129	1.172	4.38	41.7	81.9
[6 -2 9]	(1 3 0)	(-5 3 4)	5.129	1.171	4.38	85.3	61.6
[3 -1 3]	(1 3 0)	(5 3 -4)	5.129	1.171	4.38	66.3	73.2
[3 -1 4]	(1 3 0)	(3 -7 -4)	5.129	1.168	4.39	74.5	65.3
[6 -2 1]	(1 3 0)	(3 7 -4)	5.129	1.168	4.39	61.6	84.5
[3 -1 7]	(1 3 0)	(7 7 -2)	5.129	1.168	4.39	36.9	46.9
[3 -1 6]	(1 3 0)	(-7 -3 3)	5.129	1.163	4.41	55.9	52.1
[6 -2 9]	(1 3 0)	(-4 6 4)	5.129	1.162	4.41	81.6	61.6
[6 -2 3]	(1 3 0)	(-4 -6 4)	5.129	1.162	4.41	60.7	86.4
[9 -3 -14]	(1 3 0)	(5 1 3)	5.129	1.159	4.43	62.2	47.4
[6 -2 -5]	(1 3 0)	(-2 4 -4)	5.129	1.157	4.43	88.6	60.2
[6 -2 -1]	(1 3 0)	(2 4 4)	5.129	1.157	4.43	63.5	75.7
[6 -2 7]	(1 3 0)	(2 -8 -4)	5.129	1.152	4.45	67.4	69.2
[6 -2 -1]	(1 3 0)	(2 8 -4)	5.129	1.152	4.45	63.0	75.7
[3 -1 -3]	(1 3 0)	(-5 -9 -2)	5.129	1.150	4.46	31.0	56.8
[3 -1 -4]	(1 3 0)	(5 3 3)	5.129	1.141	4.50	55.7	50.9
[3 -1 5]	(1 3 0)	(5 -5 -4)	5.129	1.134	4.52	88.6	58.2
[6 -2 5]	(1 3 0)	(5 5 -4)	5.129	1.134	4.52	60.5	77.5
[9 -3 10]	(1 3 0)	(-6 -8 3)	5.129	1.134	4.52	42.5	70.5
[9 -3 16]	(1 3 0)	(7 5 -3)	5.129	1.128	4.55	49.8	56.1
[6 -2 -5]	(1 3 0)	(-3 1 -4)	5.129	1.123	4.57	75.9	60.2
[3 -1 -2]	(1 3 0)	(3 1 4)	5.129	1.123	4.57	69.8	63.7
[6 -2 9]	(1 3 0)	(-6 0 4)	5.129	1.122	4.57	72.7	61.6
[9 -3 -4]	(1 3 0)	(4 8 3)	5.129	1.116	4.60	42.3	68.8
[6 -2 -3]	(1 3 0)	(1 9 -4)	5.129	1.116	4.60	64.8	67.5
[3 -1 3]	(1 3 0)	(1 -9 -4)	5.129	1.116	4.60	60.8	73.2
[6 -2 -3]	(1 3 0)	(-3 -3 -4)	5.129	1.107	4.63	63.8	67.5
[6 -2 9]	(1 3 0)	(-3 9 4)	5.129	1.099	4.66	69.4	61.6
[3 -1 0]	(1 3 0)	(3 9 -4)	5.129	1.099	4.66	56.8	80.0
[3 -1 6]	(1 3 0)	(7 9 -2)	5.129	1.099	4.67	31.5	52.1
[6 -2 11]	(1 3 0)	(-6 4 4)	5.129	1.090	4.71	84.8	55.1
[6 -2 7]	(1 3 0)	(6 4 -4)	5.129	1.090	4.71	60.9	69.2
[3 -1 -5]	(1 3 0)	(-6 -8 -2)	5.129	1.086	4.72	34.6	45.8
[6 -2 11]	(1 3 0)	(-5 7 4)	5.129	1.086	4.72	83.0	55.1
[3 -1 2]	(1 3 0)	(5 7 -4)	5.129	1.086	4.72	55.3	81.9
[9 -3 14]	(1 3 0)	(7 7 -3)	5.129	1.080	4.75	44.2	60.5
[6 -2 -7]	(1 3 0)	(-3 5 -4)	5.129	1.076	4.77	87.9	53.8
[3 -1 -1]	(1 3 0)	(3 5 4)	5.129	1.076	4.77	58.2	71.5
[9 -3 22]	(1 3 0)	(-8 -2 3)	5.129	1.072	4.78	58.0	45.3
[3 -1 -3]	(1 3 0)	(-1 9 -4)	5.129	1.072	4.79	73.5	56.8
[6 -2 3]	(1 3 0)	(-1 -9 -4)	5.129	1.072	4.79	53.6	86.4
[15 -5 6]	(1 3 0)	(2 0 -5)	5.129	1.068	4.80	89.4	89.2
[9 -3 -8]	(1 3 0)	(-5 -7 -3)	5.129	1.062	4.83	44.1	59.0
[15 -5 2]	(1 3 0)	(-1 -1 5)	5.129	1.061	4.83	89.8	83.6

Grunerite (130) 292 Zone Axes***a* 9.564Å *b* 18.393Å *c* 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$ C
[15 -5 4]	(1 3 0)	(1 -1 -5)	5.129	1.061	4.83	84.2	87.2
[6 -2 -7]	(1 3 0)	(-2 8 -4)	5.129	1.061	4.83	80.2	53.8
[6 -2 1]	(1 3 0)	(-2 -8 -4)	5.129	1.061	4.83	53.0	84.5
[15 -5 8]	(1 3 0)	(-2 2 5)	5.129	1.060	4.84	85.0	85.5
[15 -5 4]	(1 3 0)	(-2 -2 5)	5.129	1.060	4.84	83.9	87.2
[3 -1 2]	(1 3 0)	(3 -1 -5)	5.129	1.057	4.85	88.7	81.9
[15 -5 8]	(1 3 0)	(3 1 -5)	5.129	1.057	4.85	83.1	85.5
[3 -1 0]	(1 3 0)	(-1 -3 5)	5.129	1.047	4.90	84.8	80.0
[15 -5 6]	(1 3 0)	(-1 3 5)	5.129	1.047	4.90	78.8	89.2
[6 -2 11]	(1 3 0)	(-7 1 4)	5.129	1.047	4.90	73.1	55.1
[3 -1 5]	(1 3 0)	(7 1 -4)	5.129	1.047	4.90	67.3	58.2
[6 -2 -7]	(1 3 0)	(4 -2 4)	5.129	1.045	4.91	76.1	53.8
[6 -2 -5]	(1 3 0)	(-4 -2 -4)	5.129	1.045	4.91	64.5	60.2
[15 -5 12]	(1 3 0)	(-3 3 5)	5.129	1.043	4.92	85.9	78.4
[15 -5 6]	(1 3 0)	(-3 -3 5)	5.129	1.043	4.92	77.7	89.2
[3 -1 2]	(1 3 0)	(-2 4 5)	5.129	1.040	4.93	79.6	81.9
[15 -5 2]	(1 3 0)	(2 4 -5)	5.129	1.040	4.93	78.5	83.6
[15 -5 -2]	(1 3 0)	(0 2 -5)	5.129	1.038	4.94	89.0	76.5
[15 -5 2]	(1 3 0)	(0 2 5)	5.129	1.038	4.94	78.1	83.6
[15 -5 12]	(1 3 0)	(-4 0 5)	5.129	1.037	4.95	82.5	78.4
[3 -1 -4]	(1 3 0)	(-3 7 -4)	5.129	1.034	4.96	86.7	50.9
[6 -2 -1]	(1 3 0)	(-3 -7 -4)	5.129	1.034	4.96	53.1	75.7
[3 -1 6]	(1 3 0)	(7 -3 -4)	5.129	1.033	4.96	78.9	52.1
[6 -2 9]	(1 3 0)	(-7 -3 4)	5.129	1.033	4.96	61.6	61.6
[9 -3 -14]	(1 3 0)	(6 4 3)	5.129	1.032	4.97	51.9	47.4
[15 -5 14]	(1 3 0)	(-4 2 5)	5.129	1.030	4.98	87.9	74.9
[3 -1 2]	(1 3 0)	(4 2 -5)	5.129	1.030	4.98	77.1	81.9
[3 -1 6]	(1 3 0)	(-5 9 4)	5.129	1.030	4.98	77.9	52.1
[6 -2 3]	(1 3 0)	(-5 -9 4)	5.129	1.030	4.98	50.6	86.4
[3 -1 4]	(1 3 0)	(-7 -9 3)	5.129	1.025	5.00	39.4	65.3
[15 -5 -2]	(1 3 0)	(1 5 -5)	5.129	1.021	5.02	79.5	76.5
[15 -5 8]	(1 3 0)	(1 -5 -5)	5.129	1.021	5.02	73.6	85.5
[15 -5 -4]	(1 3 0)	(0 4 -5)	5.129	1.019	5.03	85.7	73.1
[15 -5 4]	(1 3 0)	(0 -4 -5)	5.129	1.019	5.03	72.8	87.2
[3 -1 6]	(1 3 0)	(8 6 -3)	5.129	1.018	5.04	46.5	52.1
[15 -5 14]	(1 3 0)	(3 -5 -5)	5.129	1.017	5.04	80.6	74.9
[15 -5 4]	(1 3 0)	(3 5 -5)	5.129	1.017	5.04	72.5	87.2
[15 -5 -4]	(1 3 0)	(-1 1 -5)	5.129	1.014	5.06	82.9	73.1
[15 -5 -2]	(1 3 0)	(1 1 5)	5.129	1.014	5.06	77.6	76.5
[15 -5 16]	(1 3 0)	(4 -4 -5)	5.129	1.012	5.07	86.8	71.6
[15 -5 8]	(1 3 0)	(4 4 -5)	5.129	1.012	5.07	71.8	85.5
[3 -1 -2]	(1 3 0)	(-5 -9 -3)	5.129	1.010	5.08	39.3	63.7
[6 -2 13]	(1 3 0)	(7 -5 -4)	5.129	1.008	5.09	84.4	49.4
[3 -1 4]	(1 3 0)	(-7 -5 4)	5.129	1.008	5.09	56.3	65.3
[15 -5 12]	(1 3 0)	(-2 6 5)	5.129	1.008	5.09	74.6	78.4
[3 -1 0]	(1 3 0)	(-2 -6 5)	5.129	1.008	5.09	73.5	80.0
[6 -2 13]	(1 3 0)	(-6 8 4)	5.129	1.008	5.09	84.3	49.4
[6 -2 5]	(1 3 0)	(-6 -8 4)	5.129	1.008	5.09	50.7	77.5

Grunerite (130) 292 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[15 -5 16]	(1 3 0)	(5 -1 -5)	5.129	1.003	5.11	82.0	71.6
[15 -5 14]	(1 3 0)	(5 1 -5)	5.129	1.003	5.11	76.7	74.9
[15 -5 -6]	(1 3 0)	(-1 3 -5)	5.129	1.002	5.12	88.3	69.8
[3 -1 0]	(1 3 0)	(1 3 5)	5.129	1.002	5.12	72.3	80.0

Grunerite (200) 180 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[0 1 0]	(2 0 0)	(0 0 1)	4.679	5.224	0.90	78.1	90.0
[0 1 1]	(2 0 0)	(1 1 -1)	4.679	4.846	0.97	70.9	73.8
[0 -1 -2]	(2 0 0)	(0 -2 1)	4.679	4.542	1.03	79.7	59.9
[0 -1 1]	(2 0 0)	(1 1 1)	4.679	4.102	1.14	53.1	73.8
[0 1 0]	(2 0 0)	(-2 0 1)	4.679	3.909	1.20	47.1	90.0
[0 1 3]	(2 0 0)	(1 3 -1)	4.679	3.886	1.20	74.8	49.0
[0 -1 -2]	(2 0 0)	(-2 -2 1)	4.679	3.597	1.30	51.2	59.9
[0 -1 3]	(2 0 0)	(1 3 1)	4.679	3.469	1.35	59.5	49.0
[0 1 2]	(2 0 0)	(-2 2 -1)	4.679	3.002	1.56	40.5	59.9
[0 1 -1]	(2 0 0)	(3 -1 -1)	4.679	2.923	1.60	34.8	73.8
[0 1 3]	(2 0 0)	(3 3 -1)	4.679	2.666	1.76	41.5	49.0
[0 -2 -1]	(2 0 0)	(-1 -1 2)	4.679	2.635	1.78	85.8	81.7
[0 1 1]	(2 0 0)	(0 2 -2)	4.679	2.513	1.86	78.6	73.8
[0 1 0]	(2 0 0)	(-2 0 2)	4.679	2.512	1.86	70.2	90.0
[0 -1 1]	(2 0 0)	(3 1 1)	4.679	2.442	1.92	28.4	73.8
[0 -2 -3]	(2 0 0)	(-1 -3 2)	4.679	2.442	1.92	86.1	66.5
[0 1 0]	(2 0 0)	(4 0 -1)	4.679	2.321	2.02	25.8	90.0
[0 1 3]	(2 0 0)	(-3 3 -1)	4.679	2.286	2.05	34.6	49.0
[0 1 2]	(2 0 0)	(4 2 -1)	4.679	2.251	2.08	29.2	59.9
[0 2 -3]	(2 0 0)	(-1 -3 -2)	4.679	2.228	2.10	65.6	66.5
[0 2 -1]	(2 0 0)	(3 -1 -2)	4.679	2.227	2.10	57.4	81.7
[0 -1 -2]	(2 0 0)	(-2 -4 2)	4.679	2.204	2.12	72.7	59.9
[0 2 5]	(2 0 0)	(1 5 -2)	4.679	2.157	2.17	86.5	54.0
[0 -2 -3]	(2 0 0)	(-3 -3 2)	4.679	2.107	2.22	59.4	66.5
[0 1 0]	(2 0 0)	(2 0 2)	4.679	2.104	2.22	52.0	90.0
[0 -1 3]	(2 0 0)	(0 6 2)	4.679	1.988	2.35	81.0	49.0
[0 -1 2]	(2 0 0)	(4 2 1)	4.679	1.943	2.41	24.9	59.9
[0 2 -5]	(2 0 0)	(3 -5 -2)	4.679	1.915	2.44	62.4	54.0
[0 1 -2]	(2 0 0)	(-2 -4 -2)	4.679	1.913	2.45	56.0	59.9
[0 1 1]	(2 0 0)	(4 2 -2)	4.679	1.912	2.45	48.2	73.8
[0 -1 -1]	(2 0 0)	(-5 -1 1)	4.679	1.880	2.49	21.5	73.8
[0 -2 1]	(2 0 0)	(3 1 2)	4.679	1.817	2.58	43.5	81.7
[0 -1 -3]	(2 0 0)	(-5 -3 1)	4.679	1.806	2.59	26.7	49.0
[0 3 -1]	(2 0 0)	(1 -1 -3)	4.679	1.771	2.64	88.8	84.5
[0 1 0]	(2 0 0)	(2 0 -3)	4.679	1.755	2.67	80.4	90.0
[0 2 3]	(2 0 0)	(-3 3 -2)	4.679	1.750	2.67	45.6	66.5
[0 -3 -2]	(2 0 0)	(-2 -2 3)	4.679	1.723	2.72	80.5	79.0
[0 -3 2]	(2 0 0)	(0 2 3)	4.679	1.711	2.73	78.3	79.0
[0 -1 1]	(2 0 0)	(-1 3 3)	4.679	1.709	2.74	88.9	73.8
[0 -2 -1]	(2 0 0)	(-5 -1 2)	4.679	1.689	2.77	39.7	81.7
[0 3 1]	(2 0 0)	(3 1 -3)	4.679	1.668	2.81	70.3	84.5
[0 1 -1]	(2 0 0)	(-5 -1 -1)	4.679	1.650	2.84	18.8	73.8
[0 1 3]	(2 0 0)	(4 6 -2)	4.679	1.648	2.84	54.9	49.0
[0 3 -1]	(2 0 0)	(-1 -1 -3)	4.679	1.645	2.84	68.3	84.5
[0 3 4]	(2 0 0)	(2 4 -3)	4.679	1.639	2.85	81.0	68.8
[0 2 -5]	(2 0 0)	(-3 -5 -2)	4.679	1.636	2.86	49.2	54.0
[0 2 3]	(2 0 0)	(5 3 -2)	4.679	1.635	2.86	41.9	66.5
[0 3 -4]	(2 0 0)	(0 -4 -3)	4.679	1.629	2.87	78.9	68.8

Grunerite (200) 180 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[0 3 -5]	(2 0 0)	(1 -5 -3)	4.679	1.602	2.92	88.9	64.2
[0 -1 3]	(2 0 0)	(5 3 1)	4.679	1.600	2.93	23.4	49.0
[0 1 -1]	(2 0 0)	(-1 -3 -3)	4.679	1.595	2.93	69.0	73.8
[0 -1 -2]	(2 0 0)	(-6 -2 1)	4.679	1.564	2.99	19.8	59.9
[0 1 0]	(2 0 0)	(4 0 -3)	4.679	1.559	3.00	61.2	90.0
[0 -2 5]	(2 0 0)	(-5 5 2)	4.679	1.540	3.04	45.5	54.0
[0 3 -2]	(2 0 0)	(4 -2 -3)	4.679	1.537	3.04	61.6	79.0
[0 1 0]	(2 0 0)	(2 0 3)	4.679	1.532	3.05	59.4	90.0
[0 -3 5]	(2 0 0)	(-3 5 3)	4.679	1.524	3.07	72.1	64.2
[0 1 -2]	(2 0 0)	(2 -6 -3)	4.679	1.523	3.07	81.7	59.9
[0 3 -2]	(2 0 0)	(-2 -2 -3)	4.679	1.511	3.10	59.9	79.0
[0 -3 5]	(2 0 0)	(1 5 3)	4.679	1.507	3.11	70.2	64.2
[0 3 -4]	(2 0 0)	(4 -4 -3)	4.679	1.477	3.17	62.8	68.8
[0 -3 7]	(2 0 0)	(-1 7 3)	4.679	1.473	3.18	89.0	55.9
[0 3 -4]	(2 0 0)	(-2 -4 -3)	4.679	1.454	3.22	61.1	68.8
[0 3 1]	(2 0 0)	(5 1 -3)	4.679	1.426	3.28	53.6	84.5
[0 -3 7]	(2 0 0)	(-3 7 3)	4.679	1.412	3.31	73.4	55.9
[0 -1 -3]	(2 0 0)	(4 -6 2)	4.679	1.410	3.32	44.5	49.0
[0 1 2]	(2 0 0)	(6 4 -2)	4.679	1.409	3.32	37.6	59.9
[0 1 -2]	(2 0 0)	(-6 -2 -1)	4.679	1.400	3.34	17.7	59.9
[0 -3 7]	(2 0 0)	(1 7 3)	4.679	1.398	3.35	71.6	55.9
[0 3 -1]	(2 0 0)	(-3 -1 -3)	4.679	1.398	3.35	52.1	84.5
[0 3 8]	(2 0 0)	(2 8 -3)	4.679	1.395	3.35	82.4	52.3
[0 -1 -1]	(2 0 0)	(-5 -3 3)	4.679	1.393	3.36	54.6	73.8
[0 1 2]	(2 0 0)	(4 6 -3)	4.679	1.390	3.37	64.6	59.9
[0 3 -8]	(2 0 0)	(0 -8 -3)	4.679	1.388	3.37	80.5	52.3
[0 -2 1]	(2 0 0)	(5 1 2)	4.679	1.388	3.37	31.7	81.7
[0 1 -2]	(2 0 0)	(-2 -6 -3)	4.679	1.370	3.41	62.9	59.9
[0 -1 -1]	(2 0 0)	(-7 -1 1)	4.679	1.361	3.44	15.4	73.8
[0 -2 3]	(2 0 0)	(5 3 2)	4.679	1.357	3.45	33.7	66.5
[0 1 -3]	(2 0 0)	(1 -9 -3)	4.679	1.342	3.49	89.1	49.0
[0 3 5]	(2 0 0)	(5 5 -3)	4.679	1.333	3.51	56.3	64.2
[0 -4 -1]	(2 0 0)	(-1 -1 4)	4.679	1.328	3.52	86.1	85.8
[0 3 -5]	(2 0 0)	(-3 -5 -3)	4.679	1.310	3.57	54.9	64.2
[0 -2 5]	(2 0 0)	(5 5 2)	4.679	1.302	3.59	37.0	54.0
[0 4 3]	(2 0 0)	(1 3 -4)	4.679	1.301	3.60	86.2	77.7
[0 4 1]	(2 0 0)	(3 1 -4)	4.679	1.301	3.60	77.8	85.8
[0 -2 -1]	(2 0 0)	(-7 -1 2)	4.679	1.301	3.60	29.5	81.7
[0 2 -1]	(2 0 0)	(0 -2 -4)	4.679	1.293	3.62	78.2	81.7
[0 3 8]	(2 0 0)	(4 8 -3)	4.679	1.291	3.63	66.5	52.3
[0 -3 -2]	(2 0 0)	(-6 -2 3)	4.679	1.290	3.63	47.6	79.0
[0 -1 3]	(2 0 0)	(1 9 3)	4.679	1.285	3.64	73.2	49.0
[0 -1 -1]	(2 0 0)	(-2 -4 4)	4.679	1.279	3.66	85.9	73.8
[0 1 0]	(2 0 0)	(4 0 3)	4.679	1.277	3.67	45.8	90.0
[0 -4 3]	(2 0 0)	(-3 3 4)	4.679	1.276	3.67	78.0	77.7
[0 2 3]	(2 0 0)	(7 3 -2)	4.679	1.276	3.67	31.4	66.5
[0 3 -8]	(2 0 0)	(-2 -8 -3)	4.679	1.275	3.67	65.0	52.3
[0 -3 2]	(2 0 0)	(4 2 3)	4.679	1.264	3.70	46.4	79.0

Grunerite (200) 180 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[0 3 4]	(2 0 0)	(6 4 -3)	4.679	1.254	3.73	49.1	68.8
[0 4 -5]	(2 0 0)	(1 -5 -4)	4.679	1.252	3.74	86.3	70.1
[0 2 1]	(2 0 0)	(4 2 -4)	4.679	1.244	3.76	70.4	81.7
[0 -3 7]	(2 0 0)	(3 7 3)	4.679	1.237	3.78	57.1	55.9
[0 4 3]	(2 0 0)	(-1 3 -4)	4.679	1.233	3.80	71.0	77.7
[0 -1 1]	(2 0 0)	(7 1 1)	4.679	1.233	3.80	13.9	73.8
[0 3 4]	(2 0 0)	(-4 4 -3)	4.679	1.230	3.80	47.8	68.8
[0 4 -5]	(2 0 0)	(3 -5 -4)	4.679	1.229	3.81	78.5	70.1
[0 2 5]	(2 0 0)	(7 5 -2)	4.679	1.229	3.81	34.7	54.0
[0 -2 3]	(2 0 0)	(0 6 4)	4.679	1.202	3.89	79.1	66.5
[0 -4 5]	(2 0 0)	(1 5 4)	4.679	1.191	3.93	71.6	70.1
[0 1 -2]	(2 0 0)	(-6 -4 -2)	4.679	1.190	3.93	31.0	59.9
[0 4 -1]	(2 0 0)	(5 -1 -4)	4.679	1.190	3.93	63.4	85.8
[0 -4 7]	(2 0 0)	(-1 7 4)	4.679	1.188	3.94	86.5	63.1
[0 1 2]	(2 0 0)	(8 2 -1)	4.679	1.185	3.95	14.9	59.9
[0 -3 -1]	(2 0 0)	(-7 -1 3)	4.679	1.183	3.96	41.9	84.5
[0 -1 2]	(2 0 0)	(4 6 3)	4.679	1.179	3.97	50.0	59.9
[0 1 3]	(2 0 0)	(5 9 -3)	4.679	1.172	3.99	60.8	49.0
[0 -4 3]	(2 0 0)	(-5 3 4)	4.679	1.171	4.00	63.8	77.7
[0 4 7]	(2 0 0)	(3 7 -4)	4.679	1.168	4.01	79.0	63.1
[0 -1 -1]	(2 0 0)	(-7 -3 3)	4.679	1.163	4.02	42.9	73.8
[0 2 3]	(2 0 0)	(4 6 -4)	4.679	1.162	4.03	71.7	66.5
[0 3 1]	(2 0 0)	(-5 1 -3)	4.679	1.159	4.04	40.9	84.5
[0 -1 -1]	(2 0 0)	(2 -4 4)	4.679	1.157	4.04	64.5	73.8
[0 -1 -2]	(2 0 0)	(-2 -8 4)	4.679	1.152	4.06	86.3	59.9
[0 1 1]	(2 0 0)	(8 2 -2)	4.679	1.151	4.06	26.7	73.8
[0 -4 -5]	(2 0 0)	(-5 -5 4)	4.679	1.134	4.12	64.7	70.1
[0 3 8]	(2 0 0)	(6 8 -3)	4.679	1.134	4.13	53.7	52.3
[0 -3 -5]	(2 0 0)	(-7 -5 3)	4.679	1.128	4.15	44.8	64.2
[0 1 2]	(2 0 0)	(8 4 -2)	4.679	1.125	4.16	29.2	59.9
[0 4 1]	(2 0 0)	(-3 1 -4)	4.679	1.123	4.17	57.5	85.8
[0 1 0]	(2 0 0)	(6 0 -4)	4.679	1.122	4.17	57.2	90.0
[0 3 8]	(2 0 0)	(-4 8 -3)	4.679	1.116	4.19	52.5	52.3
[0 -4 -9]	(2 0 0)	(-1 -9 4)	4.679	1.116	4.19	86.7	56.9
[0 4 3]	(2 0 0)	(-3 3 -4)	4.679	1.107	4.23	58.0	77.7
[0 2 -1]	(2 0 0)	(-7 -1 -2)	4.679	1.100	4.26	24.6	81.7
[0 4 9]	(2 0 0)	(3 9 -4)	4.679	1.099	4.26	79.7	56.9
[0 -1 1]	(2 0 0)	(-6 4 4)	4.679	1.090	4.29	58.2	73.8
[0 -1 -2]	(2 0 0)	(8 -2 1)	4.679	1.087	4.31	13.6	59.9
[0 4 7]	(2 0 0)	(5 7 -4)	4.679	1.086	4.31	65.9	63.1
[0 -1 -3]	(2 0 0)	(-8 -6 2)	4.679	1.085	4.31	32.6	49.0
[0 -2 3]	(2 0 0)	(7 3 2)	4.679	1.084	4.32	26.3	66.5
[0 -3 -7]	(2 0 0)	(-7 -7 3)	4.679	1.080	4.33	47.1	55.9
[0 1 0]	(2 0 0)	(8 0 -3)	4.679	1.079	4.33	37.3	90.0
[0 4 5]	(2 0 0)	(-3 5 -4)	4.679	1.076	4.35	59.0	70.1
[0 3 -2]	(2 0 0)	(8 -2 -3)	4.679	1.072	4.36	37.9	79.0
[0 -4 9]	(2 0 0)	(1 9 4)	4.679	1.072	4.37	73.5	56.9
[0 3 7]	(2 0 0)	(-5 7 -3)	4.679	1.062	4.41	46.1	55.9

Grunerite (200) 180 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[0 -5 -1]	(2 0 0)	(-1 -1 5)	4.679	1.061	4.41	84.5	86.7
[0 -1 -1]	(2 0 0)	(-9 -1 1)	4.679	1.061	4.41	11.9	73.8
[0 -1 -2]	(2 0 0)	(2 -8 4)	4.679	1.061	4.41	66.8	59.9
[0 5 2]	(2 0 0)	(2 2 -5)	4.679	1.060	4.41	89.0	83.4
[0 -5 1]	(2 0 0)	(-3 1 5)	4.679	1.057	4.43	82.5	86.7
[0 -2 5]	(2 0 0)	(7 5 2)	4.679	1.055	4.43	29.2	54.0
[0 3 -4]	(2 0 0)	(8 -4 -3)	4.679	1.051	4.45	39.3	68.8
[0 -5 3]	(2 0 0)	(-1 3 5)	4.679	1.047	4.47	84.6	80.1
[0 -1 -3]	(2 0 0)	(-9 -3 1)	4.679	1.047	4.47	15.1	49.0
[0 4 1]	(2 0 0)	(7 1 -4)	4.679	1.047	4.47	51.8	85.8
[0 2 -1]	(2 0 0)	(-4 -2 -4)	4.679	1.045	4.48	52.3	81.7
[0 5 3]	(2 0 0)	(3 3 -5)	4.679	1.043	4.49	82.6	80.1
[0 -2 -1]	(2 0 0)	(-9 -1 2)	4.679	1.041	4.49	23.2	81.7
[0 5 4]	(2 0 0)	(2 4 -5)	4.679	1.040	4.50	89.0	76.9
[0 5 -2]	(2 0 0)	(0 -2 -5)	4.679	1.038	4.51	78.2	83.4
[0 1 0]	(2 0 0)	(4 0 -5)	4.679	1.037	4.51	76.2	90.0
[0 4 7]	(2 0 0)	(-3 7 -4)	4.679	1.034	4.52	60.4	63.1
[0 4 -3]	(2 0 0)	(7 -3 -4)	4.679	1.033	4.53	52.4	77.7
[0 -3 4]	(2 0 0)	(6 4 3)	4.679	1.032	4.54	38.4	68.8
[0 -5 -2]	(2 0 0)	(-4 -2 5)	4.679	1.030	4.54	76.3	83.4
[0 4 9]	(2 0 0)	(5 9 -4)	4.679	1.030	4.54	67.2	56.9
[0 -2 -3]	(2 0 0)	(-9 -3 2)	4.679	1.028	4.55	24.8	66.5
[0 -1 -3]	(2 0 0)	(-7 -9 3)	4.679	1.025	4.56	49.8	49.0
[0 -1 1]	(2 0 0)	(-1 5 5)	4.679	1.021	4.58	84.7	73.8
[0 5 -4]	(2 0 0)	(0 -4 -5)	4.679	1.019	4.59	78.4	76.9
[0 1 2]	(2 0 0)	(8 6 -3)	4.679	1.018	4.60	41.4	59.9
[0 -1 -1]	(2 0 0)	(-3 -5 5)	4.679	1.017	4.60	82.8	73.8
[0 -5 1]	(2 0 0)	(1 1 5)	4.679	1.014	4.61	72.0	86.7
[0 -5 -4]	(2 0 0)	(-4 -4 5)	4.679	1.012	4.63	76.5	76.9
[0 -1 3]	(2 0 0)	(5 9 3)	4.679	1.010	4.63	48.8	49.0
[0 -4 -5]	(2 0 0)	(-7 -5 4)	4.679	1.008	4.64	53.5	70.1
[0 5 6]	(2 0 0)	(2 6 -5)	4.679	1.008	4.64	89.0	70.8
[0 -1 -2]	(2 0 0)	(-6 -8 4)	4.679	1.008	4.64	60.8	59.9
[0 2 5]	(2 0 0)	(9 5 -2)	4.679	1.003	4.66	27.7	54.0
[0 -5 1]	(2 0 0)	(-5 1 5)	4.679	1.003	4.66	70.2	86.7
[0 -5 3]	(2 0 0)	(1 3 5)	4.679	1.002	4.67	72.3	80.1

Grunerite (150) 275 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -1 0]	(1 5 0)	(0 0 1)	3.424	5.224	0.66	85.7	78.9
[5 -1 6]	(1 5 0)	(1 -1 -1)	3.424	4.846	0.71	82.8	66.2
[5 -1 4]	(1 5 0)	(1 1 -1)	3.424	4.846	0.71	68.6	77.1
[5 -1 2]	(1 5 0)	(0 -2 -1)	3.424	4.542	0.75	58.3	89.1
[5 -1 -6]	(1 5 0)	(1 -1 1)	3.424	4.102	0.83	89.3	50.2
[5 -1 -4]	(1 5 0)	(-1 -1 -1)	3.424	4.102	0.83	64.7	58.2
[5 -1 10]	(1 5 0)	(2 0 -1)	3.424	3.909	0.88	75.6	49.1
[5 -1 8]	(1 5 0)	(1 -3 -1)	3.424	3.886	0.88	60.4	56.8
[5 -1 2]	(1 5 0)	(1 3 -1)	3.424	3.886	0.88	46.7	89.1
[5 -1 8]	(1 5 0)	(-2 -2 1)	3.424	3.597	0.95	53.6	56.8
[5 -1 -2]	(1 5 0)	(1 3 1)	3.424	3.469	0.99	44.6	67.8
[5 -1 -4]	(1 5 0)	(0 -4 1)	3.424	3.452	0.99	49.5	58.2
[5 -1 4]	(1 5 0)	(0 4 1)	3.424	3.452	0.99	41.5	77.1
[5 -1 6]	(1 5 0)	(-2 -4 1)	3.424	2.978	1.15	37.6	66.2
[5 -1 10]	(1 5 0)	(-1 5 1)	3.424	2.968	1.15	47.3	49.1
[5 -1 0]	(1 5 0)	(1 5 -1)	3.424	2.968	1.15	34.5	78.9
[5 -1 0]	(1 5 0)	(-1 -5 -1)	3.424	2.769	1.24	31.9	78.9
[5 -1 -6]	(1 5 0)	(0 6 -1)	3.424	2.644	1.29	40.1	50.2
[5 -1 6]	(1 5 0)	(0 -6 -1)	3.424	2.644	1.29	32.8	66.2
[5 -1 3]	(1 5 0)	(-1 1 2)	3.424	2.635	1.30	83.9	83.0
[5 -1 2]	(1 5 0)	(-1 -1 2)	3.424	2.635	1.30	80.8	89.1
[5 -1 -6]	(1 5 0)	(2 4 1)	3.424	2.613	1.31	39.6	50.2
[5 -1 -1]	(1 5 0)	(0 2 -2)	3.424	2.513	1.36	79.5	73.2
[5 -1 1]	(1 5 0)	(0 -2 -2)	3.424	2.513	1.36	70.9	84.9
[5 -1 5]	(1 5 0)	(2 0 -2)	3.424	2.512	1.36	82.9	71.5
[5 -1 4]	(1 5 0)	(1 -3 -2)	3.424	2.442	1.40	69.8	77.1
[5 -1 1]	(1 5 0)	(1 3 -2)	3.424	2.442	1.40	66.7	84.9
[5 -1 -2]	(1 5 0)	(-1 -1 -2)	3.424	2.372	1.44	73.7	67.8
[5 -1 -2]	(1 5 0)	(1 7 -1)	3.424	2.328	1.47	28.1	67.8
[5 -1 10]	(1 5 0)	(-3 -5 1)	3.424	2.306	1.48	34.8	49.1
[5 -1 2]	(1 5 0)	(1 7 1)	3.424	2.229	1.54	24.7	89.1
[5 -1 -4]	(1 5 0)	(1 -3 2)	3.424	2.228	1.54	79.2	58.2
[5 -1 -1]	(1 5 0)	(1 3 2)	3.424	2.228	1.54	60.7	73.2
[5 -1 8]	(1 5 0)	(-3 1 2)	3.424	2.227	1.54	85.2	56.8
[5 -1 7]	(1 5 0)	(3 1 -2)	3.424	2.227	1.54	72.0	61.3
[5 -1 -4]	(1 5 0)	(-2 -6 -1)	3.424	2.206	1.55	29.1	58.2
[5 -1 7]	(1 5 0)	(-2 4 2)	3.424	2.204	1.55	70.3	61.3
[5 -1 3]	(1 5 0)	(-2 -4 2)	3.424	2.204	1.55	56.3	83.0
[5 -1 5]	(1 5 0)	(-1 5 2)	3.424	2.157	1.59	58.4	71.5
[5 -1 0]	(1 5 0)	(-1 -5 2)	3.424	2.157	1.59	55.4	78.9
[5 -1 9]	(1 5 0)	(-3 3 2)	3.424	2.107	1.63	82.3	52.8
[5 -1 6]	(1 5 0)	(-3 -3 2)	3.424	2.107	1.63	59.6	66.2
[5 -1 8]	(1 5 0)	(0 8 1)	3.424	2.104	1.63	28.1	56.8
[5 -1 -5]	(1 5 0)	(-2 0 -2)	3.424	2.104	1.63	77.0	54.0
[5 -1 -3]	(1 5 0)	(0 6 -2)	3.424	1.988	1.72	56.9	62.8
[5 -1 3]	(1 5 0)	(0 -6 -2)	3.424	1.988	1.72	48.6	83.0
[5 -1 2]	(1 5 0)	(2 8 -1)	3.424	1.982	1.73	21.8	89.1
[5 -1 8]	(1 5 0)	(-3 -7 1)	3.424	1.965	1.74	26.1	56.8

Grunerite (150) 275 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -1 5]	(1 5 0)	(3 5 -2)	3.424	1.915	1.79	49.2	71.5
[5 -1 -7]	(1 5 0)	(2 -4 2)	3.424	1.913	1.79	79.5	46.8
[5 -1 -3]	(1 5 0)	(2 4 2)	3.424	1.913	1.79	53.7	62.8
[5 -1 11]	(1 5 0)	(4 -2 -2)	3.424	1.912	1.79	87.1	45.8
[5 -1 9]	(1 5 0)	(-4 -2 2)	3.424	1.912	1.79	64.1	52.8
[5 -1 -4]	(1 5 0)	(1 9 -1)	3.424	1.893	1.81	24.7	58.2
[5 -1 6]	(1 5 0)	(1 -7 -2)	3.424	1.870	1.83	50.0	66.2
[5 -1 -1]	(1 5 0)	(1 7 -2)	3.424	1.870	1.83	47.0	73.2
[5 -1 -2]	(1 5 0)	(-2 -8 -1)	3.424	1.862	1.84	22.1	67.8
[5 -1 4]	(1 5 0)	(1 9 1)	3.424	1.838	1.86	20.7	77.1
[5 -1 -7]	(1 5 0)	(-3 -1 -2)	3.424	1.817	1.88	69.1	46.8
[15 -3 4]	(1 5 0)	(-1 -1 3)	3.424	1.771	1.93	85.3	86.9
[5 -1 2]	(1 5 0)	(-1 1 3)	3.424	1.771	1.93	84.4	89.1
[5 -1 -6]	(1 5 0)	(1 -7 2)	3.424	1.769	1.94	59.6	50.2
[5 -1 1]	(1 5 0)	(1 7 2)	3.424	1.769	1.94	41.7	84.9
[15 -3 10]	(1 5 0)	(-2 0 3)	3.424	1.755	1.95	86.5	81.0
[5 -1 -6]	(1 5 0)	(3 3 2)	3.424	1.750	1.96	58.6	50.2
[15 -3 -2]	(1 5 0)	(0 -2 3)	3.424	1.711	2.00	84.3	75.1
[15 -3 2]	(1 5 0)	(0 2 3)	3.424	1.711	2.00	75.7	82.9
[15 -3 2]	(1 5 0)	(-1 -3 3)	3.424	1.709	2.00	75.4	82.9
[15 -3 8]	(1 5 0)	(-1 3 3)	3.424	1.709	2.00	74.5	85.0
[5 -1 11]	(1 5 0)	(3 -7 -2)	3.424	1.706	2.01	63.0	45.8
[5 -1 4]	(1 5 0)	(3 7 -2)	3.424	1.706	2.01	41.0	77.1
[5 -1 9]	(1 5 0)	(2 -8 -2)	3.424	1.696	2.02	52.9	52.8
[5 -1 1]	(1 5 0)	(2 8 -2)	3.424	1.696	2.02	39.6	84.9
[5 -1 6]	(1 5 0)	(-3 -9 1)	3.424	1.682	2.04	20.1	66.2
[15 -3 16]	(1 5 0)	(3 -1 -3)	3.424	1.668	2.05	87.8	69.7
[15 -3 14]	(1 5 0)	(-3 -1 3)	3.424	1.668	2.05	78.0	73.3
[5 -1 7]	(1 5 0)	(4 6 -2)	3.424	1.648	2.08	44.7	61.3
[5 -1 -2]	(1 5 0)	(-1 1 -3)	3.424	1.645	2.08	87.0	67.8
[15 -3 -4]	(1 5 0)	(1 1 3)	3.424	1.645	2.08	77.4	71.3
[15 -3 14]	(1 5 0)	(-2 4 3)	3.424	1.639	2.09	74.1	73.3
[5 -1 2]	(1 5 0)	(-2 -4 3)	3.424	1.639	2.09	67.1	89.1
[5 -1 -5]	(1 5 0)	(3 5 2)	3.424	1.636	2.09	49.2	54.0
[5 -1 11]	(1 5 0)	(5 3 -2)	3.424	1.635	2.09	58.6	45.8
[15 -3 -4]	(1 5 0)	(0 -4 3)	3.424	1.629	2.10	75.0	71.3
[15 -3 4]	(1 5 0)	(0 4 3)	3.424	1.629	2.10	66.4	86.9
[5 -1 7]	(1 5 0)	(1 -9 -2)	3.424	1.621	2.11	43.8	61.3
[5 -1 -2]	(1 5 0)	(1 9 -2)	3.424	1.621	2.11	41.0	67.8
[5 -1 0]	(1 5 0)	(-1 -5 3)	3.424	1.602	2.14	66.5	78.9
[15 -3 10]	(1 5 0)	(-1 5 3)	3.424	1.602	2.14	65.7	81.0
[15 -3 -8]	(1 5 0)	(1 -3 3)	3.424	1.595	2.15	83.6	64.4
[15 -3 -2]	(1 5 0)	(1 3 3)	3.424	1.595	2.15	68.1	75.1
[5 -1 -6]	(1 5 0)	(3 9 1)	3.424	1.573	2.18	22.6	50.2
[15 -3 20]	(1 5 0)	(-4 0 3)	3.424	1.559	2.20	79.8	62.9
[5 -1 -7]	(1 5 0)	(-1 9 -2)	3.424	1.554	2.20	53.0	46.8
[5 -1 2]	(1 5 0)	(-1 -9 -2)	3.424	1.554	2.20	35.6	89.1
[5 -1 -1]	(1 5 0)	(2 8 2)	3.424	1.552	2.21	37.4	73.2

Grunerite (150) 275 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -1 10]	(1 5 0)	(-5 -5 2)	3.424	1.540	2.22	49.7	49.1
[15 -3 22]	(1 5 0)	(4 -2 -3)	3.424	1.537	2.23	89.0	59.8
[5 -1 6]	(1 5 0)	(-4 -2 3)	3.424	1.537	2.23	70.8	66.2
[15 -3 -10]	(1 5 0)	(2 0 3)	3.424	1.532	2.23	79.3	61.2
[15 -3 20]	(1 5 0)	(3 -5 -3)	3.424	1.524	2.25	74.2	62.9
[15 -3 10]	(1 5 0)	(3 5 -3)	3.424	1.524	2.25	60.1	81.0
[15 -3 16]	(1 5 0)	(-2 6 3)	3.424	1.523	2.25	65.8	69.7
[15 -3 4]	(1 5 0)	(-2 -6 3)	3.424	1.523	2.25	59.0	86.9
[5 -1 -4]	(1 5 0)	(2 -2 3)	3.424	1.511	2.27	88.2	58.2
[15 -3 -8]	(1 5 0)	(-2 -2 -3)	3.424	1.511	2.27	70.3	64.4
[5 -1 3]	(1 5 0)	(3 9 -2)	3.424	1.511	2.27	34.8	83.0
[15 -3 -10]	(1 5 0)	(1 -5 3)	3.424	1.507	2.27	75.1	61.2
[5 -1 0]	(1 5 0)	(1 5 3)	3.424	1.507	2.27	59.6	78.9
[5 -1 -4]	(1 5 0)	(-3 -7 -2)	3.424	1.500	2.28	41.4	58.2
[5 -1 8]	(1 5 0)	(4 -4 -3)	3.424	1.477	2.32	82.4	56.8
[15 -3 16]	(1 5 0)	(4 4 -3)	3.424	1.477	2.32	62.2	69.7
[15 -3 -2]	(1 5 0)	(-1 -7 3)	3.424	1.473	2.32	59.0	75.1
[5 -1 4]	(1 5 0)	(-1 7 3)	3.424	1.473	2.32	58.1	77.1
[15 -3 -14]	(1 5 0)	(-2 4 -3)	3.424	1.454	2.36	83.2	55.3
[5 -1 -2]	(1 5 0)	(-2 -4 -3)	3.424	1.454	2.36	61.9	67.8
[15 -3 26]	(1 5 0)	(5 -1 -3)	3.424	1.426	2.40	81.7	54.1
[5 -1 8]	(1 5 0)	(-5 -1 3)	3.424	1.426	2.40	73.2	56.8
[5 -1 9]	(1 5 0)	(5 7 -2)	3.424	1.425	2.40	42.1	52.8
[15 -3 22]	(1 5 0)	(3 -7 -3)	3.424	1.412	2.42	66.7	59.8
[15 -3 8]	(1 5 0)	(3 7 -3)	3.424	1.412	2.42	52.8	85.0
[5 -1 -7]	(1 5 0)	(-4 -6 -2)	3.424	1.410	2.43	46.4	46.8
[5 -1 -4]	(1 5 0)	(-1 7 -3)	3.424	1.398	2.45	67.7	58.2
[15 -3 2]	(1 5 0)	(-1 -7 -3)	3.424	1.398	2.45	52.4	82.9
[15 -3 -16]	(1 5 0)	(3 -1 3)	3.424	1.398	2.45	81.2	52.7
[15 -3 -14]	(1 5 0)	(-3 -1 -3)	3.424	1.398	2.45	72.8	55.3
[5 -1 6]	(1 5 0)	(-2 8 3)	3.424	1.395	2.45	58.9	66.2
[15 -3 2]	(1 5 0)	(-2 -8 3)	3.424	1.395	2.45	52.2	82.9
[15 -3 28]	(1 5 0)	(5 -3 -3)	3.424	1.393	2.46	90.0	51.5
[15 -3 22]	(1 5 0)	(-5 -3 3)	3.424	1.393	2.46	65.0	59.8
[15 -3 26]	(1 5 0)	(-4 6 3)	3.424	1.390	2.46	74.6	54.1
[15 -3 14]	(1 5 0)	(-4 -6 3)	3.424	1.390	2.46	54.6	73.3
[15 -3 -8]	(1 5 0)	(0 8 -3)	3.424	1.388	2.47	59.9	64.4
[15 -3 8]	(1 5 0)	(0 -8 -3)	3.424	1.388	2.47	51.5	85.0
[15 -3 -16]	(1 5 0)	(-2 6 -3)	3.424	1.370	2.50	75.5	52.7
[15 -3 -4]	(1 5 0)	(-2 -6 -3)	3.424	1.370	2.50	54.4	71.3
[5 -1 -3]	(1 5 0)	(3 9 2)	3.424	1.362	2.51	35.0	62.8
[15 -3 -4]	(1 5 0)	(-1 -9 3)	3.424	1.342	2.55	52.7	71.3
[15 -3 14]	(1 5 0)	(-1 9 3)	3.424	1.342	2.55	51.9	73.3
[5 -1 10]	(1 5 0)	(5 -5 -3)	3.424	1.333	2.57	82.3	49.1
[15 -3 20]	(1 5 0)	(5 5 -3)	3.424	1.333	2.57	57.3	62.9
[10 -2 5]	(1 5 0)	(2 0 -4)	3.424	1.331	2.57	88.4	86.0
[5 -1 1]	(1 5 0)	(-1 -1 4)	3.424	1.328	2.58	87.6	84.9
[10 -2 3]	(1 5 0)	(-1 1 4)	3.424	1.328	2.58	84.7	87.9

Grunerite (150) 275 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[15 -3 -20]	(1 5 0)	(3 -5 3)	3.424	1.310	2.61	83.0	47.9
[15 -3 -10]	(1 5 0)	(3 5 3)	3.424	1.310	2.61	57.2	61.2
[5 -1 8]	(1 5 0)	(-5 -9 2)	3.424	1.305	2.62	35.7	56.8
[5 -1 2]	(1 5 0)	(-1 3 4)	3.424	1.301	2.63	77.2	89.1
[5 -1 4]	(1 5 0)	(-3 1 4)	3.424	1.301	2.63	89.3	77.1
[10 -2 7]	(1 5 0)	(3 1 -4)	3.424	1.301	2.63	81.8	80.0
[10 -2 -1]	(1 5 0)	(0 -2 4)	3.424	1.293	2.65	86.8	76.0
[10 -2 1]	(1 5 0)	(0 2 4)	3.424	1.293	2.65	78.1	81.9
[15 -3 28]	(1 5 0)	(4 -8 -3)	3.424	1.291	2.65	67.9	51.5
[5 -1 4]	(1 5 0)	(4 8 -3)	3.424	1.291	2.65	48.1	77.1
[15 -3 32]	(1 5 0)	(-6 2 3)	3.424	1.290	2.65	83.3	46.9
[15 -3 28]	(1 5 0)	(6 2 -3)	3.424	1.290	2.65	67.8	51.5
[15 -3 -14]	(1 5 0)	(1 -9 3)	3.424	1.285	2.66	61.4	55.3
[15 -3 4]	(1 5 0)	(1 9 3)	3.424	1.285	2.66	46.3	86.9
[10 -2 7]	(1 5 0)	(2 -4 -4)	3.424	1.279	2.68	76.5	80.0
[10 -2 3]	(1 5 0)	(2 4 -4)	3.424	1.279	2.68	73.4	87.9
[15 -3 -20]	(1 5 0)	(4 0 3)	3.424	1.277	2.68	75.2	47.9
[10 -2 9]	(1 5 0)	(3 -3 -4)	3.424	1.276	2.68	83.2	74.3
[5 -1 3]	(1 5 0)	(3 3 -4)	3.424	1.276	2.68	74.4	83.0
[5 -1 -6]	(1 5 0)	(-2 8 -3)	3.424	1.275	2.69	68.8	50.2
[15 -3 -2]	(1 5 0)	(-2 -8 -3)	3.424	1.275	2.69	47.9	75.1
[15 -3 -22]	(1 5 0)	(4 -2 3)	3.424	1.264	2.71	82.8	45.7
[5 -1 -6]	(1 5 0)	(-4 -2 -3)	3.424	1.264	2.71	67.6	50.2
[5 -1 -1]	(1 5 0)	(1 1 4)	3.424	1.256	2.73	79.3	73.2
[15 -3 26]	(1 5 0)	(-6 -4 3)	3.424	1.254	2.73	60.4	54.1
[5 -1 0]	(1 5 0)	(1 5 -4)	3.424	1.252	2.73	72.9	78.9
[10 -2 5]	(1 5 0)	(1 -5 -4)	3.424	1.252	2.73	70.1	86.0
[5 -1 11]	(1 5 0)	(6 8 -2)	3.424	1.245	2.75	40.6	45.8
[10 -2 11]	(1 5 0)	(4 -2 -4)	3.424	1.244	2.75	89.8	68.8
[10 -2 9]	(1 5 0)	(4 2 -4)	3.424	1.244	2.75	75.6	74.3
[15 -3 -22]	(1 5 0)	(3 -7 3)	3.424	1.237	2.77	76.1	45.7
[15 -3 -8]	(1 5 0)	(3 7 3)	3.424	1.237	2.77	50.4	64.4
[5 -1 -2]	(1 5 0)	(1 -3 4)	3.424	1.233	2.78	86.1	67.8
[10 -2 -1]	(1 5 0)	(1 3 4)	3.424	1.233	2.78	72.2	76.0
[15 -3 -16]	(1 5 0)	(-4 -4 -3)	3.424	1.230	2.78	60.4	52.7
[5 -1 5]	(1 5 0)	(-3 5 4)	3.424	1.229	2.79	76.2	71.5
[10 -2 5]	(1 5 0)	(-3 -5 4)	3.424	1.229	2.79	67.4	86.0
[10 -2 -5]	(1 5 0)	(-1 5 -4)	3.424	1.191	2.88	79.3	65.2
[5 -1 0]	(1 5 0)	(-1 -5 -4)	3.424	1.191	2.88	65.4	78.9
[10 -2 13]	(1 5 0)	(5 -1 -4)	3.424	1.190	2.88	84.0	63.7
[5 -1 6]	(1 5 0)	(-5 -1 4)	3.424	1.190	2.88	77.0	66.2
[10 -2 -1]	(1 5 0)	(1 7 -4)	3.424	1.188	2.88	66.5	76.0
[5 -1 3]	(1 5 0)	(1 -7 -4)	3.424	1.188	2.88	63.7	83.0
[15 -3 -14]	(1 5 0)	(4 6 3)	3.424	1.179	2.91	53.6	55.3
[15 -3 16]	(1 5 0)	(-5 -9 3)	3.424	1.172	2.92	44.6	69.7
[5 -1 7]	(1 5 0)	(-5 3 4)	3.424	1.171	2.92	89.1	61.3
[10 -2 11]	(1 5 0)	(-5 -3 4)	3.424	1.171	2.92	70.2	68.8
[10 -2 11]	(1 5 0)	(-3 7 4)	3.424	1.168	2.93	69.9	68.8

Grunerite (150) 275 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -1 2]	(1 5 0)	(-3 -7 4)	3.424	1.168	2.93	61.1	89.1
[15 -3 32]	(1 5 0)	(7 3 -3)	3.424	1.163	2.94	63.6	46.9
[10 -2 13]	(1 5 0)	(4 -6 -4)	3.424	1.162	2.95	76.2	63.7
[10 -2 7]	(1 5 0)	(4 6 -4)	3.424	1.162	2.95	62.1	80.0
[10 -2 -7]	(1 5 0)	(2 -4 4)	3.424	1.157	2.96	85.6	60.4
[10 -2 -3]	(1 5 0)	(2 4 4)	3.424	1.157	2.96	67.0	70.4
[10 -2 9]	(1 5 0)	(-2 8 4)	3.424	1.152	2.97	63.7	74.3
[10 -2 1]	(1 5 0)	(-2 -8 4)	3.424	1.152	2.97	60.7	81.9
[15 -3 -22]	(1 5 0)	(5 3 3)	3.424	1.141	3.00	63.5	45.7
[10 -2 15]	(1 5 0)	(5 -5 -4)	3.424	1.134	3.02	82.5	59.0
[5 -1 5]	(1 5 0)	(5 5 -4)	3.424	1.134	3.02	63.7	71.5
[15 -3 22]	(1 5 0)	(-6 -8 3)	3.424	1.134	3.02	47.5	59.8
[5 -1 10]	(1 5 0)	(7 5 -3)	3.424	1.128	3.04	57.0	49.1
[5 -1 -4]	(1 5 0)	(-3 1 -4)	3.424	1.123	3.05	82.0	58.2
[10 -2 -7]	(1 5 0)	(3 1 4)	3.424	1.123	3.05	75.3	60.4
[10 -2 15]	(1 5 0)	(-6 0 4)	3.424	1.122	3.05	78.6	59.0
[5 -1 -4]	(1 5 0)	(4 8 3)	3.424	1.116	3.07	47.6	58.2
[5 -1 -1]	(1 5 0)	(1 9 -4)	3.424	1.116	3.07	60.8	73.2
[10 -2 7]	(1 5 0)	(1 -9 -4)	3.424	1.116	3.07	58.1	80.0
[5 -1 -3]	(1 5 0)	(-3 -3 -4)	3.424	1.107	3.09	68.8	62.8
[5 -1 6]	(1 5 0)	(-3 9 4)	3.424	1.099	3.11	64.2	66.2
[10 -2 3]	(1 5 0)	(-3 -9 4)	3.424	1.099	3.11	55.5	87.9
[10 -2 17]	(1 5 0)	(-6 4 4)	3.424	1.090	3.14	88.4	54.8
[10 -2 13]	(1 5 0)	(-6 -4 4)	3.424	1.090	3.14	65.6	63.7
[5 -1 8]	(1 5 0)	(-5 7 4)	3.424	1.086	3.15	76.4	56.8
[10 -2 9]	(1 5 0)	(-5 -7 4)	3.424	1.086	3.15	57.7	74.3
[15 -3 28]	(1 5 0)	(7 7 -3)	3.424	1.080	3.17	50.8	51.5
[5 -1 -5]	(1 5 0)	(3 -5 4)	3.424	1.076	3.18	85.2	54.0
[10 -2 -5]	(1 5 0)	(3 5 4)	3.424	1.076	3.18	62.6	65.2
[10 -2 -7]	(1 5 0)	(1 -9 4)	3.424	1.072	3.19	67.4	60.4
[5 -1 1]	(1 5 0)	(1 9 4)	3.424	1.072	3.19	53.7	84.9
[5 -1 2]	(1 5 0)	(2 0 -5)	3.424	1.068	3.21	89.6	89.1
[5 -1 -6]	(1 5 0)	(-5 -7 -3)	3.424	1.062	3.22	51.0	50.2
[25 -5 4]	(1 5 0)	(1 1 -5)	3.424	1.061	3.23	88.9	83.7
[25 -5 6]	(1 5 0)	(1 -1 -5)	3.424	1.061	3.23	84.9	86.1
[10 -2 -9]	(1 5 0)	(-2 8 -4)	3.424	1.061	3.23	73.4	56.0
[10 -2 -1]	(1 5 0)	(2 8 4)	3.424	1.061	3.23	55.0	76.0
[25 -5 12]	(1 5 0)	(2 -2 -5)	3.424	1.060	3.23	84.2	86.6
[25 -5 8]	(1 5 0)	(2 2 -5)	3.424	1.060	3.23	83.5	88.5
[25 -5 16]	(1 5 0)	(3 -1 -5)	3.424	1.057	3.24	89.7	81.8
[25 -5 14]	(1 5 0)	(3 1 -5)	3.424	1.057	3.24	84.2	84.2
[25 -5 8]	(1 5 0)	(-1 3 5)	3.424	1.047	3.27	78.8	88.5
[5 -1 9]	(1 5 0)	(-7 1 4)	3.424	1.047	3.27	80.0	52.8
[10 -2 17]	(1 5 0)	(7 1 -4)	3.424	1.047	3.27	73.8	54.8
[10 -2 -11]	(1 5 0)	(-4 2 -4)	3.424	1.045	3.28	83.2	52.0
[10 -2 -9]	(1 5 0)	(4 2 4)	3.424	1.045	3.28	70.8	56.0
[25 -5 18]	(1 5 0)	(3 -3 -5)	3.424	1.043	3.28	83.6	79.4
[25 -5 12]	(1 5 0)	(3 3 -5)	3.424	1.043	3.28	78.1	86.6

Grunerite (150) 275 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[25 -5 14]	(1 5 0)	(2 -4 -5)	3.424	1.040	3.29	78.2	84.2
[25 -5 6]	(1 5 0)	(2 4 -5)	3.424	1.040	3.29	77.5	86.1
[25 -5 -2]	(1 5 0)	(0 -2 5)	3.424	1.038	3.30	88.3	76.6
[25 -5 2]	(1 5 0)	(0 2 5)	3.424	1.038	3.30	79.6	81.3
[5 -1 4]	(1 5 0)	(-4 0 5)	3.424	1.037	3.30	85.0	77.1
[10 -2 -11]	(1 5 0)	(-3 7 -4)	3.424	1.034	3.31	79.3	52.0
[5 -1 -2]	(1 5 0)	(3 7 4)	3.424	1.034	3.31	56.8	67.8
[10 -2 19]	(1 5 0)	(-7 3 4)	3.424	1.033	3.31	86.2	50.9
[5 -1 8]	(1 5 0)	(7 3 -4)	3.424	1.033	3.31	67.7	56.8
[25 -5 22]	(1 5 0)	(4 -2 -5)	3.424	1.030	3.32	89.0	74.8
[25 -5 18]	(1 5 0)	(4 2 -5)	3.424	1.030	3.32	79.0	79.4
[10 -2 17]	(1 5 0)	(5 -9 -4)	3.424	1.030	3.32	70.9	54.8
[5 -1 4]	(1 5 0)	(5 9 -4)	3.424	1.030	3.32	52.3	77.1
[15 -3 26]	(1 5 0)	(-7 -9 3)	3.424	1.025	3.34	45.3	54.1
[5 -1 0]	(1 5 0)	(1 5 -5)	3.424	1.021	3.35	77.0	78.9
[5 -1 2]	(1 5 0)	(1 -5 -5)	3.424	1.021	3.35	73.0	89.1
[25 -5 -4]	(1 5 0)	(0 4 -5)	3.424	1.019	3.36	82.4	74.3
[25 -5 4]	(1 5 0)	(0 -4 -5)	3.424	1.019	3.36	73.8	83.7
[5 -1 4]	(1 5 0)	(-3 5 5)	3.424	1.017	3.37	77.8	77.1
[5 -1 2]	(1 5 0)	(-3 -5 5)	3.424	1.017	3.37	72.3	89.1
[25 -5 -6]	(1 5 0)	(1 -1 5)	3.424	1.014	3.38	86.5	72.1
[25 -5 -4]	(1 5 0)	(-1 -1 -5)	3.424	1.014	3.38	80.6	74.3
[25 -5 24]	(1 5 0)	(-4 4 5)	3.424	1.012	3.38	83.1	72.6
[25 -5 16]	(1 5 0)	(-4 -4 5)	3.424	1.012	3.38	73.1	81.8
[15 -3 -16]	(1 5 0)	(5 9 3)	3.424	1.010	3.39	45.5	52.7
[5 -1 10]	(1 5 0)	(7 -5 -4)	3.424	1.008	3.40	87.9	49.1
[10 -2 15]	(1 5 0)	(7 5 -4)	3.424	1.008	3.40	61.8	59.0
[25 -5 16]	(1 5 0)	(2 -6 -5)	3.424	1.008	3.40	72.5	81.8
[25 -5 4]	(1 5 0)	(2 6 -5)	3.424	1.008	3.40	71.8	83.7
[10 -2 19]	(1 5 0)	(6 -8 -4)	3.424	1.008	3.40	76.7	50.9
[10 -2 11]	(1 5 0)	(6 8 -4)	3.424	1.008	3.40	54.1	68.8
[25 -5 26]	(1 5 0)	(-5 1 5)	3.424	1.003	3.41	85.8	70.4
[25 -5 24]	(1 5 0)	(5 1 -5)	3.424	1.003	3.41	80.0	72.6
[25 -5 -8]	(1 5 0)	(1 -3 5)	3.424	1.002	3.42	87.7	69.9
[25 -5 -2]	(1 5 0)	(1 3 5)	3.424	1.002	3.42	74.7	76.6

Grunerite (240) 308 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[2 -1 0]	(2 4 0)	(0 0 1)	3.280	5.224	0.63	81.7	81.5
[2 -1 3]	(2 4 0)	(-1 1 1)	3.280	4.846	0.68	87.6	65.3
[2 -1 1]	(2 4 0)	(1 1 -1)	3.280	4.846	0.68	65.4	87.0
[2 -1 2]	(2 4 0)	(0 -2 -1)	3.280	4.542	0.72	61.5	75.6
[2 -1 -3]	(2 4 0)	(1 -1 1)	3.280	4.102	0.80	74.8	52.7
[2 -1 -1]	(2 4 0)	(-1 -1 -1)	3.280	4.102	0.80	54.6	70.5
[2 -1 4]	(2 4 0)	(2 0 -1)	3.280	3.909	0.84	61.5	56.4
[2 -1 5]	(2 4 0)	(1 -3 -1)	3.280	3.886	0.84	74.4	49.1
[2 -1 -1]	(2 4 0)	(1 3 -1)	3.280	3.886	0.84	50.5	70.5
[2 -1 2]	(2 4 0)	(-2 -2 1)	3.280	3.597	0.91	44.1	75.6
[2 -1 1]	(2 4 0)	(1 3 1)	3.280	3.469	0.95	40.6	87.0
[2 -1 -4]	(2 4 0)	(0 -4 1)	3.280	3.452	0.95	63.9	46.1
[2 -1 4]	(2 4 0)	(0 4 1)	3.280	3.452	0.95	50.9	56.4
[2 -1 -4]	(2 4 0)	(-2 0 -1)	3.280	3.176	1.03	55.7	46.1
[2 -1 -2]	(2 4 0)	(2 2 1)	3.280	3.002	1.09	40.1	60.9
[2 -1 0]	(2 4 0)	(-2 -4 1)	3.280	2.978	1.10	34.3	81.5
[2 -1 -3]	(2 4 0)	(1 5 -1)	3.280	2.968	1.11	44.3	52.7
[2 -1 5]	(2 4 0)	(3 1 -1)	3.280	2.923	1.12	46.4	49.1
[2 -1 3]	(2 4 0)	(-1 -5 -1)	3.280	2.769	1.18	34.8	65.3
[2 -1 3]	(2 4 0)	(3 3 -1)	3.280	2.666	1.23	33.3	65.3
[4 -2 3]	(2 4 0)	(1 -1 -2)	3.280	2.635	1.24	87.1	81.2
[4 -2 1]	(2 4 0)	(1 1 -2)	3.280	2.635	1.24	81.2	87.2
[2 -1 0]	(2 4 0)	(-2 -4 -1)	3.280	2.613	1.26	29.7	81.5
[2 -1 -1]	(2 4 0)	(0 -2 2)	3.280	2.513	1.31	86.8	70.5
[2 -1 1]	(2 4 0)	(0 2 2)	3.280	2.513	1.31	70.5	87.0
[2 -1 2]	(2 4 0)	(-2 0 2)	3.280	2.512	1.31	76.3	75.6
[4 -2 5]	(2 4 0)	(-1 3 2)	3.280	2.442	1.34	76.3	70.3
[4 -2 -1]	(2 4 0)	(1 3 -2)	3.280	2.442	1.34	70.6	75.9
[4 -2 -1]	(2 4 0)	(1 1 2)	3.280	2.372	1.38	66.4	75.9
[2 -1 1]	(2 4 0)	(-3 -5 1)	3.280	2.306	1.42	25.6	87.0
[2 -1 -3]	(2 4 0)	(3 3 1)	3.280	2.286	1.43	32.6	52.7
[2 -1 5]	(2 4 0)	(-1 -7 -1)	3.280	2.229	1.47	33.5	49.1
[4 -2 -5]	(2 4 0)	(1 -3 2)	3.280	2.228	1.47	88.2	56.6
[4 -2 1]	(2 4 0)	(-1 -3 -2)	3.280	2.228	1.47	56.7	87.2
[4 -2 7]	(2 4 0)	(3 -1 -2)	3.280	2.227	1.47	73.1	60.7
[4 -2 5]	(2 4 0)	(-3 -1 2)	3.280	2.227	1.47	62.4	70.3
[2 -1 2]	(2 4 0)	(2 6 1)	3.280	2.206	1.49	25.2	75.6
[2 -1 4]	(2 4 0)	(2 -4 -2)	3.280	2.204	1.49	82.3	56.4
[2 -1 0]	(2 4 0)	(2 4 -2)	3.280	2.204	1.49	56.6	81.5
[4 -2 7]	(2 4 0)	(1 -5 -2)	3.280	2.157	1.52	67.9	60.7
[4 -2 -3]	(2 4 0)	(1 5 -2)	3.280	2.157	1.52	62.6	65.5
[4 -2 9]	(2 4 0)	(-3 3 2)	3.280	2.107	1.56	83.6	52.6
[4 -2 3]	(2 4 0)	(3 3 -2)	3.280	2.107	1.56	53.0	81.2
[2 -1 -2]	(2 4 0)	(-2 0 -2)	3.280	2.104	1.56	64.4	60.9
[2 -1 4]	(2 4 0)	(4 4 -1)	3.280	2.072	1.58	27.8	56.4
[4 -2 3]	(2 4 0)	(-1 -5 -2)	3.280	2.005	1.64	49.5	81.2
[2 -1 -3]	(2 4 0)	(0 6 -2)	3.280	1.988	1.65	69.3	52.7
[2 -1 3]	(2 4 0)	(0 -6 -2)	3.280	1.988	1.65	55.1	65.3

Grunerite (240) 308 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[2 -1 -4]	(2 4 0)	(2 8 -1)	3.280	1.982	1.66	31.0	46.1
[2 -1 -1]	(2 4 0)	(-3 -7 1)	3.280	1.965	1.67	23.0	70.5
[4 -2 1]	(2 4 0)	(3 5 -2)	3.280	1.915	1.71	45.9	87.2
[2 -1 -4]	(2 4 0)	(-2 4 -2)	3.280	1.913	1.71	84.5	46.1
[2 -1 0]	(2 4 0)	(2 4 2)	3.280	1.913	1.71	46.4	81.5
[2 -1 5]	(2 4 0)	(-4 2 2)	3.280	1.912	1.72	71.4	49.1
[2 -1 3]	(2 4 0)	(4 2 -2)	3.280	1.912	1.72	52.0	65.3
[4 -2 9]	(2 4 0)	(1 -7 -2)	3.280	1.870	1.75	61.9	52.6
[4 -2 -5]	(2 4 0)	(1 7 -2)	3.280	1.870	1.75	57.0	56.6
[2 -1 4]	(2 4 0)	(-2 -8 -1)	3.280	1.862	1.76	24.7	56.4
[2 -1 2]	(2 4 0)	(4 6 -1)	3.280	1.851	1.77	21.0	75.6
[2 -1 -4]	(2 4 0)	(-4 -4 -1)	3.280	1.825	1.80	28.3	46.1
[4 -2 -7]	(2 4 0)	(3 -1 2)	3.280	1.817	1.80	64.0	49.2
[4 -2 -5]	(2 4 0)	(-3 -1 -2)	3.280	1.817	1.80	54.6	56.6
[2 -1 1]	(2 4 0)	(-3 -7 -1)	3.280	1.797	1.82	19.7	87.0
[6 -3 1]	(2 4 0)	(1 1 -3)	3.280	1.771	1.85	86.9	85.3
[2 -1 1]	(2 4 0)	(1 -1 -3)	3.280	1.771	1.85	85.2	87.0
[4 -2 5]	(2 4 0)	(1 7 2)	3.280	1.769	1.85	44.7	70.3
[6 -3 4]	(2 4 0)	(-2 0 3)	3.280	1.755	1.87	83.3	83.1
[4 -2 -3]	(2 4 0)	(3 3 2)	3.280	1.750	1.87	46.1	65.5
[6 -3 -2]	(2 4 0)	(0 2 -3)	3.280	1.711	1.92	89.5	74.0
[6 -3 2]	(2 4 0)	(0 2 3)	3.280	1.711	1.92	74.1	89.2
[6 -3 -1]	(2 4 0)	(-1 -3 3)	3.280	1.709	1.92	79.3	77.7
[6 -3 5]	(2 4 0)	(-1 3 3)	3.280	1.709	1.92	77.7	79.3
[4 -2 -1]	(2 4 0)	(3 7 -2)	3.280	1.706	1.92	41.2	75.9
[2 -1 -2]	(2 4 0)	(2 8 -2)	3.280	1.696	1.93	46.7	60.9
[4 -2 11]	(2 4 0)	(-5 1 2)	3.280	1.689	1.94	61.7	45.9
[4 -2 9]	(2 4 0)	(5 1 -2)	3.280	1.689	1.94	52.8	52.6
[2 -1 -3]	(2 4 0)	(3 9 -1)	3.280	1.682	1.95	23.3	52.7
[2 -1 5]	(2 4 0)	(-5 -5 1)	3.280	1.681	1.95	24.6	49.1
[2 -1 -2]	(2 4 0)	(4 6 1)	3.280	1.668	1.97	21.0	60.9
[6 -3 7]	(2 4 0)	(-3 1 3)	3.280	1.668	1.97	80.1	72.0
[6 -3 5]	(2 4 0)	(3 1 -3)	3.280	1.668	1.97	72.5	79.3
[2 -1 1]	(2 4 0)	(-4 -6 2)	3.280	1.648	1.99	38.2	87.0
[2 -1 -1]	(2 4 0)	(1 -1 3)	3.280	1.645	1.99	78.7	70.5
[6 -3 -1]	(2 4 0)	(1 1 3)	3.280	1.645	1.99	71.1	77.7
[6 -3 8]	(2 4 0)	(2 -4 -3)	3.280	1.639	2.00	81.7	68.6
[2 -1 0]	(2 4 0)	(2 4 -3)	3.280	1.639	2.00	68.7	81.5
[4 -2 -1]	(2 4 0)	(-3 -5 -2)	3.280	1.636	2.01	39.2	75.9
[4 -2 7]	(2 4 0)	(5 3 -2)	3.280	1.635	2.01	44.6	60.7
[2 -1 0]	(2 4 0)	(-4 -8 1)	3.280	1.633	2.01	18.0	81.5
[6 -3 -4]	(2 4 0)	(0 4 -3)	3.280	1.629	2.01	83.2	67.1
[6 -3 4]	(2 4 0)	(0 4 3)	3.280	1.629	2.01	67.2	83.1
[4 -2 11]	(2 4 0)	(-1 9 2)	3.280	1.621	2.02	57.7	45.9
[4 -2 -7]	(2 4 0)	(-1 -9 2)	3.280	1.621	2.02	53.3	49.2
[2 -1 -1]	(2 4 0)	(1 5 -3)	3.280	1.602	2.05	72.7	70.5
[6 -3 7]	(2 4 0)	(1 -5 -3)	3.280	1.602	2.05	71.1	72.0
[6 -3 -5]	(2 4 0)	(1 -3 3)	3.280	1.595	2.06	86.2	63.9

Grunerite (240) 308 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[6 -3 1]	(2 4 0)	(1 3 3)	3.280	1.595	2.06	64.1	85.3
[2 -1 -3]	(2 4 0)	(-4 -2 -2)	3.280	1.565	2.10	47.4	52.7
[6 -3 8]	(2 4 0)	(4 0 -3)	3.280	1.559	2.10	70.3	68.6
[4 -2 7]	(2 4 0)	(1 9 2)	3.280	1.554	2.11	41.9	60.7
[2 -1 2]	(2 4 0)	(-2 -8 -2)	3.280	1.552	2.11	36.9	75.6
[4 -2 5]	(2 4 0)	(5 5 -2)	3.280	1.540	2.13	37.8	70.3
[6 -3 10]	(2 4 0)	(-4 2 3)	3.280	1.537	2.13	77.7	62.2
[2 -1 2]	(2 4 0)	(4 2 -3)	3.280	1.537	2.13	63.1	75.6
[2 -1 3]	(2 4 0)	(-5 -7 1)	3.280	1.534	2.14	18.4	65.3
[6 -3 -4]	(2 4 0)	(2 0 3)	3.280	1.532	2.14	69.1	67.1
[6 -3 11]	(2 4 0)	(3 -5 -3)	3.280	1.524	2.15	85.4	59.2
[6 -3 1]	(2 4 0)	(3 5 -3)	3.280	1.524	2.15	59.2	85.3
[6 -3 10]	(2 4 0)	(2 -6 -3)	3.280	1.523	2.15	75.4	62.2
[6 -3 -2]	(2 4 0)	(2 6 -3)	3.280	1.523	2.15	62.9	74.0
[2 -1 -2]	(2 4 0)	(-2 2 -3)	3.280	1.511	2.17	76.4	60.9
[6 -3 -2]	(2 4 0)	(2 2 3)	3.280	1.511	2.17	62.0	74.0
[4 -2 -3]	(2 4 0)	(-3 -9 2)	3.280	1.511	2.17	38.5	65.5
[6 -3 -7]	(2 4 0)	(-1 5 -3)	3.280	1.507	2.18	86.9	58.0
[2 -1 1]	(2 4 0)	(-1 -5 -3)	3.280	1.507	2.18	58.0	87.0
[2 -1 0]	(2 4 0)	(4 8 1)	3.280	1.504	2.18	16.5	81.5
[4 -2 1]	(2 4 0)	(3 7 2)	3.280	1.500	2.19	34.2	87.2
[2 -1 4]	(2 4 0)	(4 -4 -3)	3.280	1.477	2.22	84.8	56.4
[6 -3 4]	(2 4 0)	(-4 -4 3)	3.280	1.477	2.22	56.7	83.1
[6 -3 -5]	(2 4 0)	(1 7 -3)	3.280	1.473	2.23	67.2	63.9
[2 -1 3]	(2 4 0)	(1 -7 -3)	3.280	1.473	2.23	65.7	65.3
[6 -3 -8]	(2 4 0)	(-2 4 -3)	3.280	1.454	2.26	83.5	55.3
[2 -1 0]	(2 4 0)	(2 4 3)	3.280	1.454	2.26	55.7	81.5
[6 -3 11]	(2 4 0)	(-5 1 3)	3.280	1.426	2.30	68.9	59.2
[2 -1 3]	(2 4 0)	(5 1 -3)	3.280	1.426	2.30	61.9	65.3
[4 -2 3]	(2 4 0)	(-5 -7 2)	3.280	1.425	2.30	32.7	81.2
[6 -3 13]	(2 4 0)	(-3 7 3)	3.280	1.412	2.32	79.4	53.8
[6 -3 -1]	(2 4 0)	(-3 -7 3)	3.280	1.412	2.32	54.3	77.7
[2 -1 -1]	(2 4 0)	(4 6 2)	3.280	1.410	2.33	34.1	70.5
[2 -1 4]	(2 4 0)	(-6 -4 2)	3.280	1.409	2.33	39.3	56.4
[2 -1 -3]	(2 4 0)	(5 7 1)	3.280	1.402	2.34	19.3	52.7
[2 -1 -3]	(2 4 0)	(1 -7 3)	3.280	1.398	2.35	80.9	52.7
[6 -3 5]	(2 4 0)	(1 7 3)	3.280	1.398	2.35	53.1	79.3
[6 -3 -7]	(2 4 0)	(-3 1 -3)	3.280	1.398	2.35	67.9	58.0
[6 -3 -5]	(2 4 0)	(3 1 3)	3.280	1.398	2.35	61.0	63.9
[2 -1 4]	(2 4 0)	(2 -8 -3)	3.280	1.395	2.35	70.2	56.4
[6 -3 -4]	(2 4 0)	(2 8 -3)	3.280	1.395	2.35	58.3	67.1
[6 -3 13]	(2 4 0)	(-5 3 3)	3.280	1.393	2.35	75.9	53.8
[6 -3 7]	(2 4 0)	(5 3 -3)	3.280	1.393	2.35	55.4	72.0
[6 -3 14]	(2 4 0)	(4 -6 -3)	3.280	1.390	2.36	88.7	51.4
[6 -3 2]	(2 4 0)	(4 6 -3)	3.280	1.390	2.36	51.4	89.2
[6 -3 -8]	(2 4 0)	(0 -8 3)	3.280	1.388	2.36	71.6	55.3
[6 -3 8]	(2 4 0)	(0 8 3)	3.280	1.388	2.36	56.9	68.6
[2 -1 1]	(2 4 0)	(-5 -9 1)	3.280	1.388	2.36	15.1	87.0

Grunerite (240) 308 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[6 -3 -10]	(2 4 0)	(2 -6 3)	3.280	1.370	2.39	90.0	50.4
[6 -3 2]	(2 4 0)	(-2 -6 -3)	3.280	1.370	2.39	50.4	89.2
[4 -2 3]	(2 4 0)	(3 9 2)	3.280	1.362	2.41	31.1	81.2
[4 -2 -7]	(2 4 0)	(5 3 2)	3.280	1.357	2.42	42.2	49.2
[6 -3 -7]	(2 4 0)	(-1 -9 3)	3.280	1.342	2.44	62.8	58.0
[6 -3 11]	(2 4 0)	(-1 9 3)	3.280	1.342	2.44	61.4	59.2
[2 -1 5]	(2 4 0)	(-5 5 3)	3.280	1.333	2.46	82.5	49.1
[6 -3 5]	(2 4 0)	(5 5 -3)	3.280	1.333	2.46	49.7	79.3
[8 -4 1]	(2 4 0)	(1 1 -4)	3.280	1.328	2.47	89.8	84.3
[8 -4 3]	(2 4 0)	(1 -1 -4)	3.280	1.328	2.47	84.3	89.9
[6 -3 -11]	(2 4 0)	(3 -5 3)	3.280	1.310	2.50	81.4	48.1
[6 -3 -1]	(2 4 0)	(-3 -5 -3)	3.280	1.310	2.50	48.9	77.7
[2 -1 4]	(2 4 0)	(6 8 -1)	3.280	1.306	2.51	17.1	56.4
[4 -2 1]	(2 4 0)	(-5 -9 2)	3.280	1.305	2.51	29.3	87.2
[8 -4 -1]	(2 4 0)	(1 3 -4)	3.280	1.301	2.52	84.0	78.6
[8 -4 5]	(2 4 0)	(1 -3 -4)	3.280	1.301	2.52	78.6	84.1
[8 -4 7]	(2 4 0)	(3 -1 -4)	3.280	1.301	2.52	84.4	78.4
[8 -4 5]	(2 4 0)	(3 1 -4)	3.280	1.301	2.52	78.5	84.1
[4 -2 -1]	(2 4 0)	(0 2 -4)	3.280	1.293	2.54	87.6	75.9
[4 -2 1]	(2 4 0)	(0 2 4)	3.280	1.293	2.54	75.9	87.2
[6 -3 16]	(2 4 0)	(-4 8 3)	3.280	1.291	2.54	83.1	46.9
[2 -1 0]	(2 4 0)	(-4 -8 3)	3.280	1.291	2.54	47.2	81.5
[6 -3 14]	(2 4 0)	(6 -2 -3)	3.280	1.290	2.54	68.1	51.4
[6 -3 10]	(2 4 0)	(-6 -2 3)	3.280	1.290	2.54	55.1	62.2
[2 -1 -1]	(2 4 0)	(5 9 1)	3.280	1.287	2.55	14.8	70.5
[6 -3 -11]	(2 4 0)	(1 -9 3)	3.280	1.285	2.55	75.8	48.1
[6 -3 7]	(2 4 0)	(1 9 3)	3.280	1.285	2.55	49.4	72.0
[2 -1 2]	(2 4 0)	(2 -4 -4)	3.280	1.279	2.57	81.5	75.6
[2 -1 0]	(2 4 0)	(2 4 -4)	3.280	1.279	2.57	75.6	81.5
[6 -3 -8]	(2 4 0)	(-4 0 -3)	3.280	1.277	2.57	60.8	55.3
[8 -4 9]	(2 4 0)	(-3 3 4)	3.280	1.276	2.57	89.8	72.9
[8 -4 3]	(2 4 0)	(-3 -3 4)	3.280	1.276	2.57	72.9	89.9
[4 -2 11]	(2 4 0)	(7 3 -2)	3.280	1.276	2.57	41.7	45.9
[2 -1 -4]	(2 4 0)	(2 -8 3)	3.280	1.275	2.57	84.3	46.1
[6 -3 4]	(2 4 0)	(2 8 3)	3.280	1.275	2.57	46.2	83.1
[6 -3 -10]	(2 4 0)	(-4 2 -3)	3.280	1.264	2.59	67.3	50.4
[2 -1 -2]	(2 4 0)	(4 2 3)	3.280	1.264	2.59	54.4	60.9
[6 -3 16]	(2 4 0)	(-6 4 3)	3.280	1.254	2.62	74.6	46.9
[6 -3 8]	(2 4 0)	(6 4 -3)	3.280	1.254	2.62	49.2	68.6
[8 -4 -3]	(2 4 0)	(-1 -5 4)	3.280	1.252	2.62	78.6	73.2
[8 -4 7]	(2 4 0)	(-1 5 4)	3.280	1.252	2.62	73.3	78.4
[2 -1 2]	(2 4 0)	(-6 -8 2)	3.280	1.245	2.64	28.8	75.6
[4 -2 5]	(2 4 0)	(4 -2 -4)	3.280	1.244	2.64	82.0	70.3
[4 -2 3]	(2 4 0)	(-4 -2 4)	3.280	1.244	2.64	70.6	81.2
[6 -3 1]	(2 4 0)	(3 7 3)	3.280	1.237	2.65	44.2	85.3
[8 -4 -5]	(2 4 0)	(-1 3 -4)	3.280	1.233	2.66	85.1	68.0
[8 -4 1]	(2 4 0)	(1 3 4)	3.280	1.233	2.66	68.2	84.3
[2 -1 -4]	(2 4 0)	(-4 4 -3)	3.280	1.230	2.67	73.8	46.1

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C
[6 -3 -4]	(2 4 0)	(4 4 3)	3.280	1.230	2.67	48.6	67.1
[4 -2 -3]	(2 4 0)	(-5 -7 -2)	3.280	1.230	2.67	30.4	65.5
[8 -4 11]	(2 4 0)	(-3 5 4)	3.280	1.229	2.67	84.4	67.7
[8 -4 1]	(2 4 0)	(3 5 -4)	3.280	1.229	2.67	67.8	84.3
[4 -2 9]	(2 4 0)	(-7 -5 2)	3.280	1.229	2.67	35.4	52.6
[4 -2 3]	(2 4 0)	(0 6 4)	3.280	1.202	2.73	65.6	81.2
[8 -4 -7]	(2 4 0)	(-1 5 -4)	3.280	1.191	2.75	89.4	63.2
[8 -4 3]	(2 4 0)	(1 5 4)	3.280	1.191	2.75	63.1	89.9
[2 -1 -4]	(2 4 0)	(-6 -4 -2)	3.280	1.190	2.76	38.3	46.1
[8 -4 11]	(2 4 0)	(5 -1 -4)	3.280	1.190	2.76	74.5	67.7
[8 -4 9]	(2 4 0)	(-5 -1 4)	3.280	1.190	2.76	68.9	72.9
[8 -4 -5]	(2 4 0)	(1 7 -4)	3.280	1.188	2.76	73.7	68.0
[8 -4 9]	(2 4 0)	(1 -7 -4)	3.280	1.188	2.76	68.6	72.9
[2 -1 5]	(2 4 0)	(7 -1 -3)	3.280	1.183	2.77	61.6	49.1
[6 -3 13]	(2 4 0)	(-7 -1 3)	3.280	1.183	2.77	55.4	53.8
[6 -3 -2]	(2 4 0)	(4 6 3)	3.280	1.179	2.78	43.5	74.0
[6 -3 1]	(2 4 0)	(-5 -9 3)	3.280	1.172	2.80	41.4	85.3
[8 -4 13]	(2 4 0)	(5 -3 -4)	3.280	1.171	2.80	80.1	62.9
[8 -4 7]	(2 4 0)	(-5 -3 4)	3.280	1.171	2.80	63.6	78.4
[8 -4 13]	(2 4 0)	(-3 7 4)	3.280	1.168	2.81	79.4	62.9
[8 -4 -1]	(2 4 0)	(-3 -7 4)	3.280	1.168	2.81	63.2	78.6
[4 -2 7]	(2 4 0)	(7 7 -2)	3.280	1.168	2.81	30.1	60.7
[6 -3 11]	(2 4 0)	(-7 -3 3)	3.280	1.163	2.82	49.6	59.2
[4 -2 7]	(2 4 0)	(-4 6 4)	3.280	1.162	2.82	87.1	60.7
[4 -2 1]	(2 4 0)	(-4 -6 4)	3.280	1.162	2.82	60.7	87.2
[6 -3 -11]	(2 4 0)	(5 -1 3)	3.280	1.159	2.83	61.0	48.1
[2 -1 -3]	(2 4 0)	(-5 -1 -3)	3.280	1.159	2.83	54.9	52.7
[2 -1 -2]	(2 4 0)	(2 -4 4)	3.280	1.157	2.83	83.0	60.9
[2 -1 0]	(2 4 0)	(-2 -4 -4)	3.280	1.157	2.83	61.3	81.5
[2 -1 3]	(2 4 0)	(2 -8 -4)	3.280	1.152	2.85	71.8	65.3
[2 -1 -1]	(2 4 0)	(2 8 -4)	3.280	1.152	2.85	66.3	70.5
[4 -2 -1]	(2 4 0)	(-5 -9 -2)	3.280	1.150	2.85	26.4	75.9
[2 -1 5]	(2 4 0)	(7 9 -1)	3.280	1.135	2.89	16.3	49.1
[8 -4 15]	(2 4 0)	(-5 5 4)	3.280	1.134	2.89	85.4	58.5
[8 -4 5]	(2 4 0)	(5 5 -4)	3.280	1.134	2.89	58.7	84.1
[6 -3 4]	(2 4 0)	(-6 -8 3)	3.280	1.134	2.89	39.9	83.1
[2 -1 3]	(2 4 0)	(7 5 -3)	3.280	1.128	2.91	44.2	65.3
[8 -4 -7]	(2 4 0)	(-3 1 -4)	3.280	1.123	2.92	70.6	63.2
[8 -4 -5]	(2 4 0)	(3 1 4)	3.280	1.123	2.92	65.2	68.0
[2 -1 3]	(2 4 0)	(6 0 -4)	3.280	1.122	2.92	67.7	65.3
[2 -1 0]	(2 4 0)	(-4 -8 -3)	3.280	1.116	2.94	39.4	81.5
[8 -4 -7]	(2 4 0)	(1 9 -4)	3.280	1.116	2.94	69.5	63.2
[8 -4 11]	(2 4 0)	(1 -9 -4)	3.280	1.116	2.94	64.6	67.7
[8 -4 -3]	(2 4 0)	(3 3 4)	3.280	1.107	2.96	60.0	73.2
[8 -4 15]	(2 4 0)	(3 -9 -4)	3.280	1.099	2.98	75.0	58.5
[8 -4 -3]	(2 4 0)	(3 9 -4)	3.280	1.099	2.98	59.4	73.2
[4 -2 5]	(2 4 0)	(7 9 -2)	3.280	1.099	2.98	25.9	70.3
[2 -1 4]	(2 4 0)	(-6 4 4)	3.280	1.090	3.01	78.5	56.4

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[2 -1 2]	(2 4 0)	(6 4 -4)	3.280	1.090	3.01	57.4	75.6
[2 -1 -2]	(2 4 0)	(-6 -8 -2)	3.280	1.086	3.02	27.8	60.9
[8 -4 17]	(2 4 0)	(-5 7 4)	3.280	1.086	3.02	89.5	54.5
[8 -4 3]	(2 4 0)	(-5 -7 4)	3.280	1.086	3.02	54.5	89.9
[2 -1 5]	(2 4 0)	(8 6 -2)	3.280	1.085	3.02	32.6	49.1
[6 -3 7]	(2 4 0)	(-7 -7 3)	3.280	1.080	3.04	39.7	72.0
[6 -3 16]	(2 4 0)	(8 0 -3)	3.280	1.079	3.04	56.1	46.9
[8 -4 -11]	(2 4 0)	(3 -5 4)	3.280	1.076	3.05	81.3	54.6
[8 -4 -1]	(2 4 0)	(-3 -5 -4)	3.280	1.076	3.05	55.3	78.6
[6 -3 14]	(2 4 0)	(8 2 -3)	3.280	1.072	3.06	50.5	51.4
[8 -4 -11]	(2 4 0)	(-1 9 -4)	3.280	1.072	3.06	79.9	54.6
[8 -4 7]	(2 4 0)	(-1 -9 -4)	3.280	1.072	3.06	55.1	78.4
[10 -5 4]	(2 4 0)	(2 0 -5)	3.280	1.068	3.07	89.3	89.3
[2 -1 -1]	(2 4 0)	(-5 -7 -3)	3.280	1.062	3.09	39.3	70.5
[10 -5 1]	(2 4 0)	(-1 -1 5)	3.280	1.061	3.09	88.5	83.7
[10 -5 3]	(2 4 0)	(1 -1 -5)	3.280	1.061	3.09	83.8	88.4
[2 -1 -3]	(2 4 0)	(-2 8 -4)	3.280	1.061	3.09	87.0	52.7
[2 -1 1]	(2 4 0)	(-2 -8 -4)	3.280	1.061	3.09	52.7	87.0
[10 -5 6]	(2 4 0)	(-2 2 5)	3.280	1.060	3.09	86.0	84.6
[10 -5 2]	(2 4 0)	(-2 -2 5)	3.280	1.060	3.09	84.6	86.1
[2 -1 1]	(2 4 0)	(3 1 -5)	3.280	1.057	3.10	82.4	87.0
[2 -1 4]	(2 4 0)	(-8 -4 3)	3.280	1.051	3.12	45.1	56.4
[10 -5 -1]	(2 4 0)	(1 3 -5)	3.280	1.047	3.13	86.8	79.2
[2 -1 1]	(2 4 0)	(-1 3 5)	3.280	1.047	3.13	79.2	87.0
[8 -4 15]	(2 4 0)	(7 -1 -4)	3.280	1.047	3.13	66.9	58.5
[8 -4 13]	(2 4 0)	(-7 -1 4)	3.280	1.047	3.13	61.7	62.9
[4 -2 -5]	(2 4 0)	(4 -2 4)	3.280	1.045	3.14	69.7	56.6
[4 -2 -3]	(2 4 0)	(-4 -2 -4)	3.280	1.045	3.14	59.4	65.5
[10 -5 9]	(2 4 0)	(-3 3 5)	3.280	1.043	3.14	88.2	77.8
[10 -5 3]	(2 4 0)	(3 3 -5)	3.280	1.043	3.14	77.8	88.4
[10 -5 8]	(2 4 0)	(2 -4 -5)	3.280	1.040	3.15	81.4	80.1
[2 -1 0]	(2 4 0)	(2 4 -5)	3.280	1.040	3.15	80.0	81.5
[10 -5 -2]	(2 4 0)	(0 2 -5)	3.280	1.038	3.16	86.4	77.0
[10 -5 2]	(2 4 0)	(0 2 5)	3.280	1.038	3.16	77.1	86.1
[10 -5 8]	(2 4 0)	(-4 0 5)	3.280	1.037	3.16	80.4	80.1
[8 -4 -13]	(2 4 0)	(-3 7 -4)	3.280	1.034	3.17	86.2	50.9
[8 -4 1]	(2 4 0)	(3 7 4)	3.280	1.034	3.17	51.1	84.3
[8 -4 17]	(2 4 0)	(-7 3 4)	3.280	1.033	3.17	72.1	54.5
[8 -4 11]	(2 4 0)	(7 3 -4)	3.280	1.033	3.17	56.8	67.7
[6 -3 -8]	(2 4 0)	(-6 -4 -3)	3.280	1.032	3.18	44.8	55.3
[2 -1 2]	(2 4 0)	(4 -2 -5)	3.280	1.030	3.18	85.0	75.6
[10 -5 6]	(2 4 0)	(4 2 -5)	3.280	1.030	3.18	75.8	84.6
[8 -4 19]	(2 4 0)	(5 -9 -4)	3.280	1.030	3.18	85.0	50.8
[8 -4 1]	(2 4 0)	(5 9 -4)	3.280	1.030	3.18	50.9	84.3
[6 -3 5]	(2 4 0)	(-7 -9 3)	3.280	1.025	3.20	35.9	79.3
[10 -5 -3]	(2 4 0)	(1 5 -5)	3.280	1.021	3.21	82.3	74.8
[10 -5 7]	(2 4 0)	(1 -5 -5)	3.280	1.021	3.21	74.8	82.3
[10 -5 -4]	(2 4 0)	(0 4 -5)	3.280	1.019	3.22	89.0	72.6

Grunerite (240) 308 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[10 -5 4]	(2 4 0)	(0 -4 -5)	3.280	1.019	3.22	72.6	89.3
[6 -3 10]	(2 4 0)	(8 6 -3)	3.280	1.018	3.22	40.3	62.2
[10 -5 11]	(2 4 0)	(-3 5 5)	3.280	1.017	3.22	83.7	73.4
[10 -5 1]	(2 4 0)	(-3 -5 5)	3.280	1.017	3.22	73.4	83.7
[4 -2 -7]	(2 4 0)	(7 7 2)	3.280	1.016	3.23	30.2	49.2
[10 -5 -3]	(2 4 0)	(-1 1 -5)	3.280	1.014	3.23	79.8	74.8
[10 -5 -1]	(2 4 0)	(1 1 5)	3.280	1.014	3.23	75.2	79.2
[10 -5 12]	(2 4 0)	(-4 4 5)	3.280	1.012	3.24	89.6	71.3
[10 -5 4]	(2 4 0)	(4 4 -5)	3.280	1.012	3.24	71.3	89.3
[6 -3 -1]	(2 4 0)	(-5 -9 -3)	3.280	1.010	3.25	35.5	77.7
[8 -4 19]	(2 4 0)	(7 -5 -4)	3.280	1.008	3.25	77.2	50.8
[8 -4 9]	(2 4 0)	(-7 -5 4)	3.280	1.008	3.25	52.2	72.9
[2 -1 2]	(2 4 0)	(-2 6 5)	3.280	1.008	3.25	77.1	75.6
[10 -5 -2]	(2 4 0)	(-2 -6 5)	3.280	1.008	3.25	75.7	77.0
[2 -1 5]	(2 4 0)	(6 -8 -4)	3.280	1.008	3.25	88.4	49.1
[2 -1 1]	(2 4 0)	(-6 -8 4)	3.280	1.008	3.25	49.1	87.0
[10 -5 11]	(2 4 0)	(5 -1 -5)	3.280	1.003	3.27	78.6	73.4
[10 -5 9]	(2 4 0)	(-5 -1 5)	3.280	1.003	3.27	74.0	77.8
[2 -1 -1]	(2 4 0)	(1 -3 5)	3.280	1.002	3.27	84.4	70.5
[10 -5 1]	(2 4 0)	(-1 -3 -5)	3.280	1.002	3.27	70.7	83.7

Grunerite (310) 360 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -3 0]	(3 1 0)	(0 0 1)	3.076	5.224	0.59	78.3	88.0
[1 -3 4]	(3 1 0)	(-1 1 1)	3.076	4.846	0.63	73.9	70.9
[1 -3 -2]	(3 1 0)	(1 1 -1)	3.076	4.846	0.63	68.5	77.3
[1 -3 6]	(3 1 0)	(0 -2 -1)	3.076	4.542	0.68	75.0	61.8
[1 -3 -4]	(3 1 0)	(1 -1 1)	3.076	4.102	0.75	56.3	67.4
[1 -3 2]	(3 1 0)	(-1 -1 -1)	3.076	4.102	0.75	51.0	81.2
[1 -3 2]	(3 1 0)	(2 0 -1)	3.076	3.909	0.79	47.8	81.2
[1 -3 10]	(3 1 0)	(-1 3 1)	3.076	3.886	0.79	81.2	47.4
[1 -3 -8]	(3 1 0)	(1 3 -1)	3.076	3.886	0.79	68.6	51.4
[1 -3 8]	(3 1 0)	(-2 2 1)	3.076	3.597	0.85	56.5	53.9
[1 -3 -4]	(3 1 0)	(2 2 -1)	3.076	3.597	0.85	46.9	67.4
[1 -3 -10]	(3 1 0)	(-1 3 -1)	3.076	3.469	0.89	66.1	45.3
[1 -3 8]	(3 1 0)	(1 3 1)	3.076	3.469	0.89	53.5	53.9
[1 -3 -2]	(3 1 0)	(-2 0 -1)	3.076	3.176	0.97	37.6	77.3
[1 -3 -8]	(3 1 0)	(2 -2 1)	3.076	3.002	1.02	46.0	51.4
[1 -3 4]	(3 1 0)	(-2 -2 -1)	3.076	3.002	1.02	36.5	70.9
[1 -3 -10]	(3 1 0)	(2 4 -1)	3.076	2.978	1.03	51.7	45.3
[1 -3 6]	(3 1 0)	(3 -1 -1)	3.076	2.923	1.05	38.4	61.8
[1 -3 -6]	(3 1 0)	(3 3 -1)	3.076	2.666	1.15	35.8	58.7
[1 -3 2]	(3 1 0)	(-1 1 2)	3.076	2.635	1.17	87.2	81.2
[1 -3 -1]	(3 1 0)	(1 1 -2)	3.076	2.635	1.17	84.5	82.6
[1 -3 10]	(3 1 0)	(-2 -4 -1)	3.076	2.613	1.18	41.7	47.4
[1 -3 -3]	(3 1 0)	(0 2 -2)	3.076	2.513	1.22	81.4	72.2
[1 -3 3]	(3 1 0)	(0 2 2)	3.076	2.513	1.22	76.0	75.9
[1 -3 1]	(3 1 0)	(-2 0 2)	3.076	2.512	1.22	70.5	86.6
[1 -3 -6]	(3 1 0)	(3 -1 1)	3.076	2.442	1.26	32.4	58.7
[1 -3 5]	(3 1 0)	(1 -3 -2)	3.076	2.442	1.26	90.0	66.2
[1 -3 -4]	(3 1 0)	(-1 -3 2)	3.076	2.442	1.26	82.3	67.4
[1 -3 4]	(3 1 0)	(4 0 -1)	3.076	2.321	1.33	27.4	70.9
[1 -3 6]	(3 1 0)	(-3 -3 -1)	3.076	2.286	1.35	29.1	61.8
[1 -3 10]	(3 1 0)	(4 -2 -1)	3.076	2.251	1.37	34.9	47.4
[1 -3 -2]	(3 1 0)	(-4 -2 1)	3.076	2.251	1.37	25.6	77.3
[1 -3 -5]	(3 1 0)	(1 -3 2)	3.076	2.228	1.38	69.7	62.9
[1 -3 4]	(3 1 0)	(-1 -3 -2)	3.076	2.228	1.38	62.0	70.9
[1 -3 3]	(3 1 0)	(3 -1 -2)	3.076	2.227	1.38	59.3	75.9
[1 -3 0]	(3 1 0)	(-3 -1 2)	3.076	2.227	1.38	56.6	88.0
[1 -3 7]	(3 1 0)	(2 -4 -2)	3.076	2.204	1.40	77.7	57.7
[1 -3 -5]	(3 1 0)	(-2 -4 2)	3.076	2.204	1.40	68.1	62.9
[1 -3 8]	(3 1 0)	(-1 5 2)	3.076	2.157	1.43	87.8	53.9
[1 -3 -7]	(3 1 0)	(-1 -5 2)	3.076	2.157	1.43	80.9	54.9
[1 -3 6]	(3 1 0)	(3 -3 -2)	3.076	2.107	1.46	63.6	61.8
[1 -3 -3]	(3 1 0)	(3 3 -2)	3.076	2.107	1.46	56.0	72.2
[1 -3 -1]	(3 1 0)	(-2 0 -2)	3.076	2.104	1.46	52.6	82.6
[1 -3 -8]	(3 1 0)	(4 4 -1)	3.076	2.072	1.48	29.8	51.4
[1 -3 -9]	(3 1 0)	(0 6 -2)	3.076	1.988	1.55	87.4	48.2
[1 -3 9]	(3 1 0)	(0 6 2)	3.076	1.988	1.55	74.7	50.5
[1 -3 -4]	(3 1 0)	(-4 0 -1)	3.076	1.988	1.55	23.8	67.4
[1 -3 2]	(3 1 0)	(4 2 1)	3.076	1.943	1.58	21.6	81.2

Grunerite (310) 360 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -3 9]	(3 1 0)	(-3 5 2)	3.076	1.915	1.61	68.3	50.5
[1 -3 -6]	(3 1 0)	(3 5 -2)	3.076	1.915	1.61	57.1	58.7
[1 -3 -7]	(3 1 0)	(-2 4 -2)	3.076	1.913	1.61	61.2	54.9
[1 -3 5]	(3 1 0)	(2 4 2)	3.076	1.913	1.61	51.6	66.2
[1 -3 5]	(3 1 0)	(4 -2 -2)	3.076	1.912	1.61	51.5	66.2
[1 -3 -1]	(3 1 0)	(-4 -2 2)	3.076	1.912	1.61	46.2	82.6
[1 -3 8]	(3 1 0)	(5 -1 -1)	3.076	1.880	1.64	25.8	53.9
[1 -3 2]	(3 1 0)	(5 1 -1)	3.076	1.880	1.64	20.9	81.2
[1 -3 -10]	(3 1 0)	(-1 -7 2)	3.076	1.870	1.64	80.2	45.3
[1 -3 8]	(3 1 0)	(4 4 1)	3.076	1.825	1.69	25.0	53.9
[1 -3 -3]	(3 1 0)	(-3 1 -2)	3.076	1.817	1.69	45.6	72.2
[1 -3 0]	(3 1 0)	(3 1 2)	3.076	1.817	1.69	42.9	88.0
[1 -3 -4]	(3 1 0)	(-5 -3 1)	3.076	1.806	1.70	21.5	67.4
[3 -9 -2]	(3 1 0)	(-1 -1 3)	3.076	1.771	1.74	89.8	84.4
[3 -9 4]	(3 1 0)	(1 -1 -3)	3.076	1.771	1.74	87.9	84.7
[1 -3 10]	(3 1 0)	(1 7 2)	3.076	1.769	1.74	64.1	47.4
[3 -9 2]	(3 1 0)	(-2 0 3)	3.076	1.755	1.75	80.5	88.4
[1 -3 -6]	(3 1 0)	(3 -3 2)	3.076	1.750	1.76	50.1	58.7
[1 -3 3]	(3 1 0)	(3 3 2)	3.076	1.750	1.76	42.5	75.9
[3 -9 8]	(3 1 0)	(2 -2 -3)	3.076	1.723	1.78	82.5	77.6
[3 -9 -4]	(3 1 0)	(-2 -2 3)	3.076	1.723	1.78	78.8	80.8
[1 -3 -2]	(3 1 0)	(0 -2 3)	3.076	1.711	1.80	80.3	77.3
[1 -3 2]	(3 1 0)	(0 -2 -3)	3.076	1.711	1.80	76.7	81.2
[3 -9 -8]	(3 1 0)	(1 3 -3)	3.076	1.709	1.80	88.4	73.8
[3 -9 10]	(3 1 0)	(1 -3 -3)	3.076	1.709	1.80	86.2	74.2
[1 -3 -9]	(3 1 0)	(3 7 -2)	3.076	1.706	1.80	59.0	48.2
[1 -3 4]	(3 1 0)	(-5 1 2)	3.076	1.689	1.82	42.0	70.9
[1 -3 1]	(3 1 0)	(5 1 -2)	3.076	1.689	1.82	39.3	86.6
[1 -3 -10]	(3 1 0)	(-5 -5 1)	3.076	1.681	1.83	26.3	45.3
[1 -3 2]	(3 1 0)	(3 -1 -3)	3.076	1.668	1.84	71.5	81.2
[1 -3 0]	(3 1 0)	(-3 -1 3)	3.076	1.668	1.84	69.7	88.0
[1 -3 -8]	(3 1 0)	(5 -1 1)	3.076	1.650	1.86	23.3	51.4
[1 -3 -2]	(3 1 0)	(-5 -1 -1)	3.076	1.650	1.86	18.5	77.3
[1 -3 -7]	(3 1 0)	(4 6 -2)	3.076	1.648	1.87	49.0	54.9
[3 -9 -4]	(3 1 0)	(-1 1 -3)	3.076	1.645	1.87	69.5	80.8
[3 -9 2]	(3 1 0)	(1 1 3)	3.076	1.645	1.87	67.7	88.4
[3 -9 14]	(3 1 0)	(-2 4 3)	3.076	1.639	1.88	84.6	67.7
[3 -9 -10]	(3 1 0)	(2 4 -3)	3.076	1.639	1.88	77.7	70.5
[1 -3 -9]	(3 1 0)	(3 -5 2)	3.076	1.636	1.88	55.3	48.2
[1 -3 6]	(3 1 0)	(-3 -5 -2)	3.076	1.636	1.88	44.1	61.8
[1 -3 7]	(3 1 0)	(5 -3 -2)	3.076	1.635	1.88	46.4	57.7
[1 -3 -2]	(3 1 0)	(-5 -3 2)	3.076	1.635	1.88	38.9	77.3
[1 -3 -4]	(3 1 0)	(0 -4 3)	3.076	1.629	1.89	82.5	67.4
[1 -3 4]	(3 1 0)	(0 -4 -3)	3.076	1.629	1.89	75.6	70.9
[3 -9 -14]	(3 1 0)	(1 5 -3)	3.076	1.602	1.92	86.9	64.3
[3 -9 16]	(3 1 0)	(1 -5 -3)	3.076	1.602	1.92	84.8	64.7
[1 -3 4]	(3 1 0)	(5 3 1)	3.076	1.600	1.92	18.5	70.9
[3 -9 -10]	(3 1 0)	(1 -3 3)	3.076	1.595	1.93	71.9	70.5

Grunerite (310) 360 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[3 -9 8]	(3 1 0)	(-1 -3 -3)	3.076	1.595	1.93	66.6	77.6
[1 -3 -5]	(3 1 0)	(4 -2 2)	3.076	1.565	1.97	41.2	62.9
[1 -3 1]	(3 1 0)	(4 2 2)	3.076	1.565	1.97	36.0	86.6
[3 -9 4]	(3 1 0)	(4 0 -3)	3.076	1.559	1.97	61.6	84.7
[1 -3 10]	(3 1 0)	(5 -5 -2)	3.076	1.540	2.00	51.6	47.4
[1 -3 -5]	(3 1 0)	(-5 -5 2)	3.076	1.540	2.00	40.4	62.9
[3 -9 10]	(3 1 0)	(4 -2 -3)	3.076	1.537	2.00	63.9	74.2
[3 -9 -2]	(3 1 0)	(-4 -2 3)	3.076	1.537	2.00	60.2	84.4
[3 -9 -2]	(3 1 0)	(2 0 3)	3.076	1.532	2.01	59.9	84.4
[1 -3 6]	(3 1 0)	(-3 5 3)	3.076	1.524	2.02	76.4	61.8
[1 -3 -4]	(3 1 0)	(3 5 -3)	3.076	1.524	2.02	68.1	67.4
[3 -9 20]	(3 1 0)	(-2 6 3)	3.076	1.523	2.02	86.6	59.0
[3 -9 -16]	(3 1 0)	(2 6 -3)	3.076	1.523	2.02	76.9	61.5
[3 -9 -8]	(3 1 0)	(2 -2 3)	3.076	1.511	2.04	62.1	73.8
[3 -9 4]	(3 1 0)	(-2 -2 -3)	3.076	1.511	2.04	58.5	84.7
[1 -3 10]	(3 1 0)	(5 5 1)	3.076	1.511	2.04	22.6	47.4
[3 -9 -16]	(3 1 0)	(-1 5 -3)	3.076	1.507	2.04	74.6	61.5
[3 -9 14]	(3 1 0)	(1 5 3)	3.076	1.507	2.04	66.2	67.7
[1 -3 -6]	(3 1 0)	(6 4 -1)	3.076	1.500	2.05	19.2	58.7
[1 -3 9]	(3 1 0)	(-3 -7 -2)	3.076	1.500	2.05	46.7	50.5
[1 -3 3]	(3 1 0)	(6 0 -2)	3.076	1.480	2.08	34.9	75.9
[3 -9 16]	(3 1 0)	(-4 4 3)	3.076	1.477	2.08	66.7	64.7
[3 -9 -8]	(3 1 0)	(4 4 -3)	3.076	1.477	2.08	59.8	73.8
[3 -9 -20]	(3 1 0)	(1 7 -3)	3.076	1.473	2.09	85.6	56.1
[3 -9 22]	(3 1 0)	(1 -7 -3)	3.076	1.473	2.09	83.7	56.4
[3 -9 -14]	(3 1 0)	(2 -4 3)	3.076	1.454	2.12	65.0	64.3
[3 -9 10]	(3 1 0)	(2 4 3)	3.076	1.454	2.12	58.1	74.2
[3 -9 8]	(3 1 0)	(-5 1 3)	3.076	1.426	2.16	55.1	77.6
[3 -9 2]	(3 1 0)	(5 1 -3)	3.076	1.426	2.16	53.3	88.4
[1 -3 -8]	(3 1 0)	(-5 -7 2)	3.076	1.425	2.16	43.1	51.4
[1 -3 -6]	(3 1 0)	(6 0 1)	3.076	1.417	2.17	18.1	58.7
[1 -3 8]	(3 1 0)	(3 -7 -3)	3.076	1.412	2.18	79.0	53.9
[1 -3 -6]	(3 1 0)	(-3 -7 3)	3.076	1.412	2.18	68.2	58.7
[1 -3 7]	(3 1 0)	(4 6 2)	3.076	1.410	2.18	38.7	57.7
[1 -3 9]	(3 1 0)	(-6 4 2)	3.076	1.409	2.18	43.1	50.5
[1 -3 -3]	(3 1 0)	(6 4 -2)	3.076	1.409	2.18	33.7	72.2
[3 -9 -22]	(3 1 0)	(1 -7 3)	3.076	1.398	2.20	77.2	53.7
[3 -9 20]	(3 1 0)	(-1 -7 -3)	3.076	1.398	2.20	66.5	59.0
[1 -3 -2]	(3 1 0)	(3 -1 3)	3.076	1.398	2.20	53.7	77.3
[1 -3 0]	(3 1 0)	(-3 -1 -3)	3.076	1.398	2.20	51.8	88.0
[3 -9 26]	(3 1 0)	(2 -8 -3)	3.076	1.395	2.21	88.3	51.6
[3 -9 -22]	(3 1 0)	(-2 -8 3)	3.076	1.395	2.21	76.6	53.7
[3 -9 14]	(3 1 0)	(5 -3 -3)	3.076	1.393	2.21	57.8	67.7
[3 -9 -4]	(3 1 0)	(-5 -3 3)	3.076	1.393	2.21	52.5	80.8
[3 -9 22]	(3 1 0)	(4 -6 -3)	3.076	1.390	2.21	69.7	56.4
[3 -9 -14]	(3 1 0)	(-4 -6 3)	3.076	1.390	2.21	60.0	64.3
[1 -3 -8]	(3 1 0)	(0 -8 3)	3.076	1.388	2.22	86.5	51.4
[1 -3 8]	(3 1 0)	(0 8 3)	3.076	1.388	2.22	74.8	53.9

Grunerite (310) 360 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -3 -4]	(3 1 0)	(-5 1 -2)	3.076	1.388	2.22	34.3	67.4
[1 -3 -1]	(3 1 0)	(5 1 2)	3.076	1.388	2.22	31.6	82.6
[3 -9 -20]	(3 1 0)	(-2 6 -3)	3.076	1.370	2.24	68.0	56.1
[3 -9 16]	(3 1 0)	(2 6 3)	3.076	1.370	2.24	58.4	64.7
[1 -3 10]	(3 1 0)	(7 -1 -1)	3.076	1.361	2.26	20.3	47.4
[1 -3 4]	(3 1 0)	(7 1 -1)	3.076	1.361	2.26	15.6	70.9
[1 -3 -7]	(3 1 0)	(-5 3 -2)	3.076	1.357	2.27	38.4	54.9
[1 -3 2]	(3 1 0)	(5 3 2)	3.076	1.357	2.27	31.0	81.2
[1 -3 6]	(3 1 0)	(-6 -4 -1)	3.076	1.354	2.27	16.7	61.8
[3 -9 -26]	(3 1 0)	(1 9 -3)	3.076	1.342	2.29	84.6	49.2
[3 -9 28]	(3 1 0)	(1 -9 -3)	3.076	1.342	2.29	82.8	49.5
[3 -9 20]	(3 1 0)	(5 -5 -3)	3.076	1.333	2.31	60.9	59.0
[3 -9 -10]	(3 1 0)	(-5 -5 3)	3.076	1.333	2.31	52.6	70.5
[2 -6 1]	(3 1 0)	(2 0 -4)	3.076	1.331	2.31	85.8	89.3
[2 -6 -1]	(3 1 0)	(1 1 -4)	3.076	1.328	2.32	86.9	85.3
[1 -3 1]	(3 1 0)	(-1 1 4)	3.076	1.328	2.32	85.5	86.6
[1 -3 -6]	(3 1 0)	(3 -5 3)	3.076	1.310	2.35	59.5	58.7
[1 -3 4]	(3 1 0)	(-3 -5 -3)	3.076	1.310	2.35	51.2	70.9
[1 -3 5]	(3 1 0)	(5 5 2)	3.076	1.302	2.36	32.2	66.2
[1 -3 -2]	(3 1 0)	(1 3 -4)	3.076	1.301	2.36	88.3	77.3
[2 -6 5]	(3 1 0)	(-1 3 4)	3.076	1.301	2.36	84.2	78.5
[2 -6 3]	(3 1 0)	(-3 1 4)	3.076	1.301	2.36	78.6	83.8
[1 -3 0]	(3 1 0)	(3 1 -4)	3.076	1.301	2.36	77.3	88.0
[1 -3 5]	(3 1 0)	(-7 1 2)	3.076	1.301	2.36	32.2	66.2
[1 -3 2]	(3 1 0)	(7 1 -2)	3.076	1.301	2.36	29.6	81.2
[2 -6 -3]	(3 1 0)	(0 2 -4)	3.076	1.293	2.38	79.8	79.9
[2 -6 3]	(3 1 0)	(0 2 4)	3.076	1.293	2.38	77.0	83.8
[3 -9 28]	(3 1 0)	(-4 8 3)	3.076	1.291	2.38	72.6	49.5
[3 -9 -20]	(3 1 0)	(4 8 -3)	3.076	1.291	2.38	60.9	56.1
[1 -3 4]	(3 1 0)	(-6 2 3)	3.076	1.290	2.38	50.1	70.9
[1 -3 0]	(3 1 0)	(6 2 -3)	3.076	1.290	2.38	46.5	88.0
[3 -9 -28]	(3 1 0)	(-1 9 -3)	3.076	1.285	2.39	79.6	47.2
[3 -9 26]	(3 1 0)	(1 9 3)	3.076	1.285	2.39	67.0	51.6
[1 -3 -8]	(3 1 0)	(-7 -5 1)	3.076	1.279	2.40	17.9	51.4
[2 -6 7]	(3 1 0)	(2 -4 -4)	3.076	1.279	2.41	88.6	73.4
[2 -6 -5]	(3 1 0)	(-2 -4 4)	3.076	1.279	2.41	83.3	74.7
[3 -9 -4]	(3 1 0)	(4 0 3)	3.076	1.277	2.41	46.6	80.8
[1 -3 3]	(3 1 0)	(-3 3 4)	3.076	1.276	2.41	80.2	75.9
[2 -6 -3]	(3 1 0)	(3 3 -4)	3.076	1.276	2.41	76.1	79.9
[1 -3 8]	(3 1 0)	(-7 3 2)	3.076	1.276	2.41	36.2	53.9
[1 -3 -1]	(3 1 0)	(7 3 -2)	3.076	1.276	2.41	28.8	82.6
[3 -9 -26]	(3 1 0)	(2 -8 3)	3.076	1.275	2.41	71.1	49.2
[3 -9 22]	(3 1 0)	(-2 -8 -3)	3.076	1.275	2.41	59.3	56.4
[3 -9 -10]	(3 1 0)	(4 -2 3)	3.076	1.264	2.43	48.9	70.5
[3 -9 2]	(3 1 0)	(-4 -2 -3)	3.076	1.264	2.43	45.3	88.4
[2 -6 1]	(3 1 0)	(1 1 4)	3.076	1.256	2.45	70.2	89.3
[1 -3 6]	(3 1 0)	(-6 4 3)	3.076	1.254	2.45	53.1	61.8
[1 -3 -2]	(3 1 0)	(6 4 -3)	3.076	1.254	2.45	46.2	77.3

Grunerite (310) 360 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[2 -6 -7]	(3 1 0)	(-1 -5 4)	3.076	1.252	2.46	89.7	69.7
[1 -3 4]	(3 1 0)	(1 -5 -4)	3.076	1.252	2.46	83.1	70.9
[1 -3 -9]	(3 1 0)	(6 8 -2)	3.076	1.245	2.47	38.7	48.2
[2 -6 5]	(3 1 0)	(-4 2 4)	3.076	1.244	2.47	72.1	78.5
[2 -6 -1]	(3 1 0)	(4 2 -4)	3.076	1.244	2.47	69.3	85.3
[1 -3 -8]	(3 1 0)	(-3 7 -3)	3.076	1.237	2.49	62.8	51.4
[1 -3 6]	(3 1 0)	(3 7 3)	3.076	1.237	2.49	52.1	61.8
[2 -6 -5]	(3 1 0)	(-1 3 -4)	3.076	1.233	2.49	73.3	74.7
[1 -3 2]	(3 1 0)	(1 3 4)	3.076	1.233	2.49	69.2	81.2
[1 -3 -10]	(3 1 0)	(-7 1 -1)	3.076	1.233	2.49	19.0	45.3
[1 -3 -4]	(3 1 0)	(7 1 1)	3.076	1.233	2.49	14.5	67.4
[1 -3 -3]	(3 1 0)	(-6 0 -2)	3.076	1.232	2.50	29.0	72.2
[3 -9 -16]	(3 1 0)	(4 -4 3)	3.076	1.230	2.50	51.9	61.5
[3 -9 8]	(3 1 0)	(-4 -4 -3)	3.076	1.230	2.50	45.0	77.6
[1 -3 8]	(3 1 0)	(5 7 2)	3.076	1.230	2.50	34.7	53.9
[2 -6 9]	(3 1 0)	(-3 5 4)	3.076	1.229	2.50	81.9	68.5
[1 -3 -3]	(3 1 0)	(3 5 -4)	3.076	1.229	2.50	75.3	72.2
[1 -3 -4]	(3 1 0)	(7 5 -2)	3.076	1.229	2.50	29.9	67.4
[2 -6 9]	(3 1 0)	(0 6 4)	3.076	1.202	2.56	75.4	68.5
[1 -3 -4]	(3 1 0)	(-1 5 -4)	3.076	1.191	2.58	75.1	67.4
[2 -6 7]	(3 1 0)	(1 5 4)	3.076	1.191	2.58	68.6	73.4
[1 -3 -9]	(3 1 0)	(-6 4 -2)	3.076	1.190	2.58	36.7	48.2
[1 -3 3]	(3 1 0)	(6 4 2)	3.076	1.190	2.58	27.4	75.9
[1 -3 2]	(3 1 0)	(5 -1 -4)	3.076	1.190	2.58	64.5	81.2
[2 -6 1]	(3 1 0)	(5 1 -4)	3.076	1.190	2.58	63.1	89.3
[1 -3 -5]	(3 1 0)	(-1 -7 4)	3.076	1.188	2.59	89.1	62.9
[2 -6 11]	(3 1 0)	(-1 7 4)	3.076	1.188	2.59	82.2	63.9
[1 -3 2]	(3 1 0)	(-8 -2 1)	3.076	1.185	2.59	13.0	81.2
[3 -9 10]	(3 1 0)	(7 -1 -3)	3.076	1.183	2.60	43.7	74.2
[3 -9 4]	(3 1 0)	(-7 -1 3)	3.076	1.183	2.60	41.9	84.7
[3 -9 -22]	(3 1 0)	(4 -6 3)	3.076	1.179	2.61	55.3	53.7
[3 -9 14]	(3 1 0)	(-4 -6 -3)	3.076	1.179	2.61	45.7	67.7
[3 -9 32]	(3 1 0)	(5 -9 -3)	3.076	1.172	2.62	67.4	45.5
[3 -9 -22]	(3 1 0)	(-5 -9 3)	3.076	1.172	2.62	54.8	53.7
[1 -3 8]	(3 1 0)	(7 5 1)	3.076	1.171	2.63	15.7	53.9
[2 -6 7]	(3 1 0)	(5 -3 -4)	3.076	1.171	2.63	66.3	73.4
[1 -3 -1]	(3 1 0)	(-5 -3 4)	3.076	1.171	2.63	62.2	82.6
[1 -3 6]	(3 1 0)	(3 -7 -4)	3.076	1.168	2.63	83.5	61.8
[2 -6 -9]	(3 1 0)	(-3 -7 4)	3.076	1.168	2.63	74.8	65.1
[1 -3 -7]	(3 1 0)	(7 7 -2)	3.076	1.168	2.63	32.3	54.9
[3 -9 16]	(3 1 0)	(-7 3 3)	3.076	1.163	2.64	46.3	64.7
[3 -9 -2]	(3 1 0)	(7 3 -3)	3.076	1.163	2.64	41.1	84.4
[2 -6 11]	(3 1 0)	(4 -6 -4)	3.076	1.162	2.65	75.8	63.9
[2 -6 -7]	(3 1 0)	(-4 -6 4)	3.076	1.162	2.65	68.1	69.7
[3 -9 -8]	(3 1 0)	(-5 1 -3)	3.076	1.159	2.65	42.7	73.8
[3 -9 -2]	(3 1 0)	(5 1 3)	3.076	1.159	2.65	40.9	84.4
[2 -6 -7]	(3 1 0)	(-2 4 -4)	3.076	1.157	2.66	67.6	69.7
[2 -6 5]	(3 1 0)	(2 4 4)	3.076	1.157	2.66	62.2	78.5

Grunerite (310) 360 Zone Axes***a* 9.564Å *b* 18.393Å *c* 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$ C
[1 -3 -4]	(3 1 0)	(-8 -4 1)	3.076	1.157	2.66	13.6	67.4
[2 -6 13]	(3 1 0)	(-2 8 4)	3.076	1.152	2.67	88.8	59.7
[2 -6 -11]	(3 1 0)	(-2 -8 4)	3.076	1.152	2.67	81.5	60.8
[1 -3 7]	(3 1 0)	(8 -2 -2)	3.076	1.151	2.67	30.7	57.7
[1 -3 1]	(3 1 0)	(-8 -2 2)	3.076	1.151	2.67	25.6	86.6
[3 -9 4]	(3 1 0)	(5 3 3)	3.076	1.141	2.70	40.1	84.7
[1 -3 5]	(3 1 0)	(5 -5 -4)	3.076	1.134	2.71	68.3	66.2
[2 -6 -5]	(3 1 0)	(5 5 -4)	3.076	1.134	2.71	61.8	74.7
[1 -3 10]	(3 1 0)	(-6 8 3)	3.076	1.134	2.71	59.9	47.4
[1 -3 -6]	(3 1 0)	(6 8 -3)	3.076	1.134	2.71	48.2	58.7
[3 -9 22]	(3 1 0)	(7 -5 -3)	3.076	1.128	2.73	49.5	56.4
[3 -9 -8]	(3 1 0)	(-7 -5 3)	3.076	1.128	2.73	41.3	73.8
[1 -3 10]	(3 1 0)	(8 -4 -2)	3.076	1.125	2.73	34.9	47.4
[1 -3 -2]	(3 1 0)	(-8 -4 2)	3.076	1.125	2.73	25.6	77.3
[2 -6 -3]	(3 1 0)	(3 -1 4)	3.076	1.123	2.74	58.7	79.9
[1 -3 0]	(3 1 0)	(-3 -1 -4)	3.076	1.123	2.74	57.3	88.0
[2 -6 3]	(3 1 0)	(6 0 -4)	3.076	1.122	2.74	57.7	83.8
[3 -9 -28]	(3 1 0)	(-4 8 -3)	3.076	1.116	2.76	58.7	47.2
[3 -9 20]	(3 1 0)	(4 8 3)	3.076	1.116	2.76	47.0	59.0
[2 -6 -13]	(3 1 0)	(1 9 -4)	3.076	1.116	2.76	88.0	56.8
[1 -3 7]	(3 1 0)	(1 -9 -4)	3.076	1.116	2.76	81.5	57.7
[3 -9 10]	(3 1 0)	(-5 -5 -3)	3.076	1.107	2.78	40.3	74.2
[1 -3 -3]	(3 1 0)	(3 -3 4)	3.076	1.107	2.78	60.6	72.2
[2 -6 3]	(3 1 0)	(-3 -3 -4)	3.076	1.107	2.78	56.5	83.8
[1 -3 -5]	(3 1 0)	(7 -1 2)	3.076	1.100	2.80	27.6	62.9
[1 -3 -2]	(3 1 0)	(7 1 2)	3.076	1.100	2.80	25.0	77.3
[2 -6 15]	(3 1 0)	(-3 9 4)	3.076	1.099	2.80	85.0	55.8
[1 -3 -6]	(3 1 0)	(3 9 -4)	3.076	1.099	2.80	74.5	58.7
[1 -3 -10]	(3 1 0)	(-7 -9 2)	3.076	1.099	2.80	35.4	45.3
[1 -3 -8]	(3 1 0)	(8 0 1)	3.076	1.095	2.81	15.2	51.4
[2 -6 9]	(3 1 0)	(-6 4 4)	3.076	1.090	2.82	61.3	68.5
[2 -6 -3]	(3 1 0)	(6 4 -4)	3.076	1.090	2.82	56.0	79.9
[1 -3 -2]	(3 1 0)	(-8 -2 -1)	3.076	1.087	2.83	12.0	77.3
[1 -3 9]	(3 1 0)	(6 8 2)	3.076	1.086	2.83	31.8	50.5
[2 -6 13]	(3 1 0)	(-5 7 4)	3.076	1.086	2.83	70.5	59.7
[1 -3 -4]	(3 1 0)	(5 7 -4)	3.076	1.086	2.83	61.8	67.4
[1 -3 -5]	(3 1 0)	(-8 -6 2)	3.076	1.085	2.83	27.2	62.9
[1 -3 -8]	(3 1 0)	(7 -3 2)	3.076	1.084	2.84	31.3	51.4
[1 -3 1]	(3 1 0)	(7 3 2)	3.076	1.084	2.84	24.0	86.6
[3 -9 28]	(3 1 0)	(-7 7 3)	3.076	1.080	2.85	53.0	49.5
[3 -9 -14]	(3 1 0)	(7 7 -3)	3.076	1.080	2.85	42.3	64.3
[3 -9 8]	(3 1 0)	(-8 0 3)	3.076	1.079	2.85	38.4	77.6
[2 -6 -9]	(3 1 0)	(3 -5 4)	3.076	1.076	2.86	62.7	65.1
[1 -3 3]	(3 1 0)	(-3 -5 -4)	3.076	1.076	2.86	56.2	75.9
[3 -9 14]	(3 1 0)	(8 -2 -3)	3.076	1.072	2.87	40.6	67.7
[3 -9 2]	(3 1 0)	(-8 -2 3)	3.076	1.072	2.87	37.1	88.4
[1 -3 -7]	(3 1 0)	(1 -9 4)	3.076	1.072	2.87	78.9	54.9
[2 -6 13]	(3 1 0)	(-1 -9 -4)	3.076	1.072	2.87	68.5	59.7

Grunerite (310) 360 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -15 2]	(3 1 0)	(2 0 -5)	3.076	1.068	2.88	89.0	89.8
[1 -3 4]	(3 1 0)	(-8 -4 -1)	3.076	1.065	2.89	12.2	70.9
[3 -9 -26]	(3 1 0)	(5 -7 3)	3.076	1.062	2.90	52.0	49.2
[3 -9 16]	(3 1 0)	(-5 -7 -3)	3.076	1.062	2.90	41.3	64.7
[5 -15 -2]	(3 1 0)	(-1 -1 5)	3.076	1.061	2.90	85.1	85.8
[5 -15 4]	(3 1 0)	(1 -1 -5)	3.076	1.061	2.90	84.0	87.6
[1 -3 6]	(3 1 0)	(9 1 -1)	3.076	1.061	2.90	13.0	61.8
[2 -6 -13]	(3 1 0)	(-2 8 -4)	3.076	1.061	2.90	71.9	56.8
[2 -6 11]	(3 1 0)	(2 8 4)	3.076	1.061	2.90	62.2	63.9
[5 -15 8]	(3 1 0)	(2 -2 -5)	3.076	1.060	2.90	89.9	83.3
[5 -15 -4]	(3 1 0)	(2 2 -5)	3.076	1.060	2.90	87.9	83.6
[1 -3 0]	(3 1 0)	(-3 -1 5)	3.076	1.057	2.91	82.1	88.0
[1 -3 4]	(3 1 0)	(7 5 2)	3.076	1.055	2.91	24.7	70.9
[1 -3 0]	(3 1 0)	(6 2 3)	3.076	1.052	2.92	36.2	88.0
[3 -9 20]	(3 1 0)	(-8 4 3)	3.076	1.051	2.93	43.5	59.0
[3 -9 -4]	(3 1 0)	(8 4 -3)	3.076	1.051	2.93	36.7	80.8
[5 -15 -8]	(3 1 0)	(-1 -3 5)	3.076	1.047	2.94	86.3	79.4
[1 -3 2]	(3 1 0)	(1 -3 -5)	3.076	1.047	2.94	83.0	81.2
[1 -3 0]	(3 1 0)	(9 3 -1)	3.076	1.047	2.94	11.3	88.0
[2 -6 5]	(3 1 0)	(7 -1 -4)	3.076	1.047	2.94	53.2	78.5
[1 -3 1]	(3 1 0)	(-7 -1 4)	3.076	1.047	2.94	51.8	86.6
[2 -6 -5]	(3 1 0)	(4 -2 4)	3.076	1.045	2.94	54.3	74.7
[2 -6 1]	(3 1 0)	(-4 -2 -4)	3.076	1.045	2.94	51.5	89.3
[5 -15 12]	(3 1 0)	(3 -3 -5)	3.076	1.043	2.95	84.4	79.0
[5 -15 -6]	(3 1 0)	(-3 -3 5)	3.076	1.043	2.95	81.1	81.5
[1 -3 6]	(3 1 0)	(9 -1 -2)	3.076	1.041	2.95	26.3	61.8
[1 -3 3]	(3 1 0)	(-9 -1 2)	3.076	1.041	2.95	23.7	75.9
[5 -15 14]	(3 1 0)	(-2 4 5)	3.076	1.040	2.96	88.8	76.9
[1 -3 -2]	(3 1 0)	(-2 -4 5)	3.076	1.040	2.96	86.9	77.3
[5 -15 -6]	(3 1 0)	(0 -2 5)	3.076	1.038	2.96	79.5	81.5
[5 -15 6]	(3 1 0)	(0 -2 -5)	3.076	1.038	2.96	77.2	85.5
[5 -15 4]	(3 1 0)	(4 0 -5)	3.076	1.037	2.97	76.4	87.6
[1 -3 -6]	(3 1 0)	(3 -7 4)	3.076	1.034	2.97	65.0	58.7
[2 -6 9]	(3 1 0)	(-3 -7 -4)	3.076	1.034	2.97	56.4	68.5
[1 -3 4]	(3 1 0)	(7 -3 -4)	3.076	1.033	2.98	55.0	70.9
[2 -6 -1]	(3 1 0)	(7 3 -4)	3.076	1.033	2.98	51.0	85.3
[1 -3 -6]	(3 1 0)	(6 -4 3)	3.076	1.032	2.98	42.7	58.7
[1 -3 2]	(3 1 0)	(6 4 3)	3.076	1.032	2.98	35.9	81.2
[1 -3 10]	(3 1 0)	(-8 -6 -1)	3.076	1.031	2.98	15.2	47.4
[1 -3 2]	(3 1 0)	(4 -2 -5)	3.076	1.030	2.99	77.6	81.2
[5 -15 -2]	(3 1 0)	(-4 -2 5)	3.076	1.030	2.99	75.4	85.8
[1 -3 8]	(3 1 0)	(5 -9 -4)	3.076	1.030	2.99	72.7	53.9
[2 -6 -11]	(3 1 0)	(-5 -9 4)	3.076	1.030	2.99	62.2	60.8
[1 -3 9]	(3 1 0)	(9 -3 -2)	3.076	1.028	2.99	29.9	50.5
[1 -3 0]	(3 1 0)	(-9 -3 2)	3.076	1.028	2.99	22.7	88.0
[3 -9 -20]	(3 1 0)	(7 9 -3)	3.076	1.025	3.00	43.9	56.1
[5 -15 -14]	(3 1 0)	(-1 -5 5)	3.076	1.021	3.01	87.4	73.2
[5 -15 16]	(3 1 0)	(1 -5 -5)	3.076	1.021	3.01	82.1	74.9

Grunerite (310) 360 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -3 -6]	(3 1 0)	(9 5 -1)	3.076	1.021	3.01	12.9	58.7
[5 -15 -12]	(3 1 0)	(0 -4 5)	3.076	1.019	3.02	80.7	75.2
[5 -15 12]	(3 1 0)	(0 -4 -5)	3.076	1.019	3.02	76.4	79.0
[3 -9 26]	(3 1 0)	(8 -6 -3)	3.076	1.018	3.02	46.9	51.6
[3 -9 -10]	(3 1 0)	(-8 -6 3)	3.076	1.018	3.02	37.4	70.5
[5 -15 18]	(3 1 0)	(3 -5 -5)	3.076	1.017	3.02	85.6	72.9
[5 -15 -12]	(3 1 0)	(-3 -5 5)	3.076	1.017	3.02	80.2	75.2
[1 -3 7]	(3 1 0)	(7 7 2)	3.076	1.016	3.03	26.8	57.7
[5 -15 -4]	(3 1 0)	(-1 1 -5)	3.076	1.014	3.03	72.9	83.6
[5 -15 2]	(3 1 0)	(1 1 5)	3.076	1.014	3.03	71.7	89.8
[5 -15 16]	(3 1 0)	(-4 4 5)	3.076	1.012	3.04	78.9	74.9
[5 -15 -8]	(3 1 0)	(4 4 -5)	3.076	1.012	3.04	74.6	79.4
[3 -9 22]	(3 1 0)	(-5 -9 -3)	3.076	1.010	3.05	42.9	56.4
[2 -6 11]	(3 1 0)	(7 -5 -4)	3.076	1.008	3.05	57.3	63.9
[1 -3 -2]	(3 1 0)	(-7 -5 4)	3.076	1.008	3.05	50.8	77.3
[1 -3 4]	(3 1 0)	(-2 6 5)	3.076	1.008	3.05	87.8	70.9
[5 -15 -16]	(3 1 0)	(-2 -6 5)	3.076	1.008	3.05	85.9	71.2
[2 -6 15]	(3 1 0)	(6 -8 -4)	3.076	1.008	3.05	66.0	55.8
[2 -6 -9]	(3 1 0)	(-6 -8 4)	3.076	1.008	3.05	56.4	65.1
[1 -3 -3]	(3 1 0)	(9 5 -2)	3.076	1.003	3.07	23.3	72.2
[5 -15 8]	(3 1 0)	(-5 1 5)	3.076	1.003	3.07	71.1	83.3
[5 -15 2]	(3 1 0)	(5 1 -5)	3.076	1.003	3.07	70.0	89.8
[1 -3 -2]	(3 1 0)	(-1 3 -5)	3.076	1.002	3.07	74.2	77.3
[5 -15 8]	(3 1 0)	(1 3 5)	3.076	1.002	3.07	70.9	83.3

Grunerite (170) 271 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[7 -1 0]	(1 7 0)	(0 0 1)	2.530	5.224	0.48	86.8	78.5
[7 -1 8]	(1 7 0)	(1 -1 -1)	2.530	4.846	0.52	80.5	67.0
[7 -1 6]	(1 7 0)	(1 1 -1)	2.530	4.846	0.52	70.0	75.0
[7 -1 2]	(1 7 0)	(0 -2 -1)	2.530	4.542	0.56	58.4	87.4
[7 -1 -8]	(1 7 0)	(-1 1 -1)	2.530	4.102	0.62	87.0	50.3
[7 -1 -6]	(1 7 0)	(1 1 1)	2.530	4.102	0.62	67.9	56.0
[7 -1 10]	(1 7 0)	(-1 3 1)	2.530	3.886	0.65	57.4	59.8
[7 -1 4]	(1 7 0)	(-1 -3 1)	2.530	3.886	0.65	47.1	83.7
[7 -1 12]	(1 7 0)	(2 2 -1)	2.530	3.597	0.70	56.9	53.5
[7 -1 -10]	(1 7 0)	(-1 3 -1)	2.530	3.469	0.73	65.9	45.4
[7 -1 -4]	(1 7 0)	(-1 -3 -1)	2.530	3.469	0.73	47.0	62.7
[7 -1 -4]	(1 7 0)	(0 4 -1)	2.530	3.452	0.73	46.7	62.7
[7 -1 4]	(1 7 0)	(0 -4 -1)	2.530	3.452	0.73	40.6	83.7
[7 -1 10]	(1 7 0)	(2 4 -1)	2.530	2.978	0.85	40.2	59.8
[7 -1 12]	(1 7 0)	(1 -5 -1)	2.530	2.968	0.85	43.7	53.5
[7 -1 2]	(1 7 0)	(1 5 -1)	2.530	2.968	0.85	33.8	87.4
[7 -1 -2]	(1 7 0)	(-1 -5 -1)	2.530	2.769	0.91	33.5	70.2
[7 -1 -6]	(1 7 0)	(0 6 -1)	2.530	2.644	0.96	36.7	56.0
[7 -1 6]	(1 7 0)	(0 -6 -1)	2.530	2.644	0.96	30.8	75.0
[7 -1 4]	(1 7 0)	(-1 1 2)	2.530	2.635	0.96	83.2	83.7
[7 -1 3]	(1 7 0)	(-1 -1 2)	2.530	2.635	0.96	80.9	88.1
[7 -1 -10]	(1 7 0)	(2 4 1)	2.530	2.613	0.97	43.5	45.4
[7 -1 -1]	(1 7 0)	(0 2 -2)	2.530	2.513	1.01	77.9	74.3
[7 -1 1]	(1 7 0)	(0 2 2)	2.530	2.513	1.01	71.5	82.9
[7 -1 7]	(1 7 0)	(-2 0 2)	2.530	2.512	1.01	84.7	70.9
[7 -1 5]	(1 7 0)	(-1 3 2)	2.530	2.442	1.04	68.6	79.3
[7 -1 2]	(1 7 0)	(-1 -3 2)	2.530	2.442	1.04	66.3	87.4
[7 -1 -3]	(1 7 0)	(-1 -1 -2)	2.530	2.372	1.07	75.9	66.3
[7 -1 14]	(1 7 0)	(-1 7 1)	2.530	2.328	1.09	35.8	48.1
[7 -1 0]	(1 7 0)	(-1 -7 -1)	2.530	2.229	1.14	25.2	78.5
[7 -1 -5]	(1 7 0)	(-1 3 -2)	2.530	2.228	1.14	76.2	59.2
[7 -1 -2]	(1 7 0)	(-1 -3 -2)	2.530	2.228	1.14	62.5	70.2
[7 -1 11]	(1 7 0)	(3 -1 -2)	2.530	2.227	1.14	88.3	56.6
[7 -1 10]	(1 7 0)	(-3 -1 2)	2.530	2.227	1.14	74.8	59.8
[7 -1 -8]	(1 7 0)	(2 6 1)	2.530	2.206	1.15	32.5	50.3
[7 -1 9]	(1 7 0)	(2 -4 -2)	2.530	2.204	1.15	67.6	63.3
[7 -1 5]	(1 7 0)	(2 4 -2)	2.530	2.204	1.15	57.2	79.3
[7 -1 6]	(1 7 0)	(1 -5 -2)	2.530	2.157	1.17	56.8	75.0
[7 -1 1]	(1 7 0)	(1 5 -2)	2.530	2.157	1.17	54.5	82.9
[7 -1 12]	(1 7 0)	(-3 3 2)	2.530	2.107	1.20	78.9	53.5
[7 -1 9]	(1 7 0)	(-3 -3 2)	2.530	2.107	1.20	62.1	63.3
[7 -1 -8]	(1 7 0)	(0 8 -1)	2.530	2.104	1.20	30.8	50.3
[7 -1 8]	(1 7 0)	(0 8 1)	2.530	2.104	1.20	25.4	67.0
[7 -1 -7]	(1 7 0)	(-2 0 -2)	2.530	2.104	1.20	80.4	53.1
[7 -1 -3]	(1 7 0)	(0 -6 2)	2.530	1.988	1.27	54.4	66.3
[7 -1 3]	(1 7 0)	(0 6 2)	2.530	1.988	1.27	48.2	88.1
[7 -1 6]	(1 7 0)	(-2 -8 1)	2.530	1.982	1.28	22.6	75.0
[7 -1 14]	(1 7 0)	(3 7 -1)	2.530	1.965	1.29	29.6	48.1

Grunerite (170) 271 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[7 -1 8]	(1 7 0)	(-3 -5 2)	2.530	1.915	1.32	51.2	67.0
[7 -1 -9]	(1 7 0)	(-2 4 -2)	2.530	1.913	1.32	75.6	47.7
[7 -1 -5]	(1 7 0)	(-2 -4 -2)	2.530	1.913	1.32	56.5	59.2
[7 -1 15]	(1 7 0)	(-4 2 2)	2.530	1.912	1.32	88.9	45.8
[7 -1 13]	(1 7 0)	(-4 -2 2)	2.530	1.912	1.32	67.7	50.7
[7 -1 -2]	(1 7 0)	(1 9 -1)	2.530	1.893	1.34	22.1	70.2
[7 -1 7]	(1 7 0)	(1 -7 -2)	2.530	1.870	1.35	47.9	70.9
[7 -1 0]	(1 7 0)	(1 7 -2)	2.530	1.870	1.35	45.6	78.5
[7 -1 -6]	(1 7 0)	(-2 -8 -1)	2.530	1.862	1.36	24.9	56.0
[7 -1 2]	(1 7 0)	(1 9 1)	2.530	1.838	1.38	20.2	87.4
[7 -1 -10]	(1 7 0)	(-3 -1 -2)	2.530	1.817	1.39	73.1	45.4
[7 -1 2]	(1 7 0)	(1 1 -3)	2.530	1.771	1.43	85.0	87.4
[21 -3 8]	(1 7 0)	(1 -1 -3)	2.530	1.771	1.43	84.4	89.6
[7 -1 -7]	(1 7 0)	(-1 7 -2)	2.530	1.769	1.43	56.0	53.1
[7 -1 0]	(1 7 0)	(-1 -7 -2)	2.530	1.769	1.43	42.5	78.5
[21 -3 14]	(1 7 0)	(2 0 -3)	2.530	1.755	1.44	87.4	80.7
[7 -1 -9]	(1 7 0)	(-3 -3 -2)	2.530	1.750	1.45	62.4	47.7
[21 -3 -2]	(1 7 0)	(0 -2 3)	2.530	1.711	1.48	82.9	75.7
[21 -3 2]	(1 7 0)	(0 2 3)	2.530	1.711	1.48	76.5	81.4
[21 -3 4]	(1 7 0)	(-1 -3 3)	2.530	1.709	1.48	74.8	84.4
[21 -3 10]	(1 7 0)	(-1 3 3)	2.530	1.709	1.48	74.1	86.6
[7 -1 14]	(1 7 0)	(3 -7 -2)	2.530	1.706	1.48	59.1	48.1
[7 -1 7]	(1 7 0)	(3 7 -2)	2.530	1.706	1.48	42.6	70.9
[7 -1 11]	(1 7 0)	(2 -8 -2)	2.530	1.696	1.49	49.6	56.6
[7 -1 3]	(1 7 0)	(2 8 -2)	2.530	1.696	1.49	39.5	88.1
[7 -1 12]	(1 7 0)	(3 9 -1)	2.530	1.682	1.50	23.1	53.5
[21 -3 22]	(1 7 0)	(-3 1 3)	2.530	1.668	1.52	89.8	69.6
[21 -3 20]	(1 7 0)	(3 1 -3)	2.530	1.668	1.52	79.7	72.2
[7 -1 11]	(1 7 0)	(-4 -6 2)	2.530	1.648	1.54	47.7	56.6
[21 -3 -8]	(1 7 0)	(1 -1 3)	2.530	1.645	1.54	89.2	67.6
[7 -1 -2]	(1 7 0)	(1 1 3)	2.530	1.645	1.54	79.3	70.2
[7 -1 6]	(1 7 0)	(2 -4 -3)	2.530	1.639	1.54	72.5	75.0
[21 -3 10]	(1 7 0)	(2 4 -3)	2.530	1.639	1.54	67.3	86.6
[7 -1 -8]	(1 7 0)	(-3 -5 -2)	2.530	1.636	1.55	52.8	50.3
[21 -3 -4]	(1 7 0)	(0 4 -3)	2.530	1.629	1.55	73.2	72.9
[21 -3 4]	(1 7 0)	(0 4 3)	2.530	1.629	1.55	66.9	84.4
[7 -1 8]	(1 7 0)	(1 -9 -2)	2.530	1.621	1.56	41.3	67.0
[7 -1 -1]	(1 7 0)	(1 9 -2)	2.530	1.621	1.56	39.1	74.3
[21 -3 2]	(1 7 0)	(-1 -5 3)	2.530	1.602	1.58	65.5	81.4
[7 -1 4]	(1 7 0)	(-1 5 3)	2.530	1.602	1.58	64.9	83.7
[21 -3 -10]	(1 7 0)	(1 -3 3)	2.530	1.595	1.59	81.2	65.1
[21 -3 -4]	(1 7 0)	(1 3 3)	2.530	1.595	1.59	69.7	72.9
[21 -3 28]	(1 7 0)	(-4 0 3)	2.530	1.559	1.62	82.5	62.1
[7 -1 -8]	(1 7 0)	(-1 9 -2)	2.530	1.554	1.63	49.2	50.3
[7 -1 1]	(1 7 0)	(-1 -9 -2)	2.530	1.554	1.63	35.9	82.9
[7 -1 -3]	(1 7 0)	(2 8 2)	2.530	1.552	1.63	39.4	66.3
[7 -1 15]	(1 7 0)	(-5 -5 2)	2.530	1.540	1.64	53.7	45.8
[7 -1 10]	(1 7 0)	(-4 2 3)	2.530	1.537	1.65	88.1	59.8

Grunerite (170) 271 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[21 -3 26]	(1 7 0)	(-4 -2 3)	2.530	1.537	1.65	73.2	64.5
[21 -3 -14]	(1 7 0)	(2 0 3)	2.530	1.532	1.65	82.1	60.4
[21 -3 26]	(1 7 0)	(3 -5 -3)	2.530	1.524	1.66	71.6	64.5
[21 -3 16]	(1 7 0)	(3 5 -3)	2.530	1.524	1.66	61.2	77.8
[21 -3 20]	(1 7 0)	(2 -6 -3)	2.530	1.523	1.66	64.0	72.2
[21 -3 8]	(1 7 0)	(2 6 -3)	2.530	1.523	1.66	58.8	89.6
[21 -3 -16]	(1 7 0)	(-2 2 -3)	2.530	1.511	1.67	88.7	58.2
[7 -1 -4]	(1 7 0)	(-2 -2 -3)	2.530	1.511	1.67	72.9	62.7
[7 -1 15]	(1 7 0)	(-3 9 2)	2.530	1.511	1.67	52.2	45.8
[7 -1 6]	(1 7 0)	(-3 -9 2)	2.530	1.511	1.67	35.9	75.0
[7 -1 -4]	(1 7 0)	(-1 5 -3)	2.530	1.507	1.68	72.4	62.7
[21 -3 -2]	(1 7 0)	(-1 -5 -3)	2.530	1.507	1.68	60.9	75.7
[7 -1 -7]	(1 7 0)	(3 7 2)	2.530	1.500	1.69	44.7	53.1
[21 -3 32]	(1 7 0)	(4 -4 -3)	2.530	1.477	1.71	79.3	57.6
[7 -1 8]	(1 7 0)	(4 4 -3)	2.530	1.477	1.71	64.4	67.0
[7 -1 0]	(1 7 0)	(-1 -7 3)	2.530	1.473	1.72	57.6	78.5
[21 -3 14]	(1 7 0)	(-1 7 3)	2.530	1.473	1.72	57.0	80.7
[7 -1 -6]	(1 7 0)	(2 -4 3)	2.530	1.454	1.74	80.0	56.0
[21 -3 -10]	(1 7 0)	(2 4 3)	2.530	1.454	1.74	64.2	65.1
[7 -1 12]	(1 7 0)	(-5 1 3)	2.530	1.426	1.77	85.1	53.5
[21 -3 34]	(1 7 0)	(5 1 -3)	2.530	1.426	1.77	76.4	55.5
[7 -1 14]	(1 7 0)	(-5 -7 2)	2.530	1.425	1.78	45.8	48.1
[21 -3 28]	(1 7 0)	(-3 7 3)	2.530	1.412	1.79	63.9	62.1
[21 -3 14]	(1 7 0)	(3 7 -3)	2.530	1.412	1.79	53.5	80.7
[21 -3 -14]	(1 7 0)	(1 -7 3)	2.530	1.398	1.81	64.7	60.4
[7 -1 0]	(1 7 0)	(1 7 3)	2.530	1.398	1.81	53.3	78.5
[21 -3 -22]	(1 7 0)	(3 -1 3)	2.530	1.398	1.81	84.7	52.1
[21 -3 -20]	(1 7 0)	(-3 -1 -3)	2.530	1.398	1.81	76.2	54.0
[21 -3 22]	(1 7 0)	(-2 8 3)	2.530	1.395	1.81	56.8	69.6
[7 -1 2]	(1 7 0)	(-2 -8 3)	2.530	1.395	1.81	51.7	87.4
[21 -3 38]	(1 7 0)	(-5 3 3)	2.530	1.393	1.82	86.4	51.7
[21 -3 32]	(1 7 0)	(-5 -3 3)	2.530	1.393	1.82	68.0	57.6
[21 -3 34]	(1 7 0)	(-4 6 3)	2.530	1.390	1.82	71.3	55.5
[21 -3 22]	(1 7 0)	(-4 -6 3)	2.530	1.390	1.82	56.5	69.6
[21 -3 -8]	(1 7 0)	(0 8 -3)	2.530	1.388	1.82	57.5	67.6
[21 -3 8]	(1 7 0)	(0 -8 -3)	2.530	1.388	1.82	51.3	89.6
[21 -3 -20]	(1 7 0)	(-2 6 -3)	2.530	1.370	1.85	72.1	54.0
[21 -3 -8]	(1 7 0)	(-2 -6 -3)	2.530	1.370	1.85	56.4	67.6
[7 -1 -6]	(1 7 0)	(-3 -9 -2)	2.530	1.362	1.86	38.0	56.0
[21 -3 -2]	(1 7 0)	(1 9 -3)	2.530	1.342	1.89	51.1	75.7
[21 -3 16]	(1 7 0)	(1 -9 -3)	2.530	1.342	1.89	50.5	77.8
[21 -3 40]	(1 7 0)	(-5 5 3)	2.530	1.333	1.90	78.5	49.9
[7 -1 10]	(1 7 0)	(-5 -5 3)	2.530	1.333	1.90	60.1	59.8
[14 -2 7]	(1 7 0)	(2 0 -4)	2.530	1.331	1.90	88.8	85.9
[14 -2 3]	(1 7 0)	(-1 -1 4)	2.530	1.328	1.90	87.1	85.1
[7 -1 2]	(1 7 0)	(-1 1 4)	2.530	1.328	1.90	85.0	87.4
[21 -3 -26]	(1 7 0)	(3 -5 3)	2.530	1.310	1.93	79.2	48.6
[21 -3 -16]	(1 7 0)	(3 5 3)	2.530	1.310	1.93	60.1	58.2

Grunerite (170) 271 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[7 -1 13]	(1 7 0)	(-5 -9 2)	2.530	1.305	1.94	39.2	50.7
[14 -2 5]	(1 7 0)	(1 -3 -4)	2.530	1.301	1.94	77.2	89.6
[14 -2 11]	(1 7 0)	(-3 1 4)	2.530	1.301	1.94	89.4	77.1
[7 -1 5]	(1 7 0)	(-3 -1 4)	2.530	1.301	1.94	82.8	79.3
[14 -2 -1]	(1 7 0)	(0 2 -4)	2.530	1.293	1.96	85.4	76.4
[14 -2 1]	(1 7 0)	(0 2 4)	2.530	1.293	1.96	79.0	80.7
[7 -1 12]	(1 7 0)	(4 -8 -3)	2.530	1.291	1.96	64.4	53.5
[21 -3 20]	(1 7 0)	(4 8 -3)	2.530	1.291	1.96	49.6	72.2
[21 -3 44]	(1 7 0)	(-6 2 3)	2.530	1.290	1.96	87.3	46.5
[21 -3 40]	(1 7 0)	(6 2 -3)	2.530	1.290	1.96	71.5	49.9
[21 -3 -16]	(1 7 0)	(1 -9 3)	2.530	1.285	1.97	58.2	58.2
[21 -3 2]	(1 7 0)	(1 9 3)	2.530	1.285	1.97	46.9	81.4
[14 -2 9]	(1 7 0)	(-2 4 4)	2.530	1.279	1.98	75.6	81.5
[14 -2 5]	(1 7 0)	(-2 -4 4)	2.530	1.279	1.98	73.3	89.6
[21 -3 -28]	(1 7 0)	(4 0 3)	2.530	1.277	1.98	79.1	46.9
[7 -1 6]	(1 7 0)	(3 -3 -4)	2.530	1.276	1.98	81.7	75.0
[14 -2 9]	(1 7 0)	(3 3 -4)	2.530	1.276	1.98	75.1	81.5
[21 -3 -22]	(1 7 0)	(2 -8 3)	2.530	1.275	1.98	65.2	52.1
[7 -1 -2]	(1 7 0)	(2 8 3)	2.530	1.275	1.98	49.6	70.2
[7 -1 -10]	(1 7 0)	(-4 2 -3)	2.530	1.264	2.00	86.9	45.4
[21 -3 -26]	(1 7 0)	(4 2 3)	2.530	1.264	2.00	71.4	48.6
[14 -2 -3]	(1 7 0)	(-1 -1 -4)	2.530	1.256	2.01	81.1	72.2
[21 -3 38]	(1 7 0)	(6 4 -3)	2.530	1.254	2.02	63.9	51.7
[14 -2 1]	(1 7 0)	(-1 -5 4)	2.530	1.252	2.02	71.9	80.7
[7 -1 3]	(1 7 0)	(-1 5 4)	2.530	1.252	2.02	69.8	88.1
[14 -2 15]	(1 7 0)	(4 -2 -4)	2.530	1.244	2.03	87.7	68.9
[14 -2 13]	(1 7 0)	(4 2 -4)	2.530	1.244	2.03	77.2	72.9
[21 -3 -28]	(1 7 0)	(3 -7 3)	2.530	1.237	2.04	72.1	46.9
[21 -3 -14]	(1 7 0)	(3 7 3)	2.530	1.237	2.04	53.1	60.4
[14 -2 -5]	(1 7 0)	(1 -3 4)	2.530	1.233	2.05	83.9	68.3
[7 -1 -1]	(1 7 0)	(1 3 4)	2.530	1.233	2.05	73.6	74.3
[7 -1 -8]	(1 7 0)	(-4 -4 -3)	2.530	1.230	2.06	64.0	50.3
[14 -2 13]	(1 7 0)	(-3 5 4)	2.530	1.229	2.06	74.5	72.9
[7 -1 4]	(1 7 0)	(-3 -5 4)	2.530	1.229	2.06	67.9	83.7
[7 -1 -3]	(1 7 0)	(1 -5 4)	2.530	1.191	2.12	76.9	66.3
[14 -2 -1]	(1 7 0)	(1 5 4)	2.530	1.191	2.12	66.6	76.4
[7 -1 9]	(1 7 0)	(-5 1 4)	2.530	1.190	2.13	86.6	63.3
[14 -2 17]	(1 7 0)	(5 1 -4)	2.530	1.190	2.13	79.4	65.1
[7 -1 0]	(1 7 0)	(-1 -7 4)	2.530	1.188	2.13	65.2	78.5
[14 -2 7]	(1 7 0)	(-1 7 4)	2.530	1.188	2.13	63.2	85.9
[21 -3 -22]	(1 7 0)	(-4 -6 -3)	2.530	1.179	2.15	57.0	52.1
[21 -3 44]	(1 7 0)	(-5 9 3)	2.530	1.172	2.16	65.1	46.5
[21 -3 26]	(1 7 0)	(-5 -9 3)	2.530	1.172	2.16	46.9	64.5
[14 -2 19]	(1 7 0)	(-5 3 4)	2.530	1.171	2.16	86.3	61.5
[7 -1 8]	(1 7 0)	(-5 -3 4)	2.530	1.171	2.16	72.4	67.0
[7 -1 7]	(1 7 0)	(-3 7 4)	2.530	1.168	2.17	67.9	70.9
[14 -2 7]	(1 7 0)	(-3 -7 4)	2.530	1.168	2.17	61.3	85.9
[14 -2 17]	(1 7 0)	(-4 6 4)	2.530	1.162	2.18	73.7	65.1

Grunerite (170) 271 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[14 -2 11]	(1 7 0)	(4 6 -4)	2.530	1.162	2.18	63.3	77.1
[14 -2 -9]	(1 7 0)	(2 -4 4)	2.530	1.157	2.19	82.8	60.9
[14 -2 -5]	(1 7 0)	(2 4 4)	2.530	1.157	2.19	69.0	68.3
[14 -2 11]	(1 7 0)	(2 -8 -4)	2.530	1.152	2.20	62.3	77.1
[14 -2 3]	(1 7 0)	(2 8 -4)	2.530	1.152	2.20	60.0	85.1
[7 -1 10]	(1 7 0)	(-5 5 4)	2.530	1.134	2.23	79.5	59.8
[14 -2 15]	(1 7 0)	(5 5 -4)	2.530	1.134	2.23	65.6	68.9
[21 -3 34]	(1 7 0)	(6 8 -3)	2.530	1.134	2.23	50.6	55.5
[21 -3 44]	(1 7 0)	(-7 -5 3)	2.530	1.128	2.24	60.8	46.5
[14 -2 -11]	(1 7 0)	(3 -1 4)	2.530	1.123	2.25	85.0	57.6
[7 -1 -5]	(1 7 0)	(-3 -1 -4)	2.530	1.123	2.25	78.2	59.2
[14 -2 21]	(1 7 0)	(6 0 -4)	2.530	1.122	2.26	81.6	58.2
[21 -3 -20]	(1 7 0)	(-4 -8 -3)	2.530	1.116	2.27	50.8	54.0
[14 -2 -1]	(1 7 0)	(1 9 -4)	2.530	1.116	2.27	59.3	76.4
[7 -1 4]	(1 7 0)	(1 -9 -4)	2.530	1.116	2.27	57.3	83.7
[14 -2 -9]	(1 7 0)	(3 3 4)	2.530	1.107	2.29	71.5	60.9
[14 -2 15]	(1 7 0)	(3 -9 -4)	2.530	1.099	2.30	62.0	68.9
[7 -1 3]	(1 7 0)	(3 9 -4)	2.530	1.099	2.30	55.5	88.1
[14 -2 23]	(1 7 0)	(-6 4 4)	2.530	1.090	2.32	85.1	55.0
[14 -2 19]	(1 7 0)	(-6 -4 4)	2.530	1.090	2.32	68.3	61.5
[14 -2 21]	(1 7 0)	(-5 7 4)	2.530	1.086	2.33	73.3	58.2
[7 -1 7]	(1 7 0)	(-5 -7 4)	2.530	1.086	2.33	59.4	70.9
[7 -1 14]	(1 7 0)	(7 7 -3)	2.530	1.080	2.34	54.6	48.1
[14 -2 -13]	(1 7 0)	(3 -5 4)	2.530	1.076	2.35	81.8	54.5
[7 -1 -4]	(1 7 0)	(3 5 4)	2.530	1.076	2.35	65.1	62.7
[7 -1 -4]	(1 7 0)	(1 -9 4)	2.530	1.072	2.36	64.6	62.7
[14 -2 1]	(1 7 0)	(1 9 4)	2.530	1.072	2.36	54.4	80.7
[35 -5 14]	(1 7 0)	(-2 0 5)	2.530	1.068	2.37	89.7	89.0
[21 -3 -28]	(1 7 0)	(5 7 3)	2.530	1.062	2.38	54.8	46.9
[35 -5 6]	(1 7 0)	(-1 -1 5)	2.530	1.061	2.38	88.3	83.8
[35 -5 8]	(1 7 0)	(-1 1 5)	2.530	1.061	2.38	85.3	85.6
[14 -2 -11]	(1 7 0)	(-2 8 -4)	2.530	1.061	2.38	70.3	57.6
[14 -2 -3]	(1 7 0)	(-2 -8 -4)	2.530	1.061	2.38	56.6	72.2
[35 -5 16]	(1 7 0)	(-2 2 5)	2.530	1.060	2.39	83.9	87.2
[35 -5 12]	(1 7 0)	(-2 -2 5)	2.530	1.060	2.39	83.4	89.2
[35 -5 22]	(1 7 0)	(-3 1 5)	2.530	1.057	2.39	88.8	81.9
[7 -1 4]	(1 7 0)	(-3 -1 5)	2.530	1.057	2.39	84.8	83.7
[7 -1 2]	(1 7 0)	(-1 3 5)	2.530	1.047	2.42	79.0	87.4
[14 -2 25]	(1 7 0)	(7 -1 -4)	2.530	1.047	2.42	83.6	52.1
[7 -1 12]	(1 7 0)	(-7 -1 4)	2.530	1.047	2.42	77.2	53.5
[14 -2 -15]	(1 7 0)	(4 -2 4)	2.530	1.045	2.42	86.8	51.6
[14 -2 -13]	(1 7 0)	(-4 -2 -4)	2.530	1.045	2.42	74.1	54.5
[35 -5 24]	(1 7 0)	(-3 3 5)	2.530	1.043	2.43	82.6	80.1
[35 -5 18]	(1 7 0)	(-3 -3 5)	2.530	1.043	2.43	78.5	85.4
[35 -5 18]	(1 7 0)	(-2 4 5)	2.530	1.040	2.43	77.7	85.4
[7 -1 2]	(1 7 0)	(-2 -4 5)	2.530	1.040	2.43	77.2	87.4
[35 -5 -2]	(1 7 0)	(0 2 -5)	2.530	1.038	2.44	86.9	76.8
[35 -5 2]	(1 7 0)	(0 -2 -5)	2.530	1.038	2.44	80.6	80.3

Grunerite (170) 271 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[35 -5 28]	(1 7 0)	(4 0 -5)	2.530	1.037	2.44	86.3	76.7
[7 -1 -7]	(1 7 0)	(3 -7 4)	2.530	1.034	2.45	75.8	53.1
[14 -2 -7]	(1 7 0)	(3 7 4)	2.530	1.034	2.45	59.2	64.5
[7 -1 13]	(1 7 0)	(-7 3 4)	2.530	1.033	2.45	89.9	50.7
[14 -2 23]	(1 7 0)	(7 3 -4)	2.530	1.033	2.45	70.9	55.0
[7 -1 6]	(1 7 0)	(-4 2 5)	2.530	1.030	2.46	87.5	75.0
[35 -5 26]	(1 7 0)	(-4 -2 5)	2.530	1.030	2.46	80.1	78.4
[7 -1 11]	(1 7 0)	(-5 9 4)	2.530	1.030	2.46	67.6	56.6
[14 -2 13]	(1 7 0)	(-5 -9 4)	2.530	1.030	2.46	53.8	72.9
[21 -3 40]	(1 7 0)	(-7 -9 3)	2.530	1.025	2.47	48.9	49.9
[35 -5 2]	(1 7 0)	(1 5 -5)	2.530	1.021	2.48	76.0	80.3
[35 -5 12]	(1 7 0)	(1 -5 -5)	2.530	1.021	2.48	73.0	89.2
[35 -5 -4]	(1 7 0)	(0 4 -5)	2.530	1.019	2.48	80.9	75.1
[35 -5 4]	(1 7 0)	(0 -4 -5)	2.530	1.019	2.48	74.5	82.0
[35 -5 26]	(1 7 0)	(-3 5 5)	2.530	1.017	2.49	76.6	78.4
[35 -5 16]	(1 7 0)	(-3 -5 5)	2.530	1.017	2.49	72.5	87.2
[35 -5 -8]	(1 7 0)	(1 -1 5)	2.530	1.014	2.49	88.3	71.8
[35 -5 -6]	(1 7 0)	(-1 -1 -5)	2.530	1.014	2.49	82.2	73.5
[35 -5 32]	(1 7 0)	(-4 4 5)	2.530	1.012	2.50	81.4	73.3
[35 -5 24]	(1 7 0)	(4 4 -5)	2.530	1.012	2.50	74.1	80.1
[21 -3 -26]	(1 7 0)	(-5 -9 -3)	2.530	1.010	2.51	49.2	48.6
[14 -2 27]	(1 7 0)	(-7 5 4)	2.530	1.008	2.51	84.1	49.4
[7 -1 11]	(1 7 0)	(-7 -5 4)	2.530	1.008	2.51	64.9	56.6
[7 -1 4]	(1 7 0)	(-2 6 5)	2.530	1.008	2.51	71.8	83.7
[35 -5 8]	(1 7 0)	(-2 -6 5)	2.530	1.008	2.51	71.3	85.6
[14 -2 25]	(1 7 0)	(-6 8 4)	2.530	1.008	2.51	73.1	52.1
[14 -2 17]	(1 7 0)	(-6 -8 4)	2.530	1.008	2.51	56.4	65.1
[35 -5 36]	(1 7 0)	(5 -1 -5)	2.530	1.003	2.52	87.8	70.1
[35 -5 34]	(1 7 0)	(-5 -1 5)	2.530	1.003	2.52	81.7	71.7
[7 -1 -2]	(1 7 0)	(-1 3 -5)	2.530	1.002	2.52	85.7	70.2
[35 -5 -4]	(1 7 0)	(-1 -3 -5)	2.530	1.002	2.52	76.1	75.1

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[5 -3 0]	(3 5 0)	(0 0 1)	2.379	5.224	0.46	81.0	82.2
[5 -3 8]	(3 5 0)	(-1 1 1)	2.379	4.846	0.49	85.5	65.6
[5 -3 2]	(3 5 0)	(1 1 -1)	2.379	4.846	0.49	65.2	89.3
[5 -3 6]	(3 5 0)	(0 -2 -1)	2.379	4.542	0.52	62.9	73.0
[5 -3 -8]	(3 5 0)	(1 -1 1)	2.379	4.102	0.58	71.7	54.0
[5 -3 -2]	(3 5 0)	(-1 -1 -1)	2.379	4.102	0.58	53.0	74.2
[5 -3 10]	(3 5 0)	(2 0 -1)	2.379	3.909	0.61	58.7	59.0
[5 -3 14]	(3 5 0)	(1 -3 -1)	2.379	3.886	0.61	77.9	48.1
[5 -3 -4]	(3 5 0)	(1 3 -1)	2.379	3.886	0.61	52.4	66.7
[5 -3 4]	(3 5 0)	(-2 -2 1)	2.379	3.597	0.66	43.0	81.0
[5 -3 4]	(3 5 0)	(1 3 1)	2.379	3.469	0.69	41.1	81.0
[5 -3 12]	(3 5 0)	(0 -4 -1)	2.379	3.452	0.69	53.9	53.2
[5 -3 -10]	(3 5 0)	(2 0 1)	2.379	3.176	0.75	52.2	48.8
[5 -3 -4]	(3 5 0)	(-2 -2 -1)	2.379	3.002	0.79	37.8	66.7
[5 -3 -2]	(3 5 0)	(2 4 -1)	2.379	2.978	0.80	35.4	74.2
[5 -3 -10]	(3 5 0)	(-1 -5 1)	2.379	2.968	0.80	47.6	48.8
[5 -3 12]	(3 5 0)	(3 1 -1)	2.379	2.923	0.81	43.2	53.2
[5 -3 10]	(3 5 0)	(-1 -5 -1)	2.379	2.769	0.86	37.3	59.0
[5 -3 6]	(3 5 0)	(3 3 -1)	2.379	2.666	0.89	31.5	73.0
[5 -3 4]	(3 5 0)	(1 -1 -2)	2.379	2.635	0.90	87.9	81.0
[5 -3 1]	(3 5 0)	(1 1 -2)	2.379	2.635	0.90	81.4	86.4
[5 -3 2]	(3 5 0)	(-2 -4 -1)	2.379	2.613	0.91	29.3	89.3
[5 -3 -3]	(3 5 0)	(0 -2 2)	2.379	2.513	0.95	88.5	70.3
[5 -3 3]	(3 5 0)	(0 2 2)	2.379	2.513	0.95	70.9	85.1
[5 -3 5]	(3 5 0)	(-2 0 2)	2.379	2.512	0.95	75.0	76.9
[5 -3 7]	(3 5 0)	(-1 3 2)	2.379	2.442	0.97	78.1	69.2
[5 -3 -2]	(3 5 0)	(-1 -3 2)	2.379	2.442	0.97	72.0	74.2
[5 -3 -1]	(3 5 0)	(1 1 2)	2.379	2.372	1.00	65.2	78.1
[5 -3 -6]	(3 5 0)	(3 3 1)	2.379	2.286	1.04	29.7	59.9
[5 -3 14]	(3 5 0)	(-4 -2 1)	2.379	2.251	1.06	34.5	48.1
[5 -3 -7]	(3 5 0)	(1 -3 2)	2.379	2.228	1.07	85.4	56.9
[5 -3 2]	(3 5 0)	(-1 -3 -2)	2.379	2.228	1.07	56.6	89.3
[5 -3 9]	(3 5 0)	(3 -1 -2)	2.379	2.227	1.07	70.6	62.2
[5 -3 6]	(3 5 0)	(-3 -1 2)	2.379	2.227	1.07	60.7	73.0
[5 -3 8]	(3 5 0)	(2 6 1)	2.379	2.206	1.08	27.0	65.6
[5 -3 11]	(3 5 0)	(2 -4 -2)	2.379	2.204	1.08	85.2	56.0
[5 -3 -1]	(3 5 0)	(2 4 -2)	2.379	2.204	1.08	57.5	78.1
[5 -3 10]	(3 5 0)	(1 -5 -2)	2.379	2.157	1.10	70.5	59.0
[5 -3 -5]	(3 5 0)	(1 5 -2)	2.379	2.157	1.10	64.8	63.2
[5 -3 12]	(3 5 0)	(-3 3 2)	2.379	2.107	1.13	80.4	53.2
[5 -3 3]	(3 5 0)	(3 3 -2)	2.379	2.107	1.13	52.4	85.1
[5 -3 -5]	(3 5 0)	(-2 0 -2)	2.379	2.104	1.13	62.0	63.2
[5 -3 8]	(3 5 0)	(4 4 -1)	2.379	2.072	1.15	25.2	65.6
[5 -3 -9]	(3 5 0)	(0 6 -2)	2.379	1.988	1.20	72.6	51.3
[5 -3 9]	(3 5 0)	(0 6 2)	2.379	1.988	1.20	57.4	62.2
[5 -3 -6]	(3 5 0)	(-3 -7 1)	2.379	1.965	1.21	25.2	59.9
[5 -3 0]	(3 5 0)	(3 5 -2)	2.379	1.915	1.24	46.4	82.2
[5 -3 -11]	(3 5 0)	(-2 4 -2)	2.379	1.913	1.24	80.9	46.5

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -3 1]	(3 5 0)	(2 4 2)	2.379	1.913	1.24	45.9	86.4
[5 -3 13]	(3 5 0)	(-4 2 2)	2.379	1.912	1.24	68.1	50.5
[5 -3 7]	(3 5 0)	(4 2 -2)	2.379	1.912	1.24	50.0	69.2
[5 -3 13]	(3 5 0)	(1 -7 -2)	2.379	1.870	1.27	65.1	50.5
[5 -3 -8]	(3 5 0)	(1 7 -2)	2.379	1.870	1.27	60.0	54.0
[5 -3 14]	(3 5 0)	(-2 -8 -1)	2.379	1.862	1.28	27.9	48.1
[5 -3 2]	(3 5 0)	(4 6 -1)	2.379	1.851	1.29	20.3	89.3
[5 -3 -8]	(3 5 0)	(-4 -4 -1)	2.379	1.825	1.30	25.0	54.0
[5 -3 -9]	(3 5 0)	(3 -1 2)	2.379	1.817	1.31	60.7	51.3
[5 -3 -6]	(3 5 0)	(3 1 2)	2.379	1.817	1.31	51.9	59.9
[5 -3 6]	(3 5 0)	(3 7 1)	2.379	1.797	1.32	20.6	73.0
[15 -9 2]	(3 5 0)	(-1 -1 3)	2.379	1.771	1.34	87.3	85.0
[15 -9 8]	(3 5 0)	(-1 1 3)	2.379	1.771	1.34	85.5	86.5
[5 -3 8]	(3 5 0)	(-1 -7 -2)	2.379	1.769	1.35	46.7	65.6
[15 -9 10]	(3 5 0)	(2 0 -3)	2.379	1.755	1.36	82.7	83.7
[5 -3 -3]	(3 5 0)	(3 3 2)	2.379	1.750	1.36	44.1	70.3
[15 -9 4]	(3 5 0)	(-2 -2 3)	2.379	1.723	1.38	75.7	87.8
[5 -3 -2]	(3 5 0)	(0 -2 3)	2.379	1.711	1.39	88.0	74.2
[5 -3 2]	(3 5 0)	(0 -2 -3)	2.379	1.711	1.39	74.1	89.3
[15 -9 -4]	(3 5 0)	(1 3 -3)	2.379	1.709	1.39	80.5	76.8
[15 -9 14]	(3 5 0)	(1 -3 -3)	2.379	1.709	1.39	78.7	78.2
[5 -3 -3]	(3 5 0)	(3 7 -2)	2.379	1.706	1.39	42.7	70.3
[5 -3 -7]	(3 5 0)	(-2 -8 2)	2.379	1.696	1.40	49.3	56.9
[5 -3 14]	(3 5 0)	(5 -1 -2)	2.379	1.689	1.41	58.2	48.1
[5 -3 11]	(3 5 0)	(-5 -1 2)	2.379	1.689	1.41	49.8	56.0
[5 -3 10]	(3 5 0)	(5 5 -1)	2.379	1.681	1.42	21.6	59.0
[5 -3 -2]	(3 5 0)	(-4 -6 -1)	2.379	1.668	1.43	19.0	74.2
[5 -3 6]	(3 5 0)	(3 -1 -3)	2.379	1.668	1.43	78.5	73.0
[5 -3 4]	(3 5 0)	(-3 -1 3)	2.379	1.668	1.43	71.6	81.0
[5 -3 1]	(3 5 0)	(4 6 -2)	2.379	1.648	1.44	38.2	86.4
[15 -9 -8]	(3 5 0)	(-1 1 -3)	2.379	1.645	1.45	77.0	71.6
[15 -9 -2]	(3 5 0)	(1 1 3)	2.379	1.645	1.45	70.1	79.5
[15 -9 22]	(3 5 0)	(2 -4 -3)	2.379	1.639	1.45	83.6	68.0
[15 -9 -2]	(3 5 0)	(2 4 -3)	2.379	1.639	1.45	69.5	79.5
[5 -3 0]	(3 5 0)	(-3 -5 -2)	2.379	1.636	1.45	38.2	82.2
[5 -3 8]	(3 5 0)	(5 3 -2)	2.379	1.635	1.46	42.3	65.6
[5 -3 -4]	(3 5 0)	(-4 -8 1)	2.379	1.633	1.46	19.5	66.7
[5 -3 -4]	(3 5 0)	(0 4 -3)	2.379	1.629	1.46	85.3	66.7
[5 -3 4]	(3 5 0)	(0 -4 -3)	2.379	1.629	1.46	67.9	81.0
[5 -3 -11]	(3 5 0)	(1 9 -2)	2.379	1.621	1.47	56.8	46.5
[15 -9 -10]	(3 5 0)	(1 5 -3)	2.379	1.602	1.49	74.5	69.1
[15 -9 20]	(3 5 0)	(1 -5 -3)	2.379	1.602	1.49	72.8	70.4
[15 -9 -14]	(3 5 0)	(1 -3 3)	2.379	1.595	1.49	83.9	64.3
[15 -9 4]	(3 5 0)	(1 3 3)	2.379	1.595	1.49	63.8	87.8
[5 -3 -7]	(3 5 0)	(-4 -2 -2)	2.379	1.565	1.52	44.4	56.9
[15 -9 20]	(3 5 0)	(4 0 -3)	2.379	1.559	1.53	68.4	70.4
[5 -3 11]	(3 5 0)	(-1 -9 -2)	2.379	1.554	1.53	44.6	56.0
[5 -3 7]	(3 5 0)	(2 8 2)	2.379	1.552	1.53	38.5	69.2

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[5 -3 5]	(3 5 0)	(-5 -5 2)	2.379	1.540	1.54	36.3	76.9
[15 -9 26]	(3 5 0)	(4 -2 -3)	2.379	1.537	1.55	75.3	63.3
[15 -9 14]	(3 5 0)	(-4 -2 3)	2.379	1.537	1.55	61.9	78.2
[5 -3 4]	(3 5 0)	(5 7 -1)	2.379	1.534	1.55	16.9	81.0
[15 -9 -10]	(3 5 0)	(-2 0 -3)	2.379	1.532	1.55	67.2	69.1
[5 -3 10]	(3 5 0)	(-3 5 3)	2.379	1.524	1.56	88.1	59.0
[5 -3 0]	(3 5 0)	(3 5 -3)	2.379	1.524	1.56	59.8	82.2
[15 -9 28]	(3 5 0)	(-2 6 3)	2.379	1.523	1.56	77.8	61.1
[15 -9 -8]	(3 5 0)	(-2 -6 3)	2.379	1.523	1.56	64.4	71.6
[15 -9 -16]	(3 5 0)	(2 -2 3)	2.379	1.511	1.57	74.0	62.1
[15 -9 -4]	(3 5 0)	(-2 -2 -3)	2.379	1.511	1.57	60.7	76.8
[5 -3 -10]	(3 5 0)	(5 5 1)	2.379	1.511	1.57	22.1	48.8
[5 -3 -6]	(3 5 0)	(3 9 -2)	2.379	1.511	1.57	40.8	59.9
[15 -9 -20]	(3 5 0)	(1 -5 3)	2.379	1.507	1.58	89.6	57.9
[15 -9 10]	(3 5 0)	(1 5 3)	2.379	1.507	1.58	58.4	83.7
[5 -3 4]	(3 5 0)	(-4 -8 -1)	2.379	1.504	1.58	16.6	81.0
[5 -3 3]	(3 5 0)	(-3 -7 -2)	2.379	1.500	1.59	34.3	85.1
[5 -3 15]	(3 5 0)	(-6 0 2)	2.379	1.480	1.61	50.6	45.9
[15 -9 32]	(3 5 0)	(4 -4 -3)	2.379	1.477	1.61	81.9	56.9
[15 -9 8]	(3 5 0)	(-4 -4 3)	2.379	1.477	1.61	56.2	86.5
[15 -9 -16]	(3 5 0)	(1 7 -3)	2.379	1.473	1.61	69.5	62.1
[15 -9 26]	(3 5 0)	(-1 7 3)	2.379	1.473	1.61	67.9	63.3
[15 -9 -22]	(3 5 0)	(2 -4 3)	2.379	1.454	1.64	80.6	55.9
[15 -9 2]	(3 5 0)	(-2 -4 -3)	2.379	1.454	1.64	55.1	85.0
[15 -9 28]	(3 5 0)	(5 -1 -3)	2.379	1.426	1.67	66.3	61.1
[15 -9 22]	(3 5 0)	(-5 -1 3)	2.379	1.426	1.67	59.8	68.0
[5 -3 2]	(3 5 0)	(5 7 -2)	2.379	1.425	1.67	32.3	89.3
[5 -3 12]	(3 5 0)	(3 -7 -3)	2.379	1.412	1.68	82.5	53.2
[5 -3 -2]	(3 5 0)	(3 7 -3)	2.379	1.412	1.68	55.6	74.2
[5 -3 -1]	(3 5 0)	(4 6 2)	2.379	1.410	1.69	32.7	78.1
[5 -3 12]	(3 5 0)	(-6 -6 1)	2.379	1.409	1.69	19.3	53.2
[5 -3 9]	(3 5 0)	(6 4 -2)	2.379	1.409	1.69	36.6	62.2
[5 -3 -4]	(3 5 0)	(-5 -7 -1)	2.379	1.402	1.70	16.6	66.7
[15 -9 -26]	(3 5 0)	(-1 7 -3)	2.379	1.398	1.70	84.0	52.2
[15 -9 16]	(3 5 0)	(-1 -7 -3)	2.379	1.398	1.70	54.2	75.6
[5 -3 -6]	(3 5 0)	(3 -1 3)	2.379	1.398	1.70	65.2	59.9
[5 -3 -4]	(3 5 0)	(3 1 3)	2.379	1.398	1.70	58.9	66.7
[15 -9 34]	(3 5 0)	(-2 8 3)	2.379	1.395	1.71	73.1	55.0
[15 -9 -14]	(3 5 0)	(-2 -8 3)	2.379	1.395	1.71	60.4	64.3
[15 -9 34]	(3 5 0)	(5 -3 -3)	2.379	1.393	1.71	72.8	55.0
[15 -9 16]	(3 5 0)	(5 3 -3)	2.379	1.393	1.71	53.9	75.6
[15 -9 38]	(3 5 0)	(4 -6 -3)	2.379	1.390	1.71	88.0	51.4
[15 -9 2]	(3 5 0)	(4 6 -3)	2.379	1.390	1.71	51.6	85.0
[5 -3 -8]	(3 5 0)	(0 -8 3)	2.379	1.388	1.71	74.6	54.0
[5 -3 8]	(3 5 0)	(0 8 3)	2.379	1.388	1.71	58.9	65.6
[5 -3 -11]	(3 5 0)	(-5 -1 -2)	2.379	1.388	1.71	45.8	46.5
[5 -3 -2]	(3 5 0)	(5 9 -1)	2.379	1.388	1.71	15.7	74.2
[15 -9 -28]	(3 5 0)	(-2 6 -3)	2.379	1.370	1.74	86.7	50.5

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[15 -9 8]	(3 5 0)	(2 6 3)	2.379	1.370	1.74	50.5	86.5
[5 -3 6]	(3 5 0)	(-3 -9 -2)	2.379	1.362	1.75	32.2	73.0
[5 -3 -8]	(3 5 0)	(5 3 2)	2.379	1.357	1.75	38.9	54.0
[15 -9 -22]	(3 5 0)	(-1 -9 3)	2.379	1.342	1.77	65.6	55.9
[15 -9 32]	(3 5 0)	(-1 9 3)	2.379	1.342	1.77	64.1	56.9
[15 -9 40]	(3 5 0)	(5 -5 -3)	2.379	1.333	1.78	79.1	49.7
[15 -9 10]	(3 5 0)	(5 5 -3)	2.379	1.333	1.78	48.9	83.7
[10 -6 1]	(3 5 0)	(1 1 -4)	2.379	1.328	1.79	89.7	84.3
[5 -3 2]	(3 5 0)	(-1 1 4)	2.379	1.328	1.79	84.4	89.3
[5 -3 -10]	(3 5 0)	(-3 5 -3)	2.379	1.310	1.82	78.0	48.8
[5 -3 0]	(3 5 0)	(3 5 3)	2.379	1.310	1.82	48.0	82.2
[5 -3 6]	(3 5 0)	(-6 -8 1)	2.379	1.306	1.82	14.8	73.0
[5 -3 -1]	(3 5 0)	(5 9 -2)	2.379	1.305	1.82	30.0	78.1
[5 -3 -1]	(3 5 0)	(-1 -3 4)	2.379	1.301	1.83	85.0	78.1
[10 -6 7]	(3 5 0)	(-1 3 4)	2.379	1.301	1.83	79.2	83.0
[10 -6 9]	(3 5 0)	(-3 1 4)	2.379	1.301	1.83	83.4	78.9
[5 -3 3]	(3 5 0)	(3 1 -4)	2.379	1.301	1.83	78.0	85.1
[10 -6 -3]	(3 5 0)	(0 2 -4)	2.379	1.293	1.84	86.3	76.1
[10 -6 3]	(3 5 0)	(0 2 4)	2.379	1.293	1.84	75.7	88.5
[15 -9 44]	(3 5 0)	(4 -8 -3)	2.379	1.291	1.84	86.6	46.6
[15 -9 -4]	(3 5 0)	(4 8 -3)	2.379	1.291	1.84	48.1	76.8
[5 -3 12]	(3 5 0)	(-6 2 3)	2.379	1.290	1.84	64.9	53.2
[5 -3 8]	(3 5 0)	(6 2 -3)	2.379	1.290	1.84	52.8	65.6
[5 -3 2]	(3 5 0)	(-5 -9 -1)	2.379	1.287	1.85	14.0	89.3
[15 -9 -32]	(3 5 0)	(-1 9 -3)	2.379	1.285	1.85	79.3	47.3
[15 -9 22]	(3 5 0)	(1 9 3)	2.379	1.285	1.85	51.2	68.0
[10 -6 11]	(3 5 0)	(2 -4 -4)	2.379	1.279	1.86	82.8	74.9
[10 -6 -1]	(3 5 0)	(2 4 -4)	2.379	1.279	1.86	76.4	80.2
[15 -9 -20]	(3 5 0)	(-4 0 -3)	2.379	1.277	1.86	57.9	57.9
[5 -3 6]	(3 5 0)	(3 -3 -4)	2.379	1.276	1.87	88.6	73.0
[10 -6 3]	(3 5 0)	(-3 -3 4)	2.379	1.276	1.87	73.0	88.5
[5 -3 13]	(3 5 0)	(7 3 -2)	2.379	1.276	1.87	38.2	50.5
[15 -9 -34]	(3 5 0)	(2 -8 3)	2.379	1.275	1.87	87.9	45.8
[15 -9 14]	(3 5 0)	(2 8 3)	2.379	1.275	1.87	47.0	78.2
[15 -9 -26]	(3 5 0)	(4 -2 3)	2.379	1.264	1.88	64.1	52.2
[15 -9 -14]	(3 5 0)	(-4 -2 -3)	2.379	1.264	1.88	52.0	64.3
[10 -6 -1]	(3 5 0)	(1 1 4)	2.379	1.256	1.89	72.7	80.2
[5 -3 14]	(3 5 0)	(-6 4 3)	2.379	1.254	1.90	71.1	48.1
[5 -3 6]	(3 5 0)	(6 4 -3)	2.379	1.254	1.90	47.5	73.0
[10 -6 -5]	(3 5 0)	(-1 -5 4)	2.379	1.252	1.90	80.1	72.2
[5 -3 5]	(3 5 0)	(-1 5 4)	2.379	1.252	1.90	74.4	76.9
[5 -3 3]	(3 5 0)	(-6 -8 2)	2.379	1.245	1.91	27.9	85.1
[10 -6 13]	(3 5 0)	(4 -2 -4)	2.379	1.244	1.91	80.3	71.0
[10 -6 7]	(3 5 0)	(-4 -2 4)	2.379	1.244	1.91	69.9	83.0
[5 -3 2]	(3 5 0)	(3 7 3)	2.379	1.237	1.92	44.1	89.3
[10 -6 -7]	(3 5 0)	(-1 3 -4)	2.379	1.233	1.93	83.2	68.5
[5 -3 1]	(3 5 0)	(1 3 4)	2.379	1.233	1.93	67.7	86.4
[15 -9 -32]	(3 5 0)	(-4 4 -3)	2.379	1.230	1.93	70.2	47.3

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[15 -9 -8]	(3 5 0)	(4 4 3)	2.379	1.230	1.93	46.8	71.6
[5 -3 -2]	(3 5 0)	(-5 -7 -2)	2.379	1.230	1.93	28.6	74.2
[10 -6 15]	(3 5 0)	(-3 5 4)	2.379	1.229	1.94	86.4	67.4
[5 -3 0]	(3 5 0)	(-3 -5 4)	2.379	1.229	1.94	68.4	82.2
[5 -3 10]	(3 5 0)	(7 5 -2)	2.379	1.229	1.94	32.5	59.0
[10 -6 -9]	(3 5 0)	(0 -6 4)	2.379	1.202	1.98	83.7	64.9
[10 -6 9]	(3 5 0)	(0 6 4)	2.379	1.202	1.98	66.5	78.9
[5 -3 -5]	(3 5 0)	(1 -5 4)	2.379	1.191	2.00	88.2	63.2
[10 -6 5]	(3 5 0)	(-1 -5 -4)	2.379	1.191	2.00	63.3	87.2
[5 -3 -9]	(3 5 0)	(6 4 2)	2.379	1.190	2.00	34.8	51.3
[5 -3 7]	(3 5 0)	(-5 1 4)	2.379	1.190	2.00	72.6	69.2
[10 -6 11]	(3 5 0)	(5 1 -4)	2.379	1.190	2.00	67.4	74.9
[5 -3 -4]	(3 5 0)	(-1 -7 4)	2.379	1.188	2.00	75.7	66.7
[10 -6 13]	(3 5 0)	(-1 7 4)	2.379	1.188	2.00	70.2	71.0
[15 -9 38]	(3 5 0)	(-7 1 3)	2.379	1.183	2.01	58.2	51.4
[15 -9 32]	(3 5 0)	(7 1 -3)	2.379	1.183	2.01	52.5	56.9
[15 -9 -2]	(3 5 0)	(-4 -6 -3)	2.379	1.179	2.02	42.3	79.5
[15 -9 -2]	(3 5 0)	(5 9 -3)	2.379	1.172	2.03	42.0	79.5
[10 -6 17]	(3 5 0)	(-5 3 4)	2.379	1.171	2.03	77.7	63.8
[5 -3 4]	(3 5 0)	(5 3 -4)	2.379	1.171	2.03	62.6	81.0
[5 -3 9]	(3 5 0)	(3 -7 -4)	2.379	1.168	2.04	81.8	62.2
[10 -6 -3]	(3 5 0)	(3 7 -4)	2.379	1.168	2.04	64.4	76.1
[5 -3 7]	(3 5 0)	(-7 -7 2)	2.379	1.168	2.04	27.9	69.2
[15 -9 44]	(3 5 0)	(7 -3 -3)	2.379	1.163	2.05	64.2	46.6
[15 -9 26]	(3 5 0)	(-7 -3 3)	2.379	1.163	2.05	47.0	63.3
[10 -6 19]	(3 5 0)	(-4 6 4)	2.379	1.162	2.05	89.6	60.5
[10 -6 1]	(3 5 0)	(-4 -6 4)	2.379	1.162	2.05	61.0	84.3
[15 -9 -28]	(3 5 0)	(5 -1 3)	2.379	1.159	2.05	57.6	50.5
[15 -9 -22]	(3 5 0)	(-5 -1 -3)	2.379	1.159	2.05	51.9	55.9
[10 -6 -11]	(3 5 0)	(2 -4 4)	2.379	1.157	2.06	80.5	61.5
[10 -6 1]	(3 5 0)	(-2 -4 -4)	2.379	1.157	2.06	60.6	84.3
[10 -6 17]	(3 5 0)	(2 -8 -4)	2.379	1.152	2.07	74.0	63.8
[10 -6 -7]	(3 5 0)	(2 8 -4)	2.379	1.152	2.07	68.1	68.5
[5 -3 1]	(3 5 0)	(-5 -9 -2)	2.379	1.150	2.07	25.6	86.4
[15 -9 -16]	(3 5 0)	(5 3 3)	2.379	1.141	2.09	46.5	62.1
[5 -3 8]	(3 5 0)	(-7 -9 1)	2.379	1.135	2.10	13.5	65.6
[5 -3 10]	(3 5 0)	(5 -5 -4)	2.379	1.134	2.10	82.7	59.0
[10 -6 5]	(3 5 0)	(-5 -5 4)	2.379	1.134	2.10	58.3	87.2
[5 -3 2]	(3 5 0)	(6 8 -3)	2.379	1.134	2.10	39.6	89.3
[15 -9 20]	(3 5 0)	(-7 -5 3)	2.379	1.128	2.11	42.3	70.4
[5 -3 14]	(3 5 0)	(8 4 -2)	2.379	1.125	2.11	34.5	48.1
[10 -6 -9]	(3 5 0)	(-3 1 -4)	2.379	1.123	2.12	68.3	64.9
[5 -3 -3]	(3 5 0)	(3 1 4)	2.379	1.123	2.12	63.3	70.3
[10 -6 15]	(3 5 0)	(6 0 -4)	2.379	1.122	2.12	65.6	67.4
[15 -9 4]	(3 5 0)	(-4 -8 -3)	2.379	1.116	2.13	38.9	87.8
[10 -6 -11]	(3 5 0)	(1 9 -4)	2.379	1.116	2.13	72.0	61.5
[5 -3 8]	(3 5 0)	(1 -9 -4)	2.379	1.116	2.13	66.6	65.6
[10 -6 -3]	(3 5 0)	(3 3 4)	2.379	1.107	2.15	58.6	76.1

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[10 -6 21]	(3 5 0)	(3 -9 -4)	2.379	1.099	2.16	77.8	57.4
[5 -3 -3]	(3 5 0)	(3 9 -4)	2.379	1.099	2.16	61.0	70.3
[5 -3 4]	(3 5 0)	(-7 -9 2)	2.379	1.099	2.16	24.6	81.0
[10 -6 21]	(3 5 0)	(6 -4 -4)	2.379	1.090	2.18	75.6	57.4
[10 -6 9]	(3 5 0)	(-6 -4 4)	2.379	1.090	2.18	56.3	78.9
[5 -3 -3]	(3 5 0)	(6 8 2)	2.379	1.086	2.19	25.6	70.3
[10 -6 23]	(3 5 0)	(-5 7 4)	2.379	1.086	2.19	87.4	54.5
[5 -3 1]	(3 5 0)	(5 7 -4)	2.379	1.086	2.19	54.6	86.4
[5 -3 11]	(3 5 0)	(-8 -6 2)	2.379	1.085	2.19	29.4	56.0
[15 -9 14]	(3 5 0)	(7 7 -3)	2.379	1.080	2.20	38.3	78.2
[15 -9 40]	(3 5 0)	(-8 0 3)	2.379	1.079	2.20	52.7	49.7
[10 -6 -15]	(3 5 0)	(3 -5 4)	2.379	1.076	2.21	78.3	55.4
[5 -3 0]	(3 5 0)	(3 5 4)	2.379	1.076	2.21	54.4	82.2
[15 -9 46]	(3 5 0)	(-8 2 3)	2.379	1.072	2.22	58.2	45.1
[15 -9 34]	(3 5 0)	(8 2 -3)	2.379	1.072	2.22	47.3	55.0
[5 -3 -8]	(3 5 0)	(-1 9 -4)	2.379	1.072	2.22	82.9	54.0
[10 -6 11]	(3 5 0)	(-1 -9 -4)	2.379	1.072	2.22	56.3	74.9
[5 -3 2]	(3 5 0)	(2 0 -5)	2.379	1.068	2.23	89.2	89.3
[15 -9 -4]	(3 5 0)	(-5 -7 -3)	2.379	1.062	2.24	37.8	76.8
[25 -15 2]	(3 5 0)	(-1 -1 5)	2.379	1.061	2.24	87.9	83.9
[25 -15 8]	(3 5 0)	(1 -1 -5)	2.379	1.061	2.24	83.7	89.0
[10 -6 -17]	(3 5 0)	(2 -8 4)	2.379	1.061	2.24	89.9	52.6
[10 -6 7]	(3 5 0)	(2 8 4)	2.379	1.061	2.24	53.2	83.0
[25 -15 16]	(3 5 0)	(2 -2 -5)	2.379	1.060	2.24	86.5	84.3
[25 -15 4]	(3 5 0)	(2 2 -5)	2.379	1.060	2.24	85.0	85.6
[25 -15 18]	(3 5 0)	(-3 1 5)	2.379	1.057	2.25	86.4	82.6
[25 -15 12]	(3 5 0)	(3 1 -5)	2.379	1.057	2.25	82.2	87.7
[5 -3 -10]	(3 5 0)	(7 5 2)	2.379	1.055	2.25	31.7	48.8
[15 -9 28]	(3 5 0)	(8 4 -3)	2.379	1.051	2.26	42.4	61.1
[25 -15 -4]	(3 5 0)	(-1 -3 5)	2.379	1.047	2.27	87.8	79.0
[25 -15 14]	(3 5 0)	(-1 3 5)	2.379	1.047	2.27	79.5	86.0
[10 -6 19]	(3 5 0)	(-7 1 4)	2.379	1.047	2.27	64.3	60.5
[5 -3 8]	(3 5 0)	(7 1 -4)	2.379	1.047	2.27	59.5	65.6
[10 -6 -13]	(3 5 0)	(-4 2 -4)	2.379	1.045	2.28	66.9	58.4
[10 -6 -7]	(3 5 0)	(4 2 4)	2.379	1.045	2.28	57.3	68.5
[25 -15 24]	(3 5 0)	(3 -3 -5)	2.379	1.043	2.28	89.3	77.7
[25 -15 6]	(3 5 0)	(3 3 -5)	2.379	1.043	2.28	78.0	87.3
[25 -15 22]	(3 5 0)	(2 -4 -5)	2.379	1.040	2.29	82.3	79.3
[25 -15 -2]	(3 5 0)	(2 4 -5)	2.379	1.040	2.29	80.8	80.6
[25 -15 -6]	(3 5 0)	(0 2 -5)	2.379	1.038	2.29	85.2	77.3
[25 -15 6]	(3 5 0)	(0 2 5)	2.379	1.038	2.29	76.8	87.3
[5 -3 4]	(3 5 0)	(-4 0 5)	2.379	1.037	2.29	79.5	81.0
[5 -3 -9]	(3 5 0)	(-3 7 -4)	2.379	1.034	2.30	83.0	51.3
[10 -6 3]	(3 5 0)	(3 7 4)	2.379	1.034	2.30	50.8	88.5
[5 -3 11]	(3 5 0)	(-7 3 4)	2.379	1.033	2.30	69.1	56.0
[10 -6 13]	(3 5 0)	(7 3 -4)	2.379	1.033	2.30	55.0	71.0
[5 -3 -6]	(3 5 0)	(-6 -4 -3)	2.379	1.032	2.31	42.1	59.9
[25 -15 26]	(3 5 0)	(4 -2 -5)	2.379	1.030	2.31	83.8	76.1

Grunerite (350) 316 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[25 -15 14]	(3 5 0)	(-4 -2 5)	2.379	1.030	2.31	75.3	86.0
[5 -3 13]	(3 5 0)	(-5 9 4)	2.379	1.030	2.31	88.3	50.5
[10 -6 -1]	(3 5 0)	(-5 -9 4)	2.379	1.030	2.31	51.6	80.2
[15 -9 8]	(3 5 0)	(7 9 -3)	2.379	1.025	2.32	35.2	86.5
[5 -3 -2]	(3 5 0)	(-1 -5 5)	2.379	1.021	2.33	83.7	74.2
[5 -3 4]	(3 5 0)	(-1 5 5)	2.379	1.021	2.33	75.5	81.0
[25 -15 -12]	(3 5 0)	(0 4 -5)	2.379	1.019	2.34	89.4	72.6
[25 -15 12]	(3 5 0)	(0 4 5)	2.379	1.019	2.34	72.7	87.7
[15 -9 22]	(3 5 0)	(-8 -6 3)	2.379	1.018	2.34	38.1	68.0
[5 -3 6]	(3 5 0)	(-3 5 5)	2.379	1.017	2.34	85.2	73.0
[5 -3 0]	(3 5 0)	(-3 -5 5)	2.379	1.017	2.34	74.1	82.2
[5 -3 -7]	(3 5 0)	(7 7 2)	2.379	1.016	2.34	27.0	56.9
[25 -15 -8]	(3 5 0)	(-1 1 -5)	2.379	1.014	2.35	78.5	75.7
[25 -15 -2]	(3 5 0)	(1 1 5)	2.379	1.014	2.35	74.3	80.6
[25 -15 32]	(3 5 0)	(-4 4 5)	2.379	1.012	2.35	88.0	71.4
[25 -15 8]	(3 5 0)	(4 4 -5)	2.379	1.012	2.35	71.3	89.0
[15 -9 2]	(3 5 0)	(-5 -9 -3)	2.379	1.010	2.36	34.7	85.0
[10 -6 25]	(3 5 0)	(7 -5 -4)	2.379	1.008	2.36	73.9	51.8
[5 -3 5]	(3 5 0)	(7 5 -4)	2.379	1.008	2.36	50.9	76.9
[25 -15 28]	(3 5 0)	(-2 6 5)	2.379	1.008	2.36	78.5	74.5
[25 -15 -8]	(3 5 0)	(-2 -6 5)	2.379	1.008	2.36	77.0	75.7
[10 -6 27]	(3 5 0)	(6 -8 -4)	2.379	1.008	2.36	85.0	49.3
[10 -6 3]	(3 5 0)	(6 8 -4)	2.379	1.008	2.36	49.1	88.5
[5 -3 15]	(3 5 0)	(-9 -5 2)	2.379	1.003	2.37	31.6	45.9
[25 -15 28]	(3 5 0)	(5 -1 -5)	2.379	1.003	2.37	77.1	74.5
[25 -15 22]	(3 5 0)	(-5 -1 5)	2.379	1.003	2.37	73.0	79.3
[25 -15 -14]	(3 5 0)	(1 -3 5)	2.379	1.002	2.37	82.7	71.1
[25 -15 4]	(3 5 0)	(1 3 5)	2.379	1.002	2.37	70.2	85.6

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[1 -2 0]	(4 2 0)	(0 0 1)	2.267	5.224	0.43	78.5	87.0
[1 -2 3]	(4 2 0)	(-1 1 1)	2.267	4.846	0.47	75.4	69.7
[1 -2 -1]	(4 2 0)	(1 1 -1)	2.267	4.846	0.47	67.6	79.1
[1 -2 4]	(4 2 0)	(0 -2 -1)	2.267	4.542	0.50	72.8	62.9
[1 -2 -3]	(4 2 0)	(1 -1 1)	2.267	4.102	0.55	58.2	64.6
[1 -2 1]	(4 2 0)	(1 1 1)	2.267	4.102	0.55	50.5	84.9
[1 -2 7]	(4 2 0)	(-1 3 1)	2.267	3.886	0.58	84.4	47.0
[1 -2 -5]	(4 2 0)	(1 3 -1)	2.267	3.886	0.58	65.8	52.9
[1 -2 6]	(4 2 0)	(-2 2 1)	2.267	3.597	0.63	59.3	51.6
[1 -2 -2]	(4 2 0)	(2 2 -1)	2.267	3.597	0.63	45.3	71.6
[1 -2 5]	(4 2 0)	(-1 -3 -1)	2.267	3.469	0.65	50.8	56.9
[1 -2 -2]	(4 2 0)	(2 0 1)	2.267	3.176	0.71	38.8	71.6
[1 -2 -6]	(4 2 0)	(-2 2 -1)	2.267	3.002	0.76	49.0	48.1
[1 -2 2]	(4 2 0)	(2 2 1)	2.267	3.002	0.76	35.2	77.1
[1 -2 -6]	(4 2 0)	(-2 -4 1)	2.267	2.978	0.76	48.5	48.1
[1 -2 5]	(4 2 0)	(3 -1 -1)	2.267	2.923	0.78	40.8	56.9
[1 -2 1]	(4 2 0)	(-3 -1 1)	2.267	2.923	0.78	33.3	84.9
[1 -2 -3]	(4 2 0)	(3 3 -1)	2.267	2.666	0.85	33.5	64.6
[2 -4 3]	(4 2 0)	(1 -1 -2)	2.267	2.635	0.86	87.9	81.0
[2 -4 -1]	(4 2 0)	(-1 -1 2)	2.267	2.635	0.86	83.9	83.0
[1 -2 6]	(4 2 0)	(2 4 1)	2.267	2.613	0.87	38.6	51.6
[1 -2 -2]	(4 2 0)	(0 -2 2)	2.267	2.513	0.90	82.8	71.6
[1 -2 2]	(4 2 0)	(0 -2 -2)	2.267	2.513	0.90	75.0	77.1
[1 -2 1]	(4 2 0)	(2 0 -2)	2.267	2.512	0.90	70.8	84.9
[1 -2 -5]	(4 2 0)	(-3 1 -1)	2.267	2.442	0.93	35.0	52.9
[1 -2 -1]	(4 2 0)	(3 1 1)	2.267	2.442	0.93	27.8	79.1
[2 -4 7]	(4 2 0)	(-1 3 2)	2.267	2.442	0.93	88.2	66.2
[2 -4 -5]	(4 2 0)	(-1 -3 2)	2.267	2.442	0.93	80.5	68.0
[1 -2 4]	(4 2 0)	(4 0 -1)	2.267	2.321	0.98	29.2	62.9
[1 -2 3]	(4 2 0)	(-3 -3 -1)	2.267	2.286	0.99	27.2	69.7
[1 -2 0]	(4 2 0)	(4 2 -1)	2.267	2.251	1.01	25.0	87.0
[2 -4 -7]	(4 2 0)	(1 -3 2)	2.267	2.228	1.02	71.9	61.4
[2 -4 5]	(4 2 0)	(-1 -3 -2)	2.267	2.228	1.02	60.6	73.3
[2 -4 5]	(4 2 0)	(3 -1 -2)	2.267	2.227	1.02	60.6	73.3
[2 -4 1]	(4 2 0)	(-3 -1 2)	2.267	2.227	1.02	56.5	88.9
[1 -2 5]	(4 2 0)	(2 -4 -2)	2.267	2.204	1.03	80.2	56.9
[1 -2 -3]	(4 2 0)	(-2 -4 2)	2.267	2.204	1.03	66.0	64.6
[2 -4 11]	(4 2 0)	(-1 5 2)	2.267	2.157	1.05	85.1	54.2
[2 -4 -9]	(4 2 0)	(-1 -5 2)	2.267	2.157	1.05	78.3	55.6
[2 -4 9]	(4 2 0)	(3 -3 -2)	2.267	2.107	1.08	65.9	59.8
[2 -4 -3]	(4 2 0)	(-3 -3 2)	2.267	2.107	1.08	54.7	75.3
[1 -2 -1]	(4 2 0)	(2 0 2)	2.267	2.104	1.08	53.4	79.1
[1 -2 -4]	(4 2 0)	(-4 -4 1)	2.267	2.072	1.09	27.1	58.4
[2 -4 9]	(4 2 0)	(-1 -5 -2)	2.267	2.005	1.13	60.3	59.8
[1 -2 -6]	(4 2 0)	(0 6 -2)	2.267	1.988	1.14	89.5	48.1
[1 -2 6]	(4 2 0)	(0 -6 -2)	2.267	1.988	1.14	71.8	51.6
[1 -2 -4]	(4 2 0)	(4 0 1)	2.267	1.988	1.14	25.9	58.4
[2 -4 13]	(4 2 0)	(3 -5 -2)	2.267	1.915	1.18	71.3	49.2

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[2 -4 -7]	(4 2 0)	(-3 -5 2)	2.267	1.915	1.18	54.8	61.4
[1 -2 -5]	(4 2 0)	(2 -4 2)	2.267	1.913	1.19	63.9	52.9
[1 -2 3]	(4 2 0)	(-2 -4 -2)	2.267	1.913	1.19	49.8	69.7
[1 -2 4]	(4 2 0)	(4 -2 -2)	2.267	1.912	1.19	53.5	62.9
[1 -2 0]	(4 2 0)	(-4 -2 2)	2.267	1.912	1.19	45.8	87.0
[1 -2 7]	(4 2 0)	(5 -1 -1)	2.267	1.880	1.21	28.8	47.0
[1 -2 3]	(4 2 0)	(-5 -1 1)	2.267	1.880	1.21	22.1	69.7
[2 -4 -13]	(4 2 0)	(1 7 -2)	2.267	1.870	1.21	76.9	46.0
[1 -2 4]	(4 2 0)	(4 4 1)	2.267	1.825	1.24	22.6	62.9
[2 -4 -5]	(4 2 0)	(-3 1 -2)	2.267	1.817	1.25	47.2	68.0
[2 -4 -1]	(4 2 0)	(3 1 2)	2.267	1.817	1.25	43.3	83.0
[1 -2 -1]	(4 2 0)	(5 3 -1)	2.267	1.806	1.26	20.2	79.1
[3 -6 -1]	(4 2 0)	(-1 -1 3)	2.267	1.771	1.28	89.8	84.4
[1 -2 1]	(4 2 0)	(-1 1 3)	2.267	1.771	1.28	87.5	84.9
[2 -4 13]	(4 2 0)	(-1 -7 -2)	2.267	1.769	1.28	61.0	49.2
[3 -6 2]	(4 2 0)	(2 0 -3)	2.267	1.755	1.29	80.7	87.6
[2 -4 -9]	(4 2 0)	(-3 3 -2)	2.267	1.750	1.30	52.6	55.6
[2 -4 3]	(4 2 0)	(3 3 2)	2.267	1.750	1.30	41.6	81.0
[1 -2 2]	(4 2 0)	(-2 2 3)	2.267	1.723	1.32	83.5	77.1
[3 -6 -2]	(4 2 0)	(2 2 -3)	2.267	1.723	1.32	78.1	81.7
[3 -6 -4]	(4 2 0)	(0 2 -3)	2.267	1.711	1.33	81.4	76.5
[3 -6 4]	(4 2 0)	(0 2 3)	2.267	1.711	1.33	76.0	82.3
[3 -6 -5]	(4 2 0)	(-1 -3 3)	2.267	1.709	1.33	87.2	74.0
[3 -6 7]	(4 2 0)	(-1 3 3)	2.267	1.709	1.33	85.0	74.6
[2 -4 -11]	(4 2 0)	(-3 -7 2)	2.267	1.706	1.33	56.0	50.5
[2 -4 7]	(4 2 0)	(5 -1 -2)	2.267	1.689	1.34	43.7	66.2
[2 -4 3]	(4 2 0)	(5 1 -2)	2.267	1.689	1.34	39.8	81.0
[1 -2 -5]	(4 2 0)	(5 5 -1)	2.267	1.681	1.35	23.2	52.9
[3 -6 5]	(4 2 0)	(-3 1 3)	2.267	1.668	1.36	72.3	79.7
[3 -6 1]	(4 2 0)	(3 1 -3)	2.267	1.668	1.36	69.6	89.7
[1 -2 -3]	(4 2 0)	(-5 -1 -1)	2.267	1.650	1.37	20.0	64.6
[1 -2 -4]	(4 2 0)	(4 6 -2)	2.267	1.648	1.38	46.4	58.4
[1 -2 -1]	(4 2 0)	(-1 1 -3)	2.267	1.645	1.38	70.3	79.1
[3 -6 1]	(4 2 0)	(1 1 3)	2.267	1.645	1.38	67.6	89.7
[3 -6 10]	(4 2 0)	(-2 4 3)	2.267	1.639	1.38	86.4	67.4
[1 -2 -2]	(4 2 0)	(2 4 -3)	2.267	1.639	1.38	76.1	71.6
[2 -4 -13]	(4 2 0)	(-3 5 -2)	2.267	1.636	1.39	58.4	46.0
[2 -4 7]	(4 2 0)	(3 5 2)	2.267	1.636	1.39	42.0	66.2
[2 -4 11]	(4 2 0)	(-5 3 2)	2.267	1.635	1.39	49.0	54.2
[2 -4 -1]	(4 2 0)	(5 3 -2)	2.267	1.635	1.39	38.1	83.0
[3 -6 -8]	(4 2 0)	(0 4 -3)	2.267	1.629	1.39	84.3	66.9
[3 -6 8]	(4 2 0)	(0 4 3)	2.267	1.629	1.39	74.1	72.1
[1 -2 -3]	(4 2 0)	(1 5 -3)	2.267	1.602	1.42	84.9	64.6
[3 -6 11]	(4 2 0)	(-1 5 3)	2.267	1.602	1.42	82.8	65.1
[1 -2 1]	(4 2 0)	(-5 -3 -1)	2.267	1.600	1.42	17.5	84.9
[3 -6 -7]	(4 2 0)	(1 -3 3)	2.267	1.595	1.42	73.5	69.2
[3 -6 5]	(4 2 0)	(1 3 3)	2.267	1.595	1.42	65.7	79.7
[1 -2 -4]	(4 2 0)	(-4 2 -2)	2.267	1.565	1.45	43.5	58.4

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[1 -2 0]	(4 2 0)	(4 2 2)	2.267	1.565	1.45	35.9	87.0
[1 -2 2]	(4 2 0)	(-6 -2 1)	2.267	1.564	1.45	17.5	77.1
[3 -6 4]	(4 2 0)	(4 0 -3)	2.267	1.559	1.45	62.2	82.3
[1 -2 7]	(4 2 0)	(-2 -8 -2)	2.267	1.552	1.46	52.7	47.0
[2 -4 -5]	(4 2 0)	(5 5 -2)	2.267	1.540	1.47	38.5	68.0
[3 -6 8]	(4 2 0)	(-4 2 3)	2.267	1.537	1.47	65.2	72.1
[1 -2 0]	(4 2 0)	(4 2 -3)	2.267	1.537	1.47	59.9	87.0
[3 -6 -2]	(4 2 0)	(-2 0 -3)	2.267	1.532	1.48	60.5	81.7
[3 -6 13]	(4 2 0)	(3 -5 -3)	2.267	1.524	1.49	78.7	60.9
[3 -6 -7]	(4 2 0)	(-3 -5 3)	2.267	1.524	1.49	66.4	69.2
[3 -6 14]	(4 2 0)	(2 -6 -3)	2.267	1.523	1.49	89.0	58.8
[3 -6 -10]	(4 2 0)	(-2 -6 3)	2.267	1.523	1.49	74.7	62.5
[1 -2 -2]	(4 2 0)	(2 -2 3)	2.267	1.511	1.50	63.5	71.6
[3 -6 2]	(4 2 0)	(-2 -2 -3)	2.267	1.511	1.50	58.2	87.6
[1 -2 5]	(4 2 0)	(5 5 1)	2.267	1.511	1.50	19.7	56.9
[3 -6 -11]	(4 2 0)	(-1 5 -3)	2.267	1.507	1.50	76.8	60.4
[1 -2 3]	(4 2 0)	(1 5 3)	2.267	1.507	1.50	64.5	69.7
[1 -2 -2]	(4 2 0)	(-6 -4 1)	2.267	1.500	1.51	17.2	71.6
[2 -4 11]	(4 2 0)	(3 7 2)	2.267	1.500	1.51	43.8	54.2
[1 -2 3]	(4 2 0)	(6 0 -2)	2.267	1.480	1.53	36.2	69.7
[1 -2 4]	(4 2 0)	(-4 4 3)	2.267	1.477	1.54	68.7	62.9
[3 -6 -4]	(4 2 0)	(4 4 -3)	2.267	1.477	1.54	58.6	76.5
[3 -6 -13]	(4 2 0)	(-1 -7 3)	2.267	1.473	1.54	83.0	56.5
[1 -2 5]	(4 2 0)	(-1 7 3)	2.267	1.473	1.54	81.1	56.9
[3 -6 -10]	(4 2 0)	(-2 4 -3)	2.267	1.454	1.56	67.1	62.5
[1 -2 2]	(4 2 0)	(2 4 3)	2.267	1.454	1.56	56.9	77.1
[3 -6 7]	(4 2 0)	(5 -1 -3)	2.267	1.426	1.59	56.2	74.6
[1 -2 1]	(4 2 0)	(5 1 -3)	2.267	1.426	1.59	53.6	84.9
[2 -4 -9]	(4 2 0)	(-5 -7 2)	2.267	1.425	1.59	40.3	55.6
[1 -2 -6]	(4 2 0)	(6 0 1)	2.267	1.417	1.60	20.9	48.1
[3 -6 17]	(4 2 0)	(-3 7 3)	2.267	1.412	1.61	81.7	53.3
[3 -6 -11]	(4 2 0)	(3 7 -3)	2.267	1.412	1.61	65.8	60.4
[1 -2 4]	(4 2 0)	(-4 -6 -2)	2.267	1.410	1.61	36.4	62.9
[1 -2 -6]	(4 2 0)	(6 6 -1)	2.267	1.409	1.61	20.8	48.1
[1 -2 7]	(4 2 0)	(-6 4 2)	2.267	1.409	1.61	46.2	47.0
[1 -2 -1]	(4 2 0)	(6 4 -2)	2.267	1.409	1.61	32.5	79.1
[1 -2 -2]	(4 2 0)	(6 2 1)	2.267	1.400	1.62	16.0	71.6
[1 -2 -5]	(4 2 0)	(-1 7 -3)	2.267	1.398	1.62	80.0	52.9
[3 -6 13]	(4 2 0)	(1 7 3)	2.267	1.398	1.62	64.1	60.9
[3 -6 -5]	(4 2 0)	(-3 1 -3)	2.267	1.398	1.62	54.8	74.0
[3 -6 -1]	(4 2 0)	(3 1 3)	2.267	1.398	1.62	52.2	84.4
[1 -2 6]	(4 2 0)	(2 -8 -3)	2.267	1.395	1.63	88.8	51.6
[3 -6 -14]	(4 2 0)	(2 8 -3)	2.267	1.395	1.63	73.8	54.7
[3 -6 11]	(4 2 0)	(-5 3 3)	2.267	1.393	1.63	59.6	65.1
[3 -6 -1]	(4 2 0)	(5 3 -3)	2.267	1.393	1.63	51.9	84.4
[3 -6 16]	(4 2 0)	(-4 6 3)	2.267	1.390	1.63	72.3	55.1
[3 -6 -8]	(4 2 0)	(4 6 -3)	2.267	1.390	1.63	58.1	66.9
[3 -6 -16]	(4 2 0)	(0 -8 3)	2.267	1.388	1.63	89.4	51.3

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[3 -6 16]	(4 2 0)	(0 -8 -3)	2.267	1.388	1.63	72.1	55.1
[2 -4 -7]	(4 2 0)	(5 -1 2)	2.267	1.388	1.63	36.3	61.4
[2 -4 -3]	(4 2 0)	(5 1 2)	2.267	1.388	1.63	32.5	75.3
[3 -6 -14]	(4 2 0)	(-2 6 -3)	2.267	1.370	1.65	70.7	54.7
[3 -6 10]	(4 2 0)	(2 6 3)	2.267	1.370	1.65	56.5	67.4
[1 -2 5]	(4 2 0)	(-7 -1 1)	2.267	1.361	1.67	17.7	56.9
[2 -4 -11]	(4 2 0)	(5 -3 2)	2.267	1.357	1.67	41.2	50.5
[2 -4 1]	(4 2 0)	(-5 -3 -2)	2.267	1.357	1.67	30.6	88.9
[1 -2 2]	(4 2 0)	(6 4 1)	2.267	1.354	1.67	15.1	77.1
[3 -6 -17]	(4 2 0)	(-1 -9 3)	2.267	1.342	1.69	81.5	49.7
[3 -6 19]	(4 2 0)	(-1 9 3)	2.267	1.342	1.69	79.8	50.0
[1 -2 5]	(4 2 0)	(-5 5 3)	2.267	1.333	1.70	63.4	56.9
[3 -6 -5]	(4 2 0)	(5 5 -3)	2.267	1.333	1.70	51.2	74.0
[2 -4 1]	(4 2 0)	(-2 0 4)	2.267	1.331	1.70	85.9	88.9
[4 -8 -1]	(4 2 0)	(-1 -1 4)	2.267	1.328	1.71	87.3	85.0
[4 -8 3]	(4 2 0)	(1 -1 -4)	2.267	1.328	1.71	85.2	86.9
[3 -6 -13]	(4 2 0)	(3 -5 3)	2.267	1.310	1.73	62.0	56.5
[3 -6 7]	(4 2 0)	(-3 -5 -3)	2.267	1.310	1.73	49.8	74.6
[2 -4 -13]	(4 2 0)	(5 9 -2)	2.267	1.305	1.74	42.8	46.0
[4 -8 -5]	(4 2 0)	(1 3 -4)	2.267	1.301	1.74	89.3	77.2
[4 -8 7]	(4 2 0)	(-1 3 4)	2.267	1.301	1.74	83.3	79.0
[4 -8 5]	(4 2 0)	(3 -1 -4)	2.267	1.301	1.74	79.2	82.9
[4 -8 1]	(4 2 0)	(-3 -1 4)	2.267	1.301	1.74	77.1	89.0
[2 -4 9]	(4 2 0)	(7 -1 -2)	2.267	1.301	1.74	34.3	59.8
[2 -4 5]	(4 2 0)	(7 1 -2)	2.267	1.301	1.74	30.6	73.3
[1 -2 -1]	(4 2 0)	(0 2 -4)	2.267	1.293	1.75	80.6	79.1
[1 -2 1]	(4 2 0)	(0 2 4)	2.267	1.293	1.75	76.6	84.9
[3 -6 20]	(4 2 0)	(-4 8 3)	2.267	1.291	1.76	75.6	48.5
[1 -2 -4]	(4 2 0)	(4 8 -3)	2.267	1.291	1.76	58.3	58.4
[3 -6 10]	(4 2 0)	(6 -2 -3)	2.267	1.290	1.76	51.8	67.4
[3 -6 2]	(4 2 0)	(-6 -2 3)	2.267	1.290	1.76	46.5	87.6
[1 -2 6]	(4 2 0)	(6 6 1)	2.267	1.286	1.76	17.9	51.6
[3 -6 -19]	(4 2 0)	(-1 9 -3)	2.267	1.285	1.77	82.8	46.7
[3 -6 17]	(4 2 0)	(1 9 3)	2.267	1.285	1.77	64.2	53.3
[1 -2 -3]	(4 2 0)	(-7 -5 1)	2.267	1.279	1.77	15.4	64.6
[2 -4 5]	(4 2 0)	(2 -4 -4)	2.267	1.279	1.77	90.0	73.3
[2 -4 -3]	(4 2 0)	(-2 -4 4)	2.267	1.279	1.77	82.1	75.3
[3 -6 -4]	(4 2 0)	(4 0 3)	2.267	1.277	1.78	47.5	76.5
[4 -8 9]	(4 2 0)	(-3 3 4)	2.267	1.276	1.78	81.4	75.2
[4 -8 -3]	(4 2 0)	(3 3 -4)	2.267	1.276	1.78	75.4	81.1
[2 -4 13]	(4 2 0)	(-7 3 2)	2.267	1.276	1.78	39.1	49.2
[2 -4 1]	(4 2 0)	(7 3 -2)	2.267	1.276	1.78	28.6	88.9
[1 -2 -6]	(4 2 0)	(-2 8 -3)	2.267	1.275	1.78	74.1	48.1
[3 -6 14]	(4 2 0)	(2 8 3)	2.267	1.275	1.78	56.8	58.8
[3 -6 -8]	(4 2 0)	(-4 2 -3)	2.267	1.264	1.79	50.6	66.9
[1 -2 0]	(4 2 0)	(4 2 3)	2.267	1.264	1.79	45.4	87.0
[4 -8 1]	(4 2 0)	(1 1 4)	2.267	1.256	1.81	70.2	89.0
[3 -6 14]	(4 2 0)	(-6 4 3)	2.267	1.254	1.81	55.4	58.8

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[3 -6 -2]	(4 2 0)	(6 4 -3)	2.267	1.254	1.81	45.4	81.7
[4 -8 -9]	(4 2 0)	(1 5 -4)	2.267	1.252	1.81	88.7	69.8
[4 -8 11]	(4 2 0)	(1 -5 -4)	2.267	1.252	1.81	81.6	71.5
[1 -2 -5]	(4 2 0)	(6 8 -2)	2.267	1.245	1.82	35.7	52.9
[1 -2 2]	(4 2 0)	(-4 2 4)	2.267	1.244	1.82	73.0	77.1
[1 -2 0]	(4 2 0)	(4 2 -4)	2.267	1.244	1.82	69.0	87.0
[3 -6 -17]	(4 2 0)	(-3 7 -3)	2.267	1.237	1.83	65.8	49.7
[3 -6 11]	(4 2 0)	(3 7 3)	2.267	1.237	1.83	50.0	65.1
[4 -8 -7]	(4 2 0)	(-1 3 -4)	2.267	1.233	1.84	74.5	73.4
[4 -8 5]	(4 2 0)	(1 3 4)	2.267	1.233	1.84	68.5	82.9
[1 -2 -5]	(4 2 0)	(-7 -1 -1)	2.267	1.233	1.84	16.8	52.9
[1 -2 -3]	(4 2 0)	(6 0 2)	2.267	1.232	1.84	30.7	64.6
[1 -2 -4]	(4 2 0)	(-4 4 -3)	2.267	1.230	1.84	54.2	58.4
[3 -6 4]	(4 2 0)	(4 4 3)	2.267	1.230	1.84	44.2	82.3
[2 -4 9]	(4 2 0)	(5 7 2)	2.267	1.230	1.84	32.2	59.8
[4 -8 13]	(4 2 0)	(-3 5 4)	2.267	1.229	1.84	83.6	67.9
[4 -8 -7]	(4 2 0)	(3 5 -4)	2.267	1.229	1.84	74.0	73.4
[2 -4 -3]	(4 2 0)	(-7 -5 2)	2.267	1.229	1.84	28.4	75.3
[1 -2 3]	(4 2 0)	(0 6 4)	2.267	1.202	1.89	73.7	69.7
[4 -8 9]	(4 2 0)	(-1 -5 -4)	2.267	1.191	1.90	67.3	75.2
[1 -2 1]	(4 2 0)	(6 4 2)	2.267	1.190	1.91	26.6	84.9
[4 -8 7]	(4 2 0)	(-5 1 4)	2.267	1.190	1.91	65.3	79.0
[4 -8 3]	(4 2 0)	(5 1 -4)	2.267	1.190	1.91	63.2	86.9
[4 -8 -13]	(4 2 0)	(-1 -7 4)	2.267	1.188	1.91	87.0	63.0
[4 -8 15]	(4 2 0)	(-1 7 4)	2.267	1.188	1.91	80.2	64.6
[1 -2 4]	(4 2 0)	(-8 -2 1)	2.267	1.185	1.91	14.4	62.9
[1 -2 3]	(4 2 0)	(7 -1 -3)	2.267	1.183	1.92	45.1	69.7
[3 -6 5]	(4 2 0)	(-7 -1 3)	2.267	1.183	1.92	42.5	79.7
[3 -6 -16]	(4 2 0)	(4 -6 3)	2.267	1.179	1.92	58.1	51.3
[3 -6 8]	(4 2 0)	(-4 -6 -3)	2.267	1.179	1.92	44.1	72.1
[3 -6 -13]	(4 2 0)	(5 9 -3)	2.267	1.172	1.93	52.1	56.5
[1 -2 3]	(4 2 0)	(-7 -5 -1)	2.267	1.171	1.94	13.5	69.7
[4 -8 11]	(4 2 0)	(5 -3 -4)	2.267	1.171	1.94	67.7	71.5
[4 -8 -1]	(4 2 0)	(-5 -3 4)	2.267	1.171	1.94	61.7	85.0
[4 -8 17]	(4 2 0)	(3 -7 -4)	2.267	1.168	1.94	85.7	61.4
[4 -8 -11]	(4 2 0)	(-3 -7 4)	2.267	1.168	1.94	72.9	66.3
[2 -4 -7]	(4 2 0)	(7 7 -2)	2.267	1.168	1.94	29.9	61.4
[3 -6 13]	(4 2 0)	(-7 3 3)	2.267	1.163	1.95	48.5	60.9
[3 -6 1]	(4 2 0)	(7 3 -3)	2.267	1.163	1.95	40.8	89.7
[1 -2 4]	(4 2 0)	(-4 6 4)	2.267	1.162	1.95	77.9	62.9
[1 -2 -2]	(4 2 0)	(4 6 -4)	2.267	1.162	1.95	66.6	71.6
[3 -6 -7]	(4 2 0)	(5 -1 3)	2.267	1.159	1.96	44.2	69.2
[1 -2 -1]	(4 2 0)	(-5 -1 -3)	2.267	1.159	1.96	41.5	79.1
[2 -4 -5]	(4 2 0)	(2 -4 4)	2.267	1.157	1.96	69.2	68.0
[2 -4 3]	(4 2 0)	(-2 -4 -4)	2.267	1.157	1.96	61.4	81.0
[1 -2 0]	(4 2 0)	(8 4 -1)	2.267	1.157	1.96	12.5	87.0
[2 -4 9]	(4 2 0)	(2 -8 -4)	2.267	1.152	1.97	86.5	59.8
[2 -4 -7]	(4 2 0)	(2 8 -4)	2.267	1.152	1.97	79.3	61.4

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[1 -2 6]	(4 2 0)	(-8 2 2)	2.267	1.151	1.97	33.4	51.6
[1 -2 2]	(4 2 0)	(8 2 -2)	2.267	1.151	1.97	26.3	77.1
[2 -4 13]	(4 2 0)	(-5 -9 -2)	2.267	1.150	1.97	34.7	49.2
[3 -6 1]	(4 2 0)	(5 3 3)	2.267	1.141	1.99	39.9	89.7
[4 -8 15]	(4 2 0)	(-5 5 4)	2.267	1.134	2.00	70.3	64.6
[4 -8 -5]	(4 2 0)	(5 5 -4)	2.267	1.134	2.00	60.7	77.2
[3 -6 22]	(4 2 0)	(-6 8 3)	2.267	1.134	2.00	63.1	45.6
[3 -6 -10]	(4 2 0)	(6 8 -3)	2.267	1.134	2.00	45.9	62.5
[3 -6 17]	(4 2 0)	(-7 5 3)	2.267	1.128	2.01	52.2	53.3
[1 -2 -1]	(4 2 0)	(7 5 -3)	2.267	1.128	2.01	40.2	79.1
[1 -2 0]	(4 2 0)	(-8 -4 2)	2.267	1.125	2.01	25.0	87.0
[4 -8 -5]	(4 2 0)	(3 -1 4)	2.267	1.123	2.02	59.6	77.2
[4 -8 -1]	(4 2 0)	(-3 -1 -4)	2.267	1.123	2.02	57.6	85.0
[2 -4 3]	(4 2 0)	(6 0 -4)	2.267	1.122	2.02	58.3	81.0
[1 -2 7]	(4 2 0)	(-7 -7 -1)	2.267	1.118	2.03	16.6	47.0
[3 -6 -20]	(4 2 0)	(4 -8 3)	2.267	1.116	2.03	61.9	45.3
[1 -2 4]	(4 2 0)	(-4 -8 -3)	2.267	1.116	2.03	44.8	62.9
[4 -8 -17]	(4 2 0)	(1 9 -4)	2.267	1.116	2.03	85.4	57.0
[4 -8 19]	(4 2 0)	(1 -9 -4)	2.267	1.116	2.03	79.1	58.4
[3 -6 5]	(4 2 0)	(-5 -5 -3)	2.267	1.107	2.05	39.2	79.7
[4 -8 -9]	(4 2 0)	(3 -3 4)	2.267	1.107	2.05	62.1	69.8
[4 -8 3]	(4 2 0)	(-3 -3 -4)	2.267	1.107	2.05	56.1	86.9
[2 -4 -9]	(4 2 0)	(7 -1 2)	2.267	1.100	2.06	30.0	55.6
[2 -4 -5]	(4 2 0)	(7 1 2)	2.267	1.100	2.06	26.4	68.0
[4 -8 21]	(4 2 0)	(-3 9 4)	2.267	1.099	2.06	87.7	55.5
[4 -8 -15]	(4 2 0)	(3 9 -4)	2.267	1.099	2.06	72.2	59.9
[2 -4 -11]	(4 2 0)	(-7 -9 2)	2.267	1.099	2.06	32.3	50.5
[2 -4 7]	(4 2 0)	(6 -4 -4)	2.267	1.090	2.08	63.1	66.2
[2 -4 -1]	(4 2 0)	(-6 -4 4)	2.267	1.090	2.08	55.3	83.0
[1 -2 -4]	(4 2 0)	(8 2 1)	2.267	1.087	2.09	13.8	58.4
[1 -2 5]	(4 2 0)	(-6 -8 -2)	2.267	1.086	2.09	29.0	56.9
[4 -8 19]	(4 2 0)	(5 -7 -4)	2.267	1.086	2.09	72.9	58.4
[4 -8 -9]	(4 2 0)	(-5 -7 4)	2.267	1.086	2.09	60.1	69.8
[1 -2 -2]	(4 2 0)	(8 6 -2)	2.267	1.085	2.09	25.4	71.6
[2 -4 -13]	(4 2 0)	(-7 3 -2)	2.267	1.084	2.09	34.4	46.0
[2 -4 -1]	(4 2 0)	(7 3 2)	2.267	1.084	2.09	24.2	83.0
[1 -2 7]	(4 2 0)	(-7 7 3)	2.267	1.080	2.10	56.1	47.0
[3 -6 -7]	(4 2 0)	(7 7 -3)	2.267	1.080	2.10	40.5	69.2
[3 -6 8]	(4 2 0)	(-8 0 3)	2.267	1.079	2.10	39.6	72.1
[4 -8 -13]	(4 2 0)	(3 -5 4)	2.267	1.076	2.11	64.7	63.0
[4 -8 7]	(4 2 0)	(3 5 4)	2.267	1.076	2.11	55.2	79.0
[1 -2 4]	(4 2 0)	(8 -2 -3)	2.267	1.072	2.11	42.6	62.9
[3 -6 4]	(4 2 0)	(8 2 -3)	2.267	1.072	2.11	37.4	82.3
[4 -8 -19]	(4 2 0)	(-1 9 -4)	2.267	1.072	2.12	81.6	54.2
[4 -8 17]	(4 2 0)	(1 9 4)	2.267	1.072	2.12	66.2	61.4
[5 -10 2]	(4 2 0)	(2 0 -5)	2.267	1.068	2.12	89.0	89.8
[3 -6 -19]	(4 2 0)	(5 -7 3)	2.267	1.062	2.13	55.1	46.7
[1 -2 3]	(4 2 0)	(5 7 3)	2.267	1.062	2.13	39.5	69.7

Grunerite (420) 355 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[5 -10 -1]	(4 2 0)	(1 1 -5)	2.267	1.061	2.14	85.5	85.4
[5 -10 3]	(4 2 0)	(-1 1 5)	2.267	1.061	2.14	83.8	88.1
[1 -2 7]	(4 2 0)	(-9 -1 1)	2.267	1.061	2.14	15.8	47.0
[2 -4 -9]	(4 2 0)	(2 -8 4)	2.267	1.061	2.14	74.4	55.6
[2 -4 7]	(4 2 0)	(-2 -8 -4)	2.267	1.061	2.14	60.3	66.2
[5 -10 6]	(4 2 0)	(-2 2 5)	2.267	1.060	2.14	89.3	83.3
[5 -10 -2]	(4 2 0)	(-2 -2 5)	2.267	1.060	2.14	87.4	83.8
[5 -10 1]	(4 2 0)	(3 1 -5)	2.267	1.057	2.15	81.9	88.6
[2 -4 3]	(4 2 0)	(-7 -5 -2)	2.267	1.055	2.15	23.6	81.0
[3 -6 -2]	(4 2 0)	(6 2 3)	2.267	1.052	2.16	36.7	81.7
[3 -6 16]	(4 2 0)	(-8 4 3)	2.267	1.051	2.16	46.1	55.1
[1 -2 0]	(4 2 0)	(8 4 -3)	2.267	1.051	2.16	36.3	87.0
[1 -2 -1]	(4 2 0)	(1 3 -5)	2.267	1.047	2.17	87.2	79.1
[5 -10 7]	(4 2 0)	(-1 3 5)	2.267	1.047	2.17	82.3	81.8
[1 -2 3]	(4 2 0)	(-9 -3 1)	2.267	1.047	2.17	12.1	69.7
[4 -8 9]	(4 2 0)	(7 -1 -4)	2.267	1.047	2.17	54.2	75.2
[4 -8 5]	(4 2 0)	(-7 -1 4)	2.267	1.047	2.17	52.2	82.9
[1 -2 -2]	(4 2 0)	(4 -2 4)	2.267	1.045	2.17	55.6	71.6
[1 -2 0]	(4 2 0)	(-4 -2 -4)	2.267	1.045	2.17	51.6	87.0
[5 -10 9]	(4 2 0)	(3 -3 -5)	2.267	1.043	2.17	85.3	78.6
[5 -10 -3]	(4 2 0)	(-3 -3 5)	2.267	1.043	2.17	80.4	82.2
[2 -4 11]	(4 2 0)	(9 -1 -2)	2.267	1.041	2.18	28.7	54.2
[2 -4 7]	(4 2 0)	(-9 -1 2)	2.267	1.041	2.18	25.2	66.2
[1 -2 2]	(4 2 0)	(-2 4 5)	2.267	1.040	2.18	87.8	77.1
[5 -10 -6]	(4 2 0)	(-2 -4 5)	2.267	1.040	2.18	85.8	77.6
[5 -10 -4]	(4 2 0)	(0 -2 5)	2.267	1.038	2.18	80.2	80.7
[5 -10 4]	(4 2 0)	(0 2 5)	2.267	1.038	2.18	76.9	86.5
[5 -10 4]	(4 2 0)	(-4 0 5)	2.267	1.037	2.19	76.6	86.5
[4 -8 -17]	(4 2 0)	(-3 7 -4)	2.267	1.034	2.19	67.5	57.0
[4 -8 11]	(4 2 0)	(3 7 4)	2.267	1.034	2.19	54.8	71.5
[4 -8 13]	(4 2 0)	(-7 3 4)	2.267	1.033	2.19	56.7	67.9
[4 -8 1]	(4 2 0)	(7 3 -4)	2.267	1.033	2.19	50.8	89.0
[3 -6 -14]	(4 2 0)	(-6 4 -3)	2.267	1.032	2.20	45.3	54.7
[3 -6 2]	(4 2 0)	(6 4 3)	2.267	1.032	2.20	35.5	87.6
[1 -2 4]	(4 2 0)	(-8 -6 -1)	2.267	1.031	2.20	12.5	62.9
[5 -10 8]	(4 2 0)	(4 -2 -5)	2.267	1.030	2.20	78.3	80.2
[1 -2 0]	(4 2 0)	(-4 -2 5)	2.267	1.030	2.20	75.1	87.0
[4 -8 23]	(4 2 0)	(5 -9 -4)	2.267	1.030	2.20	75.4	52.9
[4 -8 -13]	(4 2 0)	(-5 -9 4)	2.267	1.030	2.20	60.0	63.0
[2 -4 3]	(4 2 0)	(9 3 -2)	2.267	1.028	2.21	23.0	81.0
[3 -6 -11]	(4 2 0)	(-7 -9 3)	2.267	1.025	2.21	41.5	60.4
[5 -10 -9]	(4 2 0)	(-1 -5 5)	2.267	1.021	2.22	88.8	73.0
[5 -10 11]	(4 2 0)	(1 -5 -5)	2.267	1.021	2.22	80.9	75.6
[1 -2 -1]	(4 2 0)	(9 5 -1)	2.267	1.021	2.22	11.2	79.1
[5 -10 -8]	(4 2 0)	(0 -4 5)	2.267	1.019	2.23	81.9	74.5
[5 -10 8]	(4 2 0)	(0 -4 -5)	2.267	1.019	2.23	75.6	80.2
[3 -6 20]	(4 2 0)	(8 -6 -3)	2.267	1.018	2.23	49.8	48.5
[3 -6 -4]	(4 2 0)	(-8 -6 3)	2.267	1.018	2.23	36.0	76.5

Grunerite (420) 355 Zone Axes **a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[5 -10 13]	(4 2 0)	(3 -5 -5)	2.267	1.017	2.23	86.9	72.6
[5 -10 -7]	(4 2 0)	(-3 -5 5)	2.267	1.017	2.23	79.1	76.0
[2 -4 7]	(4 2 0)	(7 7 2)	2.267	1.016	2.23	24.6	66.2
[5 -10 -3]	(4 2 0)	(-1 1 -5)	2.267	1.014	2.24	73.4	82.2
[5 -10 1]	(4 2 0)	(1 1 5)	2.267	1.014	2.24	71.8	88.6
[5 -10 12]	(4 2 0)	(-4 4 5)	2.267	1.012	2.24	80.1	74.1
[5 -10 -4]	(4 2 0)	(4 4 -5)	2.267	1.012	2.24	73.7	80.7
[3 -6 13]	(4 2 0)	(-5 -9 -3)	2.267	1.010	2.25	40.5	60.9
[4 -8 17]	(4 2 0)	(7 -5 -4)	2.267	1.008	2.25	59.4	61.4
[4 -8 -3]	(4 2 0)	(-7 -5 4)	2.267	1.008	2.25	49.9	81.1
[5 -10 14]	(4 2 0)	(-2 6 5)	2.267	1.008	2.25	86.3	71.1
[1 -2 -2]	(4 2 0)	(-2 -6 5)	2.267	1.008	2.25	84.4	71.6
[2 -4 11]	(4 2 0)	(6 -8 -4)	2.267	1.008	2.25	68.7	54.2
[2 -4 -5]	(4 2 0)	(-6 -8 4)	2.267	1.008	2.25	54.5	68.0
[2 -4 -1]	(4 2 0)	(9 5 -2)	2.267	1.003	2.26	22.2	83.0
[5 -10 7]	(4 2 0)	(-5 1 5)	2.267	1.003	2.26	71.7	81.8
[5 -10 3]	(4 2 0)	(5 1 -5)	2.267	1.003	2.26	70.1	88.1
[5 -10 -7]	(4 2 0)	(-1 3 -5)	2.267	1.002	2.26	75.2	76.0
[1 -2 1]	(4 2 0)	(1 3 5)	2.267	1.002	2.26	70.4	84.9

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[4 -1 0]	(2 8 0)	(0 0 1)	2.064	5.224	0.39	84.8	79.3
[4 -1 5]	(2 8 0)	(1 -1 -1)	2.064	4.846	0.43	84.7	65.7
[4 -1 3]	(2 8 0)	(1 1 -1)	2.064	4.846	0.43	67.6	79.0
[4 -1 2]	(2 8 0)	(0 -2 -1)	2.064	4.542	0.45	58.5	86.2
[4 -1 -5]	(2 8 0)	(1 -1 1)	2.064	4.102	0.50	86.3	50.3
[4 -1 -3]	(2 8 0)	(-1 -1 -1)	2.064	4.102	0.50	62.3	60.2
[4 -1 8]	(2 8 0)	(2 0 -1)	2.064	3.909	0.53	72.5	50.1
[4 -1 7]	(2 8 0)	(1 -3 -1)	2.064	3.886	0.53	63.0	54.7
[4 -1 1]	(2 8 0)	(1 3 -1)	2.064	3.886	0.53	46.8	86.5
[4 -1 6]	(2 8 0)	(-2 -2 1)	2.064	3.597	0.57	51.1	59.9
[4 -1 -1]	(2 8 0)	(1 3 1)	2.064	3.469	0.59	43.0	72.4
[4 -1 -4]	(2 8 0)	(0 4 -1)	2.064	3.452	0.60	52.1	55.0
[4 -1 4]	(2 8 0)	(0 -4 -1)	2.064	3.452	0.60	42.8	72.1
[4 -1 -6]	(2 8 0)	(2 2 1)	2.064	3.002	0.69	51.1	46.3
[4 -1 4]	(2 8 0)	(-2 -4 1)	2.064	2.978	0.69	35.9	72.1
[4 -1 9]	(2 8 0)	(-1 5 1)	2.064	2.968	0.70	50.5	46.1
[4 -1 -1]	(2 8 0)	(-1 -5 1)	2.064	2.968	0.70	35.7	72.4
[4 -1 1]	(2 8 0)	(1 5 1)	2.064	2.769	0.75	31.3	86.5
[4 -1 9]	(2 8 0)	(-3 -3 1)	2.064	2.666	0.77	43.9	46.1
[4 -1 -6]	(2 8 0)	(0 6 -1)	2.064	2.644	0.78	43.3	46.3
[4 -1 6]	(2 8 0)	(0 -6 -1)	2.064	2.644	0.78	34.9	59.9
[8 -2 5]	(2 8 0)	(-1 1 2)	2.064	2.635	0.78	84.5	82.5
[8 -2 3]	(2 8 0)	(-1 -1 2)	2.064	2.635	0.78	80.7	89.8
[4 -1 -4]	(2 8 0)	(2 4 1)	2.064	2.613	0.79	36.7	55.0
[4 -1 -1]	(2 8 0)	(0 2 -2)	2.064	2.513	0.82	80.9	72.4
[4 -1 1]	(2 8 0)	(0 -2 -2)	2.064	2.513	0.82	70.6	86.5
[4 -1 4]	(2 8 0)	(2 0 -2)	2.064	2.512	0.82	81.4	72.1
[8 -2 7]	(2 8 0)	(1 -3 -2)	2.064	2.442	0.85	70.9	75.5
[8 -2 1]	(2 8 0)	(1 3 -2)	2.064	2.442	0.85	67.2	82.9
[8 -2 -3]	(2 8 0)	(-1 -1 -2)	2.064	2.372	0.87	71.9	69.1
[4 -1 -3]	(2 8 0)	(1 7 -1)	2.064	2.328	0.89	30.2	60.2
[4 -1 7]	(2 8 0)	(-3 -5 1)	2.064	2.306	0.89	31.9	54.7
[4 -1 3]	(2 8 0)	(1 7 1)	2.064	2.229	0.93	25.2	79.0
[8 -2 -7]	(2 8 0)	(1 -3 2)	2.064	2.228	0.93	81.7	57.5
[8 -2 -1]	(2 8 0)	(1 3 2)	2.064	2.228	0.93	59.4	75.8
[8 -2 13]	(2 8 0)	(3 -1 -2)	2.064	2.227	0.93	82.6	57.3
[8 -2 11]	(2 8 0)	(3 1 -2)	2.064	2.227	0.93	69.8	62.8
[4 -1 -2]	(2 8 0)	(-2 -6 -1)	2.064	2.206	0.94	26.9	66.0
[4 -1 6]	(2 8 0)	(-2 4 2)	2.064	2.204	0.94	72.6	59.9
[4 -1 2]	(2 8 0)	(-2 -4 2)	2.064	2.204	0.94	55.9	86.2
[8 -2 9]	(2 8 0)	(-1 5 2)	2.064	2.157	0.96	60.0	68.8
[8 -2 -1]	(2 8 0)	(-1 -5 2)	2.064	2.157	0.96	56.4	75.8
[8 -2 15]	(2 8 0)	(-3 3 2)	2.064	2.107	0.98	85.2	52.4
[8 -2 9]	(2 8 0)	(3 3 -2)	2.064	2.107	0.98	57.8	68.8
[4 -1 8]	(2 8 0)	(0 -8 -1)	2.064	2.104	0.98	30.9	50.1
[4 -1 -4]	(2 8 0)	(2 0 2)	2.064	2.104	0.98	74.3	55.0
[4 -1 -3]	(2 8 0)	(0 -6 2)	2.064	1.988	1.04	59.1	60.2
[4 -1 3]	(2 8 0)	(0 6 2)	2.064	1.988	1.04	49.4	79.0

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[4 -1 5]	(2 8 0)	(3 7 -1)	2.064	1.965	1.05	23.8	65.7
[8 -2 7]	(2 8 0)	(-3 -5 2)	2.064	1.915	1.08	47.8	75.5
[4 -1 -6]	(2 8 0)	(-2 4 -2)	2.064	1.913	1.08	82.7	46.3
[4 -1 -2]	(2 8 0)	(-2 -4 -2)	2.064	1.913	1.08	51.7	66.0
[4 -1 9]	(2 8 0)	(4 -2 -2)	2.064	1.912	1.08	83.8	46.1
[4 -1 7]	(2 8 0)	(4 2 -2)	2.064	1.912	1.08	61.3	54.7
[4 -1 -5]	(2 8 0)	(-1 -9 1)	2.064	1.893	1.09	27.4	50.3
[8 -2 11]	(2 8 0)	(-1 7 2)	2.064	1.870	1.10	52.0	62.8
[8 -2 -3]	(2 8 0)	(-1 -7 2)	2.064	1.870	1.10	48.6	69.1
[4 -1 0]	(2 8 0)	(-2 -8 -1)	2.064	1.862	1.11	20.8	79.3
[4 -1 5]	(2 8 0)	(1 9 1)	2.064	1.838	1.12	22.2	65.7
[8 -2 -11]	(2 8 0)	(-3 -1 -2)	2.064	1.817	1.14	65.9	48.2
[4 -1 -5]	(2 8 0)	(-3 -7 -1)	2.064	1.797	1.15	25.9	50.3
[4 -1 1]	(2 8 0)	(1 1 -3)	2.064	1.771	1.17	85.6	86.5
[12 -3 5]	(2 8 0)	(1 -1 -3)	2.064	1.771	1.17	84.5	88.6
[8 -2 -11]	(2 8 0)	(-1 7 -2)	2.064	1.769	1.17	62.7	48.2
[8 -2 3]	(2 8 0)	(-1 -7 -2)	2.064	1.769	1.17	41.5	89.8
[12 -3 8]	(2 8 0)	(2 0 -3)	2.064	1.755	1.18	85.8	81.3
[8 -2 -9]	(2 8 0)	(-3 -3 -2)	2.064	1.750	1.18	55.6	52.6
[12 -3 -2]	(2 8 0)	(0 2 -3)	2.064	1.711	1.21	85.5	74.7
[12 -3 2]	(2 8 0)	(0 -2 -3)	2.064	1.711	1.21	75.2	84.1
[12 -3 1]	(2 8 0)	(1 3 -3)	2.064	1.709	1.21	76.0	81.7
[12 -3 7]	(2 8 0)	(-1 3 3)	2.064	1.709	1.21	75.0	83.7
[8 -2 5]	(2 8 0)	(-3 -7 2)	2.064	1.706	1.21	40.1	82.5
[4 -1 8]	(2 8 0)	(-2 8 2)	2.064	1.696	1.22	55.9	50.1
[4 -1 0]	(2 8 0)	(2 8 -2)	2.064	1.696	1.22	40.3	79.3
[4 -1 3]	(2 8 0)	(-3 -9 1)	2.064	1.682	1.23	18.7	79.0
[12 -3 13]	(2 8 0)	(3 -1 -3)	2.064	1.668	1.24	86.1	69.9
[12 -3 11]	(2 8 0)	(3 1 -3)	2.064	1.668	1.24	76.7	74.3
[4 -1 5]	(2 8 0)	(-4 -6 2)	2.064	1.648	1.25	42.6	65.7
[12 -3 -5]	(2 8 0)	(1 -1 3)	2.064	1.645	1.25	85.2	68.1
[4 -1 -1]	(2 8 0)	(-1 -1 -3)	2.064	1.645	1.25	75.9	72.4
[4 -1 4]	(2 8 0)	(-2 4 3)	2.064	1.639	1.26	75.5	72.1
[12 -3 4]	(2 8 0)	(-2 -4 3)	2.064	1.639	1.26	67.1	88.9
[8 -2 -7]	(2 8 0)	(3 5 2)	2.064	1.636	1.26	46.6	57.5
[8 -2 17]	(2 8 0)	(-5 -3 2)	2.064	1.635	1.26	55.4	48.0
[4 -1 8]	(2 8 0)	(4 8 -1)	2.064	1.633	1.26	23.5	50.1
[12 -3 -4]	(2 8 0)	(0 -4 3)	2.064	1.629	1.27	76.5	70.2
[12 -3 4]	(2 8 0)	(0 4 3)	2.064	1.629	1.27	66.2	88.9
[8 -2 13]	(2 8 0)	(-1 9 2)	2.064	1.621	1.27	46.2	57.3
[8 -2 -5]	(2 8 0)	(-1 -9 2)	2.064	1.621	1.27	43.0	63.0
[12 -3 -1]	(2 8 0)	(1 5 -3)	2.064	1.602	1.29	67.5	77.0
[4 -1 3]	(2 8 0)	(1 -5 -3)	2.064	1.602	1.29	66.5	79.0
[12 -3 -7]	(2 8 0)	(-1 3 -3)	2.064	1.595	1.29	85.7	64.0
[12 -3 -1]	(2 8 0)	(-1 -3 -3)	2.064	1.595	1.29	66.9	77.0
[4 -1 -3]	(2 8 0)	(3 9 1)	2.064	1.573	1.31	19.9	60.2
[12 -3 16]	(2 8 0)	(-4 0 3)	2.064	1.559	1.32	77.7	63.7
[8 -2 5]	(2 8 0)	(1 9 2)	2.064	1.554	1.33	35.9	82.5

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[4 -1 0]	(2 8 0)	(2 8 2)	2.064	1.552	1.33	36.3	79.3
[8 -2 15]	(2 8 0)	(-5 -5 2)	2.064	1.540	1.34	46.8	52.4
[4 -1 6]	(2 8 0)	(4 -2 -3)	2.064	1.537	1.34	86.6	59.9
[12 -3 14]	(2 8 0)	(4 2 -3)	2.064	1.537	1.34	68.9	67.8
[12 -3 -8]	(2 8 0)	(-2 0 -3)	2.064	1.532	1.35	77.0	62.1
[12 -3 17]	(2 8 0)	(-3 5 3)	2.064	1.524	1.35	76.4	61.8
[12 -3 7]	(2 8 0)	(-3 -5 3)	2.064	1.524	1.35	59.5	83.7
[12 -3 14]	(2 8 0)	(-2 6 3)	2.064	1.523	1.36	67.6	67.8
[12 -3 2]	(2 8 0)	(-2 -6 3)	2.064	1.523	1.36	59.3	84.1
[12 -3 -10]	(2 8 0)	(2 -2 3)	2.064	1.511	1.37	85.8	58.4
[4 -1 -2]	(2 8 0)	(2 2 3)	2.064	1.511	1.37	68.4	66.0
[8 -2 3]	(2 8 0)	(-3 -9 2)	2.064	1.511	1.37	34.5	89.8
[4 -1 -3]	(2 8 0)	(-1 5 -3)	2.064	1.507	1.37	77.4	60.2
[12 -3 1]	(2 8 0)	(-1 -5 -3)	2.064	1.507	1.37	58.8	81.7
[8 -2 -5]	(2 8 0)	(-3 -7 -2)	2.064	1.500	1.38	39.1	63.0
[12 -3 20]	(2 8 0)	(4 -4 -3)	2.064	1.477	1.40	85.0	56.4
[4 -1 4]	(2 8 0)	(4 4 -3)	2.064	1.477	1.40	60.7	72.1
[4 -1 -1]	(2 8 0)	(-1 -7 3)	2.064	1.473	1.40	60.3	72.4
[12 -3 11]	(2 8 0)	(-1 7 3)	2.064	1.473	1.40	59.3	74.3
[4 -1 -4]	(2 8 0)	(2 -4 3)	2.064	1.454	1.42	85.9	55.0
[12 -3 -4]	(2 8 0)	(2 4 3)	2.064	1.454	1.42	60.2	70.2
[4 -1 7]	(2 8 0)	(5 -1 -3)	2.064	1.426	1.45	78.9	54.7
[12 -3 19]	(2 8 0)	(-5 -1 3)	2.064	1.426	1.45	70.7	58.1
[8 -2 13]	(2 8 0)	(5 7 -2)	2.064	1.425	1.45	39.4	57.3
[12 -3 19]	(2 8 0)	(3 -7 -3)	2.064	1.412	1.46	69.1	58.1
[12 -3 5]	(2 8 0)	(3 7 -3)	2.064	1.412	1.46	52.5	88.6
[4 -1 -5]	(2 8 0)	(-4 -6 -2)	2.064	1.410	1.46	43.3	50.3
[12 -3 -11]	(2 8 0)	(-1 7 -3)	2.064	1.398	1.48	70.2	56.6
[4 -1 1]	(2 8 0)	(-1 -7 -3)	2.064	1.398	1.48	51.9	86.5
[12 -3 -13]	(2 8 0)	(3 -1 3)	2.064	1.398	1.48	78.3	53.4
[12 -3 -11]	(2 8 0)	(-3 -1 -3)	2.064	1.398	1.48	70.2	56.6
[12 -3 16]	(2 8 0)	(-2 8 3)	2.064	1.395	1.48	60.9	63.7
[4 -1 0]	(2 8 0)	(-2 -8 3)	2.064	1.395	1.48	52.9	79.3
[12 -3 23]	(2 8 0)	(5 -3 -3)	2.064	1.393	1.48	87.0	51.6
[12 -3 17]	(2 8 0)	(-5 -3 3)	2.064	1.393	1.48	62.7	61.8
[12 -3 22]	(2 8 0)	(-4 6 3)	2.064	1.390	1.48	77.4	53.1
[12 -3 10]	(2 8 0)	(-4 -6 3)	2.064	1.390	1.48	53.4	76.6
[12 -3 -8]	(2 8 0)	(0 8 -3)	2.064	1.388	1.49	62.0	62.1
[12 -3 8]	(2 8 0)	(0 -8 -3)	2.064	1.388	1.49	52.1	81.3
[12 -3 -14]	(2 8 0)	(-2 6 -3)	2.064	1.370	1.51	78.4	51.8
[12 -3 -2]	(2 8 0)	(-2 -6 -3)	2.064	1.370	1.51	53.0	74.7
[8 -2 -3]	(2 8 0)	(3 9 2)	2.064	1.362	1.52	33.1	69.1
[12 -3 -5]	(2 8 0)	(-1 -9 3)	2.064	1.342	1.54	54.4	68.1
[12 -3 13]	(2 8 0)	(-1 9 3)	2.064	1.342	1.54	53.4	69.9
[12 -3 25]	(2 8 0)	(5 -5 -3)	2.064	1.333	1.55	85.4	48.7
[4 -1 5]	(2 8 0)	(5 5 -3)	2.064	1.333	1.55	55.3	65.7
[16 -4 3]	(2 8 0)	(-1 -1 4)	2.064	1.328	1.55	88.0	84.7
[16 -4 5]	(2 8 0)	(-1 1 4)	2.064	1.328	1.55	84.6	88.3

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[12 -3 -17]	(2 8 0)	(-3 5 -3)	2.064	1.310	1.57	86.2	47.6
[12 -3 -7]	(2 8 0)	(-3 -5 -3)	2.064	1.310	1.57	55.0	64.0
[8 -2 11]	(2 8 0)	(5 9 -2)	2.064	1.305	1.58	33.4	62.8
[16 -4 7]	(2 8 0)	(1 -3 -4)	2.064	1.301	1.59	77.3	88.0
[16 -4 13]	(2 8 0)	(3 -1 -4)	2.064	1.301	1.59	88.3	77.2
[16 -4 11]	(2 8 0)	(-3 -1 4)	2.064	1.301	1.59	81.0	80.7
[8 -2 -1]	(2 8 0)	(0 2 -4)	2.064	1.293	1.60	87.9	75.8
[8 -2 1]	(2 8 0)	(0 -2 -4)	2.064	1.293	1.60	77.5	82.9
[4 -1 8]	(2 8 0)	(-4 8 3)	2.064	1.291	1.60	70.9	50.1
[12 -3 8]	(2 8 0)	(-4 -8 3)	2.064	1.291	1.60	47.2	81.3
[12 -3 26]	(2 8 0)	(6 -2 -3)	2.064	1.290	1.60	80.1	47.4
[12 -3 22]	(2 8 0)	(6 2 -3)	2.064	1.290	1.60	65.0	53.1
[12 -3 -13]	(2 8 0)	(1 -9 3)	2.064	1.285	1.61	64.1	53.4
[12 -3 5]	(2 8 0)	(1 9 3)	2.064	1.285	1.61	46.2	88.6
[4 -1 3]	(2 8 0)	(2 -4 -4)	2.064	1.279	1.61	77.4	79.0
[4 -1 1]	(2 8 0)	(2 4 -4)	2.064	1.279	1.61	73.7	86.5
[12 -3 -16]	(2 8 0)	(4 0 3)	2.064	1.277	1.62	72.1	48.9
[16 -4 15]	(2 8 0)	(3 -3 -4)	2.064	1.276	1.62	84.5	73.8
[16 -4 9]	(2 8 0)	(3 3 -4)	2.064	1.276	1.62	73.8	84.3
[12 -3 -16]	(2 8 0)	(2 -8 3)	2.064	1.275	1.62	71.9	48.9
[4 -1 0]	(2 8 0)	(2 8 3)	2.064	1.275	1.62	46.8	79.3
[4 -1 -6]	(2 8 0)	(-4 2 -3)	2.064	1.264	1.63	79.6	46.3
[12 -3 -14]	(2 8 0)	(4 2 3)	2.064	1.264	1.63	64.7	51.8
[16 -4 -3]	(2 8 0)	(1 1 4)	2.064	1.256	1.64	78.0	74.1
[12 -3 20]	(2 8 0)	(-6 -4 3)	2.064	1.254	1.65	57.7	56.4
[16 -4 -1]	(2 8 0)	(1 5 -4)	2.064	1.252	1.65	73.9	77.5
[16 -4 9]	(2 8 0)	(1 -5 -4)	2.064	1.252	1.65	70.5	84.3
[4 -1 8]	(2 8 0)	(6 8 -2)	2.064	1.245	1.66	37.4	50.1
[8 -2 9]	(2 8 0)	(-4 2 4)	2.064	1.244	1.66	88.5	68.8
[8 -2 7]	(2 8 0)	(4 2 -4)	2.064	1.244	1.66	74.4	75.5
[12 -3 -19]	(2 8 0)	(3 -7 3)	2.064	1.237	1.67	79.4	45.0
[12 -3 -5]	(2 8 0)	(3 7 3)	2.064	1.237	1.67	48.5	68.1
[16 -4 -7]	(2 8 0)	(-1 3 -4)	2.064	1.233	1.67	87.9	67.6
[16 -4 -1]	(2 8 0)	(-1 -3 -4)	2.064	1.233	1.67	71.1	77.5
[4 -1 -4]	(2 8 0)	(4 4 3)	2.064	1.230	1.68	57.6	55.0
[16 -4 17]	(2 8 0)	(3 -5 -4)	2.064	1.229	1.68	77.8	70.5
[16 -4 7]	(2 8 0)	(3 5 -4)	2.064	1.229	1.68	67.2	88.0
[16 -4 -9]	(2 8 0)	(1 -5 4)	2.064	1.191	1.73	81.3	64.5
[16 -4 1]	(2 8 0)	(1 5 4)	2.064	1.191	1.73	64.6	81.1
[16 -4 21]	(2 8 0)	(5 -1 -4)	2.064	1.190	1.73	82.0	64.2
[16 -4 19]	(2 8 0)	(-5 -1 4)	2.064	1.190	1.73	75.2	67.3
[16 -4 -3]	(2 8 0)	(1 7 -4)	2.064	1.188	1.74	67.7	74.1
[16 -4 11]	(2 8 0)	(1 -7 -4)	2.064	1.188	1.74	64.4	80.7
[4 -1 9]	(2 8 0)	(7 1 -3)	2.064	1.183	1.75	67.3	46.1
[12 -3 -10]	(2 8 0)	(-4 -6 -3)	2.064	1.179	1.75	51.0	58.4
[12 -3 11]	(2 8 0)	(5 9 -3)	2.064	1.172	1.76	43.1	74.3
[16 -4 23]	(2 8 0)	(-5 3 4)	2.064	1.171	1.76	88.7	61.3
[16 -4 17]	(2 8 0)	(5 3 -4)	2.064	1.171	1.76	68.5	70.5

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C
[16 -4 19]	(2 8 0)	(3 -7 -4)	2.064	1.168	1.77	71.6	67.3
[16 -4 5]	(2 8 0)	(3 7 -4)	2.064	1.168	1.77	61.1	88.3
[12 -3 25]	(2 8 0)	(-7 -3 3)	2.064	1.163	1.77	60.4	48.7
[8 -2 11]	(2 8 0)	(-4 6 4)	2.064	1.162	1.78	78.3	62.8
[8 -2 5]	(2 8 0)	(-4 -6 4)	2.064	1.162	1.78	61.4	82.5
[12 -3 -19]	(2 8 0)	(5 1 3)	2.064	1.159	1.78	67.0	45.0
[4 -1 -3]	(2 8 0)	(-2 4 -4)	2.064	1.157	1.78	87.9	60.2
[4 -1 -1]	(2 8 0)	(-2 -4 -4)	2.064	1.157	1.78	65.5	72.4
[4 -1 4]	(2 8 0)	(-2 8 4)	2.064	1.152	1.79	65.1	72.1
[4 -1 0]	(2 8 0)	(-2 -8 4)	2.064	1.152	1.79	61.4	79.3
[8 -2 -11]	(2 8 0)	(5 9 2)	2.064	1.150	1.79	35.3	48.2
[12 -3 -17]	(2 8 0)	(-5 -3 -3)	2.064	1.141	1.81	60.3	47.6
[16 -4 25]	(2 8 0)	(-5 5 4)	2.064	1.134	1.82	84.9	58.6
[16 -4 15]	(2 8 0)	(-5 -5 4)	2.064	1.134	1.82	62.3	73.8
[12 -3 16]	(2 8 0)	(6 8 -3)	2.064	1.134	1.82	45.3	63.7
[12 -3 23]	(2 8 0)	(-7 -5 3)	2.064	1.128	1.83	54.0	51.6
[16 -4 -13]	(2 8 0)	(3 -1 4)	2.064	1.123	1.84	79.5	58.8
[16 -4 -11]	(2 8 0)	(3 1 4)	2.064	1.123	1.84	73.0	61.6
[4 -1 6]	(2 8 0)	(-6 0 4)	2.064	1.122	1.84	76.2	59.9
[12 -3 -8]	(2 8 0)	(4 8 3)	2.064	1.116	1.85	45.2	62.1
[16 -4 -5]	(2 8 0)	(-1 -9 4)	2.064	1.116	1.85	62.3	70.8
[16 -4 13]	(2 8 0)	(-1 9 4)	2.064	1.116	1.85	59.0	77.2
[16 -4 -9]	(2 8 0)	(-3 -3 -4)	2.064	1.107	1.86	66.7	64.5
[16 -4 21]	(2 8 0)	(-3 9 4)	2.064	1.099	1.88	66.2	64.2
[16 -4 3]	(2 8 0)	(-3 -9 4)	2.064	1.099	1.88	55.8	84.7
[4 -1 7]	(2 8 0)	(6 -4 -4)	2.064	1.090	1.89	88.9	54.7
[4 -1 5]	(2 8 0)	(-6 -4 4)	2.064	1.090	1.89	63.6	65.7
[16 -4 27]	(2 8 0)	(-5 7 4)	2.064	1.086	1.90	79.0	56.0
[16 -4 13]	(2 8 0)	(-5 -7 4)	2.064	1.086	1.90	56.5	77.2
[4 -1 7]	(2 8 0)	(7 7 -3)	2.064	1.080	1.91	48.0	54.7
[16 -4 -17]	(2 8 0)	(3 -5 4)	2.064	1.076	1.92	88.0	53.8
[16 -4 -7]	(2 8 0)	(3 5 4)	2.064	1.076	1.92	60.7	67.6
[16 -4 -13]	(2 8 0)	(1 -9 4)	2.064	1.072	1.93	69.8	58.8
[16 -4 5]	(2 8 0)	(1 9 4)	2.064	1.072	1.93	53.4	88.3
[20 -5 8]	(2 8 0)	(-2 0 5)	2.064	1.068	1.93	89.6	89.1
[12 -3 -13]	(2 8 0)	(5 7 3)	2.064	1.062	1.94	48.1	53.4
[20 -5 3]	(2 8 0)	(-1 -1 5)	2.064	1.061	1.94	89.5	83.6
[4 -1 1]	(2 8 0)	(-1 1 5)	2.064	1.061	1.94	84.6	86.5
[4 -1 -4]	(2 8 0)	(2 -8 4)	2.064	1.061	1.95	76.1	55.0
[4 -1 0]	(2 8 0)	(2 8 4)	2.064	1.061	1.95	54.0	79.3
[4 -1 2]	(2 8 0)	(2 -2 -5)	2.064	1.060	1.95	84.5	86.2
[20 -5 6]	(2 8 0)	(2 2 -5)	2.064	1.060	1.95	83.6	88.0
[20 -5 13]	(2 8 0)	(3 -1 -5)	2.064	1.057	1.95	89.7	81.8
[20 -5 11]	(2 8 0)	(-3 -1 5)	2.064	1.057	1.95	83.7	84.7
[20 -5 7]	(2 8 0)	(1 -3 -5)	2.064	1.047	1.97	78.8	89.4
[16 -4 29]	(2 8 0)	(7 -1 -4)	2.064	1.047	1.97	77.2	53.5
[16 -4 27]	(2 8 0)	(-7 -1 4)	2.064	1.047	1.97	71.1	56.0
[8 -2 -9]	(2 8 0)	(4 -2 4)	2.064	1.045	1.97	80.3	52.6

Grunerite (280) 279 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[8 -2 -7]	(2 8 0)	(-4 -2 -4)	2.064	1.045	1.97	68.2	57.5
[4 -1 3]	(2 8 0)	(-3 3 5)	2.064	1.043	1.98	84.5	79.0
[20 -5 9]	(2 8 0)	(-3 -3 5)	2.064	1.043	1.98	77.9	87.6
[20 -5 12]	(2 8 0)	(-2 4 5)	2.064	1.040	1.98	78.7	83.3
[20 -5 4]	(2 8 0)	(-2 -4 5)	2.064	1.040	1.98	77.8	85.0
[20 -5 -2]	(2 8 0)	(0 2 -5)	2.064	1.038	1.99	89.4	76.5
[20 -5 2]	(2 8 0)	(0 -2 -5)	2.064	1.038	1.99	79.0	82.2
[20 -5 16]	(2 8 0)	(4 0 -5)	2.064	1.037	1.99	84.0	77.6
[16 -4 -19]	(2 8 0)	(3 -7 4)	2.064	1.034	2.00	82.2	51.4
[16 -4 -5]	(2 8 0)	(3 7 4)	2.064	1.034	2.00	55.2	70.8
[16 -4 31]	(2 8 0)	(7 -3 -4)	2.064	1.033	2.00	83.2	51.2
[16 -4 25]	(2 8 0)	(-7 -3 4)	2.064	1.033	2.00	65.1	58.6
[20 -5 18]	(2 8 0)	(4 -2 -5)	2.064	1.030	2.00	89.8	74.8
[20 -5 14]	(2 8 0)	(-4 -2 5)	2.064	1.030	2.00	78.2	80.4
[16 -4 29]	(2 8 0)	(-5 9 4)	2.064	1.030	2.00	73.7	53.5
[16 -4 11]	(2 8 0)	(-5 -9 4)	2.064	1.030	2.00	51.4	80.7
[12 -3 19]	(2 8 0)	(7 9 -3)	2.064	1.025	2.01	42.7	58.1
[20 -5 -1]	(2 8 0)	(-1 -5 5)	2.064	1.021	2.02	78.0	77.9
[20 -5 9]	(2 8 0)	(-1 5 5)	2.064	1.021	2.02	73.2	87.6
[20 -5 -4]	(2 8 0)	(0 -4 5)	2.064	1.019	2.03	83.7	73.8
[20 -5 4]	(2 8 0)	(0 4 5)	2.064	1.019	2.03	73.3	85.0
[12 -3 26]	(2 8 0)	(-8 -6 3)	2.064	1.018	2.03	51.0	47.4
[20 -5 17]	(2 8 0)	(-3 5 5)	2.064	1.017	2.03	78.9	76.2
[20 -5 7]	(2 8 0)	(-3 -5 5)	2.064	1.017	2.03	72.3	89.4
[4 -1 -1]	(2 8 0)	(1 -1 5)	2.064	1.014	2.03	85.0	72.4
[20 -5 -3]	(2 8 0)	(1 1 5)	2.064	1.014	2.03	79.3	75.1
[4 -1 4]	(2 8 0)	(4 -4 -5)	2.064	1.012	2.04	84.6	72.1
[20 -5 12]	(2 8 0)	(4 4 -5)	2.064	1.012	2.04	72.5	83.3
[12 -3 -11]	(2 8 0)	(-5 -9 -3)	2.064	1.010	2.04	42.8	56.6
[16 -4 33]	(2 8 0)	(7 -5 -4)	2.064	1.008	2.05	89.1	49.1
[16 -4 23]	(2 8 0)	(-7 -5 4)	2.064	1.008	2.05	59.4	61.3
[20 -5 14]	(2 8 0)	(-2 6 5)	2.064	1.008	2.05	73.3	80.4
[20 -5 2]	(2 8 0)	(-2 -6 5)	2.064	1.008	2.05	72.4	82.2
[4 -1 8]	(2 8 0)	(-6 8 4)	2.064	1.008	2.05	79.7	50.1
[4 -1 4]	(2 8 0)	(-6 -8 4)	2.064	1.008	2.05	52.5	72.1
[20 -5 21]	(2 8 0)	(5 -1 -5)	2.064	1.003	2.06	84.3	70.8
[20 -5 19]	(2 8 0)	(-5 -1 5)	2.064	1.003	2.06	78.6	73.4
[20 -5 -7]	(2 8 0)	(-1 3 -5)	2.064	1.002	2.06	89.3	69.8
[20 -5 -1]	(2 8 0)	(-1 -3 -5)	2.064	1.002	2.06	73.7	77.9

Grunerite (370) 300 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[7 -3 0]	(3 7 0)	(0 0 1)	2.010	5.224	0.38	82.4	80.8
[7 -3 10]	(3 7 0)	(1 -1 -1)	2.010	4.846	0.41	89.5	65.2
[7 -3 4]	(3 7 0)	(-1 -1 1)	2.010	4.846	0.41	65.7	85.0
[7 -3 -6]	(3 7 0)	(0 2 -1)	2.010	4.542	0.44	74.8	61.9
[7 -3 6]	(3 7 0)	(0 -2 -1)	2.010	4.542	0.44	60.4	78.0
[7 -3 -10]	(3 7 0)	(1 -1 1)	2.010	4.102	0.49	77.5	51.9
[7 -3 -4]	(3 7 0)	(-1 -1 -1)	2.010	4.102	0.49	56.1	67.7
[7 -3 14]	(3 7 0)	(2 0 -1)	2.010	3.909	0.51	64.0	54.6
[7 -3 16]	(3 7 0)	(1 -3 -1)	2.010	3.886	0.52	71.6	50.1
[7 -3 -2]	(3 7 0)	(1 3 -1)	2.010	3.886	0.52	49.2	74.1
[7 -3 8]	(3 7 0)	(-2 -2 1)	2.010	3.597	0.56	45.3	71.3
[7 -3 2]	(3 7 0)	(1 3 1)	2.010	3.469	0.58	40.6	87.9
[7 -3 -12]	(3 7 0)	(0 -4 1)	2.010	3.452	0.58	60.9	47.7
[7 -3 12]	(3 7 0)	(0 4 1)	2.010	3.452	0.58	48.6	59.6
[7 -3 -8]	(3 7 0)	(2 2 1)	2.010	3.002	0.67	42.3	56.6
[7 -3 2]	(3 7 0)	(-2 -4 1)	2.010	2.978	0.67	33.9	87.9
[7 -3 -8]	(3 7 0)	(1 5 -1)	2.010	2.968	0.68	41.8	56.6
[7 -3 18]	(3 7 0)	(-3 -1 1)	2.010	2.923	0.69	49.4	46.1
[7 -3 8]	(3 7 0)	(1 5 1)	2.010	2.769	0.73	33.2	71.3
[7 -3 12]	(3 7 0)	(-3 -3 1)	2.010	2.666	0.75	35.4	59.6
[7 -3 18]	(3 7 0)	(0 6 1)	2.010	2.644	0.76	43.4	46.1
[7 -3 5]	(3 7 0)	(1 -1 -2)	2.010	2.635	0.76	86.4	81.4
[7 -3 2]	(3 7 0)	(1 1 -2)	2.010	2.635	0.76	81.0	87.9
[7 -3 -2]	(3 7 0)	(-2 -4 -1)	2.010	2.613	0.77	30.6	74.1
[7 -3 -3]	(3 7 0)	(0 2 -2)	2.010	2.513	0.80	85.3	70.8
[7 -3 3]	(3 7 0)	(0 -2 -2)	2.010	2.513	0.80	70.3	88.5
[7 -3 7]	(3 7 0)	(2 0 -2)	2.010	2.512	0.80	77.4	74.6
[7 -3 8]	(3 7 0)	(1 -3 -2)	2.010	2.442	0.82	74.9	71.3
[7 -3 -1]	(3 7 0)	(1 3 -2)	2.010	2.442	0.82	69.6	77.4
[7 -3 -2]	(3 7 0)	(1 1 2)	2.010	2.372	0.85	67.5	74.1
[7 -3 6]	(3 7 0)	(-3 -5 1)	2.010	2.306	0.87	26.2	78.0
[7 -3 -12]	(3 7 0)	(3 3 1)	2.010	2.286	0.88	35.4	47.7
[7 -3 14]	(3 7 0)	(-1 -7 -1)	2.010	2.229	0.90	30.8	54.6
[7 -3 -8]	(3 7 0)	(-1 3 -2)	2.010	2.228	0.90	89.3	56.6
[7 -3 1]	(3 7 0)	(-1 -3 -2)	2.010	2.228	0.90	57.0	84.4
[7 -3 12]	(3 7 0)	(3 -1 -2)	2.010	2.227	0.90	75.3	59.6
[7 -3 9]	(3 7 0)	(3 1 -2)	2.010	2.227	0.90	63.9	68.2
[7 -3 4]	(3 7 0)	(-2 -6 -1)	2.010	2.206	0.91	24.5	85.0
[7 -3 13]	(3 7 0)	(-2 4 2)	2.010	2.204	0.91	79.9	57.0
[7 -3 1]	(3 7 0)	(-2 -4 2)	2.010	2.204	0.91	56.1	84.4
[7 -3 11]	(3 7 0)	(-1 5 2)	2.010	2.157	0.93	65.8	62.3
[7 -3 -4]	(3 7 0)	(-1 -5 2)	2.010	2.157	0.93	60.8	67.7
[7 -3 15]	(3 7 0)	(3 -3 -2)	2.010	2.107	0.95	86.3	52.3
[7 -3 6]	(3 7 0)	(-3 -3 2)	2.010	2.107	0.95	53.8	78.0
[7 -3 -7]	(3 7 0)	(2 0 2)	2.010	2.104	0.96	66.6	59.1
[7 -3 16]	(3 7 0)	(-4 -4 1)	2.010	2.072	0.97	30.4	50.1
[7 -3 4]	(3 7 0)	(1 5 2)	2.010	2.005	1.00	48.9	85.0
[7 -3 -9]	(3 7 0)	(0 -6 2)	2.010	1.988	1.01	66.7	54.2

Grunerite (370) 300 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[7 -3 9]	(3 7 0)	(0 6 2)	2.010	1.988	1.01	53.3	68.2
[7 -3 -10]	(3 7 0)	(-2 -8 1)	2.010	1.982	1.01	28.1	51.9
[7 -3 0]	(3 7 0)	(3 7 -1)	2.010	1.965	1.02	21.9	80.8
[7 -3 3]	(3 7 0)	(-3 -5 2)	2.010	1.915	1.05	45.9	88.5
[7 -3 -13]	(3 7 0)	(2 -4 2)	2.010	1.913	1.05	87.6	45.8
[7 -3 -1]	(3 7 0)	(-2 -4 -2)	2.010	1.913	1.05	47.3	77.4
[7 -3 17]	(3 7 0)	(4 -2 -2)	2.010	1.912	1.05	74.3	48.1
[7 -3 11]	(3 7 0)	(-4 -2 2)	2.010	1.912	1.05	54.0	62.3
[7 -3 14]	(3 7 0)	(-1 7 2)	2.010	1.870	1.07	59.3	54.6
[7 -3 -7]	(3 7 0)	(1 7 -2)	2.010	1.870	1.07	54.7	59.1
[7 -3 10]	(3 7 0)	(-2 -8 -1)	2.010	1.862	1.08	22.6	65.2
[7 -3 10]	(3 7 0)	(4 6 -1)	2.010	1.851	1.09	22.4	65.2
[7 -3 -12]	(3 7 0)	(-3 1 -2)	2.010	1.817	1.11	66.9	47.7
[7 -3 -9]	(3 7 0)	(3 1 2)	2.010	1.817	1.11	57.1	54.2
[7 -3 0]	(3 7 0)	(3 7 1)	2.010	1.797	1.12	19.9	80.8
[21 -9 4]	(3 7 0)	(-1 -1 3)	2.010	1.771	1.13	86.5	85.5
[21 -9 10]	(3 7 0)	(-1 1 3)	2.010	1.771	1.13	85.0	87.3
[7 -3 7]	(3 7 0)	(-1 -7 -2)	2.010	1.769	1.14	43.4	74.6
[21 -9 14]	(3 7 0)	(2 0 -3)	2.010	1.755	1.15	83.8	82.6
[7 -3 -6]	(3 7 0)	(-3 -3 -2)	2.010	1.750	1.15	48.0	61.9
[7 -3 -2]	(3 7 0)	(0 -2 3)	2.010	1.711	1.17	89.3	74.1
[7 -3 2]	(3 7 0)	(0 2 3)	2.010	1.711	1.17	74.2	87.9
[21 -9 -2]	(3 7 0)	(-1 -3 3)	2.010	1.709	1.18	78.4	78.5
[21 -9 16]	(3 7 0)	(-1 3 3)	2.010	1.709	1.18	76.9	80.3
[7 -3 0]	(3 7 0)	(-3 -7 2)	2.010	1.706	1.18	40.3	80.8
[7 -3 -5]	(3 7 0)	(2 8 -2)	2.010	1.696	1.19	44.6	64.7
[7 -3 16]	(3 7 0)	(-5 -1 2)	2.010	1.689	1.19	55.6	50.1
[7 -3 -6]	(3 7 0)	(3 9 -1)	2.010	1.682	1.19	20.9	61.9
[7 -3 -10]	(3 7 0)	(-4 -6 -1)	2.010	1.668	1.20	23.4	51.9
[7 -3 8]	(3 7 0)	(3 -1 -3)	2.010	1.668	1.21	81.5	71.3
[7 -3 6]	(3 7 0)	(-3 -1 3)	2.010	1.668	1.21	73.3	78.0
[7 -3 5]	(3 7 0)	(4 6 -2)	2.010	1.648	1.22	38.6	81.4
[21 -9 -10]	(3 7 0)	(-1 1 -3)	2.010	1.645	1.22	80.2	69.8
[21 -9 -4]	(3 7 0)	(1 1 3)	2.010	1.645	1.22	72.1	76.3
[21 -9 26]	(3 7 0)	(2 -4 -3)	2.010	1.639	1.23	80.1	69.2
[21 -9 2]	(3 7 0)	(2 4 -3)	2.010	1.639	1.23	68.1	83.2
[7 -3 -3]	(3 7 0)	(-3 -5 -2)	2.010	1.636	1.23	40.5	70.8
[7 -3 13]	(3 7 0)	(5 3 -2)	2.010	1.635	1.23	46.9	57.0
[7 -3 4]	(3 7 0)	(4 8 -1)	2.010	1.633	1.23	17.9	85.0
[7 -3 -4]	(3 7 0)	(0 -4 3)	2.010	1.629	1.23	81.6	67.7
[7 -3 4]	(3 7 0)	(0 4 3)	2.010	1.629	1.23	66.7	85.0
[7 -3 17]	(3 7 0)	(1 -9 -2)	2.010	1.621	1.24	54.7	48.1
[7 -3 -10]	(3 7 0)	(1 9 -2)	2.010	1.621	1.24	50.5	51.9
[21 -9 -8]	(3 7 0)	(-1 -5 3)	2.010	1.602	1.25	71.3	71.9
[21 -9 22]	(3 7 0)	(-1 5 3)	2.010	1.602	1.25	69.8	73.5
[21 -9 -16]	(3 7 0)	(-1 3 -3)	2.010	1.595	1.26	88.1	63.7
[21 -9 2]	(3 7 0)	(1 3 3)	2.010	1.595	1.26	64.5	83.2
[7 -3 6]	(3 7 0)	(3 9 1)	2.010	1.573	1.28	17.5	78.0

Grunerite (370) 300 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[7 -3 -11]	(3 7 0)	(-4 -2 -2)	2.010	1.565	1.28	50.2	49.7
[21 -9 28]	(3 7 0)	(4 0 -3)	2.010	1.559	1.29	71.9	67.2
[7 -3 10]	(3 7 0)	(-1 -9 -2)	2.010	1.554	1.29	39.9	65.2
[7 -3 5]	(3 7 0)	(2 8 2)	2.010	1.552	1.29	36.0	81.4
[7 -3 10]	(3 7 0)	(-5 -5 2)	2.010	1.540	1.30	39.5	65.2
[21 -9 34]	(3 7 0)	(4 -2 -3)	2.010	1.537	1.31	79.7	61.4
[21 -9 22]	(3 7 0)	(-4 -2 3)	2.010	1.537	1.31	64.3	73.5
[7 -3 14]	(3 7 0)	(5 7 -1)	2.010	1.534	1.31	20.7	54.6
[21 -9 -14]	(3 7 0)	(-2 0 -3)	2.010	1.532	1.31	70.9	65.7
[7 -3 12]	(3 7 0)	(-3 5 3)	2.010	1.524	1.32	83.2	59.6
[7 -3 2]	(3 7 0)	(-3 -5 3)	2.010	1.524	1.32	59.0	87.9
[21 -9 32]	(3 7 0)	(-2 6 3)	2.010	1.523	1.32	73.4	63.3
[21 -9 -4]	(3 7 0)	(-2 -6 3)	2.010	1.523	1.32	61.7	76.3
[21 -9 -20]	(3 7 0)	(2 -2 3)	2.010	1.511	1.33	78.6	60.0
[21 -9 -8]	(3 7 0)	(-2 -2 -3)	2.010	1.511	1.33	63.3	71.9
[7 -3 -3]	(3 7 0)	(3 9 -2)	2.010	1.511	1.33	36.8	70.8
[21 -9 -22]	(3 7 0)	(1 -5 3)	2.010	1.507	1.33	84.6	58.3
[21 -9 8]	(3 7 0)	(1 5 3)	2.010	1.507	1.33	57.9	89.7
[7 -3 -4]	(3 7 0)	(4 8 1)	2.010	1.504	1.34	17.7	67.7
[7 -3 0]	(3 7 0)	(3 7 2)	2.010	1.500	1.34	34.7	80.8
[21 -9 40]	(3 7 0)	(4 -4 -3)	2.010	1.477	1.36	87.2	56.2
[21 -9 16]	(3 7 0)	(4 4 -3)	2.010	1.477	1.36	57.3	80.3
[21 -9 -14]	(3 7 0)	(1 7 -3)	2.010	1.473	1.36	65.3	65.7
[21 -9 28]	(3 7 0)	(1 -7 -3)	2.010	1.473	1.36	63.9	67.2
[21 -9 -26]	(3 7 0)	(-2 4 -3)	2.010	1.454	1.38	86.0	55.0
[21 -9 -2]	(3 7 0)	(2 4 3)	2.010	1.454	1.38	56.4	78.5
[21 -9 38]	(3 7 0)	(-5 1 3)	2.010	1.426	1.41	71.2	57.9
[21 -9 32]	(3 7 0)	(5 1 -3)	2.010	1.426	1.41	63.8	63.3
[7 -3 7]	(3 7 0)	(-5 -7 2)	2.010	1.425	1.41	33.6	74.6
[7 -3 14]	(3 7 0)	(-3 7 3)	2.010	1.412	1.42	76.9	54.6
[7 -3 0]	(3 7 0)	(-3 -7 3)	2.010	1.412	1.42	53.5	80.8
[7 -3 -5]	(3 7 0)	(4 6 2)	2.010	1.410	1.43	35.7	64.7
[7 -3 15]	(3 7 0)	(-6 -4 2)	2.010	1.409	1.43	41.9	52.3
[21 -9 -28]	(3 7 0)	(-1 7 -3)	2.010	1.398	1.44	78.2	53.4
[21 -9 14]	(3 7 0)	(-1 -7 -3)	2.010	1.398	1.44	52.4	82.6
[7 -3 -8]	(3 7 0)	(3 -1 3)	2.010	1.398	1.44	70.3	56.6
[7 -3 -6]	(3 7 0)	(3 1 3)	2.010	1.398	1.44	63.0	61.9
[21 -9 38]	(3 7 0)	(2 -8 -3)	2.010	1.395	1.44	67.8	57.9
[21 -9 -10]	(3 7 0)	(2 8 -3)	2.010	1.395	1.44	56.7	69.8
[21 -9 44]	(3 7 0)	(-5 3 3)	2.010	1.393	1.44	78.5	53.0
[21 -9 26]	(3 7 0)	(5 3 -3)	2.010	1.393	1.44	56.8	69.2
[21 -9 46]	(3 7 0)	(4 -6 -3)	2.010	1.390	1.45	86.0	51.5
[21 -9 10]	(3 7 0)	(4 6 -3)	2.010	1.390	1.45	51.4	87.3
[7 -3 -8]	(3 7 0)	(0 -8 3)	2.010	1.388	1.45	69.1	56.6
[7 -3 8]	(3 7 0)	(0 8 3)	2.010	1.388	1.45	55.4	71.3
[7 -3 8]	(3 7 0)	(-5 -9 1)	2.010	1.388	1.45	15.9	71.3
[21 -9 -32]	(3 7 0)	(-2 6 -3)	2.010	1.370	1.47	87.2	50.4
[21 -9 4]	(3 7 0)	(-2 -6 -3)	2.010	1.370	1.47	50.6	85.5

Grunerite (370) 300 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[7 -3 3]	(3 7 0)	(3 9 2)	2.010	1.362	1.48	30.7	88.5
[7 -3 -13]	(3 7 0)	(5 3 2)	2.010	1.357	1.48	45.1	45.8
[21 -9 -20]	(3 7 0)	(-1 -9 3)	2.010	1.342	1.50	60.5	60.0
[21 -9 34]	(3 7 0)	(-1 9 3)	2.010	1.342	1.50	59.2	61.4
[21 -9 50]	(3 7 0)	(-5 5 3)	2.010	1.333	1.51	85.4	48.7
[21 -9 20]	(3 7 0)	(5 5 -3)	2.010	1.333	1.51	50.6	75.7
[7 -3 1]	(3 7 0)	(-1 -1 4)	2.010	1.328	1.51	89.3	84.4
[14 -6 5]	(3 7 0)	(-1 1 4)	2.010	1.328	1.51	84.3	89.7
[7 -3 -12]	(3 7 0)	(-3 5 -3)	2.010	1.310	1.53	84.4	47.7
[7 -3 -2]	(3 7 0)	(3 5 3)	2.010	1.310	1.53	50.0	74.1
[7 -3 18]	(3 7 0)	(6 8 -1)	2.010	1.306	1.54	19.8	46.1
[7 -3 4]	(3 7 0)	(-5 -9 2)	2.010	1.305	1.54	29.4	85.0
[14 -6 -1]	(3 7 0)	(1 3 -4)	2.010	1.301	1.54	83.1	79.1
[7 -3 4]	(3 7 0)	(-1 3 4)	2.010	1.301	1.54	78.2	85.0
[7 -3 6]	(3 7 0)	(-3 1 4)	2.010	1.301	1.54	85.3	78.0
[14 -6 9]	(3 7 0)	(3 1 -4)	2.010	1.301	1.54	79.0	83.2
[14 -6 -3]	(3 7 0)	(0 2 -4)	2.010	1.293	1.55	88.6	75.7
[14 -6 3]	(3 7 0)	(0 2 4)	2.010	1.293	1.55	76.2	86.1
[21 -9 52]	(3 7 0)	(4 -8 -3)	2.010	1.291	1.56	80.1	47.4
[21 -9 4]	(3 7 0)	(4 8 -3)	2.010	1.291	1.56	46.7	85.5
[7 -3 16]	(3 7 0)	(-6 2 3)	2.010	1.290	1.56	70.9	50.1
[7 -3 12]	(3 7 0)	(6 2 -3)	2.010	1.290	1.56	57.2	59.6
[7 -3 -8]	(3 7 0)	(5 9 1)	2.010	1.287	1.56	16.8	56.6
[21 -9 -34]	(3 7 0)	(1 -9 3)	2.010	1.285	1.56	72.9	49.1
[21 -9 20]	(3 7 0)	(1 9 3)	2.010	1.285	1.56	48.2	75.7
[14 -6 13]	(3 7 0)	(2 -4 -4)	2.010	1.279	1.57	80.4	76.3
[14 -6 1]	(3 7 0)	(2 4 -4)	2.010	1.279	1.57	75.0	82.6
[21 -9 -28]	(3 7 0)	(-4 0 -3)	2.010	1.277	1.57	63.3	53.4
[14 -6 15]	(3 7 0)	(-3 3 4)	2.010	1.276	1.58	88.5	73.0
[7 -3 3]	(3 7 0)	(-3 -3 4)	2.010	1.276	1.58	73.0	88.5
[21 -9 -38]	(3 7 0)	(-2 8 -3)	2.010	1.275	1.58	81.3	46.5
[21 -9 10]	(3 7 0)	(-2 -8 -3)	2.010	1.275	1.58	45.8	87.3
[21 -9 -34]	(3 7 0)	(4 -2 3)	2.010	1.264	1.59	70.2	49.1
[21 -9 -22]	(3 7 0)	(-4 -2 -3)	2.010	1.264	1.59	56.7	58.3
[7 -3 18]	(3 7 0)	(6 -4 -3)	2.010	1.254	1.60	77.7	46.1
[7 -3 10]	(3 7 0)	(-6 -4 3)	2.010	1.254	1.60	50.9	65.2
[7 -3 -2]	(3 7 0)	(1 5 -4)	2.010	1.252	1.61	77.3	74.1
[14 -6 11]	(3 7 0)	(-1 5 4)	2.010	1.252	1.61	72.5	79.7
[7 -3 9]	(3 7 0)	(-6 -8 2)	2.010	1.245	1.61	30.1	68.2
[14 -6 17]	(3 7 0)	(4 -2 -4)	2.010	1.244	1.62	83.5	69.8
[14 -6 11]	(3 7 0)	(4 2 -4)	2.010	1.244	1.62	71.4	79.7
[7 -3 0]	(3 7 0)	(3 7 3)	2.010	1.237	1.62	44.8	80.8
[7 -3 -4]	(3 7 0)	(-1 3 -4)	2.010	1.233	1.63	86.8	67.7
[14 -6 1]	(3 7 0)	(1 3 4)	2.010	1.233	1.63	68.7	82.6
[21 -9 -40]	(3 7 0)	(-4 4 -3)	2.010	1.230	1.63	76.8	45.2
[21 -9 -16]	(3 7 0)	(4 4 3)	2.010	1.230	1.63	50.4	63.7
[7 -3 -7]	(3 7 0)	(5 7 2)	2.010	1.230	1.63	32.5	59.1
[7 -3 9]	(3 7 0)	(3 -5 -4)	2.010	1.229	1.63	82.7	68.2

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[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$ C $^\circ$
[14 -6 3]	(3 7 0)	(3 5 -4)	2.010	1.229	1.63	67.4	86.1
[7 -3 17]	(3 7 0)	(-7 -5 2)	2.010	1.229	1.64	38.2	48.1
[14 -6 -11]	(3 7 0)	(1 -5 4)	2.010	1.191	1.69	87.4	63.3
[7 -3 2]	(3 7 0)	(1 5 4)	2.010	1.191	1.69	63.2	87.9
[14 -6 19]	(3 7 0)	(5 -1 -4)	2.010	1.190	1.69	76.2	66.7
[7 -3 8]	(3 7 0)	(-5 -1 4)	2.010	1.190	1.69	70.2	71.3
[14 -6 -7]	(3 7 0)	(1 7 -4)	2.010	1.188	1.69	72.1	69.2
[7 -3 7]	(3 7 0)	(-1 7 4)	2.010	1.188	1.69	67.4	74.6
[21 -9 52]	(3 7 0)	(7 -1 -3)	2.010	1.183	1.70	64.5	47.4
[21 -9 46]	(3 7 0)	(-7 -1 3)	2.010	1.183	1.70	58.1	51.5
[21 -9 -10]	(3 7 0)	(4 6 3)	2.010	1.179	1.71	44.9	69.8
[21 -9 8]	(3 7 0)	(-5 -9 3)	2.010	1.172	1.71	41.2	89.7
[7 -3 11]	(3 7 0)	(5 -3 -4)	2.010	1.171	1.72	82.1	62.3
[14 -6 13]	(3 7 0)	(-5 -3 4)	2.010	1.171	1.72	64.5	76.3
[14 -6 21]	(3 7 0)	(-3 7 4)	2.010	1.168	1.72	77.4	63.7
[7 -3 0]	(3 7 0)	(-3 -7 4)	2.010	1.168	1.72	62.4	80.8
[7 -3 14]	(3 7 0)	(7 7 -2)	2.010	1.168	1.72	32.5	54.6
[21 -9 40]	(3 7 0)	(7 3 -3)	2.010	1.163	1.73	51.9	56.2
[14 -6 23]	(3 7 0)	(4 -6 -4)	2.010	1.162	1.73	84.9	60.9
[14 -6 5]	(3 7 0)	(4 6 -4)	2.010	1.162	1.73	60.5	89.7
[21 -9 -38]	(3 7 0)	(-5 1 -3)	2.010	1.159	1.73	64.0	46.5
[21 -9 -32]	(3 7 0)	(5 1 3)	2.010	1.159	1.73	57.6	50.4
[14 -6 -13]	(3 7 0)	(-2 4 -4)	2.010	1.157	1.74	85.2	60.5
[14 -6 -1]	(3 7 0)	(2 4 4)	2.010	1.157	1.74	62.0	79.1
[14 -6 19]	(3 7 0)	(-2 8 4)	2.010	1.152	1.74	70.0	66.7
[14 -6 -5]	(3 7 0)	(-2 -8 4)	2.010	1.152	1.74	64.9	72.4
[7 -3 -4]	(3 7 0)	(5 9 2)	2.010	1.150	1.75	27.8	67.7
[14 -6 25]	(3 7 0)	(5 -5 -4)	2.010	1.134	1.77	87.8	58.3
[7 -3 5]	(3 7 0)	(-5 -5 4)	2.010	1.134	1.77	59.3	81.4
[7 -3 6]	(3 7 0)	(6 8 -3)	2.010	1.134	1.77	40.6	78.0
[21 -9 34]	(3 7 0)	(7 5 -3)	2.010	1.128	1.78	46.2	61.4
[7 -3 -6]	(3 7 0)	(-3 1 -4)	2.010	1.123	1.79	72.6	61.9
[14 -6 -9]	(3 7 0)	(3 1 4)	2.010	1.123	1.79	66.9	66.2
[14 -6 21]	(3 7 0)	(-6 0 4)	2.010	1.122	1.79	69.6	63.7
[21 -9 -4]	(3 7 0)	(4 8 3)	2.010	1.116	1.80	40.2	76.3
[7 -3 -5]	(3 7 0)	(-1 -9 4)	2.010	1.116	1.80	67.6	64.7
[14 -6 17]	(3 7 0)	(-1 9 4)	2.010	1.116	1.80	63.0	69.8
[7 -3 -3]	(3 7 0)	(-3 -3 -4)	2.010	1.107	1.82	61.4	70.8
[7 -3 12]	(3 7 0)	(-3 9 4)	2.010	1.099	1.83	72.8	59.6
[14 -6 -3]	(3 7 0)	(-3 -9 4)	2.010	1.099	1.83	58.2	75.7
[7 -3 11]	(3 7 0)	(7 9 -2)	2.010	1.099	1.83	27.7	62.3
[14 -6 27]	(3 7 0)	(-6 4 4)	2.010	1.090	1.84	80.9	55.8
[14 -6 15]	(3 7 0)	(6 4 -4)	2.010	1.090	1.84	58.6	73.0
[7 -3 -9]	(3 7 0)	(-6 -8 -2)	2.010	1.086	1.85	30.1	54.2
[7 -3 14]	(3 7 0)	(-5 7 4)	2.010	1.086	1.85	87.0	54.6
[14 -6 7]	(3 7 0)	(-5 -7 4)	2.010	1.086	1.85	54.6	86.7
[21 -9 28]	(3 7 0)	(7 7 -3)	2.010	1.080	1.86	41.2	67.2
[7 -3 -9]	(3 7 0)	(-3 5 -4)	2.010	1.076	1.87	83.8	54.2

Grunerite (370) 300 Zone Axes***a* 9.564Å *b* 18.393Å *c* 5.339Å α 90° β 101.9° γ 90°**Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$ C
[14 -6 -3]	(3 7 0)	(3 5 4)	2.010	1.076	1.87	56.3	75.7
[21 -9 50]	(3 7 0)	(-8 -2 3)	2.010	1.072	1.87	53.3	48.7
[14 -6 -17]	(3 7 0)	(-1 9 -4)	2.010	1.072	1.88	77.4	55.4
[7 -3 5]	(3 7 0)	(1 9 4)	2.010	1.072	1.88	54.3	81.4
[35 -15 14]	(3 7 0)	(-2 0 5)	2.010	1.068	1.88	89.4	89.2
[21 -9 -14]	(3 7 0)	(5 7 3)	2.010	1.062	1.89	40.9	65.7
[35 -15 4]	(3 7 0)	(-1 -1 5)	2.010	1.061	1.89	89.0	83.7
[7 -3 2]	(3 7 0)	(1 -1 -5)	2.010	1.061	1.89	83.9	87.9
[14 -6 -19]	(3 7 0)	(-2 8 -4)	2.010	1.061	1.89	84.3	53.0
[14 -6 5]	(3 7 0)	(-2 -8 -4)	2.010	1.061	1.89	52.6	89.7
[7 -3 4]	(3 7 0)	(-2 2 5)	2.010	1.060	1.90	85.6	85.0
[35 -15 8]	(3 7 0)	(-2 -2 5)	2.010	1.060	1.90	84.3	86.5
[35 -15 24]	(3 7 0)	(3 -1 -5)	2.010	1.057	1.90	87.7	82.1
[35 -15 18]	(3 7 0)	(3 1 -5)	2.010	1.057	1.90	82.7	86.4
[21 -9 44]	(3 7 0)	(8 4 -3)	2.010	1.051	1.91	47.7	53.0
[35 -15 -2]	(3 7 0)	(-1 -3 5)	2.010	1.047	1.92	86.0	79.5
[35 -15 16]	(3 7 0)	(-1 3 5)	2.010	1.047	1.92	79.0	87.8
[7 -3 13]	(3 7 0)	(-7 1 4)	2.010	1.047	1.92	69.2	57.0
[14 -6 23]	(3 7 0)	(7 1 -4)	2.010	1.047	1.92	63.8	60.9
[14 -6 -17]	(3 7 0)	(-4 2 -4)	2.010	1.045	1.92	72.1	55.4
[14 -6 -11]	(3 7 0)	(4 2 4)	2.010	1.045	1.92	61.3	63.3
[7 -3 6]	(3 7 0)	(3 -3 -5)	2.010	1.043	1.93	87.3	78.0
[35 -15 12]	(3 7 0)	(3 3 -5)	2.010	1.043	1.93	77.7	89.3
[35 -15 26]	(3 7 0)	(2 -4 -5)	2.010	1.040	1.93	80.7	80.7
[35 -15 2]	(3 7 0)	(2 4 -5)	2.010	1.040	1.93	79.4	82.2
[35 -15 -6]	(3 7 0)	(0 2 -5)	2.010	1.038	1.94	87.4	76.7
[35 -15 6]	(3 7 0)	(0 2 5)	2.010	1.038	1.94	77.4	85.1
[35 -15 28]	(3 7 0)	(-4 0 5)	2.010	1.037	1.94	81.2	79.4
[14 -6 -21]	(3 7 0)	(-3 7 -4)	2.010	1.034	1.94	89.0	50.8
[7 -3 0]	(3 7 0)	(3 7 4)	2.010	1.034	1.94	51.7	80.8
[14 -6 29]	(3 7 0)	(-7 3 4)	2.010	1.033	1.94	74.7	53.4
[7 -3 10]	(3 7 0)	(7 3 -4)	2.010	1.033	1.94	58.5	65.2
[7 -3 -10]	(3 7 0)	(6 4 3)	2.010	1.032	1.95	47.4	51.9
[35 -15 34]	(3 7 0)	(-4 2 5)	2.010	1.030	1.95	86.2	75.3
[35 -15 22]	(3 7 0)	(4 2 -5)	2.010	1.030	1.95	76.2	83.5
[14 -6 31]	(3 7 0)	(5 -9 -4)	2.010	1.030	1.95	82.2	51.2
[7 -3 2]	(3 7 0)	(5 9 -4)	2.010	1.030	1.95	50.6	87.9
[21 -9 22]	(3 7 0)	(-7 -9 3)	2.010	1.025	1.96	36.9	73.5
[35 -15 -8]	(3 7 0)	(1 5 -5)	2.010	1.021	1.97	81.2	75.4
[35 -15 22]	(3 7 0)	(1 -5 -5)	2.010	1.021	1.97	74.2	83.5
[35 -15 -12]	(3 7 0)	(0 4 -5)	2.010	1.019	1.97	87.7	72.7
[35 -15 12]	(3 7 0)	(0 -4 -5)	2.010	1.019	1.97	72.6	89.3
[21 -9 38]	(3 7 0)	(8 6 -3)	2.010	1.018	1.97	42.5	57.9
[35 -15 36]	(3 7 0)	(3 -5 -5)	2.010	1.017	1.98	82.5	73.9
[35 -15 6]	(3 7 0)	(3 5 -5)	2.010	1.017	1.98	73.0	85.1
[7 -3 -2]	(3 7 0)	(1 -1 5)	2.010	1.014	1.98	81.0	74.1
[35 -15 -4]	(3 7 0)	(-1 -1 -5)	2.010	1.014	1.98	76.1	78.1
[7 -3 8]	(3 7 0)	(-4 4 5)	2.010	1.012	1.99	89.0	71.3

Grunerite (370) 300 Zone Axes a 9.564Å b 18.393Å c 5.339Å α 90° β 101.9° γ 90°Space Group C 2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[35 -15 16]	(3 7 0)	(-4 -4 5)	2.010	1.012	1.99	71.4	87.8
[21 -9 -8]	(3 7 0)	(5 9 3)	2.010	1.010	1.99	36.7	71.9
[7 -3 16]	(3 7 0)	(-7 5 4)	2.010	1.008	1.99	80.0	50.1
[14 -6 17]	(3 7 0)	(7 5 -4)	2.010	1.008	1.99	53.6	69.8
[35 -15 32]	(3 7 0)	(2 -6 -5)	2.010	1.008	1.99	76.1	76.6
[35 -15 -4]	(3 7 0)	(2 6 -5)	2.010	1.008	1.99	74.8	78.1
[14 -6 33]	(3 7 0)	(6 -8 -4)	2.010	1.008	1.99	88.8	49.1
[14 -6 9]	(3 7 0)	(6 8 -4)	2.010	1.008	1.99	49.5	83.2
[35 -15 38]	(3 7 0)	(5 -1 -5)	2.010	1.003	2.00	79.9	72.6
[35 -15 32]	(3 7 0)	(-5 -1 5)	2.010	1.003	2.00	75.0	76.6
[35 -15 -16]	(3 7 0)	(1 -3 5)	2.010	1.002	2.01	85.9	70.2
[35 -15 2]	(3 7 0)	(-1 -3 -5)	2.010	1.002	2.01	71.3	82.2