

Riebeckite (020) 140 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 0 0]	(0 2 0)	(0 0 1)	9.024	5.186	1.74	90.0	76.4
[1 0 1]	(0 2 0)	(1 1 -1)	9.024	4.891	1.85	74.3	72.2
[1 0 0]	(0 2 0)	(0 2 1)	9.024	4.496	2.01	60.1	76.4
[1 0 -1]	(0 2 0)	(-1 1 -1)	9.024	4.052	2.23	77.0	51.2
[1 0 2]	(0 2 0)	(2 0 -1)	9.024	4.001	2.26	90.0	48.6
[1 0 1]	(0 2 0)	(1 3 -1)	9.024	3.882	2.32	49.8	72.2
[1 0 2]	(0 2 0)	(-2 -2 1)	9.024	3.658	2.47	66.1	48.6
[1 0 -1]	(0 2 0)	(1 3 1)	9.024	3.421	2.64	55.3	51.2
[1 0 0]	(0 2 0)	(0 4 1)	9.024	3.404	2.65	41.0	76.4
[1 0 2]	(0 2 0)	(2 4 -1)	9.024	2.994	3.01	48.4	48.6
[1 0 1]	(0 2 0)	(-1 -5 1)	9.024	2.943	3.07	35.4	72.2
[1 0 -1]	(0 2 0)	(1 5 1)	9.024	2.726	3.31	41.0	51.2
[2 0 1]	(0 2 0)	(-1 -1 2)	9.024	2.637	3.42	81.6	87.8
[1 0 0]	(0 2 0)	(0 6 1)	9.024	2.602	3.47	30.1	76.4
[1 0 1]	(0 2 0)	(2 0 -2)	9.024	2.541	3.55	90.0	72.2
[1 0 0]	(0 2 0)	(0 2 2)	9.024	2.492	3.62	74.0	76.4
[1 0 2]	(0 2 0)	(-2 -6 1)	9.024	2.404	3.75	36.9	48.6
[2 0 -1]	(0 2 0)	(1 1 2)	9.024	2.344	3.85	82.5	62.4
[1 0 1]	(0 2 0)	(1 7 -1)	9.024	2.299	3.92	26.9	72.2
[2 0 3]	(0 2 0)	(-3 -1 2)	9.024	2.268	3.98	82.8	59.0
[1 0 1]	(0 2 0)	(-2 -4 2)	9.024	2.214	4.08	60.6	72.2
[2 0 -1]	(0 2 0)	(1 3 2)	9.024	2.200	4.10	68.5	62.4
[1 0 -1]	(0 2 0)	(1 7 1)	9.024	2.191	4.12	31.8	51.2
[2 0 1]	(0 2 0)	(1 5 -2)	9.024	2.144	4.21	53.6	87.8
[2 0 3]	(0 2 0)	(3 3 -2)	9.024	2.137	4.22	69.2	59.0
[1 0 -1]	(0 2 0)	(2 0 2)	9.024	2.079	4.34	90.0	51.2
[1 0 0]	(0 2 0)	(0 -8 1)	9.024	2.069	4.36	23.5	76.4
[2 0 -1]	(0 2 0)	(1 -5 2)	9.024	1.978	4.56	56.8	62.4
[1 0 2]	(0 2 0)	(-2 8 1)	9.024	1.965	4.59	29.4	48.6
[1 0 0]	(0 2 0)	(0 6 2)	9.024	1.964	4.59	49.2	76.4
[1 0 2]	(0 2 0)	(4 2 -2)	9.024	1.953	4.62	77.5	48.6
[2 0 3]	(0 2 0)	(3 5 -2)	9.024	1.931	4.67	57.6	59.0
[1 0 -1]	(0 2 0)	(2 4 2)	9.024	1.888	4.78	65.3	51.2
[1 0 1]	(0 2 0)	(1 9 -1)	9.024	1.865	4.84	21.5	72.2
[2 0 1]	(0 2 0)	(-1 -7 2)	9.024	1.853	4.87	44.0	87.8
[1 0 -1]	(0 2 0)	(1 9 1)	9.024	1.806	5.00	25.7	51.2
[3 0 1]	(0 2 0)	(1 1 -3)	9.024	1.767	5.11	84.4	86.9
[3 0 2]	(0 2 0)	(2 0 -3)	9.024	1.763	5.12	90.0	82.4
[2 0 -1]	(0 2 0)	(1 -7 2)	9.024	1.742	5.18	47.5	62.4
[3 0 2]	(0 2 0)	(-2 2 3)	9.024	1.730	5.22	78.9	82.4
[2 0 3]	(0 2 0)	(3 -7 -2)	9.024	1.711	5.28	48.4	59.0
[3 0 1]	(0 2 0)	(1 3 -3)	9.024	1.703	5.30	73.6	86.9
[1 0 1]	(0 2 0)	(-2 -8 2)	9.024	1.687	5.35	41.6	72.2
[1 0 1]	(0 2 0)	(3 1 -3)	9.024	1.686	5.35	84.6	72.2
[1 0 2]	(0 2 0)	(-4 -6 2)	9.024	1.666	5.42	56.4	48.6
[3 0 2]	(0 2 0)	(2 4 -3)	9.024	1.642	5.50	68.7	82.4
[3 0 -1]	(0 2 0)	(1 1 3)	9.024	1.628	5.54	84.8	66.8
[1 0 0]	(0 2 0)	(0 4 3)	9.024	1.614	5.59	69.0	76.4

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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)	9.024	1.602	5.63	37.0	87.8
[3 0 1]	(0 2 0)	(-1 -5 3)	9.024	1.593	5.66	63.8	86.9
[3 0 4]	(0 2 0)	(4 0 -3)	9.024	1.586	5.69	90.0	63.1
[3 0 -1]	(0 2 0)	(1 -3 3)	9.024	1.577	5.72	74.8	66.8
[3 0 4]	(0 2 0)	(-4 2 3)	9.024	1.562	5.78	80.0	63.1
[1 0 1]	(0 2 0)	(3 5 -3)	9.024	1.533	5.89	64.9	72.2
[2 0 -1]	(0 2 0)	(1 9 2)	9.024	1.529	5.90	40.3	62.4
[1 0 -1]	(0 2 0)	(2 8 2)	9.024	1.529	5.90	47.3	51.2
[3 0 2]	(0 2 0)	(-2 -6 3)	9.024	1.521	5.93	59.6	82.4
[3 0 -2]	(0 2 0)	(2 0 3)	9.024	1.514	5.96	90.0	58.4
[2 0 3]	(0 2 0)	(3 -9 -2)	9.024	1.508	5.99	41.3	59.0
[3 0 4]	(0 2 0)	(-4 -4 3)	9.024	1.496	6.03	70.6	63.1
[3 0 -2]	(0 2 0)	(2 2 3)	9.024	1.493	6.04	80.5	58.4
[3 0 -1]	(0 2 0)	(1 5 3)	9.024	1.489	6.06	65.6	66.8
[3 0 1]	(0 2 0)	(-1 -7 3)	9.024	1.462	6.17	55.4	86.9
[3 0 5]	(0 2 0)	(5 1 -3)	9.024	1.456	6.20	85.4	55.2
[3 0 -2]	(0 2 0)	(2 4 3)	9.024	1.435	6.29	71.5	58.4
[3 0 5]	(0 2 0)	(-5 -3 3)	9.024	1.419	6.36	76.4	55.2
[1 0 1]	(0 2 0)	(3 7 -3)	9.024	1.416	6.37	56.7	72.2
[3 0 4]	(0 2 0)	(-4 -6 3)	9.024	1.403	6.43	62.2	63.1
[3 0 2]	(0 2 0)	(2 8 -3)	9.024	1.389	6.50	52.0	82.4
[1 0 -1]	(0 2 0)	(3 1 3)	9.024	1.382	6.53	85.6	51.2
[3 0 -1]	(0 2 0)	(1 7 3)	9.024	1.380	6.54	57.6	66.8
[1 0 0]	(0 2 0)	(0 8 3)	9.024	1.372	6.58	52.5	76.4
[3 0 5]	(0 2 0)	(5 5 -3)	9.024	1.354	6.67	68.0	55.2
[3 0 -2]	(0 2 0)	(2 6 3)	9.024	1.352	6.67	63.3	58.4
[3 0 1]	(0 2 0)	(1 9 -3)	9.024	1.329	6.79	48.5	86.9
[4 0 1]	(0 2 0)	(-1 -1 4)	9.024	1.323	6.82	85.8	84.2
[1 0 2]	(0 2 0)	(6 2 -3)	9.024	1.319	6.84	81.6	48.6
[4 0 3]	(0 2 0)	(3 1 -4)	9.024	1.309	6.89	85.8	79.8
[3 0 4]	(0 2 0)	(-4 -8 3)	9.024	1.297	6.96	54.9	63.1
[4 0 1]	(0 2 0)	(1 -3 -4)	9.024	1.296	6.96	77.6	84.2
[1 0 -1]	(0 2 0)	(-3 5 -3)	9.024	1.294	6.97	69.0	51.2
[1 0 0]	(0 2 0)	(0 2 4)	9.024	1.283	7.03	81.8	76.4
[4 0 3]	(0 2 0)	(3 3 -4)	9.024	1.283	7.04	77.7	79.8
[1 0 2]	(0 2 0)	(6 4 -3)	9.024	1.279	7.06	73.5	48.6
[2 0 1]	(0 2 0)	(2 4 -4)	9.024	1.278	7.06	73.5	87.8
[3 0 5]	(0 2 0)	(-5 -7 3)	9.024	1.271	7.10	60.5	55.2
[3 0 -4]	(0 2 0)	(4 0 3)	9.024	1.263	7.14	90.0	45.3
[1 0 1]	(0 2 0)	(4 2 -4)	9.024	1.258	7.17	82.0	72.2
[3 0 -2]	(0 2 0)	(2 8 3)	9.024	1.257	7.18	56.1	58.4
[3 0 -4]	(0 2 0)	(4 2 3)	9.024	1.251	7.21	82.0	45.3
[4 0 -1]	(0 2 0)	(1 1 4)	9.024	1.243	7.26	86.1	69.1
[4 0 3]	(0 2 0)	(-3 -5 4)	9.024	1.234	7.31	70.0	79.8
[1 0 -1]	(0 2 0)	(3 7 3)	9.024	1.221	7.39	61.7	51.2
[4 0 -1]	(0 2 0)	(1 3 4)	9.024	1.220	7.40	78.3	69.1
[3 0 -4]	(0 2 0)	(4 4 3)	9.024	1.216	7.42	74.4	45.3
[4 0 5]	(0 2 0)	(-5 -1 4)	9.024	1.209	7.47	86.2	65.3

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[U V W]	(h k 0)	(h k l)	<i>d</i> (hk0)	<i>d</i> (hkl)	<i>d</i> Ratio	θ°	ZA $^\circ$
[1 0 0]	(0 2 0)	(0 6 4)	9.024	1.191	7.58	66.7	76.4
[4 0 5]	(0 2 0)	(-5 -3 4)	9.024	1.188	7.60	78.6	65.3
[2 0 -1]	(0 2 0)	(2 0 4)	9.024	1.182	7.63	90.0	62.4
[3 0 5]	(0 2 0)	(5 -9 -3)	9.024	1.181	7.64	53.9	55.2
[4 0 1]	(0 2 0)	(-1 7 4)	9.024	1.180	7.65	62.8	84.2
[4 0 -1]	(0 2 0)	(1 5 4)	9.024	1.178	7.66	71.0	69.1
[1 0 1]	(0 2 0)	(4 6 -4)	9.024	1.170	7.71	67.1	72.2
[4 0 3]	(0 2 0)	(-3 -7 4)	9.024	1.170	7.71	63.0	79.8
[3 0 -4]	(0 2 0)	(4 6 3)	9.024	1.165	7.75	67.2	45.3
[4 0 5]	(0 2 0)	(-5 -5 4)	9.024	1.148	7.86	71.4	65.3
[1 0 2]	(0 2 0)	(6 8 -3)	9.024	1.148	7.86	59.4	48.6
[2 0 1]	(0 2 0)	(-2 -8 4)	9.024	1.147	7.86	59.4	87.8
[2 0 -1]	(0 2 0)	(2 4 4)	9.024	1.143	7.89	75.3	62.4
[4 0 -3]	(0 2 0)	(3 1 4)	9.024	1.109	8.13	86.5	56.5
[2 0 3]	(0 2 0)	(-6 -4 4)	9.024	1.108	8.14	75.8	59.0
[4 0 1]	(0 2 0)	(-1 -9 4)	9.024	1.107	8.15	56.5	84.2
[3 0 -4]	(0 2 0)	(4 8 3)	9.024	1.102	8.19	60.8	45.3
[4 0 5]	(0 2 0)	(-5 -7 4)	9.024	1.096	8.23	64.8	65.3
[4 0 -3]	(0 2 0)	(3 3 4)	9.024	1.093	8.26	79.5	56.5
[4 0 7]	(0 2 0)	(-7 -1 4)	9.024	1.069	8.44	86.6	53.4
[4 0 -3]	(0 2 0)	(3 -5 4)	9.024	1.062	8.49	72.9	56.5
[5 0 3]	(0 2 0)	(-3 1 5)	9.024	1.060	8.51	86.6	84.6
[5 0 2]	(0 2 0)	(2 2 -5)	9.024	1.059	8.52	83.3	89.0
[4 0 -1]	(0 2 0)	(1 9 4)	9.024	1.058	8.53	58.1	69.1
[5 0 1]	(0 2 0)	(1 1 -5)	9.024	1.056	8.54	86.6	82.6
[4 0 7]	(0 2 0)	(7 3 -4)	9.024	1.055	8.56	79.9	53.4
[2 0 -1]	(0 2 0)	(2 8 4)	9.024	1.047	8.62	62.3	62.4
[5 0 3]	(0 2 0)	(3 3 -5)	9.024	1.046	8.63	80.0	84.6
[5 0 1]	(0 2 0)	(1 -3 -5)	9.024	1.042	8.66	80.0	82.6
[5 0 4]	(0 2 0)	(-4 -2 5)	9.024	1.038	8.70	83.4	78.3
[4 0 5]	(0 2 0)	(5 9 -4)	9.024	1.037	8.70	58.9	65.3
[1 0 -1]	(0 2 0)	(4 2 4)	9.024	1.033	8.74	83.4	51.2
[1 0 0]	(0 2 0)	(0 2 5)	9.024	1.030	8.76	83.4	76.4
[4 0 7]	(0 2 0)	(7 5 -4)	9.024	1.027	8.79	73.5	53.4
[4 0 -3]	(0 2 0)	(3 7 4)	9.024	1.021	8.84	66.7	56.5
[2 0 3]	(0 2 0)	(6 8 -4)	9.024	1.020	8.85	63.1	59.0
[5 0 3]	(0 2 0)	(-3 -5 5)	9.024	1.019	8.86	73.6	84.6
[5 0 4]	(0 2 0)	(4 4 -5)	9.024	1.018	8.87	77.0	78.3
[5 0 1]	(0 2 0)	(-1 -5 5)	9.024	1.015	8.89	73.7	82.6
[1 0 1]	(0 2 0)	(5 1 -5)	9.024	1.015	8.89	86.8	72.2
[1 0 0]	(0 2 0)	(0 4 5)	9.024	1.011	8.93	77.1	76.4
[5 0 2]	(0 2 0)	(-2 -6 5)	9.024	1.005	8.97	70.5	89.0
[5 0 -1]	(0 2 0)	(1 1 5)	9.024	1.004	8.99	86.8	70.5
[1 0 1]	(0 2 0)	(-5 -3 5)	9.024	1.002	9.01	80.4	72.2

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[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 $^\circ$
[1 -1 0]	(1 1 0)	(0 0 1)	8.403	5.186	1.62	78.0	83.6
[1 -1 2]	(1 1 0)	(-1 1 1)	8.403	4.891	1.72	82.3	67.7
[1 -1 0]	(1 1 0)	(1 1 -1)	8.403	4.891	1.72	67.3	83.6
[1 -1 2]	(1 1 0)	(0 2 1)	8.403	4.496	1.87	65.7	67.7
[1 -1 -2]	(1 1 0)	(1 -1 1)	8.403	4.052	2.07	64.2	57.6
[1 -1 0]	(1 1 0)	(1 1 1)	8.403	4.052	2.07	49.9	83.6
[1 -1 2]	(1 1 0)	(2 0 -1)	8.403	4.001	2.10	54.2	67.7
[1 -1 4]	(1 1 0)	(1 -3 -1)	8.403	3.882	2.16	84.6	47.0
[1 -1 -2]	(1 1 0)	(1 3 -1)	8.403	3.882	2.16	59.6	57.6
[1 -1 4]	(1 1 0)	(-2 2 1)	8.403	3.658	2.30	69.7	47.0
[1 -1 0]	(1 1 0)	(2 2 -1)	8.403	3.658	2.30	43.6	83.6
[1 -1 2]	(1 1 0)	(1 3 1)	8.403	3.421	2.46	43.9	67.7
[1 -1 4]	(1 1 0)	(0 4 1)	8.403	3.404	2.47	60.8	47.0
[1 -1 -2]	(1 1 0)	(2 0 1)	8.403	3.152	2.67	44.4	57.6
[1 -1 4]	(1 1 0)	(-3 1 1)	8.403	2.996	2.81	50.2	47.0
[1 -1 2]	(1 1 0)	(3 1 -1)	8.403	2.996	2.81	37.4	67.7
[1 -1 -2]	(1 1 0)	(-2 -4 1)	8.403	2.994	2.81	41.7	57.6
[1 -1 0]	(1 1 0)	(2 2 1)	8.403	2.976	2.82	34.1	83.6
[1 -1 4]	(1 1 0)	(1 5 1)	8.403	2.726	3.08	44.4	47.0
[1 -1 0]	(1 1 0)	(3 3 -1)	8.403	2.712	3.10	30.8	83.6
[1 -1 1]	(1 1 0)	(-1 1 2)	8.403	2.637	3.19	88.1	81.5
[1 -1 0]	(1 1 0)	(-1 -1 2)	8.403	2.637	3.19	84.1	83.6
[1 -1 2]	(1 1 0)	(2 4 1)	8.403	2.584	3.25	31.6	67.7
[1 -1 1]	(1 1 0)	(2 0 -2)	8.403	2.541	3.31	74.3	81.5
[1 -1 -1]	(1 1 0)	(0 -2 2)	8.403	2.492	3.37	85.9	69.5
[1 -1 1]	(1 1 0)	(0 2 2)	8.403	2.492	3.37	70.8	81.5
[1 -1 2]	(1 1 0)	(1 -3 -2)	8.403	2.437	3.45	81.0	67.7
[1 -1 -1]	(1 1 0)	(1 3 -2)	8.403	2.437	3.45	77.3	69.5
[1 -1 -2]	(1 1 0)	(3 1 1)	8.403	2.435	3.45	32.7	57.6
[1 -1 4]	(1 1 0)	(4 0 -1)	8.403	2.381	3.53	37.6	47.0
[1 -1 -1]	(1 1 0)	(-1 1 -2)	8.403	2.344	3.58	69.8	69.5
[1 -1 0]	(1 1 0)	(1 1 2)	8.403	2.344	3.58	62.2	83.6
[1 -1 -2]	(1 1 0)	(-3 -5 1)	8.403	2.324	3.62	31.1	57.6
[1 -1 2]	(1 1 0)	(4 2 -1)	8.403	2.302	3.65	27.8	67.7
[1 -1 2]	(1 1 0)	(3 -1 -2)	8.403	2.268	3.70	66.8	67.7
[1 -1 1]	(1 1 0)	(-3 -1 2)	8.403	2.268	3.70	59.3	81.5
[1 -1 3]	(1 1 0)	(2 -4 -2)	8.403	2.214	3.80	89.6	56.1
[1 -1 -1]	(1 1 0)	(-2 -4 2)	8.403	2.214	3.80	62.4	69.5
[1 -1 -2]	(1 1 0)	(1 -3 2)	8.403	2.200	3.82	77.8	57.6
[1 -1 1]	(1 1 0)	(1 3 2)	8.403	2.200	3.82	56.5	81.5
[1 -1 4]	(1 1 0)	(2 6 1)	8.403	2.176	3.86	33.9	47.0
[1 -1 3]	(1 1 0)	(1 -5 -2)	8.403	2.144	3.92	75.6	56.1
[1 -1 -2]	(1 1 0)	(1 5 -2)	8.403	2.144	3.92	72.3	57.6
[1 -1 3]	(1 1 0)	(-3 3 2)	8.403	2.137	3.93	74.9	56.1
[1 -1 0]	(1 1 0)	(3 3 -2)	8.403	2.137	3.93	53.7	83.6
[1 -1 0]	(1 1 0)	(-4 -4 1)	8.403	2.105	3.99	23.4	83.6
[1 -1 -1]	(1 1 0)	(2 0 2)	8.403	2.079	4.04	56.3	69.5
[1 -1 2]	(1 1 0)	(3 5 1)	8.403	2.031	4.14	24.3	67.7

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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 2]	(1 1 0)	(1 5 2)	8.403	1.978	4.25	53.3	67.7
[1 -1 -3]	(1 1 0)	(0 6 -2)	8.403	1.964	4.28	81.6	48.1
[1 -1 3]	(1 1 0)	(0 6 2)	8.403	1.964	4.28	62.5	56.1
[1 -1 3]	(1 1 0)	(4 -2 -2)	8.403	1.953	4.30	61.9	56.1
[1 -1 1]	(1 1 0)	(-4 -2 2)	8.403	1.953	4.30	47.8	81.5
[1 -1 -2]	(1 1 0)	(4 2 1)	8.403	1.942	4.33	25.6	57.6
[1 -1 4]	(1 1 0)	(-3 5 2)	8.403	1.931	4.35	82.2	47.0
[1 -1 -1]	(1 1 0)	(3 5 -2)	8.403	1.931	4.35	50.6	69.5
[1 -1 4]	(1 1 0)	(-5 -1 1)	8.403	1.925	4.36	29.6	47.0
[1 -1 -3]	(1 1 0)	(2 -4 2)	8.403	1.888	4.45	72.0	48.1
[1 -1 1]	(1 1 0)	(2 4 2)	8.403	1.888	4.45	45.7	81.5
[1 -1 -2]	(1 1 0)	(4 6 -1)	8.403	1.867	4.50	24.5	57.6
[1 -1 4]	(1 1 0)	(1 -7 -2)	8.403	1.853	4.53	71.9	47.0
[1 -1 -3]	(1 1 0)	(1 7 -2)	8.403	1.853	4.53	69.0	48.1
[1 -1 2]	(1 1 0)	(-5 -3 1)	8.403	1.843	4.56	21.9	67.7
[1 -1 0]	(1 1 0)	(4 4 1)	8.403	1.820	4.62	20.1	83.6
[1 -1 -2]	(1 1 0)	(3 -1 2)	8.403	1.799	4.67	53.1	57.6
[1 -1 -1]	(1 1 0)	(3 1 2)	8.403	1.799	4.67	46.1	69.5
[1 -1 4]	(1 1 0)	(3 7 1)	8.403	1.779	4.72	27.1	47.0
[1 -1 0]	(1 1 0)	(-1 -1 3)	8.403	1.767	4.76	89.9	83.6
[3 -3 2]	(1 1 0)	(1 -1 -3)	8.403	1.767	4.76	84.6	86.5
[3 -3 2]	(1 1 0)	(2 0 -3)	8.403	1.763	4.77	83.3	86.5
[1 -1 3]	(1 1 0)	(1 7 2)	8.403	1.742	4.82	51.9	56.1
[1 -1 -3]	(1 1 0)	(-3 3 -2)	8.403	1.732	4.85	60.7	48.1
[1 -1 0]	(1 1 0)	(3 3 2)	8.403	1.732	4.85	40.8	83.6
[1 -1 3]	(1 1 0)	(-5 1 2)	8.403	1.731	4.85	51.4	56.1
[1 -1 2]	(1 1 0)	(5 1 -2)	8.403	1.731	4.85	44.6	67.7
[3 -3 4]	(1 1 0)	(-2 2 3)	8.403	1.730	4.86	88.6	76.7
[1 -1 0]	(1 1 0)	(2 2 -3)	8.403	1.730	4.86	78.3	83.6
[1 -1 -2]	(1 1 0)	(-3 -7 2)	8.403	1.711	4.91	49.5	57.6
[1 -1 0]	(1 1 0)	(-5 -5 1)	8.403	1.706	4.93	18.8	83.6
[3 -3 -2]	(1 1 0)	(1 3 -3)	8.403	1.703	4.93	85.1	74.0
[3 -3 4]	(1 1 0)	(1 -3 -3)	8.403	1.703	4.93	79.7	76.7
[3 -3 2]	(1 1 0)	(0 2 3)	8.403	1.698	4.95	73.0	86.5
[1 -1 -3]	(1 1 0)	(2 8 -2)	8.403	1.687	4.98	58.2	48.1
[3 -3 4]	(1 1 0)	(3 -1 -3)	8.403	1.686	4.98	77.0	76.7
[3 -3 2]	(1 1 0)	(-3 -1 3)	8.403	1.686	4.98	71.8	86.5
[1 -1 4]	(1 1 0)	(5 -3 -2)	8.403	1.671	5.03	59.0	47.0
[1 -1 1]	(1 1 0)	(-5 -3 2)	8.403	1.671	5.03	39.3	81.5
[1 -1 -1]	(1 1 0)	(4 6 -2)	8.403	1.666	5.04	41.8	69.5
[1 -1 2]	(1 1 0)	(4 6 1)	8.403	1.659	5.07	19.6	67.7
[1 -1 2]	(1 1 0)	(-2 4 3)	8.403	1.642	5.12	86.5	67.7
[3 -3 -2]	(1 1 0)	(-2 -4 3)	8.403	1.642	5.12	73.9	74.0
[3 -3 -2]	(1 1 0)	(-1 1 -3)	8.403	1.628	5.16	72.2	74.0
[1 -1 0]	(1 1 0)	(1 1 3)	8.403	1.628	5.16	67.1	83.6
[1 -1 1]	(1 1 0)	(3 5 2)	8.403	1.617	5.20	37.8	81.5
[3 -3 -4]	(1 1 0)	(0 -4 3)	8.403	1.614	5.21	88.4	65.2
[3 -3 4]	(1 1 0)	(0 4 3)	8.403	1.614	5.21	68.9	76.7

Riebeckite (110) 362 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 3 1)	8.403	1.602	5.25	20.8	57.6
[1 -1 4]	(1 1 0)	(-6 -2 1)	8.403	1.598	5.26	24.2	47.0
[3 -3 -4]	(1 1 0)	(1 5 -3)	8.403	1.593	5.27	80.7	65.2
[1 -1 2]	(1 1 0)	(1 -5 -3)	8.403	1.593	5.27	75.6	67.7
[3 -3 4]	(1 1 0)	(4 0 -3)	8.403	1.586	5.30	66.4	76.7
[3 -3 -4]	(1 1 0)	(1 -3 3)	8.403	1.577	5.33	77.6	65.2
[3 -3 2]	(1 1 0)	(1 3 3)	8.403	1.577	5.33	62.7	86.5
[1 -1 2]	(1 1 0)	(4 -2 -3)	8.403	1.562	5.38	71.7	67.7
[3 -3 2]	(1 1 0)	(-4 -2 3)	8.403	1.562	5.38	61.6	86.5
[1 -1 -3]	(1 1 0)	(4 -2 2)	8.403	1.553	5.41	51.4	48.1
[1 -1 -1]	(1 1 0)	(4 2 2)	8.403	1.553	5.41	38.4	69.5
[1 -1 -2]	(1 1 0)	(5 7 -1)	8.403	1.548	5.43	20.1	57.6
[3 -3 8]	(1 1 0)	(-3 5 3)	8.403	1.533	5.48	87.3	59.7
[3 -3 -2]	(1 1 0)	(3 5 -3)	8.403	1.533	5.48	63.8	74.0
[1 -1 4]	(1 1 0)	(1 9 2)	8.403	1.529	5.50	51.7	47.0
[1 -1 3]	(1 1 0)	(2 8 2)	8.403	1.529	5.50	43.7	56.1
[1 -1 2]	(1 1 0)	(-6 -4 1)	8.403	1.528	5.50	18.0	67.7
[3 -3 8]	(1 1 0)	(-2 6 3)	8.403	1.521	5.53	82.2	59.7
[3 -3 -4]	(1 1 0)	(2 6 -3)	8.403	1.521	5.53	70.4	65.2
[1 -1 3]	(1 1 0)	(-6 0 2)	8.403	1.519	5.53	43.3	56.1
[3 -3 -2]	(1 1 0)	(2 0 3)	8.403	1.514	5.55	62.3	74.0
[1 -1 0]	(1 1 0)	(5 5 1)	8.403	1.509	5.57	16.5	83.6
[1 -1 -3]	(1 1 0)	(3 9 -2)	8.403	1.508	5.57	49.4	48.1
[3 -3 8]	(1 1 0)	(4 -4 -3)	8.403	1.496	5.62	77.1	59.7
[1 -1 0]	(1 1 0)	(-4 -4 3)	8.403	1.496	5.62	57.8	83.6
[3 -3 -4]	(1 1 0)	(2 -2 3)	8.403	1.493	5.63	67.6	65.2
[1 -1 0]	(1 1 0)	(2 2 3)	8.403	1.493	5.63	57.7	83.6
[1 -1 4]	(1 1 0)	(4 8 1)	8.403	1.492	5.63	22.5	47.0
[1 -1 -2]	(1 1 0)	(-1 5 -3)	8.403	1.489	5.64	82.8	57.6
[3 -3 4]	(1 1 0)	(1 5 3)	8.403	1.489	5.64	59.3	76.7
[1 -1 2]	(1 1 0)	(3 7 2)	8.403	1.480	5.68	36.9	67.7
[1 -1 -2]	(1 1 0)	(1 7 -3)	8.403	1.462	5.75	77.0	57.6
[3 -3 8]	(1 1 0)	(-1 7 3)	8.403	1.462	5.75	72.3	59.7
[1 -1 2]	(1 1 0)	(-5 1 3)	8.403	1.456	5.77	62.2	67.7
[3 -3 4]	(1 1 0)	(5 1 -3)	8.403	1.456	5.77	57.3	76.7
[1 -1 -1]	(1 1 0)	(-5 -7 2)	8.403	1.442	5.83	35.2	69.5
[1 -1 1]	(1 1 0)	(6 4 -2)	8.403	1.439	5.84	33.1	81.5
[1 -1 -2]	(1 1 0)	(-2 4 -3)	8.403	1.435	5.85	73.0	57.6
[3 -3 2]	(1 1 0)	(2 4 3)	8.403	1.435	5.85	54.0	86.5
[3 -3 8]	(1 1 0)	(5 -3 -3)	8.403	1.419	5.92	67.6	59.7
[3 -3 2]	(1 1 0)	(5 3 -3)	8.403	1.419	5.92	53.1	86.5
[3 -3 10]	(1 1 0)	(3 -7 -3)	8.403	1.416	5.94	88.3	52.8
[3 -3 -4]	(1 1 0)	(3 7 -3)	8.403	1.416	5.94	61.2	65.2
[3 -3 10]	(1 1 0)	(-4 6 3)	8.403	1.403	5.99	82.1	52.8
[3 -3 -2]	(1 1 0)	(4 6 -3)	8.403	1.403	5.99	55.2	74.0
[1 -1 2]	(1 1 0)	(5 7 1)	8.403	1.397	6.02	16.4	67.7
[1 -1 1]	(1 1 0)	(4 6 2)	8.403	1.396	6.02	31.9	81.5
[3 -3 10]	(1 1 0)	(2 -8 -3)	8.403	1.389	6.05	78.8	52.8

Riebeckite (110) 362 Zone Axes***a* 9.769Å *b* 18.048Å *c* 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[1 -1 -2]	(1 1 0)	(2 8 -3)	8.403	1.389	6.05	67.8	57.6
[3 -3 -4]	(1 1 0)	(-3 1 -3)	8.403	1.382	6.08	58.9	65.2
[3 -3 -2]	(1 1 0)	(3 1 3)	8.403	1.382	6.08	54.0	74.0
[1 -1 -3]	(1 1 0)	(5 -1 2)	8.403	1.381	6.09	44.1	48.1
[1 -1 -2]	(1 1 0)	(5 1 2)	8.403	1.381	6.09	37.8	57.6
[3 -3 -8]	(1 1 0)	(1 -7 3)	8.403	1.380	6.09	87.4	51.0
[1 -1 2]	(1 1 0)	(1 7 3)	8.403	1.380	6.09	57.0	67.7
[3 -3 -8]	(1 1 0)	(0 8 -3)	8.403	1.372	6.12	83.2	51.0
[3 -3 8]	(1 1 0)	(0 8 3)	8.403	1.372	6.12	63.4	59.7
[1 -1 4]	(1 1 0)	(7 3 -1)	8.403	1.359	6.18	20.4	47.0
[1 -1 -2]	(1 1 0)	(6 4 1)	8.403	1.357	6.19	17.5	57.6
[1 -1 0]	(1 1 0)	(-5 -5 3)	8.403	1.354	6.21	50.0	83.6
[3 -3 -8]	(1 1 0)	(2 -6 3)	8.403	1.352	6.21	78.1	51.0
[3 -3 4]	(1 1 0)	(2 6 3)	8.403	1.352	6.21	51.4	76.7
[1 -1 -1]	(1 1 0)	(5 3 2)	8.403	1.350	6.23	32.7	69.5
[1 -1 3]	(1 1 0)	(3 9 2)	8.403	1.343	6.26	37.3	56.1
[1 -1 4]	(1 1 0)	(7 -1 -2)	8.403	1.334	6.30	43.2	47.0
[1 -1 3]	(1 1 0)	(-7 -1 2)	8.403	1.334	6.30	37.1	56.1
[3 -3 -8]	(1 1 0)	(1 9 -3)	8.403	1.329	6.32	74.2	51.0
[3 -3 10]	(1 1 0)	(1 -9 -3)	8.403	1.329	6.32	69.8	52.8
[1 -1 0]	(1 1 0)	(-1 -1 4)	8.403	1.323	6.35	86.9	83.6
[2 -2 1]	(1 1 0)	(1 -1 -4)	8.403	1.323	6.35	82.9	89.0
[3 -3 8]	(1 1 0)	(6 -2 -3)	8.403	1.319	6.37	59.3	59.7
[3 -3 4]	(1 1 0)	(-6 -2 3)	8.403	1.319	6.37	49.7	76.7
[1 -1 -2]	(1 1 0)	(6 8 -1)	8.403	1.318	6.38	17.0	57.6
[1 -1 -2]	(1 1 0)	(-5 -9 2)	8.403	1.314	6.40	35.7	57.6
[1 -1 1]	(1 1 0)	(3 -1 -4)	8.403	1.309	6.42	83.0	81.5
[2 -2 1]	(1 1 0)	(-3 -1 4)	8.403	1.309	6.42	79.1	89.0
[1 -1 2]	(1 1 0)	(7 3 -2)	8.403	1.306	6.43	32.0	67.7
[1 -1 2]	(1 1 0)	(-7 -5 1)	8.403	1.301	6.46	15.3	67.7
[1 -1 4]	(1 1 0)	(4 -8 -3)	8.403	1.297	6.48	86.6	47.0
[3 -3 -4]	(1 1 0)	(-4 -8 3)	8.403	1.297	6.48	53.5	65.2
[2 -2 -1]	(1 1 0)	(-1 -3 4)	8.403	1.296	6.49	89.2	76.3
[1 -1 1]	(1 1 0)	(-1 3 4)	8.403	1.296	6.49	79.2	81.5
[3 -3 -8]	(1 1 0)	(3 -5 3)	8.403	1.294	6.49	69.5	51.0
[3 -3 2]	(1 1 0)	(3 5 3)	8.403	1.294	6.49	46.8	86.5
[1 -1 0]	(1 1 0)	(5 5 2)	8.403	1.293	6.50	29.2	83.6
[1 -1 0]	(1 1 0)	(6 6 1)	8.403	1.286	6.53	14.0	83.6
[2 -2 -1]	(1 1 0)	(0 -2 4)	8.403	1.283	6.55	82.0	76.3
[2 -2 1]	(1 1 0)	(0 2 4)	8.403	1.283	6.55	74.2	89.0
[2 -2 3]	(1 1 0)	(3 -3 -4)	8.403	1.283	6.55	86.9	74.4
[1 -1 0]	(1 1 0)	(3 3 -4)	8.403	1.283	6.55	75.4	83.6
[1 -1 4]	(1 1 0)	(5 9 1)	8.403	1.279	6.57	19.2	47.0
[3 -3 10]	(1 1 0)	(-6 4 3)	8.403	1.279	6.57	64.6	52.8
[3 -3 2]	(1 1 0)	(6 4 -3)	8.403	1.279	6.57	46.1	86.5
[2 -2 3]	(1 1 0)	(2 -4 -4)	8.403	1.278	6.57	84.3	74.4
[2 -2 -1]	(1 1 0)	(2 4 -4)	8.403	1.278	6.57	80.5	76.3
[1 -1 4]	(1 1 0)	(-5 7 3)	8.403	1.271	6.61	77.9	47.0

Riebeckite (110) 362 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -3 -2]	(1 1 0)	(5 7 -3)	8.403	1.271	6.61	48.0	74.0
[3 -3 8]	(1 1 0)	(1 9 3)	8.403	1.267	6.63	55.6	59.7
[3 -3 -4]	(1 1 0)	(4 0 3)	8.403	1.263	6.65	51.5	65.2
[1 -1 -1]	(1 1 0)	(6 8 -2)	8.403	1.260	6.67	30.3	69.5
[2 -2 3]	(1 1 0)	(-4 2 4)	8.403	1.258	6.68	78.3	74.4
[2 -2 1]	(1 1 0)	(4 2 -4)	8.403	1.258	6.68	70.6	89.0
[3 -3 -10]	(1 1 0)	(2 -8 3)	8.403	1.257	6.68	82.8	45.4
[1 -1 2]	(1 1 0)	(2 8 3)	8.403	1.257	6.68	49.8	67.7
[1 -1 1]	(1 1 0)	(7 5 -2)	8.403	1.255	6.70	28.4	81.5
[1 -1 -2]	(1 1 0)	(-4 2 -3)	8.403	1.251	6.72	56.5	57.6
[3 -3 -2]	(1 1 0)	(4 2 3)	8.403	1.251	6.72	47.0	74.0
[1 -1 -1]	(1 1 0)	(-1 -5 4)	8.403	1.245	6.75	85.6	69.5
[2 -2 3]	(1 1 0)	(-1 5 4)	8.403	1.245	6.75	75.9	74.4
[2 -2 -1]	(1 1 0)	(-1 1 -4)	8.403	1.243	6.76	73.6	76.3
[1 -1 0]	(1 1 0)	(1 1 4)	8.403	1.243	6.76	69.7	83.6
[1 -1 2]	(1 1 0)	(3 -5 -4)	8.403	1.234	6.81	89.3	67.7
[2 -2 -1]	(1 1 0)	(3 5 -4)	8.403	1.234	6.81	72.2	76.3
[1 -1 -3]	(1 1 0)	(6 0 2)	8.403	1.229	6.84	38.2	48.1
[1 -1 0]	(1 1 0)	(7 7 -1)	8.403	1.227	6.85	13.4	83.6
[3 -3 -10]	(1 1 0)	(-3 7 -3)	8.403	1.221	6.88	74.5	45.4
[3 -3 4]	(1 1 0)	(3 7 3)	8.403	1.221	6.88	44.9	76.7
[1 -1 1]	(1 1 0)	(5 7 2)	8.403	1.220	6.89	27.5	81.5
[1 -1 -1]	(1 1 0)	(1 -3 4)	8.403	1.220	6.89	77.6	69.5
[2 -2 1]	(1 1 0)	(1 3 4)	8.403	1.220	6.89	66.2	89.0
[1 -1 0]	(1 1 0)	(4 4 3)	8.403	1.216	6.91	43.5	83.6
[3 -3 8]	(1 1 0)	(7 -1 -3)	8.403	1.212	6.93	52.1	59.7
[1 -1 2]	(1 1 0)	(7 1 -3)	8.403	1.212	6.93	47.5	67.7
[2 -2 3]	(1 1 0)	(-5 1 4)	8.403	1.209	6.95	70.2	74.4
[1 -1 1]	(1 1 0)	(5 1 -4)	8.403	1.209	6.95	66.4	81.5
[1 -1 2]	(1 1 0)	(6 8 1)	8.403	1.204	6.98	14.1	67.7
[3 -3 10]	(1 1 0)	(7 -3 -3)	8.403	1.191	7.06	57.2	52.8
[3 -3 4]	(1 1 0)	(-7 -3 3)	8.403	1.191	7.06	43.5	76.7
[2 -2 -3]	(1 1 0)	(0 -6 4)	8.403	1.191	7.06	89.6	63.2
[2 -2 3]	(1 1 0)	(0 6 4)	8.403	1.191	7.06	68.0	74.4
[1 -1 0]	(1 1 0)	(-7 -7 2)	8.403	1.188	7.08	26.6	83.6
[1 -1 2]	(1 1 0)	(5 -3 -4)	8.403	1.188	7.08	74.3	67.7
[2 -2 1]	(1 1 0)	(-5 -3 4)	8.403	1.188	7.08	62.9	89.0
[1 -1 -1]	(1 1 0)	(6 4 2)	8.403	1.185	7.09	28.3	69.5
[2 -2 -1]	(1 1 0)	(2 0 4)	8.403	1.182	7.11	65.8	76.3
[3 -3 -4]	(1 1 0)	(5 9 -3)	8.403	1.181	7.12	47.0	65.2
[1 -1 3]	(1 1 0)	(-8 -2 2)	8.403	1.180	7.12	32.2	56.1
[2 -2 -3]	(1 1 0)	(1 7 -4)	8.403	1.180	7.12	82.3	63.2
[1 -1 2]	(1 1 0)	(1 -7 -4)	8.403	1.180	7.12	73.0	67.7
[1 -1 4]	(1 1 0)	(8 4 -1)	8.403	1.179	7.13	17.6	47.0
[2 -2 -3]	(1 1 0)	(1 -5 4)	8.403	1.178	7.14	81.6	63.2
[1 -1 1]	(1 1 0)	(1 5 4)	8.403	1.178	7.14	63.2	81.5
[1 -1 -2]	(1 1 0)	(7 5 1)	8.403	1.175	7.15	15.1	57.6
[2 -2 5]	(1 1 0)	(-4 6 4)	8.403	1.170	7.18	86.1	61.6

Riebeckite (110) 362 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -1]	(1 1 0)	(4 6 -4)	8.403	1.170	7.18	64.6	76.3
[2 -2 5]	(1 1 0)	(3 -7 -4)	8.403	1.170	7.18	85.9	61.6
[1 -1 -1]	(1 1 0)	(3 7 -4)	8.403	1.170	7.18	69.5	69.5
[3 -3 -10]	(1 1 0)	(4 -6 3)	8.403	1.165	7.22	66.8	45.4
[3 -3 2]	(1 1 0)	(4 6 3)	8.403	1.165	7.22	41.0	86.5
[1 -1 4]	(1 1 0)	(7 -5 -3)	8.403	1.151	7.30	62.3	47.0
[3 -3 2]	(1 1 0)	(7 5 -3)	8.403	1.151	7.30	40.4	86.5
[1 -1 2]	(1 1 0)	(-8 -4 2)	8.403	1.151	7.30	27.8	67.7
[2 -2 5]	(1 1 0)	(5 -5 -4)	8.403	1.148	7.32	78.3	61.6
[1 -1 0]	(1 1 0)	(-5 -5 4)	8.403	1.148	7.32	60.1	83.6
[1 -1 -2]	(1 1 0)	(5 -1 3)	8.403	1.148	7.32	49.9	57.6
[3 -3 -4]	(1 1 0)	(5 1 3)	8.403	1.148	7.32	45.3	65.2
[3 -3 -2]	(1 1 0)	(-6 -8 3)	8.403	1.148	7.32	42.2	74.0
[2 -2 5]	(1 1 0)	(-2 8 4)	8.403	1.147	7.32	78.1	61.6
[2 -2 -3]	(1 1 0)	(-2 -8 4)	8.403	1.147	7.32	74.5	63.2
[1 -1 -2]	(1 1 0)	(7 9 -1)	8.403	1.145	7.34	14.7	57.6
[2 -2 -3]	(1 1 0)	(-2 4 -4)	8.403	1.143	7.35	73.8	63.2
[2 -2 1]	(1 1 0)	(2 4 4)	8.403	1.143	7.35	59.0	89.0
[2 -2 3]	(1 1 0)	(6 0 -4)	8.403	1.143	7.35	62.9	74.4
[1 -1 2]	(1 1 0)	(5 9 2)	8.403	1.140	7.37	27.5	67.7
[1 -1 2]	(1 1 0)	(8 6 -1)	8.403	1.131	7.43	13.3	67.7
[3 -3 -8]	(1 1 0)	(5 -3 3)	8.403	1.130	7.43	54.9	51.0
[3 -3 -2]	(1 1 0)	(5 3 3)	8.403	1.130	7.43	41.4	74.0
[1 -1 -2]	(1 1 0)	(1 -7 4)	8.403	1.122	7.49	85.3	57.6
[2 -2 3]	(1 1 0)	(1 7 4)	8.403	1.122	7.49	60.9	74.4
[1 -1 0]	(1 1 0)	(7 7 1)	8.403	1.120	7.51	12.2	83.6
[1 -1 -1]	(1 1 0)	(-7 -9 2)	8.403	1.113	7.55	26.5	69.5
[1 -1 -1]	(1 1 0)	(3 -1 4)	8.403	1.109	7.57	62.6	69.5
[2 -2 -1]	(1 1 0)	(3 1 4)	8.403	1.109	7.57	58.9	76.3
[2 -2 5]	(1 1 0)	(6 -4 -4)	8.403	1.108	7.58	70.9	61.6
[2 -2 1]	(1 1 0)	(-6 -4 4)	8.403	1.108	7.58	56.2	89.0
[3 -3 8]	(1 1 0)	(8 0 -3)	8.403	1.107	7.59	46.2	59.7
[1 -1 1]	(1 1 0)	(-8 -6 2)	8.403	1.107	7.59	24.8	81.5
[1 -1 -2]	(1 1 0)	(1 9 -4)	8.403	1.107	7.59	79.5	57.6
[2 -2 5]	(1 1 0)	(1 -9 -4)	8.403	1.107	7.59	70.7	61.6
[3 -3 4]	(1 1 0)	(4 8 3)	8.403	1.102	7.62	39.6	76.7
[3 -3 10]	(1 1 0)	(8 -2 -3)	8.403	1.099	7.65	50.9	52.8
[1 -1 2]	(1 1 0)	(-8 -2 3)	8.403	1.099	7.65	41.9	67.7
[1 -1 0]	(1 1 0)	(7 7 -3)	8.403	1.099	7.65	38.4	83.6
[1 -1 -3]	(1 1 0)	(7 1 2)	8.403	1.098	7.65	33.6	48.1
[1 -1 3]	(1 1 0)	(-3 9 4)	8.403	1.098	7.65	82.9	56.1
[2 -2 -3]	(1 1 0)	(-3 -9 4)	8.403	1.098	7.65	67.3	63.2
[1 -1 3]	(1 1 0)	(5 -7 -4)	8.403	1.096	7.66	82.1	56.1
[2 -2 -1]	(1 1 0)	(-5 -7 4)	8.403	1.096	7.66	57.8	76.3
[3 -3 -10]	(1 1 0)	(5 -5 3)	8.403	1.096	7.66	59.9	45.4
[1 -1 0]	(1 1 0)	(5 5 3)	8.403	1.096	7.66	38.3	83.6
[2 -2 -3]	(1 1 0)	(3 -3 4)	8.403	1.093	7.69	66.6	63.2
[1 -1 0]	(1 1 0)	(3 3 4)	8.403	1.093	7.69	55.6	83.6

Riebeckite (110) 362 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	(7 3 2)	8.403	1.082	7.76	28.7	57.6
[1 -1 1]	(1 1 0)	(6 8 2)	8.403	1.079	7.79	24.1	81.5
[1 -1 4]	(1 1 0)	(8 -4 -3)	8.403	1.075	7.81	55.8	47.0
[3 -3 4]	(1 1 0)	(-8 -4 3)	8.403	1.075	7.81	38.4	76.7
[1 -1 0]	(1 1 0)	(8 8 -1)	8.403	1.074	7.83	11.7	83.6
[1 -1 2]	(1 1 0)	(-7 1 4)	8.403	1.069	7.86	60.1	67.7
[2 -2 3]	(1 1 0)	(7 1 -4)	8.403	1.069	7.86	56.4	74.4
[1 -1 4]	(1 1 0)	(-9 -1 2)	8.403	1.067	7.88	33.2	47.0
[5 -5 2]	(1 1 0)	(-2 0 5)	8.403	1.067	7.88	89.1	89.5
[1 -1 -2]	(1 1 0)	(-3 5 -4)	8.403	1.062	7.91	70.7	57.6
[2 -2 1]	(1 1 0)	(3 5 4)	8.403	1.062	7.91	52.8	89.0
[5 -5 4]	(1 1 0)	(-3 1 5)	8.403	1.060	7.93	86.8	84.5
[5 -5 2]	(1 1 0)	(3 1 -5)	8.403	1.060	7.93	83.6	89.5
[1 -1 0]	(1 1 0)	(-2 -2 5)	8.403	1.059	7.93	87.7	83.6
[5 -5 4]	(1 1 0)	(-2 2 5)	8.403	1.059	7.93	86.0	84.5
[2 -2 -5]	(1 1 0)	(-1 9 -4)	8.403	1.058	7.94	88.7	52.5
[1 -1 2]	(1 1 0)	(1 9 4)	8.403	1.058	7.94	59.1	67.7
[1 -1 2]	(1 1 0)	(7 9 1)	8.403	1.056	7.95	12.4	67.7
[1 -1 0]	(1 1 0)	(-1 -1 5)	8.403	1.056	7.95	85.1	83.6
[5 -5 2]	(1 1 0)	(1 -1 -5)	8.403	1.056	7.95	81.9	89.5
[2 -2 5]	(1 1 0)	(7 -3 -4)	8.403	1.055	7.97	64.1	61.6
[1 -1 1]	(1 1 0)	(-7 -3 4)	8.403	1.055	7.97	53.1	81.5
[1 -1 -1]	(1 1 0)	(7 5 2)	8.403	1.053	7.98	24.9	69.5
[1 -1 3]	(1 1 0)	(-9 -3 2)	8.403	1.052	7.99	28.4	56.1
[3 -3 2]	(1 1 0)	(5 7 3)	8.403	1.051	8.00	36.3	86.5
[2 -2 3]	(1 1 0)	(2 8 4)	8.403	1.047	8.03	54.6	74.4
[5 -5 6]	(1 1 0)	(3 -3 -5)	8.403	1.046	8.03	89.9	78.6
[1 -1 0]	(1 1 0)	(-3 -3 5)	8.403	1.046	8.03	80.6	83.6
[5 -5 4]	(1 1 0)	(4 0 -5)	8.403	1.045	8.04	79.6	84.5
[3 -3 -8]	(1 1 0)	(-6 2 -3)	8.403	1.044	8.05	49.1	51.0
[3 -3 -4]	(1 1 0)	(6 2 3)	8.403	1.044	8.05	40.3	65.2
[5 -5 -2]	(1 1 0)	(1 3 -5)	8.403	1.042	8.06	88.2	77.7
[5 -5 4]	(1 1 0)	(-1 3 5)	8.403	1.042	8.06	78.9	84.5
[3 -3 -2]	(1 1 0)	(-7 -9 3)	8.403	1.039	8.09	37.4	74.0
[1 -1 4]	(1 1 0)	(9 5 -1)	8.403	1.039	8.09	15.5	47.0
[5 -5 -2]	(1 1 0)	(2 4 -5)	8.403	1.038	8.09	84.7	77.7
[5 -5 6]	(1 1 0)	(2 -4 -5)	8.403	1.038	8.09	83.0	78.6
[5 -5 6]	(1 1 0)	(4 -2 -5)	8.403	1.038	8.10	82.8	78.6
[5 -5 2]	(1 1 0)	(-4 -2 5)	8.403	1.038	8.10	76.6	89.5
[2 -2 7]	(1 1 0)	(5 -9 -4)	8.403	1.037	8.10	85.6	51.2
[1 -1 -1]	(1 1 0)	(-5 -9 4)	8.403	1.037	8.10	56.1	69.5
[1 -1 -2]	(1 1 0)	(8 6 1)	8.403	1.035	8.12	13.3	57.6
[2 -2 -3]	(1 1 0)	(-4 2 -4)	8.403	1.033	8.14	60.2	63.2
[2 -2 -1]	(1 1 0)	(4 2 4)	8.403	1.033	8.14	52.8	76.3
[5 -5 -2]	(1 1 0)	(0 2 -5)	8.403	1.030	8.16	81.2	77.7
[5 -5 2]	(1 1 0)	(0 2 5)	8.403	1.030	8.16	74.9	89.5
[1 -1 3]	(1 1 0)	(-7 5 4)	8.403	1.027	8.18	68.1	56.1
[2 -2 1]	(1 1 0)	(7 5 -4)	8.403	1.027	8.18	50.4	89.0

Riebeckite (110) 362 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	(-9 -5 2)	8.403	1.025	8.20	24.5	67.7
[3 -3 -10]	(1 1 0)	(6 -4 3)	8.403	1.023	8.21	53.9	45.4
[3 -3 -2]	(1 1 0)	(6 4 3)	8.403	1.023	8.21	36.8	74.0
[2 -2 -5]	(1 1 0)	(3 -7 4)	8.403	1.021	8.23	74.6	52.5
[1 -1 1]	(1 1 0)	(3 7 4)	8.403	1.021	8.23	50.7	81.5
[2 -2 7]	(1 1 0)	(6 -8 -4)	8.403	1.020	8.24	78.7	51.2
[2 -2 -1]	(1 1 0)	(-6 -8 4)	8.403	1.020	8.24	51.9	76.3
[5 -5 8]	(1 1 0)	(-3 5 5)	8.403	1.019	8.25	87.1	73.0
[5 -5 -2]	(1 1 0)	(-3 -5 5)	8.403	1.019	8.25	77.8	77.7
[5 -5 8]	(1 1 0)	(4 -4 -5)	8.403	1.018	8.26	86.0	73.0
[1 -1 0]	(1 1 0)	(-4 -4 5)	8.403	1.018	8.26	73.7	83.6
[5 -5 -4]	(1 1 0)	(1 5 -5)	8.403	1.015	8.28	88.7	72.2
[5 -5 6]	(1 1 0)	(1 -5 -5)	8.403	1.015	8.28	76.1	78.6
[5 -5 6]	(1 1 0)	(5 -1 -5)	8.403	1.015	8.28	75.9	78.6
[5 -5 4]	(1 1 0)	(-5 -1 5)	8.403	1.015	8.28	72.8	84.5
[1 -1 0]	(1 1 0)	(7 7 2)	8.403	1.012	8.30	22.4	83.6
[3 -3 10]	(1 1 0)	(-9 1 3)	8.403	1.011	8.31	45.5	52.8
[3 -3 8]	(1 1 0)	(9 1 -3)	8.403	1.011	8.31	41.2	59.7
[5 -5 -4]	(1 1 0)	(0 4 -5)	8.403	1.011	8.31	84.4	72.2
[5 -5 4]	(1 1 0)	(0 4 5)	8.403	1.011	8.31	72.1	84.5
[5 -5 -4]	(1 1 0)	(-2 -6 5)	8.403	1.005	8.36	81.9	72.2
[5 -5 8]	(1 1 0)	(-2 6 5)	8.403	1.005	8.36	80.2	73.0
[5 -5 -2]	(1 1 0)	(-1 1 -5)	8.403	1.004	8.37	74.4	77.7
[1 -1 0]	(1 1 0)	(1 1 5)	8.403	1.004	8.37	71.3	83.6
[5 -5 8]	(1 1 0)	(-5 3 5)	8.403	1.002	8.39	79.1	73.0
[5 -5 2]	(1 1 0)	(5 3 -5)	8.403	1.002	8.39	69.9	89.5

Riebeckite (130) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	5.082	5.186	0.98	82.8	78.5
[3 -1 4]	(1 3 0)	(1 -1 -1)	5.082	4.891	1.04	85.9	66.8
[3 -1 2]	(1 3 0)	(1 1 -1)	5.082	4.891	1.04	67.3	83.6
[3 -1 2]	(1 3 0)	(0 2 1)	5.082	4.496	1.13	58.0	83.6
[3 -1 -4]	(1 3 0)	(1 -1 1)	5.082	4.052	1.25	82.1	50.1
[3 -1 -2]	(1 3 0)	(1 1 1)	5.082	4.052	1.25	58.9	62.5
[3 -1 6]	(1 3 0)	(1 -3 -1)	5.082	3.882	1.31	65.1	53.3
[3 -1 0]	(1 3 0)	(1 3 -1)	5.082	3.882	1.31	48.0	78.5
[3 -1 4]	(1 3 0)	(2 2 -1)	5.082	3.658	1.39	48.2	66.8
[3 -1 0]	(1 3 0)	(1 3 1)	5.082	3.421	1.49	40.9	78.5
[3 -1 -4]	(1 3 0)	(0 4 -1)	5.082	3.404	1.49	56.3	50.1
[3 -1 4]	(1 3 0)	(0 4 1)	5.082	3.404	1.49	44.0	66.8
[3 -1 2]	(1 3 0)	(2 4 -1)	5.082	2.994	1.70	34.4	83.6
[3 -1 -4]	(1 3 0)	(2 2 1)	5.082	2.976	1.71	46.7	50.1
[3 -1 -2]	(1 3 0)	(1 5 -1)	5.082	2.943	1.73	38.5	62.5
[3 -1 2]	(1 3 0)	(1 5 1)	5.082	2.726	1.86	30.9	83.6
[3 -1 6]	(1 3 0)	(3 3 -1)	5.082	2.712	1.87	39.3	53.3
[3 -1 2]	(1 3 0)	(1 -1 -2)	5.082	2.637	1.93	84.1	83.6
[3 -1 1]	(1 3 0)	(1 1 -2)	5.082	2.637	1.93	81.7	87.4
[3 -1 6]	(1 3 0)	(0 6 1)	5.082	2.602	1.95	37.5	53.3
[3 -1 -2]	(1 3 0)	(2 4 1)	5.082	2.584	1.97	33.1	62.5
[3 -1 3]	(1 3 0)	(2 0 -2)	5.082	2.541	2.00	80.6	74.9
[3 -1 -1]	(1 3 0)	(0 2 -2)	5.082	2.492	2.04	83.5	70.1
[3 -1 1]	(1 3 0)	(0 2 2)	5.082	2.492	2.04	69.3	87.4
[3 -1 3]	(1 3 0)	(-1 3 2)	5.082	2.437	2.09	71.2	74.9
[3 -1 0]	(1 3 0)	(-1 -3 2)	5.082	2.437	2.09	68.8	78.5
[3 -1 0]	(1 3 0)	(2 6 -1)	5.082	2.404	2.11	27.4	78.5
[3 -1 -2]	(1 3 0)	(1 -1 2)	5.082	2.344	2.17	82.2	62.5
[3 -1 -1]	(1 3 0)	(1 1 2)	5.082	2.344	2.17	69.2	70.1
[3 -1 4]	(1 3 0)	(3 5 -1)	5.082	2.324	2.19	28.3	66.8
[3 -1 -4]	(1 3 0)	(1 7 -1)	5.082	2.299	2.21	34.2	50.1
[3 -1 5]	(1 3 0)	(-3 1 2)	5.082	2.268	2.24	80.4	59.6
[3 -1 4]	(1 3 0)	(3 1 -2)	5.082	2.268	2.24	67.7	66.8
[3 -1 5]	(1 3 0)	(2 -4 -2)	5.082	2.214	2.30	74.2	59.6
[3 -1 1]	(1 3 0)	(2 4 -2)	5.082	2.214	2.30	56.2	87.4
[3 -1 -3]	(1 3 0)	(1 -3 2)	5.082	2.200	2.31	85.5	55.8
[3 -1 0]	(1 3 0)	(1 3 2)	5.082	2.200	2.31	57.3	78.5
[3 -1 4]	(1 3 0)	(1 7 1)	5.082	2.191	2.32	26.5	66.8
[3 -1 0]	(1 3 0)	(2 6 1)	5.082	2.176	2.34	24.6	78.5
[3 -1 4]	(1 3 0)	(-1 5 2)	5.082	2.144	2.37	61.0	66.8
[3 -1 -1]	(1 3 0)	(1 5 -2)	5.082	2.144	2.37	58.8	70.1
[3 -1 6]	(1 3 0)	(3 -3 -2)	5.082	2.137	2.38	87.6	53.3
[3 -1 3]	(1 3 0)	(3 3 -2)	5.082	2.137	2.38	56.1	74.9
[3 -1 -3]	(1 3 0)	(2 0 2)	5.082	2.079	2.44	70.4	55.8
[3 -1 -4]	(1 3 0)	(3 5 1)	5.082	2.031	2.50	29.8	50.1
[3 -1 1]	(1 3 0)	(1 5 2)	5.082	1.978	2.57	47.9	87.4
[3 -1 2]	(1 3 0)	(3 7 -1)	5.082	1.966	2.59	21.8	83.6
[3 -1 -2]	(1 3 0)	(-2 -8 1)	5.082	1.965	2.59	24.5	62.5

Riebeckite (130) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -3]	(1 3 0)	(0 6 -2)	5.082	1.964	2.59	62.9	55.8
[3 -1 3]	(1 3 0)	(0 6 2)	5.082	1.964	2.59	49.7	74.9
[3 -1 7]	(1 3 0)	(4 -2 -2)	5.082	1.953	2.60	80.6	47.9
[3 -1 5]	(1 3 0)	(-4 -2 2)	5.082	1.953	2.60	58.1	59.6
[3 -1 7]	(1 3 0)	(-3 5 2)	5.082	1.931	2.63	77.3	47.9
[3 -1 2]	(1 3 0)	(-3 -5 2)	5.082	1.931	2.63	46.8	83.6
[3 -1 -5]	(1 3 0)	(-2 4 -2)	5.082	1.888	2.69	87.2	45.1
[3 -1 -1]	(1 3 0)	(2 4 2)	5.082	1.888	2.69	48.9	70.1
[3 -1 6]	(1 3 0)	(-4 -6 1)	5.082	1.867	2.72	25.9	53.3
[3 -1 5]	(1 3 0)	(-1 7 2)	5.082	1.853	2.74	53.7	59.6
[3 -1 -2]	(1 3 0)	(-1 -7 2)	5.082	1.853	2.74	51.6	62.5
[3 -1 2]	(1 3 0)	(2 8 1)	5.082	1.835	2.77	20.2	83.6
[3 -1 6]	(1 3 0)	(1 9 1)	5.082	1.806	2.81	25.0	53.3
[3 -1 -5]	(1 3 0)	(-3 1 -2)	5.082	1.799	2.82	72.1	45.1
[3 -1 -4]	(1 3 0)	(3 1 2)	5.082	1.799	2.82	61.6	50.1
[3 -1 -2]	(1 3 0)	(3 7 1)	5.082	1.779	2.86	22.1	62.5
[9 -3 2]	(1 3 0)	(1 1 -3)	5.082	1.767	2.88	86.9	84.4
[9 -3 4]	(1 3 0)	(1 -1 -3)	5.082	1.767	2.88	83.6	89.6
[3 -1 2]	(1 3 0)	(2 0 -3)	5.082	1.763	2.88	86.0	83.6
[3 -1 -5]	(1 3 0)	(1 -7 2)	5.082	1.742	2.92	67.2	45.1
[3 -1 2]	(1 3 0)	(1 7 2)	5.082	1.742	2.92	41.1	83.6
[3 -1 -3]	(1 3 0)	(3 3 2)	5.082	1.732	2.93	51.7	55.8
[3 -1 7]	(1 3 0)	(5 1 -2)	5.082	1.731	2.94	61.0	47.9
[9 -3 8]	(1 3 0)	(2 -2 -3)	5.082	1.730	2.94	84.7	77.7
[9 -3 4]	(1 3 0)	(2 2 -3)	5.082	1.730	2.94	76.6	89.6
[3 -1 1]	(1 3 0)	(3 7 -2)	5.082	1.711	2.97	39.9	87.4
[3 -1 0]	(1 3 0)	(1 3 -3)	5.082	1.703	2.98	77.8	78.5
[3 -1 2]	(1 3 0)	(1 -3 -3)	5.082	1.703	2.98	74.5	83.6
[9 -3 -2]	(1 3 0)	(0 2 -3)	5.082	1.698	2.99	88.0	72.8
[9 -3 2]	(1 3 0)	(0 2 3)	5.082	1.698	2.99	73.6	84.4
[3 -1 7]	(1 3 0)	(-2 8 2)	5.082	1.687	3.01	58.4	47.9
[3 -1 -1]	(1 3 0)	(-2 -8 2)	5.082	1.687	3.01	42.3	70.1
[9 -3 10]	(1 3 0)	(3 -1 -3)	5.082	1.686	3.01	85.2	72.1
[9 -3 8]	(1 3 0)	(-3 -1 3)	5.082	1.686	3.01	76.0	77.7
[3 -1 0]	(1 3 0)	(3 9 -1)	5.082	1.674	3.04	18.7	78.5
[3 -1 6]	(1 3 0)	(5 3 -2)	5.082	1.671	3.04	51.4	53.3
[3 -1 3]	(1 3 0)	(-4 -6 2)	5.082	1.666	3.05	40.3	74.9
[9 -3 10]	(1 3 0)	(-2 4 3)	5.082	1.642	3.09	76.0	72.1
[9 -3 2]	(1 3 0)	(-2 -4 3)	5.082	1.642	3.09	68.1	84.4
[3 -1 4]	(1 3 0)	(4 8 -1)	5.082	1.637	3.10	19.5	66.8
[9 -3 -4]	(1 3 0)	(-1 1 -3)	5.082	1.628	3.12	82.3	67.5
[9 -3 -2]	(1 3 0)	(1 1 3)	5.082	1.628	3.12	73.4	72.8
[3 -1 -2]	(1 3 0)	(3 5 2)	5.082	1.617	3.14	43.1	62.5
[9 -3 -4]	(1 3 0)	(0 4 -3)	5.082	1.614	3.15	79.4	67.5
[9 -3 4]	(1 3 0)	(0 4 3)	5.082	1.614	3.15	65.2	89.6
[3 -1 6]	(1 3 0)	(1 -9 -2)	5.082	1.602	3.17	48.5	53.3
[3 -1 -3]	(1 3 0)	(1 9 -2)	5.082	1.602	3.17	46.6	55.8
[9 -3 -2]	(1 3 0)	(-1 -5 3)	5.082	1.593	3.19	69.7	72.8

Riebeckite (130) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[9 -3 8]	(1 3 0)	(-1 5 3)	5.082	1.593	3.19	66.5	77.7
[3 -1 4]	(1 3 0)	(-4 0 3)	5.082	1.586	3.20	76.0	66.8
[3 -1 -2]	(1 3 0)	(-1 3 -3)	5.082	1.577	3.22	89.0	62.5
[3 -1 0]	(1 3 0)	(1 3 3)	5.082	1.577	3.22	64.8	78.5
[3 -1 5]	(1 3 0)	(5 5 -2)	5.082	1.567	3.24	42.9	59.6
[9 -3 14]	(1 3 0)	(-4 2 3)	5.082	1.562	3.25	84.7	61.9
[9 -3 10]	(1 3 0)	(4 2 -3)	5.082	1.562	3.25	67.4	72.1
[3 -1 -5]	(1 3 0)	(4 2 2)	5.082	1.553	3.27	55.2	45.1
[9 -3 14]	(1 3 0)	(3 -5 -3)	5.082	1.533	3.31	77.8	61.9
[9 -3 4]	(1 3 0)	(3 5 -3)	5.082	1.533	3.31	59.6	89.6
[3 -1 3]	(1 3 0)	(1 9 2)	5.082	1.529	3.32	36.4	74.9
[3 -1 1]	(1 3 0)	(2 8 2)	5.082	1.529	3.32	35.0	87.4
[3 -1 4]	(1 3 0)	(-2 6 3)	5.082	1.521	3.34	68.5	66.8
[3 -1 0]	(1 3 0)	(-2 -6 3)	5.082	1.521	3.34	60.8	78.5
[3 -1 -2]	(1 3 0)	(2 0 3)	5.082	1.514	3.36	73.7	62.5
[3 -1 0]	(1 3 0)	(-3 -9 2)	5.082	1.508	3.37	35.2	78.5
[9 -3 16]	(1 3 0)	(-4 4 3)	5.082	1.496	3.40	87.0	57.4
[9 -3 8]	(1 3 0)	(4 4 -3)	5.082	1.496	3.40	59.4	77.7
[9 -3 -8]	(1 3 0)	(2 -2 3)	5.082	1.493	3.40	82.1	58.0
[9 -3 -4]	(1 3 0)	(2 2 3)	5.082	1.493	3.40	65.4	67.5
[3 -1 -4]	(1 3 0)	(4 8 1)	5.082	1.492	3.41	21.4	50.1
[9 -3 -8]	(1 3 0)	(1 -5 3)	5.082	1.489	3.41	81.0	58.0
[9 -3 2]	(1 3 0)	(1 5 3)	5.082	1.489	3.41	57.3	84.4
[3 -1 -1]	(1 3 0)	(3 7 2)	5.082	1.480	3.43	36.2	70.1
[9 -3 -4]	(1 3 0)	(-1 -7 3)	5.082	1.462	3.47	62.9	67.5
[9 -3 10]	(1 3 0)	(-1 7 3)	5.082	1.462	3.47	59.8	72.1
[9 -3 16]	(1 3 0)	(-5 1 3)	5.082	1.456	3.49	76.3	57.4
[9 -3 14]	(1 3 0)	(5 1 -3)	5.082	1.456	3.49	68.1	61.9
[3 -1 4]	(1 3 0)	(-5 -7 2)	5.082	1.442	3.52	36.0	66.8
[3 -1 7]	(1 3 0)	(6 4 -2)	5.082	1.439	3.53	46.6	47.9
[9 -3 -10]	(1 3 0)	(2 -4 3)	5.082	1.435	3.54	89.9	53.8
[9 -3 -2]	(1 3 0)	(2 4 3)	5.082	1.435	3.54	57.7	72.8
[3 -1 6]	(1 3 0)	(5 -3 -3)	5.082	1.419	3.58	84.4	53.3
[3 -1 4]	(1 3 0)	(-5 -3 3)	5.082	1.419	3.58	60.3	66.8
[9 -3 16]	(1 3 0)	(-3 7 3)	5.082	1.416	3.59	70.9	57.4
[9 -3 2]	(1 3 0)	(-3 -7 3)	5.082	1.416	3.59	53.1	84.4
[3 -1 6]	(1 3 0)	(-4 6 3)	5.082	1.403	3.62	79.6	53.3
[3 -1 2]	(1 3 0)	(-4 -6 3)	5.082	1.403	3.62	52.5	83.6
[3 -1 -3]	(1 3 0)	(4 6 2)	5.082	1.396	3.64	39.2	55.8
[3 -1 6]	(1 3 0)	(-5 -9 1)	5.082	1.393	3.65	19.0	53.3
[9 -3 14]	(1 3 0)	(-2 8 3)	5.082	1.389	3.66	62.3	61.9
[9 -3 -2]	(1 3 0)	(-2 -8 3)	5.082	1.389	3.66	54.9	72.8
[9 -3 -10]	(1 3 0)	(3 -1 3)	5.082	1.382	3.68	74.4	53.8
[9 -3 -8]	(1 3 0)	(3 1 3)	5.082	1.382	3.68	66.5	58.0
[9 -3 -10]	(1 3 0)	(-1 7 -3)	5.082	1.380	3.68	74.1	53.8
[9 -3 4]	(1 3 0)	(1 7 3)	5.082	1.380	3.68	50.9	89.6
[9 -3 -8]	(1 3 0)	(0 8 -3)	5.082	1.372	3.70	65.5	58.0
[9 -3 8]	(1 3 0)	(0 8 3)	5.082	1.372	3.70	52.2	77.7

Riebeckite (130) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[9 -3 10]	(1 3 0)	(5 5 -3)	5.082	1.354	3.75	53.1	72.1
[3 -1 -4]	(1 3 0)	(2 -6 3)	5.082	1.352	3.76	82.6	50.1
[3 -1 0]	(1 3 0)	(2 6 3)	5.082	1.352	3.76	50.9	78.5
[3 -1 0]	(1 3 0)	(3 9 2)	5.082	1.343	3.78	30.9	78.5
[3 -1 -2]	(1 3 0)	(1 9 -3)	5.082	1.329	3.82	57.4	62.5
[3 -1 4]	(1 3 0)	(-1 9 3)	5.082	1.329	3.82	54.4	66.8
[6 -2 1]	(1 3 0)	(-1 -1 4)	5.082	1.323	3.84	89.5	82.9
[3 -1 1]	(1 3 0)	(-1 1 4)	5.082	1.323	3.84	83.4	87.4
[9 -3 20]	(1 3 0)	(-6 2 3)	5.082	1.319	3.85	76.9	49.6
[9 -3 16]	(1 3 0)	(6 2 -3)	5.082	1.319	3.85	61.7	57.4
[3 -1 3]	(1 3 0)	(-5 -9 2)	5.082	1.314	3.87	30.7	74.9
[6 -2 5]	(1 3 0)	(3 -1 -4)	5.082	1.309	3.88	88.1	79.2
[3 -1 2]	(1 3 0)	(-3 -1 4)	5.082	1.309	3.88	81.0	83.6
[9 -3 20]	(1 3 0)	(-4 8 3)	5.082	1.297	3.92	73.3	49.6
[9 -3 4]	(1 3 0)	(-4 -8 3)	5.082	1.297	3.92	46.9	89.6
[3 -1 0]	(1 3 0)	(-1 -3 4)	5.082	1.296	3.92	82.6	78.5
[6 -2 3]	(1 3 0)	(-1 3 4)	5.082	1.296	3.92	76.4	88.1
[9 -3 -14]	(1 3 0)	(-3 5 -3)	5.082	1.294	3.93	89.4	46.7
[9 -3 -4]	(1 3 0)	(3 5 3)	5.082	1.294	3.93	52.0	67.5
[3 -1 -5]	(1 3 0)	(5 5 2)	5.082	1.293	3.93	43.1	45.1
[6 -2 -1]	(1 3 0)	(0 2 -4)	5.082	1.283	3.96	89.8	74.2
[6 -2 1]	(1 3 0)	(0 2 4)	5.082	1.283	3.96	75.8	82.9
[3 -1 3]	(1 3 0)	(3 -3 -4)	5.082	1.283	3.96	85.0	74.9
[6 -2 3]	(1 3 0)	(3 3 -4)	5.082	1.283	3.96	74.2	88.1
[9 -3 22]	(1 3 0)	(-6 4 3)	5.082	1.279	3.97	84.3	46.3
[9 -3 14]	(1 3 0)	(6 4 -3)	5.082	1.279	3.97	54.6	61.9
[6 -2 5]	(1 3 0)	(2 -4 -4)	5.082	1.278	3.98	77.3	79.2
[6 -2 1]	(1 3 0)	(2 4 -4)	5.082	1.278	3.98	75.0	82.9
[9 -3 22]	(1 3 0)	(5 -7 -3)	5.082	1.271	4.00	81.3	46.3
[9 -3 8]	(1 3 0)	(5 7 -3)	5.082	1.271	4.00	47.0	77.7
[3 -1 2]	(1 3 0)	(1 9 3)	5.082	1.267	4.01	45.8	83.6
[3 -1 -4]	(1 3 0)	(4 0 3)	5.082	1.263	4.02	67.9	50.1
[3 -1 5]	(1 3 0)	(-6 -8 2)	5.082	1.260	4.03	33.2	59.6
[6 -2 7]	(1 3 0)	(4 -2 -4)	5.082	1.258	4.04	87.5	70.7
[6 -2 5]	(1 3 0)	(-4 -2 4)	5.082	1.258	4.04	73.8	79.2
[9 -3 -14]	(1 3 0)	(-2 8 -3)	5.082	1.257	4.04	76.3	46.7
[9 -3 2]	(1 3 0)	(2 8 3)	5.082	1.257	4.04	45.3	84.4
[9 -3 -14]	(1 3 0)	(-4 2 -3)	5.082	1.251	4.06	75.2	46.7
[9 -3 -10]	(1 3 0)	(4 2 3)	5.082	1.251	4.06	60.6	53.8
[6 -2 -1]	(1 3 0)	(-1 -5 4)	5.082	1.245	4.08	76.1	74.2
[3 -1 2]	(1 3 0)	(-1 5 4)	5.082	1.245	4.08	70.0	83.6
[3 -1 -1]	(1 3 0)	(-1 1 -4)	5.082	1.243	4.09	82.4	70.1
[6 -2 -1]	(1 3 0)	(1 1 4)	5.082	1.243	4.09	75.6	74.2
[6 -2 7]	(1 3 0)	(3 -5 -4)	5.082	1.234	4.12	78.5	70.7
[3 -1 1]	(1 3 0)	(3 5 -4)	5.082	1.234	4.12	67.8	87.4
[9 -3 -2]	(1 3 0)	(3 7 3)	5.082	1.221	4.16	45.9	72.8
[3 -1 -4]	(1 3 0)	(5 7 2)	5.082	1.220	4.17	36.6	50.1
[6 -2 -3]	(1 3 0)	(-1 3 -4)	5.082	1.220	4.17	89.1	66.2

Riebeckite (130) 304 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	(1 3 4)	5.082	1.220	4.17	69.0	78.5
[9 -3 22]	(1 3 0)	(-7 1 3)	5.082	1.212	4.19	70.5	46.3
[9 -3 20]	(1 3 0)	(7 1 -3)	5.082	1.212	4.19	63.5	49.6
[3 -1 4]	(1 3 0)	(-5 1 4)	5.082	1.209	4.20	80.4	66.8
[6 -2 7]	(1 3 0)	(5 1 -4)	5.082	1.209	4.20	73.7	70.7
[3 -1 6]	(1 3 0)	(-7 -3 3)	5.082	1.191	4.27	56.6	53.3
[6 -2 -3]	(1 3 0)	(0 6 -4)	5.082	1.191	4.27	77.4	66.2
[6 -2 3]	(1 3 0)	(0 6 4)	5.082	1.191	4.27	63.3	88.1
[3 -1 7]	(1 3 0)	(7 7 -2)	5.082	1.188	4.28	36.9	47.9
[6 -2 9]	(1 3 0)	(-5 3 4)	5.082	1.188	4.28	87.0	63.1
[3 -1 3]	(1 3 0)	(5 3 -4)	5.082	1.188	4.28	67.3	74.9
[6 -2 -3]	(1 3 0)	(2 0 4)	5.082	1.182	4.30	75.6	66.2
[3 -1 2]	(1 3 0)	(-5 -9 3)	5.082	1.181	4.30	41.9	83.6
[3 -1 -1]	(1 3 0)	(1 7 -4)	5.082	1.180	4.31	70.2	70.1
[6 -2 5]	(1 3 0)	(-1 7 4)	5.082	1.180	4.31	64.2	79.2
[3 -1 -2]	(1 3 0)	(1 -5 4)	5.082	1.178	4.32	84.5	62.5
[6 -2 1]	(1 3 0)	(1 5 4)	5.082	1.178	4.32	62.9	82.9
[6 -2 9]	(1 3 0)	(-4 6 4)	5.082	1.170	4.34	79.7	63.1
[6 -2 3]	(1 3 0)	(-4 -6 4)	5.082	1.170	4.34	61.4	88.1
[3 -1 4]	(1 3 0)	(-3 7 4)	5.082	1.170	4.34	72.6	66.8
[6 -2 1]	(1 3 0)	(3 7 -4)	5.082	1.170	4.34	62.1	82.9
[3 -1 -2]	(1 3 0)	(4 6 3)	5.082	1.165	4.36	47.6	62.5
[9 -3 16]	(1 3 0)	(7 5 -3)	5.082	1.151	4.41	50.2	57.4
[3 -1 5]	(1 3 0)	(5 -5 -4)	5.082	1.148	4.42	86.8	59.6
[6 -2 5]	(1 3 0)	(5 5 -4)	5.082	1.148	4.42	61.2	79.2
[9 -3 -14]	(1 3 0)	(5 1 3)	5.082	1.148	4.43	62.6	46.7
[9 -3 10]	(1 3 0)	(6 8 -3)	5.082	1.148	4.43	42.7	72.1
[6 -2 7]	(1 3 0)	(-2 8 4)	5.082	1.147	4.43	65.7	70.7
[6 -2 -1]	(1 3 0)	(-2 -8 4)	5.082	1.147	4.43	63.4	74.2
[6 -2 -5]	(1 3 0)	(2 -4 4)	5.082	1.143	4.44	88.5	59.0
[6 -2 -1]	(1 3 0)	(2 4 4)	5.082	1.143	4.44	63.0	74.2
[6 -2 9]	(1 3 0)	(6 0 -4)	5.082	1.143	4.45	74.0	63.1
[3 -1 -3]	(1 3 0)	(5 9 2)	5.082	1.140	4.46	31.1	55.8
[3 -1 -4]	(1 3 0)	(5 3 3)	5.082	1.130	4.50	56.0	50.1
[6 -2 -5]	(1 3 0)	(1 -7 4)	5.082	1.122	4.53	78.7	59.0
[3 -1 1]	(1 3 0)	(1 7 4)	5.082	1.122	4.53	57.3	87.4
[3 -1 6]	(1 3 0)	(-7 -9 2)	5.082	1.113	4.57	31.4	53.3
[6 -2 -5]	(1 3 0)	(3 -1 4)	5.082	1.109	4.58	75.9	59.0
[3 -1 -2]	(1 3 0)	(3 1 4)	5.082	1.109	4.58	69.7	62.5
[6 -2 11]	(1 3 0)	(6 -4 -4)	5.082	1.108	4.59	86.6	56.3
[6 -2 7]	(1 3 0)	(-6 -4 4)	5.082	1.108	4.59	61.7	70.7
[6 -2 -3]	(1 3 0)	(1 9 -4)	5.082	1.107	4.59	65.1	66.2
[3 -1 3]	(1 3 0)	(1 -9 -4)	5.082	1.107	4.59	59.3	74.9
[9 -3 -4]	(1 3 0)	(4 8 3)	5.082	1.102	4.61	42.2	67.5
[9 -3 22]	(1 3 0)	(8 2 -3)	5.082	1.099	4.62	58.8	46.3
[9 -3 14]	(1 3 0)	(-7 -7 3)	5.082	1.099	4.62	44.5	61.9
[6 -2 9]	(1 3 0)	(-3 9 4)	5.082	1.098	4.63	67.5	63.1
[3 -1 0]	(1 3 0)	(-3 -9 4)	5.082	1.098	4.63	57.2	78.5

Riebeckite (130) 304 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -2 11]	(1 3 0)	(-5 7 4)	5.082	1.096	4.63	81.0	56.3
[3 -1 2]	(1 3 0)	(-5 -7 4)	5.082	1.096	4.63	55.8	83.6
[9 -3 -10]	(1 3 0)	(5 5 3)	5.082	1.096	4.64	49.8	53.8
[3 -1 -3]	(1 3 0)	(-3 3 -4)	5.082	1.093	4.65	82.1	55.8
[6 -2 -3]	(1 3 0)	(3 3 4)	5.082	1.093	4.65	63.6	66.2
[3 -1 -5]	(1 3 0)	(6 8 2)	5.082	1.079	4.71	34.8	45.1
[9 -3 20]	(1 3 0)	(8 4 -3)	5.082	1.075	4.73	52.6	49.6
[6 -2 11]	(1 3 0)	(-7 1 4)	5.082	1.069	4.75	74.4	56.3
[3 -1 5]	(1 3 0)	(7 1 -4)	5.082	1.069	4.75	68.4	59.6
[15 -5 6]	(1 3 0)	(2 0 -5)	5.082	1.067	4.76	89.5	89.2
[6 -2 -7]	(1 3 0)	(3 -5 4)	5.082	1.062	4.78	88.0	52.8
[3 -1 -1]	(1 3 0)	(3 5 4)	5.082	1.062	4.78	57.9	70.1
[3 -1 2]	(1 3 0)	(3 -1 -5)	5.082	1.060	4.79	89.9	83.6
[15 -5 8]	(1 3 0)	(3 1 -5)	5.082	1.060	4.79	84.2	87.2
[15 -5 4]	(1 3 0)	(-2 -2 5)	5.082	1.059	4.80	84.8	85.6
[15 -5 8]	(1 3 0)	(-2 2 5)	5.082	1.059	4.80	83.8	87.2
[3 -1 -3]	(1 3 0)	(1 -9 4)	5.082	1.058	4.80	73.5	55.8
[6 -2 3]	(1 3 0)	(1 9 4)	5.082	1.058	4.80	52.5	88.1
[15 -5 2]	(1 3 0)	(1 1 -5)	5.082	1.056	4.81	88.9	82.0
[15 -5 4]	(1 3 0)	(-1 1 5)	5.082	1.056	4.81	83.2	85.6
[3 -1 6]	(1 3 0)	(-7 3 4)	5.082	1.055	4.82	80.5	53.3
[6 -2 9]	(1 3 0)	(7 3 -4)	5.082	1.055	4.82	62.5	63.1
[9 -3 -8]	(1 3 0)	(5 7 3)	5.082	1.051	4.84	44.2	58.0
[6 -2 -7]	(1 3 0)	(-2 8 -4)	5.082	1.047	4.85	80.1	52.8
[6 -2 1]	(1 3 0)	(2 8 4)	5.082	1.047	4.85	52.3	82.9
[15 -5 12]	(1 3 0)	(3 -3 -5)	5.082	1.046	4.86	84.4	80.0
[15 -5 6]	(1 3 0)	(3 3 -5)	5.082	1.046	4.86	78.6	89.2
[15 -5 12]	(1 3 0)	(-4 0 5)	5.082	1.045	4.86	83.8	80.0
[3 -1 0]	(1 3 0)	(1 3 -5)	5.082	1.042	4.88	85.5	78.5
[15 -5 6]	(1 3 0)	(1 -3 -5)	5.082	1.042	4.88	77.6	89.2
[3 -1 4]	(1 3 0)	(7 9 -3)	5.082	1.039	4.89	39.5	66.8
[15 -5 2]	(1 3 0)	(2 4 -5)	5.082	1.038	4.89	79.3	82.0
[3 -1 2]	(1 3 0)	(-2 4 5)	5.082	1.038	4.89	78.3	83.6
[15 -5 14]	(1 3 0)	(-4 2 5)	5.082	1.038	4.90	89.4	76.6
[3 -1 2]	(1 3 0)	(4 2 -5)	5.082	1.038	4.90	78.2	83.6
[3 -1 6]	(1 3 0)	(5 -9 -4)	5.082	1.037	4.90	75.8	53.3
[6 -2 3]	(1 3 0)	(5 9 -4)	5.082	1.037	4.90	51.1	88.1
[6 -2 -7]	(1 3 0)	(-4 2 -4)	5.082	1.033	4.92	76.3	52.8
[6 -2 -5]	(1 3 0)	(4 2 4)	5.082	1.033	4.92	64.6	59.0
[15 -5 -2]	(1 3 0)	(0 2 -5)	5.082	1.030	4.93	88.4	75.0
[15 -5 2]	(1 3 0)	(0 2 5)	5.082	1.030	4.93	77.2	82.0
[6 -2 13]	(1 3 0)	(-7 5 4)	5.082	1.027	4.95	86.3	50.5
[3 -1 4]	(1 3 0)	(7 5 -4)	5.082	1.027	4.95	56.9	66.8
[9 -3 -14]	(1 3 0)	(6 4 3)	5.082	1.023	4.97	52.3	46.7
[3 -1 -4]	(1 3 0)	(-3 7 -4)	5.082	1.021	4.98	86.4	50.1
[6 -2 -1]	(1 3 0)	(3 7 4)	5.082	1.021	4.98	52.7	74.2
[6 -2 13]	(1 3 0)	(-6 8 4)	5.082	1.020	4.98	82.2	50.5
[6 -2 5]	(1 3 0)	(-6 -8 4)	5.082	1.020	4.98	51.1	79.2

Riebeckite (130) 304 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 14]	(1 3 0)	(-3 5 5)	5.082	1.019	4.99	79.1	76.6
[15 -5 4]	(1 3 0)	(-3 -5 5)	5.082	1.019	4.99	73.3	85.6
[15 -5 16]	(1 3 0)	(-4 4 5)	5.082	1.018	4.99	85.2	73.2
[15 -5 8]	(1 3 0)	(-4 -4 5)	5.082	1.018	4.99	72.7	87.2
[15 -5 -2]	(1 3 0)	(1 5 -5)	5.082	1.015	5.00	80.1	75.0
[15 -5 8]	(1 3 0)	(1 -5 -5)	5.082	1.015	5.00	72.3	87.2
[15 -5 16]	(1 3 0)	(5 -1 -5)	5.082	1.015	5.01	83.4	73.2
[15 -5 14]	(1 3 0)	(-5 -1 5)	5.082	1.015	5.01	77.9	76.6
[15 -5 -4]	(1 3 0)	(0 4 -5)	5.082	1.011	5.03	86.2	71.7
[15 -5 4]	(1 3 0)	(0 4 5)	5.082	1.011	5.03	71.8	85.6
[3 -1 0]	(1 3 0)	(2 6 -5)	5.082	1.005	5.05	74.1	78.5
[15 -5 12]	(1 3 0)	(2 -6 -5)	5.082	1.005	5.05	73.1	80.0
[15 -5 -4]	(1 3 0)	(1 -1 5)	5.082	1.004	5.06	82.5	71.7
[15 -5 -2]	(1 3 0)	(1 1 5)	5.082	1.004	5.06	77.0	75.0
[15 -5 18]	(1 3 0)	(-5 3 5)	5.082	1.002	5.07	88.8	69.9
[15 -5 12]	(1 3 0)	(5 3 -5)	5.082	1.002	5.07	72.4	80.0

Riebeckite (200) 187 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	4.748	5.186	0.92	76.4	90.0
[0 1 1]	(2 0 0)	(1 1 -1)	4.748	4.891	0.97	72.9	73.5
[0 -1 -2]	(2 0 0)	(0 -2 1)	4.748	4.496	1.06	78.2	59.4
[0 -1 1]	(2 0 0)	(1 1 1)	4.748	4.052	1.17	52.4	73.5
[0 1 0]	(2 0 0)	(-2 0 1)	4.748	4.001	1.19	48.6	90.0
[0 1 3]	(2 0 0)	(1 3 -1)	4.748	3.882	1.22	76.5	48.4
[0 1 2]	(2 0 0)	(2 2 -1)	4.748	3.658	1.30	52.8	59.4
[0 1 -3]	(2 0 0)	(1 3 1)	4.748	3.421	1.39	59.0	48.4
[0 1 0]	(2 0 0)	(2 0 1)	4.748	3.152	1.51	36.2	90.0
[0 -1 1]	(2 0 0)	(-3 1 1)	4.748	2.996	1.58	35.8	73.5
[0 -1 -2]	(2 0 0)	(2 -2 1)	4.748	2.976	1.60	40.4	59.4
[0 1 3]	(2 0 0)	(3 3 -1)	4.748	2.712	1.75	42.8	48.4
[0 -2 1]	(2 0 0)	(-1 1 2)	4.748	2.637	1.80	87.8	81.6
[0 1 0]	(2 0 0)	(2 0 -2)	4.748	2.541	1.87	72.2	90.0
[0 -1 1]	(2 0 0)	(0 2 2)	4.748	2.492	1.91	76.9	73.5
[0 1 -1]	(2 0 0)	(3 1 1)	4.748	2.435	1.95	28.4	73.5
[0 1 0]	(2 0 0)	(4 0 -1)	4.748	2.381	1.99	26.5	90.0
[0 -2 1]	(2 0 0)	(1 1 2)	4.748	2.344	2.03	62.7	81.6
[0 1 2]	(2 0 0)	(4 2 -1)	4.748	2.302	2.06	30.1	59.4
[0 1 -3]	(2 0 0)	(3 3 1)	4.748	2.275	2.09	34.7	48.4
[0 2 1]	(2 0 0)	(3 1 -2)	4.748	2.268	2.09	59.3	81.6
[0 -1 -2]	(2 0 0)	(-2 -4 2)	4.748	2.214	2.14	74.6	59.4
[0 -2 3]	(2 0 0)	(1 3 2)	4.748	2.200	2.16	64.5	66.1
[0 2 5]	(2 0 0)	(1 5 -2)	4.748	2.144	2.21	88.2	53.5
[0 -2 3]	(2 0 0)	(-3 3 2)	4.748	2.137	2.22	61.2	66.1
[0 1 0]	(2 0 0)	(2 0 2)	4.748	2.079	2.28	51.2	90.0
[0 1 0]	(2 0 0)	(4 0 1)	4.748	1.989	2.39	21.9	90.0
[0 2 5]	(2 0 0)	(-1 5 -2)	4.748	1.978	2.40	67.2	53.5
[0 -1 3]	(2 0 0)	(0 6 2)	4.748	1.964	2.42	79.7	48.4
[0 -1 -1]	(2 0 0)	(-4 -2 2)	4.748	1.953	2.43	49.8	73.5
[0 -1 2]	(2 0 0)	(4 2 1)	4.748	1.942	2.44	25.0	59.4
[0 2 5]	(2 0 0)	(3 5 -2)	4.748	1.931	2.46	64.2	53.5
[0 -1 -1]	(2 0 0)	(-5 -1 1)	4.748	1.925	2.47	22.1	73.5
[0 -1 2]	(2 0 0)	(2 4 2)	4.748	1.888	2.51	55.3	59.4
[0 -1 -3]	(2 0 0)	(-5 -3 1)	4.748	1.843	2.58	27.5	48.4
[0 2 1]	(2 0 0)	(-3 1 -2)	4.748	1.799	2.64	43.0	81.6
[0 -3 1]	(2 0 0)	(-1 1 3)	4.748	1.767	2.69	86.9	84.4
[0 1 0]	(2 0 0)	(2 0 -3)	4.748	1.763	2.69	82.4	90.0
[0 2 3]	(2 0 0)	(-3 3 -2)	4.748	1.732	2.74	45.2	66.1
[0 2 1]	(2 0 0)	(5 1 -2)	4.748	1.731	2.74	41.0	81.6
[0 -3 -2]	(2 0 0)	(-2 -2 3)	4.748	1.730	2.74	82.6	78.9
[0 -1 -1]	(2 0 0)	(-1 -3 3)	4.748	1.703	2.79	87.0	73.5
[0 -3 2]	(2 0 0)	(0 2 3)	4.748	1.698	2.80	76.7	78.9
[0 -3 -1]	(2 0 0)	(-3 -1 3)	4.748	1.686	2.82	72.3	84.4
[0 2 3]	(2 0 0)	(5 3 -2)	4.748	1.671	2.84	43.2	66.1
[0 -1 -3]	(2 0 0)	(-4 -6 2)	4.748	1.666	2.85	56.6	48.4
[0 -1 1]	(2 0 0)	(5 1 1)	4.748	1.655	2.87	18.9	73.5
[0 3 4]	(2 0 0)	(2 4 -3)	4.748	1.642	2.89	83.0	68.5

Riebeckite (200) 187 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -1]	(2 0 0)	(1 1 3)	4.748	1.628	2.92	66.9	84.4
[0 1 0]	(2 0 0)	(6 0 -1)	4.748	1.624	2.92	17.7	90.0
[0 -2 -5]	(2 0 0)	(3 -5 2)	4.748	1.617	2.94	48.9	53.5
[0 3 -4]	(2 0 0)	(0 4 3)	4.748	1.614	2.94	77.3	68.5
[0 -1 3]	(2 0 0)	(5 3 1)	4.748	1.602	2.96	23.7	48.4
[0 -1 -2]	(2 0 0)	(-6 -2 1)	4.748	1.598	2.97	20.4	59.4
[0 -3 5]	(2 0 0)	(-1 5 3)	4.748	1.593	2.98	87.2	63.8
[0 1 1]	(2 0 0)	(-1 3 -3)	4.748	1.577	3.01	67.6	73.5
[0 -3 -2]	(2 0 0)	(-4 -2 3)	4.748	1.562	3.04	63.5	78.9
[0 -1 1]	(2 0 0)	(4 2 2)	4.748	1.553	3.06	37.4	73.5
[0 -3 -5]	(2 0 0)	(-3 -5 3)	4.748	1.533	3.10	74.0	63.8
[0 1 2]	(2 0 0)	(2 6 -3)	4.748	1.521	3.12	83.5	59.4
[0 1 0]	(2 0 0)	(2 0 3)	4.748	1.514	3.14	58.4	90.0
[0 3 4]	(2 0 0)	(4 4 -3)	4.748	1.496	3.17	64.7	68.5
[0 -3 2]	(2 0 0)	(2 2 3)	4.748	1.493	3.18	58.8	78.9
[0 3 -5]	(2 0 0)	(1 5 3)	4.748	1.489	3.19	69.0	63.8
[0 -3 7]	(2 0 0)	(-1 7 3)	4.748	1.462	3.25	87.4	55.4
[0 -3 -1]	(2 0 0)	(-5 -1 3)	4.748	1.456	3.26	55.3	84.4
[0 1 2]	(2 0 0)	(6 4 -2)	4.748	1.439	3.30	38.8	59.4
[0 3 -4]	(2 0 0)	(2 4 3)	4.748	1.435	3.31	60.2	68.5
[0 1 0]	(2 0 0)	(6 0 1)	4.748	1.423	3.34	15.5	90.0
[0 1 -1]	(2 0 0)	(5 -3 -3)	4.748	1.419	3.35	56.3	73.5
[0 3 7]	(2 0 0)	(3 7 -3)	4.748	1.416	3.35	75.2	55.4
[0 1 -2]	(2 0 0)	(6 2 1)	4.748	1.406	3.38	17.8	59.4
[0 1 2]	(2 0 0)	(4 6 -3)	4.748	1.403	3.38	66.4	59.4
[0 1 -3]	(2 0 0)	(4 6 2)	4.748	1.396	3.40	44.4	48.4
[0 1 1]	(2 0 0)	(7 1 -1)	4.748	1.391	3.41	15.8	73.5
[0 -3 -8]	(2 0 0)	(-2 -8 3)	4.748	1.389	3.42	84.0	51.8
[0 -3 -1]	(2 0 0)	(3 -1 3)	4.748	1.382	3.44	51.4	84.4
[0 2 1]	(2 0 0)	(-5 1 -2)	4.748	1.381	3.44	31.5	81.6
[0 -3 7]	(2 0 0)	(1 7 3)	4.748	1.380	3.44	70.5	55.4
[0 3 -8]	(2 0 0)	(0 8 3)	4.748	1.372	3.46	79.3	51.8
[0 1 3]	(2 0 0)	(7 3 -1)	4.748	1.359	3.49	19.9	48.4
[0 1 -2]	(2 0 0)	(2 6 3)	4.748	1.352	3.51	62.1	59.4
[0 2 3]	(2 0 0)	(-5 3 -2)	4.748	1.350	3.52	33.6	66.1
[0 2 1]	(2 0 0)	(7 1 -2)	4.748	1.334	3.56	30.4	81.6
[0 -1 3]	(2 0 0)	(-1 9 3)	4.748	1.329	3.57	87.7	48.4
[0 4 1]	(2 0 0)	(1 1 -4)	4.748	1.323	3.59	84.2	85.8
[0 3 2]	(2 0 0)	(6 2 -3)	4.748	1.319	3.60	49.1	78.9
[0 4 1]	(2 0 0)	(3 1 -4)	4.748	1.309	3.63	79.8	85.8
[0 -2 3]	(2 0 0)	(-7 3 2)	4.748	1.306	3.64	32.4	66.1
[0 3 8]	(2 0 0)	(4 8 -3)	4.748	1.297	3.66	68.3	51.8
[0 4 3]	(2 0 0)	(1 3 -4)	4.748	1.296	3.66	84.4	77.5
[0 -3 5]	(2 0 0)	(3 5 3)	4.748	1.294	3.67	54.2	63.8
[0 -2 5]	(2 0 0)	(5 5 2)	4.748	1.293	3.67	37.1	53.5
[0 2 1]	(2 0 0)	(0 2 -4)	4.748	1.283	3.70	76.6	81.6
[0 4 3]	(2 0 0)	(3 3 -4)	4.748	1.283	3.70	80.1	77.5
[0 -3 -4]	(2 0 0)	(-6 -4 3)	4.748	1.279	3.71	50.6	68.5

Riebeckite (200) 187 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 1 1]	(2 0 0)	(2 4 -4)	4.748	1.278	3.71	87.8	73.5
[0 -3 -7]	(2 0 0)	(-5 -7 3)	4.748	1.271	3.74	60.2	55.4
[0 1 0]	(2 0 0)	(4 0 3)	4.748	1.263	3.76	45.3	90.0
[0 2 1]	(2 0 0)	(4 2 -4)	4.748	1.258	3.77	72.4	81.6
[0 3 -8]	(2 0 0)	(2 8 3)	4.748	1.257	3.78	64.2	51.8
[0 2 5]	(2 0 0)	(7 5 -2)	4.748	1.255	3.78	35.8	53.5
[0 -3 -2]	(2 0 0)	(4 -2 3)	4.748	1.251	3.80	45.8	78.9
[0 4 1]	(2 0 0)	(-1 1 -4)	4.748	1.243	3.82	69.1	85.8
[0 -1 1]	(2 0 0)	(7 1 1)	4.748	1.240	3.83	14.0	73.5
[0 -4 -5]	(2 0 0)	(-3 -5 4)	4.748	1.234	3.85	80.4	69.7
[0 1 0]	(2 0 0)	(6 0 2)	4.748	1.229	3.86	27.4	90.0
[0 1 0]	(2 0 0)	(-8 0 1)	4.748	1.221	3.89	13.2	90.0
[0 -3 7]	(2 0 0)	(3 7 3)	4.748	1.221	3.89	56.5	55.4
[0 4 -3]	(2 0 0)	(1 3 4)	4.748	1.220	3.89	69.5	77.5
[0 1 -3]	(2 0 0)	(7 3 1)	4.748	1.217	3.90	17.8	48.4
[0 -3 -4]	(2 0 0)	(4 -4 3)	4.748	1.216	3.90	47.3	68.5
[0 3 1]	(2 0 0)	(7 1 -3)	4.748	1.212	3.92	43.2	84.4
[0 -1 -2]	(2 0 0)	(-8 -2 1)	4.748	1.210	3.92	15.3	59.4
[0 4 1]	(2 0 0)	(5 1 -4)	4.748	1.209	3.93	65.3	85.8
[0 -1 -1]	(2 0 0)	(-7 -3 3)	4.748	1.191	3.99	44.3	73.5
[0 -2 3]	(2 0 0)	(0 6 4)	4.748	1.191	3.99	77.5	66.1
[0 4 3]	(2 0 0)	(5 3 -4)	4.748	1.188	4.00	65.8	77.5
[0 -1 2]	(2 0 0)	(6 4 2)	4.748	1.185	4.01	31.1	59.4
[0 1 3]	(2 0 0)	(5 9 -3)	4.748	1.181	4.02	62.5	48.4
[0 1 1]	(2 0 0)	(8 2 -2)	4.748	1.180	4.02	27.5	73.5
[0 4 -7]	(2 0 0)	(1 -7 -4)	4.748	1.180	4.02	84.9	62.6
[0 -4 5]	(2 0 0)	(1 5 4)	4.748	1.178	4.03	70.3	69.7
[0 2 3]	(2 0 0)	(4 6 -4)	4.748	1.170	4.06	73.7	66.1
[0 -4 -7]	(2 0 0)	(-3 -7 4)	4.748	1.170	4.06	80.9	62.6
[0 -1 -2]	(2 0 0)	(4 -6 3)	4.748	1.165	4.08	49.5	59.4
[0 -3 -5]	(2 0 0)	(-7 -5 3)	4.748	1.151	4.12	46.2	63.8
[0 1 2]	(2 0 0)	(8 4 -2)	4.748	1.151	4.13	30.1	59.4
[0 -4 -5]	(2 0 0)	(-5 -5 4)	4.748	1.148	4.13	66.6	69.7
[0 -3 1]	(2 0 0)	(5 1 3)	4.748	1.148	4.13	40.5	84.4
[0 -3 -8]	(2 0 0)	(-6 -8 3)	4.748	1.148	4.14	55.3	51.8
[0 1 2]	(2 0 0)	(2 8 -4)	4.748	1.147	4.14	88.1	59.4
[0 1 -1]	(2 0 0)	(2 4 4)	4.748	1.143	4.15	63.4	73.5
[0 1 0]	(2 0 0)	(6 0 -4)	4.748	1.143	4.15	59.0	90.0
[0 4 1]	(2 0 0)	(-3 1 -4)	4.748	1.109	4.28	56.5	85.8
[0 1 -1]	(2 0 0)	(6 -4 -4)	4.748	1.108	4.28	60.0	73.5
[0 1 3]	(2 0 0)	(8 6 -2)	4.748	1.107	4.29	33.7	48.4
[0 4 -9]	(2 0 0)	(1 -9 -4)	4.748	1.107	4.29	85.2	56.4
[0 -3 8]	(2 0 0)	(4 8 3)	4.748	1.102	4.31	52.1	51.8
[0 3 7]	(2 0 0)	(7 7 -3)	4.748	1.099	4.32	48.6	55.4
[0 2 1]	(2 0 0)	(-7 1 -2)	4.748	1.098	4.32	24.6	81.6
[0 4 9]	(2 0 0)	(3 9 -4)	4.748	1.098	4.32	81.5	56.4
[0 -4 -7]	(2 0 0)	(-5 -7 4)	4.748	1.096	4.33	67.8	62.6
[0 -3 5]	(2 0 0)	(5 5 3)	4.748	1.096	4.33	43.4	63.8

Riebeckite (200) 187 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 1 -2]	(2 0 0)	(8 2 1)	4.748	1.094	4.34	13.8	59.4
[0 -4 -3]	(2 0 0)	(3 -3 4)	4.748	1.093	4.34	57.1	77.5
[0 -1 -1]	(2 0 0)	(-9 -1 1)	4.748	1.083	4.38	12.2	73.5
[0 -2 3]	(2 0 0)	(7 3 2)	4.748	1.082	4.39	26.4	66.1
[0 -3 -4]	(2 0 0)	(-8 -4 3)	4.748	1.075	4.41	40.5	68.5
[0 4 -1]	(2 0 0)	(7 -1 -4)	4.748	1.069	4.44	53.5	85.8
[0 1 3]	(2 0 0)	(9 3 -1)	4.748	1.068	4.45	15.5	48.4
[0 -2 1]	(2 0 0)	(-9 1 2)	4.748	1.067	4.45	23.8	81.6
[0 1 0]	(2 0 0)	(-2 0 5)	4.748	1.067	4.45	89.0	90.0
[0 4 5]	(2 0 0)	(-3 5 -4)	4.748	1.062	4.47	58.1	69.7
[0 5 -1]	(2 0 0)	(3 -1 -5)	4.748	1.060	4.48	84.6	86.6
[0 -5 2]	(2 0 0)	(-2 2 5)	4.748	1.059	4.48	89.0	83.3
[0 4 -9]	(2 0 0)	(1 9 4)	4.748	1.058	4.49	72.3	56.4
[0 -5 1]	(2 0 0)	(-1 1 5)	4.748	1.056	4.49	82.6	86.6
[0 -4 -3]	(2 0 0)	(-7 -3 4)	4.748	1.055	4.50	54.1	77.5
[0 -2 5]	(2 0 0)	(7 5 2)	4.748	1.053	4.51	29.4	53.5
[0 -2 3]	(2 0 0)	(-9 3 2)	4.748	1.052	4.51	25.6	66.1
[0 -3 7]	(2 0 0)	(5 7 3)	4.748	1.051	4.52	45.9	55.4
[0 1 2]	(2 0 0)	(-2 8 -4)	4.748	1.047	4.53	65.8	59.4
[0 5 -3]	(2 0 0)	(3 -3 -5)	4.748	1.046	4.54	84.6	79.9
[0 1 0]	(2 0 0)	(4 0 -5)	4.748	1.045	4.54	78.3	90.0
[0 -3 -2]	(2 0 0)	(6 -2 3)	4.748	1.044	4.55	36.7	78.9
[0 -5 3]	(2 0 0)	(-1 3 5)	4.748	1.042	4.56	82.7	79.9
[0 1 -3]	(2 0 0)	(7 -9 -3)	4.748	1.039	4.57	51.3	48.4
[0 -5 4]	(2 0 0)	(-2 4 5)	4.748	1.038	4.57	89.1	76.7
[0 -5 -2]	(2 0 0)	(-4 -2 5)	4.748	1.038	4.57	78.3	83.3
[0 4 -9]	(2 0 0)	(5 -9 -4)	4.748	1.037	4.58	69.0	56.4
[0 2 1]	(2 0 0)	(-4 2 -4)	4.748	1.033	4.60	51.5	81.6
[0 -5 2]	(2 0 0)	(0 2 5)	4.748	1.030	4.61	76.5	83.3
[0 4 5]	(2 0 0)	(7 5 -4)	4.748	1.027	4.62	55.2	69.7
[0 -2 5]	(2 0 0)	(-9 5 2)	4.748	1.025	4.63	28.5	53.5
[0 -3 4]	(2 0 0)	(6 4 3)	4.748	1.023	4.64	38.2	68.5
[0 4 -7]	(2 0 0)	(3 7 4)	4.748	1.021	4.65	59.5	62.6
[0 1 2]	(2 0 0)	(6 8 -4)	4.748	1.020	4.66	62.6	59.4
[0 -1 -1]	(2 0 0)	(-3 -5 5)	4.748	1.019	4.66	84.8	73.5
[0 5 4]	(2 0 0)	(4 4 -5)	4.748	1.018	4.66	78.6	76.7
[0 1 -1]	(2 0 0)	(1 -5 -5)	4.748	1.015	4.68	82.9	73.5
[0 5 1]	(2 0 0)	(5 1 -5)	4.748	1.015	4.68	72.3	86.6
[0 3 1]	(2 0 0)	(9 1 -3)	4.748	1.011	4.70	34.8	84.4
[0 5 -4]	(2 0 0)	(0 4 5)	4.748	1.011	4.70	76.8	76.7
[0 -5 6]	(2 0 0)	(-2 6 5)	4.748	1.005	4.72	89.1	70.5
[0 5 -1]	(2 0 0)	(1 1 5)	4.748	1.004	4.73	70.5	86.6
[0 5 3]	(2 0 0)	(5 3 -5)	4.748	1.002	4.74	72.5	79.9

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -1 0]	(1 5 0)	(0 0 1)	3.374	5.186	0.65	85.2	77.3
[5 -1 6]	(1 5 0)	(1 -1 -1)	3.374	4.891	0.69	81.4	68.0
[5 -1 4]	(1 5 0)	(1 1 -1)	3.374	4.891	0.69	69.0	79.0
[5 -1 2]	(1 5 0)	(0 2 1)	3.374	4.496	0.75	57.4	89.1
[5 -1 -6]	(1 5 0)	(1 -1 1)	3.374	4.052	0.83	89.6	49.4
[5 -1 -4]	(1 5 0)	(1 1 1)	3.374	4.052	0.83	64.7	57.1
[5 -1 10]	(1 5 0)	(2 0 -1)	3.374	4.001	0.84	76.4	50.5
[5 -1 8]	(1 5 0)	(1 -3 -1)	3.374	3.882	0.87	58.6	58.4
[5 -1 2]	(1 5 0)	(1 3 -1)	3.374	3.882	0.87	46.7	89.1
[5 -1 8]	(1 5 0)	(-2 -2 1)	3.374	3.658	0.92	53.6	58.4
[5 -1 -2]	(1 5 0)	(1 3 1)	3.374	3.421	0.99	44.4	66.4
[5 -1 -4]	(1 5 0)	(0 4 -1)	3.374	3.404	0.99	49.4	57.1
[5 -1 4]	(1 5 0)	(0 4 1)	3.374	3.404	0.99	40.5	79.0
[5 -1 6]	(1 5 0)	(2 4 -1)	3.374	2.994	1.13	37.2	68.0
[5 -1 10]	(1 5 0)	(1 -5 -1)	3.374	2.943	1.15	45.6	50.5
[5 -1 0]	(1 5 0)	(1 5 -1)	3.374	2.943	1.15	34.4	77.3
[5 -1 0]	(1 5 0)	(1 5 1)	3.374	2.726	1.24	31.6	77.3
[5 -1 3]	(1 5 0)	(-1 1 2)	3.374	2.637	1.28	82.9	84.9
[5 -1 2]	(1 5 0)	(-1 -1 2)	3.374	2.637	1.28	81.4	89.1
[5 -1 -6]	(1 5 0)	(0 6 -1)	3.374	2.602	1.30	39.9	49.4
[5 -1 6]	(1 5 0)	(0 6 1)	3.374	2.602	1.30	31.7	68.0
[5 -1 -6]	(1 5 0)	(2 4 1)	3.374	2.584	1.31	39.6	49.4
[5 -1 5]	(1 5 0)	(2 0 -2)	3.374	2.541	1.33	83.8	73.3
[5 -1 -1]	(1 5 0)	(0 -2 2)	3.374	2.492	1.35	79.8	71.7
[5 -1 1]	(1 5 0)	(0 2 2)	3.374	2.492	1.35	70.2	83.1
[5 -1 4]	(1 5 0)	(1 -3 -2)	3.374	2.437	1.38	68.5	79.0
[5 -1 1]	(1 5 0)	(1 3 -2)	3.374	2.437	1.38	67.0	83.1
[5 -1 4]	(1 5 0)	(2 6 -1)	3.374	2.404	1.40	27.3	79.0
[5 -1 -3]	(1 5 0)	(1 -1 2)	3.374	2.344	1.44	87.6	61.6
[5 -1 -2]	(1 5 0)	(1 1 2)	3.374	2.344	1.44	73.5	66.4
[5 -1 10]	(1 5 0)	(-3 -5 1)	3.374	2.324	1.45	34.4	50.5
[5 -1 -2]	(1 5 0)	(1 7 -1)	3.374	2.299	1.47	28.0	66.4
[5 -1 8]	(1 5 0)	(-3 1 2)	3.374	2.268	1.49	86.3	58.4
[5 -1 7]	(1 5 0)	(3 1 -2)	3.374	2.268	1.49	72.6	63.0
[5 -1 7]	(1 5 0)	(2 -4 -2)	3.374	2.214	1.52	68.6	63.0
[5 -1 3]	(1 5 0)	(2 4 -2)	3.374	2.214	1.52	56.4	84.9
[5 -1 -4]	(1 5 0)	(-1 3 -2)	3.374	2.200	1.53	79.1	57.1
[5 -1 -1]	(1 5 0)	(1 3 2)	3.374	2.200	1.53	60.3	71.7
[5 -1 2]	(1 5 0)	(1 7 1)	3.374	2.191	1.54	24.3	89.1
[5 -1 -4]	(1 5 0)	(2 6 1)	3.374	2.176	1.55	29.1	57.1
[5 -1 5]	(1 5 0)	(-1 5 2)	3.374	2.144	1.57	57.0	73.3
[5 -1 0]	(1 5 0)	(-1 -5 2)	3.374	2.144	1.57	55.5	77.3
[5 -1 9]	(1 5 0)	(-3 3 2)	3.374	2.137	1.58	80.7	54.3
[5 -1 6]	(1 5 0)	(-3 -3 2)	3.374	2.137	1.58	59.8	68.0
[5 -1 -5]	(1 5 0)	(2 0 2)	3.374	2.079	1.62	77.1	53.1
[5 -1 8]	(1 5 0)	(0 8 1)	3.374	2.069	1.63	27.1	58.4
[5 -1 0]	(1 5 0)	(1 5 2)	3.374	1.978	1.71	49.5	77.3
[5 -1 8]	(1 5 0)	(3 7 -1)	3.374	1.966	1.72	25.6	58.4

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -1 2]	(1 5 0)	(-2 -8 1)	3.374	1.965	1.72	21.6	89.1
[5 -1 -3]	(1 5 0)	(0 6 -2)	3.374	1.964	1.72	56.8	61.6
[5 -1 3]	(1 5 0)	(0 6 2)	3.374	1.964	1.72	47.7	84.9
[5 -1 11]	(1 5 0)	(4 -2 -2)	3.374	1.953	1.73	88.4	47.1
[5 -1 9]	(1 5 0)	(4 2 -2)	3.374	1.953	1.73	64.4	54.3
[5 -1 10]	(1 5 0)	(3 -5 -2)	3.374	1.931	1.75	69.8	50.5
[5 -1 5]	(1 5 0)	(3 5 -2)	3.374	1.931	1.75	49.1	73.3
[5 -1 -7]	(1 5 0)	(2 -4 2)	3.374	1.888	1.79	79.1	46.1
[5 -1 -3]	(1 5 0)	(2 4 2)	3.374	1.888	1.79	53.6	61.6
[5 -1 -4]	(1 5 0)	(1 9 -1)	3.374	1.865	1.81	24.6	57.1
[5 -1 6]	(1 5 0)	(1 -7 -2)	3.374	1.853	1.82	48.5	68.0
[5 -1 -1]	(1 5 0)	(1 7 -2)	3.374	1.853	1.82	47.0	71.7
[5 -1 -2]	(1 5 0)	(2 8 1)	3.374	1.835	1.84	22.0	66.4
[5 -1 4]	(1 5 0)	(1 9 1)	3.374	1.806	1.87	20.2	79.0
[5 -1 -7]	(1 5 0)	(3 1 2)	3.374	1.799	1.88	69.3	46.1
[15 -3 4]	(1 5 0)	(-1 -1 3)	3.374	1.767	1.91	85.9	85.1
[5 -1 2]	(1 5 0)	(-1 1 3)	3.374	1.767	1.91	83.6	89.1
[15 -3 10]	(1 5 0)	(-2 0 3)	3.374	1.763	1.91	87.3	82.9
[5 -1 -6]	(1 5 0)	(-1 7 -2)	3.374	1.742	1.94	59.3	49.4
[5 -1 1]	(1 5 0)	(1 7 2)	3.374	1.742	1.94	41.1	83.1
[5 -1 -6]	(1 5 0)	(3 3 2)	3.374	1.732	1.95	58.7	49.4
[5 -1 4]	(1 5 0)	(2 -2 -3)	3.374	1.730	1.95	82.3	79.0
[15 -3 8]	(1 5 0)	(2 2 -3)	3.374	1.730	1.95	77.0	86.9
[5 -1 11]	(1 5 0)	(-3 7 2)	3.374	1.711	1.97	61.1	47.1
[5 -1 4]	(1 5 0)	(-3 -7 2)	3.374	1.711	1.97	40.8	79.0
[15 -3 2]	(1 5 0)	(1 3 -3)	3.374	1.703	1.98	75.8	81.1
[15 -3 8]	(1 5 0)	(1 -3 -3)	3.374	1.703	1.98	73.6	86.9
[15 -3 -2]	(1 5 0)	(0 2 -3)	3.374	1.698	1.99	84.6	73.5
[15 -3 2]	(1 5 0)	(0 2 3)	3.374	1.698	1.99	75.1	81.1
[5 -1 9]	(1 5 0)	(-2 8 2)	3.374	1.687	2.00	51.2	54.3
[5 -1 1]	(1 5 0)	(-2 -8 2)	3.374	1.687	2.00	39.6	83.1
[15 -3 16]	(1 5 0)	(3 -1 -3)	3.374	1.686	2.00	88.8	71.5
[15 -3 14]	(1 5 0)	(-3 -1 3)	3.374	1.686	2.00	78.7	75.2
[5 -1 6]	(1 5 0)	(3 9 -1)	3.374	1.674	2.02	19.8	68.0
[5 -1 11]	(1 5 0)	(-5 -3 2)	3.374	1.671	2.02	58.8	47.1
[5 -1 7]	(1 5 0)	(4 6 -2)	3.374	1.666	2.03	44.5	63.0
[15 -3 14]	(1 5 0)	(-2 4 3)	3.374	1.642	2.05	72.7	75.2
[5 -1 2]	(1 5 0)	(-2 -4 3)	3.374	1.642	2.05	67.4	89.1
[5 -1 -2]	(1 5 0)	(1 -1 3)	3.374	1.628	2.07	86.8	66.4
[15 -3 -4]	(1 5 0)	(1 1 3)	3.374	1.628	2.07	77.1	69.9
[5 -1 -5]	(1 5 0)	(3 5 2)	3.374	1.617	2.09	49.3	53.1
[15 -3 -4]	(1 5 0)	(0 -4 3)	3.374	1.614	2.09	75.1	69.9
[15 -3 4]	(1 5 0)	(0 4 3)	3.374	1.614	2.09	65.6	85.1
[5 -1 7]	(1 5 0)	(1 -9 -2)	3.374	1.602	2.11	42.4	63.0
[5 -1 -2]	(1 5 0)	(1 9 -2)	3.374	1.602	2.11	40.9	66.4
[5 -1 0]	(1 5 0)	(-1 -5 3)	3.374	1.593	2.12	66.7	77.3
[15 -3 10]	(1 5 0)	(-1 5 3)	3.374	1.593	2.12	64.5	82.9
[15 -3 20]	(1 5 0)	(-4 0 3)	3.374	1.586	2.13	80.7	64.6

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -8]	(1 5 0)	(-1 3 -3)	3.374	1.577	2.14	83.7	63.2
[15 -3 -2]	(1 5 0)	(1 3 3)	3.374	1.577	2.14	67.7	73.5
[5 -1 10]	(1 5 0)	(5 5 -2)	3.374	1.567	2.15	49.6	50.5
[15 -3 22]	(1 5 0)	(-4 2 3)	3.374	1.562	2.16	89.8	61.4
[5 -1 6]	(1 5 0)	(-4 -2 3)	3.374	1.562	2.16	71.3	68.0
[5 -1 -6]	(1 5 0)	(3 9 1)	3.374	1.554	2.17	22.5	49.4
[15 -3 20]	(1 5 0)	(3 -5 -3)	3.374	1.533	2.20	72.6	64.6
[15 -3 10]	(1 5 0)	(3 5 -3)	3.374	1.533	2.20	60.3	82.9
[5 -1 -7]	(1 5 0)	(1 -9 2)	3.374	1.529	2.21	52.7	46.1
[5 -1 2]	(1 5 0)	(1 9 2)	3.374	1.529	2.21	35.0	89.1
[5 -1 -1]	(1 5 0)	(2 8 2)	3.374	1.529	2.21	37.1	71.7
[15 -3 16]	(1 5 0)	(-2 6 3)	3.374	1.521	2.22	64.4	71.5
[15 -3 4]	(1 5 0)	(-2 -6 3)	3.374	1.521	2.22	59.1	85.1
[15 -3 -10]	(1 5 0)	(2 0 3)	3.374	1.514	2.23	79.3	60.1
[5 -1 3]	(1 5 0)	(3 9 -2)	3.374	1.508	2.24	34.6	84.9
[5 -1 8]	(1 5 0)	(-4 4 3)	3.374	1.496	2.26	80.9	58.4
[15 -3 16]	(1 5 0)	(-4 -4 3)	3.374	1.496	2.26	62.5	71.5
[5 -1 -4]	(1 5 0)	(2 -2 3)	3.374	1.493	2.26	88.3	57.1
[15 -3 -8]	(1 5 0)	(2 2 3)	3.374	1.493	2.26	70.2	63.2
[15 -3 -10]	(1 5 0)	(-1 5 -3)	3.374	1.489	2.27	75.1	60.1
[5 -1 0]	(1 5 0)	(1 5 3)	3.374	1.489	2.27	59.1	77.3
[5 -1 -4]	(1 5 0)	(3 7 2)	3.374	1.480	2.28	41.4	57.1
[15 -3 -2]	(1 5 0)	(-1 -7 3)	3.374	1.462	2.31	59.1	73.5
[5 -1 4]	(1 5 0)	(-1 7 3)	3.374	1.462	2.31	56.9	79.0
[15 -3 26]	(1 5 0)	(-5 1 3)	3.374	1.456	2.32	82.7	55.6
[5 -1 8]	(1 5 0)	(5 1 -3)	3.374	1.456	2.32	73.9	58.4
[5 -1 9]	(1 5 0)	(-5 -7 2)	3.374	1.442	2.34	41.7	54.3
[15 -3 -14]	(1 5 0)	(-2 4 -3)	3.374	1.435	2.35	83.1	54.4
[5 -1 -2]	(1 5 0)	(2 4 3)	3.374	1.435	2.35	61.7	66.4
[15 -3 28]	(1 5 0)	(5 -3 -3)	3.374	1.419	2.38	88.7	53.0
[15 -3 22]	(1 5 0)	(5 3 -3)	3.374	1.419	2.38	65.3	61.4
[15 -3 22]	(1 5 0)	(3 -7 -3)	3.374	1.416	2.38	65.0	61.4
[15 -3 8]	(1 5 0)	(3 7 -3)	3.374	1.416	2.38	52.9	86.9
[15 -3 26]	(1 5 0)	(4 -6 -3)	3.374	1.403	2.41	72.9	55.6
[15 -3 14]	(1 5 0)	(4 6 -3)	3.374	1.403	2.41	54.7	75.2
[5 -1 -7]	(1 5 0)	(4 6 2)	3.374	1.396	2.42	46.5	46.1
[5 -1 6]	(1 5 0)	(-2 8 3)	3.374	1.389	2.43	57.4	68.0
[15 -3 2]	(1 5 0)	(-2 -8 3)	3.374	1.389	2.43	52.2	81.1
[15 -3 -16]	(1 5 0)	(3 -1 3)	3.374	1.382	2.44	81.4	51.8
[15 -3 -14]	(1 5 0)	(3 1 3)	3.374	1.382	2.44	72.9	54.4
[5 -1 -4]	(1 5 0)	(-1 7 -3)	3.374	1.380	2.44	67.5	57.1
[15 -3 2]	(1 5 0)	(1 7 3)	3.374	1.380	2.44	51.8	81.1
[15 -3 -8]	(1 5 0)	(0 8 -3)	3.374	1.372	2.46	59.9	63.2
[15 -3 8]	(1 5 0)	(0 8 3)	3.374	1.372	2.46	50.6	86.9
[5 -1 10]	(1 5 0)	(-5 5 3)	3.374	1.354	2.49	80.6	50.5
[15 -3 20]	(1 5 0)	(5 5 -3)	3.374	1.354	2.49	57.4	64.6
[15 -3 -16]	(1 5 0)	(2 -6 3)	3.374	1.352	2.50	75.3	51.8
[15 -3 -4]	(1 5 0)	(2 6 3)	3.374	1.352	2.50	54.1	69.9

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -3]	(1 5 0)	(3 9 2)	3.374	1.343	2.51	34.9	61.6
[15 -3 -4]	(1 5 0)	(1 9 -3)	3.374	1.329	2.54	52.8	69.9
[15 -3 14]	(1 5 0)	(1 -9 -3)	3.374	1.329	2.54	50.6	75.2
[5 -1 1]	(1 5 0)	(1 1 -4)	3.374	1.323	2.55	88.1	83.1
[10 -2 3]	(1 5 0)	(-1 1 4)	3.374	1.323	2.55	84.0	86.1
[15 -3 32]	(1 5 0)	(-6 2 3)	3.374	1.319	2.56	84.5	48.2
[15 -3 28]	(1 5 0)	(6 2 -3)	3.374	1.319	2.56	68.3	53.0
[5 -1 8]	(1 5 0)	(-5 -9 2)	3.374	1.314	2.57	35.3	58.4
[5 -1 4]	(1 5 0)	(-3 1 4)	3.374	1.309	2.58	89.7	79.0
[10 -2 7]	(1 5 0)	(-3 -1 4)	3.374	1.309	2.58	82.5	81.9
[15 -3 28]	(1 5 0)	(-4 8 3)	3.374	1.297	2.60	66.0	53.0
[5 -1 4]	(1 5 0)	(-4 -8 3)	3.374	1.297	2.60	48.0	79.0
[10 -2 1]	(1 5 0)	(-1 -3 4)	3.374	1.296	2.60	80.4	80.2
[5 -1 2]	(1 5 0)	(-1 3 4)	3.374	1.296	2.60	76.3	89.1
[15 -3 -20]	(1 5 0)	(3 -5 3)	3.374	1.294	2.61	82.7	47.2
[15 -3 -10]	(1 5 0)	(3 5 3)	3.374	1.294	2.61	57.1	60.1
[10 -2 -1]	(1 5 0)	(0 2 -4)	3.374	1.283	2.63	87.1	74.4
[10 -2 1]	(1 5 0)	(0 2 4)	3.374	1.283	2.63	77.6	80.2
[10 -2 9]	(1 5 0)	(-3 3 4)	3.374	1.283	2.63	82.1	76.1
[5 -1 3]	(1 5 0)	(-3 -3 4)	3.374	1.283	2.63	74.9	84.9
[15 -3 34]	(1 5 0)	(-6 4 3)	3.374	1.279	2.64	87.7	46.0
[15 -3 26]	(1 5 0)	(-6 -4 3)	3.374	1.279	2.64	60.6	55.6
[10 -2 7]	(1 5 0)	(-2 4 4)	3.374	1.278	2.64	75.4	81.9
[10 -2 3]	(1 5 0)	(-2 -4 4)	3.374	1.278	2.64	73.9	86.1
[15 -3 32]	(1 5 0)	(-5 7 3)	3.374	1.271	2.66	73.5	48.2
[5 -1 6]	(1 5 0)	(-5 -7 3)	3.374	1.271	2.66	50.4	68.0
[15 -3 4]	(1 5 0)	(1 9 3)	3.374	1.267	2.66	45.6	85.1
[15 -3 -20]	(1 5 0)	(4 0 3)	3.374	1.263	2.67	75.5	47.2
[5 -1 11]	(1 5 0)	(6 8 -2)	3.374	1.260	2.68	40.2	47.1
[10 -2 11]	(1 5 0)	(4 -2 -4)	3.374	1.258	2.68	88.7	70.6
[10 -2 9]	(1 5 0)	(4 2 -4)	3.374	1.258	2.68	76.3	76.1
[5 -1 -6]	(1 5 0)	(2 -8 3)	3.374	1.257	2.68	68.5	49.4
[15 -3 -2]	(1 5 0)	(2 8 3)	3.374	1.257	2.68	47.5	73.5
[15 -3 -22]	(1 5 0)	(-4 2 -3)	3.374	1.251	2.70	83.2	45.1
[5 -1 -6]	(1 5 0)	(4 2 3)	3.374	1.251	2.70	67.8	49.4
[5 -1 0]	(1 5 0)	(-1 -5 4)	3.374	1.245	2.71	73.2	77.3
[10 -2 5]	(1 5 0)	(-1 5 4)	3.374	1.245	2.71	69.1	87.9
[10 -2 -3]	(1 5 0)	(-1 1 -4)	3.374	1.243	2.71	86.4	69.0
[5 -1 -1]	(1 5 0)	(1 1 4)	3.374	1.243	2.71	79.0	71.7
[5 -1 5]	(1 5 0)	(3 -5 -4)	3.374	1.234	2.73	74.9	73.3
[10 -2 5]	(1 5 0)	(3 5 -4)	3.374	1.234	2.73	67.8	87.9
[15 -3 -22]	(1 5 0)	(3 -7 3)	3.374	1.221	2.76	75.7	45.1
[15 -3 -8]	(1 5 0)	(3 7 3)	3.374	1.221	2.76	50.3	63.2
[5 -1 -2]	(1 5 0)	(1 -3 4)	3.374	1.220	2.77	86.3	66.4
[10 -2 -1]	(1 5 0)	(1 3 4)	3.374	1.220	2.77	71.7	74.4
[15 -3 34]	(1 5 0)	(-7 -1 3)	3.374	1.212	2.78	71.2	46.0
[10 -2 13]	(1 5 0)	(5 -1 -4)	3.374	1.209	2.79	85.1	65.5
[5 -1 6]	(1 5 0)	(-5 -1 4)	3.374	1.209	2.79	77.8	68.0

Riebeckite (150) 292 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -3 32]	(1 5 0)	(7 3 -3)	3.374	1.191	2.83	63.9	48.2
[10 -2 -3]	(1 5 0)	(0 -6 4)	3.374	1.191	2.83	72.9	69.0
[10 -2 3]	(1 5 0)	(0 6 4)	3.374	1.191	2.83	63.5	86.1
[5 -1 7]	(1 5 0)	(5 -3 -4)	3.374	1.188	2.84	87.8	63.0
[10 -2 11]	(1 5 0)	(5 3 -4)	3.374	1.188	2.84	70.7	70.6
[10 -2 -5]	(1 5 0)	(2 0 4)	3.374	1.182	2.85	80.5	64.0
[15 -3 34]	(1 5 0)	(-5 9 3)	3.374	1.181	2.86	67.3	46.0
[15 -3 16]	(1 5 0)	(-5 -9 3)	3.374	1.181	2.86	44.4	71.5
[10 -2 -1]	(1 5 0)	(1 7 -4)	3.374	1.180	2.86	66.7	74.4
[5 -1 3]	(1 5 0)	(1 -7 -4)	3.374	1.180	2.86	62.6	84.9
[10 -2 -5]	(1 5 0)	(-1 5 -4)	3.374	1.178	2.86	79.3	64.0
[5 -1 0]	(1 5 0)	(1 5 4)	3.374	1.178	2.86	64.9	77.3
[10 -2 13]	(1 5 0)	(4 -6 -4)	3.374	1.170	2.88	74.7	65.5
[10 -2 7]	(1 5 0)	(4 6 -4)	3.374	1.170	2.88	62.4	81.9
[10 -2 11]	(1 5 0)	(3 -7 -4)	3.374	1.170	2.88	68.4	70.6
[5 -1 2]	(1 5 0)	(3 7 -4)	3.374	1.170	2.88	61.3	89.1
[15 -3 -14]	(1 5 0)	(4 6 3)	3.374	1.165	2.90	53.7	54.4
[5 -1 10]	(1 5 0)	(7 5 -3)	3.374	1.151	2.93	57.0	50.5
[10 -2 15]	(1 5 0)	(5 -5 -4)	3.374	1.148	2.94	81.0	60.7
[5 -1 5]	(1 5 0)	(5 5 -4)	3.374	1.148	2.94	64.0	73.3
[15 -3 22]	(1 5 0)	(6 8 -3)	3.374	1.148	2.94	47.3	61.4
[10 -2 9]	(1 5 0)	(2 -8 -4)	3.374	1.147	2.94	62.4	76.1
[10 -2 1]	(1 5 0)	(2 8 -4)	3.374	1.147	2.94	60.8	80.2
[10 -2 -7]	(1 5 0)	(2 -4 4)	3.374	1.143	2.95	85.5	59.3
[10 -2 -3]	(1 5 0)	(2 4 4)	3.374	1.143	2.95	66.7	69.0
[10 -2 15]	(1 5 0)	(-6 0 4)	3.374	1.143	2.95	79.5	60.7
[15 -3 -22]	(1 5 0)	(5 3 3)	3.374	1.130	2.99	63.8	45.1
[5 -1 -3]	(1 5 0)	(1 -7 4)	3.374	1.122	3.01	73.0	61.6
[10 -2 1]	(1 5 0)	(1 7 4)	3.374	1.122	3.01	58.6	80.2
[5 -1 -4]	(1 5 0)	(-3 1 -4)	3.374	1.109	3.04	82.0	57.1
[10 -2 -7]	(1 5 0)	(3 1 4)	3.374	1.109	3.04	75.3	59.3
[10 -2 17]	(1 5 0)	(6 -4 -4)	3.374	1.108	3.04	87.0	56.3
[10 -2 13]	(1 5 0)	(6 4 -4)	3.374	1.108	3.04	66.0	65.5
[5 -1 -1]	(1 5 0)	(1 9 -4)	3.374	1.107	3.05	60.9	71.7
[10 -2 7]	(1 5 0)	(1 -9 -4)	3.374	1.107	3.05	56.9	81.9
[5 -1 -4]	(1 5 0)	(4 8 3)	3.374	1.102	3.06	47.6	57.1
[15 -3 28]	(1 5 0)	(7 7 -3)	3.374	1.099	3.07	50.7	53.0
[5 -1 6]	(1 5 0)	(3 -9 -4)	3.374	1.098	3.07	62.7	68.0
[10 -2 3]	(1 5 0)	(3 9 -4)	3.374	1.098	3.07	55.6	86.1
[5 -1 8]	(1 5 0)	(-5 7 4)	3.374	1.096	3.08	74.8	58.4
[10 -2 9]	(1 5 0)	(5 7 -4)	3.374	1.096	3.08	57.9	76.1
[15 -3 -20]	(1 5 0)	(5 5 3)	3.374	1.096	3.08	57.2	47.2
[10 -2 -9]	(1 5 0)	(-3 3 -4)	3.374	1.093	3.09	88.7	55.1
[5 -1 -3]	(1 5 0)	(3 3 4)	3.374	1.093	3.09	68.7	61.6
[5 -1 9]	(1 5 0)	(-7 1 4)	3.374	1.069	3.15	81.0	54.3
[10 -2 17]	(1 5 0)	(7 1 -4)	3.374	1.069	3.15	74.5	56.3
[5 -1 2]	(1 5 0)	(-2 0 5)	3.374	1.067	3.16	89.7	89.1
[5 -1 -5]	(1 5 0)	(3 -5 4)	3.374	1.062	3.18	85.0	53.1

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -2 -5]	(1 5 0)	(3 5 4)	3.374	1.062	3.18	62.4	64.0
[25 -5 16]	(1 5 0)	(3 -1 -5)	3.374	1.060	3.18	88.8	83.7
[25 -5 14]	(1 5 0)	(3 1 -5)	3.374	1.060	3.18	84.9	86.1
[25 -5 8]	(1 5 0)	(-2 -2 5)	3.374	1.059	3.18	84.0	86.7
[25 -5 12]	(1 5 0)	(-2 2 5)	3.374	1.059	3.18	83.4	88.5
[10 -2 -7]	(1 5 0)	(-1 9 -4)	3.374	1.058	3.19	67.3	59.3
[5 -1 1]	(1 5 0)	(1 9 4)	3.374	1.058	3.19	53.1	83.1
[25 -5 4]	(1 5 0)	(1 1 -5)	3.374	1.056	3.19	89.5	81.9
[25 -5 6]	(1 5 0)	(1 -1 -5)	3.374	1.056	3.19	84.2	84.3
[10 -2 19]	(1 5 0)	(7 -3 -4)	3.374	1.055	3.20	87.5	52.3
[5 -1 8]	(1 5 0)	(-7 -3 4)	3.374	1.055	3.20	68.1	58.4
[5 -1 -6]	(1 5 0)	(5 7 3)	3.374	1.051	3.21	51.1	49.4
[10 -2 -9]	(1 5 0)	(2 -8 4)	3.374	1.047	3.22	73.3	55.1
[10 -2 -1]	(1 5 0)	(2 8 4)	3.374	1.047	3.22	54.6	74.4
[25 -5 18]	(1 5 0)	(3 -3 -5)	3.374	1.046	3.23	82.6	81.3
[25 -5 12]	(1 5 0)	(3 3 -5)	3.374	1.046	3.23	78.7	88.5
[5 -1 4]	(1 5 0)	(-4 0 5)	3.374	1.045	3.23	85.9	79.0
[25 -5 2]	(1 5 0)	(1 3 -5)	3.374	1.042	3.24	83.3	79.6
[25 -5 8]	(1 5 0)	(1 -3 -5)	3.374	1.042	3.24	78.1	86.7
[15 -3 26]	(1 5 0)	(-7 -9 3)	3.374	1.039	3.25	45.1	55.6
[25 -5 6]	(1 5 0)	(2 4 -5)	3.374	1.038	3.25	77.9	84.3
[25 -5 14]	(1 5 0)	(2 -4 -5)	3.374	1.038	3.25	77.2	86.1
[25 -5 22]	(1 5 0)	(-4 2 5)	3.374	1.038	3.25	88.0	76.7
[25 -5 18]	(1 5 0)	(-4 -2 5)	3.374	1.038	3.25	79.7	81.3
[10 -2 17]	(1 5 0)	(-5 9 4)	3.374	1.037	3.25	69.1	56.3
[5 -1 4]	(1 5 0)	(-5 -9 4)	3.374	1.037	3.25	52.4	79.0
[10 -2 -11]	(1 5 0)	(4 -2 4)	3.374	1.033	3.27	83.4	51.2
[10 -2 -9]	(1 5 0)	(4 2 4)	3.374	1.033	3.27	70.8	55.1
[25 -5 -2]	(1 5 0)	(0 2 -5)	3.374	1.030	3.27	88.6	75.0
[25 -5 2]	(1 5 0)	(0 2 5)	3.374	1.030	3.27	79.1	79.6
[5 -1 10]	(1 5 0)	(-7 5 4)	3.374	1.027	3.29	86.4	50.5
[10 -2 15]	(1 5 0)	(7 5 -4)	3.374	1.027	3.29	62.0	60.7
[10 -2 -11]	(1 5 0)	(-3 7 -4)	3.374	1.021	3.31	79.1	51.2
[5 -1 -2]	(1 5 0)	(3 7 4)	3.374	1.021	3.31	56.6	66.4
[10 -2 19]	(1 5 0)	(-6 8 4)	3.374	1.020	3.31	75.0	52.3
[10 -2 11]	(1 5 0)	(-6 -8 4)	3.374	1.020	3.31	54.1	70.6
[5 -1 4]	(1 5 0)	(-3 5 5)	3.374	1.019	3.31	76.6	79.0
[5 -1 2]	(1 5 0)	(-3 -5 5)	3.374	1.019	3.31	72.8	89.1
[25 -5 24]	(1 5 0)	(-4 4 5)	3.374	1.018	3.32	81.9	74.5
[25 -5 16]	(1 5 0)	(-4 -4 5)	3.374	1.018	3.32	73.7	83.7
[5 -1 0]	(1 5 0)	(1 5 -5)	3.374	1.015	3.32	77.3	77.3
[5 -1 2]	(1 5 0)	(1 -5 -5)	3.374	1.015	3.32	72.1	89.1
[25 -5 26]	(1 5 0)	(5 -1 -5)	3.374	1.015	3.33	86.8	72.2
[25 -5 24]	(1 5 0)	(-5 -1 5)	3.374	1.015	3.33	80.8	74.5
[25 -5 -4]	(1 5 0)	(0 4 -5)	3.374	1.011	3.34	82.6	72.8
[25 -5 4]	(1 5 0)	(0 4 5)	3.374	1.011	3.34	73.1	81.9
[25 -5 4]	(1 5 0)	(2 6 -5)	3.374	1.005	3.36	72.1	81.9
[25 -5 16]	(1 5 0)	(2 -6 -5)	3.374	1.005	3.36	71.4	83.7

Riebeckite (150) 292 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -6]	(1 5 0)	(1 -1 5)	3.374	1.004	3.36	86.2	70.6
[25 -5 -4]	(1 5 0)	(1 1 5)	3.374	1.004	3.36	80.2	72.8
[25 -5 28]	(1 5 0)	(-5 3 5)	3.374	1.002	3.37	87.2	70.1
[25 -5 22]	(1 5 0)	(-5 -3 5)	3.374	1.002	3.37	74.8	76.7

Riebeckite (240) 324 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	3.271	5.186	0.63	80.7	80.1
[2 -1 3]	(2 4 0)	(-1 1 1)	3.271	4.891	0.67	89.7	66.5
[2 -1 1]	(2 4 0)	(1 1 -1)	3.271	4.891	0.67	66.5	88.4
[2 -1 2]	(2 4 0)	(0 2 1)	3.271	4.496	0.73	59.9	76.9
[2 -1 -3]	(2 4 0)	(1 -1 1)	3.271	4.052	0.81	75.1	51.8
[2 -1 -1]	(2 4 0)	(1 1 1)	3.271	4.052	0.81	54.3	69.2
[2 -1 4]	(2 4 0)	(2 0 -1)	3.271	4.001	0.82	62.9	57.4
[2 -1 5]	(2 4 0)	(-1 3 1)	3.271	3.882	0.84	72.1	49.9
[2 -1 -1]	(2 4 0)	(-1 -3 1)	3.271	3.882	0.84	51.1	69.2
[2 -1 2]	(2 4 0)	(2 2 -1)	3.271	3.658	0.89	44.7	76.9
[2 -1 1]	(2 4 0)	(1 3 1)	3.271	3.421	0.96	39.9	88.4
[2 -1 -4]	(2 4 0)	(0 4 -1)	3.271	3.404	0.96	63.9	45.3
[2 -1 4]	(2 4 0)	(0 4 1)	3.271	3.404	0.96	49.2	57.4
[2 -1 -4]	(2 4 0)	(2 0 1)	3.271	3.152	1.04	56.2	45.3
[2 -1 5]	(2 4 0)	(-3 -1 1)	3.271	2.996	1.09	47.3	49.9
[2 -1 0]	(2 4 0)	(2 4 -1)	3.271	2.994	1.09	34.7	80.1
[2 -1 -2]	(2 4 0)	(2 2 1)	3.271	2.976	1.10	40.2	59.8
[2 -1 -3]	(2 4 0)	(-1 -5 1)	3.271	2.943	1.11	44.6	51.8
[2 -1 3]	(2 4 0)	(1 5 1)	3.271	2.726	1.20	33.9	66.5
[2 -1 3]	(2 4 0)	(3 3 -1)	3.271	2.712	1.21	33.7	66.5
[4 -2 3]	(2 4 0)	(1 -1 -2)	3.271	2.637	1.24	85.5	82.6
[4 -2 1]	(2 4 0)	(1 1 -2)	3.271	2.637	1.24	82.4	85.8
[2 -1 0]	(2 4 0)	(2 4 1)	3.271	2.584	1.27	29.5	80.1
[2 -1 2]	(2 4 0)	(2 0 -2)	3.271	2.541	1.29	77.9	76.9
[2 -1 -1]	(2 4 0)	(0 -2 2)	3.271	2.492	1.31	87.4	69.2
[2 -1 1]	(2 4 0)	(0 2 2)	3.271	2.492	1.31	69.2	88.4
[4 -2 5]	(2 4 0)	(1 -3 -2)	3.271	2.437	1.34	74.4	71.5
[4 -2 -1]	(2 4 0)	(1 3 -2)	3.271	2.437	1.34	71.4	74.5
[2 -1 -2]	(2 4 0)	(-2 -6 1)	3.271	2.404	1.36	31.4	59.8
[4 -2 -3]	(2 4 0)	(1 -1 2)	3.271	2.344	1.40	77.2	64.3
[4 -2 -1]	(2 4 0)	(1 1 2)	3.271	2.344	1.40	65.8	74.5
[2 -1 1]	(2 4 0)	(3 5 -1)	3.271	2.324	1.41	25.8	88.4
[2 -1 -3]	(2 4 0)	(3 3 1)	3.271	2.275	1.44	32.8	51.8
[4 -2 7]	(2 4 0)	(-3 1 2)	3.271	2.268	1.44	74.9	61.7
[4 -2 5]	(2 4 0)	(3 1 -2)	3.271	2.268	1.44	63.7	71.5
[2 -1 4]	(2 4 0)	(2 -4 -2)	3.271	2.214	1.48	80.1	57.4
[2 -1 0]	(2 4 0)	(2 4 -2)	3.271	2.214	1.48	57.4	80.1
[4 -2 -5]	(2 4 0)	(-1 3 -2)	3.271	2.200	1.49	88.2	55.6
[4 -2 1]	(2 4 0)	(1 3 2)	3.271	2.200	1.49	55.8	85.8
[2 -1 5]	(2 4 0)	(1 7 1)	3.271	2.191	1.49	32.5	49.9
[2 -1 2]	(2 4 0)	(2 6 1)	3.271	2.176	1.50	24.8	76.9
[4 -2 7]	(2 4 0)	(1 -5 -2)	3.271	2.144	1.53	65.9	61.7
[4 -2 -3]	(2 4 0)	(1 5 -2)	3.271	2.144	1.53	63.1	64.3
[4 -2 9]	(2 4 0)	(-3 3 2)	3.271	2.137	1.53	85.7	53.5
[4 -2 3]	(2 4 0)	(3 3 -2)	3.271	2.137	1.53	53.9	82.6
[2 -1 4]	(2 4 0)	(-4 -4 1)	3.271	2.105	1.55	27.9	57.4
[2 -1 -2]	(2 4 0)	(2 0 2)	3.271	2.079	1.57	64.4	59.8
[2 -1 -1]	(2 4 0)	(3 5 1)	3.271	2.031	1.61	24.0	69.2

Riebeckite (240) 324 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -2 3]	(2 4 0)	(1 5 2)	3.271	1.978	1.65	48.4	82.6
[2 -1 -1]	(2 4 0)	(3 7 -1)	3.271	1.966	1.66	23.2	69.2
[2 -1 -4]	(2 4 0)	(-2 -8 1)	3.271	1.965	1.66	31.2	45.3
[2 -1 -3]	(2 4 0)	(0 6 -2)	3.271	1.964	1.67	69.5	51.8
[2 -1 3]	(2 4 0)	(0 6 2)	3.271	1.964	1.67	53.4	66.5
[2 -1 5]	(2 4 0)	(4 -2 -2)	3.271	1.953	1.67	73.3	49.9
[2 -1 3]	(2 4 0)	(-4 -2 2)	3.271	1.953	1.67	53.0	66.5
[4 -2 11]	(2 4 0)	(-3 5 2)	3.271	1.931	1.69	84.9	46.6
[4 -2 1]	(2 4 0)	(-3 -5 2)	3.271	1.931	1.69	46.6	85.8
[2 -1 -4]	(2 4 0)	(2 -4 2)	3.271	1.888	1.73	84.9	45.3
[2 -1 0]	(2 4 0)	(2 4 2)	3.271	1.888	1.73	45.9	80.1
[2 -1 2]	(2 4 0)	(4 6 -1)	3.271	1.867	1.75	21.1	76.9
[4 -2 9]	(2 4 0)	(1 -7 -2)	3.271	1.853	1.76	59.9	53.5
[4 -2 -5]	(2 4 0)	(1 7 -2)	3.271	1.853	1.76	57.3	55.6
[2 -1 4]	(2 4 0)	(2 8 1)	3.271	1.835	1.78	24.1	57.4
[2 -1 -4]	(2 4 0)	(4 4 1)	3.271	1.820	1.80	28.7	45.3
[4 -2 -7]	(2 4 0)	(3 -1 2)	3.271	1.799	1.82	64.4	48.4
[4 -2 -5]	(2 4 0)	(3 1 2)	3.271	1.799	1.82	54.8	55.6
[2 -1 1]	(2 4 0)	(3 7 1)	3.271	1.779	1.84	19.5	88.4
[6 -3 1]	(2 4 0)	(-1 -1 3)	3.271	1.767	1.85	88.1	83.9
[2 -1 1]	(2 4 0)	(-1 1 3)	3.271	1.767	1.85	83.8	88.4
[6 -3 4]	(2 4 0)	(-2 0 3)	3.271	1.763	1.86	84.8	84.5
[4 -2 5]	(2 4 0)	(1 7 2)	3.271	1.742	1.88	43.5	71.5
[4 -2 -3]	(2 4 0)	(3 3 2)	3.271	1.732	1.89	46.1	64.3
[4 -2 11]	(2 4 0)	(5 -1 -2)	3.271	1.731	1.89	63.2	46.6
[4 -2 9]	(2 4 0)	(-5 -1 2)	3.271	1.731	1.89	53.9	53.5
[2 -1 2]	(2 4 0)	(-2 2 3)	3.271	1.730	1.89	87.1	76.9
[6 -3 2]	(2 4 0)	(-2 -2 3)	3.271	1.730	1.89	76.8	87.7
[4 -2 -1]	(2 4 0)	(-3 -7 2)	3.271	1.711	1.91	41.7	74.5
[2 -1 5]	(2 4 0)	(-5 -5 1)	3.271	1.706	1.92	24.7	49.9
[6 -3 -1]	(2 4 0)	(1 3 -3)	3.271	1.703	1.92	80.3	76.3
[6 -3 5]	(2 4 0)	(1 -3 -3)	3.271	1.703	1.92	76.0	80.7
[6 -3 -2]	(2 4 0)	(0 -2 3)	3.271	1.698	1.93	88.7	72.7
[6 -3 2]	(2 4 0)	(0 2 3)	3.271	1.698	1.93	72.8	87.7
[2 -1 -2]	(2 4 0)	(-2 -8 2)	3.271	1.687	1.94	47.0	59.8
[6 -3 7]	(2 4 0)	(3 -1 -3)	3.271	1.686	1.94	81.9	73.3
[6 -3 5]	(2 4 0)	(-3 -1 3)	3.271	1.686	1.94	73.9	80.7
[2 -1 -3]	(2 4 0)	(3 9 -1)	3.271	1.674	1.95	23.5	51.8
[4 -2 7]	(2 4 0)	(-5 -3 2)	3.271	1.671	1.96	45.3	61.7
[2 -1 1]	(2 4 0)	(4 6 -2)	3.271	1.666	1.96	38.7	88.4
[2 -1 -2]	(2 4 0)	(4 6 1)	3.271	1.659	1.97	21.1	59.8
[6 -3 8]	(2 4 0)	(2 -4 -3)	3.271	1.642	1.99	79.7	69.8
[2 -1 0]	(2 4 0)	(2 4 -3)	3.271	1.642	1.99	69.6	80.1
[2 -1 -1]	(2 4 0)	(1 -1 3)	3.271	1.628	2.01	78.2	69.2
[6 -3 -1]	(2 4 0)	(1 1 3)	3.271	1.628	2.01	70.4	76.3
[4 -2 -1]	(2 4 0)	(3 5 2)	3.271	1.617	2.02	39.0	74.5
[6 -3 -4]	(2 4 0)	(0 -4 3)	3.271	1.614	2.03	83.8	65.9
[6 -3 4]	(2 4 0)	(0 4 3)	3.271	1.614	2.03	65.8	84.5

Riebeckite (240) 324 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -2 11]	(2 4 0)	(1 -9 -2)	3.271	1.602	2.04	55.7	46.6
[4 -2 -7]	(2 4 0)	(1 9 -2)	3.271	1.602	2.04	53.5	48.4
[2 -1 -1]	(2 4 0)	(-1 -5 3)	3.271	1.593	2.05	73.4	69.2
[6 -3 7]	(2 4 0)	(-1 5 3)	3.271	1.593	2.05	69.3	73.3
[6 -3 8]	(2 4 0)	(-4 0 3)	3.271	1.586	2.06	71.8	69.8
[6 -3 -5]	(2 4 0)	(1 -3 3)	3.271	1.577	2.07	85.9	62.8
[6 -3 1]	(2 4 0)	(1 3 3)	3.271	1.577	2.07	63.1	83.9
[6 -3 10]	(2 4 0)	(4 -2 -3)	3.271	1.562	2.09	79.5	63.3
[2 -1 2]	(2 4 0)	(-4 -2 3)	3.271	1.562	2.09	64.4	76.9
[2 -1 3]	(2 4 0)	(3 9 1)	3.271	1.554	2.11	18.5	66.5
[2 -1 -3]	(2 4 0)	(4 2 2)	3.271	1.553	2.11	47.8	51.8
[2 -1 3]	(2 4 0)	(-5 -7 1)	3.271	1.548	2.11	18.5	66.5
[6 -3 11]	(2 4 0)	(-3 5 3)	3.271	1.533	2.13	83.2	60.3
[6 -3 1]	(2 4 0)	(-3 -5 3)	3.271	1.533	2.13	60.1	83.9
[4 -2 7]	(2 4 0)	(1 9 2)	3.271	1.529	2.14	40.6	61.7
[2 -1 2]	(2 4 0)	(2 8 2)	3.271	1.529	2.14	36.0	76.9
[6 -3 10]	(2 4 0)	(-2 6 3)	3.271	1.521	2.15	73.2	63.3
[6 -3 -2]	(2 4 0)	(-2 -6 3)	3.271	1.521	2.15	63.6	72.7
[6 -3 -4]	(2 4 0)	(2 0 3)	3.271	1.514	2.16	68.8	65.9
[4 -2 -3]	(2 4 0)	(-3 -9 2)	3.271	1.508	2.17	38.8	64.3
[2 -1 4]	(2 4 0)	(4 -4 -3)	3.271	1.496	2.19	86.9	57.4
[6 -3 4]	(2 4 0)	(4 4 -3)	3.271	1.496	2.19	57.7	84.5
[2 -1 -2]	(2 4 0)	(-2 2 -3)	3.271	1.493	2.19	76.3	59.8
[6 -3 -2]	(2 4 0)	(2 2 3)	3.271	1.493	2.19	61.6	72.7
[2 -1 0]	(2 4 0)	(4 8 1)	3.271	1.492	2.19	16.5	80.1
[6 -3 -7]	(2 4 0)	(-1 5 -3)	3.271	1.489	2.20	87.0	57.0
[2 -1 1]	(2 4 0)	(1 5 3)	3.271	1.489	2.20	56.9	88.4
[4 -2 1]	(2 4 0)	(3 7 2)	3.271	1.480	2.21	33.8	85.8
[6 -3 -5]	(2 4 0)	(1 7 -3)	3.271	1.462	2.24	67.6	62.8
[2 -1 3]	(2 4 0)	(-1 7 3)	3.271	1.462	2.24	63.8	66.5
[6 -3 11]	(2 4 0)	(-5 1 3)	3.271	1.456	2.25	70.5	60.3
[2 -1 3]	(2 4 0)	(5 1 -3)	3.271	1.456	2.25	63.2	66.5
[4 -2 3]	(2 4 0)	(-5 -7 2)	3.271	1.442	2.27	33.0	82.6
[2 -1 4]	(2 4 0)	(6 4 -2)	3.271	1.439	2.27	39.8	57.4
[6 -3 -8]	(2 4 0)	(-2 4 -3)	3.271	1.435	2.28	83.6	54.3
[2 -1 0]	(2 4 0)	(2 4 3)	3.271	1.435	2.28	55.0	80.1
[6 -3 13]	(2 4 0)	(-5 3 3)	3.271	1.419	2.30	77.8	54.7
[6 -3 7]	(2 4 0)	(5 3 -3)	3.271	1.419	2.30	56.4	73.3
[6 -3 13]	(2 4 0)	(3 -7 -3)	3.271	1.416	2.31	77.1	54.7
[6 -3 -1]	(2 4 0)	(3 7 -3)	3.271	1.416	2.31	55.0	76.3
[6 -3 14]	(2 4 0)	(4 -6 -3)	3.271	1.403	2.33	86.4	52.2
[6 -3 2]	(2 4 0)	(4 6 -3)	3.271	1.403	2.33	52.1	87.7
[2 -1 -3]	(2 4 0)	(5 7 1)	3.271	1.397	2.34	19.5	51.8
[2 -1 -1]	(2 4 0)	(4 6 2)	3.271	1.396	2.34	34.0	69.2
[2 -1 1]	(2 4 0)	(-5 -9 1)	3.271	1.393	2.35	15.1	88.4
[2 -1 4]	(2 4 0)	(-2 8 3)	3.271	1.389	2.35	68.0	57.4
[6 -3 -4]	(2 4 0)	(-2 -8 3)	3.271	1.389	2.35	58.8	65.9
[6 -3 -7]	(2 4 0)	(3 -1 3)	3.271	1.382	2.37	68.0	57.0

Riebeckite (240) 324 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -5]	(2 4 0)	(3 1 3)	3.271	1.382	2.37	60.9	62.8
[2 -1 -3]	(2 4 0)	(-1 7 -3)	3.271	1.380	2.37	80.9	51.8
[6 -3 5]	(2 4 0)	(1 7 3)	3.271	1.380	2.37	51.9	80.7
[6 -3 -8]	(2 4 0)	(0 8 -3)	3.271	1.372	2.38	71.8	54.3
[6 -3 8]	(2 4 0)	(0 8 3)	3.271	1.372	2.38	55.3	69.8
[6 -3 5]	(2 4 0)	(5 5 -3)	3.271	1.354	2.42	50.5	80.7
[6 -3 -10]	(2 4 0)	(2 -6 3)	3.271	1.352	2.42	89.8	49.5
[6 -3 2]	(2 4 0)	(2 6 3)	3.271	1.352	2.42	49.6	87.7
[4 -2 -7]	(2 4 0)	(5 3 2)	3.271	1.350	2.42	42.6	48.4
[4 -2 3]	(2 4 0)	(3 9 2)	3.271	1.343	2.44	30.5	82.6
[6 -3 -7]	(2 4 0)	(1 9 -3)	3.271	1.329	2.46	63.1	57.0
[6 -3 11]	(2 4 0)	(-1 9 3)	3.271	1.329	2.46	59.4	60.3
[8 -4 1]	(2 4 0)	(1 1 -4)	3.271	1.323	2.47	89.1	82.9
[8 -4 3]	(2 4 0)	(-1 1 4)	3.271	1.323	2.47	83.0	88.7
[6 -3 14]	(2 4 0)	(6 -2 -3)	3.271	1.319	2.48	69.8	52.2
[6 -3 10]	(2 4 0)	(6 2 -3)	3.271	1.319	2.48	56.2	63.3
[2 -1 4]	(2 4 0)	(-6 -8 1)	3.271	1.318	2.48	17.1	57.4
[4 -2 1]	(2 4 0)	(5 9 -2)	3.271	1.314	2.49	29.6	85.8
[8 -4 7]	(2 4 0)	(-3 1 4)	3.271	1.309	2.50	86.0	79.7
[8 -4 5]	(2 4 0)	(3 1 -4)	3.271	1.309	2.50	80.0	85.5
[4 -2 11]	(2 4 0)	(7 3 -2)	3.271	1.306	2.50	42.3	46.6
[6 -3 16]	(2 4 0)	(4 -8 -3)	3.271	1.297	2.52	80.7	47.7
[2 -1 0]	(2 4 0)	(4 8 -3)	3.271	1.297	2.52	47.8	80.1
[8 -4 -1]	(2 4 0)	(1 3 -4)	3.271	1.296	2.52	84.9	77.3
[8 -4 5]	(2 4 0)	(1 -3 -4)	3.271	1.296	2.52	77.1	85.5
[6 -3 -11]	(2 4 0)	(3 -5 3)	3.271	1.294	2.53	81.8	47.3
[6 -3 -1]	(2 4 0)	(3 5 3)	3.271	1.294	2.53	48.5	76.3
[4 -2 -5]	(2 4 0)	(5 5 2)	3.271	1.293	2.53	36.0	55.6
[4 -2 -1]	(2 4 0)	(0 -2 4)	3.271	1.283	2.55	86.7	74.5
[4 -2 1]	(2 4 0)	(0 2 4)	3.271	1.283	2.55	74.7	85.8
[8 -4 9]	(2 4 0)	(-3 3 4)	3.271	1.283	2.55	88.0	74.2
[8 -4 3]	(2 4 0)	(-3 -3 4)	3.271	1.283	2.55	74.1	88.7
[2 -1 -1]	(2 4 0)	(5 9 1)	3.271	1.279	2.56	14.9	69.2
[6 -3 16]	(2 4 0)	(-6 4 3)	3.271	1.279	2.56	76.6	47.7
[6 -3 8]	(2 4 0)	(6 4 -3)	3.271	1.279	2.56	50.0	69.8
[2 -1 2]	(2 4 0)	(2 -4 -4)	3.271	1.278	2.56	79.7	76.9
[2 -1 0]	(2 4 0)	(2 4 -4)	3.271	1.278	2.56	76.6	80.1
[6 -3 17]	(2 4 0)	(5 -7 -3)	3.271	1.271	2.57	89.1	45.6
[2 -1 1]	(2 4 0)	(5 7 -3)	3.271	1.271	2.57	45.6	88.4
[6 -3 7]	(2 4 0)	(1 9 3)	3.271	1.267	2.58	48.1	73.3
[6 -3 -8]	(2 4 0)	(4 0 3)	3.271	1.263	2.59	61.0	54.3
[2 -1 2]	(2 4 0)	(-6 -8 2)	3.271	1.260	2.60	29.0	76.9
[4 -2 5]	(2 4 0)	(4 -2 -4)	3.271	1.258	2.60	83.9	71.5
[4 -2 3]	(2 4 0)	(-4 -2 4)	3.271	1.258	2.60	72.0	82.6
[2 -1 -4]	(2 4 0)	(-2 8 -3)	3.271	1.257	2.60	84.0	45.3
[6 -3 4]	(2 4 0)	(2 8 3)	3.271	1.257	2.60	45.2	84.5
[4 -2 9]	(2 4 0)	(7 5 -2)	3.271	1.255	2.61	35.8	53.5
[6 -3 -10]	(2 4 0)	(4 -2 3)	3.271	1.251	2.61	67.7	49.5

Riebeckite (240) 324 Zone Axes***a* 9.769Å *b* 18.048Å *c* 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[2 -1 -2]	(2 4 0)	(4 2 3)	3.271	1.251	2.61	54.5	59.8
[8 -4 -3]	(2 4 0)	(1 5 -4)	3.271	1.245	2.63	79.3	71.8
[8 -4 7]	(2 4 0)	(1 -5 -4)	3.271	1.245	2.63	71.6	79.7
[8 -4 -3]	(2 4 0)	(1 -1 4)	3.271	1.243	2.63	78.7	71.8
[8 -4 -1]	(2 4 0)	(1 1 4)	3.271	1.243	2.63	72.8	77.3
[8 -4 11]	(2 4 0)	(-3 5 4)	3.271	1.234	2.65	82.3	69.0
[8 -4 1]	(2 4 0)	(-3 -5 4)	3.271	1.234	2.65	68.8	82.9
[6 -3 1]	(2 4 0)	(3 7 3)	3.271	1.221	2.68	43.7	83.9
[4 -2 -3]	(2 4 0)	(5 7 2)	3.271	1.220	2.68	30.5	64.3
[8 -4 -5]	(2 4 0)	(1 -3 4)	3.271	1.220	2.68	84.6	66.7
[8 -4 1]	(2 4 0)	(1 3 4)	3.271	1.220	2.68	67.2	82.9
[6 -3 -4]	(2 4 0)	(4 4 3)	3.271	1.216	2.69	48.5	65.9
[2 -1 5]	(2 4 0)	(-7 1 3)	3.271	1.212	2.70	63.0	49.9
[6 -3 13]	(2 4 0)	(7 1 -3)	3.271	1.212	2.70	56.6	54.7
[8 -4 11]	(2 4 0)	(-5 1 4)	3.271	1.209	2.71	76.2	69.0
[8 -4 9]	(2 4 0)	(5 1 -4)	3.271	1.209	2.71	70.4	74.2
[2 -1 -4]	(2 4 0)	(6 8 1)	3.271	1.204	2.72	18.5	45.3
[6 -3 17]	(2 4 0)	(7 -3 -3)	3.271	1.191	2.75	69.5	45.6
[6 -3 11]	(2 4 0)	(7 3 -3)	3.271	1.191	2.75	50.5	60.3
[4 -2 -3]	(2 4 0)	(0 -6 4)	3.271	1.191	2.75	82.1	64.3
[4 -2 3]	(2 4 0)	(0 6 4)	3.271	1.191	2.75	64.2	82.6
[4 -2 7]	(2 4 0)	(-7 -7 2)	3.271	1.188	2.75	30.4	61.7
[8 -4 13]	(2 4 0)	(5 -3 -4)	3.271	1.188	2.75	82.0	64.1
[8 -4 7]	(2 4 0)	(-5 -3 4)	3.271	1.188	2.75	64.8	79.7
[2 -1 -4]	(2 4 0)	(6 4 2)	3.271	1.185	2.76	38.7	45.3
[2 -1 -1]	(2 4 0)	(2 0 4)	3.271	1.182	2.77	71.4	69.2
[6 -3 1]	(2 4 0)	(5 9 -3)	3.271	1.181	2.77	41.9	83.9
[8 -4 -5]	(2 4 0)	(-1 -7 4)	3.271	1.180	2.77	74.3	66.7
[8 -4 9]	(2 4 0)	(-1 7 4)	3.271	1.180	2.77	66.8	74.2
[8 -4 -7]	(2 4 0)	(1 -5 4)	3.271	1.178	2.78	89.8	62.0
[8 -4 3]	(2 4 0)	(1 5 4)	3.271	1.178	2.78	62.0	88.7
[4 -2 7]	(2 4 0)	(4 -6 -4)	3.271	1.170	2.79	84.9	61.7
[4 -2 1]	(2 4 0)	(4 6 -4)	3.271	1.170	2.79	61.6	85.8
[8 -4 13]	(2 4 0)	(3 -7 -4)	3.271	1.170	2.80	77.3	64.1
[8 -4 -1]	(2 4 0)	(3 7 -4)	3.271	1.170	2.80	64.1	77.3
[6 -3 -2]	(2 4 0)	(4 6 3)	3.271	1.165	2.81	43.3	72.7
[2 -1 3]	(2 4 0)	(-7 -5 3)	3.271	1.151	2.84	44.9	66.5
[8 -4 15]	(2 4 0)	(5 -5 -4)	3.271	1.148	2.85	87.6	59.5
[8 -4 5]	(2 4 0)	(-5 -5 4)	3.271	1.148	2.85	59.7	85.5
[6 -3 -11]	(2 4 0)	(5 -1 3)	3.271	1.148	2.85	61.4	47.3
[2 -1 -3]	(2 4 0)	(5 1 3)	3.271	1.148	2.85	55.2	51.8
[6 -3 4]	(2 4 0)	(6 8 -3)	3.271	1.148	2.85	40.4	84.5
[2 -1 3]	(2 4 0)	(2 -8 -4)	3.271	1.147	2.85	69.8	66.5
[2 -1 -1]	(2 4 0)	(2 8 -4)	3.271	1.147	2.85	66.9	69.2
[2 -1 5]	(2 4 0)	(7 9 -1)	3.271	1.145	2.86	16.3	49.9
[2 -1 -2]	(2 4 0)	(-2 4 -4)	3.271	1.143	2.86	82.8	59.8
[2 -1 0]	(2 4 0)	(2 4 4)	3.271	1.143	2.86	60.5	80.1
[2 -1 3]	(2 4 0)	(-6 0 4)	3.271	1.143	2.86	69.2	66.5

Riebeckite (240) 324 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -2 -1]	(2 4 0)	(5 9 2)	3.271	1.140	2.87	26.3	74.5
[6 -3 -7]	(2 4 0)	(5 3 3)	3.271	1.130	2.89	49.3	57.0
[8 -4 -9]	(2 4 0)	(-1 7 -4)	3.271	1.122	2.92	84.6	57.6
[8 -4 5]	(2 4 0)	(1 7 4)	3.271	1.122	2.92	57.5	85.5
[4 -2 5]	(2 4 0)	(7 9 -2)	3.271	1.113	2.94	26.1	71.5
[8 -4 -7]	(2 4 0)	(-3 1 -4)	3.271	1.109	2.95	70.4	62.0
[8 -4 -5]	(2 4 0)	(3 1 4)	3.271	1.109	2.95	64.9	66.7
[2 -1 4]	(2 4 0)	(6 -4 -4)	3.271	1.108	2.95	80.4	57.4
[2 -1 2]	(2 4 0)	(-6 -4 4)	3.271	1.108	2.95	58.5	76.9
[6 -3 16]	(2 4 0)	(8 0 -3)	3.271	1.107	2.95	57.4	47.7
[2 -1 5]	(2 4 0)	(-8 -6 2)	3.271	1.107	2.96	32.9	49.9
[8 -4 -7]	(2 4 0)	(1 9 -4)	3.271	1.107	2.96	70.0	62.0
[8 -4 11]	(2 4 0)	(-1 9 4)	3.271	1.107	2.96	62.7	69.0
[2 -1 0]	(2 4 0)	(4 8 3)	3.271	1.102	2.97	39.0	80.1
[6 -3 14]	(2 4 0)	(8 2 -3)	3.271	1.099	2.98	51.4	52.2
[6 -3 7]	(2 4 0)	(-7 -7 3)	3.271	1.099	2.98	40.2	73.3
[8 -4 15]	(2 4 0)	(-3 9 4)	3.271	1.098	2.98	72.8	59.5
[8 -4 -3]	(2 4 0)	(-3 -9 4)	3.271	1.098	2.98	60.1	71.8
[8 -4 17]	(2 4 0)	(-5 7 4)	3.271	1.096	2.98	87.3	55.4
[8 -4 3]	(2 4 0)	(-5 -7 4)	3.271	1.096	2.98	55.3	88.7
[6 -3 -5]	(2 4 0)	(5 5 3)	3.271	1.096	2.98	43.9	62.8
[8 -4 -9]	(2 4 0)	(-3 3 -4)	3.271	1.093	2.99	76.0	57.6
[8 -4 -3]	(2 4 0)	(3 3 4)	3.271	1.093	2.99	59.6	71.8
[2 -1 -2]	(2 4 0)	(6 8 2)	3.271	1.079	3.03	27.9	59.8
[2 -1 4]	(2 4 0)	(8 4 -3)	3.271	1.075	3.04	45.9	57.4
[8 -4 15]	(2 4 0)	(-7 1 4)	3.271	1.069	3.06	68.5	59.5
[8 -4 13]	(2 4 0)	(7 1 -4)	3.271	1.069	3.06	63.1	64.1
[10 -5 4]	(2 4 0)	(2 0 -5)	3.271	1.067	3.07	89.3	89.3
[8 -4 -11]	(2 4 0)	(3 -5 4)	3.271	1.062	3.08	81.3	53.7
[8 -4 -1]	(2 4 0)	(3 5 4)	3.271	1.062	3.08	54.7	77.3
[10 -5 7]	(2 4 0)	(3 -1 -5)	3.271	1.060	3.08	88.7	83.7
[2 -1 1]	(2 4 0)	(-3 -1 5)	3.271	1.060	3.08	83.8	88.4
[10 -5 2]	(2 4 0)	(2 2 -5)	3.271	1.059	3.09	85.8	84.6
[10 -5 6]	(2 4 0)	(-2 2 5)	3.271	1.059	3.09	84.4	86.0
[8 -4 -11]	(2 4 0)	(1 -9 4)	3.271	1.058	3.09	80.0	53.7
[8 -4 7]	(2 4 0)	(1 9 4)	3.271	1.058	3.09	53.7	79.7
[10 -5 1]	(2 4 0)	(1 1 -5)	3.271	1.056	3.10	87.4	82.3
[10 -5 3]	(2 4 0)	(-1 1 5)	3.271	1.056	3.10	82.5	87.0
[8 -4 17]	(2 4 0)	(-7 3 4)	3.271	1.055	3.10	73.9	55.4
[8 -4 11]	(2 4 0)	(7 3 -4)	3.271	1.055	3.10	57.9	69.0
[2 -1 -1]	(2 4 0)	(5 7 3)	3.271	1.051	3.11	39.2	69.2
[2 -1 1]	(2 4 0)	(2 8 4)	3.271	1.047	3.12	51.8	88.4
[10 -5 9]	(2 4 0)	(-3 3 5)	3.271	1.046	3.13	86.5	79.2
[10 -5 3]	(2 4 0)	(-3 -3 5)	3.271	1.046	3.13	79.0	87.0
[10 -5 8]	(2 4 0)	(4 0 -5)	3.271	1.045	3.13	81.9	81.4
[6 -3 -10]	(2 4 0)	(6 2 3)	3.271	1.044	3.13	50.5	49.5
[10 -5 -1]	(2 4 0)	(-1 -3 5)	3.271	1.042	3.14	87.8	77.8
[2 -1 1]	(2 4 0)	(-1 3 5)	3.271	1.042	3.14	77.7	88.4

Riebeckite (240) 324 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 5]	(2 4 0)	(-7 -9 3)	3.271	1.039	3.15	36.3	80.7
[2 -1 0]	(2 4 0)	(2 4 -5)	3.271	1.038	3.15	81.1	80.1
[10 -5 8]	(2 4 0)	(2 -4 -5)	3.271	1.038	3.15	79.7	81.4
[2 -1 2]	(2 4 0)	(4 -2 -5)	3.271	1.038	3.15	86.8	76.9
[10 -5 6]	(2 4 0)	(-4 -2 5)	3.271	1.038	3.15	77.1	86.0
[8 -4 19]	(2 4 0)	(-5 9 4)	3.271	1.037	3.15	82.6	51.6
[8 -4 1]	(2 4 0)	(-5 -9 4)	3.271	1.037	3.15	51.6	82.9
[4 -2 -5]	(2 4 0)	(4 -2 4)	3.271	1.033	3.17	69.8	55.6
[4 -2 -3]	(2 4 0)	(4 2 4)	3.271	1.033	3.17	59.2	64.3
[10 -5 -2]	(2 4 0)	(0 -2 5)	3.271	1.030	3.17	85.5	75.6
[10 -5 2]	(2 4 0)	(0 2 5)	3.271	1.030	3.17	75.9	84.6
[8 -4 19]	(2 4 0)	(7 -5 -4)	3.271	1.027	3.18	79.2	51.6
[8 -4 9]	(2 4 0)	(-7 -5 4)	3.271	1.027	3.18	53.2	74.2
[6 -3 -8]	(2 4 0)	(6 4 3)	3.271	1.023	3.20	45.1	54.3
[8 -4 -13]	(2 4 0)	(-3 7 -4)	3.271	1.021	3.20	86.4	50.1
[8 -4 1]	(2 4 0)	(3 7 4)	3.271	1.021	3.20	50.5	82.9
[2 -1 5]	(2 4 0)	(6 -8 -4)	3.271	1.020	3.21	89.4	49.9
[2 -1 1]	(2 4 0)	(6 8 -4)	3.271	1.020	3.21	49.9	88.4
[10 -5 11]	(2 4 0)	(3 -5 -5)	3.271	1.019	3.21	81.8	74.7
[10 -5 1]	(2 4 0)	(3 5 -5)	3.271	1.019	3.21	74.5	82.3
[10 -5 12]	(2 4 0)	(4 -4 -5)	3.271	1.018	3.21	88.5	72.6
[10 -5 4]	(2 4 0)	(4 4 -5)	3.271	1.018	3.21	72.5	89.3
[10 -5 -3]	(2 4 0)	(-1 -5 5)	3.271	1.015	3.22	83.2	73.4
[10 -5 7]	(2 4 0)	(-1 5 5)	3.271	1.015	3.22	73.2	83.7
[10 -5 11]	(2 4 0)	(-5 1 5)	3.271	1.015	3.22	80.3	74.7
[10 -5 9]	(2 4 0)	(5 1 -5)	3.271	1.015	3.22	75.5	79.2
[4 -2 -7]	(2 4 0)	(7 7 2)	3.271	1.012	3.23	30.5	48.4
[6 -3 17]	(2 4 0)	(9 1 -3)	3.271	1.011	3.24	52.7	45.6
[10 -5 -4]	(2 4 0)	(0 -4 5)	3.271	1.011	3.24	89.7	71.3
[10 -5 4]	(2 4 0)	(0 4 5)	3.271	1.011	3.24	71.3	89.3
[10 -5 -2]	(2 4 0)	(-2 -6 5)	3.271	1.005	3.25	76.6	75.6
[2 -1 2]	(2 4 0)	(-2 6 5)	3.271	1.005	3.25	75.3	76.9
[10 -5 -3]	(2 4 0)	(-1 1 -5)	3.271	1.004	3.26	79.1	73.4
[10 -5 -1]	(2 4 0)	(1 1 5)	3.271	1.004	3.26	74.3	77.8
[10 -5 13]	(2 4 0)	(-5 3 5)	3.271	1.002	3.26	85.0	70.5
[10 -5 7]	(2 4 0)	(5 3 -5)	3.271	1.002	3.26	70.9	83.7

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	3.118	5.186	0.60	76.6	87.6
[1 -3 4]	(3 1 0)	(-1 1 1)	3.118	4.891	0.64	76.0	70.9
[1 -3 -2]	(3 1 0)	(1 1 -1)	3.118	4.891	0.64	70.4	76.7
[1 -3 6]	(3 1 0)	(0 2 1)	3.118	4.496	0.69	73.3	61.6
[1 -3 -4]	(3 1 0)	(1 -1 1)	3.118	4.052	0.77	55.8	66.7
[1 -3 2]	(3 1 0)	(1 1 1)	3.118	4.052	0.77	50.2	81.3
[1 -3 2]	(3 1 0)	(2 0 -1)	3.118	4.001	0.78	49.3	81.3
[1 -3 10]	(3 1 0)	(1 -3 -1)	3.118	3.882	0.80	83.2	47.1
[1 -3 -8]	(3 1 0)	(-1 -3 1)	3.118	3.882	0.80	70.1	50.7
[1 -3 8]	(3 1 0)	(2 -2 -1)	3.118	3.658	0.85	58.3	53.7
[1 -3 -4]	(3 1 0)	(-2 -2 1)	3.118	3.658	0.85	48.3	66.7
[1 -3 8]	(3 1 0)	(1 3 1)	3.118	3.421	0.91	52.7	53.7
[1 -3 -2]	(3 1 0)	(2 0 1)	3.118	3.152	0.99	37.4	76.7
[1 -3 6]	(3 1 0)	(3 -1 -1)	3.118	2.996	1.04	39.7	61.6
[1 -3 -8]	(3 1 0)	(2 -2 1)	3.118	2.976	1.05	46.1	50.7
[1 -3 4]	(3 1 0)	(2 2 1)	3.118	2.976	1.05	36.2	70.9
[1 -3 -6]	(3 1 0)	(3 3 -1)	3.118	2.712	1.15	36.8	58.0
[1 -3 2]	(3 1 0)	(-1 1 2)	3.118	2.637	1.18	89.3	81.3
[1 -3 -1]	(3 1 0)	(1 1 -2)	3.118	2.637	1.18	86.4	82.1
[1 -3 10]	(3 1 0)	(2 4 1)	3.118	2.584	1.21	41.4	47.1
[1 -3 1]	(3 1 0)	(-2 0 2)	3.118	2.541	1.23	72.5	86.8
[1 -3 -3]	(3 1 0)	(0 -2 2)	3.118	2.492	1.25	79.9	71.6
[1 -3 3]	(3 1 0)	(0 2 2)	3.118	2.492	1.25	74.3	76.0
[1 -3 5]	(3 1 0)	(1 -3 -2)	3.118	2.437	1.28	88.0	66.1
[1 -3 -4]	(3 1 0)	(1 3 -2)	3.118	2.437	1.28	84.0	66.7
[1 -3 -6]	(3 1 0)	(3 -1 1)	3.118	2.435	1.28	32.5	58.0
[1 -3 0]	(3 1 0)	(3 1 1)	3.118	2.435	1.28	27.2	87.6
[1 -3 4]	(3 1 0)	(4 0 -1)	3.118	2.381	1.31	28.2	70.9
[1 -3 -2]	(3 1 0)	(-1 1 -2)	3.118	2.344	1.33	64.5	76.7
[1 -3 1]	(3 1 0)	(1 1 2)	3.118	2.344	1.33	61.7	86.8
[1 -3 10]	(3 1 0)	(4 -2 -1)	3.118	2.302	1.35	36.1	47.1
[1 -3 -2]	(3 1 0)	(-4 -2 1)	3.118	2.302	1.35	26.3	76.7
[1 -3 6]	(3 1 0)	(3 3 1)	3.118	2.275	1.37	29.0	61.6
[1 -3 3]	(3 1 0)	(-3 1 2)	3.118	2.268	1.37	61.2	76.0
[1 -3 0]	(3 1 0)	(3 1 -2)	3.118	2.268	1.37	58.3	87.6
[1 -3 7]	(3 1 0)	(2 -4 -2)	3.118	2.214	1.41	79.8	57.5
[1 -3 -5]	(3 1 0)	(-2 -4 2)	3.118	2.214	1.41	69.7	62.2
[1 -3 -5]	(3 1 0)	(1 -3 2)	3.118	2.200	1.42	68.8	62.2
[1 -3 4]	(3 1 0)	(1 3 2)	3.118	2.200	1.42	60.8	70.9
[1 -3 8]	(3 1 0)	(-1 5 2)	3.118	2.144	1.45	85.9	53.7
[1 -3 -7]	(3 1 0)	(-1 -5 2)	3.118	2.144	1.45	82.3	54.2
[1 -3 6]	(3 1 0)	(3 -3 -2)	3.118	2.137	1.46	65.6	61.6
[1 -3 -3]	(3 1 0)	(3 3 -2)	3.118	2.137	1.46	57.6	71.6
[1 -3 -8]	(3 1 0)	(-4 -4 1)	3.118	2.105	1.48	30.7	50.7
[1 -3 -1]	(3 1 0)	(2 0 2)	3.118	2.079	1.50	51.9	82.1
[1 -3 -8]	(3 1 0)	(-1 5 -2)	3.118	1.978	1.58	73.3	50.7
[1 -3 7]	(3 1 0)	(1 5 2)	3.118	1.978	1.58	61.6	57.5
[1 -3 -9]	(3 1 0)	(0 6 -2)	3.118	1.964	1.59	86.4	47.5

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -3 9]	(3 1 0)	(0 6 2)	3.118	1.964	1.59	73.3	50.2
[1 -3 5]	(3 1 0)	(-4 2 2)	3.118	1.953	1.60	53.2	66.1
[1 -3 -1]	(3 1 0)	(4 2 -2)	3.118	1.953	1.60	47.7	82.1
[1 -3 2]	(3 1 0)	(4 2 1)	3.118	1.942	1.61	21.6	81.3
[1 -3 9]	(3 1 0)	(3 -5 -2)	3.118	1.931	1.61	70.4	50.2
[1 -3 -6]	(3 1 0)	(3 5 -2)	3.118	1.931	1.61	58.6	58.0
[1 -3 8]	(3 1 0)	(-5 1 1)	3.118	1.925	1.62	26.6	53.7
[1 -3 2]	(3 1 0)	(5 1 -1)	3.118	1.925	1.62	21.4	81.3
[1 -3 -7]	(3 1 0)	(-2 4 -2)	3.118	1.888	1.65	60.8	54.2
[1 -3 5]	(3 1 0)	(2 4 2)	3.118	1.888	1.65	50.8	66.1
[1 -3 -4]	(3 1 0)	(-5 -3 1)	3.118	1.843	1.69	22.1	66.7
[1 -3 8]	(3 1 0)	(4 4 1)	3.118	1.820	1.71	25.0	53.7
[1 -3 -3]	(3 1 0)	(-3 1 -2)	3.118	1.799	1.73	45.3	71.6
[1 -3 0]	(3 1 0)	(3 1 2)	3.118	1.799	1.73	42.5	87.6
[3 -9 -2]	(3 1 0)	(1 1 -3)	3.118	1.767	1.76	87.9	83.9
[3 -9 4]	(3 1 0)	(-1 1 3)	3.118	1.767	1.76	86.0	85.0
[3 -9 2]	(3 1 0)	(2 0 -3)	3.118	1.763	1.77	82.5	88.7
[1 -3 10]	(3 1 0)	(1 7 2)	3.118	1.742	1.79	63.1	47.1
[1 -3 -6]	(3 1 0)	(-3 3 -2)	3.118	1.732	1.80	49.9	58.0
[1 -3 3]	(3 1 0)	(3 3 2)	3.118	1.732	1.80	42.0	76.0
[1 -3 4]	(3 1 0)	(-5 1 2)	3.118	1.731	1.80	43.4	70.9
[1 -3 1]	(3 1 0)	(5 1 -2)	3.118	1.731	1.80	40.5	86.8
[3 -9 8]	(3 1 0)	(-2 2 3)	3.118	1.730	1.80	84.6	77.8
[3 -9 -4]	(3 1 0)	(2 2 -3)	3.118	1.730	1.80	80.8	80.3
[1 -3 -9]	(3 1 0)	(3 7 -2)	3.118	1.711	1.82	60.4	47.5
[3 -9 -8]	(3 1 0)	(-1 -3 3)	3.118	1.703	1.83	89.9	73.3
[3 -9 10]	(3 1 0)	(-1 3 3)	3.118	1.703	1.83	84.2	74.3
[1 -3 -2]	(3 1 0)	(0 2 -3)	3.118	1.698	1.84	78.8	76.7
[1 -3 2]	(3 1 0)	(0 2 3)	3.118	1.698	1.84	74.9	81.3
[1 -3 2]	(3 1 0)	(3 -1 -3)	3.118	1.686	1.85	73.6	81.3
[1 -3 0]	(3 1 0)	(-3 -1 3)	3.118	1.686	1.85	71.6	87.6
[1 -3 7]	(3 1 0)	(5 -3 -2)	3.118	1.671	1.87	48.0	57.5
[1 -3 -2]	(3 1 0)	(-5 -3 2)	3.118	1.671	1.87	40.1	76.7
[1 -3 -7]	(3 1 0)	(4 6 -2)	3.118	1.666	1.87	50.3	54.2
[1 -3 -8]	(3 1 0)	(5 -1 1)	3.118	1.655	1.88	23.6	50.7
[1 -3 -2]	(3 1 0)	(5 1 1)	3.118	1.655	1.88	18.6	76.7
[3 -9 14]	(3 1 0)	(2 -4 -3)	3.118	1.642	1.90	86.7	67.6
[3 -9 -10]	(3 1 0)	(-2 -4 3)	3.118	1.642	1.90	79.4	69.9
[3 -9 -4]	(3 1 0)	(1 -1 3)	3.118	1.628	1.92	68.2	80.3
[3 -9 2]	(3 1 0)	(1 1 3)	3.118	1.628	1.92	66.3	88.7
[1 -3 6]	(3 1 0)	(6 0 -1)	3.118	1.624	1.92	20.2	61.6
[1 -3 -9]	(3 1 0)	(-3 5 -2)	3.118	1.617	1.93	55.2	47.5
[1 -3 6]	(3 1 0)	(3 5 2)	3.118	1.617	1.93	43.5	61.6
[1 -3 -4]	(3 1 0)	(0 4 -3)	3.118	1.614	1.93	81.1	66.7
[1 -3 4]	(3 1 0)	(0 4 3)	3.118	1.614	1.93	73.9	70.9
[1 -3 4]	(3 1 0)	(5 3 1)	3.118	1.602	1.95	18.5	70.9
[1 -3 0]	(3 1 0)	(6 2 -1)	3.118	1.598	1.95	17.4	87.6
[3 -9 -14]	(3 1 0)	(1 5 -3)	3.118	1.593	1.96	88.4	63.7

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 16]	(3 1 0)	(1 -5 -3)	3.118	1.593	1.96	82.9	64.6
[3 -9 4]	(3 1 0)	(4 0 -3)	3.118	1.586	1.97	63.5	85.0
[3 -9 -10]	(3 1 0)	(1 -3 3)	3.118	1.577	1.98	70.8	69.9
[3 -9 8]	(3 1 0)	(1 3 3)	3.118	1.577	1.98	65.2	77.8
[1 -3 -5]	(3 1 0)	(5 5 -2)	3.118	1.567	1.99	41.6	62.2
[3 -9 10]	(3 1 0)	(-4 2 3)	3.118	1.562	2.00	65.9	74.3
[3 -9 -2]	(3 1 0)	(4 2 -3)	3.118	1.562	2.00	62.0	83.9
[1 -3 -5]	(3 1 0)	(4 -2 2)	3.118	1.553	2.01	41.1	62.2
[1 -3 1]	(3 1 0)	(4 2 2)	3.118	1.553	2.01	35.7	86.8
[1 -3 6]	(3 1 0)	(3 -5 -3)	3.118	1.533	2.03	78.6	61.6
[1 -3 -4]	(3 1 0)	(3 5 -3)	3.118	1.533	2.03	69.8	66.7
[1 -3 -6]	(3 1 0)	(-6 -4 1)	3.118	1.528	2.04	19.7	58.0
[3 -9 20]	(3 1 0)	(2 -6 -3)	3.118	1.521	2.05	88.6	58.8
[3 -9 -16]	(3 1 0)	(-2 -6 3)	3.118	1.521	2.05	78.5	60.8
[1 -3 3]	(3 1 0)	(6 0 -2)	3.118	1.519	2.05	35.9	76.0
[3 -9 -2]	(3 1 0)	(2 0 3)	3.118	1.514	2.06	58.9	83.9
[1 -3 10]	(3 1 0)	(5 5 1)	3.118	1.509	2.07	22.7	47.1
[3 -9 16]	(3 1 0)	(4 -4 -3)	3.118	1.496	2.08	68.7	64.6
[3 -9 -8]	(3 1 0)	(-4 -4 3)	3.118	1.496	2.08	61.5	73.3
[3 -9 -8]	(3 1 0)	(2 -2 3)	3.118	1.493	2.09	61.2	73.3
[3 -9 4]	(3 1 0)	(2 2 3)	3.118	1.493	2.09	57.4	85.0
[3 -9 -16]	(3 1 0)	(1 -5 3)	3.118	1.489	2.09	73.6	60.8
[3 -9 14]	(3 1 0)	(1 5 3)	3.118	1.489	2.09	64.8	67.6
[1 -3 9]	(3 1 0)	(3 7 2)	3.118	1.480	2.11	46.2	50.2
[3 -9 -20]	(3 1 0)	(-1 -7 3)	3.118	1.462	2.13	86.9	55.4
[3 -9 22]	(3 1 0)	(-1 7 3)	3.118	1.462	2.13	81.8	56.2
[3 -9 8]	(3 1 0)	(-5 1 3)	3.118	1.456	2.14	56.9	77.8
[3 -9 2]	(3 1 0)	(5 1 -3)	3.118	1.456	2.14	55.0	88.7
[1 -3 -8]	(3 1 0)	(-5 -7 2)	3.118	1.442	2.16	44.3	50.7
[1 -3 9]	(3 1 0)	(6 -4 -2)	3.118	1.439	2.17	44.6	50.2
[1 -3 -3]	(3 1 0)	(-6 -4 2)	3.118	1.439	2.17	34.7	71.6
[3 -9 -14]	(3 1 0)	(2 -4 3)	3.118	1.435	2.17	64.2	63.7
[3 -9 10]	(3 1 0)	(2 4 3)	3.118	1.435	2.17	57.0	74.3
[1 -3 -6]	(3 1 0)	(6 0 1)	3.118	1.423	2.19	18.3	58.0
[3 -9 14]	(3 1 0)	(5 -3 -3)	3.118	1.419	2.20	59.6	67.6
[3 -9 -4]	(3 1 0)	(-5 -3 3)	3.118	1.419	2.20	54.1	80.3
[1 -3 8]	(3 1 0)	(3 -7 -3)	3.118	1.416	2.20	81.0	53.7
[1 -3 -6]	(3 1 0)	(-3 -7 3)	3.118	1.416	2.20	69.8	58.0
[1 -3 0]	(3 1 0)	(6 2 1)	3.118	1.406	2.22	15.3	87.6
[3 -9 22]	(3 1 0)	(4 -6 -3)	3.118	1.403	2.22	71.7	56.2
[3 -9 -14]	(3 1 0)	(-4 -6 3)	3.118	1.403	2.22	61.7	63.7
[1 -3 7]	(3 1 0)	(4 6 2)	3.118	1.396	2.23	38.4	57.5
[1 -3 10]	(3 1 0)	(-7 1 1)	3.118	1.391	2.24	20.8	47.1
[1 -3 4]	(3 1 0)	(7 1 -1)	3.118	1.391	2.24	16.0	70.9
[3 -9 26]	(3 1 0)	(-2 8 3)	3.118	1.389	2.24	89.8	51.4
[3 -9 -22]	(3 1 0)	(-2 -8 3)	3.118	1.389	2.24	78.0	53.0
[1 -3 -2]	(3 1 0)	(3 -1 3)	3.118	1.382	2.26	53.0	76.7
[1 -3 0]	(3 1 0)	(3 1 3)	3.118	1.382	2.26	51.1	87.6

Riebeckite (310) 369 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -3 -4]	(3 1 0)	(5 -1 2)	3.118	1.381	2.26	34.3	66.7
[1 -3 -1]	(3 1 0)	(5 1 2)	3.118	1.381	2.26	31.5	82.1
[3 -9 -22]	(3 1 0)	(1 -7 3)	3.118	1.380	2.26	76.4	53.0
[3 -9 20]	(3 1 0)	(1 7 3)	3.118	1.380	2.26	65.1	58.8
[1 -3 -8]	(3 1 0)	(0 -8 3)	3.118	1.372	2.27	85.5	50.7
[1 -3 8]	(3 1 0)	(0 8 3)	3.118	1.372	2.27	73.2	53.7
[1 -3 -2]	(3 1 0)	(7 3 -1)	3.118	1.359	2.29	15.2	76.7
[1 -3 6]	(3 1 0)	(6 4 1)	3.118	1.357	2.30	16.8	61.6
[3 -9 -10]	(3 1 0)	(5 5 -3)	3.118	1.354	2.30	54.1	69.9
[3 -9 -20]	(3 1 0)	(-2 6 -3)	3.118	1.352	2.31	67.4	55.4
[3 -9 16]	(3 1 0)	(2 6 3)	3.118	1.352	2.31	57.4	64.6
[1 -3 -7]	(3 1 0)	(-5 3 -2)	3.118	1.350	2.31	38.6	54.2
[1 -3 2]	(3 1 0)	(5 3 2)	3.118	1.350	2.31	30.8	81.3
[1 -3 5]	(3 1 0)	(-7 1 2)	3.118	1.334	2.34	33.2	66.1
[1 -3 2]	(3 1 0)	(7 1 -2)	3.118	1.334	2.34	30.4	81.3
[3 -9 -26]	(3 1 0)	(-1 -9 3)	3.118	1.329	2.35	85.7	48.6
[3 -9 28]	(3 1 0)	(-1 9 3)	3.118	1.329	2.35	81.1	49.2
[2 -6 -1]	(3 1 0)	(-1 -1 4)	3.118	1.323	2.36	85.0	84.8
[1 -3 1]	(3 1 0)	(1 -1 -4)	3.118	1.323	2.36	83.6	86.8
[1 -3 4]	(3 1 0)	(6 -2 -3)	3.118	1.319	2.36	51.7	70.9
[1 -3 0]	(3 1 0)	(6 2 -3)	3.118	1.319	2.36	48.0	87.6
[2 -6 3]	(3 1 0)	(-3 1 4)	3.118	1.309	2.38	80.7	84.1
[1 -3 0]	(3 1 0)	(3 1 -4)	3.118	1.309	2.38	79.3	87.6
[1 -3 8]	(3 1 0)	(-7 3 2)	3.118	1.306	2.39	37.4	53.7
[1 -3 -1]	(3 1 0)	(7 3 -2)	3.118	1.306	2.39	29.6	82.1
[1 -3 -8]	(3 1 0)	(-7 -5 1)	3.118	1.301	2.40	18.4	50.7
[3 -9 28]	(3 1 0)	(4 -8 -3)	3.118	1.297	2.40	74.6	49.2
[3 -9 -20]	(3 1 0)	(-4 -8 3)	3.118	1.297	2.40	62.4	55.4
[1 -3 -2]	(3 1 0)	(1 3 -4)	3.118	1.296	2.41	86.6	76.7
[2 -6 5]	(3 1 0)	(-1 3 4)	3.118	1.296	2.41	82.3	78.6
[1 -3 -6]	(3 1 0)	(-3 5 -3)	3.118	1.294	2.41	59.1	58.0
[1 -3 4]	(3 1 0)	(3 5 3)	3.118	1.294	2.41	50.4	70.9
[1 -3 5]	(3 1 0)	(5 5 2)	3.118	1.293	2.41	32.0	66.1
[2 -6 -3]	(3 1 0)	(0 2 -4)	3.118	1.283	2.43	78.2	79.4
[2 -6 3]	(3 1 0)	(0 2 4)	3.118	1.283	2.43	75.3	84.1
[1 -3 3]	(3 1 0)	(-3 3 4)	3.118	1.283	2.43	82.3	76.0
[2 -6 -3]	(3 1 0)	(3 3 -4)	3.118	1.283	2.43	78.1	79.4
[1 -3 6]	(3 1 0)	(-6 4 3)	3.118	1.279	2.44	54.8	61.6
[1 -3 -2]	(3 1 0)	(6 4 -3)	3.118	1.279	2.44	47.6	76.7
[2 -6 7]	(3 1 0)	(2 -4 -4)	3.118	1.278	2.44	89.3	73.4
[2 -6 -5]	(3 1 0)	(2 4 -4)	3.118	1.278	2.44	85.1	74.1
[3 -9 26]	(3 1 0)	(-5 7 3)	3.118	1.271	2.45	66.2	51.4
[3 -9 -16]	(3 1 0)	(5 7 -3)	3.118	1.271	2.45	55.0	60.8
[3 -9 26]	(3 1 0)	(1 9 3)	3.118	1.267	2.46	65.8	51.4
[3 -9 -4]	(3 1 0)	(4 0 3)	3.118	1.263	2.47	46.1	80.3
[1 -3 -9]	(3 1 0)	(-6 -8 2)	3.118	1.260	2.47	39.8	47.5
[2 -6 5]	(3 1 0)	(4 -2 -4)	3.118	1.258	2.48	74.1	78.6
[2 -6 -1]	(3 1 0)	(-4 -2 4)	3.118	1.258	2.48	71.3	84.8

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -26]	(3 1 0)	(2 -8 3)	3.118	1.257	2.48	70.6	48.6
[3 -9 22]	(3 1 0)	(2 8 3)	3.118	1.257	2.48	58.3	56.2
[1 -3 -4]	(3 1 0)	(-7 -5 2)	3.118	1.255	2.48	30.8	66.7
[3 -9 -10]	(3 1 0)	(4 -2 3)	3.118	1.251	2.49	48.5	69.9
[3 -9 2]	(3 1 0)	(4 2 3)	3.118	1.251	2.49	44.7	88.7
[2 -6 -7]	(3 1 0)	(1 5 -4)	3.118	1.245	2.50	88.1	69.1
[1 -3 4]	(3 1 0)	(-1 5 4)	3.118	1.245	2.50	81.2	70.9
[1 -3 -1]	(3 1 0)	(-1 1 -4)	3.118	1.243	2.51	70.2	82.1
[2 -6 1]	(3 1 0)	(1 1 4)	3.118	1.243	2.51	68.7	89.6
[1 -3 -4]	(3 1 0)	(7 1 1)	3.118	1.240	2.51	14.7	66.7
[2 -6 9]	(3 1 0)	(3 -5 -4)	3.118	1.234	2.53	84.0	68.4
[1 -3 -3]	(3 1 0)	(-3 -5 4)	3.118	1.234	2.53	77.1	71.6
[1 -3 -3]	(3 1 0)	(6 0 2)	3.118	1.229	2.54	29.0	71.6
[1 -3 8]	(3 1 0)	(8 0 -1)	3.118	1.221	2.55	16.5	53.7
[1 -3 -8]	(3 1 0)	(-3 7 -3)	3.118	1.221	2.55	62.5	50.7
[1 -3 6]	(3 1 0)	(3 7 3)	3.118	1.221	2.55	51.3	61.6
[1 -3 8]	(3 1 0)	(5 7 2)	3.118	1.220	2.56	34.6	53.7
[2 -6 -5]	(3 1 0)	(1 -3 4)	3.118	1.220	2.56	72.0	74.1
[1 -3 2]	(3 1 0)	(1 3 4)	3.118	1.220	2.56	67.7	81.3
[1 -3 2]	(3 1 0)	(7 3 1)	3.118	1.217	2.56	13.3	81.3
[3 -9 -16]	(3 1 0)	(-4 4 -3)	3.118	1.216	2.56	51.6	60.8
[3 -9 8]	(3 1 0)	(4 4 3)	3.118	1.216	2.56	44.4	77.8
[3 -9 10]	(3 1 0)	(-7 1 3)	3.118	1.212	2.57	45.1	74.3
[3 -9 4]	(3 1 0)	(7 1 -3)	3.118	1.212	2.57	43.2	85.0
[1 -3 2]	(3 1 0)	(-8 -2 1)	3.118	1.210	2.58	13.3	81.3
[1 -3 2]	(3 1 0)	(5 -1 -4)	3.118	1.209	2.58	66.5	81.3
[2 -6 1]	(3 1 0)	(-5 -1 4)	3.118	1.209	2.58	65.0	89.6
[3 -9 16]	(3 1 0)	(7 -3 -3)	3.118	1.191	2.62	47.9	64.6
[3 -9 -2]	(3 1 0)	(-7 -3 3)	3.118	1.191	2.62	42.3	83.9
[2 -6 -9]	(3 1 0)	(0 -6 4)	3.118	1.191	2.62	81.7	64.4
[2 -6 9]	(3 1 0)	(0 6 4)	3.118	1.191	2.62	73.7	68.4
[1 -3 -7]	(3 1 0)	(-7 -7 2)	3.118	1.188	2.63	33.3	54.2
[2 -6 7]	(3 1 0)	(5 -3 -4)	3.118	1.188	2.63	68.3	73.4
[1 -3 -1]	(3 1 0)	(-5 -3 4)	3.118	1.188	2.63	64.0	82.1
[1 -3 -9]	(3 1 0)	(6 -4 2)	3.118	1.185	2.63	37.0	47.5
[1 -3 3]	(3 1 0)	(6 4 2)	3.118	1.185	2.63	27.3	76.0
[2 -6 -1]	(3 1 0)	(2 0 4)	3.118	1.182	2.64	62.9	84.8
[3 -9 32]	(3 1 0)	(-5 9 3)	3.118	1.181	2.64	69.4	45.2
[3 -9 -22]	(3 1 0)	(5 9 -3)	3.118	1.181	2.64	56.2	53.0
[1 -3 7]	(3 1 0)	(-8 2 2)	3.118	1.180	2.64	31.6	57.5
[1 -3 1]	(3 1 0)	(8 2 -2)	3.118	1.180	2.64	26.3	86.8
[1 -3 -5]	(3 1 0)	(1 7 -4)	3.118	1.180	2.64	89.5	62.2
[2 -6 11]	(3 1 0)	(-1 7 4)	3.118	1.180	2.64	80.4	63.8
[1 -3 -4]	(3 1 0)	(-8 -4 1)	3.118	1.179	2.64	13.9	66.7
[1 -3 -4]	(3 1 0)	(1 -5 4)	3.118	1.178	2.65	74.0	66.7
[2 -6 7]	(3 1 0)	(1 5 4)	3.118	1.178	2.65	67.1	73.4
[1 -3 8]	(3 1 0)	(7 5 1)	3.118	1.175	2.65	15.9	53.7
[2 -6 11]	(3 1 0)	(4 -6 -4)	3.118	1.170	2.66	77.9	63.8

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	(-4 -6 4)	3.118	1.170	2.66	69.9	69.1
[1 -3 6]	(3 1 0)	(3 -7 -4)	3.118	1.170	2.66	85.6	61.6
[2 -6 -9]	(3 1 0)	(-3 -7 4)	3.118	1.170	2.66	76.5	64.4
[3 -9 -22]	(3 1 0)	(4 -6 3)	3.118	1.165	2.68	55.1	53.0
[3 -9 14]	(3 1 0)	(4 6 3)	3.118	1.165	2.68	45.1	67.6
[3 -9 22]	(3 1 0)	(7 -5 -3)	3.118	1.151	2.71	51.2	56.2
[3 -9 -8]	(3 1 0)	(-7 -5 3)	3.118	1.151	2.71	42.5	73.3
[1 -3 10]	(3 1 0)	(8 -4 -2)	3.118	1.151	2.71	36.1	47.1
[1 -3 -2]	(3 1 0)	(-8 -4 2)	3.118	1.151	2.71	26.3	76.7
[1 -3 5]	(3 1 0)	(5 -5 -4)	3.118	1.148	2.71	70.4	66.1
[2 -6 -5]	(3 1 0)	(-5 -5 4)	3.118	1.148	2.71	63.5	74.1
[3 -9 -8]	(3 1 0)	(5 -1 3)	3.118	1.148	2.71	42.4	73.3
[3 -9 -2]	(3 1 0)	(5 1 3)	3.118	1.148	2.71	40.5	83.9
[1 -3 10]	(3 1 0)	(6 -8 -3)	3.118	1.148	2.72	61.8	47.1
[1 -3 -6]	(3 1 0)	(-6 -8 3)	3.118	1.148	2.72	49.6	58.0
[2 -6 13]	(3 1 0)	(-2 8 4)	3.118	1.147	2.72	86.9	59.5
[2 -6 -11]	(3 1 0)	(-2 -8 4)	3.118	1.147	2.72	83.0	60.1
[2 -6 -7]	(3 1 0)	(2 -4 4)	3.118	1.143	2.73	66.6	69.1
[2 -6 5]	(3 1 0)	(2 4 4)	3.118	1.143	2.73	61.0	78.6
[2 -6 3]	(3 1 0)	(6 0 -4)	3.118	1.143	2.73	59.5	84.1
[3 -9 -14]	(3 1 0)	(-5 3 -3)	3.118	1.130	2.76	45.2	63.7
[3 -9 4]	(3 1 0)	(5 3 3)	3.118	1.130	2.76	39.6	85.0
[2 -6 -11]	(3 1 0)	(1 -7 4)	3.118	1.122	2.78	76.0	60.1
[1 -3 5]	(3 1 0)	(1 7 4)	3.118	1.122	2.78	66.9	66.1
[2 -6 -3]	(3 1 0)	(3 -1 4)	3.118	1.109	2.81	57.8	79.4
[1 -3 0]	(3 1 0)	(3 1 4)	3.118	1.109	2.81	56.4	87.6
[2 -6 9]	(3 1 0)	(6 -4 -4)	3.118	1.108	2.81	63.3	68.4
[2 -6 -3]	(3 1 0)	(-6 -4 4)	3.118	1.108	2.81	57.7	79.4
[3 -9 8]	(3 1 0)	(8 0 -3)	3.118	1.107	2.82	39.6	77.8
[1 -3 -5]	(3 1 0)	(-8 -6 2)	3.118	1.107	2.82	28.0	62.2
[2 -6 -13]	(3 1 0)	(1 9 -4)	3.118	1.107	2.82	89.3	56.1
[1 -3 7]	(3 1 0)	(1 -9 -4)	3.118	1.107	2.82	79.7	57.5
[3 -9 -28]	(3 1 0)	(4 -8 3)	3.118	1.102	2.83	58.6	46.5
[3 -9 20]	(3 1 0)	(4 8 3)	3.118	1.102	2.83	46.4	58.8
[1 -3 -8]	(3 1 0)	(8 0 1)	3.118	1.102	2.83	15.5	50.7
[3 -9 14]	(3 1 0)	(-8 2 3)	3.118	1.099	2.84	41.9	67.6
[3 -9 2]	(3 1 0)	(8 2 -3)	3.118	1.099	2.84	38.2	88.7
[3 -9 28]	(3 1 0)	(-7 7 3)	3.118	1.099	2.84	54.7	49.2
[3 -9 -14]	(3 1 0)	(7 7 -3)	3.118	1.099	2.84	43.6	63.7
[1 -3 -5]	(3 1 0)	(-7 1 -2)	3.118	1.098	2.84	27.7	62.2
[1 -3 -2]	(3 1 0)	(7 1 2)	3.118	1.098	2.84	25.0	76.7
[2 -6 15]	(3 1 0)	(-3 9 4)	3.118	1.098	2.84	87.1	55.5
[1 -3 -6]	(3 1 0)	(3 9 -4)	3.118	1.098	2.84	76.1	58.0
[2 -6 13]	(3 1 0)	(5 -7 -4)	3.118	1.096	2.84	72.6	59.5
[1 -3 -4]	(3 1 0)	(-5 -7 4)	3.118	1.096	2.84	63.5	66.7
[3 -9 -20]	(3 1 0)	(5 -5 3)	3.118	1.096	2.84	48.5	55.4
[3 -9 10]	(3 1 0)	(5 5 3)	3.118	1.096	2.84	39.8	74.3
[1 -3 -2]	(3 1 0)	(8 2 1)	3.118	1.094	2.85	12.2	76.7

Riebeckite (310) 369 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -3 -3]	(3 1 0)	(-3 3 -4)	3.118	1.093	2.85	59.7	71.6
[2 -6 3]	(3 1 0)	(3 3 4)	3.118	1.093	2.85	55.5	84.1
[1 -3 6]	(3 1 0)	(9 1 -1)	3.118	1.083	2.88	13.3	61.6
[1 -3 -8]	(3 1 0)	(-7 3 -2)	3.118	1.082	2.88	31.6	50.7
[1 -3 1]	(3 1 0)	(7 3 2)	3.118	1.082	2.88	24.0	86.8
[1 -3 9]	(3 1 0)	(6 8 2)	3.118	1.079	2.89	31.7	50.2
[3 -9 20]	(3 1 0)	(8 -4 -3)	3.118	1.075	2.90	45.0	58.8
[3 -9 -4]	(3 1 0)	(-8 -4 3)	3.118	1.075	2.90	37.8	80.3
[1 -3 4]	(3 1 0)	(8 4 1)	3.118	1.071	2.91	12.3	70.9
[2 -6 5]	(3 1 0)	(7 -1 -4)	3.118	1.069	2.92	54.9	78.6
[1 -3 1]	(3 1 0)	(-7 -1 4)	3.118	1.069	2.92	53.4	86.8
[1 -3 6]	(3 1 0)	(9 -1 -2)	3.118	1.067	2.92	27.0	61.6
[1 -3 3]	(3 1 0)	(-9 -1 2)	3.118	1.067	2.92	24.3	76.0
[5 -15 2]	(3 1 0)	(-2 0 5)	3.118	1.067	2.92	89.0	89.8
[2 -6 -9]	(3 1 0)	(3 -5 4)	3.118	1.062	2.93	62.0	64.4
[1 -3 3]	(3 1 0)	(3 5 4)	3.118	1.062	2.93	55.2	76.0
[5 -15 6]	(3 1 0)	(-3 1 5)	3.118	1.060	2.94	85.2	85.7
[1 -3 0]	(3 1 0)	(3 1 -5)	3.118	1.060	2.94	84.1	87.6
[5 -15 -4]	(3 1 0)	(2 2 -5)	3.118	1.059	2.94	89.8	83.2
[5 -15 8]	(3 1 0)	(2 -2 -5)	3.118	1.059	2.94	87.9	83.5
[1 -3 -7]	(3 1 0)	(1 -9 4)	3.118	1.058	2.95	78.0	54.2
[2 -6 13]	(3 1 0)	(1 9 4)	3.118	1.058	2.95	67.1	59.5
[5 -15 -2]	(3 1 0)	(-1 -1 5)	3.118	1.056	2.95	83.3	85.4
[5 -15 4]	(3 1 0)	(1 -1 -5)	3.118	1.056	2.95	82.2	87.9
[1 -3 4]	(3 1 0)	(7 -3 -4)	3.118	1.055	2.96	56.8	70.9
[2 -6 -1]	(3 1 0)	(-7 -3 4)	3.118	1.055	2.96	52.6	84.8
[1 -3 4]	(3 1 0)	(7 5 2)	3.118	1.053	2.96	24.7	70.9
[1 -3 9]	(3 1 0)	(9 -3 -2)	3.118	1.052	2.96	30.9	50.2
[1 -3 0]	(3 1 0)	(-9 -3 2)	3.118	1.052	2.96	23.3	87.6
[3 -9 -26]	(3 1 0)	(5 -7 3)	3.118	1.051	2.97	52.0	48.6
[3 -9 16]	(3 1 0)	(5 7 3)	3.118	1.051	2.97	40.9	64.6
[2 -6 11]	(3 1 0)	(2 8 4)	3.118	1.047	2.98	61.0	63.8
[5 -15 12]	(3 1 0)	(-3 3 5)	3.118	1.046	2.98	86.4	79.2
[5 -15 -6]	(3 1 0)	(3 3 -5)	3.118	1.046	2.98	83.0	81.0
[5 -15 4]	(3 1 0)	(-4 0 5)	3.118	1.045	2.98	78.4	87.9
[1 -3 -4]	(3 1 0)	(6 -2 3)	3.118	1.044	2.99	39.7	66.7
[1 -3 0]	(3 1 0)	(6 2 3)	3.118	1.044	2.99	36.0	87.6
[5 -15 -8]	(3 1 0)	(1 3 -5)	3.118	1.042	2.99	84.6	78.9
[1 -3 2]	(3 1 0)	(-1 3 5)	3.118	1.042	2.99	81.1	81.3
[3 -9 -10]	(3 1 0)	(-8 -6 3)	3.118	1.039	3.00	38.5	69.9
[3 -9 -20]	(3 1 0)	(7 9 -3)	3.118	1.039	3.00	45.2	55.4
[1 -3 -6]	(3 1 0)	(-9 -5 1)	3.118	1.039	3.00	13.3	58.0
[1 -3 -2]	(3 1 0)	(2 4 -5)	3.118	1.038	3.00	88.7	76.7
[5 -15 14]	(3 1 0)	(2 -4 -5)	3.118	1.038	3.00	86.8	77.0
[1 -3 2]	(3 1 0)	(4 -2 -5)	3.118	1.038	3.00	79.7	81.3
[5 -15 -2]	(3 1 0)	(-4 -2 5)	3.118	1.038	3.00	77.4	85.4
[1 -3 8]	(3 1 0)	(5 -9 -4)	3.118	1.037	3.01	74.7	53.7
[2 -6 -11]	(3 1 0)	(-5 -9 4)	3.118	1.037	3.01	63.8	60.1

Riebeckite (310) 369 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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
[1 -3 10]	(3 1 0)	(8 6 1)	3.118	1.035	3.01	15.4	47.1
[2 -6 -5]	(3 1 0)	(-4 2 -4)	3.118	1.033	3.02	53.6	74.1
[2 -6 1]	(3 1 0)	(4 2 4)	3.118	1.033	3.02	50.8	89.6
[5 -15 -6]	(3 1 0)	(0 -2 5)	3.118	1.030	3.03	77.9	81.0
[5 -15 6]	(3 1 0)	(0 2 5)	3.118	1.030	3.03	75.5	85.7
[2 -6 11]	(3 1 0)	(7 -5 -4)	3.118	1.027	3.04	59.1	63.8
[1 -3 -2]	(3 1 0)	(-7 -5 4)	3.118	1.027	3.04	52.3	76.7
[1 -3 -3]	(3 1 0)	(9 5 -2)	3.118	1.025	3.04	23.9	71.6
[1 -3 -6]	(3 1 0)	(-6 4 -3)	3.118	1.023	3.05	42.7	58.0
[1 -3 2]	(3 1 0)	(6 4 3)	3.118	1.023	3.05	35.6	81.3
[1 -3 -6]	(3 1 0)	(-3 7 -4)	3.118	1.021	3.05	64.4	58.0
[2 -6 9]	(3 1 0)	(3 7 4)	3.118	1.021	3.05	55.4	68.4
[2 -6 15]	(3 1 0)	(-6 8 4)	3.118	1.020	3.06	68.0	55.5
[2 -6 -9]	(3 1 0)	(6 8 -4)	3.118	1.020	3.06	57.9	64.4
[5 -15 18]	(3 1 0)	(-3 5 5)	3.118	1.019	3.06	87.7	72.9
[5 -15 -12]	(3 1 0)	(3 5 -5)	3.118	1.019	3.06	82.0	74.6
[5 -15 16]	(3 1 0)	(-4 4 5)	3.118	1.018	3.06	81.0	75.0
[5 -15 -8]	(3 1 0)	(4 4 -5)	3.118	1.018	3.06	76.5	78.9
[5 -15 -14]	(3 1 0)	(1 5 -5)	3.118	1.015	3.07	85.8	72.6
[5 -15 16]	(3 1 0)	(-1 5 5)	3.118	1.015	3.07	80.2	75.0
[5 -15 8]	(3 1 0)	(-5 1 5)	3.118	1.015	3.07	73.1	83.5
[5 -15 2]	(3 1 0)	(5 1 -5)	3.118	1.015	3.07	72.0	89.8
[1 -3 7]	(3 1 0)	(7 7 2)	3.118	1.012	3.08	26.7	57.5
[1 -3 4]	(3 1 0)	(9 -1 -3)	3.118	1.011	3.08	37.0	70.9
[1 -3 2]	(3 1 0)	(-9 -1 3)	3.118	1.011	3.08	35.1	81.3
[5 -15 -12]	(3 1 0)	(0 -4 5)	3.118	1.011	3.08	79.2	74.6
[5 -15 12]	(3 1 0)	(0 4 5)	3.118	1.011	3.08	74.7	79.2
[5 -15 -16]	(3 1 0)	(2 6 -5)	3.118	1.005	3.10	87.6	70.6
[1 -3 4]	(3 1 0)	(2 -6 -5)	3.118	1.005	3.10	85.8	70.9
[5 -15 -4]	(3 1 0)	(1 -1 5)	3.118	1.004	3.10	71.4	83.2
[5 -15 2]	(3 1 0)	(1 1 5)	3.118	1.004	3.10	70.3	89.8
[5 -15 14]	(3 1 0)	(5 -3 -5)	3.118	1.002	3.11	74.5	77.0
[5 -15 -4]	(3 1 0)	(-5 -3 5)	3.118	1.002	3.11	71.0	83.2

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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]	(2 6 0)	(0 0 1)	2.541	5.186	0.49	82.8	78.5
[3 -1 4]	(2 6 0)	(1 -1 -1)	2.541	4.891	0.52	85.9	66.8
[3 -1 2]	(2 6 0)	(1 1 -1)	2.541	4.891	0.52	67.3	83.6
[3 -1 2]	(2 6 0)	(0 2 1)	2.541	4.496	0.57	58.0	83.6
[3 -1 -4]	(2 6 0)	(1 -1 1)	2.541	4.052	0.63	82.1	50.1
[3 -1 -2]	(2 6 0)	(1 1 1)	2.541	4.052	0.63	58.9	62.5
[3 -1 6]	(2 6 0)	(1 -3 -1)	2.541	3.882	0.65	65.1	53.3
[3 -1 0]	(2 6 0)	(1 3 -1)	2.541	3.882	0.65	48.0	78.5
[3 -1 4]	(2 6 0)	(2 2 -1)	2.541	3.658	0.69	48.2	66.8
[3 -1 0]	(2 6 0)	(1 3 1)	2.541	3.421	0.74	40.9	78.5
[3 -1 -4]	(2 6 0)	(0 4 -1)	2.541	3.404	0.75	56.3	50.1
[3 -1 4]	(2 6 0)	(0 4 1)	2.541	3.404	0.75	44.0	66.8
[3 -1 2]	(2 6 0)	(2 4 -1)	2.541	2.994	0.85	34.4	83.6
[3 -1 -4]	(2 6 0)	(2 2 1)	2.541	2.976	0.85	46.7	50.1
[3 -1 -2]	(2 6 0)	(1 5 -1)	2.541	2.943	0.86	38.5	62.5
[3 -1 2]	(2 6 0)	(1 5 1)	2.541	2.726	0.93	30.9	83.6
[3 -1 6]	(2 6 0)	(3 3 -1)	2.541	2.712	0.94	39.3	53.3
[3 -1 2]	(2 6 0)	(1 -1 -2)	2.541	2.637	0.96	84.1	83.6
[3 -1 1]	(2 6 0)	(1 1 -2)	2.541	2.637	0.96	81.7	87.4
[3 -1 6]	(2 6 0)	(0 6 1)	2.541	2.602	0.98	37.5	53.3
[3 -1 -2]	(2 6 0)	(2 4 1)	2.541	2.584	0.98	33.1	62.5
[3 -1 3]	(2 6 0)	(2 0 -2)	2.541	2.541	1.00	80.6	74.9
[3 -1 -1]	(2 6 0)	(0 2 -2)	2.541	2.492	1.02	83.5	70.1
[3 -1 1]	(2 6 0)	(0 2 2)	2.541	2.492	1.02	69.3	87.4
[3 -1 3]	(2 6 0)	(-1 3 2)	2.541	2.437	1.04	71.2	74.9
[3 -1 0]	(2 6 0)	(-1 -3 2)	2.541	2.437	1.04	68.8	78.5
[3 -1 0]	(2 6 0)	(2 6 -1)	2.541	2.404	1.06	27.4	78.5
[3 -1 -2]	(2 6 0)	(1 -1 2)	2.541	2.344	1.08	82.2	62.5
[3 -1 -1]	(2 6 0)	(1 1 2)	2.541	2.344	1.08	69.2	70.1
[3 -1 4]	(2 6 0)	(3 5 -1)	2.541	2.324	1.09	28.3	66.8
[3 -1 -4]	(2 6 0)	(1 7 -1)	2.541	2.299	1.11	34.2	50.1
[3 -1 5]	(2 6 0)	(-3 1 2)	2.541	2.268	1.12	80.4	59.6
[3 -1 4]	(2 6 0)	(3 1 -2)	2.541	2.268	1.12	67.7	66.8
[3 -1 5]	(2 6 0)	(2 -4 -2)	2.541	2.214	1.15	74.2	59.6
[3 -1 1]	(2 6 0)	(2 4 -2)	2.541	2.214	1.15	56.2	87.4
[3 -1 -3]	(2 6 0)	(1 -3 2)	2.541	2.200	1.15	85.5	55.8
[3 -1 0]	(2 6 0)	(1 3 2)	2.541	2.200	1.15	57.3	78.5
[3 -1 4]	(2 6 0)	(1 7 1)	2.541	2.191	1.16	26.5	66.8
[3 -1 0]	(2 6 0)	(2 6 1)	2.541	2.176	1.17	24.6	78.5
[3 -1 4]	(2 6 0)	(-1 5 2)	2.541	2.144	1.19	61.0	66.8
[3 -1 -1]	(2 6 0)	(1 5 -2)	2.541	2.144	1.19	58.8	70.1
[3 -1 6]	(2 6 0)	(3 -3 -2)	2.541	2.137	1.19	87.6	53.3
[3 -1 3]	(2 6 0)	(3 3 -2)	2.541	2.137	1.19	56.1	74.9
[3 -1 -3]	(2 6 0)	(2 0 2)	2.541	2.079	1.22	70.4	55.8
[3 -1 -4]	(2 6 0)	(3 5 1)	2.541	2.031	1.25	29.8	50.1
[3 -1 1]	(2 6 0)	(1 5 2)	2.541	1.978	1.28	47.9	87.4
[3 -1 2]	(2 6 0)	(3 7 -1)	2.541	1.966	1.29	21.8	83.6
[3 -1 -2]	(2 6 0)	(-2 -8 1)	2.541	1.965	1.29	24.5	62.5

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -3]	(2 6 0)	(0 6 -2)	2.541	1.964	1.29	62.9	55.8
[3 -1 3]	(2 6 0)	(0 6 2)	2.541	1.964	1.29	49.7	74.9
[3 -1 7]	(2 6 0)	(4 -2 -2)	2.541	1.953	1.30	80.6	47.9
[3 -1 5]	(2 6 0)	(-4 -2 2)	2.541	1.953	1.30	58.1	59.6
[3 -1 7]	(2 6 0)	(-3 5 2)	2.541	1.931	1.32	77.3	47.9
[3 -1 2]	(2 6 0)	(-3 -5 2)	2.541	1.931	1.32	46.8	83.6
[3 -1 -5]	(2 6 0)	(-2 4 -2)	2.541	1.888	1.35	87.2	45.1
[3 -1 -1]	(2 6 0)	(2 4 2)	2.541	1.888	1.35	48.9	70.1
[3 -1 6]	(2 6 0)	(-4 -6 1)	2.541	1.867	1.36	25.9	53.3
[3 -1 5]	(2 6 0)	(-1 7 2)	2.541	1.853	1.37	53.7	59.6
[3 -1 -2]	(2 6 0)	(-1 -7 2)	2.541	1.853	1.37	51.6	62.5
[3 -1 2]	(2 6 0)	(2 8 1)	2.541	1.835	1.39	20.2	83.6
[3 -1 6]	(2 6 0)	(1 9 1)	2.541	1.806	1.41	25.0	53.3
[3 -1 -5]	(2 6 0)	(-3 1 -2)	2.541	1.799	1.41	72.1	45.1
[3 -1 -4]	(2 6 0)	(3 1 2)	2.541	1.799	1.41	61.6	50.1
[3 -1 -2]	(2 6 0)	(3 7 1)	2.541	1.779	1.43	22.1	62.5
[9 -3 2]	(2 6 0)	(1 1 -3)	2.541	1.767	1.44	86.9	84.4
[9 -3 4]	(2 6 0)	(1 -1 -3)	2.541	1.767	1.44	83.6	89.6
[3 -1 2]	(2 6 0)	(2 0 -3)	2.541	1.763	1.44	86.0	83.6
[3 -1 -5]	(2 6 0)	(1 -7 2)	2.541	1.742	1.46	67.2	45.1
[3 -1 2]	(2 6 0)	(1 7 2)	2.541	1.742	1.46	41.1	83.6
[3 -1 -3]	(2 6 0)	(3 3 2)	2.541	1.732	1.47	51.7	55.8
[3 -1 7]	(2 6 0)	(5 1 -2)	2.541	1.731	1.47	61.0	47.9
[9 -3 8]	(2 6 0)	(2 -2 -3)	2.541	1.730	1.47	84.7	77.7
[9 -3 4]	(2 6 0)	(2 2 -3)	2.541	1.730	1.47	76.6	89.6
[3 -1 1]	(2 6 0)	(3 7 -2)	2.541	1.711	1.49	39.9	87.4
[3 -1 0]	(2 6 0)	(1 3 -3)	2.541	1.703	1.49	77.8	78.5
[3 -1 2]	(2 6 0)	(1 -3 -3)	2.541	1.703	1.49	74.5	83.6
[9 -3 -2]	(2 6 0)	(0 2 -3)	2.541	1.698	1.50	88.0	72.8
[9 -3 2]	(2 6 0)	(0 2 3)	2.541	1.698	1.50	73.6	84.4
[3 -1 7]	(2 6 0)	(-2 8 2)	2.541	1.687	1.51	58.4	47.9
[3 -1 -1]	(2 6 0)	(-2 -8 2)	2.541	1.687	1.51	42.3	70.1
[9 -3 10]	(2 6 0)	(3 -1 -3)	2.541	1.686	1.51	85.2	72.1
[9 -3 8]	(2 6 0)	(-3 -1 3)	2.541	1.686	1.51	76.0	77.7
[3 -1 0]	(2 6 0)	(3 9 -1)	2.541	1.674	1.52	18.7	78.5
[3 -1 6]	(2 6 0)	(5 3 -2)	2.541	1.671	1.52	51.4	53.3
[3 -1 3]	(2 6 0)	(-4 -6 2)	2.541	1.666	1.53	40.3	74.9
[9 -3 10]	(2 6 0)	(-2 4 3)	2.541	1.642	1.55	76.0	72.1
[9 -3 2]	(2 6 0)	(-2 -4 3)	2.541	1.642	1.55	68.1	84.4
[3 -1 4]	(2 6 0)	(4 8 -1)	2.541	1.637	1.55	19.5	66.8
[9 -3 -4]	(2 6 0)	(-1 1 -3)	2.541	1.628	1.56	82.3	67.5
[9 -3 -2]	(2 6 0)	(1 1 3)	2.541	1.628	1.56	73.4	72.8
[3 -1 -2]	(2 6 0)	(3 5 2)	2.541	1.617	1.57	43.1	62.5
[9 -3 -4]	(2 6 0)	(0 4 -3)	2.541	1.614	1.57	79.4	67.5
[9 -3 4]	(2 6 0)	(0 4 3)	2.541	1.614	1.57	65.2	89.6
[3 -1 6]	(2 6 0)	(1 -9 -2)	2.541	1.602	1.59	48.5	53.3
[3 -1 -3]	(2 6 0)	(1 9 -2)	2.541	1.602	1.59	46.6	55.8
[9 -3 -2]	(2 6 0)	(-1 -5 3)	2.541	1.593	1.59	69.7	72.8

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[9 -3 8]	(2 6 0)	(-1 5 3)	2.541	1.593	1.59	66.5	77.7
[3 -1 4]	(2 6 0)	(-4 0 3)	2.541	1.586	1.60	76.0	66.8
[3 -1 -2]	(2 6 0)	(-1 3 -3)	2.541	1.577	1.61	89.0	62.5
[3 -1 0]	(2 6 0)	(1 3 3)	2.541	1.577	1.61	64.8	78.5
[3 -1 5]	(2 6 0)	(5 5 -2)	2.541	1.567	1.62	42.9	59.6
[9 -3 14]	(2 6 0)	(-4 2 3)	2.541	1.562	1.63	84.7	61.9
[9 -3 10]	(2 6 0)	(4 2 -3)	2.541	1.562	1.63	67.4	72.1
[3 -1 -5]	(2 6 0)	(4 2 2)	2.541	1.553	1.64	55.2	45.1
[9 -3 14]	(2 6 0)	(3 -5 -3)	2.541	1.533	1.66	77.8	61.9
[9 -3 4]	(2 6 0)	(3 5 -3)	2.541	1.533	1.66	59.6	89.6
[3 -1 3]	(2 6 0)	(1 9 2)	2.541	1.529	1.66	36.4	74.9
[3 -1 1]	(2 6 0)	(2 8 2)	2.541	1.529	1.66	35.0	87.4
[3 -1 4]	(2 6 0)	(-2 6 3)	2.541	1.521	1.67	68.5	66.8
[3 -1 0]	(2 6 0)	(-2 -6 3)	2.541	1.521	1.67	60.8	78.5
[3 -1 -2]	(2 6 0)	(2 0 3)	2.541	1.514	1.68	73.7	62.5
[3 -1 0]	(2 6 0)	(-3 -9 2)	2.541	1.508	1.69	35.2	78.5
[9 -3 16]	(2 6 0)	(-4 4 3)	2.541	1.496	1.70	87.0	57.4
[9 -3 8]	(2 6 0)	(4 4 -3)	2.541	1.496	1.70	59.4	77.7
[9 -3 -8]	(2 6 0)	(2 -2 3)	2.541	1.493	1.70	82.1	58.0
[9 -3 -4]	(2 6 0)	(2 2 3)	2.541	1.493	1.70	65.4	67.5
[3 -1 -4]	(2 6 0)	(4 8 1)	2.541	1.492	1.70	21.4	50.1
[9 -3 -8]	(2 6 0)	(1 -5 3)	2.541	1.489	1.71	81.0	58.0
[9 -3 2]	(2 6 0)	(1 5 3)	2.541	1.489	1.71	57.3	84.4
[3 -1 -1]	(2 6 0)	(3 7 2)	2.541	1.480	1.72	36.2	70.1
[9 -3 -4]	(2 6 0)	(-1 -7 3)	2.541	1.462	1.74	62.9	67.5
[9 -3 10]	(2 6 0)	(-1 7 3)	2.541	1.462	1.74	59.8	72.1
[9 -3 16]	(2 6 0)	(-5 1 3)	2.541	1.456	1.75	76.3	57.4
[9 -3 14]	(2 6 0)	(5 1 -3)	2.541	1.456	1.75	68.1	61.9
[3 -1 4]	(2 6 0)	(-5 -7 2)	2.541	1.442	1.76	36.0	66.8
[3 -1 7]	(2 6 0)	(6 4 -2)	2.541	1.439	1.77	46.6	47.9
[9 -3 -10]	(2 6 0)	(2 -4 3)	2.541	1.435	1.77	89.9	53.8
[9 -3 -2]	(2 6 0)	(2 4 3)	2.541	1.435	1.77	57.7	72.8
[3 -1 6]	(2 6 0)	(5 -3 -3)	2.541	1.419	1.79	84.4	53.3
[3 -1 4]	(2 6 0)	(-5 -3 3)	2.541	1.419	1.79	60.3	66.8
[9 -3 16]	(2 6 0)	(-3 7 3)	2.541	1.416	1.79	70.9	57.4
[9 -3 2]	(2 6 0)	(-3 -7 3)	2.541	1.416	1.79	53.1	84.4
[3 -1 6]	(2 6 0)	(-4 6 3)	2.541	1.403	1.81	79.6	53.3
[3 -1 2]	(2 6 0)	(-4 -6 3)	2.541	1.403	1.81	52.5	83.6
[3 -1 -3]	(2 6 0)	(4 6 2)	2.541	1.396	1.82	39.2	55.8
[3 -1 6]	(2 6 0)	(-5 -9 1)	2.541	1.393	1.82	19.0	53.3
[9 -3 14]	(2 6 0)	(-2 8 3)	2.541	1.389	1.83	62.3	61.9
[9 -3 -2]	(2 6 0)	(-2 -8 3)	2.541	1.389	1.83	54.9	72.8
[9 -3 -10]	(2 6 0)	(3 -1 3)	2.541	1.382	1.84	74.4	53.8
[9 -3 -8]	(2 6 0)	(3 1 3)	2.541	1.382	1.84	66.5	58.0
[9 -3 -10]	(2 6 0)	(-1 7 -3)	2.541	1.380	1.84	74.1	53.8
[9 -3 4]	(2 6 0)	(1 7 3)	2.541	1.380	1.84	50.9	89.6
[9 -3 -8]	(2 6 0)	(0 8 -3)	2.541	1.372	1.85	65.5	58.0
[9 -3 8]	(2 6 0)	(0 8 3)	2.541	1.372	1.85	52.2	77.7

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[9 -3 10]	(2 6 0)	(5 5 -3)	2.541	1.354	1.88	53.1	72.1
[3 -1 -4]	(2 6 0)	(2 -6 3)	2.541	1.352	1.88	82.6	50.1
[3 -1 0]	(2 6 0)	(2 6 3)	2.541	1.352	1.88	50.9	78.5
[3 -1 0]	(2 6 0)	(3 9 2)	2.541	1.343	1.89	30.9	78.5
[3 -1 -2]	(2 6 0)	(1 9 -3)	2.541	1.329	1.91	57.4	62.5
[3 -1 4]	(2 6 0)	(-1 9 3)	2.541	1.329	1.91	54.4	66.8
[6 -2 1]	(2 6 0)	(-1 -1 4)	2.541	1.323	1.92	89.5	82.9
[3 -1 1]	(2 6 0)	(-1 1 4)	2.541	1.323	1.92	83.4	87.4
[9 -3 20]	(2 6 0)	(-6 2 3)	2.541	1.319	1.93	76.9	49.6
[9 -3 16]	(2 6 0)	(6 2 -3)	2.541	1.319	1.93	61.7	57.4
[3 -1 3]	(2 6 0)	(-5 -9 2)	2.541	1.314	1.93	30.7	74.9
[6 -2 5]	(2 6 0)	(3 -1 -4)	2.541	1.309	1.94	88.1	79.2
[3 -1 2]	(2 6 0)	(-3 -1 4)	2.541	1.309	1.94	81.0	83.6
[9 -3 20]	(2 6 0)	(-4 8 3)	2.541	1.297	1.96	73.3	49.6
[9 -3 4]	(2 6 0)	(-4 -8 3)	2.541	1.297	1.96	46.9	89.6
[3 -1 0]	(2 6 0)	(-1 -3 4)	2.541	1.296	1.96	82.6	78.5
[6 -2 3]	(2 6 0)	(-1 3 4)	2.541	1.296	1.96	76.4	88.1
[9 -3 -14]	(2 6 0)	(-3 5 -3)	2.541	1.294	1.96	89.4	46.7
[9 -3 -4]	(2 6 0)	(3 5 3)	2.541	1.294	1.96	52.0	67.5
[3 -1 -5]	(2 6 0)	(5 5 2)	2.541	1.293	1.97	43.1	45.1
[6 -2 -1]	(2 6 0)	(0 2 -4)	2.541	1.283	1.98	89.8	74.2
[6 -2 1]	(2 6 0)	(0 2 4)	2.541	1.283	1.98	75.8	82.9
[3 -1 3]	(2 6 0)	(3 -3 -4)	2.541	1.283	1.98	85.0	74.9
[6 -2 3]	(2 6 0)	(3 3 -4)	2.541	1.283	1.98	74.2	88.1
[9 -3 22]	(2 6 0)	(-6 4 3)	2.541	1.279	1.99	84.3	46.3
[9 -3 14]	(2 6 0)	(6 4 -3)	2.541	1.279	1.99	54.6	61.9
[6 -2 5]	(2 6 0)	(2 -4 -4)	2.541	1.278	1.99	77.3	79.2
[6 -2 1]	(2 6 0)	(2 4 -4)	2.541	1.278	1.99	75.0	82.9
[9 -3 22]	(2 6 0)	(5 -7 -3)	2.541	1.271	2.00	81.3	46.3
[9 -3 8]	(2 6 0)	(5 7 -3)	2.541	1.271	2.00	47.0	77.7
[3 -1 2]	(2 6 0)	(1 9 3)	2.541	1.267	2.01	45.8	83.6
[3 -1 -4]	(2 6 0)	(4 0 3)	2.541	1.263	2.01	67.9	50.1
[3 -1 5]	(2 6 0)	(-6 -8 2)	2.541	1.260	2.02	33.2	59.6
[6 -2 7]	(2 6 0)	(4 -2 -4)	2.541	1.258	2.02	87.5	70.7
[6 -2 5]	(2 6 0)	(-4 -2 4)	2.541	1.258	2.02	73.8	79.2
[9 -3 -14]	(2 6 0)	(-2 8 -3)	2.541	1.257	2.02	76.3	46.7
[9 -3 2]	(2 6 0)	(2 8 3)	2.541	1.257	2.02	45.3	84.4
[9 -3 -14]	(2 6 0)	(-4 2 -3)	2.541	1.251	2.03	75.2	46.7
[9 -3 -10]	(2 6 0)	(4 2 3)	2.541	1.251	2.03	60.6	53.8
[6 -2 -1]	(2 6 0)	(-1 -5 4)	2.541	1.245	2.04	76.1	74.2
[3 -1 2]	(2 6 0)	(-1 5 4)	2.541	1.245	2.04	70.0	83.6
[3 -1 -1]	(2 6 0)	(-1 1 -4)	2.541	1.243	2.04	82.4	70.1
[6 -2 -1]	(2 6 0)	(1 1 4)	2.541	1.243	2.04	75.6	74.2
[6 -2 7]	(2 6 0)	(3 -5 -4)	2.541	1.234	2.06	78.5	70.7
[3 -1 1]	(2 6 0)	(3 5 -4)	2.541	1.234	2.06	67.8	87.4
[9 -3 -2]	(2 6 0)	(3 7 3)	2.541	1.221	2.08	45.9	72.8
[3 -1 -4]	(2 6 0)	(5 7 2)	2.541	1.220	2.08	36.6	50.1
[6 -2 -3]	(2 6 0)	(-1 3 -4)	2.541	1.220	2.08	89.1	66.2

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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]	(2 6 0)	(1 3 4)	2.541	1.220	2.08	69.0	78.5
[9 -3 22]	(2 6 0)	(-7 1 3)	2.541	1.212	2.10	70.5	46.3
[9 -3 20]	(2 6 0)	(7 1 -3)	2.541	1.212	2.10	63.5	49.6
[3 -1 4]	(2 6 0)	(-5 1 4)	2.541	1.209	2.10	80.4	66.8
[6 -2 7]	(2 6 0)	(5 1 -4)	2.541	1.209	2.10	73.7	70.7
[3 -1 6]	(2 6 0)	(-7 -3 3)	2.541	1.191	2.13	56.6	53.3
[6 -2 -3]	(2 6 0)	(0 6 -4)	2.541	1.191	2.13	77.4	66.2
[6 -2 3]	(2 6 0)	(0 6 4)	2.541	1.191	2.13	63.3	88.1
[3 -1 7]	(2 6 0)	(7 7 -2)	2.541	1.188	2.14	36.9	47.9
[6 -2 9]	(2 6 0)	(-5 3 4)	2.541	1.188	2.14	87.0	63.1
[3 -1 3]	(2 6 0)	(5 3 -4)	2.541	1.188	2.14	67.3	74.9
[6 -2 -3]	(2 6 0)	(2 0 4)	2.541	1.182	2.15	75.6	66.2
[3 -1 2]	(2 6 0)	(-5 -9 3)	2.541	1.181	2.15	41.9	83.6
[3 -1 -1]	(2 6 0)	(1 7 -4)	2.541	1.180	2.15	70.2	70.1
[6 -2 5]	(2 6 0)	(-1 7 4)	2.541	1.180	2.15	64.2	79.2
[3 -1 -2]	(2 6 0)	(1 -5 4)	2.541	1.178	2.16	84.5	62.5
[6 -2 1]	(2 6 0)	(1 5 4)	2.541	1.178	2.16	62.9	82.9
[6 -2 9]	(2 6 0)	(-4 6 4)	2.541	1.170	2.17	79.7	63.1
[6 -2 3]	(2 6 0)	(-4 -6 4)	2.541	1.170	2.17	61.4	88.1
[3 -1 4]	(2 6 0)	(-3 7 4)	2.541	1.170	2.17	72.6	66.8
[6 -2 1]	(2 6 0)	(3 7 -4)	2.541	1.170	2.17	62.1	82.9
[3 -1 -2]	(2 6 0)	(4 6 3)	2.541	1.165	2.18	47.6	62.5
[9 -3 16]	(2 6 0)	(7 5 -3)	2.541	1.151	2.21	50.2	57.4
[3 -1 5]	(2 6 0)	(5 -5 -4)	2.541	1.148	2.21	86.8	59.6
[6 -2 5]	(2 6 0)	(5 5 -4)	2.541	1.148	2.21	61.2	79.2
[9 -3 -14]	(2 6 0)	(5 1 3)	2.541	1.148	2.21	62.6	46.7
[9 -3 10]	(2 6 0)	(6 8 -3)	2.541	1.148	2.21	42.7	72.1
[6 -2 7]	(2 6 0)	(-2 8 4)	2.541	1.147	2.21	65.7	70.7
[6 -2 -1]	(2 6 0)	(-2 -8 4)	2.541	1.147	2.21	63.4	74.2
[6 -2 -5]	(2 6 0)	(2 -4 4)	2.541	1.143	2.22	88.5	59.0
[6 -2 -1]	(2 6 0)	(2 4 4)	2.541	1.143	2.22	63.0	74.2
[6 -2 9]	(2 6 0)	(6 0 -4)	2.541	1.143	2.22	74.0	63.1
[3 -1 -3]	(2 6 0)	(5 9 2)	2.541	1.140	2.23	31.1	55.8
[3 -1 -4]	(2 6 0)	(5 3 3)	2.541	1.130	2.25	56.0	50.1
[6 -2 -5]	(2 6 0)	(1 -7 4)	2.541	1.122	2.27	78.7	59.0
[3 -1 1]	(2 6 0)	(1 7 4)	2.541	1.122	2.27	57.3	87.4
[3 -1 6]	(2 6 0)	(-7 -9 2)	2.541	1.113	2.28	31.4	53.3
[6 -2 -5]	(2 6 0)	(3 -1 4)	2.541	1.109	2.29	75.9	59.0
[3 -1 -2]	(2 6 0)	(3 1 4)	2.541	1.109	2.29	69.7	62.5
[6 -2 11]	(2 6 0)	(6 -4 -4)	2.541	1.108	2.29	86.6	56.3
[6 -2 7]	(2 6 0)	(-6 -4 4)	2.541	1.108	2.29	61.7	70.7
[6 -2 -3]	(2 6 0)	(1 9 -4)	2.541	1.107	2.30	65.1	66.2
[3 -1 3]	(2 6 0)	(1 -9 -4)	2.541	1.107	2.30	59.3	74.9
[9 -3 -4]	(2 6 0)	(4 8 3)	2.541	1.102	2.31	42.2	67.5
[9 -3 22]	(2 6 0)	(8 2 -3)	2.541	1.099	2.31	58.8	46.3
[9 -3 14]	(2 6 0)	(-7 -7 3)	2.541	1.099	2.31	44.5	61.9
[6 -2 9]	(2 6 0)	(-3 9 4)	2.541	1.098	2.31	67.5	63.1
[3 -1 0]	(2 6 0)	(-3 -9 4)	2.541	1.098	2.31	57.2	78.5

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -2 11]	(2 6 0)	(-5 7 4)	2.541	1.096	2.32	81.0	56.3
[3 -1 2]	(2 6 0)	(-5 -7 4)	2.541	1.096	2.32	55.8	83.6
[9 -3 -10]	(2 6 0)	(5 5 3)	2.541	1.096	2.32	49.8	53.8
[3 -1 -3]	(2 6 0)	(-3 3 -4)	2.541	1.093	2.32	82.1	55.8
[6 -2 -3]	(2 6 0)	(3 3 4)	2.541	1.093	2.32	63.6	66.2
[3 -1 -5]	(2 6 0)	(6 8 2)	2.541	1.079	2.36	34.8	45.1
[9 -3 20]	(2 6 0)	(8 4 -3)	2.541	1.075	2.36	52.6	49.6
[6 -2 11]	(2 6 0)	(-7 1 4)	2.541	1.069	2.38	74.4	56.3
[3 -1 5]	(2 6 0)	(7 1 -4)	2.541	1.069	2.38	68.4	59.6
[15 -5 6]	(2 6 0)	(2 0 -5)	2.541	1.067	2.38	89.5	89.2
[6 -2 -7]	(2 6 0)	(3 -5 4)	2.541	1.062	2.39	88.0	52.8
[3 -1 -1]	(2 6 0)	(3 5 4)	2.541	1.062	2.39	57.9	70.1
[3 -1 2]	(2 6 0)	(3 -1 -5)	2.541	1.060	2.40	89.9	83.6
[15 -5 8]	(2 6 0)	(3 1 -5)	2.541	1.060	2.40	84.2	87.2
[15 -5 4]	(2 6 0)	(-2 -2 5)	2.541	1.059	2.40	84.8	85.6
[15 -5 8]	(2 6 0)	(-2 2 5)	2.541	1.059	2.40	83.8	87.2
[3 -1 -3]	(2 6 0)	(1 -9 4)	2.541	1.058	2.40	73.5	55.8
[6 -2 3]	(2 6 0)	(1 9 4)	2.541	1.058	2.40	52.5	88.1
[15 -5 2]	(2 6 0)	(1 1 -5)	2.541	1.056	2.41	88.9	82.0
[15 -5 4]	(2 6 0)	(-1 1 5)	2.541	1.056	2.41	83.2	85.6
[3 -1 6]	(2 6 0)	(-7 3 4)	2.541	1.055	2.41	80.5	53.3
[6 -2 9]	(2 6 0)	(7 3 -4)	2.541	1.055	2.41	62.5	63.1
[9 -3 -8]	(2 6 0)	(5 7 3)	2.541	1.051	2.42	44.2	58.0
[6 -2 -7]	(2 6 0)	(-2 8 -4)	2.541	1.047	2.43	80.1	52.8
[6 -2 1]	(2 6 0)	(2 8 4)	2.541	1.047	2.43	52.3	82.9
[15 -5 12]	(2 6 0)	(3 -3 -5)	2.541	1.046	2.43	84.4	80.0
[15 -5 6]	(2 6 0)	(3 3 -5)	2.541	1.046	2.43	78.6	89.2
[15 -5 12]	(2 6 0)	(-4 0 5)	2.541	1.045	2.43	83.8	80.0
[3 -1 0]	(2 6 0)	(1 3 -5)	2.541	1.042	2.44	85.5	78.5
[15 -5 6]	(2 6 0)	(1 -3 -5)	2.541	1.042	2.44	77.6	89.2
[3 -1 4]	(2 6 0)	(7 9 -3)	2.541	1.039	2.45	39.5	66.8
[15 -5 2]	(2 6 0)	(2 4 -5)	2.541	1.038	2.45	79.3	82.0
[3 -1 2]	(2 6 0)	(-2 4 5)	2.541	1.038	2.45	78.3	83.6
[15 -5 14]	(2 6 0)	(-4 2 5)	2.541	1.038	2.45	89.4	76.6
[3 -1 2]	(2 6 0)	(4 2 -5)	2.541	1.038	2.45	78.2	83.6
[3 -1 6]	(2 6 0)	(5 -9 -4)	2.541	1.037	2.45	75.8	53.3
[6 -2 3]	(2 6 0)	(5 9 -4)	2.541	1.037	2.45	51.1	88.1
[6 -2 -7]	(2 6 0)	(-4 2 -4)	2.541	1.033	2.46	76.3	52.8
[6 -2 -5]	(2 6 0)	(4 2 4)	2.541	1.033	2.46	64.6	59.0
[15 -5 -2]	(2 6 0)	(0 2 -5)	2.541	1.030	2.47	88.4	75.0
[15 -5 2]	(2 6 0)	(0 2 5)	2.541	1.030	2.47	77.2	82.0
[6 -2 13]	(2 6 0)	(-7 5 4)	2.541	1.027	2.47	86.3	50.5
[3 -1 4]	(2 6 0)	(7 5 -4)	2.541	1.027	2.47	56.9	66.8
[9 -3 -14]	(2 6 0)	(6 4 3)	2.541	1.023	2.48	52.3	46.7
[3 -1 -4]	(2 6 0)	(-3 7 -4)	2.541	1.021	2.49	86.4	50.1
[6 -2 -1]	(2 6 0)	(3 7 4)	2.541	1.021	2.49	52.7	74.2
[6 -2 13]	(2 6 0)	(-6 8 4)	2.541	1.020	2.49	82.2	50.5
[6 -2 5]	(2 6 0)	(-6 -8 4)	2.541	1.020	2.49	51.1	79.2

Riebeckite (260) 304 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 14]	(2 6 0)	(-3 5 5)	2.541	1.019	2.49	79.1	76.6
[15 -5 4]	(2 6 0)	(-3 -5 5)	2.541	1.019	2.49	73.3	85.6
[15 -5 16]	(2 6 0)	(-4 4 5)	2.541	1.018	2.50	85.2	73.2
[15 -5 8]	(2 6 0)	(-4 -4 5)	2.541	1.018	2.50	72.7	87.2
[15 -5 -2]	(2 6 0)	(1 5 -5)	2.541	1.015	2.50	80.1	75.0
[15 -5 8]	(2 6 0)	(1 -5 -5)	2.541	1.015	2.50	72.3	87.2
[15 -5 16]	(2 6 0)	(5 -1 -5)	2.541	1.015	2.50	83.4	73.2
[15 -5 14]	(2 6 0)	(-5 -1 5)	2.541	1.015	2.50	77.9	76.6
[15 -5 -4]	(2 6 0)	(0 4 -5)	2.541	1.011	2.51	86.2	71.7
[15 -5 4]	(2 6 0)	(0 4 5)	2.541	1.011	2.51	71.8	85.6
[3 -1 0]	(2 6 0)	(2 6 -5)	2.541	1.005	2.53	74.1	78.5
[15 -5 12]	(2 6 0)	(2 -6 -5)	2.541	1.005	2.53	73.1	80.0
[15 -5 -4]	(2 6 0)	(1 -1 5)	2.541	1.004	2.53	82.5	71.7
[15 -5 -2]	(2 6 0)	(1 1 5)	2.541	1.004	2.53	77.0	75.0
[15 -5 18]	(2 6 0)	(-5 3 5)	2.541	1.002	2.54	88.8	69.9
[15 -5 12]	(2 6 0)	(5 3 -5)	2.541	1.002	2.54	72.4	80.0

Riebeckite (170) 281 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	2.488	5.186	0.48	86.5	76.9
[7 -1 8]	(1 7 0)	(1 -1 -1)	2.488	4.891	0.51	79.4	68.9
[7 -1 6]	(1 7 0)	(1 1 -1)	2.488	4.891	0.51	70.2	77.0
[7 -1 2]	(1 7 0)	(0 2 1)	2.488	4.496	0.55	57.7	85.5
[7 -1 -8]	(1 7 0)	(-1 1 -1)	2.488	4.052	0.61	86.7	49.5
[7 -1 -6]	(1 7 0)	(1 1 1)	2.488	4.052	0.61	67.9	55.1
[7 -1 14]	(1 7 0)	(2 0 -1)	2.488	4.001	0.62	80.0	49.6
[7 -1 10]	(1 7 0)	(1 -3 -1)	2.488	3.882	0.64	55.8	61.6
[7 -1 4]	(1 7 0)	(1 3 -1)	2.488	3.882	0.64	46.9	85.6
[7 -1 12]	(1 7 0)	(-2 -2 1)	2.488	3.658	0.68	56.7	55.2
[7 -1 -4]	(1 7 0)	(1 3 1)	2.488	3.421	0.73	46.9	61.5
[7 -1 -4]	(1 7 0)	(0 -4 1)	2.488	3.404	0.73	46.6	61.5
[7 -1 4]	(1 7 0)	(0 4 1)	2.488	3.404	0.73	39.8	85.6
[7 -1 10]	(1 7 0)	(-2 -4 1)	2.488	2.994	0.83	39.6	61.6
[7 -1 12]	(1 7 0)	(-1 5 1)	2.488	2.943	0.85	42.2	55.2
[7 -1 2]	(1 7 0)	(-1 -5 1)	2.488	2.943	0.85	33.6	85.5
[7 -1 -2]	(1 7 0)	(1 5 1)	2.488	2.726	0.91	33.2	68.8
[7 -1 4]	(1 7 0)	(-1 1 2)	2.488	2.637	0.94	82.5	85.6
[7 -1 3]	(1 7 0)	(-1 -1 2)	2.488	2.637	0.94	81.3	89.9
[7 -1 -6]	(1 7 0)	(0 6 -1)	2.488	2.602	0.96	36.5	55.1
[7 -1 6]	(1 7 0)	(0 6 1)	2.488	2.602	0.96	30.0	77.0
[7 -1 7]	(1 7 0)	(-2 0 2)	2.488	2.541	0.98	85.4	72.8
[7 -1 -1]	(1 7 0)	(0 2 -2)	2.488	2.492	1.00	78.0	72.7
[7 -1 1]	(1 7 0)	(0 2 2)	2.488	2.492	1.00	71.0	81.1
[7 -1 5]	(1 7 0)	(-1 3 2)	2.488	2.437	1.02	67.6	81.2
[7 -1 2]	(1 7 0)	(1 3 -2)	2.488	2.437	1.02	66.4	85.5
[7 -1 8]	(1 7 0)	(-2 -6 1)	2.488	2.404	1.03	28.9	68.9
[7 -1 -4]	(1 7 0)	(-1 1 -2)	2.488	2.344	1.06	89.7	61.5
[7 -1 -3]	(1 7 0)	(1 1 2)	2.488	2.344	1.06	75.8	65.0
[7 -1 14]	(1 7 0)	(-1 7 1)	2.488	2.299	1.08	34.5	49.6
[7 -1 0]	(1 7 0)	(-1 -7 1)	2.488	2.299	1.08	26.3	76.9
[7 -1 11]	(1 7 0)	(3 -1 -2)	2.488	2.268	1.10	89.3	58.3
[7 -1 10]	(1 7 0)	(-3 -1 2)	2.488	2.268	1.10	75.2	61.6
[7 -1 9]	(1 7 0)	(-2 4 2)	2.488	2.214	1.12	66.2	65.1
[7 -1 5]	(1 7 0)	(-2 -4 2)	2.488	2.214	1.12	57.1	81.2
[7 -1 -5]	(1 7 0)	(-1 3 -2)	2.488	2.200	1.13	76.1	58.2
[7 -1 -2]	(1 7 0)	(1 3 2)	2.488	2.200	1.13	62.2	68.8
[7 -1 0]	(1 7 0)	(1 7 1)	2.488	2.191	1.14	24.9	76.9
[7 -1 -8]	(1 7 0)	(2 6 1)	2.488	2.176	1.14	32.4	49.5
[7 -1 6]	(1 7 0)	(1 -5 -2)	2.488	2.144	1.16	55.6	77.0
[7 -1 1]	(1 7 0)	(1 5 -2)	2.488	2.144	1.16	54.4	81.1
[7 -1 12]	(1 7 0)	(3 -3 -2)	2.488	2.137	1.16	77.5	55.2
[7 -1 9]	(1 7 0)	(3 3 -2)	2.488	2.137	1.16	62.0	65.1
[7 -1 -7]	(1 7 0)	(2 0 2)	2.488	2.079	1.20	80.6	52.2
[7 -1 -8]	(1 7 0)	(0 8 -1)	2.488	2.069	1.20	30.6	49.5
[7 -1 8]	(1 7 0)	(0 8 1)	2.488	2.069	1.20	24.6	68.9
[7 -1 -1]	(1 7 0)	(1 5 2)	2.488	1.978	1.26	50.9	72.7
[7 -1 14]	(1 7 0)	(-3 -7 1)	2.488	1.966	1.27	28.9	49.6

Riebeckite (170) 281 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 6]	(1 7 0)	(2 8 -1)	2.488	1.965	1.27	22.2	77.0
[7 -1 -3]	(1 7 0)	(0 -6 2)	2.488	1.964	1.27	54.3	65.0
[7 -1 3]	(1 7 0)	(0 6 2)	2.488	1.964	1.27	47.4	89.9
[7 -1 15]	(1 7 0)	(4 -2 -2)	2.488	1.953	1.27	87.7	47.1
[7 -1 13]	(1 7 0)	(4 2 -2)	2.488	1.953	1.27	67.8	52.3
[7 -1 13]	(1 7 0)	(3 -5 -2)	2.488	1.931	1.29	66.3	52.3
[7 -1 8]	(1 7 0)	(3 5 -2)	2.488	1.931	1.29	50.9	68.9
[7 -1 -9]	(1 7 0)	(2 -4 2)	2.488	1.888	1.32	75.2	47.1
[7 -1 -5]	(1 7 0)	(2 4 2)	2.488	1.888	1.32	56.4	58.2
[7 -1 -2]	(1 7 0)	(-1 -9 1)	2.488	1.865	1.33	22.0	68.8
[7 -1 7]	(1 7 0)	(-1 7 2)	2.488	1.853	1.34	46.6	72.8
[7 -1 0]	(1 7 0)	(-1 -7 2)	2.488	1.853	1.34	45.5	76.9
[7 -1 -6]	(1 7 0)	(2 8 1)	2.488	1.835	1.36	24.8	55.1
[7 -1 2]	(1 7 0)	(1 9 1)	2.488	1.806	1.38	19.9	85.5
[7 -1 2]	(1 7 0)	(1 1 -3)	2.488	1.767	1.41	85.4	85.5
[21 -3 8]	(1 7 0)	(-1 1 3)	2.488	1.767	1.41	83.8	88.5
[21 -3 14]	(1 7 0)	(-2 0 3)	2.488	1.763	1.41	88.0	82.7
[7 -1 -7]	(1 7 0)	(-1 7 -2)	2.488	1.742	1.43	55.8	52.2
[7 -1 0]	(1 7 0)	(1 7 2)	2.488	1.742	1.43	42.1	76.9
[7 -1 -9]	(1 7 0)	(3 3 2)	2.488	1.732	1.44	62.5	47.1
[21 -3 16]	(1 7 0)	(2 -2 -3)	2.488	1.730	1.44	81.3	79.8
[7 -1 4]	(1 7 0)	(2 2 -3)	2.488	1.730	1.44	77.4	85.6
[7 -1 14]	(1 7 0)	(-3 7 2)	2.488	1.711	1.45	57.4	49.6
[7 -1 7]	(1 7 0)	(3 7 -2)	2.488	1.711	1.45	42.2	72.8
[21 -3 4]	(1 7 0)	(1 3 -3)	2.488	1.703	1.46	75.0	82.6
[21 -3 10]	(1 7 0)	(1 -3 -3)	2.488	1.703	1.46	73.3	88.6
[21 -3 -2]	(1 7 0)	(0 2 -3)	2.488	1.698	1.47	83.0	74.1
[21 -3 2]	(1 7 0)	(0 2 3)	2.488	1.698	1.47	76.0	79.7
[7 -1 11]	(1 7 0)	(-2 8 2)	2.488	1.687	1.48	48.0	58.3
[7 -1 3]	(1 7 0)	(-2 -8 2)	2.488	1.687	1.48	39.2	89.9
[21 -3 22]	(1 7 0)	(-3 1 3)	2.488	1.686	1.48	89.4	71.5
[21 -3 20]	(1 7 0)	(-3 -1 3)	2.488	1.686	1.48	80.2	74.2
[7 -1 12]	(1 7 0)	(3 9 -1)	2.488	1.674	1.49	22.5	55.2
[7 -1 11]	(1 7 0)	(-4 -6 2)	2.488	1.666	1.49	47.3	58.3
[7 -1 6]	(1 7 0)	(-2 4 3)	2.488	1.642	1.52	71.4	77.0
[21 -3 10]	(1 7 0)	(-2 -4 3)	2.488	1.642	1.52	67.5	88.6
[21 -3 -8]	(1 7 0)	(1 -1 3)	2.488	1.628	1.53	89.1	66.3
[7 -1 -2]	(1 7 0)	(1 1 3)	2.488	1.628	1.53	79.1	68.8
[7 -1 -8]	(1 7 0)	(3 5 2)	2.488	1.617	1.54	52.8	49.5
[21 -3 -4]	(1 7 0)	(0 -4 3)	2.488	1.614	1.54	73.3	71.4
[21 -3 4]	(1 7 0)	(0 4 3)	2.488	1.614	1.54	66.3	82.6
[7 -1 8]	(1 7 0)	(1 -9 -2)	2.488	1.602	1.55	40.1	68.9
[7 -1 -1]	(1 7 0)	(1 9 -2)	2.488	1.602	1.55	39.0	72.7
[21 -3 2]	(1 7 0)	(-1 -5 3)	2.488	1.593	1.56	65.6	79.7
[7 -1 4]	(1 7 0)	(-1 5 3)	2.488	1.593	1.56	64.0	85.6
[21 -3 28]	(1 7 0)	(-4 0 3)	2.488	1.586	1.57	83.2	63.9
[21 -3 -10]	(1 7 0)	(-1 3 -3)	2.488	1.577	1.58	81.2	63.8
[21 -3 -4]	(1 7 0)	(1 3 3)	2.488	1.577	1.58	69.3	71.4

Riebeckite (170) 281 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 15]	(1 7 0)	(5 5 -2)	2.488	1.567	1.59	53.3	47.1
[7 -1 10]	(1 7 0)	(4 -2 -3)	2.488	1.562	1.59	87.1	61.6
[21 -3 26]	(1 7 0)	(4 2 -3)	2.488	1.562	1.59	73.5	66.3
[21 -3 26]	(1 7 0)	(3 -5 -3)	2.488	1.533	1.62	70.3	66.3
[21 -3 16]	(1 7 0)	(3 5 -3)	2.488	1.533	1.62	61.2	79.8
[7 -1 -8]	(1 7 0)	(1 -9 2)	2.488	1.529	1.63	48.9	49.5
[7 -1 1]	(1 7 0)	(1 9 2)	2.488	1.529	1.63	35.5	81.1
[7 -1 -3]	(1 7 0)	(2 8 2)	2.488	1.529	1.63	39.2	65.0
[21 -3 20]	(1 7 0)	(-2 6 3)	2.488	1.521	1.64	62.7	74.2
[21 -3 8]	(1 7 0)	(-2 -6 3)	2.488	1.521	1.64	58.8	88.5
[21 -3 -14]	(1 7 0)	(2 0 3)	2.488	1.514	1.64	82.1	59.3
[7 -1 15]	(1 7 0)	(3 -9 -2)	2.488	1.508	1.65	50.5	47.1
[7 -1 6]	(1 7 0)	(3 9 -2)	2.488	1.508	1.65	35.5	77.0
[21 -3 32]	(1 7 0)	(4 -4 -3)	2.488	1.496	1.66	78.0	59.3
[7 -1 8]	(1 7 0)	(4 4 -3)	2.488	1.496	1.66	64.4	68.9
[21 -3 -16]	(1 7 0)	(2 -2 3)	2.488	1.493	1.67	88.6	57.1
[7 -1 -4]	(1 7 0)	(2 2 3)	2.488	1.493	1.67	72.8	61.5
[7 -1 -4]	(1 7 0)	(1 -5 3)	2.488	1.489	1.67	72.3	61.5
[21 -3 -2]	(1 7 0)	(1 5 3)	2.488	1.489	1.67	60.5	74.1
[7 -1 -7]	(1 7 0)	(3 7 2)	2.488	1.480	1.68	44.6	52.2
[7 -1 0]	(1 7 0)	(1 7 -3)	2.488	1.462	1.70	57.6	76.9
[21 -3 14]	(1 7 0)	(1 -7 -3)	2.488	1.462	1.70	56.0	82.7
[7 -1 12]	(1 7 0)	(5 -1 -3)	2.488	1.456	1.71	85.9	55.2
[21 -3 34]	(1 7 0)	(-5 -1 3)	2.488	1.456	1.71	76.9	57.2
[7 -1 14]	(1 7 0)	(5 7 -2)	2.488	1.442	1.73	45.2	49.6
[7 -1 -6]	(1 7 0)	(2 -4 3)	2.488	1.435	1.73	79.8	55.1
[21 -3 -10]	(1 7 0)	(2 4 3)	2.488	1.435	1.73	64.1	63.8
[21 -3 38]	(1 7 0)	(-5 3 3)	2.488	1.419	1.75	85.3	53.2
[21 -3 32]	(1 7 0)	(-5 -3 3)	2.488	1.419	1.75	68.1	59.3
[21 -3 28]	(1 7 0)	(-3 7 3)	2.488	1.416	1.76	62.4	63.9
[21 -3 14]	(1 7 0)	(-3 -7 3)	2.488	1.416	1.76	53.4	82.7
[21 -3 34]	(1 7 0)	(-4 6 3)	2.488	1.403	1.77	69.8	57.2
[21 -3 22]	(1 7 0)	(-4 -6 3)	2.488	1.403	1.77	56.3	71.5
[21 -3 22]	(1 7 0)	(-2 8 3)	2.488	1.389	1.79	55.5	71.5
[7 -1 2]	(1 7 0)	(-2 -8 3)	2.488	1.389	1.79	51.6	85.5
[21 -3 -22]	(1 7 0)	(3 -1 3)	2.488	1.382	1.80	84.9	51.3
[21 -3 -20]	(1 7 0)	(3 1 3)	2.488	1.382	1.80	76.3	53.1
[21 -3 -14]	(1 7 0)	(1 -7 3)	2.488	1.380	1.80	64.6	59.3
[7 -1 0]	(1 7 0)	(1 7 3)	2.488	1.380	1.80	52.8	76.9
[21 -3 -8]	(1 7 0)	(0 8 -3)	2.488	1.372	1.81	57.4	66.3
[21 -3 8]	(1 7 0)	(0 8 3)	2.488	1.372	1.81	50.5	88.5
[21 -3 40]	(1 7 0)	(-5 5 3)	2.488	1.354	1.84	77.1	51.4
[7 -1 10]	(1 7 0)	(-5 -5 3)	2.488	1.354	1.84	60.0	61.6
[21 -3 -20]	(1 7 0)	(-2 6 -3)	2.488	1.352	1.84	71.9	53.1
[21 -3 -8]	(1 7 0)	(2 6 3)	2.488	1.352	1.84	56.2	66.3
[7 -1 -6]	(1 7 0)	(3 9 2)	2.488	1.343	1.85	37.9	55.1
[21 -3 -2]	(1 7 0)	(-1 -9 3)	2.488	1.329	1.87	51.0	74.1
[21 -3 16]	(1 7 0)	(-1 9 3)	2.488	1.329	1.87	49.4	79.8

Riebeckite (170) 281 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[14 -2 3]	(1 7 0)	(-1 -1 4)	2.488	1.323	1.88	87.5	83.3
[7 -1 2]	(1 7 0)	(-1 1 4)	2.488	1.323	1.88	84.4	85.5
[21 -3 44]	(1 7 0)	(-6 2 3)	2.488	1.319	1.89	88.3	47.9
[21 -3 40]	(1 7 0)	(6 2 -3)	2.488	1.319	1.89	71.8	51.4
[7 -1 13]	(1 7 0)	(-5 -9 2)	2.488	1.314	1.89	38.5	52.3
[14 -2 11]	(1 7 0)	(-3 1 4)	2.488	1.309	1.90	88.6	79.1
[7 -1 5]	(1 7 0)	(-3 -1 4)	2.488	1.309	1.90	83.3	81.2
[7 -1 12]	(1 7 0)	(-4 8 3)	2.488	1.297	1.92	62.7	55.2
[21 -3 20]	(1 7 0)	(-4 -8 3)	2.488	1.297	1.92	49.3	74.2
[7 -1 1]	(1 7 0)	(-1 -3 4)	2.488	1.296	1.92	79.5	81.1
[14 -2 5]	(1 7 0)	(-1 3 4)	2.488	1.296	1.92	76.5	87.7
[21 -3 -26]	(1 7 0)	(3 -5 3)	2.488	1.294	1.92	78.9	47.9
[21 -3 -16]	(1 7 0)	(3 5 3)	2.488	1.294	1.92	60.1	57.1
[14 -2 -1]	(1 7 0)	(0 -2 4)	2.488	1.283	1.94	85.6	74.8
[14 -2 1]	(1 7 0)	(0 2 4)	2.488	1.283	1.94	78.6	79.0
[7 -1 6]	(1 7 0)	(-3 3 4)	2.488	1.283	1.94	80.8	77.0
[14 -2 9]	(1 7 0)	(3 3 -4)	2.488	1.283	1.94	75.5	83.4
[21 -3 46]	(1 7 0)	(6 -4 -3)	2.488	1.279	1.95	83.8	46.3
[21 -3 38]	(1 7 0)	(6 4 -3)	2.488	1.279	1.95	63.9	53.2
[14 -2 9]	(1 7 0)	(2 -4 -4)	2.488	1.278	1.95	74.7	83.4
[14 -2 5]	(1 7 0)	(2 4 -4)	2.488	1.278	1.95	73.5	87.7
[7 -1 14]	(1 7 0)	(5 -7 -3)	2.488	1.271	1.96	69.8	49.6
[21 -3 28]	(1 7 0)	(5 7 -3)	2.488	1.271	1.96	52.7	63.9
[21 -3 2]	(1 7 0)	(1 9 3)	2.488	1.267	1.96	46.4	79.7
[21 -3 -28]	(1 7 0)	(4 0 3)	2.488	1.263	1.97	79.4	46.3
[14 -2 15]	(1 7 0)	(4 -2 -4)	2.488	1.258	1.98	86.8	70.8
[14 -2 13]	(1 7 0)	(4 2 -4)	2.488	1.258	1.98	77.7	74.9
[21 -3 -22]	(1 7 0)	(2 -8 3)	2.488	1.257	1.98	64.9	51.3
[7 -1 -2]	(1 7 0)	(2 8 3)	2.488	1.257	1.98	49.3	68.8
[21 -3 -26]	(1 7 0)	(4 2 3)	2.488	1.251	1.99	71.6	47.9
[14 -2 1]	(1 7 0)	(1 5 -4)	2.488	1.245	2.00	72.0	79.0
[7 -1 3]	(1 7 0)	(1 -5 -4)	2.488	1.245	2.00	69.0	89.9
[7 -1 -2]	(1 7 0)	(1 -1 4)	2.488	1.243	2.00	88.5	68.8
[14 -2 -3]	(1 7 0)	(1 1 4)	2.488	1.243	2.00	80.8	70.7
[14 -2 13]	(1 7 0)	(-3 5 4)	2.488	1.234	2.02	73.4	74.9
[7 -1 4]	(1 7 0)	(-3 -5 4)	2.488	1.234	2.02	68.1	85.6
[21 -3 -28]	(1 7 0)	(-3 7 -3)	2.488	1.221	2.04	71.8	46.3
[21 -3 -14]	(1 7 0)	(3 7 3)	2.488	1.221	2.04	53.0	59.3
[14 -2 -5]	(1 7 0)	(-1 3 -4)	2.488	1.220	2.04	84.0	66.9
[7 -1 -1]	(1 7 0)	(1 3 4)	2.488	1.220	2.04	73.3	72.7
[7 -1 9]	(1 7 0)	(5 -1 -4)	2.488	1.209	2.06	87.4	65.1
[14 -2 17]	(1 7 0)	(-5 -1 4)	2.488	1.209	2.06	80.0	67.0
[21 -3 46]	(1 7 0)	(7 3 -3)	2.488	1.191	2.09	67.8	46.3
[14 -2 -3]	(1 7 0)	(0 -6 4)	2.488	1.191	2.09	71.0	70.7
[14 -2 3]	(1 7 0)	(0 6 4)	2.488	1.191	2.09	64.0	83.3
[14 -2 19]	(1 7 0)	(5 -3 -4)	2.488	1.188	2.10	85.2	63.3
[7 -1 8]	(1 7 0)	(5 3 -4)	2.488	1.188	2.10	72.7	68.9
[14 -2 -7]	(1 7 0)	(2 0 4)	2.488	1.182	2.11	83.0	63.2

Riebeckite (170) 281 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 44]	(1 7 0)	(-5 9 3)	2.488	1.181	2.11	63.4	47.9
[21 -3 26]	(1 7 0)	(-5 -9 3)	2.488	1.181	2.11	46.4	66.3
[7 -1 0]	(1 7 0)	(1 7 -4)	2.488	1.180	2.11	65.3	76.9
[14 -2 7]	(1 7 0)	(1 -7 -4)	2.488	1.180	2.11	62.3	87.8
[7 -1 -3]	(1 7 0)	(-1 5 -4)	2.488	1.178	2.11	76.9	65.0
[14 -2 -1]	(1 7 0)	(1 5 4)	2.488	1.178	2.11	66.2	74.8
[14 -2 17]	(1 7 0)	(-4 6 4)	2.488	1.170	2.13	72.4	67.0
[14 -2 11]	(1 7 0)	(-4 -6 4)	2.488	1.170	2.13	63.3	79.1
[7 -1 7]	(1 7 0)	(-3 7 4)	2.488	1.170	2.13	66.6	72.8
[14 -2 7]	(1 7 0)	(-3 -7 4)	2.488	1.170	2.13	61.4	87.8
[21 -3 -22]	(1 7 0)	(4 6 3)	2.488	1.165	2.14	57.1	51.3
[21 -3 44]	(1 7 0)	(-7 -5 3)	2.488	1.151	2.16	60.7	47.9
[7 -1 10]	(1 7 0)	(-5 5 4)	2.488	1.148	2.17	78.3	61.6
[14 -2 15]	(1 7 0)	(-5 -5 4)	2.488	1.148	2.17	65.7	70.8
[21 -3 34]	(1 7 0)	(6 8 -3)	2.488	1.148	2.17	50.2	57.2
[14 -2 11]	(1 7 0)	(-2 8 4)	2.488	1.147	2.17	61.2	79.1
[14 -2 3]	(1 7 0)	(2 8 -4)	2.488	1.147	2.17	60.0	83.3
[14 -2 -9]	(1 7 0)	(2 -4 4)	2.488	1.143	2.18	82.7	59.8
[14 -2 -5]	(1 7 0)	(2 4 4)	2.488	1.143	2.18	68.8	66.9
[14 -2 21]	(1 7 0)	(-6 0 4)	2.488	1.143	2.18	82.2	59.9
[14 -2 -11]	(1 7 0)	(3 -1 4)	2.488	1.109	2.24	85.1	56.6
[7 -1 -5]	(1 7 0)	(3 1 4)	2.488	1.109	2.24	78.2	58.2
[14 -2 23]	(1 7 0)	(-6 4 4)	2.488	1.108	2.25	83.9	56.7
[14 -2 19]	(1 7 0)	(-6 -4 4)	2.488	1.108	2.25	68.4	63.3
[14 -2 -1]	(1 7 0)	(1 9 -4)	2.488	1.107	2.25	59.3	74.8
[7 -1 4]	(1 7 0)	(1 -9 -4)	2.488	1.107	2.25	56.3	85.6
[21 -3 -20]	(1 7 0)	(4 8 3)	2.488	1.102	2.26	50.8	53.1
[7 -1 14]	(1 7 0)	(-7 -7 3)	2.488	1.099	2.26	54.2	49.6
[14 -2 15]	(1 7 0)	(-3 9 4)	2.488	1.098	2.27	60.7	70.8
[7 -1 3]	(1 7 0)	(3 9 -4)	2.488	1.098	2.27	55.4	89.9
[14 -2 21]	(1 7 0)	(5 -7 -4)	2.488	1.096	2.27	71.9	59.9
[7 -1 7]	(1 7 0)	(5 7 -4)	2.488	1.096	2.27	59.4	72.8
[7 -1 -6]	(1 7 0)	(3 -3 4)	2.488	1.093	2.28	88.1	55.1
[14 -2 -9]	(1 7 0)	(3 3 4)	2.488	1.093	2.28	71.5	59.8
[14 -2 25]	(1 7 0)	(-7 1 4)	2.488	1.069	2.33	84.3	53.7
[7 -1 12]	(1 7 0)	(7 1 -4)	2.488	1.069	2.33	77.7	55.2
[35 -5 14]	(1 7 0)	(-2 0 5)	2.488	1.067	2.33	89.7	89.1
[14 -2 -13]	(1 7 0)	(3 -5 4)	2.488	1.062	2.34	81.6	53.6
[7 -1 -4]	(1 7 0)	(3 5 4)	2.488	1.062	2.34	65.0	61.5
[35 -5 22]	(1 7 0)	(3 -1 -5)	2.488	1.060	2.35	88.2	83.9
[7 -1 4]	(1 7 0)	(3 1 -5)	2.488	1.060	2.35	85.3	85.6
[35 -5 12]	(1 7 0)	(-2 -2 5)	2.488	1.059	2.35	83.7	87.3
[35 -5 16]	(1 7 0)	(-2 2 5)	2.488	1.059	2.35	83.2	89.2
[7 -1 -4]	(1 7 0)	(1 -9 4)	2.488	1.058	2.35	64.5	61.5
[14 -2 1]	(1 7 0)	(1 9 4)	2.488	1.058	2.35	53.9	79.0
[35 -5 6]	(1 7 0)	(-1 -1 5)	2.488	1.056	2.36	88.7	82.0
[35 -5 8]	(1 7 0)	(-1 1 5)	2.488	1.056	2.36	84.8	83.8
[7 -1 13]	(1 7 0)	(7 -3 -4)	2.488	1.055	2.36	89.1	52.3

Riebeckite (170) 281 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 23]	(1 7 0)	(7 3 -4)	2.488	1.055	2.36	71.2	56.7
[21 -3 -28]	(1 7 0)	(5 7 3)	2.488	1.051	2.37	54.8	46.3
[14 -2 -11]	(1 7 0)	(-2 8 -4)	2.488	1.047	2.38	70.1	56.6
[14 -2 -3]	(1 7 0)	(2 8 4)	2.488	1.047	2.38	56.3	70.7
[35 -5 24]	(1 7 0)	(-3 3 5)	2.488	1.046	2.38	81.8	82.1
[35 -5 18]	(1 7 0)	(-3 -3 5)	2.488	1.046	2.38	78.9	87.4
[35 -5 28]	(1 7 0)	(4 0 -5)	2.488	1.045	2.38	86.9	78.7
[35 -5 4]	(1 7 0)	(-1 -3 5)	2.488	1.042	2.39	82.3	80.3
[7 -1 2]	(1 7 0)	(-1 3 5)	2.488	1.042	2.39	78.4	85.5
[7 -1 2]	(1 7 0)	(-2 -4 5)	2.488	1.038	2.40	77.4	85.5
[35 -5 18]	(1 7 0)	(-2 4 5)	2.488	1.038	2.40	76.9	87.4
[7 -1 6]	(1 7 0)	(4 -2 -5)	2.488	1.038	2.40	86.7	77.0
[35 -5 26]	(1 7 0)	(4 2 -5)	2.488	1.038	2.40	80.6	80.4
[7 -1 11]	(1 7 0)	(5 -9 -4)	2.488	1.037	2.40	66.1	58.3
[14 -2 13]	(1 7 0)	(5 9 -4)	2.488	1.037	2.40	53.6	74.9
[14 -2 -15]	(1 7 0)	(-4 2 -4)	2.488	1.033	2.41	87.0	50.8
[14 -2 -13]	(1 7 0)	(4 2 4)	2.488	1.033	2.41	74.1	53.6
[35 -5 -2]	(1 7 0)	(0 -2 5)	2.488	1.030	2.41	87.2	75.2
[35 -5 2]	(1 7 0)	(0 2 5)	2.488	1.030	2.41	80.1	78.6
[14 -2 27]	(1 7 0)	(7 -5 -4)	2.488	1.027	2.42	82.8	50.9
[7 -1 11]	(1 7 0)	(7 5 -4)	2.488	1.027	2.42	64.9	58.3
[7 -1 -7]	(1 7 0)	(3 -7 4)	2.488	1.021	2.44	75.6	52.2
[14 -2 -7]	(1 7 0)	(3 7 4)	2.488	1.021	2.44	59.0	63.2
[14 -2 25]	(1 7 0)	(6 -8 -4)	2.488	1.020	2.44	71.6	53.7
[14 -2 17]	(1 7 0)	(6 8 -4)	2.488	1.020	2.44	56.2	67.0
[35 -5 26]	(1 7 0)	(-3 5 5)	2.488	1.019	2.44	75.6	80.4
[35 -5 16]	(1 7 0)	(-3 -5 5)	2.488	1.019	2.44	72.8	89.2
[35 -5 32]	(1 7 0)	(-4 4 5)	2.488	1.018	2.44	80.5	75.3
[35 -5 24]	(1 7 0)	(-4 -4 5)	2.488	1.018	2.44	74.4	82.1
[35 -5 2]	(1 7 0)	(1 5 -5)	2.488	1.015	2.45	76.2	78.6
[35 -5 12]	(1 7 0)	(1 -5 -5)	2.488	1.015	2.45	72.3	87.3
[35 -5 36]	(1 7 0)	(5 -1 -5)	2.488	1.015	2.45	88.5	72.0
[35 -5 34]	(1 7 0)	(-5 -1 5)	2.488	1.015	2.45	82.3	73.6
[35 -5 -4]	(1 7 0)	(0 4 -5)	2.488	1.011	2.46	81.0	73.6
[35 -5 4]	(1 7 0)	(0 4 5)	2.488	1.011	2.46	74.0	80.3
[35 -5 8]	(1 7 0)	(2 6 -5)	2.488	1.005	2.47	71.4	83.8
[7 -1 4]	(1 7 0)	(-2 6 5)	2.488	1.005	2.47	70.9	85.6
[35 -5 -8]	(1 7 0)	(-1 1 -5)	2.488	1.004	2.48	88.1	70.3
[35 -5 -6]	(1 7 0)	(1 1 5)	2.488	1.004	2.48	81.9	71.9
[35 -5 38]	(1 7 0)	(-5 3 5)	2.488	1.002	2.48	85.3	70.4
[35 -5 32]	(1 7 0)	(-5 -3 5)	2.488	1.002	2.48	76.1	75.3

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	2.380	5.186	0.46	79.8	80.9
[5 -3 8]	(3 5 0)	(-1 1 1)	2.380	4.891	0.49	87.6	66.6
[5 -3 2]	(3 5 0)	(1 1 -1)	2.380	4.891	0.49	66.5	89.4
[5 -3 6]	(3 5 0)	(0 2 1)	2.380	4.496	0.53	61.2	74.1
[5 -3 -8]	(3 5 0)	(1 -1 1)	2.380	4.052	0.59	71.9	53.1
[5 -3 -2]	(3 5 0)	(1 1 1)	2.380	4.052	0.59	52.6	72.9
[5 -3 10]	(3 5 0)	(2 0 -1)	2.380	4.001	0.59	60.2	59.8
[5 -3 14]	(3 5 0)	(1 -3 -1)	2.380	3.882	0.61	75.5	48.7
[5 -3 -4]	(3 5 0)	(1 3 -1)	2.380	3.882	0.61	53.1	65.5
[5 -3 4]	(3 5 0)	(-2 -2 1)	2.380	3.658	0.65	43.8	82.2
[5 -3 4]	(3 5 0)	(1 3 1)	2.380	3.421	0.70	40.3	82.2
[5 -3 12]	(3 5 0)	(0 4 1)	2.380	3.404	0.70	52.2	53.9
[5 -3 -10]	(3 5 0)	(2 0 1)	2.380	3.152	0.75	52.7	48.0
[5 -3 12]	(3 5 0)	(-3 -1 1)	2.380	2.996	0.79	44.0	53.9
[5 -3 -2]	(3 5 0)	(2 4 -1)	2.380	2.994	0.79	35.9	72.9
[5 -3 -4]	(3 5 0)	(2 2 1)	2.380	2.976	0.80	37.8	65.5
[5 -3 -10]	(3 5 0)	(1 5 -1)	2.380	2.943	0.81	47.9	48.0
[5 -3 10]	(3 5 0)	(1 5 1)	2.380	2.726	0.87	36.2	59.8
[5 -3 6]	(3 5 0)	(3 3 -1)	2.380	2.712	0.88	31.9	74.1
[5 -3 4]	(3 5 0)	(1 -1 -2)	2.380	2.637	0.90	86.1	82.2
[5 -3 1]	(3 5 0)	(1 1 -2)	2.380	2.637	0.90	82.8	85.1
[5 -3 2]	(3 5 0)	(2 4 1)	2.380	2.584	0.92	29.0	89.4
[5 -3 5]	(3 5 0)	(2 0 -2)	2.380	2.541	0.94	76.7	78.1
[5 -3 -3]	(3 5 0)	(0 -2 2)	2.380	2.492	0.95	89.3	69.1
[5 -3 3]	(3 5 0)	(0 2 2)	2.380	2.492	0.95	69.4	86.4
[5 -3 7]	(3 5 0)	(1 -3 -2)	2.380	2.437	0.98	76.1	70.2
[5 -3 -2]	(3 5 0)	(1 3 -2)	2.380	2.437	0.98	72.9	72.9
[5 -3 -8]	(3 5 0)	(-2 -6 1)	2.380	2.404	0.99	34.3	53.1
[5 -3 -4]	(3 5 0)	(1 -1 2)	2.380	2.344	1.02	74.9	65.5
[5 -3 -1]	(3 5 0)	(1 1 2)	2.380	2.344	1.02	64.5	76.9
[5 -3 0]	(3 5 0)	(3 5 -1)	2.380	2.324	1.02	26.2	80.9
[5 -3 14]	(3 5 0)	(4 2 -1)	2.380	2.302	1.03	35.0	48.7
[5 -3 -6]	(3 5 0)	(3 3 1)	2.380	2.275	1.05	29.9	58.9
[5 -3 9]	(3 5 0)	(3 -1 -2)	2.380	2.268	1.05	72.5	63.1
[5 -3 6]	(3 5 0)	(3 1 -2)	2.380	2.268	1.05	62.2	74.1
[5 -3 11]	(3 5 0)	(2 -4 -2)	2.380	2.214	1.08	82.9	56.8
[5 -3 -1]	(3 5 0)	(2 4 -2)	2.380	2.214	1.08	58.5	76.9
[5 -3 -7]	(3 5 0)	(-1 3 -2)	2.380	2.200	1.08	85.2	55.9
[5 -3 2]	(3 5 0)	(1 3 2)	2.380	2.200	1.08	55.6	89.4
[5 -3 8]	(3 5 0)	(2 6 1)	2.380	2.176	1.09	26.4	66.6
[5 -3 10]	(3 5 0)	(-1 5 2)	2.380	2.144	1.11	68.4	59.8
[5 -3 -5]	(3 5 0)	(-1 -5 2)	2.380	2.144	1.11	65.5	62.1
[5 -3 12]	(3 5 0)	(3 -3 -2)	2.380	2.137	1.11	82.7	53.9
[5 -3 3]	(3 5 0)	(-3 -3 2)	2.380	2.137	1.11	53.4	86.4
[5 -3 8]	(3 5 0)	(4 4 -1)	2.380	2.105	1.13	25.5	66.6
[5 -3 -5]	(3 5 0)	(2 0 2)	2.380	2.079	1.14	61.9	62.1
[5 -3 0]	(3 5 0)	(3 5 1)	2.380	2.031	1.17	22.7	80.9
[5 -3 5]	(3 5 0)	(1 5 2)	2.380	1.978	1.20	49.3	78.1

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -6]	(3 5 0)	(-3 -7 1)	2.380	1.966	1.21	25.5	58.9
[5 -3 -9]	(3 5 0)	(0 6 -2)	2.380	1.964	1.21	72.7	50.4
[5 -3 9]	(3 5 0)	(0 6 2)	2.380	1.964	1.21	55.6	63.1
[5 -3 13]	(3 5 0)	(4 -2 -2)	2.380	1.953	1.22	69.9	51.2
[5 -3 7]	(3 5 0)	(-4 -2 2)	2.380	1.953	1.22	51.1	70.2
[5 -3 15]	(3 5 0)	(-3 5 2)	2.380	1.931	1.23	88.5	46.4
[5 -3 0]	(3 5 0)	(-3 -5 2)	2.380	1.931	1.23	47.2	80.9
[5 -3 -11]	(3 5 0)	(2 -4 2)	2.380	1.888	1.26	81.3	45.7
[5 -3 1]	(3 5 0)	(2 4 2)	2.380	1.888	1.26	45.3	85.1
[5 -3 2]	(3 5 0)	(4 6 -1)	2.380	1.867	1.27	20.5	89.4
[5 -3 13]	(3 5 0)	(1 -7 -2)	2.380	1.853	1.28	63.0	51.2
[5 -3 -8]	(3 5 0)	(1 7 -2)	2.380	1.853	1.28	60.4	53.1
[5 -3 14]	(3 5 0)	(2 8 1)	2.380	1.835	1.30	27.2	48.7
[5 -3 -8]	(3 5 0)	(4 4 1)	2.380	1.820	1.31	25.3	53.1
[5 -3 -9]	(3 5 0)	(3 -1 2)	2.380	1.799	1.32	61.0	50.4
[5 -3 -6]	(3 5 0)	(3 1 2)	2.380	1.799	1.32	52.0	58.9
[5 -3 6]	(3 5 0)	(3 7 1)	2.380	1.779	1.34	20.3	74.1
[15 -9 2]	(3 5 0)	(-1 -1 3)	2.380	1.767	1.35	88.6	83.7
[15 -9 8]	(3 5 0)	(-1 1 3)	2.380	1.767	1.35	84.0	87.8
[15 -9 10]	(3 5 0)	(-2 0 3)	2.380	1.763	1.35	84.3	85.0
[5 -3 8]	(3 5 0)	(1 7 2)	2.380	1.742	1.37	45.4	66.6
[5 -3 -3]	(3 5 0)	(3 3 2)	2.380	1.732	1.37	44.0	69.1
[5 -3 14]	(3 5 0)	(5 -1 -2)	2.380	1.731	1.37	59.7	48.7
[5 -3 11]	(3 5 0)	(-5 -1 2)	2.380	1.731	1.37	50.9	56.8
[15 -9 16]	(3 5 0)	(-2 2 3)	2.380	1.730	1.38	88.3	76.7
[15 -9 4]	(3 5 0)	(-2 -2 3)	2.380	1.730	1.38	77.1	86.5
[5 -3 -3]	(3 5 0)	(-3 -7 2)	2.380	1.711	1.39	43.3	69.1
[5 -3 10]	(3 5 0)	(-5 -5 1)	2.380	1.706	1.39	21.7	59.8
[15 -9 -4]	(3 5 0)	(1 3 -3)	2.380	1.703	1.40	81.5	75.5
[15 -9 14]	(3 5 0)	(1 -3 -3)	2.380	1.703	1.40	76.9	79.4
[5 -3 2]	(3 5 0)	(0 2 3)	2.380	1.698	1.40	72.7	89.4
[5 -3 -7]	(3 5 0)	(2 8 -2)	2.380	1.687	1.41	49.8	55.9
[5 -3 6]	(3 5 0)	(-3 1 3)	2.380	1.686	1.41	80.4	74.1
[5 -3 4]	(3 5 0)	(3 1 -3)	2.380	1.686	1.41	73.2	82.2
[5 -3 8]	(3 5 0)	(-5 -3 2)	2.380	1.671	1.42	43.0	66.6
[5 -3 1]	(3 5 0)	(4 6 -2)	2.380	1.666	1.43	38.8	85.1
[5 -3 -2]	(3 5 0)	(4 6 1)	2.380	1.659	1.43	19.0	72.9
[15 -9 22]	(3 5 0)	(-2 4 3)	2.380	1.642	1.45	81.5	69.0
[15 -9 -2]	(3 5 0)	(-2 -4 3)	2.380	1.642	1.45	70.6	78.2
[5 -3 -4]	(3 5 0)	(4 8 -1)	2.380	1.637	1.45	19.7	65.5
[15 -9 -8]	(3 5 0)	(1 -1 3)	2.380	1.628	1.46	76.4	70.4
[15 -9 -2]	(3 5 0)	(1 1 3)	2.380	1.628	1.46	69.2	78.2
[5 -3 0]	(3 5 0)	(3 5 2)	2.380	1.617	1.47	37.9	80.9
[5 -3 -4]	(3 5 0)	(0 4 -3)	2.380	1.614	1.47	85.9	65.5
[5 -3 4]	(3 5 0)	(0 4 3)	2.380	1.614	1.47	66.4	82.2
[5 -3 -11]	(3 5 0)	(1 9 -2)	2.380	1.602	1.49	57.0	45.7
[15 -9 -10]	(3 5 0)	(-1 -5 3)	2.380	1.593	1.49	75.3	67.9
[15 -9 20]	(3 5 0)	(-1 5 3)	2.380	1.593	1.49	70.9	71.5

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 20]	(3 5 0)	(-4 0 3)	2.380	1.586	1.50	70.1	71.5
[15 -9 -14]	(3 5 0)	(1 -3 3)	2.380	1.577	1.51	83.5	63.2
[15 -9 4]	(3 5 0)	(1 3 3)	2.380	1.577	1.51	62.7	86.5
[15 -9 26]	(3 5 0)	(4 -2 -3)	2.380	1.562	1.52	77.2	64.2
[15 -9 14]	(3 5 0)	(-4 -2 3)	2.380	1.562	1.52	63.3	79.4
[5 -3 12]	(3 5 0)	(3 9 1)	2.380	1.554	1.53	21.1	53.9
[5 -3 -7]	(3 5 0)	(4 2 2)	2.380	1.553	1.53	44.7	55.9
[5 -3 4]	(3 5 0)	(5 7 -1)	2.380	1.548	1.54	17.0	82.2
[5 -3 10]	(3 5 0)	(3 -5 -3)	2.380	1.533	1.55	85.8	59.8
[5 -3 0]	(3 5 0)	(3 5 -3)	2.380	1.533	1.55	60.8	80.9
[5 -3 11]	(3 5 0)	(1 9 2)	2.380	1.529	1.56	43.3	56.8
[5 -3 7]	(3 5 0)	(2 8 2)	2.380	1.529	1.56	37.5	70.2
[15 -9 28]	(3 5 0)	(2 -6 -3)	2.380	1.521	1.56	75.6	62.0
[15 -9 -8]	(3 5 0)	(2 6 -3)	2.380	1.521	1.56	65.2	70.4
[5 -3 15]	(3 5 0)	(-6 0 2)	2.380	1.519	1.57	51.8	46.4
[15 -9 -10]	(3 5 0)	(2 0 3)	2.380	1.514	1.57	66.8	67.9
[5 -3 -10]	(3 5 0)	(5 5 1)	2.380	1.509	1.58	22.4	48.0
[5 -3 -6]	(3 5 0)	(3 9 -2)	2.380	1.508	1.58	41.3	58.9
[15 -9 32]	(3 5 0)	(-4 4 3)	2.380	1.496	1.59	84.1	57.8
[15 -9 8]	(3 5 0)	(4 4 -3)	2.380	1.496	1.59	57.3	87.8
[15 -9 -16]	(3 5 0)	(-2 2 -3)	2.380	1.493	1.59	73.7	61.0
[15 -9 -4]	(3 5 0)	(2 2 3)	2.380	1.493	1.59	60.1	75.5
[5 -3 4]	(3 5 0)	(4 8 1)	2.380	1.492	1.60	16.4	82.2
[15 -9 -20]	(3 5 0)	(-1 5 -3)	2.380	1.489	1.60	89.9	56.8
[15 -9 10]	(3 5 0)	(1 5 3)	2.380	1.489	1.60	57.2	85.0
[5 -3 3]	(3 5 0)	(3 7 2)	2.380	1.480	1.61	33.8	86.4
[15 -9 -16]	(3 5 0)	(-1 -7 3)	2.380	1.462	1.63	70.1	61.0
[15 -9 26]	(3 5 0)	(-1 7 3)	2.380	1.462	1.63	65.9	64.2
[15 -9 28]	(3 5 0)	(-5 1 3)	2.380	1.456	1.63	68.0	62.0
[15 -9 22]	(3 5 0)	(5 1 -3)	2.380	1.456	1.63	61.3	69.0
[5 -3 2]	(3 5 0)	(-5 -7 2)	2.380	1.442	1.65	32.7	89.4
[5 -3 9]	(3 5 0)	(6 4 -2)	2.380	1.439	1.65	37.2	63.1
[15 -9 -22]	(3 5 0)	(-2 4 -3)	2.380	1.435	1.66	80.5	54.9
[15 -9 2]	(3 5 0)	(2 4 3)	2.380	1.435	1.66	54.3	83.7
[5 -3 12]	(3 5 0)	(6 6 -1)	2.380	1.429	1.67	19.4	53.9
[15 -9 34]	(3 5 0)	(-5 3 3)	2.380	1.419	1.68	74.9	55.8
[15 -9 16]	(3 5 0)	(5 3 -3)	2.380	1.419	1.68	55.1	76.7
[5 -3 12]	(3 5 0)	(-3 7 3)	2.380	1.416	1.68	80.2	53.9
[5 -3 -2]	(3 5 0)	(-3 -7 3)	2.380	1.416	1.68	56.4	72.9
[15 -9 38]	(3 5 0)	(-4 6 3)	2.380	1.403	1.70	89.6	52.1
[15 -9 2]	(3 5 0)	(4 6 -3)	2.380	1.403	1.70	52.5	83.7
[5 -3 -4]	(3 5 0)	(5 7 1)	2.380	1.397	1.70	16.7	65.5
[5 -3 -1]	(3 5 0)	(4 6 2)	2.380	1.396	1.70	32.5	76.9
[5 -3 -2]	(3 5 0)	(-5 -9 1)	2.380	1.393	1.71	15.9	72.9
[15 -9 34]	(3 5 0)	(-2 8 3)	2.380	1.389	1.71	70.9	55.8
[15 -9 -14]	(3 5 0)	(-2 -8 3)	2.380	1.389	1.71	61.1	63.2
[5 -3 -6]	(3 5 0)	(3 -1 3)	2.380	1.382	1.72	65.2	58.9
[5 -3 -4]	(3 5 0)	(3 1 3)	2.380	1.382	1.72	58.7	65.5

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -11]	(3 5 0)	(5 1 2)	2.380	1.381	1.72	46.3	45.7
[15 -9 -26]	(3 5 0)	(-1 7 -3)	2.380	1.380	1.72	84.1	51.3
[15 -9 16]	(3 5 0)	(1 7 3)	2.380	1.380	1.72	52.9	76.7
[5 -3 -8]	(3 5 0)	(0 8 -3)	2.380	1.372	1.73	74.9	53.1
[5 -3 8]	(3 5 0)	(0 8 3)	2.380	1.372	1.73	57.2	66.6
[15 -9 10]	(3 5 0)	(5 5 -3)	2.380	1.354	1.76	49.8	85.0
[15 -9 -28]	(3 5 0)	(-2 6 -3)	2.380	1.352	1.76	86.8	49.6
[15 -9 8]	(3 5 0)	(2 6 3)	2.380	1.352	1.76	49.6	87.8
[5 -3 -8]	(3 5 0)	(5 3 2)	2.380	1.350	1.76	39.3	53.1
[5 -3 6]	(3 5 0)	(3 9 2)	2.380	1.343	1.77	31.6	74.1
[15 -9 -22]	(3 5 0)	(-1 -9 3)	2.380	1.329	1.79	66.0	54.9
[15 -9 32]	(3 5 0)	(-1 9 3)	2.380	1.329	1.79	62.1	57.8
[10 -6 1]	(3 5 0)	(1 1 -4)	2.380	1.323	1.80	88.4	83.0
[5 -3 2]	(3 5 0)	(-1 1 4)	2.380	1.323	1.80	82.9	89.4
[5 -3 12]	(3 5 0)	(-6 2 3)	2.380	1.319	1.80	66.7	53.9
[5 -3 8]	(3 5 0)	(6 2 -3)	2.380	1.319	1.80	54.0	66.6
[5 -3 6]	(3 5 0)	(-6 -8 1)	2.380	1.318	1.81	14.9	74.1
[5 -3 -1]	(3 5 0)	(5 9 -2)	2.380	1.314	1.81	30.4	76.9
[10 -6 9]	(3 5 0)	(-3 1 4)	2.380	1.309	1.82	85.1	80.1
[5 -3 3]	(3 5 0)	(3 1 -4)	2.380	1.309	1.82	79.6	86.4
[5 -3 13]	(3 5 0)	(-7 -3 2)	2.380	1.306	1.82	38.9	51.2
[15 -9 44]	(3 5 0)	(-4 8 3)	2.380	1.297	1.83	84.2	47.2
[15 -9 -4]	(3 5 0)	(-4 -8 3)	2.380	1.297	1.83	48.9	75.5
[5 -3 -1]	(3 5 0)	(-1 -3 4)	2.380	1.296	1.84	86.1	76.9
[10 -6 7]	(3 5 0)	(-1 3 4)	2.380	1.296	1.84	77.5	84.3
[5 -3 -10]	(3 5 0)	(-3 5 -3)	2.380	1.294	1.84	78.3	48.0
[5 -3 0]	(3 5 0)	(3 5 3)	2.380	1.294	1.84	47.5	80.9
[5 -3 -5]	(3 5 0)	(5 5 2)	2.380	1.293	1.84	33.3	62.1
[10 -6 -3]	(3 5 0)	(0 -2 4)	2.380	1.283	1.85	85.3	74.9
[10 -6 3]	(3 5 0)	(0 2 4)	2.380	1.283	1.85	74.4	87.2
[5 -3 6]	(3 5 0)	(-3 3 4)	2.380	1.283	1.86	89.4	74.1
[10 -6 3]	(3 5 0)	(3 3 -4)	2.380	1.283	1.86	74.3	87.2
[5 -3 2]	(3 5 0)	(5 9 1)	2.380	1.279	1.86	13.9	89.4
[5 -3 14]	(3 5 0)	(6 -4 -3)	2.380	1.279	1.86	73.1	48.7
[5 -3 6]	(3 5 0)	(-6 -4 3)	2.380	1.279	1.86	48.4	74.1
[10 -6 11]	(3 5 0)	(-2 4 4)	2.380	1.278	1.86	80.9	76.1
[10 -6 -1]	(3 5 0)	(-2 -4 4)	2.380	1.278	1.86	77.6	78.9
[15 -9 46]	(3 5 0)	(5 -7 -3)	2.380	1.271	1.87	87.2	45.7
[15 -9 4]	(3 5 0)	(-5 -7 3)	2.380	1.271	1.87	45.7	86.5
[15 -9 22]	(3 5 0)	(1 9 3)	2.380	1.267	1.88	49.7	69.0
[15 -9 -20]	(3 5 0)	(4 0 3)	2.380	1.263	1.88	58.0	56.8
[5 -3 3]	(3 5 0)	(6 8 -2)	2.380	1.260	1.89	28.2	86.4
[10 -6 13]	(3 5 0)	(-4 2 4)	2.380	1.258	1.89	82.2	72.1
[10 -6 7]	(3 5 0)	(4 2 -4)	2.380	1.258	1.89	71.4	84.3
[15 -9 -34]	(3 5 0)	(-2 8 -3)	2.380	1.257	1.89	87.7	45.0
[15 -9 14]	(3 5 0)	(2 8 3)	2.380	1.257	1.89	46.0	79.4
[5 -3 10]	(3 5 0)	(7 5 -2)	2.380	1.255	1.90	33.0	59.8
[15 -9 -26]	(3 5 0)	(-4 2 -3)	2.380	1.251	1.90	64.4	51.3

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -9 -14]	(3 5 0)	(4 2 3)	2.380	1.251	1.90	52.0	63.2
[10 -6 -5]	(3 5 0)	(-1 -5 4)	2.380	1.245	1.91	81.0	71.0
[5 -3 5]	(3 5 0)	(-1 5 4)	2.380	1.245	1.91	72.6	78.1
[5 -3 -2]	(3 5 0)	(-1 1 -4)	2.380	1.243	1.91	77.2	72.9
[10 -6 -1]	(3 5 0)	(1 1 4)	2.380	1.243	1.91	71.7	78.9
[10 -6 15]	(3 5 0)	(3 -5 -4)	2.380	1.234	1.93	84.2	68.4
[5 -3 0]	(3 5 0)	(3 5 -4)	2.380	1.234	1.93	69.5	80.9
[5 -3 14]	(3 5 0)	(-7 -7 1)	2.380	1.227	1.94	17.8	48.7
[5 -3 2]	(3 5 0)	(3 7 3)	2.380	1.221	1.95	43.4	89.4
[5 -3 -2]	(3 5 0)	(5 7 2)	2.380	1.220	1.95	28.6	72.9
[10 -6 -7]	(3 5 0)	(1 -3 4)	2.380	1.220	1.95	82.6	67.3
[5 -3 1]	(3 5 0)	(1 3 4)	2.380	1.220	1.95	66.6	85.1
[15 -9 -8]	(3 5 0)	(4 4 3)	2.380	1.216	1.96	46.6	70.4
[15 -9 38]	(3 5 0)	(-7 1 3)	2.380	1.212	1.96	59.8	52.1
[15 -9 32]	(3 5 0)	(7 1 -3)	2.380	1.212	1.96	53.7	57.8
[5 -3 7]	(3 5 0)	(5 -1 -4)	2.380	1.209	1.97	74.4	70.2
[10 -6 11]	(3 5 0)	(-5 -1 4)	2.380	1.209	1.97	69.0	76.1
[5 -3 -6]	(3 5 0)	(6 8 1)	2.380	1.204	1.98	15.3	58.9
[15 -9 44]	(3 5 0)	(-7 3 3)	2.380	1.191	2.00	65.9	47.2
[15 -9 26]	(3 5 0)	(7 3 -3)	2.380	1.191	2.00	48.0	64.2
[10 -6 -9]	(3 5 0)	(0 -6 4)	2.380	1.191	2.00	84.3	63.8
[10 -6 9]	(3 5 0)	(0 6 4)	2.380	1.191	2.00	65.0	80.1
[5 -3 7]	(3 5 0)	(-7 -7 2)	2.380	1.188	2.00	28.2	70.2
[10 -6 17]	(3 5 0)	(5 -3 -4)	2.380	1.188	2.00	79.7	64.8
[5 -3 4]	(3 5 0)	(5 3 -4)	2.380	1.188	2.00	64.0	82.2
[5 -3 -9]	(3 5 0)	(6 4 2)	2.380	1.185	2.01	35.2	50.4
[10 -6 -5]	(3 5 0)	(2 0 4)	2.380	1.182	2.01	69.6	71.0
[15 -9 -2]	(3 5 0)	(-5 -9 3)	2.380	1.181	2.02	42.7	78.2
[5 -3 -4]	(3 5 0)	(1 7 -4)	2.380	1.180	2.02	76.4	65.5
[10 -6 13]	(3 5 0)	(1 -7 -4)	2.380	1.180	2.02	68.3	72.1
[5 -3 -5]	(3 5 0)	(1 -5 4)	2.380	1.178	2.02	87.8	62.1
[10 -6 5]	(3 5 0)	(1 5 4)	2.380	1.178	2.02	62.0	88.5
[10 -6 19]	(3 5 0)	(-4 6 4)	2.380	1.170	2.03	87.4	61.4
[10 -6 1]	(3 5 0)	(4 6 -4)	2.380	1.170	2.03	62.1	83.0
[5 -3 9]	(3 5 0)	(3 -7 -4)	2.380	1.170	2.03	79.6	63.1
[10 -6 -3]	(3 5 0)	(3 7 -4)	2.380	1.170	2.03	65.3	74.9
[15 -9 -2]	(3 5 0)	(4 6 3)	2.380	1.165	2.04	42.0	78.2
[15 -9 20]	(3 5 0)	(7 5 -3)	2.380	1.151	2.07	43.1	71.5
[5 -3 14]	(3 5 0)	(-8 -4 2)	2.380	1.151	2.07	35.0	48.7
[5 -3 10]	(3 5 0)	(5 -5 -4)	2.380	1.148	2.07	84.9	59.8
[10 -6 5]	(3 5 0)	(-5 -5 4)	2.380	1.148	2.07	59.5	88.5
[15 -9 -28]	(3 5 0)	(5 -1 3)	2.380	1.148	2.07	58.0	49.6
[15 -9 -22]	(3 5 0)	(5 1 3)	2.380	1.148	2.07	52.1	54.9
[5 -3 2]	(3 5 0)	(6 8 -3)	2.380	1.148	2.07	40.2	89.4
[10 -6 17]	(3 5 0)	(2 -8 -4)	2.380	1.147	2.07	71.9	64.8
[10 -6 -7]	(3 5 0)	(2 8 -4)	2.380	1.147	2.07	68.9	67.3
[5 -3 8]	(3 5 0)	(-7 -9 1)	2.380	1.145	2.08	13.5	66.6
[10 -6 -11]	(3 5 0)	(2 -4 4)	2.380	1.143	2.08	80.2	60.5

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 -6 1]	(3 5 0)	(2 4 4)	2.380	1.143	2.08	59.7	83.0
[10 -6 15]	(3 5 0)	(6 0 -4)	2.380	1.143	2.08	67.2	68.4
[5 -3 1]	(3 5 0)	(5 9 2)	2.380	1.140	2.09	25.4	85.1
[15 -9 -34]	(3 5 0)	(-5 3 -3)	2.380	1.130	2.11	64.0	45.0
[15 -9 -16]	(3 5 0)	(5 3 3)	2.380	1.130	2.11	46.6	61.0
[10 -6 -13]	(3 5 0)	(-1 7 -4)	2.380	1.122	2.12	87.4	57.3
[5 -3 4]	(3 5 0)	(1 7 4)	2.380	1.122	2.12	58.1	82.2
[5 -3 4]	(3 5 0)	(7 9 -2)	2.380	1.113	2.14	24.9	82.2
[10 -6 -9]	(3 5 0)	(3 -1 4)	2.380	1.109	2.15	68.0	63.8
[5 -3 -3]	(3 5 0)	(3 1 4)	2.380	1.109	2.15	62.9	69.1
[10 -6 21]	(3 5 0)	(6 -4 -4)	2.380	1.108	2.15	77.7	58.3
[10 -6 9]	(3 5 0)	(-6 -4 4)	2.380	1.108	2.15	57.5	80.1
[15 -9 40]	(3 5 0)	(8 0 -3)	2.380	1.107	2.15	54.0	50.4
[5 -3 11]	(3 5 0)	(-8 -6 2)	2.380	1.107	2.15	29.7	56.8
[10 -6 -11]	(3 5 0)	(1 9 -4)	2.380	1.107	2.15	72.5	60.5
[5 -3 8]	(3 5 0)	(-1 9 4)	2.380	1.107	2.15	64.7	66.6
[15 -9 4]	(3 5 0)	(4 8 3)	2.380	1.102	2.16	38.4	86.5
[15 -9 46]	(3 5 0)	(8 -2 -3)	2.380	1.099	2.17	59.8	45.7
[15 -9 34]	(3 5 0)	(-8 -2 3)	2.380	1.099	2.17	48.4	55.8
[15 -9 14]	(3 5 0)	(7 7 -3)	2.380	1.099	2.17	38.9	79.4
[10 -6 21]	(3 5 0)	(3 -9 -4)	2.380	1.098	2.17	75.5	58.3
[5 -3 -3]	(3 5 0)	(3 9 -4)	2.380	1.098	2.17	61.8	69.1
[10 -6 23]	(3 5 0)	(-5 7 4)	2.380	1.096	2.17	89.8	55.3
[5 -3 1]	(3 5 0)	(5 7 -4)	2.380	1.096	2.17	55.6	85.1
[15 -9 -10]	(3 5 0)	(5 5 3)	2.380	1.096	2.17	41.7	67.9
[5 -3 -6]	(3 5 0)	(3 -3 4)	2.380	1.093	2.18	73.2	58.9
[10 -6 -3]	(3 5 0)	(3 3 4)	2.380	1.093	2.18	58.1	74.9
[5 -3 -3]	(3 5 0)	(6 8 2)	2.380	1.079	2.21	25.7	69.1
[15 -9 28]	(3 5 0)	(8 4 -3)	2.380	1.075	2.21	43.2	62.0
[10 -6 19]	(3 5 0)	(-7 1 4)	2.380	1.069	2.23	65.9	61.4
[5 -3 8]	(3 5 0)	(7 1 -4)	2.380	1.069	2.23	60.9	66.6
[5 -3 2]	(3 5 0)	(2 0 -5)	2.380	1.067	2.23	89.3	89.4
[10 -6 -15]	(3 5 0)	(3 -5 4)	2.380	1.062	2.24	78.3	54.4
[5 -3 0]	(3 5 0)	(3 5 4)	2.380	1.062	2.24	53.8	80.9
[25 -15 18]	(3 5 0)	(3 -1 -5)	2.380	1.060	2.24	88.1	83.9
[25 -15 12]	(3 5 0)	(-3 -1 5)	2.380	1.060	2.24	83.7	88.9
[25 -15 4]	(3 5 0)	(2 2 -5)	2.380	1.059	2.25	86.3	84.3
[25 -15 16]	(3 5 0)	(2 -2 -5)	2.380	1.059	2.25	84.8	85.6
[5 -3 -8]	(3 5 0)	(-1 9 -4)	2.380	1.058	2.25	83.1	53.1
[10 -6 11]	(3 5 0)	(1 9 4)	2.380	1.058	2.25	54.8	76.1
[5 -3 -8]	(3 5 0)	(7 9 1)	2.380	1.056	2.25	14.3	53.1
[25 -15 2]	(3 5 0)	(1 1 -5)	2.380	1.056	2.25	86.7	82.6
[25 -15 8]	(3 5 0)	(-1 1 5)	2.380	1.056	2.25	82.2	87.7
[5 -3 11]	(3 5 0)	(-7 3 4)	2.380	1.055	2.26	71.0	56.8
[10 -6 13]	(3 5 0)	(7 3 -4)	2.380	1.055	2.26	56.2	72.1
[5 -3 -10]	(3 5 0)	(7 5 2)	2.380	1.053	2.26	32.1	48.0
[15 -9 -4]	(3 5 0)	(5 7 3)	2.380	1.051	2.26	37.6	75.5
[10 -6 7]	(3 5 0)	(2 8 4)	2.380	1.047	2.27	52.1	84.3

Riebeckite (350) 331 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 24]	(3 5 0)	(3 -3 -5)	2.380	1.046	2.28	87.5	78.9
[25 -15 6]	(3 5 0)	(3 3 -5)	2.380	1.046	2.28	79.3	86.0
[5 -3 4]	(3 5 0)	(-4 0 5)	2.380	1.045	2.28	81.2	82.2
[5 -3 -8]	(3 5 0)	(6 2 3)	2.380	1.044	2.28	47.3	53.1
[25 -15 -4]	(3 5 0)	(-1 -3 5)	2.380	1.042	2.28	88.9	77.7
[25 -15 14]	(3 5 0)	(-1 3 5)	2.380	1.042	2.28	77.9	87.2
[15 -9 8]	(3 5 0)	(-7 -9 3)	2.380	1.039	2.29	35.8	87.8
[25 -15 -2]	(3 5 0)	(2 4 -5)	2.380	1.038	2.29	82.0	79.3
[25 -15 22]	(3 5 0)	(-2 4 5)	2.380	1.038	2.29	80.6	80.5
[25 -15 26]	(3 5 0)	(-4 2 5)	2.380	1.038	2.29	85.6	77.3
[25 -15 14]	(3 5 0)	(4 2 -5)	2.380	1.038	2.29	76.8	87.2
[5 -3 13]	(3 5 0)	(5 -9 -4)	2.380	1.037	2.30	85.9	51.2
[10 -6 -1]	(3 5 0)	(5 9 -4)	2.380	1.037	2.30	52.4	78.9
[10 -6 -13]	(3 5 0)	(-4 2 -4)	2.380	1.033	2.30	66.9	57.3
[10 -6 -7]	(3 5 0)	(4 2 4)	2.380	1.033	2.30	57.1	67.3
[25 -15 -6]	(3 5 0)	(0 2 -5)	2.380	1.030	2.31	84.2	76.1
[25 -15 6]	(3 5 0)	(0 2 5)	2.380	1.030	2.31	75.5	86.0
[10 -6 25]	(3 5 0)	(7 -5 -4)	2.380	1.027	2.32	76.0	52.5
[5 -3 5]	(3 5 0)	(-7 -5 4)	2.380	1.027	2.32	51.9	78.1
[5 -3 15]	(3 5 0)	(9 5 -2)	2.380	1.025	2.32	32.0	46.4
[5 -3 -6]	(3 5 0)	(6 4 3)	2.380	1.023	2.33	42.2	58.9
[5 -3 -9]	(3 5 0)	(3 -7 4)	2.380	1.021	2.33	83.1	50.4
[10 -6 3]	(3 5 0)	(3 7 4)	2.380	1.021	2.33	50.0	87.2
[10 -6 27]	(3 5 0)	(-6 8 4)	2.380	1.020	2.33	87.3	49.9
[10 -6 3]	(3 5 0)	(6 8 -4)	2.380	1.020	2.33	49.9	87.2
[5 -3 6]	(3 5 0)	(3 -5 -5)	2.380	1.019	2.34	83.2	74.1
[5 -3 0]	(3 5 0)	(3 5 -5)	2.380	1.019	2.34	75.3	80.9
[25 -15 32]	(3 5 0)	(-4 4 5)	2.380	1.018	2.34	90.0	72.5
[25 -15 8]	(3 5 0)	(4 4 -5)	2.380	1.018	2.34	72.7	87.7
[5 -3 -2]	(3 5 0)	(-1 -5 5)	2.380	1.015	2.34	84.7	72.9
[5 -3 4]	(3 5 0)	(-1 5 5)	2.380	1.015	2.34	73.9	82.2
[25 -15 28]	(3 5 0)	(-5 1 5)	2.380	1.015	2.35	78.9	75.7
[25 -15 22]	(3 5 0)	(5 1 -5)	2.380	1.015	2.35	74.6	80.5
[5 -3 -7]	(3 5 0)	(7 7 2)	2.380	1.012	2.35	27.3	55.9
[5 -3 14]	(3 5 0)	(9 1 -3)	2.380	1.011	2.35	49.2	48.7
[25 -15 -12]	(3 5 0)	(0 4 -5)	2.380	1.011	2.35	88.6	71.4
[25 -15 12]	(3 5 0)	(0 4 5)	2.380	1.011	2.35	71.3	88.9
[25 -15 -8]	(3 5 0)	(2 6 -5)	2.380	1.005	2.37	78.0	74.5
[25 -15 28]	(3 5 0)	(2 -6 -5)	2.380	1.005	2.37	76.6	75.7
[25 -15 -8]	(3 5 0)	(1 -1 5)	2.380	1.004	2.37	77.6	74.5
[25 -15 -2]	(3 5 0)	(1 1 5)	2.380	1.004	2.37	73.3	79.3
[25 -15 34]	(3 5 0)	(5 -3 -5)	2.380	1.002	2.38	83.3	71.0
[25 -15 16]	(3 5 0)	(-5 -3 5)	2.380	1.002	2.38	70.4	85.6

Riebeckite (420) 371 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	2.296	5.186	0.44	76.9	86.5
[1 -2 3]	(4 2 0)	(-1 1 1)	2.296	4.891	0.47	77.6	69.8
[1 -2 -1]	(4 2 0)	(1 1 -1)	2.296	4.891	0.47	69.3	78.4
[1 -2 4]	(4 2 0)	(0 2 1)	2.296	4.496	0.51	71.1	63.0
[1 -2 -3]	(4 2 0)	(1 -1 1)	2.296	4.052	0.57	57.8	63.9
[1 -2 1]	(4 2 0)	(1 1 1)	2.296	4.052	0.57	49.7	85.3
[1 -2 7]	(4 2 0)	(-1 3 1)	2.296	3.882	0.59	86.5	46.8
[1 -2 -5]	(4 2 0)	(1 3 -1)	2.296	3.882	0.59	67.1	52.2
[1 -2 6]	(4 2 0)	(-2 2 1)	2.296	3.658	0.63	61.2	51.5
[1 -2 -2]	(4 2 0)	(2 2 -1)	2.296	3.658	0.63	46.5	70.8
[1 -2 5]	(4 2 0)	(1 3 1)	2.296	3.421	0.67	50.0	56.8
[1 -2 -2]	(4 2 0)	(2 0 1)	2.296	3.152	0.73	38.7	70.8
[1 -2 5]	(4 2 0)	(-3 1 1)	2.296	2.996	0.77	42.1	56.8
[1 -2 1]	(4 2 0)	(3 1 -1)	2.296	2.996	0.77	34.3	85.3
[1 -2 -6]	(4 2 0)	(-2 -4 1)	2.296	2.994	0.77	49.7	47.4
[1 -2 -6]	(4 2 0)	(2 -2 1)	2.296	2.976	0.77	49.3	47.4
[1 -2 2]	(4 2 0)	(2 2 1)	2.296	2.976	0.77	34.9	77.4
[1 -2 -3]	(4 2 0)	(-3 -3 1)	2.296	2.712	0.85	34.5	63.9
[2 -4 3]	(4 2 0)	(1 -1 -2)	2.296	2.637	0.87	90.0	81.3
[2 -4 -1]	(4 2 0)	(1 1 -2)	2.296	2.637	0.87	85.7	82.4
[1 -2 6]	(4 2 0)	(2 4 1)	2.296	2.584	0.89	38.3	51.5
[1 -2 1]	(4 2 0)	(-2 0 2)	2.296	2.541	0.90	72.9	85.3
[1 -2 -2]	(4 2 0)	(0 -2 2)	2.296	2.492	0.92	81.5	70.8
[1 -2 2]	(4 2 0)	(0 2 2)	2.296	2.492	0.92	73.2	77.4
[2 -4 7]	(4 2 0)	(-1 3 2)	2.296	2.437	0.94	86.1	66.3
[2 -4 -5]	(4 2 0)	(-1 -3 2)	2.296	2.437	0.94	82.1	67.3
[1 -2 -5]	(4 2 0)	(3 -1 1)	2.296	2.435	0.94	35.3	52.2
[1 -2 -1]	(4 2 0)	(3 1 1)	2.296	2.435	0.94	27.8	78.4
[1 -2 4]	(4 2 0)	(4 0 -1)	2.296	2.381	0.96	30.1	63.0
[2 -4 -3]	(4 2 0)	(-1 1 -2)	2.296	2.344	0.98	65.7	74.6
[2 -4 1]	(4 2 0)	(1 1 2)	2.296	2.344	0.98	61.5	89.4
[1 -2 0]	(4 2 0)	(-4 -2 1)	2.296	2.302	1.00	25.6	86.5
[1 -2 3]	(4 2 0)	(3 3 1)	2.296	2.275	1.01	27.0	69.8
[2 -4 5]	(4 2 0)	(-3 1 2)	2.296	2.268	1.01	62.5	73.5
[2 -4 1]	(4 2 0)	(3 1 -2)	2.296	2.268	1.01	58.2	89.4
[1 -2 5]	(4 2 0)	(-2 4 2)	2.296	2.214	1.04	82.4	56.8
[1 -2 -3]	(4 2 0)	(2 4 -2)	2.296	2.214	1.04	67.6	63.9
[2 -4 -7]	(4 2 0)	(-1 3 -2)	2.296	2.200	1.04	71.1	60.7
[2 -4 5]	(4 2 0)	(1 3 2)	2.296	2.200	1.04	59.3	73.5
[2 -4 11]	(4 2 0)	(-1 5 2)	2.296	2.144	1.07	83.1	54.1
[2 -4 -9]	(4 2 0)	(1 5 -2)	2.296	2.144	1.07	79.5	54.8
[2 -4 9]	(4 2 0)	(-3 3 2)	2.296	2.137	1.07	68.0	59.8
[2 -4 -3]	(4 2 0)	(3 3 -2)	2.296	2.137	1.07	56.2	74.6
[1 -2 -4]	(4 2 0)	(-4 -4 1)	2.296	2.105	1.09	27.8	57.7
[1 -2 -1]	(4 2 0)	(2 0 2)	2.296	2.079	1.10	52.7	78.4
[1 -2 7]	(4 2 0)	(3 5 1)	2.296	2.031	1.13	31.5	46.8
[2 -4 -11]	(4 2 0)	(1 -5 2)	2.296	1.978	1.16	76.4	49.7
[2 -4 9]	(4 2 0)	(1 5 2)	2.296	1.978	1.16	59.1	59.8

Riebeckite (420) 371 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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)	(0 -6 2)	2.296	1.964	1.17	89.7	47.4
[1 -2 6]	(4 2 0)	(0 6 2)	2.296	1.964	1.17	70.2	51.5
[1 -2 4]	(4 2 0)	(4 -2 -2)	2.296	1.953	1.18	55.3	63.0
[1 -2 0]	(4 2 0)	(-4 -2 2)	2.296	1.953	1.18	47.2	86.5
[1 -2 0]	(4 2 0)	(4 2 1)	2.296	1.942	1.18	21.4	86.5
[2 -4 13]	(4 2 0)	(-3 5 2)	2.296	1.931	1.19	73.5	49.1
[2 -4 -7]	(4 2 0)	(3 5 -2)	2.296	1.931	1.19	56.2	60.7
[1 -2 7]	(4 2 0)	(-5 1 1)	2.296	1.925	1.19	29.7	46.8
[1 -2 3]	(4 2 0)	(5 1 -1)	2.296	1.925	1.19	22.6	69.8
[1 -2 -5]	(4 2 0)	(-2 4 -2)	2.296	1.888	1.22	63.7	52.2
[1 -2 3]	(4 2 0)	(2 4 2)	2.296	1.888	1.22	49.0	69.8
[2 -4 -13]	(4 2 0)	(-1 -7 2)	2.296	1.853	1.24	77.9	45.3
[1 -2 -1]	(4 2 0)	(5 3 -1)	2.296	1.843	1.25	20.6	78.4
[1 -2 4]	(4 2 0)	(4 4 1)	2.296	1.820	1.26	22.5	63.0
[2 -4 -5]	(4 2 0)	(3 -1 2)	2.296	1.799	1.28	47.0	67.3
[2 -4 -1]	(4 2 0)	(3 1 2)	2.296	1.799	1.28	42.9	82.4
[3 -6 -1]	(4 2 0)	(-1 -1 3)	2.296	1.767	1.30	88.4	83.8
[1 -2 1]	(4 2 0)	(1 -1 -3)	2.296	1.767	1.30	85.6	85.3
[3 -6 2]	(4 2 0)	(2 0 -3)	2.296	1.763	1.30	82.7	88.1
[2 -4 13]	(4 2 0)	(1 7 2)	2.296	1.742	1.32	59.9	49.1
[2 -4 -9]	(4 2 0)	(3 -3 2)	2.296	1.732	1.33	52.6	54.8
[2 -4 3]	(4 2 0)	(3 3 2)	2.296	1.732	1.33	41.1	81.3
[2 -4 7]	(4 2 0)	(5 -1 -2)	2.296	1.731	1.33	45.1	66.3
[2 -4 3]	(4 2 0)	(-5 -1 2)	2.296	1.731	1.33	41.0	81.3
[1 -2 2]	(4 2 0)	(2 -2 -3)	2.296	1.730	1.33	85.6	77.4
[3 -6 -2]	(4 2 0)	(-2 -2 3)	2.296	1.730	1.33	80.0	81.1
[2 -4 -11]	(4 2 0)	(-3 -7 2)	2.296	1.711	1.34	57.2	49.7
[1 -2 -5]	(4 2 0)	(5 5 -1)	2.296	1.706	1.35	23.9	52.2
[3 -6 -5]	(4 2 0)	(-1 -3 3)	2.296	1.703	1.35	88.8	73.3
[3 -6 7]	(4 2 0)	(-1 3 3)	2.296	1.703	1.35	83.0	74.8
[3 -6 -4]	(4 2 0)	(0 2 -3)	2.296	1.698	1.35	79.9	75.9
[3 -6 4]	(4 2 0)	(0 2 3)	2.296	1.698	1.35	74.3	82.6
[3 -6 5]	(4 2 0)	(3 -1 -3)	2.296	1.686	1.36	74.3	80.0
[3 -6 1]	(4 2 0)	(-3 -1 3)	2.296	1.686	1.36	71.5	89.2
[2 -4 11]	(4 2 0)	(5 -3 -2)	2.296	1.671	1.37	50.7	54.1
[2 -4 -1]	(4 2 0)	(-5 -3 2)	2.296	1.671	1.37	39.2	82.4
[1 -2 -4]	(4 2 0)	(4 6 -2)	2.296	1.666	1.38	47.7	57.7
[1 -2 -3]	(4 2 0)	(5 1 1)	2.296	1.655	1.39	20.2	63.9
[3 -6 10]	(4 2 0)	(2 -4 -3)	2.296	1.642	1.40	88.5	67.5
[1 -2 -2]	(4 2 0)	(-2 -4 3)	2.296	1.642	1.40	77.8	70.8
[1 -2 -1]	(4 2 0)	(1 -1 3)	2.296	1.628	1.41	69.1	78.4
[3 -6 1]	(4 2 0)	(1 1 3)	2.296	1.628	1.41	66.3	89.2
[1 -2 6]	(4 2 0)	(6 0 -1)	2.296	1.624	1.41	22.9	51.5
[2 -4 -13]	(4 2 0)	(-3 5 -2)	2.296	1.617	1.42	58.6	45.3
[2 -4 7]	(4 2 0)	(3 5 2)	2.296	1.617	1.42	41.4	66.3
[3 -6 -8]	(4 2 0)	(0 4 -3)	2.296	1.614	1.42	83.0	66.1
[3 -6 8]	(4 2 0)	(0 4 3)	2.296	1.614	1.42	72.3	72.3
[1 -2 1]	(4 2 0)	(5 3 1)	2.296	1.602	1.43	17.5	85.3

Riebeckite (420) 371 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 2]	(4 2 0)	(6 2 -1)	2.296	1.598	1.44	17.9	77.4
[1 -2 -3]	(4 2 0)	(-1 -5 3)	2.296	1.593	1.44	86.3	63.9
[3 -6 11]	(4 2 0)	(-1 5 3)	2.296	1.593	1.44	80.8	65.2
[3 -6 4]	(4 2 0)	(-4 0 3)	2.296	1.586	1.45	64.0	82.6
[3 -6 -7]	(4 2 0)	(1 -3 3)	2.296	1.577	1.46	72.5	68.4
[3 -6 5]	(4 2 0)	(1 3 3)	2.296	1.577	1.46	64.2	80.0
[3 -6 8]	(4 2 0)	(4 -2 -3)	2.296	1.562	1.47	67.2	72.3
[1 -2 0]	(4 2 0)	(-4 -2 3)	2.296	1.562	1.47	61.6	86.5
[1 -2 -4]	(4 2 0)	(4 -2 2)	2.296	1.553	1.48	43.5	57.7
[1 -2 0]	(4 2 0)	(4 2 2)	2.296	1.553	1.48	35.7	86.5
[3 -6 13]	(4 2 0)	(3 -5 -3)	2.296	1.533	1.50	80.9	60.8
[3 -6 -7]	(4 2 0)	(-3 -5 3)	2.296	1.533	1.50	68.0	68.4
[1 -2 7]	(4 2 0)	(2 8 2)	2.296	1.529	1.50	51.8	46.8
[1 -2 -2]	(4 2 0)	(-6 -4 1)	2.296	1.528	1.50	17.6	70.8
[3 -6 14]	(4 2 0)	(-2 6 3)	2.296	1.521	1.51	88.9	58.8
[3 -6 -10]	(4 2 0)	(-2 -6 3)	2.296	1.521	1.51	76.2	61.7
[1 -2 3]	(4 2 0)	(6 0 -2)	2.296	1.519	1.51	37.3	69.8
[3 -6 -2]	(4 2 0)	(2 0 3)	2.296	1.514	1.52	59.5	81.1
[1 -2 5]	(4 2 0)	(5 5 1)	2.296	1.509	1.52	19.8	56.8
[1 -2 4]	(4 2 0)	(4 -4 -3)	2.296	1.496	1.53	70.8	63.0
[3 -6 -4]	(4 2 0)	(-4 -4 3)	2.296	1.496	1.53	60.2	75.9
[1 -2 -2]	(4 2 0)	(2 -2 3)	2.296	1.493	1.54	62.7	70.8
[3 -6 2]	(4 2 0)	(2 2 3)	2.296	1.493	1.54	57.1	88.1
[3 -6 -11]	(4 2 0)	(1 -5 3)	2.296	1.489	1.54	76.0	59.6
[1 -2 3]	(4 2 0)	(1 5 3)	2.296	1.489	1.54	63.1	69.8
[2 -4 11]	(4 2 0)	(3 7 2)	2.296	1.480	1.55	43.3	54.1
[3 -6 -13]	(4 2 0)	(1 7 -3)	2.296	1.462	1.57	84.2	55.7
[1 -2 5]	(4 2 0)	(1 -7 -3)	2.296	1.462	1.57	79.2	56.8
[3 -6 7]	(4 2 0)	(5 -1 -3)	2.296	1.456	1.58	58.0	74.8
[1 -2 1]	(4 2 0)	(-5 -1 3)	2.296	1.456	1.58	55.2	85.3
[2 -4 -9]	(4 2 0)	(5 7 -2)	2.296	1.442	1.59	41.4	54.8
[1 -2 7]	(4 2 0)	(-6 4 2)	2.296	1.439	1.59	47.8	46.8
[1 -2 -1]	(4 2 0)	(6 4 -2)	2.296	1.439	1.59	33.4	78.4
[3 -6 -10]	(4 2 0)	(-2 4 -3)	2.296	1.435	1.60	66.4	61.7
[1 -2 2]	(4 2 0)	(2 4 3)	2.296	1.435	1.60	55.8	77.4
[1 -2 -6]	(4 2 0)	(-6 -6 1)	2.296	1.429	1.61	21.3	47.4
[1 -2 -6]	(4 2 0)	(6 0 1)	2.296	1.423	1.61	21.2	47.4
[3 -6 11]	(4 2 0)	(-5 3 3)	2.296	1.419	1.62	61.6	65.2
[3 -6 -1]	(4 2 0)	(5 3 -3)	2.296	1.419	1.62	53.4	83.8
[3 -6 17]	(4 2 0)	(-3 7 3)	2.296	1.416	1.62	83.9	53.2
[3 -6 -11]	(4 2 0)	(3 7 -3)	2.296	1.416	1.62	67.3	59.6
[1 -2 -2]	(4 2 0)	(6 2 1)	2.296	1.406	1.63	16.2	70.8
[3 -6 16]	(4 2 0)	(4 -6 -3)	2.296	1.403	1.64	74.4	55.0
[3 -6 -8]	(4 2 0)	(-4 -6 3)	2.296	1.403	1.64	59.6	66.1
[1 -2 4]	(4 2 0)	(4 6 2)	2.296	1.396	1.64	36.0	63.0
[1 -2 5]	(4 2 0)	(-7 -1 1)	2.296	1.391	1.65	18.1	56.8
[1 -2 6]	(4 2 0)	(-2 8 3)	2.296	1.389	1.65	86.8	51.5
[3 -6 -14]	(4 2 0)	(-2 -8 3)	2.296	1.389	1.65	75.1	53.9

Riebeckite (420) 371 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -5]	(4 2 0)	(3 -1 3)	2.296	1.382	1.66	54.2	73.3
[3 -6 -1]	(4 2 0)	(3 1 3)	2.296	1.382	1.66	51.4	83.8
[2 -4 -7]	(4 2 0)	(-5 1 -2)	2.296	1.381	1.66	36.4	60.7
[2 -4 -3]	(4 2 0)	(5 1 2)	2.296	1.381	1.66	32.5	74.6
[1 -2 -5]	(4 2 0)	(-1 7 -3)	2.296	1.380	1.66	79.3	52.2
[3 -6 13]	(4 2 0)	(1 7 3)	2.296	1.380	1.66	62.7	60.8
[3 -6 -16]	(4 2 0)	(0 8 -3)	2.296	1.372	1.67	88.5	50.5
[3 -6 16]	(4 2 0)	(0 8 3)	2.296	1.372	1.67	70.4	55.0
[1 -2 1]	(4 2 0)	(-7 -3 1)	2.296	1.359	1.69	14.8	85.3
[1 -2 2]	(4 2 0)	(6 4 1)	2.296	1.357	1.69	15.1	77.4
[3 -6 -5]	(4 2 0)	(-5 -5 3)	2.296	1.354	1.70	52.6	73.3
[3 -6 -14]	(4 2 0)	(2 -6 3)	2.296	1.352	1.70	70.2	53.9
[3 -6 10]	(4 2 0)	(2 6 3)	2.296	1.352	1.70	55.4	67.5
[2 -4 -11]	(4 2 0)	(5 -3 2)	2.296	1.350	1.70	41.5	49.7
[2 -4 1]	(4 2 0)	(5 3 2)	2.296	1.350	1.70	30.4	89.4
[2 -4 9]	(4 2 0)	(7 -1 -2)	2.296	1.334	1.72	35.4	59.8
[2 -4 5]	(4 2 0)	(-7 -1 2)	2.296	1.334	1.72	31.4	73.5
[3 -6 -17]	(4 2 0)	(1 9 -3)	2.296	1.329	1.73	82.6	48.9
[3 -6 19]	(4 2 0)	(1 -9 -3)	2.296	1.329	1.73	78.0	49.8
[4 -8 -1]	(4 2 0)	(-1 -1 4)	2.296	1.323	1.73	85.5	84.4
[4 -8 3]	(4 2 0)	(1 -1 -4)	2.296	1.323	1.73	83.3	87.4
[3 -6 10]	(4 2 0)	(6 -2 -3)	2.296	1.319	1.74	53.4	67.5
[3 -6 2]	(4 2 0)	(-6 -2 3)	2.296	1.319	1.74	47.9	88.1
[2 -4 -13]	(4 2 0)	(-5 -9 2)	2.296	1.314	1.75	43.9	45.3
[4 -8 5]	(4 2 0)	(3 -1 -4)	2.296	1.309	1.75	81.3	83.3
[4 -8 1]	(4 2 0)	(-3 -1 4)	2.296	1.309	1.75	79.1	88.5
[2 -4 13]	(4 2 0)	(7 -3 -2)	2.296	1.306	1.76	40.4	49.1
[2 -4 1]	(4 2 0)	(7 3 -2)	2.296	1.306	1.76	29.3	89.4
[1 -2 -3]	(4 2 0)	(-7 -5 1)	2.296	1.301	1.76	15.8	63.9
[3 -6 20]	(4 2 0)	(4 -8 -3)	2.296	1.297	1.77	77.8	48.3
[1 -2 -4]	(4 2 0)	(-4 -8 3)	2.296	1.297	1.77	59.7	57.7
[4 -8 -5]	(4 2 0)	(1 3 -4)	2.296	1.296	1.77	87.7	76.5
[4 -8 7]	(4 2 0)	(-1 3 4)	2.296	1.296	1.77	81.4	79.3
[3 -6 -13]	(4 2 0)	(3 -5 3)	2.296	1.294	1.77	61.7	55.7
[3 -6 7]	(4 2 0)	(3 5 3)	2.296	1.294	1.77	48.9	74.8
[2 -4 5]	(4 2 0)	(5 5 2)	2.296	1.293	1.78	30.4	73.5
[1 -2 6]	(4 2 0)	(6 6 1)	2.296	1.286	1.78	18.0	51.5
[1 -2 -1]	(4 2 0)	(0 -2 4)	2.296	1.283	1.79	79.1	78.4
[1 -2 1]	(4 2 0)	(0 2 4)	2.296	1.283	1.79	74.9	85.3
[4 -8 9]	(4 2 0)	(3 -3 -4)	2.296	1.283	1.79	83.5	75.4
[4 -8 -3]	(4 2 0)	(-3 -3 4)	2.296	1.283	1.79	77.2	80.4
[3 -6 14]	(4 2 0)	(6 -4 -3)	2.296	1.279	1.79	57.2	58.8
[3 -6 -2]	(4 2 0)	(-6 -4 3)	2.296	1.279	1.79	46.7	81.1
[2 -4 5]	(4 2 0)	(-2 4 4)	2.296	1.278	1.80	88.0	73.5
[2 -4 -3]	(4 2 0)	(-2 -4 4)	2.296	1.278	1.80	83.8	74.6
[3 -6 19]	(4 2 0)	(5 -7 -3)	2.296	1.271	1.81	69.2	49.8
[1 -2 -3]	(4 2 0)	(-5 -7 3)	2.296	1.271	1.81	52.7	63.9
[3 -6 17]	(4 2 0)	(1 9 3)	2.296	1.267	1.81	62.9	53.2

Riebeckite (420) 371 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 -4]	(4 2 0)	(4 0 3)	2.296	1.263	1.82	47.1	75.9
[1 -2 -5]	(4 2 0)	(6 8 -2)	2.296	1.260	1.82	36.7	52.2
[1 -2 2]	(4 2 0)	(4 -2 -4)	2.296	1.258	1.83	75.1	77.4
[1 -2 0]	(4 2 0)	(-4 -2 4)	2.296	1.258	1.83	70.9	86.5
[1 -2 -6]	(4 2 0)	(2 -8 3)	2.296	1.257	1.83	73.8	47.4
[3 -6 14]	(4 2 0)	(2 8 3)	2.296	1.257	1.83	55.7	58.8
[2 -4 -3]	(4 2 0)	(7 5 -2)	2.296	1.255	1.83	29.2	74.6
[3 -6 -8]	(4 2 0)	(-4 2 -3)	2.296	1.251	1.84	50.3	66.1
[1 -2 0]	(4 2 0)	(4 2 3)	2.296	1.251	1.84	44.8	86.5
[4 -8 -9]	(4 2 0)	(1 5 -4)	2.296	1.245	1.84	89.8	69.0
[4 -8 11]	(4 2 0)	(-1 5 4)	2.296	1.245	1.84	79.7	71.7
[4 -8 -3]	(4 2 0)	(-1 1 -4)	2.296	1.243	1.85	70.9	80.4
[4 -8 1]	(4 2 0)	(1 1 4)	2.296	1.243	1.85	68.8	88.5
[1 -2 -5]	(4 2 0)	(7 1 1)	2.296	1.240	1.85	17.1	52.2
[4 -8 13]	(4 2 0)	(3 -5 -4)	2.296	1.234	1.86	85.8	68.0
[4 -8 -7]	(4 2 0)	(-3 -5 4)	2.296	1.234	1.86	75.7	72.7
[1 -2 -3]	(4 2 0)	(6 0 2)	2.296	1.229	1.87	30.9	63.9
[3 -6 -17]	(4 2 0)	(-3 7 -3)	2.296	1.221	1.88	65.6	48.9
[3 -6 11]	(4 2 0)	(3 7 3)	2.296	1.221	1.88	49.2	65.2
[2 -4 9]	(4 2 0)	(5 7 2)	2.296	1.220	1.88	31.9	59.8
[4 -8 -7]	(4 2 0)	(1 -3 4)	2.296	1.220	1.88	73.4	72.7
[4 -8 5]	(4 2 0)	(1 3 4)	2.296	1.220	1.88	67.1	83.3
[1 -2 -1]	(4 2 0)	(7 3 1)	2.296	1.217	1.89	13.5	78.4
[1 -2 -4]	(4 2 0)	(-4 4 -3)	2.296	1.216	1.89	54.1	57.7
[3 -6 4]	(4 2 0)	(4 4 3)	2.296	1.216	1.89	43.6	82.6
[1 -2 3]	(4 2 0)	(7 -1 -3)	2.296	1.212	1.89	46.6	69.8
[3 -6 5]	(4 2 0)	(-7 -1 3)	2.296	1.212	1.89	43.8	80.0
[1 -2 4]	(4 2 0)	(8 2 -1)	2.296	1.210	1.90	14.8	63.0
[4 -8 7]	(4 2 0)	(-5 1 4)	2.296	1.209	1.90	67.3	79.3
[4 -8 3]	(4 2 0)	(5 1 -4)	2.296	1.209	1.90	65.1	87.4
[3 -6 13]	(4 2 0)	(7 -3 -3)	2.296	1.191	1.93	50.1	60.8
[3 -6 1]	(4 2 0)	(-7 -3 3)	2.296	1.191	1.93	42.0	89.2
[1 -2 -3]	(4 2 0)	(0 -6 4)	2.296	1.191	1.93	83.8	63.9
[1 -2 3]	(4 2 0)	(0 6 4)	2.296	1.191	1.93	72.0	69.8
[2 -4 -7]	(4 2 0)	(-7 -7 2)	2.296	1.188	1.93	30.7	60.7
[4 -8 11]	(4 2 0)	(5 -3 -4)	2.296	1.188	1.93	69.7	71.7
[4 -8 -1]	(4 2 0)	(-5 -3 4)	2.296	1.188	1.93	63.5	84.4
[1 -2 1]	(4 2 0)	(6 4 2)	2.296	1.185	1.94	26.5	85.3
[2 -4 -1]	(4 2 0)	(2 0 4)	2.296	1.182	1.94	63.4	82.4
[3 -6 -13]	(4 2 0)	(5 9 -3)	2.296	1.181	1.94	53.4	55.7
[1 -2 6]	(4 2 0)	(-8 2 2)	2.296	1.180	1.95	34.4	51.5
[1 -2 2]	(4 2 0)	(8 2 -2)	2.296	1.180	1.95	27.0	77.4
[4 -8 -13]	(4 2 0)	(-1 -7 4)	2.296	1.180	1.95	88.3	62.3
[4 -8 15]	(4 2 0)	(-1 7 4)	2.296	1.180	1.95	78.3	64.6
[1 -2 0]	(4 2 0)	(-8 -4 1)	2.296	1.179	1.95	12.8	86.5
[4 -8 -11]	(4 2 0)	(1 -5 4)	2.296	1.178	1.95	75.9	65.6
[4 -8 9]	(4 2 0)	(1 5 4)	2.296	1.178	1.95	65.8	75.4
[1 -2 3]	(4 2 0)	(7 5 1)	2.296	1.175	1.95	13.6	69.8

Riebeckite (420) 371 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 4]	(4 2 0)	(-4 6 4)	2.296	1.170	1.96	80.1	63.0
[1 -2 -2]	(4 2 0)	(4 6 -4)	2.296	1.170	1.96	68.2	70.8
[4 -8 17]	(4 2 0)	(3 -7 -4)	2.296	1.170	1.96	87.9	61.4
[4 -8 -11]	(4 2 0)	(-3 -7 4)	2.296	1.170	1.96	74.5	65.6
[3 -6 -16]	(4 2 0)	(4 -6 3)	2.296	1.165	1.97	58.1	50.5
[3 -6 8]	(4 2 0)	(4 6 3)	2.296	1.165	1.97	43.4	72.3
[3 -6 17]	(4 2 0)	(7 -5 -3)	2.296	1.151	1.99	54.0	53.2
[1 -2 -1]	(4 2 0)	(-7 -5 3)	2.296	1.151	1.99	41.4	78.4
[1 -2 0]	(4 2 0)	(8 4 -2)	2.296	1.151	1.99	25.6	86.5
[4 -8 15]	(4 2 0)	(-5 5 4)	2.296	1.148	2.00	72.4	64.6
[4 -8 -5]	(4 2 0)	(5 5 -4)	2.296	1.148	2.00	62.3	76.5
[3 -6 -7]	(4 2 0)	(-5 1 -3)	2.296	1.148	2.00	44.0	68.4
[1 -2 -1]	(4 2 0)	(5 1 3)	2.296	1.148	2.00	41.2	78.4
[3 -6 22]	(4 2 0)	(-6 8 3)	2.296	1.148	2.00	65.1	45.4
[3 -6 -10]	(4 2 0)	(6 8 -3)	2.296	1.148	2.00	47.1	61.7
[2 -4 9]	(4 2 0)	(2 -8 -4)	2.296	1.147	2.00	84.4	59.8
[2 -4 -7]	(4 2 0)	(2 8 -4)	2.296	1.147	2.00	80.7	60.7
[2 -4 -5]	(4 2 0)	(-2 4 -4)	2.296	1.143	2.01	68.4	67.3
[2 -4 3]	(4 2 0)	(2 4 4)	2.296	1.143	2.01	60.1	81.3
[2 -4 3]	(4 2 0)	(-6 0 4)	2.296	1.143	2.01	60.1	81.3
[2 -4 13]	(4 2 0)	(5 9 2)	2.296	1.140	2.01	34.4	49.1
[1 -2 -4]	(4 2 0)	(8 6 -1)	2.296	1.131	2.03	14.5	57.7
[3 -6 -11]	(4 2 0)	(-5 3 -3)	2.296	1.130	2.03	47.4	59.6
[3 -6 1]	(4 2 0)	(5 3 3)	2.296	1.130	2.03	39.5	89.2
[4 -8 -15]	(4 2 0)	(-1 7 -4)	2.296	1.122	2.05	78.5	59.1
[4 -8 13]	(4 2 0)	(1 7 4)	2.296	1.122	2.05	65.1	68.0
[1 -2 7]	(4 2 0)	(7 7 1)	2.296	1.120	2.05	16.7	46.8
[2 -4 -11]	(4 2 0)	(7 9 -2)	2.296	1.113	2.06	33.2	49.7
[4 -8 -5]	(4 2 0)	(-3 1 -4)	2.296	1.109	2.07	58.8	76.5
[4 -8 -1]	(4 2 0)	(3 1 4)	2.296	1.109	2.07	56.7	84.4
[2 -4 7]	(4 2 0)	(-6 4 4)	2.296	1.108	2.07	65.1	66.3
[2 -4 -1]	(4 2 0)	(6 4 -4)	2.296	1.108	2.07	56.9	82.4
[3 -6 8]	(4 2 0)	(-8 0 3)	2.296	1.107	2.07	40.8	72.3
[1 -2 -2]	(4 2 0)	(-8 -6 2)	2.296	1.107	2.07	26.1	70.8
[4 -8 -17]	(4 2 0)	(1 9 -4)	2.296	1.107	2.07	86.6	56.2
[4 -8 19]	(4 2 0)	(-1 9 4)	2.296	1.107	2.07	77.2	58.3
[1 -2 4]	(4 2 0)	(4 8 3)	2.296	1.102	2.08	44.1	63.0
[1 -2 4]	(4 2 0)	(8 -2 -3)	2.296	1.099	2.09	43.9	63.0
[3 -6 4]	(4 2 0)	(-8 -2 3)	2.296	1.099	2.09	38.6	82.6
[1 -2 7]	(4 2 0)	(7 -7 -3)	2.296	1.099	2.09	58.0	46.8
[3 -6 -7]	(4 2 0)	(7 7 -3)	2.296	1.099	2.09	41.6	68.4
[2 -4 -9]	(4 2 0)	(-7 1 -2)	2.296	1.098	2.09	30.2	54.8
[2 -4 -5]	(4 2 0)	(7 1 2)	2.296	1.098	2.09	26.5	67.3
[4 -8 21]	(4 2 0)	(-3 9 4)	2.296	1.098	2.09	89.8	55.4
[4 -8 -15]	(4 2 0)	(3 9 -4)	2.296	1.098	2.09	73.6	59.1
[4 -8 19]	(4 2 0)	(-5 7 4)	2.296	1.096	2.09	75.1	58.3
[4 -8 -9]	(4 2 0)	(5 7 -4)	2.296	1.096	2.09	61.7	69.0
[1 -2 -5]	(4 2 0)	(-5 5 -3)	2.296	1.096	2.09	51.3	52.2

Riebeckite (420) 371 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 5]	(4 2 0)	(5 5 3)	2.296	1.096	2.09	38.8	80.0
[1 -2 -4]	(4 2 0)	(8 2 1)	2.296	1.094	2.10	14.0	57.7
[4 -8 -9]	(4 2 0)	(3 -3 4)	2.296	1.093	2.10	61.4	69.0
[4 -8 3]	(4 2 0)	(3 3 4)	2.296	1.093	2.10	55.1	87.4
[1 -2 7]	(4 2 0)	(9 1 -1)	2.296	1.083	2.12	16.2	46.8
[2 -4 -13]	(4 2 0)	(-7 3 -2)	2.296	1.082	2.12	34.8	45.3
[2 -4 -1]	(4 2 0)	(7 3 2)	2.296	1.082	2.12	24.2	82.4
[1 -2 5]	(4 2 0)	(6 8 2)	2.296	1.079	2.13	28.9	56.8
[3 -6 16]	(4 2 0)	(8 -4 -3)	2.296	1.075	2.13	47.6	55.0
[1 -2 0]	(4 2 0)	(-8 -4 3)	2.296	1.075	2.13	37.3	86.5
[1 -2 0]	(4 2 0)	(8 4 1)	2.296	1.071	2.14	11.6	86.5
[4 -8 9]	(4 2 0)	(7 -1 -4)	2.296	1.069	2.15	55.9	75.4
[4 -8 5]	(4 2 0)	(-7 -1 4)	2.296	1.069	2.15	53.8	83.3
[1 -2 3]	(4 2 0)	(9 3 -1)	2.296	1.068	2.15	12.3	69.8
[2 -4 11]	(4 2 0)	(-9 1 2)	2.296	1.067	2.15	29.6	54.1
[2 -4 7]	(4 2 0)	(9 1 -2)	2.296	1.067	2.15	25.9	66.3
[5 -10 2]	(4 2 0)	(2 0 -5)	2.296	1.067	2.15	89.1	89.8
[4 -8 -13]	(4 2 0)	(3 -5 4)	2.296	1.062	2.16	64.2	62.3
[4 -8 7]	(4 2 0)	(3 5 4)	2.296	1.062	2.16	54.1	79.3
[1 -2 1]	(4 2 0)	(3 -1 -5)	2.296	1.060	2.17	85.6	85.3
[5 -10 1]	(4 2 0)	(-3 -1 5)	2.296	1.060	2.17	83.9	88.1
[5 -10 -2]	(4 2 0)	(2 2 -5)	2.296	1.059	2.17	89.2	83.2
[5 -10 6]	(4 2 0)	(2 -2 -5)	2.296	1.059	2.17	87.4	83.7
[4 -8 -19]	(4 2 0)	(1 -9 4)	2.296	1.058	2.17	80.8	53.5
[4 -8 17]	(4 2 0)	(1 9 4)	2.296	1.058	2.17	64.7	61.4
[5 -10 -1]	(4 2 0)	(-1 -1 5)	2.296	1.056	2.17	83.7	84.9
[5 -10 3]	(4 2 0)	(1 -1 -5)	2.296	1.056	2.17	82.0	88.6
[4 -8 13]	(4 2 0)	(7 -3 -4)	2.296	1.055	2.18	58.5	68.0
[4 -8 1]	(4 2 0)	(7 3 -4)	2.296	1.055	2.18	52.3	88.5
[2 -4 3]	(4 2 0)	(7 5 2)	2.296	1.053	2.18	23.5	81.3
[2 -4 3]	(4 2 0)	(-9 -3 2)	2.296	1.052	2.18	23.5	81.3
[3 -6 -19]	(4 2 0)	(5 -7 3)	2.296	1.051	2.18	55.3	46.0
[1 -2 3]	(4 2 0)	(5 7 3)	2.296	1.051	2.18	39.0	69.8
[2 -4 7]	(4 2 0)	(2 8 4)	2.296	1.047	2.19	59.0	66.3
[5 -10 9]	(4 2 0)	(-3 3 5)	2.296	1.046	2.19	87.4	78.9
[5 -10 -3]	(4 2 0)	(3 3 -5)	2.296	1.046	2.19	82.3	81.6
[5 -10 4]	(4 2 0)	(-4 0 5)	2.296	1.045	2.20	78.7	87.0
[3 -6 -10]	(4 2 0)	(6 -2 3)	2.296	1.044	2.20	41.8	61.7
[3 -6 -2]	(4 2 0)	(6 2 3)	2.296	1.044	2.20	36.4	81.1
[1 -2 -1]	(4 2 0)	(-1 -3 5)	2.296	1.042	2.20	85.5	78.4
[5 -10 7]	(4 2 0)	(1 -3 -5)	2.296	1.042	2.20	80.4	82.1
[3 -6 -4]	(4 2 0)	(8 6 -3)	2.296	1.039	2.21	37.1	75.9
[3 -6 -11]	(4 2 0)	(-7 -9 3)	2.296	1.039	2.21	42.6	59.6
[1 -2 -1]	(4 2 0)	(9 5 -1)	2.296	1.039	2.21	11.5	78.4
[5 -10 -6]	(4 2 0)	(-2 -4 5)	2.296	1.038	2.21	87.6	76.9
[1 -2 2]	(4 2 0)	(-2 4 5)	2.296	1.038	2.21	85.7	77.4
[5 -10 8]	(4 2 0)	(-4 2 5)	2.296	1.038	2.21	80.4	80.5
[1 -2 0]	(4 2 0)	(4 2 -5)	2.296	1.038	2.21	77.0	86.5

Riebeckite (420) 371 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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
[4 -8 23]	(4 2 0)	(5 -9 -4)	2.296	1.037	2.21	77.6	52.8
[4 -8 -13]	(4 2 0)	(-5 -9 4)	2.296	1.037	2.21	61.5	62.3
[1 -2 4]	(4 2 0)	(8 6 1)	2.296	1.035	2.22	12.6	63.0
[1 -2 -2]	(4 2 0)	(-4 2 -4)	2.296	1.033	2.22	55.1	70.8
[1 -2 0]	(4 2 0)	(4 2 4)	2.296	1.033	2.22	50.9	86.5
[5 -10 -4]	(4 2 0)	(0 -2 5)	2.296	1.030	2.23	78.7	80.0
[5 -10 4]	(4 2 0)	(0 2 5)	2.296	1.030	2.23	75.2	87.0
[4 -8 17]	(4 2 0)	(-7 5 4)	2.296	1.027	2.24	61.3	61.4
[4 -8 -3]	(4 2 0)	(7 5 -4)	2.296	1.027	2.24	51.3	80.4
[2 -4 -1]	(4 2 0)	(-9 -5 2)	2.296	1.025	2.24	22.8	82.4
[3 -6 -14]	(4 2 0)	(6 -4 3)	2.296	1.023	2.24	45.4	53.9
[3 -6 2]	(4 2 0)	(6 4 3)	2.296	1.023	2.24	35.2	88.1
[4 -8 -17]	(4 2 0)	(-3 7 -4)	2.296	1.021	2.25	67.0	56.2
[4 -8 11]	(4 2 0)	(3 7 4)	2.296	1.021	2.25	53.7	71.7
[2 -4 11]	(4 2 0)	(-6 8 4)	2.296	1.020	2.25	70.8	54.1
[2 -4 -5]	(4 2 0)	(6 8 -4)	2.296	1.020	2.25	56.0	67.3
[5 -10 13]	(4 2 0)	(-3 5 5)	2.296	1.019	2.25	89.1	72.8
[5 -10 -7]	(4 2 0)	(3 5 -5)	2.296	1.019	2.25	80.8	75.3
[5 -10 12]	(4 2 0)	(-4 4 5)	2.296	1.018	2.26	82.3	74.3
[5 -10 -4]	(4 2 0)	(4 4 -5)	2.296	1.018	2.26	75.6	80.0
[5 -10 -9]	(4 2 0)	(-1 -5 5)	2.296	1.015	2.26	87.3	72.3
[5 -10 11]	(4 2 0)	(1 -5 -5)	2.296	1.015	2.26	79.0	75.8
[5 -10 7]	(4 2 0)	(5 -1 -5)	2.296	1.015	2.26	73.7	82.1
[5 -10 3]	(4 2 0)	(-5 -1 5)	2.296	1.015	2.26	72.0	88.6
[2 -4 7]	(4 2 0)	(7 7 2)	2.296	1.012	2.27	24.5	66.3
[3 -6 11]	(4 2 0)	(-9 1 3)	2.296	1.011	2.27	38.8	65.2
[3 -6 7]	(4 2 0)	(9 1 -3)	2.296	1.011	2.27	36.1	74.8
[5 -10 -8]	(4 2 0)	(0 4 -5)	2.296	1.011	2.27	80.5	73.8
[5 -10 8]	(4 2 0)	(0 4 5)	2.296	1.011	2.27	73.8	80.5
[1 -2 -2]	(4 2 0)	(-2 -6 5)	2.296	1.005	2.28	86.0	70.8
[5 -10 14]	(4 2 0)	(-2 6 5)	2.296	1.005	2.28	84.2	71.3
[5 -10 -3]	(4 2 0)	(-1 1 -5)	2.296	1.004	2.29	72.1	81.6
[5 -10 1]	(4 2 0)	(1 1 5)	2.296	1.004	2.29	70.3	88.1
[5 -10 11]	(4 2 0)	(-5 3 5)	2.296	1.002	2.29	75.6	75.8
[5 -10 -1]	(4 2 0)	(5 3 -5)	2.296	1.002	2.29	70.5	84.9

Riebeckite (280) 295 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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)	2.038	5.186	0.39	84.2	77.7
[4 -1 5]	(2 8 0)	(1 -1 -1)	2.038	4.891	0.42	83.2	67.4
[4 -1 3]	(2 8 0)	(1 1 -1)	2.038	4.891	0.42	68.2	80.8
[4 -1 2]	(2 8 0)	(0 2 1)	2.038	4.496	0.45	57.5	88.0
[4 -1 -5]	(2 8 0)	(1 -1 1)	2.038	4.052	0.50	86.6	49.5
[4 -1 -3]	(2 8 0)	(1 1 1)	2.038	4.052	0.50	62.3	59.1
[4 -1 8]	(2 8 0)	(2 0 -1)	2.038	4.001	0.51	73.5	51.5
[4 -1 7]	(2 8 0)	(1 -3 -1)	2.038	3.882	0.52	61.1	56.2
[4 -1 1]	(2 8 0)	(1 3 -1)	2.038	3.882	0.52	46.9	84.8
[4 -1 6]	(2 8 0)	(2 2 -1)	2.038	3.658	0.56	51.3	61.5
[4 -1 -1]	(2 8 0)	(1 3 1)	2.038	3.421	0.60	42.7	71.0
[4 -1 -4]	(2 8 0)	(0 4 -1)	2.038	3.404	0.60	52.0	54.0
[4 -1 4]	(2 8 0)	(0 4 1)	2.038	3.404	0.60	41.6	73.9
[4 -1 4]	(2 8 0)	(2 4 -1)	2.038	2.994	0.68	35.7	73.9
[4 -1 -6]	(2 8 0)	(2 2 1)	2.038	2.976	0.68	51.3	45.6
[4 -1 9]	(2 8 0)	(-1 5 1)	2.038	2.943	0.69	48.7	47.3
[4 -1 -1]	(2 8 0)	(-1 -5 1)	2.038	2.943	0.69	35.7	71.0
[4 -1 1]	(2 8 0)	(1 5 1)	2.038	2.726	0.75	30.9	84.8
[4 -1 9]	(2 8 0)	(-3 -3 1)	2.038	2.712	0.75	43.8	47.3
[8 -2 5]	(2 8 0)	(-1 1 2)	2.038	2.637	0.77	83.4	84.4
[8 -2 3]	(2 8 0)	(-1 -1 2)	2.038	2.637	0.77	81.5	88.4
[4 -1 -6]	(2 8 0)	(0 6 -1)	2.038	2.602	0.78	43.1	45.6
[4 -1 6]	(2 8 0)	(0 6 1)	2.038	2.602	0.78	33.7	61.5
[4 -1 -4]	(2 8 0)	(2 4 1)	2.038	2.584	0.79	36.8	54.0
[4 -1 4]	(2 8 0)	(2 0 -2)	2.038	2.541	0.80	82.5	73.9
[4 -1 -1]	(2 8 0)	(0 -2 2)	2.038	2.492	0.82	81.2	71.0
[4 -1 1]	(2 8 0)	(0 2 2)	2.038	2.492	0.82	69.7	84.8
[8 -2 7]	(2 8 0)	(1 -3 -2)	2.038	2.437	0.84	69.5	77.3
[8 -2 1]	(2 8 0)	(1 3 -2)	2.038	2.437	0.84	67.6	81.2
[4 -1 2]	(2 8 0)	(2 6 -1)	2.038	2.404	0.85	26.8	88.0
[8 -2 -5]	(2 8 0)	(-1 1 -2)	2.038	2.344	0.87	85.4	61.8
[8 -2 -3]	(2 8 0)	(1 1 2)	2.038	2.344	0.87	71.7	67.8
[4 -1 7]	(2 8 0)	(-3 -5 1)	2.038	2.324	0.88	31.6	56.2
[4 -1 -3]	(2 8 0)	(1 7 -1)	2.038	2.299	0.89	30.2	59.1
[8 -2 13]	(2 8 0)	(-3 1 2)	2.038	2.268	0.90	83.9	58.8
[8 -2 11]	(2 8 0)	(3 1 -2)	2.038	2.268	0.90	70.6	64.4
[4 -1 6]	(2 8 0)	(2 -4 -2)	2.038	2.214	0.92	70.8	61.5
[4 -1 2]	(2 8 0)	(2 4 -2)	2.038	2.214	0.92	56.1	88.0
[8 -2 -7]	(2 8 0)	(-1 3 -2)	2.038	2.200	0.93	81.6	56.5
[8 -2 -1]	(2 8 0)	(1 3 2)	2.038	2.200	0.93	59.0	74.3
[4 -1 3]	(2 8 0)	(1 7 1)	2.038	2.191	0.93	24.6	80.8
[4 -1 -2]	(2 8 0)	(2 6 1)	2.038	2.176	0.94	26.8	64.7
[8 -2 9]	(2 8 0)	(-1 5 2)	2.038	2.144	0.95	58.5	70.6
[8 -2 -1]	(2 8 0)	(-1 -5 2)	2.038	2.144	0.95	56.6	74.3
[8 -2 15]	(2 8 0)	(-3 3 2)	2.038	2.137	0.95	83.4	53.8
[8 -2 9]	(2 8 0)	(-3 -3 2)	2.038	2.137	0.95	58.2	70.6
[4 -1 -4]	(2 8 0)	(2 0 2)	2.038	2.079	0.98	74.4	54.0
[4 -1 8]	(2 8 0)	(0 8 1)	2.038	2.069	0.98	29.7	51.5

Riebeckite (280) 295 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[8 -2 1]	(2 8 0)	(1 5 2)	2.038	1.978	1.03	48.6	81.2
[4 -1 5]	(2 8 0)	(-3 -7 1)	2.038	1.966	1.04	23.5	67.4
[4 -1 0]	(2 8 0)	(2 8 -1)	2.038	1.965	1.04	22.1	77.7
[4 -1 -3]	(2 8 0)	(0 6 -2)	2.038	1.964	1.04	59.1	59.1
[4 -1 3]	(2 8 0)	(0 6 2)	2.038	1.964	1.04	48.2	80.8
[4 -1 9]	(2 8 0)	(-4 2 2)	2.038	1.953	1.04	85.3	47.3
[4 -1 7]	(2 8 0)	(4 2 -2)	2.038	1.953	1.04	61.8	56.2
[8 -2 17]	(2 8 0)	(-3 5 2)	2.038	1.931	1.05	72.8	49.3
[8 -2 7]	(2 8 0)	(-3 -5 2)	2.038	1.931	1.05	47.9	77.3
[4 -1 -6]	(2 8 0)	(-2 4 -2)	2.038	1.888	1.08	82.3	45.6
[4 -1 -2]	(2 8 0)	(2 4 2)	2.038	1.888	1.08	51.5	64.7
[4 -1 -5]	(2 8 0)	(1 9 -1)	2.038	1.865	1.09	27.4	49.5
[8 -2 11]	(2 8 0)	(1 -7 -2)	2.038	1.853	1.10	50.4	64.4
[8 -2 -3]	(2 8 0)	(1 7 -2)	2.038	1.853	1.10	48.6	67.8
[4 -1 5]	(2 8 0)	(1 9 1)	2.038	1.806	1.13	21.5	67.4
[8 -2 -11]	(2 8 0)	(3 1 2)	2.038	1.799	1.13	66.2	47.5
[4 -1 -5]	(2 8 0)	(3 7 1)	2.038	1.779	1.15	26.0	49.5
[4 -1 1]	(2 8 0)	(1 1 -3)	2.038	1.767	1.15	86.3	84.8
[12 -3 5]	(2 8 0)	(1 -1 -3)	2.038	1.767	1.15	83.6	89.6
[12 -3 8]	(2 8 0)	(2 0 -3)	2.038	1.763	1.16	86.8	83.2
[8 -2 -11]	(2 8 0)	(-1 7 -2)	2.038	1.742	1.17	62.4	47.5
[8 -2 3]	(2 8 0)	(1 7 2)	2.038	1.742	1.17	40.8	88.4
[8 -2 -9]	(2 8 0)	(3 3 2)	2.038	1.732	1.18	55.8	51.7
[8 -2 19]	(2 8 0)	(5 1 -2)	2.038	1.731	1.18	65.8	45.4
[12 -3 10]	(2 8 0)	(2 -2 -3)	2.038	1.730	1.18	83.2	78.4
[4 -1 2]	(2 8 0)	(2 2 -3)	2.038	1.730	1.18	76.8	88.0
[8 -2 19]	(2 8 0)	(3 -7 -2)	2.038	1.711	1.19	64.3	45.4
[8 -2 5]	(2 8 0)	(3 7 -2)	2.038	1.711	1.19	40.1	84.4
[12 -3 1]	(2 8 0)	(1 3 -3)	2.038	1.703	1.20	76.5	80.0
[12 -3 7]	(2 8 0)	(1 -3 -3)	2.038	1.703	1.20	73.9	85.6
[12 -3 -2]	(2 8 0)	(0 2 -3)	2.038	1.698	1.20	85.9	73.1
[12 -3 2]	(2 8 0)	(0 2 3)	2.038	1.698	1.20	74.4	82.4
[4 -1 8]	(2 8 0)	(-2 8 2)	2.038	1.687	1.21	54.0	51.5
[4 -1 0]	(2 8 0)	(-2 -8 2)	2.038	1.687	1.21	40.3	77.7
[12 -3 13]	(2 8 0)	(3 -1 -3)	2.038	1.686	1.21	87.4	71.7
[12 -3 11]	(2 8 0)	(-3 -1 3)	2.038	1.686	1.21	77.6	76.1
[4 -1 3]	(2 8 0)	(3 9 -1)	2.038	1.674	1.22	18.5	80.8
[8 -2 17]	(2 8 0)	(5 3 -2)	2.038	1.671	1.22	55.7	49.3
[4 -1 5]	(2 8 0)	(-4 -6 2)	2.038	1.666	1.22	42.6	67.4
[4 -1 4]	(2 8 0)	(-2 4 3)	2.038	1.642	1.24	74.0	73.9
[12 -3 4]	(2 8 0)	(-2 -4 3)	2.038	1.642	1.24	67.6	87.2
[4 -1 8]	(2 8 0)	(4 8 -1)	2.038	1.637	1.24	23.1	51.5
[12 -3 -5]	(2 8 0)	(-1 1 -3)	2.038	1.628	1.25	85.0	66.7
[4 -1 -1]	(2 8 0)	(1 1 3)	2.038	1.628	1.25	75.5	71.0
[8 -2 -7]	(2 8 0)	(3 5 2)	2.038	1.617	1.26	46.6	56.5
[12 -3 -4]	(2 8 0)	(0 4 -3)	2.038	1.614	1.26	76.8	68.8
[12 -3 4]	(2 8 0)	(0 4 3)	2.038	1.614	1.26	65.3	87.2
[8 -2 13]	(2 8 0)	(-1 9 2)	2.038	1.602	1.27	44.6	58.8

Riebeckite (280) 295 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[8 -2 -5]	(2 8 0)	(-1 -9 2)	2.038	1.602	1.27	43.0	61.8
[12 -3 -1]	(2 8 0)	(1 5 -3)	2.038	1.593	1.28	67.8	75.4
[4 -1 3]	(2 8 0)	(1 -5 -3)	2.038	1.593	1.28	65.2	80.8
[12 -3 16]	(2 8 0)	(4 0 -3)	2.038	1.586	1.28	78.8	65.4
[12 -3 -7]	(2 8 0)	(1 -3 3)	2.038	1.577	1.29	85.8	62.8
[12 -3 -1]	(2 8 0)	(1 3 3)	2.038	1.577	1.29	66.4	75.4
[8 -2 15]	(2 8 0)	(-5 -5 2)	2.038	1.567	1.30	46.7	53.8
[4 -1 6]	(2 8 0)	(4 -2 -3)	2.038	1.562	1.30	88.0	61.5
[12 -3 14]	(2 8 0)	(-4 -2 3)	2.038	1.562	1.30	69.7	69.5
[4 -1 -3]	(2 8 0)	(3 9 1)	2.038	1.554	1.31	19.8	59.1
[12 -3 17]	(2 8 0)	(3 -5 -3)	2.038	1.533	1.33	74.6	63.4
[12 -3 7]	(2 8 0)	(3 5 -3)	2.038	1.533	1.33	59.9	85.6
[8 -2 5]	(2 8 0)	(1 9 2)	2.038	1.529	1.33	35.2	84.4
[4 -1 0]	(2 8 0)	(2 8 2)	2.038	1.529	1.33	35.9	77.7
[12 -3 14]	(2 8 0)	(2 -6 -3)	2.038	1.521	1.34	65.9	69.5
[12 -3 2]	(2 8 0)	(2 6 -3)	2.038	1.521	1.34	59.6	82.4
[12 -3 -8]	(2 8 0)	(2 0 3)	2.038	1.514	1.35	77.0	60.9
[8 -2 3]	(2 8 0)	(-3 -9 2)	2.038	1.508	1.35	34.4	88.4
[12 -3 20]	(2 8 0)	(-4 4 3)	2.038	1.496	1.36	83.3	57.9
[4 -1 4]	(2 8 0)	(-4 -4 3)	2.038	1.496	1.36	61.1	73.9
[12 -3 -10]	(2 8 0)	(2 -2 3)	2.038	1.493	1.36	85.8	57.3
[4 -1 -2]	(2 8 0)	(2 2 3)	2.038	1.493	1.36	68.2	64.7
[4 -1 -3]	(2 8 0)	(-1 5 -3)	2.038	1.489	1.37	77.4	59.1
[12 -3 1]	(2 8 0)	(1 5 3)	2.038	1.489	1.37	58.2	80.0
[8 -2 -5]	(2 8 0)	(3 7 2)	2.038	1.480	1.38	39.0	61.8
[4 -1 -1]	(2 8 0)	(-1 -7 3)	2.038	1.462	1.39	60.5	71.0
[12 -3 11]	(2 8 0)	(-1 7 3)	2.038	1.462	1.39	57.9	76.1
[4 -1 7]	(2 8 0)	(-5 1 3)	2.038	1.456	1.40	80.1	56.2
[12 -3 19]	(2 8 0)	(5 1 -3)	2.038	1.456	1.40	71.5	59.7
[8 -2 13]	(2 8 0)	(5 7 -2)	2.038	1.442	1.41	39.2	58.8
[4 -1 -4]	(2 8 0)	(2 -4 3)	2.038	1.435	1.42	85.8	54.0
[12 -3 -4]	(2 8 0)	(2 4 3)	2.038	1.435	1.42	59.9	68.8
[12 -3 23]	(2 8 0)	(-5 3 3)	2.038	1.419	1.44	88.6	53.0
[12 -3 17]	(2 8 0)	(5 3 -3)	2.038	1.419	1.44	63.2	63.4
[12 -3 19]	(2 8 0)	(3 -7 -3)	2.038	1.416	1.44	67.3	59.7
[12 -3 5]	(2 8 0)	(3 7 -3)	2.038	1.416	1.44	52.8	89.6
[12 -3 22]	(2 8 0)	(-4 6 3)	2.038	1.403	1.45	75.6	54.5
[12 -3 10]	(2 8 0)	(-4 -6 3)	2.038	1.403	1.45	53.6	78.4
[4 -1 -5]	(2 8 0)	(4 6 2)	2.038	1.396	1.46	43.5	49.5
[12 -3 16]	(2 8 0)	(2 -8 -3)	2.038	1.389	1.47	59.2	65.4
[4 -1 0]	(2 8 0)	(2 8 -3)	2.038	1.389	1.47	53.1	77.7
[12 -3 -13]	(2 8 0)	(-3 1 -3)	2.038	1.382	1.47	78.5	52.5
[12 -3 -11]	(2 8 0)	(3 1 3)	2.038	1.382	1.47	70.3	55.6
[12 -3 -11]	(2 8 0)	(1 -7 3)	2.038	1.380	1.48	70.1	55.6
[4 -1 1]	(2 8 0)	(1 7 3)	2.038	1.380	1.48	51.2	84.8
[12 -3 -8]	(2 8 0)	(0 -8 3)	2.038	1.372	1.49	62.0	60.9
[12 -3 8]	(2 8 0)	(0 8 3)	2.038	1.372	1.49	51.0	83.2
[4 -1 5]	(2 8 0)	(-5 -5 3)	2.038	1.354	1.51	55.5	67.4

Riebeckite (280) 295 Zone Axes a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°Space Group C2/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 $^\circ$
[12 -3 -14]	(2 8 0)	(-2 6 -3)	2.038	1.352	1.51	78.2	51.0
[12 -3 -2]	(2 8 0)	(2 6 3)	2.038	1.352	1.51	52.6	73.1
[8 -2 -3]	(2 8 0)	(3 9 2)	2.038	1.343	1.52	32.9	67.8
[12 -3 -5]	(2 8 0)	(-1 -9 3)	2.038	1.329	1.53	54.5	66.7
[12 -3 13]	(2 8 0)	(-1 9 3)	2.038	1.329	1.53	52.0	71.7
[16 -4 3]	(2 8 0)	(-1 -1 4)	2.038	1.323	1.54	88.7	83.0
[16 -4 5]	(2 8 0)	(-1 1 4)	2.038	1.323	1.54	83.7	86.6
[12 -3 26]	(2 8 0)	(-6 2 3)	2.038	1.319	1.54	81.4	48.6
[12 -3 22]	(2 8 0)	(6 2 -3)	2.038	1.319	1.54	65.6	54.5
[8 -2 11]	(2 8 0)	(-5 -9 2)	2.038	1.314	1.55	33.1	64.4
[16 -4 13]	(2 8 0)	(3 -1 -4)	2.038	1.309	1.56	89.4	79.0
[16 -4 11]	(2 8 0)	(-3 -1 4)	2.038	1.309	1.56	81.9	82.6
[4 -1 8]	(2 8 0)	(-4 8 3)	2.038	1.297	1.57	68.9	51.5
[12 -3 8]	(2 8 0)	(4 8 -3)	2.038	1.297	1.57	47.3	83.2
[16 -4 1]	(2 8 0)	(1 3 -4)	2.038	1.296	1.57	81.2	79.4
[16 -4 7]	(2 8 0)	(1 -3 -4)	2.038	1.296	1.57	76.3	89.8
[12 -3 -17]	(2 8 0)	(-3 5 -3)	2.038	1.294	1.57	85.8	46.9
[12 -3 -7]	(2 8 0)	(3 5 3)	2.038	1.294	1.57	54.9	62.8
[8 -2 -1]	(2 8 0)	(0 -2 4)	2.038	1.283	1.59	88.4	74.3
[8 -2 1]	(2 8 0)	(0 2 4)	2.038	1.283	1.59	76.8	81.2
[16 -4 15]	(2 8 0)	(3 -3 -4)	2.038	1.283	1.59	83.2	75.6
[16 -4 9]	(2 8 0)	(3 3 -4)	2.038	1.283	1.59	74.5	86.2
[12 -3 28]	(2 8 0)	(-6 4 3)	2.038	1.279	1.59	89.1	46.0
[12 -3 20]	(2 8 0)	(6 4 -3)	2.038	1.279	1.59	58.1	57.9
[4 -1 3]	(2 8 0)	(2 -4 -4)	2.038	1.278	1.59	76.1	80.8
[4 -1 1]	(2 8 0)	(2 4 -4)	2.038	1.278	1.59	74.2	84.8
[4 -1 9]	(2 8 0)	(5 -7 -3)	2.038	1.271	1.60	76.6	47.3
[12 -3 13]	(2 8 0)	(5 7 -3)	2.038	1.271	1.60	48.8	71.7
[12 -3 5]	(2 8 0)	(1 9 3)	2.038	1.267	1.61	45.4	89.6
[12 -3 -16]	(2 8 0)	(4 0 3)	2.038	1.263	1.61	72.4	48.2
[4 -1 8]	(2 8 0)	(-6 -8 2)	2.038	1.260	1.62	37.1	51.5
[8 -2 9]	(2 8 0)	(4 -2 -4)	2.038	1.258	1.62	89.8	70.6
[8 -2 7]	(2 8 0)	(-4 -2 4)	2.038	1.258	1.62	75.2	77.3
[12 -3 -16]	(2 8 0)	(-2 8 -3)	2.038	1.257	1.62	71.6	48.2
[4 -1 0]	(2 8 0)	(2 8 3)	2.038	1.257	1.62	46.3	77.7
[4 -1 -6]	(2 8 0)	(4 -2 3)	2.038	1.251	1.63	80.0	45.6
[12 -3 -14]	(2 8 0)	(4 2 3)	2.038	1.251	1.63	64.9	51.0
[16 -4 -1]	(2 8 0)	(1 5 -4)	2.038	1.245	1.64	74.3	76.0
[16 -4 9]	(2 8 0)	(1 -5 -4)	2.038	1.245	1.64	69.4	86.2
[16 -4 -5]	(2 8 0)	(1 -1 4)	2.038	1.243	1.64	84.8	69.3
[16 -4 -3]	(2 8 0)	(1 1 4)	2.038	1.243	1.64	77.6	72.6
[16 -4 17]	(2 8 0)	(-3 5 4)	2.038	1.234	1.65	76.3	72.2
[16 -4 7]	(2 8 0)	(-3 -5 4)	2.038	1.234	1.65	67.7	89.8
[12 -3 -5]	(2 8 0)	(3 7 3)	2.038	1.221	1.67	48.4	66.7
[16 -4 -7]	(2 8 0)	(1 -3 4)	2.038	1.220	1.67	88.1	66.2
[16 -4 -1]	(2 8 0)	(1 3 4)	2.038	1.220	1.67	70.5	76.0
[4 -1 9]	(2 8 0)	(-7 -1 3)	2.038	1.212	1.68	68.1	47.3
[16 -4 21]	(2 8 0)	(5 -1 -4)	2.038	1.209	1.69	83.2	65.9

Riebeckite (280) 295 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[16 -4 19]	(2 8 0)	(-5 -1 4)	2.038	1.209	1.69	76.1	69.0
[12 -3 25]	(2 8 0)	(7 3 -3)	2.038	1.191	1.71	60.9	50.0
[8 -2 -3]	(2 8 0)	(0 6 -4)	2.038	1.191	1.71	74.6	67.8
[8 -2 3]	(2 8 0)	(0 6 4)	2.038	1.191	1.71	63.3	88.4
[16 -4 23]	(2 8 0)	(5 -3 -4)	2.038	1.188	1.72	89.9	62.9
[16 -4 17]	(2 8 0)	(5 3 -4)	2.038	1.188	1.72	69.2	72.2
[4 -1 -2]	(2 8 0)	(2 0 4)	2.038	1.182	1.72	78.5	64.7
[12 -3 11]	(2 8 0)	(5 9 -3)	2.038	1.181	1.73	43.1	76.1
[16 -4 -3]	(2 8 0)	(-1 -7 4)	2.038	1.180	1.73	68.0	72.6
[16 -4 11]	(2 8 0)	(-1 7 4)	2.038	1.180	1.73	63.1	82.6
[16 -4 -9]	(2 8 0)	(1 -5 4)	2.038	1.178	1.73	81.4	63.3
[16 -4 1]	(2 8 0)	(1 5 4)	2.038	1.178	1.73	63.9	79.4
[8 -2 11]	(2 8 0)	(4 -6 -4)	2.038	1.170	1.74	76.7	64.4
[8 -2 5]	(2 8 0)	(4 6 -4)	2.038	1.170	1.74	61.8	84.4
[16 -4 19]	(2 8 0)	(-3 7 4)	2.038	1.170	1.74	70.0	69.0
[16 -4 5]	(2 8 0)	(-3 -7 4)	2.038	1.170	1.74	61.5	86.6
[12 -3 -10]	(2 8 0)	(4 6 3)	2.038	1.165	1.75	51.1	57.3
[12 -3 23]	(2 8 0)	(-7 -5 3)	2.038	1.151	1.77	54.2	53.0
[16 -4 25]	(2 8 0)	(-5 5 4)	2.038	1.148	1.77	83.3	60.1
[16 -4 15]	(2 8 0)	(-5 -5 4)	2.038	1.148	1.77	62.8	75.6
[12 -3 16]	(2 8 0)	(6 8 -3)	2.038	1.148	1.77	45.2	65.4
[4 -1 4]	(2 8 0)	(2 -8 -4)	2.038	1.147	1.78	63.6	73.9
[4 -1 0]	(2 8 0)	(2 8 -4)	2.038	1.147	1.78	61.7	77.7
[4 -1 -3]	(2 8 0)	(2 -4 4)	2.038	1.143	1.78	87.9	59.1
[4 -1 -1]	(2 8 0)	(2 4 4)	2.038	1.143	1.78	65.1	71.0
[4 -1 6]	(2 8 0)	(-6 0 4)	2.038	1.143	1.78	77.2	61.5
[8 -2 -11]	(2 8 0)	(5 9 2)	2.038	1.140	1.79	35.4	47.5
[12 -3 -17]	(2 8 0)	(5 3 3)	2.038	1.130	1.80	60.6	46.9
[16 -4 -11]	(2 8 0)	(-1 7 -4)	2.038	1.122	1.82	75.2	60.4
[16 -4 3]	(2 8 0)	(1 7 4)	2.038	1.122	1.82	57.9	83.0
[8 -2 19]	(2 8 0)	(7 9 -2)	2.038	1.113	1.83	35.9	45.4
[16 -4 -13]	(2 8 0)	(-3 1 -4)	2.038	1.109	1.84	79.6	57.8
[16 -4 -11]	(2 8 0)	(3 1 4)	2.038	1.109	1.84	73.0	60.4
[4 -1 7]	(2 8 0)	(6 -4 -4)	2.038	1.108	1.84	89.6	56.2
[4 -1 5]	(2 8 0)	(6 4 -4)	2.038	1.108	1.84	64.1	67.4
[16 -4 -5]	(2 8 0)	(1 9 -4)	2.038	1.107	1.84	62.5	69.3
[16 -4 13]	(2 8 0)	(1 -9 -4)	2.038	1.107	1.84	57.7	79.0
[12 -3 -8]	(2 8 0)	(4 8 3)	2.038	1.102	1.85	45.2	60.9
[4 -1 7]	(2 8 0)	(-7 -7 3)	2.038	1.099	1.85	48.0	56.2
[16 -4 21]	(2 8 0)	(-3 9 4)	2.038	1.098	1.86	64.5	65.9
[16 -4 3]	(2 8 0)	(-3 -9 4)	2.038	1.098	1.86	56.1	83.0
[16 -4 27]	(2 8 0)	(-5 7 4)	2.038	1.096	1.86	77.2	57.5
[16 -4 13]	(2 8 0)	(-5 -7 4)	2.038	1.096	1.86	56.9	79.0
[4 -1 -5]	(2 8 0)	(5 5 3)	2.038	1.096	1.86	54.1	49.5
[16 -4 -15]	(2 8 0)	(-3 3 -4)	2.038	1.093	1.86	86.0	55.2
[16 -4 -9]	(2 8 0)	(3 3 4)	2.038	1.093	1.86	66.6	63.3
[12 -3 28]	(2 8 0)	(-8 -4 3)	2.038	1.075	1.89	57.2	46.0
[16 -4 29]	(2 8 0)	(7 -1 -4)	2.038	1.069	1.91	78.4	55.0

Riebeckite (280) 295 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/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 $^\circ$
[16 -4 27]	(2 8 0)	(-7 -1 4)	2.038	1.069	1.91	72.0	57.5
[20 -5 8]	(2 8 0)	(-2 0 5)	2.038	1.067	1.91	89.6	89.1
[16 -4 -17]	(2 8 0)	(3 -5 4)	2.038	1.062	1.92	87.8	52.9
[16 -4 -7]	(2 8 0)	(3 5 4)	2.038	1.062	1.92	60.5	66.2
[20 -5 13]	(2 8 0)	(3 -1 -5)	2.038	1.060	1.92	89.3	83.6
[20 -5 11]	(2 8 0)	(3 1 -5)	2.038	1.060	1.92	84.6	86.5
[20 -5 6]	(2 8 0)	(-2 -2 5)	2.038	1.059	1.92	84.3	86.2
[4 -1 2]	(2 8 0)	(-2 2 5)	2.038	1.059	1.92	83.5	88.0
[16 -4 -13]	(2 8 0)	(1 -9 4)	2.038	1.058	1.93	69.7	57.8
[16 -4 5]	(2 8 0)	(1 9 4)	2.038	1.058	1.93	52.6	86.6
[20 -5 3]	(2 8 0)	(1 1 -5)	2.038	1.056	1.93	89.9	81.9
[4 -1 1]	(2 8 0)	(-1 1 5)	2.038	1.056	1.93	83.8	84.8
[16 -4 31]	(2 8 0)	(-7 3 4)	2.038	1.055	1.93	84.6	52.6
[16 -4 25]	(2 8 0)	(7 3 -4)	2.038	1.055	1.93	65.8	60.1
[12 -3 -13]	(2 8 0)	(5 7 3)	2.038	1.051	1.94	48.2	52.5
[4 -1 -4]	(2 8 0)	(-2 8 -4)	2.038	1.047	1.95	75.9	54.0
[4 -1 0]	(2 8 0)	(2 8 4)	2.038	1.047	1.95	53.5	77.7
[4 -1 3]	(2 8 0)	(-3 3 5)	2.038	1.046	1.95	83.3	80.8
[20 -5 9]	(2 8 0)	(-3 -3 5)	2.038	1.046	1.95	78.6	89.4
[20 -5 16]	(2 8 0)	(4 0 -5)	2.038	1.045	1.95	85.0	79.4
[20 -5 1]	(2 8 0)	(-1 -3 5)	2.038	1.042	1.96	84.1	79.1
[20 -5 7]	(2 8 0)	(-1 3 5)	2.038	1.042	1.96	77.8	87.7
[12 -3 19]	(2 8 0)	(7 9 -3)	2.038	1.039	1.96	42.6	59.7
[20 -5 4]	(2 8 0)	(-2 -4 5)	2.038	1.038	1.96	78.4	83.3
[20 -5 12]	(2 8 0)	(-2 4 5)	2.038	1.038	1.96	77.6	85.1
[20 -5 18]	(2 8 0)	(-4 2 5)	2.038	1.038	1.96	89.0	76.6
[20 -5 14]	(2 8 0)	(-4 -2 5)	2.038	1.038	1.96	79.0	82.2
[16 -4 29]	(2 8 0)	(-5 9 4)	2.038	1.037	1.97	71.7	55.0
[16 -4 11]	(2 8 0)	(-5 -9 4)	2.038	1.037	1.97	51.6	82.6
[8 -2 -9]	(2 8 0)	(4 -2 4)	2.038	1.033	1.97	80.6	51.7
[8 -2 -7]	(2 8 0)	(4 2 4)	2.038	1.033	1.97	68.3	56.5
[20 -5 -2]	(2 8 0)	(0 -2 5)	2.038	1.030	1.98	89.8	74.9
[20 -5 2]	(2 8 0)	(0 2 5)	2.038	1.030	1.98	78.3	80.5
[16 -4 33]	(2 8 0)	(7 -5 -4)	2.038	1.027	1.98	89.3	50.4
[16 -4 23]	(2 8 0)	(7 5 -4)	2.038	1.027	1.98	59.9	62.9
[16 -4 -19]	(2 8 0)	(3 -7 4)	2.038	1.021	2.00	82.0	50.6
[16 -4 -5]	(2 8 0)	(3 7 4)	2.038	1.021	2.00	54.9	69.3
[4 -1 8]	(2 8 0)	(6 -8 -4)	2.038	1.020	2.00	77.8	51.5
[4 -1 4]	(2 8 0)	(6 8 -4)	2.038	1.020	2.00	52.7	73.9
[20 -5 17]	(2 8 0)	(3 -5 -5)	2.038	1.019	2.00	77.5	78.0
[20 -5 7]	(2 8 0)	(3 5 -5)	2.038	1.019	2.00	72.9	87.7
[4 -1 4]	(2 8 0)	(4 -4 -5)	2.038	1.018	2.00	83.2	73.9
[20 -5 12]	(2 8 0)	(4 4 -5)	2.038	1.018	2.00	73.2	85.1
[20 -5 -1]	(2 8 0)	(-1 -5 5)	2.038	1.015	2.01	78.4	76.3
[20 -5 9]	(2 8 0)	(-1 5 5)	2.038	1.015	2.01	72.1	89.4
[20 -5 21]	(2 8 0)	(5 -1 -5)	2.038	1.015	2.01	85.4	72.5
[20 -5 19]	(2 8 0)	(-5 -1 5)	2.038	1.015	2.01	79.5	75.2
[20 -5 -4]	(2 8 0)	(0 4 -5)	2.038	1.011	2.02	84.0	72.3

Riebeckite (280) 295 Zone Axes **a 9.769Å b 18.048Å c 5.335Å α 90° β 103.59° γ 90°**Space Group C2/m permits only $(h+k)=2n$

[U V W]	(h k 0)	(h k l)	$d(hk0)$	$d(hkl)$	d Ratio	θ°	ZA $^\circ$
[20 -5 4]	(2 8 0)	(0 4 5)	2.038	1.011	2.02	72.5	83.3
[20 -5 2]	(2 8 0)	(2 6 -5)	2.038	1.005	2.03	72.8	80.5
[20 -5 14]	(2 8 0)	(2 -6 -5)	2.038	1.005	2.03	72.0	82.2
[4 -1 -1]	(2 8 0)	(1 -1 5)	2.038	1.004	2.03	84.7	71.0
[20 -5 -3]	(2 8 0)	(1 1 5)	2.038	1.004	2.03	78.9	73.6
[20 -5 23]	(2 8 0)	(-5 3 5)	2.038	1.002	2.03	88.8	69.9
[20 -5 17]	(2 8 0)	(5 3 -5)	2.038	1.002	2.03	73.8	78.0