

Liddicoatite,  $(\text{Li,Al})_3\text{CaAl}_6(\text{BO}_3)_3\text{Si}_6\text{O}_{18}(\text{O,OH,F})_4$

Liddicoatite

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Homogeneous liddicoatite from Madagascar: a possible reference material? First EMPA, SIMS and SREF data

15.880 15.880 7.118 90 90 120 R3m

atom	x	y	z	Wyckoff	Occupancy
CaX	0	0	0.2339	3a	
LiY	0.93831	0.06169	0.6289	9b	
AlZ	0.29730	0.26033	0.61097	18c	
Si	0.19208	0.19020	-0.00105	18c	
B	0.10932	0.89068	0.4528	9b	
O1	0.9887	0.0113	0.7868	9b	1/3
O2	0.06062	0.93938	0.4782	9b	
O3	0.09253	0.18506	0.0719	9b	
O4	0.1849	0.09245	0.0938	9b	
O5	0.19663	0.18679	0.7751	18c	
O6	0.28586	0.28578	0.0803	18c	
O7	0.20966	0.27029	0.4409	18c	
OH	0.2695	0.13475	0.5085	9b	
H	-	-	-	9b	

$$(5 \times 18c) + (8 \times 9b) + (1 \times 3a)$$

**Raman Active Modes**

WP	A <sub>1</sub>	A <sub>2</sub>	E
18c	3	-	6
9b	2	-	3
3a	1	-	1

Total number of modes:

$$34A_1 + 55E = 89$$