

LuMnO <sub>3</sub>	<i>hP30</i>	(185) <i>P6<sub>3</sub>cm</i> – <i>c</i> <sup>3</sup> <i>b</i> <sup>2</sup> <i>a</i> <sup>2</sup>
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**LuMnO<sub>3</sub>** [2]

Structural features: MnO<sub>5</sub> trigonal bipyramids share vertices to form infinite layers. See Fig. IV.32.

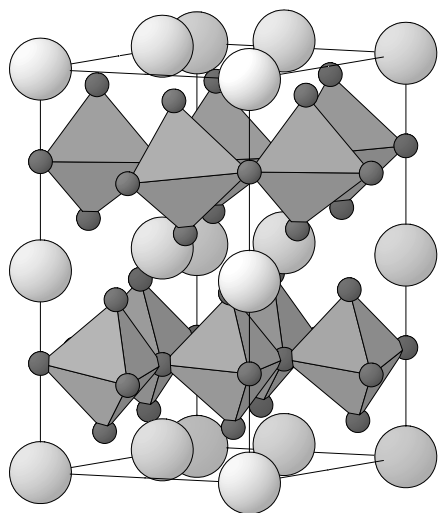


Fig. IV.32. **LuMnO<sub>3</sub>**

Arrangement of MnO<sub>5</sub> trigonal bipyramids (O atoms small) and Lu atoms (large).

Van Aken B.B. et al. (2001) [1]

LuMnO<sub>3</sub>

*a* = 0.6038, *c* = 1.1361 nm, *c/a* = 1.882, *V* = 0.3587 nm<sup>3</sup>, *Z* = 6

site	Wyck.	sym.	<i>x</i>	<i>y</i>	<i>z</i>	occ.	atomic environment
O1	6 <i>c</i>	.. <i>m</i>	0.307	0	0.10974		tetrahedron MnLu <sub>3</sub>
Mn2	6 <i>c</i>	.. <i>m</i>	0.3355	0	0.27471		trigonal bipyramid O <sub>5</sub>
O3	6 <i>c</i>	.. <i>m</i>	0.3614	0	0.43774		tetrahedron MnLu <sub>3</sub>
Lu4	4 <i>b</i>	3..	<sup>1</sup> / <sub>3</sub>	<sup>2</sup> / <sub>3</sub>	0.04356		7-vertex polyhedron O <sub>7</sub>
O5	4 <i>b</i>	3..	<sup>1</sup> / <sub>3</sub>	<sup>2</sup> / <sub>3</sub>	0.25494		non-coplanar triangle Mn <sub>3</sub>
Lu6	2 <i>a</i>	3.. <i>m</i>	0	0	0.0		7-vertex polyhedron O <sub>7</sub>
O7	2 <i>a</i>	3.. <i>m</i>	0	0	0.27054		non-coplanar triangle Mn <sub>3</sub>

Transformation from published data: -*x*, -*y*, -*z*; origin shift 0 0 0.22606

Experimental: single crystal, diffractometer, X-rays, *R* = 0.027, *T* = 293 K

References: [1] Van Aken B.B., Meetsma A., Palstra T.M. (2001), Acta Crystallogr. E 57, i101-i103. [2] Yakel H.L., Koehler W.C., Bertaut E.F., Forrat E.F. (1963), Acta Crystallogr. 16, 957-962.