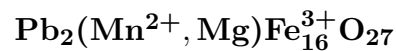


# Lindqvistite



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**Crystal Data:** Hexagonal. *Point Group:*  $6/m\ 2/m\ 2/m$ . As subhedral crystals, tabular on {0001}, to 5 mm.

**Physical Properties:** *Cleavage:* {0001}, perfect. *Tenacity:* Brittle. *Hardness* =  $\sim 6$   
VHN = 818–898, 857 average (100 g load). *D*(meas.) = n.d. *D*(calc.) = 5.76(1)

**Optical Properties:** Opaque. *Color:* Black; gray with a faint brownish tint in reflected light.  
*Streak:* Brownish black. *Luster:* Submetallic.

*Optical Class:* Uniaxial. *Anisotropism:* Moderate; in bluish gray to browns.

*Birefractance:* Weak.

$R_1$ – $R_2$ : (470) 23.7–22.0, (546) 22.7–21.5, (589) 22.0–21.1, (650) 21.3–20.7

**Cell Data:** *Space Group:*  $P6_3/mmc$ .  $a = 5.951(1)$   $c = 33.358(4)$   $Z = 2$

**X-ray Powder Pattern:** Jakobsberg, Sweden.

2.624 (100), 2.802 (95), 2.612 (90), 2.975 (70), 3.011 (60), 4.168 (55), 3.334 (40)

## Chemistry:

	(1)
SiO <sub>2</sub>	0.16
TiO <sub>2</sub>	0.12
Al <sub>2</sub> O <sub>3</sub>	0.07
Fe <sub>2</sub> O <sub>3</sub>	67.49
MnO	5.13
ZnO	0.17
PbO	25.95
MgO	1.62
BaO	0.03
Cl	0.00
Total	100.74

(1) Jakobsberg, Sweden; by electron microprobe, average of six analyses, all Mn as Mn<sup>2+</sup> from associated minerals, Fe<sup>2+</sup> absent by Mössbauer spectroscopy; corresponds to Pb<sub>2.04</sub>Mn<sub>1.27</sub><sup>2+</sup>Mg<sub>0.71</sub>Zn<sub>0.04</sub>Fe<sub>14.84</sub><sup>3+</sup>Si<sub>0.05</sub>Ti<sub>0.03</sub>Al<sub>0.02</sub>O<sub>27</sub>.

**Occurrence:** In a regionally metamorphosed lead-bearing Fe–Mn skarn deposit.

**Association:** Jacobsite, plumboferrite, hematite, phlogopite, andradite, calcite, hedyphane, barite, copper, cuprite, malachite, azurite.

**Distribution:** From Jakobsberg, Värmland, Sweden.

**Name:** For Dr. Bengt Lindqvist (1927–), formerly Senior Curator of the Swedish Museum of Natural History, Stockholm, Sweden.

**Type Material:** Swedish Museum of Natural History, Stockholm, Sweden, 38126; The Natural History Museum, London, England, 1992,375.

**References:** (1) Holtstam, D. and R. Norrestam (1993) Lindqvistite, Pb<sub>2</sub>MeFe<sub>16</sub>O<sub>27</sub>, a novel hexagonal ferrite mineral from Jakobsberg, Filipstad, Sweden. *Amer. Mineral.*, 78, 1304–1312.