

**Mogovidite**

**Crystal Data:** Hexagonal. *Point Group:* 3/m. As tabular crystals exhibiting  $10\bar{1}1$ ,  $\{01\bar{1}2\}$  and  $\{0001\}$ , to 2 cm.

**Physical Properties:** *Cleavage:* n.d. *Fracture:* Conchoidal. *Tenacity:* Brittle. *Hardness* = 5.5  
D(meas.) = 2.90(1) D(calc.) = 2.908

**Optical Properties:** Translucent. *Color:* Brown to reddish brown. *Streak:* White.  
*Luster:* Vitreous.

*Optical Class:* Uniaxial (-).  $\omega = 1.618(1)$   $\varepsilon = 1.611(2)$  *Pleochroism:* Weak, colorless to yellow.

**Cell Data:** *Space Group:* R3m.  $a = 14.232(3)$   $c = 30.210(3)$   $Z = \text{n.d.}$

**X-ray Powder Pattern:** Kovdor massif, Kola Peninsula, Russia.

3.213 (100), 2.977 (91), 2.859 (79), 3.027 (65), 4.31 (64), 2.703 (46), 2.595 (45)

Chemistry:	(1)		(1)
Na <sub>2</sub> O	9.78	SiO <sub>2</sub>	47.49
K <sub>2</sub> O	0.36	TiO <sub>2</sub>	0.23
CaO	18.03	ZrO <sub>2</sub>	11.90
MnO	0.68	Nb <sub>2</sub> O <sub>5</sub>	1.72
FeO	1.32	Cl	0.52
Fe <sub>2</sub> O <sub>3</sub>	3.78	H <sub>2</sub> O	1.25
La <sub>2</sub> O <sub>3</sub>	0.15	CO <sub>2</sub>	1.42
Ce <sub>2</sub> O <sub>3</sub>	0.28	<u>-O = Cl</u>	<u>0.12</u>
		Total	98.82

(1) Kovdor massif, Kola Peninsula, Russia; by electron microprobe analysis, IR and Mössbauer spectroscopy, and TGA; corresponding to Na<sub>9</sub>(Ca<sub>4.05</sub>Na<sub>0.87</sub>K<sub>0.24</sub>Ce<sub>0.06</sub>La<sub>0.03</sub>)<sub>Σ=5.25</sub>Ca<sub>6.00</sub>(Fe<sup>3+</sup><sub>1.48</sub>Fe<sup>2+</sup><sub>0.58</sub>)<sub>Σ=2.06</sub>Mn<sub>0.30</sub>(Zr<sub>3.02</sub>Ti<sub>0.09</sub>)<sub>Σ=3.11</sub>( $\Box$ ,Nb<sub>0.40</sub>)Si<sub>24.71</sub>O<sub>72</sub>(OH)<sub>2.86</sub>(CO<sub>3</sub>)<sub>1.03</sub>Cl<sub>0.46</sub>•0.74H<sub>2</sub>O.

**Mineral Group:** Eudialyte group, the CO<sub>3</sub>-dominant analog of feklischevite with vacancies dominant in the M3 structural site.

**Occurrence:** In a nepheline-pectolite vein within ijolite.

**Association:** Nepheline, pectolite, aegirine-augite, zircon, titanite, humite, andradite, scolecite, calcite.

**Distribution:** From the northern face of the iron-ore quarry at the 115 m horizon, Kovdor massif, Kola Peninsula, Russia.

**Name:** For the mountain, Mogo-Vid, near the locality from which the first specimens were collected.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, (3221/1; 3290/1).

**References:** (1) Chukanov, N.V., M.M. Moiseyev, R.K. Rastsvetayeva, K.A. Rozenberg, and A.E. Zadov (2005) Golyshvite (Na,Ca)<sub>10</sub>Ca<sub>9</sub>(Fe<sup>3+</sup>,Fe<sup>2+</sup>)<sub>2</sub>Zr<sub>3</sub>NbSi<sub>25</sub>O<sub>72</sub>(CO<sub>3</sub>)(OH)<sub>3</sub>•H<sub>2</sub>O, and mogovidite, Na<sub>9</sub>(Ca,Na)<sub>6</sub>Ca<sub>6</sub>(Fe<sup>3+</sup>,Fe<sup>2+</sup>)<sub>2</sub>Zr<sub>3</sub> $\Box$ Si<sub>25</sub>O<sub>72</sub>(CO<sub>3</sub>)(OH,H<sub>2</sub>O)<sub>4</sub>, new eudialyte-group minerals from calcium-rich agpaitic pegmatites of the Kovdor massif, Kola Peninsula. Zap.Ross. Mineral. Obshch., 134(6), 36-47 (in Russian with English abstract). (2) (2007) Amer. Mineral., 92, 1541 (abs. ref. 1).