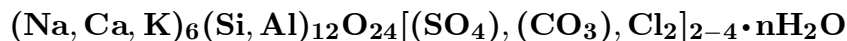


**Vishnevite**

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**Crystal Data:** Hexagonal. *Point Group:* 6. As prismatic crystals and irregular granular masses.**Physical Properties:** *Cleavage:* Perfect on  $\{10\bar{1}0\}$ , poor on  $\{0001\}$ . Hardness = 5–6  
D(meas.) = 2.32–2.42 D(calc.) = 2.37**Optical Properties:** Transparent to translucent. *Color:* Pale lilac, light blue to dark gray.  
*Optical Class:* Uniaxial (-).  $\omega = 1.490\text{--}1.507$   $\epsilon = 1.488\text{--}1.495$ **Cell Data:** *Space Group:*  $P6_3$ .  $a = 12.685(6)$   $c = 5.179(1)$   $Z = 1$ **X-ray Powder Pattern:** Russia.

3.273 (100), 3.695 (88), 2.769 (65), 4.742 (50), 2.649 (28), 2.101 (27), 6.4 (25)

<b>Chemistry:</b>	(1)	(2)	(1)	(2)
SiO <sub>2</sub>	37.24	34.76	K <sub>2</sub> O	4.89
Al <sub>2</sub> O <sub>3</sub>	29.64	30.81	H <sub>2</sub> O <sup>+</sup>	2.30
CaO	0.52	3.87	H <sub>2</sub> O <sup>-</sup>	0.20
SrO		0.32	CO <sub>2</sub>	1.90
Na <sub>2</sub> O	20.08	18.90	SO <sub>3</sub>	6.97
			Total	[99.34]
				100.28

(1) Vishnevny Mountains, Russia; by electron microprobe, original total given as 99.35%; corresponds to  $(\text{Na}_{6.47}\text{K}_{1.04}\text{Ca}_{0.09})_{\Sigma=7.60}(\text{Si}_{6.19}\text{Al}_{5.81})_{\Sigma=12.00}\text{O}_{24}(\text{SO}_4)_{0.87}$ . (2) Allt a' Mhuillin, Scotland; corresponds to  $(\text{Na}_{6.19}\text{Ca}_{0.70}\text{K}_{0.28}\text{Sr}_{0.03})_{\Sigma=7.20}(\text{Si}_{5.87}\text{Al}_{6.13})_{\Sigma=12.00}\text{O}_{23.71}[(\text{SO}_4)_{0.75}(\text{CO}_3)_{0.44}]_{\Sigma=1.19} \cdot 1.41\text{H}_2\text{O}$ .

**Mineral Group:** Cancrinite group.**Occurrence:** In poikilitic aegirine-nepheline-sodalite syenites and associated pegmatites.**Association:** Aegirine, nepheline, cancrinite, sodalite, scolecite.**Distribution:** From the Kurochkin Valley, Vishnevny-Ilmen Mountains, Southern Ural Mountains; on Mts. Karnasurt and Alluaiv and along the Chinglusuai River, Lovozero massif, and in the Kovdor massif, Kola Peninsula; the Synmyskii massif, north Pribaikal, and elsewhere in Russia. From Allt a' Mhuillin, Loch Borralan, Scotland. On Alnö Island, Sweden. In the Gardiner complex, beyond the head of Kangerdlugssuaq Fjord, Greenland. On the Oldoinyo Lengai volcano, Tanzania. Along Beaver Creek, Iron Hill, Gunnison Co., Colorado, USA.**Name:** For the locality in the Vishnevny Mountains, Russia.**Type Material:** n.d.

**References:** (1) Belyankin, D.S. (1931) Zur Mineralogie und Chemie eines Feldspatvertreterers aus der "Wischnewy Gory" [Vishnevny Mountains] (Ural). *Centr. Min., Abt. A*, 190–196 (in German). (2) (1931) *Mineral. Abs.*, 4, 499 (abs. ref. 1). (3) Stewart, F.H. (1941) On sulphatic cancrinite and analcime (eudnophite) from Loch Borolan, Assynt. *Mineral. Mag.*, 26, 1–8. (4) Belyankin, D.S. (1944) Vishnevite, and not sulphatic cancrinite. *Doklady Acad. Nauk SSSR*, 42, 304–306 (in Russian). (5) (1946) *Mineral. Abs.*, 9, 310 (abs. ref. 4). (6) Hassan, I. and H.D. Grundy (1984) The character of the cancrinite–vishnevite solid-solution series. *Can. Mineral.*, 22, 333–340. (7) Deer, W.A., R.A. Howie, and J. Zussman (1963) *Rock-forming minerals*, v. 4, framework silicates, 310–320. (8) Pushcharovskii, D.Y., N.A. Yamnova, and A.P. Khomyakov (1989) Crystal structure of high-potassium vishnevite. *Kristallografiya (Sov. Phys. Crystal.)*, 34, 67–70 (in Russian). (9) Sosedko, T.A., B.K. Kasatov, L.N. Furmakova, and E.A. Lipatova (1989) New data on cancrinite–vishnevite group minerals. *Zap. Vses. Mineral. Obshch.*, 118(5), 78–84 (in Russian with English abs.). (10) (1990) *Mineral. Abs.*, 41, 341 (abs. ref. 9).

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