

**Crystal Data:** Monoclinic. *Point Group:* 2/*m*. As the central parts (to 5 mm) of wodginite crystals, to several cm. *Twinning:* Polysynthetic, characteristic.

**Physical Properties:** *Fracture:* Uneven. Hardness = 5–6 VHN = 1010–1080, 1050 average (40 g load). D(meas.) = 7.5(2) D(calc.) = 7.74(1)

**Optical Properties:** Translucent. *Color:* Dark pink to red; grayish white in reflected light. *Streak:* Pale pink. *Luster:* Adamantine.

*Optical Class:* Biaxial. *Anisotropism:* Strong. *Birefractance:* Weak.

R<sub>1</sub>–R<sub>2</sub>: (486) 14.1–13.0, (553) 14.0–12.9, (589) 14.3–13.0, (656) 14.0–12.5

**Cell Data:** *Space Group:* C2/*c*. *a* = 9.441(3) *b* = 11.516(4) *c* = 5.062(2) β = 91.06(8)°  
Z = [4]

**X-ray Powder Pattern:** “Eastern Kazakhstan”.  
2.978 (100), 3.65 (82), 2.940 (59), 2.502 (38), 1.709 (32), 1.724 (24), 1.777 (20)

Chemistry:	(1)	(2)	(3)
Nb <sub>2</sub> O <sub>5</sub>	9.33	5.2	
Ta <sub>2</sub> O <sub>5</sub>	85.06	83.4	97.80
TiO <sub>2</sub>	0.00		
SnO <sub>2</sub>	1.66	4.6	
Fe <sub>2</sub> O <sub>3</sub>		0.1	
FeO	0.07	0.0	
MnO	2.02	4.6	
Li <sub>2</sub> O	1.76	1.21	2.20
Total	99.90	[99.1]	100.00

(1) “Eastern Kazakhstan”; by electron microprobe, average of several analyses; corresponding to (Li<sub>0.76</sub>Mn<sub>0.18</sub>Fe<sub>0.01</sub>)<sub>Σ=0.95</sub>(Ta<sub>2.47</sub>Nb<sub>0.45</sub>Sn<sub>0.07</sub>)<sub>Σ=2.99</sub>O<sub>8</sub>. (2) Tanco pegmatite, Canada; by electron microprobe, original total given as 99.3%; corresponds to (Li<sub>0.53</sub>Mn<sub>0.43</sub>Fe<sub>0.01</sub><sup>3+</sup>)<sub>Σ=0.97</sub>(Ta<sub>2.49</sub>Nb<sub>0.26</sub>Sn<sub>0.20</sub><sup>4+</sup>)<sub>Σ=2.95</sub>O<sub>8</sub>. (3) LiTa<sub>3</sub>O<sub>8</sub>.

**Mineral Group:** Wodginite group: Li<sub>A</sub> > 0.5; Ta<sub>B</sub> > 0.5.

**Occurrence:** In the albite zone of granite pegmatites.

**Association:** Wodginite, ixiolite, irtyshite, simpsonite.

**Distribution:** From the Ognevka and Yubileinoe tantalum deposits, Kalba Mountains, eastern Kazakhstan. In the Tanco pegmatite, Bernic Lake, Manitoba, Canada.

**Name:** For the dominant LITHium content and relation to *wodginite*.

**Type Material:** Mining Institute, St. Petersburg, 2052/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.

**References:** (1) Voloshin, A.V., Y.A. Pakhomovskii, and A.Y. Bakhchisaraytsev (1990) Lithiowodginite – a new mineral of the wodginite group from the granitic pegmatites of eastern Kazakhstan. *Mineral. Zhurnal*, 12(1), 94–100 (in Russian with English abs.). (2) (1991) *Amer. Mineral.*, 76, 667 (abs. ref. 1). (3) Ercit, T.S., P. Černý, and F.C. Hawthorne (1992) The wodginite group. III. Classification and new species. *Can. Mineral.*, 30, 633–638. (4) Ercit, T.S., F.C. Hawthorne and P. Černý (1992) The wodginite group. I. Structural crystallography. *Can. Mineral.*, 30, 597–611.