

**Crystal Data:** Monoclinic. *Point Group:* 2/m. As equant polygranular masses to 1.5 cm.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Irregular. Hardness = 5.5  
D(meas.) = n.d. D(calc.) = 6.285

**Optical Properties:** Opaque. *Color:* Black; light gray with a slight violet tint in reflected light.  
*Streak:* Black. *Luster:* Metallic.

*Optical Class:* n.d. Birefractance and anisotropy in air and oil are weak but noticeable.  
R<sub>1</sub>-R<sub>2</sub>: (470) 16.89-17.72 (5.26-5.76)<sub>oil</sub>, (546) 16.49-17.26 (4.98-5.32)<sub>oil</sub>,  
(589) 16.34-17.04 (4.97-5.26)<sub>oil</sub>, (650) 16.23-16.94 (4.86-5.19)<sub>oil</sub>.

**Cell Data:** *Space Group:* C2/c. *a* = 9.422(4) *b* = 11.427(3) *c* = 5.120(1) *β* = 90.12(4)° *Z* = 4

**X-ray Powder Pattern:** La Calandria pegmatite, Cañada del Puerto, Córdoba province, Argentina.  
2.964 (100), 1.711 (50), 3.630 (40), 2.493 (40), 1.735 (40), 1.4563 (40), 2.564 (35)

Chemistry:	(1)	(2)
WO <sub>3</sub>	2.41	
Nb <sub>2</sub> O <sub>5</sub>	30.18	63.65
Ta <sub>2</sub> O <sub>5</sub>	37.56	
TiO <sub>2</sub>	6.90	19.14
ZrO <sub>2</sub>	0.88	
SnO <sub>2</sub>	3.82	
Fe <sub>2</sub> O <sub>3</sub>	[4.35]	
FeO	[7.54]	17.21
MnO	5.14	
CaO	0.02	
UO <sub>2</sub>	0.38	
Total	99.18	100.00

(1) La Calandria pegmatite, Cañada del Puerto, Córdoba province, Argentina; average of 8 electron microprobe analyses, Fe<sub>2</sub>O<sub>3</sub>:FeO calculated for charge balance; corresponds to (Fe<sup>2+</sup><sub>2.21</sub>Mn<sub>1.52</sub>Fe<sup>3+</sup><sub>0.23</sub>U<sub>0.03</sub>Ca<sub>0.01</sub>)<sub>Σ=4.00</sub>(Ti<sub>1.82</sub>Fe<sup>3+</sup><sub>0.92</sub>Ta<sub>0.58</sub>Sn<sub>0.53</sub>Zr<sub>0.15</sub>)<sub>Σ=4.00</sub>(Nb<sub>4.78</sub>Ta<sub>3.00</sub>W<sub>0.22</sub>)<sub>Σ=8.00</sub>O<sub>32</sub>. (2) Fe<sup>2+</sup>TiNb<sub>2</sub>O<sub>8</sub>.

**Mineral Group:** Wodginite group.

**Occurrence:** In the intermediate zone of a topaz- and columbite-tantalite-bearing granitic pegmatite which is concordant with the schistosity of regional metasedimentary rocks.

**Association:** Ta-rich rutile, pyrochlore supergroup minerals, cassiterite, columbite-(Mn), ixiolite, traces of bismuth, topaz, triplite, microlite group minerals, Nb-Ta oxides, K-feldspar, quartz, albite.

**Distribution:** From La Calandria granitic pegmatite, Cañada del Puerto, Córdoba province, Argentina.

**Name:** For the type locality, the *Achala* granite batholith, Argentina.

**Type Material:** Geology and Mineralogy Museum, "Dr. Alfred Stelzner", National University of Córdoba, Argentina (3279).

**References:** (1) Galliski, M.A., M.F. Márquez-Zavalía, P. Černý, R. Lira, F. Colombo, A.C. Roberts, and H.-J. Bernhardt (2016) Achalaite, Fe<sup>2+</sup>TiNb<sub>2</sub>O<sub>8</sub>, a new member of the wodginite group from the La Calandria granitic pegmatite, Córdoba, Argentina. *Can. Mineral.*, 54(4), 1043-1052. (2) (2018) *Amer. Mineral.*, 103, 330-331 (abs. ref. 1).