Liguowuite WO_3

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As prisms, to 0.1 mm in diameter, that exhibit a triclinic pseudomorphism composed of nanoparticles to 200 μm with many cracks and nanovoids.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: Uneven.
Hardness = 3-4 D(meas.) = n.d. D(calc.) = 7.22 Nonfluorescent.

Optical Properties: Translucent. *Color*: Greenish yellow. *Streak*: White. *Luster*: Greasy.
Optical Class: n.d. *n*(calc.) = 2.24

Cell Data: *Space Group: P*2_1/*n*. a = 7.3258(2) b = 7.5477(2) c = 7.7113(2) β = 90.678(3)° Z = 8

X-Ray Diffraction Pattern: Nanyang village, Huaping County, Yunnan Province, China.
3.6590 (100), 3.8552 (88), 3.7685 (88), 2.6258 (60), 2.6928 (43), 1.8273 (32), 1.6455 (27)

Chemistry:

	(1)
K_2O	0.01
WO_3	99.23
TeO_2	0.03
CaO	0.06
Na_2O	0.04
Total	99.37

(1) Nanyang village, Huaping County, Yunnan Province, Panzhihua-Xichang region, China; average electron microprobe analysis supplemented by IR and Raman spectroscopy; corresponds to $W_{1.00}O_3$.

Mineral Group: Perovskite supergroup.

Occurrence: Rare in heavy mineral concentrates from hydrothermally (high temperature) altered biotite-quartz monzonite.

Association: Hornblende, pargasite, ferro-hornblende, annite, hydrobiotite, phlogopite, orthoclase, microcline, albite, quartz, kaolinite, ilmenite, goethite, hematite, magnetite, pyrite, zircon, zoisite, titanite, epidote, diopside, tourmaline, almandine, fluorapatite, monazite-(Ce), allanite-(Ce), bastnäsite-(Ce), xenotime-(Y), scheelite, moissanite, tellurite, wumuite, tewite.

Distribution: From Nanyang village, Huaping County, Yunnan Province, Panzhihua-Xichang region, China.

Name: Honors *Li Guowu* (b. 1964) for his contributions to mineralogical research in this region, including the descriptions of tewite and wumuite.

Type Material: Geological Museum of China (M16121) and the Crystal Structure Laboratory, China University of Geosciences, Beijing, People's Republic of China (NY-5-3Z).

References: (1) Xue, Y., N. Sun, H. He, A. Chen, and Y. Yang (2022) Liguowuite, WO_3, a new member of the A-site vacant perovskite type minerals from the Panzhihua-Xichang region, China. Eur. J. Mineral., 34, 95-108.