Jingwenite-(Y) $YAlV^{4+}(SiO_4)O_2(OH)_2$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. Aggregates to 280 μm are comprised of platy and columnar crystals to 30 μm.

Physical Properties: *Cleavage*: n.d. *Tenacity*: n.d. *Fracture*: n.d. Hardness = 4.5-5
D(meas.) = n.d. D(calc.) = 4.475

Optical Properties: [Translucent.] *Color*: Light brown. *Streak*: Yellowish gray. *Luster*: Vitreous.
Optical Class: Biaxial (+). $\alpha = 1.92(4)$ $\beta = 1.95(2)$ $\gamma = 1.99(3)$ 2V(calc.) = 83°
Dispersion: Medium, $r < v$. *Pleochroism*: *X* = light brown, *Y* = brown, *Z* = dark brown.

Cell Data: *Space Group: I*2/*a*. $a = 9.4821(2)$ $b = 5.8781(1)$ $c = 19.3987(4)$ $\beta = 90.165(2)°$ Z = 4

X-Ray Diffraction Pattern: Yushui Cu polymetallic deposit, Guangdong Province, China.
2.676 (100), 2.582 (95), 2.049 (82), 5.011 (62), 9.73 (58), 3.216 (51), 4.274 (36)

Chemistry:

	(1)		(1)
SiO_2	16.45	Tb_2O_3	0.32
Al_2O_3	10.85	Dy_2O_3	3.25
Fe_2O_3	0.89	Ho_2O_3	0.83
VO_2	[26.13]	Er_2O_3	3.55
TiO_2	1.83	Tm_2O_3	0.6
Y_2O_3	24.67	Yb_2O_3	3.99
Nd_2O_3	0.03	Lu_2O_3	2.4
Sm_2O_3	0.1	H_2O	[4.65]
Gd_2O_3	0.69	Total	101.23

(1) Yushui Cu polymetallic deposit, Guangdong Province, China; average electron microprobe, Raman, and LA-MC-ICP-MS analyses; H_2O calculated and VO_2 recalculated for V_2O_3 from stoichiometry; corresponds to $(Y_{1.54}Yb_{0.14}Er_{0.14}Dy_{0.12}Lu_{0.08}Ho_{0.04}Gd_{0.02}Tm_{0.02}Tb_{0.02})_{\Sigma=2.12}(Al_{1.5}V_{0.38}Fe_{0.08})_{\Sigma=1.96}(V_{1.84}Ti_{0.16})_{\Sigma=2.00}(SiO_4)_{1.94}O_{4.6}(OH)_{3.64}$.

Occurrence: Abundant in a sediment-hosted, stratiform, copper deposit. HREEs and V likely from leaching of abundant heavy minerals in the footwall red sandstone by oxidized basinal brines.

Association: Bornite, chalcopyrite, galena, xenotime-(Y), nolanite, thortveitite, roscoelite, barite, quartz.

Distribution: From the Yushui Cu polymetallic deposit, ~16 km northeast of Meizhou City, Guangdong Province, China.

Name: Honors *Jingwen* Mao (b. 1956), a leading Chinese economic geologist at the China University of Geosciences, Beijing. The suffix identifies the dominant rare earth element.

Type Material: Geological Museum of China, Beijing, People's Republic of China (M16122).

References: (1) Liu, P., X. Gu, W. Zhang, H. Hu, X. Chen, X. Wang, W. Song, M. Yu, and N.J. Cook (2023) Jingwenite-(Y) from the Yushui Cu deposit, South China: The first occurrence of a V-HREE-bearing silicate mineral. Amer. Mineral., 108(1), 192-196.