Pararaisaite $Cu^{2+}Mg[Te^{6+}O_4(OH)_2]\cdot 6H_2O$

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As striated, prismatic crystals to 0.4 mm elongated along [010] and displaying {100}, {001}, {102}, {102}, and {114}.

Physical Properties: *Cleavage*: Perfect on {001}, good on {100}. *Fracture*: Splintery. *Tenacity*: Brittle. Hardness = 2.5 D(meas.) = 2.85(2) D(calc.) = 2.851

Optical Properties: Transparent. *Color*: Blue. *Streak*: White. *Luster*: Vitreous. *Optical Class*: Biaxial (+). α = 1.600(2) β = 1.616(2) γ = 1.713(3) 2V(meas.) = 47(1)° 2V(calc.) = 46.3° *Orientation*: $Z = b$, $X \approx a$, $Y \approx c$. *Pleochroism*: X = very pale purple, Y = purple, Z = blue-green. *Absorption:* $X << Y < Z$. *Dispersion*: $r > v$, weak.

Cell Data: Space Group: $P2_1/c$. a = 9.6838(5) b = 5.75175(19) c = 17.6339(12) β = 90.553(6)° Z = 4

X-ray Powder Pattern: North Star mine, Mammoth, Tintic district, Juab County, Utah, USA. 8.77 (100), 4.248 (85), 4.824 (71), 2.419 (50), 1.8929 (48), 4.392 (43), 2.733 (39)

Chemistry:

	(1)	(2)
MgO	11.14	9.56
CuO	18.59	18.87
Sb_2O_5	0.26	
TeO_3	42.55	41.65
H_2O	[31.97]	29.91
Total	104.51	100.00

(1) North Star mine, Mammoth, Tintic district, Juab County, Utah, USA; average of 4 electron microprobe analyses supplemented by Raman spectroscopy, H_2O calculated from structure; corresponds to $(Mg_{1.01}Cu^{2+}_{0.93}Te^{6+}_{0.96}Sb^{5+}_{0.01})_{\Sigma=3.00}O_{12}H_{14.12}$. (2) $Cu^{2+}Mg[Te^{6+}O_4(OH)_2]\cdot 6H_2O$.

Polymorphism & Series: Dimorph of raisaite.

Occurrence: An oxidation-zone mineral in a hydrothermal polymetallic Au-Ag-Cu-Pb vein deposit in contact-metamorphosed dolomite.

Association: Barite, goldfieldite, malachite, quartz.

Distribution: From the North Star mine, Mammoth, Tintic district, Juab County, Utah, USA.

Name: The Greek "*para*" for "near" and the relation to its *C*2/*c* dimorph *raisaite*.

Type Material: National History Museum of Los Angeles County, Los Angeles, California, USA (67272).

References: (1) Kampf, A.R., R.M. Housley, and G.R. Rossman (2018) Pararaisaite, the dimorph of raisaite, from the North Star Mine, Tintic, Utah, USA. Can. Mineral., 56(5), 811-820. (2) (2020) Amer. Mineral., 105, 1115 (abs. ref. 1).