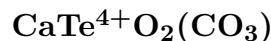


Mroseite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals may show poorly developed {100}, with elongation parallel [001], very small, commonly with a crude radiating structure; typically massive.

Physical Properties: Hardness = ~ 4 D(meas.) = 4.35 D(calc.) = 4.171

Optical Properties: Semitransparent. *Color:* Colorless to white. *Streak:* White. *Luster:* Adamantine.

Optical Class: Biaxial (-). *Orientation:* $X = a$; $Y = c$; $Z = b$. *Dispersion:* $r \ll v$. $\alpha = 1.79$
 $\beta = 1.85$ $\gamma = 1.89$ $2V(\text{meas.}) = 74^\circ$

Cell Data: *Space Group:* $Pbca$. $a = 6.988(15)$ $b = 11.201(10)$ $c = 10.566(10)$ $Z = 8$

X-ray Powder Pattern: Moctezuma mine, Mexico.

3.14 (10), 5.14 (9), 4.20 (8), 1.97 (8), 3.35 (7), 3.02 (7), 2.39 (7)

Chemistry:

	(1)	(2)
TeO ₂	61.3	61.46
CO ₂	16.8	16.95
CaO	22.4	21.59
<hr/>		
Total	100.5	100.00

(1) Moctezuma mine, Mexico; by neutron activation, CO₂ by TGA; corresponds to Ca_{1.03}Te_{0.99}O_{2.00}(C_{0.99}O₃). (2) CaTeO₂(CO₃).

Occurrence: Very rare in a hydrothermal Au–Te deposit (Moctezuma mine, Mexico).

Association: Spiroffite, tellurium, tellurite, denningite, zemannite, quartz (Moctezuma mine, Mexico); oboyerite, choloalite, gold (Tombstone, Arizona, USA).

Distribution: From the Moctezuma (Bambolla) mine, 12 km south of Moctezuma, Sonora, Mexico. In the Tombstone Exploration open pit, Tombstone, Cochise Co., Arizona, USA.

Name: To honor Mary Emma Mrose (1910–2003), American mineralogist, U.S. Geological Survey, Washington, D.C.

Type Material: Royal Ontario Museum, Toronto, Canada, M33757.

References: (1) Mandarino, J.A., R.S. Mitchell, and R.G.V. Hancock (1975) Mroseite, a calcium tellurite-carbonate from Moctezuma, Sonora, Mexico. *Can. Mineral.*, 13, 286–288. (2) (1976) *Amer. Mineral.*, 61, 339 (abs. ref. 1). (3) Fischer, R., F. Pertlik, and J. Zemmann (1975) The crystal structure of mroseite, CaTeO₂(CO₃). *Can. Mineral.*, 13, 383–387.