

**Crystal Data:** Monoclinic. *Point Group:*  $2/m$ . As prismatic crystals elongated along [010], flattened on  $\{\bar{1}01\}$  and striated  $\parallel$  [010], with complex development of over 20 forms, to 1 mm.

**Physical Properties:** *Cleavage:* Perfect on  $\{\bar{1}01\}$ . *Hardness* = 3 *D*(meas.) = 4.17 *D*(calc.) = [4.16] *Soluble* in H<sub>2</sub>O, leaving a residue.

**Optical Properties:** Translucent to opaque. *Color:* Chestnut-brown to dark brown and nearly black; yellow-brown in transmitted light. *Streak:* Yellowish brown.

*Optical Class:* Biaxial (+). *Pleochroism:* *X* = deep brown; *Y* = brownish yellow; *Z* = lemon-yellow. *Orientation:* *Y* = *b*;  $Z \wedge c = -10^\circ$ . *Dispersion:*  $r > v$ , very strong, crossed.  $\alpha = 1.715$   $\beta = 1.820$   $\gamma = 1.880$   $2V$ (meas.) =  $85^\circ$

**Cell Data:** *Space Group:*  $C2/m$  (synthetic).  $a = 9.370(1)$   $b = 6.319(1)$   $c = 7.639(1)$   $\beta = 122.34(1)^\circ$   $Z = 4$

**X-ray Powder Pattern:** Vesuvius, Italy.

3.623 (100), 6.443 (50), 2.615 (42), 2.256 (30), 2.776 (21), 2.546 (18), 2.028 (13)

**Chemistry:**

	(1)	(2)
SO <sub>3</sub>	33.94	33.48
CuO	66.06	66.52
Total	[100.00]	100.00

(1) Vesuvius, Italy; recalculated to 100% from an original total of 98.69%; corresponds to Cu<sub>1.98</sub>O<sub>0.98</sub>(SO<sub>4</sub>)<sub>1.01</sub>. (2) Cu<sub>2</sub>O(SO<sub>4</sub>).

**Occurrence:** A rare volcanic sublimate.

**Association:** Chalcocyanite, euchlorine, eriochalcite (Vesuvius, Italy); chalcocyanite, euchlorine, eriochalcite, vergasovaite, fedotovite, melanothallite, piypite, ponomarevite, cotunnite, sofiite, halite, sylvite, tenorite, cuprian anglesite, gold (Tolbachik volcano, Russia).

**Distribution:** On Vesuvius, Campania, Italy. At the Tolbachik fissure volcano, Kamchatka Peninsula, Russia.

**Name:** From the Greek for *fallacious* and *to appear*, in allusion to a physical appearance nonsuggestive of the composition.

**Type Material:** Natural History Museum, Paris, France, 71.124.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 551–553. (2) Mrose, M.E. (1961) Vernadskite discredited; pseudomorphs of antlerite after dolerophanite. *Amer. Mineral.*, 46, 146–154. (3) Effenberger, H. (1985) Cu<sub>2</sub>O(SO<sub>4</sub>), dolerophanite: refinement of the crystal structure, with a comparison of [OCu(II)<sub>4</sub>] tetrahedra in inorganic compounds. *Monatsh. Chem.*, 116, 927–931.