

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 H₂O, 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° . *Dispersion:* *r* > *v*, very strong, crossed. $\alpha = 1.715$ $\beta = 1.820$ $\gamma = 1.880$ $2V$ (meas.) = 85°

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 ₃	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_{1.98}O_{0.98}(SO₄)_{1.01}. (2) Cu₂O(SO₄).

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) Cu₂O(SO₄), dolerophanite: refinement of the crystal structure, with a comparison of [OCu(II)₄] tetrahedra in inorganic compounds. *Monatsh. Chem.*, 116, 927–931.