

Crystal Data: Monoclinic. *Point Group:* 2/m. As grains to 300 μm.

Physical Properties: *Cleavage:* None. *Fracture:* Irregular. *Tenacity:* Brittle.
Hardness = 2.5-3 VHN = 70 (25 g load). D(meas.) = n.d. D(calc.) = 5.313

Optical Properties: Transparent to opaque. *Color:* Red. *Streak:* Orange-red.
Luster: Adamantine to metallic.

Optical Class: n.d. *Pleochroism:* Weak, light gray to slightly bluish gray.

Anisotropism: Weak, grayish to light blue.

R₁-R₂: (471.1) 27.6-31.7, (548.3) 22.8-26.1, (586.6) 21.5-24.5, (652.3) 19.4-22.3

Cell Data: *Space Group:* C2/c. *a* = 11.8643(3) *b* = 6.2338(1) *c* = 16.6785(4) *β* = 110.842(3)°
Z = 8

X-ray Powder Pattern: Lengenbach quarry, Binn Valley, Valais, Switzerland.
2.941 (100), 2.776 (80), 3.336 (70), 2.134 (50), 2.677 (40), 2.084 (40), 2.076 (40)

Chemistry:	(1)	(2)
Ag	52.08	47.90
Cu	11.18	14.11
Pb	0.04	
Sb	0.29	
As	15.28	16.63
S	20.73	21.36
Total	99.60	100.00

(1) Lengenbach quarry, Binn Valley, Valais, Switzerland; average of 5 electron microprobe analyses; corresponding to Ag_{2.24}Cu_{0.82}As_{0.94}Sb_{0.01}S_{2.99}. (2) Ag₂CuAsS₃.

Occurrence: In massive to interstitial sulfosalt accumulations in dolostones metamorphosed to upper greenschist to lower amphibolite facies.

Association: Realgar, sinnerite, hatchite, trechmannite, smithite, dolomite.

Distribution: From the Lengenbach quarry, Binn Valley, Valais, Switzerland.

Name: Honors Markus Ecker (b. 1966), an expert on the minerals of Lengenbach quarry.

Type Material: Natural History Museum, University of Florence, Italy (3144/I) and the Natural History Museum, University of Basil, Switzerland (S169).

References: (1) Bindi, L., F. Nestola, S. Graeser, P. Tropper, and T. Raber (2015) Eckerite, Ag₂CuAsS₃, a new Cu-bearing sulfosalt from Lengenbach quarry, Binn Valley, Switzerland: description and crystal structure. *Mineral. Mag.*, 79(3), 687-694. (2) (2016) *Amer. Mineral.*, 101, 1491 (abs. ref. 1).