Agmantinite Ag_2MnSnS_4

Crystal Data: Orthorhombic. *Point Group*: *mm*2. As striated prismatic crystals to 100 μm.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: n.d.
Hardness = 2-2.5 (by analogy to similar compounds) D(meas.) = n.d. D(calc.) = 4.608

Optical Properties: Translucent *Color*: Orange-red, grayish white with red internal reflections in reflected light. *Streak*: Red. *Luster*: Adamantine.
Optical Class: *Bireflectance*: Weak. *Anisotropism*: Weak, reddish brown to greenish.
Pleochroism: None.
R_1-R_2: (470) 19.7-22.0, (546) 20.5-23.2, (589) 21.7-2.49, (650) 20.6-23.6

Cell Data: *Space Group*: $P2_1nm$. a = 6.632(2) b = 6.922(2) c = 8.156(2) Z = 2

X-ray Powder Pattern: Uchucchacua deposit, Oyon district, Catajambo, Lima Department, Peru.
3.11 (vs), 3.51 (s), 2.04b (m), 1.88 (m), 1.73 (m), 3.32 (w), 2.42 (w)

Chemistry:

	(1)
Ag	40.87
Cu	0.42
Mn	10.53
Zn	0.62
Sn	22.56
S	25.25
Total	100.25

(1) Uchucchacua deposit, Oyon district, Catajambo, Lima Department, Peru; average electron microprobe analysis; corresponds to $(Ag_{1.94}Cu_{0.03})_{\Sigma=1.97}(Mn_{0.98}Zn_{0.05})_{\Sigma=1.03}Sn_{0.97}S_{4.03}$.

Occurrence: In the alabandite zone of a polymetallic hydrothermal mineral deposit.

Association: Calcite, quartz, manganoquadratite, alabandite, proustite, probable kutnohorite, sphalerite, Pb-Sb-As-S minerals.

Distribution: From the Uchucchacua deposit, Oyon district, Catajambo, Lima Department, Peru.

Name: For its composition, *Ag* for silver, *man* for manganese, and *tin*.

Type Material: Natural History Museum, Vienna, Austria (N9736).

References: (1) Keutsch, F.N., D. Topa, F.T. Fredrickson, E. Makovicky, and W.H. Paar (2019) Agmantinite, Ag_2MnSnS_4, a new mineral with a wurtzite derivative structure from the Uchucchacua polymetallic deposit, Lima Department, Peru. Mineral. Mag, 83, 233-238.