Anorpiment As_2S_3

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As drusy crusts of wedge-shaped crystals, to 0.2 mm, exhibiting {010}, {110}, {$\bar{1}$ 10},{001}, {021} and {0$\bar{2}$ 1}.

Physical Properties: *Cleavage:* Perfect and easy on {001}. *Fracture:* Irregular.
Tenacity: Sectile. Hardness = 1.5 D(meas.) = 3.33 D(calc.) = 3.346

Optical Properties: Transparent. *Color:* Greenish-yellow. *Streak:* Yellow.
Luster: Resinous on crystal faces, pearly on cleavage surfaces.
Optical Class: Biaxial (-). $n > 2$ 2V = 35–40° *Orientation:* Acute bisectrix (*X*) is approximately perpendicular to the {001} cleavage. *Dispersion:* None. *Pleochroism*: None.

Cell Data: *Space Group: P*$\bar{1}$. $a = 5.7577(2)$ $b = 8.7169(3)$ $c = 10.2682(7)$ $\alpha = 78.152(7)°$ $\beta = 75.817(7)°$ $\gamma = 89.861(6)°$ $Z = 4$

X-ray Powder Pattern: Palomo mine, Castrovirreyna Province, Huancavelica Department, Peru. 2.552 (100), 4.867 (97), 2.469 (96), 3.609 (82), 4.519 (77), 2.880 (75), 3.702 (46)

Chemistry:

	(1)	(2)
As	58.21	60.91
S	38.72	39.09
Total	96.94	100.00

(1) Palomo mine, Castrovirreyna Province, Huancavelica Department, Peru; average of 4 electron microprobe analyses, corresponding to $As_{1.96}S_{3.04}$. (2) As_2S_3.

Polymorphism & Series: Dimorphous with orpiment.

Occurrence: A very low-temperature hydrothermal mineral.

Association: Dufrénoysite, muscovite, orpiment, pyrite, realgar.

Distribution: At the Palomo mine, Castrovirreyna Province, Huancavelica Department, Peru.

Name: Alludes to the mineral's triclinic (*an*orthic) symmetry and dimorphous relation to *orpiment*.

Type Material: Natural History Museum of Los Angeles County, USA, # 63514 & 63544; Mineral Museum of the University of Arizona, Tucson, USA, #19326.

References: (1) Kampf, A.R., R.T. Downs, R.M. Housley, R.A. Jenkins, and J. Hyršl (2011) Anorpiment, As_2S_3, the triclinic dimorph of orpiment. Mineral. Mag,, 75(6), 2857–2867. (2) (2013) Amer. Mineral., 98, 1078 (abs. ref. 1).