Clinometaborite β-HBO_2

Crystal Data: Monoclinic. *Point Group*: 2/*m*. As prismatic crystals comprised of fibrous individuals and most likely pseudomorphic, in aggregates to 2 mm.

Physical Properties: *Cleavage*: One perfect set. *Fracture*: n.d. *Tenacity*: Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 2.049

Optical Properties: Translucent. *Color*: Colorless (chalky white after exposure to open air and it's transformation into orthoboric acid). *Streak*: n.d. *Luster*: Vitreous. *Optical Class: B*iaxial (–). α = 1.434 β = 1.570 γ = 1.588 (for synthetic material)

Cell Data: *Space Group*: $P2_1/a$. a = 7.127(2) b = 8.842(3) c = 6.773(2) β = 93.21(1)° Z = 12

X-ray Powder Pattern: La Fossa crater, Vulcano Island, Aeolian archipelago, Sicily, Italy. 3.078 (100), 4.193 (20), 6.773 (15), 2.550 (10), 3.224 (8), 2.702 (8), 2.518 (7)

Chemistry:
(1) La Fossa crater, Vulcano Island, Aeolian archipelago, Sicily, Italy; electron microprobe analyses did not detect any elements of atomic number greater than 11, BO_2^- confirmed by IR spectroscopy. Species identify based on XRD pattern and crystal structure refinement.

Occurrence: Found as a sublimate in an active fumarole (~250 °C) in a volcanic crater.

Association: Metaborite, sassolite, adranosite.

Distribution: La Fossa crater, Vulcano Island, Aeolian archipelago, Sicily, Italy.

Name: Named for its mono*clinic* symmetry and compositional identity with *metaborite*.

Type Material: Reference Collection, Department of Inorganic Structural and Stereochemistry, University of Milan, Italy (2010–03).

References: (1) Demartin, F., C.M. Gramaccioli, and I. Campostrini (2011) Clinometaborite, natural β-metaboric acid, from La Fossa crater, Vulcano, Aeolian Islands, Italy. Canadian Mineralogist, 49, 1273-1279. (2) (2014) Amer. Mineral., 99, 870 (abs. ref. 1).