

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As prismatic crystals elongated along [100], to 200 μm .

Physical Properties: *Cleavage:* None. *Fracture:* n.d. *Tenacity:* Brittle. *Hardness* = n.d.
D(meas.) = n.d. D(calc.) = 5.911

Optical Properties: Transparent. *Color:* Colorless to white, pale brown. *Streak:* White.
Luster: Vitreous.
Optical Class: n.d. $n(\text{calc.}) = 2.09$

Cell Data: *Space Group:* $P\bar{1}$. $a = 6.7386(3)$ $b = 11.1844(5)$ $c = 14.1754(7)$ $\alpha = 80.082(2)^\circ$
 $\beta = 88.462(2)^\circ$ $\gamma = 89.517(2)^\circ$ $Z = 6$

X-ray Powder Pattern: La Fossa crater, Vulcano, Aeolian Islands, Italy.
3.146 (100), 3.486 (21), 3.409 (12), 3.366 (7), 5.562 (4), 5.433 (4), 1.856 (4)

Chemistry:	(1)	(2)
Bi ₂ O ₃	68.68	74.43
SO ₃	23.73	25.57
Total	94.41	100.00

(1) La Fossa crater, Vulcano, Aeolian Islands, Italy; average of 10 electron microprobe analyses; corresponding to Bi_{1.99}S₂O₉. (2) Bi₂O(SO₄)₂.

Occurrence: A high-temperature (600 °C) sublimate at an active volcanic fumarole.

Association: Anglesite, leguernite, lillianite, galenobismutite, bismoclite, Cd-sphalerite, wurtzite, pyrite, pyrrhotite.

Distribution: From La Fossa crater, Vulcano, Aeolian Islands, Italy.

Name: Honors Tonci Balić-Žunić (b. 1952), Professor of Mineralogy, Natural History Museum, University of Copenhagen, Denmark, for his contributions to crystal structure determination by single-crystal and powder techniques and to the theoretical crystal chemistry of minerals.

Type Material: C.L. Garavelli Museum, Department of Earth Sciences and Geoenvironment, University of Bari, Italy (17/nm-V28).

References: (1) Pinto, D., A. Garavelli, and D. Mitolo (2014) Bi₂O(SO₄)₂, a new fumarole mineral from La Fossa crater, Vulcano, Aeolian Islands, Italy. *Mineral. Mag.*, 78(4), 1043-1055.
(2) (2016) *Amer. Mineral.*, 101, 1240 (abs. ref. 1). (3) Pinto, D., A. Garavelli, and T. Balić-Žunić (2015) The crystal structure of baličžunićite, Bi₂O(SO₄)₂, a new natural bismuth oxide sulfate. *Mineral. Mag.*, 79(3), 597-611.