

Tetrarooseveltite

β -Bi(AsO₄)

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Crystal Data: Tetragonal. *Point Group:* $4/m$. As indistinct crystals, to 50 μm , in powdery aggregates.

Physical Properties: Hardness = 2.5 D(meas.) = n.d. D(calc.) = 7.64

Optical Properties: Semitransparent. *Color:* White to pale yellowish. *Luster:* Earthy. *Optical Class:* Uniaxial (+). $n = 2.20(5)$

Cell Data: *Space Group:* $I4_1/a$ (synthetic). $a = 5.085(5)$ $c = 11.69(2)$ $Z = 4$

X-ray Powder Pattern: Moldava fluorite mine, Czech Republic. 3.066 (100), 1.933 (55), 1.551 (17), 2.546 (12), 4.660 (11), 1.797 (11), 1.581 (10)

Chemistry:	(1)	(2)
P ₂ O ₅	0.02	
As ₂ O ₅	33.02	33.03
Bi ₂ O ₃	66.96	66.97
Total	100.00	100.00

(1) Moldava fluorite mine, Czech Republic; average of six analyses. (2) Bi(AsO₄).

Polymorphism & Series: Dimorphous with rooseveltite.

Occurrence: A rare secondary mineral in vugs in an oxidized fluorite–barite–quartz vein.

Association: Bayldonite, malachite, mimetite, fluorite, quartz.

Distribution: In the Moldava fluorite mine, about 20 km northwest of Teplice, Krušné hory Mountains, Czech Republic.

Name: As the *tetragonal* dimorph of *rooseveltite*.

Type Material: Národní Museum, Prague, Czech Republic, P1N 84 563.

References: (1) Sejkora, J. and T. Řídkošil (1994) Tetrarooseveltite, β -Bi(AsO₄), a new mineral species from Moldava deposit, the Krušné hory Mts., northwestern Bohemia, Czech Republic. *Neues Jahrb. Mineral., Monatsh.*, 179–184. (2) (1994) *Amer. Mineral.*, 79, 1210–1211 (abs. ref. 1). (3) Mooney, R.C.L. (1948) Crystal structure of tetragonal bismuth arsenate. *Acta Cryst.*, 1, 163–165.