

Crystal Data: Orthorhombic. *Point Group:* 222, *mm*2, or 2/*m* 2/*m* 2/*m*. Crystals are typically pseudohexagonal plates, showing {001}, {110}, {010}, {140}, rare {232}, {234}, {236}, to 2 mm. *Twinning:* Penetration twins on {120} mimic hexagonal symmetry.

Physical Properties: Hardness = n.d. VHN = ~41 (15 g load). D(meas.) = n.d. D(calc.) = 5.20

Optical Properties: Opaque. *Color:* In polished section, creamy white. *Luster:* Metallic. *Pleochroism:* Strong. *Anisotropism:* Strong; in gray-violet tints.

R₁–R₂: (400) 23.5–28.7, (420) 24.5–30.3, (440) 25.5–31.9, (460) 25.8–32.4, (480) 25.4–32.0, (500) 24.6–31.3, (520) 24.3–31.0, (540) 24.2–31.0, (560) 24.4–31.4, (580) 24.6–32.2, (600) 25.2–33.1, (620) 25.7–33.8, (640) 26.5–34.7, (660) 27.3–35.6, (680) 28.2–36.6, (700) 29.2–37.6

Cell Data: *Space Group:* C222, C*mm*2, A*mm*2, or C*mmm*. *a* = 5.40(2) *b* = 10.72(5) *c* = 9.04(4) *Z* = 4

X-ray Powder Pattern: Alšar, Macedonia.

2.912 (100), 4.26 (90), 3.80 (70), 3.33 (70), 5.40 (50), 4.53 (50), 2.556 (50)

Chemistry:	(1)	(2)	(3)
Tl	46.8	47.8	49.57
Pb	2.8	1.9	
Fe	28.6	28.2	27.09
S	24.1	23.9	23.34
Total	102.3	101.8	100.00

(1) Alšar, Macedonia; by electron microprobe, corresponding to (Tl_{0.91}Pb_{0.05})_{Σ=0.96}Fe_{2.04}S_{3.00}.
 (2) Do.; (Tl_{0.93}Pb_{0.04})_{Σ=0.97}Fe_{2.03}S_{3.00}. (3) TlFe₂S₃.

Occurrence: In a hydrothermal ore deposit with other arsenic and thallium minerals.

Association: Realgar, lorandite, raguinite, pyrite.

Distribution: From Alšar (Allchar), near Rošden, Macedonia [TL].

Name: In honor of Paul Picot (1931–), French mineralogist with the B.R.G.M., Orléans, France.

Type Material: National School of Mines, Paris, France; The Natural History Museum, London, England, 1983,703.

References: (1) Johan, Z., R. Pierrot, H.-J. Schubnel, and F. Permingeat (1970) La picotpaulite, TlFe₂S₃, une nouvelle espèce minérale. Bull. Soc. fr. Minéral., 93, 545–549 (in French with English abs.). (2) (1972) Amer. Mineral., 57, 1909 (abs. ref. 1).