

Crystal Data: Monoclinic. *Point Group:* 2/m. As tiny bladed crystals elongated parallel to [010]; typically intergrown with homologous species, and massive.

Physical Properties: *Cleavage:* Indistinct. Hardness = 2 VHN = 188 (50 g load). D(meas.) = 6.8 (synthetic). D(calc.) = [6.80]

Optical Properties: Opaque. *Color:* Lead-gray to tin-white; in polished section, white.

Luster: Metallic. *Pleochroism:* Strong, gray-pink-white and blue-gray-white in oil.

Anisotropism: Strong, in pale to intense blue and light tan to brown.

R₁–R₂: (400) 46.3–50.7, (420) 46.1–50.5, (440) 45.9–50.3, (460) 45.6–50.0, (480) 45.3–49.8, (500) 45.0–49.5, (520) 44.5–49.0, (540) 44.0–48.4, (560) 43.4–47.8, (580) 42.9–47.3, (600) 42.5–47.0, (620) 42.2–46.7, (640) 42.0–46.4, (660) 41.9–46.2, (680) 41.7–46.0, (700) 41.6–45.8

Cell Data: *Space Group:* C2/m. *a* = 13.35 *b* = 4.03 *c* = 16.34 β = 94.5° *Z* = 4

X-ray Powder Pattern: Synthetic AgBi₃S₅ (easily confused with benjaminite). 2.858 (100), 3.59 (90), 3.38 (80), 3.46 (40), 5.45 (35), 2.259 (35), 4.08 (30)

Chemistry:	(1)	(2)	(1)	(2)
Ag	11.1	12.05	Bi	64.5
Cu	1.7		S	18.3
Pb	3.5			17.91
			Total	99.1
				100.00

(1) Porvenir mine, Bolivia; by electron microprobe, corresponding to (Ag_{0.90}Cu_{0.23})_{Σ=1.13} (Bi_{2.70}Pb_{0.15})_{Σ=2.85}S_{5.00}. (3) AgBi₃S₅.

Occurrence: In hydrothermal base-metal sulfide vein deposits.

Association: Cupropavonite, bismuthinite, chalcopyrite, aikinite, hodrušhite.

Distribution: In Bolivia, from the Porvenir [TL] and Bolivar mines, Cerro Bonete, about 75 km south-southwest of Esmoraca, Potosí. In the Pirquitas deposit, Riconada Department, Jujuy Province, Argentina. In the USA, in Colorado, in the Silver Bell mine, Red Mountain, Ouray Co.; at the Old Lout, Gladiator, and Alaska mines, Poughkeepsie Gulch, near Ouray, San Juan Co.; and at several other minor occurrences. In Nevada, at Manhattan, and from the Outlaw mine, Round Mountain district, Nye Co., and Pioche, Lincoln Co.; and in the Apache Hills mine, southeast of Hachita, Grant Co., New Mexico. In Canada, in the Keeley mine, South Lorrain Township, Ontario. From Portugal, at Panasqueira and in the Vale das Gatas tungsten mine, near Vila Real. From the Waschgang Au–Cu deposit, Goldberg Mountains, Upper Carinthia, Austria. At the Ikuno mine, Hyogo Prefecture, Japan. From the Shanhu W–Sn deposit, Guangxi Province, China.

Name: From the Latin *pavo*, *peacock*, honoring Professor Martin Alfred Peacock (1898–1950), Canadian mineralogist, University of Toronto, Toronto, Canada.

Type Material: University of Toronto, Toronto, Canada; Harvard University, Cambridge, Massachusetts, USA.

References: (1) Nuffield, E.W. (1954) Studies of mineral sulpho-salts: XVIII—pavonite, a new mineral. *Amer. Mineral.*, 39, 409–415. (2) Van Hook, H.J. (1960) The ternary system Ag₂S–Bi₂S₃–PbS. *Econ. Geol.*, 55, 759–788. (3) Karup-Møller, S. (1972) New data on pavonite, gustavite and some related sulfosalt minerals. *Neues Jahrb. Mineral., Abh.*, 117, 19–38. (4) Harris, D.C. and T.T. Chen (1975) Studies of type pavonite material. *Can. Mineral.*, 13, 408–410. (5) Makovicky, E., W.G. Mumme, and J.A. Watts (1977) The crystal structure of synthetic pavonite, AgBi₃S₅, and the definition of the pavonite homologous series. *Can. Mineral.*, 15, 339–348. (6) Karup-Møller, S. and E. Makovicky (1979) On pavonite, cupropavonite, benjaminite, and “oversubstituted” gustavite. *Bull. Minéral.*, 102, 351–367. (7) Iinca, G. and E. Makovicky (1999) X-ray powder diffraction properties of pavonite homologues. *Eur. J. Mineral.*, 11, 691–708.

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