

Crystal Data: Monoclinic. *Point Group:* 2/*m*. Rarely as needlelike, columnar or platy crystals, vertically striated, to 5 mm. Commonly as irregular grains and fine-grained aggregates. *Twinning:* Polysynthetic.

Physical Properties: *Tenacity:* Very brittle. Hardness = 3–4 VHN = 187–213, 200 average. D(meas.) = 6.35 D(calc.) = 6.451

Optical Properties: Opaque. *Color:* Steel-gray with slightly yellowish tint on fresh surface, tarnishes quickly to brownish orange; in polished section, creamy with very slight pinkish tint.

Luster: Metallic. *Pleochroism:* Very weak. *Anisotropism:* Very feeble, in grays.

R₁–R₂: (400) 36.2–39.8, (420) 36.2–40.4, (440) 36.2–41.0, (460) 36.3–41.6, (480) 36.4–42.0, (500) 36.6–42.4, (520) 36.9–42.6, (540) 37.4–42.8, (560) 37.6–43.0, (580) 37.8–43.2, (600) 37.9–43.3, (620) 38.0–43.5, (640) 38.0–43.7, (660) 38.0–43.7, (680) 37.9–43.6, (700) 37.8–43.4

Cell Data: *Space Group:* A2/*m*. *a* = 27.205(50) *b* = 3.927(15) *c* = 17.575(50)
β = 92°9(10)' Z = 4

X-ray Powder Pattern: Banská Hodruša, Slovakia.

3.102 (vs), 3.62 (s), 2.715 (s), 3.22 (m/s), 3.48 (m), 1.722 (m), 1.450 (w/m)

Chemistry:

	(1)	(2)	(3)
Cu	13.88	13.30	13.66
Fe	0.44	0.34	
Pb		0.65	
Cd		0.06	
Ag		1.01	
Bi	64.92	64.41	67.39
S	18.98	18.90	18.95
Total	98.22	98.67	100.00

(1) Banská Hodruša, Slovakia; by electron microprobe, corresponding to Cu_{4.06}Fe_{0.15}Bi_{5.77}S_{11.00}.

(2) Ocna de Fier, Romania; by electron microprobe, average of ten analyses; corresponding to Cu_{3.90}Ag_{0.18}Fe_{0.12}Pb_{0.06}Cd_{0.01}Bi_{5.74}S_{11.00}. (3) Cu₄Bi₆S₁₁.

Occurrence: In a polymetallic ore deposit of subvolcanic type, in a quartz vein system developed in propylitized pyroxenite andesite (Banská Hodruša, Slovakia).

Association: Quartz, hematite, chalcopyrite, wittichenite (?), pavonite (Banská Hodruša, Slovakia).

Distribution: From the Rosalia mine, Banská Hodruša, near Banská Štiavnica (Schemnitz), Slovakia [TL]. In the Paulus mine, Ocna de Fier (Morávicza; Vaskő); at Băița (Rézbánya); and from Valea Seacă, Romania. In the USA, at the Black Metals (Jackrabbit) mine, Bristol district, Lincoln Co., Nevada; from the Alice mine, Clear Creek Co., Colorado; and in the Campbell mine, Bisbee, Cochise Co. From the Julcani district, Peru.

Name: For the mining community of Banská Hodruša, Slovakia.

Type Material: n.d.

References: (1) Koděra, M., V. Kupčík, and E. Makovický (1970) Hodrushite—a new sulfosalt. *Mineral. Mag.*, 37, 641–648. (2) (1971) *Amer. Mineral.*, 56, 633 (abs. ref. 1). (3) Makovický, E. and W.H. McLean (1972) Electron microprobe analysis of hodrushite. *Can. Mineral.*, 11, 504–513. (4) Kupčík, V. and E. Makovický (1968) Die Kristallstruktur des Minerals (Pb, Ag, Bi)Cu₄Bi₅S₁₁. *Neues Jahrb. Mineral., Monatsh.*, 236–237 (in German). (5) Cook, N.J. and C.L. Ciobanu (2003) Lamellar minerals of the cuprobismutite series and related padérite: a new occurrence and implications. *Can. Mineral.*, 41, 441–456.

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