

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$ (synthetic). As needles, to 8 mm, foliated, radial aggregates of plates, and massive.

Physical Properties: *Cleavage:* Perfect, in one direction. Hardness = 2 VHN = n.d. D(meas.) = 5.3–5.5 D(calc.) = 5.577

Optical Properties: Opaque. *Color:* Gray-white, altering to a dull black coating. *Streak:* Black. *Luster:* Metallic, brilliant. *Anisotropism:* Weak.

R_1 – R_2 : (400) —, (420) 42.8–56.8, (440) 43.6–55.4, (460) 44.3–54.0, (480) 44.7–52.8, (500) 44.8–51.6, (520) 44.6–50.5, (540) 44.0–49.6, (560) 43.1–48.7, (580) 42.7–48.0, (600) 42.6–47.4, (620) 42.7–46.8, (640) 43.0–46.3, (660) 43.4–45.8, (680) 43.8–45.5, (700) 44.4–45.0

Cell Data: *Space Group:* *Bmab* (synthetic). $a = 3.63$ $b = 4.45$ $c = 10.96$ $Z = 8$

X-ray Powder Pattern: Alacrán mine, Chile.
5.76 (10), 2.72 (10), 2.745 (8), 1.875 (7), 1.730 (7), 3.48 (6), 2.230 (5)

Chemistry: Nearly pure As, with up to 3% Bi.

Polymorphism & Series: Dimorphous with arsenic.

Occurrence: As plates and veinlets in carbonate rocks (Černý Důl mine, Czech Republic); in calcite veins (Mackenheim, Germany).

Association: Arsenic, bismuth, silver, sternbergite, emplectite, safflorite, löllingite, pyrite, galena, orpiment, realgar, calcite.

Distribution: In Germany, from the Palmbaum mine, Marienberg, Saxony [TL]; from Schweisweiler, Rhineland-Palatinate; at Mackenheim, Odenwald, and Wittichen, Black Forest. From the Černý Důl mine, Krkonoše (Giant Mountains), and Jáchymov (Joachimsthal), Czech Republic. At Sainte-Marie-aux-Mines, Haut-Rhin, France. In Switzerland, at the Lengenbach quarry, Binntal, Valais. From the Alacrán Ag–As–Sb mine, Pampa Larga district, Copiapó, Chile. In the Goldstrike mine, Lynn district, Eureka Co., Nevada, USA.

Name: From its composition and the Greek for *brilliant*, in allusion to its reflectance.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 130. (2) Johan, Z. (1959) Arsenolamprit – die rhombische Modifikation des Arsens aus Černý Důl (Schwarzenenthal) im Riesengebirge. Chem. Erde, 20, 71–80 (in German). (3) Ramdohr, P. (1969) The ore minerals and their intergrowths, (3rd edition), 370. (4) Smith, P.M., A.J. Leadbetter, and A.J. Apling (1975) The structures of orthorhombic and vitreous arsenic. Philos. Mag., 31, 57–64. (5) Picot, P. and Z. Johan (1982) Atlas of ore minerals. B.R.G.M., Orleans, France, and Elsevier, Amsterdam, Holland, 77. (6) Hintze, C. (1886) Ueber Arsenolamprit. Zeits. Krist., 11, 606–608. (in German).