

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3}$ . Crystals short prismatic; equant, also irregular. size??ckMinSwitz

**Physical Properties:** *Cleavage:* Good on {10 $\bar{1}$ 1}, distinct on {0001}. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = 1.5-2 VHN = 97-100 (25 g load). D(meas.) = n.d. D(calc.) = 4.77 (synthetic).

**Optical Properties:** Opaque, except in thin pieces. *Color:* Scarlet-vermilion; in polished section, white having a bluish cast, with red-orange internal reflections. *Streak:* Scarlet-vermilion. *Luster:* Adamantine.

*Optical Class:* Uniaxial (-). *Pleochroism:* In transmitted light, faint; *O* = pale reddish; *E* = near colorless. *n* = > 2.61 (Li). *Anisotropism:* Moderate (synthetic).

*R*<sub>1</sub>-*R*<sub>2</sub>: (400) 26.2-37.6, (420) 25.7-36.9, (440) 24.9-35.5, (460) 23.7-33.8, (480) 23.0-32.6, (500) 23.4-31.6, (520) 23.7-30.7, (540) 23.4-29.9, (560) 22.7-29.1, (580) 22.1-28.5, (600) 21.5-28.0, (620) 21.0-27.6, (640) 20.6-27.2, (660) 20.3-26.9, (680) 20.0-26.4, (700) 19.9-26.2

**Cell Data:** *Space Group:*  $R\bar{3}$ . *a* = 13.98 *c* = 9.12 *Z* = 18

**X-ray Powder Pattern:** Binntal, Switzerland. (ICDD 16-700). 2.702 (100), 3.15 (80), 1.887 (80), 1.937 (70), 7.0 (60), 4.26 (60), 3.64 (60)

Chemistry:	(1)	(2)
Ag	43.9	43.69
As	30.8	30.34
S	26.1	25.97
Total	100.8	100.00

(1) Binntal, Switzerland; by electron microprobe. (2) AgAsS<sub>2</sub>.

**Polymorphism & Series:** Dimorphous with smithite.

**Occurrence:** Of hydrothermal origin, in dolostone (Binntal, Switzerland).

**Association:** Seligmannite, tennantite, pyrite, chromian muscovite (Binntal, Switzerland).

**Distribution:** From the Lenggenbach quarry, Binntal, Valais, Switzerland [TL]. At Niederbeerbach, Odenwald, Hesse, Germany.

**Name:** Honoring Dr. Charles Otto Trechmann (1851-1917), English crystallographer.

**Type Material:** n.d.

**References:** (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 432-433. (2) Roland, G.W. (1968) Synthetic trechmannite. Amer. Mineral., 53, 1208-1214. (3) Matsumo, T. and W. Nowacki (1969) The crystal structure of trechmannite, AgAsS<sub>2</sub>. Zeits. Krist., 129, 163-177. (4) Criddle, A.J. and C.J. Stanley, Eds. (1993) Quantitative data file for ore minerals, 3rd ed. Chapman & Hall, London, 581.