

Crystal Data: Monoclinic. *Point Group:* 2/m. As imperfectly formed crystals.

Physical Properties: *Cleavage:* Good on {100}. *Tenacity:* Brittle. *Fracture:* Conchoidal. Hardness = 3-3.5 VHN = 194-211 202 average (25 g load). D(meas.) = n.d. D(calc.) = 4.9

Optical Properties: Opaque. *Color:* Lead-gray; gray-white in reflected light, deep red internal reflections rare. *Streak:* Dark brown. *Luster:* Metallic. *Anisotropism:* Moderate to weak in brown-violet and deep green tints. *Birefractance:* Weak. *Pleochroism:* Weak.

Optical Class: n.d.

R₁-R₂: (400) 38.7-41.9, (420) 37.7-41.1, (440) 36.9-40.5, (460) 36.3-40.2, (470) 36.0-40.0, (480) 35.7-39.7, (500) 35.2-39.0, (520) 34.5-38.3, (540) 33.7-37.5, (546) 33.5-37.5, (560) 33.0-36.7, (580) 32.2-35.8, (589) 31.7-35.3, (600) 31.4-34.9, (620) 30.6-34.0, (640) 29.9-33.2, (650) 29.6-32.8, (660) 29.3-32.6, (680) 28.9-32.2, (700) 28.7-31.8

Cell Data: *Space Group:* P2₁/c. a = 29.2691(20) b = 7.8768(5) c = 20.1275(15)
β = 102.065(2)° Z = 1

X-ray Powder Pattern: Calculated pattern.

3.52 (100), 2.955 (75), 2.753 (73), 2.752 (73), 9.84 (72), 3.86 (59), 3.46 (51)

Chemistry:	(1)	(2)
Tl	10.98	10.54
Pb	32.83	33.59
Sb	1.18	
As	29.72	30.36
S	25.44	25.51
Total	100.15	100.00

(1) Lengenbach quarry, Binntal, Wallis, Switzerland; average of 15 electron microprobe analyses; corresponds to Tl_{7.30}Pb_{21.55}(As_{53.94}Sb_{1.31})_{Σ=55.25}S_{107.90}. (2) Tl₇Pb₂₂As₅₅S₁₀₈.

Polymorphism & Series: Anion-omission derivative, *N* = 3 homeotype of the sartorite homologous series with a seven-fold superstructure. Chemical analysis and/or single-crystal X-ray diffraction is needed to distinguish heptasartorite, enneasartorite and hendekasartorite from one another.

Occurrence: In dolostone.

Association: Enneasartorite.

Distribution: At the Lengenbach quarry, Binntal, Wallis, Switzerland.

Name: For a member of the *sartorite* homologous series with a seven-fold superstructure.

Type Material: Natural History Museum, Vienna, Austria (N 9859).

References: (1) Topa, D., E. Makovicky, B. Stoeger, and C. Stanley (2017) Heptasartorite, Tl₇Pb₂₂As₅₅S₁₀₈, enneasartorite, Tl₆Pb₃₂As₇₀S₁₄₀ and hendekasartorite, Tl₂Pb₄₈As₈₂S₁₇₂, three members of the anion-omission series of 'sartorites' from the Lengenbach quarry at Binntal, Wallis, Switzerland. *Eur. J. Mineral.*, 29(4), 701-712. (2) Makovicky, E., D. Topa, and B. Stoeger (2018) The crystal structures of heptasartorite, Tl₇Pb₂₂As₅₅S₁₀₈, and enneasartorite, Tl₆Pb₃₂As₇₀S₁₄₀, two members of an anion-omission series of complex sulfosalts from Lengenbach, the Swiss Alps, and comparison with the structures of As-Sb sartorite homologues. *Eur. J. Mineral.*, 30, 149-164. (3) (2018) *Amer. Mineral.*, 103, 828-829 (abs. refs. 1 & 2).