

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 = 208-221 214 average (25 g load). D(meas.) = n.d. D(calc.) = 5.18

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) 39.5-42.5, (420) 38.7-41.8, (440) 38.0-41.3, (460) 37.5-40.8, (470) 37.2-40.6, (480) 37.1-40.4, (500) 36.7-40.0, (520) 36.2-39.5, (540) 35.6-38.9, (546) 35.3-38.5, (560) 35.0-38.1, (580) 34.3-37.2, (589) 33.9-36.8, (600) 33.4-36.3, (620) 32.6-35.3, (640) 31.8-34.4, (650) 31.5-34.0, (660) 31.1-33.6, (680) 30.5-32.9, (700) 30.1-32.4

Cell Data: *Space Group:* P2₁/c. a = 31.806(5) b = 7.889(12) c = 28.556(4)
β = 99.034(2)° Z = 1

X-ray Powder Pattern: Calculated pattern.

3.50 (100), 2.941 (76), 2.753 (73), 2.751 (73), 3.87 (69), 2.947 (66), 9.76 (56)

Chemistry:	(1)	(2)
Tl	2.80	1.86
Pb	44.63	45.18
Sb	0.90	
As	27.10	27.91
S	24.83	25.05
Total	100.26	100.00

(1) Lengenbach quarry, Binntal, Wallis, Switzerland; average of 22 electron microprobe analyses; corresponds to Tl_{3.03}Pb_{47.71}(As_{80.10}Sb_{1.65})_{Σ=81.74}S_{171.52}. (2) Tl₂Pb₄₈As₈₂S₁₇₂.

Polymorphism & Series: Anion-omission derivative, *N* = 3 homeotype of the sartorite homologous series with an eleven-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: Baumhauerite, rathite.

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

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

Type Material: Natural History Museum, Vienna, Austria (N 9861).

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).