

Crystal Data: Hexagonal. *Point Group:* $\bar{3}$. Short prismatic crystals, pseudo-hexagonal, showing {10 $\bar{1}$ 0}, {10 $\bar{1}$ 1}, {01 $\bar{1}$ 1}, and {0001}, with rough surfaces, to 0.5 mm.

Physical Properties: *Cleavage:* On {0001}, perfect micaceous. *Tenacity:* Flexible cleavage lamellae. Hardness = 2–3 VHN = 46–49, 48 average (10 g load). D(meas.) = n.d. D(calc.) = 5.24

Optical Properties: Opaque. *Color:* Steel-gray to gray-black; grayish white in reflected light. *Streak:* Reddish black. *Luster:* “Shiny” on cleavage surfaces.

Optical Class: Biaxial; isotropic on basal sections.

R: (470) 28.6, (543) 27.3, (587) 26.9, (657) 25.1

Cell Data: *Space Group:* $P\bar{3}$. $a = 6.680(3)$ $c = 7.164(9)$ $Z = 1$

X-ray Powder Pattern: Lengenbach quarry, Switzerland.

3.343 (100), 3.029 (63), 3.060 (50), 2.679 (48), 4.510 (40), 1.866 (38), 2.25 (37)

Chemistry:

	(1)	(2)
Tl	47.91	47.00
Sn	13.55	13.65
As	17.01	17.23
S	22.20	22.12
Total	100.67	100.00

(1) Lengenbach quarry, Switzerland; by electron microprobe, average of three analyses; corresponds to Tl_{2.03}Sn_{0.99}As_{1.97}S_{6.01}. (2) Tl₂SnAs₂S₆.

Occurrence: In a hydrothermal deposit in dolostone.

Association: Hutchinsonite, hatchite, wallisite, lorandite, bernardite, realgar, orpiment, edenharterite, stalderite.

Distribution: From the Lengenbach quarry, Binntal, Valais, Switzerland [TL].

Name: In honor of Professor Emeritus Ernie Niggli (1917-), mineralogist and petrologist, University of Bern, Bern, Switzerland

Type Material: Natural History Museum, Basel, Switzerland, L 18,393.

References: (1) Graeser, S., H. Schwaner, R. Wulf, and A. Edenharter (1992) Erniggliite (Tl₂SnAs₂S₆), a new mineral from Lengenbach, Binntal (Switzerland): description and crystal structure determination based on data from synchrotron radiation. *Schweiz. Mineral. Petrogr. Mitt.*, 72, 293–305. (2) (1993) *Amer. Mineral.*, 78, 845–846 (abs. ref. 1).