Rosiaite $PbSb_2O_6$

Crystal Data: Hexagonal. *Point Group:* $\bar{3}\ 2/m$. As flat tabular hexagonal crystals, with large {0001}, modified by {$10\bar{1}1$}, {$10\bar{1}0$}, and {$hk\bar{i}l$}, to 0.3 mm, in aggregates.

Physical Properties: *Cleavage:* {0001}, parting, possible. *Fracture:* Conchoidal. *Tenacity:* Brittle. Hardness = n.d. D(meas.) = n.d. D(calc.) = 6.96

Optical Properties: Transparent. *Color:* Colorless to pale yellow. *Streak:* White. *Luster:* Resinous.
Optical Class: Uniaxial (–). $\omega = 2.092(2)$ $\epsilon = 1.920(10)$

Cell Data: *Space Group:* $P\bar{3}1m$. $a = 5.295(1)$ $c = 5.372(1)$ $Z = 1$

X-ray Powder Pattern: Cetine mine, Italy.
3.49 (vs), 2.648 (m), 2.110 (w), 1.887 (w), 1.651 (w), 1.531 (w), 2.688 (vw)

Chemistry:

	(1)	(2)
Sb_2O_5	58.67	59.17
PbO	40.88	40.83
Total	99.55	100.00

(1) Cetine mine, Italy; by electron microprobe, average of three analyses; corresponding to $Pb_{1.01}Sb_{2.00}O_6$. (2) $PbSb_2O_6$.

Occurrence: From an antimony deposit in highly silicified evaporites (Cetine mine, Italy).

Association: Valentinite, tripuhyite, bindheimite (Cetine mine, Italy).

Distribution: From the Cetine mine, 20 km southwest of Siena, and the Tafone mine, Grosseto, Tuscany, Italy.

Name: For the village of Rosia, near the Cetine mine, Italy.

Type Material: University of Genoa, Genoa, Italy.

References: (1) Basso, R., G. Lucchetti, L. Zefiro, and A. Palenzona (1996) Rosiaite, $PbSb_2O_6$, a new mineral from the Cetine mine, Siena, Italy. Eur. J. Mineral., 8, 487–492. (2) (1997) Amer. Mineral., 82, 208–209 (abs. ref. 1).