Sarrabusite $Pb_5CuCl_4(SeO_3)_4$

Crystal Data: Monoclinic. *Point Group*: *m* or 2/*m*. As spherical aggregates (<100 mm) of tabular crystals (<10 mm).

Physical Properties: *Cleavage*: Distinct. *Fracture*: n.d. *Tenacity*: Brittle.
Hardness = n.d. D(meas.) = n.d. D(calc.) = 6.011

Optical Properties: Translucent. *Color*: Lemon-yellow. *Streak*: White. *Luster*: Vitreous.
Optical Class: n.d.

Cell Data: *Space Group*: *Cc* or *C*2/*c*. $a = 24.917(3)$ $b = 5.506(1)$ $c = 14.242(2)$
$\beta = 101.77(1)°$ $Z = 4$

X-ray Powder Pattern: Baccu Locci mine, near Villaputzu, Sardinia, Italy.
3.034 (100), 3.685 (60), 2.728 (38), 2.043 (28), 3.314 (20), 2.079 (18), 2.106 (15)

Chemistry:

	(1)	(2)
PbO	61.26	63.80
SO_2	0.14	
CdO	1.44	
CuO	4.29	4.55
SeO_2	24.84	25.37
Cl	8.41	8.11
$- O = Cl_2$	1.90	1.83
Total	98.48	100.00

(1) Baccu Locci mine, near Villaputzu, Sardinia, Italy; average of 7 electron microprobe analyses, corresponding to $(Pb_{4.83}Cd_{0.20})_{\Sigma=5.03}Cu_{0.95}(Se_{3.94}S_{0.04})_{\Sigma=3.98}O_{11.83}Cl_{4.17}$. (2) $Pb_5CuCl_4(SeO_3)_4$.

Occurrence: A secondary mineral in a hydrothermal lead arsenic mineral deposit.

Association: Orlandiite, chalcomenite, anglesite.

Distribution: From the Baccu Locci mine, near Villaputzu, Sardinia, Italy.

Name: For *Sarrabus*, the region in Sardinia, from which the first specimens were obtained.

Type Material: Department of Structural Chemistry and Inorganic Stereochemistry, University of Milan, Italy (2010-02).

References: (1) Gemmi, M., I. Campostrini, F. Demartin, T. Gorelik, and C.M. Gramaccioli (2012) Structure of the new mineral sarrabusite, $Pb_5CuCl_4(SeO_3)_4$, solved by manual electron-diffraction tomography. Acta Cryst., B68, 15-23. (2) (2012) Amer. Mineral., 97, 1265 (abs. ref. 1).