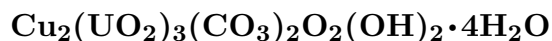


# Roubaultite



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**Crystal Data:** Triclinic. *Point Group:*  $\bar{1}$ . Crystals are platy on {100}, in rosettes, to 3 mm.

**Physical Properties:** *Cleavage:* Perfect on {100}; good on {010}. *Hardness* = ~3  
D(meas.) = n.d. D(calc.) = 4.71 *Radioactive.*

**Optical Properties:** Semitransparent. *Color:* Grass-green to apple-green. *Luster:* Vitreous to slightly greasy.

*Optical Class:* Biaxial (+) *sic.* *Pleochroism:* X = Y = colorless; Z = yellow-green.  
 $\alpha = 1.700(2)$   $\beta = 1.800(4)$   $\gamma = 1.83(1)$   $2V(\text{meas.}) = \text{n.d.}$

**Cell Data:** *Space Group:*  $P\bar{1}$ .  $a = 7.767(3)$   $b = 6.924(3)$   $c = 7.850(3)$   $\alpha = 92.16(4)^\circ$   
 $\beta = 90.89(4)^\circ$   $\gamma = 93.48(4)^\circ$   $Z = 1$

**X-ray Powder Pattern:** Shinkolobwe, Congo.

5.55 (10), 7.74 (9), 6.88 (8), 3.448 (8), 3.226 (8), 3.175 (8), 3.500 (7)

## Chemistry:

	(1)	(2)
UO <sub>3</sub>	71.6	71.79
CO <sub>2</sub>	n.d.	7.36
SeO <sub>2</sub>	0.3	
CuO	13.5	13.31
H <sub>2</sub> O	14.8	7.54
Total	100.2	100.00

(1) Shinkolobwe, Congo; by electron microprobe, H<sub>2</sub>O determined on a separate sample.

(2) Cu<sub>2</sub>(UO<sub>2</sub>)<sub>3</sub>(CO<sub>3</sub>)<sub>2</sub>O<sub>2</sub>(OH)<sub>2</sub>·4H<sub>2</sub>O.

**Occurrence:** A rare mineral in the zone of oxidation of copper-bearing uranium deposits, formed by alteration of uraninite.

**Association:** Vandenbergite, soddyite, becquerelite, cuprosklodowskite, uranophane, heterogenite, uraninite (Shinkolobwe, Congo).

**Distribution:** From Shinkolobwe, near Kolwezi, at the Musonoi mine, and in the Kamoto mine, Katanga Province, Congo (Shaba Province, Zaire). In the Komsomol ore field, eastern Siberia, Russia.

**Name:** Honors Marcel Edouard Roubault (1905–1974), Professor of Geology, University of Nancy, Nancy, France.

**Type Material:** National School of Mines, Paris, France.

**References:** (1) Cesbron, F., R. Pierrot, and T. Verbeek (1970) La roubaultite Cu<sub>2</sub>(UO<sub>2</sub>)<sub>3</sub>(OH)<sub>10</sub>·5H<sub>2</sub>O, une nouvelle espèce minérale. Bull. Minéral., 93, 550–554 (in French with English abs.). (2) (1972) Amer. Mineral., 57, 1912 (abs. ref. 1). (3) Ginderow, D. and F. Cesbron (1985) Structure de la roubaultite, Cu<sub>2</sub>(UO<sub>2</sub>)<sub>3</sub>(CO<sub>3</sub>)<sub>2</sub>O<sub>2</sub>(OH)<sub>2</sub>·4H<sub>2</sub>O. Acta Cryst., C41, 654–657 (in French with English abs.).