

Wyartite**CaU⁵⁺(UO₂)₂O₄(CO₃)(OH)•7H₂O**

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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. Crystals are flattened on {001}, striated and elongated along [010], with {110}, to 3 mm.

Physical Properties: *Cleavage:* On {001}, perfect; on {010}, less so. Hardness = 3–4
D(meas.) = 4.69(5) D(calc.) = n.d. Radioactive.

Optical Properties: Opaque to translucent. *Color:* Black, violet-black, greenish if altered.
Streak: Brownish violet. *Luster:* Dull, vitreous to submetallic on cleavages.

Optical Class: Biaxial (-). *Pleochroism:* Strong; X = gray; Y = violet; Z = lavender-blue.

Orientation: X = c; Y = b; Z = a. α = n.d. β = 1.89(2) γ = 1.91(2) 2V(meas.) = 48°

Cell Data: *Space Group:* $P2_12_12_1$. $a = 11.2706(8)$ $b = 7.1055(5)$ $c = 20.807(1)$ Z = 4

X-ray Powder Pattern: Shinkolobwe, Congo.

10.3 (100), 8.54 (30), 5.19 (30), 4.26 (4b), 3.55 (4), 7.64 (3), 4.72 (3)

Chemistry:

	(1)	(2)	(3)
CO ₂	3.6	3.4	4.05
UO ₂	10.9	10.1	
UO ₃	71.6	70.7	52.71
U ₂ O ₅			25.62
CaO	6.8	6.3	5.17
H ₂ O	7.2	9.7	12.45
Total	100.1	100.2	100.00

(1–2) Shinkolobwe, Congo. (3) CaU⁵⁺(U⁶⁺O₂)₂O₄(CO₃)(OH)•7H₂O.

Occurrence: A rare secondary mineral formed as an alteration product of uraninite in the oxide zone of a uranium deposit.

Association: Wölsendorfite, rutherfordine, uranophane, masuyite, urancalcarite, uraninite.

Distribution: From Shinkolobwe, Katanga Province, Congo (Shaba Province, Zaire).

Name: Honors Dr. Jean Wyart (1902–1992), French crystallographer, Professor of Mineralogy, Sorbonne, Paris, France.

Type Material: Royal Museum of Central Africa, Tervuren, Belgium, RMG2222; Natural History Museum, Paris, France, V 5686; National School of Mines, Paris, France; The Natural History Museum, London, England, 1969,47; National Museum of Natural History, Washington, D.C., USA, 150331.

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