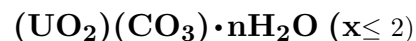


**Joliotite**

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**Crystal Data:** Orthorhombic. *Point Group:*  $2/m \ 2/m \ 2/m$ , 222, or  $mm2$ . As crystals, scaly and flattened on {100}, exhibiting {100}, {010}, and {011}; typically in radial spherulitic aggregates, to 0.1 mm.

**Physical Properties:** *Cleavage:* {100}, probable. Hardness = 1–2  $D(\text{meas.}) = 4.04$   $D(\text{calc.}) = 4.55$  Radioactive; fluoresces pale green to pale yellow under SW and LW UV.

**Optical Properties:** Translucent. *Color:* Citron-yellow. *Streak:* Yellow. *Luster:* [Vitreous.] *Optical Class:* Biaxial (–). *Pleochroism:*  $X$  = colorless;  $Z$  = yellow. *Orientation:*  $X = a$ ;  $Y = b$ ;  $Z = c$ .  $\alpha = 1.596\text{--}1.604$   $\beta = 1.636$   $\gamma = 1.637\text{--}1.651$   $2V(\text{meas.}) = \text{Small}$ .

**Cell Data:** *Space Group:*  $Pmmm$ ,  $P222$ , or  $Pmm2$ .  $a = 8.16$   $b = 10.35$   $c = 6.32$   $Z = 4$

**X-ray Powder Pattern:** Menzenschwand, Germany.  
8.09 (10), 3.42 (9b), 3.18 (8b), 4.10 (5), 1.882 (4), 2.11 (3), 4.48 (2)

| Chemistry:           | (1)  | (2)    |
|----------------------|------|--------|
| $\text{CO}_2$        | 12.5 | 12.02  |
| $\text{UO}_3$        | 73.7 | 78.14  |
| (Pb + Ba)O           | 1.2  |        |
| $\text{H}_2\text{O}$ |      | 9.84   |
| Total                |      | 100.00 |

(1) Menzenschwand, Germany; by electron microprobe, average of two partial analyses.

(2)  $(\text{UO}_2)(\text{CO}_3) \cdot 2\text{H}_2\text{O}$ .

**Occurrence:** A rare secondary mineral in the oxidized portions of a uranium deposit.

**Association:** Billietite, rutherfordine, studtite, barite, “limonite”.

**Distribution:** From Menzenschwand, Black Forest, Germany.

**Name:** Honors the French physicist Jean Frédéric Joliot (1900–1958), Institute du Radium, University of Paris, Paris, France, an early worker on radioactivity.

**Type Material:** n.d.

**References:** (1) Walenta, K. (1976) Widenmannit und Joliotit, zwei neue Uranylkarbonat-mineralien aus dem Schwarzwald. Schweiz. Mineral. Petrog. Mitt., 56, 167–185 (in German with English abs.). (2) (1977) Mineral. Abs., 28, 208 (abs. ref. 1).