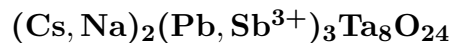


# Cesplumtantite



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**Crystal Data:** Tetragonal. *Point Group:* n.d. As veinlets and elongated aggregates, to 0.3 mm. *Twining:* Polysynthetic, complex, observed microscopically.

**Physical Properties:** Hardness = n.d. VHN = 1240 (40 g load). D(meas.) = n.d. D(calc.) = 6.87(5)

**Optical Properties:** Transparent. *Color:* Colorless; light gray in reflected light.

*Streak:* White. *Luster:* Adamantine.

*Optical Class:* Uniaxial. *Anisotropism:* Strong. *Birefractance:* Weak.

$R_1$ – $R_2$ : (476) 18.2–17.1, (553) 17.3–16.5, (589) 17.1–16.5, (656) 15.6–15.3

**Cell Data:** *Space Group:* n.d.  $a = 13.552(8)$   $c = 6.445(5)$   $Z = 2$

**X-ray Powder Pattern:** Manono pegmatite, Congo.

3.054 (10), 1.869 (7), 1.593 (7), 6.11 (5), 3.19 (5), 2.037 (5b), 1.181 (5)

## Chemistry:

|                                |          |
|--------------------------------|----------|
|                                | (1)      |
| Nb <sub>2</sub> O <sub>5</sub> | 3.24     |
| Ta <sub>2</sub> O <sub>5</sub> | 63.85    |
| SnO <sub>2</sub>               | [1.60]   |
| Sb <sub>2</sub> O <sub>3</sub> | 2.88     |
| SnO                            | 1.49     |
| PbO                            | 20.24    |
| CaO                            | 0.83     |
| Na <sub>2</sub> O              | 0.71     |
| Cs <sub>2</sub> O              | 5.37     |
| Total                          | [100.21] |

(1) Manono pegmatite, Congo; by electron microprobe, average of three analyses; corresponding to  $(\text{Cs}_{0.94}\text{Na}_{0.57}\text{Ca}_{0.37})_{\Sigma=1.88}(\text{Pb}_{2.24}\text{Sb}_{0.49}^{3+}\text{Sn}_{0.27}^{2+})_{\Sigma=3.00}(\text{Ta}_{7.15}\text{Nb}_{0.60}\text{Sn}_{0.26}^{4+})_{\Sigma=8.01}\text{O}_{24}$ .

**Occurrence:** In veinlets in a museum specimen from a granite pegmatite.

**Association:** Lithiotantite, cassiterite, calciotantite, microlite, thoreaulite.

**Distribution:** From the Manono pegmatite, Katanga Province, Congo (Shaba Province, Zaire).

**Name:** For CESium, lead (PLUMbum), and TANTalum in the composition.

**Type Material:** Mining Museum, State University, St. Petersburg, Russia, 1547/2.

**References:** (1) Voloshin, A.V., Y.A. Pakhomovskii, A.Y. Bakhchisaraytsev, and N.N. Devnina (1986) Cesplumtantite – a new cesium-lead tantalate from granitic pegmatites. *Mineral. Zhurnal*, 8(5), 92–98 (in Russian with English abs.). (2) (1989) *Amer. Mineral.*, 74, 501 (abs. ref. 1).