

Crystal Data: Monoclinic. *Point Group:* 2/m. Crystals rough, prismatic along [001]; in aggregates, to 10 cm. *Twining:* On {010} as composition face, lamellar.

Physical Properties: *Cleavage:* {100}, perfect; {011}, imperfect. Hardness = 6
D(meas.) = 7.6–7.9 D(calc.) = 7.21–8.12

Optical Properties: Opaque, transparent in thin fragments. *Color:* Brown, red when altered; yellow in transmitted light. *Streak:* Brown to yellow, slightly greenish. *Luster:* Resinous to adamantine on the cleavage.

Optical Class: Biaxial (+); birefringence ~0.039 on {100}. *Orientation:* Y = b; Z ⊥ c = 27°. n = 2.38 2V(meas.) = 25°

Cell Data: *Space Group:* C2/c. a = 17.107–17.148 b = 4.864–4.873 c = 5.551–5.554
β = 90.88°–90.93° Z = 4

X-ray Powder Pattern: Manono pegmatite, Congo; close to foordite. (ICDD 23-596).
3.10 (10), 3.07 (10), 2.857 (8), 2.432 (8), 1.724 (8), 3.59 (6), 3.57 (6)

Chemistry:	(1)	(2)
Nb ₂ O ₅	4.1	
Ta ₂ O ₅	69.7	76.64
SnO ₂	0.4	
Sb ₂ O ₃	1.2	
PbO	2.8	
SnO	21.1	23.36
Total	99.3	100.00

(1) Manono pegmatite, Congo; by electron microprobe, Sn²⁺:Sn⁴⁺ from stoichiometric considerations; corresponding to (Sn_{0.89}²⁺Pb_{0.07}Sb_{0.04})_{Σ=1.00}(Ta_{1.80}Nb_{0.18}Sn_{0.02}⁴⁺)_{Σ=2.00}O₆.

(2) SnTa₂O₆.

Polymorphism & Series: Forms a series with foordite.

Occurrence: A very rare mineral formed in differentiated granite pegmatites deficient in O, Fe, Mn, Na, Ca, and F.

Association: Cassiterite, lithiotantite, microlite, calciotantite, cesplumtantite (Manono pegmatite, Congo).

Distribution: In Congo (Zaire), from the Manono pegmatite, Katanga (Shaba) Province, and the Maniéma district, Kivu Province. From Gitebi, near Rutsiro, Rwanda. In the Urubú pegmatite, Itinga, Minas Gerais, Brazil. At Ungursai, Kazakhstan. From an undefined locality [Kalbinskiy Range] in Siberia, Russia.

Name: Honors Professor Jacques Thoreau (1886–1973), University of Liège, Liège, Belgium, authority on Congolese (Zairian) mineral occurrences.

Type Material: University of Liège, Liège, Belgium, 2067 and 2068.

References: (1) Palache, C., H. Berman, and C. Frondel (1944) Dana's system of mineralogy, (7th edition), v. I, 802. (2) Černý, P., A.-M. Fransolet, T.S. Ercit, and R. Chapman (1988) Foordite SnNb₂O₆, a new mineral species, and the foordite-thoreaulite series. *Can. Mineral.*, 26, 889–898. (3) Ercit, T.S. and P. Černý (1988) The crystal structure of foordite. *Can. Mineral.*, 26, 899–903.