

Cabvinite**Th₂F₇(OH)·3H₂O**

Crystal Data: Tetragonal. *Point Group:* 4/m. As square prismatic crystals to 100 μm, elongated along [001].

Physical Properties: *Cleavage:* Cleavage or parting on {001} suggested by SEM images.
Tenacity: Brittle. *Hardness* = n.d. *D(meas.)* = n.d. *D(calc.)* = 5.35

Optical Properties: Transparent. *Color:* White. *Streak:* White. *Luster:* Vitreous.
Optical Class: n.d. *n(calc.)* = 1.838

Cell Data: *Space Group:* I4/m. *a* = 11.3689(2) *c* = 6.4175(1) *Z* = 4

X-ray Powder Pattern: Su Seinargiu, Sarroch, Cagliari, Sardinia, Italy.
 3.975 (s), 8.02 (ms), 2.004 (ms), 3.595 (m), 2.832 (m), 2.125 (m), 2.056 (m)

Chemistry:	(1)	(2)
ThO ₂	82.35	79.04
F	19.93	19.90
H ₂ O	[10.21]	9.44
- O = F	8.40	8.38
Total	104.09	100.00

(1) Su Seinargiu, Sarroch, Cagliari, Sardinia, Italy; average of 5 electron microprobe analyses supplemented by micro-Raman spectrometry, H₂O by difference; corresponds to Th₂F_{6.7}(OH)_{1.3}·3H₂O. (2) Th₂F₇(OH)·3H₂O.

Occurrence: From low-temperature hydrothermal alteration of Mo-Bi mineralization.

Association: Brookite, iron oxy-hydroxide ("limonite").

Distribution: From the Mo-Bi ore deposit of Su Seinargiu, Sarroch, Cagliari, Sardinia, Italy.

Name: Honors two Italian mineral collectors, Fernando Caboni (b. 1941) and Antonello Vinci (b. 1944), for their contribution to the knowledge of Su Seinargiu mineralogy. Cabvinite is the acronym based on their surnames, CABoni and VINci.

Type Material: Natural History Museum, University of Pisa, Italy (19711).

References: (1) Orlandi, P., C. Biagioni, and F. Zaccarini (2017) Cabvinite, Th₂F₇(OH)·3H₂O, the first natural actinide halide. *Amer. Mineral.*, 102, 1384-1389.