Uranophane-beta  

\[
\text{Ca(UO}_2\text{)}_2\text{(SiO}_3\text{OH)}_2\cdot5\text{H}_2\text{O}
\]

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Crystal Data: Monoclinic. Point Group: 2/m. Crystals prismatic by extension on [100], to 5 mm, with square cross sections or flattened on {010}, terminated by large {001}. As subradial to fanlike aggregates, or velvety or bristly coatings. Twinning: Common on {001}, contact and penetration.


\(
\begin{align*}
\alpha &= 1.660–1.678 \\
\beta &= 1.682–1.723 \\
\gamma &= 1.689–1.730
\end{align*}
\)

2V(meas.) = 35°–71°

Cell Data: Space Group: \(P2_1/a\). \(a = 13.966(2)\) \(b = 15.443(4)\) \(c = 6.632(1)\) \(\beta = 91.38(2)^\circ\) \(Z = [4]\)

X-ray Powder Pattern: Jáchymov, Czech Republic; may convert to uranophane on crushing. 7.83 (100), 3.90 (90), 3.51 (60), 3.19 (50), 2.59 (50), 6.66 (40), 6.15 (40)

Chemistry: (1) (2)
\[
\begin{array}{ll}
\text{SiO}_2 & 13.11 \\
\text{UO}_3 & 66.29 \\
\text{CaO} & 7.32 \\
\text{H}_2\text{O} & 12.87 \\
\text{Total} & 99.59
\end{array}
\]

(1) Jáchymov, Czech Republic. (2) \(\text{Ca(UO}_2\text{)}_2\text{(SiO}_3\text{OH)}_2\cdot5\text{H}_2\text{O}\).

Polymorphism & Series: Dimorphous with uranophane.

Occurrence: A secondary mineral, altering from other uranium minerals under oxidizing conditions.

Association: Uraninite, uranophane.


Name: In allusion to its dimorphous relation to uranophane.

Type Material: Natural History Museum, Vienna, Austria, J3747.


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