Ankangite

Crystal Data:  

Tetragonal.  

Point Group: 4/m.  

Crystals, euhedral to subhedral, prismatic, with \{100\} and \{110\}, to 1 mm.

Physical Properties:  

Cleavage: Interrupted $\perp$ elongation, possibly a parting.

Fracture: Uneven.  

Tenacity: Brittle.  

Hardness = n.d.  

VHN = 874 (50 g load).

$D(\text{meas.}) = 4.44$  

$D(\text{calc.}) = 4.389$

Optical Properties:  

Opaque.  

Color: Black; in reflected light, light rose-reddish gray.

Streak: Grayish black.  

Luster: Vitreous to adamantine.

Optical Class: Uniaxial.  

Pleochroism: $O =$ pinkish gray; $E =$ light pink.  

Orientation: $E = c$.

Anisotropism: Distinct.  

Birefringence: Weak to distinct.

$R_1 - R_2: (589) 12.8 - 20.1$

Cell Data:  

Space Group: I4/m.  

$a = 10.139(4)$  

$c = 2.961(2)$  

$Z = 1$

X-ray Powder Pattern:  

Ankang Co., China.


Chemistry:  

\[
\begin{array}{c|c}
\text{TiO}_2 & 54.0891 \\
\text{V}_2\text{O}_3 & 22.3242 \\
\text{Cr}_2\text{O}_3 & 2.0792 \\
\text{BaO} & 20.5927 \\
\hline
\text{Total} & 99.0852
\end{array}
\]

(1) Ankang Co., China; by electron microprobe. $V^{3+}$ verified by X-ray photoelectron spectroscopy; corresponding to $\text{Ba}_{1.09}(\text{Ti}_{5.48}\text{V}_{2.41}\text{Cr}_{0.22})\Sigma=8.11\text{O}_{16}$.

Mineral Group:  

Cryptomelane group.

Occurrence:  

In a quartz vein.

Association:  

Barite, barytocalcite, roscoelite, diopside.

Distribution:  

From the Shiti barite deposit, Ankang Co., Shaanxi Province, China.

Name:  

For Ankang Co., Shaanxi Province, China, where it occurs.

Type Material:  

n.d.

References:  