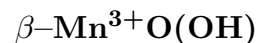


Feitknechtite



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Crystal Data: Hexagonal. *Point Group:* $\bar{3} 2/m$. Hexagonal platelets, to 3 mm, in aggregates with hausmannite; granular, earthy.

Physical Properties: Hardness = n.d. $D(\text{meas.}) = \text{n.d.}$ $D(\text{calc.}) = 3.249$ (synthetic).

Optical Properties: Opaque. *Color:* Brownish black. *Luster:* Dull.

Optical Class: Uniaxial.

R_1 – R_2 : n.d.

Cell Data: *Space Group:* $P\bar{3}m1$ (synthetic). $a = 3.32$ $c = 4.71$ $Z = 1$

X-ray Powder Pattern: Synthetic.

4.62 (10), 2.64 (5), 2.36 (2b), 1.96 (2b), 1.55 (1), 1.50 (1)

Chemistry:

	(1)	(2)
SiO ₂	1.10	
TiO ₂	0.00	
MnO ₂	48.78	49.43
Al ₂ O ₃	0.00	
Fe ₂ O ₃	0.44	
MnO	40.91	40.33
MgO	0.02	
CaO	0.08	
BaO	0.00	
H ₂ O ⁺	4.53	10.24
H ₂ O [−]	4.57	
Total	100.43	100.00

(1) Noda-Tamagawa mine, Japan. (2) MnO(OH).

Polymorphism & Series: Trimorphous with manganite and groutite.

Occurrence: In a mixture with hausmannite, formed by supergene oxidation of and replacing earlier pyrochroite.

Association: Pyrochroite, hausmannite.

Distribution: From Franklin, Sussex Co., New Jersey, USA. In Japan, in the Noda-Tamagawa and Tanohata mines, Iwate Prefecture; the Hamayokokawa mine, Nagano Prefecture; the Taguchi mine, Aichi Prefecture; and the Ioi mine, Shiga Prefecture. At Långban and Pajsberg, Värmland, Sweden.

Name: To honor Dr. Walter Feitknecht (1899–?), Swiss Professor of Chemistry, University of Berne, Berne, Switzerland, who synthesized the compound.

Type Material: n.d.

References: (1) Bricker, O. (1965) Some stability relations in the system Mn–O₂–H₂O at 25° and one atmosphere total pressure. *Amer. Mineral.*, 50, 1296–1354. (2) Frondel, C. (1953) New manganese oxides: hydrohausmannite [feitknechtite + hausmannite] and woodruffite. *Amer. Mineral.*, 38, 761–769. (3) Nambu, M., K. Tanida, T. Kitamura, and T. Komura (1969) Feitknechtite and its origin from Noda-Tamagawa mine, Iwate Prefecture, Japan. *Ganseki Kobutsu Kosho Gakkaishi*, 59(3), 91–107 (in Japanese). (4) (1970) *Chem. Abs.*, 72, 121 (abs. ref. 3). (5) Meldau, R., H. Newesley, and H. Strunz (1974) Zur Kristallchemie von Feitknechtit. *Naturwiss.*, 60(8), 387 (in German).

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