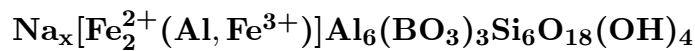


**Foitite**

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**Crystal Data:** Hexagonal. *Point Group:*  $3m$ . Crystals prismatic, elongated and striated || [0001], with triangular cross section, to 5.5 cm

**Physical Properties:** *Fracture:* Irregular. *Tenacity:* Brittle. Hardness =  $\sim 7$   
D(meas.) = 3.17 D(calc.) = 3.14

**Optical Properties:** Translucent in thin fragments. *Color:* Bluish black. *Streak:* Grayish white. *Luster:* Vitreous.

*Optical Class:* Uniaxial (-). *Pleochroism:* Strong; *O* = pale lavender; *E* = dark blue.  
 $\omega = 1.664(1)$   $\epsilon = 1.642(1)$

**Cell Data:** *Space Group:*  $R3m$ .  $a = 15.967(2)$   $c = 7.126(1)$   $Z = 3$

**X-ray Powder Pattern:** "Southern California," USA.  
2.573 (100), 3.452 (91), 6.338 (84), 2.944 (71), 4.212 (48), 3.989 (38), 2.038 (29)

**Chemistry:**

	(1)
SiO <sub>2</sub>	35.90
B <sub>2</sub> O <sub>3</sub>	[10.37]
Al <sub>2</sub> O <sub>3</sub>	34.90
FeO	11.45
MnO	1.71
MgO	0.21
CaO	0.03
Li <sub>2</sub> O	[0.31]
Na <sub>2</sub> O	0.75
H <sub>2</sub> O	[3.56]
Total	[99.19]

(1) "Southern California," USA; by electron microprobe, average of 10 analyses; Ti, Cu, K, F not detected, B<sub>2</sub>O<sub>3</sub>, Li<sub>2</sub>O, and H<sub>2</sub>O from stoichiometry to fill their respective sites; corresponds to Na<sub>0.25</sub>(Fe<sub>1.60</sub>Al<sub>0.89</sub>Mn<sub>0.24</sub>Li<sub>0.22</sub>Mg<sub>0.05</sub>)<sub>Σ=3.00</sub>Al<sub>6.00</sub>(BO<sub>3</sub>)<sub>3</sub>Si<sub>6.01</sub>O<sub>18</sub>(OH)<sub>4</sub>.

**Mineral Group:** Tourmaline group.

**Occurrence:** Probably in granite pegmatites.

**Association:** The original specimens are loose crystals without matrix.

**Distribution:** Found as museum specimens designated only as from "southern California," USA. [White Queen mine, Pala district, San Diego Co., California, USA.] At the Kazionnitsa mine, Alabashka, Ural Mountains, Russia.

**Name:** To honor Franklin F. Foit, Jr. (1942–), of Washington State University, Pullman, Washington, USA, for his work on tourmaline group minerals.

**Type Material:** Canadian Museum of Nature, Ottawa, Canada, 81512.

**References:** (1) MacDonald, D.J., F.C. Hawthorne, and J.D. Grice (1993) Foitite, □[Fe<sub>2</sub><sup>2+</sup>(Al, Fe<sup>3+</sup>)]Al<sub>6</sub>Si<sub>6</sub>O<sub>18</sub>(BO<sub>3</sub>)<sub>3</sub>(OH)<sub>4</sub>, a new alkali-deficient tourmaline: description and crystal structure. *Amer. Mineral.*, 78, 1299–1303.