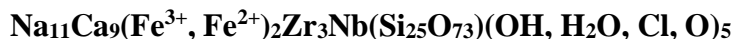


**Feklichevite**

**Crystal Data:** Hexagonal. *Point Group:* 3m. As euhedral, equant to thick-tabular crystals, and as grains to 2.5 cm, displaying {001}, {110}, {100}, {101}, {104}, {012}, {021}, and {267}.

**Physical Properties:** *Cleavage:* Perfect on {001}. *Tenacity:* Brittle. *Fracture:* Stepped to uneven. Hardness = 5.5 D(meas.) = 2.87(1) D(calc.) = 2.869

**Optical Properties:** Translucent. *Color:* Dark brown to almost black, brown to slightly pinkish brown in splinters. *Streak:* Brown. *Luster:* Vitreous. *Optical Class:* Uniaxial (-).  $\omega = 1.620(1)$   $\varepsilon = 1.616(1)$

**Cell Data:** *Space Group:* R3m.  $a = 14.255(1)$   $c = 30.170(2)$   $Z = 3$

**X-ray Powder Pattern:** Kovdor massif, Kola Peninsula, Russia. 2.854 (100), 2.977 (81), 4.31 (69), 3.218 (56), 2.602 (44), 3.036 (42), 6.43 (39)

Chemistry:	(1)
Na <sub>2</sub> O	11.45
CaO	15.55
SrO	0.28
MnO	0.49
FeO	0.28
Fe <sub>2</sub> O <sub>3</sub>	3.20
La <sub>2</sub> O <sub>3</sub>	0.11
Ce <sub>2</sub> O <sub>3</sub>	0.16
SiO <sub>2</sub>	50.35
ZrO <sub>2</sub>	11.65
HfO <sub>2</sub>	0.62
TiO <sub>2</sub>	0.12
Nb <sub>2</sub> O <sub>5</sub>	2.41
H <sub>2</sub> O	1.72
F	0.12
Cl	0.61
-O = (F, Cl)	0.19
Total	100.73

(1) Kovdor massif, Kola Peninsula, Russia; average electron microprobe analysis, H<sub>2</sub>O by Penfield method, Fe<sub>2</sub>O<sub>3</sub> by wet chemical analysis; corresponds to Na<sub>10.80</sub>(Ca<sub>2.35</sub>Na<sub>0.33</sub>Sr<sub>0.08</sub>Ce<sub>0.03</sub>La<sub>0.02</sub>)<sub>Σ=2.81</sub>Ca<sub>6</sub>(Fe<sup>3+</sup><sub>1.21</sub>Fe<sup>2+</sup><sub>0.87</sub>)<sub>Σ=2.08</sub>(Zr<sub>2.85</sub>Hf<sub>0.09</sub>Ti<sub>0.05</sub>)<sub>Σ=2.99</sub>[Nb<sub>0.55</sub>(Si<sub>25.25</sub>Mn<sub>0.21</sub>)<sub>Σ=25.46</sub>O<sub>73</sub>][(H<sub>2</sub>O)<sub>1.67</sub>(OH)<sub>1.12</sub>O<sub>0.26</sub>]<sub>Σ=3.05</sub>[(OH)<sub>1.29</sub>Cl<sub>0.52</sub>F<sub>0.19</sub>]<sub>Σ=2.00</sub>.

**Mineral Group:** Eudialyte group.

**Occurrence:** In a pegmatoidal cancrinite syenite vein in a phlogopite mine.

**Association:** K-feldspar, cancrinite, aegirine-diopside, pectolite, titanite, hematite, pyrrhotite.

**Distribution:** At the Kovdor phlogopite mine, Kovdor massif, Kola Peninsula, Russia.

**Name:** Honors Vladimir Georgevich *Feklichev* (1933-1999), mineralogist and crystallographer, author of Diagnostic Constants of Minerals (1992).

**Type Material:** A.E. Fersman Mineralogical Museum, Moscow, Russia.

**References:** (1) Pekov, I.V., I.A. Ekimenkova, N.V. Chukanov, R.K. Rastsvetaeva, N.N. Kononkova, N.A. Pekova, and A.E. Zadov (2001) Feklichevite, Na<sub>11</sub>Ca<sub>9</sub>(Fe<sup>3+</sup>, Fe<sup>2+</sup>)<sub>2</sub>Zr<sub>3</sub>Nb[Si<sub>25</sub>O<sub>73</sub>](OH, H<sub>2</sub>O, Cl, O)<sub>5</sub>, a new mineral of the eudialyte group from the Kovdor massif, Kola Peninsula. Zap. Vseross. Mineral. Obshch., 130(3), 55-65 (in Russian, English abs.). (2) (2002) Amer. Mineral., 87, 1732 (abs. ref. 1).