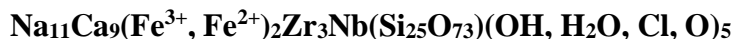


Feklichevite

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 ₂ O	11.45
CaO	15.55
SrO	0.28
MnO	0.49
FeO	0.28
Fe ₂ O ₃	3.20
La ₂ O ₃	0.11
Ce ₂ O ₃	0.16
SiO ₂	50.35
ZrO ₂	11.65
HfO ₂	0.62
TiO ₂	0.12
Nb ₂ O ₅	2.41
H ₂ 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, H₂O by Penfield method, Fe₂O₃ by wet chemical analysis; corresponds to Na_{10.80}(Ca_{2.35}Na_{0.33}Sr_{0.08}Ce_{0.03}La_{0.02})_{Σ=2.81}Ca₆(Fe³⁺_{1.21}Fe²⁺_{0.87})_{Σ=2.08}(Zr_{2.85}Hf_{0.09}Ti_{0.05})_{Σ=2.99}[Nb_{0.55}(Si_{25.25}Mn_{0.21})_{Σ=25.46}O₇₃][(H₂O)_{1.67}(OH)_{1.12}O_{0.26}]_{Σ=3.05}[(OH)_{1.29}Cl_{0.52}F_{0.19}]_{Σ=2.00}.

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, Na₁₁Ca₉(Fe³⁺, Fe²⁺)₂Zr₃Nb[Si₂₅O₇₃](OH, H₂O, Cl, O)₅, 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).