

Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$. As flattened prismatic crystals, to ~0.6 mm, displaying {100} (dominant), {010}, and {101}.

Physical Properties: *Cleavage:* Perfect on {100}, distinct on {010}. *Tenacity:* Brittle. *Fracture:* Stepped. Hardness = ~5 D(meas.) = 2.83 D(calc.) = 2.72

Optical Properties: Transparent. *Color:* Creamy to pale white, colorless in transmitted light. *Streak:* White. *Luster:* Vitreous. *Optical Class:* Biaxial (+). $\alpha = 1.520(5)$ $\beta = 1.525(5)$ $\gamma = 1.538(5)$ $2V(\text{meas.}) = 60(5)^\circ$ $2V(\text{calc.}) = 61.86^\circ$ *Orientation:* $Y = c$, $X = a$, $Z = b$.

Cell Data: *Space Group:* $Pcca$. $a = 14.972(8)$ $b = 14.137(7)$ $c = 14.594(8)$ $Z = 4$

X-ray Powder Pattern: Mt. Kukisvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia. 3.337 (100), 3.248 (90), 3.014 (80), 6.57 (60), 4.20 (50), 7.00 (40), 3.101 (40)

Chemistry:	(1)	(2)
Na_2O	4.32	2.49
K_2O	10.73	11.33
CaO	3.42	4.50
Y_2O_3	15.49	18.10
Ce_2O_3	0.10	
Dy_2O_3	0.68	
Er_2O_3	0.88	
Tm_2O_3	0.18	
Yb_2O_3	1.53	
ThO_2	0.62	
SiO_2	57.55	57.80
H_2O	4.70	5.78
Total	100.20	100.00

(1) Mt. Kukisvumchorr, Khibiny massif, Kola Peninsula, Russia; average of 10 electron microprobe analyses, H_2O by Penfield method; corresponding to $(\text{K}_{2.85}\text{Na}_{0.15})_{\Sigma=3.00}\text{Na}_{1.00}(\text{Ca}_{0.71}\text{Na}_{0.60})_{\Sigma=1.31}(\text{Y}_{1.72}\text{Yb}_{0.10}\text{Er}_{0.06}\text{Dy}_{0.05}\text{Th}_{0.03}\text{Ce}_{0.01}\text{Tm}_{0.01}\text{Ca}_{0.05})_{\Sigma=2.03}[\text{Si}_{12}\text{O}_{30.02}] \cdot 3.27\text{H}_2\text{O}$. (2) $\text{K}_3\text{NaCaY}_2(\text{Si}_{12}\text{O}_{30}) \cdot 4(\text{H}_2\text{O})$.

Occurrence: In voids in a thin (3.4 cm) sodalite-aegirine-microcline veinlet cutting ijolite-urtite.

Association: Microcline, aegirine, calcite, catapleiite, donnayite-(Y), fluorapophyllite, fluorite, galena, lead, litharge, molybdenite, natrolite-gonnardite, pyrochlore, rinkite, strontianite, vuorijarvite-K.

Distribution: From Mt. Kukisvumchorr, Khibiny alkaline massif, Kola Peninsula, Russia.

Name: Honors Victor Nesterovich *Yakovenchuk* (b. 1950), researcher at the Laboratory of Self-Organization in Mineral Systems, Geological Institute of the Kola Science Centre, Russian Academy of Sciences, for his contributions to the study of minerals of alkaline and alkaline-ultrabasic massifs.

Type Material: Mineralogical Museum, St. Petersburg State University, Russia (1/19174).

References: (1) Krivovichev, S.V., Y.A. Pakhomovsky, G.Yu. Ivanyuk, J.A. Mikhailova, Y.P. Men'shikov, T. Armbruster, E.A. Selivanova, and N. Meisser (2007) Yakovenchukite-(Y), $\text{K}_3\text{NaCaY}_2(\text{Si}_{12}\text{O}_{30})(\text{H}_2\text{O})_4$, a new mineral from the Khibiny massif, Kola Peninsula, Russia: A novel type of octahedral-tetrahedral open-framework structure. *Amer. Mineral.*, 92, 1125-1130.