Crystal Data: Triclinic. *Point Group*: $\bar{1}$. As elongated or tabular crystals to 1.6 mm.

Physical Properties: *Cleavage*: None. *Tenacity*: n.d. Hardness = 5-5.5 D(meas.) = 3.45(5) D(calc.) = 3.51

Optical Properties: Transparent. *Color*: Pale cream to white, very pale tan, or rarely brown; colorless in thin section. *Streak*: White. *Luster*: Dull, greasy or pearly. *Optical Class*: Biaxial (+). α = 1.745(5) β = 1.747(5) γ = 1.752(5) 2V(meas.) = 60° 2V(calc.) = 65° *Orientation*: $X \approx c$. *Dispersion*: Moderate, $r > v$.

Cell Data: Space Group: $P\bar{1}$. a = 9.4024(8) b = 5.5623(5) c = 7.3784(6) α = 89.919(2)° β = 101.408(2)° γ = 96.621(2)° Z = 1

X-ray Powder Pattern: Sakharjok alkaline massif, Western Keivy, Kola Peninsula, Russia. 2.991 (100), 7.238 (36), 3.061 (30), 4.350 (23), 9.145 (17), 4.042 (16), 2.819 (16)

Chemistry:	(1)		(1)
SiO_2	29.96	Ce_2O_3	0.33
Al_2O_3	0.56	Nd_2O_3	0.02
TiO_2	8.01	Gd_2O_3	0.07
ZrO_2	2.72	Dy_2O_3	0.47
Nb_2O_5	2.25	Er_2O_3	1.07
MnO	1.31	Tm_2O_3	0.25
MgO	0.01	Yb_2O_3	2.81
Fe_2O_3	0.43	Lu_2O_3	0.45
CaO	24.98	F	2.88
Na_2O	1.13	Cl	0.19
K_2O	0.02	H_2O	[6.75]
Y_2O_3	11.45	$-O = (F,Cl)_2$	1.25
La_2O_3	0.22	Total	97.09

(1) Sakharjok alkaline massif, Western Keivy, Kola Peninsula, Russia; electron microprobe analysis supplemented by IR spectroscopy and EDS, H_2O from structure; corresponds to $(Y_{0.81}Ca_{0.65}Mn_{0.15}Zr_{0.12}Yb_{0.11}Er_{0.04}Fe^{3+}_{0.04}Ce_{0.02}Dy_{0.02}Lu_{0.02}La_{0.01}Tm_{0.01})_{\Sigma=2.00}[(H_2O)_{0.75}Ca_{0.70}\square_{0.55}]_{\Sigma=2.00}Ca_{2.00}[\square_{0.61}Na_{0.25}(H_2O)_{0.14}]_{\Sigma=1.00}(Ti_{0.76}Nb_{0.15}Zr_{0.09})_{\Sigma=1.00}[(Si_{3.91}Al_{0.09})_{\Sigma=4.00}O_{14}][(OH)_{1.56}F_{0.44}]_{\Sigma=2.00}[(H_2O)_{1.27}F_{0.73}]_{\Sigma=2.00}$.

Occurrence: In nepheline syenite pegmatite near its contact with essexite in an alkaline massif, formed at the late-pegmatitic or hydrothermal stage.

Association: Hainite, calcite, albite, natrolite, nepheline, albite, alkaline pyroxenes, amphiboles, biotite, zeolites.

Distribution: From the Sakharjok alkaline massif, Western Keivy, Kola Peninsula, Russia.

Name: Honors Russian geologist Iya Dmitrievna Batieva (1922-2007) for her contributions to the geology and petrology of metamorphic and alkaline complexes of the Kola Peninsula.

Type Material: I.V. Bel'kov Museum of Geology and Mineralogy, Geological Institute of the Kola Science Center, Russian Academy of Sciences, Apatity, Murmansk region, Russia (GIM 7389).

References: (1) Lyalina, L.M., A.A. Zolotarev Jr., E.A. Selivanova, Ye.E. Savchenko, S.V. Krivovichev, Yu.A. Mikhailova, G.I. Kadyrova, and D.R. Zozulya (2016) Batievaite-(Y), $Y_2Ca_2Ti[Si_2O_7]_2(OH)_2(H_2O)_4$, a new mineral from nepheline syenite pegmatite in the Sakharjok massif, Kola Peninsula, Russia. Mineralogy and Petrology, 110(6), 895-904. (2) (2017) Amer. Mineral., 102, 916 (abs. ref. 1).