

Crystal Data: Orthorhombic or monoclinic. *Point Group:* n.d. In platy aggregates, or massive, to 20 cm.

Physical Properties: *Cleavage:* Perfect in one direction, parallel to the plates.
Fracture: Uneven. *Tenacity:* Brittle. Hardness = 2–3 D(meas.) = 2.32–2.40 D(calc.) = n.d.

Optical Properties: Opaque, translucent in thin section. *Color:* White, pale yellow to brownish yellow; black when manganese-rich. *Luster:* Vitreous to oily, pearly on cleavage surfaces.

Optical Class: Biaxial (-). *Pleochroism:* Distinct; X = brown to dark brown; Y = pale brown to yellow-brown; Z = pale brown. *Orientation:* X = a; Y = b; Z = c. $\alpha = 1.740$
 $\beta = \sim 1.772\text{--}1.778$ $\gamma = 1.775\text{--}1.780$ $2V(\text{meas.}) = 21^\circ\text{--}25^\circ$

Cell Data: *Space Group:* n.d. Z = n.d.

X-ray Powder Pattern: Kola Peninsula, Russia; after heating at 900 °C.
1.690 (10), 3.21 (8), 2.48 (6), 1.361 (5), 2.90 (3), 2.18 (3), 1.633 (2)

Chemistry:	(1)	(2)		(1)	(2)
(Nb, Ta) ₂ O ₅	7.16	7.51	MgO	0.00	0.14
SiO ₂	3.96	2.80	CaO	6.72	6.40
TiO ₂	48.76	48.19	Na ₂ O	0.55	0.23
ZrO ₂	6.64	6.56	K ₂ O	trace	0.20
Al ₂ O ₃	0.46	0.24	H ₂ O ⁺	8.35	7.20
Fe ₂ O ₃	n.d.	1.85	H ₂ O ⁻	17.21	18.50
MnO	0.00	0.04	<hr/>	<hr/>	<hr/>
			Total	99.81	99.86

(1–2) Kola Peninsula, Russia.

Polymorphism & Series: Forms a series with manganbelyankinite.

Occurrence: Included in aegirine and microcline, in nepheline syenite pegmatite in an alkalic massif, in part probably as a replacement of murmanite.

Association: Aegirine, microcline, nepheline, zeolites, eudialyte, lorenzenite, lamprophyllite, titanium oxides.

Distribution: From the Medvezh'ya Berloga (Bear's Den) pegmatite, left bank of the Tyul'bnyunai River, Lovozero massif, Kola Peninsula, Russia.

Name: For Dmitry Stepanovich Belyankin (1876–1953), prominent Russian mineralogist and petrographer, Institute of Geosciences, Moscow, Russia.

Type Material: n.d.

References: (1) Gerasimovskii, V.I. and M.E. Kazakova (1950) Belyankinite – a new mineral. Doklady Acad. Nauk SSSR, 71, 925–927 (in Russian). (2) (1952) Amer. Mineral., 37, 882 (abs. ref. 1). (3) E.I. Semenov (1957) Oxides and hydroxides of titanium and niobium in the Lovozero alkalic massif. Inst. mineral., geokhim., and crystallokhim. redkikh elementov, Trudy, 1, 41–59 (in Russian). (4) (1958) Amer. Mineral., 43, 1220–1221 (abs. ref. 3). (5) Vlasov, K.A., M.V. Kuz'menko, and E.M. Es'kova (1966) The Lovozero alkali massif. Akad. Nauk SSSR, 390–392 (in English).