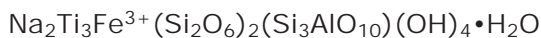


Paravinogradovite



TRICLINIC

Locality: Mount Kukisvumchorr, Khibina alkaline massif, Kola Peninsula, Russia.

Occurrence: In miarolitic cavities in a nepheline–feldspar pegmatite. Associated minerals are: albite, carbonate-fluorapatite, ancylite-(Ce), natrolite, aegirine, a glauconite-like mineral, nordstrandite, anatase, fluorite, galena, cerussite and vinogradovite.

General appearance: Fan-shaped aggregates of columnar and acicular crystals up to 1.0 cm long.

Physical, chemical and crystallographic properties: *Luster:* vitreous. *Diaphaneity:* transparent to translucent. *Color:* colorless to white. *Streak:* white. *Luminescence:* fluoresces weak yellow-green under 240-400 nm radiation. *Hardness:* 5. *Tenacity:* brittle. *Cleavage:* {001} perfect and {010} indistinct. *Fracture:* splintery. *Density:* 2.77 g/cm³ (meas.), 2.74 g/cm³ (calc.). **Crystallography:** Triclinic, *P1*, *a* 5.246, *b* 8.734, *c* 12.968 Å, α 70.32, β 79.01, γ 89.90°, *V* 547.65 Å³, *Z* = 1, *a:b:c* = 0.6006:1:1.4848. *Morphology:* no forms were mentioned. *Twinning:* none mentioned. **X-ray powder-diffraction data:** 11.9(58)(001), 5.98(35)(002), 5.88(65)(0 $\bar{1}$ 1,012), 4.35(38)(121,102), 3.182(100)(0 $\bar{1}$ 3,014), 3.085(29)(123), 2.735(21)(1 $\bar{2}$ 2,030). **Optical data:** Biaxial (–), α 1.707, β 1.741, γ 1.755, 2*V* (meas.) 64°, 2*V* (calc.) 64°; dispersion *r* > *v*; nonpleochroic; *X*∧*a* = 30°, *Z*. **Chemical analytical data:** Mean of eighteen sets of electron-microprobe data (BeO calculated by stoichiometry, H₂O by Penfield method): Na₂O 7.77, K₂O 0.87, MgO 0.13, BeO 0.76, Al₂O₃ 6.12, Fe₂O₃ 4.11, SiO₂ 43.54, TiO₂ 29.59, Nb₂O₅ 0.50, H₂O 6.23, Total 99.62 wt.%. Empirical formula: (Na_{2.28}K_{0.17}) Σ 2.45(Ti_{3.37}Fe_{0.47}Nb_{0.03}Mg_{0.03}) Σ 3.90 (Si_{6.59}Al_{1.09}Be_{0.28}) Σ 7.96O_{22.00}(OH)_{3.74}•1.27H₂O. **Relationship to other species:** It is chemically and structurally related to vinogradovite.

Name: Recalls the relationship to vinogradovite.

Comments: IMA No. 2002–033.

KHOMYAKOV, A.P., KULIKOVA, I.E., SOKOLOVA, E., HAWTHORNE, F.C. & KARTASHOV, P.M. (2003): Paravinogradovite, (Na,[^])₂[(Ti⁴⁺,Fe³⁺)₄{Si₂O₆]₂{Si₃AlO₁₀}(OH)₄]H₂O, a new mineral species from the Khibina alkaline massif, Kola Peninsula, Russia: description and crystal structure. *Canadian Mineralogist* **41**, 989-1002.