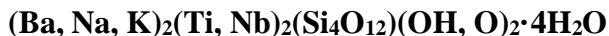


**Paratsepinite-Ba****Crystal Data:** Monoclinic. *Point Group:* 2/m. As imperfect prismatic crystals to 5 mm.**Physical Properties:** *Cleavage:* Imperfect. *Fracture:* [Uneven.] *Tenacity:* Brittle. Hardness = 5  
D(meas.) = 2.88(3) D(calc.) = 2.91**Optical Properties:** Transparent. *Color:* Light brown. *Streak:* [White.] *Luster:* Vitreous.  
*Optical Class:* Biaxial (+).  $\alpha = 1.667(2)$   $\beta = 1.674(2)$   $\gamma = 1.770(5)$   $2V(\text{meas.}) = 25^\circ\text{-}40^\circ$   
 $2V(\text{calc.}) = 31^\circ$  Nonpleochroic.**Cell Data:** *Space Group:* C2/m.  $a = 14.551(2)$   $b = 14.001(2)$   $c = 15.702(3)$   $\beta = 117.58(1)^\circ$   $Z = 8$ **X-ray Powder Pattern:** Mt. Lepkhe-Nelm, Lovozero alkaline massif, Kola Peninsula, Russia.  
7.11 (100), 3.95 (100), 3.24 (90), 1.914 (90), 4.08 (80), 3.11 (80), 2.403 (80)

<b>Chemistry:</b>	(1)
Na <sub>2</sub> O	1.80
K <sub>2</sub> O	1.39
CaO	0.51
SrO	1.96
BaO	11.02
MnO	1.25
Al <sub>2</sub> O <sub>3</sub>	0.22
SiO <sub>2</sub>	38.86
TiO <sub>2</sub>	17.73
Nb <sub>2</sub> O <sub>5</sub>	11.60
<u>H<sub>2</sub>O</u>	<u>12.86</u>
Total	99.50

(1) Mt. Lepkhe-Nelm, Lovozero alkaline massif, Kola Peninsula, Russia; average electron microprobe analysis supplemented by IR spectroscopy, H<sub>2</sub>O by TGA; corresponds to (Ba<sub>0.46</sub>Na<sub>0.37</sub>K<sub>0.23</sub>Sr<sub>0.12</sub>Mn<sub>0.10</sub>Ca<sub>0.06</sub>) $\Sigma=1.34$ (Ti<sub>1.40</sub>Nb<sub>0.55</sub>) $\Sigma=1.95$ Si<sub>3.97</sub>Al<sub>0.03</sub>O<sub>12</sub>(OH)<sub>1.58</sub>O<sub>0.42</sub>·3.7H<sub>2</sub>O.**Mineral Group:** Labuntsovite group, vuoriyarvite subgroup.**Occurrence:** In cavities formed by hydrothermal alteration of alkaline pegmatite.**Association:** Titanite, aegirine, eudialyte, lamprophyllite, lorenzenite, natrolite, other labuntsovite-group minerals.**Distribution:** From Mt. Lepkhe-Nelm, Lovozero alkaline massif, Kola Peninsula, Russia.**Name:** Suffix indicates the Ba-dominant analog of *tsepinite*-Na and *tsepinite*-Ca.**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia.**References:** (1) Chukanov, N.V., I.V. Pekov, A.E. Zadov, K.A. Rozenberg, R.K. Rastsvetaeva, and S.V. Krivovichev, (2003) The new minerals tsepinite-K, (K,Ba,Na)<sub>2</sub>(Ti,Nb)<sub>2</sub>(Si<sub>4</sub>O<sub>12</sub>)(OH,O)<sub>2</sub>·3H<sub>2</sub>O, and paratsepinite-Ba, (Ba,Na,K)<sub>2-x</sub>(Ti,Nb)<sub>2</sub>(Si<sub>4</sub>O<sub>12</sub>)(OH,O)<sub>2</sub>·4H<sub>2</sub>O, and their relationships with other representatives of the labuntsovite group. Zapiski VMO (Proc. Russ. Miner. Soc.), 132(1), 38-51 (in Russian). (2) (2004) Amer. Mineral., 89(5-6), 895-896 (abs. ref. 1). (3) Chukanov, N.V., I.V. Pekov, and A.P. Khomyakov (2002) Recommended nomenclature for labuntsovite group minerals. Eur. J. Mineral., 14, 165-173.