Crystal Data: Monoclinic. *Point Group*: 2/*m*. As distorted prismatic crystals to 1 mm, often in bush-like, open-work aggregates.

Physical Properties: *Cleavage*: None. *Tenacity*: Brittle. *Fracture*: Uneven. Hardness = 3.5 D(meas.) = n.d. D(calc.) = 3.811

Optical Properties: Transparent. *Color*: Light to dark brown, sometimes with purple or red hue, or pale greenish to yellow-green. *Streak*: Pale brownish to pale pinkish. *Luster*: Vitreous. *Optical Class*: Biaxial (+). α = 1.718(4) β = 1.728(4) γ = 1.742(4) 2V(meas). = 85(5)° 2V(calc.) = 81° *Orientation*: *Y* = *b*. *Dispersion*: Very strong, *r* < *v*. *Pleochroism*: Weak, *X* = colorless, *Y* = grayish purple, *Z* = very pale yellowish. *Absorption*: *Y* > *Z* > *X*.

Cell Data: *Space Group: C*2/*c*. *a* = 12.3143(7) *b* = 13.0679(5) *c* = 6.7717(4) β = 113.657(7)° Z = 4

X-Ray Diffraction Pattern: Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia. 2.822 (100), 2.986 (34), 2.658 (29), 3.243 (29), 3.642 (25), 3.096 (22), 2.888 (22)

Chemistry:

	(1)	(2)
Na_2O	6.43	6.14
K_2O		0.06
CaO	16.65	15.96
MgO	11.64	11.70
MnO	1.65	4.62
CuO	0.06	0.21
Fe_2O_3	2.45	1.33
V_2O_5	1.10	0.94
SO_3		0.48
As_2O_5	59.46	59.05
Total	99.44	100.75

(1) Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia; average electron microprobe and Raman spectroscopic analyses; corresponds to $(Na_{1.20}Ca_{1.71}Mg_{1.66}Mn_{0.13}Fe^{3+}_{0.18})_{\Sigma=4.88}(As_{2.98}V_{0.07})_{\Sigma=3.05}O_{12}$. (2) Do.; total includes SiO_2 = 0.10 and P_2O_5 = 0.16; corresponds to $(Na_{1.13}K_{0.01}Ca_{1.62}Mg_{1.66}Mn_{0.37}Cu_{0.01}Fe^{3+}_{0.10})_{\Sigma=4.90}(As_{2.93}V_{0.06}P_{0.01})_{\Sigma=3.04}O_{12}$.

Polymorphism & Series: Dimorph of berzeliite.

Mineral Group: Alluaudite group.

Occurrence: A sublimate at an active volcanic fumarole.

Association: Anhydrite, diopside, hematite, svabite, berzeliite-schäferite series, calciojohillerite, magnesioferrite, ludwigite, fluorapatite, powellite, baryte, rhabdoborite-and aphthitalite-group members (zone one); hematite, calciojohillerite, badalovite, johillerite, nickenichite, tilasite, svabite, fluorophlogopite, sanidine, cassiterite, anhydrite, metathénardite, belomarinaite (zone two).

Distribution From the Arsenatnaya fumarole, Second scoria cone of the Northern Breakthrough of the Great Tolbachik Fissure Eruption, Tolbachik volcano, Kamchatka, Russia.

Name: The prefix identifies the dimorphism of this new mineral with the arsenate garnet *berzeliite*.

Type Material: A.E. Fersman Mineralogical Museum, RAS, Moscow, Russia (5067/1; 96193).

References: (1) Pekov, I.V., N.N Koshlyakova, D.I. Belakovskiy, M.F. Vigasina, N.V. Zubkova, A.A. Agakhanov, S.N. Britvin, E.G. Sidorov, and D.Y. Pushcharovsky (2022) New arsenate minerals from the Arsenatnaya fumarole, Tolbachik volcano, Kamchatka, Russia. XVII. Paraberzeliite, $NaCaCaMg_2(AsO_4)_3$, an alluaudite-group member dimorphous with berzeliite. Mineral. Mag., 86, 103-111.