Sapozhnikovite $Na_8(Al_6Si_6O_{24})(HS)_2$

Crystal Data: Cubic. *Point Group*: $\bar{4}\,3m$. As anhedral equant grains to 5 mm.

Physical Properties: *Cleavage*: Imperfect on (110). *Tenacity*: Brittle. *Fracture*: Uneven. Hardness = 5.5 D(meas.) = 2.25(1) D(calc.) = 2.255 Intensive orange photoluminescence under LW UV and weak yellow-orange photoluminescence under SW UV radiation.

Optical Properties: Translucent. *Color*: Colorless to pale gray, colorless in thin section. *Streak*: White. *Luster*: Vitreous.
Optical Class: Isotropic. n = 1.499(2)

Cell Data: *Space Group:* $P\bar{4}\,3n$. a = 8.9146(1) Z = 1

X-Ray Diffraction Pattern: Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia. 3.638 (100), 6.30 (37), 2.101 (29), 2.572 (18), 2.382 (16), 2.821 (14), 1.576 (8)

Chemistry:

	(1)
Na_2O	25.05
Al_2O_3	32.44
SiO_2	37.58
HS	4.33
Cl	2.22
H_2O	0.30
–O = (Cl, HS)	1.55
Total	100.37

(1) Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia; average electron microprobe and single gas chromatographic analyses supplemented by IR, Raman, electron spin resonance, NIR-Vis-UV absorption, and photoluminescence spectroscopy; corresponding to $Na_{7.73}Al_{6.08}Si_{5.97}O_{24}(HS)_{1.25}Cl_{0.60}\cdot 0.16H_2O$.

Mineral Group: Sodalite group.

Occurrence: In hydrothermally altered urtite-like rock probably late-stage magmatic in an alkaline igneous complex.

Association: Nepheline, aegirine, potassic feldspar, albite, kyanoxalite, natrolite, fluorapatite, fluorcaphite, lomonosovite (partially or completely altered to murmanite), loparite-(Ce).

Distribution: From Mt. Karnasurt, Lovozero alkaline massif, Kola Peninsula, Russia.

Name: Honors Russian mineralogist and crystallographer Dr. Anatoly Nikolaevich *Sapozhnikov* (b. 1946), Senior Researcher, Vinogradov Institute of Geochemistry, Siberian Branch of Russian Academy of Sciences, Irkutsk, Russia, for contributions to the structural chemistry of cancrinite- and sodalite-group minerals.

Type Material: A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (5665/1).

References: (1) Chukanov, N.V., N.V. Zubkova, I.V. Pekov, R.Yu. Shendrik, D.A. Varlamov, M.F. Vigasina, D.I. Belakovskiy, S.N. Britvin, V.O. Yapaskurt, and D.Yu. Pushcharovsky (2022) Sapozhnikovite, $Na_8(Al_6Si_6O_{24})(HS)_2$, a new sodalite-group mineral from the Lovozero alkaline massif, Kola Peninsula. Mineral. Mag., 86(1), 49-59.