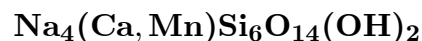


Kvanefjeldite

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Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. Anedral plates, flattened on {010}; as aggregates, to 15 mm.

Physical Properties: *Cleavage:* Good on {010}; poor on {101}, intersecting at 83°. Hardness = 5.5–6 D(meas.) = 2.55 D(calc.) = 2.53

Optical Properties: Transparent. *Color:* Pink with a violet hue. *Luster:* Vitreous, pearly on {010} cleavage.

Optical Class: Biaxial (+). *Orientation:* X = a; Y = c; Z = b. $\alpha = 1.522(1)$ $\beta = 1.522(1)$ $\gamma = 1.543(1)$ 2V(meas.) = 0°–9°

Cell Data: *Space Group:* Pcab. a = 10.213(2) b = 15.878(4) c = 9.058(1) Z = 4

X-ray Powder Pattern: Ilímaussaq intrusion, Greenland.

3.117 (10), 4.355 (7), 3.880 (7), 4.447 (6), 3.388 (6), 3.313 (5), 2.576 (5)

Chemistry:

	(1)
SiO ₂	65.00
TiO ₂	< 0.02
Al ₂ O ₃	< 0.02
Y ₂ O ₃	0.40
FeO	0.05
MnO	1.59
MgO	< 0.02
CaO	8.49
Na ₂ O	22.06
K ₂ O	< 0.02
<u>Total</u>	<u>97.59</u>

(1) Ilímaussaq intrusion, Greenland; by electron microprobe, average of 16 analyses on two grains; TGA gave 4% weight loss at 600 °C; corresponds to Na_{3.96}(Ca_{0.84}Mn_{0.12}Y_{0.02})_{Σ=0.98}Si_{6.01}O₁₄(OH)₂.

Occurrence: As patches, streaks, and veinlets cutting arfvedsonite-bearing nepheline syenite; probably of late-stage hydrothermal origin.

Association: Villiaumite, analcime.

Distribution: On the Kvanefjeld Plateau, in the Ilímaussaq intrusion, southern Greenland.

Name: For the type locality, which is Danish for *the mountain where the angelica grows*.

Type Material: University of Copenhagen, Copenhagen, Denmark, 1983.136, GGU 47887; Harvard University, Cambridge, Massachusetts, 127475; National Museum of Natural History, Washington, D.C., USA, 162234.

References: (1) Petersen, O.V. and O. Johnsen (1984) Kvanefjeldite, a new mineral species from the Ilímaussaq alkaline complex, southwest Greenland. *Can. Mineral.*, 22, 465–467.

(2) Johnsen, O., E.S. Leonardsen, L. Fálth, and H. Annehed (1983) Crystal structure of kvanefjeldite: the introduction of $\frac{2}{\infty}$ [Si₃O₇OH] layers with eight-membered rings. *Neues Jahrb. Mineral., Monatsh.*, 505–512. (3) (1985) *Amer. Mineral.*, 70, 873 (abs. refs. 1 and 2).