

Sérandite**Na(Mn²⁺, Ca)₂Si₃O₈(OH)**

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Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Prismatic to acicular crystals, elongated along [010]; bladed, blocky, or tabular crystals, flattened on {100}, to 20 cm. As radiating crystal aggregates; massive. *Twinning:* Around [010], with composition plane {100}; less commonly contact twinned by reflection on {110}.

Physical Properties: *Cleavage:* Perfect on {001}, {100}. *Fracture:* Uneven.

Tenacity: Brittle. Hardness = 5–5.5 D(meas.) = 3.34 D(calc.) = 3.42

Optical Properties: Transparent to translucent. *Color:* Rose-red, orange, salmon-pink, light pink, colorless, brown, black; colorless in thin section. *Streak:* White. *Luster:* Vitreous to greasy; fibrous aggregates are dull to silky.

Optical Class: Biaxial (+). *Dispersion:* $r < v$, moderate. $\alpha = 1.668$ $\beta = 1.671$ $\gamma = 1.703$ 2V(meas.) = 39° 2V(calc.) = 39°

Cell Data: *Space Group:* $P\bar{1}$. $a = 7.683(1)$ $b = 6.889(1)$ $c = 6.747(1)$ $\alpha = 90.53(5)^\circ$ $\beta = 94.12(2)^\circ$ $\gamma = 102.75(2)^\circ$ $Z = 2$

X-ray Powder Pattern: Mont Saint-Hilaire, Canada. (ICDD 25-723).

2.983 (100), 3.158 (90), 2.838 (65), 2.192 (60), 2.495 (45), 2.602 (35), 7.51 (25)

Chemistry:	(1)	(2)		(1)	(2)
SiO ₂	48.72	49.88	CaO	10.42	2.62
Al ₂ O ₃	0.29		Na ₂ O	7.38	8.63
Fe ₂ O ₃	0.03		K ₂ O	0.26	0.01
FeO	1.33	0.13	H ₂ O ⁺	2.67	
MnO	28.99	37.33	H ₂ O [−]	0.11	
MgO	0.06	0.13	H ₂ O		[1.27]
			Total	[100.26]	[100.00]

(1) Rouma Isle, Guinea; original total given as 100.46%. (2) Tanohata mine, Japan; by electron microprobe, H₂O by difference; corresponds to Na_{1.00}(Mn_{1.88}²⁺Ca_{0.17}Mg_{0.01})_{Σ=2.06}Si_{2.97}O₈(OH).

Polymorphism & Series: Forms a series with pectolite.

Occurrence: In sodalite xenoliths and pegmatites cutting syenites and nepheline syenites in an intrusive alkalic gabbro-syenite complex (Mont Saint-Hilaire, Canada); in vugs in phonolite (Point of Rocks, New Mexico, USA); in a contact metamorphosed terrigenous volcanogenic manganese deposit (Tumannoe deposit, Russia).

Association: Sodalite, nepheline, aegirine, astrophyllite, arfvedsonite, eudialyte, leucophanite, analcime, villiaumite, fluorite (Rouma Isle, Guinea); analcime, aegirine, mangan-neptunite, microcline (Mont Saint-Hilaire, Canada).

Distribution: From Rouma Isle, Los Islands, Guinea. In the USA, at Point of Rocks, Colfax Co., New Mexico; from the Gem mine, San Benito Co., California; on Granite Mountain, near Little Rock, Pulaski Co., Arkansas. Large crystals from Mont Saint-Hilaire, and from near Saint-Amable, Quebec, Canada. In the Tanohata mine, Iwate Prefecture, Japan. At the Tumannoe deposit, Bol'shoi Santar Island, Okhotsk Sea, and on Mt. Karnasurt, Lovozero massif, Kola Peninsula, Russia.

Name: Honors J.M. Sérand, who aided the collection of type material.

Type Material: National Museum of Natural History, Washington, D.C., USA, 96515.

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