

Kanoite**(Mn²⁺, Mg)₂Si₂O₆**

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Crystal Data: Monoclinic. *Point Group:* 2/m, (probable). As grains up to 0.1 mm.
Twining: Polysynthetic on {100}, common.

Physical Properties: *Cleavage:* Perfect on {110}, (110) ∧ (1 $\bar{1}$ 0) ~88°. Hardness = 6
 D(meas.) = 3.66 D(calc.) = 3.60

Optical Properties: Semitransparent. *Color:* Light pinkish brown; colorless in thin section.
Streak: White. *Luster:* Vitreous.

Optical Class: Biaxial (+). *Orientation:* Y = b; Z ∧ c = 42°. α = 1.715(2) β = 1.717(2)
 γ = 1.728(2) 2V(meas.) = 40°–42°

Cell Data: *Space Group:* P2₁/c (probable). a = 9.739 b = 8.939 c = 5.260
 β = 108.56° Z = 4

X-ray Powder Pattern: Tatehira, Japan.

3.211 (100), 3.021 (90), 2.910 (90), 2.921 (80), 2.493 (40), 1.627 (40), 2.573 (30)

Chemistry:

	(1)
SiO ₂	50.20
Al ₂ O ₃	0.04
Fe ₂ O ₃	0.39
FeO	2.64
MnO	31.19
MgO	15.08
CaO	[0.61]
Na ₂ O	0.03
K ₂ O	0.03
Total	[100.21]

(1) Tatehira, Japan; by electron microprobe, average of three analyses; Fe₂O₃, FeO, Na₂O, and K₂O by wet chemical analysis; original CaO 0.57% and original total given as 100.17%; corresponds to (Mn_{1.04}²⁺Mg_{0.88}Fe_{0.09}²⁺Ca_{0.02}Fe_{0.01}³⁺)_{Σ=2.04}Si_{1.97}O₆.

Polymorphism & Series: Dimorphous with donpeacorite.

Mineral Group: Pyroxene group.

Occurrence: In a seam cutting a pyroxmangite-cummingtonite metamorphic rock.

Association: Spessartine, manganian cummingtonite, pyroxmangite.

Distribution: From near Tatehira, Oshima Peninsula, Hokkaido, Japan.

Name: To honor Dr. Hiroshi Kano, Professor of Petrology, Akita University, Akita, Japan.

Type Material: Shimane University, Matuse; National Science Museum, Tokyo, Japan, M21331.

References: (1) Kobayashi, H. (1977) Kanoite, (Mn²⁺, Mg)₂[Si₂O₆], a new clinopyroxene in the metamorphic rock from Tatehira, Oshima Peninsula, Hokkaido, Japan. *J. Geol. Soc. Japan*, 83, 537–542. (2) (1978) *Amer. Mineral.*, 63, 598 (abs. ref. 1).