

Kimuraite-(Y)**CaY₂(CO₃)₄•6H₂O**

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Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m, mm2, or 222. As spherulitic aggregates of scaly tabular crystals, to 100 μm.

Physical Properties: *Cleavage:* Perfect on {010}. *Hardness* = 2.5 *D*(meas.) = 2.6(1) *D*(calc.) = 2.98 Bright reddish purple to purple fluorescence under SW and LW UV.

Optical Properties: Semitransparent. *Color:* Pale purple to pinkish white. *Luster:* Vitreous to silky on cleavages.

Optical Class: Biaxial (-). *Orientation:* X = a; Y = b; Z = c. *Dispersion:* r < v, weak.

α = 1.584(2) β = 1.612(2) γ = 1.626(2) 2V(meas.) = 70(5)°

Cell Data: *Space Group:* Immm, Imm2, I2₁2₁2₁, or I222. a = 9.2545(8) b = 23.976(4) c = 6.0433(7) Z = 4

X-ray Powder Pattern: Kirigo, Japan.

12.06 (100), 6.02 (40), 3.76 (30), 5.93 (20), 4.01 (20), 2.05 (12), 4.87 (10)

Chemistry:

	(1)		(1)
CO ₂	29.13	Dy ₂ O ₃	2.44
Y ₂ O ₃	29.41	Ho ₂ O ₃	0.62
La ₂ O ₃	0.50	Er ₂ O ₃	1.69
Ce ₂ O ₃	0.02	Tm ₂ O ₃	0.17
Pr ₂ O ₃	0.37	Yb ₂ O ₃	0.56
Nd ₂ O ₃	2.97	Lu ₂ O ₃	0.06
Sm ₂ O ₃	0.95	CaO	9.23
Eu ₂ O ₃	0.39	H ₂ O	18.32
Gd ₂ O ₃	2.49	<u>Total</u>	<u>99.68</u>
Tb ₂ O ₃	0.36		

(1) Kirigo, Japan; by ICP, H₂O and CO₂ by conventional analyses, corresponding to Ca_{0.99}(Y_{1.57}Nd_{0.11}Gd_{0.08}Dy_{0.08}Er_{0.05}Sm_{0.03}Ho_{0.02}La_{0.02}Ho_{0.02}Pr_{0.02}Tb_{0.01}Eu_{0.01}Tm_{0.01})_{Σ=2.03}(CO₃)₄•6.12H₂O.

Occurrence: In fissures in an alkali olivine basalt.

Association: Lanthanite-(Nd), lanthanite-(La), lokkaite-(Y), kozoite-(Nd),

Distribution: From Kirigo and Niikoba, Higashi-Matsuura district, Saga Prefecture, Japan.

Name: To honor Professor Kenjiro Kimura (1896-?), Tokyo University, Tokyo, Japan, for his contributions to the mineralogy of rare-earth minerals.

Type Material: National Science Museum, Tokyo, Japan, M-24513; National Museum of Natural History, Washington, D.C., USA, 164269.

References: (1) Nagashima, K., R. Miyawaki, J. Takase, I. Nakai, K. Sakurai, S. Matsubara, A. Kato, and S. Iwano (1986) Kimuraite, CaY₂(CO₃)₄•6H₂O, a new mineral from fissures in an alkali olivine basalt from Saga Prefecture, Japan, and new data on lokkaite. *Amer. Mineral.*, 71, 1028–1033.