

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.
 $\alpha = 1.584(2)$ $\beta = 1.612(2)$ $\gamma = 1.626(2)$ 2V(meas.) = 70(5)°

Cell Data: Space Group: Imm_m, 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	Total	99.68
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.