Ferriprehnite $Ca_2Fe^{3+}(AlSi_3)O_{10}(OH)_2$

Crystal Data: Orthorhombic. *Point Group*: *mm*2. As tabular crystals to 300 μm in radial aggregates with prehnite.

Physical Properties: *Cleavage*: Good on {100}. *Tenacity*: n.d. *Fracture*: n.d. Hardness = 6.5 D(meas.) = n.d. D(calc.) = 2.97

Optical Properties: Translucent. *Color*: Colorless to pale green. *Streak*: White. *Luster*: Vitreous. *Optical Class*: n.d.

Cell Data: *Space Group: Pma*2. a = 18.6149(10) b = 5.4882(3) c = 4.6735(3) Z = 2

X-Ray Diffraction Pattern: Kouragahana, Shimane Peninsula, Japan.
3.087 (100), 2.572 (77), 3.495 (54), 3.324 (45), 1.779 (45), 3.298 (43), 4.674 (32)

Chemistry:

	(1)	(2)
SiO_2	40.50	40.85
TiO_2	0.05	
Al_2O_3	15.61	11.55
Cr_2O_3	0.01	
V_2O_3	0.03	
Fe_2O_3	11.93	18.10
MnO	0.01	
MgO	0.03	
CaO	25.18	25.42
BaO	0.02	
Na_2O	0.02	
F	0.02	
H_2O	[4.06]	4.08
-O = F + Cl	0.01	.
Total	97.46	100.00

(1) Kouragahana, Shimane Peninsula, Japan; electron microprobe analysis, H_2O calculated; corresponds to $Ca_{1.99}(Fe^{3+}_{0.66}Al_{0.34})_{\Sigma=1.00}(Al_{1.02}Si_{2.98})_{\Sigma=4.00}O_{10}(OH)_2$. (2) $Ca_2Fe^{3+}(AlSi_3)O_{10}(OH)_2$

Occurrence: A secondary mineral in druses developed in hydrothermally altered dolerite.

Association: Prehnite, calcite, thomsonite-Ca, julgoldite.

Distribution: From Kouragahana, Kitaura, Mihonoseki-cho, Matsue City, Shimane Peninsula, Shimane Prefecture, Japan.

Name: The prefix indicates the Fe^{3+} analogue of *prehnite*.

Type Material: National Museum of Nature and Science, Tsukuba (NSM-M47662) and the Geological and Mineralogical Museum, Faculty of Science, Yamaguchi University (97216F cotype), Japan.

References: (1) Nagashima, M., D. Nishio-Hamane, S. Ito, and T. Tanaka (2021) Ferriprehnite, $Ca_2Fe^{3+}(AlSi_3)O_{10}(OH)_2$, an Fe^{3+} analogue of prehnite, from Kouragahana, Shimane Peninsula, Japan. J. Mineral. and Petrol. Sci., 116(3), 129-139.