Imayoshiite $Ca_3Al(CO_3)[B(OH)_4](OH)_6 \cdot 12H_2O$

Crystal Data: Hexagonal. *Point Group*: 6. As aggregates of acicular to fibrous crystals to 2 mm.

Physical Properties: *Cleavage*: Distinct on $\{10\bar{1}\,0\}$. *Fracture*: Uneven. *Tenacity*: Brittle. Hardness = 2-3 D(meas.) = n.d. D(calc.) = 1.79

Optical Properties: Transparent. *Color*: Colorless (crystals); white (aggregates). *Streak*: White. *Luster*: Vitreous (crystals); silky (aggregates).
Optical Class: Uniaxial (-). ω = 1.497(2) ε = 1.470(2)

Cell Data: *Space Group*: $P6_3$. a = 11.0459 c = 10.6150 Z = 2

X-ray Powder Pattern: Suisho-dani valley, Ise City, Mie Prefecture, Japan.
9.543 (100), 2.525 (69), 4.636 (40), 3.821 (33), 2.729 (31), 2.174 (30), 1.768 (28)

Chemistry:	(1)	(2)
CaO	28.20	27.84
Al_2O_3	7.60	8.44
SiO_2	1.17	
SO_3	0.84	
B_2O_3	[5.47]	5.76
CO_2	[7.49]	7.28
H_2O	[50.02]	50.68
Total	100.80	100.00

(1) Suisho-dani valley, Ise City, Mie Prefecture, Japan; average of 5 electron microprobe analyses supplemented by FTIR spectroscopy, TG and DTA; H_2O, CO_2, B_2O_3 calculated; corresponding to $Ca_3Al_{0.89}Si_{0.12}(CO_3)_{1.02}[B(OH)_4]_{0.94}(SO_4)_{0.06}[(OH)_{5.96}O_{0.04}]_{\Sigma=6} \cdot 11.71H_2O$. (2) $Ca_3Al(CO_3)[B(OH)_4](OH)_6 \cdot 12H_2O$.

Mineral Group: Ettringite group.

Occurrence: In cavities in an altered gabbro xenolith in serpentinized dunite, where rims of the xenoliths were hydrothermally altered.

Association: Oyelite, ‘hydrogarnet’, xonotlite, tobermorite, bultfonteinite, apophyllite, prehnite.

Distribution: From the Suisho-dani valley, Ise City, Mie Prefecture, Japan.

Name: Honors the Japanese mineral collector, Takaharu Imayoshi (1905-1984).

Type Material: National Museum of Nature and Science, Tokyo, Japan (NSM-M43749 & M43750).

References: (1) Nishio-Hamane, D., M. Ohnishi, K. Momma, N. Shimobayashi, R. Miyawaki, T. Minakawa, and S. Inaba (2015) Imayoshiite, $Ca_3Al(CO_3)[B(OH)_4](OH)_6 \cdot 12H_2O$, a new mineral of the ettringite group from Ise City, Mie Prefecture, Japan. Mineral. Mag., 79(2), 413-423.
(2) (2016) Amer. Mineral., 101, 2571 (abs. ref. 1).