

**Crystal Data:** Hexagonal. *Point Group:* 6mm. As poorly-formed crystals to 20  $\mu\text{m}$  that form aggregates to 1 mm.

**Physical Properties:** *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* n.d. *Hardness* = 4-5  
D(meas.) = n.d. D(calc.) = 5.85

**Optical Properties:** Opaque. *Color:* Iron-black; light yellowish gray with no internal reflections in reflected light. *Streak:* Black. *Luster:* Submetallic. *Pleochroism:* Medium, pale gray to yellowish gray. *Anisotropism:* Medium to strong, gray to pale gray.

*Optical Class:* n.d.

$R_1$ - $R_2$ : (470) 16.8-20.4, (546) 17.1-20.4, (589) 16.9-20.1, (650) 16.9-19.9

**Cell Data:** *Space Group:*  $P6_3mc$ .  $a = 5.8052(3)$   $c = 10.2277(8)$   $Z = 2$

**X-ray Powder Pattern:** Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan.  
2.523 (100), 3.585 (98), 2.441 (90), 5.11 (68), 1.588 (62), 2.023 (49), 1.659 (44)

Chemistry:	(1)	(2)
MnO	24.14	26.99
FeO	2.63	
<u>MoO<sub>2</sub></u>	<u>73.33</u>	<u>73.01</u>
Total	100.10	100.00

(1) Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan; average of 17 electron microprobe analyses; corresponding to  $(\text{Mn}_{1.79}\text{Fe}_{0.19})_{\Sigma=1.98}\text{Mo}_{3.01}\text{O}_8$ . (2)  $\text{Mn}_2\text{Mo}_3\text{O}_8$ .

**Occurrence:** In a stratiform ferro-manganese deposit, embedded in chert and closely associated with limestone and greenstone in an accretionary complex.

**Association:** Rhodochrosite, powellite, molybdenite.

**Distribution:** From the Shobu Fe-Mn deposit, near Ise City, Mie Prefecture, Japan.

**Name:** For the city in Japan near which the first specimens were collected.

**Type Material:** National Museum of Nature and Science, Tokyo, Japan (NSM M-43652).

**References:** (1) Nishio-Hamane, D., N. Tomita, T. Minakawa, and S. Inaba (2013) Iseite,  $\text{Mn}_2\text{Mo}_3\text{O}_8$ , a new mineral from Ise, Mie Prefecture, Japan. *Journal of Mineralogical and Petrological Sciences*, 108(1), 37-41. (2) (2015) *Amer. Mineral.*, 100, 1326 (abs. ref. 1).