

Crystal Data: Orthorhombic. *Point Group:* 2/m 2/m 2/m. As crystallites to 30 nanometers.

Physical Properties: *Fracture:* n.d. *Tenacity:* n.d. *Hardness:* n.d. *D(meas.):* n.d. *D(calc.):* 5.33

Optical Properties: n.d. *Color:* n.d. *Streak:* n.d. *Luster:* n.d.
Optical Class: n.d.

Cell Data: *Space Group:* Pnma. *a* = 8.907(1) *b* = 9.937(8) *c* = 2.981(1) *Z* = n.d.

X-ray Powder Pattern: In situ synchrotron X-ray microdiffraction.
2.663 (100), 1.932 (90), 1.533 (50), 1.087 (30), 1.673 (20), 1.155 (15), 1.431 (12)

Chemistry:	(1)
Fe ₂ O ₃	75.12
FeO	11.93
MgO	11.95
<u>MnO</u>	<u>1.00</u>
Total	100.00

(1) Xiuyan impact crater, China; normalized average EDS analysis supplemented by Raman spectroscopy; corresponds to (Mg_{0.62}Fe²⁺_{0.35}Mn²⁺_{0.03})Fe³⁺₂O₄.

Polymorphism & Series: A post-spinel polymorph of magnesioferrite.

Occurrence: Formed from subsolidus decomposition of Fe-Mg carbonate via a self-oxidation-reduction reaction at impact pressure and temperature of 25-45 GPa and 800-900 °C. In meteorite impact breccia composed of fragments of moderately shocked gneiss, amphibolite, and marble in fine-grained matrix.

Association: Reidite, TiO₂-II (srlankite), diaplectic quartz and feldspar glasses, shocked ankerite decomposed into a mixture of magnesioferrite, maohokite, calcite, diamond.

Distribution: From the Xiuyan impact crater, northern Liaodong Peninsula, China.

Name: Honors *Hokwang Mao* (b. 1941) Geophysical Laboratory, Carnegie Institution of Washington, USA, for his contributions to high pressure research.

Type Material: Geological Museum, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Tianhe, China (XY-shock gneiss 290).

References: (1) Chen, M., J. Shu, X. Xie, and D. Tan (2019) Maohokite, a post-spinel polymorph of MgFe₂O₄ in shocked gneiss from the Xiuyan crater in China. *Meteoritics & Planetary Science* 54(3), 495-502. (2) (2020) *Amer. Mineral.*, 105, 1922 (abs. ref. 1).