**Crystal Data**: Orthorhombic. *Point Group*: 2/m 2/m 2/m. As nanometer-scale lamellae in ringwoodite or wadsleyite crystals.

**Physical Properties**: *Cleavage*: n.d. *Tenacity*: n.d. *Fracture*: n.d. Hardness = n.d. D(meas.) = n.d. D(calc.) = 3.326

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

**Cell Data**: Space Group: Pmma. a = 5.801(11) b = 2.905(9) c = 8.411(16)

**X-Ray Diffraction Pattern**: Calculated pattern. 1.469 (100), 2.482 (95), 2.053 (82), 2.804 (71), 2.742 (62), 3.405 (54), 1.453 (32)

**Chemistry**: (1) Suizhou meteorite; calculated from structure; corresponds to  $(Mg_{1.96}Fe_{0.04})_{\Sigma=2}SiO_4$ .

Polymorphism & Series: Polymorph of forsterite, wadsleyite, and ringwoodite.

**Occurrence**: In melt veins of shocked chondritic meteorites, perhaps formed during rapid decompression at relatively low temperature in retrograde shock metamorphism.

Association: Ringwoodite, wadsleyite.

**Distribution** From the Suizhou meteorite, fell at Xihe, Zengdu District, Suizhou, Hubei, China (holotype), the Tenham meteorite, fell at Tenham Station, Windorah, Barcoo Shire, Queensland, Australia (cotype), and the Miami meteorite, Texas, USA.

**Name**: Honors Jean-Paul *Poirier*, for contributions to mineral physics, including the theoretical prediction of  $\varepsilon$ -Mg<sub>2</sub>SiO<sub>4</sub>.

**Type Material**: Natural History Museum, University of Florence, Italy (3238/I holotype Suizhou), and the Department of Geology and Paleontology, National Museum of Nature and Science, Tokyo, Japan (NSM-MF15125 cotype Tenham).

**References**: (1) Tomioka, N., L. Bindi, T. Okuchi, M. Miyahara, T. Iitaka, Z. Li, T. Kawatsu, X. Xie, N. Purevjav, R. Tani, and Y. Kodama (2021) Poirierite, a dense metastable polymorph of magnesium iron silicate in shocked meteorites. Communications Earth & Environment, 2(16), 1-8.