Tschaunerite $(Fe^{2+})(Fe^{2+}Ti^{4+})O_4$

Crystal Data: Orthorhombic. *Point Group*: 2/*m* 2/*m* 2/*m*.

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

Optical Properties: *Color*: *Streak*: *Luster*:
Optical Class:

Cell Data: *Space Group*: *Cmcm*. $a = 2.71(2)$ $b = 9.216(8)$ $c = 9.103(4)$

X-Ray Diffraction Pattern: Shergotty Martian meteorite.
2.534 (100), 1.983 (63), 1.49 (37), 1.855 (33), 2.256 (31), 2.304 (27), 2.498 (25)

Chemistry:

Polymorphism & Series: Polymorph of ulvöspinel.

Mineral Group:

Occurrence: In the kernel of a transformed ulvospinel-imenite grain trapped in a shock melt pocket in Martian meteorites.

Association:

Distribution: From the Shergotty and Tissint Martian meteorites.

Name:

Type Material: E. Stolper Martian Meteorite Collection, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, California, USA (thin section Shergotty-1).

References: (1) Hålenius, U., F. Hatert, M. Pasero, and S.J. Mills (2018) IMA Commission on New Minerals, Nomenclature and Classification (CNMNC) Newsletter 46. New minerals and nomenclature modifications approved in 2018. Mineral. Mag., 82(6), 1378. (2) Tschauner, O. (2019) High-pressure minerals. Amer. Mineral., 104 (12), 1701-1731.