

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m$ . As sub-micrometer grains.

**Physical Properties:** *Cleavage:* n.d. *Tenacity:* n.d. *Fracture:* n.d. *Hardness:* = n.d. VHN = 580 (100 g load) (synthetic). *D(meas.):* = n.d. *D(calc.):* = 4.452

**Optical Properties:** n.d. *Color:* Dark bronze to brown (synthetic). *Streak:* n.d. *Luster:* n.d. *Optical Class:* n.d.

**Cell Data:** *Space Group:*  $R\bar{3} m$ .  $a = 3.42(7)$   $c = 26.50(53)$   $Z = 9$

**X-Ray Diffraction Pattern:** Calculated pattern.

2.208 (100), 1.710 (55), 2.586 (45), 2.944 (36), 2.333 (28), 1.975 (19), 1.680 (18)

<b>Chemistry:</b>	(1)	(2)
Ti	52.0	59.88
S	40.2	40.12
Fe	4.0	
Cr	0.47	
Ni	0.31	
Ca	0.05	
Total	97.03	100.00

(1) Yamato 691 EH3 enstatite chondrite meteorite; average EDS analysis; corresponds to  $(\text{Ti}_{0.93}\text{Fe}_{0.06}\text{Cr}_{0.01})\text{S}$ . (2) TiS.

**Occurrence:** In a barred olivine (BO) chondrule, thought to have formed in the solar nebula by melting fine-grained precursor dust, in an enstatite chondrite meteorite.

**Association:** Forsterite, enstatite, troilite, metallic Fe-Ni, osbornite, schollhornite.

**Distribution:** In the Yamato 691 EH3 enstatite chondrite meteorite.

**Name:** Honors Professor John Taylor *Wasson* (b. 1934), University of California Los Angeles (UCLA), USA, Departments of Chemistry and Biochemistry, and Earth and Space Sciences, for achievements across a broad swath of meteorite and impact research.

**Type Material:** Astromaterials Curation Facility, Antarctic Meteorite Curatorial Laboratory, National Aeronautics and Space Administration Johnson Space Center, Houston, Texas, USA, (Y 691,79-1).

**References:** (1) Nakamura-Messenger, K., S.J. Clemett, A.E. Rubin, B.G. Choi, S. Zhang, Z. Rahman, K. Oikawa, and L.P. Keller (2012) Wassonite: A new titanium monosulfide mineral in the Yamato 691 enstatite chondrite. *Amer. Mineral.*, 97, 807-815. (2) Williams, P.A., F. Hatert, M. Pasero, and S.J. Mills (2011) IMA Commission on new minerals, nomenclature and classification (CNMNC) Newsletter 8. New minerals and nomenclature modifications approved in 2011. *Mineral. Mag.*, 75, 289-294.