

**Crystal Data:** Hexagonal. *Point Group:*  $\bar{3} 2/m$ . As tabular grains, to 20  $\mu\text{m}$ .

**Physical Properties:** *Cleavage:* None. *Fracture:* n.d. *Tenacity:* n.d. *Hardness:* = n.d.  
D(meas.) = n.d. D(calc.) = 3.447

**Optical Properties:** Transparent. *Color:* Colorless. *Streak:* White. *Luster:* Vitreous.  
*Optical Class:* Uniaxial (+).  $\epsilon = 1.706(3)$   $\omega = 1.701(4)$  [synthetic  $\gamma\text{-Ca}_3(\text{PO}_4)_2$ ]

**Cell Data:** *Space Group:*  $R\bar{3} m$ .  $a = 5.258(1)$   $c = 18.727(3)$   $Z = 3$

**X-ray Powder Pattern:** Suizhou L6 chondritic meteorite.  
2.628 (100), 2.891 (80), 1.945 (47), 1.730 (25), 1.567 (22), 2.214 (20), 1.518 (19)

<b>Chemistry:</b>	(1)
TiO <sub>2</sub>	0.06
FeO	0.28
MgO	3.27
CaO	46.62
NiO	0.08
Na <sub>2</sub> O	2.57
K <sub>2</sub> O	0.03
Cr <sub>2</sub> O <sub>3</sub>	0.00
<u>P<sub>2</sub>O<sub>5</sub></u>	<u>47.16</u>
Total	99.90

(1) Suizhou L6 chondritic meteorite; average of 3 electron microprobe analyses; corresponding to  $(\text{Ca}_{2.51}\text{Mg}_{0.29})_{\Sigma=2.80}\text{Na}_{0.28}(\text{P}_{1.01}\text{O}_4)_2$ .

**Polymorphism & Series:** A high pressure polymorph of whitlockite.

**Occurrence:** Formed by solid state transformation of whitlockite in a vein of shock-melted material in a chondritic meteorite.

**Association:** Ringwoodite, majorite, NaAlSi<sub>3</sub>O<sub>8</sub>-hollandite, FeNi metal, troilite.

**Distribution:** From the Suizhou L6 chondritic meteorite.

**Name:** Honors Professor Guangzhi Tu, the founding director of the Institute of Geochemistry, Chinese Academy of Sciences (CAS).

**Type Material:** Geological Museum, Guangzhou Institute of Geochemistry, Chinese Academy of Sciences, Wushan, China.

**References:** (1) Xiande Xie, M.E. Minitti, Ming Chen, Ho-kwang Mao, Deqiang Wang, Jinfu Shu, and Yingwei Fei (2003) Tuite,  $\gamma\text{-Ca}_3(\text{PO}_4)_2$ : a new mineral from the Suizhou L6 chondrite. *Eur. J. Mineral.*, 15, 1001-1005. (2) (2004) *Amer. Mineral.*, 89, 1832 (abs. ref. 1).