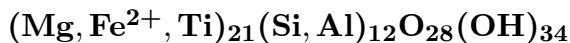


**Carlosturanite**

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**Crystal Data:** Monoclinic. *Point Group:* *m*. Fibers, to 0.2  $\mu\text{m}$  width, elongated along [010], to several cm. Commonly gathered in folded bundles; intergrown in parallel with brucite and chrysotile.

**Physical Properties:** *Cleavage:* On {001}, very good; parting on {010}. *Tenacity:* Flexible. Hardness = n.d.  $D(\text{meas.}) = 2.63(2)$   $D(\text{calc.}) = 2.606$

**Optical Properties:** Transparent. *Color:* Light brown. *Streak:* Whitish. *Luster:* Vitreous, pearly.

*Optical Class:* Biaxial. *Pleochroism:* Orange-brown  $\parallel$  [010]; pale orange-brown  $\perp$  [010].  $n = 1.605(5)$   $2V(\text{meas.}) = \text{n.d.}$

**Cell Data:** *Space Group:* *Cm*.  $a = 36.70$   $b = 9.41$   $c = 7.291$   $\beta = 101.1^\circ$   $Z = 2$

**X-ray Powder Pattern:** Near Sampeyre, Italy.

7.17 (100), 3.397 (55), 3.595 (45), 2.562 (40), 2.280 (35), 18.02 (25), 3.637 (20)

**Chemistry:**

	(1)
SiO <sub>2</sub>	35.53
TiO <sub>2</sub>	2.24
Al <sub>2</sub> O <sub>3</sub>	1.07
Cr <sub>2</sub> O <sub>3</sub>	0.24
FeO	4.03
MnO	0.72
MgO	39.28
H <sub>2</sub> O	16.85
Total	99.96

(1) Near Sampeyre, Italy; by electron microprobe, average of 15 analyses, H<sub>2</sub>O by TGA; corresponds to  $(\text{Mg}_{18.88}\text{Fe}_{1.08}\text{Ti}_{0.54}\text{Mn}_{0.20}\text{Cr}_{0.06})_{\Sigma=20.76}(\text{Si}_{11.46}\text{Al}_{0.40})_{\Sigma=11.86}\text{H}_{36.26}\text{O}_{63.00}$ .

**Occurrence:** In a network of veins crosscutting a metamorphic antigorite serpentinite, in an ophiolite.

**Association:** Diopside, chrysotile, brucite, magnetite, clinohumite, perovskite, uvarovite (near Sampeyre, Italy).

**Distribution:** In Italy, in Piedmont, at a number of localities around Sampeyre and Casteldelfino, Varaita Valley; around Crissolo, Po Valley; at Monte Nebin, Maira Valley; and around Viù, Viù Valley. From Taberg, Sweden.

**Name:** For Professor Carlo Sturani (1938–1976), University of Torino, Torino, Italy.

**Type Material:** Regional Science Museum, Torino, Italy; Natural History Museum, Vienna, Austria, L9493; National Museum of Natural History, Washington, D.C., USA, 162683.

**References:** (1) Compagnoni, R., G. Ferraris, and M. Mellini (1985) Carlosturanite, a new asbestiform rock-forming silicate from Val Varaita, Italy. *Amer. Mineral.*, **70**, 767–772. (2) Mellini, M., G. Ferraris, and R. Compagnoni (1985) Carlosturanite: HRTEM evidence of a polysomatic series including serpentine. *Amer. Mineral.*, **70**, 773–781. (3) Belluso, E. and G. Ferraris (1991) New data on balangeroite and carlosturanite from alpine serpentinites. *Eur. J. Mineral.*, **3**, 559–566.