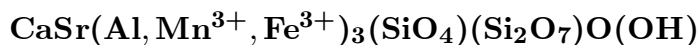


Strontiopiemontite



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Crystal Data: Monoclinic. *Point Group:* $2/m$. Prismatic, elongated along $[010]$, to 1 mm; in radial aggregates. *Twinning:* On $\{001\}$.

Physical Properties: *Cleavage:* Perfect on $\{001\}$. Hardness = 6 $D(\text{meas.}) = 3.65\text{--}3.73$
 $D(\text{calc.}) = 3.73$

Optical Properties: Transparent. *Color:* Deep red. *Streak:* Purple-brown.

Luster: Vitreous.

Optical Class: Biaxial (+). *Pleochroism:* Strong; X = yellow-orange; Y = violet; Z = reddish violet. *Orientation:* $Y = b$. $n = 1.763$ $2V(\text{meas.}) = \text{n.d.}$

Cell Data: *Space Group:* $P2_1/m$. $a = 8.862(2)$ $b = 5.682(1)$ $c = 10.191(4)$
 $\beta = 114.70(1)^\circ$ $Z = [2]$

X-ray Powder Pattern: Val Graveglia, Italy.

2.916 (100), 3.493 (50), 2.836 (50), 2.601 (50), 1.590 (50), 2.678 (40), 2.117 (40)

Chemistry:

	(1)
SiO ₂	34.27
TiO ₂	< 0.10
Al ₂ O ₃	17.56
Fe ₂ O ₃	4.89
Mn ₂ O ₃	12.93
MnO	2.87
MgO	< 0.10
CaO	11.69
SrO	13.45
H ₂ O	[1.72]
Total	[99.38]

(1) Val Graveglia, Italy; by electron microprobe, $\text{Mn}^{2+}:\text{Mn}^{3+}$ calculated from stoichiometry, H_2O calculated to give one H per formula unit; corresponds to $(\text{Ca}_{0.79}\text{Mn}_{0.21}^{2+})_{\Sigma=1.00}(\text{Sr}_{0.68}\text{Ca}_{0.31})_{\Sigma=0.99}(\text{Al}_{1.81}\text{Mn}_{0.86}^{3+}\text{Fe}_{0.32}^{3+})_{\Sigma=2.99}\text{Si}_{3.00}\text{O}_{12}(\text{OH})$.

Mineral Group: Epidote group.

Occurrence: As veinlets in a low-temperature metamorphosed manganese ore deposit (Val Graveglia, Italy).

Association: Calcite, rhodonite, rhodochrosite, ganophyllite, braunite, quartz (Val Graveglia, Italy); xonotolite, vuagnatite (Wessels mine, South Africa).

Distribution: From the Molinello and Cassagna manganese mines, near Chiavari, Val Graveglia, Liguria, Italy. In the Wessels mine, near Kuruman, Cape Province, South Africa.

Name: From its *strontium* content and similarity to *piemontite*.

Type Material: University of Florence, Florence, Italy, 1266/l.

References: (1) Bonazzi, P., S. Menchetti, and A. Palenzona (1990) Strontiopiemontite, a new member of the epidote group, from Val Graveglia, Liguria, Italy. *Eur. J. Mineral.*, 2, 519–523.
(2) (1991) *Amer. Mineral.*, 76, 668 (abs. ref. 1).