Ellenbergerite

Crystal Data: Hexagonal. Point Group: 6. Rarely as elongated prisms, to 1 cm, with hexagonal cross section. Typically as anhedral inclusions in pyrope crystals.


Cell Data: Space Group: P6₃. a = 12.255(8) c = 4.932(4) Z = 1

X-ray Powder Pattern: Parigi, Italy. 3.11 (100), 3.54 (75), 2.653 (70), 3.06 (55), 2.183 (55), 3.61 (50), 2.337 (30)

Chemistry:

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\begin{array}{ccc}
\text{SiO}_2 & 39.13 & 32.61 & 40.11 \\
\text{TiO}_2 & 3.96 & 0.58 & 6.67 \\
\text{ZrO}_2 & 0.00 & 2.13 & \\
\text{Al}_2\text{O}_3 & 24.91 & 20.64 & 25.52 \\
\text{FeO} & 0.19 & 0.41 & \\
\text{MgO} & 22.05 & 25.80 & 20.18 \\
\text{H}_2\text{O} & 7.52 & \\
\text{P}_2\text{O}_5 & 0.42 & 8.26 & \\
\hline
\text{Total} & 90.66 & 90.43 & 100.00
\end{array}
\]

(1) Parigi, Italy; by electron microprobe, analysis of a most intensely colored crystal; colorometric analysis yielded H₂O 8.0(4)%. (2) Do.; a less intensely colored crystal. (3) Mg₆Ti₆Al₆Si₈O₂₈(OH)₁₀.

Occurrence: As inclusions in pyrope porphyroblasts developed during high-pressure (25–30 kbar), medium-temperature (700 °C–800 °C) metamorphism of continental crustal rocks.

Association: Pyrope, kyanite, talc, clinochlore, rutile, zircon, sodic amphibole.

Distribution: In the Dora-Maira massif, Parigi, near Martiniana Po, Piedmont, Italy.

Name: Honors Professor François Ellenberger, Paris, France, for his geological work in the western Alps.

Type Material: University of Pierre and Marie Curie, Paris; National School of Mines, Paris, France; Institute for Mineralogy, Ruhr University, Bochum, Germany; National Museum of Natural History, Washington, D.C., USA, 163497.