Ancylite-(La) \( \text{Sr(La, Ce)(CO}_3\text{)}_2(\text{OH})\cdot\text{H}_2\text{O} \)

Crystal Data: Orthorhombic. Point Group: 2/m 2/m 2/m. Crystals are dipyramidal \( \{111\} \), with \( \{120\} \), \( \{101\} \), platy or short prismatic, faces typically curved, to 2 mm; in druses and uncommonly as skeletal or dendritic aggregates.

\( \text{D(meas.)} = 3.69(5) \) \( \text{D(calc.)} = \text{n.d.} \)

Optical Class: Biaxial (–). Dispersion: \( r < v \). \( \alpha = 1.640(3) \) \( \beta = 1.717 \) \( \gamma = 1.731(3) \)
\( 2V(\text{meas.}) = 70(5)^\circ \)

Cell Data: Space Group: [\( \text{Pmcn} \)] [by analogy to ancylite-(Ce)]. \( a = 5.072(3) \) \( b = 8.589(3) \) \( c = 7.276(3) \) \( Z = 2 \)

X-ray Powder Pattern: Mt. Kukisvumchorr, Kola Peninsula, Russia; nearly identical to ancylite-(Ce).
2.955 (100), 4.36 (92), 3.705 (90), 2.664 (89), 3.738 (88), 2.358 (87), 2.092 (80)

Chemistry:

\[
\begin{array}{ccc}
\text{CO}_2 & 22.59 & 23.07 \\
\text{La}_2\text{O}_3 & 25.75 & 42.69 \\
\text{Ce}_2\text{O}_3 & 16.23 & \\
\text{Pr}_2\text{O}_3 & 0.10 & \\
\text{Nd}_2\text{O}_3 & 0.70 & \\
\text{CaO} & 1.69 & \\
\text{SrO} & 24.22 & 27.16 \\
\text{BaO} & 0.64 & \\
\text{H}_2\text{O} & 7.37 & 7.08 \\
\text{Total} & 99.29 & 100.00
\end{array}
\]

(1) Mt. Kukisvumchorr, Kola Peninsula, Russia; by electron microprobe, average of seven analyses; \( \text{H}_2\text{O} \) by the Penfield method; corresponds to \( (\text{Sr}_{0.89}\text{Ca}_{0.11}\text{Ba}_{0.02})_\Sigma=1.02(\text{La}_{0.60}\text{Ce}_{0.38}\text{Nd}_{0.02})_\Sigma=1.00(\text{CO}_3)_1.96(\text{OH})_{1.12}\cdot\text{H}_2\text{O} \).
(2) \( \text{SrLa(CO}_3\text{)}_2(\text{OH})\cdot\text{H}_2\text{O} \).

Occurrence: A rare mineral in nepheline syenites in differentiated alkalic massifs.

Association: Aegirine, astrophyllite, loparite-(Ce), donnayite-(Y), belovite-(Ce), kkharenkoite-(Y), nenadkevichite, “biotite”, eudialyte, catapleiite, apophyllite, fluorapatite, calcite. (Mt. Kukisvumchorr, Kola Peninsula, Russia).

Distribution: On Marchenko Peak, northern part of Mt. Kukisvumchorr, Khibiny massif, Kola Peninsula, Russia. In Canada, from near Saint-Amable, Quebec.

Name: For its relation to ancylite-(Ce) and its dominant content of lanthanum.

Type Material: St. Petersburg Mining Institute, St. Petersburg, 2002/1; Geological Museum, Kola Scientific Center, Apatity, Russia.


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