**Nestolaite**

**Crystal Data:** Monoclinic. *Point Group:* 2/m. Flattened to acicular crystals, to 30 μm, occur in rounded aggregates to 2 mm.

**Physical Properties:** *Cleavage:* Perfect on {100}. *Fracture:* Uneven. *Tenacity:* Brittle.

Hardness = 2.5  
\[ D(\text{meas.}) = 3.18(2) \quad D(\text{calc.}) = 3.163 \]

**Optical Properties:** Transparent. *Color:* Light violet, colorless in transmitted light.

*Streak:* White.  
*Luster:* Vitreous.

*Optical Class:* Biaxial (+).  
\[ a = 1.642(3) \quad \beta = 1.656(3) \quad \gamma = 1.722(6) \quad 2V(\text{meas.}) = 55(5)° \]
\[ 2V(\text{calc.}) = 51° \]

**Cell Data:** *Space Group:* \( P2_1/c \).  
\[ a = 7.6502(9) \quad b = 6.7473(10) \quad c = 7.9358(13) \]
\[ \beta = 108.542(12)° \quad Z = 4 \]

**X-ray Powder Pattern:** Little Eva mine, Yellow Cat district, Grand County, Utah, USA.  
7.277 (100), 3.163 (74), 2.9783 (74), 3.630 (58), 4.949 (37), 2.7231 (31), 3.767 (29)

**Chemistry:**

<table>
<thead>
<tr>
<th>Elements</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CaO</td>
<td>28.97</td>
<td>30.25</td>
</tr>
<tr>
<td>SeO(_2)</td>
<td>61.14</td>
<td>60.00</td>
</tr>
<tr>
<td>H(_2)O</td>
<td>[9.75]</td>
<td>9.75</td>
</tr>
<tr>
<td>Total</td>
<td>99.86</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Little Eva mine, Grand County, Utah, USA; average of 5 electron microprobe analyses, H\(_2\)O from stoichiometry and confirmed by Raman spectroscopy; corresponding to Ca\(_{0.96}\)Se\(_{1.02}\)O\(_3\)·H\(_2\)O.

(2) CaSeO\(_3\)·H\(_2\)O.

**Occurrence:** A secondary mineral in the oxidized zone of a uranium deposit of the Colorado Plateau type.

**Association:** Cobaltomenite, gypsum, metarossite, orschallite, rossite.

**Distribution:** From the Little Eva mine, Yellow Cat district, Grand County, Utah, USA.

**Name:** Honors Fabrizio Nestola (b. 1972), Italian mineralogist and crystallographer, Department of Geosciences, University of Padua, Italy.

**Type Material:** A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4417/1).

**References:**