Strontiohurlbutite

\[ \text{SrBe}_2(\text{PO}_4)_2 \]

**Crystal Data:** Monoclinic.  *Point Group:* 2/m. As platy crystals, to 1.5 mm.

**Physical Properties:**  

\[ D(\text{meas.}) = \text{n.d.} \quad D(\text{calc.}) = 3.101 \]

**Optical Properties:** Transparent to translucent.  *Color:* Light blue, colorless in thin section.  
*Optical Class:* Biaxial (−).  
\[ \alpha = 1.563(3) \quad \beta = 1.569(2) \quad \gamma = 1.572(3) \]
\[ 2V(\text{meas.}) = 68.5(5)^\circ \]

\[ 2V(\text{calc.}) = 70^\circ \]

*Orientation:* \( X = b, Y \approx c. \)

**Cell Data:**  
*Space Group:* \( \text{P}_{2_1}/c \)  
\[ a = 7.997(3) \quad b = 8.979(2) \quad c = 8.420(7) \]
\[ \beta = 90.18(6)^\circ \quad Z = 4 \]

**X-ray Powder Pattern:** Nanping No. 31 pegmatite, Fujian province, southeastern China.

\[ 3.554 \ (100), \ 2.215 \ (87), \ 2.542 \ (67), \ 2.046 \ (54), \ 3.355 \ (51), \ 2.230 \ (42), \ 3.073 \ (38) \]

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \text{SrO} )</td>
<td>29.30</td>
<td>35.06</td>
</tr>
<tr>
<td>( \text{P}_2\text{O}_5 )</td>
<td>51.05</td>
<td>48.02</td>
</tr>
<tr>
<td>( \text{CaO} )</td>
<td>0.91</td>
<td></td>
</tr>
<tr>
<td>( \text{BaO} )</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>( \text{BeO} )</td>
<td>17.71</td>
<td>16.92</td>
</tr>
<tr>
<td>Total</td>
<td>99.61</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Nanping No. 31 pegmatite, Fujian province, southeastern China; average of 16 electron microprobe analyses supplemented by Raman spectrometry, BeO by SIMS; corresponds to \( \text{Sr}_{0.81}\text{Ca}_{0.05}\text{Ba}_{0.01} \text{Be}_{2.02}\text{P}_{2.05}\text{O}_8 \).  
(2) \( \text{SrBe}_2(\text{PO}_4)_2 \).

**Occurrence:** In a highly-evolved zoned pegmatite, likely from reactions between late hydrothermal fluids and primary beryl.

**Association:** Quartz, muscovite, beryl, hurlbutite, hydroxylherderite, apatite-group minerals, phenakite.

**Distribution:** From the Nanping No. 31 pegmatite, 8 km west of Nanping, Fujian province, southeastern China.

**Name:** As a strontium-dominant analog of hurlbutite.

**Type Material:** Geological Museum of China, Beijing, China (M11803) and at the Laboratory of Mineralogy, University of Liège, Belgium (20387).

**References:** (1) Rao, C., R. Wang, F. Hatert, X. Gu, L. Ottolini, H. Hu, C. Dong, F.D. Bo, and M. Baijot (2014) Strontiohurlbutite, \( \text{SrBe}_2(\text{PO}_4)_2 \), a new mineral from Nanping No. 31 pegmatite, Fujian Province, Southeastern China.  