Shlykovite

\[ \text{KC}_4\text{Si}_4\text{O}_9(\text{OH})\cdot3\text{H}_2\text{O} \]

**Crystal Data:** Monoclinic. Point Group: 2/m. As distorted lamellae, to 1 mm, flattened along \{001\}; as fibers to 0.5 mm and as fibrous aggregates to 2 cm. Rarely as pinacoidal crystals to 0.4 mm.

**Physical Properties:** Cleavage: Perfect on \{001\}. Fracture: n.d. Tenacity: Lamellae pliable. Hardness = 2.5-3  
D(meas.) = n.d.  
D(calc.) = 2.244


Optical Class: Biaxial (-).  
\[ \alpha = 1.500(3) \quad \beta = 1.509(2) \quad \gamma = 1.515(2) \quad 2V(\text{meas.}) = 60(20)^\circ \]

\[ 2V(\text{calc.}) = 78^\circ \]

Orientation: X = c.  
Dispersion: Medium, r < v.

**Cell Data:** Space Group: P2_1/c.  
\[ a = 6.4897(4) \quad b = 6.9969(5) \quad c = 26.714(2) \]

\[ \beta = 94.597(8)^\circ \quad Z = 4 \]

**X-ray Powder Pattern:** Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.

13.33 (100), 6.67 (76), 2.945 (62), 3.068 (57), 6.47 (55), 3.469 (45), 3.042 (45)

**Chemistry:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na(_2)O</td>
<td>0.68</td>
</tr>
<tr>
<td>K(_2)O</td>
<td>11.03</td>
</tr>
<tr>
<td>CaO</td>
<td>13.70</td>
</tr>
<tr>
<td>SiO(_2)</td>
<td>59.86</td>
</tr>
<tr>
<td>H(_2)O</td>
<td>[14.73]</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia; average of 7 electron microprobe analyses, H\(_2\)O by difference, OH/H\(_2\)O calculated for charge balance; corresponding to \((K_{0.96}Na_{0.09})_2(1.05Ca_{1.00}Si_{4.07}O_{39.92})(OH)_{0.68} \cdot 3H_2O\).

**Occurrence:** A late-stage hydrothermal mineral along fractures in a high-potassium peralkaline pegmatite in urtite rocks near the contact with nepheline-apatite rock.

**Association:** Cryptophyllite.

**Distribution:** At the Central mine, Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.

**Name:** Honors geologist, Valeriy Georgievich Shlykov (1941-2007), Moscow State University, Russia.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia (3753/1).