Cryptophyllite  

\[ \text{K}_2\text{Ca}[\text{Si}_4\text{O}_{10}] \cdot 5\text{H}_2\text{O} \]

**Crystal Data:** Monoclinic.  
*Point Group:* 2/m.  
As distorted and/or split platelets to 0.2 mm or as rosette-like intergrowths with shlykovite to 1 mm.

**Physical Properties:**  
*Cleavage:* Perfect on {001}.  
*Fracture:* n.d.  
*Tenacity:* n.d.  
*Hardness:* n.d.  
*D(meas.)* = n.d.  
*D(calc.)* = 2.185

**Optical Properties:**  
*Color:* Colorless.  
*Streak:* White.  
*Luster:* Vitreous.  
*Optical Class:* Biaxial (+).  
\( \alpha = 1.520(2) \quad \beta = 1.523(2) \quad \gamma = 1.527(2) \quad 2V(\text{meas.}) > 70^\circ \)

**Cell Data:**  
*Space Group:* P2_1/n.  
*a = 6.4934(14) \quad b = 6.9919(5) \quad c = 32.087(3) \quad \beta = 94.680(12)^\circ \quad Z = 4\]

**X-ray Powder Pattern:** Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia.  
16.01 (100), 2.903 (84), 6.24 (48), 2.995 (47), 3.197 (27), 7.98 (24), 3.228 (22)

**Chemistry:**  
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Na_2O</td>
<td>1.12</td>
</tr>
<tr>
<td>K_2O</td>
<td>17.73</td>
</tr>
<tr>
<td>CaO</td>
<td>11.59</td>
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<tr>
<td>Al_2O_3</td>
<td>0.08</td>
</tr>
<tr>
<td>SiO_2</td>
<td>50.24</td>
</tr>
<tr>
<td>H_2O</td>
<td>[19.24]</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Mt. Rasvumchorr, Khibiny massif, Kola Peninsula, Russia; average of 4 electron microprobe analyses, H_2O by difference, OH/H_2O calculated for charge balance; corresponding to \((\text{K}_{1.80}\text{Na}_{0.17})_{0.24.1.97}\text{Ca}_{0.90}\text{Al}_{0.01}\text{Si}_{3.99}\text{O}_{3.94}(\text{OH})_{0.06} \cdot 5\text{H}_2\text{O}.

**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:** Shlykovite.

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

**Name:** Derived from the Greek words “κρυπτοζ” - concealed (crypto) and “φυλλον” - leaf as an allusion to its occurrence in intimate intergrowths with visually indistinguishable shlykovite and to its layered structure.

**Type Material:** A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia (3753/2).

**References:**  