Nordite-(Ce)  

\[ \text{Na}_3\text{SrCeZnSi}_6\text{O}_{17} \]

**Crystal Data:** Orthorhombic.  
*Point Group:* 2/m 2/m 2/m.  
As tabular crystals to 1 cm; lamellar aggregates to 2 cm.

**Physical Properties:** Cleavage: Distinct on {010}.  
Tenacity: Brittle.  
Fracture: n.d.  
Hardness = 5  
D(meas.) = 3.43-3.49  
D(calc.) = 3.643  
Metamict.

**Optical Properties:** Translucent.  
Color: Colorless to white, brown.  
Streak: Light brown.

**Optical Class:** Biaxial (-).  
\( \alpha = 1.619-1.621 \)  
\( \beta = 1.63-1.64 \)  
\( \gamma = 1.642-1.655 \)  
2V(meas.) = <30°  
2V(calc.) = 82°-90°  
Dispersion: Strong, \( r < v \).

**Cell Data:**  
*Space Group:* Pcca.  
a = 14.3891(2)  
b = 5.17986(2)  
c = 19.7554(2)  
Z = 4

**X-ray Powder Pattern:** n.d.

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na₂O</td>
<td>11.9</td>
<td></td>
</tr>
<tr>
<td>CaO</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>SrO</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>BaO</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>MgO</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>MnO</td>
<td>0.09</td>
<td></td>
</tr>
<tr>
<td>FeO</td>
<td>0.2</td>
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</tr>
<tr>
<td>ZnO</td>
<td>9.6</td>
<td></td>
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<tr>
<td>La₂O₃</td>
<td>8.3</td>
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</tr>
<tr>
<td>Ce₂O₃</td>
<td>10.4</td>
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<tr>
<td>Pr₂O₃</td>
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<tr>
<td>Nd₂O₃</td>
<td>1.3</td>
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<tr>
<td>SiO₂</td>
<td>45.2</td>
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<tr>
<td>Total</td>
<td>99.89</td>
<td></td>
</tr>
</tbody>
</table>

(1) Illutalik, South Greenland; average electron microprobe analysis supplemented by LA-ICPMS;  
corresponding to \( \text{Na}_3\text{Sr}(\text{Sr}_{0.75}\text{Ca}_{0.20}\text{Ba}_{0.05})\text{Zn}_{2-1.00}(\text{Ce}_{0.50}\text{La}_{0.41}\text{Nd}_{0.06}\text{Pr}_{0.03})\text{Si}_{2-1.00}(\text{Zn}_{0.04}\text{Fe}_{0.02}\text{Mg}_{0.02}\text{Mn}_{0.01})\text{Si}_{5.97}\text{O}_{17} \)

**Mineral Group:** Nordite supergroup, nordite group (Sr dominant in the X site).

**Occurrence:** In the ussingite core of hyperagpaitic pegmatite.

**Association:** Aegirine, epistolite, steenstrupine-(Ce), serandite, belovite-(Ce), sphalerite.

**Distribution:** At Mount Sengischorr, Lovozero alkaline massif, Kola Peninsula, Russia.  
From Ilulatlik [now spelled Illutalik], Gardar Province, South Greenland; at Mont Saint-Hilaire, Quebec, Canada; and in the Dara-i-Pioz massif, Tajikistan.

**Name:** A member of the nordite group with Zn dominant in the Z structural site and with a suffix for the dominant rare earth element.

**Type Material:** A.E. Fersman Mineralogical Museum, Moscow, Russia (59393).