Agakhanovite-(Y)  

(YCa)₂KBe₃Si₁₂O₃₀  

**Crystal Data:** Hexagonal.  
*Point Group:* 6/m 2/m 2/m.  
Crystals are hexagonal prisms elongated along [001], and displaying {100} and {001}, to 60 μm.  

**Physical Properties:**  
*Cleavage:* None.  
*Fracture:* Conchoidal.  
*Tenacity:* Brittle.  
*Hardness:* 6  
*D(meas.)* = n.d.  
*D(calc.)* = 2.672  

**Optical Properties:**  
*Color:* Colorless.  
*Streak:* White.  
*Luster:* Vitreous.  
*Optical Class:* Uniaxial (-).  
\[\omega = 1.567(2) \quad \epsilon = 1.564(2)\]  

**Cell Data:**  
*Space Group:* P6/mcc.  
*a = 10.3476(2) \quad c = 13.7610(3) \quad Z = 2*  

**X-ray Powder Pattern:** Heftetjem pegmatite, Tørdal, Norway.  
2.865 (100), 3.287 (96), 4.134 (84), 6.877 (56), 2.986 (43), 4.479 (38), 2.728 (36)  

**Chemistry:**  
(1)  
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</thead>
<tbody>
<tr>
<td>SiO₂</td>
<td>69.56</td>
<td>Al₂O₃</td>
<td>0.35</td>
<td>Y₂O₃</td>
<td>9.69</td>
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<tr>
<td>Yb₂O₃</td>
<td>0.15</td>
<td>FeO</td>
<td>0.02</td>
<td>CaO</td>
<td>5.75</td>
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<tr>
<td>Na₂O</td>
<td>0.07</td>
<td>K₂O</td>
<td>4.52</td>
<td>BeO</td>
<td>[7.06]</td>
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<tr>
<td>H₂O</td>
<td>[1.74]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98.91</td>
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(1) Heftetjem pegmatite, Tørdal, Norway; average of 7 electron microprobe analyses supplemented by Raman spectroscopy, BeO, H₂O and vacancies calculated from structure; corresponds to \((\text{Y}^{0.89}\text{Yb}^{0.01}\text{Ca}^{1.00})2\text{K}_{1.00}(\text{Be}^{2.93}\text{Al}^{0.07})2\text{Si}_{12.02}\text{O}_{30}\)

**Mineral Group:** Milarite group.  

**Occurrence:** In miarolitic cavities in granitic pegmatite and crystallized from late-stage hydrothermal solutions enriched in yttrium.  

**Association:** Microcline, albite, quartz, milarite, kristiansenite.  

**Distribution:** From the Heftetjem pegmatite, between Høydalen and Skarsfjell, Tørdal, Norway.  

**Name:** Honors Atali A. Agakhanov (b. 1971), mineralogist at the A.E. Fersman Mineralogical Museum, Moscow, Russia, who has worked on a wide variety of pegmatite minerals, including minerals of the milarite group.  

**Type Material:** Mineralogy collection, Royal Ontario Museum, Toronto, Ontario, Canada (M43863).  