Monteregianite-(Y) \( \text{K}_2\text{Na}_4(\text{Y, Ca})_2\text{Si}_{16}\text{O}_{38}\cdot 10\text{H}_2\text{O} \)

**Crystal Data:** Monoclinic, pseudo-orthorhombic. **Point Group:** 2/m. Crystals needlelike, elongated and flattened, to 2.5 cm; may be tabular; as irregular micaceous masses, radiating clusters, and parallel groups.

**Physical Properties:** 
- **Cleavage:** Perfect on \{110\}, very good on \{010\}, good to fair on \{110\}. 
- **Hardness:** \( \sim 3.5 \) 
- **Density (meas.):** 2.42(2) 
- **Density (calc.):** 2.41 
- **Fluoresces green under SW UV.**

**Optical Properties:**
- Transparent to opaque. 
- **Color:** Colorless, white, gray; pale rose or violet, rarely mauve or pale green; may be color zoned. 
- **Streak:** White. 
- **Luster:** Vitreous to silky. 
- **Optical Class:** Biaxial (+). 
- **Orientation:** \( X = c; Y = a; Z = b \). 
- \( \alpha = 1.510(1) \) 
- \( \beta = 1.513(1) \) 
- \( \gamma = 1.517(1) \) 
- \( 2V (\text{meas.}) = 87(1)^\circ \) 
- \( 2V (\text{calc.}) = 82^\circ \)

**Cell Data:**
- **Space Group:** \( P2_1/n \). 
- \( a = 9.512(2) \) 
- \( b = 23.956(4) \) 
- \( c = 9.617(2) \) 
- \( \beta = 93.85(1)^\circ \) 
- \( Z = 2 \)

**X-ray Powder Pattern:** Mont Saint-Hilaire, Canada. 
- 12.00 (100), 7.03 (100), 4.42 (100), 2.873 (80), 6.02 (50), 3.405 (50), 3.026 (50)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Weight</th>
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<tbody>
<tr>
<td>SiO_2</td>
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<td>Al_2O_3</td>
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<td>Y_2O_3</td>
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<td>MgO</td>
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<td>BaO</td>
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<tr>
<td>H_2O</td>
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<tr>
<td><strong>Total</strong></td>
<td>99.82</td>
<td></td>
</tr>
</tbody>
</table>

(1) Mont Saint-Hilaire, Canada; Y by electron microprobe, H_2O by DTA; corresponds to \( \text{K}_{1.80}\text{Na}_{4.66}(\text{Y}_{1.68}\text{Ca}_{0.18}\text{Mg}_{0.06}\text{Ba}_{0.04})_{\Sigma=1.96}(\text{Si}_{15.87}\text{Al}_{0.16})_{\Sigma=16.03}\text{O}_{38}\cdot 10\text{H}_2\text{O} \).

**Occurrence:** In miarolitic cavities, metamorphosed inclusions, and rheomorphic breccias in nepheline syenite in an intrusive alkalic gabbro-syenite complex.

**Association:** Calcite, pectolite, microcline, albite, aegirine, arvedsonite, phlogopite, fluorite, quartz, ekanite, sepiolite, aschroftine, lorenzenite, narsarsukite, natrolite, harmotome, apophyllite, molybdenite, pyrite.

**Distribution:** At Mont Saint-Hilaire, Quebec, Canada.

**Name:** For the Monteregian Hills, of which Mont Saint-Hilaire is one, and yttrium in the composition.

**Type Material:** Canadian Museum of Nature, Ottawa, Canada, 37130; National Museum of Natural History, Washington, D.C., USA, 145548.

**References:**
2. Amer. Mineral., 65, 207 (abs. ref. 1). 

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