Rudabányaite  
\((\text{Ag}_2\text{Hg}_2)(\text{AsO}_4)\text{Cl})\)

**Crystal Data:** Cubic. *Point Group:* \(\bar{4} 3m\). As crystals to 0.6 mm and aggregates of a few millimeters across. Occasionally crystals show \{110\} and \{100\}.

**Physical Properties:** *Cleavage:* None. *Tenacity:* Brittle. *Fracture:* Uneven. **Hardness:** 3-4  
\(D(\text{meas.}) = \text{n.d.} \)  
\(D(\text{calc.}) = 8.04\)

\(n(\text{calc.}) = 2.33 \)  
*Dispersion:* Weak.  
*Nonpleochroic.*

**Cell Data:** *Space Group:* \(F\bar{4} 3c\).  
\(a = 17.360(3) \)  
\(Z = 32\)

**X-Ray Diffraction Pattern:** Adolf mine, Rudabánya deposit, near Rudabánya, northeast Hungary.  
2.931 (s), 2.611 (s), 5.00 (m), 2.001 (m), 4.33 (mw), 2.255 (mw), 1.734 (mw)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(\text{Ag}_2\text{O})</td>
<td>29.39</td>
<td>29.29</td>
</tr>
<tr>
<td>(\text{Hg}_2\text{O})</td>
<td>52.62</td>
<td>52.72</td>
</tr>
<tr>
<td>(\text{As}_2\text{O}_5)</td>
<td>13.69</td>
<td>14.52</td>
</tr>
<tr>
<td>(\text{Cl})</td>
<td>4.62</td>
<td>4.48</td>
</tr>
<tr>
<td>(\text{SO}_3)</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>(-\text{O} = \text{Cl}_2)</td>
<td>1.04</td>
<td>1.01</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>99.47</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Adolf mine, Rudabánya deposit, near Rudabánya, northeast Hungary; average electron microprobe analysis supplemented by micro-Raman spectroscopy; corresponds to \((\text{Ag}_{2.08}\text{Hg}_{2.05})_{\text{Z}=4.11}(\text{As}_{0.99}\text{S}_{0.02})\text{Cl}_{1.06}\).  
(2) \((\text{Ag}_2\text{Hg}_2)(\text{AsO}_4)\text{Cl}\).

**Occurrence:** A secondary mineral in cavities of siliceous sphaerosiderite and limonite rocks formed by reaction of Ag-, Hg- and As-bearing sulfides or Ag amalgams with chlorine-bearing solutions.

**Association:** Chlorargyrite, bromargyrite, iodargyrite, perroudite, capgaronnite, iltsite.

**Distribution:** From the Adolf mine area, Rudabánya ore deposit, near Rudabánya town, ~35 km north of Miskolc, northeast Hungary.

**Name:** For its type locality near Rudabönya, Hungary.

**Type Material:** Mineral collection of the Herman Ottó Museum, Miskolc, Hungary (2016.351).