Nowackiite  
\[ \text{Cu}_6\text{Zn}_3\text{As}_4\text{S}_{12} \]

Crystal Data:  Hexagonal.  Point Group:  3.  As equant crystals, to 0.3 mm.  Twinning: On \{0001\}.


Cell Data:  Space Group:  \( R3 \).  \( a = 13.440(1) \)  \( c = 9.17(1) \)  \( Z = 3 \)

X-ray Powder Pattern:  Binntal, Switzerland.  
1.019 (100), 1.081 (75), 1.887 (63), 3.127 (61), 1.605 (61), 1.216 (52), 1.085 (20)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cu</td>
<td>31.2</td>
<td>30.9</td>
<td>30.21</td>
</tr>
<tr>
<td>Zn</td>
<td>15.9</td>
<td>16.4</td>
<td>15.54</td>
</tr>
<tr>
<td>As</td>
<td>22.4</td>
<td>22.8</td>
<td>23.75</td>
</tr>
<tr>
<td>S</td>
<td>31.9</td>
<td>32.0</td>
<td>30.50</td>
</tr>
<tr>
<td>Total</td>
<td>101.4</td>
<td>102.1</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Binntal, Switzerland; by electron microprobe, corresponding to \( \text{Cu}_{6.04}\text{Zn}_{3.01}\text{As}_{3.73}\text{S}_{12.70} \).  
(2) Do.; by electron microprobe, corresponding to \( \text{Cu}_{6.02}\text{Zn}_{3.11}\text{As}_{3.77}\text{S}_{12.36} \).  
(3) \( \text{Cu}_6\text{Zn}_3\text{As}_4\text{S}_{12} \).

Occurrence:  In a hydrothermal deposit in dolostone, noted for a variety of Pb–As–S minerals.

Association:  Sphalerite, dolomite.

Distribution:  From the Lengenbach quarry, Binntal, Valais, Switzerland [TL].

Name:  Honors Professor Werner Nowacki (1909–1989), Swiss mineralogist, University of Berne, Switzerland.

Type Material:  University of Bern, Bern, Switzerland, holotype no longer exists, L3892-65.