Milotaite  

PdSbSe

Crystal Data: Cubic.  
Point Group: 23.  
As irregular gains, to 25 µm.

Hardness = 4.5  
VHN = 465 (100 g load).  
D(meas.) = n.d.  
D(calc.) = 8.09

Optical Properties: Opaque.  
Color: Silvery gray; white in reflected light.  
Streak: Gray.  
Luster: Metallic.  
Optical Class: Isotropic.  
Bireflectance: Weak to distinct.  
Anisotropism: Strong.  
R: (470) 48.6, (546) 47.5, (589) 47.7, (650) 49.0

Cell Data:  
Space Group: $P\overline{2}1_3$.  
a = 6.3181(5)  
Z = 4  
(for synthetic PdSbSe)

X-ray Powder Pattern:  
(calculated from the structure of synthetic PdSbSe)  
2.825 (100), 1.9047 (98), 2.579 (81), 3.159 (53), 2.234 (32), 1.7521 (27), 1.6883 (25)

Chemistry:  

<table>
<thead>
<tr>
<th>Element</th>
<th>Pd</th>
<th>Cu</th>
<th>Ag</th>
<th>Sb</th>
<th>Se</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>34.17</td>
<td>0.78</td>
<td>0.35</td>
<td>38.03</td>
<td>26.38</td>
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<td></td>
<td>Total 99.71</td>
</tr>
</tbody>
</table>

(1) Předbořice, Czech Republic; average of 5 electron microprobe analyses, corresponding to Pd$_{0.98}$Cu$_{0.04}$Ag$_{0.01}$Sb$_{0.95}$Se$_{1.02}$.

Mineral Group: Ullmanite subgroup of the gersdorfite group.

Occurrence: A low-temperature mineral in fractures in selenium-rich uraninite in calcite veins.

Association: Embedded in eucairite and tiemannite, associated with bornite, selenian digenite, chrisstanleyite, fischesserite, gold, silver-rich hakite, tyrrellite, clausthalite, chaméanite, uraninite.

Distribution: In a polished section attributed to Předbořice, Czech Republic, purchased from a mineral dealer.

Name: Honors Milota Makovicky (b. 1941), Geological Institute, University of Copenhagen, for her outstanding investigations of sulfide and sulfarsenide systems with platinum-group elements.

Type Material: Department of Geography, Geology and Mineralogy, Division of Mineralogy and Material Sciences (Mineralogical Museum), Salzburg, Austria (14935).

References:  