**Bursaite**

\[ \text{Pb}_5\text{Bi}_4\text{S}_{11} \]

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**Crystal Data:** Orthorhombic. *Point Group:* \( 2/m \ 2/m \ 2/m \). Prismatic crystals, up to 4 mm, and platy elongated grains; partly in radial or polycrystalline aggregates. *Twinning:* Common, with twin plane \( || [001] \), possibly \( [110] \); lamellar.

**Physical Properties:** *Cleavage:* Tabular \([\text{sic}]\); \( || [100] \). Hardness = Polishing hardness less than chalcopyrite, greater than bismuth. \( \text{VHN} = 126-134 \) D(meas.) = > 6.2 D(calc.) = n.d.


**Cell Data:** *Space Group:* \( \text{Bbmm} \). \( a = 13.399(20) \) \( b = 20.505(10) \) \( c = 4.117(5) \) \( Z = [2] \)

**X-ray Powder Pattern:** Uludağ, Turkey.
\( 2.048 \ (100), 2.998 \ (78), 3.670 \ (67), 3.484 \ (67), 2.696 \ (67), 2.794 \ (44), 3.794 \ (33) \)

**Chemistry:**

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pb</td>
<td>45.0</td>
<td>45.03</td>
<td>46.57</td>
</tr>
<tr>
<td>Ag</td>
<td>1.0</td>
<td>1.41</td>
<td></td>
</tr>
<tr>
<td>Bi</td>
<td>38.5</td>
<td>37.43</td>
<td>37.58</td>
</tr>
<tr>
<td>Sb</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total** 99.2 100.01 100.00

(1) Uludağ, Turkey; by electron microprobe, corresponding to (\( \text{Pb}_{4.72}\text{Ag}_{0.28}\))\( \Sigma=4.92\text{Bi}_{1.06}\text{S}_{10.82} \).

(2) Shumilovsk deposit, Russia; by electron microprobe, corresponding to (\( \text{Pb}_{4.83}\text{Ag}_{0.29}\))\( \Sigma=5.12 \) \( (\text{Bi}_{3.99}\text{Sb}_{0.11})\)\( \Sigma=4.10\text{S}_{10.78} \).

(3) \( \text{Pb}_5\text{Bi}_4\text{S}_{11} \).

**Occurrence:** In a contact metamorphic scheelite deposit (Uludağ, Turkey); in sulfide veinlets around a greisen Sn–W deposit in granite (Shumilovsk deposit, Russia); in a volcanogenic massive sulfide deposit (Cofer deposit, Virginia, USA).

**Association:** Sphalerite, tremolite, pyrite, calcite, garnet, quartz, scheelite, chalcopyrite, bismuth (Uludağ, Turkey); kobellite, tintinaite (Boliden, Sweden); wolframite, cassiterite, bismuthinite, galena, cosalite, heyrovskýite, galenobismutite, cannizzarite, tetradymite, joséite-B, bismuth, quartz (Shumilovsk deposit, Russia).

**Distribution:** From Uludağ, Bursa Province, Turkey [TL]. At Hürky, Czech Republic. From Băița, Romania. At Boliden, Västerbotten, Sweden. From Vulcano, in the Lipari Islands, Italy. In the Shumilovsk Sn–W deposit, western Transbaikal, and from the Strežhana pyrite-polymetallic deposit, locality not otherwise defined, Russia. In the USA, at Organ, Doña Ana Co., New Mexico; large crystals in the Abril mine, Middle Pass district, Cochise Co., Arizona; from near Austin, Reese River district, Lander Co., Nevada; in the Cofer deposit, Louisa Co., Virginia. From the Huemules deposit, Chubut Province, Argentina.

**Name:** For the locality in Bursa Province, Turkey.

**Type Material:** n.d.


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