**Crystal Data:** Monoclinic. *Point Group:* \(2/m\). Rarely as needlelike, columnar or platy crystals, vertically striated, to 5 mm. Commonly as irregular grains and fine-grained aggregates. *Twinning:* Polysynthetic.

**Physical Properties:** *Tenacity:* Very brittle. Hardness = 3–4 VHN = 187–213, 200 average. \(D(\text{meas.}) = 6.35\) \(D(\text{calc.}) = 6.451\)


\[R_1 - R_2:\ (400) 36.2–39.8, (420) 36.2–40.4, (440) 36.2–41.0, (460) 36.3–41.6, (500) 36.4–42.0, (500) 36.6–42.4, (520) 36.9–42.6, (540) 37.4–42.8, (560) 37.6–43.0, (580) 37.8–43.2, (600) 37.9–43.3, (620) 38.0–43.5, (640) 38.0–43.7, (660) 38.0–43.7, (680) 37.9–43.6, (700) 37.8–43.4\]

**Cell Data:** *Space Group:* \(\text{A}_2/m\). \(a = 27.205(50)\) \(b = 3.927(15)\) \(c = 17.575(50)\) \(\beta = 92^\circ 9(10)'\) \(Z = 4\)

**X-ray Powder Pattern:** Banská Hodruša, Slovakia. 3.102 (vs), 3.62 (s), 2.715 (s), 3.22 (m/s), 3.48 (m), 1.722 (m), 1.450 (w/m)

**Chemistry:**

<table>
<thead>
<tr>
<th>Element</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<tbody>
<tr>
<td>Cu</td>
<td>13.88</td>
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<td>13.66</td>
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<tr>
<td>Fe</td>
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<td>0.34</td>
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<tr>
<td>Pb</td>
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<tr>
<td>Cd</td>
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<tr>
<td>Ag</td>
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<tr>
<td>Bi</td>
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<td>64.41</td>
<td>67.39</td>
</tr>
<tr>
<td>S</td>
<td>18.98</td>
<td>18.90</td>
<td>18.95</td>
</tr>
</tbody>
</table>

Total: 98.22 98.67 100.00

1. Banská Hodruša, Slovakia; by electron microprobe, corresponding to \(\text{Cu}_{4.06}\text{Fe}_{0.15}\text{Bi}_{5.77}\text{S}_{11.60}\).
2. Ocna de Fier, Romania; by electron microprobe, average of ten analyses; corresponding to \(\text{Cu}_{3.90}\text{Ag}_{0.18}\text{Fe}_{0.12}\text{Pb}_{0.06}\text{Cd}_{0.01}\text{Bi}_{5.74}\text{S}_{11.60}\).
3. \(\text{Cu}_4\text{Bi}_6\text{S}_{11}\).

**Occurrence:** In a polymetallic ore deposit of subvolcanic type, in a quartz vein system developed in propylitized pyroxenite andesite (Banská Hodruša, Slovakia).

**Association:** Quartz, hematite, chalcopyrite, wittichenite (?), pavonite (Banská Hodruša, Slovakia).

**Distribution:** From the Rosalia mine, Banská Hodruša, near Banská Štiavnica (Schemnitz), Slovakia [TL]. In the Paulus mine, Ocna de Fier (Morávica; Vaskô); at Băița (Rézhány); and from Valea Seacă, Romania. In the USA, at the Black Metals (Jackrabbit) mine, Bristol district, Lincoln Co., Nevada; from the Alice mine, Clear Creek Co., Colorado; and in the Campbell mine, Bisbee, Cochise Co. From the Julcani district, Peru.

**Name:** For the mining community of Banská Hodruša, Slovakia.

**Type Material:** n.d.

**References:**