Perroudite

AgsHgsSs(I, Br)zCl2

Crystal Data: Orthorhombic. Point Group: 222. Fibrous tufted aggregates of crystals, to 0.07 mm, prismatic on [001], flattened on {100}, which may have hollow terminations. 
Twinning: Observed as contact twins on {0hl} [sic].


Optical Class: Biaxial (+). α = 2.3 β = 2.4 γ = n.d. 2V(meas.) = ~70° Pleochroism: Very intense; X = dark brownish red; Y = yellow; Z = brownish yellow. Orientation: X = c; Y = b; Z = a. Dispersion: r > v, very strong.

Cell Data: Space Group: P212121. a = 17.43(2) b = 12.24(2) c = 4.35(1) Z = 2

X-ray Powder Pattern: Cap Garonne mine, France. 3.012 (100), 2.965 (80), 3.945 (60), 2.638 (35), 3.694 (30), 2.740 (30), 2.446 (30)

X-ray Powder Pattern: Coppin Pool, Australia. 2.982 (100), 2.724 (40), 3.948 (30), 2.629 (20), 2.442 (20), 2.141 (20), 2.071 (20)

Chemistry: 

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<tr>
<td>Hg</td>
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<td>S</td>
<td>6.67</td>
<td>9.07</td>
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<tr>
<td>I</td>
<td>10.32</td>
<td>10.80</td>
<td>6.45</td>
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</table>

(1) Cap Garonne mine, France; by electron microprobe, average of five analyses on two crystals; corresponds to AgsHgsSs5.98(Cl1.55Br0.87)2Cl2. (2) Broken Hill, Australia; by electron microprobe, average of seven analyses; corresponding to AgsHgsSs5.45(I1.60Cl1.5Br0.23)2Cl2. (3) Coppin Pool, Australia; by electron microprobe, average of 32 analyses on two specimens; corresponds to AgsHgsSs5.18Ss6.06(Cl2.40I1.81Br0.98)2Cl2.

Occurrence: An alteration of tennantite in sandstones and conglomerates (Cap Garonne mine, France); in a quartz vein carrying oxidized galena (Coppin Pool, Australia).

Association: Mercurian and argentian tennantite, secondary copper minerals (Cap Garonne mine, France); iodargyrite, gold, kaolinite (Broken Hill, Australia); anglesite, cerussite, phosgenite, covellite, pyromorphite, cinnabar (Coppin Pool, Australia).

Distribution: From the Cap Garonne mine, near le Pradet, Var, France [TL]. At the Schöne Aussicht mine, near Dernbach, North Rhine-Westphalia, Germany. In Australia, at Broken Hill, New South Wales; at Coppin Pool, Pilbara district, and from the Anticline prospect, 11 km west-southwest of Ashburton Downs homestead, Capricorn Range, Western Australia. From Tsumeb, Namibia.

Name: Honors Professor Pierre Perroud (b. 1943), Voltaire College, Geneva, Switzerland, for his work on Cap Garonne mine minerals.

Type Material: Natural History Museum, Geneva, Switzerland; Government Chemical Laboratories, Perth; Museum Victoria, Melbourne, Australia.