Weishanite  
\((\text{Au, Ag)}_3\text{Hg}_2\)

Crystal Data: Hexagonal. Point Group: \(6/m\ 2/m\ 2/m\). Grains to 30 µm, in irregular aggregates from 0.05 to 0.4 mm.

Physical Properties: Tenacity: Ductile, malleable. Hardness = 2.4 \ VHN = 50.5  
\(D(\text{meas.}) = \text{n.d.}\) \(D(\text{calc.}) = 18.17\)


\(R_1 - R_2: (480) 63.75, (534) 76.30, (589) 81.03, (656) 68.6\)

Cell Data: Space Group: \([P6_3/mmc]\) (by analogy to \(\text{Au}_3\text{Hg}\)). \(a = 2.9265\) \(c = 4.8178\) \(Z = 2\)

X-ray Powder Pattern: Poshan district, China.  
2.243 (100), 0.9396 (90), 1.3593 (80), 1.2509 (80), 0.9954 (70), 1.4609 (60), 1.2255 (60)

Chemistry:  
\[
\begin{array}{c|c}
\text{Element} & \text{Formula} \\
\hline
\text{Au} & 56.91 \\
\text{Ag} & 3.17 \\
\text{Hg} & 39.92 \\
\hline
\text{Total} & 100.00 \\
\end{array}
\]

Poshan district, China; by electron microprobe, corresponding to \((\text{Au}_{2.89}\text{Ag}_{0.29})\Sigma=3.18\text{Hg}_{1.99}\).

Occurrence: In the silicified zone of the silver-rich part of an Au-Ag deposit in biotite granulite.

Association: Gold, silver, acanthite, pyrite, galena, sphalerite, pyrrhotite, scheelite.

Distribution: From the Poshan mining district, Tongbai, Henan Province, China.

Name: Derivation not stated.

Type Material: National Geological Museum, Beijing, China.

References:  