

**Crystal Data:** Hexagonal. *Point Group:* 6/m 2/m 2/m. As anhedral and occasionally subhedral hexagonal-like crystals to 2  $\mu\text{m}$ , displaying {001} and {100} or {110}.

**Physical Properties:** *Cleavage:* n.d. *Fracture:* n.d. *Tenacity:* Ductile and malleable.  
Hardness = ~2.5      D(meas.) = n.d.      D(calc.) = 16.86

**Optical Properties:** Opaque. *Color:* Silver. *Streak:* Silvery white. *Luster:* Metallic.  
*Optical Class:* n.d.

**Cell Data:** Space Group:  $P6_3/mcm$ .  $a = 6.996(1)$   $c = 10.154(2)$   $Z = 10$

**X-ray Powder Pattern:** Iyoki, Uchiko, Shikoku Island, Japan.  
2.337 (100), 2.234 (87), 1.225 (65), 2.434 (42), 1.301 (41), 1.401 (39), 2.877 (29)

Chemistry:	(1)	(2)
Au	54.92	54.09
Ag	0.0	
Hg	47.50	45.91
Total	102.42	100.00

(1) Iyoki, Uchiko, Shikoku Island, Japan; average of 5 SEM-EDS analyses; high total attributed to irregular sample surface; corresponds to Au<sub>5.95</sub>Hg<sub>5.05</sub>. (2) Au<sub>6</sub>Hg<sub>5</sub>.

**Occurrence:** In a fluvial placer, with sediment derived from a terrain of mafic, pelitic, and psammitic schists and greenstones, as coatings on gold grains, likely formed through the weathering of mercury-bearing placer gold by self-electrorefining.

**Association:** Gold, ilmenite, magnetite, chromite, zircon, scheelite, iridium, osmium, irarsite.

**Distribution:** From the middle of the Oda River at Iyoki, Uchiko, Ehime Prefecture, Shikoku Island, Japan.

**Name:** Reflects the Latin roots for its components, *aurum* (gold) and *hydrargyrum* (mercury).

**Type Material:** National Museum of Nature and Science, Tokyo, Japan (NSM-M45047).

**References:** (1) Nishio-Hamane, D., T. Tanaka, and T. Minakawa (2018) Aurihydrargyrumite, a natural Au<sub>6</sub>Hg<sub>5</sub> phase from Japan. *Minerals*, 8(9), 415. (2) (2020) *Amer. Mineral.*, 105(8), 1275-1276 (abs. ref. 1).