

Crystal Data: Monoclinic. *Point Group:* 2/m. As irregular patchy coatings, to 0.5 mm. Twinning noted in quantitative reflectance study.

Physical Properties: *Cleavage:* Distinct on {100}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness < 5 D(meas.) = n.d. D(calc.) = 8.96

Optical Properties: Opaque. *Color:* Dark gray-black, exhibits an unusual 'red light' coalescing phenomenon in reflected light. *Streak:* Dark red-brown. *Luster:* Metallic. Extremely light-sensitive.

Optical Class: n.d. $n = 2.35-2.38$

Cell Data: *Space Group:* C2/c (synthetic analog). $a = 17.580(6)$ $b = 6.979(1)$ $c = 6.693(3)$
 $\beta = 101.71(4)^\circ$ $Z = 8$

X-ray Powder Pattern: New Idria district, San Benito County, California, USA. 3.275 (100), 2.993 (80), 2.873 (80), 8.547 (70), 2.404 (50b), 1.878 (50), 4.796 (30)

Chemistry:	(1)	(2)
HgO	40.10	39.81
Hg ₂ O	38.62	38.34
I	22.76	23.32
Br	0.22	
Cl	0.06	
-O = I,Br,Cl	1.46	1.47
Total	100.30	100.00

(1) New Idria district, San Benito County, California, USA; average of 5 electron microprobe analyses, Hg²⁺ and Hg¹⁺ partitioned as in the synthetic analog; corresponding to Hg²⁺_{1.00}Hg¹⁺_{1.00}O_{1.01}(I_{0.97}Br_{0.01}Cl_{0.01})_{Σ=0.99}. (2) Hg²⁺Hg¹⁺OI.

Occurrence: A rare mineral of uncertain paragenesis in a suite of Hg-bearing oxy-halide phases.

Association: Native mercury, cinnabar, edgarbaileyite.

Distribution: From a prospect pit near the former Clear Creek mercury mine, New Idria district, San Benito County, California, USA.

Name: Honors Dr. Karin Aurivillius (1920–1982) University of Lund, Sweden, who synthesized and determined the crystal structures of many Hg compounds.

Type Material: Systematic Reference Series, Geological Survey of Canada, Ottawa, Canada; NMC 68087.

References: (1) Roberts, A.C., J.A.R. Stirling, A.J. Criddle, G.E. Dunning, and J. Spratt (2004) Aurivilliusite, Hg²⁺Hg¹⁺OI, a new mineral species from the Clear Creek claim, San Benito County, California, USA. *Mineral. Mag.*, 68, 241-245. (2) (2005) *Amer. Mineral.*, 90, 518 (abs. ref. 1).