

Crystal Data: Monoclinic. *Point Group:* n.d. As matted nests of acicular fibers < 0.2 mm long and < 0.003 mm in diameter, elongated along [010].

Physical Properties: *Cleavage:* none discernable. *Fracture:* n.d.
Tenacity: Brittle, flexible. *Hardness* = < 2 *D(meas.)* = n.d. *D(calc.)* = 5.93

Optical Properties: Transparent. *Color:* Vibrant orange-red; gray in reflected light, orange-red internal reflections. *Streak:* Pale orange-red. *Luster:* Adamantine.

Optical Class: n.d.

R: (470) 32.9, (546) 30.5, (589) 34.0, (650) 39.5

Cell Data: *Space Group:* P2, Pm or P2/m. *a* = 19.113(5) *b* = 4.233(2) *c* = 22.958(8)
β = 114.78(5)° *Z* = 8

X-ray Powder Pattern: Zarshouran Au-As deposit, northwest Iran.
2.722 (100), 8.67 (80), 4.65 (50), 3.40 (50), 2.894 (50), 2.187 (50), 3.87 (40)

Chemistry:	(1)	(2)
Pb	23.26	27.63
Hg	24.77	26.75
Tl	0.19	
As	18.75	19.98
S	22.48	25.65
Total	89.44	100.01

(1) Zarshouran Au-As deposit, northwest Iran, average of 8 electron microprobe analyses, corresponding to Pb_{0.95}Tl_{0.01}Hg_{1.04}As_{2.10}S_{5.91}. (2) PbHgAs₂S₆.

Occurrence: A late-stage hydrothermal mineral formed by reaction with orpiment in a Carlin-type, sediment-hosted disseminated Au-As deposit.

Association: Orpiment, quartz, rarely with galkhaite, hutchinsonite and cinnabar.

Distribution: Zarshouran Au-As deposit, 42 km north of the town of Takab, West Azarbaijan Province, northwest Iran.

Name: Honors Dr. Farahnaz Daliran (b. 1953), mineralogist and economic geologist at the University of Karlsruhe, Germany, for her research on ore deposits in Iran.

Type Material: Mineralogical Museum, Department of Materials Engineering and Physics (Mineralogy), University of Salzburg, Austria (sample nos. 14947/14948); the South Australian Museum, Adelaide, Australia (catalog no. G29976).

References: (1) Paar, W.H., A. Pring, Y. Moëlo, C.J. Stanley, H. Putz, D. Topa, A.C. Roberts, and R.S.W. Braithwaite (2009) Daliranite, PbHgAs₂S₆, a new sulfosalt from the Zarshouran Au-As deposit, Takab region, Iran. *Mineral. Mag.*, 73, 871–881. (2) (2010) *Amer. Mineral.*, 95, 1358-1359 (abs. ref. 1).