

Crystal Data: Hexagonal. *Point Group:* 3*m* (synthetic). As anhedral to irregular grains, to 1.3 mm, some having rhombohedral form; also massive.

Physical Properties: *Cleavage:* Excellent to good, rhombohedral. *Fracture:* Hackly. Hardness = n.d. VHN = 36.4–44.0, 39.3 average (50 g load). D(meas.) = 7.10(5) (synthetic). D(calc.) = 7.18

Optical Properties: Opaque. *Color:* Dark gray; pale gray with purplish tint in polished section, with deep red to deep red-orange internal reflections. *Streak:* Pale brown with a tinge of orange. *Luster:* Metallic. *Pleochroism:* Very weak, in colors from pale purplish gray to pale pinkish gray. *Anisotropism:* From blue-purple to red-purple to brownish orange. R₁–R₂: (470) 31.7, (546) 29.2, (589) 28.9, (650) 28.3

Cell Data: *Space Group:* R3*m* (synthetic). *a* = 12.324 *c* = 9.647 *Z* = 7

X-ray Powder Pattern: Carlin mine, Nevada, USA. 2.669 (100), 3.214 (53), 5.333 (37), 2.327 (28), 3.559 (20), 1.780 (15), 2.757 (10)

Chemistry:	(1)	(2)
Tl	78.2	78.18
As	9.6	9.55
S	12.3	12.27
Total	100.1	100.00

(1) Carlin mine, Nevada, USA; by electron microprobe, average of five grains. (2) Tl₃AsS₃.

Occurrence: In a hydrothermal gold deposit, in mineralized, argillaceous, carbonaceous dolostone beds.

Association: Gold, pyrite, christite, lorandite, getchellite, realgar, arsenic, carlinite, hydrocarbons.

Distribution: In the Carlin mine, 50 km northwest of Elko, Lynn district, Eureka Co., Nevada, USA.

Name: Honors Dr. Albert J. Ellis (1929–), New Zealand geochemist, Chemistry Division, Department of Scientific and Industrial Research, New Zealand.

Type Material: Department of Geology, Stanford University, Palo Alto, California, USA, Epithermal Minerals Collection.

References: (1) Dickson, F.W., A.S. Radtke, and J.A. Peterson (1979) Ellisite, Tl₃AsS₃, a new mineral from the Carlin gold deposit, Nevada, and associated sulfide and sulfosalt minerals. *Amer. Mineral.*, 64, 701–707. (2) Gostojić, M. (1980) Die Kristallstruktur von synthetischem Ellisit, Tl₃AsS₃. *Zeits. Krist.*, 151, 249–254 (in German with English abs.).