

Crystal Data: Monoclinic. *Point Group:* $2/m$. As terminated prisms elongated on [010], or bladed and tabular on {100}, with many forms, yielding complex wedgelike terminations. In divergent or subparallel aggregates, to 6 mm; may be in druses.

Physical Properties: *Cleavage:* Distinct, {001}. *Fracture:* Uneven. *Tenacity:* Brittle. Hardness = 4.5 D(meas.) = 3.83 D(calc.) = 3.94

Optical Properties: Translucent. *Color:* Brown, dark to light purplish red, brownish red, colorless to white. *Streak:* Gray to faint brown. *Luster:* Vitreous, slightly greasy on fracture surfaces.

Optical Class: Biaxial (-). *Pleochroism:* X = blood-red; Y = pale yellow; Z = sea-green.

Orientation: Y = b; X \wedge c = 51°. *Dispersion:* r > v, strong. $\alpha = 1.755\text{--}1.761$

$\beta = 1.772\text{--}1.786$ $\gamma = 1.774\text{--}1.787$ $2V(\text{meas.}) = \sim 0^\circ$

Cell Data: *Space Group:* $P2_1/a$. a = 11.03 b = 12.12 c = 5.51 $\beta = 114^\circ 4'$ Z = 2

X-ray Powder Pattern: Nordmark, Sweden. (ICDD 17-748). 3.06 (100), 3.71 (65), 3.28 (55), 3.23 (50), 2.929 (50), 4.95 (45), 3.39 (45)

Chemistry:

	(1)	(2)	(3)
As ₂ O ₅	29.10	25.4	28.79
FeO		0.4	
MnO	58.64	62.0	62.19
ZnO		2.3	
MgO	1.34	0.2	
CaO	2.01	0.6	
H ₂ O	8.97	[9.0]	9.02
Total	100.06	[99.9]	100.00

(1) Långban, Sweden. (2) Franklin, New Jersey, USA; by electron microprobe, total Mn as MnO, H₂O calculated from stoichiometry. (3) Mn₇(AsO₄)₂(OH)₈.

Occurrence: As a rare secondary mineral in veinlets through metamorphosed manganese deposits (Sweden); in a metamorphosed stratiform zinc orebody (Franklin, New Jersey, USA).

Association: Synadelphite, hematolite, hausmannite, pyrochroite, fluorite (Moss mine, Sweden); pyroaurite, leucophoenicite, hodgkinsonite, adelite, franklinite, willemite, friedelite, caryopilite, sphalerite, fluorite, barite, calcite, serpentine, chlorite (Franklin, New Jersey, USA).

Distribution: In Sweden, from the Moss and Brattfors mines, Nordmark, and at Långban, Värmland. From Franklin and Sterling Hill, Ogdensburg, Sussex Co., New Jersey, USA.

Name: From the Greek, *to change*, a reference to the strong pleochroism.

References: (1) Palache, C., H. Berman, and C. Frondel (1951) Dana's system of mineralogy, (7th edition), v. II, 785–787. (2) Moore, P.B. (1968) Crystal chemistry of the basic manganese arsenate minerals: II. The crystal structure of allactite. *Amer. Mineral.*, 53, 733–741. (3) Dunn, P.J. (1983) Allactite from Franklin and Sterling Hill, New Jersey. *Mineral. Record*, 14, 251–252. (4) Dunn, P.J. (1995) Franklin and Sterling Hill, New Jersey. No publisher, n.p., 656–657.