

Crystal Data: Monoclinic, pseudotetragonal. *Point Group:* 2/m, m, or 2. Radiating books of pseudotetragonal plates, showing {101}, to 1 mm; in micaceous plates and hemispherical aggregates.

Physical Properties: *Cleavage:* {010}, perfect, micaceous. *Hardness* = ~1
D(meas.) = 2.64(2) D(calc.) = 2.65

Optical Properties: Semitransparent. *Color:* Black, greenish black; yellow-green in thin flakes. *Streak:* Brownish black. *Luster:* Vitreous.
Optical Class: Biaxial (-). *Pleochroism:* X = yellow; Y = Z = green. *Orientation:* X = b; Z∧c ≈ -58°. *Dispersion:* r > v, weak, crossed. α = 1.705(2) β = 1.767(2) γ = 1.769(2)
2V(meas.) = ~25°; after several years dehydration α = 1.730(5) β = 1.781(3) γ = 1.807(3)
2V(meas.) = 40°

Cell Data: *Space Group:* A2/m, Am, or A2. a = 8.39(3) b = 17.02(5) c = 8.37(3)
β = 90°25(5)' Z = 4

X-ray Powder Pattern: Colorado Plateau, USA; strong preferred orientation.
8.51 (100), 2.62 (25), 3.14 (18), 4.26 (9), 2.84 (9), 3.42 (6), 2.52 (5)

Chemistry:	(1)	(2)
V ₂ O ₄	69.0	69.42
V ₂ O ₅	0.5	
CaO	11.8	11.73
H ₂ O ⁺	4.0	
H ₂ O ⁻	14.7	
H ₂ O		18.85
Total	[100.0]	100.00

(1) Peanut mine, Colorado, USA; total V and V⁴⁺ determined directly, V⁵⁺ by difference, recalculated to 100% after deduction of insoluble 0.5%, mainly SiO₂. (2) CaV₄O₉•5H₂O.

Occurrence: A secondary mineral on fracture surfaces and replacing fossil wood in Colorado Plateau-type U-V deposits.

Association: Montroseite, duttonite, melanovanadite, selenium, uraninite, coffinite, vanadiferous silicates.

Distribution: In the USA, in Colorado, from the Peanut mine, Bull Canyon, in the J.J. and Hummer mines, Paradox Valley, and at the Shattuck-Denn mine, Club Mesa, Uravan district, Montrose Co., and on the Sundown claim, Gypsum Valley, and the Burro mine, Slick Rock district, San Miguel Co.; from the Vanadium Queen mine, La Sal Creek, San Juan Co., Utah.

Name: For John Richard Simplot (1909–), Boise, Idaho, of the J.R. Simplot Mining Co., which owned the Peanut mine.

Type Material: National Museum of Natural History, Washington, D.C., USA, 115881.

References: (1) Thompson, M.E., C.H. Roach, and R. Meyrowitz (1958) Simplotite, a new quadrivalent vanadium mineral from the Colorado Plateau. *Amer. Mineral.*, 43, 16–24.