Sedovite $U^{4+}(MoO_4)_2$

Crystal Data: Orthorhombic (?). *Point Group:* n.d. Acicular crystals, to 0.5 mm, radiating, fibrous, powdery, in thin crusts and imbedded in gypsum.

Physical Properties: *Cleavage:* One, ‖ elongation. Hardness = n.d. D(meas.) = 4.2 D(calc.) = n.d. Radioactive.

Optical Properties: Translucent, nearly opaque. *Color:* Brown to reddish brown; gray with brownish tint in reflected light, with bright red internal reflections.
Optical Class: Biaxial. *Pleochroism:* Slight; $X = Y$ = pale reddish brown; Z = reddish brown. *Orientation:* $Y \wedge$ elongation = 38°; positive elongation. $\alpha = > 1.789$ $\beta = > 1.789$ $\gamma = > 1.789$ 2V(meas.) = n.d.

Cell Data: *Space Group:* n.d. $a = 3.36(6)$ $b = 11.08(3)$ $c = 6.42(5)$ Z = n.d.

X-ray Powder Pattern: Kyzylsai deposit, Kazakhstan.
3.193 (10), 11.04 (9), 3.370 (9), 3.064 (9), 5.530 (8), 3.702 (8), 2.775 (6)

Chemistry:

	(1)	(2)
SO_3	41.51	
MoO_3	5.50	51.60
UO_3	0.00	
SiO_2	0.60	
UO_2	4.16	48.40
Fe_2O_3	0.17	
CaO	27.89	
H_2O	19.72	
Total	99.55	100.00

(1) Kyzylsai deposit, Kazakhstan; deducting SO_3, CaO, H_2O as gypsum and 20% of MoO_3 as due to molybdenite, the remainder corresponds to $U_{1.00}(MoO_4)_{2.00}$. (2) $U(MoO_4)_2$.

Occurrence: A rare secondary mineral formed in the oxidized zone of a U–Mo deposit.

Association: Uraninite, gypsum, iriginite, calcurmolite, mourite, autunite, phosphuranylite, wulfenite, powellite, molybdenite, barite.

Distribution: From the Kyzylsai Mo–U deposit, Chu-Ili Mountains, southwestern Balkhash region, Kazakhstan.

Name: To honor Georgii Yakovlevich Sedov (1877–1914), Russian Arctic explorer.

Type Material: Mining Institute, St. Petersburg, 1000/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 67300, 72032.

References: (1) Skvortsova, K.V. and G.A. Sidorenko (1965) Sedovite – a new supergene mineral of uranium and molybdenum. Zap. Vses. Mineral. Obshch., 94, 548–554 (in Russian). (2) (1966) Amer. Mineral., 51, 530 (abs. ref. 1).