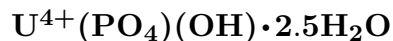


Vyacheslavite



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Crystal Data: Orthorhombic. *Point Group:* $2/m\ 2/m\ 2/m$ or $mm2$. Crystals are lamellar, to 8 μm , in spherulitic to microcrystalline aggregates in veinlets.

Physical Properties: *Cleavage:* On {010}. Hardness = n.d. $D(\text{meas.}) = 4.9(3)$
 $D(\text{calc.}) = 5.02$ Radioactive.

Optical Properties: Semitransparent. *Color:* Green to dark green.
Optical Class: Biaxial (-). *Pleochroism:* Weak; in shades of green. *Orientation:* Positive elongation. $\alpha = 1.700$ $\beta = 1.726\text{--}1.729$ $\gamma = 1.729\text{--}1.731$ $2V(\text{meas.}) = \text{Small}$.

Cell Data: *Space Group:* $Cmcm$, $Cmc2_1$, or $C2cm$. $a = 6.96(1)$ $b = 9.10(1)$
 $c = 12.38(1)$ $Z = 6$

X-ray Powder Pattern: Kyzylkum region, Uzbekistan.
6.19 (10), 2.69 (7), 4.56 (6), 4.13 (6), 3.68 (5), 2.71 (5), 3.04 (3)

Chemistry:	(1)
	P ₂ O ₅ 17.0
	UO ₂ 68.69
	CaO 0.53
	H ₂ O [13.78]
	<hr/> Total [100.00]

(1) Kyzylkum region, Uzbekistan; by electron microprobe, average of two analyses, H₂O by difference; corresponds to $(\text{U}_{1.06}^{4+}\text{Ca}_{0.04})_{\Sigma=1.10}(\text{PO}_4)_{0.96}(\text{OH})_{1.32} \cdot 2.5\text{H}_2\text{O}$.

Occurrence: A rare secondary mineral in uranium deposits.

Association: Uraninite, ningyoite, sphalerite, covellite, chalcocite, pyrite, quartz.

Distribution: From the Dzhantuar and Rudnoye uranium deposits, Auminzatau Mountains, central Kyzylkum region, Uzbekistan.

Name: To honor Vyacheslav Gavrilovich Melkov (1911–1991), Russian mineralogist specializing in uranium minerals, Russian Research Institute of Mineral Resources, Moscow, Russia.

Type Material: Mining Institute, St. Petersburg, 1692/1; A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 82773.

References: (1) Belova, L.N., A.I. Gorshkov, O.A. Ivanova, A.V. Sivtsov, L.I. Lizorkina, and V.A. Boronikhin (1984) Vyacheslavite, $\text{U}^{4+}(\text{PO}_4)(\text{OH}) \cdot n\text{H}_2\text{O}$, a new uranium phosphate. *Zap. Vses. Mineral. Obshch.*, 113, 360–365 (in Russian). (2) (1985) *Amer. Mineral.*, 70, 878 (abs. ref. 1). (3) Belova, L.N., A.I. Gorshkov, O.A. Ivanova, A.V. Sivtsov, and V.A. Boronikhin (1984) A new natural phosphate of U(IV). *Doklady Acad. Nauk SSSR*, 273, 1460–1462 (in Russian) [unnamed = vyacheslavite]. (4) (1984) *Amer. Mineral.*, 69, 1195 (abs. ref. 3). (5) Pekov, I.V. (1998) Minerals first discovered on the territory of the former Soviet Union, 234.