Uklonskovite $NaMg(SO_4)F \cdot 2H_2O$

Crystal Data: Monoclinic. *Point Group:* $2/m$. As flattened prismatic crystals, elongated along [010], to 2 mm, in tufts and sprays.

Physical Properties: *Cleavage:* One or more ‖ [010]. Hardness = n.d. D(meas.) = 2.42 D(calc.) = 2.414

Optical Properties: Transparent. *Color:* Colorless. *Luster:* Vitreous.
Optical Class: Biaxial (+). $\alpha = 1.476(1)$ $\beta =$ n.d. $\gamma = 1.500(1)$ 2V(meas.) = n.d.

Cell Data: *Space Group:* $P2_1/m$. $a = 7.202(1)$ $b = 7.214(1)$ $c = 5.734(1)$ $\beta = 113.23(1)^\circ$ $Z = 2$

X-ray Powder Pattern: Cetine mine, Italy.
3.505 (100), 6.608 (78), 5.270 (60), 3.154 (56), 2.970 (54), 3.309 (46), 3.008 (46)

Chemistry:

	(1)	(2)	(3)
SO_3	42.80	42.55	40.35
MgO	20.61	20.99	20.32
CaO	2.40	2.20	
Na_2O	14.87		15.62
K_2O	1.01		
F	n.d.		9.58
H_2O	18.00		18.16
$-O = F_2$			4.03
Total	99.69		100.00

(1) Kushkanatau salt deposit, Uzbekistan; H_2O by TGA. (2) Do.; separate partial determinations. (3) $NaMg(SO_4)F \cdot 2H_2O$.

Occurrence: Of very rare occurrence in cavities in clays above the salt strata (Kushkanatau salt deposit, Uzbekistan); on gypsum, sulfate derived from oxidizing sulfides, the other elements from limestones and clays (Cetine mine, Italy).

Association: Glauberite, polyhalite (Kushkanatau salt deposit, Uzbekistan); jurbanite, rostite, tamarugite, ferrinatrite, sideronatrite (Cetine mine, Italy).

Distribution: From the Kushkanatau salt deposit, lower Amu Darya River, Kara-Kalpakii, Uzbekistan. In the Cetine mine, 20 km southwest of Siena, Tuscany, Italy.

Name: Honors Aleksandr Sergeevich Uklonskii (1882–1972), mineralogist, Tashkent University, Tashkent, Uzbekistan, who studied central Asian mineral deposits.

Type Material: A.E. Fersman Mineralogical Museum, Academy of Sciences, Moscow, Russia, 67132, 67135.

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