

Crystal Data: Monoclinic. *Point Group:* 2/m. As equant crystals to ~0.2 mm in irregular aggregates to ~0.5 mm.

Physical Properties: *Cleavage:* Good on {001}. *Tenacity:* Brittle. *Fracture:* Irregular. Hardness = ~1.5 D(meas.) = 2.20(2) D(calc.) = 2.173 Greenish blue fluorescence in LW UV.

Optical Properties: Transparent. *Color:* Light yellow-green. *Streak:* Nearly white.

Luster: Vitreous to greasy.

Optical Class: Biaxial (-). $\alpha = 1.477(2)$ $\beta = 1.485(2)$ $\gamma = 1.489(2)$ $2V(\text{meas.}) = 72(2)^\circ$

$2V(\text{calc.}) = 70.2^\circ$ *Dispersion:* $r > v$, slight. *Orientation:* $Y = b$, $X \wedge c = 20^\circ$ (in obtuse β).

Pleochroism: $X =$ nearly colorless, $Y =$ pale green-yellow, $Z =$ light green-yellow.

Absorption: $X < Y < Z$.

Cell Data: *Space Group:* C2/c. $a = 11.0187(5)$ $b = 8.3284(3)$ $c = 26.6727(19)$ $\beta = 97.426(7)^\circ$
Z = 4

X-Ray Diffraction Pattern: Green Lizard mine, Red Canyon, San Juan County, Utah, USA.
13.24 (100), 6.61 (53), 3.324 (38), 5.74 (35), 6.11 (26), 3.138 (23), 4.494 (22)

Chemistry:	(1)	(2)
Na ₂ O	0.64	
Al ₂ O ₃	6.41	6.40
SO ₃	20.28	20.11
UO ₃	35.74	35.92
F	1.40	2.39
-O = F	0.59	1.00
H ₂ O	[36.27]	36.19
Total	100.15	100.00

(1) Green Lizard mine, Red Canyon, San Juan County, Utah, USA; average electron microprobe analysis supplemented by Raman spectroscopy, H₂O calculated; corresponds to Al_{1.00}Na_{0.16}(U_{0.99}O₂)(S_{1.00}O₄)₂[F_{0.58}(OH)_{0.42}]·16H₂O. (2) Al(UO₂)(SO₄)₂F·16H₂O.

Occurrence: A secondary phase on asphaltum found in efflorescent crusts on the surfaces of mine walls.

Association: Magnesioleydetite, arsenuranospathite, gypsum, metakahlerite, nováčekite-II, uramarsite (Markey); gypsum, halotrichite, rozenite, Mg analogue of rietveldite (Green Lizard).

Distribution: In the Markey and Green Lizard mines, Red Canyon, San Juan County, Utah, USA.

Name: Honors German chemist Friedrich Wilhelm (Fritz) *Straßmann* (1902-1980) who with Otto Hahn and Lise Meitner discovered nuclear fission (of uranium) in 1938.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (67264 and 67265 Green Lizard; 67266 and 67267 Markey).

References: (1) Kampf, A.R., J. Plášil, A.V. Kasatkin, B.P. Nash, and J. Marty (2019) Magnesioleydetite and straßmannite, two new uranyl sulfate minerals with sheet structures from Red Canyon, Utah. *Mineral. Mag.*, 83, 349-360.