

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals display {001}, {110}, and { $\bar{1}\bar{1}0$ } as equant concave rhombs with rounded edges, to ~ 0.5 mm; in subparallel aggregates or drusy intergrowths.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle, slightly sectile. *Fracture:* Irregular. Hardness = ~ 2.5 D(meas.) = 2.88(2) D(calc.) = 2.875 Bright bluish green fluorescence under SW & LW UV. Easily soluble in water; slightly deliquescent.

Optical Properties: Transparent. *Color:* Yellow-green. *Streak:* Pale yellow-green.

Luster: Vitreous.

Optical Class: Biaxial (-). $\alpha = 1.493$ $\beta = 1.511$ $\gamma = 1.515$ $2V(\text{meas.}) = 50(1)^\circ$

$2V(\text{calc.}) = 50.0^\circ$ *Pleochroism:* X = colorless, Y = light yellowish green, Z = light yellowish green.

Absorption: X < Y \approx Z. *Orientation:* Y \wedge b = 43°, X \wedge c = 3°, Z \wedge a = 40°.

Dispersion: r > v, distinct.

Cell Data: *Space Group:* $P\bar{1}$. a = 9.81511(18) b = 9.9575(2) c = 10.6289(8) $\alpha = 88.680(6)^\circ$
 $\beta = 73.990(5)^\circ$ $\gamma = 89.205(6)^\circ$ Z = 2

X-ray Powder Pattern: Blue Lizard mine, Red Canyon, San Juan County, Utah, USA.

7.11 (100), 3.121 (74), 3.418 (73), 5.14 (63), 4.307 (53), 9.51 (48), 4.54 (43)

Chemistry:	(1)	(2)
Na ₂ O	20.55	21.51
UO ₃	33.27	33.10
SO ₃	36.60	37.05
H ₂ O	[8.22]	8.34
Total	98.64	100.00

(1) Blue Lizard mine, Red Canyon, San Juan County, Utah, USA; average of 8 electron microprobe analyses supplemented by Raman spectroscopy, H₂O calculated from stoichiometry; corresponds to Na_{5.82}(U_{1.02}O₂)(S_{1.00}O₄)₄(H₂O)₄. (2) Na₆(UO₂)(SO₄)₄(H₂O).

Polymorphism & Series: Polymorph of klaprothite.

Occurrence: As efflorescent crusts on mine walls, formed by hydration-oxidation weathering of primary uranium minerals (mainly uraninite) by acidic solutions from the decomposition of sulfides.

Association: Blödite, blue lizardite, bobcookite, epsomite, gypsum, hexahydrate, konyaite, plášilite, tamarugite.

Distribution: From the Blue Lizard mine, Red Canyon, White Canyon district, San Juan County, Utah, USA.

Name: Honors French chemist Eugène-Melchior Péligot (1811-1890) who isolated the first sample of uranium metal.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (65610, 65614, and 65616); A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4779/1).

References: (1) Kampf, A.R., J. Plášil, A.V. Kasatkin, J. Marty, and J. Čejka (2017) Klaprothite, péligotite and ottohahnite, three new minerals with bidentate UO₇-SO₄ linkages from the Blue Lizard mine, San Juan County, Utah, USA. *Mineral. Mag.*, 81(4), 753-779. (2) (2017) *Amer. Mineral.*, 102, 2343-2344 (abs. ref. 1).