

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. As equant crystals to ~0.1 mm, typically with rounded faces and edges.

Physical Properties: *Cleavage:* None. *Tenacity:* Brittle, slightly sectile. *Fracture:* Irregular. Hardness = ~2.5 D(meas.) = n.d. D(calc.) = 2.973 Bright bluish green fluorescence under SW & LW UV. Easily soluble in water; slightly deliquescent.

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

Luster: Vitreous.

Optical Class: Biaxial (-). $\alpha = 1.511(1)$ $\beta = 1.514(1)$ $\gamma = 1.537(1)$ $2V(\text{meas.}) = 42(2)^\circ$ $2V(\text{calc.}) = 40.2^\circ$ *Pleochroism:* X = light yellowish green, Y = colorless, Z = yellowish green.

Absorption: $Y < X < Z$. *Orientation:* $X \wedge a = 43^\circ$, $Y \wedge b = 11^\circ$, $Z \wedge c = 29^\circ$.

Dispersion: $r > v$, strong.

Cell Data: *Space Group:* $P\bar{1}$. $a = 9.97562(19)$ $b = 11.6741(2)$ $c = 14.2903(10)$
 $\alpha = 113.518(8)^\circ$ $\beta = 104.282(7)^\circ$ $\gamma = 91.400(6)^\circ$ $Z = 2$

X-ray Powder Pattern: Blue Lizard mine, Red Canyon, San Juan County, Utah, USA.
 6.21 (100), 2.977 (63), 3.462 (52), 2.913 (42), 6.81 (41), 4.650 (39), 3.156 (35)

Chemistry:	(1)	(2)
Na ₂ O	13.73	14.18
UO ₃	42.68	43.62
SO ₃	30.44	30.52
H ₂ O	[11.55]	11.68
Total	98.40	100.00

(1) Blue Lizard mine, Red Canyon, San Juan County, Utah, USA; average of 12 electron microprobe analyses supplemented by Raman spectroscopy, H₂O calculated from stoichiometry; corresponds to Na_{5.88}(U_{0.99}O₂)₂(S_{1.01}O₄)₅(H₂O)_{8.5}. (2) Na₆(UO₂)₂(SO₄)₅(H₂O)_{8.5}.

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: Tamarugite, blöditite, bluelizardite, bobcookite, epsomite, gypsum, hexahydrate, konyaite, plášilite.

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

Name: Honors German chemist Otto Hahn (1879-1968) who discovered nuclear fission (of uranium) in 1938, for which he received the Nobel Prize in Chemistry.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (65610, 65611, 65614 and 65617); A.E. Fersman Mineralogical Museum, Russian Academy of Sciences, Moscow, Russia (4782/1).

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).