

Crystal Data: Monoclinic. *Point Group:* 2/m. As blades to ~0.2 mm, elongated on [010], flattened on {100}, and exhibiting {100}, {001}, {101}, {110}, and {011}, commonly in irregular and radiating intergrowths.

Physical Properties: *Cleavage:* Perfect on ($\bar{1}$ 01). *Fracture:* Irregular. *Tenacity:* Brittle. Hardness = ~2 D(meas.) = 2.70(2) D(calc.) = 2.714 Fluoresces weak greenish yellow to moderate greenish blue under 405 nm laser. Easily soluble in H₂O at room temperature.

Optical Properties: Transparent. *Color:* Yellow. *Streak:* Very pale yellow. *Luster:* Vitreous. *Optical Class:* Biaxial (+). $\alpha = 1.520(2)$ $\beta = 1.528(2)$ $\gamma = 1.561(2)$ $2V(\text{meas.}) = 53.0(6)^\circ$ $2V(\text{calc.}) = 53.3^\circ$ *Dispersion:* Weak, $r > v$. *Orientation:* $Z = b$, $Y \wedge a \approx 19^\circ$ in obtuse β . *Pleochroism:* Weak, shades of pale yellow. *Absorption:* $X \approx Y < Z$.

Cell Data: Space Group: $P2_1/n$. $a = 12.376(3)$ $b = 16.0867(14)$ $c = 20.1340(17)$
 $\beta = 107.679(13)^\circ$ $Z = 12$

X-ray Powder Pattern: Markey mine, Red Canyon, San Juan County, Utah, USA.
 12.11 (100), 5.04 (79), 5.96 (68), 8.19 (59), 9.52 (48), 4.359 (45), 4.057 (32)

Chemistry:	(1)	(2)	(3)
UO ₃	68.77	55.23	54.98
CaO	12.67	10.18	10.78
CO ₂		[17.00]	16.92
H ₂ O		[17.60]	17.32
Total		100.01	100.00

(1) Markey mine, Red Canyon, San Juan County, Utah, USA; average of 3 electron microprobe analyses supplemented by Raman spectroscopy, CO₂ and H₂O calculated from structure; corresponds to Ca_{0.94}(U_{1.00}O₂)(CO₃)₂·5(H_{2.02}O). (2) Do., Normalized. (3) Ca(UO₂)(CO₃)₂·5H₂O.

Polymorphism & Series: Apparently dimorphous with zellerite.

Occurrence: On calcite-veined asphaltum as efflorescent crusts on the surfaces of mine walls in a sand-hosted uranium deposit of the Colorado Plateau type.

Association: Gypsum, markeyite, rozenite.

Distribution: From the Markey mine, Red Canyon, White Canyon District, San Juan County, Utah, USA.

Name: Honors American analytical chemist Robert Meyrowitz (1916-2013), who at the U.S. Geological Survey developed innovative methods for analyzing small and difficult to study mineralogical samples and formulations of high-index immersion liquids (1.74 to 2.00) that are still in use for optical determinations. He collaborated on the descriptions of many new minerals from the uranium deposits of the western U.S., including zellerite, the dimorph of the meyorowitzite.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA (66789 and 66790).

References: (1) Kampf, A.R., J. Plášil, T.A. Olds, B.P. Nash, J. Marty, and H.E. Belkin (2019) Meyrowitzite, Ca(UO₂)(CO₃)₂·5H₂O, a new mineral with a novel uranyl-carbonate sheet. *Amer. Mineral.*, 104(4), 603-610.