

Crystal Data: Triclinic. *Point Group:* $\bar{1}$. Crystals tabular on {100}, with stepped faces and square to octagonal outlines, to ~1 mm. Crystals show {100}, {010}, {001}, {01 $\bar{1}$ }, and {111} and are often aligned roughly \perp to the surface on which they grew, subparallel to one another.

Physical Properties: *Cleavage:* Good on {100} and {010}. *Fracture:* Irregular. *Tenacity:* Brittle. *Hardness* = ~2 D(meas.) = n.d. D(calc.) = 2.352 Dissolves instantly in cold, dilute HCl and slowly in water.

Optical Properties: Transparent. *Color:* Yellow-orange. *Streak:* Yellow. *Luster:* Subadamantine. *Optical Class:* Biaxial (-). $\alpha = 1.745(3)$ $\beta = 1.780(3)$ $\gamma = 1.795(3)$ $2V = 66(2)^\circ$ *Orientation:* $X \wedge a = 29^\circ$, $Y \wedge c = 44^\circ$, $Z \wedge b = 46^\circ$. *Pleochroism:* $X = Z =$ yellow, $Y =$ orange. *Absorption:* $X = Z < Y$. *Dispersion:* Very strong, $r > v$. Exhibits anomalous red-orange and blue-green interference colors near extinction positions.

Cell Data: *Space Group:* $P\bar{1}$. $a = 9.7212(6)$ $b = 10.2598(8)$ $c = 10.5928(8)$
 $\alpha = 89.999(6)^\circ$ $\beta = 77.083(7)^\circ$ $\gamma = 69.887(8)^\circ$ $Z = 1$

X-ray Powder Pattern: St. Jude mine, Slick Rock district, San Miguel County, Colorado, USA. 10.32 (100), 8.88 (95), 9.64 (92), 6.881 (70), 8.10 (58), 6.031 (39), 3.028 (29)

Chemistry:	(1)	(2)
Na ₂ O	0.37	
K ₂ O	0.10	
CaO	8.76	8.22
SrO	0.16	
V ₂ O ₅	75.76	66.68
H ₂ O	[14.85]	25.10
Total	100.00	100.00

(1) St. Jude mine, San Miguel County, Colorado, USA; average of 12 electron microprobe analyses, H₂O calculated from structure analysis; corresponding to $\{(\text{Ca}_{1.88}\text{Na}_{0.14}\text{K}_{0.03}\text{Sr}_{0.02})_{\Sigma=2.07}(\text{H}_2\text{O})_{15.95}(\text{H}_3\text{O})_{2.05}\}\{\text{V}_{10}\text{O}_{28}\}$. (2) $\{[\text{Ca}(\text{H}_2\text{O})_7]_2(\text{H}_2\text{O})_2(\text{H}_3\text{O})_2\}\{\text{V}_{10}\text{O}_{28}\}$.

Occurrence: As efflorescences on sandstone in the underground workings of a roll-front type uranium vanadium deposit, from the oxidation of montroseite-cornusite assemblages in a moist environment, possibly controlled by the presence of organic matter and phases such as pyrite.

Association: Calciodelrioite, gypsum, huemulite, hughesite, metarossite, pascoite, rossite.

Distribution: From the St. Jude mine, Slick Rock district, San Miguel County, Colorado, USA.

Name: Honors Professor Werner H. Baur (b. 1931), Geological Sciences Department, University of Illinois, Chicago, for his distinguished career in mineralogical crystallography.

Type Material: Natural History Museum of Los Angeles County, Los Angeles, California, USA. (#64002, 64003, 64004).

References: (1) Kampf, A.R., J.M. Hughes, J. Marty, and B. Nash (2013) Wernerbaurite, $\{[\text{Ca}(\text{H}_2\text{O})_7]_2(\text{H}_2\text{O})_2(\text{H}_3\text{O})_2\}\{\text{V}_{10}\text{O}_{28}\}$, and schindlerite, $\{[\text{Na}_2(\text{H}_2\text{O})_{10}](\text{H}_3\text{O})_4\}\{\text{V}_{10}\text{O}_{28}\}$, the first hydronium-bearing decavanadate minerals. *Can. Mineral.*, 51(2), 297-312. (2) (2015) *Amer. Mineral.*, 100, 1331-1332 (abs. ref. 1).