Rauvite

$\text{Ca(UO}_2\text{)}_2\text{V}_10\text{O}_{28}\cdot16\text{H}_2\text{O}$

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Crystal Data: n.d.  
Point Group: n.d.  
Microcrystalline; a hardened gellike precipitate in massive botryoidal crusts and thin coatings.

Physical Properties:  
Tenacity: Sectile to brittle.  
Hardness = n.d.  
D(meas.) = 2.92  
D(calc.) = n.d.  
Dehydrates on exposure forming a cracked surface.

Optical Properties:  
Semitransparent.  
Color: Purplish black, bluish black, brownish red, brownish yellow-orange.  
Streak: Yellowish brown to olive.  
Luster: Adamantine to waxy.  
Optical Class: Biaxial (−).  
$n = 1.88–1.95$

Cell Data:  
Space Group: n.d.  
$Z = n.d.$

X-ray Powder Pattern:  
Temple Rock, Utah, USA.  
10.7 (10), 2.95 (5), 3.49 (4), 2.62 (3), 3.87 (2), 5.83 (1), 2.22 (1)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UO$_3$</td>
<td>28.1</td>
<td>31.49</td>
<td>31.33</td>
</tr>
<tr>
<td>V$_2$O$_5$</td>
<td>49.0</td>
<td>48.28</td>
<td>49.81</td>
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<tr>
<td>V$_2$O$_4$</td>
<td>2.8</td>
<td>1.44</td>
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<tr>
<td>Al$_2$O$_3$</td>
<td>0.70</td>
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<tr>
<td>CaO</td>
<td>2.7</td>
<td>2.76</td>
<td>3.07</td>
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<td>H$_2$O</td>
<td>17.5</td>
<td>15.49</td>
<td>15.79</td>
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<td>insol.</td>
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<td>0.61</td>
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<tr>
<td>Total</td>
<td>100.1</td>
<td>100.77</td>
<td>100.00</td>
</tr>
</tbody>
</table>

(1) Temple Rock, Utah, USA; recalculated after deduction of 27.06% impurities.  
(2) Monument No. 2 mine, Arizona, USA.  
(3) Ca(UO$_2$)$_2$V$_{10}$O$_{28}$•16H$_2$O.

Occurrence: An uncommon mineral in the oxidized zones of U–V ores in Colorado Plateau-type deposits.

Association:  
Carnotite, corvusite, uvanite, hewettite, metatorbernite, tyuyamunite, gypsum.

Distribution: In the USA, from Temple Rock and Flat Top, Emery Co., and at the Cactus Rat mine group, Yellow Cat district, 24 km southeast of Thompson, Grand Co., Utah; in Colorado, at the Small Spot, Arrowhead, and Corvusite mines, Gateway district, Mesa Co., at the Hummer, Bitter Creek, Jo Dandy, and J.J. mines, Paradox Valley, Montrose Co.; from the Monument No. 2 mine, Monument Valley, Apache Co., and Monument No. 1 and Mitten No. 2 mines, Navajo Co., Arizona; at the Road Hog No. 3A claim, Coal Canyon, Fall River Co., South Dakota. In the Hatrurim Formation, Israel.

Name: For the chemical elements RAdium, Uranium, and Vanadium.

Type Material:  
Harvard University, Cambridge, Massachusetts, 134565; National Museum of Natural History, Washington, D.C., USA, 95060, R5715.

References:  