Vandenbrandeite

Crystal Data: Triclinic. Point Group: \(\overline{1}\). Crystals, flattened on \{001\}, may be lathlike, rounded, to 0.5 cm; in parallel aggregates, lamellar, scaly; massive.


Optical Properties: Translucent, transparent in thin fragments. Color: Dark green to nearly black; green in transmitted light. Streak: Green. Luster: Vitreous. Optical Class: Biaxial, (+) or (−). Pleochroism: Yellow-green to blue-green. Orientation: \(Z \wedge \) elongation \(\approx 40^\circ\). Dispersion: Strong. \(\alpha = 1.76–1.77\) \(\beta = 1.78–1.79\) \(\gamma = 1.78–1.82\) 2V(meas.) = \(~90^\circ\)

Cell Data: Space Group: \(P\overline{1}\) (probable). \(a = 7.855(5)\) \(b = 5.449(4)\) \(c = 6.089(4)\) \(\alpha = 91.44(5)^\circ\) \(\beta = 101.90(5)^\circ\) \(\gamma = 89.2(5)^\circ\) \(Z = 2\)

X-ray Powder Pattern: Kalongwe, Congo.

4.29 (10), 2.92 (8), 5.06 (4), 2.56 (4), 2.09 (3), 1.85 (3), 1.47 (3)

Chemistry:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
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</thead>
<tbody>
<tr>
<td>(\text{UO}_3)</td>
<td>71.23</td>
<td>71.22</td>
</tr>
<tr>
<td>(\text{CuO})</td>
<td>19.20</td>
<td>19.81</td>
</tr>
<tr>
<td>(\text{H}_2\text{O})</td>
<td>9.57</td>
<td>8.97</td>
</tr>
</tbody>
</table>

Total [100.00] 100.00

(1) Shinkolobwe, Congo; recalculated to 100% after deduction of \(\text{SiO}_2\) 0.28%, \(\text{MgO}\) 0.57%, \(\text{CaO}\) 0.26% as impurities. (2) \(\text{Cu(UO}_2\text{)(OH)}_4\).

Occurrence: A rare secondary mineral in the oxide zone of hydrothermal copper-bearing uranium deposits.

Association: Cuprosklokovskite, kasolite, sklodowskite, malachite, chalcocite, chalcopyrite, uraninite, goethite (Kalongwe, Congo); curite, uranophane, sharpite (Shinkolobwe, Congo).

Distribution: In Congo (Zaire), in Katanga (Shaba) Province, from the Luiswishi mine; at Kalongwe; from Shinkolobwe; at Kambove; from Swambo; and in the Musonoi mine, near Kolwezi. In the Rabéjac uranium deposit, seven km south-southeast of Lodève, Hérault, France.

Name: To honor Pierre Van den Brande (1896–1957), Belgian geologist, who discovered the uranium deposit at Kalongwe, Congo.
