Mozartite

Crystal Data: Orthorhombic. **Point Group:** 222. As subhedral crystals, short prismatic, elongated || [100], terminated by a bisphenoid, to 4.4 cm; commonly granular, in aggregates.

Physical Properties: **Fracture:** Conchoidal. **Tenacity:** Brittle. **Hardness:** n.d. D(meas.) = 3.63(4)  D(calc.) = 3.68

Optical Properties: Transparent. **Color:** Reddish brown to deep red. **Streak:** Red. **Luster:** Vitreous. **Optical Class:** Biaxial (+). **Pleochroism:** Strong; X = yellow-brown; Y = yellow; Z = red-orange. **Orientation:** Z = a. \( \alpha = 1.840(5) \quad \beta = 1.855(5) \quad \gamma = 1.920(5) \quad 2V(\text{meas.}) = 50(2)^\circ \)

Cell Data: **Space Group:** \( P_2_1_2_1_2_1 \). \( a = 5.838(1) \quad b = 7.224(1) \quad c = 8.690(1) \quad Z = 4 \)

X-ray Powder Pattern: Cerchiara mine, Italy. 2.584 (VS), 5.558 (S), 3.070 (S), 2.687 (S), 4.025 (W), 3.613 (W), 2.509 (W)

Chemistry:

<table>
<thead>
<tr>
<th>Element</th>
<th>Formula</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>SiO₂</td>
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<tr>
<td>Al₂O₃</td>
<td>0.49</td>
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</tr>
<tr>
<td>Mn₂O₃</td>
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<tr>
<td>MgO</td>
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<td>CaO</td>
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<tr>
<td>F</td>
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<tr>
<td>H₂O</td>
<td>[4.41]</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

(1) Cerchiara mine, Italy; by electron microprobe, average of 16 analyses, H₂O by difference; corresponds to \( \text{Ca}_{0.98}(\text{Mn}_{1.00}\text{Al}_{0.02})\Sigma=1.02\text{Si}_{0.99}\text{O}_4(\text{OH}) \).

Occurrence: In veins cutting massive braunite in ophiolitic metacherts.

Association: Pectolite, hausmannite, calcite, quartz.

Distribution: In the Cerchiara manganese mine, near Faggiona, Val di Vara, Liguria, Italy. Large crystals from the Wessels mine, near Kuruman, Cape Province, South Africa.

Name: For Wolfgang Amadeus Mozart (1756–1791), discovered in the 200th year after his death.

Type Material: University of Genoa, Genoa, Italy.

References: