Mozartite $CaMnSiO_4(OH)$

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. $\alpha = 1.840(5)$ $\beta = 1.855(5)$ $\gamma = 1.920(5)$ 2V(meas.) = 50(2)° 2V(calc.) = 52.8°

Cell Data: *Space Group:* $P2_12_12_1$. $a = 5.838(1)$ $b = 7.224(1)$ $c = 8.690(1)$ 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:

	(1)
SiO_2	29.25
Al_2O_3	0.49
Mn_2O_3	38.72
MgO	0.05
CaO	27.08
F	0.00
H_2O	[4.41]
Total	[100.00]

(1) Cerchiara mine, Italy; by electron microprobe, average of 16 analyses, H_2O by difference; corresponds to $Ca_{0.98}(Mn_{1.00}Al_{0.02})_{\Sigma=1.02}Si_{0.99}O_4(OH)$.

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: (1) Palenzona, A. and A. Pozzi (1993) Mozartite, a new mineral species from Cerchiara, La Spezia. Revista Mineral. Ital., no. 2, 79–82 (in Italian with English abs.).
(2) Basso, R., G. Lucchetti, L. Zefiro, and A. Palenzona (1993) Mozartite, $CaMn(OH)SiO_4$, a new mineral species from the Cerchiara mine, northern Apennines, Italy. Can. Mineral., 31, 331–336.
(3) (1994) Amer. Mineral., 79, 388 (abs. refs. 1 and 2).