

# Magnesium Bis[D(-)-Mandelate] Dihydrate and Other Alkaline Earth, Alkali, and Zinc Salts of Mandelic Acid

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Lithium, sodium, potassium, ammonium, magnesium, calcium, strontium, barium, and zinc D(-)mandelates have been prepared from the parent mandelic acid and equivalent quantities (1:1 / 2:1) of the corresponding metal hydroxides in water. Colourless polycrystalline products are obtained from the aqueous solutions by evaporation of the solvent. The alkali, ammonium and strontium salts are anhydrous, the calcium and barium salts are monohydrates, the magnesium salt is a dihydrate, and the zinc salt a trihydrate. The crystal and molecular structure of the magnesium salt has been determined by single crystal X-ray diffraction methods (monoclinic, space group  $P2_1$ ,  $Z = 2$ ). The lattice contains isolated complexes with hexacoordinate magnesium atoms chelated by two mandelate anions through one of their carboxylate oxygen atoms and the alcoholic hydroxyl group. Two water molecules in cis position are completing the octahedral coordination sphere.  $[Mg(C_8H_7O_3)_2(H_2O)_2]$  is thus a true mononuclear magnesium complex. Its stability and non-hygroscopic properties suggest its use as a magnesium and/or mandelate drug.

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