

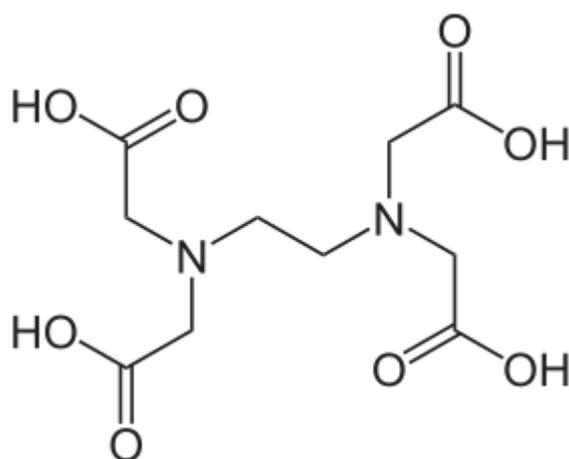
Answer on Question #71291 – Chemistry – Inorganic Chemistry

Task:

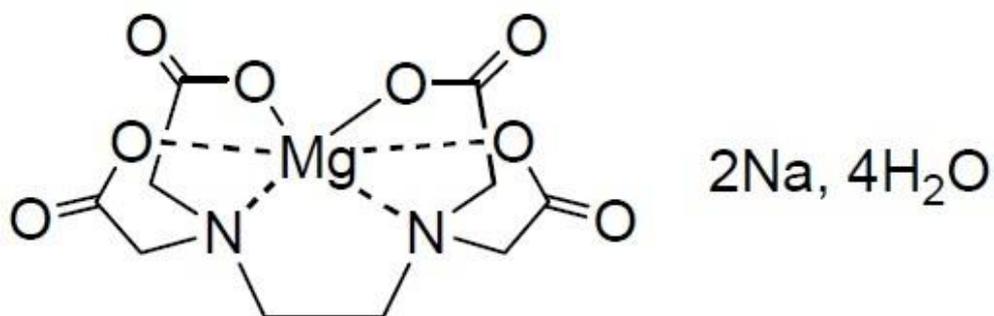
Explain how the Mg-N bonds are formed in the magnesium-disodium edetate complex

Solution:

EDTA structure (H₄Y):

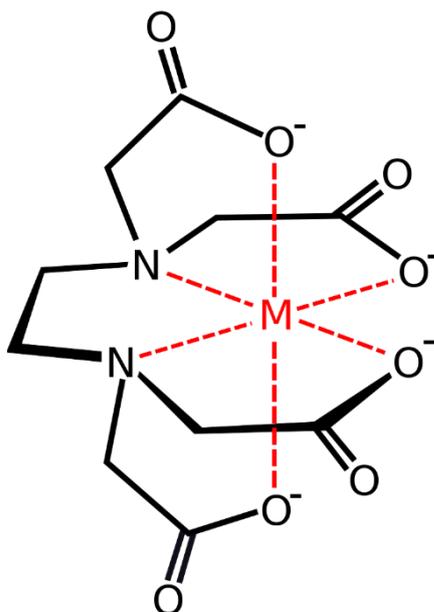


Structure of magnesium-disodium edetate complex:



EDTA is a member of the aminopolycarboxylic acid family of ligands.

EDTA in this complex binds to a magnesium cation through its two amines and four carboxylates. In resulting magnesium-disodium edetate complex adopt octahedral geometry.



Mg-O ion bond, Mg-N bond is covalent.

The Mg-N bond is formed by the donor-acceptor mechanism.

There is a transfer of the unshared electron pair from the donor (amino group) to the acceptor (magnesium cation), leading to the formation of a bond.

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