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# Bond-Valence Approach to the Metal-Sulphur and Metal-Nitrogen Bonding Systems in Zinc and Cadmium Dithiocarbamate Complexes

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**Abstract :** The bond valence sum method (BVS) is popular method in coordination chemistry to estimate the oxidation states of atoms. A simple method for determining the oxidation state of the Zn and Cd in complexes involving only N, S donors using the bond valence sum, henceforth BVS, is proposed. The bond distances for a series of Zinc(II) and Cadmium(II) dithiocarbamate complexes and their nitrogenous adducts have been collected from the literature and analyzed using the bond valence sum method to calculate the oxidation state of the metal ion in the complexes. The BVS analysis has confirmed the valency of the central metal to be 2.0 as expected and proves the correctness of the related crystal structures.

**Keywords :** Crystallographic distances, Bond Valence Sums, Dithiocarbamate, Zinc, Steric effect.

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