Syntheses and Characterization of Two New 4,4'-Bithiazole d^{10} Complexes, Structural Characterization of $M(DABTZ)_2(CH_3COO)](ClO_4) \cdot 2H_2O$ (M = Zn, Cd)

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Z. Naturforsch. **60b,** 951 – 954 (2005); received February 28, 2005

New zinc(II) and cadmium(II) complexes of the 2,2'-diamino-4,4'-bithiazole (DABTZ) ligand, $[M(DABTZ)_2(CH_3COO)](ClO_4)$, have been synthesized and characterized by elemental analysis, IR, ^1H NMR and ^{13}C NMR spectroscopy. The structural characterization of the $Cd(DABTZ)_2(CH_3COO)](ClO_4) \cdot 2H_2O$ complex shows the complex to be a monomer and the Cd atom to be coordinated by four nitrogen atoms of the "DABTZ" ligands and two oxygen atoms of the acetate anion. There is an edge-to-edge π-π stacking interaction between the parallel aromatic rings.

Key words: Zinc, Cadmium, Crystal Structure, 2,2'-Diamino-4,4'-bithiazole