New Ni(II) complexes with 2-aminomethylbenzimidazole, preparation and characterization

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The benzimidazole moiety is involved in a variety of biological processes. For example, N-ribosyl-dimethylbenzimidazole is part of the chemical structure of vitamin B_{12} [1]. Benzimidazole derivatives are of intensive researches due to their coordination ability besides their biological importance [2]. Furthermore, the tendency of bivalent nickel to form tetragonally distorted octahedral complexes is well known. In many series of this type, changes of magnetic behaviour occur when small changes are made in the anion or the neutral ligand, and in some cases dia- and para-magnetic isomers are known [3].

New Ni(II) complexes of general formula NiL_xY_z have been synthesized, where L is 2-aminomethylbenzimidazole and Y are inorganic anions such as Cl^-, Br^-, $ClO_3{}^-$, $ClO_4{}^-$, $NO_2{}^-$, $N_3{}^-$, SCN^-, $SO_4{}^{2-}$ as well as organic anion CH_3COO^-. All newly prepared complex compounds (1-14) were characterized by X-ray structural analysis and by spectral techniques such as infrared spectroscopy and UV-VIS spectroscopy. Magnetic measurements were also performed for compounds (1-6).

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