

Structural features of nickel(II) complexes of *bi*- and *ter*-pyridine according to X-ray analysis

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Abstract

The structure of four previously undescribed nickel(II) complexes of *bi*- and *ter*-pyridine in crystals is determined by X-ray analysis. The d^2sp^2 hybridization of nickel atom with coordination number 5 in crystal of compounds **III** Ni(*t*-bu-tpy) I_2 was determined. The regularities in the packing of molecules in crystals were found. In particular, in packing of compounds **I** [Nibpy $_2$ (H $_2$ O)Br]Br, **II** [Nibpy $_2$ (H $_2$ O) $_2$]Br $_2$, **III** Ni(*t*-bu-tpy) I_2 and **IV** [Ni(*t*-bu-tpy) $_2$](H $_2$ O) I_2 the formation of ion and solvate canals was discovered. The simultaneous existence of different forms of nickel(II) complexes of different structure in the presence of α -diimine ligands in solution was assumed to determine some features of their physico-chemical properties, in particular the reduction potentials.