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Complex Formation of Copper(II) with 2,2'-Biimidazolyl

Ginzburg V., Glebov A., Safin R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The acid-base properties of 2,2'-biimidazolyl (2,2'-Bilm) are studied using methods of pH-potentiometry and spectrophotometry. In aqueous solutions, 2,2'-Bilm shows a tendency to self-associate. The characteristics of complex formation of Cu(II) with 2,2'-biimidazolyl are determined in a wide range of pH and reagent concentrations using potentiometric titration, EPR, and NMR. In solutions of pH ranging from 2 to 5, the specific feature of complexation between copper(II) and 2,2'-Bilm is a formation, in an excess of the ligand, of stable binuclear complexes, in which the 2,2'-Bilm molecules act as bridging ligands.
