Square Planar Complexes of Cu(II) with an N$_2$O Donor Set of a New Schiff Base Ligand: Synthesis and Structural Aspects

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Z. Naturforsch. 59b, 655 – 660 (2004); received December 1, 2003

The title compounds, [Cu(C$_{16}$H$_{23}$N$_2$O)SCN] (1) and [Cu(C$_{16}$H$_{23}$N$_2$O)N$_3$] (2), containing a tridentate Schiff base ligand, which is the 1:1 condensation product of benzoylacetone and 2-diethylaminoethylamine, have been synthesised and their crystal structures determined. The structure of 1 is based on a four coordinate copper centre with square-planar geometry formed by the N$_2$O donor set of the Schiff base and an N atom of the thiocyanate anion. A similar arrangement occurs in 2 with the N$_2$O donor set of the Schiff base and an N atom of the azide anion. The Cu-N and Cu-O distances are 1.924(8), 2.073(8), 1.927(9) and 1.910(6) Å, for 1 and 1.960(4), 2.050(4), 1.935(4) and 1.907(3) for 2, respectively.

Key words: Cu(II) Acetate, Crystal Structure, Spectral and Cyclovoltammetric Studies