Crystal Structure, Spectroscopic and Redox Properties of Copper(II) Bis{2-[(2,6-dimethylphenyl)iminomethyl-3-methoxyphenolate]}

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The coordination chemistry of *N*-(2,6-di-methylphenyl)-2-hydroxy-3-methoxybenzaldimine (**1**) with Cu(II) has been investigated by X-ray crystallography, electronic and EPR spectroscopies, as well as by electro- and magnetochemistry. The title complex **2** crystallizes in the orthorhombic space group $P2_12_12_1$ ($a = 8.1538$, $b = 17.7466$, $c = 19.8507$ Å). The mononuclear square-planar molecules **2** featuring *trans*-N_2O_2 coordination are connected *via* weak intermolecular C–H$\cdots\pi$ interactions into infinite chains parallel to the *a* axis. Although the intermolecular Cu$\cdots$Cu separations within individual chains and between chains are very long (8.154 and 9.726 Å), the exchange interaction parameter $G = 2.03 < 4$, estimated from solid state EPR spectra, suggests the existence of long-distance superexchange pathways between adjacent Cu(II) centers. The electronic and electrochemical features of the compound are also discussed.

Key words: Crystal Structure, C–H$\cdots\pi$(Ph) Bonding, Superexchange