

Redox and coordinative properties of N,N'-dithiobisamines: Oxidative desulphurization by copper(II) ions and Cr(CO)₅[S₂(NR₂)₂] complexes

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N,N'-dithiobisamines, R₂N-S-S-NR₂, NR₂N(CH₃)₂, N(CH₂CH₃)₂, {A figure is presented}, {A figure is presented} or N(CH₂-C₆H₅)₂, are oxidized to SO₂ by copper(II) salts with formation of copper(I) complexes, while from the reaction with pentacarbonyl (tetrahydrofuran)chromium the novel complexes Cr(CO)₅[S₂(NR₂)₂] were isolated. They have been characterized by elemental analysis as well as by spectroscopic methods. The π -acceptor abilities of the sulphur-containing ligands in the Cr(CO)₅L complexes are discussed and compared with those found for their analogous monothio derivatives. Reactivity of the coordinated sulphur compounds towards acids and copper(II) salts is less than that of the free ligands. © 1991.