

Research Title	Preparation of Stable Copper(I) Complexes by Using π Acid Ligands.		
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Abstract

Copper (I) complexes have been prepared by the reactions of copper (II) complexes with π - acid ligands e.g. thiourea, substituted thiourea and triphenylphosphine. In the study of the infrared spectra and properties of these complexes, It was found that thiourea, sym- diphenylthiourea and ethylenethiourea coordinated with copper(I) by using sulphur atom while methylthiourea used nitrogen to coordinate with copper(I). In carboxylatocopper (I) complexes, carboxyl groups in $\text{CuO}_2\text{CR}(\text{PPh}_3)_2$ ($\text{R} = -\text{H}, -\text{CH}_2, -\text{C}_6\text{H}_5$) coordinated to copper(I) by using both its oxygen atoms (bidentate), while in the $\text{CuO}_2\text{CR}(\text{PPh}_3)_3$ complexes the carboxylate acted as monodentate.