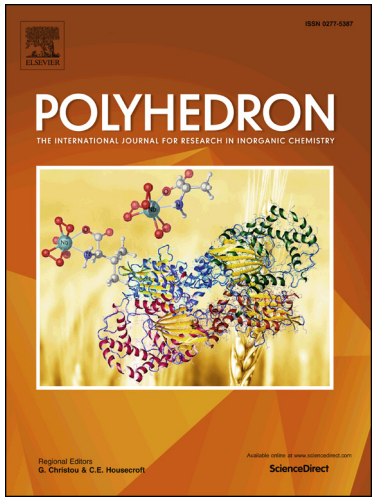

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Cu(I) complexes with thiosemicarbazides derived from *p*-toluenesulfohydrazide: structural, luminescence and biological studies

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Abstract. Reactions of thiosemicarbazide ligands (L^R: R = cyclohexyl (Cy) or phenyl (Ph)) with $[CuCl(PPh_3)_3]$ led to the formation of colorless Cu(I) complexes of composition $[CuCl(PPh_3)_2(L^R)]$. Both complexes were characterized by spectroscopic methods and further studied by single crystal X-ray diffractometry. The crystal structures confirmed the tetrahedral geometry for the Cu(I) metal center, which is coordinated by a chlorido, two triphenylphosphane and by the thiosemicarbazide as a neutral *S*-donor monodentate ligand. Photophysical studies revealed that the complexes exhibit emission at room temperature with maxima around 480 nm. At 77 K, the emission is shifted to higher energy, a characteristic behavior of MLCT emitters. The