

Catalytic Activity of CU(II) Complex on C(SP3)-H Oxidation Reactions

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Abstract : In recent years, interest in the synthesis of coordination compounds has greatly increased due to various application areas (such as catalysis, gas storage, luminescence). Dicarboxylic acids are often used in the synthesis of metal complexes. Bis-thiosalicylate derivative ligands contribute to the synthesis of structures of crystal engineering interest, as they can have both rigid and flexible properties. In addition, these ligands have great potential in terms of catalytic applications with the sulfur and oxygen donor atoms in their structures. In this study, we synthesized a Cu(II) complex [Cu(tsaxyl)(phen)₂]•CH₃OH (where tsaxyl = 2,2'-(1,2-phenylenebis(methylene))bis(sulfanedyl)dibenzoate, phen = 1,10-phenantroline) and characterized through X-ray crystallography. The catalytic activities of Cu(II) complex on oxidation of ethylbenzene, cyclohexane, diphenylmethane, p-xylene were performed in acetonitrile with t-BuOOH as the source of oxygen.

Keywords : complex, crystallography, catalysis, oxidation

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