

Nanochemistry and biotechnology

Synthesis nano-Cooper via *bis*-thiourea derivatives

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The applications of copper nanoparticles (CuNPs) have generated an interest in recent years due to catalytic and microbial properties. The literature reviewed methods of obtaining CuNPs by chemical techniques can be generalized as the reduction of copper (II) inorganic salts in the presence of surfactants (in 10-30-fold excess) [1].

In present study we present the method for preparation of CuNPs by using the Cu^{2+} complex compounds with ligands (L_1 , L_2) containing non-substituted amino groups suitable for the reduction of Cu^{2+} cation. Synthesis of $\text{Cu}(\text{L}_1)_2$ and $\text{Cu}(\text{L}_2)_2$ complexes was performed at room temperature. The production of $\text{Cu}(\text{L}_1)_2$ and $\text{Cu}(\text{L}_2)_2$ complexes in the reaction mixture is accompanied with formation of a certain amount of CuNPs as it was observed in [2]. Obtained CuNPs were characterized by UV-Vis and IR spectroscopy. The elaborated method allows the synthesis of CuNPs without using additional reducers and surfactants.

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