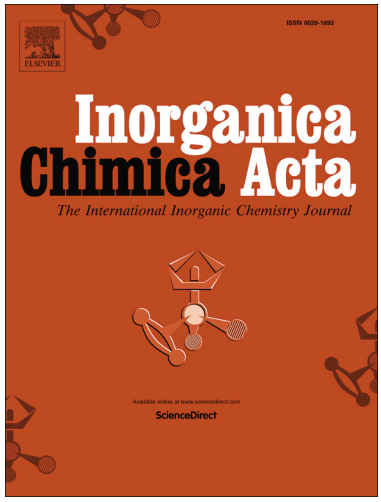

Research paper

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Synthesis and structural studies of 1-phenyl-1,3-butanedione copper(II) complexes as an excellent antimicrobial agent against methicillin-resistant *Staphylococcus aureus*

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Abstract

The copper based metal complexes (CMC) were synthesized using 1-phenyl-1,3-butanedione with two different solvents, methanol and water:acetic acid. The X-ray structural analysis of the two CMCs indicates that, coordination environment around the complex **1** $[Cu(C_{10}H_{10}O_2)_2(CH_4O)]$ exhibits distorted square-pyramidal geometry with *trans*-isomer favored structure whereas complex **2** $[Cu(C_{10}H_{10}O_2)_2]$ exhibits distorted square-planar geometry with *cis*-isomer favored structure. Both copper complexes were characterized by SEM, EDX, Mass and TGA. Further, the CMCs were showed promising antibacterial activity by disc diffusion and minimum inhibitory concentration assay against Gram positive and Gram negative bacteria. The studied model showed CMC were potent