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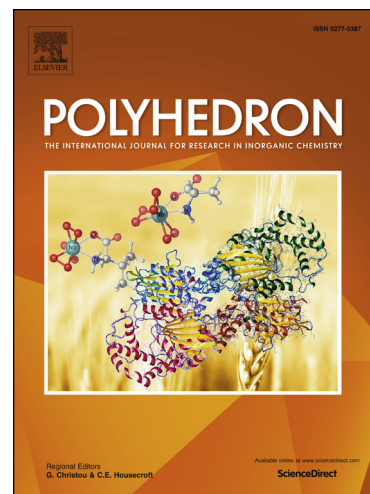
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Co(II), Ni(II), Cu(II) and Zn(II) complexes of acenaphthoquinone 3-(4-benzylpiperidyl)thiosemicarbazone: Synthesis, structural, electrochemical and antibacterial studies

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Abbreviations

UV-Vis, UV-Visible; ESI-MS, Electron Spray Ionization - Mass Spectroscopy; EPR, Electron Paramagnetic Resonance; HOMO, Highest Occupied Molecular Orbital; DFT, Density Functional Theory; LUMO, Lowest Unoccupied Molecular Orbital; FLC, Friend Erythroleukemia Cells; TBAP, Tetra butylammonium perchlorate; DMF, N, N-dimethylformamide; DMSO, dimethylsulfoxide; MTCC, Microbial Type Culture Collection

Abstract

An interesting series of four complexes of acenaphthoquinone 3-(4-benzylpiperidyl)thiosemicarbazones (HL), with a general formula $[\text{Co}^{\text{II}}\text{L}_2](\mathbf{1})$, $[\text{Ni}^{\text{II}}\text{L}_2](\mathbf{2})$, $[\text{Cu}^{\text{II}}\text{L}_2](\mathbf{3})$, and $[\text{Zn}^{\text{II}}\text{L}_2](\mathbf{4})$, were prepared. The complexes were characterized by means of elemental analysis, IR, UV-Visible spectroscopy and ESI-MS methods. In all the complexes the ligand (HL) coordinate as a monobasic ligand in tridentate fashion. The crystal structure of the compounds **1** and **2** were determined by single crystal X-ray diffraction experiment. The geometry and bonding parameters of the compound **3** were determined from EPR spectra. The *g* values of **3**,

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