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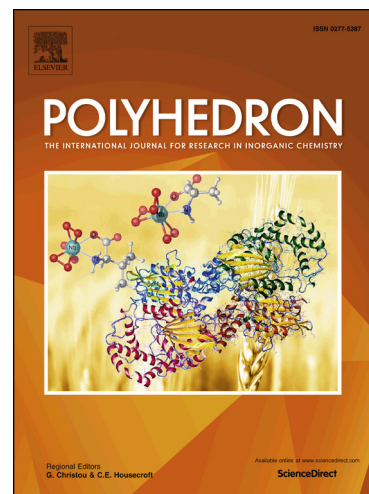
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Dibrominated Camphoric Acid Derived Salen Complexes: Synthesis, Characterization and Cytotoxic Activity

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Abstract

Novel brominated salen metal complexes from (1*R*,3*S*)-*N,N'*-bis[5-bromosalicylidene]-1,3-diamino-1,2,2-trimethylcyclopentane and Cu(II), Fe(III) and Mn(III) were synthesized and screened for their *in vitro* cytotoxic activity against two breast cancer cell lines, HCC1806 and MCF7, and two colon cancer cells lines, LS1034 and WiDr. Results show that the copper complex exhibits the highest cytotoxic activity towards all cell lines studied, presenting IC₅₀ values of 0.95-2.32 μM. The anti-proliferative effect observed with the copper complex constitutes a marked improvement relative to current conventional chemotherapy. A relationship between the biological activity of the most efficient Cu(II) complex and its structure is established using theoretical calculations and electrochemical studies.

Keywords: metal complexes, halogenated salen ligands, cytotoxic activity, theoretical calculations, electrochemical studies.

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