

(54) Title of the invention : METAL COMPLEXES OF SCHIFF BASE DERIVED FROM 3, 4- (METHYLENEDIOXY) ANILINE AND 5-CHLORO SALICYLALDEHYDE: SYNTHESIS, CHARACTERIZATION, ANTIBACTERIAL, ANTIFUNGAL AND ANTIOXIDANT STUDIES

<p>(51) International classification :C07F0015000000, C09B0055000000, C07C0251240000, C07F0001000000, C07F0005000000</p> <p>(31) Priority Document No :India</p> <p>(32) Priority Date :25/07/2022</p> <p>(33) Name of priority country :-----</p> <p>(86) International Application No Filing Date :PCT// :01/01/1900</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : 1)Dr.S.Gnanasekaran Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Sri Shakthi Institute of Engineering and Technology, -----</p> <p>2)Dr.M.L.SUNDARARAJAN, 3)Dr.T.JEYAKUMAR 4)Dr.M.THAMBIDURAI 5)Dr.R.VELAPPAN Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)Dr.S.Gnanasekaran Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Sri Shakthi Institute of Engineering and Technology, -----</p> <p>2)Dr.M.L.SUNDARARAJAN, Address of Applicant :Assistant Professor, Faculty of Engineering and Technology (FEAT) Annamalai University, Annamalainagar - -----</p> <p>3)Dr.T.JEYAKUMAR Address of Applicant :Associate Professor, Chemistry Section, Faculty of Engineering and Technology (FEAT), Annamalai University, Annamalainagar -----</p> <p>4)Dr.M.THAMBIDURAI Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Faculty of Engineering and Technology (FEAT), Annamalai University, Annamalainagar 608002 -----</p> <p>5)Dr.R.VELAPPAN Address of Applicant :Assistant Professor, Department of Mechanical Engineering, Faculty of Engineering and Technology (FEAT), Annamalai University, Annamalainagar ----- ---</p>
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(57) Abstract :

A new series of metal complexes (Zn(II), Cd(II), Ni(II), Cu(II), Fe(III), Co(II), Mn(II) Hg(II), and Ag(I)) have been synthesized using Schiff base derived from 3,4-(methylenedioxy)aniline and 5-chloro salicylaldehyde. Their structures were confirmed by elemental analysis, spectroscopic and molar conductivity studies. The complexes are of the type 1:1(metal:ligand) ratio. In all cases, the Schiff base is bonded in a bidentate fashion through azomethine nitrogen and phenolic oxygen. Coordination sphere is completed by one Cl or NO₃ or CH₃COO group and one water molecule in a tetrahedral arrangement. Fe (III) complex alone shows octahedral arrangement with two Cl groups and two water molecules. The proposed structures for these complexes are further supported by thermal and mass spectral analysis. The biological activities of all the synthesized complexes were screened against five bacterial (E.coli, S.aureus, E.faecalis, P.fluorescens, and Klebsiella sp.) and three fungal (Candidaalbicans, Fusarium.sp and Trichosporon.sp) strains. All the complexes exhibit increased activity (bacterial, fungal and antioxidant) compared to the Schiff base ligand.

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