

Oral Presentation

Synthesis, Characterization, Antibacterial Activities of Novel Polydentate Schiff's Bases and Their Transition Metal Complexes

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Abstract:

The work described in this contribution concerns the synthesis of novel new polydentate Schiff's bases and the formation of their Metal Complexes with Copper Bromide and Cadmium Chloride. The Schiff's bases ligands were prepared by the condensation reaction of primary amines with aldehydes in absolute ethanol under reflux conditions. The Schiff-base metal complexes were prepared by coordinating Copper Bromide and Cadmium Chloride with the corresponding ligand in solvent and inert system. The ligands and their metal complexes were characterized by IR, UV-VIS spectroscopy, EA, $^1\text{H-NMR}$, $^{13}\text{C-NMR}$, TG/DTA. The structure of free ligand

(N1E,N2E)-N1,N2-bis((5-bromothiophen-2-yl)methylene)ethane-1,2-diamine analyzed by XRD, is revealed helix zig zag structure suitable for tetra-dentate mononuclear and dinuclear metal complexes. Also the structure of free ligand **[(N1E,N2E)-N1,N2-bis(2-chlorobenzylidene)cyclohexane-1,2-diamine]** analyzed by XRD, this ligand is racemic, in which the cyclohexane ring adopts the expected bidentate chair conformation suitable only for mononuclear metal complexes. The potential of these ligands and their copper complexes against **E. coli**, **S. aureus**, **P. aeruginosa** and **MRSA bacteria** revealed promising activities.