

Transition metal based coordination compounds of Schiff base derived from drug molecules: Synthesis, spectroscopic and *in vitro* biological screening

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In order to create novel transition metal-based coordination compounds, Schiff bases (SB) based on the therapeutic molecules ambroxol and imitinib amine have been reacted with 5-methyl-2-furaldehyde. We investigated the antibacterial and spectroscopic characteristics of all the synthesised SB ligands and its coordination compounds. The SB ligand coordination compounds have been validated by IR and FAB mass spectroscopic analysis and the ligand structures have been established by ¹H NMR, IR, mass and elemental analysis. All SB ligands and coordination compounds have been tested *in vitro* on both Gram-positive (*Staphylococcus epidermidis*, *Bacillus subtilis*) and Gram-negative (*Escherichia coli*, *Salmonella enterica*) bacteria. The outcomes show how promising transition metal-based coordination compounds are and how crucial it is to conduct more studies on them.

Keywords: Ambroxol base, Imitinib amine, Transition metal coordination compounds, Antimicrobial studies, Spectroscopic studies