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**Synthesis, Spectral and Biological Studies of Copper (II) and Iron (III) complexes  
derived from 2-Acetyl benzofuran Semicarbazone and 2-Acetyl benzofuran  
Thiosemicarbazone**

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**Abstract:**

Metal complexes of general composition  $[M(L)_2]X_2$  (where  $M = Cu(II)$  and  $X = Cl^-, NO_3^-$ ) and  $[M(L)_2]X_3$  (where  $M = Fe(III)$  and  $X = Cl^-, NO_3^-$ ) were synthesized by the condensation of metal salts with semicarbazone ( $L^a$ ) / thiosemicarbazone ( $L^b$ ) derived from 2-acetyl benzofuran. The ligands and metal complexes were characterized by NMR, elemental analysis, molar conductance, magnetic susceptibility measurements, IR, atomic absorption, and electronic spectral studies. On the basis of electronic, molar conductance and infrared spectral studies, the complexes were found to have tetrahedral geometry. The Schiff bases and their metal complexes were tested for their antioxidant, radical scavenging and antibacterial activities.

**Key words:** Coumarone, Antioxidant, Antibacterial, DPPH, Lipid peroxidation, radical scavenging

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