


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Abstract: Metal complexes, ML_2Cl_2 , where M is Fe(II), Co(II), Ni(II), Cu(II), Zn(II), or Cd(II), and L is the Schiff base formed by condensation of 2-thiophenecarboxaldehyde with 2-aminopyridine, N-(2-thienylmethylidene)-2-aminopyridine (TNAPY) have been prepared and characterized by elemental analysis, and magnetic and spectroscopic measurements. Elemental analysis of the chelates suggests the stoichiometry is 1:2 (metal-ligand). Infrared and NMR spectra of the complexes agree with the coordination to the central metal atom through the nitrogen of the azomethine (-HC=N-) group and the sulfur atom of the thiophene ring. Magnetic susceptibility data coupled with electronic and ESR spectra suggest a distorted octahedral structure for the Fe(II), Co(II), Ni(II), and Cu(II) complexes, and a tetrahedral geometry for the Zn(II) and Cd(II) complexes. The Schiff base and its metal chelates have been screened for their in vitro antibacterial activity against Escherichia coli, Staphylococcus aureus, and Pseudomonas aeruginosa. The metal chelates were shown to possess more antibacterial activity than the uncomplexed Schiff-base.

Key Words: Schiff base, transition metal complex, biological activity

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