



Synthesis and Characterization of mixed Ligand Cu(II) Complexes of Sulfacetamide-Na with 2, 2-bipyridine and 1, 10-phenanthroline

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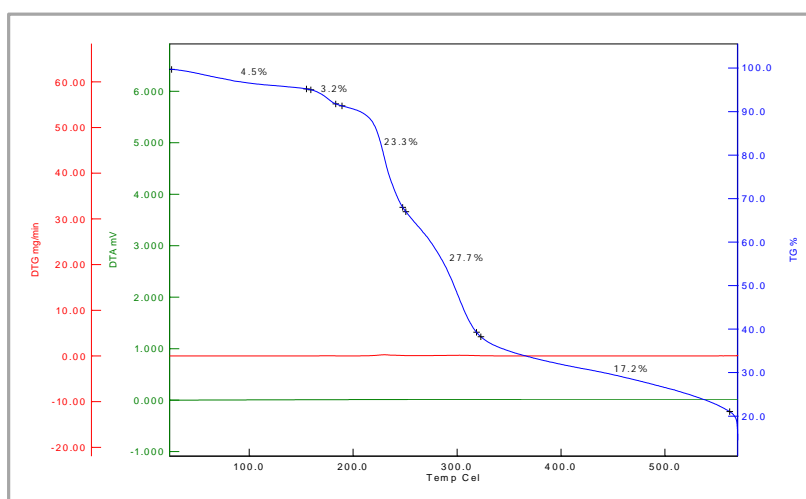
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ABSTRACT

Sulfacetamide-Na is used as a primary ligand, and 2, 2-bipyridine, 1, 10-phenanthroline is used as a secondary ligand to synthesize mixed ligand Cu(II) complexes. All the synthesized complexes were characterized by IR, UV, and TGA. IR spectra show that sulfacetamide-Na reacts as a monodentate ligand and coordinates through NH₂ nitrogen. Bidentate ligand 2, 2-bipyridine and 1, 10-phenanthroline coordinates through the nitrogen of the ring. UV/Visible electronic spectroscopy shows variation between ligand and complexes. All ligands are colourless, so a flat graph got in the visible range. Complexes show a slope and due to their colored nature. TGA data shows loss of mass of water molecule, chlorine, and ligand. The antibacterial test shows mixed ligand complexes have high antibacterial activity as compared to their ligands.

Graphical Abstract



Thermo gravimetric analysis of [Cu(sulf-Na)₂(Met)].

Keywords: Mixed ligand complexes, sulfacetamide-Na, Bipyridine, Phenanthroline, Antibacterial activity, Spectra.