

Abstract

In this research, three complexes were synthesized and analyzed for fluorescence applications. Two new Copper and Cobalt based on NS donor thiosemicarbazide and thiourea complexes are synthesized and characterized by UV-VIS spectroscopy, FTIR spectroscopy and Photoluminescence spectroscopy. Complex 1 is synthesized by copper acetate metal salt and TSC ligand. Complex 2 is synthesized by Cobalt nitrate and thiourea. Solvents in both the complexes were used, distilled water and ethanol. The complexes were of Green, Orange and Red color. These metal complexes are screened for sensing of drugs opium, marijuana, methamphetamine (Ice). The various characterization techniques like melting point, FTIR spectroscopy, UV-VIS spectroscopy and Fluorescence spectroscopy were used to study the structural properties, ensuring the encapsulation of the specific metals in the specific porous structure of both the complexes. It is observed that metal complexes exhibit enhanced sensing activity as compared to the ligands used for their synthesis.