Abstract

In this research, two dye encapsulated Zinc complexes were synthesized and analyzed for fluorescence applications. Complex 1 was synthesized by zinc Acetate dehydrate (Zn OAc.2H2O) metal salt, ligand 1,3,5-benzene tri carboxylic acid (TMA), co-ligand 4,4-bipyridine. Complex 2 was synthesized by zinc Acetate dehydrate metal salt, ligand (1,2,3,4-cyclopentane tetracarboxylic acid), co-ligand (Pyridine 3,4-dicarboxylic acid). Solvents in both the complexes were used, distilled water and ethanol. Encapsulation of complex 1&2 were done by dye (Rhodamine-B). These dye –encapsulated complex 1&2 were analyzed using different characterization techniques like melting point, FTIR spectroscopy, UV-VIS spectroscopy and Fluorescence spectroscopy were used to study the structural properties, which ensures the encapsulation of metals in specific porous structure of both complexes and dye-encapsulated complexes. These precursors and dye-encapsulated composites were applied further for nitro aromatic compounds detection and sensing of chromium.