

Synthesis and Characterization of Porphyrin Based Macromolecule and its Metal Complex

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ABSTRACT:

The new porphyrin based ligands has been synthesized and characterized using FAB-mass spectroscopy, ^1H NMR, ^{13}C NMR and UV-Vis spectrophotometry. The NMR confirmed the structure of the compound and the mass spectrum was in agreement with the proposed molecular formula. The UV-Vis absorption spectrum of synthesized compound shows characteristic spectral patterns similar to proposed structure with a Soret band at 419 nm and four Q bands at 515, 550, 590, and 648 nm. Protonation of the porphyrin with TFA resulted in the expected red shift of the Soret band. Excitation at 419nm gave an emission at 650nm. Metal complex of the newly synthesized porphyrin ligand was synthesized and characterized by various analytical techniques.

Keywords : Porphyrin; Spectral analyses; Metal complex;