

Abstract

Title of diploma thesis: Synthesis of quinoxalinoporphyrazines as potentially active substances I

Author: Jaroslav Švec

The aim of my diploma thesis was synthesis of symmetrical octasubstituted zinc tetraquinoxalinoporphyrazine (TQP) with specific properties. In this work, 2,3-bis[2-(diethylamino)ethylsulfanyl]-quinoxaline-6,7-dicarbonitrile was chosen as the starting material. The synthesis of 2,3,11,12,20,21,29,30-Octakis[2-(diethylamino)ethylsulfanyl]tetra-[6,7]-quinoxalinoporphyrazine zinc(II) (ZnTQP) by the cyclization of precursor with zinc acetate in DMF failed. That is why, I prepared the magnesium complex of TQP first, then I obtained the metal-free TQP from it using acid (HCl). Incorporation of Zn ions into the center of TQP was accomplished by treatment of the metal-free derivative with zinc acetate. Finally, ZnTQP was treated with ethyliodide and the water soluble ZnTQP, with quaternary ammonium groups, was obtained. The new compounds were characterized by using standard spectral methods (UV-vis, IR, ^1H NMR, ^{13}C NMR, mass spectra, elemental analysis).