

ABSTRACT

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Pharmaceutical Chemistry and Drug Control

Student: Lucie Plíštilová

Supervisor: PharmDr. Kamil Kopecký, Ph.D.

Title of diploma thesis:

Synthesis and physical properties of tetrapiperazinopyrazinoporphyrazines

Within the frame of my diploma thesis a three differently substituted (ethyl, phenyl, benzyl) 5,6,7,8-tetrahydropyrazino-[2,3-*b*]pyrazine-2,3-dicarbonitriles and corresponding metal-free and zinc azaphthalocyanines were prepared.

The aggregation behaviour of phthalocyanines and possibilities of interence in this property is described in a theoretical part. Due the aggregation of these compounds a photochemical and photophysical properties are changed and therefore a various ways how inhibit this effect are investigated.

None of the prepared azaphthalocyanines have been published in literature yet. All obtained products were defined by NMR, IR, UV-VIS spectra and mass spectra.

The absorption spectrum and fluorescence was measure for all azaphthalocyanines. However the observation of the influence of individual substituents to aggregation wasn't possible due to a low solubility of products.