

## **ABSTRACT**

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Title of diploma thesis: **Solubilisation systems for potential photodynamic compounds IV.**

The presented thesis deals with development and preparation of solubilisation systems for potentially photodynamically active substances. The aim was to determine the solubility of lipophilic photosensitizers of phthalocyanines azaanalogues type in several oils. MCT have been found suitable for ZIP21Zn and MUZ21Zn, and castor oil for P9Zn. These PS-in-oil solutions were incorporated into microemulsions using Cremophor<sup>®</sup> EL as the emulsifier. Molar extinction coefficients of photosensitizers in selected oils were also measured. For photosensitizer ZIP21Zn in MCT was found molar extinction coefficient  $354400 \text{ l}\cdot\text{mol}^{-1}\cdot\text{cm}^{-1}$  at the wavelength of 653 nm; for MUZ21Zn in MCT was found the coefficient  $416000 \text{ l}\cdot\text{mol}^{-1}\cdot\text{cm}^{-1}$  (746 nm), and for P9Zn in castor oil  $352200 \text{ l}\cdot\text{mol}^{-1}\cdot\text{cm}^{-1}$  (703 nm). For selected solutions, prepared beforehand, the absorbance was determined and the concentration of photosensitizers counted. At the MUZ21Zn and ZIP21Zn after conversion to microemulsions the absorbances in the microemulsions were also established and the stability of dyes in these microemulsions studied. The photosensitizer MUZ21Zn is not even short-time stable in microemulsion. The particles size was measured at microemulsion with castor oil.