

ABSTRACT

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Title of thesis:

Semipreparative separation of bioconjugates of azaphtalocyanines

This rigorous thesis deals with the development of suitable chromatographic conditions for the semipreparative separation of bio-conjugates of azaphthalocyanines. These compounds are of great interest today, thanks to their employment as potential quenchers of fluorescence in the molecular probes.

The experiments were carried out in analytical and semi-preparative scales. The conditions of separation in the analytical as well as semi-preparative scale were optimized by changing the mobile phase composition.

The following chromatographic conditions were found for separation of bio-conjugates of azaphthalocyanines:

- Stationary phase: Hypersil BDS®, 150 × 10 mm, 5 µm particle size
- Mobile phase A: 50 mM water solution TEAA in 12 % acetonitrile
- Mobile phase B: acetonitrile
- Isocratic elution A : B 57 : 43 (v/v)
- Other conditions: temperature 40 °C, flow rate 2,5 ml per minute
- Detection: 254 nm, 673 nm

The desired bio-conjugate of azaphthalocyanine were successfully isolated from the reaction mixture using the developed method. The isolated bio-conjugate is going to be tested as a molecular probe.