Abstract

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Title of Thesis:	Evaluation of the critical micelle concentration of cationic surfactants in acetace buffer

The theoretical part of this diploma thesis is focused on the characteristics of surfactants and their classification based on the hydrophilic part of the molecule. Furthermore, the use of surfactants in pharmaceutical technology (e.g. as agents used for mediated dissolution), as well as in other areas, e.g. as selectors for micellar electrokinetic chromatography, is described.

The experimental part deals with the determination of the critical micelle concentration of newly synthesized cationic surfactants (ILA-1 and ILA-2), which may potentially be used as chiral selectors in capillary electrophoresis. For comparison, the value of the critical micelle concentration of the currently used cationic chiral selector cetyltrimethylammonium bromide (CTAB) was also determined. The du Noüy ring method of surface tension measurement was used to evaluate the critical micelle concentration. All values of the critical micelle concentration were measured in acetate buffer pH 5.5.

The critical micelle concentration values were 0.01747 g/l (0.0358 mM), 0.01796 g/l (0.386 mM) and 0.0852 g/l (0.234 mM) for ILA-1, ILA-2 and CTAB, respectively.