

Abstract:

Capillary zone electrophoresis identifies and determines various analytes based on their mobilities in a solution of the background electrolyte, which is exposed to an effect of the electric field. Besides that, it is a suitable method for determination of dissociation and complexation (stability) constants. In this paper the adrenergic β -blockers were chosen as analytes. β -blockers have at least one chiral center in the structure and separation of their enantiomers in presence of the chiral selectors by capillary electrophoresis is possible. For the enantioseparation, variously modified β -cyclodextrins are most often added to the background electrolyte. If the enantiomers of β -blockers have a different affinity to the chiral selector, they exhibit different effective mobilities. Based on a dependence of the effective mobility of analytes on the concentration of chiral selector, we are able to determine their stability constants.

Key words: β -blockers, cyclodextrins, stability constant, capillary zone electrophoresis