

Abstract

Cyclodextrins are frequently used in capillary electromigration separation techniques as a complexing agent. Their presence in background electrolyte can enhance selectivity, mobilize neutral analytes or cause separation of chiral analytes. However, cyclodextrins can complex also with buffer constituents. This type of complexation can lead to significant changes of background electrolyte properties and, consequently, may result in distortion of electrophoretic results. In case of neutral additives, complexation can be easily detected by means of pH changes measurement. Situation in background electrolytes containing charged additives is more complicated due to the change of ionic strength. This work is focused on the revealing of unwanted complexations in systems containing charged cyclodextrins and on proposing safe, *i.e.* noninteracting, buffers for electrophoretic measurements in presence of charged cyclodextrins.

Keywords

capillary electrophoresis, affinity capillary electrophoresis, cyclodextrin, background electrolyte, complexation