In chiral and non-chiral electrophoretic resolution of basic drugs, adsorption of analytes to negatively charged capillary wall could lead to poor repeatability of migration time and peak area. In addition, chiral resolutions of basic drugs are commonly performed in low pH buffers.

Therefore, longer analysis time due to suppression of electroosmotic flow (EOF) is another dilemma. In this work the improvement effect of polybrene (PB), a cationic polymer, on chiral separation of a model basic drug, amlopidine (AML), was investigated. PB both as a semi-permanent coating agent and as an additive in the running buffer was utilized. Better results were obtained with PB as a buffer additive. Compare to untreated bare silica without using PB in running buffer, addition of ······o% PB to buffer decreased analysis time downed to Τ folds; efficiency improved up to o folds; limit of detection (LOD) and limit of quantification (LOQ) downed to Λ folds and within-day migration time and peak area repeatabilities, in terms of relative standard deviations (RSD) downed to o and Τ· folds, respectively.

Keyword: CAPILLARY ELECTROPHORESIS, CAPILLARY COATING, CHIRAL SEPARATION, AMLODIPINE, POLYBRENE