

## **Abstract**

Capillary zone electrophoresis is a simple and automated method which enables simultaneous determination of the dissociation constants and limiting ionic mobilities of the analyte from one series of experiments. The small consumption of the sample is main advantage of this method. The dependence of the effective mobilities of 7 selected ampholytes on pH in the range of 1.6 to 6.8 was measured. A set of simple buffers with constant ionic strength and satisfactory buffering capacity was designed using computer program PeakMaster. The ampholytes were detected by contactless conductivity detector. Dynamic capillary coating was used to minimize interactions of analytes with silanol groups on the inner wall of the capillary. Experimentally obtained effective mobilities were fitted with the suitable function. Actual mobilities and the mixed dissociation constants corresponding to the actual ionic strength were parameters of the regression function. Thermodynamic dissociation constants and limiting ionic mobility of ampholytes were calculated using the extended Debye-Hückel law with the linear member and the Onsager law.

**Key words:** capillary zone electrophoresis, dissociation constant, limiting mobility, ampholytes