

Abstract

A new laboratory techniques have been developed for rapid electrophoretic separations and determinations of the main components of energy drinks – saccharides, caffeine and taurine. For separations of saccharides, a short fused silica capillary with an inner diameter 10 μm , total length 10 cm and effective length 4 cm in combination with contactless conductivity detector was used. For simultaneous determination of caffeine and taurine, micellar electrokinetic chromatography in a fused silica capillary of inner diameter 50 μm , total length 10,5 cm and effective length 8 cm in combination with a dual detector was used. UV photometric and contactless conductivity detector were used for detection of caffeine and taurine, respectively. Saccharides in energy drinks were determined in less than 50 seconds, caffeine and taurine were determined at the time shortly over one minute.

Key words: capillary electrophoresis, short capillary, contactless conductivity detection, dual detection, micellar electrokinetic chromatography, saccharides, caffeine, taurine, energy drinks