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The electrolyte influence on the separation of adenine nucleotides by capillary electrophoresis

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Abstract This paper reports the results obtained in a study on capillary electrophoresis separation of a mixture of adenine nucleotides (AMP, ADP and ATP). Different CE techniques, capillary zone electrophoresis (CZE), reversed flow capillary zone electrophoresis (RF-CZE) and micellar electrokinetic chromatography (MEKC) were searched. The study started with the influence of the buffer type, concentration and pH, having as testing standards the three adenine nucleotides. Five buffers were used, phosphate, borate, CHES, CAPS and Tricine. The last one, Tricine in a concentration between 80-90 mM and pH 7-7.75 was found to be the most selective and efficient buffer for further method optimisation.

Keywords: capillary electrophoresis, adenine nucleotides, Tricine.

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