

Determination of inorganic anions and organic acids in water, beverages and orange juice by capillary electrophoresis

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Abstract : A capillary zone electrophoresis methods were developed with indirect UV detection for the analysis of inorganic and organic anions using background electrolytes (BGEs) consisting of chromate and 2, 6 pyridinedicarboxylic acids (PDC). Inorganic ions (F^- , Cl^- and SO_4^{2-}) and organic acids (tartaric acid, malic acid, succinic acid and citric acid) were determined in various samples. Electroosmotic flow (EOF) was reversed in the direction of the anode by adding cetyltrimethylammonium bromide (CTAB) to the electrolyte and highly alkaline conditions were used to confer a negative charge on inorganic and organic anions so as to promote their migration towards the anode. The detection wave length was 200nm. The methods developed for the anions were applied to the qualitative and quantitative analysis of environmental water samples from the surrounding areas of Stellenbosch, South Africa, as well as beverages and orange juice.

Keywords : Background electrolyte, Anions, Chromate, UV detection, beverages.

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