

Title (en)

METHOD FOR ORTHOGONAL ANALYTE STACKING/INJECTION SYSTEMS IN ELECTROPHORESIS

Title (de)

VERFAHREN FÜR ORTHOGONALE ANALYTEN-STACKING/INJEKTIONSSYSTEME IN DER ELEKTROPHORESE

Title (fr)

PROCEDE CONVENANT POUR DES SYSTEMES DE TASSEMENT/INJECTION ORTHOGONAUX D'ANALYTES DANS UNE ELECTROPHORESE

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Application

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Abstract (en)

[origin: WO0248673A2] In the present capillary electrokinetic chromatography method, analytes are injected by electroosmotic flow directly from a sample matrix into a separation buffer containing an electrokinetic vector with an opposite mobility. Analytes can now be injected at the velocity of electroosmotic flow, but are retained at the interface of the sample matrix-co-ion and separation buffer micelle zones as analyte/micelle complexes. Manipulation of the injecting force and opposing stacking force allow greatly increased length or volume of injection. Concentrations of the micelle, methanol, and borate in the separation buffer were provided to increase maximum injection length of neutral analytes. Reducing the analyte velocity in the separation buffer without substantially decreasing the velocity of the analyte during injection from the sample vial allowed greatly extended sample plug injection lengths. It is further enabled to inject sample solvent volumes equivalent to about twenty times the effective capillary volume. Equations and algorithms describing the injection process and maximum injection lengths for this mode of stacking in electrokinetic capillary chromatography are introduced. Use of the present method provides for maximum electrokinetic stacking injection for a wide variety of analytes and separation systems.

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