ABSTRACT

Capillary isotachophoresis (ITP) with conductivity detection has been used for separating and determining of glucosamine (GA) from the SYSADOA group (symptomatic slow acting drugs of osteoarthritis). The optimised ITP electrolyte system consisted of 10 mM potassium picolinate and 10 mM picolinic acid (pH 5.4) as the leading electrolyte (LE) and 10 mM formic acid (pH 3.0) as the terninating elektrolyte (TE). The driving and the detection curents were 50 μA (for 340 s) and 10 μA, respectively. A single analysis took < 10 min. Under the optimum conditions the effective mobility of GA was determined as 24,7 x 10^{-9} $m^2.V^{-1}s^{-1}$ when using tetraethylamonium-iodide as the standard of the mobility. The calibration graph was rectilinear in the range 50 – 200 $mg.l^{-1}$ of GA with r^2 = 0,99747. The RSD was 0,52 % (n=6) when determining 100 $mg.l^{-1}$ of GA. The ITP method was applied to the assay of GA content in various pharmaceuticals and nutraceuticals. Acceptable accuracy of the method was confirmed by the added/found GA recovery experiments (recoveries from 96.2-100.3%).