

Abstract

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Title of diploma thesis: Solid phase extraction by method Lab-On-Valve

This thesis deals with the development of method for direct determination of potassium-saving diuretic amiloride in the urine sample by bead injection (BI) using Lab-on-Valve system (LOV). The determination was based on the selective capture of the amiloride on beads with sorbent (CM-Sephadex C-25 ion-exchange), while the possible interfering urine components were flushed into the waste stream of carrier. After preconcentration amiloride was eluted from the beads by eluent solution (0.25 M HNO₃ + 0.05 M KCl), with flow rate of 5 µl/s. Detection was carried out a fluorescence spectrometer at a wavelength of 272 nm. Urine was diluted ten times and spiked by amiloride. For one analysis it was necessary to take 300 µl of the sample. Linearity of response was in the range of concentrations from 0.2 to 10.00 µg/ml ($r = 0.990$). The limit of detection (LOD) corresponds to a concentration of 0.05 mg / ml. The whole analysis lasted 280 seconds.