

Abstract

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Analytical chemistry

Candidate: Lucia Kováčová

Supervisor: Warunya Boonjob, Ph.D.

Consultant: Doc. PharmDr. Hana Sklenářová, Ph.D.

Title of diploma work: Automation of sulfamerazine extraction using LOV technique

This thesis deals with development of the method to determine sulfamerazine in spiked serum using the LOV methodology. The analyte was preconcentrated on sorbent Oasis-HLB. Pure methanol was used as eluent. UV spectrophotometry with wavelength 275 nm was used as detection technique. The optimal conditions of measurement in SIA system were specified – the creation of microcolumn, the volume of analyte, the analyte aspiration and elution flowrates. The linear calibration curve was found with the correlation coefficient of 0.99950 in the concentration range of 50 – 1000 ppb. The limit of detection (LOD = 71.70 µg/L) and the limit of quantification (LOQ = 238.99 µg/L) were defined. The repeatability for concentrations of 500 ppb and 1000 ppb were measured. The relative standard deviations (RSDs) were 5.66% and 6.60%, respectively.