ABSTRACT

Department: Department of Analytical chemistry

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Title of the diploma thesis: On-line solid phase extraction using sequential injection analysis

This diploma thesis is focused on the comparison of three sorbents (Iontosorb OXIN 50, Iontosorb Oxin 100 and TOYOpearl AF-chelate-650M) with the aim to find the most suitable one for analysis of Zn^{2+} using on-line solid phase extraction based on sequential injection analysis.

Zinc sulphate solutions at concentrations of 25 nmol/l, 50 nmol/l, 100 nmol/l, 200 nmol/l, 500 nmol/l, 1000 nmol/l, 1500 nmol/l and 2000 nmol/l were used in this work. During the analysis was used the buffer at pH 6, the elution solution HCl at pH 1 and the reagent 4-(2-Pyridylazo)resorcinol (PAR). The effort was to extract Zn^{2+} at the lowest possible concentrations.

Tested parameters were calibration range and repeatability. The best sorbent in comparison was Iontosorb OXIN 100.