

ABSTRACT

The aim of this bachelor thesis was to verify the efficiency of electrochemical generation of H_2Se in connection with atomic absorption spectrometry used to determination of selenium in real samples, specifically in selected food supplements with the declared content of selenium.

Firstly, working conditions of apparatus for electrochemical generation of H_2Se with atomic absorption spectrometry were optimized. Using these optimized conditions, calibration dependences for Se^{IV} a Se^{VI} were measured. It was found that for the quantitative determination of selenate, the prereduction step is needed. Therefore, prereduction of Se^{VI} to Se^{IV} was also optimized. After prereduction step, new calibrations were measured and figures of merit of determination of these selenium species were achieved from them.

In conclusion, concentrations of Se in real samples of selected food supplements with the declared contents of Se^{IV} and Se^{VI} were determined and interference effects for such determination have been discussed.