Abstract

This thesis deals with the further development of the technique of generation of volatile compounds as derivatization methods by speciation analysis of selenium compounds. Specifically, this diploma thesis compares technique chemical and electrochemical generation of selected species of selenium (inorganic Se (IV) inorganic Se (VI), selenomethionine (Se-Met), selenocysteine (Se-Cys), methyl-selenocysteine (Met-Se-Cys) and seleno-urea (Se-U)). The achieved basic analytical characteristics are compared of each species in non-column arrangement with atomic fluorescence spectrometry. The effect of pre-reduction/decomposition unit are tested, using the pre-reduction agent KBr and hydrochloric acid at higher temperature and in the presence of UV radiation.

Keywords

Selenium, speciation analysis, chemical hydride generation, electrochemical hydride generation, atomic fluorescence spectrometry