ABSTRACT

QUANTITATION OF SOME TRACE ELEMENTS WITH ADSORPTIVE STRIPPING VOLTAMMETRY

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Determination of trace elements found in environment is of growing interest due to their detrimental effects on natural environment and living organisms. Therefore, various analyses methods are being develop for these elements present in air, soil and water samples. Adsorptive stripping method is known as an efficient technique for trace metal analysis because of its sensitivity and selectivity.

In this thesis, determination of Cu, Zn and Cd found in different media, is aimed by complexing these metals with 5-amino 1,3,4-thiadiazole 2-thiol (AMT) on mercury drop electrode and then stripping by a potential scan towards appropriate direction. The parameters that affect stripping peak magnitudes are systematically studied. In this study, the ligand, 5-amino 1,3,4-thiadiazole 2-thiol, is being used for the first time for voltammetric trace metal analysis.

Keywords: 5-amino-1,3,4-thiadiazole-2-thiol, trace element, adsorptive stripping voltammetry (AdSV)