Abstract

The aim of this thesis was the determination of lead in water samples using complexating reaction with 4-(2-pyridylazo)-resorcinol in medium of 2-amino-2-hydroxymethyl-propan-1,3-diol hydrochloride buffer (Tris·HCl). Firstly, for the determination was chosen UV/VIS molecular spectrometry in a static arrangement. Subsequently, the method was performed in flow injection arrangement. The calibration was performed under optimal experimental conditions. The limits of detection for static and flow injection arrangements were 0.097 mol dm^{-3} and 0.27 mol dm^{-3}, respectively. Secondly, the determination of lead by differential pulse voltammetry was performed. The electrochemical properties of lead complex were investigated. During these experiments it was found out that small amount of this complex was adsorbed on the surface of silver solid amalgam electrode. The calibration was performed, the limit of detection was 0.020 mol dm^{-3}.

Keywords

Lead, 4-(2-pyridylazo)-resorcinol, flow injection analysis, UV/VIS molecular spectrometry, differential pulse voltammetry, silver solid amalgam electrode.