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SIMULTANEOUS ARSENIC (III) AND LEAD (II) DETECTION FROM AQUEOUS SOLUTION BY ANODIC STRIPPING SQUARE-WAVE VOLTAMMETRY

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Abstract

Nano-Ag electrodeposited on carbon nanotubes-epoxy and carbon nanofibers-epoxy composites electrode materials as Ag-CNT and Ag-CNF electrodes were tested for simultaneous detection of arsenic (III) and lead (II) from aqueous solution. The electrochemical behaviour of As(III) and Pb(II) on both composite electrode offered useful detection information and Ag-CNF exhibited better electroanalytical performance. The detection scheme using Ag-CNF for simultaneous detection of As(III) and Pb(II) was proposed in this paper based on anodic stripping with square-wave voltammetry (ASSWV) involving two deposition steps characteristic to both species.

Key words: arsenic (III), lead (II), simultaneous detection, anodic stripping square-wave voltammetry

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