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Synthesis and Characterization of cellulose and hydroxyapatite-carbon electrode composite for trace plumbum ions detection and its validation in blood serum

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Abstract

A novel synthesis and characterization of cellulose, hydroxyapatite and chemically-modified carbon electrode (Cellulose-HAp-CME) composite was reported for the analysis of trace Pb(II) ions detection and its validation in blood serum. The Field Emission Scanning Electron Microscopy (FESEM) analyses showed that the composite retained the orderly porous structure but with scattered particle size agglomeration. The Fourier Transform Infrared Spectroscopy (FTIR) spectra suggested the presence of functional groups associated with the bending and stretching of carbon bonds and intermolecular H-bonding. X–ray Diffraction