Abstract

The synthesis of carbon nanofibers (CNFS)/$Co(OH)_2$ nanocomposites for non-enzymatic electrochemical sensing of glucose is presented. The sensing matrix was fabricated by electrophoretic deposition of a mixture of $Co(NO_3)_2$ and CNFS in ethanol at 50 V for 2 min onto gold electrodes. The formed CNFS/$Co(OH)_2$ matrix was characterised by X-ray photoelectron spectroscopy, scanning electron microscopy and cyclic voltammetry. Its electrocatalytic properties towards the oxidation of glucose in 0.1 M NaOH were tested. A detection limit of 5 µM with linearity of 10 µM to 0.12 mM was obtained. The current response was selective towards glucose and stable over time. The good analytical performance of the nanocomposite allowed for sensing glucose in real human serum samples