Abstract
The change in electrochemical behavior of horseradish peroxidase (HRP) activity induced by trace metals was used as a basis for developing an amperometric biosensor. The HRP was immobilized on maize tassel-multiwalled carbon nanotube (MT-MWCNT) through electrostatic interactions. The FTIR and UV-Vis results inferred that HRP was not denatured during its immobilization on MT-MWCNT composite. Using Cd\textsuperscript{2+} as a model divalent metal ion, the inhibition rate was proportional to the concentration in the range from 0.002-0.030 mg L\textsuperscript{-1} with a limit of detection of 0.51 μg L\textsuperscript{-1}. Representative Dixon and Cornish-Bowden plots showed that the reaction was reversible and noncompetitive.