PLATINUM NANOPARTICLE LABEL MEDIATED DEPOSITION OF PLATINUM CATALYST FOR ULTRASENSITIVE ELECTROCHEMICAL IMMUNOSENSORS

ABSTRACT

A method for providing an ultrasensitive electrochemical immunosensor, comprising using a platinum (Pt) enhancement process to grow Pt catalyst based on the principle of seed-mediated nucleation and growth; using target-selective probe molecule-conjugated Pt nanoparticle labels as seeds wherein the resulting Pt catalyst accelerates a hydrogen evolution reaction in a proton-rich electrolyte medium for signal amplification, thereby improving the sensitivity of the electrochemical immunosensor or biosensor.

FIGURE 1