Advanced Materials Research, vol. 795, 2013, pages 654-657

Electrochemical measurement of PBS using cyclic voltammetry and AAO fabricated at ambient temperature and low potential

Abstract

Anodic aluminium oxide fabricated at ambient temperature and low potential in phosphoric acid electrolyte was used as the working electrode for the electrochemical measurement of phosphate buffer saline under different pH conditions using the cyclic voltammetry tool. We investigate the reversibility of the electrochemical reaction as a redox reaction from the cyclic graphs that were obtained. We observed that the ratio of the peak current passed at both the reduction and oxidation when measured was very close to unity in all the pH but except one which produced a none reversible reaction with a non cyclic graph. The peak potential for both reduction and oxidation reactions using phosphate buffer saline as the analyte under different pH of 3, 5, 7, and 9 was also obtained.

Keywords

Anodic aluminium oxide; Cyclic voltammetry; PH; Phosphate buffer saline; Redox