ABSTRACT

In this study, a metal electrode plating was performed using an electrospray system by varying the physics-chemical parameters such as voltage, syringe-collector distance, timing of the plating, flow rate and material composition. The plating process has successfully coated the metal surface with a diameter of about 100 µm. A coated electrode is subsequently applied to Microbial Fuel Cells (MFC) and compared to an uncoated electrode. It was found the voltage and current with carbon coated electrode are increased compared to the electrode without plating. The maximum voltage and current values that can be generated are 1.045 V and 0.18 mA for electrode with 5 minute of coating process.

Keywords: Electrode, Electrospray, Coating, Carbon, Microbial Fuel Cells.