

Performance and characterization of pulse electroplating with Au for improving the micro-DMFC current collectors

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Micro direct methanol fuel cells have been fabricated on a printed circuit board (PCB) substrate due to several beneficial properties, i.e., design flexibility, facile device integration, light weight and low cost of fabrication. But corrosion of current collector by copper occurs on anodic side of the cell. Corrosion would be a critical problem and it causes performance degradation. In order to avoid the described degradation, the copper layer can be plated with gold.

In this study, effect of electroplating method of anodic current collector for micro direct methanol fuel cell is reported. The performance of the micro DMFC applied direct current electroplating method and pulse current electroplating method on current collectors is tested and compared.