

### Improvement of micro-DMFC current collectors by Au pulse electroplating

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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 fabrication. But the corrosion of the current collectors occurs on the anodic side of the fuel cells. Corrosion would be a critical problem and it causes loss of material strength and consequent performance degradation. In this study, effect of electroplating method of the anodic current collector on their performance for micro direct methanol fuel cell is reported. The performances of the current collectors Au coating produced by the DC electroplating and pulse electroplating method in the DMFC are tested. Au coated current collector by DC and pulse electroplating method in a single-cell DMFC and observed that the current was 9mA/cm<sup>2</sup> and 110mA/cm<sup>2</sup> at 0.4V DMFC, respectively. It can be inferred that the stable surface of Au coating produced by pulse technique offers the stable performance of DMFC.