

## Electrodeposition of Pt–Ru Alloy Electrocatalysts for Direct Methanol Fuel Cell

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The electrocatalyst based on Pt-Ru alloy was successfully prepared on the carbon paper through electrodeposition approach. The deposition potential and time was tuned to control the particle size and density. Brunauer-Emmett-Teller (BET) isotherms, scanning electron microscopy (SEM), X-ray diffraction (XRD) and X-ray photoelectron spectroscopy were used to characterize the catalyst particles. The highest catalytic activity was observed with the Pt-Ru electrocatalyst towards the oxidation of methanol, Besides, the Pt-Ru electrocatalyst also exhibited the most tolerance against the poisoning of CO.

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**Keywords:** Electrocatalyst; Pt-Ru alloy; Electrodeposition; Methanol fuel cell; Carbon monoxide poisoning

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