Controllable Synthesis and Electro-catalytic Performance of the Anodic Catalysts for the Electro-oxidation of Methanol

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Proton exchange membrane fuel cells (PEMFCs) have attracted increasing attention over the past decades because of the high energy-conversion efficiency, high power density, good fuel availability and low emission of pollutants. However, the performance of PEMFCs is still hindered by several factors, including the high cost of the Pt-based electrocatalysts. Herein, we reported a facile route for the synthesis of carbon supported composition-tunable PtCu Alloy Nanodentrites (PtCu ANDs/C) and investigated their detailed morphology, composition and structure. Against commercial Pt/C catalysts, PtCu ANDs/C showed superior electrocatalytic activity towards methanol electro-oxidation reaction in basic electrolyte.

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