

75d Methanol Oxidation on PtRu Nanoparticles Supported on Carbon Nanotubes

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Carbon nanotubes have been studied in the last few years as metal catalyst support, and it was found that they can promote electrocatalytic activities of the supported metal. In our study, bimetallic PtRu electrocatalysts were prepared on multiwalled carbon nanotubes in a polyol process and their catalytic activity was studied in the oxidation of methanol. Highly dispersed PtRu nanoparticles were obtained with an average particle size of about 2.5 nm and a metal loading of 20 wt%. The electrocatalysts were fully characterized using transmission electron microscopy, x-ray diffraction, and x-ray photoelectron spectroscopy. Electrocatalytic activity of electrocatalysts was found to be better than that of similar commercial catalysts in the oxidation of methanol, promising their using in methanol fuel cells.