

CO tolerant RuS_x/C electrocatalyst as the anode in a polymer electrolyte membrane fuel cell

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To solve problems regarding the high cost of platinum and CO poisoning in a polymer electrolyte membrane fuel cell (PEMFC), a platinum-free electrocatalyst with high CO tolerance needs to be developed for use as the anode in a PEMFC. In the present study, we tried to apply carbon supported RuS_x to the anode of a PEMFC as its catalytic activity for hydrogen dissociation is well known. The CO tolerance of RuS_x/C was high because the sulfur atoms were expected to block the adsorption sites of CO molecules. We prepared RuS_x/C using a sonochemical method in order to allow high dispersion of RuS_x particles on the carbon support.