

عنوان مقاله:

A comparative study of the electrocatalytic oxidation of methanol on platinum particles electrodeposited into poly (1,5-diaminonaphthalene) film in acidic and alkaline media

محل انتشار:

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خلاصه مقاله:

A new catalyst was prepared in which platinum particles were distributed into a poly (1,5-diaminonaphthalene) film onto glassy carbon electrode. Catalytic activity and stability of this modified electrode toward to oxidation of methanol were studied using cyclic voltammetry. For comparative purposes, sodium hydroxide and sulfuric acid solutions were used as testing solutions. This modified electrode shows significant different behavior in acidic and alkaline solutions. Enhanced electrocatalytic activity toward the oxidation of methanol was noticed when NaOH (1.0 M) solution was used as supporting electrolyte. A high catalytic current density for methanol oxidation (0.208 Acm^{-2}) was found for (the 1.0 M NaOH solutions in comparison to 0.5 M H₂SO₄ solutions (0.041 Acm^{-2})).

کلمات کلیدی:

Poly (1,5-diaminonaphthalene); Platinum particles; Electrooxidation; Methanol, Glassy carbon electrode

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