

عنوان مقاله:

Stabilization and dispersion of Pd nanoparticles on graphene nano sheets using polyoxometalate, and the use of the resulting materials in a direct ethanol fuel cell

محل انتشار:

سومین کنفرانس هیدروژن و پیل سوختی (سال: 1394)

تعداد صفحات اصل مقاله: 11

نویسندگان:

.Sara Khadempir - Department of Chemical Engineering, Ferdowsi University of Mashhad, Mashhad, Iran

.Ali Ahmadpour - Department of Chemical Engineering, Ferdowsi University of Mashhad, Mashhad, Iran

Mohammad T. Hamed mosavian - Department of Chemical Engineering, Ferdowsi University of Mashhad, Mashhad, Iran

.Narges Ashraf - Department of Chemistry, Faculty of Sciences, Ferdowsi University of Mashhad, Mashhad, Iran

خلاصه مقاله:

A Polyoxometalate assisted approach has been utilized to prepare a nanocomposite of Pd nanoparticles (PdNPs) and graphene nanosheets (GNSs). The Keggin-type POM, phosphomolybdic acid (PMo12), was applied to serve as both reducing and stabilizing agents. Characterization of the as-prepared nanocomposite (Pd/PMo12/GNSs) was performed using transmission electron microscopy and Fourier transform infrared spectroscopy. The synergistic behavior of PdNPs, PMo12 and GNSs in the nanocomposite leads to the elevated electrocatalytic property. This electrocatalyst represents a superior performance towards ethanol oxidation reaction and shows better tolerance to poisoning species.

کلمات کلیدی:

Palladium nanoparticle, Graphene nanosheets, Phosphomolybdic acid, Ethanol electrooxidation

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/595367>

