

عنوان مقاله:

Synthesis of a Unimolecular Micelle Both as Anchoring Sites for Palladium Nanaoparticles and Micellar Catalyst for Heck Reaction in Water

محل انتشار:

دهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1391)

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خلاصه مقاله:

Since most uncharged organic molecules are simply insoluble in water, doing transition-metal-catalyzed organic synthesis in water is often not accessible. Employing amphiphiles with a defined structure is an approach that can overcome this problem. Due to the strong polarity gradient present between the hydrophilic surface and the hydrophobic core of the micelle both nonpolar and polar reagents can be solubilized. This solubilization causes reactants to become more concentrated within the micelle than in the surrounding water phase and leads to an acceleration of the reaction [1,2]. Unimolecular micelles, which are systematically constructed dendrimers with hydrophilic interfaces, might be superior because of their dynamic stability and internal regularity [3]. Moreover dendrimer-encapsulated nanoparticles are prepared by making complex with metal ions within dendrimers and then reducing the composite. The resulting immobilized nanoparticles can be nearly monodisperse in size and stable against aggregation and be catalytically active [4].

کلمات کلیدی:

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