Eco-Friendly Synthesis of Noble Metal Nanoparticles on Graphene Nanoplatelets

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Facile and green processes of decorating novel metal nanoparticles to the surface of graphene nanoplatelets were developed with retaining intrinsic properties of GNPs and novel metal nanoparticles. In order to make the whole processes of fabricating the novel metal deposited GNPs become truly easy and scalable, we focused our attention on how to substitute traditional harsh reaction conditions such as elevated temperature, and relatively long reaction period with mild condition like using weak acid, water, and at room temperature. By adopting our strategy, we could obtain GNPs decorated with SnO2. And the evenly decorated SnO2 provide growth sites for novel metals, which allow us to successfully anchor most popular novel metals on the surface of SnO2/GNPs in easy manners. Finally, the Ag@ SnO2/GNPs were mixed with epoxy to investigate the effect of our strategy on maintaining the natural properties of the composites.
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