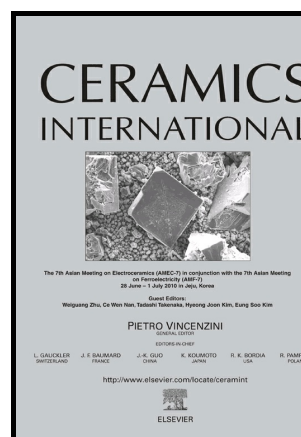


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Preparation of TiO₂-Reduced Graphene Oxide-Pd Nanocomposites for Phenol Photocatalytic Degradation

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Abstract

In this work, TiO₂-reduced graphene oxide-Pd nanocomposite was synthesized via a two steps hydrothermal method. The synthesized nanocomposite was characterized by SEM, XRD, EDX, UV-vis spectroscopy, N₂ adsorption/desorption, photocurrent response and electrochemical impedance spectroscopy. The superior contact between three materials in the nanocomposite facilitates the photocatalytic degradation of phenol and evolution of oxygen. The cause of the enhanced photocatalytic performance could ascribe to the highly facilitated electron transport by the synergistic effect between three materials, as well as suppressing the electron hole pair recombination in the nanocomposite.

Keyword: Nanocomposite; Photocatalyst; TiO₂; Graphene; Pd

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