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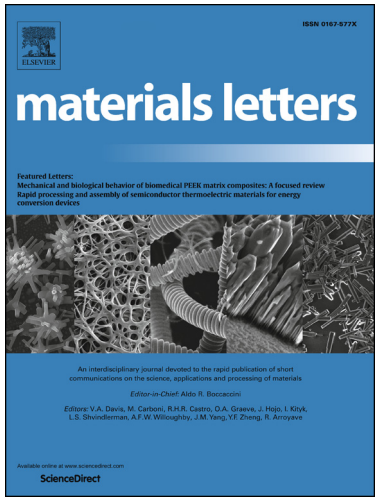

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Hierarchical nanoflowers assembled with Au nanoparticles decorated ZnO nanosheets toward enhanced photocatalytic properties

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ABSTRACT

Hierarchical nanoflowers assembled with Au nanoparticles (NPs) decorated ZnO nanosheets (Au-ZnO nanosheet flowers, AZNSFs) were successful synthesized. The AZNSFs showed more efficient activity to photodegradation of RhB than that of pure ZnO nanosheet flowers and commercial ZnO nanopowders. The improved photocatalytic properties of the AZNSFs nanohybrids are attributed to the large specific surface area induced by the 3D hierarchical architectures, stable structure and the charge separation due to the electronic interaction between Au NPs and ZnO nanosheets.

Keywords: Au-ZnO; Composite materials; Crystal growth; hierarchical nanostructures; photocatalytic activity

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