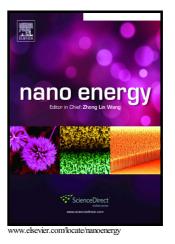
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ACCEPTED MANUSCRIPT

Anchoring Ultrafine Metallic and Oxidized Pt Nanoclusters on Yolk-Shell TiO₂ for Unprecedentedly High Photocatalytic Hydrogen Production

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Abstract: We demonstrate an alkali modification process to produce highly dispersed ultrafine Pt nanoclusters with metallic Pt^0 and oxidized Pt^{2+} species as co-catalyst anchored on nanosheet-constructed yolk-shell TiO₂ (NYTiO₂-Pt) acting as light harvesting reactor for highly efficient photocatalytic H₂ production. Benefiting from the high surface area, highly dispersed ultrafine Pt nanoclusters (~0.6 nm) with Pt^0 and Pt^{2+} species and special nanosheet-constructed yolk-shell structure, this novel light harvesting reactor exhibits excellent performance for photocatalytic H₂ production. The NYTiO₂-Pt-0.5 (0.188 wt% Pt) Download English Version:

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