Hexagonally arranged tungsten oxide hollow particles as an effective photoanode for solar hydrogen production

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The water splitting using solar light for the production of hydrogen fuel is a key target in the further facilitation of a hydrogen economy. Inverse-opal structures with tungsten oxide are constructed using electrochemical infiltration method in a three-dimensional colloidal array template as a photoanode of photoelectrochemical cells. Enhanced contact area between tungsten oxide and electrolyte results in increased photocurrent compared to that prepared without template.