

Fabrication and Photocatalytic Effects of Tungsten Trioxide Nano-Pattern Arrays

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We first fabricated arrays of WO_3 nanostructures by means of electrochemical deposition in predefined patterns generated by nanoimprint lithography. Dot and line patterns were tuned by controlling preparation conditions. Morphological and photocurrent-voltage characterization revealed strong correlations between pattern structures and photocatalytic effects. The technique for producing a nano-patterned photocatalyst described in this study may be applicable to self-cleaning window panes to maximize photocatalytic effects without significant transparency compensation.