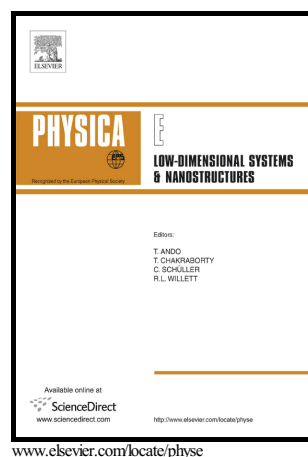


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Hydrothermal Synthesis and Photocatalytic Properties of WO₃ Nanorods by Using Capping Agent SnCl₄•5H₂O

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Abstract

Hexagonal tungsten trioxide (h-WO₃) nano-rods of different sizes are prepared via hydrothermal synthesis using a capping agent of SnCl₄•5H₂O. The size of the synthesized WO₃ nanoparticles can be controlled by changing concentration of the capping agent SnCl₄•5H₂O alone. We also investigate microstructures and optical properties of the WO₃ nanorods and propose a synthesis mechanism for the nanorods. The photocatalytic activities of the h-WO₃ nanorods are evaluated by degradation of Rhodamine-B (RhB), revealing that these nanorods exhibit excellent photocatalytic properties. The capping agent SnCl₄•5H₂O is found to be critical to governing sizes and properties of the h-WO₃ nanorods. Our results demonstrate that functional

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