

Morphology control of metal oxides templated by polymer and its application

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Structures of metal oxides were controlled using polymer templates such as graft copolymer, block copolymer, and homopolymer. Various kinds of synthetic methods including sol-gel, electrospinning, and hydrothermal synthesis were attempted. Based on the precise morphology control, metal oxides with different structures were synthesized. Metal oxides on the ceramic membrane were applied as photocatalytic membrane for wastewater treatment. Morphology-controlled metal oxides on ceramic membrane exhibited the improved antifouling property and photocatalytic performance for degradation of organic materials under UV irradiation.