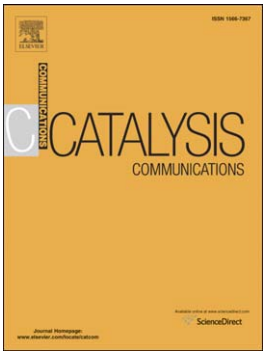

Enhanced visible light photocatalytic activity of $CdMoO_4$ microspheres modified with AgI nanoparticles

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Enhanced visible light photocatalytic activity of $CdMoO_4$ microspheres modified with AgI nanoparticles

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Abstract

Visible-light-driven AgI/$CdMoO_4$ composite was successfully fabricated via a hydrothermal process combined with a facile deposition–precipitation method at room temperature. The obtained samples were characterized using various analytical techniques. The experimental results showed that the AgI/$CdMoO_4$ composite displayed enhanced visible light photocatalytic activity for degrading organic dyes. The 32.9%-loaded AgI/$CdMoO_4$ photocatalyst showed the highest photocatalytic activity and maintained good stability. The enhanced photocatalytic activity could be ascribed to the efficient visible light absorption and separation of electrons and holes by using $CdMoO_4$ as an electron trap.

Keywords: $CdMoO_4$, AgI, visible-light-driven, photocatalysis

1. Introduction

Photocatalysis technology has attracted great interests for several decades as an efficient way to solve the problems of global energy crisis and environment deterioration.[1, 2] The semiconductor TiO_2 was once considered as one of the most useful and valuable photocatalysts for its chemical stability, low cost and nontoxicity.[3, 4] However, because of