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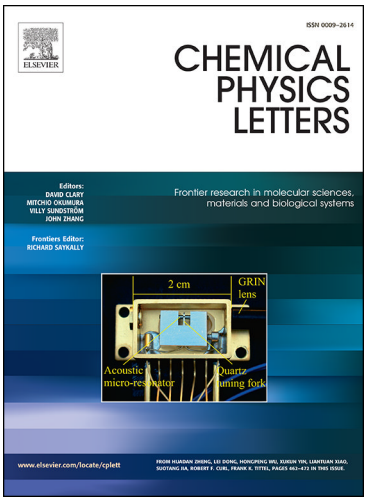

Research paper

Synthesis of porous BiOCl nanocubes with enhanced visible light photocatalytic performance

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Synthesis of porous BiOCl nanocubes with enhanced visible light photocatalytic performance

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Abstract

Porous BiOCl nanocubes with highly crystalline was successfully synthesized via a facile mannitol-assisted hydrothermal route. The results reveal that mannitol has great influence on BiOCl crystal structure and morphology, as well as photocatalytic activity. BiOCl (k=0.190 min^{-1}) exhibits excellent photocatalytic activities by the degradation of Rhodamine B (RhB) almost completely after 20 min visible-light irradiation. The enhanced photocatalytic-activity is owing to its highly crystalline, porous structure and positive valence band. This work provides a green strategy on synthesizing porous Bi-based nanocubes with highly active photocatalysis and offers new inside the importance of mannitol on the photocatalysis preparation process.