

## Hydrolysis synthesis route for (001)/(102) coexposed BiOCl nanosheets with high visible light-driven catalytic performance

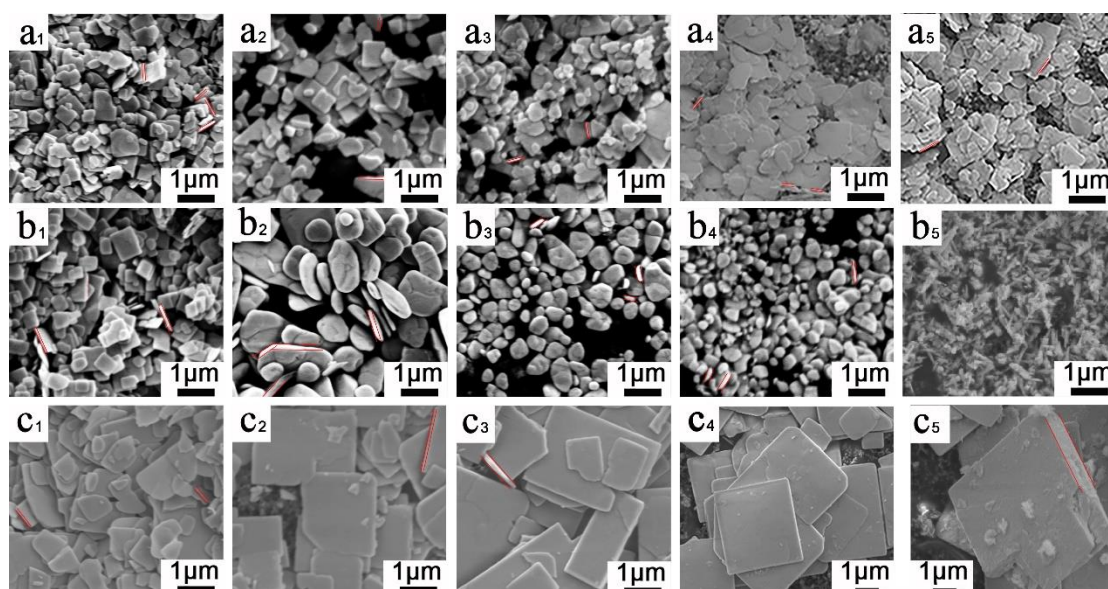
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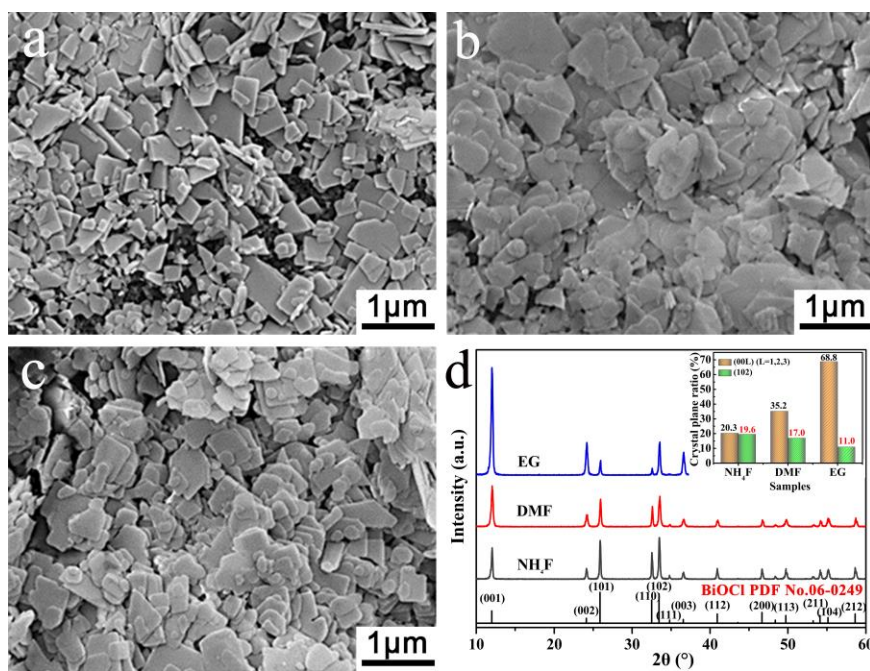
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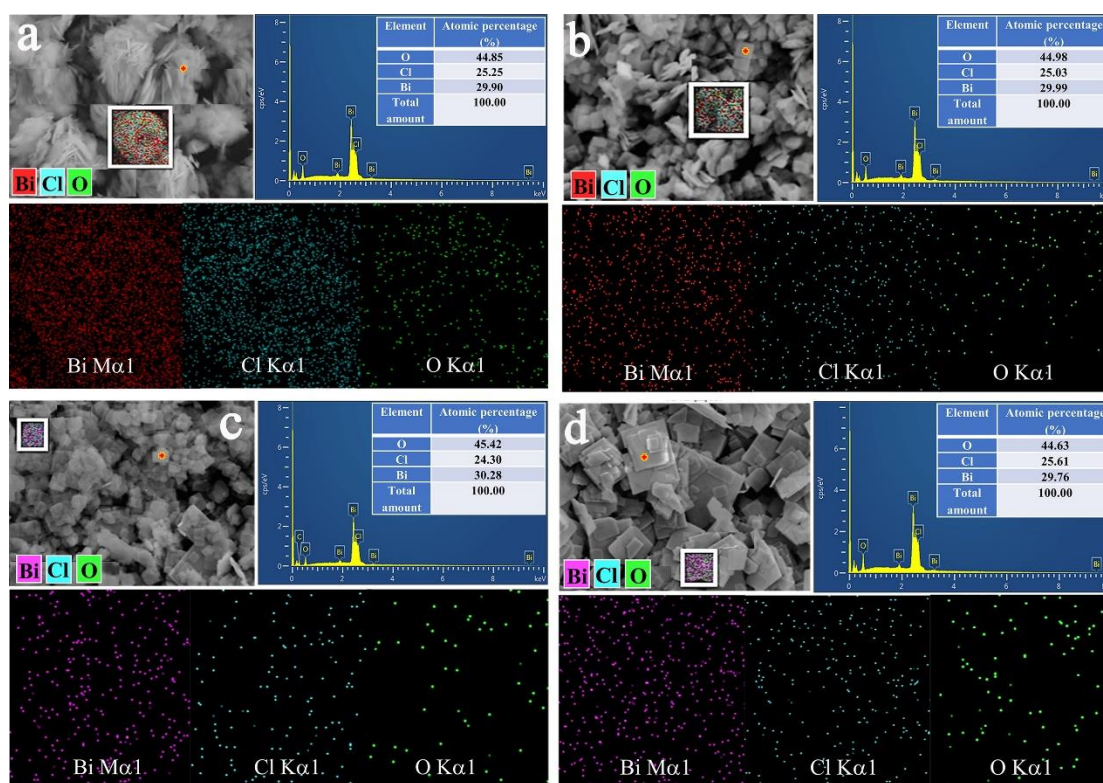
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**Fig. S1** SEM images of the as-prepared BOC materials under different hydrolysis conditions, **a<sub>1</sub>-a<sub>5</sub>** deionized water content of 50 mL, 100 mL, 150 mL, 200 mL, 250 mL; **b<sub>1</sub>-b<sub>5</sub>** NaOH content of 0.2g, 0.5g, 1.0g, 1.6g, 2.0g; **c<sub>1</sub>-c<sub>5</sub>** Temperature of 40°C, 50°C, 60°C, 70°C, 80°C



**Fig. S2** SEM images and XRD patterns of as-prepared BOC materials with different additives **a** NH<sub>4</sub>F (0.5 g); **b** DMF (5.2 mL); **c** EG (25 mL). The inset of figure d is the facet ratio of {001} and {102}



**Fig. S3** SEM images, mapping scan of EDX and elemental content of BOC crystals **a** BOC-1, **b** BOC-2, **c** BOC-3, **d** BOC-4

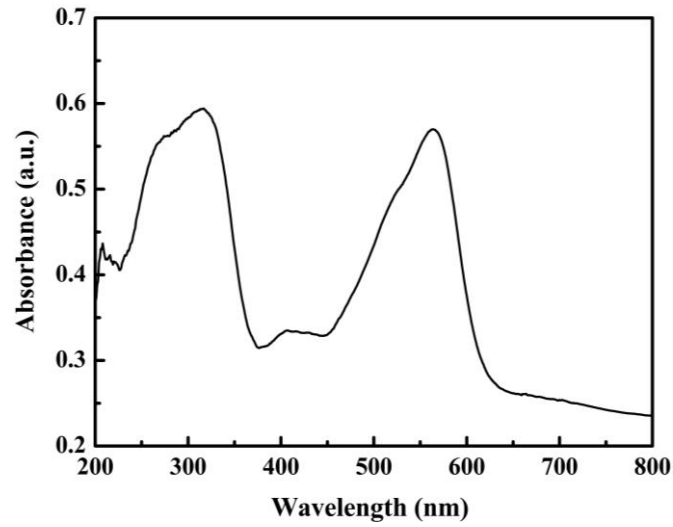


Fig. S4 UV-vis DRS of BOC-1 with the adsorption of RhB

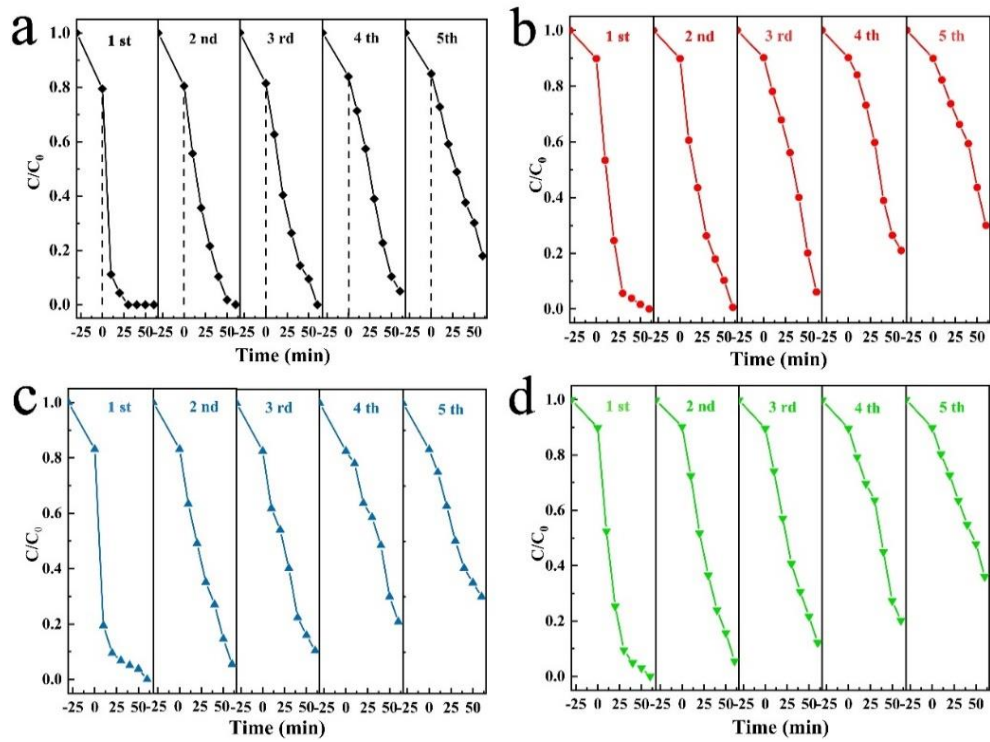


Fig. S5 Photocatalytic degradation of RhB over BOC in five cycles **a** BOC-1, **b** BOC-2, **c** BOC-3, **d** BOC-4