

## Supplementary Information

### **Preparation of sphere-like g-C<sub>3</sub>N<sub>4</sub>/BiOI photocatalysts via a reactable ionic liquid for visible-light-driven photocatalytic degradation of pollutants**

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and Huaming Li<sup>\*a</sup>

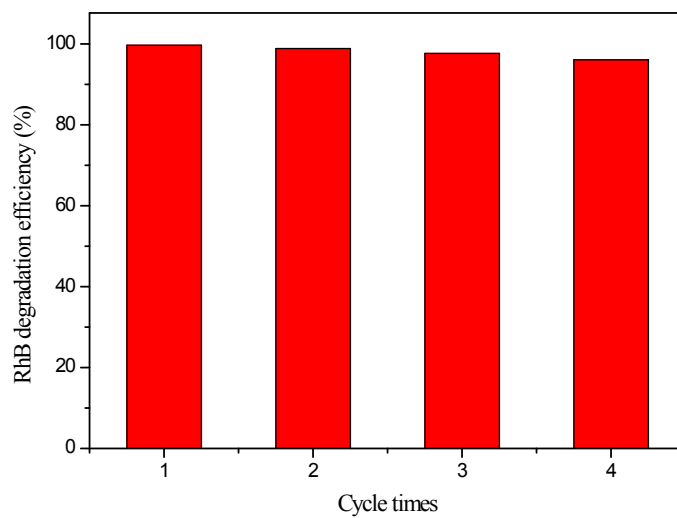
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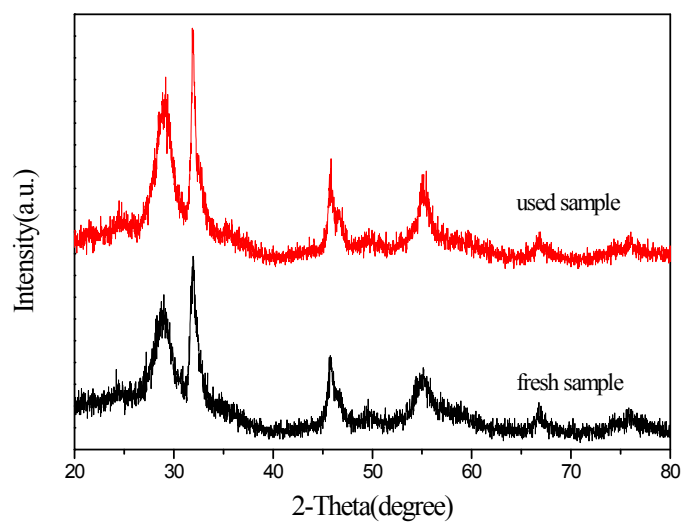
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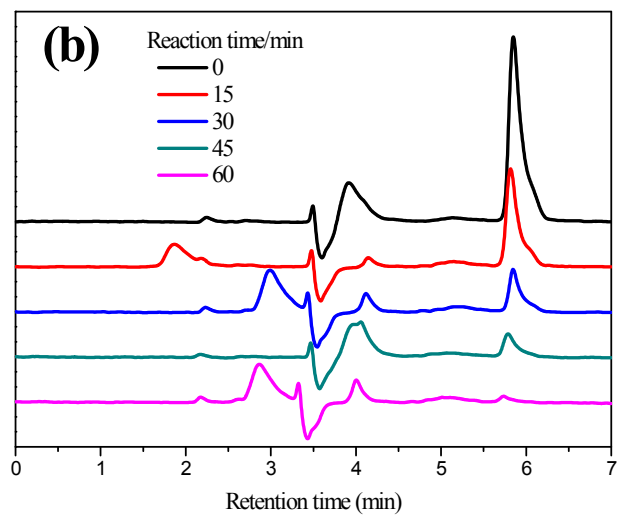
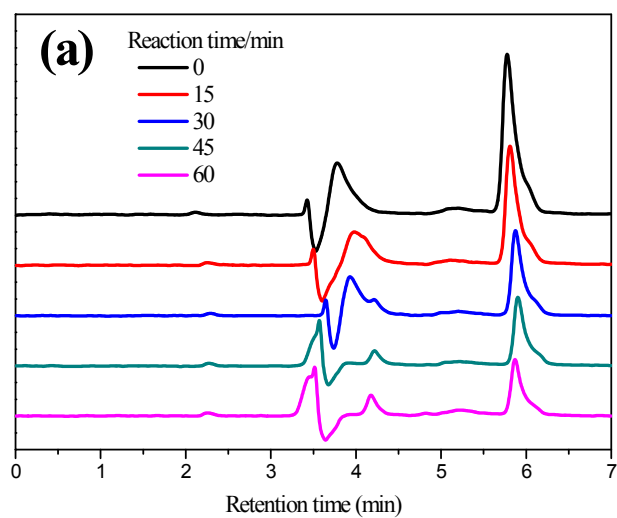
*E-mail address: xjx@ujs.edu.cn; lhm@ujs.edu.cn*



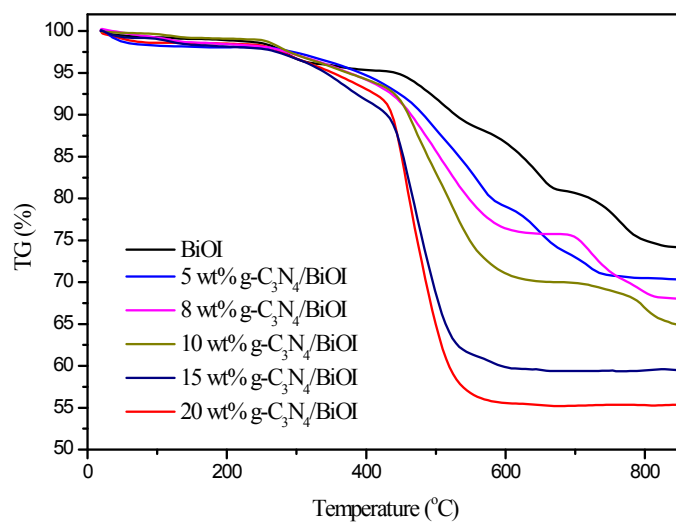
**Figure S1** Cycling runs for the photodegradation of RhB in the presence of 15 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI composite under visible light irradiation.



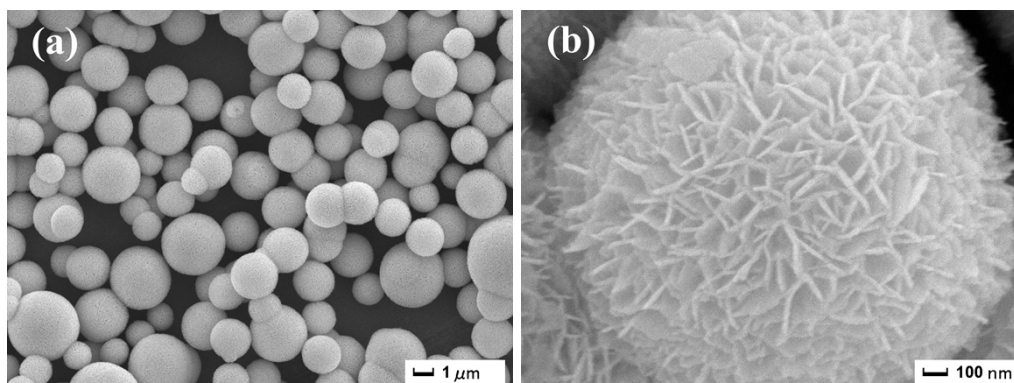
**Figure S2** XRD patterns of the 15 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI composite before and after the cycling photocatalytic experiments.



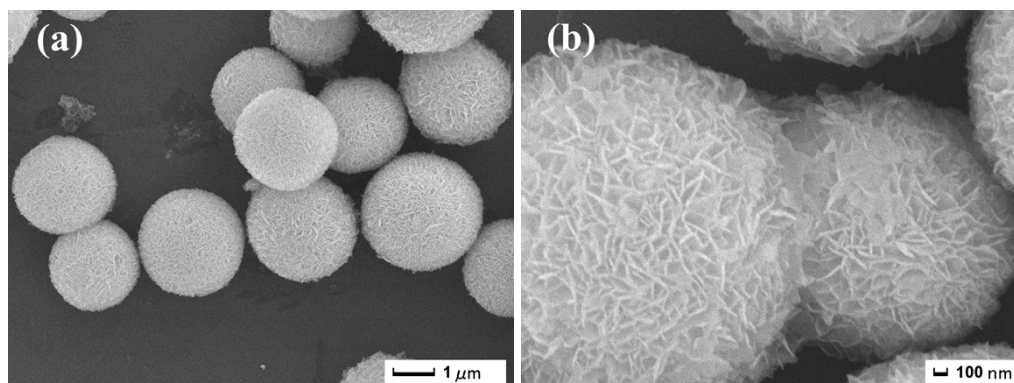
**Figure S3.** (a) HPLC chromatograms of the BPA degradation of the BiOI under visible light irradiation;  
(b) HPLC chromatograms of the BPA degradation of the 15wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI under visible light irradiation.



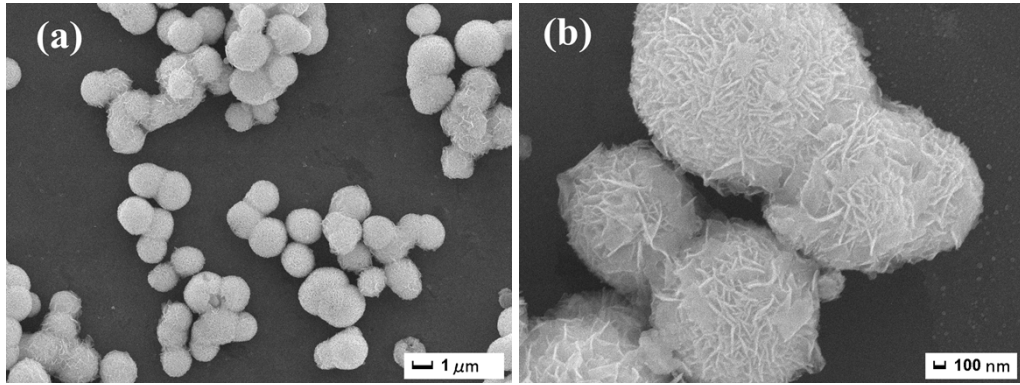
**Figure S4** TG thermograms for the g-C<sub>3</sub>N<sub>4</sub>/BiOI samples.



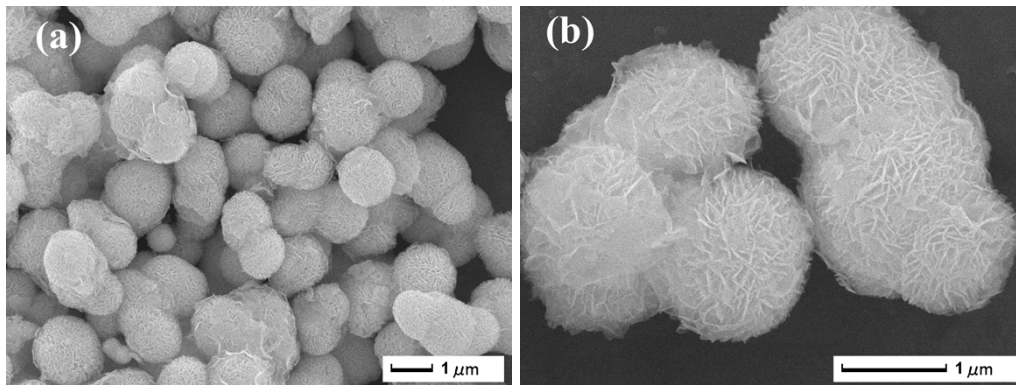
**Figure S5** SEM images of pure BiOI.



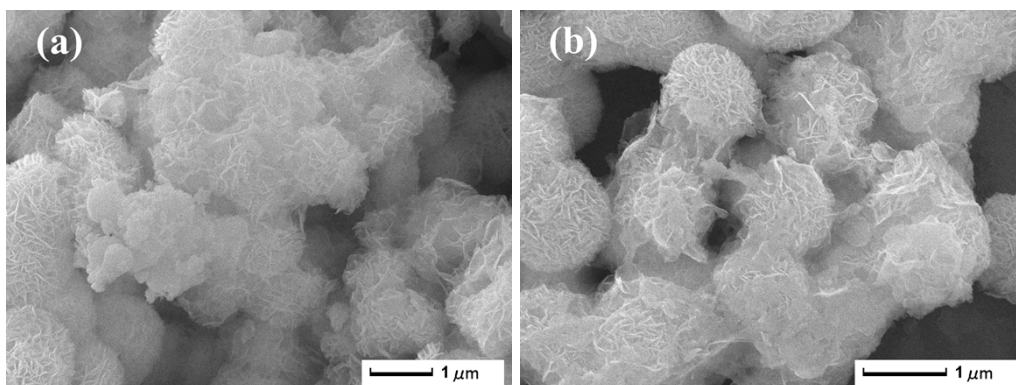
**Figure S6** SEM images of 5 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample.



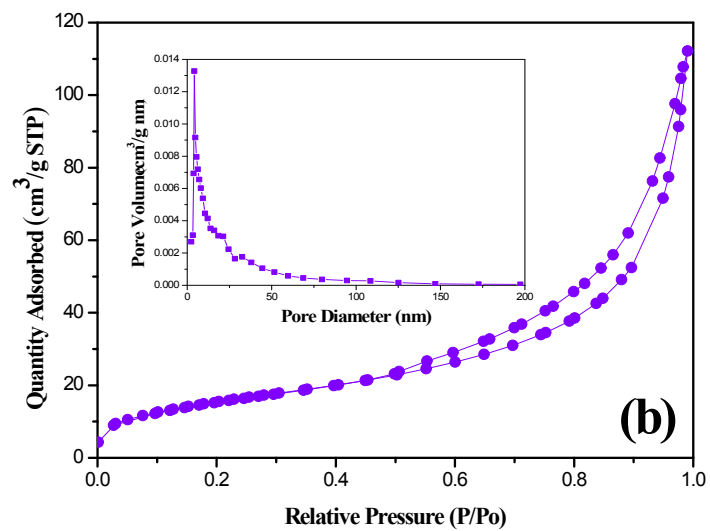
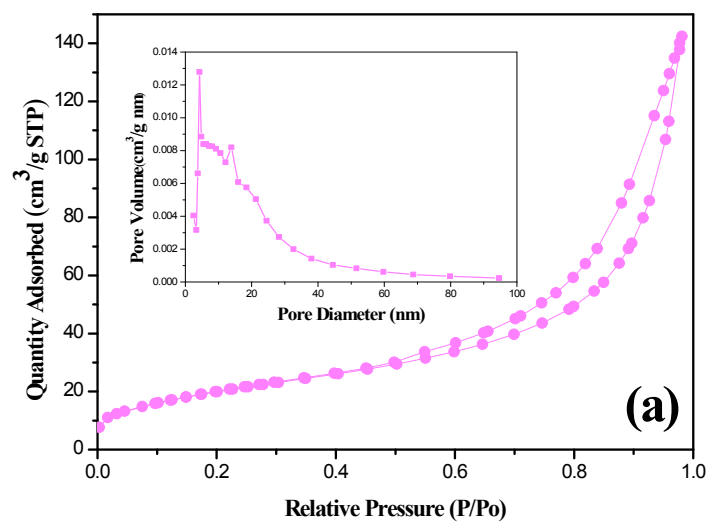
**Figure S7** SEM images of 8 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample.



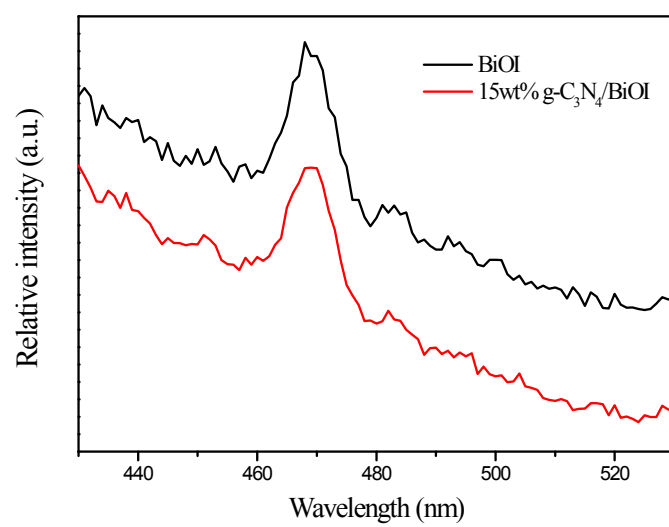
**Figure S8** SEM images of 10 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample.



**Figure S9** SEM images of 20 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample.



**Figure S10** Nitrogen absorption-desorption isotherms of (a) 15 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample; (b) 20 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI sample.



**Figure S11.** PL spectra of BiOI and 15 wt% g-C<sub>3</sub>N<sub>4</sub>/BiOI composite.