

## Supporting Information

### Synthesis of Core-Shell Structured $\text{Ag}_3\text{PO}_4$ @Benzoxazine Soft

#### Gel Nanocomposites and their Photocatalytic Performance

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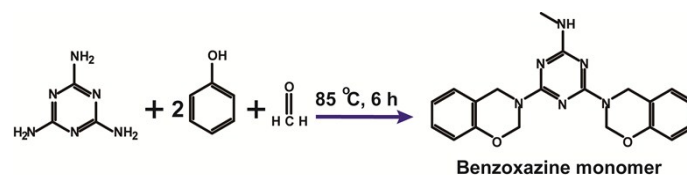


Fig. S1 Synthetic procedure for the benzoxazine monomer.

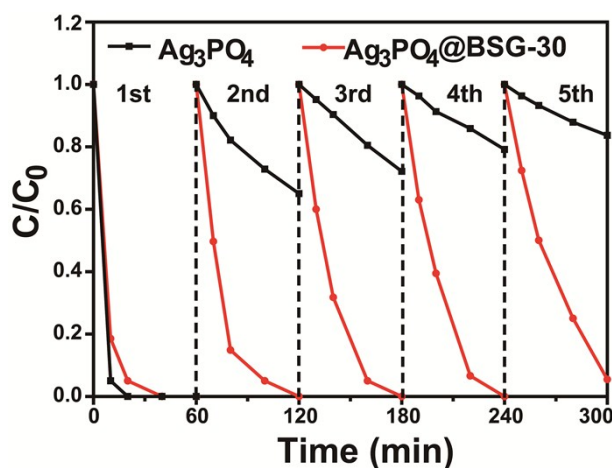
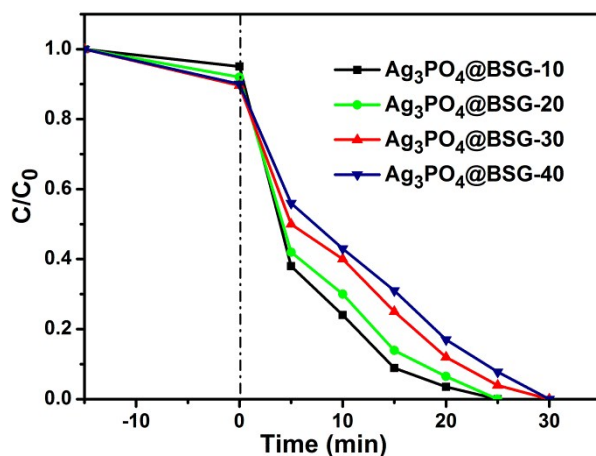
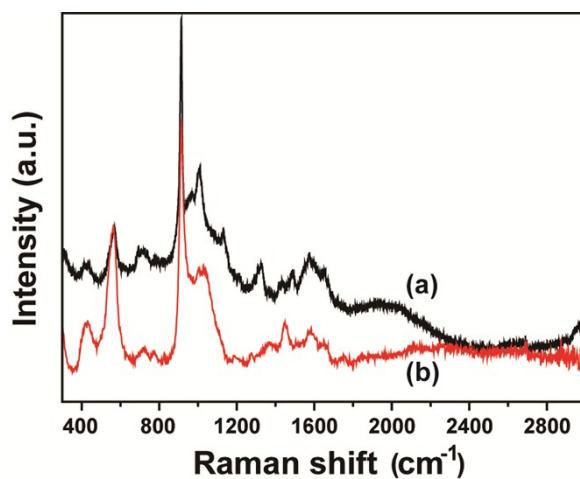


Fig. S2 Photocatalytic stabilities of the bare  $\text{Ag}_3\text{PO}_4$  and the  $\text{Ag}_3\text{PO}_4$ @BSG-30 nanocomposite as photocatalysts for the degradation of methyl orange (4mg/L) under simulated sunlight irradiation .



**Fig. S3** Photocatalytic activity of the Ag<sub>3</sub>PO<sub>4</sub>@BSG-X (10, 20, 30, 40) nanocomposites as photocatalysts for the degradation of RhB under visible light irradiation.



**Fig. S4** Raman spectra of (a) the fresh Ag<sub>3</sub>PO<sub>4</sub>@BSG-30 nanocomposites and (b) after using.