

Supporting information

## An efficient and robust exfoliated bentonite/Ag<sub>3</sub>PO<sub>4</sub>/AgBr plasmonic photocatalyst for degradation of parabens

Jianchao Ma<sup>a</sup>, Shurong Yang<sup>a</sup>, Huixian Shi<sup>b,\*</sup>, Jin Pang<sup>a</sup>, Xiaopeng Zhang<sup>a</sup>, Yuxing Wang<sup>a</sup>, Hongqi Sun<sup>c,\*</sup>

<sup>a</sup>College of Mining Engineering, Taiyuan University of Technology, Taiyuan 030024, Shanxi, P.R. China

<sup>b</sup>Institute of New Carbon Materials, Taiyuan University of Technology, Taiyuan 030024, Shanxi, P.R. China

<sup>c</sup>School of Engineering, Edith Cowan University, Joondalup, Western Australia, 6027, Australia

\*Corresponding authors.

E-mail: [shihuixian@tyut.edu.cn](mailto:shihuixian@tyut.edu.cn) (H. Shi), [h.sun@ecu.edu.au](mailto:h.sun@ecu.edu.au) (H. Sun)

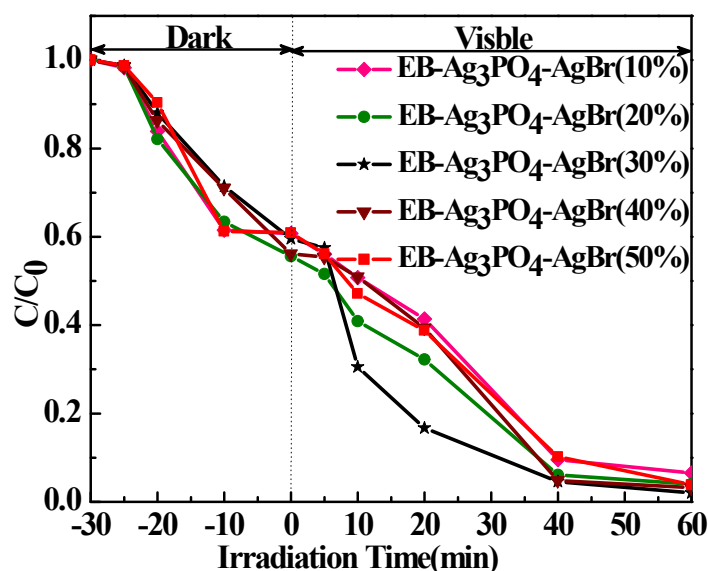


Fig. S1. The effect of the ratio of AgBr to Ag<sub>3</sub>PO<sub>4</sub> in different mass ratio on the degradation of MPB.

Table S1. Textural properties of the samples

Exfoliated-bentonite	16.3595	0.022304	43.185
Name	BET/(m <sup>2</sup> /g)	Pore volume/(cm <sup>3</sup> /g)	Average aperture/(Å)
EB/Ag <sub>3</sub> PO <sub>4</sub>	4.5035	0.029572	47.788
EB/Ag <sub>3</sub> PO <sub>4</sub> /AgBr	13.2130	0.057100	100.378

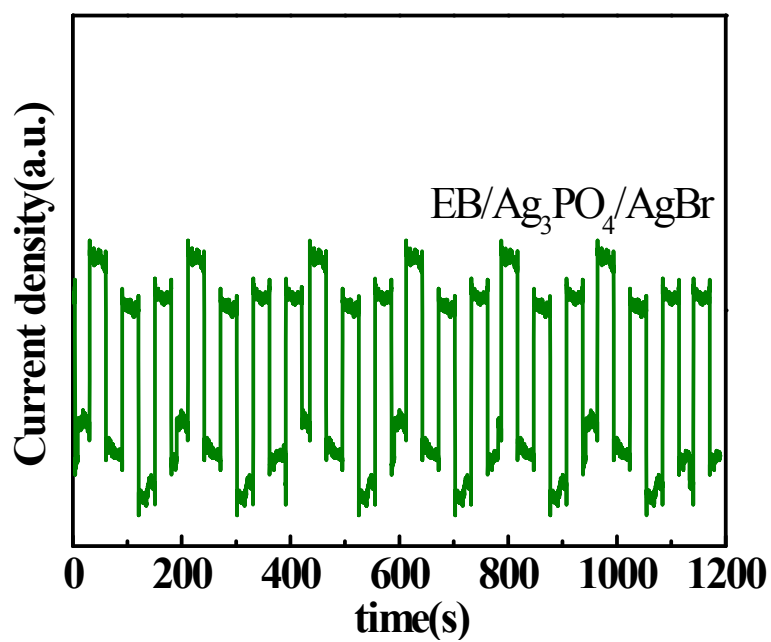


Fig. S2. Transient photocurrent response for the EB/Ag<sub>3</sub>PO<sub>4</sub>/AgBr (30%) hybrids under visible light irradiation;

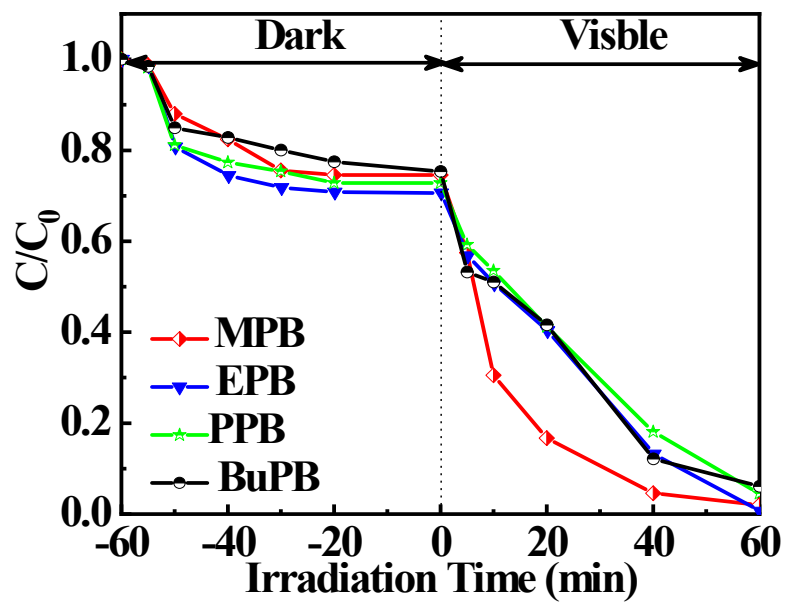


Fig. S3 Relationship curves between irradiation time and  $C/C_0$  for MBP, EPB, PPB and BuPB on EB/Ag<sub>3</sub>PO<sub>4</sub>/AgBr (30%) composites.

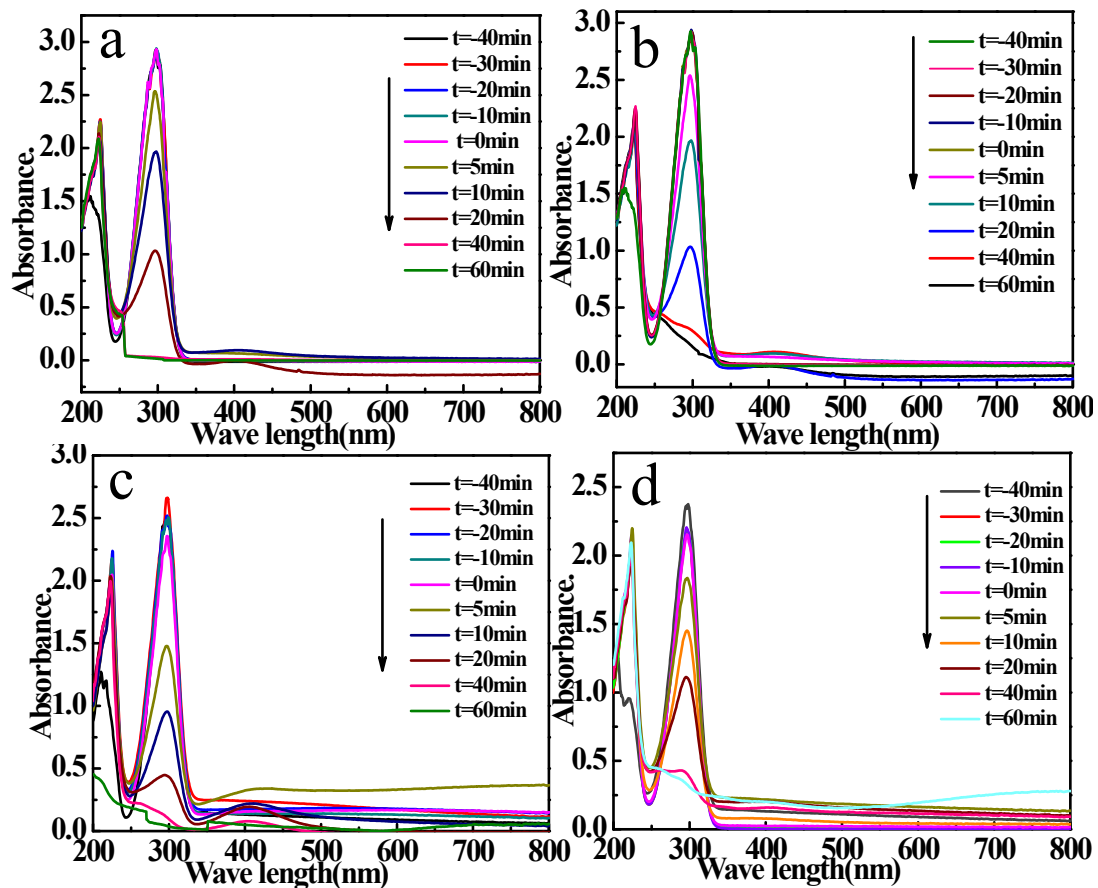


Fig. S4. UV-vis spectra changes of (a) MPB, (b) EPB, (c) PPB, (d) BuPB solution during the photocatalytic degradation by the as-prepared photocatalyst in visible light illumination

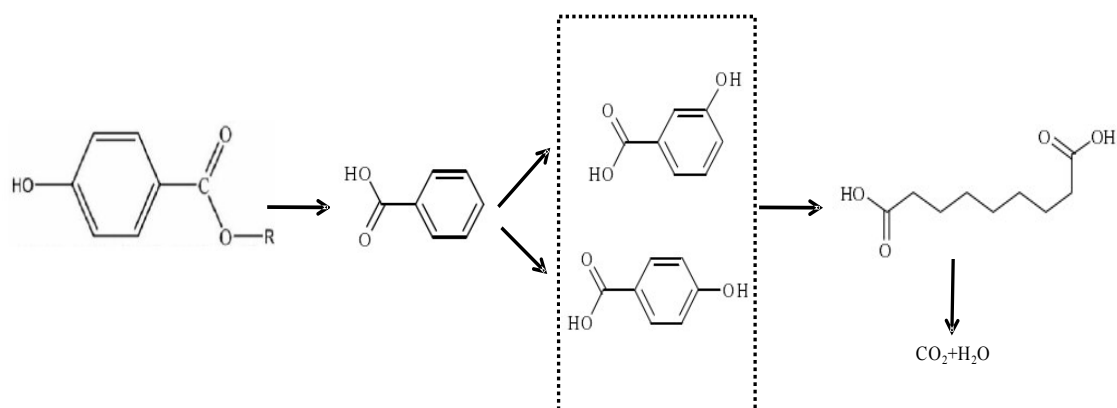


Fig. S5. Photodegradation pathways of methylparaben