Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary material data

Construction of Novel Two-dimensional $AgBiO_3$/BiOBr Step-scheme Heterojunction for Enhanced Broad-spectrum Photocatalytic Performance

Total number of pages of Supporting Information: 8

Number of Figures in Supporting Information: 4

Number of Tables in Supporting Information: 3

List of the Supplemental Figures

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Fig. S1.

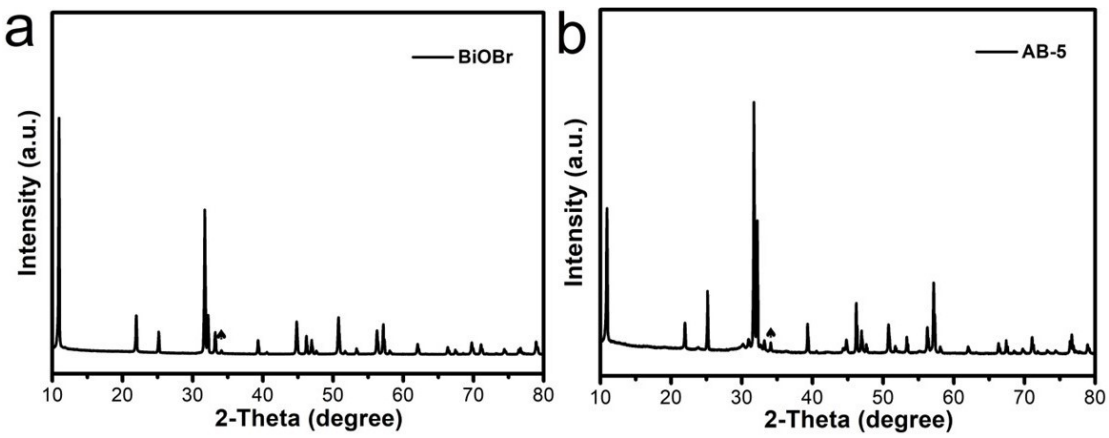


Fig. S1. XRD patterns of as-synthesized samples: (a) BiOBr, (b)AB-5.

Fig. S2.

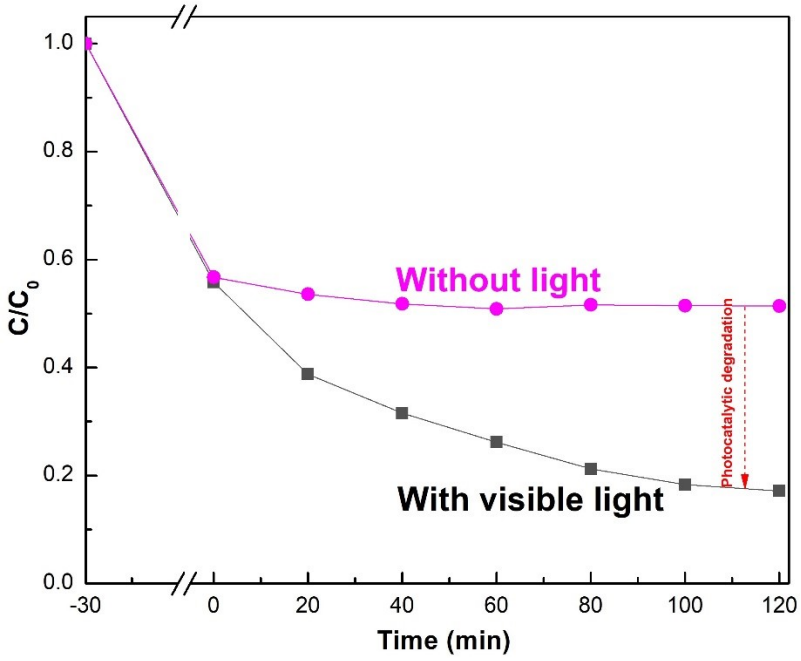


Fig. S2. The degradation performance of the catalyst without light and with visible light toward CIP.

Fig. S3.

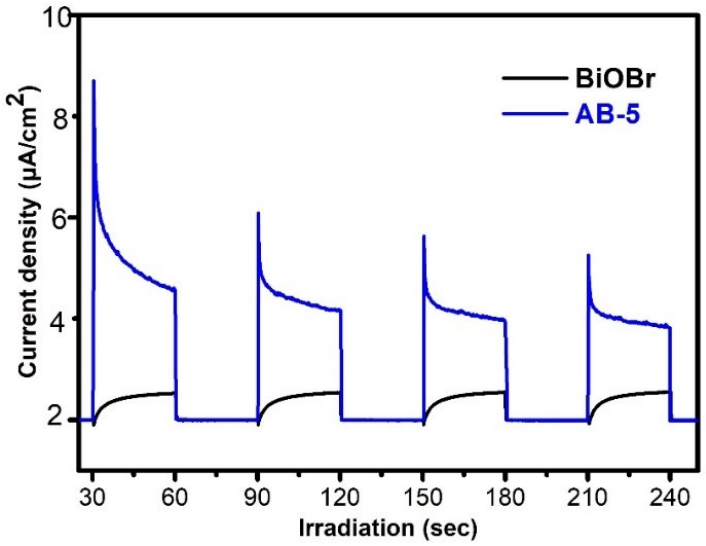


Fig.S3. Photocurrent-time transient of the as-prepared samples.

Fig. S4

Fig. S4. Photocatalytic reactor

Table S1. Molecular formulas and structures of several organic pollutions studied in this work

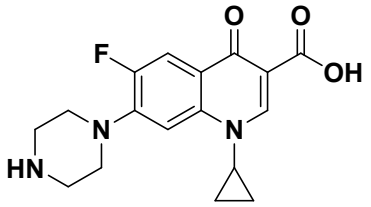
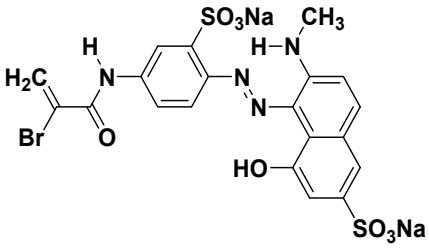
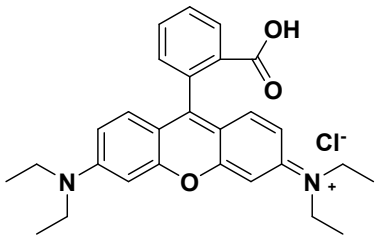
Organic pollutions	Molecular formula	Structure	MW
Ciprofloxacin (CIP)	$C_{17}H_{18}FN_3O_3$		331.3
Lanasol Red 5B (LR5B)	$C_{20}H_{15}N_4O_8S_2BrNa_2$		629.0
Rhodamine B (RhB)	$C_{28}H_{31}ClN_2O_3$		479.0

Table S2. Content of each element on AB-5 surface.

Elt.	Line	Intensity (c/s)	Conc.	Units	Error 2-sig
O	Ka	141.40	7.724	wt.%	0.230
Br	Ka	1.69	6.674	wt.%	4.606
Ag	La	50.69	4.659	wt.%	0.309
Bi	La	9.36	80.943	wt.%	13.489
Total			100.000	Wt.%	

Table S3. Comparison with other previously reported photocatalysts in the literature for the photocatalytic of CIP.

Photocatalyst	Dosage (g/L)	concentration of CIP(g/L)	Light source	Time (min)	Removal (min^{-1})	Rate (min^{-1})	Ref
$Bi_2O_2CO_3$/BiOBr	1g/L	10mg/L	500 W XL (λ>400nm)	240	90%	0.01	[1]
BiOBr /$Bi_2Ti_2O_7$	1g/L	10mg/L	800 W XL (λ>420nm)	120	>90%	0.02684	[2]
BiOBr/$Bi_4O_5Br_2$	1g/L	10mg/L	500 W XL (λ>420nm)	150	91%	0.015	[3]
Bi_2WO_6/$CuBi_2O_4$	1g/L	10mg/L	500 W XL (λ>420nm)	180	>90%	0.01282	[4]
BiOBr/$Bi_4O_5Br_2$-OV	1g/L	10mg/L	800W XL (λ>400nm)	60	94%	0.04159	[5]
CuS/$BiVO_4$	1g/L	10mg/L	300W XL (λ>420nm)	90	86.7	0.02151	[6]
Bi-SnO_2	1g/L	10mg/L	350 W XL	90	92%	-	[7]
Bi_2MoO_6/$CuBi_2O_4$	1g/L	10mg/L	500 W XL (λ>420nm)	180	90.2%	0.01263	[8]
$AgBiO_3$/BiOBr	1g/L	20mg/L	350 W XL (λ>420nm)	120	83%	0.02151	This work