Electronic Supplementary Information for

Rhodamine B-sensitized BiOCl hierarchical nanostructure for methyl orange photodegradation

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Table S1

Table S1 Experimental conditions and characteristics for BiOCl nanostructures

Sample	Cl precursor	Molar [a] (mmol)	Citric acid (g)	Morphology	Size	Thickness [b] of structural unit (nm)
S1	NaCl	1	0.2	flower-like	~1.0 μm	~8
S2	NaCl	1	0	nanoflakes	~120 nm	~20
S3	NaCl	1	0.05	nanoplates	40~60 nm	~10
S4	$CoCl_2$	1	0.2	flower-like	~1.5 μm	~15

[a] The molar of Cl precursor.

[b] The thickness of nanoplate.

Fig. S1

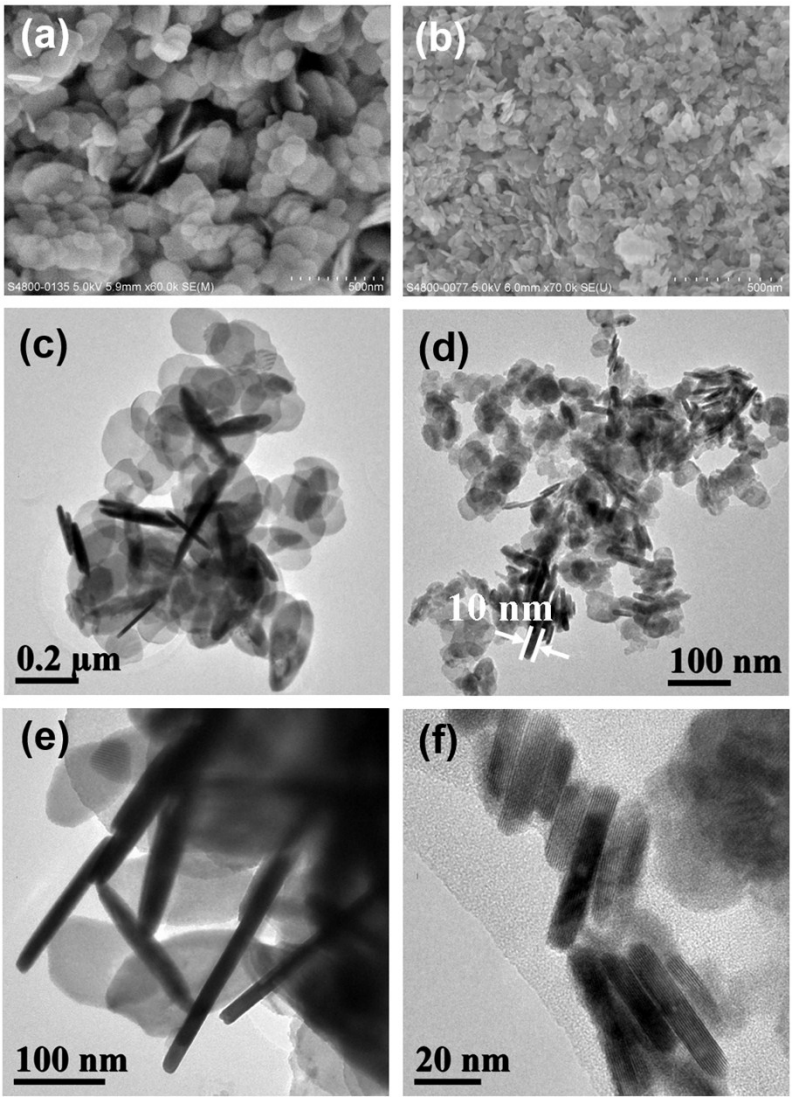

Fig. S1 SEM images (a~b) and TEM images (c~f) of the as-synthesized BiOCl nanostructures using NaCl at different amounts of citric acid: 0 g (a, c and e, **S2**) and 0.05 g (b, d and f, **S3**).

Fig. S2

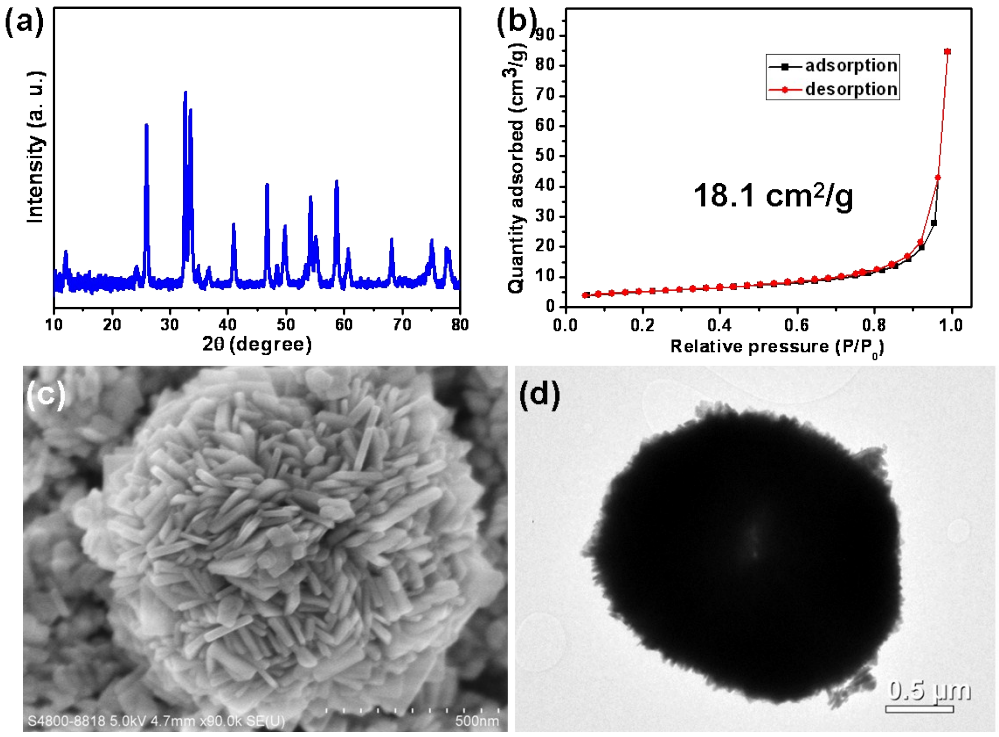

Figure S2. XRD pattern (a), nitrogen adsorption/desorption isotherm (b), SEM image (c) and TEM image (d) of the as-synthesized BiOCl hierarchical nanostructures using $CoCl_2$ in the presence of 0.2 g citric acid (**S4**).

Fig. S3

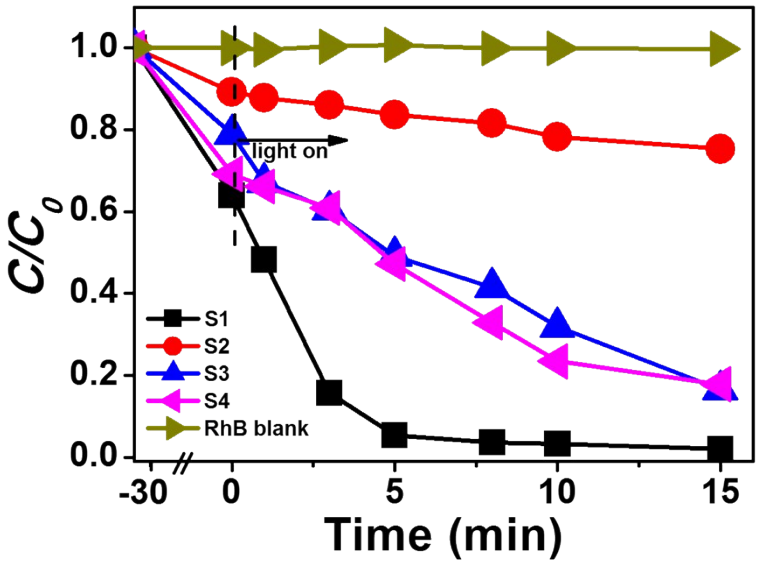

Figure S3. Photosensitization activity for RhB degradation over as-prepared BiOCl samples (**S1**~**S4**) under visible light irradiation ($\lambda > 420$ nm).

Fig. S4

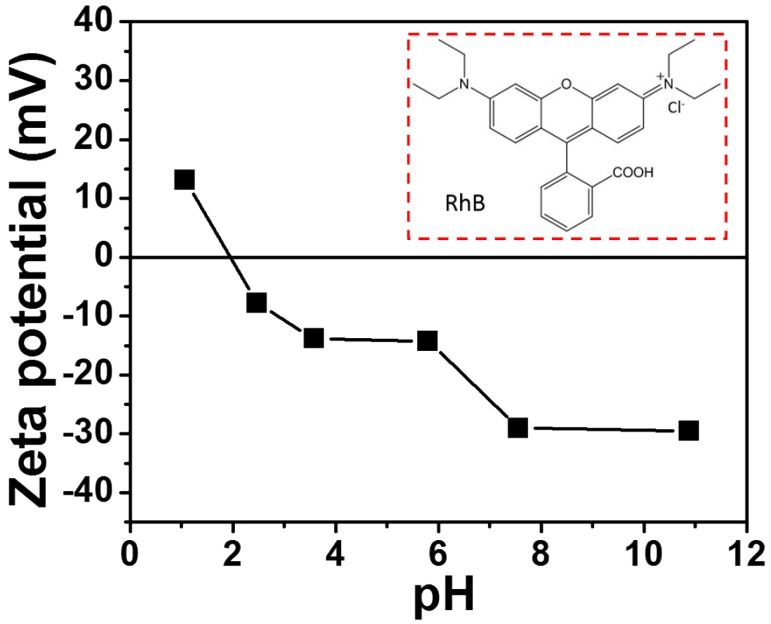

Figure S4. The zeta potential of BiOCl HNs (**S1**) in the RhB (5×10^{-6} M) solution under different pH values (inset is the molecular structure of RhB).

Fig. S5

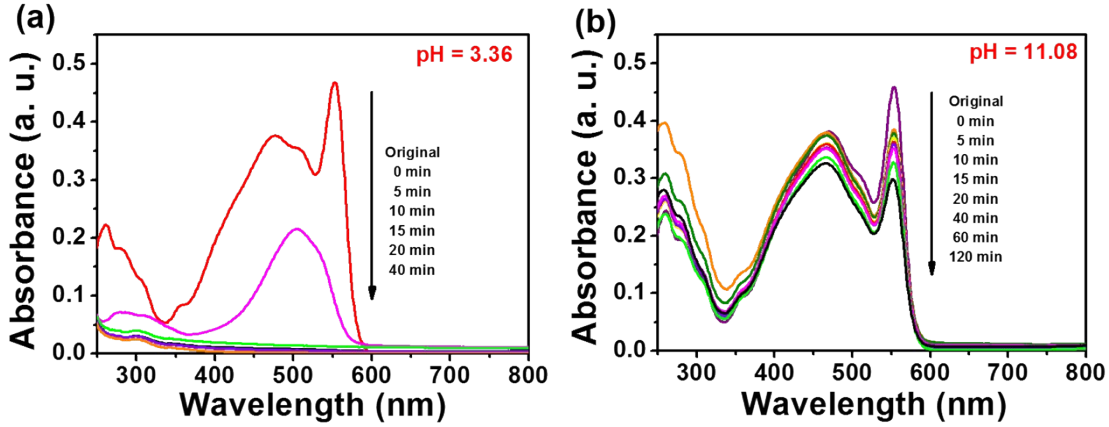

Figure S5. Photodegradation efficiency of the RhB-sensitized BiOCl HNs (**S1**) for MO at different pH values.