Supplementary Materials Visible-Light-Driven Photocatalytic Activity of Magnetic BiOBr/SrFe12O19 Nanosheets

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Figure S1. Adsorption–desorption isotherms and the pore size distribution curves (Inset) for BOB/SOF-5.



Figure S2. Absorption curves of RhB with BOB/SFO-5 under visible light irradiation.

Samples	The Estimated Eg Value (eV)
BiOBr	2.80
BOB/SFO-3	2.70
BOB/SFO-5	2.67
BOB/SFO-7	2.63
BOB/SFO-10	2.60
BOB/SFO-15	2.58

Table S1. The estimated Eg values of the as-prepared samples.

Table S2. Magnetic parameters of the as-synthesized samples.

Samples	Saturation Magnetization (Ms, emu·g ^{_1})	Remanent Magnetization (Mr, emu·g ⁻¹)	Coercivity (Hc, G)
SrFe12O19	38.95	17.02	1216.66
BOB/SFO-5	4.39	1.11	861.04

Photocatalysts	Photodegradation Ratio	Photodegradation Reaction Time (min)	Refs.
BOB/SFO-5	97.0%	30	This work
Ag ₃ PO ₄ nanoparticles	80.50%	45	[1]
g-C ₃ N ₄ with sacrificial KIT-6 template	100%	50	[2]
P-doped g-C ₃ N ₄	100%	50	[3]
Copper fiber@ZnO/CdS	90%	60	[4]
Square-sharped BiOCl nanosheets	98%	60	[5]
2D MoS ₂ /Red phosphorus heterojunction	97.50%	80	[6]
Zero Valent Bi ⁽⁰⁾ incorporated bismuth terephthalate	97%	80	[7]
CdS/Ag/a-TiO ₂	82%	80	[8]
MIL-88A(Fe)/grapheme oxide composite	100%	100	[9]
Zero Valent Fe ⁽⁰⁾ doped g-C3N4/MoS2	98.20%	150	[10]
Hexagonal/monoclinic-WO3	91%	180	[11]
Fluorinated Bi ₂ WO ₆	98%	210	[12]
TiO ₂ with interface defects	75%	300	[13]

Table S3. Comparison of photodegradation ratio using different photocatalyst under visible light irradiation reported in the past ten years.

[1] RSC Adv., 7 (2017) 40896-40904.

[2] Appl. Surf. Sci., 396 (2017) 78-84.

[3] ACS Sustainable Chem. Eng., 6 (2018) 6342-6349.

[4] ACS Sustainable Chem. Eng., 6 (2018) 155-164.

[5] Appl. Surf. Sci., 439 (2018) 697-704.

[6] Mater. Lett., 222 (2018) 187-191.

[7] J. Phys. Chem. Solids, 111 (2017) 431-438.

[8] RSC Adv., 8(2018) 13625–13634.

[9] Appl. Catal., B, 221(2018) 119-128.

[10] ACS Sustainable Chem. Eng., 4(2016) 4055-4063.

[11] Energy Mater., 1(2018) 2067-2077.

[12] Environ. Sci. Technol., 42(2008) 2085–2091.

[13] Langmuir, 26(2010) 9686–9694.

It was worth mentioning that the photocatalytic activity of BOB/SFO-5 for Rhodamine B (RhB) photodegradation was very outstanding. The photodegradation ratio of RhB could reach to 97.0% after only 30 min photocatalytic reaction under visible light irradiation. The photocatalytic efficiency was superior to that of the existing literature reports.