Electronic Supplementary Information

Highly efficient visible-light-driven photocatalytic degradation of Rhodamine B from a novel Z-scheme Ag₃PO₄/MIL-101/NiFe₂O₄ composite

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CAPTIONS

Fig.	S1	XRD	patterns	in the	20	range	from	5 to	90°	of	fresh	and	used
APO	/MO	F/NFC	9(20%) sa	mples									S3
Fig.	S2 A	lg 3d X	XPS spect	ra of AP	O-fre	esh (a),	APO/	MOF/N	NFO(2	20%)	-fresh	(b), <i>A</i>	APO-
used	(c) a	nd AP	O/MOF/N	FO(20%	b)-us	ed (d)						S4	
Fig.	S3 P	hotoca	talytic deg	gradation	curv	ves of I	RhB ov	ver AP	O/MC)F/N	FO(20	%) sy	/stem
in th	e dif	ferent c	concentrat	ion of R	hB (a	a) and j	photoc	atalyst	mass	(b);	kineti	cs stu	dy of
photo	ocata	lytic R	hB degra	dation et	ffect	of RhE	8 over	APO/N	MOF/	NFO	(20%)	syste	em in
the d	iffer	ent con	centratior	n of RhB	(c) a	and pho	tocatal	yst ma	ıss (d)				S5
Fig.	S4 (a	a) Z-Sc	heme and	l (b) hete	eroju	nction	mecha	nism o	ver A	.PO/1	MOF/	NFO(2	20%)
for R	hB c	legrada	tion unde	r visible	light	t illumi	nation.						S6
Tabl	e	S	1	Surface		Are	a	of		the	2	Ag	₅3PO4
photo	ocata	lysts				ç	57						
Refe	renc	e											S8



Fig. S1 XRD patterns in the 2 θ range from 5 to 90° of fresh and used APO/MOF/NFO(20%) samples.



Fig. S2 Ag 3d XPS spectra of APO-fresh (a), APO/MOF/NFO(20%)-fresh (b), APO-used (c) and APO/MOF/NFO(20%)-used (d).



Fig. S3 Photocatalytic degradation curves of RhB over APO/MOF/NFO(20%) system in the different concentration of RhB (a) and photocatalyst mass (b); kinetics study of photocatalytic RhB degradation effect of RhB over APO/MOF/NFO(20%) system in the different concentration of RhB (c) and photocatalyst mass (d).



Fig. S4 (a) Z-Scheme and (b) heterojunction mechanism over APO/MOF/NFO(20%) for RhB

degradation under visible light illumination.

Sample	Preparation method	Particle sizes(um)	$S_{BET}(m^2 g^{-1})$	Reference
Ag ₃ PO ₄	Ion-exchange deposition	4 - 5	0.01	[1]
Ag ₃ PO ₄	Liquid phase deposition	0.8-1	3.3	[2]
Ag ₃ PO ₄	Precipitation	1 - 2	0.08	[3]
Ag ₃ PO ₄	Deposition	5-10	1.17	[4]
Ag ₃ PO ₄	Ion-exchange deposition	3-5	0.51	[5]
Ag ₃ PO ₄	Precipitation	4	0.24	[6]

Table S1 Surface Area of the Ag_3PO_4 photocatalysts.

Reference

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