Supporting Information

A Z-scheme heterojunction g-C_3N_4/WO_3 for efficient photodegradation of tetracycline hydrochloride and rhodamine B

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Table. S1 Comparison of photocatalytic degradation of organic dyes and antibiotics by g-C_3N_4/WO_3 catalyst

No.	Catalyst	Dyes	Reaction conditions	Degradation Rate.	Ref.
1	C_3N_4 NP/WO_3 NHMs	TC-HCl	*c*(TC-HCl) = 10 mg/L, *c*(Cat.) = 0.4 g/L, 180 min, Vis light	79.8%	[1]
2	WO_3/g-C_3N_4 CHMs	TC-HCl	*c*(TC-HCl) = 25 mg/L, *c*(Cat.) = 0.5 g/L, 120 min, Vis light	70%	[2]
3	RGO/$CdIn_2S_4$/ g-C_3N_4	TC	*c*(TC-HCl) = 10 mg/L, *c*(Cat.) = 1.0 g/L, 180 min, Vis light	74.1%	[3]
4	g-C_3N_4 nanosheet/WO_3/ graphene oxide	RhB	*c*(RhB) = 10 mg/L, *c*(Cat.) = 0.4 g/L, 60 min, Vis light	97.3%	[4]
5	Gd/g-C_3N_4/WO_3	RhB	*c*(RhB) = 10 mg/L, *c*(Cat.) = 1.0 g/L, 120 min, Vis light	83.08%	[5]
6	WO_3/g-C_3N_4	RhB TC-HCl	*c*(RhB) = 10 mg/L, *c*(TC-HCl) = 10 mg/L, *c*(Cat.) = 0.3 g/L, Vis light	100%(RhB, 20 min) 79.1%(TC-HCl, 100 min)	[6]
7	g-C_3N_4/WO_3	RhB TC-HCl	*c*(RhB) = 20 mg/L, *c*(TC-HCl) = 30 mg/L, *c*(Cat.) = 1.0 g/L, Vis light	97.9%(RhB, 15 min) 93.3%(TC-HCl, 180 min)	Our work

Table. S2 Rate constants, removal rate, and determination coefficients of Rh B degradation by different photocatalysts.

Material	removal rate (%)	K (min^{-1})	determination coefficients (R^2)
g-C_3N_4	67.0	0.0637	0.9967
WO_3	22.6	0.0151	0.9990
g-C_3N_4/ WO_3-1	79.3	0.0998	0.9973
g-C_3N_4/ WO_3-2	93.2	0.1722	0.9610
g-C_3N_4/ WO_3-3	97.0	0.2233	0.9710
g-C_3N_4/ WO_3-4	97.9	0.2474	0.9491
g-C_3N_4/ WO_3-5	96.8	0.2269	0.9943

Table. S3 Rate constants, removal rate, and determination coefficients of TC-HCl degradation by different photocatalysts.

Material	removal rate (%)	K (min^{-1})	determination coefficients (R^2)
g-C_3N_4	77.3	0.0080	0.9087
WO_3	5.6	0.0003	0.9443
g-C_3N_4/ WO_3-1	47.4	0.0031	0.9957
g-C_3N_4/ WO_3-2	62.0	0.0054	0.9360
g-C_3N_4/ WO_3-3	86.2	0.0106	0.9447
g-C_3N_4/ WO_3-4	93.3	0.0142	0.9771
g-C_3N_4/ WO_3-5	89.7	0.0122	0.9598

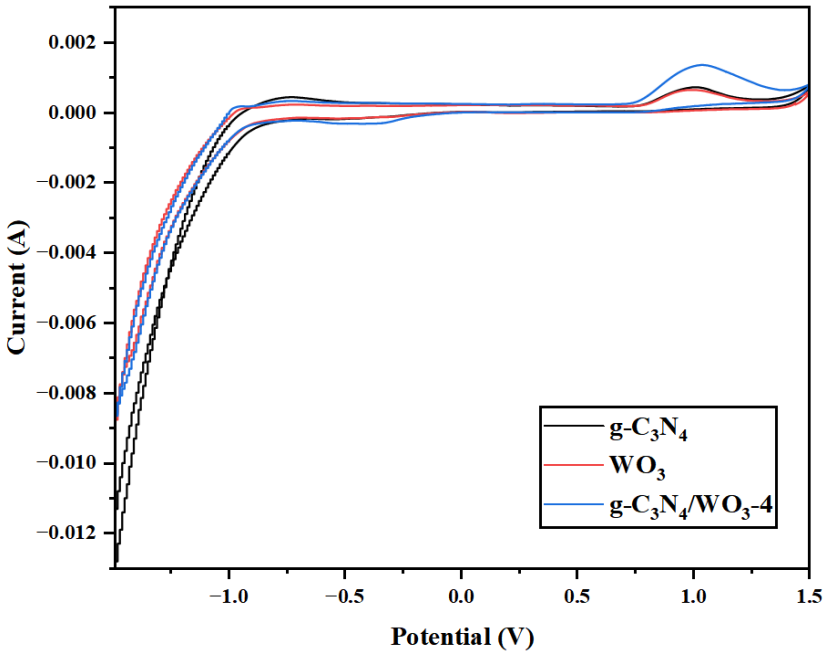


Figure S1. Cyclic voltammetry curve for g-C_3N_4, WO_3, g-C_3N_4/WO_3-4.

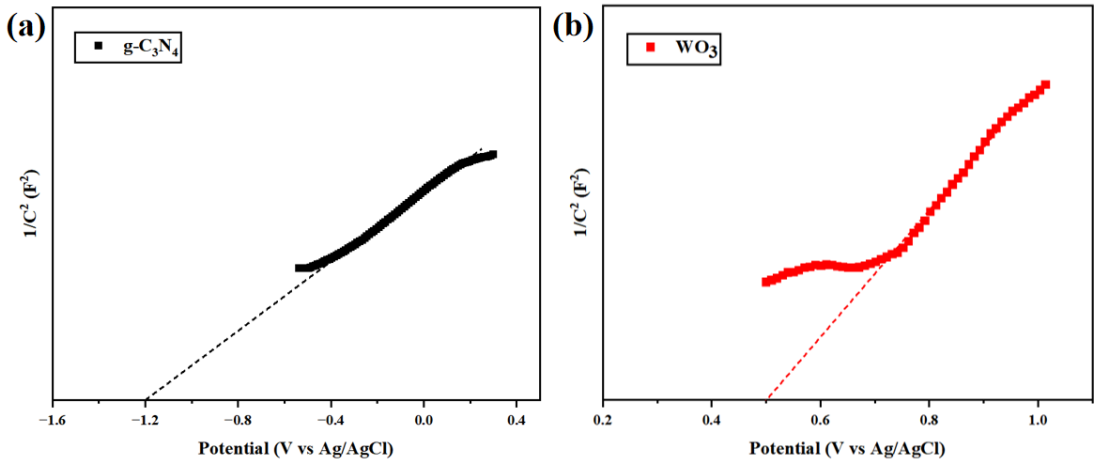


Figure S2. Mott Schottky plot of g-C_3N_4 and WO_3.

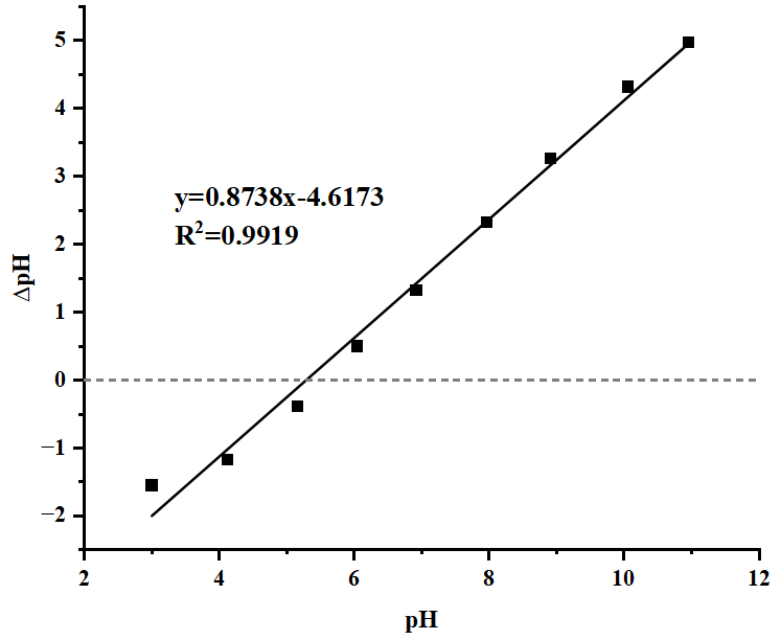


Figure S3. Isoelectric pH determination for g-C_3N_4/WO_3-4 composite.

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