Supplementary Material

Synthesis of magnetic $NiFe_2O_4$/g-C_3N_4 heterojunction photocatalysts for boosting dye degradation performance under visible-light irradiation

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Table S1. Several physicochemical properties of g-C_3N_4, $NiFe_2O_4$, and CNFx (x = 10, 20, 30)

Material	g-C_3N_4	$NiFe_2O_4$	CNF10	CNF20	CNF30
Saturation magnetization (Ms) (emu/g)	-	32.9	6.5	18.4	28.1
Coercivity (Hc) (Oe)	-	122.5	166.3	166.1	151.0
Remnant magnetization (Mr) (emu/g)	-	4.8	1.0	2.2	2.6
BET surface area (m^2/g)	48.5	23.2	-	-	62.3
Pore volume (cm^3/g)	0.30	0.13	-	-	0.43
Pore size (nm)	30.7	22.3	-	-	31.8

Table S2. Kinetic data of photocatalytic degradation of RhB

Sample	g-C_3N_4	$NiFe_2O_4$	CNF10	CNF20	CNF30	CNF50
k_1 (min^{-1})	0.010	0.006	0.036	0.040	0.045	0.029
$(R_{adj.})^2$	0.94	0.93	0.95	0.94	0.96	0.98
H(%)	60.6	42.2	95.2	96.8	97.9	91.9

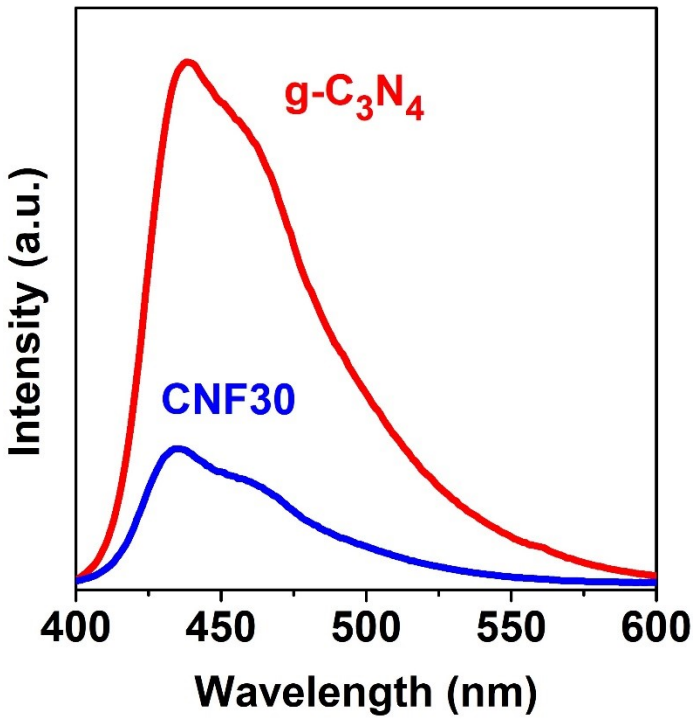

Fig. S1. The photoluminescence spectra of g-C_3N_4 and CNF30

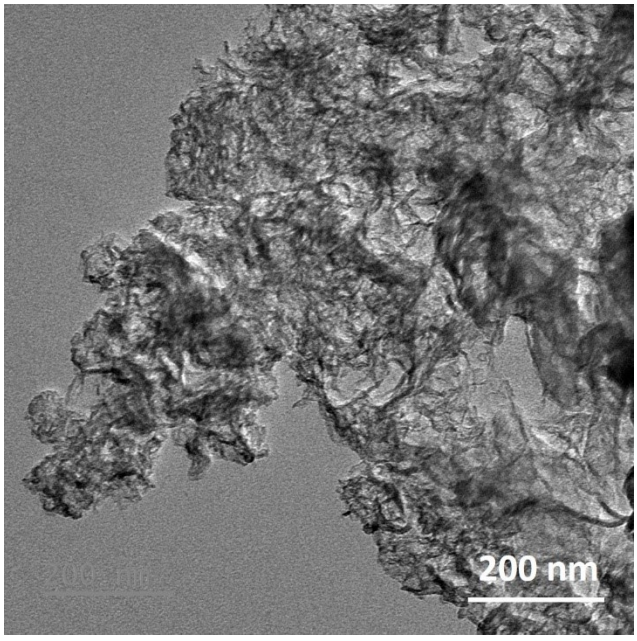

Fig. S2. TEM image of g-C_3N_4

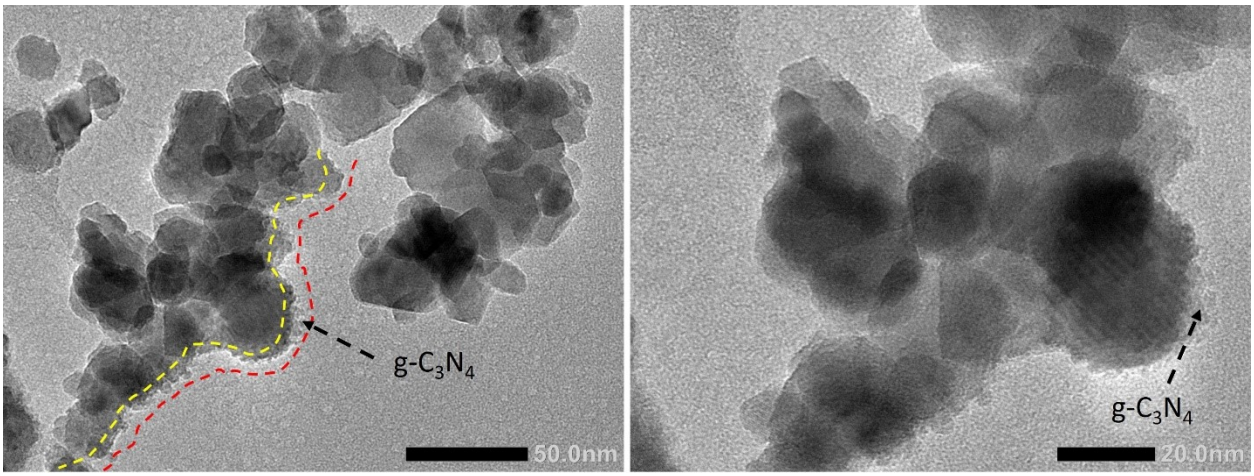

Fig. S3. TEM images of CNF30 at 50 nm (left side) and 20 nm (right side) scale

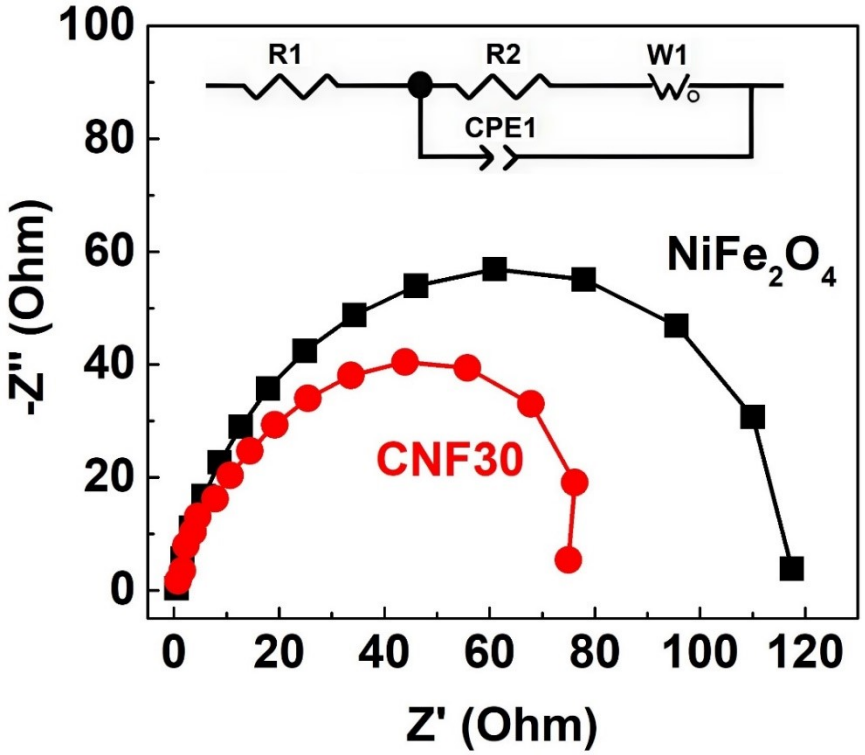

Fig. S4. EIS Nyquist impedance plots of $NiFe_2O_4$ and CNF30

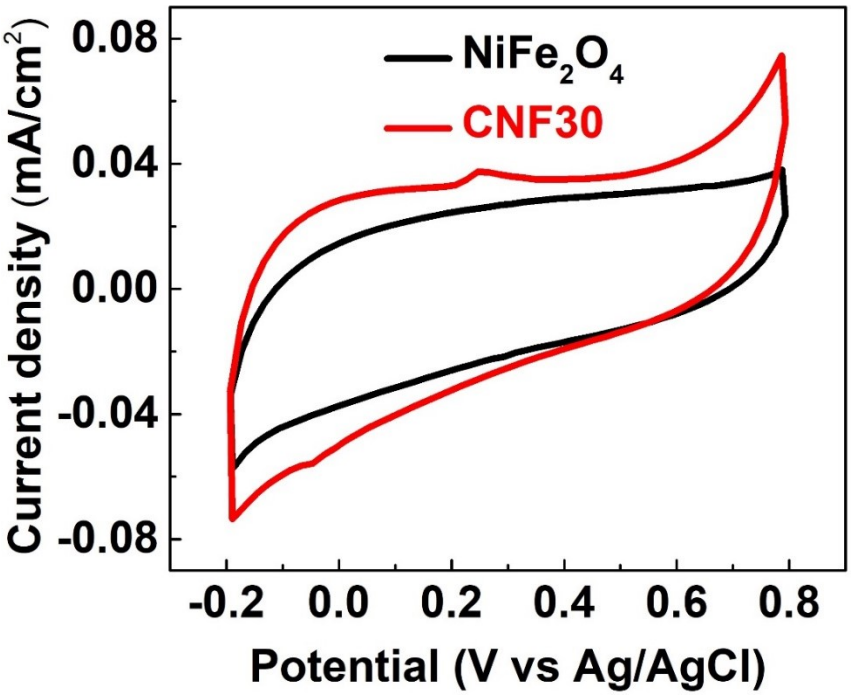

Fig. S5. The cyclic voltammetric curves of $NiFe_2O_4$ and CNF30 at a scan rate of 50 mV/s

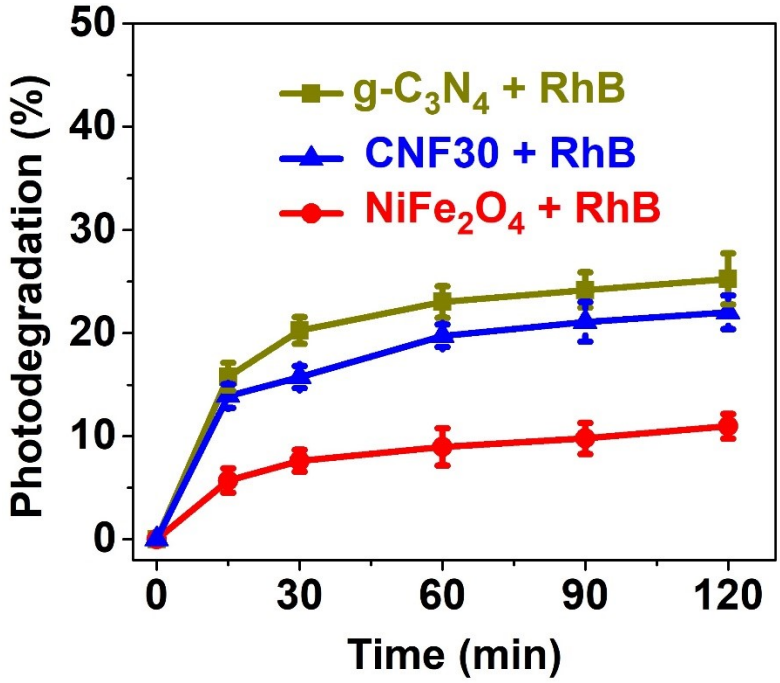

Fig. S6. Photocatalytic degradation of RhB without H_2O_2 addition in the presence of visible light

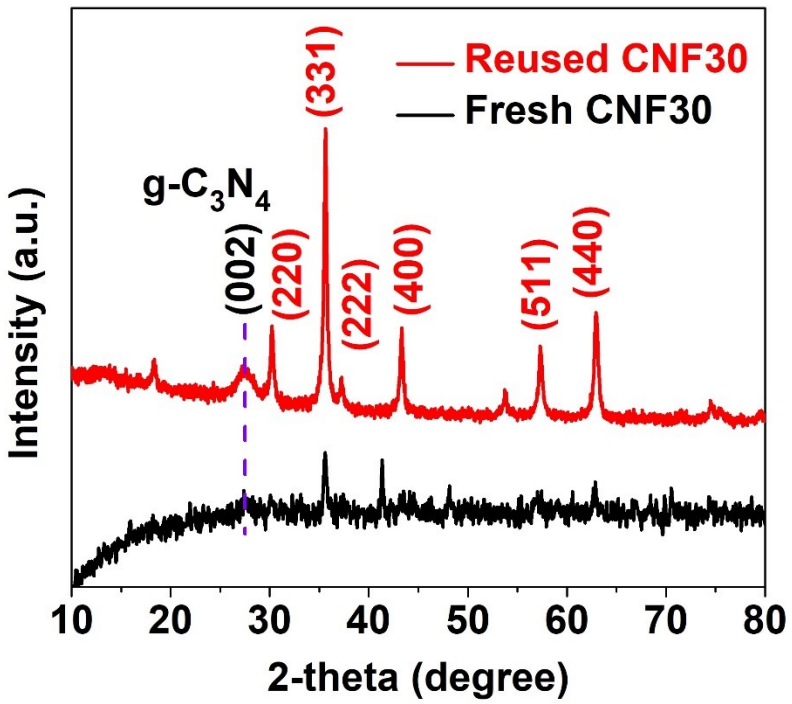

Fig. S7. The XRD pattern profiles of fresh and reused CNF30