Fig. S1 Effect of oxidizer dosage on photocatalytic reaction

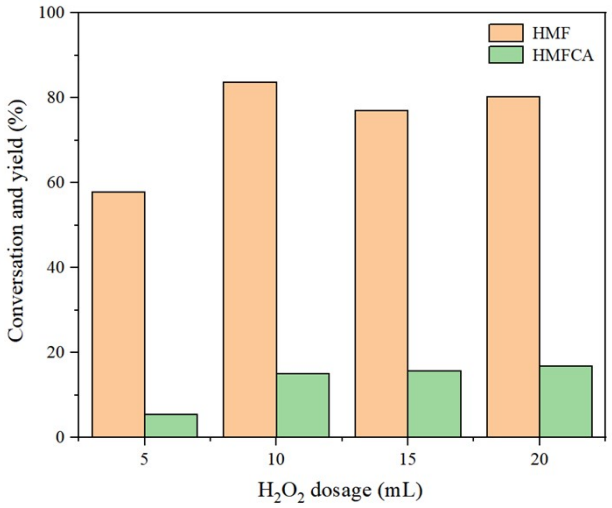

Fig. S1 Effect of oxidizer dosage on photocatalytic reaction (0.005 g HMF, 0.001 g BiOI/g-C_3N_4(1.5), 5h)

Fig. S2 Effect of reaction time on photocatalytic reaction

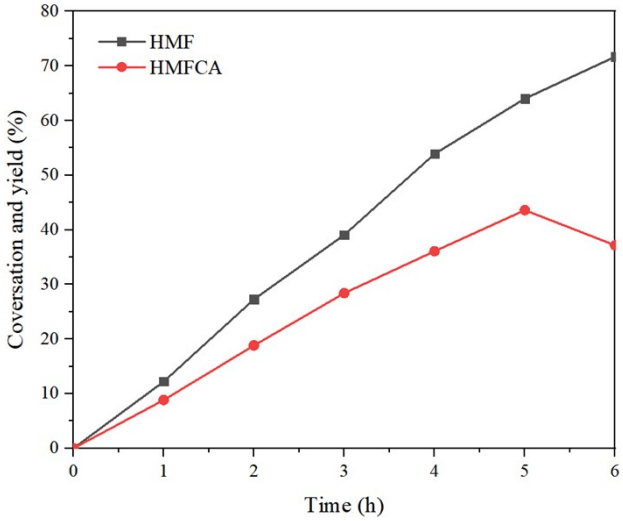

Fig. S2 Effect of reaction time on photocatalytic reaction (0.001 g HMF, 0.05 g BiOI/g-C_3N_4(1.5), 20 mL H_2O_2).

Fig. S3 SEM images and EDS spectrum of reused BiOI/g − C_3N_4.

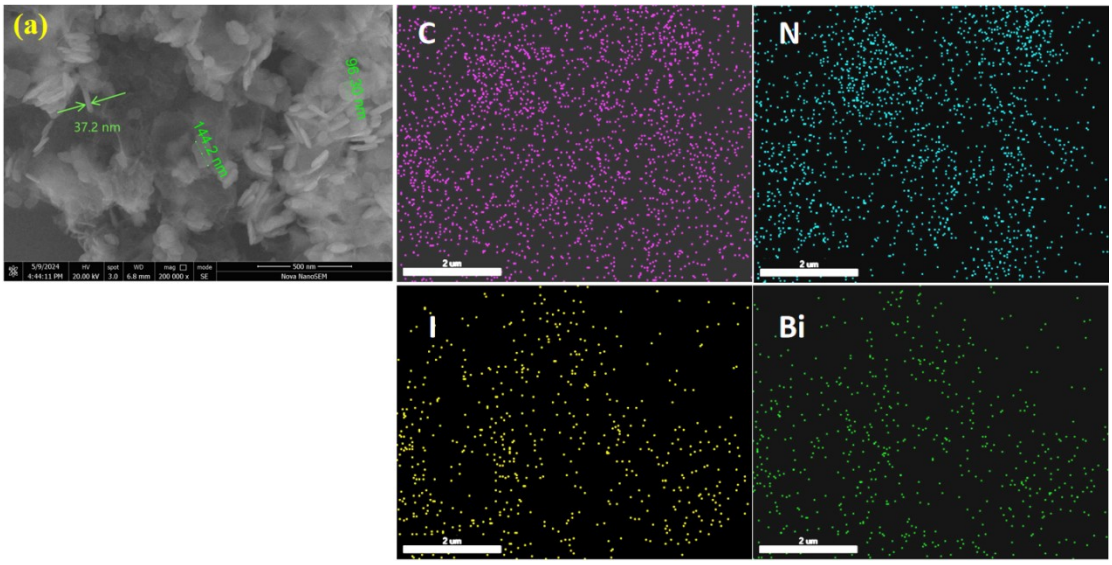

Fig. S3. SEM images of (a) reused BiOI/g − C_3N_4. EDS spectrum of reused BiOI/g − C_3N_4, confirming the presence of C, N, I and Bi elements.

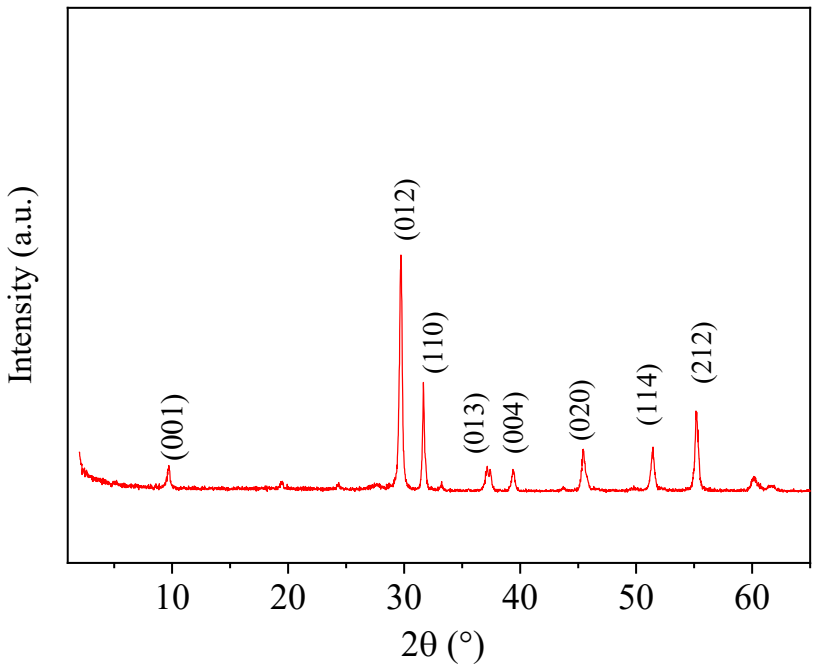

Fig. S4. XRD patterns of reused BiOI/g − C_3N_4

Table S1 Comparison of Photocatalyst Efficiency of BiOI/g–C_3N_4 with Other Catalysts Described in the Oxidation of HMF to HMFCA

Photocatalyst	Preparation process	Reaction condition	Oxidant	Light source	Solvent	HMFCA yield (%)	Ref.
Au/Na-ZSM	thermal, 60 °C for 2 h; 100 °C, H_2 (1 atm), 6 h.	60 °C, 6 h	O_2 (3 bar)	–	H_2O	90	[S1]
CuO	co-precipitation method; 460 °C, 5 h.	80 °C, 12 h	*t*-BuOOH	–	ACN	23.3	[S2]
Ag/GO/Fe_3O_4/γ-Fe_2O_3	refluxing method; GO/Fe_3O_4/γ-Fe_2O_3: 60 °C, 24 h Ag/GO/Fe_3O_4/γ-Fe_2O_3: 50 °C, 8 h	NaOH, 20 °C, 1.5 h	H_2O_2	LED 12 W	ChCl/Gly (1:2)	80	[S3]
Au-Ag/TiO_2	incipient wetness impregnation; 200 °C	Na_2CO_3, 5 h	high-purity O_2	Xe lamp 300 W	H_2O	4.6	[S4]
Fe@CeO_2	thermal method; 220 °C, 9 h	24 h	–	LED 6W	DMPO	40.4 (FDCA)	[S5]
Ru−CdS	Solvothermal; CdS: 80 °C, 22 h; Ru: 100 °C, 22 h; Ru−CdS: 1.5 h	Ar, 17.5 h	–	Xe lamp 300 W	DMF	70.2	[S6]
BiOI/g–C_3N_4	g–C_3N_4: melamine decomposition, 550 °C, 3 h BiOI/g–C_3N_4: 25 °C, 1 h	20 °C, 5 h	H_2O_2	Xe lamp 300 W	H_2O	43.6	This study

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