Electronic Supplementary Information (ESI) for

Synthesis of a UiO-66/g-C_3N_4 composite using terephthalic acid obtained from waste plastic for the photocatalytic degradation of chemical warfare agent simulant, methyl paraoxon

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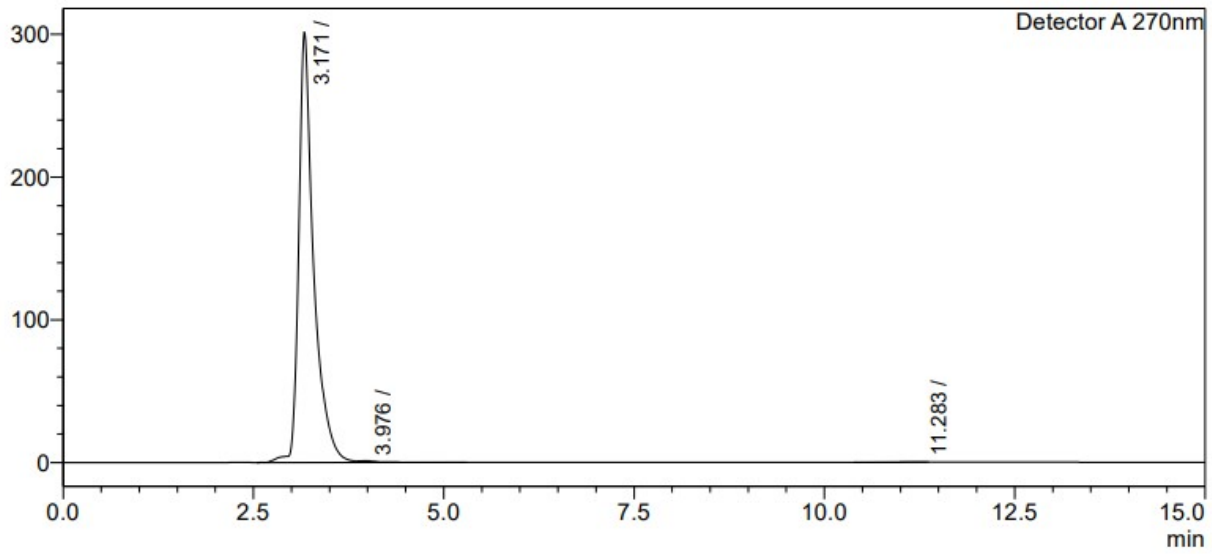

Fig. S1. HPLC spectrum of H_2BDC product.

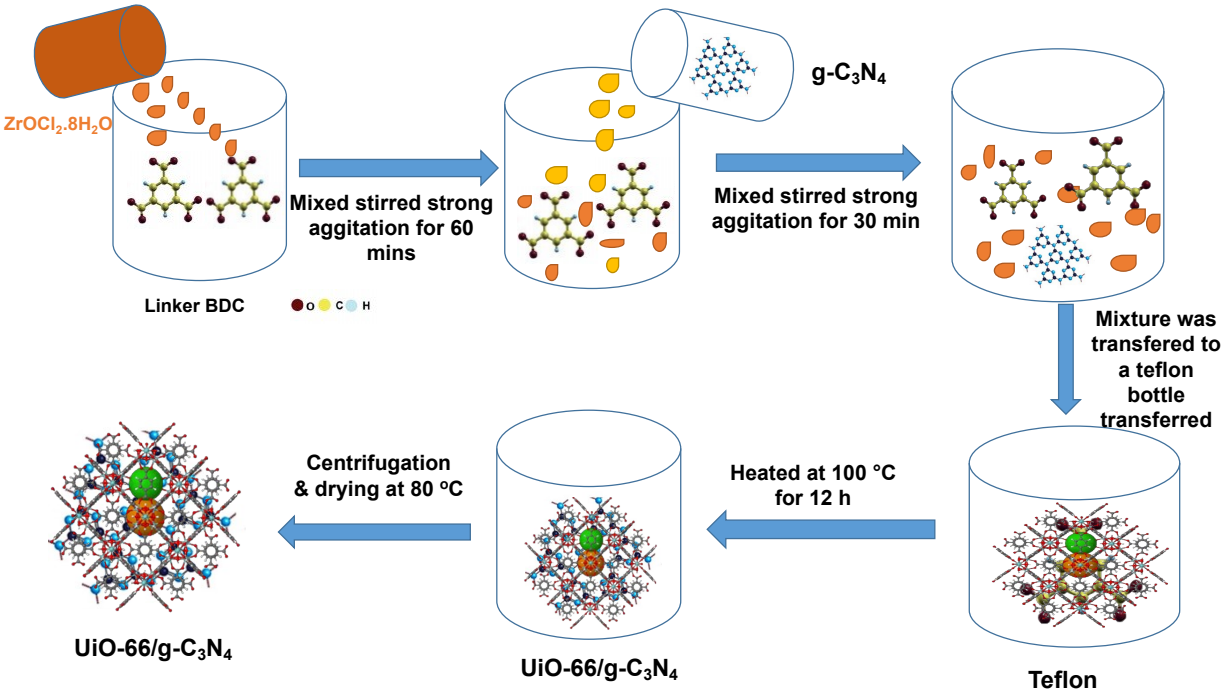

Fig. S2. Schematic synthesis of UiO-66/g-C_3N_4 materials by solvothermal method

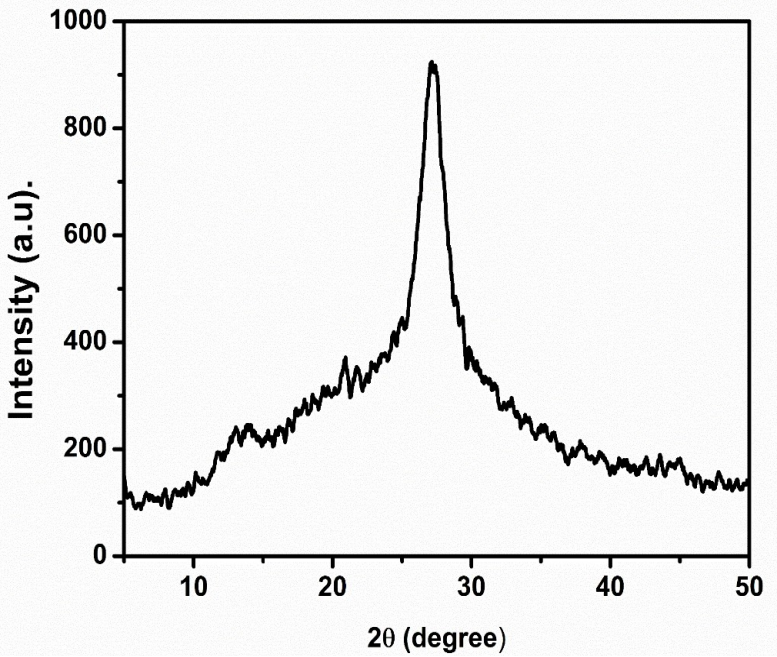

Fig. S3. XRD pattern of g-C_3N_4 sample

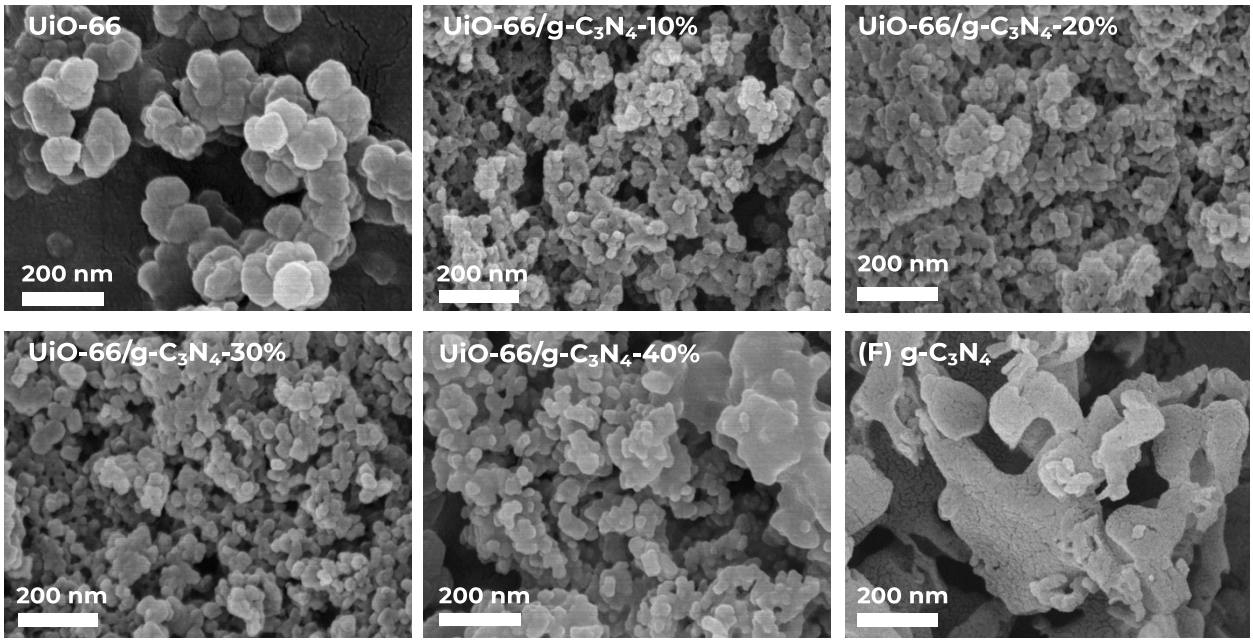

Fig. S4. SEM images of g-C_3N_4, UiO-66 and UiO-66/g-C_3N_4 samples

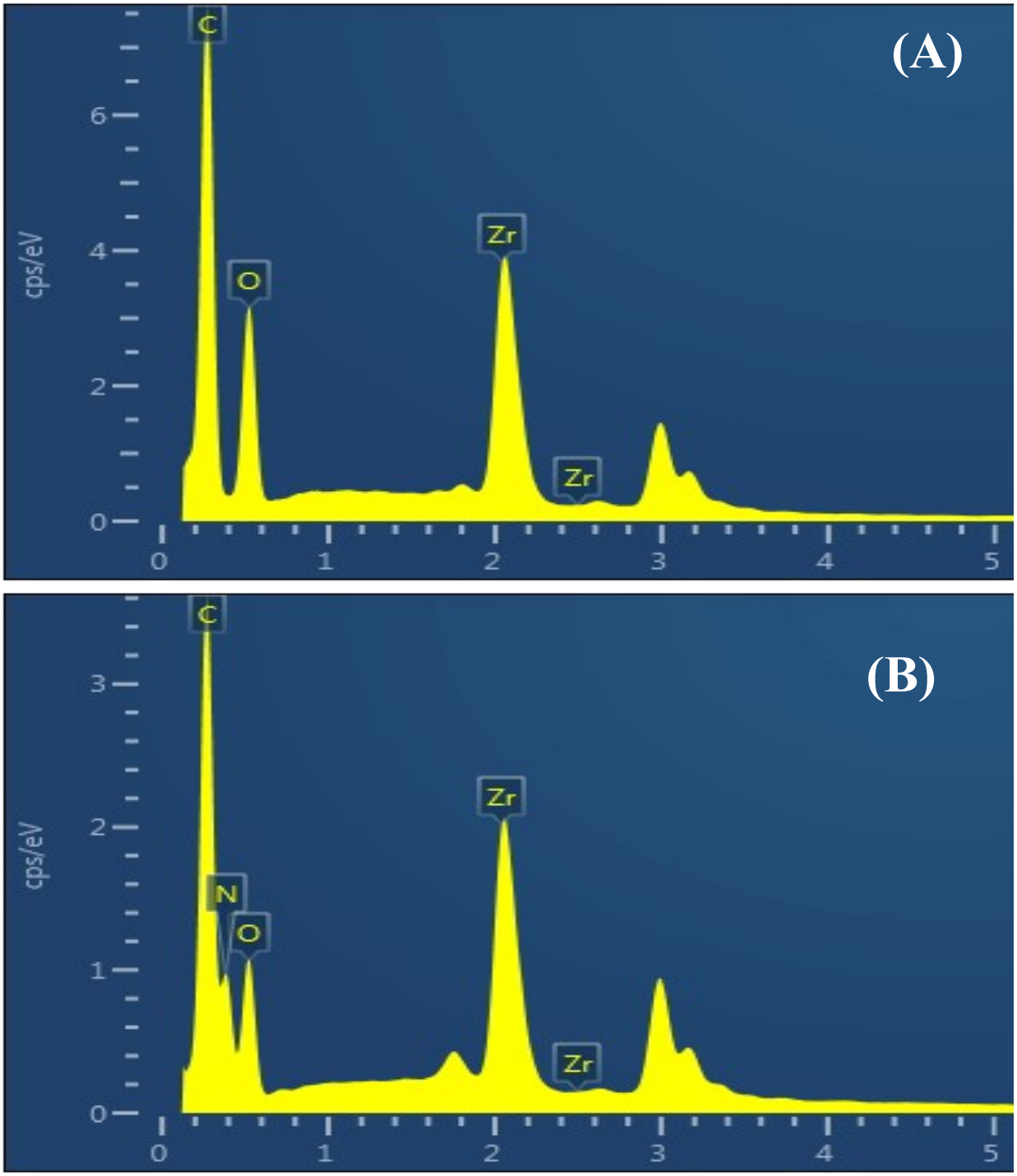

Fig. S5. (A) EDS spectra of UiO-66 and (B) UiO-66/g-C_3N_4-30 (B) samples

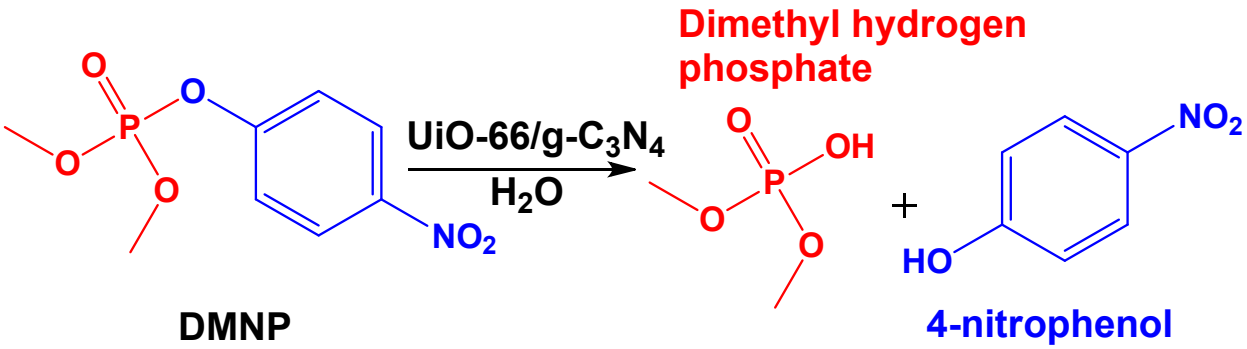

Fig. S6. Degradation of DMNP by UiO-66 and UiO-66/g-C_3N_4

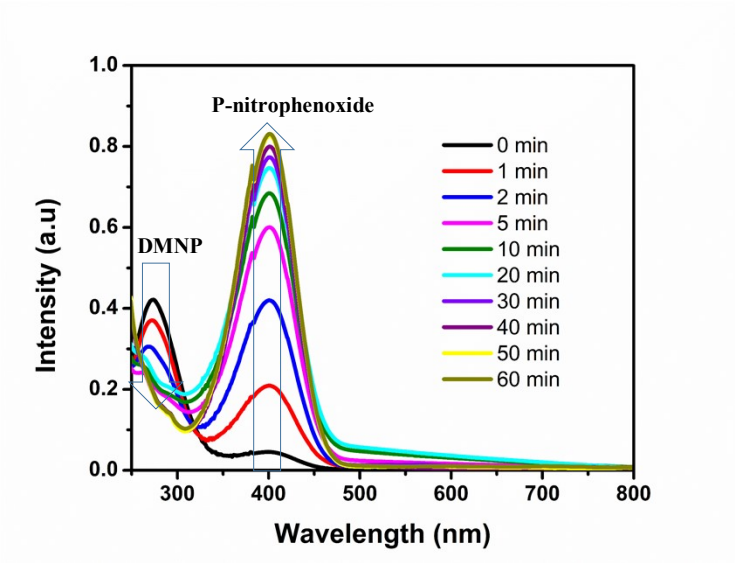

Fig. S7. UV-Vis spectra the degradation of DMNP using UiO-66/g-C_3N_4-30% sample.

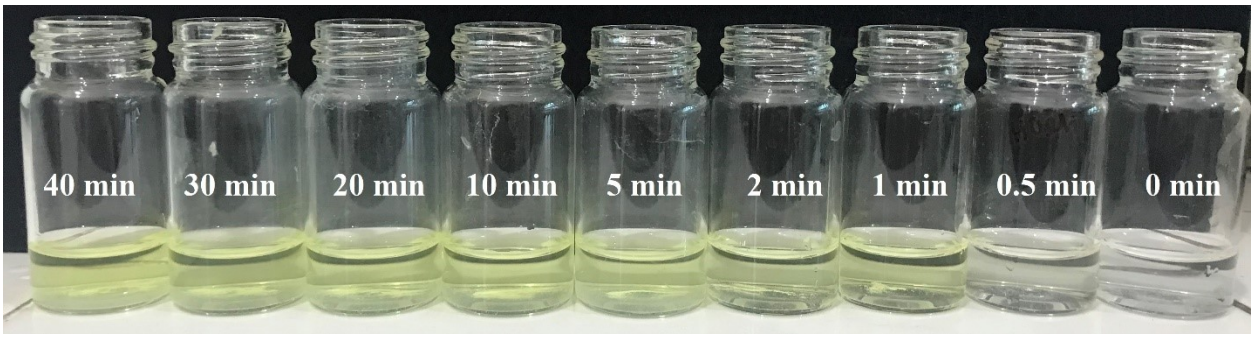

Fig. S8. Images of DMNP samples in 0.15M N-ethylmorpholine buffer at different times

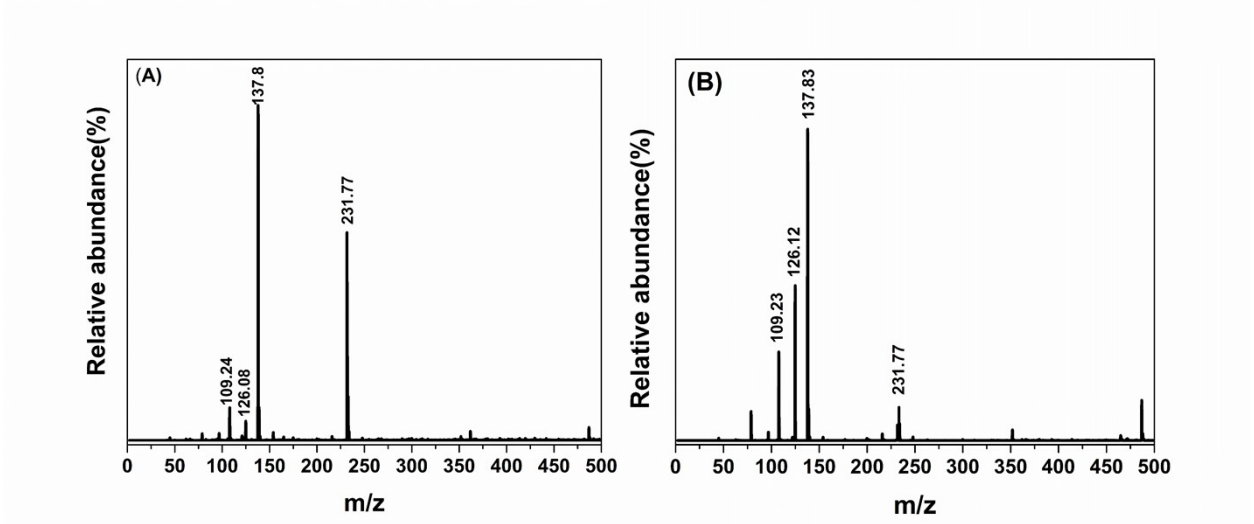

Fig. S9. LC-mass spectra of DMNP (a) UiO-66 in water, pH of 7, in the dark, (b) UiO-66/g-C_3N_4-30% in water, pH of 7 and visible light irradiation

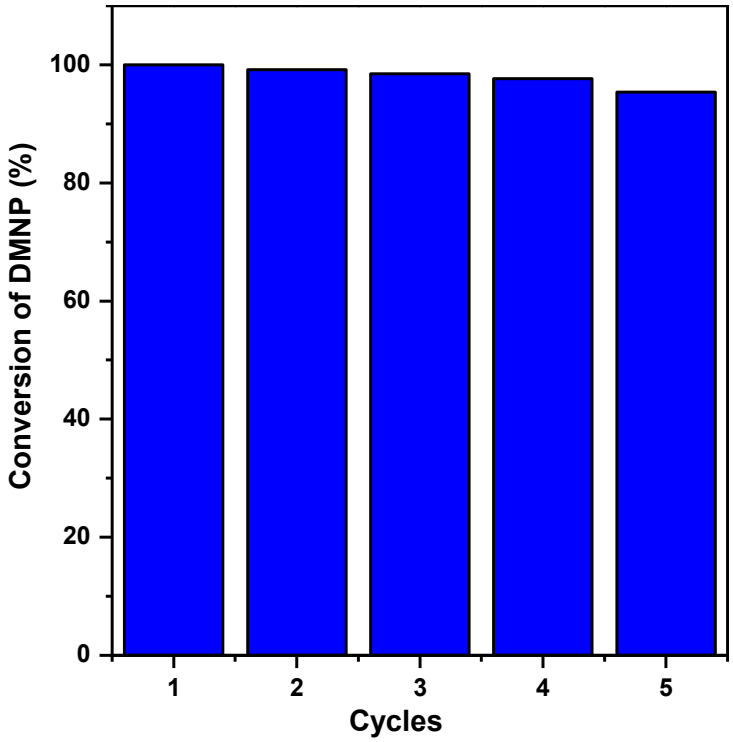

Fig. S10. Stability of catalytic activity over UiO-66/g-C_3N_4-30% at different cycles of reaction

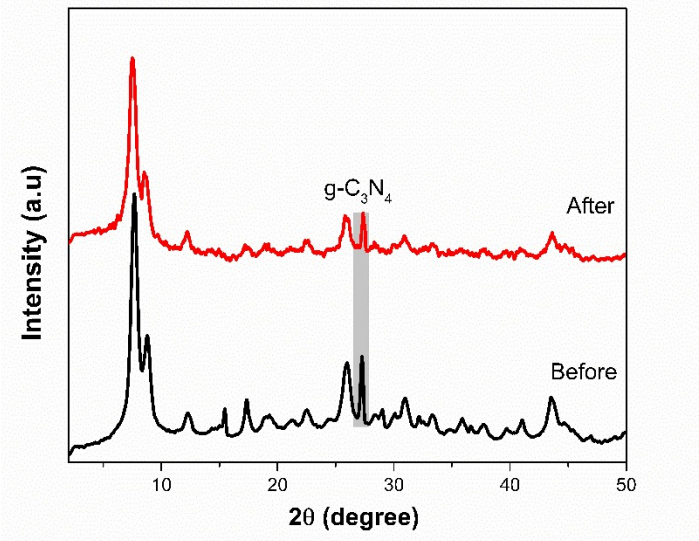

Fig. S11. XRD patterns of UiO-66/g-C_3N_4-30% photocatalyst before and after reaction.

Table 1S. Element composition of UiO-66 and UiO-66/g-C_3N_4-30% samples.

Elements	UiO-66	UiO-66/g-C_3N_4-30%
C	47.60	43.18
O	24.38	18.13
Zr	28.02	21.47
N	-	17.22
Total	100	100

Table S2. Comparative results of DMNP removal by various heterogeneous materials

Materials	Môi trường, pH	Calculated $t_{1/2}$ (min)	Ref.
UiO-66	N-ethylmorpholine (0.45 M), 10	40	[1]
UiO-66-NH_2	N-ethylmorpholine (0.45 M), 10	2.8	[2]
PP/ZnO/UiO-66-NH_2	N-ethylmorpholine (0.45 M), 10	4.80	[3]
Zr-MOFilter UiO-66-NH_2	N-ethylmorpholine (0.45 M), 10	2.40	[4]
Graphene/UiO-66-NH_2	N-ethylmorpholine (0.45 M), 10	1.6	[5]
NU-901/branched PEI	N-ethylmorpholine (0.45 M), 10	1.9	[6]
UiO-66	Water, 7	7	[7]
Graphene/UiO-66-NH_2	Water, 7	60	[5]
UiO-66/g-C_3N_4-30%	Water, 7	2.17	This work

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