Supporting Information

Sustainable and Green Synthesis of C- and N-Doped Nanoporous g-C_3N_4: Powerful Sunlight-Responsive Photocatalysts for Aerobic Oxidation of Toluene

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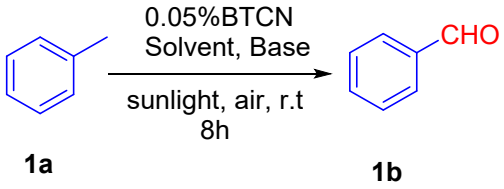
Table S1: Elemental compositions (C H N) of the samples

Sample	C	H	N	N/C (mass ratio)
1%-BTCN	41.77	1.41	56.28	1.34
0.5%-BTCN	38.01	1.40	54.03	1.42
0.05%-BTCN	36.10	1.36	61.47	1.70
CN	37.33	1.25	53.90	1.44

Table S2. Optimization of reaction conditions [a,b]



Entry	Base	Solvent	Yield (%)[b]
1	Cs_2CO_3	EtOH	55
2	Cs_2CO_3	H_2O	60
3	Cs_2CO_3	CH_3CN	25
4	Cs_2CO_3	H_2O/CH_3CN (1:1)	75
5	Cs_2CO_3	H_2O/CH_3CN (1:9)	38
6	Cs_2CO_3	H_2O/CH_3CN (9:1)	91
7	K_3PO_4	H_2O/CH_3CN (9:1)	53
8	K_2CO_3	H_2O/CH_3CN (9:1)	7
9	t-BuOK	H_2O/CH_3CN (9:1)	37
10	NaOH	H_2O/CH_3CN (9:1)	45

11	DBU	H_2O/CH_3CN (9:1)	4
12	iPr_2NEt	H_2O/CH_3CN (9:1)	Trace
13	-	H_2O/CH_3CN (9:1)	-
14[c]	Cs_2CO_3	H_2O/CH_3CN (9:1)	10
15[d]	Cs_2CO_3	H_2O/CH_3CN (9:1)	5
16[e]	Cs_2CO_3	H_2O/CH_3CN (9:1)	41

[a] Reaction conditions: **1a** (1 mmol), base (1 eq), solvent (2 ml), photocatalyst (10 mg) at room temperature; [b]Yield of the isolated product; [c]Under argon atmosphere; [d]Conducted at dark; [e] Using 5 mg photocatalyst.

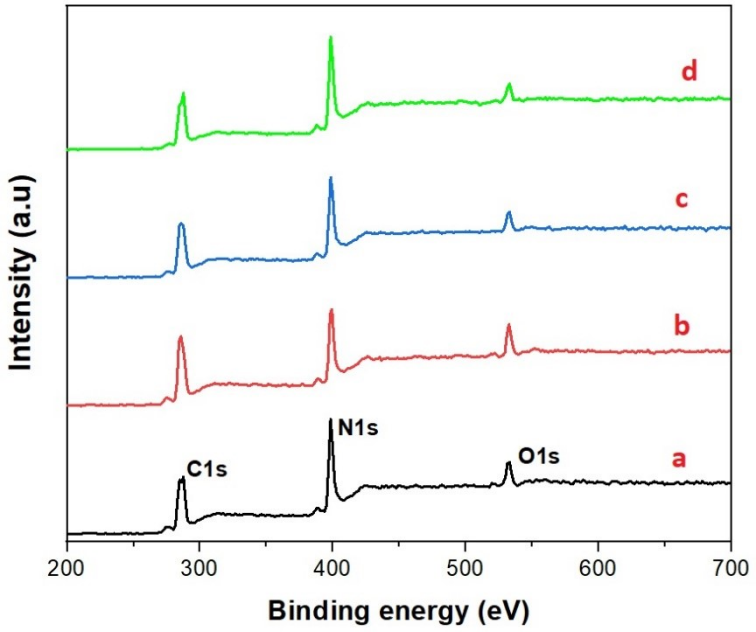


Figure S1. XPS spectrums of (a) CN, (b) 1%-BTCN (c) 0.5%-BTCN (d) 0.05%-BTCN

Data of reused catalyst

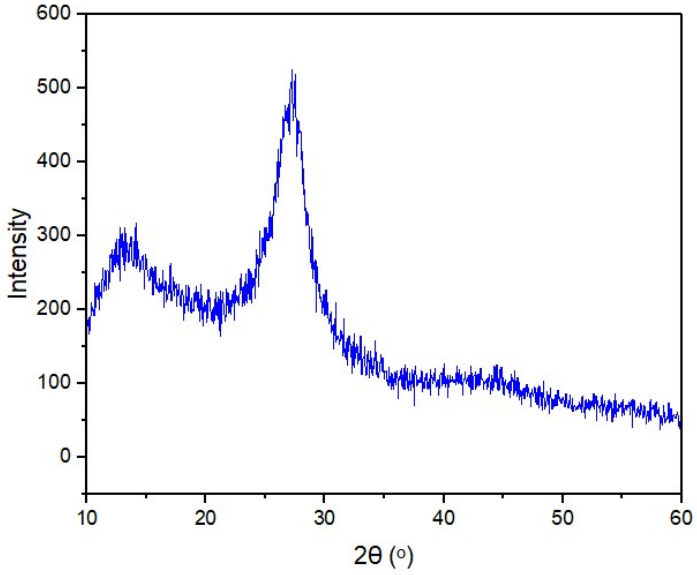


Figure S2. XRD pattern of a reused catalyst (re-0.05%BTCN)

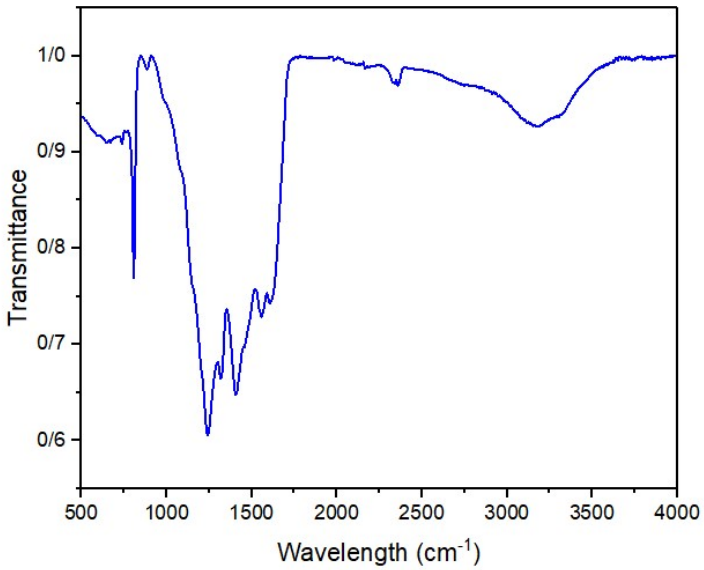


Figure S3. FTIR spectrum of a reused catalyst (re-0.05%BTCN)

Table S3. Textural properties reused catalyst

Samples	BET surface area (m^2g^{-1})	Pore volume (cm^3g^{-1})	Pore size (nm)
re-0.05%-BTCN	74.531	0.2751	14.765

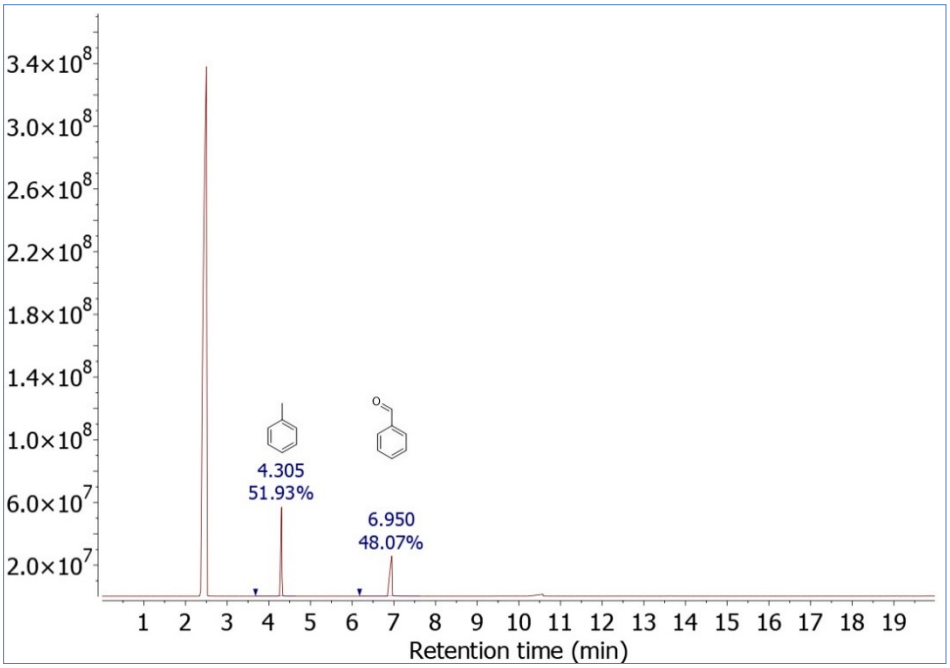


Figure S4. GC chromatography spectrum of reaction by CN photocatalyst

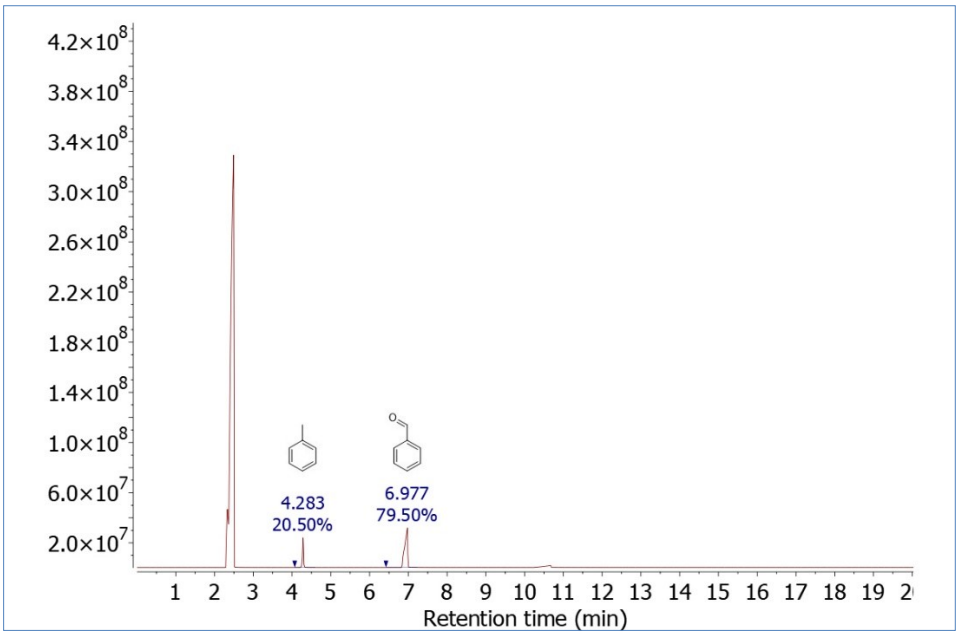


Figure S5. GC chromatography spectrum of reaction by 0.5%-BTCN photocatalyst

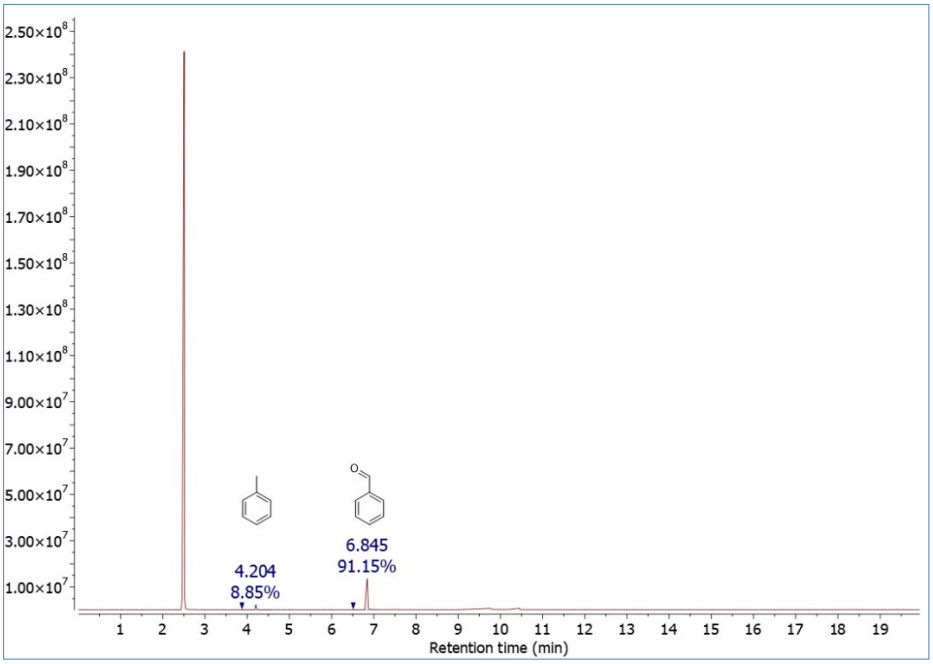


Figure S6. GC chromatography spectrum of reaction by 0.05%-BTCN photocatalyst

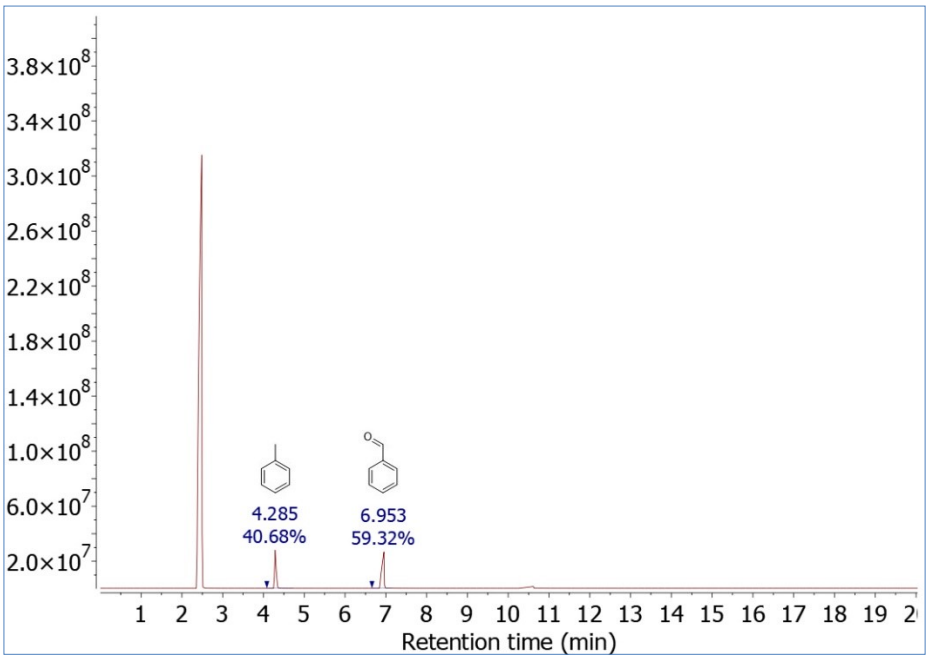


Figure S7. GC chromatography spectrum of reaction by 1%-BTCN photocatalyst

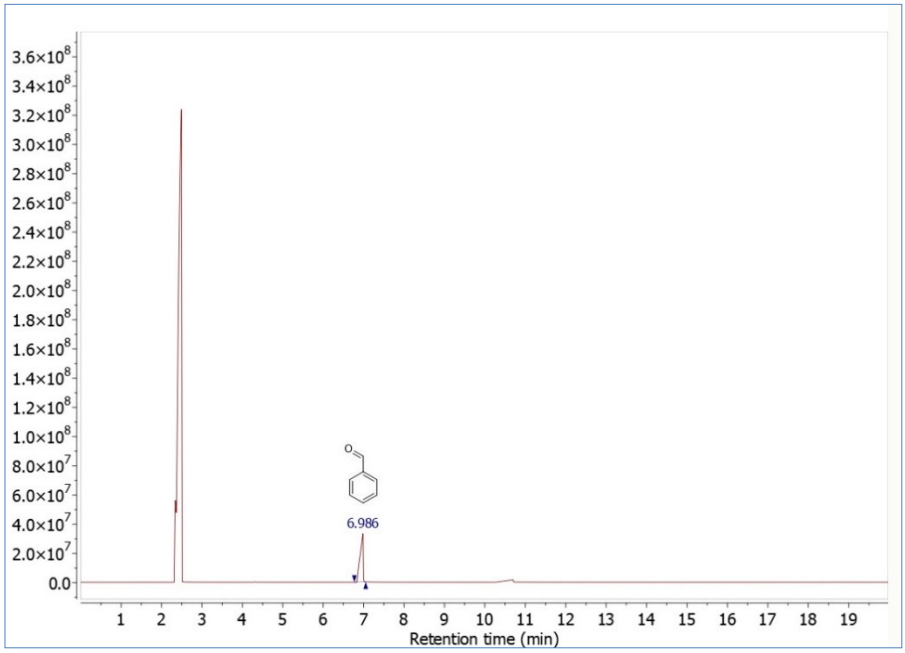


Figure S8. GC chromatography spectrum of Benzaldehyde reference

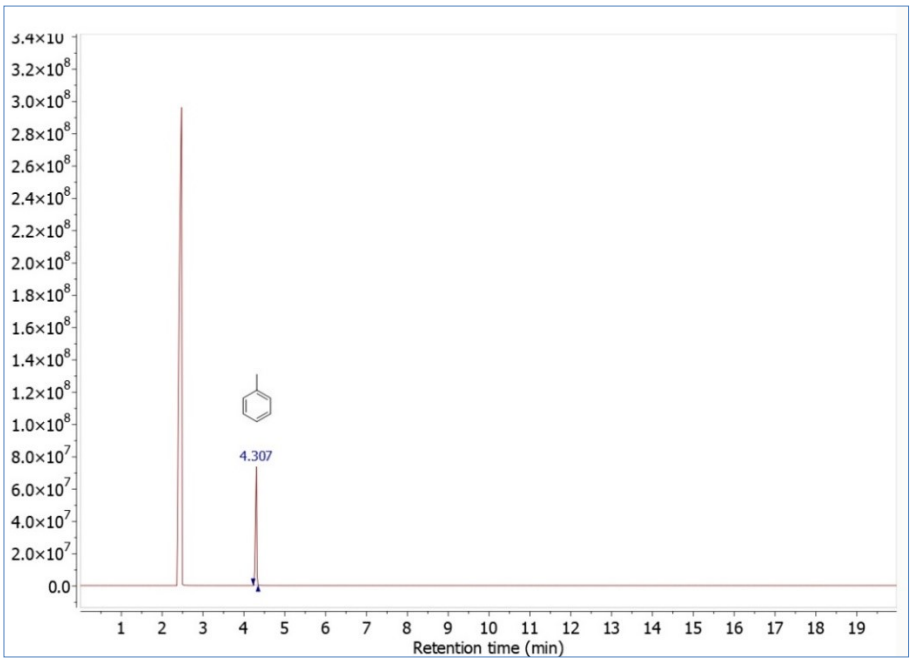


Figure S9. GC chromatography spectrum of Toluene reference