

Synergic Photocatalytic CH₄ Conversion to C1 liquid products using Fe species-modified g-C₃N₄

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Table S1-S3 and Figure S1-S3

Sample name	Fe amount [wt%]	Specific surface area [m ² g ⁻¹]	Pore Diameter [nm]
g-C ₃ N ₄	0	114.411	13.99
0.5Fe	0.5	118.789	16.10
1Fe	1	107.79	7.27
2Fe	2	96.585	7.98
3Fe	3	130.031	7.36

Table S1. The N₂ adsorption-desorption isotherms for g-C₃N₄ and Fe_x-g-C₃N₄ with different Fe contents.

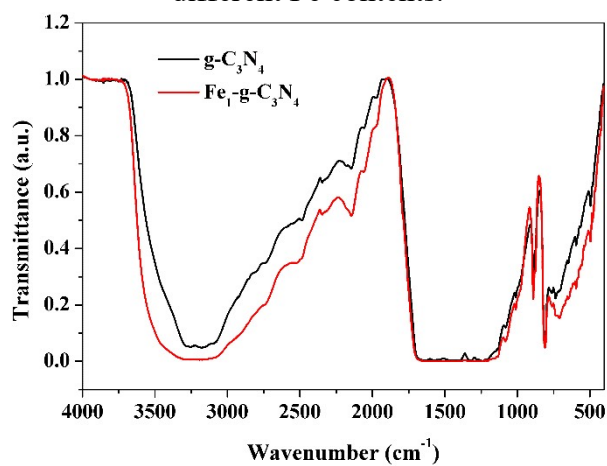


Figure S1 FTIR spectra of sample g-C₃N₄ and Fe-g-C₃N₄.

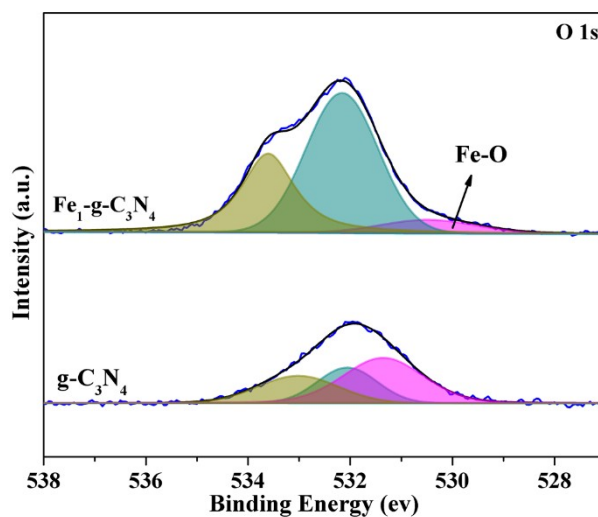


Figure S2 High resolution O1s XPS spectra of g-C₃N₄ and Fe₁-g-C₃N₄.

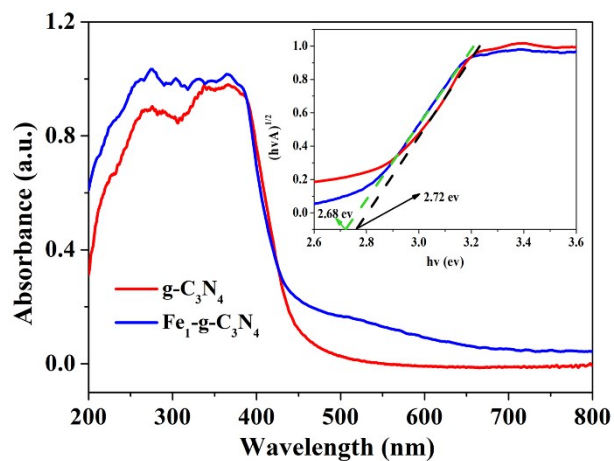


Figure S3 UV-vis spectra of Fe₁-g-C₃N₄, inset: bandgap determination using $[A\lambda y]^{1/2}$ vs $h\nu$ plots.

radical scavengers	CH ₃ OH	HCHO	HCOOH	CH ₃ OOH	SUM of C1 products
Without radical scavengers	0.8912	7.4828	2.8369	3.2077	14.4186
isopropanol	0.4014	2.4886	0	0	2.89
benzoquinone	0.4077	0	0	0	0.4077

Table S2 Yields of C1 products without and with radical scavengers.