Electronic Supplementary Information

Template-free precursor-surface-etching route to porous $g-C_3N_4$ thin nanosheets for enhancing photocatalytic reduction and oxidation activity

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	Surface area	Pore size	Pore volume
	(m^{2}/g)	(nm)	(cm^{3}/g)
CN	9.0	5.2	0.043
CN1	44.2	4.5/40.5	0.211

Table S1. Specific surface area, pore size and pore parameter for the as-prepared CN and CN1 samples.



Fig. S1 (a) Raw thiourea powder and (b) the thiourea solution before hydrothermal treatment.



Fig. S2 (a) The thiourea solution, (b,c) thiourea powder isolated from solution after hydrothermal treatment.



Fig. S3 SEM image of melamine by hydrothermal pre-treatment without addition of thiourea.



Fig. S4 TEM image of CN1.



Fig. S5 XPS spectra for S 2p of bulk $g-C_3N_4$ and CN1.



Fig. S6 Photocatalytic H₂ production curves of bulk g-C₃N₄ (CN) prepared from melamine, CN1, T-CN prepared from thiourea and CN/T-CN prepared from melamine and thiourea (1:1 in molar ratio) under visible light ($\lambda > 420$ nm).