Electronic Supplementary Material (ESI) for Dalton Transactions.

Supplementary data

Loading sulfur and nitrogen co-doped carbon dots onto g-C_3N_4 nanosheets for efficient photocatalytic reduction of 4-nitrophenol

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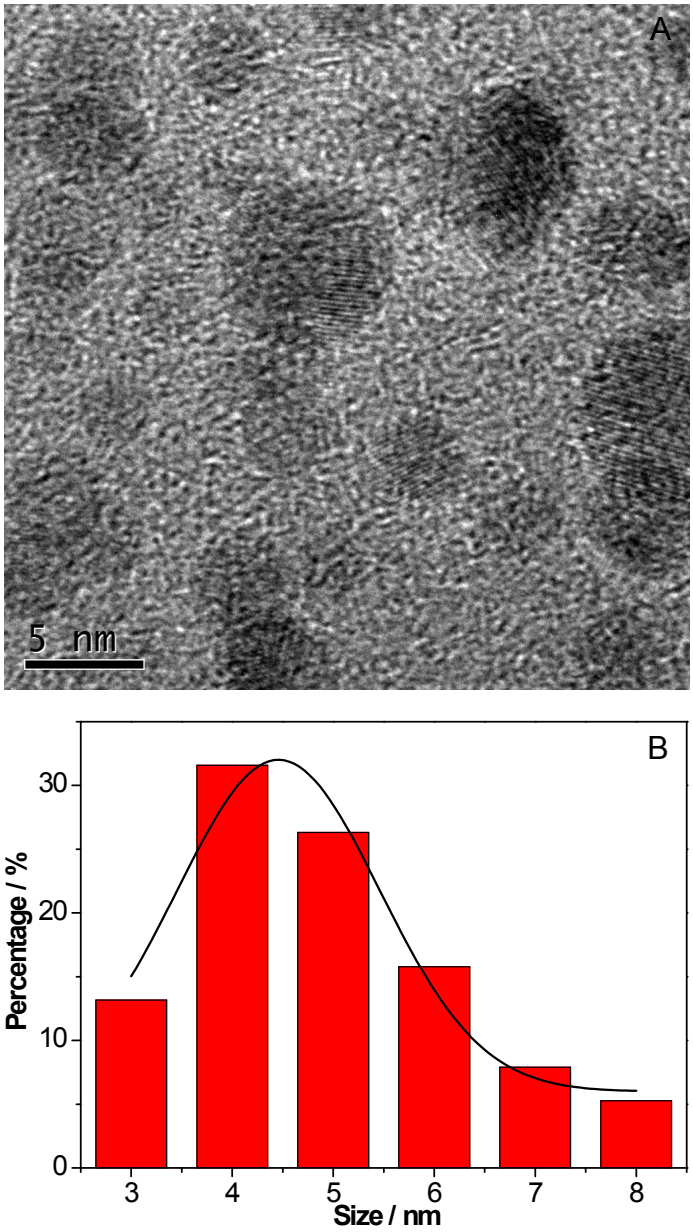

Fig. S1 TEM image (A) and size distribution (B) of SN-CDs.

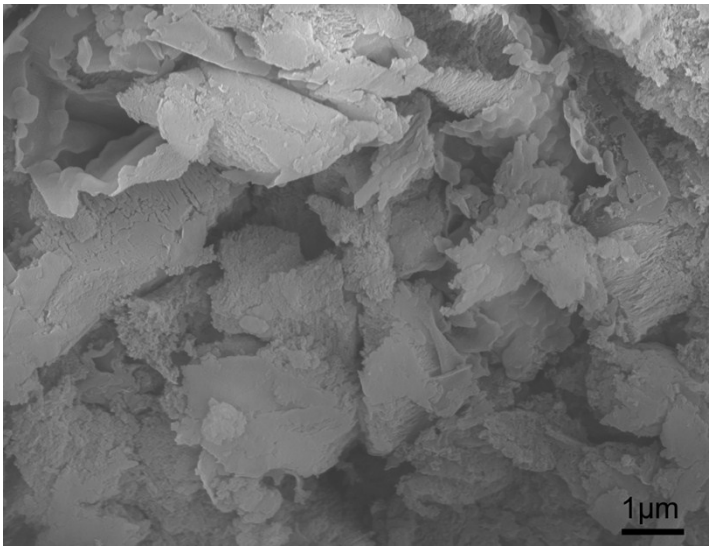

Fig. S2 SEM image of obtained g-C_3N_4 nanosheets.

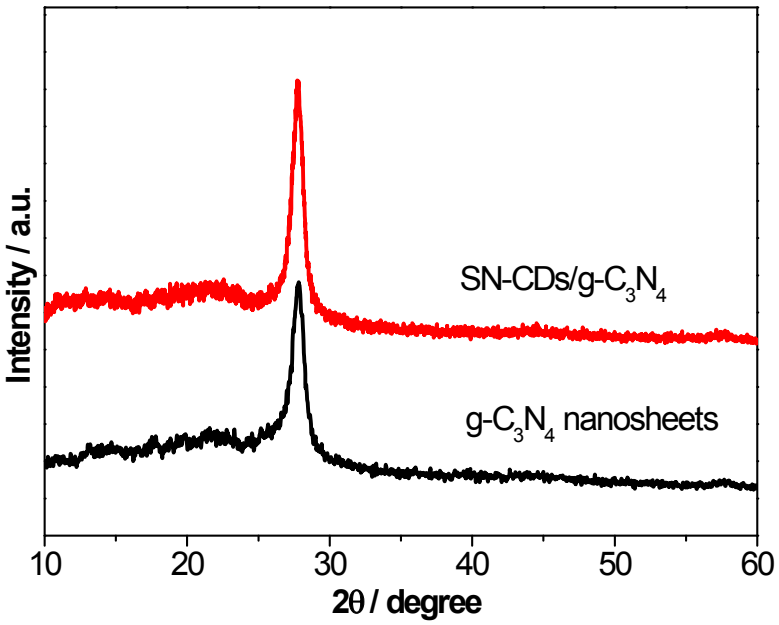

Fig. S3 XRD patterns of g-C_3N_4 nanosheets and SN-CDs/g-C_3N_4.

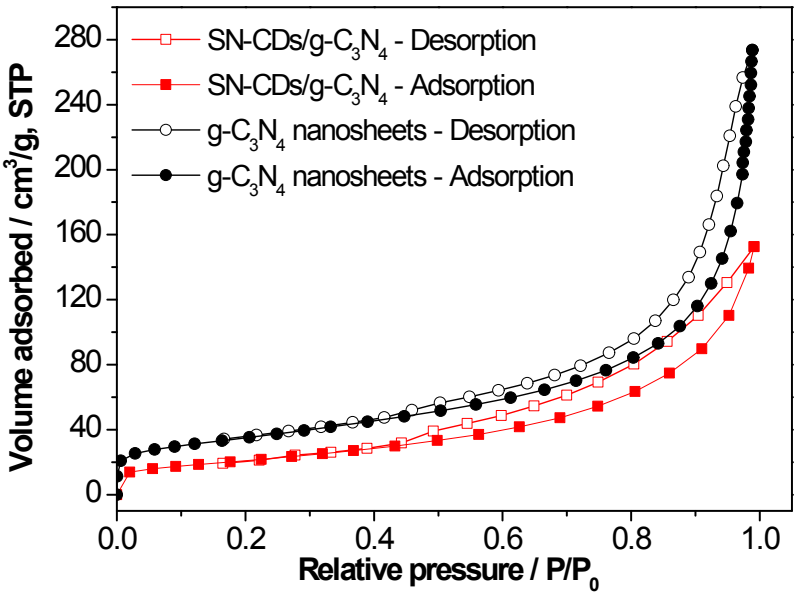

Fig. S4 N_2 adsorption/desorption isotherms of g-C_3N_4 nanosheets and SN-CDs/g-C_3N_4.

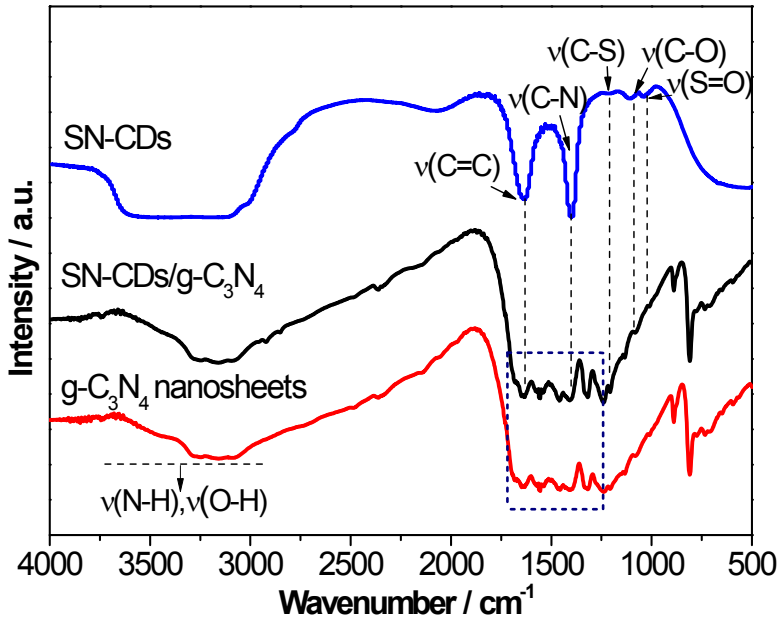

Fig. S5 FTIR spectra of SN-CDs, g-C_3N_4 nanosheets and SN-CDs/g-C_3N_4.

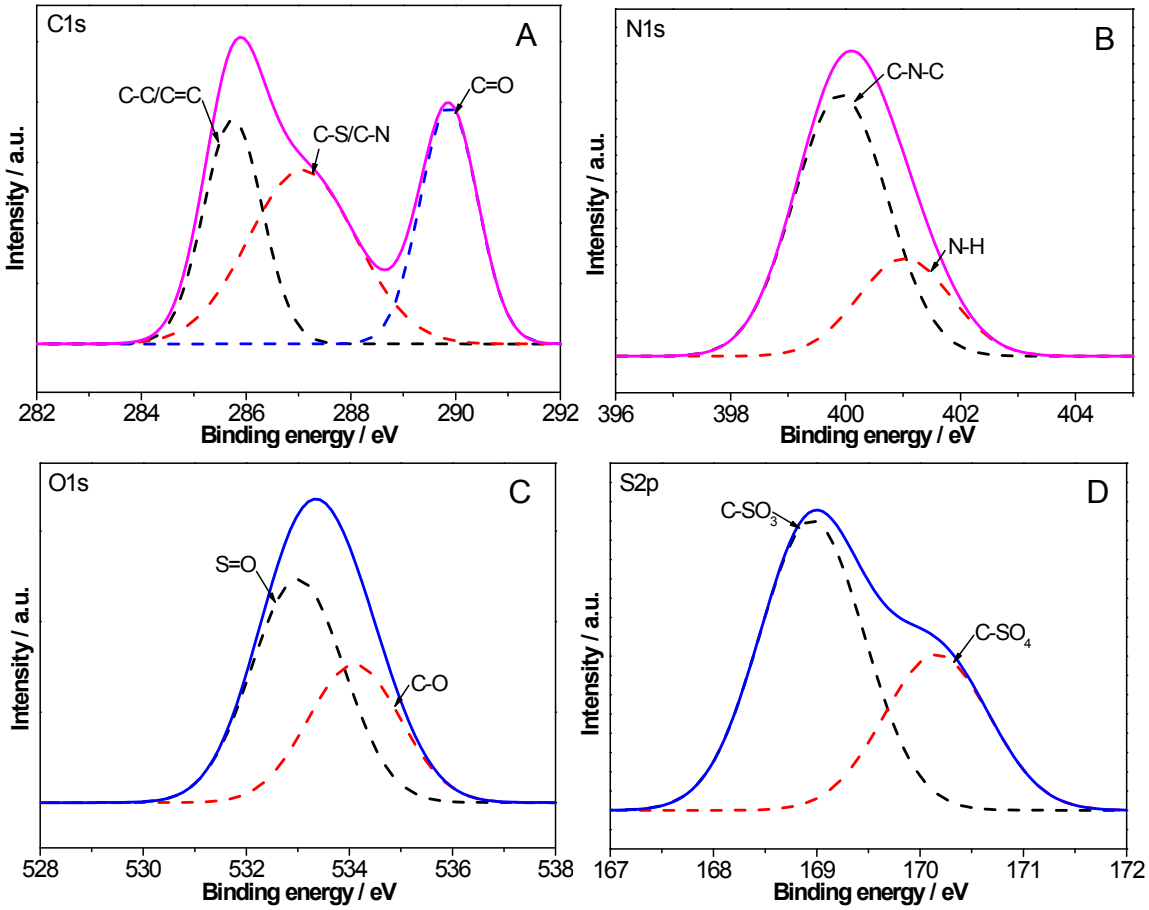

Fig. S6 XPS spectra of SN-CDs: (A) C1s, (B) N1s, (C) O1s and (D) S2p.

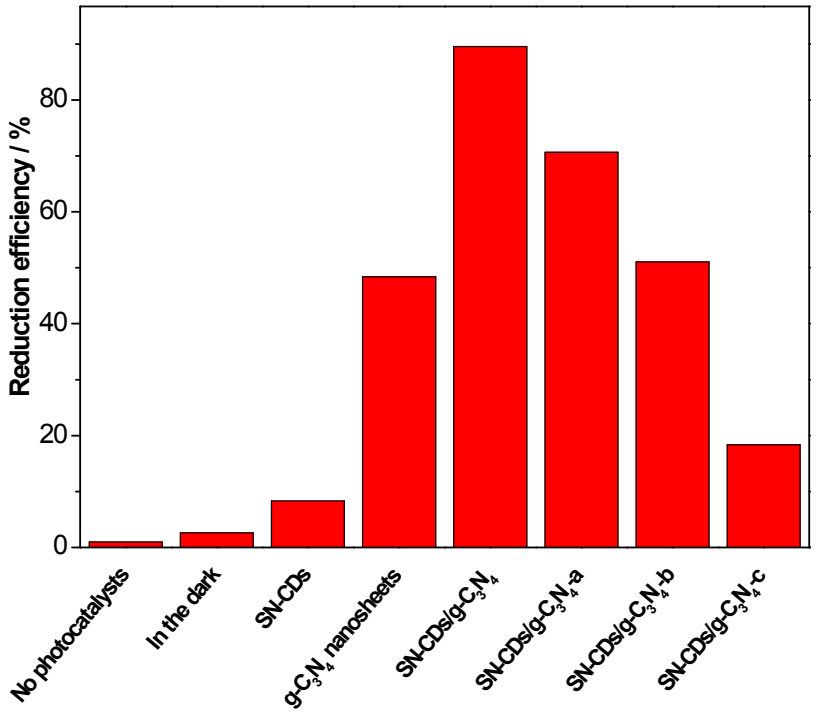

Fig. S7 Photocatalytic reduction efficiency of 4-NP over no photocatalysts with visible-light irradiation, SN-CDs and g-C_3N_4 as well as SN-CDs/g-C_3N_4 without visible-light irradiation, and SN-CDs/g-C_3N_4 composites with the addition of different volume of SN-CDs.

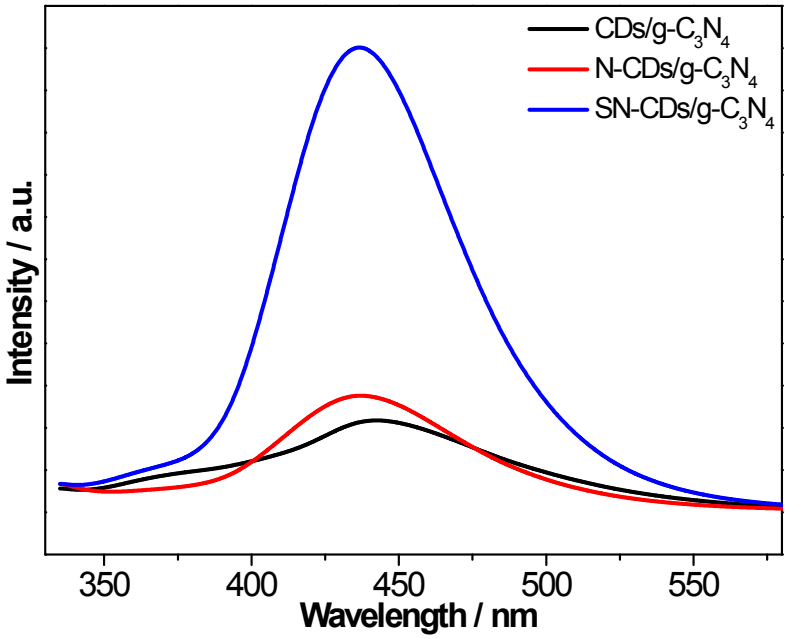

Fig. S8 PL spectra of TAOH formed by the reaction of TA with •OH radicals generated by CDs/g-C_3N_4, N-CDs/g-C_3N_4 and SN-CDs/g-C_3N_4, under visible-light irradiation for 5 min.

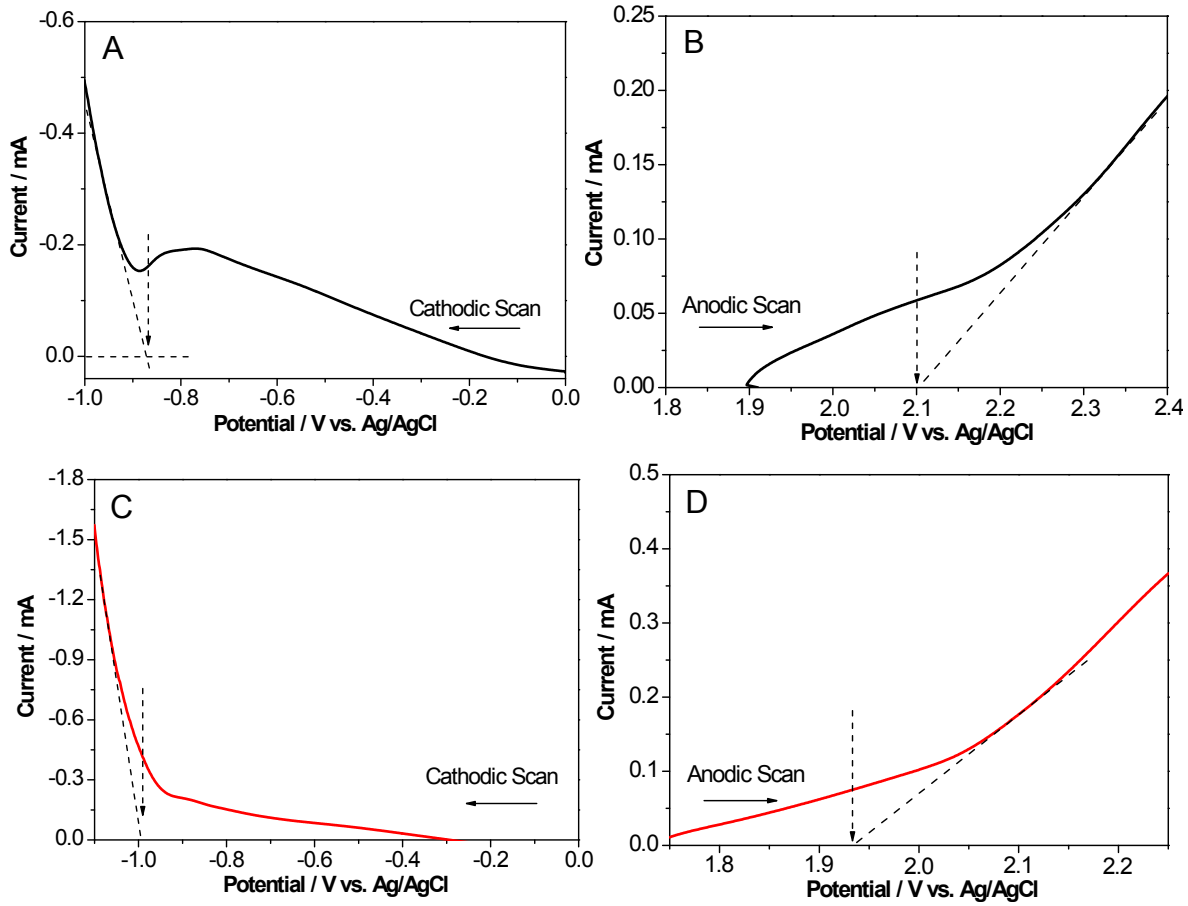

Fig. S9 Linear potential scans of (A,B) g-C_3N_4 nanosheets and (C,D) SN-CDs/g-C_3N_4.

Table S1 The photoluminescence decay time (τ) and their relative amplitude (A) of photoexcited charge carriers in the g-C_3N_4 nanosheets and SN-CDs/g-C_3N_4.

Sample	Decay time (ns)			Relative amplitude (%)			Average lifetime (ns)
	τ_1	τ_2	τ_3	A_1	A_2	A_3	
g-C_3N_4 nanosheets	1.183	5.097	25.32	74.94	23.29	1.772	7.317
SN-CDs/g-C_3N_4	1.097	4.709	23.99	81.97	17.06	0.9712	5.353