

**In situ sulfur-doped graphitic-like carbon nitride nanosheets with enhanced
electrogenerated chemiluminescence and their application for selective sensing of
L-cysteine**

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Fig. S1 The images of bulk S-g-C₃N₄ NSs (left) and g-C₃N₄ NSs (right).

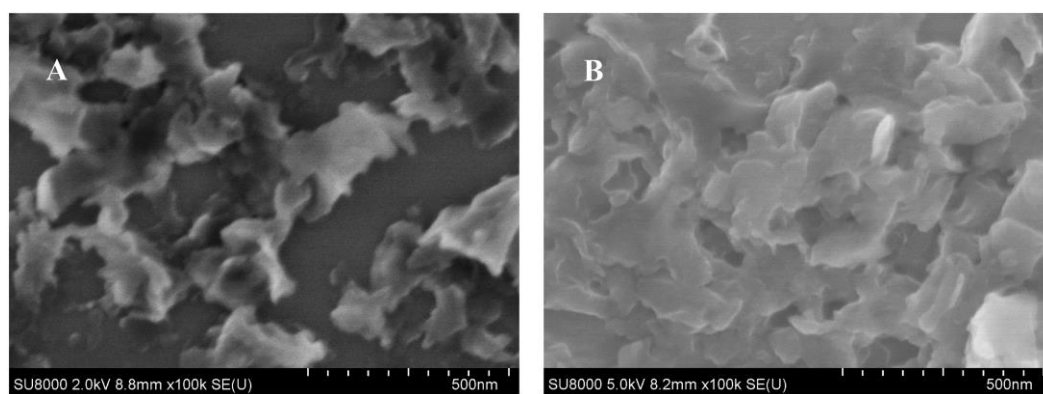


Fig. S2 SEM images of (A) S-g-C₃N₄ NSs and (B) g-C₃N₄ NSs.

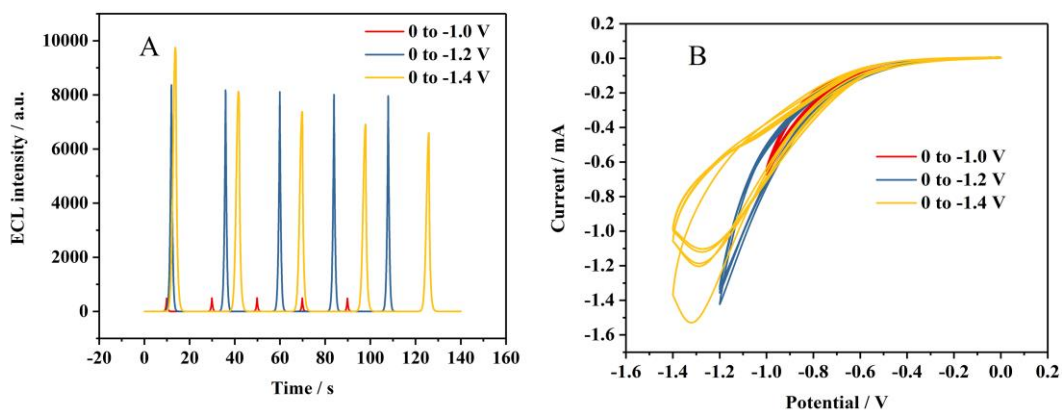


Fig. S3 The (A) ECL-time and (B) CV curves of S-g-C₃N₄ NSs at different scanning potential range with 100 mM K₂S₂O₈ at pH 7.4 PBS. Scan rate, 100 mV s⁻¹.

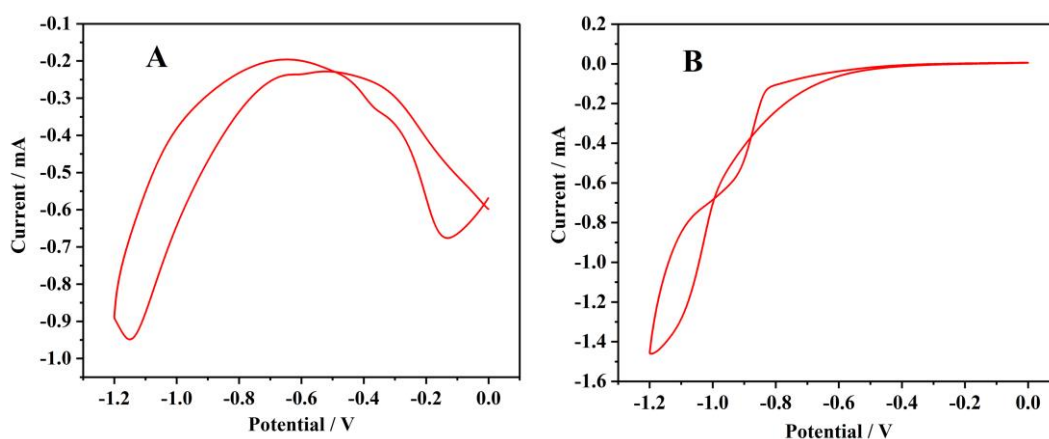


Fig. S4 The CV curves of S-g-C₃N₄ NSs in the presence of 50 μM (A) Hg²⁺ and (B) Cd²⁺ at the scanning potential from 0 to -1.2 V containing 100 mM K₂S₂O₈ at pH 7.4 PBS. Scan rate, 100 mV s⁻¹.

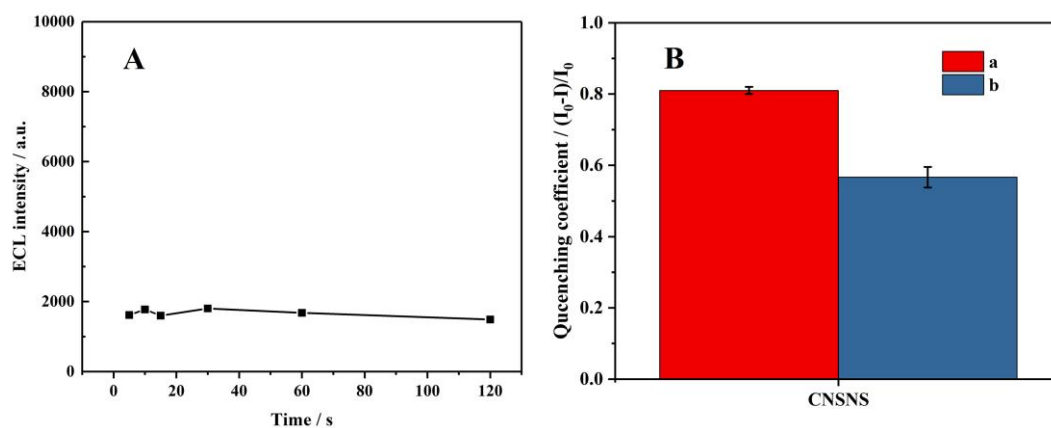


Fig. S5 (A) The ECL responses of different reaction time between 50 μM Cu^{2+} and S-g- C_3N_4 NSs. (B) The quenching coefficient of the two ways of adding copper ions.

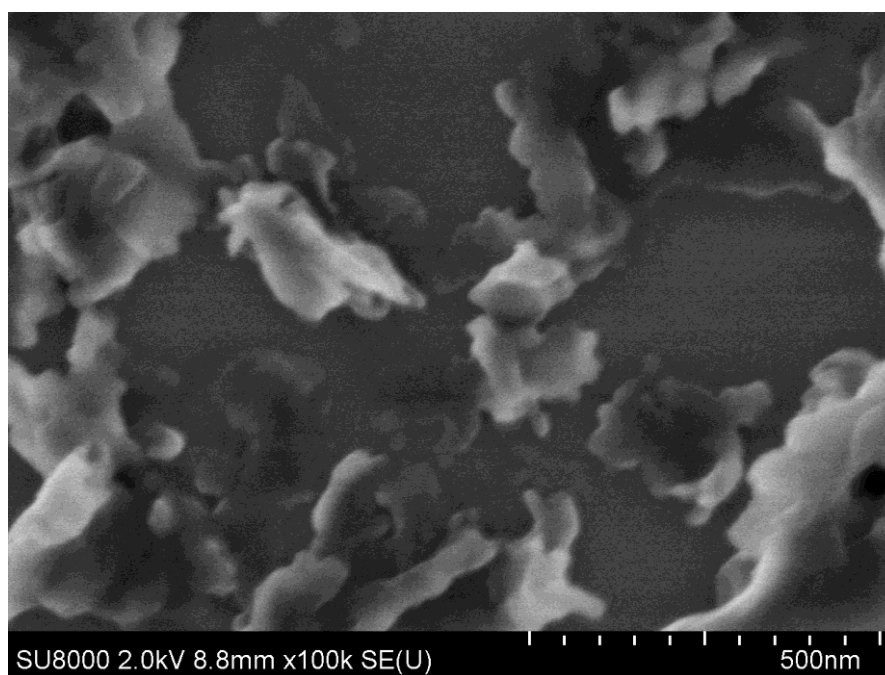


Fig. S6 SEM image of S-g- C_3N_4 NSs after long-term use.

Table S1 The atomic content of C, N, O, S and C/N for g-C₃N₄ NSs and S-g-C₃N₄ NSs.

Atomic %	C	N	O	S	C/N
g-C ₃ N ₄ NSs	44.98	50.39	4.63	0	0.89
S-g-C ₃ N ₄ NSs	42.28	49.73	6.40	1.59	0.85

Table S2 The fluorescence quantum yield (Φ_p) of g-C₃N₄ NSs and S-g-C₃N₄ NSs.

	Quinine sulfate	g-C ₃ N ₄ NSs	S-g-C ₃ N ₄ NSs
Grad	3.48*10 ⁹	7.40*10 ⁸	6.15*10 ⁸
Φ_p	54%	11.5%	9.5%