

Support Information

Synthesis, Mechanistic Investigation, and Application of Photoluminescent Sulfur and Nitrogen Co-Doped Carbon Dots

Quan Xu,^{1#*} Yao Liu,^{1#} Chun Gao,^{2#} Jianfei Wei,¹ Hongjun Zhou,¹ Yusheng Chen,²
Chenbo Dong,³ Theruvakkattil Sreenivasan Sreepasad,³ Neng Li,^{4*} and Zhenhai Xia^{5*}

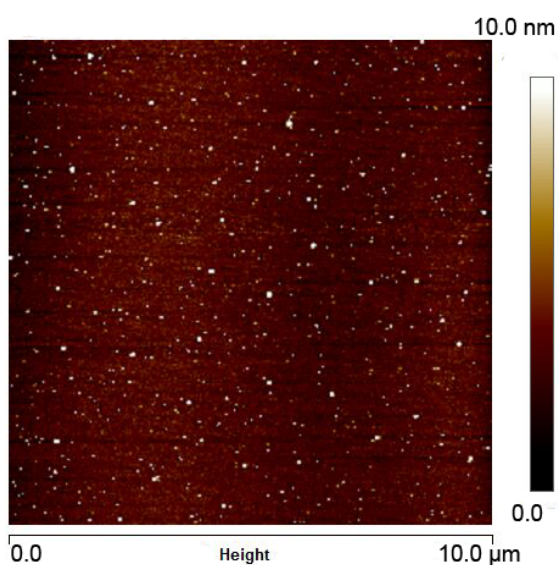


Figure S1. AFM picture of S,N-CDs

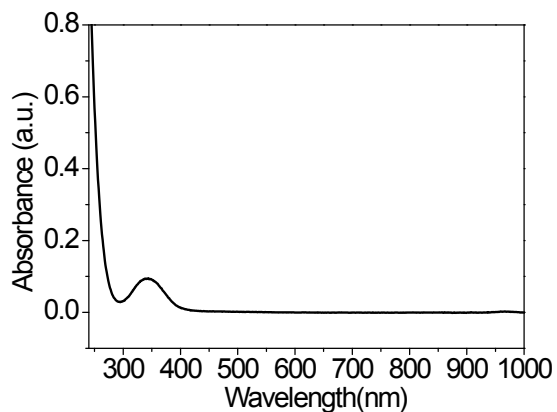


Figure S2. UV absorption spectrum of S,N-CDs

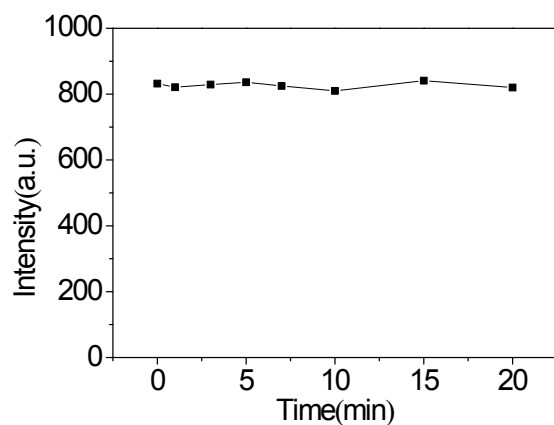


Figure S3. Time-dependent fluorescence intensity of S,N-CDs ($\lambda_{em} = 440$ nm) in presence of H_2O_2

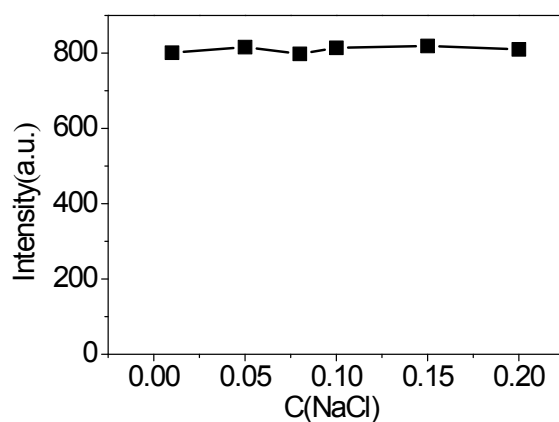


Figure S4 Effect of ionic strengths on the fluorescence intensity of sulfur-doped carbon dots

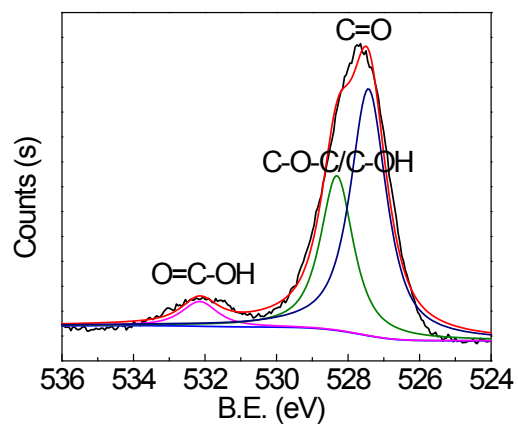


Figure S5. High-resolution O_{1s} XPS spectra for S,N-CDs

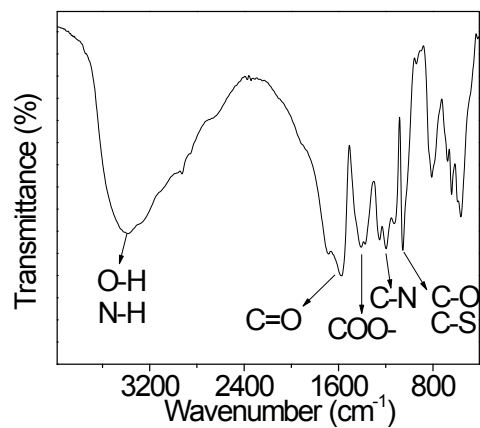


Figure S6. FTIR spectra for S,N-CDs

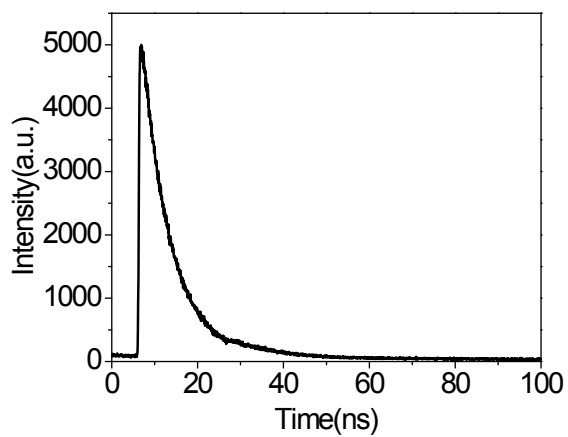


Figure S7. Lifetime spectra for S,N-CDs

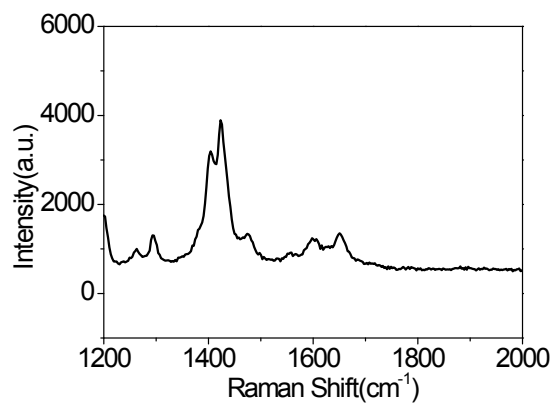


Figure S8. Raman spectra for S,N-CDs

Table S1 Atomic percent for S,N-CDs at different molar ratio of the sulfamide and sodium citrate

Precursor Ratio	S _{2p} (At. %)	C _{1s} (At. %)	Na _{1s} (At. %)	O _{1s} (At. %)	N _{1s} (At. %)
0.05	0.885	46.346	18.791	33.261	0.717
0.075	0.82	47.413	17.78	33.245	0.742
0.1	0.789	42.34	21.276	34.816	0.78
1	5.335	37.758	17.761	33.283	5.863
2	12.892	16.432	23.809	42.774	4.093
5	14.467	15.884	20.942	43.669	5.039