

Supplementary Information

Sustainable Synthesis of Tunable Emissive Sulphur-Doped CDs: A Synergistic Approach for Metal Ion Sensing and Antimicrobial Applications

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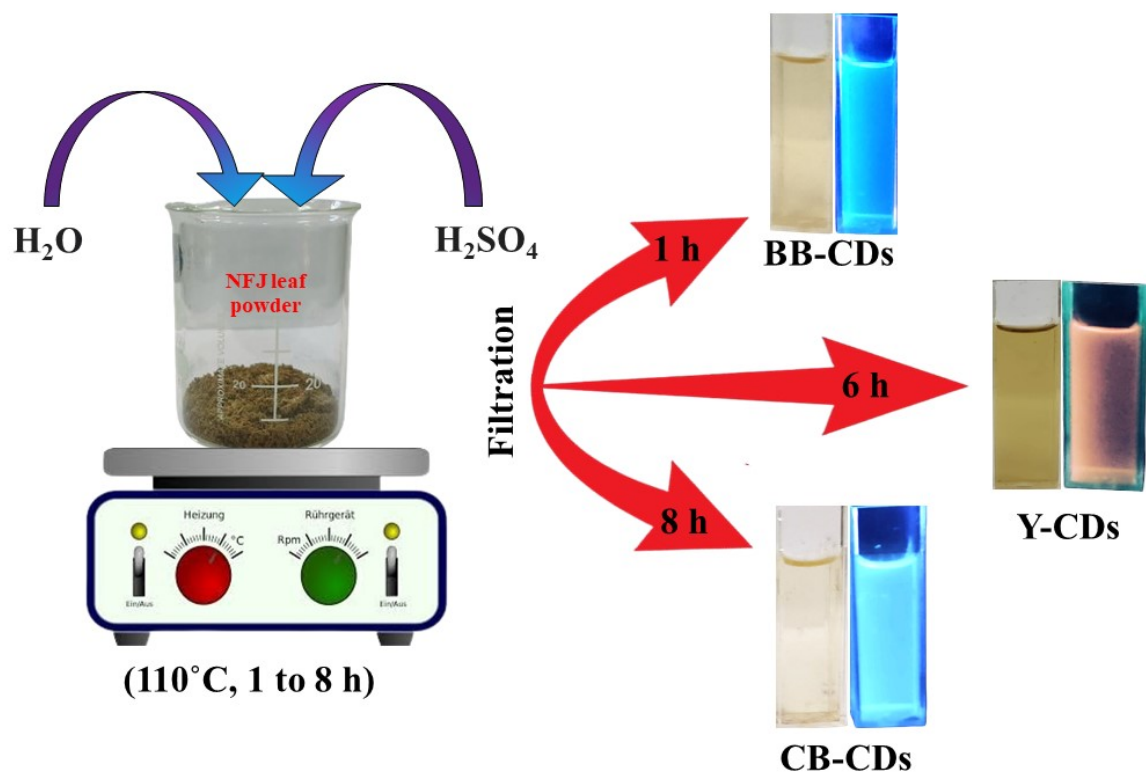
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Scheme S1. Synthesis of BB-CDs, Y-CDs and CB-CDs.

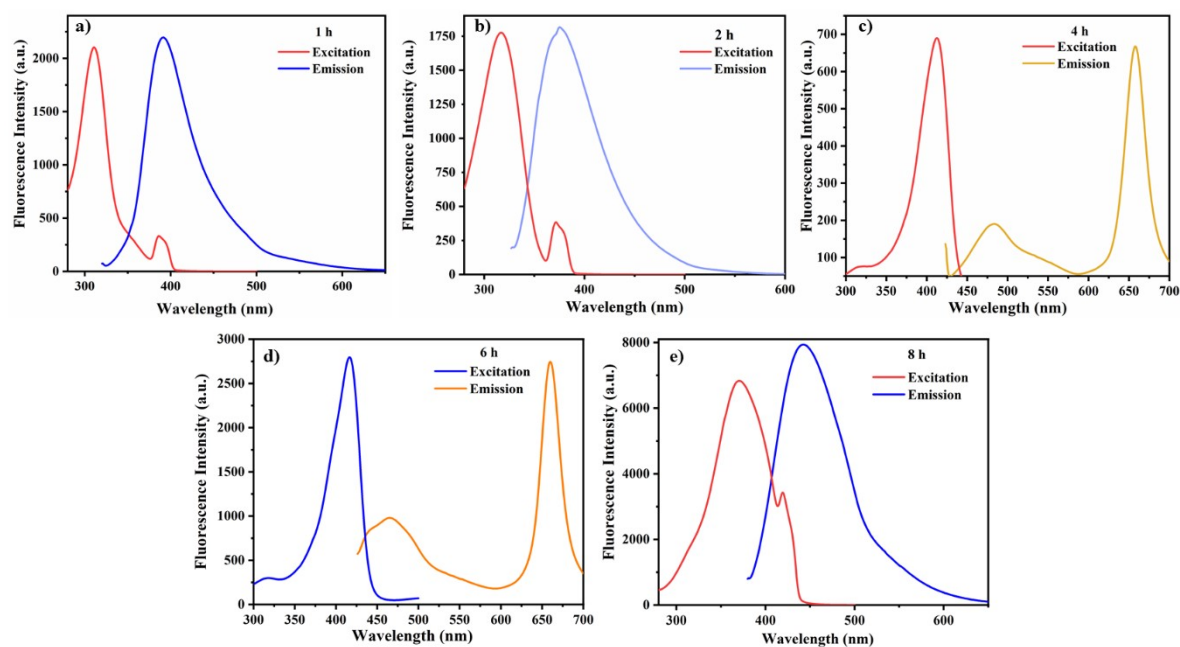


Fig. S1 Fluorescence spectra of S-CDs at a) 1 h, b) 2 h, c) 4 h, d) 6 h, and e) 8 h.

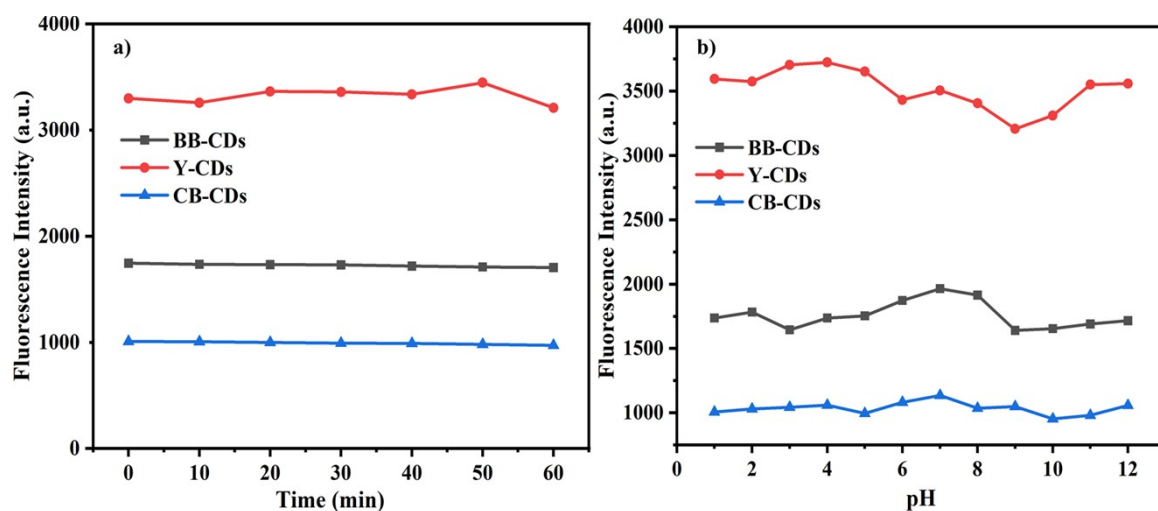


Fig. S2 Fluorescence intensities of different S-CDs (BB-CDs, Y-CDs, CB-CDs) under the influence of a) irradiation of UV light, and b) different pH.

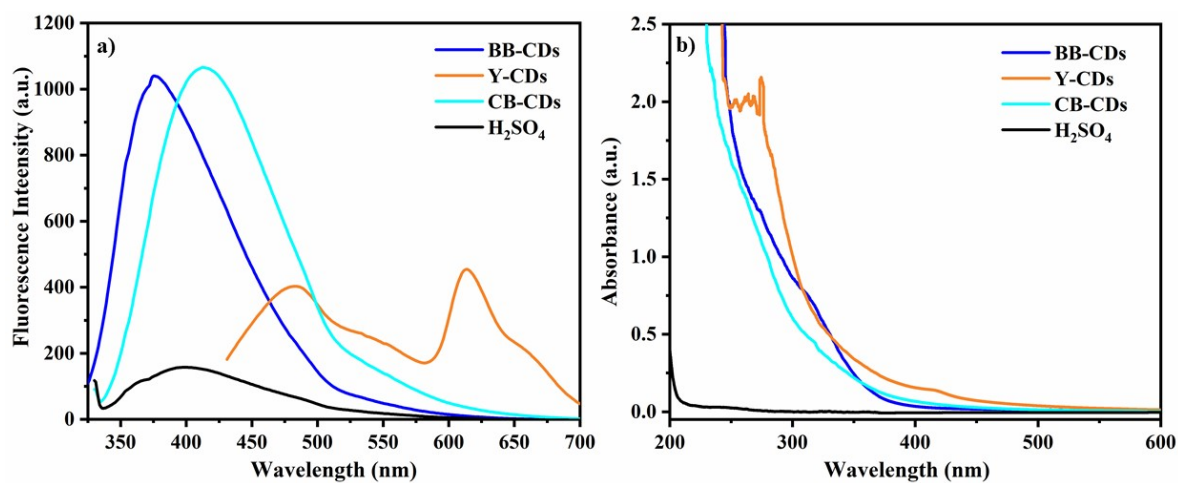


Fig. S3 a) Fluorescence and b) UV-Visible absorbance spectra of neutralized BB-CDs, Y-CDs, CB-CDs and diluted H_2SO_4 .

Table S1. Peak position of XPS elemental spectra.

S-CDs	C 1s		O 1s		S 2p		S 2s	N 1s	
	BE (eV)	Atomic %	BE (eV)	Atomic %	BE (eV)	Atomic %	BE (eV)	BE (eV)	Atomic %
BB- CDs	284.24	44.65	532.50	28.51	170.14	9.01	232.83	404.14	17.83
Y- CDs	284.24	37.01	532.50	33.19	170.14	11.48	231.50	404.14	18.32
CB- CDs	288.5	37.08	533.93	34.25	171.40	9.68	234.14	404.14	19.00