Chitosan functionalized nitrogen-doped carbon dots nanocomposites: A turn-on sensor for fluoride detection

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Table S1. List of chemicals and their make required for the synthesis.

Order	Chemicals Name	Make
1.	Ethylene diaminetetracetic acid	Sigma-Aldrich
2.	Urea	Loba Chemie
3.	Chitosan	Loba Chemie
4.	Tetrabutylammonium fluoride hydrate	Sigma-Aldrich

Table S2. Details of the instruments applied for the characterization and analysis of N-CDs and N-CDs@C

Order	Technique	Model
1.	Fourier transform infrared (FTIR) spectra	PerkinElmer Spectrum Two FTIR Spectrometer
2.	X-ray photoelectron spectroscopy	Thermofisher scientific Nexus base

	(XPS)	XPS
3.	Brunauer-Emmett-Teller (BET) surface area analyzer	Autosorb iQ Station 2 system, Quntachrome Instruments, USA
4.	High- resolution transmission electron microscopy (HRTEM)	JEOL JEM 2100 Plus, JEOL, Japan
5.	Energy dispersive X-ray spectra (EDS)	JEM 2100 plus, JEOL, Japan
6.	Fluorescence Spectra	Shimadzu Fluorescence RF-6000 equipped with a quartz cell
7.`	Life time measuring system	Delta Flex TCSPC system (Horiba)

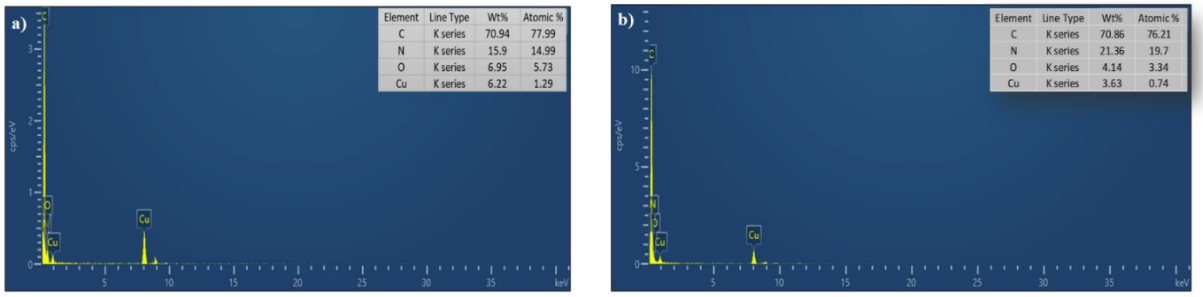

Figure S1. EDS spectra of the synthesized materials: a) N-CDs and b) N-CDs@C

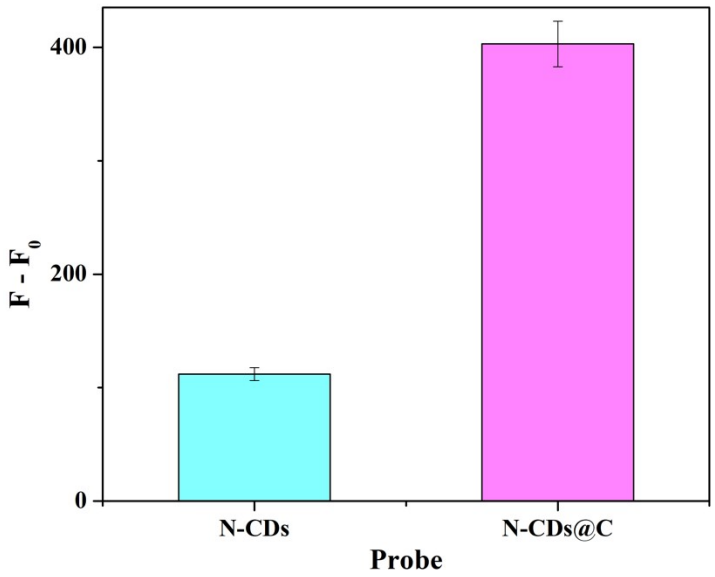

Figure S2. Comparative analysis of the sensing performance of N-CDs and N-CDs@C towards F^- ion

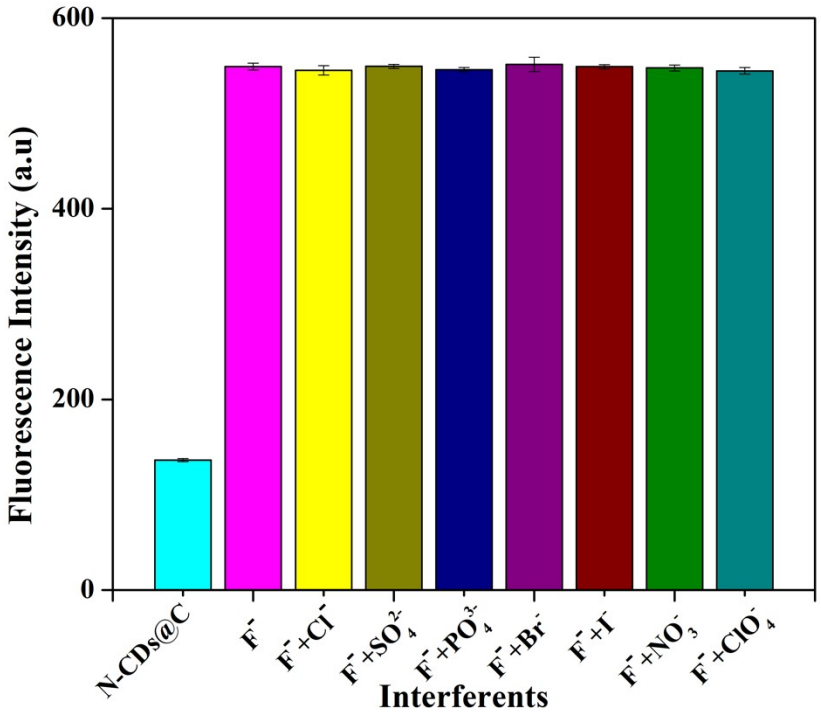

Figure S3. Fluorescence emission intensity of N-CDs@C in the presence of F^- and other interfering anions at a 1:1 ratio concentration

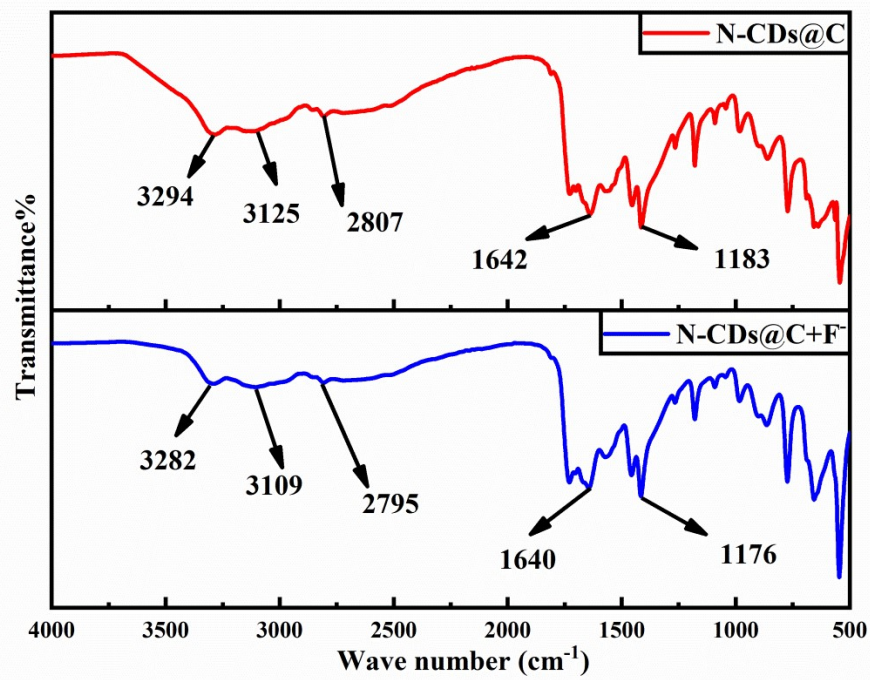

Figure S4. Comparison of FTIR spectra between N-CDs@C before and after binding with F^-