

## Supporting information

### **Building selective electrochemical sensing solid-liquid interface for fluoride ion in water with bis(indolyl)methane-functionalized multi-walled carbon nanotubes**

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**Table S1** Comparison of present work with several modified electrode for F<sup>-</sup> detection.

Electrode/Material	LOD	Selectivity	Reproducibility (RSD)	Stability	Linear range	Sensitivity	Reference
SPOSi/SWCNTs/GCE	0.083 $\mu$ M	Cl <sup>-</sup> , Br <sup>-</sup> , I <sup>-</sup> , HSO <sub>3</sub> <sup>-</sup> , NO <sub>3</sub> <sup>-</sup> , ClO <sub>4</sub> <sup>-</sup> , AcO <sup>-</sup> , HCO <sub>3</sub> <sup>-</sup> , H <sub>2</sub> PO <sub>4</sub> <sup>-</sup> , AA, UA, glucose, Cys	2.5%	Intraday: less than 2%; interday: less than 7%	0.5-10 $\mu$ M	-	1
H <sub>2</sub> Q'/DMF-TBAP-HEPES/GCE	23.8 $\mu$ M	NaI, NaCl, NaBr, KH <sub>2</sub> PO <sub>4</sub> , Na <sub>2</sub> HPO <sub>4</sub> , LiClO <sub>4</sub> , NaOAc, NaNO <sub>3</sub> , KCN, NaN <sub>3</sub>	3.22% 3.44%	Highly stable under thermal and ultrasonication condition	23.8-1190 $\mu$ M	-	2
MH <sub>2</sub> Q'/DMF-TBAP-HEPES/GCE	2.37 $\mu$ M	Na <sub>2</sub> HPO <sub>4</sub> , LiClO <sub>4</sub> , NaOAc, NaNO <sub>3</sub> , KCN, NaN <sub>3</sub>	3.44%	Highly stable under thermal and ultrasonication condition	2.37-960 $\mu$ M	-	2
CdO-Fe <sub>2</sub> O <sub>3</sub> NCs	1.8 $\pm$ 0.02 nM	ethanol, acetone, chloride, bicarbonate, acetate, sulphate,	3.5%	92% of initial sensitivity	10.0 nM-1.0 mM	2.170 $\mu$ A cm <sup>-2</sup> mmolL <sup>-2</sup>	3

			bromide				
Nbim/MWCNTs/	0.1	NO <sub>3</sub> <sup>-</sup> ,	3.6%	over 92%	1–130	–	Present
GCE	μM	HCO <sub>3</sub> <sup>-</sup> ,		remained	μM		work
		SO <sub>4</sub> <sup>2-</sup> ,		after			
		HPO <sub>4</sub> <sup>2-</sup> ,		storage			
		H <sub>2</sub> PO <sub>4</sub> <sup>-</sup> , I <sup>-</sup> ,		for 1			
		AcO <sup>-</sup> ,		month			
		CO <sub>3</sub> <sup>2-</sup> , Br <sup>-</sup> ,					
		HSO <sub>4</sub> <sup>-</sup>					

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## References

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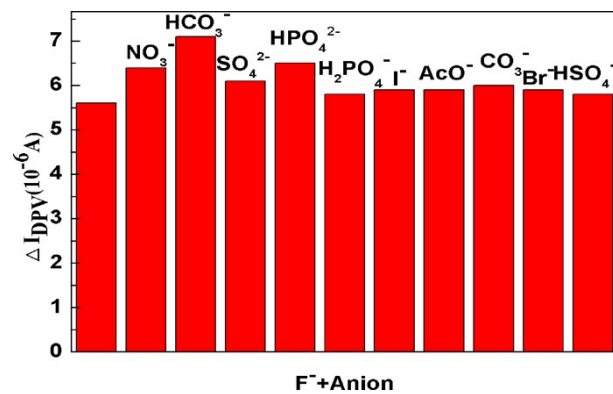


Fig. S1 The response ( $\Delta I_{DPV}$ ) of Nbim/MWCNTs/GCE to mixed-anion (100  $\mu$ M) in 5 mM  $K_3Fe(CN)_6$  containing 0.1 M KCl.