

**Supplementary:**

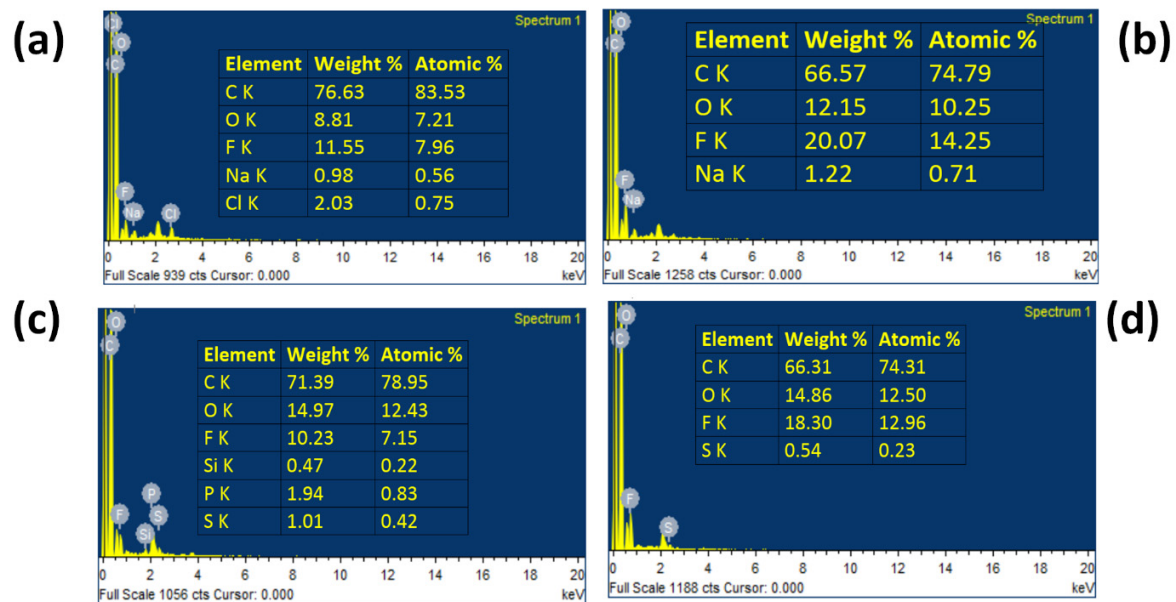
**Free standing Activated Carbon nanocomposite electrodes for Capacitive  
Deionization of water**

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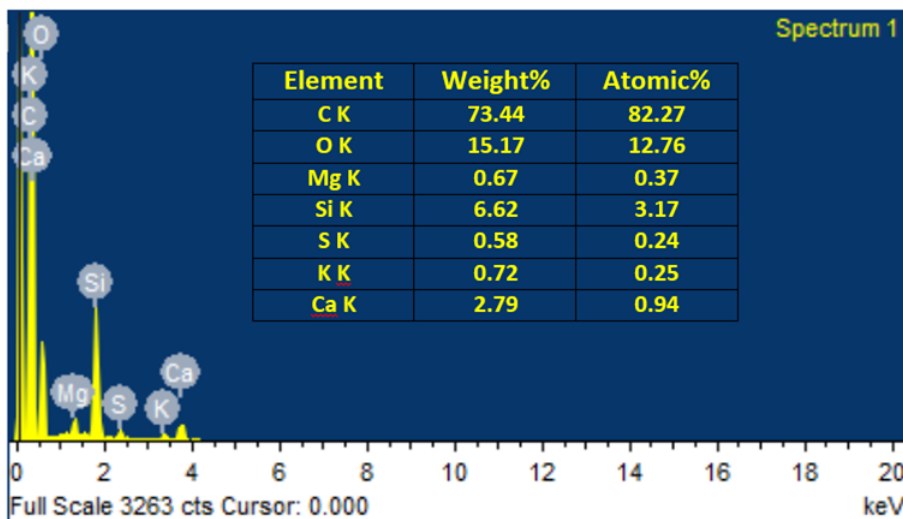
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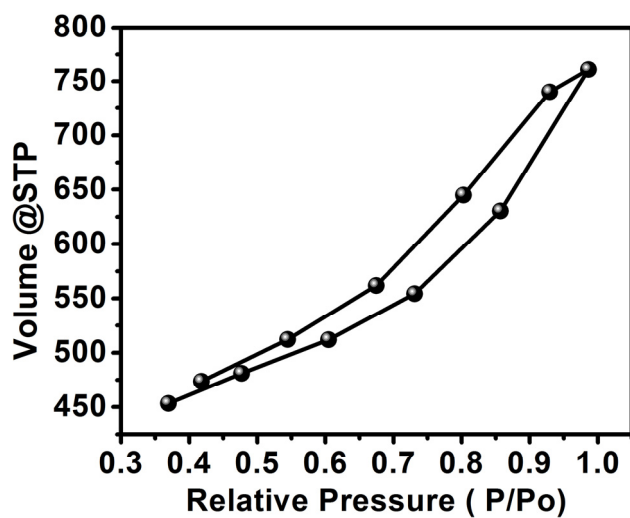


**Figure S1:** EDS elemental composition of the fabricated free standing electrodes (a) 5%, (b) 7.5%, (c) 10% and (d) 12.5% of PVDF concentration.

## Texture Properties of commercial activated carbon



**Figure S2:** EDS analysis of commercial activated carbon used to prepare the free standing electrode.



**Figure S3:** BET analysis of commercial activated carbon used to prepare the free standing electrode.

**Table S1:** Surface area analysis of commercial activated carbon used to prepare the free standing electrode.

SBET (m <sup>2</sup> g <sup>-1</sup> )	V <sub>total</sub> (cm <sup>3</sup> g <sup>-1</sup> )	V <sub>micro</sub> (cm <sup>3</sup> g <sup>-1</sup> )	poreave (nm)	V <sub>total</sub> (cm <sup>3</sup> g <sup>-1</sup> )
1250	0.53	0.78	3.33	0.98