

Supplementary:

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

**Humair Hussain,^{1,2} Asim Jilani,¹ Numan Salah,¹ Ahmed Alshahrie,^{1,2} Adnan Memic,¹
Mohammad Omaish Ansari,¹ Joydeep Dutta^{1,3}**

¹ Center of Nanotechnology, King Abdulaziz University, Jeddah 21589, Saudi Arabia.

² Physics Department, Faculty of Science, King Abdulaziz University, Jeddah 21589, Saudi Arabia.

³ Functional Materials Group, Applied Physics Department, School of Engineering Sciences, KTH Royal Institute of Technology, AlbaNova universitetscentrum, 106 91 Stockholm, Sweden.

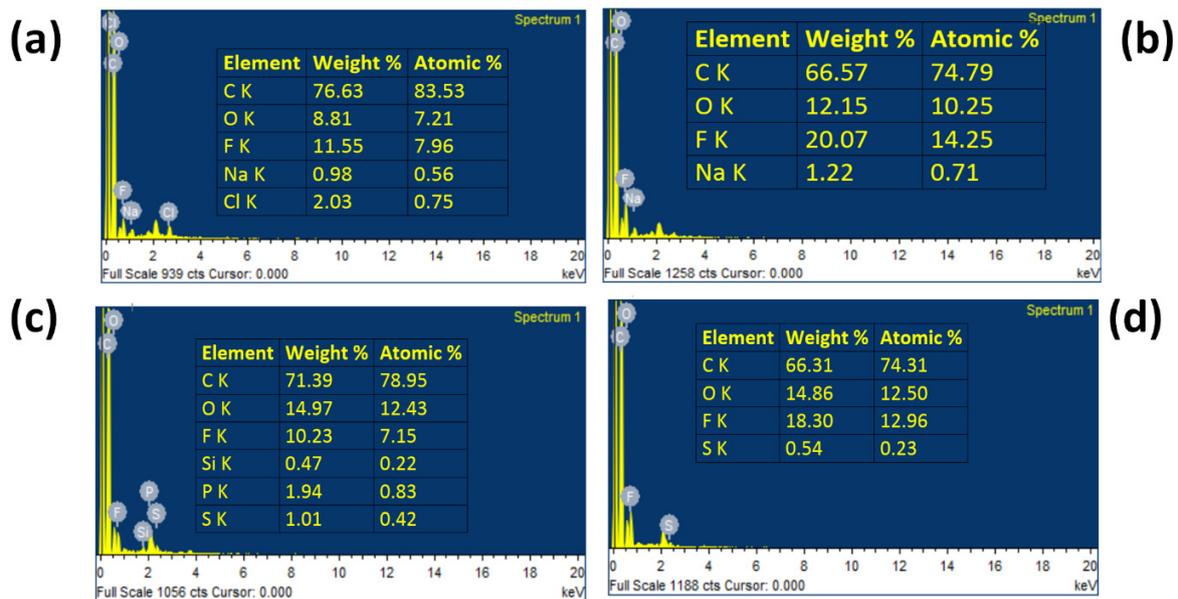


Figure S1: EDS elemental composition of the fabricated free standing electrodes (a) 5%, (b) 7.5%, (c) 10% and (d) 12.5% of PVDF concentration.

Texture Properties of commercial activated carbon

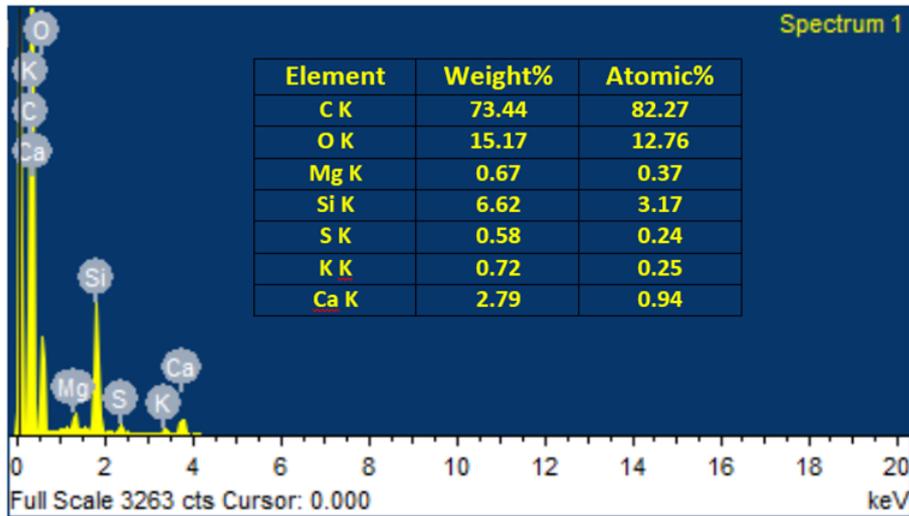


Figure S2: EDS analysis of commercial activated carbon used to prepare the free standing electrode.

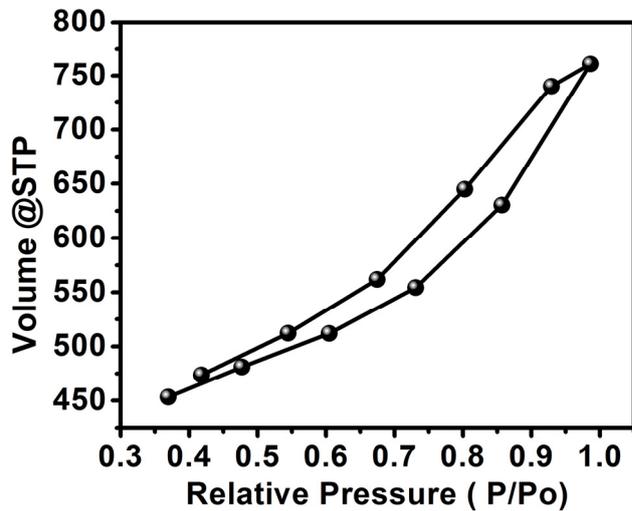


Figure S3: BET analysis of commercial activated carbon used to prepare the free standing electrode.

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

SBET (m ² g ⁻¹)	V _{total} (cm ³ g ⁻¹)	V _{micro} (cm ³ g ⁻¹)	poreave (nm)	V _{total} (cm ³ g ⁻¹)
1250	0.53	0.78	3.33	0.98