

Supplementary Information

2D Reentrant Auxetic Structures of Graphene/CNT Networks for Omnidirectionally Stretchable Supercapacitors

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Supplemental Figures

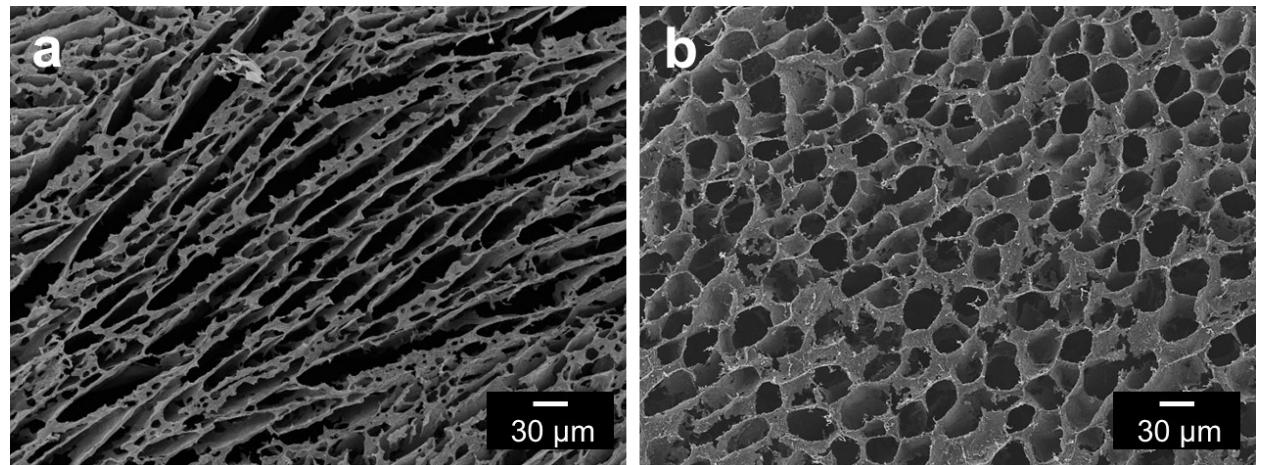


Figure S1. SEM micrographs of the top surface of rGCN-DC with differnt solvents: (a) water and (b) 1,4-dioxane case.

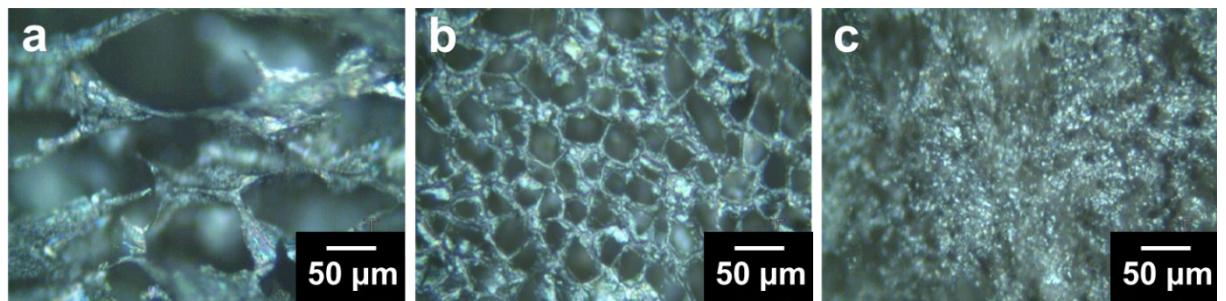


Figure S2. Optical micrographs of the top surface of rGCN-DCs at differnt cooling rates: (a) $4.0\text{ }^{\circ}\text{C}\cdot\text{min}^{-1}$, (b) $5.5\text{ }^{\circ}\text{C}\cdot\text{min}^{-1}$, and (c) $7.5\text{ }^{\circ}\text{C}\cdot\text{min}^{-1}$, respectively.

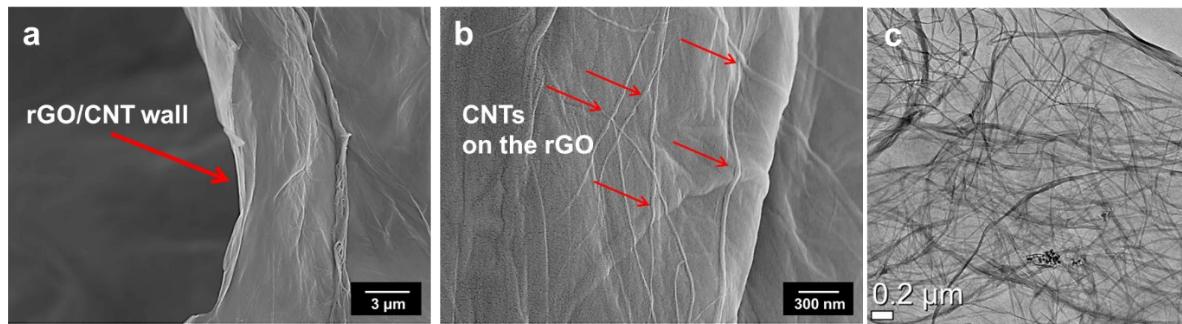


Figure S3. (a) SEM micrographs of pore wall surface of rGCN-DC and (b) magnified image of pore wall surface and (c) TEM images of rGCN-DC.

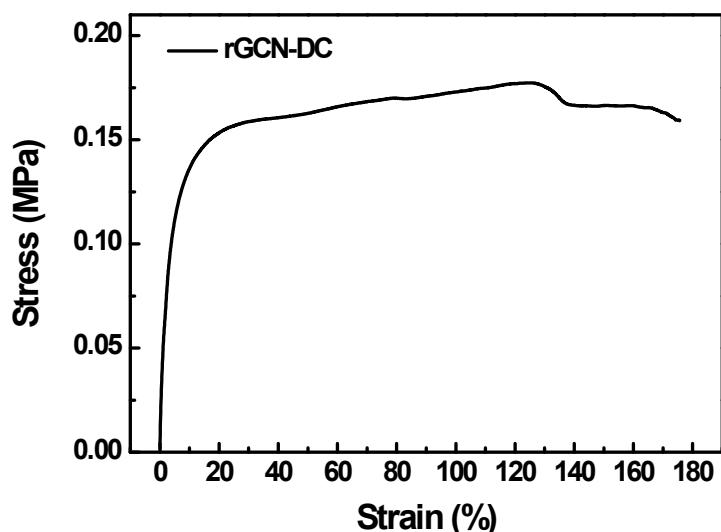


Figure S4. A representative stress-strain curve of the 2D auxetic cellular rGCN-DC network. Specimens of 15×10 mm with a thickness 10 mm were pulled at a crosshead speed of 0.1 mm/s.

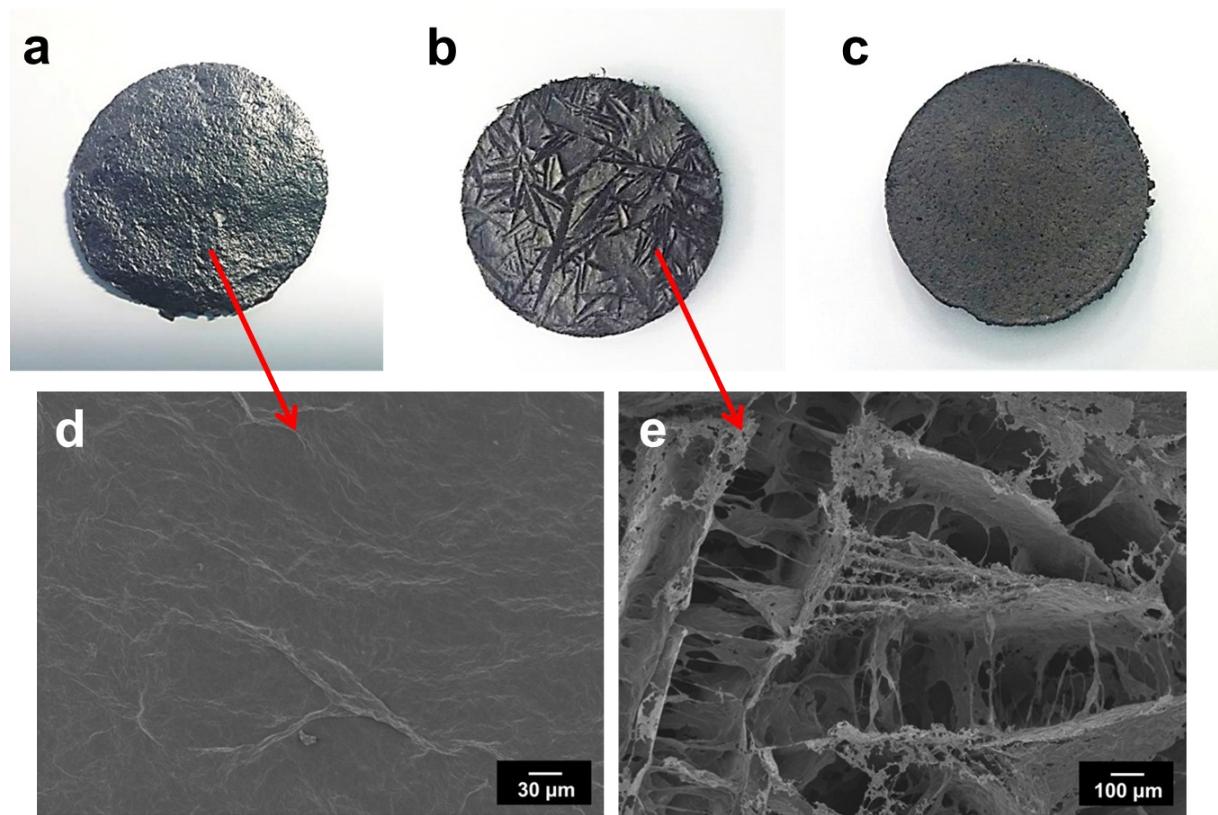


Figure S5. Digital images of three electrodes: (a) rGCN-Film, (b) rGCN-RC, and (c) rGCN-DC. SEM micrographs of the top surface of (d) rGCN-Film and (e) rGCN-RC electrode, respectively.

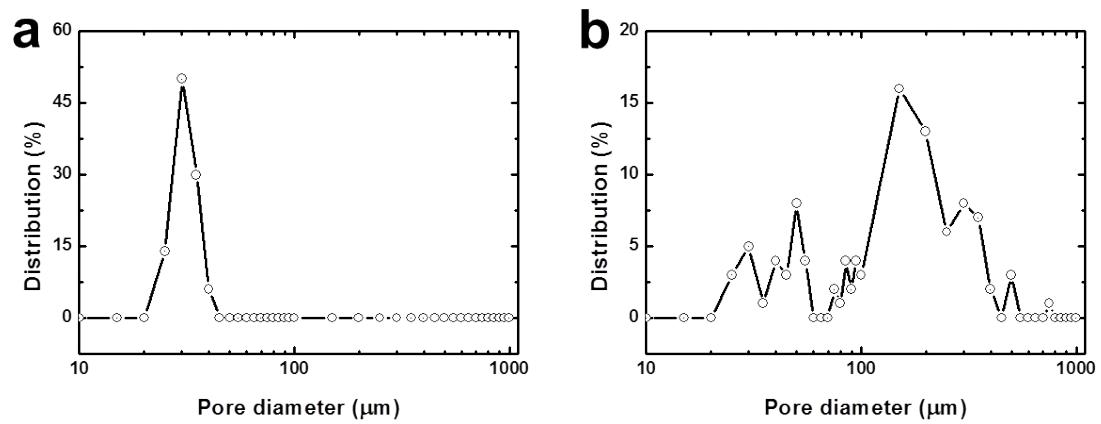


Figure S6. P Pore size distribution of (a) rGCN-DCs and (b) rGCN-RCs.

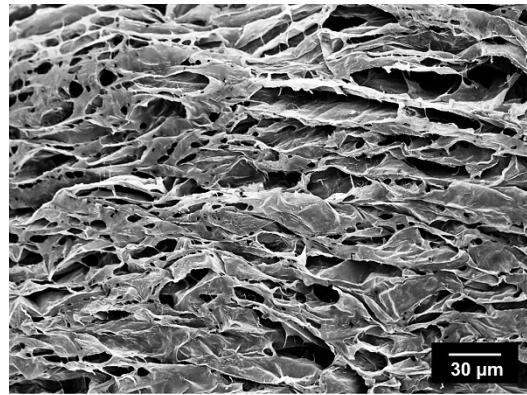


Figure S7. SEM micrographs of the top surface of rGCN-RC after rolling & compressing proces.

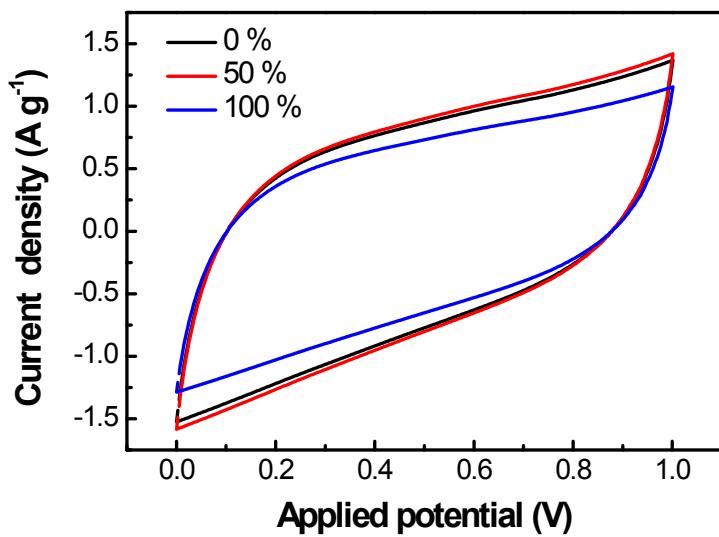


Figure S8. Representative cyclic voltammetry curves (CVs) with different strains at a scan rate of $100 \text{ mV}\cdot\text{s}^{-1}$.

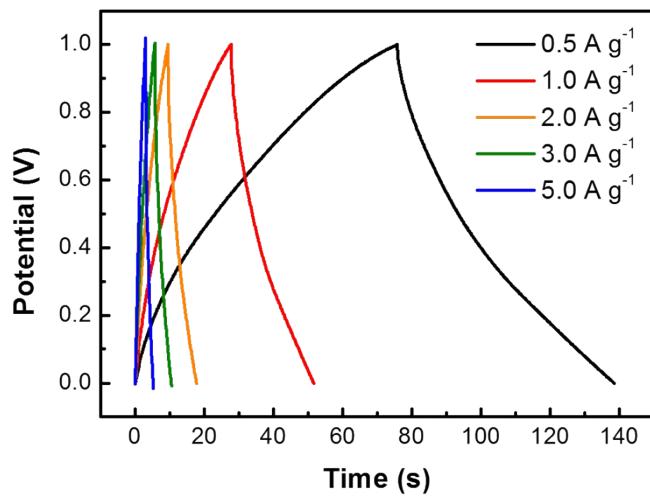


Figure S9. The galvanostatic charge/discharge curve of ASSC-DC at various charging/discharging currents from $0.5 \text{ A}\cdot\text{g}^{-1}$.

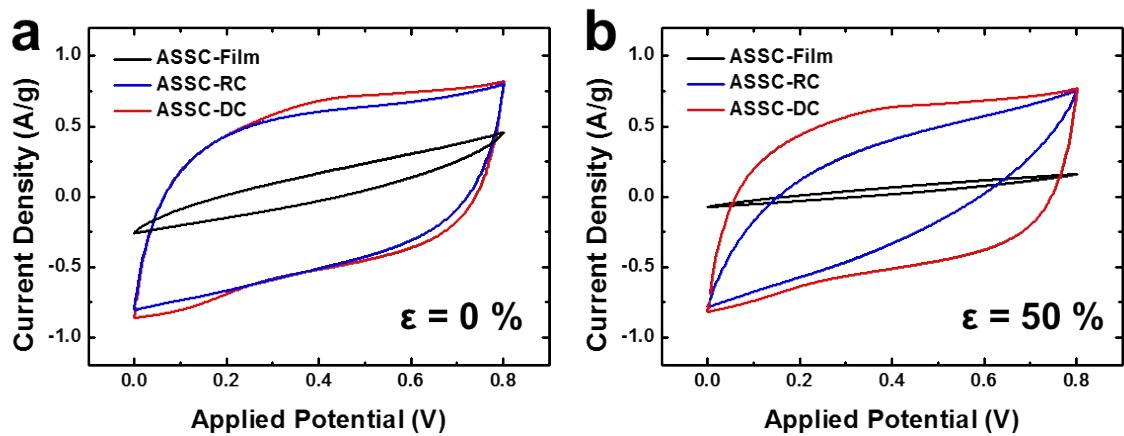


Figure S10. Representative CV curves of the three ASSCs based on rGCN-Film, rGCN-RC and rGCN-DC electrodes (a) without strain and (b) with a strain of 50% at a scan rate of $30 \text{ mV}\cdot\text{s}^{-1}$.

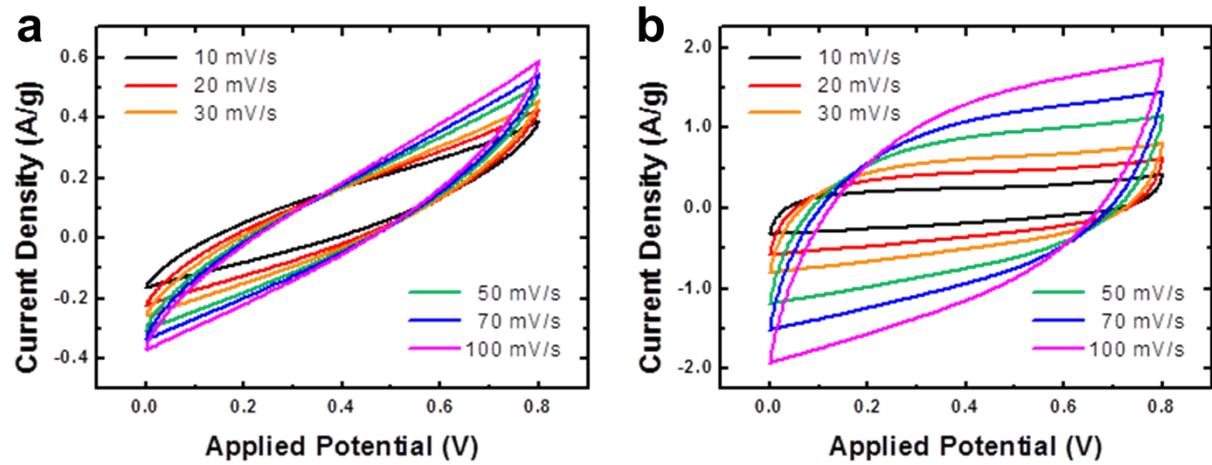


Figure S11. Representative CVs of (a) ASSC-Film and (b) ASSC-RC at various scan rates from 10 to $100 \text{ mV}\cdot\text{s}^{-1}$.

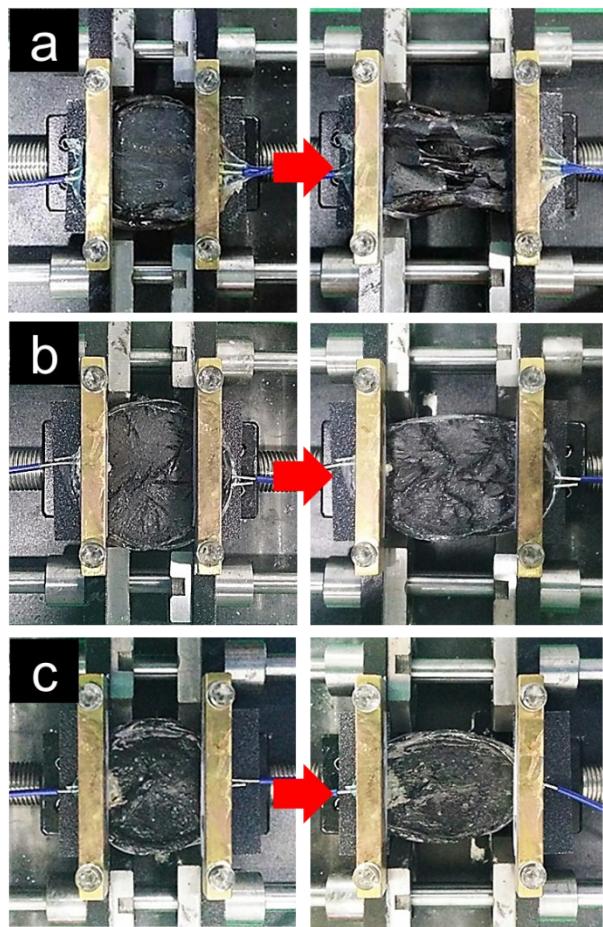


Figure S12. Digital images of three ASSCs based on (a) rGCN-Film, (c) rGCN-RC, and (e) rGCN-DC electrodes are stretched to 50%.