

Table S1. Porous characteristics and specific capacitance of different electrode materials determined from nitrogen physisorption at -196°C and constant charge-discharge cycling test (at 0.25 A g^{-1}), respectively.

| Sample No. | $S_{\text{BET}}^{\text{a}}$ ($\text{m}^2 \text{ g}^{-1}$) | V_{t}^{b} ($\text{cm}^3 \text{ g}^{-1}$) | Pore size distribution | | Specific capacitance (F g^{-1}) |
|-----------------------------|--|---|-----------------------------------|----------------------------------|---|
| | | | $V_{\text{micro}}^{\text{c}}$ (%) | $V_{\text{meso}}^{\text{d}}$ (%) | |
| <i>Before GCD cycling</i> | | | | | |
| CNT | 92.6 | 0.36 | 1.1 | 98.9 | ~16 |
| rGO | 38.4 | 0.12 | 1.2 | 98.8 | ~45 |
| rGO-Mn | 39.0 | 0.16 | 1.5 | 98.5 | ~184 |
| rGO-CNT-Mn | 69.2 | 0.28 | 1.3 | 98.7 | ~240 |
| rGO-CNT | 68.4 | 0.25 | 1.3 | 98.7 | ~23 |
| MnO_x | 12.3 | 0.08 | 1.2 | 98.8 | ~68 |
| <i>After 200 GCD cycles</i> | | | | | |
| rGO-Mn | 37.1 | 0.15 | 1.0 | 99.0 | ~181 |
| rGO-CNT-Mn | 65.9 | 0.27 | 1.4 | 98.6 | ~238 |

^a S_{BET} : Specific surface area computed using the BET equation.

^b V_{t} : Total pore volume estimated at a relative pressure of 0.98.

^c V_{micro} : Micropore volume determined from the D-R equation.

^d V_{meso} : Mesopore volume determined from the subtraction of micropore volume from total pore volume.