Supporting Information for

Graphene-wrapped CNT@MoS$_2$ hierarchical structure: synthesis, characterization and electrochemical application in supercapacitors

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Fig. S1 XRD patterns of CM-1, CM-2 and CM-3.

Fig. S2 TEM and high-resolution TEM images of (a, b) CM-1 and (c, d) CM-3.
**Fig. S3**

(a) Nitrogen adsorption/desorption isotherms and (b) the corresponding pore size distribution curves for CM-1, CM-2 and CM-3.

**Fig. S4**

(a) CV and (b) GCD curves of CM-1, CM-2 and CM-3 at a voltage scan rate of 20 mV·s⁻¹ and a current density of 1 A·g⁻¹ in a 1 M Na₂SO₄ electrolyte; (c) specific capacitance at the different charge-discharge current densities and Nyquist plots for CM-1, CM-2 and CM-3.
Fig. S5

FESEM images of (a) CNT, (b) MoS$_2$ and (c) CM-2.

Fig. S6

Elemental mapping results of CM-2.
Fig. S7 EDS curves of MoS$_2$, CM-2 and CM-2/G.

Fig. S8 TG curves of CM-2 and CM-2/G.
Fig. S9

GCD curves of (a) CNT, (b) MoS$_2$ and (c) CM-2 at various current densities in 1 M Na$_2$SO$_4$. (d) Specific capacitance at the different charge-discharge current densities of CNT, MoS$_2$, CM-2 and CM-2/G, respectively.

Fig. S10

Coulombic efficiency measured at a current density of 5 A·g$^{-1}$ for the CM-2/G.
Fig. S11

**Fig. S11** FESEM and TEM images of G/CNT/MoS$_2$ mixture.

Fig. S12

**Fig. S12** (a) CV and (b) GCD curves of G/CNT/MoS$_2$ in 1 M Na$_2$SO$_4$ electrolyte at various voltage scan rates and current densities, respectively. (c) Specific capacitance at the different charge-discharge current densities and (d) Nyquist plots of G/CNT/MoS$_2$. 