

## Supporting information

**An asymmetric supercapacitor with super-high energy density based  
on 3D core-shell structured NiCo-layered double hydroxide@carbon  
nanotube and activated polyaniline-derived carbon electrodes with  
commercial level mass loading**

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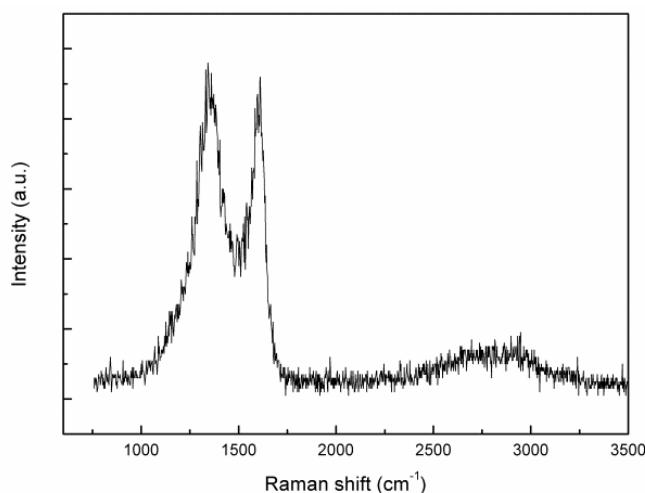


Fig. S1 Raman spectra of hairy layer on NF substrate

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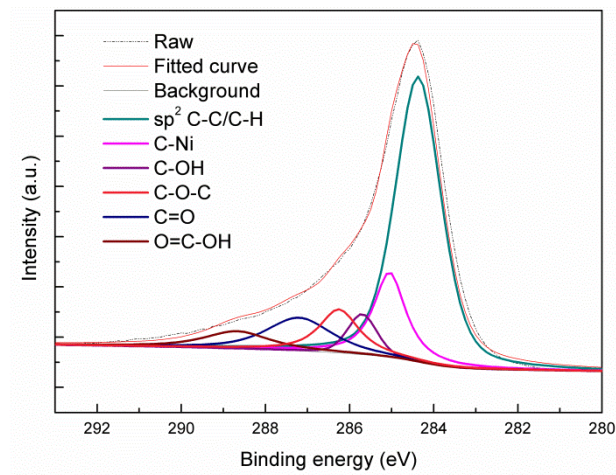


Fig. S2 C1s core level of the CNTs grown on NF substrate.

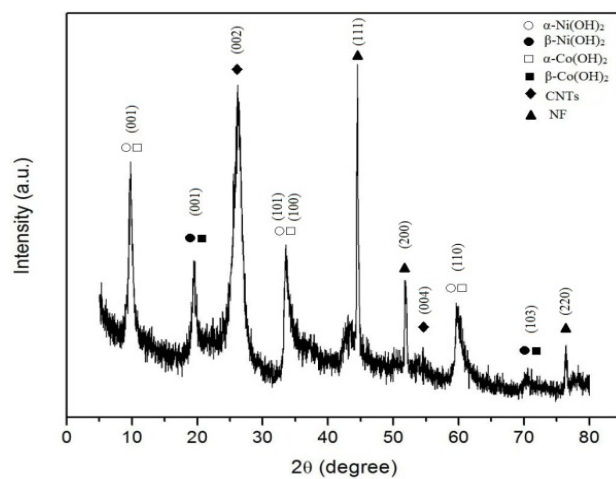


Fig. S3 XRD pattern of the as-prepared NiCo-LDH on CNT/NF composite substrate.

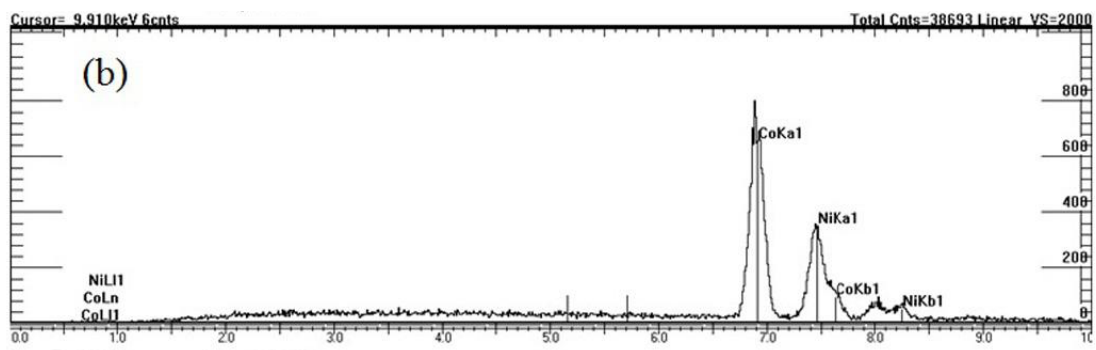


Fig. S4 EDS spectrum of NiCo-LDH

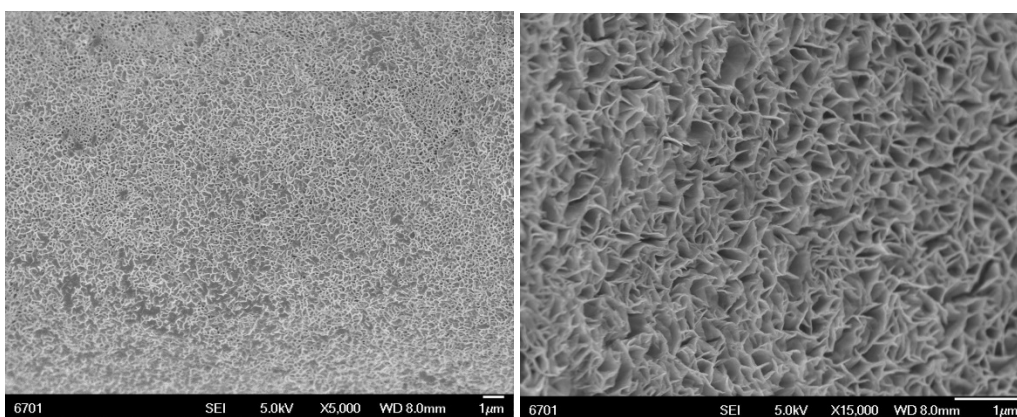


Fig. S5 FESEM images of NiCo-LDH/NF electrode: (a) over-view and (b) high magnification.

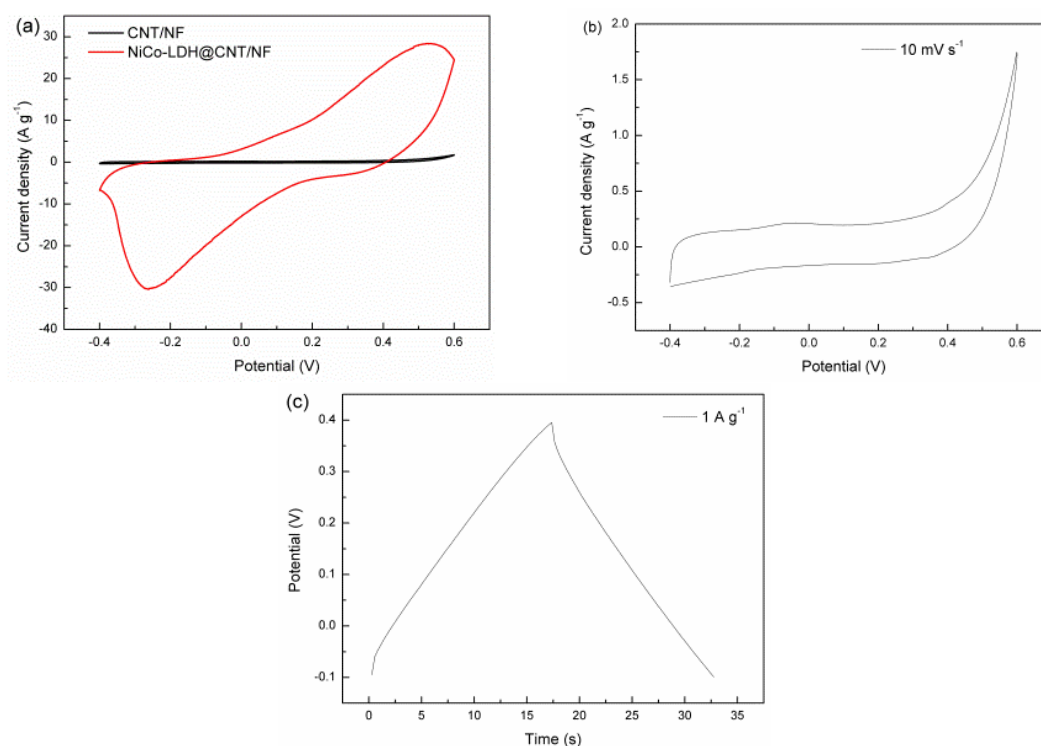


Fig. S6 Electrochemical properties of CNT/NF electrodes: (a) CV Comparison of CNT/NF and NiCo-LDH@CNT/NF electrodes at a scan rate of 10 mV s<sup>-1</sup>, (b) CV curve of CNT/NF electrode at a scan rate of 10 mV s<sup>-1</sup> and (c) charging/discharging curve of CNT/NF electrode at a current density of 1 A g<sup>-1</sup> within a potential window of -0.1 to 0.4V.