

Supporting information for

Three Dimensional Carbon Nanotube/Nickel Hydroxides Gels for Advanced Supercapacitors

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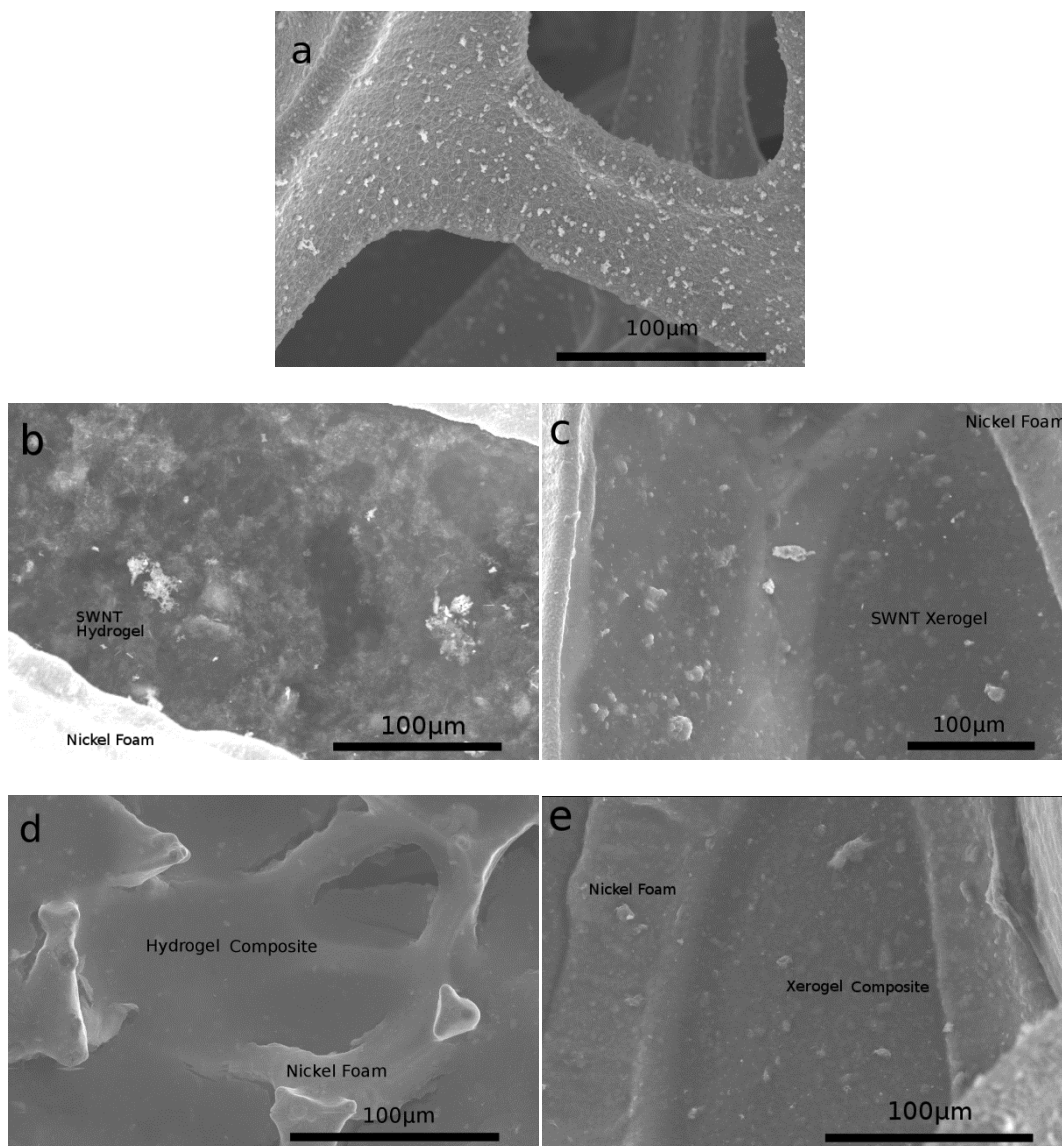


Fig. S1 FESEM images of gel composites in smaller magnification: (a) Ni(OH)_2 at nickel foam (b) CNTs hydrogel (c) CNTs xerogel (d) NiC hydrogel (NiC-hydro) composite and (e) NiC xerogel (NiC-xero) composite

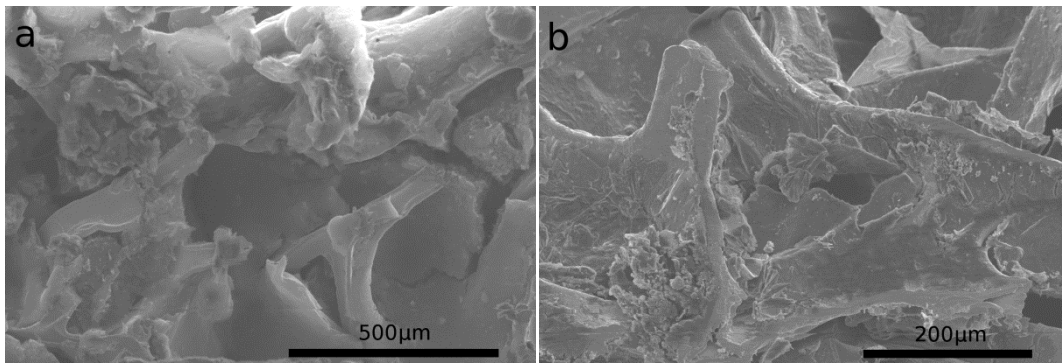


Fig. S2 Cross sectional area image of (a) NiC-hydro and (b) NiC-xero .

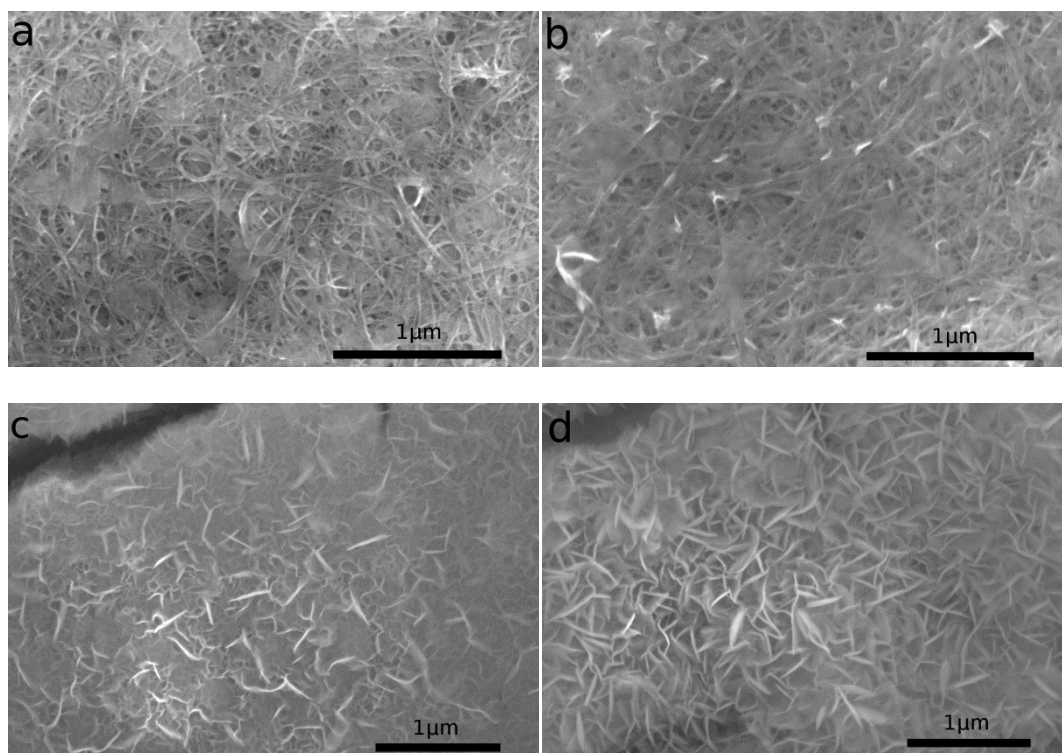


Fig. S3 FESEM images of the $\text{Ni}(\text{OH})_2/\text{SWNT}$ xerogel (NiC-xero) composites having $\text{Ni}(\text{OH})_2$ deposited at difference charges: (a) 1.11C (b) 3.33C (c) 5.55C (d) 7.77C.

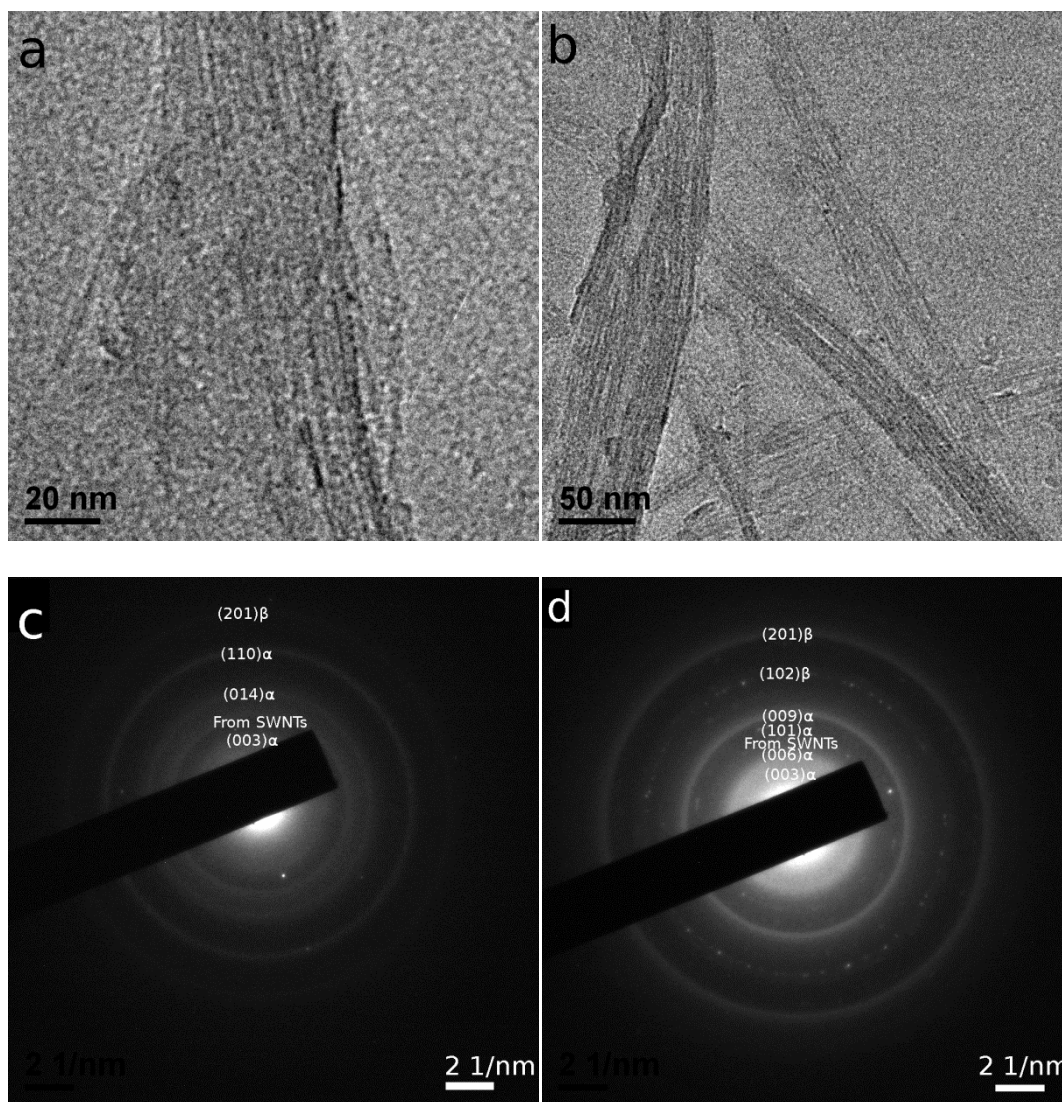


Fig. S4 TEM images of (a) NiC-hydro (b) NiC-xero, SAED pattern of the (c) NiC-hydro and (d) NiC-xero

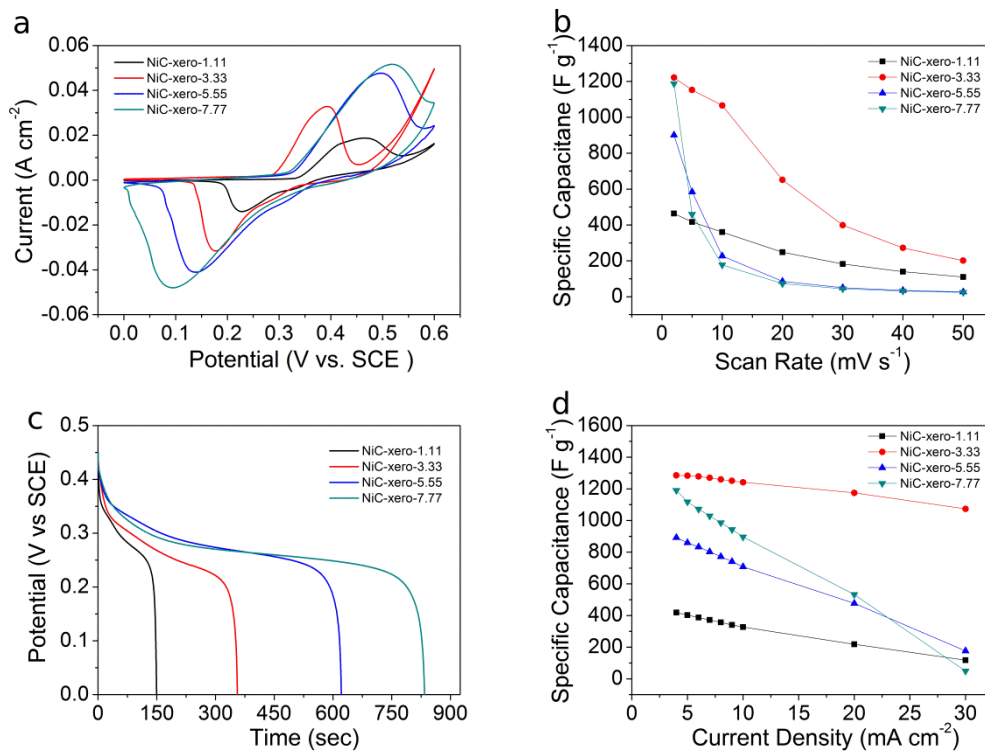


Fig. S5 Electrochemical performance of xerogel electrodes having different Ni(OH)_2 loadings: (a) CV curves of difference $\text{Ni(OH)}_2/\text{SNWT}$ xerogel electrodes (b) specific capacitances of the $\text{Ni(OH)}_2/\text{SNWT}$ xerogel electrodes calculated from different scan rates (c) discharge profiles of the $\text{Ni(OH)}_2/\text{SNWT}$ xerogel electrodes and (d) specific capacitances of the $\text{Ni(OH)}_2/\text{SNWT}$ xerogel electrodes calculated from different galvanic discharge rates.

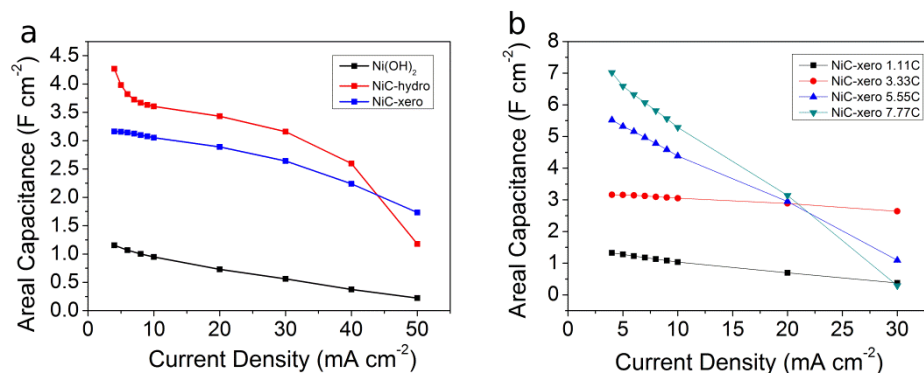


Fig. S6 Comparison of areal capacitance of (a) different Ni(OH)₂/SWNT gel composites and (b) Ni(OH)₂/SWNTs xerogel composites synthesized through different accumulated during synthesis.

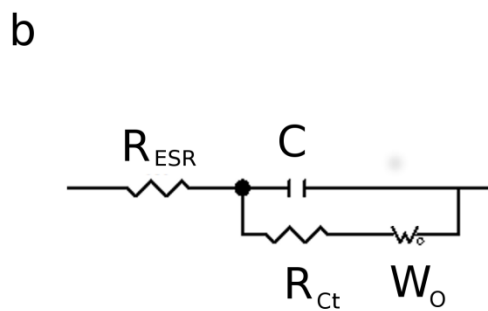
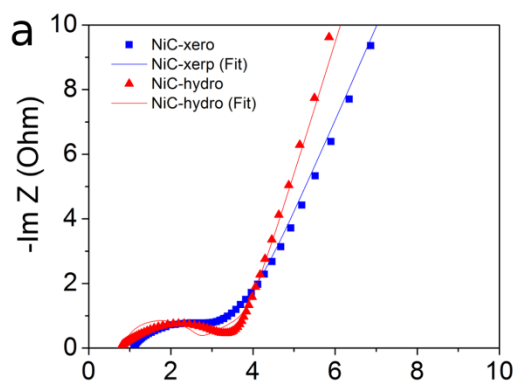


Fig. S7 Electrochemical impedance spectroscopy: (a) fitting results of NiC-xero and NiC-hydro and (b) equivalent circuit model.