Electronic Supplementary Material (ESI) for RSC Advances.

Caterpillar Structured $Ni(OH)_2$@MnO_2 Core/Shell Nanocomposite Arrays on Nickel Foam as High Performance Anode Materials for Lithium Ion Batteries

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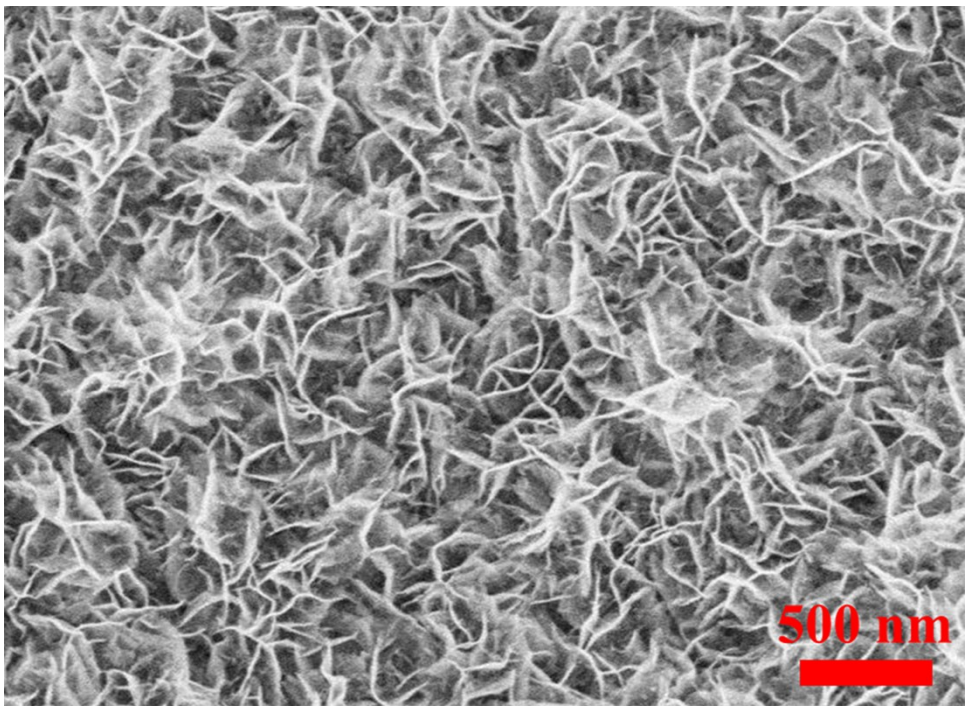

Figure S1. SEM images of $Ni(OH)_2/MnO_2$ NFs synthesized by hydrothermal method in $KMnO_4$ solution for 10 h.

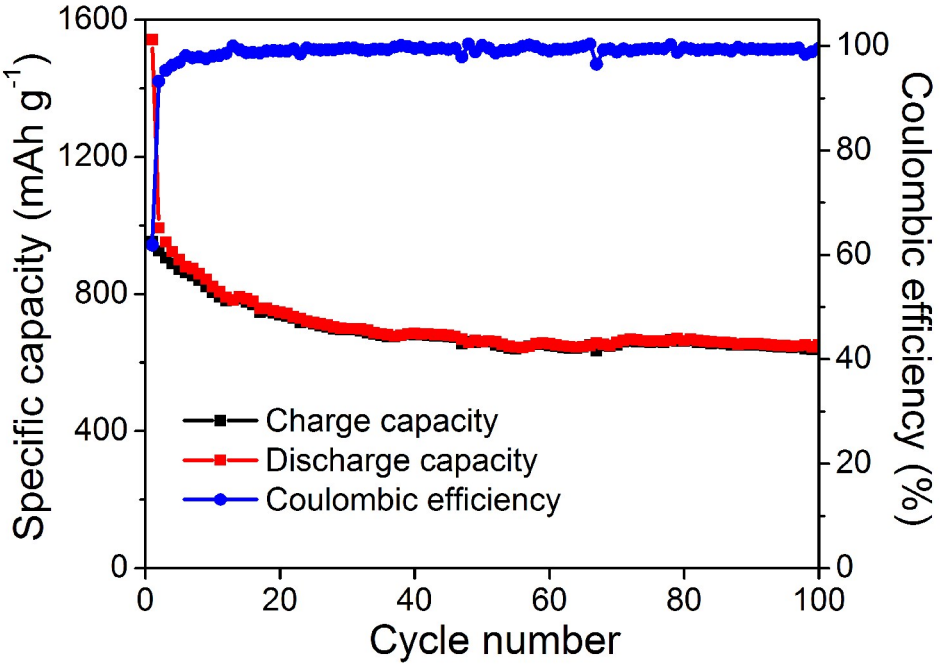

Figure S2. Cycling performances of CS $Ni(OH)_2@MnO_2$ NFs at 1000 mA g^{-1}.

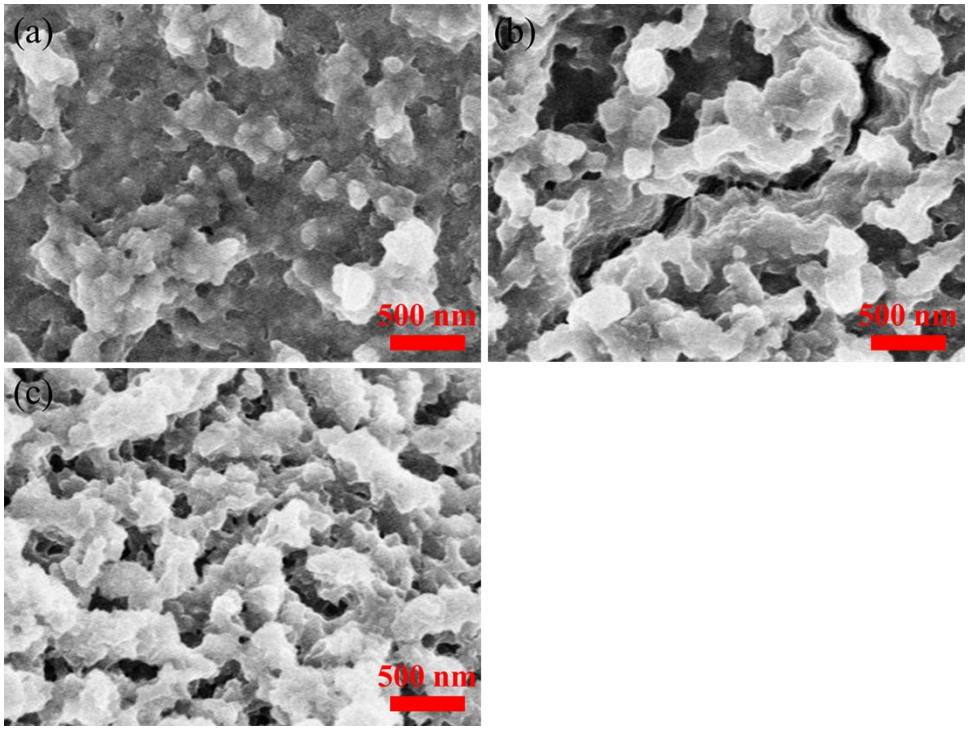

Figure S3. SEM images of (a) $Ni(OH)_2$ NFs, (b) $Ni(OH)_2/MnO_2$ NFs and (c) CS $Ni(OH)_2@MnO_2$ NFs electrodes after cycling up to 80 cycles at 200 mA g^{-1}.

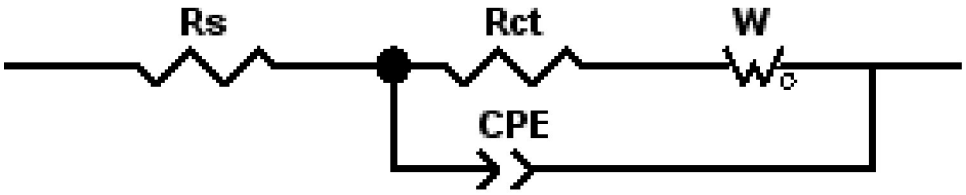

Figure S4. Equivalent circuit of the Nyquist plots.

Table S1. Fitting results of Nyquist plots using the equivalent circuit.

Electrode	Before cycles		After 100 cycles	
	Rs (Ω)	Rct (Ω)	Rs (Ω)	Rct (Ω)
$Ni(OH)_2$ NFs	8.946	96.36	9.345	64.83
$Ni(OH)_2/MnO_2$ NFs	4.355	66.86	11.92	30.49
CS $Ni(OH)_2@MnO_2$ NFs	7.750	33.75	13.56	21.22