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Supporting Information

Covalent surface modification of nickel ferrite nanoparticles for electrochemical supercapacitor performance

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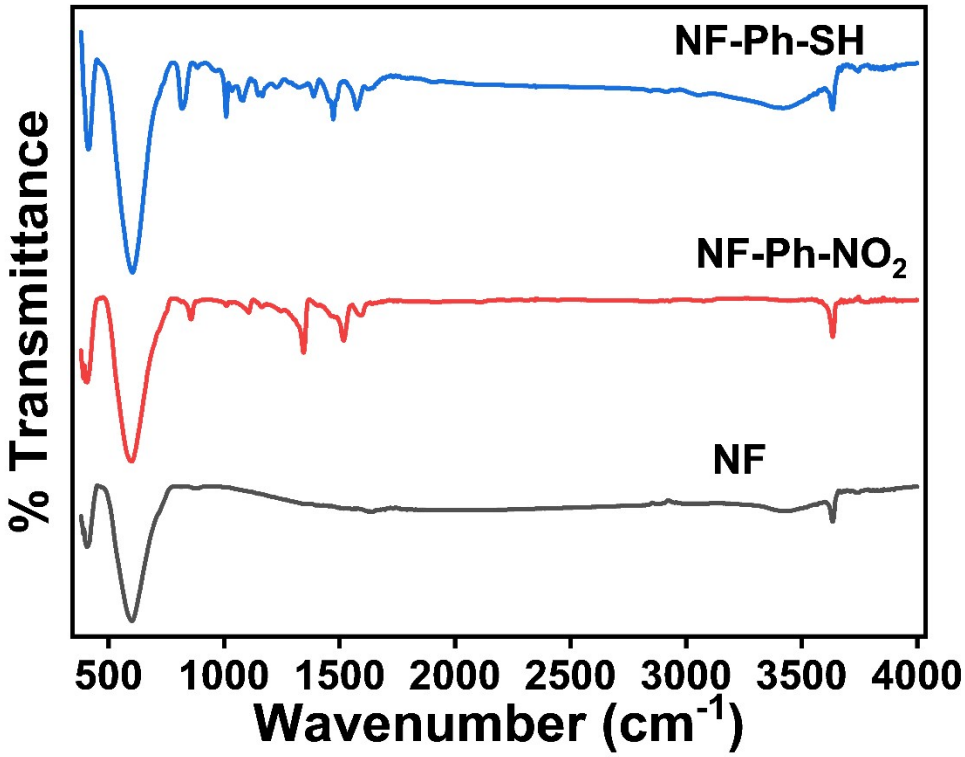


Fig. S1. FT-IR spectrum of NF, NF-Ph-NO_2 and NF-Ph-SH.

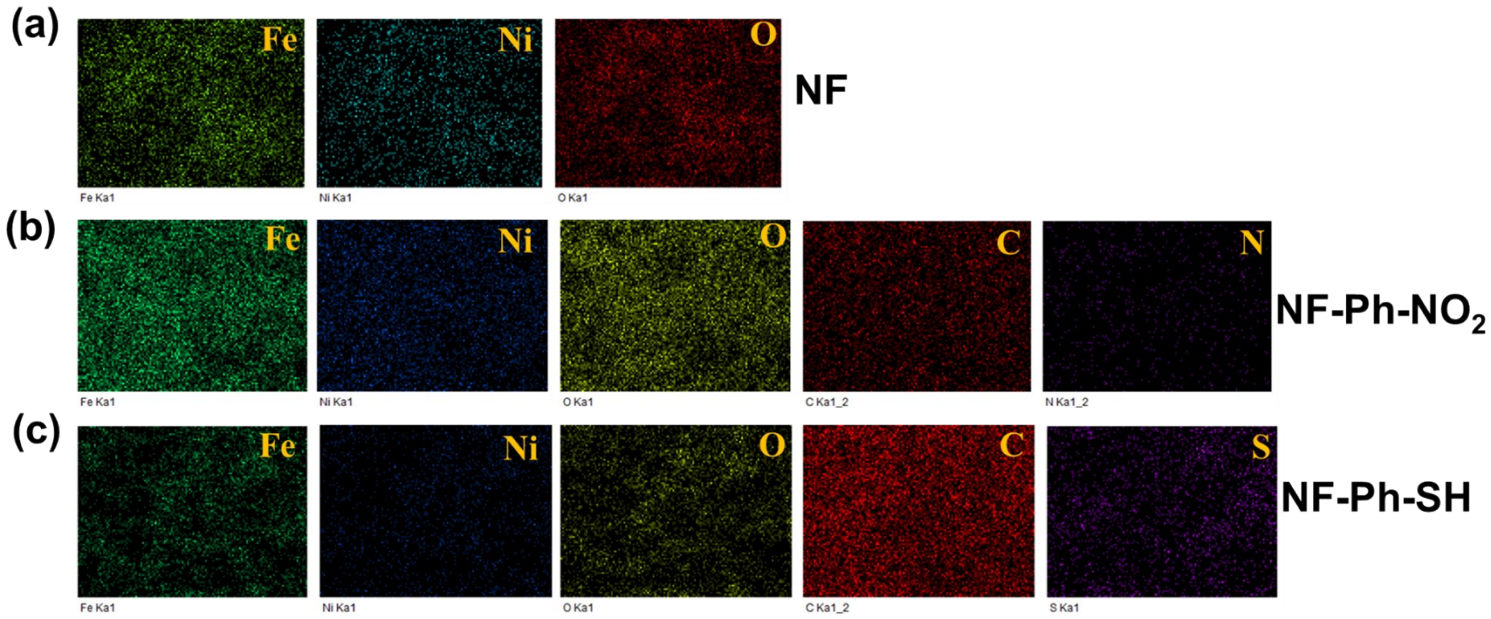
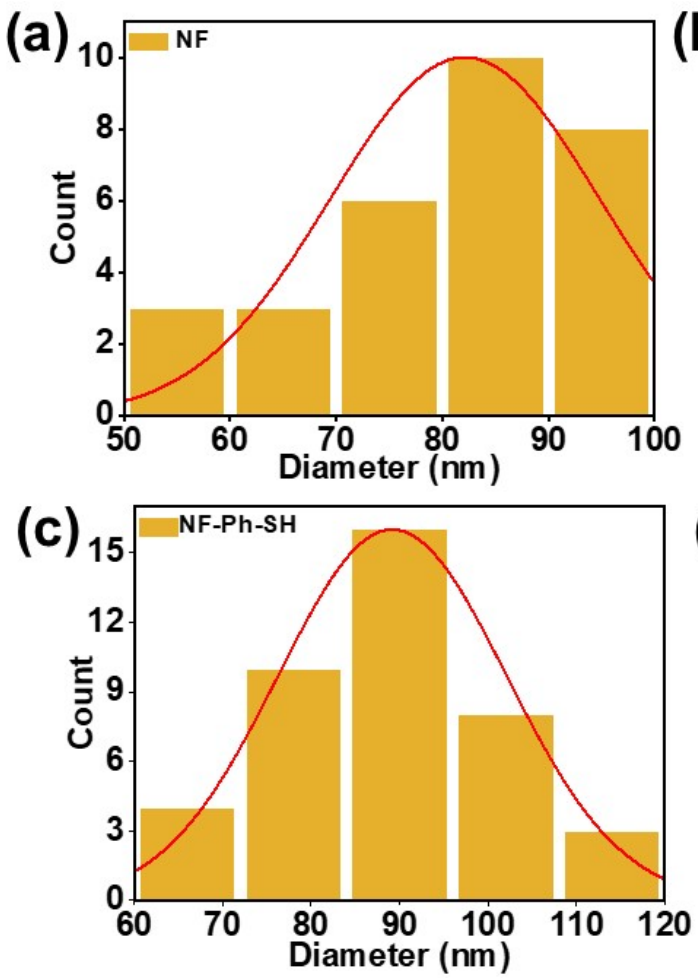


Fig. S2. EDAS Elemental mapping of (a) NF (b) NF-Ph-NO_2 (c) NF-Ph-SH.



(d)

Sample	Size (nm)
NF	79.3 ± 1.2
NF-Ph-NO_2	86.2 ± 1.3
NF-Ph-SH	88.6 ± 0.3

Fig. S3. Histogram of the particle size distribution of (a) NF (b) NF-Ph-NO_2 (c) NF-Ph-SH (d) table for particle size.

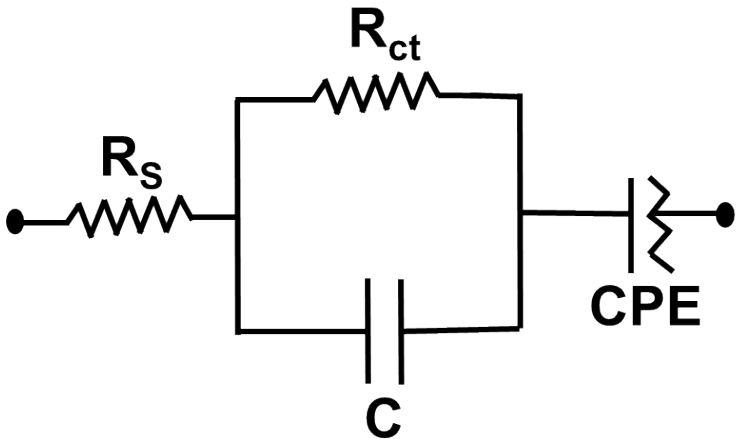


Fig. S4. Equivalent circuit diagram used for fitting NF, NF-Ph-NO_2, NF-Ph-SH modify nickel foam electrode.

Table S1. Value of solution resistance (R_s), capacitance (C), charge transfer resistance (R_{ct}), and constant phase element (CPE) of (a) NF (b) NF-Ph-NO_2, and (c) NF-Ph-SH.

Sample	R_s(Ohm)	C(mf)	R_{ct}(ohm)	CPE
NF	3.2	2.47	520	Y0=3.87 N=0.7
NF-Ph-NO_2	2.9	8.50	310	Y0=2.74 N=0.7
NF-Ph-SH	0.4	10.73	278	Y0=1.97 N=0.8

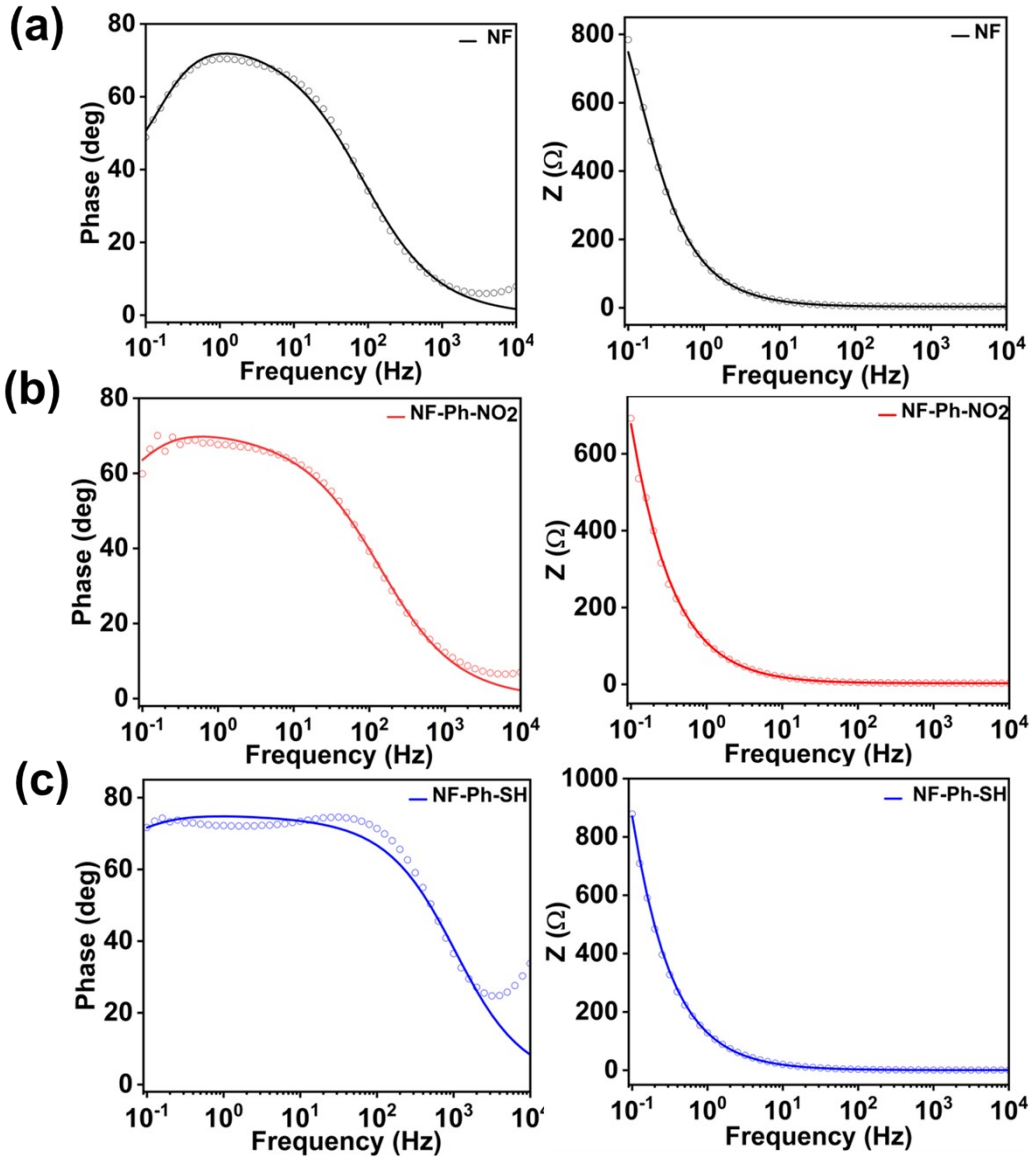


Fig. S5. Fitted Bode plot of (a) NF (b) NF-Ph-NO_2 and (c) NF-Ph-SH.

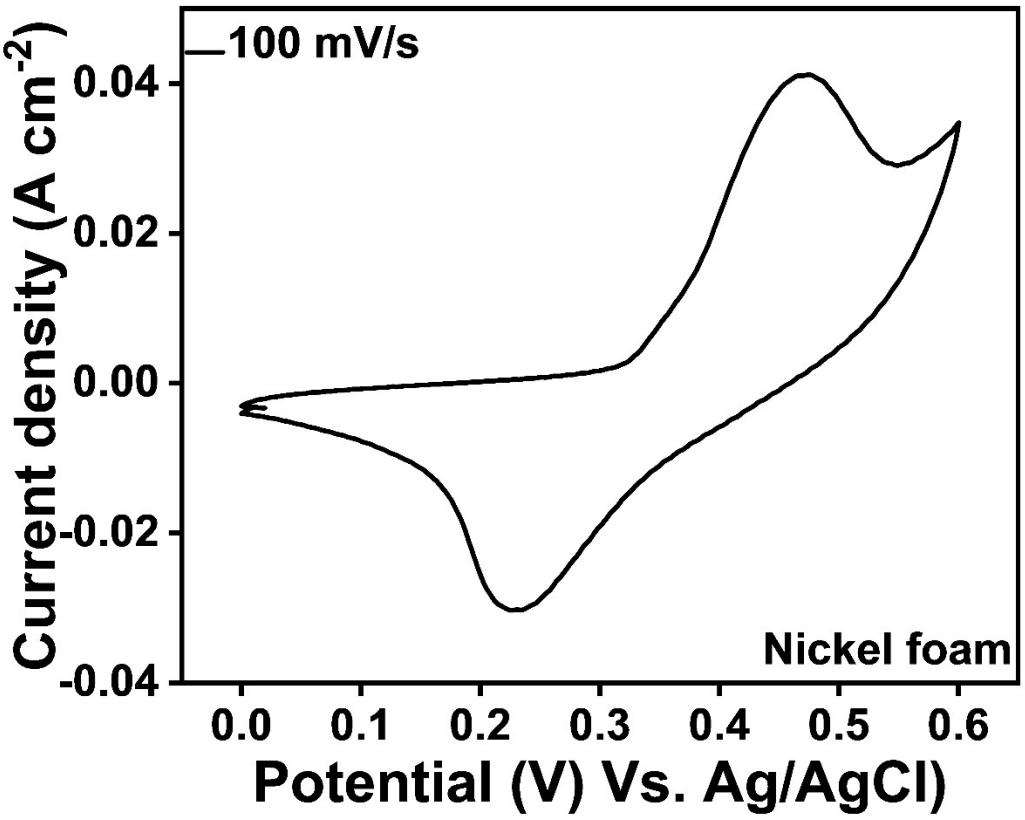


Fig. S6. The CV curves of blank nickel foam substrate at scan rate 100 mV s^{-1}.

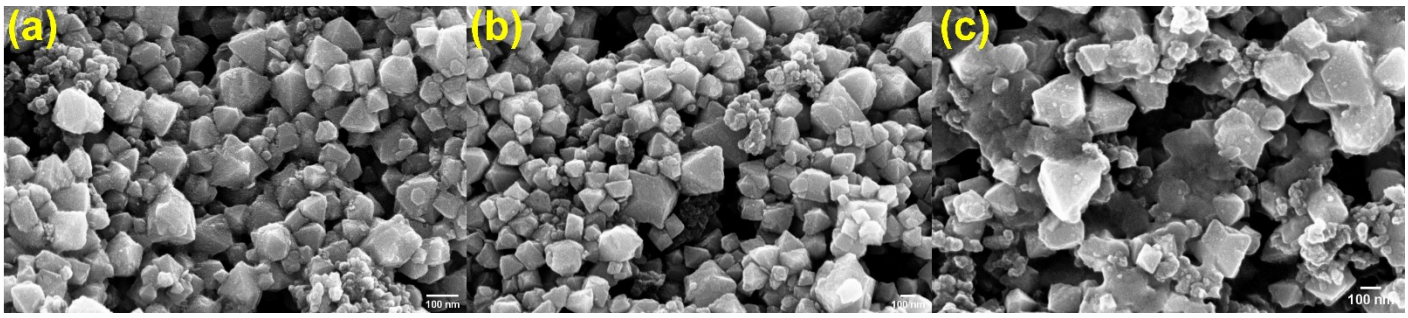


Fig. S7. FESEM image of (a) NF, (b) NF-Ph-NO_2 and (c) NF-Ph-SH after 2000 CV cycles.

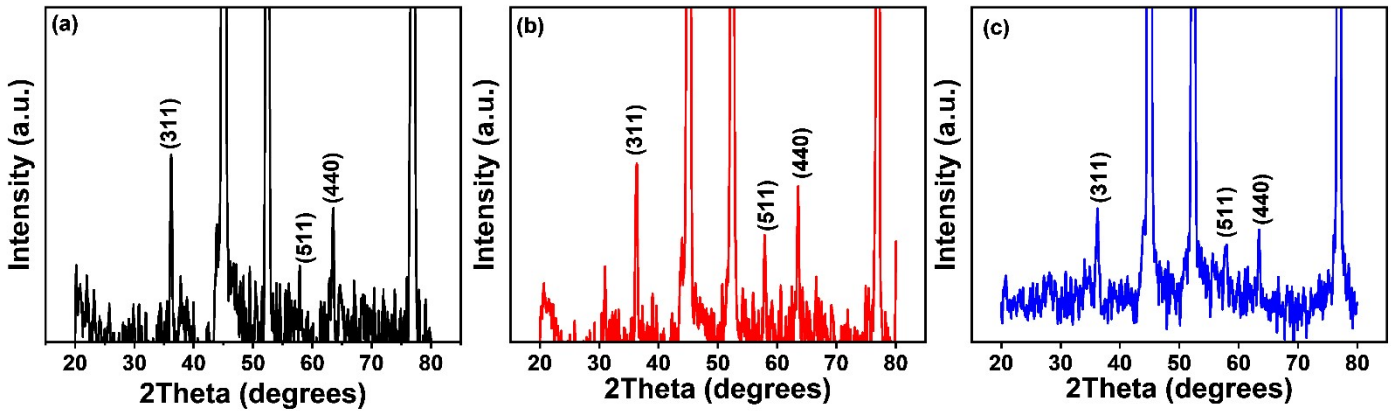


Fig. S8. PXRD pattern of (a) NF, (b) NF-Ph-NO_2 and (c) NF-Ph-SH after 2000 CV cycles (The high intensity peaks crossing the y-axis are from Ni-foam).