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Supplementary Materials:

Spinel $FeNi_2S_4$ with rich sulfur vacancies grown on reduced graphene oxide toward enhanced supercapacitive performance

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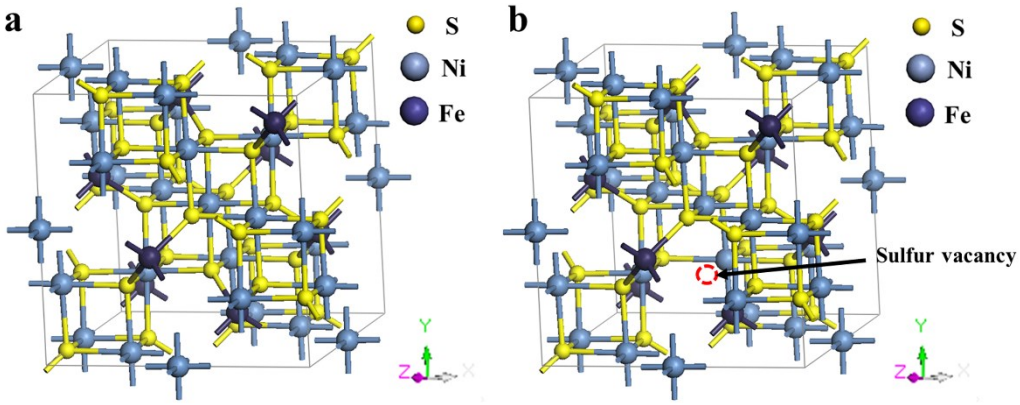

Fig. S1 The structural models of (a) $FeNi_2S_4$ and (b) r-$FeNi_2S_4$.

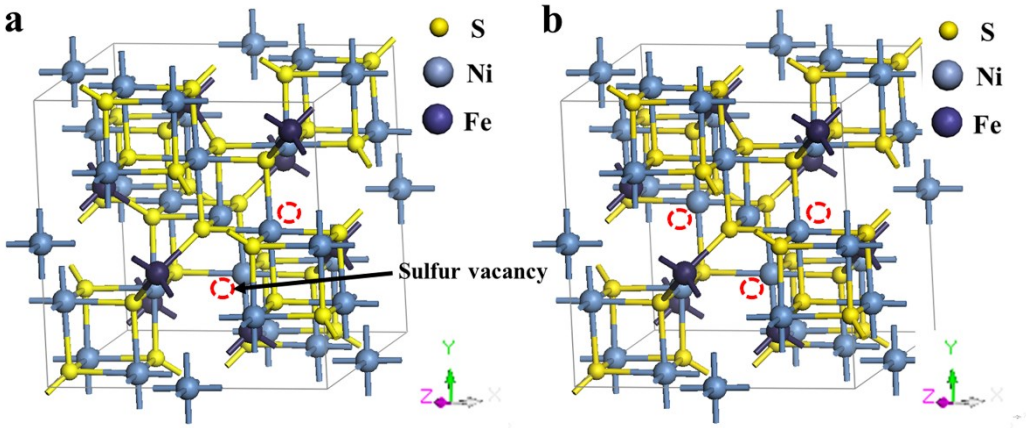

Fig. S2 The structural models of (a) r-$FeNi_2S_4$-2 and (b) r-$FeNi_2S_4$-3.

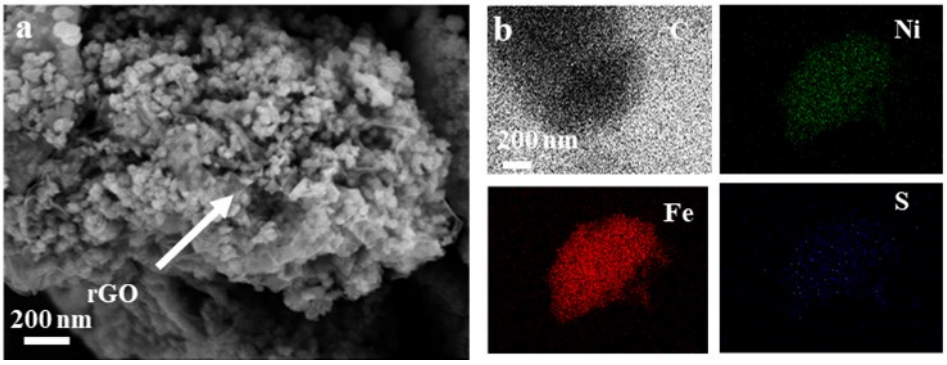

Fig. S3 (a) FESEM image and (b) element mappings of $FeNi_2S_4$-rGO.

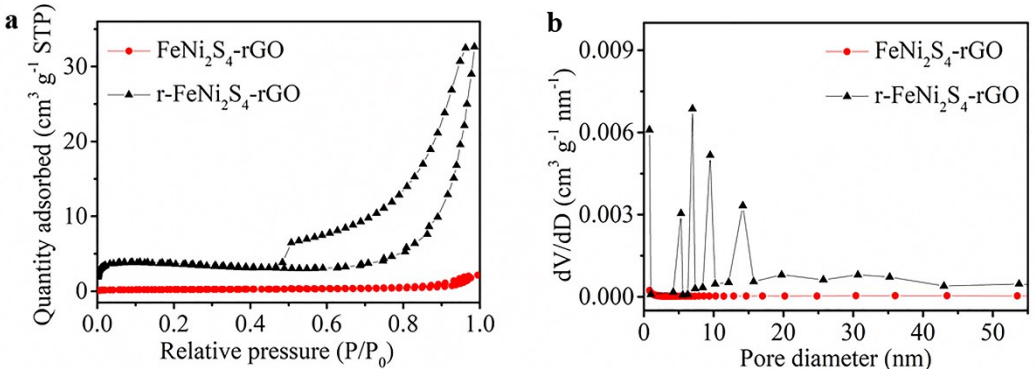

Fig. S4 (a) N_2 adsorption-desorption isotherms and (b) pore-size distribution of $FeNi_2S_4$-rGO and r-$FeNi_2S_4$-rGO.

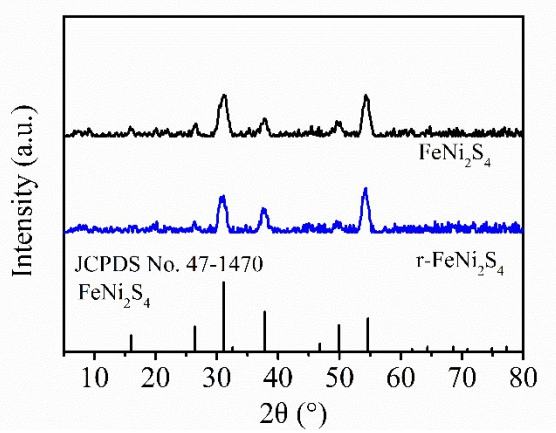

Fig. S5 XRD patterns of $FeNi_2S_4$ and r-$FeNi_2S_4$.

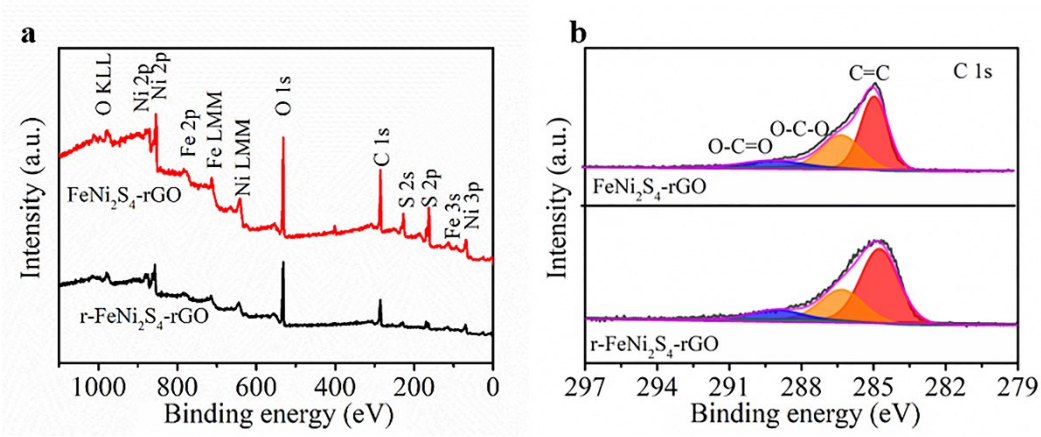

Fig. S6 (a) XPS survey spectra and (b) C 1s XPS spectra of $FeNi_2S_4$-rGO and r-$FeNi_2S_4$-rGO.

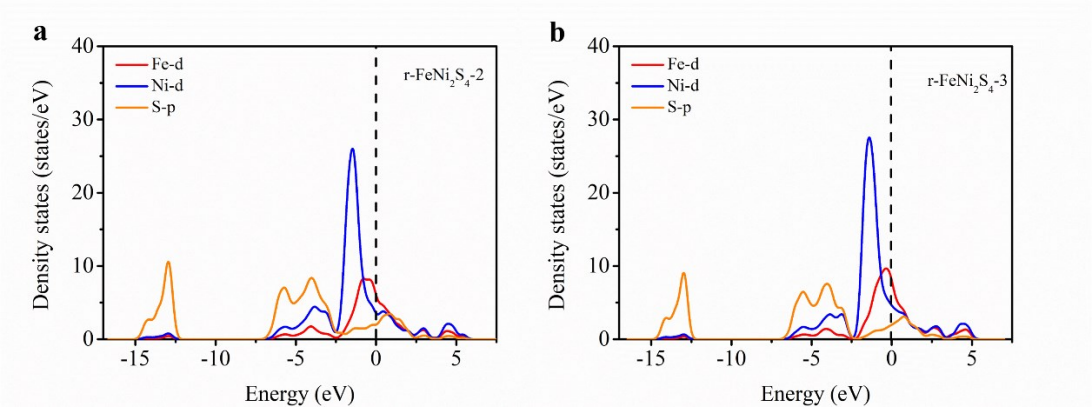

Fig. S7 Projected density of states for r-$FeNi_2S_4$-2 and (b) r-$FeNi_2S_4$-3.

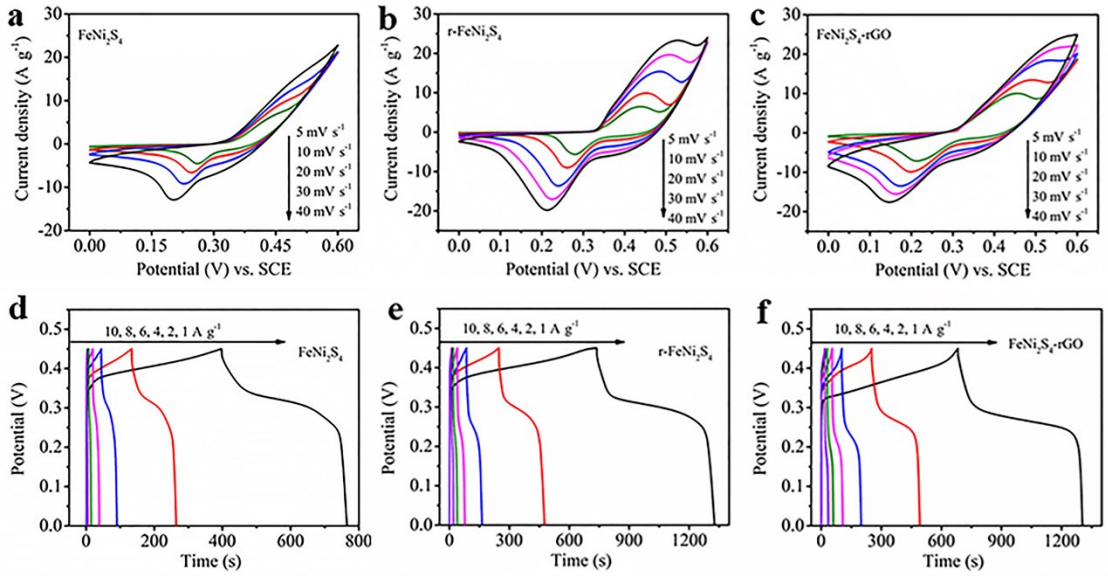

Fig. S8 CV curves of (a) $FeNi_2S_4$, (b) r-$FeNi_2S_4$ and (c) $FeNi_2S_4$-rGO at various scan rates (5~40 mV s^{-1}). GCD profiles of (d) $FeNi_2S_4$, (e) r-$FeNi_2S_4$ and (f) $FeNi_2S_4$-rGO at different current densities (1~10 A g^{-1}).

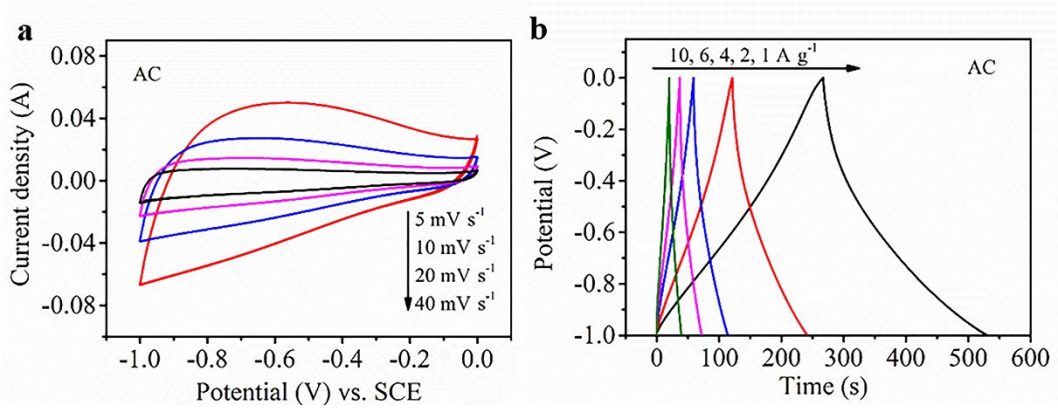

Fig. S9 (a) CV curves of AC at various scan rates (5~40 mV s^{-1}) and (b) GCD profiles of AC at different current densities (1~10 A g^{-1}).

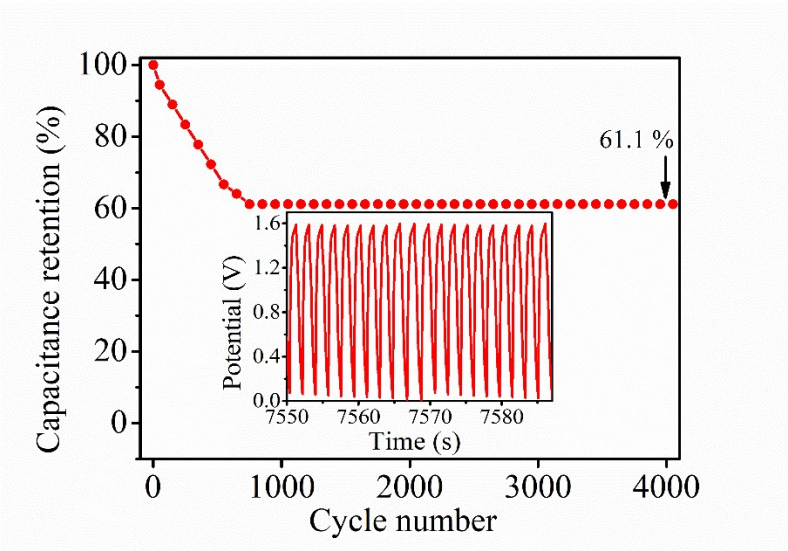

Fig. S10 Cycling performance of r-$FeNi_2S_4$-rGO//AC at 10 A g^{-1} after 4000 cycles, the inset shows part of the GCD profiles at the current density.