SUPPORTING INFORMATION

Asymmetric supercapacitor based on vanadium disulfide nanosheets as a cathode and carbonized iron cations adsorbed onto polyaniline as an anode

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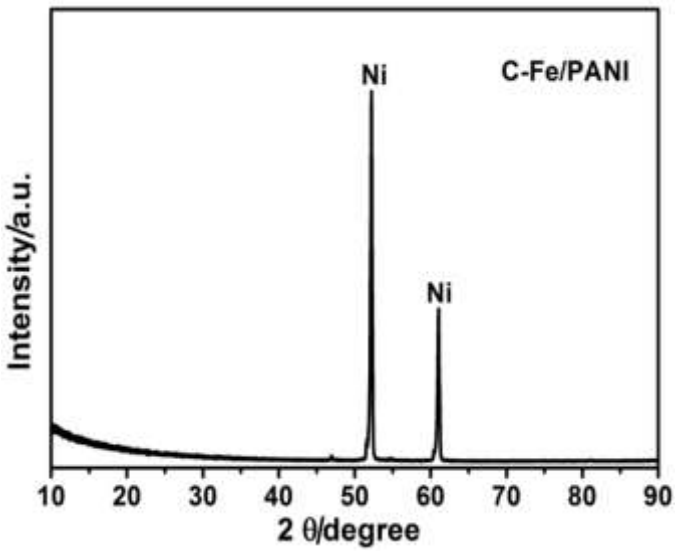

Figure S1. The XRD pattern of the as-synthesized C-Fe/PANI with a current collector.

The EIS for VS_2 in different electrolytes was carried out to evaluate the factors that influence the capacitive performance of the working electrode (i.e. the electronic resistance of the electrode and an ionic resistance of the electrolyte), as shown in figure S2. From the figure, the electrolyte/solution resistance, R_S values are 0.99 Ω and 2.14 Ω for 1 M KOH and 1 M Na_2SO_4 electrolytes, respectively. This reveals that the equivalent series resistance is lower for KOH electrolyte compared to the Na_2SO_4 electrolyte.

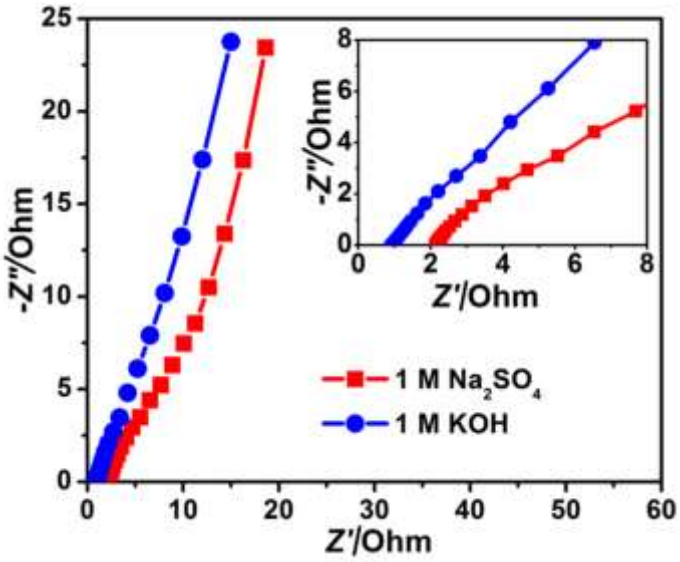

Figure S2. The Nyquist plots for VS_2 in different electrolytes. The inset shows the enlarged high-frequency region of the plot.

Figure S3(a) and S3(b) show the cycling performance of the C-Fe/PANI in comparison to C-PANI over 3000 charge-discharge cycles at a current density of 5 A g^{-1}. Figure S3(a) shows the few cycles for both electrodes and figure S3(b) displays the corresponding specific capacities for both electrodes.

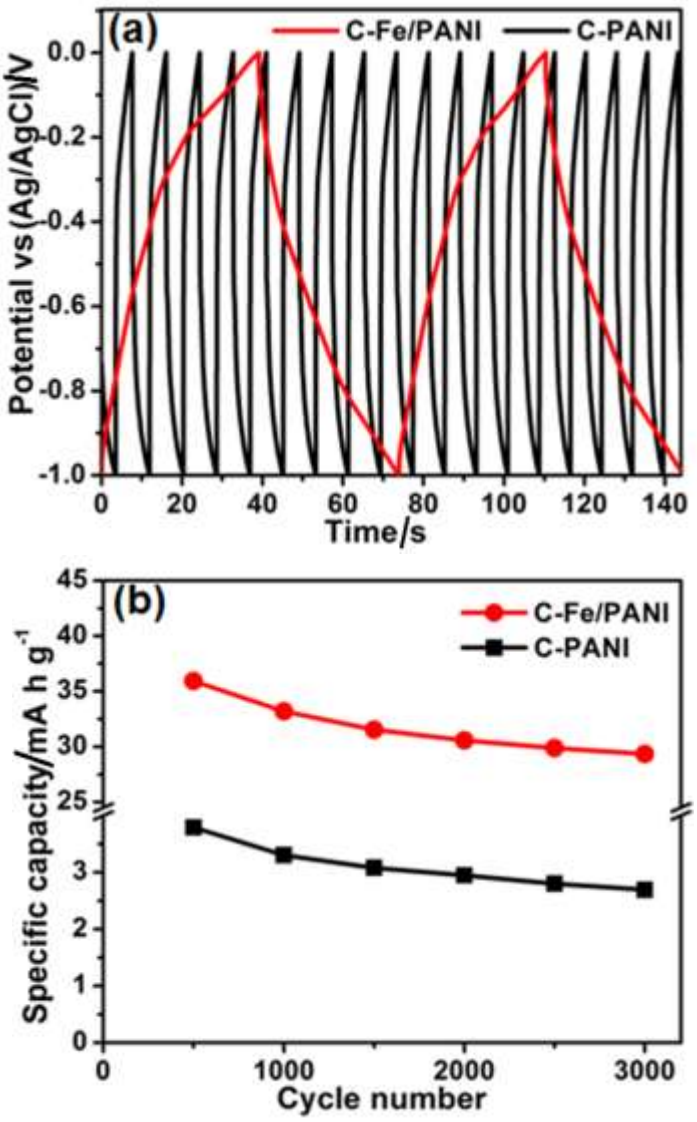

Figure S3. (a) GCD curves of both C-Fe/PANI and C-PANI at 5 A g^{-1}. (b) The specific capacity of both C-PANI and C-Fe/PANI as a function of a cycle number at a current density of 5 A g^{-1}.