Electronic Supplementary Information

Electrospun $\text{V}_2\text{O}_5$-doped $\alpha$-$\text{Fe}_2\text{O}_3$ composite nanotubes with tunable ferromagnetism for high-performance supercapacitor electrodes

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Fig. S1 (A-E) SEM images of the precursor fibers with different addition amounts of VO(acac)$_2$. (A’-E’) The corresponding TEM images and (A’’-E’’) diameter distributions of VFNT0, VFNT1, VFNT2, VFNT3 and VFNT4.
As shown in Fig. S2, when the mass ratio of the dopant does not exceed 5.0 wt%, two broad absorption bands located at around 532 and 447 cm\(^{-1}\) are identified as the characteristic lattice vibrations of \(\alpha\)-Fe\(_2\)O\(_3\) phase.\(^1\) However, it is noteworthy that both the two peaks mentioned above, by contrast, shift to higher wavenumbers respectively at 559 and 459 cm\(^{-1}\) for VFNT4, which should be ascribed to the partial vacancy ordering in the octahedral positions of maghemite (\(\gamma\)-Fe\(_2\)O\(_3\)),\(^2\) indicating the presence of \(\gamma\)-Fe\(_2\)O\(_3\) in the obtained sample VFNT4.

Fig. S3 (A) GV discharge curves at a current density of 1 A·g\(^{-1}\) with a potential window of 0–0.38 V. (B) The associated line chart of specific capacitances versus the mass ratio of V\(_2\)O\(_5\).
References
