

## Supporting Information

### **Metal-Organic Framework-Derived Sea Cucumber-Like FeS<sub>2</sub>@C Nanorods with Outstanding Pseudocapacitive Na-Ion Storage Properties**

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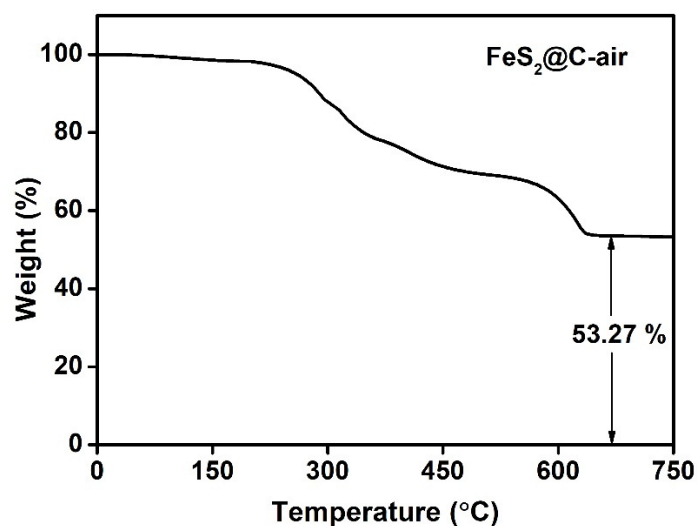


Figure S1. TGA curve of FeS<sub>2</sub>@C nanorods.

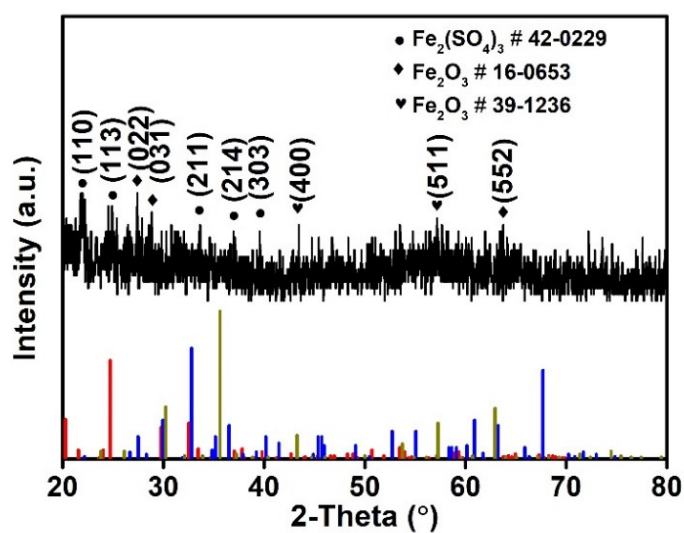


Figure S2. XRD pattern of FeS<sub>2</sub>@C nanorods after calcining at 450 °C.

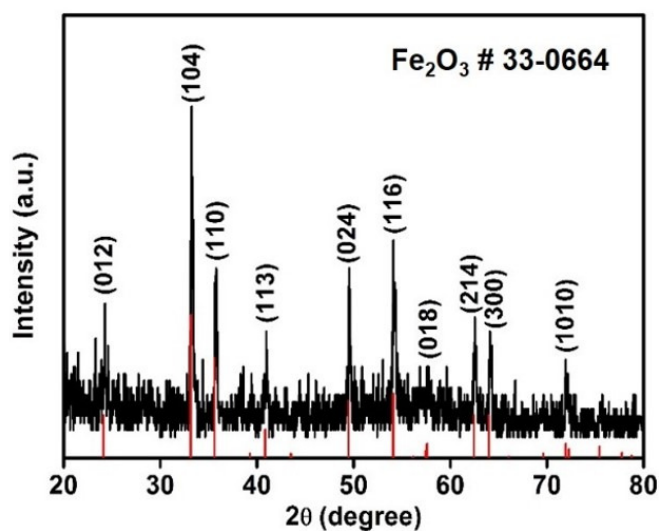
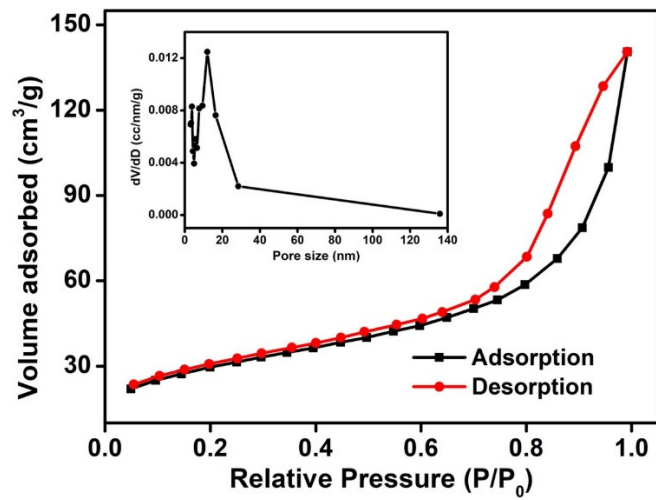
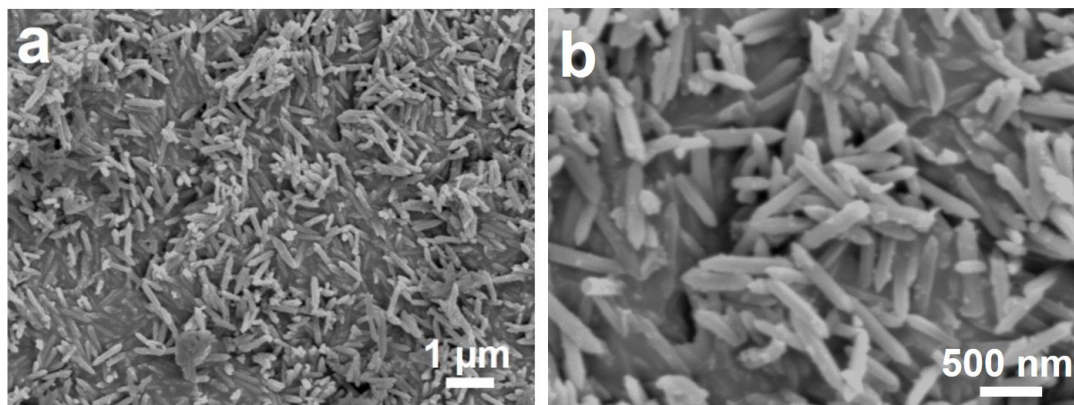


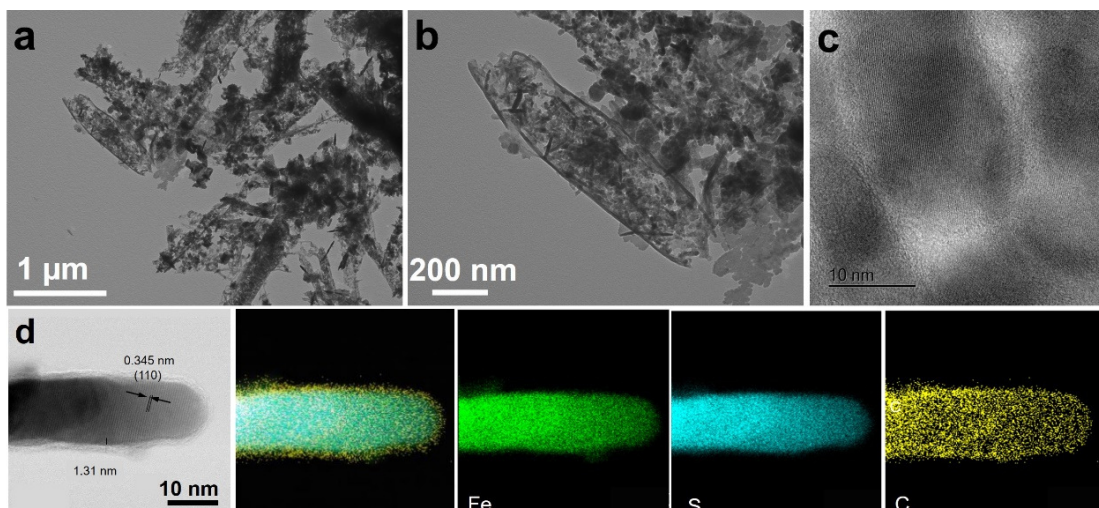
Figure S3. XRD pattern of FeS<sub>2</sub>@C nanorods after calcining at 650 °C in air.



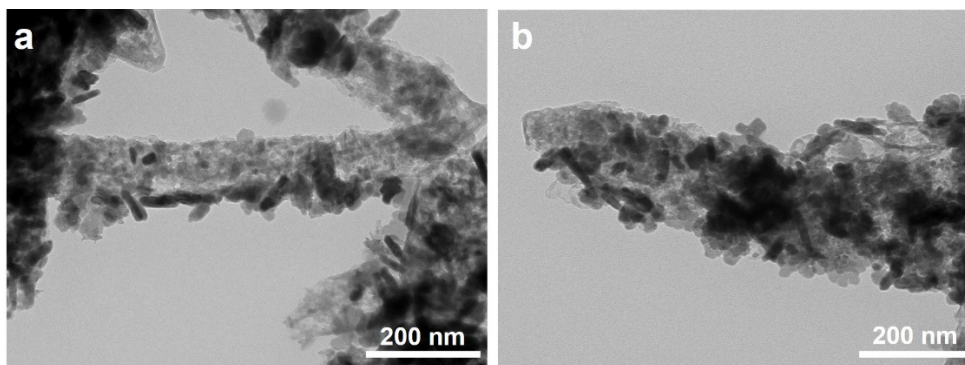
**Figure S4.** N<sub>2</sub> sorption isotherms and pore size distribution of FeS<sub>2</sub>@C nanorods.



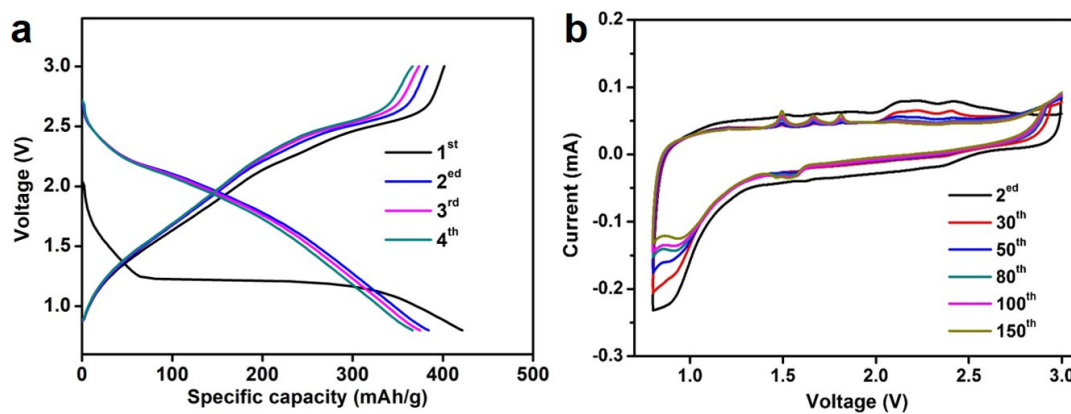
**Figure S5.** (a) Low and (b) high magnification SEM images of F-MIL.



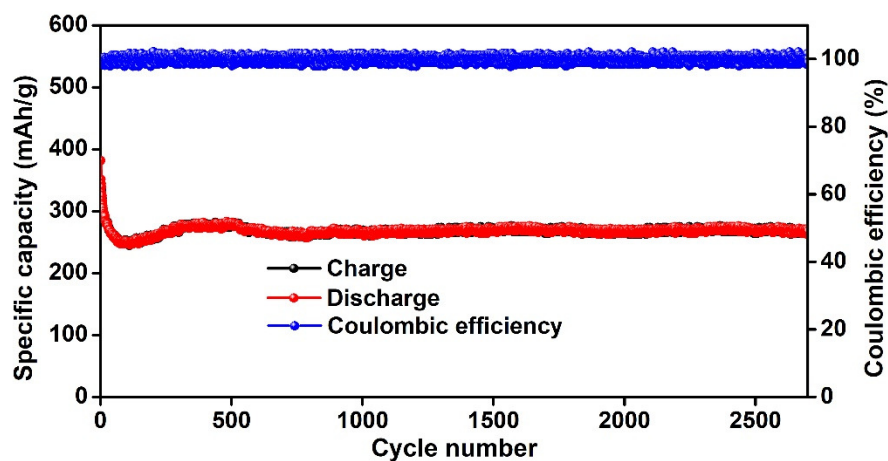
**Figure S6.** (a, b) TEM images of FeS<sub>2</sub>@C nanorods. (c) HRTEM image of FeS<sub>2</sub> nanoparticles inside the nanorod. (d) HRTEM image and element mapping of FeS<sub>2</sub>@C nanoflakes over the surface of the nanorod.



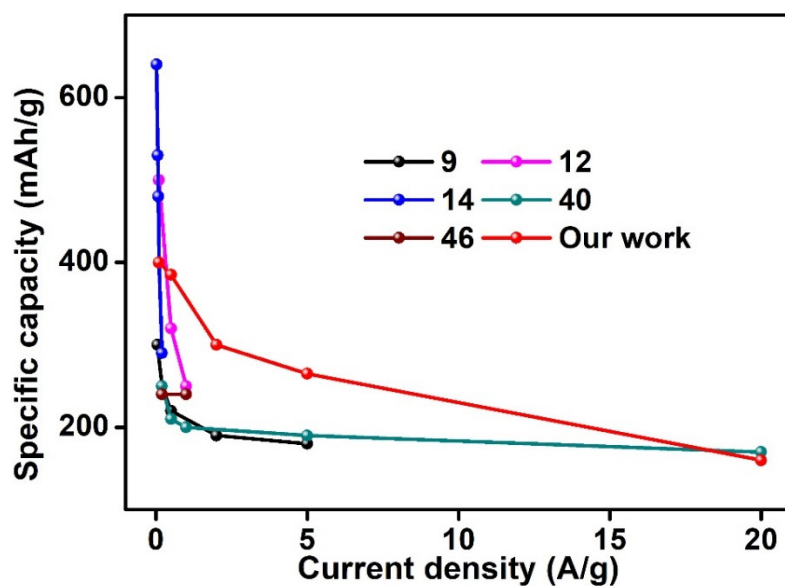
**Figure S7.** (a, b) HRTEM images of FeS<sub>2</sub>@C nanorods.



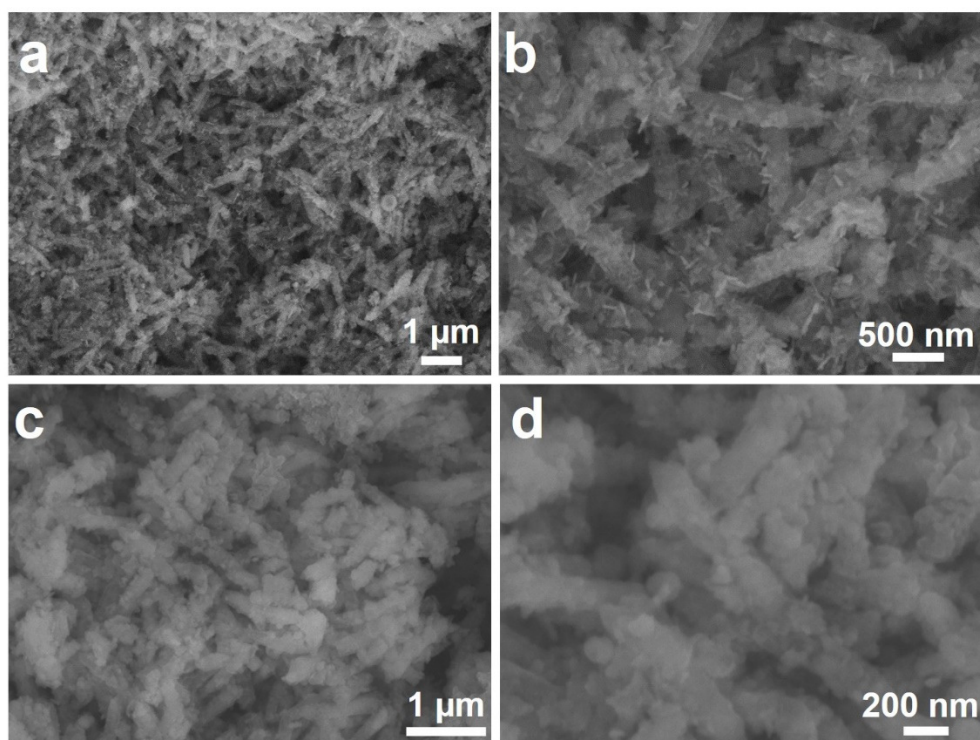
**Figure S8.** (a) Charge/discharge curves of the FeS<sub>2</sub>@C electrode at current density of 500 mA/g. (b) Gradual conversion of CV curves from the 2<sup>nd</sup> cycle to the 150<sup>th</sup> cycle.



**Figure S9.** Cycle performance of the FeS<sub>2</sub>@C/Na battery at 5 A/g.

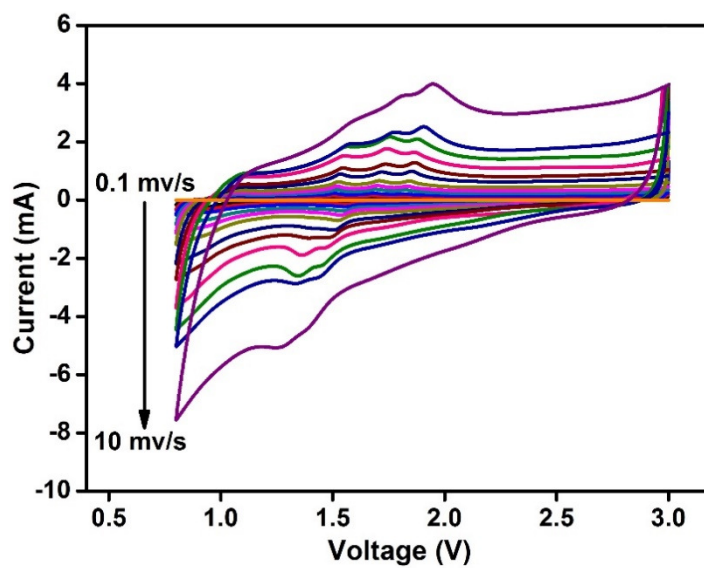


**Figure S10.** Electrochemical performance comparison of  $\text{FeS}_2$  as electrode for SIBs between relative works and our work.



**Figure S11.** (a) Low and (b) high magnification SEM images of  $\text{FeS}_2@C$  electrode after 30 cycles. (c) Low and (d) high magnification SEM images of  $\text{FeS}_2@C$  electrode after 300 cycles.





**Figure S12.** CV curves after 200 cycles of FeS<sub>2</sub>/Na batteries at scan rates ranging from 0.1 to 10 mV/s.