

## Electronic Supplementary Information

### In-situ grown Fe<sub>2</sub>O<sub>3</sub> single crystallites on reduced graphene oxide nanosheets as high performance conversion anode for sodium-ion batteries

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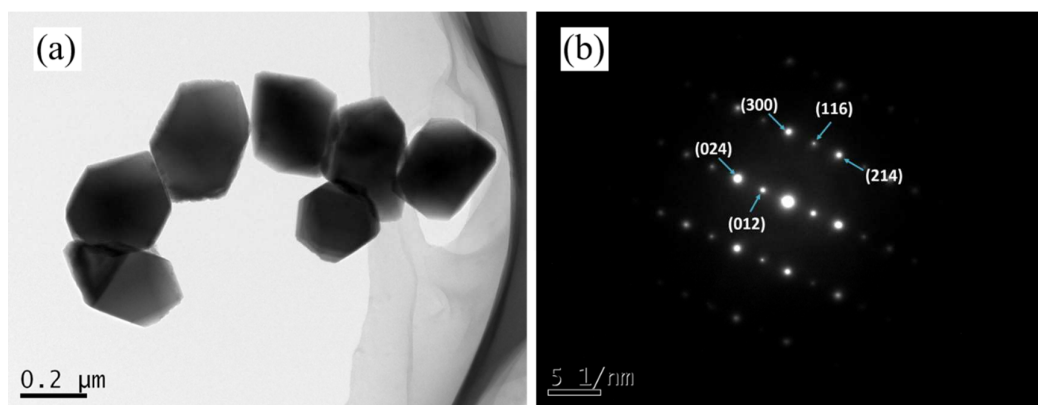
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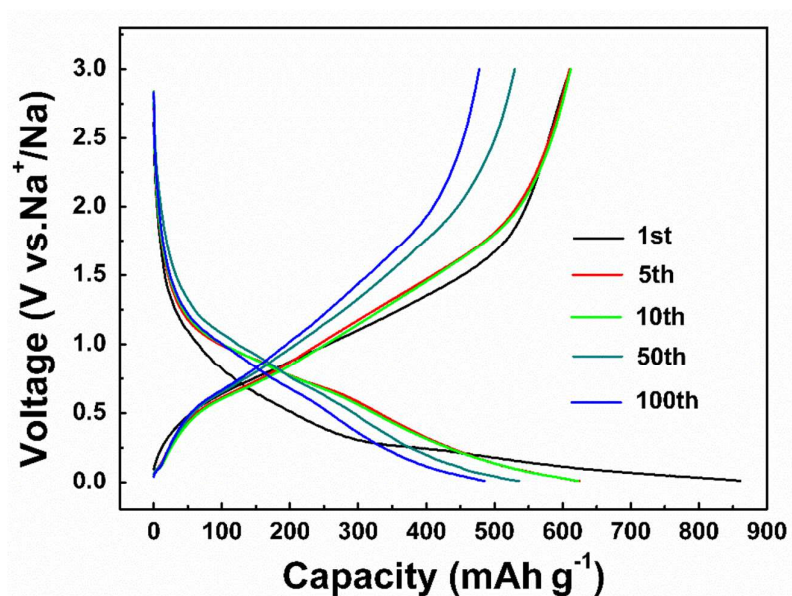
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## 1. The morphology of pure $\text{Fe}_2\text{O}_3$ crystals

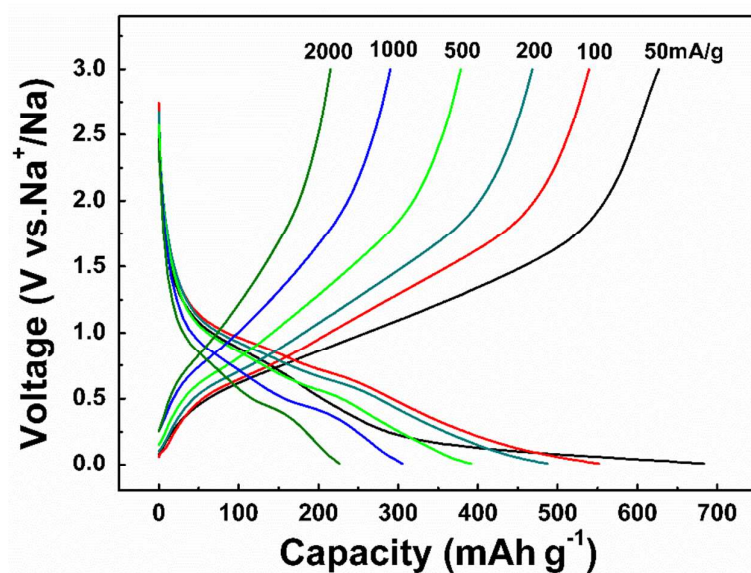


**Fig. S-1** (a) TEM image and (b) SAED pattern of pure  $\text{Fe}_2\text{O}_3$  crystals.

## 2. Charge/discharge performance of the $\text{Fe}_2\text{O}_3/\text{rGO}$ electrode

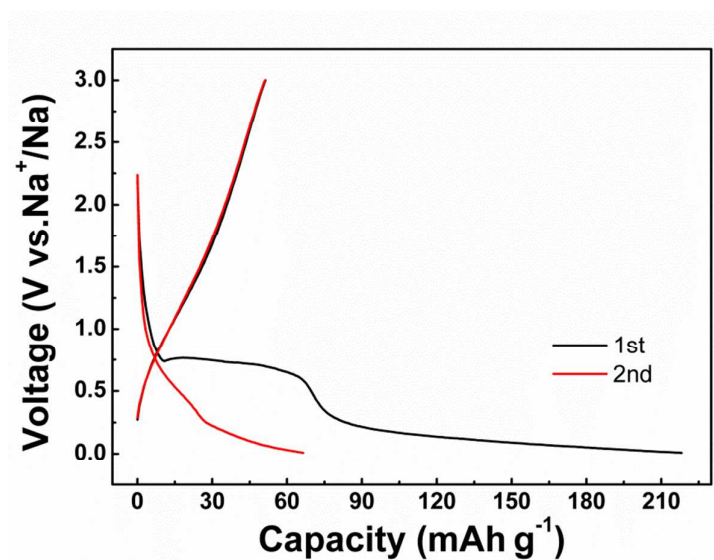


**Fig. S-2** Discharge/charge profiles of the  $\text{Fe}_2\text{O}_3/\text{rGO}$  electrode between 0.01 and 3.00 V at the 1st, 5th, 10th, 50th, and 100th cycle at a current density of 50  $\text{mA g}^{-1}$ .

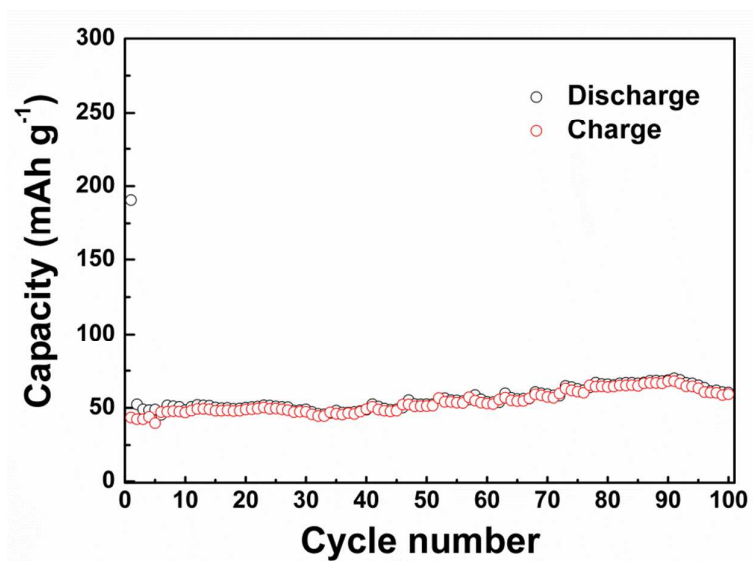


**Fig. S-3** Discharge/charge profiles of the  $\text{Fe}_2\text{O}_3/\text{rGO}$  electrode between 0.01 and 3.00 V at various current densities.

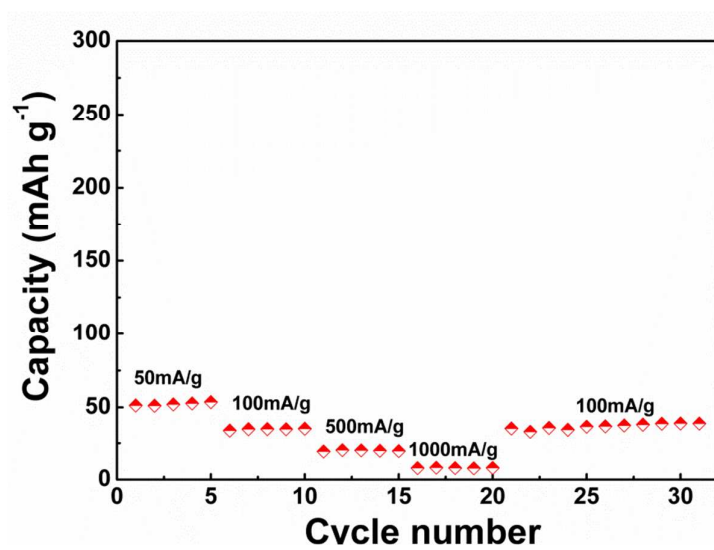
### 3. Electrochemical performance of pure rGO electrode



**Fig. S-4** Discharge/charge profiles of pure rGO electrode between 0.01 and 3.00 V at a current density of 50  $\text{mA g}^{-1}$ .

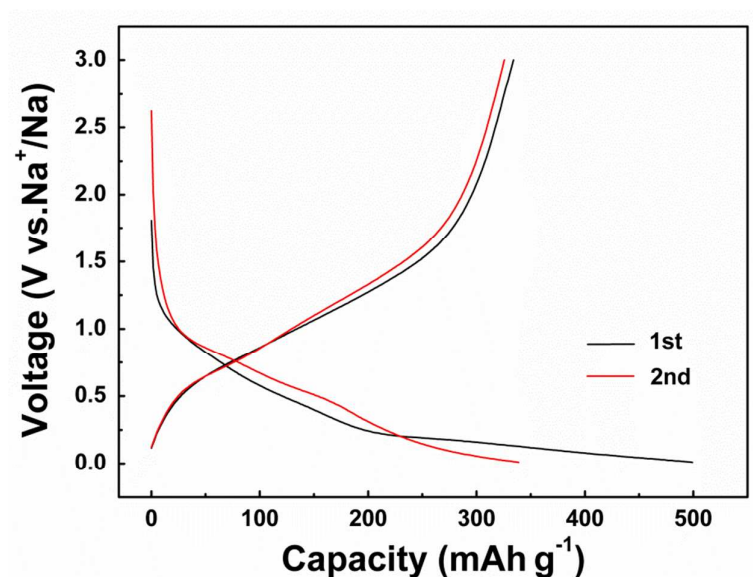


**Fig. S-5** Cycling performance of pure rGO electrode at a current of 50 mA/g.



**Fig. S-6** Rate capability of pure rGO electrode at various current densities

#### 4. Charge/discharge performance of the pure $\text{Fe}_2\text{O}_3$ electrode



**Fig. S-7** Discharge/charge profiles of pure  $\text{Fe}_2\text{O}_3$  electrode between 0.01 and 3.00 V at a current density of  $50 \text{ mA g}^{-1}$