## One-Pot Synthesis of Hematite@Graphene Core@Shell Nanostructures for Superior Lithium Storage

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Figure S1. Typical digital photograph of 1mg/mL GO suspension.



Figure S2. AFM image and section analysis of GO nanosheets



Figure S3. Typical SEM image of pristine HNs.



Figure S4. Galvanostatic discharge–charge profiles of bare HN electrode at 200 mA g<sup>-1</sup>.



Figure S5. Nyquist plots of HN and HN/GNS electrodes obtained by applying a sine wave with amplitude of 5.0 mV over the frequency range from 100 kHz to 0.01 Hz.