

## Electronic Supplementary Information (ESI) for

### Superparamagnetic Fe<sub>3</sub>O<sub>4</sub> Nanocrystals@Graphene Composites for Energy Storage Devices

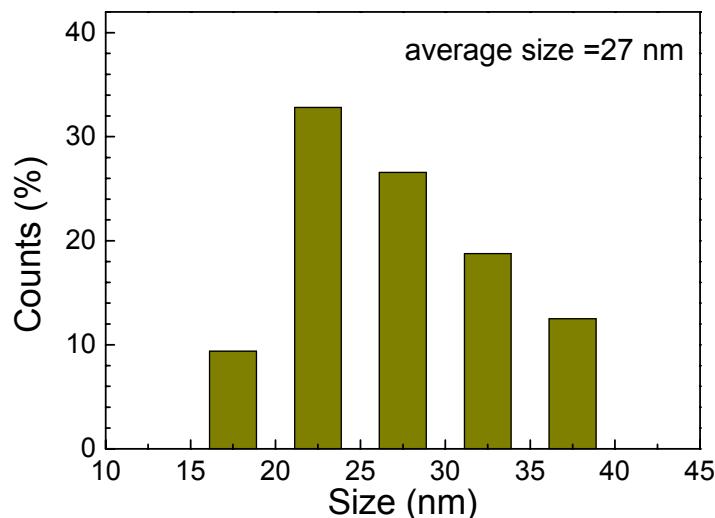
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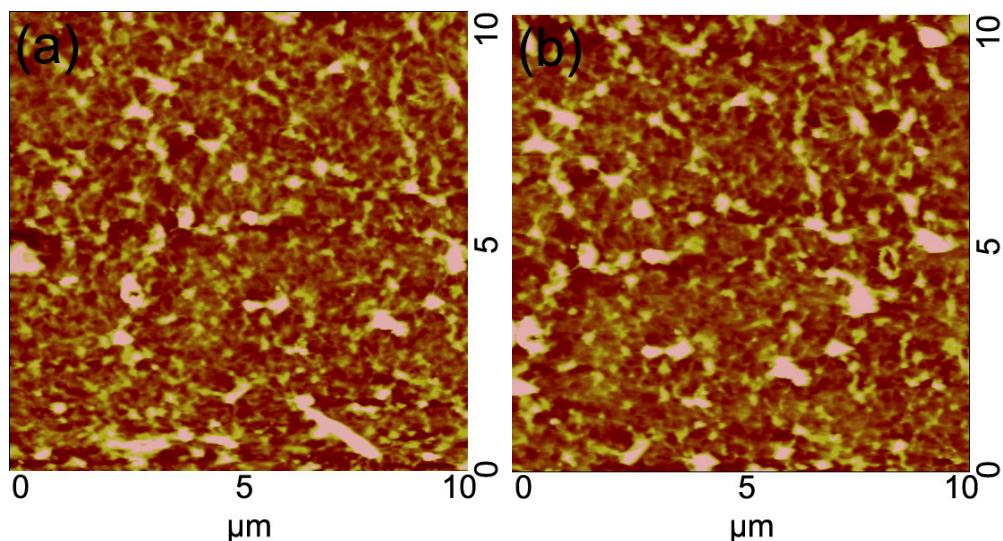
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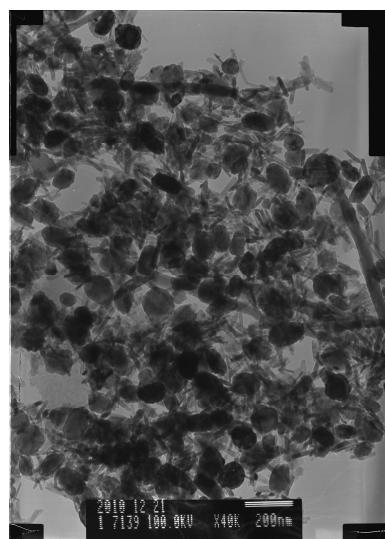
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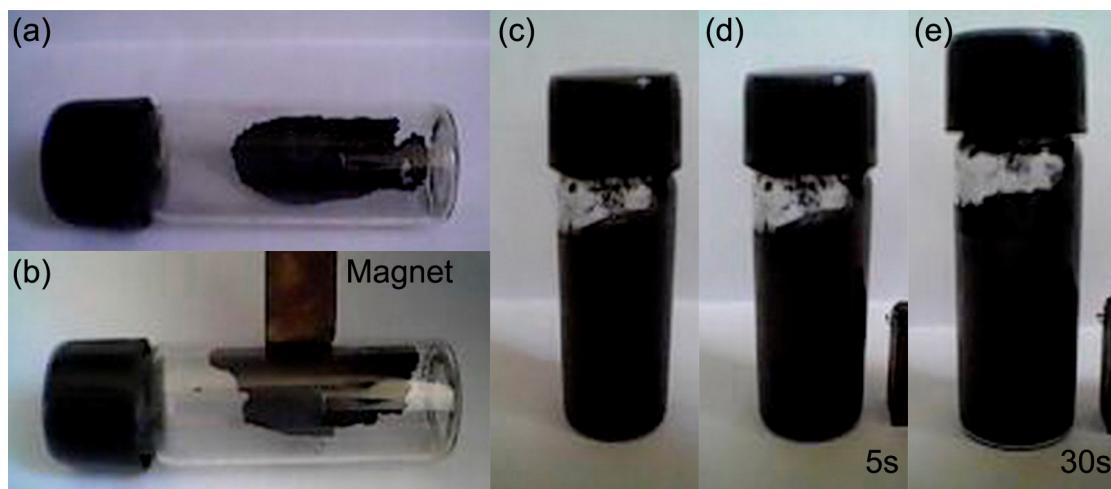
**Figure S1.** The size distribution of Fe<sub>3</sub>O<sub>4</sub> nanoparticles anchored on graphene sheets.



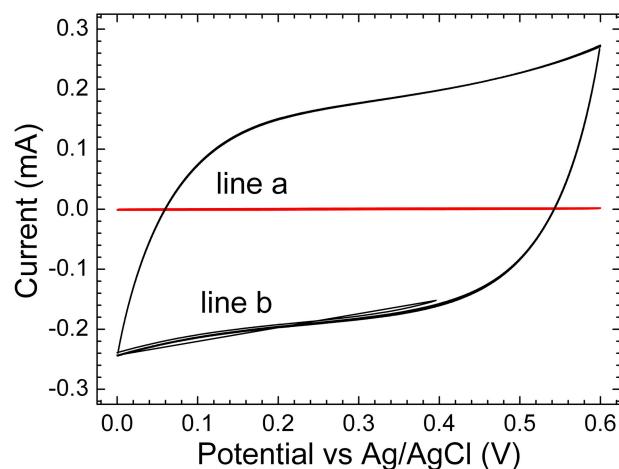
**Figure S2.** AFM images at varioius positions (a, b) showing Fe<sub>3</sub>O<sub>4</sub> nanocrystals on graphene sheets.



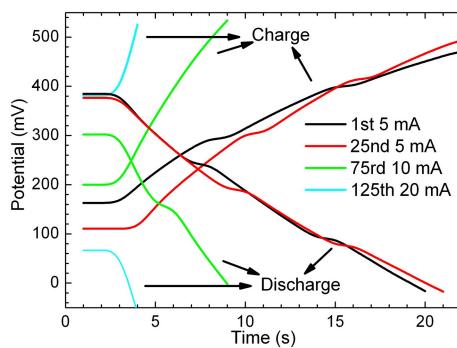
**Figure S3.** TFM images of pure Fe<sub>3</sub>O<sub>4</sub> nanocrystals.



**Figure S4.** Photographs of the responsive performances of the mechanical mixture  $\text{Fe}_3\text{O}_4$  nanocrystals and graphene to an external magnet as (a, b) solid state, and (c-d) aqueous suspension.



**Figure S5.** Cyclic voltammogram curves for line a: gold electrode and line b:  $\text{Fe}_3\text{O}_4$  nanocrystals@graphene composite (FGC) modified gold electrode between 0 to 0.6 V in saturated KCl aqueous solution with a scanning rate of  $100 \text{ mV S}^{-1}$ . The average currents at 0.30 V are  $1.10 \mu\text{A}$  for gold electrode, and  $0.176 \text{ mA}$  for FGC modified gold electrode, respectively.



**Figure S6.** Charge–discharge curves of FGC at various current rates.