

## SUPPORTING INFORMATION

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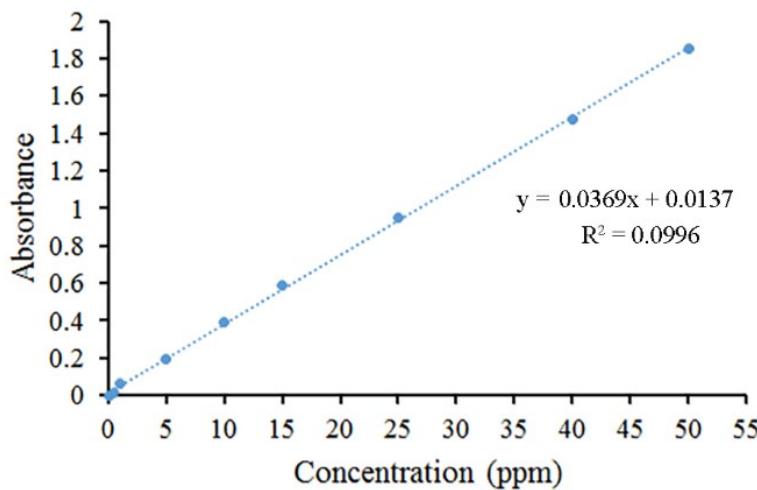
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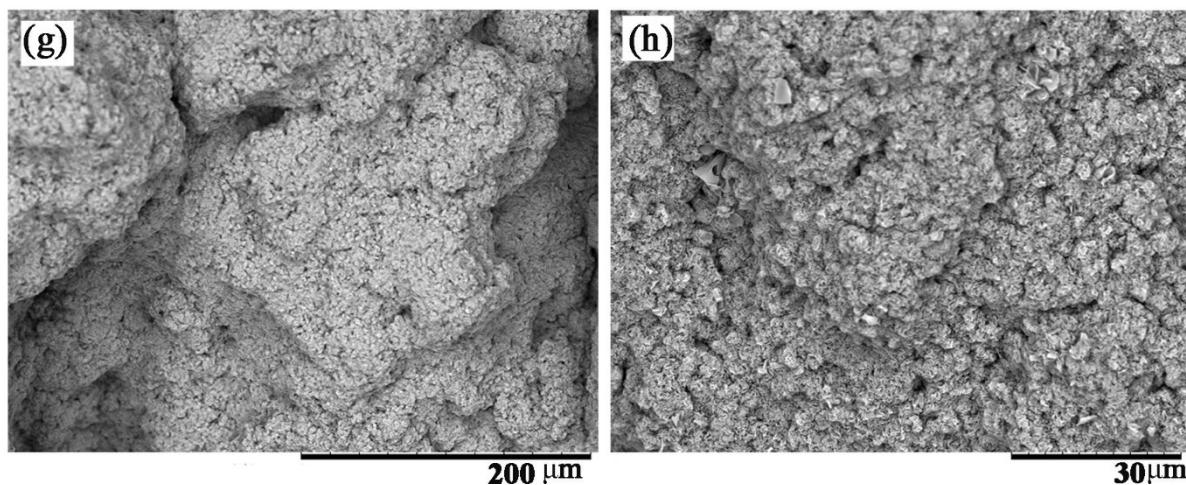
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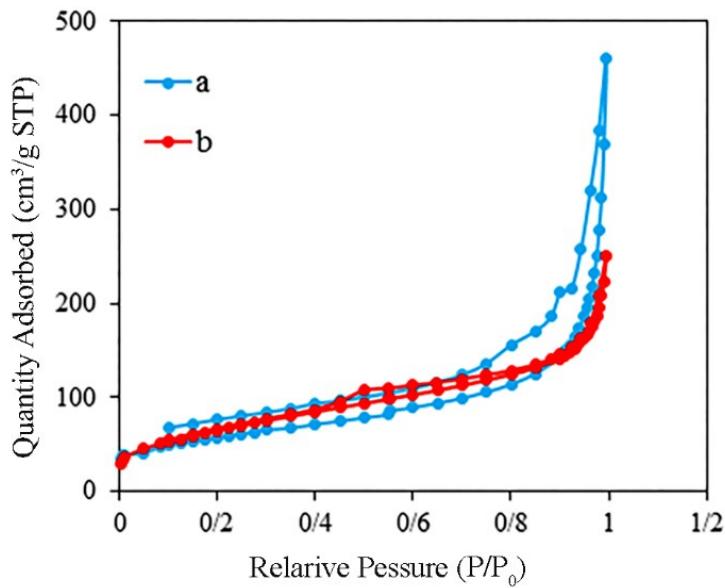
**Fig. S1** Calibration curve of Acid Red 1 dye.



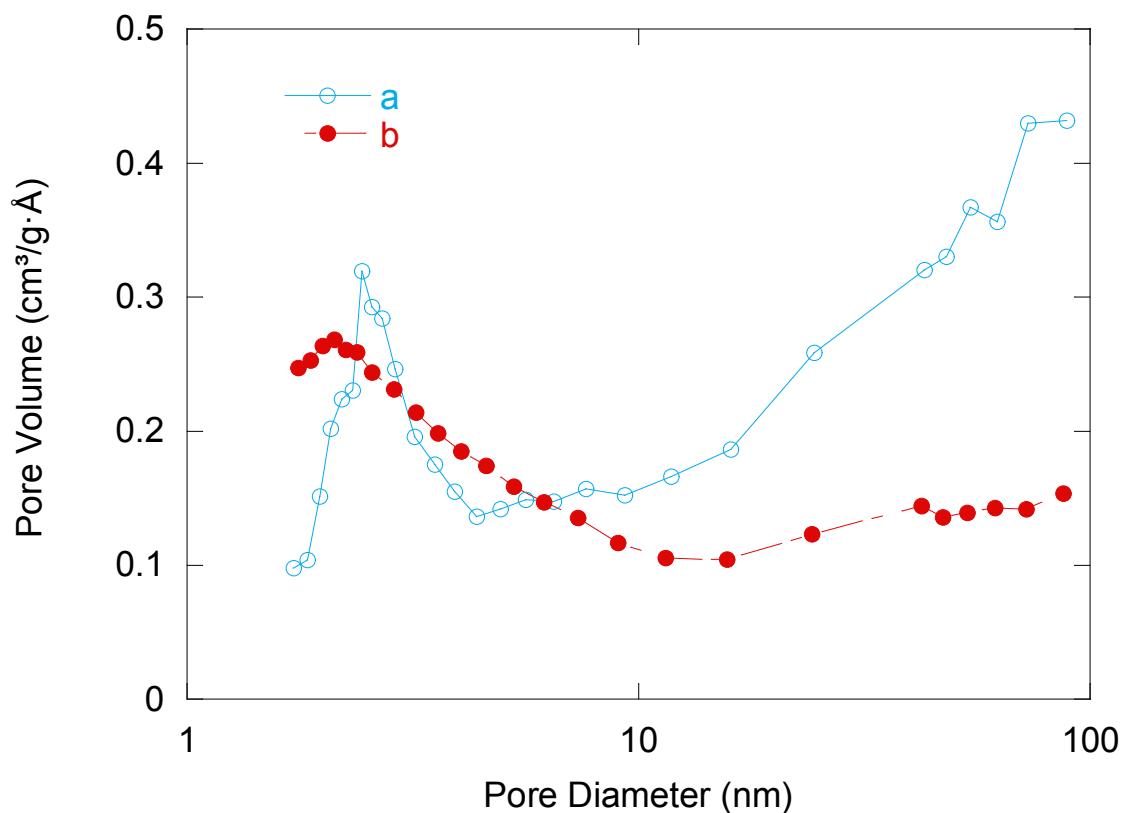
**Fig. S2** The 3D rGO@ $\text{Fe}_3\text{O}_4$  structure in the aqueous solution and in the presence of an external magnet.



**Fig. S3** SEM Micrograph of oven-dried 3D rGO@ $\text{Fe}_3\text{O}_4$  under different magnification.



**Fig. S4** Nitrogen adsorption-desorption isotherms obtained at 77 K of **a)** blank, and **b)** 3D rGO@Fe<sub>3</sub>O<sub>4</sub> obtained at 77 K.



**Fig. S5** BET pore size distribution curves for **a)** blank, and **b)** 3D rGO@Fe<sub>3</sub>O<sub>4</sub>.