## **Supporting Information**

Novel rGO/α-Fe<sub>2</sub>O<sub>3</sub> Composite Hydrogel: Synthesis, Characterization and High Performance of Electromagnetic Wave Absorption

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## **Supporting Figures**



Fig.S1 TG analyses of product-1 to product-3 measured from 50 to  $700^{\circ}$ C at a heating rate of 10 °C min<sup>-1</sup> in air



Fig.S2 Reflection loss curves for the 2D rGO/ $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> composite with different thickness in the frequency range of 1-18 GHz (the weight ratio of the raw material as GO to Fe<sub>3</sub>O<sub>4</sub> nanoparticles is 4:5)