

## **Supporting Information**

### **Surfactant-Free Solvothermal Synthesis of 3D Flowerlike Iron Alkoxide Fe-EG Micro/Nanostructures: Structure, Formation Mechanism, and Fenton Oxidation of Azo Dyes**

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**Figure S1.** EDX spectrum of Fe-EG.

**Figure S2.** TG/DSC profiles of Fe-EG under N<sub>2</sub> flow.

**Figure S3.** Determination of contact angle for water of Fe-EG.

**Figure S4.** XPS spectrum of O1s for Fe-EG.

**Figure S5.** Mass spectrum of the Fe-EG-4h taken from the supernatant solution of the reaction mixture.

**Figure S6.** Photographs of ethanol suspensions for the Fe-EG-*x* samples kept after one month in desiccators.

**Figure S7.** SEM image with low magnification of Fe-EG.

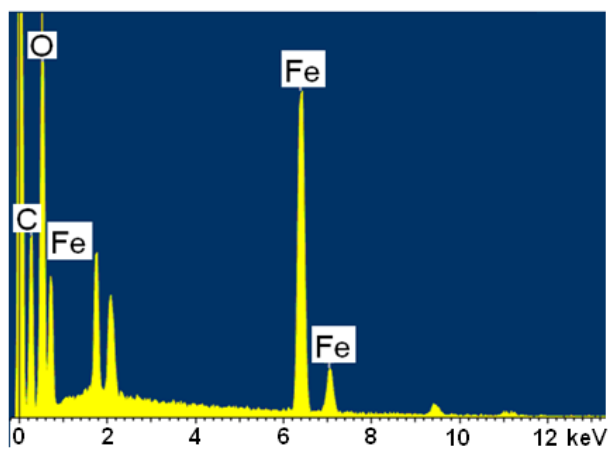
**Figure S8.** Photograph of the sample collected at reaction time 0.5h.

**Figure S9.** (a) SEM image of the Fe-EG-ref, and (b) further enlarged SEM image of Fe<sub>3</sub>O<sub>4</sub> submicrospheres in the selected quadrate region of (a). (c) XRD pattern and (d) FT-IR spectrum of the Fe-EG-ref.

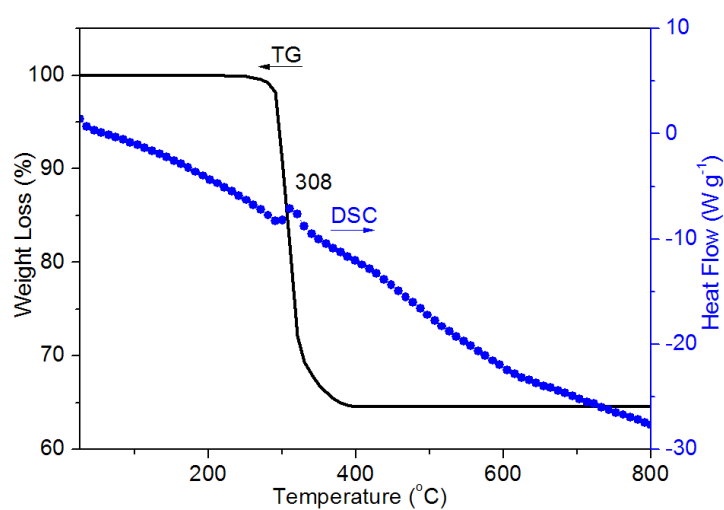
**Figure S10.** Effect of the catalyst dosage on AO7 degradation. Experimental conditions: [AO7] = 35 mg L<sup>-1</sup>; [H<sub>2</sub>O<sub>2</sub>] = 48.5 mM; pH = 6 and 25 °C

**Figure S11.** Effect of the reaction temperature on AO7 degradation. Experimental conditions: AO7 = 35 ppm; Dosage = 0.25 g L<sup>-1</sup>; H<sub>2</sub>O<sub>2</sub> = 48.5 mM and pH 6.0.

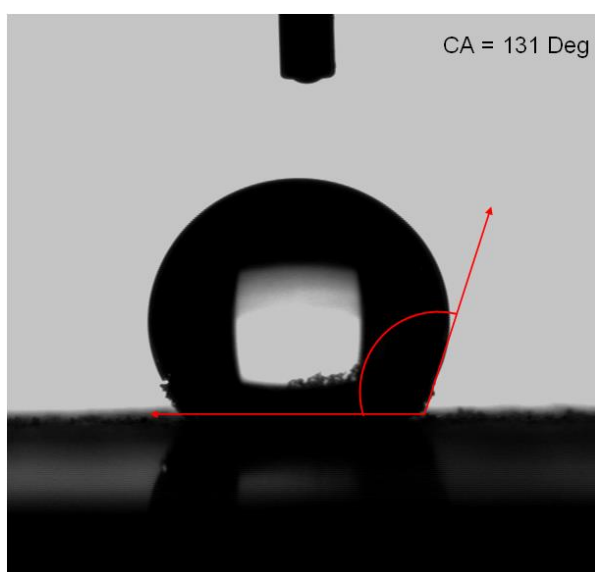
**Figure S12.** Recycling performance of Fe-EG for AO7 degradation.



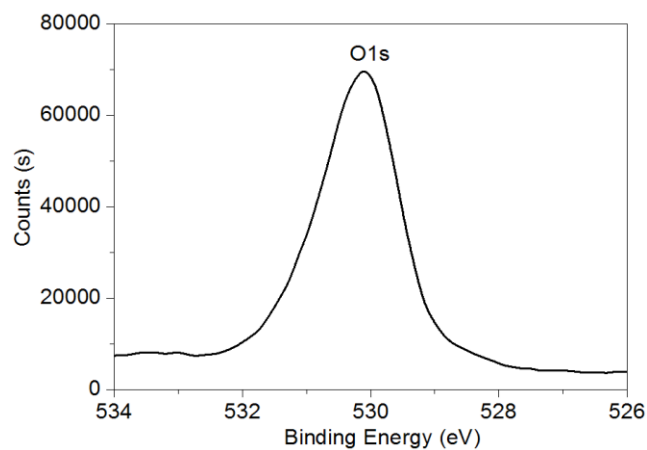
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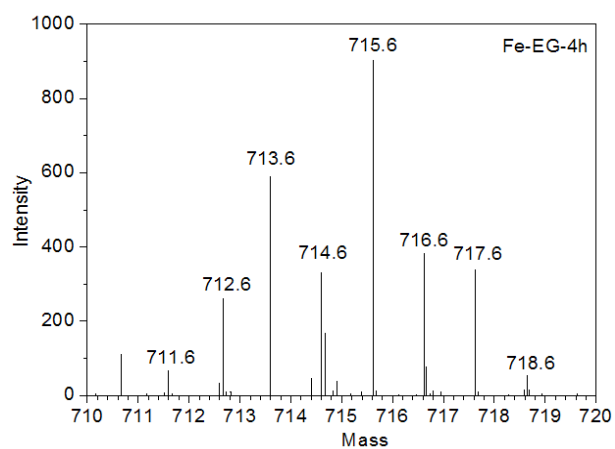
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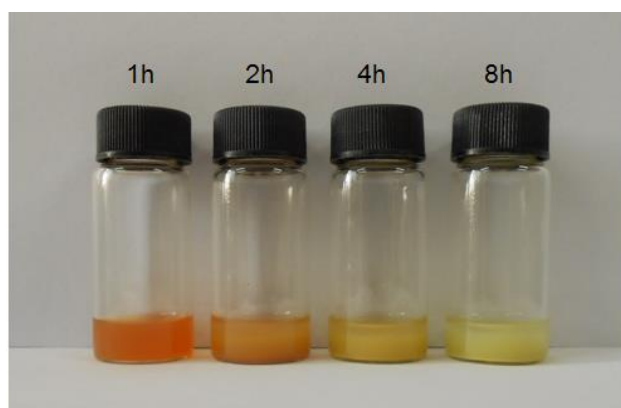
**Figure S3.** Determination of contact angle for water of Fe-EG.



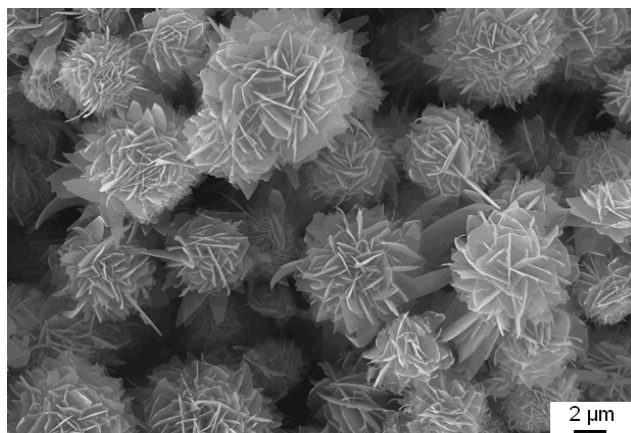
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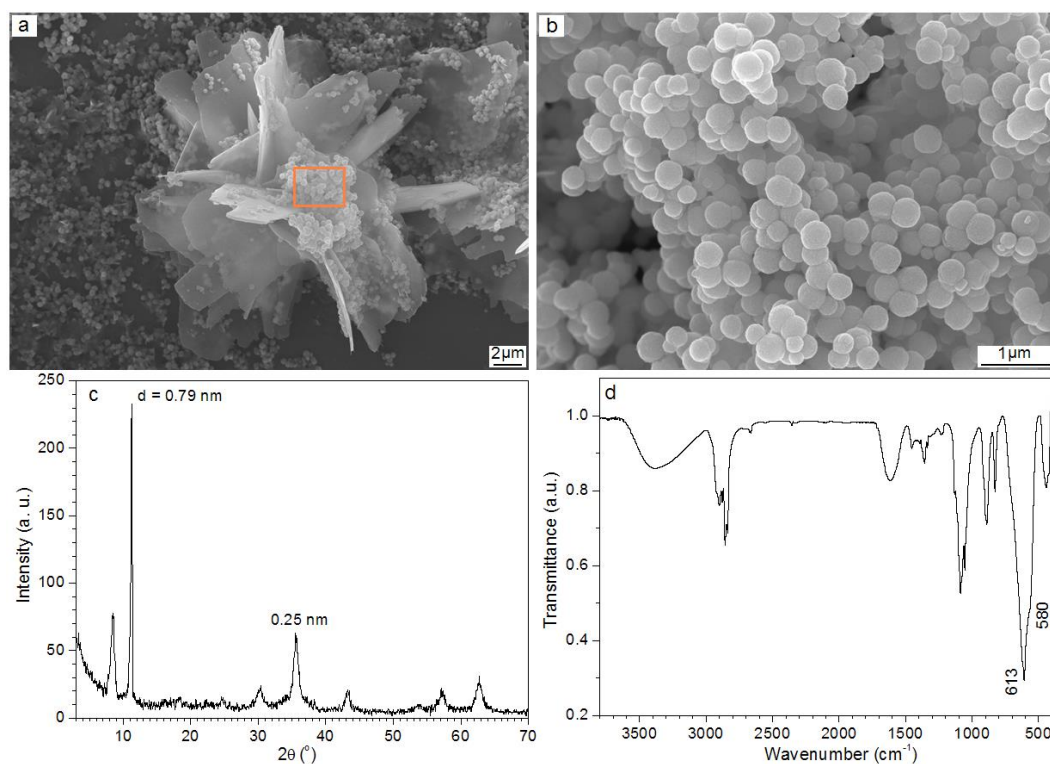
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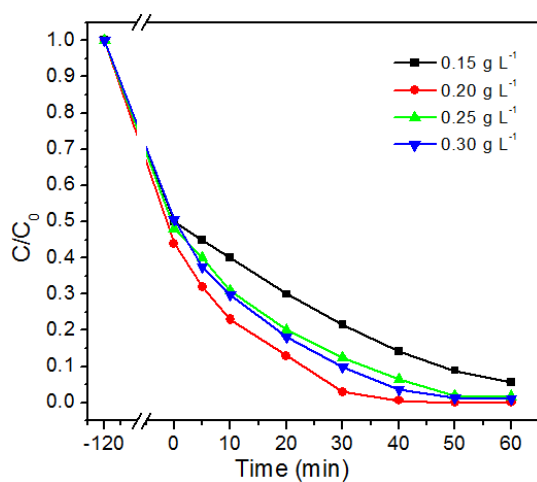
**Figure S7.** SEM image with low magnification of Fe-EG.



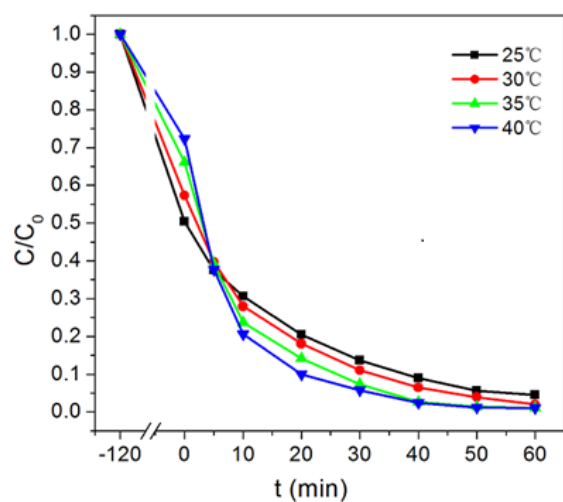
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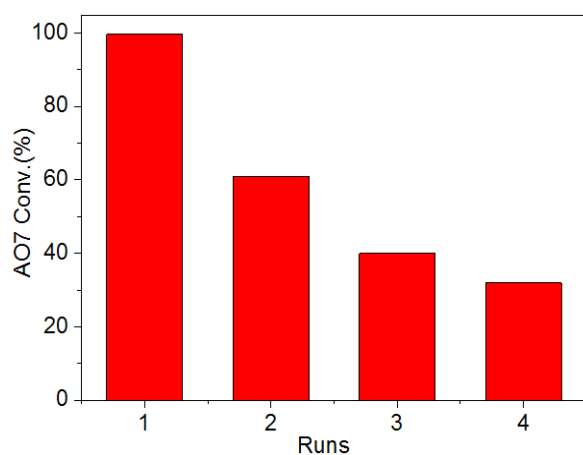
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