

# Supporting Information

## **Self-assembled magnetite peony structures with petal-like nanoslices: one-step synthesis, excellent magnetic and water treatment properties**

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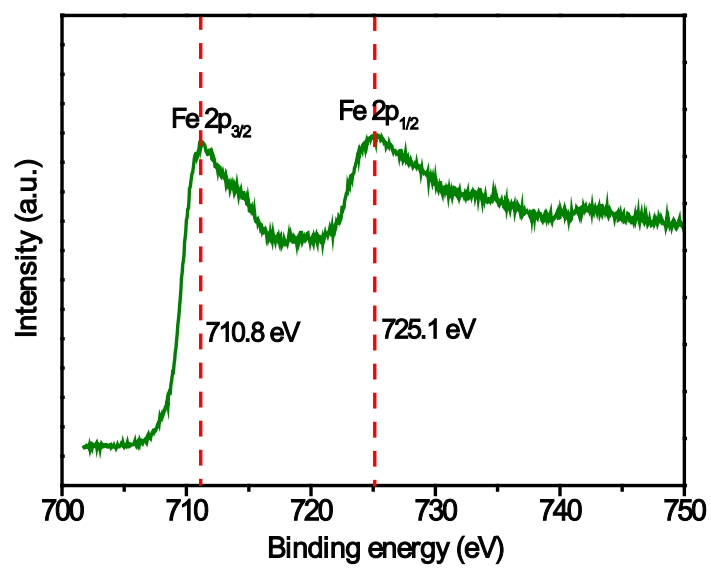
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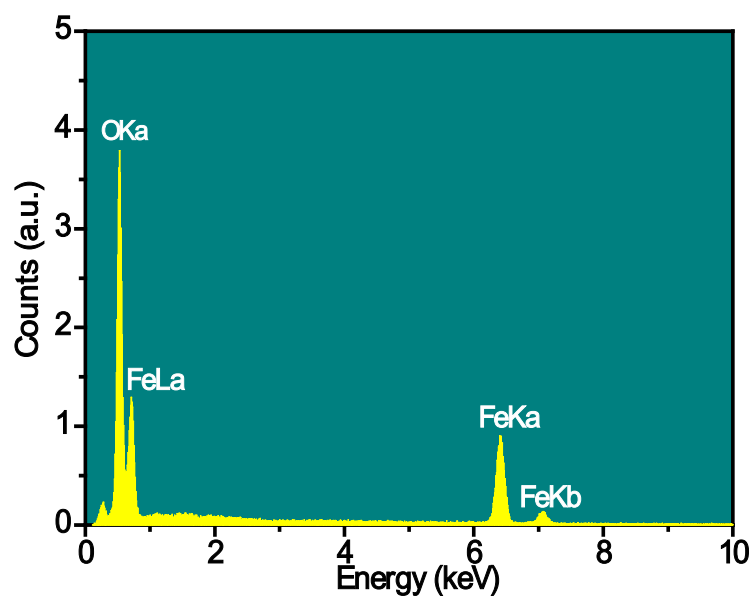
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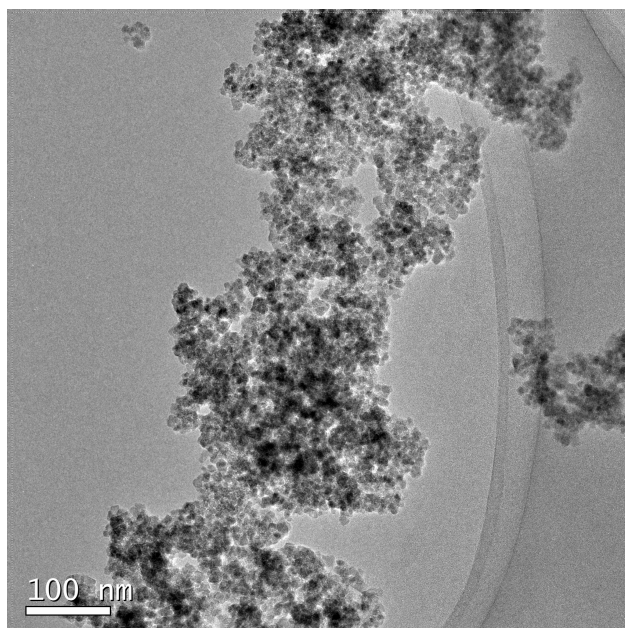
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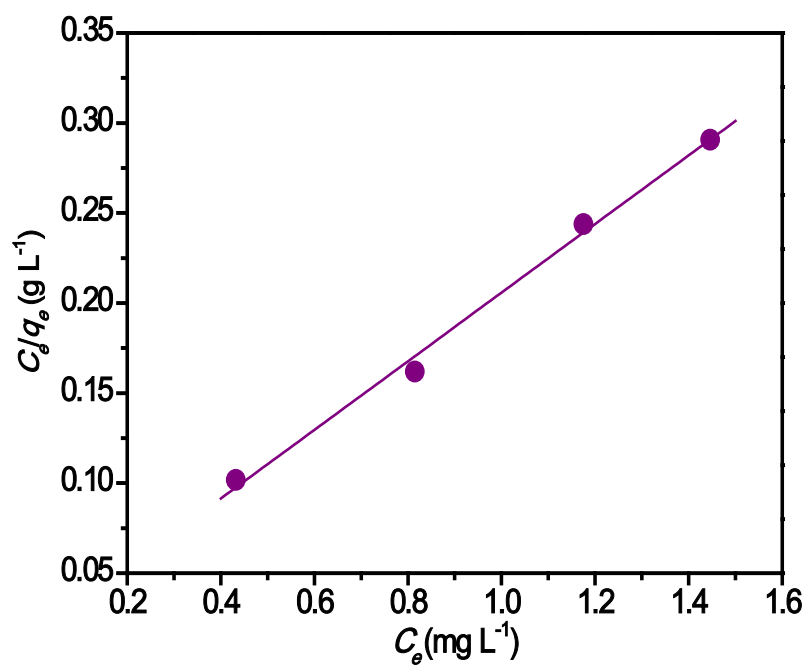
**Fig. S1** XPS spectrum of the Fe<sub>3</sub>O<sub>4</sub> peony structures.



**Fig. S2** EDS analysis of the  $\text{Fe}_3\text{O}_4$  peony structures.



**Fig. S3** TEM image of the  $\text{Fe}_3\text{O}_4$  nanoparticles prepared without the addition of TEA under the same conditions.



**Fig. S4** Langmuir plots for Cr (VI) removal by the  $\text{Fe}_3\text{O}_4$  peony structures at room temperature.