A high-efficient carbon-coated iron-based Fenton-like catalyst with enhanced cycle stability and regenerative performance

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Supporting information

Table S1. EDS results of iron oxide catalyst before and after carbon-coated.

	Fe (at. %)	C (at. %)	O (at. %)
cc/Fe_2O_3	18.34	39.09	42.57
cc/Fe_3O_4@C	10.55	51.26	38.19

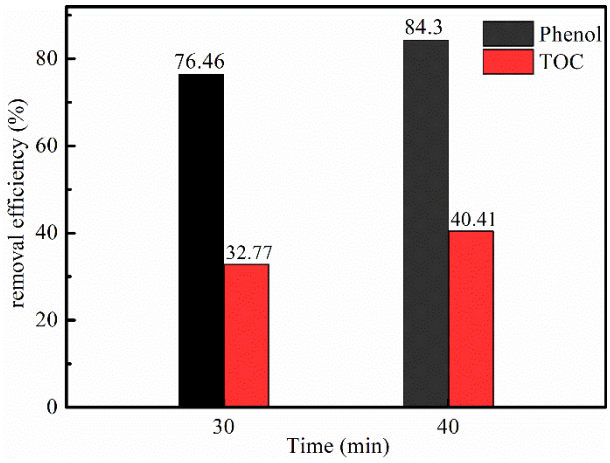

Fig. S1. Removal efficiency of phenol and TOC in the cc/Fe_3O_4@C system. Experimental conditions: 35 ppm phenol, 6 mmol H_2O_2, pH=4.

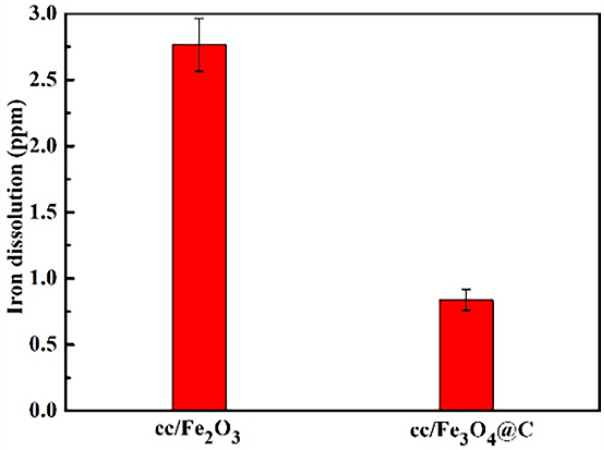

Fig. S2. Total iron dissolution by cc/Fe_2O_3 system and cc/Fe_3O_4@C system. Experimental conditions: 35 ppm phenol, 6 mmol H_2O_2, pH=4.

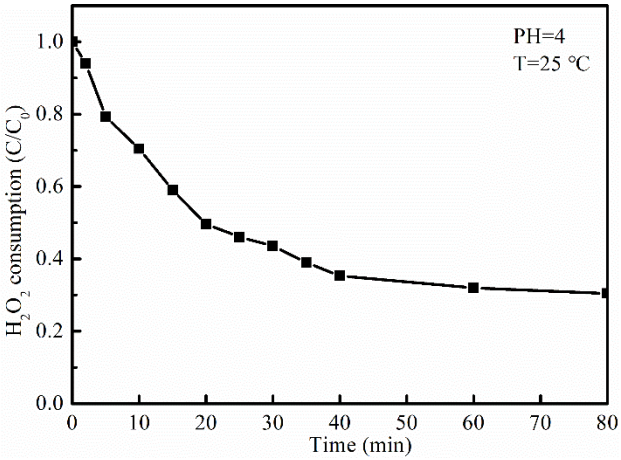

Fig. S3. Variation curve of H_2O_2 content during phenol degradation by cc/Fe_3O_4@C catalyst synthesized under 0.12 mol/L $Fe(NO_3)_3$ and 0.5 g glucose condition Experimental conditions: 35 ppm phenol, 6 mmol H_2O_2, pH=4.

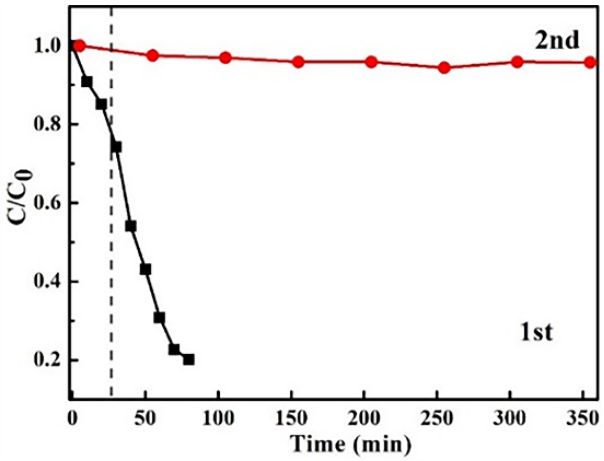

Fig. S4. Cyclic stability of cc/Fe_2O_3 to activate H_2O_2 for phenol degradation. Experimental conditions: 35 ppm phenol, 6 mmol H_2O_2 pH=4.

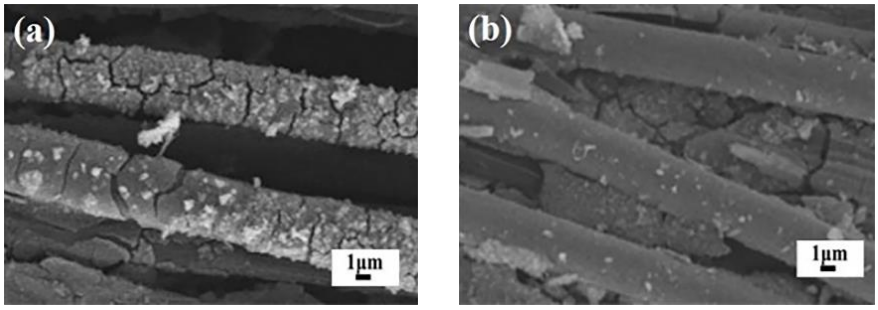

Fig. S5. SEM images of cc/Fe_2O_3: (a) before degradation(fresh), (b) after 1 cycle of phenol degradation. Experimental conditions: 35 ppm phenol, 6 mmol H_2O_2, pH=4.