

## **Supplementary Material**

### **Rape straw supported FeS nanoparticles with encapsulated structure as peroxymonosulfate and hydrogen peroxide activators for enhanced oxytetracycline degradation**

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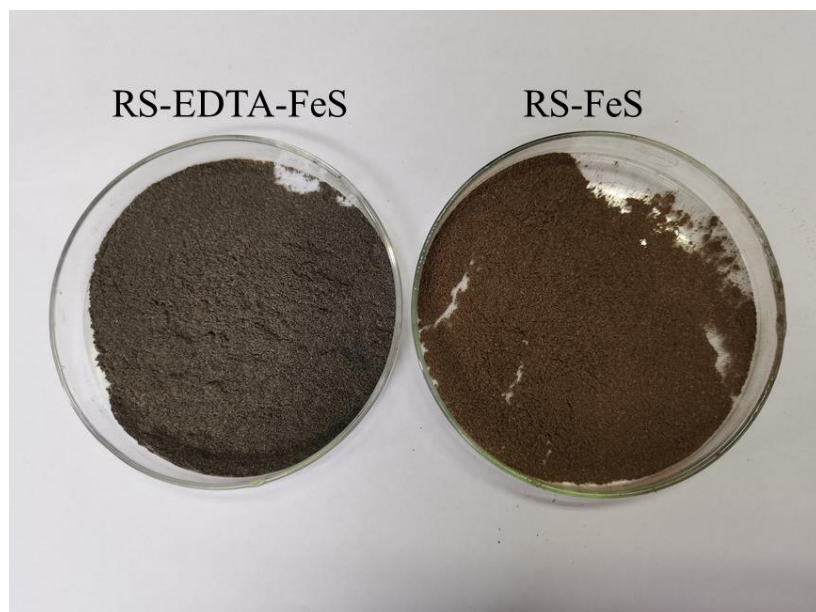
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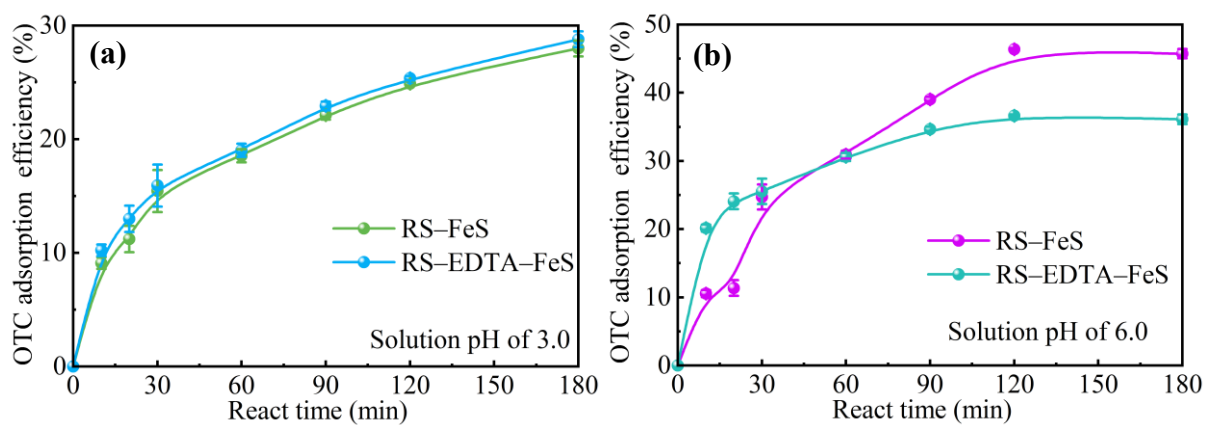
**Table S1** Cost estimation of RS–FeS and RS–EDTA–FeS for the degradation of oxytetracycline

Systems	The cost of RS preparation (electricity) (CNY/L)	The cost of catalyst preparation		The cost of the oxidants (CNY/L)	Total treatment cost (CNY/L)
		Reagent (CNY/L)	cost of electricity (CNY/L)		
RS–FeS/H <sub>2</sub> O <sub>2</sub>	0.03	0.22	0.30	0.005	0.56
RS–FeS/PMS	0.03	0.22	0.30	0.03	0.58
RS–EDTA–FeS/H <sub>2</sub> O <sub>2</sub>	0.03	0.39	0.30	0.005	0.73
RS–EDTA–FeS/PMS	0.03	0.39	0.30	0.03	0.75

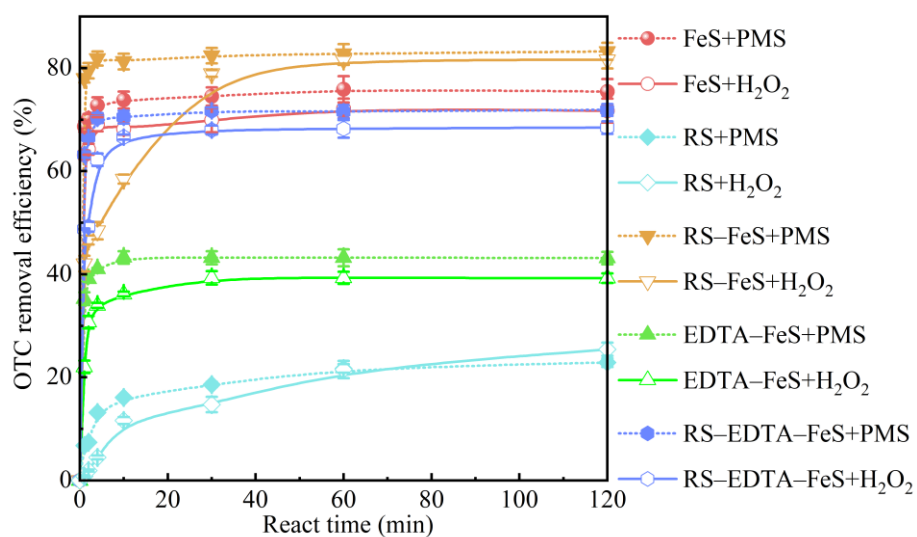
**Fig. S1. RS-FeS and RS-EDTA-FeS after 30 days.**



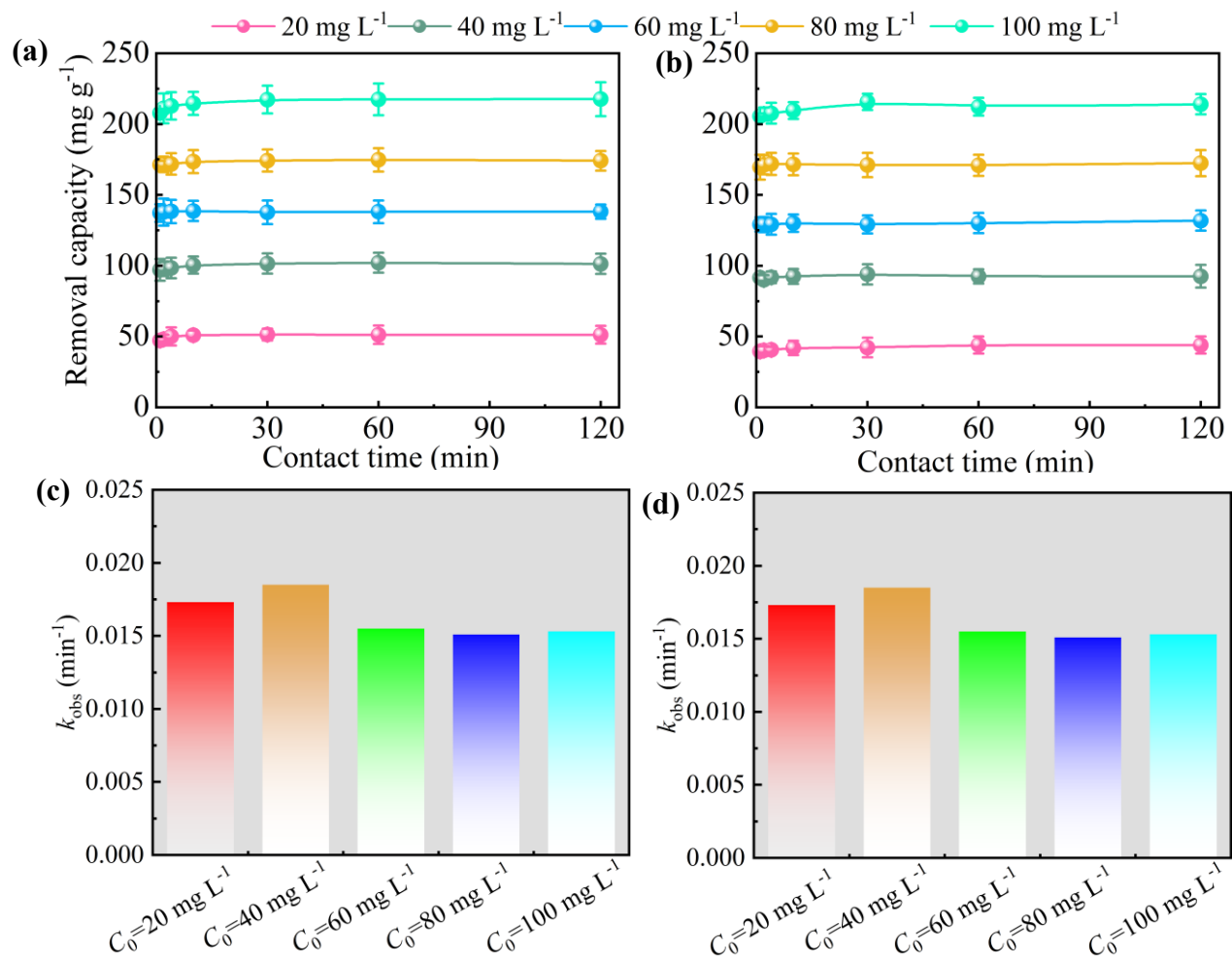
**Fig. S2. OTC adsorption capacity of RS-FeS and RS-EDTA-FeS.**



**Fig. S3. Degradation of OTC in different systems. Experiments conditions: initial OTC concentration = 20.00 mg L<sup>-1</sup>; H<sub>2</sub>O<sub>2</sub> = 20.00  $\mu$ L; PMS = 0.20 g L<sup>-1</sup>; pH of PMS system = 6.00, pH of H<sub>2</sub>O<sub>2</sub> system = 3.00.**



**Fig. S4.** Effect of initial OTC concentration on OTC removal from the RS–FeS/PMS (a) and RS–EDTA–FeS/PMS (b) system. Kinetic data of OTC by RS–FeS/PMS (c) and RS–EDTA–FeS/PMS (d) system under different initial OTC concentration (initial pH=6.00, [PMS]=0.20 mg L<sup>-1</sup>).



**Fig. S5. Total Fe and Fe( II ) leakage over 5 cycles. Error bars represent the standard deviations ( $n=3$ ); different lowercase letters represent significant difference between different treatments ( $P < 0.05$ ).**

