

## Supplementary Materials

### **Cu-doped magnetic loofah biochar for tetracycline degradation via permonosulfate activation**

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**Figures:**

**Fig. S1** The reusability of Fe<sub>2</sub>O<sub>3</sub>-LBC in PS activation process and the preparation of Cu-Fe-LBC.

**Fig. S2** EDS elemental analysis.

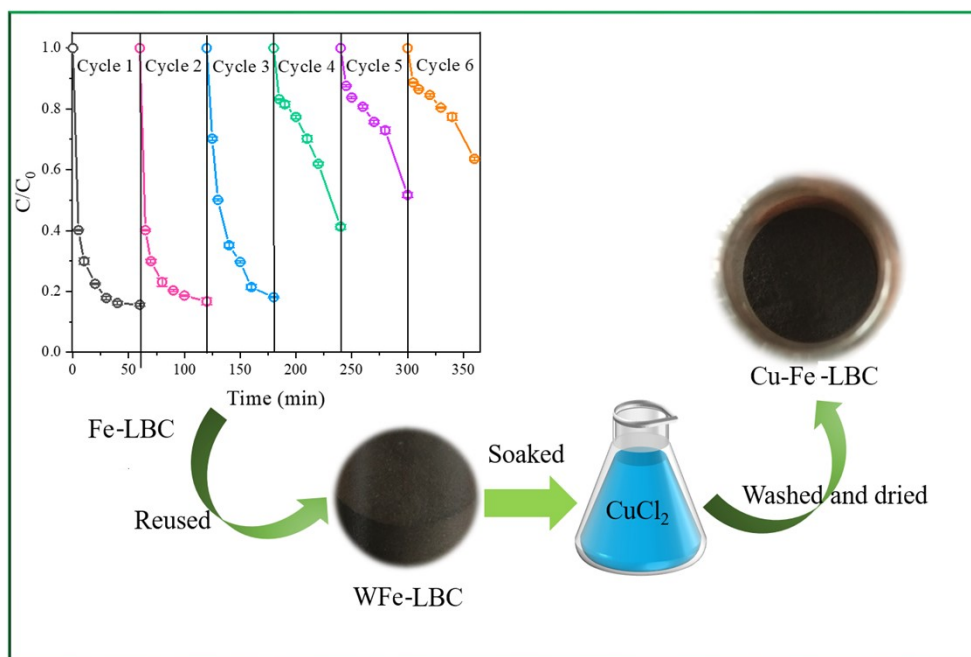
**Fig. S3** The degradation of TC by the Cu-Fe-LBC in real water.

**Fig. S4** The removal of TOC in the Cu-Fe-LBC system.

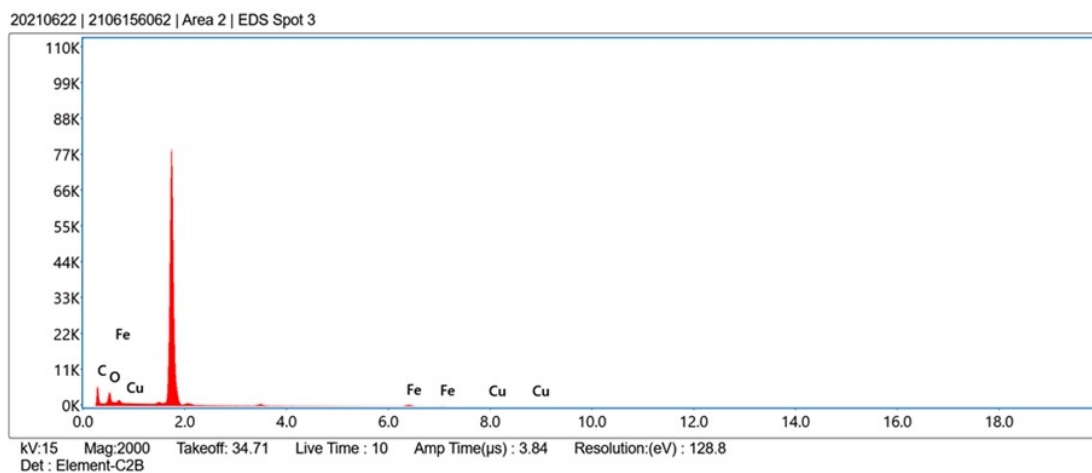
**Tables:**

**Table S1** The element content of Cu-Fe-LBC.

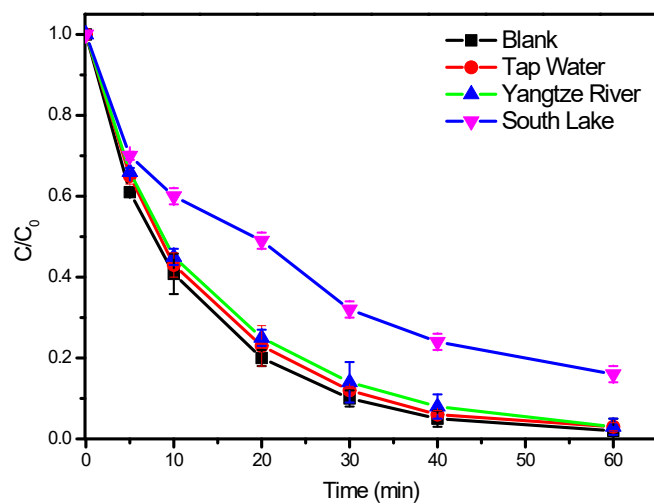
**Table S2** The main parameters of the real water samples.



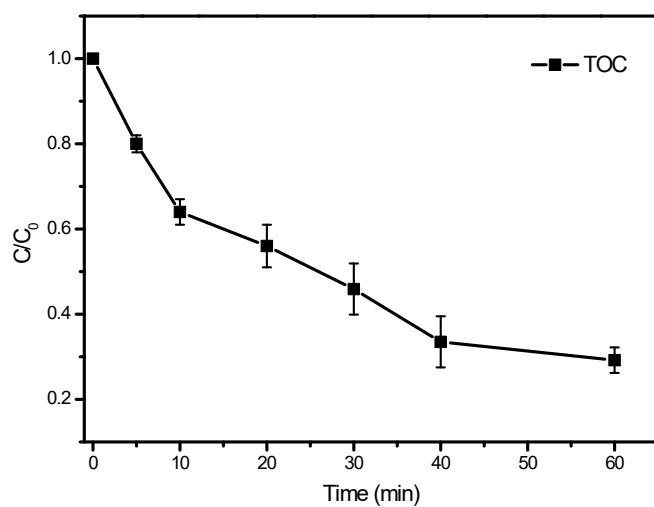
**Fig. S1** The reusability of Fe-LBC in PS activation process and the preparation of Cu-Fe-LBC.



**Fig. S2** EDS elemental analysis.



**Fig. S3** The degradation of TC by the Cu-Fe-LBC in real water.



**Fig. S4** The removal of TOC in the Cu-Fe-LBC system.

**Table S1** The element content of Cu-Fe-LBC.

Element	Weight %	Atomic %	Error %	Net Int.	K Ratio	Z	A	F
C K	42.98	56.89	6.86	3358.23	0.2269	1.0712	0.4929	1.0000
O K	38.04	37.80	8.90	2677.09	0.1180	1.0203	0.3041	1.0000
Fe K	16.17	4.60	6.58	543.98	0.1291	0.7603	1.0128	1.0368
Cu K	2.81	0.70	36.85	47.41	0.0213	0.7197	1.0018	1.0500

**Table S2** The main parameters of the real water samples.

Water samples	Yangtze River	South Lake	Tap water
Temperature (°C)	19.8	19.8	19.8
pH	6.99	7.09	7.1
Conductivity ( $\mu\text{S}/\text{cm}$ )	264.2	281.4	136.5
Total organic carbon (mg/L)	3.6	4.8	1.6