Supplementary Materials

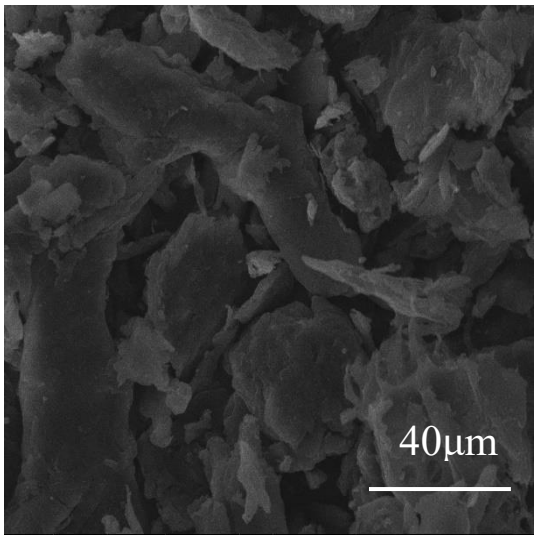

Figure S1. The SEM image of WF.

Table S1. XRD spectral data of Fe_3O_4, WF_{20}/Fe_3O_4 and WFB_{20}/Fe_3O_4 catalysts.

Sample	Lattice planes	Peak position (2θ)	B; FWHM	Crystallite size (nm)	Average crystallite size (nm)
Fe_3O_4	(220)	30.2	0.807	11.27	15.33
	(311)	35.6	0.783	12.35	
	(400)	43.2	0.625	17.26	
	(511)	57.1	0.925	15.65	
	(440)	62.8	0.855	20.12	
WF_{20}/Fe_3O_4	(220)	30.2	0.782	11.63	15.58
	(311)	35.6	0.722	13.39	
	(400)	43.2	0.703	15.34	
	(511)	57.1	0.908	15.94	
	(440)	62.8	0.797	21.58	
WFB_{20}/Fe_3O_4	(220)	30.2	0.886	10.27	13.63
	(311)	35.6	0.767	12.61	
	(400)	43.2	1.017	10.61	
	(511)	57.1	0.969	14.94	
	(440)	62.8	0.872	19.73	

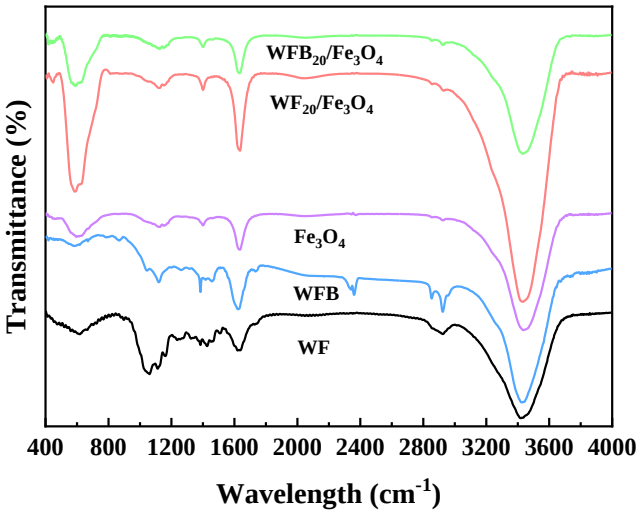

Figure S2. FTIR spectra of different catalysts.

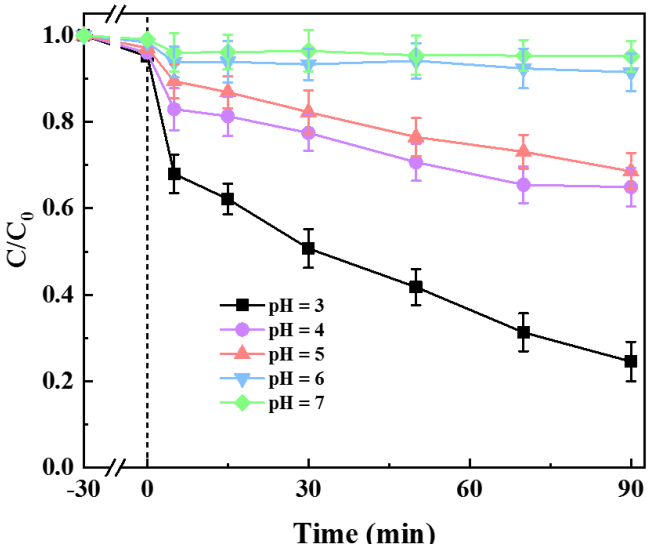

Figure S3. Effects of initial solution pH on the degradation of BPA in Fe_3O_4-PDS process (conditions: catalyst 1.0 g/L, $[PDS]_0$ = 5.0 mM, $[BPA]_0$ = 0.02 mM, pH_0 = 3.00 ± 0.1).

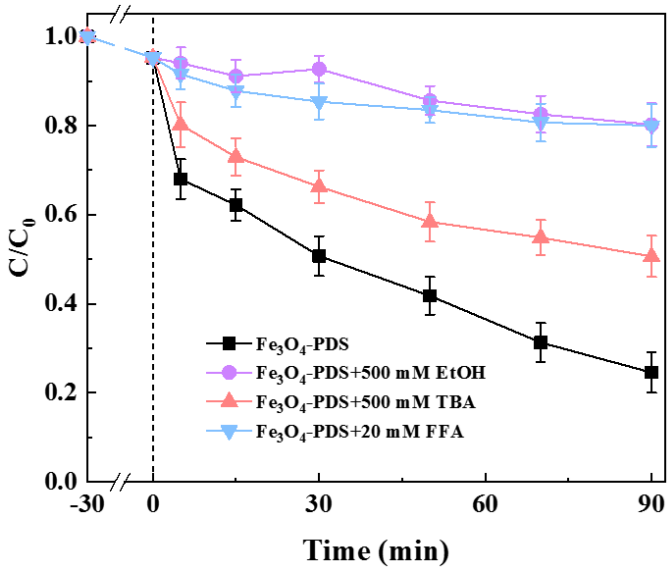

Figure S4. Effects of different radical scavengers on BPA degradation in Fe_3O_4-PDS system (conditions: catalyst 1.0 g/L, $[PDS]_0$ = 5.0 mM, $[BPA]_0$ = 0.02 mM, pH_0 = 3.00 ± 0.1).

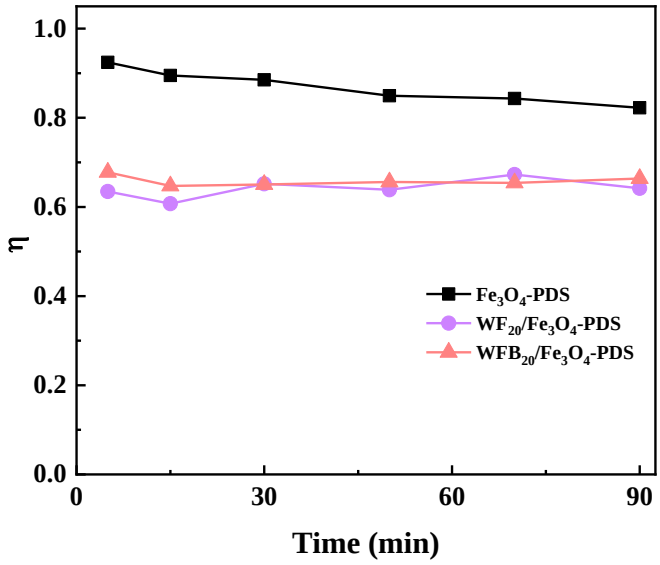

Figure S5. The calculated η values (η = $\Delta[PMSO_2]/\Delta[PMSO]$) in Fe_3O_4-PDS, WF_{20}/Fe_3O_4-PDS and WFB_{20}/Fe_3O_4-PDS processes (conditions: catalyst 1.0 g/L, $[PDS]_0$ = 5.0 mM, $[PMSO]_0$ = 0.5 mM, pH_0 = 3.00 ± 0.1).

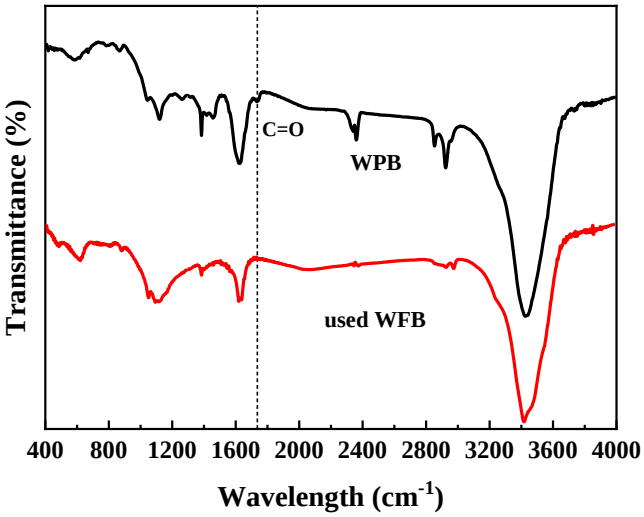

Figure S6. FTIR spectra of WFB and used WFB.

Table S2. The content of Fe(II) and Fe(III) in different catalysts.

Sample	The content of Fe(II) (%)	The content of Fe(III) (%)
Fe_3O_4	41.56	58.44
Used Fe_3O_4	36.41	63.59
WF_{20}/Fe_3O_4	40.00	60.00
Used WF_{20}/Fe_3O_4	32.32	67.68
WFB_{20}/Fe_3O_4	37.21	62.79
Used WFB_{20}/Fe_3O_4	32.12	67.88