Electronic Supplementary Materials

Facile synthesis of Chitosan membranes for visible-light-driven photocatalytic degradation of tetracycline hydrochloride

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Table S1. GPC results of chitosan

Mn	Mw	Mp	Mz	Mw/Mn	Mz/Mw
1.442×10^6	1.632×10^6	1.130×10^6	2.120×10^6	1.131	1.299

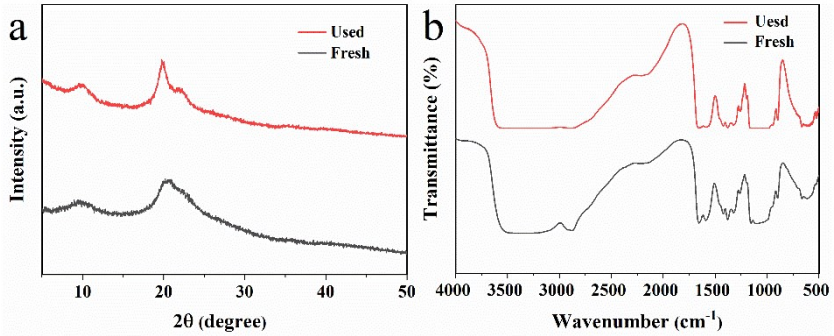

Fig. S1 (a) XRD patterns and (b) FT-IR spectra of CSM before and after 5 cycles (the CSM was washed with 2 wt% NaOH after each degradation cycle).

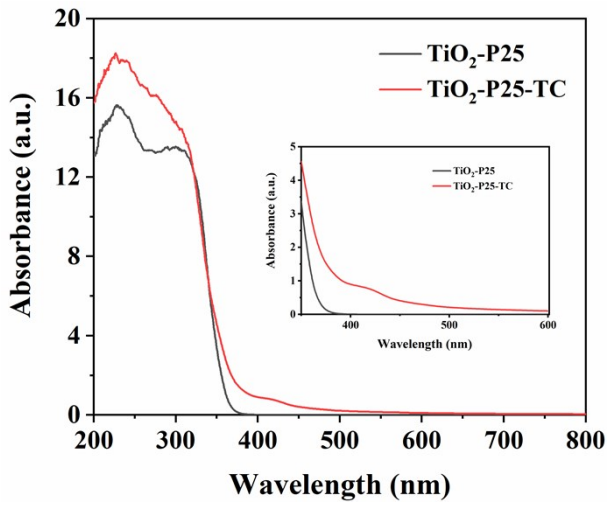

Fig. S2 UV-vis diffused reflectance spectrum of TiO_2-P25 before and after the adsorption of 50mg/L TC solution for 1 h

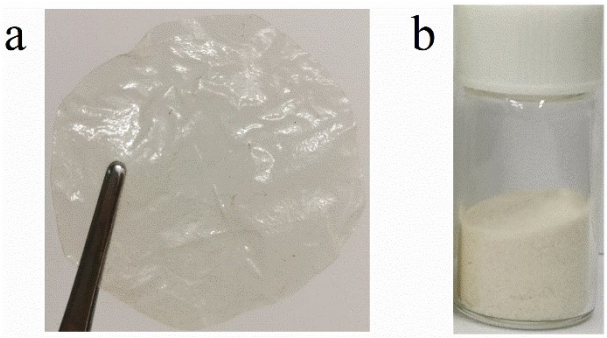

Fig. S3 Pictures of CSM (a) and CSP (b) used in this work.

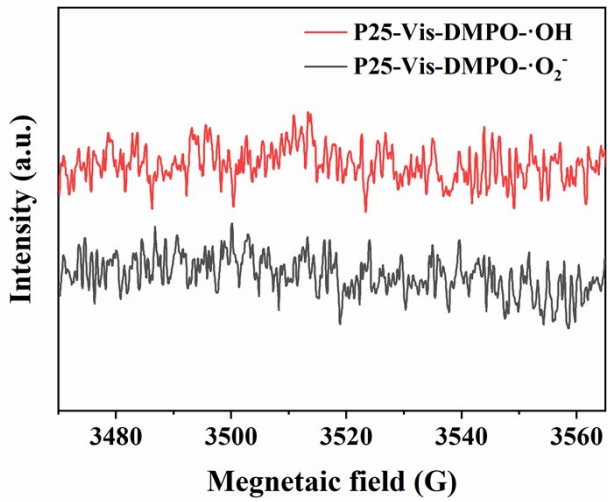

Fig. S4 ESR spectrum of DMPO-$^{\bullet}O_2^-$ and DMPO-$^{\bullet}$OH of TiO_2-P25 (light source: 300 W xenon lamp (PLS-SXE300) equipped with a 400 nm cut-off filter, solvent to capture to capture $^{\bullet}O_2^-$: 1 mL methanol+10 μL DMPO, solvent to capture to capture $^{\bullet}$OH: 1 mL H_2O+10 μL DMPO, illumination time: 3 min)

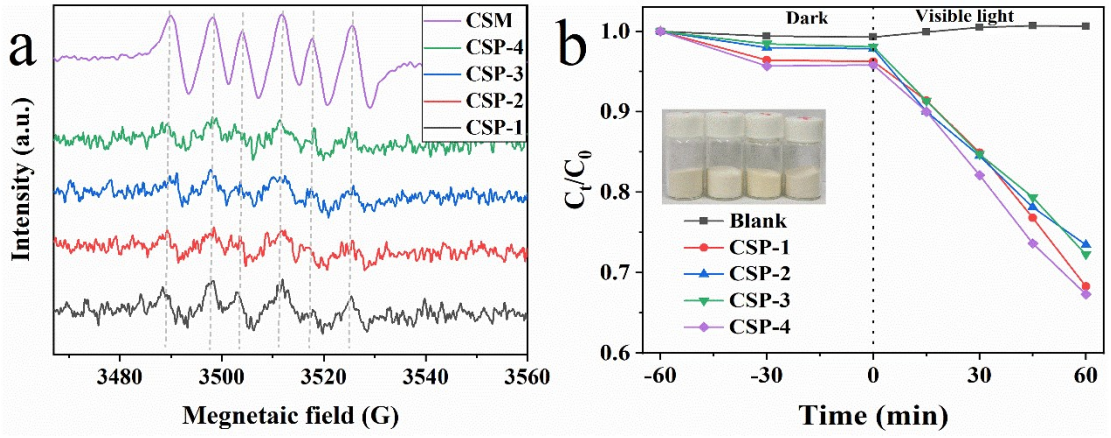

Fig. S5 (a) EPR spectrum of DMPO-•O_2^- of CS samples (light source: 300 W xenon lamp (PLS-SXE300) equipped with a 400 nm cut-off filter, solvent: 1 mL methanol+10 μL DMPO, illumination time: 5 min); (b) Photocatalytic degradation curves of TC by CS samples (light source: 300 W xenon lamp (PLS-SXE300) equipped with a 400 nm cut-off filter, dosage: 50 mg, TC solution: 50 mL 50 mg/L)

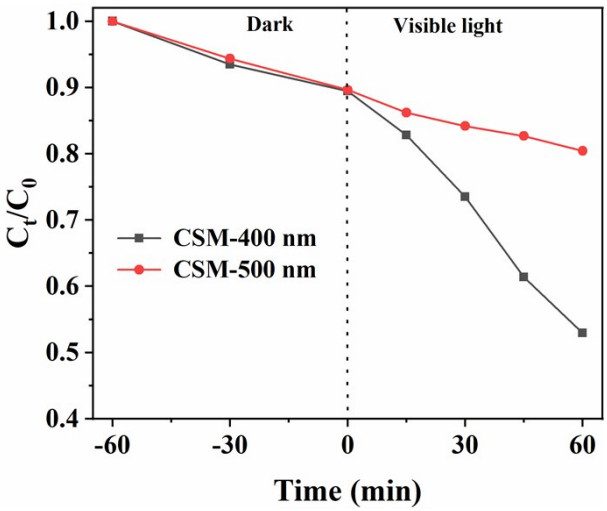

Fig. S6 Photocatalytic degradation of TC by CSM at a single wavelength of 400 and 500 nm.