Electronic Supplementary Information to:

Enhancing the Activity of Peroxidase Mimicking of Hemin by Covalent Immobilization in Polymer Nanogels

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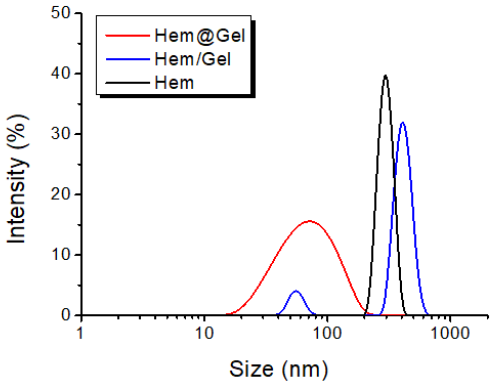

Figure S1. DLS measurement of the size of Hem@Gel, Hem/Gel and Hem with an intensity distribution

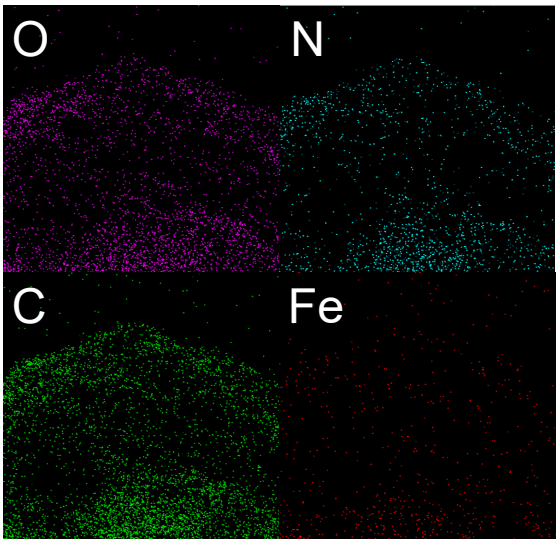

Figure S2. The corresponding elemental mapping pattern of the dried Hem@Gel.

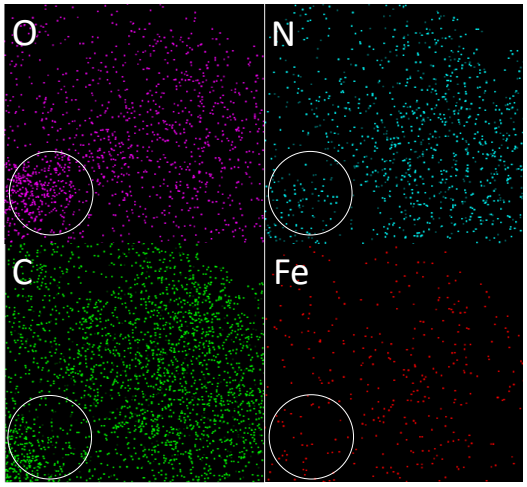

Figure S3. The corresponding elemental mapping pattern of the dried Hem/Gel, the white circle indicates gel particles.

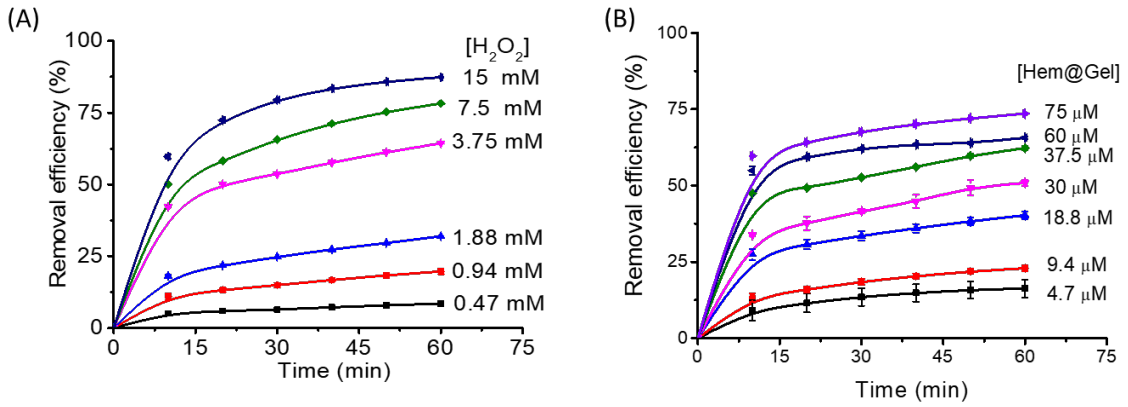

Figure S4. The catalytic degradation of MB using Hem@Gel under (A) various concentrations of H_2O_2; (B) various concentrations of Hem@Gel. In (A), $[H_2O_2]$=3.75 mM, $[MB]_0$=75 μM, pH=7; in (B), [Hem@Gel]=37.5 μM, $[MB]_0$=75 μM, pH=7.

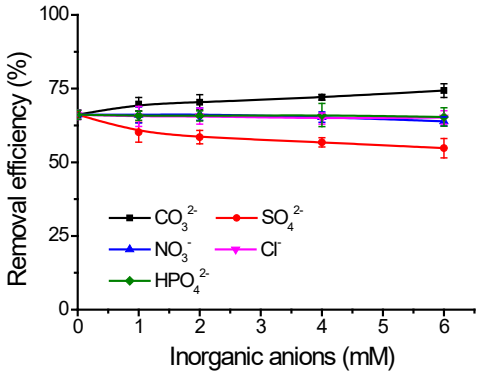

Figure S5. The influence of additives on the performance of Hem@Gel; [Hem@Gel]=37.5 μM, $[MB]_0$=75 μM, $[H_2O_2]_0$ = 3.75 mM, pH=7.

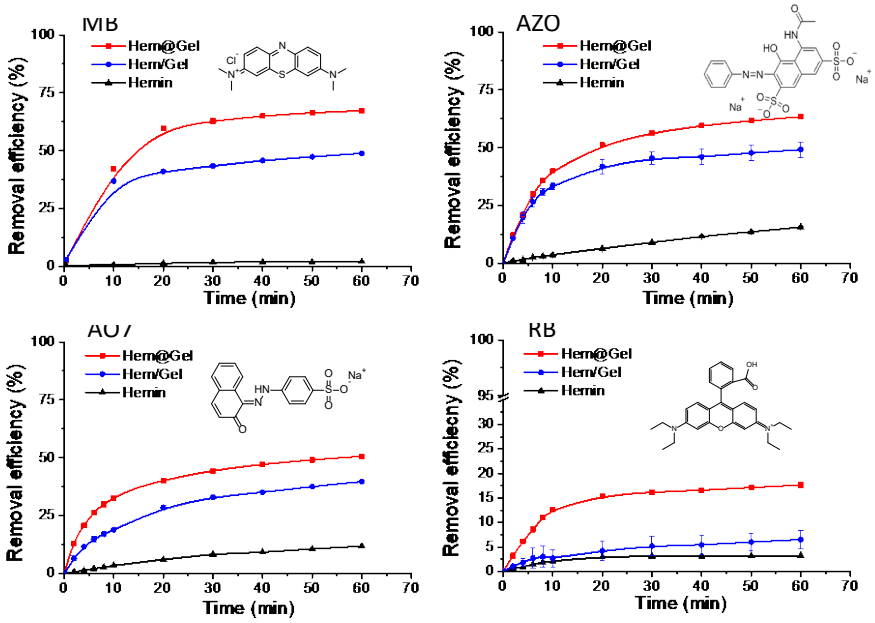

Figure S6. The catalytic degradation of four dyes by different formulation of hemins. The concentration of hemin in all formulations of catalysts are all 37.5μM. $[H_2O_2]_0$= 3.75mM, $[Dyes]_0$=75μM.

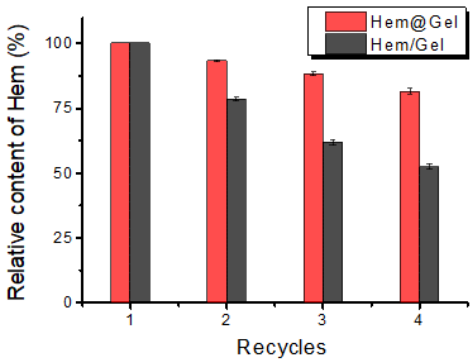

Figure S7. Relative content of hemin after each recycle of catalytic reactions, data obtained by UV-Vis characterization.

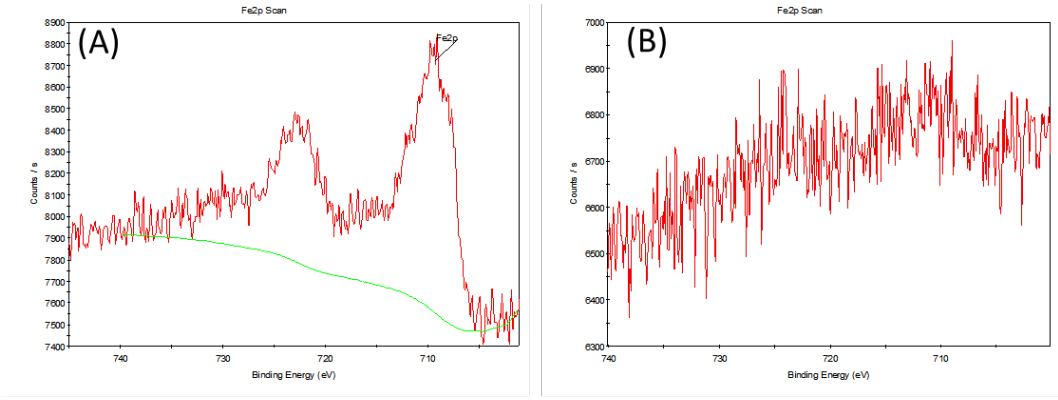

Figure S8. XPS of Fe2p peak of (A) Hem@Gel and (B) Hem/Gel

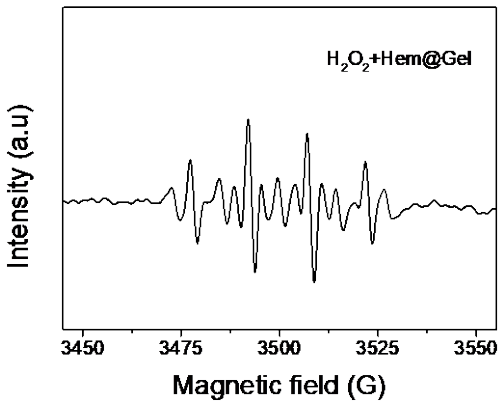

Figure S9. EPR spectrum of H_2O_2+[Hem@Gel] in the presence of DMPO as radical trapping agent. The quartet signal indicated the formation of $^{\bullet}OH$ radical.

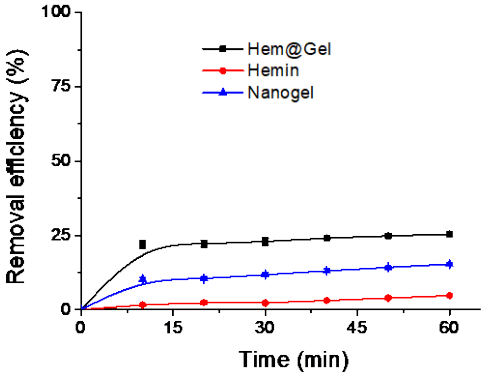

Figure S10. Physical absorption of the dye (AZO) by Hem@Gel, free hemin and nanogel. [Hem@Gel] =37.5 µM, $[MB]_0$=75 µM, pH=7.