

Supporting Information

Catalytic peptide/hemin complex as artificial enzymes for RAFT polymerization

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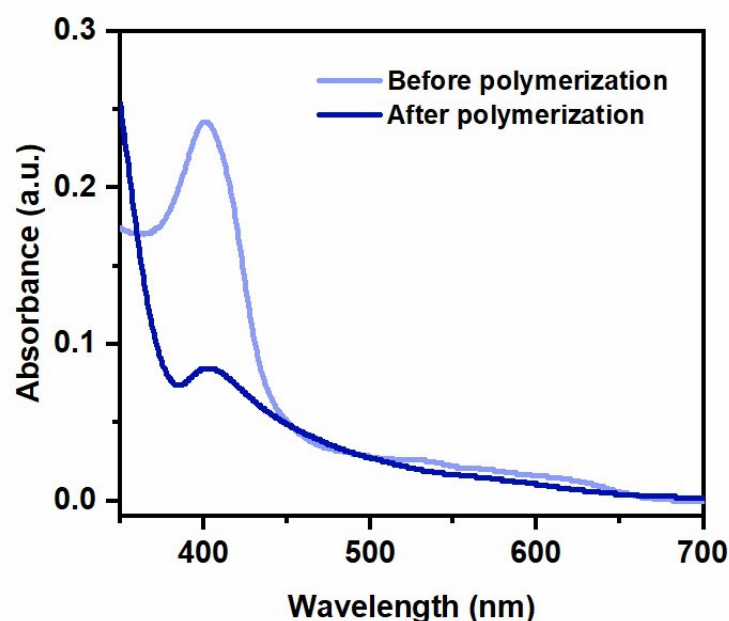


Figure S1. UV-Vis spectra of the reaction mixture before and after the polymerization of PEGMA. The concentration of PEGMA was 30 wt%. CTA was CPADB. The reaction temperature was 30 °C, and the pH was 7. The concentrations of H₂O₂ and ACAC were 5 mM and 40 mM, respectively. The reaction time was 30 min. The reaction mixture without hemin was used as the background to avoid possible interference of the peptides with the absorbance of hemin.

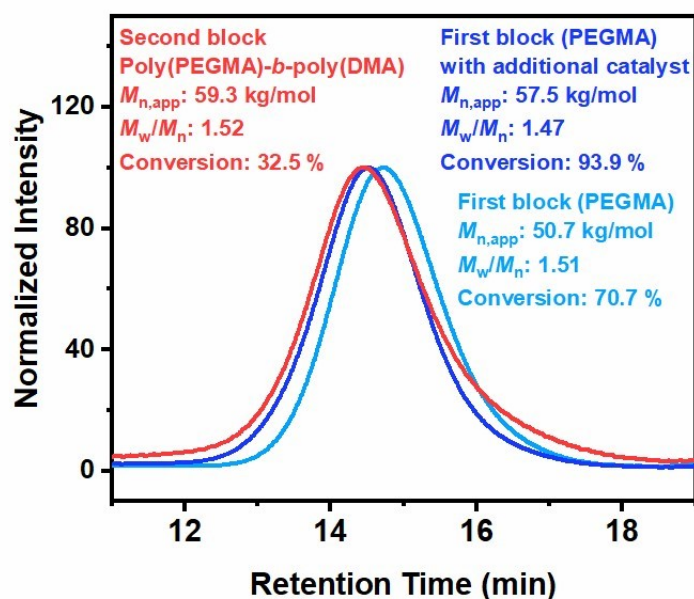


Figure S2. Chain-extension experiment with DMA to synthesize poly(PEGMA)-*b*-(DMA) catalyzed by HF/Hemin complex.

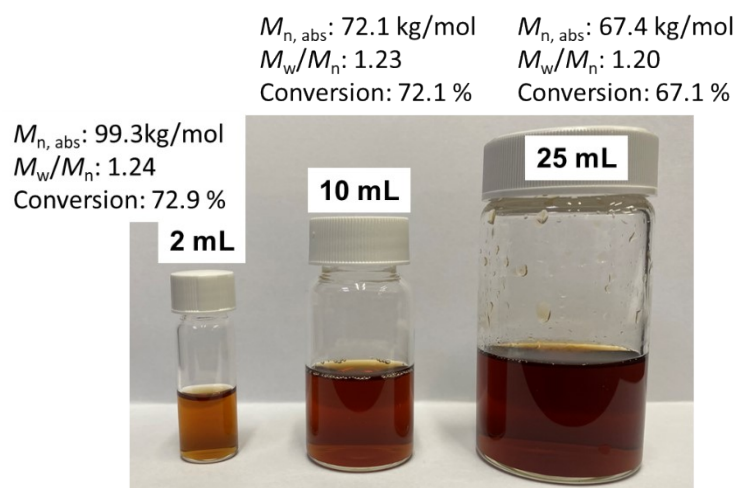


Figure S3. HF/Hemin-catalyzed RAFT polymerization in different scales under an open-to-air environment. The concentration of PEGMA was 30 wt%. CTA was CPADB. [PEGMA]:[CTA]=200:1. Reaction time was 60 min. The reaction temperature was room temperature. The concentrations of H_2O_2 and ACAC were 5 mM and 40 mM, respectively. The volumes of the reaction mixture were 2, 10, and 25 mL.

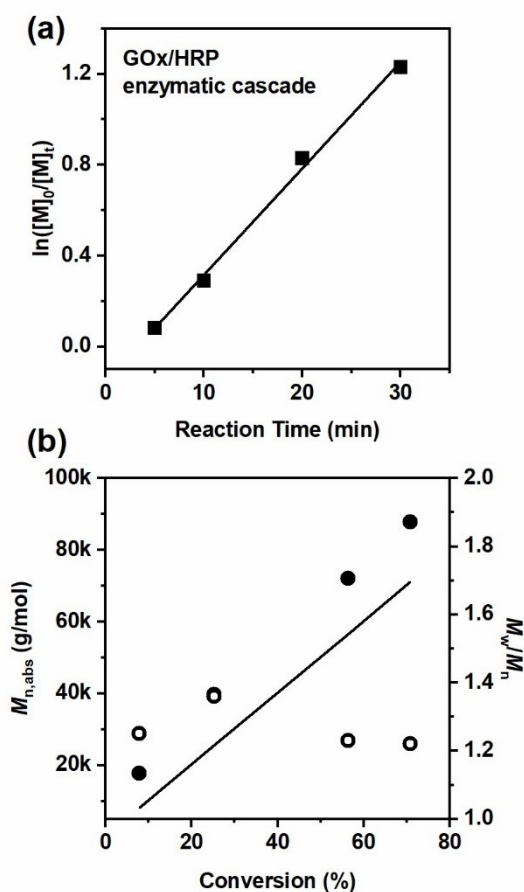


Figure S4. (a) $\ln([M]_0/[M]_t)$ versus time for polymerization initiated by GOx/HRP enzymatic cascade under an open-to-air environment. (b) $M_{n,abs}$ (filled circle) and M_w/M_n (open circle) versus conversion for reaction initiated by GOx/HRP enzymatic cascade under an open-to-air environment. The solid line is the theoretical molecular weights estimated from conversion. The molar ratio of [PEGMA]:[CTA] was 200:1. The concentration of PEGMA was 30 wt%. CTA was CPADB. The reaction temperature was 30 °C, and the pH was 7. The concentration of ACAC was 40 mM. HRP concentration was 2.8 μ M. The concentrations of GOx and glucose were 0.776 μ M and 60.2 mM.