

Fig. S1 Z-average hydrodynamic diameter and zeta potential of the fresh and freeze-dried Fe₃O₄ nanoparticles.

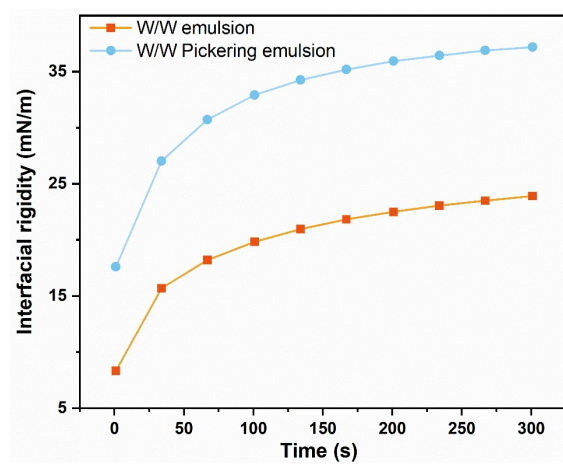


Fig. S2 Time-dependent interfacial rigidity profiles of the W/W emulsion and the Fe_3O_4 NPs-stabilized W/W Pickering emulsion.

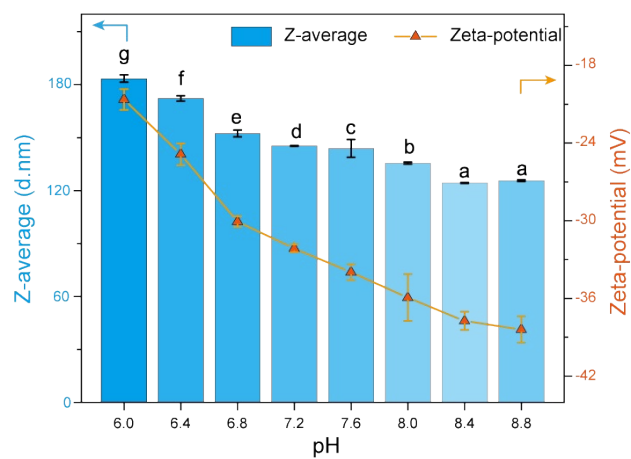


Fig. S3 Z-average hydrodynamic diameter and zeta potential of the Fe₃O₄ NPs at varying pH values (6.0–8.8). Different letters indicate significant differences ($p < 0.05$).

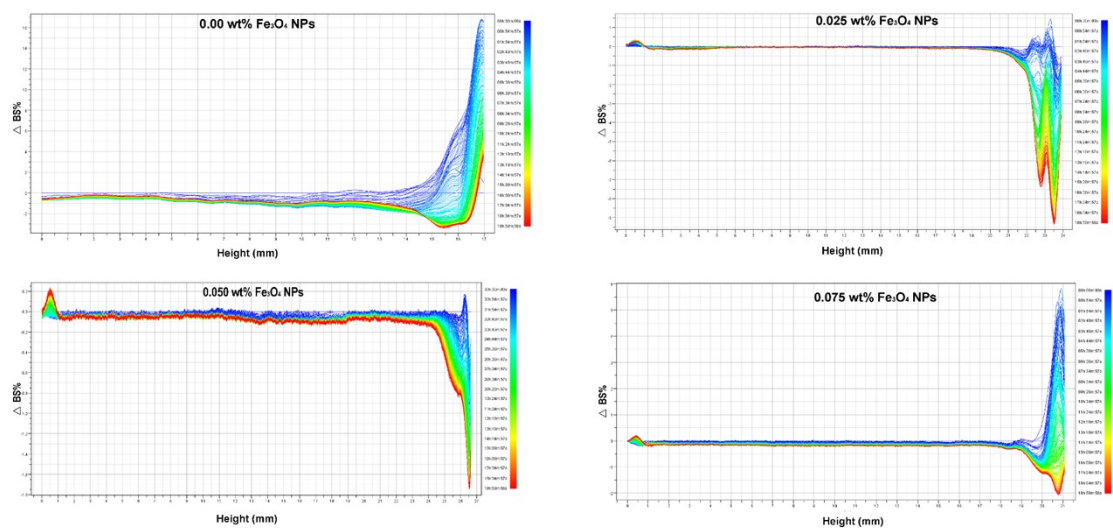


Fig. S4 Dynamic delta backscattering (Δ BS) profiles of the emulsions containing different mass fractions of Fe_3O_4 NPs (0.000, 0.025, 0.050, and 0.075 wt.%).

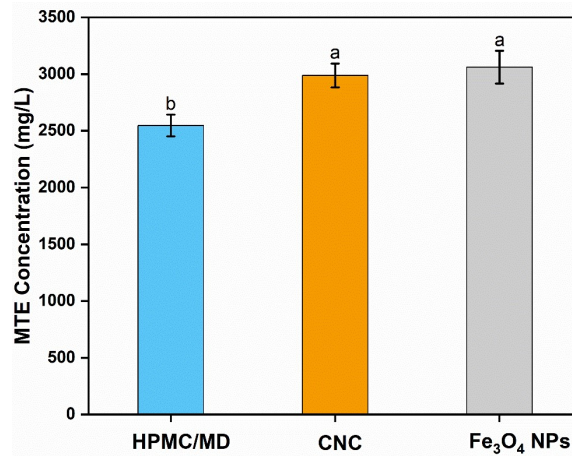


Fig. S5 Comparison of MTE yields in the bare HPMC/MD W/W emulsion, the CNC-stabilized W/W Pickering emulsion, and the Fe₃O₄ NPs-stabilized W/W Pickering emulsion. Different letters indicate significant differences ($p < 0.05$).