Supporting Information

Autonomous Enrichment of Ultra-low Concentration Sb(III) by Gradient P(AA-AM-NH_2-β-CD) Hydrogels Reinforced via Hofmeister Effect

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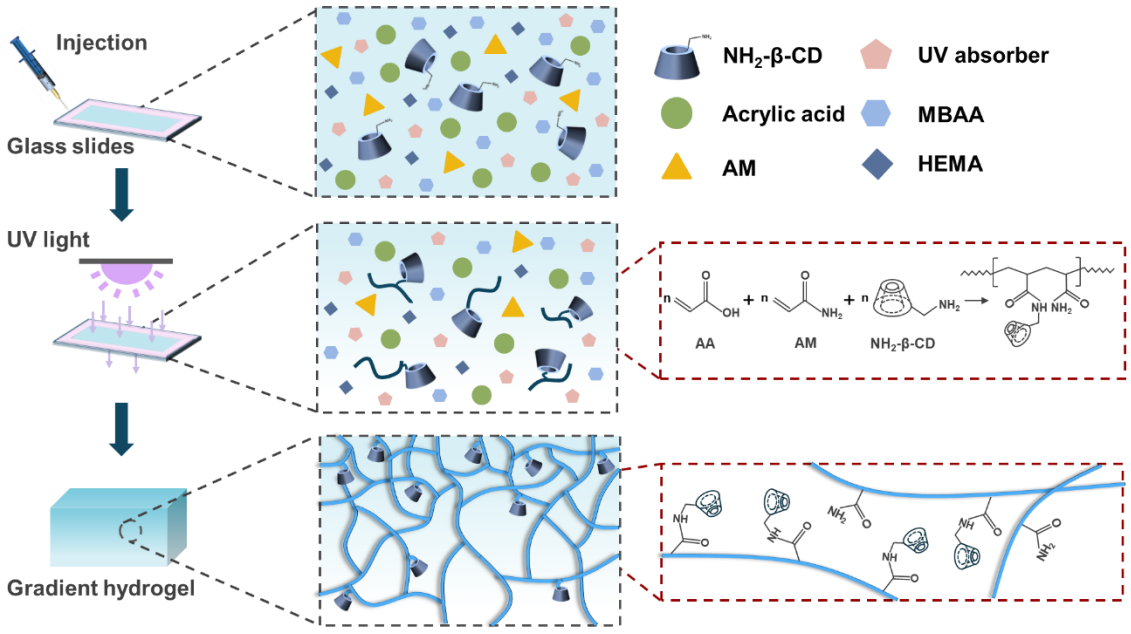

Fig S1: Schematic diagram of the gradient P(AA-AM-NH_2-β-CD) hydrogel preparation process.

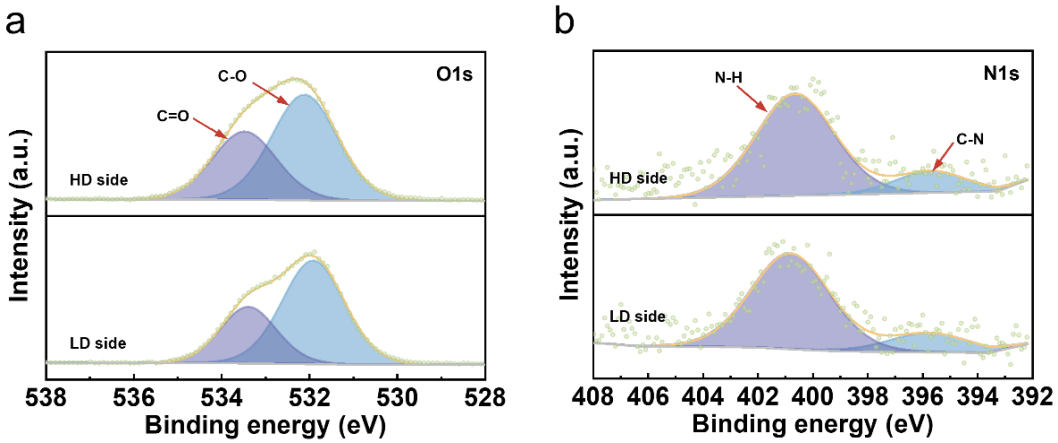

Fig S2: XPS spectra of the (HD) top and (LD) bottom surfaces of gradient P(AA-AM-NH_2-β-CD) hydrogels: (a) O 1s and (b) N 1s regions.

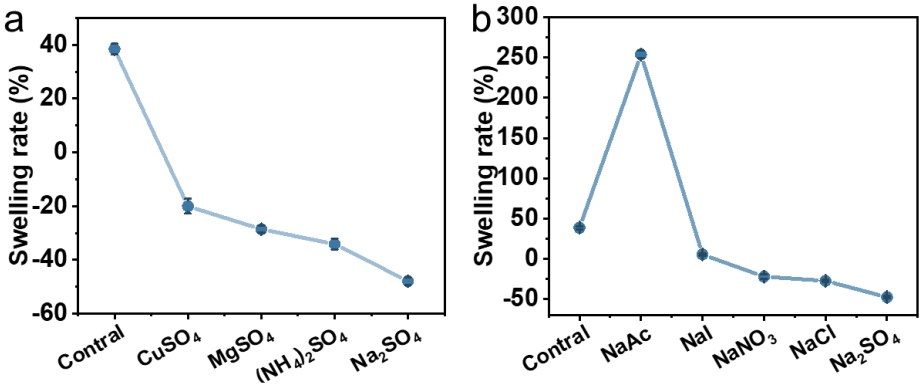

Fig S3: Swelling ratios of gradient P(AA-AM-NH_2-β-CD) hydrogels after immersion in different (a) cationic sulfates and (b) anionic sodium salts.

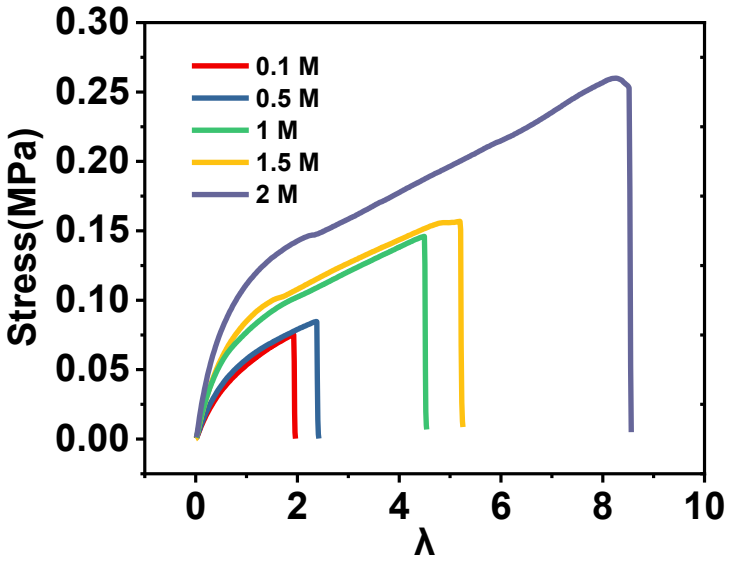

Fig S4: Mechanical properties of gradient P(AA-AM-NH_2-β-CD)-Na_2SO_4 hydrogels treated with different Na_2SO_4 concentrations.

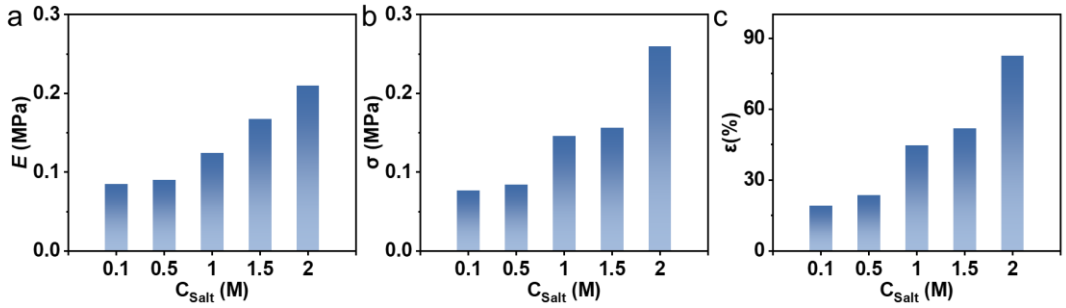

Fig S5: (a) Elastic modulus, (b) elongation at break, and (c) tensile strength of gradient P(AA-AM-NH_2-β-CD)-Na_2SO_4 hydrogels treated with different Na_2SO_4 concentrations.

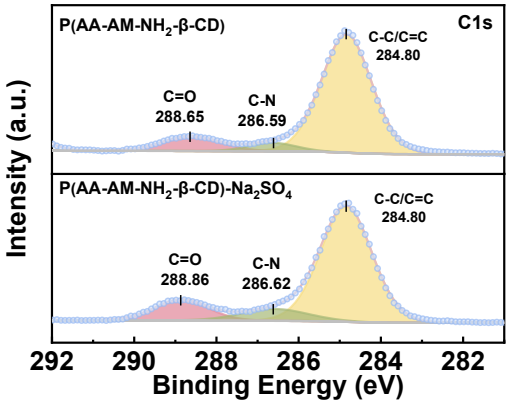

Fig S6: XPS spectra of gradient P(AA-AM-NH_2-β-CD) hydrogel surfaces before and after Na_2SO_4 treatment.

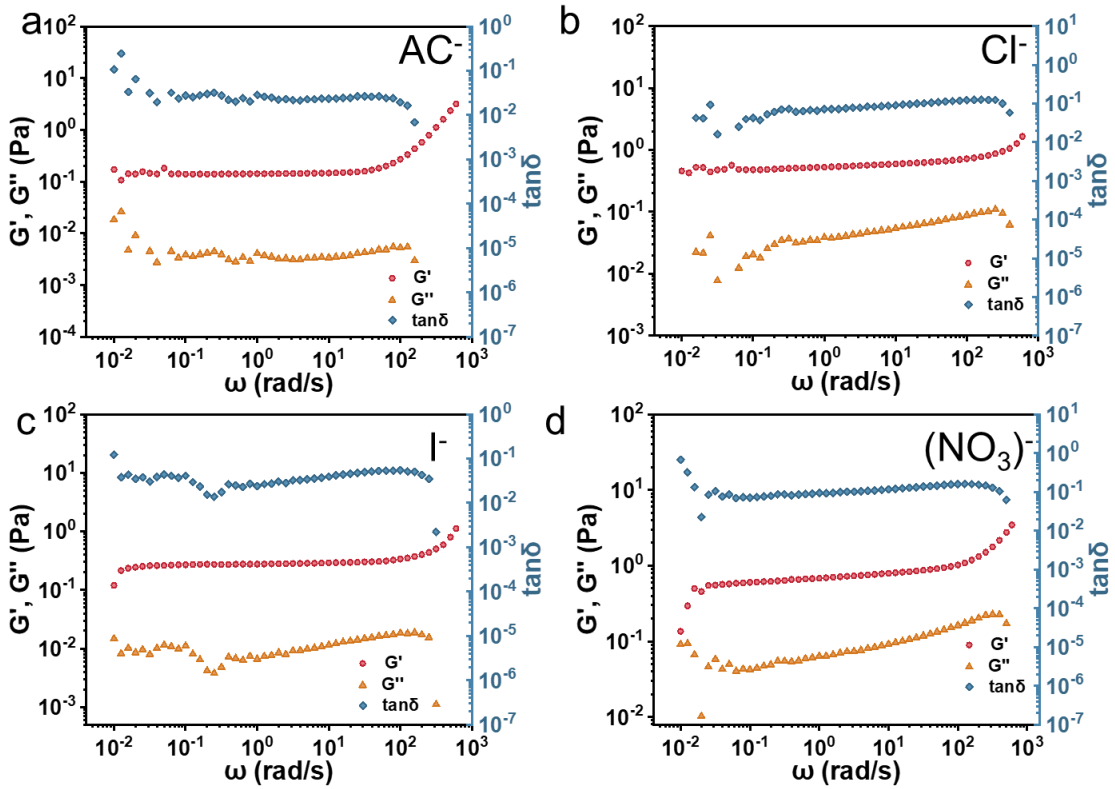

Fig S7: G′, G″, and tanδ of gradient P(AA-AM-NH_2-β-CD) hydrogels treated with (a) NaAc, (b) NaI, (c) NaCl, and (d) $NaNO_3$.

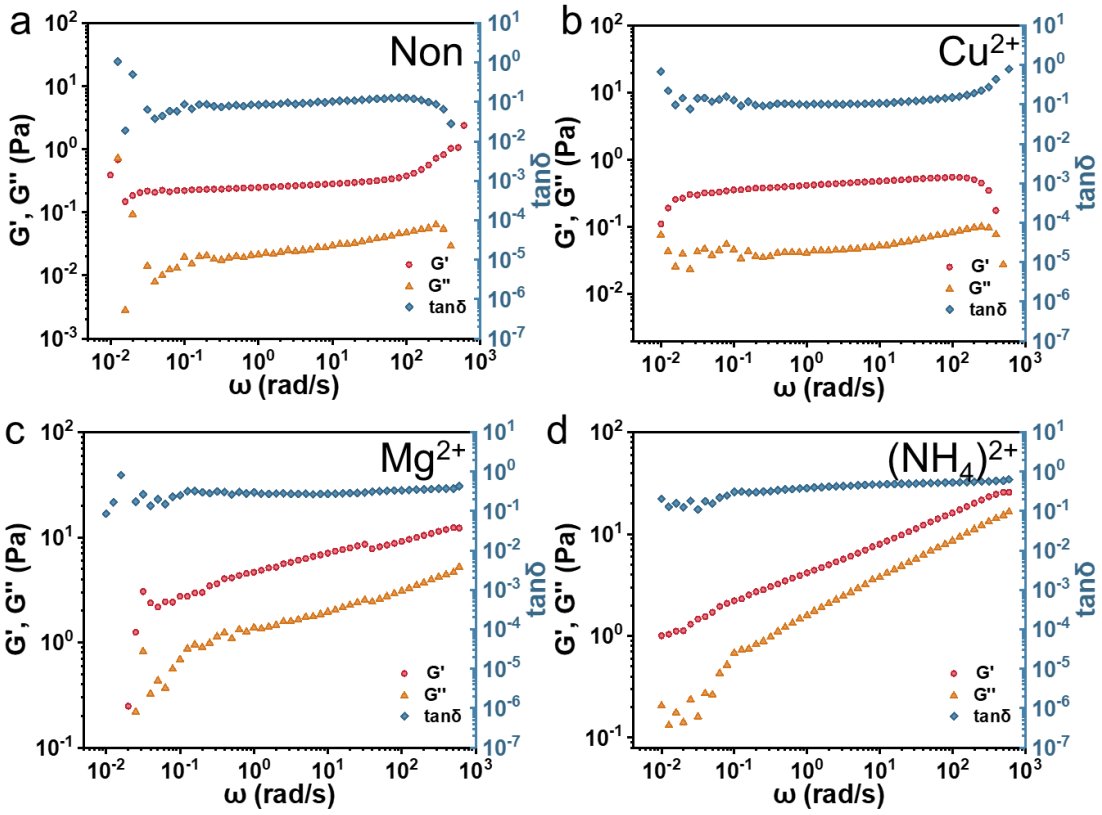

Fig S8: G′, G″, and tanδ of (a) gradient P(AA-AM-NH_2-β-CD) hydrogels and those treated with (b) $CuSO_4$, (c) $MgSO_4$, and (d) $(NH_4)_2SO_4$.

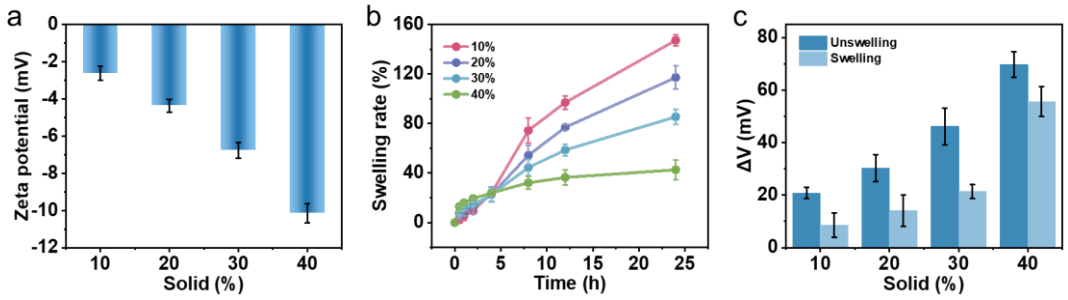

Fig S9: Effect of solid content on (a) zeta potential, (b) swelling ratio, and (c) built-in potential before and after swelling of gradient P(AA-AM-NH_2-β-CD) hydrogels.

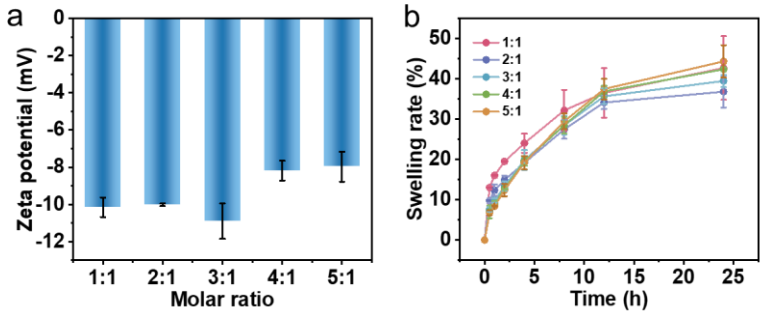

Fig S10: Effects of AA:AM molar ratio (with increasing AA content) on (a) zeta potential and (b) swelling ratio of gradient P(AA-AM-NH_2-β-CD) hydrogels.

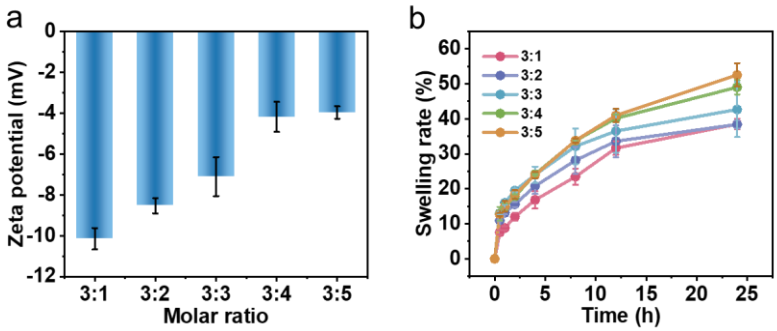

Fig S11: Effects of AA:AM molar ratio (with increasing AM content) on (a) zeta potential and (b) swelling ratio of gradient P(AA-AM-NH_2-β-CD) hydrogels.