Supporting Information

Convergent charge interval spacing of zwitterionic 4-vinylpyridine carboxybetaine structures for superior blood-inert regulation in amphiphilic phases

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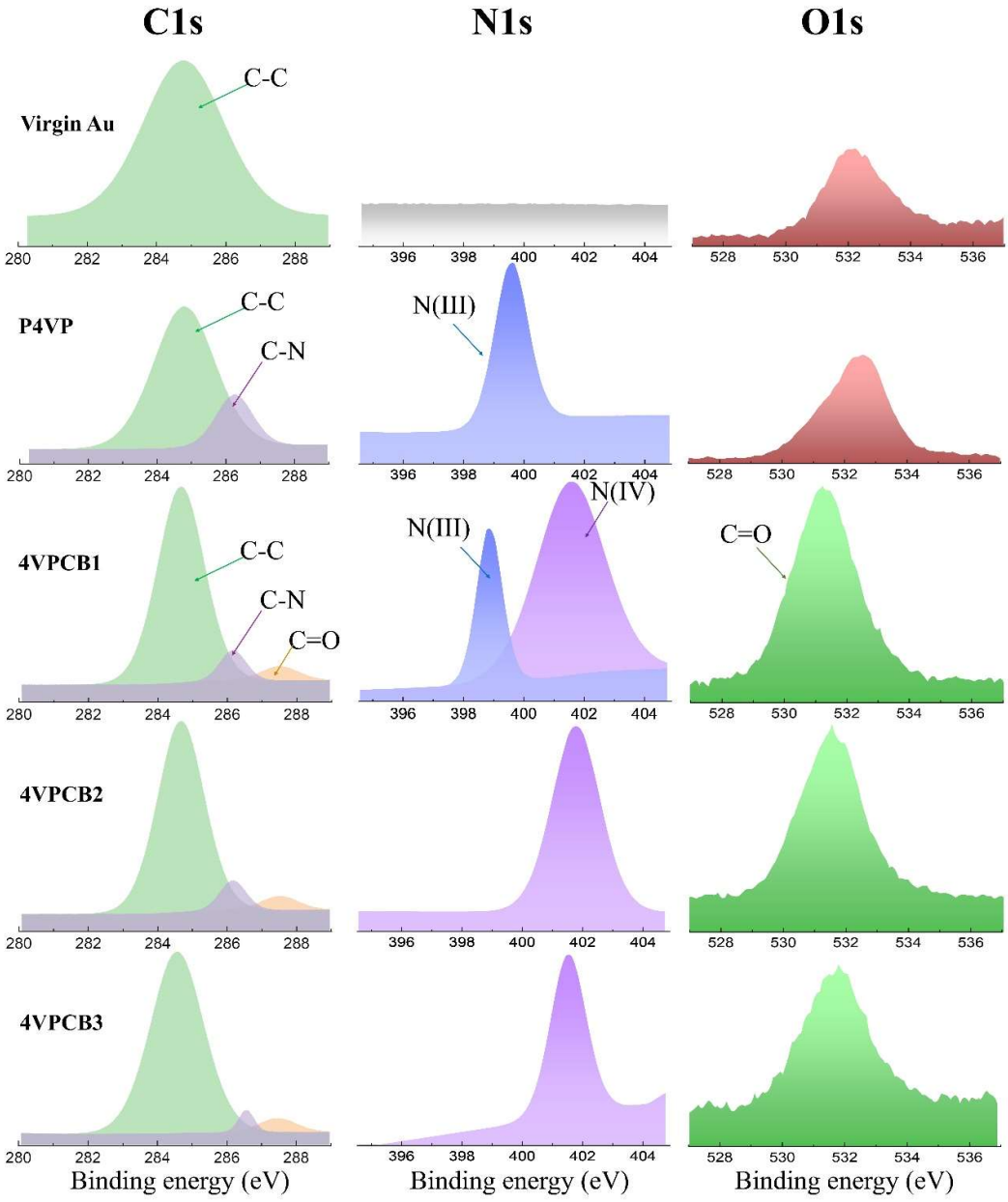

Figure S1. XPS spectra of the gold surface modified with P4VPCB1, P4VPCB2, P4VPCB3 in the N1s, O1s and C1s regions.

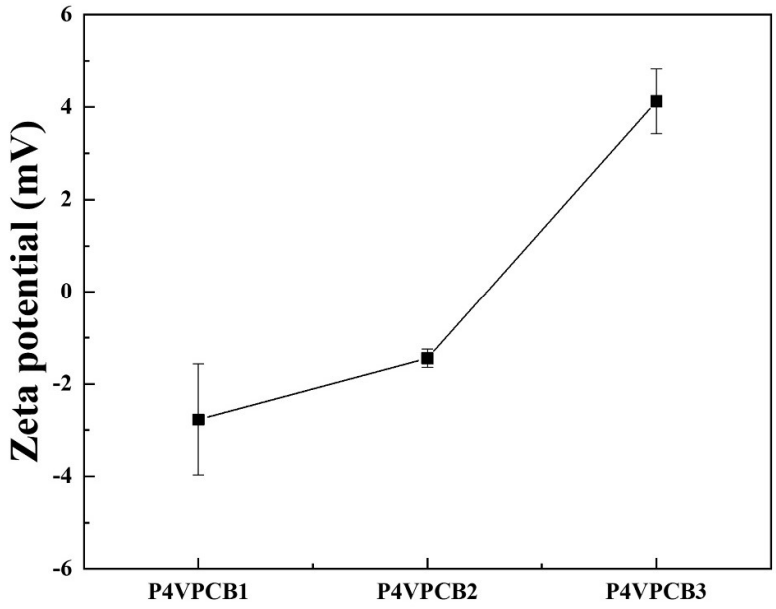

Figure S2. The zeta potential of P4VPCB1, P4VPCB2 and P4VPCB3 polymers in PBS solution. The results are presented as mean ± SD.

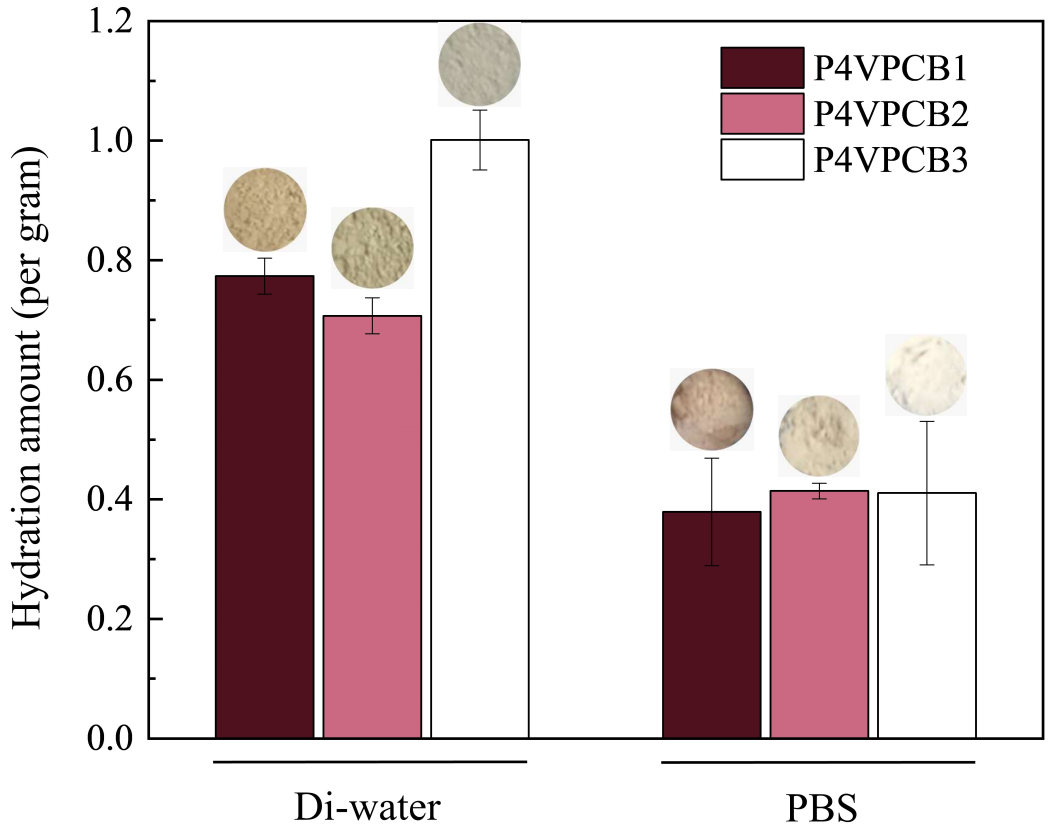

Figure S3. Showing the image, weight of the powder and hydration amount in water and PBS from the polymer powder, the photographs show (from left to right) P4VPCB1, P4VPCB2 and P4VPCB3 powder.

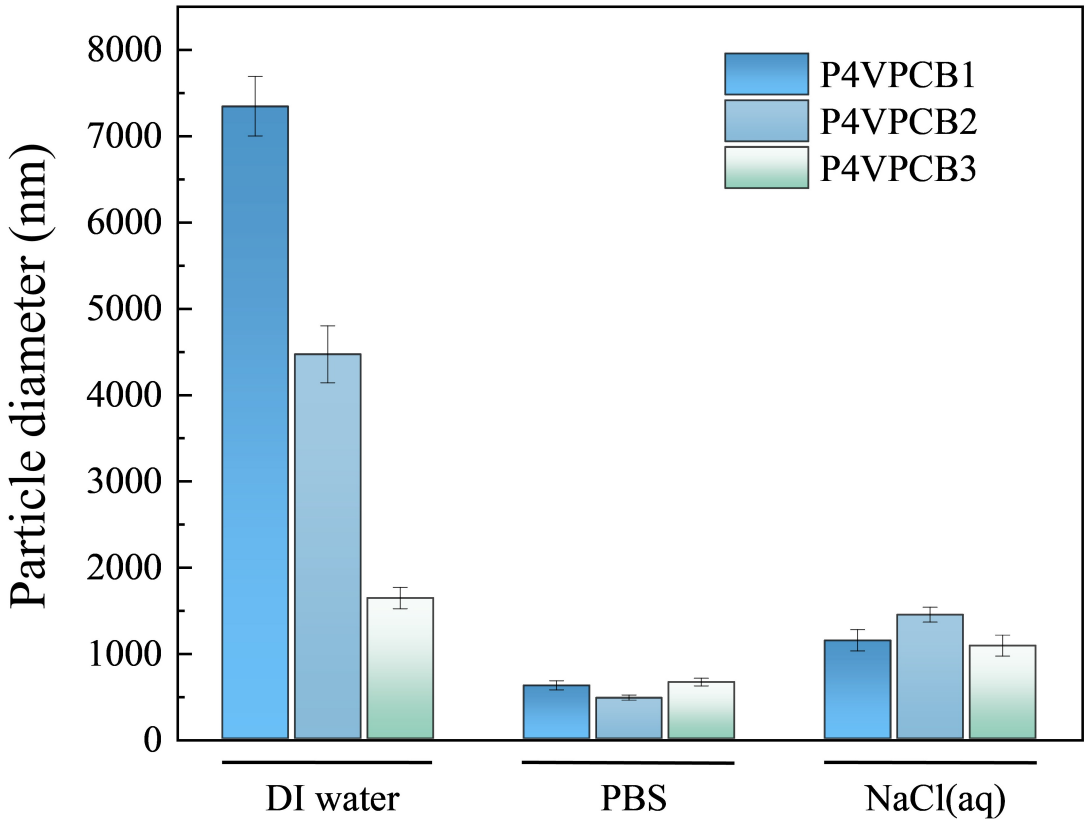

Figure S4. Particle diameters measured by dynamic light scattering with P4VPCB1, P4VPCB2 and P4VPCB3 in different ionic strength solvent (low to high).

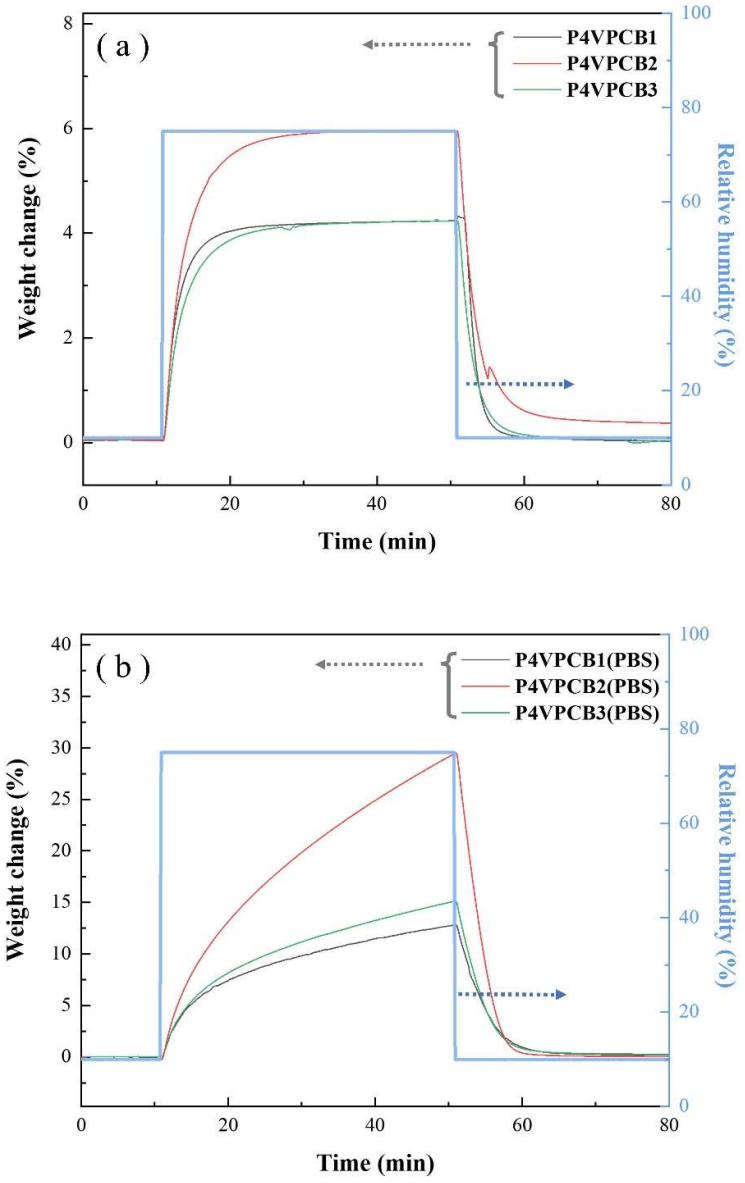

Figure S5. Real-time measurement of the dynamic water vapor adsorption isotherms of P4VPCB1, P4VPCB2, P4VPCB3 and the weight percentage (%) change of relative humidity (increased from 10% to 75% at 37°C). (a) P4VPCB polymer powder was dissolved and lyophilized in DI water for analysis; (b) P4VPCB polymer powder was dissolved and lyophilized in PBS for analysis.

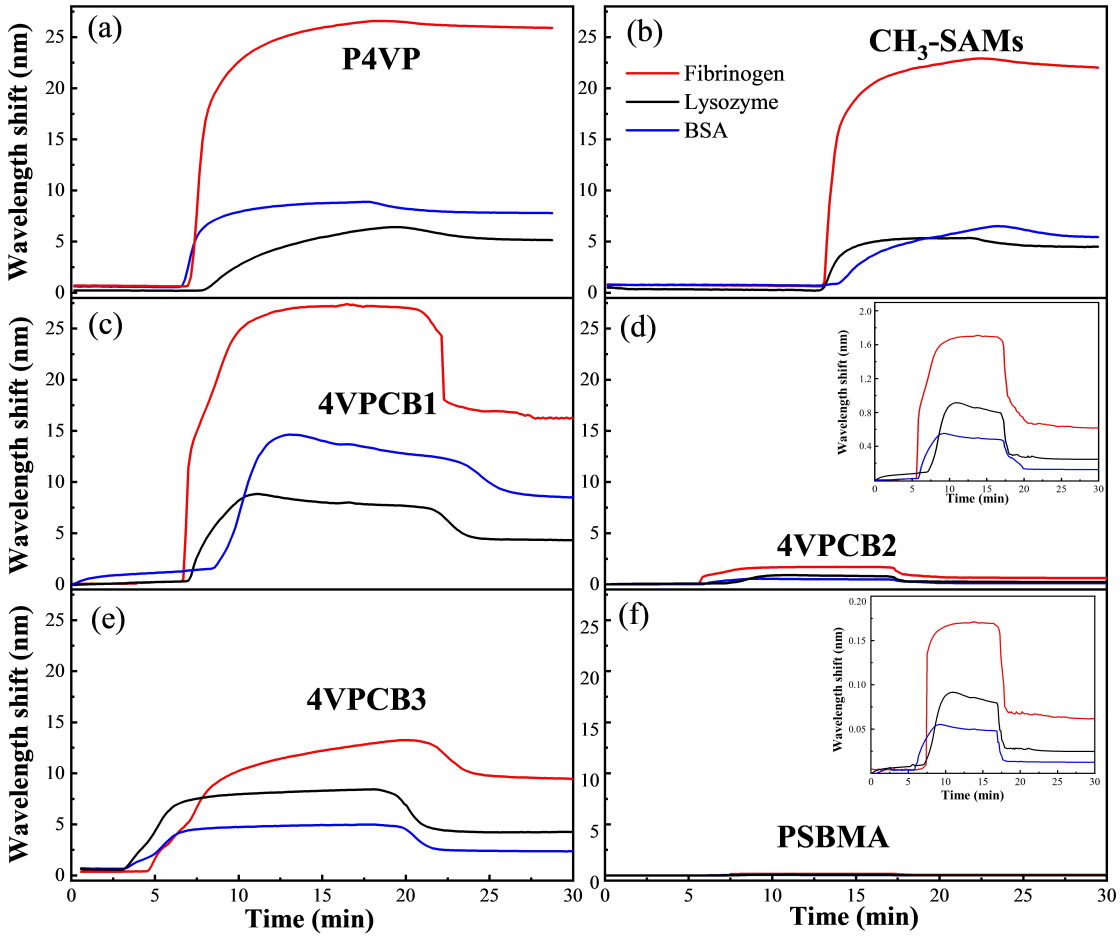

Figure S6. SPR sensorgrams of Fibrinogen, Lysozyme, and BSA protein adsorption with different polymer brushes of (a) P4VP, (b) CH3-SAMs, (c) P4VPCB1, (d) P4VPCB2, (e) P4VPCB3, and (f) PSBMA grafted on gold chips.

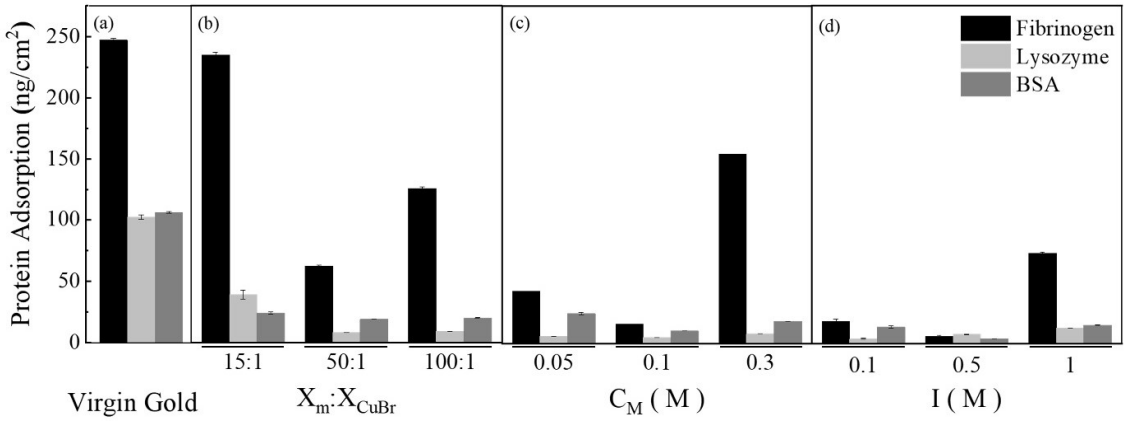

Figure S7. The protein adsorption of Fibrinogen, Lysozyme and BSA on (a) virgin gold surface and P4VPCB2 surfaces under different polymerization conditions, including different (b) monomer to catalyst (CuBr) ratios, X_m:X_{CuBr}; (c) monomer concentrations, C_M; (d) ionic strengths, I(M), adjusted by NaCl in the reaction solution.

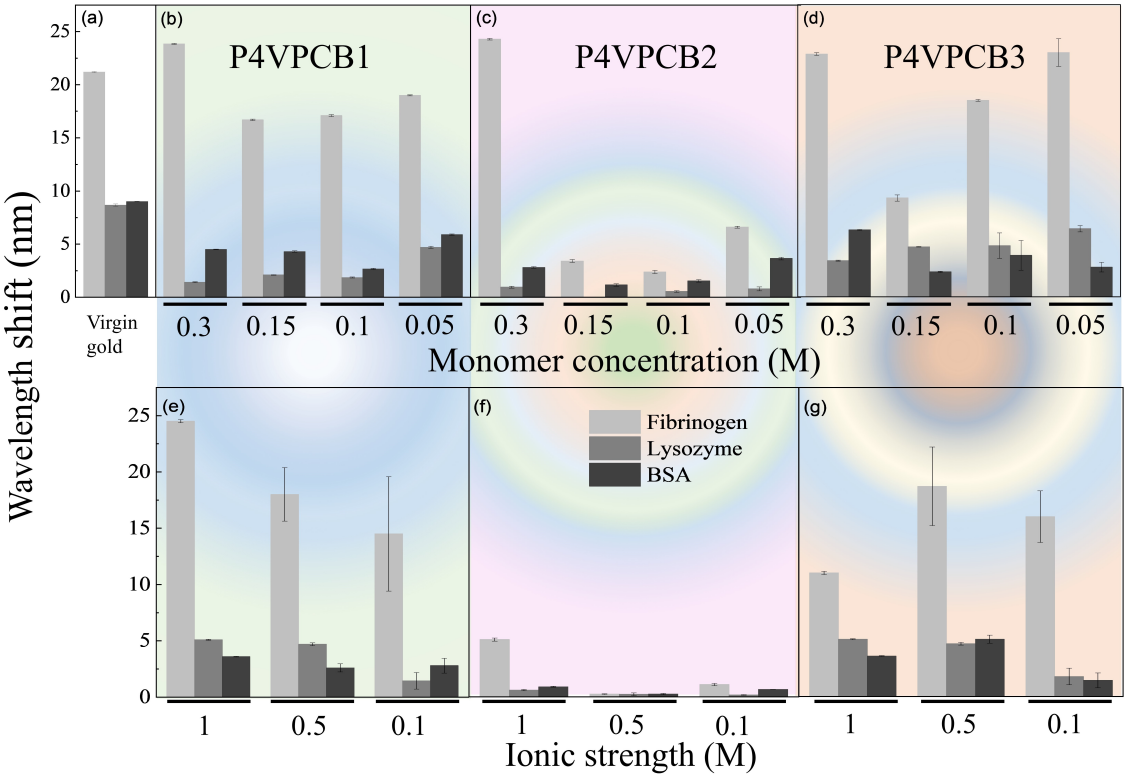

Figure S8. Protein adsorption of Fibrinogen, Lysozyme, and BSA on (a) virgin gold surface; (b) P4VPCB1, (c) P4VPCB2, and (d) P4VPCB3 surfaces with a controlled monomer concentration in the reaction solution; (e) P4VPCB1, (f) P4VPCB2, and (g) P4VPCB3 surfaces with controlled ionic strengths adjusted by NaCl in the reaction solution, respectively.