

Supplementary data of

Creating dynamic SERS hotspots on the surface of pH-responsive microgels for direct detection of crystal violet in solution

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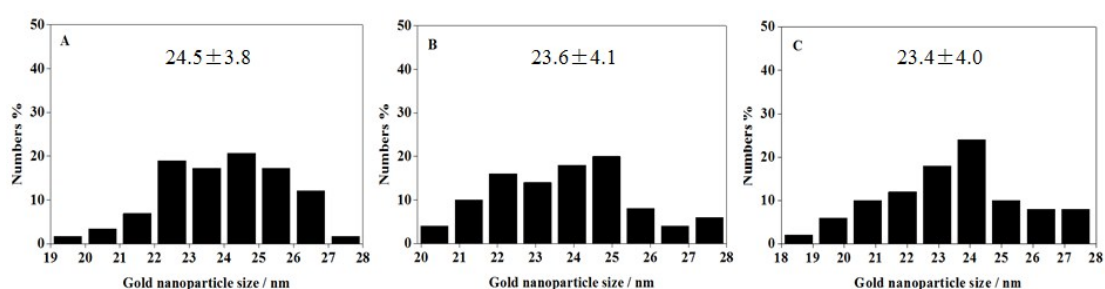


Figure S1. Gold nanoparticle size statistics of AuNPs/P2VP-1 (A), AuNPs/P2VP-2 (B) and AuNPs/P2VP-3 (C).

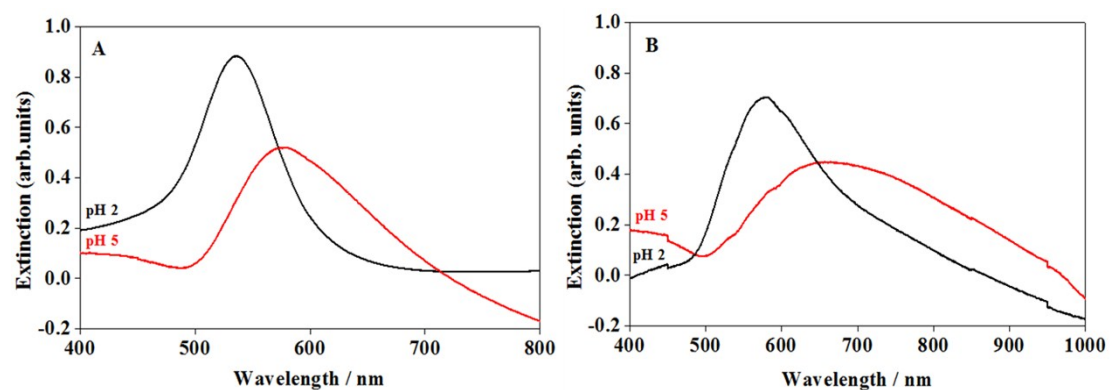


Figure S2. UV-vis spectra of AuNPs/P2VP-1 (A) and AuNPs/P2VP-3 (B) at pH values of 2.0 or 5.0

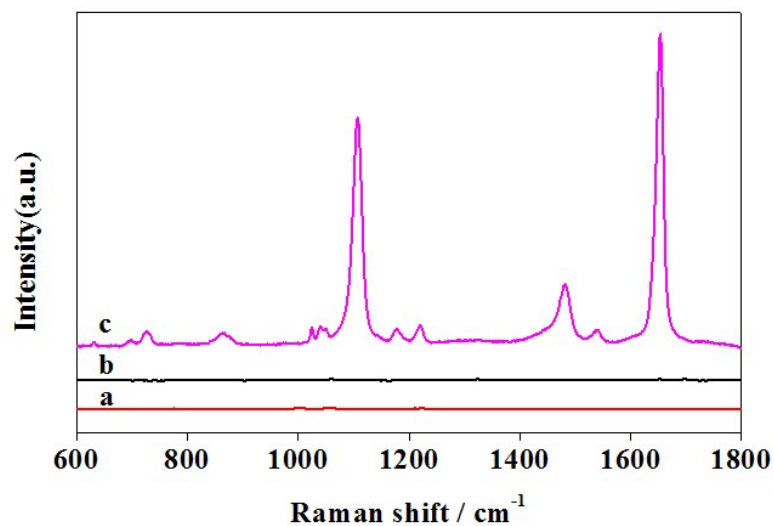


Figure S3. (a) Raman spectra of P2VP microgels; (b) Raman spectra of AuNPs/P2VP-2 microgels; (c) SERS spectra of 10^{-4} M PMBA adsorbed on AuNPs/P2VP-2. The acquisition time was 2 s.

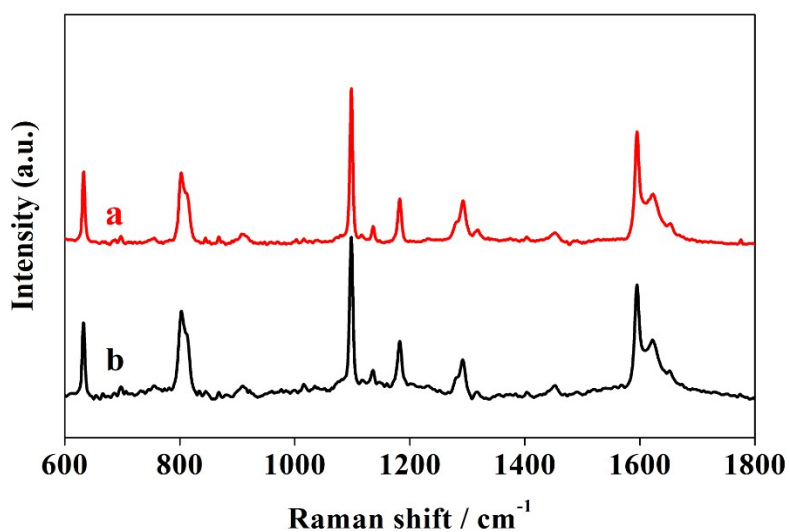


Figure S4. (a) Raman spectra of PMBA, detected after dropwise PMBA saturated aqueous solution with pH values of 2 to the wafer ; (b) Raman spectra of PMBA, detected after dropwise PMBA saturated aqueous solution with pH values of 5 to the wafer.

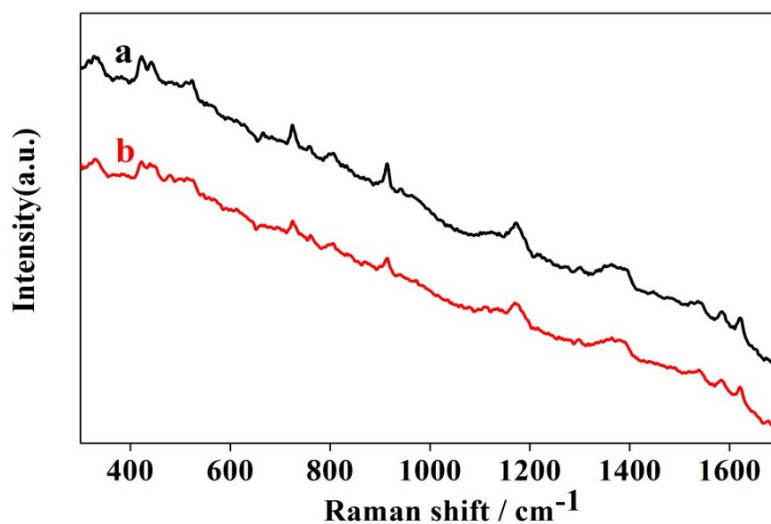


Figure S5. (a) Raman spectra of CV, detected at CV saturated aqueous solution with a pH of 2 ; (b) Raman spectra of CV, detected at CV saturated aqueous solution with a pH of 5.

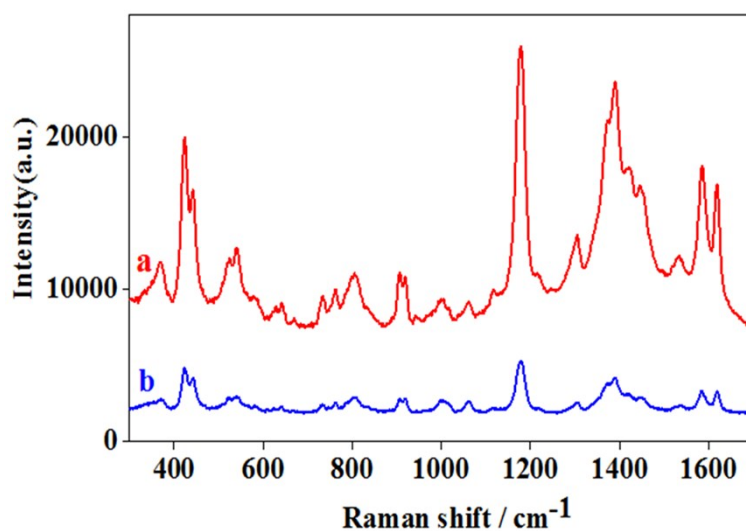


Figure S6. SERS spectra of 10^{-6} M CV adsorbed on AuNPs/ P2VP-2 microgels under the condition of pH values of 2, detected at pH values of 5(a) or 2 (b). The laser power was 3 mW and the acquisition time was 10 s.