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Supplemental information

**Conformationally engineering flexible peptides
on silver nanoparticles**

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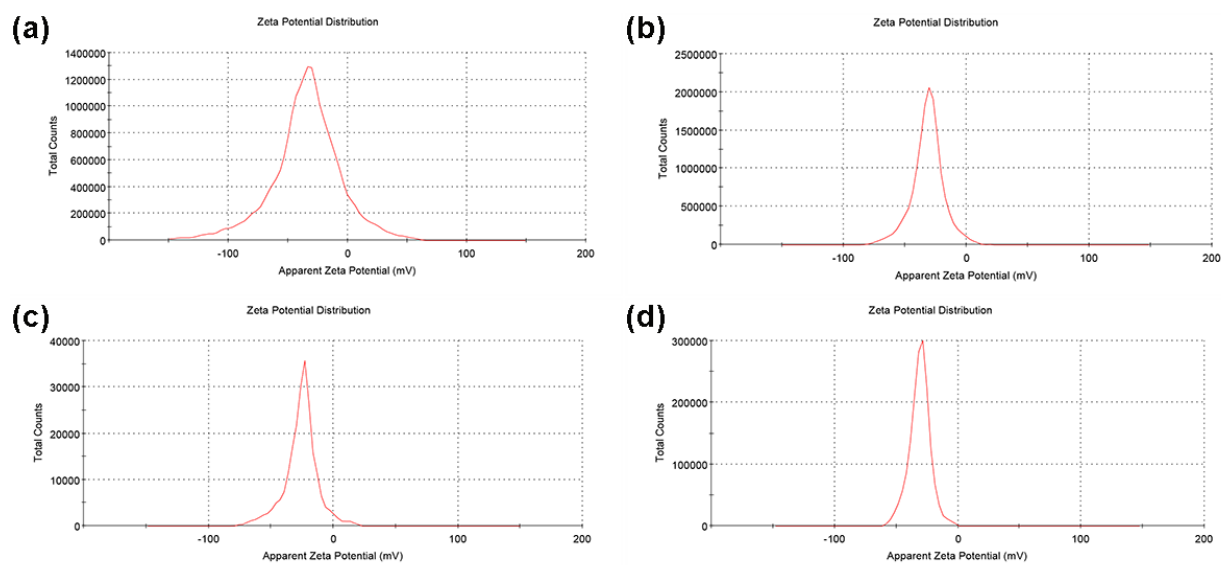


Figure S1. Zeta-potentials of AgNPs and the three AgNP-peptide conjugates. Related to STAR Methods. (a) AgNPs, (b) AgNP-P1, (c) AgNP-P1m, and (d) AgNP-P1s.

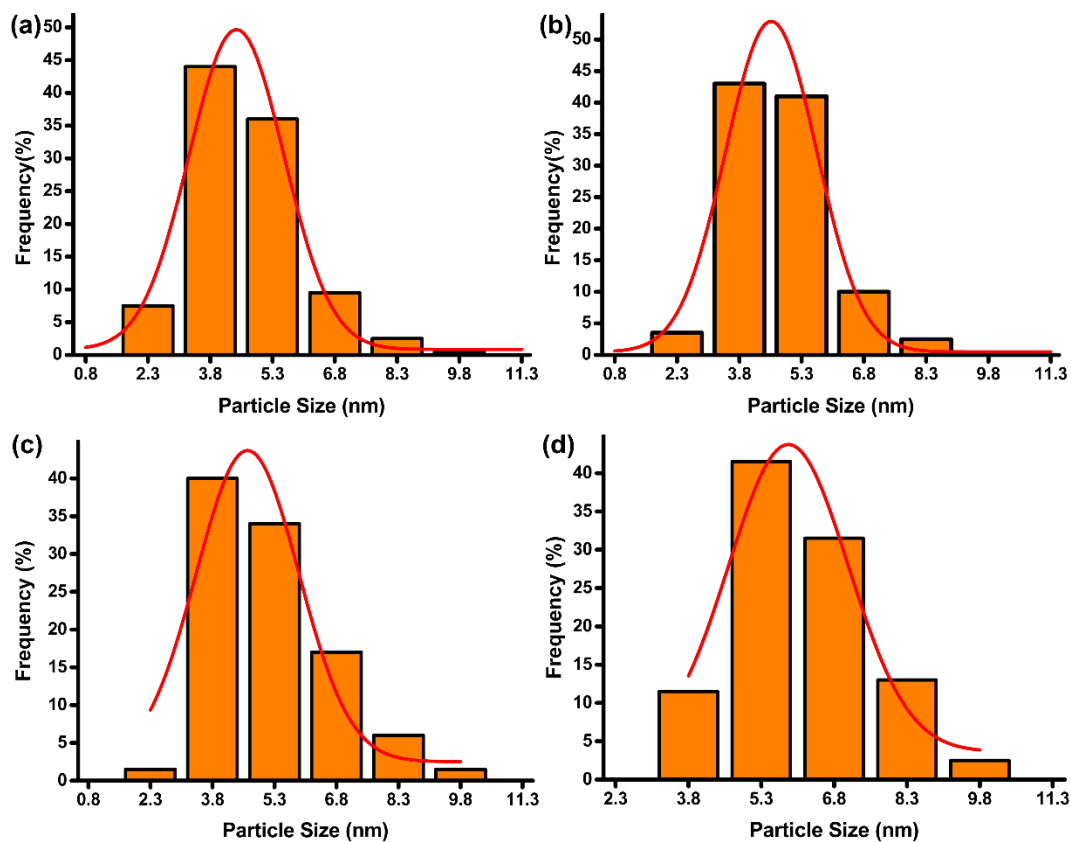


Figure S2. Size distributions of AgNPs and the three AgNP-peptide conjugates. Related to Figure 2. (a) AgNPs: 4.43 ± 1.14 nm, (b) AgNP-P1: 4.57 ± 1.10 nm, (c) AgNP-P1m: 4.60 ± 1.24 nm and (d) AgNP-P1s: 5.81 ± 1.23 nm.

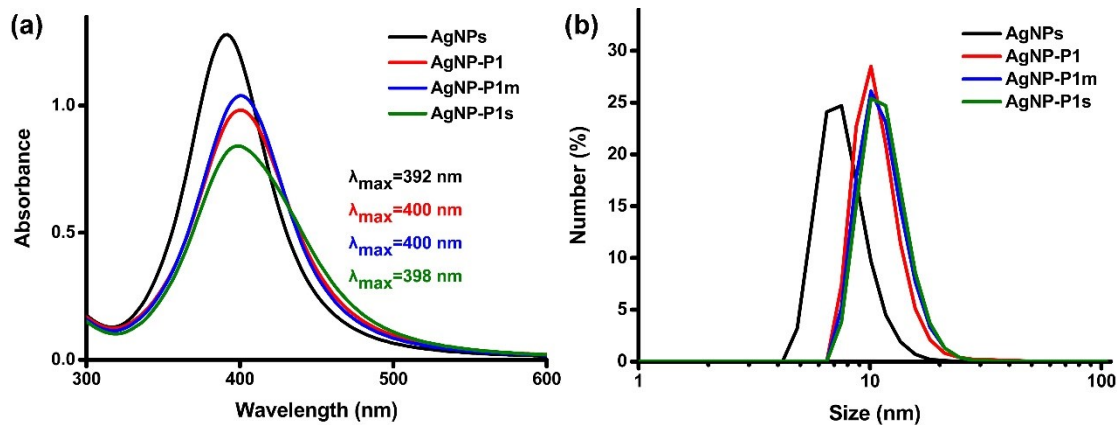


Figure S3. Spectral shift and hydrodynamic diameter change of AgNPs after peptide conjugation. Related to Figure 2.

(a) UV-Vis spectra of AgNPs and the three AgNP-peptide conjugates. (b) Hydrodynamic diameter distributions of AgNPs and the three AgNP-peptide conjugates as measured by DLS. The increased hydrodynamic diameters indicate the successful conjugation of peptides on AgNPs.

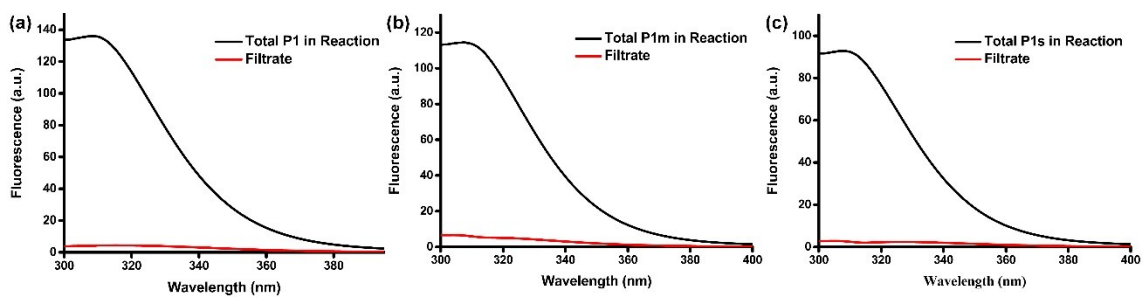


Figure S4. The efficiency of the peptide conjugation onto AgNPs (the molar ratio of peptide/AgNP is 120:1) as determined by fluorescence of peptides. Related to Figure 3.

(a) P1, (b) P1m, (c) P1s. The near-zero signals of the unreacted peptides (red lines) indicate nearly complete conjugation of P1, P1m and P1s onto AgNPs.

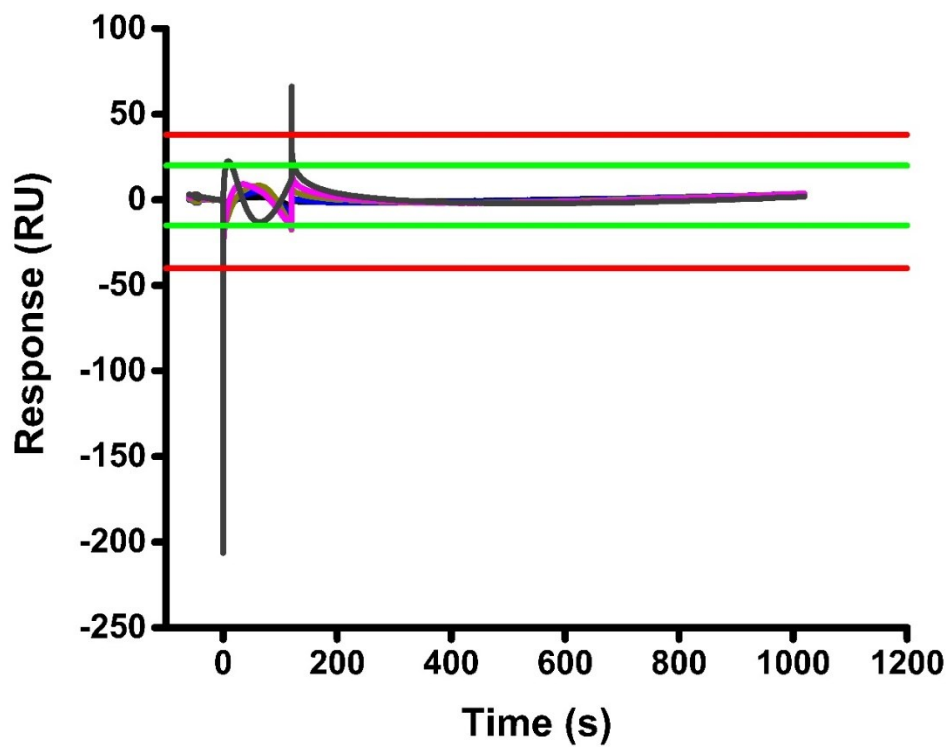


Figure S5. Residue plot for the kinetics of AgNP-P1 binding to the immobilized HEWL (the U-value is 1). The green lines indicate the 95% confidence interval, and the red lines indicate the 90% confidence interval. Related to Figure 4b.

Table S1. The Ag contents of the as-prepared AgNP solutions determined by AAS. Related to STAR Methods

Element	Batch 1 (mg.L ⁻¹)	Batch 2 (mg.L ⁻¹)	Batch 3 (mg.L ⁻¹)	Average (mg.L ⁻¹)
Ag	30.15	30.48	30.44	30.4±0.2