The Morphology Dependent Interaction between Silver Nanoparticles and Bovine Serum Albumin

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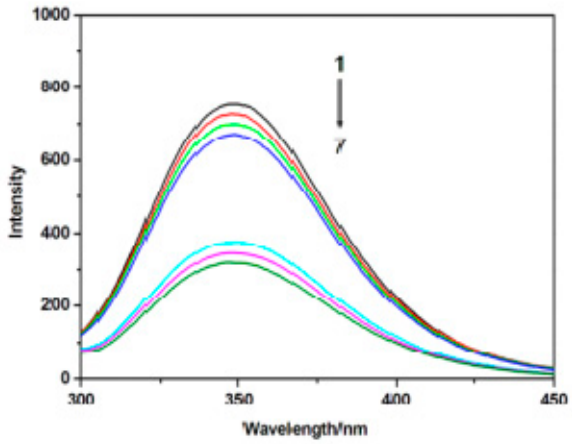

Figure S1. The effects of surface ligands of AgNPs on the fluorescence spectroscopy of BSA. From 1-7: they represent BSA, 5 μM), sodium citrate (1 mM), CTAB (1 mM), PVP (1 mM), spherical AgNPs (7×10^{-10} M), rod-shaped AgNPs (1.5×10^{-9} M) and triangular AgNPs (3.5×10^{-4} M).

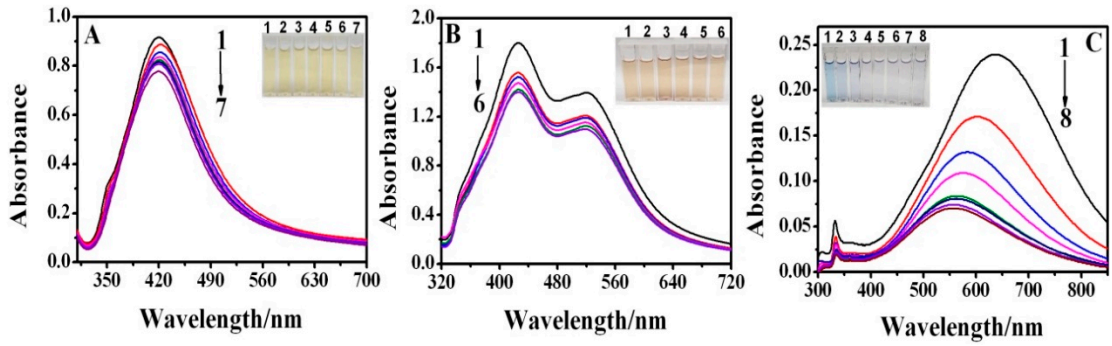

Figure S2. UV–visible spectrum of interaction of BSA with silver nanospheres (A), nanorods (B) and nanotriangles (C). From A to C, the concentrations of BSA are 0-2.4×10^{-5} M (A), the concentrations of BSA are 0-5×10^{-6} M (B), the concentrations of BSA are 0-7×10^{-5} M (C).

Table S1. Stern-Volmer quenching constants of the interaction between BSA and AgNPs with different morphologies.

Systems	K_{sv} ($L \cdot mol^{-1}$)	K_q ($L \cdot mol^{-1} \cdot s^{-1}$)	R[a]
Nanospheres-BSA	$(6.56 \pm 0.28) \times 10^9$	$(6.56 \pm 0.28) \times 10^{17}$	0.9928
Nanorods-BSA	$(1.32 \pm 0.09) \times 10^9$	$(1.32 \pm 0.09) \times 10^{17}$	0.9714
Nanotriangles-BSA	$(5.04 \pm 0.36) \times 10^3$	$(5.04 \pm 0.36) \times 10^{11}$	0.9868

[a] R is the correlation coefficient.

Table S2. Conformation changes of the secondary structure of BSA with different morphologies of AgNPs, calculated by CDNN software.

Systems	Helix（%）	Antiparallel（%）	Parallel（%）	β-Tur（%）	Rndm.Coil（%）
BSA	58.4	2.9	6.4	12.8	21.1
Nanospheres-BSA	67.5	2.7	5.4	11.0	17.1
Nanorods-BSA	43.8	3.9	7.1	14.9	29.5
Nanotriangles-BSA	60.2	2.5	6.2	12.6	20.1