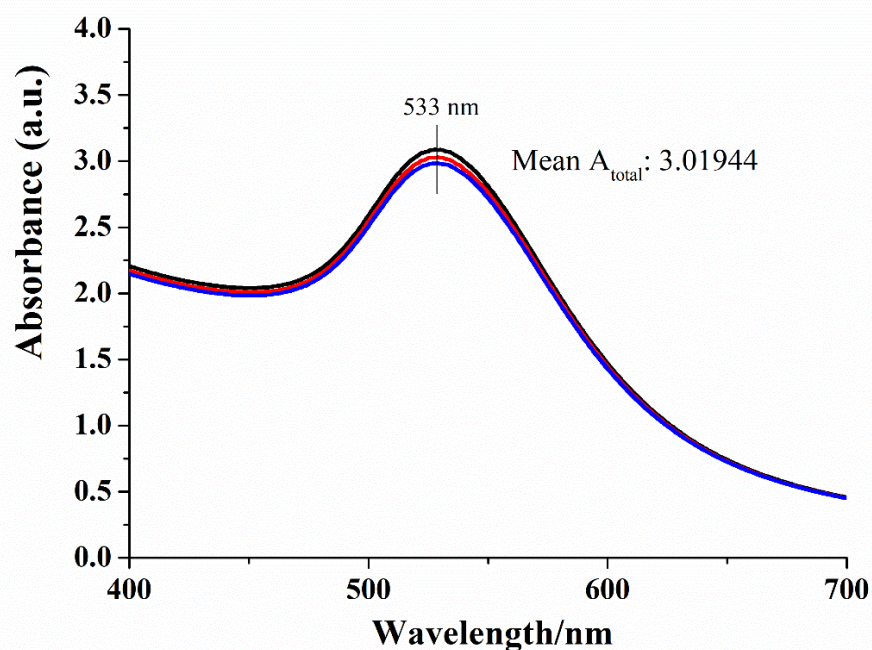


**Figure S1.** Agarose gel electrophoresis results of the RCA product. M: DNA marker; 1: primer-2; 2: phosphorylated linear DNA-2 (PL-DNA-2); 3: circular DNA template-2 (CT-2); 4: RCA products (ssDNA-2); 5: primer-3; 6: phosphorylated linear DNA-3 (PL-DNA-3); 7: circular DNA template-3 (CT-3); 8: RCA products (ssDNA-3); 9: primer-4; 10: phosphorylated linear DNA-4 (PL-DNA-4); 11: circular DNA template-4 (CT-4); 12: RCA products (ssDNA-4).



**Figure S2.** UV-visible absorption spectra of AuNPs-BSA. The maximum absorption wavelength of the 30 nm AuNPs prepared in this study is 533 nm. The average absorption value of the total amount of 25  $\mu$ L of AuNPs-BSA was calculated to be 3.01944.