Electronic Supplementary Material (ESI) for Analytical Methods.

Figure caption:

Figure S1. Absorption spectra and pictures of colorful silver nanoparticles.

Figure S2. UV-vis absorption features of red silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend

Figure S3. UV-vis absorption features of purple silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend

Figure S4. UV-vis absorption features of blue silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend

Figure S5. Absorption spectra of silver TNPs before(A) and after(B) reaction with $(NH_4)_2S_2O_8$ at different pH.

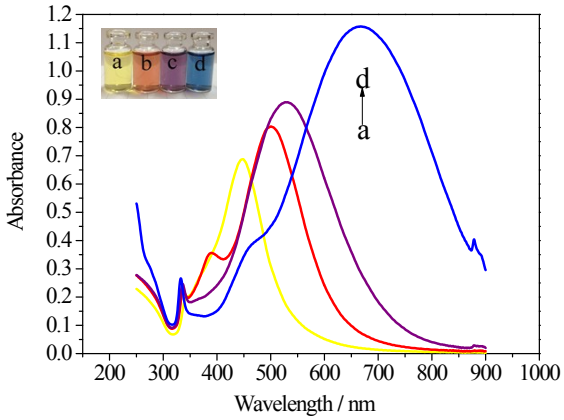

Figure S1. Absorption spectra and pictures of colorful silver nanoparticles. Yellow (a), red (b), purple (c) and blue (d) silver nanoparticles were synthesized by adding 35, 50, 80 and 100 μL of 100 mmol L^{-1} sodium borohydride respectively

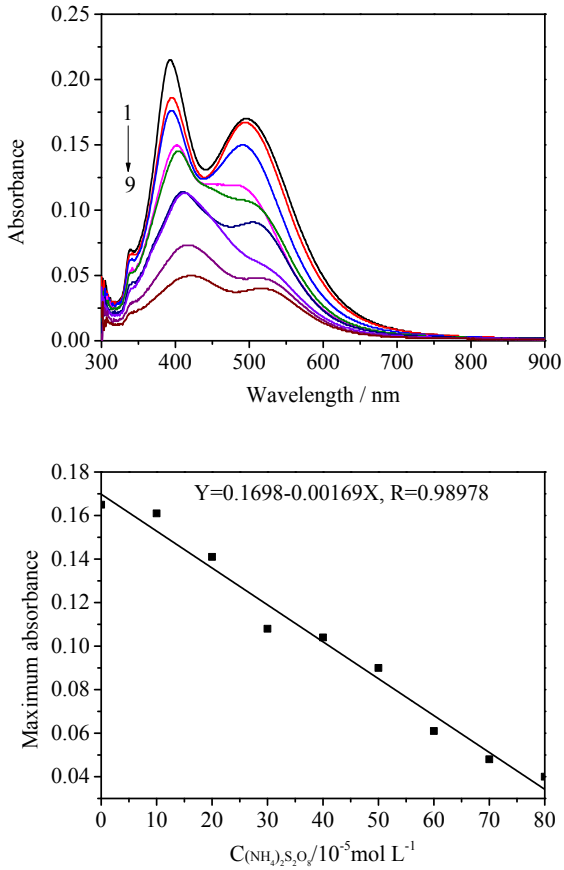

Figure S2. UV-vis absorption features of red silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend; pH 6.80, reaction for 30 min at 80 ^oC

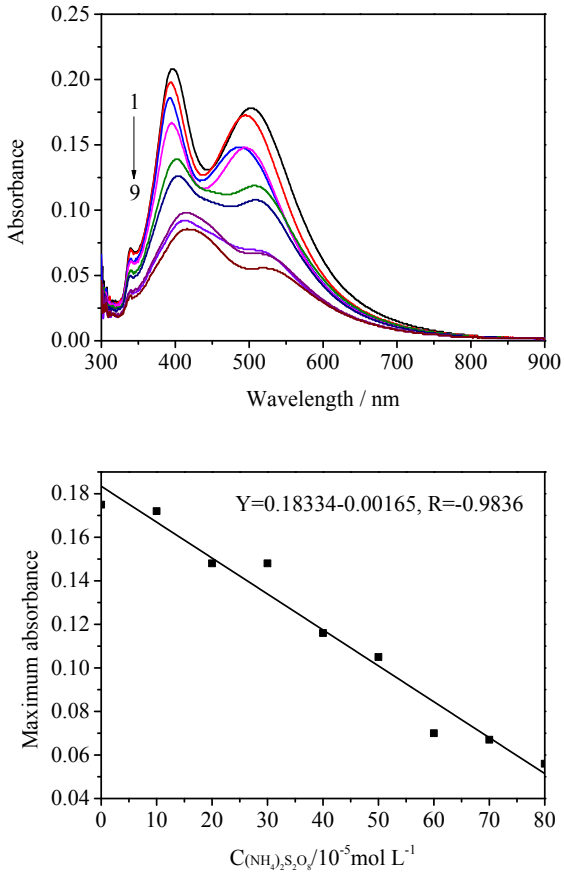

Figure S3. UV-vis absorption features of purple silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend; pH 6.80, reaction for 30 min at 80 ^oC

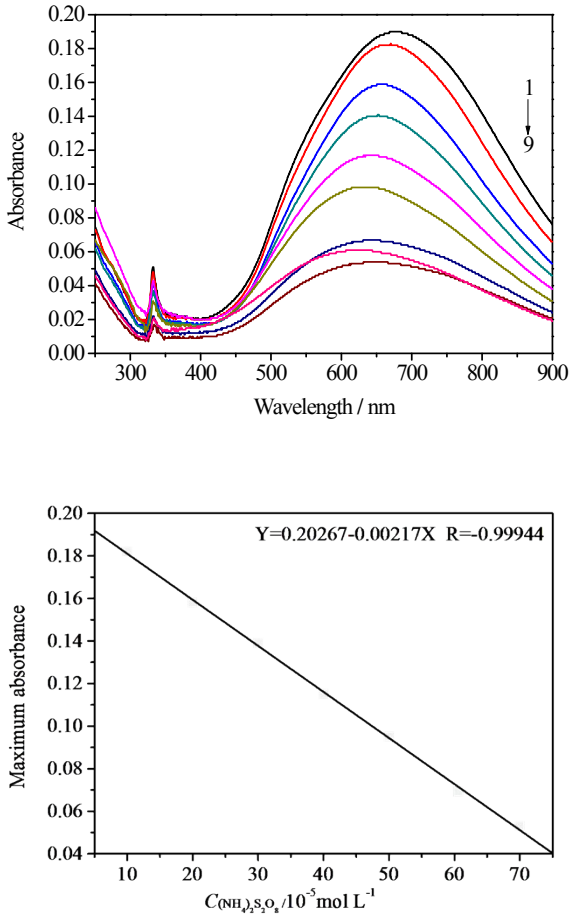

Figure S4. UV-vis absorption features of blue silver nanoparticles in the presence of different concentrations of $(NH_4)_2S_2O_8$ and their corresponding absorption variation trend; pH 6.80, reaction for 30 min at 80 ^oC

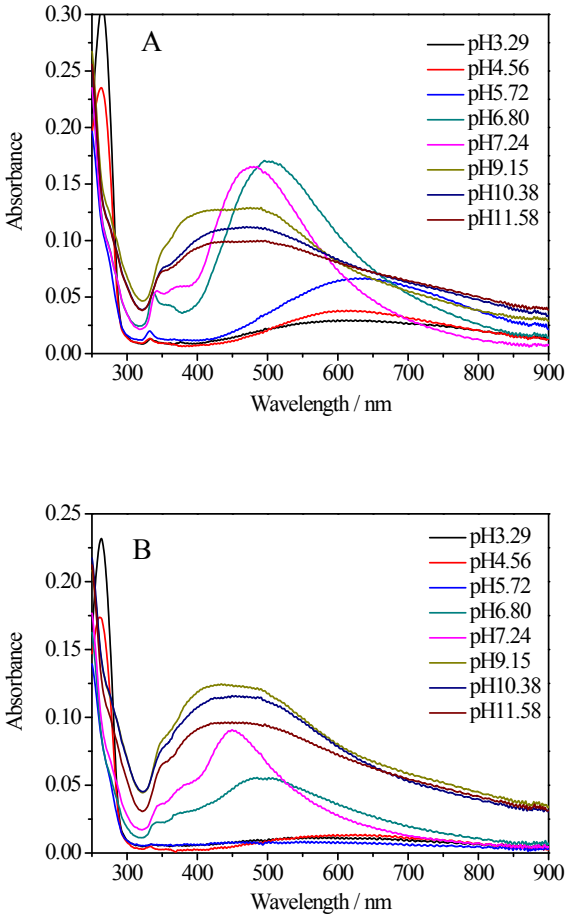

Figure S5. Absorption spectra of silver TNPs before(A) and after(B) reaction with $(NH_4)_2S_2O_8$ at different pH. Condition: concentration of silver TNPs, 0.286X mol L^{-1}; $(NH_4)_2S_2O_8$, 0.60 mmol L^{-1}; B-R buffer, 0.02 mol L^{-1}

Table S1. Detection results of Atomic absorption spectrometry.

C_{AgTNPs}	$C_{(NH_4)_2S_2O_8}$ (mmol L^{-1})	ABS	C_{AgTNPs}	$C_{(NH_4)_2S_2O_8}$ (mmol L^{-1})	ABS
0.786X M	0	0.0048	0.786 X M	40	0.0218
	10	0.0084		50	0.0266
	20	0.0094		60	0.0288
	30	0.0184		70	0.0328

Table S2. Detection results from ten batches of silver TNPs.

Batches [a]	Maximum absorption wavelength (nm)	Added (mmol L^{-1})	Detected (mmol L^{-1})	Relative deviation (%)
1	592	0.2	0.1716	-14.2
		0.6	0.6331	5.5
2	549	0.2	0.1857	-7.2
		0.6	0.5849	-2.5
3	563	0.2	0.1808	-9.6
		0.6	0.5817	-3.1
4	607	0.2	0.2089	4.5
		0.6	0.6368	6.1
5	584	0.2	0.1909	-4.6
		0.6	0.6238	4.0

[a]The five batches (1 to 5) of silver TNPs were prepared using same reagent but different days.