Supporting Information for

A Novel Green Synthesis of Silver Nanoparticles by the Residues of Chinese Herbal Medicine and their Biological Activities

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Table S1 The average size of AgNPs obtained at different biosynthesis parameters with the material proportion of waste extract:$AgNO_3$ = 1:1.

Times/h	pH of waste extract						
	4.0	5.0	6.0	7.0	8.0	9.0	10.0
1.0	104.7±0.7	36.6±0.6	77.8±1.4	99.7±0.1	94.1±1.3	129.9±3.5	31.9±1.6
2.0	112.3±0.2	62.5±2.7	98.2±1.6	79.8±2.9	81.9±5.2	176.0±3.7	32.3±1.8
3.0	109.6±1.0	39.8±0.8	70.4±2.2	93.1±8.1	95.1±3.7	122.1±1.9	25.1±1.0
4.0	71.9±0.4	60.1±1.0	64.8±1.3	85.3±11.8	70.3±0.2	121.0±1.8	34.2±0.9
5.0	94.8±1.1	44.5±0.3	79.4±1.3	59.8±0.3	71.7±0.4	98.3±1.9	23.7±1.2
6.0	130.9±1.8	38.1±1.4	83.4±1.1	73.1±5.6	110.4±8.3	122.4±6.4	22.2±0.5

Table S2 The average size of AgNPs obtained at different material proportion (pH 10.0) after 2 h reaction.

	Waste extract:$AgNO_3$				
	2:1	1:1	1:2	1:3	1:5
Size/nm	49.6±0.8	32.3±1.8	35.8±1.2	54.8±3.9	53.4±3.3

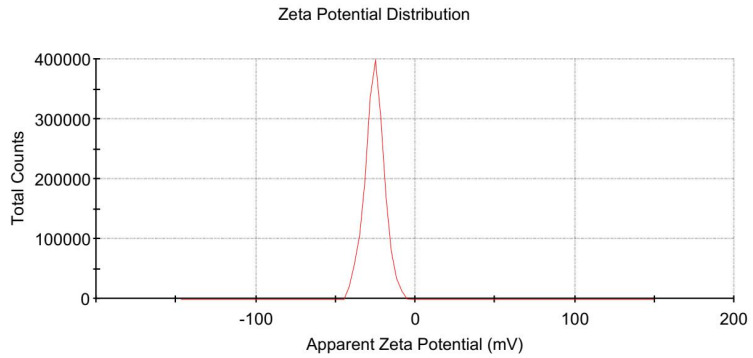

Figure S1 Zeta potential of biosynthesized AgNPs under the most efficient parameters

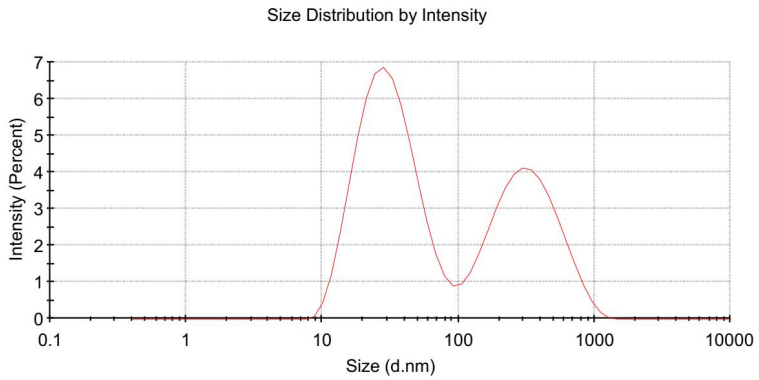

Figure S2 The average size of biosynthesized AgNPs after 2 month storage

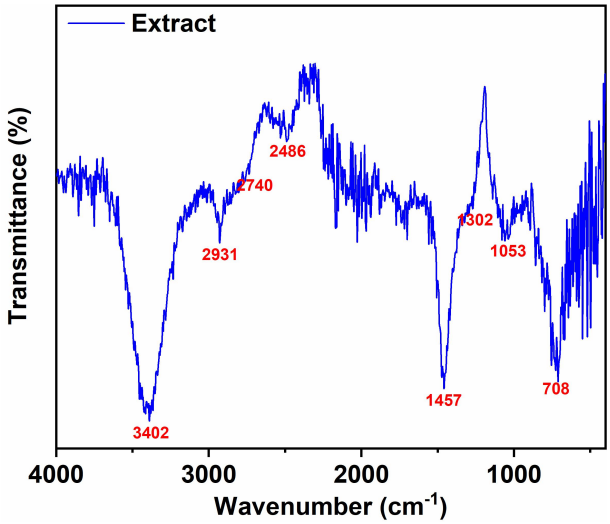

Figure S3 FT-IR spectra of Bazheng Mixture residue extract (the peak at 3402 cm^{-1} corresponds almost entirely to the N–H stretching vibrations of the peptide linkages. The peak at 2931 cm^{-1} belongs to the stretching vibration of methyl groups. The broad peak from 2287 to 1193 cm^{-1}, which has a sharp peak locating at 1457 cm^{-1}, are attributed to C=O stretching vibrations of cyclic esters from the vitamins, germinal methyl groups, amide I groups of proteins, and the bending vibration of C–OH groups and the anti-symmetric stretching band of C–O–C groups of polysaccharides and/or chlorophyll, respectively)