nanomaterials

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Supplementary Information

Aqueous Dilution of Noble NPs Bulk Dispersions: Modeling Instability due to Dissolution by AF4 and Stablishing Considerations for Plasmonic Assays

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S.1. The AF4 system used was an AF2000 MT model purchased from Postnova Analytics Inc. (Germany). Optimal separation was achieved using the following conditions for each NPs.

Table S1. Method parameters for AuNPs.

Eluent: Ultrapure water + 0.02% NaN_3; pH: 7	
Injection / Focusing Detector flow rate (mL min^{-1}): 0.50 Injection flow rate (mL min^{-1}): 0.20 Focus flow rate (mL min^{-1}): 1.30 Cross flow rate (mL min^{-1}): 1.00 Injection time (min): 3.0 Transition time (min): 1.0	
1st elution step Elution time (min): 30.0 Elution type: linear Exponent: 1 Initial cross flow (mL min^{-1}): 1.00	**2nd elution step** Elution time (min): 10.0 Elution type: constant Exponent: 0 Initial cross flow (mL min^{-1}): 0.00

Table S2. AF4 method parameters for AgNPs.

Eluent: Ultrapure water + 0.02% NaN_3; pH: 9.2	
Injection / Focusing Detector flow rate (mL min^{-1}): 0.50 Injection flow rate (mL min^{-1}): 0.20 Focus flow rate (mL min^{-1}): 1.30 Cross flow rate (mL min^{-1}): 1.00 Injection time (min): 7.0 Transition time (min): 0.5	
1st elution step Elution time (min): 35.0 Elution type: linear Exponent: 1 Initial cross flow (mL min^{-1}): 1.00	**2nd elution step** Elution time (min): 10.0 Elution type: constant Exponent: 0 Initial cross flow (mL min^{-1}): 0.00

S.2. DLS study of different NPs sizes. The following tables show the hydrodynamic diameters of different AuNPs and AgNPs dispersions as function of dilution preparation time.

Table S3. Hydrodynamic diameters for AuNPs dispersions as a function of dilution preparation time.

NPs size (nm) / **Time (h)**	**20**	**40**	**60**	**80**
0	31.4	41.2	79.7	96.4
24	29.5	39.8	80.2	99.1
48	34.4	42.2	80.9	97.3
72	33.8	41.8	81.6	100.4

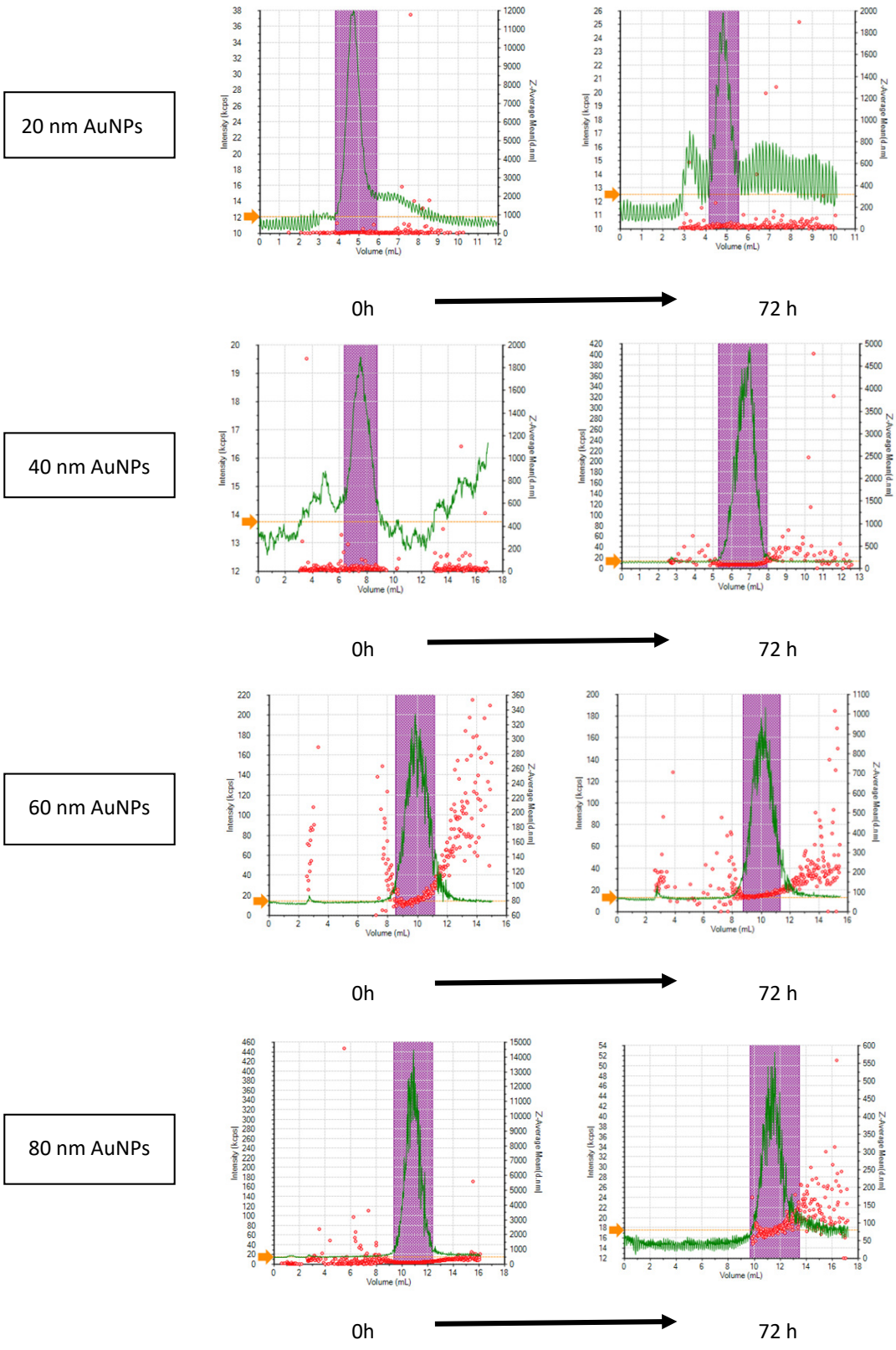

Figure S1. DLS spectra for AuNPs dispersions as a function of dilution preparation time.

Table S4. Hydrodynamic diameters for AgNPs dispersions as a function of dilution preparation time

NPs size (nm) / Time (h)	20	40	60
0	30.7	49.7	78.9
3	29.4	51.3	77.3
24	32.0	50.8	80.8
72	36.0	50.4	79.9

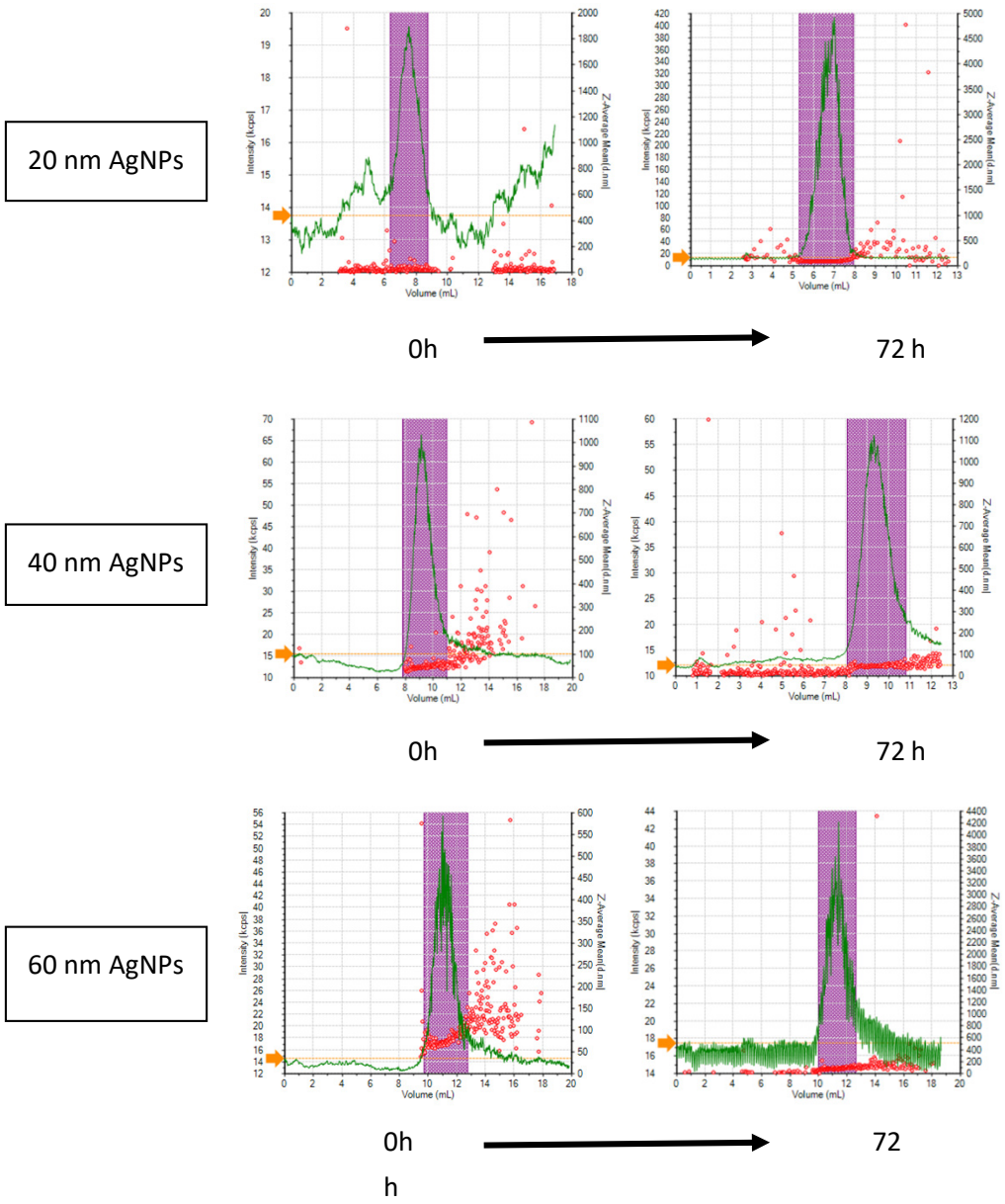

Figure S2. DLS spectra for AgNPs dispersions as a function of dilution preparation time.

S.3.

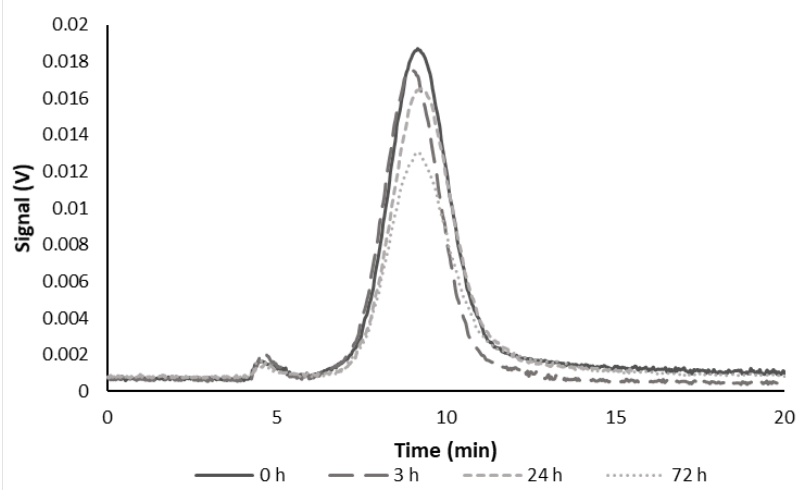

Figure S3. Study of AuNPs-PBS dispersions as function of dilution preparation time.

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