

# Mechanistic Investigation of *N*- Homocysteinylation Mediated Protein-Gold Nanoconjugate Assembly

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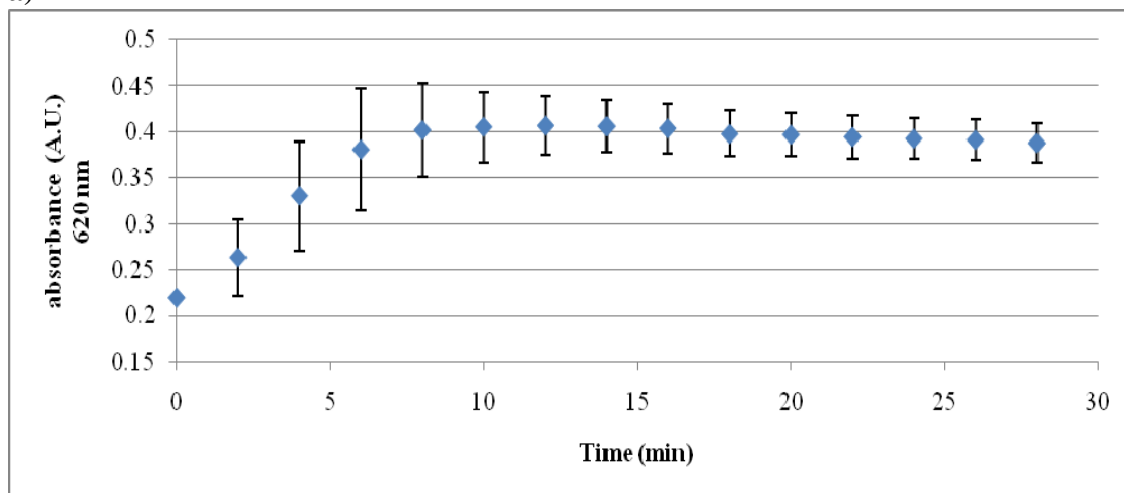
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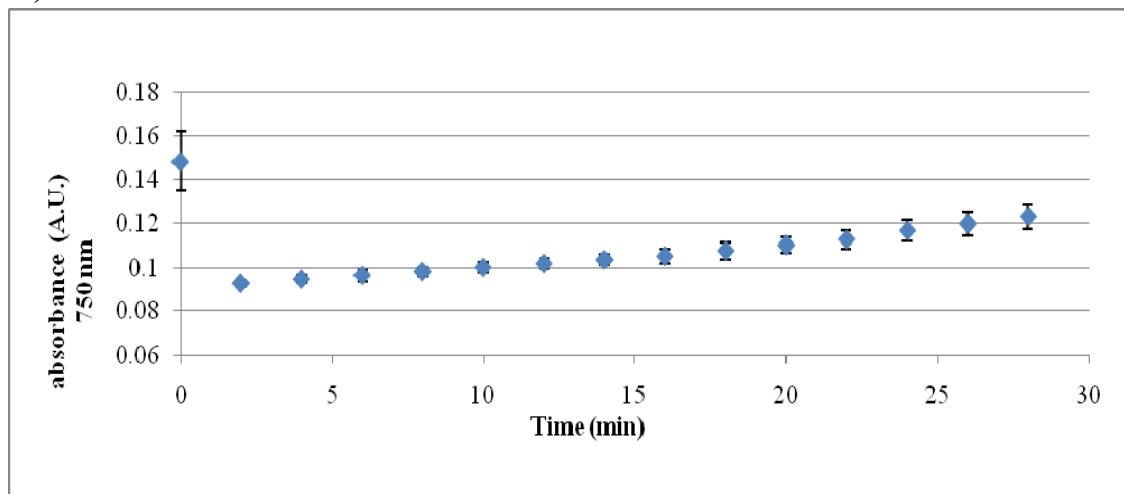
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a)

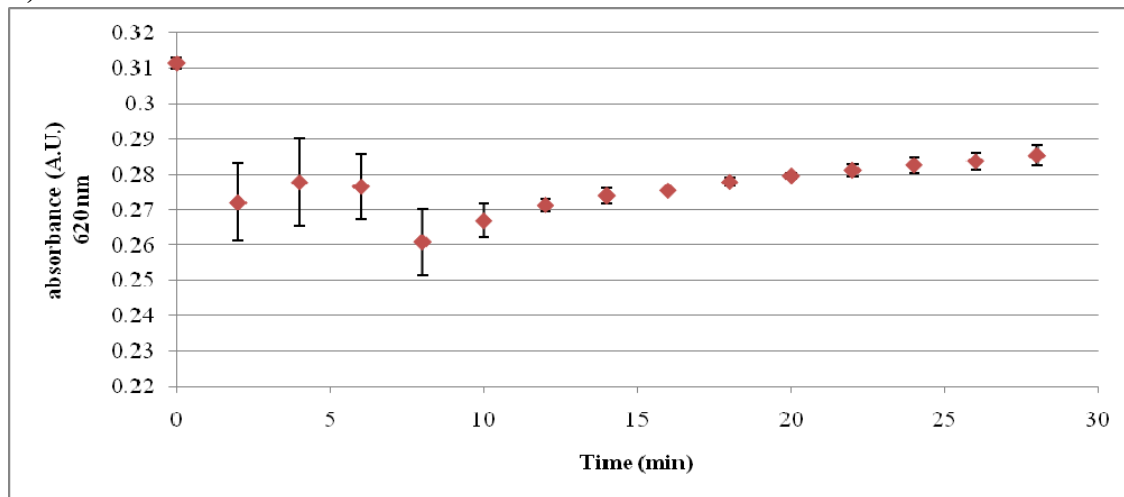


b)



**Figure S1.** UV-vis absorption data acquired at 620 nm (60°C) over a 28 minute time period for *N*-homocysteinylation of a) Cyt c-GNPs. UV-vis absorption data acquired at 750 nm (25°C) over a 28 minute time period for *N*-homocysteinylation of b) Cyt c-GNPs. Each data point represents the average of triplicate measurements.

a)



b)

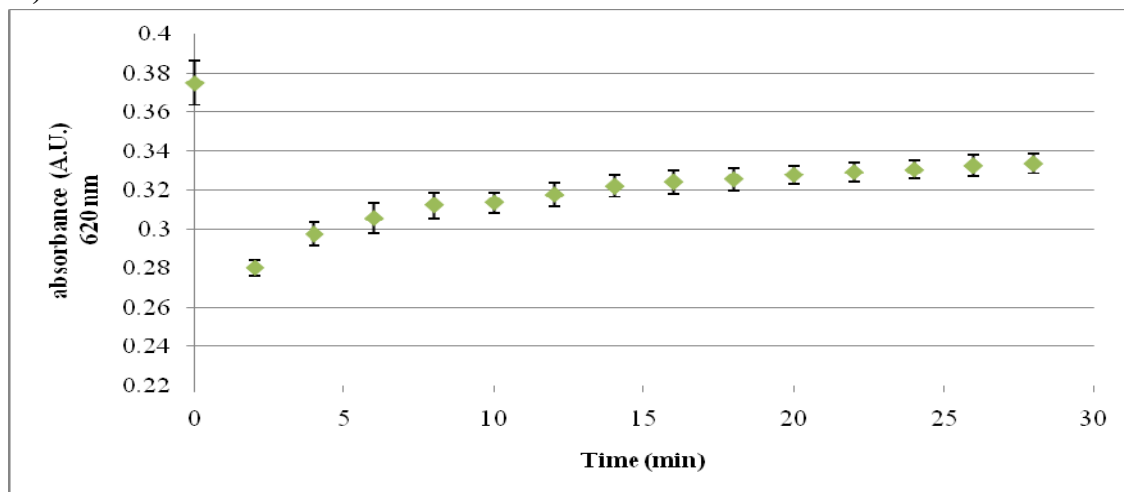
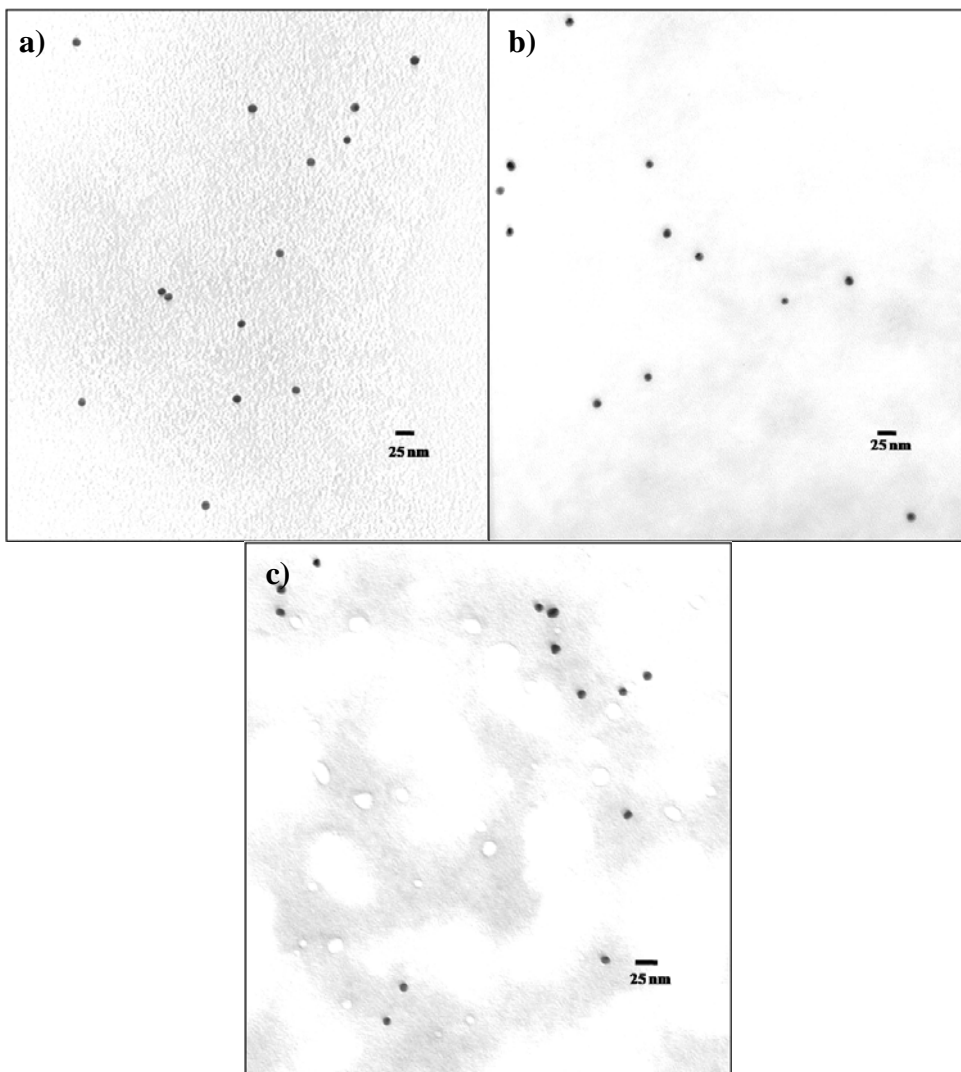
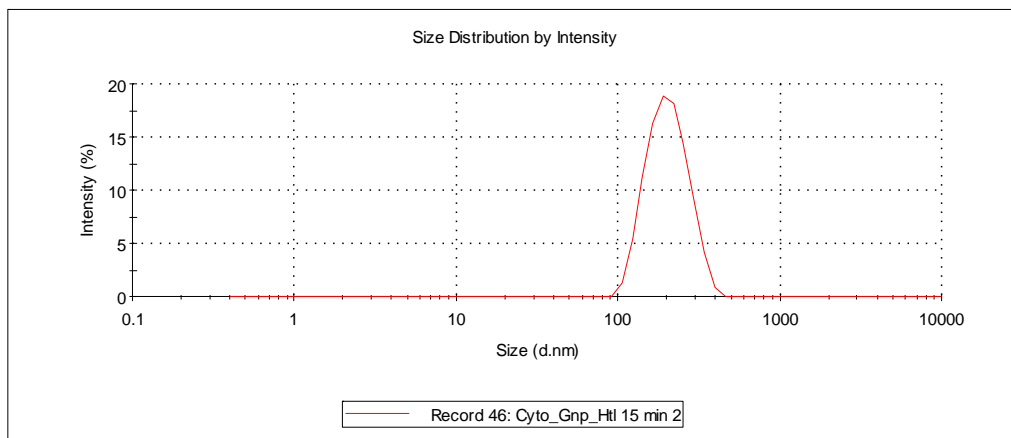
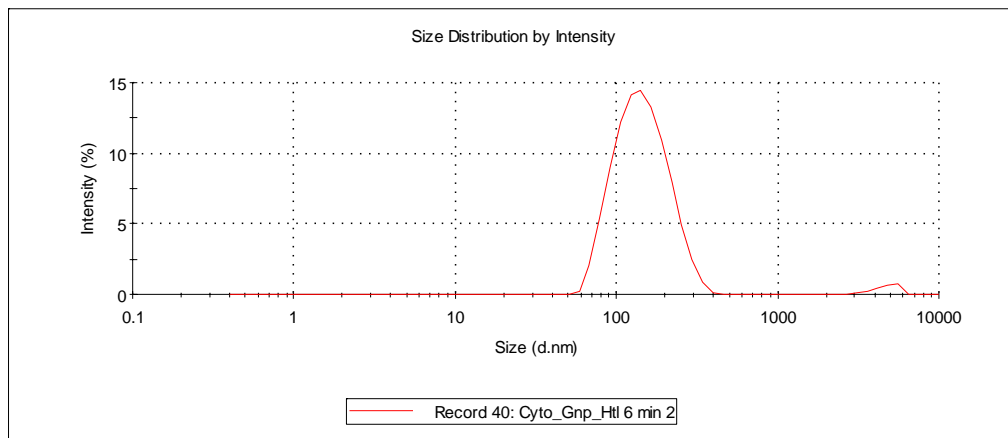


Figure S2. UV-vis absorption data acquired at 620nm (60°C) over a 28 minute time period for *N*-homocysteinylation of a) HSA-GNPs and b) serum-GNPs illustrate the growth of GNP assemblies. Each data point represents the average of triplicate measurements.

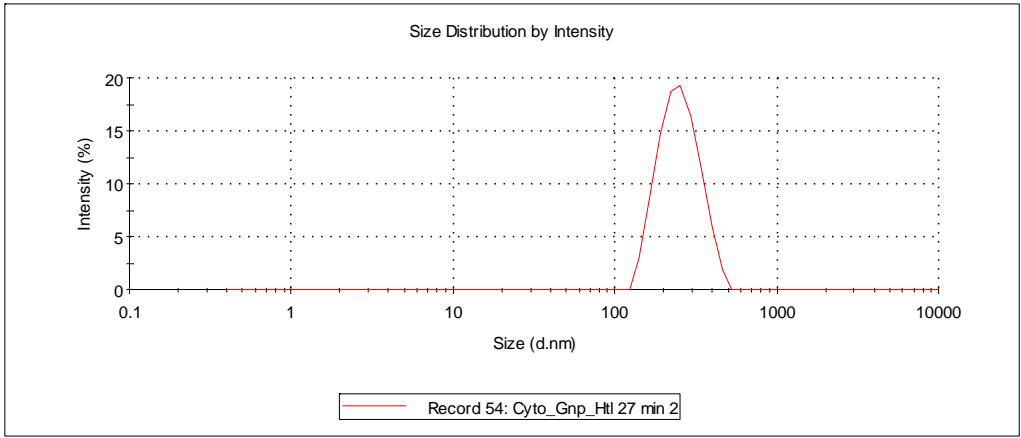
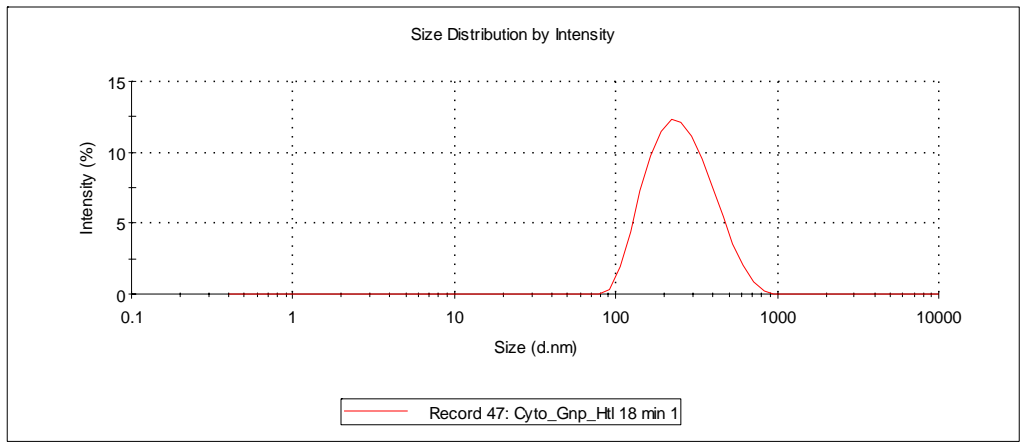


**Figure S3. Representative transmission electron microscopy images of unmodified PGNs. a) Cyt *c*-PGNs, b) HSA-PGNs, and c) serum-GNPs. Note that some PGNs are irregularly shaped due to the protein adlayer. GNP assembly is not indicated by these images.**

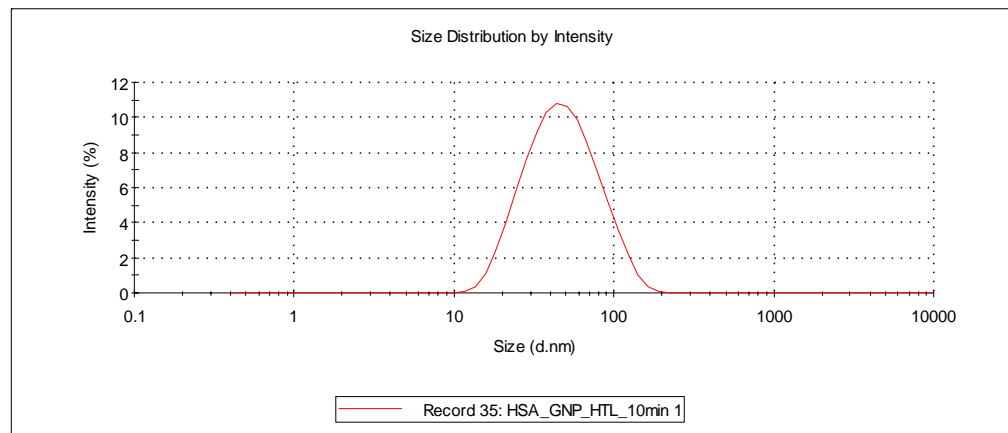
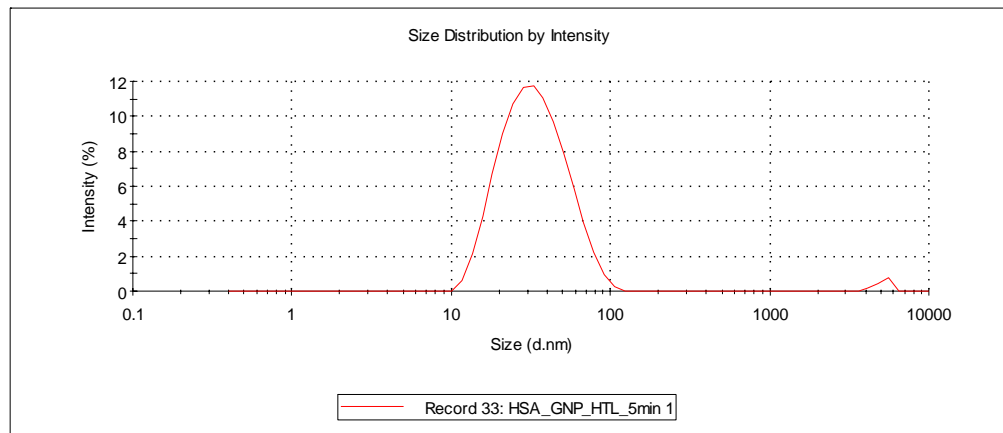
Cyt <i>c</i> - PGN_HTL	Z-	PdI	Pk1	Pk2	Pk3	Pk1	Pk2	Pk3
	Ave		Mean	Mean	Mean	Area	Area	Area
	d.nm		intensity	intensity	intensity	intensity	intensity	intensity
			d.nm	d.nm	d.nm	%	%	%
6 min	138.2	0.174	151	4771	0	97.9	2.1	0
15 min	192.2	0.078	208.2	0	0	100	0	0
18 min	230	0.163	273.8	0	0	100	0	0
27 min	247.9	0.211	256.4	0	0	100	0	0



**DLS data for modified Cyt *c*-PGNs contined on next page**



HSA- PGN_HTL	Z-Ave	PdI	Pk1	Pk2	Pk3	Pk1 Area	Pk2 Area	Pk3 Area
	d.nm		Mean	Mean	Mean	intensity	intensity	Intensity
	d.nm		d.nm	d.nm	d.nm	%	%	%
5 min	30.99	0.21	35.8	5102	0	98.6	1.4	0
10 min	41.9	0.193	52.48	0	0	100	0	0
25 min	55.71	0.212	70.65	0	0	100	0	0
30 min	55.06	0.184	68.96	0	0	100	0	0



**DLS data for modified HSA-PGNs continued on next page**



