Supplementary Information

Efficient reduction of 4-nitrophenol catalyzed by 4-carbomethoxypyrrolidone modified PAMAM dendrimers-silver nanocomposites

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Table S1. The main reaction conditions for preparing Ag-PPDNCs

Templates			0.1 M $NaBH_4$	0.1 M $AgNO_3$	Temperature	Product
Type	Concentration (mM)	Volume (mL)	(mL)	(mL)	(^oC)	
G3-Pyr	1	5	9.6	1.6	30	Ag-PPDNCs(G3-Pyr)
G4-Pyr	1	5	19.2	3.2	30	Ag-PPDNCs(G4-Pyr)
G5-Pyr	1	5	38.4	6.4	30	Ag-PPDNCs(G5-Pyr)
G4-NH_2	1	5	19.2	3.2	30	Ag-DNCs(G4-NH_2)
G4-OH	1	5	19.2	3.2	30	Ag-DNCs(G4-OH)
PVP*	0.01	1.2	1.28	2	60	Ag-NPs(PVP)

*Supplement: In the preparation of silver nanoparticles with PVP, sodium citrate (8 mL, 2.5 mM) and deionized water (16.52 mL) were added in addition to the formulation listed in the table above.

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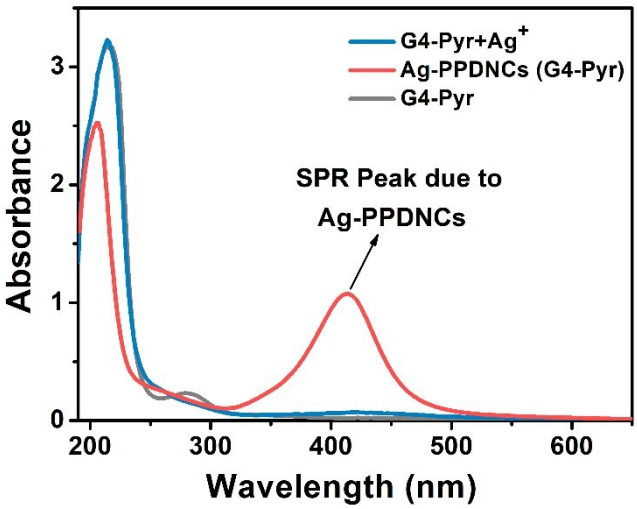

Fig. S1 UV-vis spectra of G4-Pyr, G4-Pyr-Ag^{+} complex and Ag-PPDNCs(G4-Pyr) in aqueous solutions

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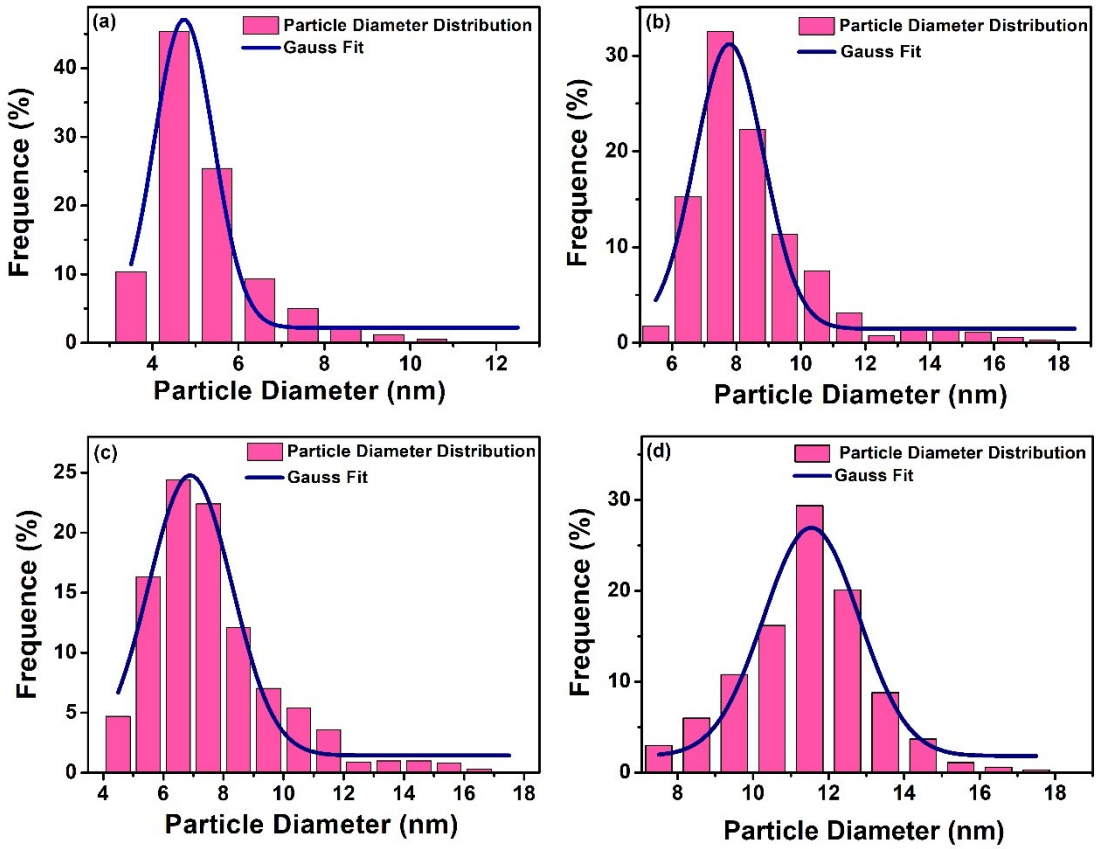

Fig. S2 DLS images of silver nanoparticles prepared by (a) G4-Pyr, (b) G4-NH_2, (c) G4-OH and (d) PVP.

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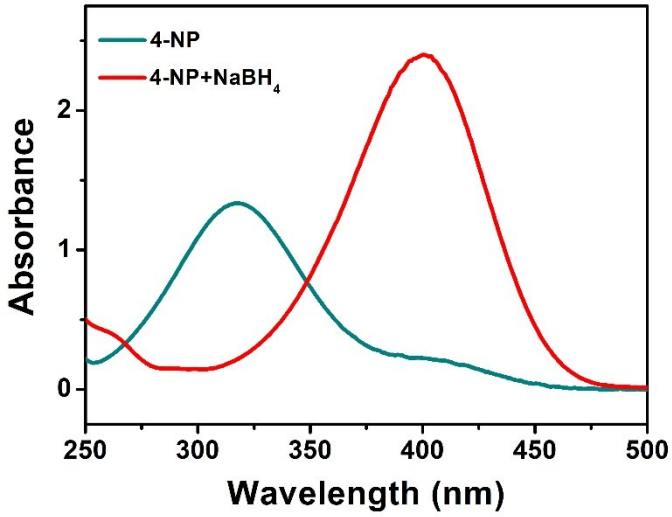

Fig. S3 UV-vis spectrum of pure 4-NP aqueous solution and after adding $NaBH_4$ solution.

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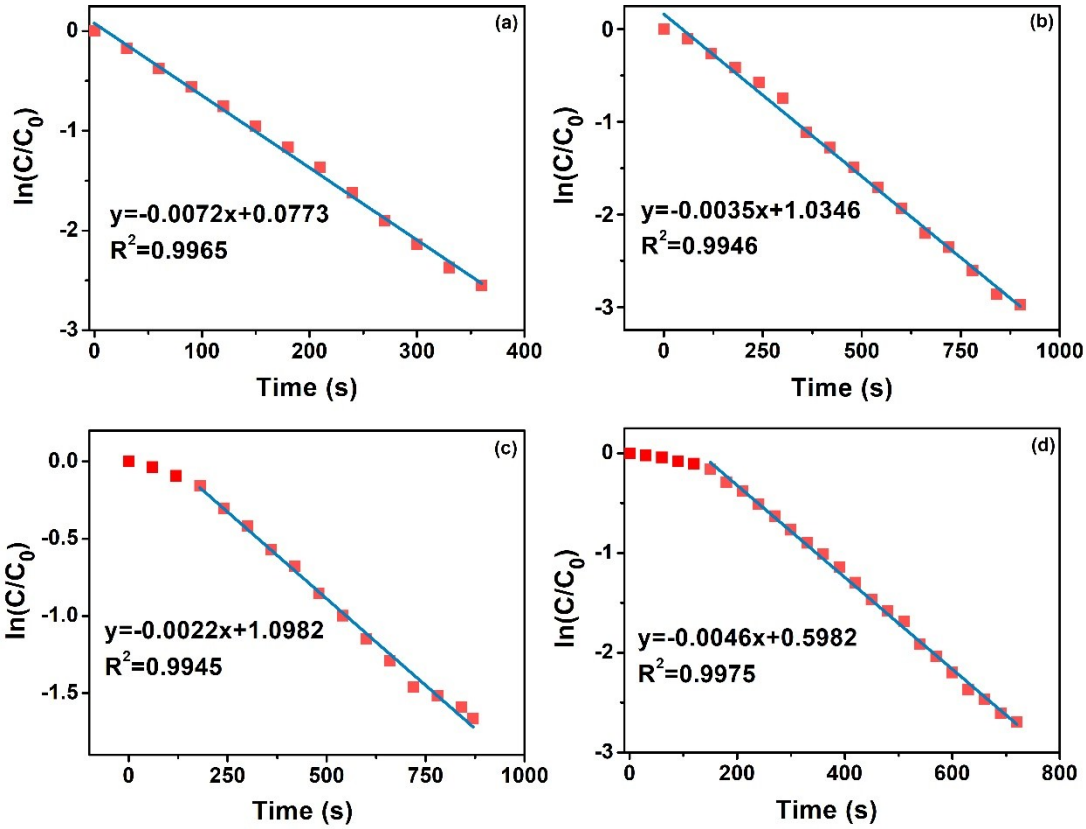

Fig. S4 Plots of $\ln(C/C_0)$ against time for the reduction of 4-NP by $NaBH_4$ in the presence of (a) Ag-PPDNCs(G4-Pyr), (b) Ag-DNCs(G4-NH_2), (c) Ag-DNCs(G4-OH) and (d) Ag-NPs(PVP).

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