

Electronic Supplementary Information for

Thermosensitive Mixed Shell Polymeric Micelles Decorated with Gold Nanoparticles at the Outmost Surface: Tunable Surface Plasmon Resonance and Enhanced Catalytic Properties with Excellent Colloidal Stability

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Supplementary Figures

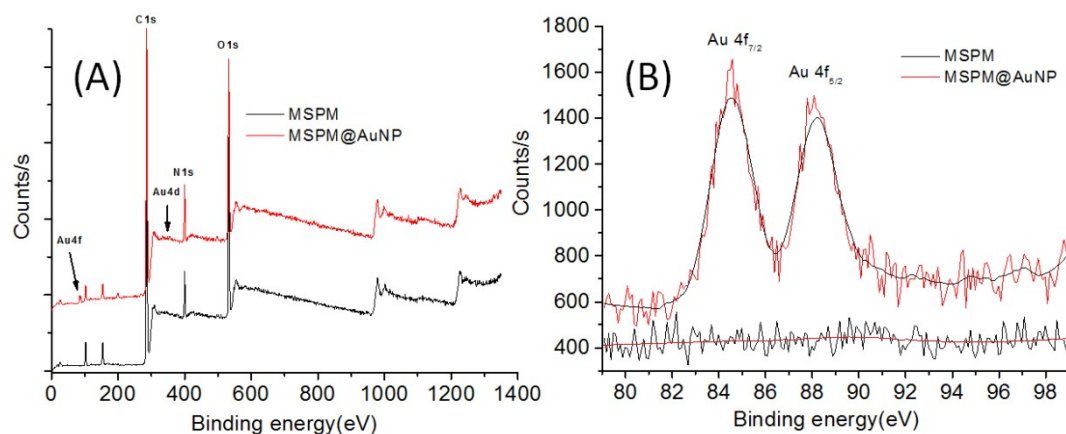


Figure S1. XPS spectra of mixed shell polymeric micelles with (MSPM@AuNP, red line) or without gold NPs (MSPM, black line) at their outmost surface. (A) Full XPS survey spectra. Apart from the O (1s), C (1s) and N (1s), new peak corresponding to Au (4f) appears in the case of MSPM@AuNP (red line), which is also magnified in (B).

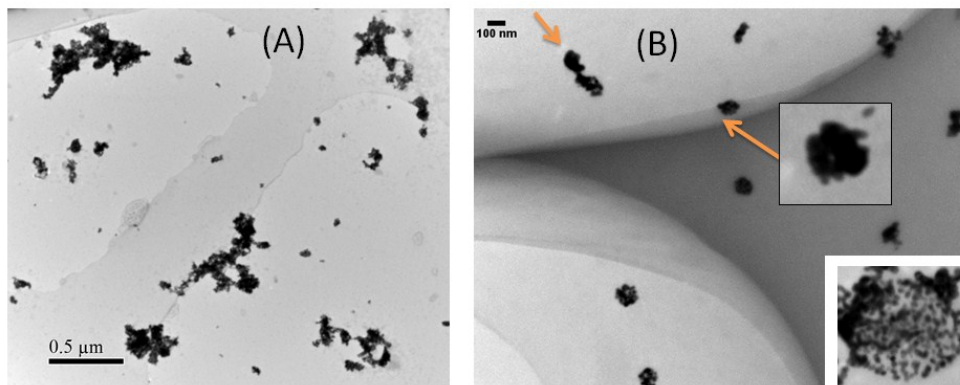


Figure S2. TEM photos of mixed shell polymeric micelles (MSPMs) decorated with gold NPs after heating/cooling cycles. (A) Irreversible aggregation occurs to polymeric micelle consisting of only PCL-*b*-PNIPAM and decorated with gold NPs at the terminal of the PNIPAM chains. (B) Well-dispersed hybrid particles are still dominant in the case of gold NP decorated MSPMs with a PEG/PNIPAM mass ratio of 1:9. Particles highlighted with arrows are those could not recover to the original state. Inset at the right-bottom corner: a hybrid particle after several rounds of the heating/cooling cycle.

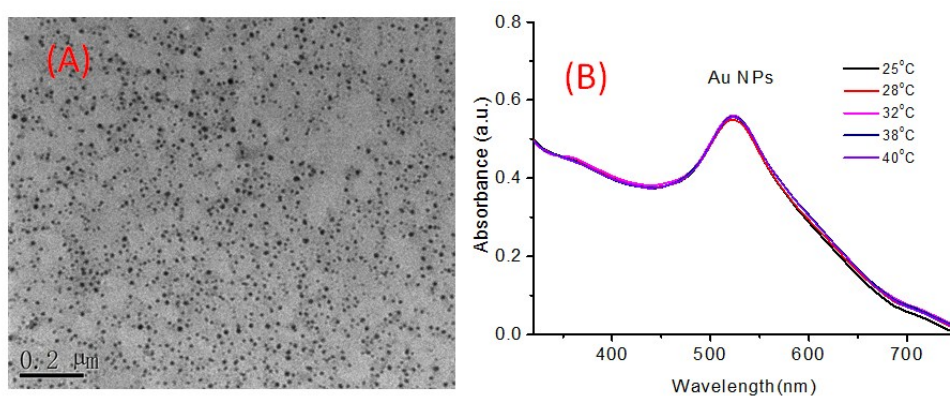


Figure S3. (A) Gold NPs stabilized with citrate. (B) UV-vis spectra of the Au NPs in (A) at various temperatures.

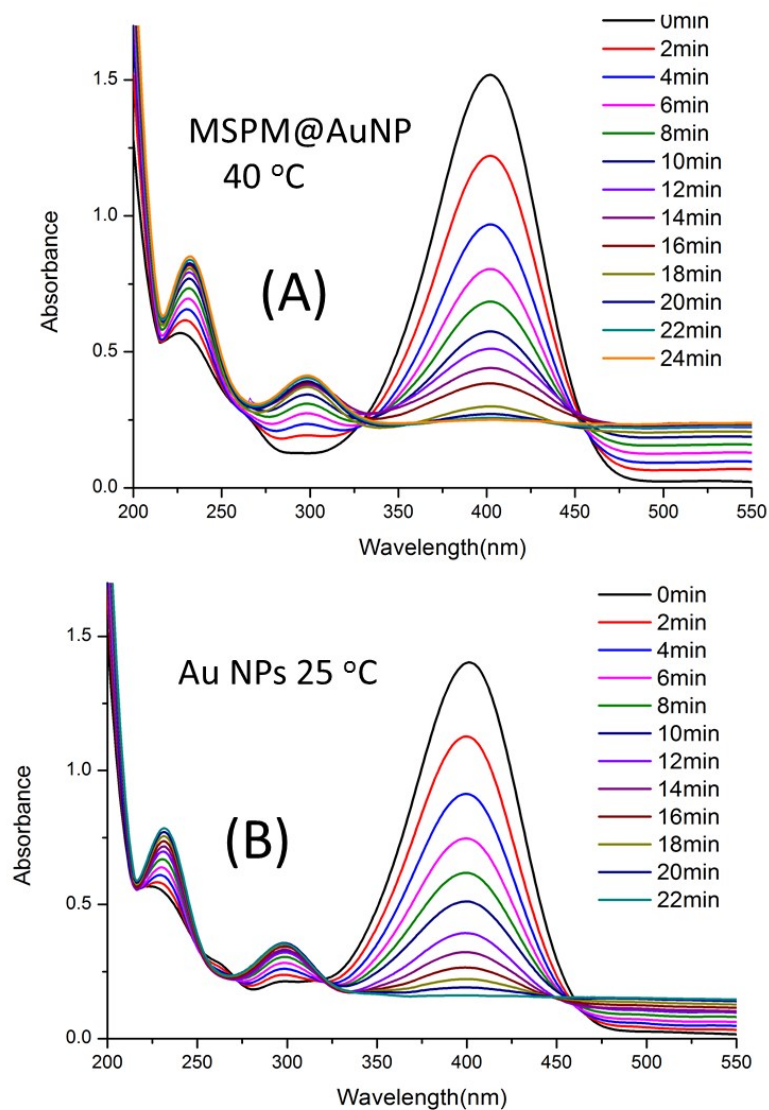


Figure S4. UV-vis absorption spectra versus time during the reduction of *p*-nitrophenol catalyzed by MSPM@AuNP at T = 40 °C (A) and citrate stabilized gold NPs at room temperature (B). The MSPM@AuNP is the same hybrid particles as those in Figure 5 of the main text.