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Supporting Information

Robust and smart gold nanoparticles: one-step synthesis, tunable optical properties, and switchable catalytic activity

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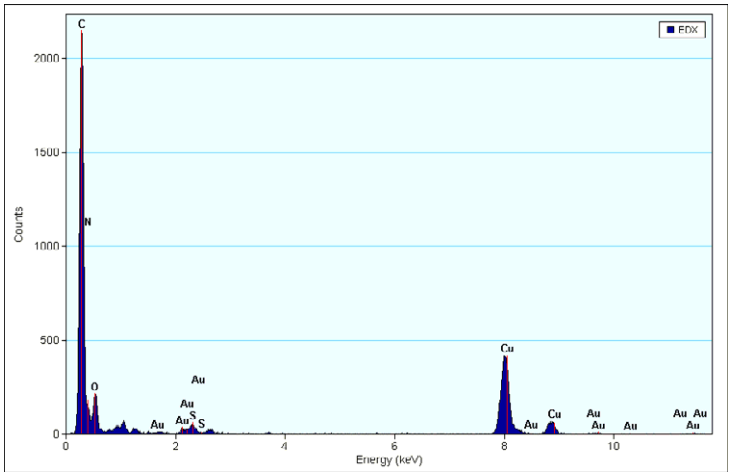

Fig. S1 EDX specturm of DexPNI-AuNPs composites.

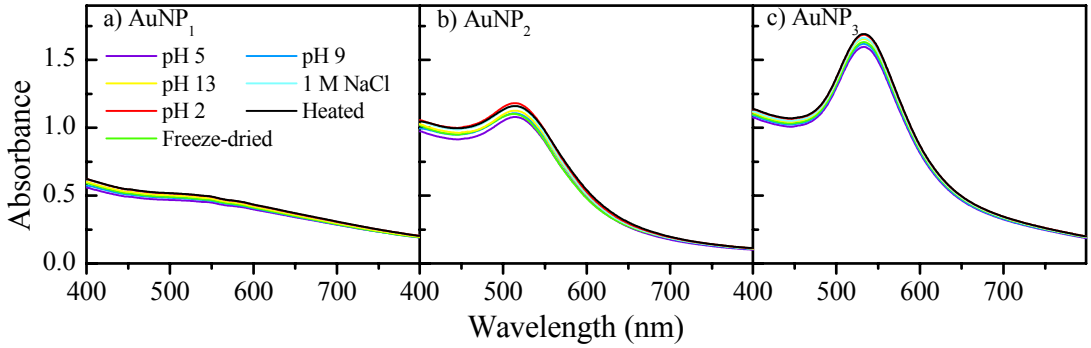

Fig. S2 Demonstration of the stability of AuNPs. The characterstic SPR band of AuNPs was preserved after incubation at pH 2, 5, 9 and 13 for 8 weeks and in 1 M NaCl for one week. Neither redispersion of freeze-dried particles nor heating the solution at 80 °C for 6 h changed the UV-Vis spectrum (measured at 25 °C) of AuNPs.

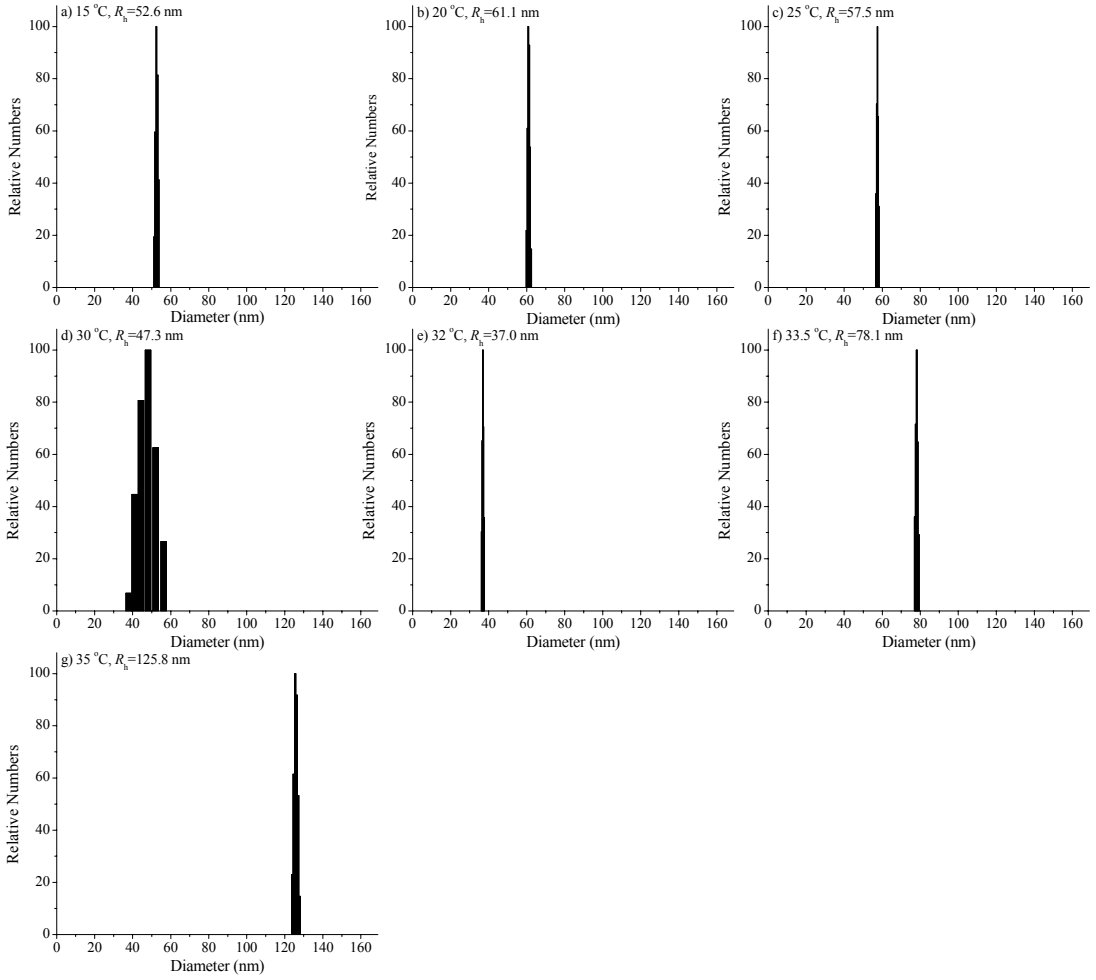

Fig. S3 Typical hydrodynamic size distributions of $AuNP_1$ at different temperatures.

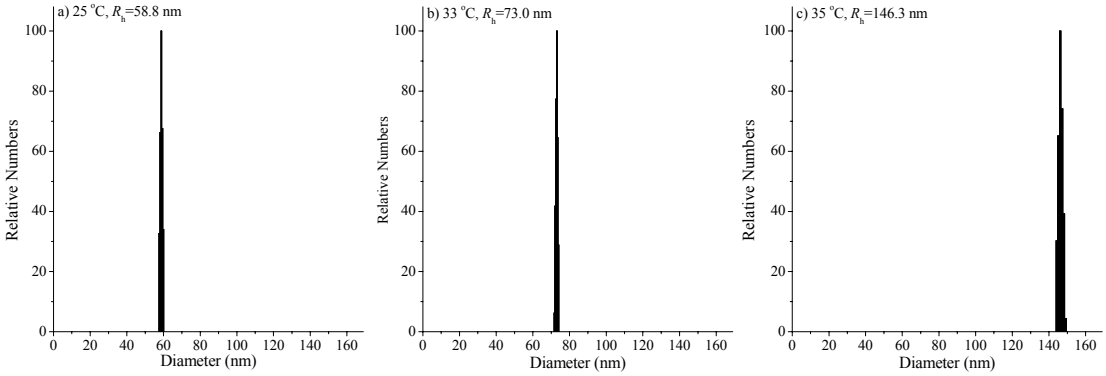

Fig. S4 Typical hydrodynamic size distributions of $AuNP_2$ at different temperatures.

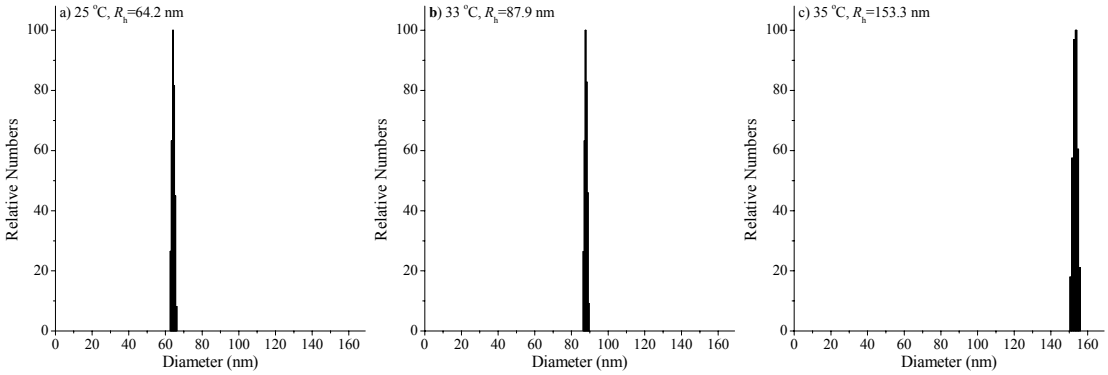

Fig. S5 Typical hydrodynamic size distributions of $AuNP_3$ at different temperatures.

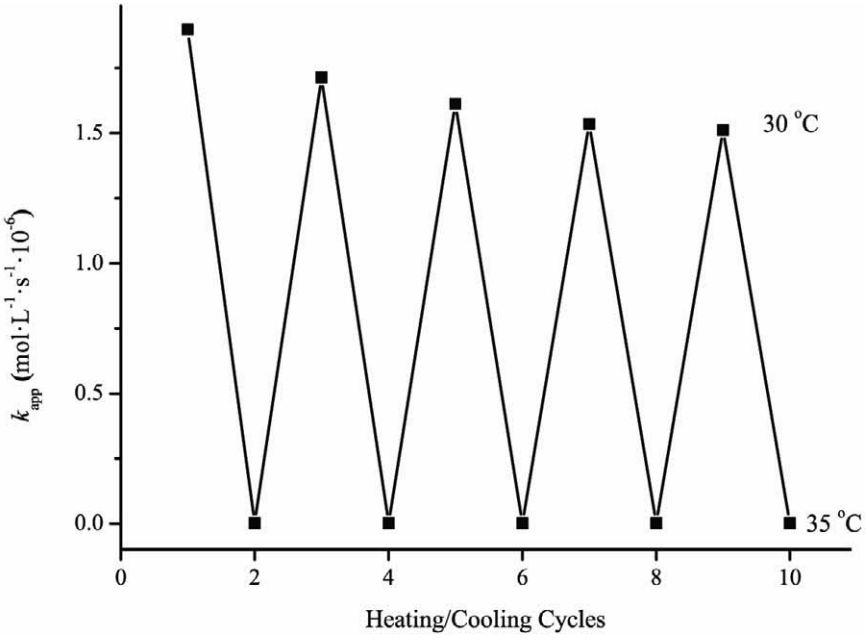

Fig. S6 k_{app} of 4-NP reduction as a function of the heating/cooling cycles between 35 and 30 °C