

Supplementary Information

Effect of pH and Ambient Temperature on Synthesis of Green Gold Nanoparticles Using Jeju Hallabong Peel Extract as a Friendly Approach for Biomedical Applications

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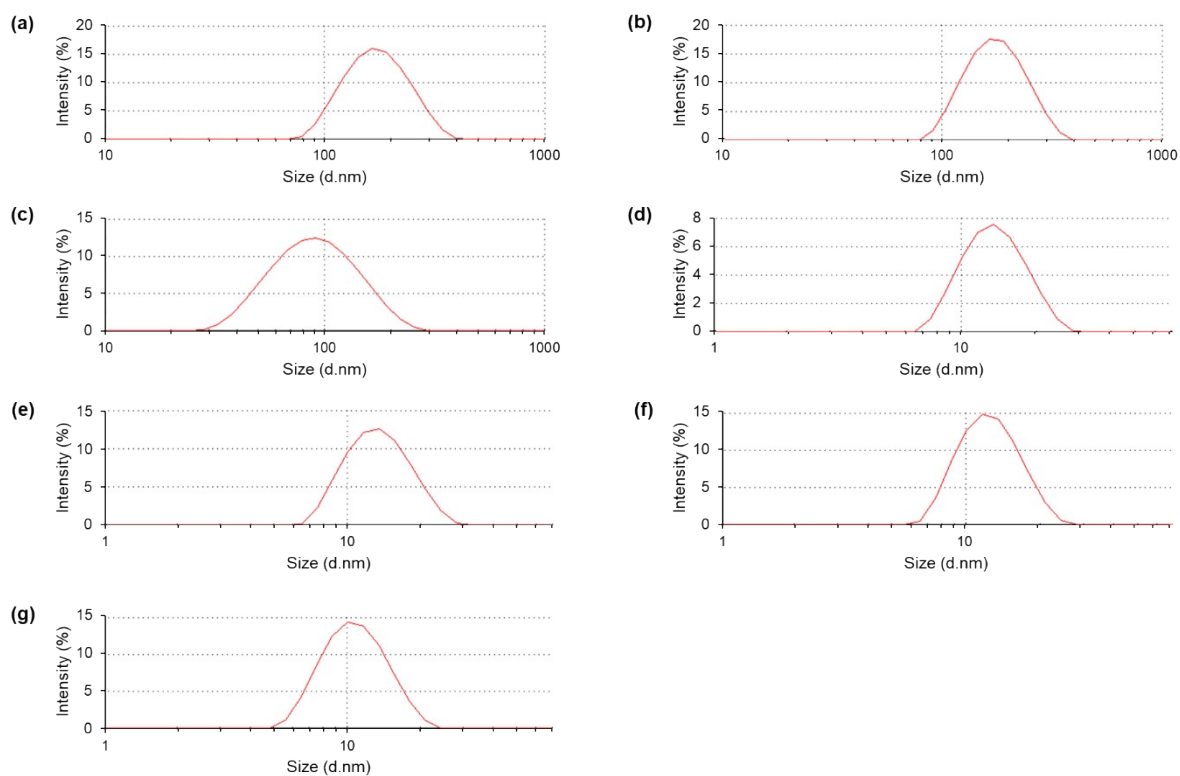


Figure S1. Size distribution images of gold nanoparticles (HAuNPs) that were synthesized using HPE. The images depict the size distribution of AuNPs at varying pH levels: (a) pH = 3; (b) pH = 4; (c) pH = 5; (d) pH = 6; (e) pH = 7; (f) pH = 8; (g) pH = 9.

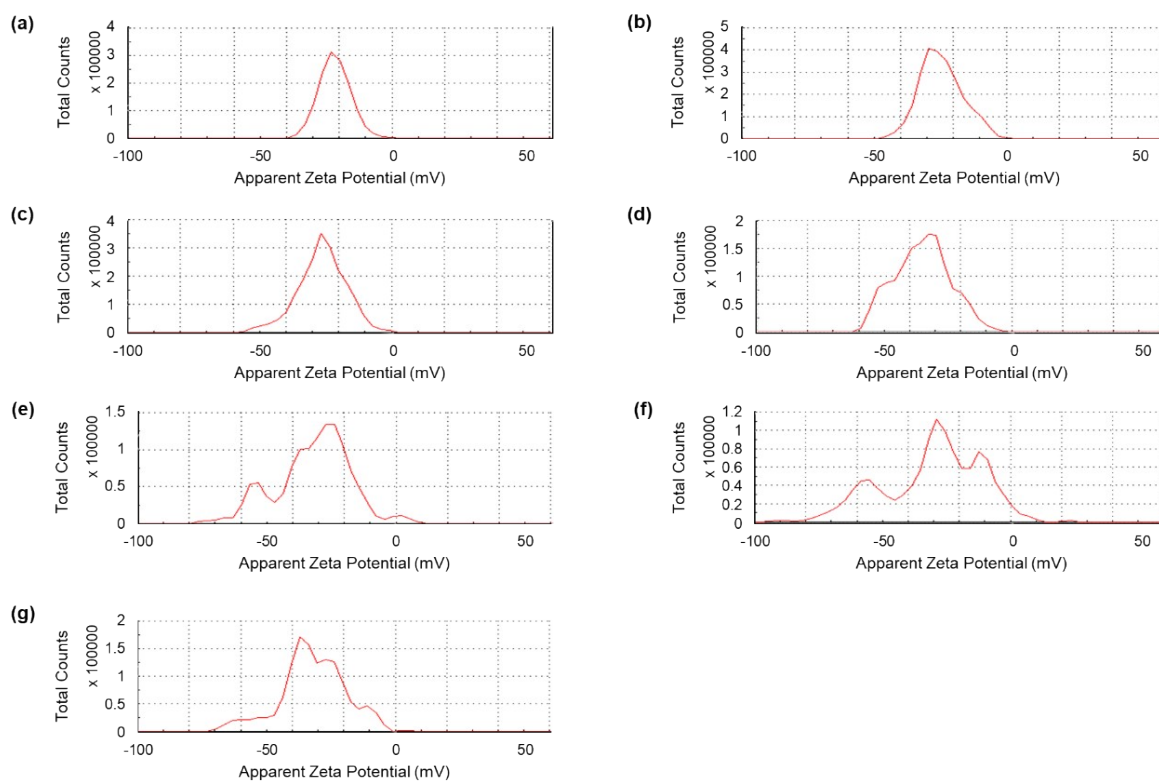


Figure S2. The zeta potential values of gold nanoparticles (HAuNPs) synthesized using HPE were measured at various pH levels: (a) pH = 3; (b) pH = 4; (c) pH = 5; (d) pH = 6; (e) pH = 7; (f) pH = 8; (g) pH = 9.

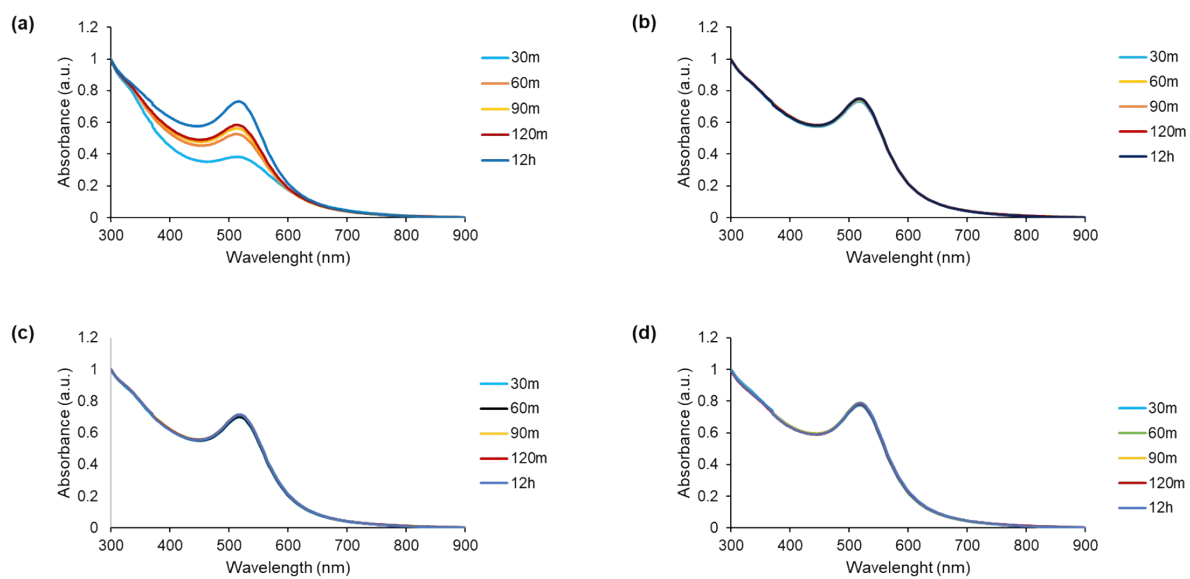


Figure S3. The absorbance peak of HAuNPs at pH 9 and temperature reaction at (a) $T = 30\text{ }^{\circ}\text{C}$, (b) $T = 60\text{ }^{\circ}\text{C}$, (c) $T = 90\text{ }^{\circ}\text{C}$, and (d) $T = 110\text{ }^{\circ}\text{C}$.

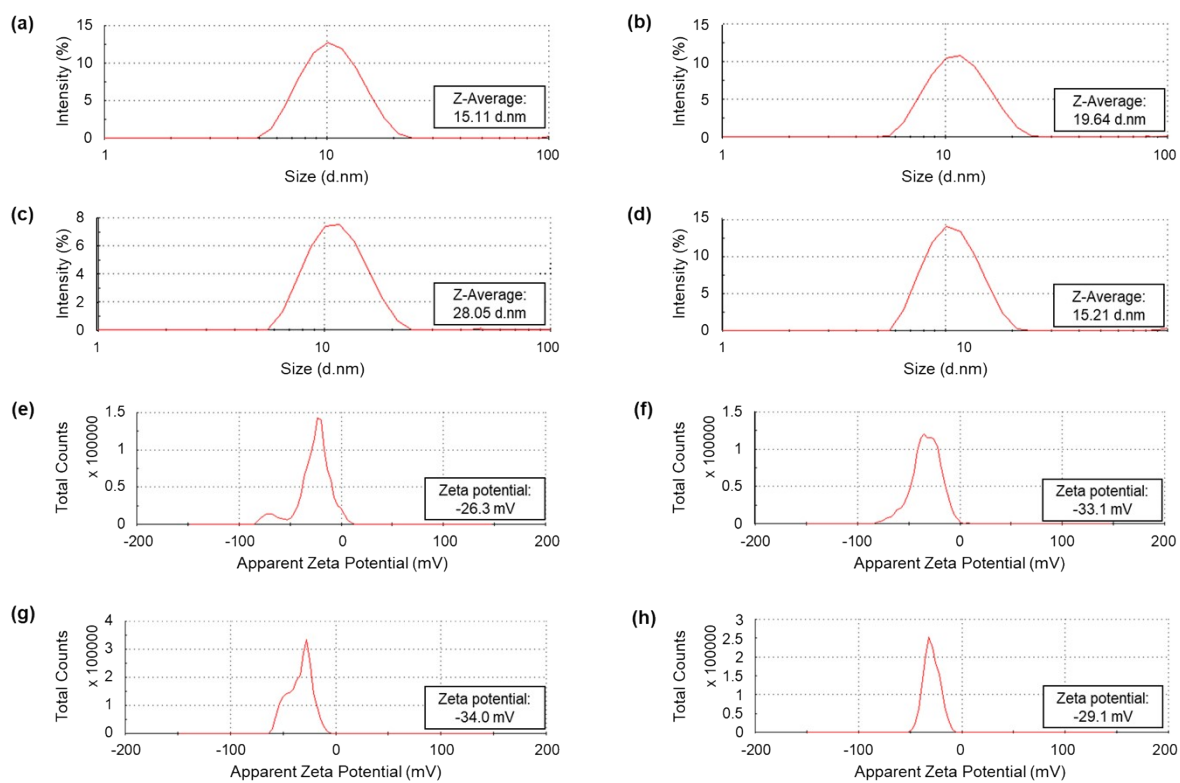


Figure S4. Hydrodynamic diameter of HAuNPs at pH 9 and different temperature reactions: (a) T = 30 °C (b) T = 60 °C (c) T = 90 °C and (d) T = 110 °C. Zeta potential of HAuNPs at pH 9 and different temperature reactions: (e) T = 30 °C (f) T = 60 °C (g) T = 90 °C and (h) T = 110 °C.

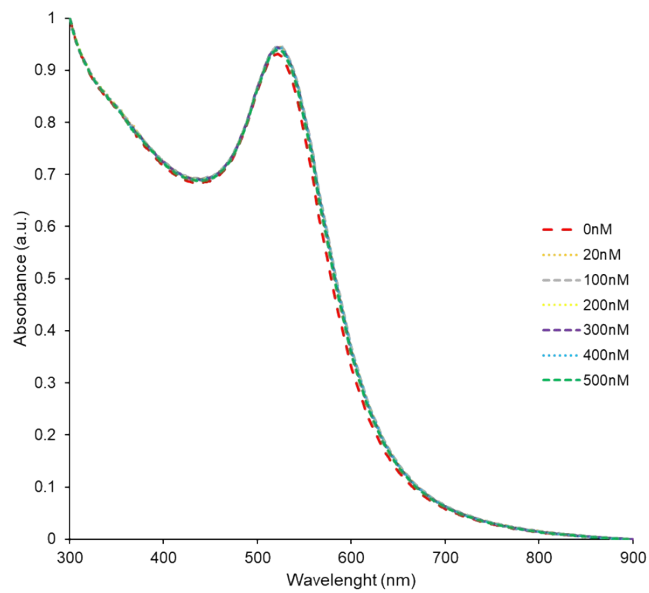


Figure S5. Biotinylated-HAuNPs before being treated with Avidin.