High-Throughput Synthesis of Nanogap-Rich Gold Nanoshells Using Dual-Channel Infusion System

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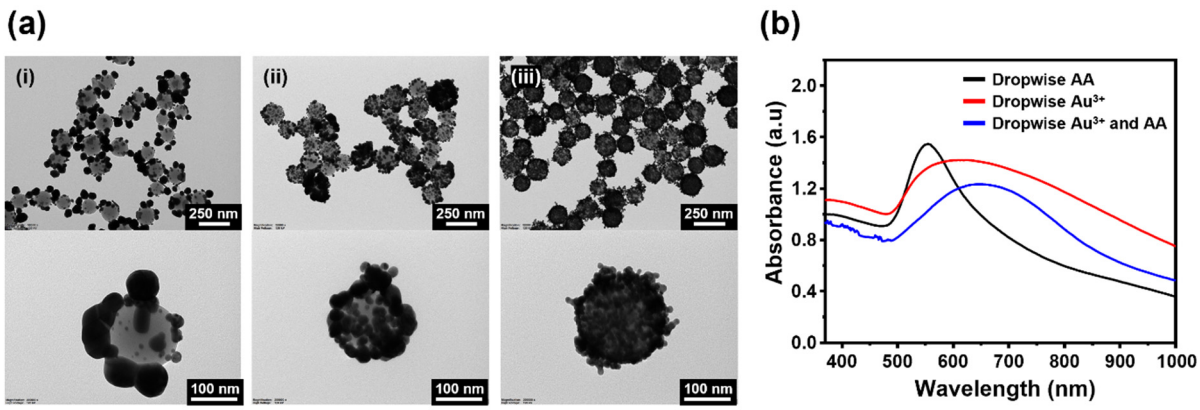

Figure S1. (**a**) TEM images and (**b**) UV-visible absorption spectra of SiO_2@Au NS prepared by controlling the addition of Au^{3+} precursor and AA solution: (i) dropwise addition of AA solution after batch addition of Au^{3+} solution, (ii) dropwise addition of Au^{3+} solution after batch addition of AA solution, and (iii) dropwise addition of both Au^{3+} and AA solution.

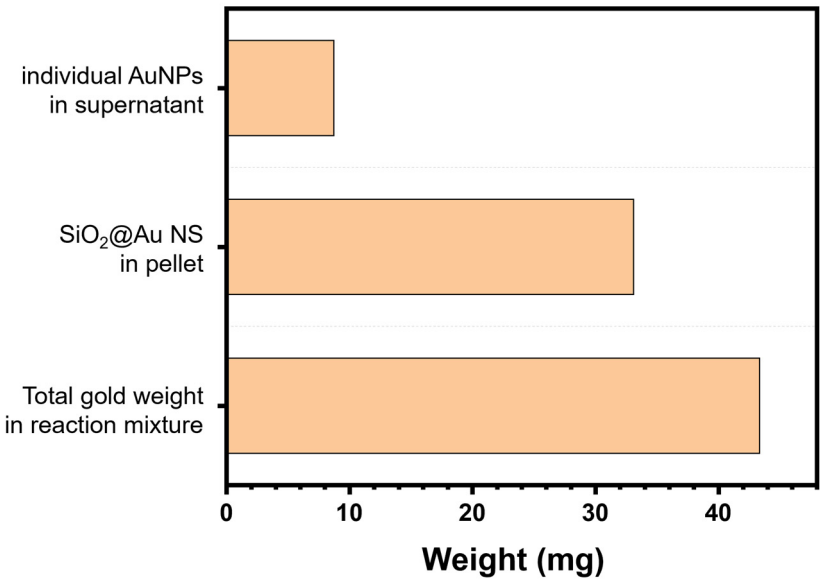

Figure S2. Gravimetric analysis of individual Au NPs and grown SiO_2@Au NS in the reaction mixture of high-throughput seed-mediated growth process with 4.4 mL Au^{3+} precursor solution. The supernatant (containing individual AuNPs) and pellet (containing SiO_2@Au NS) were separated by centrifugation with 800 g. The increased

weight of each component was measured after drying solvent in vacuum chamber.

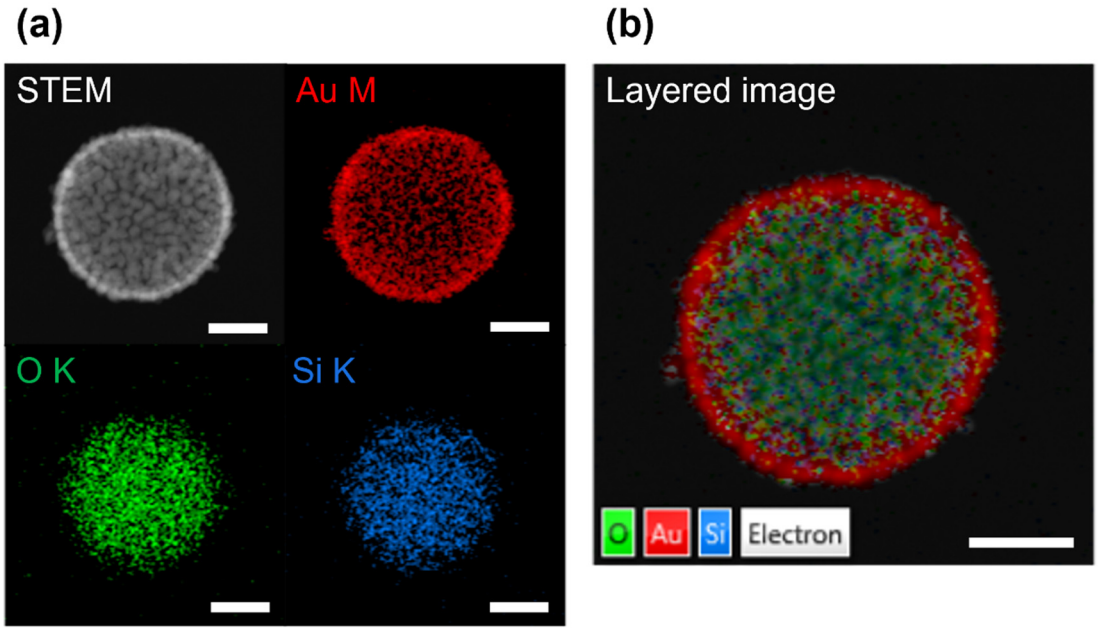

Figure S3. EDS maps of high-throughput synthesized SiO_2@Au NS captured by Cs-corrected TEM (JEM-ARM200F, Jeol, Tokyo). (**a**) Scanning transmission microscope image and EDS mapping images of gold (red dots), oxygen (green dots) and silicon (blue dots). (**b**) STEM-EDS layered mapping image of SiO_2@Au NS. Inset scale bars indicate 50 nm.

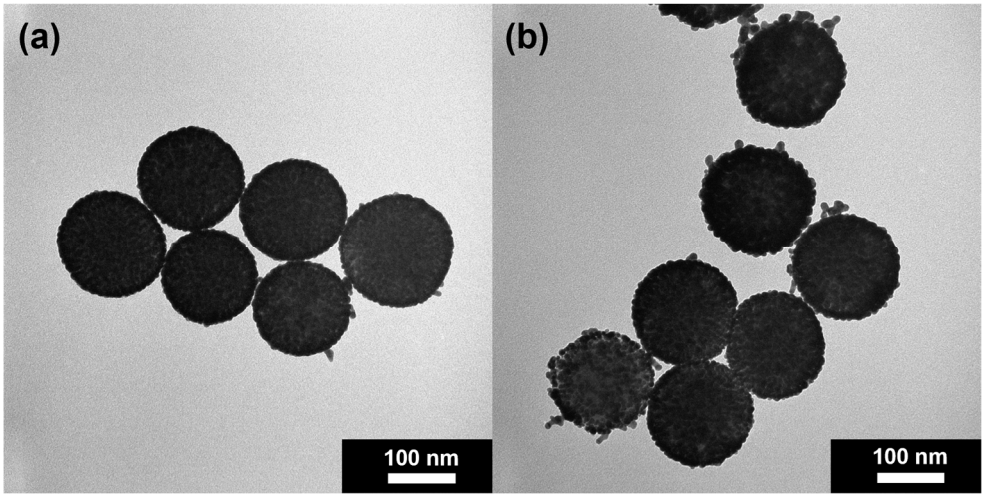

Figure S4. TEM images of SiO_2@Au NS prepared through (**a**) the reported 0.2 mg NPs scaled method and (**b**) high-throughput 10 mg NPs scaled method (this work).