Supporting Information

Engineering Aggregation-Induced SERS-Active Porous Au@ZnS Multi-Yolk-Shell Structures for Visualization of Guest Species Loading

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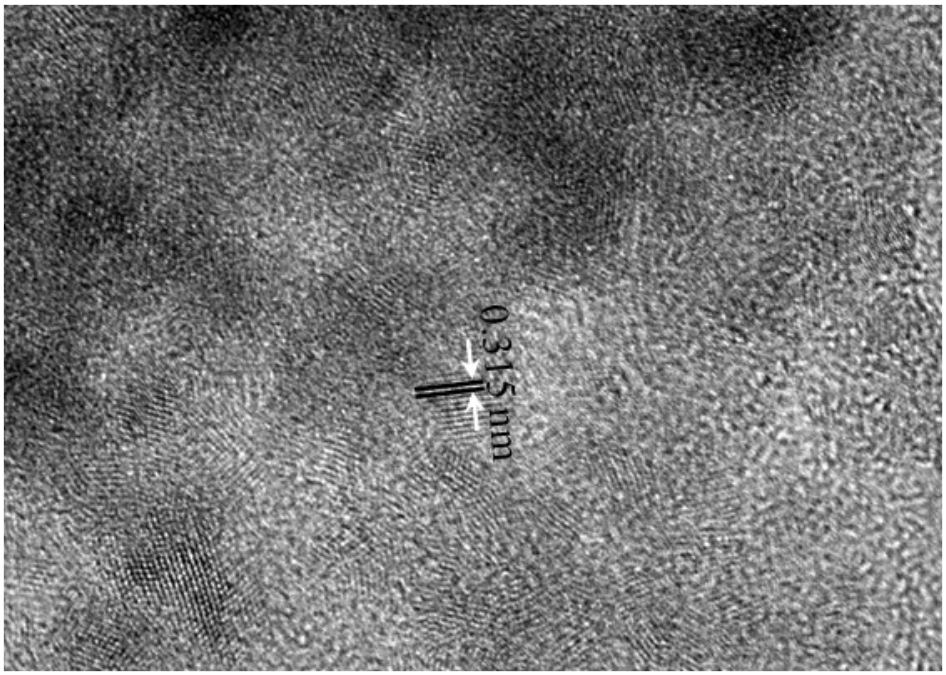

Figure S1. HRTEM image of ZnS shells of nanocages. The lattice fringe of 0.315 nm is corresponding to {111} facets of znic blende.

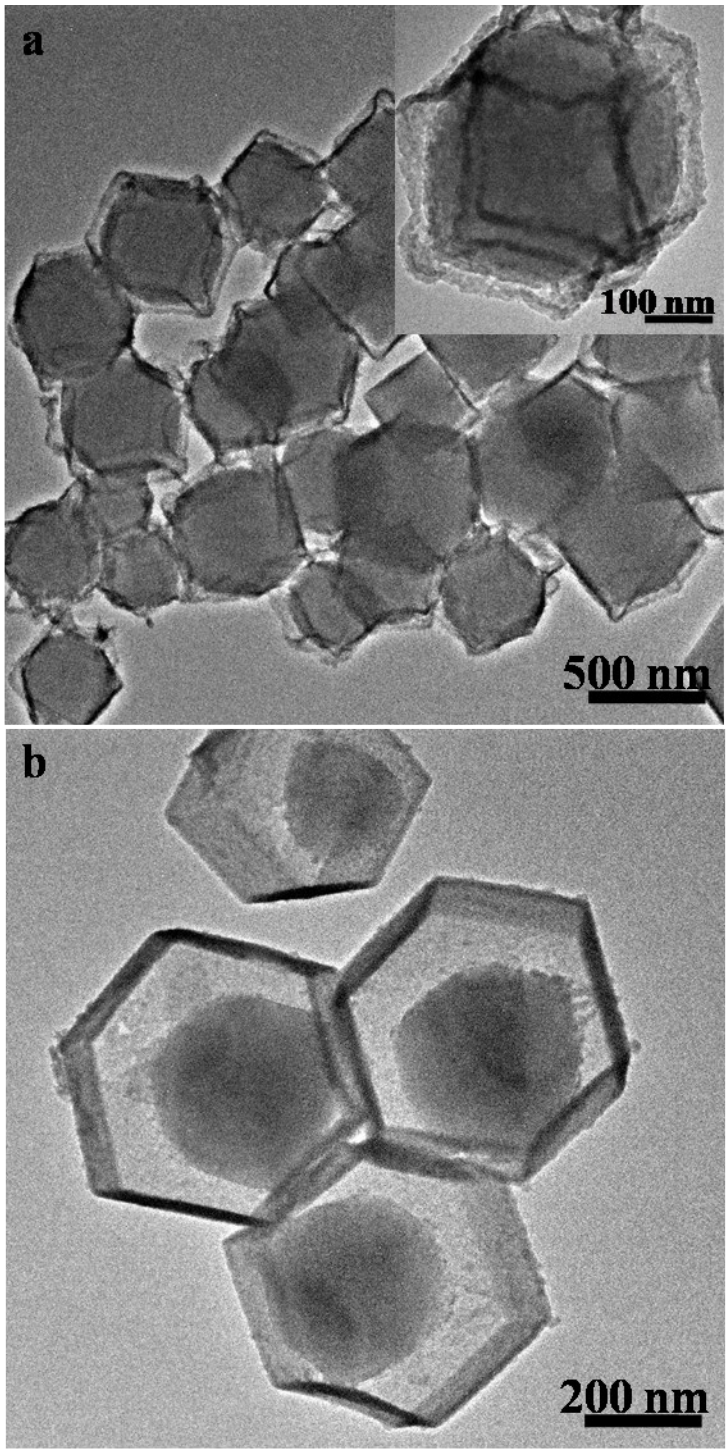

Figure S2. TEM images of time-dependent experiments for preparation of ZnS nanocages: (a) adding one portion of thioacetamide and reacting for 1.5 h and (b) adding three portions of thioacetamide at 1.5 intervals.

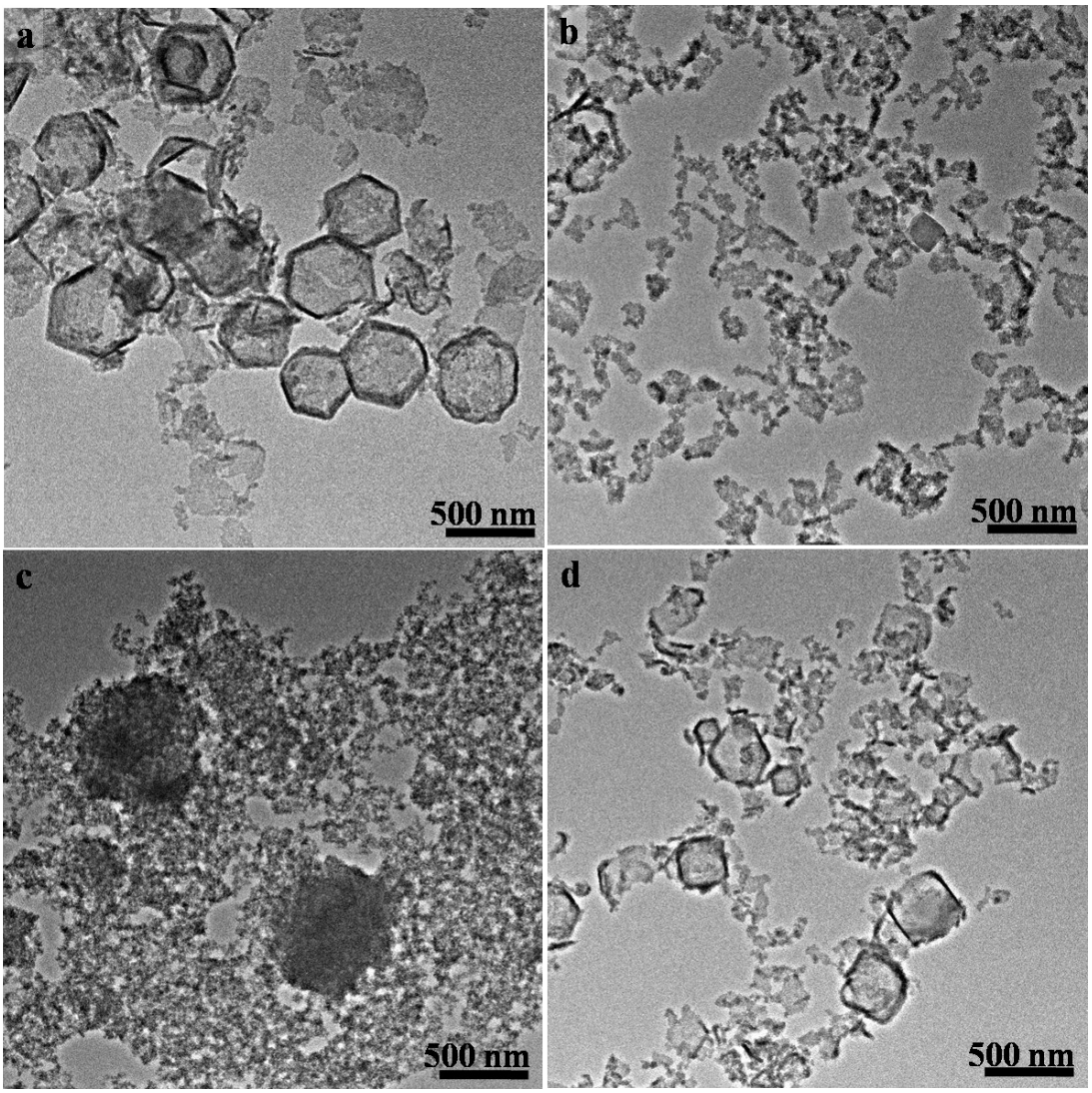

Figure S3. TEM images of ZnS prepared when increasing the volume of water to (a) 50 and (b) 200 μL, (b) all thioacetamide added one shot, and (d) ethanol instead of acetonitrile.

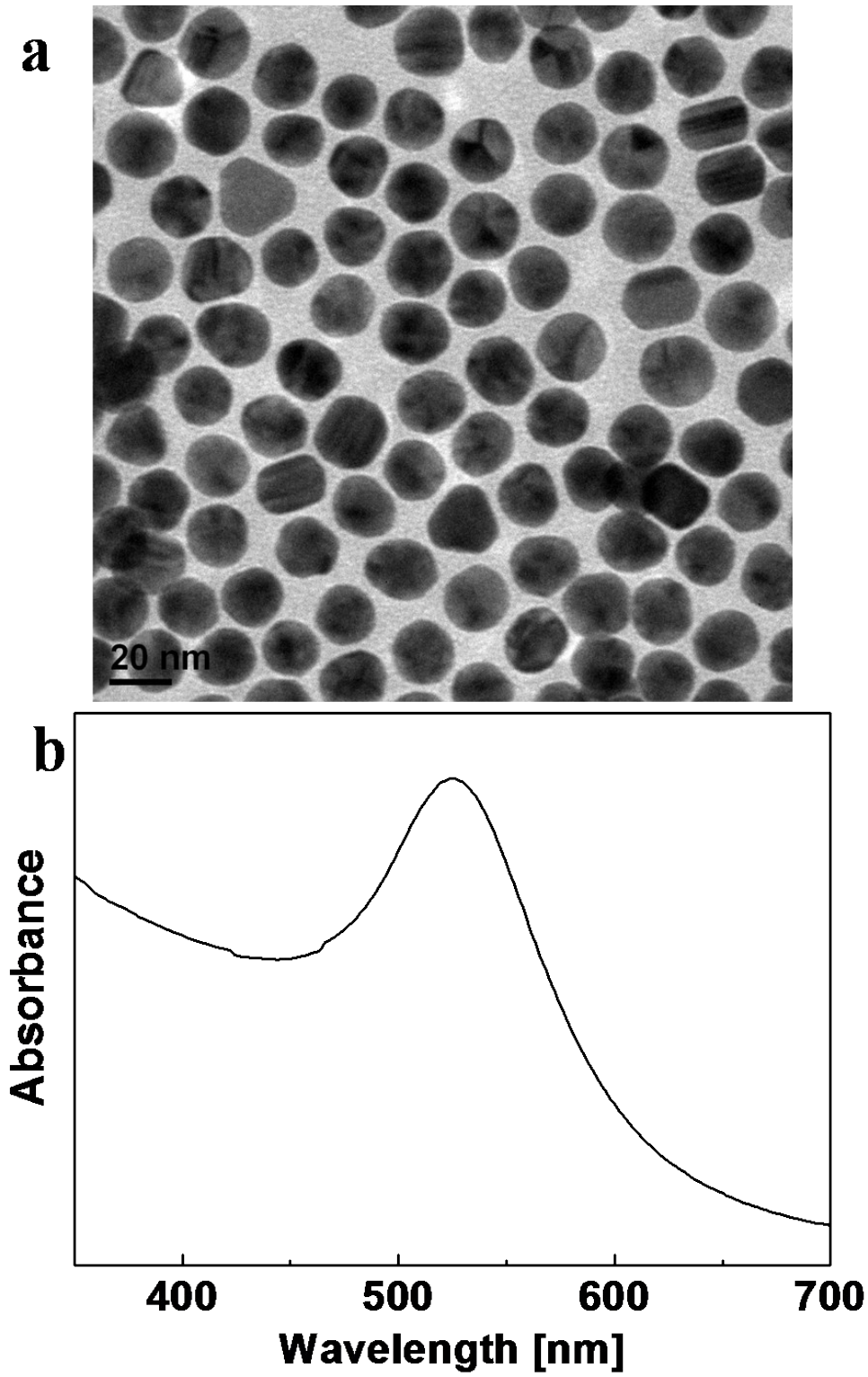

Figure S4. (a) TEM images and (b) UV-vis adsorption spectrum of Au NPs (d = 15 nm).

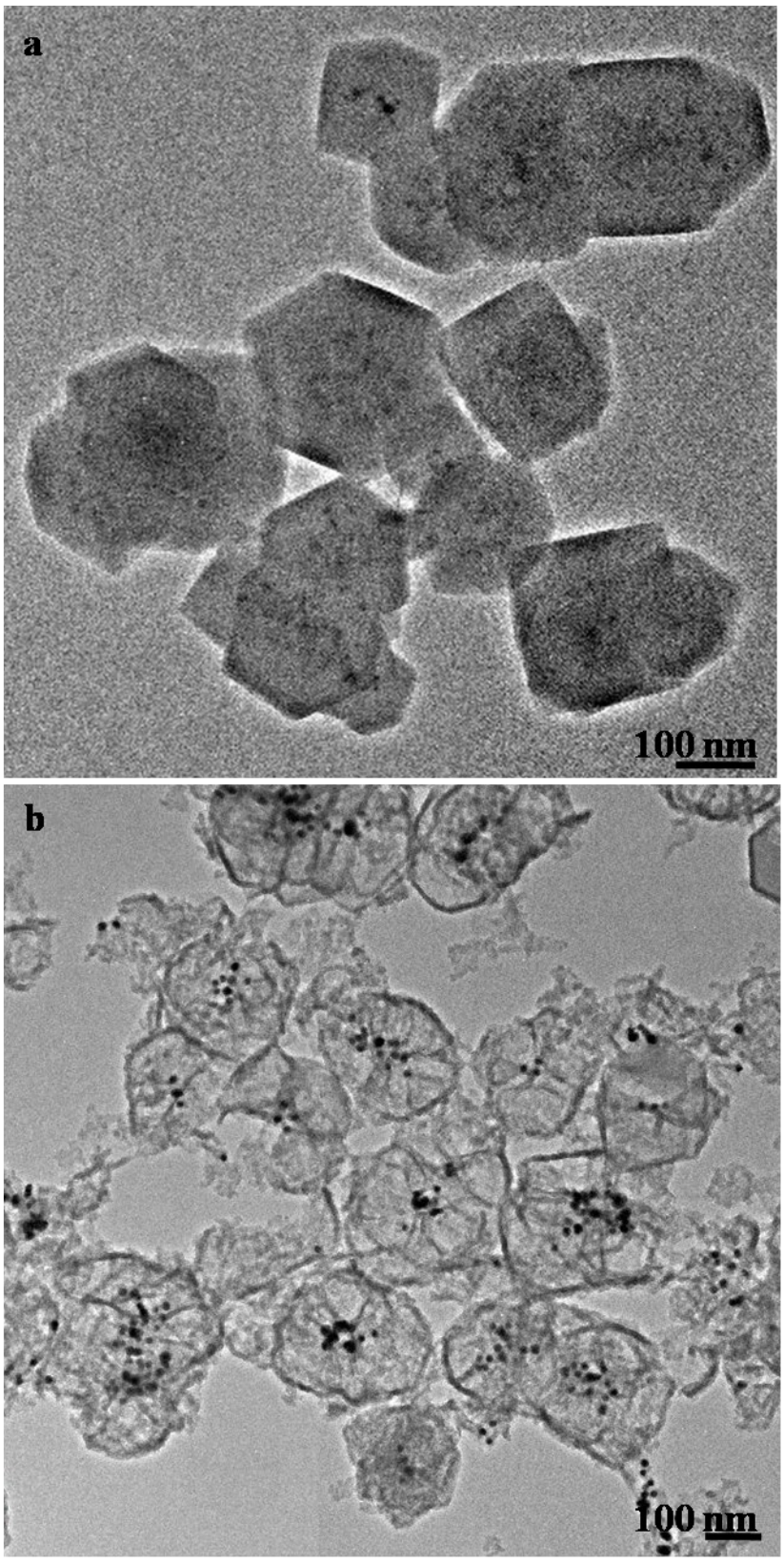

Figure S5. TEM images of (a) Au@ZIF-8 multi-faceted nanocomposites prepared when increasing the concentration of $Zn(NO_3)_2$ and Hmim solution to 12.5 mM, and (b) sample derived from the multi-faceted Au@ZIF-8 nanocomposites by the same synthetic route as that of ZnS nanocages.