

Supporting Information

Seed-mediated growth of Au nanorings with size control on Pd ultrathin nanosheets and their tunable surface plasmonic properties

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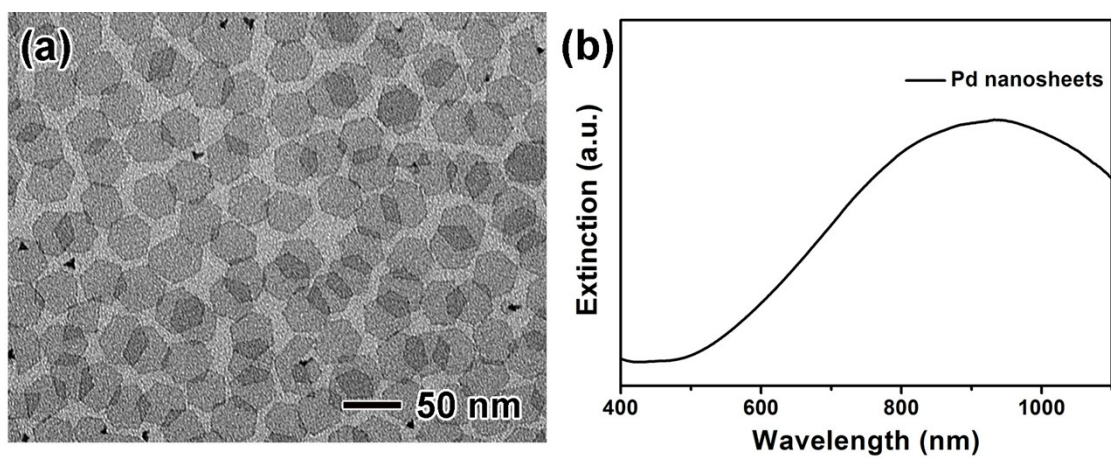


Figure S1. (a) TEM image and (b) UV-vis-NIR extinction spectrum of the Pd nanosheets with an average edge length of 18 nm.

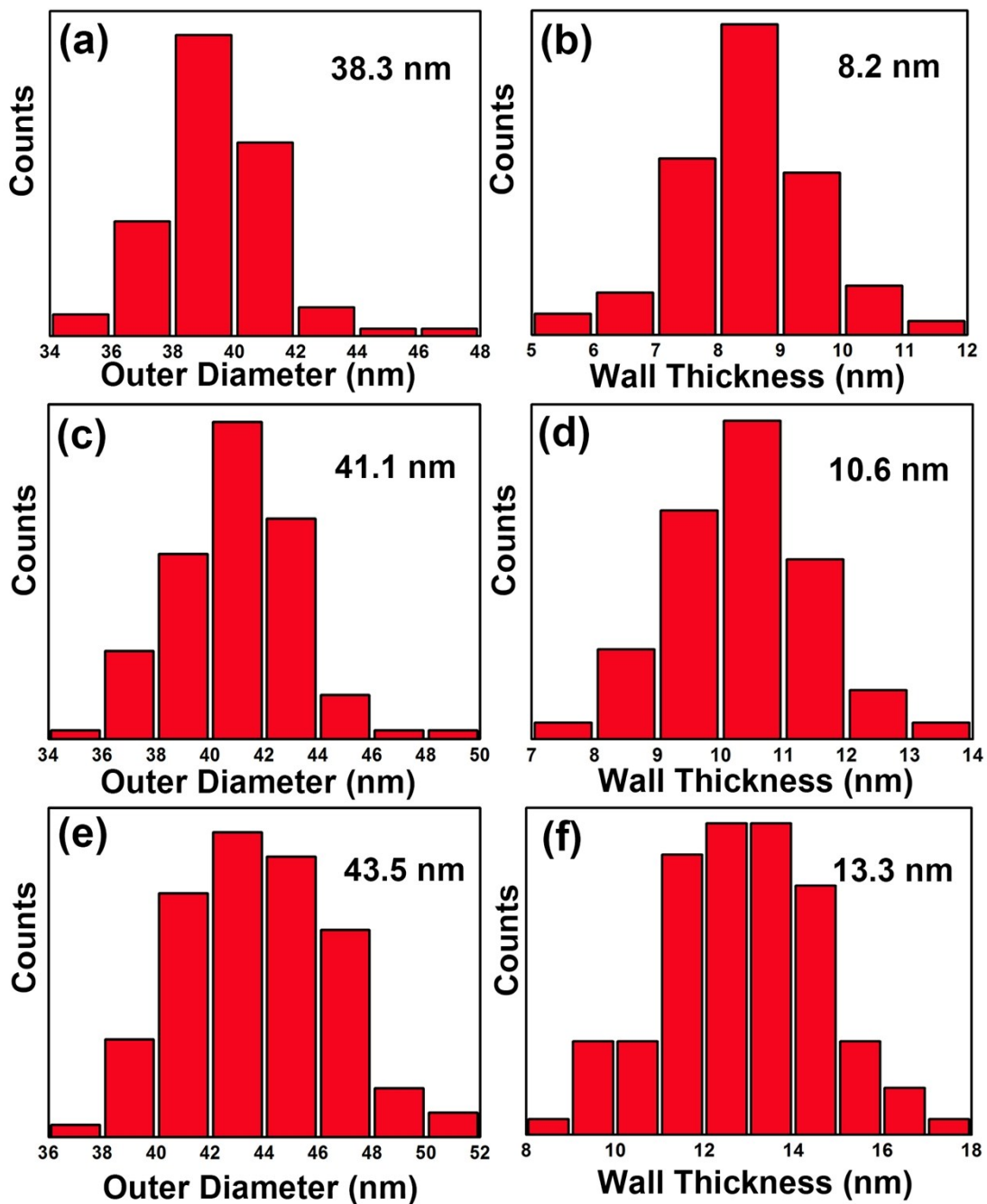


Figure S2. The outer diameter and wall thickness distribution of the Pd nanosheet supported Au nanorings prepared for different injection times: (a, b) 5, (c, d) 7, and (e, f) 9 h.

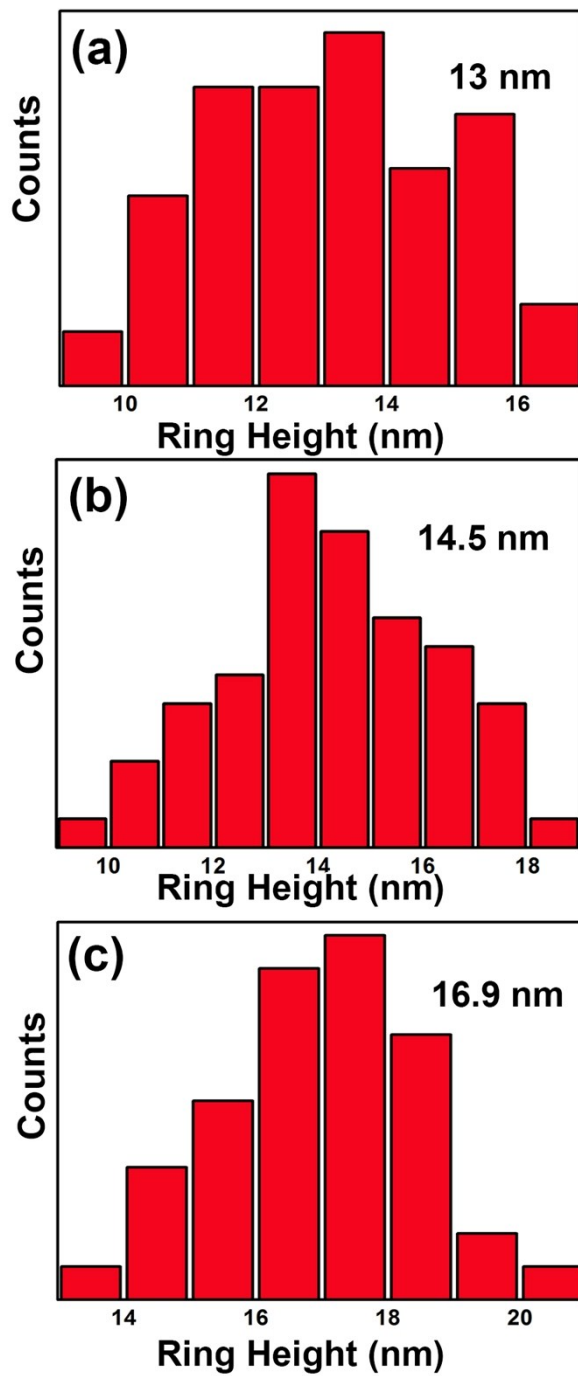


Figure S3. The ring height distribution of the Pd nanosheet supported Au nanorings prepared for different injection times: (a) 5, (b) 7, and (c) 9 h.

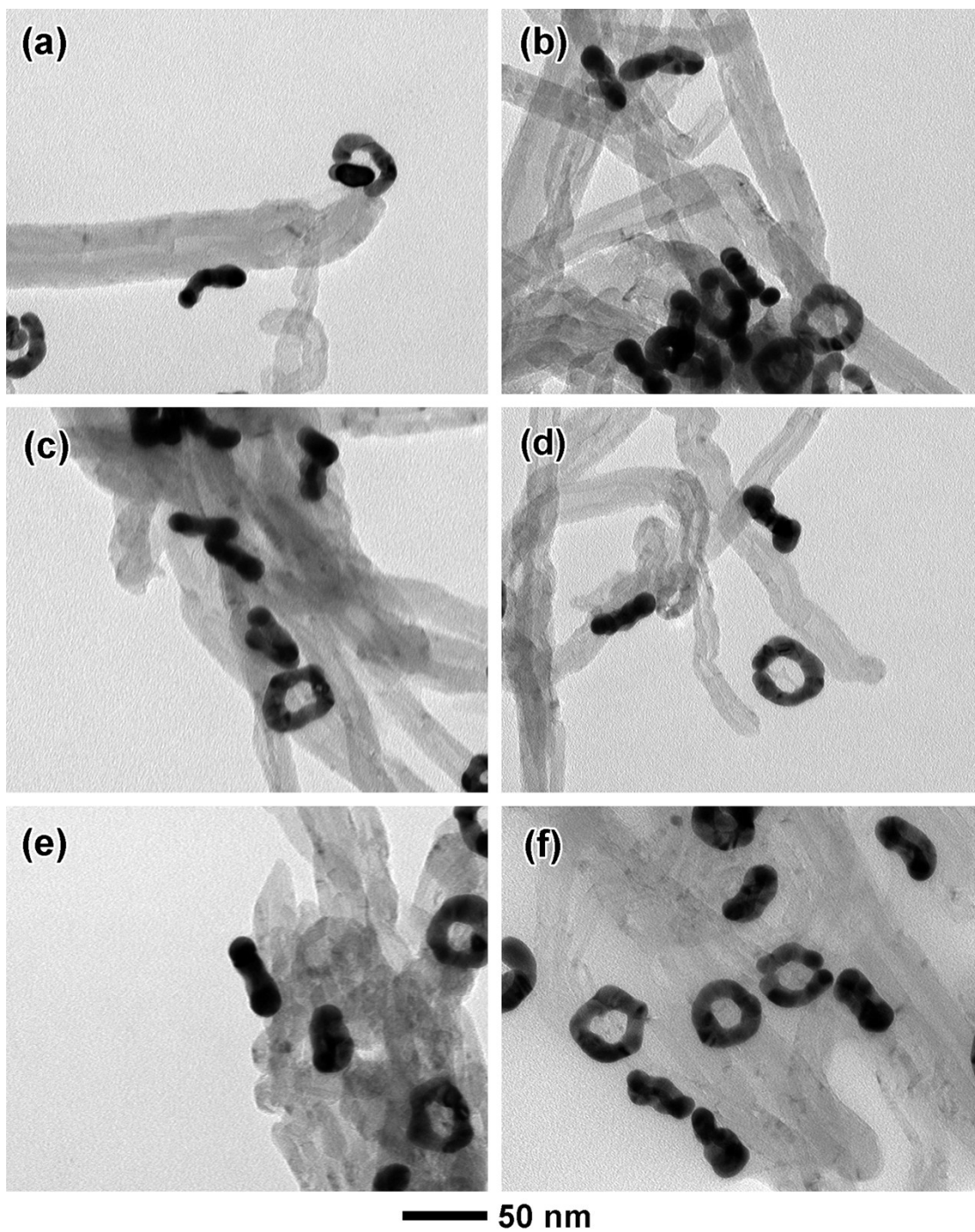


Figure S4. TEM images of the Pd nanosheet supported Au nanorings prepared for different injection times that mixed with the carbon nanotubes: (a, b) 5, (c, d) 7, and (e, f) 9 h.

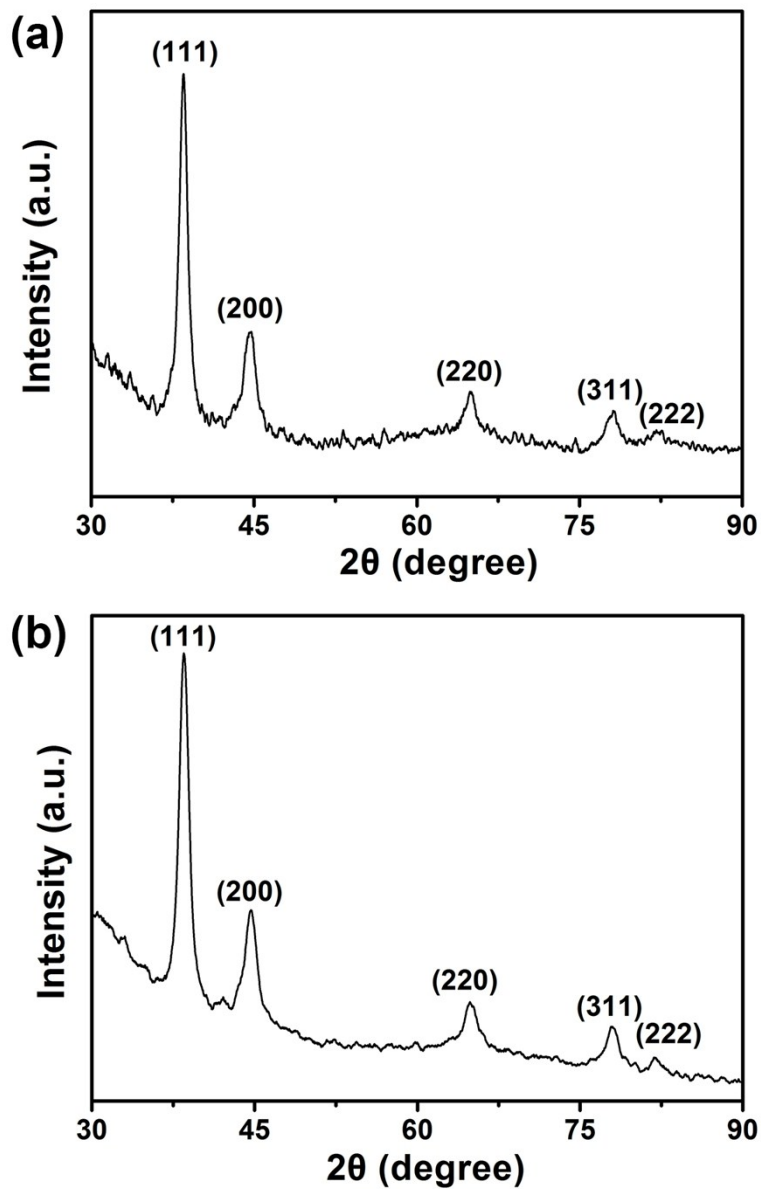


Figure S5. XRD patterns of (a) the Pd ultrathin nanosheet supported Au nanorings prepared using the standard procedure and (b) the pure Au nanorings prepared by chemical etching of the aforementioned sample.

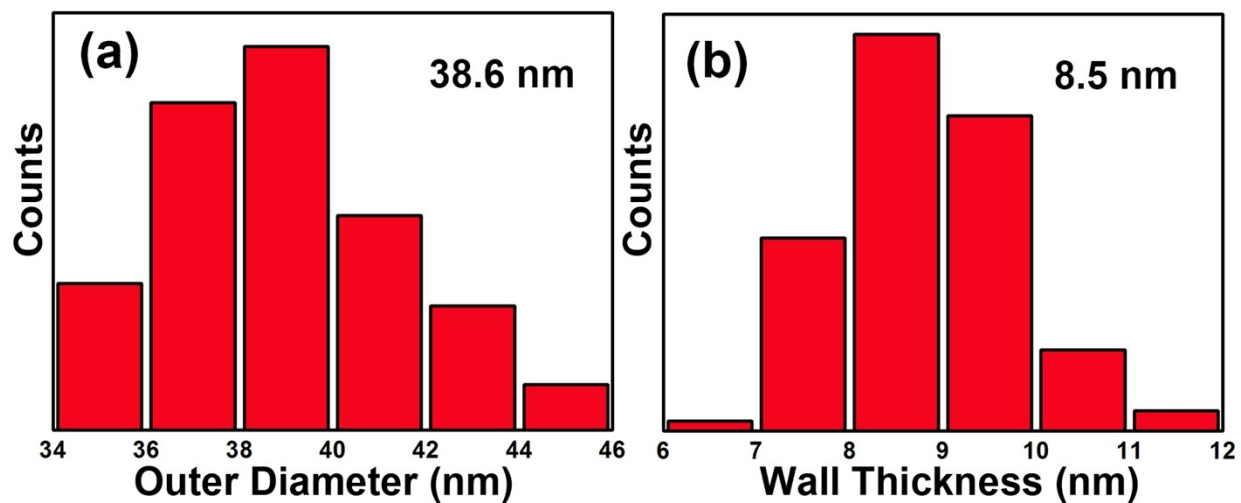


Figure S6. The outer diameter and wall thickness distribution of the pure Au nanorings prepared by chemical etching of the Pd ultrathin nanosheet supported Au nanorings.

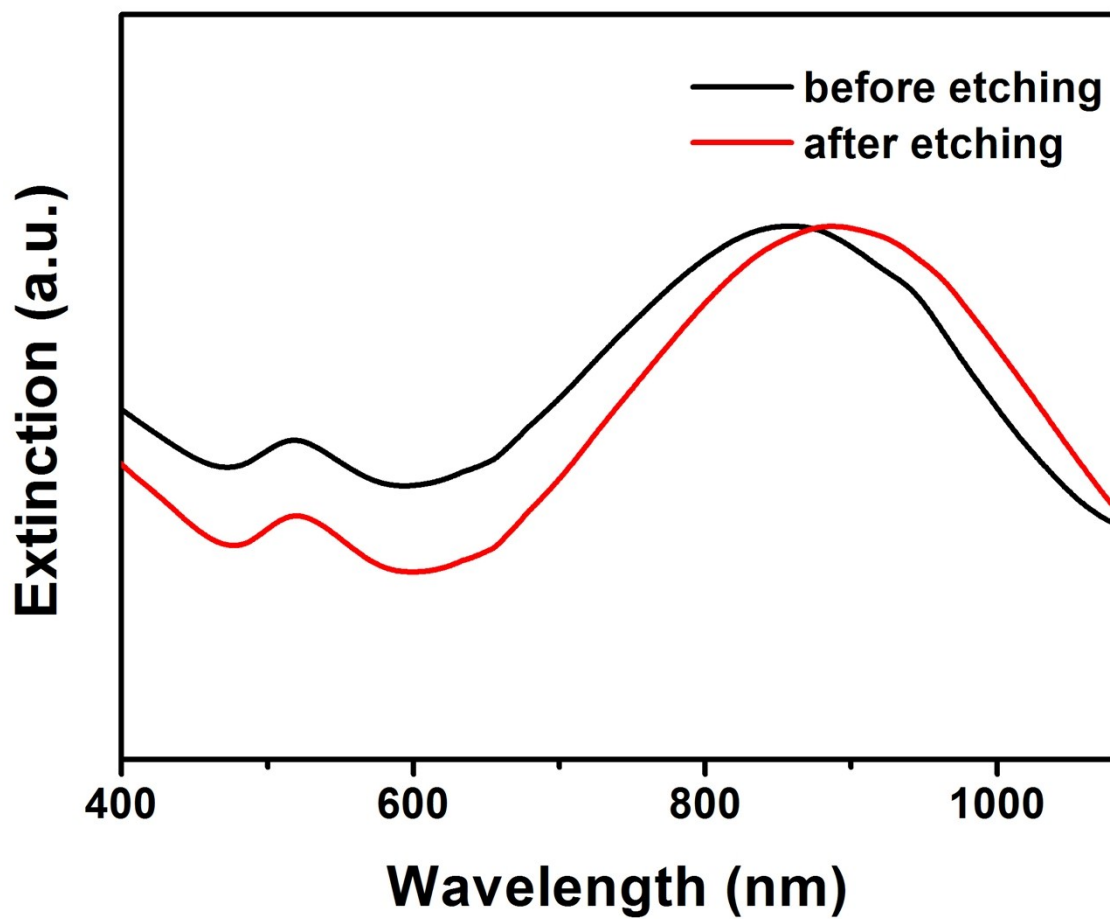


Figure S7. UV-vis-NIR extinction spectra of the Pd nanosheet supported Au nanorings before and after chemical etching of the Pd nanosheets at the central part.

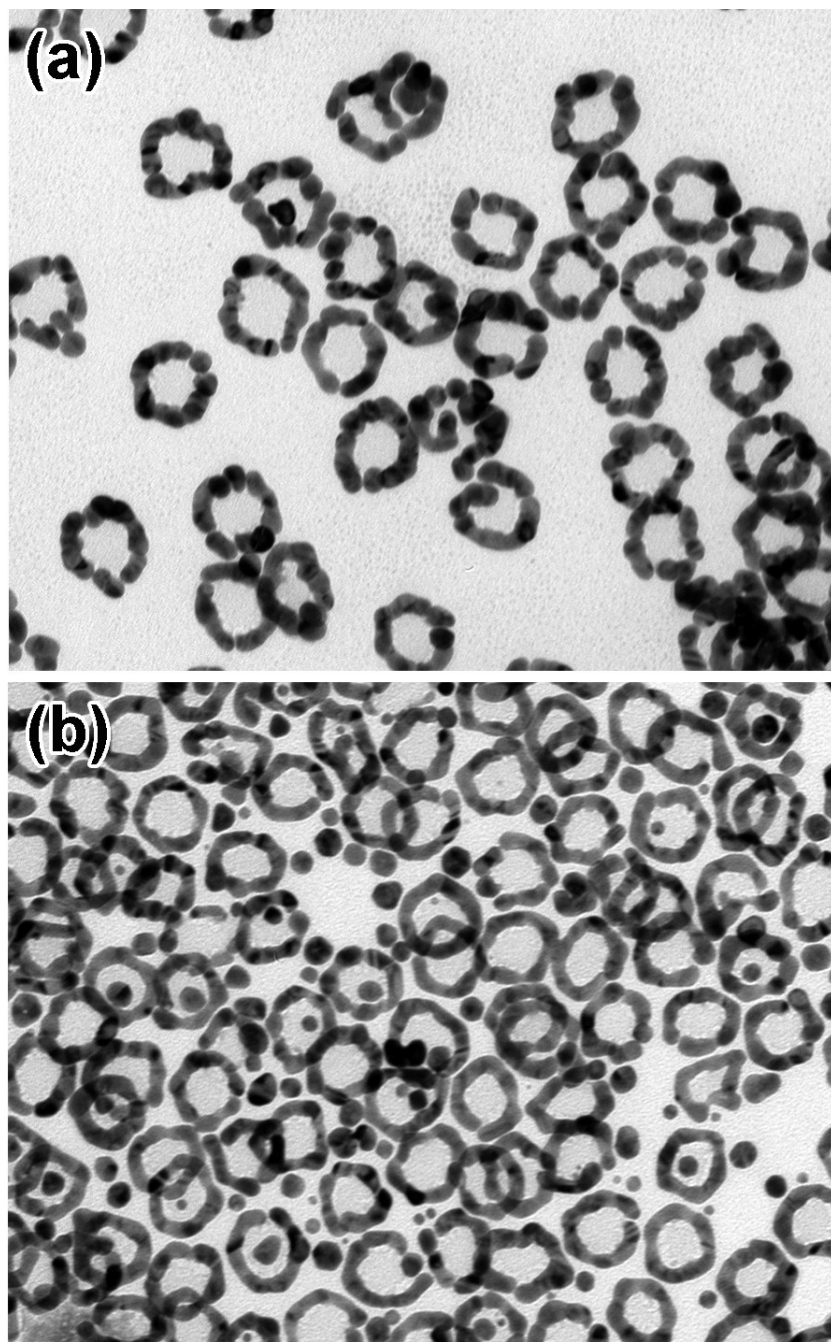


Figure S8. TEM images of the samples prepared using the standard procedure, except for (a) the fast injection rate at 15 mL/h and (b) the relatively high temperature at 35 °C.

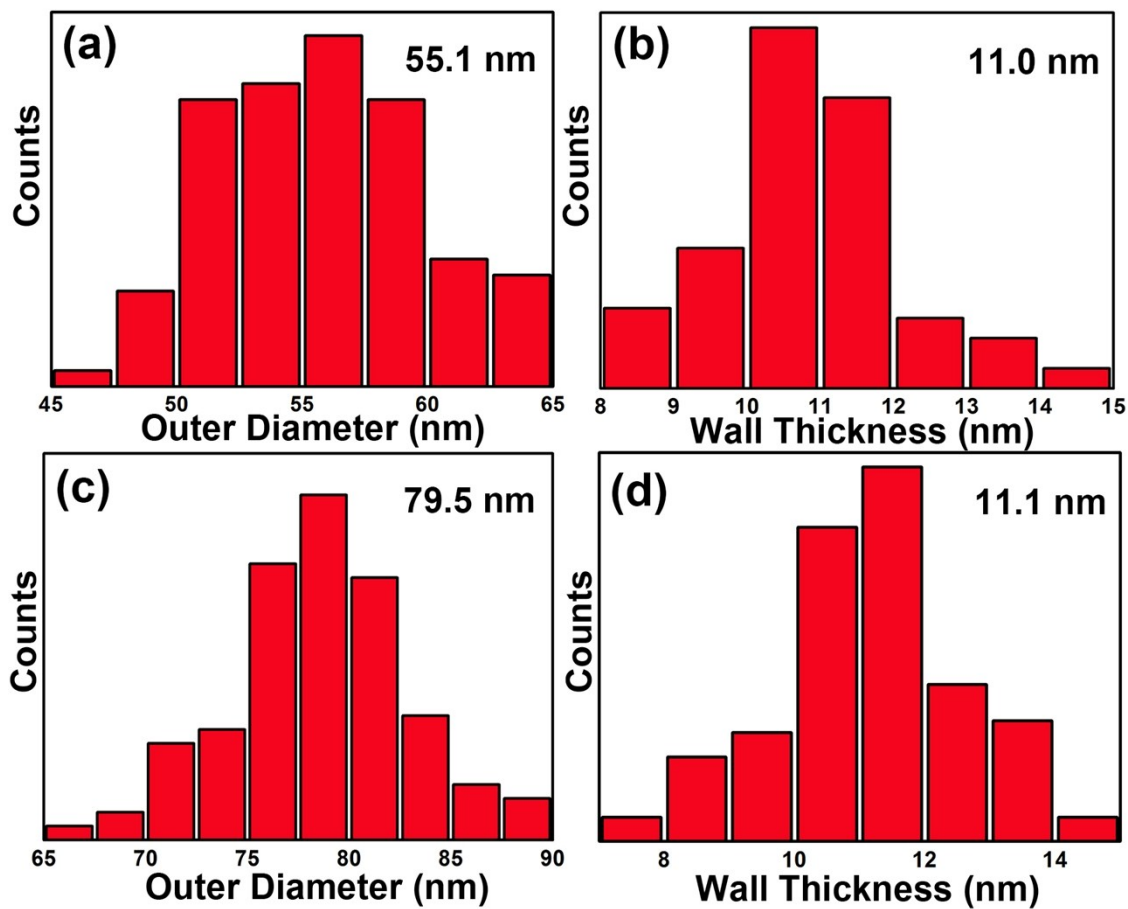


Figure S9. The outer diameter and wall thickness distribution of the Pd nanosheet supported Au nanorings prepared using the Pd nanosheets with average edge lengths of (a, b) 28 and (c, d) 38 nm as the seeds, respectively.