Supporting Information for the manuscript

Self-Assembly of Gold Nanoparticles into Ring-Like Hierarchical Superstructures with Tunable Interparticle Distance

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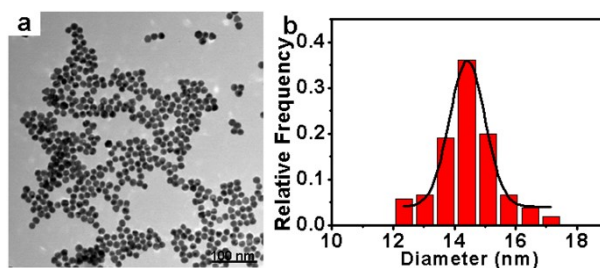
SUPPORTING FIGURES:

Figure S1. (a) TEM image of the synthesized AuNPs with the diameter of 15.2 ± 1.2 nm. The average diameter of AuNPs is obtained from the statistics of 100 AuNPs by TEM analysis software. (b) The diameter distribution histogram of AuNPs.
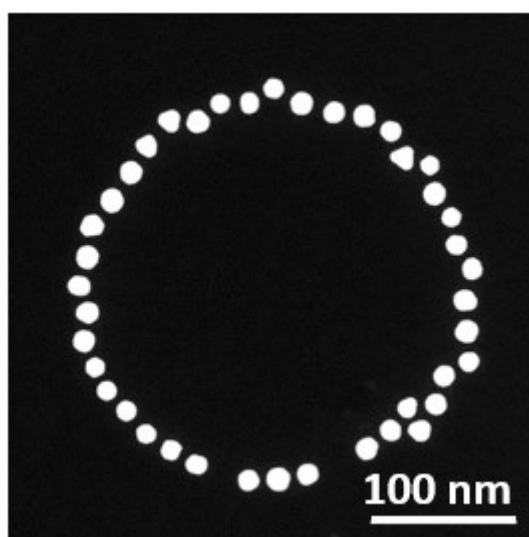

Figure S2. Corresponding STEM image of Au on the ring-like superstructures.
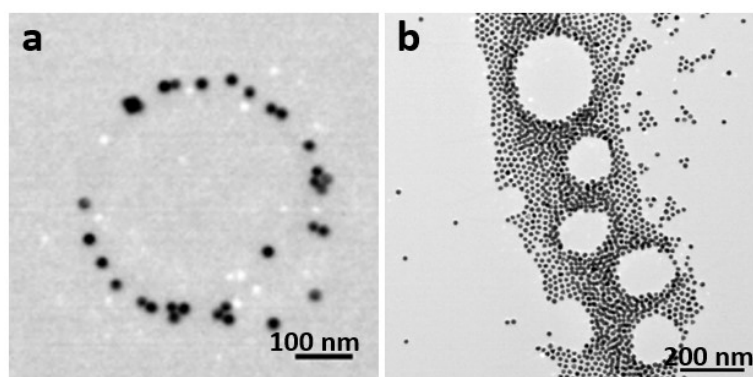

Figure S3. (a) TEM image of the ring-like superstructure formed by AuNPs@PS$_{5k}$ building blocks at very low concentration. (b) TEM image of honeycomb

superstructures formed by AuNPs@PS$_{5k}$ building blocks at significantly higher concentration.
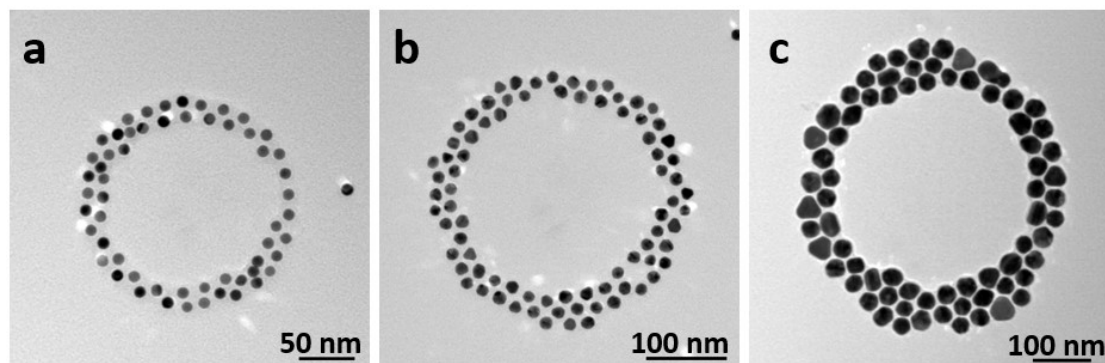

Figure S4. TEM images of the prepared ring-like superstructures self-assembled from AuNPs@PS building blocks with different diameter of AuNPs. The diameters of AuNPs are (a) 10 nm, (b) 15 nm, and (c) 40 nm, respectively.
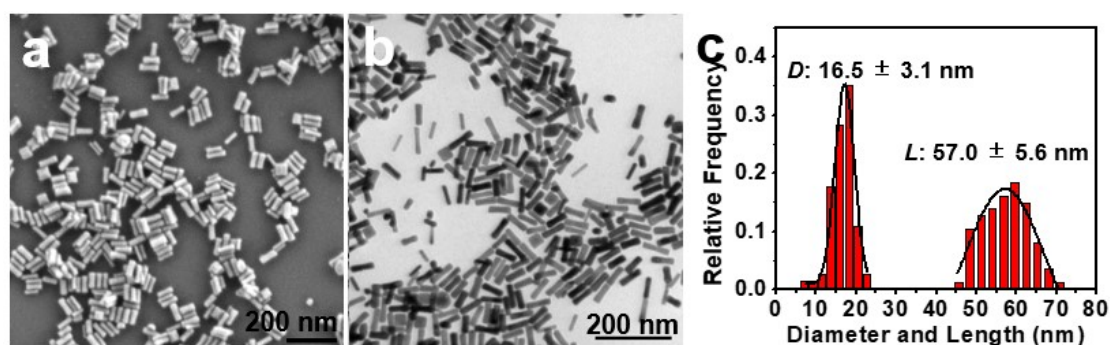

Figure S5. SEM (a) and TEM (b) images of the synthesized PS-tethered AuNRs, respectively. (c) The diameter and length distribution histograms of AuNRs are obtained from the statistics of 100 AuNRs by TEM analysis software.
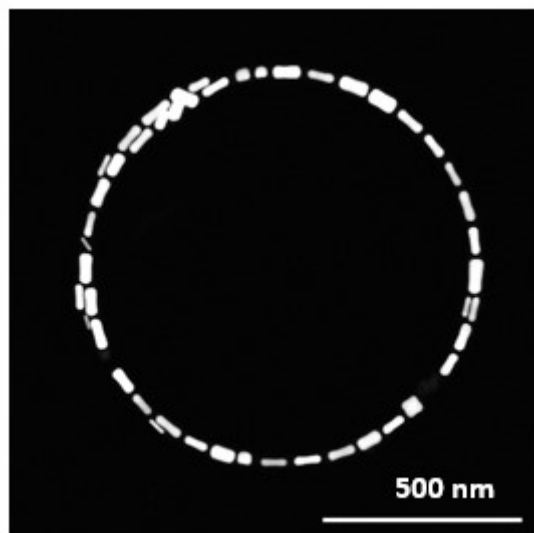
Figure S6. STEM image of the ring-like superstructures self-assembled from AuNRs@PS$_{12k}$ building blocks.
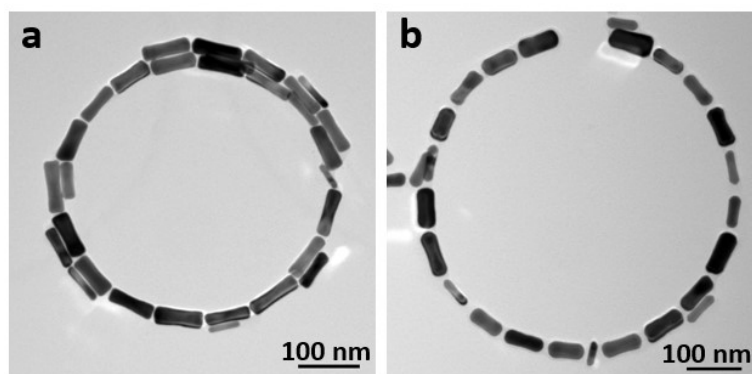

Figure S7. TEM images of the ring-like superstructures self-assembled from the (a) AuNRs@PS$_{5k}$, (b) AuNRs@PS$_{12k}$ building blocks, respectively.
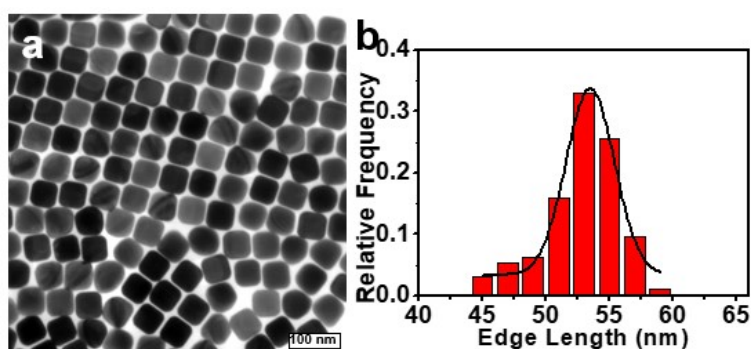

Figure S8. (a) TEM images of the synthesized PS-tethered AuNCs. (b) The diameter and length distribution histograms of AuNCs are obtained from the statistics of 100

AuNCs by TEM analysis software.