Supporting Information

Seed Surface Doping-Mediated Seeded Growth of Au-Ag Janus Nanoparticles with Tunable Sizes and Multiple Plasmonic Absorption Modes

Yuhan Kong,[a] Gongguo Zhang,[a] Chunyu Wang,[a] Yanyun Ma,[b*] Yiqun Zheng[a*]

[a] School of Chemistry, Chemical Engineering, and Materials, Jining University, Qufu, Shandong 273155, China

[b] Institute of Functional Nano&Soft Materials (FUNSOM), Jiangsu Key Laboratory of Advanced Negative Carbon Technologies, Soochow University, Suzhou, Jiangsu 215123, China

[*] Corresponding author: Prof. Dr. Y. Zheng, E-mail: whzyq@163.com;
Prof. Dr. Y. Ma, E-mail: mayanyun@suda.edu.cn

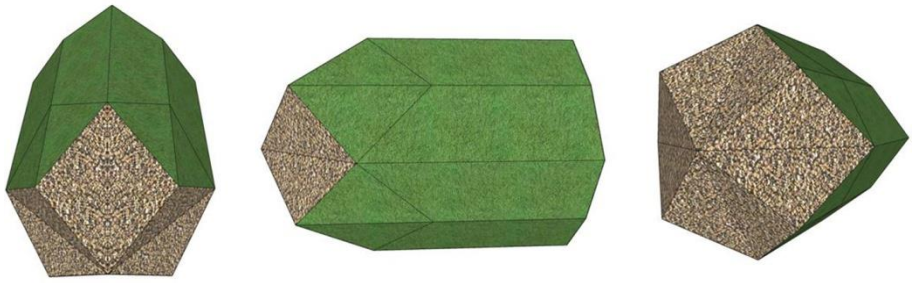

Figure S1. Model images of Au-Ag JNPs.

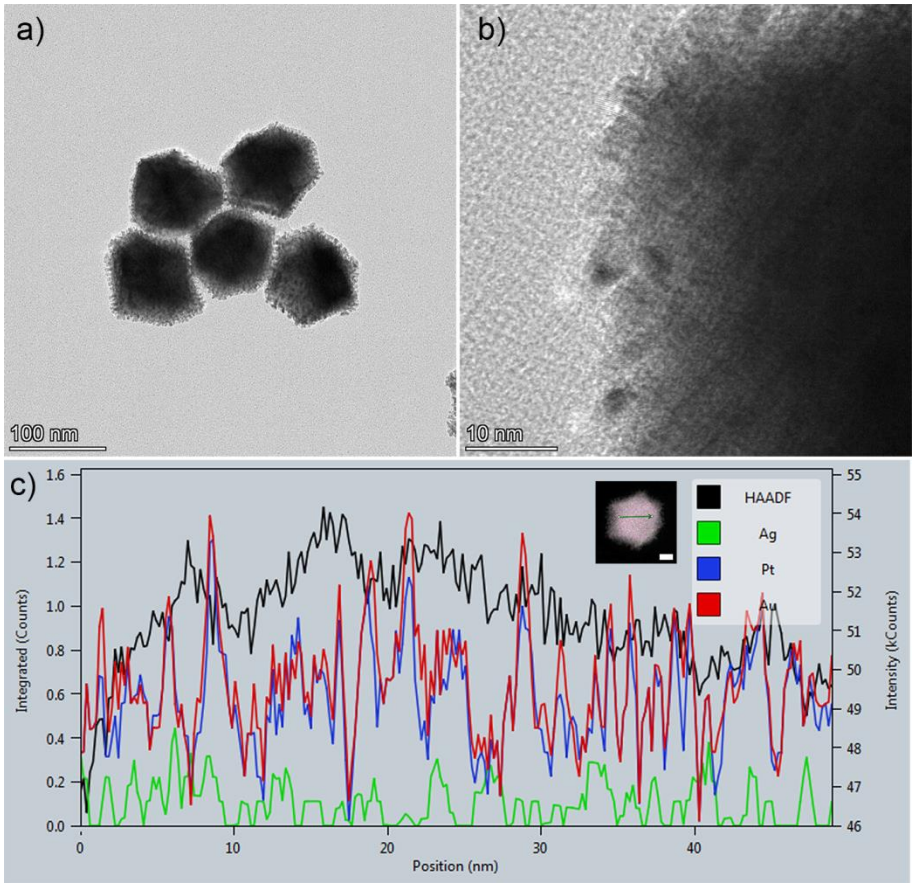

Figure S2. Morphology and structure characterizations of Pt/Ag doped TOH Au seeds: a) TEM; b) HRTEM; c) line-scan profile. The inset in c) shows the HAADF-STEM image of corresponding particle, where the green line indicates the scanning region.

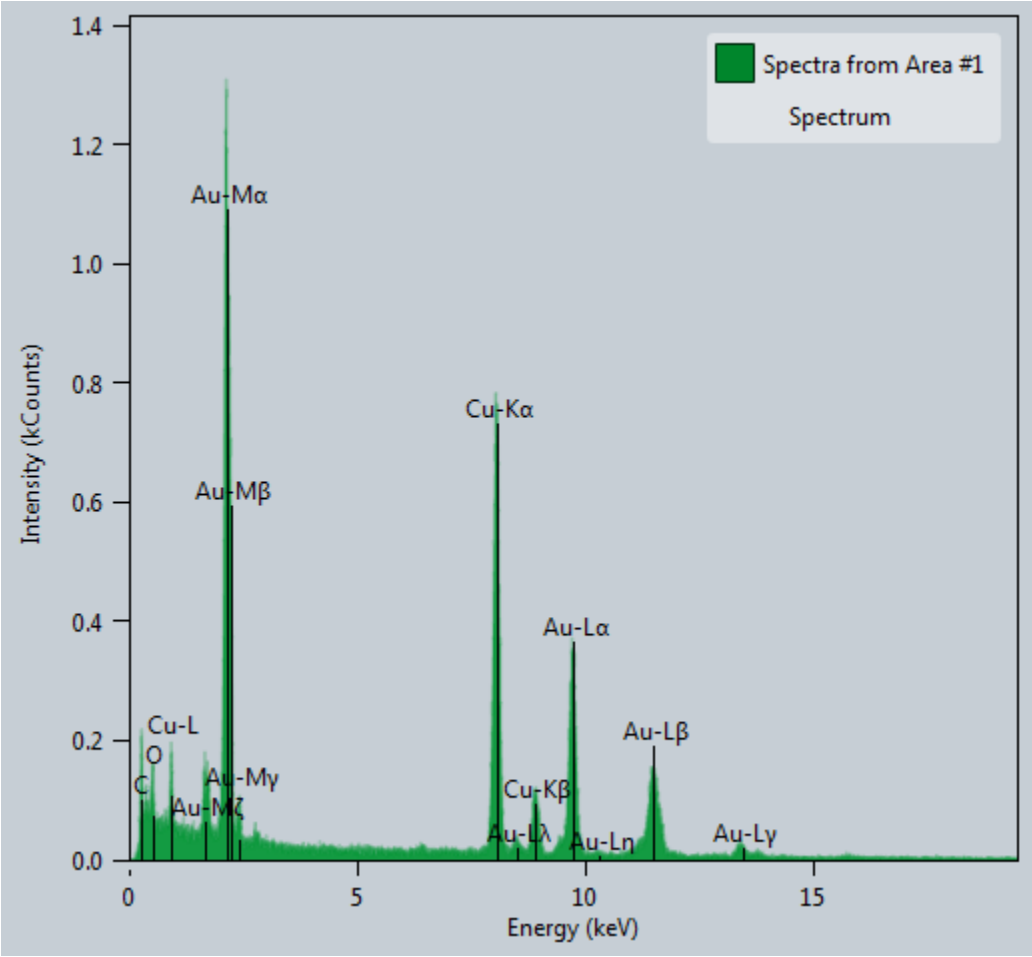

Figure S3. EDS spectrum of Pt/Ag doped TOH Au seeds.

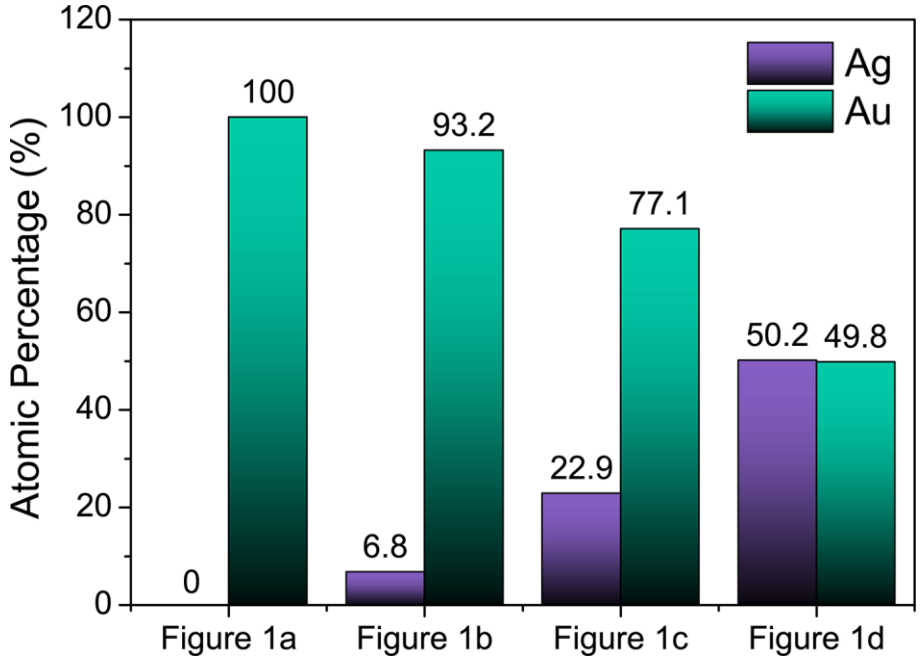

Figure S4. Histograms comparing the atomic ratio of Au/Ag for products shown in Figure 1.

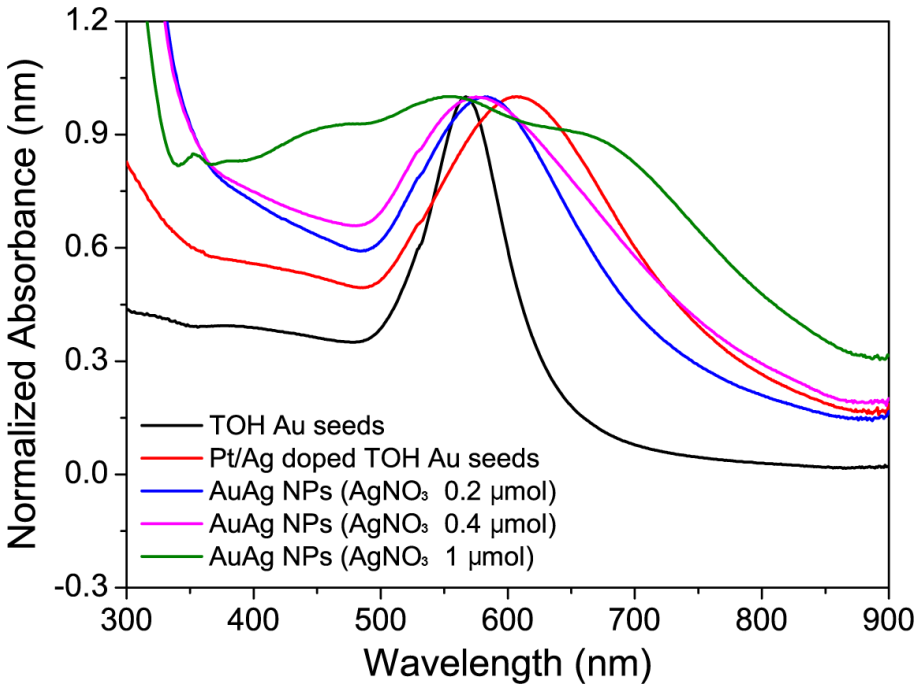

Figure S5. UV-vis extinction spectra of products formed during the synthetic process of Au-Ag JNPs.

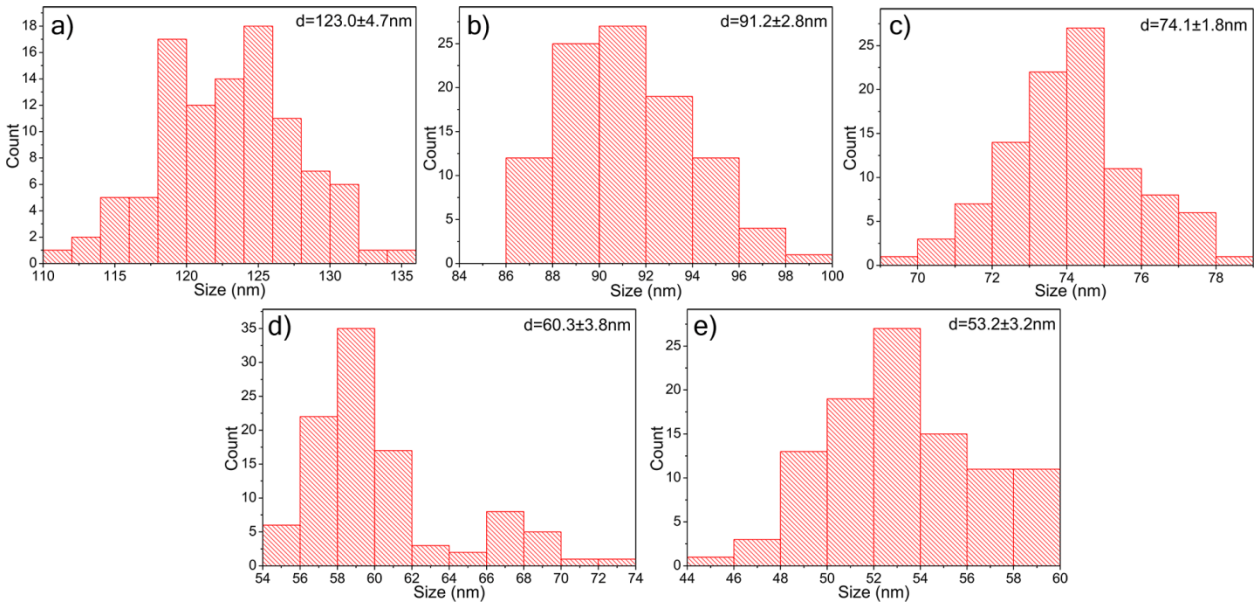

Figure S6. Histogram showing the size distributions of Au and Ag parts in Au-Ag JNPs: a) Au-Ag JNP-I; b) Au-Ag JNP-II; c) Au-Ag JNP-III; d) Au-Ag JNP-IV; e) Au-Ag JNP-V.

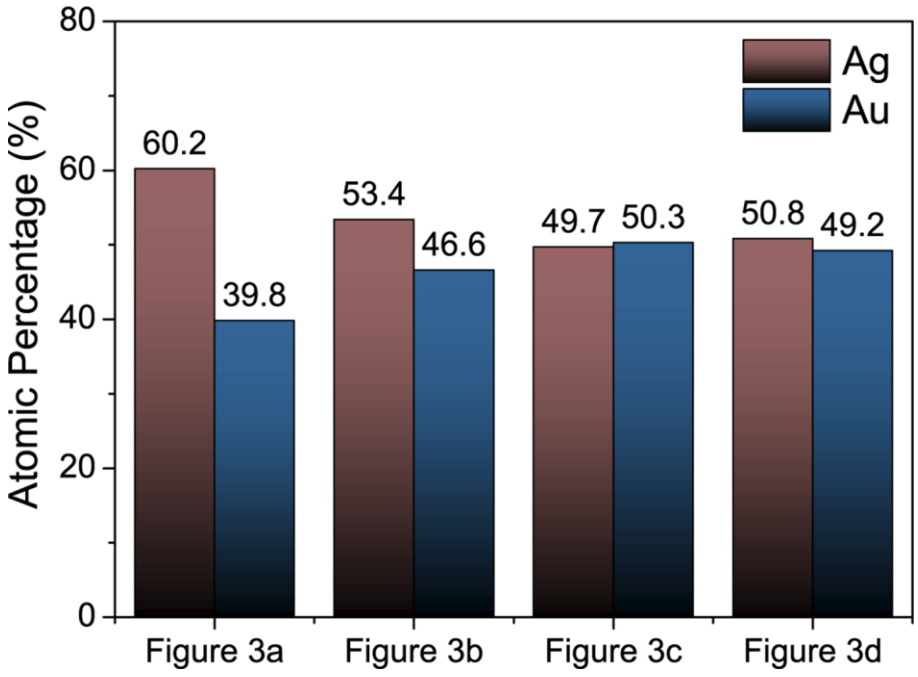

Figure S7. Histograms comparing the atomic ratio of Au/Ag for products shown in Figure 3.

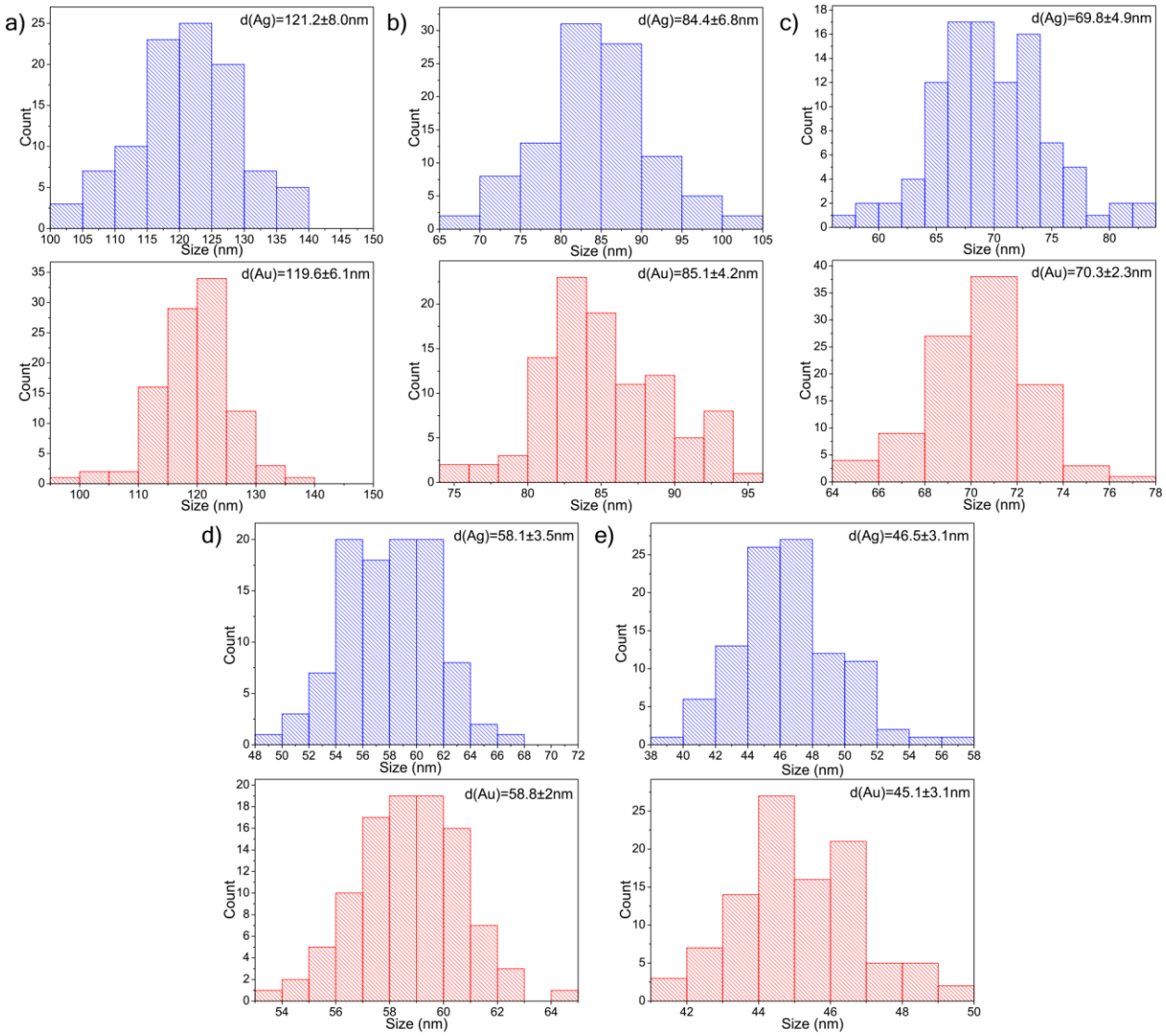

Figure S8. Histogram showing the size distributions of Au@Ag CSNPs: a) Au@Ag CSNP-I; b) Au@Ag CSNP-II; c) Au@Ag CSNP-III; d) Au@Ag CSNP-IV; e) Au@Ag CSNP-V.

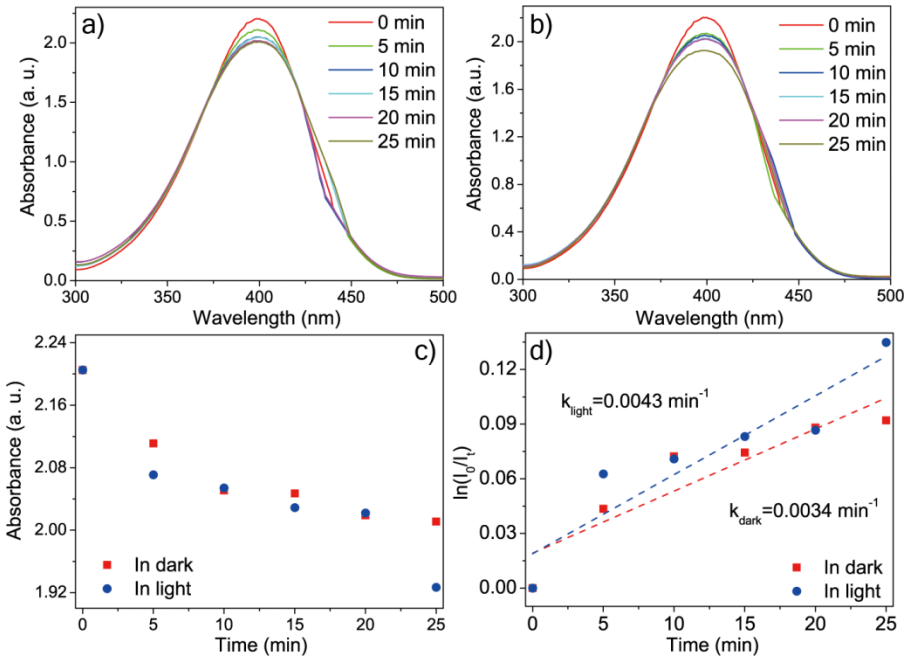

Figure S9. Results of 4-NP reduction using no metal catalyst. a, b) Time-dependent UV-vis extinction spectra recorded a) in dark and b) in light; c, d) Plots showing c) the absorbance and d) $\ln(I_0/I_t)$ *versus* reaction time.