Supporting Information for

Co-titration of AgNO₃ and HAuCl₄: A New Route to the Synthesis of Ag@Ag-Au Core-Frame Nanocubes with Enhanced Plasmonic and Catalytic Properties

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Figure S1. TEM image of Ag nanocubes with an edge length of 39.2 ± 1.6 nm.



Figure S2. TEM images of Ag@Ag-Au nanocubes that were prepared by co-titrating different volumes of aqueous AgNO₃ (0.3 mM) and HAuCl₄ (0.1 mM): (A) 0.2, (B) 0.4, (C) 0.8, and (D) 1.5 mL for each precursor.



Figure S3. TEM image of Ag-Au hollow nanocubes prepared by co-titrating 0.4 mL of aqueous AgNO₃ (0.1 mM) and 0.4 mL HAuCl₄ (0.1 mM).



Figure S4. TEM image of Ag-Au hollow nanocubes prepared by co-titrating 1.5 mL of aqueous $AgNO_3$ (0.1 mM) and 1.5 mL HAuCl₄ (0.1 mM).



Figure S5. TEM image of Ag-Au hollow nanocubes prepared by co-titrating 0.8 mL of aqueous AgNO₃ (0.2 mM) and 0.8 mL HAuCl₄ (0.1 mM).

Table S1. The contents of Ag and Au in the as-obtained solid product and supernatant collected

 from each run of synthesis using ICP-MS analysis.

Volume titrated (mL)	Ag deposited (µg)	Au deposited (µg)	Ag added (µg)	Au added (µg)	Ag ions in supernatant (µM)	Au ions in supernatant (µM)
0.2	8.9±2.2	2.9±0.4	5.92	2.748	0.046	0.02
0.4	11.3±1.4	5.9±0.8	11.84	5.496	0.068	0.013
0.6	16.9±4.4	9.9±1.4	17.76	8.244	0.086	0.015
0.8	21.9±4.3	12.6±2.0	23.68	10.992	0.066	0.018