

Electronic Supplementary Information

Rationally designed 3D superstructures via molecularly mediated self-assembly of plasmonic nanoparticles for use as SERS labels

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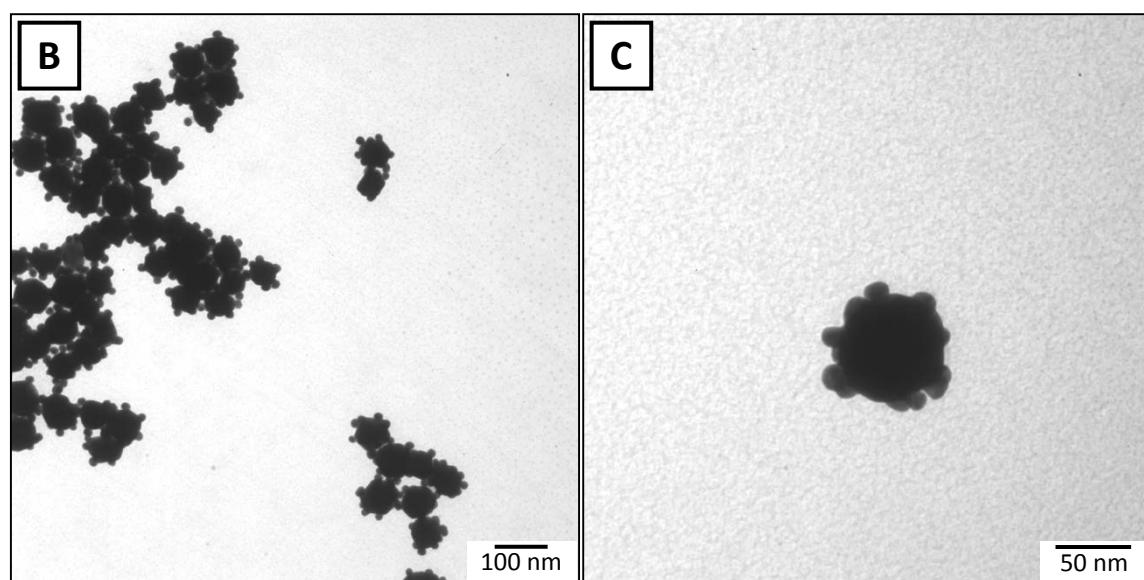
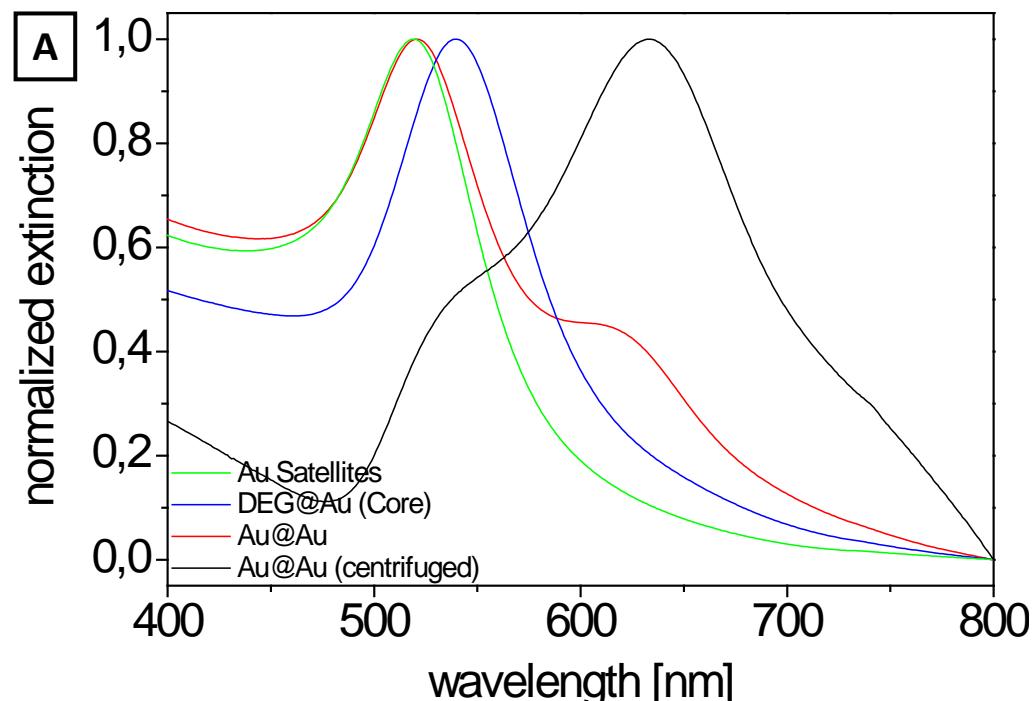


Figure S1: Normalized UV-VIS extinction (A) spectra of **Au@Au** 3D superstructures (red: directly after the synthesis; black: after centrifugation and redispersion in ethanol) and their precursors (green: Au satellites; blue: DTNB-DEG-covered core particles). The plasmon band of the 3D superstructures in ethanol is $\lambda_{\text{max}} = 632 \text{ nm}$. (B) and (C) display TEM images of the **Au@Au** 3D superstructures.

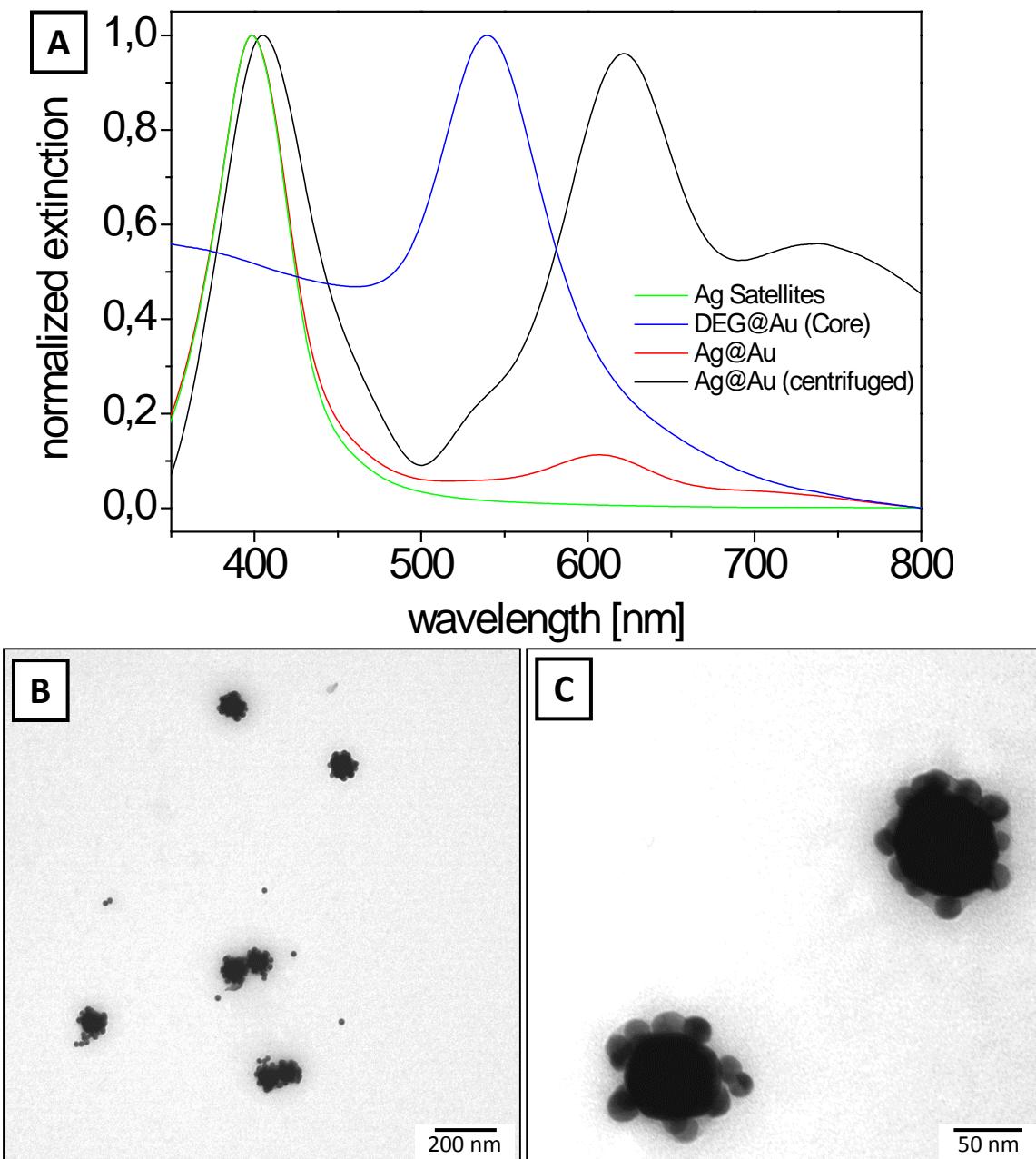


Figure S2: Normalized UV-VIS extinction spectra (A) of **Ag@Au** 3D superstructures (red: directly after the synthesis; black: after centrifugation and redispersion in ethanol) and their precursors (green: Ag satellites; blue: DTNB-DEG-covered core particles). The plasmon band of the 3D superstructures in ethanol is $\lambda_{\text{max}} = 621 \text{ nm}$. (B) and (C) display TEM images of the **Ag@Au** 3D superstructures.

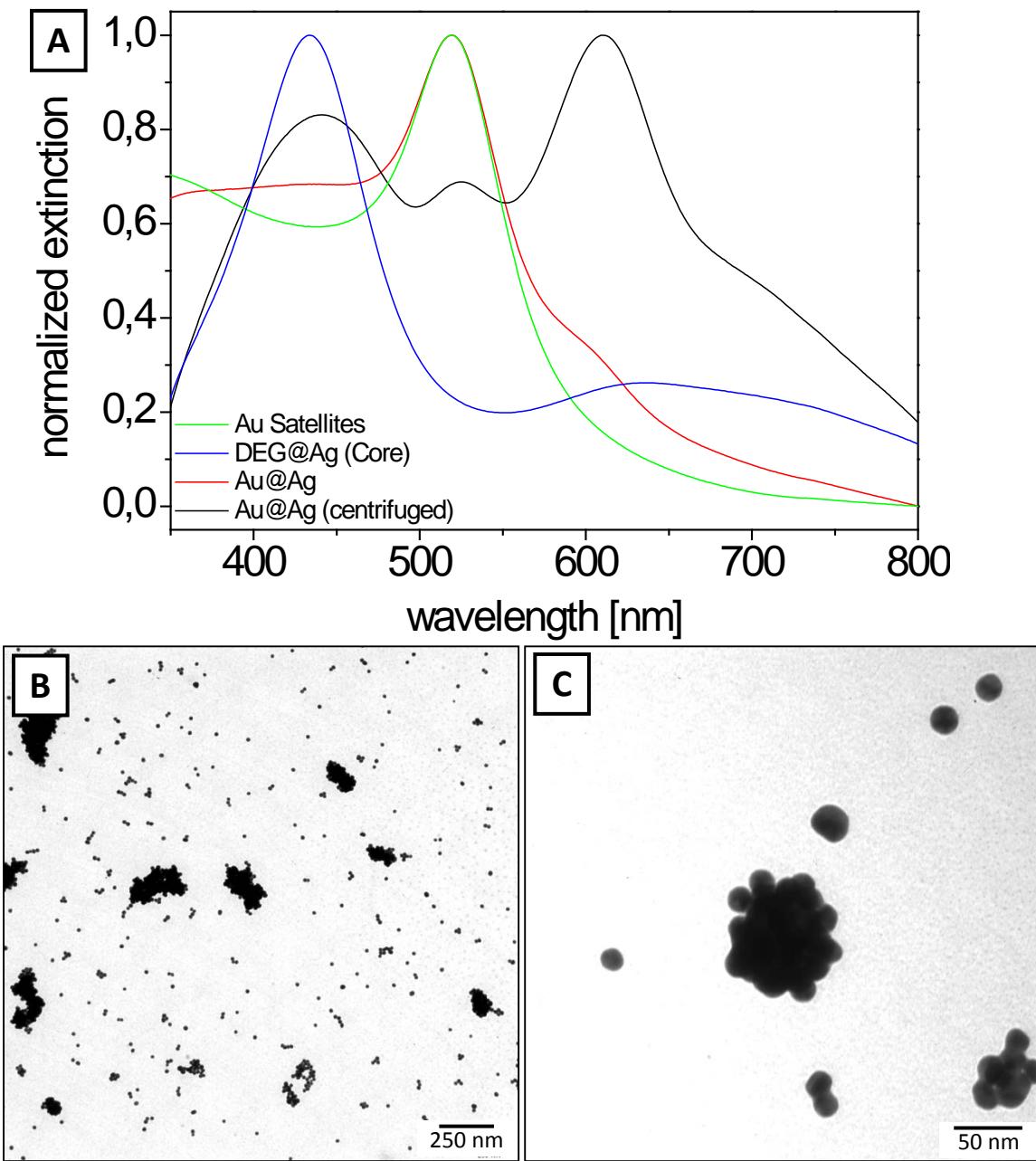


Figure S3: Normalized UV-VIS extinction spectra of **Au@Ag** 3D superstructures (red: directly after the synthesis; black: after centrifugation and redispersion in ethanol) and their precursors (green: Au satellites; blue: DTNB-DEG-covered core particles). The plasmon band of the 3D superstructures in ethanol is $\lambda_{\text{max}} = 610 \text{ nm}$. (B) and (C) display TEM images of the **Au@Ag** 3D superstructures.

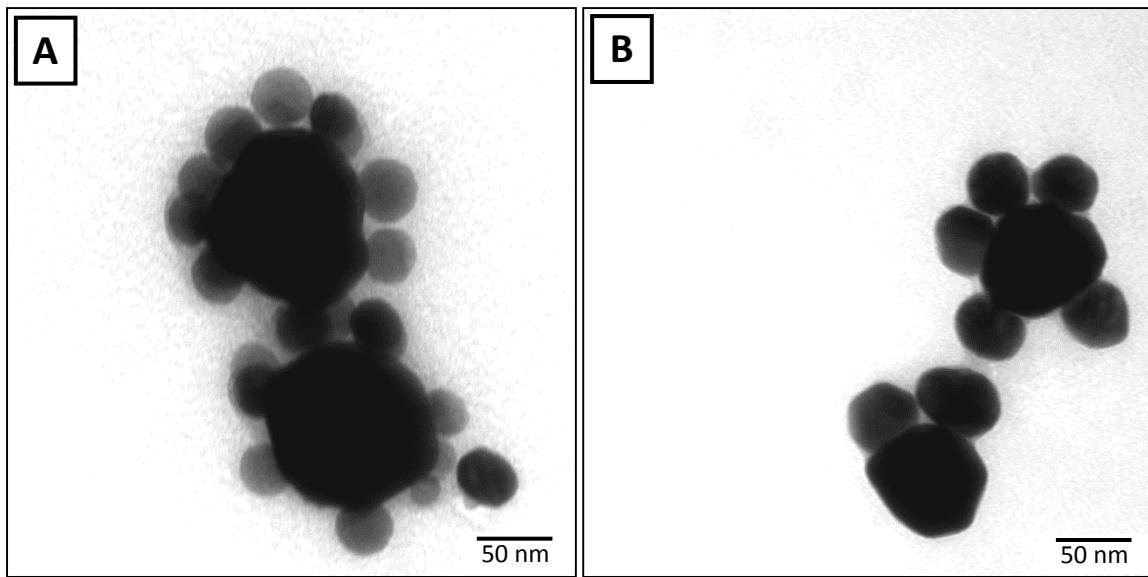


Figure S4: TEM images of **Ag@Au** 3D superstructures with 30 nm (A) and 40 nm (B) satellites.