Electronic Supplementary Material (ESI) for Nanoscale.

Supporting information

Tunable orientation of two-dimensional assembled Au octahedron superlattice in polymer film as flexible SERS substrates

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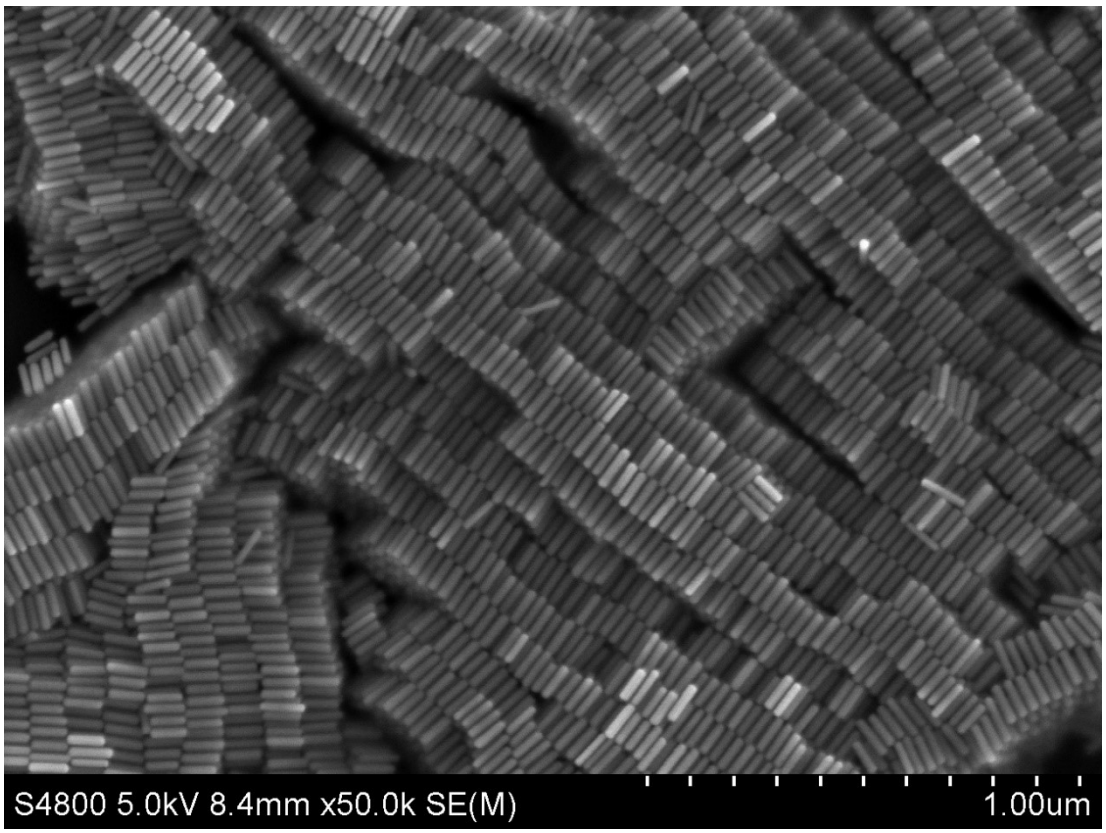

Figure S1. Au nanorods

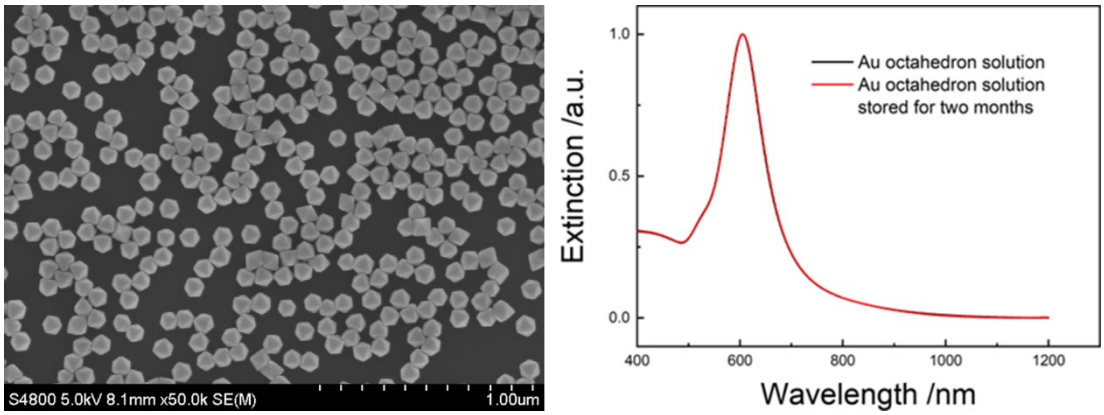

Figure S2. Au octahedrons and the UV-Vis-NIR spectra of Au octahedron in enthanol

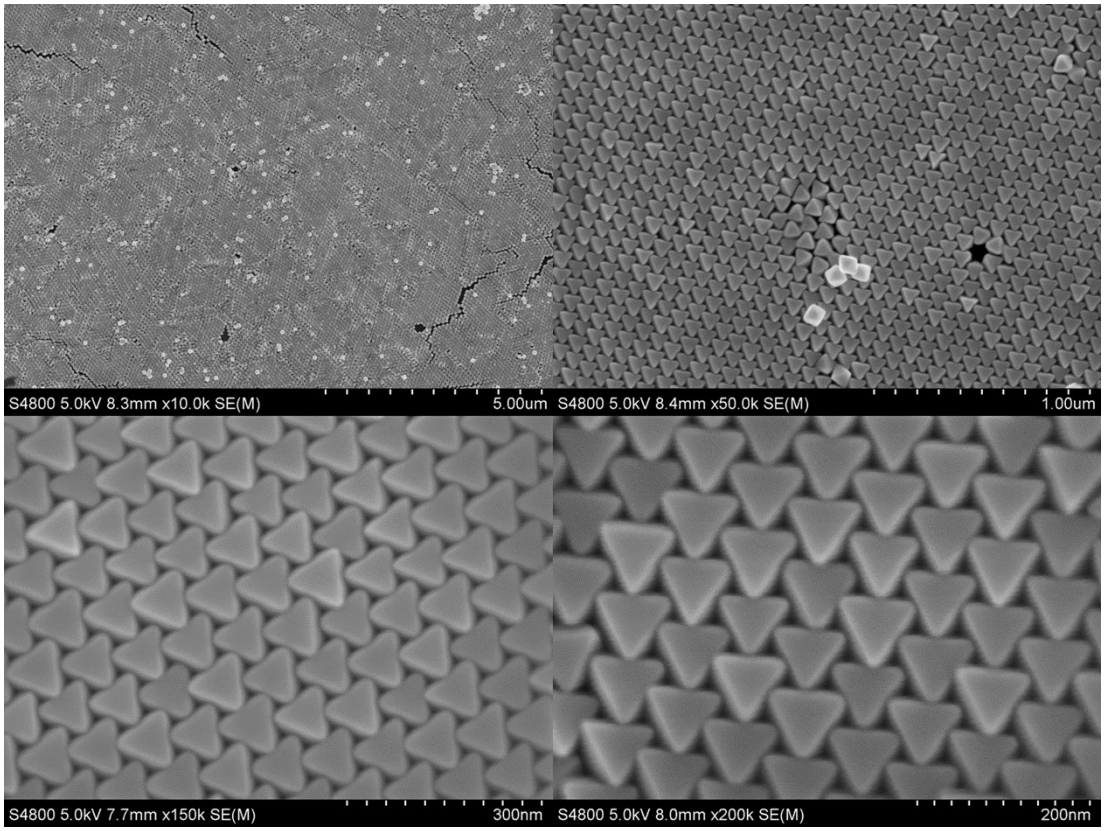

Figure S3. 2D superlattice of Au octahedrons with face-up orientation

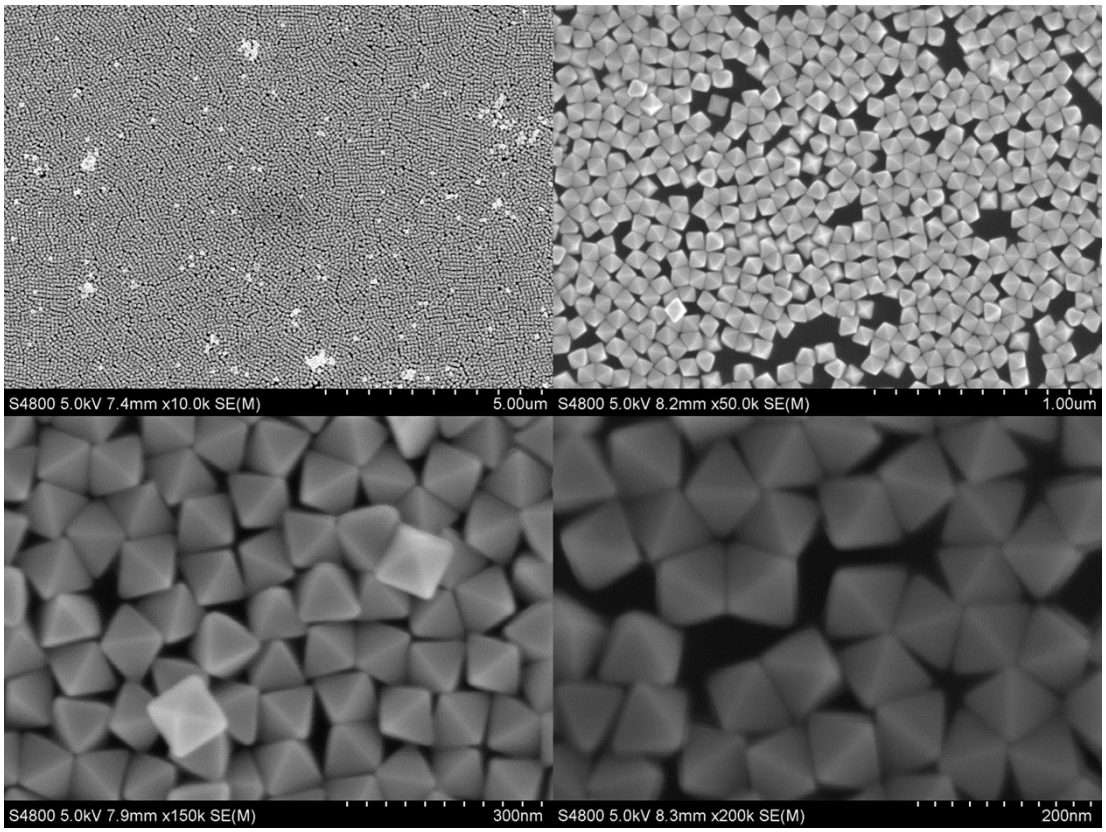

Figure S4. 2D superlattice of Au octahedrons with edge-up orientation

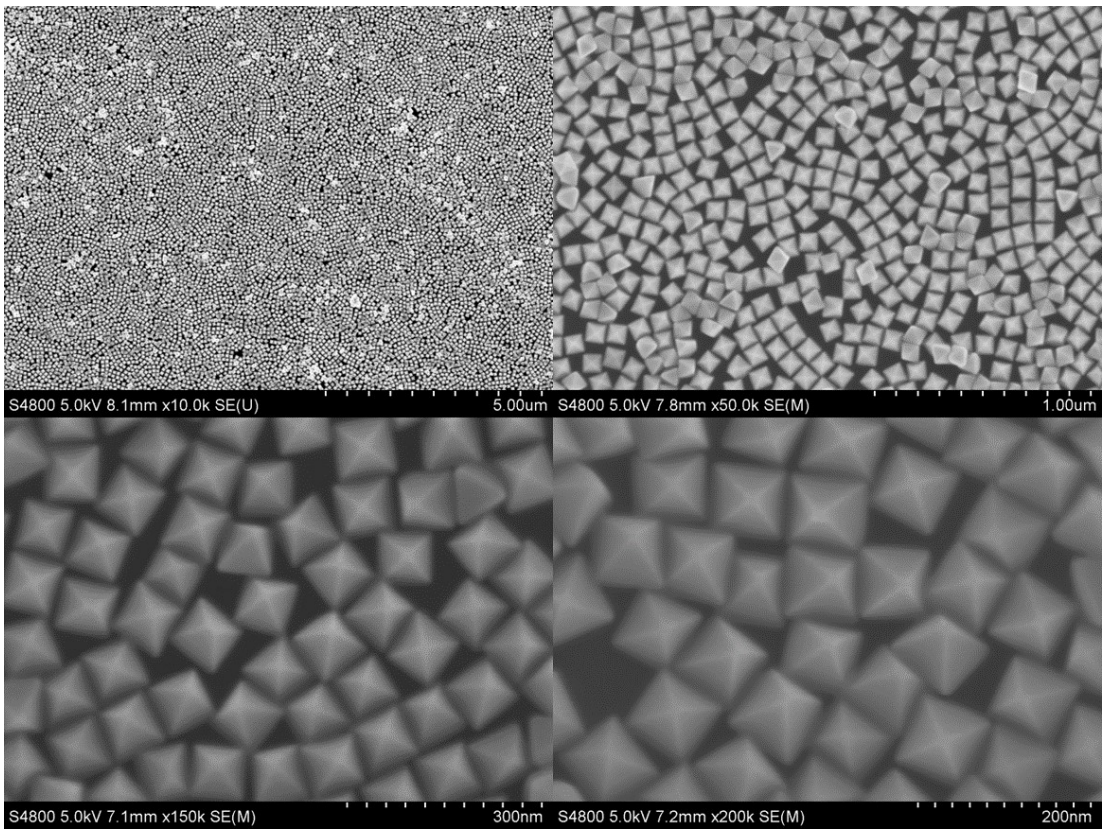

Figure S5. 2D superlattice of Au octahedrons with vertex-up orientation

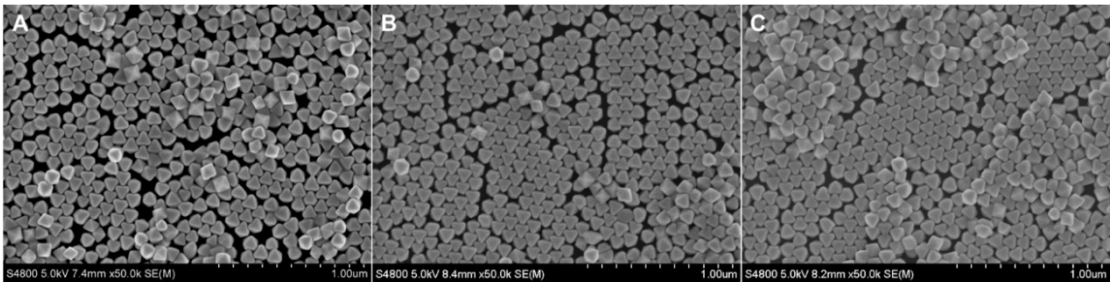

Figure S6. The assembly of Au octahedron monolayer without adding the SEBS. (A) PVP concentration is 5 ng/mL. (B) PVP concentration is 22 ng/mL, (C) PVP concentration is 7 ng/mL and 5 μL of 20 μM DDT/ toluene solution was added to the assembly mixture.

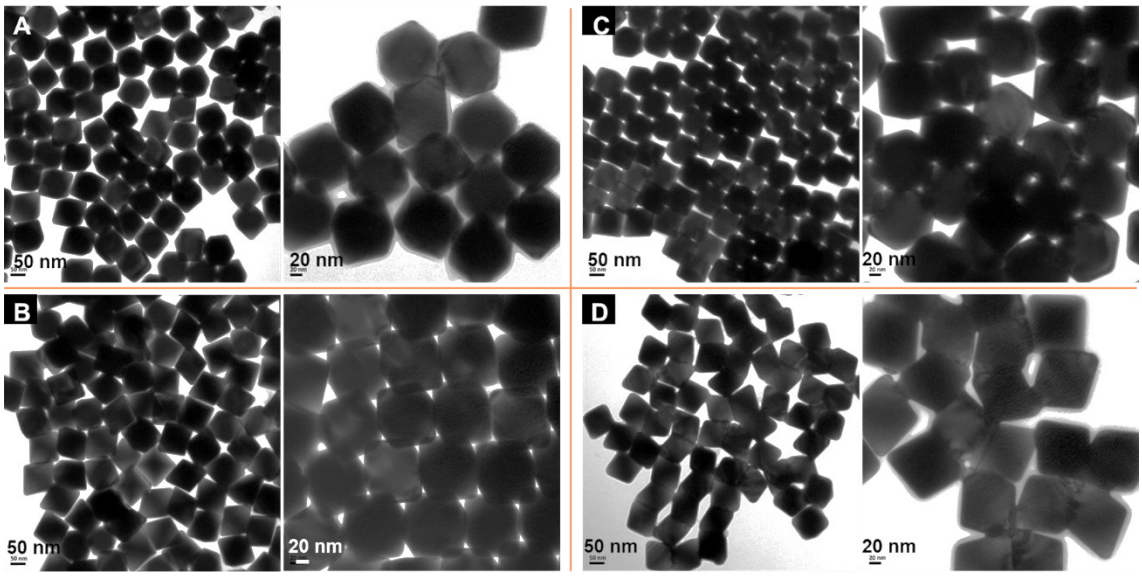

Figure S7. TEM characterization of the assembly nanostructures. (A) the assembly nanostructures without the post-treatment. (B-D) with the post-treatment, (B) face-up, (C) vertex-up, (D) edge-up.

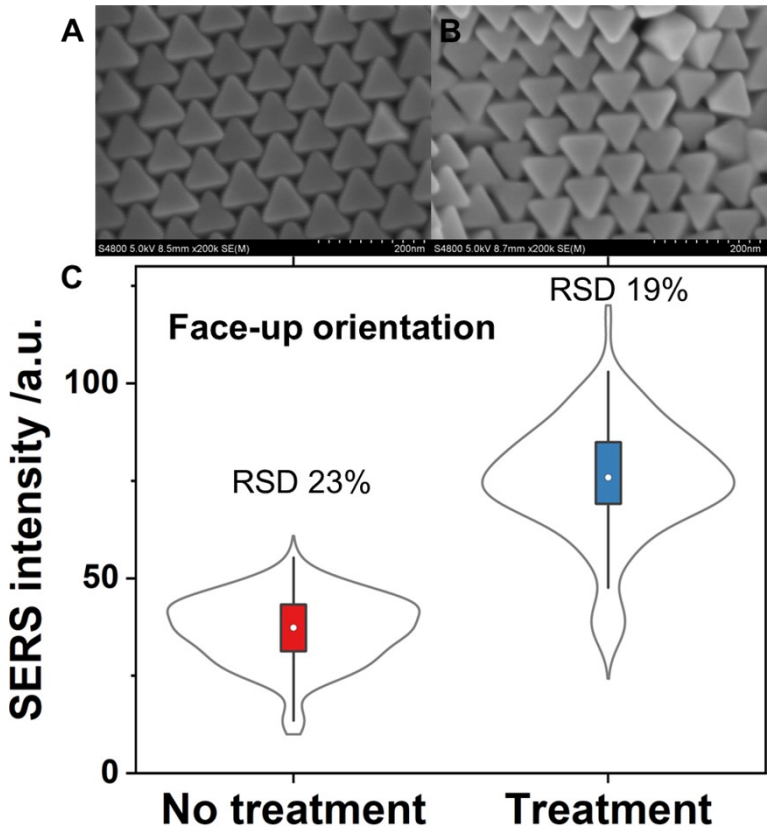

Figure S8. The treatment of the Au octahedron- SEBS nanomembrane by sodium borohydride aqueous solution. SEM of the substrate before (A) and after (B) the treatment. (C) The effect of the treatment on the SERS performance.

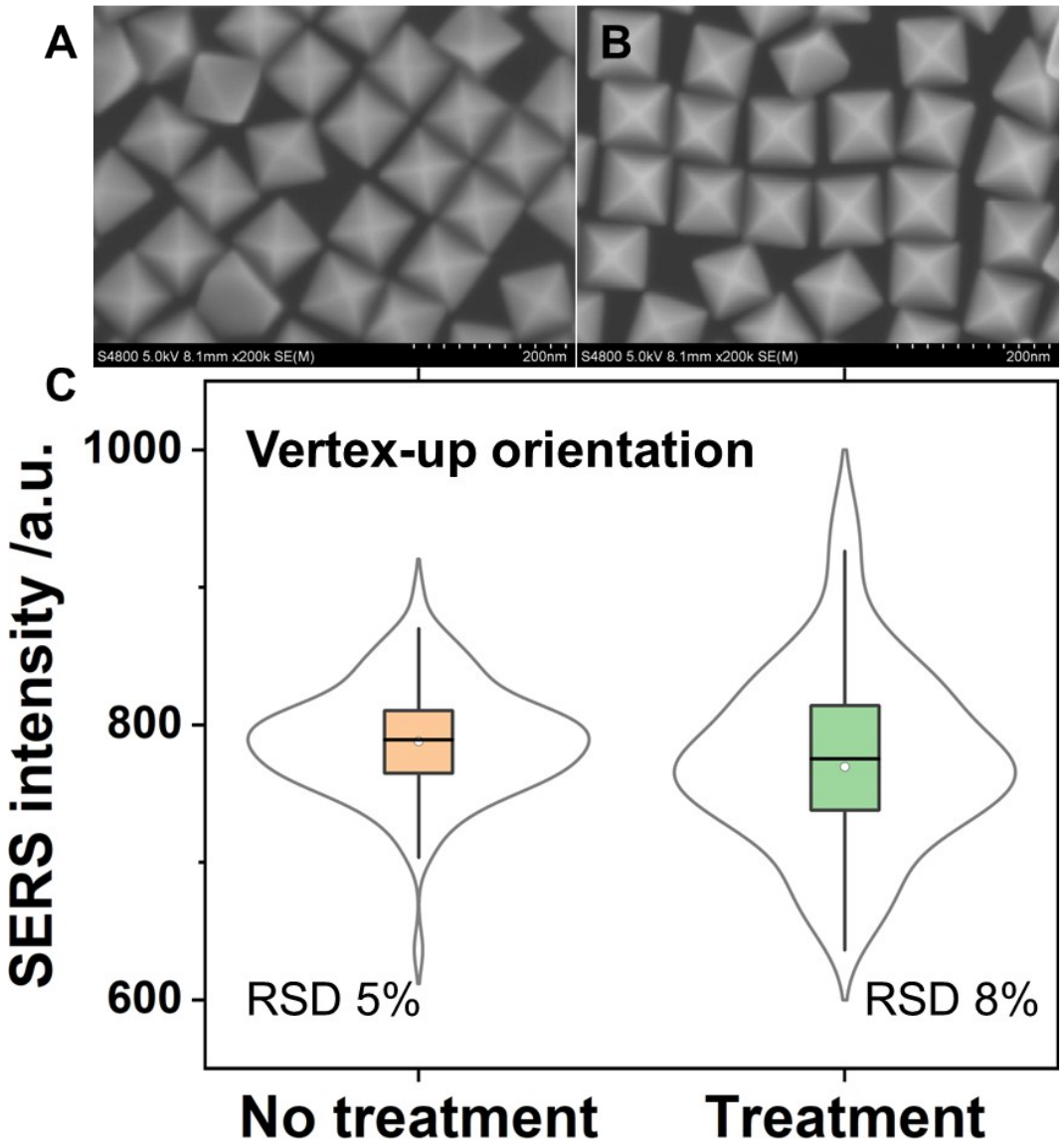

Figure S9. The treatment of the Au octahedron- SEBS nanomembrane by sodium borohydride aqueous solution. SEM of the substrate before (A) and after (B) the treatment. (C) The effect of the treatment on the SERS performance.