Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary information

Superhydrophobic Plasmonic Nanoarchitectures based on Aluminum Hydroxide Nanotemplates

Daesung Yoon, [‡a] Songhwa Chae, [‡a] Wook Kim, [a] Donghun Lee[*b] and Dukhyun Choi[*a]

[a] Department of Mechanical Engineering, Kyung Hee University, 17104 Yongin, Republic of Korea. E-mail: dchoi@khu.ac.kr

[b] Department of Physics, Korea University, 02841 Seoul, Republic of Korea. E-mail: donghun@korea.ac.kr

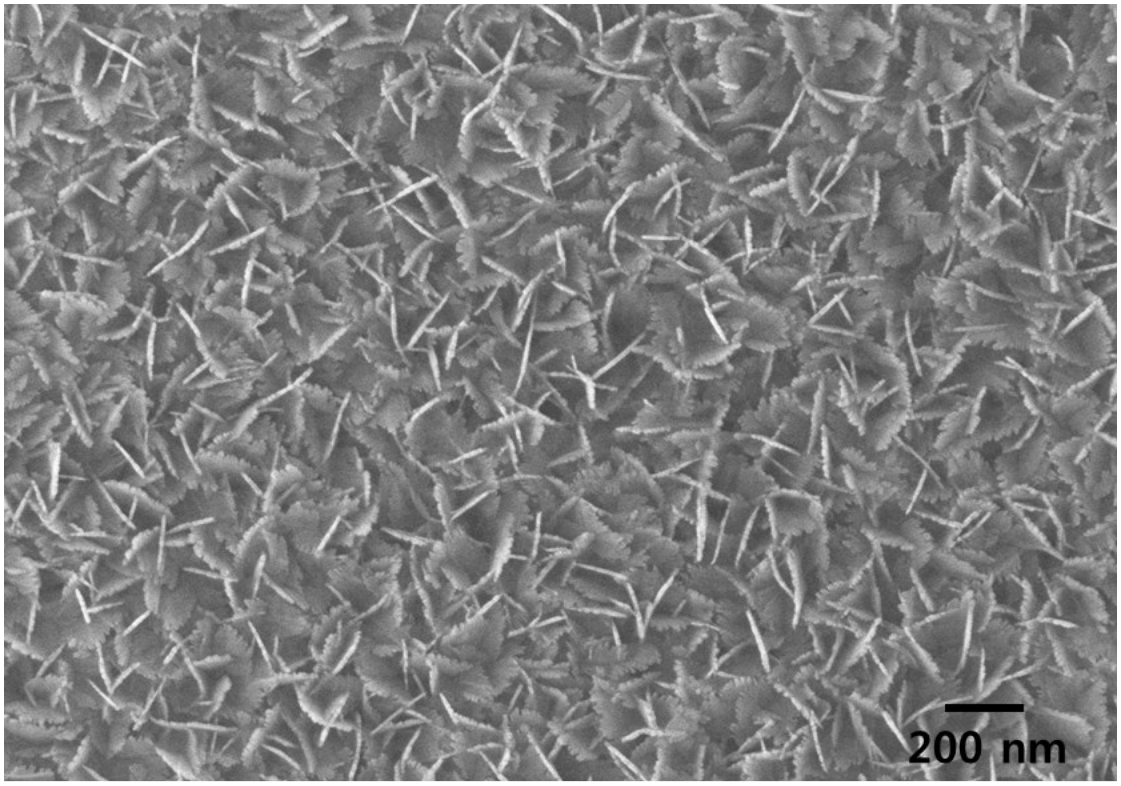


Fig. S1. FE-SEM top view of the aluminum hydroxide nanostructure.

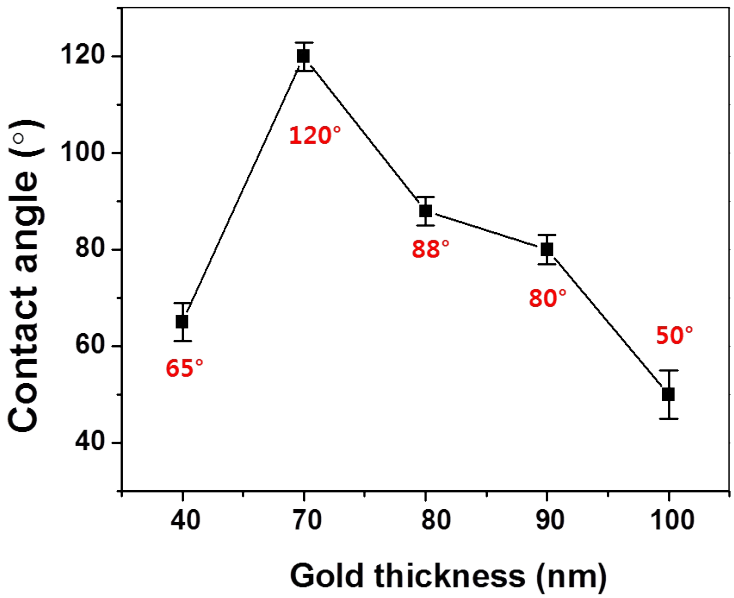


Fig. S2. Contact angle of gold-coated aluminum hydroxide nanostructures with respect to deposited gold thickness.

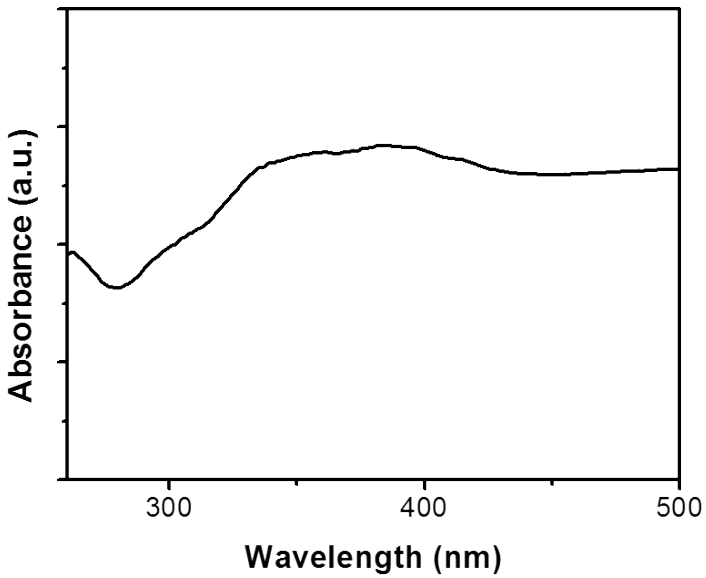


Fig. S3. Absorbance spectrum of the aluminum hydroxide nanostructure in the visible wavelength range, showing a small absorbance hump around 350 - 400 nm.

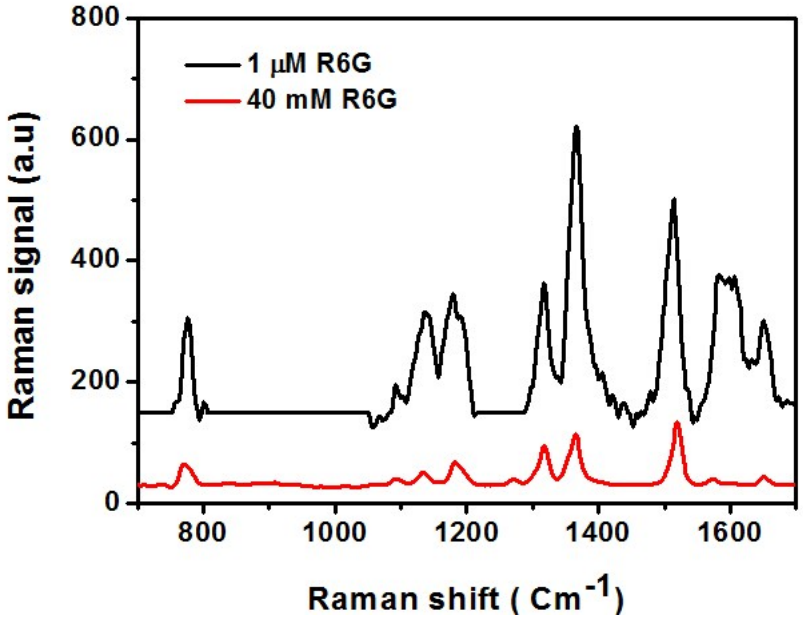


Fig. S4. SERS signal on our nanostructure for 1 μM R6G and Raman signal on glass for 40 mM R6G.

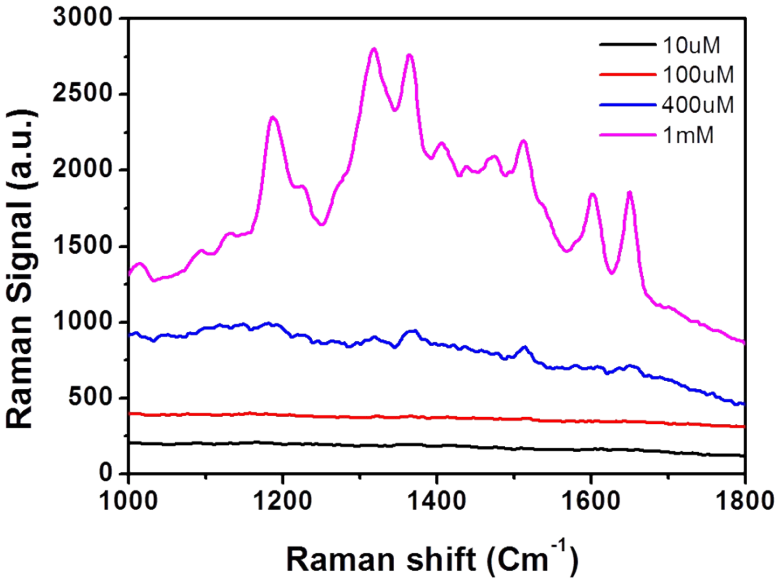


Fig. S5. SERS spectra of R6G molecules on the sample at t_{Ag} = 10 nm.

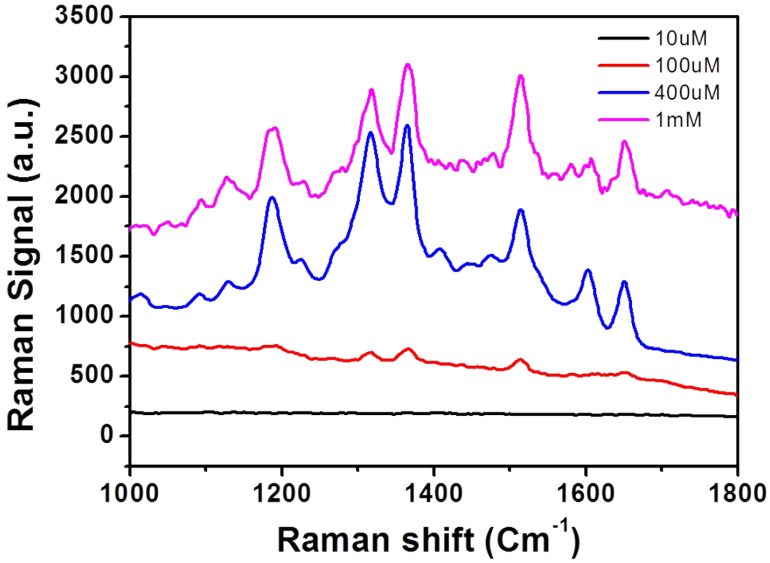


Fig. S6. SERS spectra of R6G molecules on the sample at t_{Ag} = 20 nm.

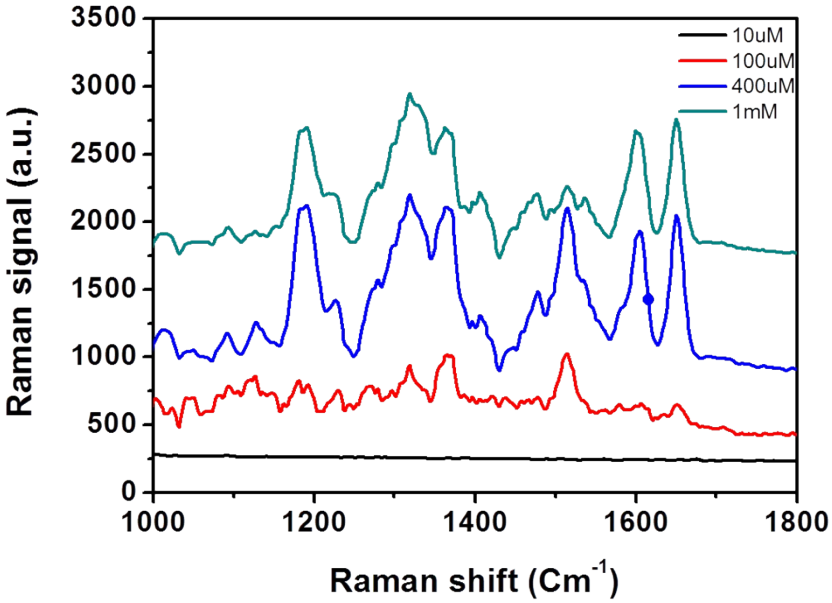


Fig. S7. SERS spectra of R6G molecules on the sample at t_{Ag} = 40 nm.

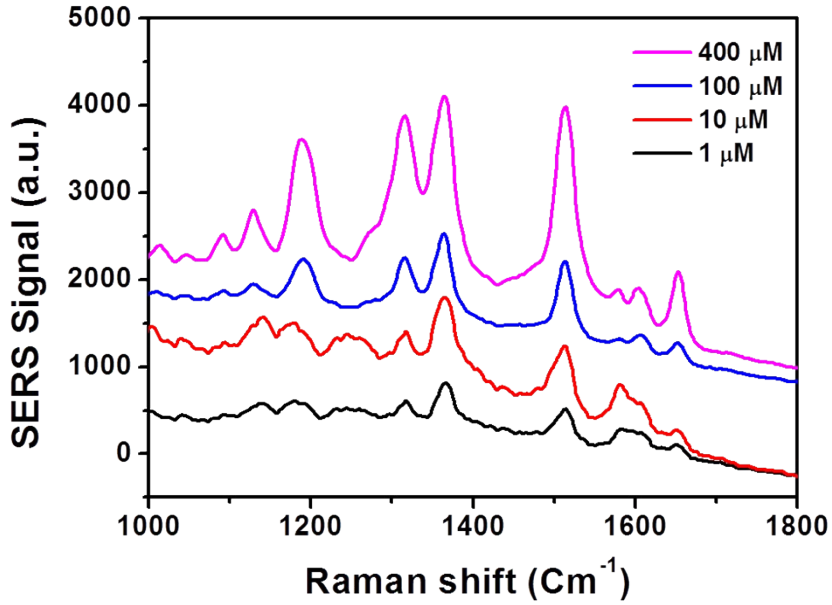


Fig. S8. SERS spectra of R6G molecules on the sample at t_{Ag} = 60 nm.

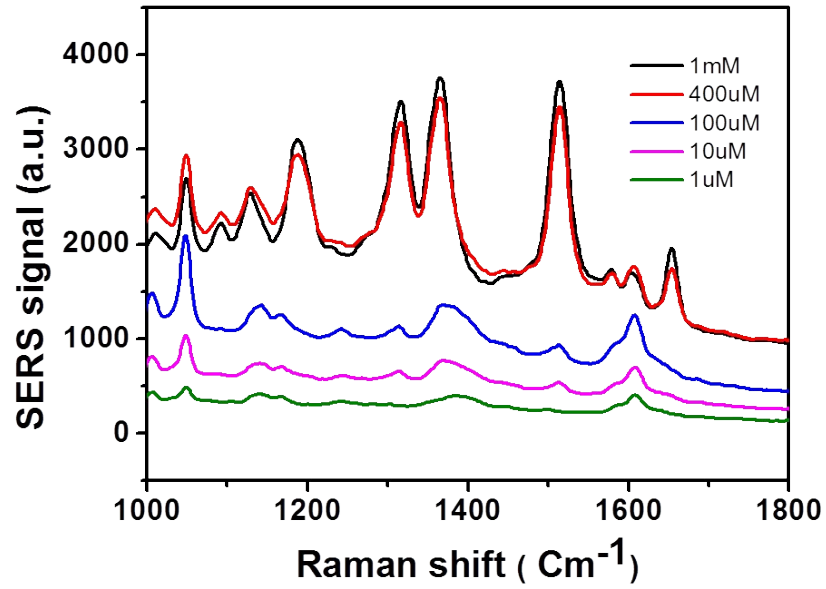
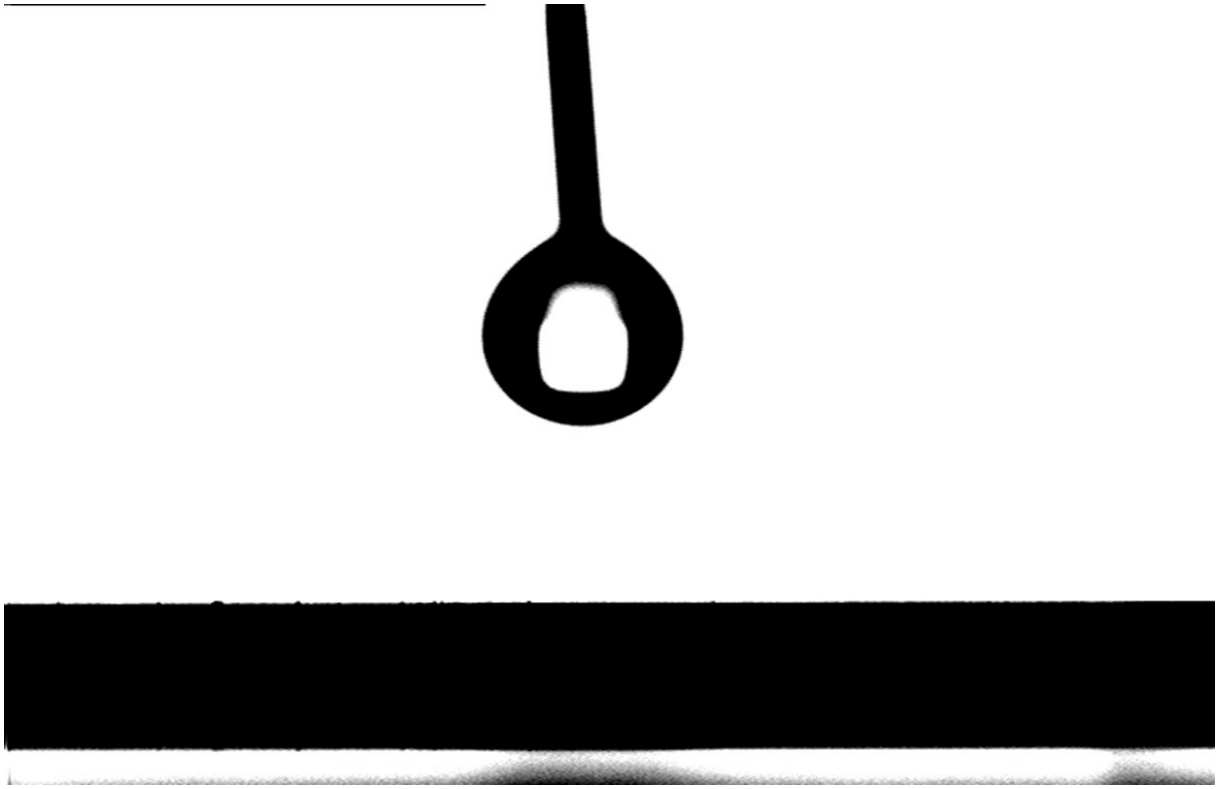
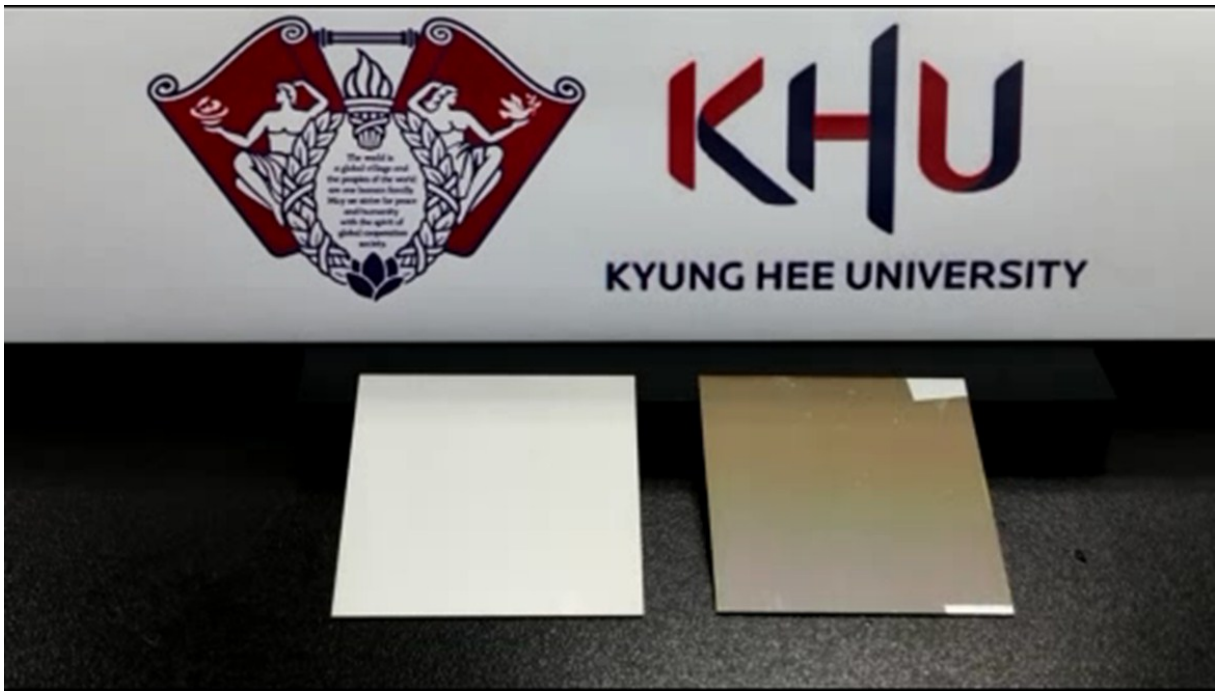


Fig. S9. SERS spectra of R6G molecules on the sample at t_{Ag} = 100 nm.



Movie S1. Contact angle movie on a pristine aluminum hydroxide nanostructure



Movie S2. Contact angle movie on a pristine aluminum hydroxide nanostructure (left white) and a superhydrophobic plasmonic nanostructure (right brown)