

Supporting Information

# Template-stripped Tunable Plasmonic Devices on Stretchable and Rollable Substrates

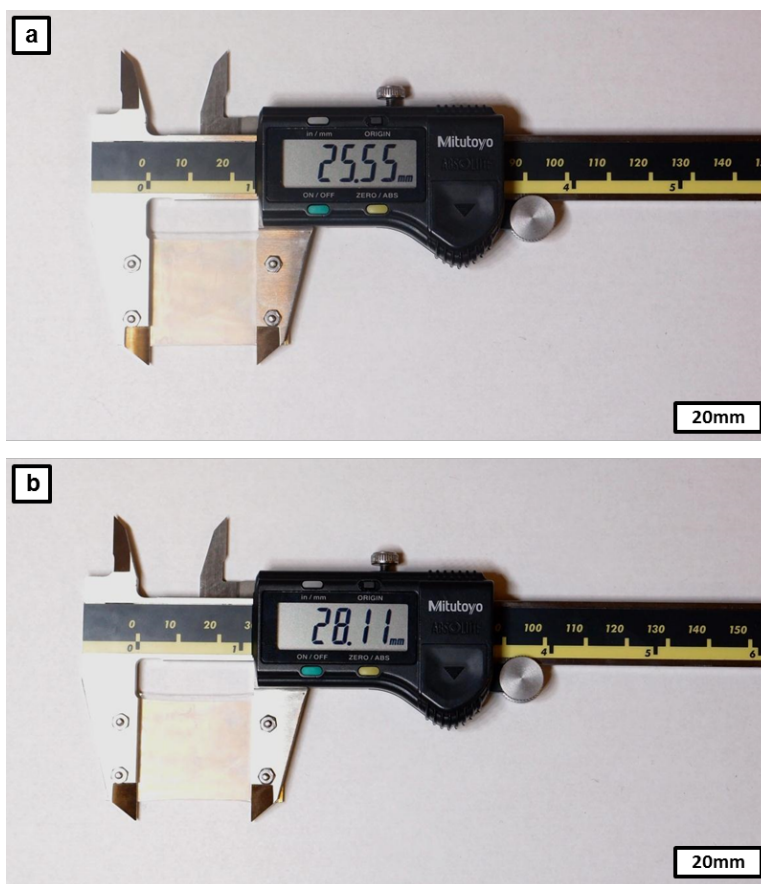
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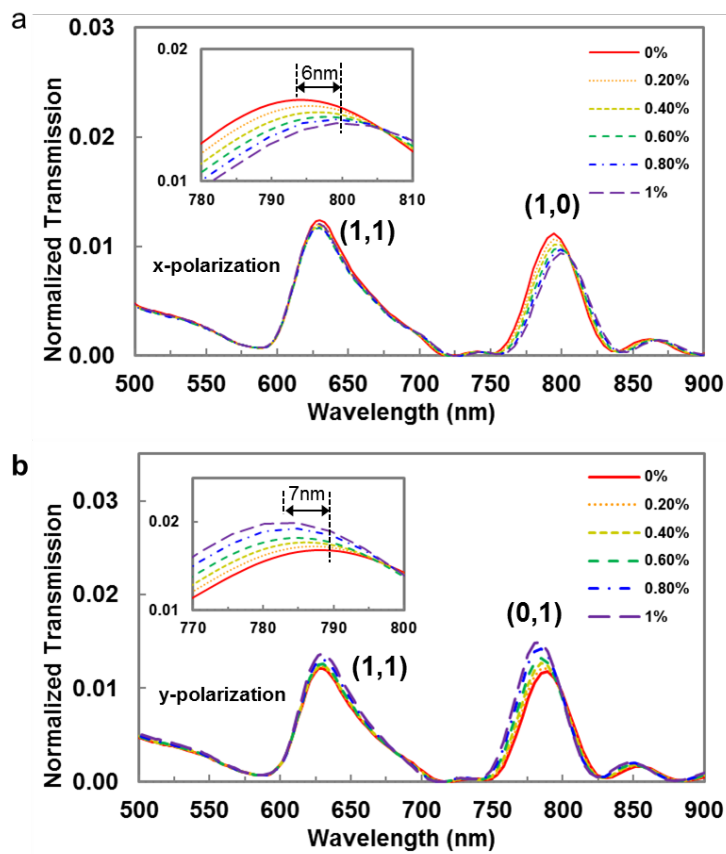
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**Figure S1.** A film of large area disconnected Au pyramids on PDMS and the stretching method.

(a) Device sample (1 inch by 1 inch) before stretching. (b) The same sample after 10% stretching.



**Figure S2.** Finite difference time domain (FDTD) calculations of optical transmission spectra from a nanohole array stretched along the x axis and illuminated with x-polarized light. (b) FDTD modeled transmission spectra for a nanohole array on PDMS stretched in the x axis with illumination with y-polarized light.

To consider the deformation of shape in nanohole arrays we assumed that Poisson's ratio of composite layer consisting of a 200 nm-thick Au layer and a 1 mm-thick PDMS layer is about 0.5 which is Poisson's ratio of PDMS because PDMS is much thicker than the Au thin film. Thus, we expected the deformed shape of the nanohole arrays when stretched to follow the Poisson's ratio of 0.5.