

Supporting Information

Selective Growth of Patterned Monolayer Gold Nanoparticles on SU-8 through Photoreduction for Plasmonic Applications

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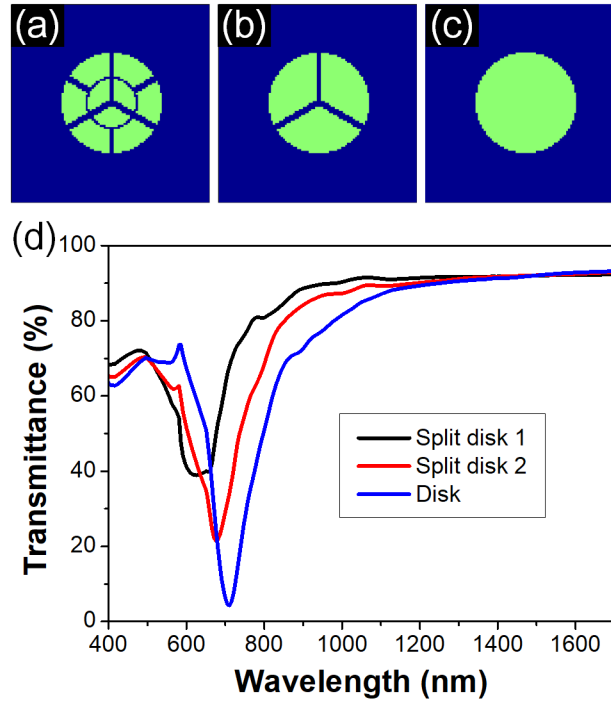


Figure S1. Mimicking the situation of horizontal growth with the simulation of gold split nanodisk. Schematics of (a) split disk 1 (with more gaps), (b) split disk 2 (with fewer gaps), and (c) full nanodisk. (d) The simulated transmission spectra of the three gold structures above.

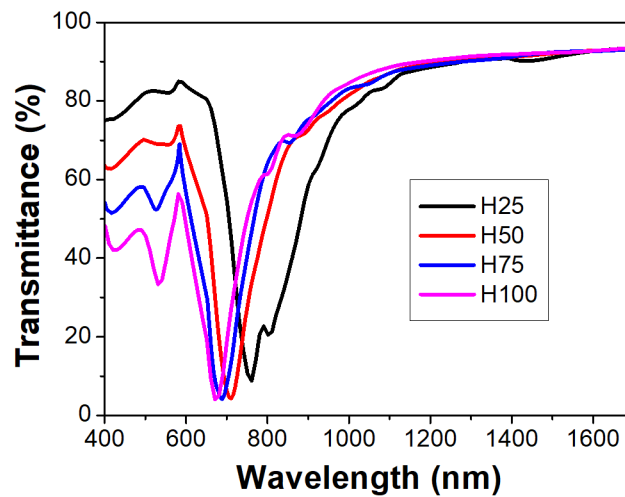


Figure S2. Mimicking the situation of vertical growth with the simulation of gold nanodisk. The simulated transmission spectra of full nanodisks with heights ranging from 25 nm to 100 nm.

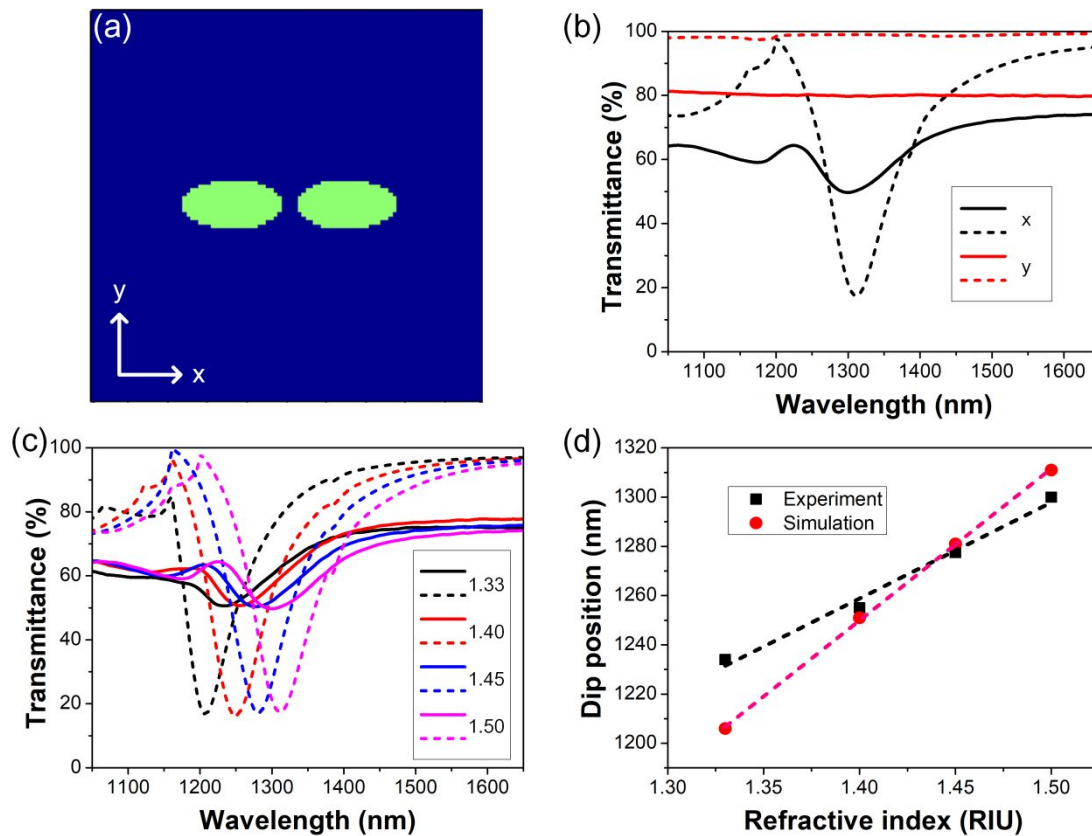


Figure S3. Comparison of the measured and simulated spectra of the gold nanorod dimer array and its application in refractive index sensing. (a) The schematics of the nanorod dimer array. (b) The measured and simulated transmission spectra with an environmental refractive index of 1.5 under x- and y-polarizations, respectively. The measured and simulated (c) transmission spectra and (d) resonance wavelengths with various refractive indexes ranging from 1.33 to 1.5 under x-polarized incidence. The solid and dashed lines are the experimental and simulated spectra, respectively.

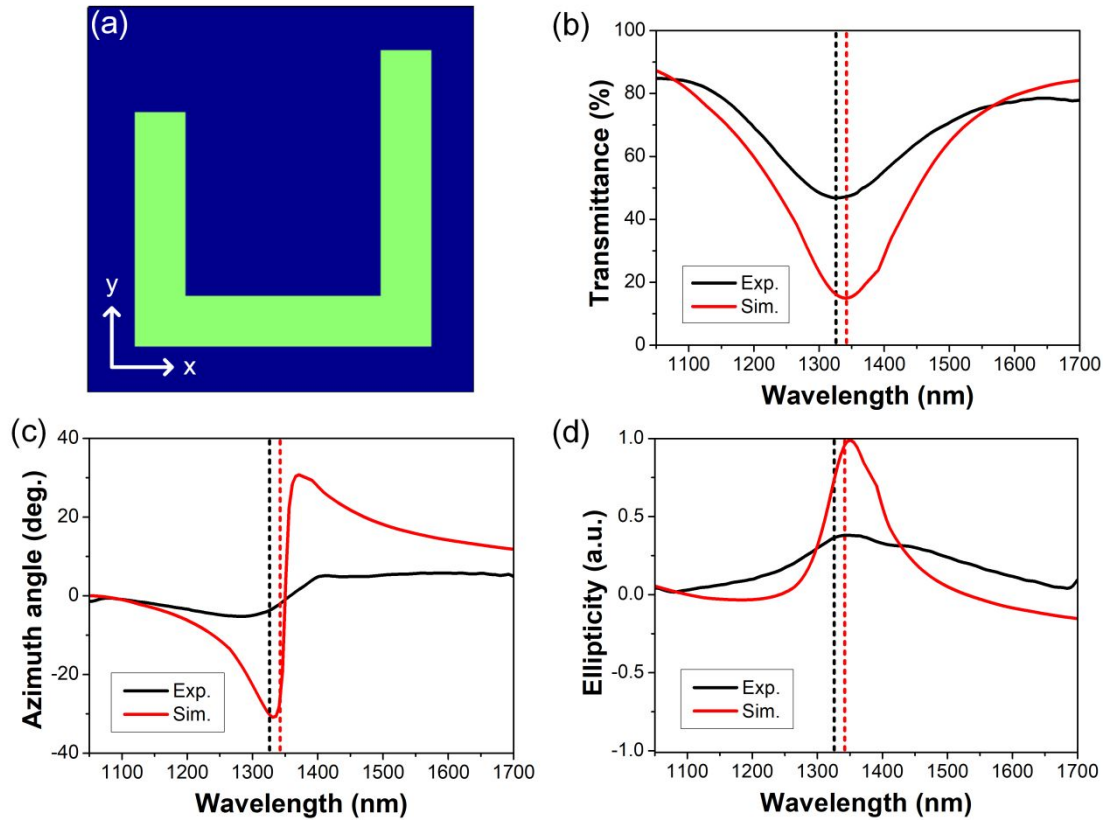


Figure S4. Comparison of the measured and simulated spectra and polarization characteristics of the gold asymmetric U-shape array. (a) The schematics of the asymmetric U-shape array. Measured and simulated spectra of (b) transmission, (c) azimuthal angle, and (d) ellipticity of the asymmetric U-shape array under x-polarization incidence. The positions of the resonance wavelengths are indicated with vertical dashed lines.