

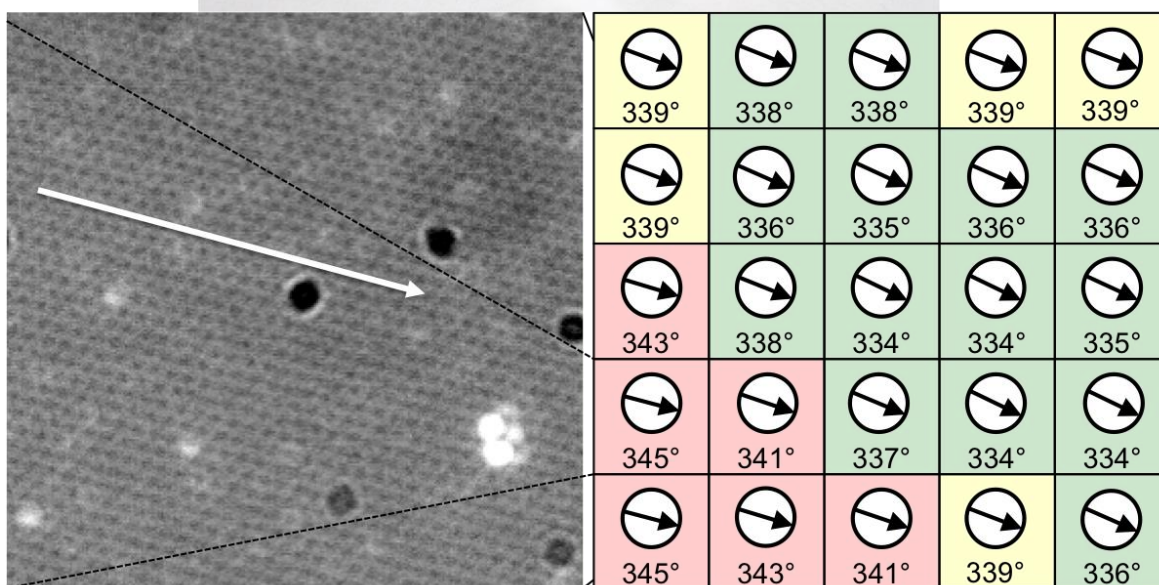
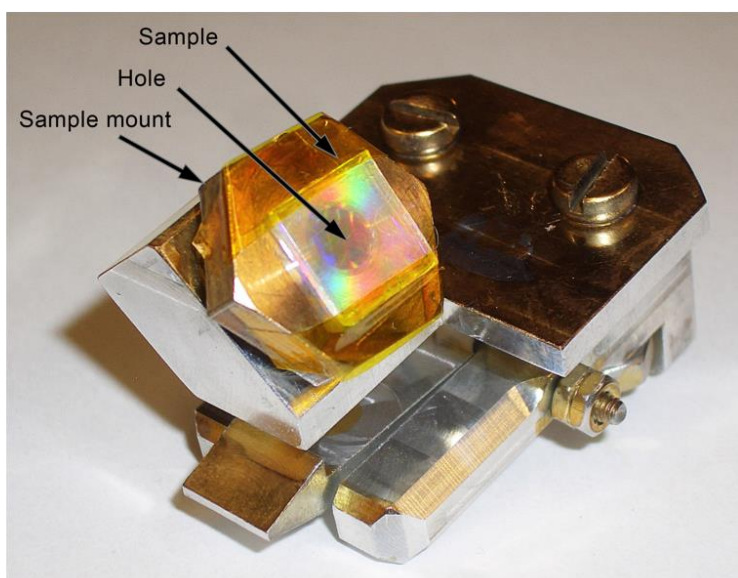
Large-area, polarisation-sensitive, plasmonic materials from colloidal lithography

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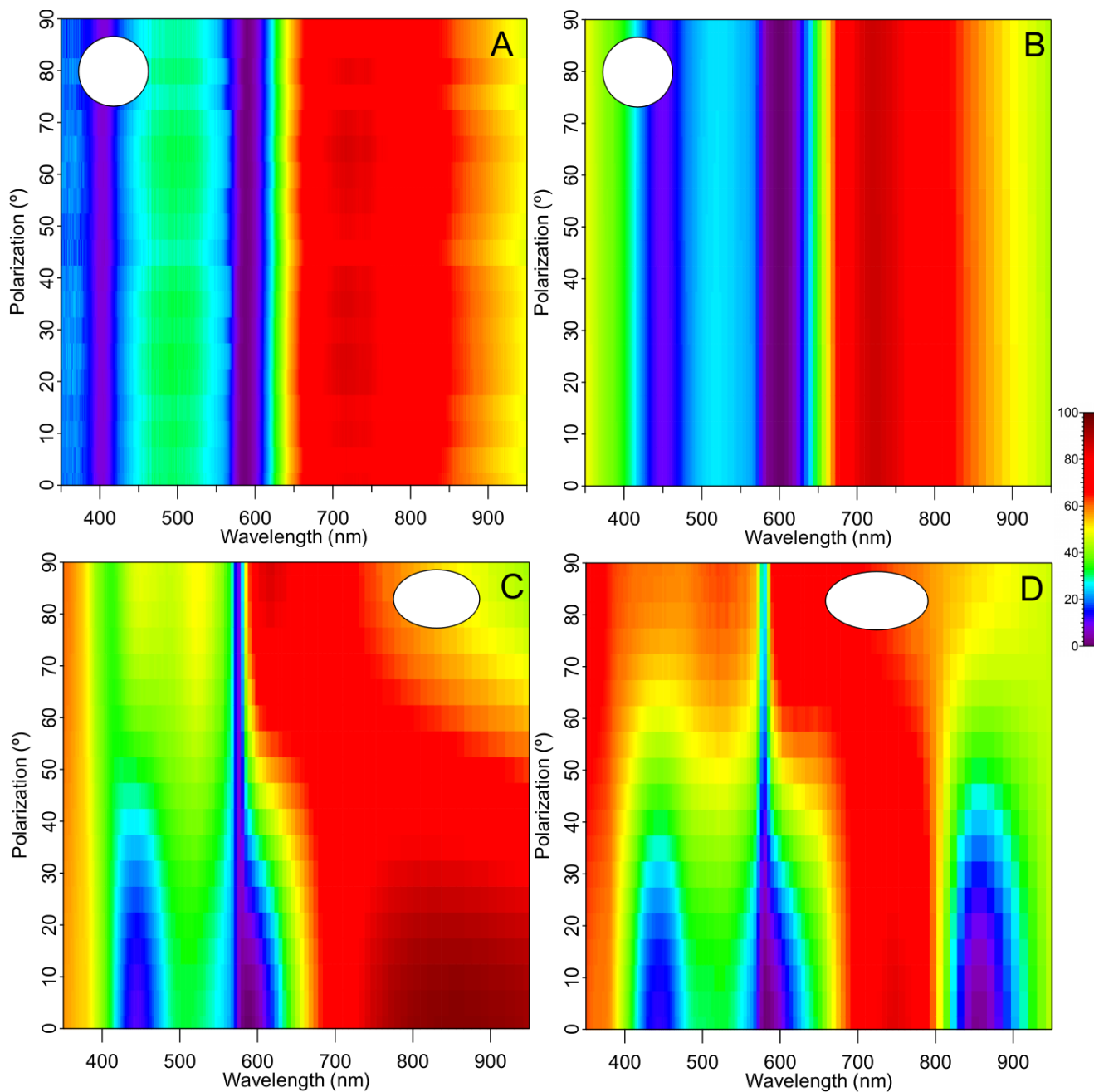
Supplementary Information 1: Picture of sample holder with rotatable sample stage (top). Optical microscope image of 438 nm spheres on glass surface with arrow showing the measured orientation of the NSL mask (bottom left); measuring the orientation of the mask on 5x5 positions of the sample an orientation map of the 1 cm x 1 cm sample is produced (bottom right). The homogeneity of the orientation map shows the quality of the long range order. If larger spheres are used (>500 nm), the mask orientation can be easily found by scattering a laser beam. For spheres below 350 nm AFT or SEM are needed.



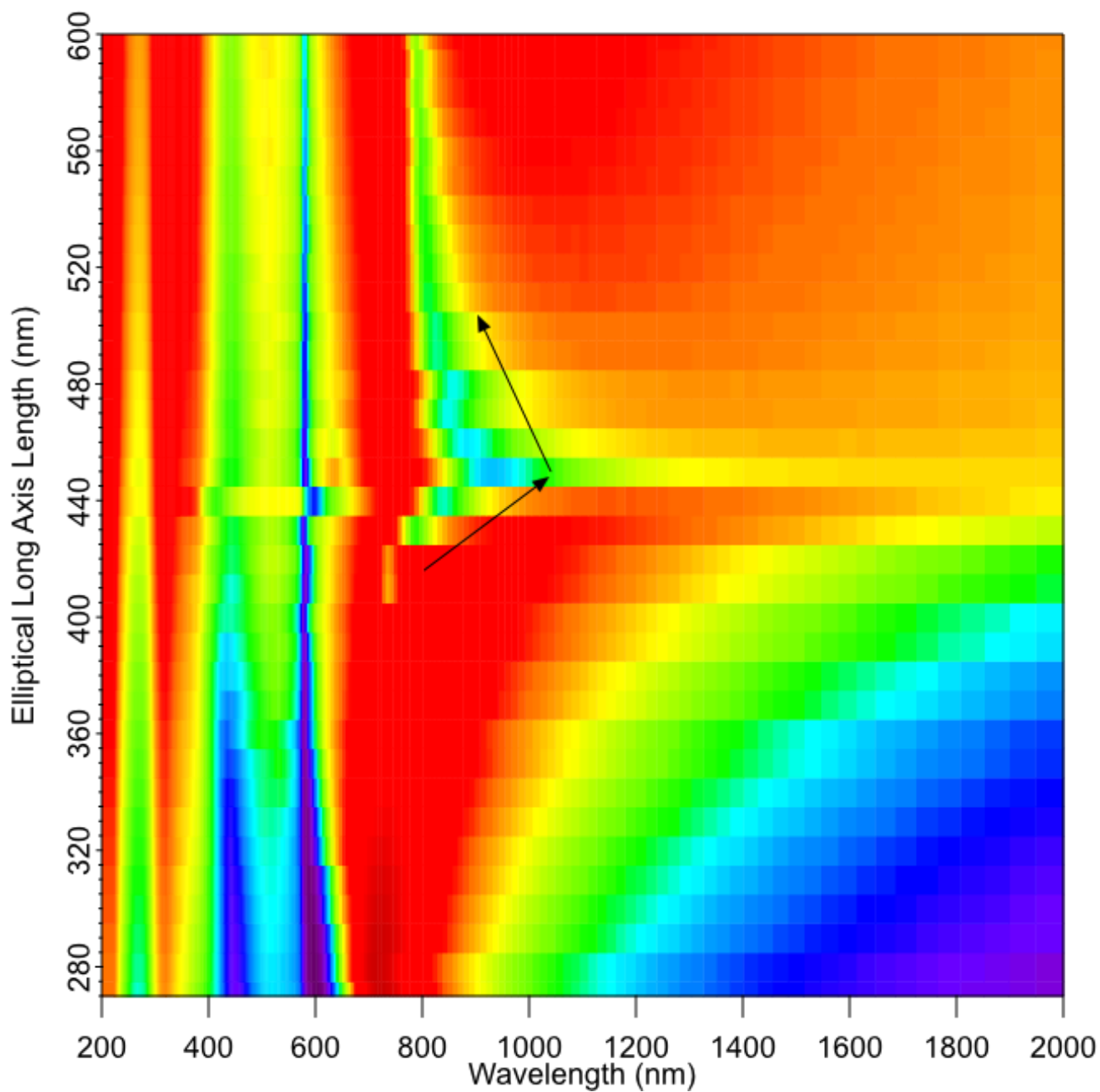
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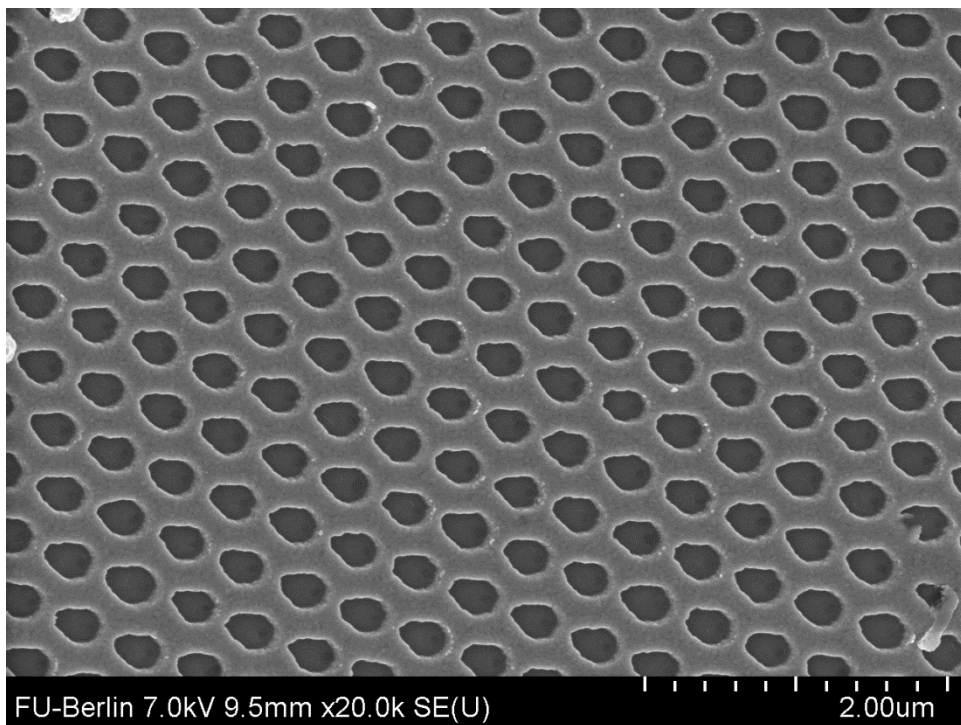
Supplementary Information 2: Measured (A) and calculated (B) optical transmission spectra for silver films with apertures in a hexagonal spacing of 440 nm and 270 nm circular diameter as a function of polarization. Calculated transmission spectra for films with apertures in a hexagonal spacing of 440 nm and elliptical shape with 270 nm height and 400 nm (C) or 480 nm (D) width as a function of polarization.



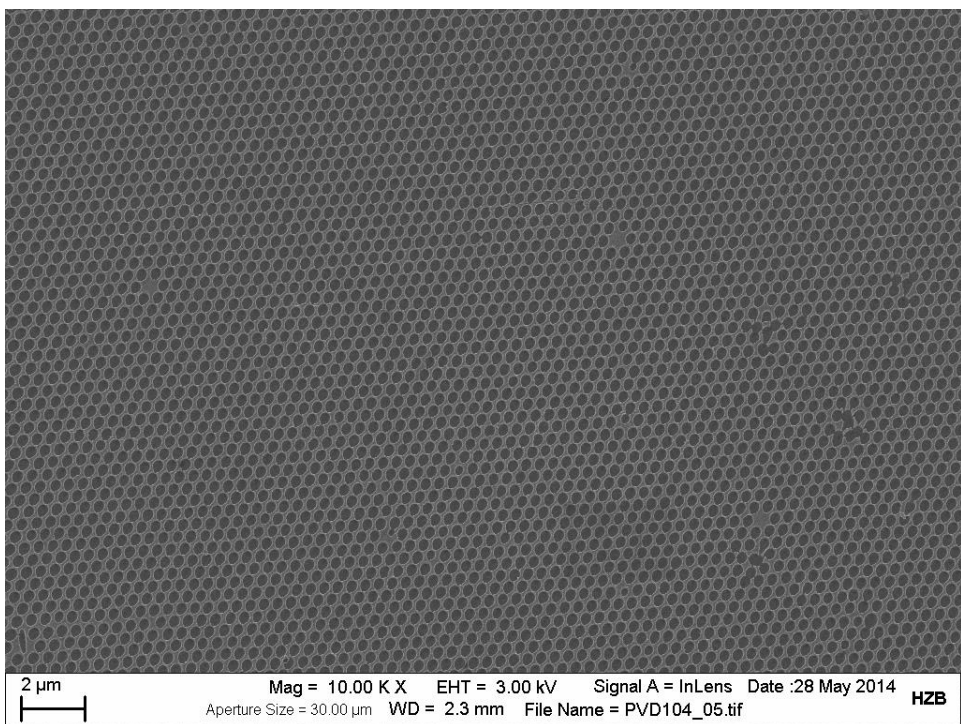
Supplementary Information 3: Calculated percent transmission spectra through a silver film with a hexagonal aperture array with 440 nm spacing, and elliptical apertures with a short axis of 270 nm, increasing in size to 600 nm (left axis), calculated for a polarization of 45° to the long axis of the elliptical apertures (scale is the same as Supplementary Information 2).



Supplementary Information 4: SEM micrographs of enlarged areas of silver film deposited at an angle of 36 degrees (a) and 40 degrees (b) over the mask as described.



(a)



(b)