*Supplementary Information*

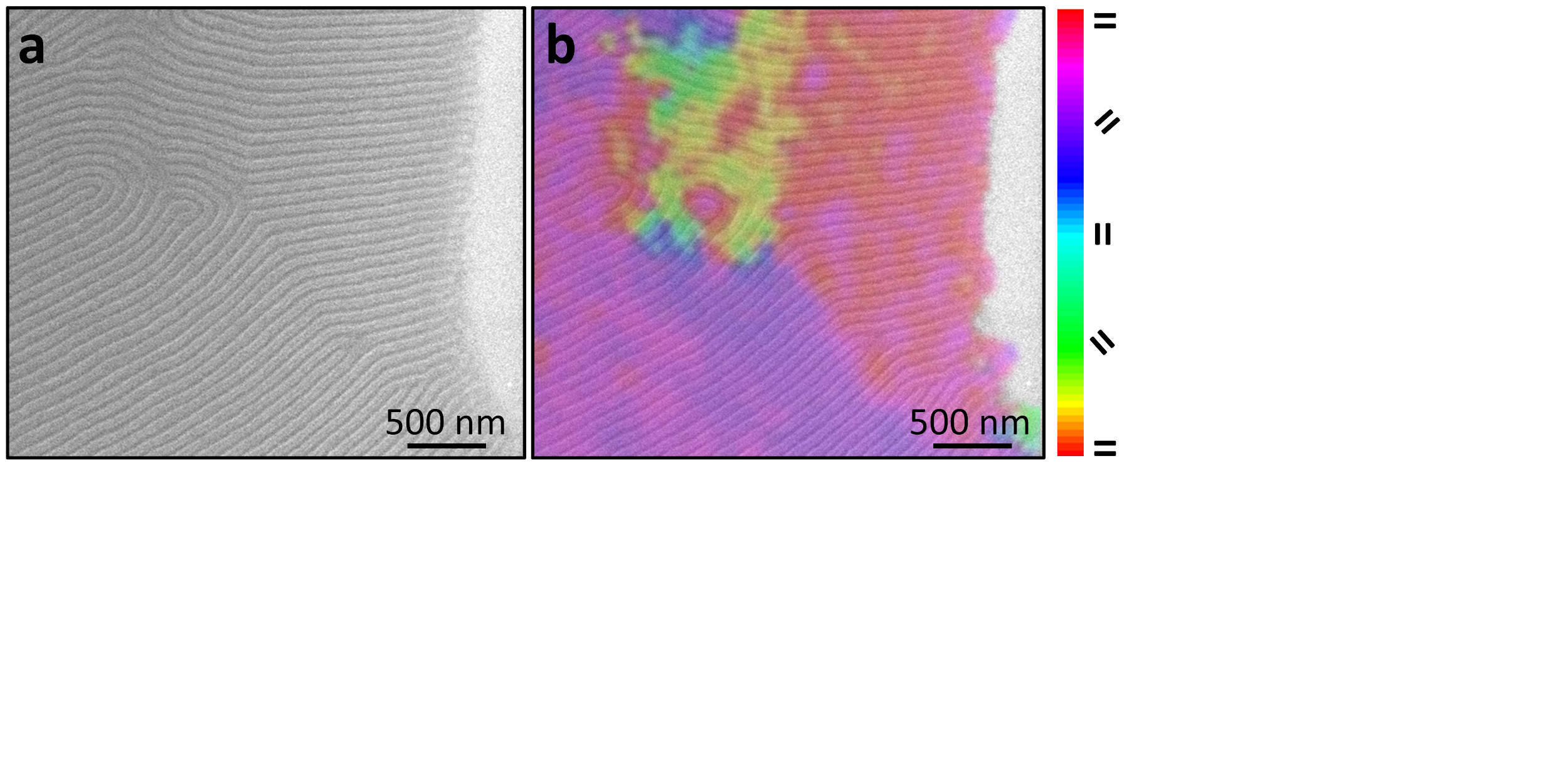
Hyperbolic Metamaterials *via* Hierarchical Block Copolymer Nanostructures

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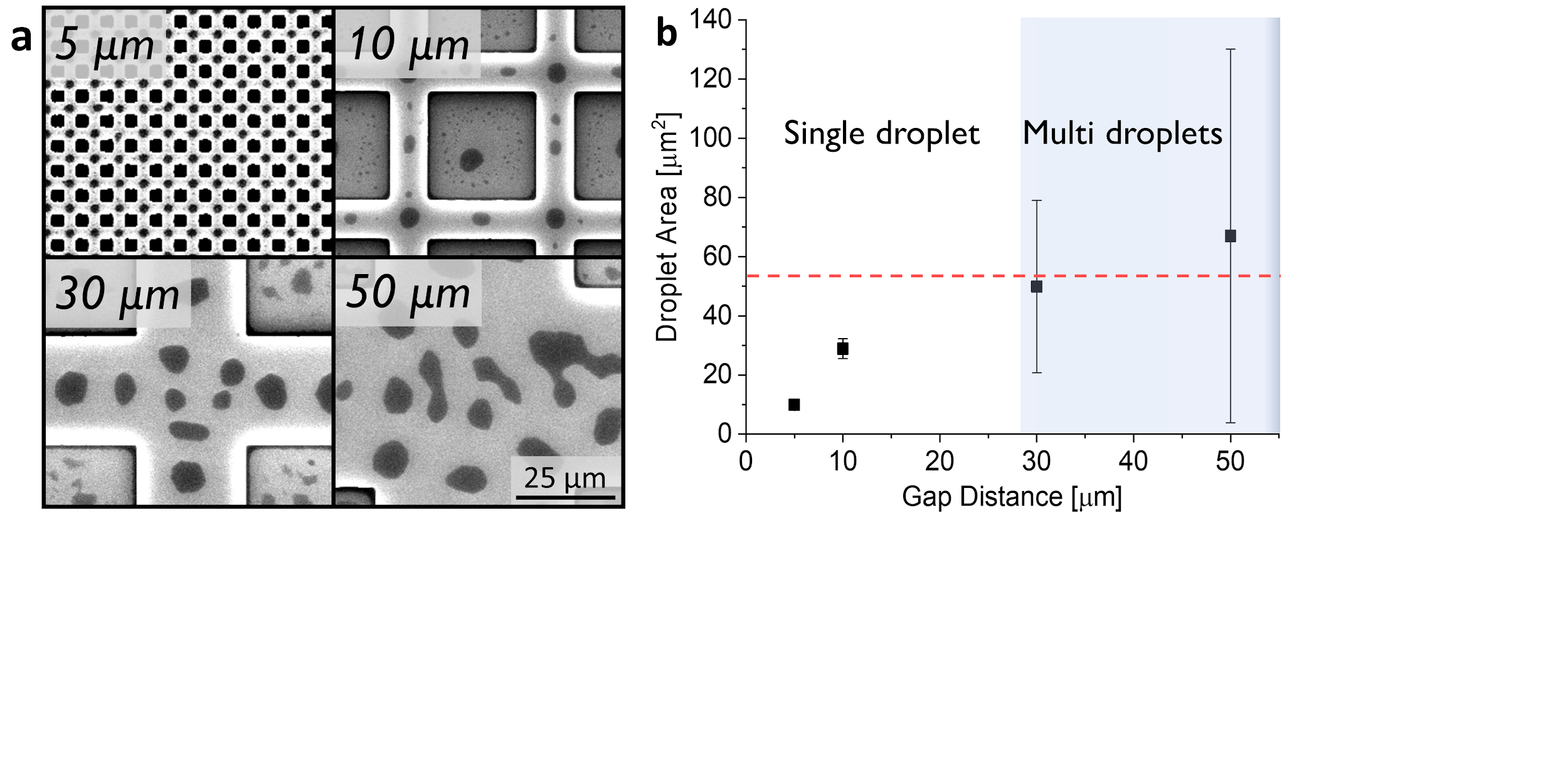
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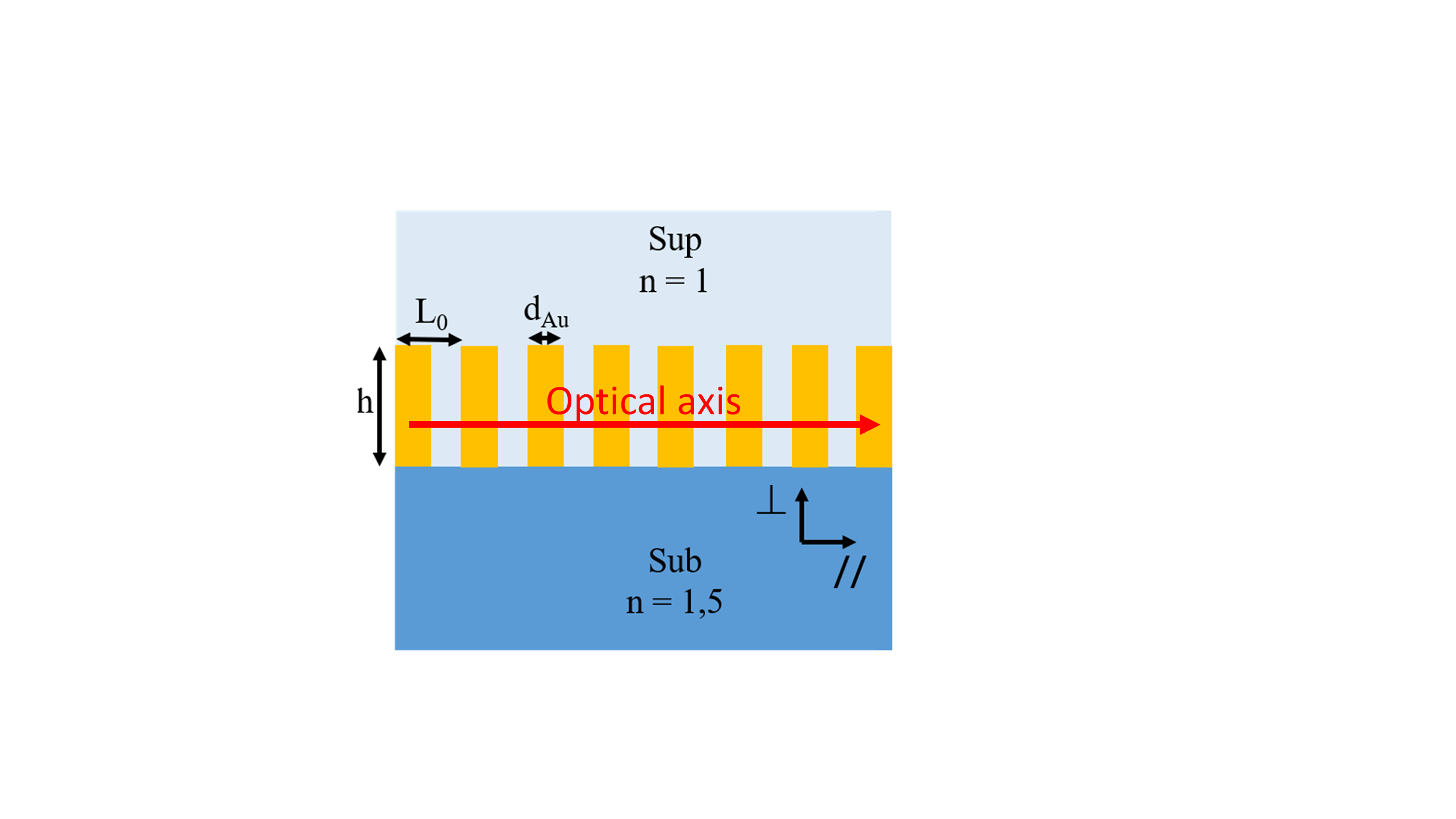
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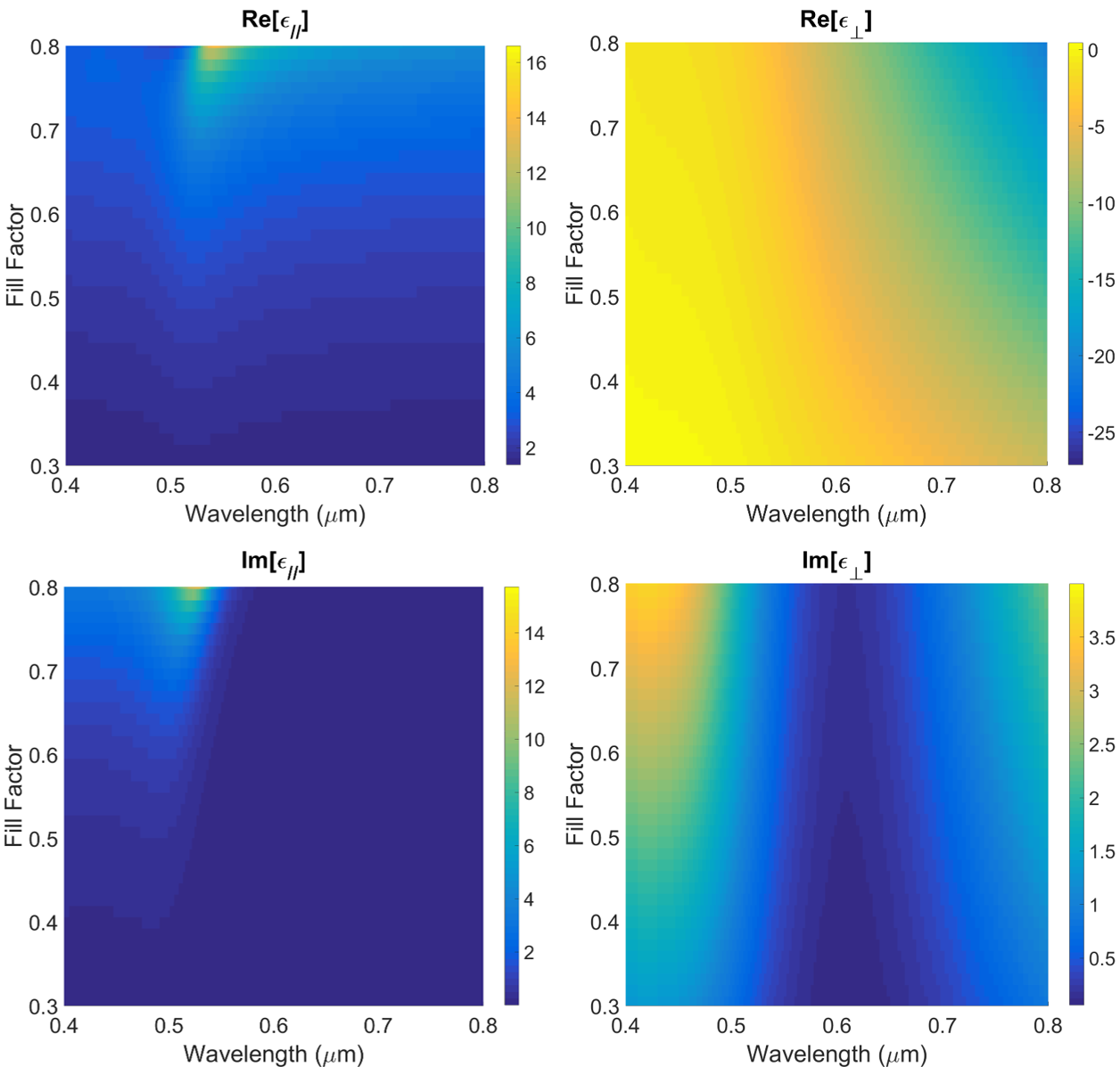
**Supplementary Fig. 1 Color coding.** **a** SEM micrograph of a dewetted droplet edge and **b** relative false-color map to identify the lamellar orientations.



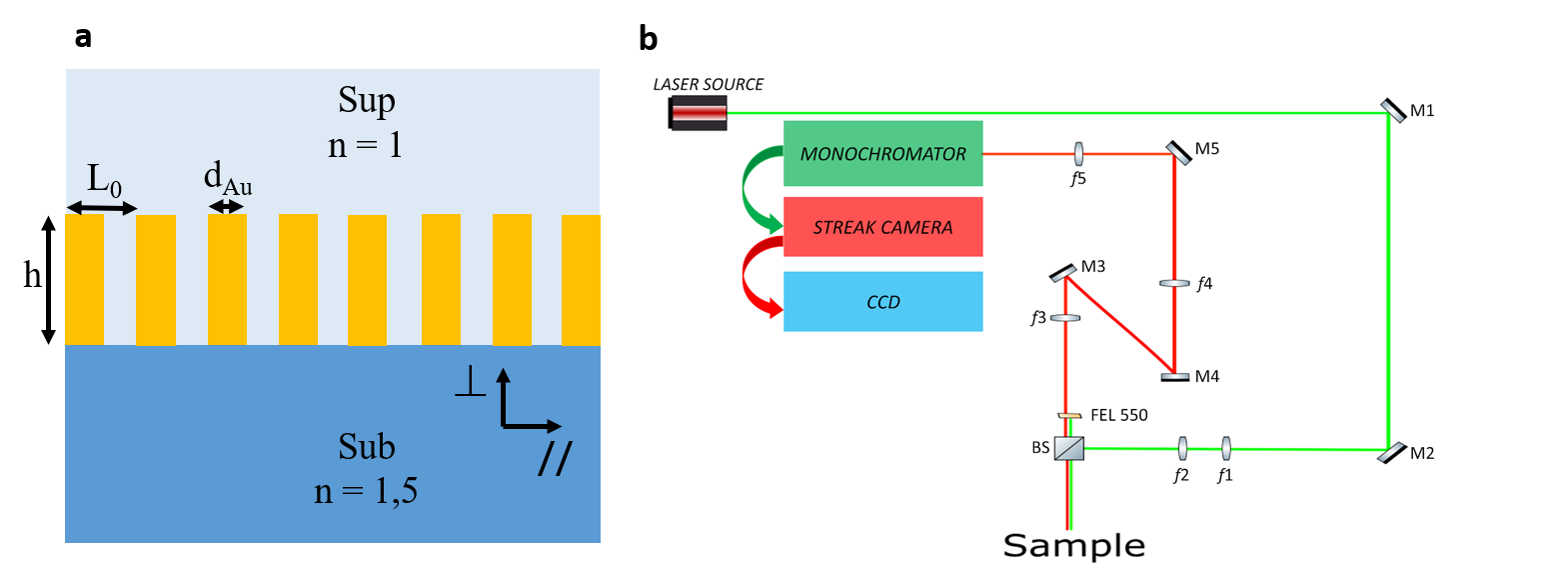
**Supplementary Fig. 2 Effect of graphoepitaxy dimensions.** **a** SEM micrographs of dewetting process over topographical patterns with different gap distances (5, 10, 30, 50 µm) and **b** relative droplet area.



**Supplementary Fig. 3 Simulation model.** Sketch of the cross-sectional view of the HMM.



**Supplementary Fig. 4 Electrical permittivity components.** False color map of the real and imaginary part of the in-plane (left) and out-of-plane (right) permittivity components computed for different wavelengths and different fill factors in the effective medium approximation. The fill factor is calculated as f = dAu/*L*0, where dAu is the width of the gold lamella and *L*0 is the period of the nanopattern.



**Supplementary Fig. 5 The fluorescence lifetime characterization setup.** The laser source is a Tsunami from Spectra-Physics that can provide 10 ps laser pulses centered at 490 nm with an 80 MHz repetition rate. The pulses are directed towards a beam expander formed by two lenses (*f*1 and *f*2) to adjust the laser collimation. Afterwards, a beam splitter (BS) reflects the laser pulses that is focused on the sample by a 20x objective. The sample is positioned on a microscope stage that allows for double side imaging: from one side the sample surface can be imaged in white light with a 100x microscope objective (Nikon 100x 0.95 NA), from the other side we employ a Nikon 20x 0.40 NA objective through which the laser pulses are focused on the sample surface and fluorescence is collected. The collected fluorescence passes through a long pass filter (FEL 550 from Thorlabs) that filters out the reflected laser pulses and is then injected into a monochromator (Princeton Instruments Acton SpectraPro SP-2300) after passing through a set of lenses (*f3,* *f4* and *f5*). The monochromator is coupled to a Hamamatsu universal streak camera that allows for time-resolved fluorescence decay measurements.