Room-Temperature Exciton-Polariton Condensation in a Tunable Zero-Dimensional Microcavity

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SUPPLEMENTARY INFORMATION

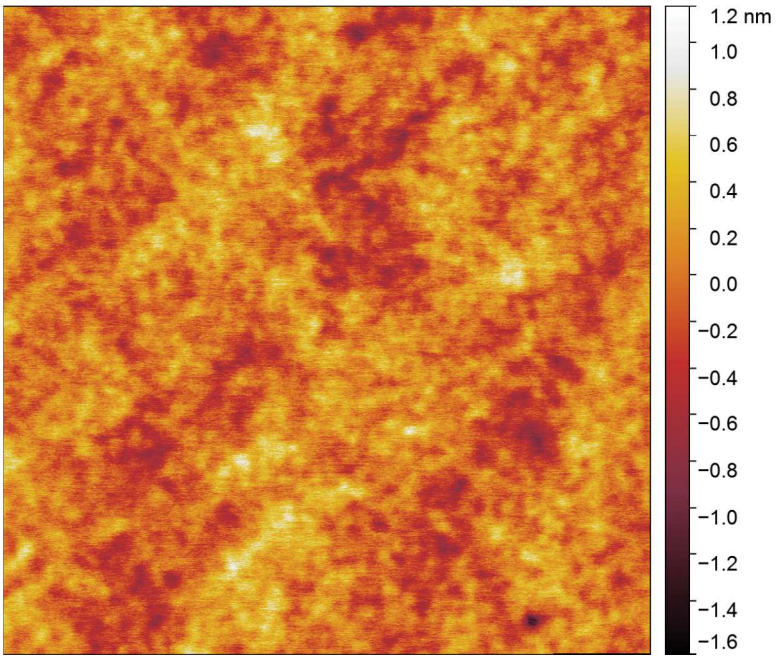

Figure S1. Surface morphology of a spin-cast MeLPPP film with 35 nm thickness on fused silica measured with an atomic force microscope (AFM) on a 4 µm × 4 µm area. The root-mean-

square roughness of 0.28 nm is equal to the substrate roughness and near the resolution limit of the AFM.

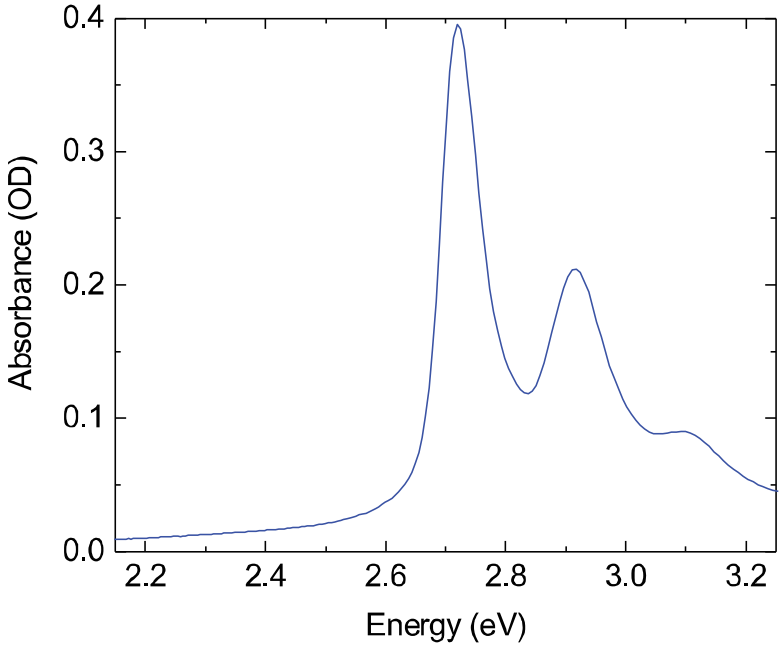

Figure S2. Absorbance of a spin-cast MeLPPP film with 35 nm thickness on fused silica, corrected for reflection of the substrate. The low-energy tail is due to scattering, as can be revealed from a photoluminescence excitation measurement.

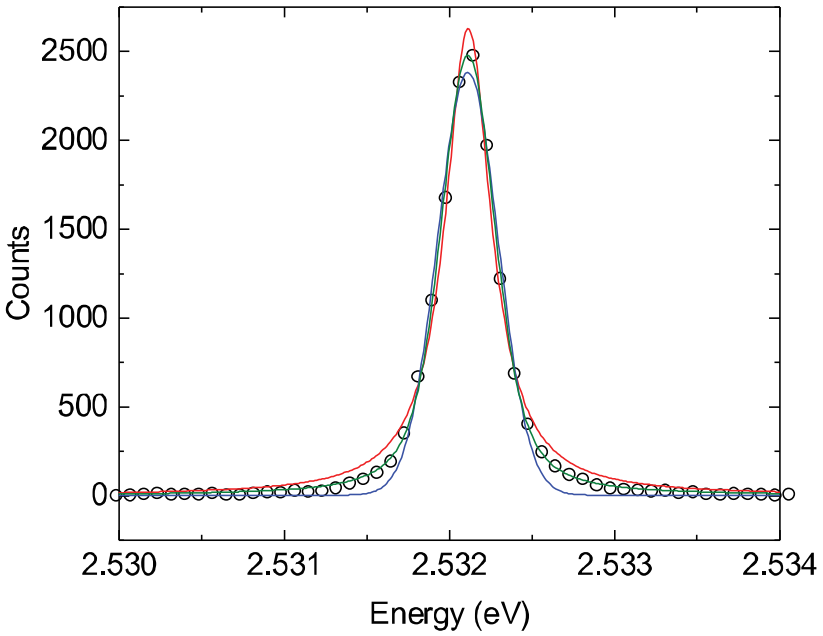

Figure S3. Example of a very narrow emission peak width above condensation threshold. This is achieved on some spots of the MeLPPP cavity half and when the mechanical noise (which leads to vibrations that slightly change the distance between the cavity halves and therefore the resonance energy) is extremely low. The black data points are the raw data points from the spectrograph detector, the red curve is a Lorentzian fit with FWHM of 340 µeV, the blue curve is a Gaussian fit with FWHM of 428 µeV, and the green curve is a Voigt fit with $FWHM_{Gauss}$ of 277 µeV and $FWHM_{Lorentz}$ of 193 µeV. Considering the nominal spectrograph resolution of 200 µeV FWHM gives a deconvoluted line width on the order of 300 µeV.