

Supporting Material

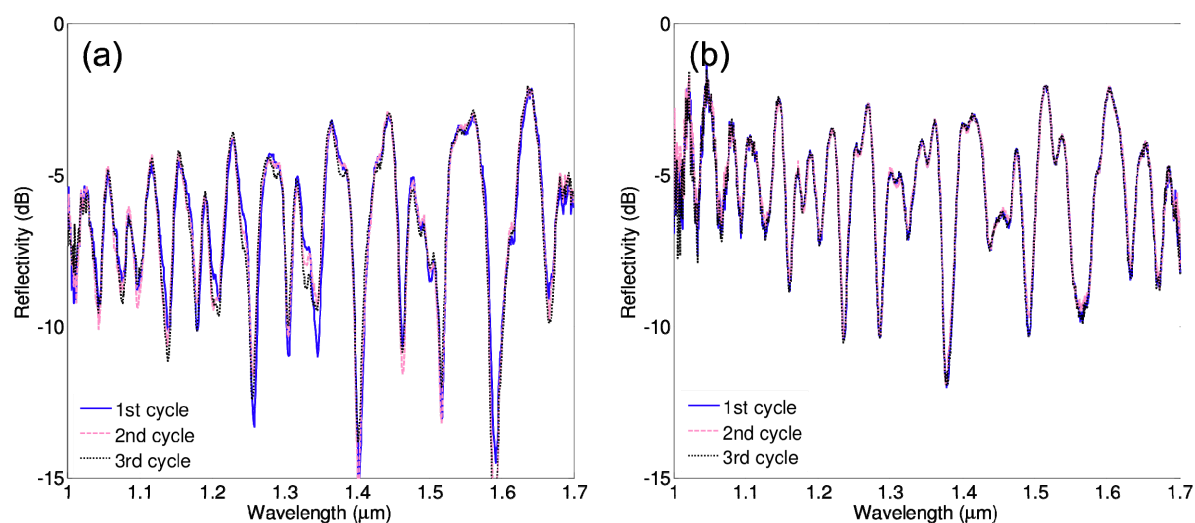


Figure S1. (a) Typical reflectivity spectra (normalized raw data, before numerical filtering) acquired on a PhC-OFM of the type of Figure 5a upon capillary infiltration of the microsystem with ethanol for three different infiltration-after-evaporation cycles. (b) Typical reflectivity spectra (normalized raw data, before numerical filtering) acquired on a PhC-OFM of the type of Figure 5b upon pressure-driven filling of the microsystem with ethanol for three different filling-after-emptying cycles. Recorded spectra highlight that good repeatability is achieved when the liquid infiltrates the PhC structure.

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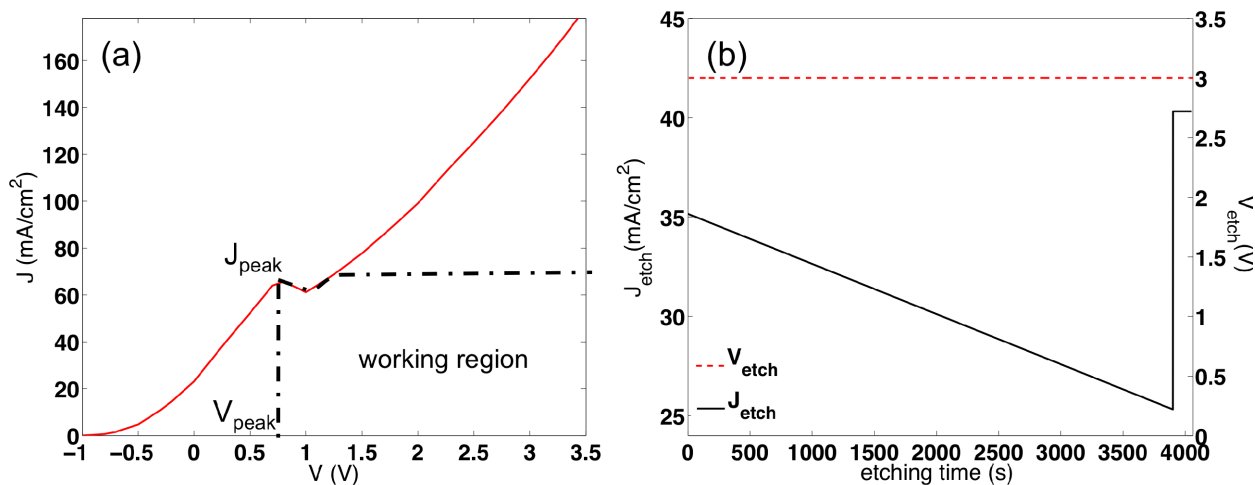


Figure S2. (a) J-V curve highlighting the ECM working region of the electrochemical system under investigation, recorded at 22 °C under back-side high-intensity illumination of the silicon electrode, by driving the halogen lamp at its maximum power value (250 W). The electropolishing etching current density and voltage values are $J_{\text{peak}} = 64.79 \text{ mA}/\text{cm}^2$ and $V_{\text{peak}} = 0.8$ V. (b) Typical experimental etching current density J_{etch} (left axis) and voltage V_{etch} (right axis) versus time, used for fabrication of the PhC-OFM of Figure 2, both for the anisotropic and isotropic phases of the electrochemical etching.

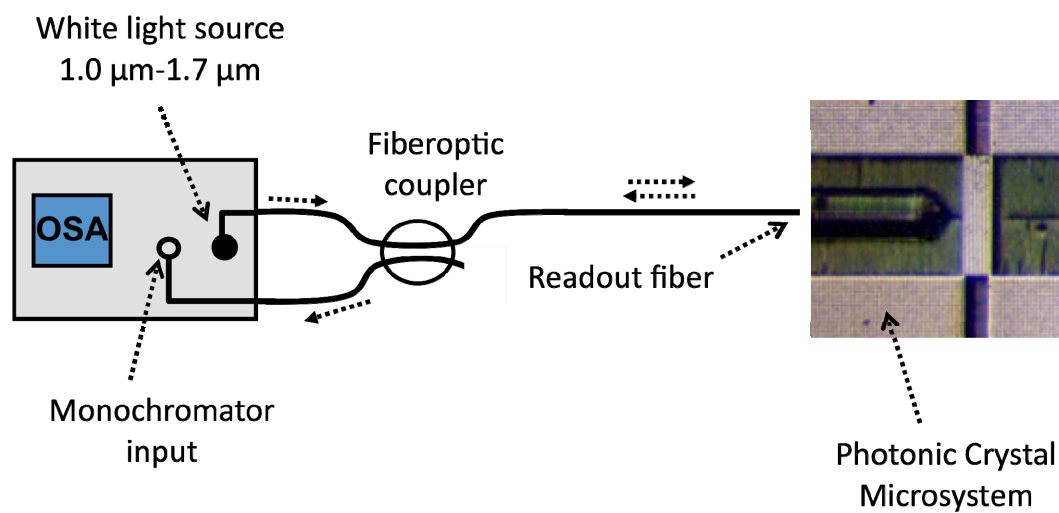


Figure S3. Schematic representation of the optical setup used for performing spectral reflectivity measurements on PhC-OFMs.