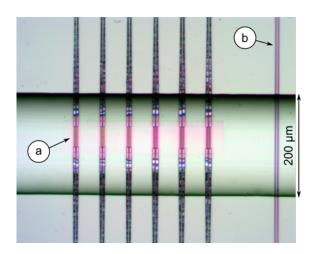
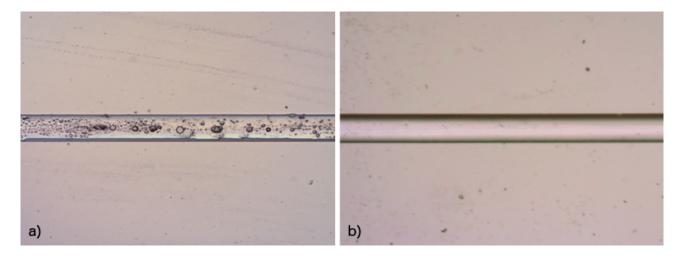
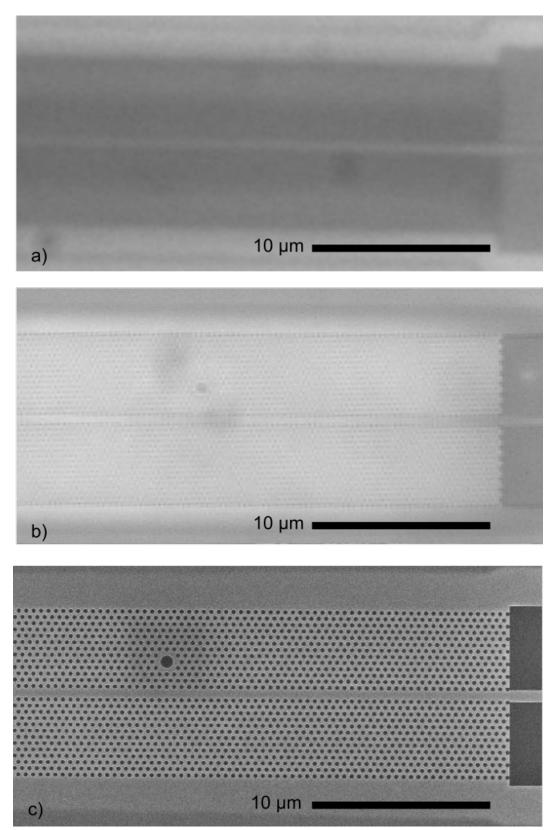
## **Additional content**



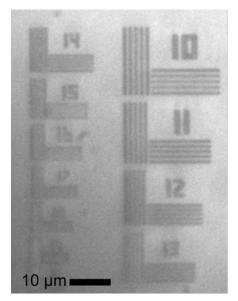
Additional Fig. 1 Aligned photonic crystals inside the microfluidic channel. The channel is 200  $\mu$ m wide. a) 6 photonic crystal are visible at the center of the picture, in a red hue. b) ridge waveguide.

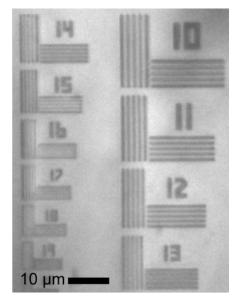


Additional **Fig. 2** a) Microfluidic channel 200 µm wide in full PDMS thin layer. The bubbles visible are immersion oil seeping through the PDMS layer. b) Microfluidic channel in the hybrid layer after usage with immersion oil. No bubble visible.



Additional Fig. 3 a) Picture of a silicon photonic crystal membrane taken through a full PDMS microfluidic layer 150 µm thick b) Same type of photonic crystal imaged through the hybrid PDMS/glass microfluidics. The illumination between the two pictures is unchanged. c) SEM image of the photonic crystal. Illumination wavelength for the microscope pictures at 520 nm.





Full PDMS

Hybrid PDMS/Glass

Additional Fig. 4 Images from the adapted NBS1010A microscopy resolution targets. Cut-off frequency for the full PDMS layer is at 1400 lines/mm whereas the cut-off is at 2200 lines/mm for the hybrid microfluidics. Illumination wavelength is 520 nm.