

Supporting Information

MEMS analogous micro-patterning of thermotropic nematic liquid crystalline elastomer films using a fluorinated photoresist and a hard mask process

David Ditter^a, Wei-Liang Chen^b, Andreas Best^c, Hans Zappe^d, Kaloian Koynov^c, Christopher K. Ober^b and Rudolf Zentel^a

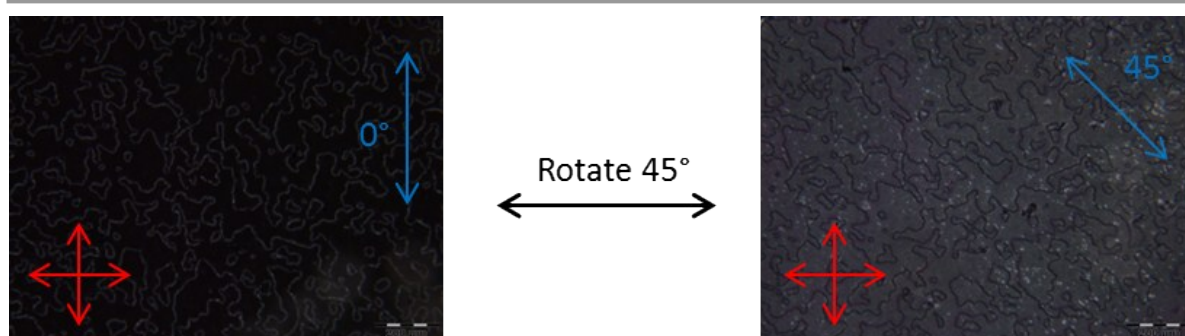


Figure S11. Optical images of an -originally uniaxially aligned- LCE layers between crossed polarisers after spin-coating a methyl isobutyl ketone solution on top. That means after swelling and deswelling. Obviously the original orientation is lost! The red arrows indicate the position of the crossed polarisers and the blue arrows indicate the alignment director (scale bar: 200 μm).

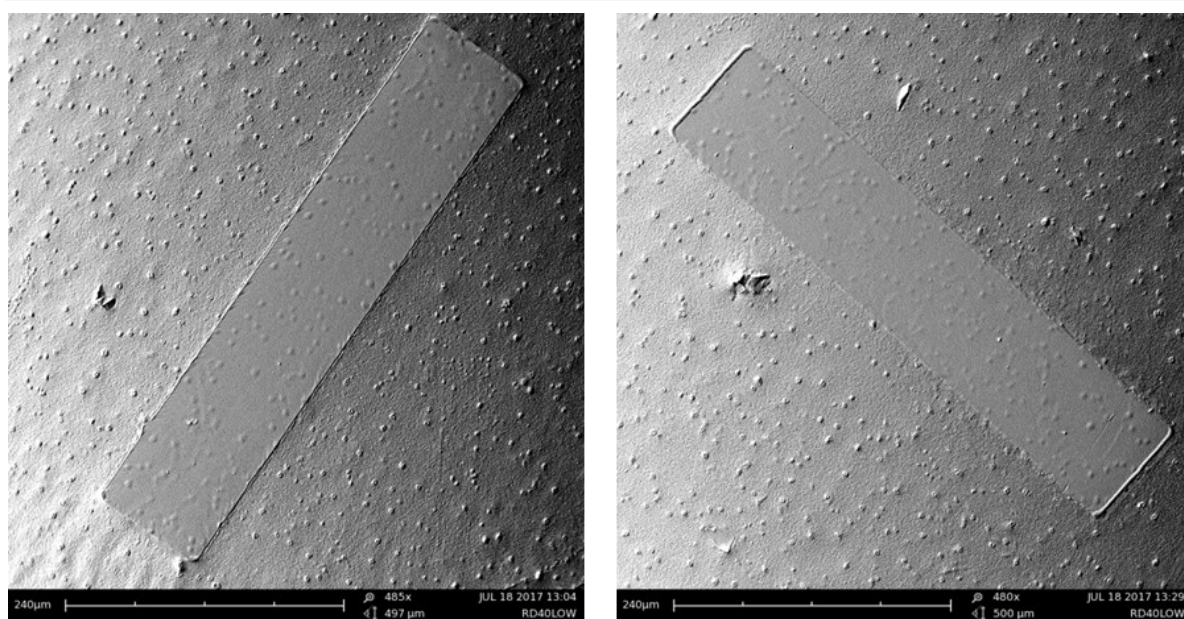


Figure S12. SEM images of 500 x 100 μm LCE stripes. LCE layers were processed in a hard mask process using HSQ as hard mask (scale bar: 240 μm).

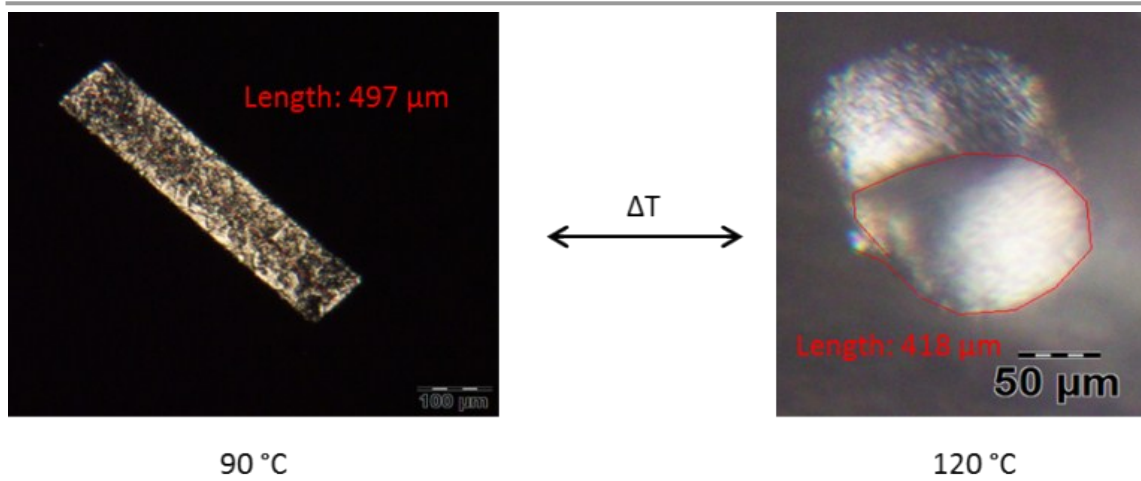


Figure S13. Microscope images of a 3.0-3.1 micron thick LCE stripe at 90 °C (left image) and 120 °C (right image) with the director along its long axis that show a contraction from 497 μm to 418 μm (19 %) along the director. Besides contraction, bending occurs as well. Red length values belong to the red lines shown in the images (scale bars: 100 μm in the left and 50 μm in the right image).
