Electronic Supplementary Material (ESI) for Soft Matter.

Electronic Supplementary Information: Self-regulating electrical rhythms with liquid crystal oligomer networks in hybrid circuitry

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Video S1. Footage of the self-regulating LCON oscillating device in operation, where the LED lights switching on in the background show that the device has entered its "on" state and vice versa.

Video S2. Animation of the operation of the self-regulating LCON oscillator.

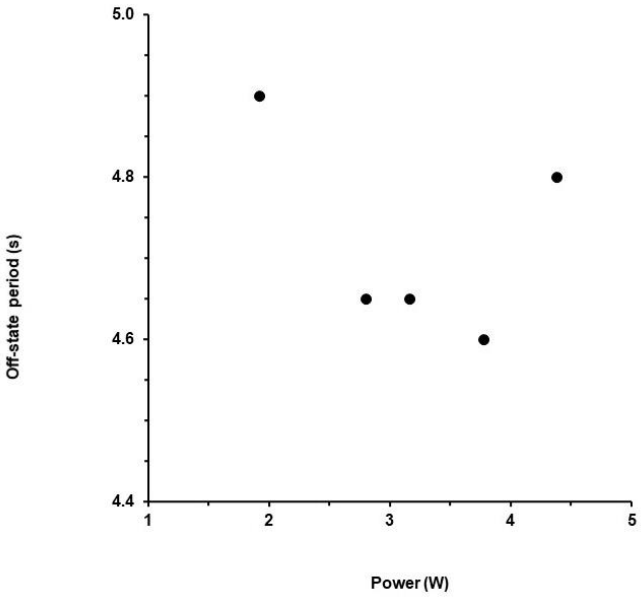

Fig. S2. Graphical representation of the independence of the "off" state of the self-regulating device with the Sample 3 LCON film from the power supplied to the device.

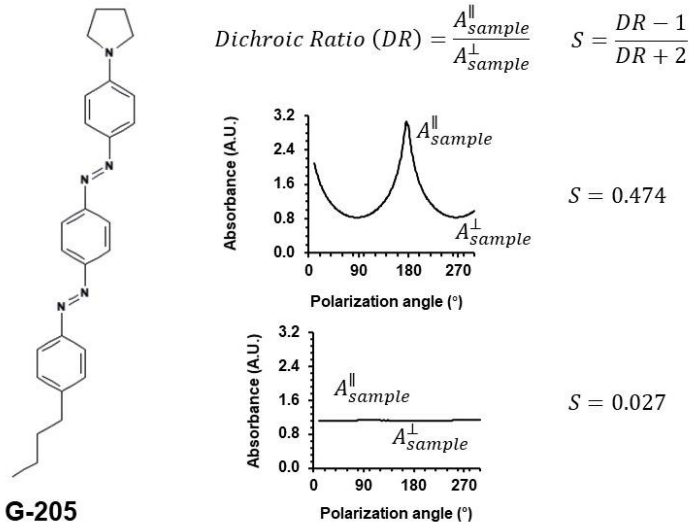

Fig. S3. Structural formula of dichroic dye integrated in the typical Sample 3 LCON film, captioned with the equations used to determine the material order parameter.

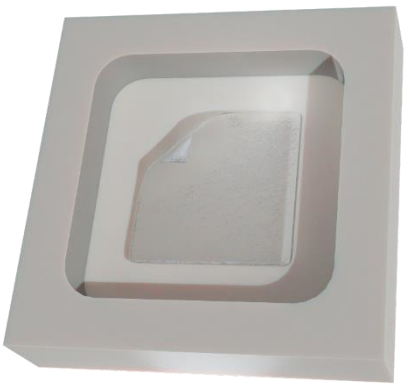

Fig. S4. 3-D visualization of the Teflon mold used to pre-cure the LCON film during its synthesis process.

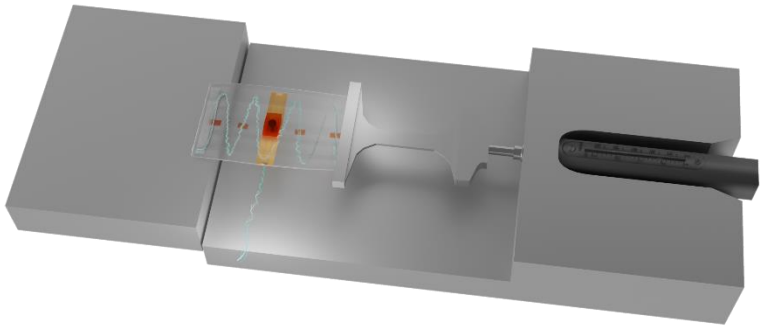

Fig. S5. 3-D visualization of the custom set-up used to gauge the actuation force of the electrically-functionalized LCON films in operation.