

Polydopamine Nanoparticles Doped Liquid Crystal Elastomers for 3D Dynamic Structures

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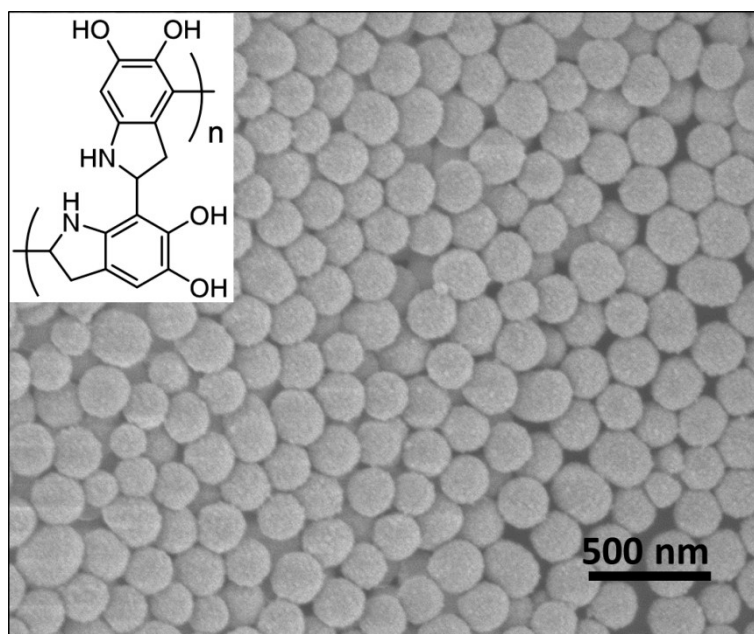


Figure S1. SEM image of PDA nanoparticles. Inset: chemical structure of PDA.

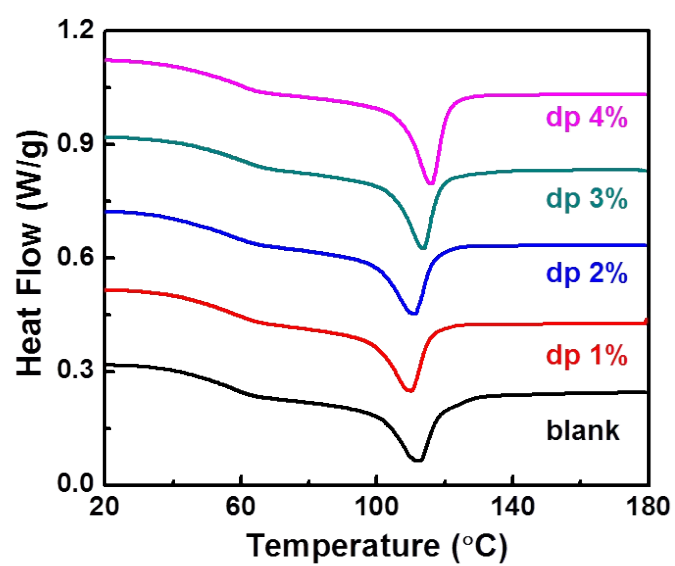


Figure S2. DSC thermograms of PDA-xLCE and blank samples.

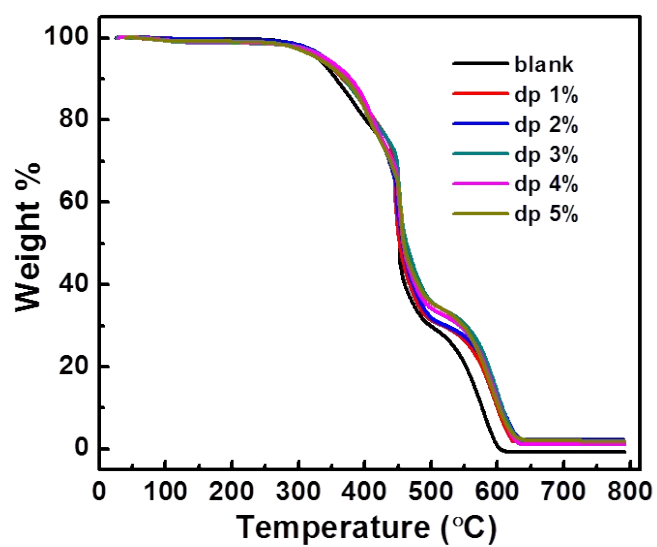


Figure S3. TGA curves of PDA-xLCEs and blank xLCE sample.

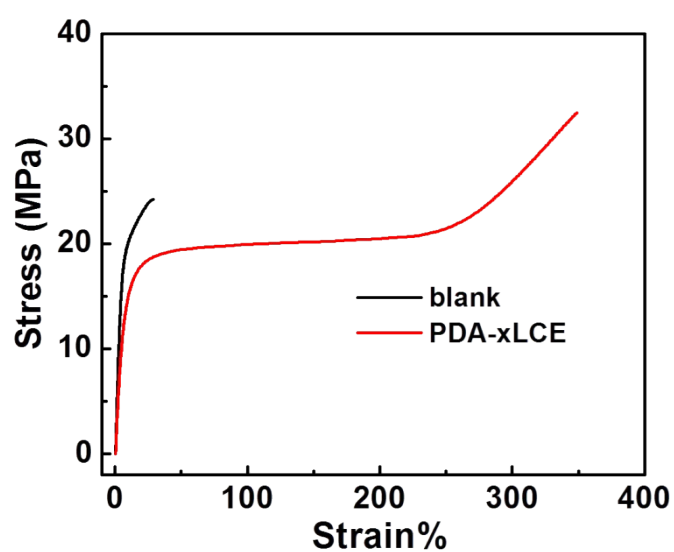


Figure S4. Stress-Strain curves of PDA-xLCE and blank samples at 30 °C.

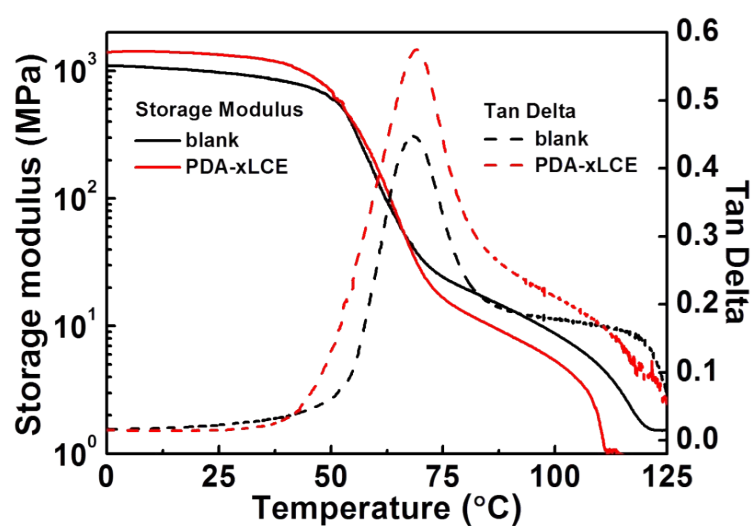


Figure S5. Tensile storage modulus and tan δ trace of blank and PDA-xLCE samples measured by DMA (heating rate 1°C/min).

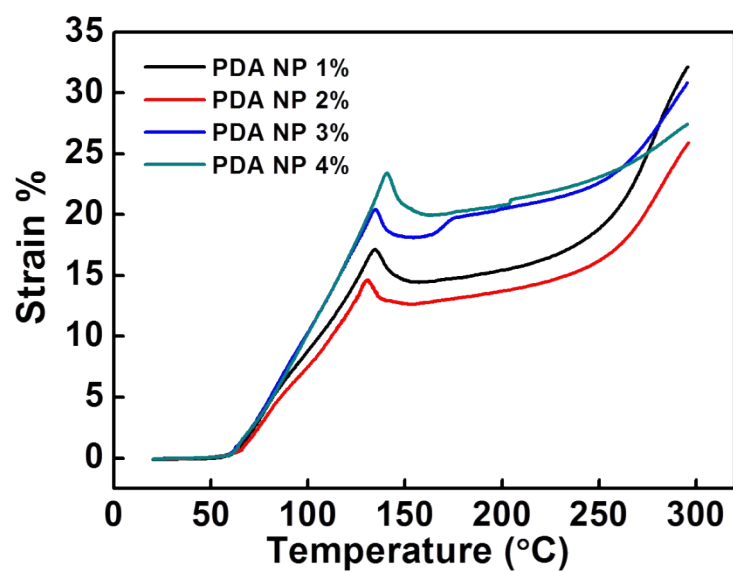


Figure S6. Dilatometry tests of samples with different PDA NPs contents. A trend is present that as the PDA NP content increase, the T_v increases too.

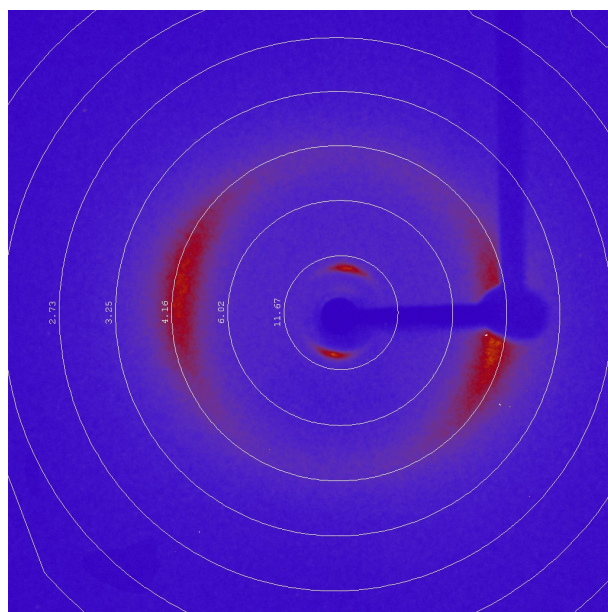


Figure S7. 2D XRD image of the monodomain PDA-xLCE sample.

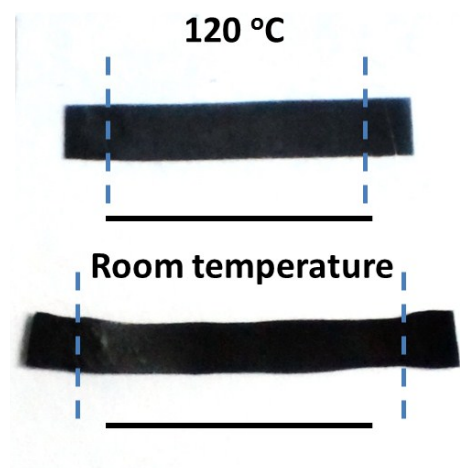


Figure S8. Reversible thermal actuation of a monodomain PDA-xLCE film. Scale bar: 1 cm.

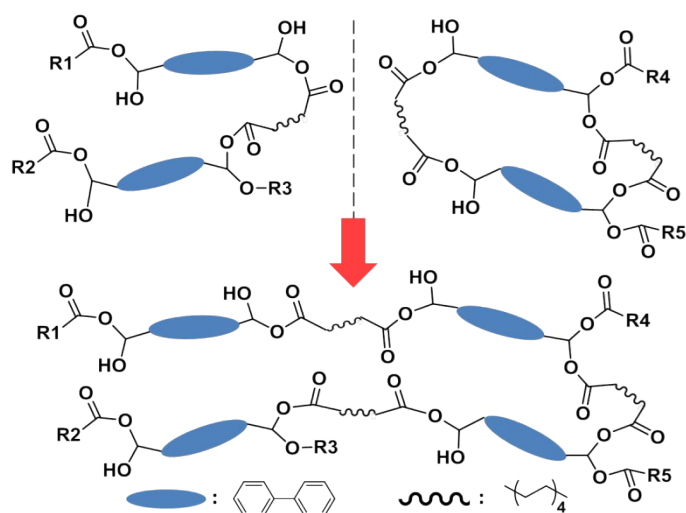


Figure S9. Schematic illustration for the chemical mechanism of transesterification.