

Electronic Supplementary Information for

Quantitative analysis of bending hysteresis by real-time monitoring of curvature in flexible polymeric films

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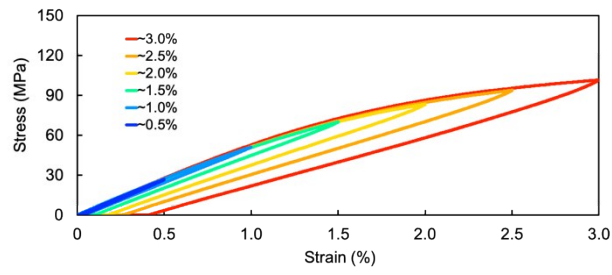


Fig. S1. Stress-strain (S-S) curves of uniaxial mechanical testing to 0.5% (blue), 1.0% (sky blue), 1.5% (green), 2.0% (yellow), 2.5% (orange) and 3.0% (red) strains.

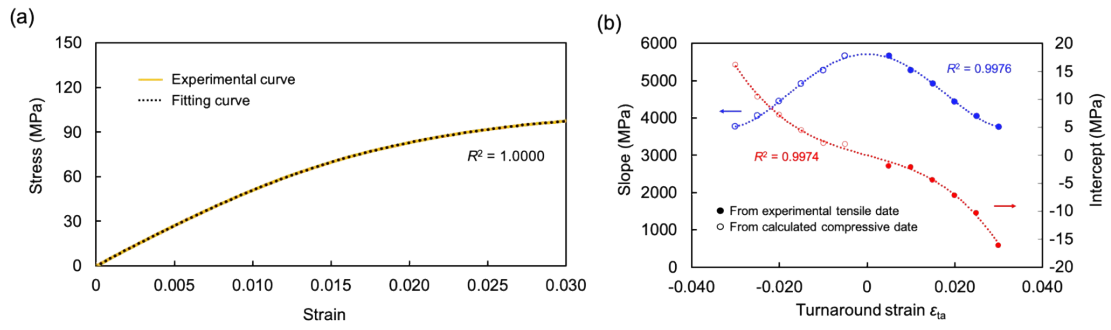


Fig. S2. (a) S-S curve upon loading. Experimental and fitting curves correspond to solid and dotted lines, respectively. (b) The slope (blue) and intercept (red) of unloading S-S curves as a function of turnaround strain.

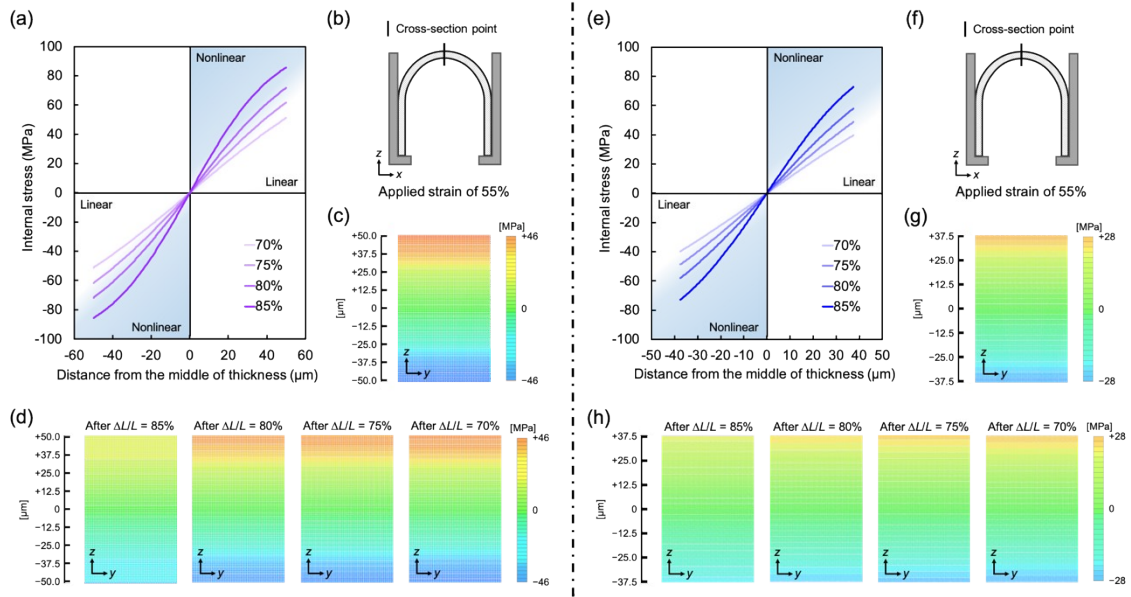


Fig. S3. Internal stresses in the thickness direction of the bent PEN film with thicknesses of 100 μm (a) and 75 μm (e) by various applied strains. A model of the bending film with thicknesses of 100 μm (b) and 75 μm (f) at the applied strain of 55%. The bent film has vertical cross-section that is perpendicular to the material axis. Internal stress distribution of the PEN film with thicknesses of 100 μm (c) and 75 μm (g) upon bending with the applied strain of 55%. Internal stress distribution of the PEN film with thicknesses of 100 μm (d) and 75 μm (h) upon bending with the applied strain of 55% at turnaround applied strains of 85%, 80%, 75% and 70%.