

Submitted to *Soft Matter*

**Supporting Information**

**Specific Deformation Behavior of Isotactic Polypropylene Film  
under Multiaxial Stress Field**

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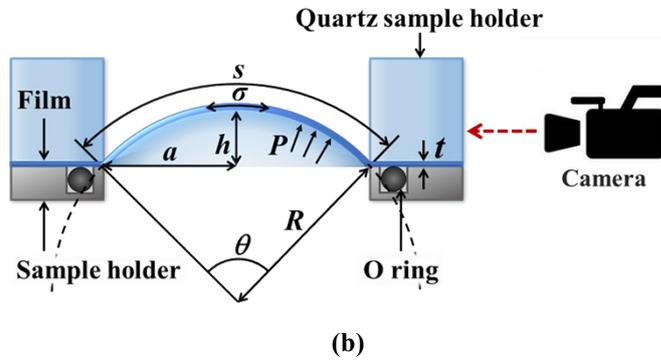
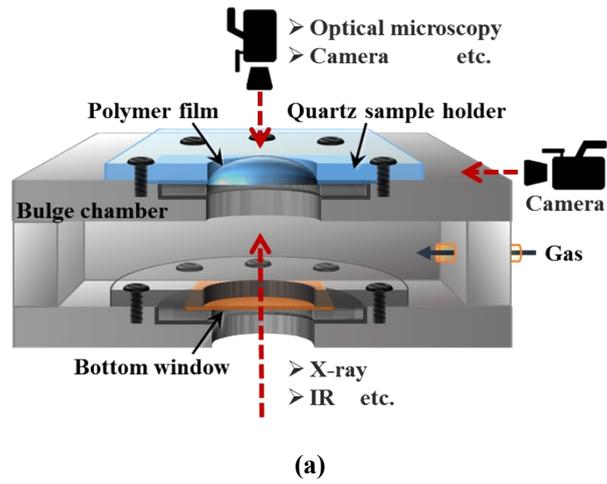
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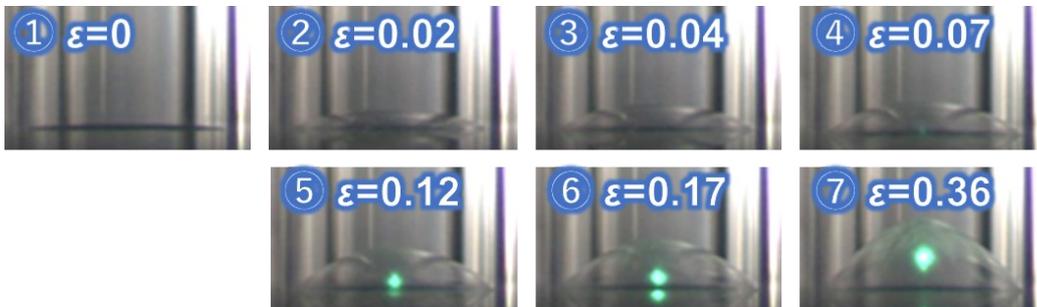
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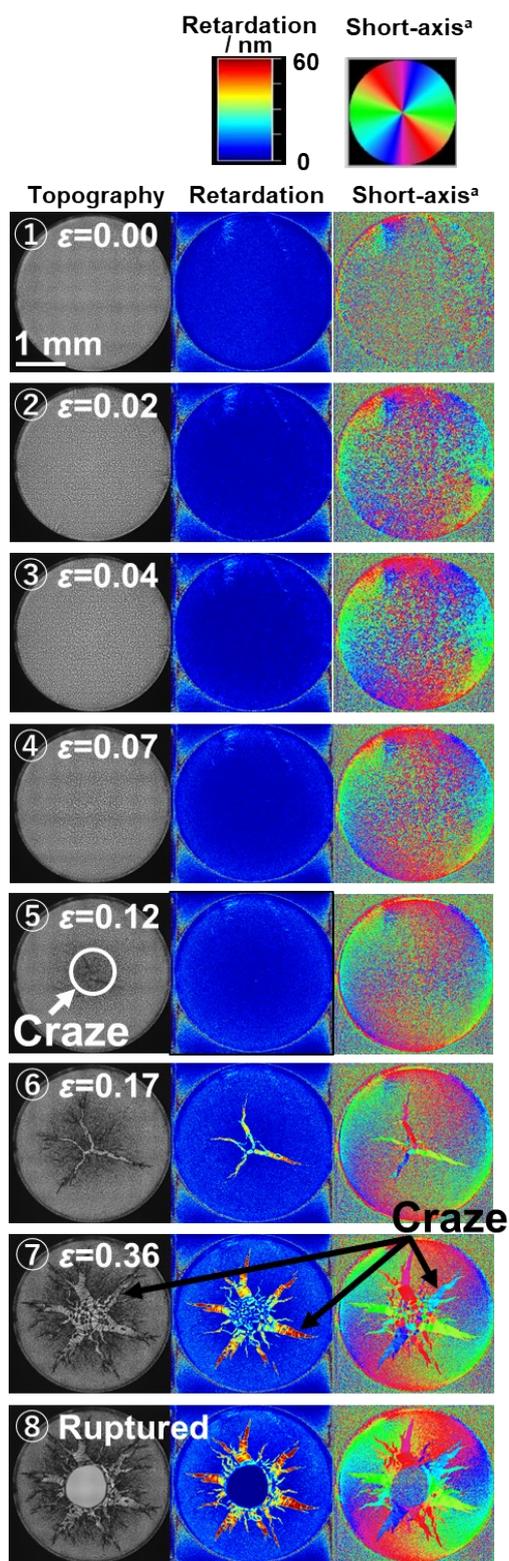
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**Figure S1.** Schematic illustration of (a) home-made bulge chamber and (b) various parameters during bulge deformation.

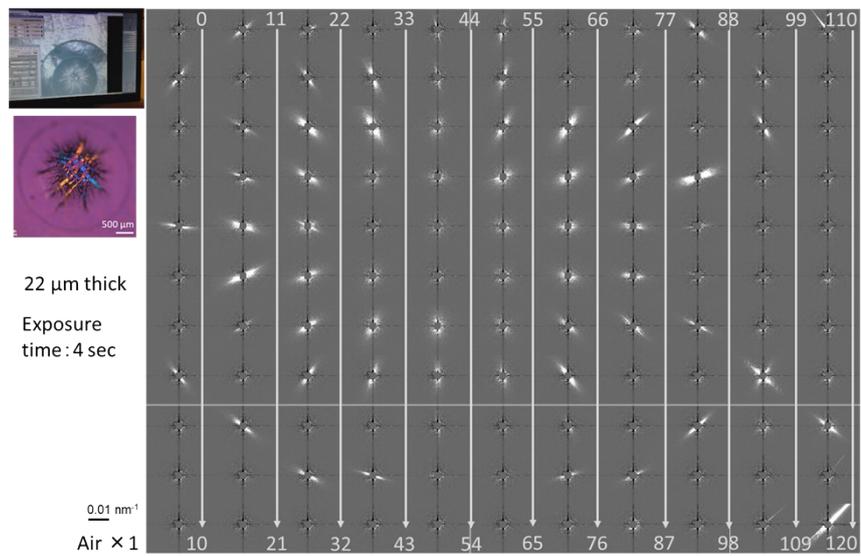


**Figure S2** Side view images of the *it* PP films at various strains.



<sup>a</sup> Direction of short-axis of refractive index ellipsoid

**Figure S3.** Polarized high-speed camera images of isotactic polypropylene films with a thickness of 8  $\mu\text{m}$  at various strains by bulge testing. The three inset images correspond to topography, retardation, and the direction of short-axis of the refractive index ellipsoid from left to right.



**Figure S4.** Ultra small-angle X-ray scattering (USAXS) patterns at various positions inside bulge hole.