

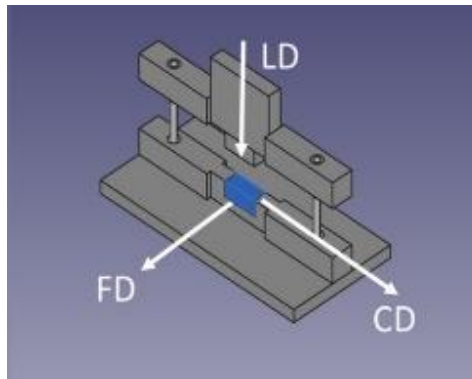
## Supplementary Information

### The effects of intracrystalline chain diffusion on the non-linear mechanics of semicrystalline polymers

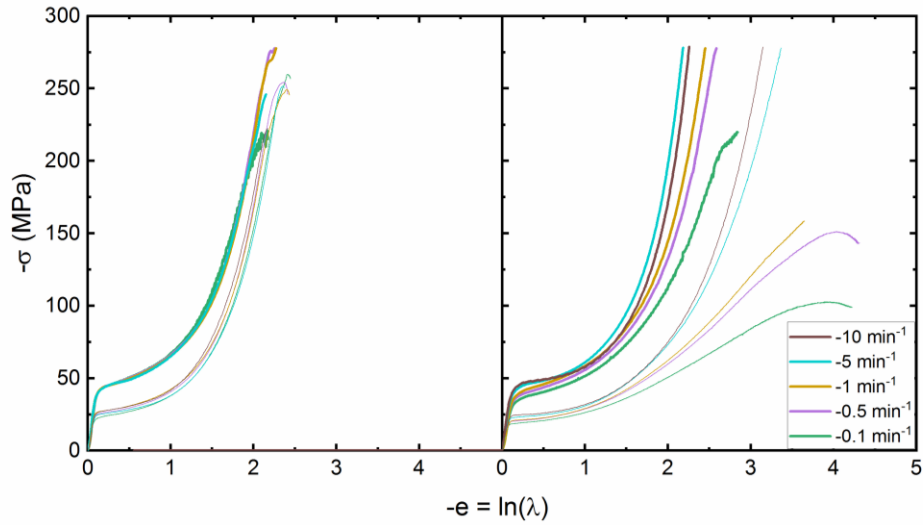
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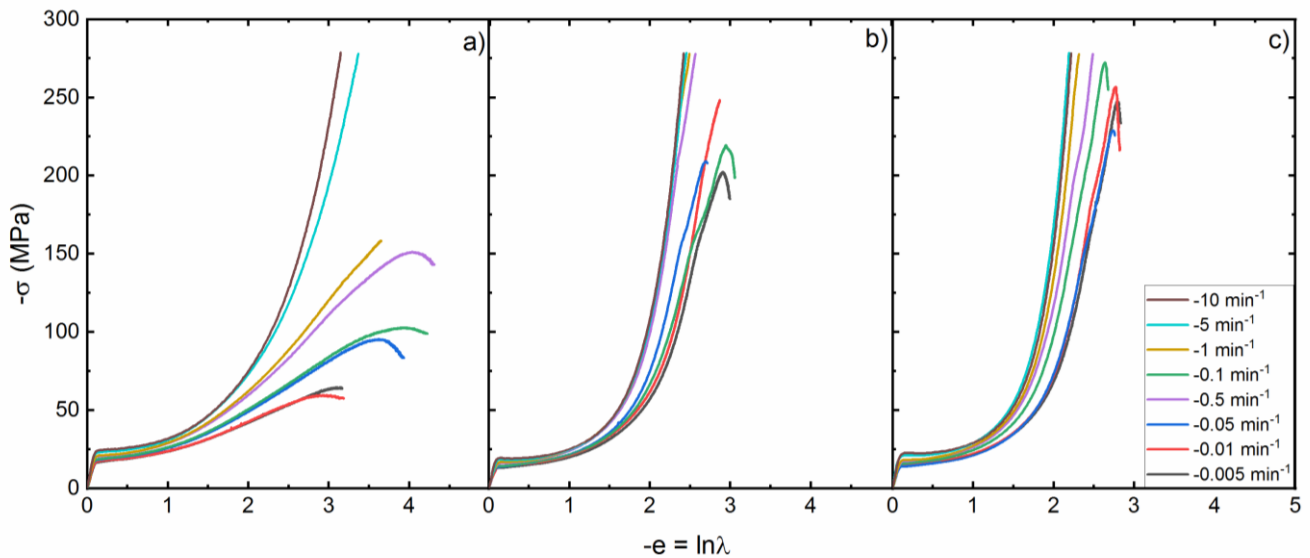
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Supplementary Figure 1: Schematic representation of the tool used for plane strain compression. The arrows indicate the different directions, FD: flow direction, CD: control direction, and LD: loading direction. The blue prism represents the sample.



Supplementary Figure 2: Exemplary continuous true stress vs. true strain curves of a) PCL and b) PEO<sup>100</sup> at -10 °C. Measurements were taken at the indicated constant true strain rates. For comparison the data taken at 30 °C are shown with thinner lines.



Supplementary Figure 3: Exemplary continuous true stress vs. true strain curves of a) PEO100, b) PEO400, and c) PEO900 at 30 °C. Measurements were taken at the indicated constant true strain rates.