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Phase Separation in a Dynamically Asymmetric Polymer Blend: a Stepwise Growth Mechanism CHARLES HAN, Institute of chemistry, chinese Academy of Sciences, ICCAS, WEICHAO SHI, ICCAS — Phase separation dynamics of a polymer blend can be mediated under competition between thermodynamic perturbation and asymmetric viscoelasticity due the contrast in the glass transition temperatures of the two polymer components. The viscous fluidic and soft elastic properties will meet in the phase separation dynamics in this study. Between the two cases, we further revealed a stepwise concentration growth phenomenon, which consists of two individual growths and a "frozen" period in between. This stepwise growth should be a general mechanism for asymmetric polymer blends.

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