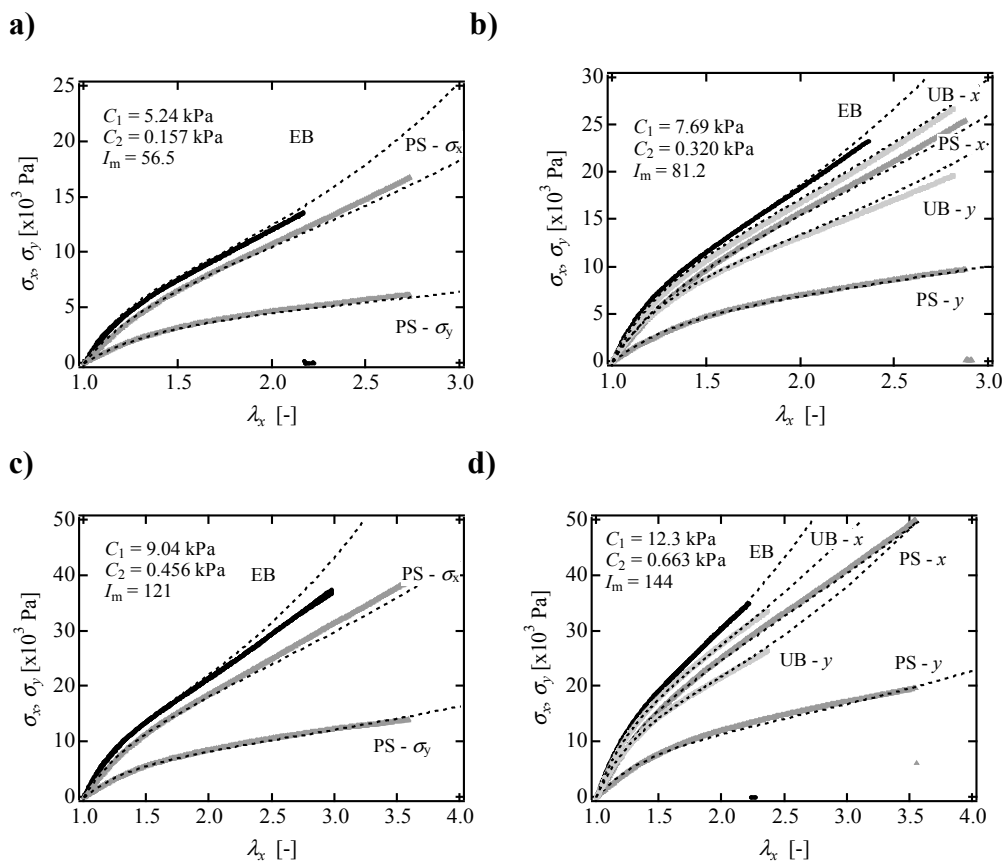
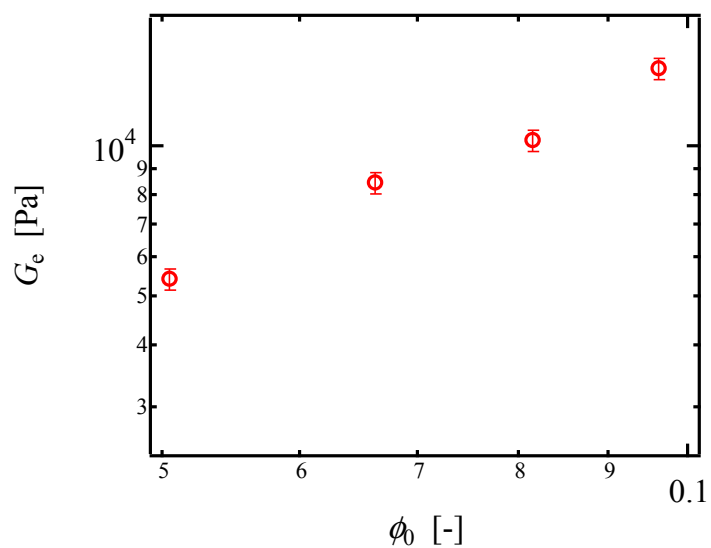


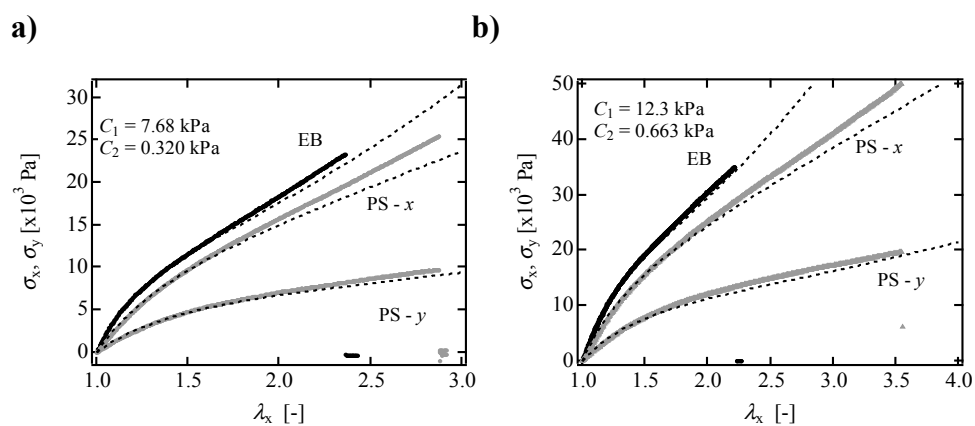
Supplementary information



Supplementary Figure 1. Nominal stress–elongation relationships for Tetra-PEG gel (a: $\phi_{\square} = 0.0505$, b: $\phi_{\square} = 0.0662$, c: $\phi_{\square} = 0.0814$, d: $\phi_{\square} = 0.0961$) under equi-biaxial (EB) stretching, and pure shear (PS). The dashed lines are fitting results of the extended Gent model.



Supplementary Figure 2. The equilibrium modulus G_e as a function of ϕ_0 .



Supplementary Figure 3. Nominal stress–elongation relationships for Tetra-PEG gel (a: $\phi_{\square} = 0.0662$, b: $\phi_{\square} = 0.0961$) under equi-biaxial (EB) stretching, and pure shear (PS). The dashed lines are fitting results of the Mooney model.