Investigating the Transition between Polymer Melts and Solutions in Non-linear Elongational Flow

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Supplemental Material (SM)

Figure S1

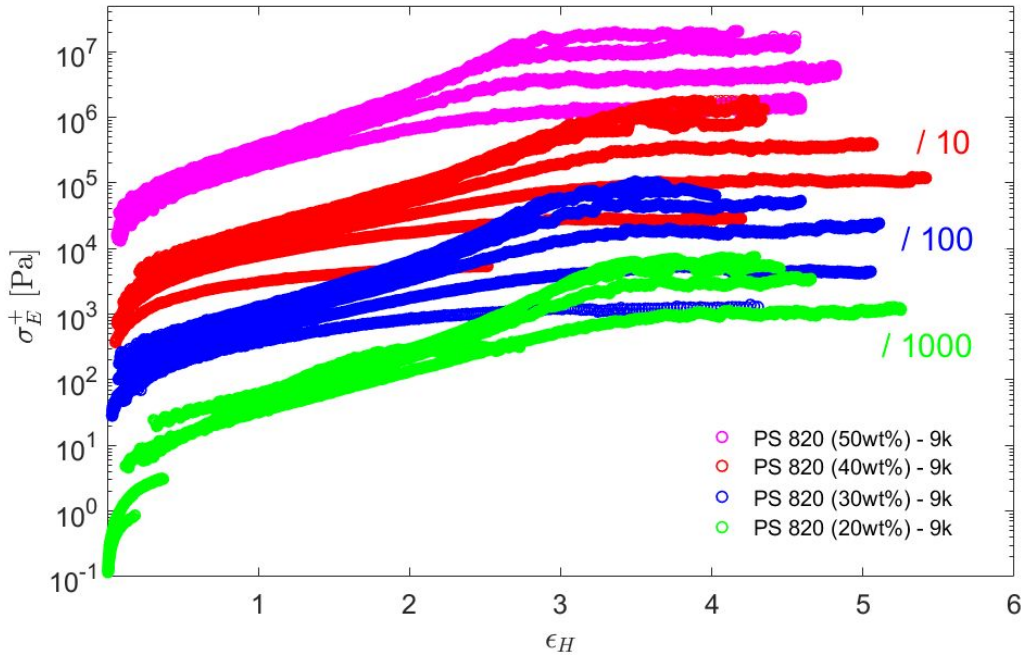

Figure S1: Measured extensional stress as a function of Hencky strain. Data were measured for different strain rates at $T = 130\ °C$. The strain rates are from bottom to top: 0.001, 0.003, 0.01, 0.03, 0.06, 0.09 s^{-1}, except for PS 820k (50 wt%) for which the strain rates are from bottom to top 0.003, 0.01, 0.03, 0.06 s^{-1}. Additionally, for PS 820k (40 wt%) and PS 820k (20 wt%), LVE envelopes have also been measured in elongational flow at 0.0001 and 0.00003 s^{-1} respectively. For clarity, some of the extensional data has been downshifted by 1, 2 or 3 decades as indicated.

Figure S2

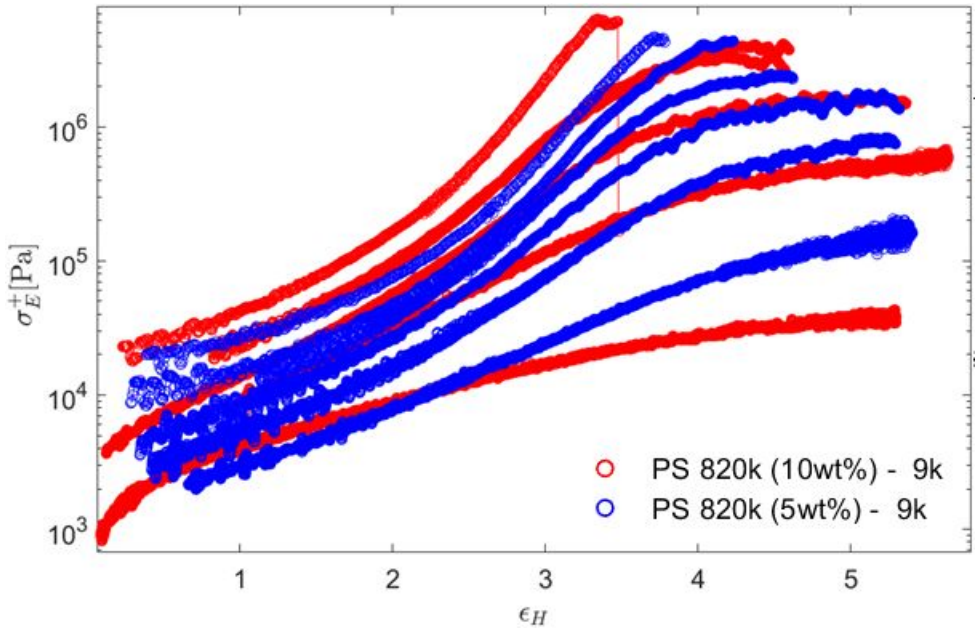

Figure S2: Measured extensional stress as a function of Hencky strain. Data were measured for different strain rates at $T = 130\,°C$. *The strain rates are from bottom to top 0.003, 0.01, 0.03, 0.06, 0.09, 0.2* s^{-1} *for PS 820k (10 wt%) and 0.01, 0.03, 0.06, 0.1, 0.2, 0.3* s^{-1} *for PS 820k (5 wt%). All the data have been subsequently shifted to* $T = T_g + 23.4\,°C$.

Figure S3

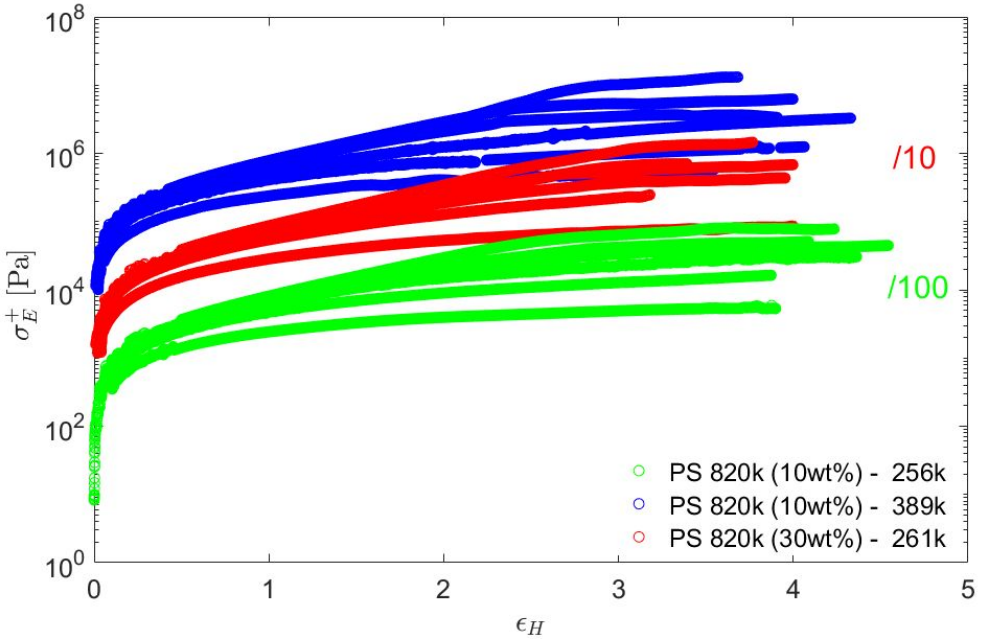

Figure S3: Measured extensional stress as a function of Hencky strain. Data were measured for different strain rates: 0.003, 0.01, 0.03, 0.06, 0.09, 0.2 s^{-1} *at* $T = 138\,°C$ *(or* $T - T_g = 31.4\,°C$*). For clarity, some of the extensional data has been downshifted by 1 or 2 decades.*