Support Information for

Modelling Elongational Viscosity and Brittle Fracture
of Polystyrene Solutions

Manfred H. Wagner[1], Esmaeil Narimissa[2,3], Leslie Poh[2,3], and Taisir Shahid[4,5]

[1] *Polymer Engineering/Polymer Physics, Berlin Institute of Technology (TU Berlin), Fasanenstrasse 90, 10623 Berlin, Germany*

[2] *Dept. of Chemical Engineering, Technion–Israel Institute of Technology (IIT), Technion City, Haifa 32 000, Israel*

[3] *Dept. of Chemical Engineering, Guangdong Technion–Israel Institute of Technology (GTIIT), Shantou 515063, China*

[4] *Bio and Soft Matter, Institute on Condensed Matter and Nano-science, Université catholique de Louvain, Louvain-la-Neuve, Belgium*

[5] *DSM Materials Science Center, P.O. Box 18, NL-6160 MD Geleen, The Netherlands*

LVE Characterization

Table S1. Discrete relaxation spectra from mastercurves of *G'* and *G''* at T=T$_g$+23.4K obtained by IRIS (Winter and Mours 2006).

PS-820k/8.8k-50		PS-820k/8.8k-40		PS-820k/8.8kk-30	
g_i [Pa]	τ_i [s]	g_i [Pa]	τ_i [s]	g_i [Pa]	τ_i [s]
4.933e+007	3.560e-004	4.625e+007	3.663e-004	6.178e+006	4.842e-003
5.753e+005	2.383e-002	6.038e+005	2.318e-002	3.484e+005	7.867e-002
2.305e+005	1.033e-001	2.445e+005	9.691e-002	8.149e+004	2.600e-001
6.774e+004	4.505e-001	5.242e+004	4.265e-001	2.991e+004	1.168e+000
3.091e+004	2.928e+000	2.464e+004	1.746e+000	1.234e+004	6.914e+000
9.987e+003	2.027e+001	1.322e+004	1.175e+001	4.441e+003	3.524e+001
6.592e+003	9.273e+001	5.099e+003	6.592e+001	3.630e+003	1.674e+002
6.906e+003	3.863e+002	5.712e+003	2.904e+002	3.434e+003	7.350e+002
7.919e+003	1.589e+003	5.953e+003	1.306e+003	3.875e+003	3.040e+003
8.241e+003	6.034e+003	6.540e+003	5.417e+003	3.323e+003	1.232e+004
9.461e+003	2.265e+004	6.411e+003	2.250e+004	2.942e+003	3.593e+004
1.081e+004	7.507e+004	5.426e+003	6.012e+004		

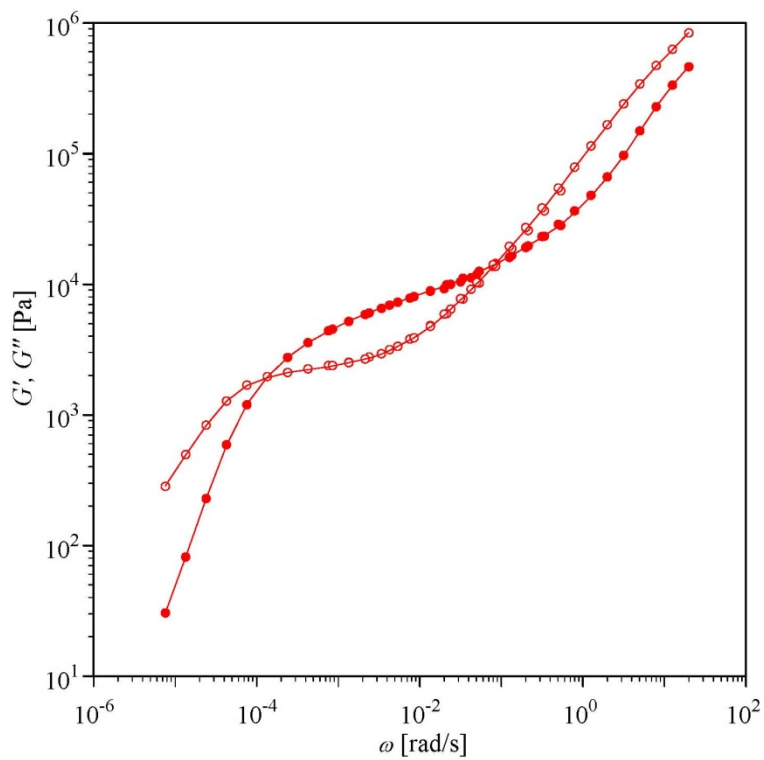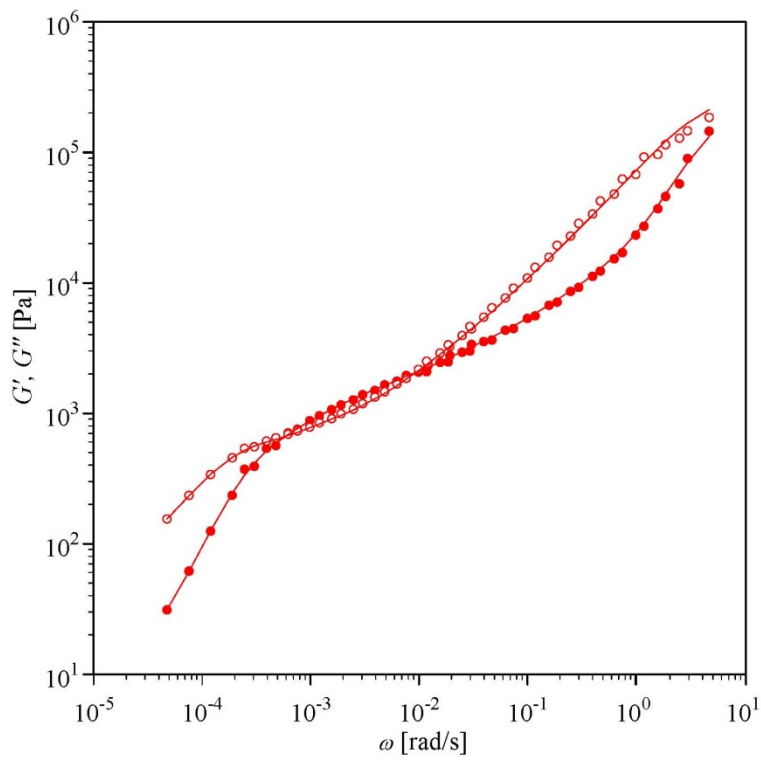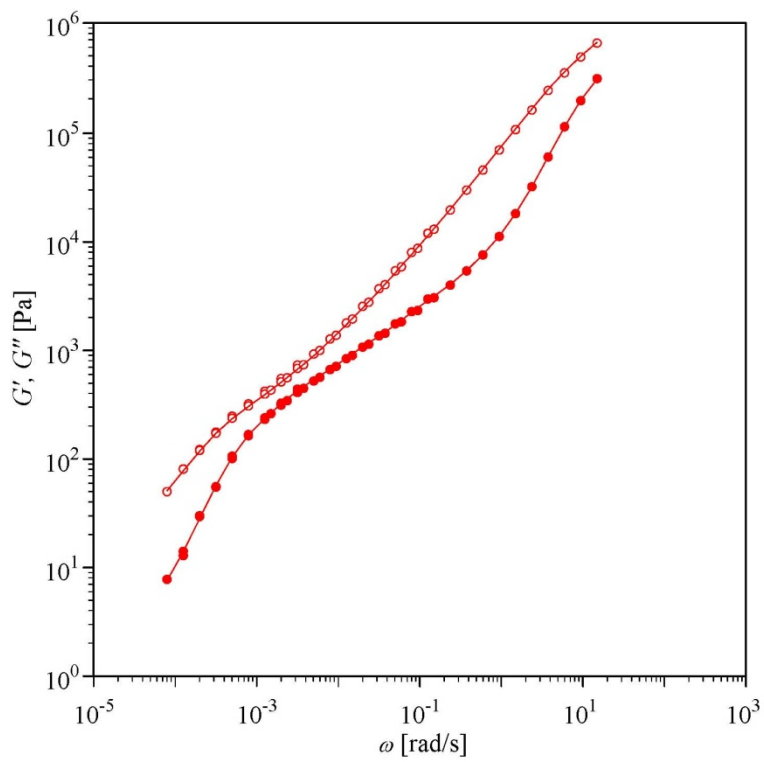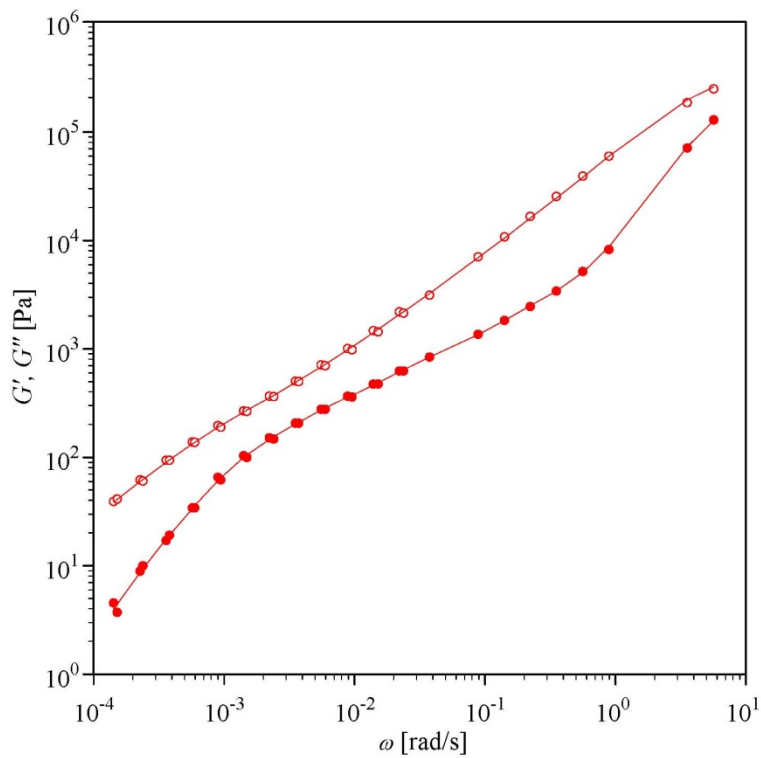| PS-820k/8.8k-20		PS-820k/8.8k-10		PS-820k/8.8k-05		PS-820k/8.8kk-03	
g_i [Pa]	τ_i [s]	g_i [Pa]	τ_i [s]	g_i [Pa]	τ_i [s]	g_i [Pa]	τ_i [s]
4.440e+006	8.139e-003	6.634e+006	3.383e-003	4.376e+007	6.239e-004	1.306e+007	1.826e-003
3.130e+005	9.729e-002	2.175e+005	2.337e-001	4.144e+005	6.157e-002	2.306e+005	1.776e-001
5.533e+004	2.260e-001	7.096e+003	1.878e+000	1.204e+005	1.391e-001	6.300e+003	2.013e-001
2.802e+004	8.880e-001	3.847e+003	7.620e+000	6.254e+003	6.226e-001	1.808e+003	5.655e+000
9.673e+003	5.528e+000	1.701e+003	3.851e+001	3.641e+003	2.273e+000	6.160e+002	3.513e+001
4.118e+003	2.604e+001	7.349e+002	1.725e+002	1.800e+003	1.214e+001	2.123e+002	1.868e+002
2.634e+003	1.519e+002	6.471e+002	7.050e+002	6.689e+002	6.651e+001	1.304e+002	8.035e+002
2.217e+003	7.589e+002	6.762e+002	3.671e+003	3.296e+002	3.712e+002	1.010e+001	3.614e+003
2.098e+003	3.461e+003	1.247e+001	4.866e+004	1.985e+002	1.783e+003		
1.964e+003	1.421e+004			3.894e+000	3.125e+004		
8.457e+000	2.240e+005						
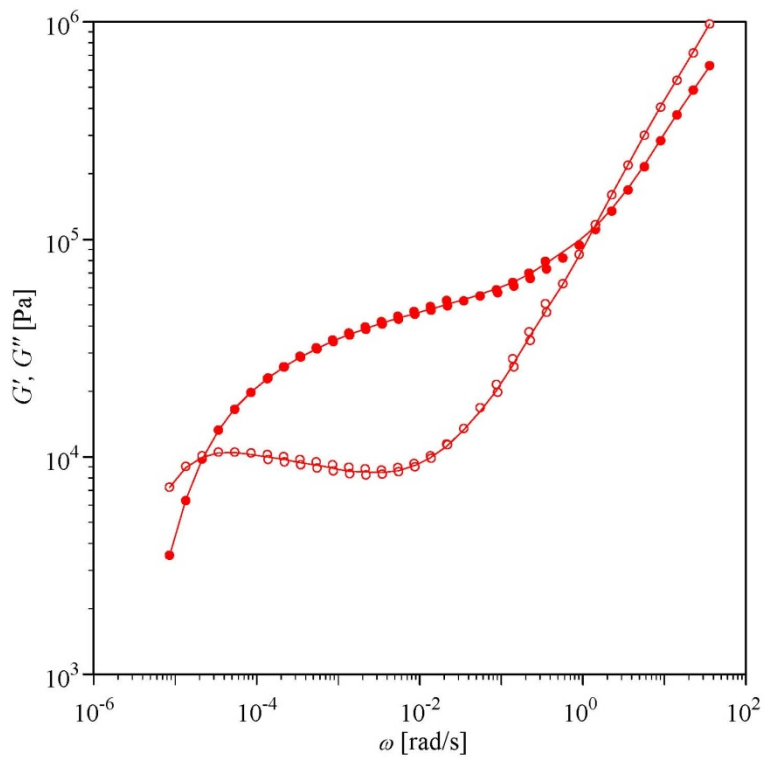
a) PS-820k/8.8k-50
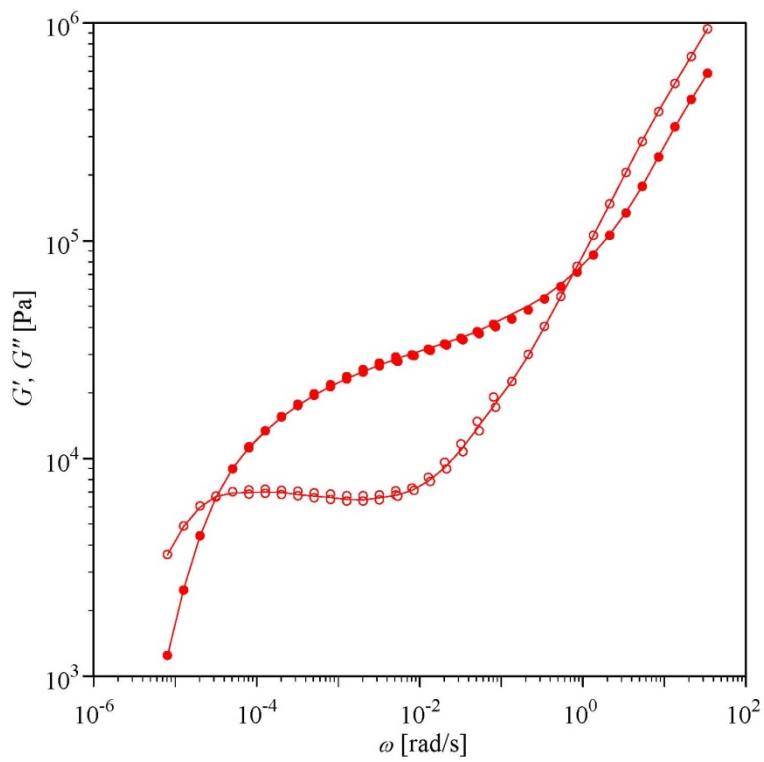
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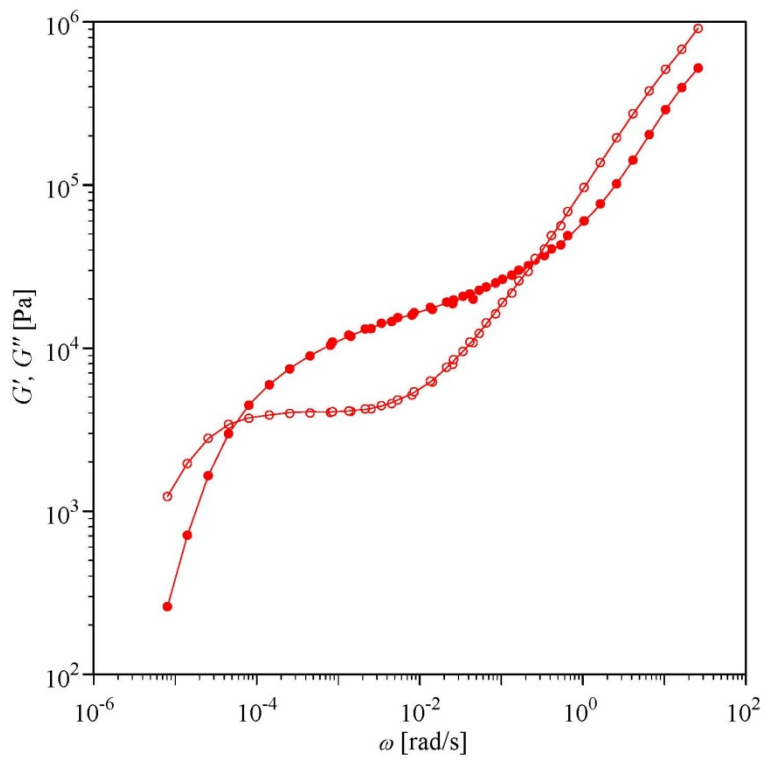
c) PS-820k/8.8k-30

d) PS-820k/8.8k-20

e) PS-820k/8.8k-10

f) PS820k/8.8k-05

g) PS-820k/8.8k-03

Fig. S1 (a)-(g): Mastercurves of G' and G'' (symbols) at iso-Tg temperatures T_0, i.e. temperatures with equal distance to the glass transition temperature T_g with $T_0=T_g+23.4K$, and fit by parsimonious relaxation spectra (red lines through data points) with parameters given in Table S1.

Reference

Winter HH, Mours M (2006). The cyber infrastructure initiative for rheology. Rheologica Acta 45: 331-338.