Supplementary information

From a single macrorheological experiment it is difficult to extract the crossing-over time τ_e with a decent accuracy. The master curve presented in this work would in principle offer enough reliable data points - albeit normalizing both moduli to the same absolute value cancels out the desired information. In fact, shifting up again the rescaled storage modulus might give the wrong impression that both moduli do not cross over at all in the frequency range probed. Therefore, it is helpful to calculate the loss factor $tan(\delta) = G''(\omega)/G'(\omega)$. The shape of the loss factor curves drastically changes at $R^* = 0.01$ (see inset of supplementary FIG. S1). This again is in agreement with the bundling transition reported before.

Moreover, these curves can also be generalized (FIG. S1) requiring only one single rescaling parameter, namely the same ω^* as used for the master curves shown in FIG. 3. For a rescaled frequency range of $10^3 - 10^4$ the loss factor master curve exhibits a plateau. In this regime the viscoelastic moduli show the same frequency dependence and have comparable absolute values. Thus the Kramers-Kronig relations are fulfilled implying an analytical power law behavior in an intermediate asymptotic regime. For even higher rescaled frequencies the loss factor finally reaches values larger than 1, indicating that a crossing-over to a viscous dominated regime, $\omega > 1/\tau_e$, does exist but is not sufficiently accessible with macrorheological methods - even not by the application of the cross-linker/time superposition.

Figure S1

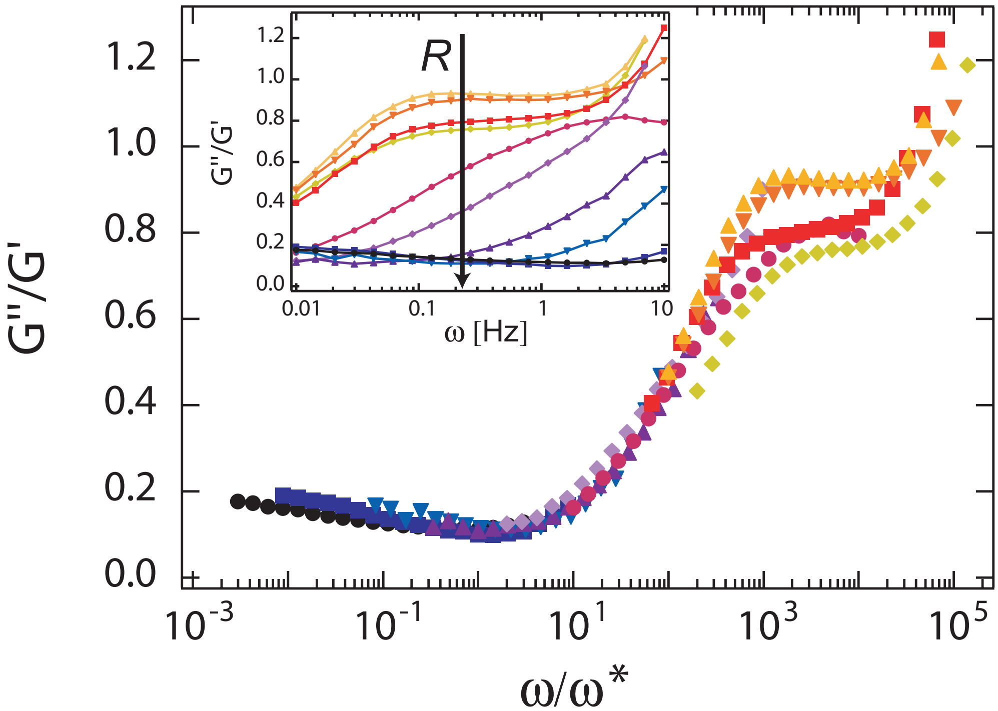

Figure caption S1

Generalized loss factor curve as described in the text. The unshifted curves are depicted in the inset ($R = 0, 0.001, 0.002, 0.005, 0.01, 0.02, 0.05, 0.1, 0.2, 0.5$).