dilute (below overlap in a stagnant liquid, but with possible hydrodynamic interactions, and even steric interactions due to coil stretching, in flowing fluids) and ultradilute [33] (displaying true molecular independence, even in flows) regimes.

[53] The entrance length at a sudden contraction for creeping pressure driven flows is $\approx 0.63D$ [39], and has been found to be $\approx 0.57D$ for creeping electroosmotic flows [40]. Here we take $L_{Char} \approx 0.6D = 12\mu$m.

[54] Comparison of Fig. 5 and Fig. 7 clearly reveals the fluctuations in Fig. 7 are smaller. To clarify, this is due to the De numbers being an order of magnitude smaller in the latter figure as determined by the choice in polymer molecular weights used.

[55] In Ref. [30] it is noted that liquids are made high viscosity in single DNA polymer studies (e.g. [41]) by adding sugar, rendering the liquids highly sensitive to evaporation and temperature effects; this in turn can modify the relaxation time and possibly lead to incorrect thresholds. The 0.4 threshold observed versus the theoretical 0.5 threshold in Ref. [41] is within the possible error introduced in this manner [30].

[56] Once hard dried in place the transparent films are difficult to remove and require long hydration and careful cleaning to remove.