Electronic Supplementary Material (ESI) for Soft Matter

Supporting Information

Contrasting Nanoparticle Diffusion in Branched Polymer and Particulate Solutions: More than Just Volume Fraction.

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Figure S1.

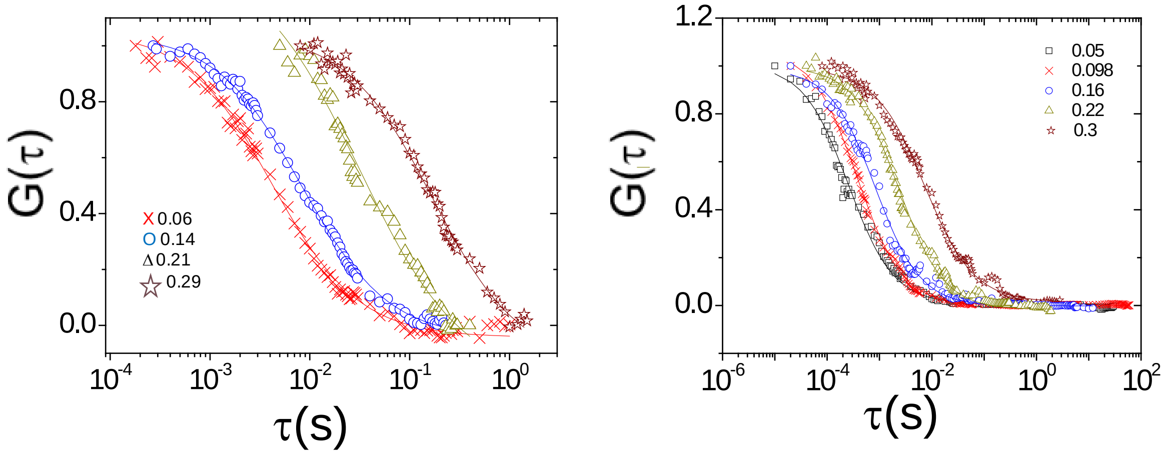

Figure S1. (Left) Diffusion of 10 nm AuNP particles in various volume fractions of dextran solutions. (Right) Diffusion of 2.5 nm AuNP particles in various volume fractions of Ludox particles. All fittings are with anomalous subdiffusion model. The fitting gives $\alpha \approx 1$ in all cases.

Figure S2.

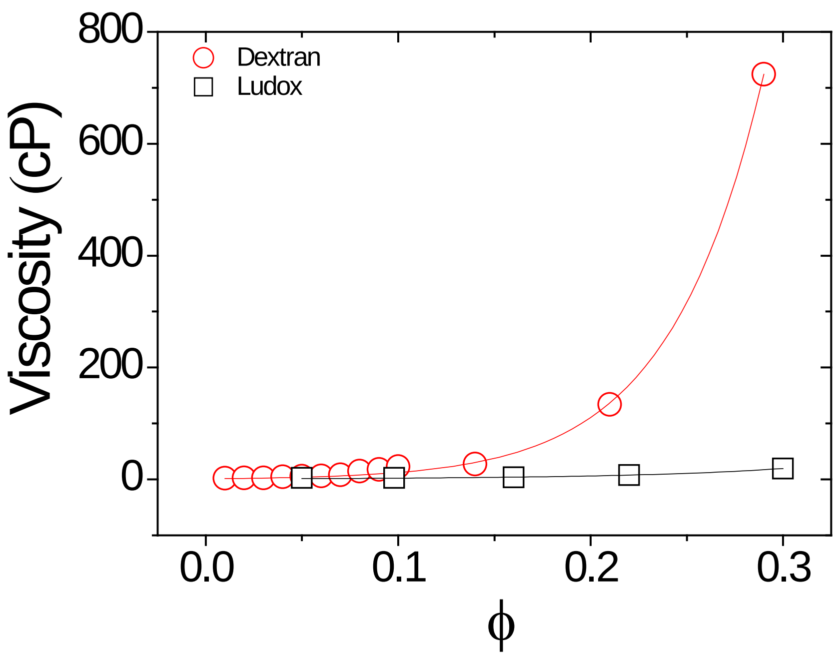

Figure S2. Viscosity as a function of volume fraction for dextran and Ludox solutions. The solid line is a stretched exponential fitting. $\eta = \eta_s \exp(a\phi^b)$, where η_s is the solvent (water) viscosity, 'a' and 'b' are adjustable parameters. For Ludox solution, a=12.7 and b=1.2 and for dextran solutions a=20.2 and b=0.9.

Table S1.

Phillies fit: $D = D_0 \exp(-\beta\phi^{\nu})$

Dextran

Particle radius, R_0 (nm)	β	ν
2.5	8.5±1.3	0.47±0.06
10	6.9±2.0	0.45±0.11

Ludox

Particle radius, R_0 (nm)	β	ν
2.5	10.9±1.3	1.01±0.05
10	11.2±2.9	1.08±0.12