Fast antibody fragment motion: flexible linkers act as entropic spring

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Supporting information

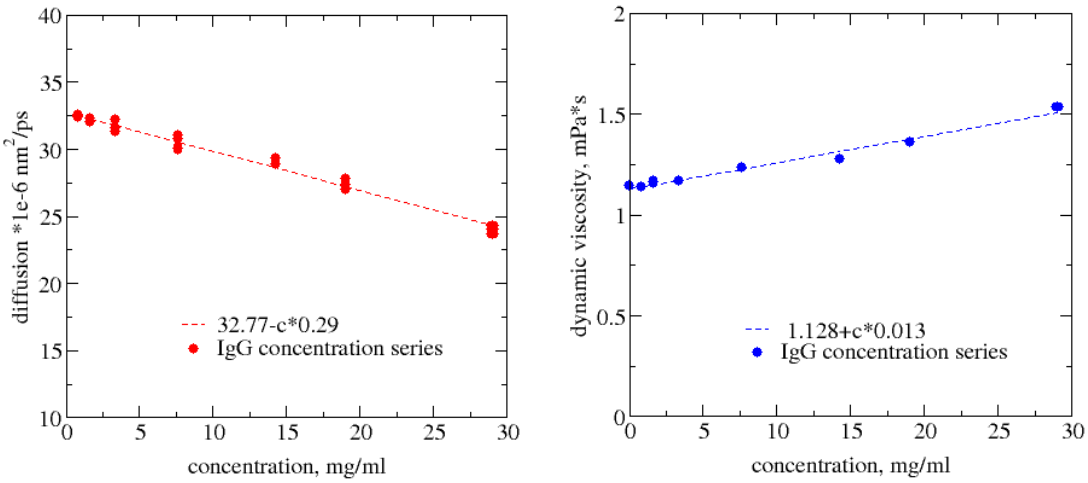

Figure S1. (a) Translational diffusion of IgG concentration series measured by DLS. Red dashed line is extrapolation to zero concentration. D_{T0} = 3.27e-7 cm^2/s. (b) Dynamic viscosities of IgG concentration series. Blue dashed line is extrapolation to zero concentration. η_0 fitted value of 1.128 mPa·s is comparable with η_0 experimentally measured for solvent solution at 25°C (zero IgG concentration) = 1.147 mPa·s.

Dynamic Light Scattering (DLS) experimental diffusion coefficients of IgG concentration series between 0.8 mg/ml and 29 mg/ml are show in Fig. S1a. By extrapolating to zero concentration, we obtained D_{T0} = 3.27e-7 cm^2/s.

The average translational hydrodynamic function H_T can be calculated from the intrinsic viscosity $[\eta]$ by: $H_T = 1-c[\eta]$. For this purpose, we measured the dynamic viscosities η for IgG concentration series between 0.8 mg/ml and 29 mg/ml. These are shown in Fig. S1b. The intrinsic viscosity of the highest IgG concentration 29 mg/ml was determined to value $[\eta] = (\eta-\eta_0)/\eta_0 c$ = 0.0116 where η_0 is the buffer measured viscosity (0.01147 Poise). For this value of the intrinsic viscosity, we calculate the average translational hydrodynamic function H_T = 0.66.