SUPPLEMENTARY MATERIAL

Dynamic Light Scattering (DLS)

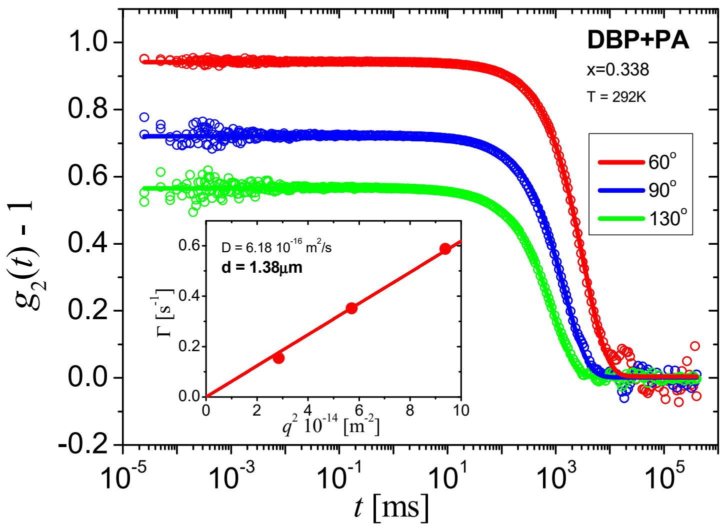

Fig. S1: The correlation functions $g_2(t)$-1 of the light scattering signal recorded at three different angles (θ,namely 60, 90 and 130 degrees). The inset shows the decay rate (Γ) as a function of squared scattering vector q^2

In order to check if any large structures exist in studied mixture the sample was tested with Dynamic Light Scattering (DLS) technique using Coherent Genesis MX SLM laser with wavelength λ=532nm as a probe and AVL-7002 correlator. As shown in fig. S1 the light scattering signal shows clear correlation. The correlation functions were analyzed assuming single exponential decay

$$g_2(t) - 1 = A\exp(-2\Gamma t)$$

where A is the an amplitude and Γ is the decay rate. The correlation functions were recorded at three different angles, θ (namely 60, 90 and 130 degrees), and it was found that the Γ scales with the square of scattering wave-vector, *q*, given by

$$q = (4\pi n/\lambda)\sin(\theta/2),$$

where *n* is refractive index of the sample (n=1.431).

This quadratic behavior (inset of fig. S1) is expected for translational diffusing species and allows to estimate the diffusion coefficient from the linear fit to the data using relation (see B. J. Berne and R. Pecora, Dynamic Light Scattering - J. Wiley & Sons - 1976).

$$\Gamma = Dq^2 .$$

Knowing the diffusion coefficient we used Stokes-Einstein (SE) relation in order to estimate the average diameter, *d*, of the structure

$$d = \frac{k_B T}{6\pi\eta D},$$

where k_B is Boltzman constant, T is the sample temperature (292K) and η is the viscosity (0.5Pa s). The estimated diameter d=1.38µm.

It should be remembered that our system is not a dilute dispersion of rigid particles in some carrier liquid of known viscosity for which SE relation was derived. The situation here is much more complex: any structure must be soft with size and shape dynamical in nature. In other words, the fact that we found correlated signal whose decay rate scales as q^2 does not prove that in our system is simple dispersion of 1.4µm particles. The diffusion found concerns rather the movements of the boundaries (walls) of the aggregates.