

Figure SI1. Examples of the time evolution of (a) the rms radius of gyration, $\langle R_g \rangle$, and (b) the normalized zero-angle intensity, $I(0)/I(0)_{t=0}$, during step changes of the volume average shear rate, $\langle G \rangle$, through a change in rotation speed, measured for a solid volume fraction equal to 2×10^{-5} and a primary particle diameter of 120 nm; (○) the volume average shear rate was changed in the following manner: $\langle G \rangle = 1097 - 517 - 287 - 106 - 1097 - 106 \text{ s}^{-1}$; (■) $\langle G \rangle = 287 \text{ s}^{-1}$; (○, ■) loop measurement, (◄) validation measurements (syringe).

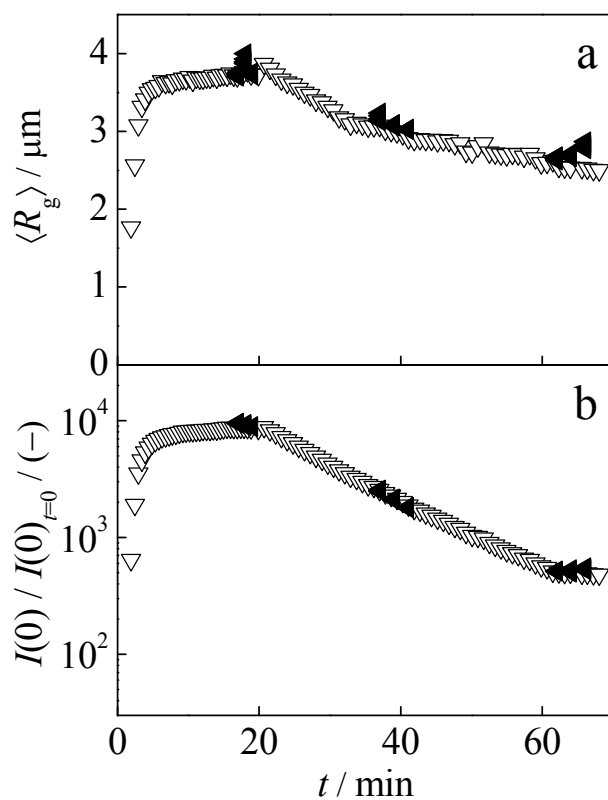


Figure SI2. Example of the time evolution of the (a) the rms radius of gyration, $\langle R_g \rangle$, and (b) the normalized zero-angle intensity, $I(0)/I(0)_{t=0}$, for a primary particle diameter of 120 nm during a dilution experiment, measured for a volume average shear rate equal to 869 s^{-1} and an initial solid volume fraction equal to 2×10^{-5} : (\circ) loop measurement, (\blacktriangle) validation measurements (syringe).

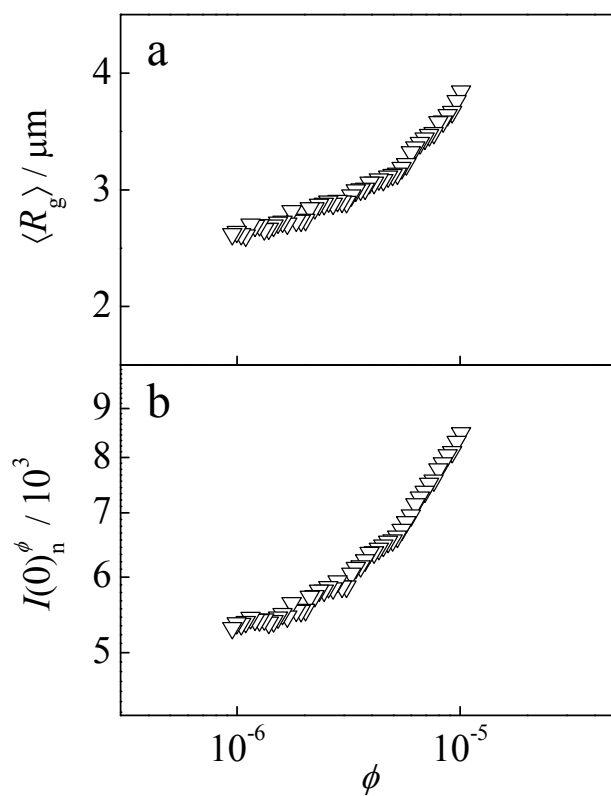


Figure SI3. (a) Rms radius of gyration, $\langle R_g \rangle$, and (b) ϕ -normalized zero-angle intensity, $I(0)_n^\phi$, as a function of the solid volume fraction, ϕ , for a primary particle diameter of 120 nm during a dilution experiment, measured for a volume average shear rate equal to 869 s^{-1} and an initial solid volume fraction equal to 2×10^{-5} .