Time-dependent increase in the aqueous solubility caused by the gradual disruption of hydrophobic aggregation

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A. The equations used for the dynamic light scattering.

$$g^{(2)}(\tau) = B (1+f|g^{(1)}(\tau)|^2)$$

 τ is lag time, $g^{(2)}(\tau)$, is the time correlation function of scattering light intensity, $g^{(1)}(\tau)$, is the electric field correlation function, B is the baseline, and *f* is an instrumental parameter.

$$g^{(1)}(\tau) = \int G(\Gamma) \exp(-\Gamma \tau) d\tau$$

 Γ is the decay time and G(Γ) is the decay time distribution. Diffusion coefficient, D, is obtained by the relation, D= Γq^2 , where q is scattering vector. Hydrodynamic radius, R_h, is

Supporting Information

obtained by Stoke-Einstein equation $D=k_bT/6\pi\eta R_h$. k_b is the Boltzmann constant, T is the absolute temperature, and η is the solvent viscosity. The polydispersity index (PDI), μ_2/Γ^2 , is obtained from cumulant analysis. μ_2 is the second order cumulant coefficient.

B. DLS data.



Figure S1. Correlation functions of P1 with different incubation time.



Figure S2. Average decay rate of P1 with different incubation time.