CORRECTIONS

Yunbo Li, Xudong Chen, Mingqiu Zhang, Weiang Luo, Jin Yang, and Fangming Zhu: Macromolecular Aggregation of Aqueous Polyacrylic Acid in the Presence of Surfactants Revealed by Resonance Rayleigh Scattering.

On page 4874, we erroneously stated the section starting from "In this study, we will further propose a simple formula to... as the macromolecules extend or contract." When we proposed the formula to express the relationship between the scattering intensity of RRS and the radius of hydromechanics of macromolecules (R_h), we mixed two relaxation times: one is related to the translational diffusion of particles or aggregates, measured in dynamic light scattering, and another is related to the relaxation of phonons. So the following section on page 4874 should be removed:

"In this study, we will further propose a simple formula to express the relationship between two extremes: the scattering intensity of RRS and the radius of hydromechanics of macromolecules (R_H). Provided in a fixed concentration of polymer solution, the diffusion theory is valid for polymer chains. According to the Stokes−Einstein equation[23]

$$R_H = \frac{k_B T}{6\pi\eta D} \tag{5}$$

where k_B is the Boltzmann constant, T is the absolute temperature, η is the viscosity of the medium, and D is the diffusion coefficient. The relaxation time is[23]

$$\tau = (2Dq^2)^{-1} \tag{6}$$

where $q = 4\pi[\sin(\theta/2)]/\lambda_m$ and θ is the scattering angle.

In addition, for the scattering by particles or impurities, the relaxation time τ is related to the scattering cross section as[31]

$$\tau = \frac{1}{cvC_{sca}} \tag{7}$$

where c denotes the concentration and v is the velocity. Therefore, $C_{sca} = 2Dq^2/cv$.

In order to easily deal with these different scattering, the intensity of rescattering is converted to the intensity of common scattering. The turbidity of polymer solution (τ_c) can be proposed as followed:[32]

$$\begin{aligned}\tau_c &= N'C \\ &= N'\sqrt{1+k^2(r)}C_{sca} \\ &= N'\sqrt{1+k^2(r)}\cdot(2q^2)\cdot D/cv \\ &= \frac{N'\sqrt{1+k^2(r)}(2q^2)k_B T}{6\pi c\eta v R_H} \\ &= \frac{K\sqrt{1+k^2(r)}}{R_H}\end{aligned} \tag{8}$$

where C denotes the scattering cross section and rescattering scattering cross section because of the absorption, $K = N'(2q^2)k_B T/6\pi c\eta v$, and $k(r)$ is the ratio of rescattering scattering cross section and the scattering cross section.[23,29,30]

It can be found that the R_H can indicate the macromolecular chain extension when the intensity of RRS decreases, and it is noted that R_H shows the macromolecular chain contraction as the intensity increases. Therefore, RRS can be used to monitor the change of geometry sizes of macromolecules chains from the RRS intensity variances as the macromolecules extend or contract."

However, the conclusion reached in our paper and all the data presented are unaffected by this error. We apologize for this mistake and regret any inconvenience this may have caused.

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