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Supporting Information

Preparation, stability and rheology of polyacrylamide / pristine layered double hydroxide nanocomposites

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The intrinsic viscosity, [η], of the prepared PAM was measured at 30.00 ± 0.05 ^{o}C, according to the standard of GB 12005.1-89. The average molecular weight was calculated by the standard GB/T 12005.10-92. The relative viscosity (ηr) is described as below:

$$\eta r = t / t0 \qquad (1)$$

wherein t_0 and t stand for the flow time for pure solvent of aqueous sodium chloride (NaCl) solution with concentration of 1.00 mol/L and the measured PAM solution through Ullman viscometer, respectively. The [η] was determined by dilution method. And the viscosity average molecular weight (M) was calculated by equation (2).

$$M = 802\ [\eta]^{1.25} \qquad (2)$$

Figure 1S shows the dependence of specific viscosity (ηsp) or lnηr on the ratio (Cr) of the diluted concentration to the initial PAM solution concentration (C0), where ηsp = ηr-1. According to the two intercepts of the fitting lines, the average value (H) can be obtained. Then, [η] is determined to be 567.5 mL/g, since [η] equals H/C0. The corresponding average molecular weight can be calculated to be 2.22×10^6, according to equation (2).

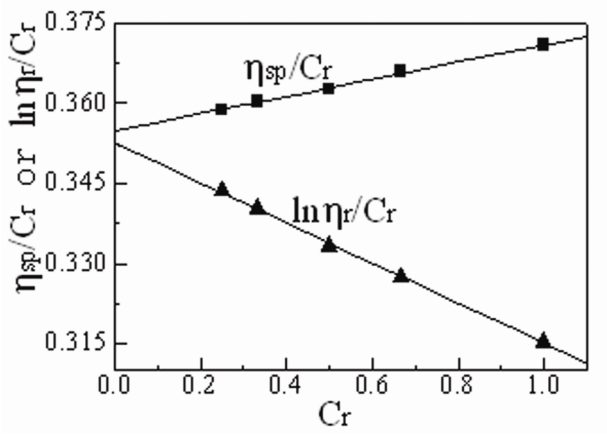

Figure 1S Dependence of η_{sp}/Cr or $ln\eta r/Cr$ on Cr for calculation of [η], wherein η_{sp} = ηr-1, and $Cr = C / C_0$.