Electronic Supplementary Information

Dynamics of Single Polyelectrolyte Chain in Salt-free Dilute Solutions Investigated by Analytical Ultracentrifugation

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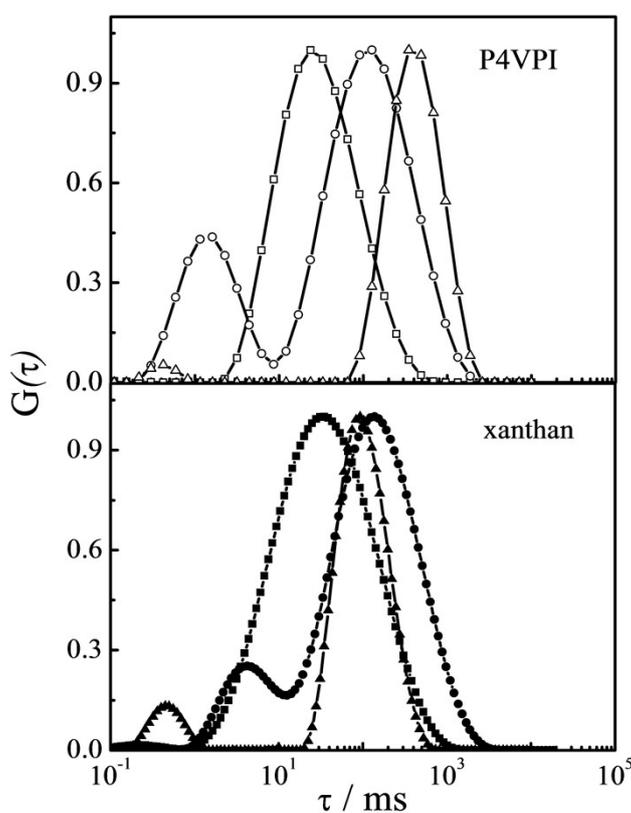

Fig. S1. Characteristic relaxation time distributions ($G(\tau)$) of xanthan and P4VPI in salt-free aqueous solutions obtained by dynamic laser light scattering (DLS) at $\theta=15°$. The polyelectrolyte concentrations (C_p) are 0.02 mg/mL (square), 0.10 mg/mL (circle) and 1.00 mg/mL (triangle), respectively.
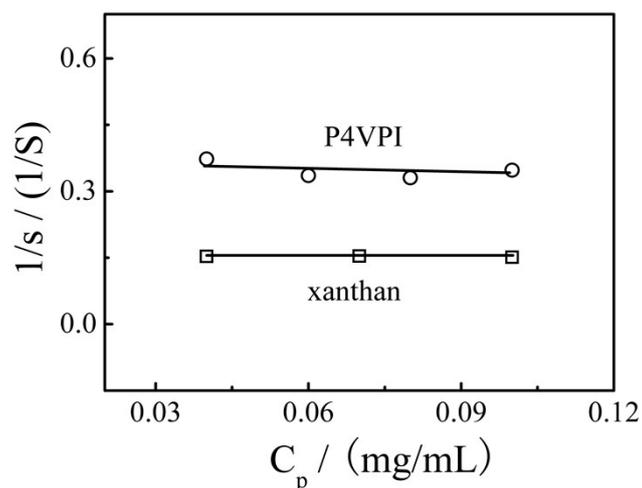
Fig. S2. Concentration (C_p) dependence of the reciprocal apparent sedimentation coefficients (1/s) of xanthan or P4VPI in 0.01 M NaCl solutions. The solid lines are fit by using eq. 5.
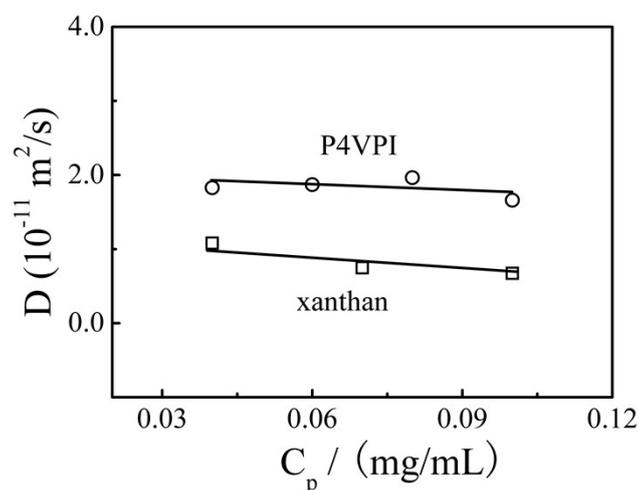

Fig. S3. Concentration (C_p) of the apparent diffusion coefficient (D) of xanthan or P4VPI in 0.01 M NaCl solutions below 0.1 mg/ml. The solid lines are fit by using eq. 6.
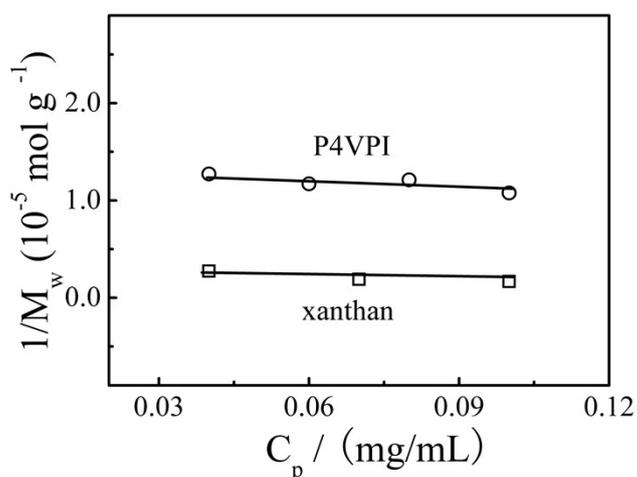

Fig. S4. Concentration (C_p) of the apparent reciprocal molecular weight (1/M_w) of xanthan or P4VPI in 0.01 M NaCl solutions. The solid lines are fit by using eq. 12.