Electronic Supplementary Material (ESI) for Soft Matter.
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Interfacial Adsorption of pH-Responsive Polymers and Nanoparticles

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Supplementary Table

Table S1. DPD interaction Parameters between Different Components (in Units of k_BT/r_c)

	water	oil	core	polyelectrolyte	counterion	salt
water	**25**	**100**	**75**	**25**	**25**	**25**
oil		**25**	**25**	**45**	**100**	**100**
core			**25**	**75**	**75**	**75**
polyelectrolyte				**25**	**25**	**25**
counterion					**25**	**25**
salt						**25**

Supplementary Figures

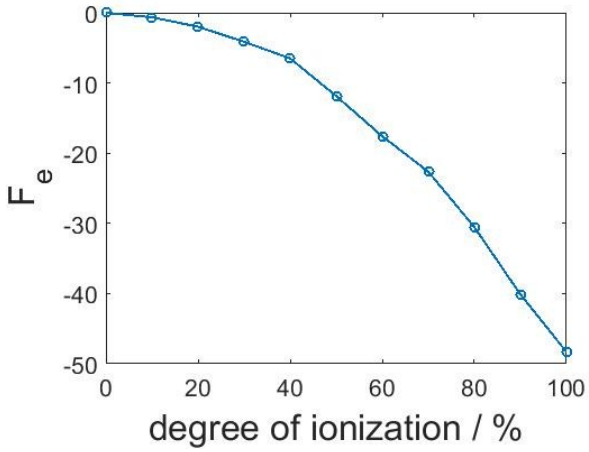

Figure S1. Instantaneous total elecrostatic force applied on the linear polyelectrolyte in the direction perpendicular to the water-oil interface as a function of the degree of ionization of the polyelectrolyte. The polymer is placed parallel to the interface at a distance of 0.175 DPD length units.

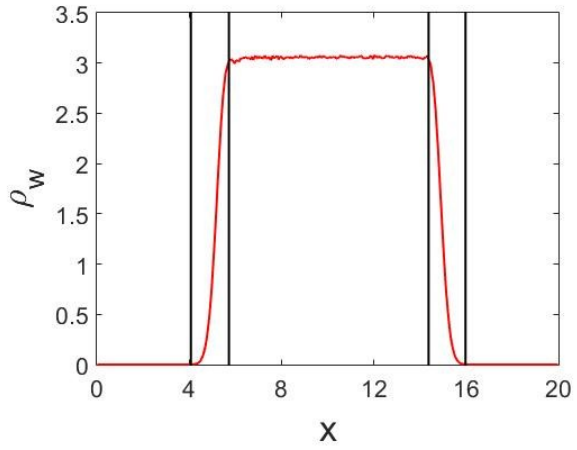

Figure S2. Density profile of water in the *x* direction. The four black solid lines define the positions and widths of interfacial regions for measuring the residence time.

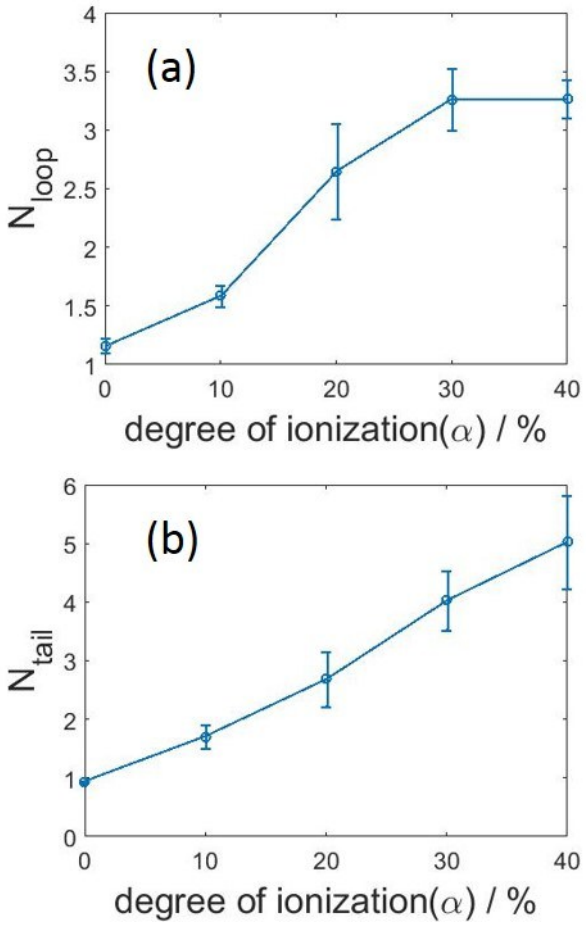

Figure S3. (a) Time-averaged number of beads in the loop segments as a function of degree of ionization (b) Time-averaged number of beads in the tail segments as a function of degree of ionization. The error bars in (a) and (b) represent the variations among four independent runs. The length of polyelectrolytes is $L_c = 20$.

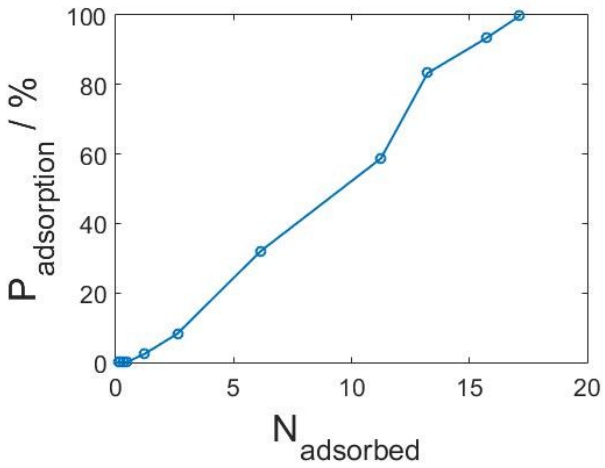

Figure S4. Probability of adsorption at the interface as a function of number of adsorbed beads for individual polyelectrolytes under different degrees of ionization. The length of polyelectrolytes in these simulations is $L_c = 20$.

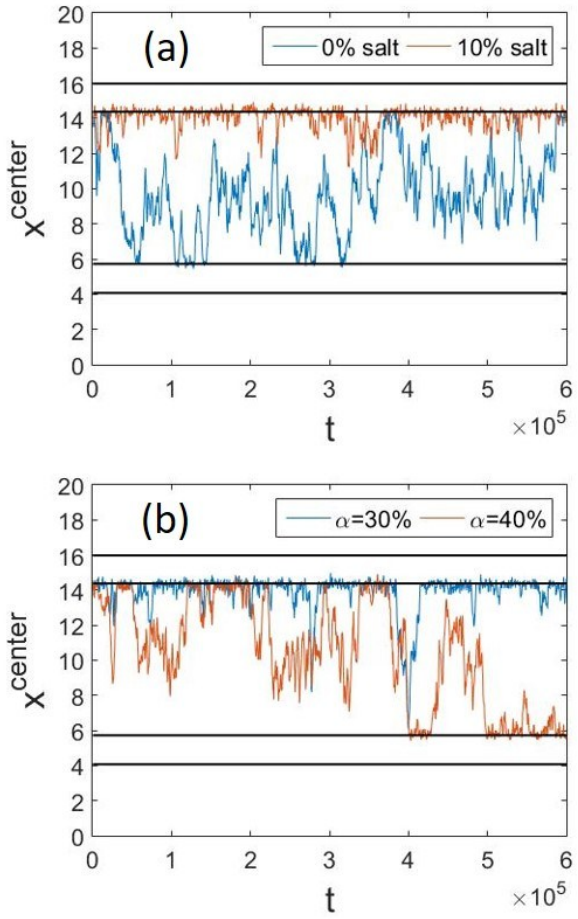

Figure S5. Time evolution of the *x* positions of the center of mass of the linear polyelectrolytes for the salt-free system and the system with 10% salt concentration. The degrees of ionization of polyelectrolytes are (a) 50 % and (b) 80 %.

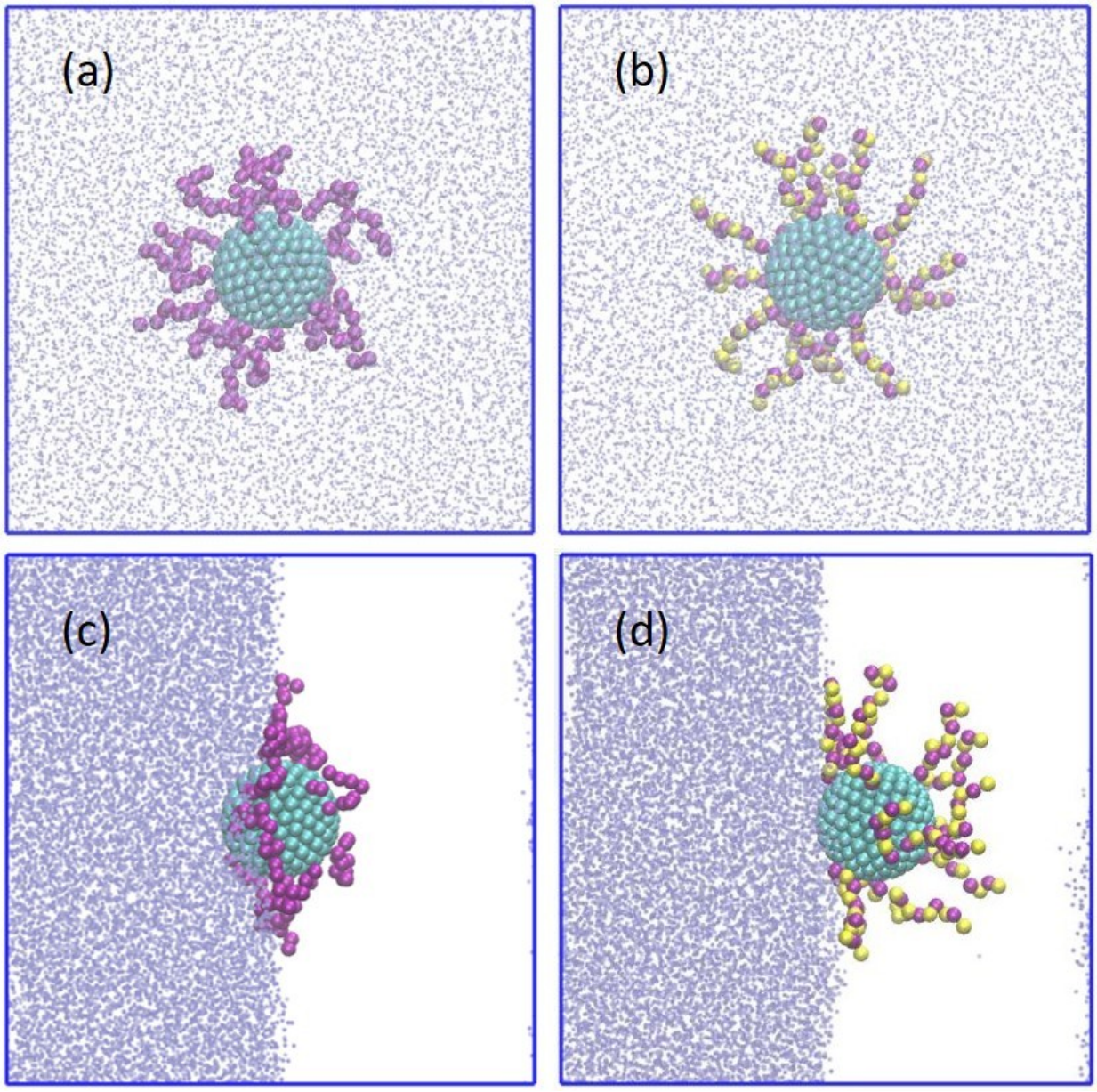

Figure S6. (a) Top view and (b) side view of the PNP with α = 0% adsorbed at the water-oil interface. (c) Top view and (d) side view of the PNP with α = 50% adsorbed at the water-oil interface. The length of polyelectrolytes grafted is 10.