

Abstract Submitted  
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**Counterion adsorption and desorption rate of a charged macromolecule**<sup>1</sup> YU SHI, JINGFA YANG, JIANG ZHAO, Institute of Chemistry, Chinese Academy of Sciences — The rate constant of counterion adsorption to and desorption from a synthetic polyelectrolyte, polystyrene sulfonate (PSS-), is measured in aqueous solution by single molecule fluorescence spectroscopy. The results show that both adsorption and desorption rate of counterions have strong dependence on polymer concentration, salt concentration as well as the molecular weight of polyelectrolytes. The results clearly demonstrate that the contribution of electrostatic interaction and the translational entropy to the distribution of counterions of a polyelectrolyte molecule. The information is helpful to the understanding of polyelectrolyte physics.

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