

Abstract Submitted
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Influence of Ionic Strength on Chain Dimension in Polyelectrolyte Brushes at Aqueous Solution Interface¹ KOJI MITAMURA, MOTOYASU KOBAYASHI, JST, ERATO & Kyushu Univ., MAYUMI TERADA, JST, ERATO, NORIFUMI L. YAMADA, KEK, ATSUSHI TAKAHARA, JST, ERATO & Kyushu Univ. — Polyelectrolyte brush on a solid surface in water generally has a swollen structure and provides high lubricity on the surface. Previously, we have reported that friction force on a cationic poly(2-(methacryloyloxy)ethyltrimethyl-ammonium chloride) (PMTAC) brush in an aqueous medium increased with NaCl concentration, of which reason was not clear but probably due to a shrinkage of the swollen brush with the addition of salt. In this study, we investigated the salt concentration dependency of the chain dimension in PMTAC brush at the aqueous solution interfaces by neutron reflectometry. We also estimated how polydispersity in molecular weight of the brush influences the chain dimension.

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