Abstract Submitted
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Forces of Interaction between Polyelectrolyte Brushes in the Presence of Multivalent Ions and Cationic Surfactant[1] MATTHEW TIRRELL, Univ. of California, Santa Barbara, FENG LI, Univ. of California, Santa Barbara, AKIRA ISHIKUBO, BIOMOLECULAR INTERFACES LABORATORY TEAM — The surface forces apparatus has been used to measure the forces between polystyrene sulfonate (PSS) brushes, tethered to mica surfaces via hydrophobic poly-t-butylstyrene anchoring blocks, immersed in media containing various concentrations of di- and tri-valent salt, as well as in micellar solutions of the cationic surfactant, CTAB. All of these media produce strong attractive forces between the PSS brushes under some conditions, but with different patterns for the appearance of these attractions as functions of the concentrations of the added ions. These patterns have been studied in detail experimentally. Generally, attractions appear at low concentrations of added salt or surfactant and can be made to disappear at higher concentrations. The interplay between salt and CTAB has some interesting feature in the case of added cationic surfactant.

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