

Abstract Submitted
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Layer Thickness and Charge Compensation of Polyelectrolyte Multilayers¹ QIANG WANG, Department of Chemical and Biological Engineering, Colorado State University — Using a continuum self-consistent field theory, we have modeled the sequential process of layer-by-layer assembly of flexible polyelectrolytes on flat surfaces as a series of kinetically trapped states. Up to 60 depositions of oppositely charged polyelectrolytes (A and B) are performed, each followed by a washing step. Here we focus on the effects of polymer charge fractions, bulk salt concentrations, solvent qualities for A and B, and their incompatibility on the layer thickness and charge compensation of the polyelectrolyte multilayer. We also compare our modeling with available experimental measurements.

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