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Simulations of comb polyelectrolytes ZHAOYANG OU, M. MUTHUKUMAR, University of Massachusetts, Amherst — Using Langevin dynamics, we have characterized the effects on backbone stretching by systematically varying grafting density, grafted-chain length, and backbone length. Chain persistence length, conformational asphericity, and counterion and monomer density profiles were determined. We have found that increasing grafting density leads to increases in both chain persistence length and overall asphericity. Increasing the length of side chains also creates a stiffer backbone, but overall asphericity is decreased. Simulation results will be compared with theory.

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