

Abstract Submitted
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Electrohydrodynamics

of DNA in confinement JONATHAN K. WHITMER, Department of Chemical and Biological Engineering, University of Wisconsin–Madison, JUAN P. HERNANDEZ-ORTIZ, Dept. of Materials, Universidad Nacional de Columbia, JUAN J. DE PABLO, Department of Chemical and Biological Engineering, University of Wisconsin–Madison — New methods of DNA sequencing aim to exploit the direct reading of individual DNA molecules. Such methods require one be able to elongate DNA molecules so that individual base-pairs may be accessed. In turn, this requires a detailed understanding of the mechanical and thermodynamic behavior of DNA, so that external manipulation and confinement successfully stretch the molecule. We aim to study the interplay between electrostatic and hydrodynamic interactions on the conformations of coarse-grained DNA through use of computer simulations with the general geometry Ewald-like method (GGEM), both in bulk and under geometric confinement.

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