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Title:	Unzipping DNA by a periodic force: Hysteresis loops, dynamical order parameter, correlations, and equilibrium curves
Authors:	Kalyan, M.S. (/jspui/browse?type=author&value=Kalyan%2C+M.S.) Kapri, R. (/jspui/browse?type=author&value=Kapri%2C+R.)
Keywords:	Amplitude Simulations Autocorrelations
Issue Date:	2019
Citation:	Journal of Chemical Physics, 150(22).
Abstract:	The unzipping of a double stranded DNA whose ends are subjected to a time dependent periodic force with frequency ω and amplitude G is studied using Monte Carlo simulations. We obtain the dynamical order parameter, Q , defined as the time average extension between the end monomers of two strands of the DNA over a period, and its probability distributions $P(Q)$ at various force amplitudes and frequencies. We also study the time autocorrelations of extension and the dynamical order parameter for various chain lengths. The equilibrium force-distance isotherms were also obtained at various frequencies by using nonequilibrium work measurements.
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