

Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Mechanically unzipping dsDNA with built-in sequence inhomogeneities and bound proteins ABHIJIT SARKAR, Virginia State University — We theoretically analyze the force signal from unzipping dsDNA with bound proteins and sequence inhomogeneities. Two different force traces are obtained determined by binding and sequence parameters. Sawtooth force curves, as observed in experiments, are found for short enough designed sequences and binding sites. Longer inhomogeneities lead to force plateaus which correspond to gradual, piece-meal, unzipping of the variant stretch of DNA. We generalize our model to allow comparisons to recent experiments on unzipping decorated DNAs.

Abhijit Sarkar
Virginia State University

Date submitted: 26 Nov 2007

Electronic form version 1.4