Electronic Supplementary Material (ESI) for Soft Matter.

Supplementay Text: Force induced DNA melting in presence of attractive surface

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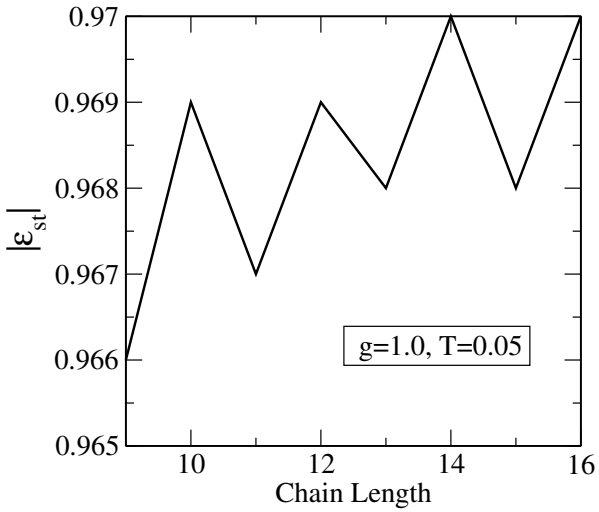
In order to study the effect of dsDNA length on adsorption-induced unzipping, we have plotted the adsorption energy where unzipping takes place (ϵ_{st}) upon application of force on strand-II, with the length of the chain. The figure clearly demonstrates a strong dependence of the adsorption energy (ϵ_{st}) on the length of the dsDNA chain. As the chain length increases, the magnitude of ϵ_{st} also increases, approaching a value of 1.



Sl 1: Variation of surface adsorption energy where unzipping takes place ($|\epsilon_{st}|$) as a function of chain length at $g = 1.0$ and $T = 0.05$. The zig-zag pattern is due to the odd-even size effect of the finite chain.