

# **Biophysics of Macromolecules**

## **SS 2017**

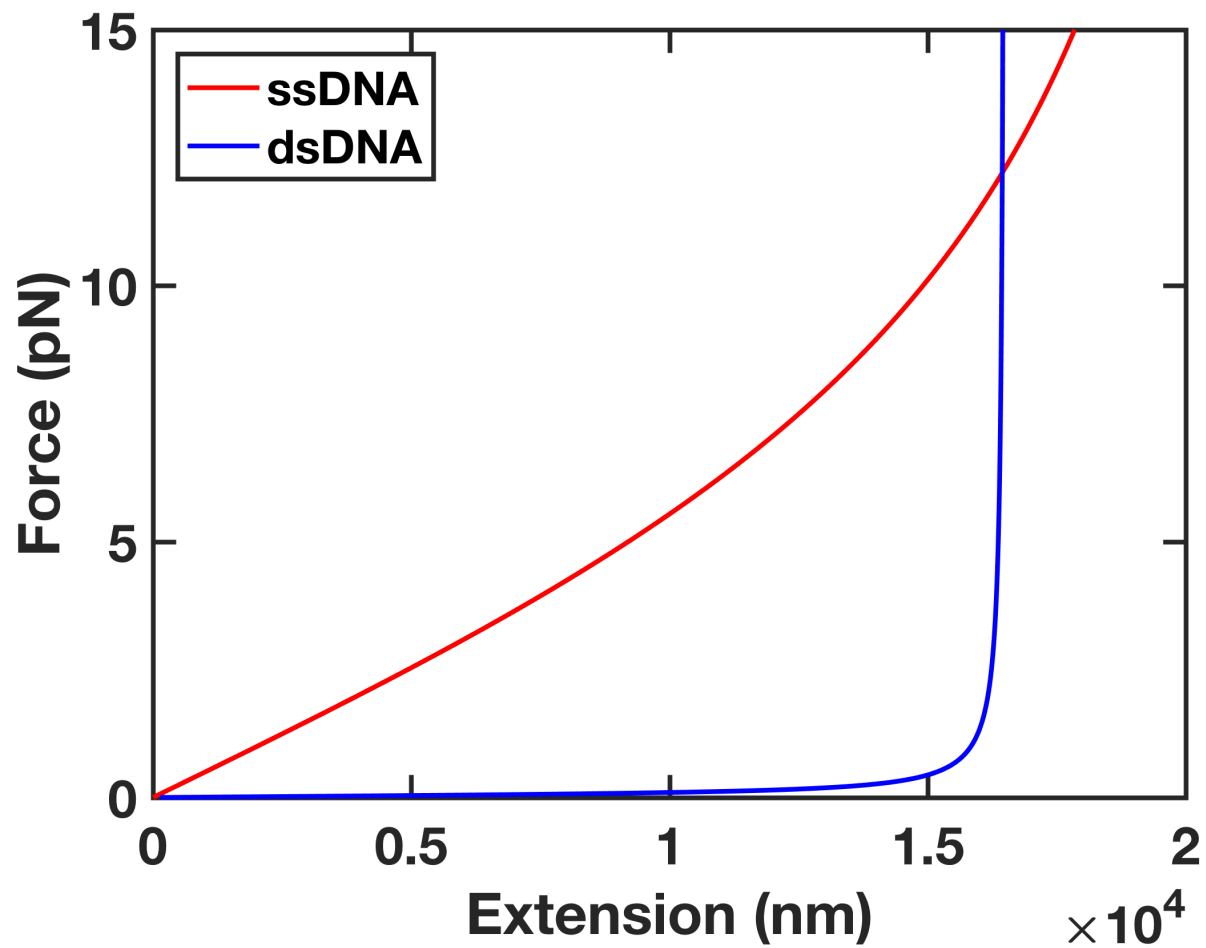
Solutions for the final exam:

Additional plots

# Problem 3e

## FJC for ss and dsDNA

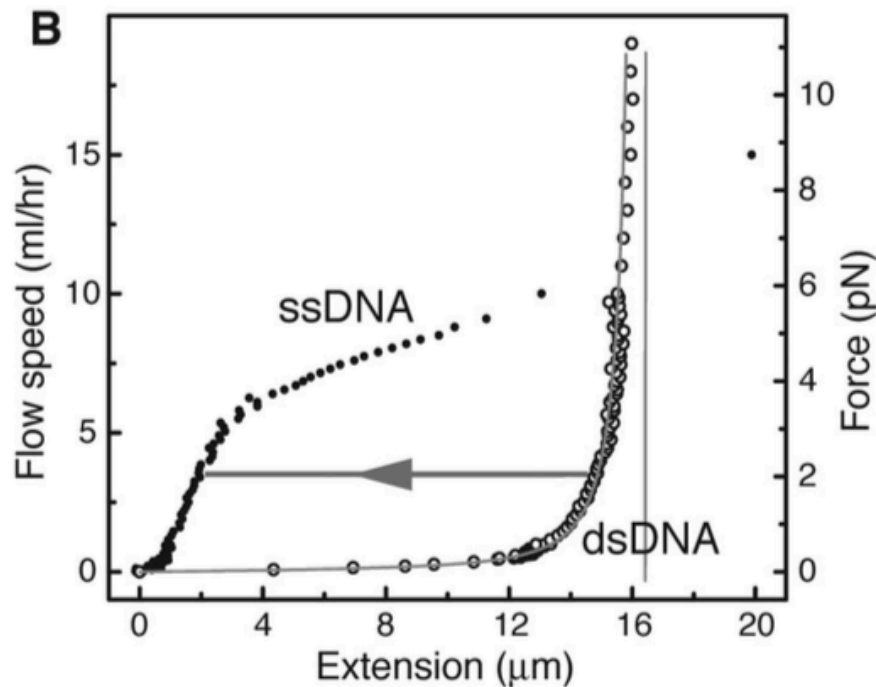
The plot shows the FJC model for ss and dsDNA with the parameters given in the problem.



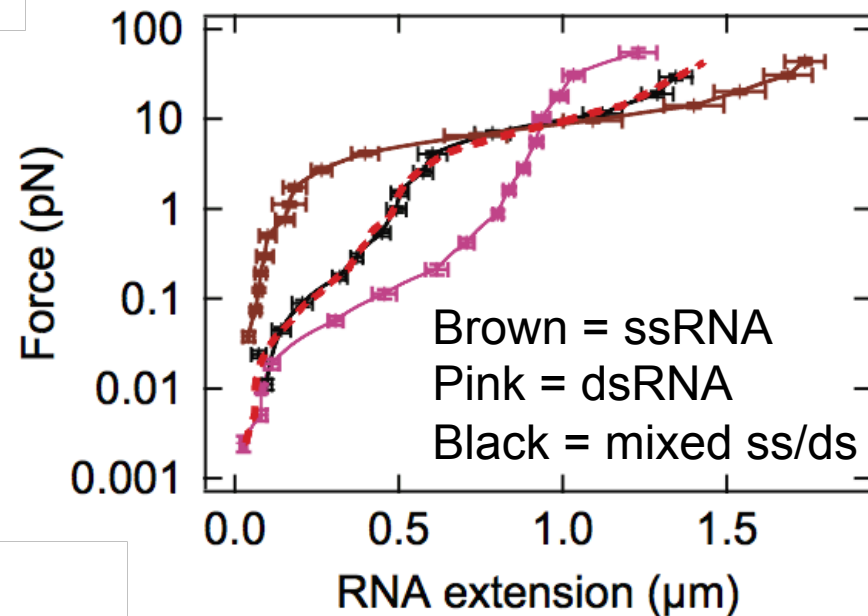
# Problem 3e

## Force-extension for ss and dsDNA

You can compare the simplified model in this problem to published data on the extension of ss and dsDNA (and similarly RNA). The length difference is in particular used to monitor polymerase reactions.



Van Oijen, *et al.*, *Science* (2003)



Dulin, *et al.*, *Cell Rep.* (2015)

# Problem 4

## Optimizing Michaelis-Menten

The plots below show the Michaelis-Menten relation for the initial parameters of the model given in the problem. The dashed line shows the initial substrate concentration = 10 mM.

