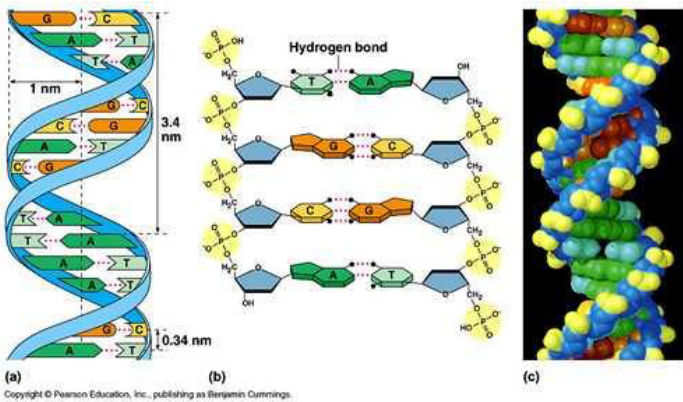


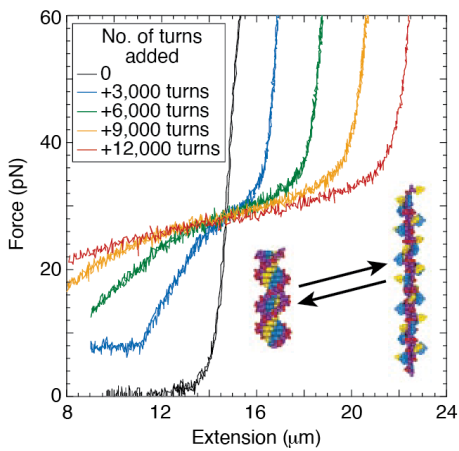
HW01: Stiffness of a DNA Molecule

Length Scales



Unit cell = 3.4 nm

The measurement



Problem: How effectively can you use the data to obtain a value for k_{unit} ?

- Write 25 words about the shape of these P,u curve, where P is the force and u is the extension
- Which section of the curve represents linear elastic deformation
- How would you apply the equation $k_{unit} = Nk_{chain}$ to these data.

Hint: consider making a plot of N vs. k_{chain} or perhaps N vs. $\frac{1}{k_{chain}}$.

•Give a critical assessment of your analysis.