Stellingen

behorende bij het proefschrift

"DNA mechanics inside plectonemes, nucleosomes and chromatin fibers"

1. Shifting nucleosome stacks out of place, allows to decrease the linker energy by almost an order of magnitude. *(Chapter 2)*

2. The stacking energy between nucleosomes stabilizes the chromatin fiber. *(Chapter 2)*

3. Nucleosome unwrapping is eased by inducing positive torques on the DNA. *(Chapter 3)*

4. The formation of more than one plectoneme when applying torque on DNA, is influenced by the salt concentration of the solution. *(Chapter 4)*

5. The compaction of DNA in our cells is comparable to the way we fold text into lines, lines into pages and pages into books.

6. The shape of a DNA molecule can, under certain conditions, be found through the solution of the equation of motion of a spinning top.

7. Using the geometrical shape of the nucleosome and assuming that they are densely packed, it is possible to condense almost all the models proposed about chromatin in one.

8. The DNA bending modulus is influenced by the ionic strength of the solution.

9. In Python, it is easier to ask for forgiveness than permission.

10. All definitions are true. However, some are smart, some not.

11. The difficulty of mechanical problems has a discontinuous nature.