

THE FLEXIBILITY OF SMALL-LENGTH DNA Arjan van der Vaart, Department of Chemistry, University of South Florida, 4202 E Fowler Ave CHE 205, Tampa, FL 33620

The flexibility of long DNA is well-described by the worm-like chain model, but at small-length scales this model breaks down. Moreover, several experiments suggest that short DNA has an increased flexibility. We performed computer simulations of short DNA strands to assess its flexibility. Our results indicate that the stiffness of DNA decreases in a sequence-dependent manner upon strong bending. We will also show how a protein affects the DNA bending free energy.