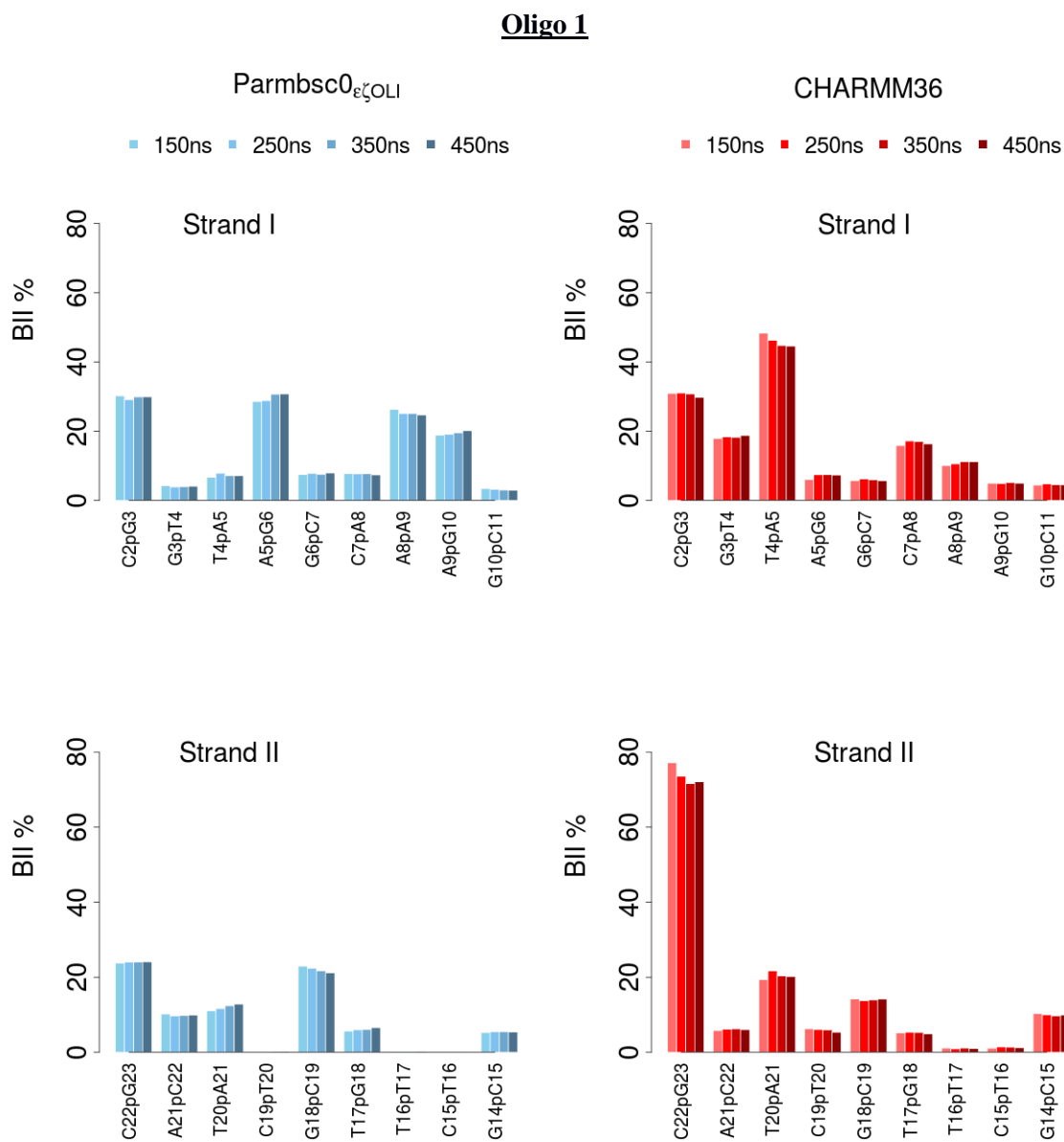
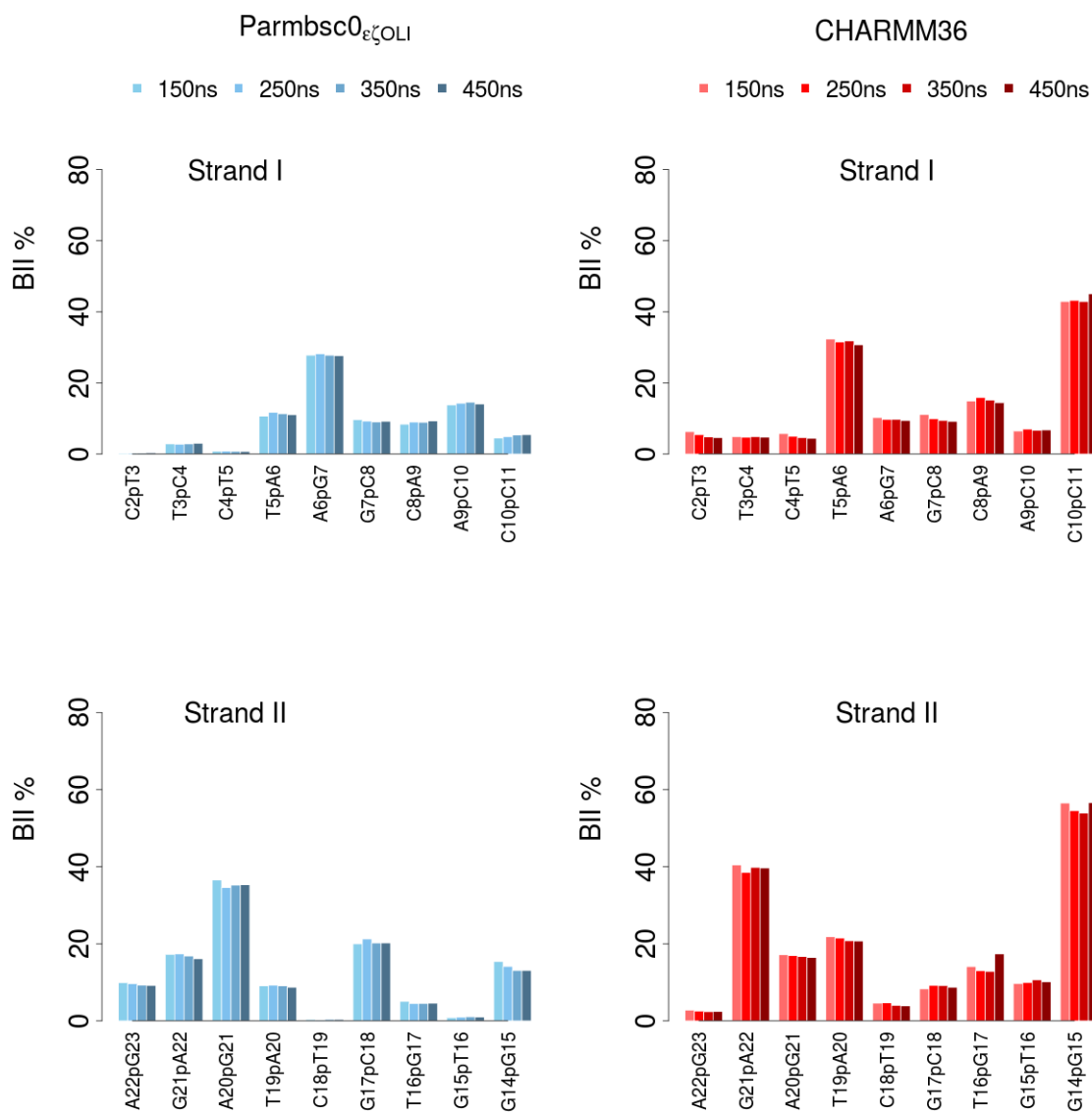


**S2 Fig.** Convergence of BII percentages in 450ns and 1 $\mu$ s MD simulations.



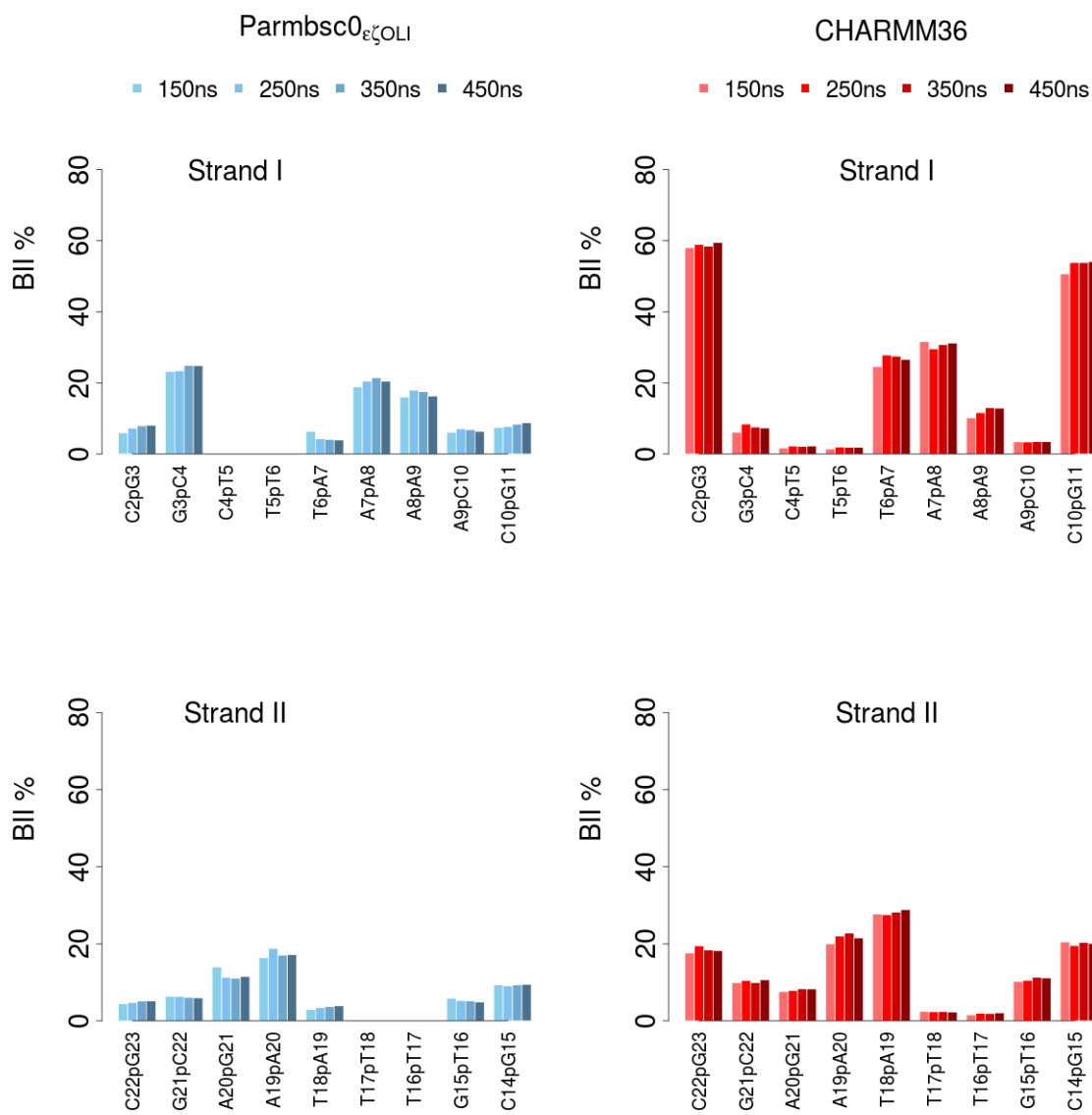
Cumulative BII percentages (BII%) of the dinucleotide steps were extracted from trajectories carried out with either Parmbsc0<sub>OL1</sub> (left, blue) or CHARMM36 (right, red) force fields. BII% were calculated for increasing length of MDs. The BII% were clearly not stabilized during the first 50ns, which are not considered in this analysis. To help identification of the facing steps, sequence in Strand 1 is shown from 5' to 3', while sequence in Strand 2 is shown from 3' to 5'.

## Oligo 2



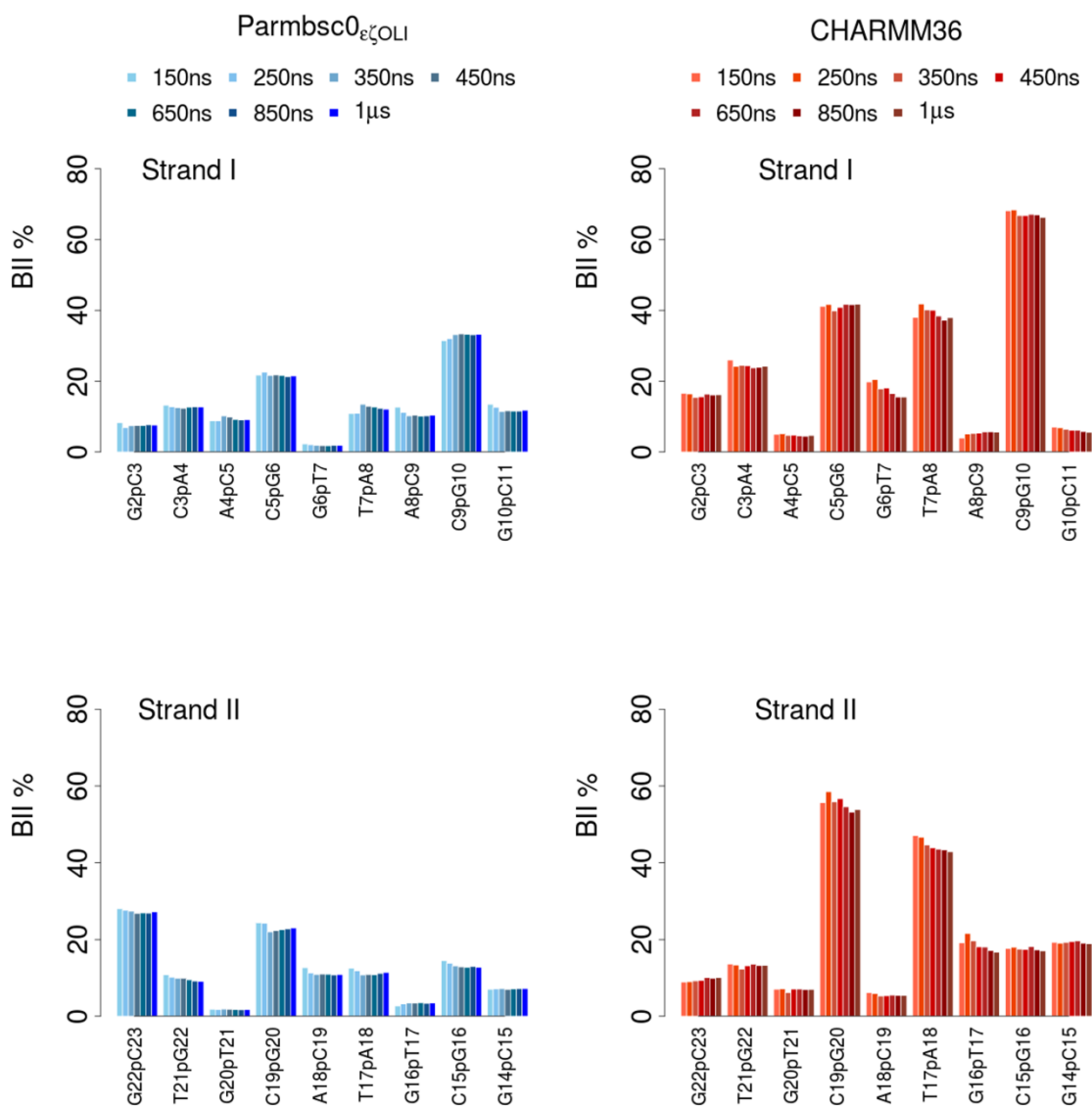
Cumulative BII percentages (BII%) of the dinucleotide steps were extracted from trajectories carried out with either Parmbsc0<sub>OL1</sub> (left, blue) or CHArMM36 (right, red) force fields. BII% were calculated for increasing length of MDs. The BII% were clearly not stabilized during the first 50ns, which are not considered in this analysis. To help identification of the facing steps, sequence in Strand 1 is shown from 5' to 3', while sequence in Strand 2 is shown from 3' to 5'.

### Oligo 3



Cumulative BII percentages (BII%) of the dinucleotide steps were extracted from trajectories carried out with either Parmbsc0<sub>εζOLI</sub> (left, blue) or CHARMM36 (right, red) force fields. BII% were calculated for increasing length of MDs. The BII% were clearly not stabilized during the first 50ns, which are not considered in this analysis. To help identification of the facing steps, sequence in Strand 1 is shown from 5' to 3', while sequence in Strand 2 is shown from 3' to 5'.

## Oligo 4



Cumulative BII percentages (BII%) of the dinucleotide steps were extracted from trajectories carried out with either Parmbsc0<sub>εζOLI</sub> (left, blue) or CHARMM36 (right, red) force fields. BII% were calculated for increasing length of MDs. The BII% were clearly not stabilized during the first 50ns, which are not considered in this analysis. To help identification of the facing steps, sequence in Strand 1 is shown from 5' to 3', while sequence in Strand 2 is shown from 3' to 5'.

### **From: Simulations meet experiment to reveal new insights into DNA intrinsic mechanics**

Akli Ben Imeddourene, Ahmad Elbahnsi, Marc Gu eroult, Christophe Oguey, Nicolas Foloppe, and Brigitte Hartmann