**Supporting information for**

# Driving knots on DNA with AC/DC electric fields: topological friction and memory effects

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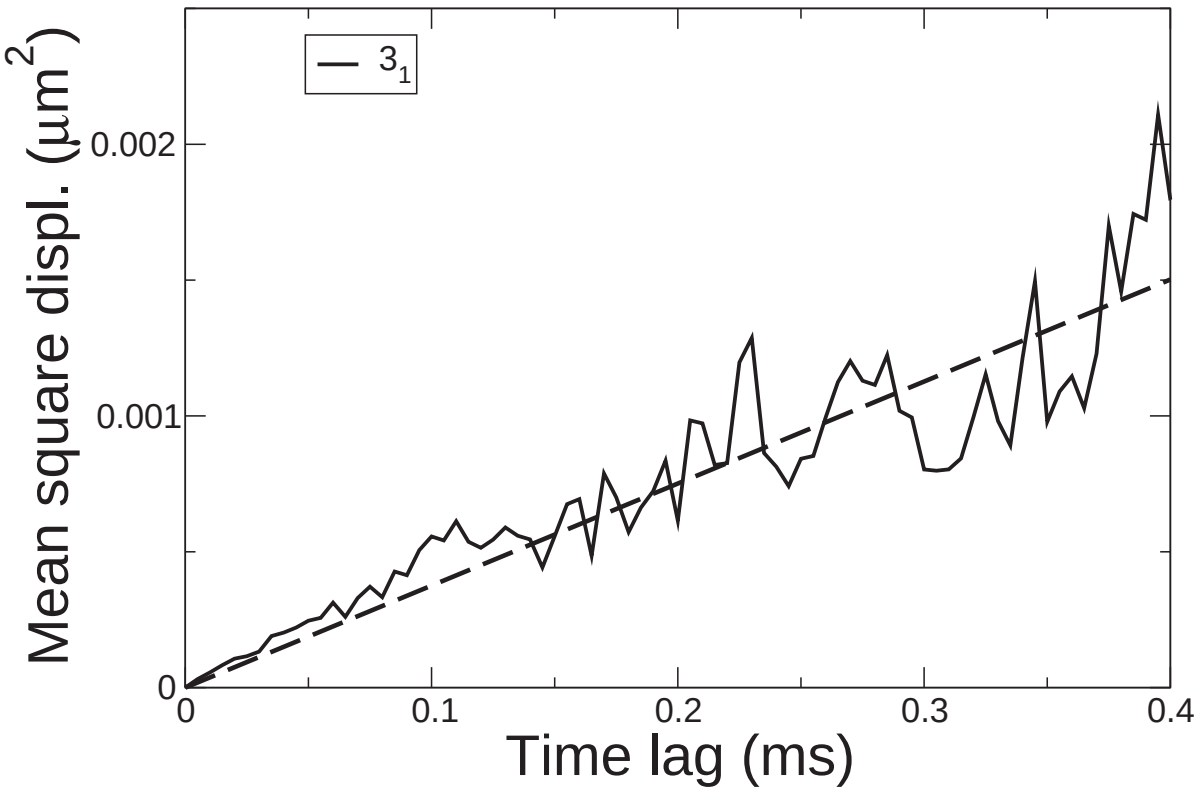


**Fig. 1 Time dependence of the mean-square displacement of the knot along the chain**. The panel refers to a model polyelectrolyte chain of $L_c = 375$ nm subject to a stretching force $F_s = 10$ pN. The chain is surrounded by a charge-screening cloud of explicit counterions at 1.4 mM concentration. The dashed line indicates the linear best fitting curve of the data.

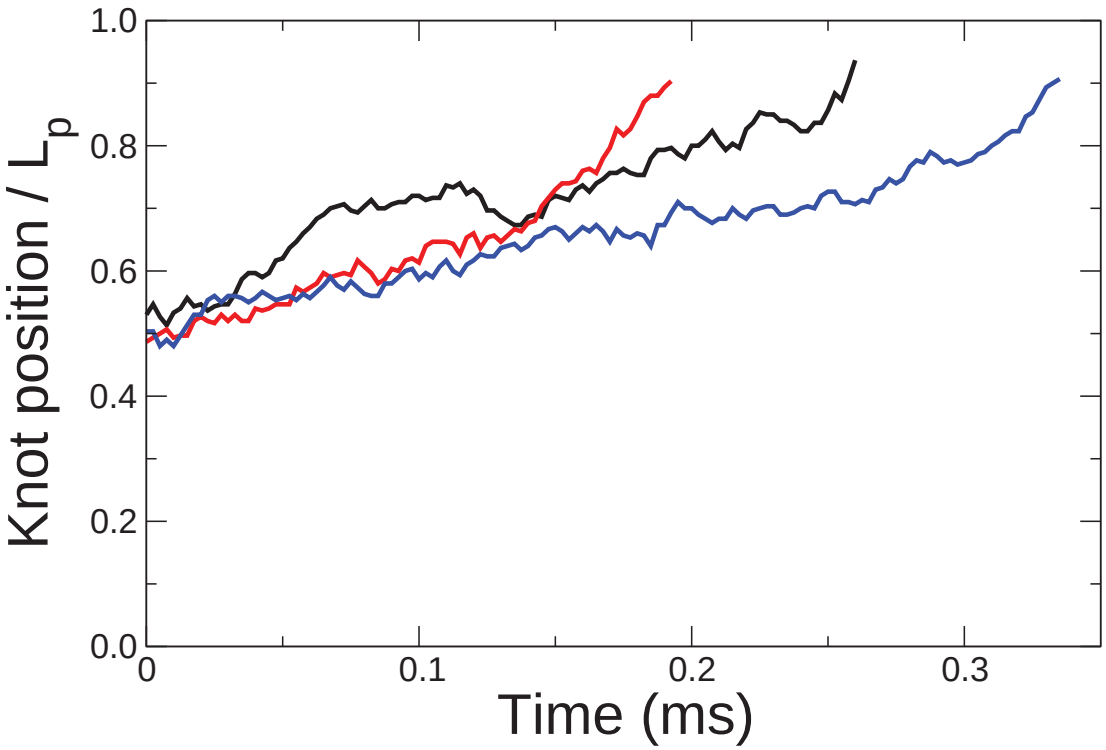


**Fig. 2 Effect of a DC electric field on a trefoil knotted tensioned polyelectrolyte chain**. At time t=0, a DC field producing a total dragging force of 20pN is switched on. The knotted region slides along the chain contour in the direction of the applied force.