In conditions (F ~ 1 pN) where single binding /unbinding events can rarely be observed we could measure the average time in the on and of state (<τon>, <τoff>). From the ratio of these average times, we can deduce [[1](#_ENREF_1)] the free energy of nucleation at zero force ∆G0:

** (2)

From the data of Figure S3B we ﬁnd that ΔG0 ~ 26pN nm = 6.3 kBT (where kB is Boltzmann constant and T the temperature). Since in this experiment the concentration CIsw1a ~ 0.5 nM, we deduce that the affinity for DNA of a single protein complex (at zero tension) is: kD = CIsw1a exp(−ΔG0/kBT ) ~ 1pM.

**SUPPLEMENTARY REFERENCES**

1. Lia G, Bensimon D, Croquette V, Allemand JF, Dunlap D, et al. (2003) Supercoiling and denaturation in Gal repressor/heat unstable nucleoid protein (HU)-mediated DNA looping. Proc Natl Acad Sci U S A 100: 11373-11377.