**601 original sequence (made by PCR)**

5’- /Biotin/TATA CGCGGCCGCC CTGGAGAATC CCGGTGCCGA GGCCGCTCAA TTGGTCGTAG ACAGCTCTAG CACCGCTTAA ACGCACG**T**AC GCGCTGTCCC CCGCGTTTTA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT GCATGTATTG AACAGCGACC

 ATAT GCGCCGGCGG GACCTCTTAG GGCCACGGCT CCGGCGAGTT AACCAGCATC TGTCGAGATC GTGGCGAATT TGCGTGCATG CGCGACAGGG GGCGCAAAAT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG **T**AGGACA CGTACATAAC TTGTCGCTGG/idSp/ TC CAGCGGCGGG – 5’

**R18 construct**

5’- /Biotin/TATA CGCGGCCGCC CTGGAGAATC CCGGTGCCGA GGCCGCTCAA TTGGTCGTAG ACAGCTCTAG CACCGCTTAA ACGCACG**T**AC GCGCTGTCCC CCGCGTTTTA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT GCATGTATTG AACAGCGACC

 ATAT GCGCCGGCGG GACCTCTTAG GGCCACGGCT CCGGCGAGTT AACCAGCATC TGTCGAGATC GTGGCGAATT TGCGTGCATG CGCGACAGGG GGCGCAAAAT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAC TCTATATATG **T**AGGACA CGTACATAAC TTGTCGCTGG/idSp/ TC CAGCGGCGGG – 5’

**R39 construct**

5’- /Biotin/TATA CGCGGCCGCC CTGGAGAATC CCGGTGCCGA GGCCGCTCAA TTGGTCGTAG ACAGCTCTAG CACCGCTTAA ACGCACG**T**AC GCGCTGTCCC CCGCGTTTTA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT GCATGTATTG AACAGCGACC

 ATAT GCGCCGGCGG GACCTCTTAG GGCCACGGCT CCGGCGAGTT AACCAGCATC TGTCGAGATC GTGGCGAATT TGCGTGCATG CGCGACAGGG GGCGCAAAAT TGGCGGTTCC CCTAATGACG GATCAGAGGT CCGTGCACAG TCTATATATG **T**AGGACA CGTACATAAC TTGTCGCTGG/idSp/ TC CAGCGGCGGG – 5’

**R56 construct**

5’- /Biotin/TATA CGCGGCCGCC CTGGAGAATC CCGGTGCCGA GGCCGCTCAA TTGGTCGTAG ACAGCTCTAG CACCGCTTAA ACGCACG**T**AC GCGCTGTCCC CCGCGTTTTA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT GCATGTATTG AACAGCGACC

 ATAT GCGCCGGCGG GACCTCTTAG GGCCACGGCT CCGGCGAGTT AACCAGCATC TGTCGAGATC GTGGCGAATT TGCGTGCATG CGCGACAGGG GGCGCAAAAT TCGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA CGTACATAAC TTGTCGCTGG/idSp/ TC CAGCGGCGGG – 5’

**Sequences for looping measurements – made by annealing of the top and bottom strands which was synthesized by IDT**. Yellow highlights denote the locations of mismatched bases. Cyan highlights denote the location of biotin conjugated via dT.

**601-RH**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**601-R18-RH**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAC TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**601-R39-RH**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGACG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**601-R56-RH**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TCGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ - 5’

**601-RH-16**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTTTTA ACCGCCAAGG GGA/iBiodT/TACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAAAT TGGCGGTTCC CCTA ATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**601-R18-RH-16**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTTTTA ACCGCCAAGG GGA/iBiodT/TACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAAAT TGGCGGTTCC CCTA ATGAGG GATCAGAGGT CCGTGCACAC TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R40-RH-TT**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGTGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R40-RH-AA**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACACC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R39-RH-CT**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGATG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R39-RH-CA**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTACTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAAG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R41-RH-GG**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTAGTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R41-RH-GA**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTAATCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**R41-RH-GT**

5’- /5Cy5/ACGGATTCTG TGTCCC CCGCGTT/iBiodT/TA ACCGCCAAGG GGATTATTCC CTAGTCTCCA GGCACGTGTC AGATATATAC ATCCTGT

 ACAGGG GGCGCAAA AT TGGCGGTTCC CCTAATGAGG GATCAGAGGT CCGTGCACAG TCTATATATG TAGGACA TGCCTAAGAC /5Cy3/ – 5’

**References**

1. Ngo, T.T., Zhang, Q., Zhou, R., Yodh, J.G. & Ha, T. Asymmetric unwrapping of nucleosomes under tension directed by DNA local flexibility. *Cell* **160**, 1135-44 (2015).