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Force dependence of the opening rate of a single DNA hairpin-loop JEUNGPILL HANNE, MUKTA SINGH-ZOCCHI, GIOVANNI ZOCCHI, Dept. of Physics & Astronomy, UCLA — We directly measure the opening rate of a single DNA hairpin- loop (beacon) for different mechanical forces by optically monitoring the displacement of a μm sized bead tethered to a surface by a single DNA beacon (20 base pairs loop). We thus obtain a spectrum of rates, depending on mechanical forces (the range of 0-10pN), in contrast to FRET measurements which obtain only the zero force rate. In addition, our method gives access to long time scales.

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