

Abstract Submitted
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A simple method to deposit elongated DNA onto fused-silica surfaces for single molecule studies of protein-DNA interactions YAO ZHANG, Department of Physics, Washington University in St. Louis, KERYN GOLD, Molecular Biophysics Graduate Program, Division of Biology and Biomedical Sciences, Washington University School of Medicine, Y. M. WANG, Department of Physics, Washington University in St. Louis — In order to study facilitated diffusion of proteins along DNA using single molecule fluorescence imaging methods, it is necessary to deposit elongated DNA molecules along fused-silica surfaces [1]. Here we have developed a simple method to deposit elongated DNA molecules onto fused-silica surfaces with high yield. We attached the ends of DNA molecules to streptavidin coated quantum dots and then deposited the end-labeled DNA onto fused-silica surfaces. The flow created by a cover slip is adequate to generate arrays of elongated and suspended DNA anchored by the two ends of each molecule, ideal for protein-DNA interaction studies. Interactions of LacI with these elongated DNA molecules will also be discussed.

[1] Y. M. Wang, E. C. Cox and R. Austin, “Single molecule measurements of repressor proteins 1D diffusion on DNA,” *Phys. Rev. Lett.*, 97, 048302, (2006).

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