

Abstract Submitted  
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**Characterization of Binding Strengths of DNA on Various Indium Tin Oxide Conducting Substrates Using Surface Electrophoresis for Genomic Studies/Applications** MICHAEL DING, Glen Cove High School, ELI HOORY, JONATHAN SOKOLOV, MIRIAM RAFAILOVICH, Stony Brook University, STONY BROOK UNIVERSITY TEAM — We have analyzed DNA-surface interactions on solid surfaces using surface electrophoresis with  $\lambda$  Hind-III DNA. Laser scanning fluorescence microscopy on YOYO-labeled DNA was used to image molecules exiting deposited drops for different surfaces, buffer concentrations, DNA concentrations, and electric field strengths. PET Indium Tin Oxide (ITO) and ITO coated glass were studied by varying TBE buffer concentrations from  $10^{-2}X$  to  $3X$ , DNA concentrations from  $5\mu\text{g/ml}$  to  $50\mu\text{g/ml}$  and electric fields from 3 to 7 V/cm. We have obtained defined circular DNA droplets on these surfaces and observed DNA strands being pulled from the outer ring by the electric field. Various adsorption mechanisms and models of mobility will be discussed. Support from the NSF MRSEC program is gratefully acknowledged.

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