

The Magic World of Micro-to-Nanofluidic Interface and the Extreme Confined Environments

Fluidic Interfaces between micro- to nanoscale environments and the extreme confinement effects provided by nanofluidic channels have offered unique platforms to study molecular or cellular behaviors and new physics in these experimentally tailored fluidic environments. We will discuss three cases of using micro/nanofluidic devices for molecular and cellular analysis: (1) confinement-induced entropic recoiling of single DNA molecules at micro-nanofluidic interfaces, (2) protein preconcentration using nanoscale molecular traps, and (3) Min protein oscillations of confined *E. coli* in microfluidic channels.

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