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Mobility of DNA on Supported Lipid Bilayers CHAKRADHAR PADALA, SANAT KUMAR, RAVI KANE, Rensselaer Polytechnic Institute — The study of the dynamics of biopolymers such as DNA at interfaces is not only of fundamental interest but also useful in the development of biosensors and novel DNA separation strategies. In this work, we investigate the mobility of DNA adsorbed onto supported lipid bilayers. DNA was adsorbed onto a supported lipid bilayer whose mobility could be tuned by varying the temperature. Fluorescence Recovery after photo bleaching (FRAP) was used to determine the diffusivities of the lipid and that of DNA adsorbed on the bilayer. FRAP analysis reveals an interesting interplay between the mobility of the substrate and the mobility of the DNA. We will discuss these results, as well as results for DNA diffusion on solid surfaces.

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