

488a Adhesion Behavior of Biomimetic Membranes

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The membranes of biological cells contain imbedded proteins that give rise to cellular adhesion and signaling, and are often coupled to the cytoplasm. In artificial systems aiming to achieved targeted delivery or scavenging (artificial white blood cell) functionality, a bioadhesion component must be incorporated directly into the membrane in a ways that triggers response of the artificial package, or in the case, polymer vesicle. This talk explores the fundamental aspects of adherent polymer vesicle membranes, presenting results using micropipette aspiration. Extreme behaviors of reversible (depletion force) adhesion are compared against strong (essentially irreversible adhesion). The distinction between wetting behavior and adhesion strength is borne out and the role of membrane stiffness is probed.