

Abstract Submitted
for the CAL10 Meeting of
The American Physical Society

Study of Raft Domains in Model Membrane of DPPC/PE/Cholesterol¹ CHAI LOR, LINDA HIRST, University of California, Merced — Raft domains in bilayer membrane are thought to play an important role in many cell functions such as cell signaling or trans-membrane protein activation. Here we use a model membrane consisting of DPPC/PE/cholesterol to examine the structure of membrane rafts and phase interactions. In particular we are interested in lipids containing the highly polyunsaturated fatty acid DHA. We use both atomic force microscopy (AFM) and fluorescence microscopy to obtain information on the structural properties of raft regions and track cholesterol. As expected, we find phase separation of raft regions between saturated and unsaturated lipids. Moreover, we find that the roughness of the domains change with varying cholesterol concentration possibly due to overpacking. This model study provides further understanding of the role of cholesterol in bilayer membrane leading towards a better knowledge of cell membranes.

¹National Science Foundation

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Date submitted: 04 Oct 2010

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