

Biomimetic membrane supported at a metal electrode surface - a molecular view.

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Abstract

This lecture is a review of our recent studies of the structure of gold-supported phospholipid bilayers. I will describe methods used to deposit biomimetic membrane at the gold electrode surface and will provide information on how the structure of this membrane changes as a function of the potential applied to the gold electrode. I will then illustrate how techniques such as scanning electron microscopy, atomic force microscopy (AFM), neutron reflectivity and infrared reflection absorption spectroscopy can be applied to provide molecular level information about the interactions of the membrane components with the metal, orientation and conformation of molecules within the membrane, water content in the supported bilayer and the structure of water molecules within the supported bilayer.