

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Dynamics of Fatty Acid Single Molecule Islands on Metal-exchanged Mica** MOURAD CHENNAOUI, ALEKS PONJAVIC, JANET WONG, Imperial College London, London, UK — Under certain conditions, surface-active molecules are known to self-organise into SAMs according to two main driving forces: molecular surface adsorption via diffusive/convective transport, and surface reorganisation and growth. For the latter in-situ methods are required to deconvolute the complex underlying kinetics and dynamics. To this end, a single molecule fluorescence imaging technique is used to observe the dynamics of fatty acid molecules on different metal-exchanged Mica substrates (K, Li, H). It is shown that the molecular surface re-organisation proceeds via an initial islandisation step. These islands spread and grow until forming a stable and organised SAM. Islands formation kinetics/dynamics according to different surface metal types is investigated. Diffusive mechanisms within and between the islands are also explored.

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Date submitted: 19 Nov 2010

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