

Abstract Submitted
for the CAL09 Meeting of
The American Physical Society

Scanning Conductive Force Microscopy for Characterization of Model Molecular Devices MARSHALL VAN ZIJLL, CHRISTOPHER FLEMING, GANG-YU LIU, SHIRLEY CHIANG — We have used scanning conductive atomic force microscopy as a tool to characterize molecular devices. Using self-assembled monolayers such as n-decanethiolate or n-octadecanethiolate as a matrix, we inlaid device components such as dendrimers or gold nanoparticles. All model systems were studied under constant force mode in air, while topography, lateral force, and current images were acquired. This configuration enables high resolution atomic force microscopy imaging, such as revealing of etch pits among the self-assembled monolayers, which is otherwise difficult to attain. In addition, the local conductivity can be correlated with the topographic features such as thiolate domains or surface defects. Both the technical development associated with this method and the detailed results will be discussed.

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Date submitted: 16 Oct 2009

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