

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Electronic Structure of Magnetic Titanocene Dimer Molecules at a Metal Surface Measured by Scanning Tunneling Microscopy XINGHUA LU, YAYU WANG, R. YAMACHIKA, A. WACHOWIAK, M. F. CROMMIE, Department of Physics, University of California, Berkeley, and Materials Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, L. BELTRAN, J. R. LONG, Department of Chemistry, University of California, Berkeley — The titanocene dimer ($[\text{Cp}_2\text{TiCl}]_2$, where $\text{Cp} = \text{C}_5\text{H}_5$) is an interesting magnetic molecule because it incorporates two spin-1/2 Ti atoms in an antiferromagnetic configuration. We have used cryogenic scanning tunneling microscopy to study the local electronic properties of titanocene dimer molecules adsorbed onto metal surfaces. Ordered patterns of titanocene dimers have been observed for submonolayer coverage on Au(111). Scanning tunneling spectroscopy of the molecules shows sharp features near the Fermi energy that may be magnetic in origin.

Department of Physics, University of California, Berkeley, and Materials Sciences Division, Lawrence Berkeley National Laboratory

Date submitted: 30 Nov 2005

Electronic form version 1.4