

Abstract Submitted
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STM study of energy-storing photoactive organometallic molecules JONGWEON CHO, LUIS BERBIL-BAUTISTA, NIV LEVY, STEVE MEIER, K. PETER C. VOLLHARDT, MICHAEL F. CROMMIE, University of California at Berkeley and Lawrence Berkeley National Laboratory — (Fulvalene)tetracarbonyldiruthenium ($\text{FvRu}_2(\text{CO})_2$) molecules store light energy through photoisomerization. UV illumination of molecules in solution or in the solid state results in a conformational change to a high-energy photoisomer. Upon mild heating the molecule reverses to its original structure, liberating ~ 1.3 eV. Many potential future applications of this molecule involving light energy storage requires understanding its switching behavior in a device geometry, i.e., at a surface. We have investigated self-assembly and switching behavior of $\text{FvRu}_2(\text{CO})_2$ molecules on Au(111) using scanning tunneling microscopy at cryogenic temperatures and we will report on these studies.

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