

Abstract Submitted
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Study of Dynamic Properties of Ferrocene Molecular Rotors on Au(1,1,1)¹ U.G.E. PERERA, Y. ZHANG, H.R. KERSELL, Ohio University, OH 45701, USA, G. RAPENNE, Universite de Toulouse, Toulouse, France, S-W. HLA, Ohio University, OH 45701, USA — Dynamic properties of 4Fe3Set double decker molecular rotor adsorbed on a Au(111) surface were studied by using a low temperature scanning tunneling microscopy at 75 K. Due to thermal excitation, most of the molecular rotors are found to be spinning on the surface at this temperature. Moreover, lateral motion of the spinning rotors across the surface were occasionally observed in the sequence of STM images. Molecules can move both along and across the surface Herring bone reconstructions. Furthermore, using STM lateral manipulation scheme, relocation of the spinning rotors can also be performed. At higher bias voltages above -2.4V, the molecules disintegrate on the surface.

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