

Abstract Submitted  
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**Studies of Mn<sub>12</sub>-Ph Single Molecule Magnets by LTSTS** K. REAVES, Materials Science and Engineering and Department of Physics and Astronomy, Texas A&M University; WPI-AIMR, Tohoku University, Japan, P. HAN, K. IWAYA, T. HITOSUGI, D. PACKWOOD, WPI-AIMR, Tohoku University, Japan, H.G. KATZGRABER, Materials Science and Engineering and Department of Physics and Astronomy, Texas A&M University, H. ZHAO, K.R. DUNBAR, Department of Chemistry, Texas A&M University, K. KIM, WPI-AIMR, Tohoku University, W. TEIZER, Materials Science and Engineering and Department of Physics and Astronomy, Texas A&M University; WPI-AIMR, Tohoku University, Japan — We study Mn<sub>12</sub>O<sub>12</sub>(C<sub>6</sub>H<sub>5</sub>COO)<sub>16</sub>(H<sub>2</sub>O)<sub>4</sub> (Mn<sub>12</sub>-Ph) single-molecule magnets on a Cu(111) surface using scanning tunneling microscopy and scanning tunneling spectroscopy (LT-STTS). We report the observation of Mn<sub>12</sub>-Ph in isolation and in thin films, deposited through vacuum spray deposition onto clean Cu(111). The local tunneling current observed within the molecular structure shows a strong bias voltage dependency, which is distinct from that of the Cu surface. We will explore these I vs. V curves in detail and present a phenomenological explanation for the observed behavior.

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