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Preliminary Studies of the Metal Organic Molecule $C_{24}H_{36}N_2O_4Cu$ DAVID WISEBY, DANQIN FENG, PETER DOWBEN, University of Nebraska-Lincoln Dept. of Physics and Astronomy, CARTER SILVERNAIL, University of Minnesota Chemistry Department, JOHN BELOT, University of Nebraska-Lincoln Dept. of Chemistry, ANTHONY CARUSO, Center for Nanoscale Science and Engineering — We have investigated the metal organic molecule $C_{24}H_{36}N_2O_4Cu$, (CuII) and have characterized some of its electronic and magnetic properties. The molecule is of interest because it has a small magnetic moment of $1.03\mu_b$ per molecule, expected of a Cu spin 1/2 system. There is some preliminary evidence that vapor deposited thin films of the Cu(II) molecule on Cu(111) and Co(111) are crystalline, with some evidence of band structure ultra violet photoemission spectroscopy (UPS). There is generally good agreement between the photoemission and model calculations performed using restricted Hartree-Fock under the semiempirical PM3 methodology. This new molecule has a HOMO-LUMO gap, but is well screened in the photoemission final state.

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