

Abstract Submitted
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The Electronic Structure of a Local Charge-Transfer-Induced Spin Transition Molecular Adsorbate XIN ZHANG, Nebraska Center for Materials and Nanoscience, Department of Physics and Astronomy, University of Nebraska-Lincoln, NING WU, ZHENGZHENG ZHANG, JEAN-FRANÇOIS LÉTARD, FRANÇOIS GUILLAUME, Université Bordeaux I, France, BERNARD DOUDIN, Université Louis Pasteur Strasbourg, FRANCE, PETER DOW-BEN, University of Nebraska-Lincoln, UNIVERSITY OF NEBRASKA-LINCOLN COLLABORATION, UNIVERSITÉ BORDEAUX I COLLABORATION, UNIVERSITÉ LOUIS PASTEUR STRASBOURG COLLABORATION — The spin crossover phenomena has been identified in the $[\text{Fe}(\text{H}_2\text{B}(\text{pz})_2) \text{bpy}]$ where $\text{pz}=(1\text{-pyrazolyl})\text{borate}$ $[\text{Fe}(\text{H}_2\text{B}(\text{pz})_2) \text{bpy}]$, and but there is currently a lack of knowledge of the physical nature of this phenomena and the electronic structure of this organometallic compound has not been well characterized. We have investigated the interface electronic characteristics of molecular thin films of the metal-organic $[\text{Fe}(\text{H}_2\text{B}(\text{pz})_2) \text{bpy}]$ by ultraviolet photoelectron spectroscopy (UPS) and inverse photoemission (IPES). X-ray absorption spectroscopy (XAS) and Infrared spectroscopy (IR spectroscopy) were also used to study $[\text{Fe}(\text{H}_2\text{B}(\text{pz})_2) \text{bpy}]$. The IPES results coincide with XAS, and the model calculations. The molecular vibrational modes have been identified from a comparison of the IR spectroscopy with model calculations.

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