

Abstract Submitted
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Structural and Magnetic Interplay in Molecule-based Magnets with Photocontrollable Properties¹ Y.M. CALM, E.S. KNOWLES, D.M. PAJEROWSKI, A.M. ZIEGLER, M.W. MEISEL, Dept. Phys. NHMFL, Univ. Florida, H. PHAN, M. SHATRUK, Dept. Chem., Florida State Univ., M.J. ANDRUS, M.F. DUMONT, D.R. TALHAM, Dept. Chem., Univ. Florida — Understanding the cooperative effects, such as electron-lattice interactions, in molecule-based magnetic coordination complexes possessing photoinduced phase transitions is an important step to being able to rationally tune the variables governing the process.² Specifically, variable temperature FTIR spectroscopy and magnetometry have been used to explore the temperature and photocontrollable spin transitions in Co-Fe Prussian blue analogues, $A_j\text{Co}_k[\text{Fe}(\text{CN})_6]_\ell \cdot n\text{H}_2\text{O}$, where A is an alkali ion, and in new Fe spin-crossover complexes. By studying nanoparticles³ and heterostructures,⁴ the data provide insight into the roles played by restricted lattice geometries and strain-pressure effects.

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⁴D.M. Pajerowski *et al.*, J. Am. Chem. Soc. **132** (2010) 4058.

Y.M. Calm
Dept. Phys. NHMFL, Univ. Florida

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