

Abstract Submitted
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Photoinduced Magnetism in Heterostructures of a Hofmann-like Framework and a Prussian Blue Analogue¹ M.K. PEPRAH, P.A. QUINTERO, T.V. BRINZARI, M.W. MEISEL, Dept. Physics and NHMFL, Univ. Florida, B. HOSTERMAN, M. SENDOVA, Div. Nat. Sci., New College of Florida, C.R. GROS, D.R. TALHAM, Dept. Chemistry, Univ. Florida — Heterostructured films of the Prussian blue analogue (PBA), $K_kNi[Cr(CN)_6]_l \cdot nH_2O$, and the 3D Hofmann-like $Fe(azpy)[Pt(CN)_4] \cdot mH_2O$ ($azpy = 4,4'$ -azopyridine) spin crossover system have been studied by magnetometry and Raman spectroscopy. The magnetization of the ferromagnetic NiCr-PBA, $T_c \approx 70$ K, can be altered by white light irradiation when coupled with the photoactive Fe-Pt framework. The effect is attributed to interface strain that develops when cooling from room temperature. This lattice distortion is relaxed when irradiation causes the Fe(II) to experience a low spin ($S = 0$) to high spin ($S = 2$) transition at $T \leq 50$ K. This work extends our recent photo-controlled magnetic heterostructures studies² to include Fe(II) spin crossover complexes.

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²D. M. Pajerowski *et al.*, *J. Am. Chem. Soc.* **132** (2010) 4058; M. F. Dumont *et al.*, *Inorg. Chem.* **50** (2011) 4295.

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