CONFÉRENCE DU LABORATOIRE DE CHIMIE DE COORDINATION

Vendredi 24 mai 2019 à 11h00

“Exploring Magnetic Bistability in Molecular Materials: Spin Crossover, Light-Induced Radical Trapping, and Plastic Phases”

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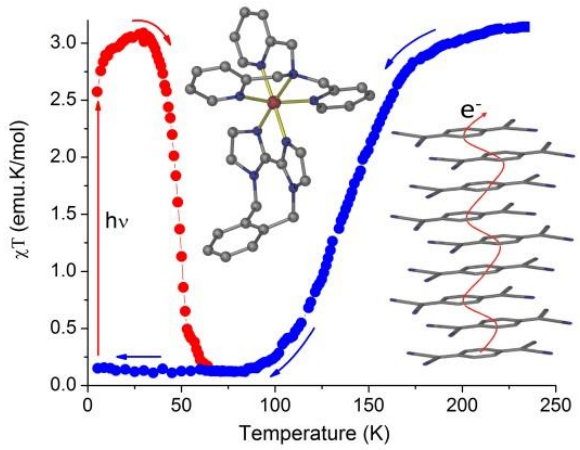
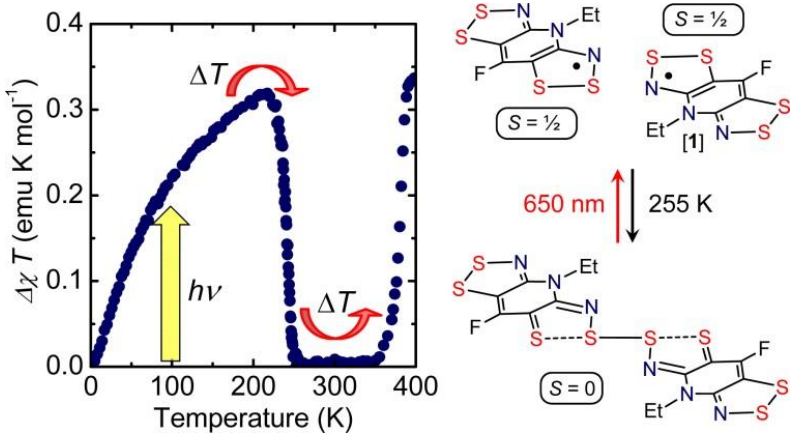
Exploring Magnetic Bistability in Molecular Materials: Spin Crossover, Light-Induced Radical Trapping, and Plastic Phases

The use of light to control magnetism at the molecular level is appealing for the development of molecule-based sensors and memory devices. After discussing some fundamental structure-property relationships in spin-crossover transition metal complexes,1 I will highlight our work on the design and synthesis of hybrid materials that combine spin-state switching with electrical conductivity.2 In the second part of this lecture, I will discuss light-induced magnetic switching, especially the comparison of photomagnetic effects in transition metal complexes and organic materials.3 Finally, I will present a new mechanism for magnetic bistability in organic systems, which relies on unique behavior of small organic molecules in their crystalline state.





References:

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2. Phan, H.; Benjamin, S. M.; Steven, E.; Brooks, J. S.; Shatruk, M. Angew. Chem. Int. Ed. 2015, 54, 823.

3. (a) Phan, H.; Lekin, K.; Winter, S. M.; Oakley, R. T.; Shatruk, M. J. Am. Chem. Soc. 2013, 135, 15674; (b) Lekin, K.; Phan, H.; Winter, S.; Wong, J.; Leitch, A.; Laniel, D.; Yong, W.; Secco, R.; Tse, J.; Desgreniers, S.; Dube, P.; Shatruk, M.; Oakley, R. J. Am. Chem. Soc. 2014, 136, 8050.