



## ELECTRIC FIELD-INDUCED SWITCHING AND CHARGE TRANSPORT IN SPIN CROSSOVER AND PRUSSIAN BLUE TYPE COMPLEXES

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Bistable molecule-based materials, such as spin crossover complexes and certain Prussian blue analogues, have attracted much interest over the last decades. Obviously, the bistability in these systems entails singular magnetic and optical properties, which have been extensively studied and reviewed.(1,2) On the other hand, charge transport properties of these materials have been ignored - presumably due to their rather insulating nature. We have shown that some of these compounds exhibit interesting transport properties and we will discuss, in particular, the electrical conduction mechanism in Prussian blue analogues.(3,4)

Remarkably, we have evidenced in these materials an electric field-induced phase transition within the thermal hysteresis region.(5) We will discuss this interesting novel phenomenon as well as future perspectives.(6)

<sup>(1)</sup> P. Gülich et al. *Angew. Chem. Int. Ed.* 2004, 33, 2024; <sup>(2)</sup> M. Verdaguer et al. *Coord. Chem. Rev.* 1999, 190, 1023.

<sup>(3)</sup> G. Molnar et al. *J. Phys. Chem. C* 2009, 113, 2586. ; <sup>(4)</sup> L. Salmon et al. *New J. Chem.* 2009, 33, 1283 ; <sup>(5)</sup> T. Mahfoud et al. *J. Am. Chem. Soc.* 2009, 131, 15049; <sup>(6)</sup> news&views: *Nature Chem.* 2010, 2, 10; *Nature Chem.* 2010, 2, 346.