
A chemist's tool box for integrating magnetic molecular architectures on surfaces

Benoit Fleury*[†]

¹Institut Parisien de Chimie Moléculaire (IPCM) – CNRS : UMR8232, Université Pierre et Marie Curie (UPMC) - Paris VI – 4 place Jussieu, 75005 Paris, France

Abstract

One of the strengths of inorganic molecular Chemistry is its ability to produce a variety of molecular architectures whose amplitude is only limited by the imagination of the synthetic chemist. On the other hand, by essence, each synthesis produces molecules that are all perfectly identical in terms of structure and size. These two assets allowed molecular magnetism, a discipline at the edge between Chemistry and Physics, to study and elucidate mechanisms leading to magnetism in molecules. It also allowed the discovery of new and specific phenomena such as the blocking of the magnetization and the quantum tunnelling of the magnetization on single molecules. Today, inorganic chemists have to face another challenge: the integration of molecules bearing properties of interest into functional devices. This presentation aims at giving a few examples of hybrid materials allowing the study of magnetic properties of confined molecular architectures and the perspectives it opens towards molecular spintronics.

*Speaker

[†]Corresponding author: benoit.fleury@upmc.fr