

# Séminaire de **C**himie **A**utour des **N**anosciences

**LAURE CATALA**<sup>1</sup>

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## NANOPARTICLES OF PRUSSIAN BLUE ANALOGUES AND RELATED COORDINATION NETWORKS: FROM INFORMATION STORAGE TO BIOMEDICAL APPLICATIONS

Coordination chemistry provides an efficient way to tailor in multimetallic containing network-based nanostructures designed for multiple goals in the fields of information storage, sensing and nanomedicine. In this context, we have developed efficient routes to nanocrystals/core-shells based on bimetallic cyanide-bridged coordination networks that display magnetic/optical properties triggered by several stimuli such as light, temperature, pressure, guest inclusion or magnetic field. The fine control over size, composition and architecture of these heterostructures allows reaching new synergies between core and shell's (photo)magnetic properties, and their assembly as individual particles or extended monolayers is achievable on various substrates. Besides, highly efficient  $T_1$  contrast agents for MRI are obtained using  $Mn^{II}$  and  $Gd^{III}$ -containing nanoparticles through a one-step green process, while theranostics issues are pursued using Prussian blue's photothermal properties. This communication will illustrate some of the wide possibilities offered by these nano-objects in the context of the recent literature.

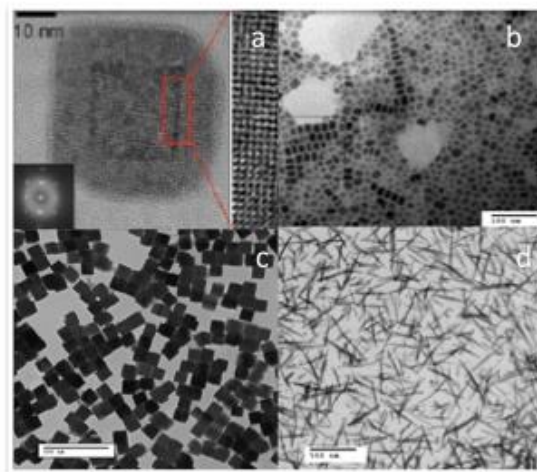


Figure 1. TEM micrographs of nanoparticles and core shells of Prussian blue analogues (a, c) and octacyanometallate-based networks (b, d).

**LE VENDREDI 30 juin À 11H00**

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