Nanoparticles of Prussian blue and related coordination networks for switchable materials and biomedical applications

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Prussian blue and related bimetallic cyanide-bridged coordination networks display appealing magnetic and optical properties that may be triggered by multiple stimuli such as light, temperature, pressure, guest inclusion, magnetic field or voltage. Various strategies are pursued to finely tailor particles/core-shells of such networks with the aim to assess the impact of size reduction on their magnetic properties and to develop new functions for sensing and nanomedicine.^{1,2} This communication will illustrate with a few recent examples the pros and cons of these nanomaterials.

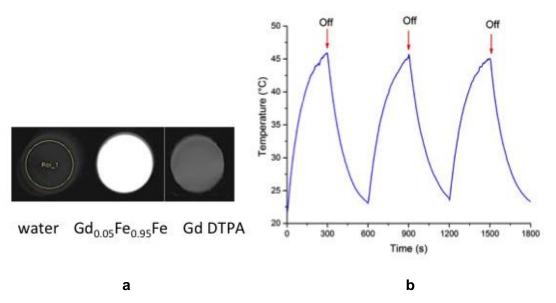


Figure 1 a) T1-weighted contrast obtained for GdFeFe nanoparticles (middle) compared to clinical agent (right) and water (left) and b) their photothermal efficiency after 3 cycles of irradiation at 808 nm.

¹ L. Catala, T. Mallah, Coord. Chem. Rev. 2017, 346, 32-61.

² L. Salmon, L. Catala C. R. Chimie 2018, 21 1230-1269.