

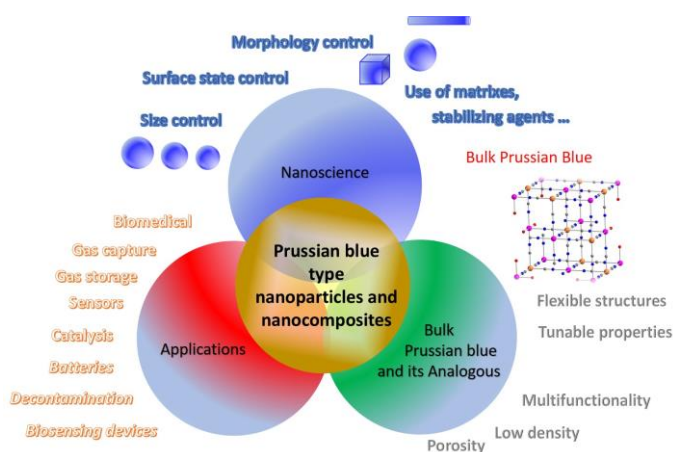
Prussian blue type nano-objects: new opportunities for old materials

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Abstract

Prussian Blue type nanoparticles are exciting nano-objects that combine the advantages of molecule-based materials and nanochemistry (see Fig.). They are made by transition metal ions or lanthanides assembled through cyano-bridged ligand into nano-sized architectures of the general formula $A_xM_y^{II}[M^{III}(CN)_6]_z$ (where A is a monovalent cation, M^{II} and M^{III} are transition metal ions or lanthanides). These nano-objects attracted a great deal of interest during the last ten years due to their specific molecule-based nature that is different compared to other inorganic nanoparticles. This lecture will provide a brief critical look on the recent advancement in this field of research focalising on the design of PB type nano-objects and their nanocomposites promising as nanoprobe for imaging, as therapeutic agents for photothermal therapy, as well as agents for Cs^+ decontamination.



Recent Publications

1. Y. Guari, J. Larionova, *Prussian Blue-Type Nanoparticles and Nanocomposites: Synthesis, Devices, and Applications*, Ed. Jenny Stanford Publishing, 2019, ISBN 9789814800051
2. J. Long, Y. Guari, C. Guerin, J. Larionova, *Dalton Trans.* **2016**, 45, 17581.
3. G. Maurin-Pasturel, J. Long, Y. Guari, F. Godiard, M. Willinger, C. Guérin, J. Larionova *Angew. Chem.*, **2014**, 53, 3872.
4. E. Mamontova, J. Long, R. A. S. Ferreira, A. Botas, F. Salles, Y. Guari, L. D. Carlos, J. Larionova, *Nanoscale* **2019**, 11, 7097.

Biography



Joulia Larionova is an Engineer in radiochemistry and nuclear physics. After defending her thesis at the University of Bordeaux I in 1998, she completed a post-doctoral fellowship in Switzerland at the Universities of Bern and Lausanne, and was appointed as a Lecturer at the University of Montpellier. Being a Professor at the University of Montpellier since 2009, she directed research activities in the Institute Charles Gerhardt Montpellier (ICGM). Her research topic is focused on the development of inorganic and molecular materials at nano- and macro scale with magnetic and optical properties, and porosity for applications in the areas of biology and medicine, and decontamination of radioactive species and gas sorption. She published more than 140 papers. Her H-index is 36 on Web of Science.

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