POM-BASICS Summer School

"Polyoxometalate Chemistry for Fundamentals and Applications"

La Rochelle-France, June 13-15th 2022

Session 5- Functional POM assemblies and processing

Heterogenisation of POMs in MOFs : from synthesis to characterization and applications in catalysis

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Abstract of the course:

Metal-Organic frameworks (MOFs) have been extensively reported as functional materials and supports. Their combination with POMs has been deeply investigated for more than two decades, evidencing their strong complementarities in particular in all catalytic fields (acid catalysis, oxidation reactions, electro- and photocatalysis,…). During this course, after the description of the various synthetic methods leading to POM@MOF materials, a critical discussion will be proposed on the physicochemical methods available to characterize these composites and of their relevance to investigate the content, the structural features (including the positioning of the POM in the MOF) and the stability of the POM within the MOF or of the MOF itself. Finally, applications of these materials in the field of catalysis, focusing on photocatalysis, will be presented.