

GREEN PREPARATION OF SUPPORTED NANOPARTICLES ON POROUS MATERIALS: METHODS AND APPLICATIONS.

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Nanotechnology, Energy and Environment are three key hot topics ubiquitous in all current and future challenges of our society.

In the aim of bridging the gap between these three important research areas, designer (nano)materials can offer an interesting alternative to face this challenges due to the precise control of their properties that can be tuned depending on the application^{1,2}. Among them, supported nanoparticles have received a great deal of attention over the past few years due to their interesting properties and applications in a wide range of areas including medicine, sensors and catalysis (Figure 1)¹.

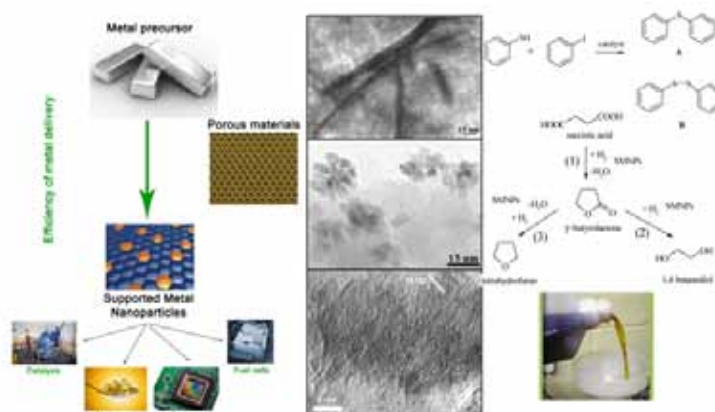


Figure 1. Preparation of designer nanomaterials and their applications (left). Examples of some nanomaterials and their applications in catalysis for the production of fine chemicals and biofuels (right); From top to bottom: Cu nanoparticles on HMS for the C-S coupling of thiols with aryl halides; Rh nanoflowers supported on mesoporous zirconia for the aqueous hydrogenation of organic acids and MgO/SrO nanocrystals for biodiesel production.

This contribution is aimed to provide an overview of the design of greener catalytic (nano)materials for the production of high added value chemicals and advanced biofuels from biomass valorisation.

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References:

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