

Oxide based nanoparticles for biomedical applications

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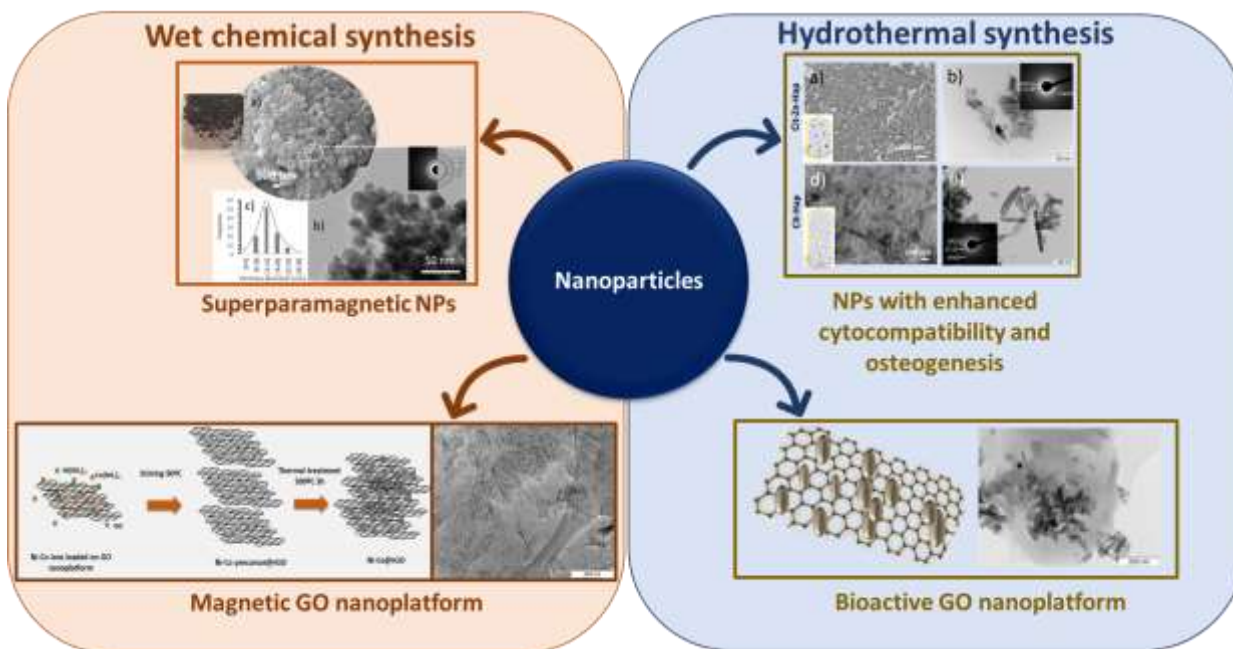
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Abstract

During the last decade, advances in nanotechnology have resulted in the development of novel biomaterials with custom property combinations. It is well known that nanoparticles (NP) and nano systems are not a simple miniaturization of macroscopic counterparts. They exhibit distinctive physical, chemical and mechanical properties and present a high specific surface area and the capability to be functionalized with small biomimetic molecules. Distinct chemical composition, mechanical characteristics, magnetic properties, surface topography and morphological properties of nanoparticles can significantly influence the biological responses [1]. Design and tailoring of nanoparticles and nanoplatforms still is an emerging area, which is listed at the top of materials science research strategy for the near future, with an enormous prospective impact in the Nanoscience and Nanotechnology sector.

This work presents, it is presented the synthesis and characterization of different transition metal oxide spinel based NP by wet chemical synthesis method and modified hydroxyapatite NP by hydrothermal method specially tailored for biomedical applications [2-4].



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