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Engineered nanomaterials for biomedical imaging and therapy

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Abstract

The definition of Cannabis The application of nanotechnology to medicine (nanomedicine) has become one of the most promising routes for the targeted diagnosis and treatment of diseases. The small size of nanomaterials, large surface area and high reactivity impart unique physicochemical properties to these materials, in such a way that several therapeutics based on nanomaterials (liposomes, nanoparticles, polymers) have been approved for clinical use in the past few years. However, there are still several limitations that need to be overcome to obtain novel and efficient Nano carriers. In this talk we will present recent advances on the development of nanomaterials for biomedical imaging and cancer therapy.

Biography

Gerard Tobias obtained the degree in Chemistry (with Honours) from the Autonomous University of Barcelona (2000), Master in Materials Science and Ph.D. with European mention (UAB, ICMAB, 2004). He was a research visitor at Ames Laboratory (USA) and EMAT (Belgium). Between 2004-2009 he was a postdoctoral researcher at the University of Oxford (UK). Since 2009 he leads research on "Nano engineering of Carbon and Inorganic Materials" at the Materials Science Institute of Barcelona (ICMAB-CSIC). He has coordinated the FP7 European network RADDEL and has been recently granted an ERC Consolidator Grant (NEST, 725743).

Publications

1. Tuning the Nature of N-Based Groups From N-Containing Reduced Graphene Oxide: Enhanced Thermal Stability Using Post-Synthesis Treatments.
2. Nanomaterials for biomedical imaging and cancer therapy.
3. Particle size determination from magnetization curves in reduced graphene oxide decorated with monodispersed superparamagnetic iron oxide nanoparticles
4. Thermochemistry of nitrogen-doped reduced graphene oxides
5. Charge transfer in steam purified arc discharge single walled carbon nanotubes filled with lutetium halides
6. Nitro-graphene oxide in iridium oxide hybrids: electrochemical modulation of N-graphene redox states and charge capacities
7. Microwave-Assisted Synthesis of SPION-Reduced Graphene Oxide Hybrids for Magnetic Resonance Imaging (MRI)
8. Structure of inorganic nanocrystals confined within carbon nanotubes
9. Non-cytotoxic carbon nanocapsules synthesized via one-pot filling and end-closing of multi-walled carbon nanotubes

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