Special Issue

Polymer Coated Nanoparticles for Therapeutic and Diagnostic Applications

Message from the Guest Editor

Nanotechnology in medicine offers exciting opportunities in developing nanomaterials for potentiating disease treatment, early diagnostic, prognosis and monitor treatment progression owing to their improved pharmacokinetics and pharmacodynamics of nanotherapeutics. Selected nanotherapeutics with suitable size, shape, composition, surface charge and functionalization have shown to accumulate in pathological sites while minimizing drugs accumulation elsewhere in the body compared to delivering the drugs without nanoparticle formulation. A common strategy in designing nanotherapeutic is to encapsulate the drug within the core or conjugated onto the shell of nanoparticles. In particular, polymer-coated nanoparticles serves as an attractive and modular platform for achieving optimal and tunable nanoparticle size, biocompatibility, surface charge and the ability to deliver toxic cargo and immunotherapy agent upon reaching the disease site. In this Special Issue, new and novel approaches in the preparation of the stimuli-responsive nanodrug for therapeutic and/or diagnostic application are solicited.

Guest Editor

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Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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