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Special Issue Reprint

Nanostructured Materials

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Nanostructured materials are a class of materials whose constituting building units have sizes ranging from 1 to 100 nm in one, two, or three dimensions. Over recent decades, nanostructured materials have attracted increasing attention worldwide due to their unique and excellent properties. The high surface-to-volume ratio, ability for surface functionalization, and superior properties of nanostructured materials provide promising applications in various fields including nanomedicine. As a result, nanostructured materials have become a popular and rapidly evolving research field and have demonstrated promising potential in solving various biomedical problems that cannot be addressed by traditional materials. Various types of nanostructured materials, including quantum dots, nanoparticles, nanospheres, nanorods, nanowires, nanotubes, nanosheets, mesoporous materials, and nanocomposites, have been synthesized and investigated for applications in various biomedical fields, such as drug delivery, bone defect repair, orthopedic surgery, tooth repair, skin wound healing, tissue engineering, regenerative medicine, biosensing, bioimaging, diagnosis, and therapy. This Reprint, entitled “Nanostructured Materials: Synthesis, Functionalization and Applications in Biomedicine”, will gather original interdisciplinary research on the recent progress in nanostructured materials for biomedical applications, focusing on all aspects of research regarding the design strategy, synthesis, characterization, functionalization and biomedical applications of nanostructured materials.

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