Editorial

Chemical Functionalization, Self-Assembly, and Applications of Nanomaterials and Nanocomposites 2014

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The growing interests in nanomaterials and nanocomposites call for the development of processing techniques to obtain multiple functionalization nanostructures and achieve the tailoring of specific features of the nanometer size. Functional nanomaterials and nanocomposites will expand the applied range of the original material and at the same time promote the development of interdisciplinary. Thus, the chemical functionalization and bottom-up assemblies of nanomaterials and subsequent applications will accelerate the development of nanoscience and nanotechnology.

This special issue continues to focus on chemical functionalization, self-assembly, and applications of nanomaterials and nanocomposites in 2014. The issue compiles thirteen exciting manuscripts. It is to refer to multiple functional nanomaterials and nanocomposites such as magnetic materials Mg-Zn-Ferrite and $\text{CoGd}_x\text{Fe}_{2-x}\text{O}_4$, graphene-based material for the biological and catalytic application, supramolecular material soluble glutathione peroxidase, thermal insulation zeolite that uses the coal fly ash as the raw material under a two-step synthesis, *Artemia* egg shell-supported TiO_2 high efficiency formaldehyde removal material, and hybrid mesocrystals of ibuprofen and aragonite for medical application. In addition, two of the manuscripts deal with morphology studies about organogel system based on calamitic hydrazide derivatives and calcium carbonate,

respectively. The paper by A. Wang et al. explores the bioapplication of gold nanoparticles. The engineering applications about the fretting wear mechanism and debris analysis are in depth researched by L. Zhang et al. Furthermore, X. Qu et al. review the recent advances of fluorescent gold nanoclusters-based applications in biological sensing, biolabeling, and bioimaging and finally discuss the current challenges of fluorescent gold nanoclusters in controllable synthesis and biological application.

Altogether, by compiling these papers, we hope to arouse our readers and researchers' interest with respect to chemical functionalization, self-assembly, and applications of nanomaterials and nanocomposites.

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