



Supramolecular Nanostructures for Smart and Tailored Drug Delivery: Recent Progress and Future Perspectives

Guest Editors:

Prof. Dr. Gianluca Ciardelli

Department of Mechanical and
Aerospace Engineering,
Politecnico di Torino, 10129
Torino, Italy

Dr. Monica Boffito

Department of Mechanical and
Aerospace Engineering,
Politecnico di Torino, 10129
Torino, Italy

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Message from the Guest Editors

The term “supramolecular nanostructures” refers to well-defined nano- to meso-scale objects that have resulted from the assembly of ad hoc designed or naturally occurring building blocks held together by non-covalent, directional and reversible interactions (e.g., hydrogen bonding, ionic bonding, dipole forces, hydrophobic interactions and Van der Waals forces or a combination of these). Small molecules (e.g., cyclodextrins), polymers, peptides and proteins are examples of the building blocks available for the fabrication of supramolecular nanostructures. The non-covalent nature of their constituent interactions provides supramolecular nanostructures with additional advantageous features, such as dynamism and stimuli-responsiveness that can be exploited to drive specific responses (e.g., stimuli-responsive drug delivery) while interfacing with biological systems. Overall, supramolecular nanostructures exhibit a wide compositional and chemical versatility, which enables their fine optimization to meet specific requirements (e.g., tailored payload release, active targeting on specific cells, tissues or organs).





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Editor-in-Chief

Prof. Dr. Shirley Chiang

Department of Physics, University
of California Davis, One Shields
Avenue, Davis, CA 95616-5270,
USA

Message from the Editor-in-Chief

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Nanomaterials Editorial Office
MDPI, St. Alban-Anlage 66
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