

Special Issue

On-Surface Synthesis of Low-Dimensional Organic Nanostructures

Message from the Guest Editor

On-surface synthesis (OSS) has emerged as a novel approach to synthesize and characterize low-dimensional organic nanomaterials with atomic precision, otherwise unattainable by solution organic chemistry. The possibility to create low-dimensional materials “a la carte” starting from functionalized precursor monomers has opened a new field wherein materials with unprecedented tailored properties can be obtained. In this way, organic nanomaterials exhibiting intriguing semiconducting, magnetic, or even topological properties have been synthesized and characterized. Although most of the research carried out in the field has a clear fundamental scope, strong efforts are also being devoted to the introduction of these on-surface-synthesized low-dimensional organic materials into prototypical devices thanks to their usual air stability. This Special Issue of *Nanomaterials* aims to gather some of the most relevant recent advances in the field of On-surface Synthesis of Low-Dimensional Organic Nanostructures, covering not only their bottom-up synthesis and characterization, but also the rationalization of the fundamental reaction mechanisms involved in the processes.

Guest Editor

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Message from the Editor-in-Chief

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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