Special Issue

Catalytic Applications of Porous Organic Materials (Covalent Organic Frameworks, Porous Organic Polymers and Related Materials)

Message from the Guest Editors

Over the last 15 years, a big effort has been devoted to the design of crystalline reticular 2D and 3D organic materials known as covalent organic frameworks (COFs). In parallel, strategies have been developed to isolate related amorphous materials, such as hyper-crosslinked polymers (HCPs), conjugated microporous polymers (CMPs) porous aromatic frameworks (PAFs), polymers of intrinsic microporosity (PIMs), and suprastructures with intrinsic microporosity (SIM). The available literature demonstrates the versatility of porous organic materials. Thus, the study of their catalytic applications is a blossoming field. Recently, the scope of reactions explored has significantly increased, approaching their full catalytic potential. Many challenges addressed at molecular systems are now being examined using COFs and related materials, such as asymmetric processes or cooperative multicomponent catalysis. In addition, examples of size discrimination phenomena or confinement effects are appearing in the literature. Fundamental findings focusing on concepts and results related to the use of organic porous materials as heterogeneous catalysts are the main topic of this Special Issue.

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