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Novel Catalytic Strategies for the Synthesis of Furans and Their Derivatives

Guest Editor:

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Message from the Guest Editor

In recent years, research has focused on the development of a feasible biorefinery, proposing several strategies for the conversion of biomass and its structural components to platform chemicals. Among them, furans such as furfural and 5-hydroxymethylfurfural (HMF) represent strategic compounds thanks to their great reactivity. They can be involved in several reactions (hydrogenation, hydrogenolysis, hydrogen transfer, oxidation, etherification, etc.), leading to the production of innovative biofuels and biochemicals, such as monomers, surfactants, solvents, and adhesives. The proper tuning of the properties of catalysts (homogeneous/heterogeneous) applied in furan synthesis and in their exploitations, as well as the adopted process conditions, still represent critical aspects for the development of a sustainable and feasible process.

This Special Issue will present the most recent and significant advances in both furan synthesis and exploitation, focusing on the proposed catalytic systems, the applied process conditions, and the kinetic aspects. Original papers on the above topics and reviews are welcome for submission.