Special Issue

Cross-Coupling Strategies for the Synthesis of Functionalized Organic Compounds

Message from the Guest Editors

The continuous development of new catalysts, ligands, and strategies has expanded the scope of cross-coupling reactions, enhancing efficiency, sustainability, and substrate diversity. This Special Issue is dedicated to the latest advances and future directions in cross-coupling chemistry. We hereby extend an invitation to researchers to submit original research articles and reviews covering topics such as the following: Development of next-generation catalysts for cross-coupling; Design and application of novel coupling reagents; Activation of inert bonds in cross-coupling; Cross-coupling in continuous flow systems; Bioconjugation via cross-coupling chemistry; Innovation of cross-coupling strategies; Stereo- and enantio-selective cross-coupling; Emerging cross-coupling approaches using earth-abundant metals; Photoredox, electrochemical, and enzymatic cross-coupling; Applications of cross-coupling in total synthesis, drug discovery, and materials science; Green and sustainable cross-coupling; Scaling up cross-coupling; Integration of artificial intelligence and machine learning of coupling reactions; Mechanistic investigation and computational approaches in cross-coupling.

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As the premier open access journal dedicated to molecular chemistry, now in its 29th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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