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Special Issue Reprint

Advances in Cross-Coupling Reactions

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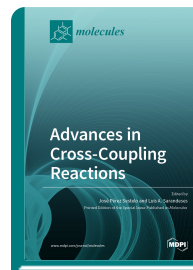
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In this Special Issue, recent advances in cross-coupling reactions are presented in the form of original research articles, reviews, and short communications. These contributions cover different topics in this area, including novel coupling reactions, reaction conditions, synthetic alternatives, metal ligands, and applications for new pharmaceutical compounds and organic materials. In particular, the reviews deal with methodologies such as the synthesis of diarylketones through palladium catalysis and the most relevant examples of Suzuki–Miyaura and Buchwald–Hartwig coupling reactions in the synthesis of bioactive compounds. The synthetic utility of cross-coupling reactions for the synthesis of medium-size rings and the utility of Stille and Suzuki coupling reactions for the synthesis of new molecular machines based on sterically hindered anthracenyl trypticenyl units are also summarized. The original research articles present the synthesis of 2-alkynylpyrroles by inverse Sonogashira coupling and the synthesis of indoles under oxidative dearomative cross-dehydrogenative conditions. The efficient combination of iridium-catalyzed C–H borylation of aryl halides with the Sonogashira coupling and a sequential iridium-catalyzed borylation of NH-free pyrroles followed by a Suzuki–Miyaura reaction are included. The synthesis of aryl propionic acids, a common structural motif in medicinal chemistry, and the synthesis of new organic dyes are also covered.



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