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ORGANOTRIFLUOROBORATES AND NEW ORGANIC TRANSFORMATIONS FOR AROYLATION, NITRATION, AMIDATION AND C-H ACTIVATION REACTIONS

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In the present world, the cross-coupling chemistry is best molecule maker in terms of atom economy, less waste, and environmentally favored. The developments in cross-coupling chemistry have extensively changed the protocols for the construction of natural products, building blocks for supramolecular chemistry and self-assembly, organic materials and polymers, and lead compounds in medicinal chemistry from simpler entities. In this work, we have furnished aroylation reactions by palladium-catalyzed cross-coupling of potassium organotrifluoroborates and aroyl chlorides, C-H activation of alkynes for conjugated enynes, nitration reactions by palladium-catalyzed cross-coupling of potassium organotrifluoroborates and sodium nitrite, and styryl amidation by Cu-Pd dual catalyst system involving styryltrifluoroborates and amides. These novel reactions and their mechanisms will be discussed.



Biography

Mohammad Al-Masum has completed his PhD from Tohoku University, Sendai, Japan under Professor Yoshinori Yamamoto and Postdoctoral studies from Montana State University, MT, USA and University of Tennessee, TN, USA. Currently, he is working as a full Professor at Tennessee State University, Nashville, TN, USA. He has published more than 30 papers in peer-reviewed journals. He is journal reviewer for many journals.

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