Abstract:
Imidazo[1,5-a]pyridine carbenes were firstly developed in 2005 by Lassaletta and Glorius, but productive catalytic utilities of their transition metal complexes have scarcely been reported since the carbenes have been just used as substitute of conventional σ-donating NHC such as IMes and IPr. During the course of our exploration of the parent imidazo[1,5-a]pyridine chemistry, we realized that the imidazo[1,5-a]pyridine carbenes likely have a significant π-accepting character with maintaining σ-donating one via theoretical and spectral investigations. With this unique property in mind, we investigated several fundamental catalyses with the NHC ligand to check the reactivity. I will introduce related my research background such as transformation of chalcogenocarbonyl compounds and direct C-H functionalizations of imidazo[1,5-a]pyridines as well.