

発表文献（この研究を発表した雑誌・図書について記入してください。）									
雑誌	論文標題 ^{GB}	Imidazo[1,5- <i>a</i>]pyridin-3-ylidenes as π -accepting carbene ligands: substituent effects on properties of N-heterocyclic carbenes							
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欧文概要 EZ

Since the first example of Imidazo[1,5-*a*]pyridine-based N-heterocyclic carbenes (NHCs) and abnormal NHCs (imidazopyridine carbenes: IPCs) was developed, those carbenes have attract much attentions as a new class of stabilized carbenes. Recently, particular interests are made to not only their structural features, but also their electronic properties. The efforts gradually revealed that the carbenes have non-negligible π -accepting character. Consequently, their transition metal (TM) complexes indicated rather different reactivities to the conventional NHC-TM complexes. Meanwhile, the steric environment also important feature of the IPC, and 5-aryl substituted compounds can be expected a similar and larger steric effect of series of Buchwald-type phosphine ligands, that should also affect the catalytic activities. Herein we studied the synthesis of several IPC-TM complexes and applied to several catalyses. As a result, we found that the IPC-Pd complexes indicated high catalytic activity for Rh-catalyzed transfer hydrogenation of ketones with *iso*-propyl alcohol as a hydrogen donor, polymerization of terminal acetylene, and Pd-catalyzed transfer semihydrogenation of alkynes with formic acid as a hydrogen donor.