Iridium(III)-Catalyzed Regioselective Branch Alkenylation of Anilines with Alkenes

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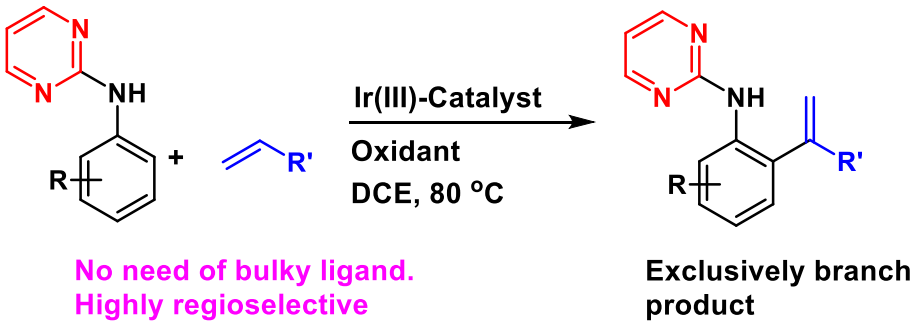
The transition metal catalyzed direct C–H bond functionalization via chelation assistance is one of the most attractive fields in organic chemistry because of it's step economical applications in synthetic field.[1] In this context, transition metal catalyzed direct C–H alkenylation reaction has emerged as a powerful tool to access various pharmaceutical precursors, complex organic molecules and drug compounds in step and atom economical manner.[2] Transition metals, such Pd, Rh, Ru and Ir have shown great advancement in the C–H bond alkenylation using directing group strategy.[3] Among all these reports, reaction provides linear alkenylated products, which is highly common. However, few examples are available for direct C–H branch-selective alkenyaltion of aniline derivatives.[4] Herein, we present the Ir(III)-catalyzed regioselective C–H branch alkenylation of aniline derivatives with alkenes using a pyrimidinyl group as a directing group. This reaction provides broad substrate scope for aniline derivatives. In addition, the reaction tolerates various important functional groups. This protocol provides regioselective branch products without using bulky phosphine ligands and branch selectivity was governed by a pyrimidinyl directing group.



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