Área: ORG

Synthesis of new cyclic sulfoxonium ylides and their application in metal-carbene-mediated N-H insertion and C-H functionalization reactions.

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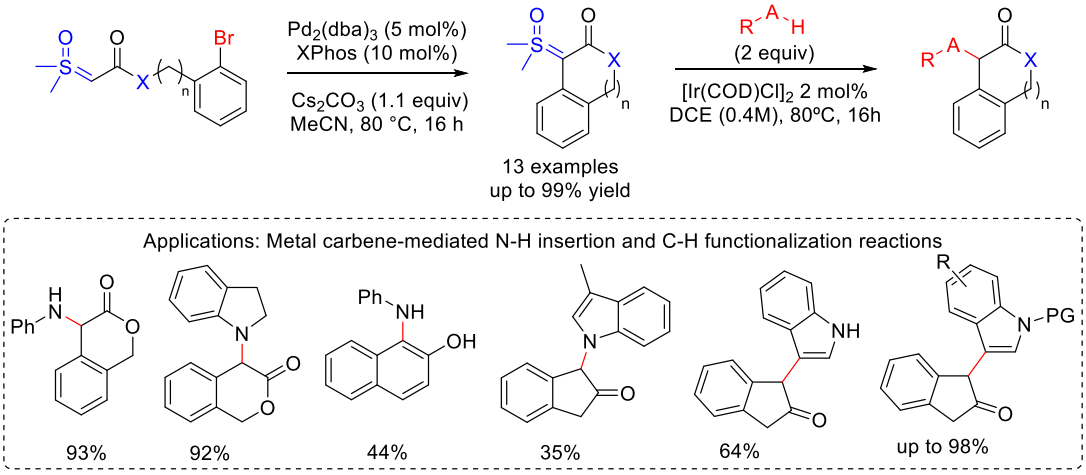
Highlights

New examples of cyclic sulfoxonium ylides were synthesized by intramolecular Pd-catalyzed cross-coupling reactions and applied in C-H functionalization of indoles and N-H insertion reactions with anilines via metal-carbene complex formation in the presence of an iridium catalyst.

Resumo/Abstract

In the last decade, sulfoxonium ylides have stablished as versatile α-carbonyl metal-carbene precursors in organic synthesis.[1] Owing to some of their inherent properties, such as the thermal stability, low toxicity and long shelf life, this class of compounds can be effectively applied in large scale reactions and has attracted the attention of many researchers, including those in the industry. The disclosure of efficient protocols to achieve new sulfoxonium ylides has also been a very active field and, as these new structures became accessible, some authentic new applications have emerged in the literature.[2] In this work, we present an intramolecular version of Pd-catalyzed cross-coupling reaction,[3] achieving 13 new examples of cyclic sulfoxonium ylides in good to excellent yields (up to 99% yield). The applicability of these compounds was demonstrated by metal-carbene mediated C-H functionalization of indoles and N-H insertion reactions with anilines in the presence of an iridium catalyst.



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