

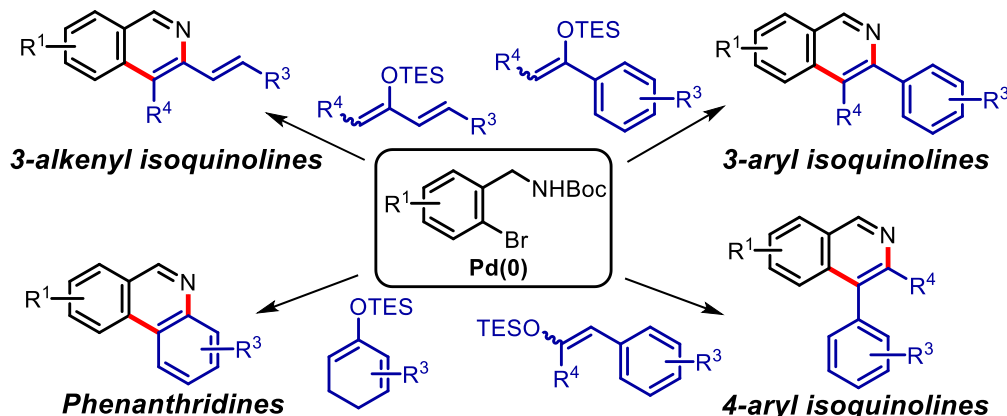
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Palladium-Catalyzed α -Arylation of Silylenol Ethers in the Synthesis of Isoquinolines and Phenanthridines

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Abstract: The isoquinoline core is one of the most significant scaffolds in biologically active *N*-heterocycles and a wide array of natural products.¹ Apart from synthetic applications in pharmaceuticals, isoquinolines also play an important role in material sciences, paints and dye industries.² A diverse array of isoquinolines and phenanthridines has been accessed by developing a two-step, one-pot method constituting regioselective palladium-catalyzed α -arylation of silylenol ethers and acid-mediated deprotection, annulation, and aromatization.³ In this approach we employed Hartwig's modification of the Kuwajima–Urabe methodology⁴ to achieve the regioselective C (sp^3) arylation of enones, ketones, and aldehydes. Structural diversity in the silylenol ethers leads to three different classes of isoquinolines and phenanthridines from which related natural products can be derived. The synthetic utility of this method is also demonstrated by the quick assembly of the alkaloid natural product trispheridine.



References and Notes:

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