

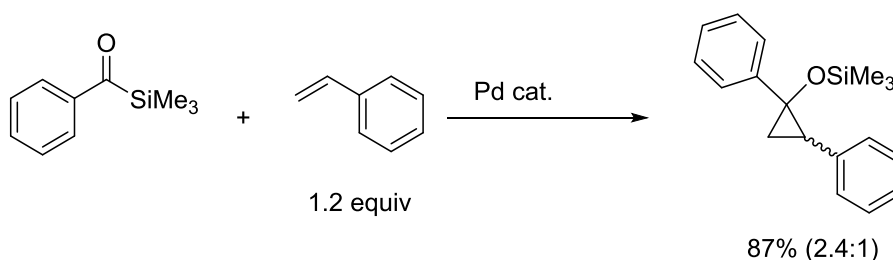
Palladium-Catalyzed Addition of Acylsilanes to Olefins via the Cleavage of a Carbon-Silicon Bond

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Among the unique reactivities exhibited by acylsilanes,¹ a 1,2-shift of the silyl group with the generation of siloxycarbenes, which occurs either thermally (>250 °C) or photochemically, has attracted the interest of synthetic chemists. In fact, the siloxycarbenes that are generated from acylsilanes have been used in insertion reactions with compounds bearing H-X bonds² and organoboronic esters.^{2f,3} Siloxycarbenes are also known to participate in the cyclopropanation of alkenes⁴ and alkynes,⁵ although the substrates are limited to electron-deficient derivatives presumably due to a nucleophilic character of siloxycarbene derivatives.

We found that cyclopropane derivatives can be produced by the palladium-catalyzed reaction of acylsilanes with various electronically neutral alkenes. This reaction proceeds in the dark, excluding the photo-mediated generation of siloxycarbenes.



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