

Ruthenium-Catalyzed Chemo- and Regioselective Alkenylation of Flavones with Alkenes through C-H Activation

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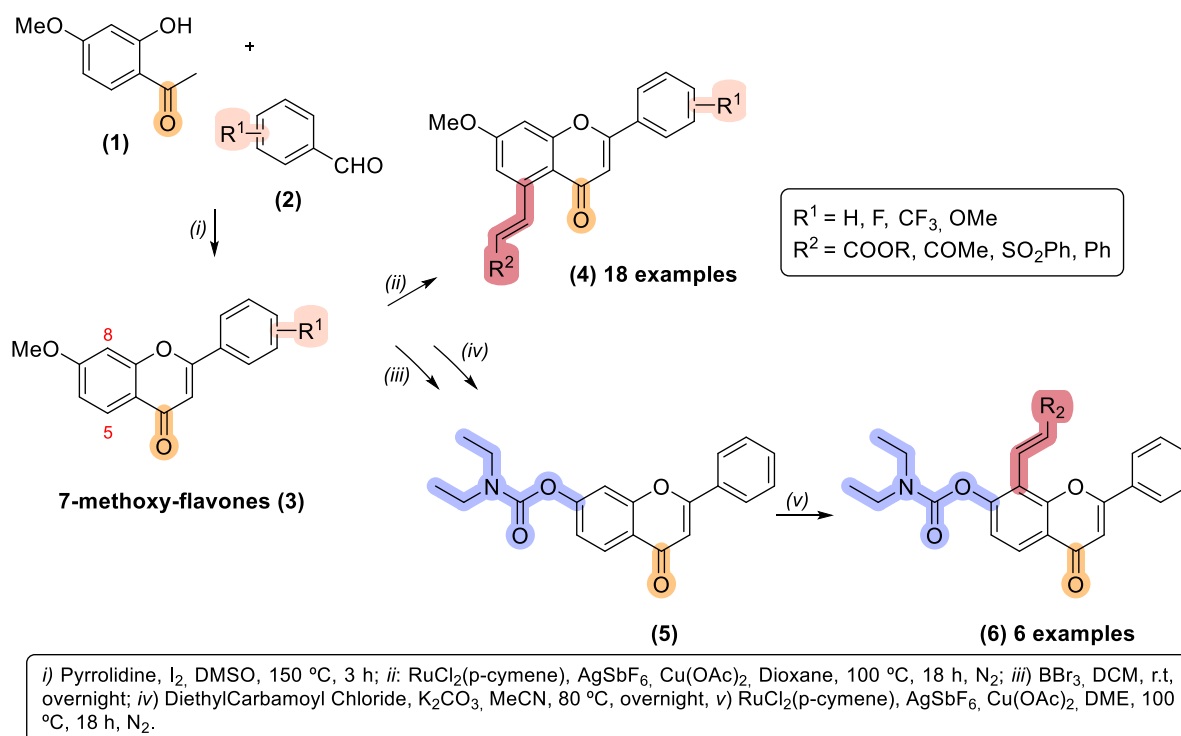
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ABSTRACT

Flavones are a diverse group of natural products commonly found in plants. These secondary metabolites exhibit several biological activities such as anti-inflammatory, antioxidant, and antitumor. Therefore, developing methods for the synthesis of functionalized flavones is extremely relevant.^[1] Transition-metal-catalyzed C-H bond olefination of arenes has been reported by employing several directing groups such as carbamates using ruthenium and rhodium complexes as catalysts.^[2-4] In this work, alkenylated flavones were prepared by ruthenium catalyst with good yields (up to 92%) (**Scheme 1**). The 7-methoxy flavones (**3**) were obtained using (**1**) and (**2**).^[5] Then, 5-alkenylated (**4**) and 8-alkenylated (**6**) flavones were synthesized by the keto and O-carbamate-directing group, respectively. In addition, in the presence of the carbamate group at C7 a chemo and regioselective process was observed. The flavone **5** coupled with alkenes exclusively to give 8-alkenylated products.



Scheme 1: Synthesis Alkenylated Flavones.

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