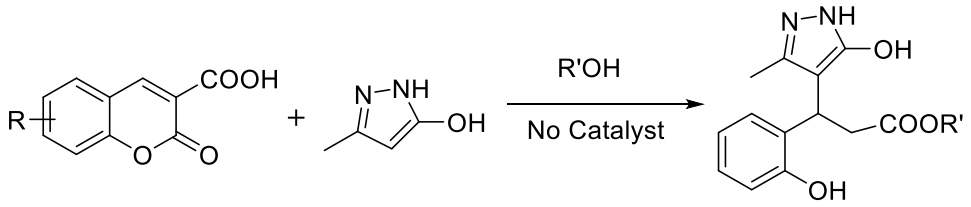
Catalyst free Michael addition of Pyrazoles on coumarins via Tandem decarboxylative esterification

An effortless and straight forward approach to new substituted coumarin derivatives via Michael addition of pyrazole and coumarin followed by Rauhut- Currier type Adducts under ambient reaction conditions has been described. Recently coumarin has received a great deal of interest due to its medicinal properties, and those associated with nitrogen heterocyclic moieties further broadens the scope of its activity. Among heterocyclic compounds, Coumarin and Pyrazoles are the most privileged structures for their biological and pharmacological activities. Coumarins were mostly found in natural products like plant, mouldy wet, clover hay and is a naturally occurring anti-coagulant. Scoparone a Chinese herb is used for the treatment of diseases related to liver, specifically for Yanghuang syndrome (YHS), Osthole a natural occurring coumarin is used in regulating ion channels controlling neuroendocrine function, Dicoumarol is existing in both plant and fungi origin functions as vitamin K depleter. Synthetic and natural coumarin derivatives, both are considered to have a wide range of anti-inflammatory, anticancer, anti-oxidant, antibacterial, as well as anti-HIV activity. Herein a simple method for the assimilation of different Coumarin and Pyrazoles has been demonstrated. The adducts further undergo hydrolysis/ decarboxylation Resulting in formation of ester like products.



Michael Addition of pyrazole and coumarin 3- carboxylic acids

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Biography

Area of research is chiral synthesis of biologically active molecules, using heterogenous catalysis. Trying to collaborate with researchers of other discipline especially in chemistry and life sciences to further explore the medicinal properties of the existing molecules. The methodologies has been developed after years of trial and experimentation which utilizes previously reported literature, measurements and evaluation with the aim of providing new insight to the developing methods, substrate scope and mechanism of their action towards different activity.

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