



Synthesis and Functionalization of Coumarin-Pyrazole Scaffold: Recent Development, Challenges, and Opportunities

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Abstract

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Supplementary Data

Heterocycles are the main structural motif of DNA and RNA and play a crucial role in various chemical reactions of metabolisms. Therefore, heterocyclic compounds show good physiological and pharmacological properties. Coumarin and pyrazole scaffolds are present in many commercial drug molecules and natural products. This review overviews the progress made in the synthesis and functionalization of the coumarin-pyrazole hybrid heterocycle. It also includes discussion on the possible reactive sites of heterocycles, functionalization, and mechanistic pathways to incorporate pyrazole pharmacophore unit in synthesis. Several synthesis and biological studies reveal that the combination of the coumarin-pyrazole moiety is a prominent structural motif to find lead compounds in drug discovery.

Keywords: Coumarin-pyrazole; DNA; Vilsmeier-Haack; formylation; heterocycles; multicomponent reactions

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