Reaction of Coumarin Derivatives with Nucleophiles in Aqueous Medium

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A series of heterocycles was synthesized by the reaction of α,β-unsaturated ketones of benzopyrans or coumarins with various nucleophiles in aqueous medium bearing two points of diversity. Compared to an identical library generated by conventional parallel synthesis, a microwave-assisted procedure dramatically decreased reaction times from hours to minutes, and yields of products and intermediates were improved remarkably. This synthetic approach is ecofriendly in nature which features water as solvent, microwave irradiation, and usage of a "green" catalyst (K_2CO_3).

Key words: Aqueous Medium, Potassium Carbonate, Microwave Irradiation (MWI), Nucleophiles, 4-Hydroxycoumarin