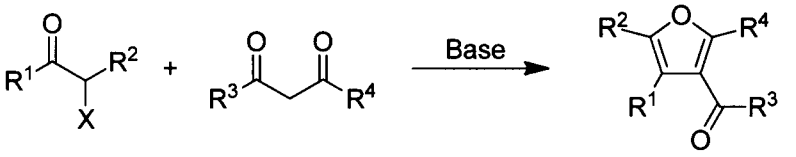
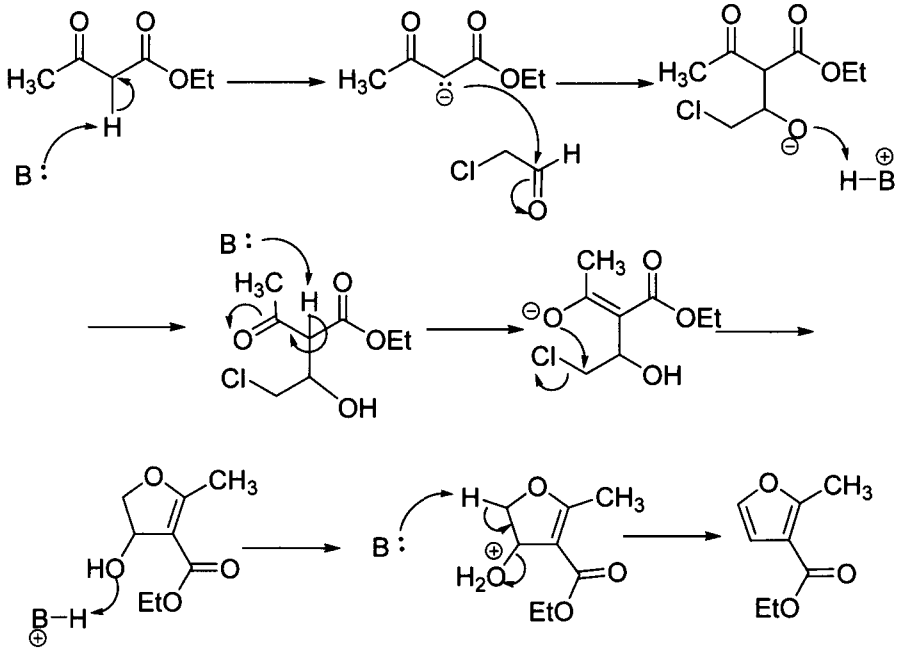
between an α-halocarbonyl, such as chloroacetaldehyde or chloroacetone, and a β-dicarbonyl, such as ethyl acetoacetate or a derivative of ethyl acetoacetate, in the presence of a base (usually pyridine, triethylamine, or sodium hydroxide) under thermal conditions. The resulting product, a 3-furoate, is produced in modest to good yield.



The Feist–Bénary synthesis proceeds via an aldol reaction followed by intramolecular *O*-alkylation and dehydration to yield the furan product as illustrated below.[27] The reaction can be modified such that a substituted 1,4-dicarbonyl is produced.[28] This can be then used to synthesize furan derivatives under Paal–Knorr conditions.



The Feist–Bénary furan synthesis is most commonly used for the preparation of 2-substituted 3-furoates, including ethyl 2-methyl-3-furoate, the original compound prepared by Bénary.[29] The resulting ester is generally converted into a carboxylic acid for use in a variety of transformations, including decarboxylation to produce the corresponding 2-substituted furan. For example, reaction of ethyl 7-methyl-3-oxooct-6-enoate with