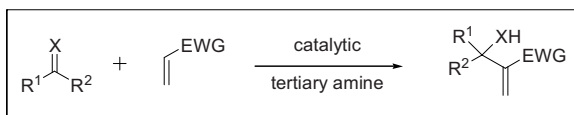


Baylis–Hillman reaction

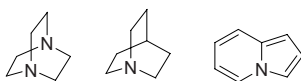
Also known as Morita–Baylis–Hillman reaction. It is a carbon–carbon bond-forming transformation of an electron-poor alkene with a carbon electrophile. Electron-poor alkenes include acrylic esters, acrylonitriles, vinyl ketones, vinyl sulfones, and acroleins. On the other hand, carbon electrophiles may be aldehydes, α -alkoxycarbonyl ketones, aldimines, and Michael acceptors.

General scheme:

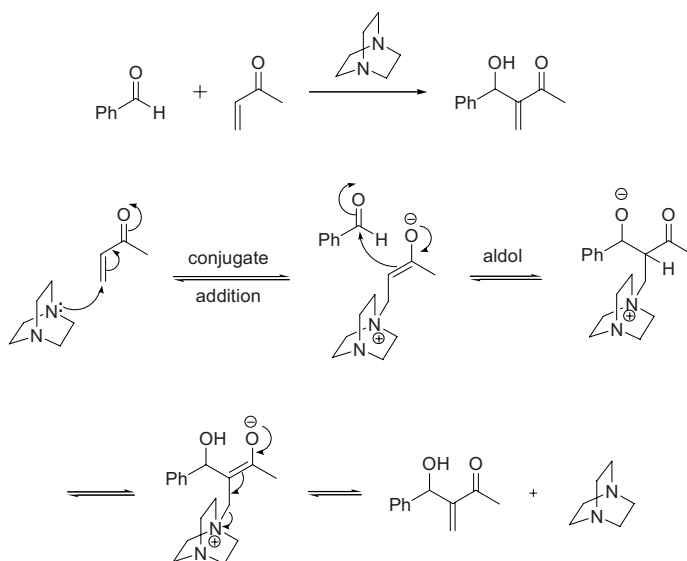


X = O, NR₂, EWG = CO₂R, COR, CHO, CN, SO₂R, SO₃R, PO(OEt)₂, CONR₂, CH₂=CHCO₂Me

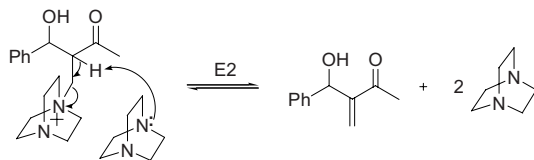
Alternative catalytic tertiary amines:



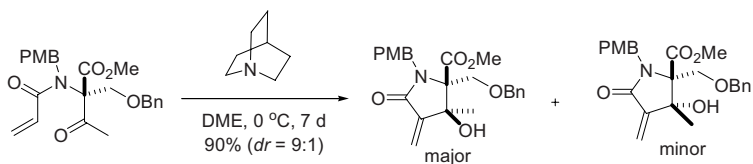
Example 1:



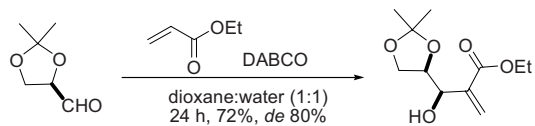
E2 (bimolecular elimination) mechanism is also operative here:



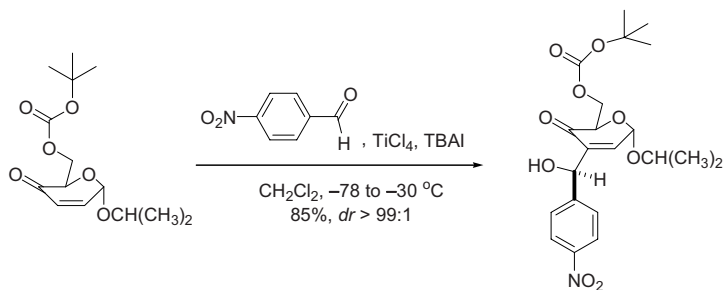
Example 2, Intramolecular Baylis–Hillman reaction⁶



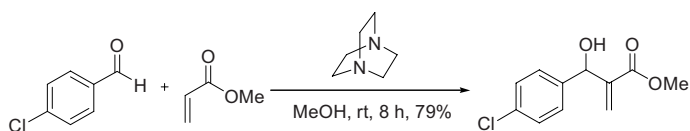
Example 3⁷

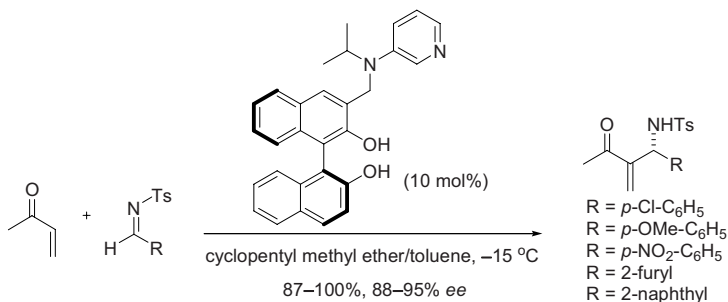


Example 4⁸



Example 5⁹



Example 6¹⁰

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