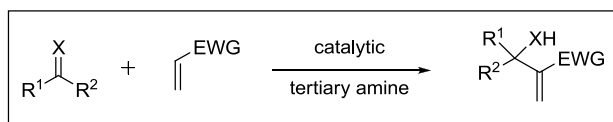


## Baylis–Hillman reaction

Also known as the 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,  $\alpha$ -alkoxycarbonyl ketones, aldimines, and Michael acceptors. General scheme:



X = O, NR<sub>2</sub>, EWG = CO<sub>2</sub>R, COR, CHO, CN, SO<sub>2</sub>R, SO<sub>3</sub>R, PO(OEt)<sub>2</sub>, CONR<sub>2</sub>, CH<sub>2</sub>=CHCO<sub>2</sub>Me

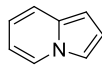
Catalytic tertiary amines:



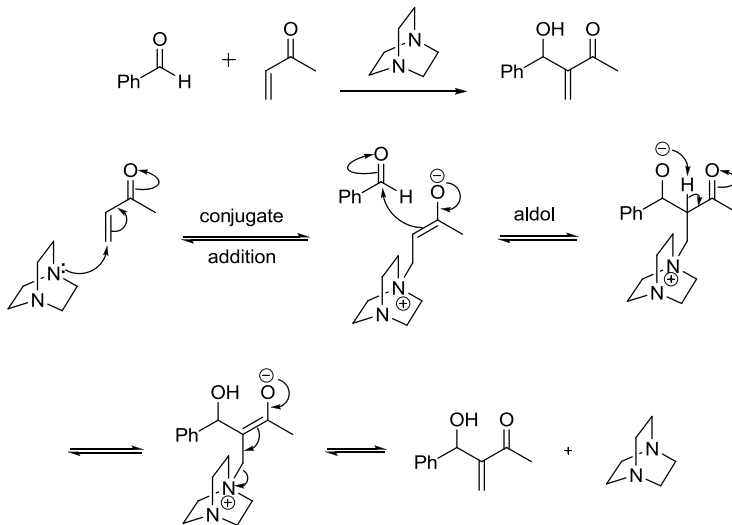
DABCO



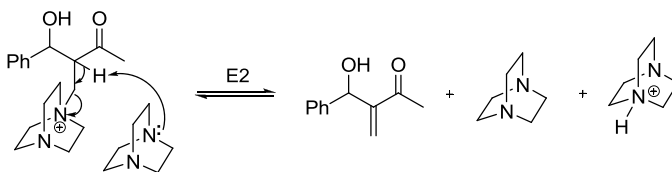
quinuclidine



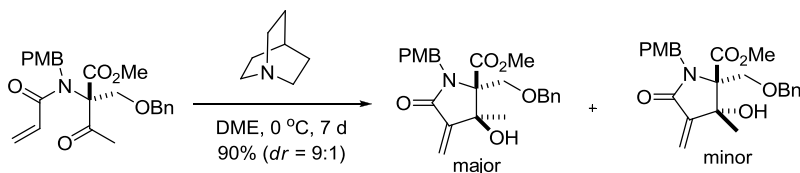
Indolizine



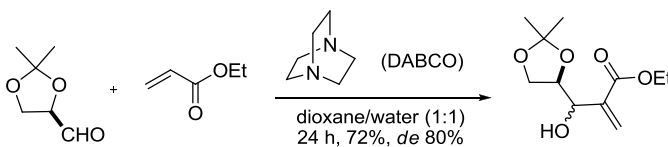
E2 (bimolecular elimination) mechanism is also operative here:



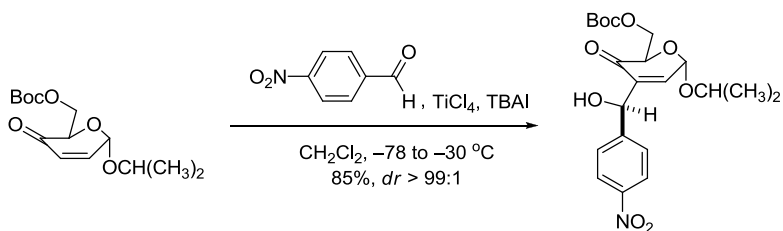
Example 1, Intramolecular Baylis–Hillman reaction<sup>6</sup>



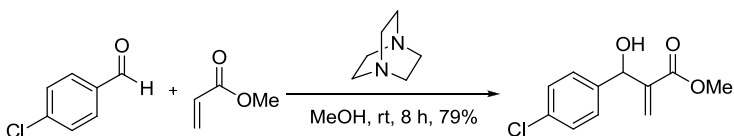
Example 2<sup>7</sup>

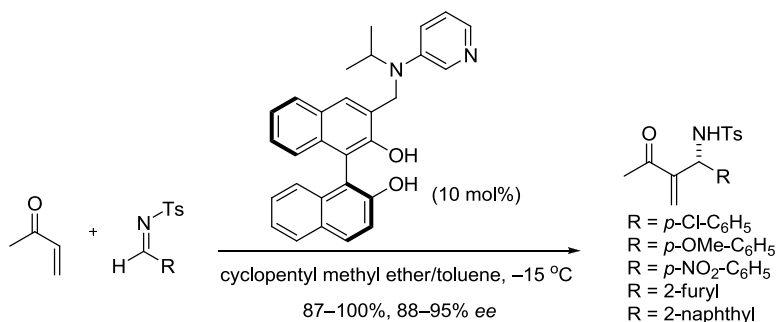
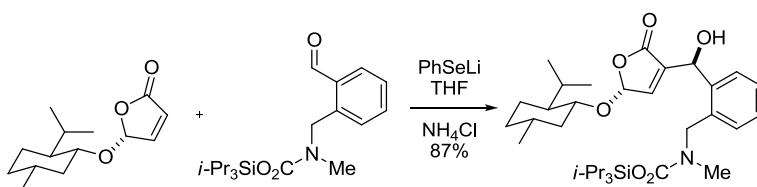


Example 3<sup>8</sup>



Example 4<sup>9</sup>



Example 5<sup>10</sup>Example 6<sup>13</sup>

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