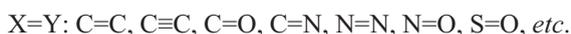
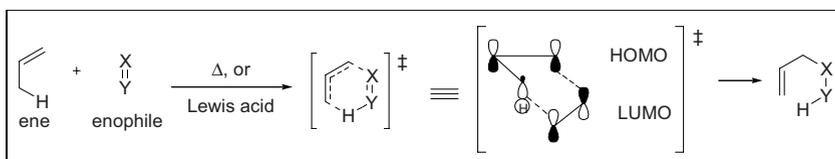
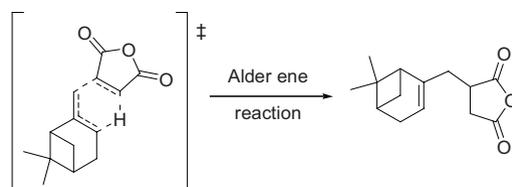
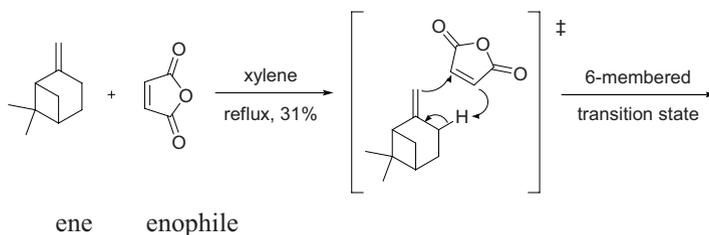


## Alder ene reaction

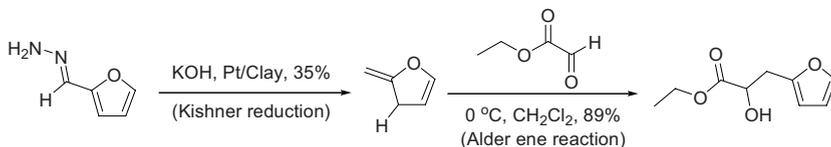
The Alder ene reaction, also known as the hydro-allyl addition, is addition of an enophile to an alkene (ene) *via* allylic transposition. The four-electron system including an alkene  $\pi$ -bond and an allylic C–H  $\sigma$ -bond can participate in a pericyclic reaction in which the double bond shifts and new C–H and C–C  $\sigma$ -bonds are formed.



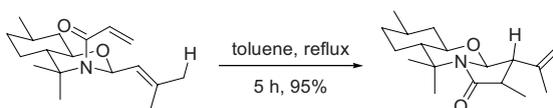
### Example 1<sup>5</sup>

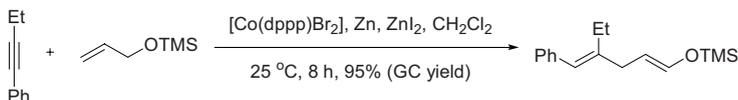
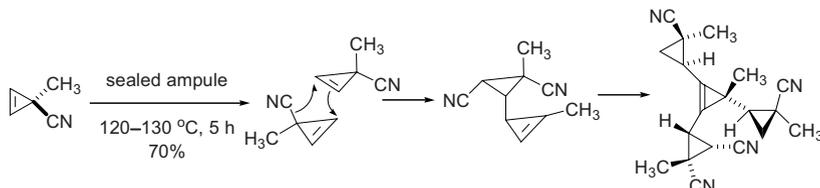
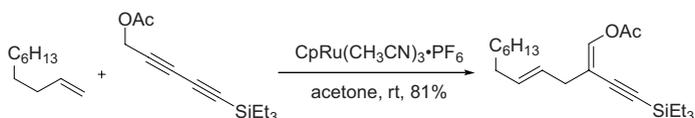


### Example 2<sup>7</sup>



### Example 3, Intramolecular Alder-ene reaction<sup>8</sup>



Example 4, Cobalt-catalyzed Alder-ene reaction<sup>9</sup>Example 5, Nitrile-Alder-ene reaction<sup>10</sup>Example 6<sup>11</sup>

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