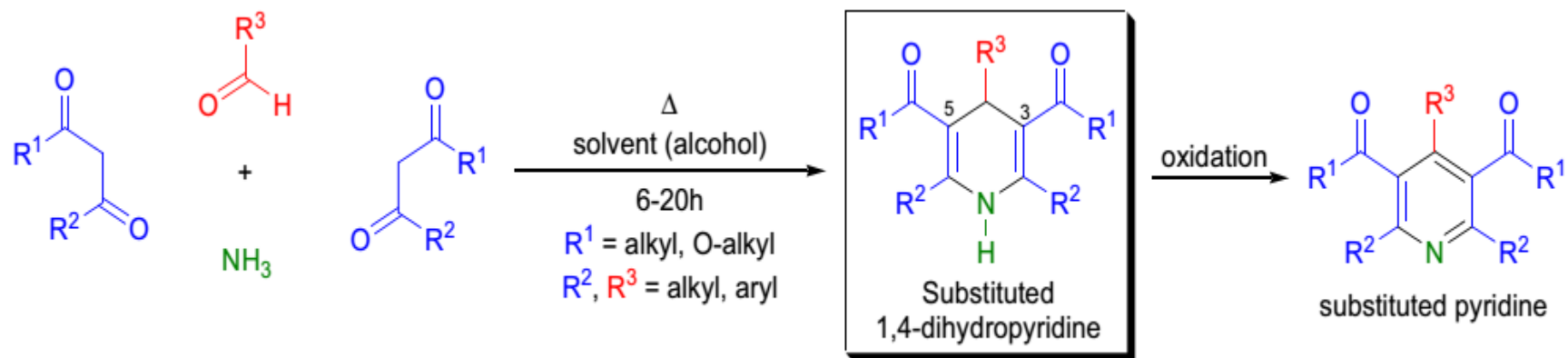


HANTZSCH

DIHYDROPYRIDINE

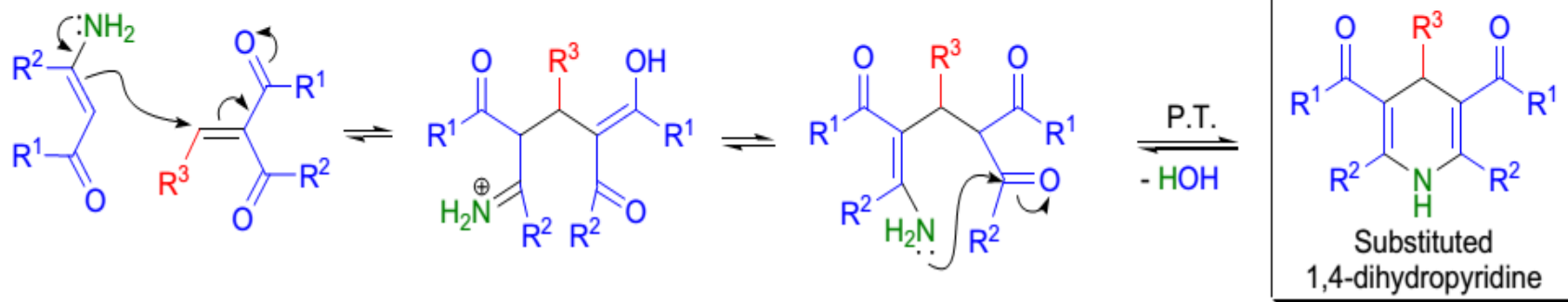
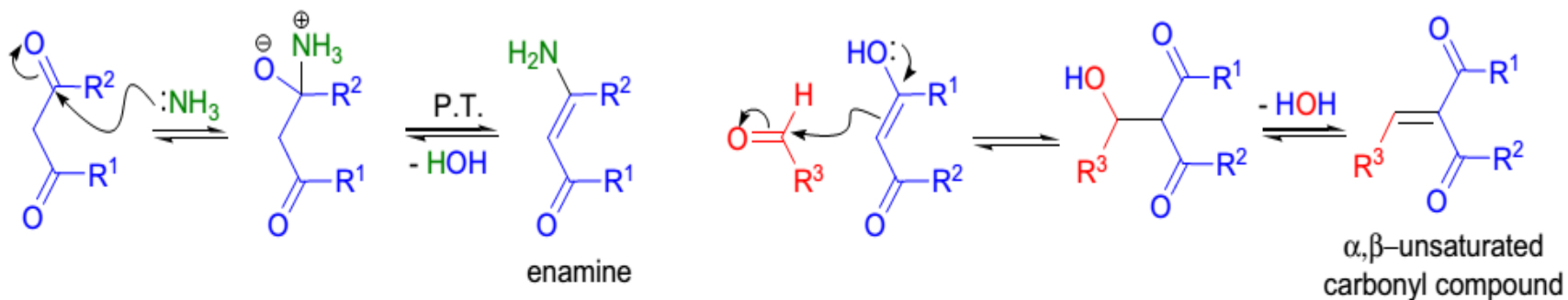
SYNTHESIS

- **Arthur Rudolf Hantzsch** (7 March 1857 – 14 March 1935) was a German chemist.
- In 1882, A. Hantzsch condensed two moles of ethyl acetoacetate with one mole of acetaldehyde and ammonia to obtain a fully substituted symmetrical dihydropyridine.
- The one-pot condensation of a β -keto ester or a 1,3-dicarbonyl compound with an aldehyde and ammonia to prepare 1,4-dihydropyridines is known as the Hantzsch dihydropyridine synthesis.

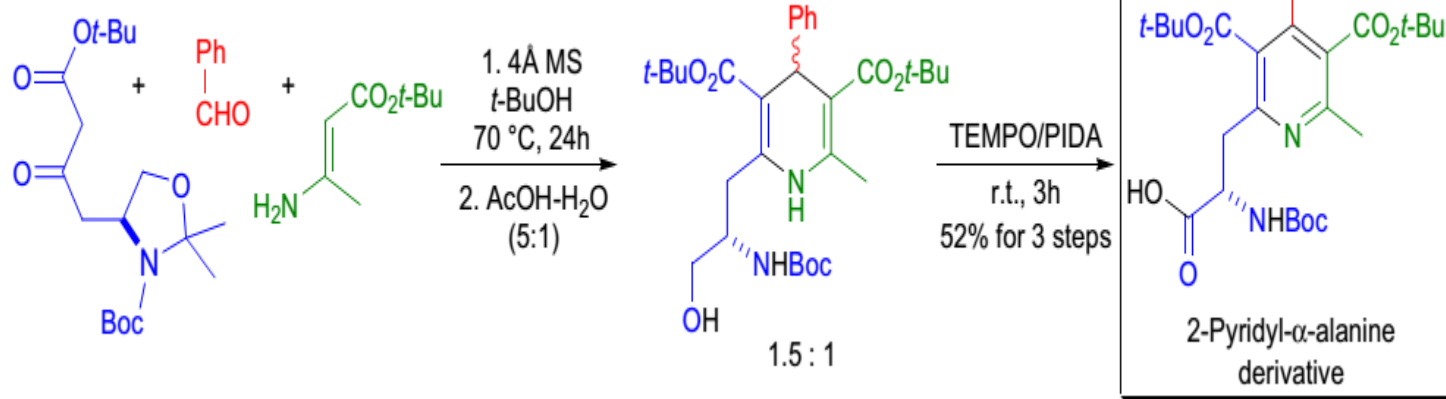
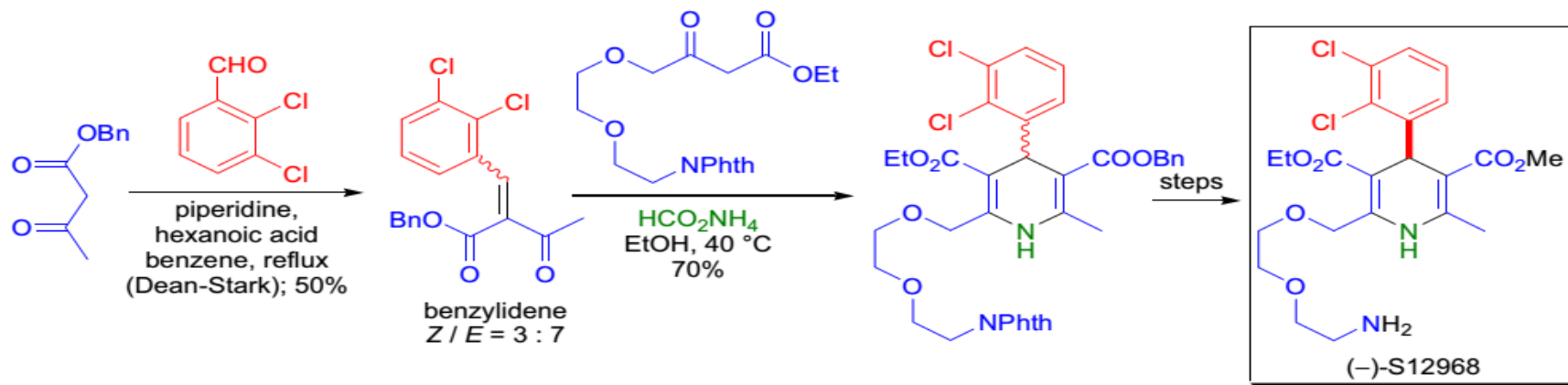


- aliphatic, aromatic, heterocyclic, and α,β -unsaturated aldehydes can be used as the aldehyde component.
- ammonia or primary amines are suitable as the amine component.
- the dicarbonyl component is usually an acyclic or cyclic β -keto ester, β -keto aldehyde, or a 1,3-diketone.
- the product of the reaction is a symmetrical dihydropyridine, which is formed in good or excellent yield.
- if the C3 and C5 substituents are electron-withdrawing, the dihydropyridine is stable enough to be isolated.
- the reaction conditions can range from basic media all the way to strongly acidic solutions, and the choice of conditions needs to be optimized for the given system.
- good yields are obtained with substrates having electron-withdrawing groups.
- sterically congested aldehydes generally give low yields

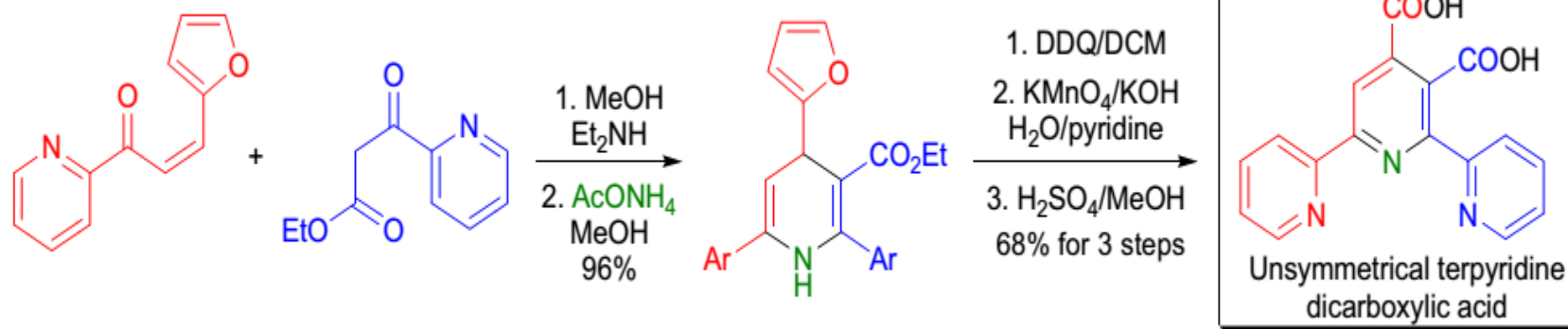
Features



Mechanism



Applications



Applications



Thanks
