

CHEM – 750

Advanced Organic synthesis

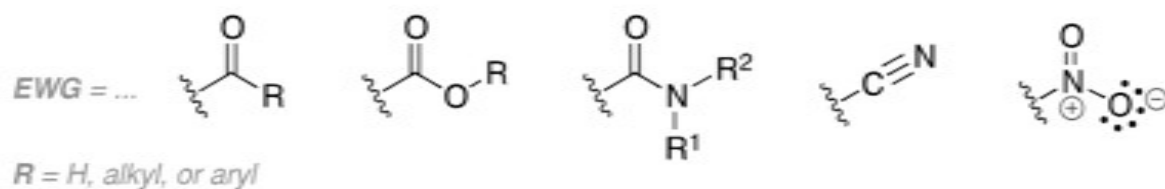
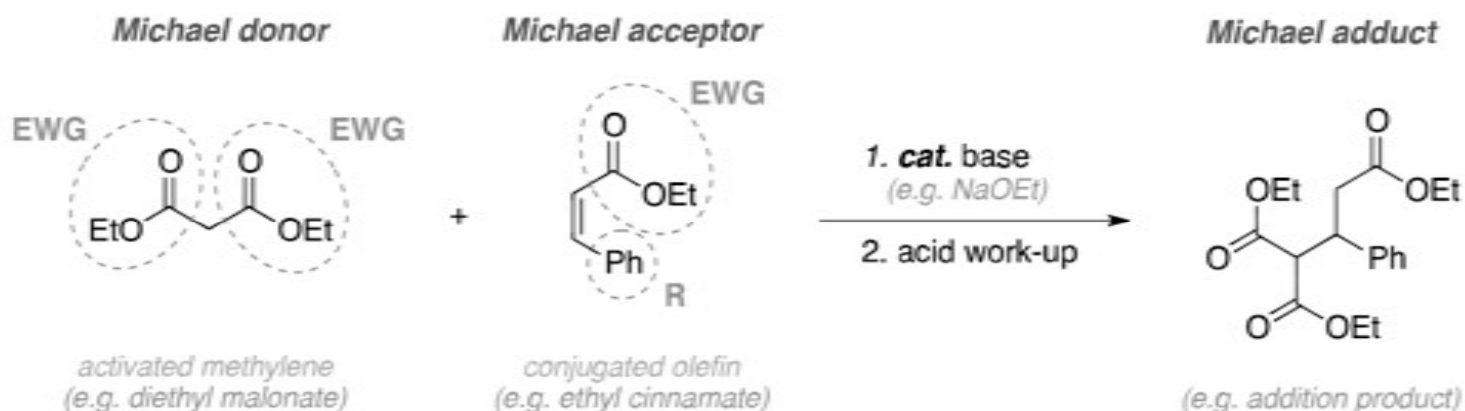


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Reactions of Enolates

1,4-Addition (Conjugate Addition or Michael Addition)

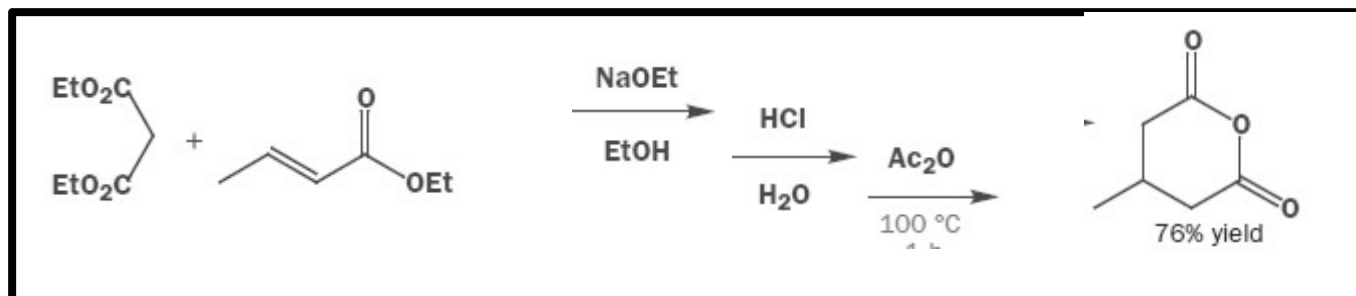
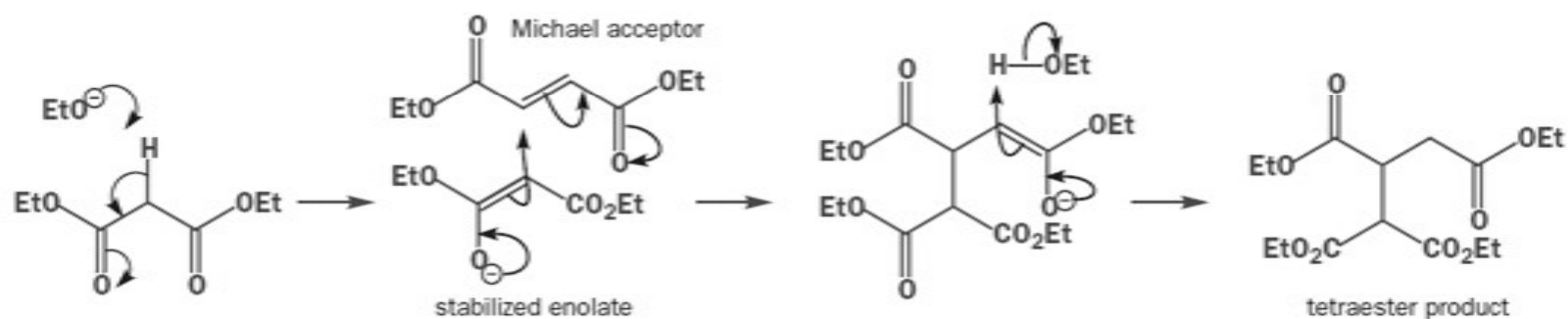
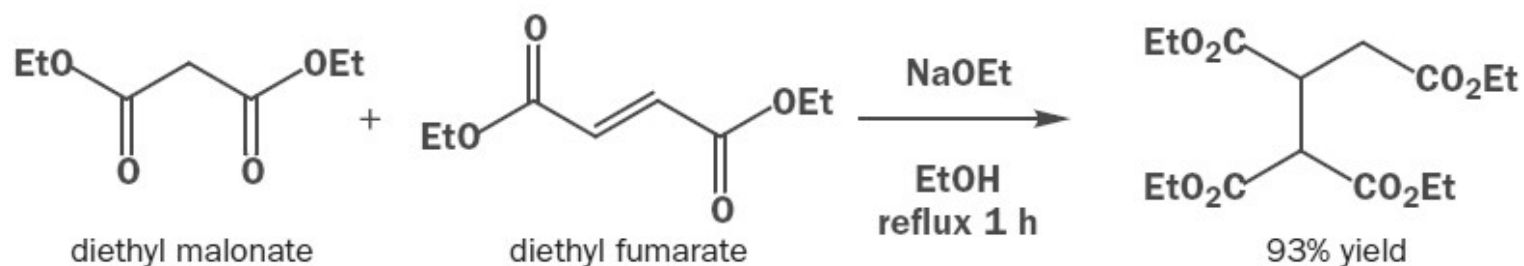


The reagents could be made of a combination of different EWGs



1,4-Addition (Conjugate Addition or Michael Addition)

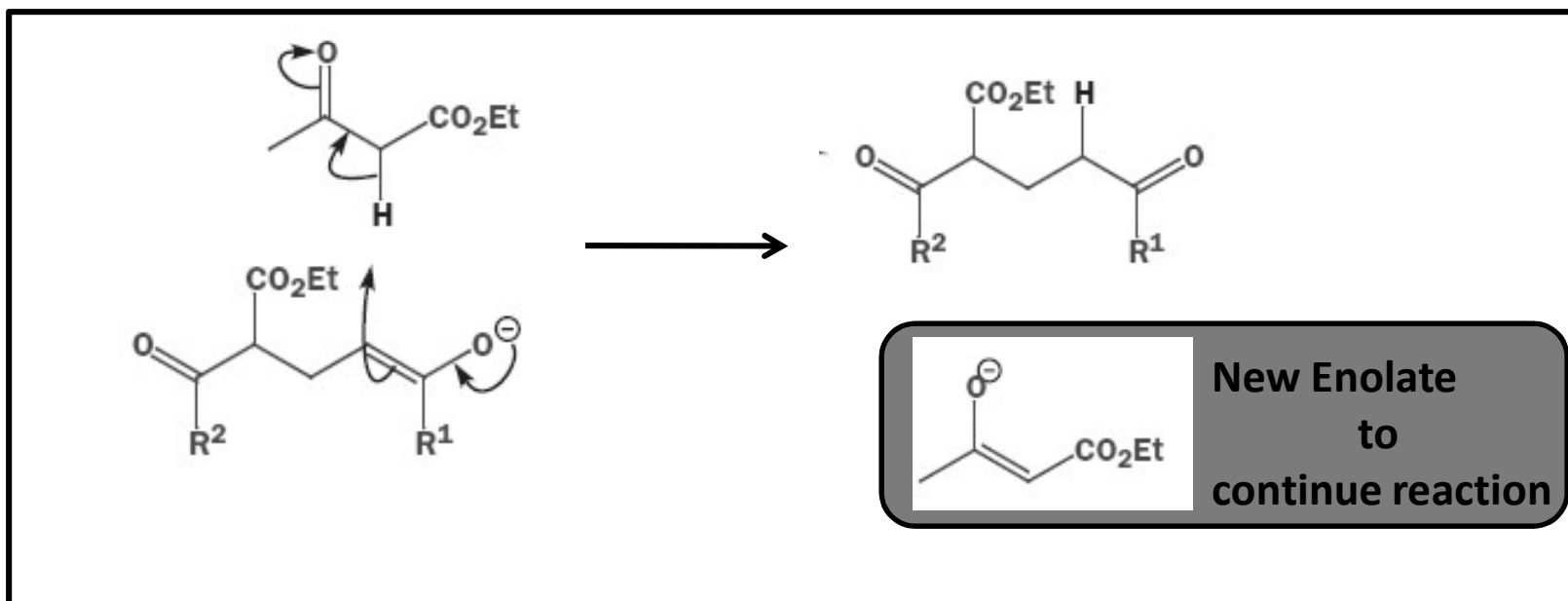
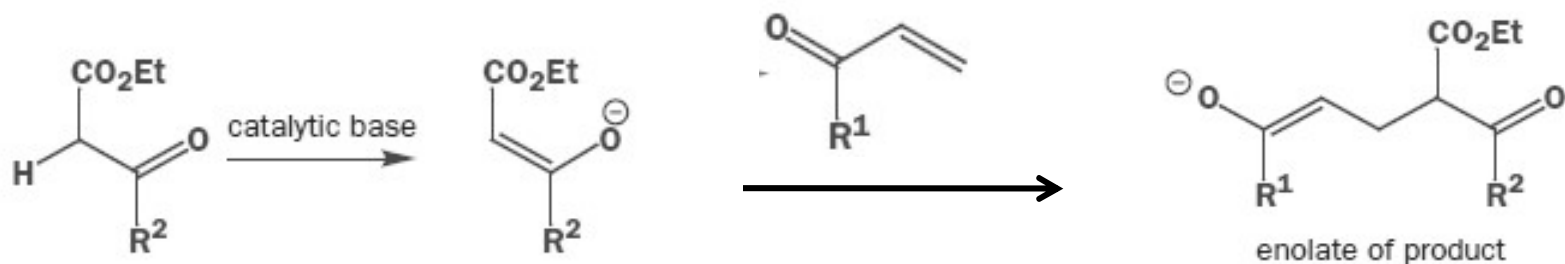
Esters are excellent Michael acceptors





1,4-Addition (Conjugate Addition or Michael Addition)

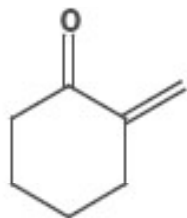
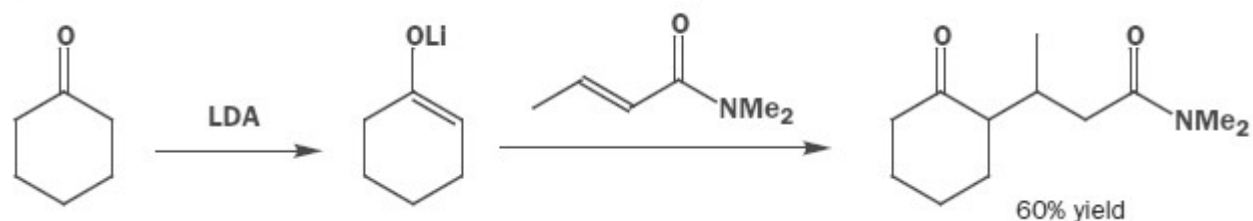
Catalytic amount of base is required



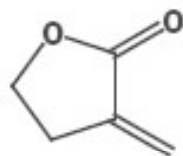


1,4-Addition (Conjugate Addition or Michael Addition)

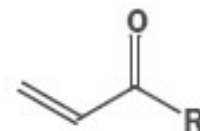
Michael acceptors



exo-methylene ketones

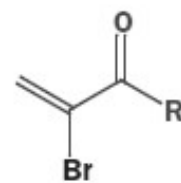
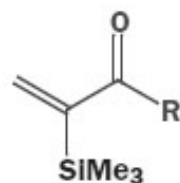
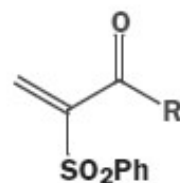
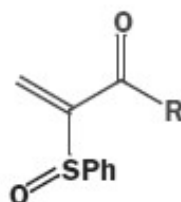
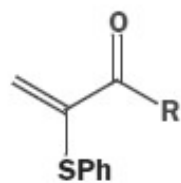
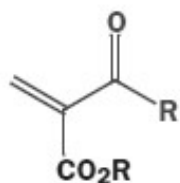


exo-methylene lactones



vinyl ketones

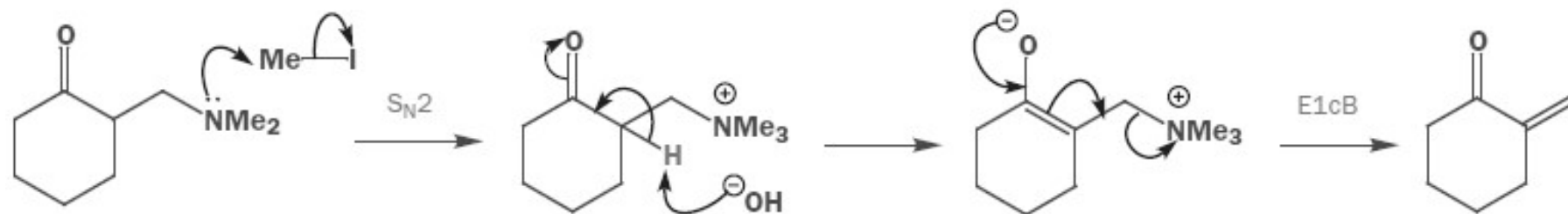
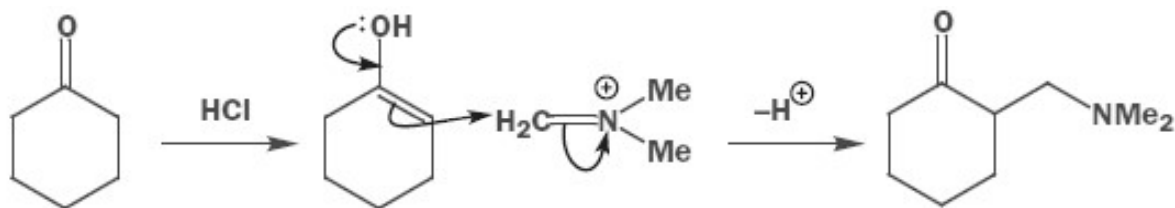
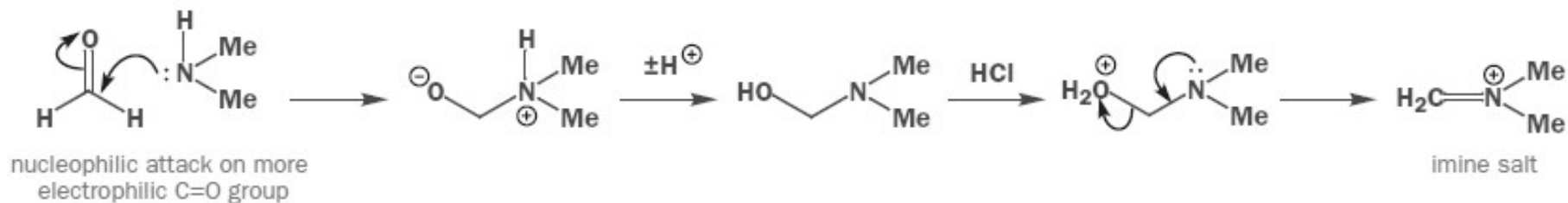
extra anion-stabilizing substituent in the α position.





1,4-Addition (Conjugate Addition or Michael Addition)

Mannich reaction



1. alkylate amine to give ammonium salt 2. treat with base: E1cB elimination gives enone



1,4-Addition (Conjugate Addition or Michael Addition)

Mannich reaction in conjugate addition

