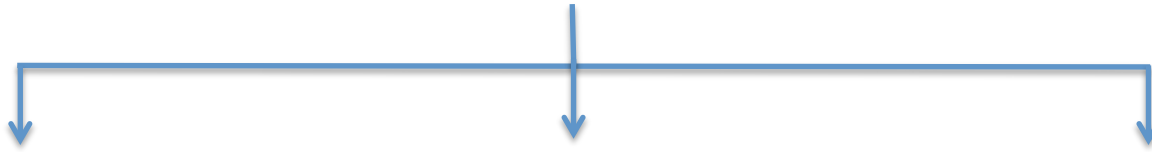


Selectivity

Selectivity



Chemoselectivity

(Which)

Regioselectivity

(Where)

Stereoselectivity

(How)

Chemoselectivity

Preferential selectivity of one functional group over other

Two different functional groups and unequal reactivity

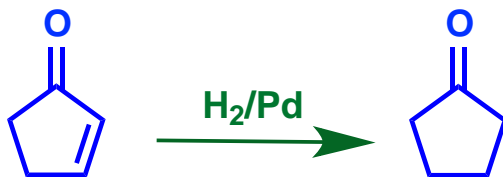
Reaction of one of two identical functional groups

Selectivity

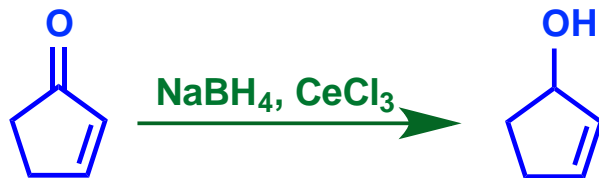
Reaction of a group once, when it may react again

Selective Reduction:

Chemoselective reduction of $C=C$ over $C=O$:



Chemoselective reduction of $C=O$ over $C=C$:

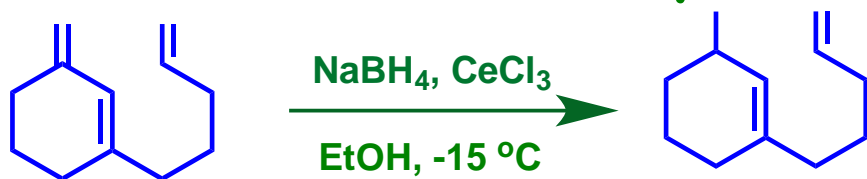


Chemoselective reduction of α,β -unsaturated ketones over allylic alcohols:



Selectivity

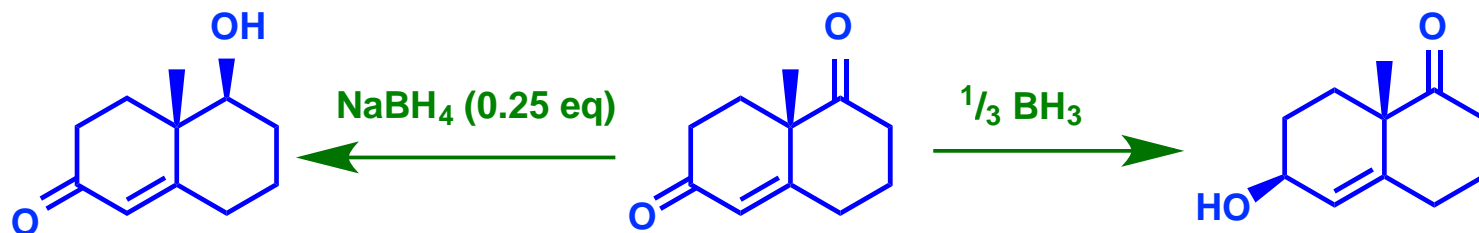
Chemoselectivity



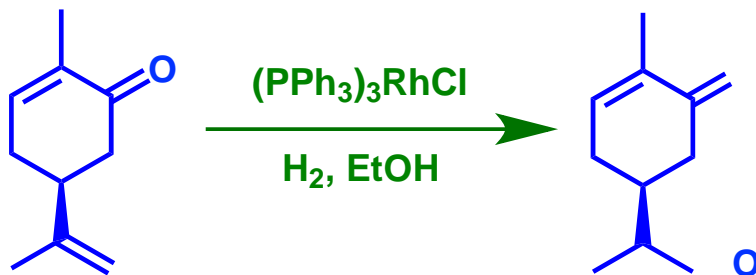
Selectivity

Chemoselectivity

Selective Reduction:



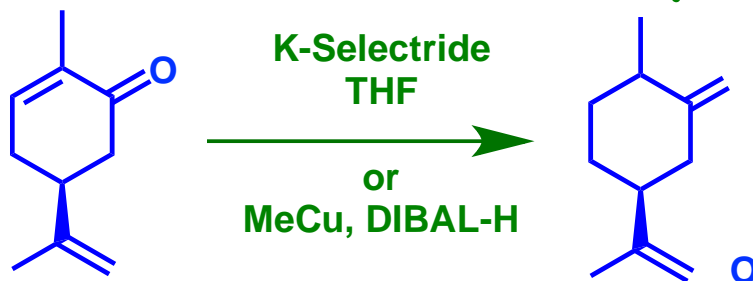
Chemoselective reduction of alkenes over alkenones:



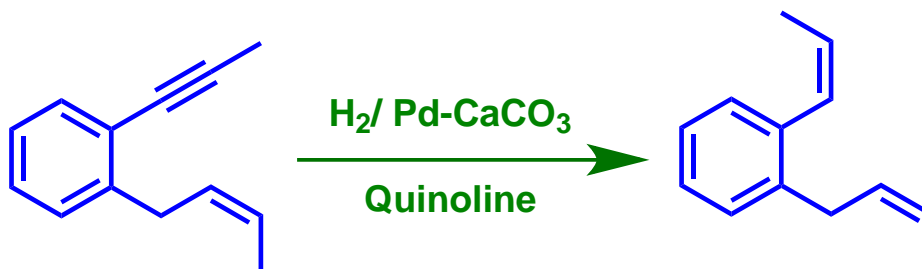
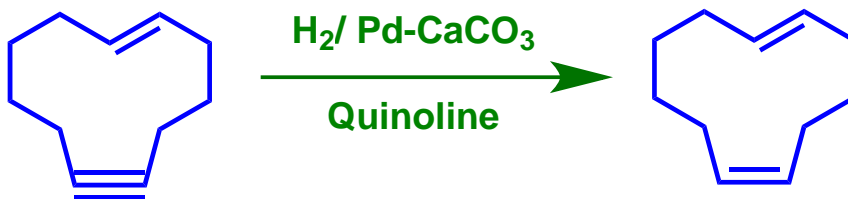
Chemoselective reduction of alkenones over alkenes:

Selectivity

Chemoselectivity



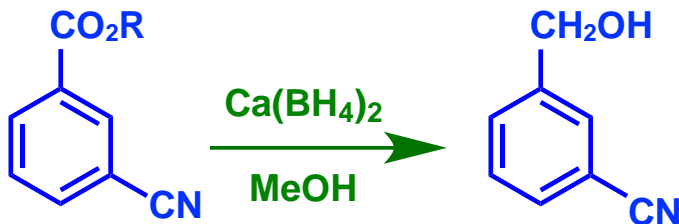
Chemoselective reduction of alkynes over alkenes:



Selectivity

Chemoselectivity

Chemoselective reduction of COOR over CN:



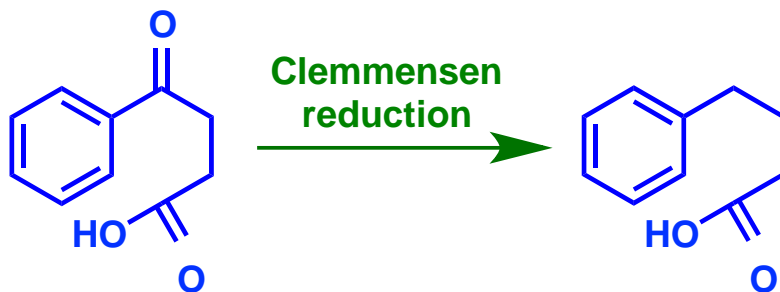
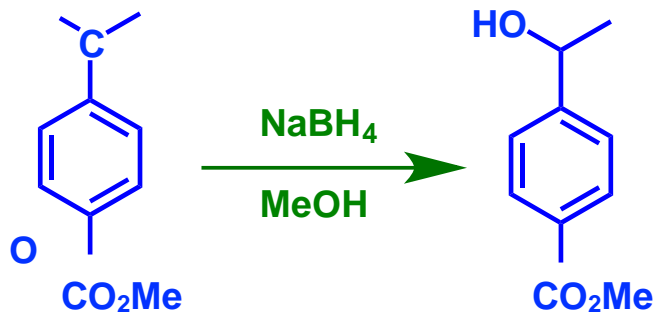
Chemoselective reduction of α,β -unsaturated esters in presence of alkenes :



Chemoselective reduction of C=O over COOR:

Selectivity

Chemoselectivity



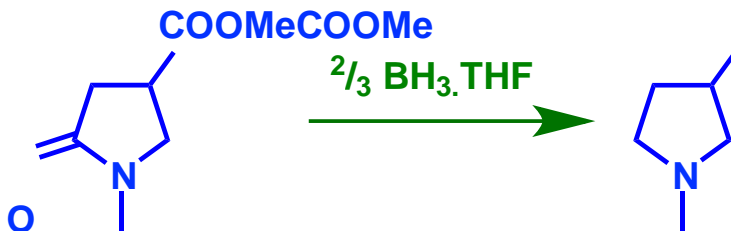
Chemoselective reduction of carboxylic acids in presence of esters, nitro and cyano groups:

Selectivity

Chemoselectivity



Chemoselective reduction of amides in presence of esters:

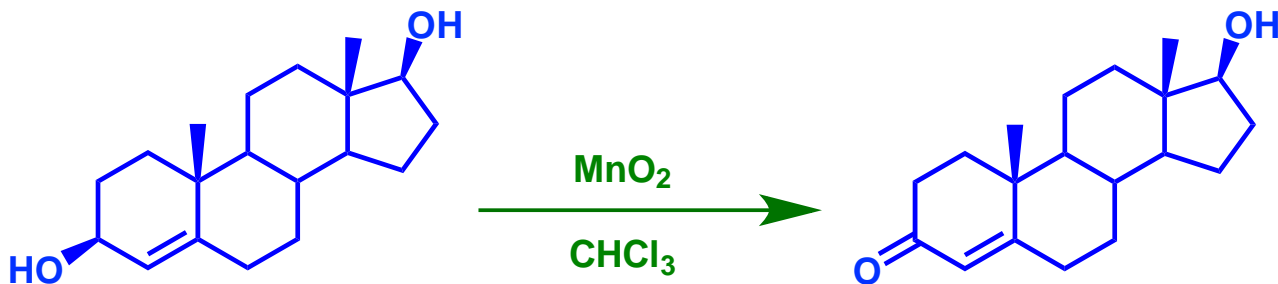


Selective Oxidation:

Selectivity

Chemoselectivity

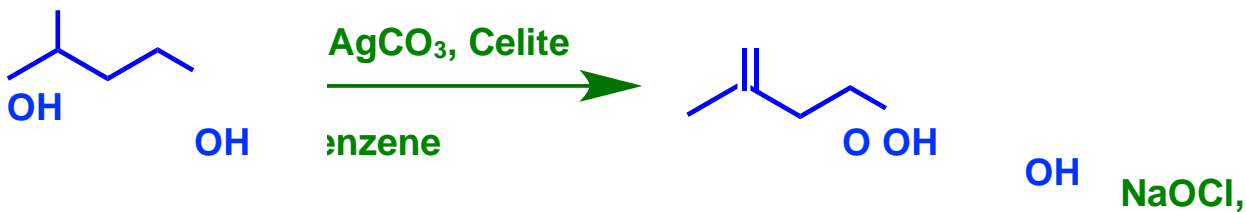
Chemoselective oxidation of allylic alcohols over other



alcohols:

Chemoselective oxidation of secondary alcohols over primary

alcohols



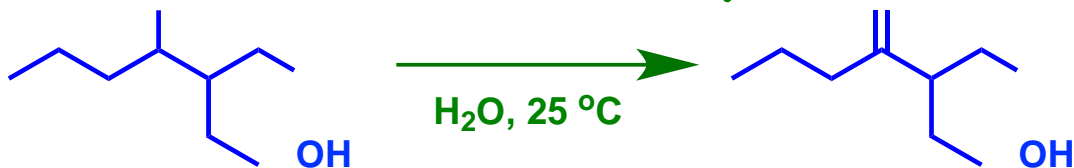
AcOH

O

NaOCl,

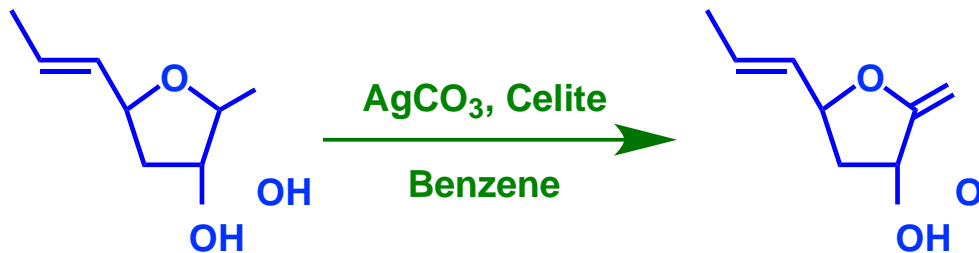
Selectivity

Chemoselectivity



Selective Oxidation:

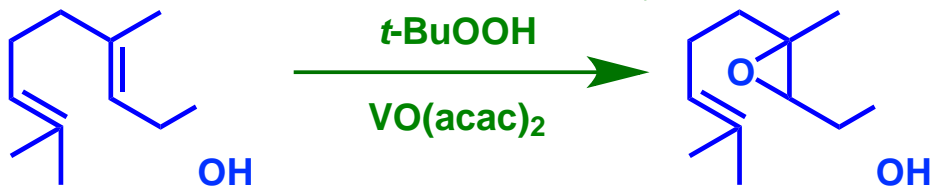
Chemoselective oxidation of lactols over other alcohols:



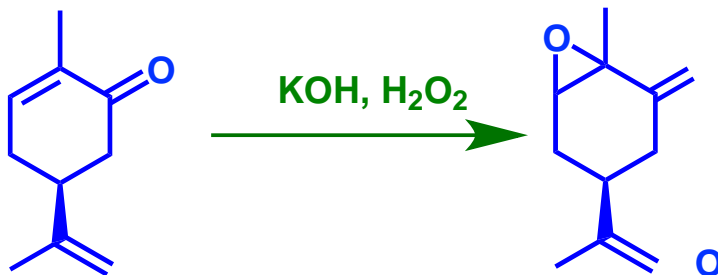
Chemoselective epoxidation of allylic alcohols over unfunctionalized alkenes:

Selectivity

Chemoselectivity



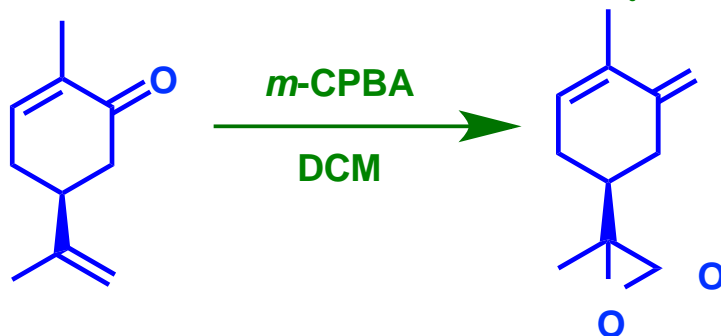
Chemoselective epoxidation of α,β -unsaturated ketones over alkenes:



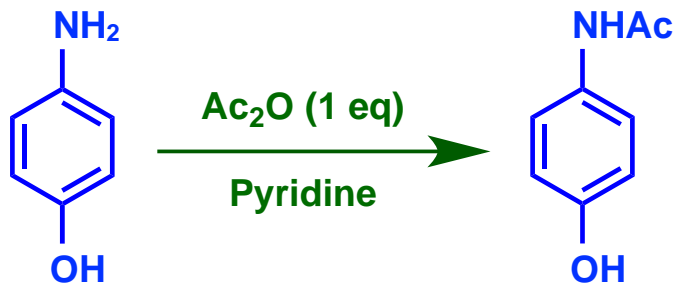
Chemoselective epoxidation of alkenes over α,β -unsaturated ketones:

Selectivity

Chemoselectivity



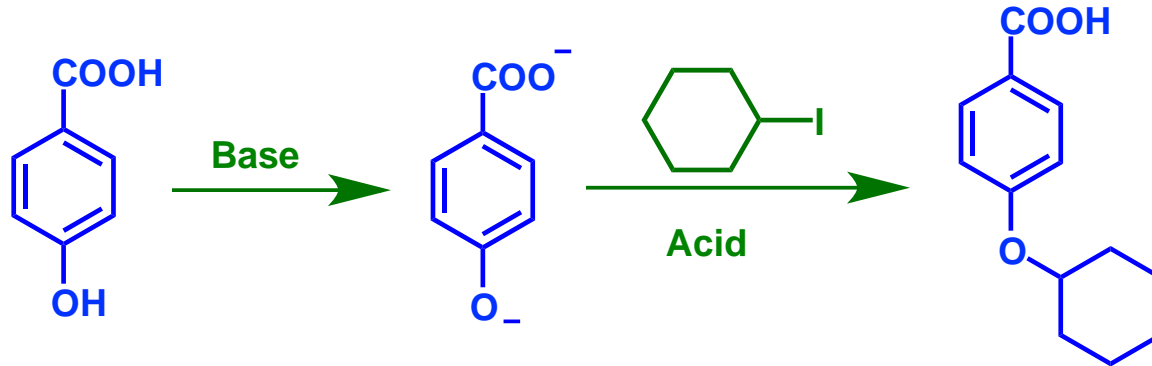
Chemoselective acylation of amines over phenols:



Chemoselective alkylation of phenols over carboxylic acids:

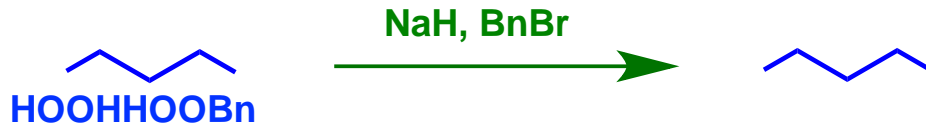
Selectivity

Chemoselectivity



Reaction of One of Two Identical Functional Groups:

Monoprotection of a diol:



Monohydrolysis of an ester:

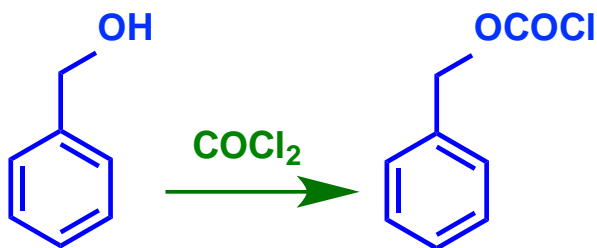
Selectivity

Chemoselectivity



Reaction of A Group Once When It May React Again:

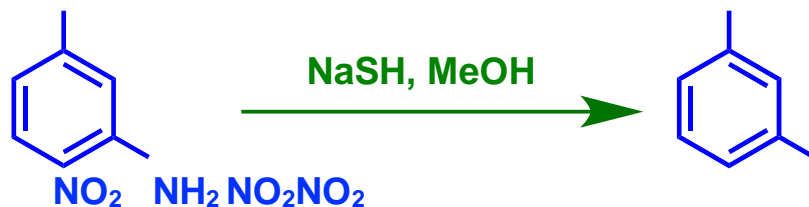
Preparation of half esters:



Partial reduction of dinitro compounds:

Selectivity

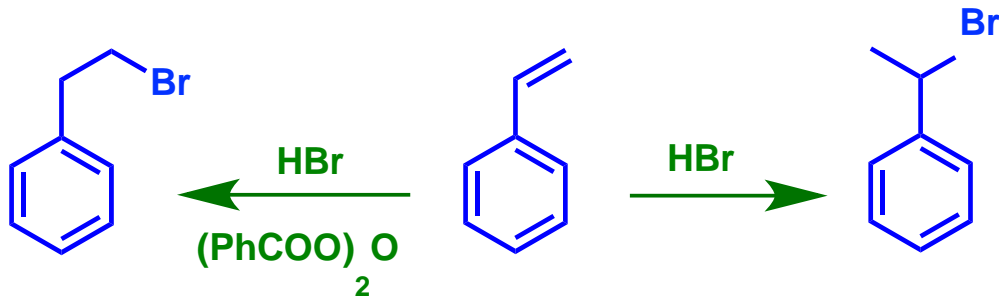
Chemoselectivity



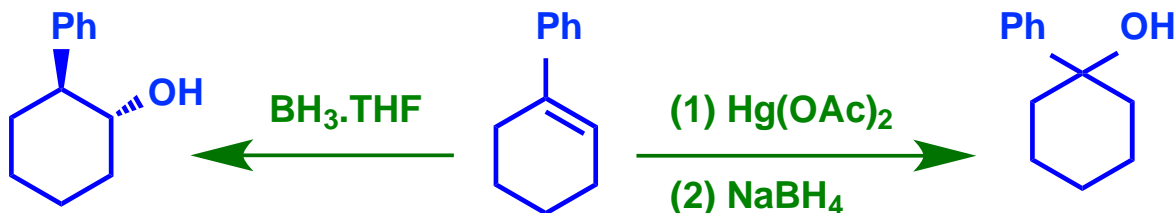
Selectivity

Regioselectivity

Preferential reactivity of one site over the other site of the same functional group Addition of HBr to alkenes:



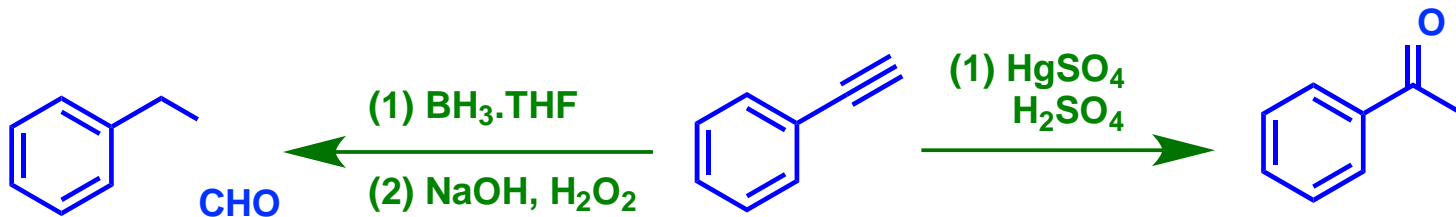
Hydration of alkenes:



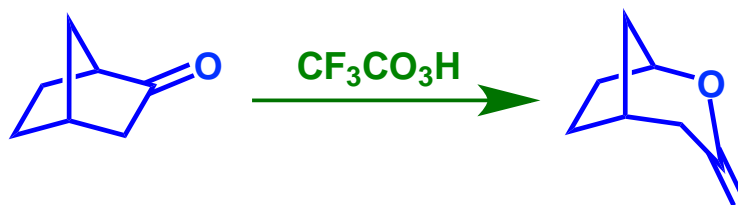
Selectivity

Regioselectivity

Hydration of alkynes:



Baeyer- Villiger Oxidation:



Birch Reduction:

OMe

OMe

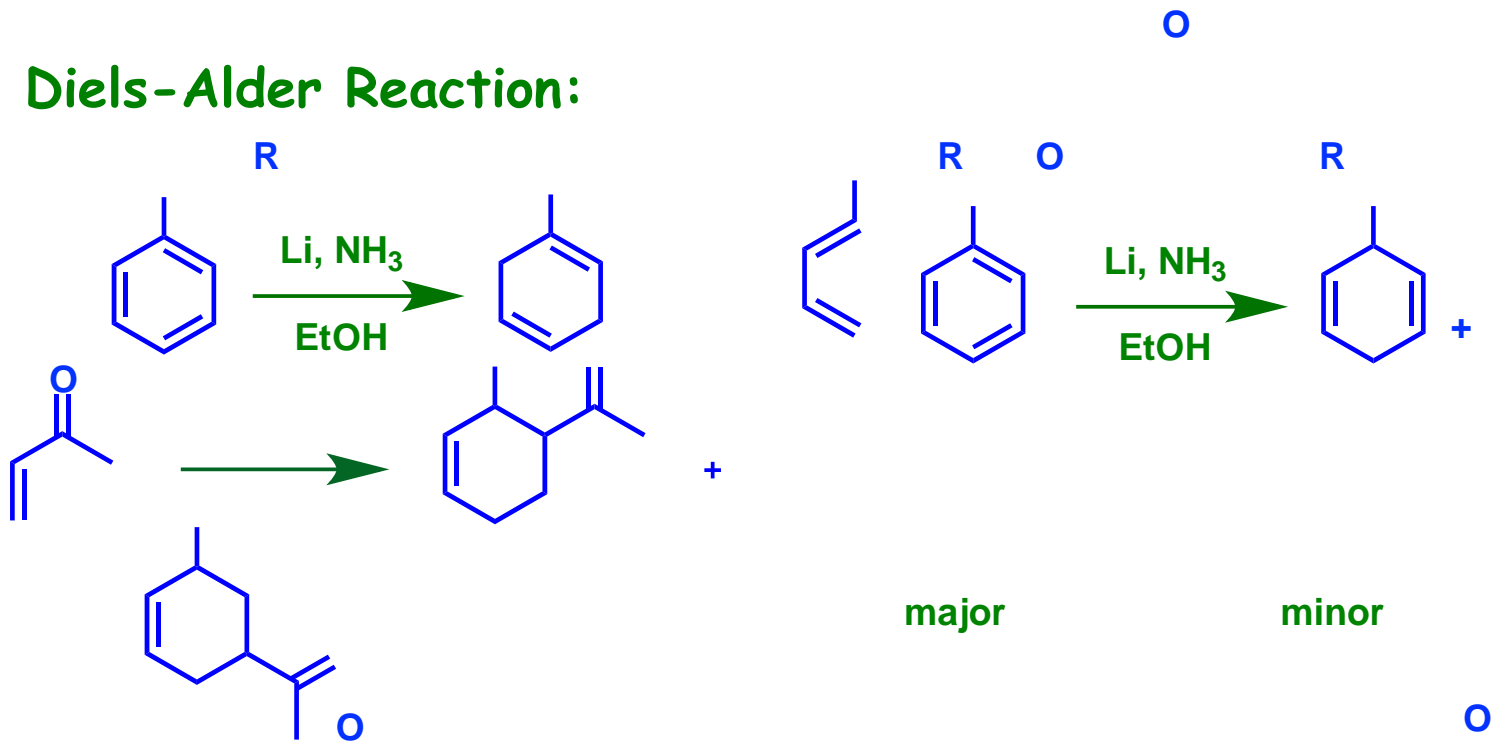
COOH

COOH

Selectivity

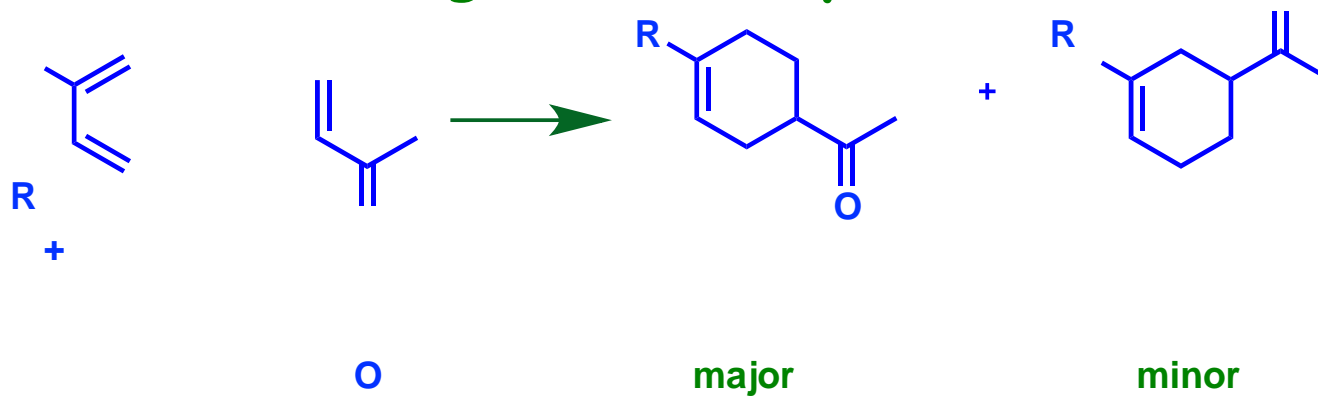
Regioselectivity

Diels-Alder Reaction:

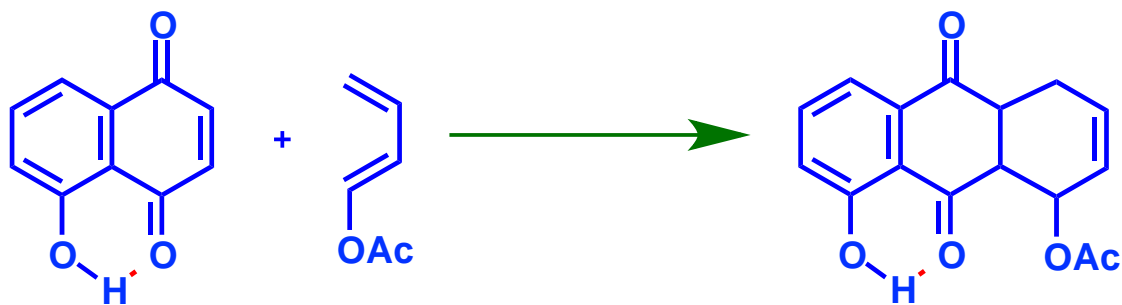


Selectivity

Regioselectivity



Diels-Alder Reaction:



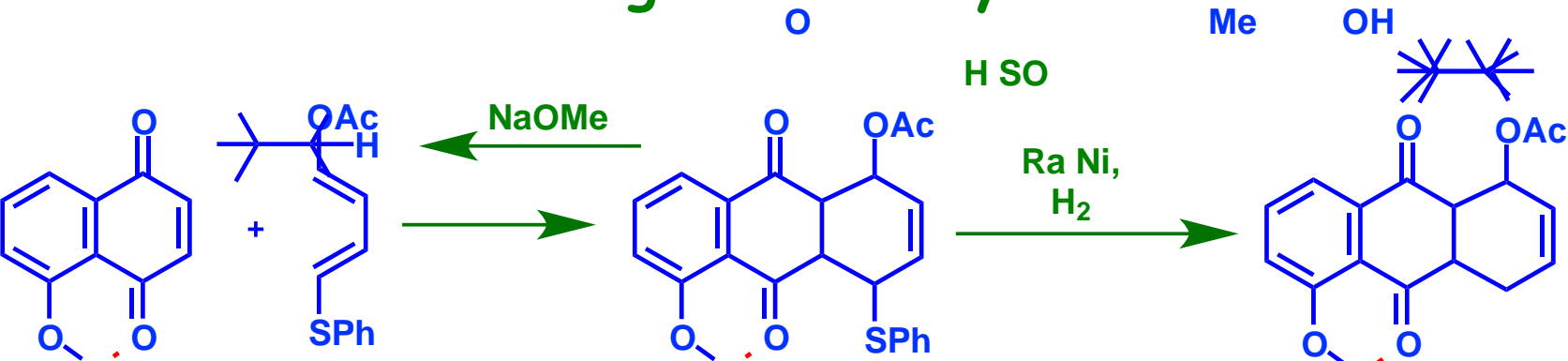


H

Selectivity

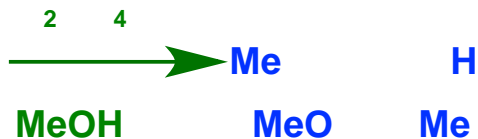
H

Epoxide Opening: Regioselectivity



HO Me
 Me
 Me OMe

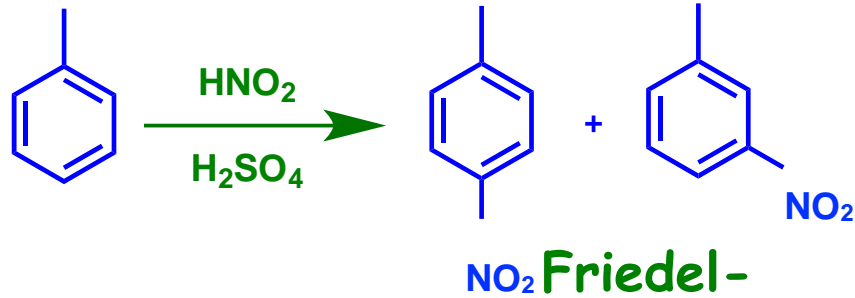
MeH
 MeMe



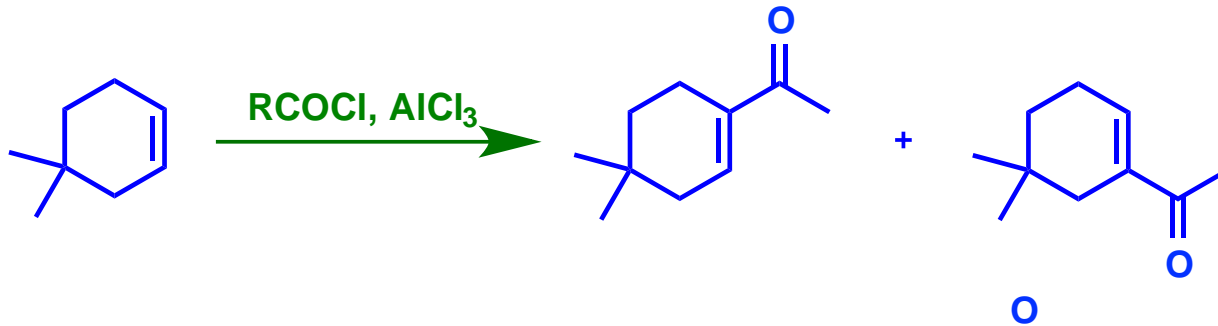
Aromatic electrophilic substitution:

Selectivity

Regioselectivity



Crafts Reaction:



Selectivity

Regioselectivity

