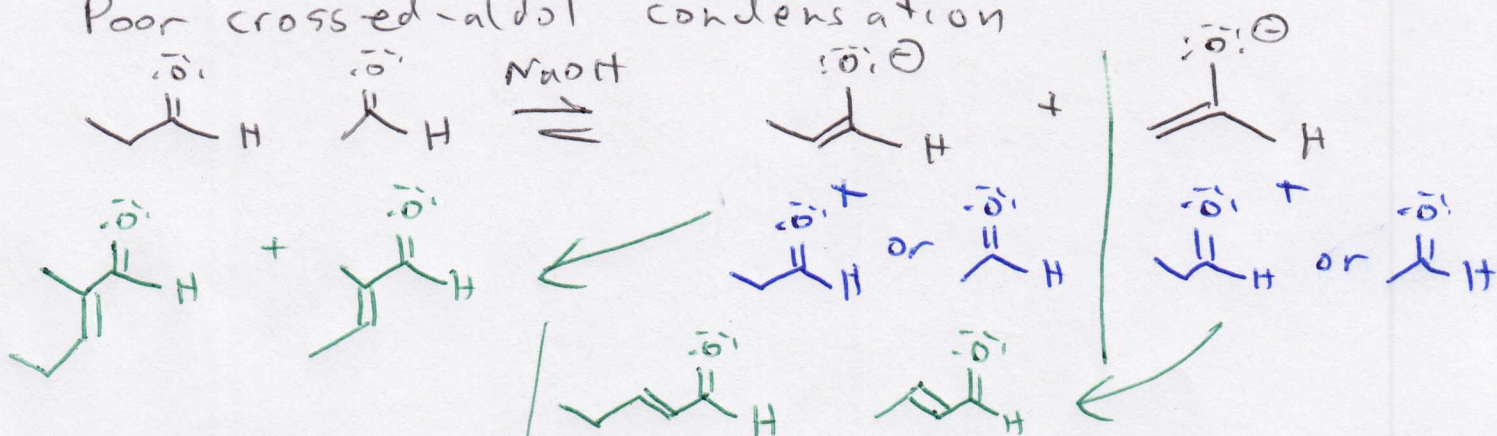
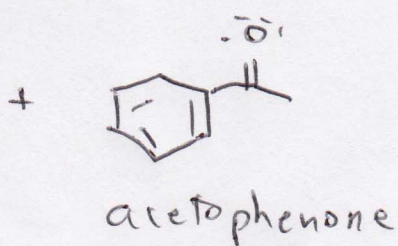
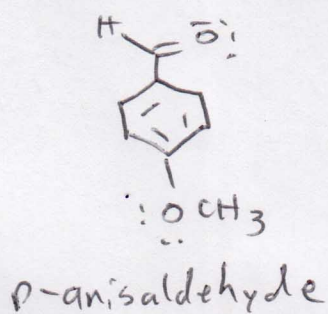


1) Aldol condensation

Poor crossed-aldol condensation

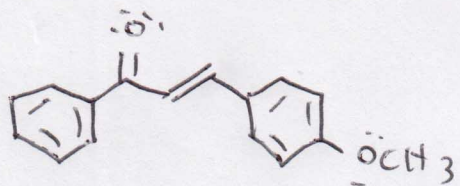


Ideal crossed-aldol condensation



— Only one enolate can form, since only one compound has α -protons, and that compound only has α -protons on one side of the carbonyl.

— Aldehydes are more reactive than ketones, so the enolate will only react with one reagent

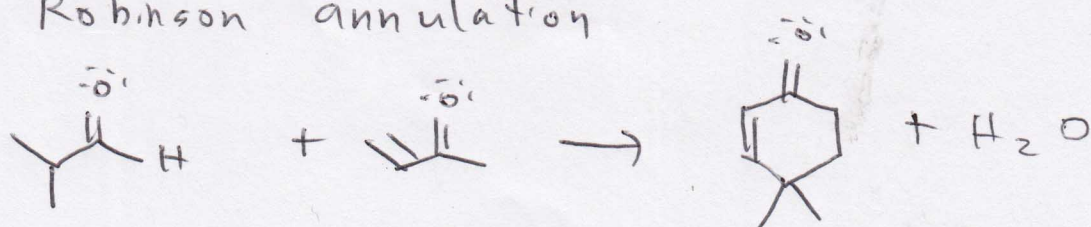


IR spectral confirmation

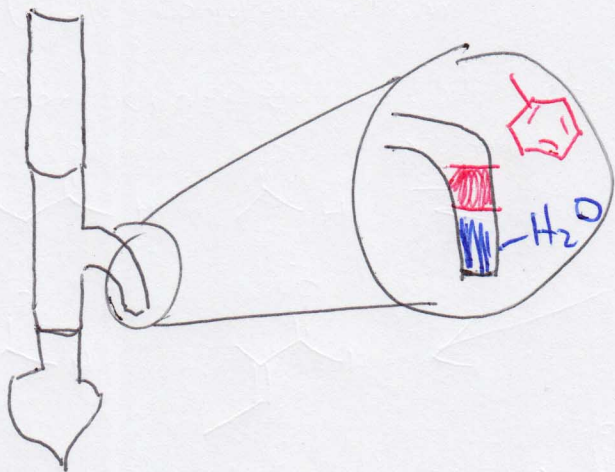
— Two starting materials both have $\text{C}=\text{O}$ absorbances that appear at different frequencies than the product $\text{C}=\text{O}$ since the product $\text{C}=\text{O}$ is more conjugated.

— Appearance of a conjugated $\text{C}=\text{C}$ (mostly likely trans) in the product.

2) Robinson annulation

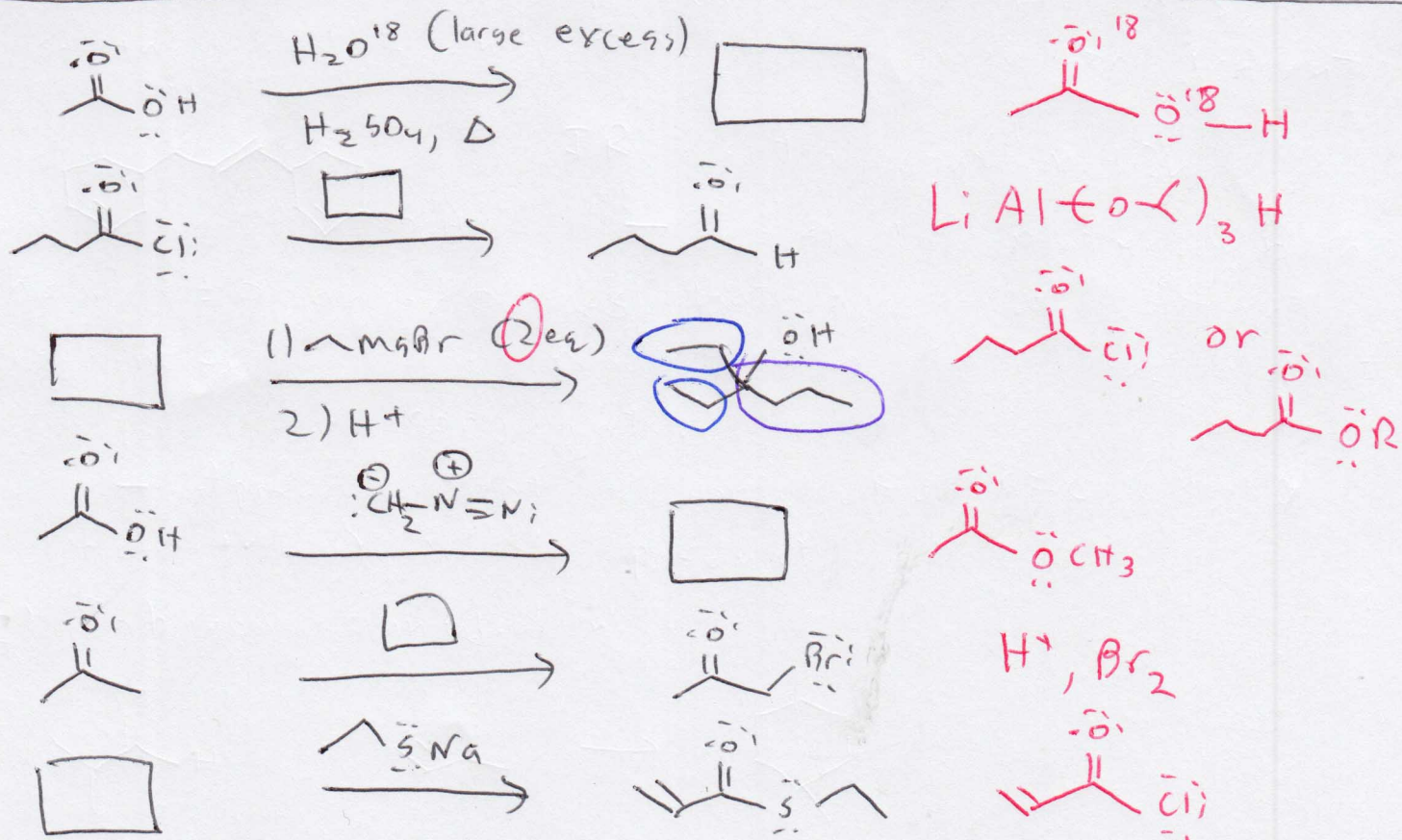
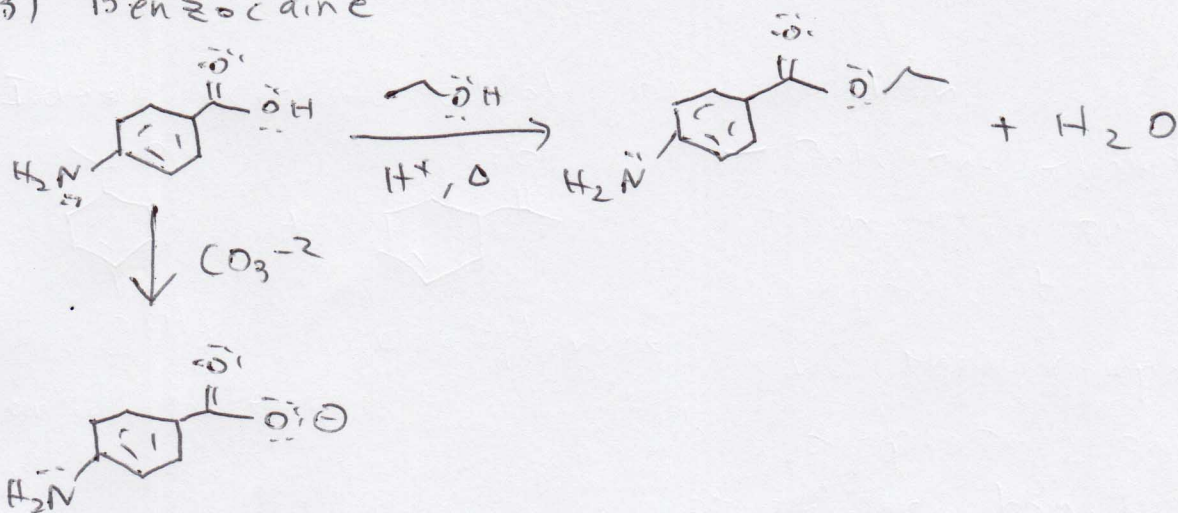


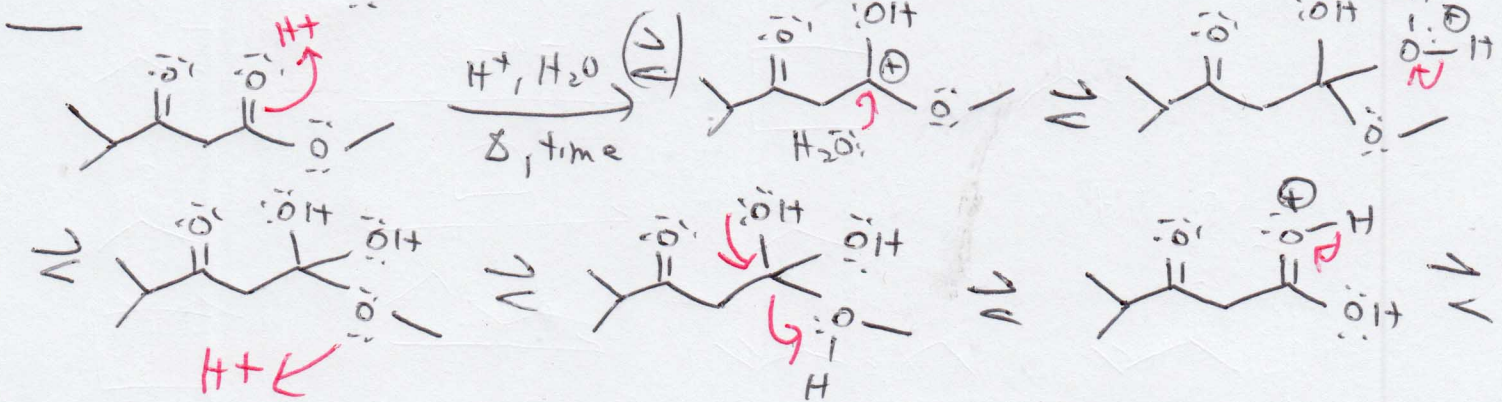
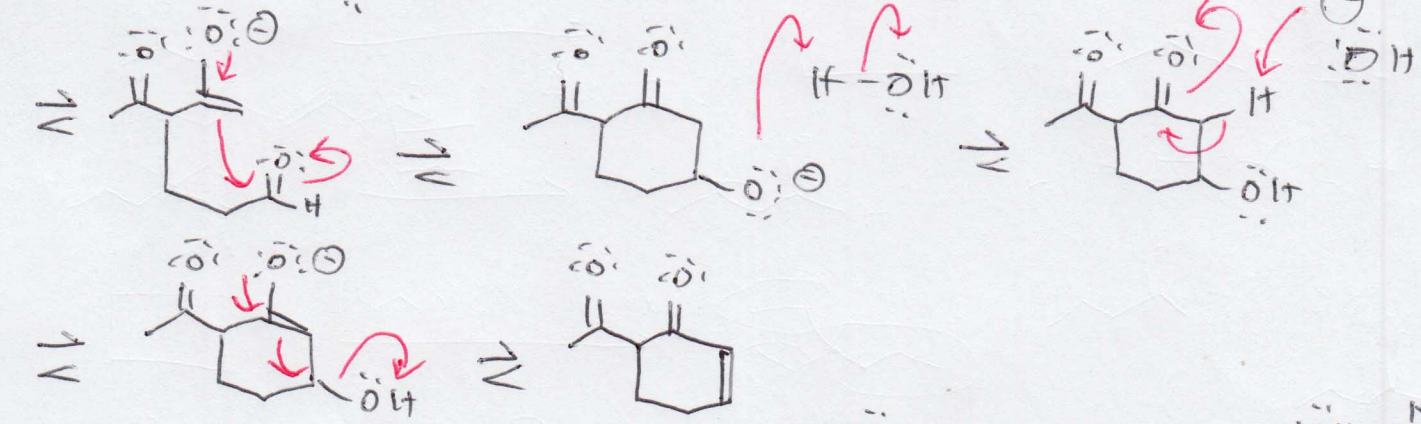
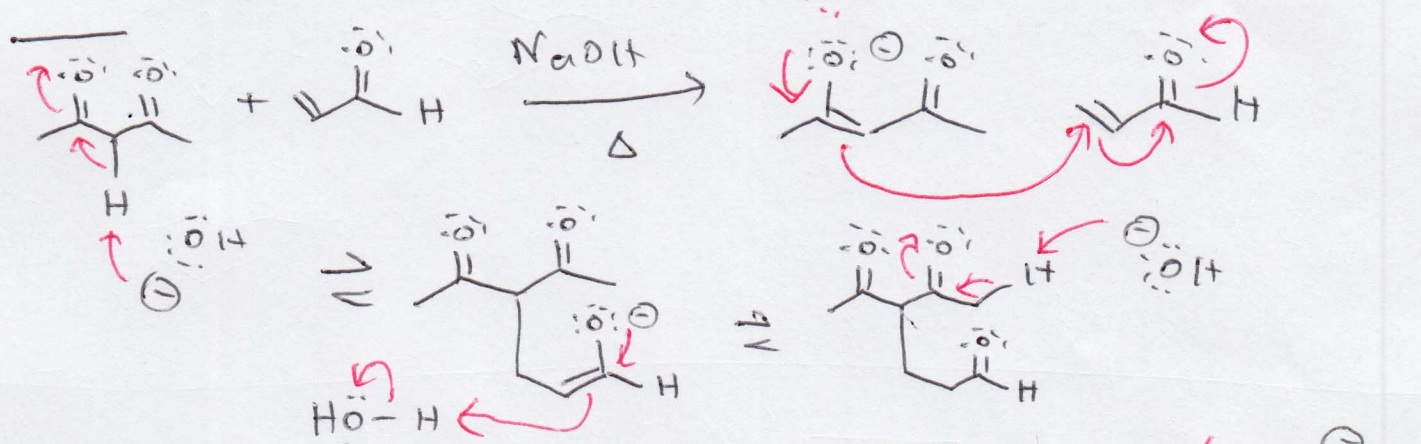
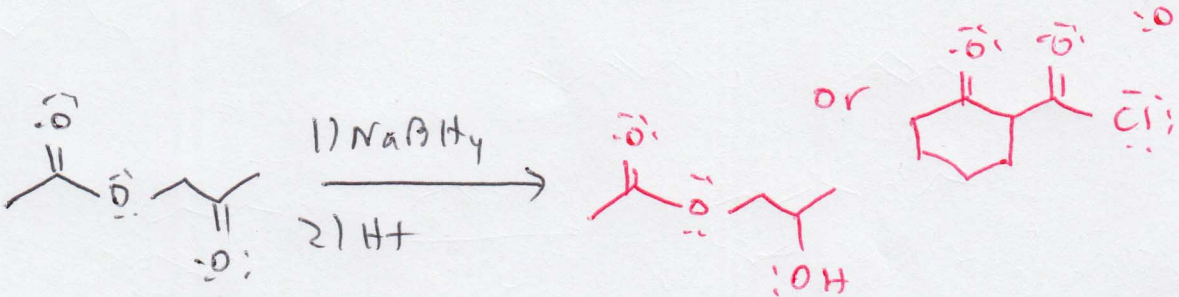
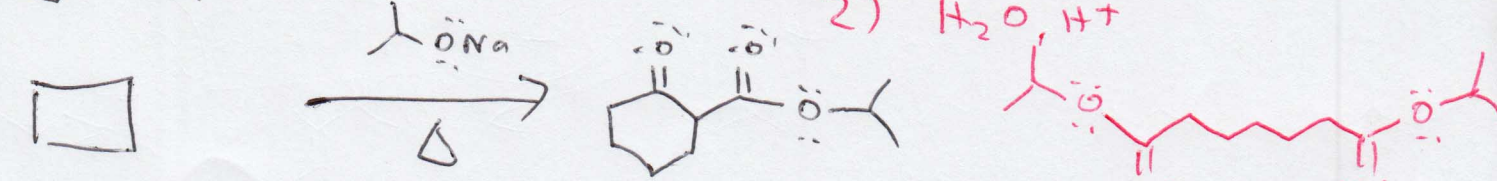
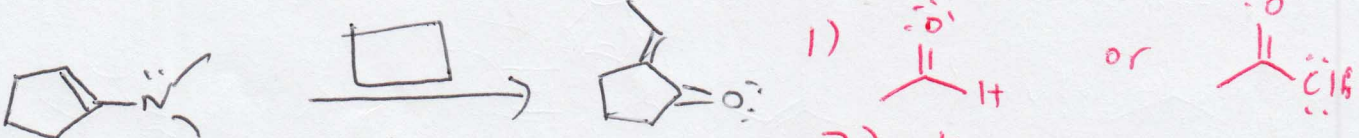
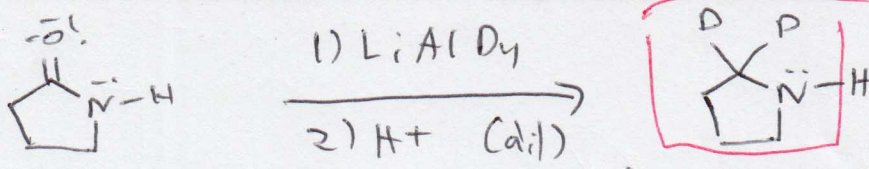
Denn-Stark Trap

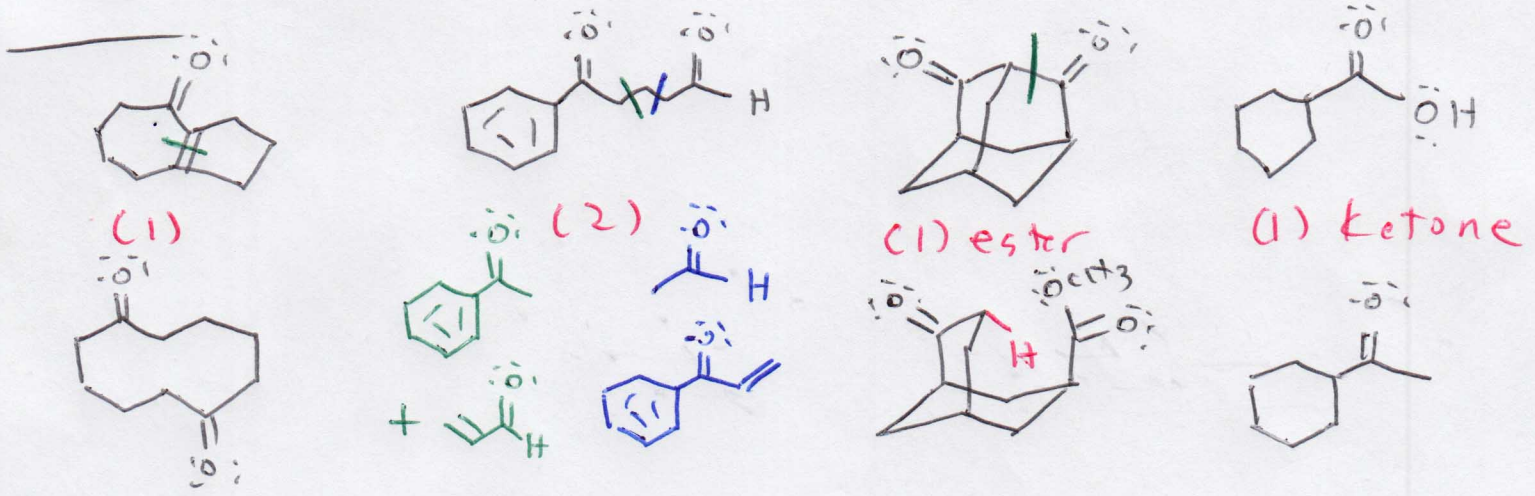
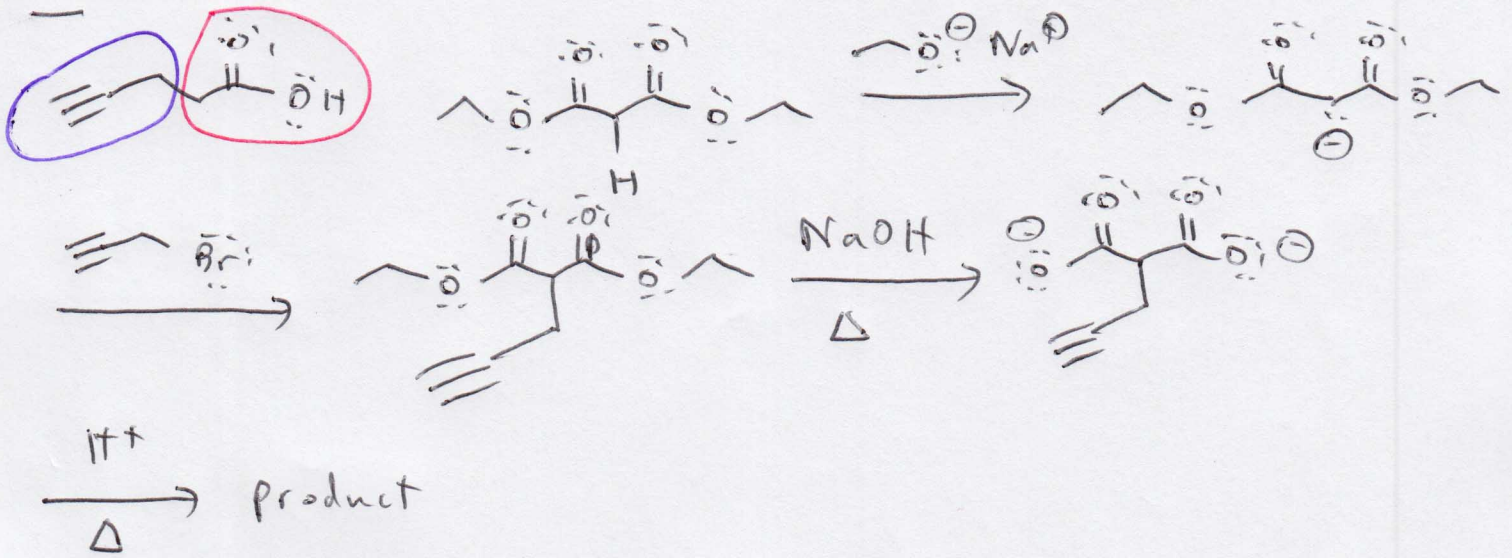
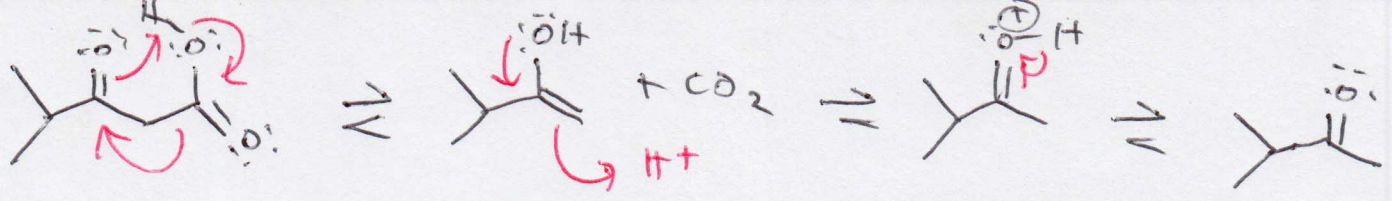


Azeotrope - a gaseous mixture of compounds that, in the liquid phase, are immiscible.

3) Benzocaine

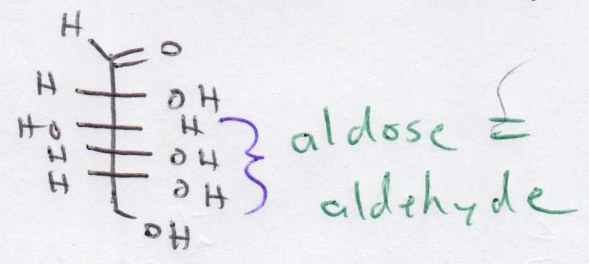




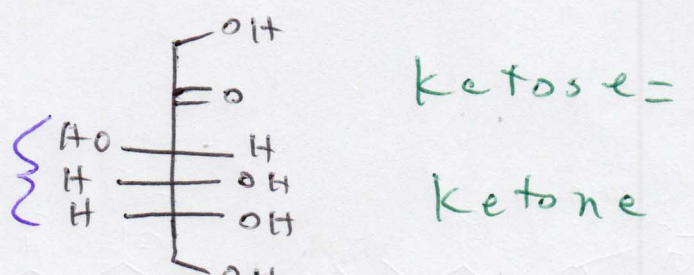


Carbohydrate Classifications

— Functional group



D-glucose



D-fructose

— # of carbons

hexose
6

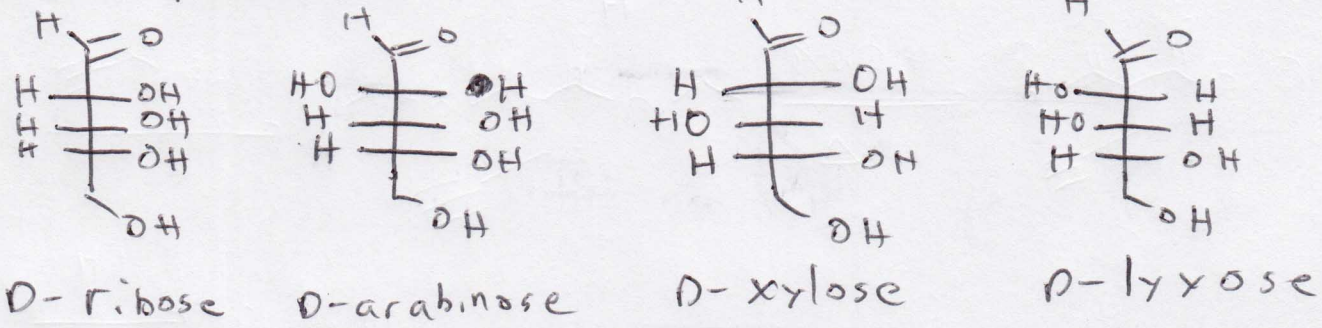
pentose
5

tetrose
4

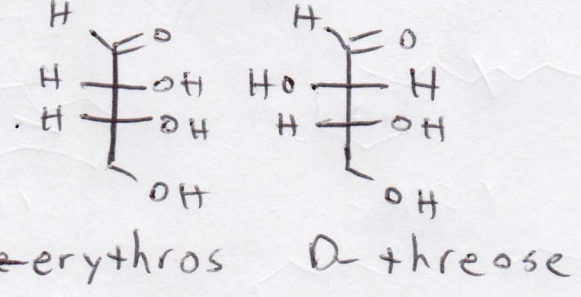
triose
3

	1st	2nd	3rd	4th	5th	6th	7th	8th
	0	1	2	3	4	5	6	7
	0000	0001	0010	0011	0100	0101	0110	0111
	allose	altrose	glucose	mannose	gulose	idose	galactose	talose

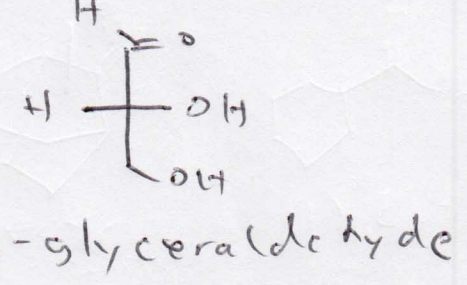
aldopentoses



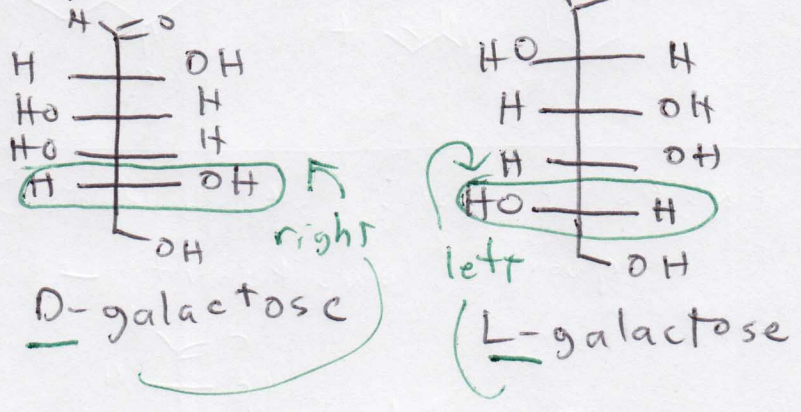
aldotetraoses



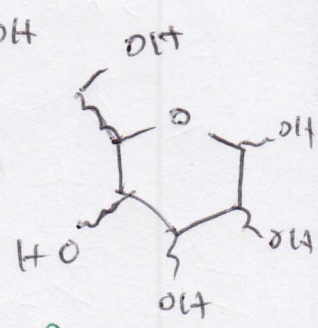
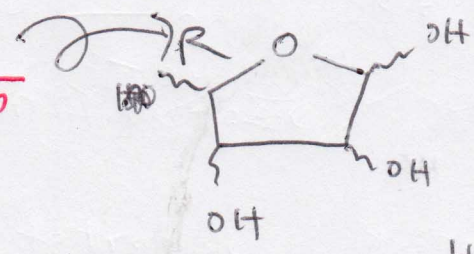
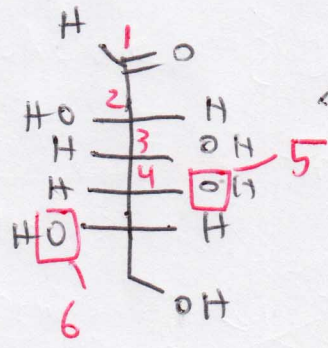
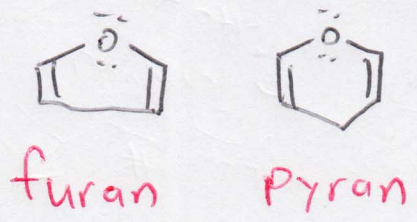
aldotriose



D/L

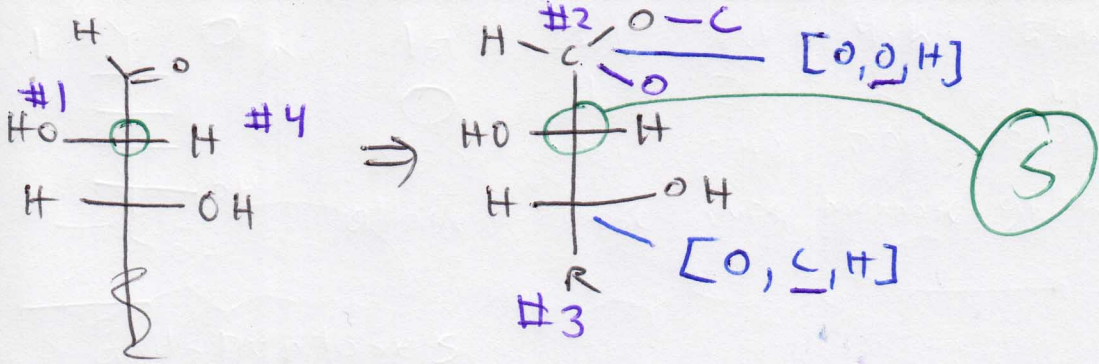


ring size

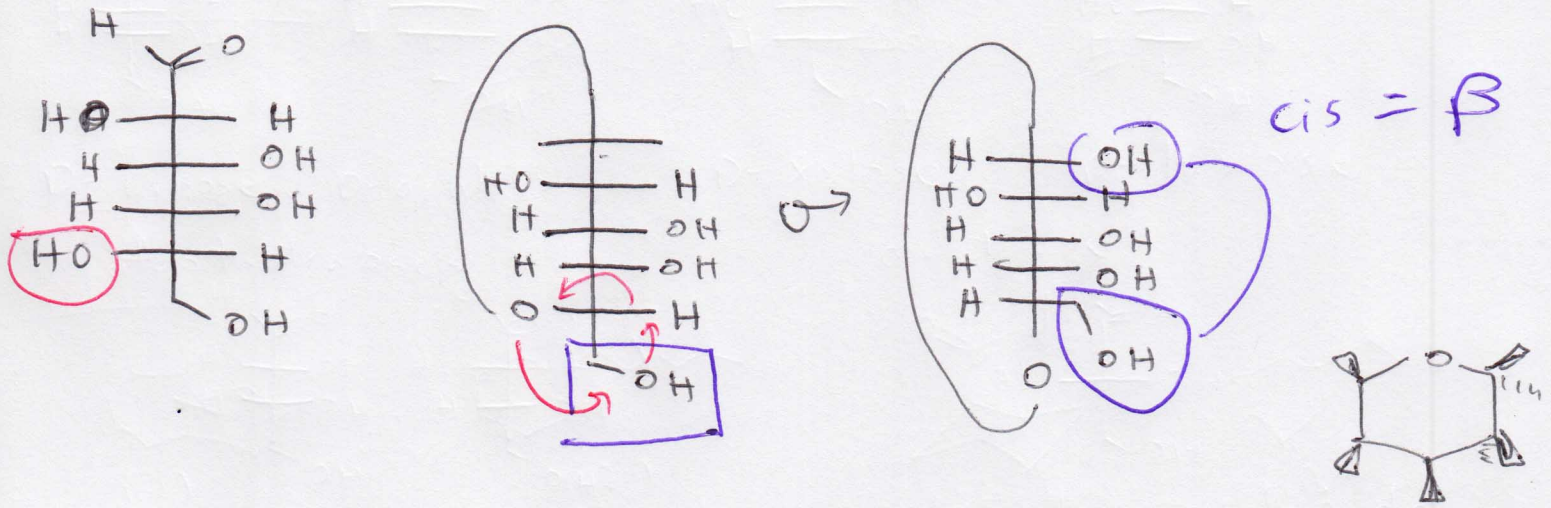


furanose
5-membered ring

pyranose
6-membered ring



~~β-D~~ · β-L-galactopyranose



- functional group (aldose)
- # of carbons (hexose)
- enantiomer (L)
- ring size (pyranose)
- anomer (β)

