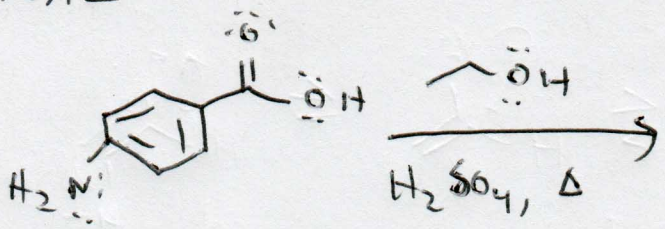
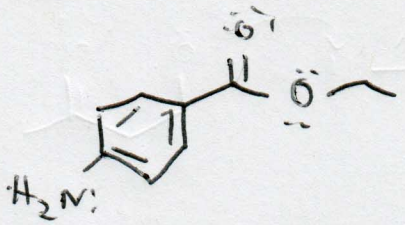
5/2/12



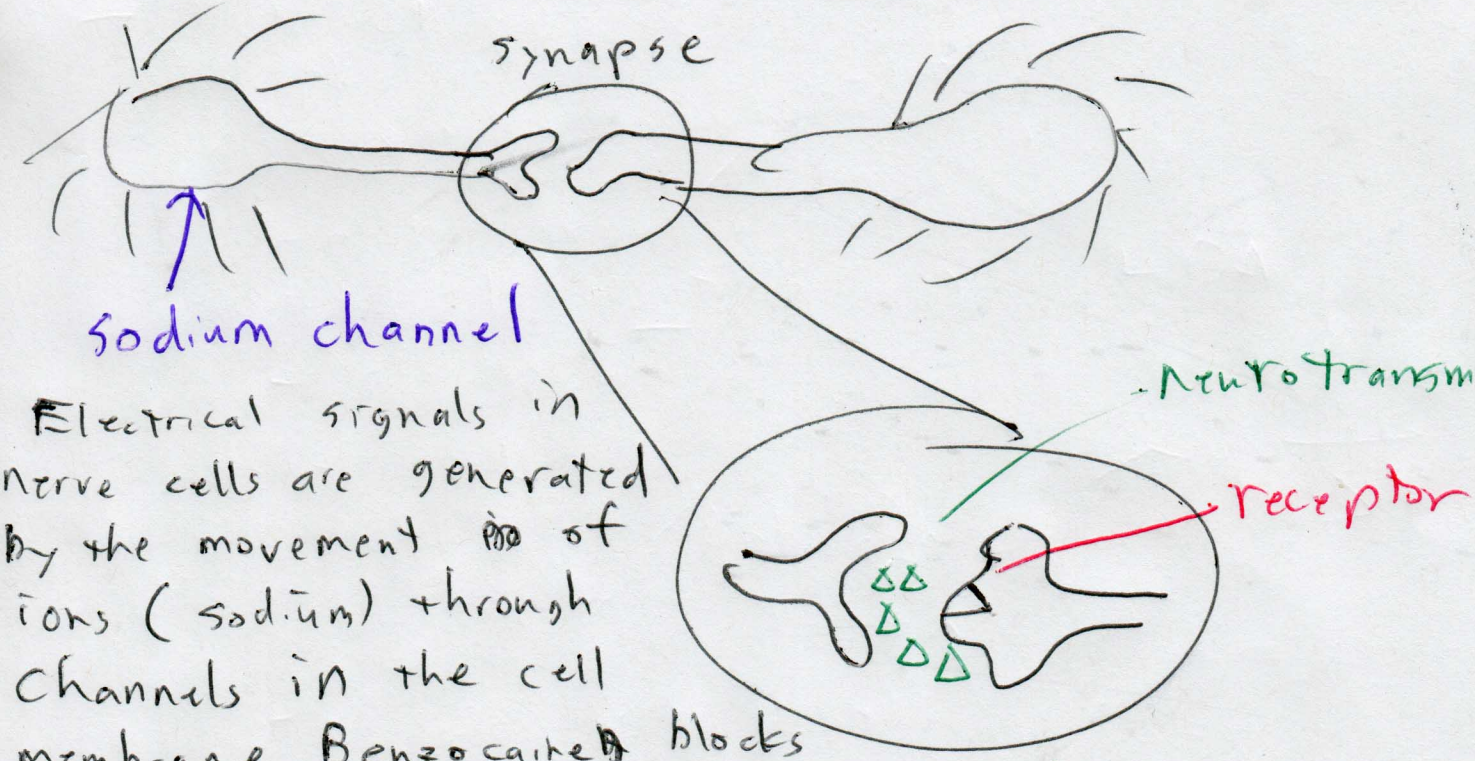
p-aminobenzoic acid



benzocaine
(ethyl p-aminobenzoate)

Na_2CO_3 – used to neutralize excess H_2SO_4 as well as unreacted starting material

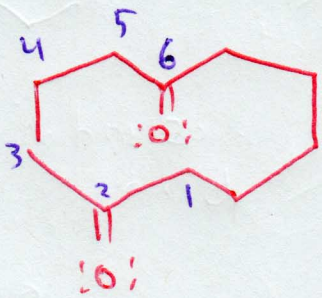
NaOH is not used since there is a small chance that even @ room temperature there might be saponification. Also, the only products of carbonate reacting w/ acid are CO_2 and H_2O.



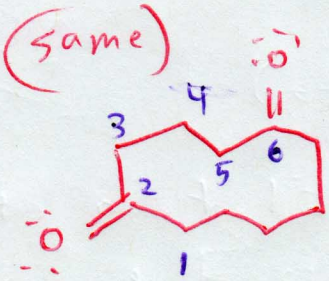
Electrical signals in nerve cells are generated by the movement of ions (sodium) through channels in the cell membrane. Benzocaine blocks the sodium channels, preventing the "circuit" from being reset (no ion flow), preventing the generation of a ~~nerve~~ signal (pain).

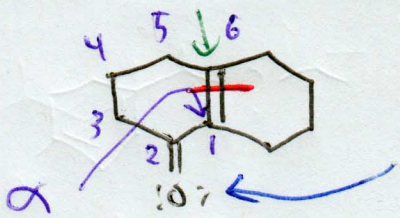
β — was C=O

a) one molecule → aldol



(same)

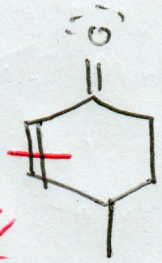


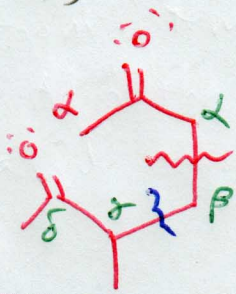


α

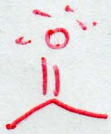
was C=O that was part of enolate

b) two molecules → aldol → aldol + Michael → Robinson

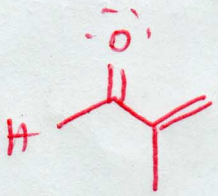


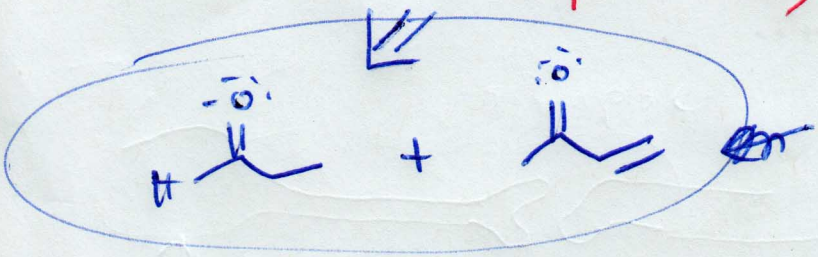


Michael

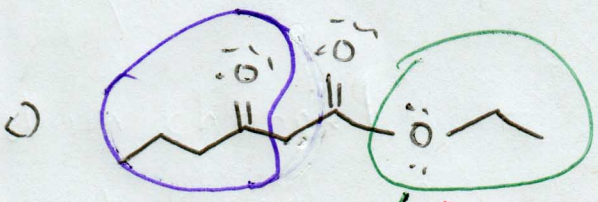


+

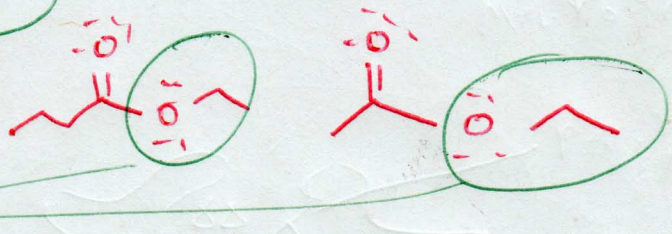




c) Claisen (β-keto ester)

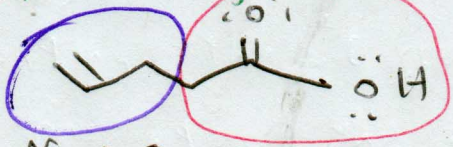


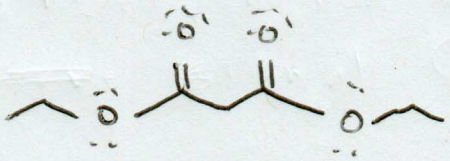
has ester



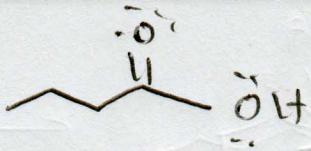
must be the same kind of ester to avoid transesterification during synthesis

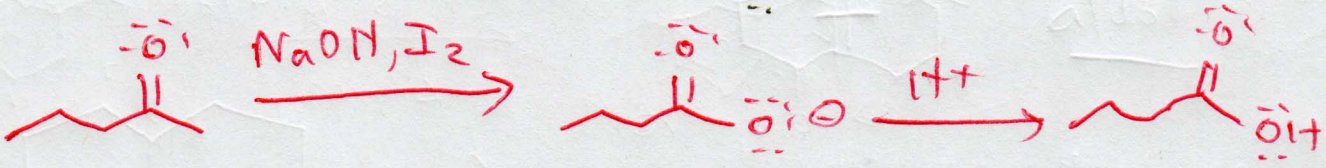
d) malonic →

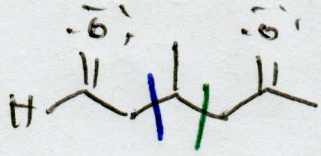




1) NaOEt
2) 
3) NaOH, Δ
4) H+, Δ

el ketone ⟶ 



f) two molecules ⟶  Michael