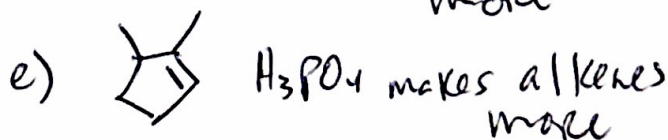
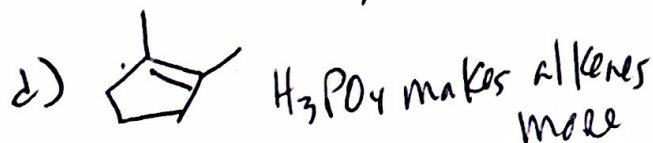
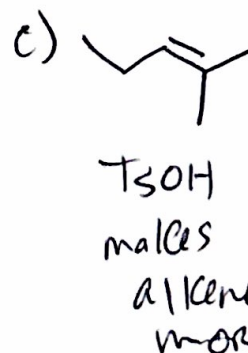
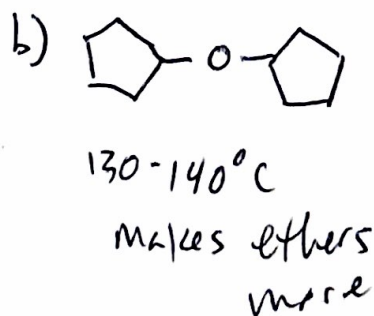
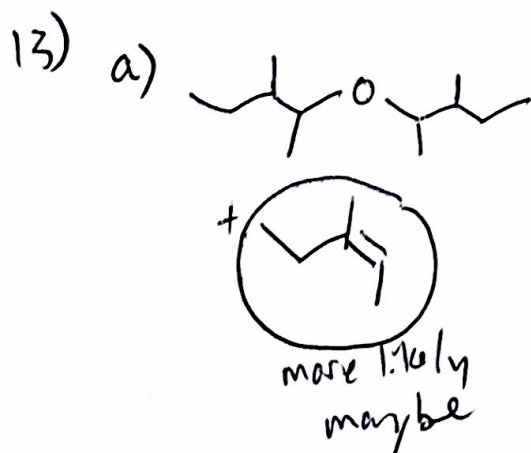
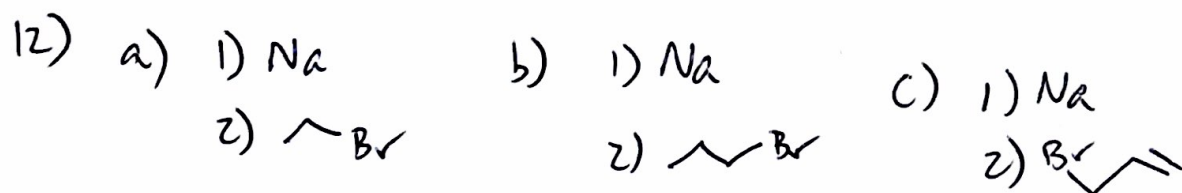
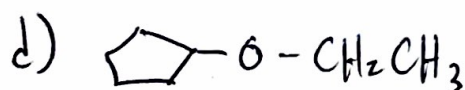
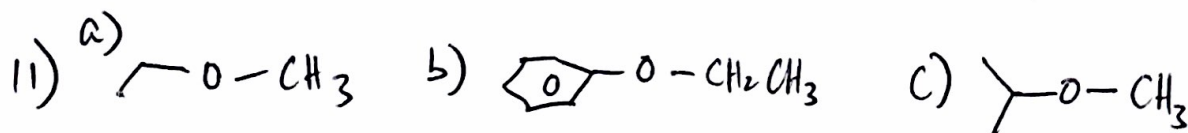
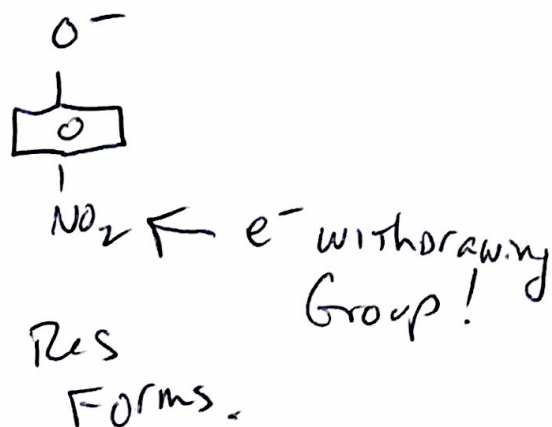
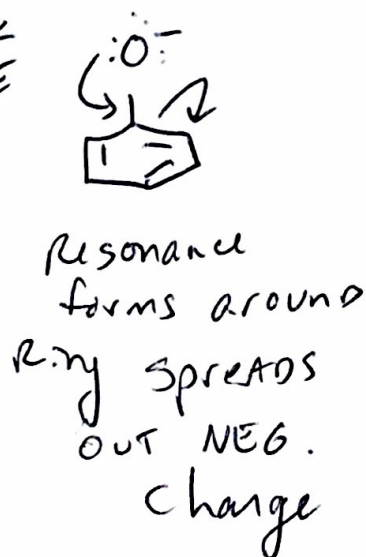
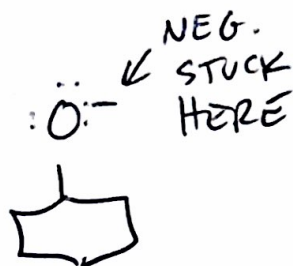
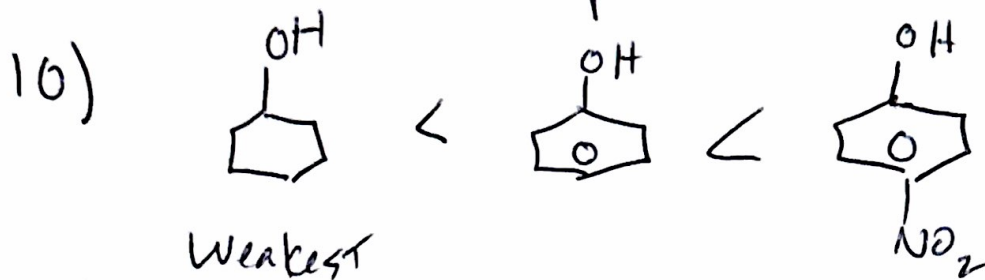
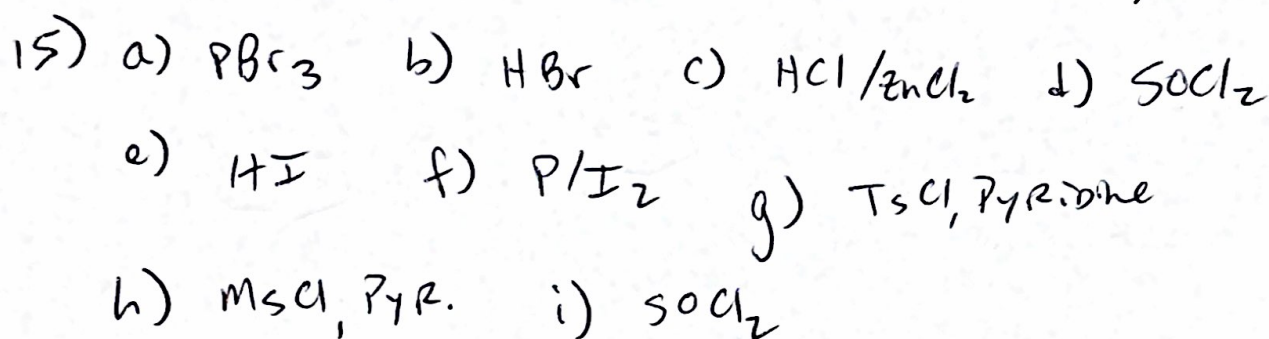
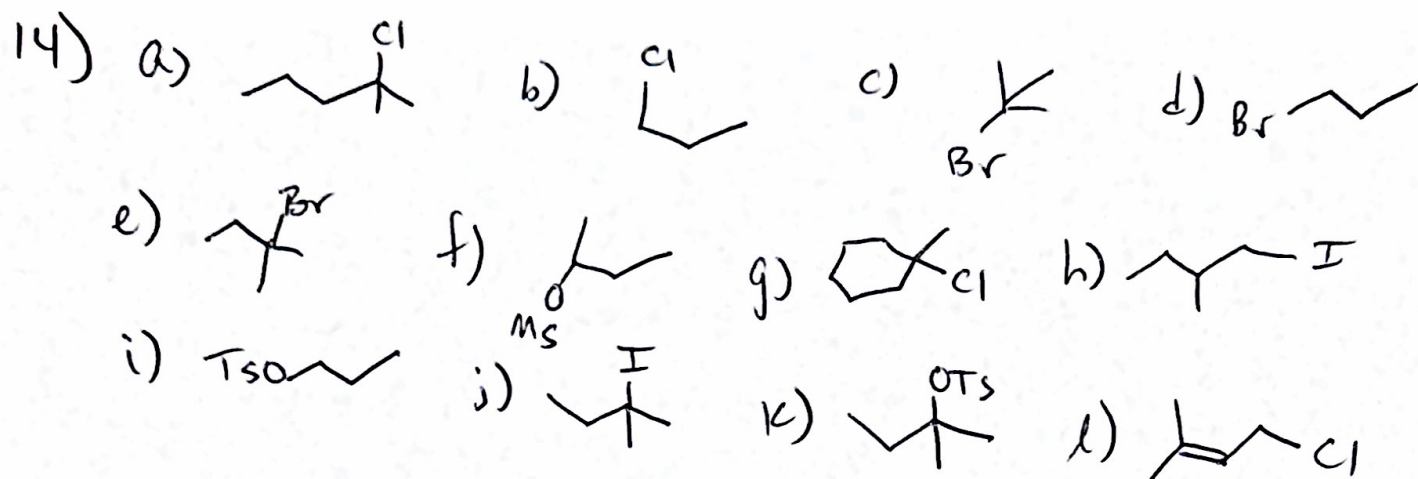
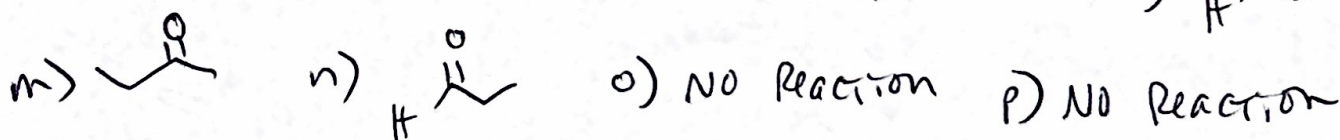
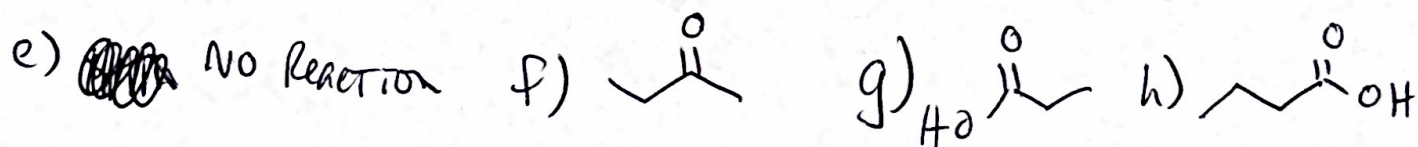
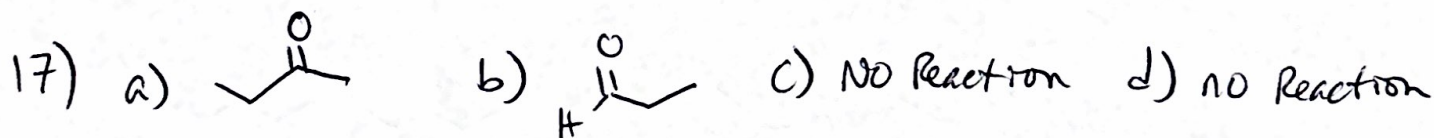
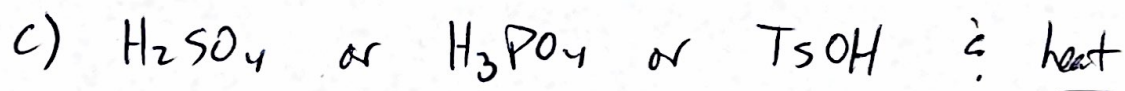
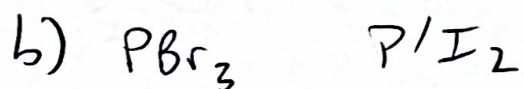
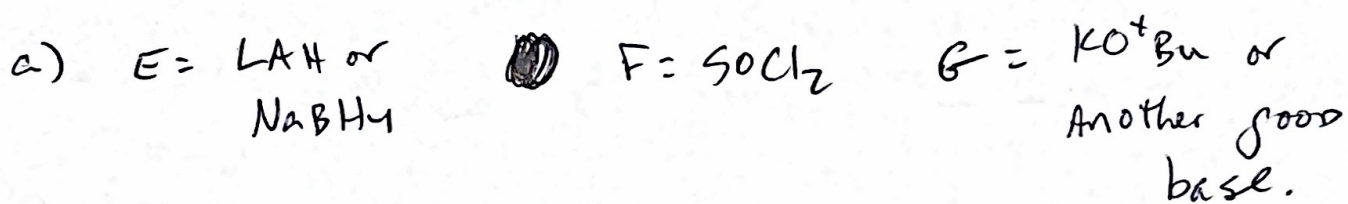


Chapter 14

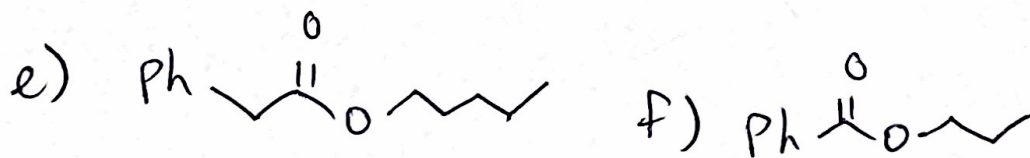
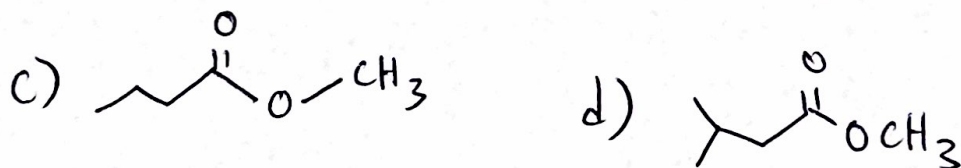
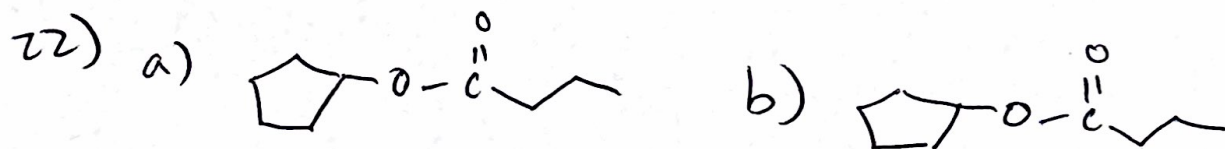
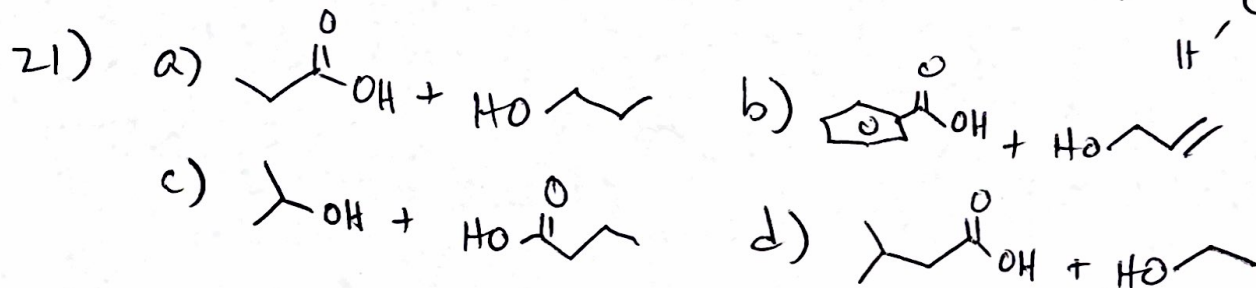
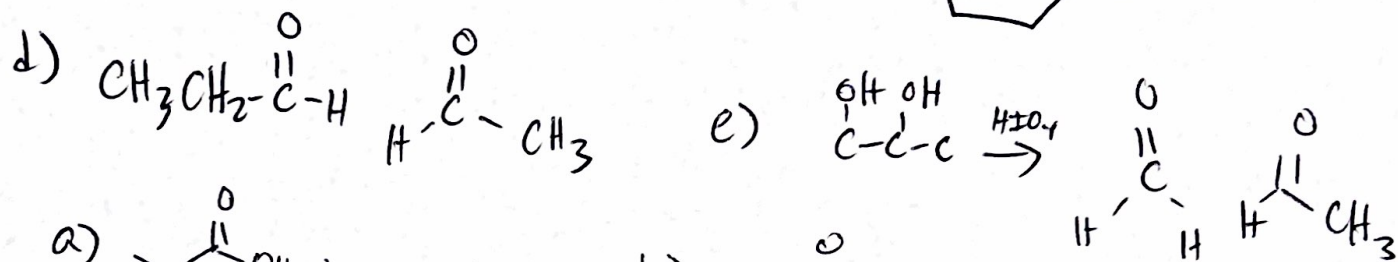
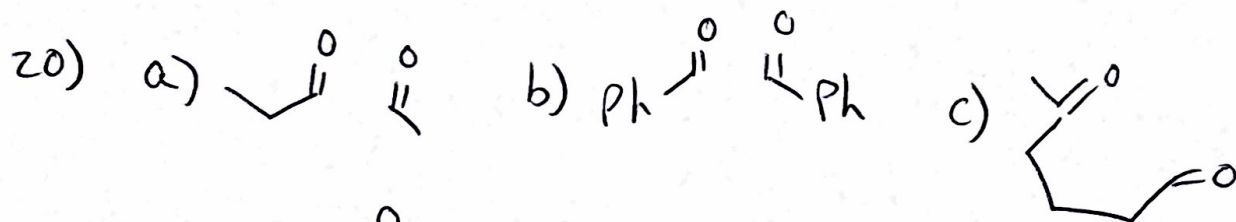
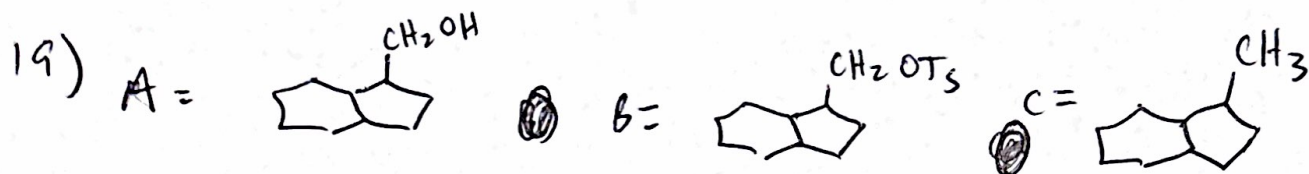


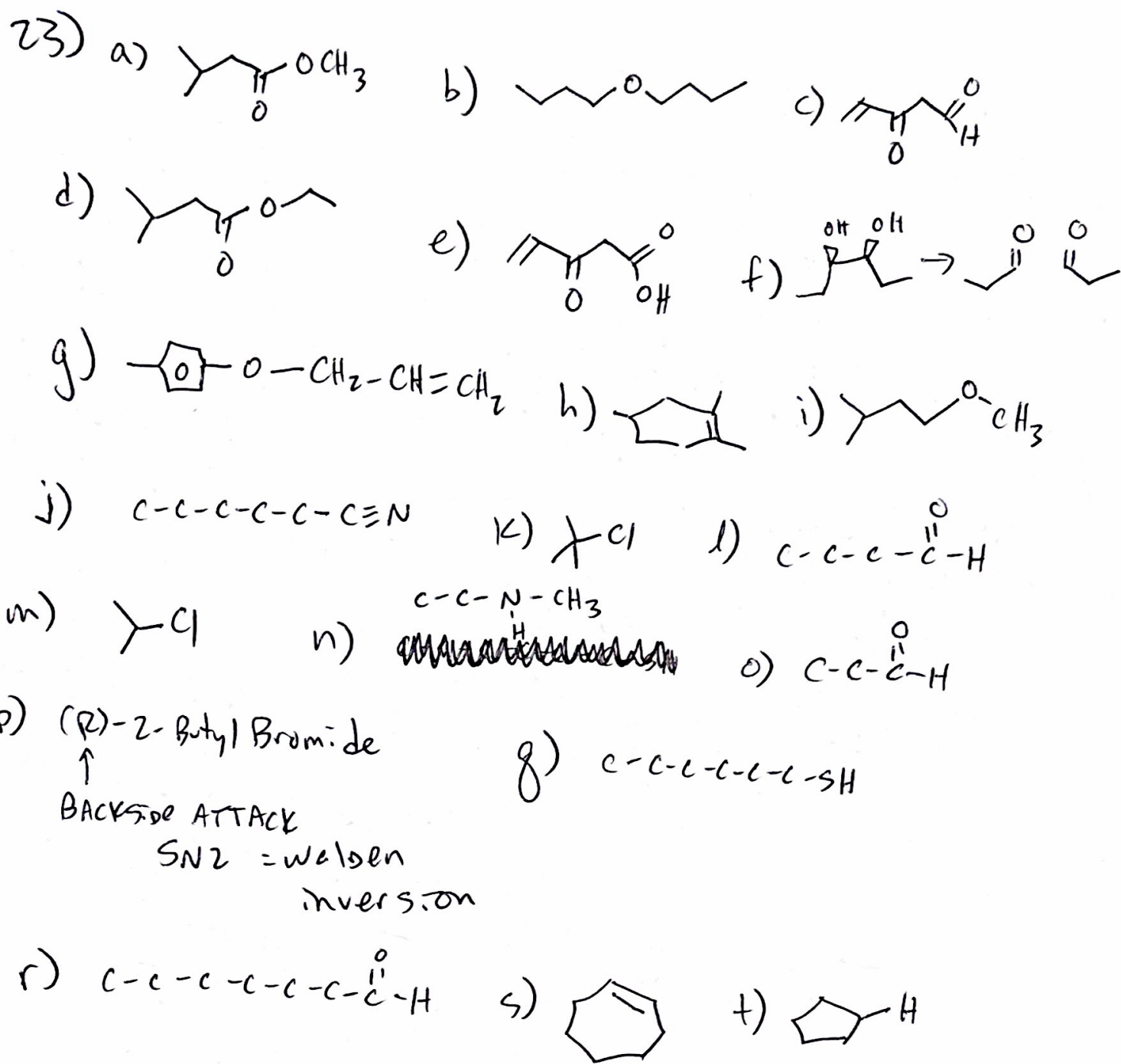


16) This is from my dissertation!



- 18) a) $\text{Na}_2\text{Cr}_2\text{O}_7, \text{H}^+$ or PCC b) PCC c) $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$
 d) PCC e) $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$ f) PCC

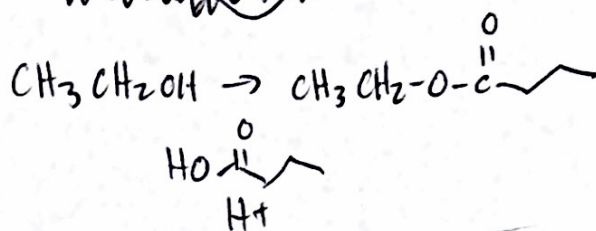




24) a) HIO_4 b) PCC

d) H_2SO_4 $>140^\circ\text{C}$
 or
 TsOH or H_3PO_4

c) ~~TEXTBOOK error~~
~~Handwritten error~~



e) $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}_2\text{SO}_4$

f) 1) Na

2) $\text{CH}_3\text{-Br}$

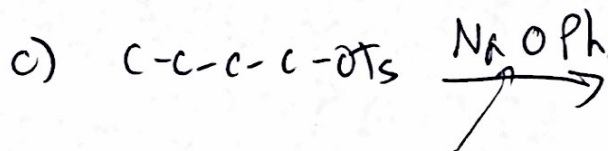
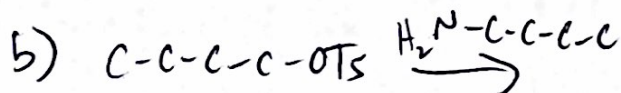
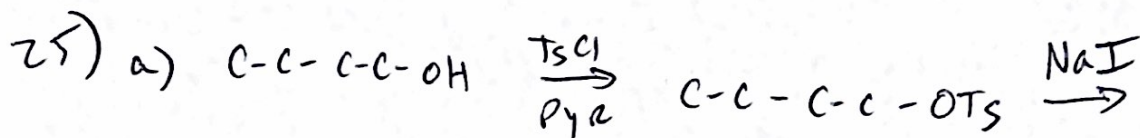
g) SOCl_2

h) PBr_3

i) P, I_2

j) Lucas Reagent

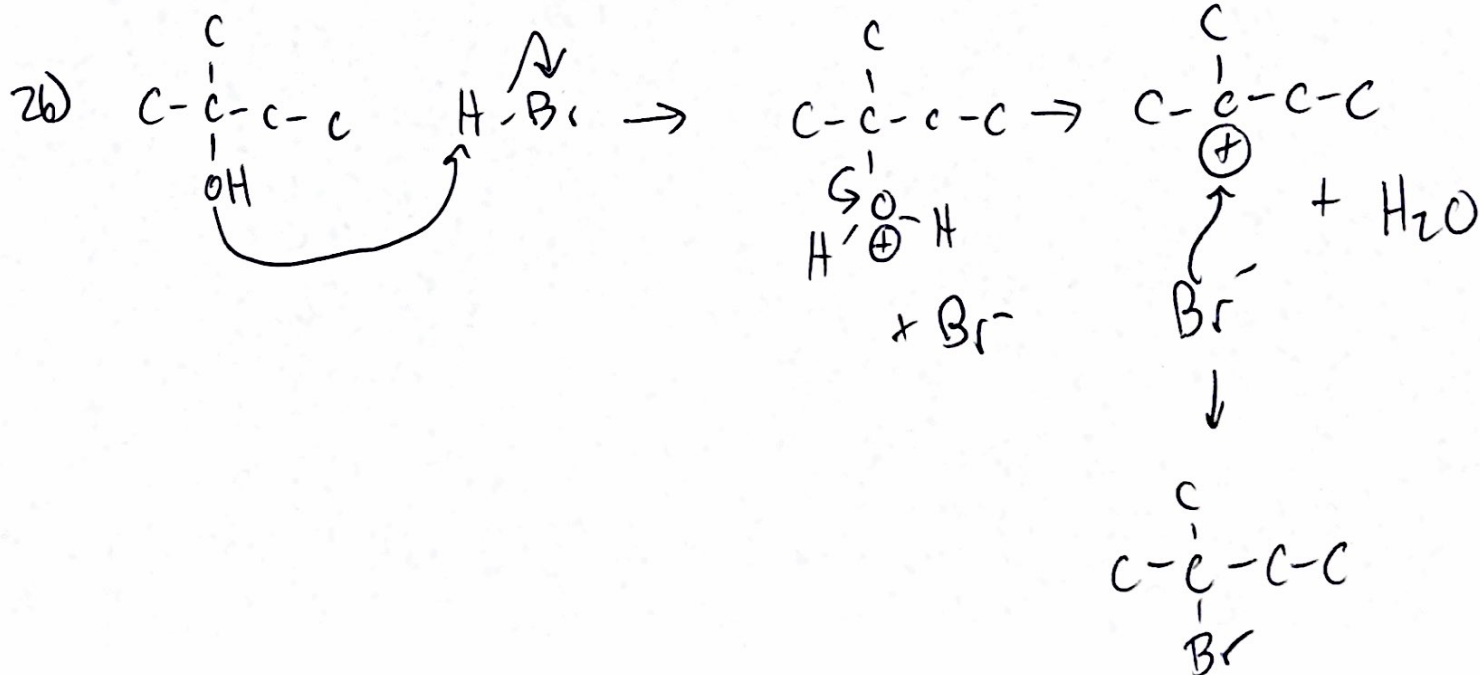
k) PBr_3

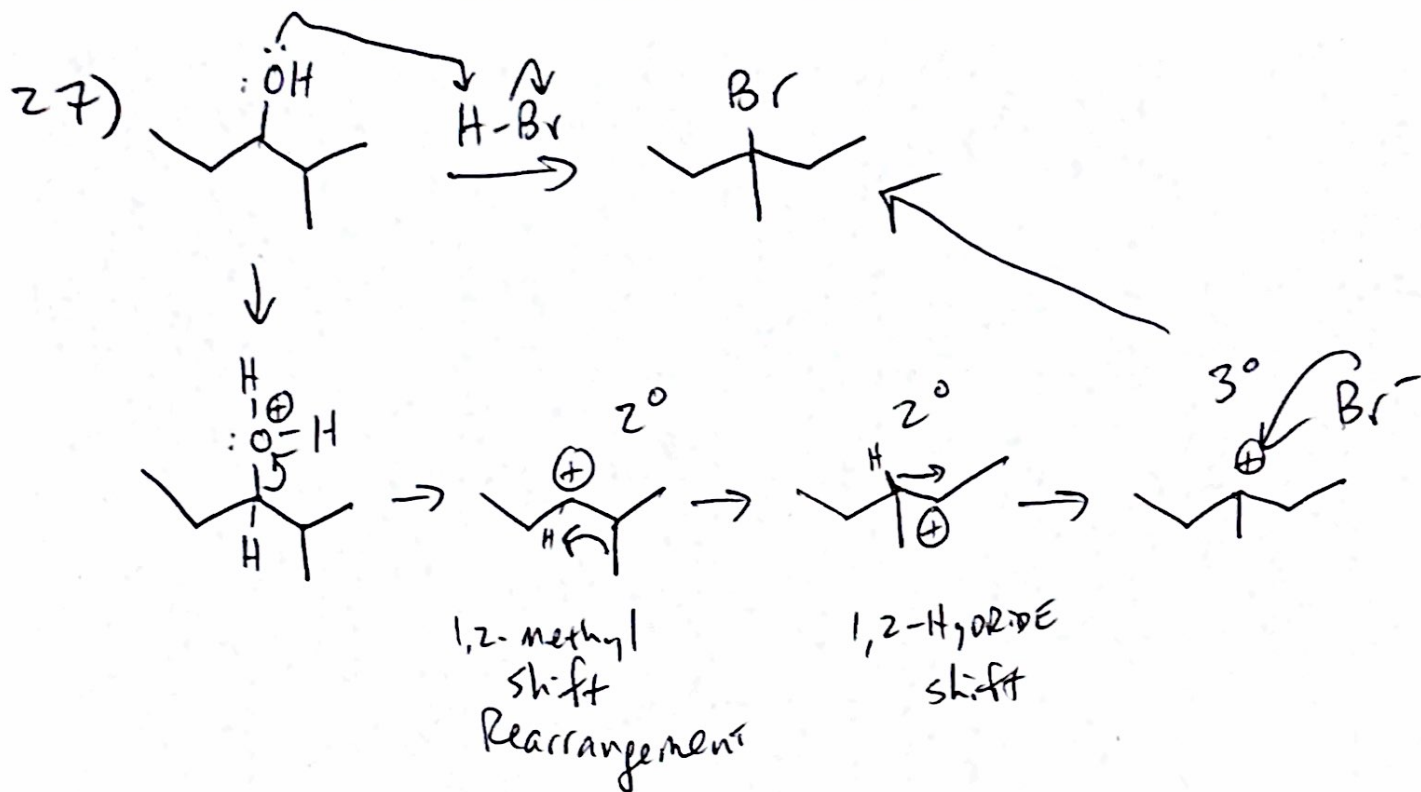


$\text{HOPh} + \text{Na}$

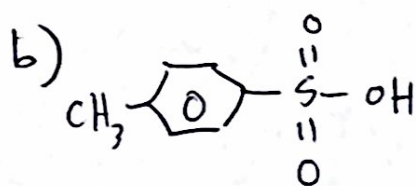
d) NaCN

e) NH_3

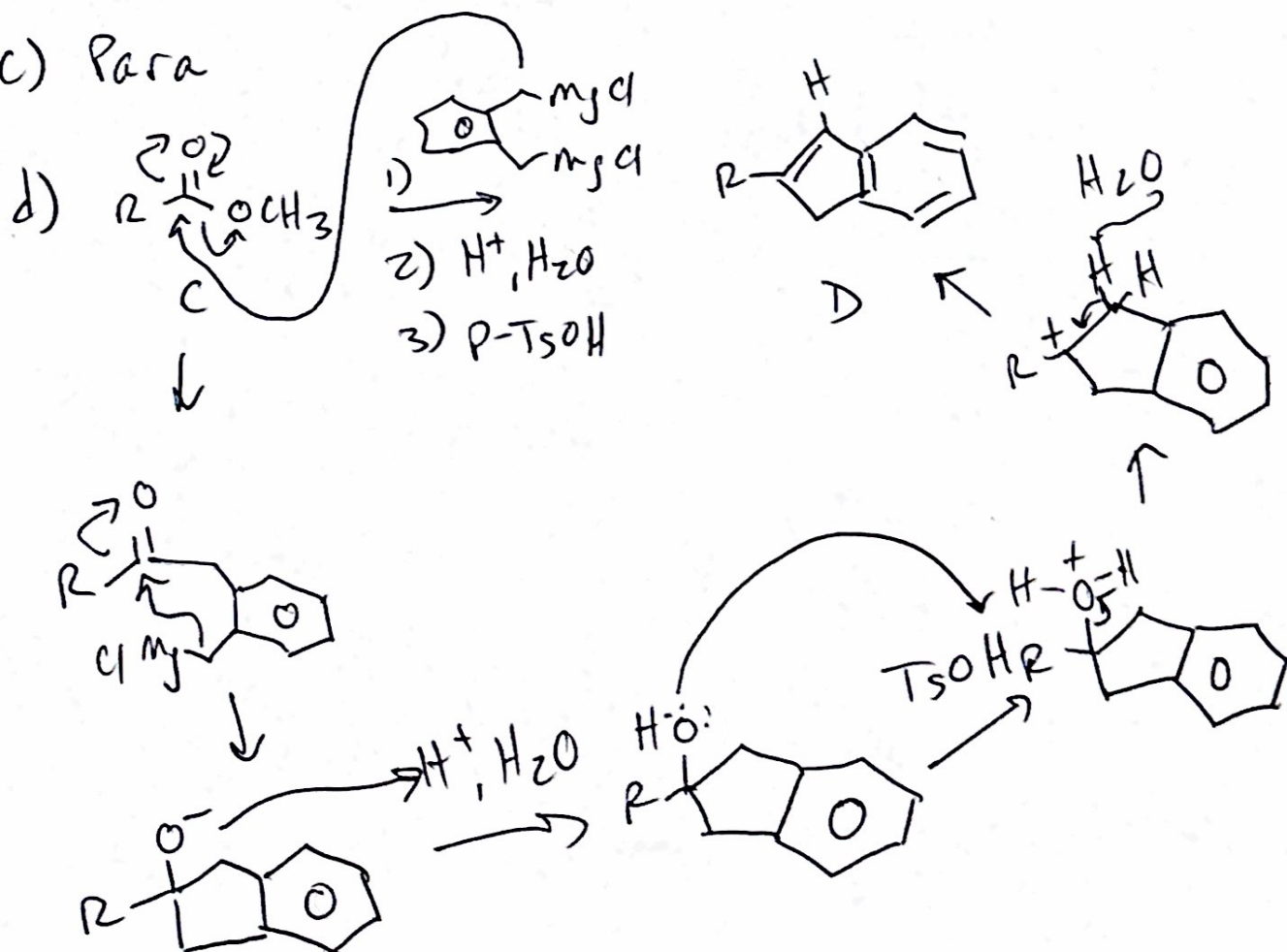




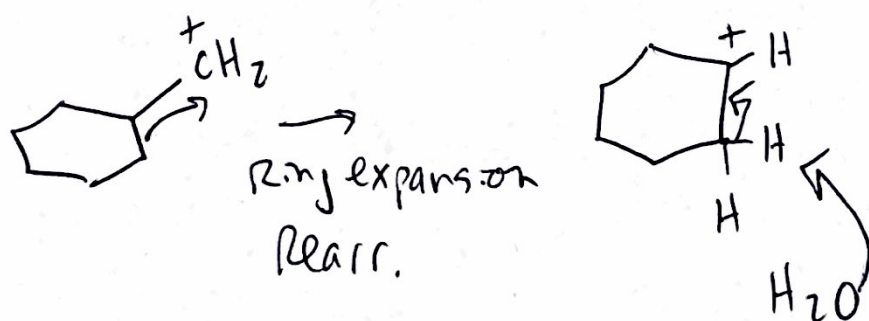
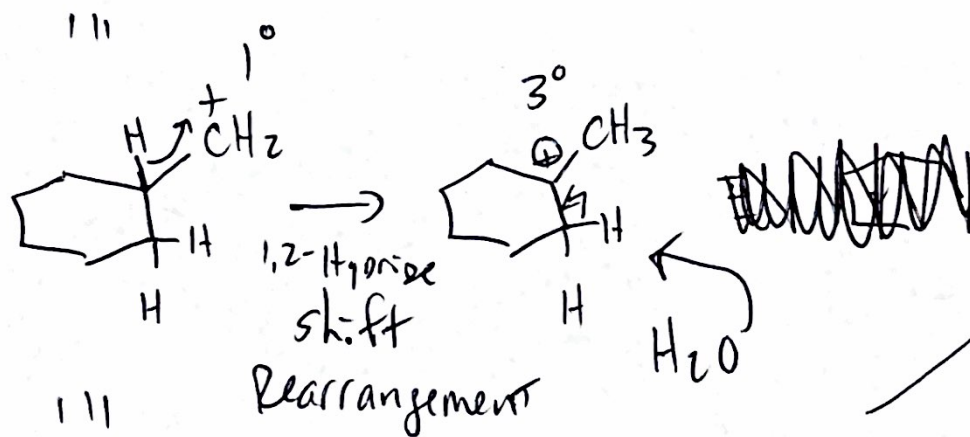
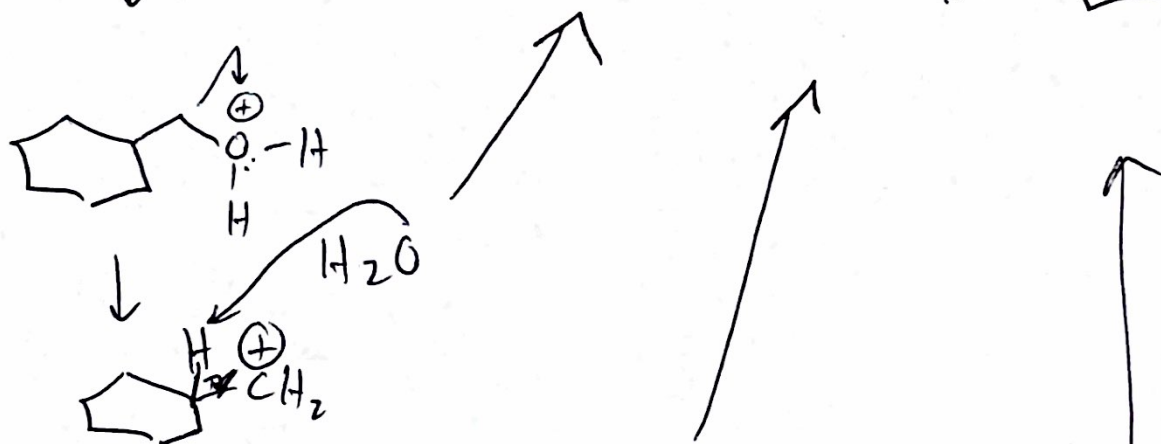
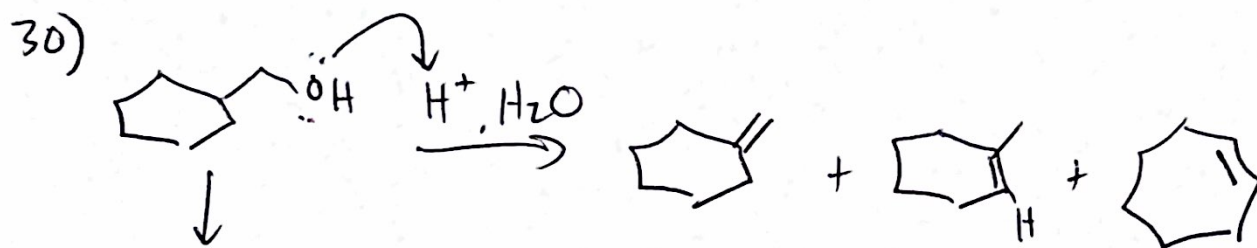
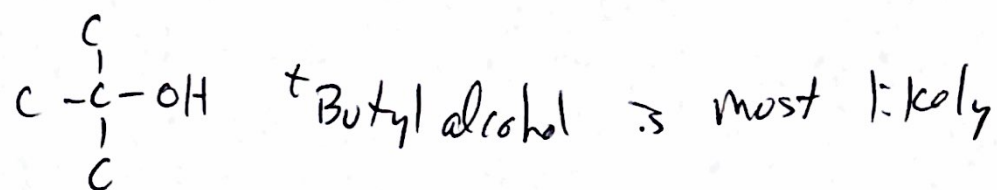
28) a) 1) SOCl_2 2) Mg

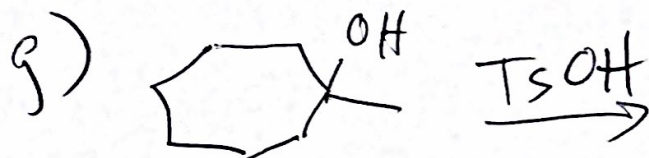
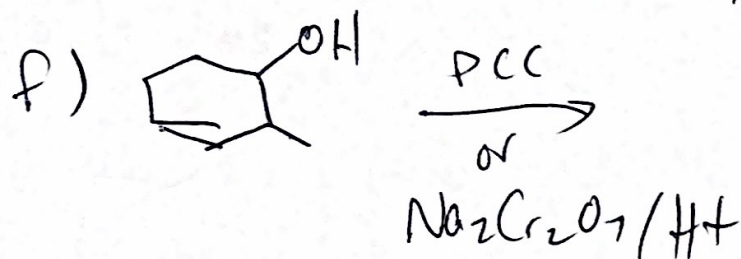
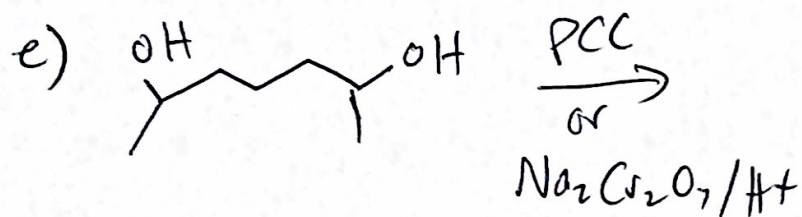
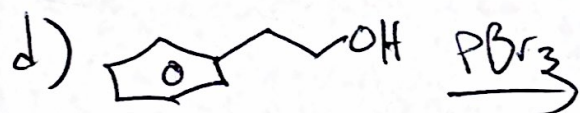
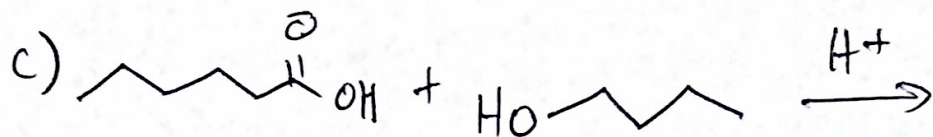
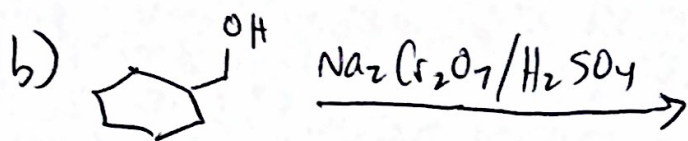


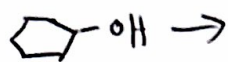
c) Para



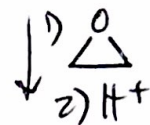
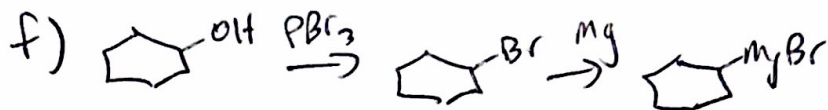
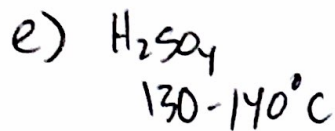
29) Lucas Reacts Quickly means 3° alcohol, so







- 32) a) PBr_3 b) PCC or $\text{Na}_2\text{Cr}_2\text{O}_7/\text{H}^+$ c) H_3PO_4 or TsOH or H_2SO_4 d) 1) PBr_3
2) Mg



- g) 1) PBr_3
2) Mg
3) CCC=O
4) $\text{H}^+, \text{H}_2\text{O}$

- h) 1) PBr_3
2) Mg
3) CCC=O
4) $\text{H}^+, \text{H}_2\text{O}$

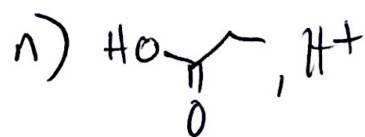
- i) 1) TsOH
2) MCPBA

- j) 1) PBr_3
2) Mg
3) CCC=O
4) $\text{H}^+, \text{H}_2\text{O}$
5) PCC

- k) 1) Na
2) CCCCBr

- l) 1) TsOH
2) O_3
3) SMe_2

- m) 1) PCC
2) CCCC[Mg]Br
3) $\text{H}^+, \text{H}_2\text{O}$

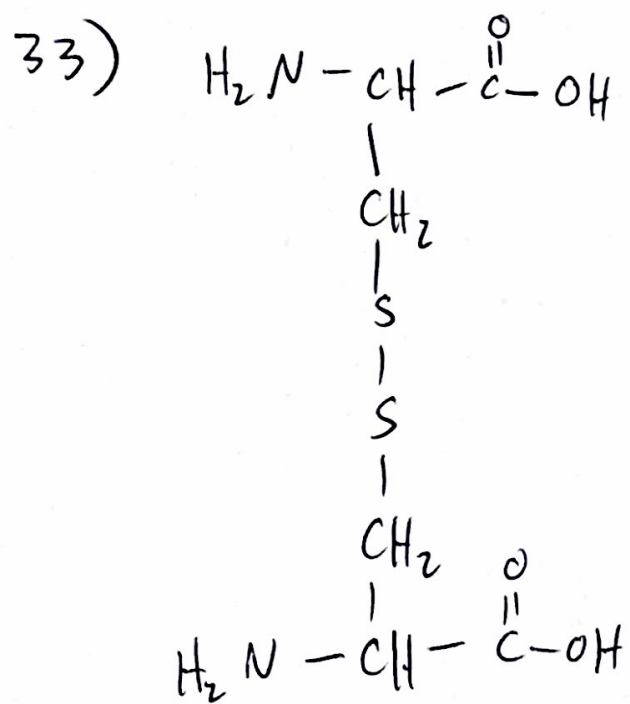


- o) a) TsOH
b) H_2, Pt

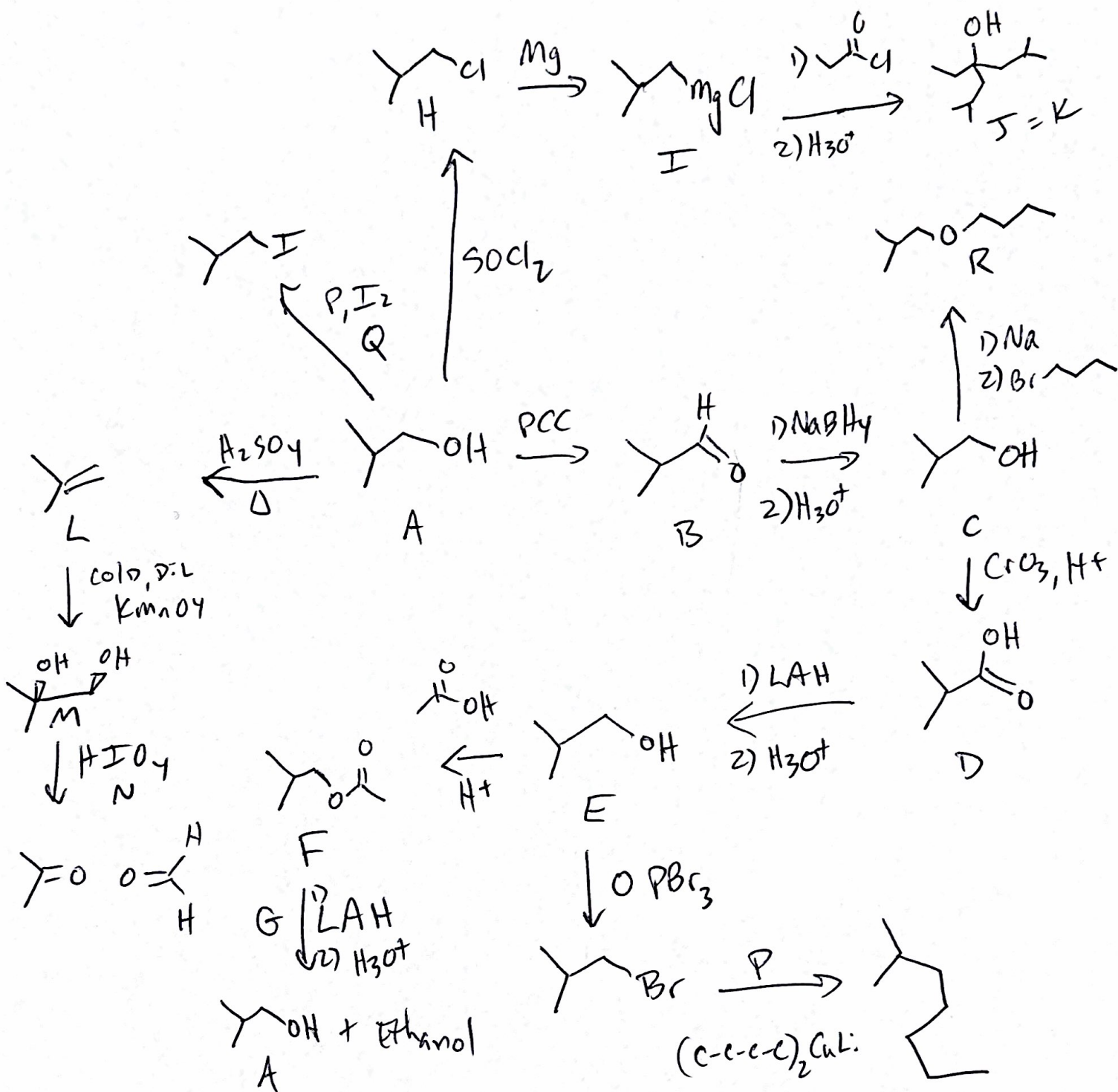
- p) a) TsOH
b) ~~CCCCBr~~
RCO_2H, H_2O

- q) 1) PBr_3
2) NaSH

- r) a) TsOH
b) OsO_4



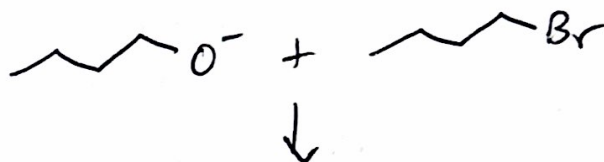
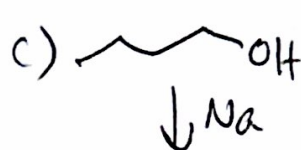
NO REACTION
K



35. CCCCO

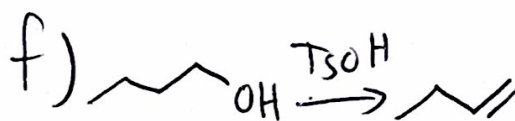
a) PBr_3

b) NaCN

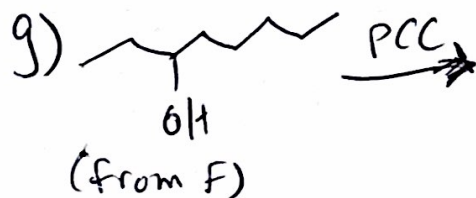
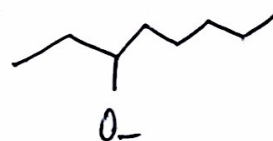
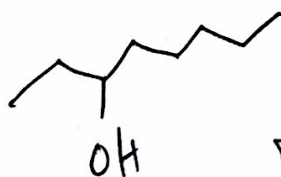
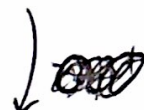
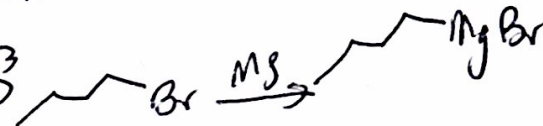
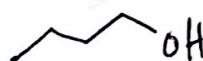


d) TsOH

e) 1) TsOH
 2) mCPBA



$\downarrow \text{mCPBA}$



h) PCC

35.

