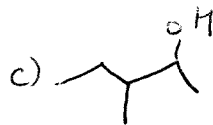
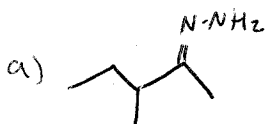
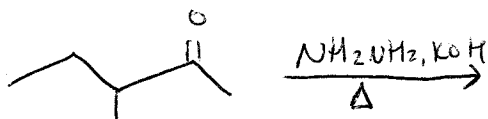
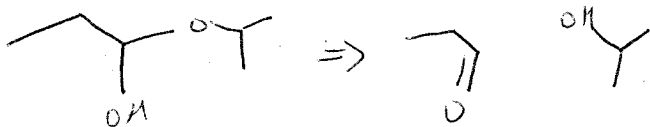


Test 2 Colonna Spring 2008

1. Product of Rxn

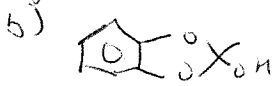


2. hemiacetal form bet

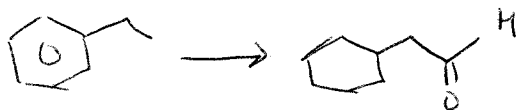


a) Propenal + 2-propanol

3. gives acetaldehyde/ethanol when added to an aqueous solution of HCl?



4.



Problem Removed - EC if Right

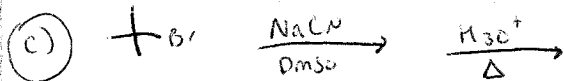
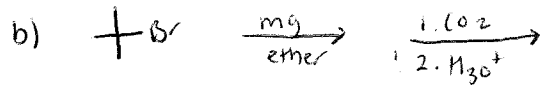
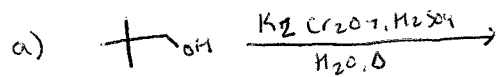
a) NaCN, H₃O⁺; LiAlH₄, H₃O⁺; PCC

b) CrO₃, H₂SO₄; SOCl₂; LiAlH(OtBu)₃

c) PBr₃; NaCN; (i-Bu)₂AlH; H₂O

d) PCC; CH₃MgBr; H₃O⁺

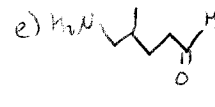
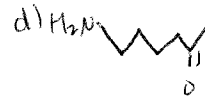
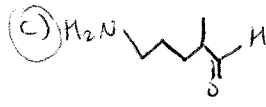
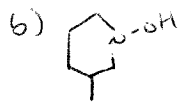
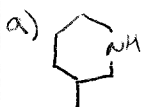
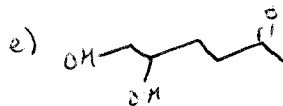
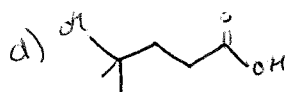
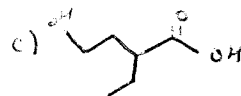
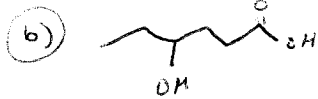
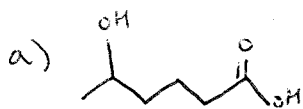
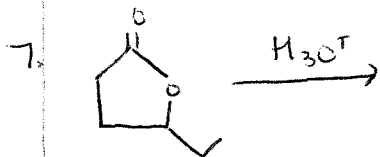
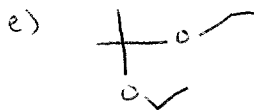
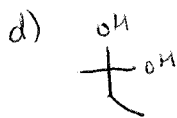
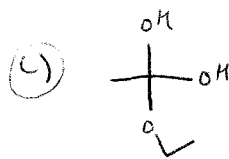
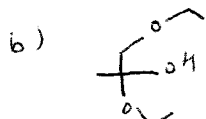
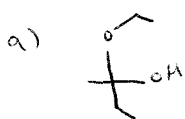
5. Not a good method for synthesis of 2,2-dimethylpropanoic acid



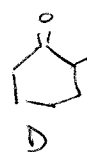
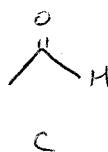
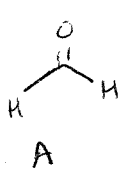
d) All methods will work very well

e) None will work

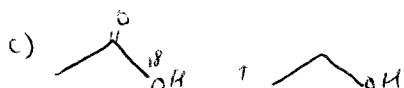
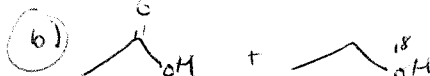
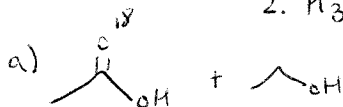
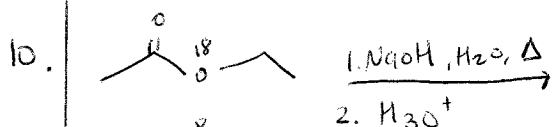
6. Tetrahedral intermediate in acid catalyzed Fischer esterification of Acetic acid + ethanol?



9. Equilibrium of each of the following carbonyl cpds w/HCN to produce cyanohydrins. Correct order of increasing K_{eq} for this equilibrium?

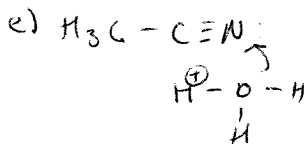
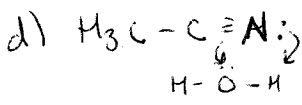
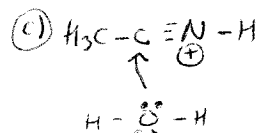
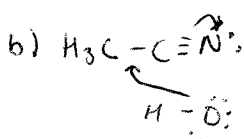
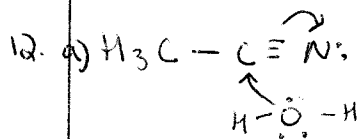
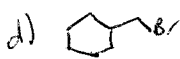
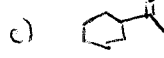
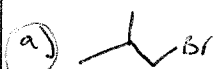
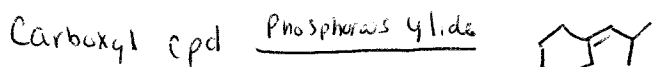


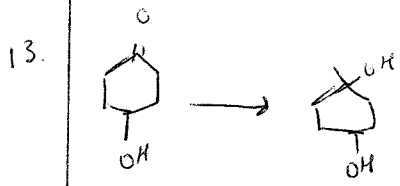
$D < B < C < A$



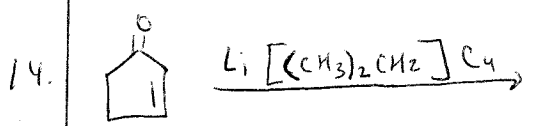
c) Approx equal amts of A + C

11. Precursor?





- a) CH_3MgBr , H_3O^+
- b) PBr_3 , $2) \text{NaOH}$
- c) $(\text{CH}_3)_3\text{SiCl}$, TEA, $2) \text{CH}_3\text{MgBr}$, $3) \text{H}_3\text{O}^+$
- d) LiAlH_4 , ether, $2) \text{H}_3\text{O}^+$, $3) \text{CH}_3\text{MgBr}$, $4) \text{H}_3\text{O}^+$

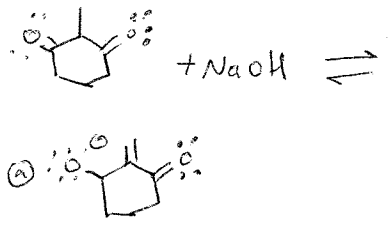


- a)
- b)
- c)
- d)
- e)

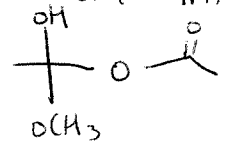
15. Methyl Ammonium Chloride ($\text{CH}_3\text{NH}_3^+ \text{Cl}^-$) when hydrolyzed in aqueous acid except one:

- a)
- b)
- c)
- d)

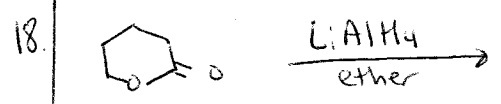
16. Not Resonance form of enolate: a) Formed in $\text{A} \leftrightarrow \text{B}$ equilibrium



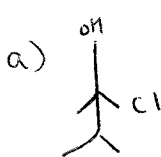
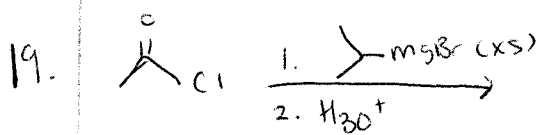
17. Tetrahedral intermediate breaks down to:



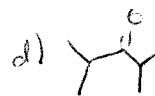
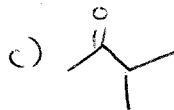
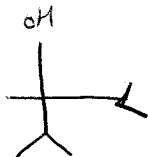
- a) Methyl Acetate + Acetic Acid
- b) Acetic Anhydride + methanol
- c) Acetone Acetic acid + methanol
- d) Acetone hydrate + aldehyde



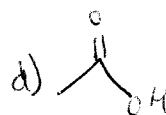
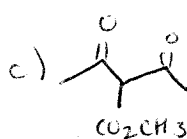
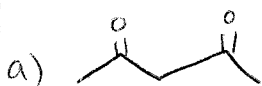
- a)
- b)
- c)
- d)



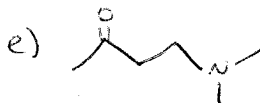
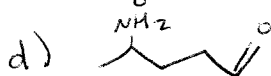
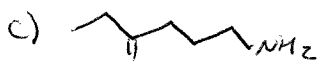
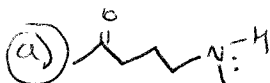
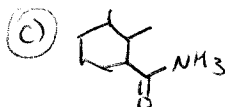
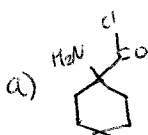
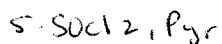
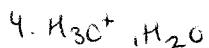
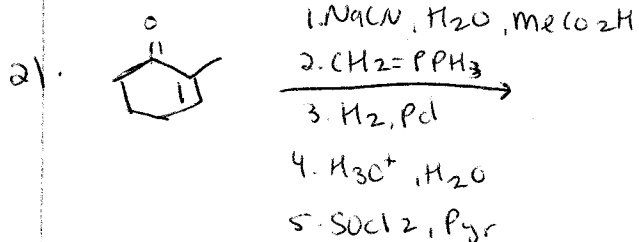
b)



20. decreasing Acidity



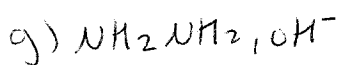
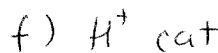
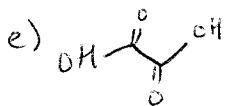
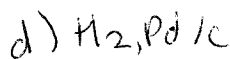
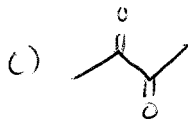
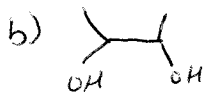
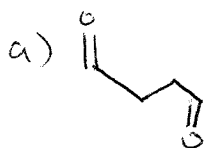
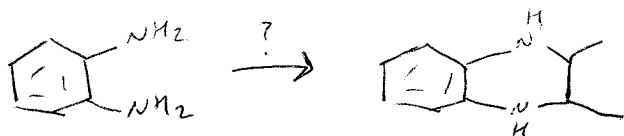
D > C > A > B



23. Which of the following optically active compounds will a change in optical rotation be observed in the presence of a trace of base?



24



A) A + F, G

B) B, H

C) C + F, D

D) E + D

E) B, F