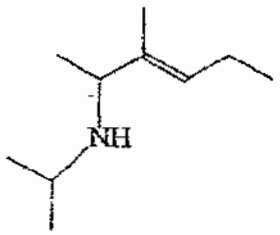
Final B

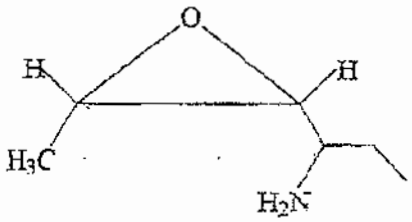
A. Nomenclature (12 pts, 4 pts each)

Please provide an acceptable name for each of the following compounds. Be sure to indicate the **STEREOCHEMISTRY** where appropriate.

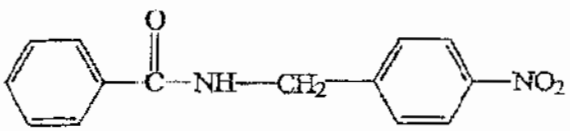
1)



2)



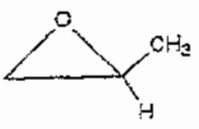
3)

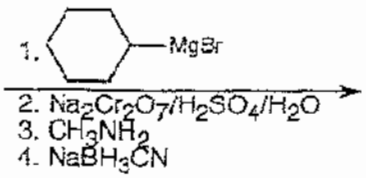


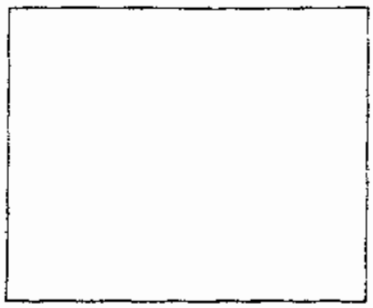
F, 00 (1)

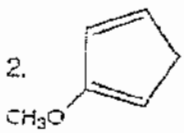
B. Reactions: Total = 42 points, 7 points each

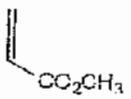
Please provide the major product, or necessary reagents, or starting material in the answer box. Be sure your drawing indicates stereochemistry if applicable.

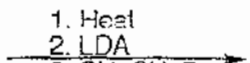
1. 

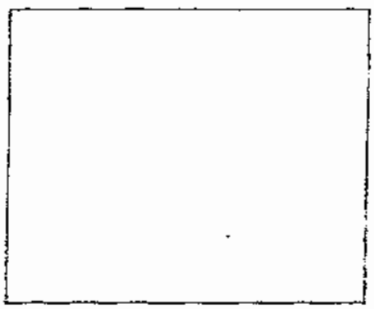


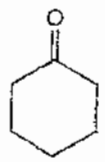


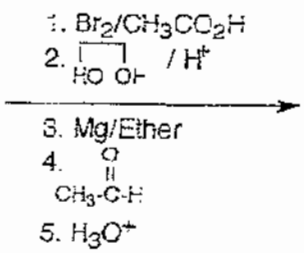
2. 

+ 



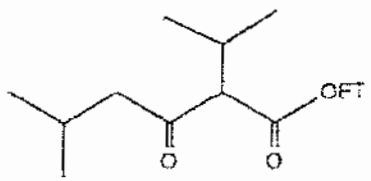


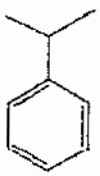
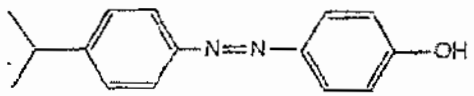
3. 



F, 00 (2)

4. $CH_3CH_2CH_2CH_2\text{-}\overset{\overset{O}{\|}}{C}\text{-}NH_2$ $\xrightarrow[3.\ Ag_2O/H_2O/Heat]{1.\ Br_2/NaOH/H_2O \\ 2.\ CH_3I\ (XS)}$ [ ]

5. [ ] $\xrightarrow[2.\ H_3O^+]{1.\ NaOEt\ /\ EtOH}$ 

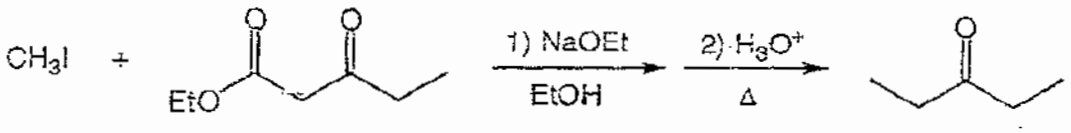
6.  [ ] 

F, 00 (3)

[ ]

C. Mechanism: (17 Pts)

Provide a clear mechanism for the reaction shown below. Use curved arrow notation to indicate"electron flow". **Show all intermediates and all formal charges.** If there is more than one resonance structure, you must show the "best" (i.e. lowest energy) structure.



2 HOURS IN
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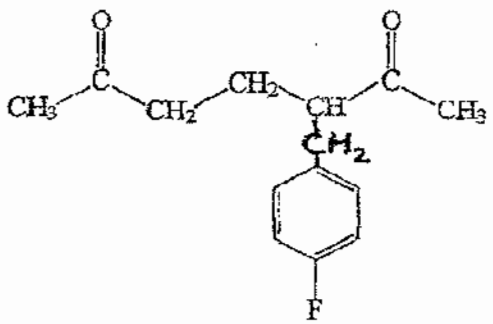
F, 00 (4)

D. Synthesis: 17 points

Outline an efficient synthesis for the molecule shown below using any of the following reagents: alcohol, alkene, and/or alkynes of ***two carbons or less***, benzene, and any inorganic reagents, any oxidizing or reducing agents and any peroxy acid.



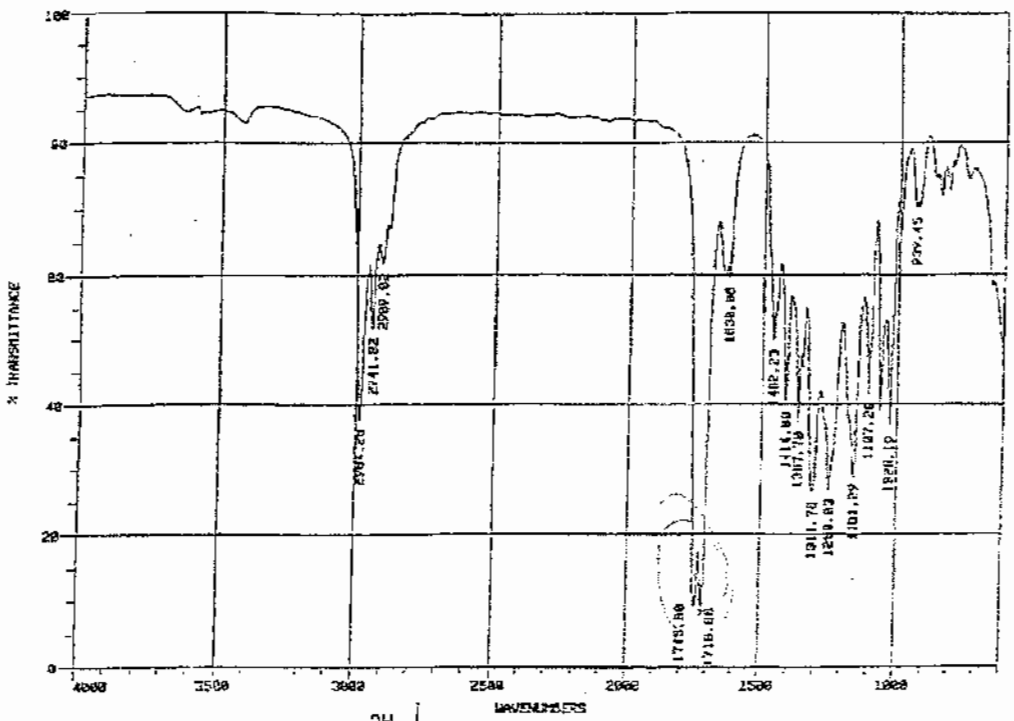
F, 00 (5)

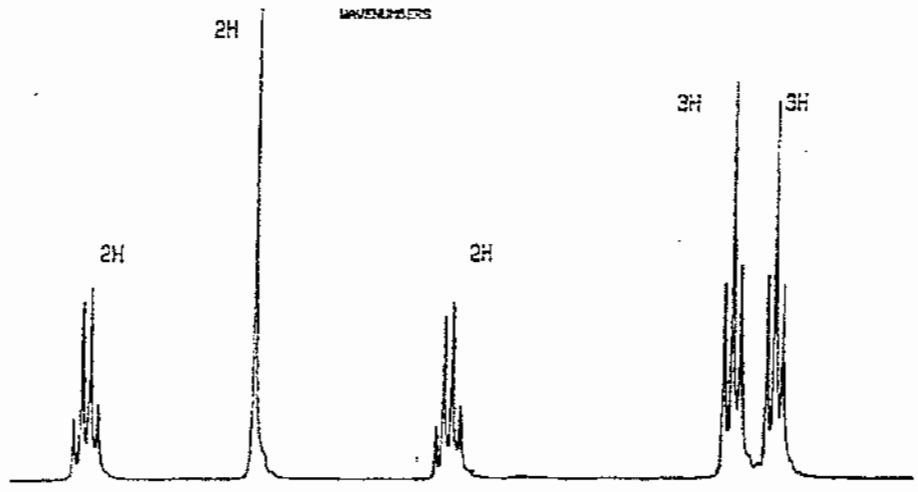
MF $C_7H_{12}O_3$

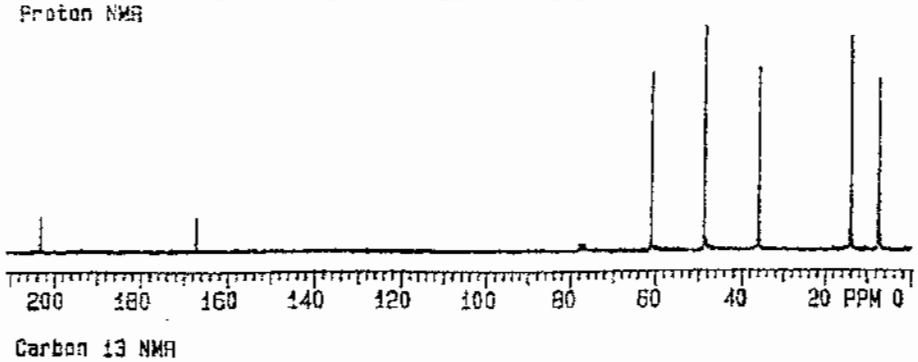
MW 144

%C 58.3

% H 8.3







F, 00