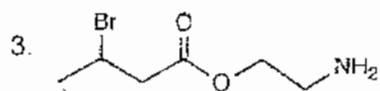
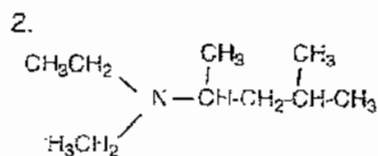
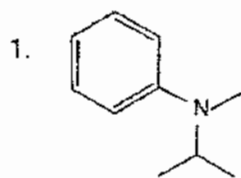


# Final C

A. Nomenclature: Total = 12 points, 4 points each

Give an acceptable name for each of the compounds below.

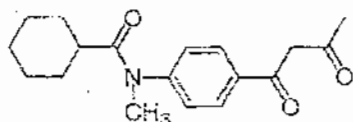


F, OI I



**D. Synthesis:** (17 pts)

Synthesize the molecule below using any of the following reagents: benzene, cyclohexane, alcohols, alkanes, alkenes, and/or alkynes **of two carbons or less**, any inorganic reagents, any oxidizing or reducing agents, and any peroxyacids.

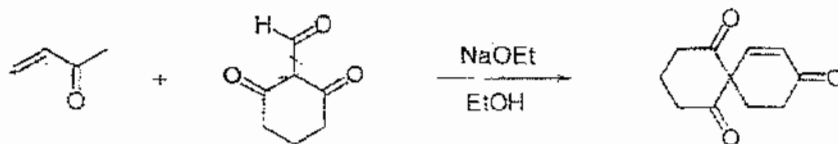


F, 01 5



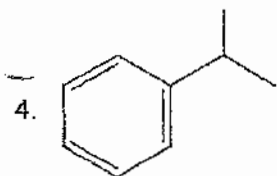
**C. Mechanism:** (17 pts)

Provide clear mechanisms for the following reaction. 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.

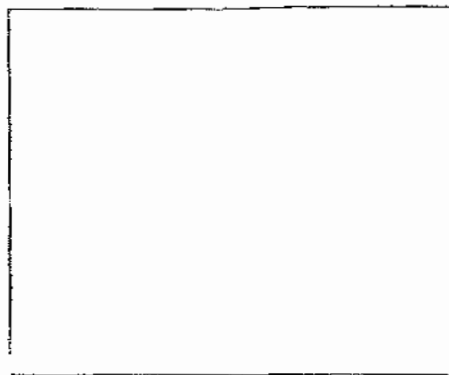


F, 01 4

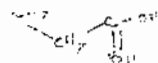
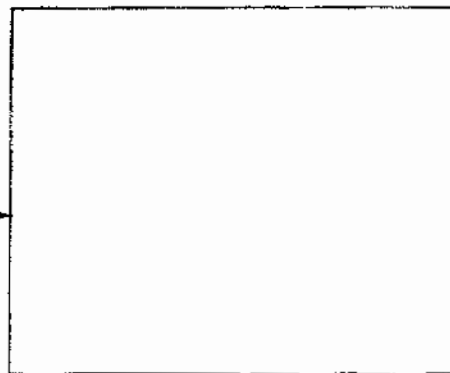
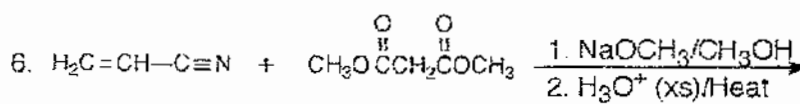
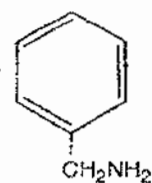
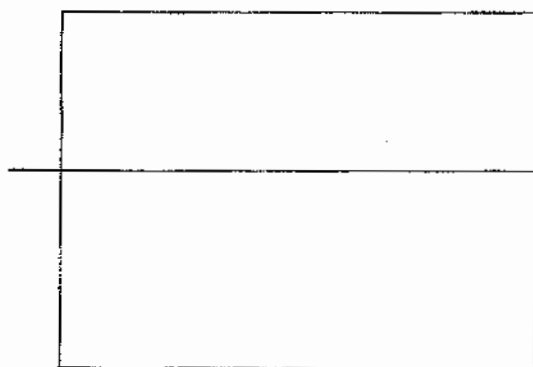
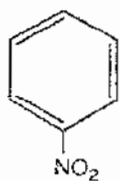




1.  $\text{KMnO}_4 / \text{OH}^- / \text{Heat}$
2.  $\text{H}^+$
3.  $\text{SOCl}_2$
4.  $(\text{CH}_3)_2\text{CuLi}$
5. LDA
6.  $\text{CH}_2\text{CH}_2\text{I}$



5.

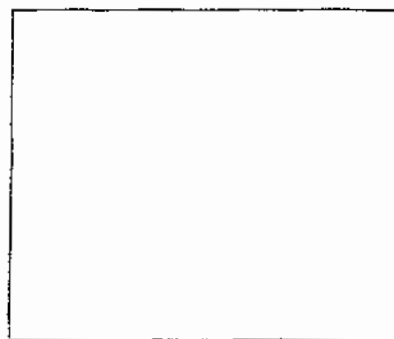
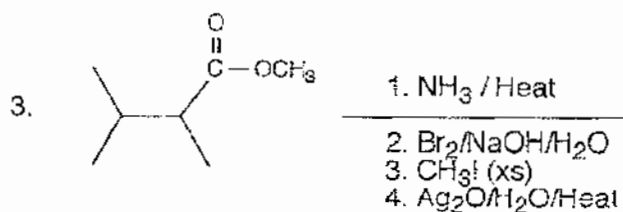
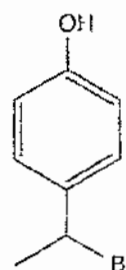
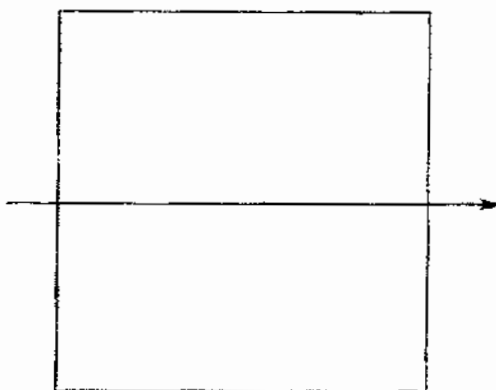
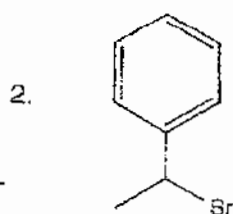
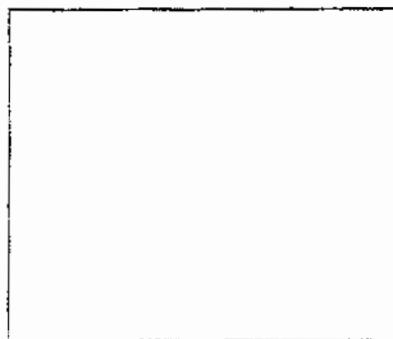
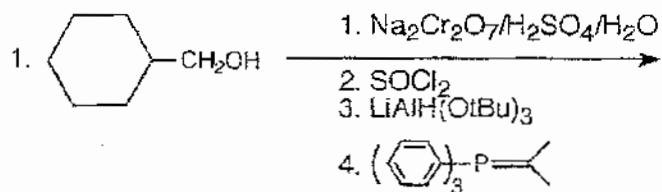


F, OI 3



**B. Reactions:** Total = 40 points, 8 points each

Please provide the major product or necessary reagents in the answer box. Be sure your drawing indicates stereochemistry if applicable. Partial credit is awarded only when intermediate products are shown below the reaction.



F, OI 2

