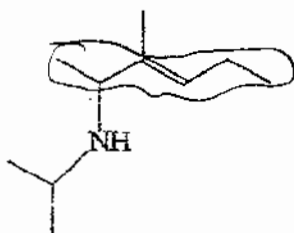


Final B

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.

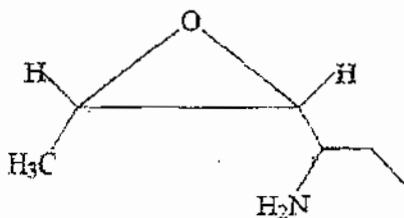
1)



E

N-isopropyl-3-methyl-3-pentene-2-amide

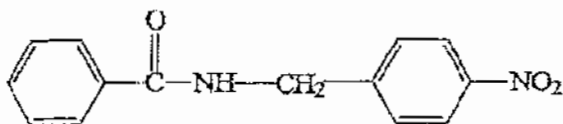
2)



cis

4,5-epoxy-3-hexanamine

3)



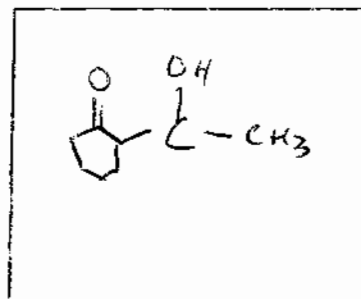
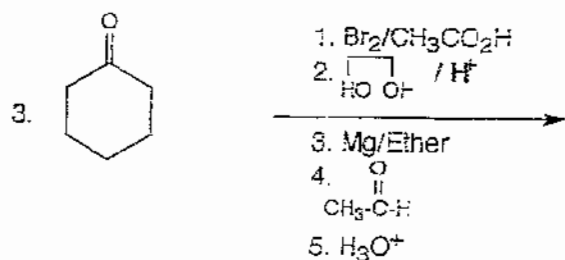
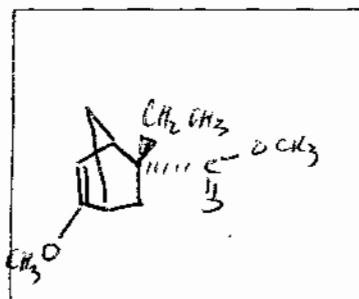
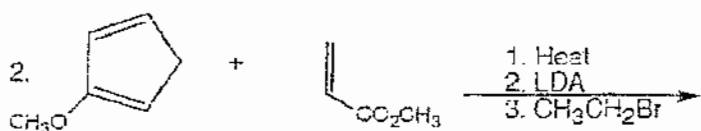
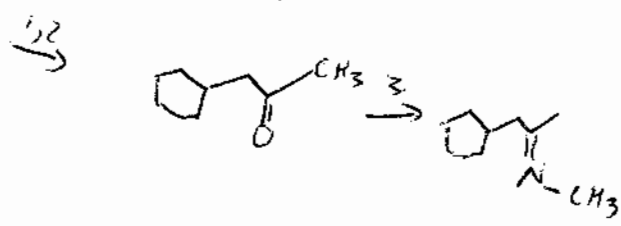
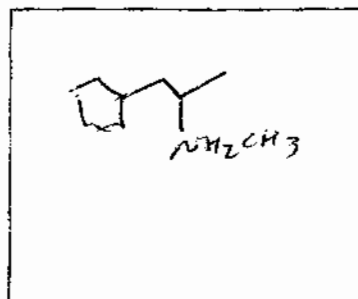
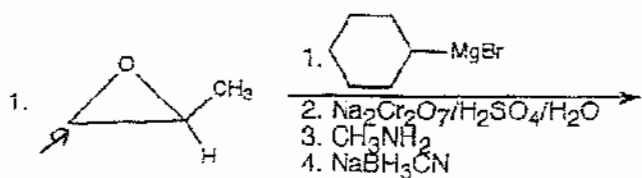
N-*p*-nitrobenzyl benzamide



F, 00 (1)

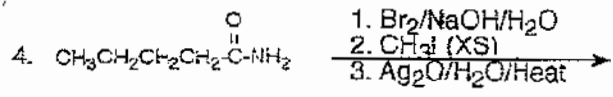
B. Reactions: Total = 42 points, 7 points each

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

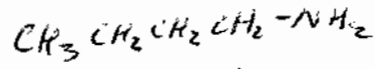


F, 00 (2)

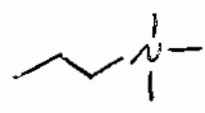




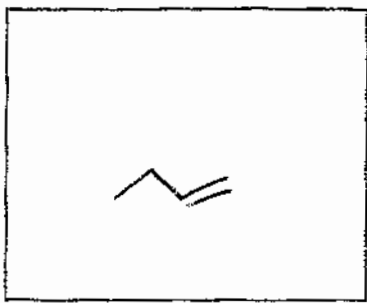
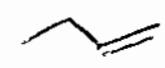
↓ 1.



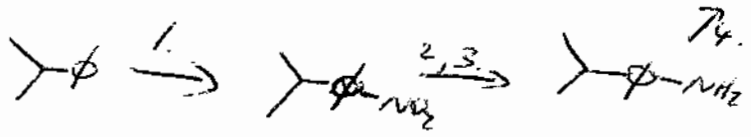
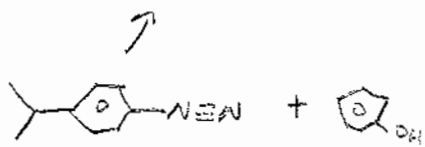
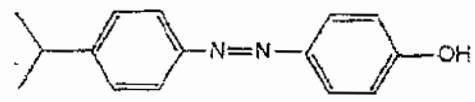
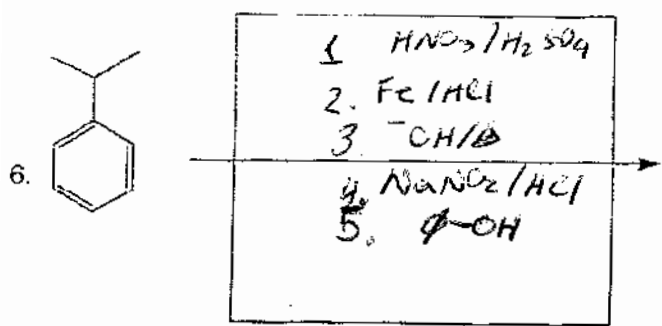
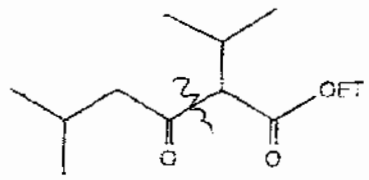
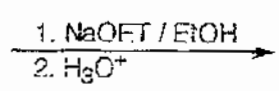
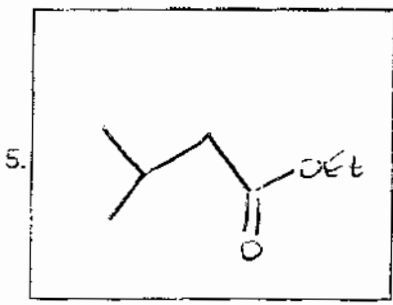
2. →



3. →



Hofman rearrv.

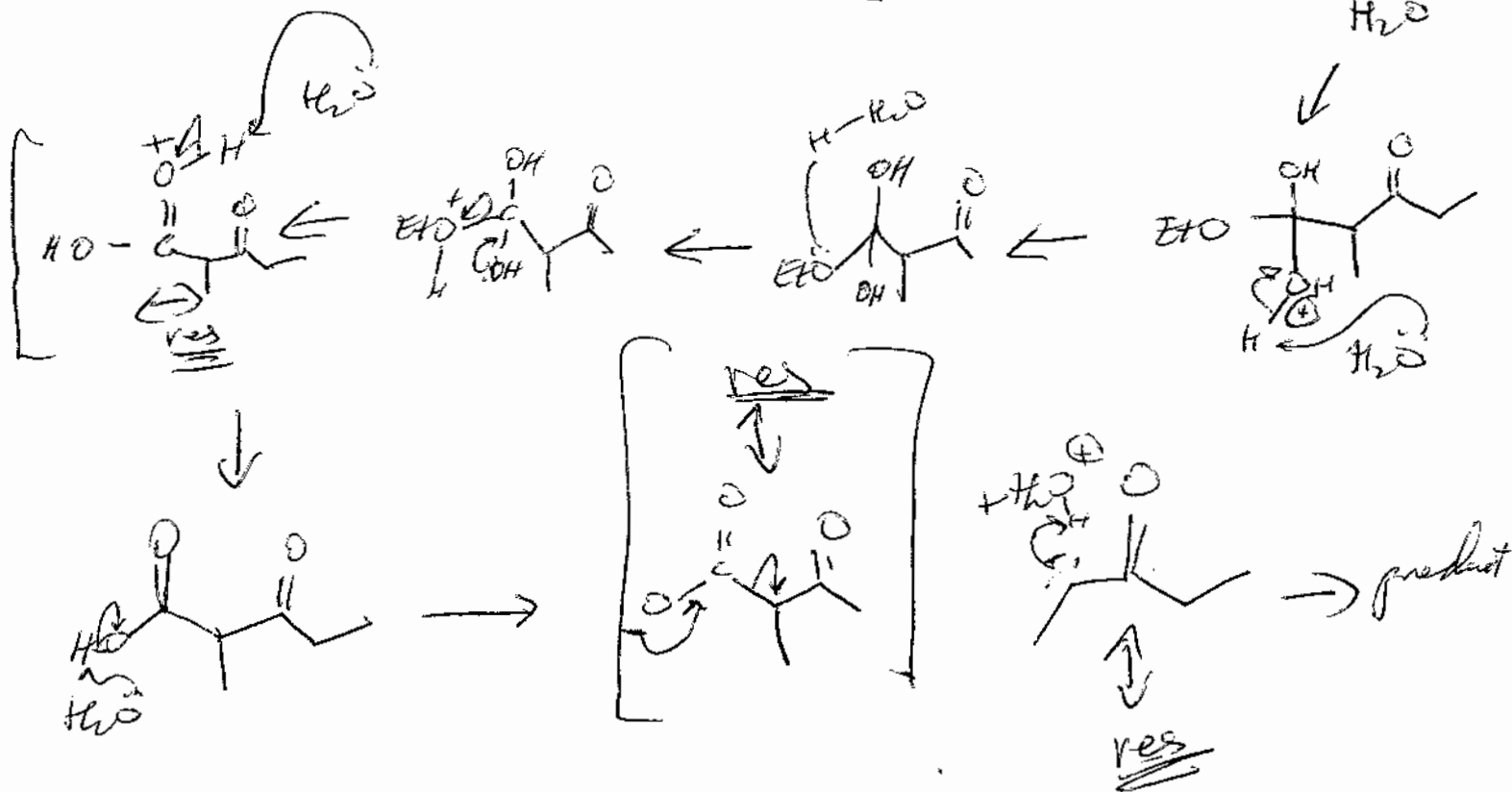
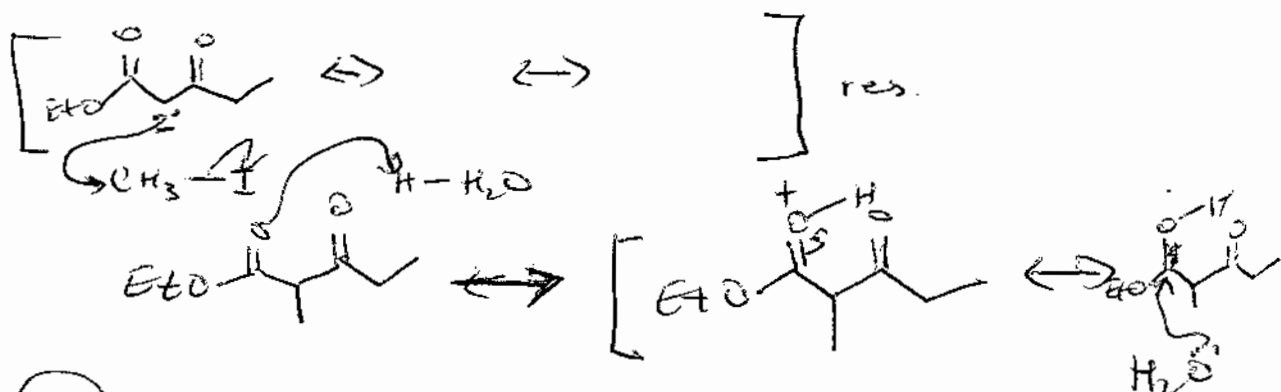
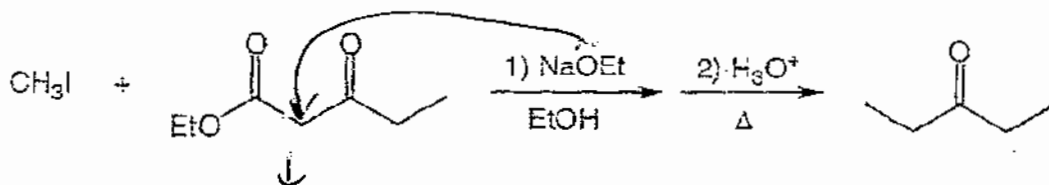


F, 00 (3)



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.



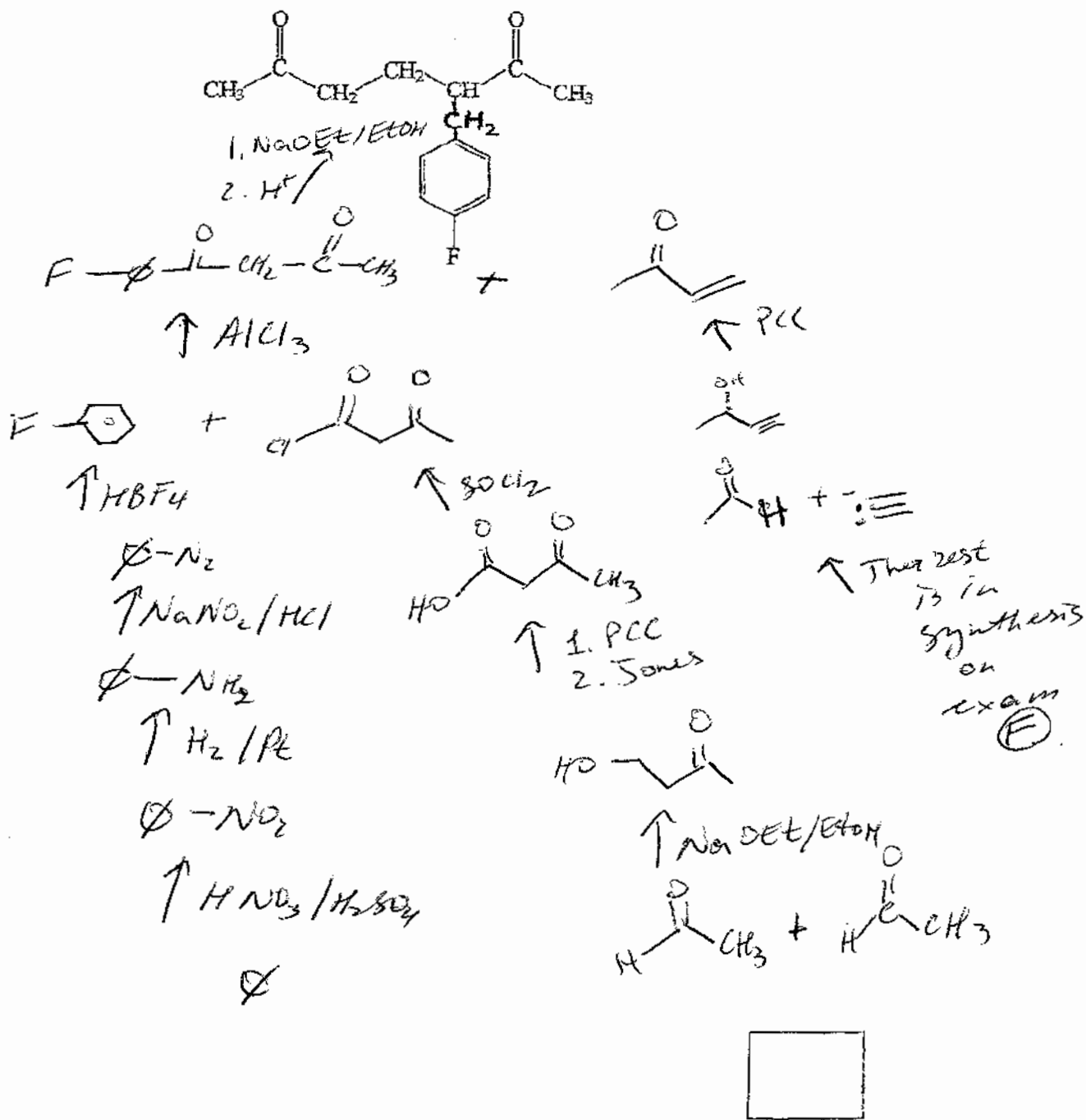
2 HOURS IN
LIBRARY USE ONLY

F, 00 (4)

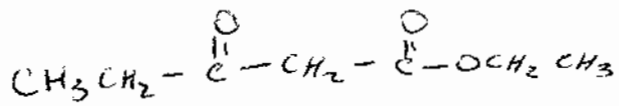


D. Synthesis: 17 points

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 C₇H₁₂O₃

MW 144

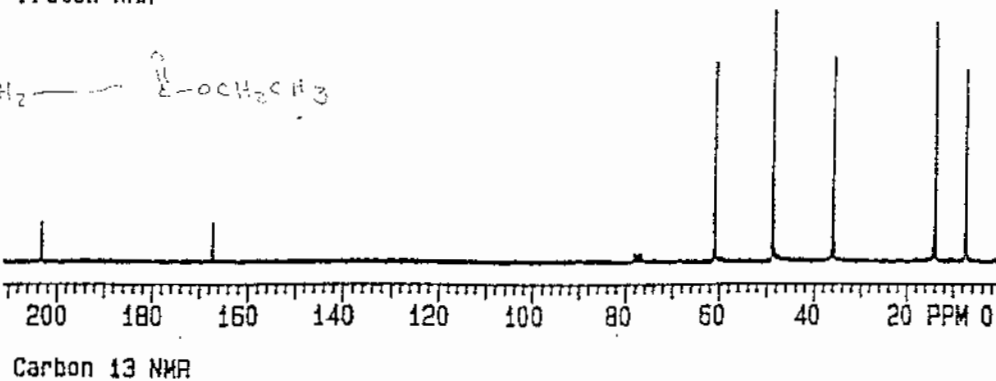
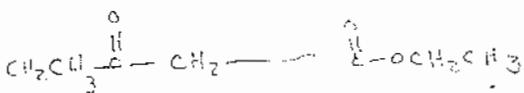
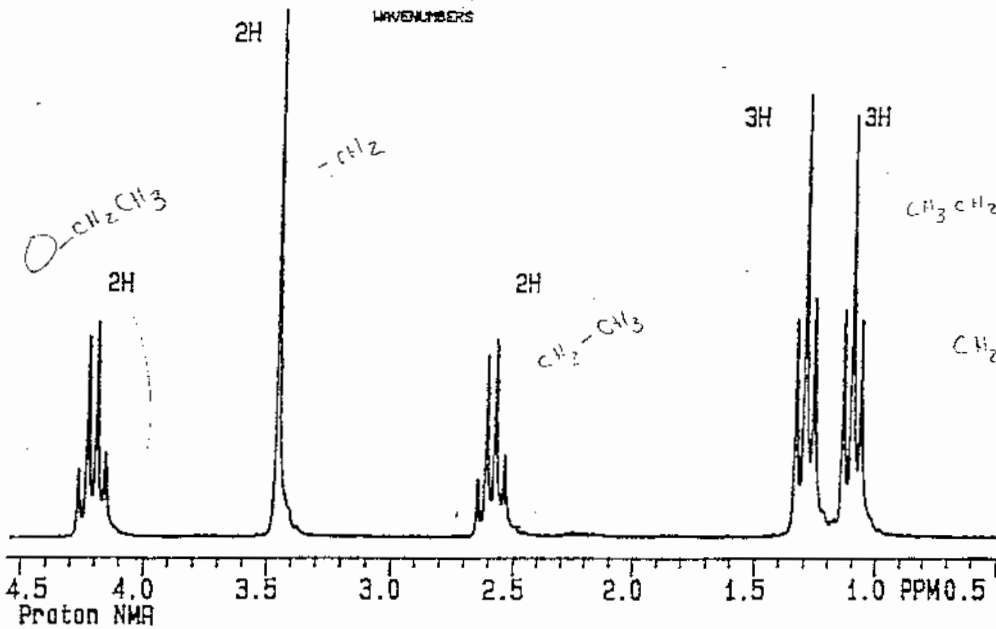
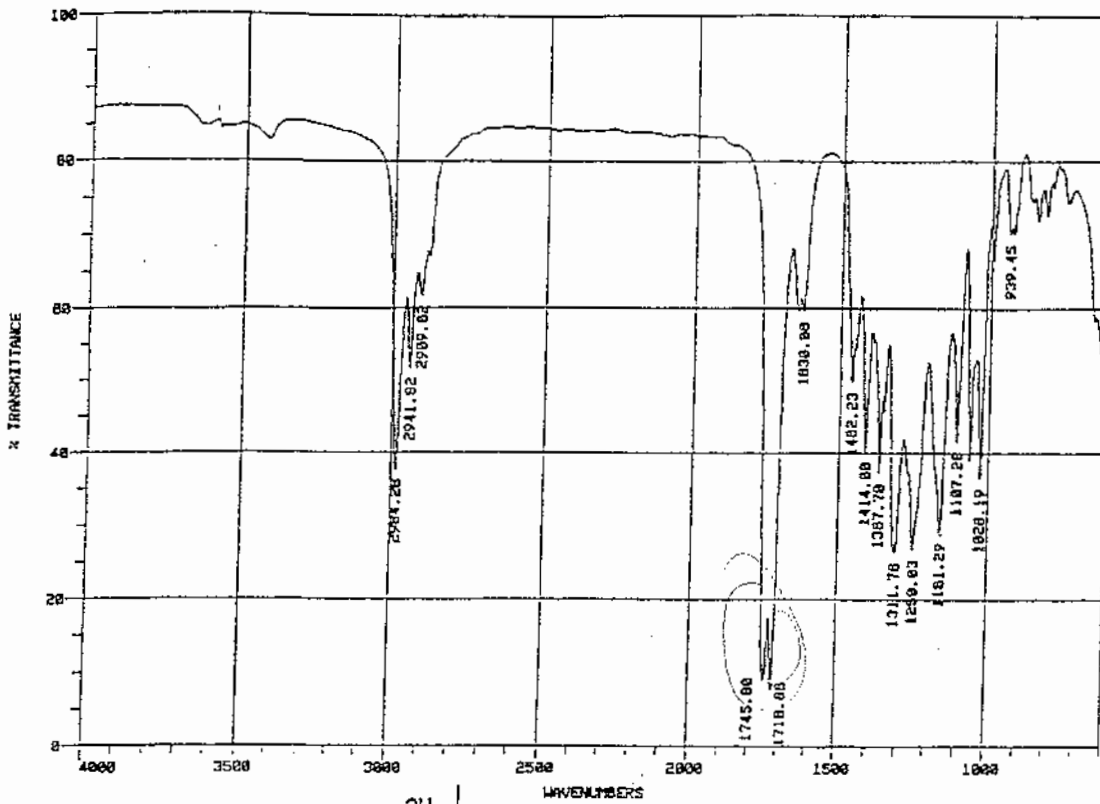
%C 58.3

%H 8.3

MP = 7 - 12 °C

7 - 6 + 1

* 2



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F, 00